APPENDIX D-1

Data Quality Evaluation Report – Soil Vapor Monitoring (April–June 2020)

LIST OF ACRONYMS AND ABBREVIATIONS

%	percent
AFB	Air Force Base
ALS	ALS Environmental
DL	detection limit
DoD	Department of Defense
EPA	U.S. Environmental Protection Agency
LCS	laboratory control sample
LCSD	laboratory control sample duplicate
LOD	limit of detection
LOQ	limit of quantitation
Q2	second quarter of the year (April 1 – June 30)
QAPjP	Quality Assurance Project Plan
QC	quality control
RPD	relative percent different
SDG	sample delivery group
VOC	volatile organic compound

DATA QUALITY EVALUATION REPORT – SOIL VAPOR MONITORING (April–June 2020)

1. LABORATORY DATA QUALITY SUMMARY

This Data Quality Evaluation Report describes the findings of the data validation performed for the analysis of soil vapor samples collected during April–June 2020 (quarter 2 [Q2]). These data were collected in support of the Work Plan for Vadose Zone Coring, Vapor Monitoring, and Water Supply Sampling, Bulk Fuels Facility, Solid Waste Management Units ST-106 and SS-111, Kirtland Air Force Base (AFB), New Mexico (Kirtland AFB, 2017). Sampling and analysis for the Q2 2020 event were conducted in accordance with the procedures and overall quality control (QC) and quality assurance protocols presented in the Work Plan and Quality Assurance Project Plan (QAPjP) for Bulk Fuels Facility Vadose Zone Treatability Studies, Solid Waste Management Units ST-106/SS-111, Kirtland AFB, New Mexico (Kirtland AFB, 2017).

Samples discussed in this report were collected during the period of April 7 through April 23, 2020, in association with the Kirtland AFB semiannual soil vapor monitoring program. Sampling was conducted at 271 soil vapor monitoring wells and included the collection of 29 field duplicate samples and three trip blank samples. Thirteen soil vapor wells were not sampled during Q2 due to the bioventing and bioremediation pilot study and impact to the 13 vapor wells.

Soil vapor samples were shipped to ALS Environmental (ALS), Simi Valley, California for analysis. ALS maintains current Department of Defense (DoD) Environmental Laboratory Accreditation Program certification for the required analysis in support of this project. Sample analysis was performed in accordance with the U.S. Environmental Protection Agency (EPA) Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Method TO-15.

Chemical analytical data for the Q2 2020 event were reported by ALS in 15 sample delivery groups (SDGs): 2002027-2002032, 2002103-2002107, and 2002299-2002302. Appendix D-1 – Table 1 summarizes samples collected from the soil vapor monitoring wells and the associated field QC samples, collection date, laboratory SDG, and analytical method for the Q2 semiannual event.

A third-party subcontractor (Environmental Data Services, Inc., Virginia Beach, Virginia) conducted EPA Stage 3 data validation on 22 percent (%) of the Q2 2020 sample data as identified in the QAPjP with the exception of wells that were not sampled due to the ongoing bioventing testing. All data underwent data verification for completeness and compliance to project requirements. The data that underwent the Stage 3 validation were included in three SDGs (2002027, 2002028, 2002029). Analytical data validation was performed using the quality criteria specified in the following documents, analytical guidelines, and methods:

- Work Plan and QAPjP (Kirtland AFB, 2017)
- EPA Contract Laboratory Program, National Functional Guidelines for Superfund Organic Methods Data Review (EPA, 2014)
- EPA Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Method TO-15 (EPA, 1999).

The following QC criteria were included in the EPA Stage 3 validation as applicable to the analytical method:

- Sample preservation and extraction and analysis holding times
- Canister certification and pressure differences
- Canister certification blank
- Laboratory method blank
- Surrogate spike recoveries
- Laboratory control sample (LCS) and LCS duplicate (LCSD) recoveries
- Relative percent difference (RPD)
- Initial and continuing calibrations
- Internal standard area
- Field duplicate sample precision.

Analytical data were reviewed to evaluate precision, accuracy (bias), representativeness, comparability, completeness, and sensitivity as defined below:

- *Precision* is expressed as the RPD between the results of replicate sample analyses: sample duplicates and LCSDs. When analyte RPDs exceed the acceptance criteria, the data are qualified accordingly.

- *Accuracy (bias*) is demonstrated by recovery of target analytes from fortified blank and sample matrices such as the LCS/LCSD samples. For organic methods, bias is also demonstrated through recovery of surrogates from each field and QC sample. A comparison was made from the recovery of target analytes from fortified samples to the acceptance criteria defined in the QAPjP (Kirtland AFB, 2017). When the acceptance criteria are not available in the QAPjP, results are compared with the laboratory in-house control limits. When these criteria are not met, the data are qualified accordingly. Bias may be indicated as high or low.

- *Representativeness* of the samples submitted for analysis is ensured by adherence to standard sampling techniques and standard analytical method protocols.

- *Comparability* of sample results is ensured through the use of approved sampling and analysis methods and comparison of sample results to historical sample data.

- *Completeness* of data is evaluated based on contractual, analytical, and technical completeness for the monthly supply well data. Technical completeness of data is used to assess overall project completeness and is expressed as a percentage of the ratio of the number of usable data results to the total number of analytical data results. Only rejected data (R-qualified) are considered not usable to achieve project objectives.

- *Sensitivity* is determined by the ability to achieve the established method-specific reporting limits in accordance with DoD Quality Systems Manual Version 5.1 (DoD, 2017) requirements and includes establishing the detection limit (DL), limit of detection (LOD), and limit of quantitation (LOQ). For this project, the laboratory reported positive results to the DL and flagged with a "J" qualifier, signifying estimated data. Non-detect results were reported at the LOD with a "U" qualifier per the QAPjP. Sensitivity will be evaluated based on comparison of the sample reporting limits to the project screening levels.

The following sections present the EPA Stage 3 data validation findings for the Q2 2020 soil vapor sample data. Appendix D-1 – Table 2 presents the data qualification flags and reason codes to be applied to analytical data, if required.

1.1 DATA QUALITY FINDINGS

1.1.1 Sample Preservation and Sample Extraction and Analysis Holding Times (Reason Code HT)

The vapor samples were shipped 2-day ground to the ALS laboratory. No temperature preservation requirement is applicable to vapor samples. The 30-day sample hold time was evaluated by comparing the sample collection date to the sample analysis date. Sample analysis holding times were met for all samples for Q2 2020.

1.1.2 Canister Certification and Laboratory Method Blanks (Reason Code CB/MB)

The soil vapor sample results were evaluated with respect to the canister certification blanks and laboratory method blanks prepared and analyzed for each analytical batch. All volatile organic compound (VOC) analytes were non-detect or less than the LOQ in the canister certification blank samples. Low-level detections of 1,3-butadiene, benzene, ethanol, and propylene were reported in method blank samples. Thirty-nine associated sample detects were qualified "U," signifying non-detect results. Appendix D-1 – Table 3 presents the qualified sample results based on method blank detections.

1.1.3 Initial and Continuing Calibration Blanks (Reason Code CB/CCB)

Initial and continuing calibration blank criteria were reviewed to ensure that the instruments were free of contamination prior to sample analysis. Calibration blank concentrations are considered acceptable when contaminant levels in the blank are less than one-half the LOQ for target analytes and less than the LOQ for common laboratory contaminants. Initial and continuing calibration blank data were within control criteria for all sample analysis.

1.1.4 Surrogate Recoveries (Reason Code SURR)

Surrogate compounds are added to field and laboratory QC samples for organic analysis to evaluate the matrix effect and method performance on an individual sample basis. All surrogate compound recoveries for the soil vapor sample data were within method control criteria.

1.1.5 Laboratory Control Sample/Laboratory Control Sample Duplicate Recoveries and Precision (Reason Codes LCS/RPD)

The LCS is an aliquot of an analyte-free matrix spiked with target analytes that are prepared with each analytical batch for each analytical method. The recovery of target analytes from the LCS analysis is a measurement of method performance in an interference-free sample matrix. All LCS recoveries for the soil vapor samples were within method control limits. No sample data were qualified based on LCS recoveries.

1.1.6 Internal Standard Recoveries (Reason Code IS)

Internal standards are added to all samples including QC samples to monitor the instrumentation sensitivity and response during sample analysis. The internal standard area response and retention times

are monitored to ensure they are within the control criteria for the analytical method. All internal standard recoveries were within control limits for the Q2 2020 sample data.

1.1.7 Initial and Continuing Calibration Verification (Reason Code CCV)

Instrument calibration is performed for all analyses in accordance with method requirements. The linear analytical range is established for each method by analysis of calibration standards prepared at increasing concentrations that cover the expected sample concentration range. The acceptability of the initial calibration is determined by calculation of a percent relative standard deviation or coefficient.

The stability of the analytical system is monitored by analysis of continuing calibration standards at concentrations near the mid-point of the instrument calibration range. The percent difference values between the relative response factor in the initial calibration and the relative response factor in the continuing calibration are reviewed to ensure instrument calibration criteria are within method control limits. All initial and continuing calibration verifications met the method-specific control criteria for the Q2 soil vapor analytical data with the exception of ethanol and propylene in SDG 2002027 and chloromethane and isopropyl alcohol in SDG 2002028. Thirty-eight sample results were "J" or "UJ" qualified during validation. Appendix D-1 – Table 3 presents the qualified sample results based on calibration criteria for the Q2 2020 data.

1.1.8 Trip Blanks for Volatile Organic Compounds (Reason Code TB)

Three trip blank samples were shipped with the Q2 2020 soil vapor samples, although trip blanks are not required for EPA TO-15 or per the QAPjP. Low-level detections of VOCs were reported in two of three trip blank samples but did not result in data qualification since the associated results were either non-detect or greater than five times the trip blank concentration, and the fact that trip blank canisters are not representative of batch contamination due to the fact that each sample is contained within an individual Summa® canister. Table 4 presents the Q2 2020 trip blank sample results.

1.1.9 Field Duplicate Samples

In accordance with the project QAPjP requirements (Kirtland AFB, 2017), field duplicate samples are collected at a frequency of one field duplicate for every 10 samples collected (10%). For the Q2 2020 sampling event, 29 field duplicate samples were collected in association with 271 soil vapor samples and analyzed for EPA TO-15. Field duplicate samples were collected at a frequency of 10.7% for the Q2 2020 event.

For field duplicate samples, RPD was evaluated by calculating the RPD between the parent sample and the duplicate sample. The RPD was calculated using the following equation:

$$RPD = |(S-D)/[(S+D)/2]| \times 100$$

where

S = Sample result.
D = Duplicate result.

Acceptable precision control criteria are established at less than or equal to 50% for soil vapor samples. The RPD was calculated between pairs of field duplicate samples when both results are reported at or above LOQ. The results for the soil vapor and the associated field duplicate samples are provided in

Appendix D-1 – Table 5. Sample results associated with 11 field duplicate samples were qualified "J" based on exceedance of the RPD criteria and presented in Appendix D-1 – Table 3.

1.1.10 Professional Judgement

Professional judgement may be applied by a third-party data validation subcontractor or the project chemist during the data review process to apply validation qualifiers based on site-specific and project-specific knowledge, historical data, comparability of data, and analytical expertise. Professional judgement was applied by the project chemist to qualify Q2 2020 soil vapor data during the data verification process for data that did not undergo Stage 3 validation. Data that were qualified during data verification include: (1) results for low-level detections of ethanol in method blank samples, and (2) exceedance of field duplicate RPD for various VOCs. Data results were "U" and "J" qualified and are included in Appendix D-1 – Table 3.

1.2 COMPLETENESS

The following sections present a discussion of contractual, analytical, and technical completeness for the soil vapor analytical data completeness.

1.2.1 Contractual Completeness

Contractual completeness is a quantitative determination of the number of unqualified results compared to the total number of sample results expressed as a percentage, based on data qualified for QC outliers related to analytical method performance. These include data qualified for calibration or method blank contamination, missed holding times, LCS recovery, and/or precision. The contractual completeness goal is 95% per each event. Contractual completeness was calculated as follows:

$$\text{Percent Contractual Completeness} = \frac{\text{Number of Unqualified Results}}{\text{Total Number of Results}} \times 100$$

For the Q2 2020 soil vapor results, the contractual completeness was 99.7% for the TO-15 analytical method (39 qualified analytes for method blank contamination of 12,900 analytes for field and field duplicate samples). The 95% contractual completeness objective was achieved for the semiannual sampling event.

1.2.2 Analytical Completeness

Analytical completeness is a quantitative measure of the number of unqualified data results compared to the total number of results expressed as a percentage, based on the target analytes qualified for exceedances of QC requirements from calibration, LCS, surrogate, method precision, and blank contamination results. The analytical completeness goal is 90% for the project. Analytical completeness was calculated as follows:

$$\text{Percent Analytical Completeness} = \frac{\text{Number of Unqualified Results}}{\text{Total Number of Results}} \times 100 =$$

Overall analytical completeness for Q2 2020 is 98.7% (172 qualified analytes of 12,900 analytes for field and field duplicate samples) based on method and trip blank contamination, field duplicate and RPD exceedance, and calibration verification exceedance.

1.2.3 Technical Completeness

Technical completeness is a quantitative measure of the data usability based on the number of rejected data compared to the total number of sample results. The technical completeness goal for each method is equal to or greater than 95%. The technical completeness calculation considers all data that are not rejected (R-qualified) to be usable data to achieve project objectives. The technical completeness was calculated as follows:

$$\text{Percent Technical Completeness} = \frac{\text{Number of Usable Results}}{\text{Total Number of Results}} \times 100$$

The project data quality objectives were achieved for the semiannual soil vapor sampling event. The technical completeness for the Q2 2020 data is 100%. Technical completeness is provided in Appendix D-1 – Table 6.

1.2.4 Data Analysis Completeness

As a part of the data review process, chain-of-custody forms and project data deliverables are reviewed against the project requirements in the Work Plan (Kirtland AFB, 2017) to ensure compliance with the sampling plan and that analytical results were reported for all planned methods and samples. Data completeness for the soil vapor monitoring data deliverables was determined to be 100% complete. Analytical data packages are provided in Appendix D-2.

1.3 REPRESENTATIVENESS AND COMPARABILITY

Semiannual soil vapor sampling was conducted in accordance with the sampling and analysis protocols and standard operating procedures documented in the Work Plan (Kirtland AFB, 2017). Approved procedures were used to collect, document, and ship samples to the ALS laboratory, thus ensuring the samples collected were representative of the soil vapor monitoring wells.

ALS maintains current DoD Environmental Laboratory Accreditation Program certification and adhered to the analytical methods documented in the project QAPjP and DoD Quality Systems Manual requirements to prepare and analyze samples and report the data. These certifications ensure the comparability of the analytical results between different samples and different sampling events.

EPA Stage 3 validation was performed on 22% of the analytical data and data verification was performed on the remainder to verify that the laboratory complied with the project QAPjP and method requirements. QC results that exceeded method control criteria resulted in data qualification as presented in the previous sections. Based on a review of the completed sample collection logs, chain-of-custody forms, sample receipt forms, and laboratory data packages, the analytical data reported for the semiannual soil vapor sampling achieved the project data representativeness and comparability requirements.

1.4 SENSITIVITY

Data sensitivity for the semiannual soil vapor analytical data was achieved by complying with the analytical method guidelines specified in the project QAPjP. Project reporting limits are presented in the QAPjP, Attachment 2, Table 2-1. Non-detect analytes are reported at the LOD and flagged “U.” Detections of target analytes below the method LOQ are flagged ”J” as estimated values per the project requirements.

1.5 CONCLUSIONS

The analytical data reported for the Q2 2020 semiannual soil vapor monitoring have been reviewed for precision, accuracy (bias), representativeness, comparability, completeness, and sensitivity (22% of data) and verified for completeness and compliance (100% of data). Data quality criteria exceedances were noted for field duplicate sample RPDs, method blank detections, and instrument calibration verification exceedance. Data quality exceedances resulted in "U," "UJ," and "J" qualified (non-detect and estimated) sample results. Estimated data are usable to achieve project objectives. The 95% technical completeness goal was achieved for the Q2 2020 sampling event. All data are usable to achieve the project data quality objectives.

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TABLES

List of Appendix D-1 Tables

Table 1	Soil Vapor Sample Collection Summary Q2 2020
Table 2	Data Qualification Flags and Reason Codes
Table 3	Qualified Sample Results Q2 2020
Table 4	Field Quality Control Sample Results Q2 2020
Table 5	Field Duplicate Sample Results Q2 2020
Table 6	Technical Data Completeness Q2 2020

Table 1
Soil Vapor Sample Collection Summary Q2 2020

Sample Location ID	Field Sample ID	Sample Date	Sample Delivery Group	Analytical Parameter[a]	Comments
KAFB-106028-150	SV028-150-202	4/8/2020	P2002030	VOCs	—
KAFB-106028-250	SV028-250-202	4/8/2020	P2002030	VOCs	—
KAFB-106028-350	SV028-350-202	4/8/2020	P2002030	VOCs	—
KAFB-106028-450	SV028-450-202	4/8/2020	P2002030	VOCs	—
KAFB-106108-025	SV108-025-202	4/21/2020	P2002299	VOCs	—
KAFB-106108-050	SV108-050-202	4/21/2020	P2002299	VOCs	—
KAFB-106108-150	SV108-150-202	4/21/2020	P2002299	VOCs	—
KAFB-106108-250	SV108-250-202	4/21/2020	P2002299	VOCs	—
KAFB-106108-350	SV108-350-202	4/21/2020	P2002299	VOCs	—
KAFB-106108-350	SV108-350-602	4/21/2020	P2002299	VOCs	Field Duplicate
KAFB-106108-450	SV108-450-202	4/21/2020	P2002299	VOCs	—
KAFB-106109-025	SV109-025-202	4/15/2020	P2002103	VOCs	—
KAFB-106109-050	SV109-050-202	4/15/2020	P2002103	VOCs	—
KAFB-106109-150	SV109-150-202	4/15/2020	P2002103	VOCs	—
KAFB-106109-250	SV109-250-202	4/15/2020	P2002103	VOCs	—
KAFB-106109-350	SV109-350-202	4/15/2020	P2002103	VOCs	—
KAFB-106109-450	SV109-450-202	4/15/2020	P2002103	VOCs	—
KAFB-106109-450	SV109-450-602	4/15/2020	P2002103	VOCs	Field Duplicate
KAFB-106110-025	SV110-025-202	4/15/2020	P2002103	VOCs	—
KAFB-106110-050	SV110-050-202	4/15/2020	P2002103	VOCs	—
KAFB-106110-150	SV110-150-202	4/15/2020	P2002103	VOCs	—
KAFB-106110-250	SV110-250-202	4/15/2020	P2002103	VOCs	—
KAFB-106110-250	SV110-250-602	4/15/2020	P2002103	VOCs	Field Duplicate
KAFB-106110-350	SV110-350-202	4/15/2020	P2002103	VOCs	—
KAFB-106110-450	SV110-450-202	4/15/2020	P2002103	VOCs	—
KAFB-106111-025	SV111-025-202	4/7/2020	P2002030	VOCs	—
KAFB-106111-050	SV111-050-202	4/7/2020	P2002030	VOCs	—
KAFB-106111-050	SV111-050-602	4/7/2020	P2002030	VOCs	Field Duplicate
KAFB-106111-150	SV111-150-202	4/7/2020	P2002030	VOCs	—
KAFB-106111-250	SV111-250-202	4/7/2020	P2002030	VOCs	—
KAFB-106111-350	SV111-350-202	4/7/2020	P2002030	VOCs	—
KAFB-106111-450	SV111-450-202	4/7/2020	P2002030	VOCs	—
KAFB-106112-025	SV112-025-202	4/21/2020	P2002299	VOCs	—
KAFB-106112-050	SV112-050-202	4/21/2020	P2002299	VOCs	—
KAFB-106112-150	SV112-150-202	4/21/2020	P2002299	VOCs	—
KAFB-106112-250	SV112-250-202	4/21/2020	P2002299	VOCs	—
KAFB-106112-350	SV112-350-202	4/21/2020	P2002299	VOCs	—
KAFB-106112-450	SV112-450-202	4/21/2020	P2002299	VOCs	—
KAFB-106112-450	SV112-450-602	4/21/2020	P2002299	VOCs	Field Duplicate
KAFB-106113-020	SV113-020-202	4/15/2020	P2002103	VOCs	—
KAFB-106113-050	SV113-050-202	4/15/2020	P2002103	VOCs	—
KAFB-106113-150	SV113-150-202	4/15/2020	P2002103	VOCs	—
KAFB-106113-250	SV113-250-202	4/15/2020	P2002103	VOCs	—
KAFB-106113-350	SV113-350-202	4/15/2020	P2002103	VOCs	—
KAFB-106113-450	SV113-450-202	4/15/2020	P2002103	VOCs	—
KAFB-106114-025	SV114-025-202	4/8/2020	P2002027	VOCs	—
KAFB-106114-050	SV114-050-202	4/8/2020	P2002027	VOCs	—
KAFB-106114-150	SV114-150-202	4/8/2020	P2002027	VOCs	—
KAFB-106114-250	SV114-250-202	4/8/2020	P2002027	VOCs	—
KAFB-106114-250	SV114-250-602	4/8/2020	P2002027	VOCs	Field Duplicate
KAFB-106114-350	SV114-350-202	4/8/2020	P2002027	VOCs	—
KAFB-106114-450	SV114-450-202	4/8/2020	P2002027	VOCs	—
KAFB-106115-025	SV115-025-202	4/15/2020	P2002104	VOCs	—

Table 1
Soil Vapor Sample Collection Summary Q2 2020

Sample Location ID	Field Sample ID	Sample Date	Sample Delivery Group	Analytical Parameter[a]	Comments
KAFB-106115-025	SV115-025-602	4/15/2020	P2002104	VOCs	Field Duplicate
KAFB-106115-050	SV115-050-202	4/15/2020	P2002104	VOCs	—
KAFB-106115-150	SV115-150-202	4/15/2020	P2002104	VOCs	—
KAFB-106115-250	SV115-250-202	4/15/2020	P2002104	VOCs	—
KAFB-106115-350	SV115-350-202	4/15/2020	P2002104	VOCs	—
KAFB-106115-450	SV115-450-202	4/15/2020	P2002104	VOCs	—
KAFB-106116-025	SV116-025-202	4/7/2020	P2002027	VOCs	—
KAFB-106116-050	SV116-050-202	4/7/2020	P2002027	VOCs	—
KAFB-106116-150	SV116-150-202	4/7/2020	P2002027	VOCs	—
KAFB-106116-250	SV116-250-202	4/7/2020	P2002027	VOCs	—
KAFB-106116-350	SV116-350-202	4/7/2020	P2002027	VOCs	—
KAFB-106116-350	SV116-350-602	4/7/2020	P2002027	VOCs	Field Duplicate
KAFB-106116-450	SV116-450-202	4/7/2020	P2002027	VOCs	—
KAFB-106117-025	SV117-025-202	4/7/2020	P2002030	VOCs	—
KAFB-106117-050	SV117-050-202	4/7/2020	P2002030	VOCs	—
KAFB-106117-150	SV117-150-202	4/7/2020	P2002030	VOCs	—
KAFB-106117-250	SV117-250-202	4/7/2020	P2002030	VOCs	—
KAFB-106117-350	SV117-350-202	4/7/2020	P2002030	VOCs	—
KAFB-106117-450	SV117-450-202	4/7/2020	P2002030	VOCs	—
KAFB-106118-025	SV118-025-202	4/21/2020	P2002299	VOCs	—
KAFB-106118-050	SV118-050-202	4/21/2020	P2002299	VOCs	—
KAFB-106118-160	SV118-160-202	4/21/2020	P2002299	VOCs	—
KAFB-106118-265	SV118-265-202	4/21/2020	P2002299	VOCs	—
KAFB-106118-350	SV118-350-202	4/21/2020	P2002299	VOCs	—
KAFB-106118-450	SV118-450-202	4/21/2020	P2002300	VOCs	—
KAFB-106118-450	SV118-450-602	4/21/2020	P2002300	VOCs	Field Duplicate
KAFB-106119-025	SV119-025-202	4/22/2020	P2002300	VOCs	—
KAFB-106119-050	SV119-050-202	4/22/2020	P2002300	VOCs	—
KAFB-106119-150	SV119-150-202	4/22/2020	P2002300	VOCs	—
KAFB-106119-250	SV119-250-202	4/22/2020	P2002300	VOCs	—
KAFB-106119-350	SV119-350-202	4/22/2020	P2002300	VOCs	—
KAFB-106119-450	SV119-450-202	4/22/2020	P2002300	VOCs	—
KAFB-106120-025	SV120-025-202	4/14/2020	P2002104	VOCs	—
KAFB-106120-025	SV120-025-602	4/14/2020	P2002104	VOCs	Field Duplicate
KAFB-106120-050	SV120-050-202	4/14/2020	P2002104	VOCs	—
KAFB-106120-150	SV120-150-202	4/14/2020	P2002104	VOCs	—
KAFB-106120-250	SV120-250-202	4/14/2020	P2002104	VOCs	—
KAFB-106120-350	SV120-350-202	4/14/2020	P2002104	VOCs	—
KAFB-106120-450	SV120-450-202	4/14/2020	P2002104	VOCs	—
KAFB-106121-025	SV121-025-202	4/14/2020	P2002104	VOCs	—
KAFB-106121-050	SV121-050-202	4/14/2020	P2002104	VOCs	—
KAFB-106121-145	SV121-145-202	4/14/2020	P2002104	VOCs	—
KAFB-106121-145	SV121-145-602	4/14/2020	P2002104	VOCs	Field Duplicate
KAFB-106121-250	SV121-250-202	4/14/2020	P2002104	VOCs	—
KAFB-106121-350	SV121-350-202	4/14/2020	P2002104	VOCs	—
KAFB-106121-450	SV121-450-202	4/14/2020	P2002105	VOCs	—
KAFB-106122-025	SV122-025-202	4/14/2020	P2002105	VOCs	—
KAFB-106122-050	SV122-050-202	4/14/2020	P2002105	VOCs	—
KAFB-106122-150	SV122-150-202	4/14/2020	P2002105	VOCs	—
KAFB-106122-250	SV122-250-202	4/14/2020	P2002105	VOCs	—
KAFB-106122-350	SV122-350-202	4/14/2020	P2002105	VOCs	—
KAFB-106122-450	SV122-450-202	4/14/2020	P2002105	VOCs	—
KAFB-106123-025	SV123-025-202	4/14/2020	P2002105	VOCs	—

Table 1
Soil Vapor Sample Collection Summary Q2 2020

Sample Location ID	Field Sample ID	Sample Date	Sample Delivery Group	Analytical Parameter[a]	Comments
KAFB-106123-050	SV123-050-202	4/14/2020	P2002105	VOCs	—
KAFB-106123-150	SV123-150-202	4/14/2020	P2002105	VOCs	—
KAFB-106123-250	SV123-250-202	4/14/2020	P2002105	VOCs	—
KAFB-106123-350	SV123-350-202	4/14/2020	P2002105	VOCs	—
KAFB-106123-450	SV123-450-202	4/14/2020	P2002105	VOCs	—
KAFB-106124-025	SV124-025-202	4/7/2020	P2002030	VOCs	—
KAFB-106124-050	SV124-050-202	4/7/2020	P2002030	VOCs	—
KAFB-106124-150	SV124-150-202	4/7/2020	P2002031	VOCs	—
KAFB-106124-250	SV124-250-202	4/7/2020	P2002031	VOCs	—
KAFB-106124-250	SV124-250-602	4/7/2020	P2002031	VOCs	Field Duplicate
KAFB-106124-350	SV124-350-202	4/7/2020	P2002031	VOCs	—
KAFB-106124-450	SV124-450-202	4/7/2020	P2002031	VOCs	—
KAFB-106125-025	SV125-025-202	4/7/2020	P2002031	VOCs	—
KAFB-106125-050	SV125-050-202	4/7/2020	P2002031	VOCs	—
KAFB-106125-150	SV125-150-202	4/7/2020	P2002031	VOCs	—
KAFB-106125-250	SV125-250-202	4/7/2020	P2002031	VOCs	—
KAFB-106125-350	SV125-350-202	4/7/2020	P2002031	VOCs	—
KAFB-106125-450	SV125-450-202	4/7/2020	P2002031	VOCs	—
KAFB-106126-025	SV126-025-202	4/21/2020	P2002300	VOCs	—
KAFB-106126-050	SV126-050-202	4/21/2020	P2002300	VOCs	—
KAFB-106126-150	SV126-150-202	4/21/2020	P2002300	VOCs	—
KAFB-106126-250	SV126-250-202	4/21/2020	P2002300	VOCs	—
KAFB-106126-350	SV126-350-202	4/21/2020	P2002300	VOCs	—
KAFB-106126-450	SV126-450-202	4/21/2020	P2002300	VOCs	—
KAFB-106127-025	SV127-025-202	4/7/2020	P2002031	VOCs	—
KAFB-106127-050	SV127-050-202	4/7/2020	P2002031	VOCs	—
KAFB-106127-150	SV127-150-202	4/7/2020	P2002031	VOCs	—
KAFB-106127-250	SV127-250-202	4/7/2020	P2002031	VOCs	—
KAFB-106127-250	SV127-250-602	4/7/2020	P2002031	VOCs	Field Duplicate
KAFB-106127-350	SV127-350-202	4/7/2020	P2002031	VOCs	—
KAFB-106127-450	SV127-450-202	4/7/2020	P2002031	VOCs	—
KAFB-106128-025	SV128-025-202	4/8/2020	P2002027	VOCs	—
KAFB-106128-050	SV128-050-202	4/8/2020	P2002027	VOCs	—
KAFB-106128-150	SV128-150-202	4/8/2020	P2002027	VOCs	—
KAFB-106128-250	SV128-250-202	4/8/2020	P2002027	VOCs	—
KAFB-106128-350	SV128-350-202	4/8/2020	P2002027	VOCs	—
KAFB-106128-450	SV128-450-202	4/8/2020	P2002027	VOCs	—
KAFB-106129-025	SV129-025-202	4/21/2020	P2002300	VOCs	—
KAFB-106129-050	SV129-050-202	4/21/2020	P2002300	VOCs	—
KAFB-106129-150	SV129-150-202	4/21/2020	P2002300	VOCs	—
KAFB-106129-250	SV129-250-202	4/21/2020	P2002300	VOCs	—
KAFB-106129-350	SV129-350-202	4/21/2020	P2002300	VOCs	—
KAFB-106129-450	SV129-450-202	4/21/2020	P2002300	VOCs	—
KAFB-106130-025	SV130-025-202	4/22/2020	P2002300	VOCs	—
KAFB-106130-050	SV130-050-202	4/22/2020	P2002301	VOCs	—
KAFB-106130-150	SV130-150-202	4/22/2020	P2002301	VOCs	—
KAFB-106130-250	SV130-250-202	4/22/2020	P2002301	VOCs	—
KAFB-106130-350	SV130-350-202	4/22/2020	P2002301	VOCs	—
KAFB-106130-450	SV130-450-202	4/22/2020	P2002301	VOCs	—
KAFB-106130-450	SV130-450-602	4/22/2020	P2002301	VOCs	Field Duplicate
KAFB-106131-025	SV131-025-202	4/15/2020	P2002105	VOCs	—
KAFB-106131-055	SV131-055-202	4/15/2020	P2002105	VOCs	—
KAFB-106131-150	SV131-150-202	4/15/2020	P2002105	VOCs	—

Table 1
Soil Vapor Sample Collection Summary Q2 2020

Sample Location ID	Field Sample ID	Sample Date	Sample Delivery Group	Analytical Parameter[a]	Comments
KAFB-106131-245	SV131-245-202	4/15/2020	P2002105	VOCs	—
KAFB-106131-350	SV131-350-202	4/15/2020	P2002105	VOCs	—
KAFB-106131-450	SV131-450-202	4/15/2020	P2002105	VOCs	—
KAFB-106132-025	SV132-025-202	4/14/2020	P2002105	VOCs	—
KAFB-106132-050	SV132-050-202	4/14/2020	P2002106	VOCs	—
KAFB-106132-175	SV132-175-202	4/14/2020	P2002106	VOCs	—
KAFB-106132-250	SV132-250-202	4/14/2020	P2002106	VOCs	—
KAFB-106132-350	SV132-350-202	4/14/2020	P2002106	VOCs	—
KAFB-106132-450	SV132-450-202	4/14/2020	P2002106	VOCs	—
KAFB-106133-025	SV133-025-202	4/8/2020	P2002031	VOCs	—
KAFB-106133-050	SV133-050-202	4/8/2020	P2002031	VOCs	—
KAFB-106133-170	SV133-170-202	4/8/2020	P2002032	VOCs	—
KAFB-106133-250	SV133-250-202	4/8/2020	P2002032	VOCs	—
KAFB-106133-250	SV133-250-602	4/8/2020	P2002032	VOCs	Field Duplicate
KAFB-106133-350	SV133-350-202	4/8/2020	P2002032	VOCs	—
KAFB-106133-450	SV133-450-202	4/8/2020	P2002032	VOCs	—
KAFB-106134-025	SV134-025-202	4/14/2020	P2002106	VOCs	—
KAFB-106134-050	SV134-050-202	4/14/2020	P2002106	VOCs	—
KAFB-106134-170	SV134-170-202	4/14/2020	P2002106	VOCs	—
KAFB-106134-250	SV134-250-202	4/14/2020	P2002106	VOCs	—
KAFB-106134-350	SV134-350-202	4/14/2020	P2002106	VOCs	—
KAFB-106134-350	SV134-350-602	4/14/2020	P2002106	VOCs	Field Duplicate
KAFB-106134-450	SV134-450-202	4/14/2020	P2002106	VOCs	—
KAFB-106135-025	SV135-025-202	4/14/2020	P2002106	VOCs	—
KAFB-106135-050	SV135-050-202	4/14/2020	P2002106	VOCs	—
KAFB-106135-150	SV135-150-202	4/14/2020	P2002106	VOCs	—
KAFB-106135-250	SV135-250-202	4/14/2020	P2002106	VOCs	—
KAFB-106135-250	SV135-250-602	4/14/2020	P2002106	VOCs	Field Duplicate
KAFB-106135-350	SV135-350-202	4/14/2020	P2002106	VOCs	—
KAFB-106135-450	SV135-450-202	4/14/2020	P2002106	VOCs	—
KAFB-106136-025	SV136-025-202	4/8/2020	P2002028	VOCs	—
KAFB-106136-050	SV136-050-202	4/8/2020	P2002028	VOCs	—
KAFB-106136-150	SV136-150-202	4/8/2020	P2002028	VOCs	—
KAFB-106136-250	SV136-250-202	4/8/2020	P2002028	VOCs	—
KAFB-106136-350	SV136-350-202	4/8/2020	P2002028	VOCs	—
KAFB-106136-450	SV136-450-202	4/8/2020	P2002028	VOCs	—
KAFB-106137-025	SV137-025-202	4/14/2020	P2002106	VOCs	—
KAFB-106137-050	SV137-050-202	4/14/2020	P2002107	VOCs	—
KAFB-106137-150	SV137-150-202	4/14/2020	P2002107	VOCs	—
KAFB-106137-250	SV137-250-202	4/14/2020	P2002107	VOCs	—
KAFB-106137-350	SV137-350-202	4/14/2020	P2002107	VOCs	—
KAFB-106137-450	SV137-450-202	4/14/2020	P2002107	VOCs	—
KAFB-106138-025	SV138-025-202	4/8/2020	P2002028	VOCs	—
KAFB-106138-050	SV138-050-202	4/8/2020	P2002028	VOCs	—
KAFB-106138-150	SV138-150-202	4/8/2020	P2002028	VOCs	—
KAFB-106138-150	SV138-150-602	4/8/2020	P2002028	VOCs	Field Duplicate
KAFB-106138-250	SV138-250-202	4/8/2020	P2002028	VOCs	—
KAFB-106138-350	SV138-350-202	4/8/2020	P2002028	VOCs	—
KAFB-106138-450	SV138-450-202	4/8/2020	P2002028	VOCs	—
KAFB-106139-025	SV139-025-202	4/14/2020	P2002107	VOCs	—
KAFB-106139-050	SV139-050-202	4/14/2020	P2002107	VOCs	—
KAFB-106139-050	SV139-050-602	4/14/2020	P2002107	VOCs	Field Duplicate
KAFB-106139-150	SV139-150-202	4/14/2020	P2002107	VOCs	—

Table 1
Soil Vapor Sample Collection Summary Q2 2020

Sample Location ID	Field Sample ID	Sample Date	Sample Delivery Group	Analytical Parameter[a]	Comments
KAFB-106139-250	SV139-250-202	4/14/2020	P2002107	VOCs	—
KAFB-106139-350	SV139-350-202	4/14/2020	P2002107	VOCs	—
KAFB-106139-450	SV139-450-202	4/14/2020	P2002107	VOCs	—
KAFB-106140-025	SV140-025-202	4/14/2020	P2002107	VOCs	—
KAFB-106140-050	SV140-050-202	4/14/2020	P2002107	VOCs	—
KAFB-106140-150	SV140-150-202	4/14/2020	P2002107	VOCs	—
KAFB-106140-250	SV140-250-202	4/14/2020	P2002107	VOCs	—
KAFB-106140-350	SV140-350-202	4/14/2020	P2002107	VOCs	—
KAFB-106140-450	SV140-450-202	4/14/2020	P2002107	VOCs	—
KAFB-106140-450	SV140-450-602	4/14/2020	P2002107	VOCs	Field Duplicate
KAFB-106141-025	SV141-025-202	4/8/2020	P2002028	VOCs	—
KAFB-106141-050	SV141-050-202	4/8/2020	P2002028	VOCs	—
KAFB-106141-170	SV141-170-202	4/8/2020	P2002028	VOCs	—
KAFB-106141-250	SV141-250-202	4/8/2020	P2002028	VOCs	—
KAFB-106141-350	SV141-350-202	4/8/2020	P2002028	VOCs	—
KAFB-106141-450	SV141-450-202	4/8/2020	P2002028	VOCs	—
KAFB-106142-030	SV142-030-202	4/8/2020	P2002032	VOCs	—
KAFB-106142-050	SV142-050-202	4/8/2020	P2002032	VOCs	—
KAFB-106142-170	SV142-170-202	4/8/2020	P2002032	VOCs	—
KAFB-106142-170	SV142-170-602	4/8/2020	P2002032	VOCs	Field Duplicate
KAFB-106142-250	SV142-250-202	4/8/2020	P2002032	VOCs	—
KAFB-106142-350	SV142-350-202	4/8/2020	P2002032	VOCs	—
KAFB-106142-450	SV142-450-202	4/8/2020	P2002032	VOCs	—
SVEW-06-060	SVE06-060-202	4/7/2020	P2002028	VOCs	—
SVEW-06-060	SVE06-060-602	4/7/2020	P2002028	VOCs	Field Duplicate
SVEW-07-160	SVE07-160-202	4/7/2020	P2002029	VOCs	—
SVEW-08-260	SVE08-260-202	4/7/2020	P2002029	VOCs	—
SVEW-09-460	SVE09-460-202	4/7/2020	P2002029	VOCs	—
SVEW-10-410	SVE10-410-202	4/21/2020	P2002301	VOCs	—
SVEW-10-410	SVE10-410-602	4/21/2020	P2002301	VOCs	Field Duplicate
SVEW-11-410	SVE11-410-202	4/21/2020	P2002301	VOCs	—
SVEW-11-410	SVE11-410-602	4/21/2020	P2002301	VOCs	Field Duplicate
SVEW-12-410	SVE12-410-202	4/15/2020	P2002107	VOCs	—
SVEW-13-410	SVE13-410-202	4/21/2020	P2002301	VOCs	—
SVMW-01-050	SV01-050-202	4/21/2020	P2002301	VOCs	—
SVMW-01-100	SV01-100-202	4/21/2020	P2002301	VOCs	—
SVMW-01-250	SV01-250-202	4/21/2020	P2002301	VOCs	—
SVMW-01-300	SV01-300-202	4/21/2020	P2002301	VOCs	—
SVMW-02-050	SV02-050-202	4/21/2020	P2002301	VOCs	—
SVMW-02-100	SV02-100-202	4/21/2020	P2002301	VOCs	—
SVMW-02-150	SV02-150-202	4/21/2020	P2002301	VOCs	—
SVMW-02-150	SV02-150-602	4/21/2020	P2002301	VOCs	Field Duplicate
SVMW-03-050	SV03-050-202	4/7/2020	P2002029	VOCs	—
SVMW-03-100	SV03-100-202	4/7/2020	P2002029	VOCs	—
SVMW-03-250	SV03-250-202	4/7/2020	P2002029	VOCs	—
SVMW-03-300	SV03-300-202	4/7/2020	P2002029	VOCs	—
SVMW-04-050	SV04-050-202	4/7/2020	P2002029	VOCs	—
SVMW-04-050	SV04-050-602	4/7/2020	P2002029	VOCs	Field Duplicate
SVMW-04-100	SV04-100-202	4/7/2020	P2002029	VOCs	—
SVMW-04-250	SV04-250-202	4/7/2020	P2002029	VOCs	—
SVMW-04-300	SV04-300-202	4/7/2020	P2002029	VOCs	—
SVMW-05-050	SV05-050-202	4/21/2020	P2002302	VOCs	—
SVMW-05-050	SV05-050-602	4/21/2020	P2002302	VOCs	Field Duplicate

Table 1
Soil Vapor Sample Collection Summary Q2 2020

Sample Location ID	Field Sample ID	Sample Date	Sample Delivery Group	Analytical Parameter[a]	Comments
SVMW-05-100	SV05-100-202	4/21/2020	P2002302	VOCs	—
SVMW-05-230	SV05-230-202	4/21/2020	P2002302	VOCs	—
SVMW-05-290	SV05-290-202	4/21/2020	P2002302	VOCs	—
SVMW-06-050	SV06-050-202	4/21/2020	P2002302	VOCs	—
SVMW-06-100	SV06-100-202	4/21/2020	P2002302	VOCs	—
SVMW-06-100	SV06-100-602	4/21/2020	P2002302	VOCs	Field Duplicate
SVMW-06-252	SV06-252-202	4/21/2020	P2002302	VOCs	—
SVMW-06-302	SV06-302-202	4/21/2020	P2002302	VOCs	—
SVMW-07-050	SV07-050-202	4/15/2020	P2002107	VOCs	—
SVMW-07-100	SV07-100-202	4/15/2020	P2002107	VOCs	—
SVMW-07-150	SV07-150-202	4/15/2020	P2002107	VOCs	—
SVMW-08-050	SV08-050-202	4/7/2020	P2002029	VOCs	—
SVMW-08-100	SV08-100-202	4/7/2020	P2002029	VOCs	—
SVMW-08-250	SV08-250-202	4/7/2020	P2002029	VOCs	—
SVMW-09-050	SV09-050-202	4/7/2020	P2002029	VOCs	—
SVMW-09-100	SV09-100-202	4/7/2020	P2002029	VOCs	—
SVMW-09-250	SV09-250-202	4/7/2020	P2002029	VOCs	—
SVMW-09-266	SV09-266-202	4/7/2020	P2002029	VOCs	—
SVMW-12-150	SV12-150-202	4/21/2020	P2002302	VOCs	—
SVMW-12-250	SV12-250-202	4/21/2020	P2002302	VOCs	—
SVMW-12-350	SV12-350-202	4/21/2020	P2002302	VOCs	—
SVMW-12-450	SV12-450-202	4/21/2020	P2002302	VOCs	—
SVMW-13-150	SV13-150-202	4/21/2020	P2002302	VOCs	—
SVMW-13-250	SV13-250-202	4/21/2020	P2002302	VOCs	—
SVMW-13-350	SV13-350-202	4/21/2020	P2002302	VOCs	—
SVMW-13-450	SV13-450-202	4/21/2020	P2002302	VOCs	—
SVMW-14-150	SV14-150-202	4/15/2020	P2002107	VOCs	—
SVMW-14-250	SV14-250-202	4/15/2020	P2002107	VOCs	—
SVMW-14-350	SV14-350-202	4/15/2020	P2002107	VOCs	—
SVMW-14-450	SV14-450-202	4/15/2020	P2002107	VOCs	—
SVMW-14-450	SV14-450-602	4/15/2020	P2002107	VOCs	Field Duplicate
SVMW-15-150	SV15-150-202	4/21/2020	P2002302	VOCs	—
SVMW-15-250	SV15-250-202	4/21/2020	P2002302	VOCs	—
SVMW-15-350	SV15-350-202	4/21/2020	P2002302	VOCs	—
SVMW-15-450	SV15-450-202	4/21/2020	P2002302	VOCs	—
Trip Blank	SVTB-202-01	4/9/2020	P2002029	VOCs	—
Trip Blank	SVTB-202-02	4/16/2020	P2002107	VOCs	—
Trip Blank	SVTB-202-03	4/23/2020	P2002302	VOCs	—

[a] VOCs analyzed in accordance with EPA Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Method TO-15.

— = no comments

EPA = U.S. Environmental Protection Agency
ID = identification
VOC = volatile organic compound

Table 2
Data Qualification Flags and Reason Codes

Data Qualifier Definitions for Data Validation

Qualifier	Definition
	No Qualifier indicates that the data are acceptable both qualitatively and quantitatively.
U	The analyte was analyzed for but was not detected above the detection limit. The value associated with the U-qualifier is the limit of detection.
J	The analyte was analyzed for and was positively identified, but the reported numerical value may not be consistent with the amount actually present in the environmental sample. Results are estimated, although the data are considered usable and may be used as appropriate to meet project objectives. Results are qualitatively acceptable and quantitatively uncertain.
J-	The analyte was positively identified; the associated numerical value is its approximate concentration with a low bias in the sample.
J+	The analyte was positively identified; the associated numerical value is its approximate concentration with a high bias in the sample.
UJ	The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
R	The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Re-sampling and re-analysis may be necessary to confirm or deny the presence of the analyte. Results are rejected, and data are unusable for any purposes.

Reason Codes for Data Validation

Reason Code	Description
CB/CCB	Calibration blank or continuing calibration blank outside of control limits
CCV	Calibration verification outside of control limits
EB	Equipment rinse blank contamination
FB	Field blank contamination
FD	Field duplicate sample results out of control criteria
HT	Holding time exceedance
ICS	Interference check sample
LCS	Laboratory control sample recovery out of control criteria
MB	Method blank contamination
MS/MSD	Matrix spike/matrix spike duplicate recovery outside of control criteria
RPD	Relative percent difference outside of control limits
SD	Inductively coupled plasma serial dilution out of control criteria
SURR	Surrogate recovery outside of control limits
TB	Trip blank contamination

Table 3
Qualified Sample Results Q2 2020

Well Location ID	Sample Name	Sample Delivery Group	Collection Method	Sample Type	Analyte	Data Qualifier	Validation Reason Code
KAFB-106108-350	SV108-350-202	P2002299	Summa	N	1,2,4-Trimethylbenzene	J	Data Verification - FD RPD
KAFB-106108-350	SV108-350-602	P2002299	Summa	FD	1,2,4-Trimethylbenzene	J	Data Verification - FD RPD
KAFB-106109-450	SV109-450-202	P2002103	Summa	N	2-Butanone	J	Data Verification - FD RPD
KAFB-106109-450	SV109-450-202	P2002103	Summa	N	Hexane	J	Data Verification - FD RPD
KAFB-106109-450	SV109-450-602	P2002103	Summa	FD	2-Butanone	J	Data Verification - FD RPD
KAFB-106109-450	SV109-450-602	P2002103	Summa	FD	Hexane	J	Data Verification - FD RPD
KAFB-106111-050	SV111-050-202	P2002030	Summa	N	1,2,4-Trimethylbenzene	J	Data Verification - FD RPD
KAFB-106111-050	SV111-050-202	P2002030	Summa	N	1,3,5-Trimethylbenzene	J	Data Verification - FD RPD
KAFB-106111-050	SV111-050-202	P2002030	Summa	N	Cyclohexane	J	Data Verification - FD RPD
KAFB-106111-050	SV111-050-202	P2002030	Summa	N	m- & p-Xylenes	J	Data Verification - FD RPD
KAFB-106111-050	SV111-050-202	P2002030	Summa	N	n-Heptane	J	Data Verification - FD RPD
KAFB-106111-050	SV111-050-202	P2002030	Summa	N	o-Xylene	J	Data Verification - FD RPD
KAFB-106111-050	SV111-050-202	P2002030	Summa	N	Toluene	J	Data Verification - FD RPD
KAFB-106111-050	SV111-050-202	P2002030	Summa	N	Xylenes, total	J	Data Verification - FD RPD
KAFB-106111-050	SV111-050-602	P2002030	Summa	FD	1,2,4-Trimethylbenzene	J	Data Verification - FD RPD
KAFB-106111-050	SV111-050-602	P2002030	Summa	FD	Cyclohexane	J	Data Verification - FD RPD
KAFB-106111-050	SV111-050-602	P2002030	Summa	FD	m- & p-Xylenes	J	Data Verification - FD RPD
KAFB-106111-050	SV111-050-602	P2002030	Summa	FD	n-Heptane	J	Data Verification - FD RPD
KAFB-106111-050	SV111-050-602	P2002030	Summa	FD	o-Xylene	J	Data Verification - FD RPD
KAFB-106111-050	SV111-050-602	P2002030	Summa	FD	Toluene	J	Data Verification - FD RPD
KAFB-106111-050	SV111-050-602	P2002030	Summa	FD	Xylenes, total	J	Data Verification - FD RPD
KAFB-106114-250	SV114-250-202	P2002027	Summa	N	1,2,4-Trimethylbenzene	J	FD RPD
KAFB-106114-250	SV114-250-202	P2002027	Summa	N	m- & p-Xylenes	J	FD RPD
KAFB-106114-250	SV114-250-202	P2002027	Summa	N	n-Heptane	J	FD RPD
KAFB-106114-250	SV114-250-202	P2002027	Summa	N	o-Xylene	J	FD RPD
KAFB-106114-250	SV114-250-202	P2002027	Summa	N	Toluene	J	FD RPD
KAFB-106114-250	SV114-250-202	P2002027	Summa	N	Xylenes, total	J	FD RPD
KAFB-106114-250	SV114-250-602	P2002027	Summa	FD	1,2,4-Trimethylbenzene	J	FD RPD
KAFB-106114-250	SV114-250-602	P2002027	Summa	FD	m- & p-Xylenes	J	FD RPD
KAFB-106114-250	SV114-250-602	P2002027	Summa	FD	n-Heptane	J	FD RPD
KAFB-106114-250	SV114-250-602	P2002027	Summa	FD	o-Xylene	J	FD RPD
KAFB-106114-250	SV114-250-602	P2002027	Summa	FD	Toluene	J	FD RPD
KAFB-106114-250	SV114-250-602	P2002027	Summa	FD	Xylenes, total	J	FD RPD
KAFB-106114-450	SV114-450-202	P2002027	Summa	N	Ethanol	UJ	Continuing Calibration Verification

Table 3
Qualified Sample Results Q2 2020

Well Location ID	Sample Name	Sample Delivery Group	Collection Method	Sample Type	Analyte	Data Qualifier	Validation Reason Code
KAFB-106114-450	SV114-450-202	P2002027	Summa	N	Propylene (propene)	J	Continuing Calibration Verification
KAFB-106115-025	SV115-025-202	P2002104	Summa	N	Ethanol	U	Data Verification - MB
KAFB-106115-025	SV115-025-602	P2002104	Summa	FD	Ethanol	U	Data Verification - MB
KAFB-106115-050	SV115-050-202	P2002104	Summa	N	Ethanol	U	Data Verification - MB
KAFB-106115-150	SV115-150-202	P2002104	Summa	N	Ethanol	U	Data Verification - MB
KAFB-106115-250	SV115-250-202	P2002104	Summa	N	Ethanol	U	Data Verification - MB
KAFB-106116-025	SV116-025-202	P2002027	Summa	N	1,3-Butadiene	U	Method Blank
KAFB-106116-025	SV116-025-202	P2002027	Summa	N	Ethanol	J	Continuing Calibration Verification
KAFB-106116-025	SV116-025-202	P2002027	Summa	N	Propylene (propene)	J	Continuing Calibration Verification
KAFB-106116-150	SV116-150-202	P2002027	Summa	N	1,3-Butadiene	U	Method Blank
KAFB-106116-150	SV116-150-202	P2002027	Summa	N	Ethanol	J	Continuing Calibration Verification
KAFB-106116-150	SV116-150-202	P2002027	Summa	N	Propylene (propene)	UJ	Continuing Calibration Verification
KAFB-106116-250	SV116-250-202	P2002027	Summa	N	Ethanol	UJ	Continuing Calibration Verification
KAFB-106116-250	SV116-250-202	P2002027	Summa	N	Propylene (propene)	J	Continuing Calibration Verification
KAFB-106116-350	SV116-350-202	P2002027	Summa	N	Ethanol	UJ	Continuing Calibration Verification
KAFB-106116-350	SV116-350-202	P2002027	Summa	N	Propylene (propene)	J	Continuing Calibration Verification
KAFB-106116-350	SV116-350-602	P2002027	Summa	FD	Ethanol	UJ	Continuing Calibration Verification
KAFB-106116-350	SV116-350-602	P2002027	Summa	FD	Propylene (propene)	J	Continuing Calibration Verification
KAFB-106116-450	SV116-450-202	P2002027	Summa	N	Ethanol	UJ	Continuing Calibration Verification
KAFB-106116-450	SV116-450-202	P2002027	Summa	N	Propylene (propene)	J	Continuing Calibration Verification
KAFB-106118-350	SV118-350-202	P2002299	Summa	N	Ethanol	U	Data Verification - MB
KAFB-106120-025	SV120-025-202	P2002104	Summa	N	Ethanol	U	Data Verification - MB
KAFB-106120-150	SV120-150-202	P2002104	Summa	N	Ethanol	U	Data Verification - MB
KAFB-106120-250	SV120-250-202	P2002104	Summa	N	Ethanol	U	Data Verification - MB
KAFB-106121-145	SV121-145-202	P2002104	Summa	N	Ethanol	U	Data Verification - MB
KAFB-106121-250	SV121-250-202	P2002104	Summa	N	Ethanol	U	Data Verification - MB
KAFB-106122-025	SV122-025-202	P2002105	Summa	N	Ethanol	U	Data Verification - MB
KAFB-106124-250	SV124-250-202	P2002031	Summa	N	1,2,4-Trimethylbenzene	J	Data Verification - FD RPD
KAFB-106124-250	SV124-250-202	P2002031	Summa	N	1,3,5-Trimethylbenzene	J	Data Verification - FD RPD
KAFB-106124-250	SV124-250-202	P2002031	Summa	N	Carbon disulfide	J	Data Verification - FD RPD
KAFB-106124-250	SV124-250-202	P2002031	Summa	N	Ethanol	U	Data Verification - MB
KAFB-106124-250	SV124-250-202	P2002031	Summa	N	Tetrahydrofuran	J	Data Verification - FD RPD
KAFB-106124-250	SV124-250-602	P2002031	Summa	FD	1,2,4-Trimethylbenzene	J	Data Verification - FD RPD
KAFB-106124-250	SV124-250-602	P2002031	Summa	FD	1,3,5-Trimethylbenzene	J	Data Verification - FD RPD

Table 3
Qualified Sample Results Q2 2020

Well Location ID	Sample Name	Sample Delivery Group	Collection Method	Sample Type	Analyte	Data Qualifier	Validation Reason Code
KAFB-106124-250	SV124-250-602	P2002031	Summa	FD	Carbon disulfide	J	Data Verification - FD RPD
KAFB-106124-250	SV124-250-602	P2002031	Summa	FD	Tetrahydrofuran	J	Data Verification - FD RPD
KAFB-106125-250	SV125-250-202	P2002031	Summa	N	Ethanol	U	Data Verification - MB
KAFB-106126-025	SV126-025-202	P2002300	Summa	N	Ethanol	U	Data Verification - MB
KAFB-106126-250	SV126-250-202	P2002300	Summa	N	Ethanol	U	Data Verification - MB
KAFB-106127-250	SV127-250-202	P2002031	Summa	N	Ethanol	U	Data Verification - MB
KAFB-106127-250	SV127-250-202	P2002031	Summa	N	Naphthalene	J	Data Verification - FD RPD
KAFB-106127-250	SV127-250-602	P2002031	Summa	FD	Naphthalene	J	Data Verification - FD RPD
KAFB-106128-150	SV128-150-202	P2002027	Summa	N	Benzene	U	Method Blank
KAFB-106128-150	SV128-150-202	P2002027	Summa	N	Ethanol	J	Continuing Calibration Verification
KAFB-106128-150	SV128-150-202	P2002027	Summa	N	Propylene (propene)	J	Continuing Calibration Verification
KAFB-106128-250	SV128-250-202	P2002027	Summa	N	Ethanol	UJ	Continuing Calibration Verification
KAFB-106128-250	SV128-250-202	P2002027	Summa	N	Propylene (propene)	UJ	Continuing Calibration Verification
KAFB-106128-350	SV128-350-202	P2002027	Summa	N	Ethanol	UJ	Continuing Calibration Verification
KAFB-106128-350	SV128-350-202	P2002027	Summa	N	Propylene (propene)	J	Continuing Calibration Verification
KAFB-106128-450	SV128-450-202	P2002027	Summa	N	Ethanol	UJ	Continuing Calibration Verification
KAFB-106128-450	SV128-450-202	P2002027	Summa	N	Propylene (propene)	J	Continuing Calibration Verification
KAFB-106129-350	SV129-350-202	P2002300	Summa	N	Ethanol	U	Data Verification - MB
KAFB-106130-050	SV130-050-202	P2002301	Summa	N	Ethanol	U	Data Verification - MB
KAFB-106130-150	SV130-150-202	P2002301	Summa	N	Ethanol	U	Data Verification - MB
KAFB-106130-250	SV130-250-202	P2002301	Summa	N	Ethanol	U	Data Verification - MB
KAFB-106131-350	SV131-350-202	P2002105	Summa	N	Ethanol	U	Data Verification - MB
KAFB-106133-050	SV133-050-202	P2002031	Summa	N	Ethanol	U	Data Verification - MB
KAFB-106134-350	SV134-350-602	P2002106	Summa	FD	1,2,4-Trimethylbenzene	J	Data Verification - FD RPD
KAFB-106135-250	SV135-250-202	P2002106	Summa	N	1,2,4-Trimethylbenzene	J	Data Verification - FD RPD
KAFB-106135-250	SV135-250-202	P2002106	Summa	N	Carbon disulfide	J	Data Verification - FD RPD
KAFB-106135-250	SV135-250-602	P2002106	Summa	FD	1,2,4-Trimethylbenzene	J	Data Verification - FD RPD
KAFB-106135-250	SV135-250-602	P2002106	Summa	FD	Carbon disulfide	J	Data Verification - FD RPD
KAFB-106136-025	SV136-025-202	P2002028	Summa	N	Chloromethane	UJ	Continuing Calibration Verification
KAFB-106136-025	SV136-025-202	P2002028	Summa	N	Ethanol	U	Method Blank
KAFB-106136-025	SV136-025-202	P2002028	Summa	N	Isopropyl alcohol	UJ	Continuing Calibration Verification
KAFB-106136-050	SV136-050-202	P2002028	Summa	N	Chloromethane	UJ	Continuing Calibration Verification
KAFB-106136-050	SV136-050-202	P2002028	Summa	N	Ethanol	U	Method Blank
KAFB-106136-050	SV136-050-202	P2002028	Summa	N	Isopropyl alcohol	UJ	Continuing Calibration Verification

Table 3
Qualified Sample Results Q2 2020

Well Location ID	Sample Name	Sample Delivery Group	Collection Method	Sample Type	Analyte	Data Qualifier	Validation Reason Code
KAFB-106136-150	SV136-150-202	P2002028	Summa	N	Chloromethane	UJ	Continuing Calibration Verification
KAFB-106136-150	SV136-150-202	P2002028	Summa	N	Isopropyl alcohol	J	Continuing Calibration Verification
KAFB-106136-250	SV136-250-202	P2002028	Summa	N	Chloromethane	UJ	Continuing Calibration Verification
KAFB-106136-250	SV136-250-202	P2002028	Summa	N	Ethanol	U	Method Blank
KAFB-106136-250	SV136-250-202	P2002028	Summa	N	Isopropyl alcohol	UJ	Continuing Calibration Verification
KAFB-106136-350	SV136-350-202	P2002028	Summa	N	Chloromethane	UJ	Continuing Calibration Verification
KAFB-106136-350	SV136-350-202	P2002028	Summa	N	Ethanol	U	Method Blank
KAFB-106136-350	SV136-350-202	P2002028	Summa	N	Isopropyl alcohol	UJ	Continuing Calibration Verification
KAFB-106136-450	SV136-450-202	P2002028	Summa	N	Chloromethane	J	Continuing Calibration Verification
KAFB-106136-450	SV136-450-202	P2002028	Summa	N	Isopropyl alcohol	J	Continuing Calibration Verification
KAFB-106137-150	SV137-150-202	P2002107	Summa	N	Ethanol	U	Data Verification - MB
KAFB-106139-050	SV139-050-202	P2002107	Summa	N	1,2,4-Trimethylbenzene	J	Data Verification - FD RPD
KAFB-106139-050	SV139-050-202	P2002107	Summa	N	1,3,5-Trimethylbenzene	J	Data Verification - FD RPD
KAFB-106139-050	SV139-050-202	P2002107	Summa	N	2-Hexanone	J	Data Verification - FD RPD
KAFB-106139-050	SV139-050-202	P2002107	Summa	N	Carbon disulfide	J	Data Verification - FD RPD
KAFB-106139-050	SV139-050-202	P2002107	Summa	N	m- & p-Xylenes	J	Data Verification - FD RPD
KAFB-106139-050	SV139-050-202	P2002107	Summa	N	o-Xylene	J	Data Verification - FD RPD
KAFB-106139-050	SV139-050-202	P2002107	Summa	N	Xylenes, total	J	Data Verification - FD RPD
KAFB-106139-050	SV139-050-602	P2002107	Summa	FD	1,2,4-Trimethylbenzene	J	Data Verification - FD RPD
KAFB-106139-050	SV139-050-602	P2002107	Summa	FD	1,3,5-Trimethylbenzene	J	Data Verification - FD RPD
KAFB-106139-050	SV139-050-602	P2002107	Summa	FD	2-Hexanone	J	Data Verification - FD RPD
KAFB-106139-050	SV139-050-602	P2002107	Summa	FD	Carbon disulfide	J	Data Verification - FD RPD
KAFB-106139-050	SV139-050-602	P2002107	Summa	FD	m- & p-Xylenes	J	Data Verification - FD RPD
KAFB-106139-050	SV139-050-602	P2002107	Summa	FD	o-Xylene	J	Data Verification - FD RPD
KAFB-106139-050	SV139-050-602	P2002107	Summa	FD	Xylenes, total	J	Data Verification - FD RPD
KAFB-106139-350	SV139-350-202	P2002107	Summa	N	Ethanol	U	Data Verification - MB
KAFB-106139-450	SV139-450-202	P2002107	Summa	N	Ethanol	U	Data Verification - MB
KAFB-106140-050	SV140-050-202	P2002107	Summa	N	Ethanol	U	Data Verification - MB
KAFB-106142-050	SV142-050-202	P2002032	Summa	N	Ethanol	U	Data Verification - MB
SVEW-06-060	SVE06-060-202	P2002028	Summa	N	Chloromethane	UJ	Continuing Calibration Verification
SVEW-06-060	SVE06-060-202	P2002028	Summa	N	Isopropyl alcohol	J	Continuing Calibration Verification
SVEW-06-060	SVE06-060-602	P2002028	Summa	FD	Chloromethane	UJ	Continuing Calibration Verification
SVEW-06-060	SVE06-060-602	P2002028	Summa	FD	Isopropyl alcohol	J	Continuing Calibration Verification
SVMW-05-050	SV05-050-202	P2002302	Summa	N	1,2,4-Trimethylbenzene	J	Data Verification - FD RPD

Table 3
Qualified Sample Results Q2 2020

Well Location ID	Sample Name	Sample Delivery Group	Collection Method	Sample Type	Analyte	Data Qualifier	Validation Reason Code
SVMW-05-050	SV05-050-202	P2002302	Summa	N	1,3,5-Trimethylbenzene	J	Data Verification - FD RPD
SVMW-05-050	SV05-050-202	P2002302	Summa	N	Benzene	J	Data Verification - FD RPD
SVMW-05-050	SV05-050-202	P2002302	Summa	N	Cyclohexane	J	Data Verification - FD RPD
SVMW-05-050	SV05-050-202	P2002302	Summa	N	Ethylbenzene	J	Data Verification - FD RPD
SVMW-05-050	SV05-050-202	P2002302	Summa	N	Hexane	J	Data Verification - FD RPD
SVMW-05-050	SV05-050-202	P2002302	Summa	N	m- & p-Xylenes	J	Data Verification - FD RPD
SVMW-05-050	SV05-050-202	P2002302	Summa	N	n-Heptane	J	Data Verification - FD RPD
SVMW-05-050	SV05-050-202	P2002302	Summa	N	o-Xylene	J	Data Verification - FD RPD
SVMW-05-050	SV05-050-202	P2002302	Summa	N	Toluene	J	Data Verification - FD RPD
SVMW-05-050	SV05-050-202	P2002302	Summa	N	Xylenes, total	J	Data Verification - FD RPD
SVMW-05-050	SV05-050-602	P2002301	Summa	FD	1,2,4-Trimethylbenzene	J	Data Verification - FD RPD
SVMW-05-050	SV05-050-602	P2002301	Summa	FD	1,3,5-Trimethylbenzene	J	Data Verification - FD RPD
SVMW-05-050	SV05-050-602	P2002301	Summa	FD	Cyclohexane	J	Data Verification - FD RPD
SVMW-05-050	SV05-050-602	P2002301	Summa	FD	Ethylbenzene	J	Data Verification - FD RPD
SVMW-05-050	SV05-050-602	P2002301	Summa	FD	Hexane	J	Data Verification - FD RPD
SVMW-05-050	SV05-050-602	P2002301	Summa	FD	m- & p-Xylenes	J	Data Verification - FD RPD
SVMW-05-050	SV05-050-602	P2002301	Summa	FD	n-Heptane	J	Data Verification - FD RPD
SVMW-05-050	SV05-050-602	P2002301	Summa	FD	o-Xylene	J	Data Verification - FD RPD
SVMW-05-050	SV05-050-602	P2002301	Summa	FD	Toluene	J	Data Verification - FD RPD
SVMW-05-050	SV05-050-602	P2002301	Summa	FD	Xylenes, total	J	Data Verification - FD RPD
SVMW-06-100	SV06-100-202	P2002302	Summa	N	Benzene	J	Data Verification - FD RPD
SVMW-06-100	SV06-100-202	P2002302	Summa	N	Cyclohexane	J	Data Verification - FD RPD
SVMW-06-100	SV06-100-202	P2002302	Summa	N	Ethanol	J	Data Verification - FD RPD
SVMW-06-100	SV06-100-202	P2002302	Summa	N	Hexane	J	Data Verification - FD RPD
SVMW-06-100	SV06-100-202	P2002302	Summa	N	m- & p-Xylenes	J	Data Verification - FD RPD
SVMW-06-100	SV06-100-202	P2002302	Summa	N	n-Heptane	J	Data Verification - FD RPD
SVMW-06-100	SV06-100-202	P2002302	Summa	N	Toluene	J	Data Verification - FD RPD
SVMW-06-100	SV06-100-202	P2002302	Summa	N	Xylenes, total	J	Data Verification - FD RPD
SVMW-06-100	SV06-100-602	P2002302	Summa	FD	Ethanol	U	Data Verification - MB
SVMW-13-450	SV13-450-202	P2002302	Summa	N	Ethanol	U	Data Verification - MB
SVMW-14-250	SV14-250-202	P2002107	Summa	N	Ethanol	U	Data Verification - MB
SVMW-14-450	SV14-450-202	P2002107	Summa	N	2-Butanone	J	Data Verification - FD RPD
SVMW-14-450	SV14-450-202	P2002107	Summa	N	Carbon disulfide	J	Data Verification - FD RPD
SVMW-14-450	SV14-450-602	P2002107	Summa	FD	2-Butanone	J	Data Verification - FD RPD

Table 3
Qualified Sample Results Q2 2020

Well Location ID	Sample Name	Sample Delivery Group	Collection Method	Sample Type	Analyte	Data Qualifier	Validation Reason Code
SVMW-14-450	SV14-450-602	P2002107	Summa	FD	Carbon disulfide	J	Data Verification - FD RPD
SVMW-15-250	SV15-250-202	P2002302	Summa	N	Ethanol	U	Data Verification - MB

FD = field duplicate

ID = identification

MB = method blank

N = normal field sample

RPD = relative percent difference

Qualifiers:

J = Qualifier denotes the analyte was positively identified, but the associated numerical value is estimated.

U = Qualifier denotes the analyte was analyzed for but was not detected above the detection limit.

Table 4
Field Quality Control Sample Results Q2 2020

		Field Sample ID:	SVTB-202-01			SVTB-202-02			SVTB-202-03		
		Sample Date:	4/9/2020			4/16/2020			4/23/2020		
		Sample Type:	Trip Blank			Trip Blank			Trip Blank		
Parameter	**Analytical Method**	**Analyte**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**
VOCs	Method TO-15 (µg/m^3)	1,1,2-Trichloro-1,2,2-trifluoroethane	ND	U	0	ND	U	0.43	ND	U	0.43
		1,1-Dichloroethane	ND	U	0	ND	U	0.83	ND	U	0.83
		1,2,4-Trichlorobenzene	ND	U	0	ND	U	0.8	ND	U	0.8
		1,2,4-Trimethylbenzene	ND	U	0	ND	U	0.43	ND	U	0.43
		1,2-Dibromoethane	ND	U	0	ND	U	0.43	ND	U	0.43
		1,2-Dichloroethane	ND	U	0	ND	U	0.43	ND	U	0.43
		1,3,5-Trimethylbenzene	ND	U	0	ND	U	0.43	ND	U	0.43
		1,3-Butadiene	ND	U	0	ND	U	0.8	ND	U	0.8
		1,4-Dioxane	ND	U	0	ND	U	0.43	ND	U	0.43
		2-Butanone	ND	U	0	0.61	J	0.8	ND	U	0.8
		2-Hexanone	ND	U	0	0.20	J	0.43	ND	U	0.43
		4-Methyl-2-pentanone	ND	U	0	ND	U	0.43	ND	U	0.43
		Acetone	ND	U	6	3.9	J	6.8	ND	U	6.8
		Benzene	0.26	J	0	ND	U	0.43	ND	U	0.43
		Bromodichloromethane	ND	U	0	ND	U	0.43	ND	U	0.43
		Bromoform	ND	U	0	ND	U	0.8	ND	U	0.8
		Carbon disulfide	ND	U	1	ND	U	1.4	ND	U	1.4
		Carbon tetrachloride	ND	U	0	ND	U	0.43	ND	U	0.43
		Chloroethane	ND	U	0	ND	U	0.8	ND	U	0.8
		Chloroform	ND	U	0	ND	U	0.43	ND	U	0.43
		Chloromethane	ND	U	0	ND	U	0.8	ND	U	0.8
		Cyclohexane	ND	U	0	ND	U	0.85	ND	U	0.85
		Dibromochloromethane	ND	U	0	ND	U	0.43	ND	U	0.43
		Dichlorodifluoromethane	ND	U	0	ND	U	0.8	ND	U	0.8
		Ethanol	ND	U	2	5.2	J	2.1	ND	U	2.1
		Ethyl acetate	ND	U	1	1.1	J	1.6	ND	U	1.6
		Ethylbenzene	ND	U	0	ND	U	0.43	ND	U	0.43
		Hexane	ND	U	0	ND	U	0.8	ND	U	0.8
		Isopropyl alcohol	ND	U	1	1.9	J	1.6	ND	U	1.6
		m- & p-Xylenes	ND	U	0	ND	U	0.85	ND	U	0.85
		Methylene chloride	ND	U	0	ND	U	0.8	ND	U	0.8
		Naphthalene	ND	U	0	ND	U	0.78	ND	U	0.78
		n-Heptane	0.25	J	0	ND	U	0.8	ND	U	0.8
		o-Xylene	ND	U	0	ND	U	0.43	ND	U	0.43
		Propylene (propene)	ND	U	0	0.45	J	0.8	ND	U	0.8
		Styrene	ND	U	0	ND	U	0.8	ND	U	0.8
		Tetrachloroethene	0.57	J	0	ND	U	0.43	ND	U	0.43
		Tetrahydrofuran	ND	U	0	ND	U	0.43	ND	U	0.43
		Toluene	0.32	J	0	0.33	J	0.43	ND	U	0.43
		Trichloroethene	ND	U	0	0.31	J	0.43	ND	U	0.43
		Trichlorofluoromethane	ND	U	0	ND	U	0.8	ND	U	0.8
		Vinyl chloride	ND	U	0	ND	U	0.43	ND	U	0.43
		Xylenes, total	ND	U	0	ND	U	0.85	ND	U	0.85

Table 4
Field Quality Control Sample Results Q2 2020

ID = identification
LOD = limit of detection
ND = not detected above the detection limit
Val Qual = validation qualifier
VOC = volatile organic compound
µg/m^3 = micrograms per cubic meter
Shading = detected concentrations above the detection limit
Qualifiers:
Val Qual based on independent data validation.
J = Qualifier denotes the analyte was positively identified, but the associated numerical value is estimated.
U = Qualifier denotes the analyte was analyzed but not detected above the detection limit. The value associated with the U-qualifier is the LOD.

Table 5
Field Duplicate Sample Results Q2 2020

		Well Location ID:	KAFB-106108-350			KAFB-106108-350			KAFB-106109-450			KAFB-106109-450			KAFB-106110-250			KAFB-106110-250		
		Field Sample ID:	SV108-350-202			SV108-350-602			SV109-450-202			SV109-450-602			SV110-250-202			SV110-250-602		
		Sample Date:	4/21/2020			4/21/2020			4/15/2020			4/15/2020			4/15/2020			4/15/2020		
		Sample Type:	REG			Field Duplicate			REG			Field Duplicate			REG			Field Duplicate		
Parameter	**Analytical Method**	**Analyte**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**
VOCs	Method TO-15 (µg/m^3)	1,1,2-Trichloro-1,2,2-trifluoroethane	1,600	--	17	1,900	--	18	5.2	--	0.75	5.3	--	0.74	8,600	--	1,700	10,000	--	2,100
		1,1-Dichloroethane	2.3	J	5.4	1.9	J	5.8	6	--	1.5	6.1	--	1.4	ND	U	3,300	ND	U	4,100
		1,2,4-Trichlorobenzene	ND	U	5.2	ND	U	5.6	ND	U	1.4	ND	U	1.4	ND	U	3,200	ND	U	3,900
		1,2,4-Trimethylbenzene	11	J	2.8	30	J	3	2.3	J	0.75	12	--	0.74	ND	U	1,700	ND	U	2,100
		1,2-Dibromoethane	2.8	J	2.8	2.2	J	3	ND	U	0.75	ND	U	0.74	ND	U	1,700	ND	U	2,100
		1,2-Dichloroethane	6.8	J	2.8	5.5	J	3	2.8	--	0.75	2.8	--	0.74	ND	U	1,700	ND	U	2,100
		1,3,5-Trimethylbenzene	7.9	J	2.8	11	--	3	0.53	J	0.75	2.3	--	0.74	ND	U	1,700	ND	U	2,100
		1,3-Butadiene	ND	U	5.2	ND	U	5.6	0.46	J	1.4	0.51	J	1.4	ND	U	3,200	ND	U	3,900
		1,4-Dioxane	ND	U	2.8	ND	U	3	ND	U	0.75	ND	U	0.74	ND	U	1,700	ND	U	2,100
		2-Butanone	4.1	J	5.2	5.3	J	5.6	5.1	J	1.4	2.8	J	1.4	ND	U	3,200	ND	U	3,900
		2-Hexanone	ND	U	2.8	ND	U	3	1.2	J	0.75	ND	U	0.74	ND	U	1,700	ND	U	2,100
		4-Methyl-2-pentanone	3.7	J	2.8	1.8	J	3	0.67	J	0.75	0.58	J	0.74	ND	U	1,700	ND	U	2,100
		Acetone	ND	U	44	30	J	47	23	J	12	ND	U	12	ND	U	27,000	ND	U	33,000
		Benzene	1,000	--	2.8	810	--	3	7.9	--	0.75	9.2	--	0.74	40,000	--	1,700	33,000	--	2,100
		Bromodichloromethane	ND	U	2.8	ND	U	3	ND	U	0.75	ND	U	0.74	ND	U	1,700	ND	U	2,100
		Bromoform	ND	U	5.2	ND	U	5.6	ND	U	1.4	ND	U	1.4	ND	U	3,200	ND	U	3,900
		Carbon disulfide	380	--	8.8	320	--	9.5	120	--	2.4	120	--	2.3	ND	U	5,400	ND	U	6,700
		Carbon tetrachloride	74	--	2.8	77	--	3	1.1	J	0.75	1.2	J	0.74	ND	U	1,700	ND	U	2,100
		Chloroethane	8	J	5.2	6.4	J	5.6	8.1	--	1.4	7.9	--	1.4	ND	U	3,200	ND	U	3,900
		Chloroform	7.2	J	2.8	7.5	J	3	0.38	J	0.75	0.4	J	0.74	ND	U	1,700	ND	U	2,100
		Chloromethane	77	--	5.2	63	--	5.6	35	--	1.4	33	--	1.4	ND	U	3,200	ND	U	3,900
		Cyclohexane	370	--	5.6	340	--	6	4.6	J	1.5	16	--	1.5	1,000,000	--	3,400	850,000	--	4,200
		Dibromochloromethane	ND	U	2.8	ND	U	3	ND	U	0.75	ND	U	0.74	ND	U	1,700	ND	U	2,100
		Dichlorodifluoromethane	7.9	J	5.2	8.1	J	5.6	2.2	J	1.4	2.2	J	1.4	ND	U	3,200	ND	U	3,900
		Ethanol	9.7	J	14	10	J	15	13	J	3.7	20	J	3.6	ND	U	8,300	ND	U	10,000
		Ethyl acetate	ND	U	11	ND	U	11	50	--	2.9	51	--	2.8	ND	U	6,500	ND	U	8,000
		Ethylbenzene	4.4	J	2.8	5	J	3	0.87	J	0.75	1.5	J	0.74	ND	U	1,700	ND	U	2,100
		Hexane	180	--	5.2	160	--	5.6	4.9	J	1.4	14	J	1.4	1,400,000	--	5,400	1,100,000	--	3,900
		Isopropyl alcohol	ND	U	10	ND	U	11	2.9	J	2.8	5.4	J	2.7	ND	U	6,300	ND	U	7,800
		m- & p-Xylenes	68	--	5.6	66	--	6	3.1	J	1.5	6.8	--	1.5	10,000	J	3,400	11,000	J	4,200
		Methylene chloride	ND	U	5.2	ND	U	5.6	1.3	J	1.4	4.6	--	1.4	3,200	J	3,200	3,700	J	3,900
		Naphthalene	ND	U	5.1	5.3	J	5.5	ND	U	1.4	1.2	J	1.3	ND	U	3,100	ND	U	3,800
		n-Heptane	41	--	5.2	47	--	5.6	1.3	J	1.4	1.8	J	1.4	1,300,000	--	5,400	1,100,000	--	3,900
		o-Xylene	50	--	2.8	47	--	3	1	J	0.75	2.1	J	0.74	2,200	J	1,700	2,500	J	2,100
		Propylene (propene)	11	--	5.2	9.6	--	5.6	ND	U	1.4	8	--	1.4	21,000	--	3,200	19,000	--	3,900
		Styrene	ND	U	5.2	ND	U	5.6	ND	U	1.4	0.38	J	1.4	ND	U	3,200	ND	U	3,900
		Tetrachloroethene	14	--	2.8	15	--	3	1.1	J	0.75	1.3	J	0.74	2,300	J	1,700	3,000	J	2,100
		Tetrahydrofuran	210	--	2.8	170	--	3	52	--	0.75	49	--	0.74	ND	U	1,700	ND	U	2,100
		Toluene	320	--	2.8	290	--	3	25	--	0.75	31	--	0.74	63,000	--	1,700	58,000	--	2,100
		Trichloroethene	7.6	J	2.8	7.5	J	3	13	--	0.75	13	--	0.74	ND	U	1,700	ND	U	2,100
		Trichlorofluoromethane	16	--	5.2	17	--	5.6	0.84	J	1.4	0.8	J	1.4	ND	U	3,200	ND	U	3,900
		Vinyl chloride	10	--	2.8	8.3	J	3	11	--	0.75	10	--	0.74	ND	U	1,700	ND	U	2,100
		Xylenes, total	120	--	5.6	110	--	6	4.1	J	1.5	8.9	--	1.5	12,000	--	3,400	14,000	--	4,200

Table 5
Field Duplicate Sample Results Q2 2020

		Well Location ID:	KAFB-106111-050			KAFB-106111-050			KAFB-106112-450			KAFB-106112-450			KAFB-106114-250			KAFB-106114-250		
		Field Sample ID:	SV111-050-202			SV111-050-602			SV112-450-202			SV112-450-602			SV114-250-202			SV114-250-602		
		Sample Date:	4/7/2020			4/7/2020			4/21/2020			4/21/2020			4/8/2020			4/8/2020		
		Sample Type:	REG			Field Duplicate			REG			Field Duplicate			REG			Field Duplicate		
Parameter	**Analytical Method**	**Analyte**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**
VOCs	Method TO-15 (µg/m^3)	1,1,2-Trichloro-1,2,2-trifluoroethane	130	--	0.75	140	--	1.3	250	J	150	ND	U	160	18	--	0.84	18	--	0.74
		1,1-Dichloroethane	ND	U	1.5	ND	U	2.4	ND	U	280	ND	U	310	ND	U	1.6	ND	U	1.4
		1,2,4-Trichlorobenzene	ND	U	1.4	ND	U	2.4	ND	U	270	ND	U	300	ND	U	1.6	ND	U	1.4
		1,2,4-Trimethylbenzene	12	J	0.75	120	J	1.3	670	--	150	610	--	160	6.7	J	0.84	22	J	0.74
		1,2-Dibromoethane	ND	U	0.75	0.78	J	1.3	ND	U	150	ND	U	160	ND	U	0.84	ND	U	0.74
		1,2-Dichloroethane	ND	U	0.75	ND	U	1.3	ND	U	150	ND	U	160	ND	U	0.84	ND	U	0.74
		1,3,5-Trimethylbenzene	3.5	J	0.75	33	--	1.3	860	--	150	820	--	160	1.9	J	0.84	5.7	--	0.74
		1,3-Butadiene	ND	U	1.4	ND	U	2.4	ND	U	270	ND	U	300	ND	U	1.6	ND	U	1.4
		1,4-Dioxane	0.67	J	0.75	ND	U	1.3	ND	U	150	ND	U	160	ND	U	0.84	ND	U	0.74
		2-Butanone	2.8	J	1.4	6.9	J	2.4	110	J	270	ND	U	300	5.8	--	1.6	3	J	1.4
		2-Hexanone	ND	U	0.75	ND	U	1.3	ND	U	150	ND	U	160	2.6	J	0.84	ND	U	0.74
		4-Methyl-2-pentanone	ND	U	0.75	1.6	J	1.3	ND	U	150	ND	U	160	0.85	J	0.84	ND	U	0.74
		Acetone	46	--	12	37	J	20	ND	U	2,300	ND	U	2,500	29	--	13	18	J	12
		Benzene	1.5	J	0.75	3.1	J	1.3	15,000	--	150	15,000	--	160	0.6	J	0.84	1.6	J	0.74
		Bromodichloromethane	ND	U	0.75	ND	U	1.3	ND	U	150	ND	U	160	ND	U	0.84	ND	U	0.74
		Bromoform	ND	U	1.4	ND	U	2.4	ND	U	270	ND	U	300	ND	U	1.6	ND	U	1.4
		Carbon disulfide	7.6	--	2.4	6.8	J	4	ND	U	460	ND	U	500	13	--	2.7	9.4	--	2.4
		Carbon tetrachloride	92	--	0.75	93	--	1.3	160	J	150	ND	U	160	93	--	0.84	94	--	0.74
		Chloroethane	ND	U	1.4	ND	U	2.4	ND	U	270	ND	U	300	ND	U	1.6	ND	U	1.4
		Chloroform	ND	U	0.75	ND	U	1.3	ND	U	150	ND	U	160	13	--	0.84	14	--	0.74
		Chloromethane	0.81	J	1.4	0.87	J	2.4	ND	U	270	ND	U	300	ND	U	1.6	ND	U	1.4
		Cyclohexane	6.7	J	1.5	22	J	2.5	140,000	--	290	150,000	--	310	0.84	J	1.7	5.9	--	1.5
		Dibromochloromethane	ND	U	0.75	ND	U	1.3	ND	U	150	ND	U	160	ND	U	0.84	ND	U	0.74
		Dichlorodifluoromethane	60	--	1.4	60	--	2.4	76	J	270	ND	U	300	230	--	1.6	230	--	1.4
		Ethanol	2	J	3.7	8	J	6.1	1,300	J	710	450	J	770	4.5	J	4.1	6.4	J	3.6
		Ethyl acetate	ND	U	2.9	2.1	J	4.8	ND	U	560	ND	U	600	ND	U	3.2	30	--	2.8
		Ethylbenzene	1.5	J	0.75	14	--	1.3	1,300	--	150	1,300	--	160	1	J	0.84	3.6	--	0.74
		Hexane	2.2	J	1.4	13	--	2.4	65,000	--	270	66,000	--	300	1.1	J	1.6	9.3	--	1.4
		Isopropyl alcohol	ND	U	2.8	3	J	4.7	ND	U	540	ND	U	580	3.7	J	3.1	ND	U	2.8
		m- & p-Xylenes	15	J	1.5	150	J	2.5	6,400	--	290	6,300	--	310	12	J	1.7	59	J	1.5
		Methylene chloride	ND	U	1.4	ND	U	2.4	ND	U	270	ND	U	300	ND	U	1.6	ND	U	1.4
		Naphthalene	1.7	J	1.4	14	--	2.3	ND	U	270	ND	U	290	3.3	--	1.5	ND	U	1.4
		n-Heptane	3.7	J	1.4	36	J	2.4	48,000	--	270	49,000	--	300	4.6	J	1.6	37	J	1.4
		o-Xylene	6	J	0.75	56	J	1.3	4,200	--	150	4,100	--	160	3.9	J	0.84	15	J	0.74
		Propylene (propene)	2.1	J	1.4	4.1	--	2.4	1,100	--	270	1,100	--	300	1.5	J	1.6	1.1	J	1.4
		Styrene	ND	U	1.4	ND	U	2.4	ND	U	270	ND	U	300	ND	U	1.6	ND	U	1.4
		Tetrachloroethene	8	--	0.75	8.2	--	1.3	110	J	150	ND	U	160	1.1	J	0.84	1.7	J	0.74
		Tetrahydrofuran	1.2	J	0.75	3.3	J	1.3	69	J	150	ND	U	160	2.7	J	0.84	5.9	--	0.74
		Toluene	4.2	J	0.75	34	J	1.3	15,000	--	150	15,000	--	160	3.8	J	0.84	22	J	0.74
		Trichloroethene	ND	U	0.75	ND	U	1.3	170	J	150	ND	U	160	1.6	J	0.84	1.6	J	0.74
		Trichlorofluoromethane	6.3	--	1.4	6.2	--	2.4	ND	U	270	ND	U	300	21	--	1.6	21	--	1.4
		Vinyl chloride	ND	U	0.75	ND	U	1.3	ND	U	150	ND	U	160	ND	U	0.84	ND	U	0.74
		Xylenes, total	21	J	1.5	200	J	2.5	11,000	--	290	10,000	--	310	16	J	1.7	75	J	1.5

Table 5
Field Duplicate Sample Results Q2 2020

		Well Location ID:	KAFB-106115-025			KAFB-106115-025			KAFB-106116-350			KAFB-106116-350			KAFB-106118-450			KAFB-106118-450		
		Field Sample ID:	SV115-025-202			SV115-025-602			SV116-350-202			SV116-350-602			SV118-450-202			SV118-450-602		
		Sample Date:	4/15/2020			4/15/2020			4/7/2020			4/7/2020			4/21/2020			4/21/2020		
		Sample Type:	REG			Field Duplicate			REG			Field Duplicate			REG			Field Duplicate		
Parameter	**Analytical Method**	**Analyte**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**
VOCs	Method TO-15 (µg/m^3)	1,1,2-Trichloro-1,2,2-trifluoroethane	0.53	J	0.75	0.55	J	0.84	16	J	22	9.7	J	20	13	J	15	11	J	13
		1,1-Dichloroethane	ND	U	1.5	ND	U	1.6	ND	U	43	ND	U	39	ND	U	29	ND	U	25
		1,2,4-Trichlorobenzene	ND	U	1.4	ND	U	1.6	ND	U	42	ND	U	38	ND	U	28	ND	U	24
		1,2,4-Trimethylbenzene	ND	U	0.75	ND	U	0.84	ND	U	22	ND	U	20	ND	U	15	32	J	13
		1,2-Dibromoethane	ND	U	0.75	ND	U	0.84	ND	U	22	ND	U	20	ND	U	15	ND	U	13
		1,2-Dichloroethane	ND	U	0.75	ND	U	0.84	ND	U	22	ND	U	20	ND	U	15	ND	U	13
		1,3,5-Trimethylbenzene	ND	U	0.75	ND	U	0.84	42	J	22	31	J	20	8.4	J	15	14	J	13
		1,3-Butadiene	ND	U	1.4	ND	U	1.6	20	J	42	33	J	38	ND	U	28	ND	U	24
		1,4-Dioxane	2.2	J	0.75	ND	U	0.84	ND	U	22	ND	U	20	ND	U	15	ND	U	13
		2-Butanone	4.3	J	1.4	1.6	J	1.6	ND	U	42	ND	U	38	ND	U	28	ND	U	24
		2-Hexanone	1.9	J	0.75	ND	U	0.84	ND	U	22	ND	U	20	ND	U	15	ND	U	13
		4-Methyl-2-pentanone	0.52	J	0.75	0.41	J	0.84	ND	U	22	ND	U	20	ND	U	15	ND	U	13
		Acetone	24	--	12	9.8	J	13	ND	U	350	ND	U	320	ND	U	230	ND	U	210
		Benzene	ND	U	0.75	0.47	J	0.84	670	--	22	430	--	20	110	--	15	96	--	13
		Bromodichloromethane	ND	U	0.75	ND	U	0.84	ND	U	22	ND	U	20	ND	U	15	ND	U	13
		Bromoform	ND	U	1.4	ND	U	1.6	ND	U	42	ND	U	38	ND	U	28	ND	U	24
		Carbon disulfide	ND	U	2.4	1.8	J	2.7	ND	U	70	ND	U	63	250	--	47	210	--	41
		Carbon tetrachloride	2.1	J	0.75	2.1	J	0.84	ND	U	22	ND	U	20	66	--	15	62	--	13
		Chloroethane	ND	U	1.4	ND	U	1.6	ND	U	42	ND	U	38	6.9	J	28	5.5	J	24
		Chloroform	0.74	J	0.75	0.7	J	0.84	ND	U	22	ND	U	20	8.6	J	15	7.5	J	13
		Chloromethane	0.75	J	1.4	ND	U	1.6	ND	U	42	ND	U	38	39	J	28	33	J	24
		Cyclohexane	3.8	J	1.5	5.3	J	1.7	9,100	--	44	6,000	--	40	6,800	--	30	5,900	--	26
		Dibromochloromethane	ND	U	0.75	ND	U	0.84	ND	U	22	ND	U	20	ND	U	15	ND	U	13
		Dichlorodifluoromethane	2.4	--	1.4	2.4	J	1.6	230	--	42	150	--	38	ND	U	28	ND	U	24
		Ethanol	ND	U	3.7	ND	U	4.1	ND	UJ	110	ND	UJ	97	ND	U	72	ND	U	63
		Ethyl acetate	ND	U	2.9	ND	U	3.2	ND	U	85	ND	U	76	ND	U	57	ND	U	49
		Ethylbenzene	ND	U	0.75	ND	U	0.84	ND	U	22	ND	U	20	14	J	15	14	J	13
		Hexane	3	--	1.4	4.8	--	1.6	940	--	42	610	--	38	330	--	28	280	--	24
		Isopropyl alcohol	1	J	2.8	ND	U	3.1	ND	U	82	ND	U	74	ND	U	55	ND	U	48
		m- & p-Xylenes	ND	U	1.5	0.84	J	1.7	34	J	44	28	J	40	27	J	30	32	J	26
		Methylene chloride	ND	U	1.4	ND	U	1.6	ND	U	42	ND	U	38	ND	U	28	ND	U	24
		Naphthalene	ND	U	1.4	ND	U	1.5	ND	U	40	ND	U	36	ND	U	27	ND	U	24
		n-Heptane	6.1	--	1.4	9.7	--	1.6	21	J	42	15	J	38	ND	U	28	ND	U	24
		o-Xylene	ND	U	0.75	ND	U	0.84	44	J	22	33	J	20	21	J	15	21	J	13
		Propylene (propene)	1	J	1.4	ND	U	1.6	260	J	42	220	J	38	13	J	28	10	J	24
		Styrene	ND	U	1.4	ND	U	1.6	ND	U	42	ND	U	38	ND	U	28	ND	U	24
		Tetrachloroethene	1.1	J	0.75	0.79	J	0.84	ND	U	22	ND	U	20	ND	U	15	ND	U	13
		Tetrahydrofuran	0.66	J	0.75	0.84	J	0.84	ND	U	22	ND	U	20	70	--	15	61	--	13
		Toluene	0.82	J	0.75	1.2	J	0.84	ND	U	22	ND	U	20	490	--	15	440	--	13
		Trichloroethene	ND	U	0.75	ND	U	0.84	38	J	22	23	J	20	ND	U	15	ND	U	13
		Trichlorofluoromethane	1.2	J	1.4	1.2	J	1.6	33	J	42	20	J	38	ND	U	28	ND	U	24
		Vinyl chloride	ND	U	0.75	ND	U	0.84	ND	U	22	ND	U	20	7.9	J	15	6.6	J	13
		Xylenes, total	ND	U	1.5	0.84	J	1.7	78	J	44	61	J	40	48	J	30	53	J	26

Table 5
Field Duplicate Sample Results Q2 2020

		Well Location ID:	KAFB-106120-025			KAFB-106120-025			KAFB-106121-145			KAFB-106121-145			KAFB-106124-250			KAFB-106124-250		
		Field Sample ID:	SV120-025-202			SV120-025-602			SV121-145-202			SV121-145-602			SV124-250-202			SV124-250-602		
		Sample Date:	4/14/2020			4/14/2020			4/14/2020			4/14/2020			4/7/2020			4/7/2020		
		Sample Type:	REG			Field Duplicate			REG			Field Duplicate			REG			Field Duplicate		
Parameter	**Analytical Method**	**Analyte**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**
VOCs	Method TO-15 (µg/m^3)	1,1,2-Trichloro-1,2,2-trifluoroethane	0.39	J	0.68	0.47	J	0.86	0.92	J	0.74	0.92	J	0.75	ND	U	0.71	ND	U	0.74
		1,1-Dichloroethane	ND	U	1.3	ND	U	1.7	ND	U	1.4	ND	U	1.5	ND	U	1.4	ND	U	1.4
		1,2,4-Trichlorobenzene	ND	U	1.3	ND	U	1.6	ND	U	1.4	ND	U	1.4	ND	U	1.3	ND	U	1.4
		1,2,4-Trimethylbenzene	2.5	--	0.68	3.1	--	0.86	ND	U	0.74	0.46	J	0.75	22	J	0.71	41	J	0.74
		1,2-Dibromoethane	0.32	J	0.68	ND	U	0.86	ND	U	0.74	ND	U	0.75	ND	U	0.71	ND	U	0.74
		1,2-Dichloroethane	ND	U	0.68	ND	U	0.86	ND	U	0.74	ND	U	0.75	ND	U	0.71	ND	U	0.74
		1,3,5-Trimethylbenzene	1.1	J	0.68	1.4	J	0.86	ND	U	0.74	ND	U	0.75	4.4	J	0.71	8.4	J	0.74
		1,3-Butadiene	ND	U	1.3	ND	U	1.6	ND	U	1.4	ND	U	1.4	ND	U	1.3	ND	U	1.4
		1,4-Dioxane	0.4	J	0.68	ND	U	0.86	0.28	J	0.74	ND	U	0.75	ND	U	0.71	0.83	J	0.74
		2-Butanone	1	J	1.3	1.7	J	1.6	4.3	J	1.4	3.8	J	1.4	1.1	J	1.3	2.2	J	1.4
		2-Hexanone	0.5	J	0.68	0.68	J	0.86	0.31	J	0.74	0.31	J	0.75	0.3	J	0.71	0.5	J	0.74
		4-Methyl-2-pentanone	ND	U	0.68	ND	U	0.86	ND	U	0.74	ND	U	0.75	0.96	J	0.71	0.78	J	0.74
		Acetone	7.9	J	11	22	J	14	19	J	12	7.5	J	12	17	J	11	24	--	12
		Benzene	0.4	J	0.68	0.9	J	0.86	0.37	J	0.74	0.43	J	0.75	0.42	J	0.71	4.9	--	0.74
		Bromodichloromethane	44	--	0.68	54	--	0.86	3.2	--	0.74	3	--	0.75	ND	U	0.71	0.44	J	0.74
		Bromoform	ND	U	1.3	ND	U	1.6	ND	U	1.4	ND	U	1.4	ND	U	1.3	ND	U	1.4
		Carbon disulfide	ND	U	2.2	2.1	J	2.7	1.7	J	2.3	4	J	2.4	8.3	J	2.3	32	J	2.3
		Carbon tetrachloride	1.5	J	0.68	1.9	J	0.86	16	--	0.74	14	--	0.75	3.4	--	0.71	3.4	--	0.74
		Chloroethane	ND	U	1.3	ND	U	1.6	ND	U	1.4	ND	U	1.4	ND	U	1.3	ND	U	1.4
		Chloroform	170	--	0.68	210	--	0.86	50	--	0.74	46	--	0.75	2.9	--	0.71	3.7	--	0.74
		Chloromethane	ND	U	1.3	ND	U	1.6	0.48	J	1.4	ND	U	1.4	ND	U	1.3	0.53	J	1.4
		Cyclohexane	ND	U	1.4	ND	U	1.7	ND	U	1.5	ND	U	1.5	ND	U	1.4	ND	U	1.5
		Dibromochloromethane	1.4	J	0.68	1.6	J	0.86	ND	U	0.74	ND	U	0.75	ND	U	0.71	ND	U	0.74
		Dichlorodifluoromethane	2.5	--	1.3	2.9	--	1.6	19	--	1.4	17	--	1.4	1.2	J	1.3	1.2	J	1.4
		Ethanol	ND	U	3.3	7	J	4.2	ND	U	3.6	ND	U	3.7	ND	U	3.5	6.3	J	3.6
		Ethyl acetate	ND	U	2.6	ND	U	3.3	ND	U	2.8	2.9	J	2.9	ND	U	2.7	ND	U	2.8
		Ethylbenzene	1.4	J	0.68	1.9	J	0.86	ND	U	0.74	0.36	J	0.75	1.3	J	0.71	2.1	J	0.74
		Hexane	ND	U	1.3	ND	U	1.6	ND	U	1.4	0.5	J	1.4	ND	U	1.3	ND	U	1.4
		Isopropyl alcohol	5.8	J	2.5	12	--	3.2	4.4	J	2.7	ND	U	2.8	ND	U	2.6	ND	U	2.7
		m- & p-Xylenes	4.6	--	1.4	7.3	--	1.7	ND	U	1.5	1.4	J	1.5	6.6	--	1.4	11	--	1.5
		Methylene chloride	ND	U	1.3	ND	U	1.6	ND	U	1.4	ND	U	1.4	ND	U	1.3	ND	U	1.4
		Naphthalene	1.3	J	1.2	1.7	J	1.6	ND	U	1.3	ND	U	1.4	1.9	J	1.3	5.6	--	1.3
		n-Heptane	0.77	J	1.3	1.7	J	1.6	ND	U	1.4	0.98	J	1.4	0.82	J	1.3	1.4	J	1.4
		o-Xylene	2.2	J	0.68	3.1	--	0.86	ND	U	0.74	0.51	J	0.75	2	J	0.71	3.4	--	0.74
		Propylene (propene)	1.7	J	1.3	3.3	--	1.6	2	J	1.4	0.76	J	1.4	0.62	J	1.3	1	J	1.4
		Styrene	ND	U	1.3	ND	U	1.6	ND	U	1.4	ND	U	1.4	ND	U	1.3	ND	U	1.4
		Tetrachloroethene	2.1	--	0.68	2.3	J	0.86	2.3	--	0.74	1.9	J	0.75	0.37	J	0.71	0.53	J	0.74
		Tetrahydrofuran	0.39	J	0.68	0.92	J	0.86	30	--	0.74	31	--	0.75	6	J	0.71	18	J	0.74
		Toluene	5.4	--	0.68	8.2	--	0.86	0.98	J	0.74	2.5	--	0.75	4.5	--	0.71	7.5	--	0.74
		Trichloroethene	0.95	J	0.68	0.79	J	0.86	0.33	J	0.74	ND	U	0.75	ND	U	0.71	ND	U	0.74
		Trichlorofluoromethane	1.1	J	1.3	1.2	J	1.6	1.7	J	1.4	1.7	J	1.4	0.94	J	1.3	0.94	J	1.4
		Vinyl chloride	ND	U	0.68	ND	U	0.86	ND	U	0.74	ND	U	0.75	ND	U	0.71	ND	U	0.74
		Xylenes, total	6.8	--	1.4	10	--	1.7	ND	U	1.5	1.9	J	1.5	8.6	--	1.4	14	--	1.5

Table 5
Field Duplicate Sample Results Q2 2020

		Well Location ID:	KAFB-106127-250			KAFB-106127-250			KAFB-106130-450			KAFB-106130-450			KAFB-106133-250			KAFB-106133-250		
		Field Sample ID:	SV127-250-202			SV127-250-602			SV130-450-202			SV130-450-602			SV133-250-202			SV133-250-602		
		Sample Date:	4/7/2020			4/7/2020			4/22/2020			4/22/2020			4/8/2020			4/8/2020		
		Sample Type:	REG			Field Duplicate			REG			Field Duplicate			REG			Field Duplicate		
Parameter	**Analytical Method**	**Analyte**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**
VOCs	Method TO-15 (µg/m^3)	1,1,2-Trichloro-1,2,2-trifluoroethane	ND	U	0.73	ND	U	0.75	ND	U	15	ND	U	14	13	--	0.71	13	--	0.7
		1,1-Dichloroethane	ND	U	1.4	ND	U	1.5	ND	U	29	ND	U	28	ND	U	1.4	ND	U	1.4
		1,2,4-Trichlorobenzene	ND	U	1.4	ND	U	1.4	ND	U	28	ND	U	27	ND	U	1.3	ND	U	1.3
		1,2,4-Trimethylbenzene	54	--	0.73	90	--	0.75	8.7	J	15	ND	U	14	3.9	J	0.71	33	--	0.7
		1,2-Dibromoethane	ND	U	0.73	ND	U	0.75	ND	U	15	ND	U	14	ND	U	0.71	ND	U	0.7
		1,2-Dichloroethane	ND	U	0.73	ND	U	0.75	ND	U	15	ND	U	14	ND	U	0.71	ND	U	0.7
		1,3,5-Trimethylbenzene	11	--	0.73	19	--	0.75	7.4	J	15	ND	U	14	0.72	J	0.71	6.7	--	0.7
		1,3-Butadiene	ND	U	1.4	ND	U	1.4	ND	U	28	ND	U	27	ND	U	1.3	ND	U	1.3
		1,4-Dioxane	ND	U	0.73	0.5	J	0.75	ND	U	15	ND	U	14	ND	U	0.71	0.35	J	0.7
		2-Butanone	3.1	J	1.4	9.5	--	1.4	59	J	28	45	J	27	2.1	J	1.3	4.2	J	1.3
		2-Hexanone	1.6	J	0.73	2.5	--	0.75	ND	U	15	ND	U	14	ND	U	0.71	1.5	J	0.7
		4-Methyl-2-pentanone	ND	U	0.73	1.5	J	0.75	14	J	15	22	J	14	1.1	J	0.71	0.4	J	0.7
		Acetone	12	J	12	19	J	12	ND	U	230	ND	U	230	16	J	11	18	J	11
		Benzene	1	J	0.73	1.2	J	0.75	1,000	--	15	1,000	--	14	1.6	J	0.71	2	J	0.7
		Bromodichloromethane	ND	U	0.73	0.38	J	0.75	ND	U	15	ND	U	14	ND	U	0.71	ND	U	0.7
		Bromoform	ND	U	1.4	ND	U	1.4	ND	U	28	ND	U	27	ND	U	1.3	ND	U	1.3
		Carbon disulfide	3.7	J	2.3	12	--	2.4	71	J	47	68	J	46	9.6	--	2.3	15	--	2.2
		Carbon tetrachloride	3.3	--	0.73	3.2	--	0.75	ND	U	15	ND	U	14	7.6	--	0.71	6.8	--	0.7
		Chloroethane	ND	U	1.4	ND	U	1.4	ND	U	28	ND	U	27	ND	U	1.3	ND	U	1.3
		Chloroform	2.8	--	0.73	2.8	--	0.75	ND	U	15	ND	U	14	2.4	--	0.71	2.3	--	0.7
		Chloromethane	ND	U	1.4	ND	U	1.4	17	J	28	16	J	27	ND	U	1.3	0.44	J	1.3
		Cyclohexane	0.97	J	1.5	1.1	J	1.5	150	--	30	140	--	29	ND	U	1.4	ND	U	1.4
		Dibromochloromethane	ND	U	0.73	ND	U	0.75	ND	U	15	ND	U	14	ND	U	0.71	ND	U	0.7
		Dichlorodifluoromethane	0.72	J	1.4	0.68	J	1.4	ND	U	28	ND	U	27	2.3	--	1.3	2.2	--	1.3
		Ethanol	ND	U	3.5	8.2	J	3.7	ND	U	72	98	J	70	85	--	3.5	9.5	J	3.4
		Ethyl acetate	ND	U	2.8	3.3	J	2.9	ND	U	57	ND	U	55	9.6	--	2.7	ND	U	2.7
		Ethylbenzene	3.4	--	0.73	5.5	--	0.75	46	J	15	41	J	14	0.72	J	0.71	2.1	J	0.7
		Hexane	1.1	J	1.4	1.2	J	1.4	87	--	28	83	--	27	ND	U	1.3	0.51	J	1.3
		Isopropyl alcohol	ND	U	2.7	3.6	J	2.8	120	J	55	95	J	53	58	--	2.6	1.3	J	2.6
		m- & p-Xylenes	17	--	1.5	27	--	1.5	110	--	30	98	--	29	2.5	J	1.4	13	--	1.4
		Methylene chloride	ND	U	1.4	ND	U	1.4	ND	U	28	ND	U	27	1.2	J	1.3	ND	U	1.3
		Naphthalene	10	J	1.3	37	J	1.4	ND	U	27	ND	U	26	1.3	J	1.3	3.3	--	1.3
		n-Heptane	4.5	--	1.4	5.8	--	1.4	53	--	28	39	J	27	2.2	J	1.3	2.8	--	1.3
		o-Xylene	5.5	--	0.73	9	--	0.75	36	J	15	33	J	14	0.89	J	0.71	4	--	0.7
		Propylene (propene)	0.8	J	1.4	1.9	J	1.4	22	J	28	23	J	27	15	--	1.3	1.1	J	1.3
		Styrene	ND	U	1.4	ND	U	1.4	ND	U	28	ND	U	27	ND	U	1.3	ND	U	1.3
		Tetrachloroethene	0.32	J	0.73	0.4	J	0.75	ND	U	15	ND	U	14	18	J	0.71	18	--	0.7
		Tetrahydrofuran	1.2	J	0.73	3.1	--	0.75	10	J	15	11	J	14	5.8	--	0.71	12	--	0.7
		Toluene	11	--	0.73	17	--	0.75	1,100	--	15	1,000	--	14	11	J	0.71	8	--	0.7
		Trichloroethene	ND	U	0.73	ND	U	0.75	15	J	15	15	J	14	1,600	J	11	1,400	--	11
		Trichlorofluoromethane	1.3	J	1.4	1.2	J	1.4	ND	U	28	ND	U	27	3.3	--	1.3	1	J	1.3
		Vinyl chloride	ND	U	0.73	ND	U	0.75	ND	U	15	ND	U	14	ND	U	0.71	ND	U	0.7
		Xylenes, total	22	--	1.5	36	--	1.5	150	--	30	130	--	29	3.4	J	1.4	17	--	1.4

Table 5
Field Duplicate Sample Results Q2 2020

		Well Location ID:	KAFB-106134-350			KAFB-106134-350			KAFB-106135-250			KAFB-106135-250			KAFB-106138-150			KAFB-106138-150		
		Field Sample ID:	SV134-350-202			SV134-350-602			SV135-250-202			SV135-250-602			SV138-150-202			SV138-150-602		
		Sample Date:	4/14/2020			4/14/2020			4/14/2020			4/14/2020			4/8/2020			4/8/2020		
		Sample Type:	REG			Field Duplicate			REG			Field Duplicate			REG			Field Duplicate		
Parameter	**Analytical Method**	**Analyte**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**
VOCs	Method TO-15 (µg/m^3)	1,1,2-Trichloro-1,2,2-trifluoroethane	0.75	J	0	0.75	J	0	1.3	J	0	1.3	J	0	6.9	--	0.74	6.8	--	0.96
		1,1-Dichloroethane	ND	U	1	ND	U	1	ND	U	1	ND	U	1	ND	U	1.4	ND	U	1.9
		1,2,4-Trichlorobenzene	ND	U	1	ND	U	1	ND	U	1	ND	U	1	ND	U	1.4	ND	U	1.8
		1,2,4-Trimethylbenzene	3.7	J	0	11	J	0	7.1	J	0	14	J	0	ND	U	0.74	ND	U	0.96
		1,2-Dibromoethane	ND	U	0	ND	U	0	ND	U	0	ND	U	0	ND	U	0.74	ND	U	0.96
		1,2-Dichloroethane	ND	U	0	ND	U	0	ND	U	0	ND	U	0	ND	U	0.74	ND	U	0.96
		1,3,5-Trimethylbenzene	1.1	J	0	2.8	--	0	1.5	J	0	2.8	--	0	ND	U	0.74	ND	U	0.96
		1,3-Butadiene	ND	U	1	ND	U	1	ND	U	1	ND	U	1	ND	U	1.4	ND	U	1.8
		1,4-Dioxane	ND	U	0	ND	U	0	ND	U	0	ND	U	0	ND	U	0.74	ND	U	0.96
		2-Butanone	6	--	1	3.3	J	1	2.4	J	1	2.9	J	1	ND	U	1.4	ND	U	1.8
		2-Hexanone	0.81	J	0	ND	U	0	ND	U	0	ND	U	0	ND	U	0.74	ND	U	0.96
		4-Methyl-2-pentanone	ND	U	0	ND	U	0	ND	U	0	ND	U	0	ND	U	0.74	ND	U	0.96
		Acetone	20	J	12	ND	U	12	6.5	J	11	7.5	J	12	ND	U	12	8.4	J	15
		Benzene	1.7	J	0	1.6	J	0	ND	U	0	ND	U	0	ND	U	0.74	ND	U	0.96
		Bromodichloromethane	ND	U	0	ND	U	0	ND	U	0	ND	U	0	7.6	--	0.74	7.4	--	0.96
		Bromoform	ND	U	1	ND	U	1	ND	U	1	ND	U	1	ND	U	1.4	ND	U	1.8
		Carbon disulfide	13	--	2	13	--	2	6.4	J	2	11	J	2	5.4	--	2.3	8	--	3.1
		Carbon tetrachloride	0.55	J	0	0.52	J	0	0.8	J	0	0.81	J	0	2.9	--	0.74	2.8	J	0.96
		Chloroethane	ND	U	1	ND	U	1	ND	U	1	ND	U	1	ND	U	1.4	ND	U	1.8
		Chloroform	0.91	J	0	0.82	J	0	1.7	J	0	1.7	J	0	36	--	0.74	36	--	0.96
		Chloromethane	ND	U	1	ND	U	1	ND	U	1	0.4	J	1	ND	U	1.4	ND	U	1.8
		Cyclohexane	39	--	1	36	--	1	ND	U	1	ND	U	1	ND	U	1.5	ND	U	1.9
		Dibromochloromethane	ND	U	0	ND	U	0	ND	U	0	ND	U	0	0.71	J	0.74	0.67	J	0.96
		Dichlorodifluoromethane	1.8	J	1	1.9	J	1	1.1	J	1	1.1	J	1	7.1	--	1.4	7.1	--	1.8
		Ethanol	11	J	3	9.8	J	3	5.2	J	3	6.2	J	3	2.7	J	3.6	5	J	4.7
		Ethyl acetate	31	--	2	ND	U	3	ND	U	2	ND	U	3	ND	U	2.8	19	--	3.7
		Ethylbenzene	0.99	J	0	0.75	J	0	0.47	J	0	0.97	J	0	ND	U	0.74	ND	U	0.96
		Hexane	4.9	--	1	4	--	1	ND	U	1	ND	U	1	ND	U	1.4	ND	U	1.8
		Isopropyl alcohol	2.5	J	2	ND	U	2	ND	U	2	ND	U	2	ND	U	2.7	ND	U	3.6
		m- & p-Xylenes	5.5	--	1	7	--	1	2.8	J	1	5	J	1	ND	U	1.5	ND	U	1.9
		Methylene chloride	ND	U	1	ND	U	1	ND	U	1	ND	U	1	ND	U	1.4	ND	U	1.8
		Naphthalene	0.56	J	1	1.1	J	1	0.96	J	1	1.5	J	1	ND	U	1.3	ND	U	1.8
		n-Heptane	ND	U	1	0.58	J	1	0.47	J	1	0.88	J	1	ND	U	1.4	ND	U	1.8
		o-Xylene	1.9	J	0	3.1	--	0	0.91	J	0	1.6	J	0	ND	U	0.74	ND	U	0.96
		Propylene (propene)	ND	U	1	ND	U	1	ND	U	1	ND	U	1	ND	U	1.4	ND	U	1.8
		Styrene	ND	U	1	ND	U	1	ND	U	1	ND	U	1	ND	U	1.4	ND	U	1.8
		Tetrachloroethene	0.77	J	0	1.5	J	0	1.2	J	0	1.5	J	0	1.2	J	0.74	1.5	J	0.96
		Tetrahydrofuran	17	--	0	18	--	0	23	--	0	27	--	0	1.8	J	0.74	3.6	--	0.96
		Toluene	4.9	--	0	3.6	--	0	2	J	0	3.7	--	0	ND	U	0.74	0.87	J	0.96
		Trichloroethene	95	--	0	89	--	0	430	--	6	470	--	0	3.8	--	0.74	3.7	--	0.96
		Trichlorofluoromethane	0.72	J	1	0.78	J	1	0.62	J	1	0.66	J	1	23	--	1.4	23	--	1.8
		Vinyl chloride	ND	U	0	ND	U	0	ND	U	0	ND	U	0	ND	U	0.74	ND	U	0.96
		Xylenes, total	7.4	--	1	10	--	1	3.7	J	1	6.7	--	1	ND	U	1.5	ND	U	1.9

Table 5
Field Duplicate Sample Results Q2 2020

		Well Location ID:	KAFB-106139-050			KAFB-106139-050			KAFB-106140-450			KAFB-106140-450			KAFB-106142-170			KAFB-106142-170		
		Field Sample ID:	SV139-050-202			SV139-050-602			SV140-450-202			SV140-450-602			SV142-170-202			SV142-170-602		
		Sample Date:	4/14/2020			4/14/2020			4/14/2020			4/14/2020			4/8/2020			4/8/2020		
		Sample Type:	REG			Field Duplicate			REG			Field Duplicate			REG			Field Duplicate		
Parameter	**Analytical Method**	**Analyte**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**
VOCs	Method TO-15 (µg/m^3)	1,1,2-Trichloro-1,2,2-trifluoroethane	34	--	0.82	32	--	1.2	ND	U	6.3	ND	U	6.8	0.66	J	0.77	0.65	J	0.77
		1,1-Dichloroethane	ND	U	1.6	ND	U	2.3	ND	U	12	ND	U	13	ND	U	1.5	ND	U	1.5
		1,2,4-Trichlorobenzene	ND	U	1.5	ND	U	2.2	ND	U	12	ND	U	13	ND	U	1.4	ND	U	1.4
		1,2,4-Trimethylbenzene	3.4	J	0.82	12	J	1.2	ND	U	6.3	ND	U	6.8	ND	U	0.77	ND	U	0.77
		1,2-Dibromoethane	ND	U	0.82	ND	U	1.2	ND	U	6.3	ND	U	6.8	ND	U	0.77	ND	U	0.77
		1,2-Dichloroethane	ND	U	0.82	ND	U	1.2	ND	U	6.3	ND	U	6.8	ND	U	0.77	0.49	J	0.77
		1,3,5-Trimethylbenzene	1	J	0.82	3.7	J	1.2	ND	U	6.3	ND	U	6.8	ND	U	0.77	ND	U	0.77
		1,3-Butadiene	ND	U	1.5	ND	U	2.2	ND	U	12	ND	U	13	ND	U	1.4	ND	U	1.4
		1,4-Dioxane	0.84	J	0.82	0.66	J	1.2	ND	U	6.3	ND	U	6.8	ND	U	0.77	ND	U	0.77
		2-Butanone	8	--	1.5	3.8	J	2.2	270	--	12	340	--	13	10	--	1.4	2.9	J	1.4
		2-Hexanone	1.8	J	0.82	0.77	J	1.2	ND	U	6.3	ND	U	6.8	3.1	--	0.77	0.57	J	0.77
		4-Methyl-2-pentanone	ND	U	0.82	ND	U	1.2	ND	U	6.3	ND	U	6.8	0.6	J	0.77	ND	U	0.77
		Acetone	80	--	13	21	J	18	190	J	99	210	--	110	27	--	12	15	J	12
		Benzene	0.9	J	0.82	ND	U	1.2	120	--	6.3	100	--	6.8	ND	U	0.77	0.72	J	0.77
		Bromodichloromethane	ND	U	0.82	ND	U	1.2	ND	U	6.3	ND	U	6.8	ND	U	0.77	ND	U	0.77
		Bromoform	ND	U	1.5	ND	U	2.2	ND	U	12	ND	U	13	ND	U	1.4	ND	U	1.4
		Carbon disulfide	42	J	2.6	11	J	3.7	8.5	J	20	7.9	J	22	2	J	2.4	3.9	J	2.4
		Carbon tetrachloride	18	--	0.82	17	--	1.2	ND	U	6.3	ND	U	6.8	1.3	J	0.77	1.3	J	0.77
		Chloroethane	ND	U	1.5	ND	U	2.2	ND	U	12	ND	U	13	ND	U	1.4	ND	U	1.4
		Chloroform	4	--	0.82	3.9	--	1.2	ND	U	6.3	ND	U	6.8	0.74	J	0.77	0.61	J	0.77
		Chloromethane	ND	U	1.5	ND	U	2.2	3.9	J	12	ND	U	13	ND	U	1.4	ND	U	1.4
		Cyclohexane	ND	U	1.6	ND	U	2.3	79	--	13	68	--	14	ND	U	1.5	ND	U	1.5
		Dibromochloromethane	ND	U	0.82	ND	U	1.2	ND	U	6.3	ND	U	6.8	ND	U	0.77	ND	U	0.77
		Dichlorodifluoromethane	2.5	J	1.5	2.4	J	2.2	16	J	12	14	J	13	29	--	1.4	29	--	1.4
		Ethanol	8.3	J	4	16	J	5.7	ND	U	31	ND	U	33	11	J	3.7	5.5	J	3.7
		Ethyl acetate	ND	U	3.1	ND	U	4.5	ND	U	24	ND	U	26	ND	U	2.9	ND	U	2.9
		Ethylbenzene	0.59	J	0.82	0.99	J	1.2	ND	U	6.3	ND	U	6.8	ND	U	0.77	ND	U	0.77
		Hexane	ND	U	1.5	ND	U	2.2	5.2	J	12	ND	U	13	ND	U	1.4	ND	U	1.4
		Isopropyl alcohol	ND	U	3	ND	U	4.3	ND	U	23	ND	U	25	1.7	J	2.8	ND	U	2.8
		m- & p-Xylenes	3.9	J	1.6	13	J	2.3	ND	U	13	ND	U	14	ND	U	1.5	ND	U	1.5
		Methylene chloride	ND	U	1.5	ND	U	2.2	ND	U	12	ND	U	13	ND	U	1.4	ND	U	1.4
		Naphthalene	0.86	J	1.5	ND	U	2.1	ND	U	11	ND	U	12	ND	U	1.4	ND	U	1.4
		n-Heptane	0.52	J	1.5	0.65	J	2.2	ND	U	12	ND	U	13	ND	U	1.4	ND	U	1.4
		o-Xylene	2	J	0.82	6.8	J	1.2	ND	U	6.3	ND	U	6.8	ND	U	0.77	ND	U	0.77
		Propylene (propene)	0.91	J	1.5	0.92	J	2.2	ND	U	12	ND	U	13	1.7	J	1.4	1.1	J	1.4
		Styrene	ND	U	1.5	ND	U	2.2	ND	U	12	ND	U	13	ND	U	1.4	ND	U	1.4
		Tetrachloroethene	0.43	J	0.82	0.92	J	1.2	ND	U	6.3	ND	U	6.8	0.61	J	0.77	0.84	J	0.77
		Tetrahydrofuran	11	--	0.82	12	--	1.2	57	--	6.3	72	--	6.8	0.66	J	0.77	0.83	J	0.77
		Toluene	2.5	J	0.82	3.8	--	1.2	22	--	6.3	19	J	6.8	0.53	J	0.77	0.66	J	0.77
		Trichloroethene	ND	U	0.82	ND	U	1.2	ND	U	6.3	ND	U	6.8	ND	U	0.77	ND	U	0.77
		Trichlorofluoromethane	3.1	--	1.5	3	J	2.2	ND	U	12	ND	U	13	20	--	1.4	19	--	1.4
		Vinyl chloride	ND	U	0.82	ND	U	1.2	ND	U	6.3	ND	U	6.8	ND	U	0.77	ND	U	0.77
		Xylenes, total	5.9	J	1.6	20	J	2.3	ND	U	13	ND	U	14	ND	U	1.5	ND	U	1.5

Table 5
Field Duplicate Sample Results Q2 2020

		Well Location ID:	SVEW-06-060			SVEW-06-060			SVEW-10-410			SVEW-10-410			SVEW-11-410			SVEW-11-410		
		Field Sample ID:	SVE06-060-202			SVE06-060-602			SVE10-410-202			SVE10-410-602			SVE11-410-202			SVE11-410-602		
		Sample Date:	4/7/2020			4/7/2020			4/21/2020			4/21/2020			4/21/2020			4/21/2020		
		Sample Type:	REG			Field Duplicate			REG			Field Duplicate			REG			Field Duplicate		
Parameter	**Analytical Method**	**Analyte**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**
VOCs	Method TO-15 (µg/m^3)	1,1,2-Trichloro-1,2,2-trifluoroethane	ND	U	1,500	ND	U	1,500	890	--	4.5	930	--	3.8	ND	U	82	130	J	78
		1,1-Dichloroethane	ND	U	3,000	ND	U	3,000	ND	U	8.8	ND	U	7.4	ND	U	160	ND	U	150
		1,2,4-Trichlorobenzene	ND	U	2,900	ND	U	2,900	ND	U	8.5	ND	U	7.2	ND	U	150	ND	U	150
		1,2,4-Trimethylbenzene	18,000	--	1,500	30,000	--	1,500	7.7	J	4.5	24	--	3.8	360	--	82	330	--	78
		1,2-Dibromoethane	ND	U	1,500	ND	U	1,500	ND	U	4.5	ND	U	3.8	ND	U	82	ND	U	78
		1,2-Dichloroethane	ND	U	1,500	ND	U	1,500	1.7	J	4.5	1.9	J	3.8	ND	U	82	ND	U	78
		1,3,5-Trimethylbenzene	6,400	--	1,500	10,000	--	1,500	5	J	4.5	8.4	J	3.8	530	--	82	440	--	78
		1,3-Butadiene	ND	U	2,900	ND	U	2,900	ND	U	8.5	ND	U	7.2	ND	U	150	ND	U	150
		1,4-Dioxane	ND	U	1,500	ND	U	1,500	ND	U	4.5	ND	U	3.8	ND	U	82	ND	U	78
		2-Butanone	36,000	--	2,900	41,000	--	2,900	6.1	J	8.5	8.1	J	7.2	ND	U	150	57	J	150
		2-Hexanone	ND	U	1,500	ND	U	1,500	ND	U	4.5	ND	U	3.8	ND	U	82	ND	U	78
		4-Methyl-2-pentanone	ND	U	1,500	ND	U	1,500	ND	U	4.5	ND	U	3.8	ND	U	82	ND	U	78
		Acetone	140,000	--	25,000	160,000	--	24,000	57	J	72	75	J	60	ND	U	1,300	ND	U	1,200
		Benzene	170,000	--	1,500	200,000	--	1,500	570	--	4.5	600	--	3.8	8,800	--	82	9,000	--	78
		Bromodichloromethane	ND	U	1,500	ND	U	1,500	ND	U	4.5	ND	U	3.8	ND	U	82	ND	U	78
		Bromoform	ND	U	2,900	ND	U	2,900	ND	U	8.5	ND	U	7.2	ND	U	150	ND	U	150
		Carbon disulfide	ND	U	4,900	ND	U	4,900	23	J	14	25	--	12	ND	U	260	97	J	250
		Carbon tetrachloride	ND	U	1,500	ND	U	1,500	13	J	4.5	13	--	3.8	ND	U	82	ND	U	78
		Chloroethane	ND	U	2,900	ND	U	2,900	ND	U	8.5	ND	U	7.2	ND	U	150	ND	U	150
		Chloroform	ND	U	1,500	ND	U	1,500	5.2	J	4.5	5.3	J	3.8	ND	U	82	ND	U	78
		Chloromethane	ND	UJ	2,900	ND	UJ	2,900	51	--	8.5	51	--	7.2	65	J	150	72	J	150
		Cyclohexane	920,000	--	3,100	1,100,000	--	3,100	47	--	9.1	50	--	7.6	9,600	--	160	9,600	--	160
		Dibromochloromethane	ND	U	1,500	ND	U	1,500	ND	U	4.5	ND	U	3.8	ND	U	82	ND	U	78
		Dichlorodifluoromethane	ND	U	2,900	ND	U	2,900	8.6	J	8.5	8.8	J	7.2	ND	U	150	ND	U	150
		Ethanol	14,000	J	7,600	15,000	J	7,500	ND	U	22	ND	U	19	450	J	400	500	J	380
		Ethyl acetate	ND	U	5,900	ND	U	5,900	ND	U	17	ND	U	15	ND	U	310	ND	U	300
		Ethylbenzene	77,000	--	1,500	110,000	--	1,500	46	--	4.5	49	--	3.8	1,100	--	82	1,100	--	78
		Hexane	920,000	--	2,900	930,000	--	5,800	130	--	8.5	130	--	7.2	2,600	--	150	2,500	--	150
		Isopropyl alcohol	5,400	J	5,700	5,300	J	5,700	ND	U	17	ND	U	14	ND	U	300	ND	U	290
		m- & p-Xylenes	77,000	--	3,100	110,000	--	3,100	170	--	9.1	190	--	7.6	8,500	--	160	7,700	--	160
		Methylene chloride	ND	U	2,900	ND	U	2,900	ND	U	8.5	ND	U	7.2	ND	U	150	ND	U	150
		Naphthalene	ND	U	2,800	ND	U	2,800	ND	U	8.3	3.2	J	6.9	ND	U	150	ND	U	140
		n-Heptane	910,000	--	2,900	980,000	--	5,800	56	--	8.5	58	--	7.2	3,400	--	150	3,300	--	150
		o-Xylene	27,000	--	1,500	39,000	--	1,500	45	--	4.5	49	--	3.8	2,500	--	82	2,200	--	78
		Propylene (propene)	6,000	--	2,900	7,500	--	2,900	15	--	8.5	15	--	7.2	310	--	150	340	--	150
		Styrene	ND	U	2,900	ND	U	2,900	ND	U	8.5	ND	U	7.2	ND	U	150	ND	U	150
		Tetrachloroethene	ND	U	1,500	ND	U	1,500	13	J	4.5	11	J	3.8	43	J	82	54	J	78
		Tetrahydrofuran	ND	U	1,500	ND	U	1,500	240	--	4.5	260	--	3.8	130	J	82	170	J	78
		Toluene	390,000	--	1,500	480,000	--	1,500	2,500	--	4.5	2,400	--	15	21,000	--	82	20,000	--	78
		Trichloroethene	ND	U	1,500	ND	U	1,500	41	--	4.5	41	--	3.8	36	J	82	94	J	78
		Trichlorofluoromethane	ND	U	2,900	ND	U	2,900	2.5	J	8.5	2.5	J	7.2	ND	U	150	ND	U	150
		Vinyl chloride	ND	U	1,500	ND	U	1,500	3.6	J	4.5	4	J	3.8	ND	U	82	ND	U	78
		Xylenes, total	100,000	--	3,100	150,000	--	3,100	220	--	9.1	230	--	7.6	11,000	--	160	9,900	--	160

Table 5
Field Duplicate Sample Results Q2 2020

		Well Location ID:	SVMW-02-150			SVMW-02-150			SVMW-04-050			SVMW-04-050			SVMW-05-050			SVMW-05-050		
		Field Sample ID:	SV02-150-202			SV02-150-602			SV04-050-202			SV04-050-602			SV05-050-202			SV05-050-602		
		Sample Date:	4/21/2020			4/21/2020			4/7/2020			4/7/2020			4/21/2020			4/21/2020		
		Sample Type:	REG			Field Duplicate			REG			Field Duplicate			REG			Field Duplicate		
Parameter	**Analytical Method**	**Analyte**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**
VOCs	Method TO-15 (µg/m^3)	1,1,2-Trichloro-1,2,2-trifluoroethane	ND	U	6,100	ND	U	6,100	41,000	--	6,300	29,000	--	4,300	61	--	0.96	60	--	0.97
		1,1-Dichloroethane	ND	U	12,000	ND	U	12,000	ND	U	12,000	ND	U	8,400	ND	U	1.9	ND	U	1.9
		1,2,4-Trichlorobenzene	ND	U	12,000	ND	U	12,000	ND	U	12,000	ND	U	8,100	ND	U	1.8	ND	U	1.8
		1,2,4-Trimethylbenzene	11,000	J	6,100	14,000	J	6,100	3,000	J	6,300	ND	U	4,300	20	J	0.96	39	J	0.97
		1,2-Dibromoethane	ND	U	6,100	ND	U	6,100	ND	U	6,300	ND	U	4,300	0.5	J	0.96	1.2	J	0.97
		1,2-Dichloroethane	ND	U	6,100	ND	U	6,100	ND	U	6,300	ND	U	4,300	ND	U	0.96	ND	U	0.97
		1,3,5-Trimethylbenzene	8,800	J	6,100	10,000	J	6,100	ND	U	6,300	ND	U	4,300	13	J	0.96	22	J	0.97
		1,3-Butadiene	ND	U	12,000	ND	U	12,000	ND	U	12,000	ND	U	8,100	ND	U	1.8	ND	U	1.8
		1,4-Dioxane	ND	U	6,100	ND	U	6,100	23,000	--	6,300	15,000	--	4,300	ND	U	0.96	ND	U	0.97
		2-Butanone	ND	U	12,000	ND	U	12,000	ND	U	12,000	ND	U	8,100	4.2	J	1.8	2	J	1.8
		2-Hexanone	ND	U	6,100	ND	U	6,100	ND	U	6,300	ND	U	4,300	ND	U	0.96	ND	U	0.97
		4-Methyl-2-pentanone	ND	U	6,100	ND	U	6,100	ND	U	6,300	ND	U	4,300	0.46	J	0.96	ND	U	0.97
		Acetone	ND	U	97,000	ND	U	97,000	ND	U	100,000	ND	U	68,000	19	J	15	21	J	15
		Benzene	540,000	--	6,100	600,000	--	6,100	240,000	--	6,300	180,000	--	4,300	15	J	0.96	52	J	0.97
		Bromodichloromethane	ND	U	6,100	ND	U	6,100	ND	U	6,300	ND	U	4,300	ND	U	0.96	ND	U	0.97
		Bromoform	ND	U	12,000	ND	U	12,000	ND	U	12,000	ND	U	8,100	ND	U	1.8	ND	U	1.8
		Carbon disulfide	ND	U	19,000	ND	U	19,000	ND	U	20,000	ND	U	14,000	1.2	J	3.1	7.7	--	3.1
		Carbon tetrachloride	ND	U	6,100	ND	U	6,100	ND	U	6,300	ND	U	4,300	0.82	J	0.96	0.84	J	0.97
		Chloroethane	ND	U	12,000	ND	U	12,000	ND	U	12,000	ND	U	8,100	ND	U	1.8	ND	U	1.8
		Chloroform	ND	U	6,100	ND	U	6,100	ND	U	6,300	ND	U	4,300	ND	U	0.96	ND	U	0.97
		Chloromethane	ND	U	12,000	ND	U	12,000	ND	U	12,000	ND	U	8,100	0.61	J	1.8	0.71	J	1.8
		Cyclohexane	2,100,000	--	12,000	2,200,000	--	12,000	6,800	J	13,000	4,600	J	8,600	25	J	1.9	78	J	1.9
		Dibromochloromethane	ND	U	6,100	ND	U	6,100	ND	U	6,300	ND	U	4,300	ND	U	0.96	ND	U	0.97
		Dichlorodifluoromethane	ND	U	12,000	ND	U	12,000	ND	U	12,000	ND	U	8,100	4.5	--	1.8	4.5	--	1.8
		Ethanol	ND	U	30,000	ND	U	30,000	ND	U	31,000	ND	U	21,000	6.7	J	4.7	8.9	J	4.8
		Ethyl acetate	ND	U	23,000	ND	U	23,000	ND	U	24,000	ND	U	16,000	ND	U	3.7	2.9	J	3.7
		Ethylbenzene	53,000	--	6,100	58,000	--	6,100	ND	U	6,300	ND	U	4,300	23	J	0.96	45	J	0.97
		Hexane	2,500,000	--	12,000	2,700,000	--	12,000	ND	U	12,000	ND	U	8,100	19	J	1.8	72	J	1.8
		Isopropyl alcohol	ND	U	23,000	ND	U	23,000	ND	U	23,000	ND	U	16,000	2.6	J	3.6	6.6	J	3.6
		m- & p-Xylenes	190,000	--	12,000	210,000	--	12,000	6,700	J	13,000	3,600	J	8,600	120	J	1.9	260	J	1.9
		Methylene chloride	ND	U	12,000	ND	U	12,000	16,000	J	12,000	10,000	J	8,100	ND	U	1.8	ND	U	1.8
		Naphthalene	ND	U	11,000	ND	U	11,000	ND	U	12,000	ND	U	7,900	ND	U	1.8	2.9	J	1.8
		n-Heptane	2,300,000	--	12,000	2,500,000	--	12,000	3,700	J	12,000	ND	U	8,100	93	J	1.8	290	J	1.8
		o-Xylene	63,000	--	6,100	71,000	--	6,100	3,100	J	6,300	ND	U	4,300	39	J	0.96	72	J	0.97
		Propylene (propene)	ND	U	12,000	ND	U	12,000	ND	U	12,000	ND	U	8,100	2	J	1.8	3.6	--	1.8
		Styrene	ND	U	12,000	ND	U	12,000	ND	U	12,000	ND	U	8,100	ND	U	1.8	ND	U	1.8
		Tetrachloroethene	ND	U	6,100	ND	U	6,100	11,000	J	6,300	7,700	J	4,300	1.3	J	0.96	1.3	J	0.97
		Tetrahydrofuran	ND	U	6,100	ND	U	6,100	ND	U	6,300	ND	U	4,300	20	--	0.96	30	--	0.97
		Toluene	1,100,000	--	6,100	1,100,000	--	6,100	ND	U	6,300	ND	U	4,300	190	J	0.96	500	J	0.97
		Trichloroethene	ND	U	6,100	ND	U	6,100	ND	U	6,300	1,900	J	4,300	ND	U	0.96	ND	U	0.97
		Trichlorofluoromethane	ND	U	12,000	ND	U	12,000	ND	U	12,000	ND	U	8,100	6.2	--	1.8	6	--	1.8
		Vinyl chloride	ND	U	6,100	ND	U	6,100	ND	U	6,300	ND	U	4,300	ND	U	0.96	ND	U	0.97
		Xylenes, total	260,000	--	12,000	290,000	--	12,000	9,700	J	13,000	3,600	J	8,600	160	J	1.9	330	J	1.9

Table 5
Field Duplicate Sample Results Q2 2020

		Well Location ID:	SVMW-06-100			SVMW-06-100			SVMW-14-450			SVMW-14-450		
		Field Sample ID:	SV06-100-202			SV06-100-602			SV14-450-202			SV14-450-602		
		Sample Date:	4/21/2020			4/21/2020			4/15/2020			4/15/2020		
		Sample Type:	REG			Field Duplicate			REG			Field Duplicate		
Parameter	**Analytical Method**	**Analyte**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**	**Result**	**Val Qual**	**LOD**
VOCs	Method TO-15 (µg/m^3)	1,1,2-Trichloro-1,2,2-trifluoroethane	30	--	0.8	30	--	0.77	1.4	J	1.3	0.76	J	1.3
		1,1-Dichloroethane	ND	U	1.6	ND	U	1.5	ND	U	2.5	ND	U	2.6
		1,2,4-Trichlorobenzene	ND	U	1.5	ND	U	1.4	ND	U	2.4	ND	U	2.5
		1,2,4-Trimethylbenzene	2	J	0.8	3.3	--	0.77	4	J	1.3	9.8	--	1.3
		1,2-Dibromoethane	ND	U	0.8	ND	U	0.77	ND	U	1.3	ND	U	1.3
		1,2-Dichloroethane	ND	U	0.8	ND	U	0.77	1.4	J	1.3	1.3	J	1.3
		1,3,5-Trimethylbenzene	1	J	0.8	1.7	J	0.77	1.1	J	1.3	2.1	J	1.3
		1,3-Butadiene	ND	U	1.5	ND	U	1.4	ND	U	2.4	ND	U	2.5
		1,4-Dioxane	0.63	J	0.8	ND	U	0.77	2.1	J	1.3	ND	U	1.3
		2-Butanone	1.9	J	1.5	1.7	J	1.4	30	J	2.4	9.5	J	2.5
		2-Hexanone	ND	U	0.8	ND	U	0.77	1.7	J	1.3	4.2	J	1.3
		4-Methyl-2-pentanone	ND	U	0.8	ND	U	0.77	ND	U	1.3	1.4	J	1.3
		Acetone	11	J	13	9	J	12	77	--	20	19	J	21
		Benzene	2.8	J	0.8	6.4	--	0.77	22	--	1.3	19	--	1.3
		Bromodichloromethane	ND	U	0.8	ND	U	0.77	ND	U	1.3	ND	U	1.3
		Bromoform	ND	U	1.5	ND	U	1.4	ND	U	2.4	ND	U	2.5
		Carbon disulfide	1.9	J	2.5	1.4	J	2.4	50	J	4.1	110	J	4.2
		Carbon tetrachloride	12	--	0.8	12	--	0.77	4.4	--	1.3	2.7	J	1.3
		Chloroethane	ND	U	1.5	ND	U	1.4	7.4	--	2.4	6.5	--	2.5
		Chloroform	3.4	--	0.8	3.3	--	0.77	0.74	J	1.3	ND	U	1.3
		Chloromethane	0.4	J	1.5	ND	U	1.4	27	--	2.4	17	--	2.5
		Cyclohexane	8.1	J	1.6	17	--	1.5	27	--	2.6	23	--	2.7
		Dibromochloromethane	ND	U	0.8	ND	U	0.77	ND	U	1.3	ND	U	1.3
		Dichlorodifluoromethane	18	--	1.5	18	--	1.4	14	--	2.4	11	--	2.5
		Ethanol	ND	J	3.9	ND	U	3.8	21	J	6.2	ND	U	6.5
		Ethyl acetate	ND	U	3.1	1.9	J	2.9	2.3	J	4.9	ND	U	5.1
		Ethylbenzene	1.9	J	0.8	3.7	--	0.77	4.5	--	1.3	4.1	J	1.3
		Hexane	8.9	J	1.5	21	--	1.4	17	--	2.4	25	--	2.5
		Isopropyl alcohol	ND	U	3	18	--	2.9	6.7	J	4.7	ND	U	4.9
		m- & p-Xylenes	10	J	1.6	20	--	1.5	7	J	2.6	9.5	--	2.7
		Methylene chloride	ND	U	1.5	ND	U	1.4	ND	U	2.4	ND	U	2.5
		Naphthalene	ND	U	1.5	0.73	J	1.4	ND	U	2.3	ND	U	2.4
		n-Heptane	19	J	1.5	41	--	1.4	10	--	2.4	16	--	2.5
		o-Xylene	3.2	--	0.8	5.6	--	0.77	1.6	J	1.3	2	J	1.3
		Propylene (propene)	0.78	J	1.5	5	--	1.4	16	--	2.4	13	--	2.5
		Styrene	ND	U	1.5	ND	U	1.4	ND	U	2.4	ND	U	2.5
		Tetrachloroethene	1.6	J	0.8	1.5	J	0.77	11	--	1.3	9.4	--	1.3
		Tetrahydrofuran	0.54	J	0.8	0.81	J	0.77	67	--	1.3	59	--	1.3
		Toluene	19	J	0.8	42	--	0.77	90	--	1.3	77	--	1.3
		Trichloroethene	ND	U	0.8	ND	U	0.77	43	--	1.3	30	--	1.3
		Trichlorofluoromethane	4	--	1.5	3.9	--	1.4	1.1	J	2.4	0.9	J	2.5
		Vinyl chloride	ND	U	0.8	ND	U	0.77	280	--	1.3	270	--	1.3
		Xylenes, total	13	J	1.6	25	--	1.5	8.6	--	2.6	12	--	2.7

Table 5
Field Duplicate Sample Results Q2 2020

ID = identification
LOD = limit of detection
ND = not detected above the detection limit
Val Qual = validation qualifier
VOC = volatile organic compound
REG = normal field sample
$\mu g/m^3$ = micrograms per cubic meter
Shading = detected concentrations above the detection limit
Qualifiers:
Val Qual based on independent data validation.
J = Qualifier denotes the analyte was positively identified, but the associated numerical value is estimated.
U = Qualifier denotes the analyte was analyzed but not detected above the detection limit. The value associated with the U-qualifier is the LOD.
-- = No qualifier required

Table 6
Technical Data Completeness Q2 2020

Analytical Parameter	Field/Field Duplicate Sample Analytes	Quality Control Sample Analytes (TB)	Qualified Analytes	Percent Technical Completeness[a]
VOCs (TO-15)	12,900	129	172	100

[a] Percent technical completeness including analytes qualified as estimated data. No data were rejected.

TB = trip blank

VOC = volatile organic compound

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LABORATORY REPORT

May 5, 2020

Pamela Moss
EA Engineering, Science, and Technology, Inc.
7995 E. Prentice Ave, Suite 206E
Greenwood Village, CO 80111

RE: Kirtland AFB Bulk Fuels Facility / 62735DM02

Dear Pamela:

Enclosed are the results of the samples submitted to our laboratory on April 14, 2020. For your reference, these analyses have been assigned our service request number P2002027.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

Kate Kaneko
May 05, 2020, 12:41 pm

Kate Kaneko
Project Manager

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Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

Client: EA Engineering, Science, and Technology, Inc. Service Request No: P2002027
Project: Kirtland AFB Bulk Fuels Facility / 62735DM02

CASE NARRATIVE

The samples were received intact under chain of custody on April 14, 2020 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The minimum criterion for propene, and ethanol was not met in the closing Continuing Calibration Verification (CCV) analyzed on April 20, 2020. In accordance with ALS Environmental standard operating procedures, a Method Reporting Limit (MRL) check standard containing the analyte(s) of concern was analyzed each day of analysis. The MRL check standard verified that instrument sensitivity was adequate to detect the analyte(s) at the MRL on the day of analysis. Because the sensitivity was shown to be adequate to detect the compound(s) in question, the data quality is not significantly affected. This procedure is a quantitative confirmation of non-detect results at or below the MRL. No further corrective action was necessary.

Manual integrations were performed on the following sample(s) and analyte(s). Refer to the raw data for additional information.

Sample Identification(s)	Analyte(s)
P2002027-002	acetone
P2002027-00, 010, 013, 017, 019, 020	propene

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.1 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

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ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1776326
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-007
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272019-10
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: EA Engineering, Science, and Technology, Inc. Service Request: P2002027
Project ID: Kirtland AFB Bulk Fuels Facility / 62735DM02

Date Received: 4/14/2020
Time Received: 10:45

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	2nd Pi (psig)	2nd Pf (psig)	TO-15 - VOC Cans
SV114-025-202	P2002027-001	Air	4/8/2020	10:29	1SS00135	-4.11	5.46			X
SV114-050-202	P2002027-002	Air	4/8/2020	10:32	1SC00262	-3.03	6.71			X
SV114-150-202	P2002027-003	Air	4/8/2020	10:36	1SS00742	-3.07	5.81			X
SV114-250-202	P2002027-004	Air	4/8/2020	10:40	1SC00299	-4.14	6.08			X
SV114-250-602	P2002027-005	Air	4/8/2020	10:40	1SC00878	-2.89	5.96			X
SV114-350-202	P2002027-006	Air	4/8/2020	10:45	1SS00487	-4.52	5.48			X
SV114-450-202	P2002027-007	Air	4/8/2020	10:53	1SC00199	-3.34	7.32			X
SV116-025-202	P2002027-008	Air	4/7/2020	15:45	1SC00931	-3.21	5.90	-0.92	5.89	X
SV116-050-202	P2002027-009	Air	4/7/2020	15:49	1SS00945	-3.62	5.70			X
SV116-150-202	P2002027-010	Air	4/7/2020	15:52	1SS00228	-3.31	5.14			X
SV116-250-202	P2002027-011	Air	4/7/2020	15:55	1SS00023	-3.27	5.68			X
SV116-350-602	P2002027-012	Air	4/7/2020	15:58	1SC00201	-3.18	5.59			X
SV116-350-202	P2002027-013	Air	4/7/2020	15:58	1SS00874	-4.17	5.86			X
SV116-450-202	P2002027-014	Air	4/7/2020	16:09	1SS00925	-3.50	5.98			X
SV128-025-202	P2002027-015	Air	4/8/2020	09:35	1SC01099	-3.12	6.03			X
SV128-050-202	P2002027-016	Air	4/8/2020	09:39	1SS01024	-3.81	5.53			X
SV128-150-202	P2002027-017	Air	4/8/2020	09:41	1SC00411	-3.91	5.57			X
SV128-250-202	P2002027-018	Air	4/8/2020	09:45	1SC00875	-3.39	5.90			X
SV128-350-202	P2002027-019	Air	4/8/2020	09:48	1SC00473	-3.84	5.53			X
SV128-450-202	P2002027-020	Air	4/8/2020	10:00	1SC01216	-4.89	5.74			X

Air - Chain of Custody Record & Analytical Service Request

Page 1 of 2

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

COC #: COC-SV202-01

Requested Turnaround Time in Business Days: 10 Day-Standard

ALS Project No. R2002027

Company Name & Address (Reporting Information): EA Engineering, Science, and Technology, Inc., PBC
225 Schilling Circle Suite 400, Hunt Valley, MD
(410) 584-7000

Project Name: Kirtland AFB Bulk Fuels Facility

Project Number: 62735DM02

Project Manager / Project Chemist: Bernie Bockish (505) 234-1105 / Pam Moss (303) 590-9143

P.O. # / Billing Information: 17682

Email Address for Result Reporting:
Tara Lamond: tlamond@eaest.com
Amanda Smith: asmith@eaest.com
Pam Moss: pmoss@eaest.com

Sampler (Print & Sign): Ryan Wortman

ALS Contact: Kate Kaneko
1 (805) 577-2089

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg	Sample Volume	Analysis Method: TO-15 Project Specific List	Comments e.g. Actual Preservative or specific instructions
SV114-025-202		4/8/2020	1029	1SS00135	AVG0482#	-25.5	-3.0	1L	X	None
SV114-050-202		4/8/2020	1032	1SC00262	NA	-25.5	-2.0	1L	X	None
SV114-150-202		4/8/2020	1036	1SS00742	NA	-24.0	-0.5	1L	X	None
SV114-250-202		4/8/2020	1040	1SC00299	AVG05026	-24.0	-3.0	1L	X	None
SV114-250-602		4/8/2020	1040	1SC00878	NA	-25.5	-1.5	1L	X	None
SV114-350-202		4/8/2020	1045	1SS00487	NA	-26.0	-4.5	1L	X	None
SV114-450-202		4/8/2020	1053	1SC00199	NA	-22.0	-4.5	1L	X	None
SV116-025-202		4/7/2020	1545	1SC00931	NA	-24.5	-1.0	1L	X	None
SV116-050-202		4/7/2020	1549	1SS00945	NA	-24.0	-1.0	1L	X	None
SV116-150-202		4/7/2020	1552	1SS00228	NA	-25.0	-0.5	1L	X	None

RJ 4/8/20

FedEX Tracking Number: 1028 3396 5115

Associated with Trip blank: SVTB-202-01

Shipping information: Box number 1 of 3

Report Tier Levels - please select
Tier I - Results (Default if not specified) ____ Tier III (Results + QC & Calibration Summaries) ____
Tier II (Results + QC Summaries) ____ Tier IV (Data Validation Package) X

EDD required: Yes
Type: ERPIMS / EQuIS

Chain of Custody Seal: (Circle)
(INTACT) BROKEN ABSENT

Project Requirements: QAPP

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
RJ	4/9/20	1300		4/14/20	1045
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Cooler / Blank Temperature NA °C

Air - Chain of Custody Record & Analytical Service Request

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Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

COC #: **COC-SV202-01**

Requested Turnaround Time In Business Days
10 Day-Standard

ALS Project No. P2002027

ALS Contact: Kate Kaneko
1 (805) 577-2089

Company Name & Address (Reporting Information)
EA Engineering, Science, and Technology, Inc., PBC
225 Schilling Circle Suite 400, Hunt Valley, MD
(410) 584-7000

Project Name: Kirtland AFB Bulk Fuels Facilty

Project Number: 62735DM02

Project Manager / Project Chemist: Bernie Bockish (505) 234-1105 / Pam Moss (303) 590-9143

P.O. # / Billing Information: 17682

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Amanda Smith: asmith@eaest.com
Pam Moss: pmoss@eaest.com

Sampler (Print & Sign): Ryan Wortman

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg	Sample Volume	Analysis Method: TO-15 Project Specific List	Comments e.g. Actual Preservative or specific instructions
SV116-250-202		4/7/2020	1555	1SS00023	NA	-25.0	-1.0	1L	X	None
SV116-350-602		4/7/2020	1558	1SC00201	NA	-25.0	0.0	1L	X	None
SV116-350-202		4/7/2020	1558	1SS00874	NA	-23.0	-2.0	1L	X	None
SV116-450-202		4/7/2020	1609	1SS00925	AVG#5158	-24.0	-0.5	1L	X	None
SV128-025-202		4/8/2020	0935	1SC01099	NA	-25.0	-2.0	1L	X	None
SV128-050-202		4/8/2020	0939	1SS01024	NA	-26.0	-4.0	1L	X	None
SV128-150-202		4/8/2020	0941	1SC00411	AVG05##6	-25.0	-3.0	1L	X	None
SV128-250-202		4/8/2020	0945	1SC00875	NA	-24.0	-1.5	1L	X	None
SV128-350-202		4/8/2020	0948	1SC00473	NA	-27.0	-4.5	1L	X	None
SV128-450-202		4/8/2020	1000	1SC01216	NA	-23.5	-4.0	1L	X	None

RJ 4/14/20

FedEX Tracking Number: 1028 3396 5115

Associated with Trip blank: SVTB-202-01

Shipping information: Box number 1 of 3

Report Tier Levels - please select
Tier I - Results (Default if not specified) ____ Tier III (Results + QC & Calibration Summaries) ____
Tier II (Results + QC Summaries) ____ Tier IV (Data Validation Package) X

EDD required: Yes
Type: ERPIMS / EQuIS

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements: QAPP

Relinquished by: (Signature)	Date: 4/9/20	Time: 1300	Received by: (Signature)	Date: 4/14/20	Time: 1045
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Cooler / Blank Temperature NA °C

ALS Environmental

Sample Acceptance Check Form

Client: EA Engineering, Science, and Technology, Inc. Work order: P2002027

Project: Kirtland AFB Bulk Fuels Facility / 62735DM02

Sample(s) received on: 04/14/20 Date opened: 04/14/20 by: DENISE.POSADA

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☒	☐	☐
	Location of seal(s)? _____ Sealing Lid?	☒	☐	☐
	Were signature and date included?	☒	☐	☐
	Were seals intact?	☒	☐	☐
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2002027-001.01	1.0 L Source Silonite Canister					
P2002027-002.01	1.0 L Source Can					
P2002027-003.01	1.0 L Source Silonite Canister					
P2002027-004.01	1.0 L Source Can					
P2002027-005.01	1.0 L Source Can					
P2002027-006.01	1.0 L Source Silonite Canister					
P2002027-007.01	1.0 L Source Can					
P2002027-008.01	1.0 L Source Can					
P2002027-009.01	1.0 L Source Silonite Canister					
P2002027-010.01	1.0 L Source Silonite Canister					
P2002027-011.01	1.0 L Source Silonite Canister					
P2002027-012.01	1.0 L Source Can					
P2002027-013.01	1.0 L Source Silonite Canister					
P2002027-014.01	1.0 L Source Silonite Canister					
P2002027-015.01	1.0 L Source Can					

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS Environmental

Sample Acceptance Check Form

Client: EA Engineering, Science, and Technology, Inc. Work order: P2002027

Project: Kirtland AFB Bulk Fuels Facility / 62735DM02

Sample(s) received on: 04/14/20 Date opened: 04/14/20 by: DENISE.POSADA

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2002027-016.01	1.0 L Source Silonite Canister					
P2002027-017.01	1.0 L Source Can					
P2002027-018.01	1.0 L Source Can					
P2002027-019.01	1.0 L Source Can					
P2002027-020.01	1.0 L Source Can					

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV114-025-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-001

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/17/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00135

Initial Pressure (psig): -4.11 Final Pressure (psig): 5.46

Container Dilution Factor: 1.90

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**0.72**	2.5	1.5	0.62	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**90**	2.5	1.5	0.41	
74-87-3	Chloromethane	1.5	2.5	1.5	0.41	**U**
75-01-4	Vinyl Chloride	0.81	2.6	0.81	0.27	**U**
106-99-0	1,3-Butadiene	1.5	2.5	1.5	0.42	**U**
75-00-3	Chloroethane	1.5	2.6	1.5	0.31	**U**
64-17-5	Ethanol	3.9	25	3.9	1.8	**U**
67-64-1	Acetone	**12**	25	13	5.7	**J**
75-69-4	Trichlorofluoromethane	**13**	2.5	1.5	0.38	
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.6**	10	3.0	1.0	**J**
75-09-2	Methylene Chloride	1.5	2.5	1.5	0.71	**U**
76-13-1	Trichlorotrifluoroethane	**12**	2.6	0.81	0.36	
75-15-0	Carbon Disulfide	**8.1**	5.2	2.6	0.76	
75-34-3	1,1-Dichloroethane	1.6	2.6	1.6	0.37	**U**
78-93-3	2-Butanone (MEK)	**1.5**	5.2	1.5	0.52	**J**
141-78-6	Ethyl Acetate	3.1	5.2	3.1	1.3	**U**
110-54-3	n-Hexane	**2.2**	2.6	1.5	0.52	**J**
67-66-3	Chloroform	**0.38**	2.6	0.81	0.34	**J**
109-99-9	Tetrahydrofuran (THF)	**1.4**	2.6	0.81	0.32	**J**
107-06-2	1,2-Dichloroethane	0.81	2.6	0.81	0.28	**U**
71-43-2	Benzene	**0.96**	2.5	0.81	0.37	**J**
56-23-5	Carbon Tetrachloride	**8.1**	2.5	0.81	0.35	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV114-025-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-001

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/17/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00135

Initial Pressure (psig): -4.11 Final Pressure (psig): 5.46

Container Dilution Factor: 1.90

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**2.1**	5.2	1.6	0.71	**J**
75-27-4	Bromodichloromethane	0.81	2.6	0.81	0.37	**U**
79-01-6	Trichloroethene	0.81	2.6	0.81	0.34	**U**
123-91-1	1,4-Dioxane	**1.6**	2.6	0.81	0.30	**J**
142-82-5	n-Heptane	**11**	2.6	1.5	0.40	
108-10-1	4-Methyl-2-pentanone	**0.83**	2.5	0.81	0.35	**J**
108-88-3	Toluene	**7.0**	2.6	0.81	0.31	
591-78-6	2-Hexanone	0.81	2.6	0.81	0.31	**U**
124-48-1	Dibromochloromethane	0.81	2.6	0.81	0.33	**U**
106-93-4	1,2-Dibromoethane	0.81	2.6	0.81	0.29	**U**
127-18-4	Tetrachloroethene	**0.50**	2.5	0.81	0.33	**J**
100-41-4	Ethylbenzene	**1.6**	2.6	0.81	0.36	**J**
179601-23-1	m,p-Xylenes	**38**	5.2	1.6	0.67	
75-25-2	Bromoform	1.5	2.6	1.5	0.52	**U**
100-42-5	Styrene	1.5	2.5	1.5	0.41	**U**
95-47-6	o-Xylene	**12**	2.6	0.81	0.37	
108-67-8	1,3,5-Trimethylbenzene	**2.8**	2.5	0.81	0.37	
95-63-6	1,2,4-Trimethylbenzene	**7.1**	2.6	0.81	0.35	
120-82-1	1,2,4-Trichlorobenzene	1.5	2.6	1.5	0.62	**U**
91-20-3	Naphthalene	**2.4**	2.5	1.5	0.62	**J**
1330-20-7	Xylenes, Total	**50**	5.2	1.6	0.67	

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV114-050-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-002

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/17/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00262

Initial Pressure (psig): -3.03 Final Pressure (psig): 6.71

Container Dilution Factor: 1.83

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**0.59**	2.4	1.5	0.59	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**180**	2.4	1.5	0.40	
74-87-3	Chloromethane	1.5	2.4	1.5	0.39	**U**
75-01-4	Vinyl Chloride	0.78	2.5	0.78	0.26	**U**
106-99-0	1,3-Butadiene	1.5	2.4	1.5	0.40	**U**
75-00-3	Chloroethane	1.5	2.5	1.5	0.30	**U**
64-17-5	Ethanol	**2.1**	24	3.8	1.7	**J**
67-64-1	Acetone	**14**	24	12	5.5	**J**
75-69-4	Trichlorofluoromethane	**24**	2.4	1.5	0.37	
67-63-0	2-Propanol (Isopropyl Alcohol)	2.9	9.6	2.9	1.0	**U**
75-09-2	Methylene Chloride	1.5	2.4	1.5	0.69	**U**
76-13-1	Trichlorotrifluoroethane	**22**	2.5	0.78	0.35	
75-15-0	Carbon Disulfide	**3.1**	5.0	2.5	0.73	**J**
75-34-3	1,1-Dichloroethane	1.5	2.5	1.5	0.36	**U**
78-93-3	2-Butanone (MEK)	**3.9**	5.0	1.5	0.50	**J**
141-78-6	Ethyl Acetate	3.0	5.0	3.0	1.3	**U**
110-54-3	n-Hexane	**1.3**	2.5	1.5	0.50	**J**
67-66-3	Chloroform	**0.70**	2.5	0.78	0.32	**J**
109-99-9	Tetrahydrofuran (THF)	**37**	2.5	0.78	0.31	
107-06-2	1,2-Dichloroethane	0.78	2.5	0.78	0.27	**U**
71-43-2	Benzene	**0.41**	2.4	0.78	0.35	**J**
56-23-5	Carbon Tetrachloride	**17**	2.4	0.78	0.34	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV114-050-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-002

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/17/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00262

Initial Pressure (psig): -3.03 Final Pressure (psig): 6.71

Container Dilution Factor: 1.83

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**1.1**	5.0	1.6	0.69	**J**
75-27-4	Bromodichloromethane	0.78	2.5	0.78	0.35	**U**
79-01-6	Trichloroethene	0.78	2.5	0.78	0.33	**U**
123-91-1	1,4-Dioxane	**1.1**	2.5	0.78	0.29	**J**
142-82-5	n-Heptane	**6.5**	2.5	1.5	0.39	
108-10-1	4-Methyl-2-pentanone	**0.48**	2.4	0.78	0.33	**J**
108-88-3	Toluene	**4.4**	2.5	0.78	0.30	
591-78-6	2-Hexanone	0.78	2.5	0.78	0.30	**U**
124-48-1	Dibromochloromethane	0.78	2.5	0.78	0.32	**U**
106-93-4	1,2-Dibromoethane	0.78	2.5	0.78	0.28	**U**
127-18-4	Tetrachloroethene	**1.1**	2.4	0.78	0.32	**J**
100-41-4	Ethylbenzene	**1.0**	2.5	0.78	0.34	**J**
179601-23-1	m,p-Xylenes	**19**	5.0	1.6	0.64	
75-25-2	Bromoform	1.5	2.5	1.5	0.50	**U**
100-42-5	Styrene	1.5	2.4	1.5	0.39	**U**
95-47-6	o-Xylene	**5.8**	2.5	0.78	0.35	
108-67-8	1,3,5-Trimethylbenzene	**1.7**	2.4	0.78	0.35	**J**
95-63-6	1,2,4-Trimethylbenzene	**4.6**	2.5	0.78	0.34	
120-82-1	1,2,4-Trichlorobenzene	1.5	2.5	1.5	0.59	**U**
91-20-3	Naphthalene	**1.2**	2.4	1.4	0.59	**J**
1330-20-7	Xylenes, Total	**25**	5.0	1.6	0.64	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV114-150-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-003

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/17/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00742

Initial Pressure (psig): -3.07 Final Pressure (psig): 5.81

Container Dilution Factor: 1.76

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	1.4	2.3	1.4	0.57	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**190**	2.3	1.4	0.38	
74-87-3	Chloromethane	1.4	2.3	1.4	0.38	**U**
75-01-4	Vinyl Chloride	0.75	2.4	0.75	0.25	**U**
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.39	**U**
75-00-3	Chloroethane	1.4	2.4	1.4	0.29	**U**
64-17-5	Ethanol	3.7	23	3.7	1.6	**U**
67-64-1	Acetone	**33**	23	12	5.3	
75-69-4	Trichlorofluoromethane	**18**	2.3	1.4	0.36	
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.5**	9.2	2.8	0.97	**J**
75-09-2	Methylene Chloride	1.4	2.3	1.4	0.66	**U**
76-13-1	Trichlorotrifluoroethane	**26**	2.4	0.75	0.33	
75-15-0	Carbon Disulfide	**4.8**	4.8	2.4	0.70	**J**
75-34-3	1,1-Dichloroethane	1.5	2.4	1.5	0.34	**U**
78-93-3	2-Butanone (MEK)	**1.1**	4.8	1.4	0.48	**J**
141-78-6	Ethyl Acetate	2.9	4.8	2.9	1.2	**U**
110-54-3	n-Hexane	**6.0**	2.4	1.4	0.48	
67-66-3	Chloroform	**0.88**	2.4	0.75	0.31	**J**
109-99-9	Tetrahydrofuran (THF)	**3.5**	2.4	0.75	0.29	
107-06-2	1,2-Dichloroethane	0.75	2.4	0.75	0.26	**U**
71-43-2	Benzene	**1.1**	2.3	0.75	0.34	**J**
56-23-5	Carbon Tetrachloride	**20**	2.3	0.75	0.33	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV114-150-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-003

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/17/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00742

Initial Pressure (psig): -3.07 Final Pressure (psig): 5.81

Container Dilution Factor: 1.76

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**3.6**	4.8	1.5	0.66	**J**
75-27-4	Bromodichloromethane	0.75	2.4	0.75	0.34	**U**
79-01-6	Trichloroethene	**1.0**	2.4	0.75	0.32	**J**
123-91-1	1,4-Dioxane	0.75	2.4	0.75	0.28	**U**
142-82-5	n-Heptane	**26**	2.4	1.4	0.37	
108-10-1	4-Methyl-2-pentanone	**0.44**	2.3	0.75	0.32	**J**
108-88-3	Toluene	**15**	2.4	0.75	0.29	
591-78-6	2-Hexanone	0.75	2.4	0.75	0.29	**U**
124-48-1	Dibromochloromethane	0.75	2.4	0.75	0.31	**U**
106-93-4	1,2-Dibromoethane	0.75	2.4	0.75	0.27	**U**
127-18-4	Tetrachloroethene	**4.9**	2.3	0.75	0.30	
100-41-4	Ethylbenzene	**2.7**	2.4	0.75	0.33	
179601-23-1	m,p-Xylenes	**46**	4.8	1.5	0.62	
75-25-2	Bromoform	1.4	2.4	1.4	0.48	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.38	**U**
95-47-6	o-Xylene	**12**	2.4	0.75	0.34	
108-67-8	1,3,5-Trimethylbenzene	**4.0**	2.3	0.75	0.34	
95-63-6	1,2,4-Trimethylbenzene	**15**	2.4	0.75	0.33	
120-82-1	1,2,4-Trichlorobenzene	1.4	2.4	1.4	0.57	**U**
91-20-3	Naphthalene	**1.9**	2.3	1.4	0.57	**J**
1330-20-7	Xylenes, Total	**58**	4.8	1.5	0.62	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV114-250-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-004

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/17/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00299

Initial Pressure (psig): -4.14 Final Pressure (psig): 6.08

Container Dilution Factor: 1.97

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.5**	2.6	1.6	0.64	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**230**	2.6	1.6	0.43	
74-87-3	Chloromethane	1.6	2.6	1.6	0.42	**U**
75-01-4	Vinyl Chloride	0.84	2.7	0.84	0.28	**U**
106-99-0	1,3-Butadiene	1.6	2.6	1.6	0.43	**U**
75-00-3	Chloroethane	1.6	2.7	1.6	0.33	**U**
64-17-5	Ethanol	**4.5**	26	4.1	1.8	**J**
67-64-1	Acetone	**29**	26	13	5.9	
75-69-4	Trichlorofluoromethane	**21**	2.6	1.6	0.40	
67-63-0	2-Propanol (Isopropyl Alcohol)	**3.7**	10	3.1	1.1	**J**
75-09-2	Methylene Chloride	1.6	2.6	1.6	0.74	**U**
76-13-1	Trichlorotrifluoroethane	**18**	2.7	0.84	0.37	
75-15-0	Carbon Disulfide	**13**	5.4	2.7	0.79	
75-34-3	1,1-Dichloroethane	1.6	2.7	1.6	0.38	**U**
78-93-3	2-Butanone (MEK)	**5.8**	5.4	1.6	0.54	
141-78-6	Ethyl Acetate	3.2	5.4	3.2	1.4	**U**
110-54-3	n-Hexane	**1.1**	2.7	1.6	0.54	**J**
67-66-3	Chloroform	**13**	2.7	0.84	0.35	
109-99-9	Tetrahydrofuran (THF)	**2.7**	2.7	0.84	0.33	**J**
107-06-2	1,2-Dichloroethane	0.84	2.7	0.84	0.29	**U**
71-43-2	Benzene	**0.60**	2.6	0.84	0.38	**J**
56-23-5	Carbon Tetrachloride	**93**	2.6	0.84	0.36	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV114-250-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-004

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/17/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00299

Initial Pressure (psig): -4.14 Final Pressure (psig): 6.08

Container Dilution Factor: 1.97

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**0.84**	5.4	1.7	0.74	**J**
75-27-4	Bromodichloromethane	0.84	2.7	0.84	0.38	**U**
79-01-6	Trichloroethene	**1.6**	2.7	0.84	0.35	**J**
123-91-1	1,4-Dioxane	0.84	2.7	0.84	0.31	**U**
142-82-5	n-Heptane	**4.6**	2.7	1.6	0.42	
108-10-1	4-Methyl-2-pentanone	**0.85**	2.6	0.84	0.36	**J**
108-88-3	Toluene	**3.8**	2.7	0.84	0.32	
591-78-6	2-Hexanone	**2.6**	2.7	0.84	0.33	**J**
124-48-1	Dibromochloromethane	0.84	2.7	0.84	0.34	**U**
106-93-4	1,2-Dibromoethane	0.84	2.7	0.84	0.31	**U**
127-18-4	Tetrachloroethene	**1.1**	2.6	0.84	0.34	**J**
100-41-4	Ethylbenzene	**1.0**	2.7	0.84	0.37	**J**
179601-23-1	m,p-Xylenes	**12**	5.4	1.7	0.69	
75-25-2	Bromoform	1.6	2.7	1.6	0.54	**U**
100-42-5	Styrene	1.6	2.6	1.6	0.42	**U**
95-47-6	o-Xylene	**3.9**	2.7	0.84	0.38	
108-67-8	1,3,5-Trimethylbenzene	**1.9**	2.6	0.84	0.38	**J**
95-63-6	1,2,4-Trimethylbenzene	**6.7**	2.7	0.84	0.36	
120-82-1	1,2,4-Trichlorobenzene	1.6	2.7	1.6	0.64	**U**
91-20-3	Naphthalene	**3.3**	2.6	1.5	0.64	
1330-20-7	Xylenes, Total	**16**	5.4	1.7	0.69	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV114-250-602** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-005

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/17/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00878

Initial Pressure (psig): -2.89 Final Pressure (psig): 5.96

Container Dilution Factor: 1.75

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.1**	2.3	1.4	0.57	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**230**	2.3	1.4	0.38	
74-87-3	Chloromethane	1.4	2.3	1.4	0.38	**U**
75-01-4	Vinyl Chloride	0.74	2.4	0.74	0.25	**U**
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.39	**U**
75-00-3	Chloroethane	1.4	2.4	1.4	0.29	**U**
64-17-5	Ethanol	**6.4**	23	3.6	1.6	**J**
67-64-1	Acetone	**18**	23	12	5.3	**J**
75-69-4	Trichlorofluoromethane	**21**	2.3	1.4	0.35	
67-63-0	2-Propanol (Isopropyl Alcohol)	2.8	9.2	2.8	0.96	**U**
75-09-2	Methylene Chloride	1.4	2.3	1.4	0.66	**U**
76-13-1	Trichlorotrifluoroethane	**18**	2.4	0.74	0.33	
75-15-0	Carbon Disulfide	**9.4**	4.8	2.4	0.70	
75-34-3	1,1-Dichloroethane	1.4	2.4	1.4	0.34	**U**
78-93-3	2-Butanone (MEK)	**3.0**	4.8	1.4	0.48	**J**
141-78-6	Ethyl Acetate	**30**	4.8	2.8	1.2	
110-54-3	n-Hexane	**9.3**	2.4	1.4	0.48	
67-66-3	Chloroform	**14**	2.4	0.74	0.31	
109-99-9	Tetrahydrofuran (THF)	**5.9**	2.4	0.74	0.29	
107-06-2	1,2-Dichloroethane	0.74	2.4	0.74	0.26	**U**
71-43-2	Benzene	**1.6**	2.3	0.74	0.34	**J**
56-23-5	Carbon Tetrachloride	**94**	2.3	0.74	0.32	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV114-250-602** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-005

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/17/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00878

Initial Pressure (psig): -2.89 Final Pressure (psig): 5.96

Container Dilution Factor: 1.75

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**5.9**	4.8	1.5	0.66	
75-27-4	Bromodichloromethane	0.74	2.4	0.74	0.34	**U**
79-01-6	Trichloroethene	**1.6**	2.4	0.74	0.32	**J**
123-91-1	1,4-Dioxane	0.74	2.4	0.74	0.28	**U**
142-82-5	n-Heptane	**37**	2.4	1.4	0.37	
108-10-1	4-Methyl-2-pentanone	0.74	2.3	0.74	0.32	**U**
108-88-3	Toluene	**22**	2.4	0.74	0.28	
591-78-6	2-Hexanone	0.74	2.4	0.74	0.29	**U**
124-48-1	Dibromochloromethane	0.74	2.4	0.74	0.31	**U**
106-93-4	1,2-Dibromoethane	0.74	2.4	0.74	0.27	**U**
127-18-4	Tetrachloroethene	**1.7**	2.3	0.74	0.30	**J**
100-41-4	Ethylbenzene	**3.6**	2.4	0.74	0.33	
179601-23-1	m,p-Xylenes	**59**	4.8	1.5	0.61	
75-25-2	Bromoform	1.4	2.4	1.4	0.48	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.38	**U**
95-47-6	o-Xylene	**15**	2.4	0.74	0.34	
108-67-8	1,3,5-Trimethylbenzene	**5.7**	2.3	0.74	0.34	
95-63-6	1,2,4-Trimethylbenzene	**22**	2.4	0.74	0.32	
120-82-1	1,2,4-Trichlorobenzene	1.4	2.4	1.4	0.57	**U**
91-20-3	Naphthalene	1.4	2.3	1.4	0.57	**U**
1330-20-7	Xylenes, Total	**75**	4.8	1.5	0.61	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV114-350-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-006

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/17/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.15 Liter(s)
Test Notes: 0.010 Liter(s)
Container ID: 1SS00487

Initial Pressure (psig): -4.52 Final Pressure (psig): 5.48

Container Dilution Factor: 1.98

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**8.0**	7.0	4.2	1.7	
75-71-8	Dichlorodifluoromethane (CFC 12)	**1,900**	100	63	17	**D**
74-87-3	Chloromethane	4.2	7.0	4.2	1.1	**U**
75-01-4	Vinyl Chloride	2.2	7.1	2.2	0.75	**U**
106-99-0	1,3-Butadiene	4.2	7.0	4.2	1.2	**U**
75-00-3	Chloroethane	4.2	7.1	4.2	0.87	**U**
64-17-5	Ethanol	11	69	11	4.9	**U**
67-64-1	Acetone	36	70	36	16	**U**
75-69-4	Trichlorofluoromethane	**360**	7.0	4.2	1.1	
67-63-0	2-Propanol (Isopropyl Alcohol)	8.3	28	8.3	2.9	**U**
75-09-2	Methylene Chloride	4.2	7.0	4.2	2.0	**U**
76-13-1	Trichlorotrifluoroethane	**120**	7.1	2.2	1.0	
75-15-0	Carbon Disulfide	7.1	15	7.1	2.1	**U**
75-34-3	1,1-Dichloroethane	4.4	7.3	4.4	1.0	**U**
78-93-3	2-Butanone (MEK)	4.2	15	4.2	1.5	**U**
141-78-6	Ethyl Acetate	**5.5**	15	8.6	3.7	**J**
110-54-3	n-Hexane	**25**	7.1	4.2	1.5	
67-66-3	Chloroform	**1.5**	7.1	2.2	0.94	**J**
109-99-9	Tetrahydrofuran (THF)	2.2	7.3	2.2	0.88	**U**
107-06-2	1,2-Dichloroethane	2.2	7.1	2.2	0.78	**U**
71-43-2	Benzene	**15**	7.0	2.2	1.0	
56-23-5	Carbon Tetrachloride	**6.1**	7.0	2.2	0.98	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV114-350-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-006

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/17/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.15 Liter(s)
Test Notes: 0.010 Liter(s)
Container ID: 1SS00487

Initial Pressure (psig): -4.52 Final Pressure (psig): 5.48

Container Dilution Factor: 1.98

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**72**	15	4.5	2.0	
75-27-4	Bromodichloromethane	2.2	7.1	2.2	1.0	**U**
79-01-6	Trichloroethene	2.2	7.1	2.2	0.95	**U**
123-91-1	1,4-Dioxane	2.2	7.1	2.2	0.83	**U**
142-82-5	n-Heptane	**87**	7.1	4.2	1.1	
108-10-1	4-Methyl-2-pentanone	2.2	7.0	2.2	0.96	**U**
108-88-3	Toluene	2.2	7.1	2.2	0.86	**U**
591-78-6	2-Hexanone	2.2	7.1	2.2	0.87	**U**
124-48-1	Dibromochloromethane	2.2	7.1	2.2	0.92	**U**
106-93-4	1,2-Dibromoethane	2.2	7.1	2.2	0.82	**U**
127-18-4	Tetrachloroethene	**4.7**	6.9	2.2	0.91	**J**
100-41-4	Ethylbenzene	**2.3**	7.1	2.2	0.99	**J**
179601-23-1	m,p-Xylenes	**20**	15	4.5	1.8	
75-25-2	Bromoform	4.2	7.1	4.2	1.5	**U**
100-42-5	Styrene	4.2	7.0	4.2	1.1	**U**
95-47-6	o-Xylene	**12**	7.1	2.2	1.0	
108-67-8	1,3,5-Trimethylbenzene	**3.0**	7.0	2.2	1.0	**J**
95-63-6	1,2,4-Trimethylbenzene	**5.6**	7.1	2.2	0.98	**J**
120-82-1	1,2,4-Trichlorobenzene	4.2	7.1	4.2	1.7	**U**
91-20-3	Naphthalene	4.1	6.9	4.1	1.7	**U**
1330-20-7	Xylenes, Total	**32**	15	4.5	1.8	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV114-450-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-007

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0010 Liter(s)
Test Notes: 0.00010 Liter(s)
Container ID: 1SC00199

Initial Pressure (psig): -3.34 Final Pressure (psig): 7.32

Container Dilution Factor: 1.94

CAS #	Compound	Result µg/m³		LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**7,600**		1,000	620	250	**V, B**
75-71-8	Dichlorodifluoromethane (CFC 12)	**3,300**		1,000	620	170	
74-87-3	Chloromethane		620	1,000	620	170	**U**
75-01-4	Vinyl Chloride		330	1,000	330	110	**U**
106-99-0	1,3-Butadiene	**550**		1,000	620	170	**J, B**
75-00-3	Chloroethane		620	1,000	620	130	**U**
64-17-5	Ethanol		1,600	10,000	1,600	720	**U, V**
67-64-1	Acetone		5,200	10,000	5,200	2,300	**U**
75-69-4	Trichlorofluoromethane	**580**		1,000	620	160	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)		1,200	4,100	1,200	430	**U**
75-09-2	Methylene Chloride		620	1,000	620	290	**U**
76-13-1	Trichlorotrifluoroethane	**240**		1,000	330	150	**J**
75-15-0	Carbon Disulfide		1,000	2,100	1,000	310	**U**
75-34-3	1,1-Dichloroethane		640	1,100	640	150	**U**
78-93-3	2-Butanone (MEK)	**320**		2,100	620	210	**J**
141-78-6	Ethyl Acetate		1,300	2,100	1,300	540	**U**
110-54-3	n-Hexane	**100,000**		1,000	620	210	
67-66-3	Chloroform		330	1,000	330	140	**U**
109-99-9	Tetrahydrofuran (THF)		330	1,100	330	130	**U**
107-06-2	1,2-Dichloroethane		330	1,000	330	110	**U**
71-43-2	Benzene	**14,000**		1,000	330	150	**B**
56-23-5	Carbon Tetrachloride		330	1,000	330	140	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
V = The ending continuing calibration verification standard was outside (biased low) the specified limits for this compound.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV114-450-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-007

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0010 Liter(s)
Test Notes: 0.00010 Liter(s)
Container ID: 1SC00199

Initial Pressure (psig): -3.34 Final Pressure (psig): 7.32

Container Dilution Factor: 1.94

CAS #	Compound	Result µg/m³		LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**150,000**		2,100	660	290	
75-27-4	Bromodichloromethane		330	1,000	330	150	**U**
79-01-6	Trichloroethene		330	1,000	330	140	**U**
123-91-1	1,4-Dioxane		330	1,000	330	120	**U**
142-82-5	n-Heptane	**290,000**		10,000	6,200	1,600	**D**
108-10-1	4-Methyl-2-pentanone		330	1,000	330	140	**U**
108-88-3	Toluene	**44,000**		1,000	330	130	
591-78-6	2-Hexanone		330	1,000	330	130	**U**
124-48-1	Dibromochloromethane		330	1,000	330	140	**U**
106-93-4	1,2-Dibromoethane		330	1,000	330	120	**U**
127-18-4	Tetrachloroethene		330	1,000	330	130	**U**
100-41-4	Ethylbenzene	**5,600**		1,000	330	150	
179601-23-1	m,p-Xylenes	**46,000**		2,100	660	270	
75-25-2	Bromoform		620	1,000	620	210	**U**
100-42-5	Styrene		620	1,000	620	170	**U**
95-47-6	o-Xylene	**29,000**		1,000	330	150	
108-67-8	1,3,5-Trimethylbenzene	**6,500**		1,000	330	150	
95-63-6	1,2,4-Trimethylbenzene	**8,400**		1,000	330	140	
120-82-1	1,2,4-Trichlorobenzene		620	1,000	620	250	**U**
91-20-3	Naphthalene		600	1,000	600	250	**U**
1330-20-7	Xylenes, Total	**75,000**		2,100	660	270	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV116-025-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-008

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00931

Initial Pressure (psig): -3.21 Final Pressure (psig): 5.90
Initial Pressure 2 (psig): -0.92 Final Pressure 2 (psig): 5.89

Container Dilution Factor: 2.68

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**5.6**	3.6	2.1	0.87	**V, B**
75-71-8	Dichlorodifluoromethane (CFC 12)	**67**	3.6	2.1	0.58	
74-87-3	Chloromethane	2.1	3.6	2.1	0.58	**U**
75-01-4	Vinyl Chloride	1.1	3.6	1.1	0.38	**U**
106-99-0	1,3-Butadiene	**1.3**	3.6	2.1	0.59	**J, B**
75-00-3	Chloroethane	2.1	3.6	2.1	0.44	**U**
64-17-5	Ethanol	**3.8**	35	5.6	2.5	**J, V**
67-64-1	Acetone	18	36	18	8.0	**U**
75-69-4	Trichlorofluoromethane	**8.4**	3.6	2.1	0.54	
67-63-0	2-Propanol (Isopropyl Alcohol)	4.2	14	4.2	1.5	**U**
75-09-2	Methylene Chloride	2.1	3.6	2.1	1.0	**U**
76-13-1	Trichlorotrifluoroethane	**29**	3.6	1.1	0.51	
75-15-0	Carbon Disulfide	3.6	7.4	3.6	1.1	**U**
75-34-3	1,1-Dichloroethane	2.2	3.7	2.2	0.52	**U**
78-93-3	2-Butanone (MEK)	**2.5**	7.4	2.1	0.74	**J**
141-78-6	Ethyl Acetate	**2.7**	7.4	4.4	1.9	**J**
110-54-3	n-Hexane	**75**	3.6	2.1	0.74	
67-66-3	Chloroform	**0.64**	3.6	1.1	0.48	**J**
109-99-9	Tetrahydrofuran (THF)	1.1	3.7	1.1	0.45	**U**
107-06-2	1,2-Dichloroethane	1.1	3.6	1.1	0.40	**U**
71-43-2	Benzene	**13**	3.6	1.1	0.52	**B**
56-23-5	Carbon Tetrachloride	**5.2**	3.6	1.1	0.50	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
V = The ending continuing calibration verification standard was outside (biased low) the specified limits for this compound.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV116-025-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-008

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00931

Initial Pressure (psig): -3.21 Final Pressure (psig): 5.90
Initial Pressure 2 (psig): -0.92 Final Pressure 2 (psig): 5.89

Container Dilution Factor: 2.68

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**110**	7.4	2.3	1.0	
75-27-4	Bromodichloromethane	1.1	3.6	1.1	0.52	**U**
79-01-6	Trichloroethene	**1.3**	3.6	1.1	0.48	**J**
123-91-1	1,4-Dioxane	1.1	3.6	1.1	0.42	**U**
142-82-5	n-Heptane	**250**	3.6	2.1	0.57	
108-10-1	4-Methyl-2-pentanone	1.1	3.6	1.1	0.49	**U**
108-88-3	Toluene	**64**	3.6	1.1	0.44	
591-78-6	2-Hexanone	1.1	3.6	1.1	0.44	**U**
124-48-1	Dibromochloromethane	1.1	3.6	1.1	0.47	**U**
106-93-4	1,2-Dibromoethane	1.1	3.6	1.1	0.42	**U**
127-18-4	Tetrachloroethene	**1.0**	3.5	1.1	0.46	**J**
100-41-4	Ethylbenzene	**11**	3.6	1.1	0.50	
179601-23-1	m,p-Xylenes	**56**	7.4	2.3	0.94	
75-25-2	Bromoform	2.1	3.6	2.1	0.74	**U**
100-42-5	Styrene	2.1	3.6	2.1	0.58	**U**
95-47-6	o-Xylene	**31**	3.6	1.1	0.52	
108-67-8	1,3,5-Trimethylbenzene	**8.9**	3.6	1.1	0.52	
95-63-6	1,2,4-Trimethylbenzene	**18**	3.6	1.1	0.50	
120-82-1	1,2,4-Trichlorobenzene	2.1	3.6	2.1	0.87	**U**
91-20-3	Naphthalene	**2.6**	3.5	2.1	0.87	**J**
1330-20-7	Xylenes, Total	**87**	7.4	2.3	0.94	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV116-050-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-009

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/17/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00945

Initial Pressure (psig): -3.62 Final Pressure (psig): 5.70

Container Dilution Factor: 1.84

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.9**	2.4	1.5	0.60	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**99**	2.4	1.5	0.40	
74-87-3	Chloromethane	1.5	2.4	1.5	0.40	**U**
75-01-4	Vinyl Chloride	0.78	2.5	0.78	0.26	**U**
106-99-0	1,3-Butadiene	**2.9**	2.4	1.5	0.40	
75-00-3	Chloroethane	1.5	2.5	1.5	0.30	**U**
64-17-5	Ethanol	3.8	24	3.8	1.7	**U**
67-64-1	Acetone	**6.3**	24	12	5.5	**J**
75-69-4	Trichlorofluoromethane	**12**	2.4	1.5	0.37	
67-63-0	2-Propanol (Isopropyl Alcohol)	2.9	9.7	2.9	1.0	**U**
75-09-2	Methylene Chloride	1.5	2.4	1.5	0.69	**U**
76-13-1	Trichlorotrifluoroethane	**53**	2.5	0.78	0.35	
75-15-0	Carbon Disulfide	**2.0**	5.1	2.5	0.74	**J**
75-34-3	1,1-Dichloroethane	1.5	2.5	1.5	0.36	**U**
78-93-3	2-Butanone (MEK)	**0.92**	5.1	1.5	0.51	**J**
141-78-6	Ethyl Acetate	3.0	5.1	3.0	1.3	**U**
110-54-3	n-Hexane	**18**	2.5	1.5	0.51	
67-66-3	Chloroform	**0.97**	2.5	0.78	0.33	**J**
109-99-9	Tetrahydrofuran (THF)	**100**	2.5	0.78	0.31	
107-06-2	1,2-Dichloroethane	0.78	2.5	0.78	0.27	**U**
71-43-2	Benzene	**7.8**	2.4	0.78	0.35	
56-23-5	Carbon Tetrachloride	**16**	2.4	0.78	0.34	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV116-050-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-009

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/17/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00945

Initial Pressure (psig): -3.62 Final Pressure (psig): 5.70

Container Dilution Factor: 1.84

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**16**	5.1	1.6	0.69	
75-27-4	Bromodichloromethane	0.78	2.5	0.78	0.35	**U**
79-01-6	Trichloroethene	0.78	2.5	0.78	0.33	**U**
123-91-1	1,4-Dioxane	0.78	2.5	0.78	0.29	**U**
142-82-5	n-Heptane	**31**	2.5	1.5	0.39	
108-10-1	4-Methyl-2-pentanone	0.78	2.4	0.78	0.34	**U**
108-88-3	Toluene	**36**	2.5	0.78	0.30	
591-78-6	2-Hexanone	0.78	2.5	0.78	0.30	**U**
124-48-1	Dibromochloromethane	0.78	2.5	0.78	0.32	**U**
106-93-4	1,2-Dibromoethane	0.78	2.5	0.78	0.29	**U**
127-18-4	Tetrachloroethene	**0.92**	2.4	0.78	0.32	**J**
100-41-4	Ethylbenzene	**5.7**	2.5	0.78	0.35	
179601-23-1	m,p-Xylenes	**22**	5.1	1.6	0.64	
75-25-2	Bromoform	1.5	2.5	1.5	0.51	**U**
100-42-5	Styrene	1.5	2.4	1.5	0.40	**U**
95-47-6	o-Xylene	**8.5**	2.5	0.78	0.35	
108-67-8	1,3,5-Trimethylbenzene	**2.2**	2.4	0.78	0.35	**J**
95-63-6	1,2,4-Trimethylbenzene	**5.8**	2.5	0.78	0.34	
120-82-1	1,2,4-Trichlorobenzene	1.5	2.5	1.5	0.60	**U**
91-20-3	Naphthalene	**1.6**	2.4	1.4	0.60	**J**
1330-20-7	Xylenes, Total	**30**	5.1	1.6	0.64	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV116-150-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-010

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00228

Initial Pressure (psig): -3.31 Final Pressure (psig): 5.14

Container Dilution Factor: 1.74

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**0.91**	2.3	1.4	0.57	**J, V, B**
75-71-8	Dichlorodifluoromethane (CFC 12)	**29**	2.3	1.4	0.38	
74-87-3	Chloromethane	1.4	2.3	1.4	0.37	**U**
75-01-4	Vinyl Chloride	0.74	2.3	0.74	0.25	**U**
106-99-0	1,3-Butadiene	**0.96**	2.3	1.4	0.38	**J, B**
75-00-3	Chloroethane	1.4	2.3	1.4	0.29	**U**
64-17-5	Ethanol	**1.6**	23	3.6	1.6	**J, V**
67-64-1	Acetone	**7.1**	23	12	5.2	**J**
75-69-4	Trichlorofluoromethane	**3.3**	2.3	1.4	0.35	
67-63-0	2-Propanol (Isopropyl Alcohol)	2.7	9.1	2.7	0.96	**U**
75-09-2	Methylene Chloride	1.4	2.3	1.4	0.65	**U**
76-13-1	Trichlorotrifluoroethane	**10**	2.3	0.74	0.33	
75-15-0	Carbon Disulfide	**13**	4.8	2.3	0.70	
75-34-3	1,1-Dichloroethane	1.4	2.4	1.4	0.34	**U**
78-93-3	2-Butanone (MEK)	**0.67**	4.8	1.4	0.48	**J**
141-78-6	Ethyl Acetate	**4.6**	4.8	2.8	1.2	**J**
110-54-3	n-Hexane	**2.5**	2.3	1.4	0.48	
67-66-3	Chloroform	**1.2**	2.3	0.74	0.31	**J**
109-99-9	Tetrahydrofuran (THF)	**1.9**	2.4	0.74	0.29	**J**
107-06-2	1,2-Dichloroethane	0.74	2.3	0.74	0.26	**U**
71-43-2	Benzene	**3.4**	2.3	0.74	0.33	**B**
56-23-5	Carbon Tetrachloride	**6.9**	2.3	0.74	0.32	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
V = The ending continuing calibration verification standard was outside (biased low) the specified limits for this compound.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV116-150-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-010

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00228

Initial Pressure (psig): -3.31 Final Pressure (psig): 5.14

Container Dilution Factor: 1.74

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**1.6**	4.8	1.5	0.65	**J**
75-27-4	Bromodichloromethane	0.74	2.3	0.74	0.33	**U**
79-01-6	Trichloroethene	0.74	2.3	0.74	0.31	**U**
123-91-1	1,4-Dioxane	0.74	2.3	0.74	0.27	**U**
142-82-5	n-Heptane	**4.7**	2.3	1.4	0.37	
108-10-1	4-Methyl-2-pentanone	0.74	2.3	0.74	0.32	**U**
108-88-3	Toluene	**18**	2.3	0.74	0.28	
591-78-6	2-Hexanone	0.74	2.3	0.74	0.29	**U**
124-48-1	Dibromochloromethane	0.74	2.3	0.74	0.30	**U**
106-93-4	1,2-Dibromoethane	0.74	2.3	0.74	0.27	**U**
127-18-4	Tetrachloroethene	**1.9**	2.3	0.74	0.30	**J**
100-41-4	Ethylbenzene	**2.6**	2.3	0.74	0.33	
179601-23-1	m,p-Xylenes	**9.5**	4.8	1.5	0.61	
75-25-2	Bromoform	1.4	2.3	1.4	0.48	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.37	**U**
95-47-6	o-Xylene	**3.2**	2.3	0.74	0.33	
108-67-8	1,3,5-Trimethylbenzene	**0.77**	2.3	0.74	0.33	**J**
95-63-6	1,2,4-Trimethylbenzene	**2.5**	2.3	0.74	0.32	
120-82-1	1,2,4-Trichlorobenzene	1.4	2.3	1.4	0.57	**U**
91-20-3	Naphthalene	**0.63**	2.3	1.3	0.57	**J**
1330-20-7	Xylenes, Total	**13**	4.8	1.5	0.61	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV116-250-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-011

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00023

Initial Pressure (psig): -3.27 Final Pressure (psig): 5.68

Container Dilution Factor: 1.78

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**2.4**	2.4	1.4	0.58	**V, B**
75-71-8	Dichlorodifluoromethane (CFC 12)	**33**	2.4	1.4	0.39	
74-87-3	Chloromethane	**0.45**	2.4	1.4	0.38	**J**
75-01-4	Vinyl Chloride	0.76	2.4	0.76	0.25	**U**
106-99-0	1,3-Butadiene	1.4	2.4	1.4	0.39	**U**
75-00-3	Chloroethane	1.4	2.4	1.4	0.29	**U**
64-17-5	Ethanol	3.7	23	3.7	1.6	**U, V**
67-64-1	Acetone	**17**	24	12	5.3	**J**
75-69-4	Trichlorofluoromethane	**3.8**	2.4	1.4	0.36	
67-63-0	2-Propanol (Isopropyl Alcohol)	**4.4**	9.3	2.8	0.98	**J**
75-09-2	Methylene Chloride	1.4	2.4	1.4	0.67	**U**
76-13-1	Trichlorotrifluoroethane	**15**	2.4	0.76	0.34	
75-15-0	Carbon Disulfide	**6.8**	4.9	2.4	0.71	
75-34-3	1,1-Dichloroethane	1.5	2.4	1.5	0.35	**U**
78-93-3	2-Butanone (MEK)	**2.3**	4.9	1.4	0.49	**J**
141-78-6	Ethyl Acetate	2.9	4.9	2.9	1.2	**U**
110-54-3	n-Hexane	**3.3**	2.4	1.4	0.49	
67-66-3	Chloroform	**0.58**	2.4	0.76	0.32	**J**
109-99-9	Tetrahydrofuran (THF)	**3.2**	2.4	0.76	0.30	
107-06-2	1,2-Dichloroethane	0.76	2.4	0.76	0.26	**U**
71-43-2	Benzene	**10**	2.4	0.76	0.34	**B**
56-23-5	Carbon Tetrachloride	**22**	2.4	0.76	0.33	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
V = The ending continuing calibration verification standard was outside (biased low) the specified limits for this compound.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV116-250-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-011

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00023

Initial Pressure (psig): -3.27 Final Pressure (psig): 5.68

Container Dilution Factor: 1.78

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**13**	4.9	1.5	0.67	
75-27-4	Bromodichloromethane	0.76	2.4	0.76	0.34	**U**
79-01-6	Trichloroethene	0.76	2.4	0.76	0.32	**U**
123-91-1	1,4-Dioxane	0.76	2.4	0.76	0.28	**U**
142-82-5	n-Heptane	**4.0**	2.4	1.4	0.38	
108-10-1	4-Methyl-2-pentanone	0.76	2.4	0.76	0.32	**U**
108-88-3	Toluene	**23**	2.4	0.76	0.29	
591-78-6	2-Hexanone	0.76	2.4	0.76	0.29	**U**
124-48-1	Dibromochloromethane	0.76	2.4	0.76	0.31	**U**
106-93-4	1,2-Dibromoethane	0.76	2.4	0.76	0.28	**U**
127-18-4	Tetrachloroethene	**2.3**	2.3	0.76	0.31	**J**
100-41-4	Ethylbenzene	**3.0**	2.4	0.76	0.33	
179601-23-1	m,p-Xylenes	**10**	4.9	1.5	0.62	
75-25-2	Bromoform	1.4	2.4	1.4	0.49	**U**
100-42-5	Styrene	1.4	2.4	1.4	0.38	**U**
95-47-6	o-Xylene	**5.0**	2.4	0.76	0.34	
108-67-8	1,3,5-Trimethylbenzene	**2.1**	2.4	0.76	0.34	**J**
95-63-6	1,2,4-Trimethylbenzene	**2.7**	2.4	0.76	0.33	
120-82-1	1,2,4-Trichlorobenzene	1.4	2.4	1.4	0.58	**U**
91-20-3	Naphthalene	**0.88**	2.3	1.4	0.58	**J**
1330-20-7	Xylenes, Total	**15**	4.9	1.5	0.62	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV116-350-602** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-012

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.015 Liter(s)
Test Notes:
Container ID: 1SC00201

Initial Pressure (psig): -3.18 Final Pressure (psig): 5.59

Container Dilution Factor: 1.76

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**220**	62	38	15	**V, B**
75-71-8	Dichlorodifluoromethane (CFC 12)	**150**	62	38	10	
74-87-3	Chloromethane	38	62	38	10	**U**
75-01-4	Vinyl Chloride	20	63	20	6.7	**U**
106-99-0	1,3-Butadiene	**33**	62	38	10	**J, B**
75-00-3	Chloroethane	38	63	38	7.7	**U**
64-17-5	Ethanol	97	610	97	43	**U, V**
67-64-1	Acetone	320	620	320	140	**U**
75-69-4	Trichlorofluoromethane	**20**	62	38	9.5	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	74	250	74	26	**U**
75-09-2	Methylene Chloride	38	62	38	18	**U**
76-13-1	Trichlorotrifluoroethane	**9.7**	63	20	8.9	**J**
75-15-0	Carbon Disulfide	63	130	63	19	**U**
75-34-3	1,1-Dichloroethane	39	65	39	9.2	**U**
78-93-3	2-Butanone (MEK)	38	130	38	13	**U**
141-78-6	Ethyl Acetate	76	130	76	33	**U**
110-54-3	n-Hexane	**610**	63	38	13	
67-66-3	Chloroform	20	63	20	8.3	**U**
109-99-9	Tetrahydrofuran (THF)	20	65	20	7.9	**U**
107-06-2	1,2-Dichloroethane	20	63	20	6.9	**U**
71-43-2	Benzene	**430**	62	20	9.0	**B**
56-23-5	Carbon Tetrachloride	20	62	20	8.7	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
V = The ending continuing calibration verification standard was outside (biased low) the specified limits for this compound.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV116-350-602** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-012

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.015 Liter(s)
Test Notes:
Container ID: 1SC00201

Initial Pressure (psig): -3.18 Final Pressure (psig): 5.59

Container Dilution Factor: 1.76

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**6,000**	130	40	18	
75-27-4	Bromodichloromethane	20	63	20	9.0	**U**
79-01-6	Trichloroethene	**23**	63	20	8.4	**J**
123-91-1	1,4-Dioxane	20	63	20	7.4	**U**
142-82-5	n-Heptane	**15**	63	38	10	**J**
108-10-1	4-Methyl-2-pentanone	20	62	20	8.6	**U**
108-88-3	Toluene	20	63	20	7.6	**U**
591-78-6	2-Hexanone	20	63	20	7.7	**U**
124-48-1	Dibromochloromethane	20	63	20	8.2	**U**
106-93-4	1,2-Dibromoethane	20	63	20	7.3	**U**
127-18-4	Tetrachloroethene	20	61	20	8.1	**U**
100-41-4	Ethylbenzene	20	63	20	8.8	**U**
179601-23-1	m,p-Xylenes	**28**	130	40	16	**J**
75-25-2	Bromoform	38	63	38	13	**U**
100-42-5	Styrene	38	62	38	10	**U**
95-47-6	o-Xylene	**33**	63	20	9.0	**J**
108-67-8	1,3,5-Trimethylbenzene	**31**	62	20	9.0	**J**
95-63-6	1,2,4-Trimethylbenzene	20	63	20	8.7	**U**
120-82-1	1,2,4-Trichlorobenzene	38	63	38	15	**U**
91-20-3	Naphthalene	36	61	36	15	**U**
1330-20-7	Xylenes, Total	**61**	130	40	16	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV116-350-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-013

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.015 Liter(s)
Test Notes:
Container ID: 1SS00874

Initial Pressure (psig): -4.17 Final Pressure (psig): 5.86

Container Dilution Factor: 1.95

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**260**	69	42	17	**V, B**
75-71-8	Dichlorodifluoromethane (CFC 12)	**230**	69	42	11	
74-87-3	Chloromethane	42	69	42	11	**U**
75-01-4	Vinyl Chloride	22	70	22	7.4	**U**
106-99-0	1,3-Butadiene	**20**	69	42	11	**J, B**
75-00-3	Chloroethane	42	70	42	8.6	**U**
64-17-5	Ethanol	110	680	110	48	**U, V**
67-64-1	Acetone	350	690	350	160	**U**
75-69-4	Trichlorofluoromethane	**33**	69	42	11	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	82	270	82	29	**U**
75-09-2	Methylene Chloride	42	69	42	20	**U**
76-13-1	Trichlorotrifluoroethane	**16**	70	22	9.9	**J**
75-15-0	Carbon Disulfide	70	140	70	21	**U**
75-34-3	1,1-Dichloroethane	43	72	43	10	**U**
78-93-3	2-Butanone (MEK)	42	140	42	14	**U**
141-78-6	Ethyl Acetate	85	140	85	36	**U**
110-54-3	n-Hexane	**940**	70	42	14	
67-66-3	Chloroform	22	70	22	9.2	**U**
109-99-9	Tetrahydrofuran (THF)	22	72	22	8.7	**U**
107-06-2	1,2-Dichloroethane	22	70	22	7.7	**U**
71-43-2	Benzene	**670**	69	22	10	**B**
56-23-5	Carbon Tetrachloride	22	69	22	9.6	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
V = The ending continuing calibration verification standard was outside (biased low) the specified limits for this compound.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV116-350-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-013

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.015 Liter(s)
Test Notes:
Container ID: 1SS00874

Initial Pressure (psig): -4.17 Final Pressure (psig): 5.86

Container Dilution Factor: 1.95

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**9,100**	140	44	20	
75-27-4	Bromodichloromethane	22	70	22	10	**U**
79-01-6	Trichloroethene	**38**	70	22	9.4	**J**
123-91-1	1,4-Dioxane	22	70	22	8.2	**U**
142-82-5	n-Heptane	**21**	70	42	11	**J**
108-10-1	4-Methyl-2-pentanone	22	69	22	9.5	**U**
108-88-3	Toluene	22	70	22	8.5	**U**
591-78-6	2-Hexanone	22	70	22	8.6	**U**
124-48-1	Dibromochloromethane	22	70	22	9.1	**U**
106-93-4	1,2-Dibromoethane	22	70	22	8.1	**U**
127-18-4	Tetrachloroethene	22	68	22	9.0	**U**
100-41-4	Ethylbenzene	22	70	22	9.8	**U**
179601-23-1	m,p-Xylenes	**34**	140	44	18	**J**
75-25-2	Bromoform	42	70	42	14	**U**
100-42-5	Styrene	42	69	42	11	**U**
95-47-6	o-Xylene	**44**	70	22	10	**J**
108-67-8	1,3,5-Trimethylbenzene	**42**	69	22	10	**J**
95-63-6	1,2,4-Trimethylbenzene	22	70	22	9.6	**U**
120-82-1	1,2,4-Trichlorobenzene	42	70	42	17	**U**
91-20-3	Naphthalene	40	68	40	17	**U**
1330-20-7	Xylenes, Total	**78**	140	44	18	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV116-450-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-014

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao/Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00050 Liter(s)
Test Notes: 0.00010 Liter(s)
Container ID: 1SS00925

Initial Pressure (psig): -3.50 Final Pressure (psig): 5.98

Container Dilution Factor: 1.85

CAS #	Compound	Result µg/m³		LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**11,000**		2,000	1,200	480	**V, B**
75-71-8	Dichlorodifluoromethane (CFC 12)	**750**		2,000	1,200	320	**J**
74-87-3	Chloromethane		1,200	2,000	1,200	320	**U**
75-01-4	Vinyl Chloride		630	2,000	630	210	**U**
106-99-0	1,3-Butadiene	**1,000**		2,000	1,200	330	**J, B**
75-00-3	Chloroethane		1,200	2,000	1,200	240	**U**
64-17-5	Ethanol		3,100	19,000	3,100	1,400	**U, V**
67-64-1	Acetone		10,000	20,000	10,000	4,400	**U**
75-69-4	Trichlorofluoromethane		1,200	2,000	1,200	300	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)		2,300	7,800	2,300	810	**U**
75-09-2	Methylene Chloride		1,200	2,000	1,200	560	**U**
76-13-1	Trichlorotrifluoroethane		630	2,000	630	280	**U**
75-15-0	Carbon Disulfide		2,000	4,100	2,000	590	**U**
75-34-3	1,1-Dichloroethane		1,200	2,000	1,200	290	**U**
78-93-3	2-Butanone (MEK)		1,200	4,100	1,200	410	**U**
141-78-6	Ethyl Acetate	**1,900**		4,100	2,400	1,000	**J**
110-54-3	n-Hexane	**380,000**		2,000	1,200	410	
67-66-3	Chloroform		630	2,000	630	260	**U**
109-99-9	Tetrahydrofuran (THF)		630	2,000	630	250	**U**
107-06-2	1,2-Dichloroethane		630	2,000	630	220	**U**
71-43-2	Benzene	**58,000**		2,000	630	280	**B**
56-23-5	Carbon Tetrachloride		630	2,000	630	270	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
V = The ending continuing calibration verification standard was outside (biased low) the specified limits for this compound.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV116-450-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-014

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao/Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00050 Liter(s)
Test Notes: 0.00010 Liter(s)
Container ID: 1SS00925

Initial Pressure (psig): -3.50 Final Pressure (psig): 5.98

Container Dilution Factor: 1.85

CAS #	Compound	Result µg/m³		LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**540,000**		4,100	1,300	560	
75-27-4	Bromodichloromethane		630	2,000	630	280	**U**
79-01-6	Trichloroethene		630	2,000	630	270	**U**
123-91-1	1,4-Dioxane		630	2,000	630	230	**U**
142-82-5	n-Heptane	**430,000**		10,000	5,900	1,600	**D**
108-10-1	4-Methyl-2-pentanone		630	2,000	630	270	**U**
108-88-3	Toluene	**120,000**		2,000	630	240	
591-78-6	2-Hexanone		630	2,000	630	240	**U**
124-48-1	Dibromochloromethane		630	2,000	630	260	**U**
106-93-4	1,2-Dibromoethane		630	2,000	630	230	**U**
127-18-4	Tetrachloroethene		630	1,900	630	260	**U**
100-41-4	Ethylbenzene	**9,600**		2,000	630	280	
179601-23-1	m,p-Xylenes	**46,000**		4,100	1,300	520	
75-25-2	Bromoform		1,200	2,000	1,200	410	**U**
100-42-5	Styrene		1,200	2,000	1,200	320	**U**
95-47-6	o-Xylene	**29,000**		2,000	630	280	
108-67-8	1,3,5-Trimethylbenzene	**5,900**		2,000	630	280	
95-63-6	1,2,4-Trimethylbenzene	**5,600**		2,000	630	270	
120-82-1	1,2,4-Trichlorobenzene		1,200	2,000	1,200	480	**U**
91-20-3	Naphthalene		1,100	1,900	1,100	480	**U**
1330-20-7	Xylenes, Total	**76,000**		4,100	1,300	520	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV128-025-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-015

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/17/20 & 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC01099

Initial Pressure (psig): -3.12 Final Pressure (psig): 6.03

Container Dilution Factor: 1.79

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**2.6**	2.4	1.4	0.58	
75-71-8	Dichlorodifluoromethane (CFC 12)	**820**	24	14	3.9	**D**
74-87-3	Chloromethane	1.4	2.4	1.4	0.38	**U**
75-01-4	Vinyl Chloride	0.76	2.4	0.76	0.26	**U**
106-99-0	1,3-Butadiene	**5.4**	2.4	1.4	0.39	
75-00-3	Chloroethane	1.4	2.4	1.4	0.30	**U**
64-17-5	Ethanol	**1.7**	23	3.7	1.7	**J**
67-64-1	Acetone	**8.8**	24	12	5.4	**J**
75-69-4	Trichlorofluoromethane	**130**	2.4	1.4	0.36	
67-63-0	2-Propanol (Isopropyl Alcohol)	2.8	9.4	2.8	0.98	**U**
75-09-2	Methylene Chloride	1.4	2.4	1.4	0.67	**U**
76-13-1	Trichlorotrifluoroethane	**140**	2.4	0.76	0.34	
75-15-0	Carbon Disulfide	2.4	4.9	2.4	0.72	**U**
75-34-3	1,1-Dichloroethane	1.5	2.5	1.5	0.35	**U**
78-93-3	2-Butanone (MEK)	**1.4**	4.9	1.4	0.49	**J**
141-78-6	Ethyl Acetate	2.9	4.9	2.9	1.3	**U**
110-54-3	n-Hexane	**5.3**	2.4	1.4	0.49	
67-66-3	Chloroform	**9.1**	2.4	0.76	0.32	
109-99-9	Tetrahydrofuran (THF)	**0.67**	2.5	0.76	0.30	**J**
107-06-2	1,2-Dichloroethane	0.76	2.4	0.76	0.26	**U**
71-43-2	Benzene	**2.3**	2.4	0.76	0.34	**J**
56-23-5	Carbon Tetrachloride	**160**	2.4	0.76	0.33	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV128-025-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-015

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/17/20 & 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC01099

Initial Pressure (psig): -3.12 Final Pressure (psig): 6.03

Container Dilution Factor: 1.79

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**6.4**	4.9	1.5	0.67	
75-27-4	Bromodichloromethane	0.76	2.4	0.76	0.34	**U**
79-01-6	Trichloroethene	**2.6**	2.4	0.76	0.32	
123-91-1	1,4-Dioxane	0.76	2.4	0.76	0.28	**U**
142-82-5	n-Heptane	**14**	2.4	1.4	0.38	
108-10-1	4-Methyl-2-pentanone	0.76	2.4	0.76	0.33	**U**
108-88-3	Toluene	**4.1**	2.4	0.76	0.29	
591-78-6	2-Hexanone	0.76	2.4	0.76	0.30	**U**
124-48-1	Dibromochloromethane	0.76	2.4	0.76	0.31	**U**
106-93-4	1,2-Dibromoethane	0.76	2.4	0.76	0.28	**U**
127-18-4	Tetrachloroethene	**3.0**	2.3	0.76	0.31	
100-41-4	Ethylbenzene	**0.72**	2.4	0.76	0.34	**J**
179601-23-1	m,p-Xylenes	**4.7**	4.9	1.5	0.63	**J**
75-25-2	Bromoform	1.4	2.4	1.4	0.49	**U**
100-42-5	Styrene	1.4	2.4	1.4	0.38	**U**
95-47-6	o-Xylene	**2.3**	2.4	0.76	0.34	**J**
108-67-8	1,3,5-Trimethylbenzene	**1.8**	2.4	0.76	0.34	**J**
95-63-6	1,2,4-Trimethylbenzene	**8.3**	2.4	0.76	0.33	
120-82-1	1,2,4-Trichlorobenzene	1.4	2.4	1.4	0.58	**U**
91-20-3	Naphthalene	**2.9**	2.3	1.4	0.58	
1330-20-7	Xylenes, Total	**7.0**	4.9	1.5	0.63	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV128-050-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-016

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/17/20 & 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS01024

Initial Pressure (psig): -3.81 Final Pressure (psig): 5.53

Container Dilution Factor: 1.86

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**2.8**	2.5	1.5	0.60	
75-71-8	Dichlorodifluoromethane (CFC 12)	**830**	25	15	4.0	**D**
74-87-3	Chloromethane	**0.71**	2.5	1.5	0.40	**J**
75-01-4	Vinyl Chloride	0.79	2.5	0.79	0.27	**U**
106-99-0	1,3-Butadiene	**3.5**	2.5	1.5	0.41	
75-00-3	Chloroethane	1.5	2.5	1.5	0.31	**U**
64-17-5	Ethanol	3.9	24	3.9	1.7	**U**
67-64-1	Acetone	**13**	25	13	5.6	**J**
75-69-4	Trichlorofluoromethane	**120**	2.5	1.5	0.38	
67-63-0	2-Propanol (Isopropyl Alcohol)	2.9	9.8	2.9	1.0	**U**
75-09-2	Methylene Chloride	1.5	2.5	1.5	0.70	**U**
76-13-1	Trichlorotrifluoroethane	**140**	2.5	0.79	0.35	
75-15-0	Carbon Disulfide	**1.7**	5.1	2.5	0.74	**J**
75-34-3	1,1-Dichloroethane	1.5	2.6	1.5	0.36	**U**
78-93-3	2-Butanone (MEK)	**1.4**	5.1	1.5	0.51	**J**
141-78-6	Ethyl Acetate	3.0	5.1	3.0	1.3	**U**
110-54-3	n-Hexane	**1.3**	2.5	1.5	0.51	**J**
67-66-3	Chloroform	**3.2**	2.5	0.79	0.33	
109-99-9	Tetrahydrofuran (THF)	**0.83**	2.6	0.79	0.31	**J**
107-06-2	1,2-Dichloroethane	0.79	2.5	0.79	0.27	**U**
71-43-2	Benzene	**1.4**	2.5	0.79	0.36	**J**
56-23-5	Carbon Tetrachloride	**180**	2.5	0.79	0.34	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV128-050-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-016

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/17/20 & 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS01024

Initial Pressure (psig): -3.81 Final Pressure (psig): 5.53

Container Dilution Factor: 1.86

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**1.0**	5.1	1.6	0.70	**J**
75-27-4	Bromodichloromethane	0.79	2.5	0.79	0.36	**U**
79-01-6	Trichloroethene	**5.5**	2.5	0.79	0.33	
123-91-1	1,4-Dioxane	0.79	2.5	0.79	0.29	**U**
142-82-5	n-Heptane	**2.5**	2.5	1.5	0.40	
108-10-1	4-Methyl-2-pentanone	0.79	2.5	0.79	0.34	**U**
108-88-3	Toluene	**2.5**	2.5	0.79	0.30	**J**
591-78-6	2-Hexanone	0.79	2.5	0.79	0.31	**U**
124-48-1	Dibromochloromethane	0.79	2.5	0.79	0.33	**U**
106-93-4	1,2-Dibromoethane	0.79	2.5	0.79	0.29	**U**
127-18-4	Tetrachloroethene	**3.0**	2.4	0.79	0.32	
100-41-4	Ethylbenzene	0.79	2.5	0.79	0.35	**U**
179601-23-1	m,p-Xylenes	**2.2**	5.1	1.6	0.65	**J**
75-25-2	Bromoform	1.5	2.5	1.5	0.51	**U**
100-42-5	Styrene	1.5	2.5	1.5	0.40	**U**
95-47-6	o-Xylene	**0.99**	2.5	0.79	0.36	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.96**	2.5	0.79	0.36	**J**
95-63-6	1,2,4-Trimethylbenzene	**4.9**	2.5	0.79	0.34	
120-82-1	1,2,4-Trichlorobenzene	1.5	2.5	1.5	0.60	**U**
91-20-3	Naphthalene	**1.7**	2.4	1.4	0.60	**J**
1330-20-7	Xylenes, Total	**3.2**	5.1	1.6	0.65	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV128-150-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-017

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.0030 Liter(s)
Container ID: 1SC00411

Initial Pressure (psig): -3.91 Final Pressure (psig): 5.57

Container Dilution Factor: 1.88

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**3.5**	2.5	1.5	0.61	**V, B**
75-71-8	Dichlorodifluoromethane (CFC 12)	**500**	330	200	55	**D**
74-87-3	Chloromethane	**0.92**	2.5	1.5	0.40	**J**
75-01-4	Vinyl Chloride	0.80	2.5	0.80	0.27	**U**
106-99-0	1,3-Butadiene	1.5	2.5	1.5	0.41	**U**
75-00-3	Chloroethane	1.5	2.5	1.5	0.31	**U**
64-17-5	Ethanol	**4.1**	24	3.9	1.7	**J, V**
67-64-1	Acetone	**80**	25	13	5.6	
75-69-4	Trichlorofluoromethane	**63**	2.5	1.5	0.38	
67-63-0	2-Propanol (Isopropyl Alcohol)	3.0	9.9	3.0	1.0	**U**
75-09-2	Methylene Chloride	1.5	2.5	1.5	0.71	**U**
76-13-1	Trichlorotrifluoroethane	**160**	2.5	0.80	0.36	
75-15-0	Carbon Disulfide	**7.4**	5.2	2.5	0.75	
75-34-3	1,1-Dichloroethane	1.6	2.6	1.6	0.37	**U**
78-93-3	2-Butanone (MEK)	**19**	5.2	1.5	0.52	
141-78-6	Ethyl Acetate	3.1	5.2	3.1	1.3	**U**
110-54-3	n-Hexane	1.5	2.5	1.5	0.52	**U**
67-66-3	Chloroform	**110**	2.5	0.80	0.33	
109-99-9	Tetrahydrofuran (THF)	**18**	2.6	0.80	0.31	
107-06-2	1,2-Dichloroethane	0.80	2.5	0.80	0.28	**U**
71-43-2	Benzene	**1.0**	2.5	0.80	0.36	**J, B**
56-23-5	Carbon Tetrachloride	**420**	2.5	0.80	0.35	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
V = The ending continuing calibration verification standard was outside (biased low) the specified limits for this compound.
B = Analyte detected in both the sample and associated method blank.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV128-150-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-017

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.0030 Liter(s)
Container ID: 1SC00411

Initial Pressure (psig): -3.91 Final Pressure (psig): 5.57

Container Dilution Factor: 1.88

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**3.4**	5.2	1.6	0.71	**J**
75-27-4	Bromodichloromethane	0.80	2.5	0.80	0.36	**U**
79-01-6	Trichloroethene	**64**	2.5	0.80	0.34	
123-91-1	1,4-Dioxane	0.80	2.5	0.80	0.30	**U**
142-82-5	n-Heptane	**0.46**	2.5	1.5	0.40	**J**
108-10-1	4-Methyl-2-pentanone	**0.79**	2.5	0.80	0.34	**J**
108-88-3	Toluene	**1.3**	2.5	0.80	0.31	**J**
591-78-6	2-Hexanone	**3.2**	2.5	0.80	0.31	
124-48-1	Dibromochloromethane	0.80	2.5	0.80	0.33	**U**
106-93-4	1,2-Dibromoethane	0.80	2.5	0.80	0.29	**U**
127-18-4	Tetrachloroethene	**2.7**	2.4	0.80	0.32	
100-41-4	Ethylbenzene	**0.74**	2.5	0.80	0.35	**J**
179601-23-1	m,p-Xylenes	**2.5**	5.2	1.6	0.66	**J**
75-25-2	Bromoform	1.5	2.5	1.5	0.52	**U**
100-42-5	Styrene	1.5	2.5	1.5	0.40	**U**
95-47-6	o-Xylene	**1.0**	2.5	0.80	0.36	**J**
108-67-8	1,3,5-Trimethylbenzene	**1.2**	2.5	0.80	0.36	**J**
95-63-6	1,2,4-Trimethylbenzene	**5.9**	2.5	0.80	0.35	
120-82-1	1,2,4-Trichlorobenzene	1.5	2.5	1.5	0.61	**U**
91-20-3	Naphthalene	**3.2**	2.4	1.5	0.61	
1330-20-7	Xylenes, Total	**3.6**	5.2	1.6	0.66	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV128-250-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-018

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0050 Liter(s)
Test Notes:
Container ID: 1SC00875

Initial Pressure (psig): -3.39 Final Pressure (psig): 5.90

Container Dilution Factor: 1.82

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	120	190	120	47	**U, V**
75-71-8	Dichlorodifluoromethane (CFC 12)	**350**	190	120	32	
74-87-3	Chloromethane	120	190	120	31	**U**
75-01-4	Vinyl Chloride	62	200	62	21	**U**
106-99-0	1,3-Butadiene	**61**	190	120	32	**J, B**
75-00-3	Chloroethane	120	200	120	24	**U**
64-17-5	Ethanol	300	1,900	300	130	**U, V**
67-64-1	Acetone	980	1,900	980	440	**U**
75-69-4	Trichlorofluoromethane	**39**	190	120	29	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	230	760	230	80	**U**
75-09-2	Methylene Chloride	120	190	120	55	**U**
76-13-1	Trichlorotrifluoroethane	**220**	200	62	28	
75-15-0	Carbon Disulfide	200	400	200	58	**U**
75-34-3	1,1-Dichloroethane	120	200	120	28	**U**
78-93-3	2-Butanone (MEK)	120	400	120	40	**U**
141-78-6	Ethyl Acetate	240	400	240	100	**U**
110-54-3	n-Hexane	**12,000**	200	120	40	
67-66-3	Chloroform	**56**	200	62	26	**J**
109-99-9	Tetrahydrofuran (THF)	62	200	62	24	**U**
107-06-2	1,2-Dichloroethane	62	200	62	21	**U**
71-43-2	Benzene	**31**	190	62	28	**J, B**
56-23-5	Carbon Tetrachloride	62	190	62	27	**U**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
V = The ending continuing calibration verification standard was outside (biased low) the specified limits for this compound.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV128-250-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-018

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0050 Liter(s)
Test Notes:
Container ID: 1SC00875

Initial Pressure (psig): -3.39 Final Pressure (psig): 5.90

Container Dilution Factor: 1.82

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**48,000**	400	120	55	
75-27-4	Bromodichloromethane	62	200	62	28	**U**
79-01-6	Trichloroethene	62	200	62	26	**U**
123-91-1	1,4-Dioxane	62	200	62	23	**U**
142-82-5	n-Heptane	**5,000**	200	120	31	
108-10-1	4-Methyl-2-pentanone	62	190	62	27	**U**
108-88-3	Toluene	62	200	62	24	**U**
591-78-6	2-Hexanone	62	200	62	24	**U**
124-48-1	Dibromochloromethane	62	200	62	25	**U**
106-93-4	1,2-Dibromoethane	62	200	62	23	**U**
127-18-4	Tetrachloroethene	62	190	62	25	**U**
100-41-4	Ethylbenzene	**46**	200	62	27	**J**
179601-23-1	m,p-Xylenes	**110**	400	120	51	**J**
75-25-2	Bromoform	120	200	120	40	**U**
100-42-5	Styrene	120	190	120	31	**U**
95-47-6	o-Xylene	62	200	62	28	**U**
108-67-8	1,3,5-Trimethylbenzene	62	190	62	28	**U**
95-63-6	1,2,4-Trimethylbenzene	62	200	62	27	**U**
120-82-1	1,2,4-Trichlorobenzene	120	200	120	47	**U**
91-20-3	Naphthalene	110	190	110	47	**U**
1330-20-7	Xylenes, Total	**110**	400	120	51	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV128-350-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-019

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao/Topacio De Leon Date Analyzed: 4/20/20 & 4/24/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0010 Liter(s)
Test Notes: 0.00010 Liter(s)
Container ID: 1SC00473

Initial Pressure (psig): -3.84 Final Pressure (psig): 5.53

Container Dilution Factor: 1.86

CAS #	Compound	Result µg/m³		LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**9,500**		990	600	240	**B, V**
75-71-8	Dichlorodifluoromethane (CFC 12)	**3,300**		990	600	160	
74-87-3	Chloromethane		600	990	600	160	**U**
75-01-4	Vinyl Chloride		320	1,000	320	110	**U**
106-99-0	1,3-Butadiene		600	990	600	160	**U**
75-00-3	Chloroethane		600	1,000	600	120	**U**
64-17-5	Ethanol		1,500	9,700	1,500	690	**U, V**
67-64-1	Acetone		5,000	9,900	5,000	2,200	**U**
75-69-4	Trichlorofluoromethane	**470**		990	600	150	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)		1,200	3,900	1,200	410	**U**
75-09-2	Methylene Chloride		600	990	600	280	**U**
76-13-1	Trichlorotrifluoroethane	**270**		1,000	320	140	**J**
75-15-0	Carbon Disulfide		1,000	2,000	1,000	300	**U**
75-34-3	1,1-Dichloroethane		610	1,000	610	150	**U**
78-93-3	2-Butanone (MEK)		600	2,000	600	200	**U**
141-78-6	Ethyl Acetate		1,200	2,000	1,200	520	**U**
110-54-3	n-Hexane	**220,000**		10,000	6,000	2,000	**D**
67-66-3	Chloroform		320	1,000	320	130	**U**
109-99-9	Tetrahydrofuran (THF)		320	1,000	320	120	**U**
107-06-2	1,2-Dichloroethane		320	1,000	320	110	**U**
71-43-2	Benzene	**61,000**		990	320	140	**B**
56-23-5	Carbon Tetrachloride		320	990	320	140	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
V = The ending continuing calibration verification standard was outside (biased low) the specified limits for this compound.
B = Analyte detected in both the sample and associated method blank.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV128-350-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-019

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao/Topacio De Leon Date Analyzed: 4/20/20 & 4/24/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0010 Liter(s)
Test Notes: 0.00010 Liter(s)
Container ID: 1SC00473

Initial Pressure (psig): -3.84 Final Pressure (psig): 5.53

Container Dilution Factor: 1.86

CAS #	Compound	Result µg/m³		LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**390,000**		2,000	630	280	
75-27-4	Bromodichloromethane		320	1,000	320	140	**U**
79-01-6	Trichloroethene		320	1,000	320	130	**U**
123-91-1	1,4-Dioxane		320	1,000	320	120	**U**
142-82-5	n-Heptane	**320,000**		10,000	6,000	1,600	**D**
108-10-1	4-Methyl-2-pentanone		320	990	320	140	**U**
108-88-3	Toluene	**320,000**		10,000	3,200	1,200	**D**
591-78-6	2-Hexanone		320	1,000	320	120	**U**
124-48-1	Dibromochloromethane		320	1,000	320	130	**U**
106-93-4	1,2-Dibromoethane		320	1,000	320	120	**U**
127-18-4	Tetrachloroethene		320	970	320	130	**U**
100-41-4	Ethylbenzene	**27,000**		1,000	320	140	
179601-23-1	m,p-Xylenes	**140,000**		2,000	630	260	
75-25-2	Bromoform		600	1,000	600	200	**U**
100-42-5	Styrene		600	990	600	160	**U**
95-47-6	o-Xylene	**49,000**		1,000	320	140	
108-67-8	1,3,5-Trimethylbenzene	**4,100**		990	320	140	
95-63-6	1,2,4-Trimethylbenzene	**3,800**		1,000	320	140	
120-82-1	1,2,4-Trichlorobenzene		600	1,000	600	240	**U**
91-20-3	Naphthalene		580	970	580	240	**U**
1330-20-7	Xylenes, Total	**190,000**		2,000	630	260	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV128-450-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-020

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao/Topacio De Leon Date Analyzed: 4/20/20 & 4/24/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00030 Liter(s)
Test Notes: 0.00010 Liter(s)
Container ID: 1SC01216

Initial Pressure (psig): -4.89 Final Pressure (psig): 5.74

Container Dilution Factor: 2.08

CAS #	Compound	Result µg/m³		LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**14,000**		3,700	2,200	900	**B, V**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2,900**		3,700	2,200	600	**J**
74-87-3	Chloromethane		2,200	3,700	2,200	600	**U**
75-01-4	Vinyl Chloride		1,200	3,700	1,200	400	**U**
106-99-0	1,3-Butadiene	**1,200**		3,700	2,200	610	**J, B**
75-00-3	Chloroethane		2,200	3,700	2,200	460	**U**
64-17-5	Ethanol		5,800	36,000	5,800	2,600	**U, V**
67-64-1	Acetone		19,000	37,000	19,000	8,300	**U**
75-69-4	Trichlorofluoromethane	**590**		3,700	2,200	560	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)		4,400	15,000	4,400	1,500	**U**
75-09-2	Methylene Chloride		2,200	3,700	2,200	1,000	**U**
76-13-1	Trichlorotrifluoroethane		1,200	3,700	1,200	530	**U**
75-15-0	Carbon Disulfide		3,700	7,600	3,700	1,100	**U**
75-34-3	1,1-Dichloroethane		2,300	3,800	2,300	540	**U**
78-93-3	2-Butanone (MEK)	**1,300**		7,600	2,200	760	**J**
141-78-6	Ethyl Acetate		4,500	7,600	4,500	1,900	**U**
110-54-3	n-Hexane	**630,000**		3,700	2,200	760	
67-66-3	Chloroform		1,200	3,700	1,200	490	**U**
109-99-9	Tetrahydrofuran (THF)		1,200	3,800	1,200	460	**U**
107-06-2	1,2-Dichloroethane		1,200	3,700	1,200	410	**U**
71-43-2	Benzene	**16,000**		3,700	1,200	530	**B**
56-23-5	Carbon Tetrachloride		1,200	3,700	1,200	510	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
V = The ending continuing calibration verification standard was outside (biased low) the specified limits for this compound.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV128-450-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-020

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao/Topacio De Leon Date Analyzed: 4/20/20 & 4/24/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00030 Liter(s)
Test Notes: 0.00010 Liter(s)
Container ID: 1SC01216

Initial Pressure (psig): -4.89 Final Pressure (psig): 5.74

Container Dilution Factor: 2.08

CAS #	Compound	Result µg/m³		LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**780,000**		7,600	2,400	1,000	
75-27-4	Bromodichloromethane		1,200	3,700	1,200	530	**U**
79-01-6	Trichloroethene		1,200	3,700	1,200	500	**U**
123-91-1	1,4-Dioxane		1,200	3,700	1,200	440	**U**
142-82-5	n-Heptane	**1,400,000**		11,000	6,700	1,800	**D**
108-10-1	4-Methyl-2-pentanone	**2,900**		3,700	1,200	510	**J**
108-88-3	Toluene	**71,000**		3,700	1,200	450	
591-78-6	2-Hexanone		1,200	3,700	1,200	460	**U**
124-48-1	Dibromochloromethane		1,200	3,700	1,200	490	**U**
106-93-4	1,2-Dibromoethane		1,200	3,700	1,200	430	**U**
127-18-4	Tetrachloroethene		1,200	3,600	1,200	480	**U**
100-41-4	Ethylbenzene	**5,700**		3,700	1,200	520	
179601-23-1	m,p-Xylenes	**150,000**		7,600	2,400	970	
75-25-2	Bromoform		2,200	3,700	2,200	760	**U**
100-42-5	Styrene		2,200	3,700	2,200	600	**U**
95-47-6	o-Xylene	**37,000**		3,700	1,200	530	
108-67-8	1,3,5-Trimethylbenzene	**3,100**		3,700	1,200	530	**J**
95-63-6	1,2,4-Trimethylbenzene	**3,900**		3,700	1,200	510	
120-82-1	1,2,4-Trichlorobenzene		2,200	3,700	2,200	900	**U**
91-20-3	Naphthalene		2,100	3,600	2,100	900	**U**
1330-20-7	Xylenes, Total	**190,000**		7,600	2,400	970	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200417-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 4/17/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	0.32	0.53	0.32	0.13	U
75-71-8	Dichlorodifluoromethane (CFC 12)	0.32	0.53	0.32	0.087	U
74-87-3	Chloromethane	0.32	0.53	0.32	0.086	U
75-01-4	Vinyl Chloride	0.17	0.54	0.17	0.057	U
106-99-0	1,3-Butadiene	0.32	0.53	0.32	0.088	U
75-00-3	Chloroethane	0.32	0.54	0.32	0.066	U
64-17-5	Ethanol	0.83	5.2	0.83	0.37	U
67-64-1	Acetone	2.7	5.3	2.7	1.2	U
75-69-4	Trichlorofluoromethane	0.32	0.53	0.32	0.081	U
67-63-0	2-Propanol (Isopropyl Alcohol)	0.63	2.1	0.63	0.22	U
75-09-2	Methylene Chloride	0.32	0.53	0.32	0.15	U
76-13-1	Trichlorotrifluoroethane	0.17	0.54	0.17	0.076	U
75-15-0	Carbon Disulfide	0.54	1.1	0.54	0.16	U
75-34-3	1,1-Dichloroethane	0.33	0.55	0.33	0.078	U
78-93-3	2-Butanone (MEK)	0.32	1.1	0.32	0.11	U
141-78-6	Ethyl Acetate	0.65	1.1	0.65	0.28	U
110-54-3	n-Hexane	0.32	0.54	0.32	0.11	U
67-66-3	Chloroform	0.17	0.54	0.17	0.071	U
109-99-9	Tetrahydrofuran (THF)	0.17	0.55	0.17	0.067	U
107-06-2	1,2-Dichloroethane	0.17	0.54	0.17	0.059	U
71-43-2	Benzene	0.17	0.53	0.17	0.077	U
56-23-5	Carbon Tetrachloride	0.17	0.53	0.17	0.074	U

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200417-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 4/17/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	0.34	1.1	0.34	0.15	**U**
75-27-4	Bromodichloromethane	0.17	0.54	0.17	0.077	**U**
79-01-6	Trichloroethene	0.17	0.54	0.17	0.072	**U**
123-91-1	1,4-Dioxane	0.17	0.54	0.17	0.063	**U**
142-82-5	n-Heptane	0.32	0.54	0.32	0.085	**U**
108-10-1	4-Methyl-2-pentanone	0.17	0.53	0.17	0.073	**U**
108-88-3	Toluene	0.17	0.54	0.17	0.065	**U**
591-78-6	2-Hexanone	0.17	0.54	0.17	0.066	**U**
124-48-1	Dibromochloromethane	0.17	0.54	0.17	0.070	**U**
106-93-4	1,2-Dibromoethane	0.17	0.54	0.17	0.062	**U**
127-18-4	Tetrachloroethene	0.17	0.52	0.17	0.069	**U**
100-41-4	Ethylbenzene	0.17	0.54	0.17	0.075	**U**
179601-23-1	m,p-Xylenes	0.34	1.1	0.34	0.14	**U**
75-25-2	Bromoform	0.32	0.54	0.32	0.11	**U**
100-42-5	Styrene	0.32	0.53	0.32	0.086	**U**
95-47-6	o-Xylene	0.17	0.54	0.17	0.077	**U**
108-67-8	1,3,5-Trimethylbenzene	0.17	0.53	0.17	0.077	**U**
95-63-6	1,2,4-Trimethylbenzene	0.17	0.54	0.17	0.074	**U**
120-82-1	1,2,4-Trichlorobenzene	0.32	0.54	0.32	0.13	**U**
91-20-3	Naphthalene	0.31	0.52	0.31	0.13	**U**
1330-20-7	Xylenes, Total	0.34	1.1	0.34	0.14	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200420-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**0.18**	0.53	0.32	0.13	**J, V**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.32	0.53	0.32	0.087	**U**
74-87-3	Chloromethane	0.32	0.53	0.32	0.086	**U**
75-01-4	Vinyl Chloride	0.17	0.54	0.17	0.057	**U**
106-99-0	1,3-Butadiene	**0.40**	0.53	0.32	0.088	**J**
75-00-3	Chloroethane	0.32	0.54	0.32	0.066	**U**
64-17-5	Ethanol	0.83	5.2	0.83	0.37	**U, V**
67-64-1	Acetone	2.7	5.3	2.7	1.2	**U**
75-69-4	Trichlorofluoromethane	0.32	0.53	0.32	0.081	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.63	2.1	0.63	0.22	**U**
75-09-2	Methylene Chloride	0.32	0.53	0.32	0.15	**U**
76-13-1	Trichlorotrifluoroethane	0.17	0.54	0.17	0.076	**U**
75-15-0	Carbon Disulfide	0.54	1.1	0.54	0.16	**U**
75-34-3	1,1-Dichloroethane	0.33	0.55	0.33	0.078	**U**
78-93-3	2-Butanone (MEK)	0.32	1.1	0.32	0.11	**U**
141-78-6	Ethyl Acetate	0.65	1.1	0.65	0.28	**U**
110-54-3	n-Hexane	0.32	0.54	0.32	0.11	**U**
67-66-3	Chloroform	0.17	0.54	0.17	0.071	**U**
109-99-9	Tetrahydrofuran (THF)	0.17	0.55	0.17	0.067	**U**
107-06-2	1,2-Dichloroethane	0.17	0.54	0.17	0.059	**U**
71-43-2	Benzene	**0.11**	0.53	0.17	0.077	**J**
56-23-5	Carbon Tetrachloride	0.17	0.53	0.17	0.074	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
V = The ending continuing calibration verification standard was outside (biased low) the specified limits for this compound.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200420-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	0.34	1.1	0.34	0.15	U
75-27-4	Bromodichloromethane	0.17	0.54	0.17	0.077	U
79-01-6	Trichloroethene	0.17	0.54	0.17	0.072	U
123-91-1	1,4-Dioxane	0.17	0.54	0.17	0.063	U
142-82-5	n-Heptane	0.32	0.54	0.32	0.085	U
108-10-1	4-Methyl-2-pentanone	0.17	0.53	0.17	0.073	U
108-88-3	Toluene	0.17	0.54	0.17	0.065	U
591-78-6	2-Hexanone	0.17	0.54	0.17	0.066	U
124-48-1	Dibromochloromethane	0.17	0.54	0.17	0.070	U
106-93-4	1,2-Dibromoethane	0.17	0.54	0.17	0.062	U
127-18-4	Tetrachloroethene	0.17	0.52	0.17	0.069	U
100-41-4	Ethylbenzene	0.17	0.54	0.17	0.075	U
179601-23-1	m,p-Xylenes	0.34	1.1	0.34	0.14	U
75-25-2	Bromoform	0.32	0.54	0.32	0.11	U
100-42-5	Styrene	0.32	0.53	0.32	0.086	U
95-47-6	o-Xylene	0.17	0.54	0.17	0.077	U
108-67-8	1,3,5-Trimethylbenzene	0.17	0.53	0.17	0.077	U
95-63-6	1,2,4-Trimethylbenzene	0.17	0.54	0.17	0.074	U
120-82-1	1,2,4-Trichlorobenzene	0.32	0.54	0.32	0.13	U
91-20-3	Naphthalene	0.31	0.52	0.31	0.13	U
1330-20-7	Xylenes, Total	0.34	1.1	0.34	0.14	U

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200424-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 4/24/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	0.32	0.53	0.32	0.13	U
75-71-8	Dichlorodifluoromethane (CFC 12)	0.32	0.53	0.32	0.087	U
74-87-3	Chloromethane	0.32	0.53	0.32	0.086	U
75-01-4	Vinyl Chloride	0.17	0.54	0.17	0.057	U
106-99-0	1,3-Butadiene	0.32	0.53	0.32	0.088	U
75-00-3	Chloroethane	0.32	0.54	0.32	0.066	U
64-17-5	Ethanol	0.83	5.2	0.83	0.37	U
67-64-1	Acetone	2.7	5.3	2.7	1.2	U
75-69-4	Trichlorofluoromethane	0.32	0.53	0.32	0.081	U
67-63-0	2-Propanol (Isopropyl Alcohol)	0.63	2.1	0.63	0.22	U
75-09-2	Methylene Chloride	0.32	0.53	0.32	0.15	U
76-13-1	Trichlorotrifluoroethane	0.17	0.54	0.17	0.076	U
75-15-0	Carbon Disulfide	0.54	1.1	0.54	0.16	U
75-34-3	1,1-Dichloroethane	0.33	0.55	0.33	0.078	U
78-93-3	2-Butanone (MEK)	0.32	1.1	0.32	0.11	U
141-78-6	Ethyl Acetate	0.65	1.1	0.65	0.28	U
110-54-3	n-Hexane	0.32	0.54	0.32	0.11	U
67-66-3	Chloroform	0.17	0.54	0.17	0.071	U
109-99-9	Tetrahydrofuran (THF)	0.17	0.55	0.17	0.067	U
107-06-2	1,2-Dichloroethane	0.17	0.54	0.17	0.059	U
71-43-2	Benzene	0.17	0.53	0.17	0.077	U
56-23-5	Carbon Tetrachloride	0.17	0.53	0.17	0.074	U

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200424-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 4/24/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	0.34	1.1	0.34	0.15	U
75-27-4	Bromodichloromethane	0.17	0.54	0.17	0.077	U
79-01-6	Trichloroethene	0.17	0.54	0.17	0.072	U
123-91-1	1,4-Dioxane	0.17	0.54	0.17	0.063	U
142-82-5	n-Heptane	0.32	0.54	0.32	0.085	U
108-10-1	4-Methyl-2-pentanone	0.17	0.53	0.17	0.073	U
108-88-3	Toluene	0.17	0.54	0.17	0.065	U
591-78-6	2-Hexanone	0.17	0.54	0.17	0.066	U
124-48-1	Dibromochloromethane	0.17	0.54	0.17	0.070	U
106-93-4	1,2-Dibromoethane	0.17	0.54	0.17	0.062	U
127-18-4	Tetrachloroethene	0.17	0.52	0.17	0.069	U
100-41-4	Ethylbenzene	0.17	0.54	0.17	0.075	U
179601-23-1	m,p-Xylenes	0.34	1.1	0.34	0.14	U
75-25-2	Bromoform	0.32	0.54	0.32	0.11	U
100-42-5	Styrene	0.32	0.53	0.32	0.086	U
95-47-6	o-Xylene	0.17	0.54	0.17	0.077	U
108-67-8	1,3,5-Trimethylbenzene	0.17	0.53	0.17	0.077	U
95-63-6	1,2,4-Trimethylbenzene	0.17	0.54	0.17	0.074	U
120-82-1	1,2,4-Trichlorobenzene	0.32	0.54	0.32	0.13	U
91-20-3	Naphthalene	0.31	0.52	0.31	0.13	U
1330-20-7	Xylenes, Total	0.34	1.1	0.34	0.14	U

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Project ID: P2002027

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date(s) Collected: 4/7 - 4/8/20
Analyst: Topacio De Leon Date(s) Received: 4/14/20
Sampling Media: 1.0 L Silonite Summa Canister(s) / 1.0 L Summa Canister(s) Date(s) Analyzed: 4/17 - 4/24/20
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P200417-MB	**102**	**101**	**113**	70-130	
Method Blank	P200420-MB	**110**	**101**	**112**	70-130	
Method Blank	P200424-MB	**98**	**101**	**100**	70-130	
Lab Control Sample	P200417-LCS	**101**	**100**	**115**	70-130	
Lab Control Sample	P200420-LCS	**109**	**100**	**113**	70-130	
Lab Control Sample	P200424-LCS	**96**	**102**	**102**	70-130	
Duplicate Lab Control Sample	P200417-DLCS	**102**	**100**	**114**	70-130	
Duplicate Lab Control Sample	P200420-DLCS	**109**	**100**	**111**	70-130	
Duplicate Lab Control Sample	P200424-DLCS	**95**	**103**	**101**	70-130	
SV114-025-202	P2002027-001	**103**	**98**	**115**	70-130	
SV114-050-202	P2002027-002	**104**	**99**	**115**	70-130	
SV114-150-202	P2002027-003	**102**	**99**	**115**	70-130	
SV114-250-202	P2002027-004	**104**	**98**	**115**	70-130	
SV114-250-602	P2002027-005	**102**	**98**	**114**	70-130	
SV114-350-202	P2002027-006	**101**	**95**	**112**	70-130	
SV114-450-202	P2002027-007	**111**	**88**	**98**	70-130	
SV116-025-202	P2002027-008	**110**	**97**	**109**	70-130	
SV116-050-202	P2002027-009	**101**	**100**	**114**	70-130	
SV116-150-202	P2002027-010	**110**	**100**	**111**	70-130	
SV116-250-202	P2002027-011	**114**	**96**	**110**	70-130	
SV116-350-602	P2002027-012	**110**	**92**	**107**	70-130	
SV116-350-202	P2002027-013	**112**	**90**	**103**	70-130	
SV116-450-202	P2002027-014	**111**	**93**	**107**	70-130	
SV128-025-202	P2002027-015	**104**	**99**	**114**	70-130	
SV128-050-202	P2002027-016	**104**	**100**	**115**	70-130	
SV128-150-202	P2002027-017	**113**	**99**	**115**	70-130	
SV128-250-202	P2002027-018	**113**	**96**	**110**	70-130	
SV128-350-202	P2002027-019	**113**	**71**	**87**	70-130	
SV128-450-202	P2002027-020	**112**	**93**	**108**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200417-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 4/17/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	210	151	155	**72**	**74**	57-136	3	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	200	202	**95**	**96**	59-128	1	25	
74-87-3	Chloromethane	212	162	173	**76**	**82**	59-132	8	25	
75-01-4	Vinyl Chloride	212	200	209	**94**	**99**	64-127	5	25	
106-99-0	1,3-Butadiene	212	211	220	**100**	**104**	66-134	4	25	
75-00-3	Chloroethane	214	167	176	**78**	**82**	63-127	5	25	
64-17-5	Ethanol	1,060	750	777	**71**	**73**	59-125	3	25	
67-64-1	Acetone	1,070	827	850	**77**	**79**	58-128	3	25	
75-69-4	Trichlorofluoromethane	212	212	215	**100**	**101**	62-126	1	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	422	350	358	**83**	**85**	52-125	2	25	
75-09-2	Methylene Chloride	210	185	188	**88**	**90**	62-115	2	25	
76-13-1	Trichlorotrifluoroethane	216	217	218	**100**	**101**	66-126	1	25	
75-15-0	Carbon Disulfide	212	186	189	**88**	**89**	57-134	1	25	
75-34-3	1,1-Dichloroethane	212	180	183	**85**	**86**	68-126	1	25	
78-93-3	2-Butanone (MEK)	212	188	191	**89**	**90**	67-130	1	25	
141-78-6	Ethyl Acetate	432	371	376	**86**	**87**	65-128	1	25	
110-54-3	n-Hexane	216	174	178	**81**	**82**	63-120	1	25	
67-66-3	Chloroform	214	204	208	**95**	**97**	68-123	2	25	
109-99-9	Tetrahydrofuran (THF)	220	193	196	**88**	**89**	64-123	1	25	
107-06-2	1,2-Dichloroethane	214	214	218	**100**	**102**	65-128	2	25	
71-43-2	Benzene	210	184	187	**88**	**89**	69-119	1	25	
56-23-5	Carbon Tetrachloride	208	227	229	**109**	**110**	68-132	0.9	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200417-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 4/17/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	422	385	390	**91**	**92**	70-117	1	25	
75-27-4	Bromodichloromethane	218	216	219	**99**	**100**	72-128	1	25	
79-01-6	Trichloroethene	216	217	220	**100**	**102**	71-123	2	25	
123-91-1	1,4-Dioxane	216	213	215	**99**	**100**	71-122	1	25	
142-82-5	n-Heptane	214	192	196	**90**	**92**	69-123	2	25	
108-10-1	4-Methyl-2-pentanone	212	189	191	**89**	**90**	67-130	1	25	
108-88-3	Toluene	212	203	205	**96**	**97**	66-119	1	25	
591-78-6	2-Hexanone	216	192	194	**89**	**90**	62-128	1	25	
124-48-1	Dibromochloromethane	214	245	245	**114**	**114**	70-130	0	25	
106-93-4	1,2-Dibromoethane	214	234	236	**109**	**110**	74-122	0.9	25	
127-18-4	Tetrachloroethene	208	225	225	**108**	**108**	66-124	0	25	
100-41-4	Ethylbenzene	212	219	220	**103**	**104**	70-124	1	25	
179601-23-1	m,p-Xylenes	426	446	448	**105**	**105**	61-134	0	25	
75-25-2	Bromoform	214	266	268	**124**	**125**	66-139	0.8	25	
100-42-5	Styrene	212	243	246	**115**	**116**	73-127	0.9	25	
95-47-6	o-Xylene	214	220	221	**103**	**103**	67-125	0	25	
108-67-8	1,3,5-Trimethylbenzene	212	225	226	**106**	**107**	67-130	0.9	25	
95-63-6	1,2,4-Trimethylbenzene	212	236	238	**111**	**112**	66-132	0.9	25	
120-82-1	1,2,4-Trichlorobenzene	216	277	280	**128**	**130**	55-142	2	25	
91-20-3	Naphthalene	212	257	262	**121**	**124**	57-138	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200420-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	210	157	173	**75**	**82**	57-136	9	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	211	217	**100**	**103**	59-128	3	25	
74-87-3	Chloromethane	212	167	180	**79**	**85**	59-132	7	25	
75-01-4	Vinyl Chloride	212	226	243	**107**	**115**	64-127	7	25	
106-99-0	1,3-Butadiene	212	244	256	**115**	**121**	66-134	5	25	
75-00-3	Chloroethane	214	171	173	**80**	**81**	63-127	1	25	
64-17-5	Ethanol	1,060	781	790	**74**	**75**	59-125	1	25	
67-64-1	Acetone	1,070	858	855	**80**	**80**	58-128	0	25	
75-69-4	Trichlorofluoromethane	212	226	224	**107**	**106**	62-126	0.9	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	422	372	367	**88**	**87**	52-125	1	25	
75-09-2	Methylene Chloride	210	189	187	**90**	**89**	62-115	1	25	
76-13-1	Trichlorotrifluoroethane	216	224	222	**104**	**103**	66-126	1	25	
75-15-0	Carbon Disulfide	212	190	188	**90**	**89**	57-134	1	25	
75-34-3	1,1-Dichloroethane	212	187	187	**88**	**88**	68-126	0	25	
78-93-3	2-Butanone (MEK)	212	192	192	**91**	**91**	67-130	0	25	
141-78-6	Ethyl Acetate	432	389	380	**90**	**88**	65-128	2	25	
110-54-3	n-Hexane	216	184	182	**85**	**84**	63-120	1	25	
67-66-3	Chloroform	214	216	213	**101**	**100**	68-123	1	25	
109-99-9	Tetrahydrofuran (THF)	220	197	194	**90**	**88**	64-123	2	25	
107-06-2	1,2-Dichloroethane	214	235	232	**110**	**108**	65-128	2	25	
71-43-2	Benzene	210	186	185	**89**	**88**	69-119	1	25	
56-23-5	Carbon Tetrachloride	208	238	235	**114**	**113**	68-132	0.9	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200420-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	422	387	381	**92**	**90**	70-117	2	25	
75-27-4	Bromodichloromethane	218	224	221	**103**	**101**	72-128	2	25	
79-01-6	Trichloroethene	216	219	216	**101**	**100**	71-123	1	25	
123-91-1	1,4-Dioxane	216	213	211	**99**	**98**	71-122	1	25	
142-82-5	n-Heptane	214	194	192	**91**	**90**	69-123	1	25	
108-10-1	4-Methyl-2-pentanone	212	191	189	**90**	**89**	67-130	1	25	
108-88-3	Toluene	212	205	201	**97**	**95**	66-119	2	25	
591-78-6	2-Hexanone	216	197	196	**91**	**91**	62-128	0	25	
124-48-1	Dibromochloromethane	214	248	244	**116**	**114**	70-130	2	25	
106-93-4	1,2-Dibromoethane	214	235	231	**110**	**108**	74-122	2	25	
127-18-4	Tetrachloroethene	208	225	220	**108**	**106**	66-124	2	25	
100-41-4	Ethylbenzene	212	221	218	**104**	**103**	70-124	1	25	
179601-23-1	m,p-Xylenes	426	456	439	**107**	**103**	61-134	4	25	
75-25-2	Bromoform	214	268	264	**125**	**123**	66-139	2	25	
100-42-5	Styrene	212	243	240	**115**	**113**	73-127	2	25	
95-47-6	o-Xylene	214	224	221	**105**	**103**	67-125	2	25	
108-67-8	1,3,5-Trimethylbenzene	212	228	225	**108**	**106**	67-130	2	25	
95-63-6	1,2,4-Trimethylbenzene	212	243	239	**115**	**113**	66-132	2	25	
120-82-1	1,2,4-Trichlorobenzene	216	275	273	**127**	**126**	55-142	0.8	25	
91-20-3	Naphthalene	212	256	255	**121**	**120**	57-138	0.8	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200424-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 4/24/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	210	211	209	**100**	**100**	57-136	0	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	212	207	**101**	**99**	59-128	2	25	
74-87-3	Chloromethane	212	225	222	**106**	**105**	59-132	0.9	25	
75-01-4	Vinyl Chloride	212	222	220	**105**	**104**	64-127	1	25	
106-99-0	1,3-Butadiene	212	244	244	**115**	**115**	66-134	0	25	
75-00-3	Chloroethane	214	207	211	**97**	**99**	63-127	2	25	
64-17-5	Ethanol	1,060	986	989	**93**	**93**	59-125	0	25	
67-64-1	Acetone	1,070	1040	1040	**97**	**97**	58-128	0	25	
75-69-4	Trichlorofluoromethane	212	208	206	**98**	**97**	62-126	1	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	422	440	443	**104**	**105**	52-125	1	25	
75-09-2	Methylene Chloride	210	217	215	**103**	**102**	62-115	1	25	
76-13-1	Trichlorotrifluoroethane	216	215	211	**100**	**98**	66-126	2	25	
75-15-0	Carbon Disulfide	212	223	220	**105**	**104**	57-134	1	25	
75-34-3	1,1-Dichloroethane	212	210	208	**99**	**98**	68-126	1	25	
78-93-3	2-Butanone (MEK)	212	230	232	**108**	**109**	67-130	0.9	25	
141-78-6	Ethyl Acetate	432	473	475	**109**	**110**	65-128	0.9	25	
110-54-3	n-Hexane	216	216	216	**100**	**100**	63-120	0	25	
67-66-3	Chloroform	214	215	212	**100**	**99**	68-123	1	25	
109-99-9	Tetrahydrofuran (THF)	220	226	221	**103**	**100**	64-123	3	25	
107-06-2	1,2-Dichloroethane	214	218	214	**102**	**100**	65-128	2	25	
71-43-2	Benzene	210	213	211	**101**	**100**	69-119	1	25	
56-23-5	Carbon Tetrachloride	208	212	209	**102**	**100**	68-132	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200424-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 4/24/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	422	435	431	**103**	**102**	70-117	1	25	
75-27-4	Bromodichloromethane	218	218	216	**100**	**99**	72-128	1	25	
79-01-6	Trichloroethene	216	222	221	**103**	**102**	71-123	1	25	
123-91-1	1,4-Dioxane	216	237	234	**110**	**108**	71-122	2	25	
142-82-5	n-Heptane	214	223	221	**104**	**103**	69-123	1	25	
108-10-1	4-Methyl-2-pentanone	212	235	234	**111**	**110**	67-130	0.9	25	
108-88-3	Toluene	212	230	231	**108**	**109**	66-119	0.9	25	
591-78-6	2-Hexanone	216	268	271	**124**	**125**	62-128	0.8	25	
124-48-1	Dibromochloromethane	214	244	242	**114**	**113**	70-130	0.9	25	
106-93-4	1,2-Dibromoethane	214	243	243	**114**	**114**	74-122	0	25	
127-18-4	Tetrachloroethene	208	221	222	**106**	**107**	66-124	0.9	25	
100-41-4	Ethylbenzene	212	234	231	**110**	**109**	70-124	0.9	25	
179601-23-1	m,p-Xylenes	426	456	458	**107**	**108**	61-134	0.9	25	
75-25-2	Bromoform	214	248	250	**116**	**117**	66-139	0.9	25	
100-42-5	Styrene	212	246	248	**116**	**117**	73-127	0.9	25	
95-47-6	o-Xylene	214	230	231	**107**	**108**	67-125	0.9	25	
108-67-8	1,3,5-Trimethylbenzene	212	225	227	**106**	**107**	67-130	0.9	25	
95-63-6	1,2,4-Trimethylbenzene	212	233	233	**110**	**110**	66-132	0	25	
120-82-1	1,2,4-Trichlorobenzene	216	260	261	**120**	**121**	55-142	0.8	25	
91-20-3	Naphthalene	212	239	240	**113**	**113**	57-138	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV114-025-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-001

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/17/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00135

Initial Pressure (psig): -4.11 Final Pressure (psig): 5.46

Container Dilution Factor: 1.90

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.42**	1.5	0.88	0.36	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**18**	0.51	0.31	0.084	
74-87-3	Chloromethane	0.74	1.2	0.74	0.20	**U**
75-01-4	Vinyl Chloride	0.32	1.0	0.32	0.11	**U**
106-99-0	1,3-Butadiene	0.69	1.1	0.69	0.19	**U**
75-00-3	Chloroethane	0.58	0.97	0.58	0.12	**U**
64-17-5	Ethanol	2.1	13	2.1	0.93	**U**
67-64-1	Acetone	**4.9**	11	5.4	2.4	**J**
75-69-4	Trichlorofluoromethane	**2.2**	0.45	0.27	0.068	
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.64**	4.1	1.2	0.43	**J**
75-09-2	Methylene Chloride	0.44	0.72	0.44	0.21	**U**
76-13-1	Trichlorotrifluoroethane	**1.6**	0.33	0.11	0.047	
75-15-0	Carbon Disulfide	**2.6**	1.7	0.82	0.24	
75-34-3	1,1-Dichloroethane	0.39	0.65	0.39	0.092	**U**
78-93-3	2-Butanone (MEK)	**0.50**	1.8	0.52	0.18	**J**
141-78-6	Ethyl Acetate	0.86	1.5	0.86	0.37	**U**
110-54-3	n-Hexane	**0.63**	0.73	0.43	0.15	**J**
67-66-3	Chloroform	**0.078**	0.53	0.17	0.069	**J**
109-99-9	Tetrahydrofuran (THF)	**0.48**	0.89	0.27	0.11	**J**
107-06-2	1,2-Dichloroethane	0.20	0.63	0.20	0.069	**U**
71-43-2	Benzene	**0.30**	0.79	0.25	0.11	**J**
56-23-5	Carbon Tetrachloride	**1.3**	0.40	0.13	0.056	

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV114-025-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-001

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/17/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00135

Initial Pressure (psig): -4.11 Final Pressure (psig): 5.46

Container Dilution Factor: 1.90

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**0.61**	1.5	0.47	0.21	**J**
75-27-4	Bromodichloromethane	0.12	0.38	0.12	0.055	**U**
79-01-6	Trichloroethene	0.15	0.48	0.15	0.064	**U**
123-91-1	1,4-Dioxane	**0.44**	0.71	0.22	0.083	**J**
142-82-5	n-Heptane	**2.6**	0.63	0.37	0.099	
108-10-1	4-Methyl-2-pentanone	**0.20**	0.61	0.20	0.085	**J**
108-88-3	Toluene	**1.9**	0.68	0.21	0.082	
591-78-6	2-Hexanone	0.20	0.63	0.20	0.077	**U**
124-48-1	Dibromochloromethane	0.095	0.30	0.095	0.039	**U**
106-93-4	1,2-Dibromoethane	0.11	0.33	0.11	0.038	**U**
127-18-4	Tetrachloroethene	**0.074**	0.36	0.12	0.048	**J**
100-41-4	Ethylbenzene	**0.36**	0.59	0.19	0.082	**J**
179601-23-1	m,p-Xylenes	**8.8**	1.2	0.37	0.15	
75-25-2	Bromoform	0.15	0.25	0.15	0.051	**U**
100-42-5	Styrene	0.36	0.59	0.36	0.096	**U**
95-47-6	o-Xylene	**2.8**	0.59	0.19	0.084	
108-67-8	1,3,5-Trimethylbenzene	**0.56**	0.51	0.16	0.074	
95-63-6	1,2,4-Trimethylbenzene	**1.4**	0.52	0.16	0.072	
120-82-1	1,2,4-Trichlorobenzene	0.20	0.35	0.20	0.083	**U**
91-20-3	Naphthalene	**0.46**	0.47	0.28	0.12	**J**
1330-20-7	Xylenes, Total	**12**	1.2	0.37	0.15	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV114-050-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-002

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/17/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00262

Initial Pressure (psig): -3.03 Final Pressure (psig): 6.71

Container Dilution Factor: 1.83

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.35**	1.4	0.85	0.35	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**37**	0.49	0.30	0.081	
74-87-3	Chloromethane	0.71	1.2	0.71	0.19	**U**
75-01-4	Vinyl Chloride	0.30	0.97	0.30	0.10	**U**
106-99-0	1,3-Butadiene	0.66	1.1	0.66	0.18	**U**
75-00-3	Chloroethane	0.56	0.94	0.56	0.11	**U**
64-17-5	Ethanol	**1.1**	13	2.0	0.90	**J**
67-64-1	Acetone	**6.1**	10	5.2	2.3	**J**
75-69-4	Trichlorofluoromethane	**4.3**	0.43	0.26	0.066	
67-63-0	2-Propanol (Isopropyl Alcohol)	1.2	3.9	1.2	0.41	**U**
75-09-2	Methylene Chloride	0.42	0.70	0.42	0.20	**U**
76-13-1	Trichlorotrifluoroethane	**2.9**	0.32	0.10	0.045	
75-15-0	Carbon Disulfide	**0.98**	1.6	0.79	0.24	**J**
75-34-3	1,1-Dichloroethane	0.37	0.62	0.37	0.088	**U**
78-93-3	2-Butanone (MEK)	**1.3**	1.7	0.50	0.17	**J**
141-78-6	Ethyl Acetate	0.83	1.4	0.83	0.36	**U**
110-54-3	n-Hexane	**0.36**	0.70	0.42	0.14	**J**
67-66-3	Chloroform	**0.14**	0.51	0.16	0.067	**J**
109-99-9	Tetrahydrofuran (THF)	**13**	0.85	0.26	0.10	
107-06-2	1,2-Dichloroethane	0.19	0.61	0.19	0.067	**U**
71-43-2	Benzene	**0.13**	0.76	0.24	0.11	**J**
56-23-5	Carbon Tetrachloride	**2.7**	0.39	0.12	0.054	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV114-050-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-002

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/17/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00262

Initial Pressure (psig): -3.03 Final Pressure (psig): 6.71

Container Dilution Factor: 1.83

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**0.33**	1.5	0.45	0.20	**J**
75-27-4	Bromodichloromethane	0.12	0.37	0.12	0.053	**U**
79-01-6	Trichloroethene	0.14	0.46	0.14	0.061	**U**
123-91-1	1,4-Dioxane	**0.30**	0.69	0.22	0.080	**J**
142-82-5	n-Heptane	**1.6**	0.60	0.36	0.095	
108-10-1	4-Methyl-2-pentanone	**0.12**	0.59	0.19	0.082	**J**
108-88-3	Toluene	**1.2**	0.66	0.21	0.079	
591-78-6	2-Hexanone	0.19	0.60	0.19	0.074	**U**
124-48-1	Dibromochloromethane	0.091	0.29	0.091	0.038	**U**
106-93-4	1,2-Dibromoethane	0.10	0.32	0.10	0.037	**U**
127-18-4	Tetrachloroethene	**0.16**	0.35	0.11	0.047	**J**
100-41-4	Ethylbenzene	**0.23**	0.57	0.18	0.079	**J**
179601-23-1	m,p-Xylenes	**4.4**	1.2	0.36	0.15	
75-25-2	Bromoform	0.14	0.24	0.14	0.049	**U**
100-42-5	Styrene	0.34	0.57	0.34	0.092	**U**
95-47-6	o-Xylene	**1.3**	0.57	0.18	0.081	
108-67-8	1,3,5-Trimethylbenzene	**0.34**	0.49	0.16	0.072	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.94**	0.50	0.16	0.069	
120-82-1	1,2,4-Trichlorobenzene	0.20	0.33	0.20	0.080	**U**
91-20-3	Naphthalene	**0.23**	0.45	0.27	0.11	**J**
1330-20-7	Xylenes, Total	**5.7**	1.2	0.36	0.15	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV114-150-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-003

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/17/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00742

Initial Pressure (psig): -3.07 Final Pressure (psig): 5.81

Container Dilution Factor: 1.76

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.82	1.4	0.82	0.33	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**38**	0.47	0.28	0.077	
74-87-3	Chloromethane	0.68	1.1	0.68	0.18	**U**
75-01-4	Vinyl Chloride	0.29	0.93	0.29	0.098	**U**
106-99-0	1,3-Butadiene	0.64	1.1	0.64	0.18	**U**
75-00-3	Chloroethane	0.53	0.90	0.53	0.11	**U**
64-17-5	Ethanol	1.9	12	1.9	0.86	**U**
67-64-1	Acetone	**14**	9.8	5.0	2.2	
75-69-4	Trichlorofluoromethane	**3.2**	0.42	0.25	0.063	
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.60**	3.8	1.1	0.39	**J**
75-09-2	Methylene Chloride	0.41	0.67	0.41	0.19	**U**
76-13-1	Trichlorotrifluoroethane	**3.3**	0.31	0.098	0.044	
75-15-0	Carbon Disulfide	**1.5**	1.6	0.76	0.23	**J**
75-34-3	1,1-Dichloroethane	0.36	0.60	0.36	0.085	**U**
78-93-3	2-Butanone (MEK)	**0.36**	1.6	0.48	0.16	**J**
141-78-6	Ethyl Acetate	0.79	1.3	0.79	0.34	**U**
110-54-3	n-Hexane	**1.7**	0.67	0.40	0.14	
67-66-3	Chloroform	**0.18**	0.49	0.15	0.064	**J**
109-99-9	Tetrahydrofuran (THF)	**1.2**	0.82	0.25	0.10	
107-06-2	1,2-Dichloroethane	0.18	0.59	0.18	0.064	**U**
71-43-2	Benzene	**0.33**	0.73	0.23	0.11	**J**
56-23-5	Carbon Tetrachloride	**3.1**	0.37	0.12	0.052	

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV114-150-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-003

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/17/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00742

Initial Pressure (psig): -3.07 Final Pressure (psig): 5.81

Container Dilution Factor: 1.76

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**1.0**	1.4	0.43	0.19	**J**
75-27-4	Bromodichloromethane	0.11	0.35	0.11	0.051	**U**
79-01-6	Trichloroethene	**0.19**	0.44	0.14	0.059	**J**
123-91-1	1,4-Dioxane	0.21	0.66	0.21	0.077	**U**
142-82-5	n-Heptane	**6.4**	0.58	0.34	0.091	
108-10-1	4-Methyl-2-pentanone	**0.11**	0.57	0.18	0.078	**J**
108-88-3	Toluene	**4.1**	0.63	0.20	0.076	
591-78-6	2-Hexanone	0.18	0.58	0.18	0.071	**U**
124-48-1	Dibromochloromethane	0.088	0.28	0.088	0.036	**U**
106-93-4	1,2-Dibromoethane	0.097	0.31	0.097	0.036	**U**
127-18-4	Tetrachloroethene	**0.72**	0.34	0.11	0.045	
100-41-4	Ethylbenzene	**0.62**	0.55	0.17	0.076	
179601-23-1	m,p-Xylenes	**11**	1.1	0.34	0.14	
75-25-2	Bromoform	0.14	0.23	0.14	0.047	**U**
100-42-5	Styrene	0.33	0.55	0.33	0.089	**U**
95-47-6	o-Xylene	**2.8**	0.55	0.17	0.078	
108-67-8	1,3,5-Trimethylbenzene	**0.81**	0.47	0.15	0.069	
95-63-6	1,2,4-Trimethylbenzene	**3.0**	0.48	0.15	0.066	
120-82-1	1,2,4-Trichlorobenzene	0.19	0.32	0.19	0.077	**U**
91-20-3	Naphthalene	**0.36**	0.44	0.26	0.11	**J**
1330-20-7	Xylenes, Total	**13**	1.1	0.34	0.14	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV114-250-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-004

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/17/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00299

Initial Pressure (psig): -4.14 Final Pressure (psig): 6.08

Container Dilution Factor: 1.97

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.85**	1.5	0.92	0.37	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**47**	0.53	0.32	0.087	
74-87-3	Chloromethane	0.76	1.3	0.76	0.21	**U**
75-01-4	Vinyl Chloride	0.33	1.0	0.33	0.11	**U**
106-99-0	1,3-Butadiene	0.71	1.2	0.71	0.20	**U**
75-00-3	Chloroethane	0.60	1.0	0.60	0.12	**U**
64-17-5	Ethanol	**2.4**	14	2.2	0.97	**J**
67-64-1	Acetone	**12**	11	5.6	2.5	
75-69-4	Trichlorofluoromethane	**3.8**	0.46	0.28	0.071	
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.5**	4.2	1.3	0.44	**J**
75-09-2	Methylene Chloride	0.45	0.75	0.45	0.21	**U**
76-13-1	Trichlorotrifluoroethane	**2.3**	0.35	0.11	0.049	
75-15-0	Carbon Disulfide	**4.0**	1.7	0.85	0.25	
75-34-3	1,1-Dichloroethane	0.40	0.67	0.40	0.095	**U**
78-93-3	2-Butanone (MEK)	**2.0**	1.8	0.53	0.18	
141-78-6	Ethyl Acetate	0.89	1.5	0.89	0.38	**U**
110-54-3	n-Hexane	**0.32**	0.75	0.45	0.15	**J**
67-66-3	Chloroform	**2.7**	0.54	0.17	0.072	
109-99-9	Tetrahydrofuran (THF)	**0.91**	0.92	0.28	0.11	**J**
107-06-2	1,2-Dichloroethane	0.21	0.66	0.21	0.072	**U**
71-43-2	Benzene	**0.19**	0.82	0.26	0.12	**J**
56-23-5	Carbon Tetrachloride	**15**	0.42	0.13	0.058	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV114-250-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-004

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/17/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00299

Initial Pressure (psig): -4.14 Final Pressure (psig): 6.08

Container Dilution Factor: 1.97

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**0.24**	1.6	0.49	0.21	**J**
75-27-4	Bromodichloromethane	0.13	0.40	0.13	0.057	**U**
79-01-6	Trichloroethene	**0.29**	0.50	0.16	0.066	**J**
123-91-1	1,4-Dioxane	0.23	0.74	0.23	0.086	**U**
142-82-5	n-Heptane	**1.1**	0.65	0.38	0.10	
108-10-1	4-Methyl-2-pentanone	**0.21**	0.64	0.20	0.088	**J**
108-88-3	Toluene	**1.0**	0.71	0.22	0.085	
591-78-6	2-Hexanone	**0.63**	0.65	0.20	0.079	**J**
124-48-1	Dibromochloromethane	0.098	0.31	0.098	0.040	**U**
106-93-4	1,2-Dibromoethane	0.11	0.35	0.11	0.040	**U**
127-18-4	Tetrachloroethene	**0.17**	0.38	0.12	0.050	**J**
100-41-4	Ethylbenzene	**0.23**	0.61	0.19	0.085	**J**
179601-23-1	m,p-Xylenes	**2.8**	1.2	0.39	0.16	
75-25-2	Bromoform	0.15	0.26	0.15	0.052	**U**
100-42-5	Styrene	0.37	0.61	0.37	0.10	**U**
95-47-6	o-Xylene	**0.89**	0.61	0.19	0.087	
108-67-8	1,3,5-Trimethylbenzene	**0.38**	0.53	0.17	0.077	**J**
95-63-6	1,2,4-Trimethylbenzene	**1.4**	0.54	0.17	0.074	
120-82-1	1,2,4-Trichlorobenzene	0.21	0.36	0.21	0.086	**U**
91-20-3	Naphthalene	**0.63**	0.49	0.29	0.12	
1330-20-7	Xylenes, Total	**3.7**	1.2	0.39	0.16	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV114-250-602** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-005

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/17/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00878

Initial Pressure (psig): -2.89 Final Pressure (psig): 5.96

Container Dilution Factor: 1.75

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.61**	1.3	0.81	0.33	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**47**	0.47	0.28	0.077	
74-87-3	Chloromethane	0.68	1.1	0.68	0.18	**U**
75-01-4	Vinyl Chloride	0.29	0.92	0.29	0.098	**U**
106-99-0	1,3-Butadiene	0.63	1.0	0.63	0.17	**U**
75-00-3	Chloroethane	0.53	0.90	0.53	0.11	**U**
64-17-5	Ethanol	**3.4**	12	1.9	0.86	**J**
67-64-1	Acetone	**7.4**	9.8	5.0	2.2	**J**
75-69-4	Trichlorofluoromethane	**3.8**	0.41	0.25	0.063	
67-63-0	2-Propanol (Isopropyl Alcohol)	1.1	3.7	1.1	0.39	**U**
75-09-2	Methylene Chloride	0.40	0.67	0.40	0.19	**U**
76-13-1	Trichlorotrifluoroethane	**2.3**	0.31	0.097	0.043	
75-15-0	Carbon Disulfide	**3.0**	1.5	0.76	0.22	
75-34-3	1,1-Dichloroethane	0.36	0.59	0.36	0.084	**U**
78-93-3	2-Butanone (MEK)	**1.0**	1.6	0.47	0.16	**J**
141-78-6	Ethyl Acetate	**8.3**	1.3	0.79	0.34	
110-54-3	n-Hexane	**2.6**	0.67	0.40	0.14	
67-66-3	Chloroform	**2.8**	0.48	0.15	0.064	
109-99-9	Tetrahydrofuran (THF)	**2.0**	0.82	0.25	0.099	
107-06-2	1,2-Dichloroethane	0.18	0.58	0.18	0.064	**U**
71-43-2	Benzene	**0.50**	0.73	0.23	0.11	**J**
56-23-5	Carbon Tetrachloride	**15**	0.37	0.12	0.051	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV114-250-602** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-005

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/17/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00878

Initial Pressure (psig): -2.89 Final Pressure (psig): 5.96

Container Dilution Factor: 1.75

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**1.7**	1.4	0.43	0.19	
75-27-4	Bromodichloromethane	0.11	0.35	0.11	0.050	**U**
79-01-6	Trichloroethene	**0.30**	0.44	0.14	0.059	**J**
123-91-1	1,4-Dioxane	0.21	0.66	0.21	0.077	**U**
142-82-5	n-Heptane	**9.1**	0.58	0.34	0.091	
108-10-1	4-Methyl-2-pentanone	0.18	0.57	0.18	0.078	**U**
108-88-3	Toluene	**5.8**	0.63	0.20	0.075	
591-78-6	2-Hexanone	0.18	0.58	0.18	0.071	**U**
124-48-1	Dibromochloromethane	0.087	0.28	0.087	0.036	**U**
106-93-4	1,2-Dibromoethane	0.097	0.31	0.097	0.035	**U**
127-18-4	Tetrachloroethene	**0.25**	0.34	0.11	0.045	**J**
100-41-4	Ethylbenzene	**0.84**	0.54	0.17	0.076	
179601-23-1	m,p-Xylenes	**14**	1.1	0.34	0.14	
75-25-2	Bromoform	0.14	0.23	0.14	0.047	**U**
100-42-5	Styrene	0.33	0.54	0.33	0.088	**U**
95-47-6	o-Xylene	**3.5**	0.54	0.17	0.078	
108-67-8	1,3,5-Trimethylbenzene	**1.2**	0.47	0.15	0.069	
95-63-6	1,2,4-Trimethylbenzene	**4.5**	0.48	0.15	0.066	
120-82-1	1,2,4-Trichlorobenzene	0.19	0.32	0.19	0.077	**U**
91-20-3	Naphthalene	0.26	0.43	0.26	0.11	**U**
1330-20-7	Xylenes, Total	**17**	1.1	0.34	0.14	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV114-350-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-006

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/17/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.15 Liter(s)
Test Notes: 0.010 Liter(s)
Container ID: 1SS00487

Initial Pressure (psig): -4.52 Final Pressure (psig): 5.48

Container Dilution Factor: 1.98

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**4.6**	4.1	2.5	1.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	**390**	21	13	3.5	**D**
74-87-3	Chloromethane	2.0	3.4	2.0	0.55	**U**
75-01-4	Vinyl Chloride	0.88	2.8	0.88	0.29	**U**
106-99-0	1,3-Butadiene	1.9	3.2	1.9	0.53	**U**
75-00-3	Chloroethane	1.6	2.7	1.6	0.33	**U**
64-17-5	Ethanol	5.8	36	5.8	2.6	**U**
67-64-1	Acetone	15	29	15	6.7	**U**
75-69-4	Trichlorofluoromethane	**65**	1.2	0.75	0.19	
67-63-0	2-Propanol (Isopropyl Alcohol)	3.4	11	3.4	1.2	**U**
75-09-2	Methylene Chloride	1.2	2.0	1.2	0.57	**U**
76-13-1	Trichlorotrifluoroethane	**15**	0.93	0.29	0.13	
75-15-0	Carbon Disulfide	2.3	4.7	2.3	0.68	**U**
75-34-3	1,1-Dichloroethane	1.1	1.8	1.1	0.25	**U**
78-93-3	2-Butanone (MEK)	1.4	4.9	1.4	0.49	**U**
141-78-6	Ethyl Acetate	**1.5**	4.0	2.4	1.0	**J**
110-54-3	n-Hexane	**7.1**	2.0	1.2	0.41	
67-66-3	Chloroform	**0.30**	1.5	0.46	0.19	**J**
109-99-9	Tetrahydrofuran (THF)	0.76	2.5	0.76	0.30	**U**
107-06-2	1,2-Dichloroethane	0.55	1.8	0.55	0.19	**U**
71-43-2	Benzene	**4.6**	2.2	0.70	0.32	
56-23-5	Carbon Tetrachloride	**0.97**	1.1	0.36	0.16	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV114-350-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-006

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/17/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.15 Liter(s)
Test Notes: 0.010 Liter(s)
Container ID: 1SS00487

Initial Pressure (psig): -4.52 Final Pressure (psig): 5.48

Container Dilution Factor: 1.98

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**21**	4.2	1.3	0.58	
75-27-4	Bromodichloromethane	0.34	1.1	0.34	0.15	**U**
79-01-6	Trichloroethene	0.42	1.3	0.42	0.18	**U**
123-91-1	1,4-Dioxane	0.62	2.0	0.62	0.23	**U**
142-82-5	n-Heptane	**21**	1.7	1.0	0.27	
108-10-1	4-Methyl-2-pentanone	0.55	1.7	0.55	0.24	**U**
108-88-3	Toluene	0.60	1.9	0.60	0.23	**U**
591-78-6	2-Hexanone	0.55	1.7	0.55	0.21	**U**
124-48-1	Dibromochloromethane	0.26	0.84	0.26	0.11	**U**
106-93-4	1,2-Dibromoethane	0.29	0.93	0.29	0.11	**U**
127-18-4	Tetrachloroethene	**0.69**	1.0	0.33	0.13	**J**
100-41-4	Ethylbenzene	**0.53**	1.6	0.52	0.23	**J**
179601-23-1	m,p-Xylenes	**4.6**	3.3	1.0	0.43	
75-25-2	Bromoform	0.41	0.69	0.41	0.14	**U**
100-42-5	Styrene	0.99	1.6	0.99	0.27	**U**
95-47-6	o-Xylene	**2.8**	1.6	0.52	0.23	
108-67-8	1,3,5-Trimethylbenzene	**0.61**	1.4	0.46	0.21	**J**
95-63-6	1,2,4-Trimethylbenzene	**1.1**	1.5	0.46	0.20	**J**
120-82-1	1,2,4-Trichlorobenzene	0.57	0.96	0.57	0.23	**U**
91-20-3	Naphthalene	0.78	1.3	0.78	0.33	**U**
1330-20-7	Xylenes, Total	**7.4**	3.3	1.0	0.43	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV114-450-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-007

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0010 Liter(s)
Test Notes: 0.00010 Liter(s)
Container ID: 1SC00199

Initial Pressure (psig): -3.34 Final Pressure (psig): 7.32

Container Dilution Factor: 1.94

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**4,400**		600	360	150	**V, B**
75-71-8	Dichlorodifluoromethane (CFC 12)	**660**		210	130	34	
74-87-3	Chloromethane		300	500	300	81	**U**
75-01-4	Vinyl Chloride		130	410	130	43	**U**
106-99-0	1,3-Butadiene	**250**		460	280	77	**J, B**
75-00-3	Chloroethane		240	400	240	49	**U**
64-17-5	Ethanol		850	5,400	850	380	**U, V**
67-64-1	Acetone		2,200	4,300	2,200	980	**U**
75-69-4	Trichlorofluoromethane	**100**		180	110	28	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)		500	1,700	500	170	**U**
75-09-2	Methylene Chloride		180	300	180	84	**U**
76-13-1	Trichlorotrifluoroethane	**31**		140	43	19	**J**
75-15-0	Carbon Disulfide		340	690	340	100	**U**
75-34-3	1,1-Dichloroethane		160	260	160	37	**U**
78-93-3	2-Butanone (MEK)	**110**		720	210	72	**J**
141-78-6	Ethyl Acetate		350	590	350	150	**U**
110-54-3	n-Hexane	**28,000**		300	180	61	
67-66-3	Chloroform		68	210	68	28	**U**
109-99-9	Tetrahydrofuran (THF)		110	360	110	44	**U**
107-06-2	1,2-Dichloroethane		82	260	82	28	**U**
71-43-2	Benzene	**4,400**		320	100	47	**B**
56-23-5	Carbon Tetrachloride		52	160	52	23	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
V = The ending continuing calibration verification standard was outside (biased low) the specified limits for this compound.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV114-450-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-007

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0010 Liter(s)
Test Notes: 0.00010 Liter(s)
Container ID: 1SC00199

Initial Pressure (psig): -3.34 Final Pressure (psig): 7.32

Container Dilution Factor: 1.94

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**45,000**		620	190	85	
75-27-4	Bromodichloromethane		49	160	49	22	**U**
79-01-6	Trichloroethene		61	200	61	26	**U**
123-91-1	1,4-Dioxane		92	290	92	34	**U**
142-82-5	n-Heptane	**72,000**		2,600	1,500	400	**D**
108-10-1	4-Methyl-2-pentanone		81	250	81	35	**U**
108-88-3	Toluene	**12,000**		280	88	33	
591-78-6	2-Hexanone		81	260	81	31	**U**
124-48-1	Dibromochloromethane		39	120	39	16	**U**
106-93-4	1,2-Dibromoethane		43	140	43	16	**U**
127-18-4	Tetrachloroethene		49	150	49	20	**U**
100-41-4	Ethylbenzene	**1,300**		240	76	34	
179601-23-1	m,p-Xylenes	**11,000**		490	150	63	
75-25-2	Bromoform		60	100	60	21	**U**
100-42-5	Styrene		150	240	150	39	**U**
95-47-6	o-Xylene	**6,700**		240	76	34	
108-67-8	1,3,5-Trimethylbenzene	**1,300**		210	67	30	
95-63-6	1,2,4-Trimethylbenzene	**1,700**		210	67	29	
120-82-1	1,2,4-Trichlorobenzene		84	140	84	34	**U**
91-20-3	Naphthalene		110	190	110	48	**U**
1330-20-7	Xylenes, Total	**17,000**		490	150	63	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV116-025-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-008

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00931

Initial Pressure (psig): -3.21 Final Pressure (psig): 5.90
Initial Pressure 2 (psig): -0.92 Final Pressure 2 (psig): 5.89

Container Dilution Factor: 2.68

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**3.3**	2.1	1.2	0.51	**V, B**
75-71-8	Dichlorodifluoromethane (CFC 12)	**13**	0.72	0.43	0.12	
74-87-3	Chloromethane	1.0	1.7	1.0	0.28	**U**
75-01-4	Vinyl Chloride	0.45	1.4	0.45	0.15	**U**
106-99-0	1,3-Butadiene	**0.57**	1.6	0.97	0.27	**J, B**
75-00-3	Chloroethane	0.81	1.4	0.81	0.17	**U**
64-17-5	Ethanol	**2.0**	18	3.0	1.3	**J, V**
67-64-1	Acetone	7.6	15	7.6	3.4	**U**
75-69-4	Trichlorofluoromethane	**1.5**	0.63	0.38	0.097	
67-63-0	2-Propanol (Isopropyl Alcohol)	1.7	5.7	1.7	0.60	**U**
75-09-2	Methylene Chloride	0.62	1.0	0.62	0.29	**U**
76-13-1	Trichlorotrifluoroethane	**3.8**	0.47	0.15	0.066	
75-15-0	Carbon Disulfide	1.2	2.4	1.2	0.34	**U**
75-34-3	1,1-Dichloroethane	0.55	0.91	0.55	0.13	**U**
78-93-3	2-Butanone (MEK)	**0.84**	2.5	0.73	0.25	**J**
141-78-6	Ethyl Acetate	**0.75**	2.0	1.2	0.52	**J**
110-54-3	n-Hexane	**21**	1.0	0.61	0.21	
67-66-3	Chloroform	**0.13**	0.74	0.23	0.097	**J**
109-99-9	Tetrahydrofuran (THF)	0.39	1.2	0.39	0.15	**U**
107-06-2	1,2-Dichloroethane	0.28	0.89	0.28	0.098	**U**
71-43-2	Benzene	**4.0**	1.1	0.36	0.16	**B**
56-23-5	Carbon Tetrachloride	**0.83**	0.56	0.18	0.079	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
V = The ending continuing calibration verification standard was outside (biased low) the specified limits for this compound.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV116-025-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-008

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00931

Initial Pressure (psig): -3.21 Final Pressure (psig): 5.90
Initial Pressure 2 (psig): -0.92 Final Pressure 2 (psig): 5.89

Container Dilution Factor: 2.68

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**33**		2.1	0.66	0.29	
75-27-4	Bromodichloromethane		0.17	0.54	0.17	0.077	**U**
79-01-6	Trichloroethene	**0.24**		0.67	0.21	0.090	**J**
123-91-1	1,4-Dioxane		0.32	1.0	0.32	0.12	**U**
142-82-5	n-Heptane	**61**		0.88	0.52	0.14	
108-10-1	4-Methyl-2-pentanone		0.28	0.87	0.28	0.12	**U**
108-88-3	Toluene	**17**		0.96	0.30	0.12	
591-78-6	2-Hexanone		0.28	0.88	0.28	0.11	**U**
124-48-1	Dibromochloromethane		0.13	0.42	0.13	0.055	**U**
106-93-4	1,2-Dibromoethane		0.15	0.47	0.15	0.054	**U**
127-18-4	Tetrachloroethene	**0.15**		0.51	0.17	0.068	**J**
100-41-4	Ethylbenzene	**2.6**		0.83	0.26	0.12	
179601-23-1	m,p-Xylenes	**13**		1.7	0.52	0.22	
75-25-2	Bromoform		0.21	0.35	0.21	0.071	**U**
100-42-5	Styrene		0.50	0.83	0.50	0.14	**U**
95-47-6	o-Xylene	**7.1**		0.83	0.26	0.12	
108-67-8	1,3,5-Trimethylbenzene	**1.8**		0.72	0.23	0.10	
95-63-6	1,2,4-Trimethylbenzene	**3.6**		0.74	0.23	0.10	
120-82-1	1,2,4-Trichlorobenzene		0.29	0.49	0.29	0.12	**U**
91-20-3	Naphthalene	**0.49**		0.66	0.40	0.17	**J**
1330-20-7	Xylenes, Total	**20**		1.7	0.52	0.22	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV116-050-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-009

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/17/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00945

Initial Pressure (psig): -3.62 Final Pressure (psig): 5.70

Container Dilution Factor: 1.84

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**1.1**	1.4	0.86	0.35	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**20**	0.49	0.30	0.081	
74-87-3	Chloromethane	0.71	1.2	0.71	0.19	**U**
75-01-4	Vinyl Chloride	0.31	0.97	0.31	0.10	**U**
106-99-0	1,3-Butadiene	**1.3**	1.1	0.67	0.18	
75-00-3	Chloroethane	0.56	0.94	0.56	0.12	**U**
64-17-5	Ethanol	2.0	13	2.0	0.90	**U**
67-64-1	Acetone	**2.6**	10	5.2	2.3	**J**
75-69-4	Trichlorofluoromethane	**2.2**	0.43	0.26	0.066	
67-63-0	2-Propanol (Isopropyl Alcohol)	1.2	3.9	1.2	0.41	**U**
75-09-2	Methylene Chloride	0.42	0.70	0.42	0.20	**U**
76-13-1	Trichlorotrifluoroethane	**6.9**	0.32	0.10	0.046	
75-15-0	Carbon Disulfide	**0.64**	1.6	0.80	0.24	**J**
75-34-3	1,1-Dichloroethane	0.38	0.63	0.38	0.089	**U**
78-93-3	2-Butanone (MEK)	**0.31**	1.7	0.50	0.17	**J**
141-78-6	Ethyl Acetate	0.83	1.4	0.83	0.36	**U**
110-54-3	n-Hexane	**5.2**	0.71	0.42	0.14	
67-66-3	Chloroform	**0.20**	0.51	0.16	0.067	**J**
109-99-9	Tetrahydrofuran (THF)	**34**	0.86	0.27	0.10	
107-06-2	1,2-Dichloroethane	0.19	0.61	0.19	0.067	**U**
71-43-2	Benzene	**2.4**	0.76	0.24	0.11	
56-23-5	Carbon Tetrachloride	**2.5**	0.39	0.12	0.054	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV116-050-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-009

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/17/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00945

Initial Pressure (psig): -3.62 Final Pressure (psig): 5.70

Container Dilution Factor: 1.84

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**4.6**	1.5	0.45	0.20	
75-27-4	Bromodichloromethane	0.12	0.37	0.12	0.053	**U**
79-01-6	Trichloroethene	0.15	0.46	0.15	0.062	**U**
123-91-1	1,4-Dioxane	0.22	0.69	0.22	0.080	**U**
142-82-5	n-Heptane	**7.6**	0.61	0.36	0.095	
108-10-1	4-Methyl-2-pentanone	0.19	0.60	0.19	0.082	**U**
108-88-3	Toluene	**9.6**	0.66	0.21	0.079	
591-78-6	2-Hexanone	0.19	0.61	0.19	0.074	**U**
124-48-1	Dibromochloromethane	0.092	0.29	0.092	0.038	**U**
106-93-4	1,2-Dibromoethane	0.10	0.32	0.10	0.037	**U**
127-18-4	Tetrachloroethene	**0.14**	0.35	0.12	0.047	**J**
100-41-4	Ethylbenzene	**1.3**	0.57	0.18	0.079	
179601-23-1	m,p-Xylenes	**5.0**	1.2	0.36	0.15	
75-25-2	Bromoform	0.14	0.24	0.14	0.049	**U**
100-42-5	Styrene	0.35	0.57	0.35	0.093	**U**
95-47-6	o-Xylene	**2.0**	0.57	0.18	0.082	
108-67-8	1,3,5-Trimethylbenzene	**0.44**	0.50	0.16	0.072	**J**
95-63-6	1,2,4-Trimethylbenzene	**1.2**	0.51	0.16	0.069	
120-82-1	1,2,4-Trichlorobenzene	0.20	0.33	0.20	0.081	**U**
91-20-3	Naphthalene	**0.31**	0.46	0.27	0.11	**J**
1330-20-7	Xylenes, Total	**7.0**	1.2	0.36	0.15	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV116-150-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-010

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00228

Initial Pressure (psig): -3.31 Final Pressure (psig): 5.14

Container Dilution Factor: 1.74

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.53**	1.3	0.81	0.33	**J, V, B**
75-71-8	Dichlorodifluoromethane (CFC 12)	**5.8**	0.47	0.28	0.077	
74-87-3	Chloromethane	0.67	1.1	0.67	0.18	**U**
75-01-4	Vinyl Chloride	0.29	0.92	0.29	0.097	**U**
106-99-0	1,3-Butadiene	**0.43**	1.0	0.63	0.17	**J, B**
75-00-3	Chloroethane	0.53	0.89	0.53	0.11	**U**
64-17-5	Ethanol	**0.88**	12	1.9	0.85	**J, V**
67-64-1	Acetone	**3.0**	9.7	4.9	2.2	**J**
75-69-4	Trichlorofluoromethane	**0.59**	0.41	0.25	0.063	
67-63-0	2-Propanol (Isopropyl Alcohol)	1.1	3.7	1.1	0.39	**U**
75-09-2	Methylene Chloride	0.40	0.66	0.40	0.19	**U**
76-13-1	Trichlorotrifluoroethane	**1.4**	0.31	0.097	0.043	
75-15-0	Carbon Disulfide	**4.2**	1.5	0.75	0.22	
75-34-3	1,1-Dichloroethane	0.35	0.59	0.35	0.084	**U**
78-93-3	2-Butanone (MEK)	**0.23**	1.6	0.47	0.16	**J**
141-78-6	Ethyl Acetate	**1.3**	1.3	0.78	0.34	**J**
110-54-3	n-Hexane	**0.72**	0.67	0.40	0.14	
67-66-3	Chloroform	**0.25**	0.48	0.15	0.063	**J**
109-99-9	Tetrahydrofuran (THF)	**0.66**	0.81	0.25	0.099	**J**
107-06-2	1,2-Dichloroethane	0.18	0.58	0.18	0.063	**U**
71-43-2	Benzene	**1.1**	0.72	0.23	0.10	**B**
56-23-5	Carbon Tetrachloride	**1.1**	0.37	0.12	0.051	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
V = The ending continuing calibration verification standard was outside (biased low) the specified limits for this compound.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV116-150-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-010

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00228

Initial Pressure (psig): -3.31 Final Pressure (psig): 5.14

Container Dilution Factor: 1.74

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**0.48**	1.4	0.43	0.19	**J**
75-27-4	Bromodichloromethane	0.11	0.35	0.11	0.050	**U**
79-01-6	Trichloroethene	0.14	0.44	0.14	0.058	**U**
123-91-1	1,4-Dioxane	0.21	0.65	0.21	0.076	**U**
142-82-5	n-Heptane	**1.2**	0.57	0.34	0.090	
108-10-1	4-Methyl-2-pentanone	0.18	0.56	0.18	0.078	**U**
108-88-3	Toluene	**4.7**	0.62	0.20	0.075	
591-78-6	2-Hexanone	0.18	0.57	0.18	0.070	**U**
124-48-1	Dibromochloromethane	0.087	0.28	0.087	0.036	**U**
106-93-4	1,2-Dibromoethane	0.096	0.31	0.096	0.035	**U**
127-18-4	Tetrachloroethene	**0.28**	0.33	0.11	0.044	**J**
100-41-4	Ethylbenzene	**0.61**	0.54	0.17	0.075	
179601-23-1	m,p-Xylenes	**2.2**	1.1	0.34	0.14	
75-25-2	Bromoform	0.13	0.23	0.13	0.046	**U**
100-42-5	Styrene	0.33	0.54	0.33	0.088	**U**
95-47-6	o-Xylene	**0.74**	0.54	0.17	0.077	
108-67-8	1,3,5-Trimethylbenzene	**0.16**	0.47	0.15	0.068	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.50**	0.48	0.15	0.066	
120-82-1	1,2,4-Trichlorobenzene	0.19	0.32	0.19	0.076	**U**
91-20-3	Naphthalene	**0.12**	0.43	0.26	0.11	**J**
1330-20-7	Xylenes, Total	**2.9**	1.1	0.34	0.14	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV116-250-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-011

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00023

Initial Pressure (psig): -3.27 Final Pressure (psig): 5.68

Container Dilution Factor: 1.78

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**1.4**	1.4	0.83	0.34	**V, B**
75-71-8	Dichlorodifluoromethane (CFC 12)	**6.8**	0.48	0.29	0.078	
74-87-3	Chloromethane	**0.22**	1.1	0.69	0.19	**J**
75-01-4	Vinyl Chloride	0.30	0.94	0.30	0.099	**U**
106-99-0	1,3-Butadiene	0.64	1.1	0.64	0.18	**U**
75-00-3	Chloroethane	0.54	0.91	0.54	0.11	**U**
64-17-5	Ethanol	2.0	12	2.0	0.87	**U, V**
67-64-1	Acetone	**7.0**	9.9	5.1	2.2	**J**
75-69-4	Trichlorofluoromethane	**0.67**	0.42	0.25	0.064	
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.8**	3.8	1.1	0.40	**J**
75-09-2	Methylene Chloride	0.41	0.68	0.41	0.19	**U**
76-13-1	Trichlorotrifluoroethane	**2.0**	0.31	0.099	0.044	
75-15-0	Carbon Disulfide	**2.2**	1.6	0.77	0.23	
75-34-3	1,1-Dichloroethane	0.36	0.60	0.36	0.086	**U**
78-93-3	2-Butanone (MEK)	**0.79**	1.7	0.48	0.17	**J**
141-78-6	Ethyl Acetate	0.80	1.4	0.80	0.35	**U**
110-54-3	n-Hexane	**0.93**	0.68	0.40	0.14	
67-66-3	Chloroform	**0.12**	0.49	0.15	0.065	**J**
109-99-9	Tetrahydrofuran (THF)	**1.1**	0.83	0.26	0.10	
107-06-2	1,2-Dichloroethane	0.19	0.59	0.19	0.065	**U**
71-43-2	Benzene	**3.2**	0.74	0.24	0.11	**B**
56-23-5	Carbon Tetrachloride	**3.5**	0.38	0.12	0.052	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
V = The ending continuing calibration verification standard was outside (biased low) the specified limits for this compound.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV116-250-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-011

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00023

Initial Pressure (psig): -3.27 Final Pressure (psig): 5.68

Container Dilution Factor: 1.78

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**3.9**	1.4	0.44	0.19	
75-27-4	Bromodichloromethane	0.11	0.36	0.11	0.051	**U**
79-01-6	Trichloroethene	0.14	0.45	0.14	0.060	**U**
123-91-1	1,4-Dioxane	0.21	0.67	0.21	0.078	**U**
142-82-5	n-Heptane	**0.97**	0.59	0.35	0.092	
108-10-1	4-Methyl-2-pentanone	0.18	0.58	0.18	0.079	**U**
108-88-3	Toluene	**6.2**	0.64	0.20	0.077	
591-78-6	2-Hexanone	0.18	0.59	0.18	0.072	**U**
124-48-1	Dibromochloromethane	0.089	0.28	0.089	0.037	**U**
106-93-4	1,2-Dibromoethane	0.098	0.31	0.098	0.036	**U**
127-18-4	Tetrachloroethene	**0.34**	0.34	0.11	0.045	**J**
100-41-4	Ethylbenzene	**0.68**	0.55	0.17	0.077	
179601-23-1	m,p-Xylenes	**2.4**	1.1	0.35	0.14	
75-25-2	Bromoform	0.14	0.23	0.14	0.047	**U**
100-42-5	Styrene	0.33	0.55	0.33	0.090	**U**
95-47-6	o-Xylene	**1.2**	0.55	0.17	0.079	
108-67-8	1,3,5-Trimethylbenzene	**0.43**	0.48	0.15	0.070	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.55**	0.49	0.15	0.067	
120-82-1	1,2,4-Trichlorobenzene	0.19	0.32	0.19	0.078	**U**
91-20-3	Naphthalene	**0.17**	0.44	0.26	0.11	**J**
1330-20-7	Xylenes, Total	**3.6**	1.1	0.35	0.14	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV116-350-602** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-012

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.015 Liter(s)
Test Notes:
Container ID: 1SC00201

Initial Pressure (psig): -3.18 Final Pressure (psig): 5.59

Container Dilution Factor: 1.76

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**130**	36	22	8.9	**V, B**
75-71-8	Dichlorodifluoromethane (CFC 12)	**30**	13	7.6	2.1	
74-87-3	Chloromethane	18	30	18	4.9	**U**
75-01-4	Vinyl Chloride	7.8	25	7.8	2.6	**U**
106-99-0	1,3-Butadiene	**15**	28	17	4.7	**J, B**
75-00-3	Chloroethane	14	24	14	2.9	**U**
64-17-5	Ethanol	52	320	52	23	**U, V**
67-64-1	Acetone	130	260	130	59	**U**
75-69-4	Trichlorofluoromethane	**3.5**	11	6.7	1.7	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	30	100	30	11	**U**
75-09-2	Methylene Chloride	11	18	11	5.1	**U**
76-13-1	Trichlorotrifluoroethane	**1.3**	8.3	2.6	1.2	**J**
75-15-0	Carbon Disulfide	20	41	20	6.0	**U**
75-34-3	1,1-Dichloroethane	9.6	16	9.6	2.3	**U**
78-93-3	2-Butanone (MEK)	13	44	13	4.4	**U**
141-78-6	Ethyl Acetate	21	36	21	9.1	**U**
110-54-3	n-Hexane	**170**	18	11	3.7	
67-66-3	Chloroform	4.1	13	4.1	1.7	**U**
109-99-9	Tetrahydrofuran (THF)	6.8	22	6.8	2.7	**U**
107-06-2	1,2-Dichloroethane	4.9	16	4.9	1.7	**U**
71-43-2	Benzene	**130**	19	6.2	2.8	**B**
56-23-5	Carbon Tetrachloride	3.2	9.9	3.2	1.4	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
V = The ending continuing calibration verification standard was outside (biased low) the specified limits for this compound.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV116-350-602** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-012

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.015 Liter(s)
Test Notes:
Container ID: 1SC00201

Initial Pressure (psig): -3.18 Final Pressure (psig): 5.59

Container Dilution Factor: 1.76

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**1,800**	38	12	5.1	
75-27-4	Bromodichloromethane	3.0	9.5	3.0	1.3	**U**
79-01-6	Trichloroethene	**4.3**	12	3.7	1.6	**J**
123-91-1	1,4-Dioxane	5.5	18	5.5	2.1	**U**
142-82-5	n-Heptane	**3.7**	15	9.2	2.4	**J**
108-10-1	4-Methyl-2-pentanone	4.9	15	4.9	2.1	**U**
108-88-3	Toluene	5.3	17	5.3	2.0	**U**
591-78-6	2-Hexanone	4.9	15	4.9	1.9	**U**
124-48-1	Dibromochloromethane	2.3	7.4	2.3	0.96	**U**
106-93-4	1,2-Dibromoethane	2.6	8.2	2.6	0.95	**U**
127-18-4	Tetrachloroethene	2.9	9.0	2.9	1.2	**U**
100-41-4	Ethylbenzene	4.6	15	4.6	2.0	**U**
179601-23-1	m,p-Xylenes	**6.5**	30	9.2	3.8	**J**
75-25-2	Bromoform	3.6	6.1	3.6	1.2	**U**
100-42-5	Styrene	8.8	15	8.8	2.4	**U**
95-47-6	o-Xylene	**7.5**	15	4.6	2.1	**J**
108-67-8	1,3,5-Trimethylbenzene	**6.3**	13	4.1	1.8	**J**
95-63-6	1,2,4-Trimethylbenzene	4.1	13	4.1	1.8	**U**
120-82-1	1,2,4-Trichlorobenzene	5.1	8.5	5.1	2.1	**U**
91-20-3	Naphthalene	6.9	12	6.9	2.9	**U**
1330-20-7	Xylenes, Total	**14**	30	9.2	3.8	**J**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV116-350-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-013

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.015 Liter(s)
Test Notes:
Container ID: 1SS00874

Initial Pressure (psig): -4.17 Final Pressure (psig): 5.86

Container Dilution Factor: 1.95

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**150**	40	24	9.8	**V, B**
75-71-8	Dichlorodifluoromethane (CFC 12)	**46**	14	8.4	2.3	
74-87-3	Chloromethane	20	33	20	5.4	**U**
75-01-4	Vinyl Chloride	8.6	27	8.6	2.9	**U**
106-99-0	1,3-Butadiene	**9.2**	31	19	5.2	**J, B**
75-00-3	Chloroethane	16	27	16	3.3	**U**
64-17-5	Ethanol	57	360	57	26	**U, V**
67-64-1	Acetone	150	290	150	66	**U**
75-69-4	Trichlorofluoromethane	**5.9**	12	7.4	1.9	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	33	110	33	12	**U**
75-09-2	Methylene Chloride	12	20	12	5.6	**U**
76-13-1	Trichlorotrifluoroethane	**2.1**	9.2	2.9	1.3	**J**
75-15-0	Carbon Disulfide	23	46	23	6.7	**U**
75-34-3	1,1-Dichloroethane	11	18	11	2.5	**U**
78-93-3	2-Butanone (MEK)	14	49	14	4.9	**U**
141-78-6	Ethyl Acetate	23	40	23	10	**U**
110-54-3	n-Hexane	**270**	20	12	4.1	
67-66-3	Chloroform	4.5	14	4.5	1.9	**U**
109-99-9	Tetrahydrofuran (THF)	7.5	24	7.5	3.0	**U**
107-06-2	1,2-Dichloroethane	5.5	17	5.5	1.9	**U**
71-43-2	Benzene	**210**	22	6.9	3.1	**B**
56-23-5	Carbon Tetrachloride	3.5	11	3.5	1.5	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
V = The ending continuing calibration verification standard was outside (biased low) the specified limits for this compound.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV116-350-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-013

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.015 Liter(s)
Test Notes:
Container ID: 1SS00874

Initial Pressure (psig): -4.17 Final Pressure (psig): 5.86

Container Dilution Factor: 1.95

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**2,600**	42	13	5.7	
75-27-4	Bromodichloromethane	3.3	10	3.3	1.5	**U**
79-01-6	Trichloroethene	**7.1**	13	4.1	1.7	**J**
123-91-1	1,4-Dioxane	6.1	19	6.1	2.3	**U**
142-82-5	n-Heptane	**5.2**	17	10	2.7	**J**
108-10-1	4-Methyl-2-pentanone	5.4	17	5.4	2.3	**U**
108-88-3	Toluene	5.9	19	5.9	2.2	**U**
591-78-6	2-Hexanone	5.4	17	5.4	2.1	**U**
124-48-1	Dibromochloromethane	2.6	8.2	2.6	1.1	**U**
106-93-4	1,2-Dibromoethane	2.9	9.1	2.9	1.0	**U**
127-18-4	Tetrachloroethene	3.3	10	3.3	1.3	**U**
100-41-4	Ethylbenzene	5.1	16	5.1	2.2	**U**
179601-23-1	m,p-Xylenes	**7.9**	33	10	4.2	**J**
75-25-2	Bromoform	4.0	6.8	4.0	1.4	**U**
100-42-5	Styrene	9.8	16	9.8	2.6	**U**
95-47-6	o-Xylene	**10**	16	5.1	2.3	**J**
108-67-8	1,3,5-Trimethylbenzene	**8.5**	14	4.5	2.0	**J**
95-63-6	1,2,4-Trimethylbenzene	4.5	14	4.5	2.0	**U**
120-82-1	1,2,4-Trichlorobenzene	5.6	9.5	5.6	2.3	**U**
91-20-3	Naphthalene	7.7	13	7.7	3.2	**U**
1330-20-7	Xylenes, Total	**18**	33	10	4.2	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV116-450-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-014

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao/Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00050 Liter(s)
Test Notes: 0.00010 Liter(s)
Container ID: 1SS00925

Initial Pressure (psig): -3.50 Final Pressure (psig): 5.98

Container Dilution Factor: 1.85

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**6,600**		1,100	690	280	**V, B**
75-71-8	Dichlorodifluoromethane (CFC 12)	**150**		400	240	65	**J**
74-87-3	Chloromethane		570	950	570	150	**U**
75-01-4	Vinyl Chloride		250	780	250	83	**U**
106-99-0	1,3-Butadiene	**470**		890	540	150	**J, B**
75-00-3	Chloroethane		450	760	450	93	**U**
64-17-5	Ethanol		1,600	10,000	1,600	730	**U, V**
67-64-1	Acetone		4,200	8,300	4,200	1,900	**U**
75-69-4	Trichlorofluoromethane		210	350	210	53	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)		950	3,200	950	330	**U**
75-09-2	Methylene Chloride		340	560	340	160	**U**
76-13-1	Trichlorotrifluoroethane		82	260	82	37	**U**
75-15-0	Carbon Disulfide		640	1,300	640	190	**U**
75-34-3	1,1-Dichloroethane		300	500	300	71	**U**
78-93-3	2-Butanone (MEK)		400	1,400	400	140	**U**
141-78-6	Ethyl Acetate	**520**		1,100	670	290	**J**
110-54-3	n-Hexane	**110,000**		570	340	120	
67-66-3	Chloroform		130	410	130	54	**U**
109-99-9	Tetrahydrofuran (THF)		210	690	210	84	**U**
107-06-2	1,2-Dichloroethane		160	490	160	54	**U**
71-43-2	Benzene	**18,000**		610	200	89	**B**
56-23-5	Carbon Tetrachloride		100	310	100	44	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
V = The ending continuing calibration verification standard was outside (biased low) the specified limits for this compound.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV116-450-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-014

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao/Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00050 Liter(s)
Test Notes: 0.00010 Liter(s)
Container ID: 1SS00925

Initial Pressure (psig): -3.50 Final Pressure (psig): 5.98

Container Dilution Factor: 1.85

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**160,000**		1,200	370	160	
75-27-4	Bromodichloromethane		94	300	94	43	**U**
79-01-6	Trichloroethene		120	370	120	50	**U**
123-91-1	1,4-Dioxane		170	550	170	65	**U**
142-82-5	n-Heptane	**110,000**		2,400	1,400	380	**D**
108-10-1	4-Methyl-2-pentanone		150	480	150	66	**U**
108-88-3	Toluene	**31,000**		530	170	64	
591-78-6	2-Hexanone		150	490	150	60	**U**
124-48-1	Dibromochloromethane		74	230	74	30	**U**
106-93-4	1,2-Dibromoethane		82	260	82	30	**U**
127-18-4	Tetrachloroethene		93	280	93	38	**U**
100-41-4	Ethylbenzene	**2,200**		460	140	64	
179601-23-1	m,p-Xylenes	**11,000**		940	290	120	
75-25-2	Bromoform		110	190	110	39	**U**
100-42-5	Styrene		280	460	280	75	**U**
95-47-6	o-Xylene	**6,700**		460	140	66	
108-67-8	1,3,5-Trimethylbenzene	**1,200**		400	130	58	
95-63-6	1,2,4-Trimethylbenzene	**1,100**		410	130	56	
120-82-1	1,2,4-Trichlorobenzene		160	270	160	65	**U**
91-20-3	Naphthalene		220	370	220	92	**U**
1330-20-7	Xylenes, Total	**17,000**		940	290	120	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV128-025-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-015

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/17/20 & 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC01099

Initial Pressure (psig): -3.12 Final Pressure (psig): 6.03

Container Dilution Factor: 1.79

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**1.5**	1.4	0.83	0.34	
75-71-8	Dichlorodifluoromethane (CFC 12)	**170**	4.8	2.9	0.79	**D**
74-87-3	Chloromethane	0.69	1.1	0.69	0.19	**U**
75-01-4	Vinyl Chloride	0.30	0.95	0.30	0.10	**U**
106-99-0	1,3-Butadiene	**2.4**	1.1	0.65	0.18	
75-00-3	Chloroethane	0.54	0.92	0.54	0.11	**U**
64-17-5	Ethanol	**0.90**	12	2.0	0.88	**J**
67-64-1	Acetone	**3.7**	10	5.1	2.3	**J**
75-69-4	Trichlorofluoromethane	**23**	0.42	0.25	0.065	
67-63-0	2-Propanol (Isopropyl Alcohol)	1.1	3.8	1.1	0.40	**U**
75-09-2	Methylene Chloride	0.41	0.68	0.41	0.19	**U**
76-13-1	Trichlorotrifluoroethane	**18**	0.32	0.099	0.044	
75-15-0	Carbon Disulfide	0.78	1.6	0.78	0.23	**U**
75-34-3	1,1-Dichloroethane	0.37	0.61	0.37	0.086	**U**
78-93-3	2-Butanone (MEK)	**0.46**	1.7	0.49	0.17	**J**
141-78-6	Ethyl Acetate	0.81	1.4	0.81	0.35	**U**
110-54-3	n-Hexane	**1.5**	0.69	0.41	0.14	
67-66-3	Chloroform	**1.9**	0.50	0.16	0.065	
109-99-9	Tetrahydrofuran (THF)	**0.23**	0.83	0.26	0.10	**J**
107-06-2	1,2-Dichloroethane	0.19	0.60	0.19	0.065	**U**
71-43-2	Benzene	**0.72**	0.74	0.24	0.11	**J**
56-23-5	Carbon Tetrachloride	**26**	0.38	0.12	0.053	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV128-025-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-015

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/17/20 & 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC01099

Initial Pressure (psig): -3.12 Final Pressure (psig): 6.03

Container Dilution Factor: 1.79

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**1.9**	1.4	0.44	0.20	
75-27-4	Bromodichloromethane	0.11	0.36	0.11	0.051	**U**
79-01-6	Trichloroethene	**0.49**	0.45	0.14	0.060	
123-91-1	1,4-Dioxane	0.21	0.67	0.21	0.078	**U**
142-82-5	n-Heptane	**3.3**	0.59	0.35	0.093	
108-10-1	4-Methyl-2-pentanone	0.19	0.58	0.19	0.080	**U**
108-88-3	Toluene	**1.1**	0.64	0.20	0.077	
591-78-6	2-Hexanone	0.19	0.59	0.19	0.072	**U**
124-48-1	Dibromochloromethane	0.089	0.28	0.089	0.037	**U**
106-93-4	1,2-Dibromoethane	0.099	0.31	0.099	0.036	**U**
127-18-4	Tetrachloroethene	**0.45**	0.34	0.11	0.046	
100-41-4	Ethylbenzene	**0.16**	0.56	0.18	0.077	**J**
179601-23-1	m,p-Xylenes	**1.1**	1.1	0.35	0.14	**J**
75-25-2	Bromoform	0.14	0.23	0.14	0.048	**U**
100-42-5	Styrene	0.34	0.56	0.34	0.090	**U**
95-47-6	o-Xylene	**0.53**	0.56	0.18	0.079	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.36**	0.48	0.15	0.070	**J**
95-63-6	1,2,4-Trimethylbenzene	**1.7**	0.49	0.15	0.067	
120-82-1	1,2,4-Trichlorobenzene	0.19	0.33	0.19	0.078	**U**
91-20-3	Naphthalene	**0.55**	0.44	0.26	0.11	
1330-20-7	Xylenes, Total	**1.6**	1.1	0.35	0.14	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV128-050-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-016

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/17/20 & 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS01024

Initial Pressure (psig): -3.81 Final Pressure (psig): 5.53

Container Dilution Factor: 1.86

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**1.6**		1.4	0.86	0.35	
75-71-8	Dichlorodifluoromethane (CFC 12)	**170**		5.0	3.0	0.82	**D**
74-87-3	Chloromethane	**0.34**		1.2	0.72	0.19	**J**
75-01-4	Vinyl Chloride		0.31	0.98	0.31	0.10	**U**
106-99-0	1,3-Butadiene	**1.6**		1.1	0.67	0.19	
75-00-3	Chloroethane		0.56	0.95	0.56	0.12	**U**
64-17-5	Ethanol		2.0	13	2.0	0.91	**U**
67-64-1	Acetone	**5.6**		10	5.3	2.3	**J**
75-69-4	Trichlorofluoromethane	**21**		0.44	0.26	0.067	
67-63-0	2-Propanol (Isopropyl Alcohol)		1.2	4.0	1.2	0.42	**U**
75-09-2	Methylene Chloride		0.43	0.71	0.43	0.20	**U**
76-13-1	Trichlorotrifluoroethane	**19**		0.33	0.10	0.046	
75-15-0	Carbon Disulfide	**0.55**		1.6	0.81	0.24	**J**
75-34-3	1,1-Dichloroethane		0.38	0.63	0.38	0.090	**U**
78-93-3	2-Butanone (MEK)	**0.47**		1.7	0.50	0.17	**J**
141-78-6	Ethyl Acetate		0.84	1.4	0.84	0.36	**U**
110-54-3	n-Hexane	**0.37**		0.71	0.42	0.15	**J**
67-66-3	Chloroform	**0.66**		0.51	0.16	0.068	
109-99-9	Tetrahydrofuran (THF)	**0.28**		0.87	0.27	0.11	**J**
107-06-2	1,2-Dichloroethane		0.20	0.62	0.20	0.068	**U**
71-43-2	Benzene	**0.44**		0.77	0.25	0.11	**J**
56-23-5	Carbon Tetrachloride	**29**		0.39	0.13	0.055	

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV128-050-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-016

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/17/20 & 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS01024

Initial Pressure (psig): -3.81 Final Pressure (psig): 5.53

Container Dilution Factor: 1.86

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**0.29**	1.5	0.46	0.20	**J**
75-27-4	Bromodichloromethane	0.12	0.37	0.12	0.053	**U**
79-01-6	Trichloroethene	**1.0**	0.47	0.15	0.062	
123-91-1	1,4-Dioxane	0.22	0.70	0.22	0.081	**U**
142-82-5	n-Heptane	**0.62**	0.61	0.36	0.096	
108-10-1	4-Methyl-2-pentanone	0.19	0.60	0.19	0.083	**U**
108-88-3	Toluene	**0.65**	0.67	0.21	0.080	**J**
591-78-6	2-Hexanone	0.19	0.61	0.19	0.075	**U**
124-48-1	Dibromochloromethane	0.093	0.29	0.093	0.038	**U**
106-93-4	1,2-Dibromoethane	0.10	0.33	0.10	0.038	**U**
127-18-4	Tetrachloroethene	**0.44**	0.36	0.12	0.047	
100-41-4	Ethylbenzene	0.18	0.58	0.18	0.080	**U**
179601-23-1	m,p-Xylenes	**0.50**	1.2	0.36	0.15	**J**
75-25-2	Bromoform	0.14	0.24	0.14	0.049	**U**
100-42-5	Styrene	0.35	0.58	0.35	0.094	**U**
95-47-6	o-Xylene	**0.23**	0.58	0.18	0.082	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.20**	0.50	0.16	0.073	**J**
95-63-6	1,2,4-Trimethylbenzene	**1.0**	0.51	0.16	0.070	
120-82-1	1,2,4-Trichlorobenzene	0.20	0.34	0.20	0.081	**U**
91-20-3	Naphthalene	**0.32**	0.46	0.28	0.12	**J**
1330-20-7	Xylenes, Total	**0.73**	1.2	0.36	0.15	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV128-150-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-017

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.0030 Liter(s)
Container ID: 1SC00411

Initial Pressure (psig): -3.91 Final Pressure (psig): 5.57

Container Dilution Factor: 1.88

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**2.0**	1.4	0.87	0.36	**V, B**
75-71-8	Dichlorodifluoromethane (CFC 12)	**100**	67	41	11	**D**
74-87-3	Chloromethane	**0.45**	1.2	0.73	0.20	**J**
75-01-4	Vinyl Chloride	0.31	0.99	0.31	0.10	**U**
106-99-0	1,3-Butadiene	0.68	1.1	0.68	0.19	**U**
75-00-3	Chloroethane	0.57	0.96	0.57	0.12	**U**
64-17-5	Ethanol	**2.2**	13	2.1	0.92	**J, V**
67-64-1	Acetone	**34**	10	5.3	2.4	
75-69-4	Trichlorofluoromethane	**11**	0.44	0.27	0.068	
67-63-0	2-Propanol (Isopropyl Alcohol)	1.2	4.0	1.2	0.42	**U**
75-09-2	Methylene Chloride	0.43	0.72	0.43	0.20	**U**
76-13-1	Trichlorotrifluoroethane	**21**	0.33	0.10	0.047	
75-15-0	Carbon Disulfide	**2.4**	1.7	0.82	0.24	
75-34-3	1,1-Dichloroethane	0.38	0.64	0.38	0.091	**U**
78-93-3	2-Butanone (MEK)	**6.3**	1.8	0.51	0.18	
141-78-6	Ethyl Acetate	0.85	1.4	0.85	0.37	**U**
110-54-3	n-Hexane	0.43	0.72	0.43	0.15	**U**
67-66-3	Chloroform	**23**	0.52	0.16	0.068	
109-99-9	Tetrahydrofuran (THF)	**6.0**	0.88	0.27	0.11	
107-06-2	1,2-Dichloroethane	0.20	0.63	0.20	0.069	**U**
71-43-2	Benzene	**0.33**	0.78	0.25	0.11	**J, B**
56-23-5	Carbon Tetrachloride	**67**	0.40	0.13	0.055	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
V = The ending continuing calibration verification standard was outside (biased low) the specified limits for this compound.
B = Analyte detected in both the sample and associated method blank.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV128-150-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-017

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.0030 Liter(s)
Container ID: 1SC00411

Initial Pressure (psig): -3.91 Final Pressure (psig): 5.57

Container Dilution Factor: 1.88

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**1.0**	1.5	0.46	0.20	**J**
75-27-4	Bromodichloromethane	0.12	0.38	0.12	0.054	**U**
79-01-6	Trichloroethene	**12**	0.47	0.15	0.063	
123-91-1	1,4-Dioxane	0.22	0.70	0.22	0.082	**U**
142-82-5	n-Heptane	**0.11**	0.62	0.37	0.098	**J**
108-10-1	4-Methyl-2-pentanone	**0.19**	0.61	0.20	0.084	**J**
108-88-3	Toluene	**0.34**	0.67	0.21	0.081	**J**
591-78-6	2-Hexanone	**0.78**	0.62	0.20	0.076	
124-48-1	Dibromochloromethane	0.094	0.30	0.094	0.039	**U**
106-93-4	1,2-Dibromoethane	0.10	0.33	0.10	0.038	**U**
127-18-4	Tetrachloroethene	**0.40**	0.36	0.12	0.048	
100-41-4	Ethylbenzene	**0.17**	0.58	0.18	0.081	**J**
179601-23-1	m,p-Xylenes	**0.58**	1.2	0.37	0.15	**J**
75-25-2	Bromoform	0.15	0.25	0.15	0.050	**U**
100-42-5	Styrene	0.35	0.59	0.35	0.095	**U**
95-47-6	o-Xylene	**0.24**	0.58	0.18	0.083	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.25**	0.51	0.16	0.074	**J**
95-63-6	1,2,4-Trimethylbenzene	**1.2**	0.52	0.16	0.071	
120-82-1	1,2,4-Trichlorobenzene	0.20	0.34	0.20	0.082	**U**
91-20-3	Naphthalene	**0.61**	0.47	0.28	0.12	
1330-20-7	Xylenes, Total	**0.82**	1.2	0.37	0.15	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV128-250-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-018

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0050 Liter(s)
Test Notes:
Container ID: 1SC00875

Initial Pressure (psig): -3.39 Final Pressure (psig): 5.90

Container Dilution Factor: 1.82

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	68	110	68	28	**U, V**
75-71-8	Dichlorodifluoromethane (CFC 12)	**71**	39	24	6.4	
74-87-3	Chloromethane	56	93	56	15	**U**
75-01-4	Vinyl Chloride	24	77	24	8.1	**U**
106-99-0	1,3-Butadiene	**28**	87	53	14	**J, B**
75-00-3	Chloroethane	44	75	44	9.1	**U**
64-17-5	Ethanol	160	1,000	160	72	**U, V**
67-64-1	Acetone	410	810	410	180	**U**
75-69-4	Trichlorofluoromethane	**6.9**	34	21	5.2	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	93	310	93	33	**U**
75-09-2	Methylene Chloride	34	56	34	16	**U**
76-13-1	Trichlorotrifluoroethane	**29**	26	8.1	3.6	
75-15-0	Carbon Disulfide	63	130	63	19	**U**
75-34-3	1,1-Dichloroethane	30	49	30	7.0	**U**
78-93-3	2-Butanone (MEK)	40	140	40	14	**U**
141-78-6	Ethyl Acetate	66	110	66	28	**U**
110-54-3	n-Hexane	**3,300**	56	33	11	
67-66-3	Chloroform	**11**	40	13	5.3	**J**
109-99-9	Tetrahydrofuran (THF)	21	68	21	8.3	**U**
107-06-2	1,2-Dichloroethane	15	49	15	5.3	**U**
71-43-2	Benzene	**9.6**	60	19	8.8	**J, B**
56-23-5	Carbon Tetrachloride	9.8	31	9.8	4.3	**U**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
V = The ending continuing calibration verification standard was outside (biased low) the specified limits for this compound.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV128-250-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-018

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0050 Liter(s)
Test Notes:
Container ID: 1SC00875

Initial Pressure (psig): -3.39 Final Pressure (psig): 5.90

Container Dilution Factor: 1.82

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**14,000**	120	36	16	
75-27-4	Bromodichloromethane	9.2	29	9.2	4.2	**U**
79-01-6	Trichloroethene	12	37	12	4.9	**U**
123-91-1	1,4-Dioxane	17	55	17	6.4	**U**
142-82-5	n-Heptane	**1,200**	48	28	7.6	
108-10-1	4-Methyl-2-pentanone	15	47	15	6.5	**U**
108-88-3	Toluene	16	52	16	6.3	**U**
591-78-6	2-Hexanone	15	48	15	5.9	**U**
124-48-1	Dibromochloromethane	7.3	23	7.3	3.0	**U**
106-93-4	1,2-Dibromoethane	8.1	26	8.1	2.9	**U**
127-18-4	Tetrachloroethene	9.1	28	9.1	3.7	**U**
100-41-4	Ethylbenzene	**10**	45	14	6.3	**J**
179601-23-1	m,p-Xylenes	**26**	92	29	12	**J**
75-25-2	Bromoform	11	19	11	3.9	**U**
100-42-5	Styrene	27	45	27	7.4	**U**
95-47-6	o-Xylene	14	45	14	6.5	**U**
108-67-8	1,3,5-Trimethylbenzene	13	39	13	5.7	**U**
95-63-6	1,2,4-Trimethylbenzene	13	40	13	5.5	**U**
120-82-1	1,2,4-Trichlorobenzene	16	26	16	6.4	**U**
91-20-3	Naphthalene	22	36	22	9.0	**U**
1330-20-7	Xylenes, Total	**26**	92	29	12	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV128-350-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-019

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao/Topacio De Leon Date Analyzed: 4/20/20 & 4/24/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0010 Liter(s)
Test Notes: 0.00010 Liter(s)
Container ID: 1SC00473

Initial Pressure (psig): -3.84 Final Pressure (psig): 5.53

Container Dilution Factor: 1.86

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**5,500**		570	350	140	**B, V**
75-71-8	Dichlorodifluoromethane (CFC 12)	**660**		200	120	33	
74-87-3	Chloromethane		290	480	290	77	**U**
75-01-4	Vinyl Chloride		120	390	120	41	**U**
106-99-0	1,3-Butadiene		270	450	270	74	**U**
75-00-3	Chloroethane		230	380	230	47	**U**
64-17-5	Ethanol		820	5,100	820	370	**U, V**
67-64-1	Acetone		2,100	4,200	2,100	940	**U**
75-69-4	Trichlorofluoromethane	**83**		180	110	27	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)		480	1,600	480	170	**U**
75-09-2	Methylene Chloride		170	280	170	80	**U**
76-13-1	Trichlorotrifluoroethane	**35**		130	41	18	**J**
75-15-0	Carbon Disulfide		320	660	320	96	**U**
75-34-3	1,1-Dichloroethane		150	250	150	36	**U**
78-93-3	2-Butanone (MEK)		200	690	200	69	**U**
141-78-6	Ethyl Acetate		340	570	340	140	**U**
110-54-3	n-Hexane	**64,000**		2,900	1,700	580	**D**
67-66-3	Chloroform		65	210	65	27	**U**
109-99-9	Tetrahydrofuran (THF)		110	350	110	42	**U**
107-06-2	1,2-Dichloroethane		78	250	78	27	**U**
71-43-2	Benzene	**19,000**		310	99	45	**B**
56-23-5	Carbon Tetrachloride		50	160	50	22	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
V = The ending continuing calibration verification standard was outside (biased low) the specified limits for this compound.
B = Analyte detected in both the sample and associated method blank.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV128-350-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-019

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao/Topacio De Leon Date Analyzed: 4/20/20 & 4/24/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0010 Liter(s)
Test Notes: 0.00010 Liter(s)
Container ID: 1SC00473

Initial Pressure (psig): -3.84 Final Pressure (psig): 5.53

Container Dilution Factor: 1.86

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**110,000**		590	180	81	
75-27-4	Bromodichloromethane		47	150	47	21	**U**
79-01-6	Trichloroethene		59	190	59	25	**U**
123-91-1	1,4-Dioxane		88	280	88	33	**U**
142-82-5	n-Heptane	**77,000**		2,500	1,500	390	**D**
108-10-1	4-Methyl-2-pentanone		77	240	77	33	**U**
108-88-3	Toluene	**86,000**		2,700	840	320	**D**
591-78-6	2-Hexanone		77	250	77	30	**U**
124-48-1	Dibromochloromethane		37	120	37	15	**U**
106-93-4	1,2-Dibromoethane		41	130	41	15	**U**
127-18-4	Tetrachloroethene		47	140	47	19	**U**
100-41-4	Ethylbenzene	**6,300**		230	73	32	
179601-23-1	m,p-Xylenes	**32,000**		470	150	60	
75-25-2	Bromoform		58	97	58	20	**U**
100-42-5	Styrene		140	230	140	38	**U**
95-47-6	o-Xylene	**11,000**		230	73	33	
108-67-8	1,3,5-Trimethylbenzene	**830**		200	64	29	
95-63-6	1,2,4-Trimethylbenzene	**770**		200	64	28	
120-82-1	1,2,4-Trichlorobenzene		80	140	80	33	**U**
91-20-3	Naphthalene		110	180	110	46	**U**
1330-20-7	Xylenes, Total	**43,000**		470	150	60	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV128-450-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-020

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao/Topacio De Leon Date Analyzed: 4/20/20 & 4/24/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00030 Liter(s)
Test Notes: 0.00010 Liter(s)
Container ID: 1SC01216

Initial Pressure (psig): -4.89 Final Pressure (psig): 5.74

Container Dilution Factor: 2.08

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**7,900**		2,100	1,300	520	**B, V**
75-71-8	Dichlorodifluoromethane (CFC 12)	**580**		740	450	120	**J**
74-87-3	Chloromethane		1,100	1,800	1,100	290	**U**
75-01-4	Vinyl Chloride		460	1,500	460	150	**U**
106-99-0	1,3-Butadiene	**550**		1,700	1,000	280	**J, B**
75-00-3	Chloroethane		840	1,400	840	170	**U**
64-17-5	Ethanol		3,100	19,000	3,100	1,400	**U, V**
67-64-1	Acetone		7,900	15,000	7,900	3,500	**U**
75-69-4	Trichlorofluoromethane	**100**		650	390	100	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)		1,800	5,900	1,800	620	**U**
75-09-2	Methylene Chloride		640	1,100	640	300	**U**
76-13-1	Trichlorotrifluoroethane		150	490	150	69	**U**
75-15-0	Carbon Disulfide		1,200	2,500	1,200	360	**U**
75-34-3	1,1-Dichloroethane		570	940	570	130	**U**
78-93-3	2-Butanone (MEK)	**430**		2,600	750	260	**J**
141-78-6	Ethyl Acetate		1,300	2,100	1,300	540	**U**
110-54-3	n-Hexane	**180,000**		1,100	630	220	
67-66-3	Chloroform		240	770	240	100	**U**
109-99-9	Tetrahydrofuran (THF)		400	1,300	400	160	**U**
107-06-2	1,2-Dichloroethane		290	930	290	100	**U**
71-43-2	Benzene	**5,000**		1,200	370	170	**B**
56-23-5	Carbon Tetrachloride		190	580	190	82	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
V = The ending continuing calibration verification standard was outside (biased low) the specified limits for this compound.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV128-450-202** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002027-020

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao/Topacio De Leon Date Analyzed: 4/20/20 & 4/24/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00030 Liter(s)
Test Notes: 0.00010 Liter(s)
Container ID: 1SC01216

Initial Pressure (psig): -4.89 Final Pressure (psig): 5.74

Container Dilution Factor: 2.08

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**230,000**		2,200	690	300	
75-27-4	Bromodichloromethane		180	560	180	80	**U**
79-01-6	Trichloroethene		220	700	220	93	**U**
123-91-1	1,4-Dioxane		330	1,000	330	120	**U**
142-82-5	n-Heptane	**330,000**		2,700	1,600	430	**D**
108-10-1	4-Methyl-2-pentanone	**700**		900	290	120	**J**
108-88-3	Toluene	**19,000**		990	310	120	
591-78-6	2-Hexanone		290	910	290	110	**U**
124-48-1	Dibromochloromethane		140	440	140	57	**U**
106-93-4	1,2-Dibromoethane		150	490	150	56	**U**
127-18-4	Tetrachloroethene		170	530	170	71	**U**
100-41-4	Ethylbenzene	**1,300**		860	270	120	
179601-23-1	m,p-Xylenes	**34,000**		1,800	540	220	
75-25-2	Bromoform		210	360	210	74	**U**
100-42-5	Styrene		520	860	520	140	**U**
95-47-6	o-Xylene	**8,600**		860	270	120	
108-67-8	1,3,5-Trimethylbenzene	**640**		750	240	110	**J**
95-63-6	1,2,4-Trimethylbenzene	**790**		760	240	100	
120-82-1	1,2,4-Trichlorobenzene		300	500	300	120	**U**
91-20-3	Naphthalene		410	690	410	170	**U**
1330-20-7	Xylenes, Total	**43,000**		1,800	540	220	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200417-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 4/17/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.19	0.31	0.19	0.076	U
75-71-8	Dichlorodifluoromethane (CFC 12)	0.065	0.11	0.065	0.018	U
74-87-3	Chloromethane	0.16	0.26	0.16	0.042	U
75-01-4	Vinyl Chloride	0.067	0.21	0.067	0.022	U
106-99-0	1,3-Butadiene	0.14	0.24	0.14	0.040	U
75-00-3	Chloroethane	0.12	0.20	0.12	0.025	U
64-17-5	Ethanol	0.44	2.8	0.44	0.20	U
67-64-1	Acetone	1.1	2.2	1.1	0.51	U
75-69-4	Trichlorofluoromethane	0.057	0.094	0.057	0.014	U
67-63-0	2-Propanol (Isopropyl Alcohol)	0.26	0.85	0.26	0.090	U
75-09-2	Methylene Chloride	0.092	0.15	0.092	0.043	U
76-13-1	Trichlorotrifluoroethane	0.022	0.070	0.022	0.0099	U
75-15-0	Carbon Disulfide	0.17	0.35	0.17	0.051	U
75-34-3	1,1-Dichloroethane	0.082	0.14	0.082	0.019	U
78-93-3	2-Butanone (MEK)	0.11	0.37	0.11	0.037	U
141-78-6	Ethyl Acetate	0.18	0.31	0.18	0.078	U
110-54-3	n-Hexane	0.091	0.15	0.091	0.031	U
67-66-3	Chloroform	0.035	0.11	0.035	0.015	U
109-99-9	Tetrahydrofuran (THF)	0.058	0.19	0.058	0.023	U
107-06-2	1,2-Dichloroethane	0.042	0.13	0.042	0.015	U
71-43-2	Benzene	0.053	0.17	0.053	0.024	U
56-23-5	Carbon Tetrachloride	0.027	0.084	0.027	0.012	U

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200417-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 4/17/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.099	0.32	0.099	0.044	**U**
75-27-4	Bromodichloromethane	0.025	0.081	0.025	0.011	**U**
79-01-6	Trichloroethene	0.032	0.10	0.032	0.013	**U**
123-91-1	1,4-Dioxane	0.047	0.15	0.047	0.017	**U**
142-82-5	n-Heptane	0.078	0.13	0.078	0.021	**U**
108-10-1	4-Methyl-2-pentanone	0.041	0.13	0.041	0.018	**U**
108-88-3	Toluene	0.045	0.14	0.045	0.017	**U**
591-78-6	2-Hexanone	0.042	0.13	0.042	0.016	**U**
124-48-1	Dibromochloromethane	0.020	0.063	0.020	0.0082	**U**
106-93-4	1,2-Dibromoethane	0.022	0.070	0.022	0.0081	**U**
127-18-4	Tetrachloroethene	0.025	0.077	0.025	0.010	**U**
100-41-4	Ethylbenzene	0.039	0.12	0.039	0.017	**U**
179601-23-1	m,p-Xylenes	0.078	0.25	0.078	0.032	**U**
75-25-2	Bromoform	0.031	0.052	0.031	0.011	**U**
100-42-5	Styrene	0.075	0.12	0.075	0.020	**U**
95-47-6	o-Xylene	0.039	0.12	0.039	0.018	**U**
108-67-8	1,3,5-Trimethylbenzene	0.035	0.11	0.035	0.016	**U**
95-63-6	1,2,4-Trimethylbenzene	0.035	0.11	0.035	0.015	**U**
120-82-1	1,2,4-Trichlorobenzene	0.043	0.073	0.043	0.018	**U**
91-20-3	Naphthalene	0.059	0.099	0.059	0.025	**U**
1330-20-7	Xylenes, Total	0.078	0.25	0.078	0.032	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200420-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.10**	0.31	0.19	0.076	**J, V**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.065	0.11	0.065	0.018	**U**
74-87-3	Chloromethane	0.16	0.26	0.16	0.042	**U**
75-01-4	Vinyl Chloride	0.067	0.21	0.067	0.022	**U**
106-99-0	1,3-Butadiene	**0.18**	0.24	0.14	0.040	**J**
75-00-3	Chloroethane	0.12	0.20	0.12	0.025	**U**
64-17-5	Ethanol	0.44	2.8	0.44	0.20	**U, V**
67-64-1	Acetone	1.1	2.2	1.1	0.51	**U**
75-69-4	Trichlorofluoromethane	0.057	0.094	0.057	0.014	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.26	0.85	0.26	0.090	**U**
75-09-2	Methylene Chloride	0.092	0.15	0.092	0.043	**U**
76-13-1	Trichlorotrifluoroethane	0.022	0.070	0.022	0.0099	**U**
75-15-0	Carbon Disulfide	0.17	0.35	0.17	0.051	**U**
75-34-3	1,1-Dichloroethane	0.082	0.14	0.082	0.019	**U**
78-93-3	2-Butanone (MEK)	0.11	0.37	0.11	0.037	**U**
141-78-6	Ethyl Acetate	0.18	0.31	0.18	0.078	**U**
110-54-3	n-Hexane	0.091	0.15	0.091	0.031	**U**
67-66-3	Chloroform	0.035	0.11	0.035	0.015	**U**
109-99-9	Tetrahydrofuran (THF)	0.058	0.19	0.058	0.023	**U**
107-06-2	1,2-Dichloroethane	0.042	0.13	0.042	0.015	**U**
71-43-2	Benzene	**0.033**	0.17	0.053	0.024	**J**
56-23-5	Carbon Tetrachloride	0.027	0.084	0.027	0.012	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
V = The ending continuing calibration verification standard was outside (biased low) the specified limits for this compound.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200420-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.099	0.32	0.099	0.044	**U**
75-27-4	Bromodichloromethane	0.025	0.081	0.025	0.011	**U**
79-01-6	Trichloroethene	0.032	0.10	0.032	0.013	**U**
123-91-1	1,4-Dioxane	0.047	0.15	0.047	0.017	**U**
142-82-5	n-Heptane	0.078	0.13	0.078	0.021	**U**
108-10-1	4-Methyl-2-pentanone	0.041	0.13	0.041	0.018	**U**
108-88-3	Toluene	0.045	0.14	0.045	0.017	**U**
591-78-6	2-Hexanone	0.042	0.13	0.042	0.016	**U**
124-48-1	Dibromochloromethane	0.020	0.063	0.020	0.0082	**U**
106-93-4	1,2-Dibromoethane	0.022	0.070	0.022	0.0081	**U**
127-18-4	Tetrachloroethene	0.025	0.077	0.025	0.010	**U**
100-41-4	Ethylbenzene	0.039	0.12	0.039	0.017	**U**
179601-23-1	m,p-Xylenes	0.078	0.25	0.078	0.032	**U**
75-25-2	Bromoform	0.031	0.052	0.031	0.011	**U**
100-42-5	Styrene	0.075	0.12	0.075	0.020	**U**
95-47-6	o-Xylene	0.039	0.12	0.039	0.018	**U**
108-67-8	1,3,5-Trimethylbenzene	0.035	0.11	0.035	0.016	**U**
95-63-6	1,2,4-Trimethylbenzene	0.035	0.11	0.035	0.015	**U**
120-82-1	1,2,4-Trichlorobenzene	0.043	0.073	0.043	0.018	**U**
91-20-3	Naphthalene	0.059	0.099	0.059	0.025	**U**
1330-20-7	Xylenes, Total	0.078	0.25	0.078	0.032	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200424-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 4/24/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.19	0.31	0.19	0.076	U
75-71-8	Dichlorodifluoromethane (CFC 12)	0.065	0.11	0.065	0.018	U
74-87-3	Chloromethane	0.16	0.26	0.16	0.042	U
75-01-4	Vinyl Chloride	0.067	0.21	0.067	0.022	U
106-99-0	1,3-Butadiene	0.14	0.24	0.14	0.040	U
75-00-3	Chloroethane	0.12	0.20	0.12	0.025	U
64-17-5	Ethanol	0.44	2.8	0.44	0.20	U
67-64-1	Acetone	1.1	2.2	1.1	0.51	U
75-69-4	Trichlorofluoromethane	0.057	0.094	0.057	0.014	U
67-63-0	2-Propanol (Isopropyl Alcohol)	0.26	0.85	0.26	0.090	U
75-09-2	Methylene Chloride	0.092	0.15	0.092	0.043	U
76-13-1	Trichlorotrifluoroethane	0.022	0.070	0.022	0.0099	U
75-15-0	Carbon Disulfide	0.17	0.35	0.17	0.051	U
75-34-3	1,1-Dichloroethane	0.082	0.14	0.082	0.019	U
78-93-3	2-Butanone (MEK)	0.11	0.37	0.11	0.037	U
141-78-6	Ethyl Acetate	0.18	0.31	0.18	0.078	U
110-54-3	n-Hexane	0.091	0.15	0.091	0.031	U
67-66-3	Chloroform	0.035	0.11	0.035	0.015	U
109-99-9	Tetrahydrofuran (THF)	0.058	0.19	0.058	0.023	U
107-06-2	1,2-Dichloroethane	0.042	0.13	0.042	0.015	U
71-43-2	Benzene	0.053	0.17	0.053	0.024	U
56-23-5	Carbon Tetrachloride	0.027	0.084	0.027	0.012	U

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200424-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 4/24/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.099	0.32	0.099	0.044	**U**
75-27-4	Bromodichloromethane	0.025	0.081	0.025	0.011	**U**
79-01-6	Trichloroethene	0.032	0.10	0.032	0.013	**U**
123-91-1	1,4-Dioxane	0.047	0.15	0.047	0.017	**U**
142-82-5	n-Heptane	0.078	0.13	0.078	0.021	**U**
108-10-1	4-Methyl-2-pentanone	0.041	0.13	0.041	0.018	**U**
108-88-3	Toluene	0.045	0.14	0.045	0.017	**U**
591-78-6	2-Hexanone	0.042	0.13	0.042	0.016	**U**
124-48-1	Dibromochloromethane	0.020	0.063	0.020	0.0082	**U**
106-93-4	1,2-Dibromoethane	0.022	0.070	0.022	0.0081	**U**
127-18-4	Tetrachloroethene	0.025	0.077	0.025	0.010	**U**
100-41-4	Ethylbenzene	0.039	0.12	0.039	0.017	**U**
179601-23-1	m,p-Xylenes	0.078	0.25	0.078	0.032	**U**
75-25-2	Bromoform	0.031	0.052	0.031	0.011	**U**
100-42-5	Styrene	0.075	0.12	0.075	0.020	**U**
95-47-6	o-Xylene	0.039	0.12	0.039	0.018	**U**
108-67-8	1,3,5-Trimethylbenzene	0.035	0.11	0.035	0.016	**U**
95-63-6	1,2,4-Trimethylbenzene	0.035	0.11	0.035	0.015	**U**
120-82-1	1,2,4-Trichlorobenzene	0.043	0.073	0.043	0.018	**U**
91-20-3	Naphthalene	0.059	0.099	0.059	0.025	**U**
1330-20-7	Xylenes, Total	0.078	0.25	0.078	0.032	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Project ID: P2002027

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date(s) Collected: 4/7 - 4/8/20
Analyst: Topacio De Leon Date(s) Received: 4/14/20
Sampling Media: 1.0 L Silonite Summa Canister(s) / 1.0 L Summa Canister(s) Date(s) Analyzed: 4/17 - 4/24/20
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P200417-MB	**102**	**101**	**113**	70-130	
Method Blank	P200420-MB	**110**	**102**	**112**	70-130	
Method Blank	P200424-MB	**97**	**101**	**100**	70-130	
Lab Control Sample	P200417-LCS	**101**	**101**	**115**	70-130	
Lab Control Sample	P200420-LCS	**109**	**101**	**113**	70-130	
Lab Control Sample	P200424-LCS	**96**	**102**	**102**	70-130	
Duplicate Lab Control Sample	P200417-DLCS	**102**	**100**	**114**	70-130	
Duplicate Lab Control Sample	P200420-DLCS	**109**	**100**	**111**	70-130	
Duplicate Lab Control Sample	P200424-DLCS	**95**	**103**	**101**	70-130	
SV114-025-202	P2002027-001	**103**	**98**	**115**	70-130	
SV114-050-202	P2002027-002	**103**	**99**	**115**	70-130	
SV114-150-202	P2002027-003	**103**	**99**	**115**	70-130	
SV114-250-202	P2002027-004	**103**	**98**	**114**	70-130	
SV114-250-602	P2002027-005	**102**	**98**	**114**	70-130	
SV114-350-202	P2002027-006	**101**	**95**	**112**	70-130	
SV114-450-202	P2002027-007	**111**	**88**	**98**	70-130	
SV116-025-202	P2002027-008	**109**	**97**	**108**	70-130	
SV116-050-202	P2002027-009	**101**	**100**	**114**	70-130	
SV116-150-202	P2002027-010	**109**	**100**	**111**	70-130	
SV116-250-202	P2002027-011	**113**	**97**	**110**	70-130	
SV116-350-602	P2002027-012	**110**	**92**	**107**	70-130	
SV116-350-202	P2002027-013	**112**	**90**	**103**	70-130	
SV116-450-202	P2002027-014	**111**	**93**	**107**	70-130	
SV128-025-202	P2002027-015	**103**	**99**	**114**	70-130	
SV128-050-202	P2002027-016	**104**	**100**	**115**	70-130	
SV128-150-202	P2002027-017	**113**	**98**	**115**	70-130	
SV128-250-202	P2002027-018	**113**	**96**	**110**	70-130	
SV128-350-202	P2002027-019	**113**	**71**	**87**	70-130	
SV128-450-202	P2002027-020	**112**	**93**	**108**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200417-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 4/17/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	122	87.9	90.3	**72**	**74**	57-136	3	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	42.5	40.5	40.9	**95**	**96**	59-128	1	25	
74-87-3	Chloromethane	103	78.5	83.6	**76**	**81**	59-132	6	25	
75-01-4	Vinyl Chloride	83.0	78.2	81.6	**94**	**98**	64-127	4	25	
106-99-0	1,3-Butadiene	95.9	95.5	99.6	**100**	**104**	66-134	4	25	
75-00-3	Chloroethane	81.1	63.5	66.8	**78**	**82**	63-127	5	25	
64-17-5	Ethanol	563	398	413	**71**	**73**	59-125	3	25	
67-64-1	Acetone	450	348	358	**77**	**80**	58-128	4	25	
75-69-4	Trichlorofluoromethane	37.7	37.8	38.3	**100**	**102**	62-126	2	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	172	142	146	**83**	**85**	52-125	2	25	
75-09-2	Methylene Chloride	60.5	53.3	54.2	**88**	**90**	62-115	2	25	
76-13-1	Trichlorotrifluoroethane	28.2	28.3	28.5	**100**	**101**	66-126	1	25	
75-15-0	Carbon Disulfide	68.1	59.6	60.6	**88**	**89**	57-134	1	25	
75-34-3	1,1-Dichloroethane	52.4	44.4	45.1	**85**	**86**	68-126	1	25	
78-93-3	2-Butanone (MEK)	71.9	63.9	64.9	**89**	**90**	67-130	1	25	
141-78-6	Ethyl Acetate	120	103	104	**86**	**87**	65-128	1	25	
110-54-3	n-Hexane	61.3	49.5	50.5	**81**	**82**	63-120	1	25	
67-66-3	Chloroform	43.8	41.8	42.5	**95**	**97**	68-123	2	25	
109-99-9	Tetrahydrofuran (THF)	74.6	65.4	66.5	**88**	**89**	64-123	1	25	
107-06-2	1,2-Dichloroethane	52.9	52.9	54.0	**100**	**102**	65-128	2	25	
71-43-2	Benzene	65.8	57.7	58.7	**88**	**89**	69-119	1	25	
56-23-5	Carbon Tetrachloride	33.1	36.2	36.4	**109**	**110**	68-132	0.9	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200417-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 4/17/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	123	112	113	**91**	**92**	70-117	1	25	
75-27-4	Bromodichloromethane	32.6	32.3	32.6	**99**	**100**	72-128	1	25	
79-01-6	Trichloroethene	40.2	40.5	40.9	**101**	**102**	71-123	1	25	
123-91-1	1,4-Dioxane	60.0	59.1	59.8	**99**	**100**	71-122	1	25	
142-82-5	n-Heptane	52.2	46.9	47.8	**90**	**92**	69-123	2	25	
108-10-1	4-Methyl-2-pentanone	51.8	46.2	46.6	**89**	**90**	67-130	1	25	
108-88-3	Toluene	56.3	53.9	54.4	**96**	**97**	66-119	1	25	
591-78-6	2-Hexanone	52.7	47.0	47.5	**89**	**90**	62-128	1	25	
124-48-1	Dibromochloromethane	25.1	28.8	28.8	**115**	**115**	70-130	0	25	
106-93-4	1,2-Dibromoethane	27.9	30.5	30.7	**109**	**110**	74-122	0.9	25	
127-18-4	Tetrachloroethene	30.7	33.2	33.2	**108**	**108**	66-124	0	25	
100-41-4	Ethylbenzene	48.8	50.4	50.7	**103**	**104**	70-124	1	25	
179601-23-1	m,p-Xylenes	98.1	103	103	**105**	**105**	61-134	0	25	
75-25-2	Bromoform	20.7	25.7	25.9	**124**	**125**	66-139	0.8	25	
100-42-5	Styrene	49.8	57.2	57.8	**115**	**116**	73-127	0.9	25	
95-47-6	o-Xylene	49.3	50.6	50.9	**103**	**103**	67-125	0	25	
108-67-8	1,3,5-Trimethylbenzene	43.1	45.7	45.9	**106**	**106**	67-130	0	25	
95-63-6	1,2,4-Trimethylbenzene	43.1	48.1	48.4	**112**	**112**	66-132	0	25	
120-82-1	1,2,4-Trichlorobenzene	29.1	37.4	37.8	**129**	**130**	55-142	0.8	25	
91-20-3	Naphthalene	40.5	49.1	50.0	**121**	**123**	57-138	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200420-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	122	91.0	101	**75**	**83**	57-136	10	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	42.5	42.7	44.0	**100**	**104**	59-128	4	25	
74-87-3	Chloromethane	103	80.8	87.3	**78**	**85**	59-132	9	25	
75-01-4	Vinyl Chloride	83.0	88.6	94.9	**107**	**114**	64-127	6	25	
106-99-0	1,3-Butadiene	95.9	110	116	**115**	**121**	66-134	5	25	
75-00-3	Chloroethane	81.1	65.0	65.6	**80**	**81**	63-127	1	25	
64-17-5	Ethanol	563	414	420	**74**	**75**	59-125	1	25	
67-64-1	Acetone	450	361	360	**80**	**80**	58-128	0	25	
75-69-4	Trichlorofluoromethane	37.7	40.2	39.9	**107**	**106**	62-126	0.9	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	172	151	149	**88**	**87**	52-125	1	25	
75-09-2	Methylene Chloride	60.5	54.5	53.8	**90**	**89**	62-115	1	25	
76-13-1	Trichlorotrifluoroethane	28.2	29.3	29.0	**104**	**103**	66-126	1	25	
75-15-0	Carbon Disulfide	68.1	61.1	60.5	**90**	**89**	57-134	1	25	
75-34-3	1,1-Dichloroethane	52.4	46.3	46.1	**88**	**88**	68-126	0	25	
78-93-3	2-Butanone (MEK)	71.9	65.0	65.0	**90**	**90**	67-130	0	25	
141-78-6	Ethyl Acetate	120	108	106	**90**	**88**	65-128	2	25	
110-54-3	n-Hexane	61.3	52.2	51.7	**85**	**84**	63-120	1	25	
67-66-3	Chloroform	43.8	44.3	43.6	**101**	**100**	68-123	1	25	
109-99-9	Tetrahydrofuran (THF)	74.6	66.9	65.7	**90**	**88**	64-123	2	25	
107-06-2	1,2-Dichloroethane	52.9	58.0	57.3	**110**	**108**	65-128	2	25	
71-43-2	Benzene	65.8	58.3	58.0	**89**	**88**	69-119	1	25	
56-23-5	Carbon Tetrachloride	33.1	37.8	37.4	**114**	**113**	68-132	0.9	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200420-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	123	112	111	**91**	**90**	70-117	1	25	
75-27-4	Bromodichloromethane	32.6	33.4	33.0	**102**	**101**	72-128	1	25	
79-01-6	Trichloroethene	40.2	40.7	40.1	**101**	**100**	71-123	1	25	
123-91-1	1,4-Dioxane	60.0	59.1	58.7	**99**	**98**	71-122	1	25	
142-82-5	n-Heptane	52.2	47.3	46.8	**91**	**90**	69-123	1	25	
108-10-1	4-Methyl-2-pentanone	51.8	46.6	46.2	**90**	**89**	67-130	1	25	
108-88-3	Toluene	56.3	54.3	53.4	**96**	**95**	66-119	1	25	
591-78-6	2-Hexanone	52.7	48.1	47.9	**91**	**91**	62-128	0	25	
124-48-1	Dibromochloromethane	25.1	29.1	28.6	**116**	**114**	70-130	2	25	
106-93-4	1,2-Dibromoethane	27.9	30.6	30.0	**110**	**108**	74-122	2	25	
127-18-4	Tetrachloroethene	30.7	33.2	32.4	**108**	**106**	66-124	2	25	
100-41-4	Ethylbenzene	48.8	51.0	50.1	**105**	**103**	70-124	2	25	
179601-23-1	m,p-Xylenes	98.1	105	101	**107**	**103**	61-134	4	25	
75-25-2	Bromoform	20.7	25.9	25.5	**125**	**123**	66-139	2	25	
100-42-5	Styrene	49.8	57.1	56.3	**115**	**113**	73-127	2	25	
95-47-6	o-Xylene	49.3	51.7	50.8	**105**	**103**	67-125	2	25	
108-67-8	1,3,5-Trimethylbenzene	43.1	46.4	45.8	**108**	**106**	67-130	2	25	
95-63-6	1,2,4-Trimethylbenzene	43.1	49.4	48.7	**115**	**113**	66-132	2	25	
120-82-1	1,2,4-Trichlorobenzene	29.1	37.1	36.8	**127**	**126**	55-142	0.8	25	
91-20-3	Naphthalene	40.5	48.9	48.7	**121**	**120**	57-138	0.8	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200424-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 4/24/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	122	123	121	**101**	**99**	57-136	2	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	42.5	42.8	41.9	**101**	**99**	59-128	2	25	
74-87-3	Chloromethane	103	109	107	**106**	**104**	59-132	2	25	
75-01-4	Vinyl Chloride	83.0	86.7	86.1	**104**	**104**	64-127	0	25	
106-99-0	1,3-Butadiene	95.9	110	110	**115**	**115**	66-134	0	25	
75-00-3	Chloroethane	81.1	78.6	79.9	**97**	**99**	63-127	2	25	
64-17-5	Ethanol	563	523	525	**93**	**93**	59-125	0	25	
67-64-1	Acetone	450	439	438	**98**	**97**	58-128	1	25	
75-69-4	Trichlorofluoromethane	37.7	37.0	36.6	**98**	**97**	62-126	1	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	172	179	180	**104**	**105**	52-125	1	25	
75-09-2	Methylene Chloride	60.5	62.4	61.8	**103**	**102**	62-115	1	25	
76-13-1	Trichlorotrifluoroethane	28.2	28.1	27.6	**100**	**98**	66-126	2	25	
75-15-0	Carbon Disulfide	68.1	71.5	70.7	**105**	**104**	57-134	1	25	
75-34-3	1,1-Dichloroethane	52.4	52.0	51.3	**99**	**98**	68-126	1	25	
78-93-3	2-Butanone (MEK)	71.9	78.1	78.6	**109**	**109**	67-130	0	25	
141-78-6	Ethyl Acetate	120	131	132	**109**	**110**	65-128	0.9	25	
110-54-3	n-Hexane	61.3	61.4	61.4	**100**	**100**	63-120	0	25	
67-66-3	Chloroform	43.8	44.1	43.4	**101**	**99**	68-123	2	25	
109-99-9	Tetrahydrofuran (THF)	74.6	76.8	75.0	**103**	**101**	64-123	2	25	
107-06-2	1,2-Dichloroethane	52.9	54.0	52.8	**102**	**100**	65-128	2	25	
71-43-2	Benzene	65.8	66.6	66.1	**101**	**100**	69-119	1	25	
56-23-5	Carbon Tetrachloride	33.1	33.7	33.3	**102**	**101**	68-132	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200424-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 4/24/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	123	126	125	**102**	**102**	70-117	0	25	
75-27-4	Bromodichloromethane	32.6	32.6	32.2	**100**	**99**	72-128	1	25	
79-01-6	Trichloroethene	40.2	41.4	41.2	**103**	**102**	71-123	1	25	
123-91-1	1,4-Dioxane	60.0	65.9	65.0	**110**	**108**	71-122	2	25	
142-82-5	n-Heptane	52.2	54.5	54.0	**104**	**103**	69-123	1	25	
108-10-1	4-Methyl-2-pentanone	51.8	57.3	57.0	**111**	**110**	67-130	0.9	25	
108-88-3	Toluene	56.3	60.9	61.3	**108**	**109**	66-119	0.9	25	
591-78-6	2-Hexanone	52.7	65.4	66.1	**124**	**125**	62-128	0.8	25	
124-48-1	Dibromochloromethane	25.1	28.6	28.5	**114**	**114**	70-130	0	25	
106-93-4	1,2-Dibromoethane	27.9	31.6	31.6	**113**	**113**	74-122	0	25	
127-18-4	Tetrachloroethene	30.7	32.6	32.8	**106**	**107**	66-124	0.9	25	
100-41-4	Ethylbenzene	48.8	53.9	53.3	**110**	**109**	70-124	0.9	25	
179601-23-1	m,p-Xylenes	98.1	105	105	**107**	**107**	61-134	0	25	
75-25-2	Bromoform	20.7	24.0	24.2	**116**	**117**	66-139	0.9	25	
100-42-5	Styrene	49.8	57.8	58.2	**116**	**117**	73-127	0.9	25	
95-47-6	o-Xylene	49.3	53.0	53.3	**108**	**108**	67-125	0	25	
108-67-8	1,3,5-Trimethylbenzene	43.1	45.9	46.2	**106**	**107**	67-130	0.9	25	
95-63-6	1,2,4-Trimethylbenzene	43.1	47.4	47.4	**110**	**110**	66-132	0	25	
120-82-1	1,2,4-Trichlorobenzene	29.1	35.0	35.2	**120**	**121**	55-142	0.8	25	
91-20-3	Naphthalene	40.5	45.6	45.8	**113**	**113**	57-138	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: **EA Engineering, Science, and Technology, Inc.** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 04172002.D
Analyst: Topacio De Leon Date Analyzed: 4/17/20
Sampling Media: 1.0 L Silonite Summa Canister(s) Time Analyzed: 03:14
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	159374		9.16	667643		11.12		295435		15.46	
	Upper Limit	223124		9.49	934700		11.45		413609		15.79	
	Lower Limit	95624		8.83	400586		10.79		177261		15.13	
	Client Sample ID											
01	Method Blank	142997		9.13	601617		11.11		265243		15.46	
02	Lab Control Sample	155343		9.16	647593		11.12		283754		15.46	
03	Duplicate Lab Control Sample	154717		9.16	645447		11.12		284978		15.46	
04	SV114-350-202 (Dilution)	147299		9.13	614550		11.11		275818		15.46	
05	SV114-025-202	152358		9.13	639960		11.10		290941		15.46	
06	SV114-050-202	146093		9.13	625255		11.11		280369		15.46	
07	SV114-150-202	147157		9.13	622292		11.10		282355		15.46	
08	SV114-250-202	150642		9.13	642059		11.11		292195		15.46	
09	SV114-250-602	150447		9.13	639861		11.11		292480		15.46	
10	SV114-350-202	151242		9.13	637978		11.11		295254		15.46	
11	SV116-050-202	153108		9.13	655087		11.11		291015		15.46	
12	SV128-025-202	145639		9.13	624026		11.11		280714		15.46	
13	SV128-050-202	144248		9.13	618590		11.10		275284		15.45	
14												
15												
16												
17												
18												
19												
20												

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: **EA Engineering, Science, and Technology, Inc.** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 04202003.D
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister(s) Time Analyzed: 03:46
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	143476		9.16	612786		11.12		270309		15.46	
	Upper Limit	200866		9.49	857900		11.45		378433		15.79	
	Lower Limit	86086		8.83	367672		10.79		162185		15.13	
	Client Sample ID											
01	Method Blank	128061		9.13	553247		11.10		242040		15.46	
02	Lab Control Sample	135273		9.16	576638		11.12		255357		15.46	
03	Duplicate Lab Control Sample	137267		9.16	582729		11.12		259690		15.46	
04	SV114-450-202	135860		9.13	579676		11.11		292251		15.46	
05	SV116-150-202	132507		9.13	568820		11.11		252982		15.46	
06	SV128-025-202 (Dilution)	137165		9.13	590579		11.11		261935		15.46	
07	SV128-050-202 (Dilution)	133268		9.13	568399		11.10		247229		15.46	
08	SV116-025-202	132753		9.13	564685		11.11		253358		15.46	
09	SV114-450-202 (Dilution)	132652		9.13	569498		11.11		257641		15.46	
10	SV116-450-202 (Dilution)	132360		9.13	564717		11.11		256980		15.46	
11	SV116-450-202	131884		9.13	560416		11.11		269089		15.46	
12	SV116-350-602	129821		9.13	539146		11.11		256908		15.46	
13	SV116-350-202	125914		9.13	537689		11.11		257291		15.46	
14	SV128-150-202 (Dilution)	127944		9.13	543882		11.10		243877		15.46	
15	SV128-150-202	120774		9.14	515520		11.11		230852		15.46	
16	SV128-250-202	123911		9.13	535586		11.11		249991		15.46	
17	SV128-350-202	127494		9.14	542935		11.11		318664		15.46	
18	SV128-450-202	123908		9.13	526881		11.11		248635		15.46	
19	SV116-250-202	117545		9.13	505509		11.11		233347		15.46	
20												

IS1 (BCM) = Bromochloromethane
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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: **EA Engineering, Science, and Technology, Inc.** ALS Project ID: P2002027
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 04242002.D
Analyst: Simon Cao Date Analyzed: 4/24/20
Sampling Media: 1.0 L Summa Canister(s) Time Analyzed: 06:28
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	141305		9.16	587251		11.12		265920		15.46	
	Upper Limit	197827		9.49	822151		11.45		372288		15.79	
	Lower Limit	84783		8.83	352351		10.79		159552		15.13	
	Client Sample ID											
01	Method Blank	127206		9.13	518393		11.10		237669		15.45	
02	Lab Control Sample	134096		9.16	553273		11.12		246033		15.46	
03	Duplicate Lab Control Sample	137360		9.16	564717		11.12		246346		15.46	
04	SV128-350-202 (Dilution)	135263		9.13	559597		11.11		246256		15.46	
05	SV128-450-202 (Dilution)	133948		9.13	561230		11.11		251644		15.46	
06												
07												
08												
09												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												

IS1 (BCM) = Bromochloromethane
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AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172014.D Vial: 5
Acq On : 17 Apr 2020 10:17 Operator: TD
Sample : P2002027-001 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 16:47:50 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/20/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	152358	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	11.10	114	639960	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	290941	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	220934	12.817	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.56%				
57) Toluene-d8 (SS2)	13.54	98	711198	12.291	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.32%				
73) Bromofluorobenzene (SS3)	17.05	174	277018	14.389	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 115.12%				
Target Compounds							Qvalue
2) Propene	3.86	42	1405	0.151	ng	#	73
3) Dichlorodifluoromethan...	3.96	85	412850	18.989	ng		100
4) Chloromethane	4.17	50	188	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	12092	1.192	ng		99
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.36	45	1391	0.191	ng		94
11) Acetonitrile	5.58	41	1242	0.075	ng	#	3
12) Acrolein	5.71	56	1968	0.314	ng		96
13) Acetone	5.85	58	18436	2.460	ng		93
14) Trichlorofluoromethane	6.02	101	52334	2.658	ng		100
15) 2-Propanol (Isopropanol)	6.17	45	7825	0.329	ng		84
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	6.86	59	241	N.D.			
19) Methylene Chloride	6.87	84	119	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	7.18	151	27568	2.512	ng		95
22) Carbon Disulfide	7.14	76	67593	1.701	ng		100
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	8.25	86	2364	0.944	ng	#	43
27) 2-Butanone (MEK)	8.54	72	2292	0.312	ng	#	1
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	9.22	57	7573	0.464	ng		99
32) Chloroform	9.28	83	1545	0.080	ng		90
34) Tetrahydrofuran (THF)	9.70	72	2115	0.298	ng		95
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D. d			
41) Benzene	10.76	78	9242	0.203	ng		99
42) Carbon Tetrachloride	10.90	117	27635	1.700	ng		99
43) Cyclohexane	11.04	84	7655	0.442	ng		92
44) tert-Amyl Methyl Ether	11.38	73	115	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D. d			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	11.80	88	2971	0.334	ng		92
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d			
50) Methyl Methacrylate	0.00	100	0	N.D. d			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172014.D Vial: 5
Acq On : 17 Apr 2020 10:17 Operator: TD
Sample : P2002027-001 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 16:47:50 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

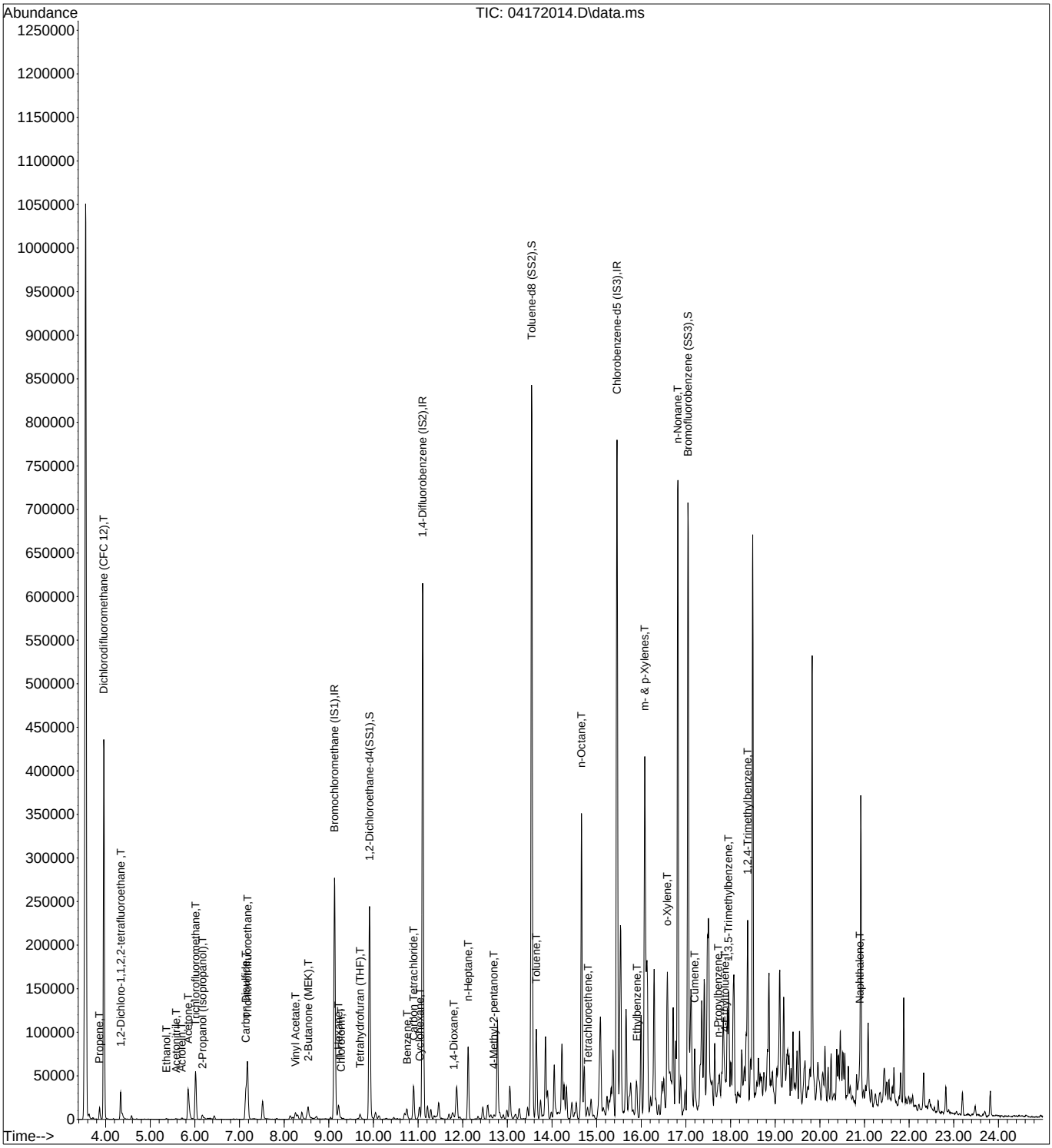
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.12	71	24786	2.277 ng	96
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	12.70	58	1566	0.174 ng	77
54) trans-1,3-Dichloropropene	13.16	75	188	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	13.65	91	72651	1.479 ng	99
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D. d	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.66	57	68417	7.722 ng	91
64) Tetrachloroethene	14.81	166	1603	0.105 ng	94
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.90	91	17491	0.332 ng	99
67) m- & p-Xylenes	16.08	91	338730	8.025 ng	98
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.47	104	382	N.D.	
70) o-Xylene	16.58	91	108751	2.578 ng	99
71) n-Nonane	16.82	43	251271	13.791 ng	95
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	17.19	105	9271	0.168 ng	99
75) alpha-Pinene	17.71	93	130	N.D.	
76) n-Propylbenzene	17.72	91	20105	0.320 ng	91
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	11831	0.234 ng	98
79) 1,3,5-Trimethylbenzene	17.95	105	27088	0.583 ng	99
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	64664	1.498 ng	90
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.49	91	275	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	18.98	68	339	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.90	128	30025	0.505 ng	99
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172014.D Vial: 5
Acq On : 17 Apr 2020 10:17 Operator: TD
Sample : P2002027-001 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 16:47:50 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



R9031720.M Mon Apr 20 16:48:48 2020 Page: 3

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172014.D Vial: 5
Acq On : 17 Apr 2020 10:17 Operator: TD
Sample : P2002027-001 (400mL) Inst : MS09
Misc : S31-02272010

4/20/20

Quant Time: Apr 20 16:47:50 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

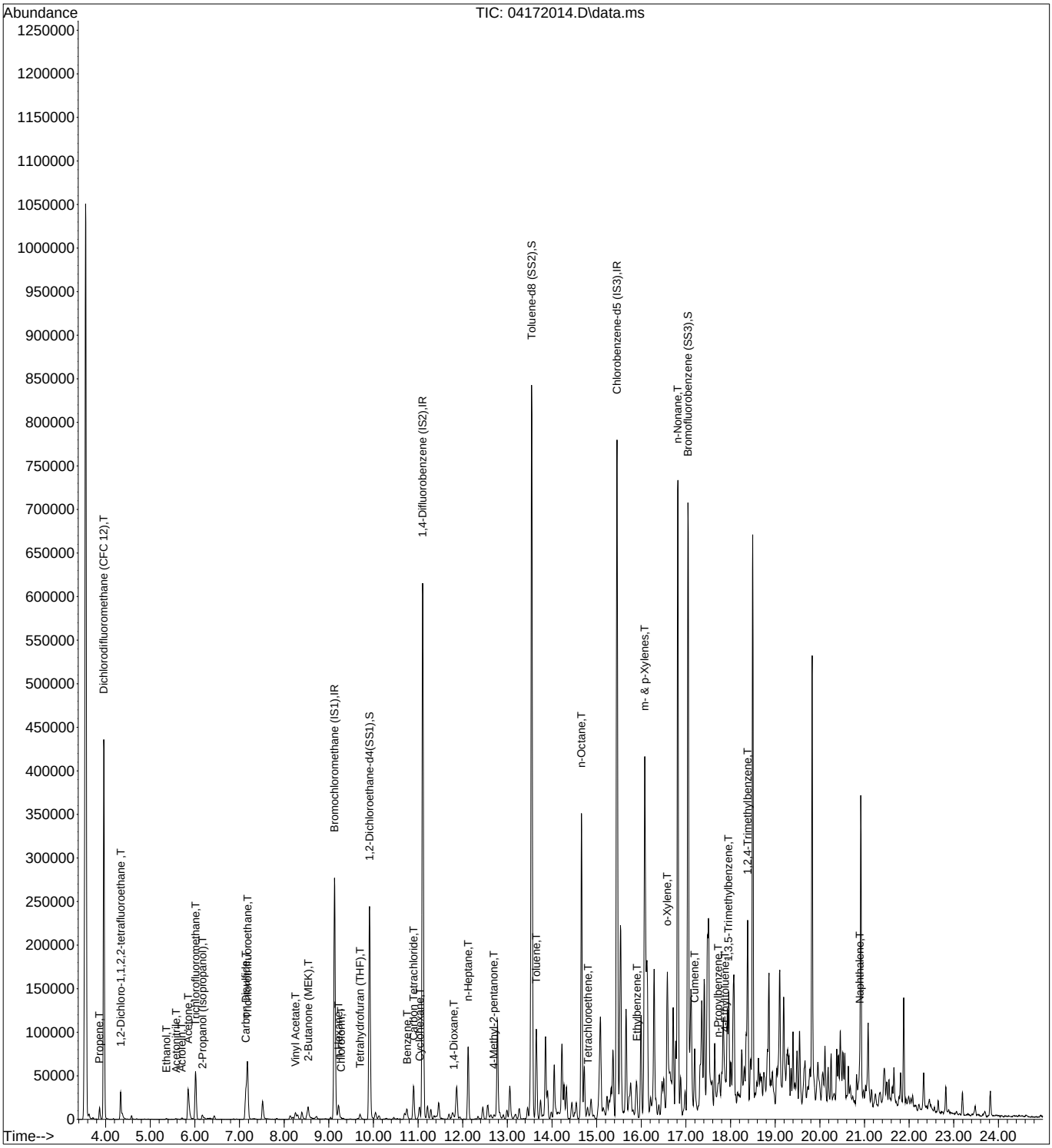
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	152358	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	11.10	114	639960	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	290941	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	220934	12.817	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.56%				
57) Toluene-d8 (SS2)	13.54	98	711198	12.291	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.32%				
73) Bromofluorobenzene (SS3)	17.05	174	277018	14.389	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 115.12%				
Target Compounds							Qvalue
2) Propene	3.86	42	1405	0.151	ng	#	73
3) Dichlorodifluoromethan...	3.96	85	412850	18.989	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	12092	1.192	ng		99
10) Ethanol	5.36	45	1391	0.191	ng		94
11) Acetonitrile	5.58	41	1242	0.075	ng	#	3
12) Acrolein	5.71	56	1968	0.314	ng		96
13) Acetone	5.85	58	18436	2.460	ng		93
14) Trichlorofluoromethane	6.02	101	52334	2.658	ng		100
15) 2-Propanol (Isopropanol)	6.17	45	7825	0.329	ng		84
21) Trichlorotrifluoroethane	7.18	151	27568	2.512	ng		95
22) Carbon Disulfide	7.14	76	67593	1.701	ng		100
26) Vinyl Acetate	8.25	86	2364	0.944	ng	#	43
27) 2-Butanone (MEK)	8.54	72	2292	0.312	ng	#	1
31) n-Hexane	9.22	57	7573	0.464	ng		99
32) Chloroform	9.28	83	1545	0.080	ng		90
34) Tetrahydrofuran (THF)	9.70	72	2115	0.298	ng		95
41) Benzene	10.76	78	9242	0.203	ng		99
42) Carbon Tetrachloride	10.90	117	27635	1.700	ng		99
43) Cyclohexane	11.04	84	7655	0.442	ng		92
48) 1,4-Dioxane	11.80	88	2971	0.334	ng		92
51) n-Heptane	12.12	71	24786	2.277	ng		96
53) 4-Methyl-2-pentanone	12.70	58	1566	0.174	ng		77
58) Toluene	13.65	91	72651	1.479	ng		99
63) n-Octane	14.66	57	68417	7.722	ng		91
64) Tetrachloroethene	14.81	166	1603	0.105	ng		94
66) Ethylbenzene	15.90	91	17491	0.332	ng		99
67) m- & p-Xylenes	16.08	91	338730	8.025	ng		98
70) o-Xylene	16.58	91	108751	2.578	ng		99
71) n-Nonane	16.82	43	251271	13.791	ng		95
74) Cumene	17.19	105	9271	0.168	ng		99
76) n-Propylbenzene	17.72	91	20105	0.320	ng		91
78) 4-Ethyltoluene	17.88	105	11831	0.234	ng		98
79) 1,3,5-Trimethylbenzene	17.95	105	27088	0.583	ng		99
82) 1,2,4-Trimethylbenzene	18.38	105	64664	1.498	ng		90
95) Naphthalene	20.90	128	30025	0.505	ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

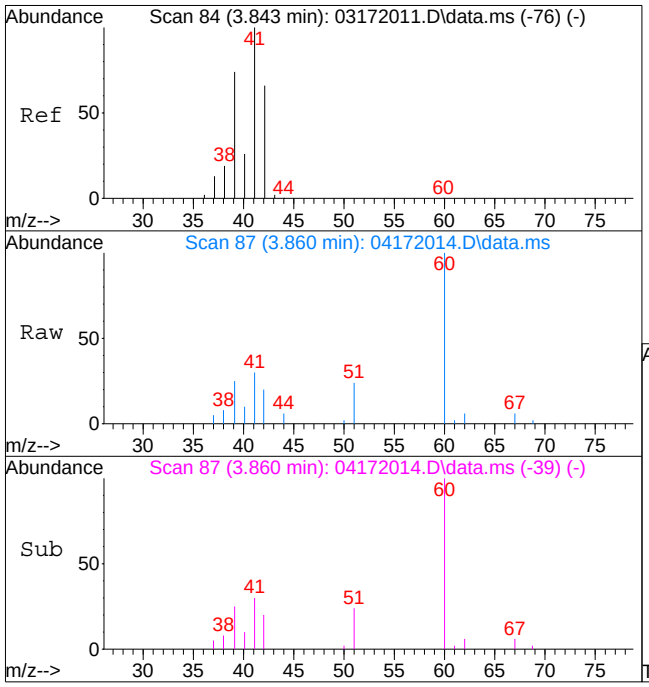
Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172014.D Vial: 5
Acq On : 17 Apr 2020 10:17 Operator: TD
Sample : P2002027-001 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 16:47:50 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



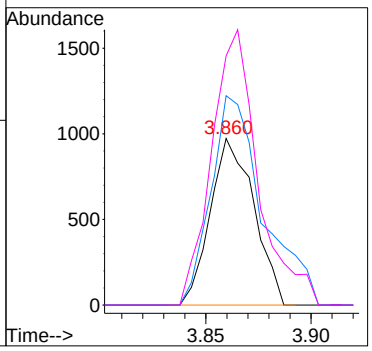
R9031720.M Mon Apr 20 16:48:02 2020 Page: 2

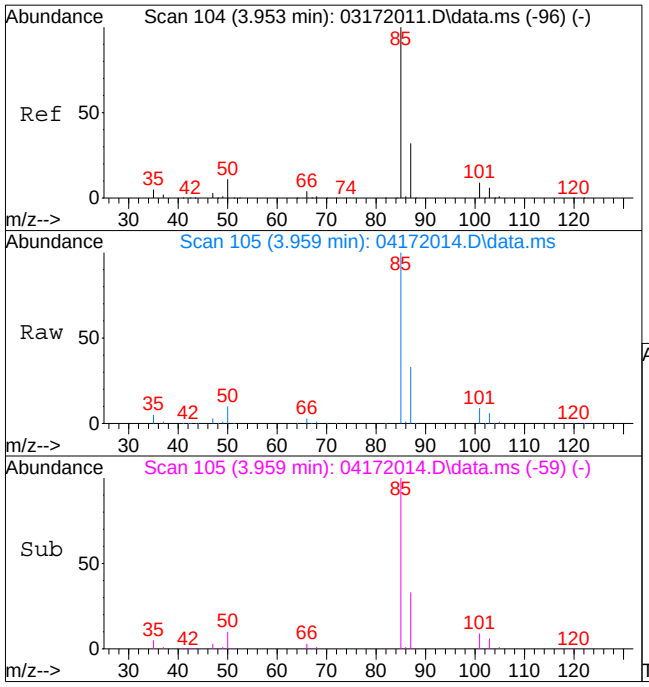


#2
Propene
Concen: 0.15 ng
RT: 3.86 min Scan# 87
Delta R.T. 0.017 min
Lab File: 04172014.D
Acq: 17 Apr 2020 10:17

Tgt Ion: 42 Resp: 1405

Ion	Ratio	Lower	Upper
42	100		
39	150.6	91.9	131.9#
41	176.7	130.5	170.5#

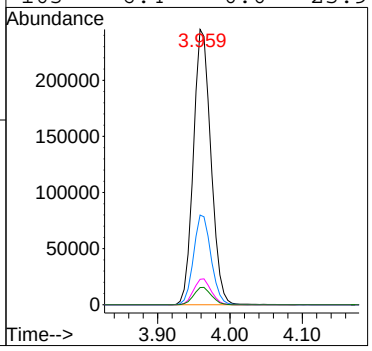


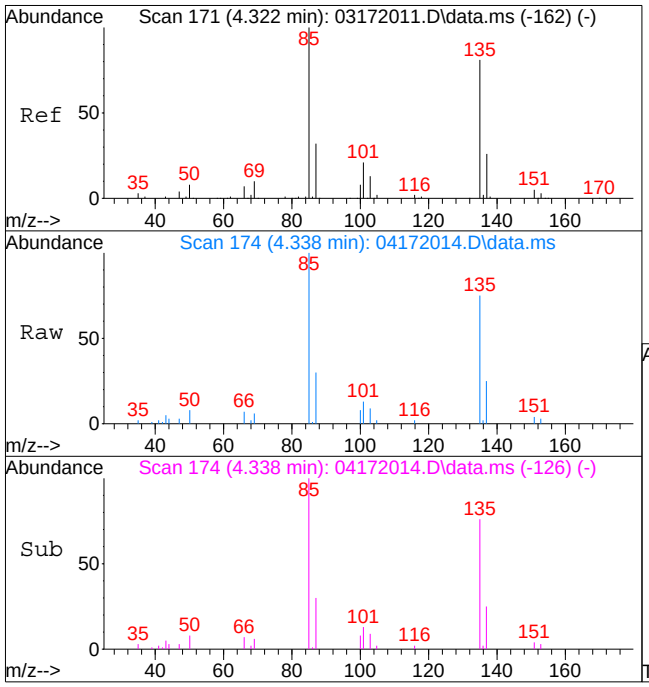


#3
Dichlorodifluoromethane (CFC 12)
Concen: 18.99 ng
RT: 3.96 min Scan# 105
Delta R.T. 0.006 min
Lab File: 04172014.D
Acq: 17 Apr 2020 10:17

Tgt Ion: 85 Resp: 412850

Ion	Ratio	Lower	Upper
85	100		
87	32.5	12.4	52.4
101	9.4	0.0	29.2
103	6.4	0.0	25.9

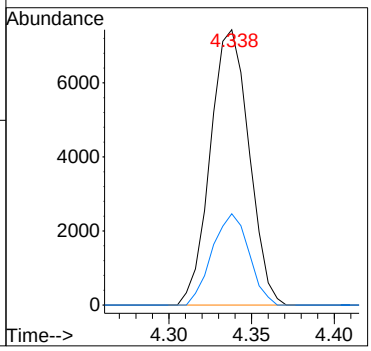


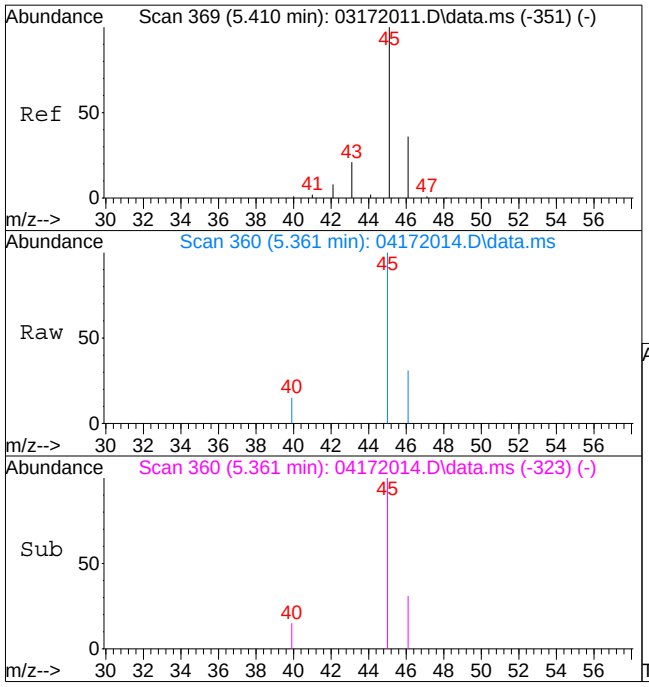


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 1.19 ng
RT: 4.34 min Scan# 174
Delta R.T. 0.016 min
Lab File: 04172014.D
Acq: 17 Apr 2020 10:17

Tgt Ion:135 Resp: 12092

Ion	Ratio	Lower	Upper
135	100		
137	31.6	12.0	52.0

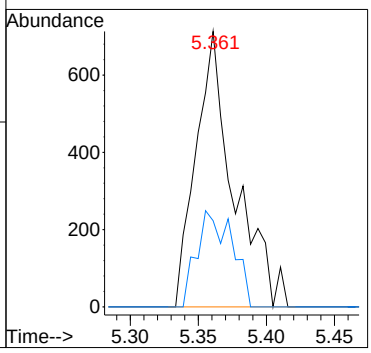


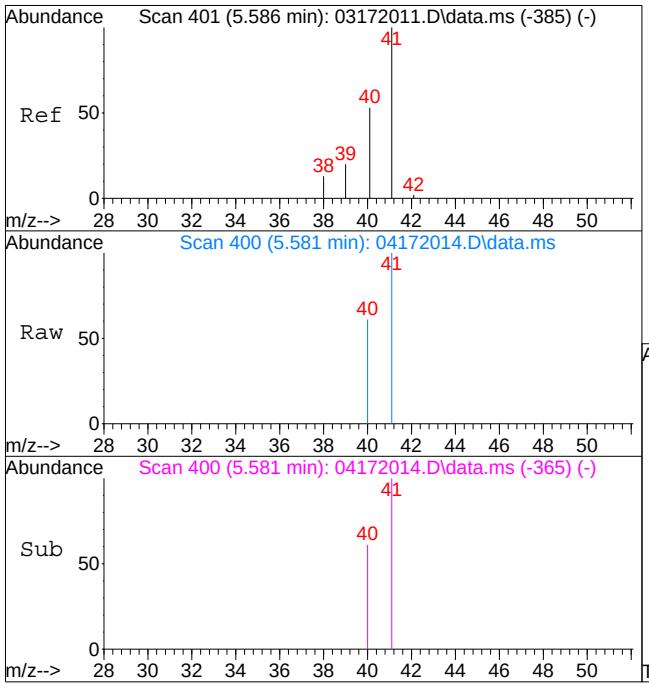


#10
Ethanol
Concen: 0.19 ng
RT: 5.36 min Scan# 360
Delta R.T. -0.049 min
Lab File: 04172014.D
Acq: 17 Apr 2020 10:17

Tgt Ion: 45 Resp: 1391

Ion	Ratio	Lower	Upper
45	100		
46	32.4	15.9	55.9

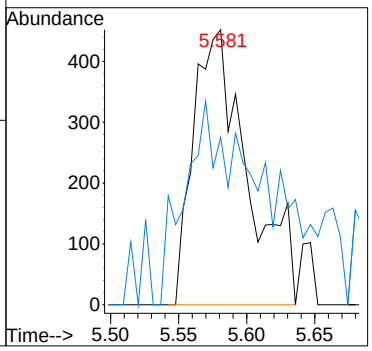


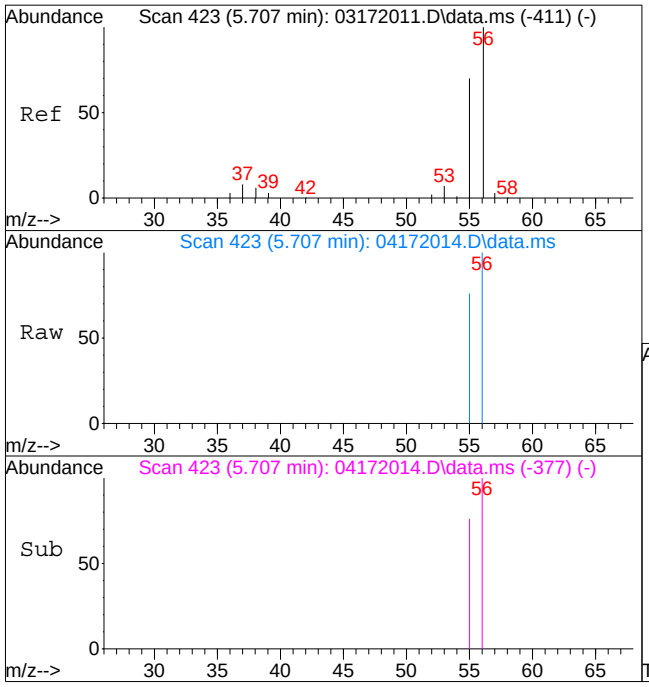


#11
Acetonitrile
Concen: 0.07 ng
RT: 5.58 min Scan# 400
Delta R.T. -0.005 min
Lab File: 04172014.D
Acq: 17 Apr 2020 10:17

Tgt Ion: 41 Resp: 1242

Ion	Ratio	Lower	Upper
41	100		
40	121.7	32.7	72.7#

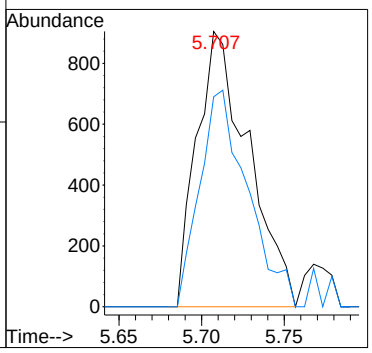


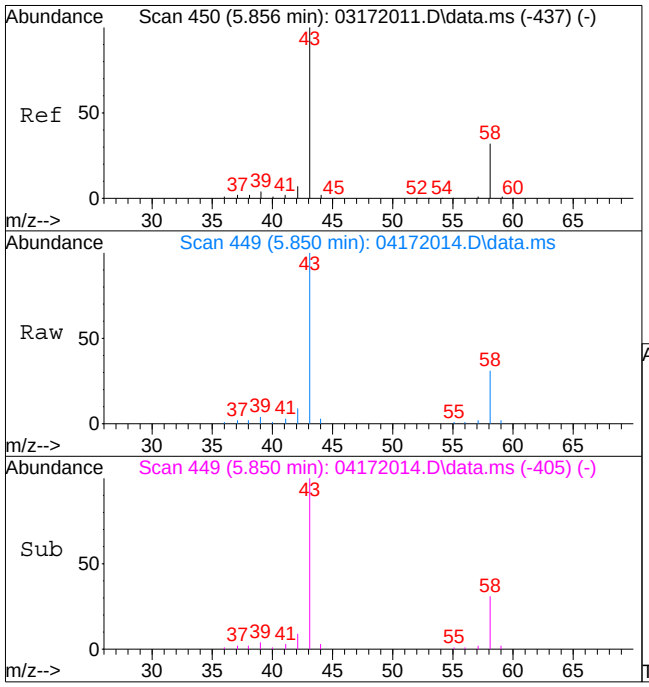


#12
Acrolein
Concen: 0.31 ng
RT: 5.71 min Scan# 423
Delta R.T. 0.000 min
Lab File: 04172014.D
Acq: 17 Apr 2020 10:17

Tgt Ion: 56 Resp: 1968

Ion	Ratio	Lower	Upper
56	100		
55	72.8	49.5	89.5

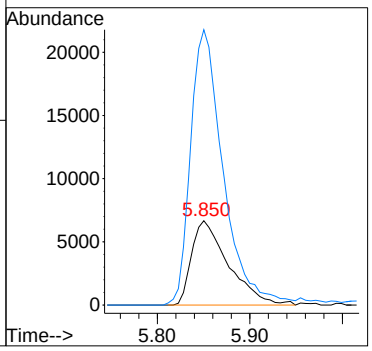


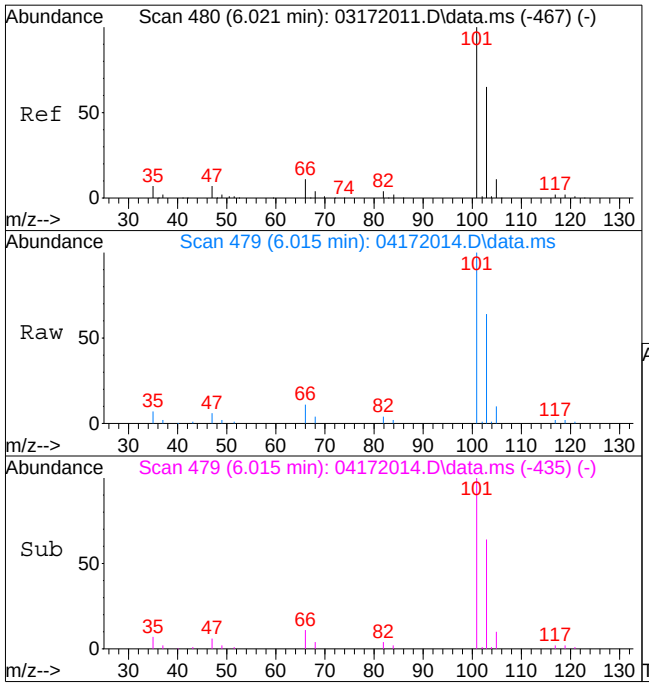


#13
Acetone
Concen: 2.46 ng
RT: 5.85 min Scan# 449
Delta R.T. -0.006 min
Lab File: 04172014.D
Acq: 17 Apr 2020 10:17

Tgt Ion: 58 Resp: 18436

Ion	Ratio	Lower	Upper
58	100		
43	289.4	272.8	332.8

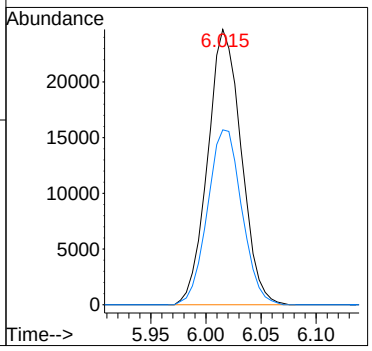


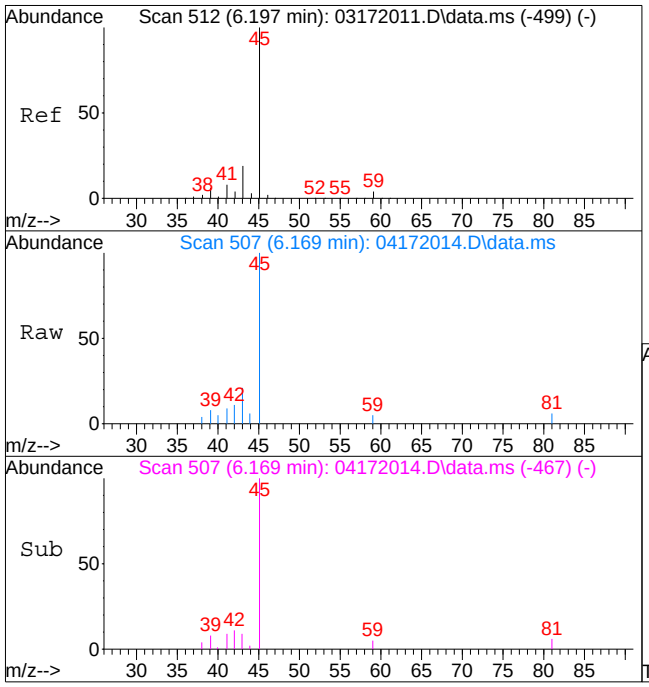


#14
Trichlorofluoromethane
Concen: 2.66 ng
RT: 6.02 min Scan# 479
Delta R.T. -0.006 min
Lab File: 04172014.D
Acq: 17 Apr 2020 10:17

Tgt Ion:101 Resp: 52334

Ion	Ratio	Lower	Upper
101	100		
103	65.1	45.3	85.3

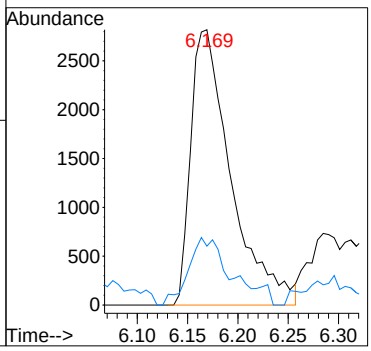


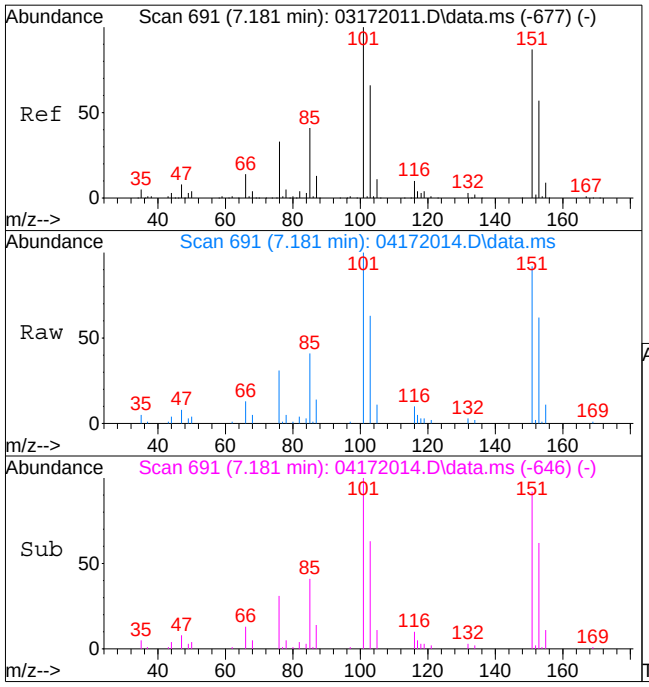


#15
2-Propanol (Isopropanol)
Concen: 0.33 ng
RT: 6.17 min Scan# 507
Delta R.T. -0.028 min
Lab File: 04172014.D
Acq: 17 Apr 2020 10:17

Tgt Ion: 45 Resp: 7825

Ion	Ratio	Lower	Upper
45	100		
43	26.4	0.0	39.0

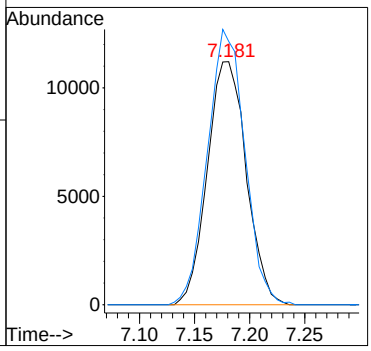


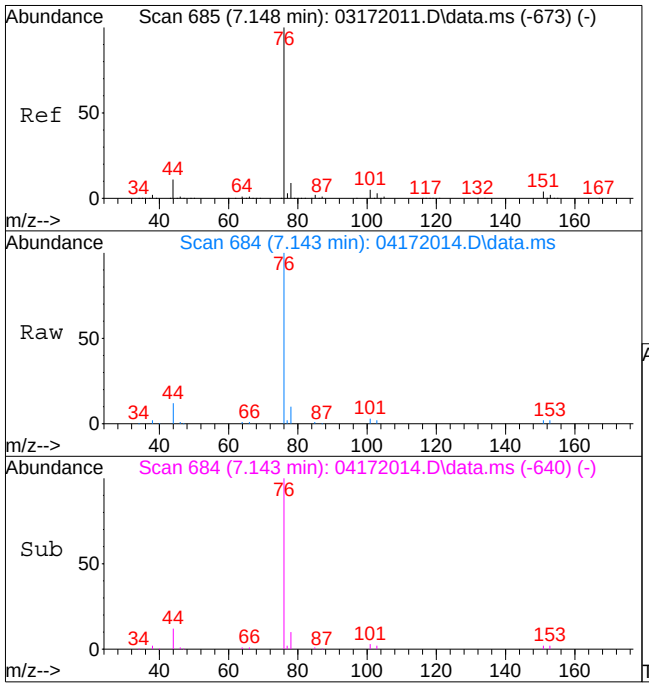


#21
Trichlorotrifluoroethane
Concen: 2.51 ng
RT: 7.18 min Scan# 691
Delta R.T. 0.000 min
Lab File: 04172014.D
Acq: 17 Apr 2020 10:17

Tgt Ion:151 Resp: 27568

Ion	Ratio	Lower	Upper
151	100		
101	108.8	94.7	134.7

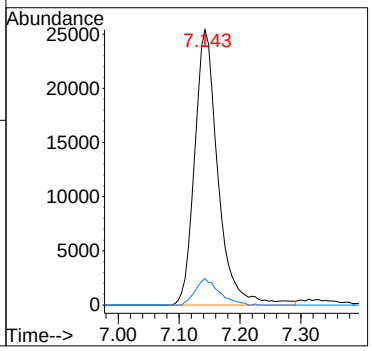


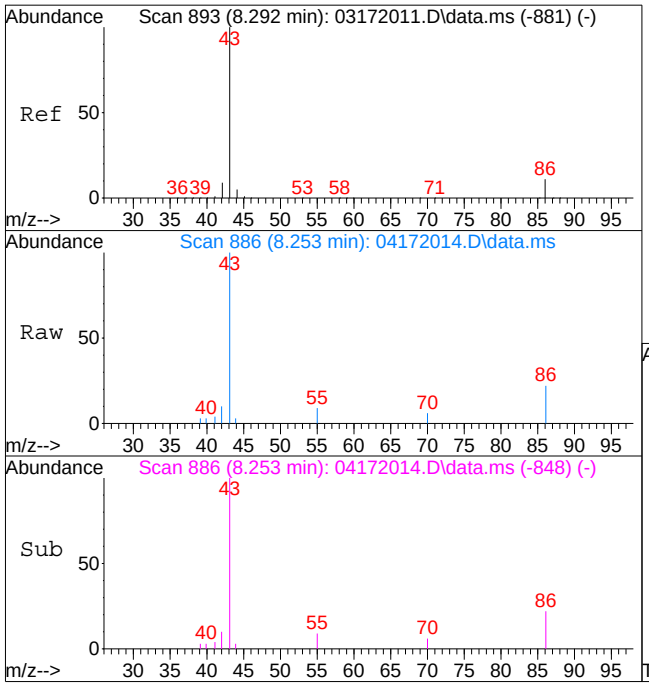


#22
Carbon Disulfide
Concen: 1.70 ng
RT: 7.14 min Scan# 684
Delta R.T. -0.005 min
Lab File: 04172014.D
Acq: 17 Apr 2020 10:17

Tgt Ion: 76 Resp: 67593

Ion	Ratio	Lower	Upper
76	100		
78	9.8	0.0	29.7

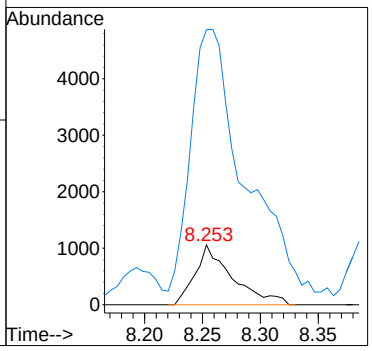


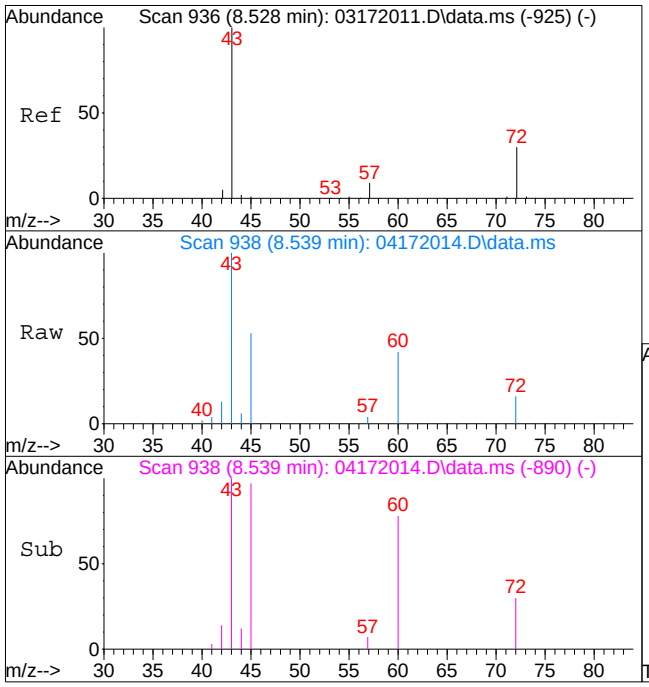


#26
Vinyl Acetate
Concen: 0.94 ng
RT: 8.25 min Scan# 886
Delta R.T. -0.039 min
Lab File: 04172014.D
Acq: 17 Apr 2020 10:17

Tgt Ion: 86 Resp: 2364

Ion	Ratio	Lower	Upper
86	100		
43	684.7	905.1	945.1#

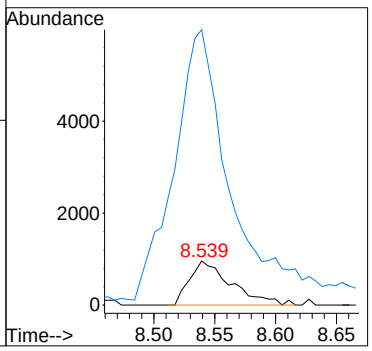


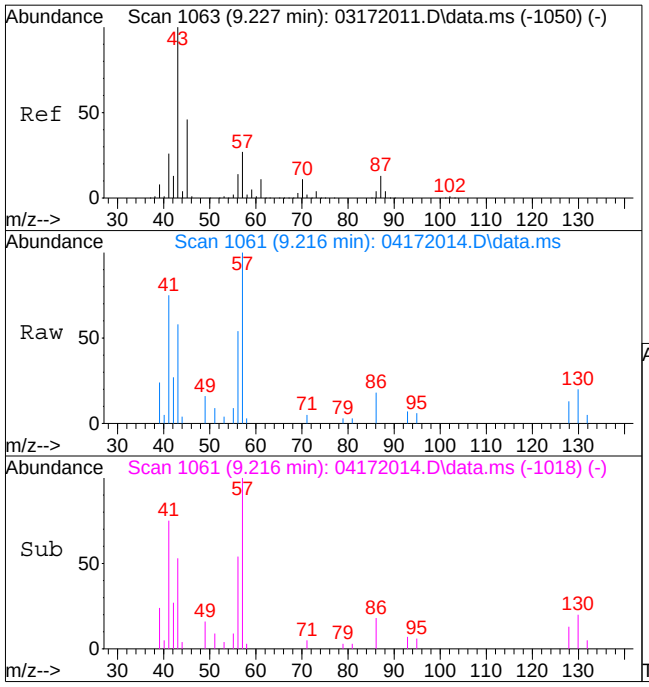


#27
2-Butanone (MEK)
Concen: 0.31 ng
RT: 8.54 min Scan# 938
Delta R.T. 0.011 min
Lab File: 04172014.D
Acq: 17 Apr 2020 10:17

Tgt Ion: 72 Resp: 2292

Ion	Ratio	Lower	Upper
72	100		
43	858.1	310.6	350.6#

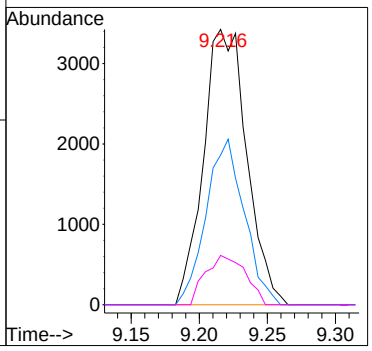


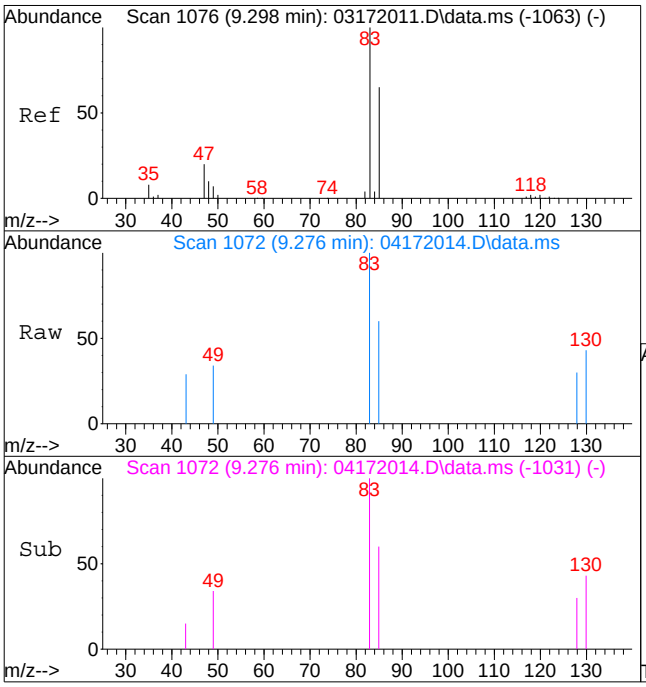


#31
n-Hexane
Concen: 0.46 ng
RT: 9.22 min Scan# 1061
Delta R.T. -0.011 min
Lab File: 04172014.D
Acq: 17 Apr 2020 10:17

Tgt Ion: 57 Resp: 7573

Ion	Ratio	Lower	Upper
57	100		
56	53.0	42.0	63.0
86	16.5	13.1	19.7

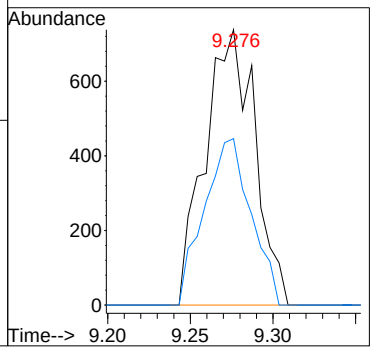


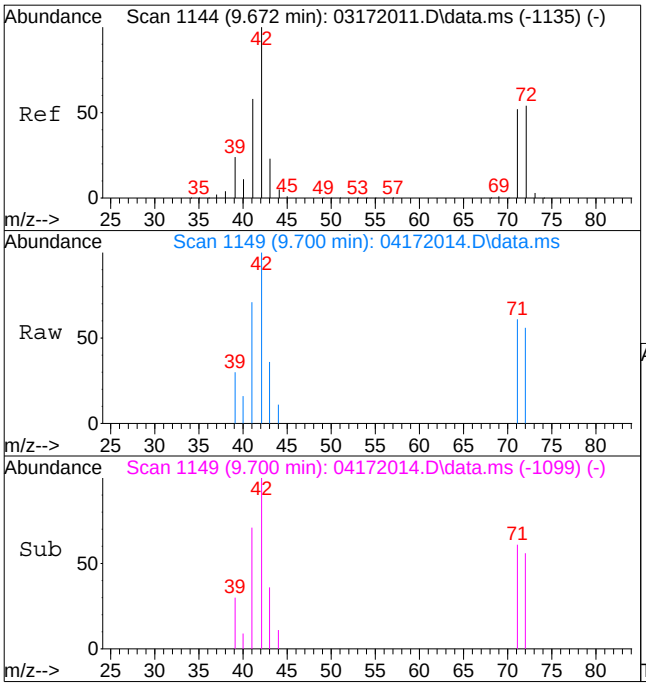


#32
Chloroform
Concen: 0.08 ng
RT: 9.28 min Scan# 1072
Delta R.T. -0.022 min
Lab File: 04172014.D
Acq: 17 Apr 2020 10:17

Tgt Ion: 83 Resp: 1545

Ion	Ratio	Lower	Upper
83	100		
85	57.0	45.1	85.1

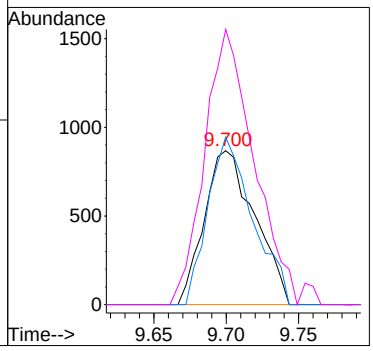


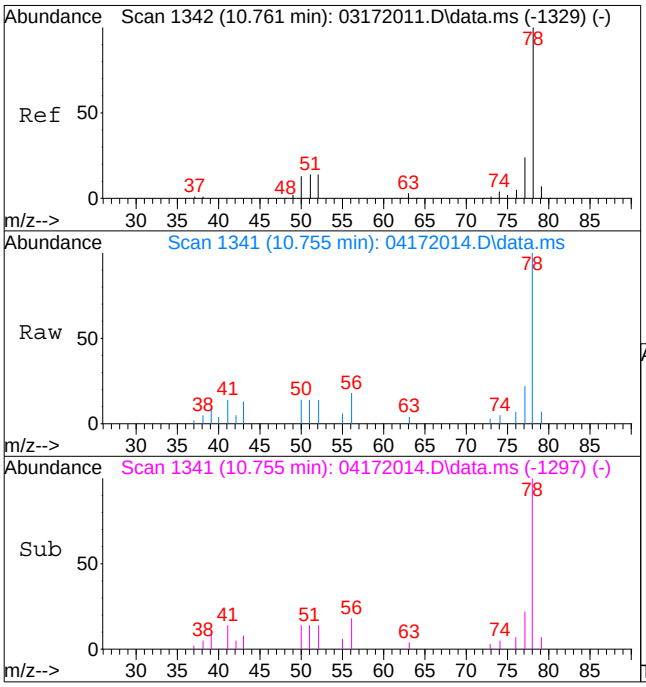


#34
Tetrahydrofuran (THF)
Concen: 0.30 ng
RT: 9.70 min Scan# 1149
Delta R.T. 0.028 min
Lab File: 04172014.D
Acq: 17 Apr 2020 10:17

Tgt Ion: 72 Resp: 2115

Ion	Ratio	Lower	Upper
72	100		
71	96.3	76.1	116.1
42	173.8	164.4	204.4

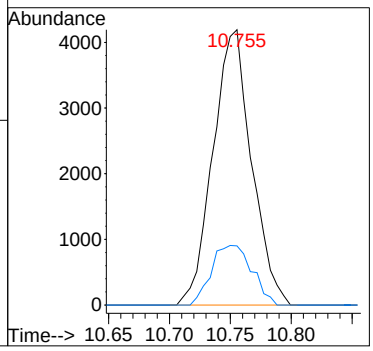


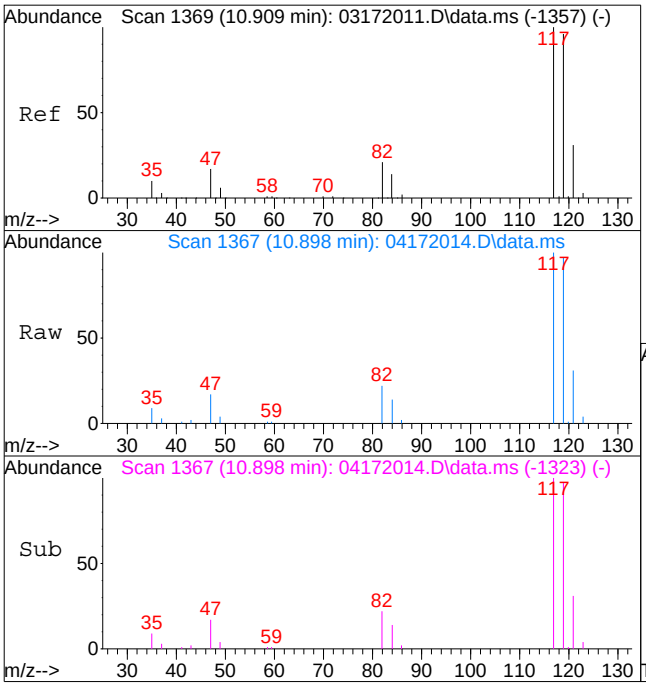


#41
Benzene
Concen: 0.20 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.006 min
Lab File: 04172014.D
Acq: 17 Apr 2020 10:17

Tgt Ion: 78 Resp: 9242

Ion	Ratio	Lower	Upper
78	100		
77	22.8	3.4	43.4

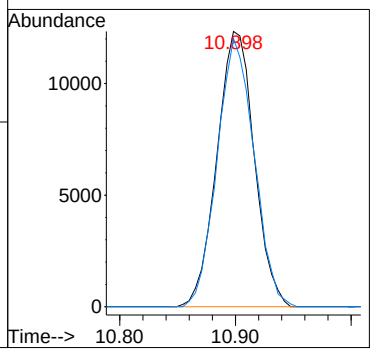


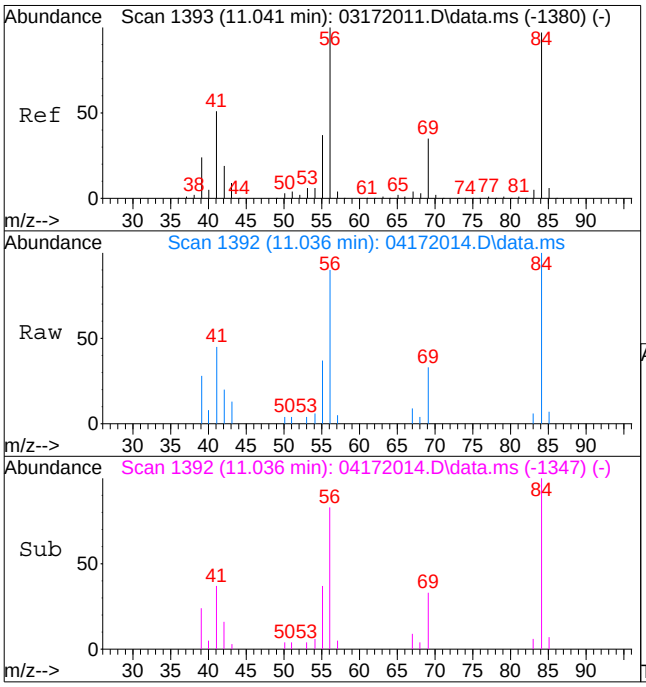


#42
Carbon Tetrachloride
Concen: 1.70 ng
RT: 10.90 min Scan# 1367
Delta R.T. -0.011 min
Lab File: 04172014.D
Acq: 17 Apr 2020 10:17

Tgt Ion:117 Resp: 27635

Ion	Ratio	Lower	Upper
117	100		
119	96.5	76.0	116.0

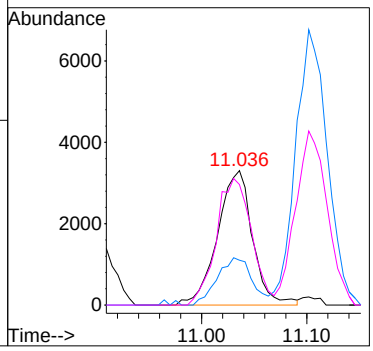


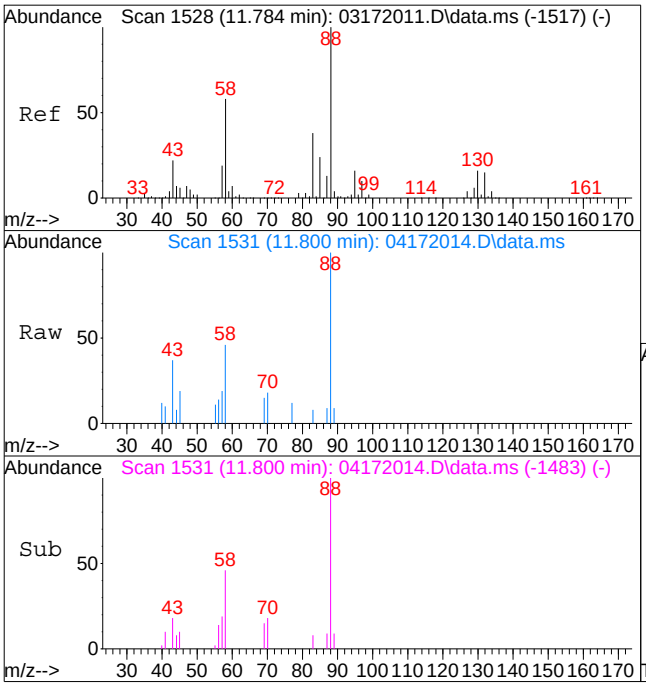


#43
Cyclohexane
Concen: 0.44 ng
RT: 11.04 min Scan# 1392
Delta R.T. -0.005 min
Lab File: 04172014.D
Acq: 17 Apr 2020 10:17

Tgt Ion: 84 Resp: 7655

Ion	Ratio	Lower	Upper
84	100		
69	34.9	16.6	56.6
56	95.2	85.3	125.3

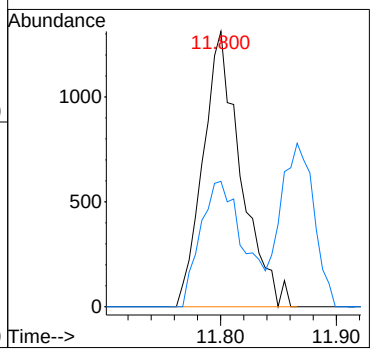


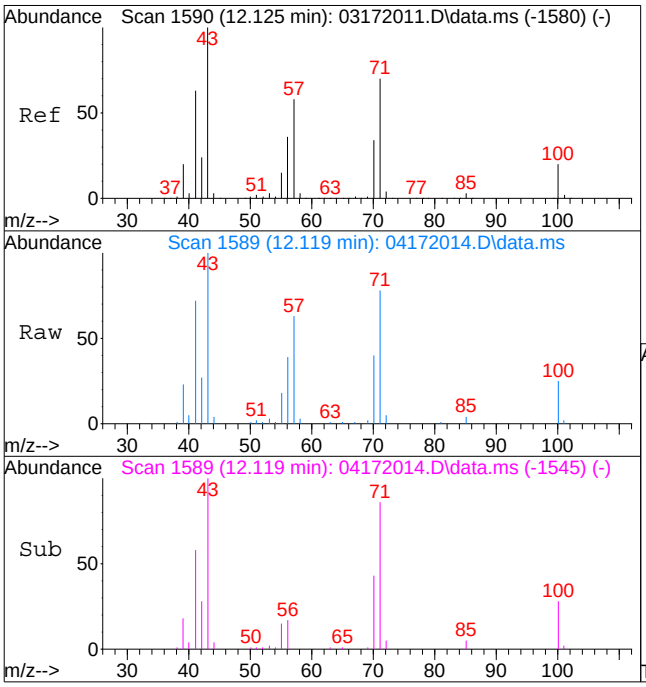


#48
1,4-Dioxane
Concen: 0.33 ng
RT: 11.80 min Scan# 1531
Delta R.T. 0.016 min
Lab File: 04172014.D
Acq: 17 Apr 2020 10:17

Tgt Ion: 88 Resp: 2971

Ion	Ratio	Lower	Upper
88	100		
58	52.1	38.1	78.1

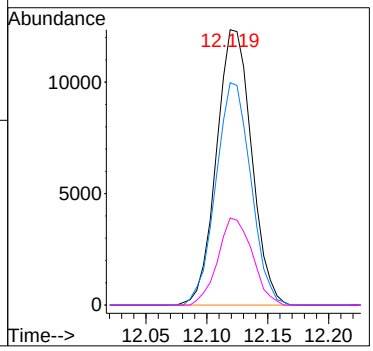


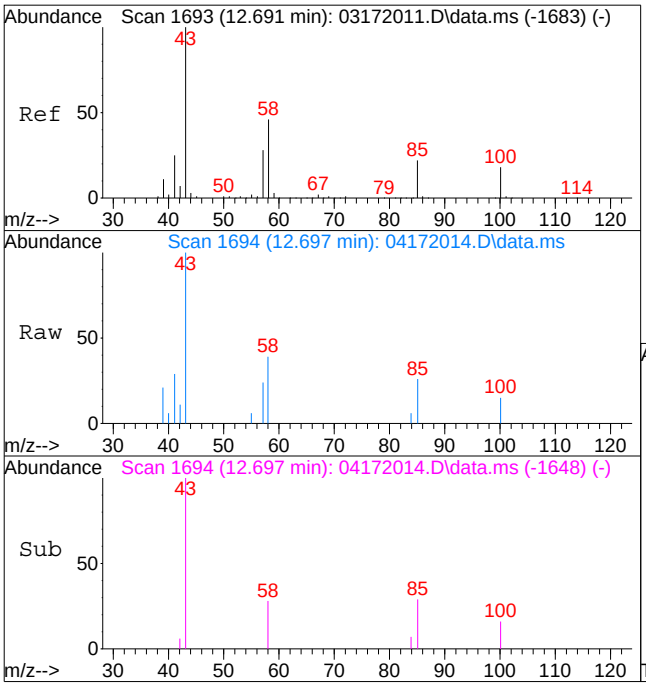


#51
n-Heptane
Concen: 2.28 ng
RT: 12.12 min Scan# 1589
Delta R.T. -0.006 min
Lab File: 04172014.D
Acq: 17 Apr 2020 10:17

Tgt Ion: 71 Resp: 24786

Ion	Ratio	Lower	Upper
71	100		
57	80.5	64.0	104.0
100	31.0	8.7	48.7

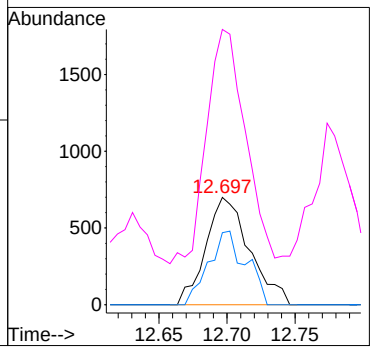


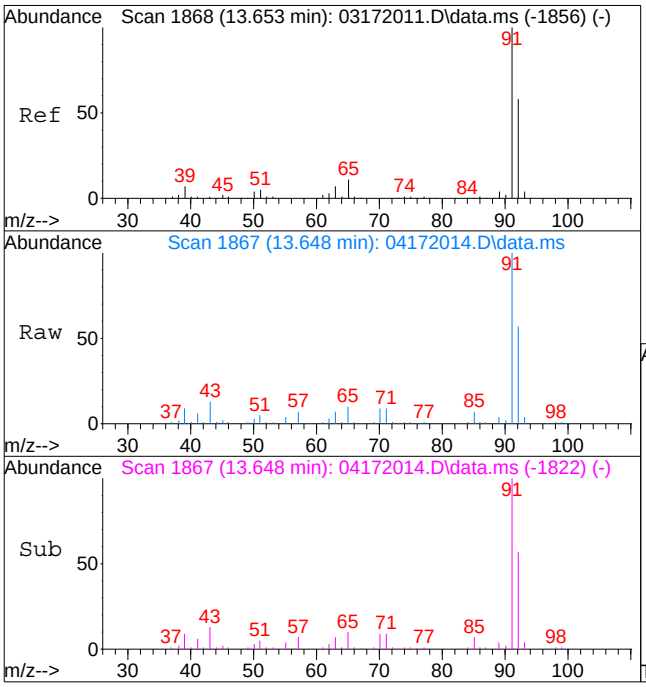


#53
4-Methyl-2-pentanone
Concen: 0.17 ng
RT: 12.70 min Scan# 1694
Delta R.T. 0.006 min
Lab File: 04172014.D
Acq: 17 Apr 2020 10:17

Tgt Ion: 58 Resp: 1566

Ion	Ratio	Lower	Upper
58	100		
85	57.9	41.8	62.6
43	264.7	177.2	265.8

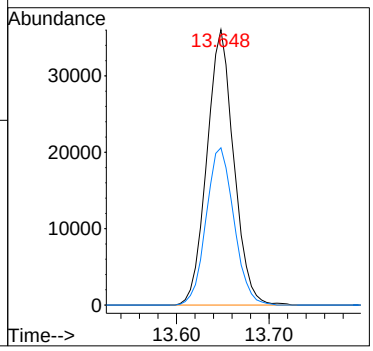


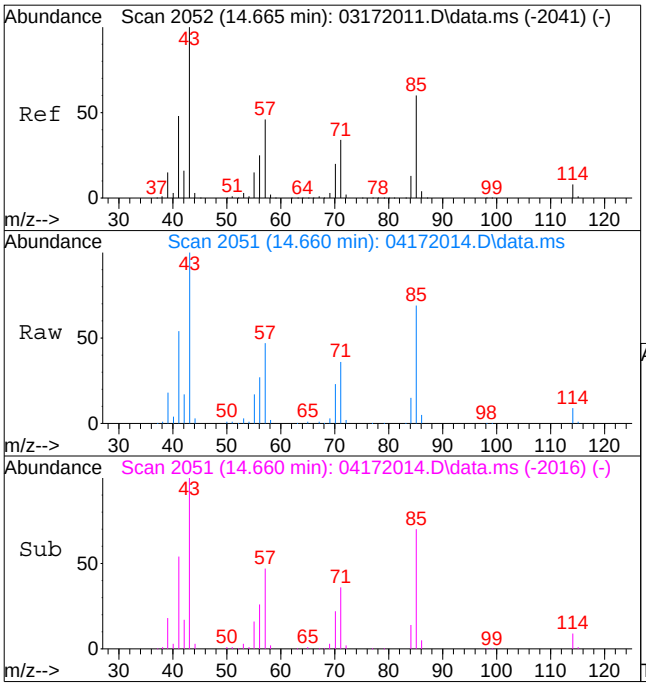


#58
Toluene
Concen: 1.48 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.005 min
Lab File: 04172014.D
Acq: 17 Apr 2020 10:17

Tgt Ion: 91 Resp: 72651

Ion	Ratio	Lower	Upper
91	100		
92	59.0	38.6	78.6

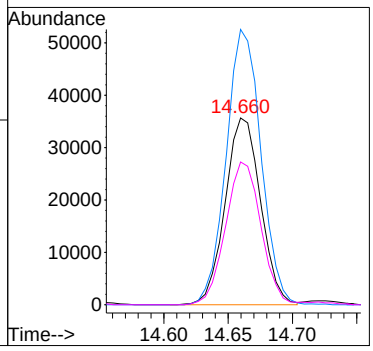


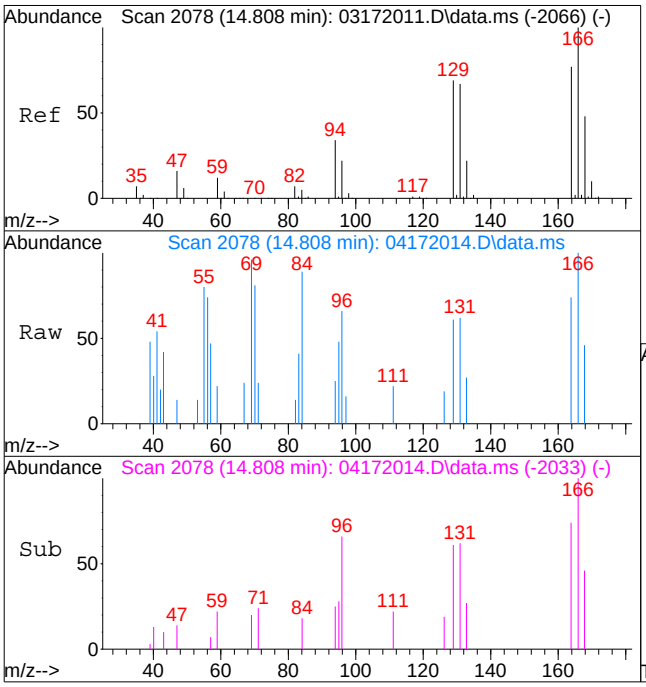


#63
n-Octane
Concen: 7.72 ng
RT: 14.66 min Scan# 2051
Delta R.T. -0.005 min
Lab File: 04172014.D
Acq: 17 Apr 2020 10:17

Tgt Ion: 57 Resp: 68417

Ion	Ratio	Lower	Upper
57	100		
85	145.0	105.4	158.2
71	77.4	59.0	88.4

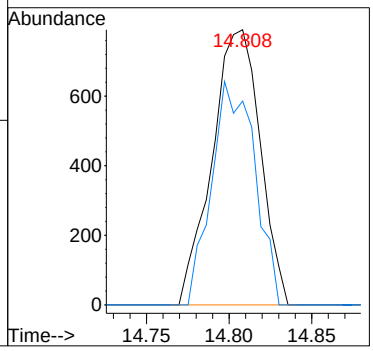


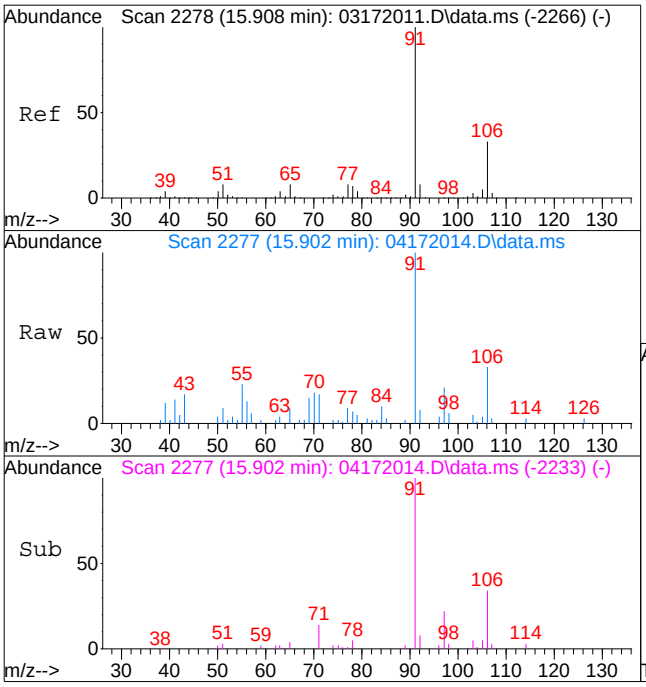


#64
Tetrachloroethene
Concen: 0.11 ng
RT: 14.81 min Scan# 2078
Delta R.T. 0.000 min
Lab File: 04172014.D
Acq: 17 Apr 2020 10:17

Tgt Ion:166 Resp: 1603

Ion	Ratio	Lower	Upper
166	100		
164	72.7	57.9	97.9

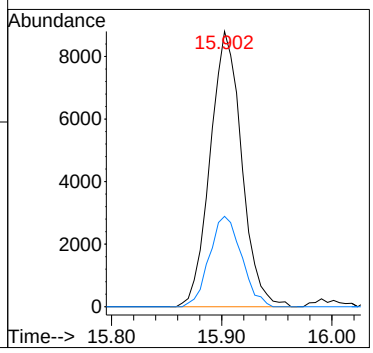


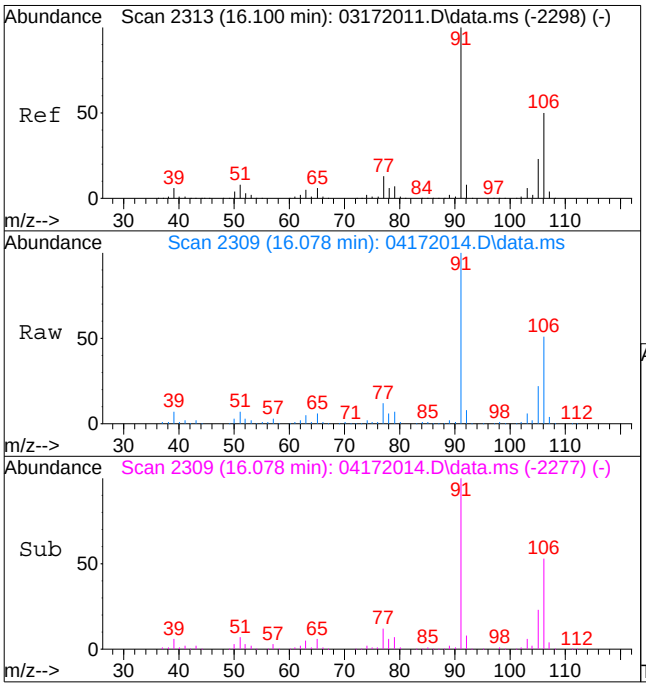


#66
Ethylbenzene
Concen: 0.33 ng
RT: 15.90 min Scan# 2277
Delta R.T. -0.006 min
Lab File: 04172014.D
Acq: 17 Apr 2020 10:17

Tgt Ion: 91 Resp: 17491

Ion	Ratio	Lower	Upper
91	100		
106	33.5	12.9	52.9

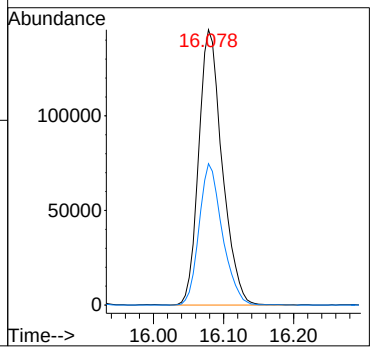


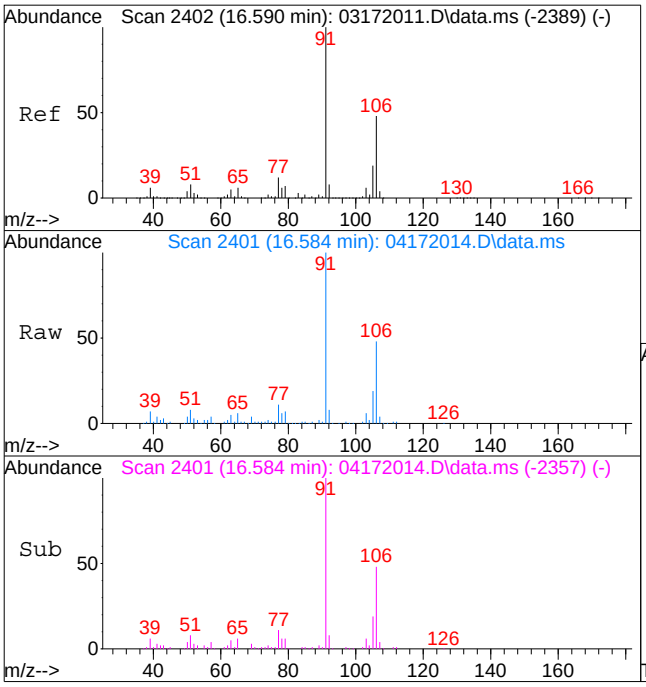


#67
m- & p-Xylenes
Concen: 8.03 ng
RT: 16.08 min Scan# 2309
Delta R.T. -0.022 min
Lab File: 04172014.D
Acq: 17 Apr 2020 10:17

Tgt Ion: 91 Resp: 338730

Ion	Ratio	Lower	Upper
91	100		
106	50.7	29.5	69.5

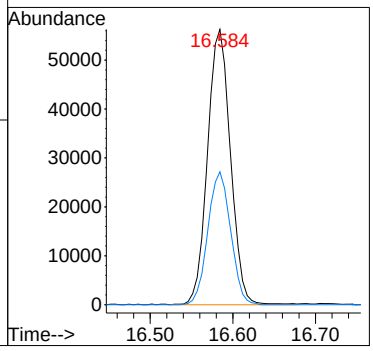


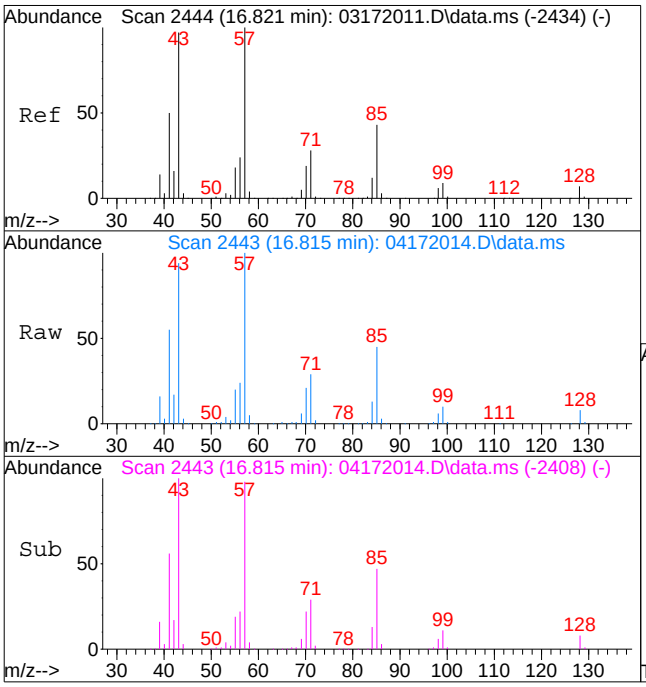


#70
o-Xylene
Concen: 2.58 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.006 min
Lab File: 04172014.D
Acq: 17 Apr 2020 10:17

Tgt Ion: 91 Resp: 108751

Ion	Ratio	Lower	Upper
91	100		
106	47.8	28.3	68.3

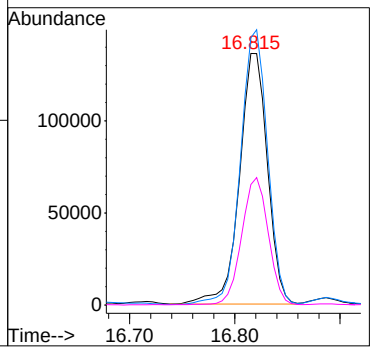


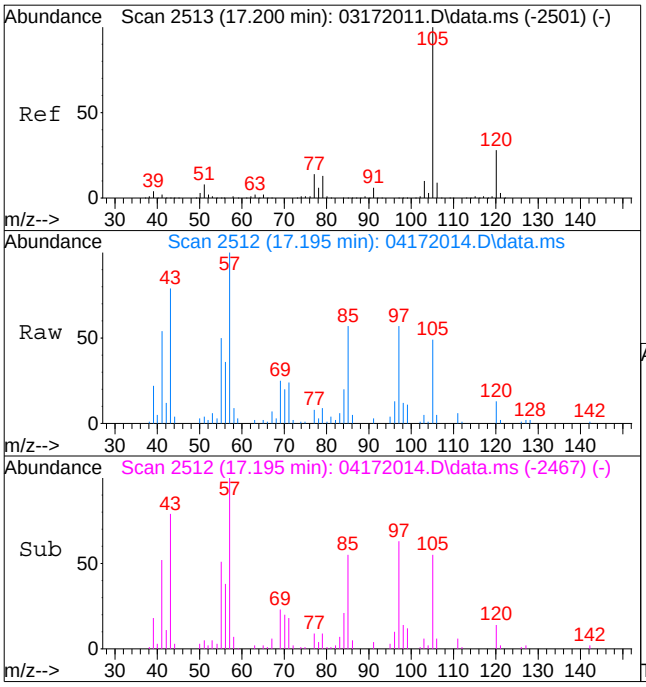


#71
n-Nonane
Concen: 13.79 ng
RT: 16.82 min Scan# 2443
Delta R.T. -0.006 min
Lab File: 04172014.D
Acq: 17 Apr 2020 10:17

Tgt Ion: 43 Resp: 251271

Ion	Ratio	Lower	Upper
43	100		
57	106.3	82.8	122.8
85	48.6	23.4	63.4

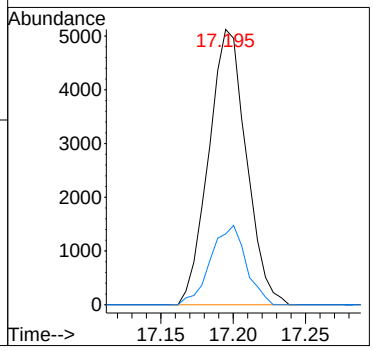


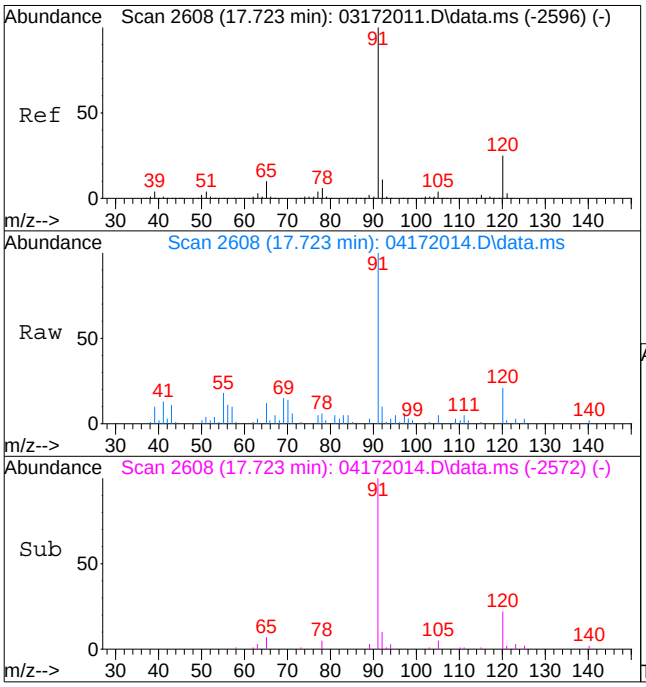


#74
Cumene
Concen: 0.17 ng
RT: 17.19 min Scan# 2512
Delta R.T. -0.005 min
Lab File: 04172014.D
Acq: 17 Apr 2020 10:17

Tgt Ion:105 Resp: 9271

Ion	Ratio	Lower	Upper
105	100		
120	27.1	7.6	47.6

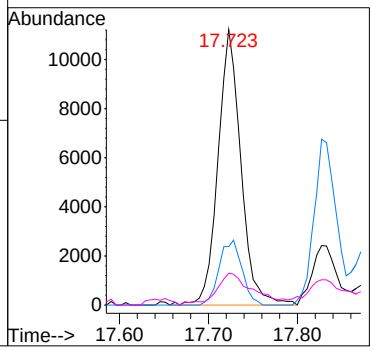


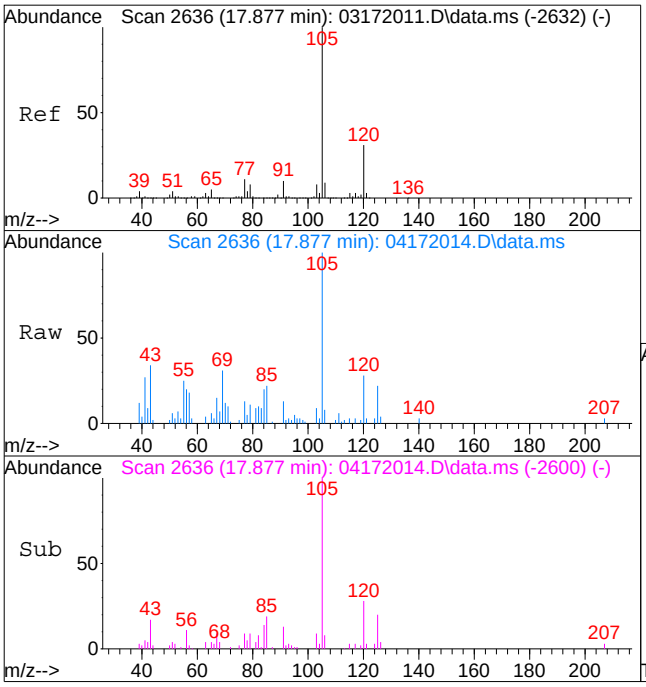


#76
n-Propylbenzene
Concen: 0.32 ng
RT: 17.72 min Scan# 2608
Delta R.T. -0.000 min
Lab File: 04172014.D
Acq: 17 Apr 2020 10:17

Tgt Ion: 91 Resp: 20105

Ion	Ratio	Lower	Upper
91	100		
120	23.3	5.0	45.0
65	18.5	0.0	30.0

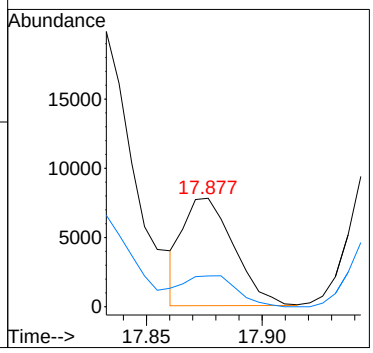


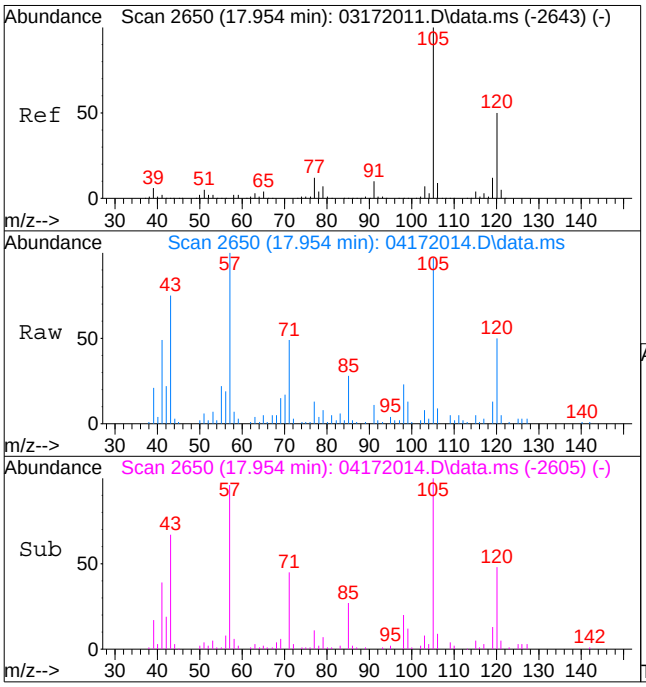


#78
4-Ethyltoluene
Concen: 0.23 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.000 min
Lab File: 04172014.D
Acq: 17 Apr 2020 10:17

Tgt Ion:105 Resp: 11831

Ion	Ratio	Lower	Upper
105	100		
120	30.2	11.2	51.2

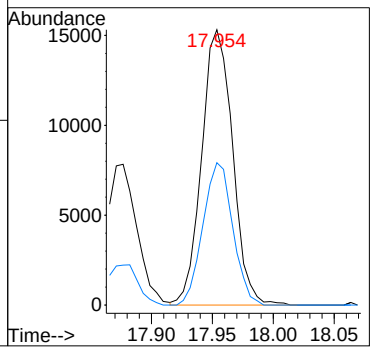


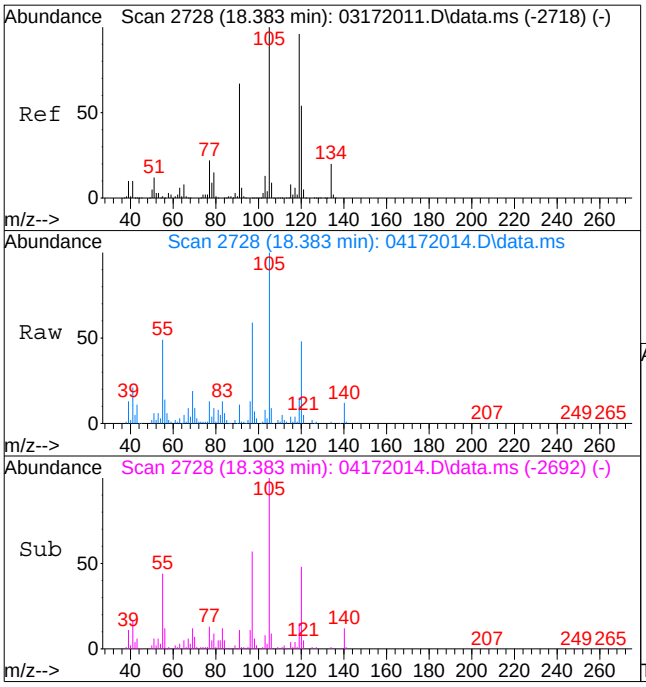


#79
1,3,5-Trimethylbenzene
Concen: 0.58 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.000 min
Lab File: 04172014.D
Acq: 17 Apr 2020 10:17

Tgt Ion:105 Resp: 27088

Ion	Ratio	Lower	Upper
105	100		
120	49.8	30.5	70.5

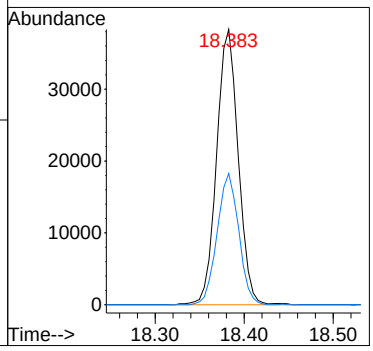


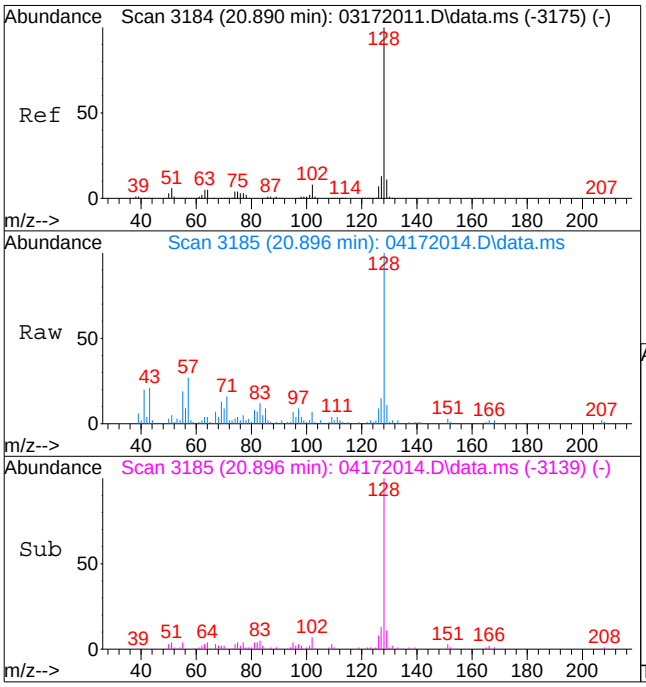


#82
1,2,4-Trimethylbenzene
Concen: 1.50 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.000 min
Lab File: 04172014.D
Acq: 17 Apr 2020 10:17

Tgt Ion:105 Resp: 64664

Ion	Ratio	Lower	Upper
105	100		
120	47.7	34.9	74.9

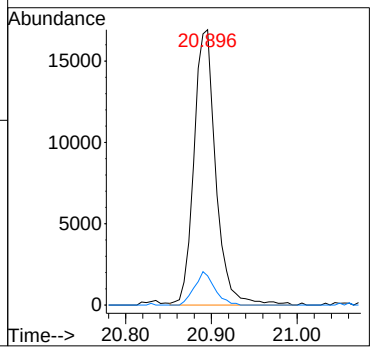




#95
Naphthalene
Concen: 0.51 ng
RT: 20.90 min Scan# 3185
Delta R.T. 0.006 min
Lab File: 04172014.D
Acq: 17 Apr 2020 10:17

Tgt Ion:128 Resp: 30025

Ion	Ratio	Lower	Upper
128	100		
129	11.1	0.0	30.9



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172015.D Vial: 6
Acq On : 17 Apr 2020 10:50 Operator: TD
Sample : P2002027-002 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 16:51:41 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/20/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	146093	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.11	114	625255	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	280369	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	214474	12.976	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.84%				
57) Toluene-d8 (SS2)	13.54	98	692611	12.421	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.36%				
73) Bromofluorobenzene (SS3)	17.05	174	265958	14.335	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.72%				
Target Compounds							Qvalue
2) Propene	3.86	42	1165	0.130	ng	#	77
3) Dichlorodifluoromethan...	3.96	85	828715	39.751	ng		99
4) Chloromethane	4.17	50	732	0.058	ng		70
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	23937	2.461	ng		99
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.34	45	3177	0.454	ng		93
11) Acetonitrile	5.57	41	1831	0.115	ng	#	67
12) Acrolein	5.71	56	1491	0.248	ng		99
13) Acetone	5.84	58	22604m	3.146	ng		
14) Trichlorofluoromethane	6.02	101	100523	5.325	ng		100
15) 2-Propanol (Isopropanol)	6.18	45	2288	0.100	ng		73
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	6.86	59	790	N.D.			
19) Methylene Chloride	6.87	84	392	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	7.18	151	51690	4.913	ng		92
22) Carbon Disulfide	7.14	76	25426	0.667	ng		88
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	8.26	86	3051	1.271	ng	#	23
27) 2-Butanone (MEK)	8.53	72	6001	0.851	ng		91
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	9.28	87	123	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	9.22	57	4399	0.281	ng		97
32) Chloroform	9.28	83	2823	0.152	ng		94
34) Tetrahydrofuran (THF)	9.67	72	55017	8.073	ng		93
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D. d			
41) Benzene	10.75	78	3969	0.089	ng		97
42) Carbon Tetrachloride	10.90	117	57937	3.648	ng		99
43) Cyclohexane	11.03	84	4178	0.247	ng		87
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D. d			
47) Trichloroethene	11.81	130	781	0.061	ng		94
48) 1,4-Dioxane	11.81	88	2040	0.235	ng		89
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d			
50) Methyl Methacrylate	0.00	100	0	N.D. d			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172015.D Vial: 6
Acq On : 17 Apr 2020 10:50 Operator: TD
Sample : P2002027-002 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 16:51:41 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

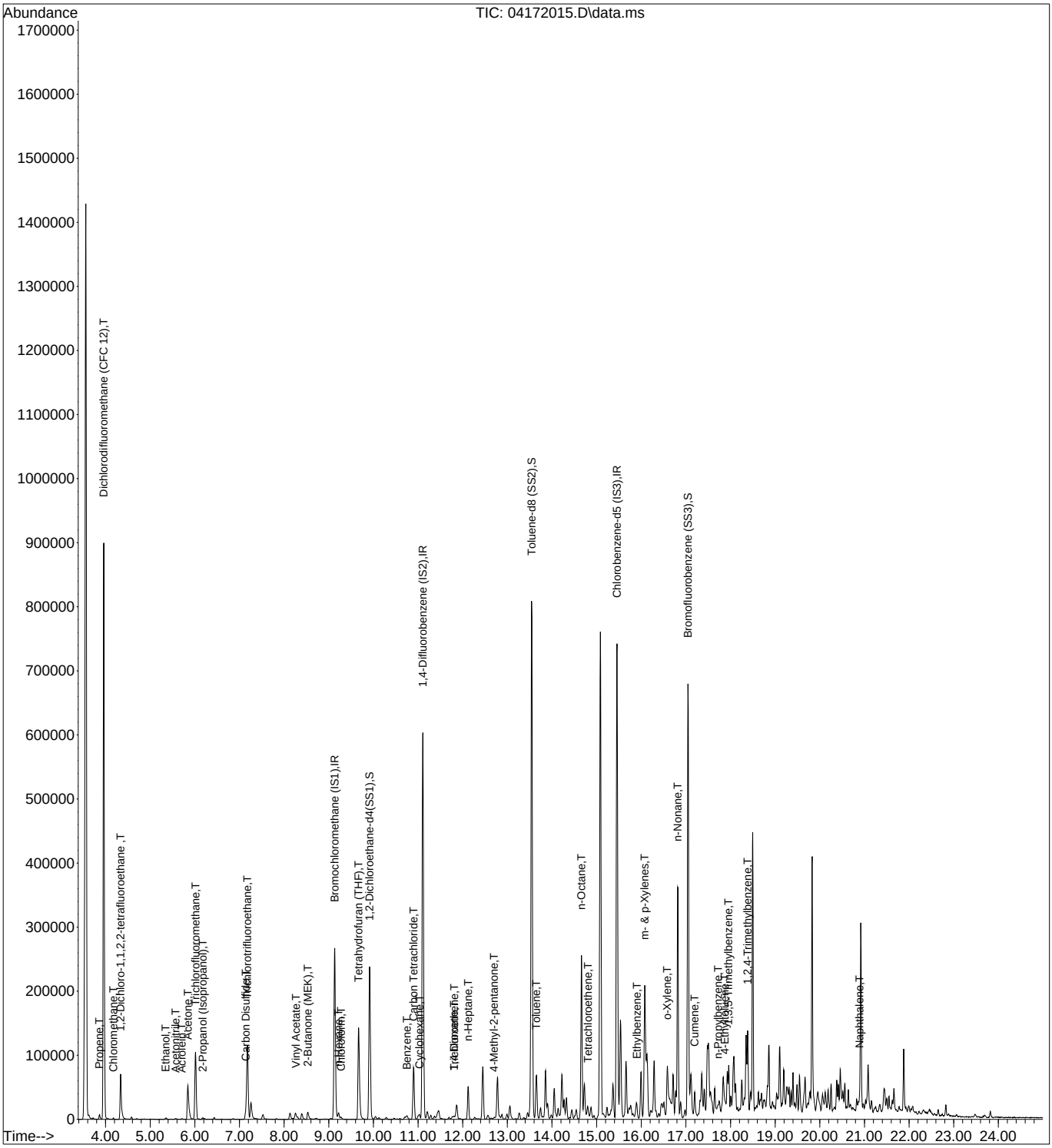
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	12.12	71	15098	1.420 ng		96
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	12.70	58	916	0.104 ng	#	56
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	13.27	97	463	N.D.		
58) Toluene	13.65	91	45963	0.971 ng		99
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	14.32	107	408	N.D.		
62) n-Butyl Acetate	14.54	43	838	N.D.		
63) n-Octane	14.66	57	50590	5.925 ng		93
64) Tetrachloroethene	14.81	166	3522	0.239 ng		93
65) Chlorobenzene	0.00	112	0	N.D. d		
66) Ethylbenzene	15.90	91	11325	0.223 ng		97
67) m- & p-Xylenes	16.08	91	168828	4.151 ng		99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.47	104	393	N.D.		
70) o-Xylene	16.58	91	51507	1.267 ng		99
71) n-Nonane	16.82	43	122589	6.982 ng		95
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d		
74) Cumene	17.19	105	4507	0.085 ng		95
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	17.72	91	11197	0.185 ng		92
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	17.87	105	6644	0.136 ng		97
79) 1,3,5-Trimethylbenzene	17.95	105	16154	0.361 ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	18.38	105	42213	1.015 ng		89
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	18.52	91	957	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D. d		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	0.00	68	0	N.D. d		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	20.89	128	14882	0.260 ng		99
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172015.D Vial: 6
Acq On : 17 Apr 2020 10:50 Operator: TD
Sample : P2002027-002 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 16:51:41 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172015.D Vial: 6
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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
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Response via : Initial Calibration
DataAcq Meth:TO15.M

4/20/20

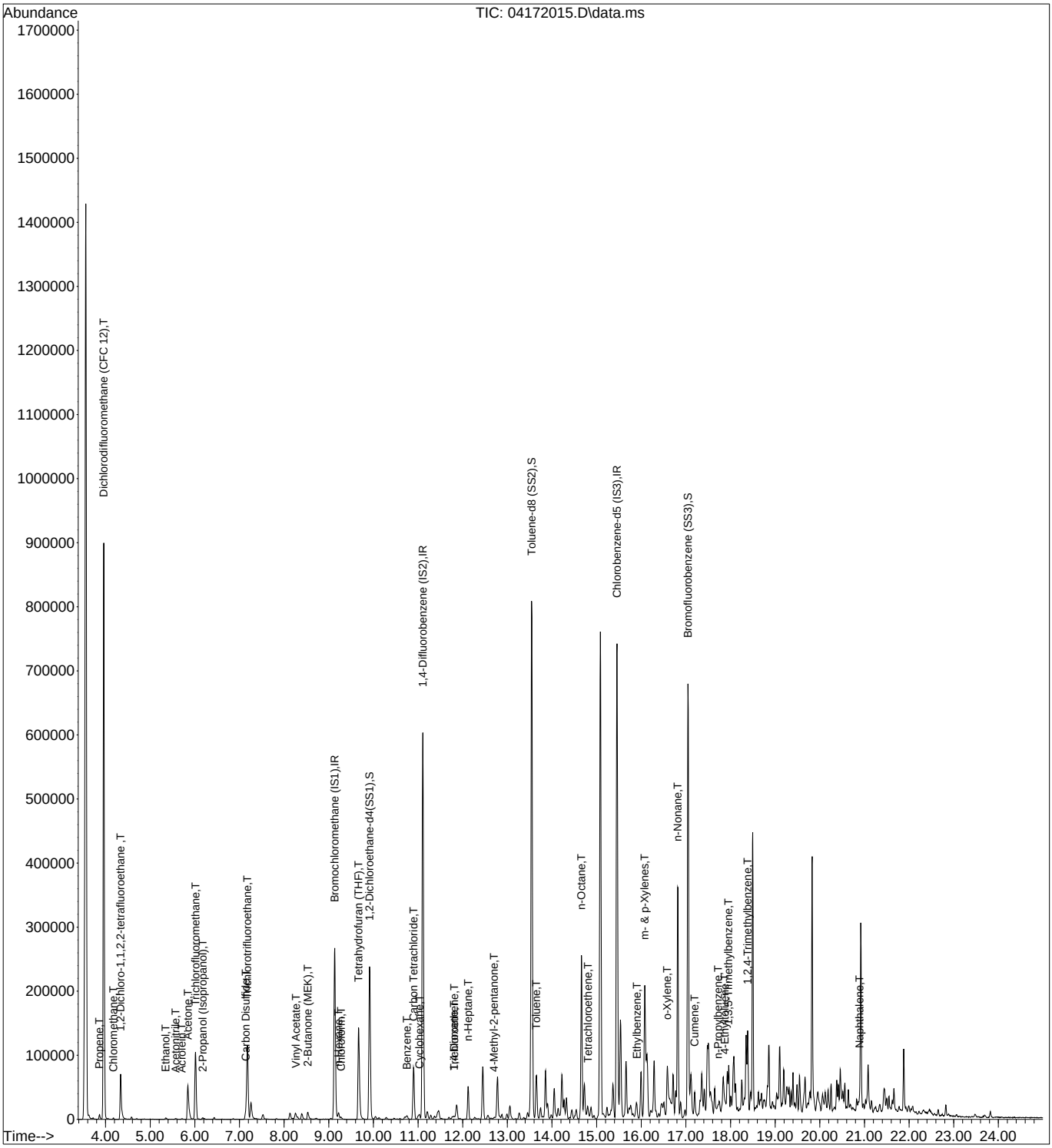
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	146093	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.11	114	625255	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	280369	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	214474	12.976	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.84%				
57) Toluene-d8 (SS2)	13.54	98	692611	12.421	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.36%				
73) Bromofluorobenzene (SS3)	17.05	174	265958	14.335	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.72%				
Target Compounds							Qvalue
2) Propene	3.86	42	1165	0.130	ng	#	77
3) Dichlorodifluoromethan...	3.96	85	828715	39.751	ng		99
4) Chloromethane	4.17	50	732	0.058	ng		70
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	23937	2.461	ng		99
10) Ethanol	5.34	45	3177	0.454	ng		93
11) Acetonitrile	5.57	41	1831	0.115	ng	#	67
12) Acrolein	5.71	56	1491	0.248	ng		99
13) Acetone	5.84	58	22604m	3.146	ng		
14) Trichlorofluoromethane	6.02	101	100523	5.325	ng		100
15) 2-Propanol (Isopropanol)	6.18	45	2288	0.100	ng		73
21) Trichlorotrifluoroethane	7.18	151	51690	4.913	ng		92
22) Carbon Disulfide	7.14	76	25426	0.667	ng		88
26) Vinyl Acetate	8.26	86	3051	1.271	ng	#	23
27) 2-Butanone (MEK)	8.53	72	6001	0.851	ng		91
31) n-Hexane	9.22	57	4399	0.281	ng		97
32) Chloroform	9.28	83	2823	0.152	ng		94
34) Tetrahydrofuran (THF)	9.67	72	55017	8.073	ng		93
41) Benzene	10.75	78	3969	0.089	ng		97
42) Carbon Tetrachloride	10.90	117	57937	3.648	ng		99
43) Cyclohexane	11.03	84	4178	0.247	ng		87
47) Trichloroethene	11.81	130	781	0.061	ng		94
48) 1,4-Dioxane	11.81	88	2040	0.235	ng		89
51) n-Heptane	12.12	71	15098	1.420	ng		96
53) 4-Methyl-2-pentanone	12.70	58	916	0.104	ng	#	56
58) Toluene	13.65	91	45963	0.971	ng		99
63) n-Octane	14.66	57	50590	5.925	ng		93
64) Tetrachloroethene	14.81	166	3522	0.239	ng		93
66) Ethylbenzene	15.90	91	11325	0.223	ng		97
67) m- & p-Xylenes	16.08	91	168828	4.151	ng		99
70) o-Xylene	16.58	91	51507	1.267	ng		99
71) n-Nonane	16.82	43	122589	6.982	ng		95
74) Cumene	17.19	105	4507	0.085	ng		95
76) n-Propylbenzene	17.72	91	11197	0.185	ng		92
78) 4-Ethyltoluene	17.87	105	6644	0.136	ng		97
79) 1,3,5-Trimethylbenzene	17.95	105	16154	0.361	ng		99
82) 1,2,4-Trimethylbenzene	18.38	105	42213	1.015	ng		89
95) Naphthalene	20.89	128	14882	0.260	ng		99

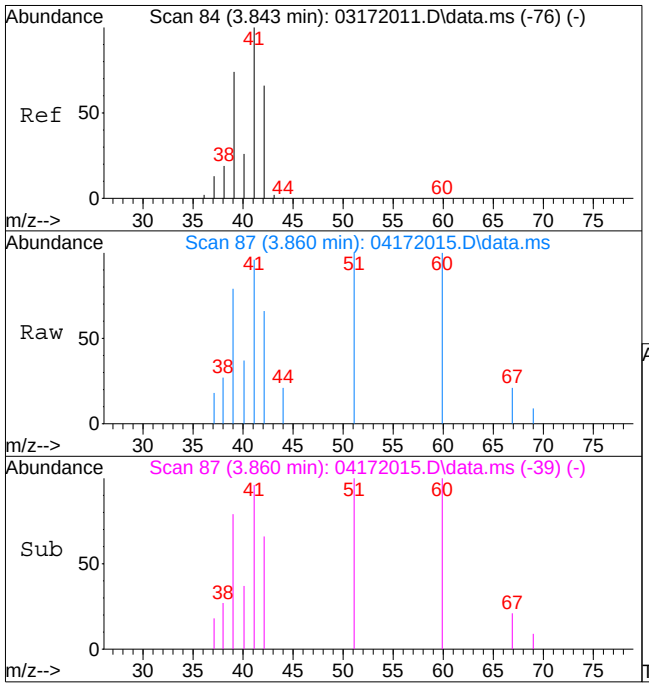
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172015.D Vial: 6
Acq On : 17 Apr 2020 10:50 Operator: TD
Sample : P2002027-002 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 16:51:41 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

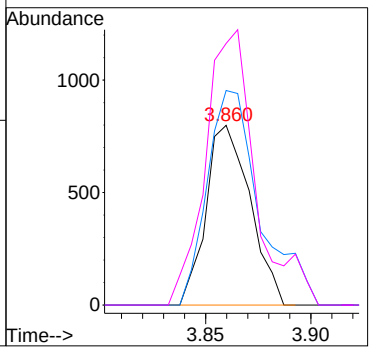


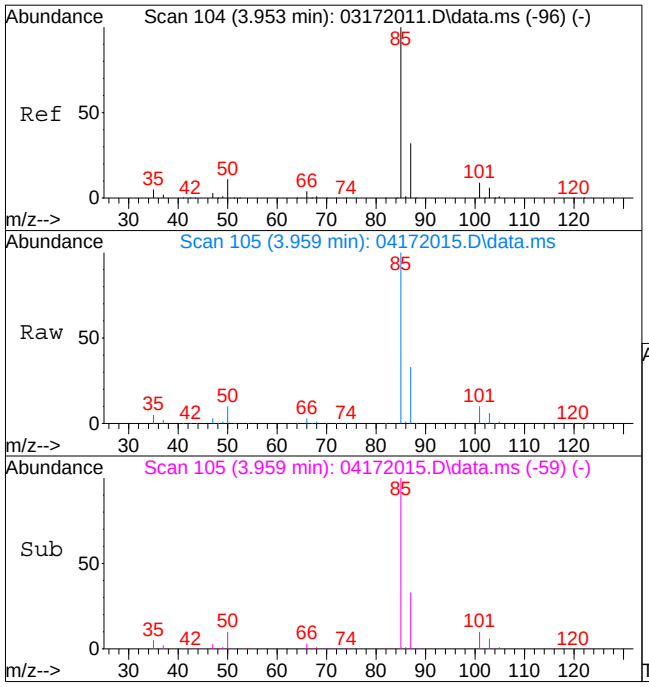


#2
Propene
Concen: 0.13 ng
RT: 3.86 min Scan# 87
Delta R.T. 0.017 min
Lab File: 04172015.D
Acq: 17 Apr 2020 10:50

Tgt Ion: 42 Resp: 1165

Ion	Ratio	Lower	Upper
42	100		
39	142.7	91.9	131.9#
41	174.1	130.5	170.5#

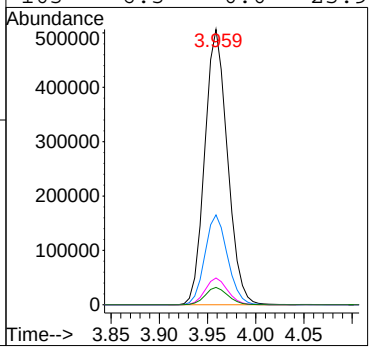


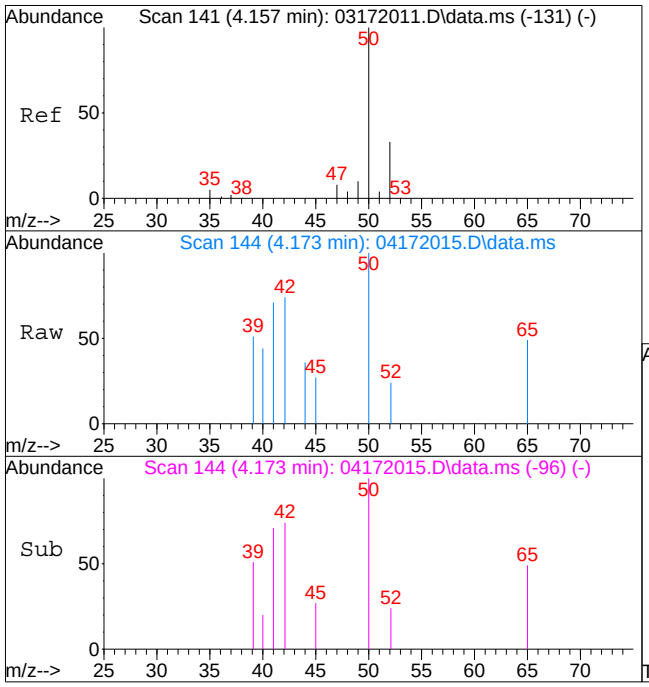


#3
Dichlorodifluoromethane (CFC 12)
Concen: 39.75 ng
RT: 3.96 min Scan# 105
Delta R.T. 0.006 min
Lab File: 04172015.D
Acq: 17 Apr 2020 10:50

Tgt Ion: 85 Resp: 828715

Ion	Ratio	Lower	Upper
85	100		
87	32.5	12.4	52.4
101	9.6	0.0	29.2
103	6.3	0.0	25.9

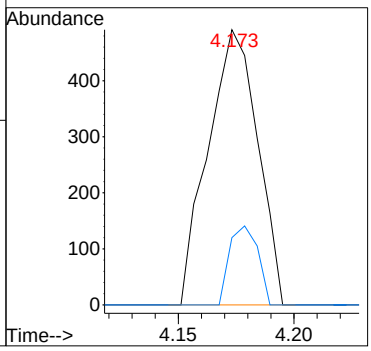


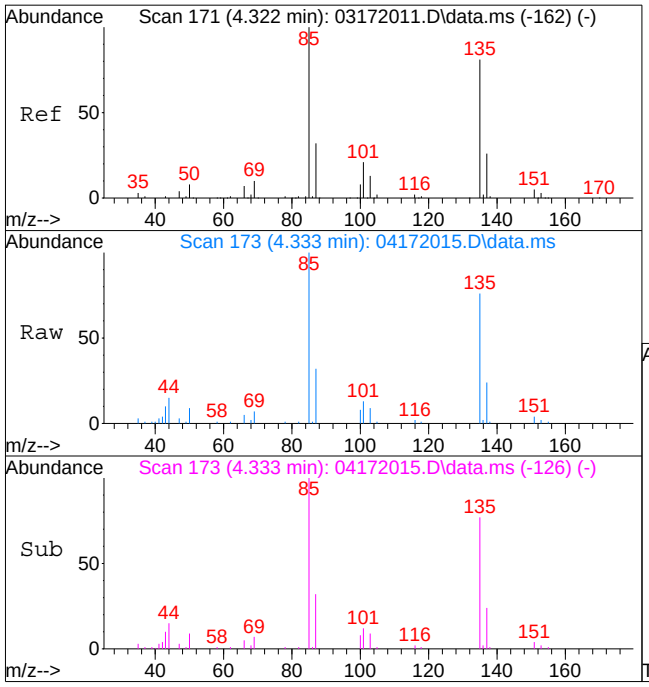


#4
Chloromethane
Concen: 0.06 ng
RT: 4.17 min Scan# 144
Delta R.T. 0.016 min
Lab File: 04172015.D
Acq: 17 Apr 2020 10:50

Tgt Ion: 50 Resp: 732

Ion	Ratio	Lower	Upper
50	100		
52	16.5	13.3	53.3

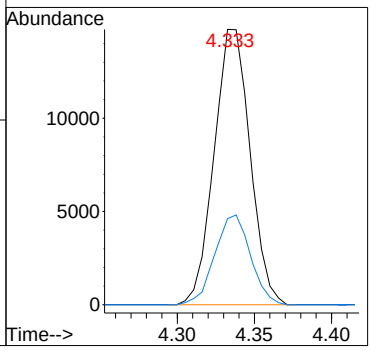


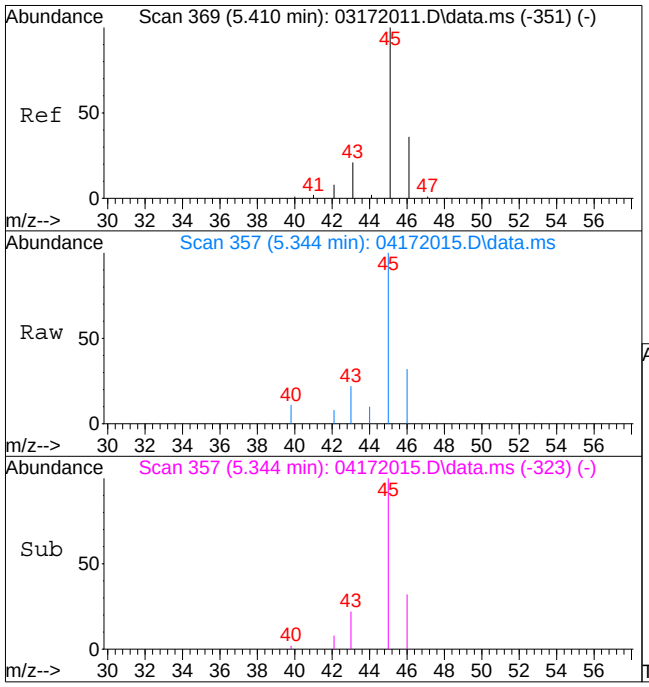


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 2.46 ng
RT: 4.33 min Scan# 173
Delta R.T. 0.011 min
Lab File: 04172015.D
Acq: 17 Apr 2020 10:50

Tgt Ion:135 Resp: 23937

Ion	Ratio	Lower	Upper
135	100		
137	32.4	12.0	52.0

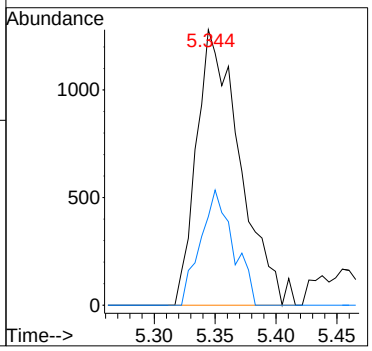


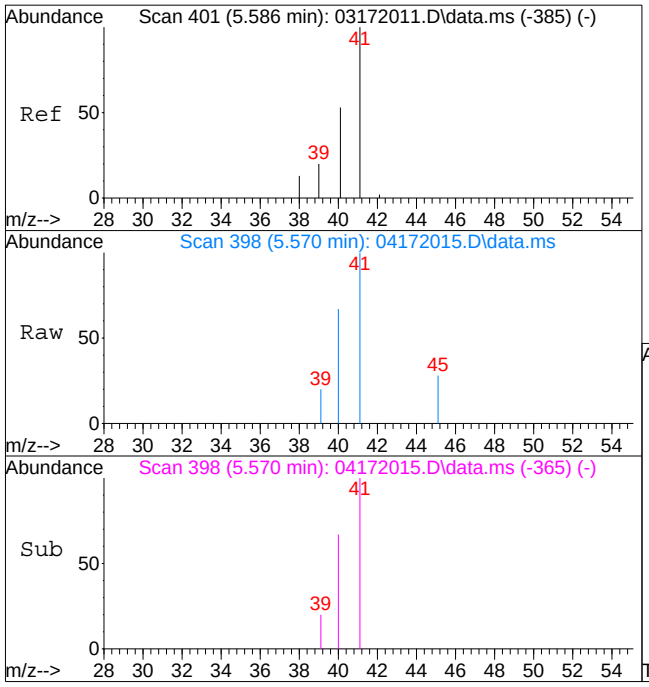


#10
Ethanol
Concen: 0.45 ng
RT: 5.34 min Scan# 357
Delta R.T. -0.066 min
Lab File: 04172015.D
Acq: 17 Apr 2020 10:50

Tgt Ion: 45 Resp: 3177

Ion	Ratio	Lower	Upper
45	100		
46	31.5	15.9	55.9

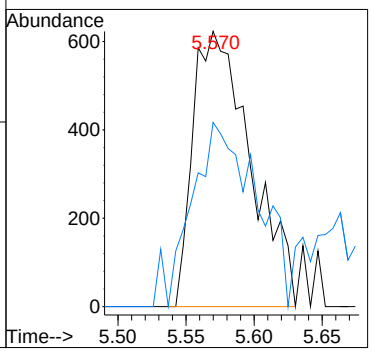


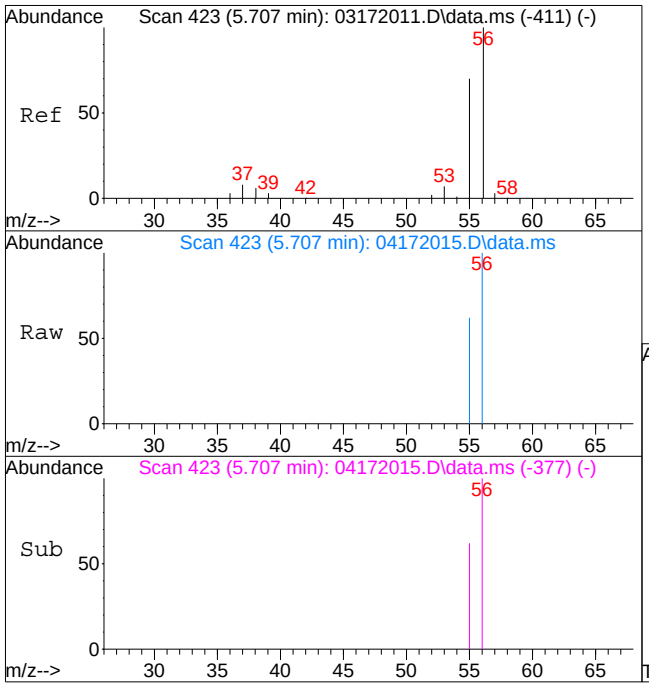


#11
Acetonitrile
Concen: 0.11 ng
RT: 5.57 min Scan# 398
Delta R.T. -0.016 min
Lab File: 04172015.D
Acq: 17 Apr 2020 10:50

Tgt Ion: 41 Resp: 1831

Ion	Ratio	Lower	Upper
41	100		
40	75.8	32.7	72.7#

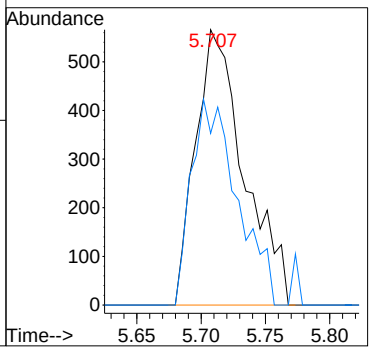


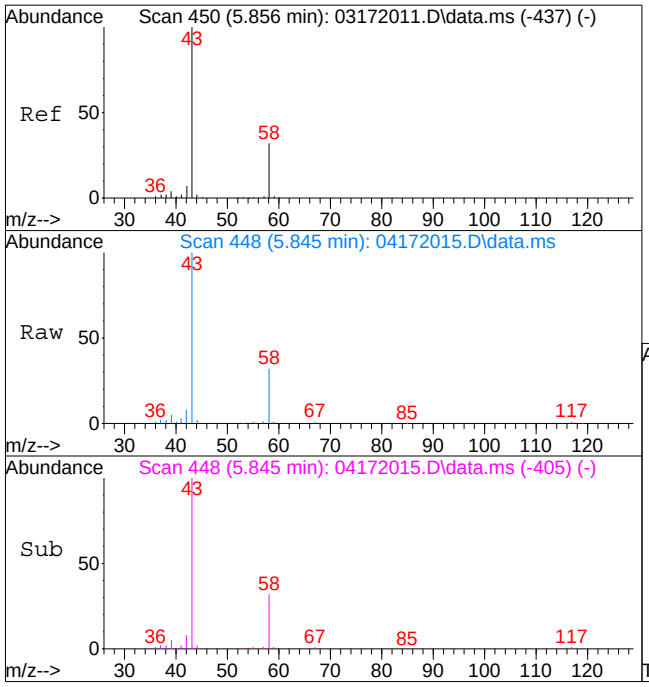


#12
Acrolein
Concen: 0.25 ng
RT: 5.71 min Scan# 423
Delta R.T. 0.000 min
Lab File: 04172015.D
Acq: 17 Apr 2020 10:50

Tgt Ion: 56 Resp: 1491

Ion	Ratio	Lower	Upper
56	100		
55	70.2	49.5	89.5

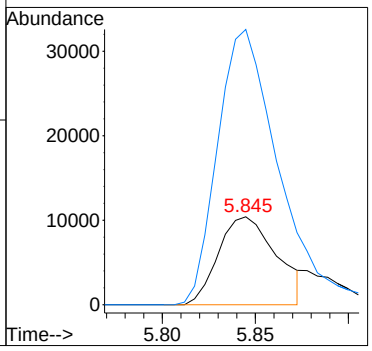


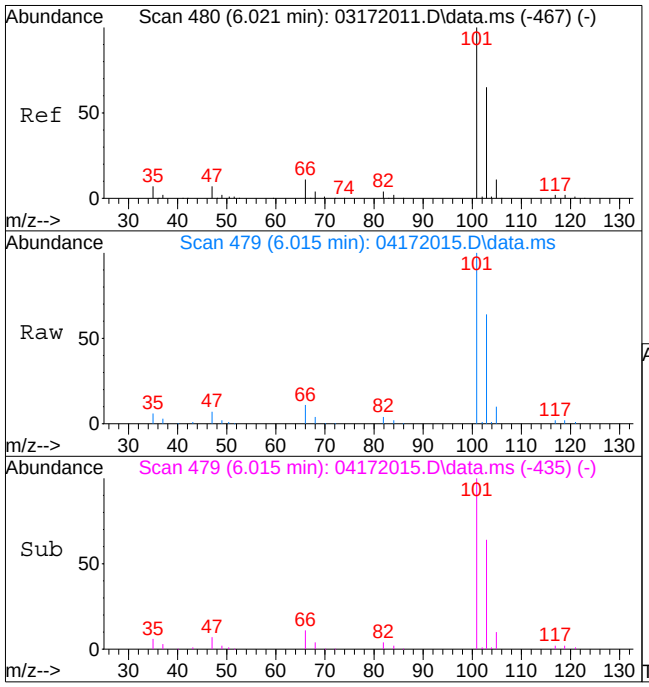


#13
Acetone
Concen: 3.15 ng m
RT: 5.84 min Scan# 448
Delta R.T. -0.011 min
Lab File: 04172015.D
Acq: 17 Apr 2020 10:50

Tgt Ion: 58 Resp: 22604

Ion	Ratio	Lower	Upper
58	100		
43	342.0	272.8	332.8#

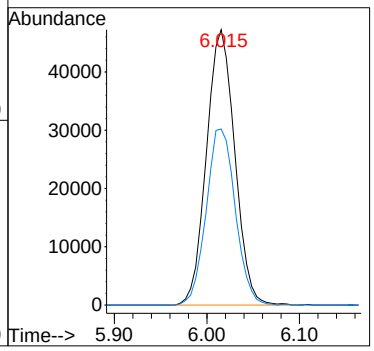


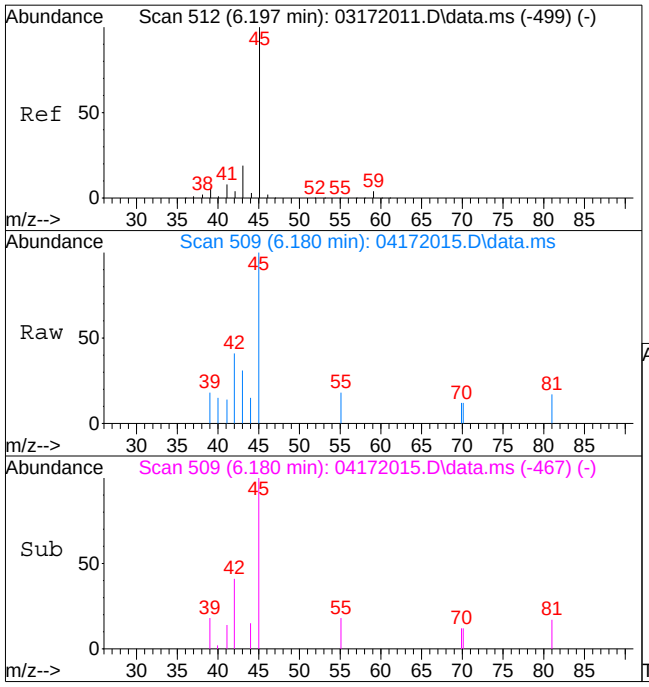


#14
Trichlorofluoromethane
Concen: 5.32 ng
RT: 6.02 min Scan# 479
Delta R.T. -0.006 min
Lab File: 04172015.D
Acq: 17 Apr 2020 10:50

Tgt Ion:101 Resp: 100523

Ion	Ratio	Lower	Upper
101	100		
103	65.6	45.3	85.3

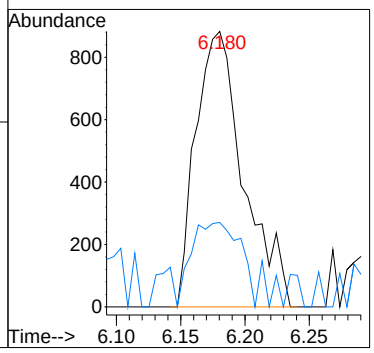


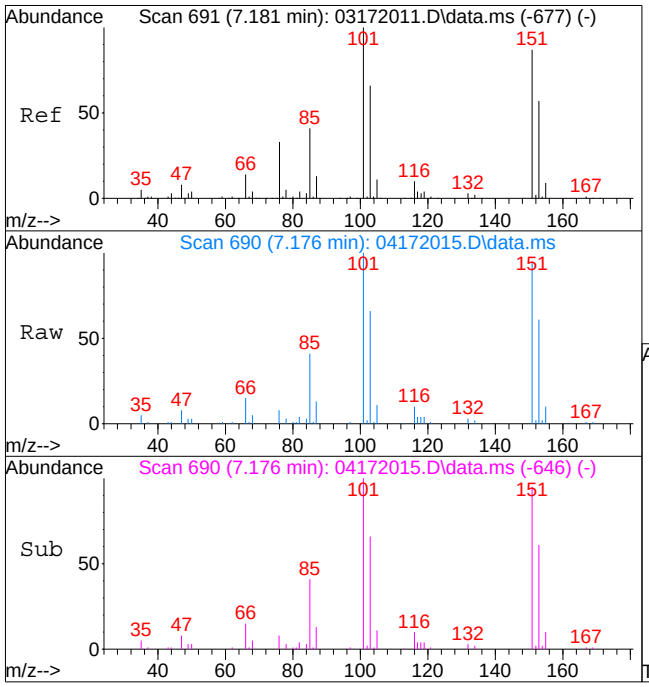


#15
2-Propanol (Isopropanol)
Concen: 0.10 ng
RT: 6.18 min Scan# 509
Delta R.T. -0.017 min
Lab File: 04172015.D
Acq: 17 Apr 2020 10:50

Tgt Ion: 45 Resp: 2288

Ion	Ratio	Lower	Upper
45	100		
43	31.2	0.0	39.0

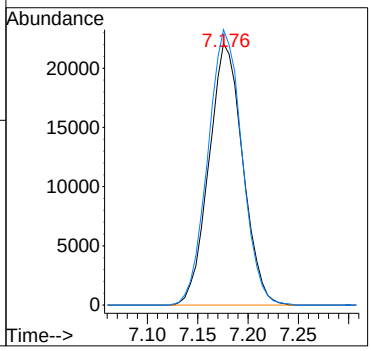


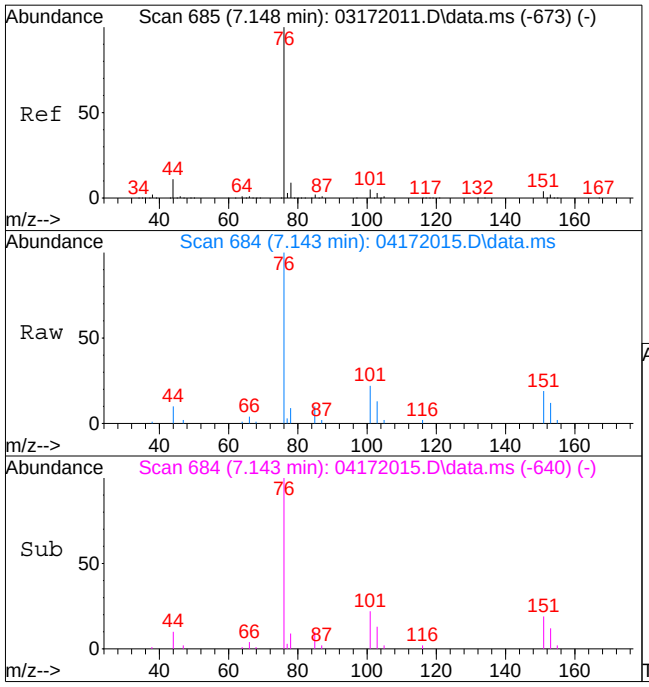


#21
Trichlorotrifluoroethane
Concen: 4.91 ng
RT: 7.18 min Scan# 690
Delta R.T. -0.005 min
Lab File: 04172015.D
Acq: 17 Apr 2020 10:50

Tgt Ion:151 Resp: 51690

Ion	Ratio	Lower	Upper
151	100		
101	106.3	94.7	134.7

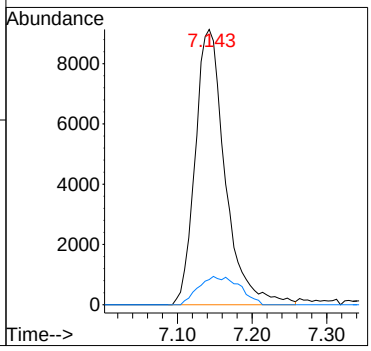


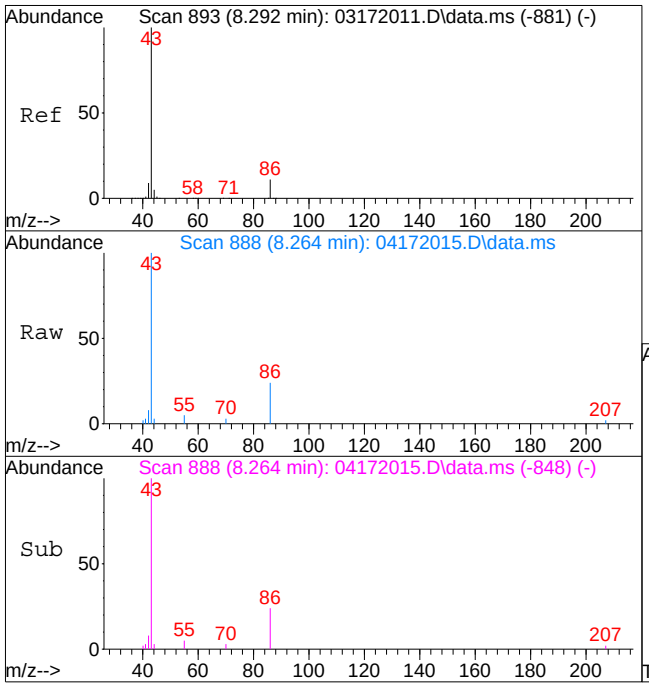


#22
Carbon Disulfide
Concen: 0.67 ng
RT: 7.14 min Scan# 684
Delta R.T. -0.005 min
Lab File: 04172015.D
Acq: 17 Apr 2020 10:50

Tgt Ion: 76 Resp: 25426

Ion	Ratio	Lower	Upper
76	100		
78	14.1	0.0	29.7

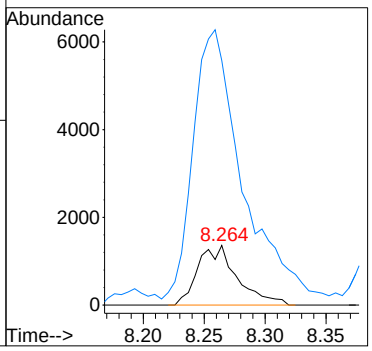


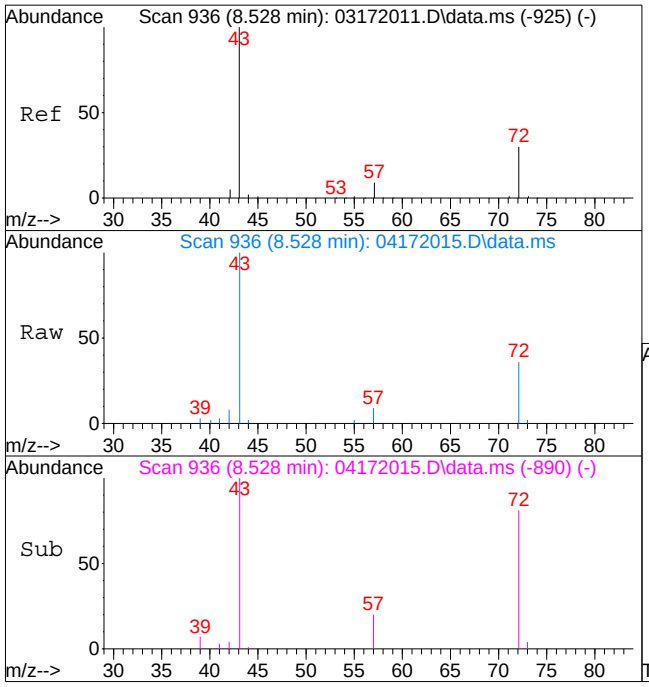


#26
Vinyl Acetate
Concen: 1.27 ng
RT: 8.26 min Scan# 888
Delta R.T. -0.028 min
Lab File: 04172015.D
Acq: 17 Apr 2020 10:50

Tgt Ion: 86 Resp: 3051

Ion	Ratio	Lower	Upper
86	100		
43	600.1	905.1	945.1#

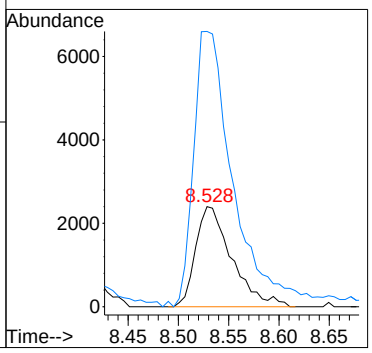


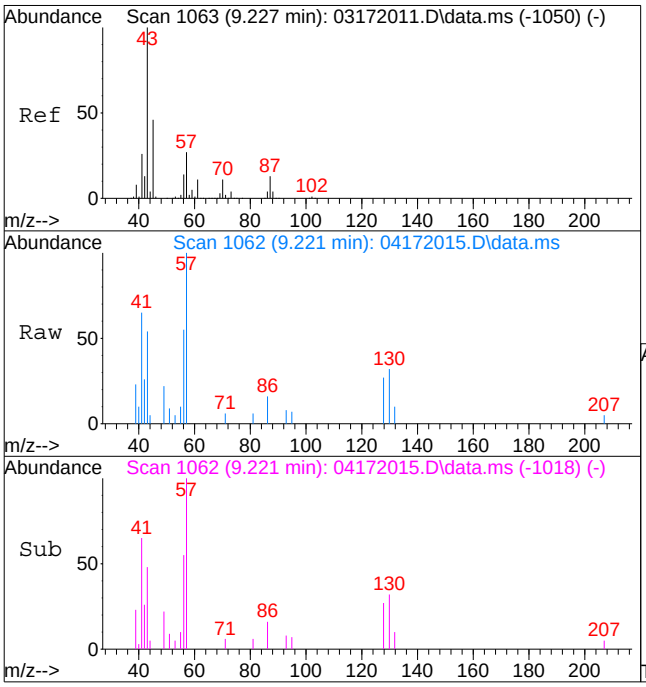


#27
2-Butanone (MEK)
Concen: 0.85 ng
RT: 8.53 min Scan# 936
Delta R.T. 0.000 min
Lab File: 04172015.D
Acq: 17 Apr 2020 10:50

Tgt Ion: 72 Resp: 6001

Ion	Ratio	Lower	Upper
72	100		
43	311.5	310.6	350.6

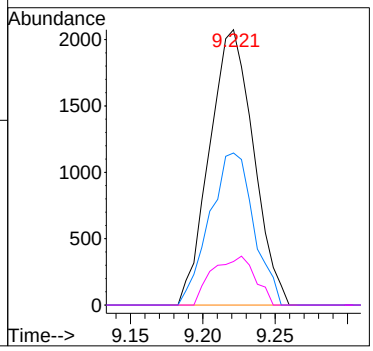


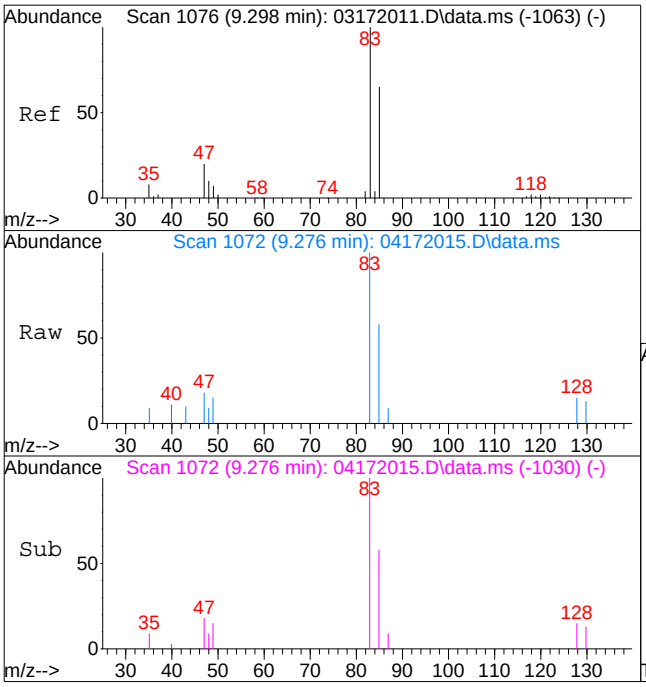


#31
n-Hexane
Concen: 0.28 ng
RT: 9.22 min Scan# 1062
Delta R.T. -0.006 min
Lab File: 04172015.D
Acq: 17 Apr 2020 10:50

Tgt Ion: 57 Resp: 4399

Ion	Ratio	Lower	Upper
57	100		
56	55.3	42.0	63.0
86	17.2	13.1	19.7

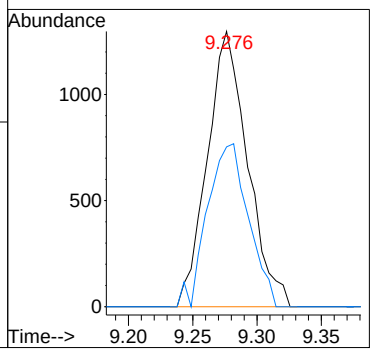


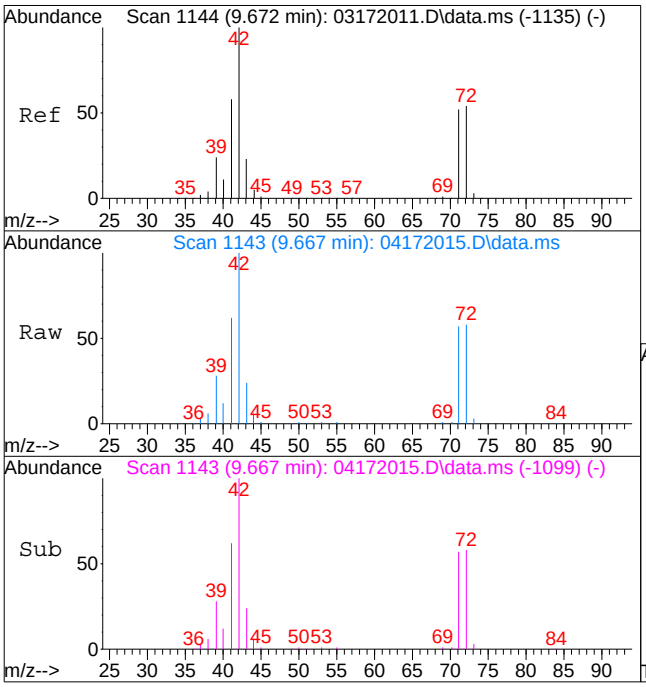


#32
Chloroform
Concen: 0.15 ng
RT: 9.28 min Scan# 1072
Delta R.T. -0.022 min
Lab File: 04172015.D
Acq: 17 Apr 2020 10:50

Tgt Ion: 83 Resp: 2823

Ion	Ratio	Lower	Upper
83	100		
85	60.4	45.1	85.1

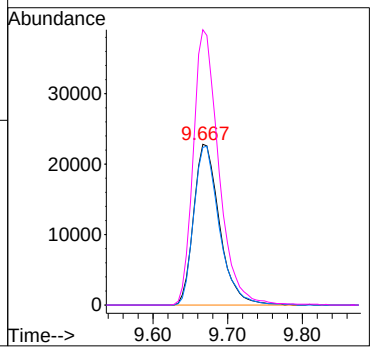


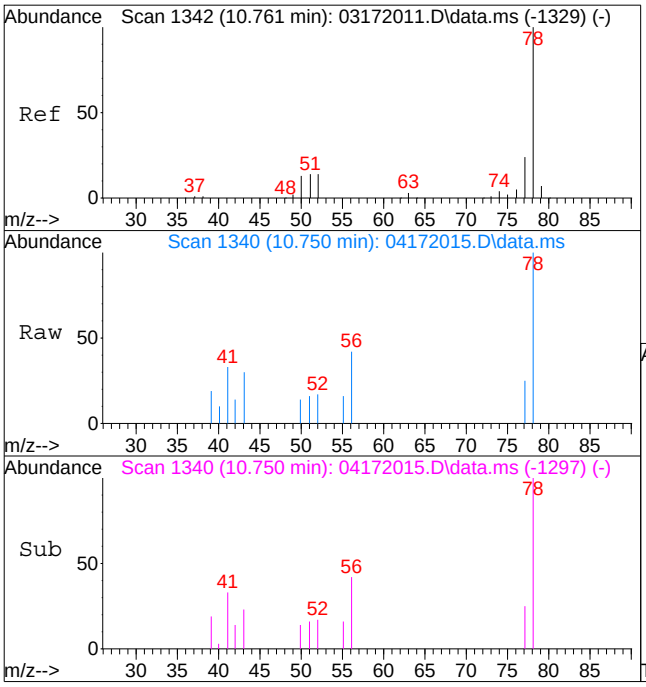


#34
Tetrahydrofuran (THF)
Concen: 8.07 ng
RT: 9.67 min Scan# 1143
Delta R.T. -0.005 min
Lab File: 04172015.D
Acq: 17 Apr 2020 10:50

Tgt Ion: 72 Resp: 55017

Ion	Ratio	Lower	Upper
72	100		
71	97.7	76.1	116.1
42	169.6	164.4	204.4

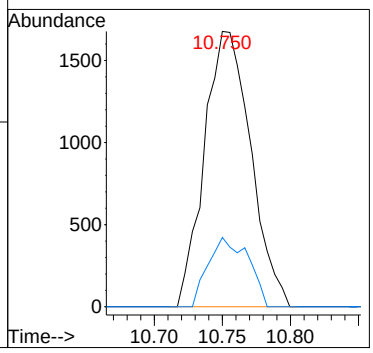


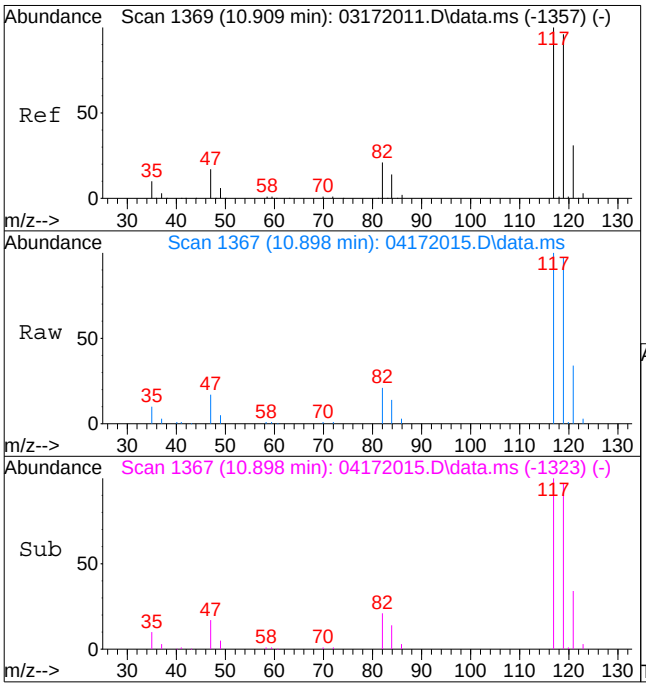


#41
Benzene
Concen: 0.09 ng
RT: 10.75 min Scan# 1340
Delta R.T. -0.011 min
Lab File: 04172015.D
Acq: 17 Apr 2020 10:50

Tgt Ion: 78 Resp: 3969

Ion	Ratio	Lower	Upper
78	100		
77	21.7	3.4	43.4

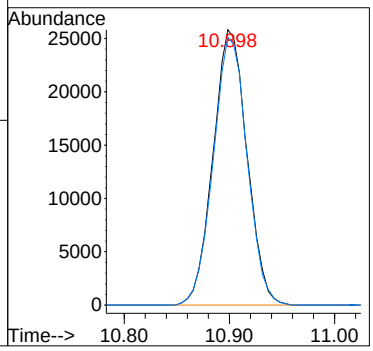


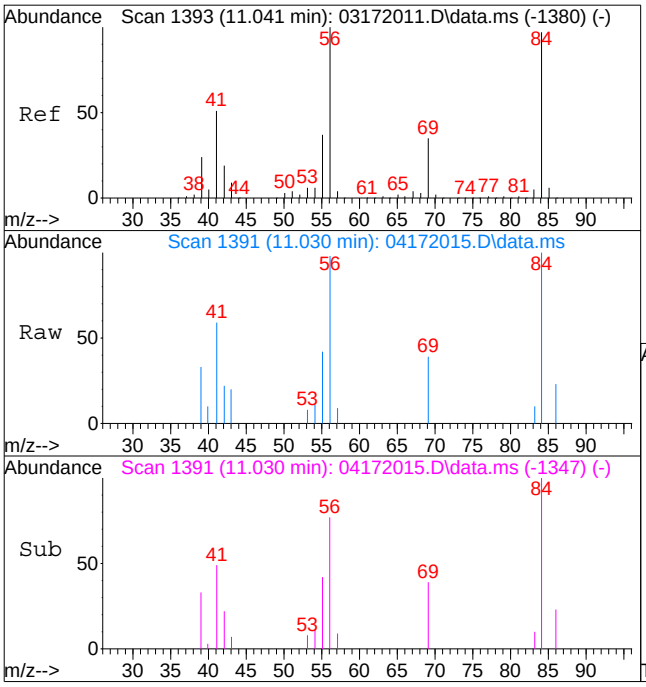


#42
Carbon Tetrachloride
Concen: 3.65 ng
RT: 10.90 min Scan# 1367
Delta R.T. -0.011 min
Lab File: 04172015.D
Acq: 17 Apr 2020 10:50

Tgt Ion:117 Resp: 57937

Ion	Ratio	Lower	Upper
117	100		
119	97.1	76.0	116.0

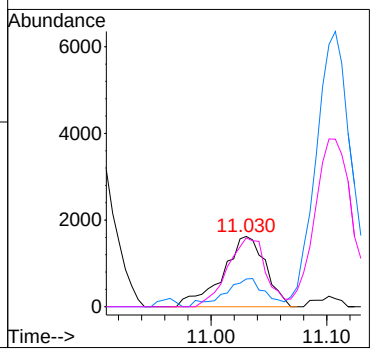


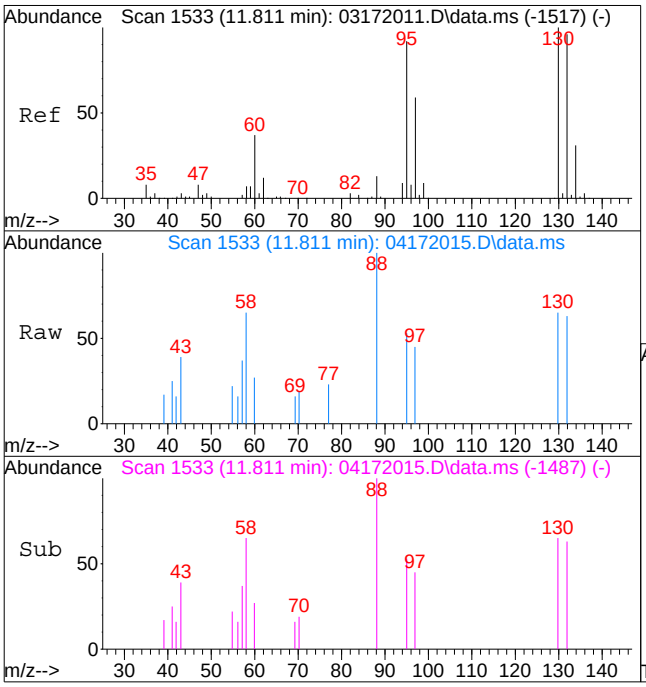


#43
Cyclohexane
Concen: 0.25 ng
RT: 11.03 min Scan# 1391
Delta R.T. -0.011 min
Lab File: 04172015.D
Acq: 17 Apr 2020 10:50

Tgt Ion: 84 Resp: 4178

Ion	Ratio	Lower	Upper
84	100		
69	36.9	16.6	56.6
56	87.2	85.3	125.3

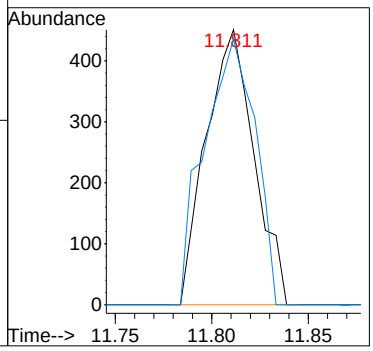


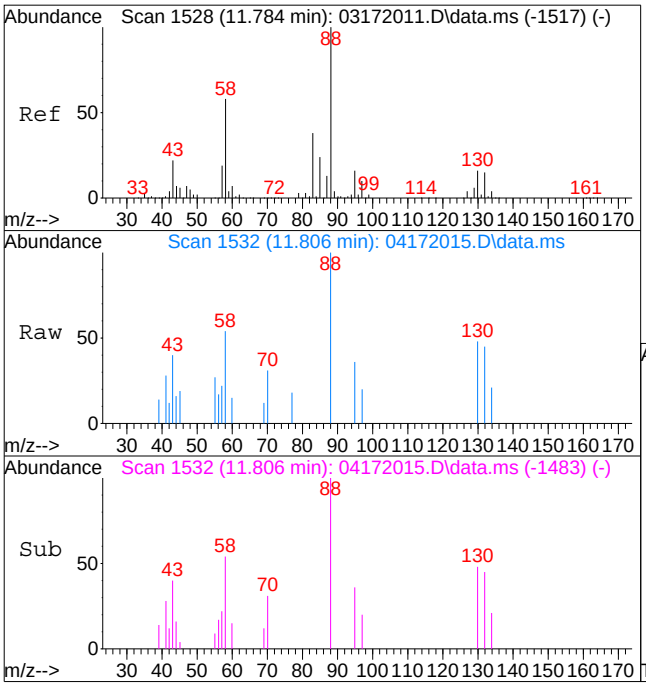


#47
Trichloroethene
Concen: 0.06 ng
RT: 11.81 min Scan# 1533
Delta R.T. 0.000 min
Lab File: 04172015.D
Acq: 17 Apr 2020 10:50

Tgt Ion:130 Resp: 781

Ion	Ratio	Lower	Upper
130	100		
132	102.4	76.3	116.3

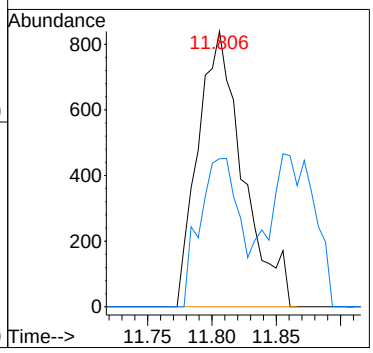


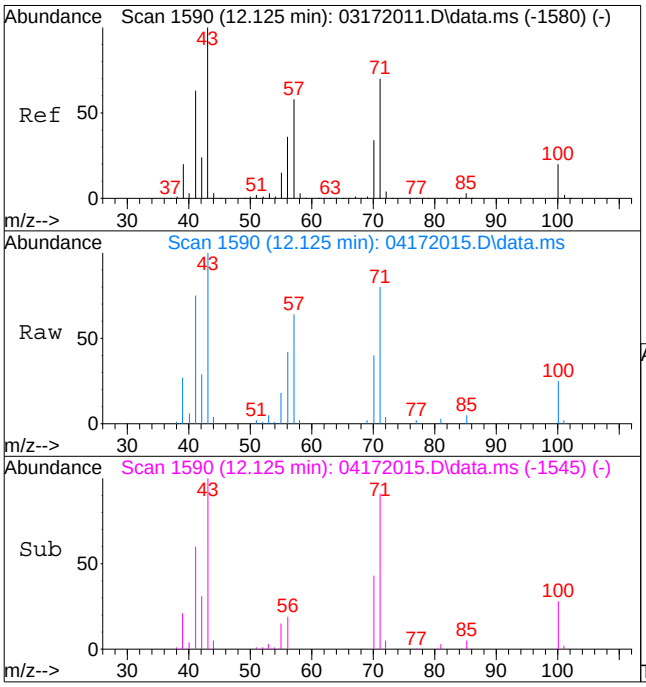


#48
1,4-Dioxane
Concen: 0.23 ng
RT: 11.81 min Scan# 1532
Delta R.T. 0.022 min
Lab File: 04172015.D
Acq: 17 Apr 2020 10:50

Tgt Ion: 88 Resp: 2040

Ion	Ratio	Lower	Upper
88	100		
58	50.0	38.1	78.1

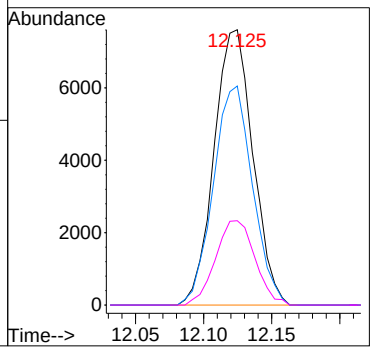


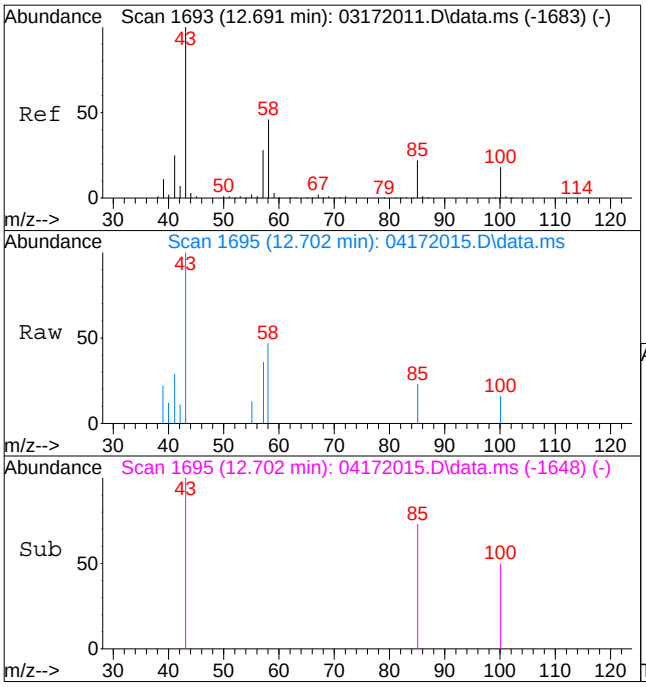


#51
n-Heptane
Concen: 1.42 ng
RT: 12.12 min Scan# 1590
Delta R.T. -0.000 min
Lab File: 04172015.D
Acq: 17 Apr 2020 10:50

Tgt Ion: 71 Resp: 15098

Ion	Ratio	Lower	Upper
71	100		
57	80.3	64.0	104.0
100	31.1	8.7	48.7

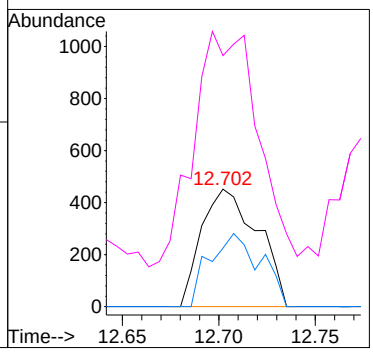


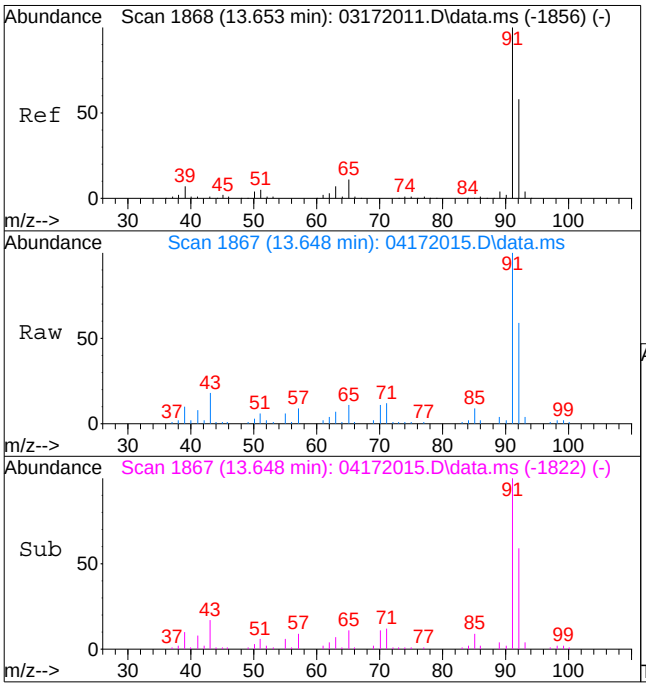


#53
4-Methyl-2-pentanone
Concen: 0.10 ng
RT: 12.70 min Scan# 1695
Delta R.T. 0.011 min
Lab File: 04172015.D
Acq: 17 Apr 2020 10:50

Tgt Ion: 58 Resp: 916

Ion	Ratio	Lower	Upper
58	100		
85	56.7	41.8	62.6
43	306.7	177.2	265.8#

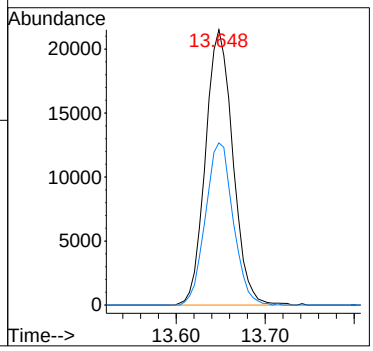


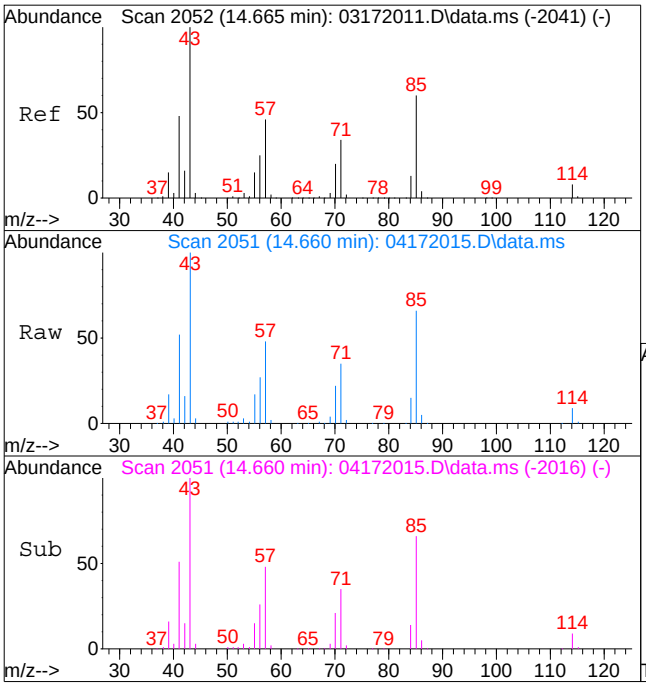


#58
Toluene
Concen: 0.97 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.005 min
Lab File: 04172015.D
Acq: 17 Apr 2020 10:50

Tgt Ion: 91 Resp: 45963

Ion	Ratio	Lower	Upper
91	100		
92	59.6	38.6	78.6

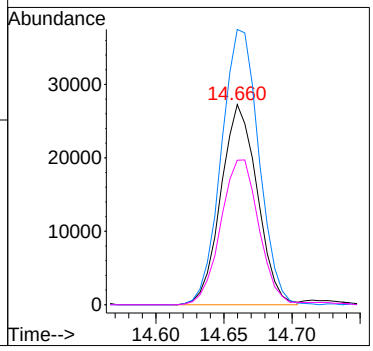


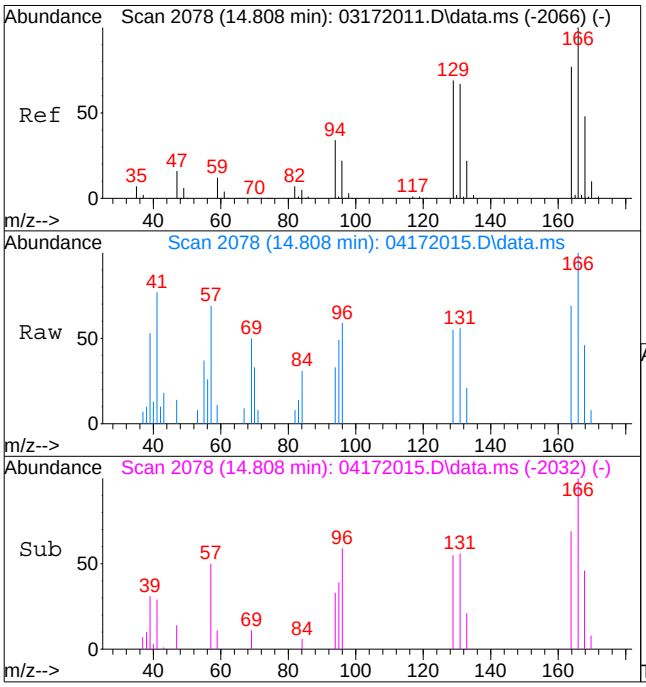


#63
n-Octane
Concen: 5.92 ng
RT: 14.66 min Scan# 2051
Delta R.T. -0.005 min
Lab File: 04172015.D
Acq: 17 Apr 2020 10:50

Tgt Ion: 57 Resp: 50590

Ion	Ratio	Lower	Upper
57	100		
85	141.9	105.4	158.2
71	76.9	59.0	88.4

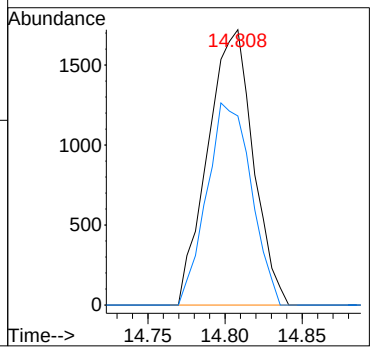


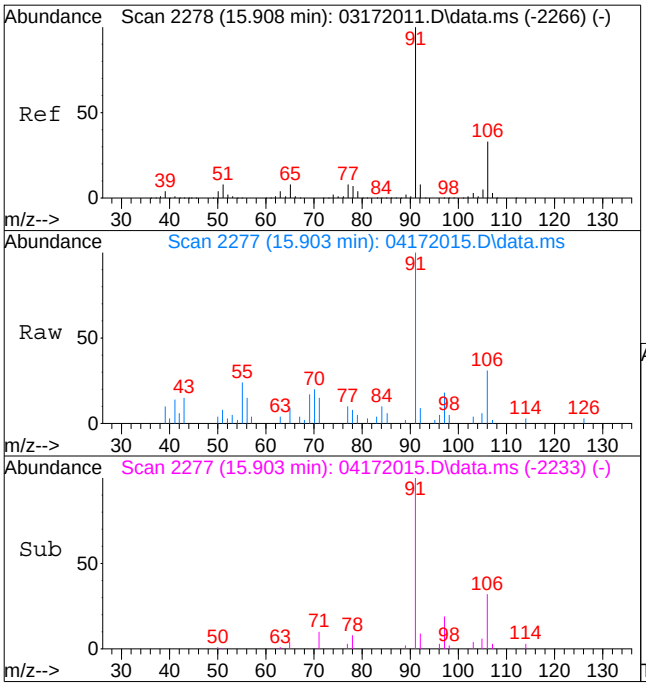


#64
Tetrachloroethene
Concen: 0.24 ng
RT: 14.81 min Scan# 2078
Delta R.T. 0.000 min
Lab File: 04172015.D
Acq: 17 Apr 2020 10:50

Tgt Ion:166 Resp: 3522

Ion	Ratio	Lower	Upper
166	100		
164	71.7	57.9	97.9

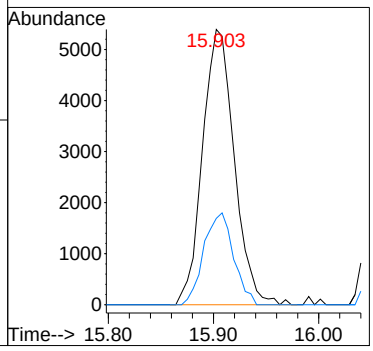


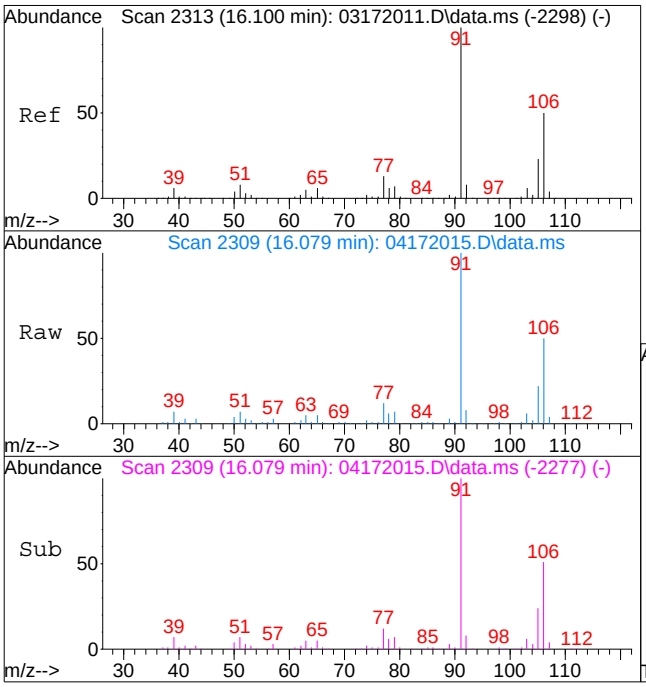


#66
Ethylbenzene
Concen: 0.22 ng
RT: 15.90 min Scan# 2277
Delta R.T. -0.005 min
Lab File: 04172015.D
Acq: 17 Apr 2020 10:50

Tgt Ion: 91 Resp: 11325

Ion	Ratio	Lower	Upper
91	100		
106	31.2	12.9	52.9

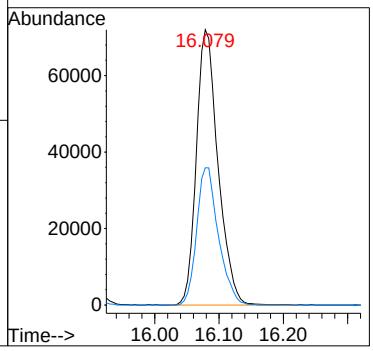


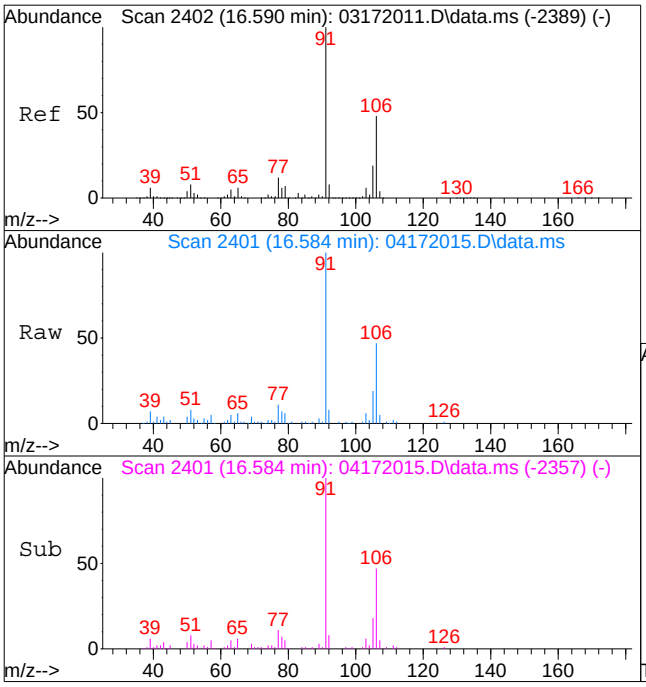


#67
m- & p-Xylenes
Concen: 4.15 ng
RT: 16.08 min Scan# 2309
Delta R.T. -0.021 min
Lab File: 04172015.D
Acq: 17 Apr 2020 10:50

Tgt Ion: 91 Resp: 168828

Ion	Ratio	Lower	Upper
91	100		
106	50.0	29.5	69.5

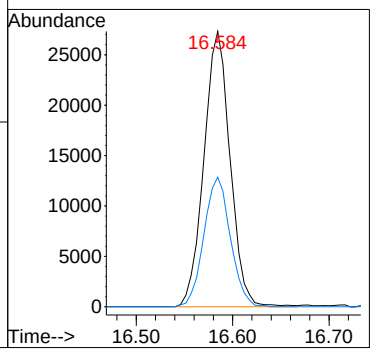


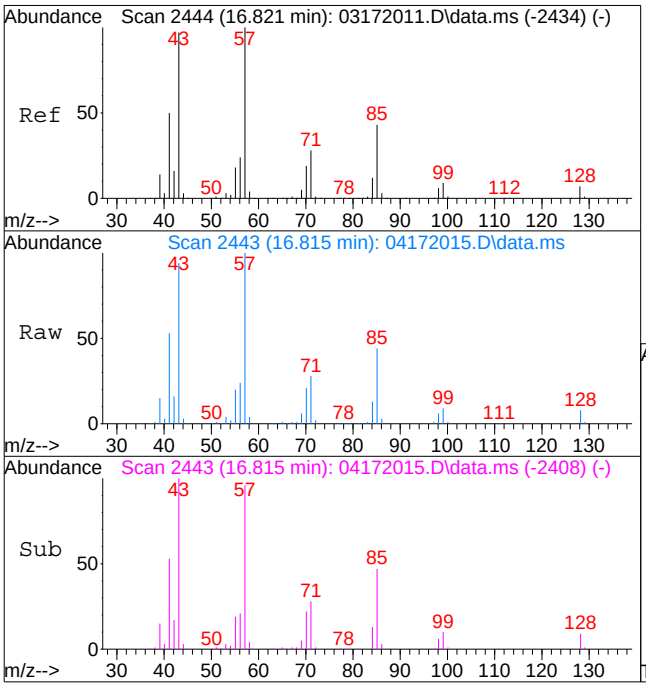


#70
o-Xylene
Concen: 1.27 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.006 min
Lab File: 04172015.D
Acq: 17 Apr 2020 10:50

Tgt Ion: 91 Resp: 51507

Ion	Ratio	Lower	Upper
91	100		
106	47.5	28.3	68.3

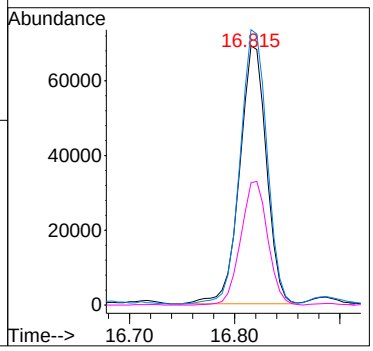


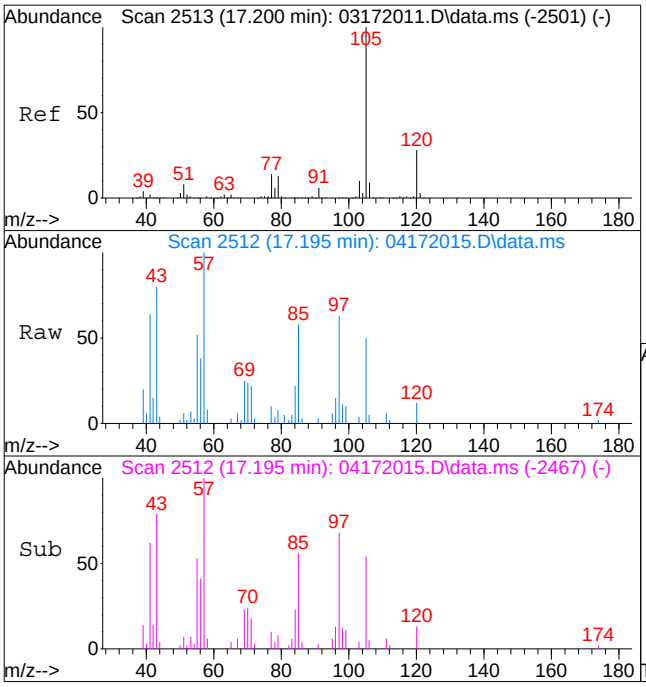


#71
n-Nonane
Concen: 6.98 ng
RT: 16.82 min Scan# 2443
Delta R.T. -0.006 min
Lab File: 04172015.D
Acq: 17 Apr 2020 10:50

Tgt Ion: 43 Resp: 122589

Ion	Ratio	Lower	Upper
43	100		
57	107.0	82.8	122.8
85	48.2	23.4	63.4

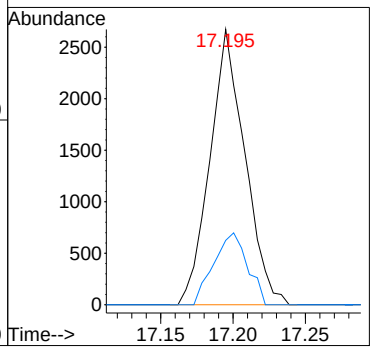


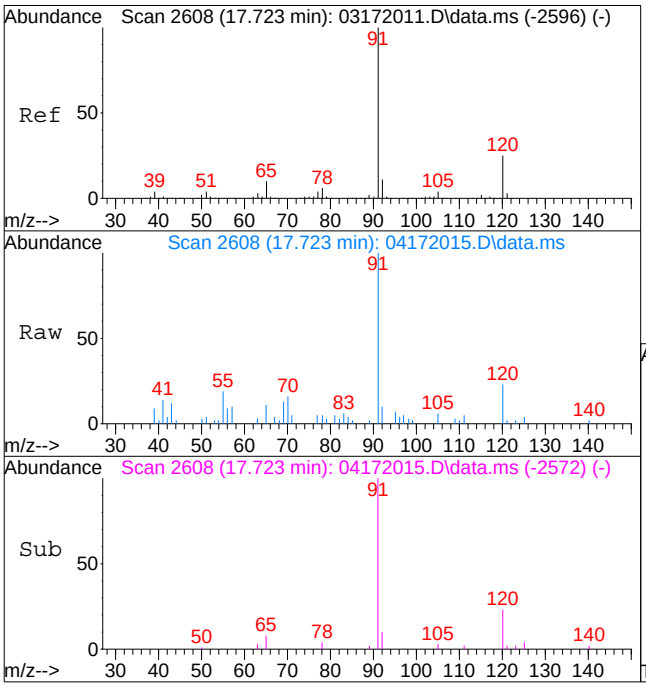


#74
Cumene
Concen: 0.08 ng
RT: 17.19 min Scan# 2512
Delta R.T. -0.005 min
Lab File: 04172015.D
Acq: 17 Apr 2020 10:50

Tgt Ion:105 Resp: 4507

Ion	Ratio	Lower	Upper
105	100		
120	25.1	7.6	47.6

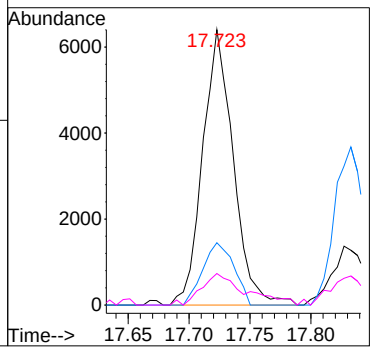


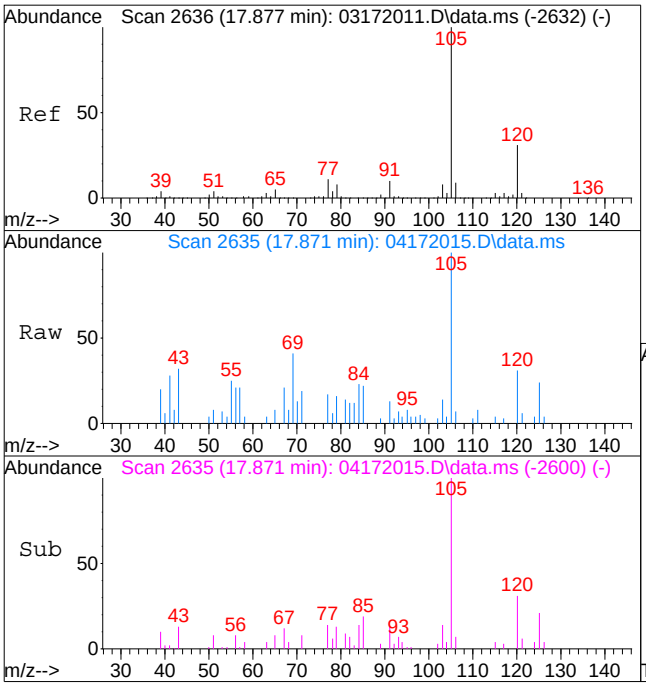


#76
n-Propylbenzene
Concen: 0.18 ng
RT: 17.72 min Scan# 2608
Delta R.T. -0.000 min
Lab File: 04172015.D
Acq: 17 Apr 2020 10:50

Tgt Ion: 91 Resp: 11197

Ion	Ratio	Lower	Upper
91	100		
120	23.1	5.0	45.0
65	16.5	0.0	30.0

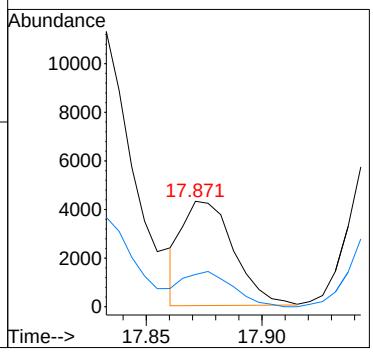


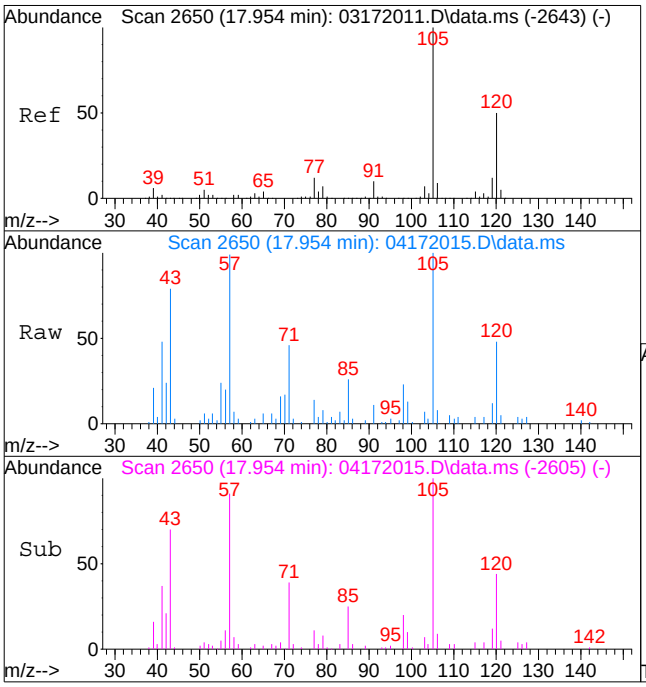


#78
4-Ethyltoluene
Concen: 0.14 ng
RT: 17.87 min Scan# 2635
Delta R.T. -0.006 min
Lab File: 04172015.D
Acq: 17 Apr 2020 10:50

Tgt Ion:105 Resp: 6644

Ion	Ratio	Lower	Upper
105	100		
120	32.9	11.2	51.2

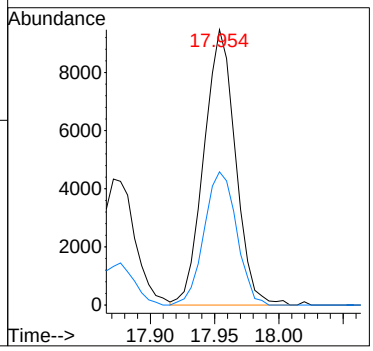


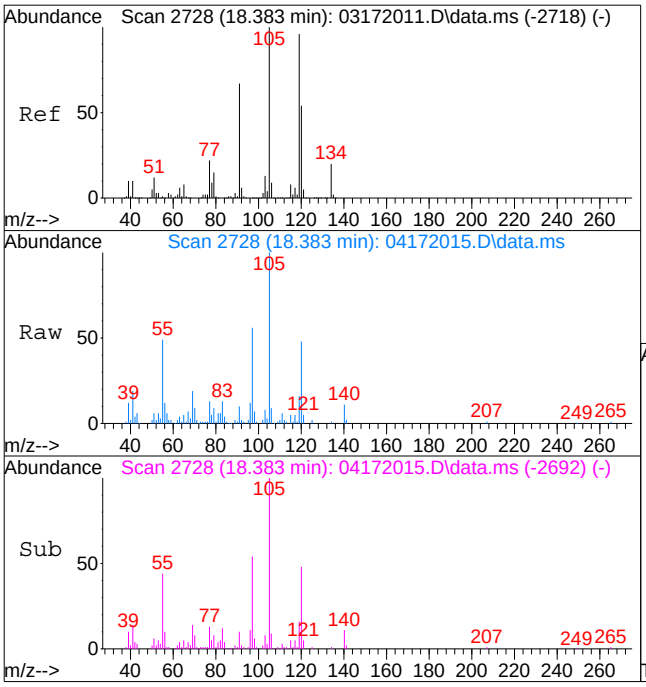


#79
1,3,5-Trimethylbenzene
Concen: 0.36 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.000 min
Lab File: 04172015.D
Acq: 17 Apr 2020 10:50

Tgt Ion:105 Resp: 16154

Ion	Ratio	Lower	Upper
105	100		
120	49.8	30.5	70.5

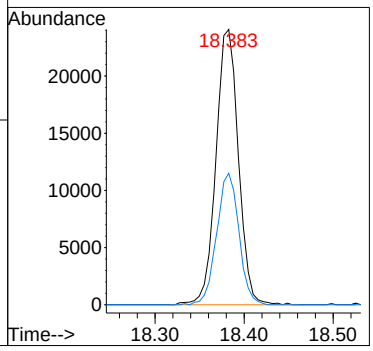


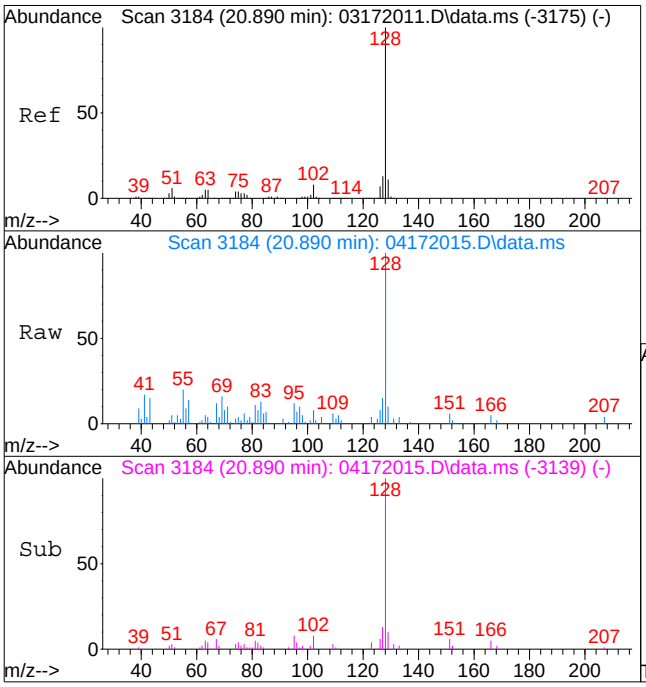


#82
1,2,4-Trimethylbenzene
Concen: 1.01 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.000 min
Lab File: 04172015.D
Acq: 17 Apr 2020 10:50

Tgt Ion:105 Resp: 42213

Ion	Ratio	Lower	Upper
105	100		
120	47.3	34.9	74.9

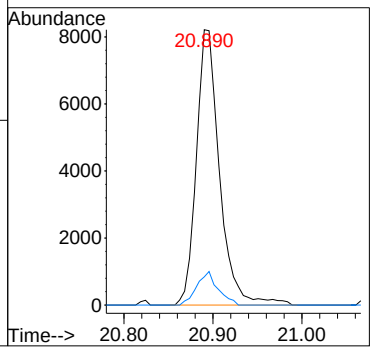




#95
Naphthalene
Concen: 0.26 ng
RT: 20.89 min Scan# 3184
Delta R.T. 0.000 min
Lab File: 04172015.D
Acq: 17 Apr 2020 10:50

Tgt Ion:128 Resp: 14882

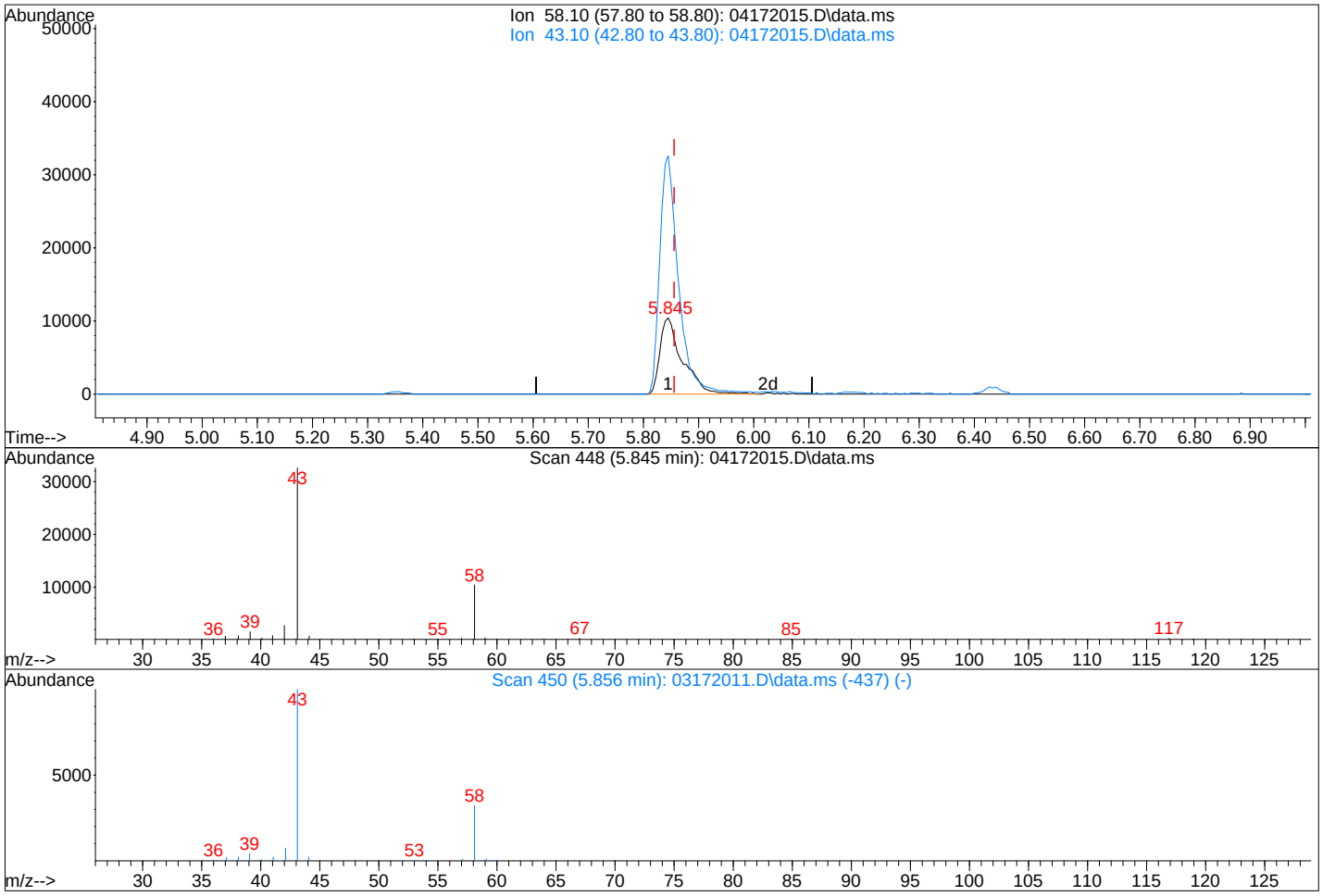
Ion	Ratio	Lower	Upper
128	100		
129	11.1	0.0	30.9



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\17\04172015.D Vial: 6
Acq On : 17 Apr 2020 10:50 Operator: TD
Sample : P2002027-002 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 17 11:23:19 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04172015.D\data.ms

(13) Acetone (T)

5.845min (-0.011) 4.08ng

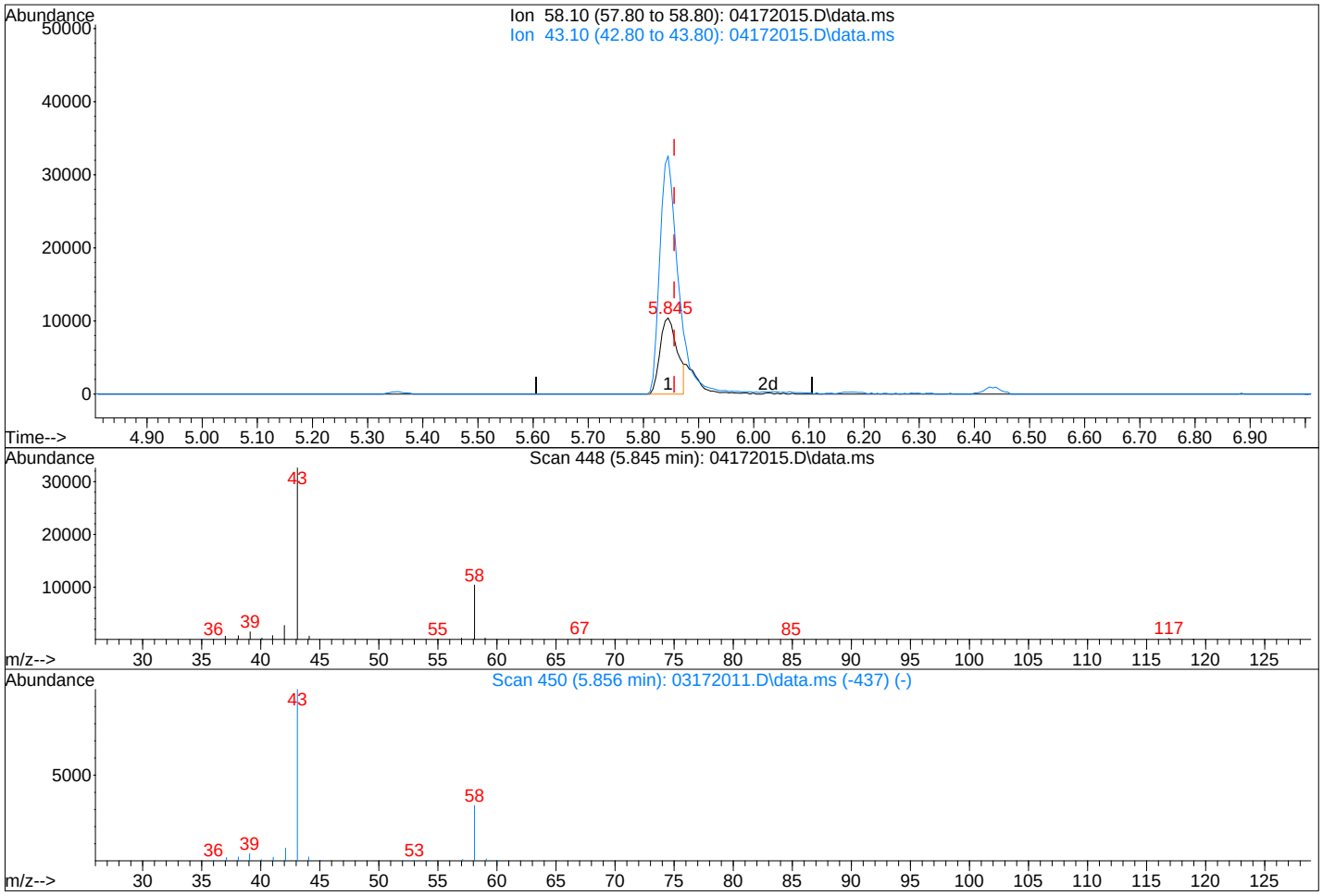
response 29316

Ion	Exp%	Act%
58.10	100	100
43.10	302.80	263.71#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\17\04172015.D Vial: 6
Acq On : 17 Apr 2020 10:50 Operator: TD
Sample : P2002027-002 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 17 11:23:19 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04172015.D\data.ms

(13) Acetone (T)

5.845min (-0.011) 3.15ng m

response 22604

Ion	Exp%	Act%
58.10	100	100
43.10	302.80	342.01#
0.00	0.00	0.00
0.00	0.00	0.00

IPC

4/20/20

LH 4/29/20

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172017.D Vial: 7
Acq On : 17 Apr 2020 11:57 Operator: TD
Sample : P2002027-003 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 16:58:12 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/20/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	147157	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	11.10	114	622292	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	282355	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	213162	12.803	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.40%				
57) Toluene-d8 (SS2)	13.54	98	693056	12.342	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.72%				
73) Bromofluorobenzene (SS3)	17.05	174	268757	14.384	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 115.04%				
Target Compounds							Qvalue
2) Propene	3.85	42	1167m	0.129	ng		
3) Dichlorodifluoromethan...	3.95	85	894079	42.577	ng		100
4) Chloromethane	4.18	50	586	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	23082	2.356	ng		97
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.34	45	1423m	0.202	ng		
11) Acetonitrile	5.56	41	34	N.D.			
12) Acrolein	5.71	56	58	N.D.			
13) Acetone	5.83	58	54632	7.549	ng		91
14) Trichlorofluoromethane	6.01	101	76518	4.024	ng		99
15) 2-Propanol (Isopropanol)	6.16	45	7745	0.337	ng	#	58
16) Acrylonitrile	6.42	53	250	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	6.85	59	497	N.D.			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	7.18	151	61468	5.800	ng		93
22) Carbon Disulfide	7.14	76	41780	1.088	ng		94
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	8.54	72	1713	0.241	ng		97
28) cis-1,2-Dichloroethene	8.97	61	150	N.D.			
29) Diisopropyl Ether	9.21	87	185	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	9.22	57	21604	1.371	ng		98
32) Chloroform	9.27	83	3728	0.199	ng		96
34) Tetrahydrofuran (THF)	9.69	72	5481	0.798	ng		95
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.75	78	10645	0.240	ng		99
42) Carbon Tetrachloride	10.90	117	70838	4.482	ng		99
43) Cyclohexane	11.03	84	13722	0.815	ng		95
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	11.81	130	2997	0.235	ng		99
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	11.93	100	211	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172017.D Vial: 7
Acq On : 17 Apr 2020 11:57 Operator: TD
Sample : P2002027-003 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 16:58:12 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

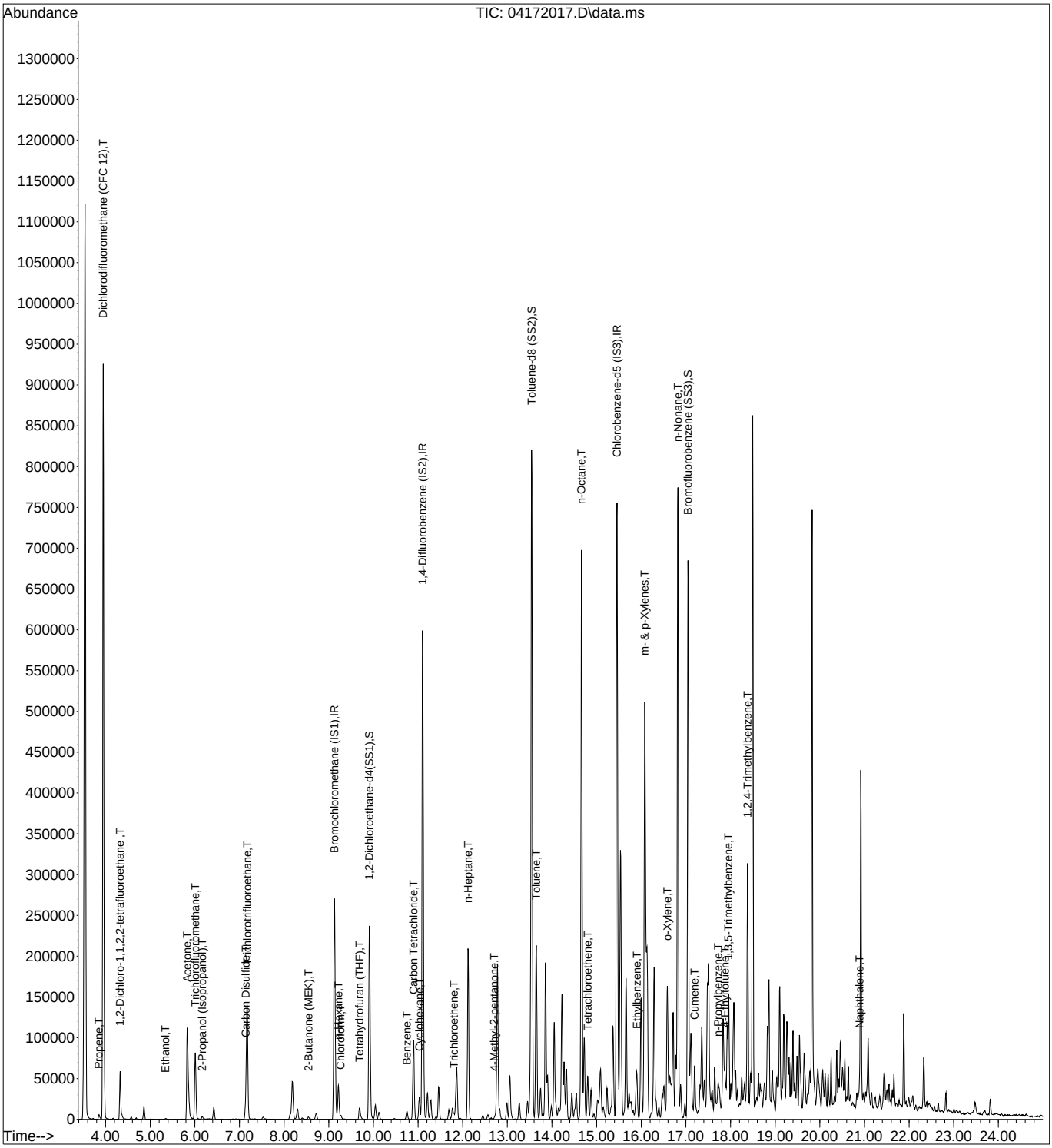
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	12.12	71	62974	5.949 ng		95
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	12.71	58	872	0.100 ng	#	84
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d		
58) Toluene	13.65	91	165282	3.468 ng		99
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D. d		
62) n-Butyl Acetate	0.00	43	0	N.D. d		
63) n-Octane	14.66	57	139335	16.204 ng		93
64) Tetrachloroethene	14.80	166	16397	1.107 ng		100
65) Chlorobenzene	0.00	112	0	N.D. d		
66) Ethylbenzene	15.90	91	31371	0.613 ng		100
67) m- & p-Xylenes	16.08	91	425153	10.379 ng		98
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.48	104	649	N.D.		
70) o-Xylene	16.58	91	113241	2.766 ng		99
71) n-Nonane	16.82	43	257313	14.552 ng		93
72) 1,1,2,2-Tetrachloroethane	16.57	83	367	N.D.		
74) Cumene	17.19	105	9521	0.178 ng		98
75) alpha-Pinene	17.72	93	470	N.D.		
76) n-Propylbenzene	17.72	91	28307	0.464 ng		98
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	17.88	105	25887	0.528 ng		99
79) 1,3,5-Trimethylbenzene	17.95	105	40839	0.906 ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	18.38	105	138677	3.310 ng		90
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	18.48	91	1252	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D. d		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	18.99	68	442	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	20.89	128	24515	0.425 ng		98
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172017.D Vial: 7
Acq On : 17 Apr 2020 11:57 Operator: TD
Sample : P2002027-003 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 16:58:12 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172017.D Vial: 7
Acq On : 17 Apr 2020 11:57 Operator: TD
Sample : P2002027-003 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 16:58:12 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/20/20

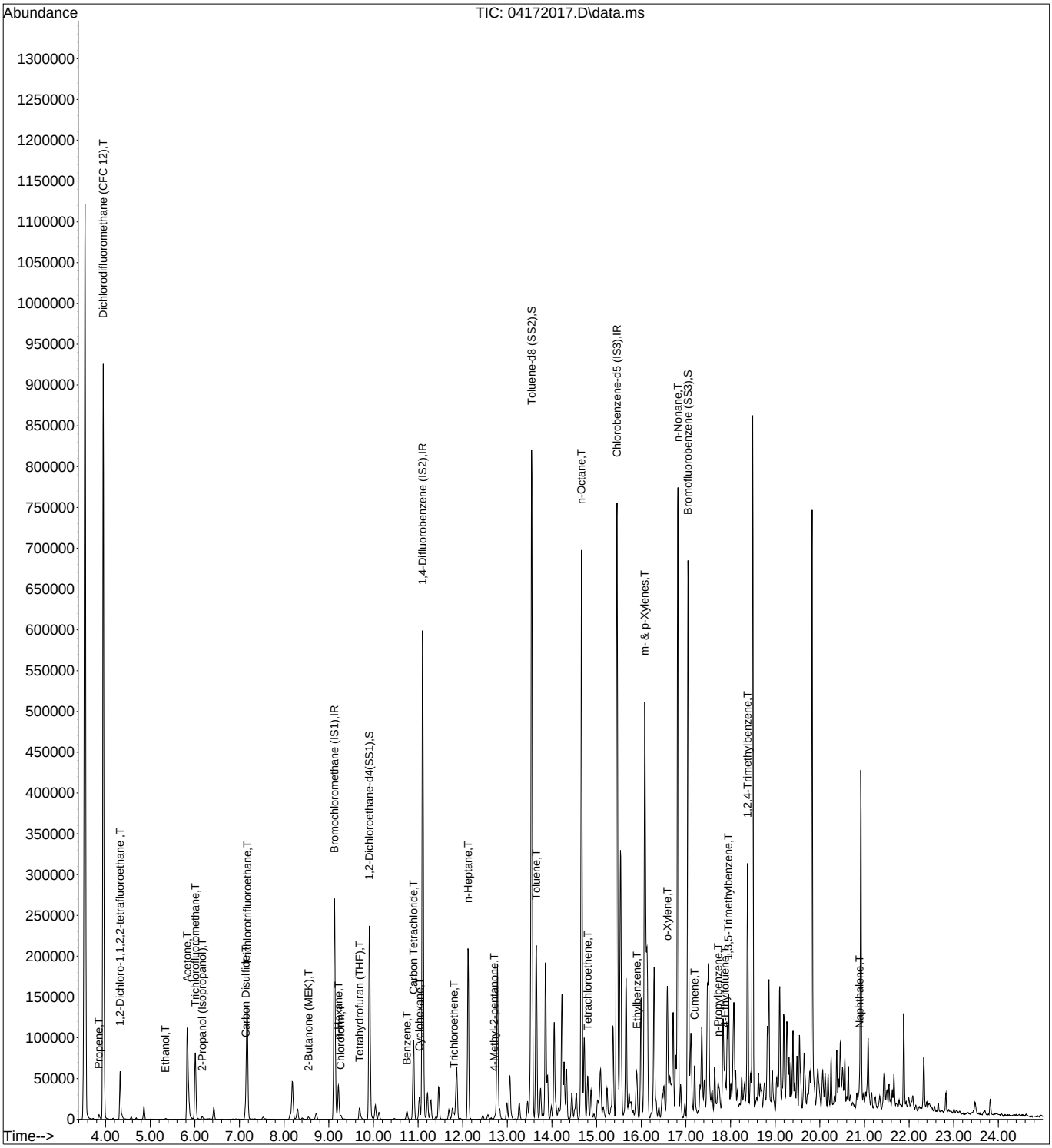
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	147157	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	11.10	114	622292	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	282355	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	213162	12.803	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.40%				
57) Toluene-d8 (SS2)	13.54	98	693056	12.342	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.72%				
73) Bromofluorobenzene (SS3)	17.05	174	268757	14.384	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 115.04%				
Target Compounds							Qvalue
2) Propene	3.85	42	1167m	0.129	ng		
3) Dichlorodifluoromethan...	3.95	85	894079	42.577	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	23082	2.356	ng		97
10) Ethanol	5.34	45	1423m	0.202	ng		
13) Acetone	5.83	58	54632	7.549	ng		91
14) Trichlorofluoromethane	6.01	101	76518	4.024	ng		99
15) 2-Propanol (Isopropanol)	6.16	45	7745	0.337	ng	#	58
21) Trichlorotrifluoroethane	7.18	151	61468	5.800	ng		93
22) Carbon Disulfide	7.14	76	41780	1.088	ng		94
27) 2-Butanone (MEK)	8.54	72	1713	0.241	ng		97
31) n-Hexane	9.22	57	21604	1.371	ng		98
32) Chloroform	9.27	83	3728	0.199	ng		96
34) Tetrahydrofuran (THF)	9.69	72	5481	0.798	ng		95
41) Benzene	10.75	78	10645	0.240	ng		99
42) Carbon Tetrachloride	10.90	117	70838	4.482	ng		99
43) Cyclohexane	11.03	84	13722	0.815	ng		95
47) Trichloroethene	11.81	130	2997	0.235	ng		99
51) n-Heptane	12.12	71	62974	5.949	ng		95
53) 4-Methyl-2-pentanone	12.71	58	872	0.100	ng	#	84
58) Toluene	13.65	91	165282	3.468	ng		99
63) n-Octane	14.66	57	139335	16.204	ng		93
64) Tetrachloroethene	14.80	166	16397	1.107	ng		100
66) Ethylbenzene	15.90	91	31371	0.613	ng		100
67) m- & p-Xylenes	16.08	91	425153	10.379	ng		98
70) o-Xylene	16.58	91	113241	2.766	ng		99
71) n-Nonane	16.82	43	257313	14.552	ng		93
74) Cumene	17.19	105	9521	0.178	ng		98
76) n-Propylbenzene	17.72	91	28307	0.464	ng		98
78) 4-Ethyltoluene	17.88	105	25887	0.528	ng		99
79) 1,3,5-Trimethylbenzene	17.95	105	40839	0.906	ng		99
82) 1,2,4-Trimethylbenzene	18.38	105	138677	3.310	ng		90
95) Naphthalene	20.89	128	24515	0.425	ng		98

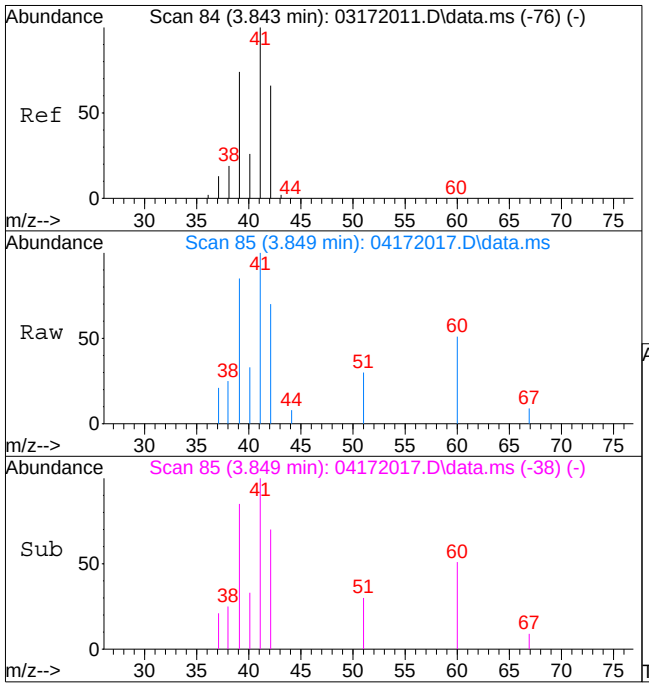
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172017.D Vial: 7
Acq On : 17 Apr 2020 11:57 Operator: TD
Sample : P2002027-003 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 16:58:12 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

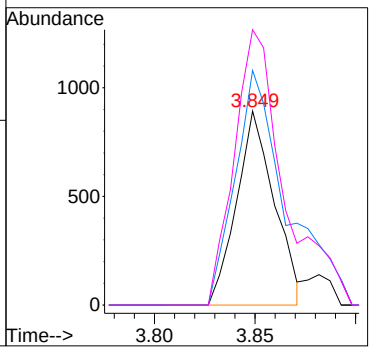


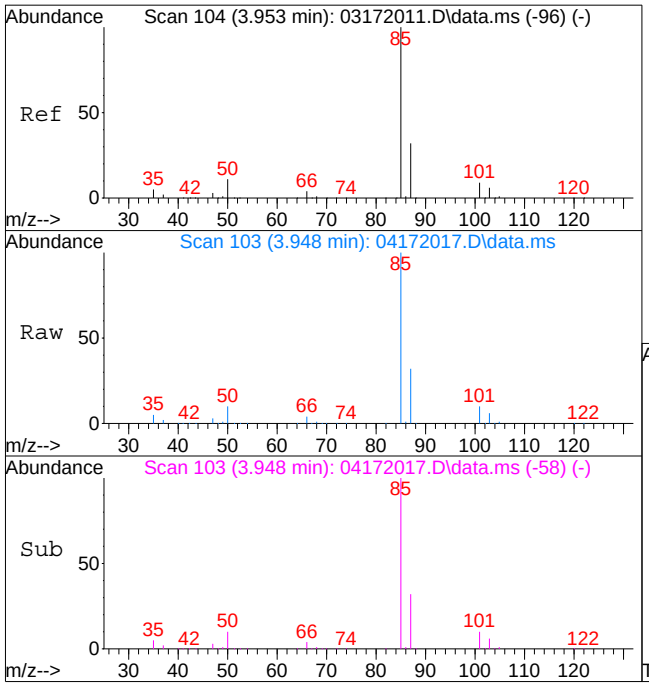


#2
Propene
Concen: 0.13 ng m
RT: 3.85 min Scan# 85
Delta R.T. 0.006 min
Lab File: 04172017.D
Acq: 17 Apr 2020 11:57

Tgt Ion: 42 Resp: 1167

Ion	Ratio	Lower	Upper
42	100		
39	164.5	91.9	131.9#
41	187.2	130.5	170.5#

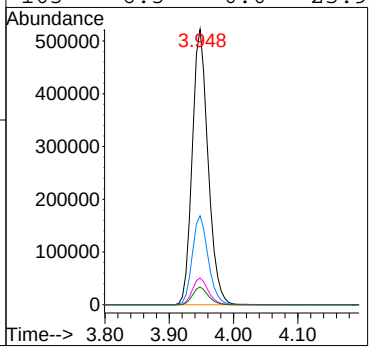


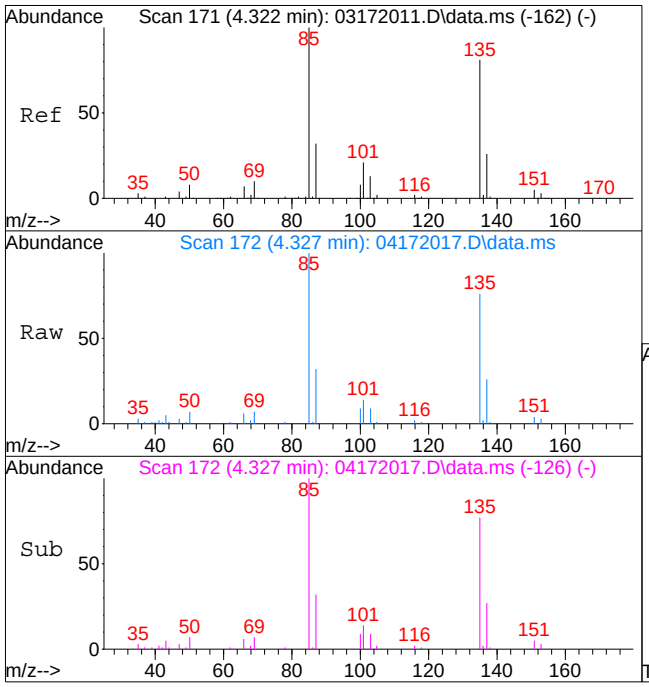


#3
Dichlorodifluoromethane (CFC 12)
Concen: 42.58 ng
RT: 3.95 min Scan# 103
Delta R.T. -0.005 min
Lab File: 04172017.D
Acq: 17 Apr 2020 11:57

Tgt Ion: 85 Resp: 894079

Ion	Ratio	Lower	Upper
85	100		
87	32.4	12.4	52.4
101	9.7	0.0	29.2
103	6.3	0.0	25.9

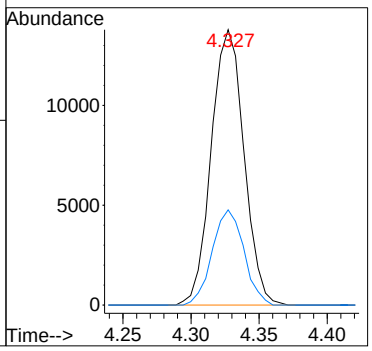


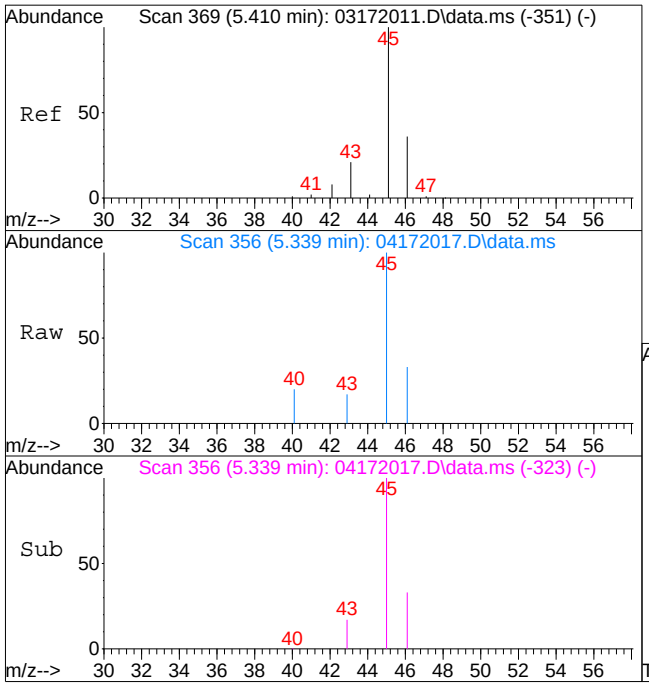


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 2.36 ng
RT: 4.33 min Scan# 172
Delta R.T. 0.005 min
Lab File: 04172017.D
Acq: 17 Apr 2020 11:57

Tgt Ion:135 Resp: 23082

Ion	Ratio	Lower	Upper
135	100		
137	33.4	12.0	52.0

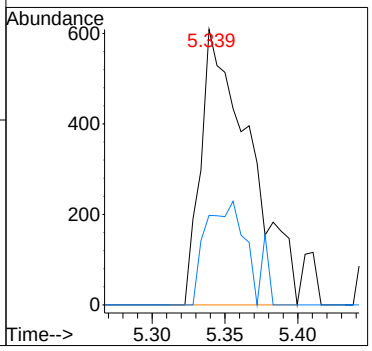


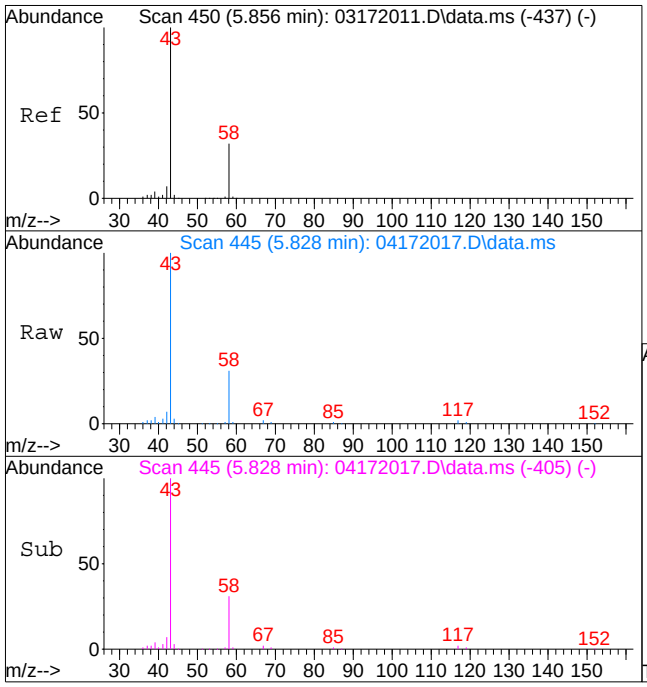


#10
Ethanol
Concen: 0.20 ng m
RT: 5.34 min Scan# 356
Delta R.T. -0.071 min
Lab File: 04172017.D
Acq: 17 Apr 2020 11:57

Tgt Ion: 45 Resp: 1423

Ion	Ratio	Lower	Upper
45	100		
46	0.0	15.9	55.9#

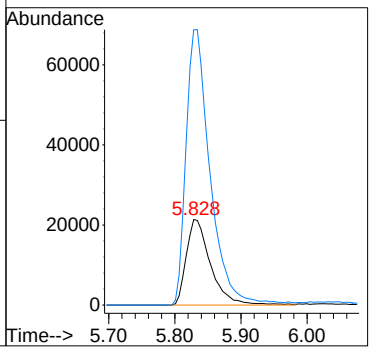


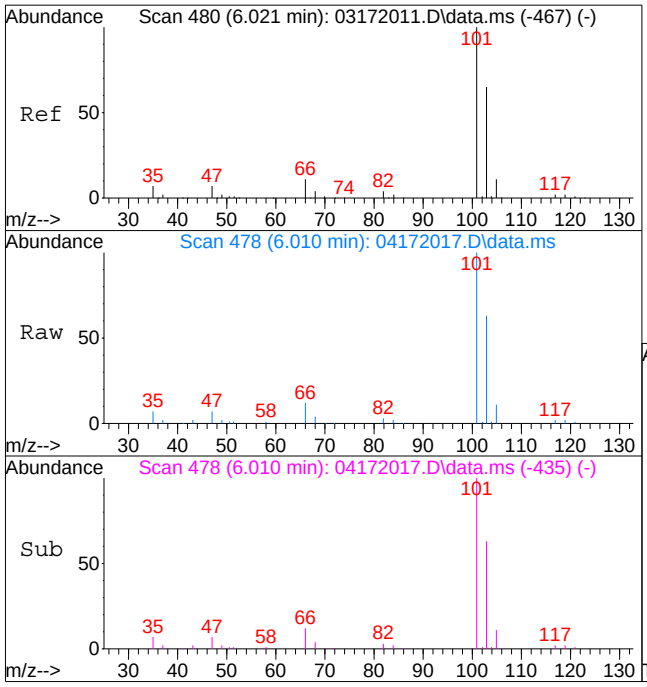


#13
Acetone
Concen: 7.55 ng
RT: 5.83 min Scan# 445
Delta R.T. -0.028 min
Lab File: 04172017.D
Acq: 17 Apr 2020 11:57

Tgt Ion: 58 Resp: 54632

Ion	Ratio	Lower	Upper
58	100		
43	319.6	272.8	332.8

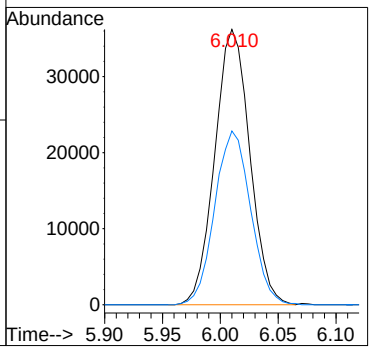


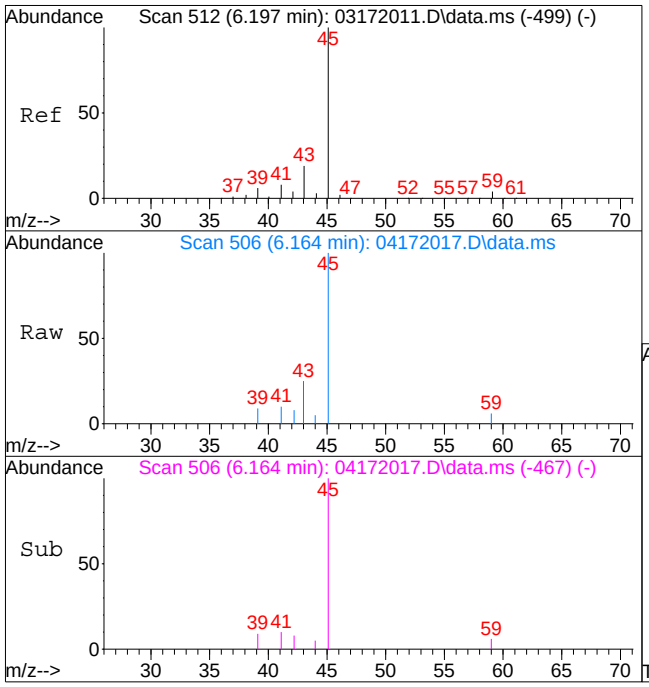


#14
Trichlorofluoromethane
Concen: 4.02 ng
RT: 6.01 min Scan# 478
Delta R.T. -0.011 min
Lab File: 04172017.D
Acq: 17 Apr 2020 11:57

Tgt Ion:101 Resp: 76518

Ion	Ratio	Lower	Upper
101	100		
103	64.5	45.3	85.3

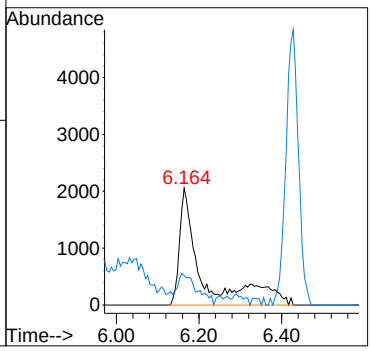


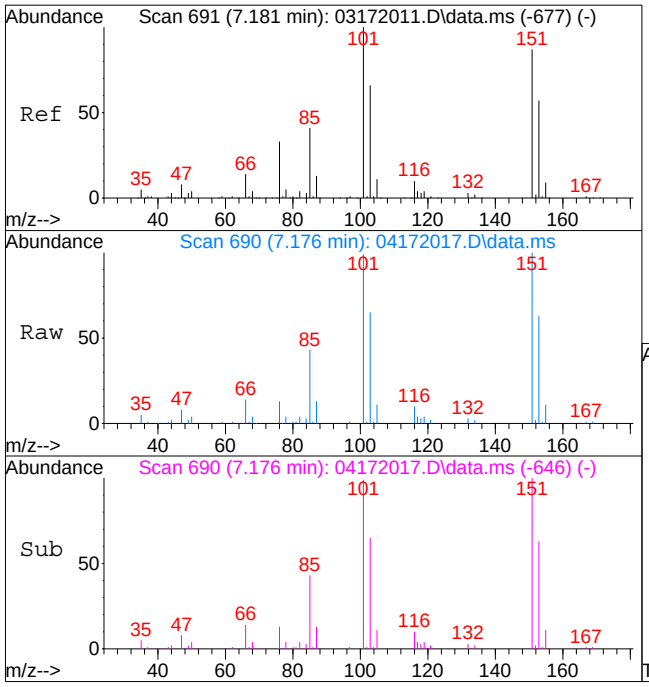


#15
2-Propanol (Isopropanol)
Concen: 0.34 ng
RT: 6.16 min Scan# 506
Delta R.T. -0.033 min
Lab File: 04172017.D
Acq: 17 Apr 2020 11:57

Tgt Ion: 45 Resp: 7745

Ion	Ratio	Lower	Upper
45	100		
43	0.0	0.0	39.0

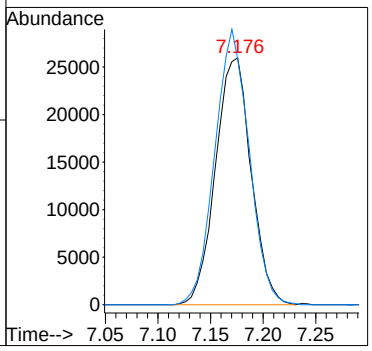


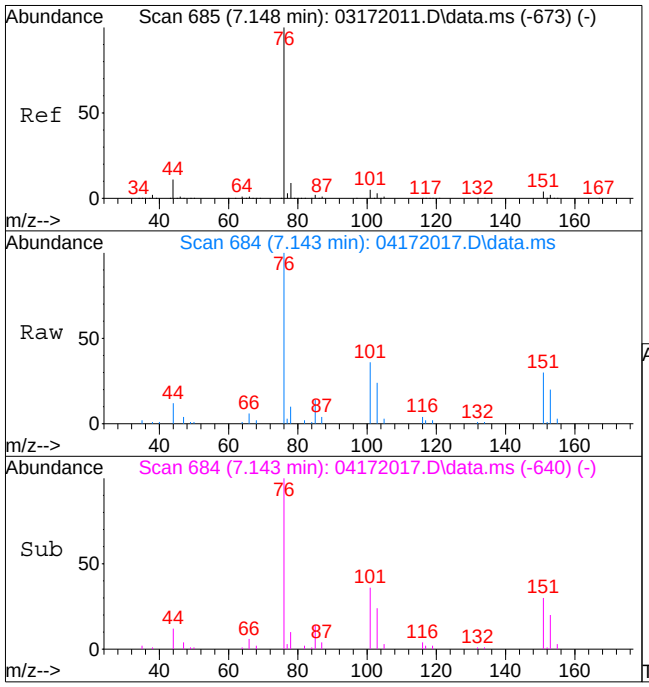


#21
Trichlorotrifluoroethane
Concen: 5.80 ng
RT: 7.18 min Scan# 690
Delta R.T. -0.005 min
Lab File: 04172017.D
Acq: 17 Apr 2020 11:57

Tgt Ion:151 Resp: 61468

Ion	Ratio	Lower	Upper
151	100		
101	107.3	94.7	134.7

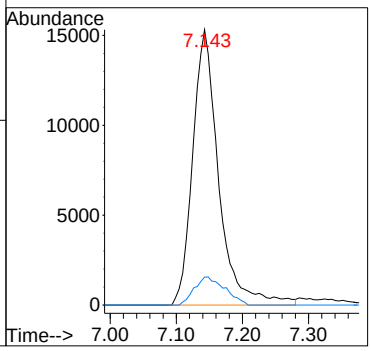


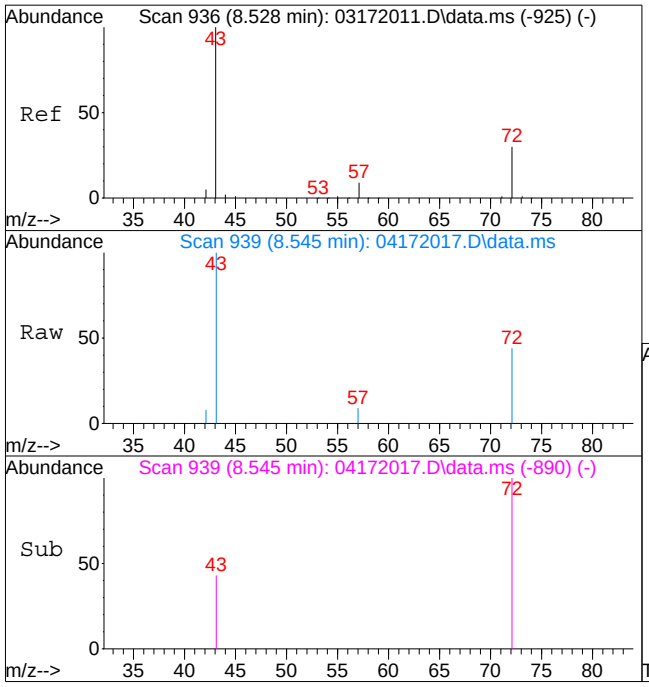


#22
Carbon Disulfide
Concen: 1.09 ng
RT: 7.14 min Scan# 684
Delta R.T. -0.005 min
Lab File: 04172017.D
Acq: 17 Apr 2020 11:57

Tgt Ion: 76 Resp: 41780

Ion	Ratio	Lower	Upper
76	100		
78	12.0	0.0	29.7

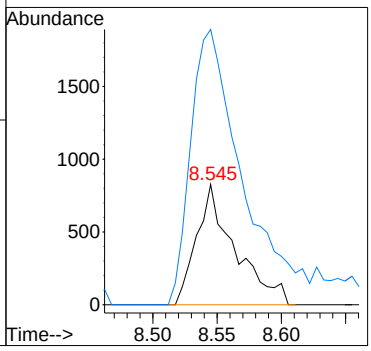


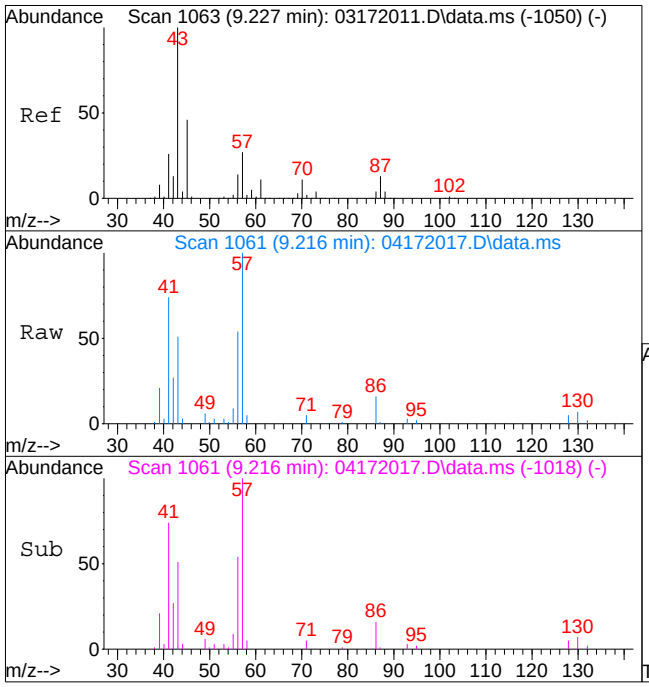


#27
2-Butanone (MEK)
Concen: 0.24 ng
RT: 8.54 min Scan# 939
Delta R.T. 0.017 min
Lab File: 04172017.D
Acq: 17 Apr 2020 11:57

Tgt Ion: 72 Resp: 1713

Ion	Ratio	Lower	Upper
72	100		
43	337.9	310.6	350.6

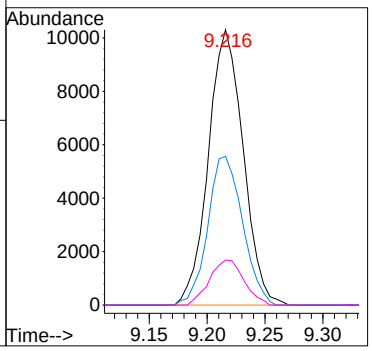


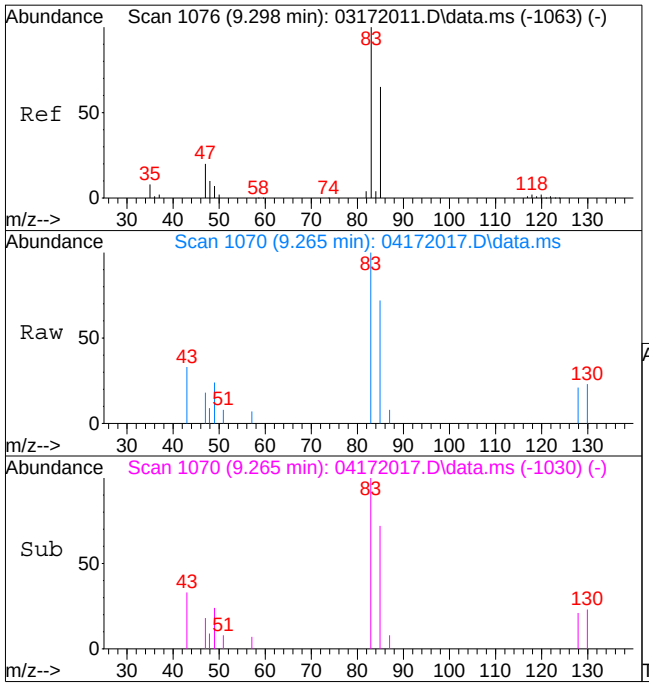


#31
n-Hexane
Concen: 1.37 ng
RT: 9.22 min Scan# 1061
Delta R.T. -0.011 min
Lab File: 04172017.D
Acq: 17 Apr 2020 11:57

Tgt Ion: 57 Resp: 21604

Ion	Ratio	Lower	Upper
57	100		
56	53.8	42.0	63.0
86	16.2	13.1	19.7

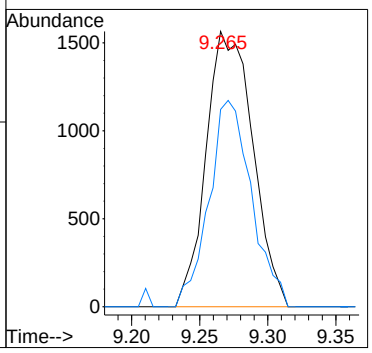


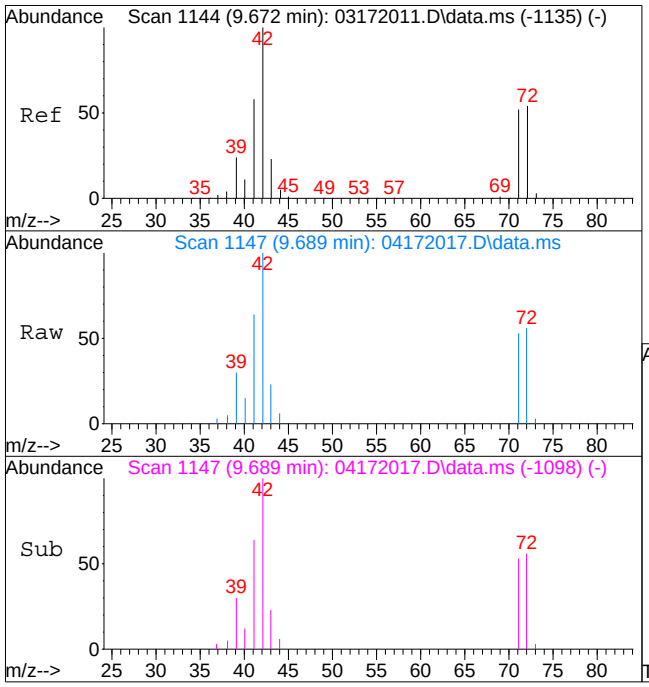


#32
Chloroform
Concen: 0.20 ng
RT: 9.27 min Scan# 1070
Delta R.T. -0.033 min
Lab File: 04172017.D
Acq: 17 Apr 2020 11:57

Tgt Ion: 83 Resp: 3728

Ion	Ratio	Lower	Upper
83	100		
85	68.3	45.1	85.1

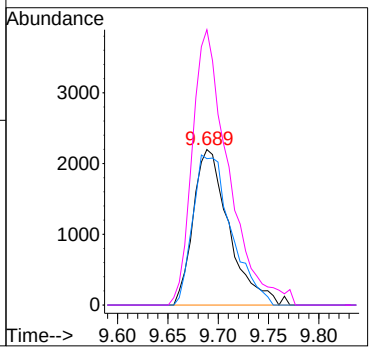


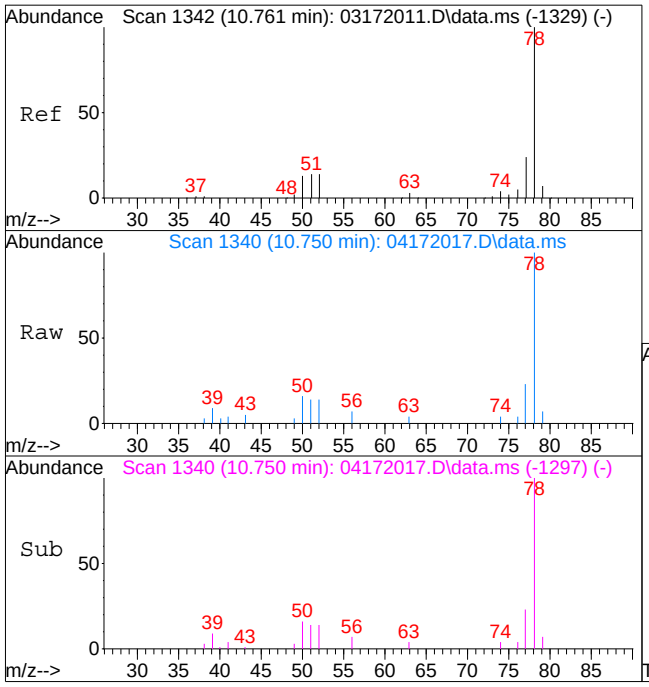


#34
Tetrahydrofuran (THF)
Concen: 0.80 ng
RT: 9.69 min Scan# 1147
Delta R.T. 0.017 min
Lab File: 04172017.D
Acq: 17 Apr 2020 11:57

Tgt Ion: 72 Resp: 5481

Ion	Ratio	Lower	Upper
72	100		
71	102.2	76.1	116.1
42	177.9	164.4	204.4

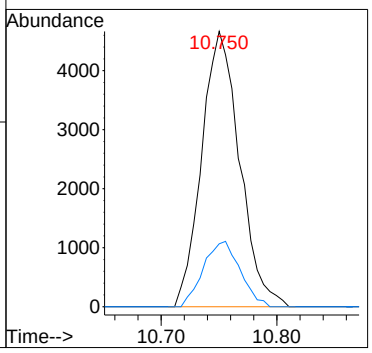


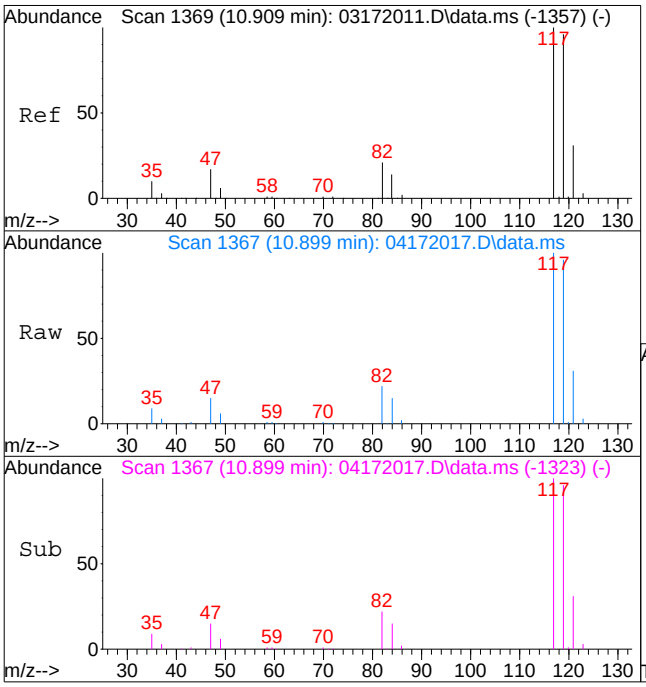


#41
Benzene
Concen: 0.24 ng
RT: 10.75 min Scan# 1340
Delta R.T. -0.011 min
Lab File: 04172017.D
Acq: 17 Apr 2020 11:57

Tgt Ion: 78 Resp: 10645

Ion	Ratio	Lower	Upper
78	100		
77	23.0	3.4	43.4

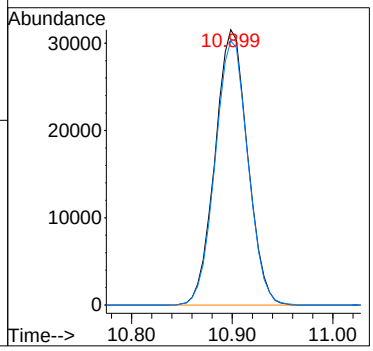


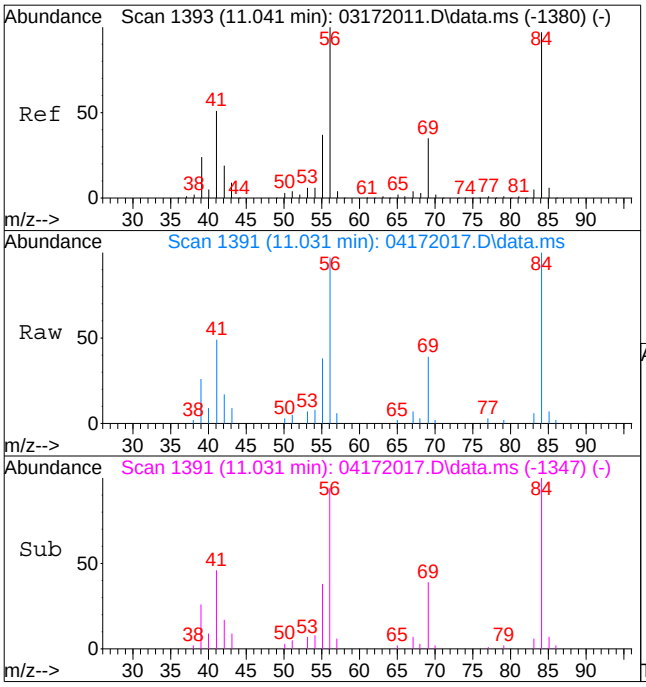


#42
Carbon Tetrachloride
Concen: 4.48 ng
RT: 10.90 min Scan# 1367
Delta R.T. -0.010 min
Lab File: 04172017.D
Acq: 17 Apr 2020 11:57

Tgt Ion:117 Resp: 70838

Ion	Ratio	Lower	Upper
117	100		
119	96.5	76.0	116.0

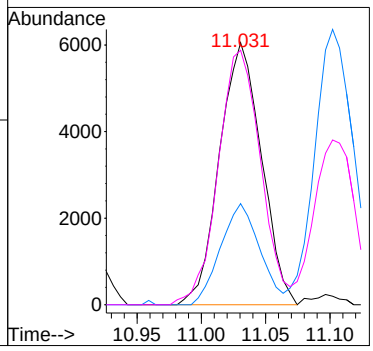


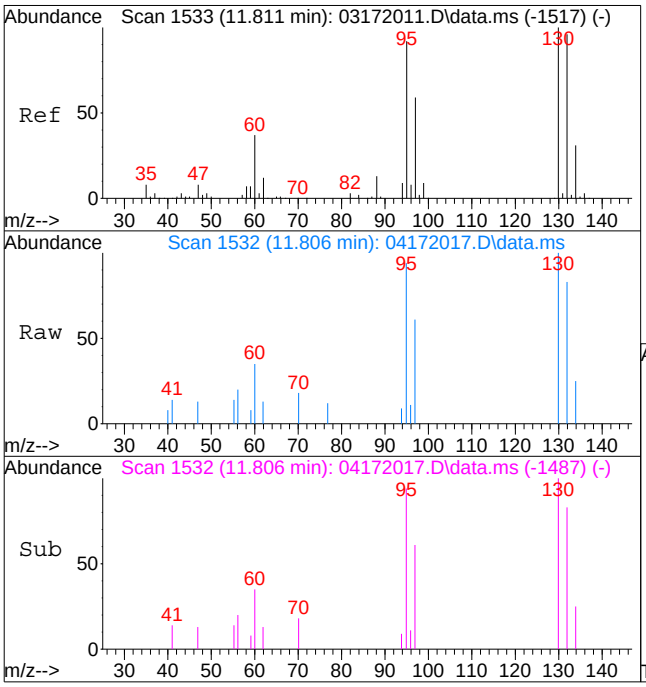


#43
Cyclohexane
Concen: 0.82 ng
RT: 11.03 min Scan# 1391
Delta R.T. -0.010 min
Lab File: 04172017.D
Acq: 17 Apr 2020 11:57

Tgt Ion: 84 Resp: 13722

Ion	Ratio	Lower	Upper
84	100		
69	36.1	16.6	56.6
56	98.3	85.3	125.3

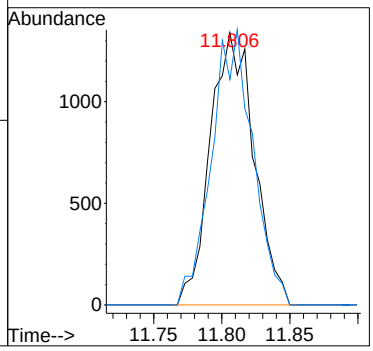


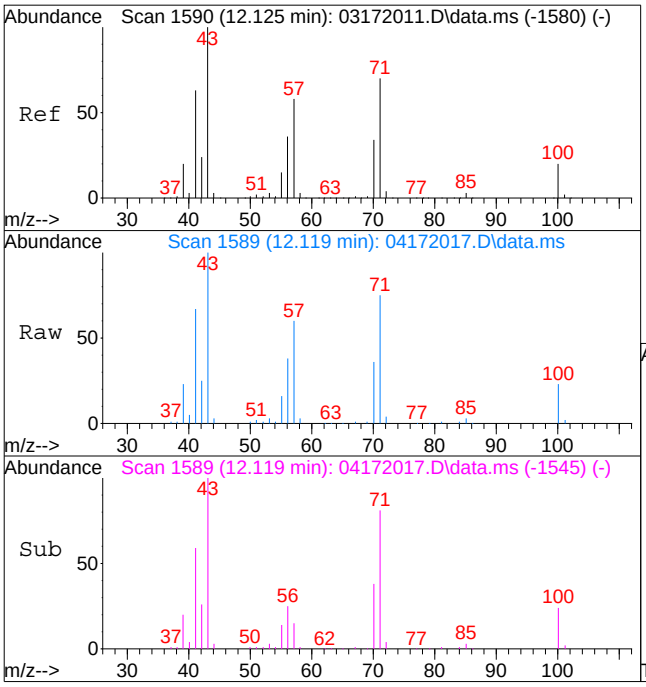


#47
Trichloroethene
Concen: 0.23 ng
RT: 11.81 min Scan# 1532
Delta R.T. -0.005 min
Lab File: 04172017.D
Acq: 17 Apr 2020 11:57

Tgt Ion:130 Resp: 2997

Ion	Ratio	Lower	Upper
130	100		
132	95.4	76.3	116.3

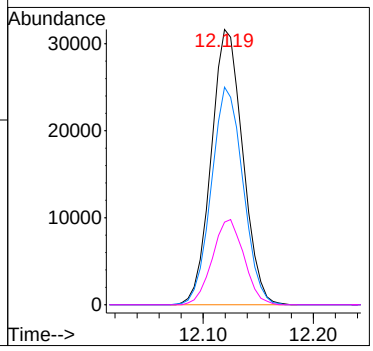


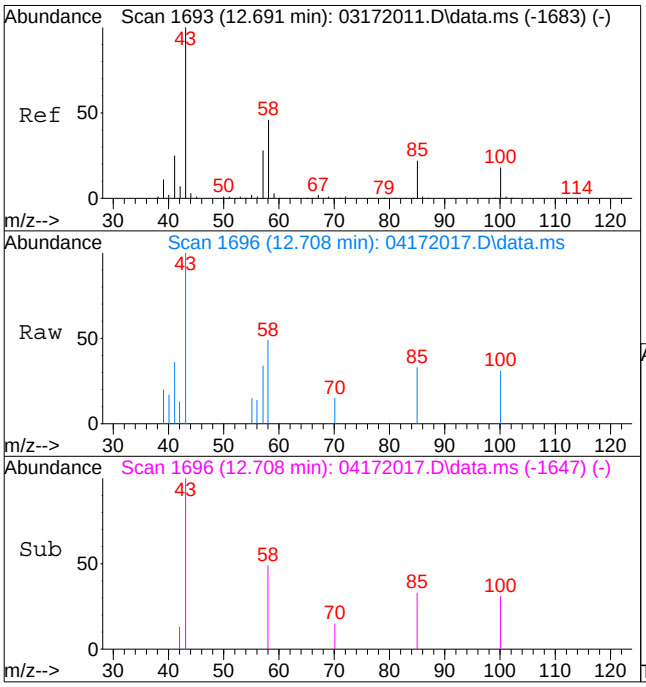


#51
n-Heptane
Concen: 5.95 ng
RT: 12.12 min Scan# 1589
Delta R.T. -0.006 min
Lab File: 04172017.D
Acq: 17 Apr 2020 11:57

Tgt Ion: 71 Resp: 62974

Ion	Ratio	Lower	Upper
71	100		
57	79.3	64.0	104.0
100	31.0	8.7	48.7

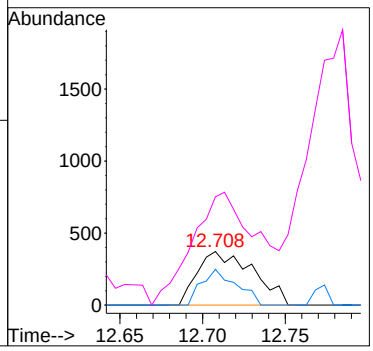


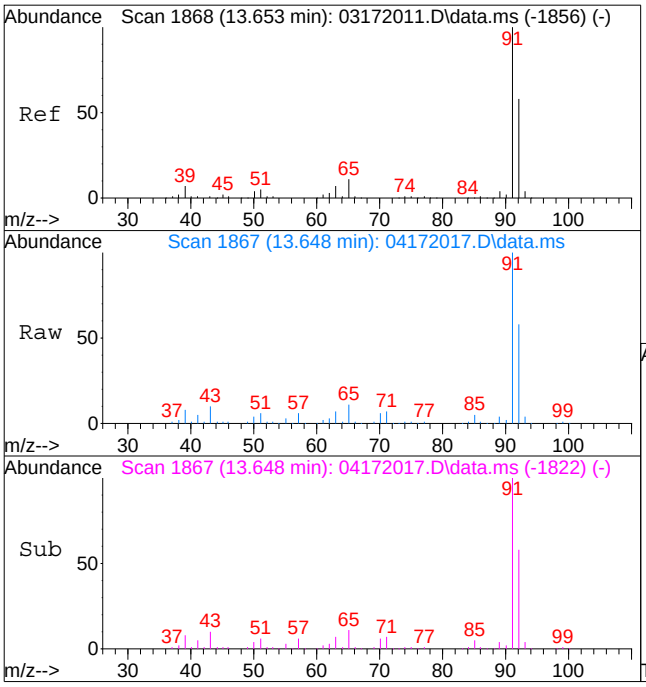


#53
4-Methyl-2-pentanone
Concen: 0.10 ng
RT: 12.71 min Scan# 1696
Delta R.T. 0.017 min
Lab File: 04172017.D
Acq: 17 Apr 2020 11:57

Tgt Ion: 58 Resp: 872

Ion	Ratio	Lower	Upper
58	100		
85	41.7	41.8	62.6#
43	246.9	177.2	265.8

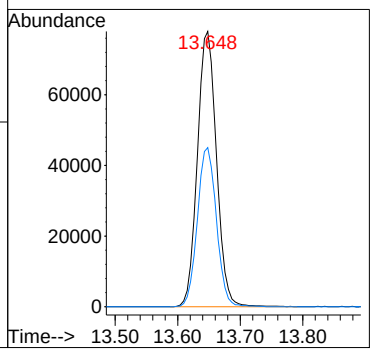


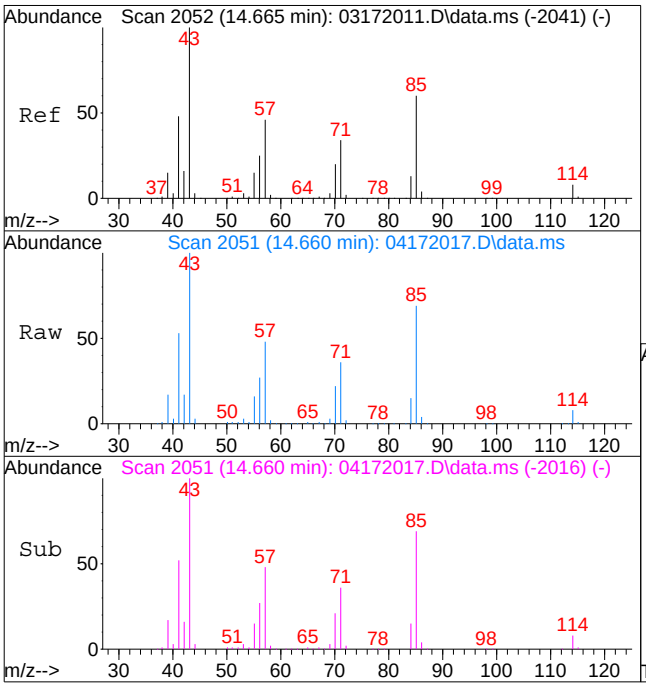


#58
Toluene
Concen: 3.47 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.005 min
Lab File: 04172017.D
Acq: 17 Apr 2020 11:57

Tgt Ion: 91 Resp: 165282

Ion	Ratio	Lower	Upper
91	100		
92	57.6	38.6	78.6

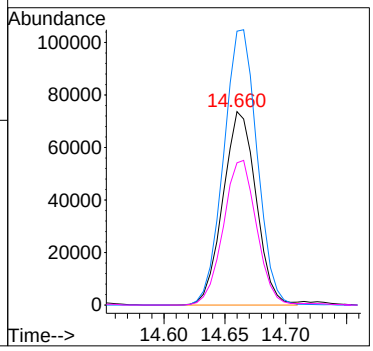


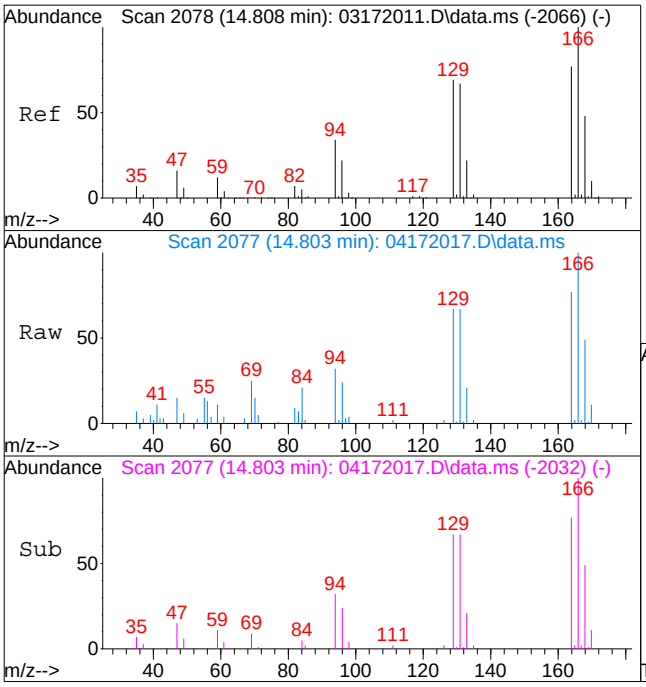


#63
n-Octane
Concen: 16.20 ng
RT: 14.66 min Scan# 2051
Delta R.T. -0.005 min
Lab File: 04172017.D
Acq: 17 Apr 2020 11:57

Tgt Ion: 57 Resp: 139335

Ion	Ratio	Lower	Upper
57	100		
85	143.7	105.4	158.2
71	75.5	59.0	88.4

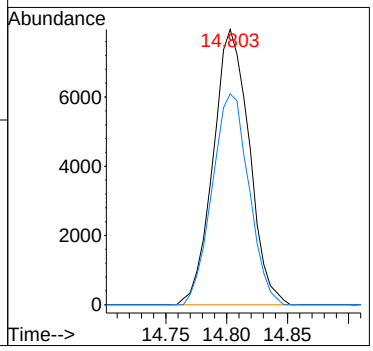


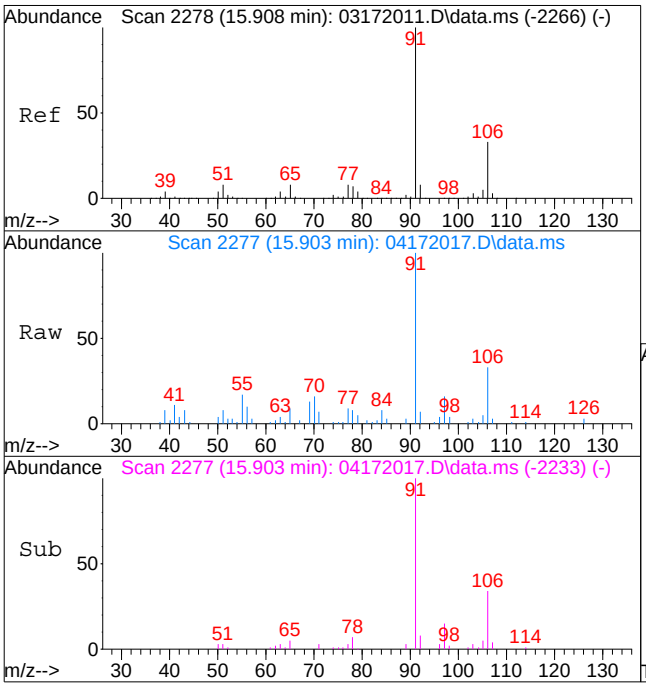


#64
Tetrachloroethene
Concen: 1.11 ng
RT: 14.80 min Scan# 2077
Delta R.T. -0.005 min
Lab File: 04172017.D
Acq: 17 Apr 2020 11:57

Tgt Ion:166 Resp: 16397

Ion	Ratio	Lower	Upper
166	100		
164	77.8	57.9	97.9

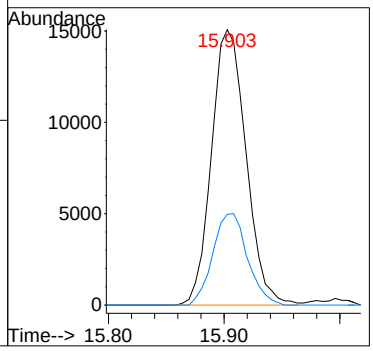


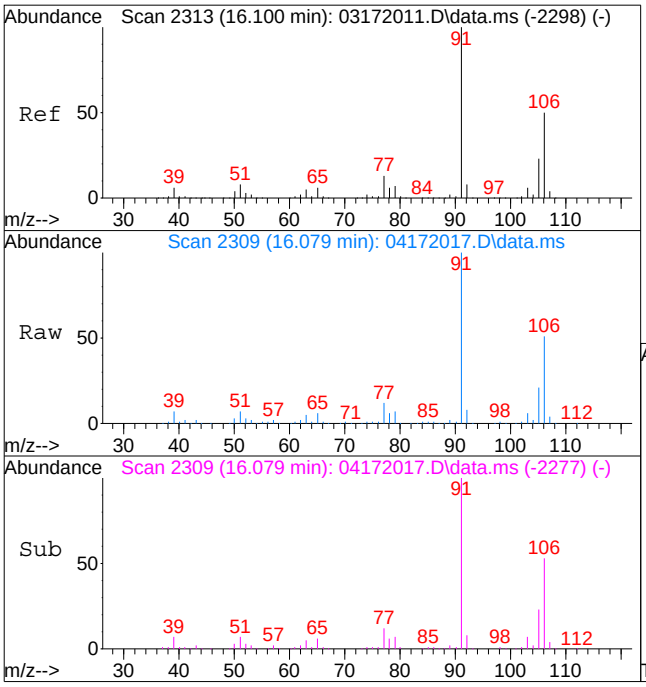


#66
Ethylbenzene
Concen: 0.61 ng
RT: 15.90 min Scan# 2277
Delta R.T. -0.005 min
Lab File: 04172017.D
Acq: 17 Apr 2020 11:57

Tgt Ion: 91 Resp: 31371

Ion	Ratio	Lower	Upper
91	100		
106	33.2	12.9	52.9

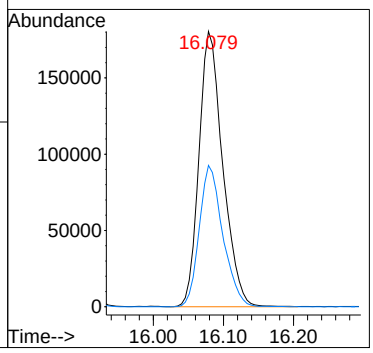


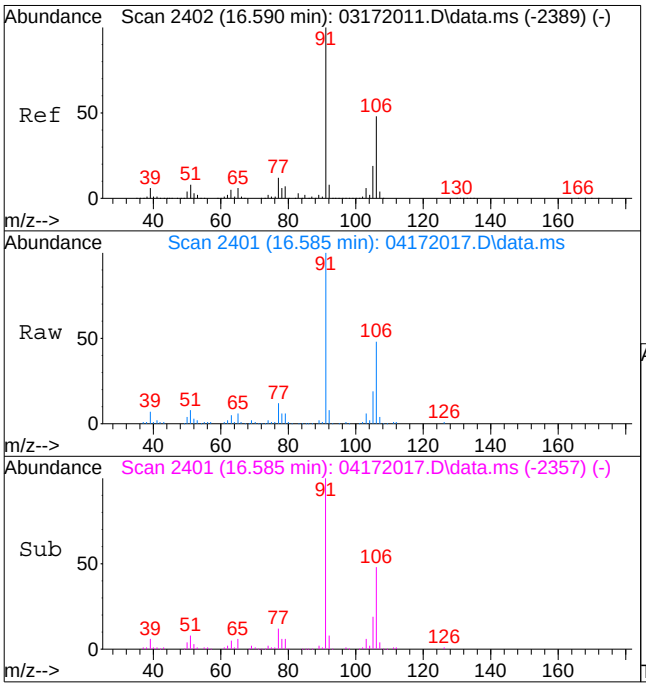


#67
m- & p-Xylenes
Concen: 10.38 ng
RT: 16.08 min Scan# 2309
Delta R.T. -0.021 min
Lab File: 04172017.D
Acq: 17 Apr 2020 11:57

Tgt Ion: 91 Resp: 425153

Ion	Ratio	Lower	Upper
91	100		
106	50.8	29.5	69.5

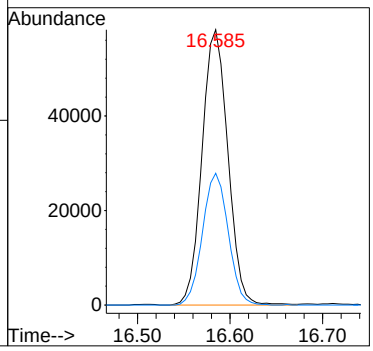


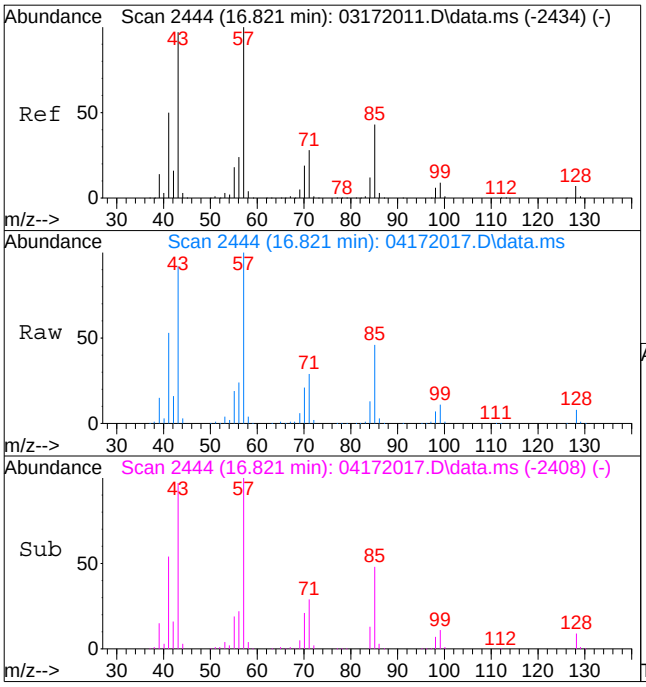


#70
o-Xylene
Concen: 2.77 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.005 min
Lab File: 04172017.D
Acq: 17 Apr 2020 11:57

Tgt Ion: 91 Resp: 113241

Ion	Ratio	Lower	Upper
91	100		
106	47.5	28.3	68.3

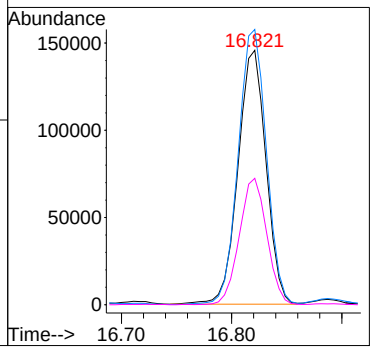


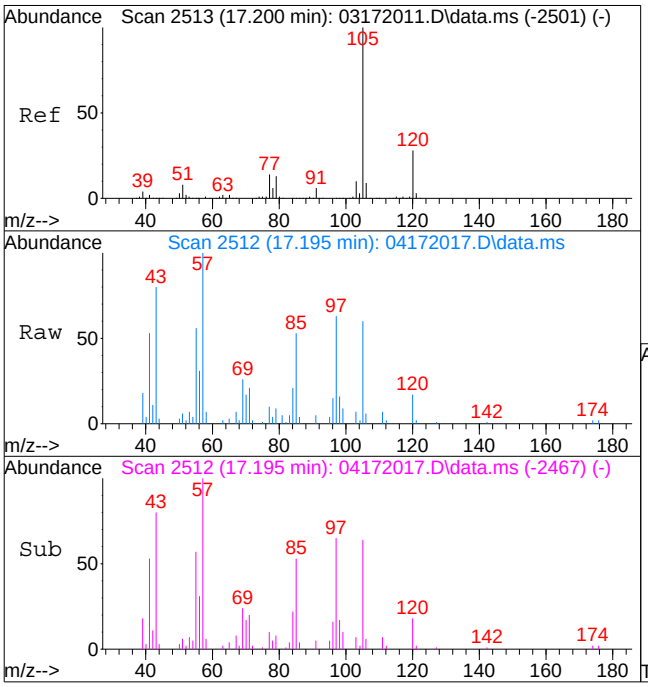


#71
n-Nonane
Concen: 14.55 ng
RT: 16.82 min Scan# 2444
Delta R.T. 0.000 min
Lab File: 04172017.D
Acq: 17 Apr 2020 11:57

Tgt Ion: 43 Resp: 257313

Ion	Ratio	Lower	Upper
43	100		
57	108.7	82.8	122.8
85	48.9	23.4	63.4

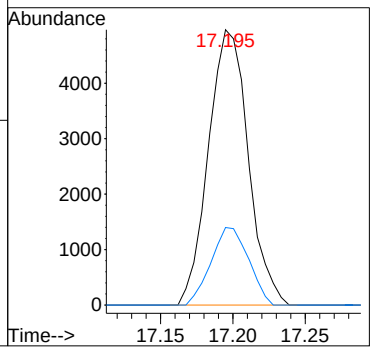


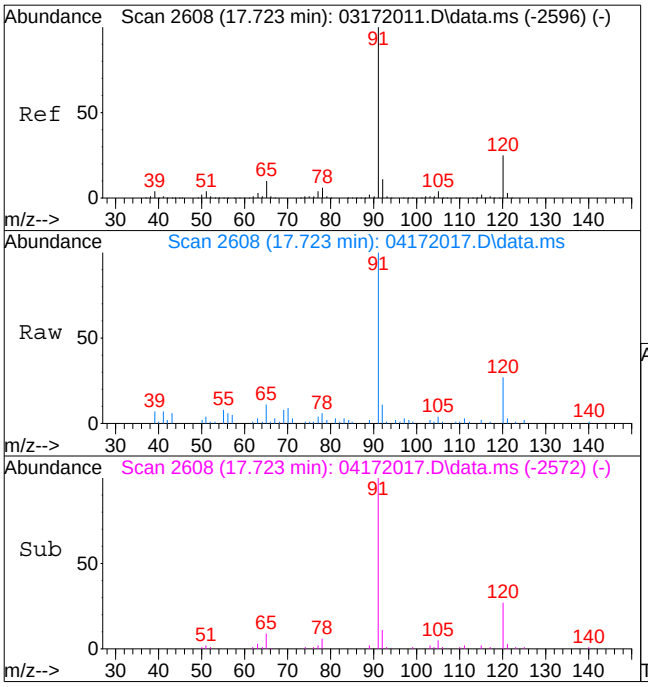


#74
Cumene
Concen: 0.18 ng
RT: 17.19 min Scan# 2512
Delta R.T. -0.005 min
Lab File: 04172017.D
Acq: 17 Apr 2020 11:57

Tgt Ion:105 Resp: 9521

Ion	Ratio	Lower	Upper
105	100		
120	26.5	7.6	47.6

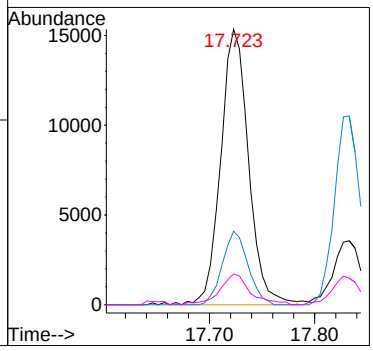


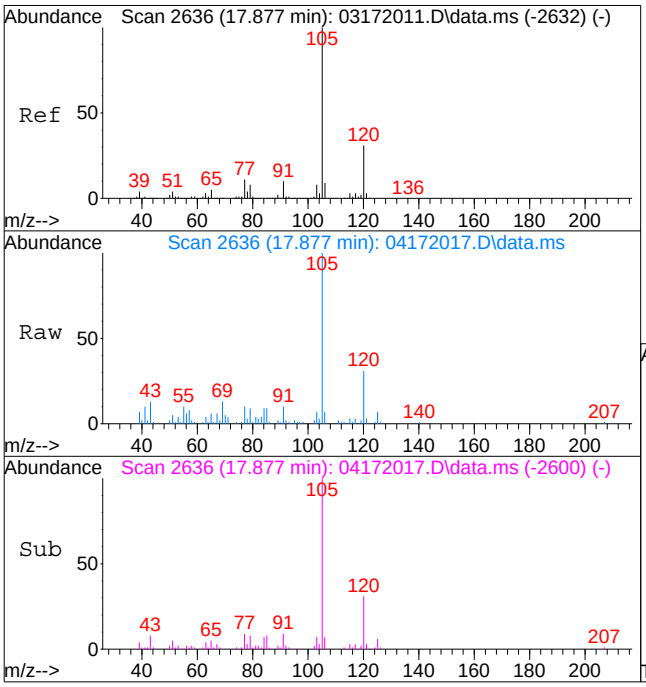


#76
n-Propylbenzene
Concen: 0.46 ng
RT: 17.72 min Scan# 2608
Delta R.T. -0.000 min
Lab File: 04172017.D
Acq: 17 Apr 2020 11:57

Tgt Ion: 91 Resp: 28307

Ion	Ratio	Lower	Upper
91	100		
120	24.5	5.0	45.0
65	12.1	0.0	30.0

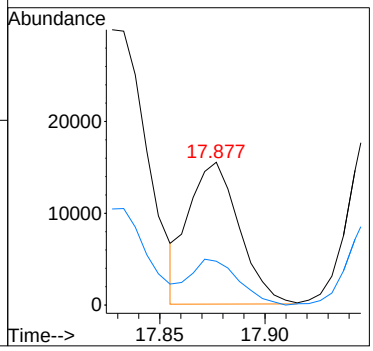


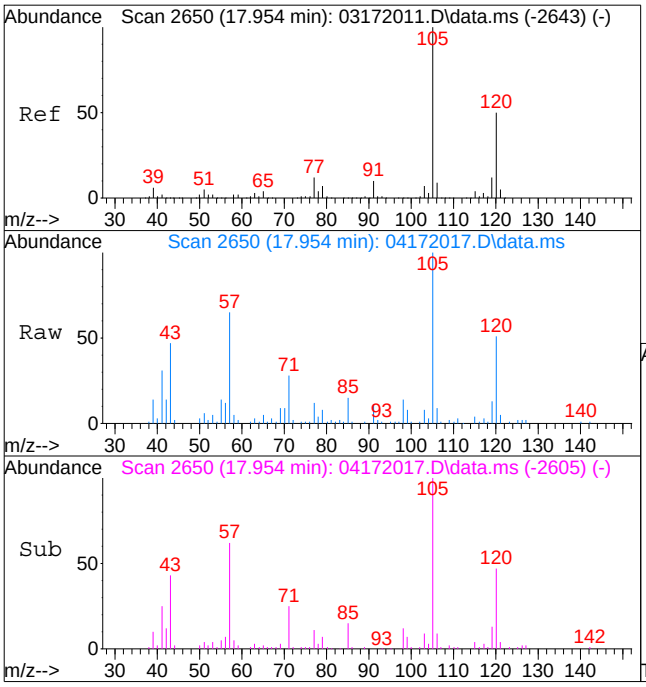


#78
4-Ethyltoluene
Concen: 0.53 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.000 min
Lab File: 04172017.D
Acq: 17 Apr 2020 11:57

Tgt Ion:105 Resp: 25887

Ion	Ratio	Lower	Upper
105	100		
120	31.9	11.2	51.2

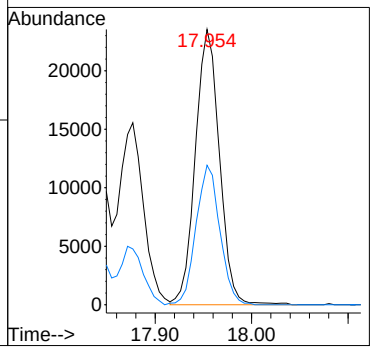


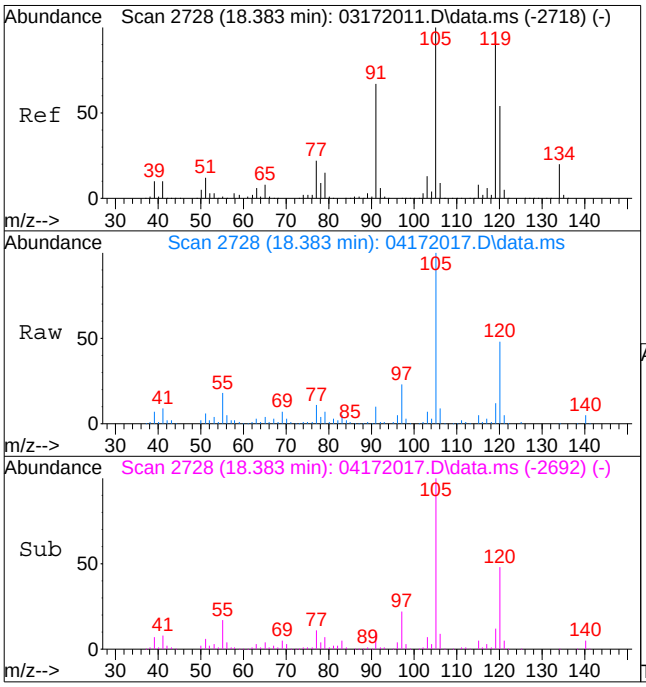


#79
1,3,5-Trimethylbenzene
Concen: 0.91 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.000 min
Lab File: 04172017.D
Acq: 17 Apr 2020 11:57

Tgt Ion:105 Resp: 40839

Ion	Ratio	Lower	Upper
105	100		
120	50.1	30.5	70.5

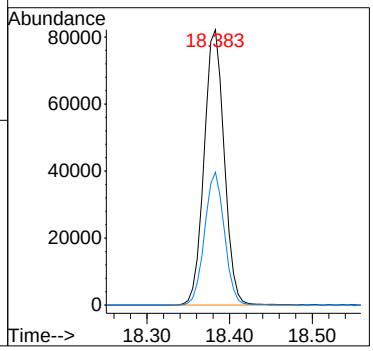


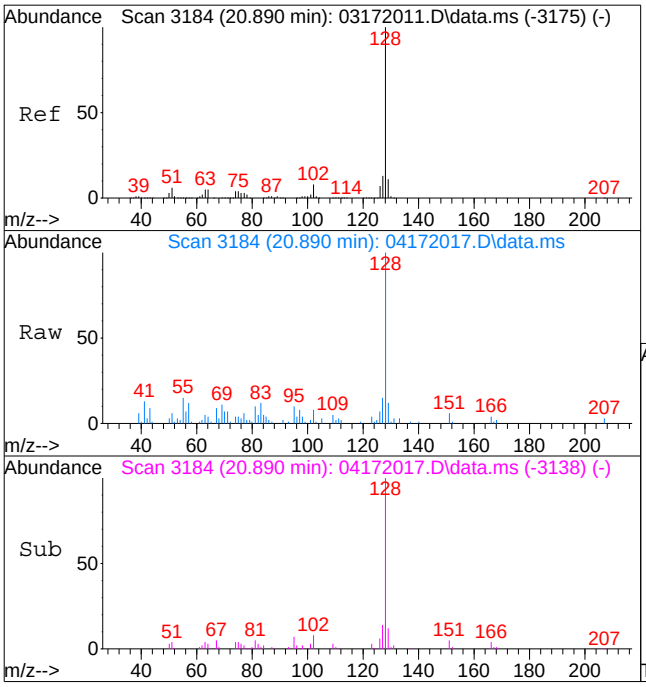


#82
1,2,4-Trimethylbenzene
Concen: 3.31 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.000 min
Lab File: 04172017.D
Acq: 17 Apr 2020 11:57

Tgt Ion:105 Resp: 138677

Ion	Ratio	Lower	Upper
105	100		
120	47.5	34.9	74.9

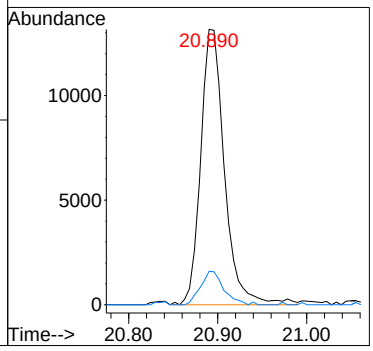




#95
Naphthalene
Concen: 0.43 ng
RT: 20.89 min Scan# 3184
Delta R.T. 0.000 min
Lab File: 04172017.D
Acq: 17 Apr 2020 11:57

Tgt Ion:128 Resp: 24515

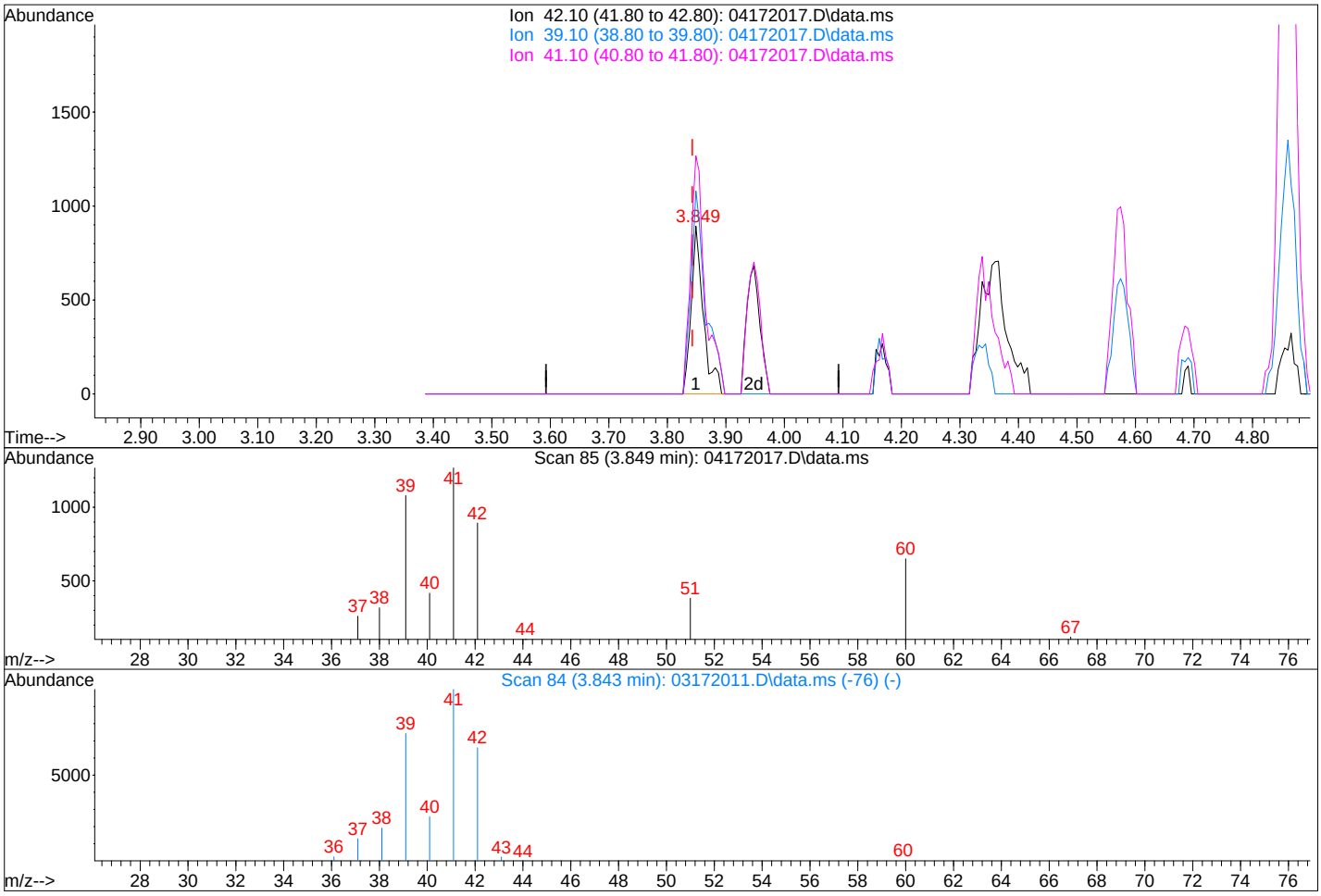
Ion	Ratio	Lower	Upper
128	100		
129	11.8	0.0	30.9



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\17\04172017.D Vial: 7
Acq On : 17 Apr 2020 11:57 Operator: TD
Sample : P2002027-003 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 17 12:28:49 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04172017.D\data.ms

(2) Propene (T)

3.849min (+0.006) 0.14ng

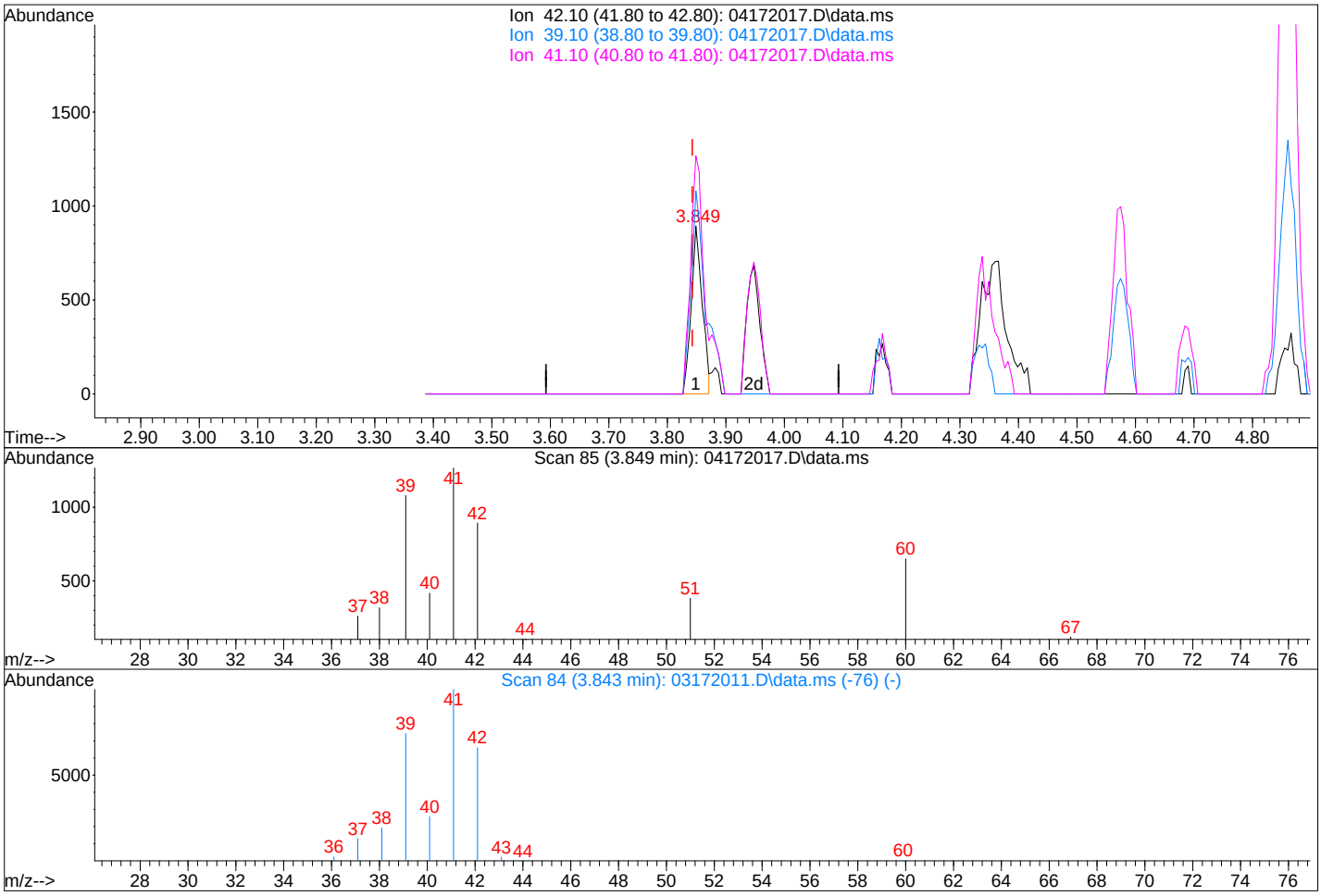
response 1288

Ion	Exp%	Act%
42.10	100	100
39.10	111.90	149.07#
41.10	150.50	169.64
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\17\04172017.D Vial: 7
Acq On : 17 Apr 2020 11:57 Operator: TD
Sample : P2002027-003 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 17 12:28:49 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04172017.D\data.ms

(2) Propene (T)

3.849min (+0.006) 0.13ng m

response 1167

Ion	Exp%	Act%
42.10	100	100
39.10	111.90	164.52#
41.10	150.50	187.23#
0.00	0.00	0.00

IPC

4/20/20

LH 4/29/20

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172025.D Vial: 8
Acq On : 17 Apr 2020 16:28 Operator: TD
Sample : P2002027-004 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 17:02:11 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/20/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	150642	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.11	114	642059	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	292195	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	220570	12.942	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.52%				
57) Toluene-d8 (SS2)	13.54	98	714053	12.287	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.32%				
73) Bromofluorobenzene (SS3)	17.05	174	276789	14.315	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.56%				
Target Compounds							Qvalue
2) Propene	3.86	42	2746	0.298	ng	#	79
3) Dichlorodifluoromethan...	3.96	85	1022662	47.573	ng		100
4) Chloromethane	4.17	50	842	0.065	ng		72
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	28413	2.833	ng		100
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	4.93	94	121	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.35	45	6529	0.905	ng		81
11) Acetonitrile	5.57	41	1553	0.094	ng	#	6
12) Acrolein	5.71	56	2060	0.333	ng		97
13) Acetone	5.84	58	43081	5.815	ng	#	77
14) Trichlorofluoromethane	6.02	101	83619	4.296	ng		100
15) 2-Propanol (Isopropanol)	6.16	45	17848	0.759	ng		100
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d			
19) Methylene Chloride	6.87	84	122	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	7.18	151	38825	3.579	ng		93
22) Carbon Disulfide	7.14	76	100522	2.558	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	8.25	86	4123	1.665	ng	#	29
27) 2-Butanone (MEK)	8.53	72	8511	1.170	ng	#	50
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D. d			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	9.22	57	3729	0.231	ng		96
32) Chloroform	9.28	83	52216	2.720	ng		100
34) Tetrahydrofuran (THF)	9.70	72	3815	0.543	ng		96
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	10.29	97	218	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D. d			
41) Benzene	10.76	78	5555	0.121	ng		98
42) Carbon Tetrachloride	10.90	117	309093	18.954	ng		98
43) Cyclohexane	11.04	84	2962	0.171	ng		86
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	11.76	83	252	N.D.			
47) Trichloroethene	11.81	130	4165	0.316	ng		100
48) 1,4-Dioxane	0.00	88	0	N.D. d			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d			
50) Methyl Methacrylate	0.00	100	0	N.D. d			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172025.D Vial: 8
Acq On : 17 Apr 2020 16:28 Operator: TD
Sample : P2002027-004 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 17:02:11 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

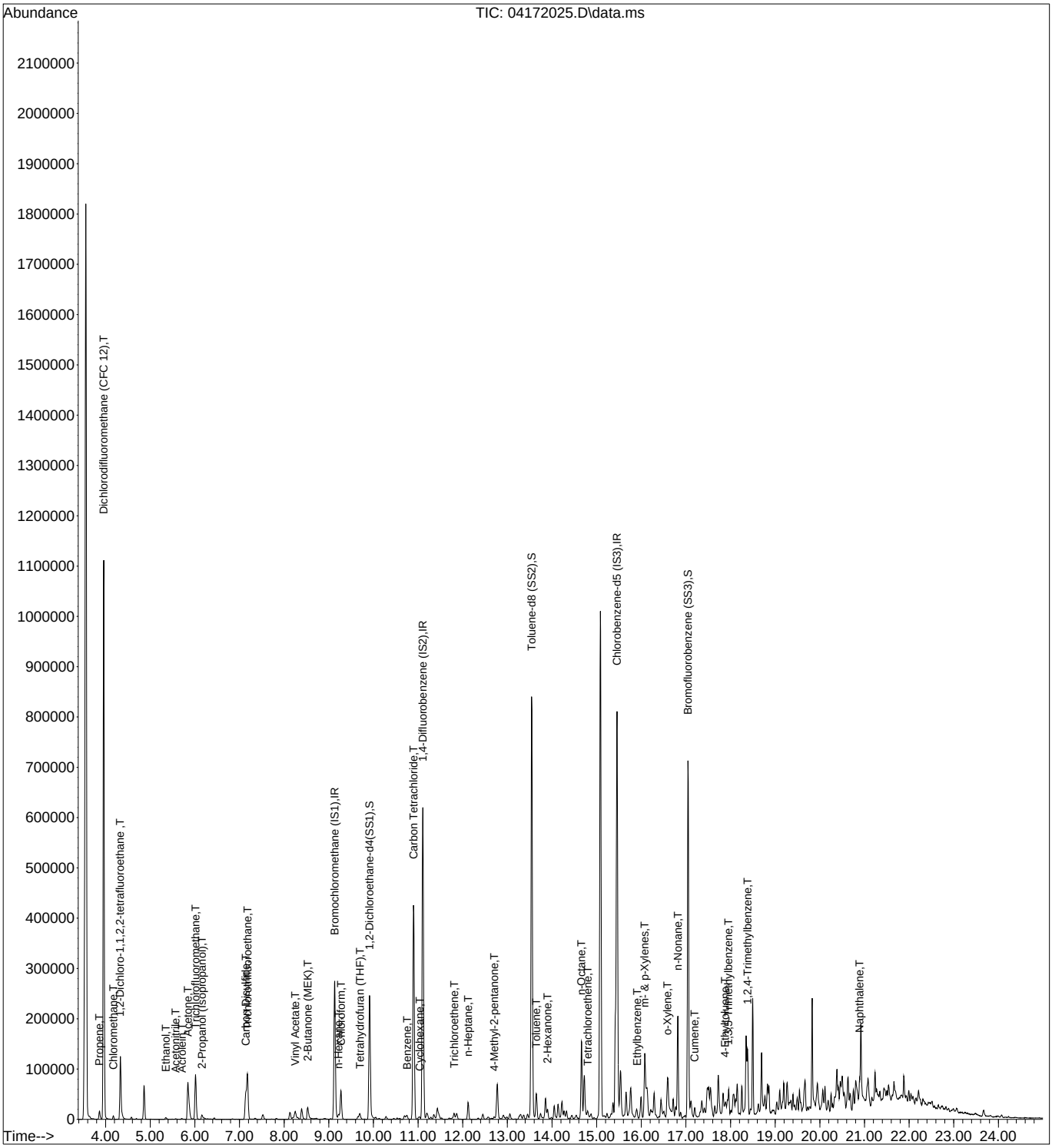
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	12.12	71	10244	0.938	ng		97
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
53) 4-Methyl-2-pentanone	12.71	58	1552	0.172	ng		97
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.			
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.			
58) Toluene	13.65	91	38042	0.771	ng		99
59) 2-Hexanone	13.90	43	10236	0.524	ng	#	72
60) Dibromochloromethane	0.00	129	0	N.D.			
61) 1,2-Dibromoethane	14.32	107	230	N.D.			
62) n-Butyl Acetate	0.00	43	0	N.D.	d		
63) n-Octane	14.66	57	30912	3.474	ng		93
64) Tetrachloroethene	14.80	166	3567	0.233	ng		98
65) Chlorobenzene	0.00	112	0	N.D.	d		
66) Ethylbenzene	15.91	91	10783	0.204	ng		100
67) m- & p-Xylenes	16.08	91	105932	2.499	ng		98
68) Bromoform	0.00	173	0	N.D.			
69) Styrene	16.48	104	507	N.D.			
70) o-Xylene	16.58	91	33392	0.788	ng		99
71) n-Nonane	16.82	43	66804	3.651	ng		95
72) 1,1,2,2-Tetrachloroethane	16.60	83	253	N.D.			
74) Cumene	17.19	105	3508	0.063	ng		97
75) alpha-Pinene	17.73	93	1329	N.D.			
76) n-Propylbenzene	0.00	91	0	N.D.	d		
77) 3-Ethyltoluene	0.00	105	0	N.D.	d		
78) 4-Ethyltoluene	17.88	105	11049	0.218	ng		98
79) 1,3,5-Trimethylbenzene	17.95	105	17554	0.376	ng		98
80) alpha-Methylstyrene	0.00	118	0	N.D.	d		
81) 2-Ethyltoluene	0.00	105	0	N.D.	d		
82) 1,2,4-Trimethylbenzene	18.38	105	59198	1.365	ng		91
83) n-Decane	0.00	57	0	N.D.	d		
84) Benzyl Chloride	18.51	91	564	N.D.			
85) 1,3-Dichlorobenzene	18.61	146	384	N.D.			
86) 1,4-Dichlorobenzene	18.61	146	384	N.D.			
87) sec-Butylbenzene	0.00	105	0	N.D.	d		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.	d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d		
90) 1,2-Dichlorobenzene	18.97	146	925	N.D.			
91) d-Limonene	0.00	68	0	N.D.	d		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.			
93) n-Undecane	0.00	57	0	N.D.	d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	d		
95) Naphthalene	20.89	128	39828	0.667	ng		92
96) n-Dodecane	0.00	57	0	N.D.	d		
97) Hexachlorobutadiene	0.00	225	0	N.D.			
98) Cyclohexanone	0.00	55	0	N.D.	d		
99) tert-Butylbenzene	0.00	119	0	N.D.	d		
100) n-Butylbenzene	0.00	91	0	N.D.	d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172025.D Vial: 8
Acq On : 17 Apr 2020 16:28 Operator: TD
Sample : P2002027-004 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 17:02:11 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172025.D Vial: 8
Acq On : 17 Apr 2020 16:28 Operator: TD
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QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/20/20

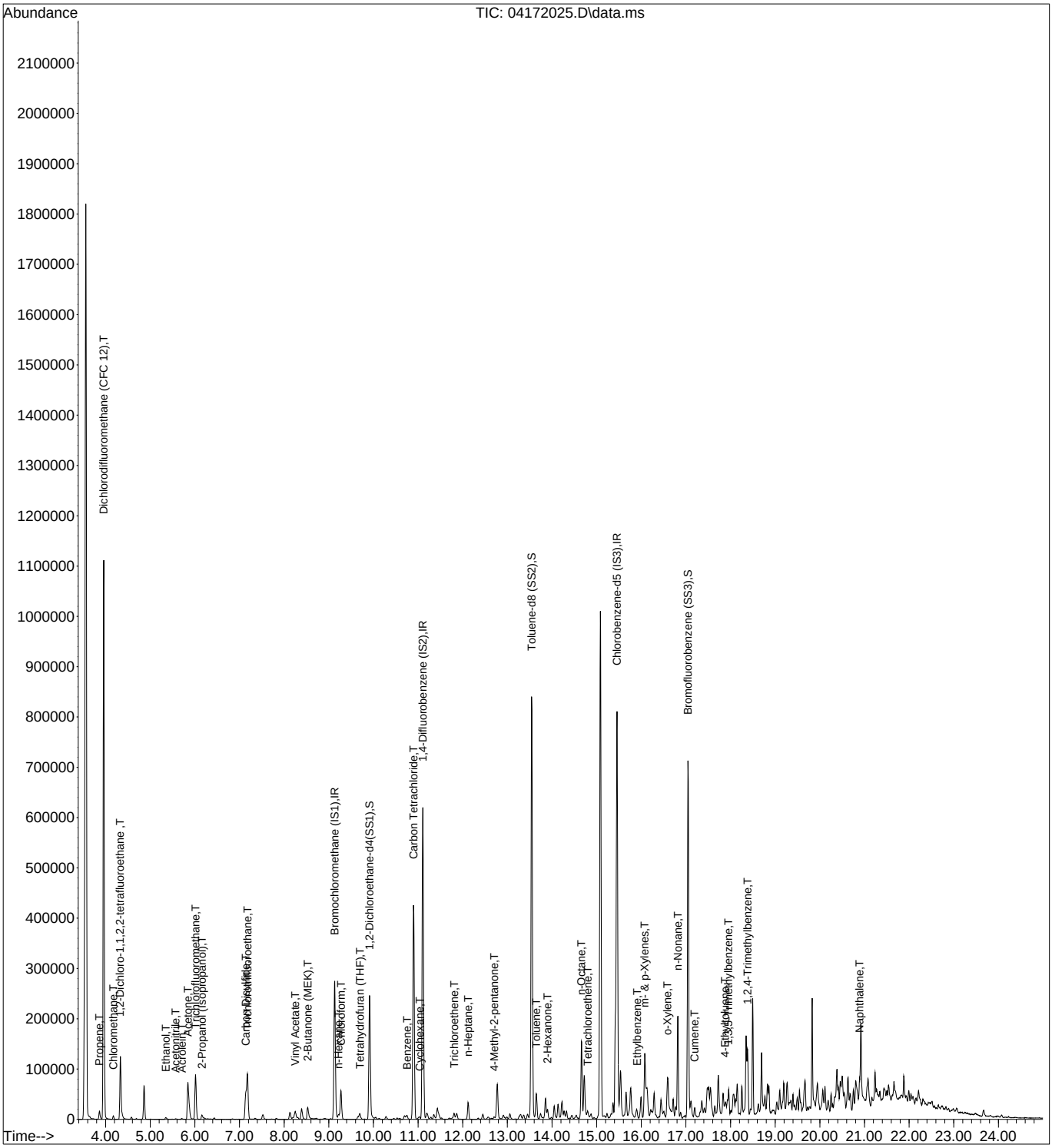
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	150642	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.11	114	642059	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	292195	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	220570	12.942	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.52%				
57) Toluene-d8 (SS2)	13.54	98	714053	12.287	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.32%				
73) Bromofluorobenzene (SS3)	17.05	174	276789	14.315	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.56%				
Target Compounds							Qvalue
2) Propene	3.86	42	2746	0.298	ng	#	79
3) Dichlorodifluoromethan...	3.96	85	1022662	47.573	ng		100
4) Chloromethane	4.17	50	842	0.065	ng		72
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	28413	2.833	ng		100
10) Ethanol	5.35	45	6529	0.905	ng		81
11) Acetonitrile	5.57	41	1553	0.094	ng	#	6
12) Acrolein	5.71	56	2060	0.333	ng		97
13) Acetone	5.84	58	43081	5.815	ng	#	77
14) Trichlorofluoromethane	6.02	101	83619	4.296	ng		100
15) 2-Propanol (Isopropanol)	6.16	45	17848	0.759	ng		100
21) Trichlorotrifluoroethane	7.18	151	38825	3.579	ng		93
22) Carbon Disulfide	7.14	76	100522	2.558	ng		99
26) Vinyl Acetate	8.25	86	4123	1.665	ng	#	29
27) 2-Butanone (MEK)	8.53	72	8511	1.170	ng	#	50
31) n-Hexane	9.22	57	3729	0.231	ng		96
32) Chloroform	9.28	83	52216	2.720	ng		100
34) Tetrahydrofuran (THF)	9.70	72	3815	0.543	ng		96
41) Benzene	10.76	78	5555	0.121	ng		98
42) Carbon Tetrachloride	10.90	117	309093	18.954	ng		98
43) Cyclohexane	11.04	84	2962	0.171	ng		86
47) Trichloroethene	11.81	130	4165	0.316	ng		100
51) n-Heptane	12.12	71	10244	0.938	ng		97
53) 4-Methyl-2-pentanone	12.71	58	1552	0.172	ng		97
58) Toluene	13.65	91	38042	0.771	ng		99
59) 2-Hexanone	13.90	43	10236	0.524	ng	#	72
63) n-Octane	14.66	57	30912	3.474	ng		93
64) Tetrachloroethene	14.80	166	3567	0.233	ng		98
66) Ethylbenzene	15.91	91	10783	0.204	ng		100
67) m- & p-Xylenes	16.08	91	105932	2.499	ng		98
70) o-Xylene	16.58	91	33392	0.788	ng		99
71) n-Nonane	16.82	43	66804	3.651	ng		95
74) Cumene	17.19	105	3508	0.063	ng		97
78) 4-Ethyltoluene	17.88	105	11049	0.218	ng		98
79) 1,3,5-Trimethylbenzene	17.95	105	17554	0.376	ng		98
82) 1,2,4-Trimethylbenzene	18.38	105	59198	1.365	ng		91
95) Naphthalene	20.89	128	39828	0.667	ng		92

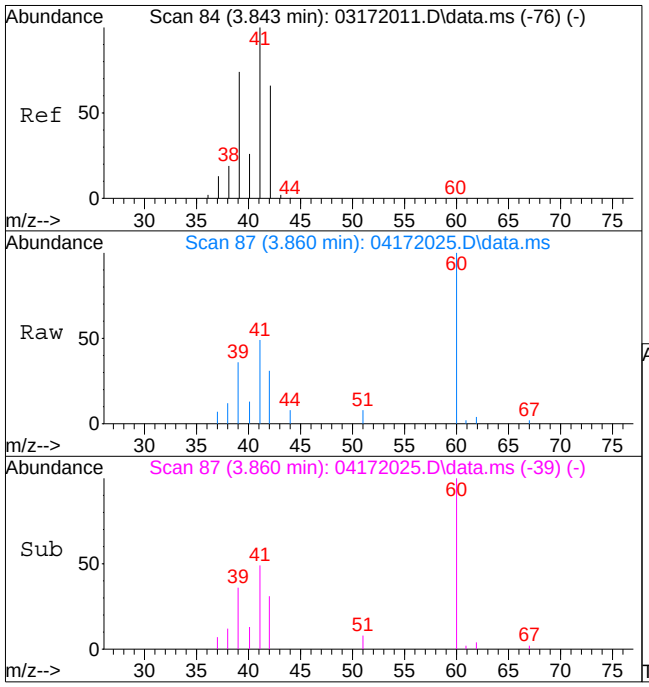
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172025.D Vial: 8
Acq On : 17 Apr 2020 16:28 Operator: TD
Sample : P2002027-004 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 17:02:11 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

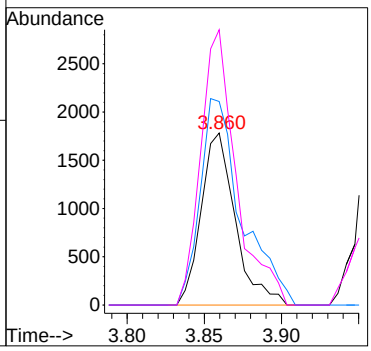


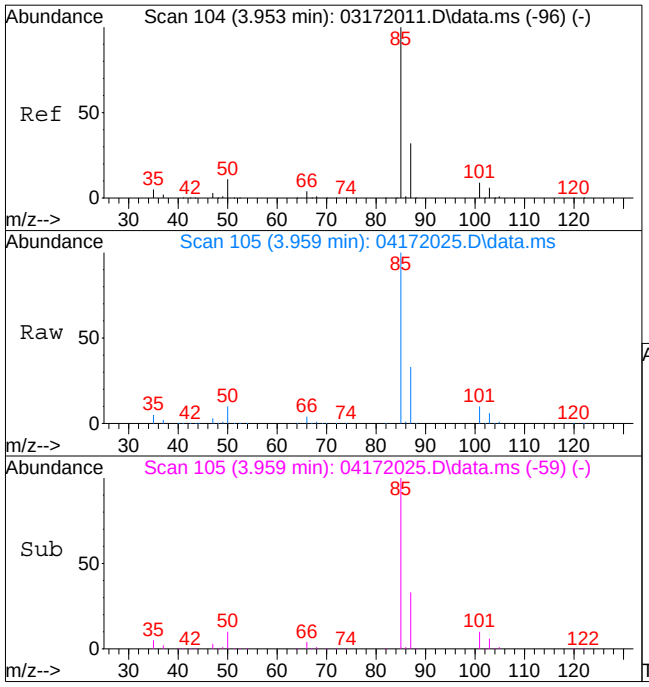


#2
Propene
Concen: 0.30 ng
RT: 3.86 min Scan# 87
Delta R.T. 0.017 min
Lab File: 04172025.D
Acq: 17 Apr 2020 16:28

Tgt Ion: 42 Resp: 2746

Ion	Ratio	Lower	Upper
42	100		
39	145.6	91.9	131.9#
41	166.5	130.5	170.5

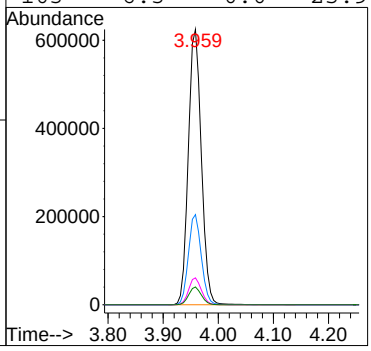


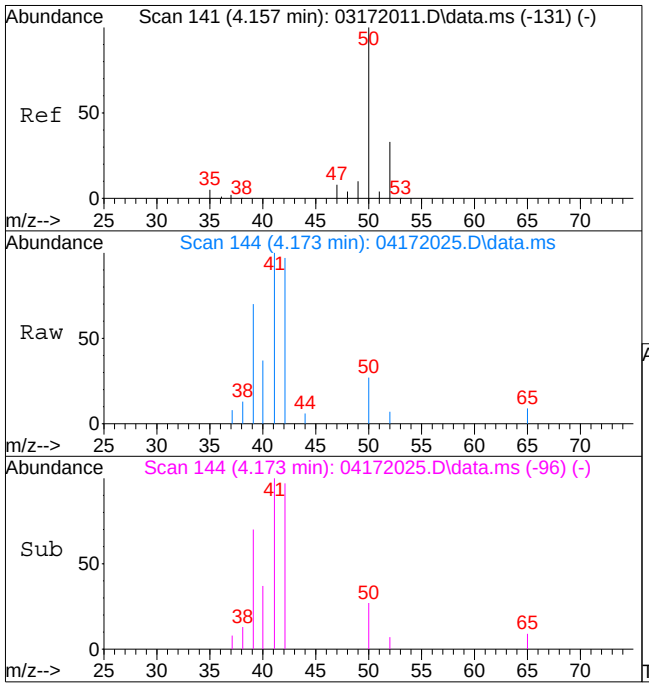


#3
Dichlorodifluoromethane (CFC 12)
Concen: 47.57 ng
RT: 3.96 min Scan# 105
Delta R.T. 0.006 min
Lab File: 04172025.D
Acq: 17 Apr 2020 16:28

Tgt Ion: 85 Resp: 1022662

Ion	Ratio	Lower	Upper
85	100		
87	32.5	12.4	52.4
101	9.6	0.0	29.2
103	6.3	0.0	25.9

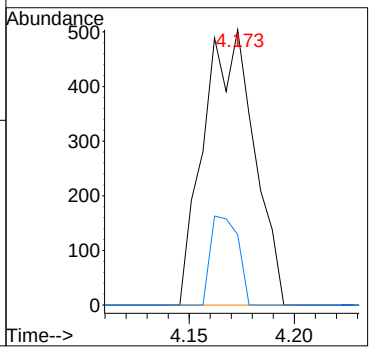


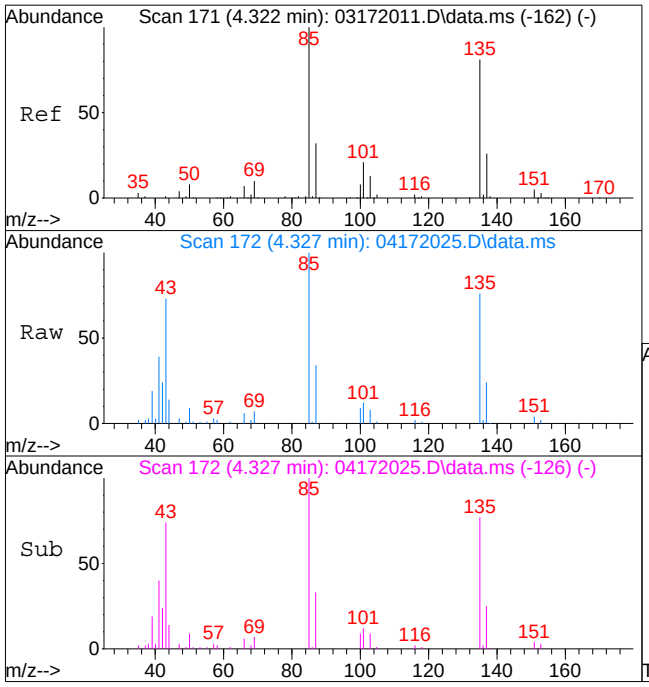


#4
Chloromethane
Concen: 0.07 ng
RT: 4.17 min Scan# 144
Delta R.T. 0.016 min
Lab File: 04172025.D
Acq: 17 Apr 2020 16:28

Tgt Ion: 50 Resp: 842

Ion	Ratio	Lower	Upper
50	100		
52	17.6	13.3	53.3

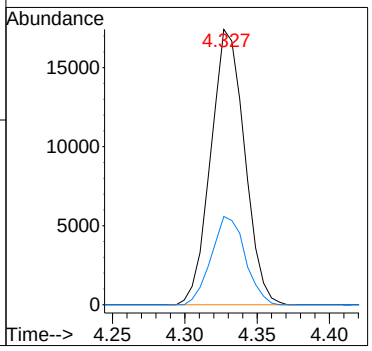


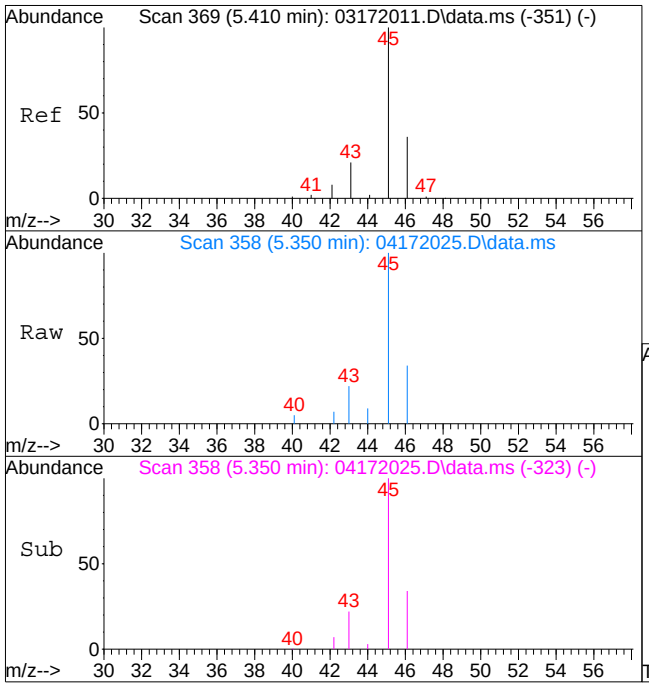


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 2.83 ng
RT: 4.33 min Scan# 172
Delta R.T. 0.005 min
Lab File: 04172025.D
Acq: 17 Apr 2020 16:28

Tgt Ion:135 Resp: 28413

Ion	Ratio	Lower	Upper
135	100		
137	32.1	12.0	52.0

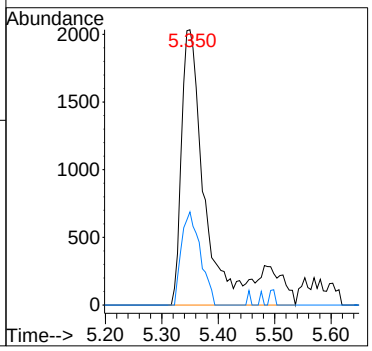


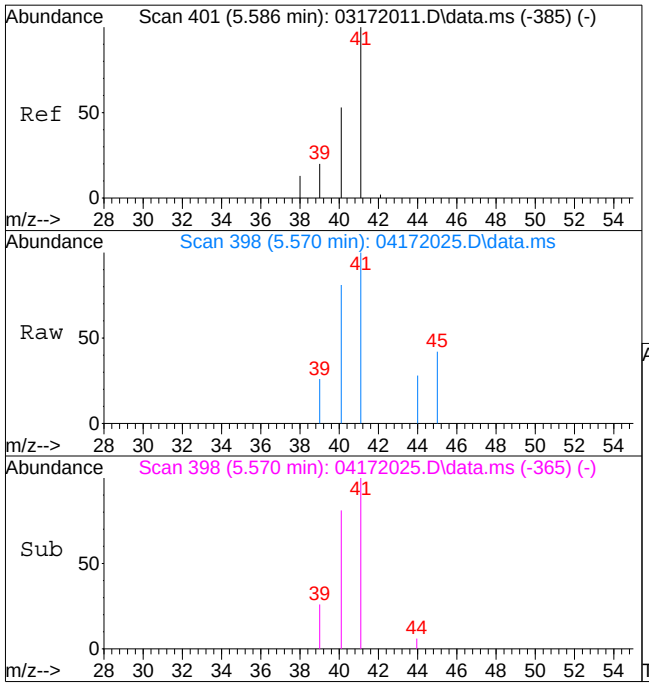


#10
Ethanol
Concen: 0.90 ng
RT: 5.35 min Scan# 358
Delta R.T. -0.060 min
Lab File: 04172025.D
Acq: 17 Apr 2020 16:28

Tgt Ion: 45 Resp: 6529

Ion	Ratio	Lower	Upper
45	100		
46	24.6	15.9	55.9

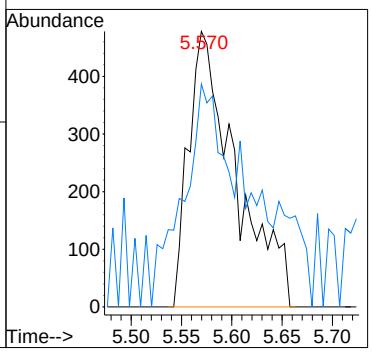


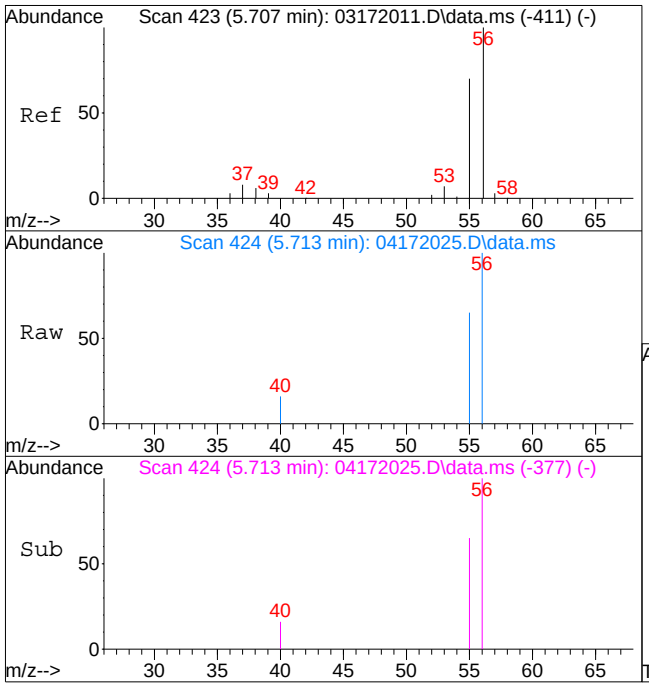


#11
Acetonitrile
Concen: 0.09 ng
RT: 5.57 min Scan# 398
Delta R.T. -0.016 min
Lab File: 04172025.D
Acq: 17 Apr 2020 16:28

Tgt Ion: 41 Resp: 1553

Ion	Ratio	Lower	Upper
41	100		
40	119.2	32.7	72.7#

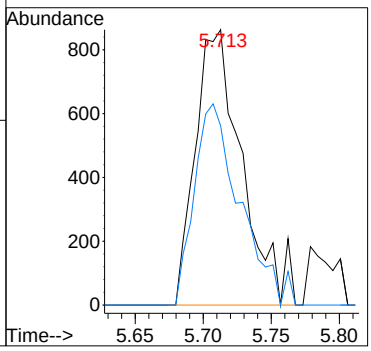


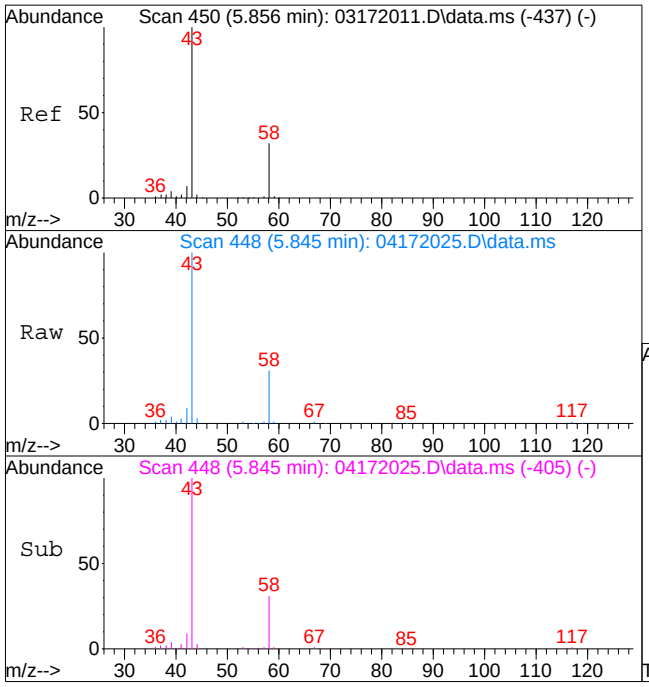


#12
Acrolein
Concen: 0.33 ng
RT: 5.71 min Scan# 424
Delta R.T. 0.006 min
Lab File: 04172025.D
Acq: 17 Apr 2020 16:28

Tgt Ion: 56 Resp: 2060

Ion	Ratio	Lower	Upper
56	100		
55	71.6	49.5	89.5

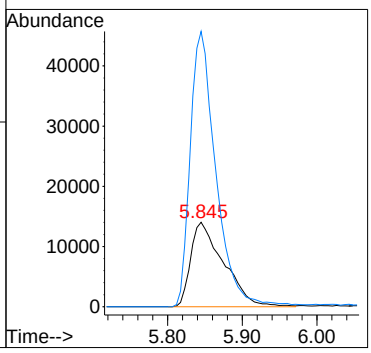


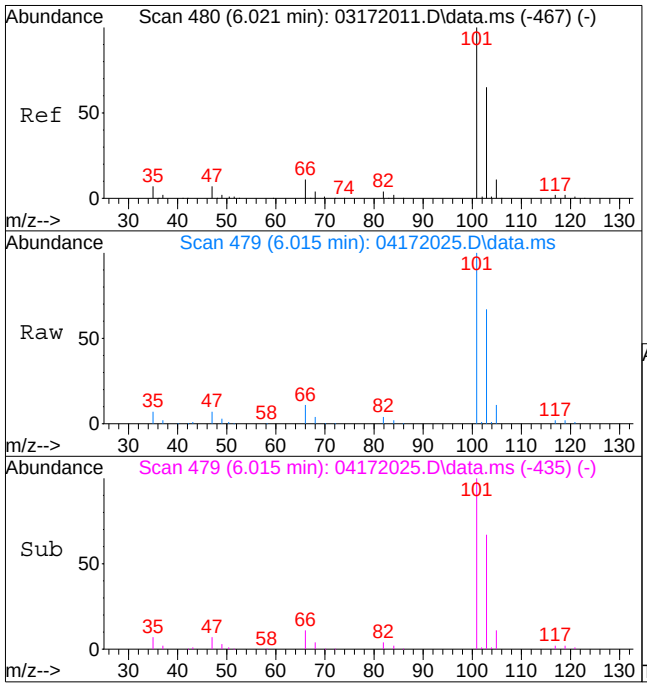


#13
Acetone
Concen: 5.82 ng
RT: 5.84 min Scan# 448
Delta R.T. -0.011 min
Lab File: 04172025.D
Acq: 17 Apr 2020 16:28

Tgt Ion: 58 Resp: 43081

Ion	Ratio	Lower	Upper
58	100		
43	257.1	272.8	332.8#

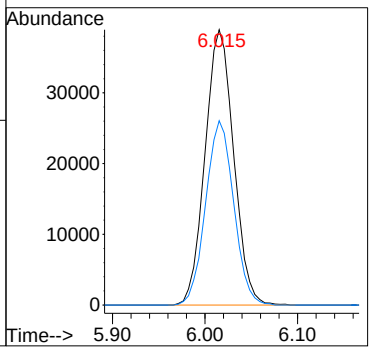


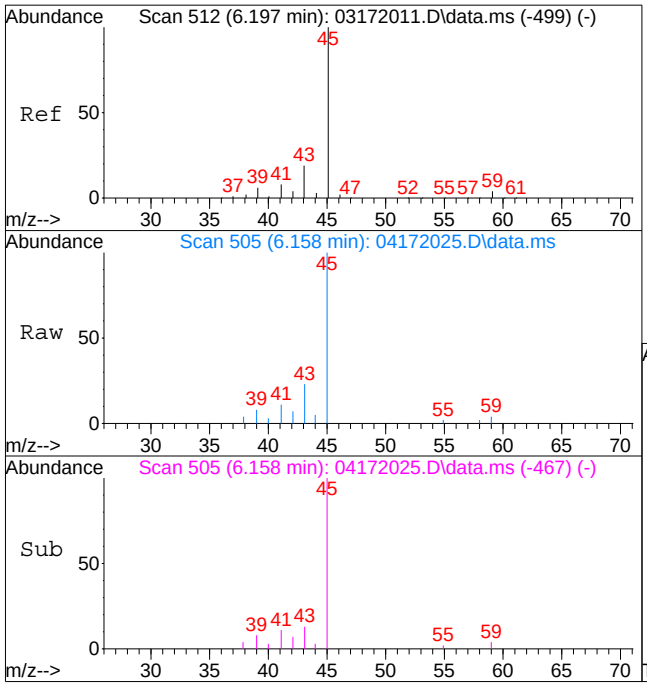


#14
Trichlorofluoromethane
Concen: 4.30 ng
RT: 6.02 min Scan# 479
Delta R.T. -0.006 min
Lab File: 04172025.D
Acq: 17 Apr 2020 16:28

Tgt Ion:101 Resp: 83619

Ion	Ratio	Lower	Upper
101	100		
103	65.7	45.3	85.3

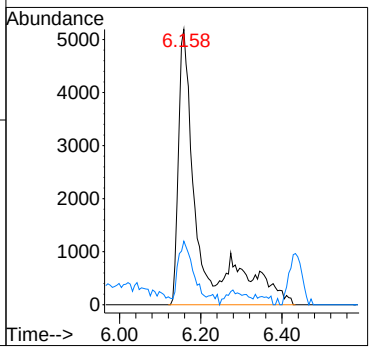


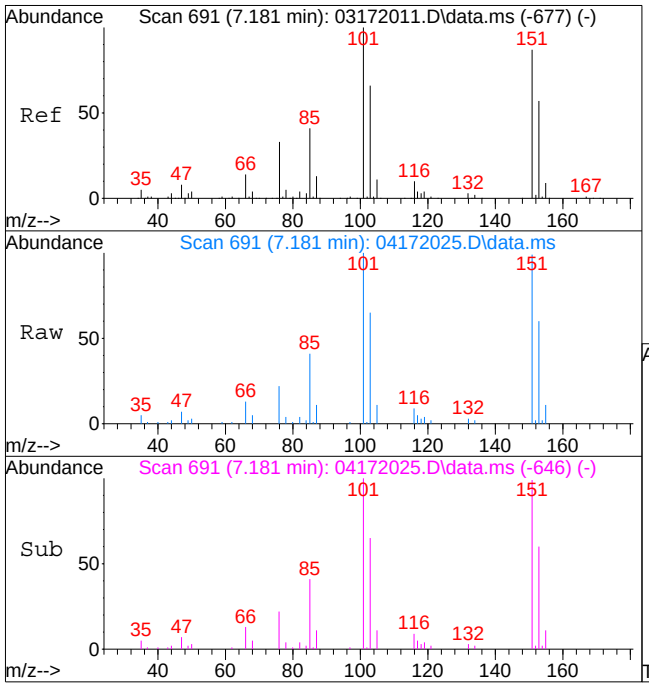


#15
2-Propanol (Isopropanol)
Concen: 0.76 ng
RT: 6.16 min Scan# 505
Delta R.T. -0.039 min
Lab File: 04172025.D
Acq: 17 Apr 2020 16:28

Tgt Ion: 45 Resp: 17848

Ion	Ratio	Lower	Upper
45	100		
43	19.1	0.0	39.0

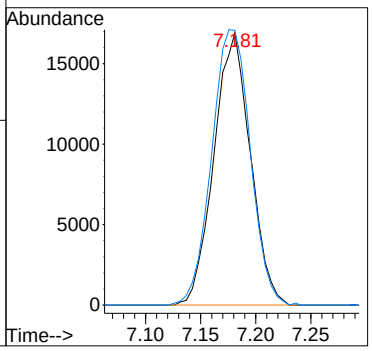


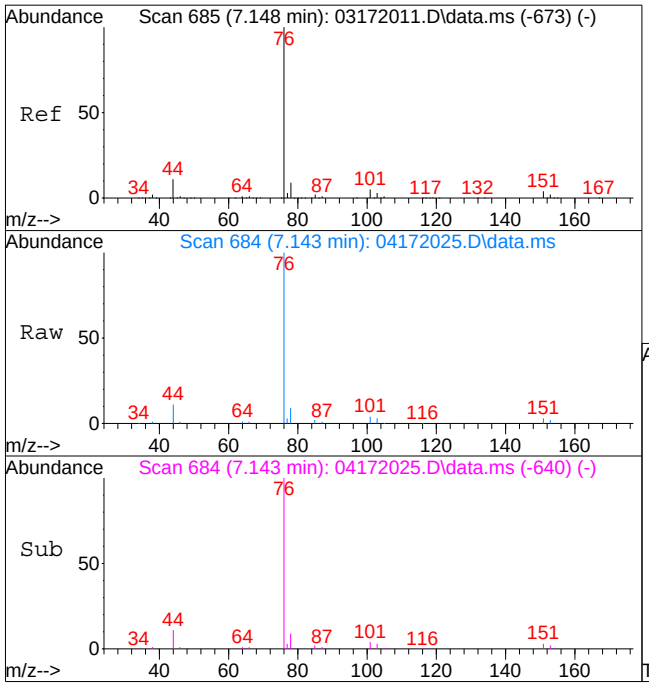


#21
Trichlorotrifluoroethane
Concen: 3.58 ng
RT: 7.18 min Scan# 691
Delta R.T. -0.000 min
Lab File: 04172025.D
Acq: 17 Apr 2020 16:28

Tgt Ion:151 Resp: 38825

Ion	Ratio	Lower	Upper
151	100		
101	107.5	94.7	134.7

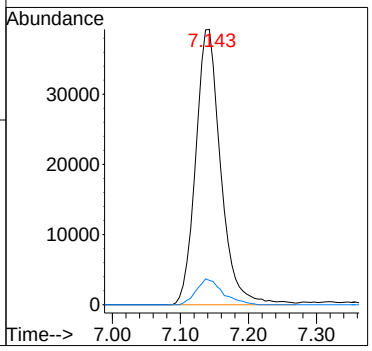


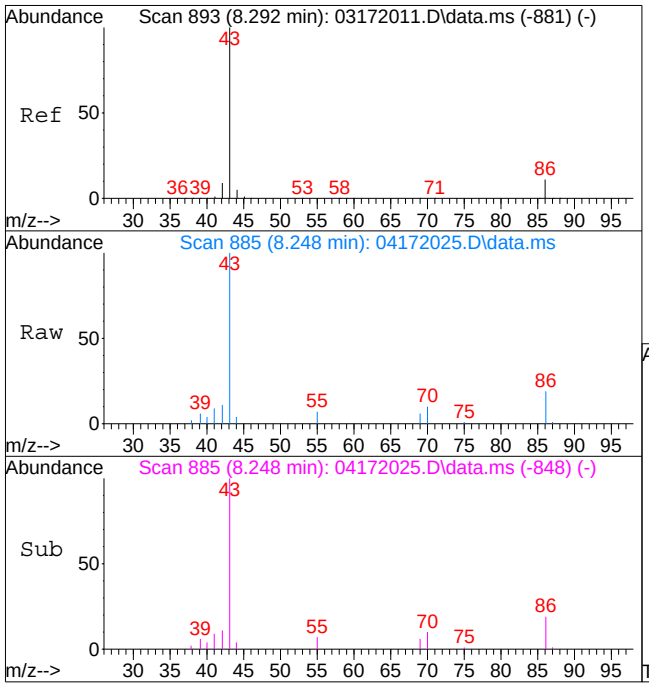


#22
Carbon Disulfide
Concen: 2.56 ng
RT: 7.14 min Scan# 684
Delta R.T. -0.005 min
Lab File: 04172025.D
Acq: 17 Apr 2020 16:28

Tgt Ion: 76 Resp: 100522

Ion	Ratio	Lower	Upper
76	100		
78	9.9	0.0	29.7

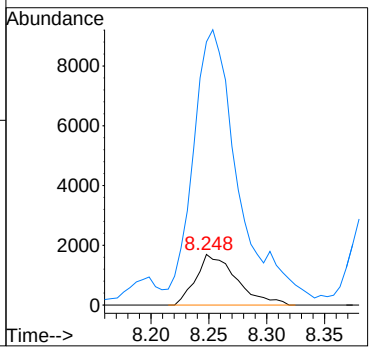


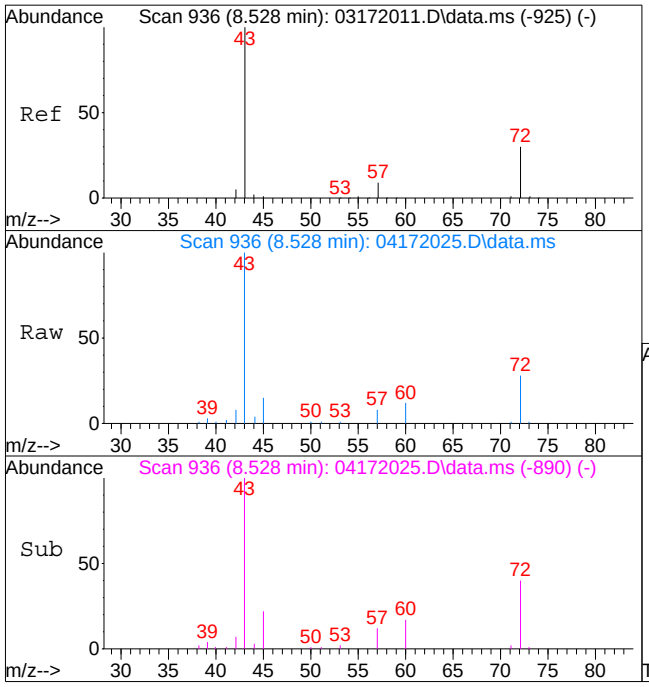


#26
Vinyl Acetate
Concen: 1.67 ng
RT: 8.25 min Scan# 885
Delta R.T. -0.044 min
Lab File: 04172025.D
Acq: 17 Apr 2020 16:28

Tgt Ion: 86 Resp: 4123

Ion	Ratio	Lower	Upper
86	100		
43	624.6	905.1	945.1#

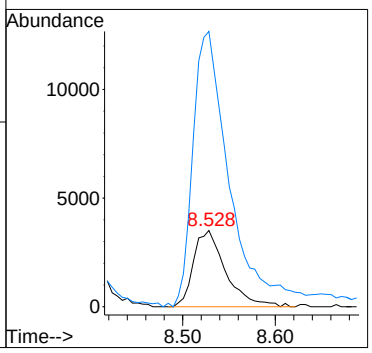


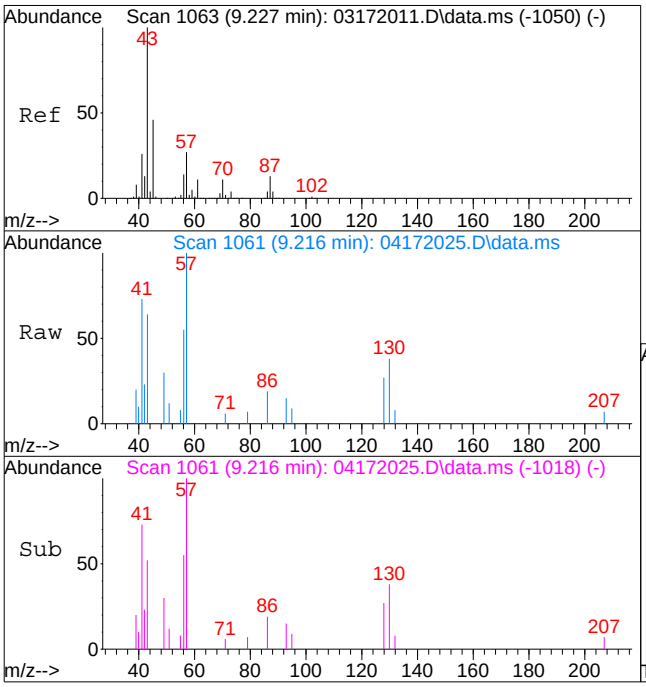


#27
2-Butanone (MEK)
Concen: 1.17 ng
RT: 8.53 min Scan# 936
Delta R.T. 0.000 min
Lab File: 04172025.D
Acq: 17 Apr 2020 16:28

Tgt Ion: 72 Resp: 8511

Ion	Ratio	Lower	Upper
72	100		
43	435.8	310.6	350.6#

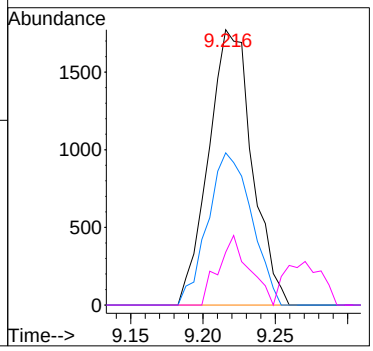


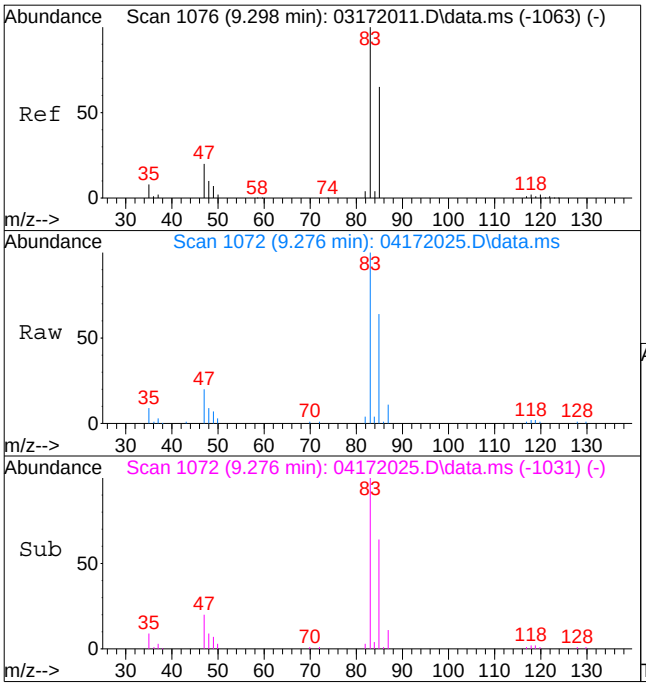


#31
n-Hexane
Concen: 0.23 ng
RT: 9.22 min Scan# 1061
Delta R.T. -0.011 min
Lab File: 04172025.D
Acq: 17 Apr 2020 16:28

Tgt Ion: 57 Resp: 3729

Ion	Ratio	Lower	Upper
57	100		
56	55.5	42.0	63.0
86	17.8	13.1	19.7

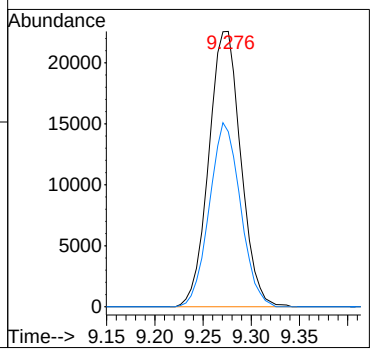


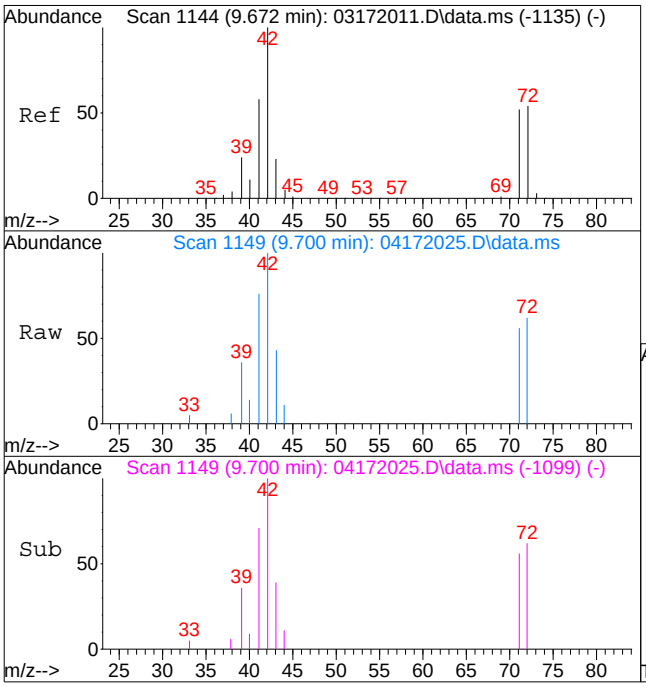


#32
Chloroform
Concen: 2.72 ng
RT: 9.28 min Scan# 1072
Delta R.T. -0.022 min
Lab File: 04172025.D
Acq: 17 Apr 2020 16:28

Tgt Ion: 83 Resp: 52216

Ion	Ratio	Lower	Upper
83	100		
85	64.9	45.1	85.1

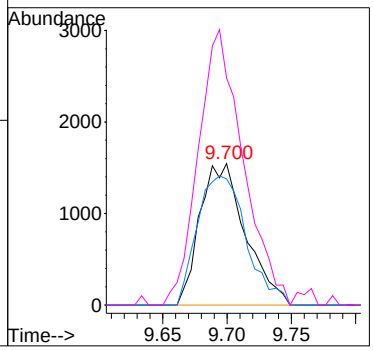


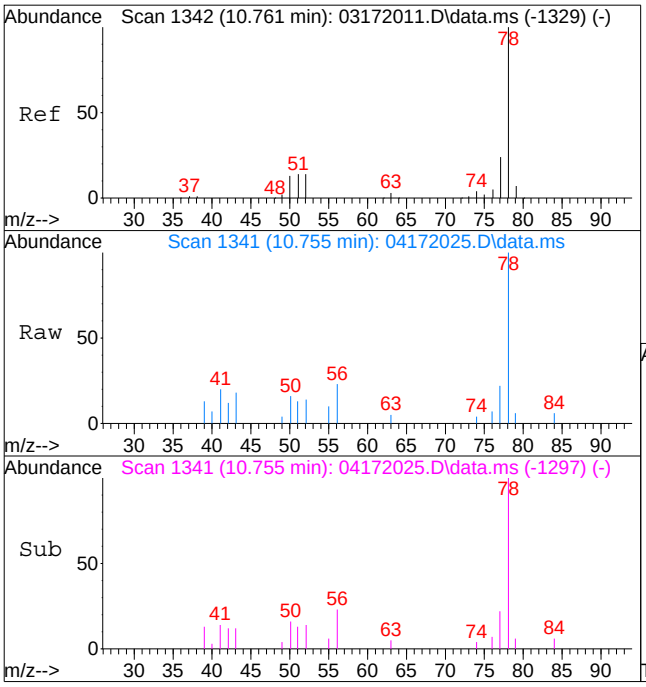


#34
Tetrahydrofuran (THF)
Concen: 0.54 ng
RT: 9.70 min Scan# 1149
Delta R.T. 0.028 min
Lab File: 04172025.D
Acq: 17 Apr 2020 16:28

Tgt Ion: 72 Resp: 3815

Ion	Ratio	Lower	Upper
72	100		
71	97.7	76.1	116.1
42	191.3	164.4	204.4

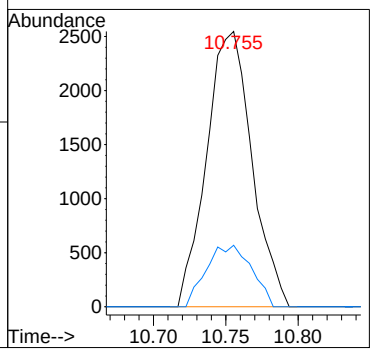


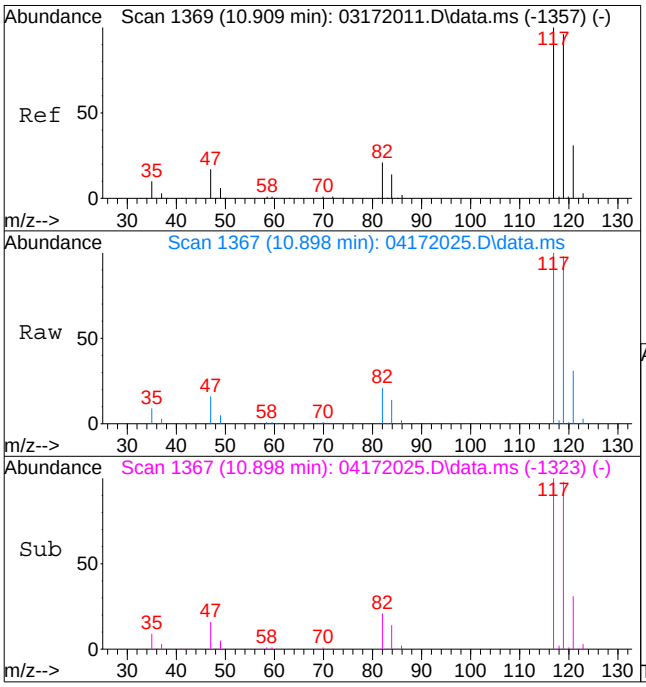


#41
Benzene
Concen: 0.12 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.006 min
Lab File: 04172025.D
Acq: 17 Apr 2020 16:28

Tgt Ion: 78 Resp: 5555

Ion	Ratio	Lower	Upper
78	100		
77	22.4	3.4	43.4

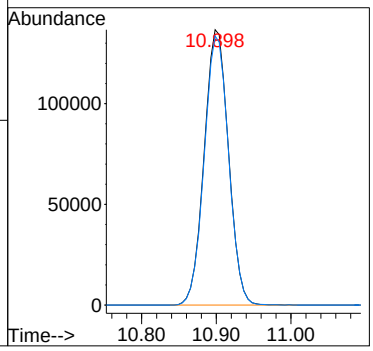


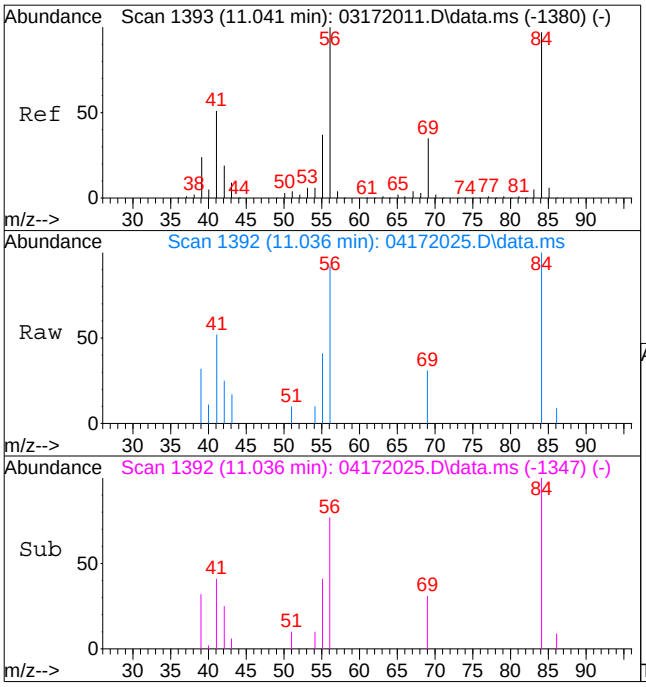


#42
Carbon Tetrachloride
Concen: 18.95 ng
RT: 10.90 min Scan# 1367
Delta R.T. -0.011 min
Lab File: 04172025.D
Acq: 17 Apr 2020 16:28

Tgt Ion:117 Resp: 309093

Ion	Ratio	Lower	Upper
117	100		
119	97.9	76.0	116.0

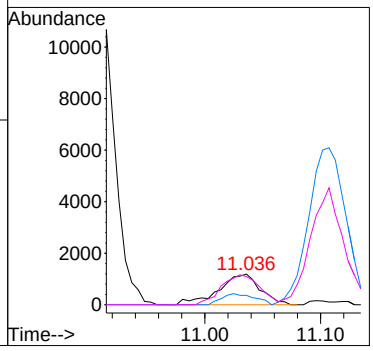


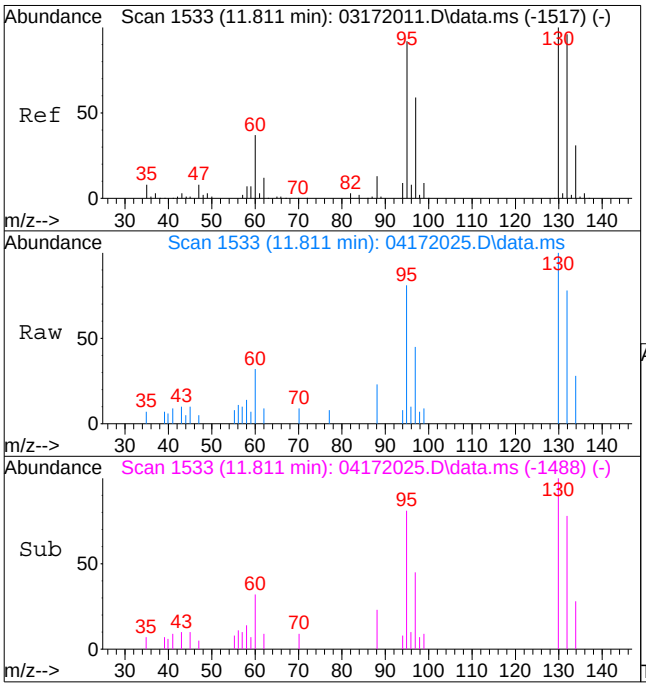


#43
Cyclohexane
Concen: 0.17 ng
RT: 11.04 min Scan# 1392
Delta R.T. -0.005 min
Lab File: 04172025.D
Acq: 17 Apr 2020 16:28

Tgt Ion: 84 Resp: 2962

Ion	Ratio	Lower	Upper
84	100		
69	28.8	16.6	56.6
56	91.0	85.3	125.3

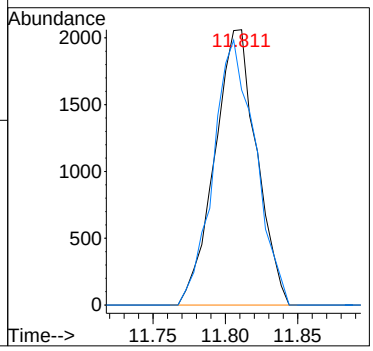


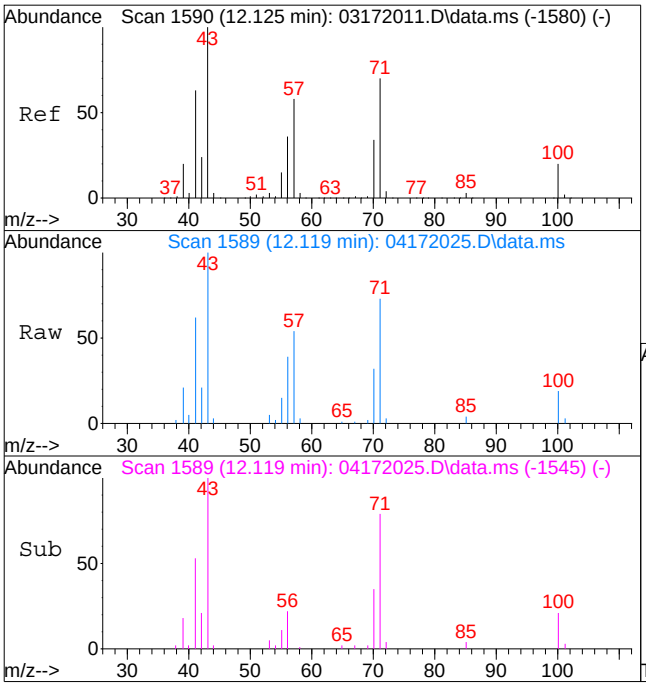


#47
Trichloroethene
Concen: 0.32 ng
RT: 11.81 min Scan# 1533
Delta R.T. 0.000 min
Lab File: 04172025.D
Acq: 17 Apr 2020 16:28

Tgt Ion:130 Resp: 4165

Ion	Ratio	Lower	Upper
130	100		
132	96.6	76.3	116.3

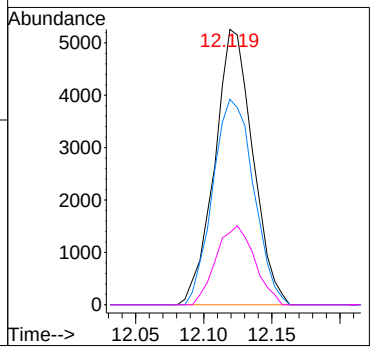


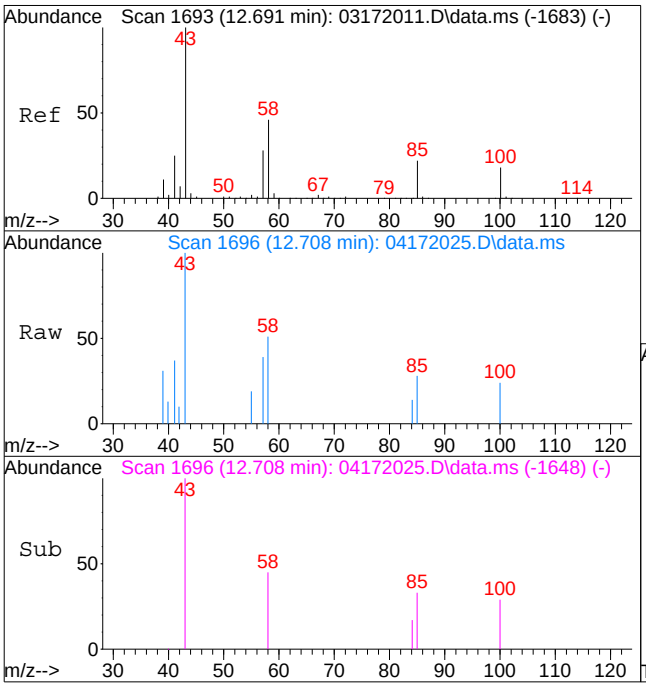


#51
n-Heptane
Concen: 0.94 ng
RT: 12.12 min Scan# 1589
Delta R.T. -0.006 min
Lab File: 04172025.D
Acq: 17 Apr 2020 16:28

Tgt Ion: 71 Resp: 10244

Ion	Ratio	Lower	Upper
71	100		
57	80.1	64.0	104.0
100	29.0	8.7	48.7

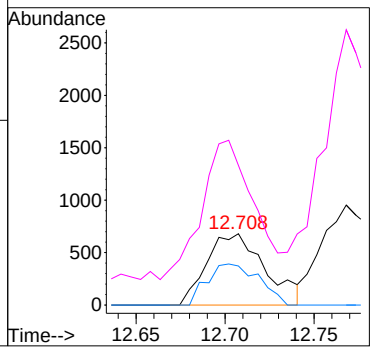


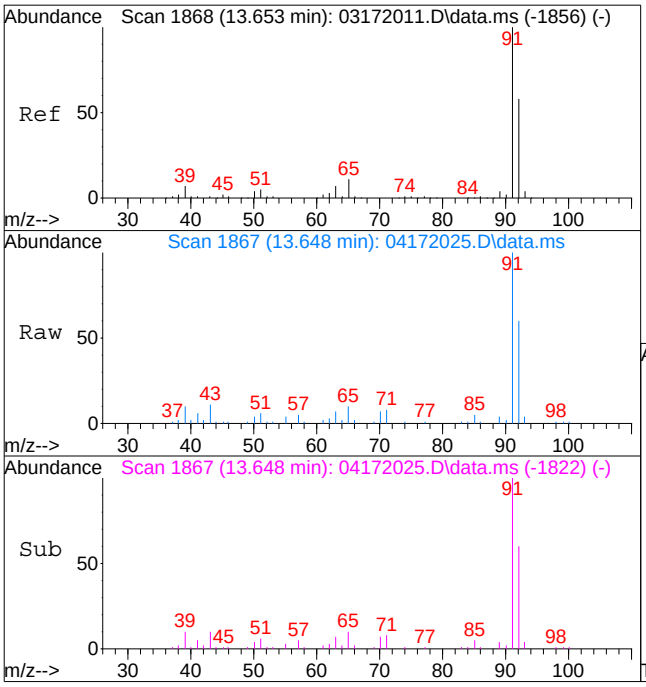


#53
4-Methyl-2-pentanone
Concen: 0.17 ng
RT: 12.71 min Scan# 1696
Delta R.T. 0.017 min
Lab File: 04172025.D
Acq: 17 Apr 2020 16:28

Tgt Ion: 58 Resp: 1552

Ion	Ratio	Lower	Upper
58	100		
85	51.2	41.8	62.6
43	227.1	177.2	265.8

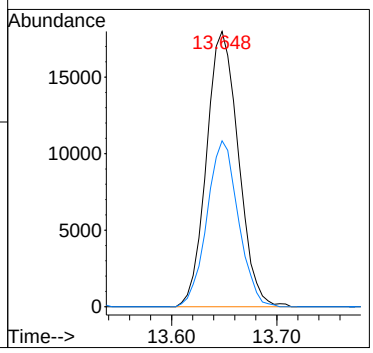


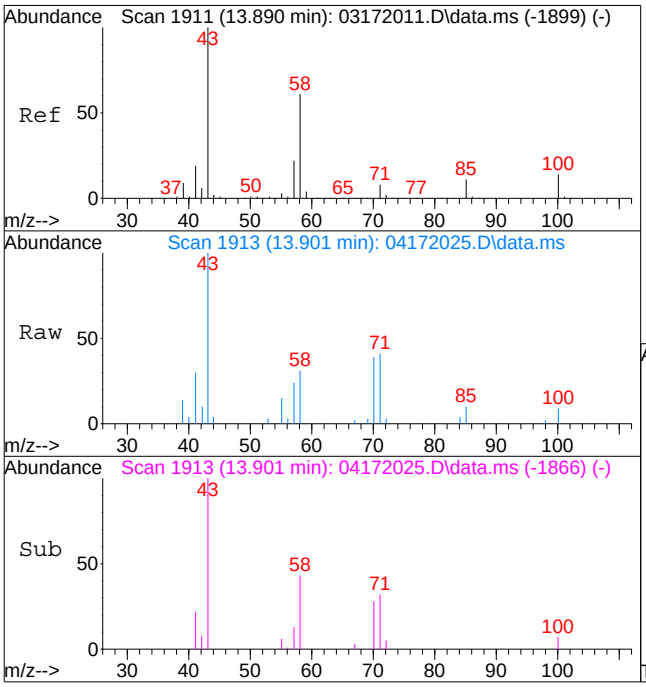


#58
Toluene
Concen: 0.77 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.005 min
Lab File: 04172025.D
Acq: 17 Apr 2020 16:28

Tgt Ion: 91 Resp: 38042

Ion	Ratio	Lower	Upper
91	100		
92	59.2	38.6	78.6

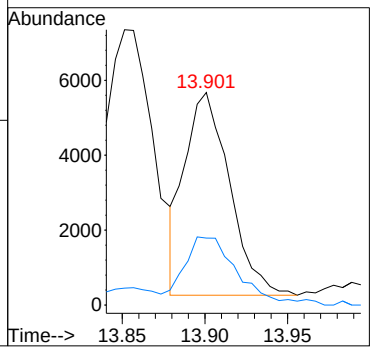


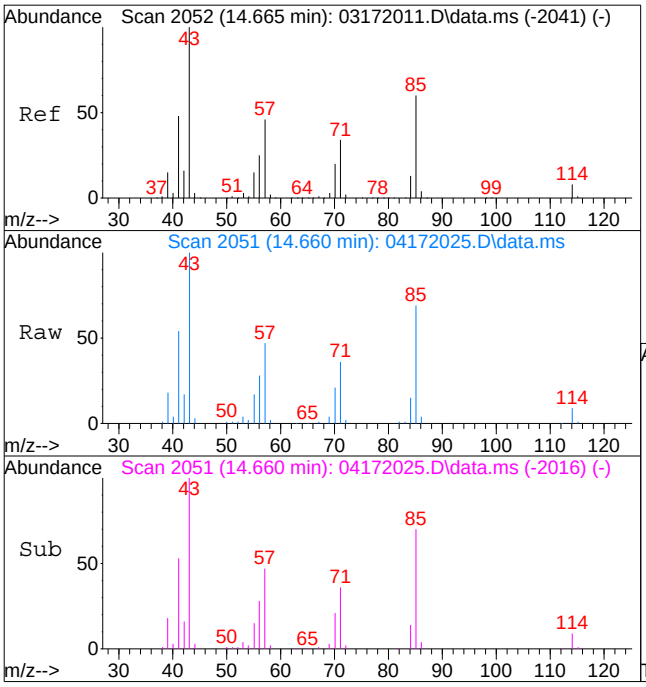


#59
2-Hexanone
Concen: 0.52 ng
RT: 13.90 min Scan# 1913
Delta R.T. 0.011 min
Lab File: 04172025.D
Acq: 17 Apr 2020 16:28

Tgt Ion: 43 Resp: 10236

Ion	Ratio	Lower	Upper
43	100		
58	40.3	41.5	81.5#

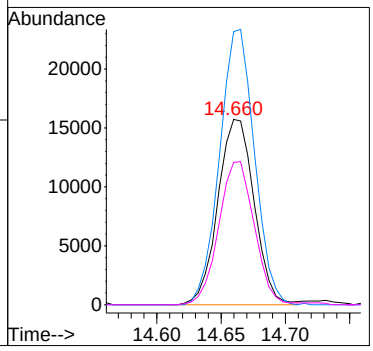


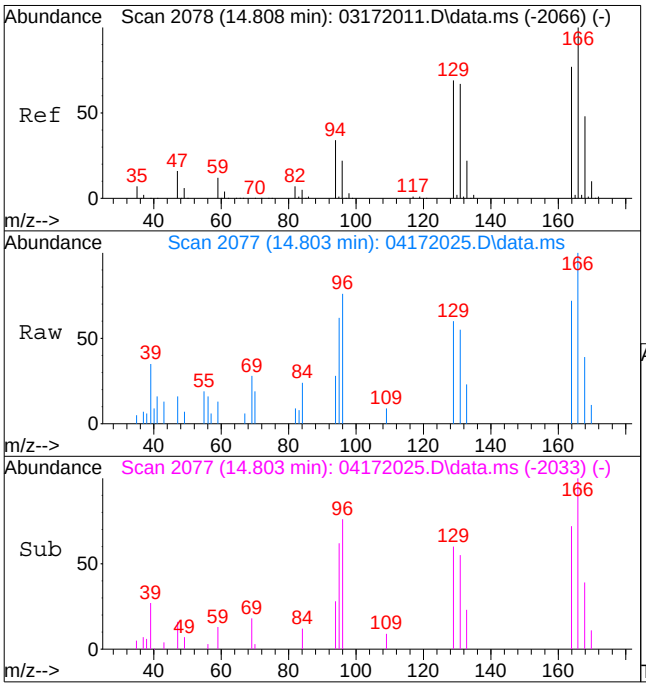


#63
n-Octane
Concen: 3.47 ng
RT: 14.66 min Scan# 2051
Delta R.T. -0.005 min
Lab File: 04172025.D
Acq: 17 Apr 2020 16:28

Tgt Ion: 57 Resp: 30912

Ion	Ratio	Lower	Upper
57	100		
85	142.8	105.4	158.2
71	76.2	59.0	88.4

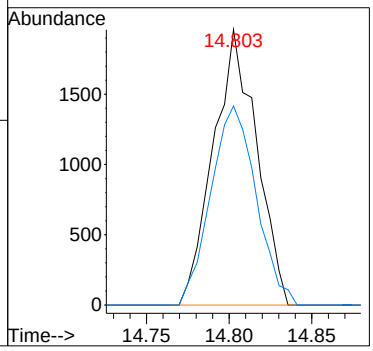


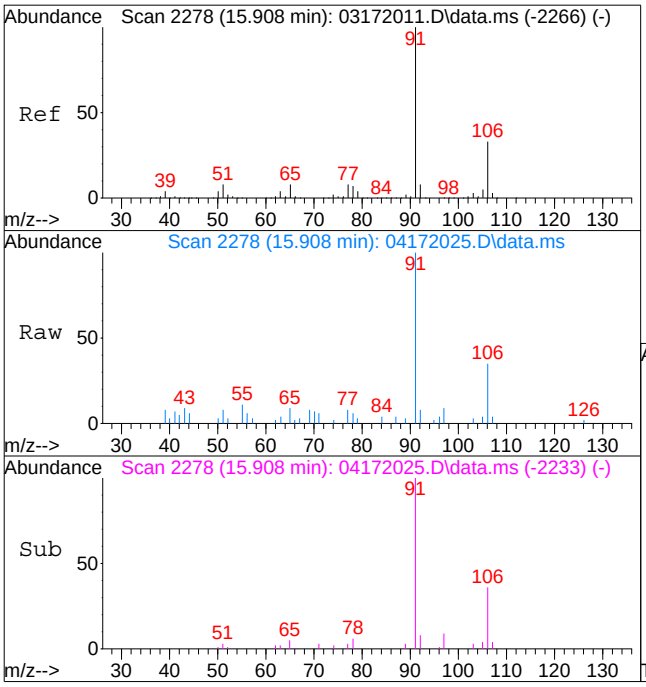


#64
Tetrachloroethene
Concen: 0.23 ng
RT: 14.80 min Scan# 2077
Delta R.T. -0.005 min
Lab File: 04172025.D
Acq: 17 Apr 2020 16:28

Tgt Ion:166 Resp: 3567

Ion	Ratio	Lower	Upper
166	100		
164	75.8	57.9	97.9

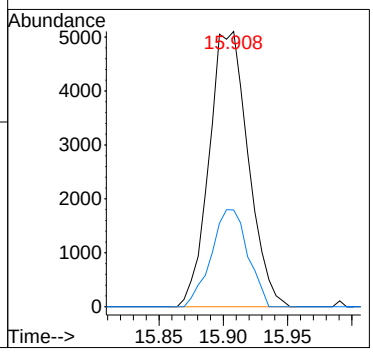


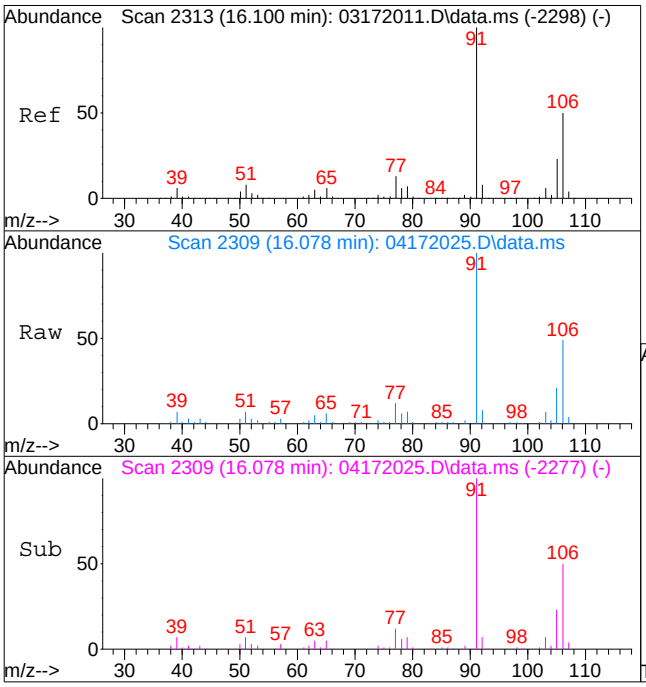


#66
Ethylbenzene
Concen: 0.20 ng
RT: 15.91 min Scan# 2278
Delta R.T. -0.000 min
Lab File: 04172025.D
Acq: 17 Apr 2020 16:28

Tgt Ion: 91 Resp: 10783

Ion	Ratio	Lower	Upper
91	100		
106	33.0	12.9	52.9

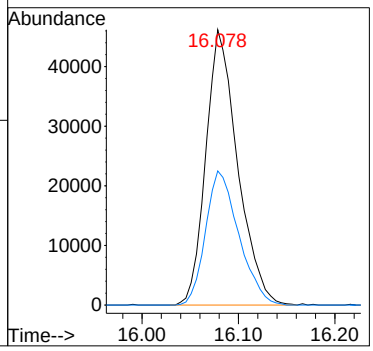


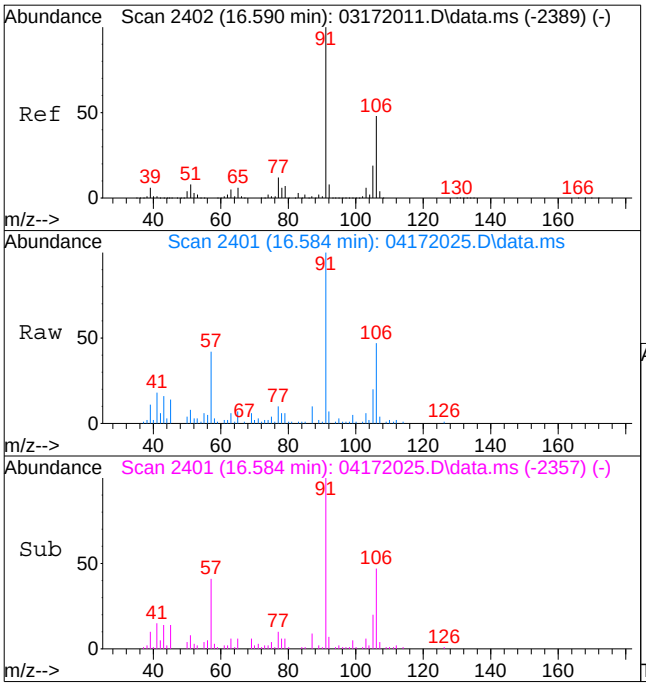


#67
m- & p-Xylenes
Concen: 2.50 ng
RT: 16.08 min Scan# 2309
Delta R.T. -0.022 min
Lab File: 04172025.D
Acq: 17 Apr 2020 16:28

Tgt Ion: 91 Resp: 105932

Ion	Ratio	Lower	Upper
91	100		
106	50.7	29.5	69.5

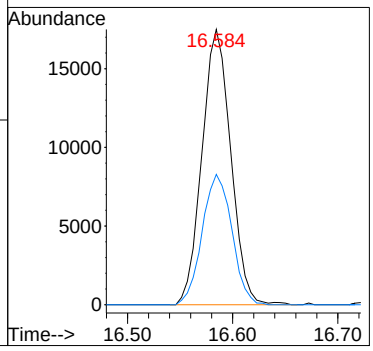


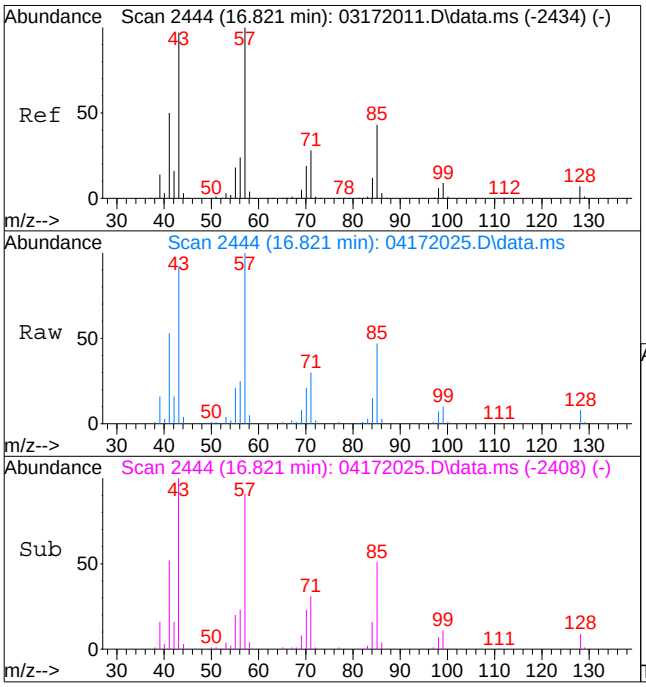


#70
o-Xylene
Concen: 0.79 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.006 min
Lab File: 04172025.D
Acq: 17 Apr 2020 16:28

Tgt Ion: 91 Resp: 33392

Ion	Ratio	Lower	Upper
91	100		
106	48.7	28.3	68.3

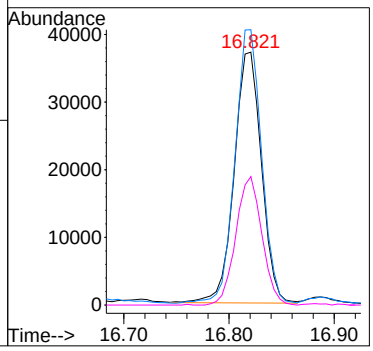


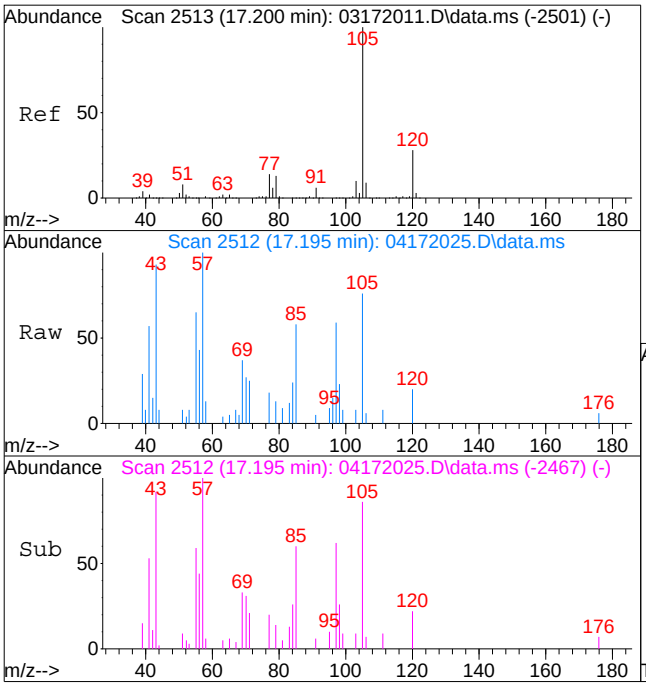


#71
n-Nonane
Concen: 3.65 ng
RT: 16.82 min Scan# 2444
Delta R.T. -0.000 min
Lab File: 04172025.D
Acq: 17 Apr 2020 16:28

Tgt Ion: 43 Resp: 66804

Ion	Ratio	Lower	Upper
43	100		
57	106.2	82.8	122.8
85	49.0	23.4	63.4

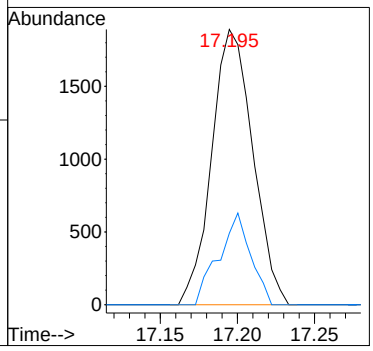


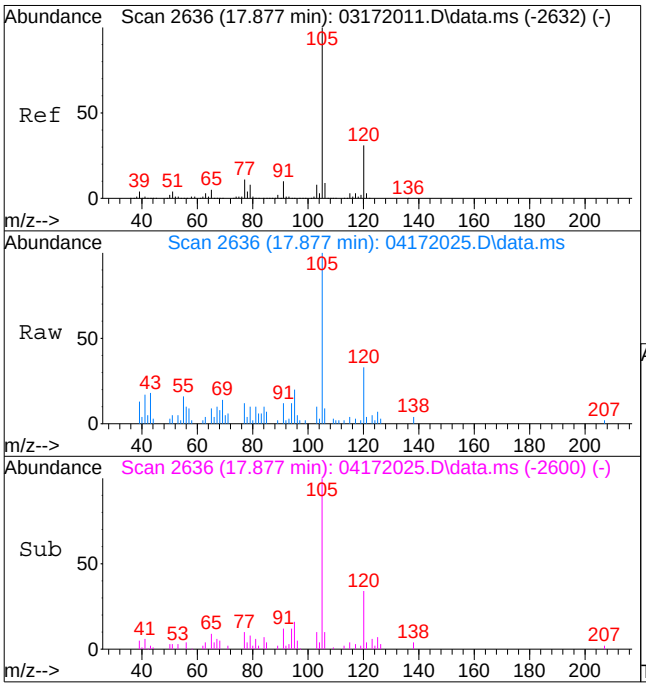


#74
Cumene
Concen: 0.06 ng
RT: 17.19 min Scan# 2512
Delta R.T. -0.005 min
Lab File: 04172025.D
Acq: 17 Apr 2020 16:28

Tgt Ion:105 Resp: 3508

Ion	Ratio	Lower	Upper
105	100		
120	25.9	7.6	47.6

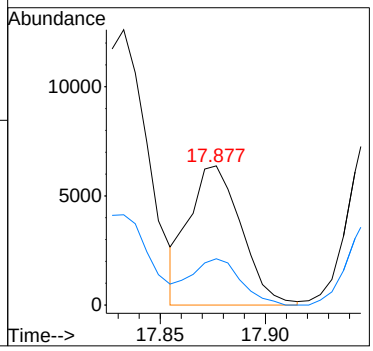


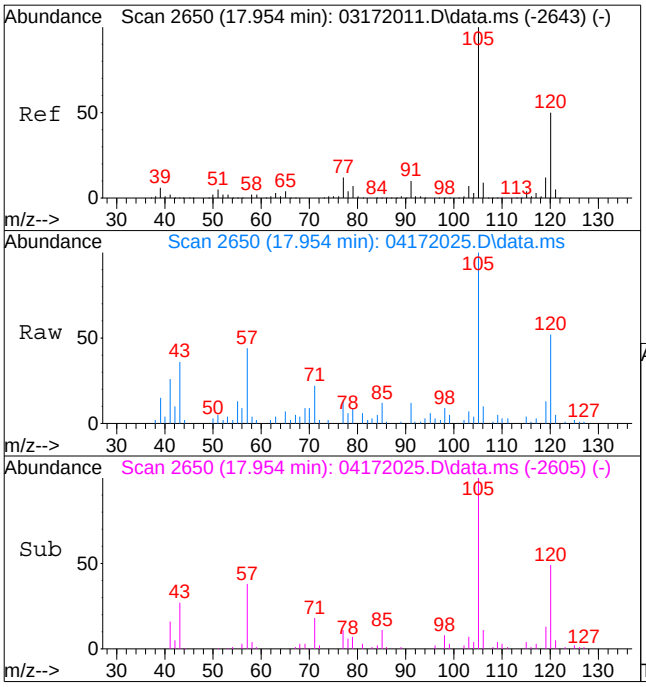


#78
4-Ethyltoluene
Concen: 0.22 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.000 min
Lab File: 04172025.D
Acq: 17 Apr 2020 16:28

Tgt Ion:105 Resp: 11049

Ion	Ratio	Lower	Upper
105	100		
120	32.3	11.2	51.2

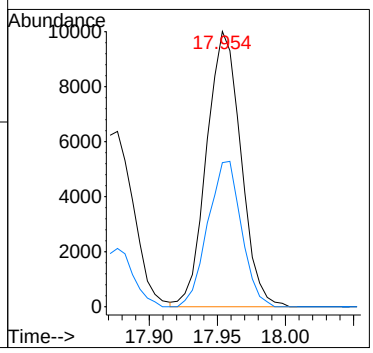


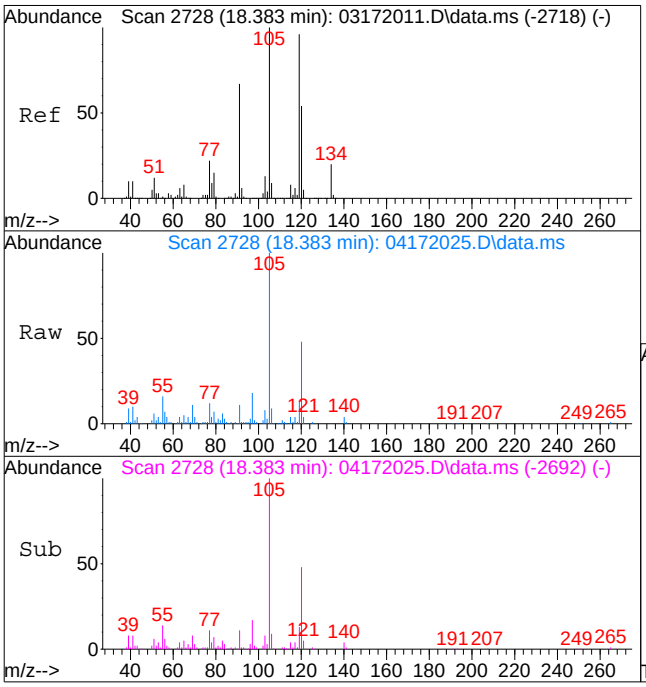


#79
1,3,5-Trimethylbenzene
Concen: 0.38 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.000 min
Lab File: 04172025.D
Acq: 17 Apr 2020 16:28

Tgt Ion:105 Resp: 17554

Ion	Ratio	Lower	Upper
105	100		
120	51.8	30.5	70.5

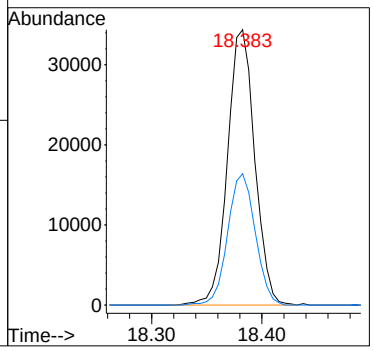


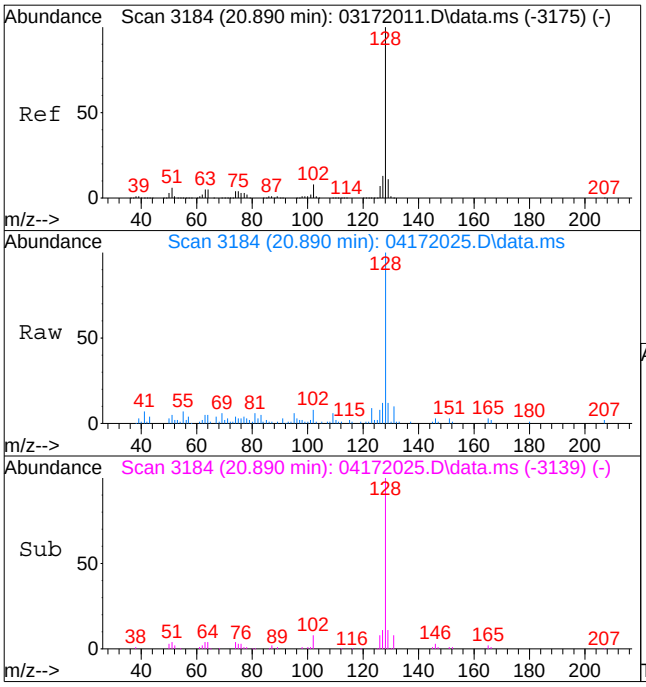


#82
1,2,4-Trimethylbenzene
Concen: 1.37 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.000 min
Lab File: 04172025.D
Acq: 17 Apr 2020 16:28

Tgt Ion:105 Resp: 59198

Ion	Ratio	Lower	Upper
105	100		
120	48.2	34.9	74.9

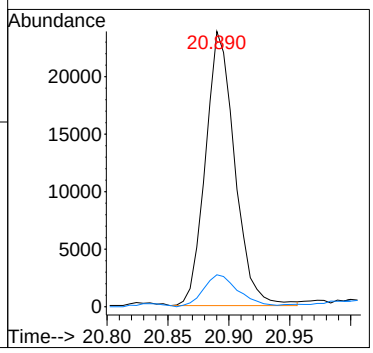




#95
Naphthalene
Concen: 0.67 ng
RT: 20.89 min Scan# 3184
Delta R.T. 0.000 min
Lab File: 04172025.D
Acq: 17 Apr 2020 16:28

Tgt Ion:128 Resp: 39828

Ion	Ratio	Lower	Upper
128	100		
129	13.9	0.0	30.9



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172026.D Vial: 9
Acq On : 17 Apr 2020 17:02 Operator: TD
Sample : P2002027-005 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 17:07:07 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/20/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	150447	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.11	114	639861	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	292480	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	217497	12.778	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.24%				
57) Toluene-d8 (SS2)	13.55	98	710074	12.207	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.68%				
73) Bromofluorobenzene (SS3)	17.05	174	275719	14.246	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.00%				
Target Compounds							Qvalue
2) Propene	3.86	42	2215	0.240	ng	#	81
3) Dichlorodifluoromethan...	3.96	85	1145756	53.369	ng		99
4) Chloromethane	4.18	50	925	0.072	ng		70
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	31704	3.166	ng		99
6) Vinyl Chloride	4.34	62	115	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.34	45	10625	1.474	ng		80
11) Acetonitrile	5.58	41	152	N.D.			
12) Acrolein	5.71	56	2223	0.360	ng		80
13) Acetone	5.84	58	29751	4.021	ng		94
14) Trichlorofluoromethane	6.02	101	94549	4.864	ng		100
15) 2-Propanol (Isopropanol)	6.17	45	3820	0.163	ng		83
16) Acrylonitrile	6.43	53	515	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	6.93	41	155	N.D.			
21) Trichlorotrifluoroethane	7.18	151	43502	4.015	ng		92
22) Carbon Disulfide	7.14	76	84034	2.141	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	8.12	73	569	N.D.			
26) Vinyl Acetate	8.25	86	5102	2.064	ng	#	1
27) 2-Butanone (MEK)	8.53	72	4922	0.678	ng	#	1
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	9.21	61	22744	6.842	ng		96
31) n-Hexane	9.22	57	34072	2.115	ng		100
32) Chloroform	9.27	83	59469	3.101	ng		99
34) Tetrahydrofuran (THF)	9.68	72	9497	1.353	ng		91
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	10.29	97	286	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.75	78	16527	0.362	ng		100
42) Carbon Tetrachloride	10.90	117	348456	21.441	ng		98
43) Cyclohexane	11.04	84	23470	1.356	ng		94
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	11.81	130	4867	0.370	ng		99
48) 1,4-Dioxane	11.82	88	156	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172026.D Vial: 9
Acq On : 17 Apr 2020 17:02 Operator: TD
Sample : P2002027-005 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 17:07:07 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

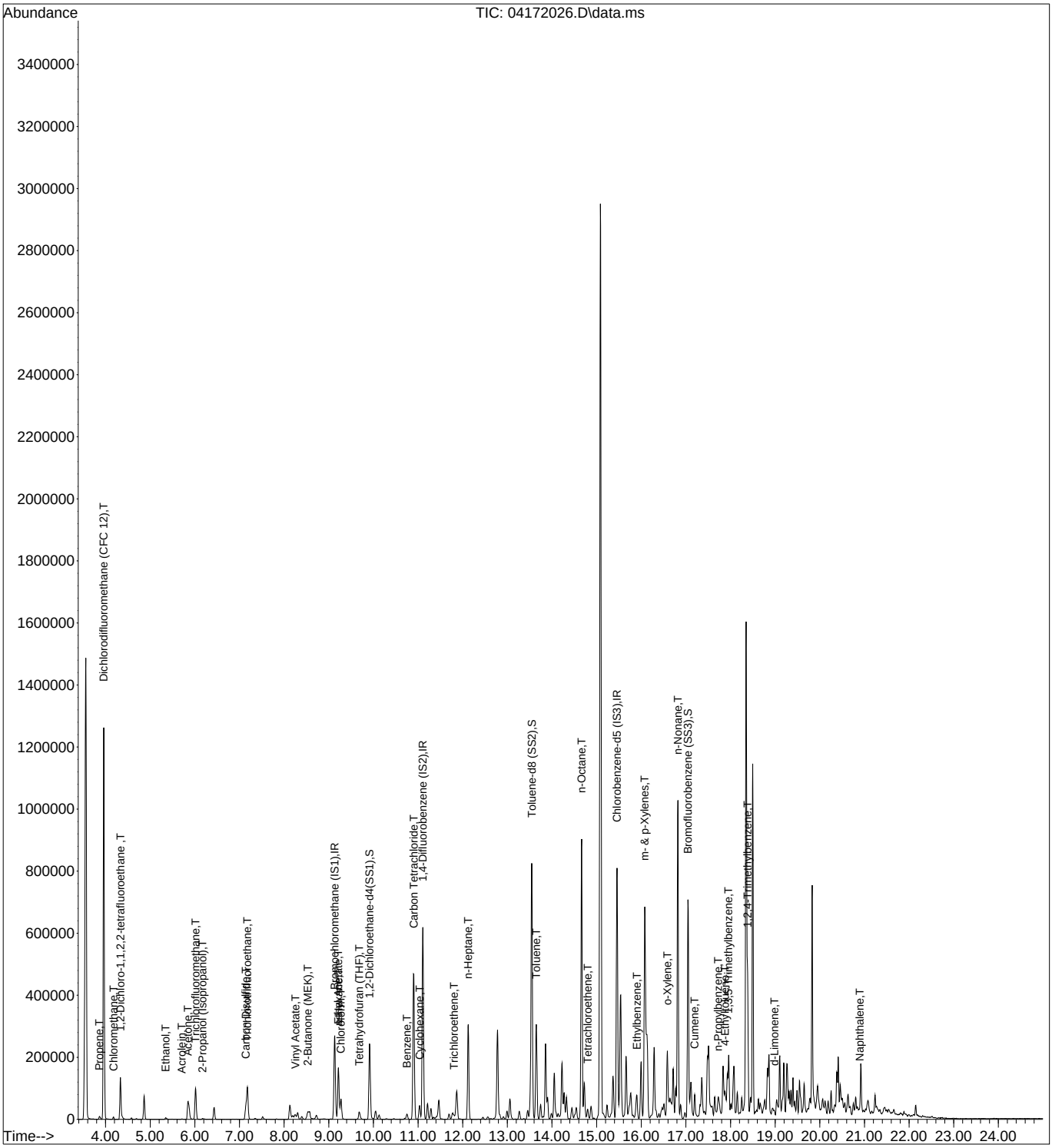
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.12	71	92493	8.498 ng	95
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	13.65	91	245040	4.964 ng	99
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D. d	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.67	57	179991	20.207 ng	92
64) Tetrachloroethene	14.80	166	5978	0.390 ng	97
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.90	91	44091	0.832 ng	99
67) m- & p-Xylenes	16.08	91	575384	13.560 ng	98
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.48	104	693	N.D.	
70) o-Xylene	16.58	91	149098	3.516 ng	100
71) n-Nonane	16.82	43	340046	18.565 ng	94
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	17.19	105	13077	0.236 ng	98
75) alpha-Pinene	17.51	93	147	N.D.	
76) n-Propylbenzene	17.72	91	41621	0.659 ng	93
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	40179	0.791 ng	97
79) 1,3,5-Trimethylbenzene	17.95	105	60971	1.306 ng	99
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	218342	5.031 ng	89
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.49	91	831	N.D.	
85) 1,3-Dichlorobenzene	18.61	146	576	N.D.	
86) 1,4-Dichlorobenzene	18.61	146	576	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	18.99	68	1948	0.129 ng	82
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	20.75	180	760	N.D.	
95) Naphthalene	20.90	128	6518	0.109 ng	96
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172026.D Vial: 9
Acq On : 17 Apr 2020 17:02 Operator: TD
Sample : P2002027-005 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 17:07:07 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172026.D Vial: 9
Acq On : 17 Apr 2020 17:02 Operator: TD
Sample : P2002027-005 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 17:07:07 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/20/20

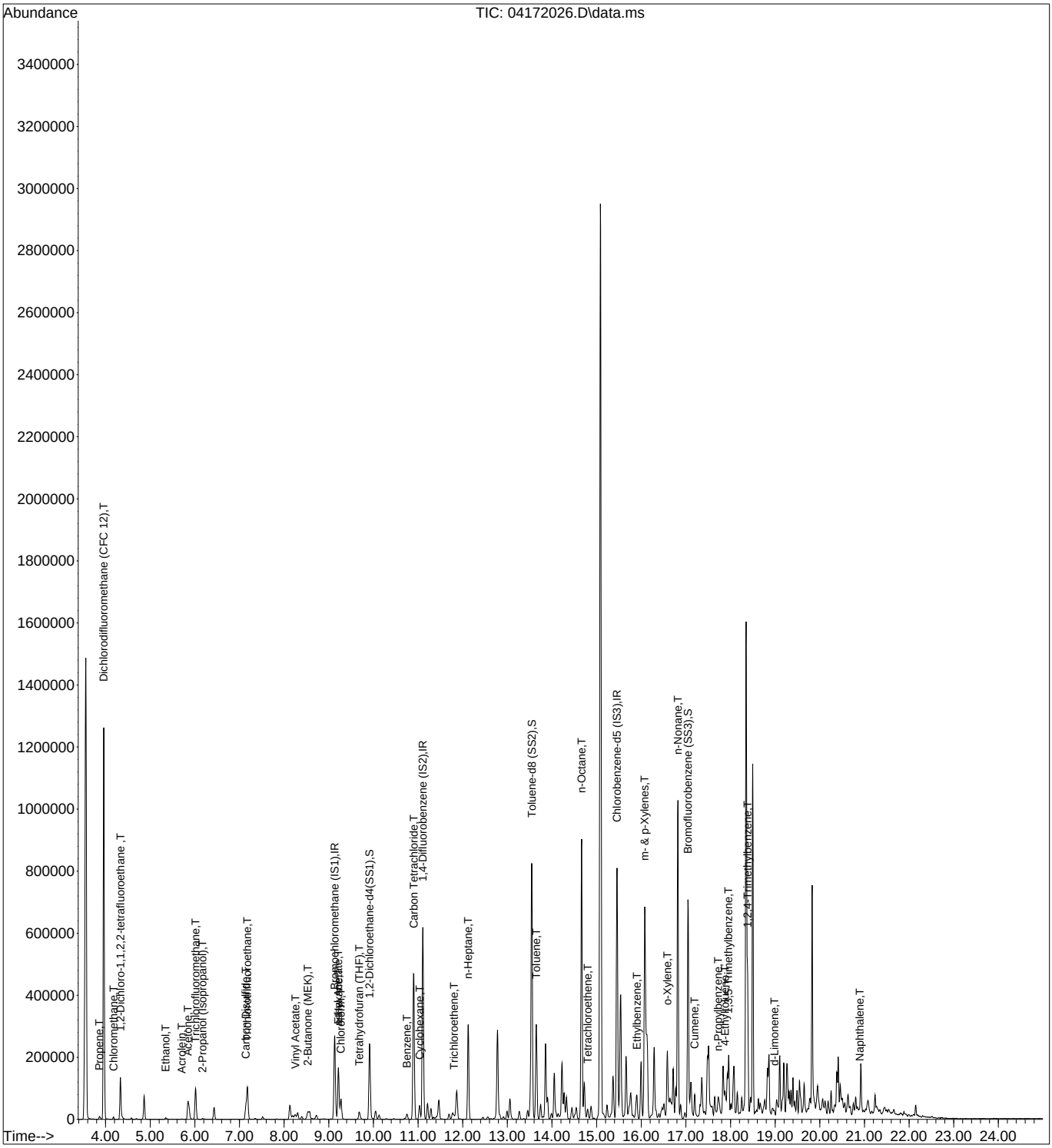
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	150447	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.11	114	639861	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	292480	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	217497	12.778	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.24%				
57) Toluene-d8 (SS2)	13.55	98	710074	12.207	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.68%				
73) Bromofluorobenzene (SS3)	17.05	174	275719	14.246	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.00%				
Target Compounds							Qvalue
2) Propene	3.86	42	2215	0.240	ng	#	81
3) Dichlorodifluoromethan...	3.96	85	1145756	53.369	ng		99
4) Chloromethane	4.18	50	925	0.072	ng		70
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	31704	3.166	ng		99
10) Ethanol	5.34	45	10625	1.474	ng		80
12) Acrolein	5.71	56	2223	0.360	ng		80
13) Acetone	5.84	58	29751	4.021	ng		94
14) Trichlorofluoromethane	6.02	101	94549	4.864	ng		100
15) 2-Propanol (Isopropanol)	6.17	45	3820	0.163	ng		83
21) Trichlorotrifluoroethane	7.18	151	43502	4.015	ng		92
22) Carbon Disulfide	7.14	76	84034	2.141	ng		99
26) Vinyl Acetate	8.25	86	5102	2.064	ng	#	1
27) 2-Butanone (MEK)	8.53	72	4922	0.678	ng	#	1
30) Ethyl Acetate	9.21	61	22744	6.842	ng		96
31) n-Hexane	9.22	57	34072	2.115	ng		100
32) Chloroform	9.27	83	59469	3.101	ng		99
34) Tetrahydrofuran (THF)	9.68	72	9497	1.353	ng		91
41) Benzene	10.75	78	16527	0.362	ng		100
42) Carbon Tetrachloride	10.90	117	348456	21.441	ng		98
43) Cyclohexane	11.04	84	23470	1.356	ng		94
47) Trichloroethene	11.81	130	4867	0.370	ng		99
51) n-Heptane	12.12	71	92493	8.498	ng		95
58) Toluene	13.65	91	245040	4.964	ng		99
63) n-Octane	14.67	57	179991	20.207	ng		92
64) Tetrachloroethene	14.80	166	5978	0.390	ng		97
66) Ethylbenzene	15.90	91	44091	0.832	ng		99
67) m- & p-Xylenes	16.08	91	575384	13.560	ng		98
70) o-Xylene	16.58	91	149098	3.516	ng		100
71) n-Nonane	16.82	43	340046	18.565	ng		94
74) Cumene	17.19	105	13077	0.236	ng		98
76) n-Propylbenzene	17.72	91	41621	0.659	ng		93
78) 4-Ethyltoluene	17.88	105	40179	0.791	ng		97
79) 1,3,5-Trimethylbenzene	17.95	105	60971	1.306	ng		99
82) 1,2,4-Trimethylbenzene	18.38	105	218342	5.031	ng		89
91) d-Limonene	18.99	68	1948	0.129	ng		82
95) Naphthalene	20.90	128	6518	0.109	ng		96

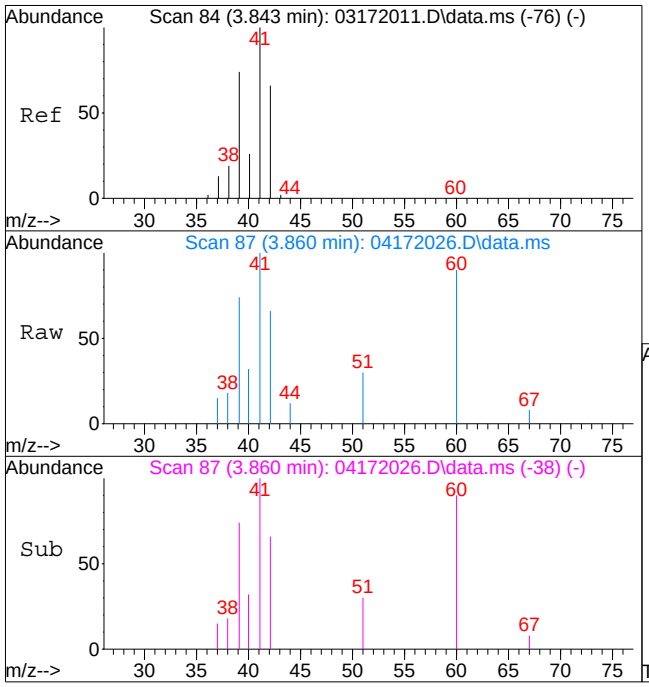
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172026.D Vial: 9
Acq On : 17 Apr 2020 17:02 Operator: TD
Sample : P2002027-005 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 17:07:07 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

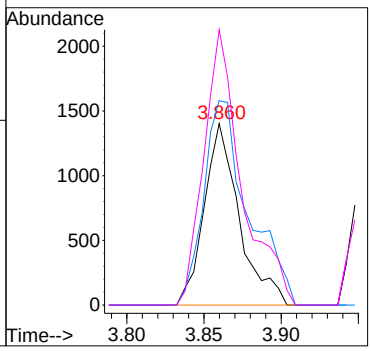


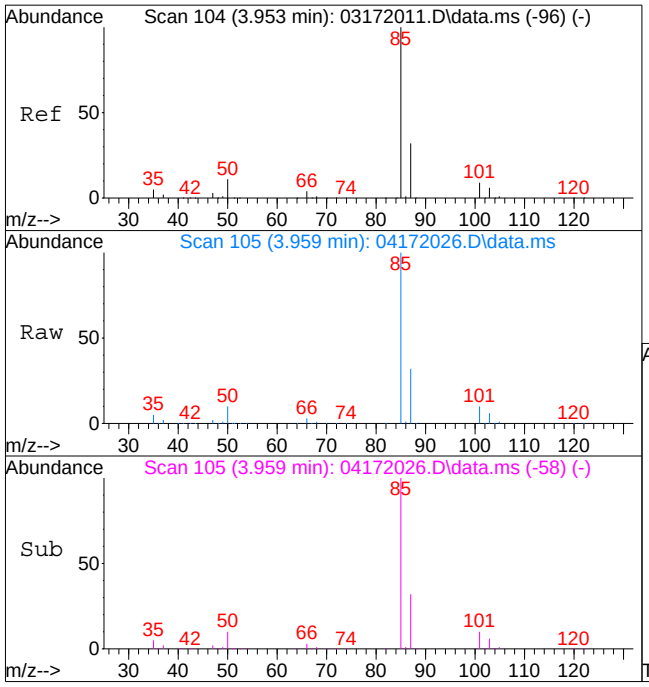


#2
Propene
Concen: 0.24 ng
RT: 3.86 min Scan# 87
Delta R.T. 0.017 min
Lab File: 04172026.D
Acq: 17 Apr 2020 17:02

Tgt Ion: 42 Resp: 2215

Ion	Ratio	Lower	Upper
42	100		
39	143.6	91.9	131.9#
41	164.2	130.5	170.5

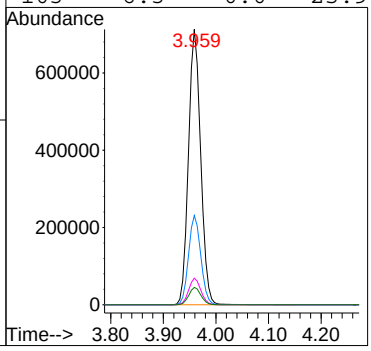


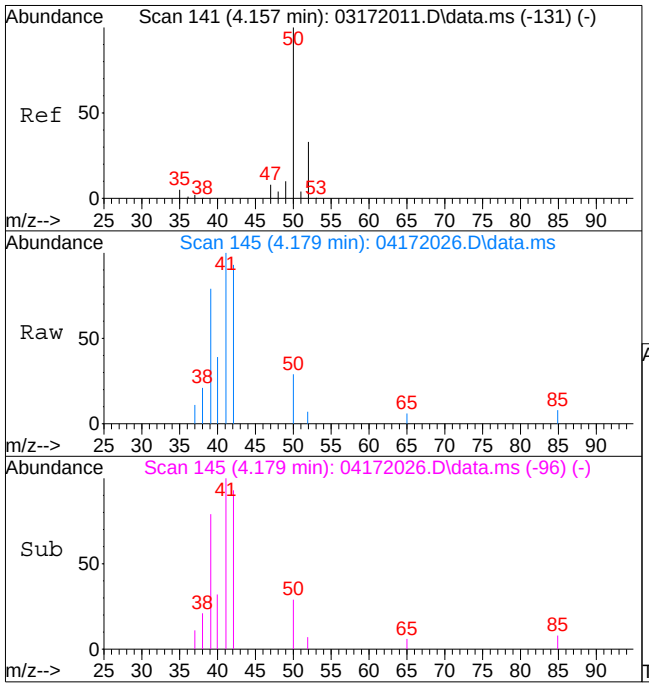


#3
Dichlorodifluoromethane (CFC 12)
Concen: 53.37 ng
RT: 3.96 min Scan# 105
Delta R.T. 0.006 min
Lab File: 04172026.D
Acq: 17 Apr 2020 17:02

Tgt Ion: 85 Resp: 1145756

Ion	Ratio	Lower	Upper
85	100		
87	32.6	12.4	52.4
101	9.6	0.0	29.2
103	6.3	0.0	25.9

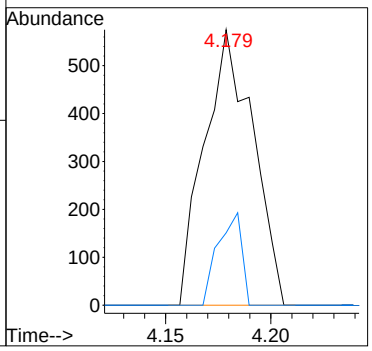


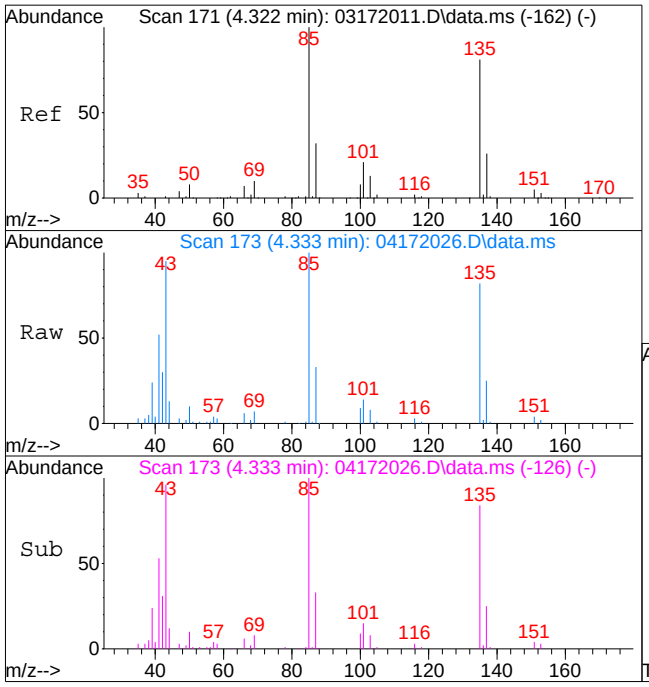


#4
Chloromethane
Concen: 0.07 ng
RT: 4.18 min Scan# 145
Delta R.T. 0.022 min
Lab File: 04172026.D
Acq: 17 Apr 2020 17:02

Tgt Ion: 50 Resp: 925

Ion	Ratio	Lower	Upper
50	100		
52	16.5	13.3	53.3

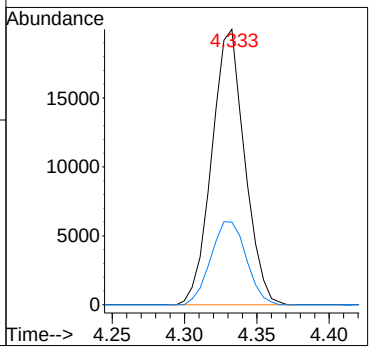


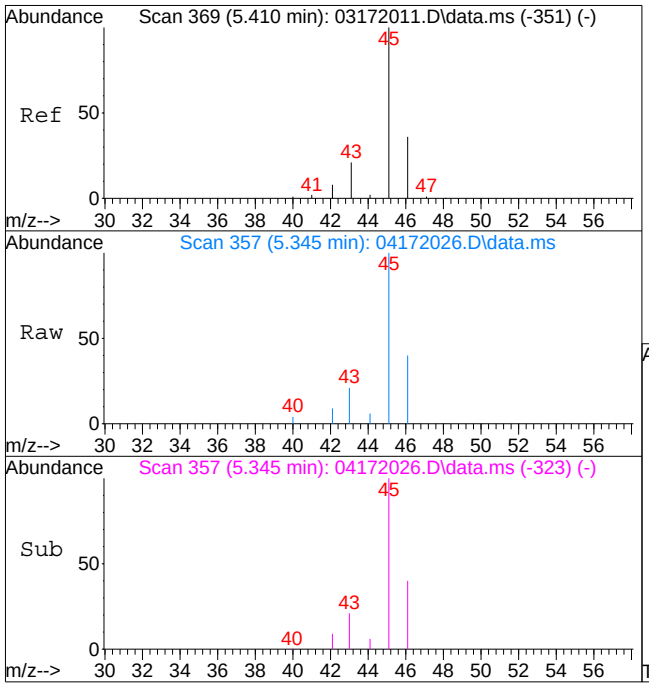


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 3.17 ng
RT: 4.33 min Scan# 173
Delta R.T. 0.011 min
Lab File: 04172026.D
Acq: 17 Apr 2020 17:02

Tgt Ion:135 Resp: 31704

Ion	Ratio	Lower	Upper
135	100		
137	32.5	12.0	52.0

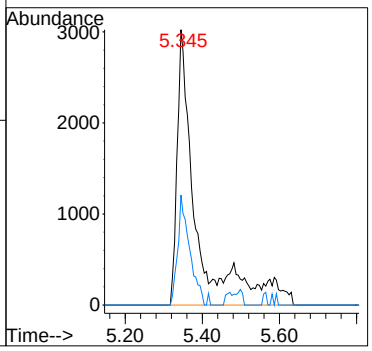


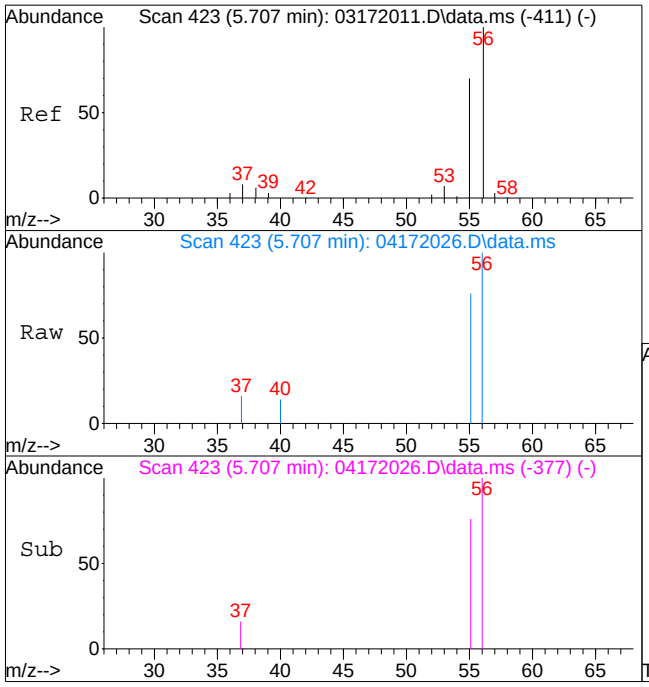


#10
Ethanol
Concen: 1.47 ng
RT: 5.34 min Scan# 357
Delta R.T. -0.066 min
Lab File: 04172026.D
Acq: 17 Apr 2020 17:02

Tgt Ion: 45 Resp: 10625

Ion	Ratio	Lower	Upper
45	100		
46	24.4	15.9	55.9

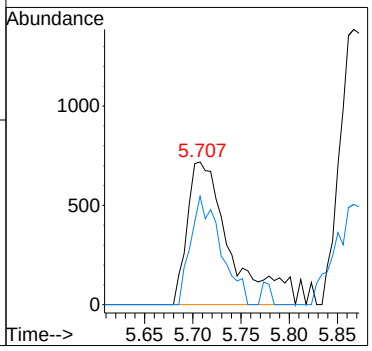


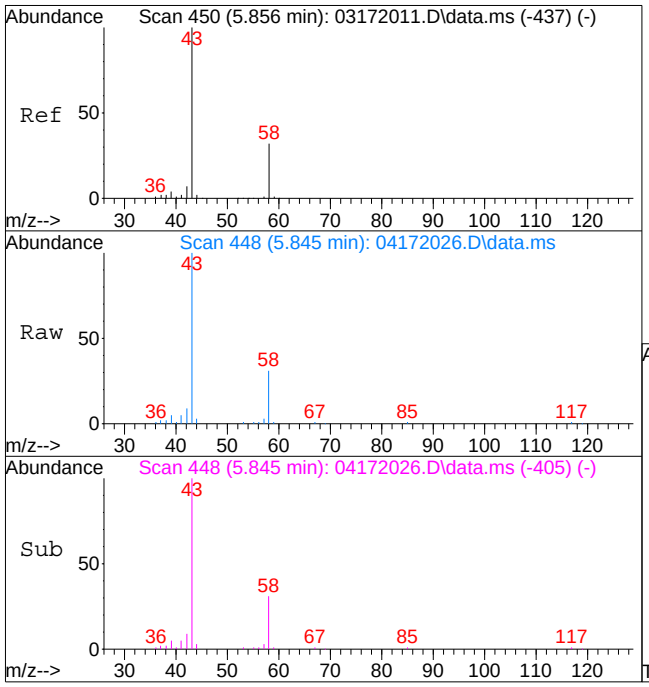


#12
Acrolein
Concen: 0.36 ng
RT: 5.71 min Scan# 423
Delta R.T. 0.000 min
Lab File: 04172026.D
Acq: 17 Apr 2020 17:02

Tgt Ion: 56 Resp: 2223

Ion	Ratio	Lower	Upper
56	100		
55	53.4	49.5	89.5

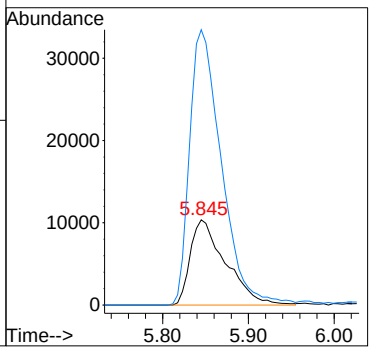


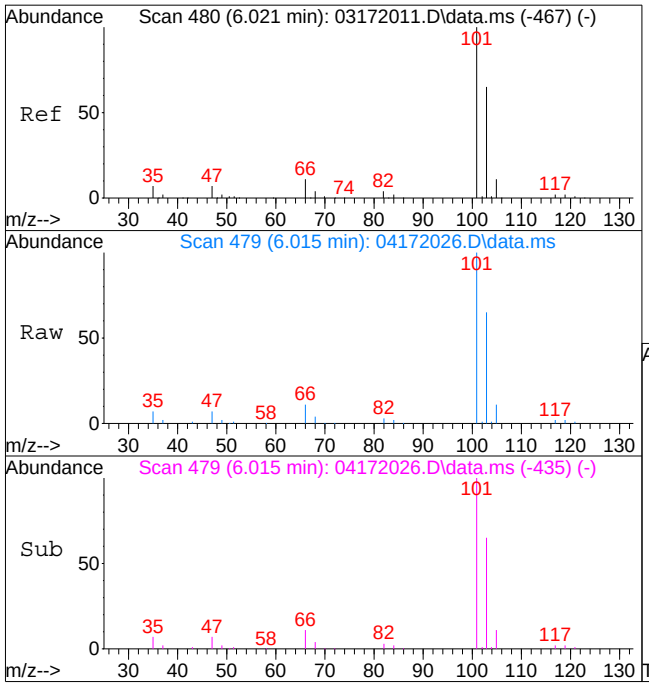


#13
Acetone
Concen: 4.02 ng
RT: 5.84 min Scan# 448
Delta R.T. -0.011 min
Lab File: 04172026.D
Acq: 17 Apr 2020 17:02

Tgt Ion: 58 Resp: 29751

Ion	Ratio	Lower	Upper
58	100		
43	290.3	272.8	332.8

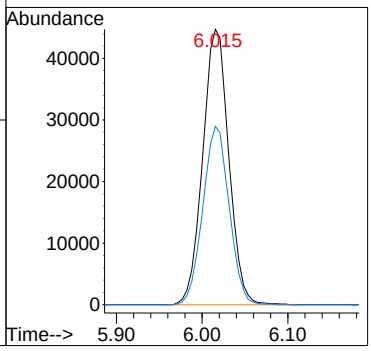


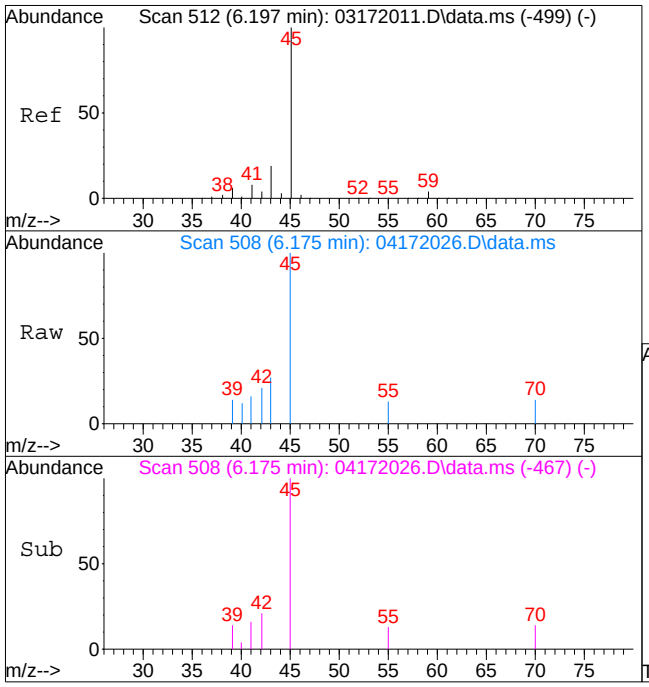


#14
Trichlorofluoromethane
Concen: 4.86 ng
RT: 6.02 min Scan# 479
Delta R.T. -0.006 min
Lab File: 04172026.D
Acq: 17 Apr 2020 17:02

Tgt Ion:101 Resp: 94549

Ion	Ratio	Lower	Upper
101	100		
103	65.2	45.3	85.3

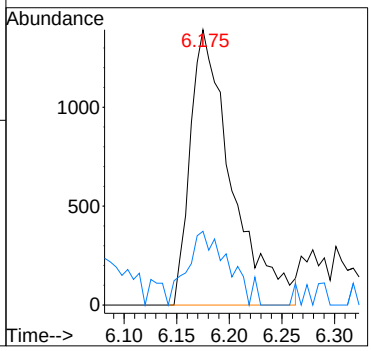


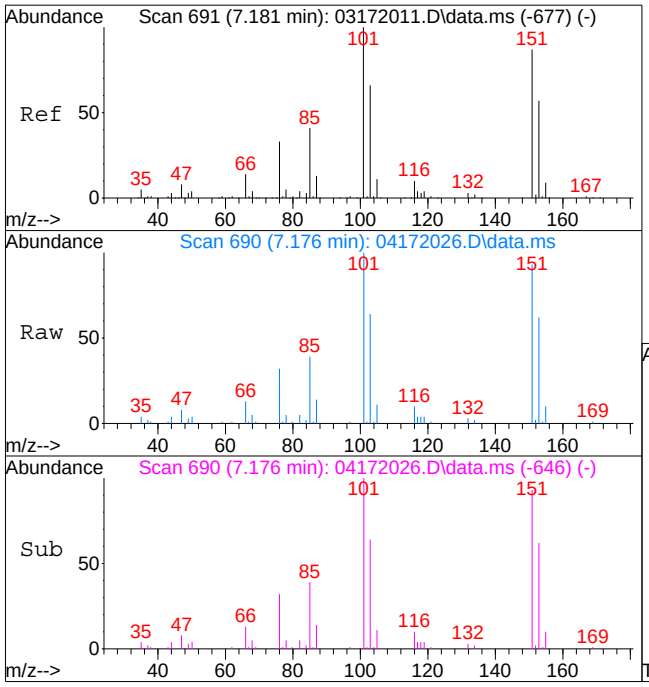


#15
2-Propanol (Isopropanol)
Concen: 0.16 ng
RT: 6.17 min Scan# 508
Delta R.T. -0.022 min
Lab File: 04172026.D
Acq: 17 Apr 2020 17:02

Tgt Ion: 45 Resp: 3820

Ion	Ratio	Lower	Upper
45	100		
43	26.6	0.0	39.0

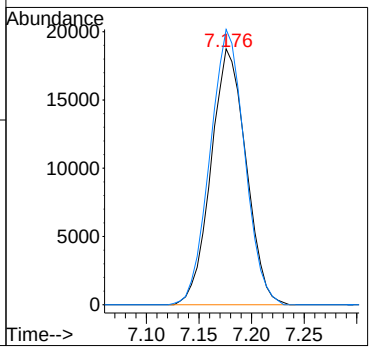


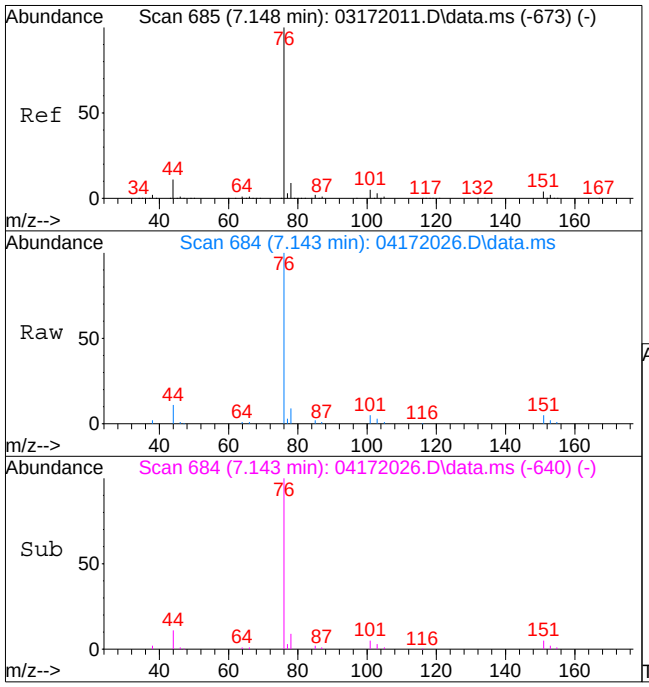


#21
Trichlorotrifluoroethane
Concen: 4.01 ng
RT: 7.18 min Scan# 690
Delta R.T. -0.005 min
Lab File: 04172026.D
Acq: 17 Apr 2020 17:02

Tgt Ion:151 Resp: 43502

Ion	Ratio	Lower	Upper
151	100		
101	106.5	94.7	134.7

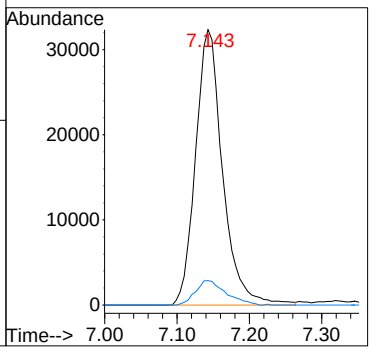


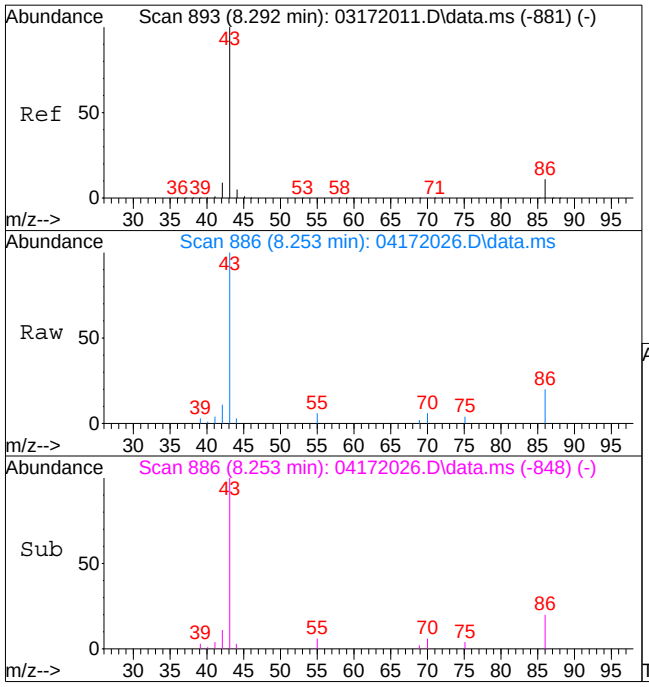


#22
Carbon Disulfide
Concen: 2.14 ng
RT: 7.14 min Scan# 684
Delta R.T. -0.005 min
Lab File: 04172026.D
Acq: 17 Apr 2020 17:02

Tgt Ion: 76 Resp: 84034

Ion	Ratio	Lower	Upper
76	100		
78	10.0	0.0	29.7

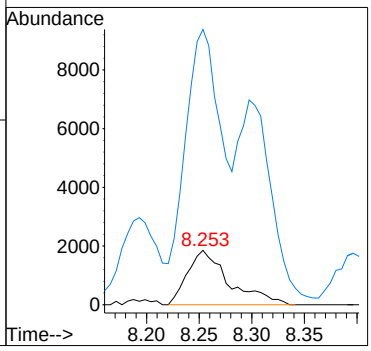


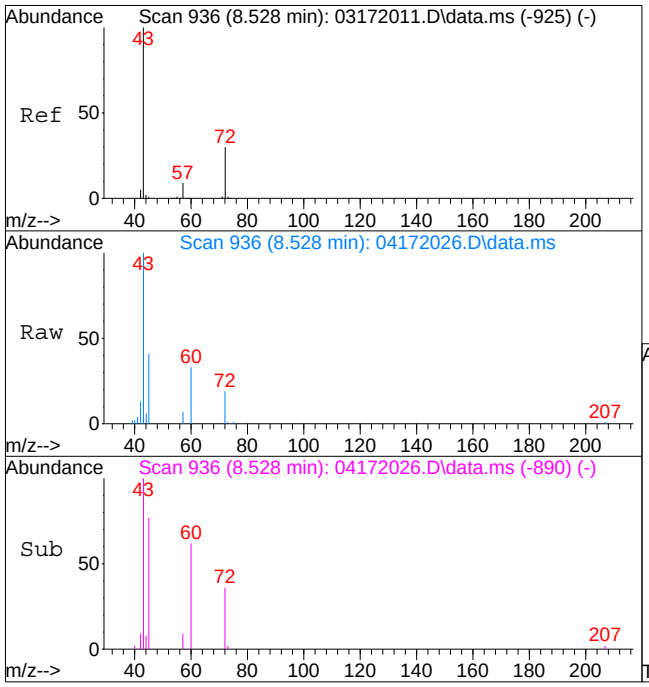


#26
Vinyl Acetate
Concen: 2.06 ng
RT: 8.25 min Scan# 886
Delta R.T. -0.039 min
Lab File: 04172026.D
Acq: 17 Apr 2020 17:02

Tgt Ion: 86 Resp: 5102

Ion	Ratio	Lower	Upper
86	100		
43	443.0	905.1	945.1#

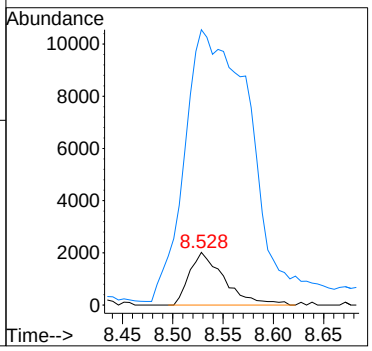


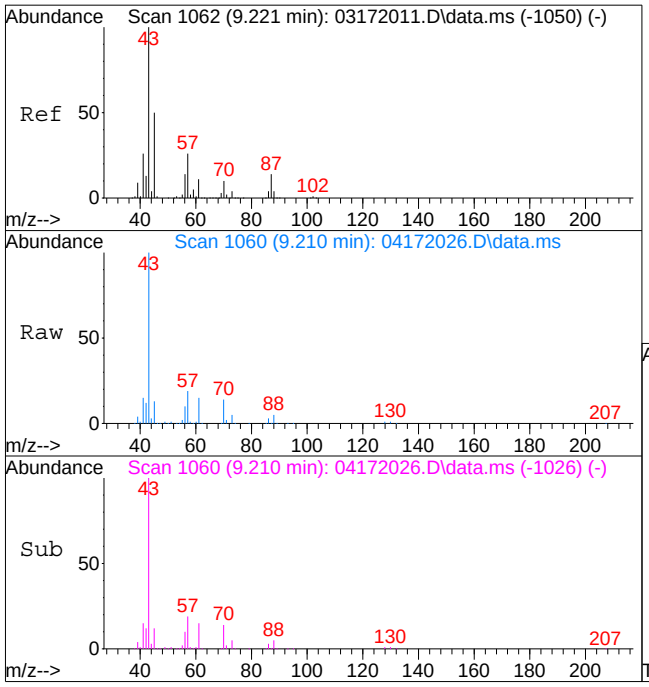


#27
2-Butanone (MEK)
Concen: 0.68 ng
RT: 8.53 min Scan# 936
Delta R.T. 0.000 min
Lab File: 04172026.D
Acq: 17 Apr 2020 17:02

Tgt Ion: 72 Resp: 4922

Ion	Ratio	Lower	Upper
72	100		
43	992.9	310.6	350.6#

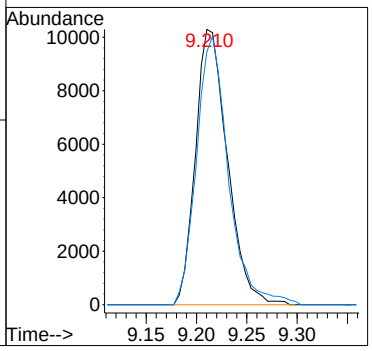


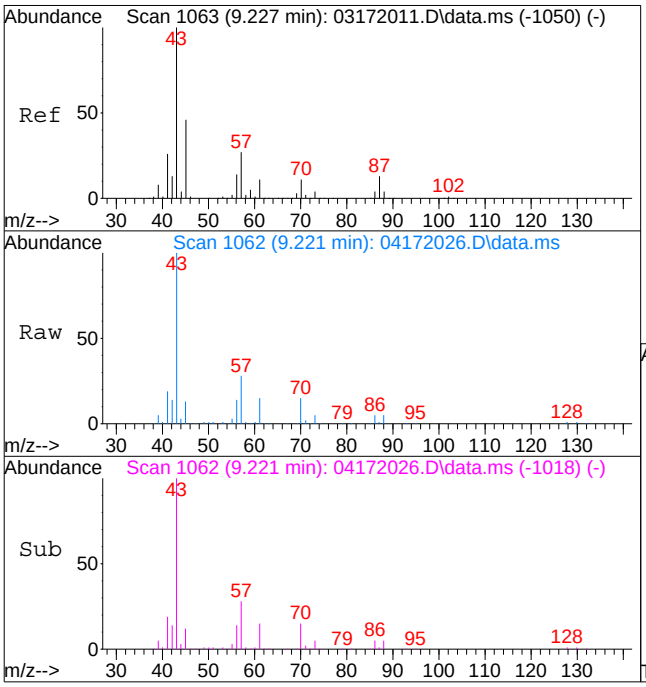


#30
Ethyl Acetate
Concen: 6.84 ng
RT: 9.21 min Scan# 1060
Delta R.T. -0.011 min
Lab File: 04172026.D
Acq: 17 Apr 2020 17:02

Tgt Ion: 61 Resp: 22744

Ion	Ratio	Lower	Upper
61	100		
70	97.1	73.0	113.0

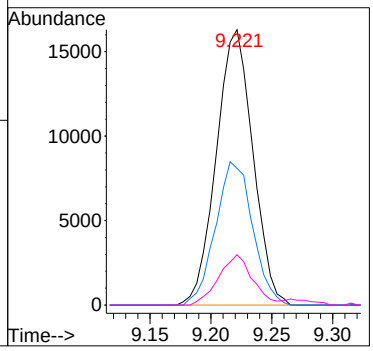


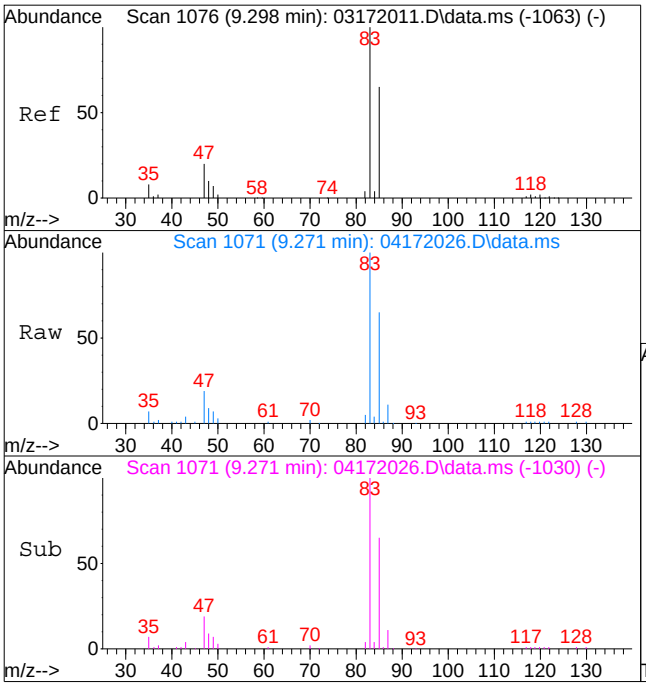


#31
n-Hexane
Concen: 2.11 ng
RT: 9.22 min Scan# 1062
Delta R.T. -0.006 min
Lab File: 04172026.D
Acq: 17 Apr 2020 17:02

Tgt Ion: 57 Resp: 34072

Ion	Ratio	Lower	Upper
57	100		
56	52.6	42.0	63.0
86	16.8	13.1	19.7

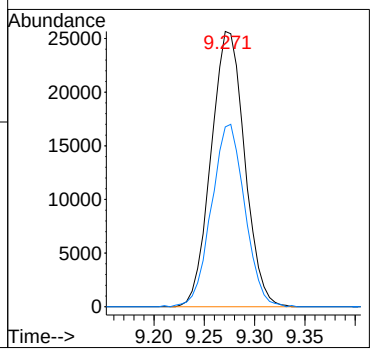


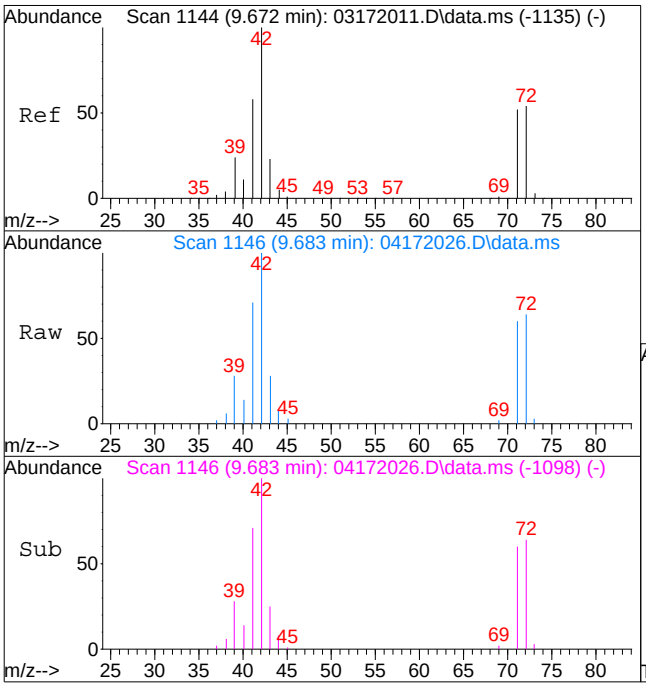


#32
Chloroform
Concen: 3.10 ng
RT: 9.27 min Scan# 1071
Delta R.T. -0.027 min
Lab File: 04172026.D
Acq: 17 Apr 2020 17:02

Tgt Ion: 83 Resp: 59469

Ion	Ratio	Lower	Upper
83	100		
85	65.7	45.1	85.1

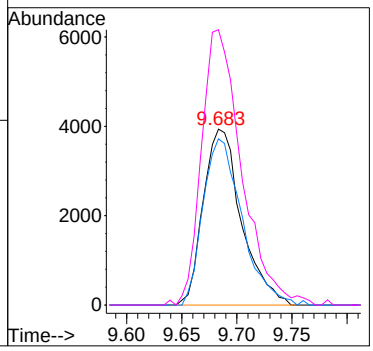


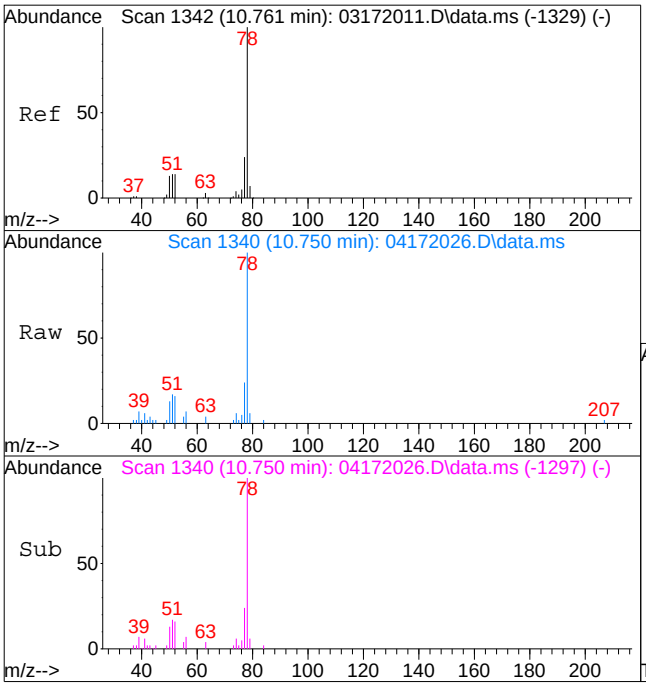


#34
Tetrahydrofuran (THF)
Concen: 1.35 ng
RT: 9.68 min Scan# 1146
Delta R.T. 0.011 min
Lab File: 04172026.D
Acq: 17 Apr 2020 17:02

Tgt Ion: 72 Resp: 9497

Ion	Ratio	Lower	Upper
72	100		
71	96.8	76.1	116.1
42	165.0	164.4	204.4

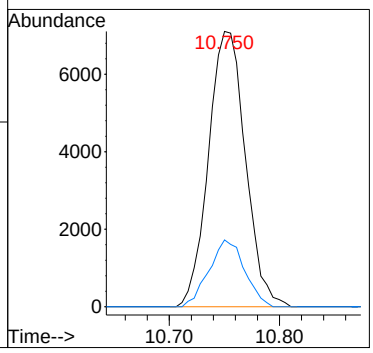


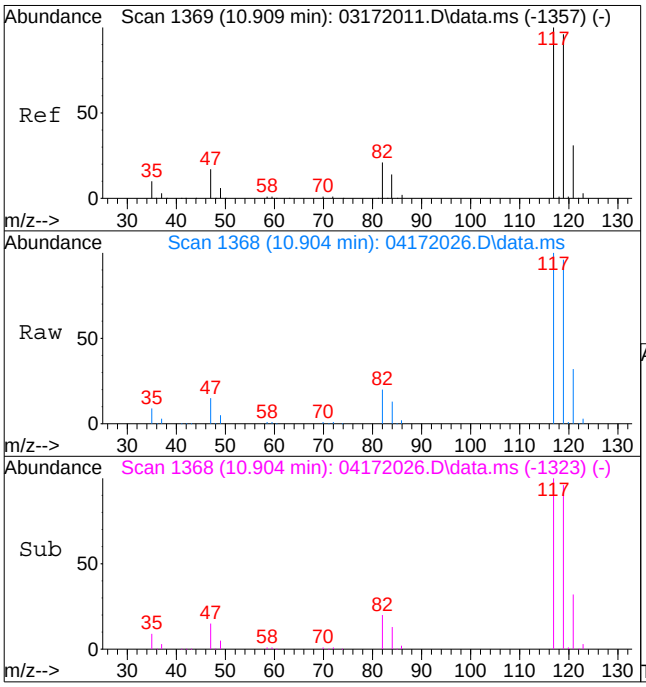


#41
Benzene
Concen: 0.36 ng
RT: 10.75 min Scan# 1340
Delta R.T. -0.011 min
Lab File: 04172026.D
Acq: 17 Apr 2020 17:02

Tgt Ion: 78 Resp: 16527

Ion	Ratio	Lower	Upper
78	100		
77	23.4	3.4	43.4

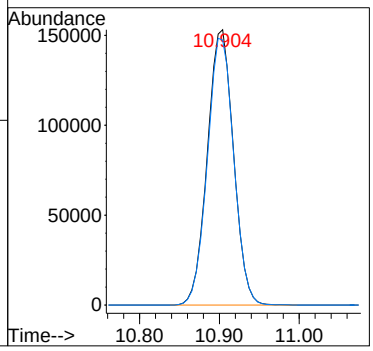


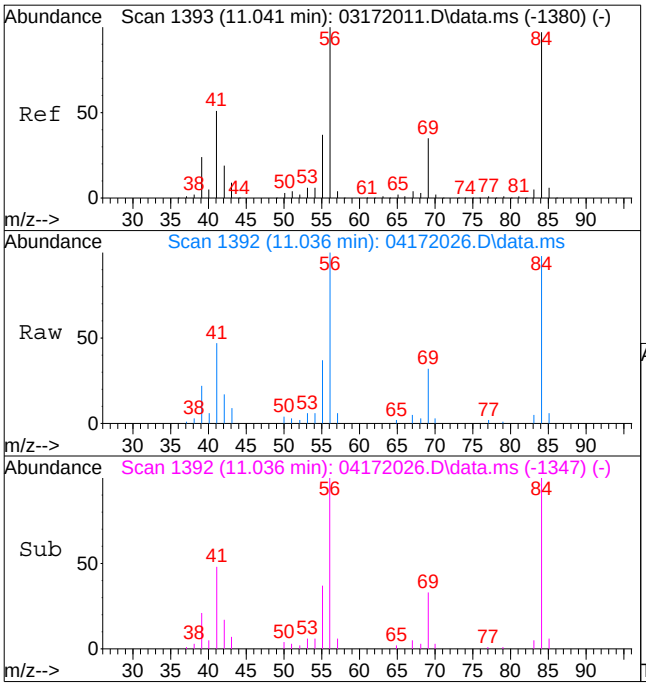


#42
Carbon Tetrachloride
Concen: 21.44 ng
RT: 10.90 min Scan# 1368
Delta R.T. -0.005 min
Lab File: 04172026.D
Acq: 17 Apr 2020 17:02

Tgt Ion:117 Resp: 348456

Ion	Ratio	Lower	Upper
117	100		
119	97.8	76.0	116.0

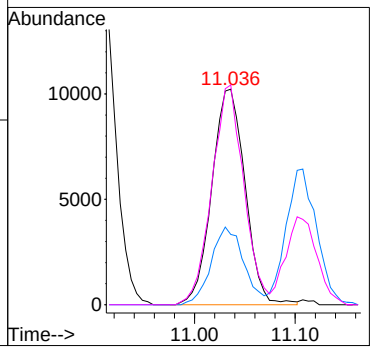


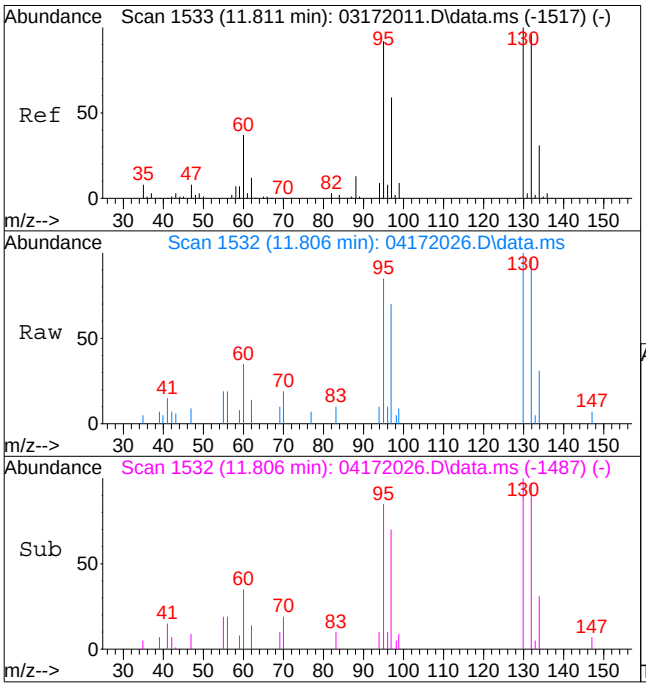


#43
Cyclohexane
Concen: 1.36 ng
RT: 11.04 min Scan# 1392
Delta R.T. -0.005 min
Lab File: 04172026.D
Acq: 17 Apr 2020 17:02

Tgt Ion: 84 Resp: 23470

Ion	Ratio	Lower	Upper
84	100		
69	35.3	16.6	56.6
56	98.1	85.3	125.3

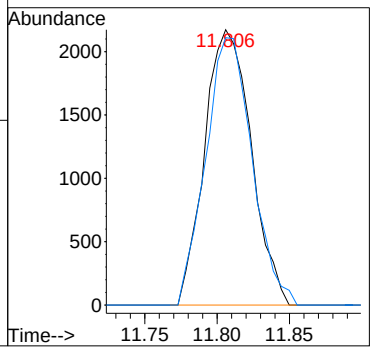


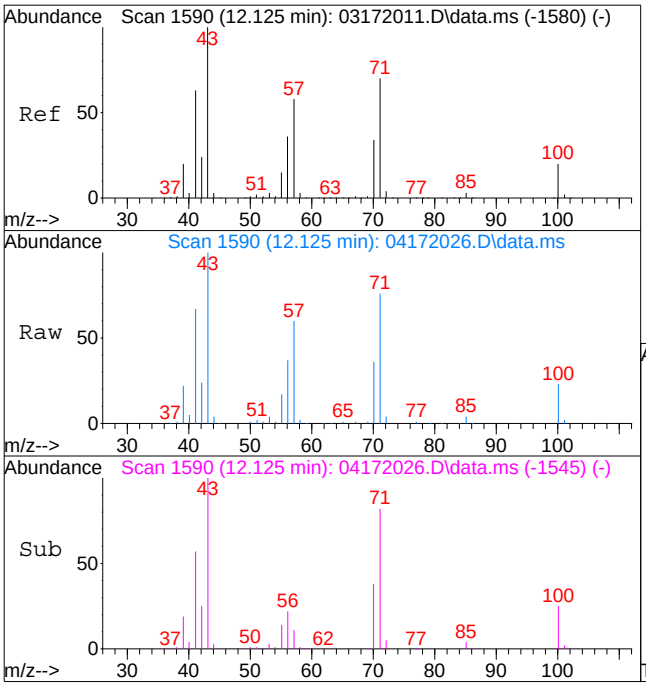


#47
Trichloroethene
Concen: 0.37 ng
RT: 11.81 min Scan# 1532
Delta R.T. -0.005 min
Lab File: 04172026.D
Acq: 17 Apr 2020 17:02

Tgt Ion:130 Resp: 4867

Ion	Ratio	Lower	Upper
130	100		
132	96.9	76.3	116.3

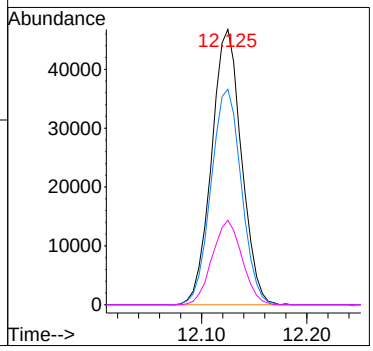


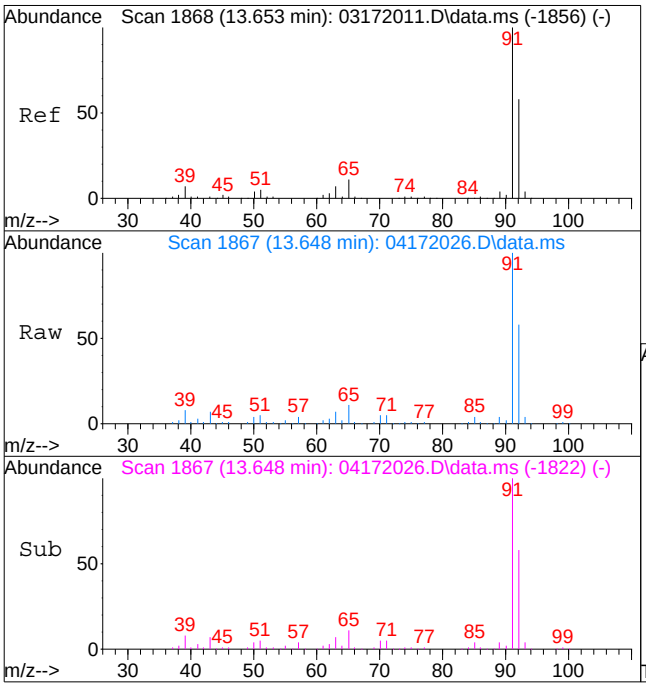


#51
n-Heptane
Concen: 8.50 ng
RT: 12.12 min Scan# 1590
Delta R.T. -0.000 min
Lab File: 04172026.D
Acq: 17 Apr 2020 17:02

Tgt Ion: 71 Resp: 92493

Ion	Ratio	Lower	Upper
71	100		
57	79.5	64.0	104.0
100	30.6	8.7	48.7

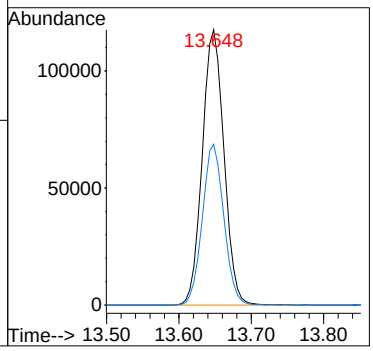


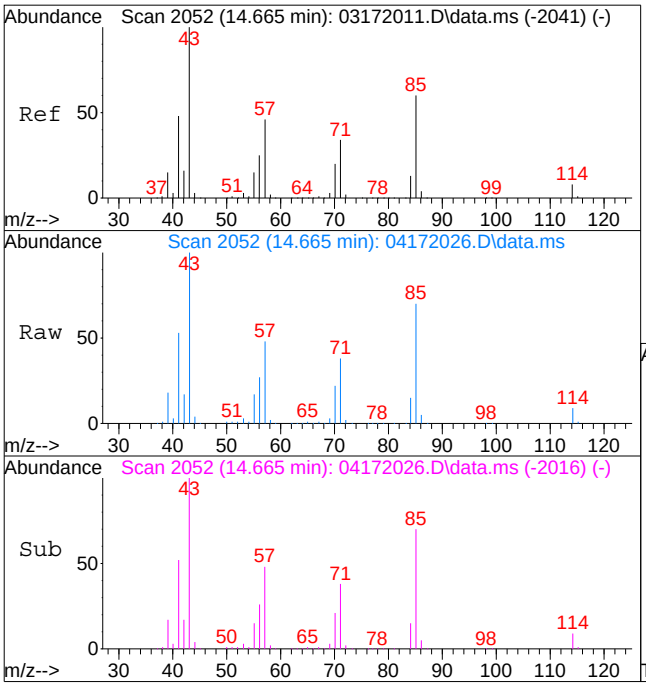


#58
Toluene
Concen: 4.96 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.005 min
Lab File: 04172026.D
Acq: 17 Apr 2020 17:02

Tgt Ion: 91 Resp: 245040

Ion	Ratio	Lower	Upper
91	100		
92	57.8	38.6	78.6

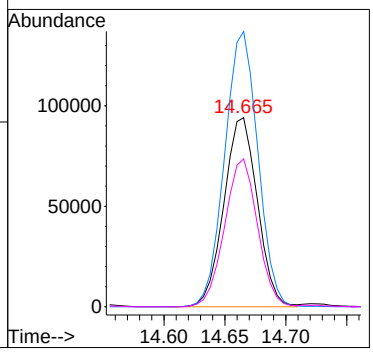


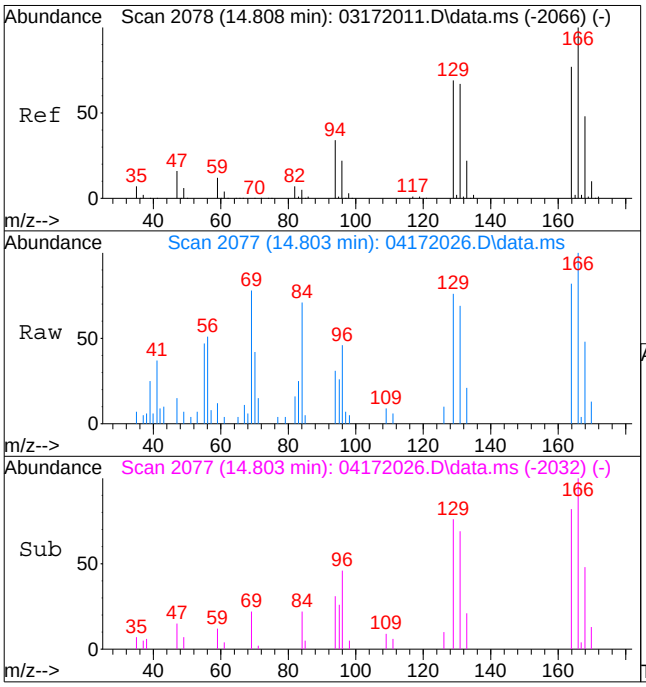


#63
n-Octane
Concen: 20.21 ng
RT: 14.67 min Scan# 2052
Delta R.T. 0.000 min
Lab File: 04172026.D
Acq: 17 Apr 2020 17:02

Tgt Ion: 57 Resp: 179991

Ion	Ratio	Lower	Upper
57	100		
85	144.2	105.4	158.2
71	76.7	59.0	88.4

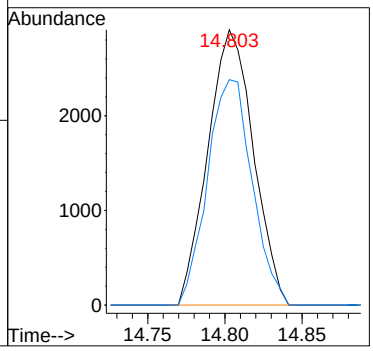


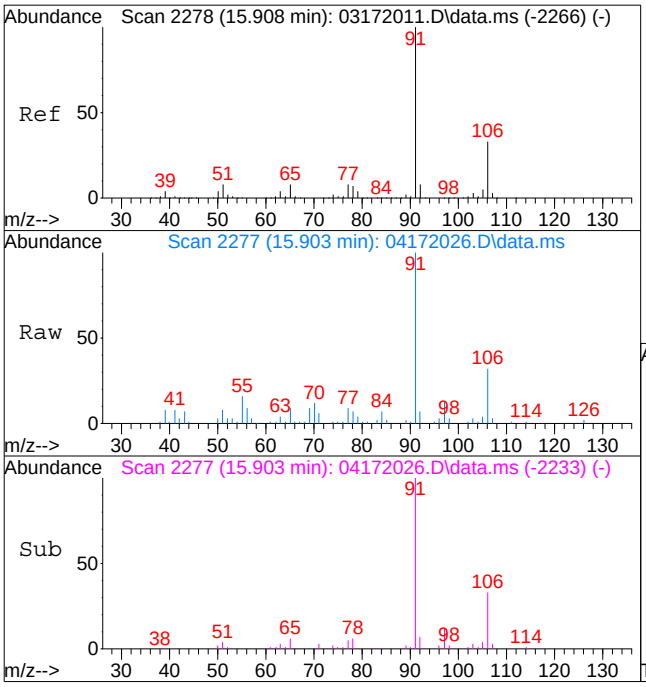


#64
Tetrachloroethene
Concen: 0.39 ng
RT: 14.80 min Scan# 2077
Delta R.T. -0.005 min
Lab File: 04172026.D
Acq: 17 Apr 2020 17:02

Tgt Ion:166 Resp: 5978

Ion	Ratio	Lower	Upper
166	100		
164	80.3	57.9	97.9

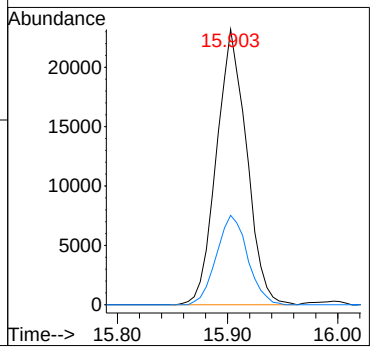


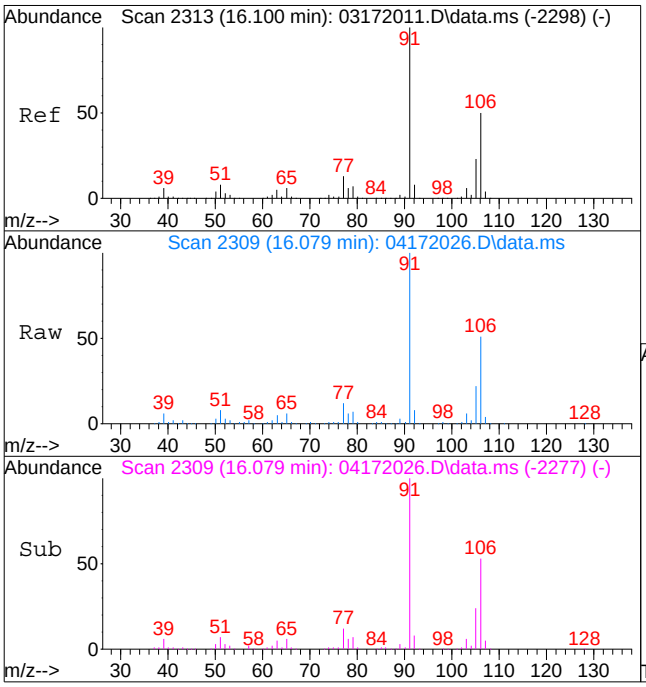


#66
Ethylbenzene
Concen: 0.83 ng
RT: 15.90 min Scan# 2277
Delta R.T. -0.005 min
Lab File: 04172026.D
Acq: 17 Apr 2020 17:02

Tgt Ion: 91 Resp: 44091

Ion	Ratio	Lower	Upper
91	100		
106	33.6	12.9	52.9

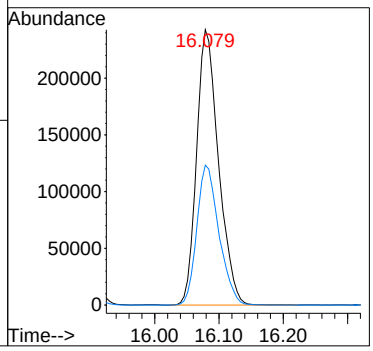


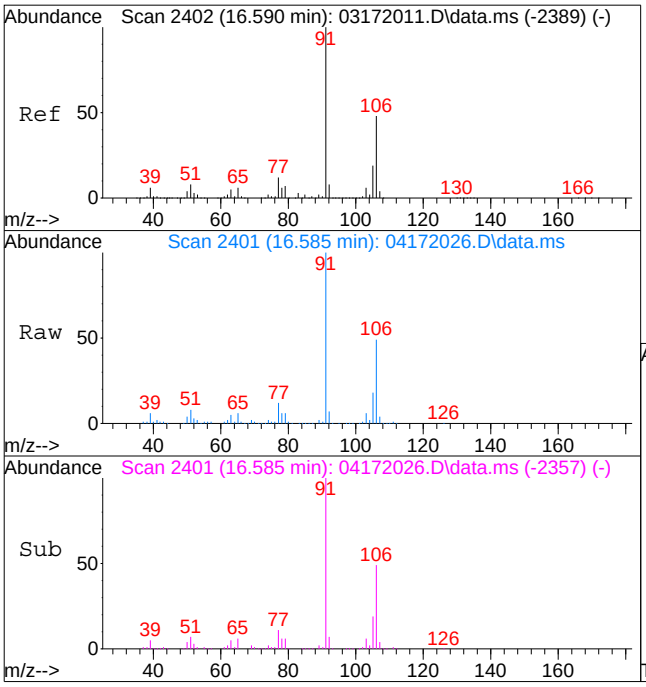


#67
m- & p-Xylenes
Concen: 13.56 ng
RT: 16.08 min Scan# 2309
Delta R.T. -0.021 min
Lab File: 04172026.D
Acq: 17 Apr 2020 17:02

Tgt Ion: 91 Resp: 575384

Ion	Ratio	Lower	Upper
91	100		
106	51.1	29.5	69.5

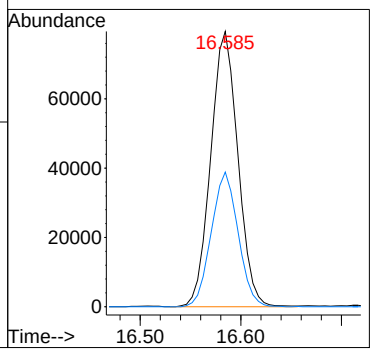


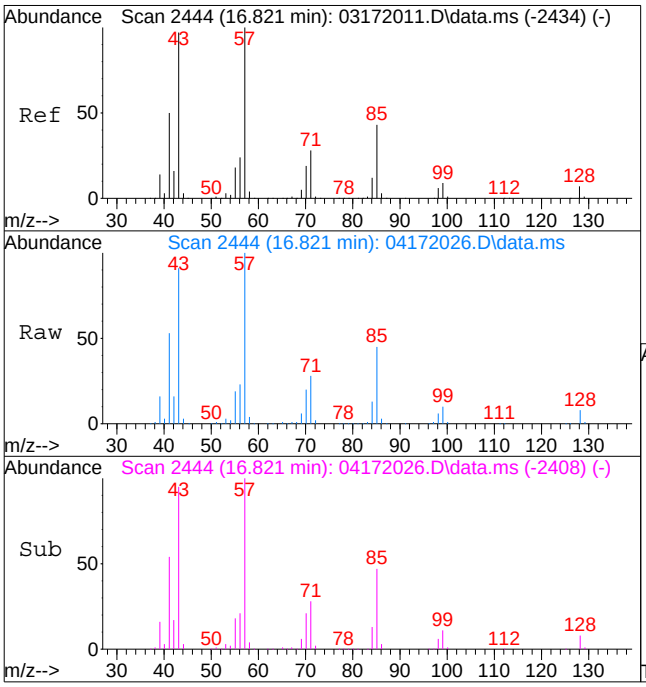


#70
o-Xylene
Concen: 3.52 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.005 min
Lab File: 04172026.D
Acq: 17 Apr 2020 17:02

Tgt Ion: 91 Resp: 149098

Ion	Ratio	Lower	Upper
91	100		
106	48.2	28.3	68.3

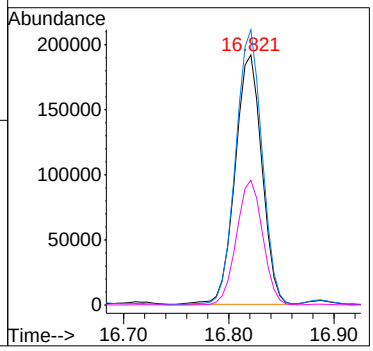


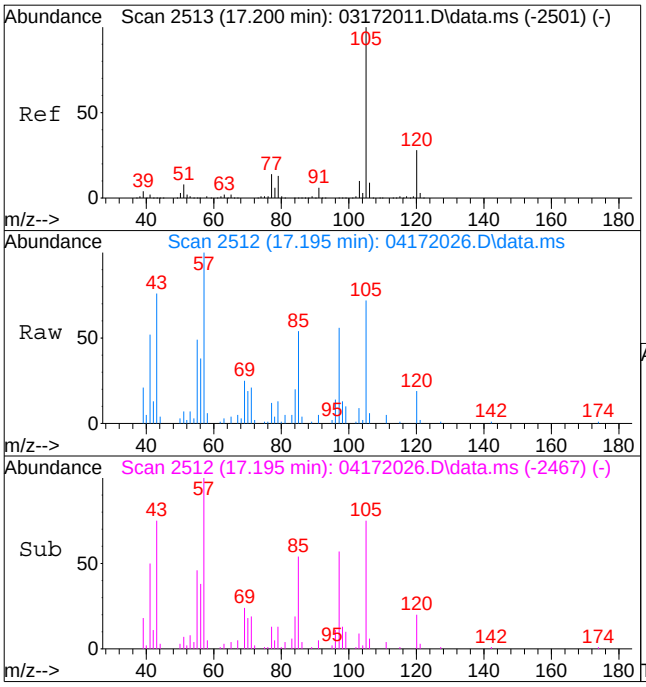


#71
n-Nonane
Concen: 18.57 ng
RT: 16.82 min Scan# 2444
Delta R.T. -0.000 min
Lab File: 04172026.D
Acq: 17 Apr 2020 17:02

Tgt Ion: 43 Resp: 340046

Ion	Ratio	Lower	Upper
43	100		
57	108.2	82.8	122.8
85	48.9	23.4	63.4

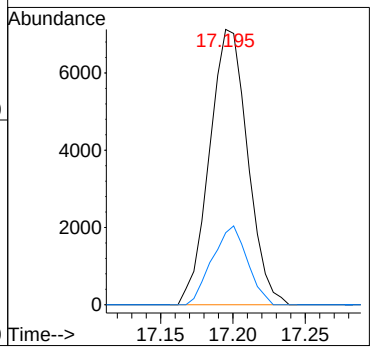


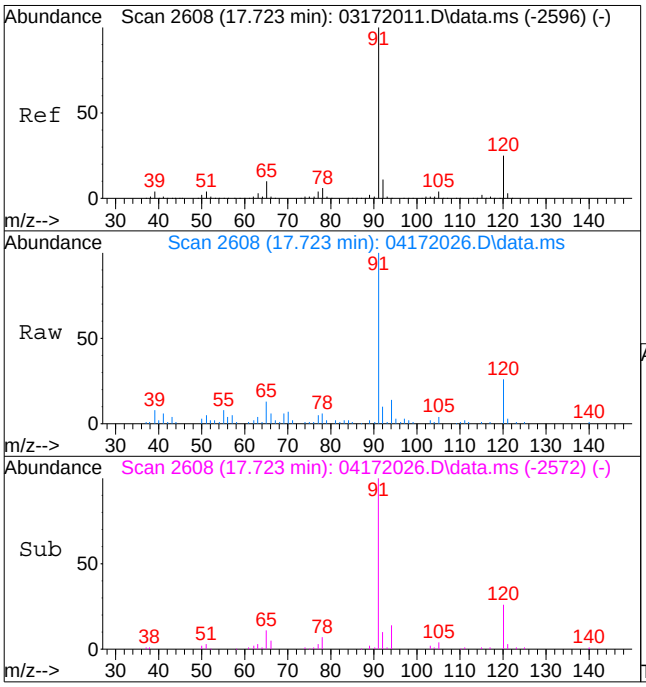


#74
Cumene
Concen: 0.24 ng
RT: 17.19 min Scan# 2512
Delta R.T. -0.005 min
Lab File: 04172026.D
Acq: 17 Apr 2020 17:02

Tgt Ion:105 Resp: 13077

Ion	Ratio	Lower	Upper
105	100		
120	26.4	7.6	47.6

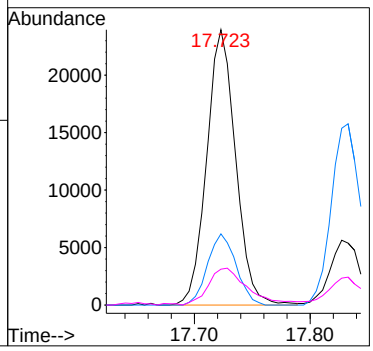


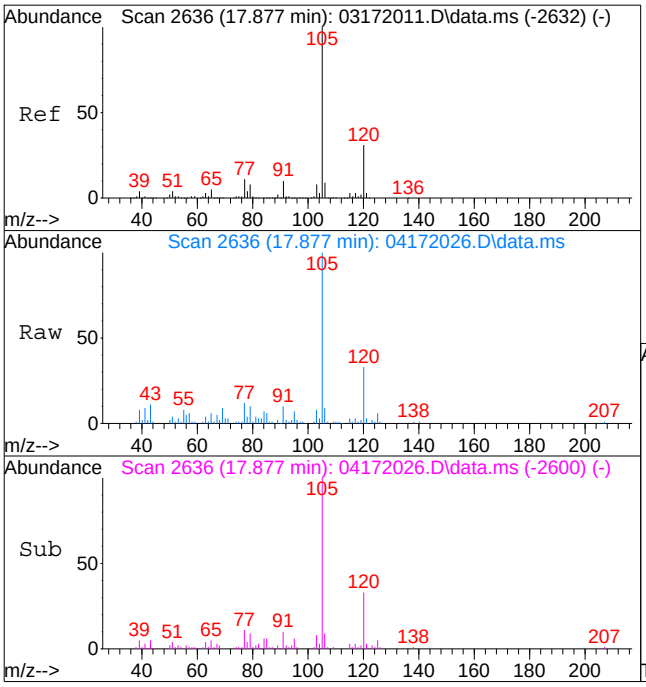


#76
n-Propylbenzene
Concen: 0.66 ng
RT: 17.72 min Scan# 2608
Delta R.T. -0.000 min
Lab File: 04172026.D
Acq: 17 Apr 2020 17:02

Tgt Ion: 91 Resp: 41621

Ion	Ratio	Lower	Upper
91	100		
120	25.5	5.0	45.0
65	18.2	0.0	30.0

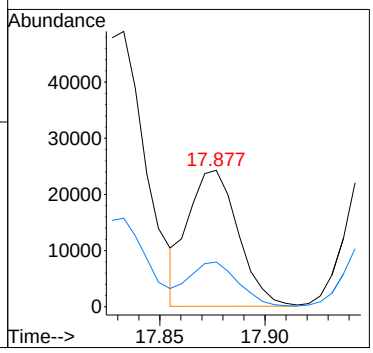


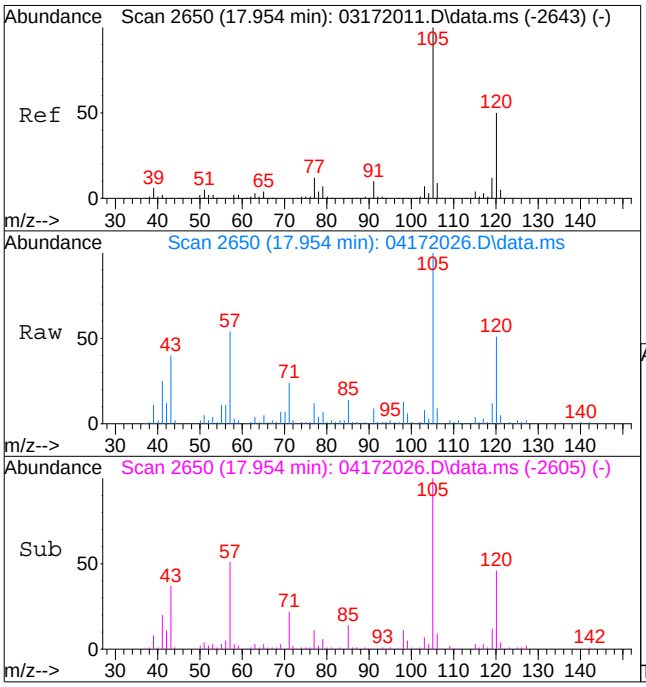


#78
4-Ethyltoluene
Concen: 0.79 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.000 min
Lab File: 04172026.D
Acq: 17 Apr 2020 17:02

Tgt Ion:105 Resp: 40179

Ion	Ratio	Lower	Upper
105	100		
120	33.0	11.2	51.2

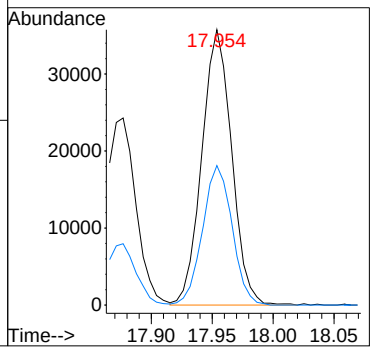


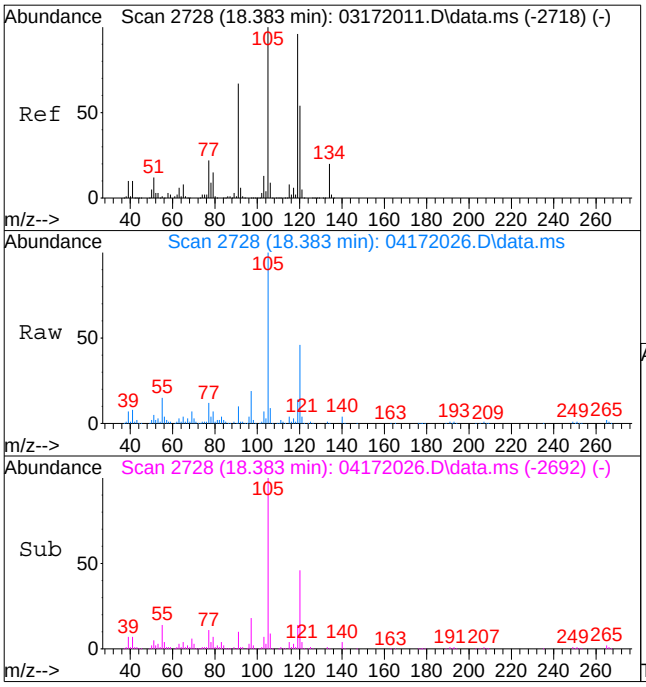


#79
1,3,5-Trimethylbenzene
Concen: 1.31 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.000 min
Lab File: 04172026.D
Acq: 17 Apr 2020 17:02

Tgt Ion:105 Resp: 60971

Ion	Ratio	Lower	Upper
105	100		
120	50.1	30.5	70.5

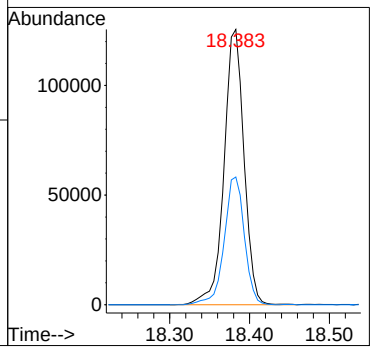


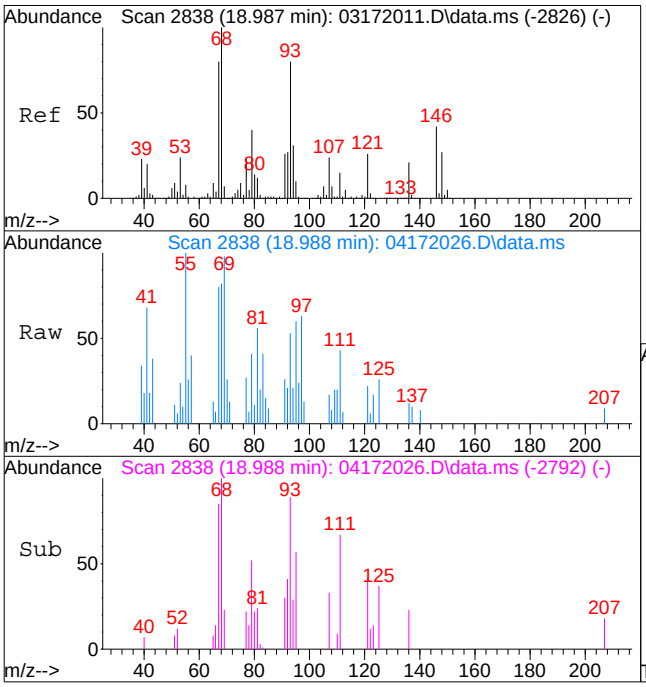


#82
1,2,4-Trimethylbenzene
Concen: 5.03 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.000 min
Lab File: 04172026.D
Acq: 17 Apr 2020 17:02

Tgt Ion:105 Resp: 218342

Ion	Ratio	Lower	Upper
105	100		
120	46.8	34.9	74.9

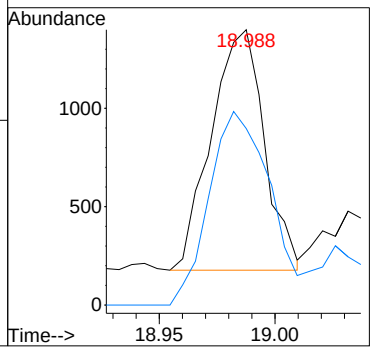


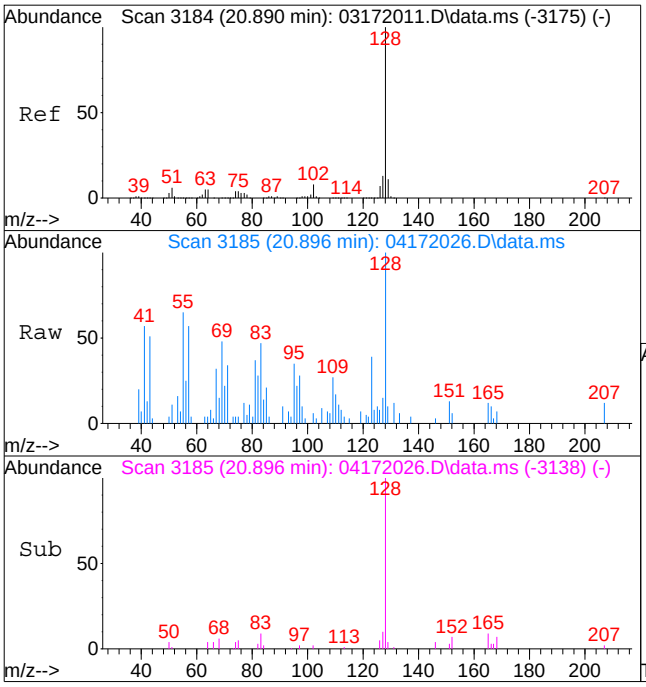


#91
d-Limonene
Concen: 0.13 ng
RT: 18.99 min Scan# 2838
Delta R.T. 0.001 min
Lab File: 04172026.D
Acq: 17 Apr 2020 17:02

Tgt Ion: 68 Resp: 1948

Ion	Ratio	Lower	Upper
68	100		
93	94.7	58.7	98.7

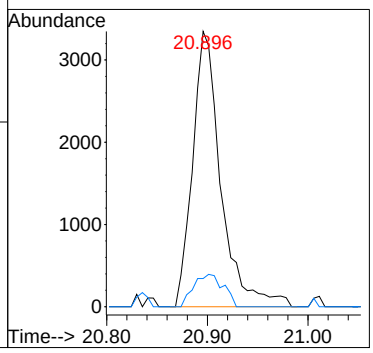




#95
Naphthalene
Concen: 0.11 ng
RT: 20.90 min Scan# 3185
Delta R.T. 0.006 min
Lab File: 04172026.D
Acq: 17 Apr 2020 17:02

Tgt Ion:128 Resp: 6518

Ion	Ratio	Lower	Upper
128	100		
129	12.5	0.0	30.9



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172027.D Vial: 10
Acq On : 17 Apr 2020 17:35 Operator: TD
Sample : P2002027-006 (150mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 16:30:59 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/20/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	151242	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	11.11	114	637978	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	295254	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	216270	12.639	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.12%				
57) Toluene-d8 (SS2)	13.55	98	699869	11.918	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.36%				
73) Bromofluorobenzene (SS3)	17.05	174	272873	13.967	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.76%				
Target Compounds							Qvalue
2) Propene	3.85	42	5605	0.605	ng	#	84
3) Dichlorodifluoromethan...	3.95	85	3379249	156.576	ng		99
4) Chloromethane	4.17	50	423	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.32	135	92630	9.201	ng		100
6) Vinyl Chloride	4.32	62	484	N.D.			
7) 1,3-Butadiene	4.57	54	133	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.36	45	1760	0.243	ng		79
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	0.00	56	0	N.D.	d		
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	6.01	101	537000	27.478	ng		100
15) 2-Propanol (Isopropanol)	6.19	45	4152	0.176	ng		98
16) Acrylonitrile	6.32	53	146	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	0.00	84	0	N.D.	d		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	7.18	151	95980	8.812	ng		93
22) Carbon Disulfide	7.16	76	1373	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.	d		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	8.56	72	434	0.059	ng	#	43
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	9.23	61	1405	0.420	ng	#	78
31) n-Hexane	9.23	57	30687	1.895	ng		98
32) Chloroform	9.28	83	2162	0.112	ng		99
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	10.13	62	641	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	10.74	61	264	N.D.			
40) 1-Butanol	10.76	56	221	N.D.			
41) Benzene	10.75	78	50100	1.102	ng		98
42) Carbon Tetrachloride	10.90	117	7500	0.463	ng		100
43) Cyclohexane	11.04	84	93781	5.435	ng		94
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	11.81	130	215	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172027.D Vial: 10
Acq On : 17 Apr 2020 17:35 Operator: TD
Sample : P2002027-006 (150mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 16:30:59 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

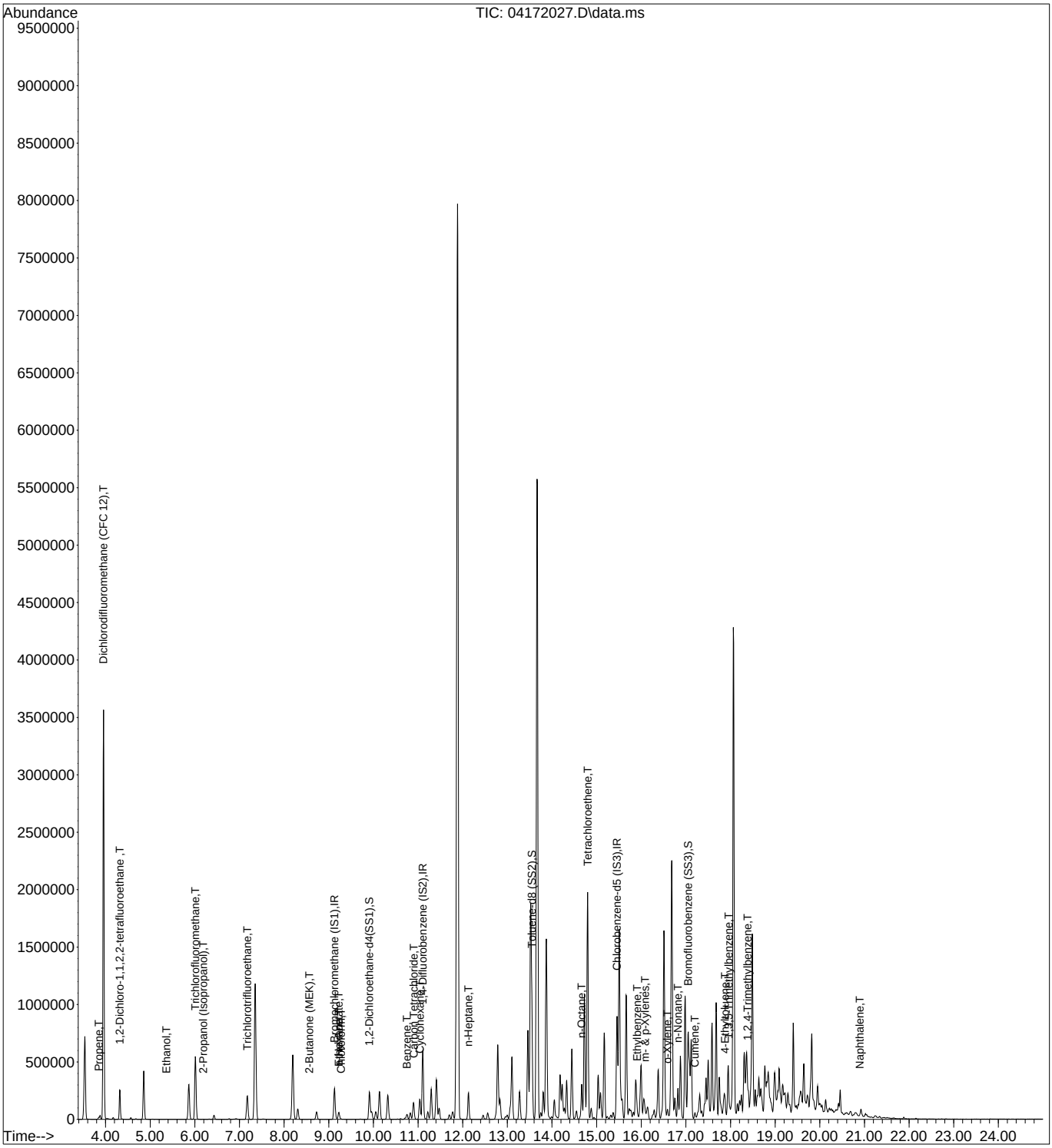
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.13	71	71202	6.561 ng	95
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D. d	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	0.00	91	0	N.D. d	
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.67	57	60201	6.695 ng	93
64) Tetrachloroethene	14.80	166	5481	0.354 ng	98
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.91	91	9285	0.174 ng	92
67) m- & p-Xylenes	16.08	91	64966	1.517 ng	99
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.50	104	103	N.D.	
70) o-Xylene	16.58	91	39337	0.919 ng	99
71) n-Nonane	16.82	43	80542	4.356 ng	93
72) 1,1,2,2-Tetrachloroethane	16.60	83	269	N.D.	
74) Cumene	17.20	105	4394	0.079 ng	96
75) alpha-Pinene	0.00	93	0	N.D. d	
76) n-Propylbenzene	0.00	91	0	N.D. d	
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	5495	0.107 ng	99
79) 1,3,5-Trimethylbenzene	17.96	105	10669	0.226 ng	93
80) alpha-Methylstyrene	18.11	118	987	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	18453	0.421 ng	88
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	0.00	91	0	N.D. d	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	20.79	180	900	N.D.	
95) Naphthalene	20.90	128	5137	0.085 ng	94
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172027.D Vial: 10
Acq On : 17 Apr 2020 17:35 Operator: TD
Sample : P2002027-006 (150mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 16:30:59 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



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DataAcq Meth:TO15.M

4/20/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	151242	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	11.11	114	637978	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	295254	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	216270	12.639	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.12%				
57) Toluene-d8 (SS2)	13.55	98	699869	11.918	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.36%				
73) Bromofluorobenzene (SS3)	17.05	174	272873	13.967	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.76%				
Target Compounds							Qvalue
2) Propene	3.85	42	5605	0.605	ng	#	84
3) Dichlorodifluoromethan...	3.95	85	3379249	156.576	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.32	135	92630	9.201	ng		100
10) Ethanol	5.36	45	1760	0.243	ng		79
14) Trichlorofluoromethane	6.01	101	537000	27.478	ng		100
15) 2-Propanol (Isopropanol)	6.19	45	4152	0.176	ng		98
21) Trichlorotrifluoroethane	7.18	151	95980	8.812	ng		93
27) 2-Butanone (MEK)	8.56	72	434	0.059	ng	#	43
30) Ethyl Acetate	9.23	61	1405	0.420	ng	#	78
31) n-Hexane	9.23	57	30687	1.895	ng		98
32) Chloroform	9.28	83	2162	0.112	ng		99
41) Benzene	10.75	78	50100	1.102	ng		98
42) Carbon Tetrachloride	10.90	117	7500	0.463	ng		100
43) Cyclohexane	11.04	84	93781	5.435	ng		94
51) n-Heptane	12.13	71	71202	6.561	ng		95
63) n-Octane	14.67	57	60201	6.695	ng		93
64) Tetrachloroethene	14.80	166	5481	0.354	ng		98
66) Ethylbenzene	15.91	91	9285	0.174	ng		92
67) m- & p-Xylenes	16.08	91	64966	1.517	ng		99
70) o-Xylene	16.58	91	39337	0.919	ng		99
71) n-Nonane	16.82	43	80542	4.356	ng		93
74) Cumene	17.20	105	4394	0.079	ng		96
78) 4-Ethyltoluene	17.88	105	5495	0.107	ng		99
79) 1,3,5-Trimethylbenzene	17.96	105	10669	0.226	ng		93
82) 1,2,4-Trimethylbenzene	18.38	105	18453	0.421	ng		88
95) Naphthalene	20.90	128	5137	0.085	ng		94

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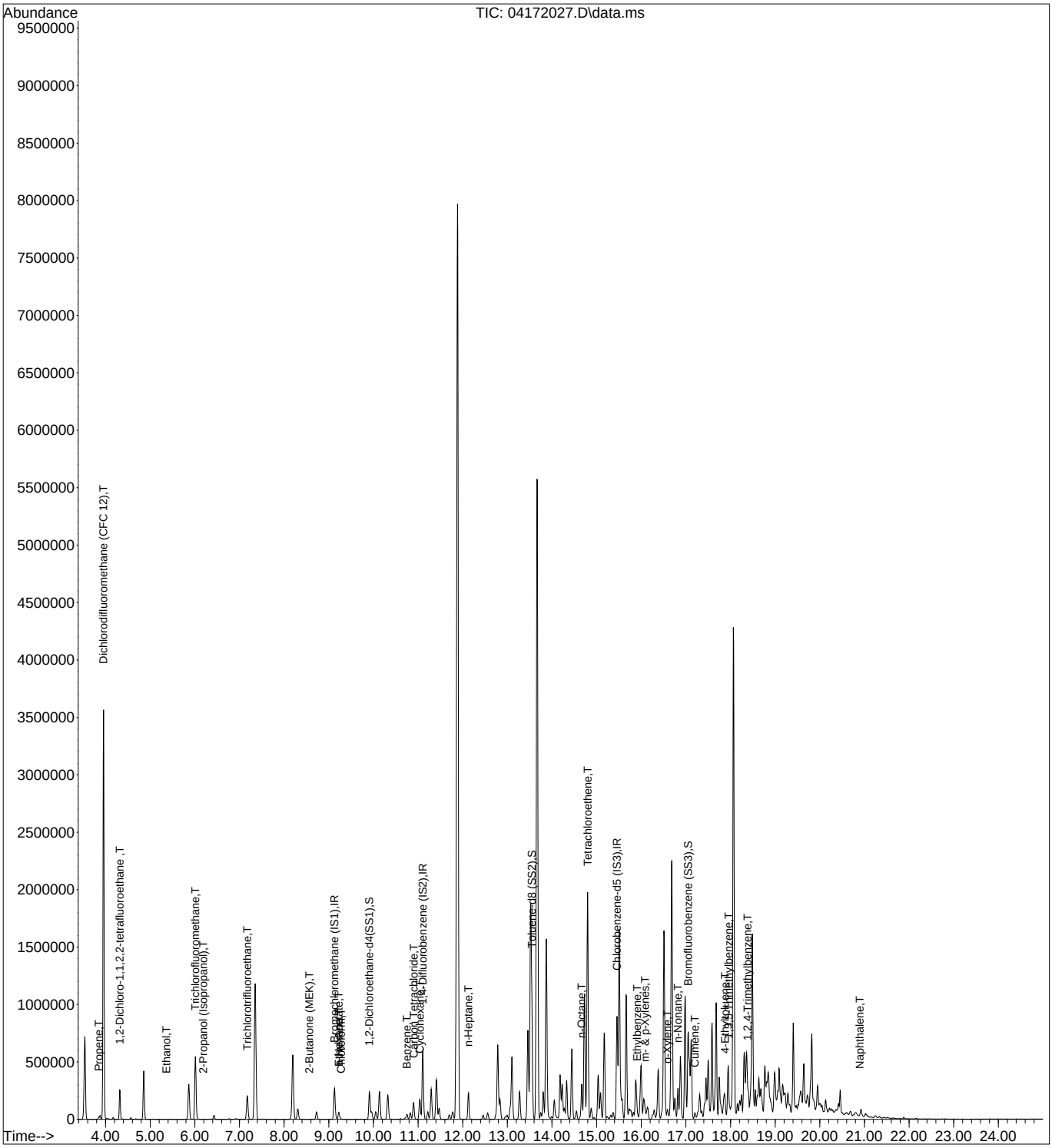
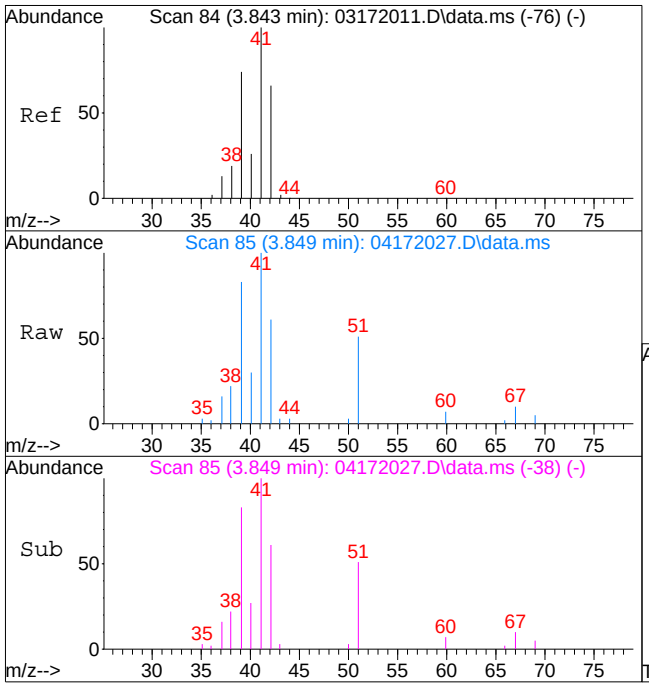
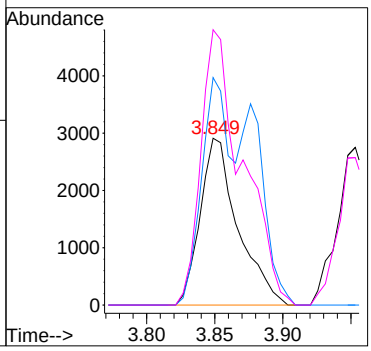


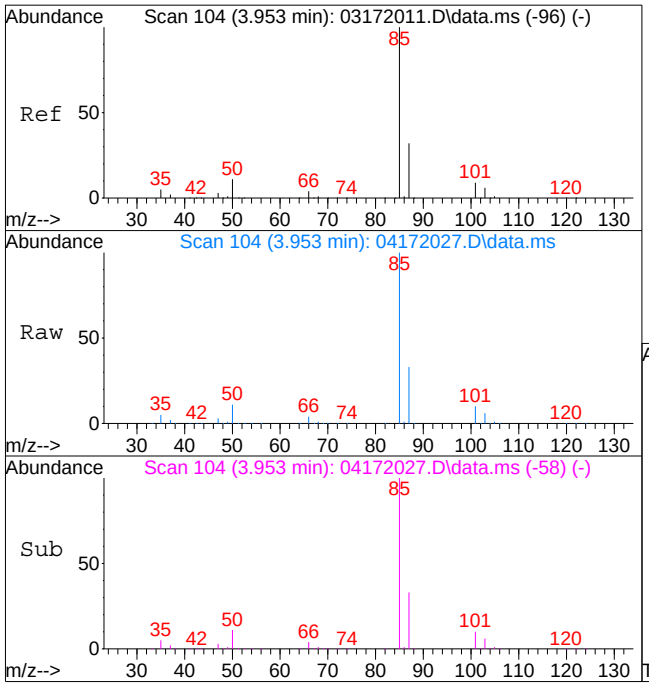


#2
Propene
Concen: 0.61 ng
RT: 3.85 min Scan# 85
Delta R.T. 0.006 min
Lab File: 04172027.D
Acq: 17 Apr 2020 17:35

Tgt Ion: 42 Resp: 5605

Ion	Ratio	Lower	Upper
42	100		
39	106.9	91.9	131.9
41	182.1	130.5	170.5#

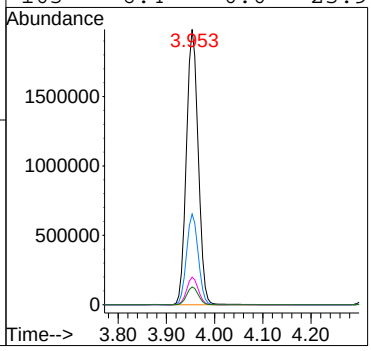


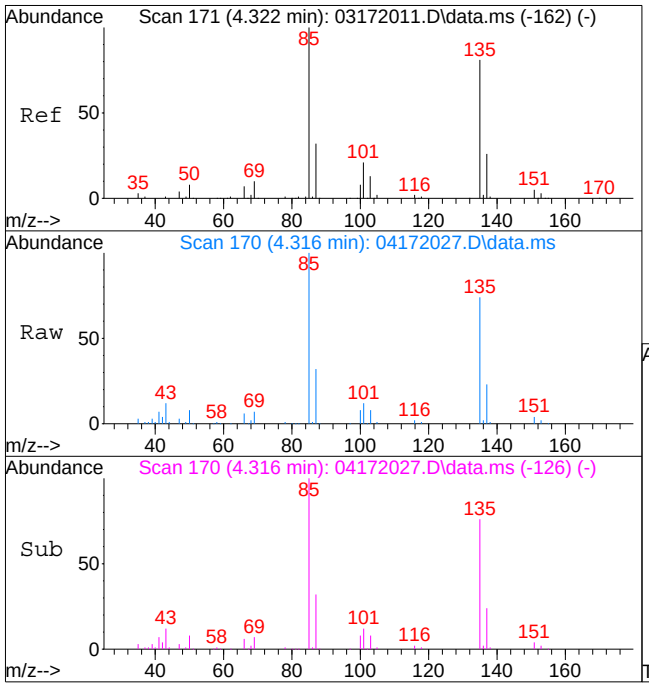


#3
Dichlorodifluoromethane (CFC 12)
Concen: 156.58 ng
RT: 3.95 min Scan# 104
Delta R.T. 0.000 min
Lab File: 04172027.D
Acq: 17 Apr 2020 17:35

Tgt Ion: 85 Resp: 3379249

Ion	Ratio	Lower	Upper
85	100		
87	32.7	12.4	52.4
101	9.8	0.0	29.2
103	6.4	0.0	25.9

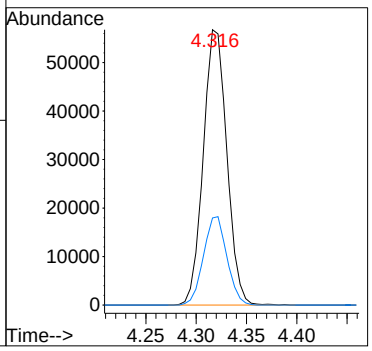


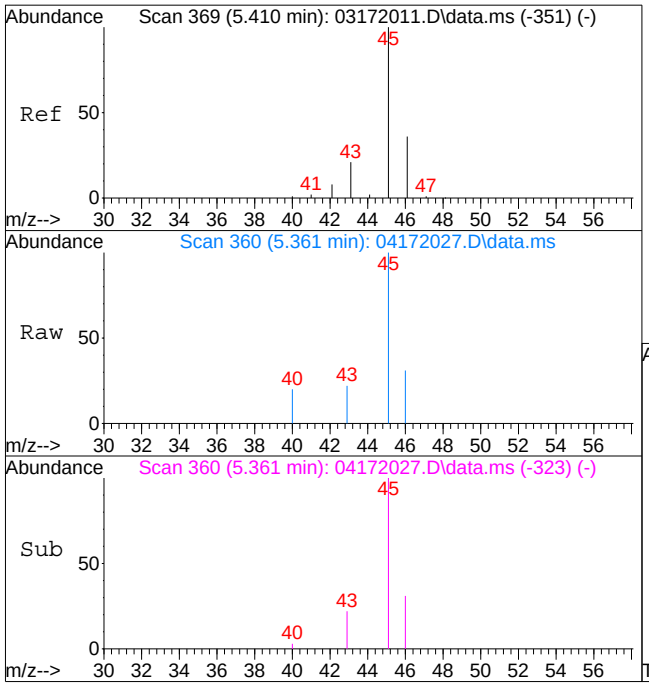


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 9.20 ng
RT: 4.32 min Scan# 170
Delta R.T. -0.006 min
Lab File: 04172027.D
Acq: 17 Apr 2020 17:35

Tgt Ion:135 Resp: 92630

Ion	Ratio	Lower	Upper
135	100		
137	31.8	12.0	52.0

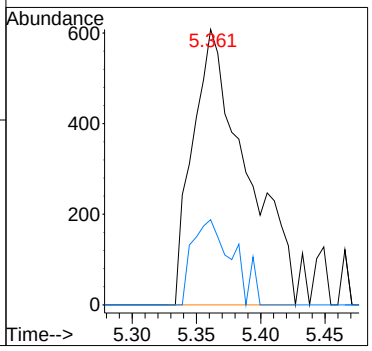


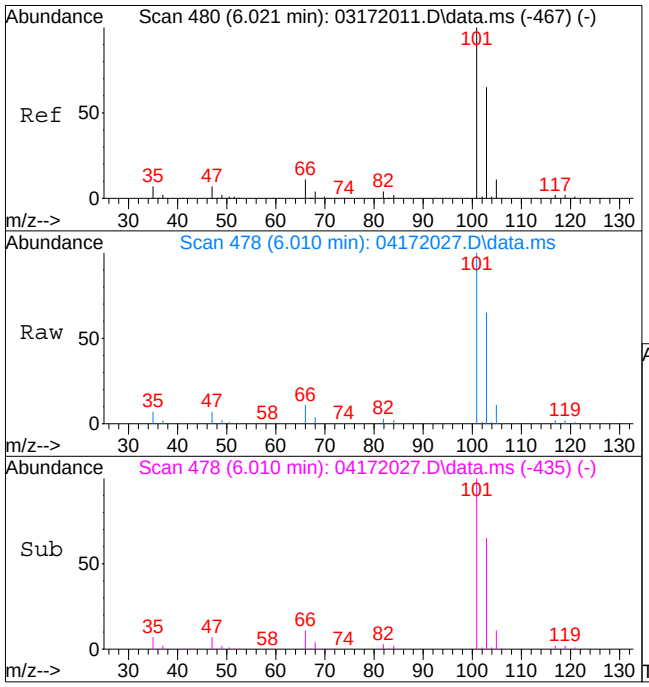


#10
Ethanol
Concen: 0.24 ng
RT: 5.36 min Scan# 360
Delta R.T. -0.049 min
Lab File: 04172027.D
Acq: 17 Apr 2020 17:35

Tgt Ion: 45 Resp: 1760

Ion	Ratio	Lower	Upper
45	100		
46	23.3	15.9	55.9

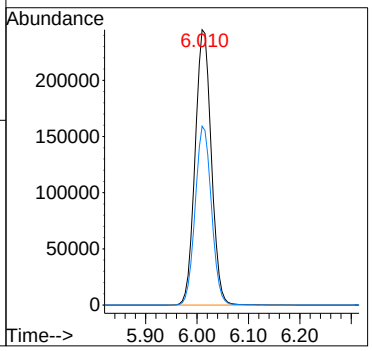


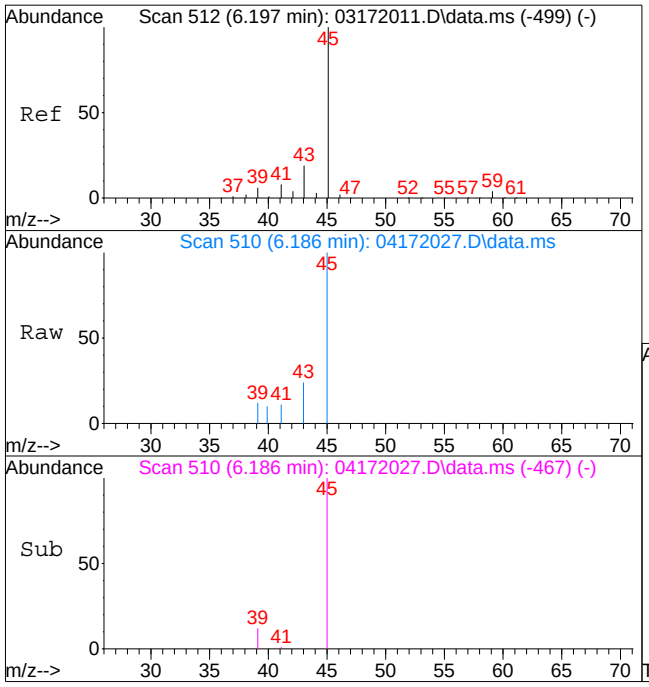


#14
Trichlorofluoromethane
Concen: 27.48 ng
RT: 6.01 min Scan# 478
Delta R.T. -0.011 min
Lab File: 04172027.D
Acq: 17 Apr 2020 17:35

Tgt Ion:101 Resp: 537000

Ion	Ratio	Lower	Upper
101	100		
103	65.2	45.3	85.3

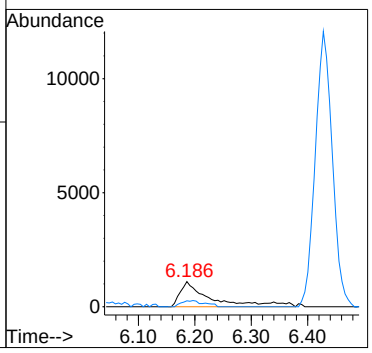


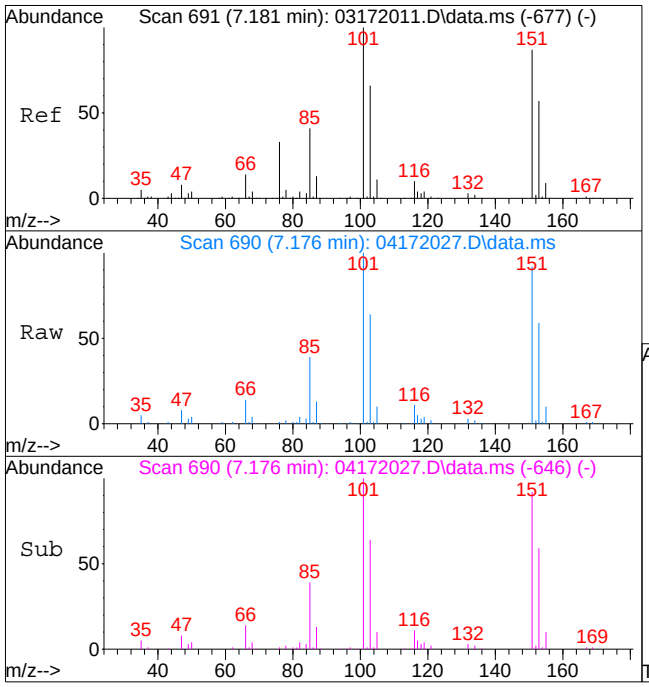


#15
2-Propanol (Isopropanol)
Concen: 0.18 ng
RT: 6.19 min Scan# 510
Delta R.T. -0.011 min
Lab File: 04172027.D
Acq: 17 Apr 2020 17:35

Tgt Ion: 45 Resp: 4152

Ion	Ratio	Lower	Upper
45	100		
43	18.2	0.0	39.0

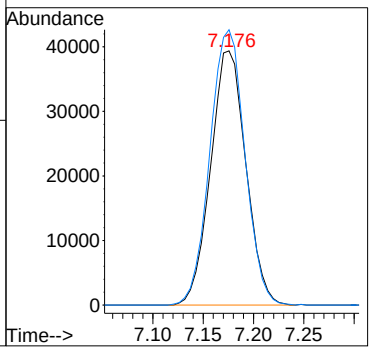


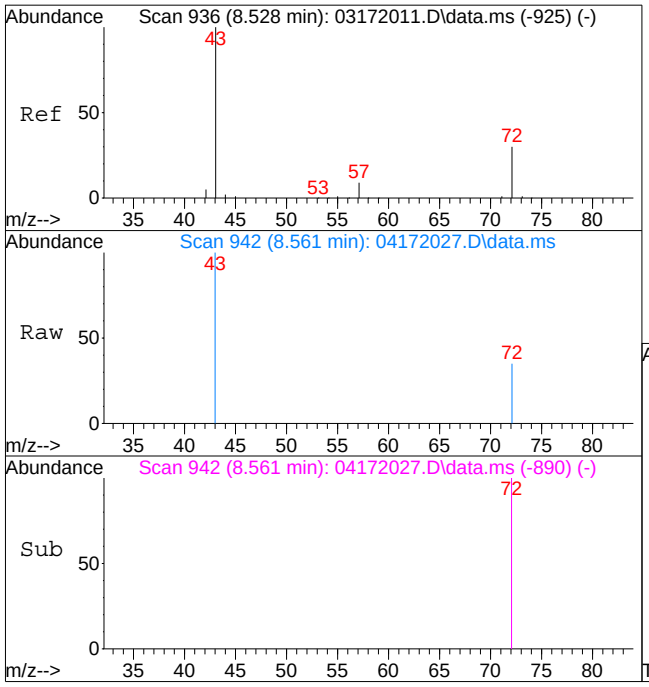


#21
Trichlorotrifluoroethane
Concen: 8.81 ng
RT: 7.18 min Scan# 690
Delta R.T. -0.005 min
Lab File: 04172027.D
Acq: 17 Apr 2020 17:35

Tgt Ion:151 Resp: 95980

Ion	Ratio	Lower	Upper
151	100		
101	107.6	94.7	134.7

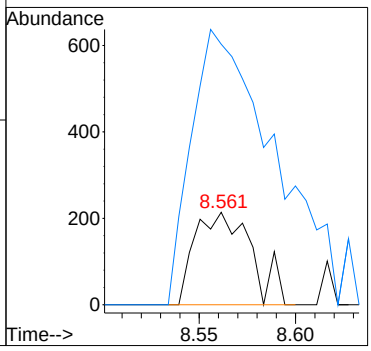


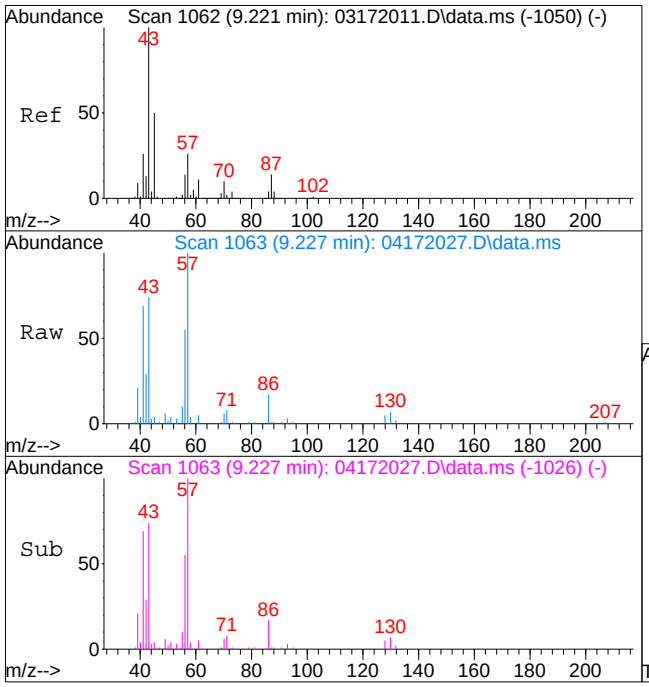


#27
2-Butanone (MEK)
Concen: 0.06 ng
RT: 8.56 min Scan# 942
Delta R.T. 0.033 min
Lab File: 04172027.D
Acq: 17 Apr 2020 17:35

Tgt Ion: 72 Resp: 434

Ion	Ratio	Lower	Upper
72	100		
43	449.3	310.6	350.6#

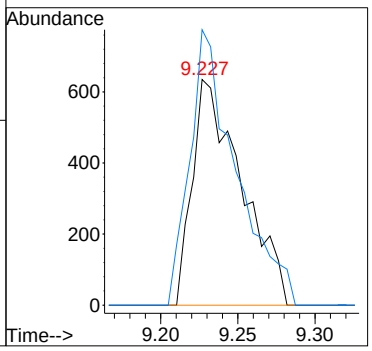


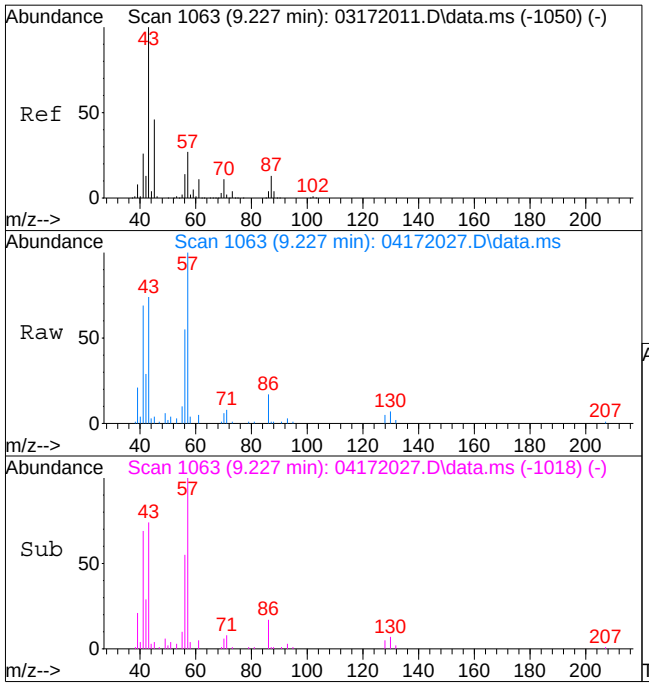


#30
Ethyl Acetate
Concen: 0.42 ng
RT: 9.23 min Scan# 1063
Delta R.T. 0.006 min
Lab File: 04172027.D
Acq: 17 Apr 2020 17:35

Tgt Ion: 61 Resp: 1405

Ion	Ratio	Lower	Upper
61	100		
70	114.6	73.0	113.0#

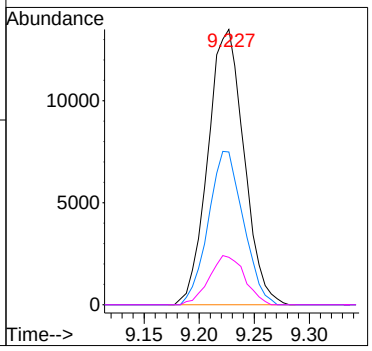


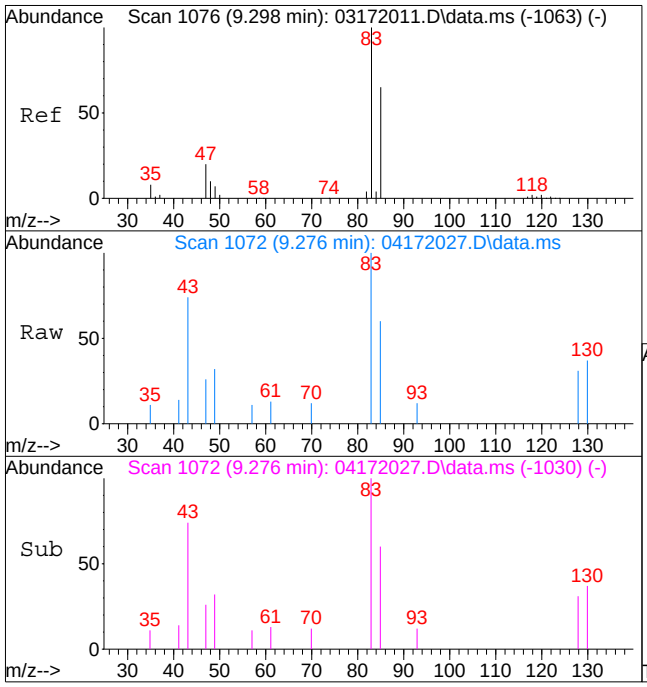


#31
n-Hexane
Concen: 1.89 ng
RT: 9.23 min Scan# 1063
Delta R.T. -0.000 min
Lab File: 04172027.D
Acq: 17 Apr 2020 17:35

Tgt Ion: 57 Resp: 30687

Ion	Ratio	Lower	Upper
57	100		
56	54.1	42.0	63.0
86	17.5	13.1	19.7

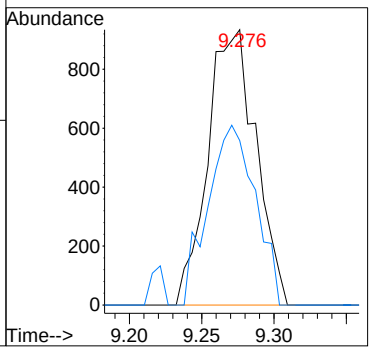


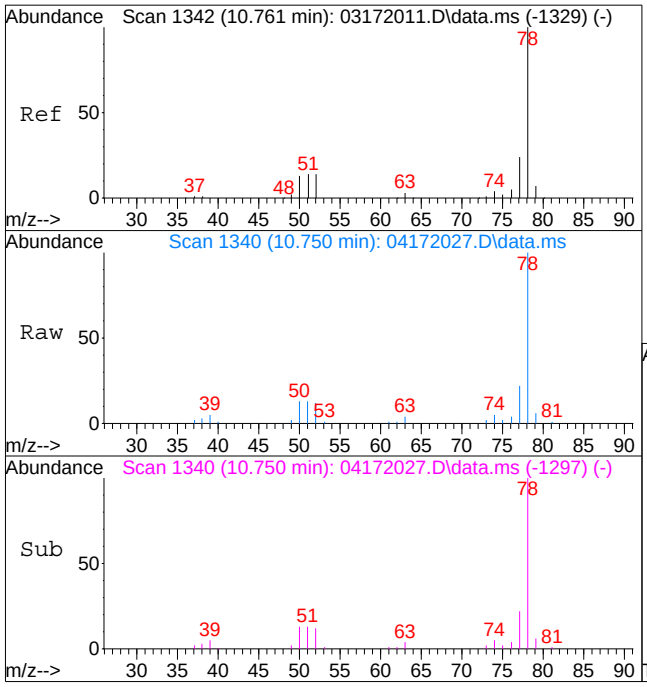


#32
Chloroform
Concen: 0.11 ng
RT: 9.28 min Scan# 1072
Delta R.T. -0.022 min
Lab File: 04172027.D
Acq: 17 Apr 2020 17:35

Tgt Ion: 83 Resp: 2162

Ion	Ratio	Lower	Upper
83	100		
85	64.4	45.1	85.1

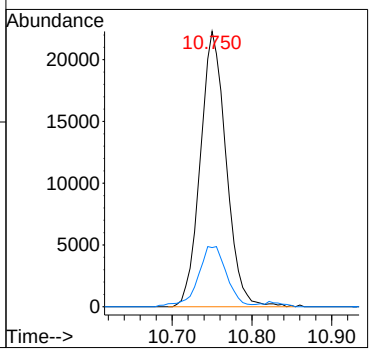


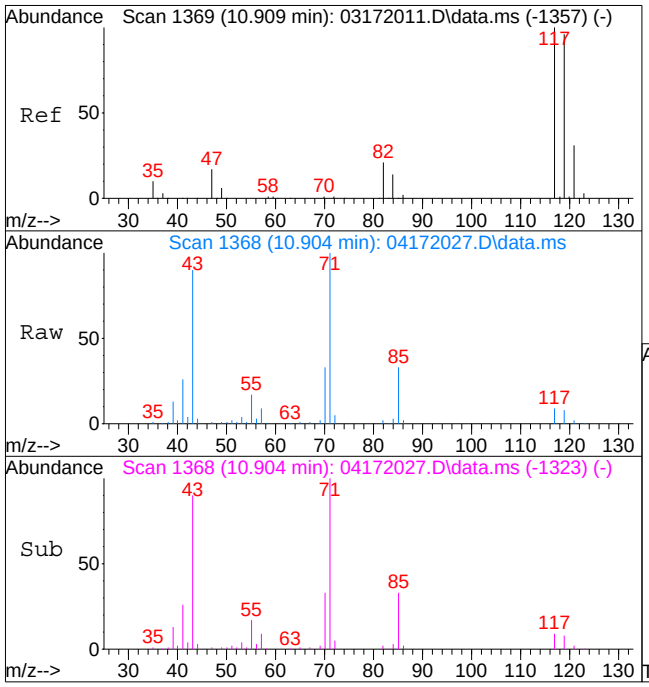


#41
Benzene
Concen: 1.10 ng
RT: 10.75 min Scan# 1340
Delta R.T. -0.011 min
Lab File: 04172027.D
Acq: 17 Apr 2020 17:35

Tgt Ion: 78 Resp: 50100

Ion	Ratio	Lower	Upper
78	100		
77	24.4	3.4	43.4

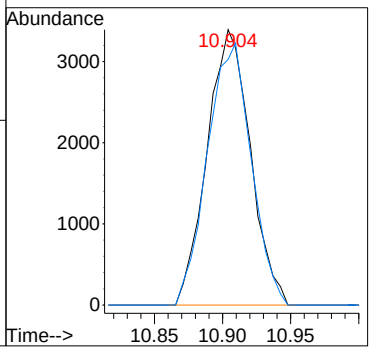


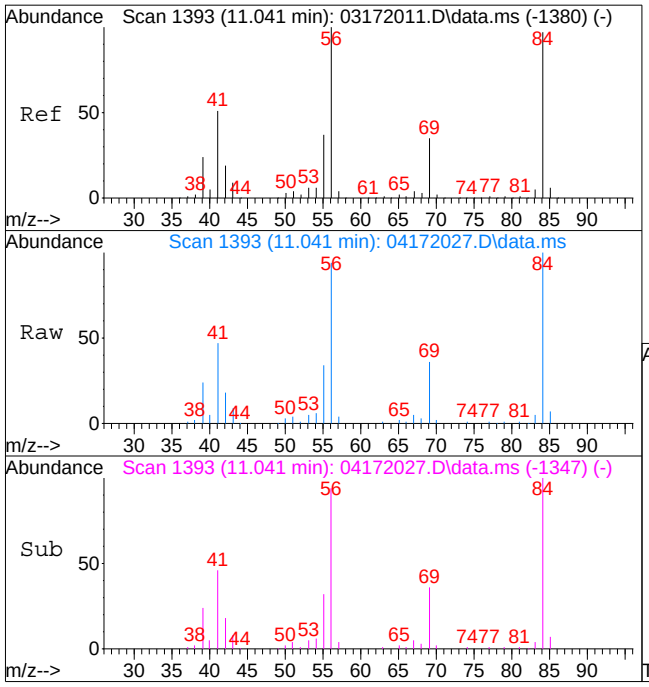


#42
Carbon Tetrachloride
Concen: 0.46 ng
RT: 10.90 min Scan# 1368
Delta R.T. -0.005 min
Lab File: 04172027.D
Acq: 17 Apr 2020 17:35

Tgt Ion:117 Resp: 7500

Ion	Ratio	Lower	Upper
117	100		
119	96.4	76.0	116.0

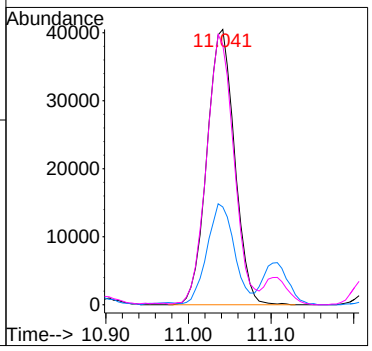


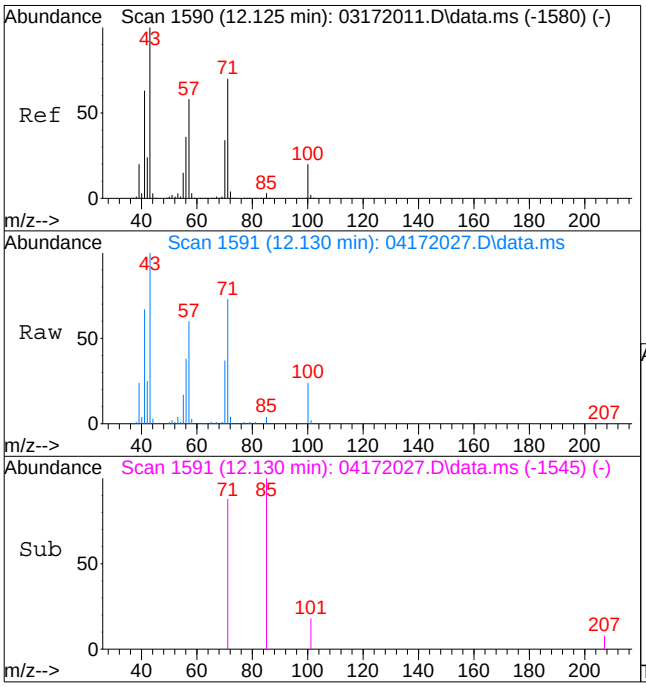


#43
Cyclohexane
Concen: 5.43 ng
RT: 11.04 min Scan# 1393
Delta R.T. 0.000 min
Lab File: 04172027.D
Acq: 17 Apr 2020 17:35

Tgt Ion: 84 Resp: 93781

Ion	Ratio	Lower	Upper
84	100		
69	36.8	16.6	56.6
56	96.7	85.3	125.3

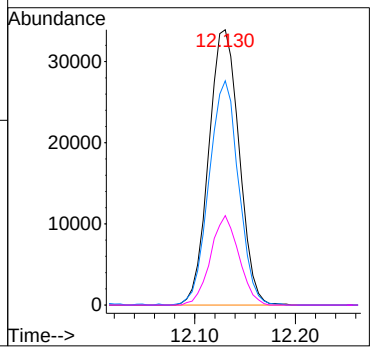


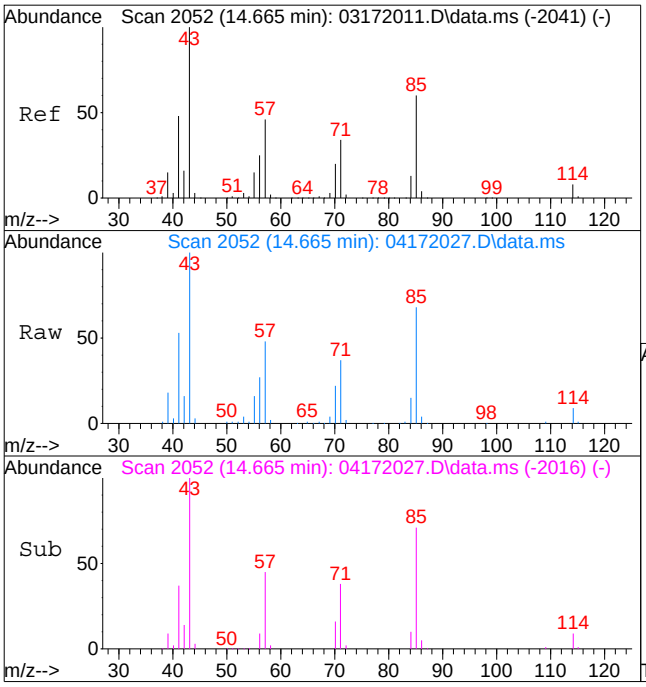


#51
n-Heptane
Concen: 6.56 ng
RT: 12.13 min Scan# 1591
Delta R.T. 0.005 min
Lab File: 04172027.D
Acq: 17 Apr 2020 17:35

Tgt Ion: 71 Resp: 71202

Ion	Ratio	Lower	Upper
71	100		
57	79.3	64.0	104.0
100	30.3	8.7	48.7

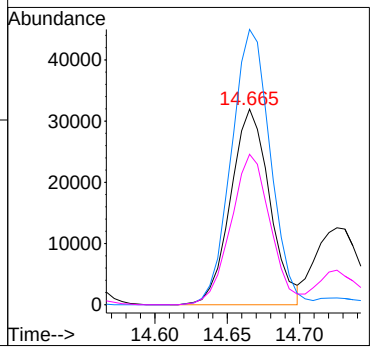


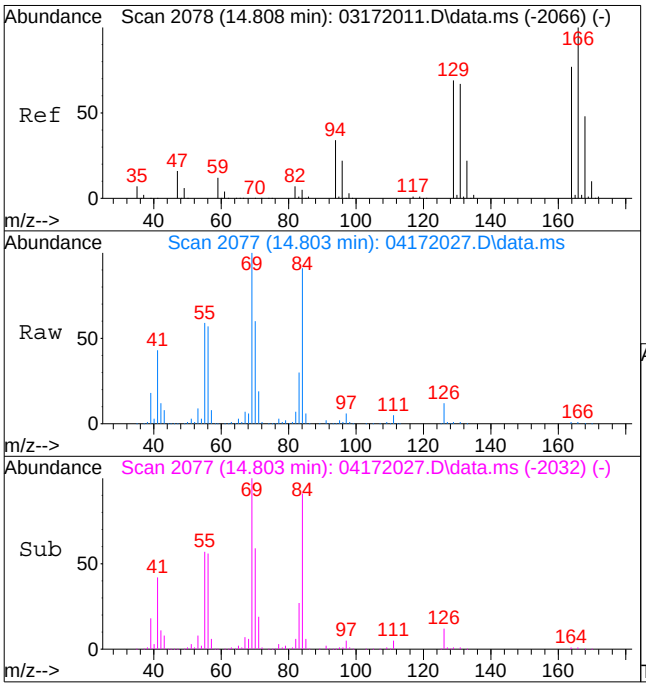


#63
n-Octane
Concen: 6.70 ng
RT: 14.67 min Scan# 2052
Delta R.T. 0.000 min
Lab File: 04172027.D
Acq: 17 Apr 2020 17:35

Tgt Ion: 57 Resp: 60201

Ion	Ratio	Lower	Upper
57	100		
85	140.8	105.4	158.2
71	78.1	59.0	88.4

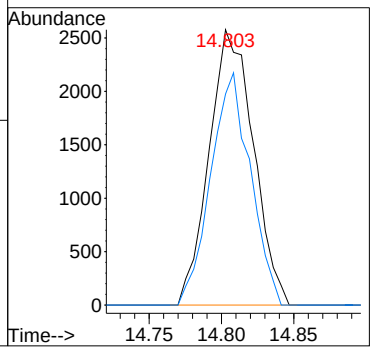


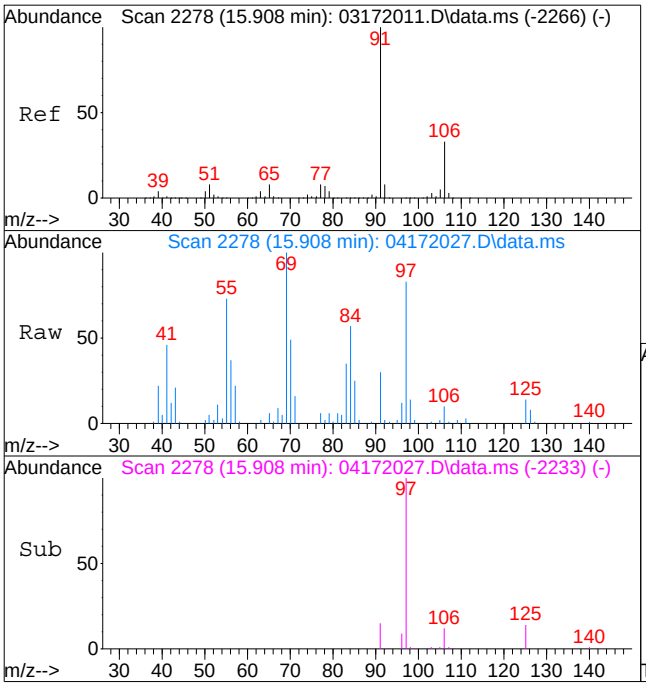


#64
Tetrachloroethene
Concen: 0.35 ng
RT: 14.80 min Scan# 2077
Delta R.T. -0.005 min
Lab File: 04172027.D
Acq: 17 Apr 2020 17:35

Tgt Ion:166 Resp: 5481

Ion	Ratio	Lower	Upper
166	100		
164	75.7	57.9	97.9

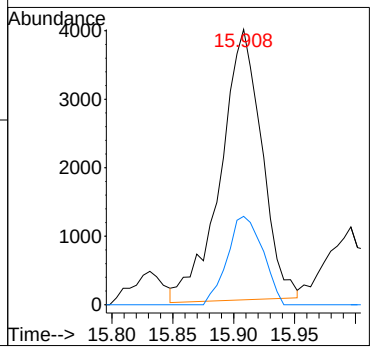


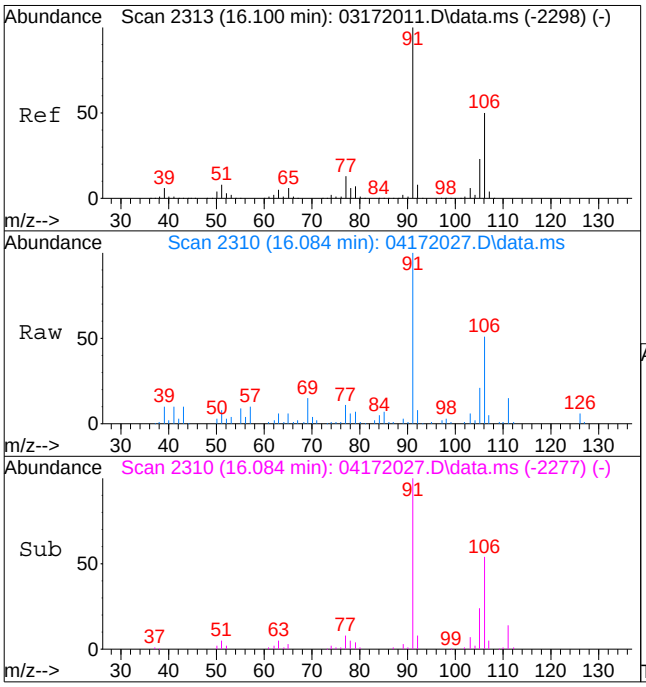


#66
Ethylbenzene
Concen: 0.17 ng
RT: 15.91 min Scan# 2278
Delta R.T. 0.000 min
Lab File: 04172027.D
Acq: 17 Apr 2020 17:35

Tgt Ion: 91 Resp: 9285

Ion	Ratio	Lower	Upper
91	100		
106	28.1	12.9	52.9

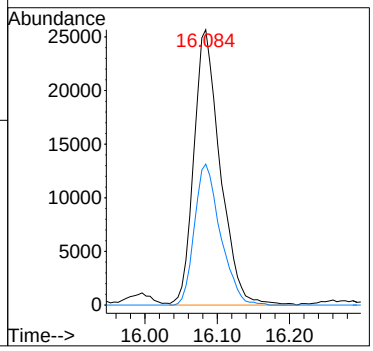


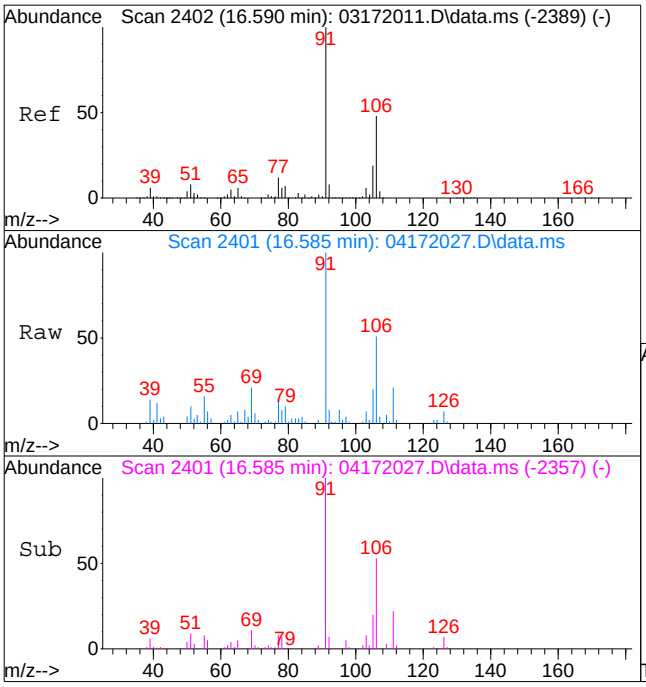


#67
m- & p-Xylenes
Concen: 1.52 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.016 min
Lab File: 04172027.D
Acq: 17 Apr 2020 17:35

Tgt Ion: 91 Resp: 64966

Ion	Ratio	Lower	Upper
91	100		
106	50.4	29.5	69.5

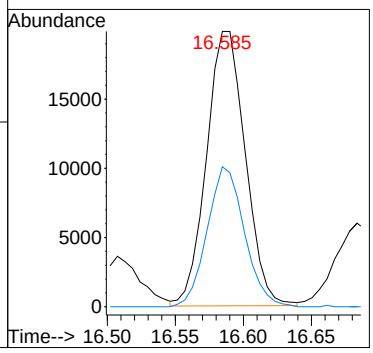


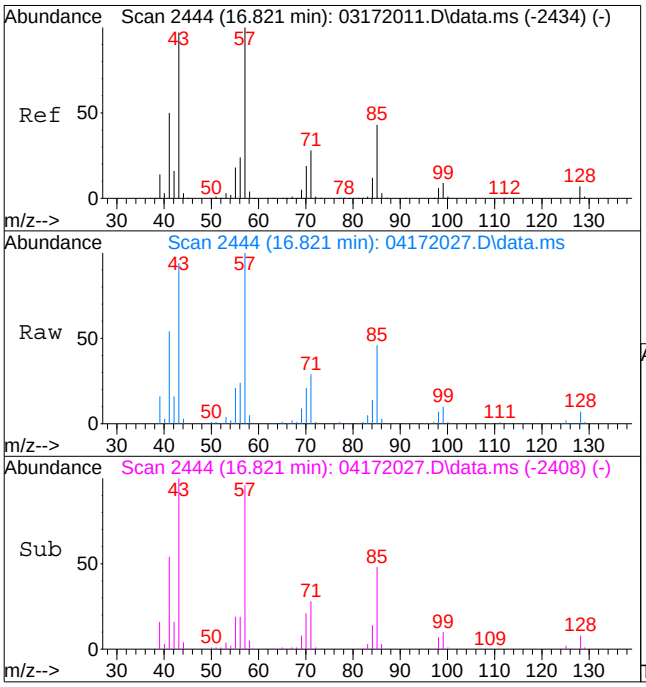


#70
o-Xylene
Concen: 0.92 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.005 min
Lab File: 04172027.D
Acq: 17 Apr 2020 17:35

Tgt Ion: 91 Resp: 39337

Ion	Ratio	Lower	Upper
91	100		
106	48.9	28.3	68.3

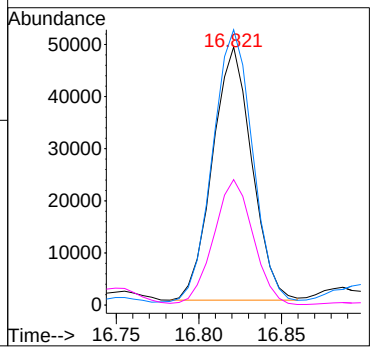


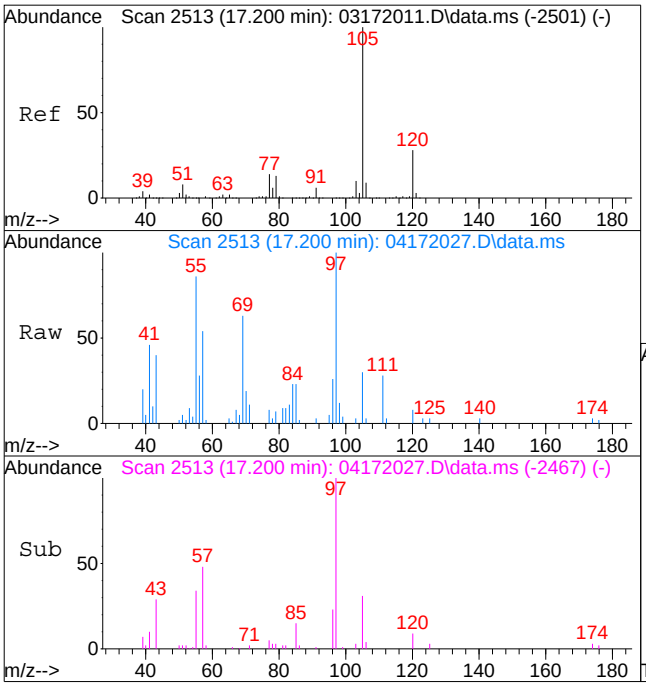


#71
n-Nonane
Concen: 4.36 ng
RT: 16.82 min Scan# 2444
Delta R.T. -0.000 min
Lab File: 04172027.D
Acq: 17 Apr 2020 17:35

Tgt Ion: 43 Resp: 80542

Ion	Ratio	Lower	Upper
43	100		
57	108.8	82.8	122.8
85	49.1	23.4	63.4

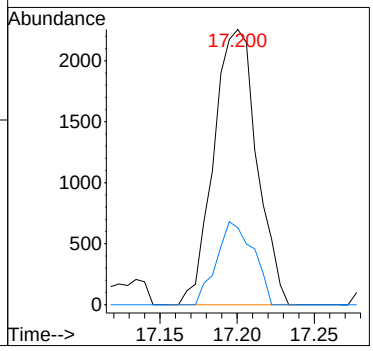


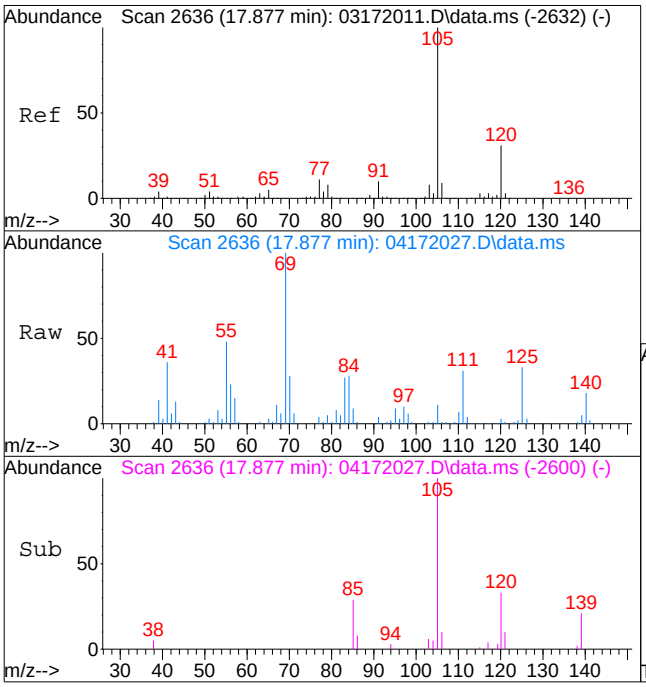


#74
Cumene
Concen: 0.08 ng
RT: 17.20 min Scan# 2513
Delta R.T. 0.000 min
Lab File: 04172027.D
Acq: 17 Apr 2020 17:35

Tgt Ion:105 Resp: 4394

Ion	Ratio	Lower	Upper
105	100		
120	25.6	7.6	47.6

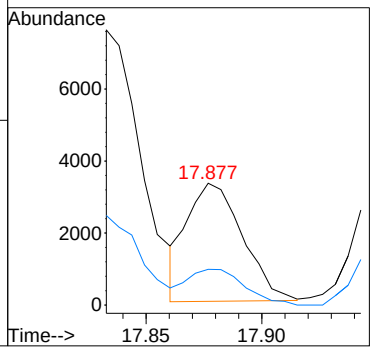


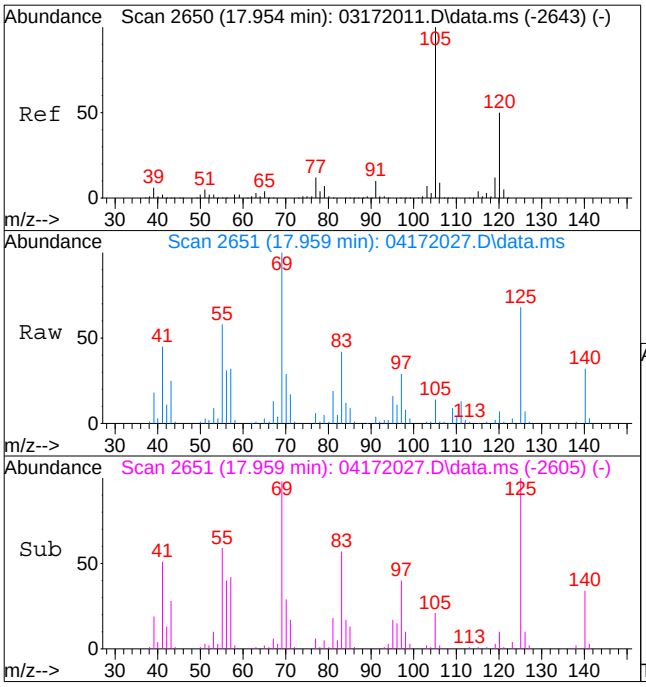


#78
4-Ethyltoluene
Concen: 0.11 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.000 min
Lab File: 04172027.D
Acq: 17 Apr 2020 17:35

Tgt Ion:105 Resp: 5495

Ion	Ratio	Lower	Upper
105	100		
120	31.6	11.2	51.2

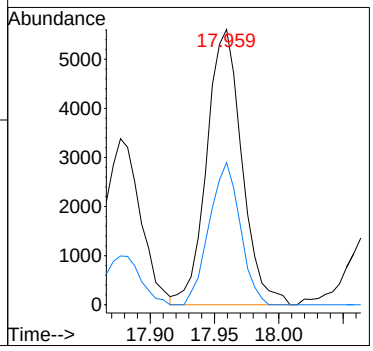


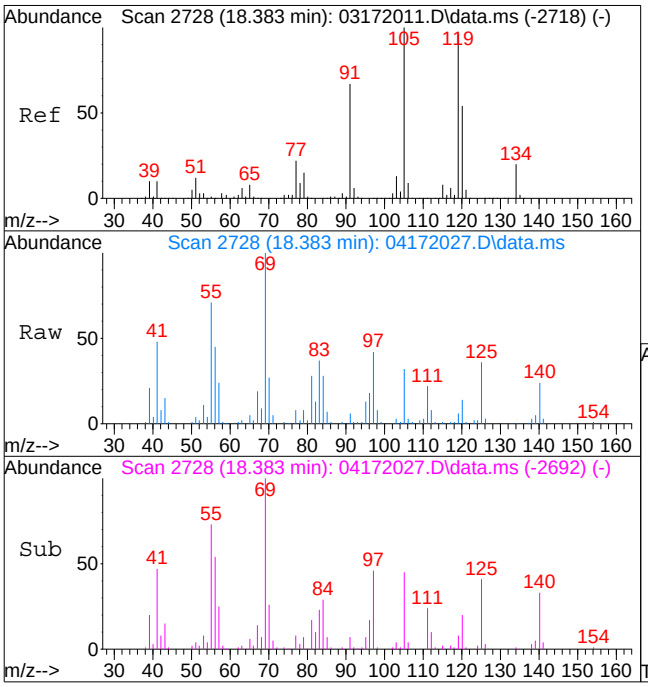


#79
1,3,5-Trimethylbenzene
Concen: 0.23 ng
RT: 17.96 min Scan# 2651
Delta R.T. 0.005 min
Lab File: 04172027.D
Acq: 17 Apr 2020 17:35

Tgt Ion:105 Resp: 10669

Ion	Ratio	Lower	Upper
105	100		
120	45.4	30.5	70.5

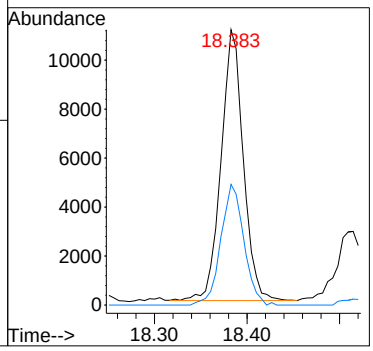


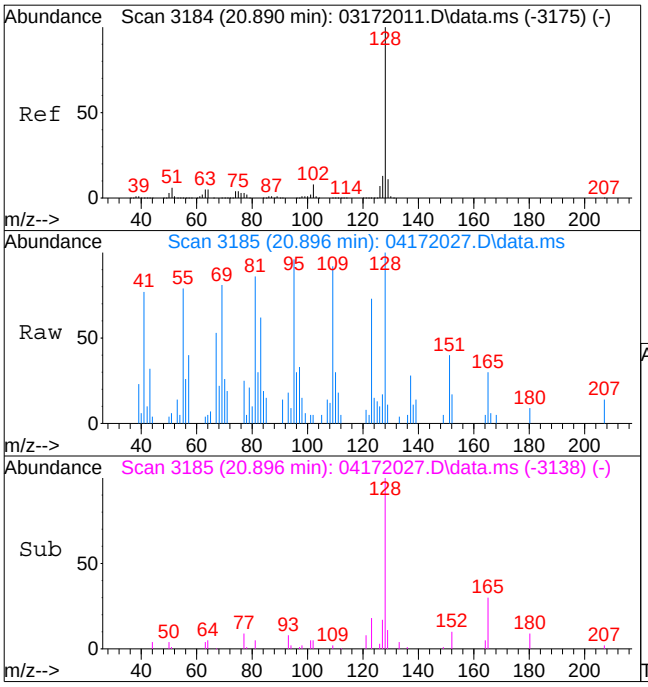


#82
1,2,4-Trimethylbenzene
Concen: 0.42 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.000 min
Lab File: 04172027.D
Acq: 17 Apr 2020 17:35

Tgt Ion:105 Resp: 18453

Ion	Ratio	Lower	Upper
105	100		
120	46.1	34.9	74.9

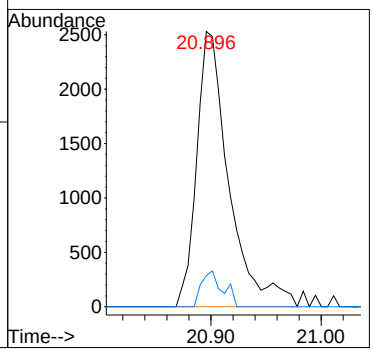




#95
Naphthalene
Concen: 0.09 ng
RT: 20.90 min Scan# 3185
Delta R.T. 0.006 min
Lab File: 04172027.D
Acq: 17 Apr 2020 17:35

Tgt Ion:128 Resp: 5137

Ion	Ratio	Lower	Upper
128	100		
129	8.5	0.0	30.9



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172013.D Vial: 1
Acq On : 17 Apr 2020 9:39 Operator: TD
Sample : P2002027-006dil (10mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 16:34:33 2020 4/20/20
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	147299	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	11.11	114	614550	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	275818	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	212996	12.781	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.24%				
57) Toluene-d8 (SS2)	13.54	98	682753	12.446	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.60%				
73) Bromofluorobenzene (SS3)	17.05	174	260424	14.269	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.16%				
Target Compounds							Qvalue
2) Propene	3.87	42	850m	0.094	ng		
3) Dichlorodifluoromethan...	3.97	85	205110	9.758	ng		100
4) Chloromethane	4.19	50	120	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	5154	0.526	ng		100
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.37	45	1468	0.208	ng		79
11) Acetonitrile	5.63	41	37	N.D.			
12) Acrolein	0.00	56	0	N.D.	d		
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	6.02	101	30049	1.579	ng		100
15) 2-Propanol (Isopropanol)	6.22	45	748	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	6.93	59	570	N.D.			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	7.18	151	5350	0.504	ng		93
22) Carbon Disulfide	7.16	76	350	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	8.58	72	385	0.054	ng	#	16
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	9.23	57	460	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	10.60	56	121	N.D.			
41) Benzene	10.76	78	4819	0.110	ng		94
42) Carbon Tetrachloride	10.90	117	424	N.D.			
43) Cyclohexane	11.03	84	2480	0.149	ng		97
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	11.82	130	269	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172013.D Vial: 1
Acq On : 17 Apr 2020 9:39 Operator: TD
Sample : P2002027-006dil (10mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 16:34:33 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

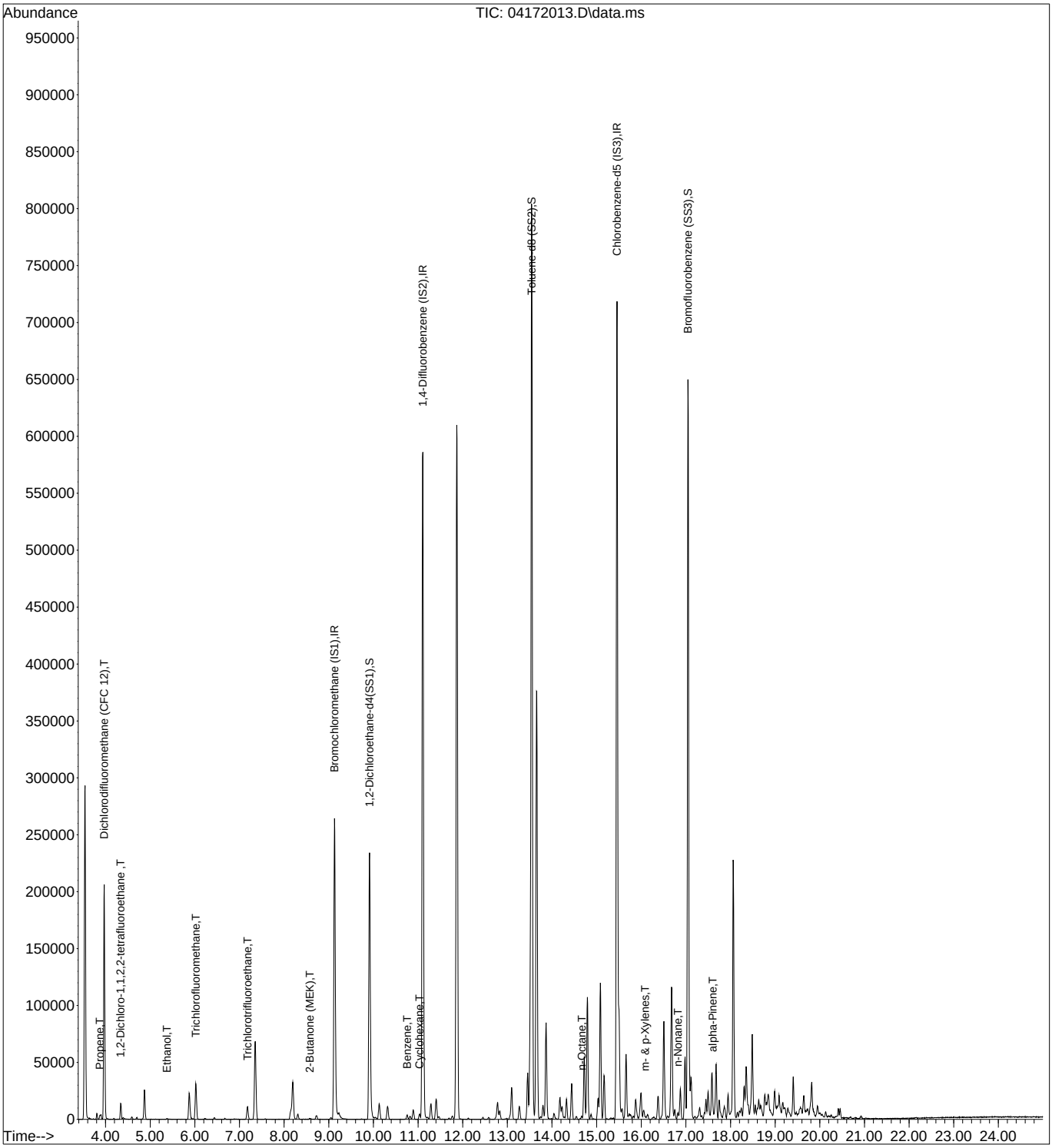
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	12.12	71	271	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d		
58) Toluene	0.00	91	0	N.D. d		
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D. d		
63) n-Octane	14.67	57	494	0.059 ng	#	75
64) Tetrachloroethene	14.81	166	610	N.D.		
65) Chlorobenzene	0.00	112	0	N.D. d		
66) Ethylbenzene	15.92	91	959	N.D.		
67) m- & p-Xylenes	16.09	91	3206	0.080 ng		100
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	16.60	91	1700	N.D.		
71) n-Nonane	16.82	43	1773	0.103 ng		95
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d		
74) Cumene	17.21	105	220	N.D.		
75) alpha-Pinene	17.60	93	1960	0.075 ng	#	61
76) n-Propylbenzene	17.74	91	781	N.D.		
77) 3-Ethyltoluene	17.84	105	565	N.D.		
78) 4-Ethyltoluene	17.84	105	565	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	595	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	18.16	105	273	N.D.		
82) 1,2,4-Trimethylbenzene	18.39	105	1165	N.D.		
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	18.50	91	1106	N.D.		
85) 1,3-Dichlorobenzene	18.63	146	159	N.D.		
86) 1,4-Dichlorobenzene	18.63	146	159	N.D.		
87) sec-Butylbenzene	18.67	105	313	N.D.		
88) 4-Isopropyltoluene (p-...	18.84	119	1709	N.D.		
89) 1,2,3-Trimethylbenzene	18.83	105	715	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	0.00	68	0	N.D. d		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	20.92	128	302	N.D.		
96) n-Dodecane	20.92	57	656	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	16.28	55	640	N.D.		
99) tert-Butylbenzene	18.39	119	259	N.D.		
100) n-Butylbenzene	19.28	91	527	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172013.D Vial: 1
Acq On : 17 Apr 2020 9:39 Operator: TD
Sample : P2002027-006dil (10mL) Inst : MS09
Misc : S31-02272010

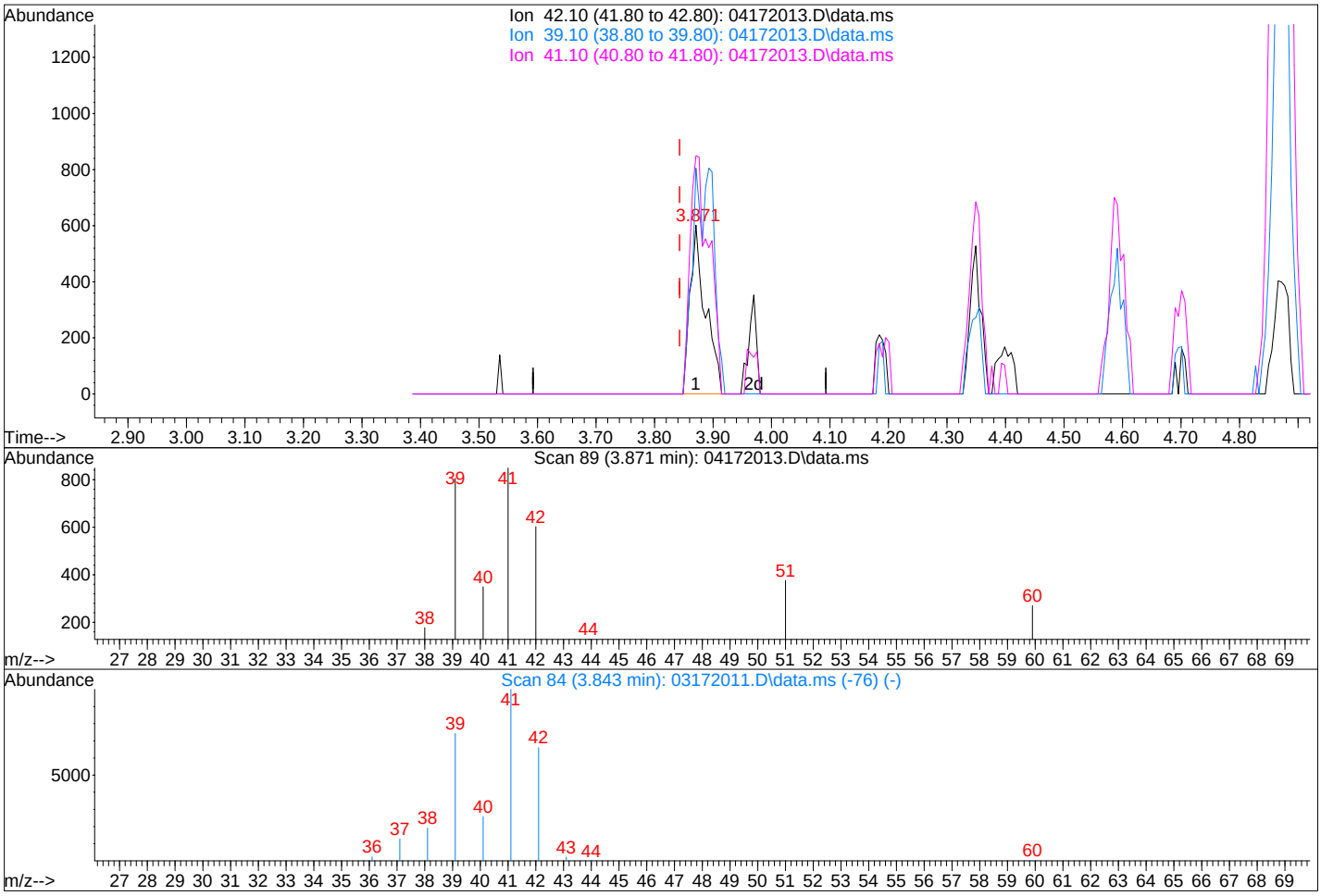
Quant Time: Apr 20 16:34:33 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\17\04172013.D Vial: 1
Acq On : 17 Apr 2020 9:39 Operator: TD
Sample : P2002027-006dil (10mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 17 10:43:52 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04172013.D\data.ms

(2) Propene (T)

3.871min (+0.028) 0.12ng

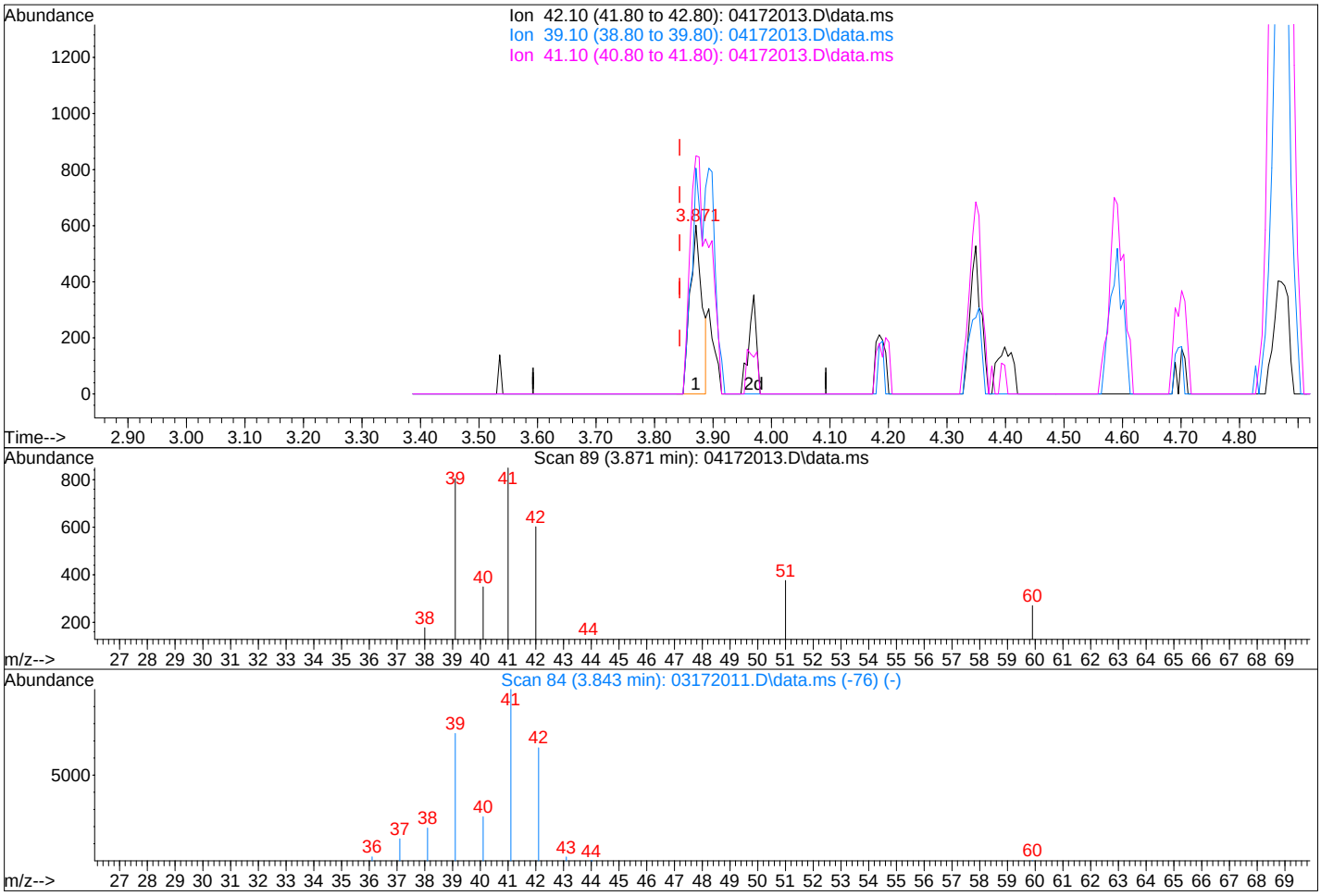
response 1100

Ion	Exp%	Act%
42.10	100	100
39.10	111.90	89.45#
41.10	150.50	175.18#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\17\04172013.D Vial: 1
Acq On : 17 Apr 2020 9:39 Operator: TD
Sample : P2002027-006dil (10mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 17 10:43:52 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04172013.D\data.ms

(2) Propene (T)

3.871min (+0.028) 0.09ng m

response 850

Ion	Exp%	Act%
42.10	100	100
39.10	111.90	115.76
41.10	150.50	226.71#
0.00	0.00	0.00

IPC

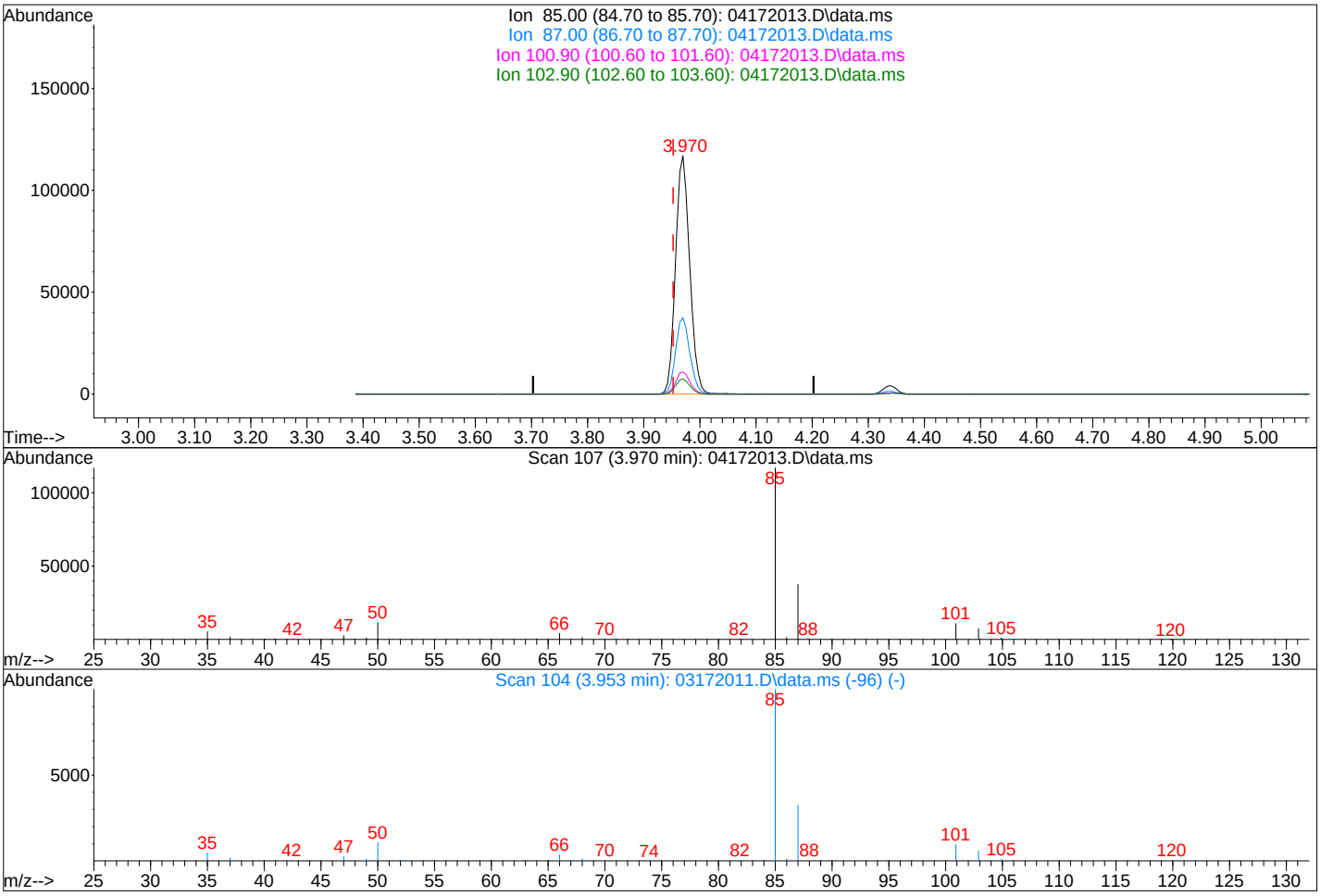
4/20/20

LH 4/29/20

Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\17\04172013.D Vial: 1
Acq On : 17 Apr 2020 9:39 Operator: TD
Sample : P2002027-006dil (10mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 17 10:43:52 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04172013.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.970min (+0.017) 9.76ng

response 205110

Ion	Exp%	Act%
85.00	100	100
87.00	32.40	32.35
100.90	9.20	9.40
102.90	5.90	6.27

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202010.D Vial: 1
Acq On : 20 Apr 2020 7:46 Operator: TD
Sample : P2002027-007 (1.0mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 14:18:49 2020 4/20/20
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	135860	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.11	114	579676	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	292251	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	213462	13.887	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.12%				
57) Toluene-d8 (SS2)	13.55	98	636083	10.944	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.52%				
73) Bromofluorobenzene (SS3)	17.05	174	236171	12.212	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.68%				
Target Compounds							Qvalue
2) Propene	3.85	42	32629	3.921	ng	#	78
3) Dichlorodifluoromethan...	3.98	85	32626	1.683	ng		99
4) Chloromethane	4.18	50	238	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.	d		
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	4.63	54	1989	0.284	ng	#	43
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	0.00	45	0	N.D.	d		
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	0.00	56	0	N.D.	d		
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	6.03	101	5243	0.299	ng		96
15) 2-Propanol (Isopropanol)	6.20	45	3725	0.176	ng	#	58
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	7.18	151	1210	0.124	ng		84
22) Carbon Disulfide	7.16	76	3472	0.098	ng	#	74
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.	d		
25) Methyl tert-Butyl Ether	8.20	73	182	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	8.56	72	1082	0.165	ng	#	69
28) cis-1,2-Dichloroethene	8.74	61	301	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	9.24	57	752913	51.753	ng		98
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	9.73	72	125	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.76	78	298782	7.233	ng		99
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	11.05	84	1250280	79.745	ng		95
44) tert-Amyl Methyl Ether	11.30	73	797	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202010.D Vial: 1
Acq On : 20 Apr 2020 7:46 Operator: TD
Sample : P2002027-007 (1.0mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 14:18:49 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

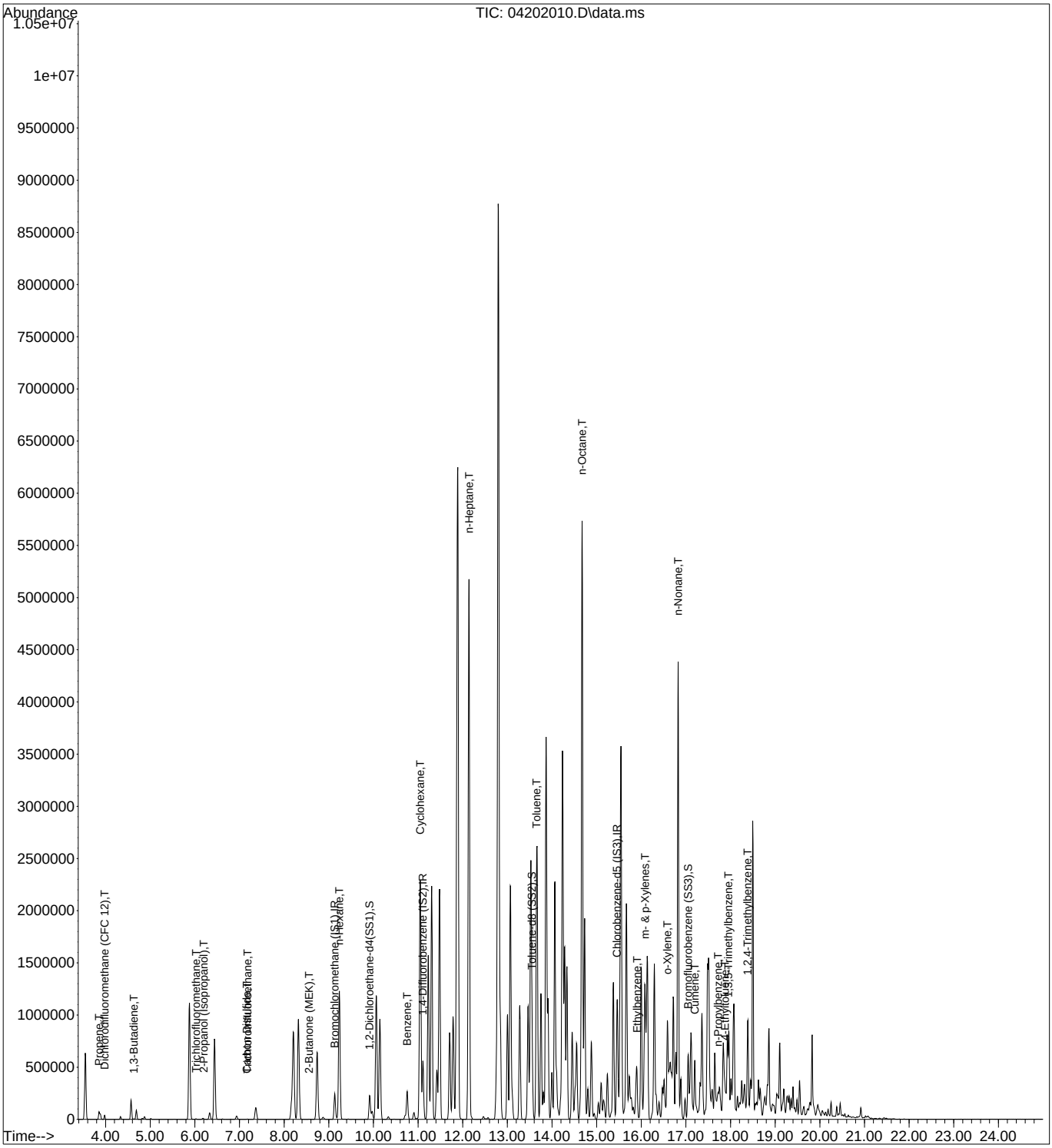
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.14	71	1633752	165.691 ng	97
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	13.06	75	156	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	13.65	91	1111885	22.541 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D. d	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.68	57	1186483	133.306 ng	94
64) Tetrachloroethene	14.81	166	261	N.D.	
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.91	91	153783	2.903 ng	99
67) m- & p-Xylenes	16.08	91	998643	23.554 ng	100
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D. d	
70) o-Xylene	16.58	91	637020	15.035 ng	98
71) n-Nonane	16.83	43	1455793	79.543 ng	95
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	17.20	105	78536	1.420 ng	100
75) alpha-Pinene	17.60	93	1288	N.D.	
76) n-Propylbenzene	17.72	91	111190	1.761 ng	97
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	84491	1.664 ng	99
79) 1,3,5-Trimethylbenzene	17.95	105	156877	3.362 ng	99
80) alpha-Methylstyrene	18.15	118	253	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	186954	4.311 ng	89
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	0.00	91	0	N.D. d	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	20.78	180	232	N.D.	
95) Naphthalene	20.90	128	2905	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202010.D Vial: 1
Acq On : 20 Apr 2020 7:46 Operator: TD
Sample : P2002027-007 (1.0mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 14:18:49 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202010.D Vial: 1
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DataAcq Meth:TO15.M

4/20/20

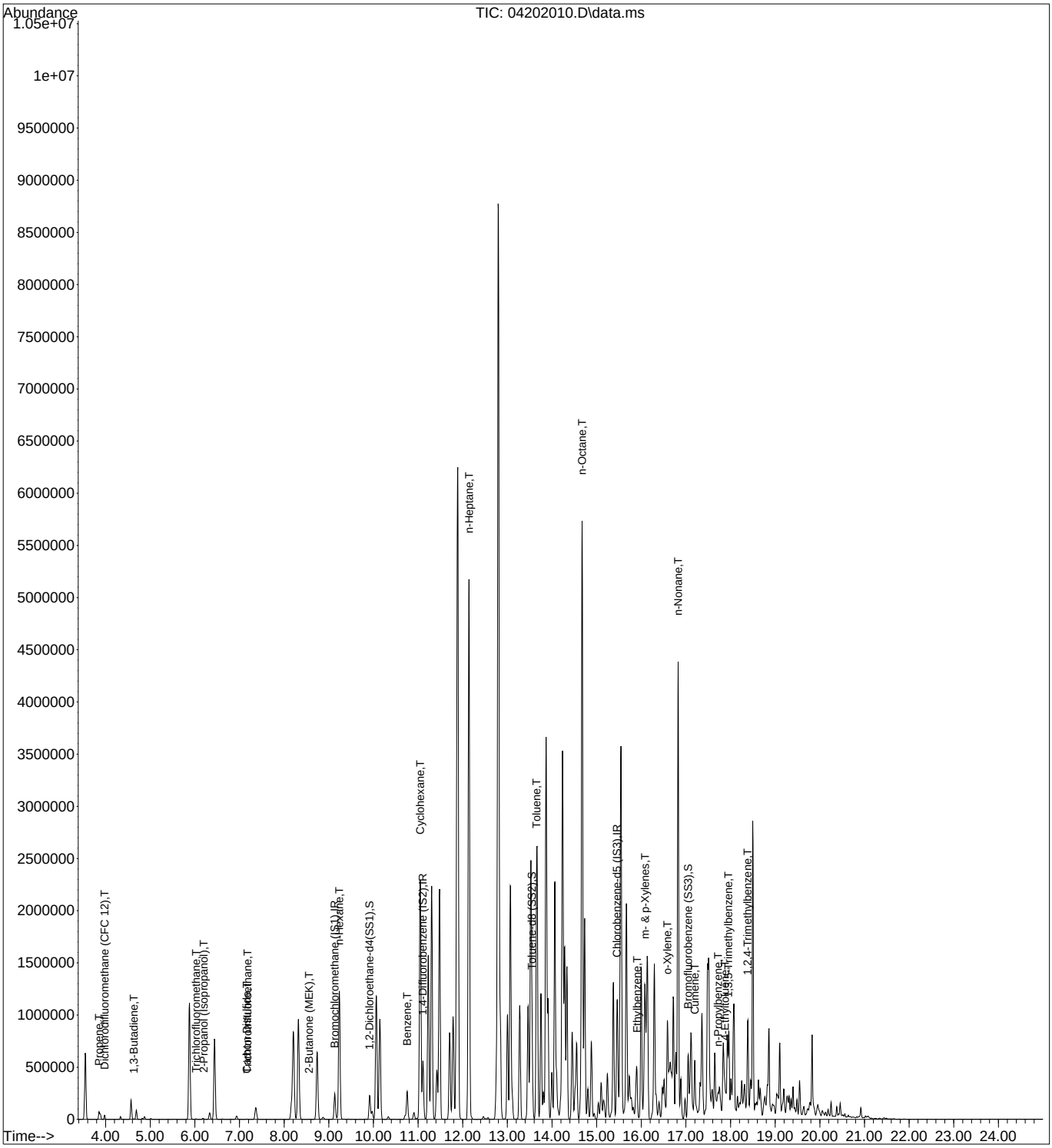
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	135860	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	11.11	114	579676	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	292251	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	213462	13.887	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.12%			
57) Toluene-d8 (SS2)	13.55	98	636083	10.944	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.52%			
73) Bromofluorobenzene (SS3)	17.05	174	236171	12.212	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.68%			
Target Compounds						Qvalue
2) Propene	3.85	42	32629	3.921	ng	# 78
3) Dichlorodifluoromethan...	3.98	85	32626	1.683	ng	99
7) 1,3-Butadiene	4.63	54	1989	0.284	ng	# 43
14) Trichlorofluoromethane	6.03	101	5243	0.299	ng	96
15) 2-Propanol (Isopropanol)	6.20	45	3725	0.176	ng	# 58
21) Trichlorotrifluoroethane	7.18	151	1210	0.124	ng	84
22) Carbon Disulfide	7.16	76	3472	0.098	ng	# 74
27) 2-Butanone (MEK)	8.56	72	1082	0.165	ng	# 69
31) n-Hexane	9.24	57	752913	51.753	ng	98
41) Benzene	10.76	78	298782	7.233	ng	99
43) Cyclohexane	11.05	84	1250280	79.745	ng	95
51) n-Heptane	12.14	71	1633752	165.691	ng	97
58) Toluene	13.65	91	1111885	22.541	ng	100
63) n-Octane	14.68	57	1186483	133.306	ng	94
66) Ethylbenzene	15.91	91	153783	2.903	ng	99
67) m- & p-Xylenes	16.08	91	998643	23.554	ng	100
70) o-Xylene	16.58	91	637020	15.035	ng	98
71) n-Nonane	16.83	43	1455793	79.543	ng	95
74) Cumene	17.20	105	78536	1.420	ng	100
76) n-Propylbenzene	17.72	91	111190	1.761	ng	97
78) 4-Ethyltoluene	17.88	105	84491	1.664	ng	99
79) 1,3,5-Trimethylbenzene	17.95	105	156877	3.362	ng	99
82) 1,2,4-Trimethylbenzene	18.38	105	186954	4.311	ng	89

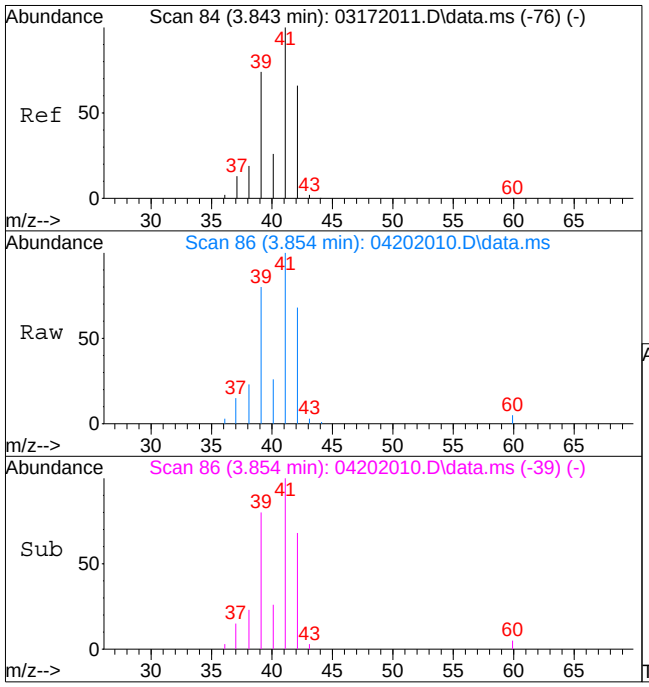
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202010.D Vial: 1
Acq On : 20 Apr 2020 7:46 Operator: TD
Sample : P2002027-007 (1.0mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 14:18:49 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

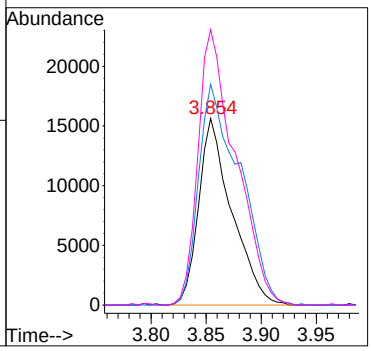


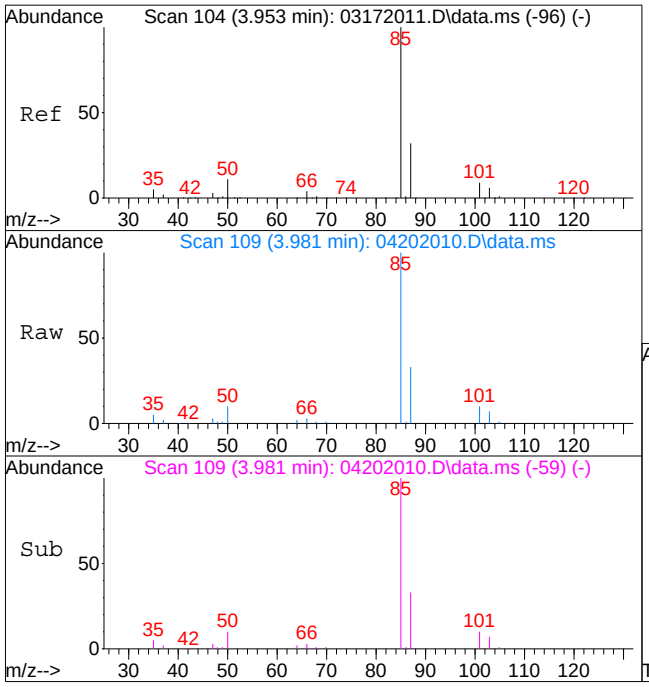


#2
Propene
Concen: 3.92 ng
RT: 3.85 min Scan# 86
Delta R.T. 0.011 min
Lab File: 04202010.D
Acq: 20 Apr 2020 7:46

Tgt Ion: 42 Resp: 32629

Ion	Ratio	Lower	Upper
42	100		
39	148.0	91.9	131.9#
41	166.7	130.5	170.5

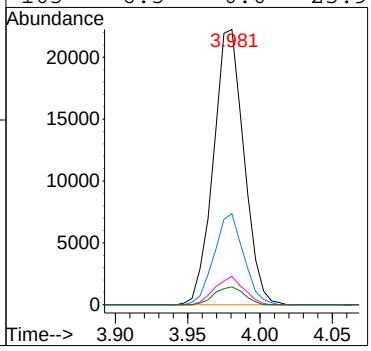


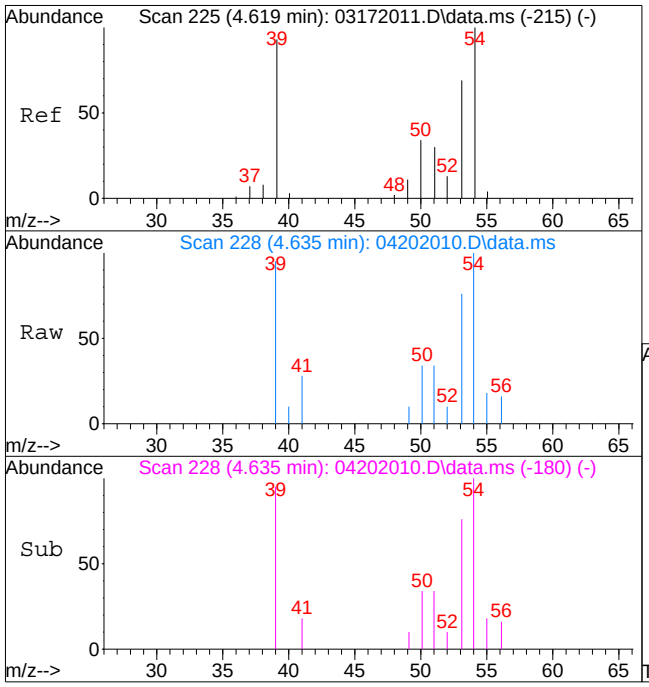


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.68 ng
RT: 3.98 min Scan# 109
Delta R.T. 0.028 min
Lab File: 04202010.D
Acq: 20 Apr 2020 7:46

Tgt Ion: 85 Resp: 32626

Ion	Ratio	Lower	Upper
85	100		
87	32.2	12.4	52.4
101	9.9	0.0	29.2
103	6.3	0.0	25.9

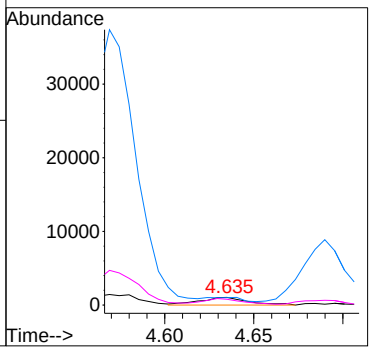


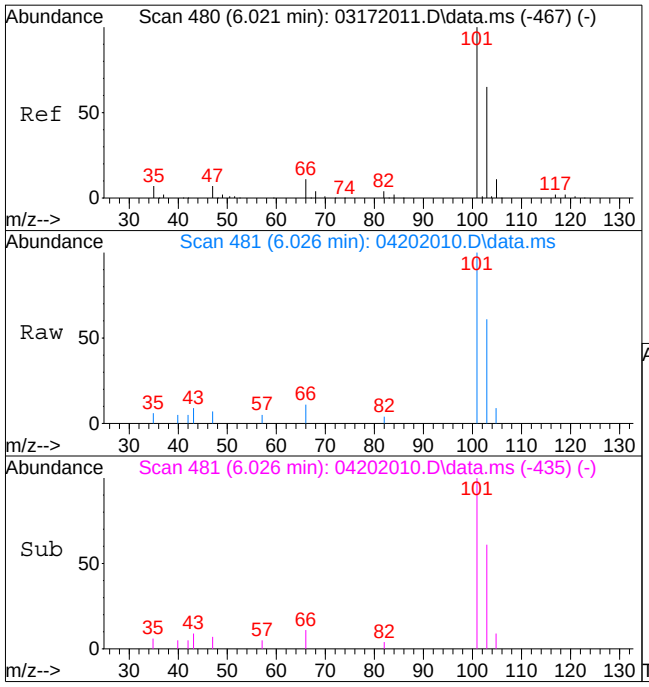


#7
1,3-Butadiene
Concen: 0.28 ng
RT: 4.63 min Scan# 228
Delta R.T. 0.016 min
Lab File: 04202010.D
Acq: 20 Apr 2020 7:46

Tgt Ion: 54 Resp: 1989

Ion	Ratio	Lower	Upper
54	100		
39	0.0	74.8	114.8#
53	70.9	49.9	89.9

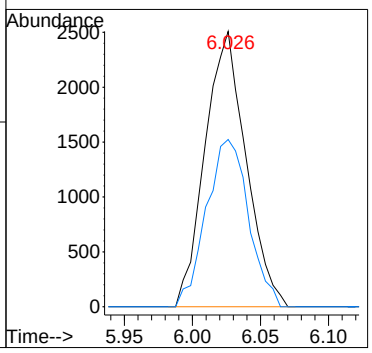


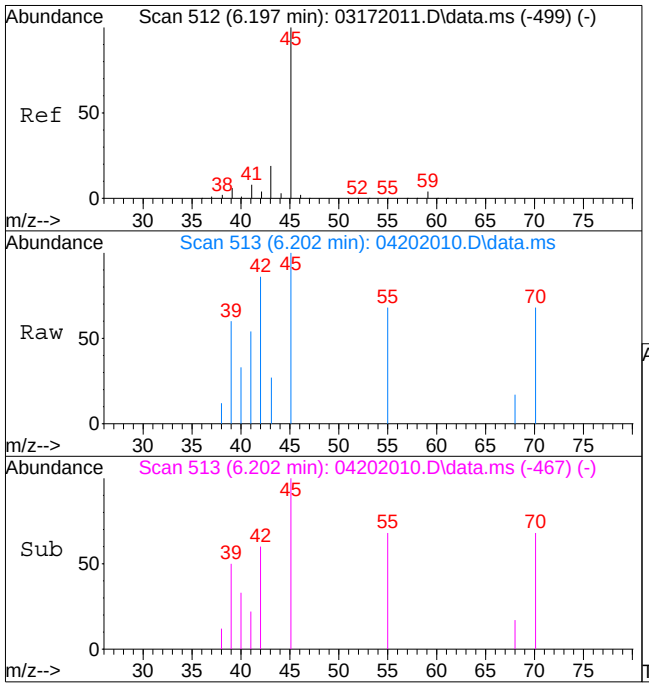


#14
Trichlorofluoromethane
Concen: 0.30 ng
RT: 6.03 min Scan# 481
Delta R.T. 0.005 min
Lab File: 04202010.D
Acq: 20 Apr 2020 7:46

Tgt Ion:101 Resp: 5243

Ion	Ratio	Lower	Upper
101	100		
103	62.5	45.3	85.3

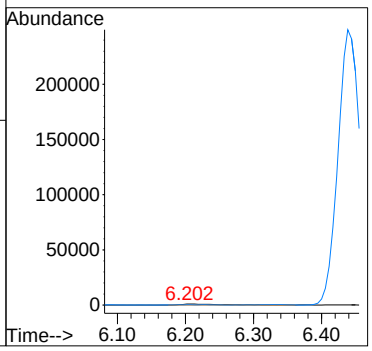


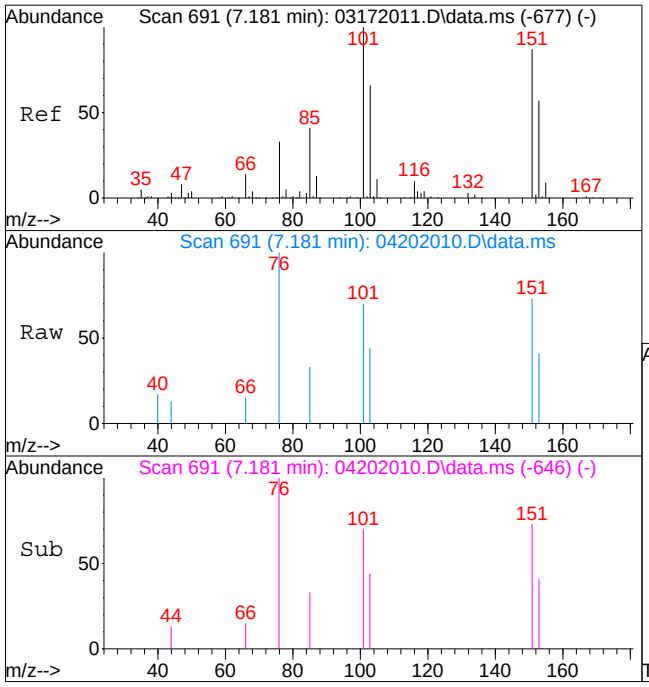


#15
2-Propanol (Isopropanol)
Concen: 0.18 ng
RT: 6.20 min Scan# 513
Delta R.T. 0.005 min
Lab File: 04202010.D
Acq: 20 Apr 2020 7:46

Tgt Ion: 45 Resp: 3725

Ion	Ratio	Lower	Upper
45	100		
43	0.0	0.0	39.0

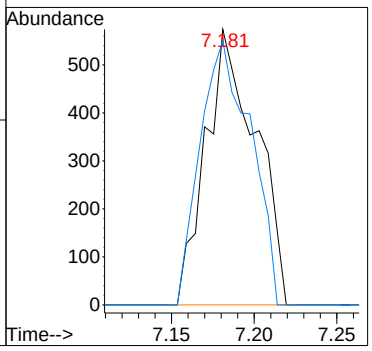


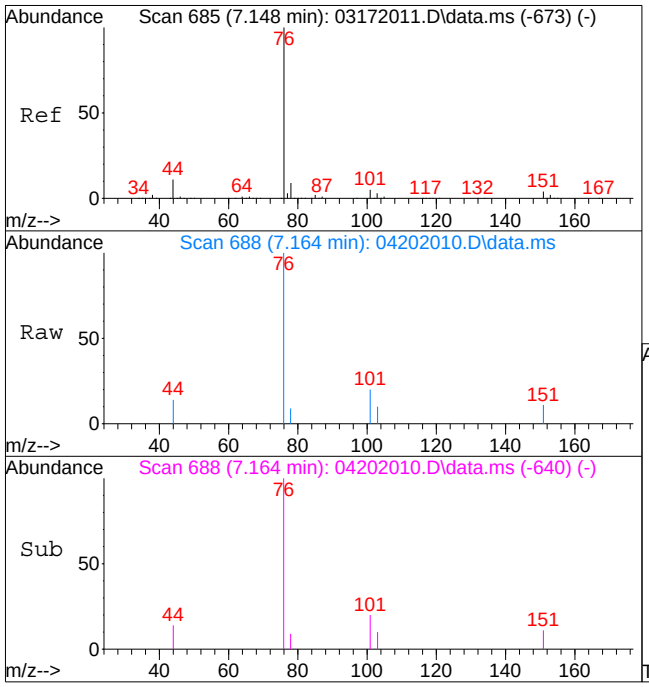


#21
Trichlorotrifluoroethane
Concen: 0.12 ng
RT: 7.18 min Scan# 691
Delta R.T. -0.000 min
Lab File: 04202010.D
Acq: 20 Apr 2020 7:46

Tgt Ion:151 Resp: 1210

Ion	Ratio	Lower	Upper
151	100		
101	96.9	94.7	134.7

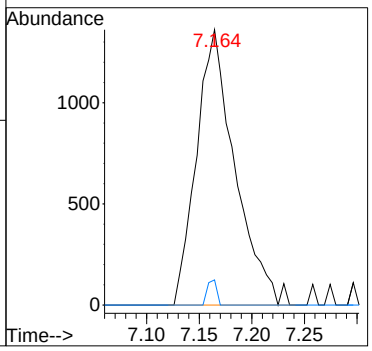


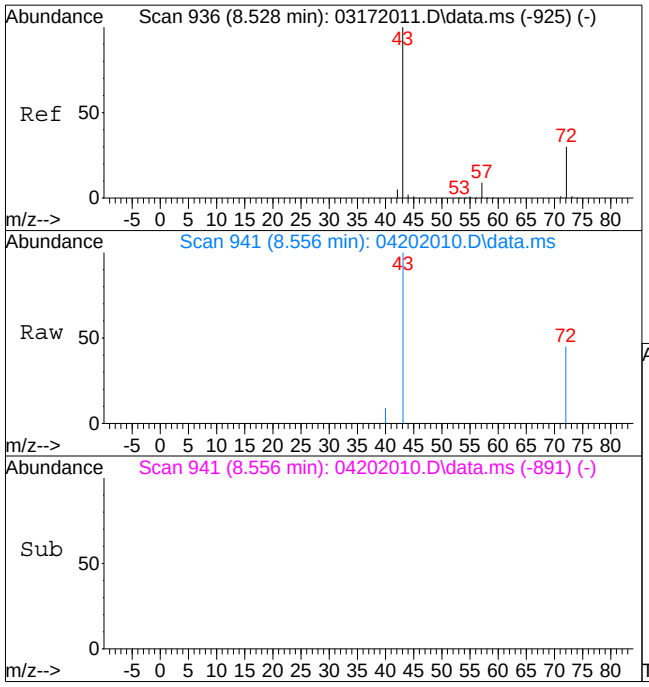


#22
Carbon Disulfide
Concen: 0.10 ng
RT: 7.16 min Scan# 688
Delta R.T. 0.016 min
Lab File: 04202010.D
Acq: 20 Apr 2020 7:46

Tgt Ion: 76 Resp: 3472

Ion	Ratio	Lower	Upper
76	100		
78	0.0	0.0	29.7

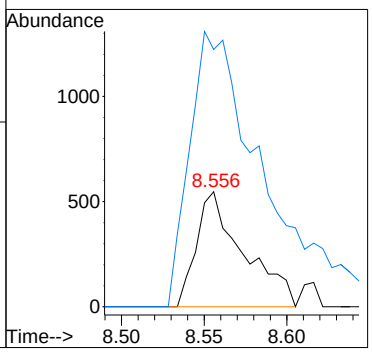


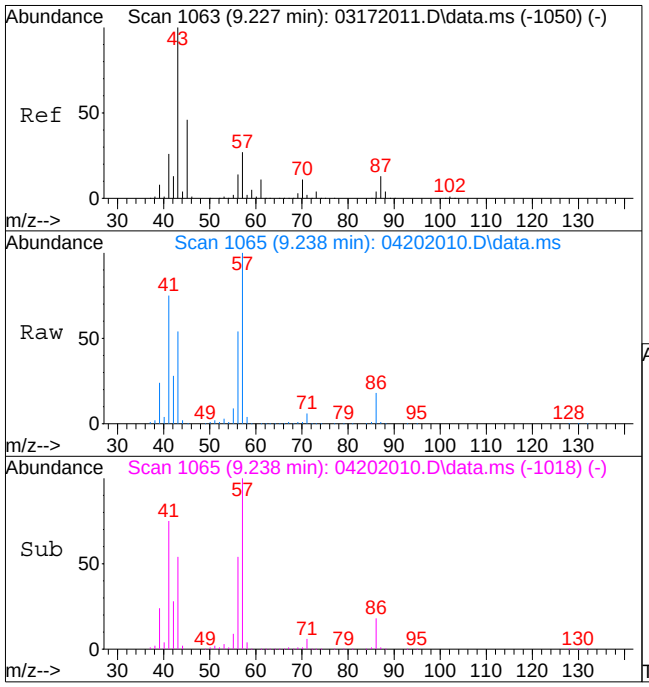


#27
2-Butanone (MEK)
Concen: 0.16 ng
RT: 8.56 min Scan# 941
Delta R.T. 0.028 min
Lab File: 04202010.D
Acq: 20 Apr 2020 7:46

Tgt Ion: 72 Resp: 1082

Ion	Ratio	Lower	Upper
72	100		
43	394.4	310.6	350.6#

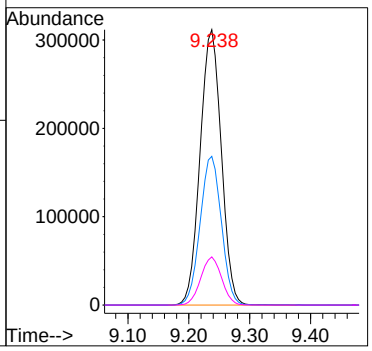


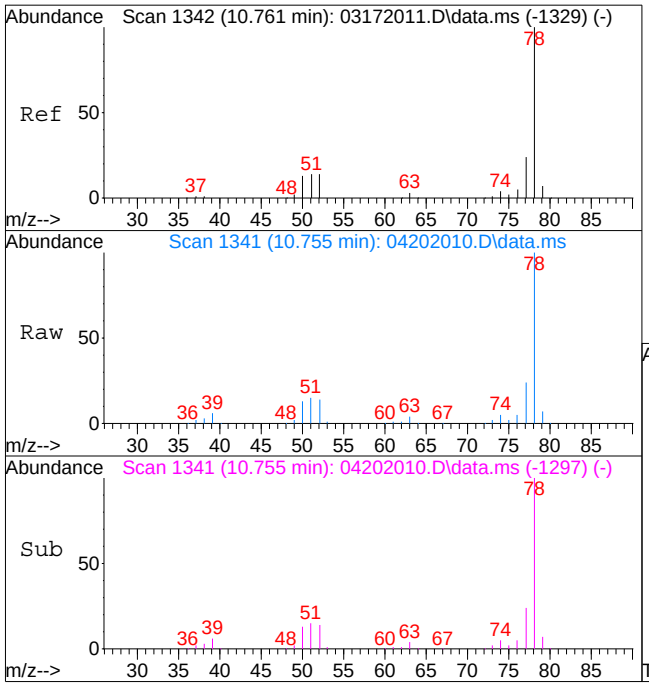


#31
n-Hexane
Concen: 51.75 ng
RT: 9.24 min Scan# 1065
Delta R.T. 0.011 min
Lab File: 04202010.D
Acq: 20 Apr 2020 7:46

Tgt Ion: 57 Resp: 752913

Ion	Ratio	Lower	Upper
57	100		
56	54.1	42.0	63.0
86	17.2	13.1	19.7

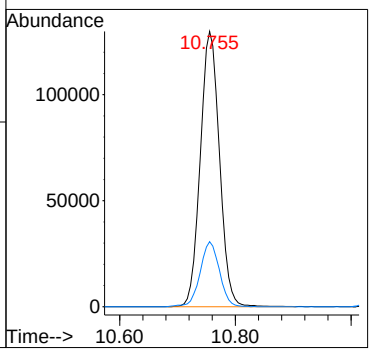


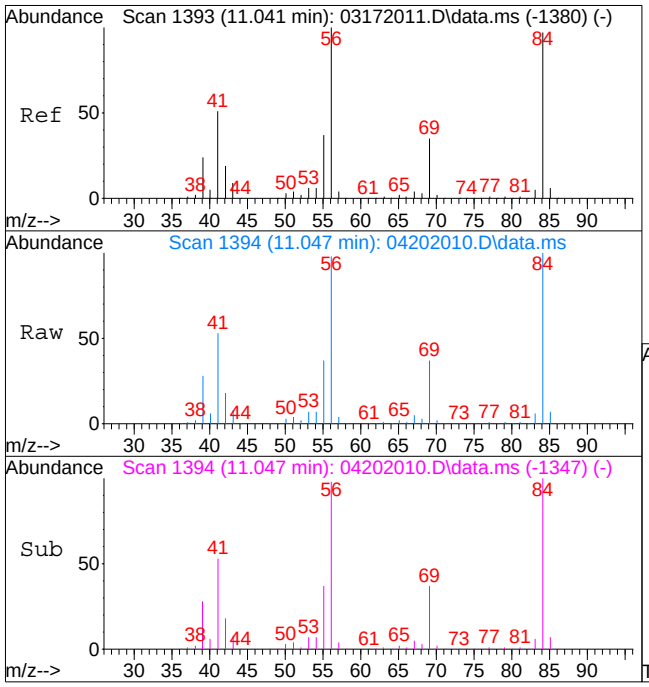


#41
Benzene
Concen: 7.23 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.006 min
Lab File: 04202010.D
Acq: 20 Apr 2020 7:46

Tgt Ion: 78 Resp: 298782

Ion	Ratio	Lower	Upper
78	100		
77	23.8	3.4	43.4

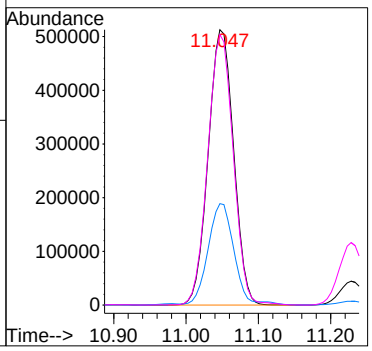


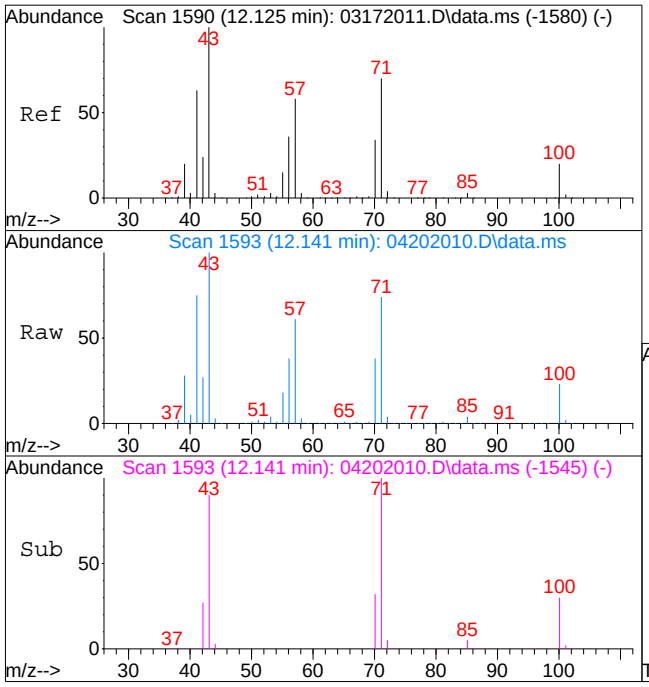


#43
Cyclohexane
Concen: 79.75 ng
RT: 11.05 min Scan# 1394
Delta R.T. 0.006 min
Lab File: 04202010.D
Acq: 20 Apr 2020 7:46

Tgt Ion: 84 Resp: 1250280

Ion	Ratio	Lower	Upper
84	100		
69	37.6	16.6	56.6
56	98.7	85.3	125.3

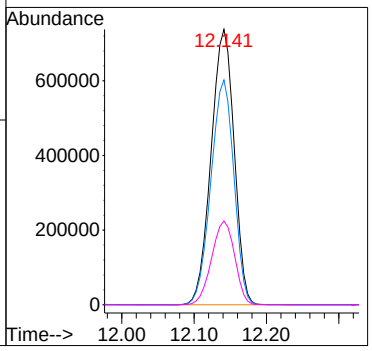


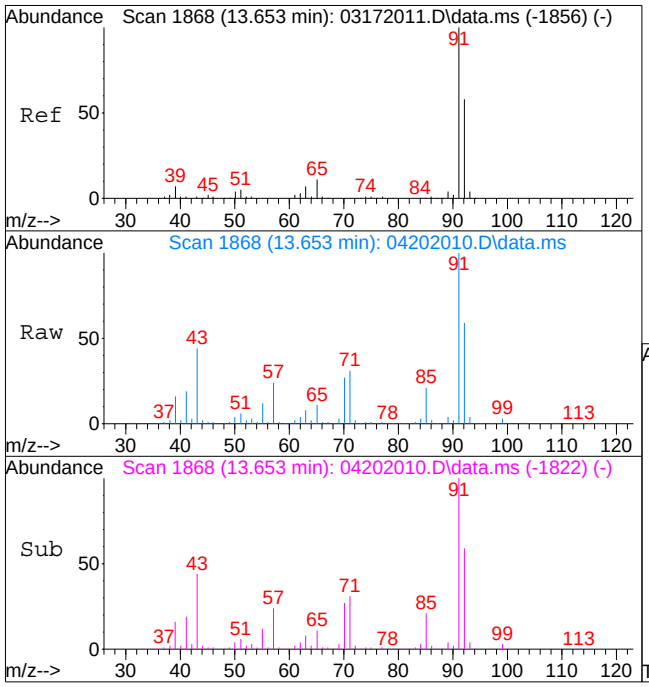


#51
n-Heptane
Concen: 165.69 ng
RT: 12.14 min Scan# 1593
Delta R.T. 0.016 min
Lab File: 04202010.D
Acq: 20 Apr 2020 7:46

Tgt Ion: 71 Resp: 1633752

Ion	Ratio	Lower	Upper
71	100		
57	81.3	64.0	104.0
100	30.4	8.7	48.7

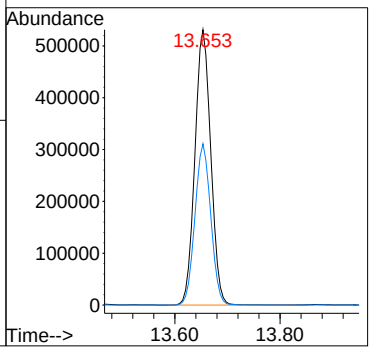


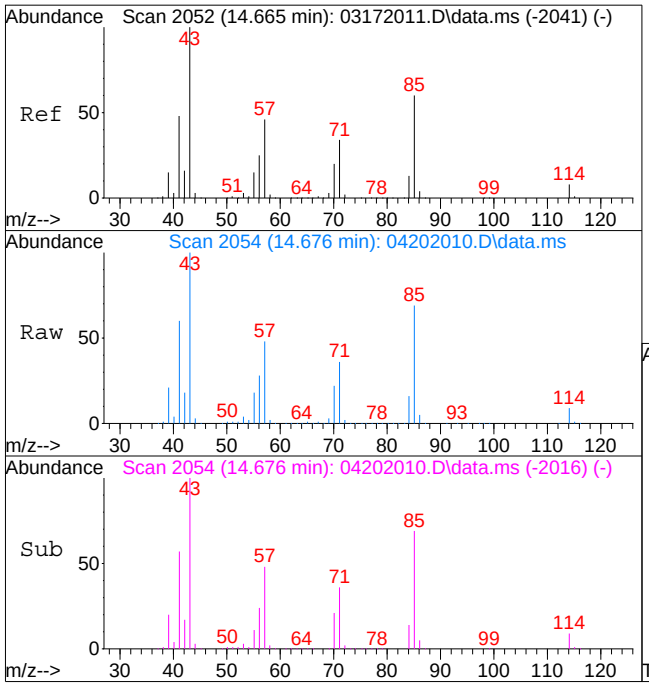


#58
Toluene
Concen: 22.54 ng
RT: 13.65 min Scan# 1868
Delta R.T. 0.000 min
Lab File: 04202010.D
Acq: 20 Apr 2020 7:46

Tgt Ion: 91 Resp: 1111885

Ion	Ratio	Lower	Upper
91	100		
92	58.4	38.6	78.6

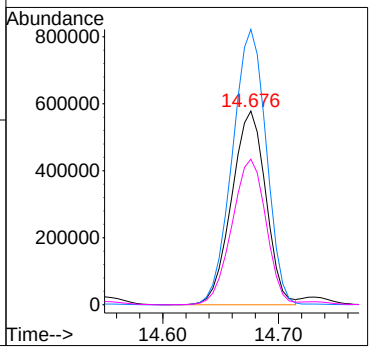


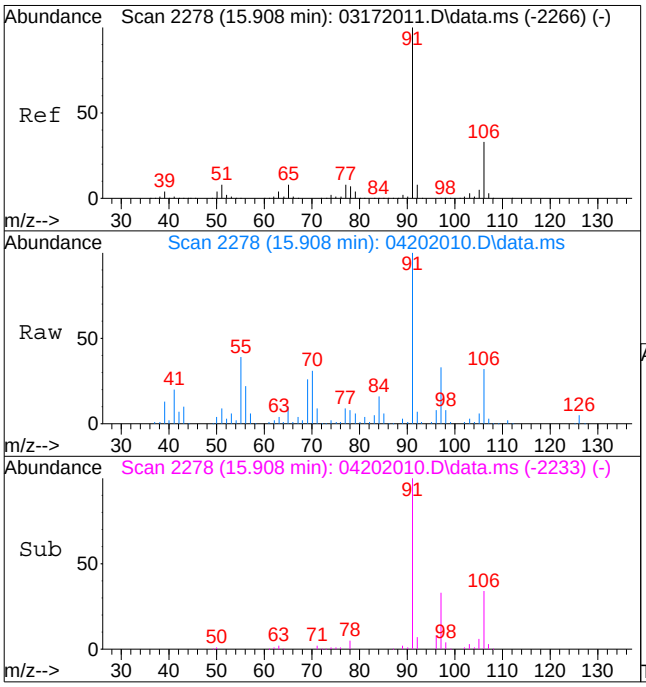


#63
n-Octane
Concen: 133.31 ng
RT: 14.68 min Scan# 2054
Delta R.T. 0.011 min
Lab File: 04202010.D
Acq: 20 Apr 2020 7:46

Tgt Ion: 57 Resp: 1186483

Ion	Ratio	Lower	Upper
57	100		
85	141.1	105.4	158.2
71	76.4	59.0	88.4

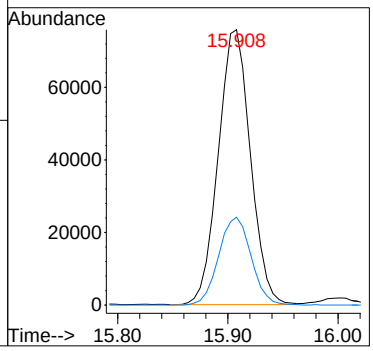


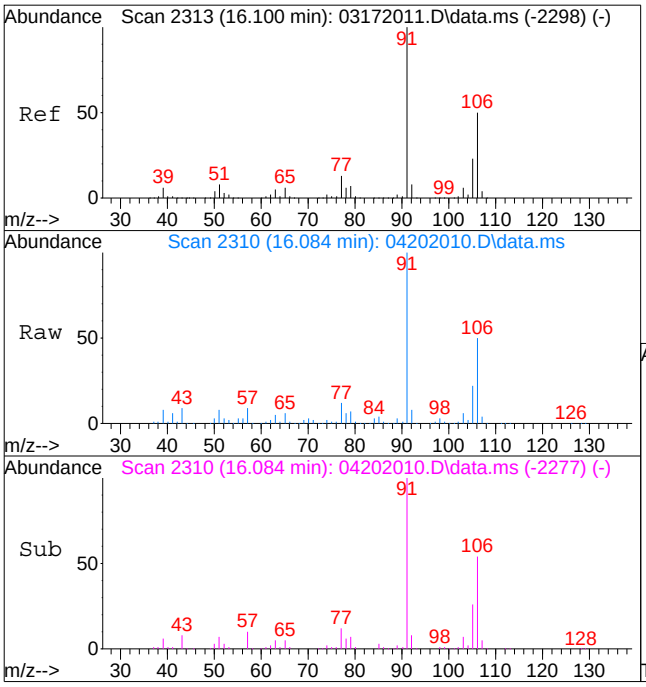


#66
Ethylbenzene
Concen: 2.90 ng
RT: 15.91 min Scan# 2278
Delta R.T. -0.000 min
Lab File: 04202010.D
Acq: 20 Apr 2020 7:46

Tgt Ion: 91 Resp: 153783

Ion	Ratio	Lower	Upper
91	100		
106	32.2	12.9	52.9

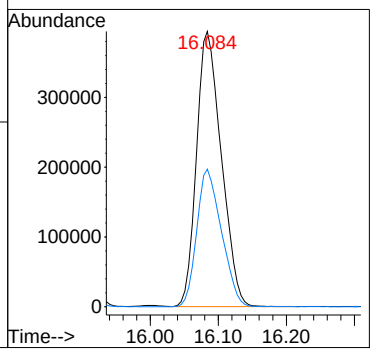


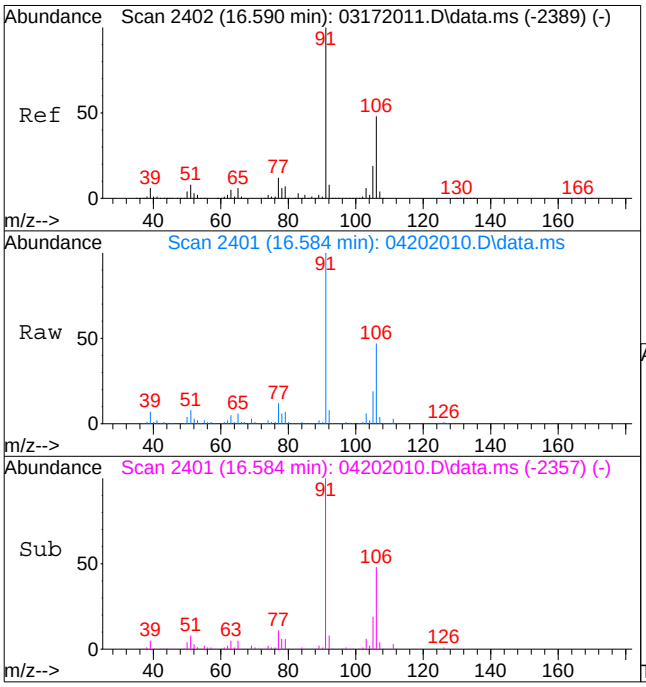


#67
m- & p-Xylenes
Concen: 23.55 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.016 min
Lab File: 04202010.D
Acq: 20 Apr 2020 7:46

Tgt Ion: 91 Resp: 998643

Ion	Ratio	Lower	Upper
91	100		
106	49.7	29.5	69.5

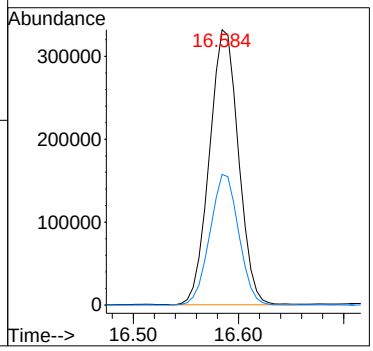


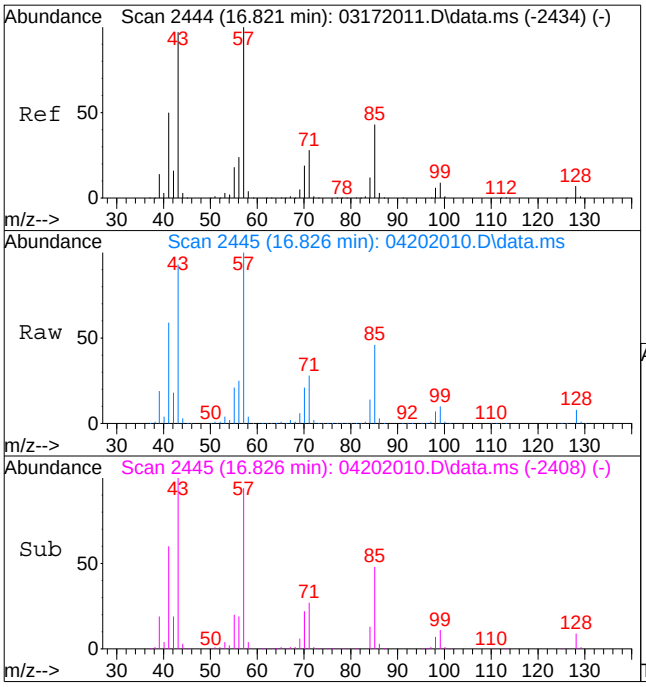


#70
o-Xylene
Concen: 15.03 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.006 min
Lab File: 04202010.D
Acq: 20 Apr 2020 7:46

Tgt Ion: 91 Resp: 637020

Ion	Ratio	Lower	Upper
91	100		
106	47.2	28.3	68.3

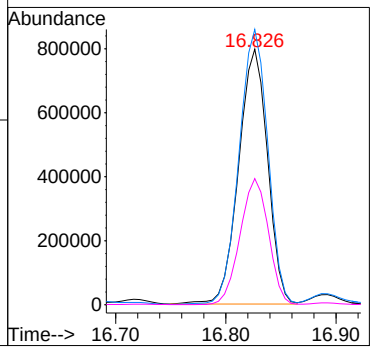


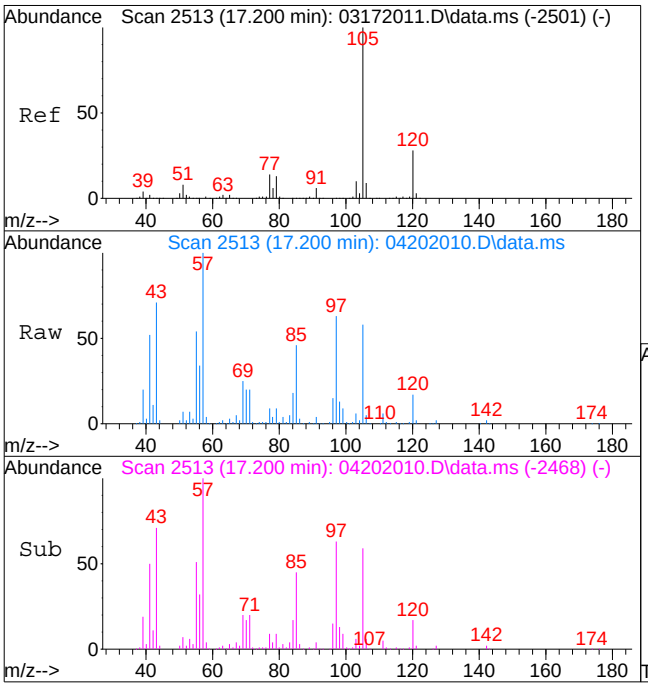


#71
n-Nonane
Concen: 79.54 ng
RT: 16.83 min Scan# 2445
Delta R.T. 0.005 min
Lab File: 04202010.D
Acq: 20 Apr 2020 7:46

Tgt Ion: 43 Resp: 1455793

Ion	Ratio	Lower	Upper
43	100		
57	107.2	82.8	122.8
85	48.3	23.4	63.4

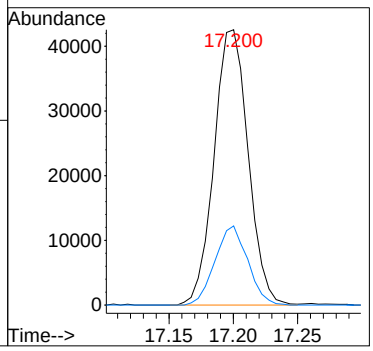


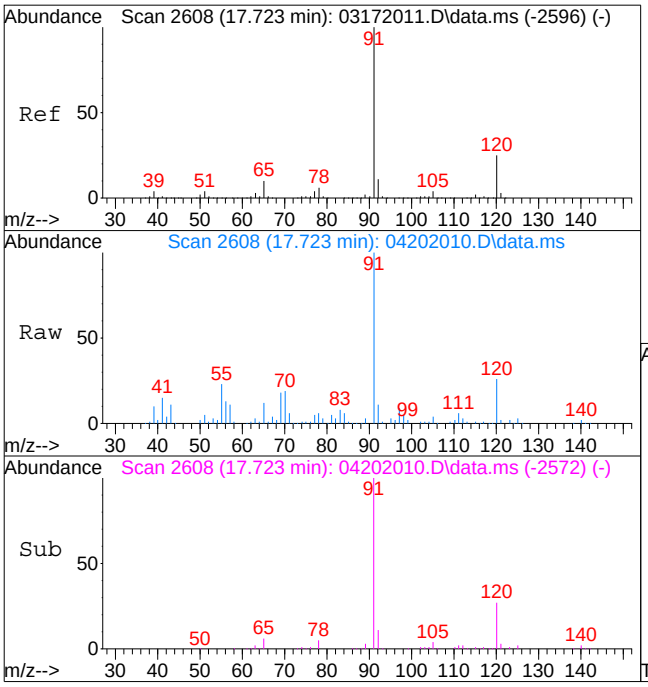


#74
Cumene
Concen: 1.42 ng
RT: 17.20 min Scan# 2513
Delta R.T. 0.000 min
Lab File: 04202010.D
Acq: 20 Apr 2020 7:46

Tgt Ion:105 Resp: 78536

Ion	Ratio	Lower	Upper
105	100		
120	27.6	7.6	47.6

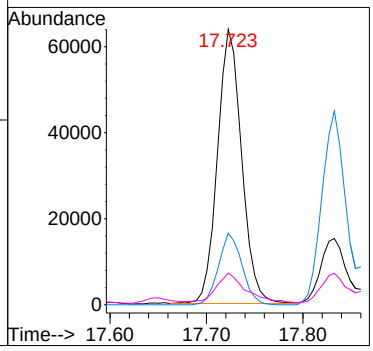


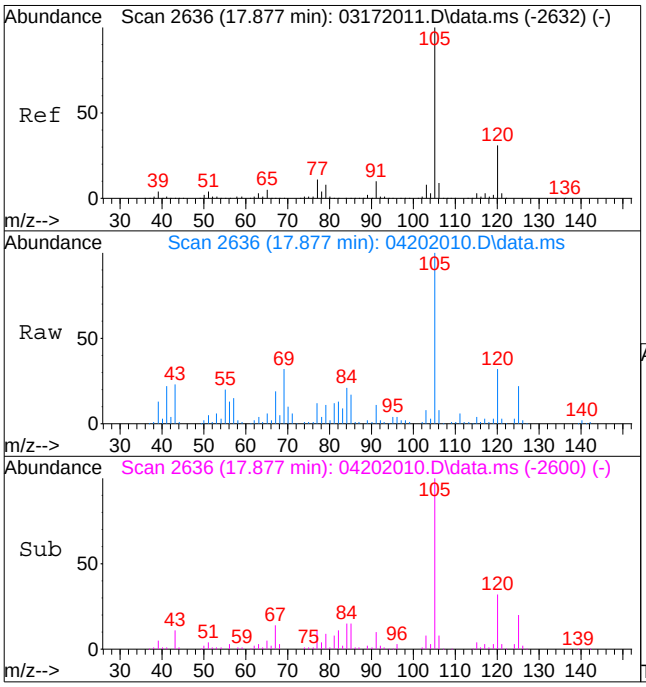


#76
n-Propylbenzene
Concen: 1.76 ng
RT: 17.72 min Scan# 2608
Delta R.T. -0.000 min
Lab File: 04202010.D
Acq: 20 Apr 2020 7:46

Tgt Ion: 91 Resp: 111190

Ion	Ratio	Lower	Upper
91	100		
120	25.2	5.0	45.0
65	13.2	0.0	30.0

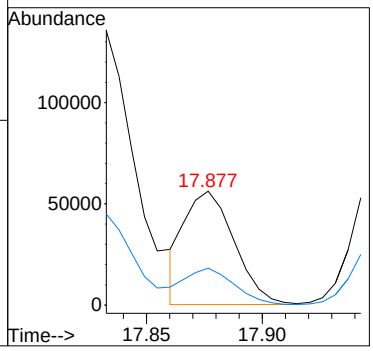


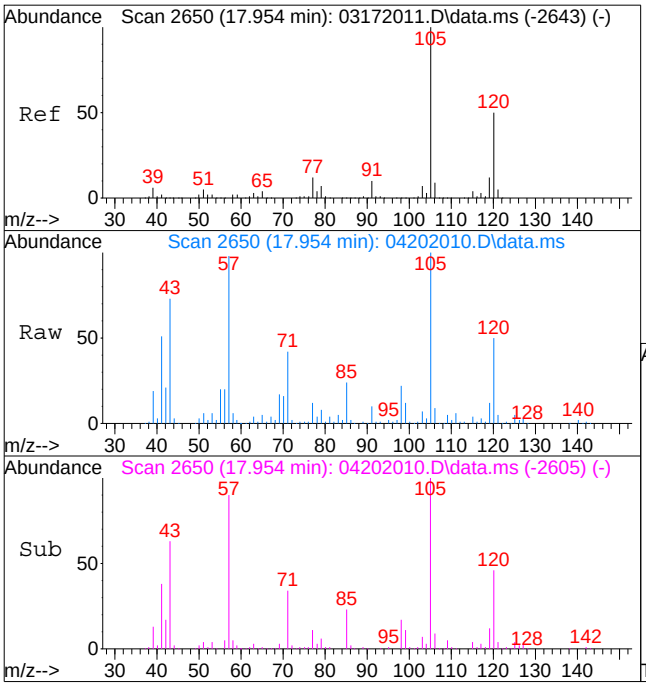


#78
4-Ethyltoluene
Concen: 1.66 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.000 min
Lab File: 04202010.D
Acq: 20 Apr 2020 7:46

Tgt Ion:105 Resp: 84491

Ion	Ratio	Lower	Upper
105	100		
120	31.9	11.2	51.2

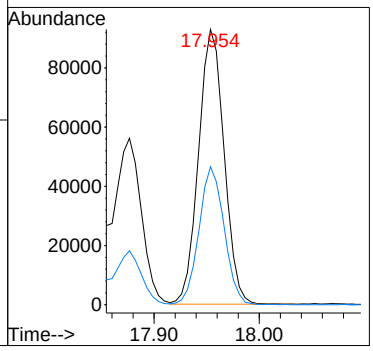


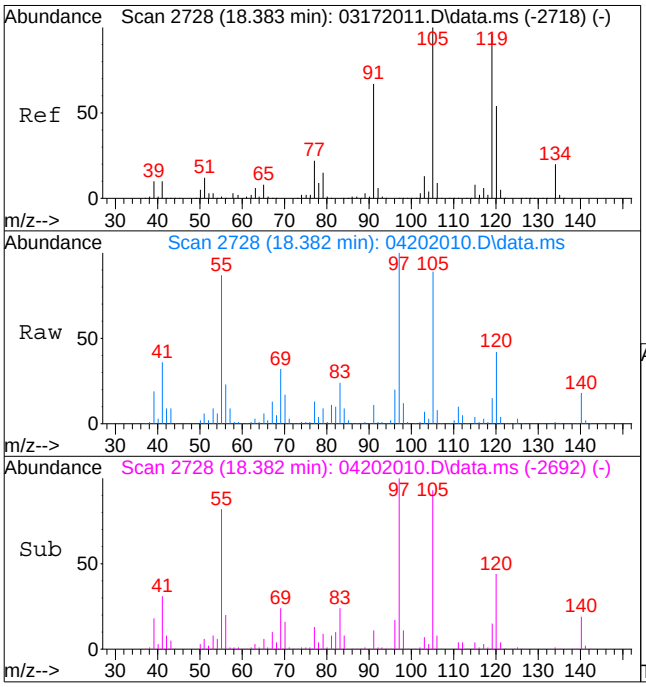


#79
1,3,5-Trimethylbenzene
Concen: 3.36 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.000 min
Lab File: 04202010.D
Acq: 20 Apr 2020 7:46

Tgt Ion:105 Resp: 156877

Ion	Ratio	Lower	Upper
105	100		
120	49.6	30.5	70.5

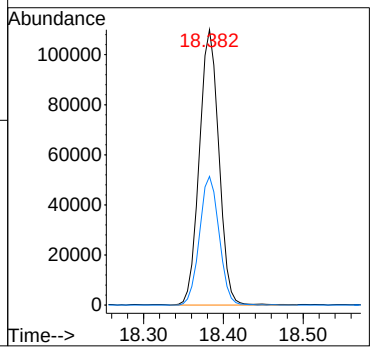




#82
1,2,4-Trimethylbenzene
Concen: 4.31 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.001 min
Lab File: 04202010.D
Acq: 20 Apr 2020 7:46

Tgt Ion:105 Resp: 186954

Ion	Ratio	Lower	Upper
105	100		
120	46.8	34.9	74.9



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202016.D Vial: 1
Acq On : 20 Apr 2020 11:08 Operator: TD
Sample : P2002027-007dil (0.1mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 14:23:55 2020 4/20/20
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	132652	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	11.11	114	569498	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	257641	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	208018	13.860	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.88%				
57) Toluene-d8 (SS2)	13.55	98	634414	12.381	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.04%				
73) Bromofluorobenzene (SS3)	17.05	174	236643	13.881	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.04%				
Target Compounds							Qvalue
2) Propene	3.89	42	3726	0.459	ng	#	78
3) Dichlorodifluoromethan...	3.99	85	3216	0.170	ng	#	97
4) Chloromethane	3.99	50	286	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	4.58	54	310	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	0.00	45	0	N.D.	d		
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	0.00	56	0	N.D.	d		
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	6.02	101	499	N.D.			
15) 2-Propanol (Isopropanol)	6.22	45	545	N.D.			
16) Acrylonitrile	6.33	53	445	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	6.93	41	505	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	7.17	76	254	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	8.31	63	126	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	8.58	72	196	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	9.22	57	63511	4.471	ng		98
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	10.05	62	256	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	10.76	78	25859	0.637	ng		97
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	11.04	84	108081	7.017	ng		95
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	11.46	63	320	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202016.D Vial: 1
Acq On : 20 Apr 2020 11:08 Operator: TD
Sample : P2002027-007dil (0.1mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 14:23:55 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

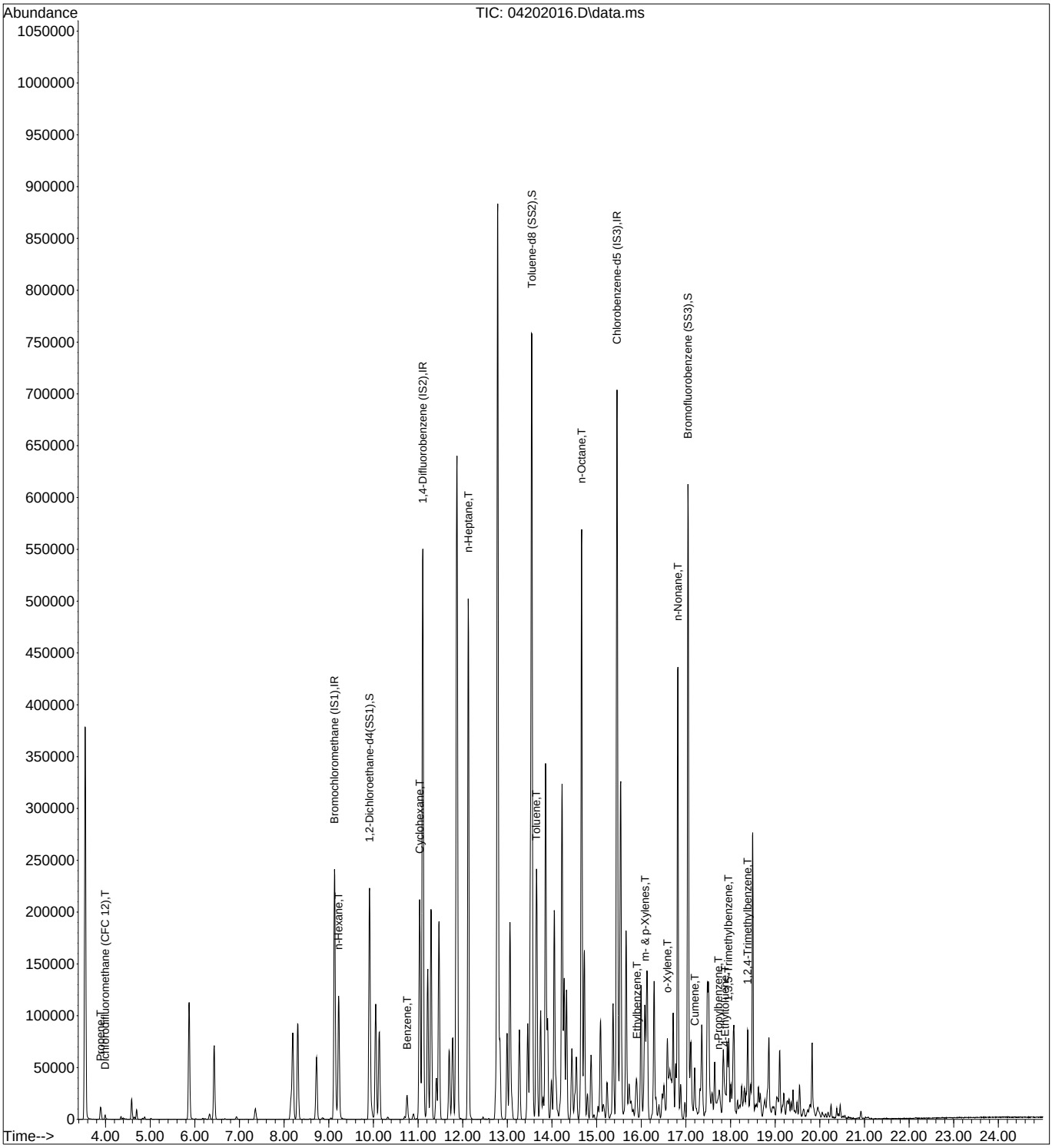
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.12	71	146578	15.131 ng	96
52) cis-1,3-Dichloropropene	12.77	75	162	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	13.65	91	95341	2.192 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.67	57	111988	14.273 ng	94
64) Tetrachloroethene	14.80	166	205	N.D.	
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.90	91	13223	0.283 ng	98
67) m- & p-Xylenes	16.08	91	85787	2.295 ng	99
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.58	104	1042	N.D.	
70) o-Xylene	16.58	91	53075	1.421 ng	98
71) n-Nonane	16.82	43	144751	8.971 ng	96
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	17.20	105	7175	0.147 ng	96
75) alpha-Pinene	17.60	93	750	N.D.	
76) n-Propylbenzene	17.73	91	10028	0.180 ng	95
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	8191	0.183 ng	100
79) 1,3,5-Trimethylbenzene	17.95	105	14715	0.358 ng	97
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	16795	0.439 ng	90
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	0.00	91	0	N.D. d	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.99	128	118	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202016.D Vial: 1
Acq On : 20 Apr 2020 11:08 Operator: TD
Sample : P2002027-007dil (0.1mL) Inst : MS09
Misc : S31-02272010

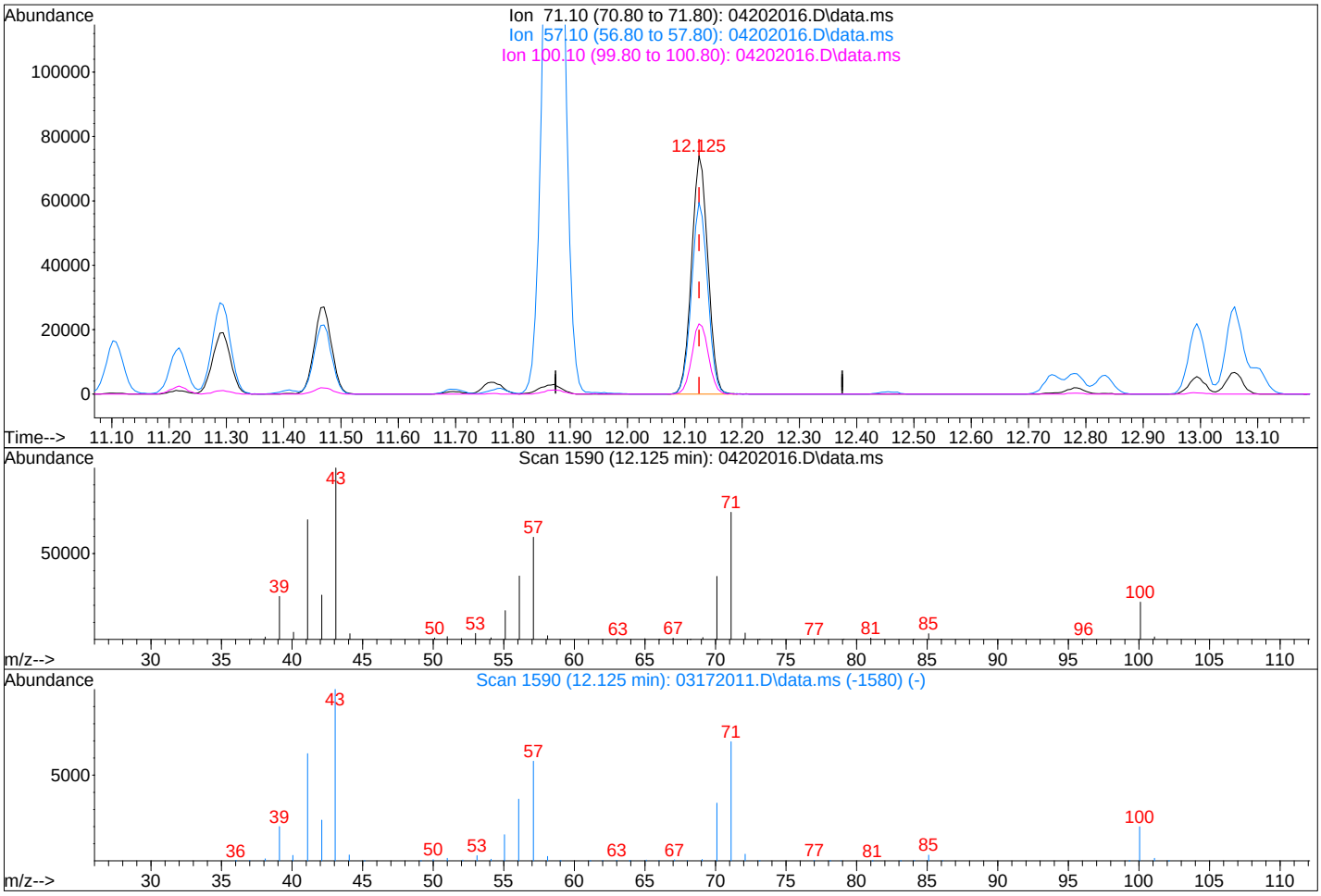
Quant Time: Apr 20 14:23:55 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\20\04202016.D Vial: 1
Acq On : 20 Apr 2020 11:08 Operator: TD
Sample : P2002027-007dil (0.1mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 12:16:09 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202016.D\data.ms

(51) n-Heptane (T)

12.125min (-0.000) 15.13ng

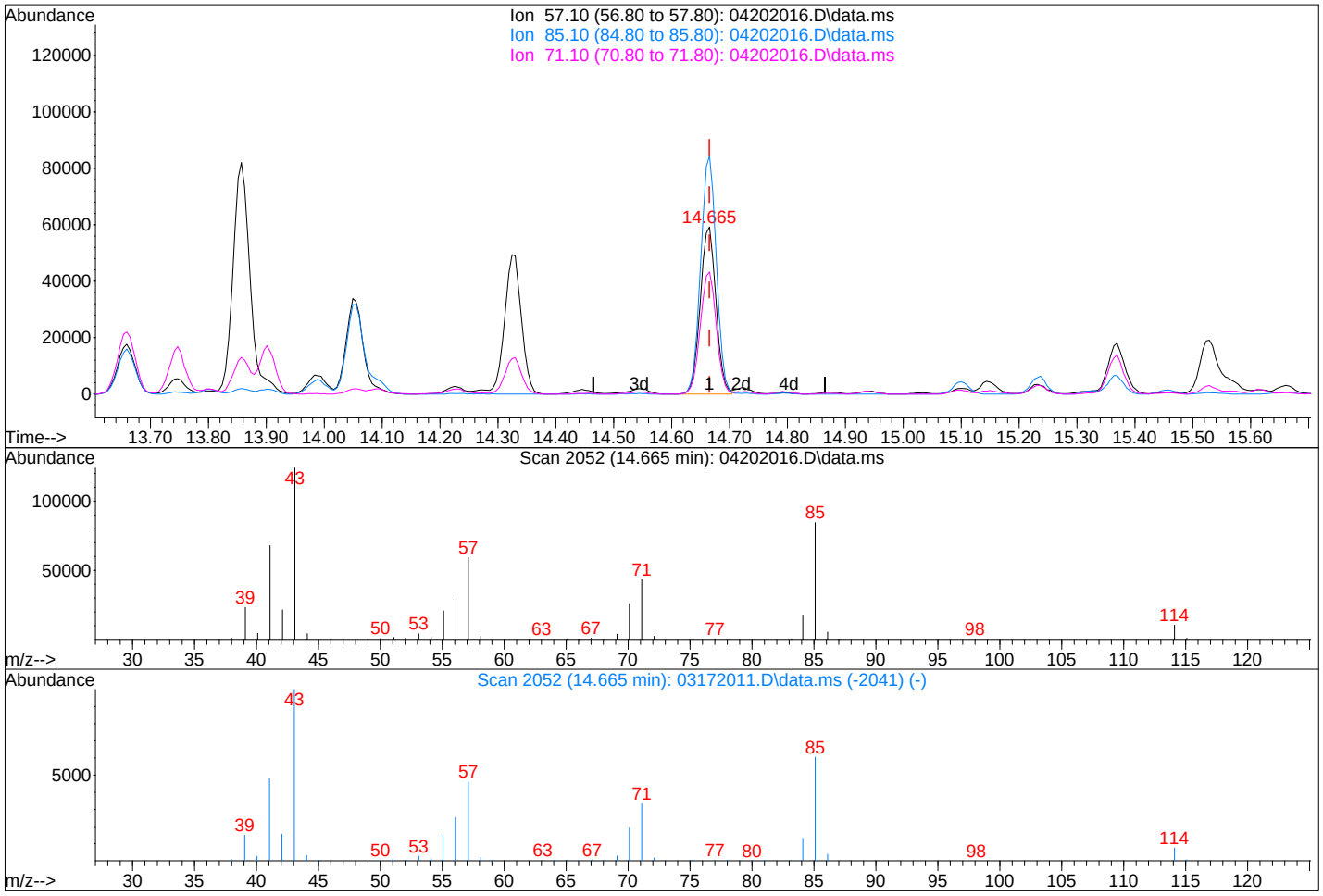
response 146578

Ion	Exp%	Act%
71.10	100	100
57.10	84.00	79.91
100.10	28.70	29.96
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\20\04202016.D Vial: 1
Acq On : 20 Apr 2020 11:08 Operator: TD
Sample : P2002027-007dil (0.1mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 12:16:09 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202016.D\data.ms

(63) n-Octane (T)

14.665min (+0.000) 14.27ng

response 111988

Ion	Exp%	Act%
57.10	100	100
85.10	131.80	141.93
71.10	73.70	74.54
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202014.D Vial: 12
Acq On : 20 Apr 2020 10:01 Operator: TD
Sample : P2002027-008 (400mL);pf2 Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 18:21:03 2020 4/20/20
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	132753	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.11	114	564685	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	253358	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	206281	13.734	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.84%				
57) Toluene-d8 (SS2)	13.55	98	608346	12.073	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.56%				
73) Bromofluorobenzene (SS3)	17.05	174	227392	13.563	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.48%				
Target Compounds							Qvalue
2) Propene	3.87	42	6829	0.840	ng	#	78
3) Dichlorodifluoromethan...	3.97	85	188520	9.952	ng		99
4) Chloromethane	4.17	50	490	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	4880	0.552	ng		98
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	4.64	54	1297	0.189	ng	#	79
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.36	45	3617	0.569	ng		80
11) Acetonitrile	5.58	41	293	N.D.			
12) Acrolein	5.72	56	1630	0.299	ng		89
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	6.02	101	21386	1.247	ng		99
15) 2-Propanol (Isopropanol)	6.19	45	1680	0.081	ng		93
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	6.86	84	236	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	7.18	151	41590	4.350	ng		95
22) Carbon Disulfide	0.00	76	0	N.D.	d		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	8.19	63	437	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	8.54	72	2378	0.371	ng		99
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	9.23	61	1188	0.405	ng	#	1
31) n-Hexane	9.23	57	158321	11.137	ng		99
32) Chloroform	9.28	83	1629	0.096	ng		88
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.75	78	77112	1.916	ng		99
42) Carbon Tetrachloride	10.91	117	11153	0.778	ng		99
43) Cyclohexane	11.04	84	259772	17.009	ng		95
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	11.82	130	2245	0.194	ng		97
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202014.D Vial: 12
Acq On : 20 Apr 2020 10:01 Operator: TD
Sample : P2002027-008 (400mL);pf2 Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 18:21:03 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

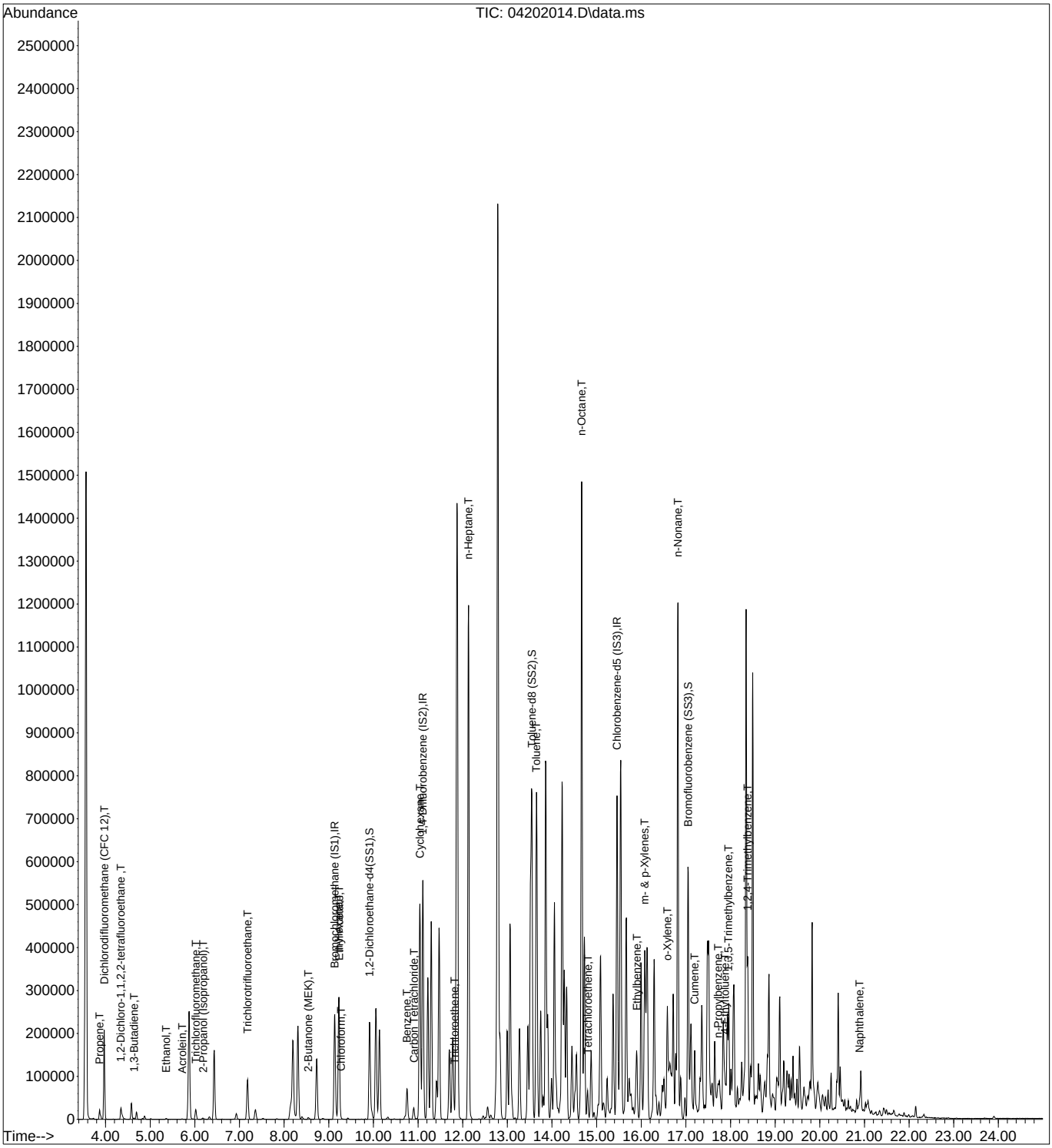
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.13	71	356458	37.111 ng	96
52) cis-1,3-Dichloropropene	12.79	75	594	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	13.65	91	409780	9.583 ng	99
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D. d	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.67	57	289754	37.553 ng	95
64) Tetrachloroethene	14.81	166	1981	0.149 ng	99
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.90	91	76071	1.657 ng	99
67) m- & p-Xylenes	16.08	91	306690	8.344 ng	100
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.49	104	403	N.D.	
70) o-Xylene	16.58	91	169772	4.622 ng	98
71) n-Nonane	16.82	43	396135	24.967 ng	95
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	17.19	105	25681	0.536 ng	99
75) alpha-Pinene	17.50	93	388	N.D.	
76) n-Propylbenzene	17.72	91	42059	0.768 ng	98
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	29313	0.666 ng	99
79) 1,3,5-Trimethylbenzene	17.95	105	54000	1.335 ng	97
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	99511	2.647 ng	88
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.49	91	516	N.D.	
85) 1,3-Dichlorobenzene	18.62	146	132	N.D.	
86) 1,4-Dichlorobenzene	18.62	146	132	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	20.79	180	105	N.D.	
95) Naphthalene	20.89	128	19808	0.383 ng	99
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202014.D Vial: 12
Acq On : 20 Apr 2020 10:01 Operator: TD
Sample : P2002027-008 (400mL);pf2 Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 18:21:03 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202014.D Vial: 12
Acq On : 20 Apr 2020 10:01 Operator: TD
Sample : P2002027-008 (400mL);pf2 Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 18:21:03 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/20/20

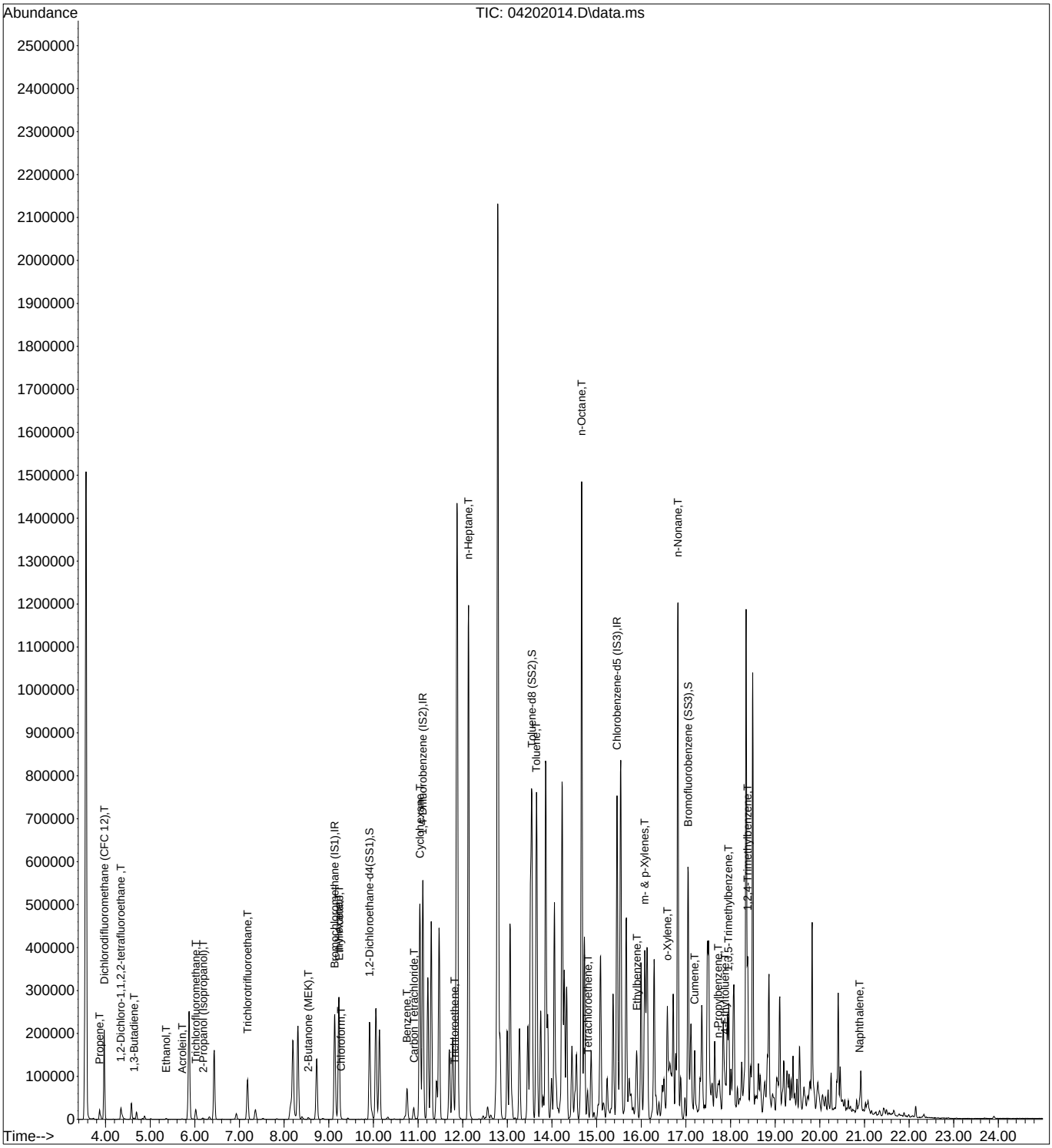
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	132753	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.11	114	564685	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	253358	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	206281	13.734	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.84%				
57) Toluene-d8 (SS2)	13.55	98	608346	12.073	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.56%				
73) Bromofluorobenzene (SS3)	17.05	174	227392	13.563	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.48%				
Target Compounds							Qvalue
2) Propene	3.87	42	6829	0.840	ng	#	78
3) Dichlorodifluoromethan...	3.97	85	188520	9.952	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	4880	0.552	ng		98
7) 1,3-Butadiene	4.64	54	1297	0.189	ng	#	79
10) Ethanol	5.36	45	3617	0.569	ng		80
12) Acrolein	5.72	56	1630	0.299	ng		89
14) Trichlorofluoromethane	6.02	101	21386	1.247	ng		99
15) 2-Propanol (Isopropanol)	6.19	45	1680	0.081	ng		93
21) Trichlorotrifluoroethane	7.18	151	41590	4.350	ng		95
27) 2-Butanone (MEK)	8.54	72	2378	0.371	ng		99
30) Ethyl Acetate	9.23	61	1188	0.405	ng	#	1
31) n-Hexane	9.23	57	158321	11.137	ng		99
32) Chloroform	9.28	83	1629	0.096	ng		88
41) Benzene	10.75	78	77112	1.916	ng		99
42) Carbon Tetrachloride	10.91	117	11153	0.778	ng		99
43) Cyclohexane	11.04	84	259772	17.009	ng		95
47) Trichloroethene	11.82	130	2245	0.194	ng		97
51) n-Heptane	12.13	71	356458	37.111	ng		96
58) Toluene	13.65	91	409780	9.583	ng		99
63) n-Octane	14.67	57	289754	37.553	ng		95
64) Tetrachloroethene	14.81	166	1981	0.149	ng		99
66) Ethylbenzene	15.90	91	76071	1.657	ng		99
67) m- & p-Xylenes	16.08	91	306690	8.344	ng		100
70) o-Xylene	16.58	91	169772	4.622	ng		98
71) n-Nonane	16.82	43	396135	24.967	ng		95
74) Cumene	17.19	105	25681	0.536	ng		99
76) n-Propylbenzene	17.72	91	42059	0.768	ng		98
78) 4-Ethyltoluene	17.88	105	29313	0.666	ng		99
79) 1,3,5-Trimethylbenzene	17.95	105	54000	1.335	ng		97
82) 1,2,4-Trimethylbenzene	18.38	105	99511	2.647	ng		88
95) Naphthalene	20.89	128	19808	0.383	ng		99

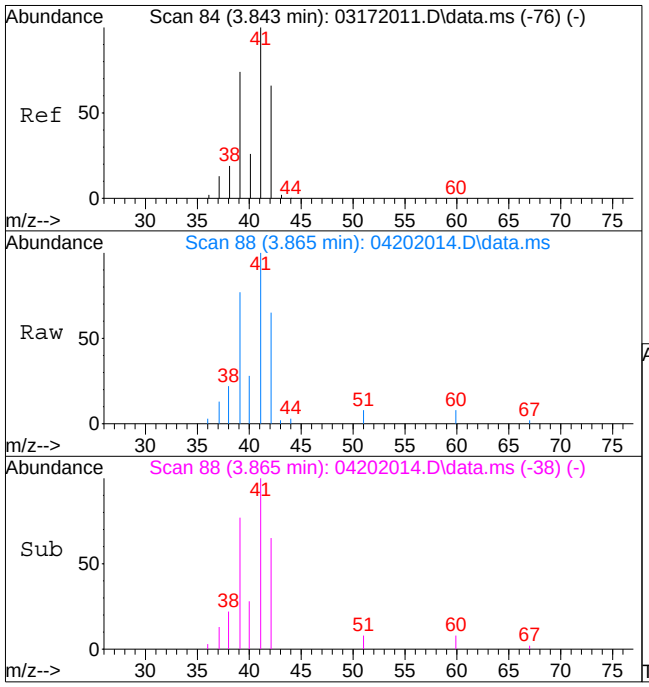
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202014.D Vial: 12
Acq On : 20 Apr 2020 10:01 Operator: TD
Sample : P2002027-008 (400mL);pf2 Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 18:21:03 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

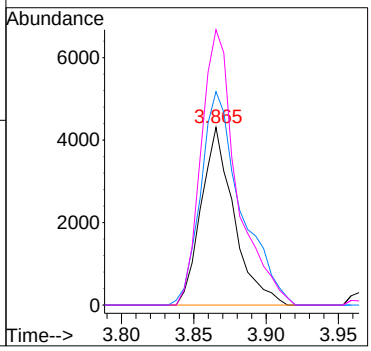


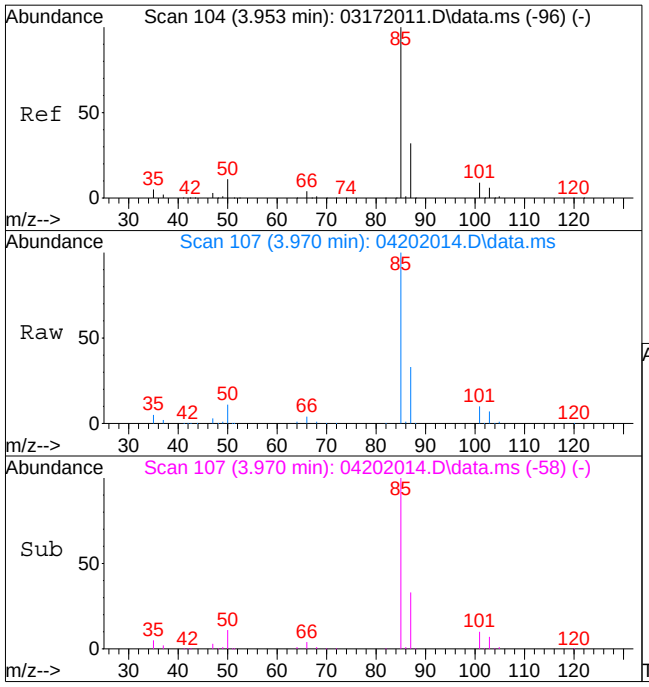


#2
Propene
Concen: 0.84 ng
RT: 3.87 min Scan# 88
Delta R.T. 0.022 min
Lab File: 04202014.D
Acq: 20 Apr 2020 10:01

Tgt Ion: 42 Resp: 6829

Ion	Ratio	Lower	Upper
42	100		
39	147.3	91.9	131.9#
41	168.2	130.5	170.5

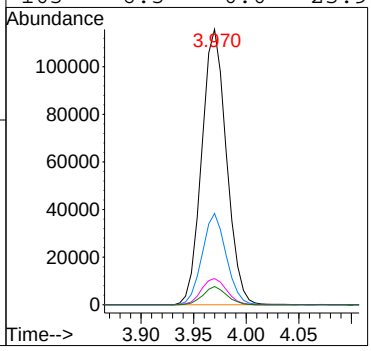


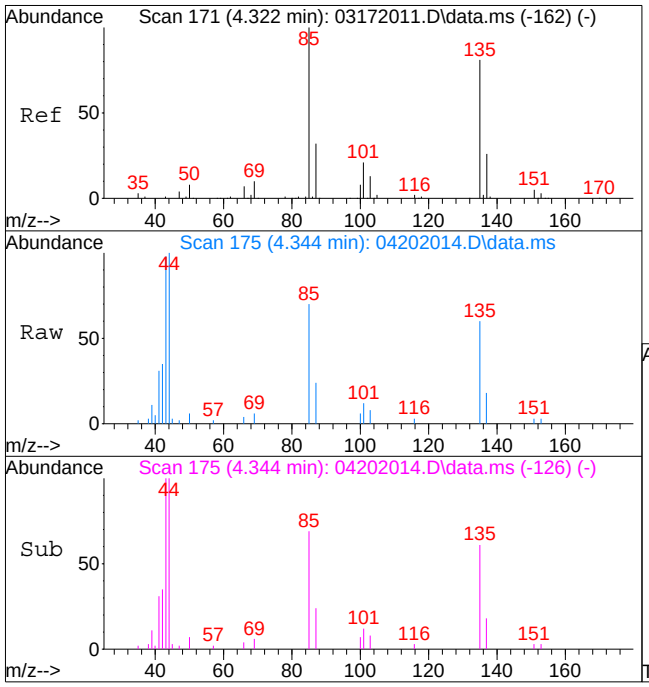


#3
Dichlorodifluoromethane (CFC 12)
Concen: 9.95 ng
RT: 3.97 min Scan# 107
Delta R.T. 0.017 min
Lab File: 04202014.D
Acq: 20 Apr 2020 10:01

Tgt Ion: 85 Resp: 188520

Ion	Ratio	Lower	Upper
85	100		
87	32.3	12.4	52.4
101	9.7	0.0	29.2
103	6.3	0.0	25.9

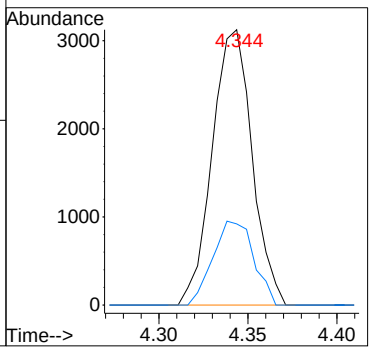


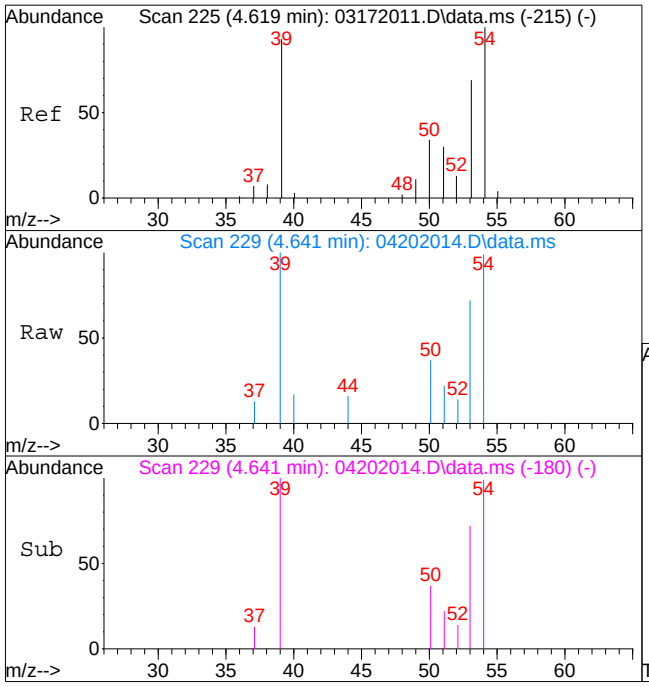


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 0.55 ng
RT: 4.34 min Scan# 175
Delta R.T. 0.022 min
Lab File: 04202014.D
Acq: 20 Apr 2020 10:01

Tgt Ion:135 Resp: 4880

Ion	Ratio	Lower	Upper
135	100		
137	31.0	12.0	52.0

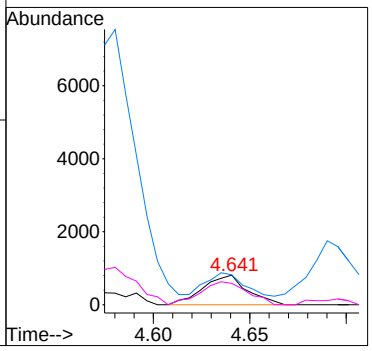


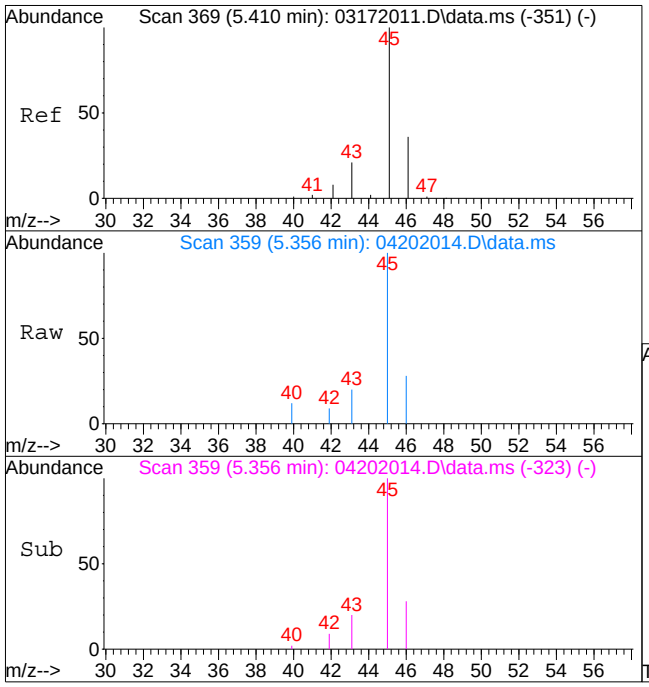


#7
1,3-Butadiene
Concen: 0.19 ng
RT: 4.64 min Scan# 229
Delta R.T. 0.022 min
Lab File: 04202014.D
Acq: 20 Apr 2020 10:01

Tgt Ion: 54 Resp: 1297

Ion	Ratio	Lower	Upper
54	100		
39	119.2	74.8	114.8#
53	82.2	49.9	89.9

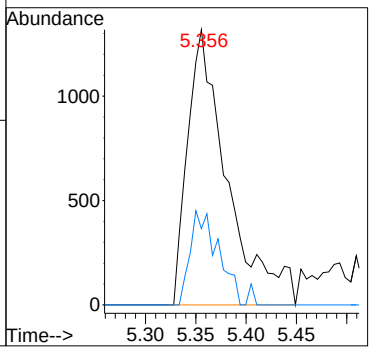


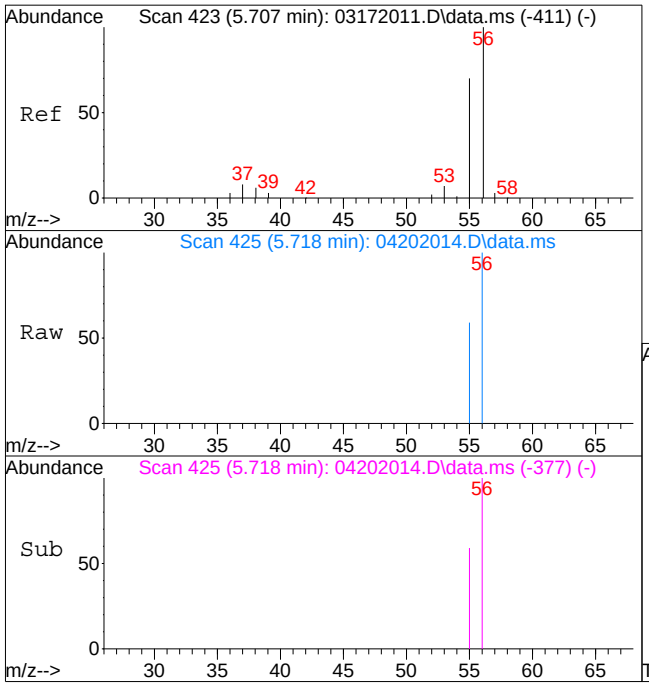


#10
Ethanol
Concen: 0.57 ng
RT: 5.36 min Scan# 359
Delta R.T. -0.054 min
Lab File: 04202014.D
Acq: 20 Apr 2020 10:01

Tgt Ion: 45 Resp: 3617

Ion	Ratio	Lower	Upper
45	100		
46	24.2	15.9	55.9

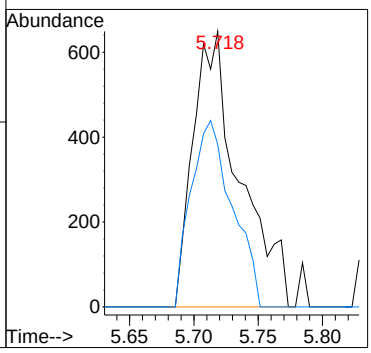


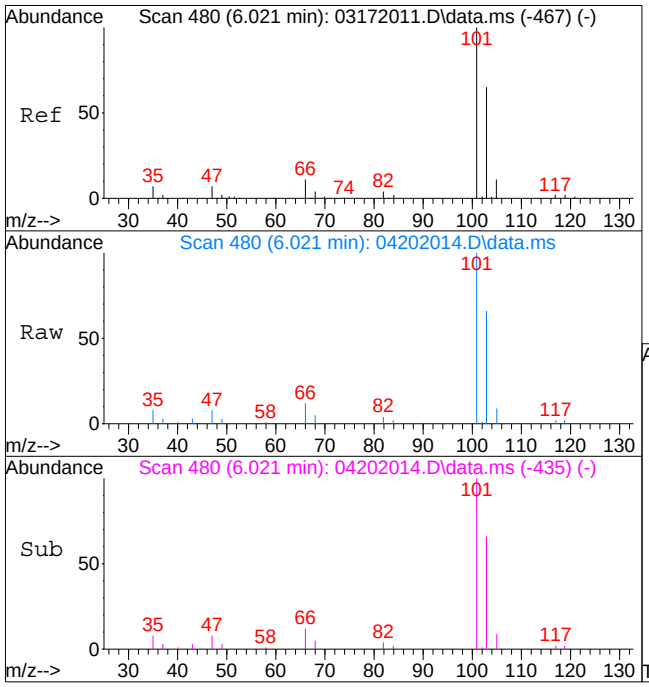


#12
Acrolein
Concen: 0.30 ng
RT: 5.72 min Scan# 425
Delta R.T. 0.011 min
Lab File: 04202014.D
Acq: 20 Apr 2020 10:01

Tgt Ion: 56 Resp: 1630

Ion	Ratio	Lower	Upper
56	100		
55	60.2	49.5	89.5

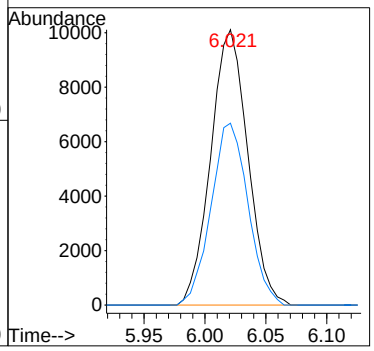


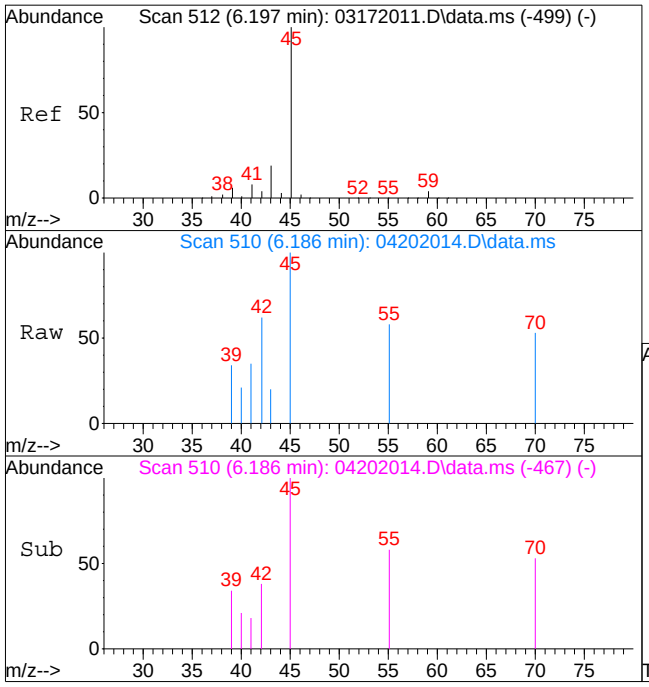


#14
Trichlorofluoromethane
Concen: 1.25 ng
RT: 6.02 min Scan# 480
Delta R.T. -0.000 min
Lab File: 04202014.D
Acq: 20 Apr 2020 10:01

Tgt Ion:101 Resp: 21386

Ion	Ratio	Lower	Upper
101	100		
103	66.0	45.3	85.3

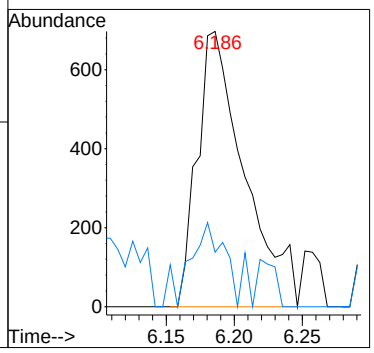


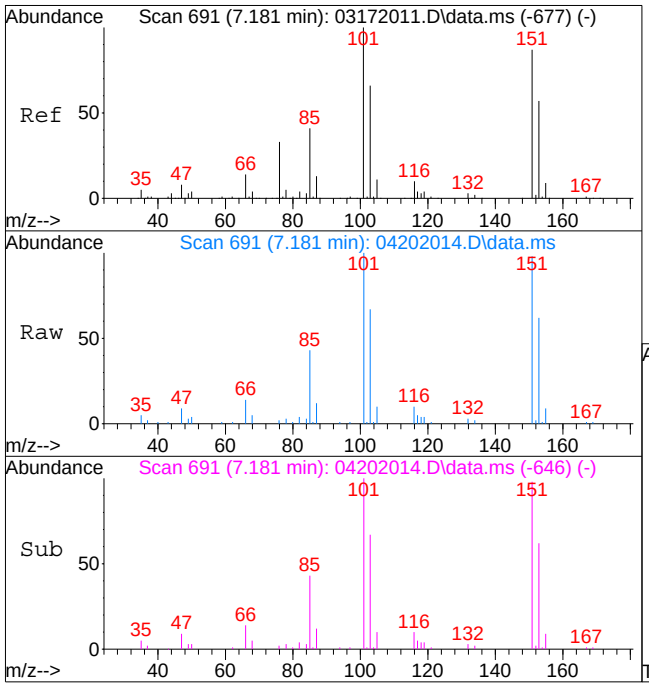


#15
2-Propanol (Isopropanol)
Concen: 0.08 ng
RT: 6.19 min Scan# 510
Delta R.T. -0.011 min
Lab File: 04202014.D
Acq: 20 Apr 2020 10:01

Tgt Ion: 45 Resp: 1680

Ion	Ratio	Lower	Upper
45	100		
43	22.3	0.0	39.0

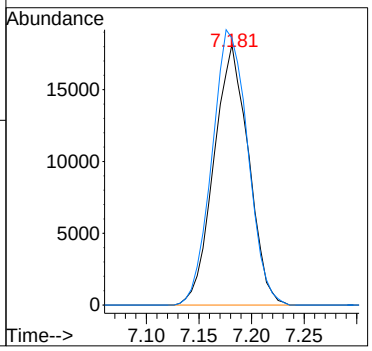


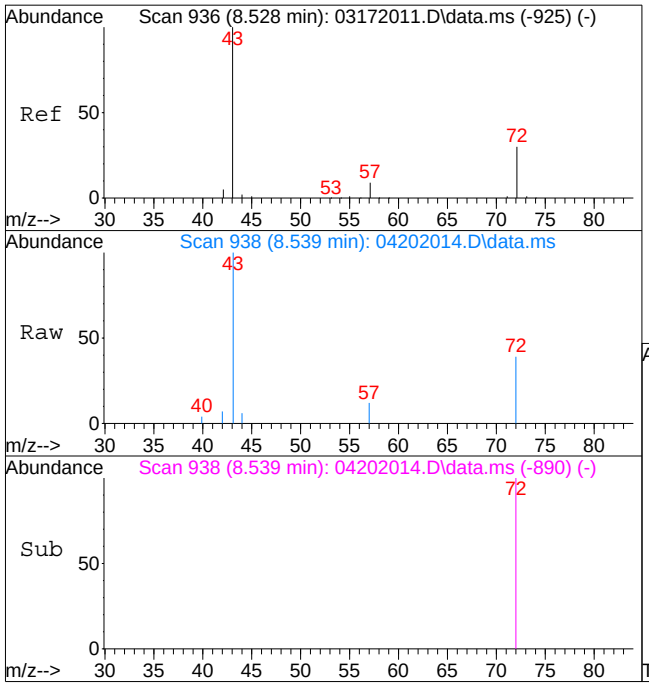


#21
Trichlorotrifluoroethane
Concen: 4.35 ng
RT: 7.18 min Scan# 691
Delta R.T. 0.000 min
Lab File: 04202014.D
Acq: 20 Apr 2020 10:01

Tgt Ion:151 Resp: 41590

Ion	Ratio	Lower	Upper
151	100		
101	109.5	94.7	134.7

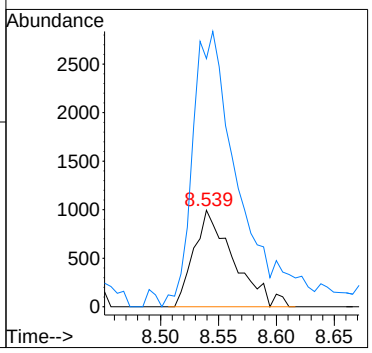


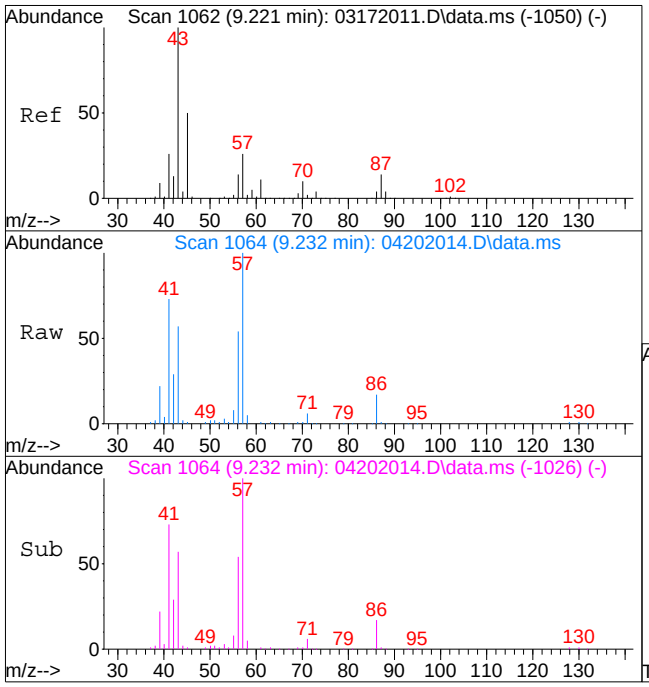


#27
2-Butanone (MEK)
Concen: 0.37 ng
RT: 8.54 min Scan# 938
Delta R.T. 0.011 min
Lab File: 04202014.D
Acq: 20 Apr 2020 10:01

Tgt Ion: 72 Resp: 2378

Ion	Ratio	Lower	Upper
72	100		
43	332.3	310.6	350.6

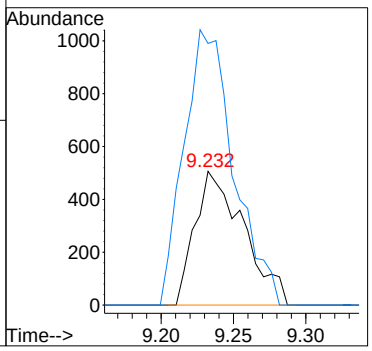


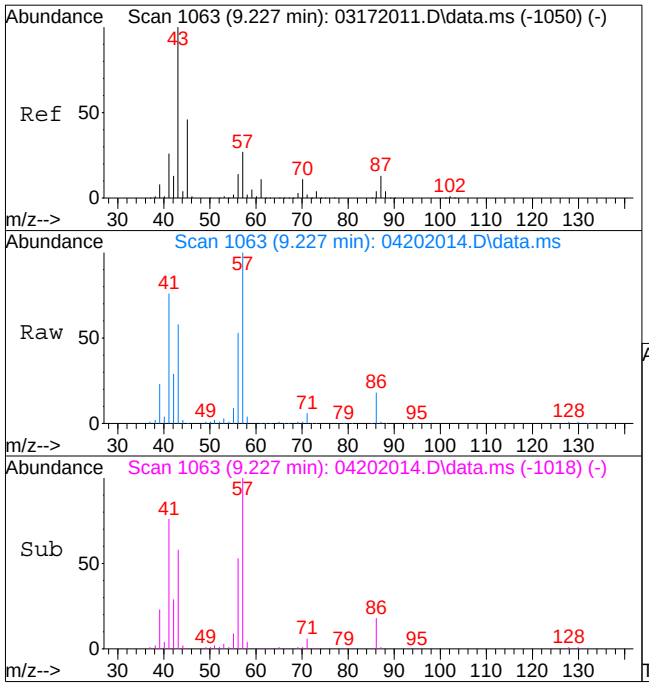


#30
Ethyl Acetate
Concen: 0.41 ng
RT: 9.23 min Scan# 1064
Delta R.T. 0.011 min
Lab File: 04202014.D
Acq: 20 Apr 2020 10:01

Tgt Ion: 61 Resp: 1188

Ion	Ratio	Lower	Upper
61	100		
70	210.1	73.0	113.0#

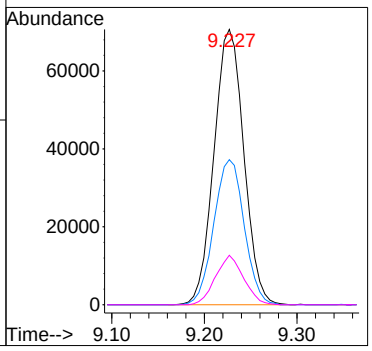


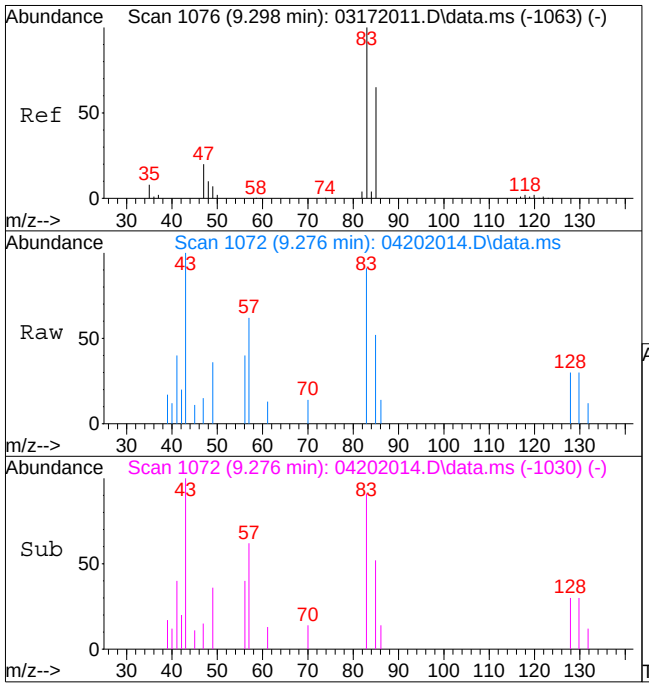


#31
n-Hexane
Concen: 11.14 ng
RT: 9.23 min Scan# 1063
Delta R.T. -0.000 min
Lab File: 04202014.D
Acq: 20 Apr 2020 10:01

Tgt Ion: 57 Resp: 158321

Ion	Ratio	Lower	Upper
57	100		
56	53.5	42.0	63.0
86	16.9	13.1	19.7

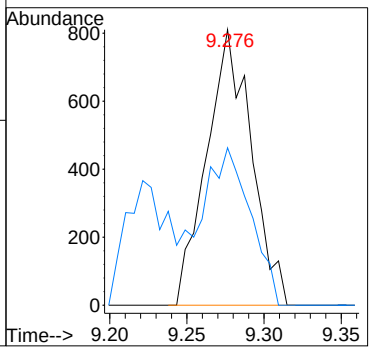


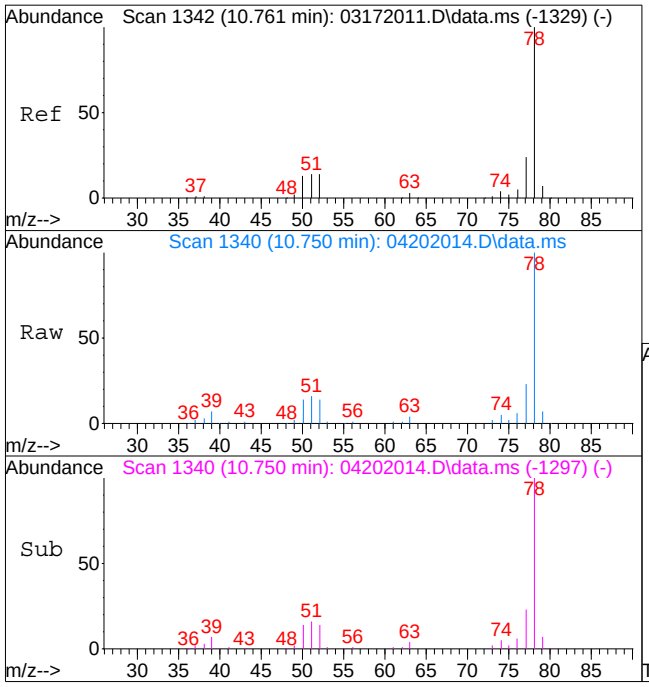


#32
Chloroform
Concen: 0.10 ng
RT: 9.28 min Scan# 1072
Delta R.T. -0.022 min
Lab File: 04202014.D
Acq: 20 Apr 2020 10:01

Tgt Ion: 83 Resp: 1629

Ion	Ratio	Lower	Upper
83	100		
85	55.6	45.1	85.1

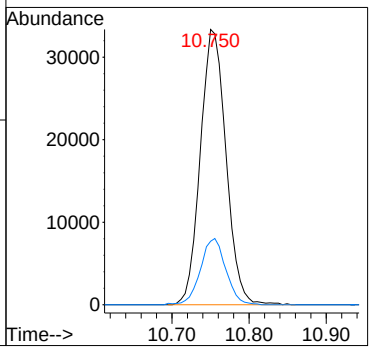


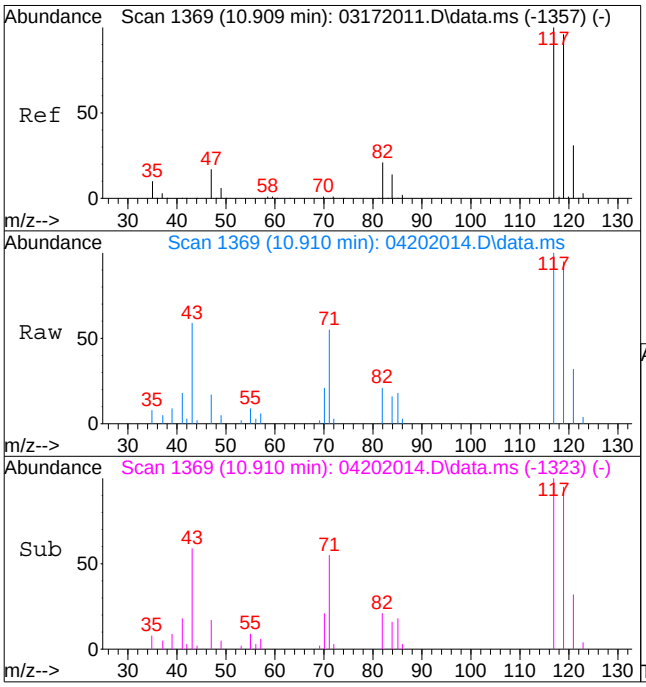


#41
Benzene
Concen: 1.92 ng
RT: 10.75 min Scan# 1340
Delta R.T. -0.011 min
Lab File: 04202014.D
Acq: 20 Apr 2020 10:01

Tgt Ion: 78 Resp: 77112

Ion	Ratio	Lower	Upper
78	100		
77	23.8	3.4	43.4

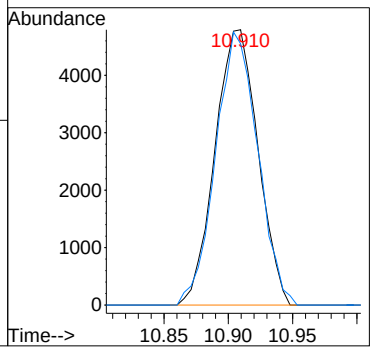


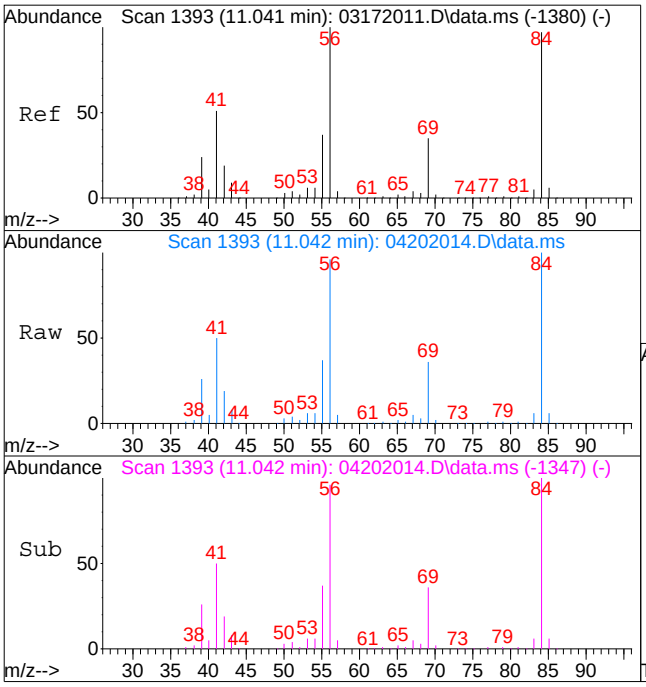


#42
Carbon Tetrachloride
Concen: 0.78 ng
RT: 10.91 min Scan# 1369
Delta R.T. 0.001 min
Lab File: 04202014.D
Acq: 20 Apr 2020 10:01

Tgt Ion:117 Resp: 11153

Ion	Ratio	Lower	Upper
117	100		
119	97.1	76.0	116.0

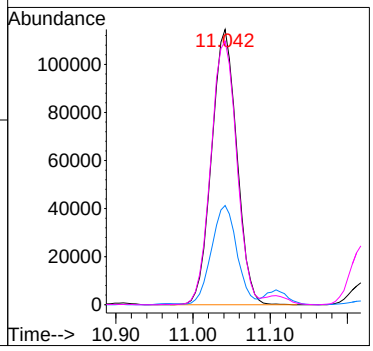


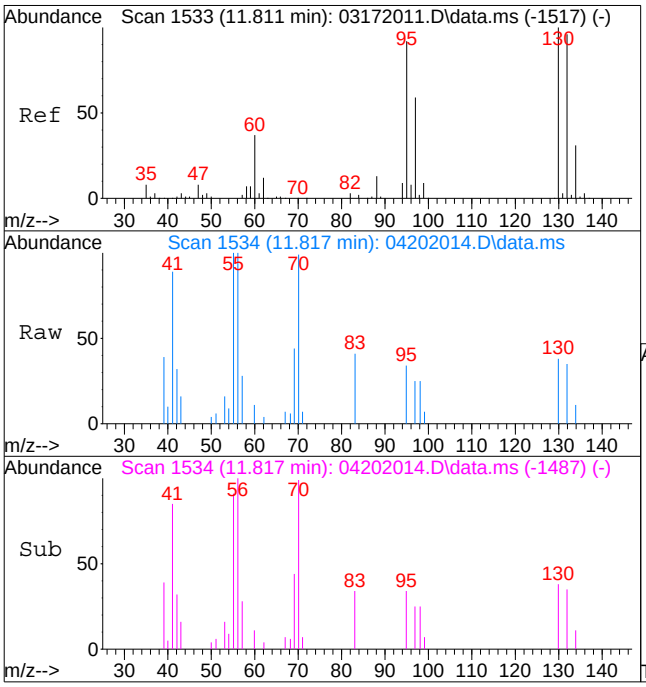


#43
Cyclohexane
Concen: 17.01 ng
RT: 11.04 min Scan# 1393
Delta R.T. 0.001 min
Lab File: 04202014.D
Acq: 20 Apr 2020 10:01

Tgt Ion: 84 Resp: 259772

Ion	Ratio	Lower	Upper
84	100		
69	36.6	16.6	56.6
56	99.0	85.3	125.3

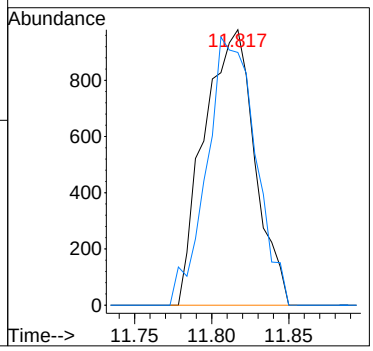


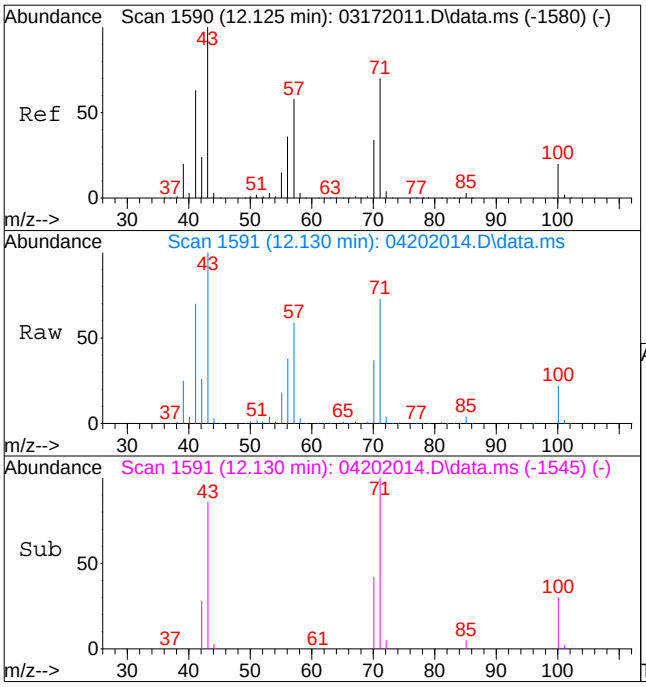


#47
Trichloroethene
Concen: 0.19 ng
RT: 11.82 min Scan# 1534
Delta R.T. 0.006 min
Lab File: 04202014.D
Acq: 20 Apr 2020 10:01

Tgt Ion:130 Resp: 2245

Ion	Ratio	Lower	Upper
130	100		
132	93.2	76.3	116.3

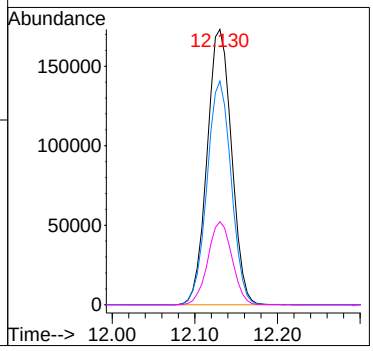


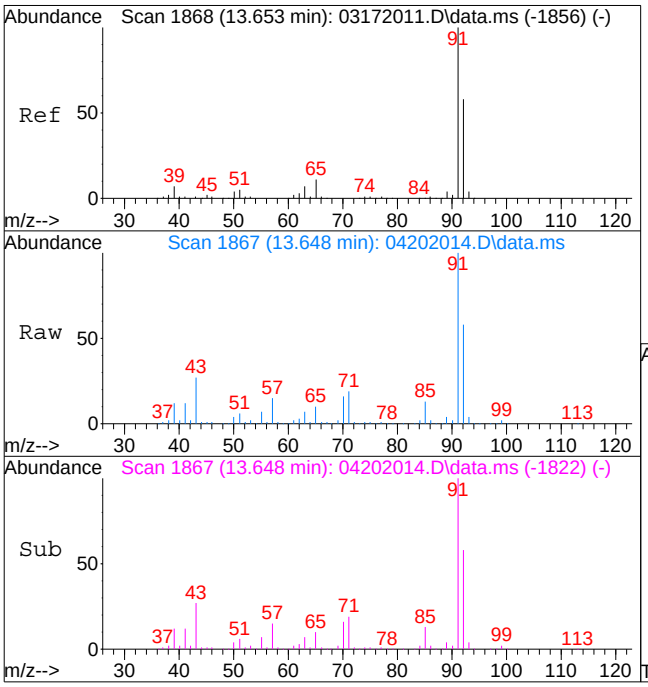


#51
n-Heptane
Concen: 37.11 ng
RT: 12.13 min Scan# 1591
Delta R.T. 0.005 min
Lab File: 04202014.D
Acq: 20 Apr 2020 10:01

Tgt Ion: 71 Resp: 356458

Ion	Ratio	Lower	Upper
71	100		
57	80.3	64.0	104.0
100	29.8	8.7	48.7

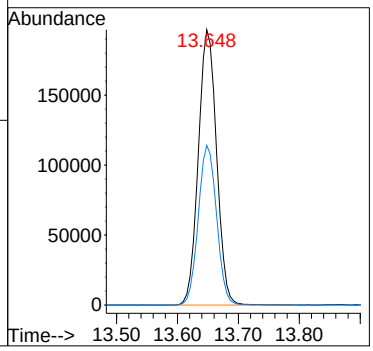


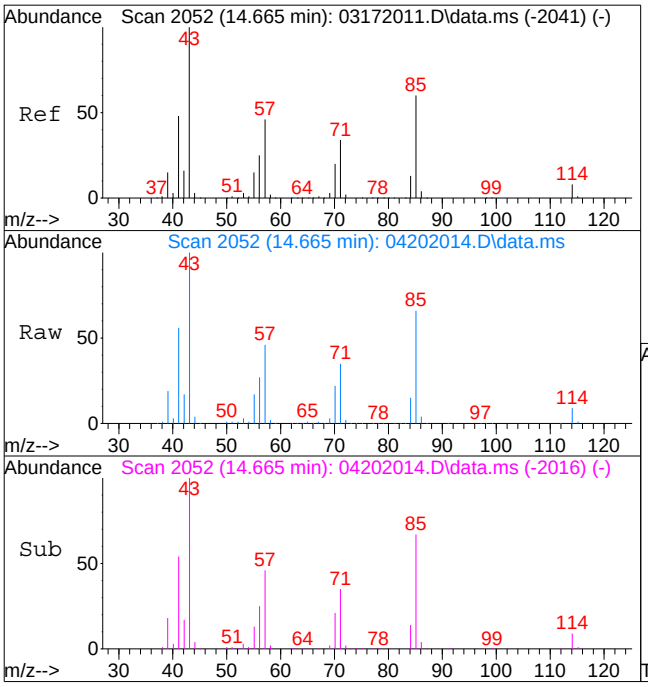


#58
Toluene
Concen: 9.58 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.005 min
Lab File: 04202014.D
Acq: 20 Apr 2020 10:01

Tgt Ion: 91 Resp: 409780

Ion	Ratio	Lower	Upper
91	100		
92	58.1	38.6	78.6

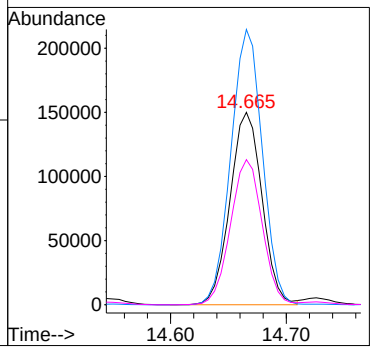


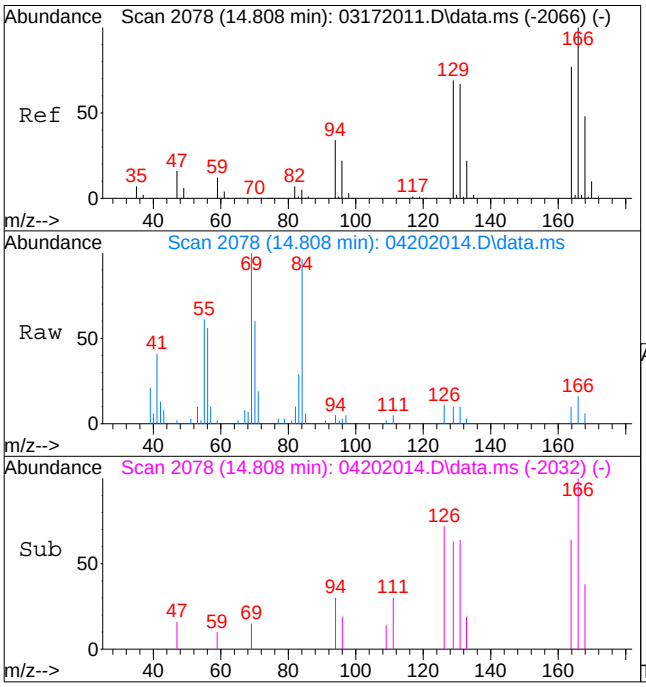


#63
n-Octane
Concen: 37.55 ng
RT: 14.67 min Scan# 2052
Delta R.T. 0.000 min
Lab File: 04202014.D
Acq: 20 Apr 2020 10:01

Tgt Ion: 57 Resp: 289754

Ion	Ratio	Lower	Upper
57	100		
85	140.7	105.4	158.2
71	74.7	59.0	88.4

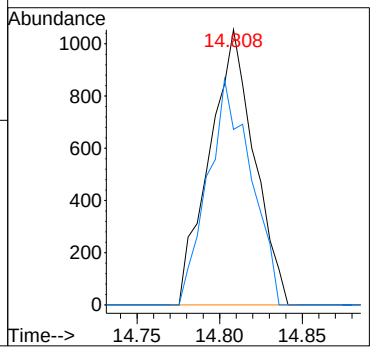


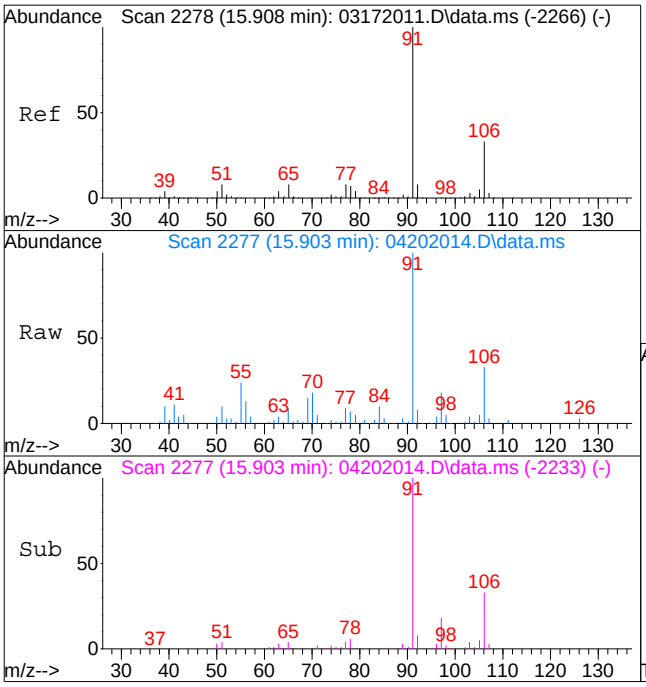


#64
Tetrachloroethene
Concen: 0.15 ng
RT: 14.81 min Scan# 2078
Delta R.T. 0.000 min
Lab File: 04202014.D
Acq: 20 Apr 2020 10:01

Tgt Ion:166 Resp: 1981

Ion	Ratio	Lower	Upper
166	100		
164	79.1	57.9	97.9

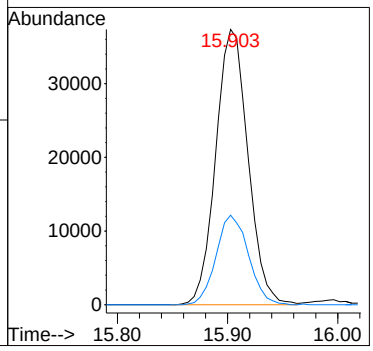


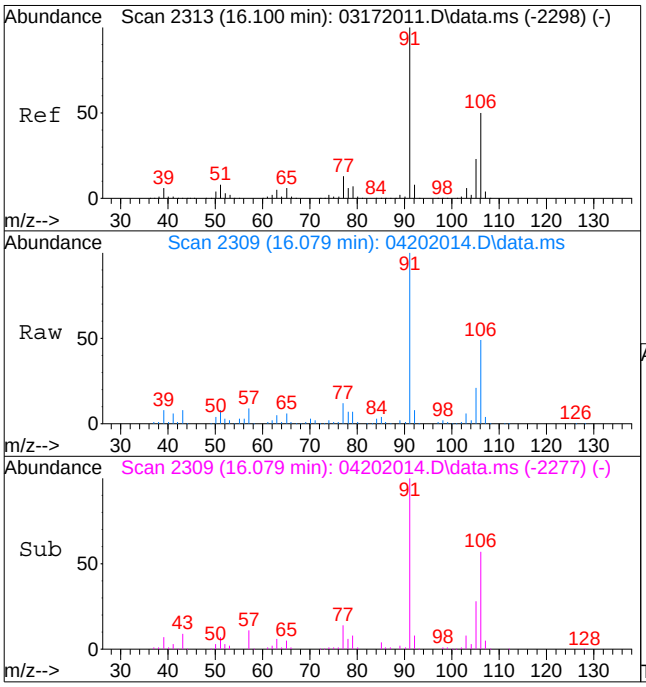


#66
Ethylbenzene
Concen: 1.66 ng
RT: 15.90 min Scan# 2277
Delta R.T. -0.005 min
Lab File: 04202014.D
Acq: 20 Apr 2020 10:01

Tgt Ion: 91 Resp: 76071

Ion	Ratio	Lower	Upper
91	100		
106	32.6	12.9	52.9

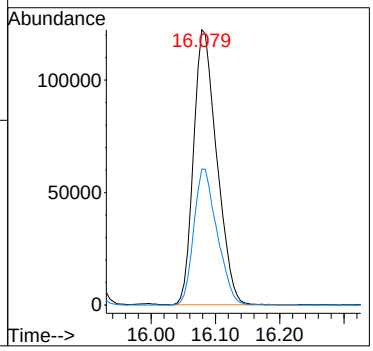


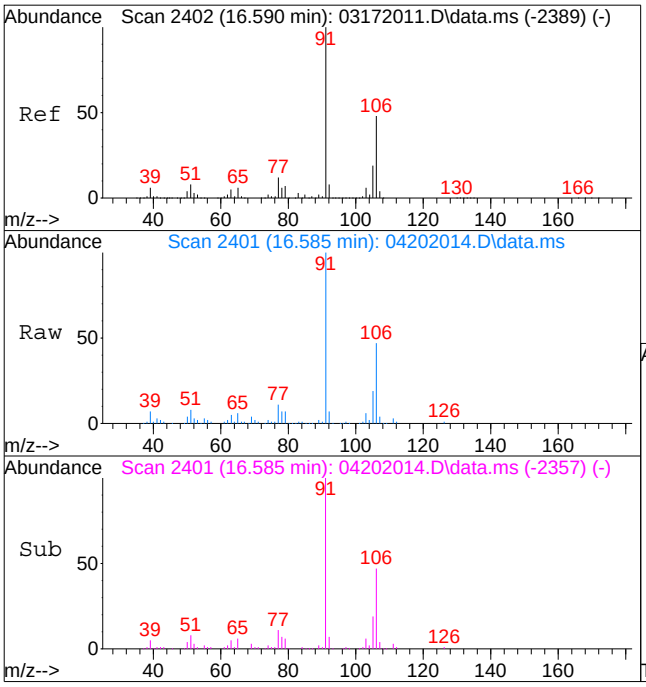


#67
m- & p-Xylenes
Concen: 8.34 ng
RT: 16.08 min Scan# 2309
Delta R.T. -0.021 min
Lab File: 04202014.D
Acq: 20 Apr 2020 10:01

Tgt Ion: 91 Resp: 306690

Ion	Ratio	Lower	Upper
91	100		
106	49.7	29.5	69.5

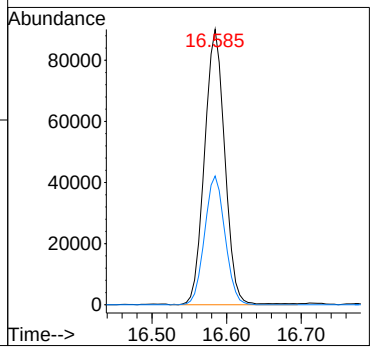


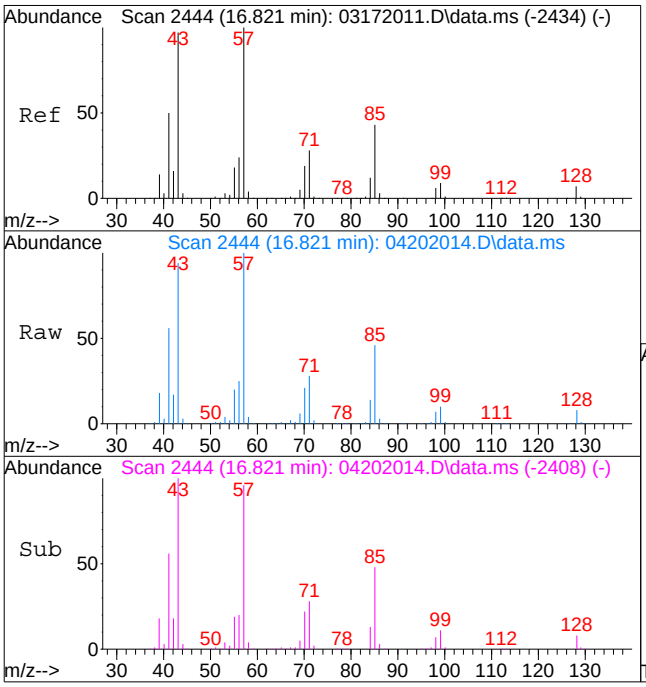


#70
o-Xylene
Concen: 4.62 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.005 min
Lab File: 04202014.D
Acq: 20 Apr 2020 10:01

Tgt Ion: 91 Resp: 169772

Ion	Ratio	Lower	Upper
91	100		
106	47.0	28.3	68.3

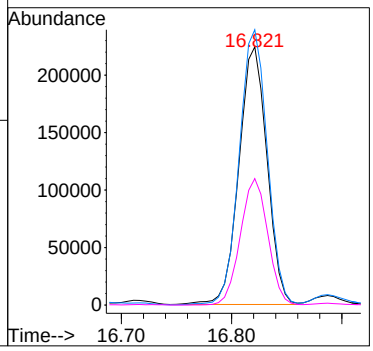


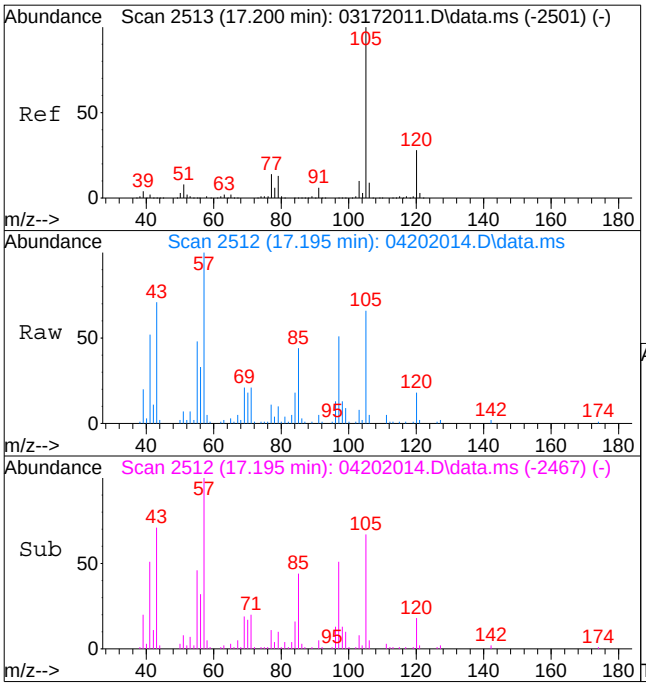


#71
n-Nonane
Concen: 24.97 ng
RT: 16.82 min Scan# 2444
Delta R.T. 0.000 min
Lab File: 04202014.D
Acq: 20 Apr 2020 10:01

Tgt Ion: 43 Resp: 396135

Ion	Ratio	Lower	Upper
43	100		
57	106.6	82.8	122.8
85	47.9	23.4	63.4

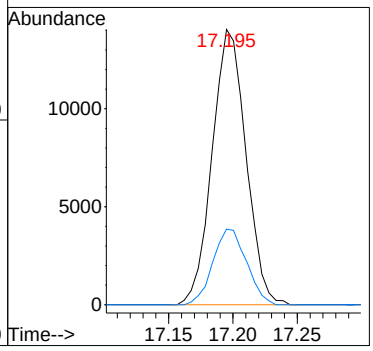


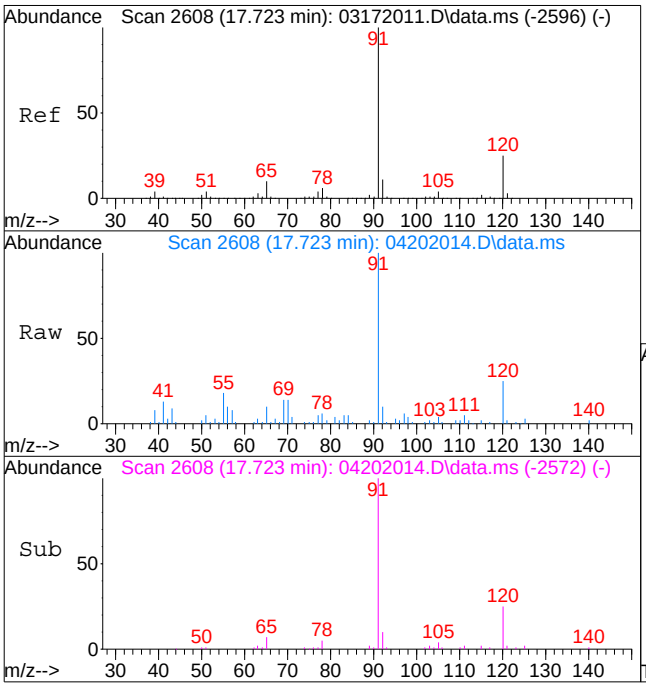


#74
Cumene
Concen: 0.54 ng
RT: 17.19 min Scan# 2512
Delta R.T. -0.005 min
Lab File: 04202014.D
Acq: 20 Apr 2020 10:01

Tgt Ion:105 Resp: 25681

Ion	Ratio	Lower	Upper
105	100		
120	27.3	7.6	47.6

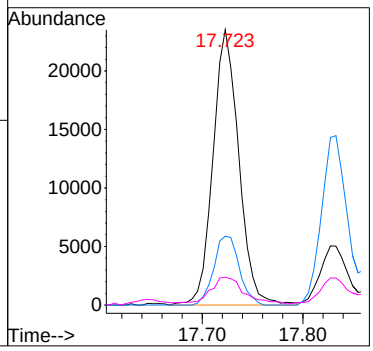


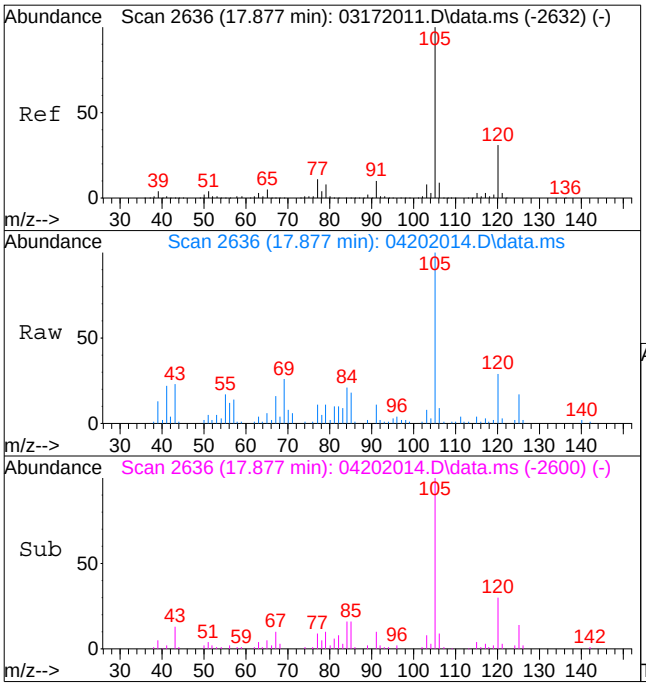


#76
n-Propylbenzene
Concen: 0.77 ng
RT: 17.72 min Scan# 2608
Delta R.T. -0.000 min
Lab File: 04202014.D
Acq: 20 Apr 2020 10:01

Tgt Ion: 91 Resp: 42059

Ion	Ratio	Lower	Upper
91	100		
120	24.7	5.0	45.0
65	12.2	0.0	30.0

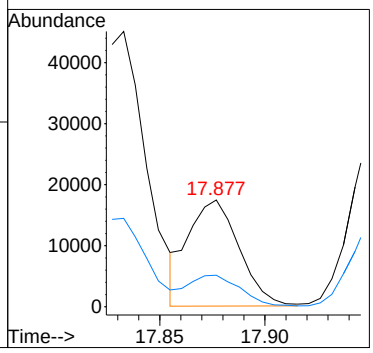


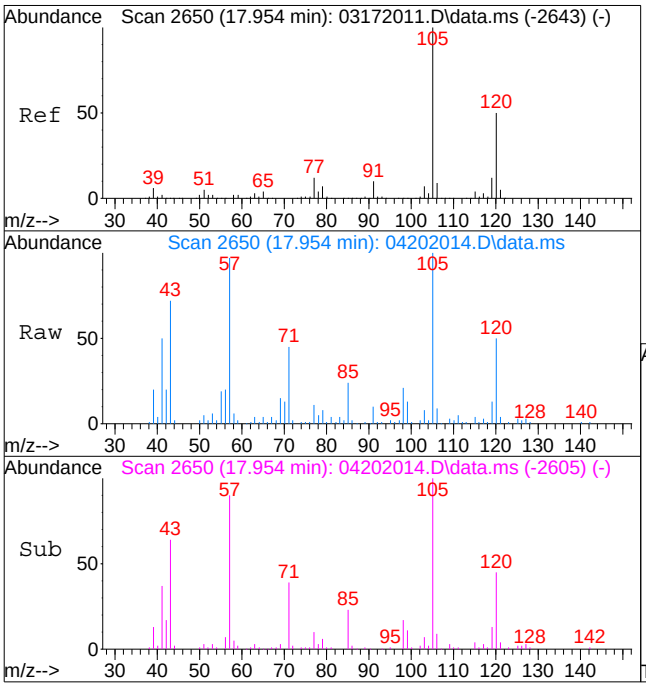


#78
4-Ethyltoluene
Concen: 0.67 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.000 min
Lab File: 04202014.D
Acq: 20 Apr 2020 10:01

Tgt Ion:105 Resp: 29313

Ion	Ratio	Lower	Upper
105	100		
120	31.5	11.2	51.2

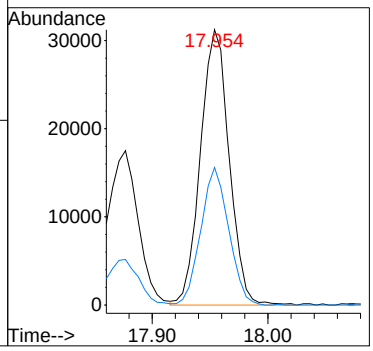


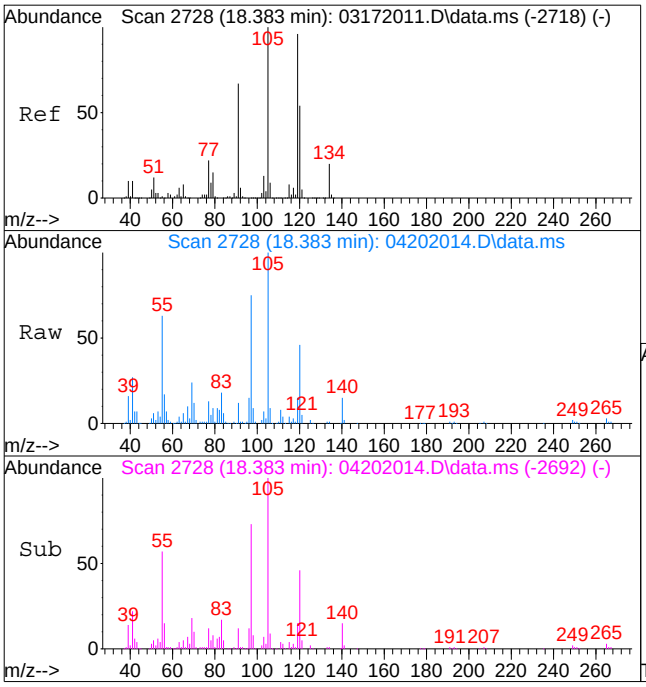


#79
1,3,5-Trimethylbenzene
Concen: 1.33 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.000 min
Lab File: 04202014.D
Acq: 20 Apr 2020 10:01

Tgt Ion:105 Resp: 54000

Ion	Ratio	Lower	Upper
105	100		
120	48.6	30.5	70.5

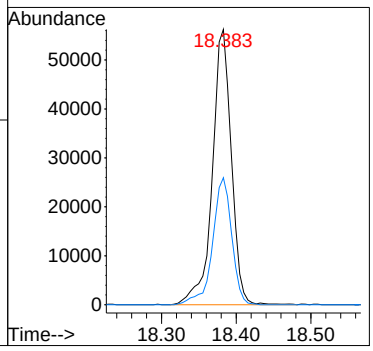


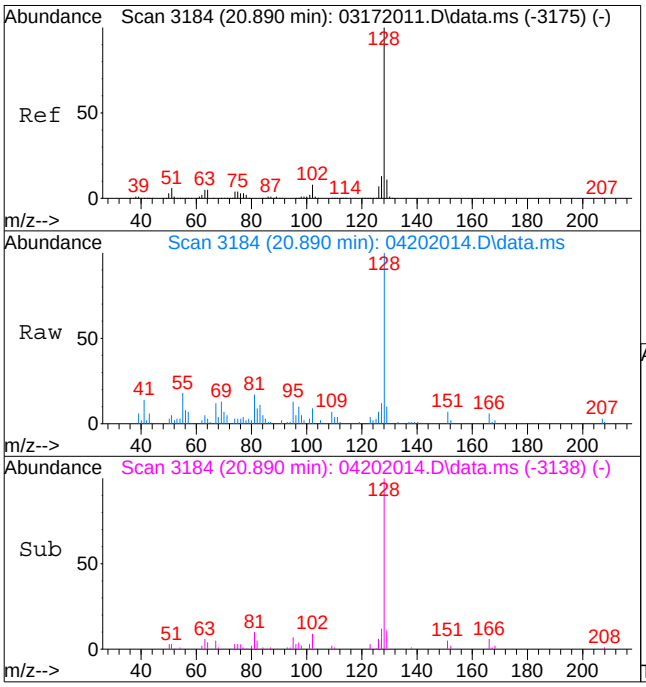


#82
1,2,4-Trimethylbenzene
Concen: 2.65 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.000 min
Lab File: 04202014.D
Acq: 20 Apr 2020 10:01

Tgt Ion:105 Resp: 99511

Ion	Ratio	Lower	Upper
105	100		
120	46.5	34.9	74.9

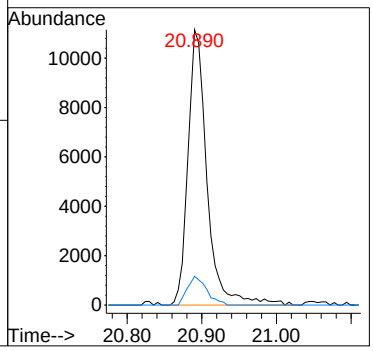




#95
Naphthalene
Concen: 0.38 ng
RT: 20.89 min Scan# 3184
Delta R.T. 0.000 min
Lab File: 04202014.D
Acq: 20 Apr 2020 10:01

Tgt Ion:128 Resp: 19808

Ion	Ratio	Lower	Upper
128	100		
129	10.5	0.0	30.9



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172030.D Vial: 13
Acq On : 17 Apr 2020 19:15 Operator: TD
Sample : P2002027-009 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 16:20:22 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/20/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	153108	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.11	114	655087	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	291015	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	217975	12.583	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.64%				
57) Toluene-d8 (SS2)	13.54	98	724114	12.511	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.08%				
73) Bromofluorobenzene (SS3)	17.05	174	274449	14.252	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.00%				
Target Compounds							Qvalue
2) Propene	3.86	42	3931	0.419	ng		89
3) Dichlorodifluoromethan...	3.96	85	470115	21.517	ng		100
4) Chloromethane	4.18	50	264	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	12869	1.263	ng		100
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	4.63	54	5028	0.637	ng		98
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.43	45	40	N.D.			
11) Acetonitrile	5.56	41	360	N.D.			
12) Acrolein	5.71	56	1477	0.235	ng		79
13) Acetone	5.85	58	10240	1.360	ng	#	46
14) Trichlorofluoromethane	6.02	101	52712	2.664	ng		100
15) 2-Propanol (Isopropanol)	6.17	45	863	N.D.			
16) Acrylonitrile	6.33	53	76	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	6.86	84	429	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	7.18	151	126476	11.470	ng		92
22) Carbon Disulfide	7.14	76	17348	0.434	ng		57
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	8.53	72	1487	0.201	ng		97
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	9.22	57	65031	3.967	ng		99
32) Chloroform	9.28	83	4100	0.210	ng		93
34) Tetrahydrofuran (THF)	9.66	72	155762	21.810	ng		92
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	10.04	62	249	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.75	78	78907	1.690	ng		100
42) Carbon Tetrachloride	10.90	117	56612	3.402	ng		97
43) Cyclohexane	11.04	84	61621	3.478	ng		93
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	11.47	63	305	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	11.81	88	415	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	11.93	100	172	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172030.D Vial: 13
Acq On : 17 Apr 2020 19:15 Operator: TD
Sample : P2002027-009 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 16:20:22 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

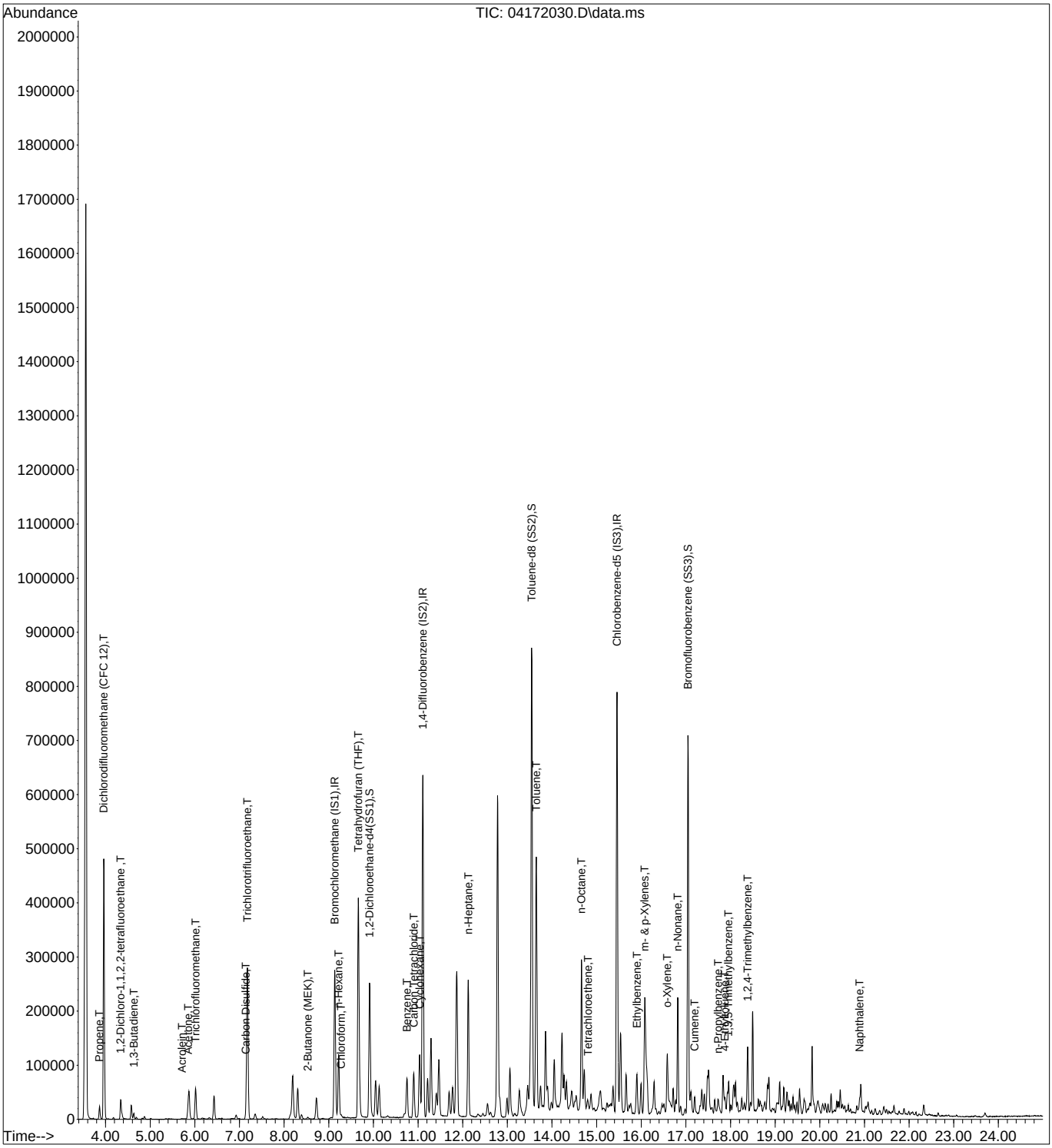
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.12	71	75778	6.801 ng	96
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	12.71	58	297	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	13.65	91	386890	7.877 ng	98
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D. d	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.66	57	59615	6.726 ng	97
64) Tetrachloroethene	14.81	166	3046	0.199 ng	95
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.90	91	64991	1.232 ng	96
67) m- & p-Xylenes	16.08	91	199558	4.727 ng	99
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.47	104	680	N.D.	
70) o-Xylene	16.58	91	77812	1.844 ng	100
71) n-Nonane	16.82	43	72023	3.952 ng	95
72) 1,1,2,2-Tetrachloroethane	16.57	83	166	N.D.	
74) Cumene	17.19	105	10984	0.200 ng	94
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.72	91	23684	0.377 ng	95
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.87	105	16042	0.317 ng	96
79) 1,3,5-Trimethylbenzene	17.95	105	21862	0.470 ng	98
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	54816	1.270 ng	91
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.45	91	228	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.89	128	20772	0.349 ng	98
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172030.D Vial: 13
Acq On : 17 Apr 2020 19:15 Operator: TD
Sample : P2002027-009 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 16:20:22 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172030.D Vial: 13
Acq On : 17 Apr 2020 19:15 Operator: TD
Sample : P2002027-009 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 16:20:22 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/20/20

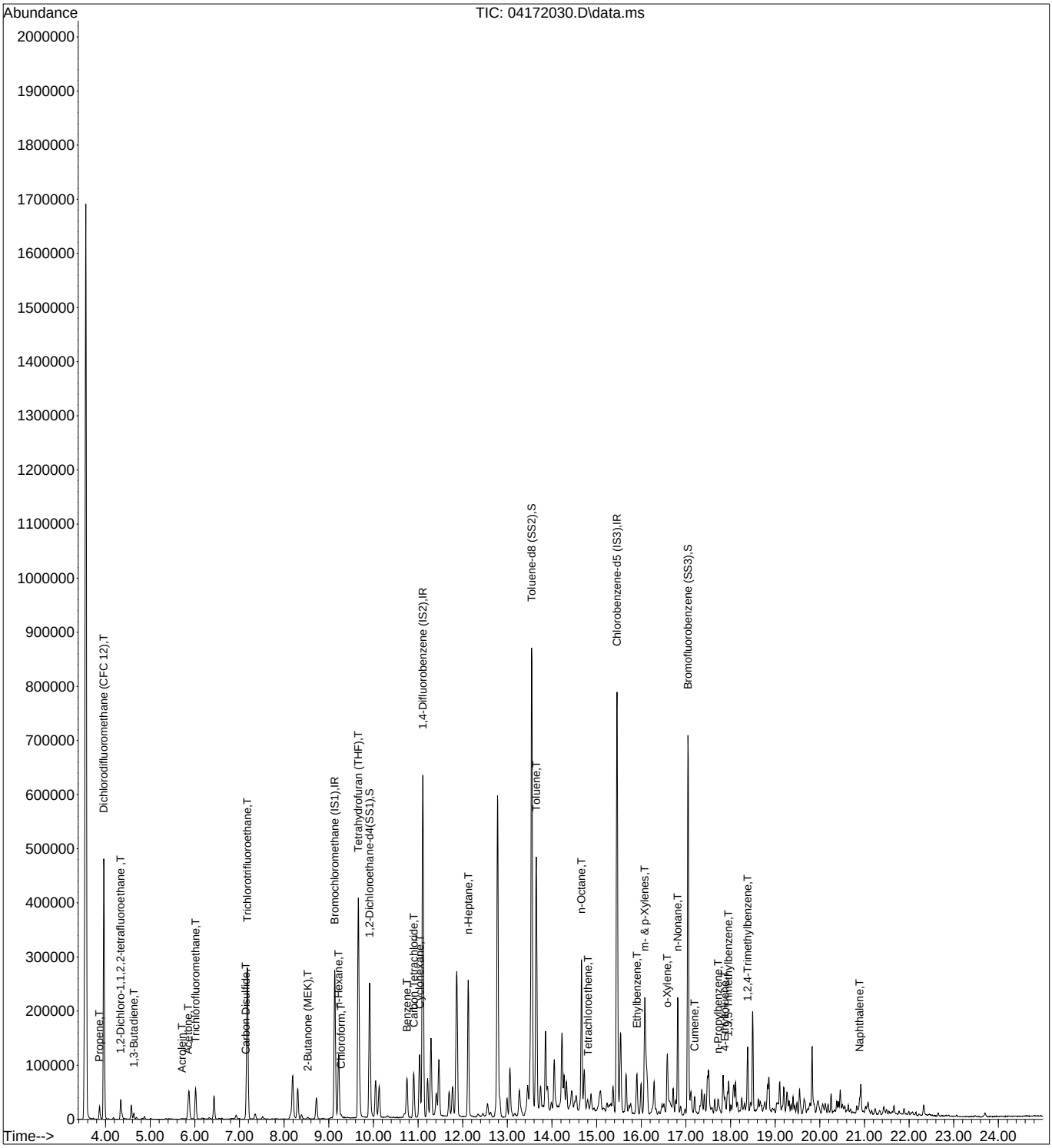
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	153108	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.11	114	655087	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	291015	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	217975	12.583	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.64%				
57) Toluene-d8 (SS2)	13.54	98	724114	12.511	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.08%				
73) Bromofluorobenzene (SS3)	17.05	174	274449	14.252	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.00%				
Target Compounds							Qvalue
2) Propene	3.86	42	3931	0.419	ng		89
3) Dichlorodifluoromethan...	3.96	85	470115	21.517	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	12869	1.263	ng		100
7) 1,3-Butadiene	4.63	54	5028	0.637	ng		98
12) Acrolein	5.71	56	1477	0.235	ng		79
13) Acetone	5.85	58	10240	1.360	ng	#	46
14) Trichlorofluoromethane	6.02	101	52712	2.664	ng		100
21) Trichlorotrifluoroethane	7.18	151	126476	11.470	ng		92
22) Carbon Disulfide	7.14	76	17348	0.434	ng		57
27) 2-Butanone (MEK)	8.53	72	1487	0.201	ng		97
31) n-Hexane	9.22	57	65031	3.967	ng		99
32) Chloroform	9.28	83	4100	0.210	ng		93
34) Tetrahydrofuran (THF)	9.66	72	155762	21.810	ng		92
41) Benzene	10.75	78	78907	1.690	ng		100
42) Carbon Tetrachloride	10.90	117	56612	3.402	ng		97
43) Cyclohexane	11.04	84	61621	3.478	ng		93
51) n-Heptane	12.12	71	75778	6.801	ng		96
58) Toluene	13.65	91	386890	7.877	ng		98
63) n-Octane	14.66	57	59615	6.726	ng		97
64) Tetrachloroethene	14.81	166	3046	0.199	ng		95
66) Ethylbenzene	15.90	91	64991	1.232	ng		96
67) m- & p-Xylenes	16.08	91	199558	4.727	ng		99
70) o-Xylene	16.58	91	77812	1.844	ng		100
71) n-Nonane	16.82	43	72023	3.952	ng		95
74) Cumene	17.19	105	10984	0.200	ng		94
76) n-Propylbenzene	17.72	91	23684	0.377	ng		95
78) 4-Ethyltoluene	17.87	105	16042	0.317	ng		96
79) 1,3,5-Trimethylbenzene	17.95	105	21862	0.470	ng		98
82) 1,2,4-Trimethylbenzene	18.38	105	54816	1.270	ng		91
95) Naphthalene	20.89	128	20772	0.349	ng		98

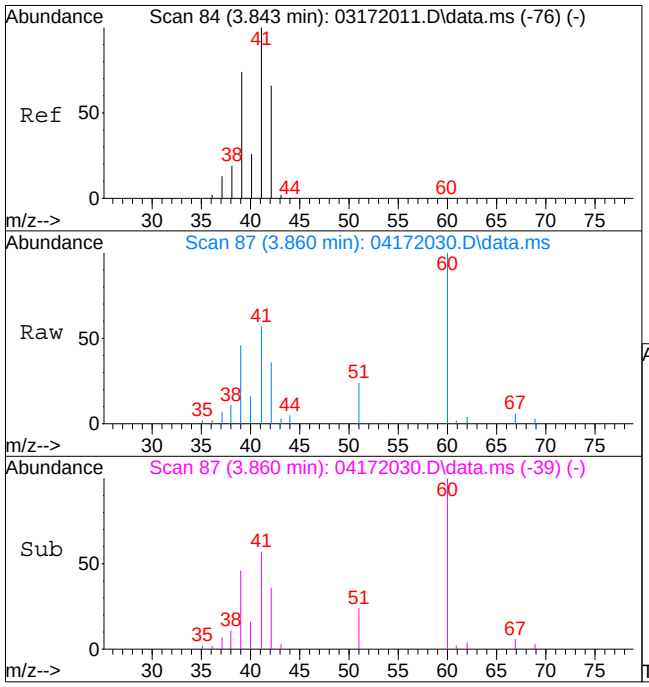
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172030.D Vial: 13
Acq On : 17 Apr 2020 19:15 Operator: TD
Sample : P2002027-009 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 16:20:22 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

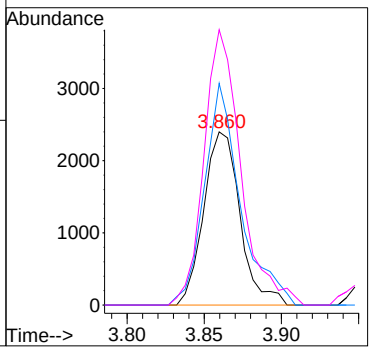


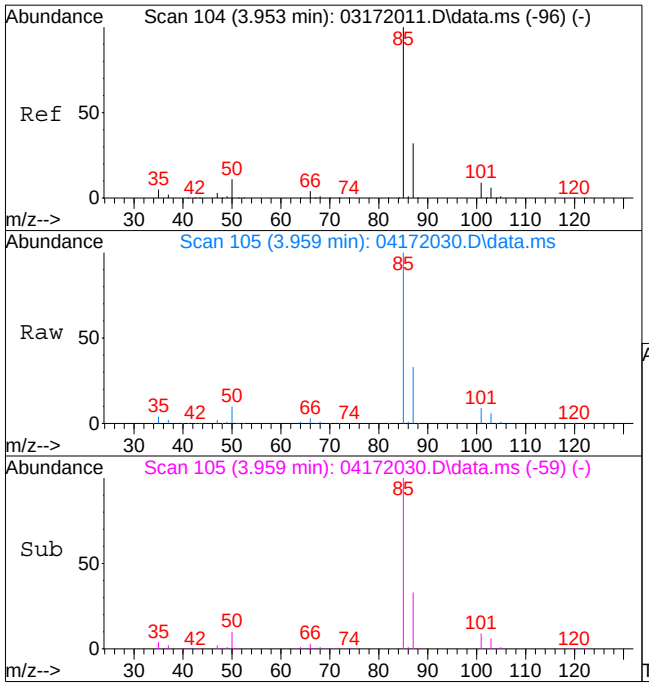


#2
Propene
Concen: 0.42 ng
RT: 3.86 min Scan# 87
Delta R.T. 0.017 min
Lab File: 04172030.D
Acq: 17 Apr 2020 19:15

Tgt Ion: 42 Resp: 3931

Ion	Ratio	Lower	Upper
42	100		
39	126.8	91.9	131.9
41	161.6	130.5	170.5

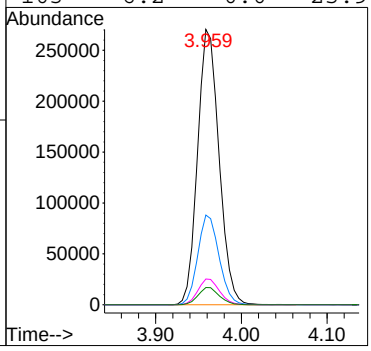


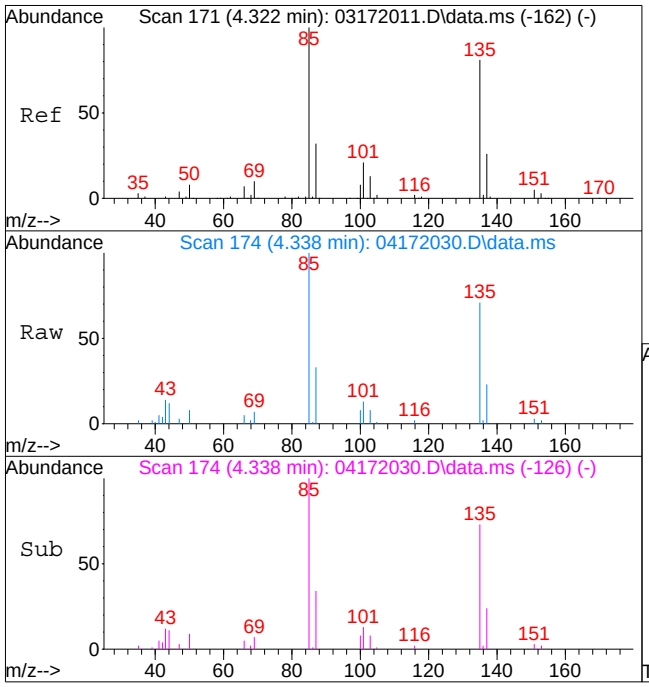


#3
Dichlorodifluoromethane (CFC 12)
Concen: 21.52 ng
RT: 3.96 min Scan# 105
Delta R.T. 0.006 min
Lab File: 04172030.D
Acq: 17 Apr 2020 19:15

Tgt Ion: 85 Resp: 470115

Ion	Ratio	Lower	Upper
85	100		
87	32.3	12.4	52.4
101	9.4	0.0	29.2
103	6.2	0.0	25.9

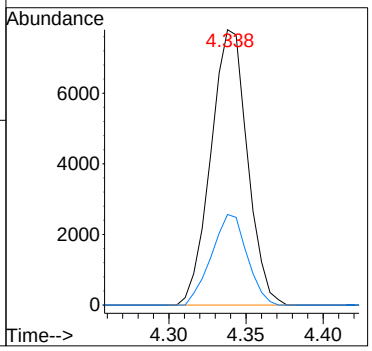


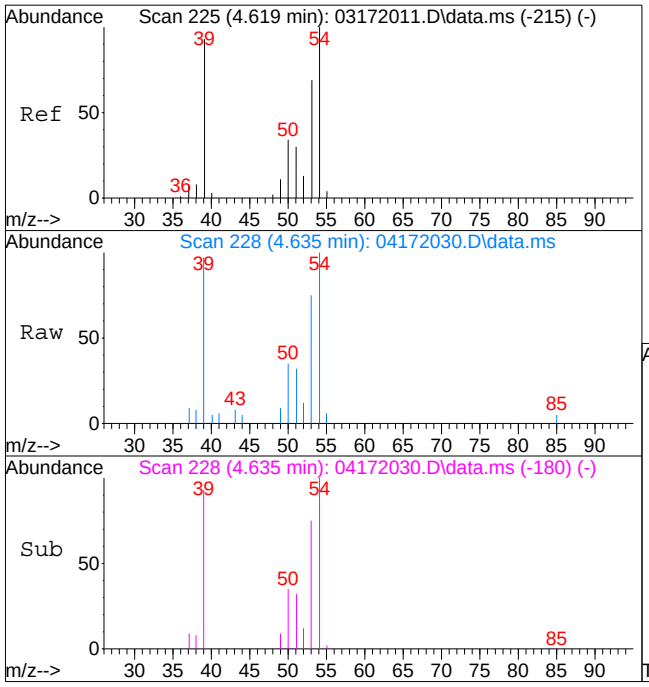


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 1.26 ng
RT: 4.34 min Scan# 174
Delta R.T. 0.016 min
Lab File: 04172030.D
Acq: 17 Apr 2020 19:15

Tgt Ion:135 Resp: 12869

Ion	Ratio	Lower	Upper
135	100		
137	32.0	12.0	52.0

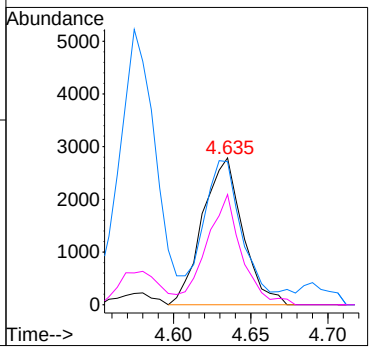


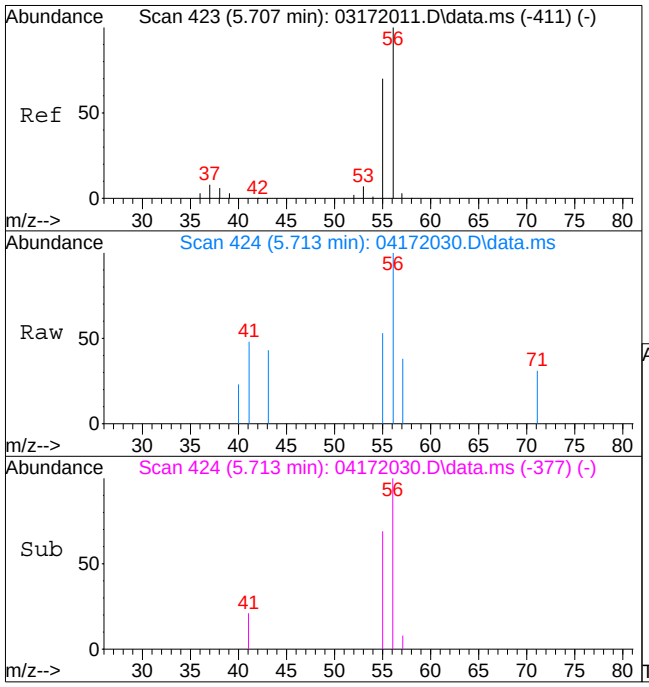


#7
1,3-Butadiene
Concen: 0.64 ng
RT: 4.63 min Scan# 228
Delta R.T. 0.016 min
Lab File: 04172030.D
Acq: 17 Apr 2020 19:15

Tgt Ion: 54 Resp: 5028

Ion	Ratio	Lower	Upper
54	100		
39	95.2	74.8	114.8
53	65.7	49.9	89.9

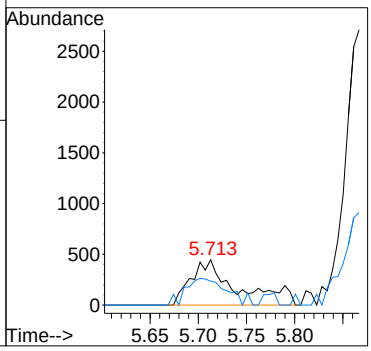


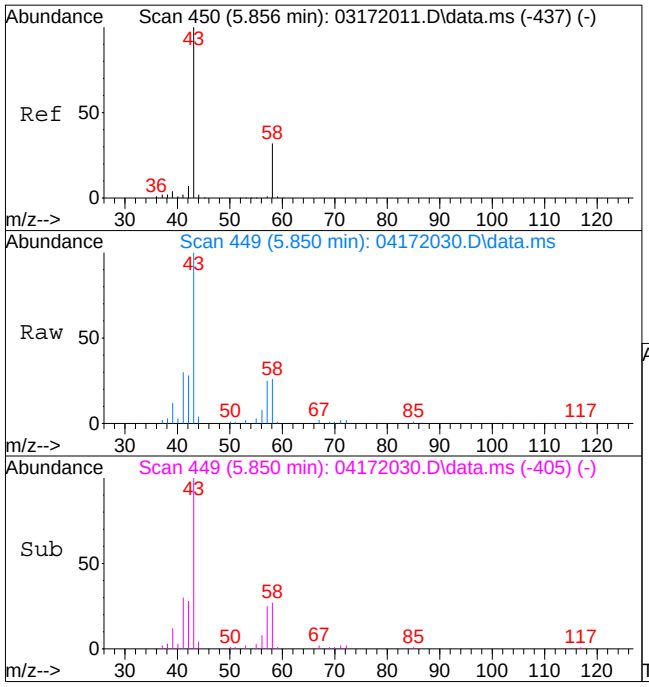


#12
Acrolein
Concen: 0.23 ng
RT: 5.71 min Scan# 424
Delta R.T. 0.006 min
Lab File: 04172030.D
Acq: 17 Apr 2020 19:15

Tgt Ion: 56 Resp: 1477

Ion	Ratio	Lower	Upper
56	100		
55	52.7	49.5	89.5

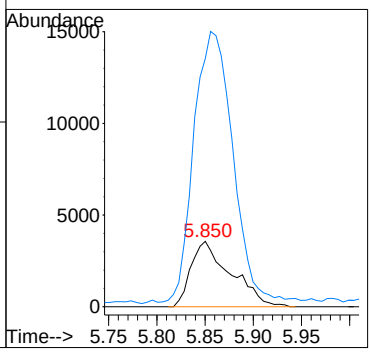


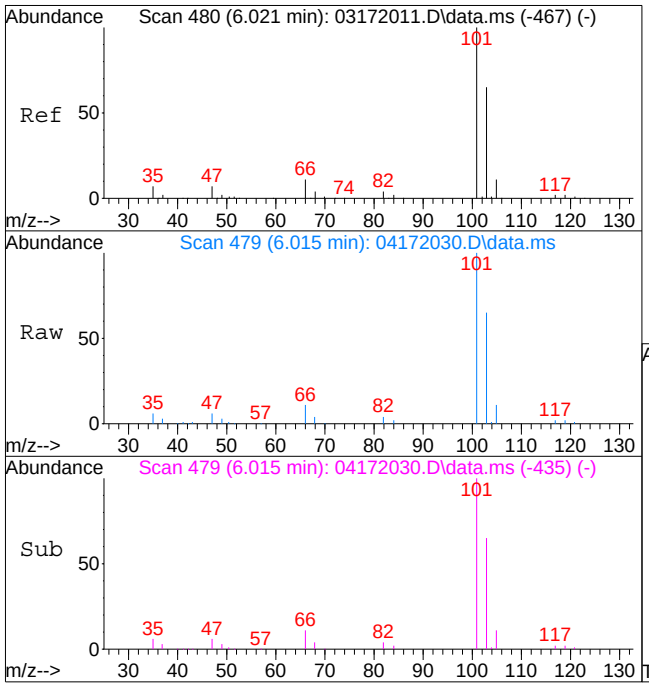


#13
Acetone
Concen: 1.36 ng
RT: 5.85 min Scan# 449
Delta R.T. -0.006 min
Lab File: 04172030.D
Acq: 17 Apr 2020 19:15

Tgt Ion: 58 Resp: 10240

Ion	Ratio	Lower	Upper
58	100		
43	409.1	272.8	332.8#

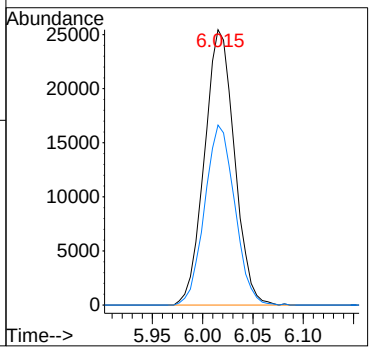


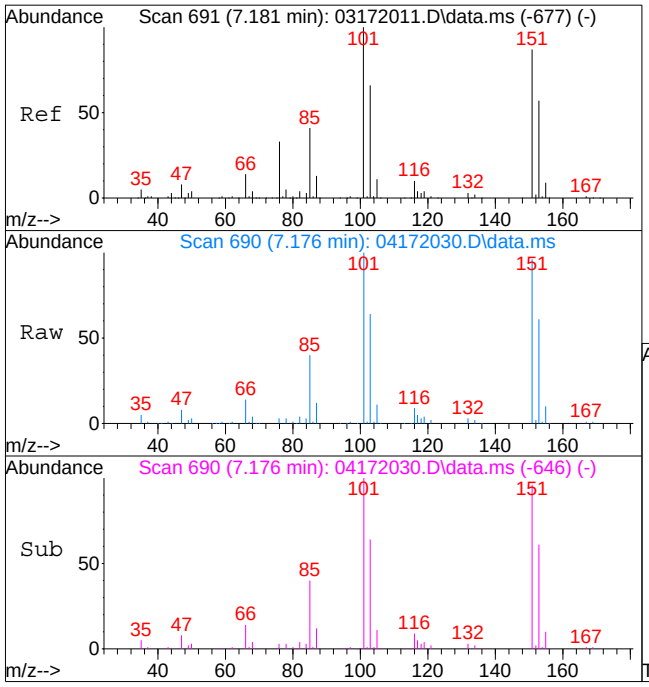


#14
Trichlorofluoromethane
Concen: 2.66 ng
RT: 6.02 min Scan# 479
Delta R.T. -0.006 min
Lab File: 04172030.D
Acq: 17 Apr 2020 19:15

Tgt Ion:101 Resp: 52712

Ion	Ratio	Lower	Upper
101	100		
103	65.6	45.3	85.3

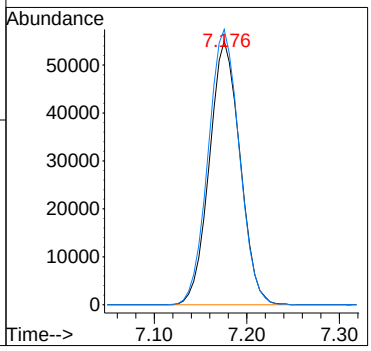


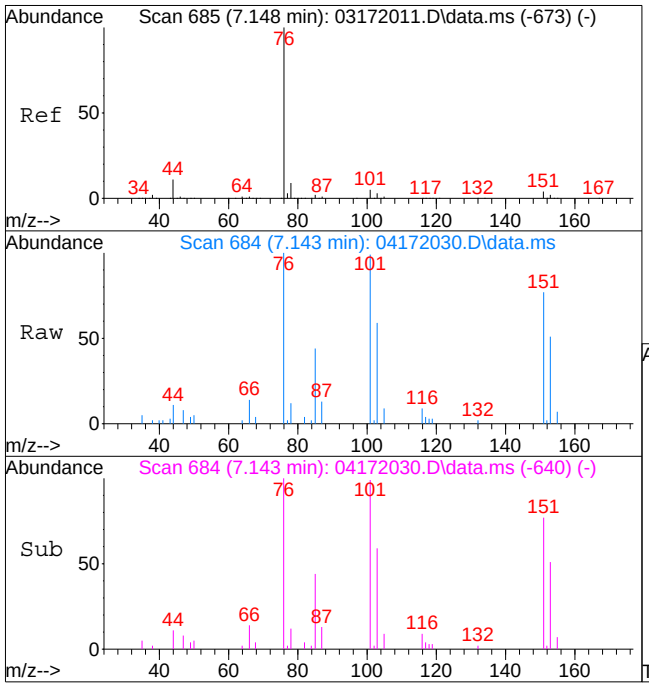


#21
Trichlorotrifluoroethane
Concen: 11.47 ng
RT: 7.18 min Scan# 690
Delta R.T. -0.005 min
Lab File: 04172030.D
Acq: 17 Apr 2020 19:15

Tgt Ion:151 Resp: 126476

Ion	Ratio	Lower	Upper
151	100		
101	106.5	94.7	134.7

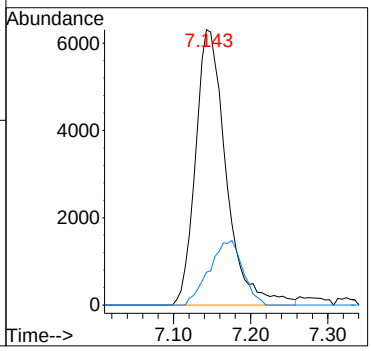


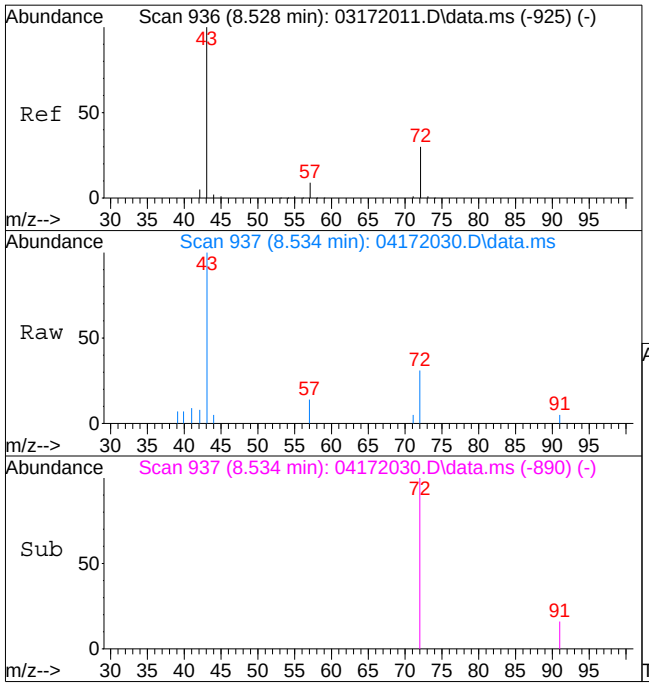


#22
Carbon Disulfide
Concen: 0.43 ng
RT: 7.14 min Scan# 684
Delta R.T. -0.005 min
Lab File: 04172030.D
Acq: 17 Apr 2020 19:15

Tgt Ion: 76 Resp: 17348

Ion	Ratio	Lower	Upper
76	100		
78	25.6	0.0	29.7

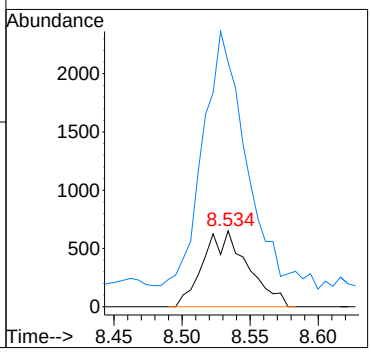


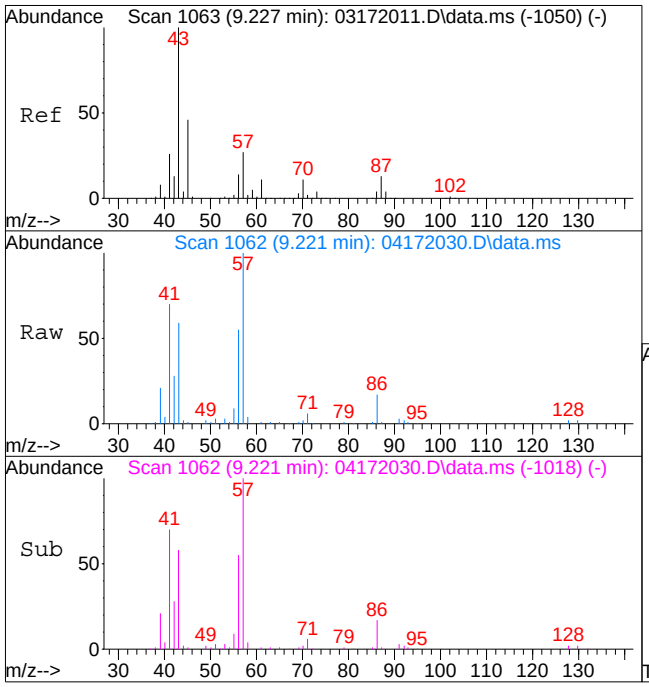


#27
2-Butanone (MEK)
Concen: 0.20 ng
RT: 8.53 min Scan# 937
Delta R.T. 0.006 min
Lab File: 04172030.D
Acq: 17 Apr 2020 19:15

Tgt Ion: 72 Resp: 1487

Ion	Ratio	Lower	Upper
72	100		
43	335.8	310.6	350.6

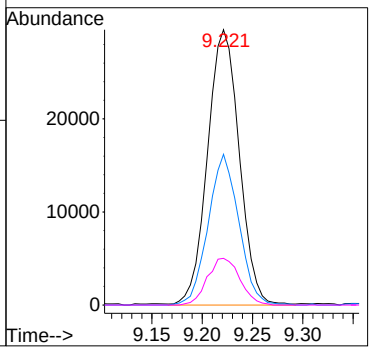


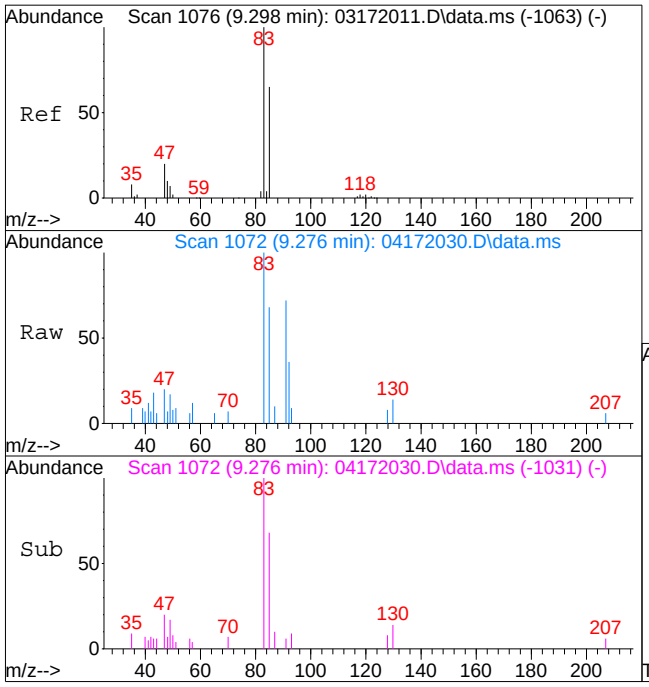


#31
n-Hexane
Concen: 3.97 ng
RT: 9.22 min Scan# 1062
Delta R.T. -0.006 min
Lab File: 04172030.D
Acq: 17 Apr 2020 19:15

Tgt Ion: 57 Resp: 65031

Ion	Ratio	Lower	Upper
57	100		
56	52.8	42.0	63.0
86	17.3	13.1	19.7

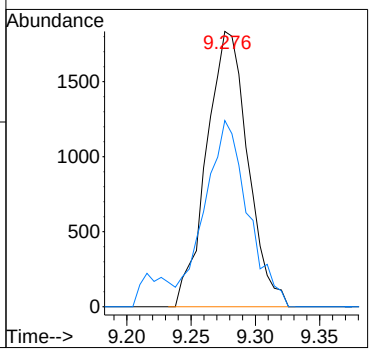


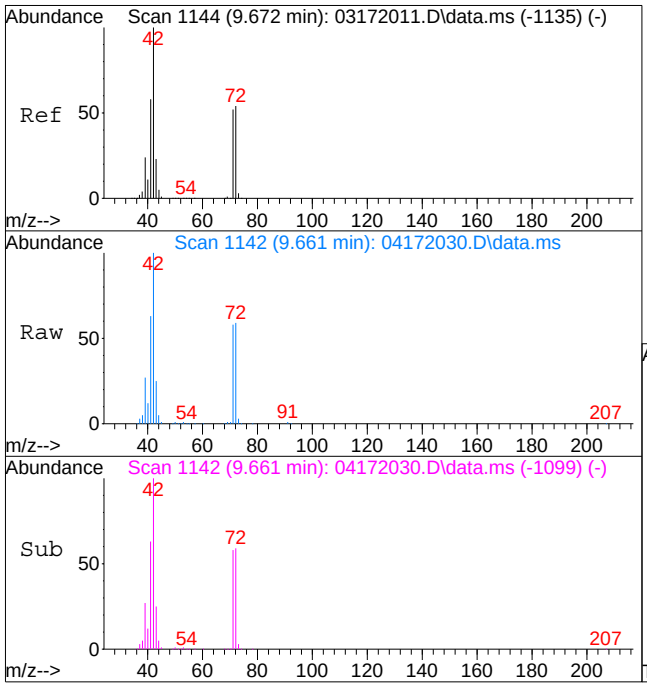


#32
Chloroform
Concen: 0.21 ng
RT: 9.28 min Scan# 1072
Delta R.T. -0.022 min
Lab File: 04172030.D
Acq: 17 Apr 2020 19:15

Tgt Ion: 83 Resp: 4100

Ion	Ratio	Lower	Upper
83	100		
85	70.4	45.1	85.1

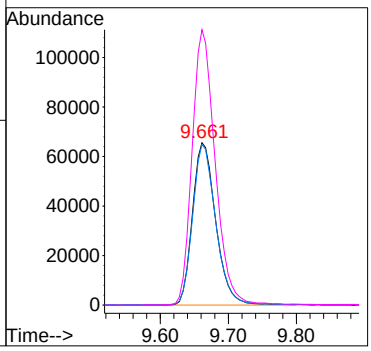


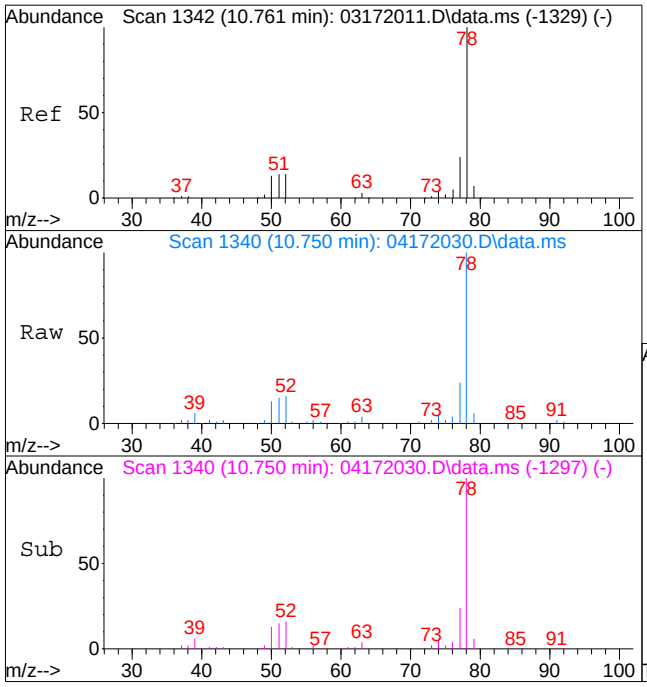


#34
Tetrahydrofuran (THF)
Concen: 21.81 ng
RT: 9.66 min Scan# 1142
Delta R.T. -0.011 min
Lab File: 04172030.D
Acq: 17 Apr 2020 19:15

Tgt Ion: 72 Resp: 155762

Ion	Ratio	Lower	Upper
72	100		
71	98.4	76.1	116.1
42	169.2	164.4	204.4

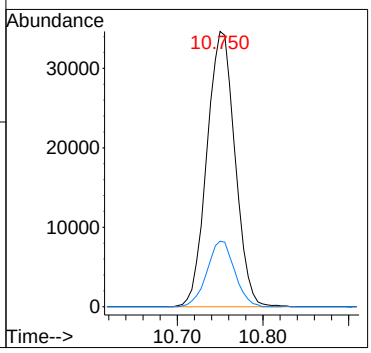


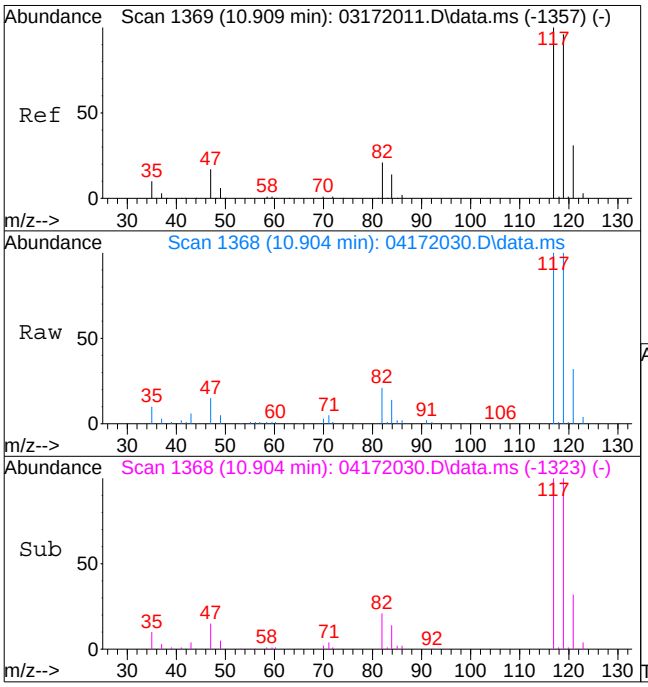


#41
Benzene
Concen: 1.69 ng
RT: 10.75 min Scan# 1340
Delta R.T. -0.011 min
Lab File: 04172030.D
Acq: 17 Apr 2020 19:15

Tgt Ion: 78 Resp: 78907

Ion	Ratio	Lower	Upper
78	100		
77	23.5	3.4	43.4

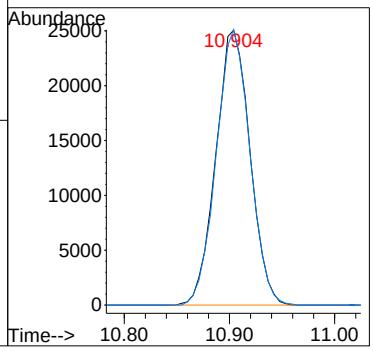


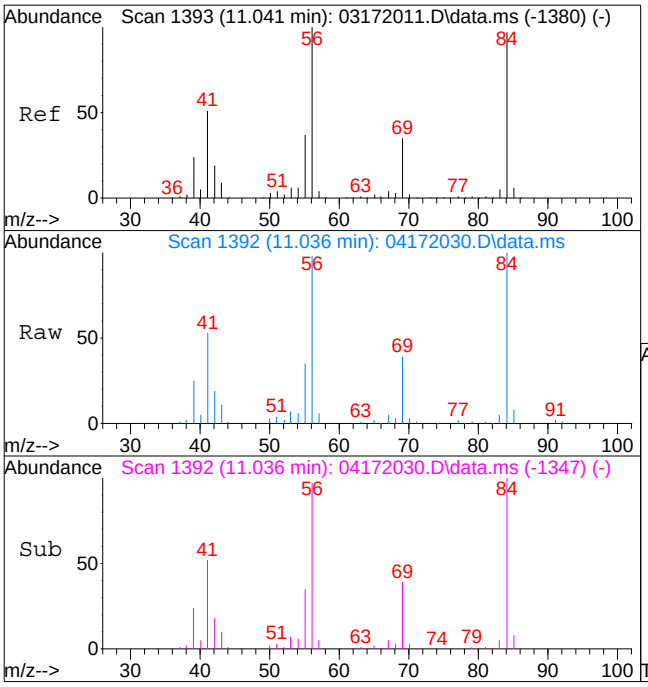


#42
Carbon Tetrachloride
Concen: 3.40 ng
RT: 10.90 min Scan# 1368
Delta R.T. -0.005 min
Lab File: 04172030.D
Acq: 17 Apr 2020 19:15

Tgt Ion:117 Resp: 56612

Ion	Ratio	Lower	Upper
117	100		
119	98.6	76.0	116.0

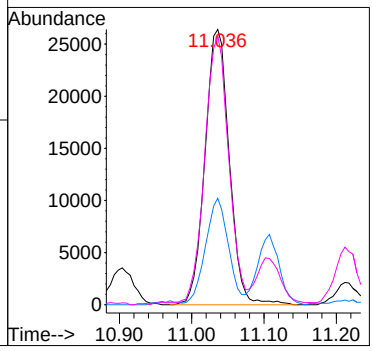


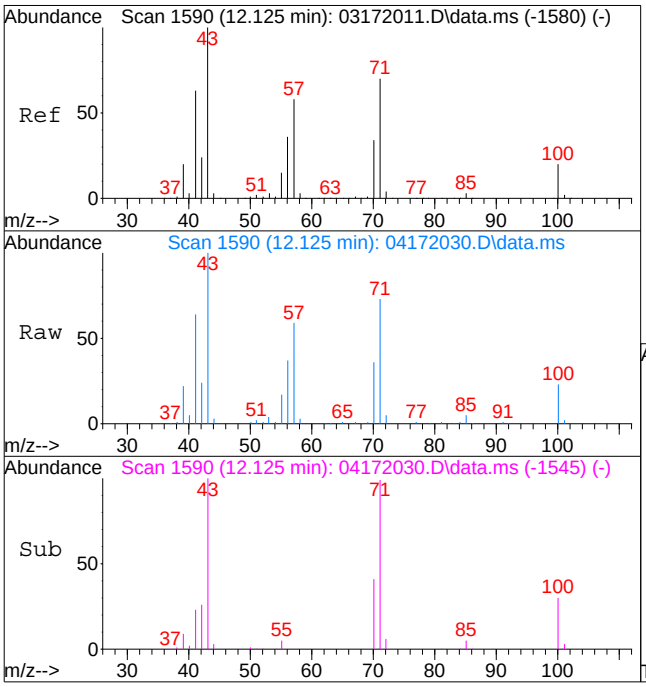


#43
Cyclohexane
Concen: 3.48 ng
RT: 11.04 min Scan# 1392
Delta R.T. -0.005 min
Lab File: 04172030.D
Acq: 17 Apr 2020 19:15

Tgt Ion: 84 Resp: 61621

Ion	Ratio	Lower	Upper
84	100		
69	36.4	16.6	56.6
56	95.8	85.3	125.3

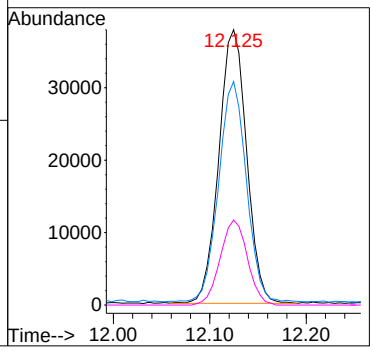


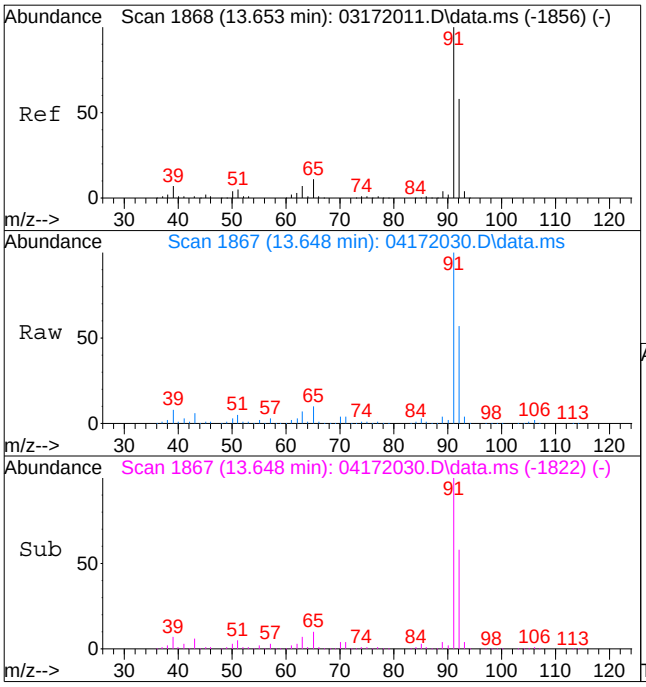


#51
n-Heptane
Concen: 6.80 ng
RT: 12.12 min Scan# 1590
Delta R.T. -0.000 min
Lab File: 04172030.D
Acq: 17 Apr 2020 19:15

Tgt Ion: 71 Resp: 75778

Ion	Ratio	Lower	Upper
71	100		
57	80.2	64.0	104.0
100	30.4	8.7	48.7

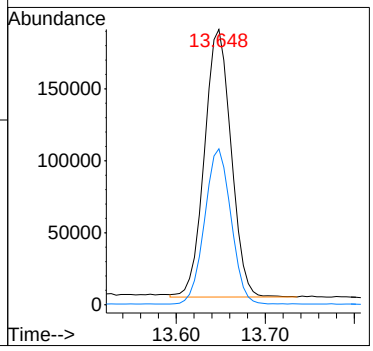


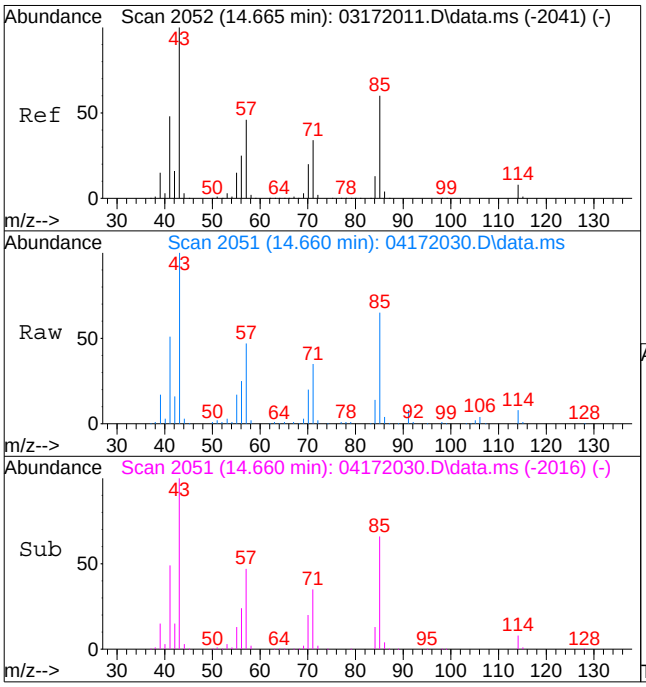


#58
Toluene
Concen: 7.88 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.005 min
Lab File: 04172030.D
Acq: 17 Apr 2020 19:15

Tgt Ion: 91 Resp: 386890

Ion	Ratio	Lower	Upper
91	100		
92	57.4	38.6	78.6

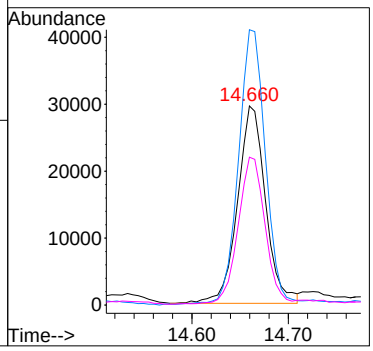


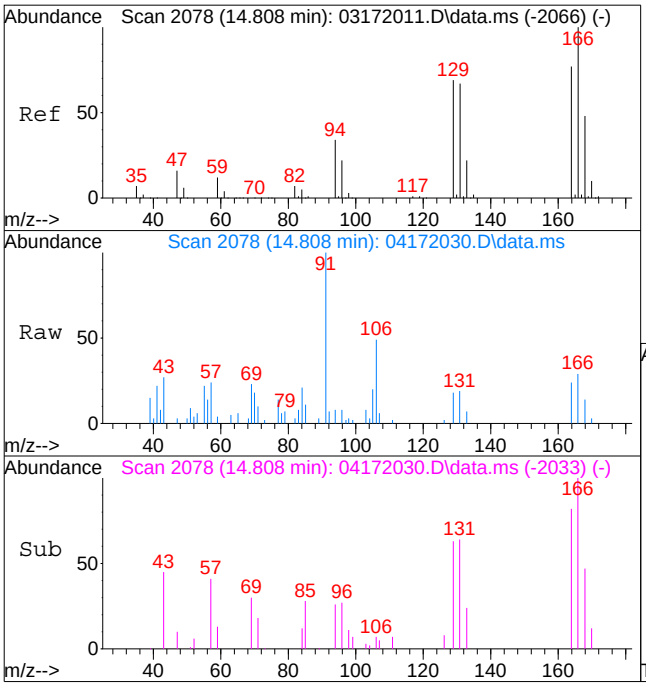


#63
n-Octane
Concen: 6.73 ng
RT: 14.66 min Scan# 2051
Delta R.T. -0.005 min
Lab File: 04172030.D
Acq: 17 Apr 2020 19:15

Tgt Ion: 57 Resp: 59615

Ion	Ratio	Lower	Upper
57	100		
85	137.4	105.4	158.2
71	73.9	59.0	88.4

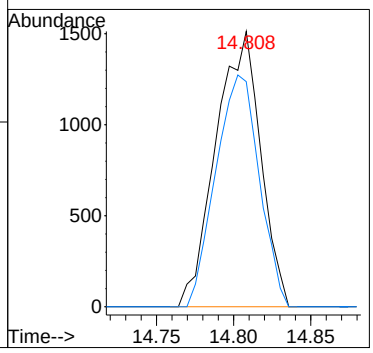


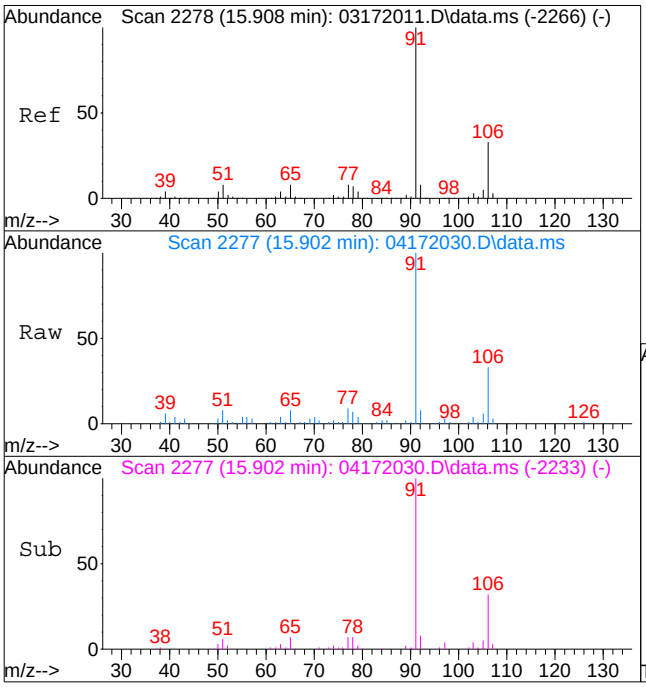


#64
Tetrachloroethene
Concen: 0.20 ng
RT: 14.81 min Scan# 2078
Delta R.T. 0.000 min
Lab File: 04172030.D
Acq: 17 Apr 2020 19:15

Tgt Ion:166 Resp: 3046

Ion	Ratio	Lower	Upper
166	100		
164	82.0	57.9	97.9

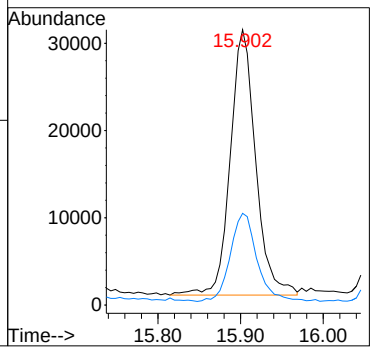


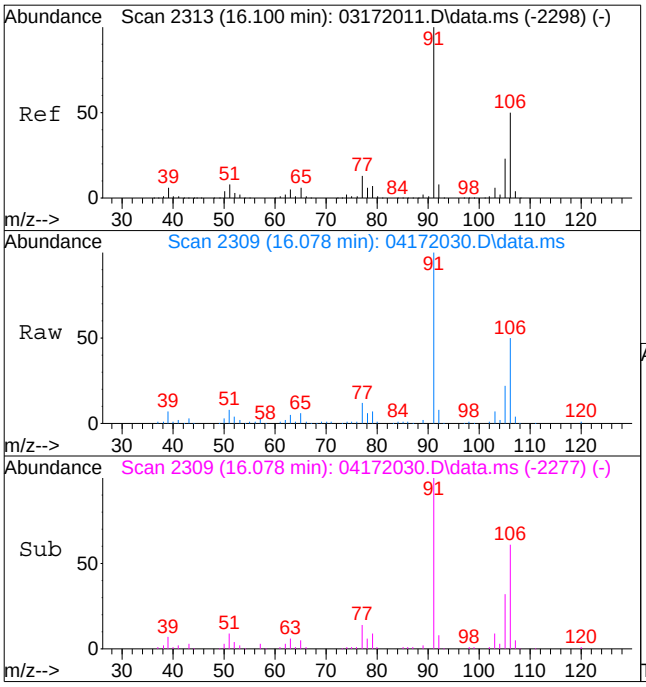


#66
Ethylbenzene
Concen: 1.23 ng
RT: 15.90 min Scan# 2277
Delta R.T. -0.006 min
Lab File: 04172030.D
Acq: 17 Apr 2020 19:15

Tgt Ion: 91 Resp: 64991

Ion	Ratio	Lower	Upper
91	100		
106	35.1	12.9	52.9

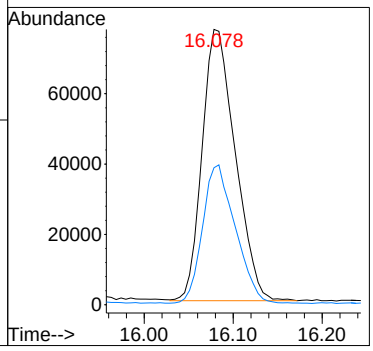


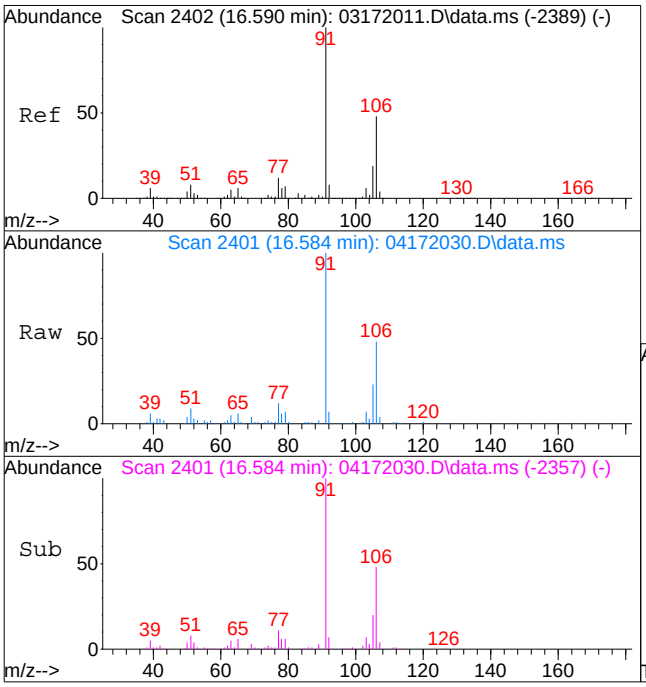


#67
m- & p-Xylenes
Concen: 4.73 ng
RT: 16.08 min Scan# 2309
Delta R.T. -0.022 min
Lab File: 04172030.D
Acq: 17 Apr 2020 19:15

Tgt Ion: 91 Resp: 199558

Ion	Ratio	Lower	Upper
91	100		
106	50.5	29.5	69.5

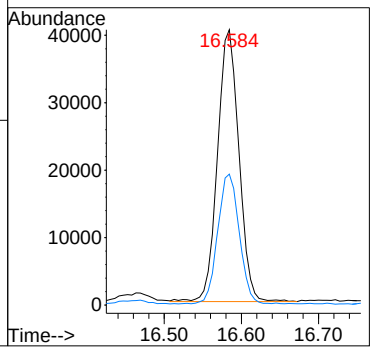


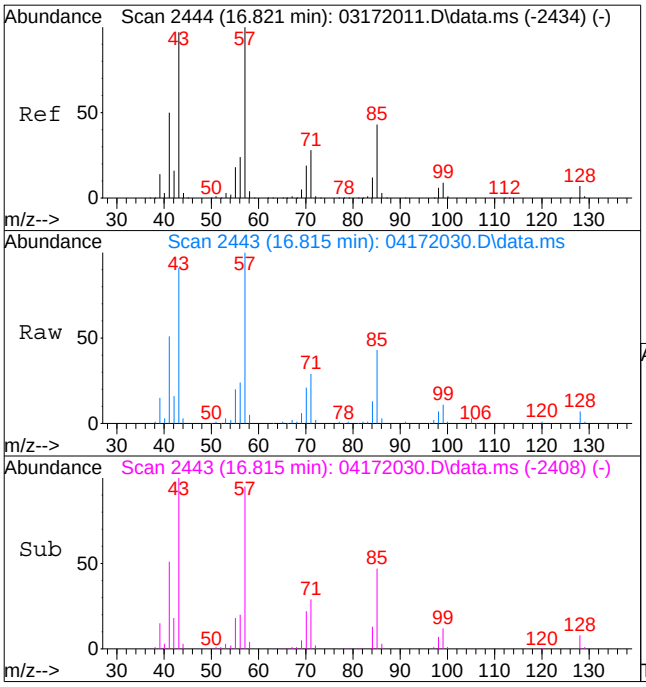


#70
o-Xylene
Concen: 1.84 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.006 min
Lab File: 04172030.D
Acq: 17 Apr 2020 19:15

Tgt Ion: 91 Resp: 77812

Ion	Ratio	Lower	Upper
91	100		
106	48.1	28.3	68.3

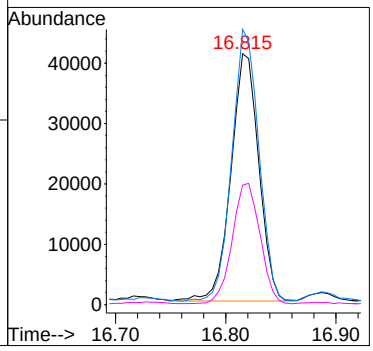


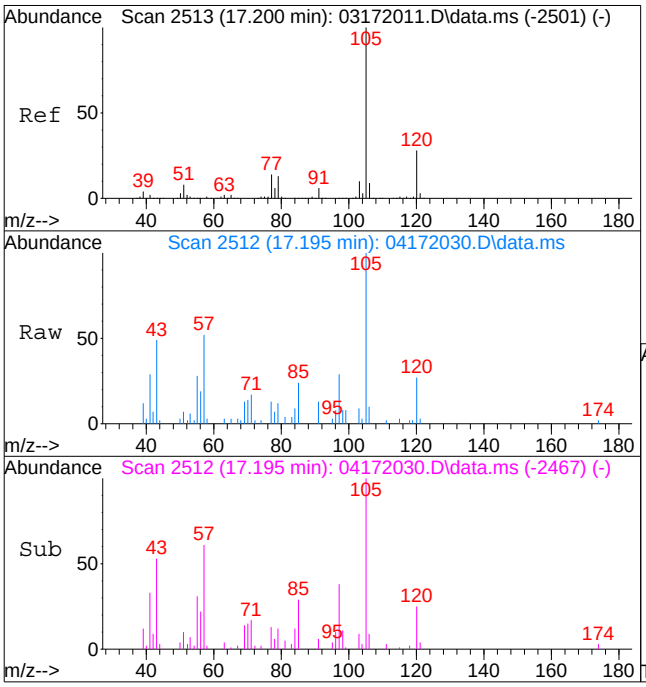


#71
n-Nonane
Concen: 3.95 ng
RT: 16.82 min Scan# 2443
Delta R.T. -0.006 min
Lab File: 04172030.D
Acq: 17 Apr 2020 19:15

Tgt Ion: 43 Resp: 72023

Ion	Ratio	Lower	Upper
43	100		
57	106.5	82.8	122.8
85	48.4	23.4	63.4

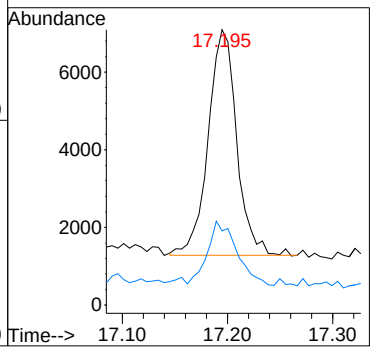


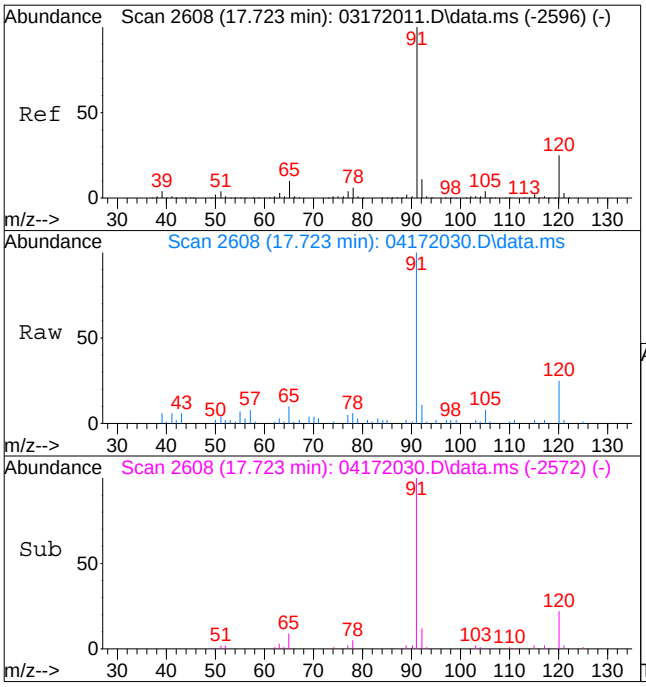


#74
Cumene
Concen: 0.20 ng
RT: 17.19 min Scan# 2512
Delta R.T. -0.005 min
Lab File: 04172030.D
Acq: 17 Apr 2020 19:15

Tgt Ion:105 Resp: 10984

Ion	Ratio	Lower	Upper
105	100		
120	30.7	7.6	47.6

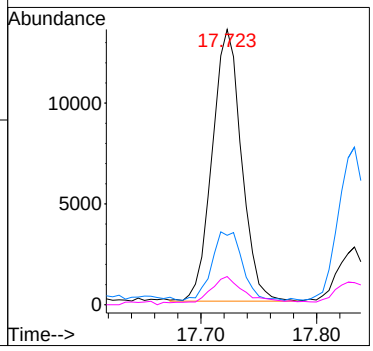


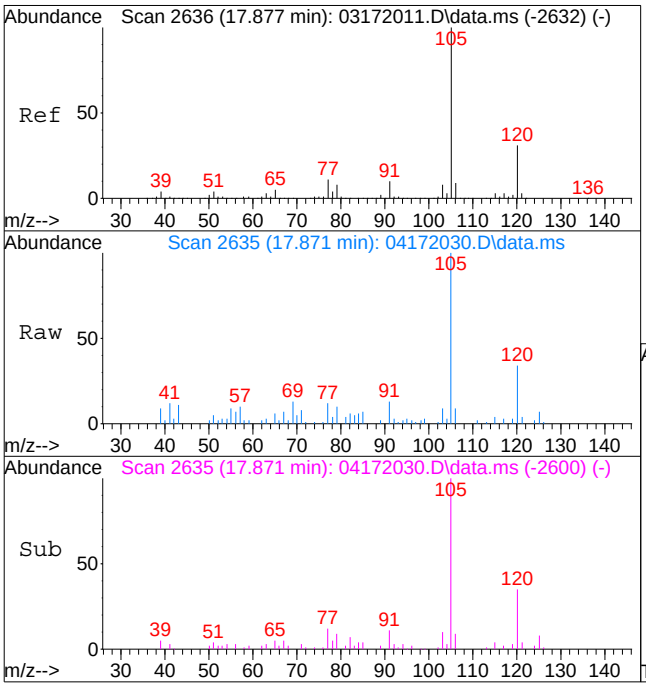


#76
n-Propylbenzene
Concen: 0.38 ng
RT: 17.72 min Scan# 2608
Delta R.T. -0.000 min
Lab File: 04172030.D
Acq: 17 Apr 2020 19:15

Tgt Ion: 91 Resp: 23684

Ion	Ratio	Lower	Upper
91	100		
120	26.3	5.0	45.0
65	14.3	0.0	30.0

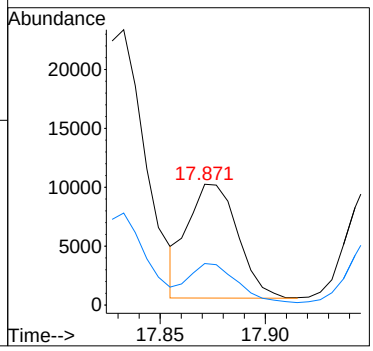


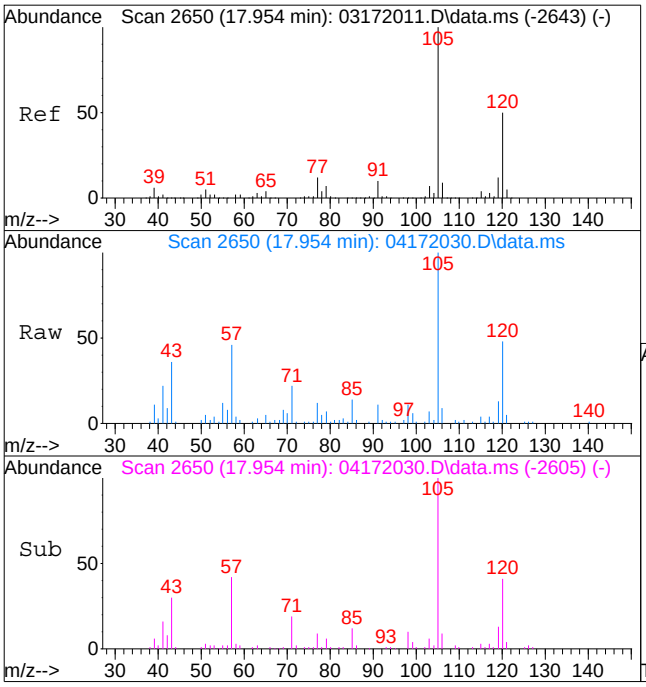


#78
4-Ethyltoluene
Concen: 0.32 ng
RT: 17.87 min Scan# 2635
Delta R.T. -0.006 min
Lab File: 04172030.D
Acq: 17 Apr 2020 19:15

Tgt Ion:105 Resp: 16042

Ion	Ratio	Lower	Upper
105	100		
120	33.3	11.2	51.2

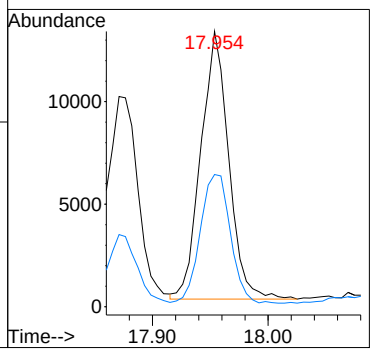


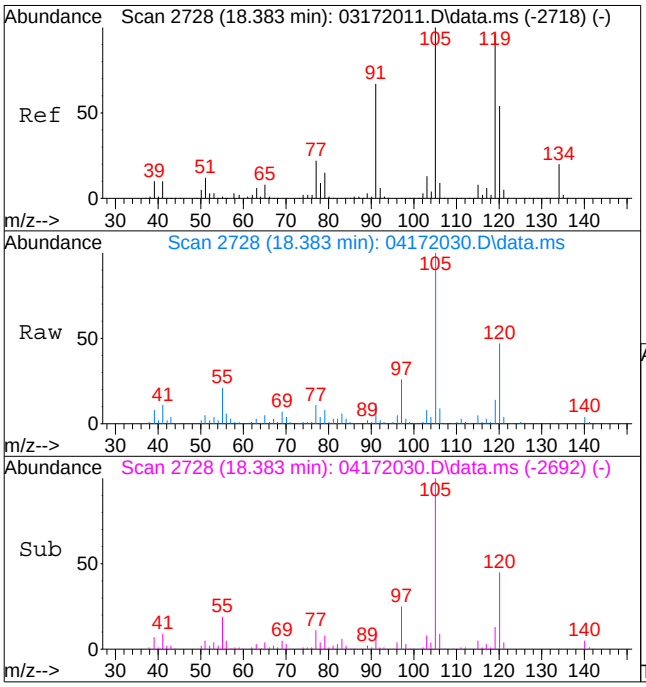


#79
1,3,5-Trimethylbenzene
Concen: 0.47 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.000 min
Lab File: 04172030.D
Acq: 17 Apr 2020 19:15

Tgt Ion:105 Resp: 21862

Ion	Ratio	Lower	Upper
105	100		
120	51.8	30.5	70.5

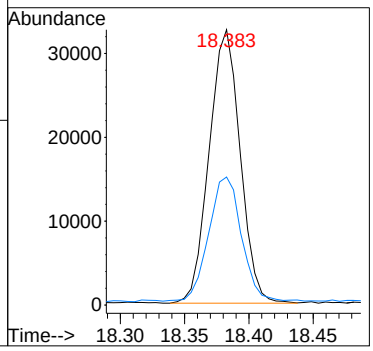


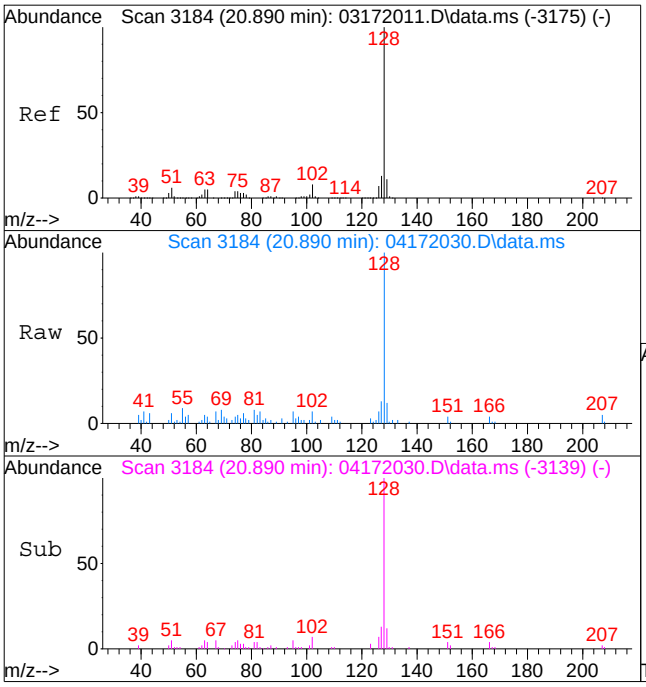


#82
1,2,4-Trimethylbenzene
Concen: 1.27 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.000 min
Lab File: 04172030.D
Acq: 17 Apr 2020 19:15

Tgt Ion:105 Resp: 54816

Ion	Ratio	Lower	Upper
105	100		
120	48.6	34.9	74.9

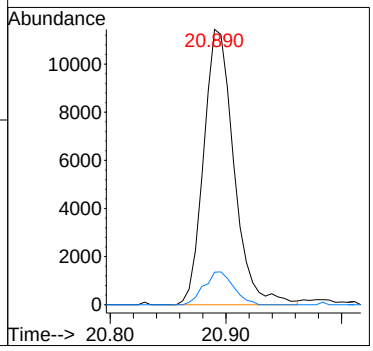




#95
Naphthalene
Concen: 0.35 ng
RT: 20.89 min Scan# 3184
Delta R.T. 0.000 min
Lab File: 04172030.D
Acq: 17 Apr 2020 19:15

Tgt Ion:128 Resp: 20772

Ion	Ratio	Lower	Upper
128	100		
129	11.6	0.0	30.9



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202011.D Vial: 14
Acq On : 20 Apr 2020 8:20 Operator: TD
Sample : P2002027-010 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 18:25:23 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/20/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	132507	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	11.11	114	568820	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	252982	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	205468	13.705	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.68%				
57) Toluene-d8 (SS2)	13.54	98	628114	12.484	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.84%				
73) Bromofluorobenzene (SS3)	17.05	174	231764	13.845	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.72%				
Target Compounds							Qvalue
2) Propene	3.87	42	1699m	0.209	ng		
3) Dichlorodifluoromethan...	3.97	85	125310	6.627	ng		98
4) Chloromethane	0.00	50	0	N.D.	d		
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	2399	0.272	ng		94
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	4.63	54	1507	0.220	ng		96
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.36	45	2408	0.379	ng		85
11) Acetonitrile	5.60	41	1146	0.079	ng	#	1
12) Acrolein	5.72	56	1055	0.194	ng		93
13) Acetone	5.86	58	10650	1.634	ng		94
14) Trichlorofluoromethane	6.02	101	13018	0.760	ng		99
15) 2-Propanol (Isopropanol)	6.20	45	930	N.D.			
16) Acrylonitrile	6.43	53	36	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	6.86	59	989	N.D.			
19) Methylene Chloride	6.86	84	127	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	7.18	151	22858	2.395	ng		94
22) Carbon Disulfide	7.14	76	104044	3.010	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	8.56	72	982	0.154	ng	#	16
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	9.23	61	3079	1.052	ng		97
31) n-Hexane	9.22	57	8242	0.581	ng		98
32) Chloroform	9.27	83	4770	0.282	ng		100
34) Tetrahydrofuran (THF)	9.70	72	2746	0.444	ng		97
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.75	78	31344	0.773	ng		97
42) Carbon Tetrachloride	10.90	117	23038	1.595	ng		98
43) Cyclohexane	11.03	84	5833	0.379	ng		98
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	11.80	130	122	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.	d		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202011.D Vial: 14
Acq On : 20 Apr 2020 8:20 Operator: TD
Sample : P2002027-010 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 18:25:23 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

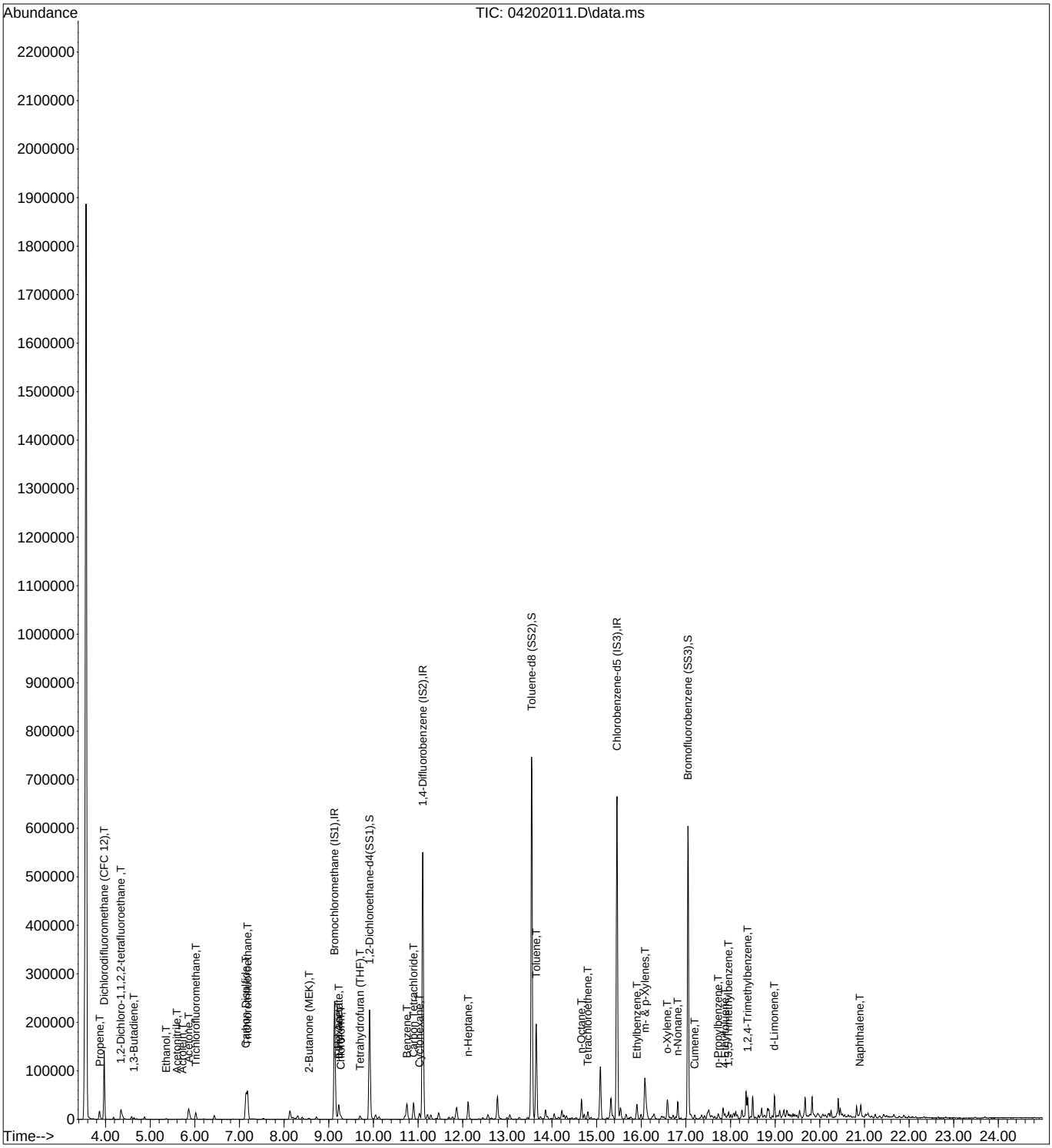
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.12	71	10543	1.090 ng	99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	12.56	58	104	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	13.26	97	211	N.D.	
58) Toluene	13.65	91	174030	4.076 ng	99
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	14.32	107	335	N.D.	
62) n-Butyl Acetate	14.54	43	149	N.D.	
63) n-Octane	14.66	57	8540	1.108 ng	98
64) Tetrachloroethene	14.80	166	5723	0.431 ng	100
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.90	91	27700	0.604 ng	98
67) m- & p-Xylenes	16.08	91	80437	2.192 ng	99
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.48	104	697	N.D.	
70) o-Xylene	16.58	91	26945	0.735 ng	100
71) n-Nonane	16.82	43	12829	0.810 ng	98
72) 1,1,2,2-Tetrachloroethane	16.61	83	437	N.D.	
74) Cumene	17.19	105	4124	0.086 ng	95
75) alpha-Pinene	17.60	93	965	N.D.	
76) n-Propylbenzene	17.72	91	10032	0.184 ng	97
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	5455	0.124 ng	94
79) 1,3,5-Trimethylbenzene	17.95	105	7095	0.176 ng	90
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	21400	0.570 ng	91
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.52	91	147	N.D.	
85) 1,3-Dichlorobenzene	18.61	146	114	N.D.	
86) 1,4-Dichlorobenzene	18.61	146	114	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	18.98	68	10100	0.775 ng	91
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	20.79	180	186	N.D.	
95) Naphthalene	20.90	128	7444	0.144 ng	98
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202011.D Vial: 14
Acq On : 20 Apr 2020 8:20 Operator: TD
Sample : P2002027-010 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 18:25:23 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

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Acq On : 20 Apr 2020 8:20 Operator: TD
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QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/20/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	132507	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	11.11	114	568820	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	252982	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	205468	13.705	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.68%				
57) Toluene-d8 (SS2)	13.54	98	628114	12.484	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.84%				
73) Bromofluorobenzene (SS3)	17.05	174	231764	13.845	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.72%				
Target Compounds							Qvalue
2) Propene	3.87	42	1699m	0.209	ng		
3) Dichlorodifluoromethan...	3.97	85	125310	6.627	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	2399	0.272	ng		94
7) 1,3-Butadiene	4.63	54	1507	0.220	ng		96
10) Ethanol	5.36	45	2408	0.379	ng		85
11) Acetonitrile	5.60	41	1146	0.079	ng	#	1
12) Acrolein	5.72	56	1055	0.194	ng		93
13) Acetone	5.86	58	10650	1.634	ng		94
14) Trichlorofluoromethane	6.02	101	13018	0.760	ng		99
21) Trichlorotrifluoroethane	7.18	151	22858	2.395	ng		94
22) Carbon Disulfide	7.14	76	104044	3.010	ng		99
27) 2-Butanone (MEK)	8.56	72	982	0.154	ng	#	16
30) Ethyl Acetate	9.23	61	3079	1.052	ng		97
31) n-Hexane	9.22	57	8242	0.581	ng		98
32) Chloroform	9.27	83	4770	0.282	ng		100
34) Tetrahydrofuran (THF)	9.70	72	2746	0.444	ng		97
41) Benzene	10.75	78	31344	0.773	ng		97
42) Carbon Tetrachloride	10.90	117	23038	1.595	ng		98
43) Cyclohexane	11.03	84	5833	0.379	ng		98
51) n-Heptane	12.12	71	10543	1.090	ng		99
58) Toluene	13.65	91	174030	4.076	ng		99
63) n-Octane	14.66	57	8540	1.108	ng		98
64) Tetrachloroethene	14.80	166	5723	0.431	ng		100
66) Ethylbenzene	15.90	91	27700	0.604	ng		98
67) m- & p-Xylenes	16.08	91	80437	2.192	ng		99
70) o-Xylene	16.58	91	26945	0.735	ng		100
71) n-Nonane	16.82	43	12829	0.810	ng		98
74) Cumene	17.19	105	4124	0.086	ng		95
76) n-Propylbenzene	17.72	91	10032	0.184	ng		97
78) 4-Ethyltoluene	17.88	105	5455	0.124	ng		94
79) 1,3,5-Trimethylbenzene	17.95	105	7095	0.176	ng		90
82) 1,2,4-Trimethylbenzene	18.38	105	21400	0.570	ng		91
91) d-Limonene	18.98	68	10100	0.775	ng		91
95) Naphthalene	20.90	128	7444	0.144	ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

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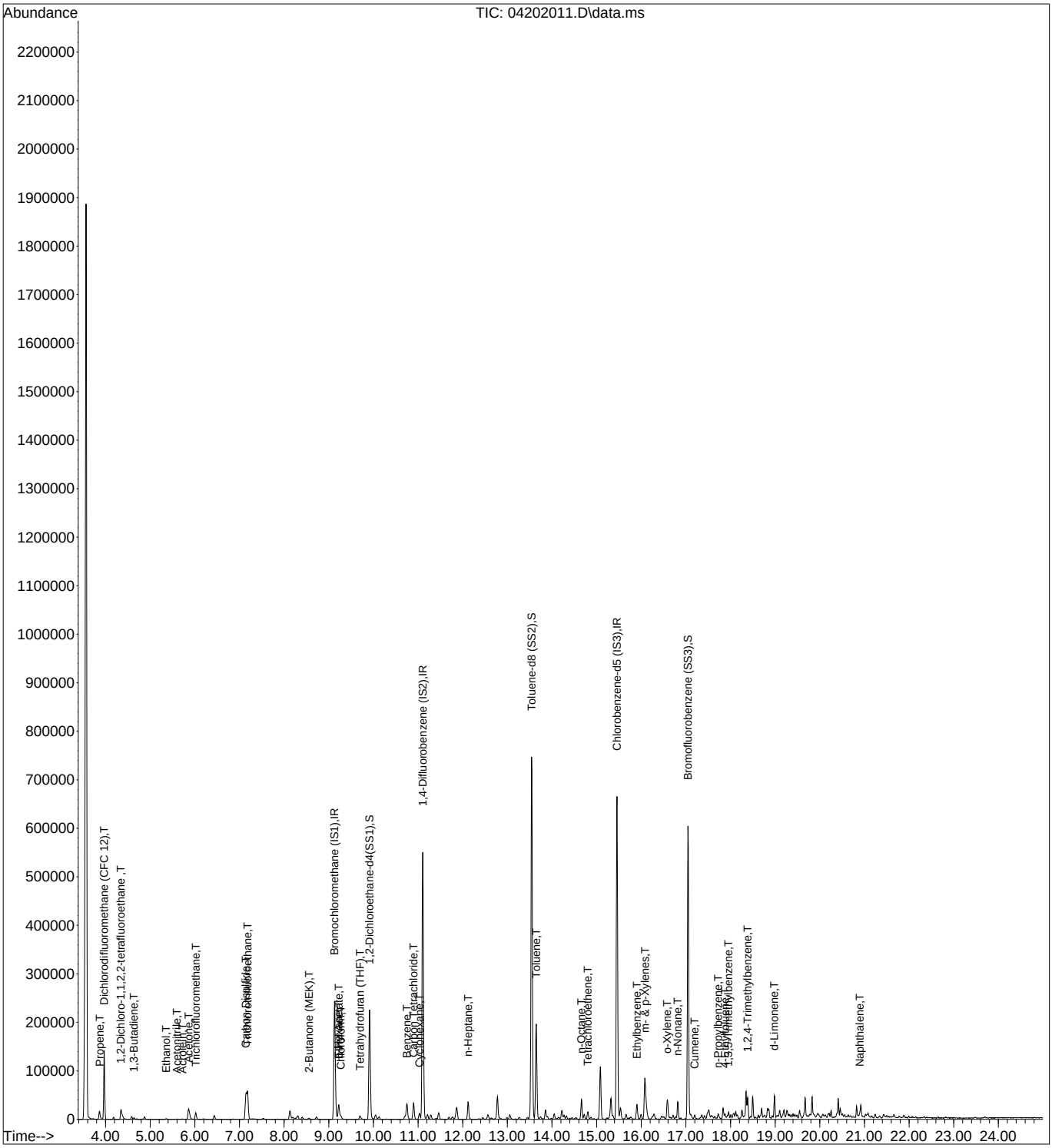
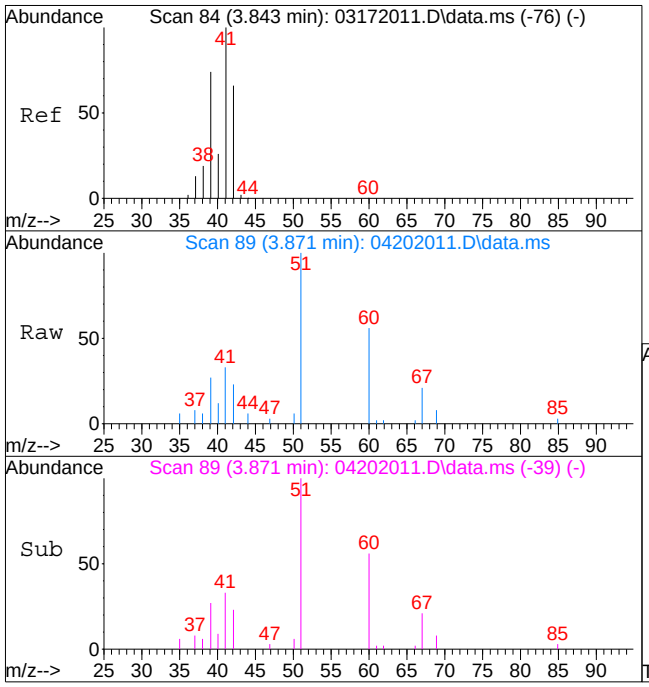
Response via : Initial Calibration
DataAcq Meth:TO15.M

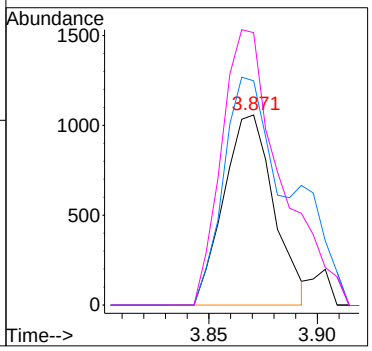


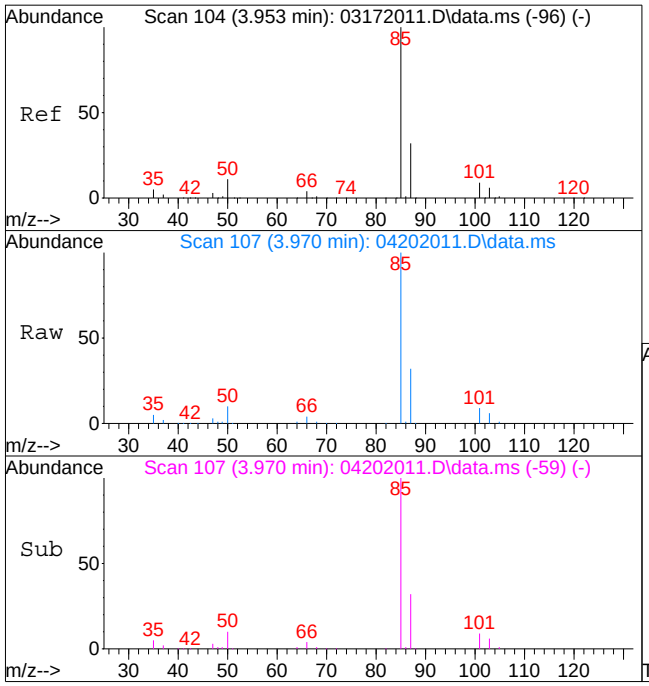


#2
Propene
Concen: 0.21 ng m
RT: 3.87 min Scan# 89
Delta R.T. 0.028 min
Lab File: 04202011.D
Acq: 20 Apr 2020 8:20

Tgt Ion: 42 Resp: 1699

Ion	Ratio	Lower	Upper
42	100		
39	158.7	91.9	131.9#
41	171.9	130.5	170.5#

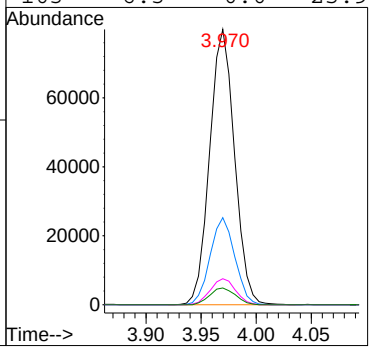


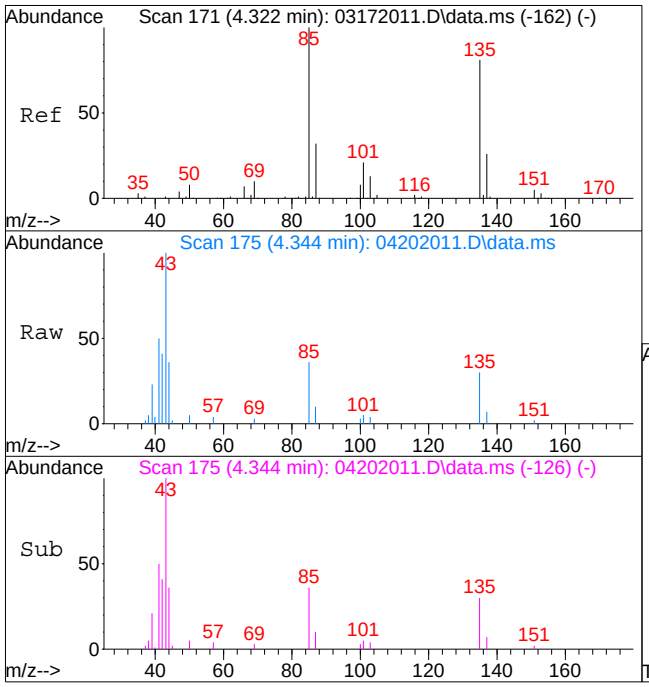


#3
Dichlorodifluoromethane (CFC 12)
Concen: 6.63 ng
RT: 3.97 min Scan# 107
Delta R.T. 0.017 min
Lab File: 04202011.D
Acq: 20 Apr 2020 8:20

Tgt Ion: 85 Resp: 125310

Ion	Ratio	Lower	Upper
85	100		
87	31.4	12.4	52.4
101	9.6	0.0	29.2
103	6.3	0.0	25.9

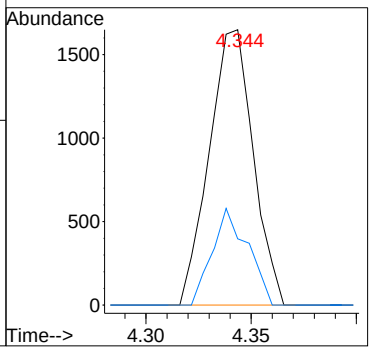


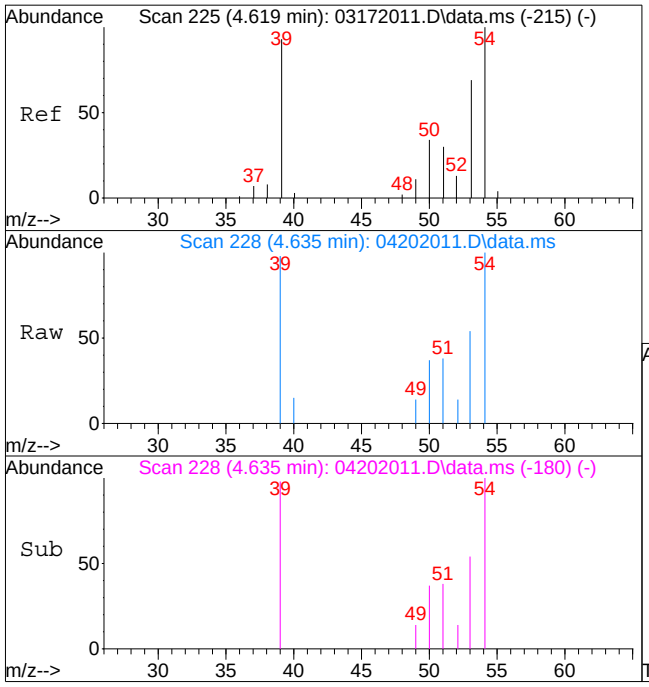


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 0.27 ng
RT: 4.34 min Scan# 175
Delta R.T. 0.022 min
Lab File: 04202011.D
Acq: 20 Apr 2020 8:20

Tgt Ion:135 Resp: 2399

Ion	Ratio	Lower	Upper
135	100		
137	28.4	12.0	52.0

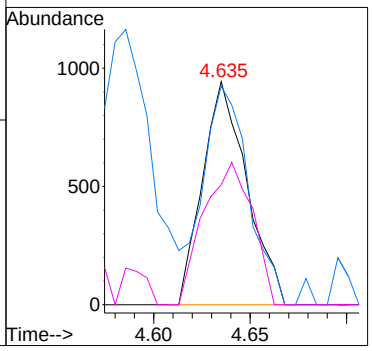


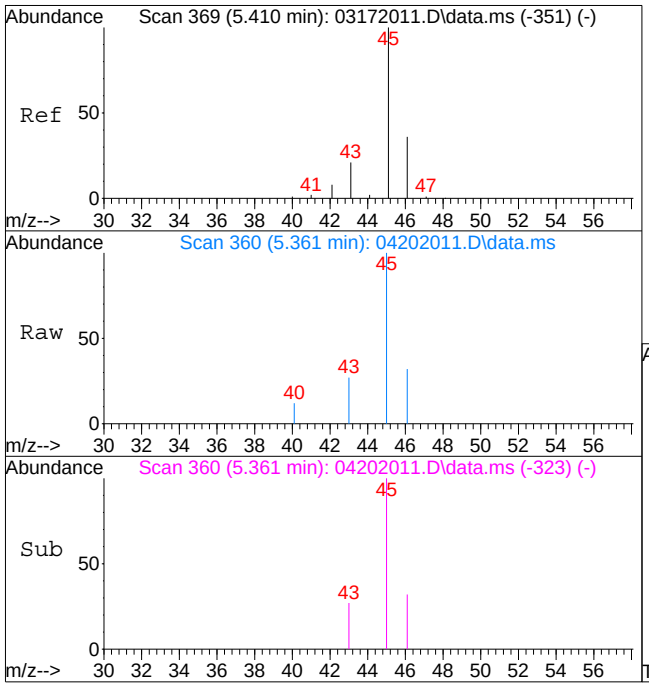


#7
1,3-Butadiene
Concen: 0.22 ng
RT: 4.63 min Scan# 228
Delta R.T. 0.016 min
Lab File: 04202011.D
Acq: 20 Apr 2020 8:20

Tgt Ion: 54 Resp: 1507

Ion	Ratio	Lower	Upper
54	100		
39	100.9	74.8	114.8
53	70.2	49.9	89.9

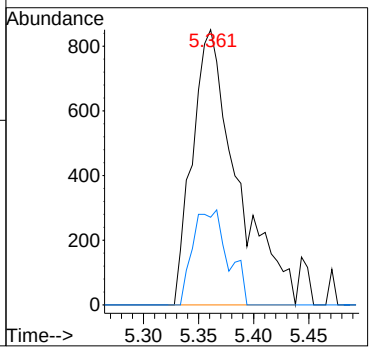


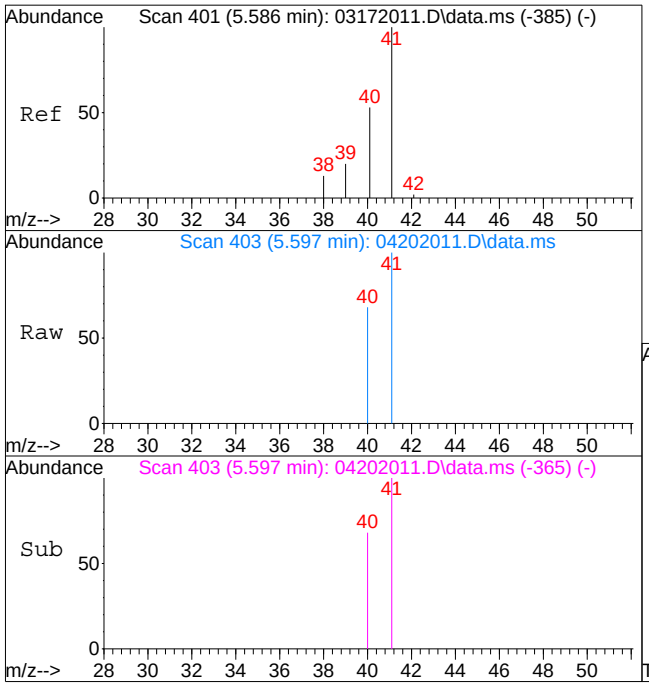


#10
Ethanol
Concen: 0.38 ng
RT: 5.36 min Scan# 360
Delta R.T. -0.049 min
Lab File: 04202011.D
Acq: 20 Apr 2020 8:20

Tgt Ion: 45 Resp: 2408

Ion	Ratio	Lower	Upper
45	100		
46	27.0	15.9	55.9

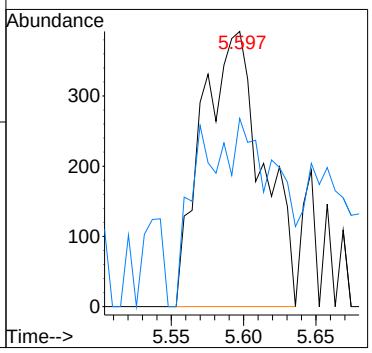


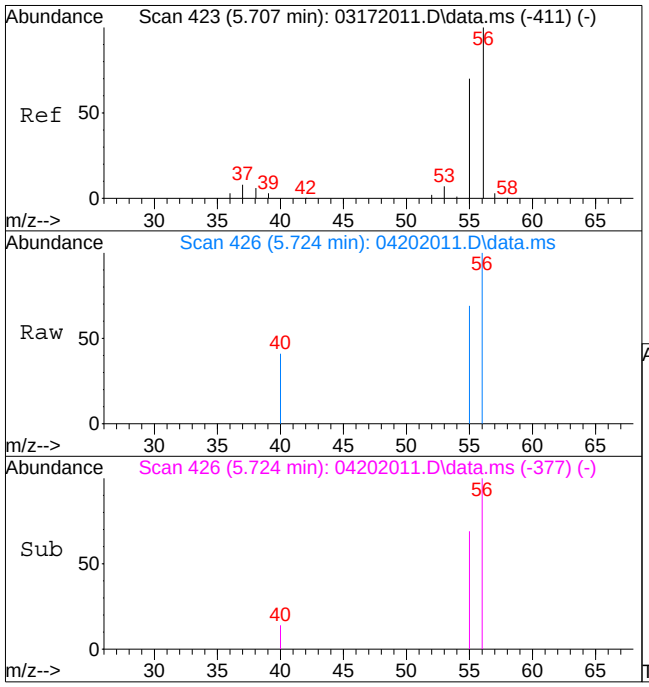


#11
Acetonitrile
Concen: 0.08 ng
RT: 5.60 min Scan# 403
Delta R.T. 0.011 min
Lab File: 04202011.D
Acq: 20 Apr 2020 8:20

Tgt Ion: 41 Resp: 1146

Ion	Ratio	Lower	Upper
41	100		
40	148.4	32.7	72.7#

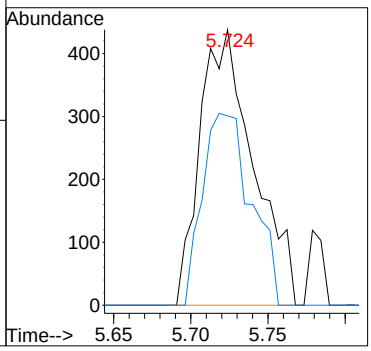


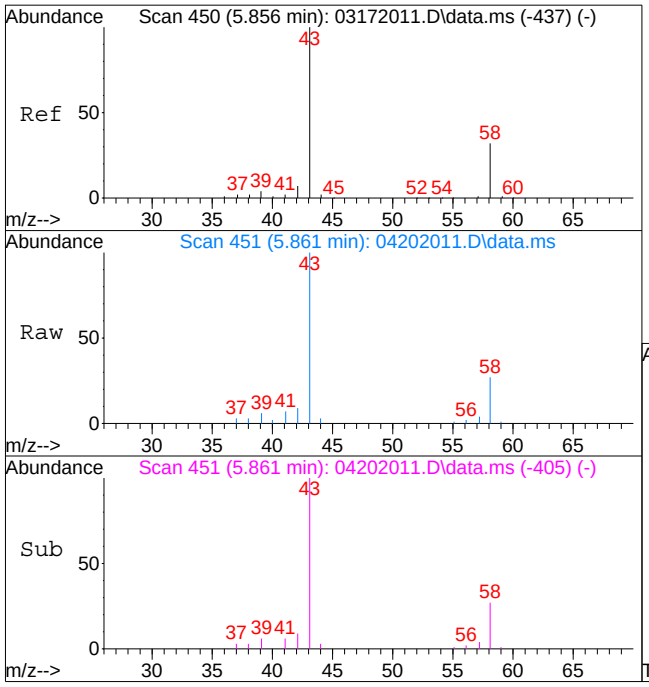


#12
Acrolein
Concen: 0.19 ng
RT: 5.72 min Scan# 426
Delta R.T. 0.017 min
Lab File: 04202011.D
Acq: 20 Apr 2020 8:20

Tgt Ion: 56 Resp: 1055

Ion	Ratio	Lower	Upper
56	100		
55	63.7	49.5	89.5

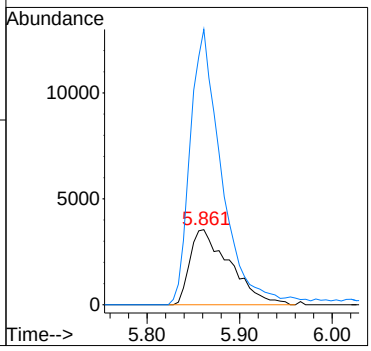


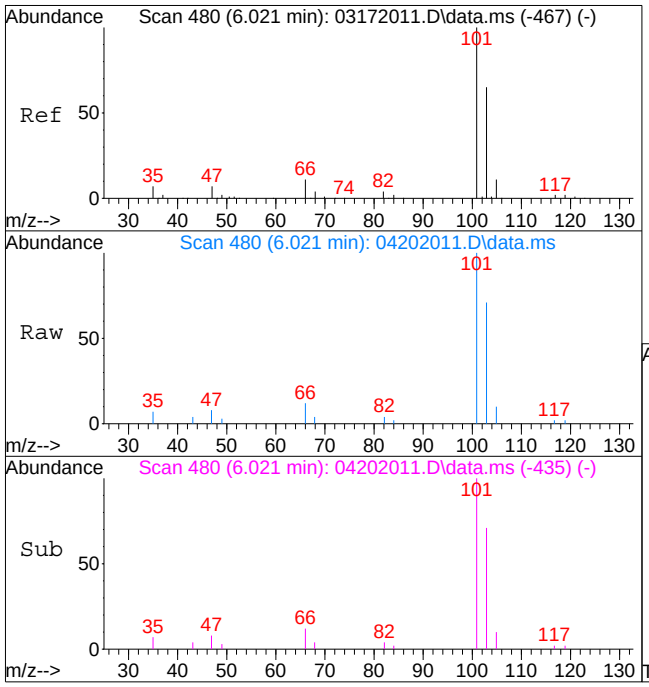


#13
Acetone
Concen: 1.63 ng
RT: 5.86 min Scan# 451
Delta R.T. 0.005 min
Lab File: 04202011.D
Acq: 20 Apr 2020 8:20

Tgt Ion: 58 Resp: 10650

Ion	Ratio	Lower	Upper
58	100		
43	290.4	272.8	332.8

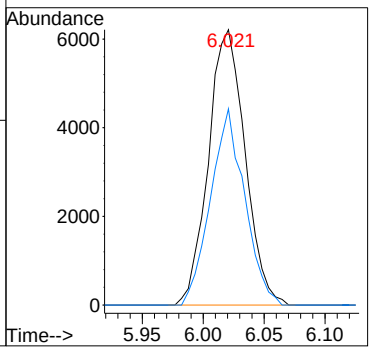


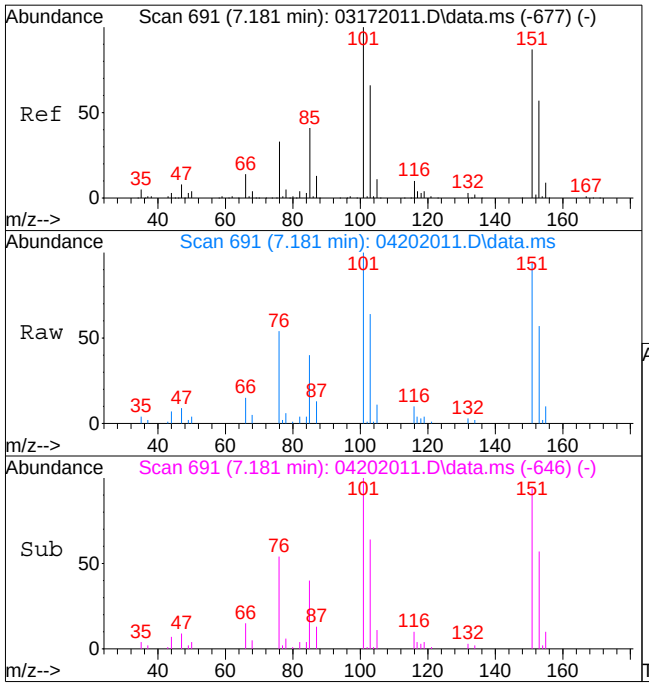


#14
Trichlorofluoromethane
Concen: 0.76 ng
RT: 6.02 min Scan# 480
Delta R.T. -0.000 min
Lab File: 04202011.D
Acq: 20 Apr 2020 8:20

Tgt Ion:101 Resp: 13018

Ion	Ratio	Lower	Upper
101	100		
103	66.3	45.3	85.3

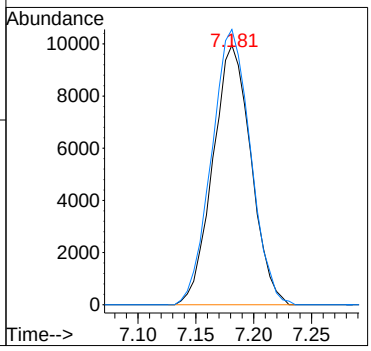


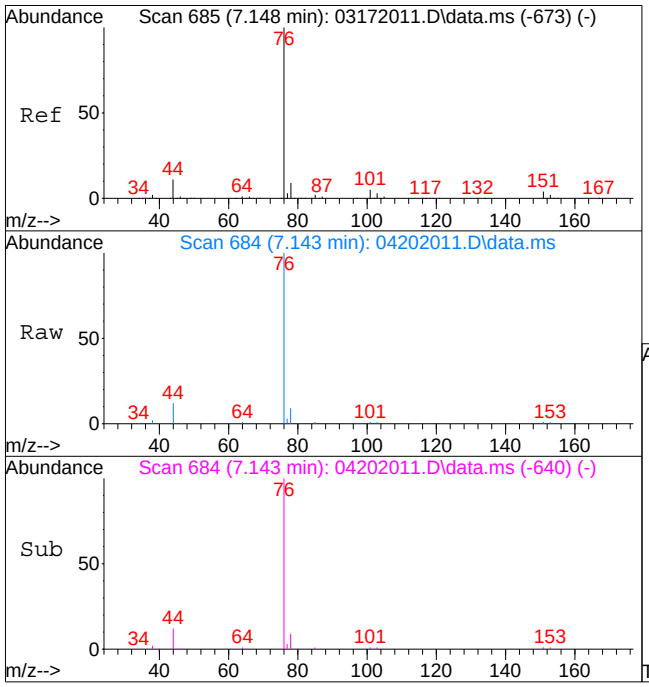


#21
Trichlorotrifluoroethane
Concen: 2.40 ng
RT: 7.18 min Scan# 691
Delta R.T. 0.000 min
Lab File: 04202011.D
Acq: 20 Apr 2020 8:20

Tgt Ion:151 Resp: 22858

Ion	Ratio	Lower	Upper
151	100		
101	108.2	94.7	134.7

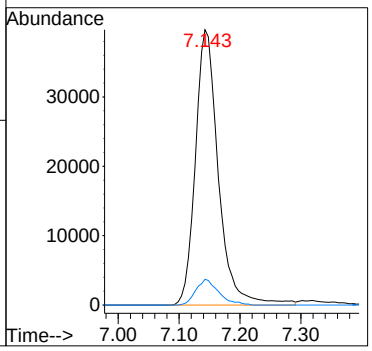


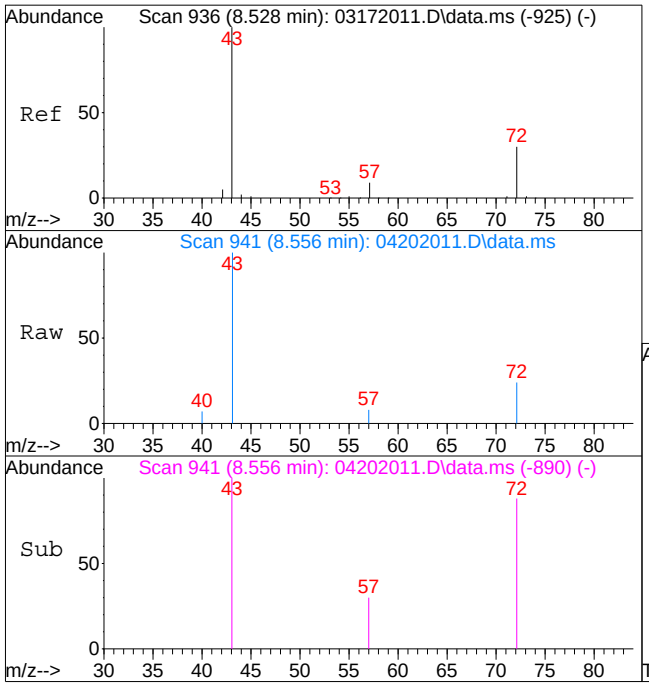


#22
Carbon Disulfide
Concen: 3.01 ng
RT: 7.14 min Scan# 684
Delta R.T. -0.005 min
Lab File: 04202011.D
Acq: 20 Apr 2020 8:20

Tgt Ion: 76 Resp: 104044

Ion	Ratio	Lower	Upper
76	100		
78	9.3	0.0	29.7

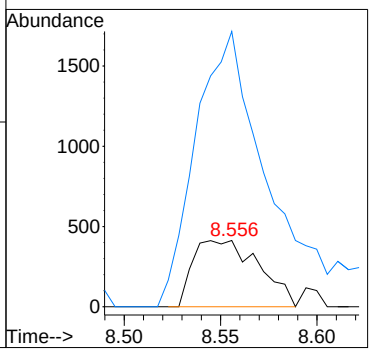


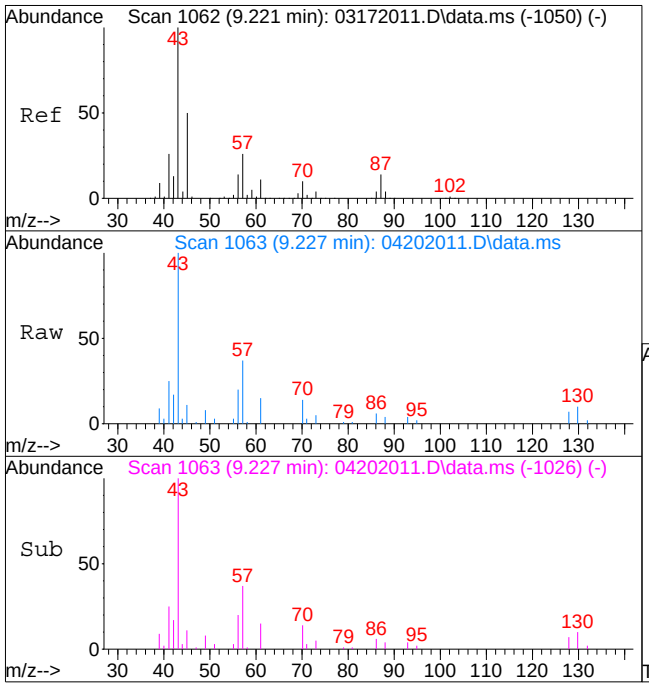


#27
2-Butanone (MEK)
Concen: 0.15 ng
RT: 8.56 min Scan# 941
Delta R.T. 0.028 min
Lab File: 04202011.D
Acq: 20 Apr 2020 8:20

Tgt Ion: 72 Resp: 982

Ion	Ratio	Lower	Upper
72	100		
43	507.1	310.6	350.6#

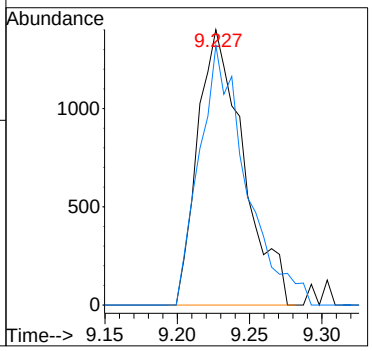


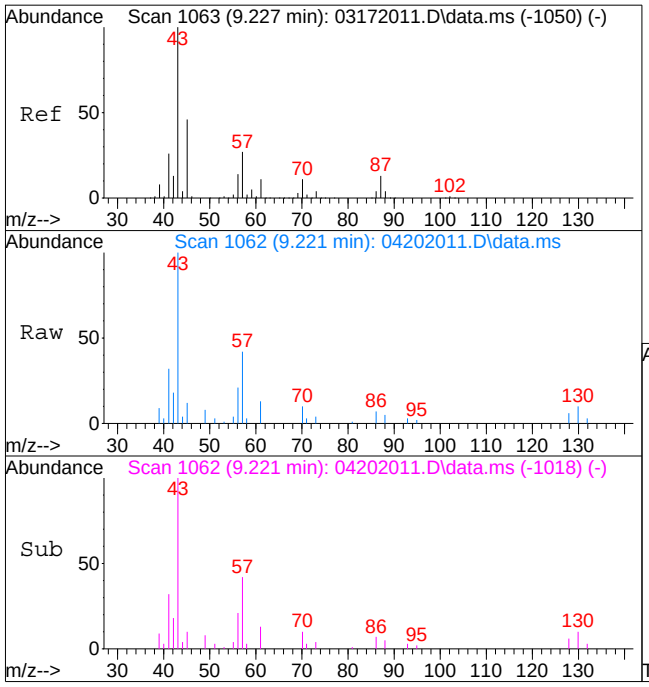


#30
Ethyl Acetate
Concen: 1.05 ng
RT: 9.23 min Scan# 1063
Delta R.T. 0.006 min
Lab File: 04202011.D
Acq: 20 Apr 2020 8:20

Tgt Ion: 61 Resp: 3079

Ion	Ratio	Lower	Upper
61	100		
70	96.1	73.0	113.0

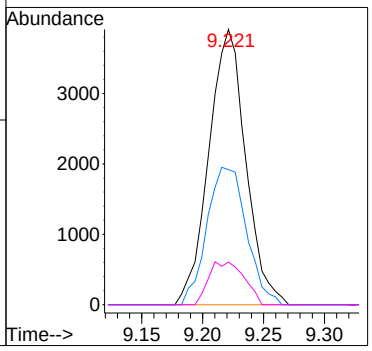


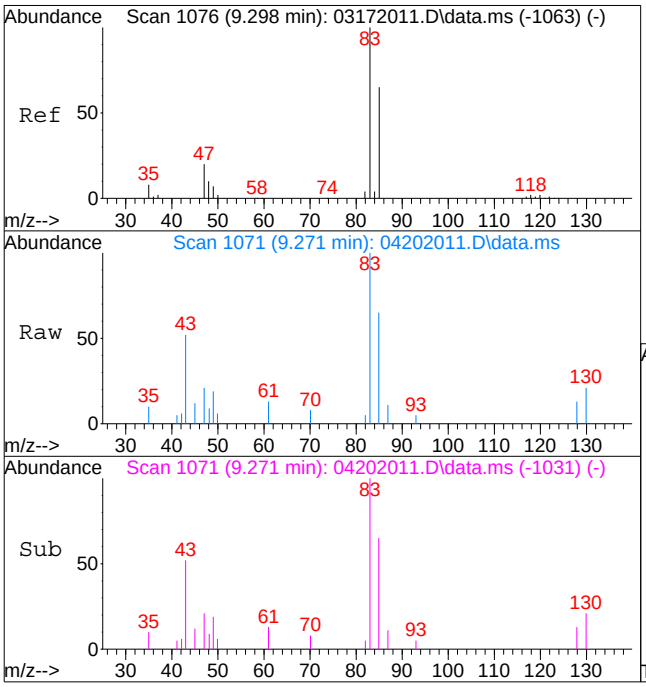


#31
n-Hexane
Concen: 0.58 ng
RT: 9.22 min Scan# 1062
Delta R.T. -0.006 min
Lab File: 04202011.D
Acq: 20 Apr 2020 8:20

Tgt Ion: 57 Resp: 8242

Ion	Ratio	Lower	Upper
57	100		
56	53.5	42.0	63.0
86	15.0	13.1	19.7

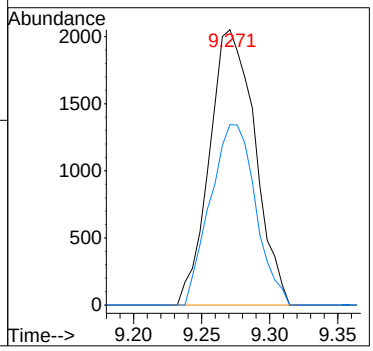


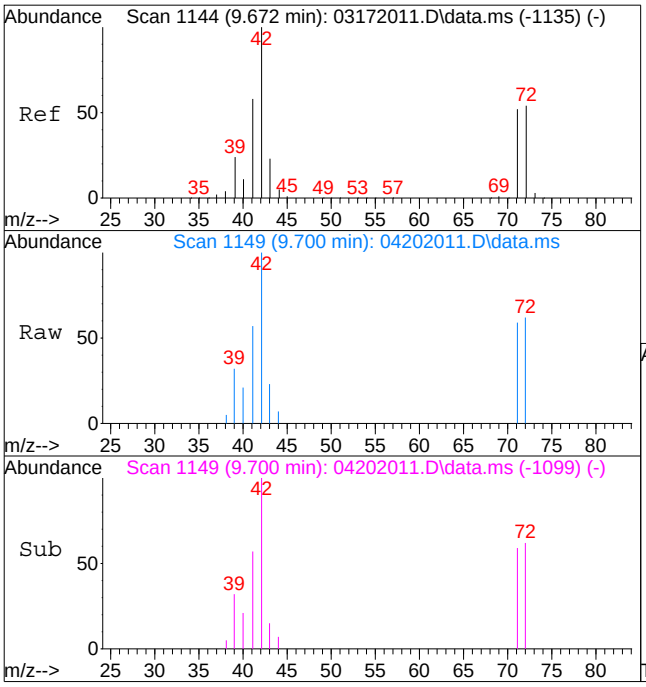


#32
Chloroform
Concen: 0.28 ng
RT: 9.27 min Scan# 1071
Delta R.T. -0.027 min
Lab File: 04202011.D
Acq: 20 Apr 2020 8:20

Tgt Ion: 83 Resp: 4770

Ion	Ratio	Lower	Upper
83	100		
85	65.3	45.1	85.1

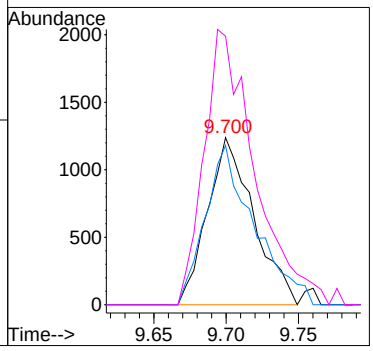


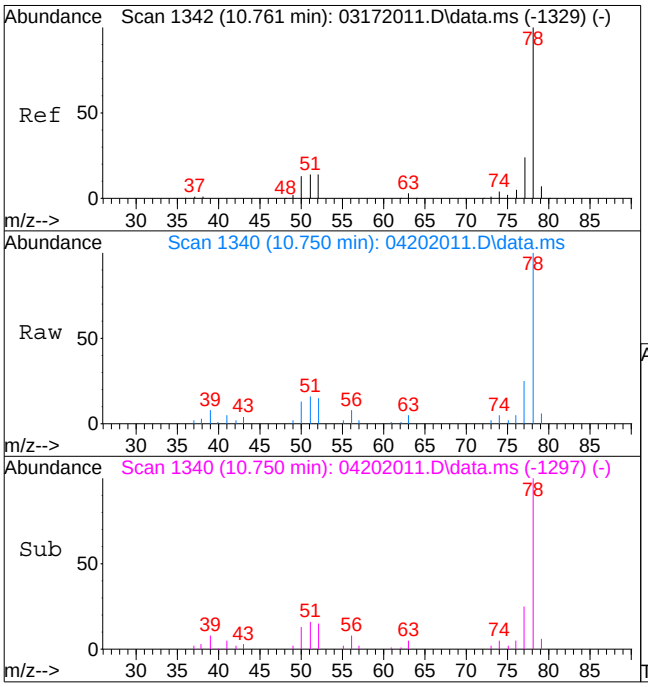


#34
Tetrahydrofuran (THF)
Concen: 0.44 ng
RT: 9.70 min Scan# 1149
Delta R.T. 0.028 min
Lab File: 04202011.D
Acq: 20 Apr 2020 8:20

Tgt Ion: 72 Resp: 2746

Ion	Ratio	Lower	Upper
72	100		
71	101.3	76.1	116.1
42	182.7	164.4	204.4

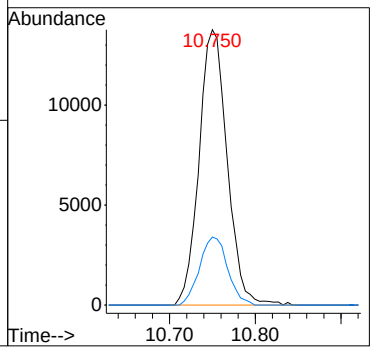


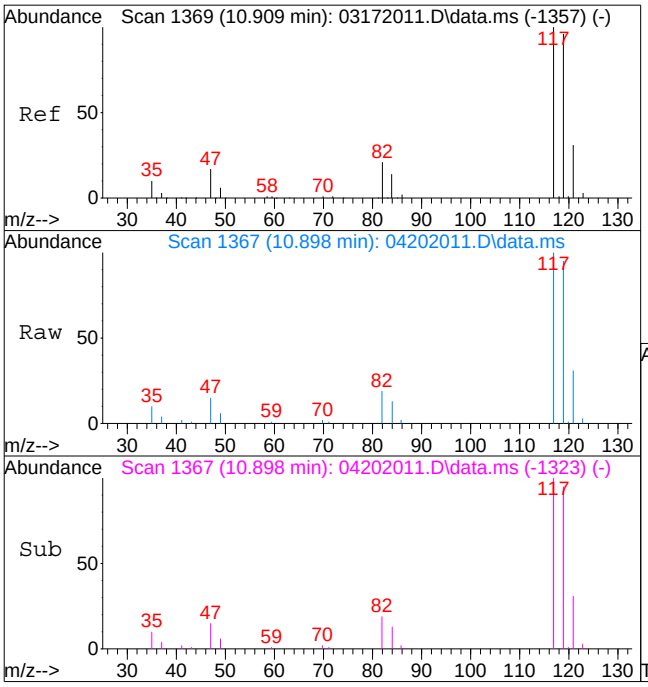


#41
Benzene
Concen: 0.77 ng
RT: 10.75 min Scan# 1340
Delta R.T. -0.011 min
Lab File: 04202011.D
Acq: 20 Apr 2020 8:20

Tgt Ion: 78 Resp: 31344

Ion	Ratio	Lower	Upper
78	100		
77	24.6	3.4	43.4

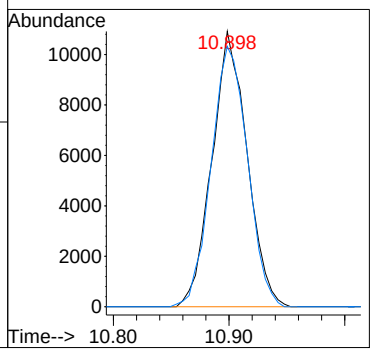


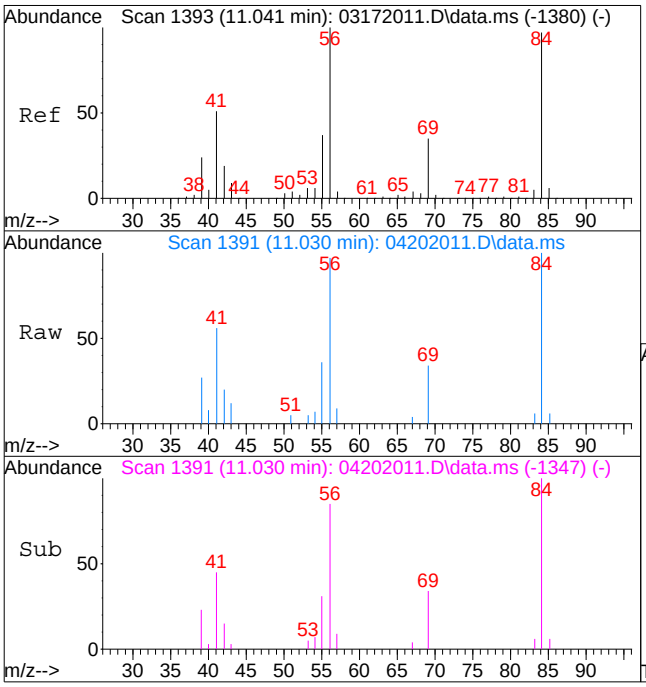


#42
Carbon Tetrachloride
Concen: 1.59 ng
RT: 10.90 min Scan# 1367
Delta R.T. -0.011 min
Lab File: 04202011.D
Acq: 20 Apr 2020 8:20

Tgt Ion:117 Resp: 23038

Ion	Ratio	Lower	Upper
117	100		
119	97.9	76.0	116.0

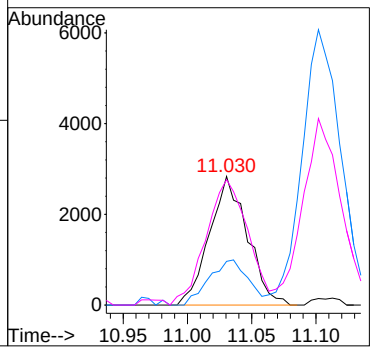


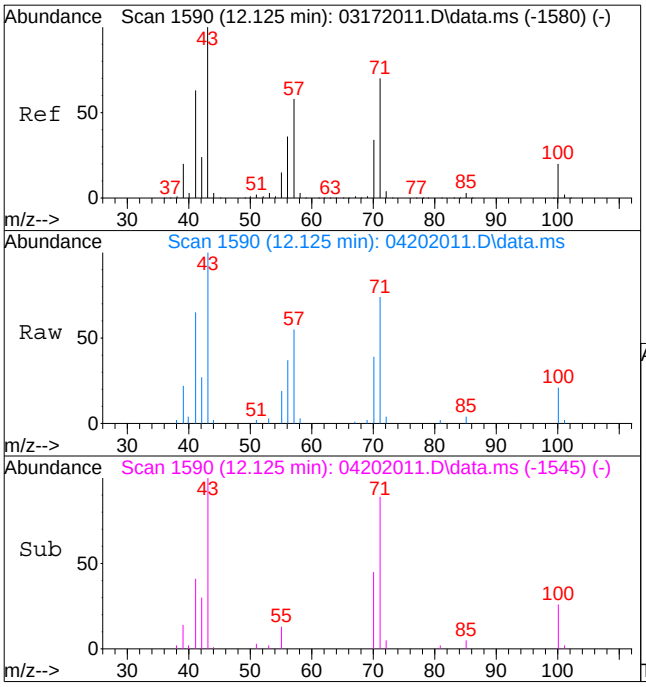


#43
Cyclohexane
Concen: 0.38 ng
RT: 11.03 min Scan# 1391
Delta R.T. -0.011 min
Lab File: 04202011.D
Acq: 20 Apr 2020 8:20

Tgt Ion: 84 Resp: 5833

Ion	Ratio	Lower	Upper
84	100		
69	35.7	16.6	56.6
56	107.0	85.3	125.3

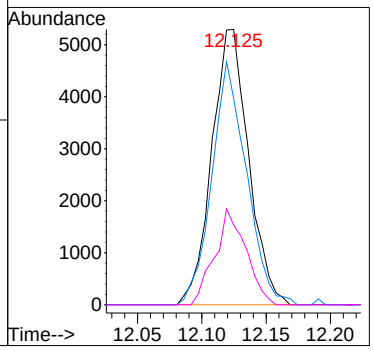


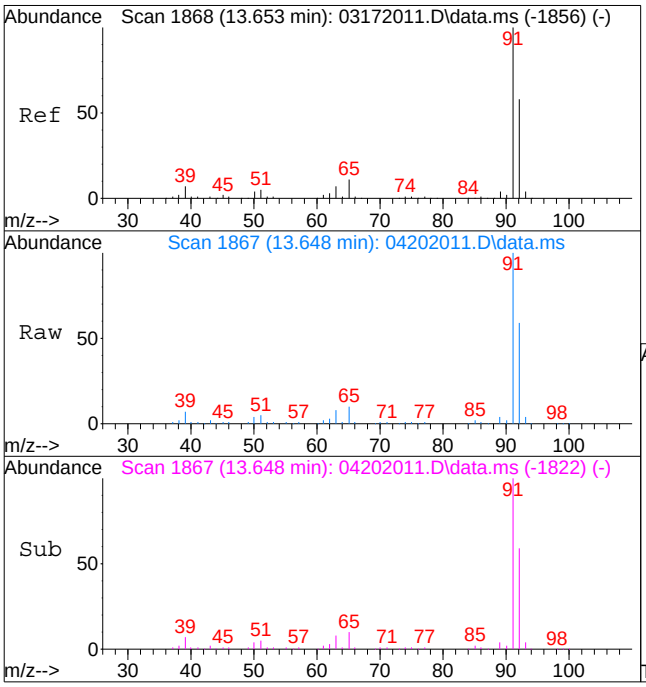


#51
n-Heptane
Concen: 1.09 ng
RT: 12.12 min Scan# 1590
Delta R.T. -0.000 min
Lab File: 04202011.D
Acq: 20 Apr 2020 8:20

Tgt Ion: 71 Resp: 10543

Ion	Ratio	Lower	Upper
71	100		
57	83.1	64.0	104.0
100	29.4	8.7	48.7

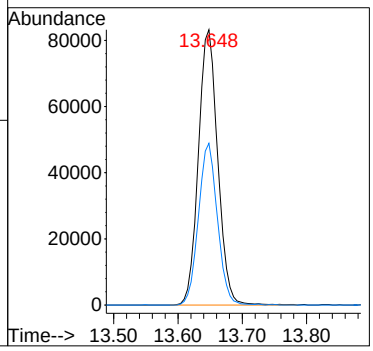


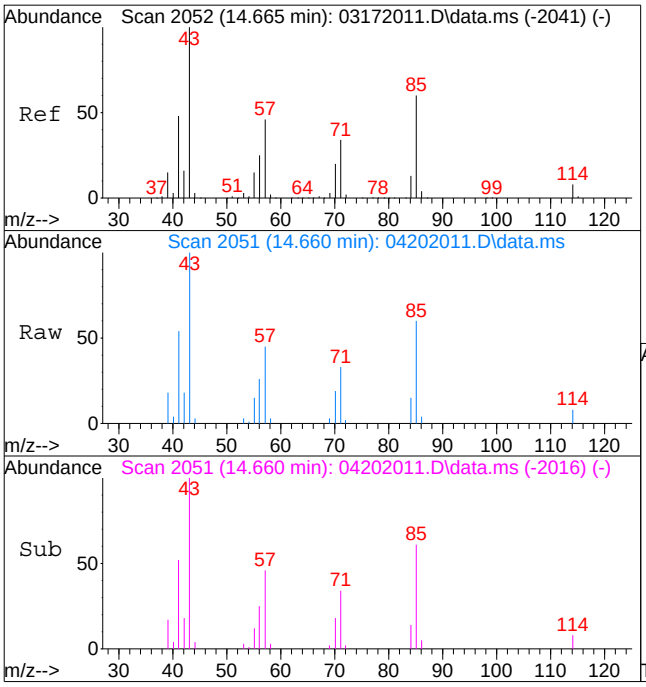


#58
Toluene
Concen: 4.08 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.005 min
Lab File: 04202011.D
Acq: 20 Apr 2020 8:20

Tgt Ion: 91 Resp: 174030

Ion	Ratio	Lower	Upper
91	100		
92	57.6	38.6	78.6

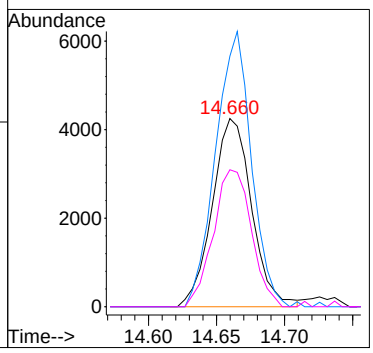


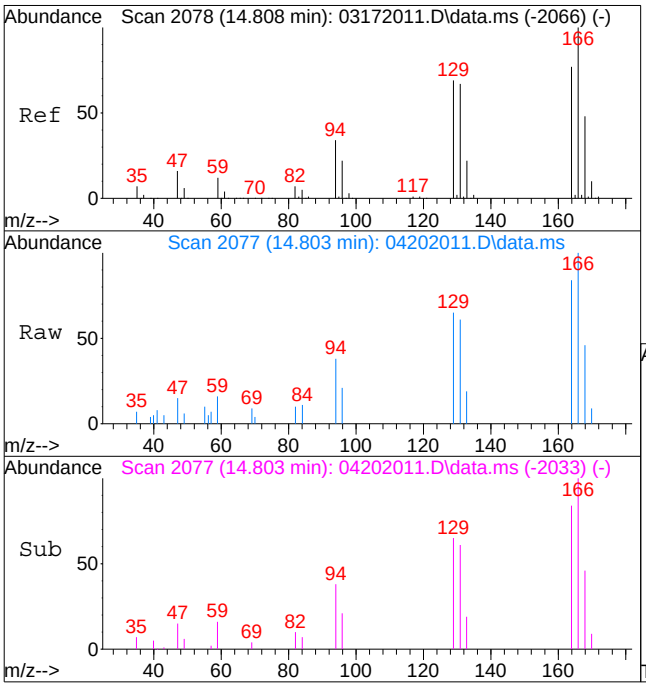


#63
n-Octane
Concen: 1.11 ng
RT: 14.66 min Scan# 2051
Delta R.T. -0.005 min
Lab File: 04202011.D
Acq: 20 Apr 2020 8:20

Tgt Ion: 57 Resp: 8540

Ion	Ratio	Lower	Upper
57	100		
85	133.5	105.4	158.2
71	70.4	59.0	88.4

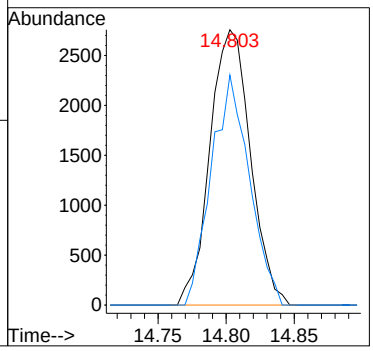


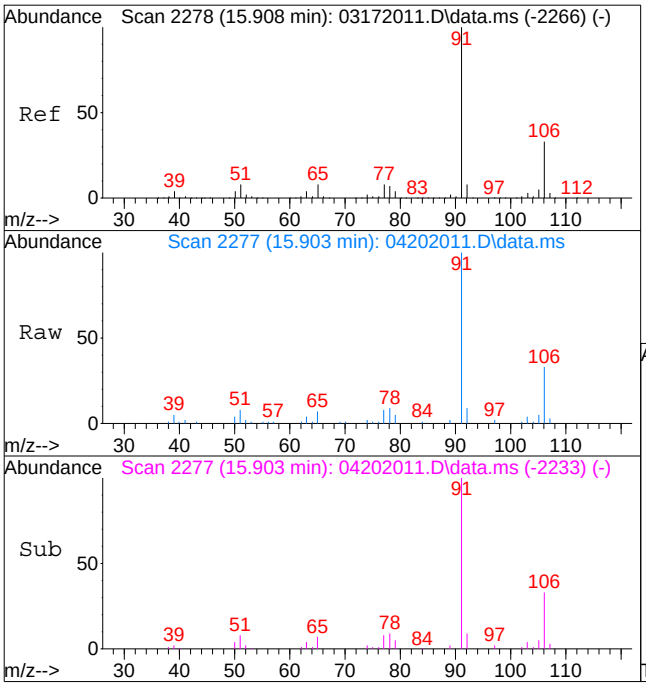


#64
Tetrachloroethene
Concen: 0.43 ng
RT: 14.80 min Scan# 2077
Delta R.T. -0.005 min
Lab File: 04202011.D
Acq: 20 Apr 2020 8:20

Tgt Ion:166 Resp: 5723

Ion	Ratio	Lower	Upper
166	100		
164	78.2	57.9	97.9

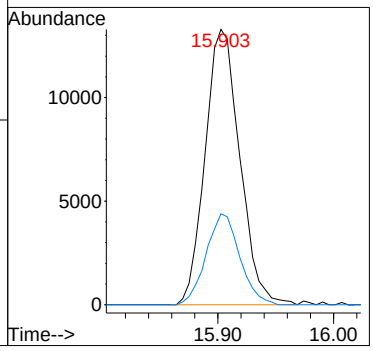


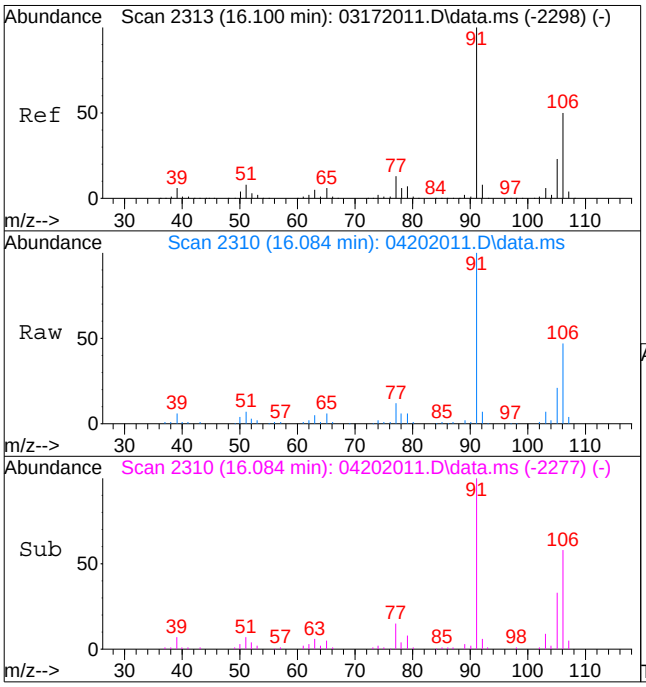


#66
Ethylbenzene
Concen: 0.60 ng
RT: 15.90 min Scan# 2277
Delta R.T. -0.005 min
Lab File: 04202011.D
Acq: 20 Apr 2020 8:20

Tgt Ion: 91 Resp: 27700

Ion	Ratio	Lower	Upper
91	100		
106	32.0	12.9	52.9

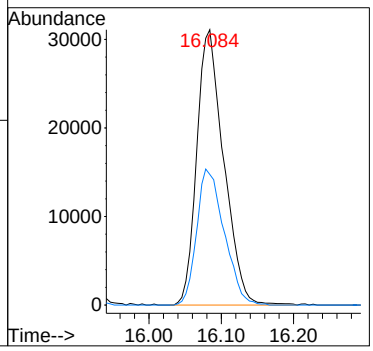


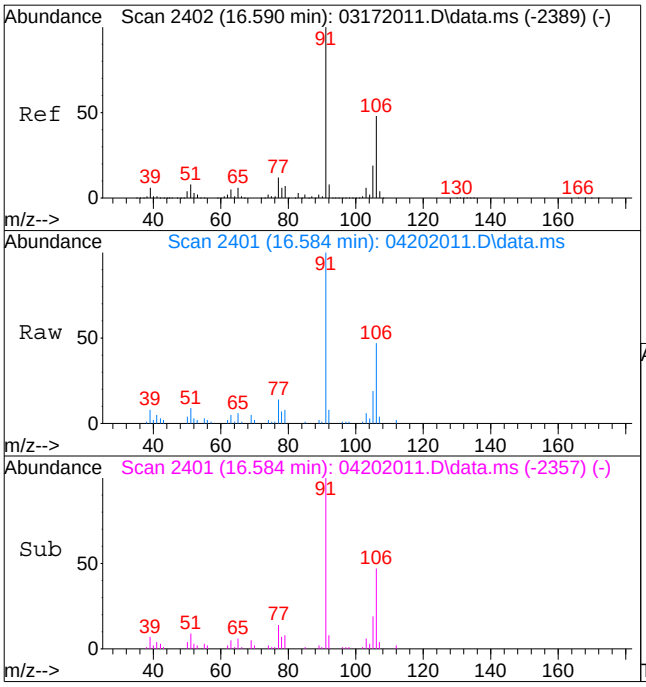


#67
m- & p-Xylenes
Concen: 2.19 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.016 min
Lab File: 04202011.D
Acq: 20 Apr 2020 8:20

Tgt Ion: 91 Resp: 80437

Ion	Ratio	Lower	Upper
91	100		
106	50.3	29.5	69.5

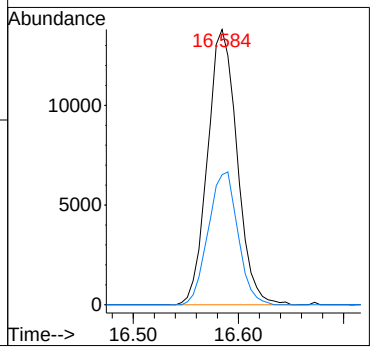


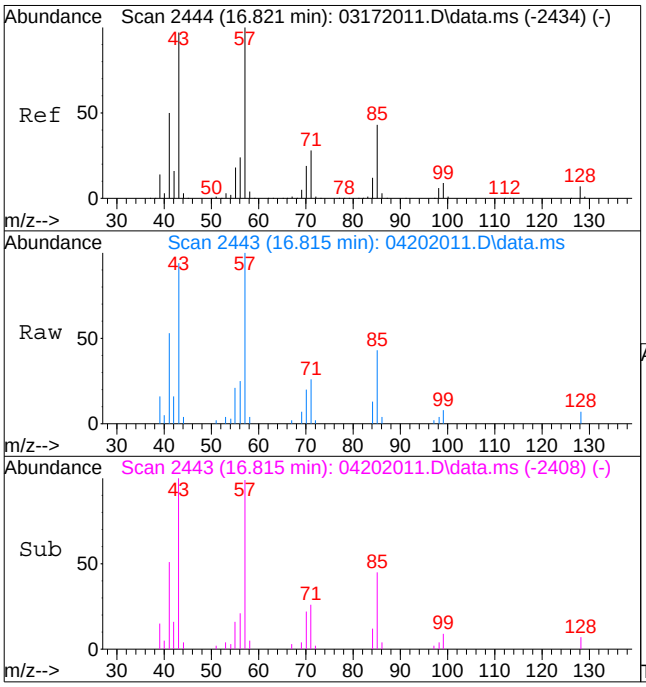


#70
o-Xylene
Concen: 0.73 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.006 min
Lab File: 04202011.D
Acq: 20 Apr 2020 8:20

Tgt Ion: 91 Resp: 26945

Ion	Ratio	Lower	Upper
91	100		
106	48.3	28.3	68.3

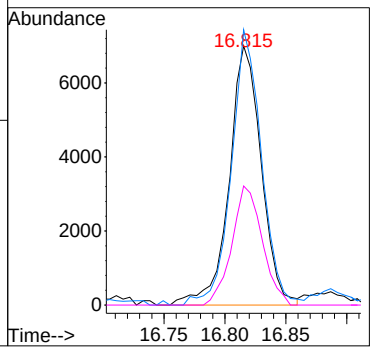


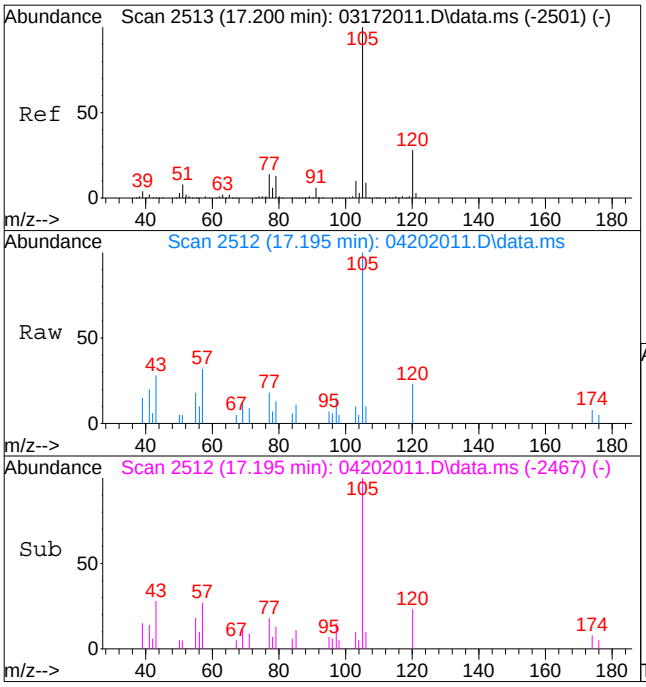


#71
n-Nonane
Concen: 0.81 ng
RT: 16.82 min Scan# 2443
Delta R.T. -0.006 min
Lab File: 04202011.D
Acq: 20 Apr 2020 8:20

Tgt Ion: 43 Resp: 12829

Ion	Ratio	Lower	Upper
43	100		
57	99.8	82.8	122.8
85	43.4	23.4	63.4

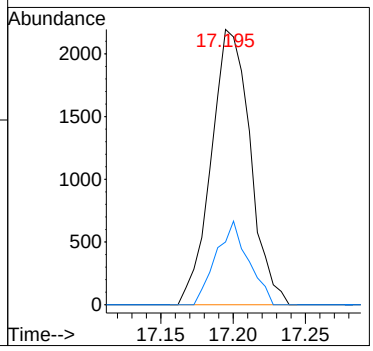


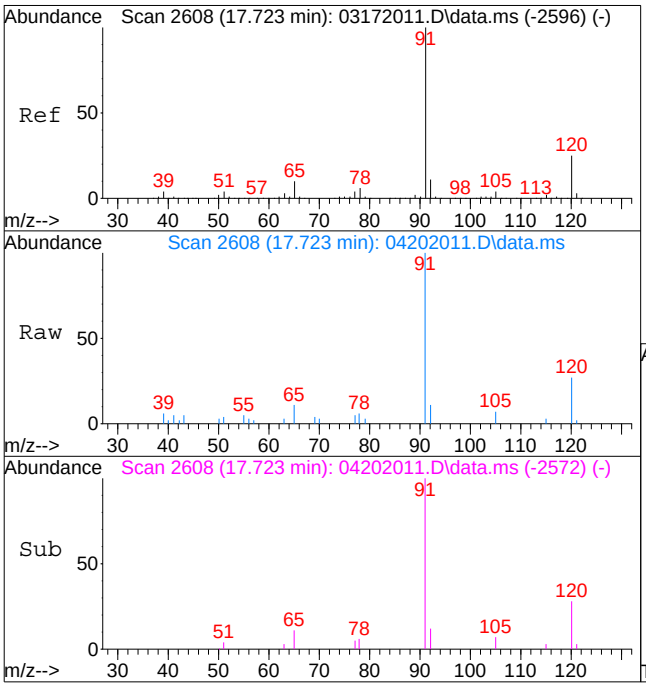


#74
Cumene
Concen: 0.09 ng
RT: 17.19 min Scan# 2512
Delta R.T. -0.005 min
Lab File: 04202011.D
Acq: 20 Apr 2020 8:20

Tgt Ion:105 Resp: 4124

Ion	Ratio	Lower	Upper
105	100		
120	25.2	7.6	47.6

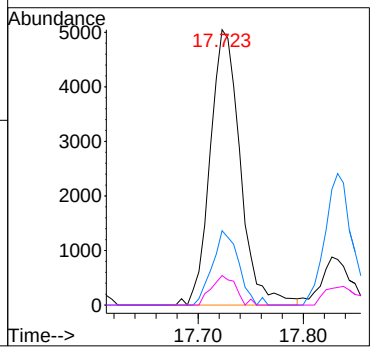


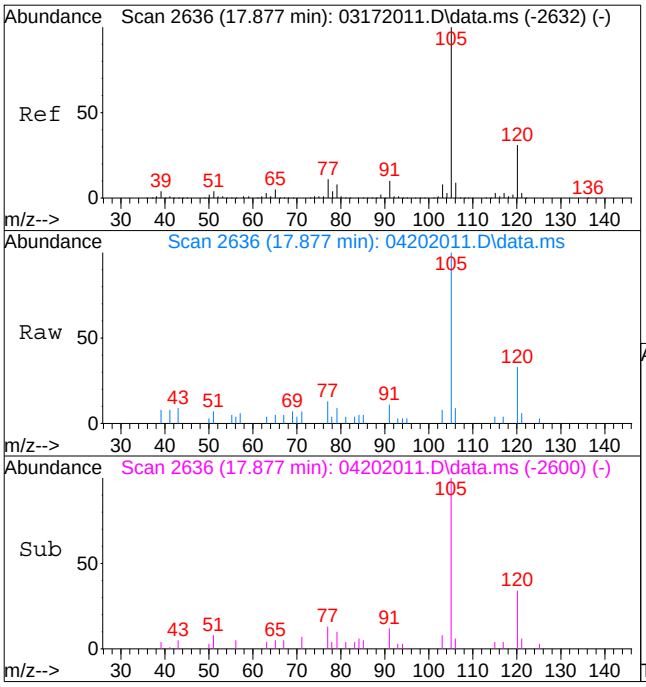


#76
n-Propylbenzene
Concen: 0.18 ng
RT: 17.72 min Scan# 2608
Delta R.T. -0.000 min
Lab File: 04202011.D
Acq: 20 Apr 2020 8:20

Tgt Ion: 91 Resp: 10032

Ion	Ratio	Lower	Upper
91	100		
120	23.6	5.0	45.0
65	8.8	0.0	30.0

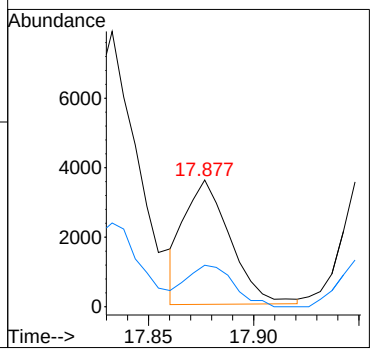


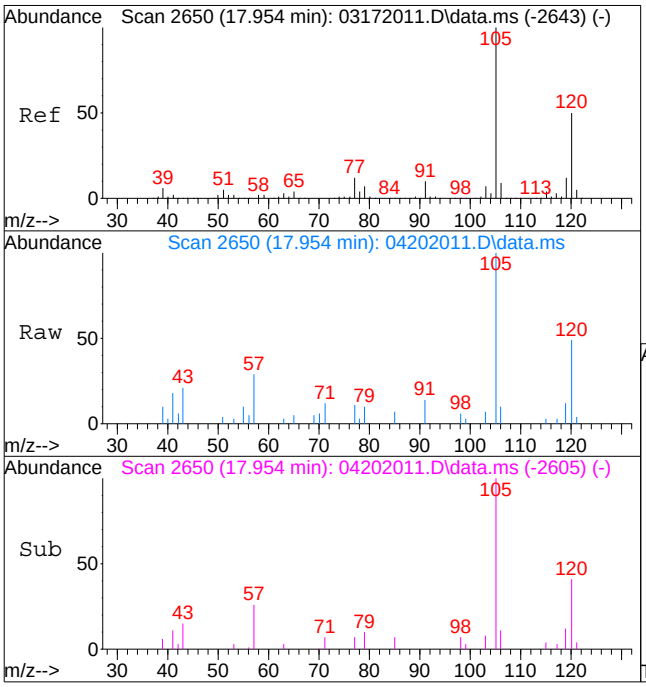


#78
4-Ethyltoluene
Concen: 0.12 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.000 min
Lab File: 04202011.D
Acq: 20 Apr 2020 8:20

Tgt Ion:105 Resp: 5455

Ion	Ratio	Lower	Upper
105	100		
120	34.4	11.2	51.2

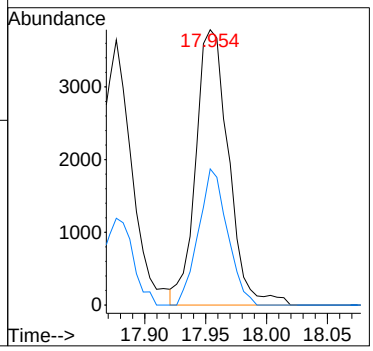


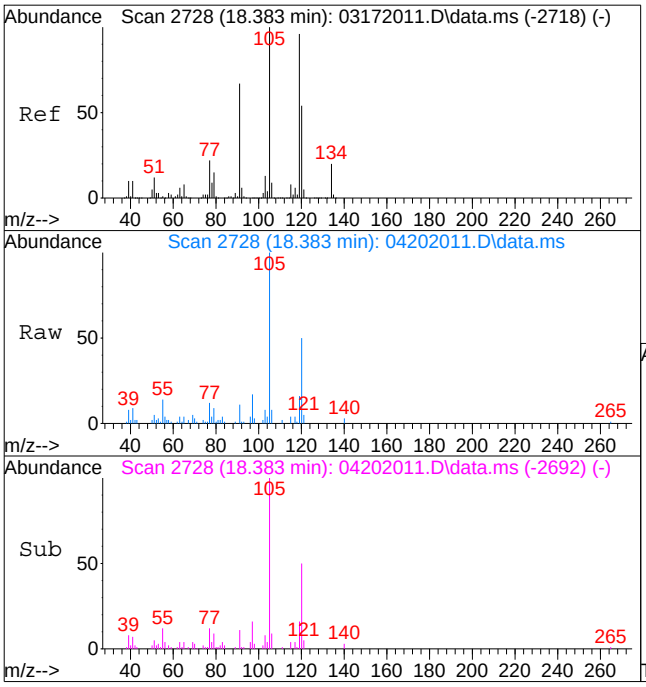


#79
1,3,5-Trimethylbenzene
Concen: 0.18 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.000 min
Lab File: 04202011.D
Acq: 20 Apr 2020 8:20

Tgt Ion:105 Resp: 7095

Ion	Ratio	Lower	Upper
105	100		
120	43.8	30.5	70.5

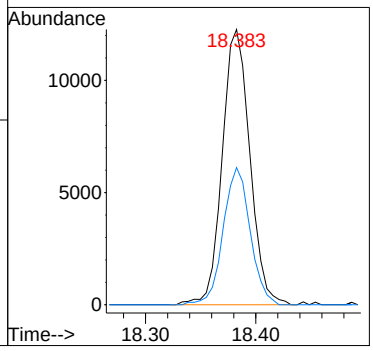


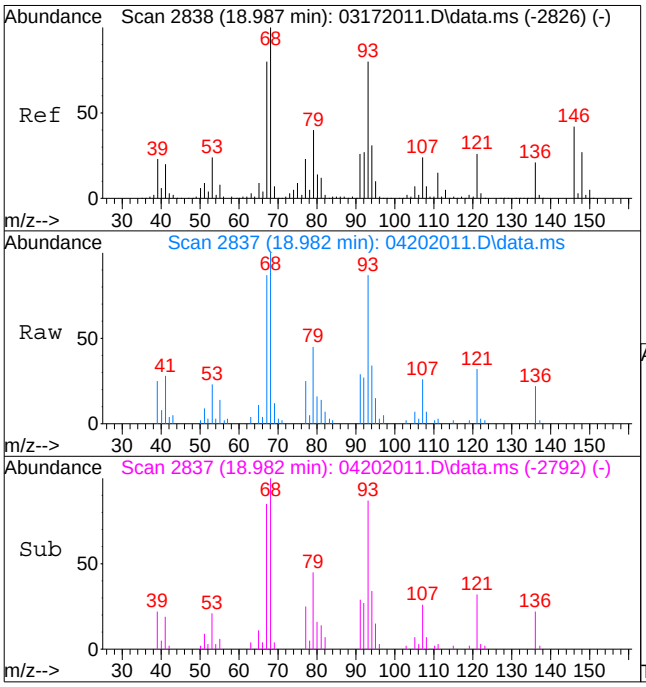


#82
1,2,4-Trimethylbenzene
Concen: 0.57 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.000 min
Lab File: 04202011.D
Acq: 20 Apr 2020 8:20

Tgt Ion:105 Resp: 21400

Ion	Ratio	Lower	Upper
105	100		
120	48.7	34.9	74.9

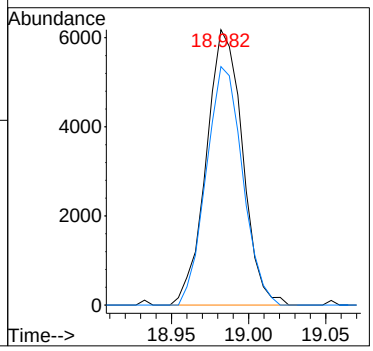


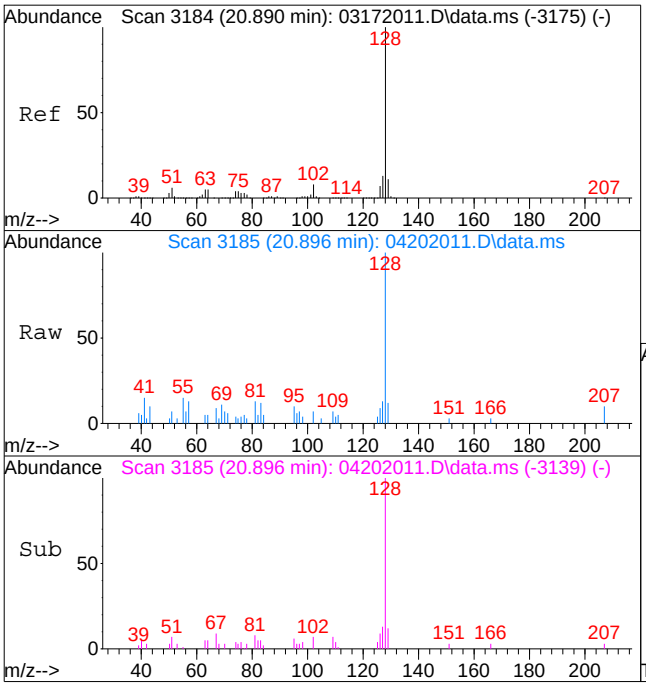


#91
d-Limonene
Concen: 0.77 ng
RT: 18.98 min Scan# 2837
Delta R.T. -0.005 min
Lab File: 04202011.D
Acq: 20 Apr 2020 8:20

Tgt Ion: 68 Resp: 10100

Ion	Ratio	Lower	Upper
68	100		
93	86.9	58.7	98.7

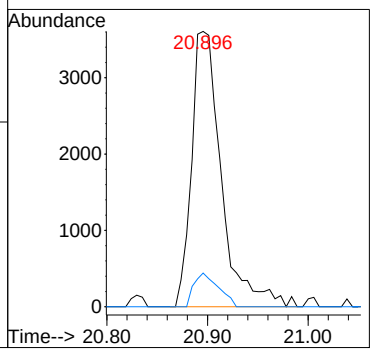




#95
Naphthalene
Concen: 0.14 ng
RT: 20.90 min Scan# 3185
Delta R.T. 0.006 min
Lab File: 04202011.D
Acq: 20 Apr 2020 8:20

Tgt Ion:128 Resp: 7444

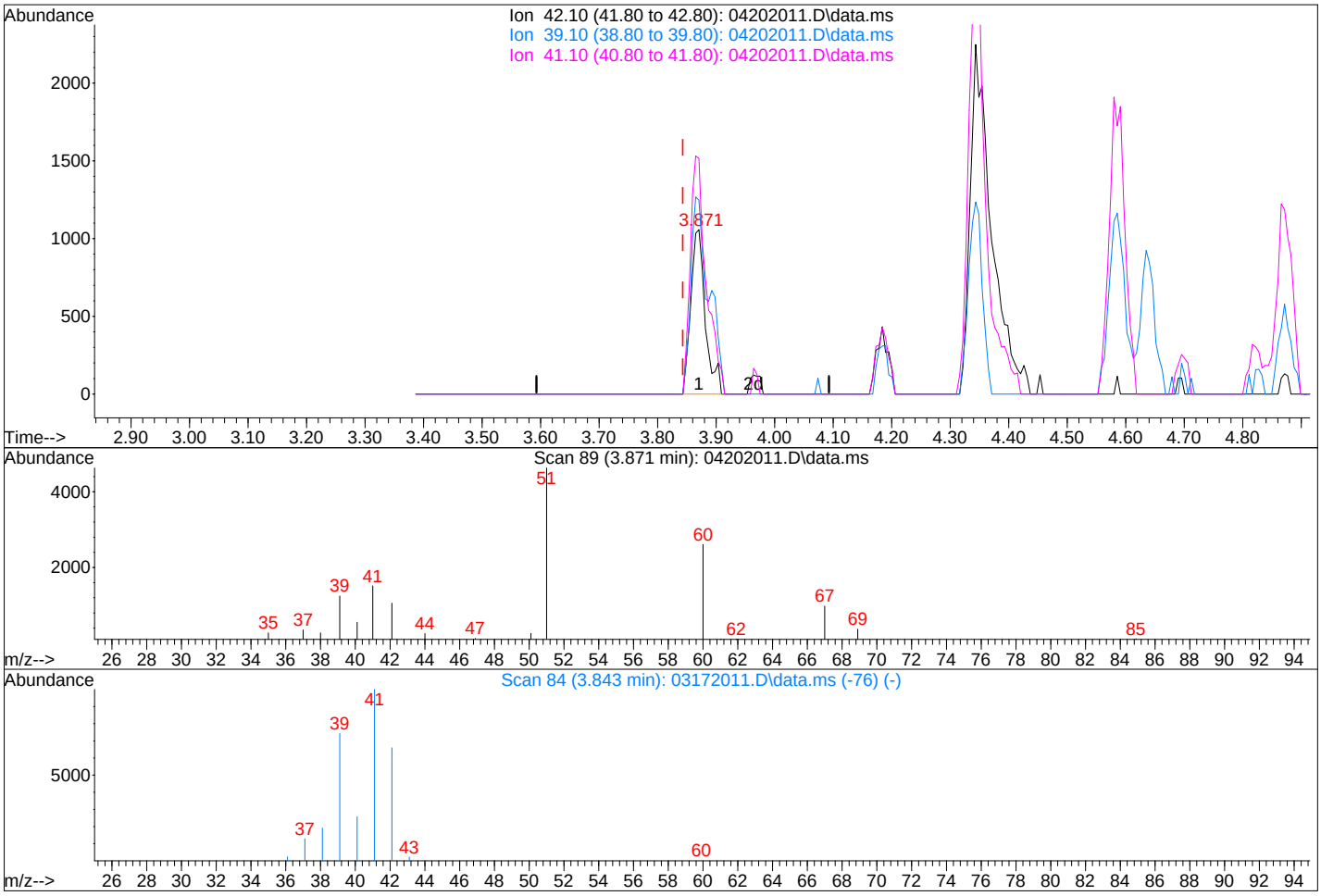
Ion	Ratio	Lower	Upper
128	100		
129	10.1	0.0	30.9



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\20\04202011.D Vial: 14
Acq On : 20 Apr 2020 8:20 Operator: TD
Sample : P2002027-010 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 12:16:46 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202011.D\data.ms

(2) Propene (T)

3.871min (+0.028) 0.22ng

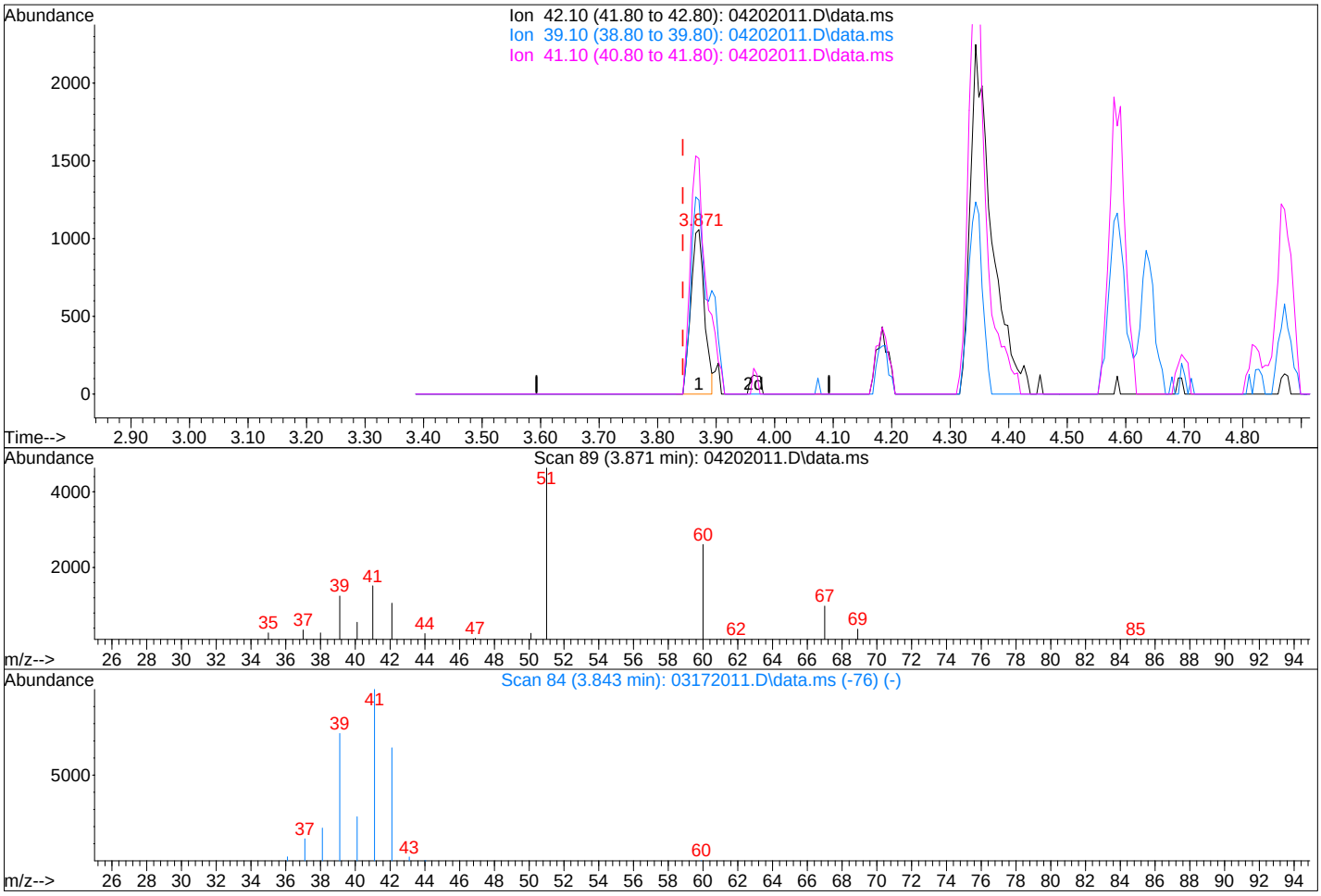
response 1813

Ion	Exp%	Act%
42.10	100	100
39.10	111.90	148.76#
41.10	150.50	161.11
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\20\04202011.D Vial: 14
Acq On : 20 Apr 2020 8:20 Operator: TD
Sample : P2002027-010 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 12:16:46 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202011.D\data.ms

(2) Propene (T)

3.871min (+0.028) 0.21ng m

response 1699

Ion	Exp%	Act%
42.10	100	100
39.10	111.90	158.74#
41.10	150.50	171.92#
0.00	0.00	0.00

IPC

4/20/20

LH 4/29/20

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202031.D Vial: 7
Acq On : 20 Apr 2020 19:55 Operator: SC
Sample : P2002027-011 (400mL) Inst : MS09
Misc : S31-02272010

4/20/20

Quant Time: Apr 20 20:32:14 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	117545	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	11.11	114	505509	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	233347	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	189247	14.230	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.84%				
57) Toluene-d8 (SS2)	13.55	98	559040	12.046	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.40%				
73) Bromofluorobenzene (SS3)	17.05	174	213259	13.811	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.48%				
Target Compounds							Qvalue
2) Propene	3.86	42	3849	0.535	ng	#	78
3) Dichlorodifluoromethan...	3.96	85	125794	7.500	ng		99
4) Chloromethane	4.17	50	1013	0.100	ng		84
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	2705	0.346	ng		99
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	4.63	54	419	0.069	ng		96
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.35	45	1002	0.178	ng		72
11) Acetonitrile	5.57	41	415	N.D.			
12) Acrolein	5.71	56	267	0.055	ng		91
13) Acetone	5.84	58	21532	3.725	ng	#	18
14) Trichlorofluoromethane	6.02	101	12849	0.846	ng		99
15) 2-Propanol (Isopropanol)	6.16	45	18033	0.983	ng		85
16) Acrylonitrile	6.43	53	230	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	7.18	151	29443	3.478	ng		90
22) Carbon Disulfide	7.15	76	46637	1.521	ng		98
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	8.19	63	560	N.D.			
25) Methyl tert-Butyl Ether	8.13	73	265	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	8.53	72	2987	0.526	ng		97
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	9.22	57	9221	0.733	ng		99
32) Chloroform	9.27	83	1956	0.131	ng		99
34) Tetrahydrofuran (THF)	9.69	72	3906	0.712	ng		95
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	10.13	62	327	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.75	78	83328	2.313	ng		99
42) Carbon Tetrachloride	10.90	117	64027	4.987	ng		100
43) Cyclohexane	11.04	84	41399	3.028	ng		94
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	11.41	63	346	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202031.D Vial: 7
Acq On : 20 Apr 2020 19:55 Operator: SC
Sample : P2002027-011 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 20:32:14 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

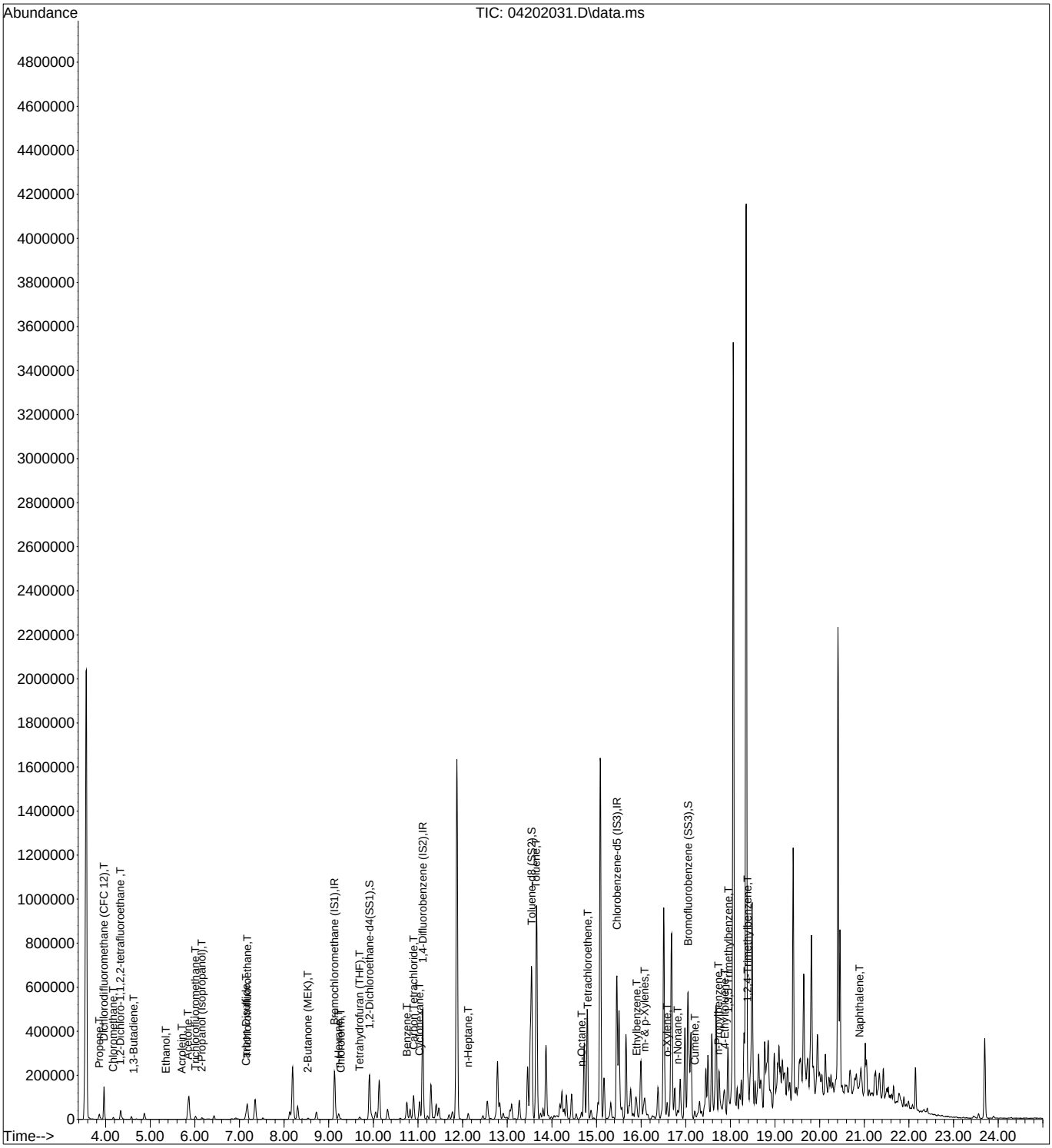
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.12	71	7711	0.897 ng	97
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D. d	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	13.65	91	206905	5.253 ng	99
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	14.32	107	253	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.67	57	6498	0.914 ng	94
64) Tetrachloroethene	14.81	166	6350	0.519 ng	99
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.90	91	28243	0.668 ng	98
67) m- & p-Xylenes	16.08	91	79381	2.345 ng	98
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.49	104	163	N.D.	
70) o-Xylene	16.58	91	38031	1.124 ng	98
71) n-Nonane	16.82	43	8754	0.599 ng	87
72) 1,1,2,2-Tetrachloroethane	16.59	83	455	N.D.	
74) Cumene	17.20	105	4354	0.099 ng	87
75) alpha-Pinene	17.59	93	828	N.D.	
76) n-Propylbenzene	17.73	91	14576	0.289 ng	72
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	5456	0.135 ng	98
79) 1,3,5-Trimethylbenzene	17.95	105	17815	0.478 ng	98
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	21133	0.610 ng	79
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	0.00	91	0	N.D. d	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D. d	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D. d	
95) Naphthalene	20.90	128	9419	0.198 ng	100
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202031.D Vial: 7
Acq On : 20 Apr 2020 19:55 Operator: SC
Sample : P2002027-011 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 20:32:14 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202031.D Vial: 7
Acq On : 20 Apr 2020 19:55 Operator: SC
Sample : P2002027-011 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 20:32:14 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/20/20

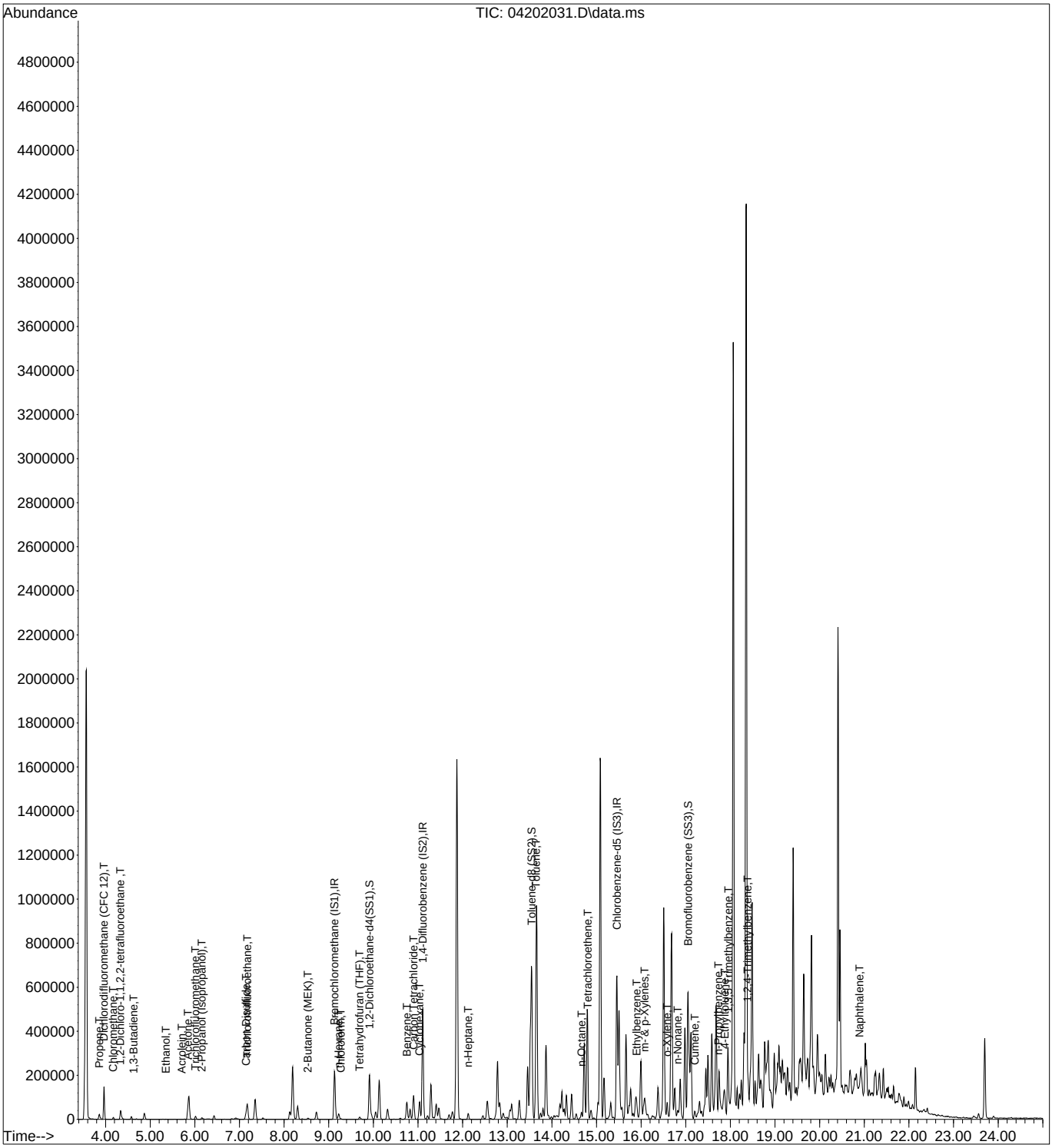
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	117545	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	11.11	114	505509	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	233347	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	189247	14.230	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.84%				
57) Toluene-d8 (SS2)	13.55	98	559040	12.046	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.40%				
73) Bromofluorobenzene (SS3)	17.05	174	213259	13.811	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.48%				
Target Compounds							Qvalue
2) Propene	3.86	42	3849	0.535	ng	#	78
3) Dichlorodifluoromethan...	3.96	85	125794	7.500	ng		99
4) Chloromethane	4.17	50	1013	0.100	ng		84
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	2705	0.346	ng		99
7) 1,3-Butadiene	4.63	54	419	0.069	ng		96
10) Ethanol	5.35	45	1002	0.178	ng		72
12) Acrolein	5.71	56	267	0.055	ng		91
13) Acetone	5.84	58	21532	3.725	ng	#	18
14) Trichlorofluoromethane	6.02	101	12849	0.846	ng		99
15) 2-Propanol (Isopropanol)	6.16	45	18033	0.983	ng		85
21) Trichlorotrifluoroethane	7.18	151	29443	3.478	ng		90
22) Carbon Disulfide	7.15	76	46637	1.521	ng		98
27) 2-Butanone (MEK)	8.53	72	2987	0.526	ng		97
31) n-Hexane	9.22	57	9221	0.733	ng		99
32) Chloroform	9.27	83	1956	0.131	ng		99
34) Tetrahydrofuran (THF)	9.69	72	3906	0.712	ng		95
41) Benzene	10.75	78	83328	2.313	ng		99
42) Carbon Tetrachloride	10.90	117	64027	4.987	ng		100
43) Cyclohexane	11.04	84	41399	3.028	ng		94
51) n-Heptane	12.12	71	7711	0.897	ng		97
58) Toluene	13.65	91	206905	5.253	ng		99
63) n-Octane	14.67	57	6498	0.914	ng		94
64) Tetrachloroethene	14.81	166	6350	0.519	ng		99
66) Ethylbenzene	15.90	91	28243	0.668	ng		98
67) m- & p-Xylenes	16.08	91	79381	2.345	ng		98
70) o-Xylene	16.58	91	38031	1.124	ng		98
71) n-Nonane	16.82	43	8754	0.599	ng		87
74) Cumene	17.20	105	4354	0.099	ng		87
76) n-Propylbenzene	17.73	91	14576	0.289	ng		72
78) 4-Ethyltoluene	17.88	105	5456	0.135	ng		98
79) 1,3,5-Trimethylbenzene	17.95	105	17815	0.478	ng		98
82) 1,2,4-Trimethylbenzene	18.38	105	21133	0.610	ng		79
95) Naphthalene	20.90	128	9419	0.198	ng		100

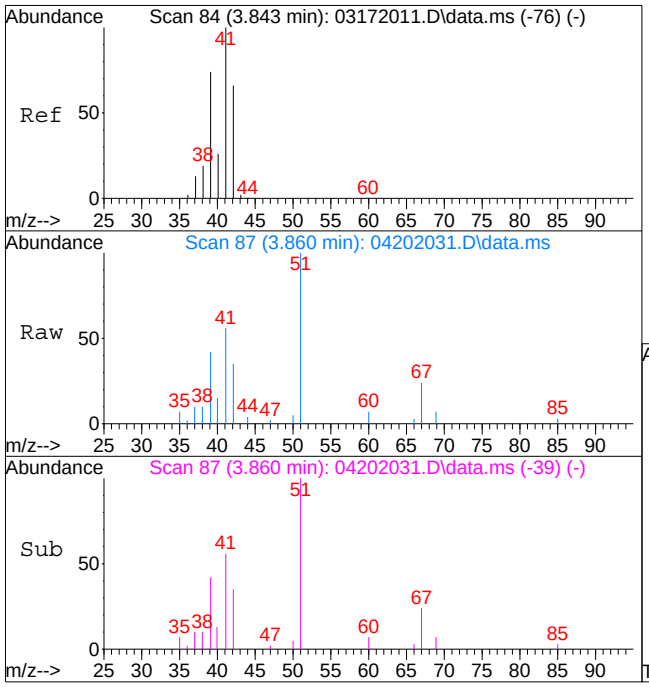
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202031.D Vial: 7
Acq On : 20 Apr 2020 19:55 Operator: SC
Sample : P2002027-011 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 20:32:14 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

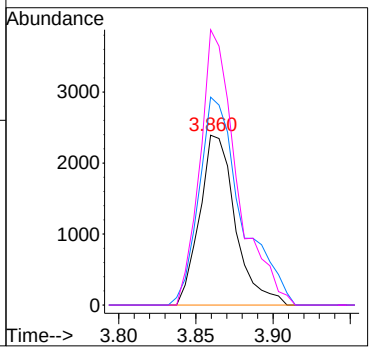


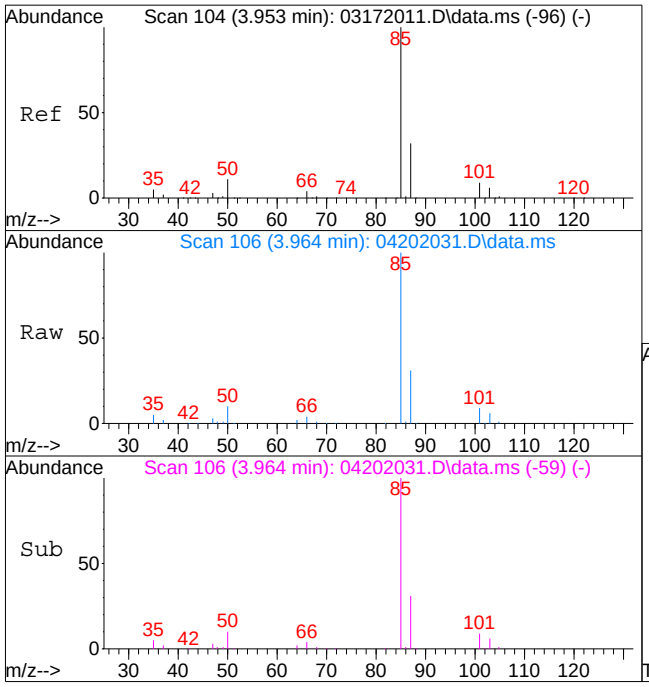


#2
Propene
Concen: 0.53 ng
RT: 3.86 min Scan# 87
Delta R.T. 0.017 min
Lab File: 04202031.D
Acq: 20 Apr 2020 19:55

Tgt Ion: 42 Resp: 3849

Ion	Ratio	Lower	Upper
42	100		
39	146.3	91.9	131.9#
41	167.7	130.5	170.5

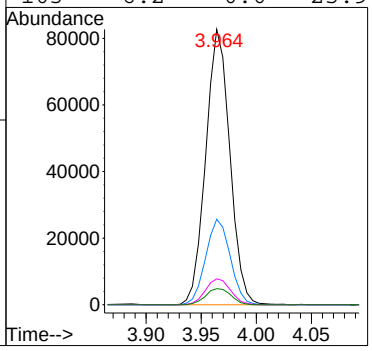


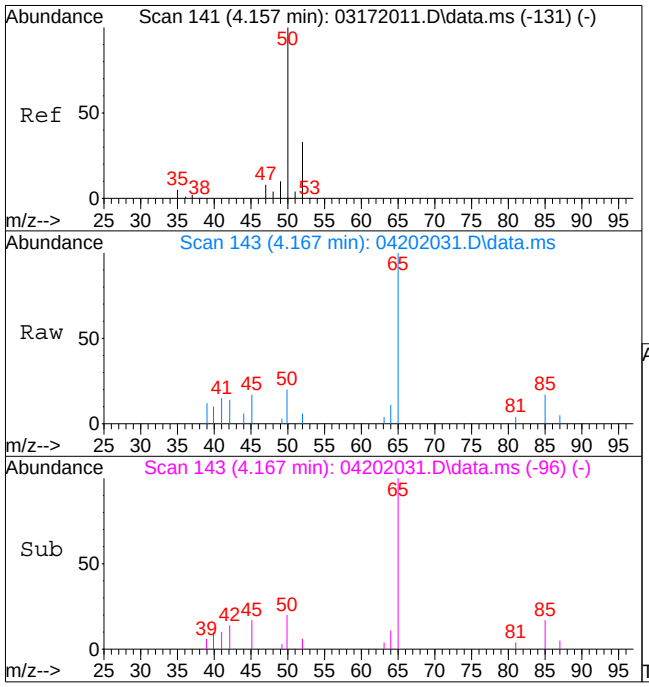


#3
Dichlorodifluoromethane (CFC 12)
Concen: 7.50 ng
RT: 3.96 min Scan# 106
Delta R.T. 0.011 min
Lab File: 04202031.D
Acq: 20 Apr 2020 19:55

Tgt Ion: 85 Resp: 125794

Ion	Ratio	Lower	Upper
85	100		
87	31.6	12.4	52.4
101	9.8	0.0	29.2
103	6.2	0.0	25.9

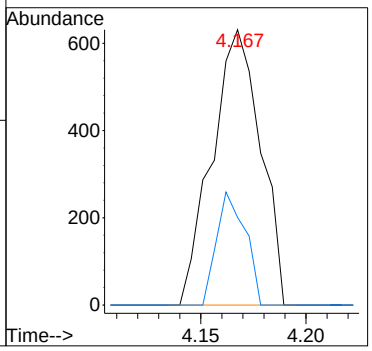


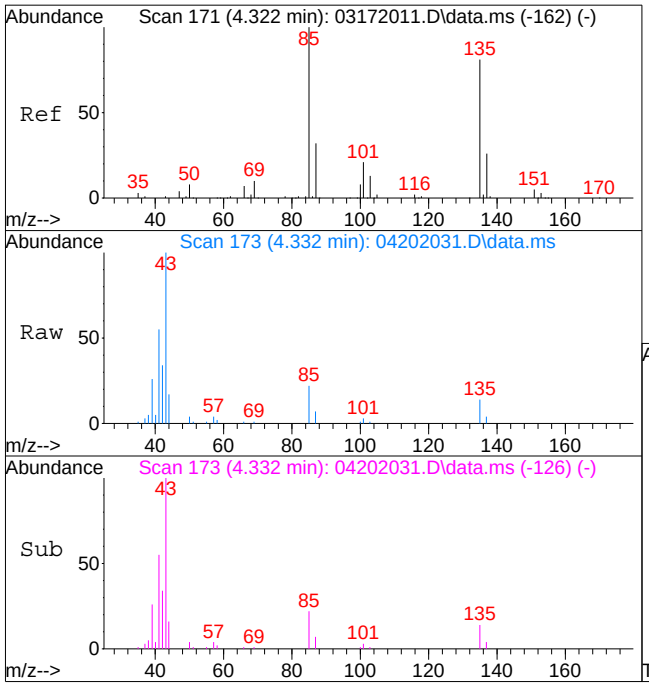


#4
Chloromethane
Concen: 0.10 ng
RT: 4.17 min Scan# 143
Delta R.T. 0.010 min
Lab File: 04202031.D
Acq: 20 Apr 2020 19:55

Tgt Ion: 50 Resp: 1013

Ion	Ratio	Lower	Upper
50	100		
52	24.3	13.3	53.3

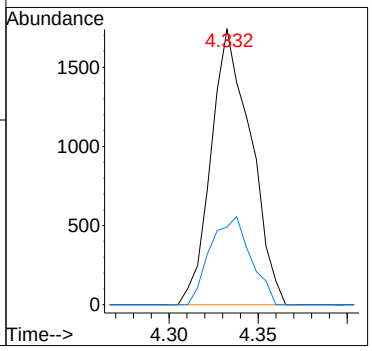


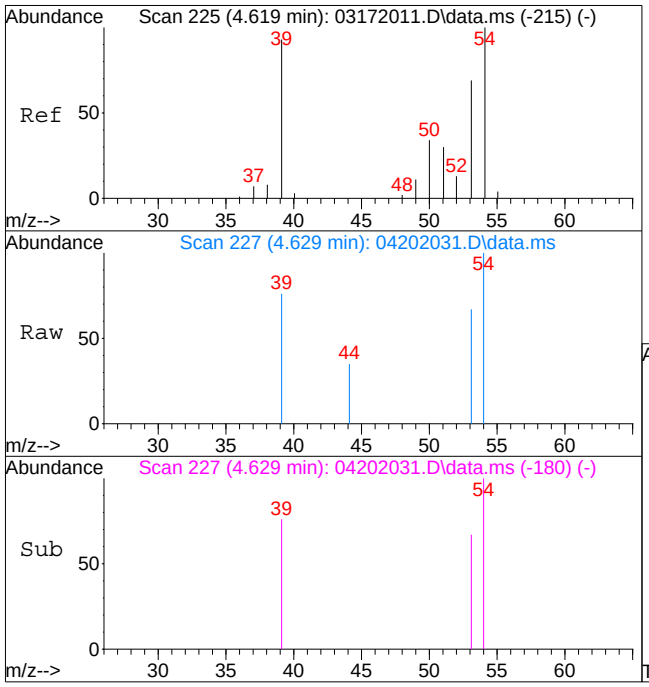


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 0.35 ng
RT: 4.33 min Scan# 173
Delta R.T. 0.010 min
Lab File: 04202031.D
Acq: 20 Apr 2020 19:55

Tgt Ion:135 Resp: 2705

Ion	Ratio	Lower	Upper
135	100		
137	32.5	12.0	52.0

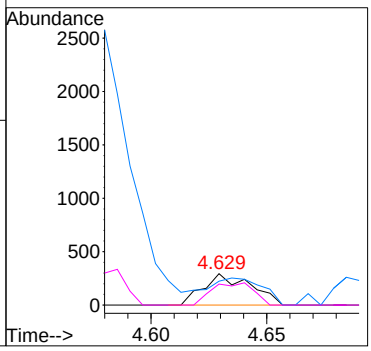


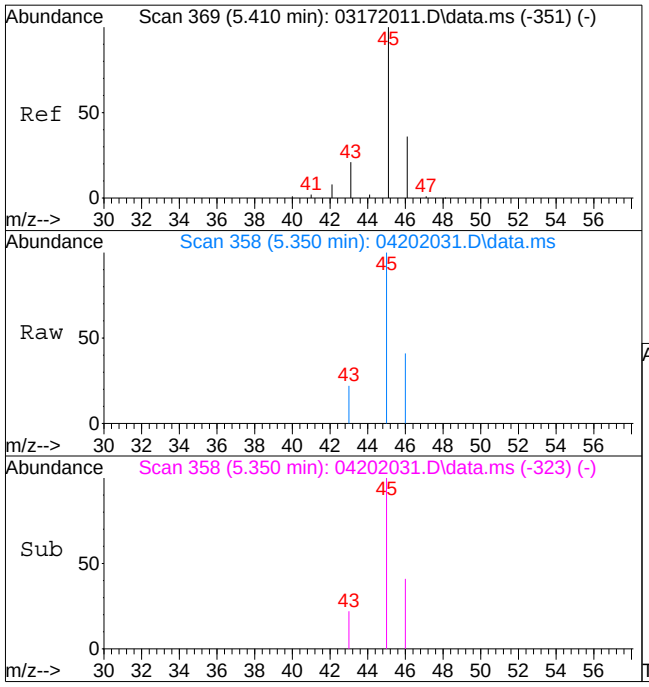


#7
1,3-Butadiene
Concen: 0.07 ng
RT: 4.63 min Scan# 227
Delta R.T. 0.010 min
Lab File: 04202031.D
Acq: 20 Apr 2020 19:55

Tgt Ion: 54 Resp: 419

Ion	Ratio	Lower	Upper
54	100		
39	94.7	74.8	114.8
53	63.0	49.9	89.9

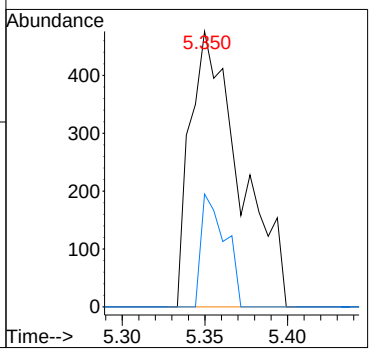


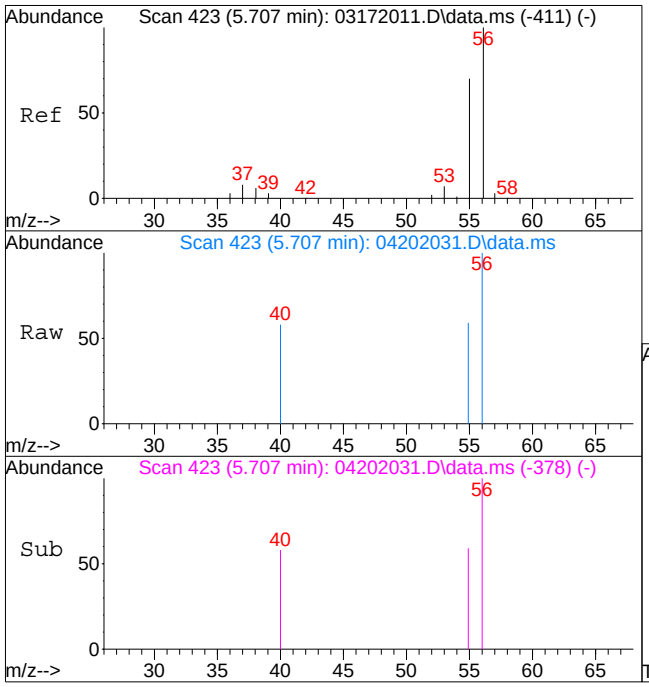


#10
Ethanol
Concen: 0.18 ng
RT: 5.35 min Scan# 358
Delta R.T. -0.060 min
Lab File: 04202031.D
Acq: 20 Apr 2020 19:55

Tgt Ion: 45 Resp: 1002

Ion	Ratio	Lower	Upper
45	100		
46	19.7	15.9	55.9

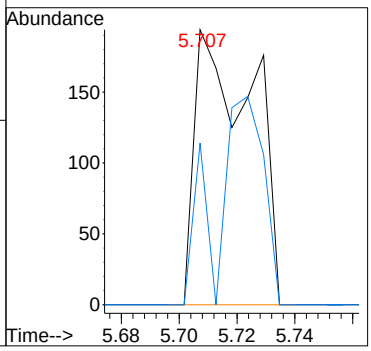


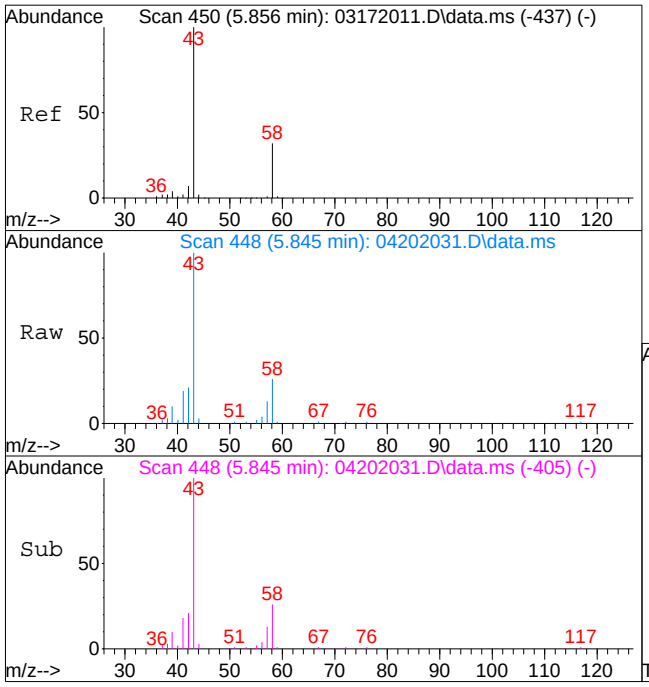


#12
Acrolein
Concen: 0.06 ng
RT: 5.71 min Scan# 423
Delta R.T. 0.000 min
Lab File: 04202031.D
Acq: 20 Apr 2020 19:55

Tgt Ion: 56 Resp: 267

Ion	Ratio	Lower	Upper
56	100		
55	62.5	49.5	89.5

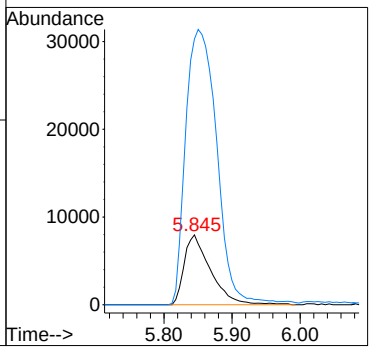


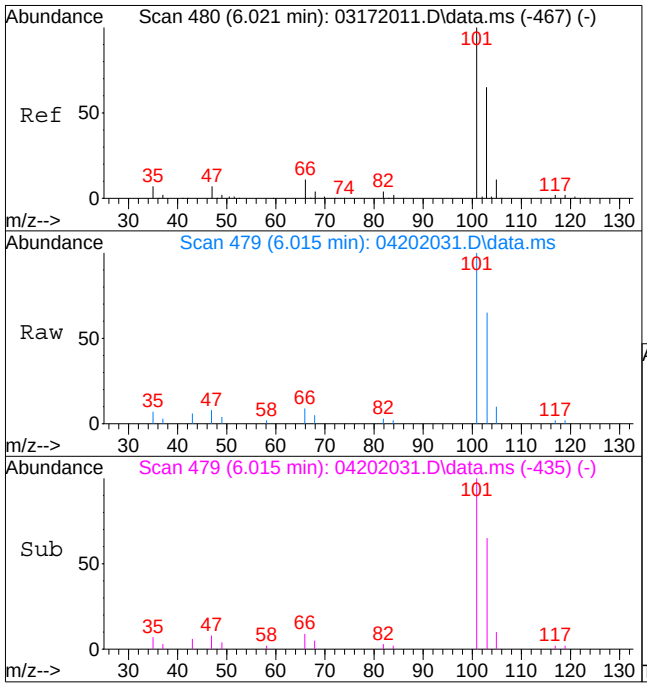


#13
Acetone
Concen: 3.72 ng
RT: 5.84 min Scan# 448
Delta R.T. -0.011 min
Lab File: 04202031.D
Acq: 20 Apr 2020 19:55

Tgt Ion: 58 Resp: 21532

Ion	Ratio	Lower	Upper
58	100		
43	464.6	272.8	332.8#

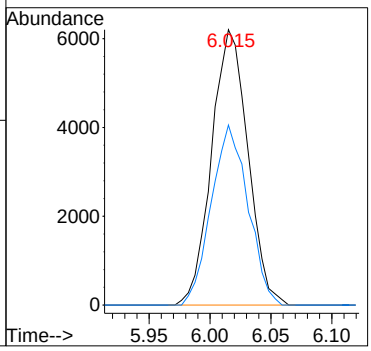


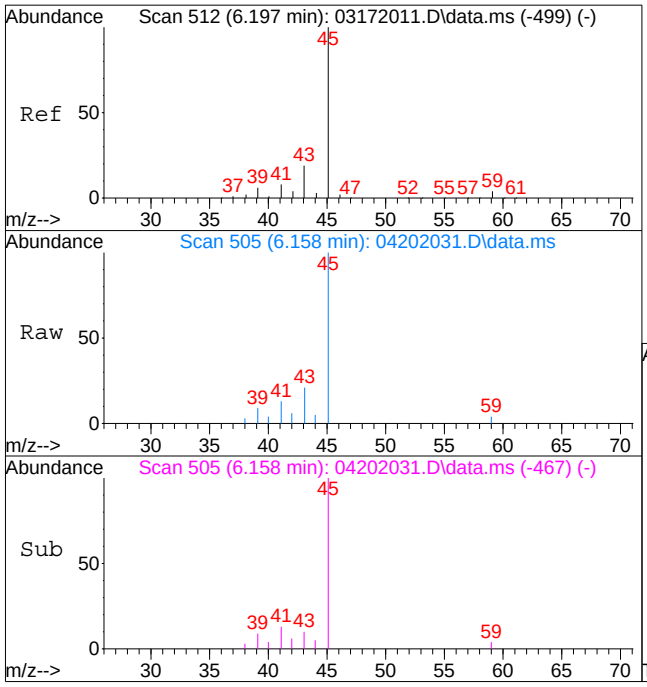


#14
Trichlorofluoromethane
Concen: 0.85 ng
RT: 6.02 min Scan# 479
Delta R.T. -0.006 min
Lab File: 04202031.D
Acq: 20 Apr 2020 19:55

Tgt Ion:101 Resp: 12849

Ion	Ratio	Lower	Upper
101	100		
103	66.0	45.3	85.3

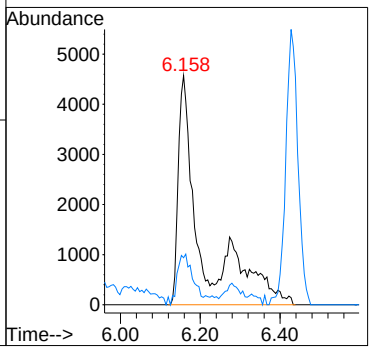


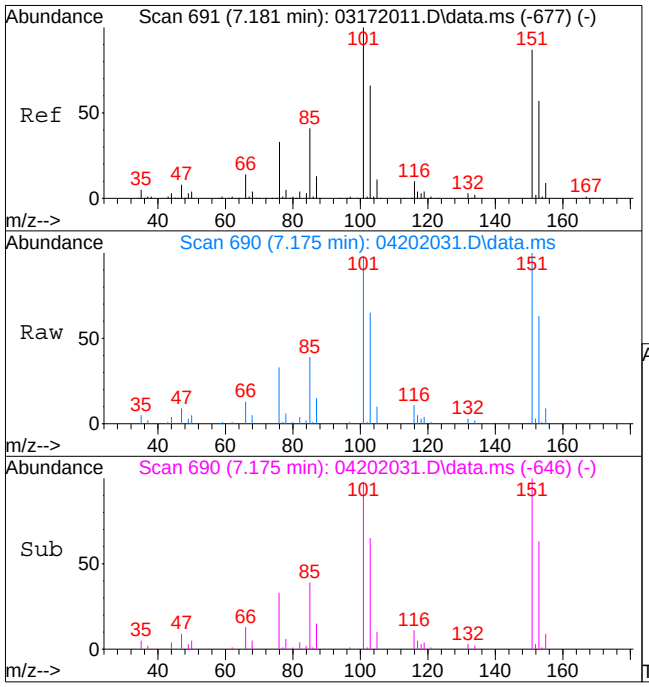


#15
2-Propanol (Isopropanol)
Concen: 0.98 ng
RT: 6.16 min Scan# 505
Delta R.T. -0.039 min
Lab File: 04202031.D
Acq: 20 Apr 2020 19:55

Tgt Ion: 45 Resp: 18033

Ion	Ratio	Lower	Upper
45	100		
43	25.8	0.0	39.0

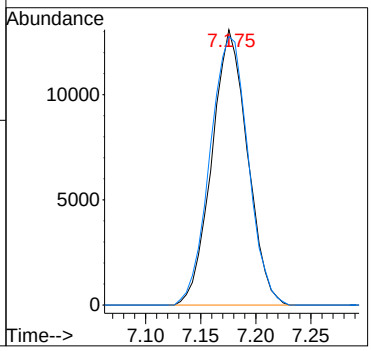


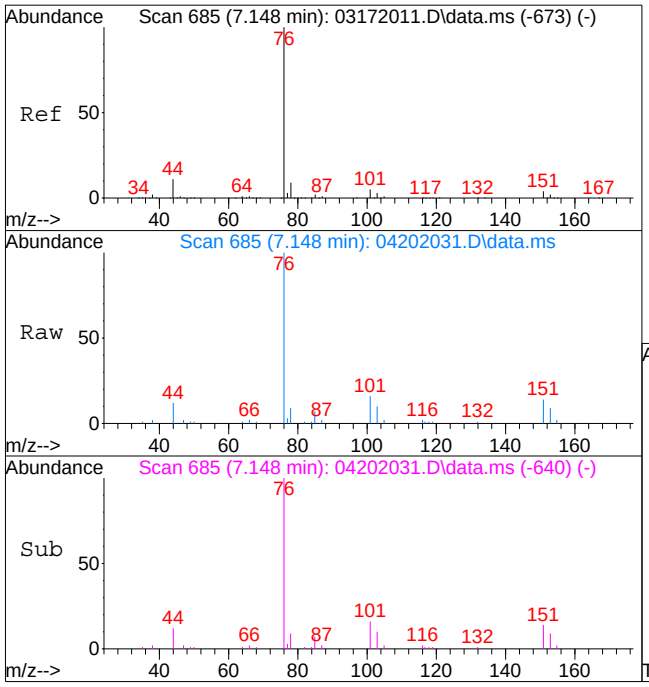


#21
Trichlorotrifluoroethane
Concen: 3.48 ng
RT: 7.18 min Scan# 690
Delta R.T. -0.006 min
Lab File: 04202031.D
Acq: 20 Apr 2020 19:55

Tgt Ion:151 Resp: 29443

Ion	Ratio	Lower	Upper
151	100		
101	104.1	94.7	134.7

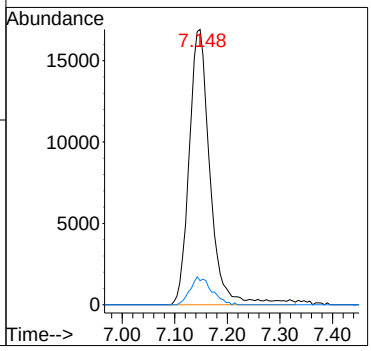


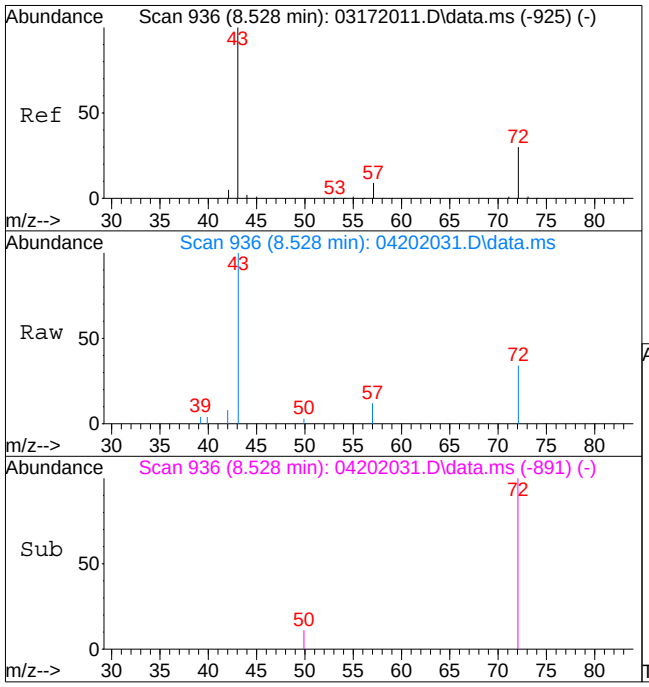


#22
Carbon Disulfide
Concen: 1.52 ng
RT: 7.15 min Scan# 685
Delta R.T. -0.000 min
Lab File: 04202031.D
Acq: 20 Apr 2020 19:55

Tgt Ion: 76 Resp: 46637

Ion	Ratio	Lower	Upper
76	100		
78	10.3	0.0	29.7

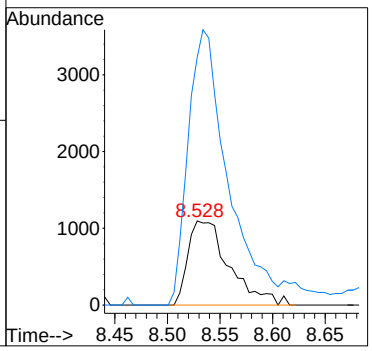


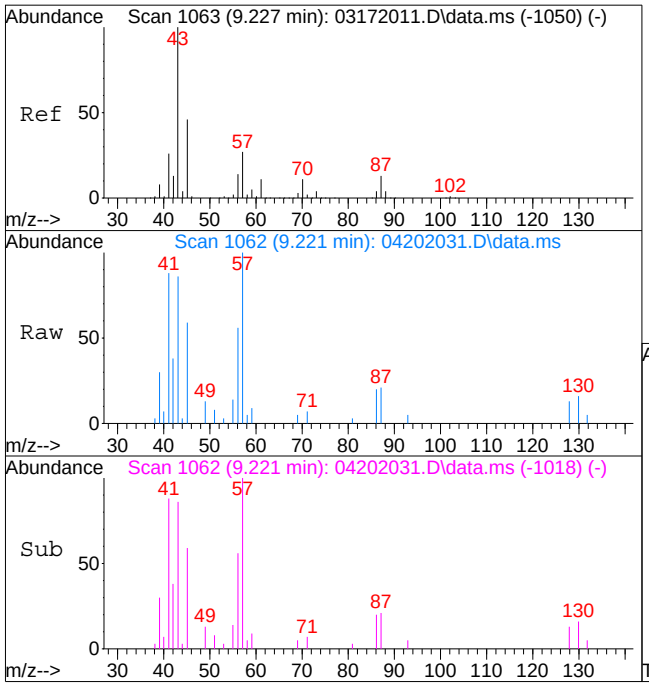


#27
2-Butanone (MEK)
Concen: 0.53 ng
RT: 8.53 min Scan# 936
Delta R.T. 0.000 min
Lab File: 04202031.D
Acq: 20 Apr 2020 19:55

Tgt Ion: 72 Resp: 2987

Ion	Ratio	Lower	Upper
72	100		
43	336.9	310.6	350.6

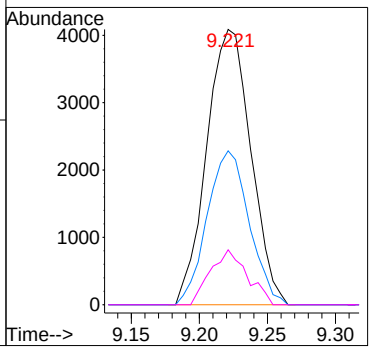


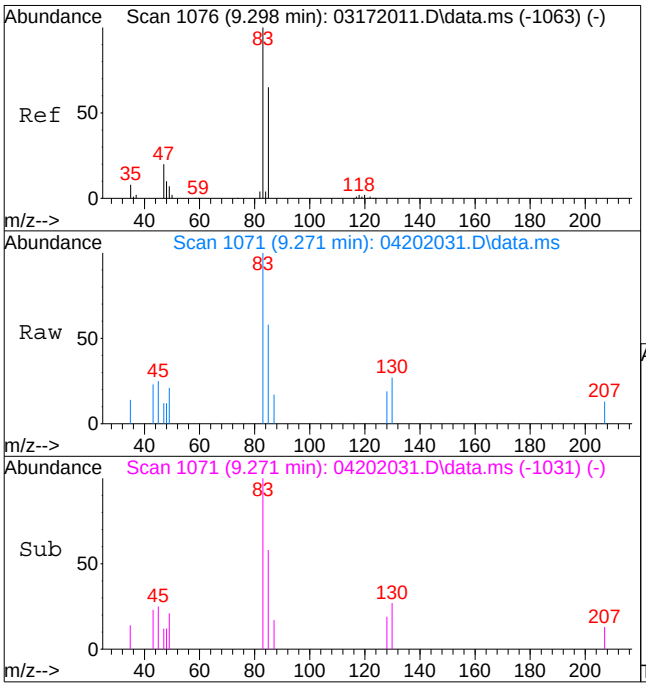


#31
n-Hexane
Concen: 0.73 ng
RT: 9.22 min Scan# 1062
Delta R.T. -0.006 min
Lab File: 04202031.D
Acq: 20 Apr 2020 19:55

Tgt Ion: 57 Resp: 9221

Ion	Ratio	Lower	Upper
57	100		
56	53.0	42.0	63.0
86	16.6	13.1	19.7

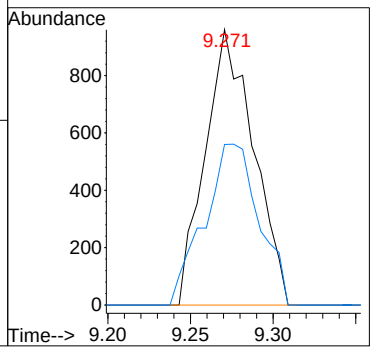


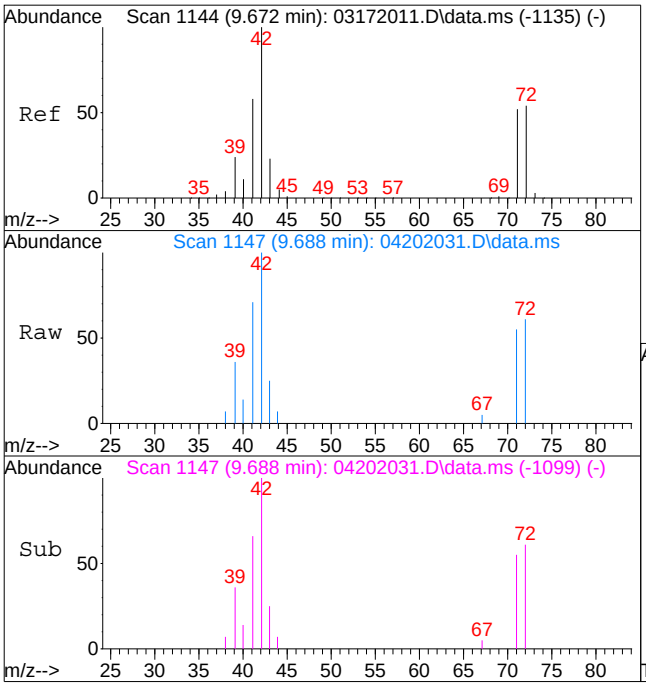


#32
Chloroform
Concen: 0.13 ng
RT: 9.27 min Scan# 1071
Delta R.T. -0.027 min
Lab File: 04202031.D
Acq: 20 Apr 2020 19:55

Tgt Ion: 83 Resp: 1956

Ion	Ratio	Lower	Upper
83	100		
85	66.2	45.1	85.1

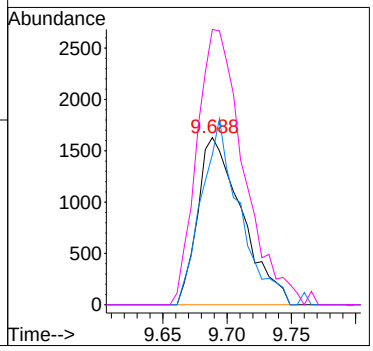


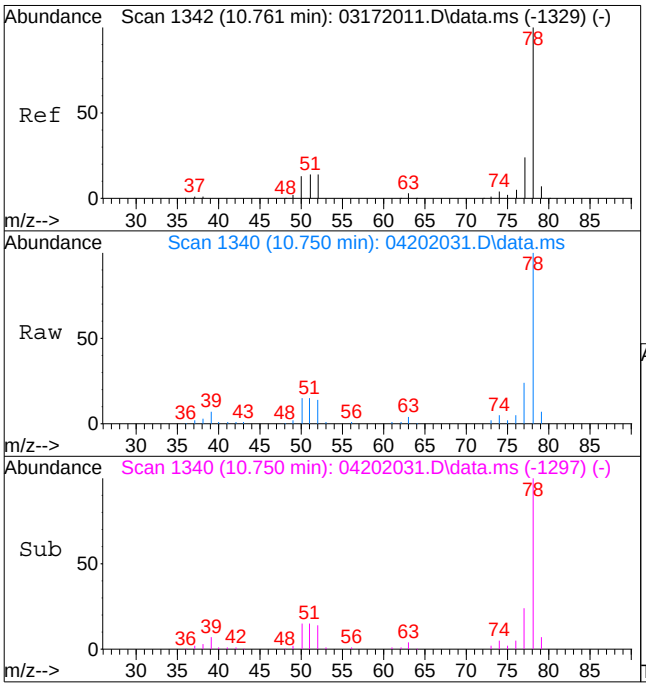


#34
Tetrahydrofuran (THF)
Concen: 0.71 ng
RT: 9.69 min Scan# 1147
Delta R.T. 0.016 min
Lab File: 04202031.D
Acq: 20 Apr 2020 19:55

Tgt Ion: 72 Resp: 3906

Ion	Ratio	Lower	Upper
72	100		
71	96.2	76.1	116.1
42	173.9	164.4	204.4

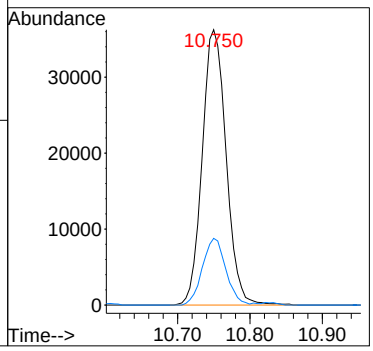


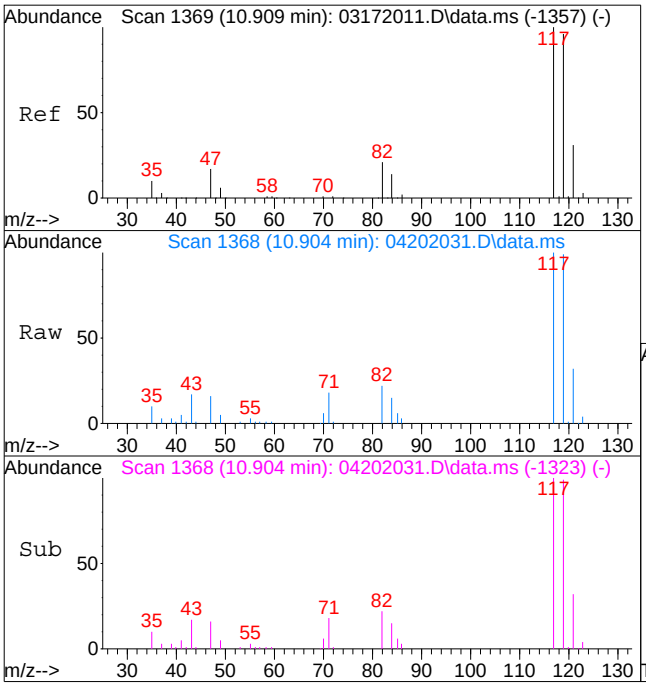


#41
Benzene
Concen: 2.31 ng
RT: 10.75 min Scan# 1340
Delta R.T. -0.011 min
Lab File: 04202031.D
Acq: 20 Apr 2020 19:55

Tgt Ion: 78 Resp: 83328

Ion	Ratio	Lower	Upper
78	100		
77	23.9	3.4	43.4

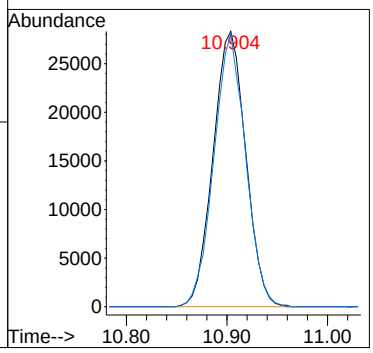


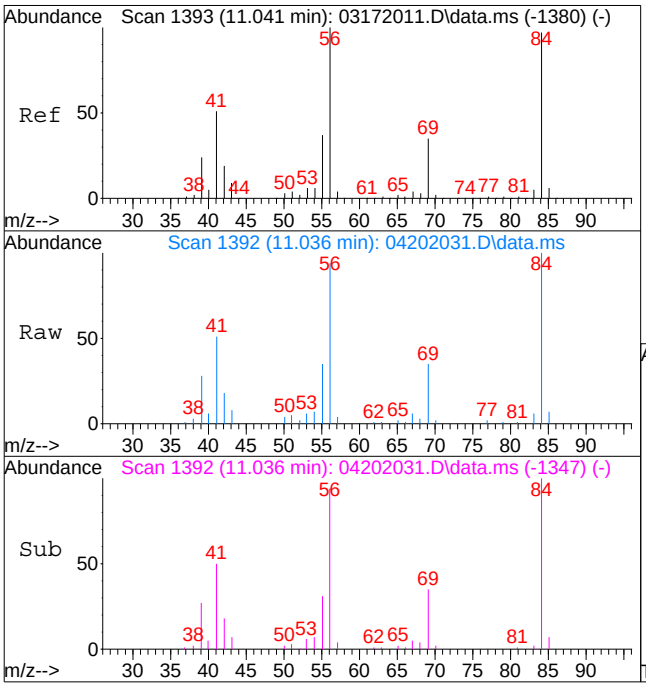


#42
Carbon Tetrachloride
Concen: 4.99 ng
RT: 10.90 min Scan# 1368
Delta R.T. -0.005 min
Lab File: 04202031.D
Acq: 20 Apr 2020 19:55

Tgt Ion:117 Resp: 64027

Ion	Ratio	Lower	Upper
117	100		
119	96.0	76.0	116.0

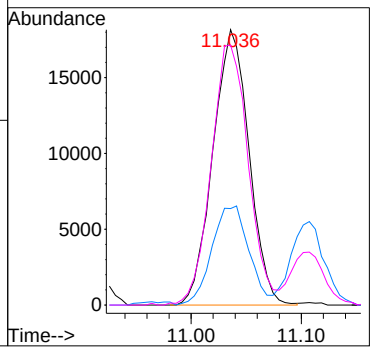


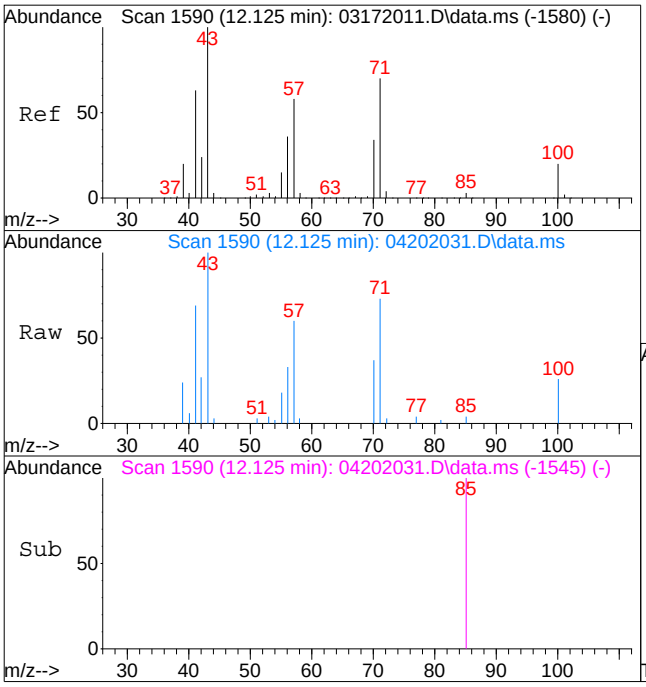


#43
Cyclohexane
Concen: 3.03 ng
RT: 11.04 min Scan# 1392
Delta R.T. -0.005 min
Lab File: 04202031.D
Acq: 20 Apr 2020 19:55

Tgt Ion: 84 Resp: 41399

Ion	Ratio	Lower	Upper
84	100		
69	37.1	16.6	56.6
56	97.5	85.3	125.3

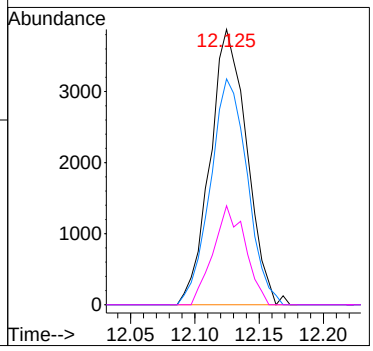


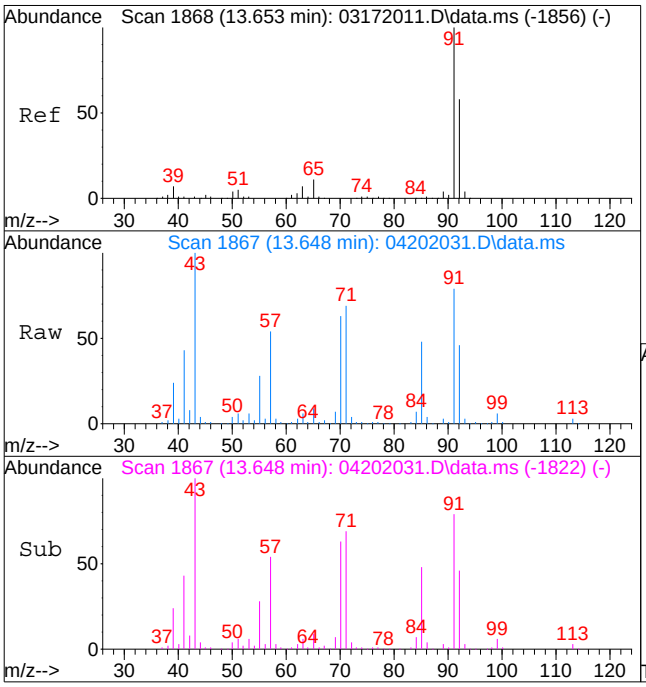


#51
n-Heptane
Concen: 0.90 ng
RT: 12.12 min Scan# 1590
Delta R.T. -0.000 min
Lab File: 04202031.D
Acq: 20 Apr 2020 19:55

Tgt Ion: 71 Resp: 7711

Ion	Ratio	Lower	Upper
71	100		
57	82.3	64.0	104.0
100	31.4	8.7	48.7

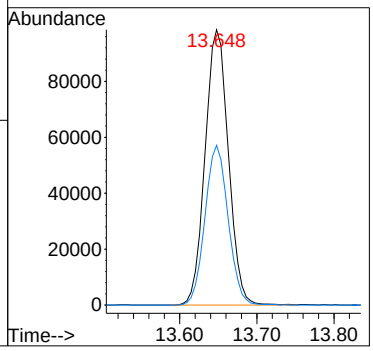


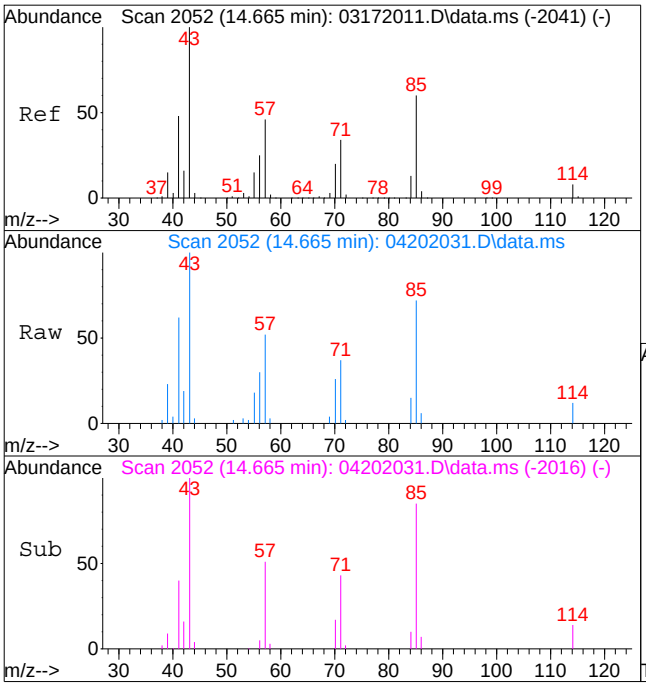


#58
Toluene
Concen: 5.25 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.005 min
Lab File: 04202031.D
Acq: 20 Apr 2020 19:55

Tgt Ion: 91 Resp: 206905

Ion	Ratio	Lower	Upper
91	100		
92	57.6	38.6	78.6

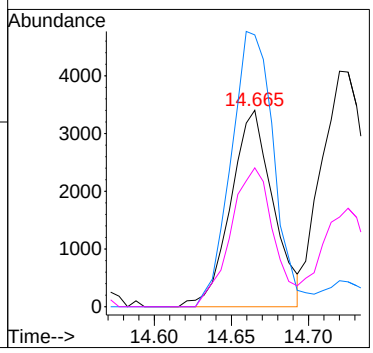


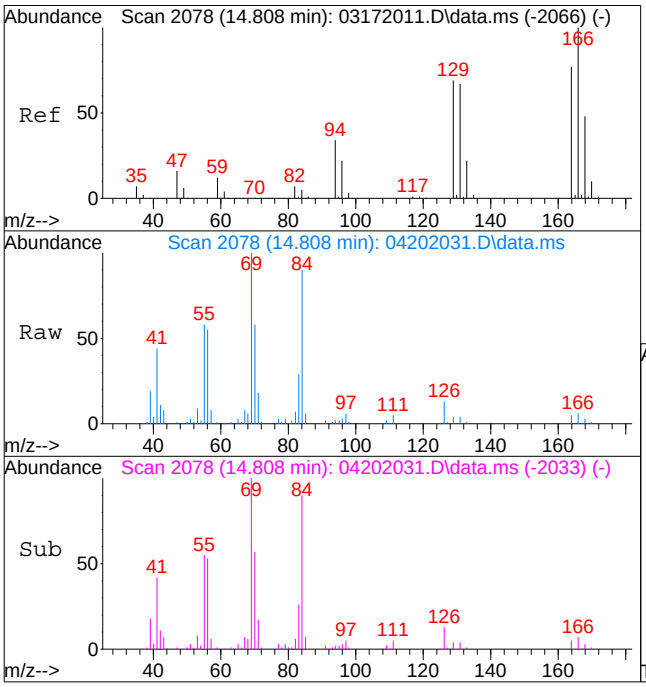


#63
n-Octane
Concen: 0.91 ng
RT: 14.67 min Scan# 2052
Delta R.T. 0.000 min
Lab File: 04202031.D
Acq: 20 Apr 2020 19:55

Tgt Ion: 57 Resp: 6498

Ion	Ratio	Lower	Upper
57	100		
85	141.7	105.4	158.2
71	71.8	59.0	88.4

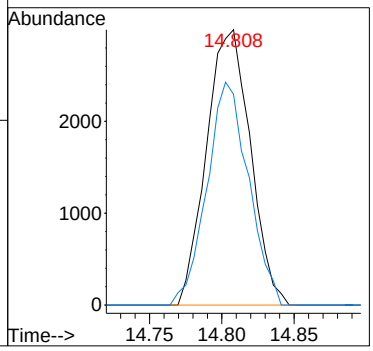


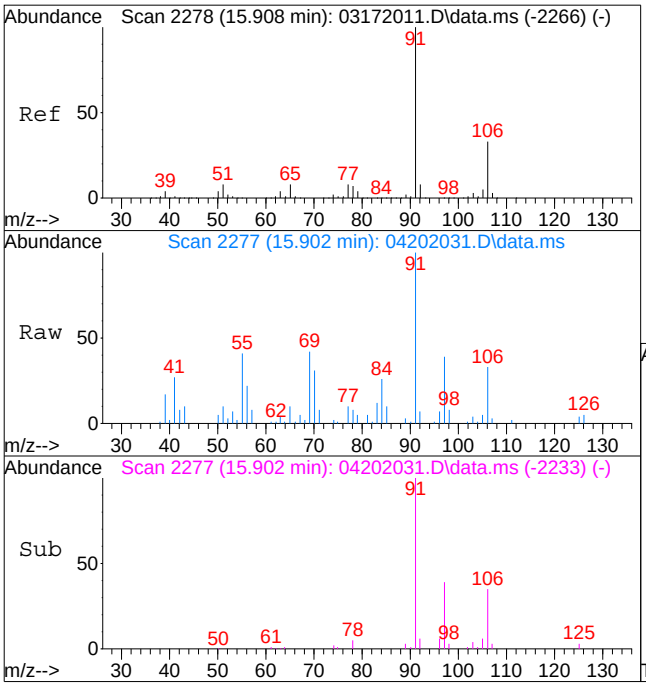


#64
Tetrachloroethene
Concen: 0.52 ng
RT: 14.81 min Scan# 2078
Delta R.T. 0.000 min
Lab File: 04202031.D
Acq: 20 Apr 2020 19:55

Tgt Ion:166 Resp: 6350

Ion	Ratio	Lower	Upper
166	100		
164	76.6	57.9	97.9

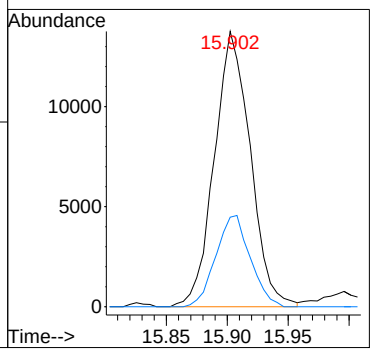


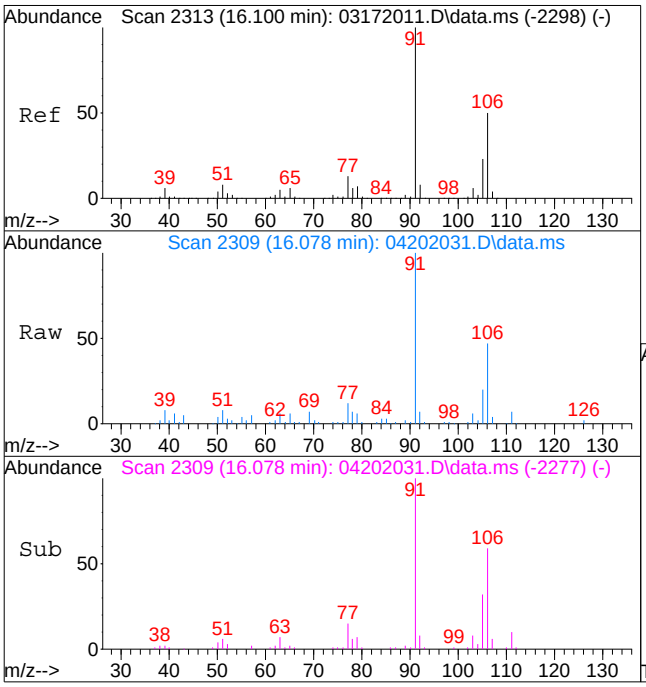


#66
Ethylbenzene
Concen: 0.67 ng
RT: 15.90 min Scan# 2277
Delta R.T. -0.006 min
Lab File: 04202031.D
Acq: 20 Apr 2020 19:55

Tgt Ion: 91 Resp: 28243

Ion	Ratio	Lower	Upper
91	100		
106	31.7	12.9	52.9

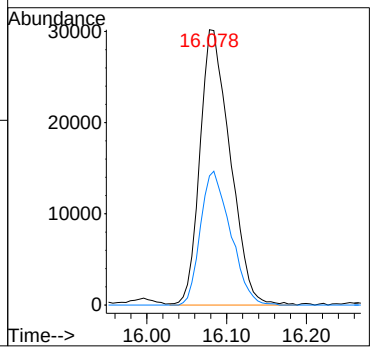


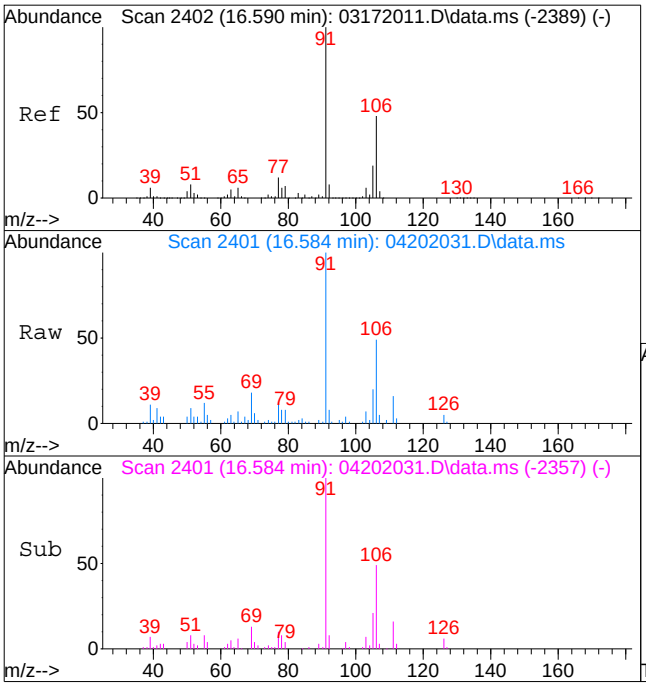


#67
m- & p-Xylenes
Concen: 2.34 ng
RT: 16.08 min Scan# 2309
Delta R.T. -0.022 min
Lab File: 04202031.D
Acq: 20 Apr 2020 19:55

Tgt Ion: 91 Resp: 79381

Ion	Ratio	Lower	Upper
91	100		
106	48.4	29.5	69.5

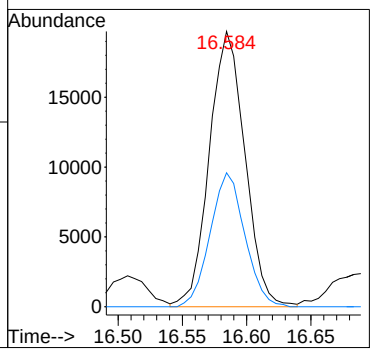


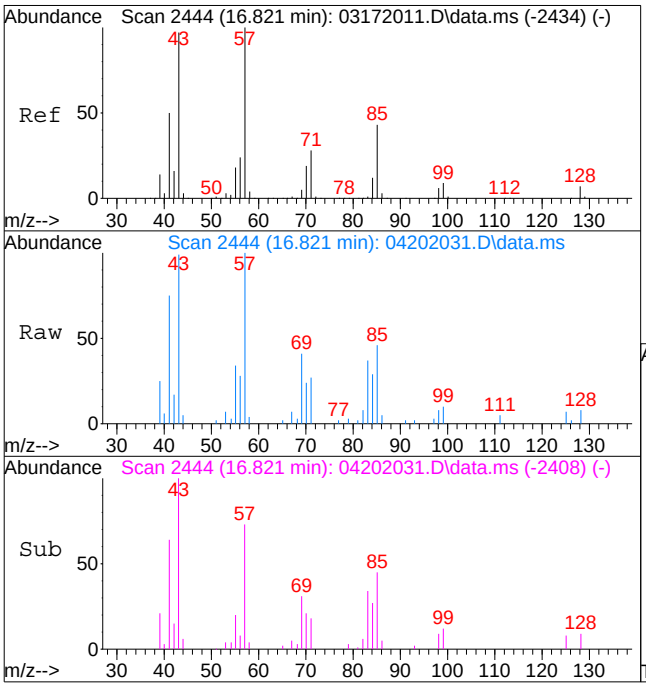


#70
o-Xylene
Concen: 1.12 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.006 min
Lab File: 04202031.D
Acq: 20 Apr 2020 19:55

Tgt Ion: 91 Resp: 38031

Ion	Ratio	Lower	Upper
91	100		
106	47.3	28.3	68.3

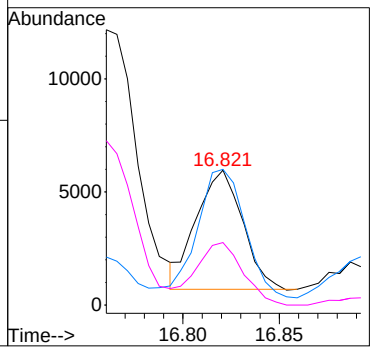


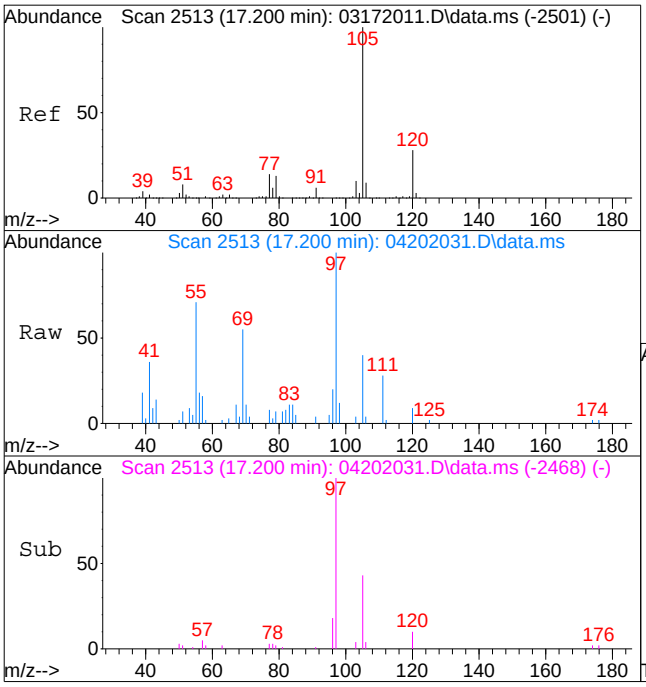


#71
n-Nonane
Concen: 0.60 ng
RT: 16.82 min Scan# 2444
Delta R.T. -0.000 min
Lab File: 04202031.D
Acq: 20 Apr 2020 19:55

Tgt Ion: 43 Resp: 8754

Ion	Ratio	Lower	Upper
43	100		
57	114.1	82.8	122.8
85	54.0	23.4	63.4

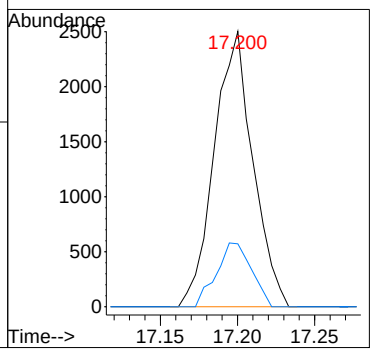


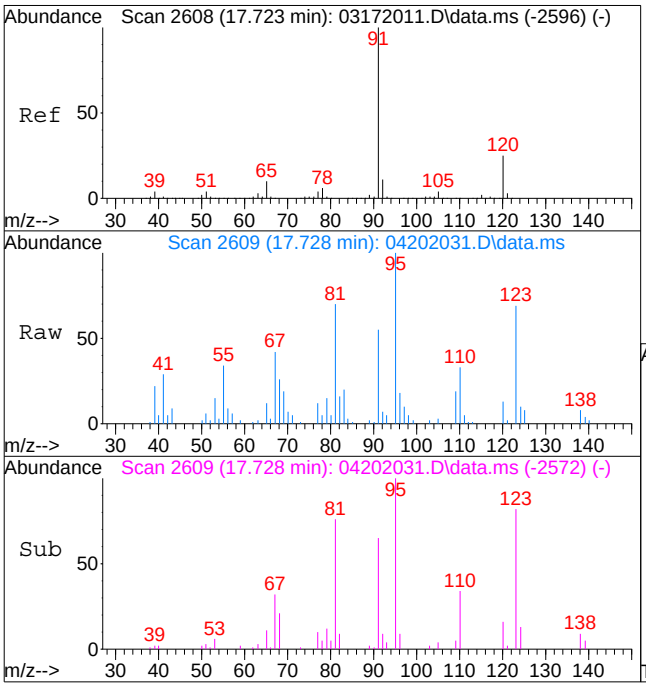


#74
Cumene
Concen: 0.10 ng
RT: 17.20 min Scan# 2513
Delta R.T. 0.000 min
Lab File: 04202031.D
Acq: 20 Apr 2020 19:55

Tgt Ion:105 Resp: 4354

Ion	Ratio	Lower	Upper
105	100		
120	21.0	7.6	47.6

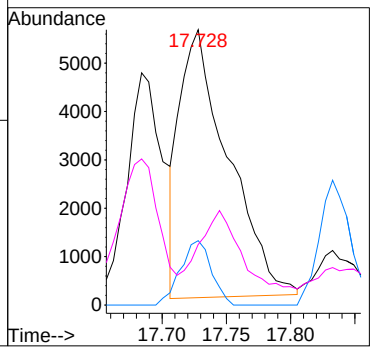


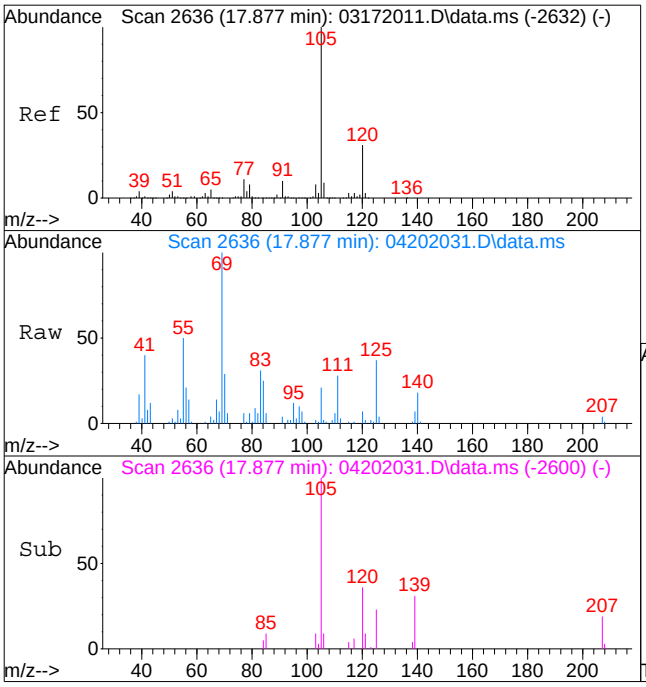


#76
n-Propylbenzene
Concen: 0.29 ng
RT: 17.73 min Scan# 2609
Delta R.T. 0.005 min
Lab File: 04202031.D
Acq: 20 Apr 2020 19:55

Tgt Ion: 91 Resp: 14576

Ion	Ratio	Lower	Upper
91	100		
120	15.3	5.0	45.0
65	28.0	0.0	30.0

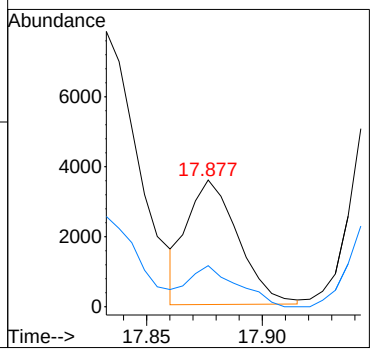


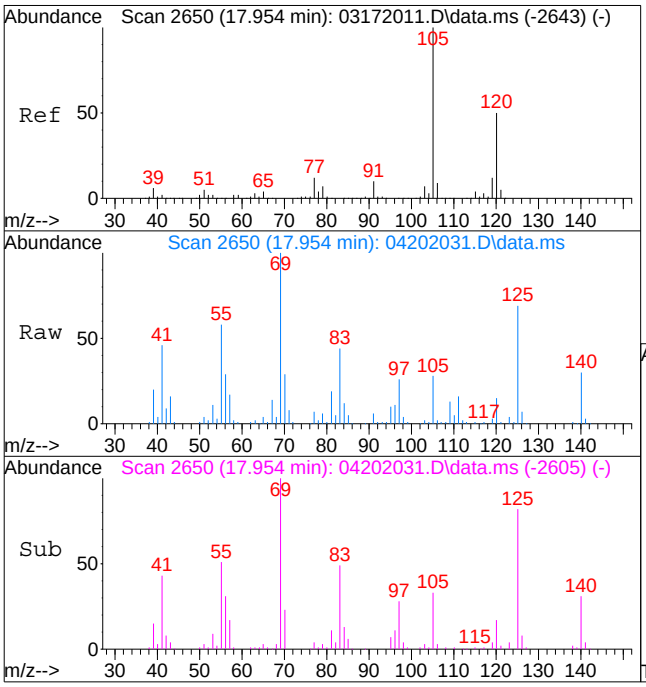


#78
4-Ethyltoluene
Concen: 0.13 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.000 min
Lab File: 04202031.D
Acq: 20 Apr 2020 19:55

Tgt Ion:105 Resp: 5456

Ion	Ratio	Lower	Upper
105	100		
120	32.2	11.2	51.2

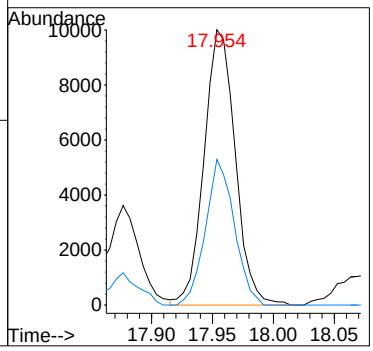


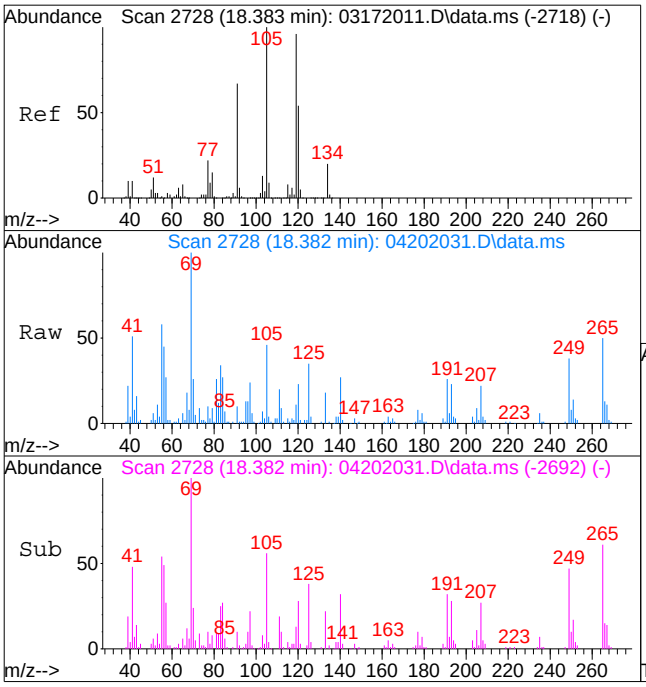


#79
1,3,5-Trimethylbenzene
Concen: 0.48 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.000 min
Lab File: 04202031.D
Acq: 20 Apr 2020 19:55

Tgt Ion:105 Resp: 17815

Ion	Ratio	Lower	Upper
105	100		
120	48.9	30.5	70.5

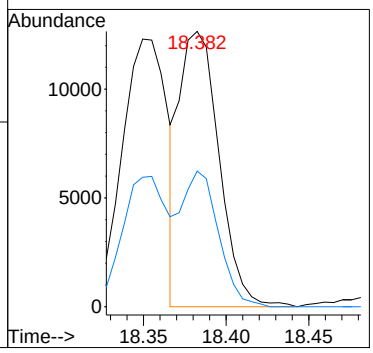


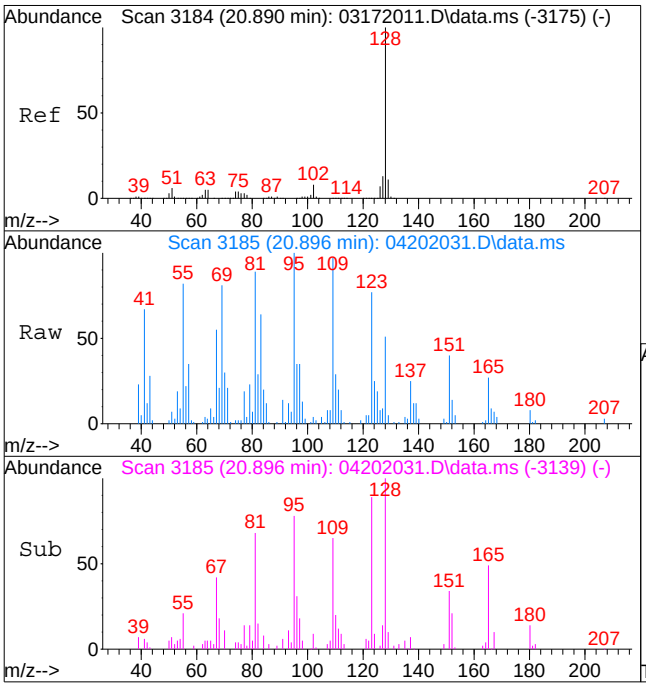


#82
1,2,4-Trimethylbenzene
Concen: 0.61 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.001 min
Lab File: 04202031.D
Acq: 20 Apr 2020 19:55

Tgt Ion:105 Resp: 21133

Ion	Ratio	Lower	Upper
105	100		
120	39.9	34.9	74.9

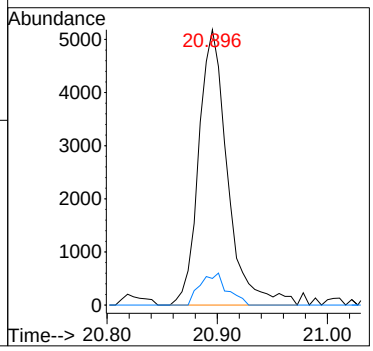




#95
Naphthalene
Concen: 0.20 ng
RT: 20.90 min Scan# 3185
Delta R.T. 0.006 min
Lab File: 04202031.D
Acq: 20 Apr 2020 19:55

Tgt Ion:128 Resp: 9419

Ion	Ratio	Lower	Upper
128	100		
129	10.9	0.0	30.9



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202021.D Vial: 1
Acq On : 20 Apr 2020 14:05 Operator: SC
Sample : P2002027-012 (15mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 15:44:33 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/20/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	129821	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	11.11	114	539146	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	256908	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	202264	13.771	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.16%			
57) Toluene-d8 (SS2)	13.55	98	588059	11.509	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.08%			
73) Bromofluorobenzene (SS3)	17.05	174	226691	13.335	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.64%			
Target Compounds						Qvalue
2) Propene	3.87	42	14784	1.859	ng	# 63
3) Dichlorodifluoromethan...	3.98	85	23043	1.244	ng	99
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	430	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	4.63	54	1911	0.285	ng	99
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.42	45	75	N.D.		
11) Acetonitrile	0.00	41	0	N.D.		
12) Acrolein	0.00	56	0	N.D.	d	
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	6.03	101	2808	0.167	ng	98
15) 2-Propanol (Isopropanol)	6.25	45	681	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.	d	
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	6.92	59	696	N.D.		
19) Methylene Chloride	0.00	84	0	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d	
21) Trichlorotrifluoroethane	7.19	151	772	0.083	ng	98
22) Carbon Disulfide	7.16	76	1113	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.	d	
25) Methyl tert-Butyl Ether	8.20	73	846	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	0.00	72	0	N.D.	d	
28) cis-1,2-Dichloroethene	8.75	61	259	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	9.23	57	71820	5.166	ng	98
32) Chloroform	9.28	83	467	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d	
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.	d	
40) 1-Butanol	10.74	56	304	N.D.		
41) Benzene	10.76	78	140998	3.670	ng	99
42) Carbon Tetrachloride	10.91	117	480	N.D.		
43) Cyclohexane	11.05	84	748529	51.332	ng	95
44) tert-Amyl Methyl Ether	11.31	73	707	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d	
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	11.82	130	2160	0.195	ng	97
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202021.D Vial: 1
Acq On : 20 Apr 2020 14:05 Operator: SC
Sample : P2002027-012 (15mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 15:44:33 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

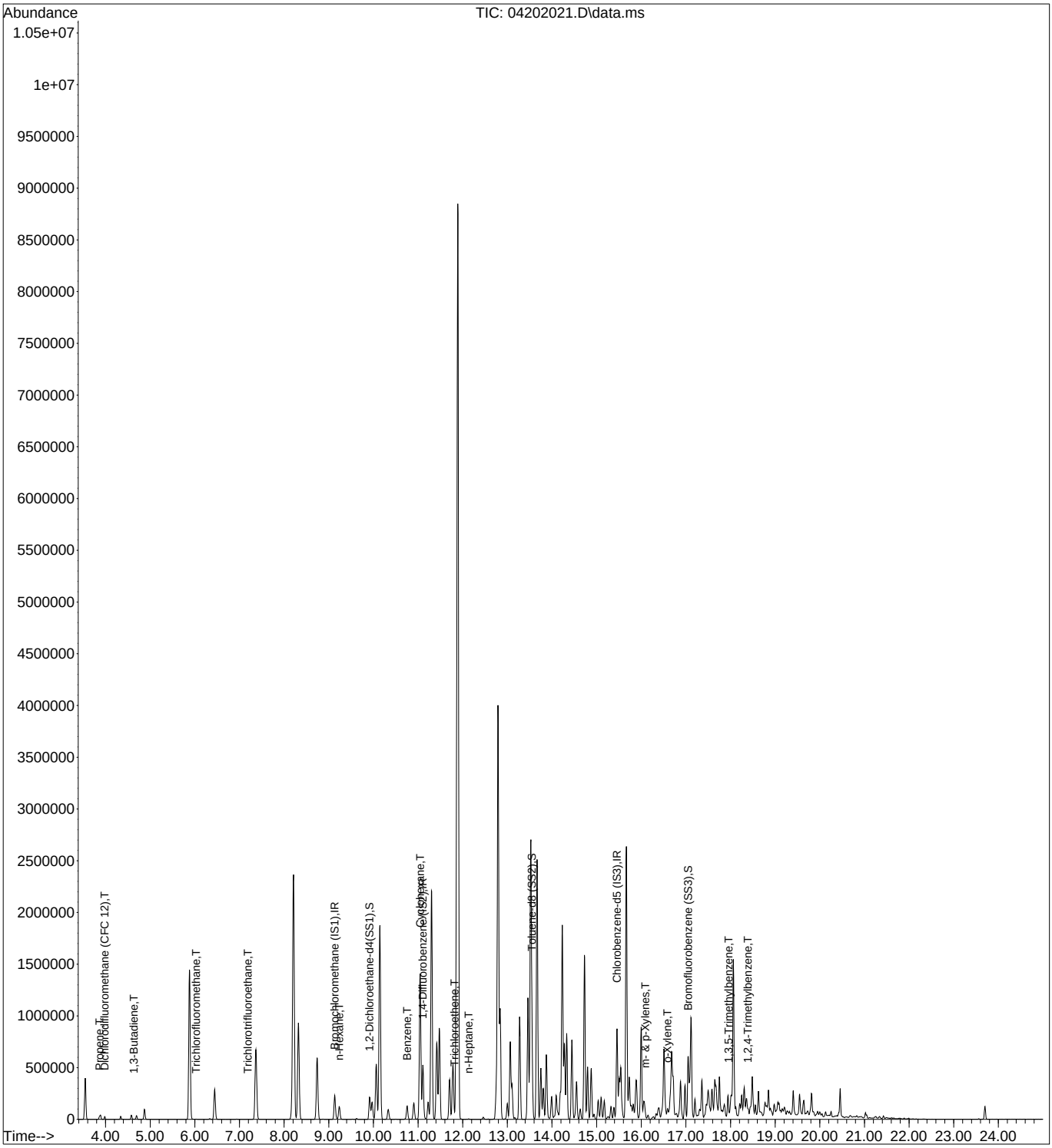
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	12.14	71	1185	0.129 ng		87
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d		
54) trans-1,3-Dichloropropene	13.27	75	184	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d		
58) Toluene	0.00	91	0	N.D. d		
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	14.34	107	548	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D. d		
63) n-Octane	0.00	57	0	N.D. d		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D. d		
66) Ethylbenzene	0.00	91	0	N.D. d		
67) m- & p-Xylenes	16.09	91	8924	0.239 ng		92
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	16.58	91	10312	0.277 ng		93
71) n-Nonane	0.00	43	0	N.D. d		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d		
74) Cumene	17.20	105	220	N.D.		
75) alpha-Pinene	17.59	93	756	N.D.		
76) n-Propylbenzene	0.00	91	0	N.D. d		
77) 3-Ethyltoluene	17.84	105	996	N.D.		
78) 4-Ethyltoluene	17.88	105	441	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	10891	0.265 ng		98
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	18.15	105	750	N.D.		
82) 1,2,4-Trimethylbenzene	18.39	105	1975	0.052 ng	#	72
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	18.55	91	1022	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	18.67	105	503	N.D.		
88) 4-Isopropyltoluene (p-...	18.84	119	458	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	0.00	68	0	N.D. d		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	20.92	180	182	N.D.		
95) Naphthalene	0.00	128	0	N.D.		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	18.39	119	348	N.D.		
100) n-Butylbenzene	19.27	91	876	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202021.D Vial: 1
Acq On : 20 Apr 2020 14:05 Operator: SC
Sample : P2002027-012 (15mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 15:44:33 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202021.D Vial: 1
Acq On : 20 Apr 2020 14:05 Operator: SC
Sample : P2002027-012 (15mL) Inst : MS09
Misc : S31-02272010

4/20/20

Quant Time: Apr 20 15:44:33 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

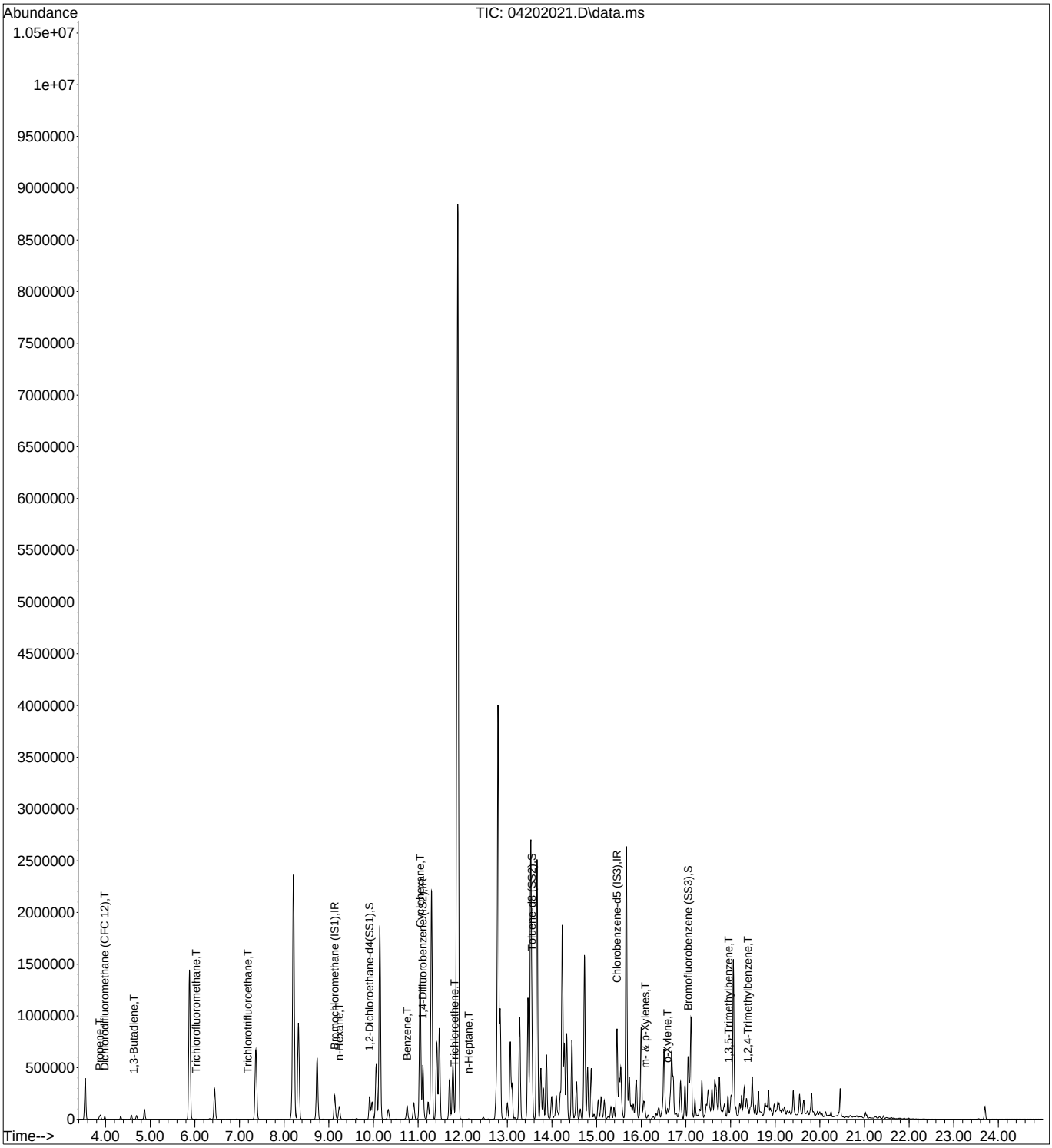
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	129821	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.11	114	539146	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	256908	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	202264	13.771	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.16%				
57) Toluene-d8 (SS2)	13.55	98	588059	11.509	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.08%				
73) Bromofluorobenzene (SS3)	17.05	174	226691	13.335	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.64%				
Target Compounds							Qvalue
2) Propene	3.87	42	14784	1.859	ng	#	63
3) Dichlorodifluoromethan...	3.98	85	23043	1.244	ng		99
7) 1,3-Butadiene	4.63	54	1911	0.285	ng		99
14) Trichlorofluoromethane	6.03	101	2808	0.167	ng		98
21) Trichlorotrifluoroethane	7.19	151	772	0.083	ng		98
31) n-Hexane	9.23	57	71820	5.166	ng		98
41) Benzene	10.76	78	140998	3.670	ng		99
43) Cyclohexane	11.05	84	748529	51.332	ng		95
47) Trichloroethene	11.82	130	2160	0.195	ng		97
51) n-Heptane	12.14	71	1185	0.129	ng		87
67) m- & p-Xylenes	16.09	91	8924	0.239	ng		92
70) o-Xylene	16.58	91	10312	0.277	ng		93
79) 1,3,5-Trimethylbenzene	17.96	105	10891	0.265	ng		98
82) 1,2,4-Trimethylbenzene	18.39	105	1975	0.052	ng	#	72

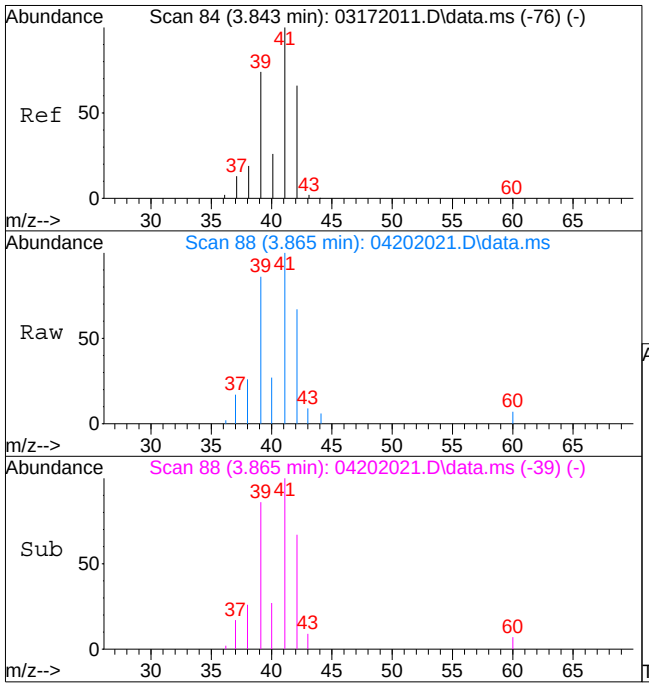
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202021.D Vial: 1
Acq On : 20 Apr 2020 14:05 Operator: SC
Sample : P2002027-012 (15mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 15:44:33 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

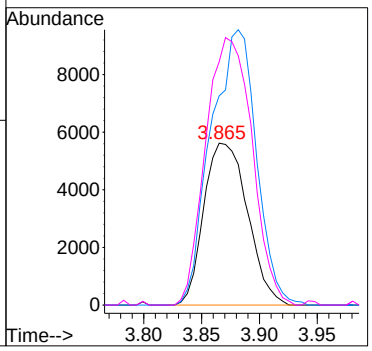


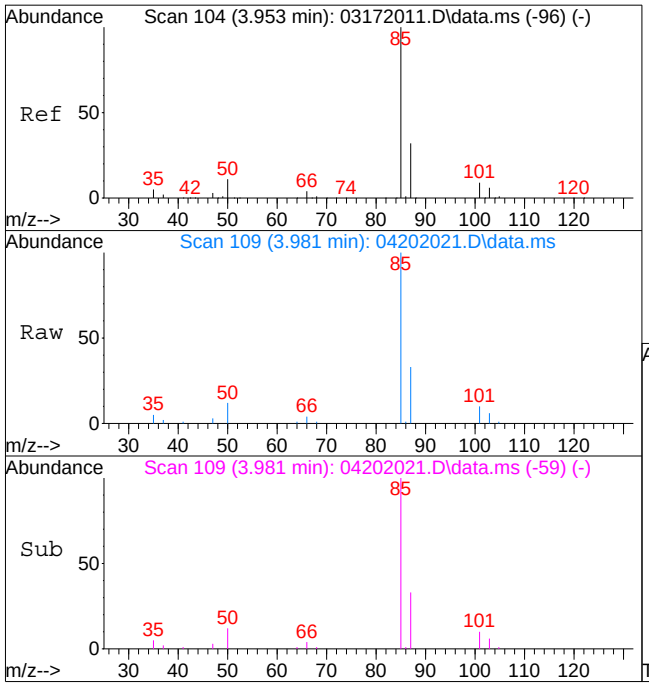


#2
Propene
Concen: 1.86 ng
RT: 3.87 min Scan# 88
Delta R.T. 0.022 min
Lab File: 04202021.D
Acq: 20 Apr 2020 14:05

Tgt Ion: 42 Resp: 14784

Ion	Ratio	Lower	Upper
42	100		
39	176.6	91.9	131.9#
41	175.3	130.5	170.5#

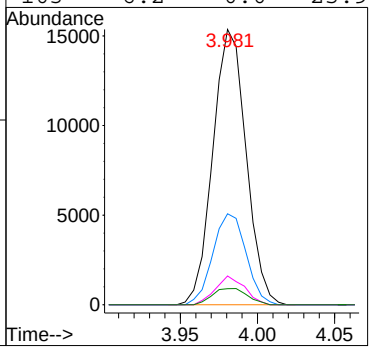


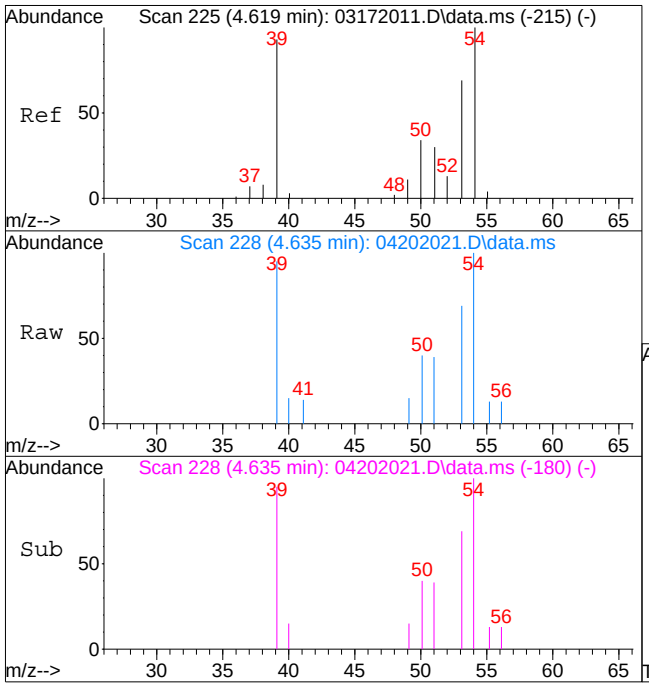


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.24 ng
RT: 3.98 min Scan# 109
Delta R.T. 0.028 min
Lab File: 04202021.D
Acq: 20 Apr 2020 14:05

Tgt Ion: 85 Resp: 23043

Ion	Ratio	Lower	Upper
85	100		
87	33.0	12.4	52.4
101	9.2	0.0	29.2
103	6.2	0.0	25.9

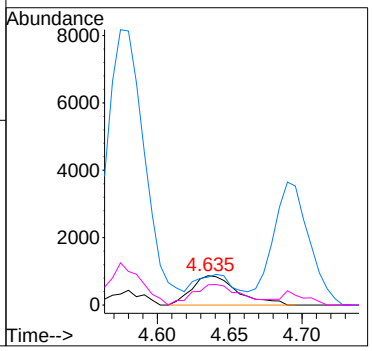


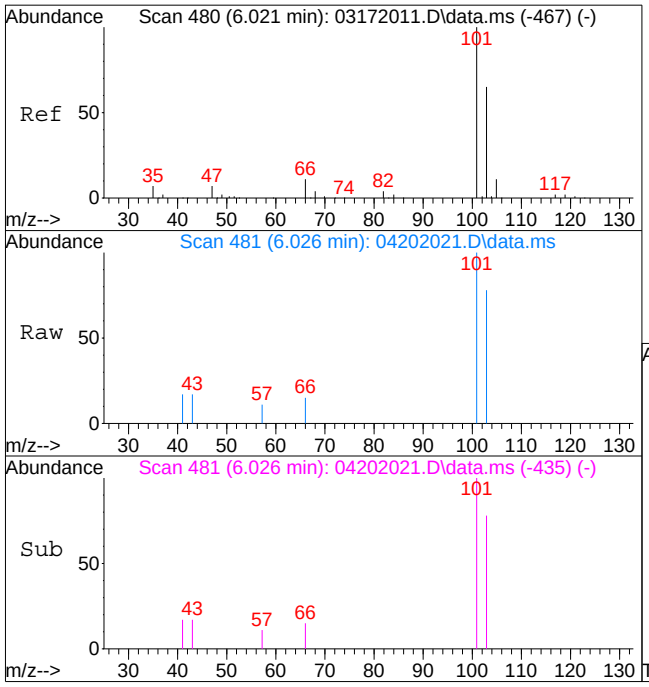


#7
1,3-Butadiene
Concen: 0.29 ng
RT: 4.63 min Scan# 228
Delta R.T. 0.016 min
Lab File: 04202021.D
Acq: 20 Apr 2020 14:05

Tgt Ion: 54 Resp: 1911

Ion	Ratio	Lower	Upper
54	100		
39	94.1	74.8	114.8
53	71.9	49.9	89.9

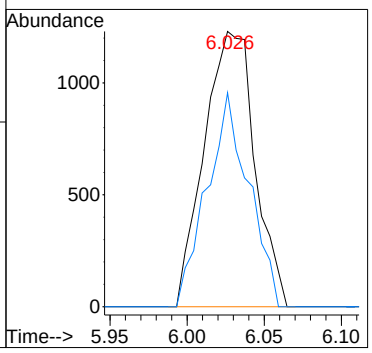


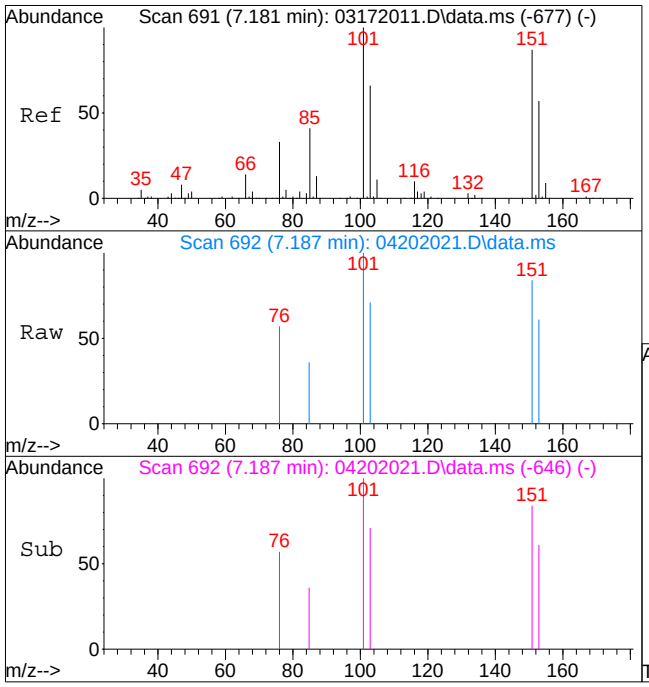


#14
Trichlorofluoromethane
Concen: 0.17 ng
RT: 6.03 min Scan# 481
Delta R.T. 0.005 min
Lab File: 04202021.D
Acq: 20 Apr 2020 14:05

Tgt Ion:101 Resp: 2808

Ion	Ratio	Lower	Upper
101	100		
103	64.1	45.3	85.3

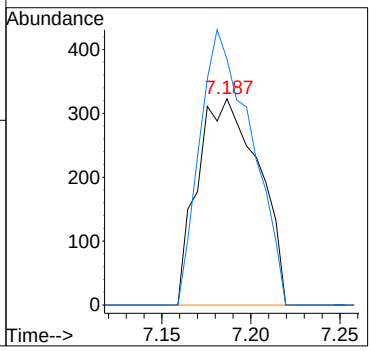


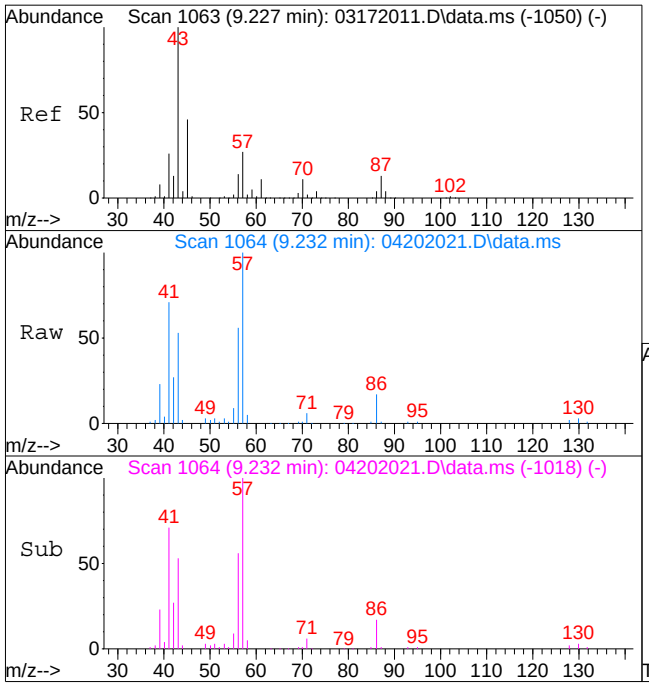


#21
Trichlorotrifluoroethane
Concen: 0.08 ng
RT: 7.19 min Scan# 692
Delta R.T. 0.006 min
Lab File: 04202021.D
Acq: 20 Apr 2020 14:05

Tgt Ion:151 Resp: 772

Ion	Ratio	Lower	Upper
151	100		
101	113.0	94.7	134.7

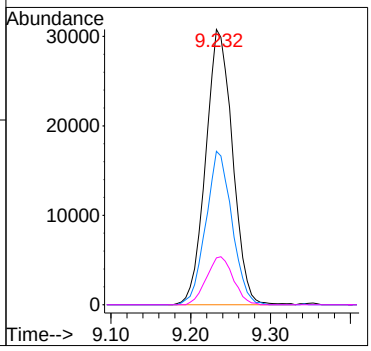


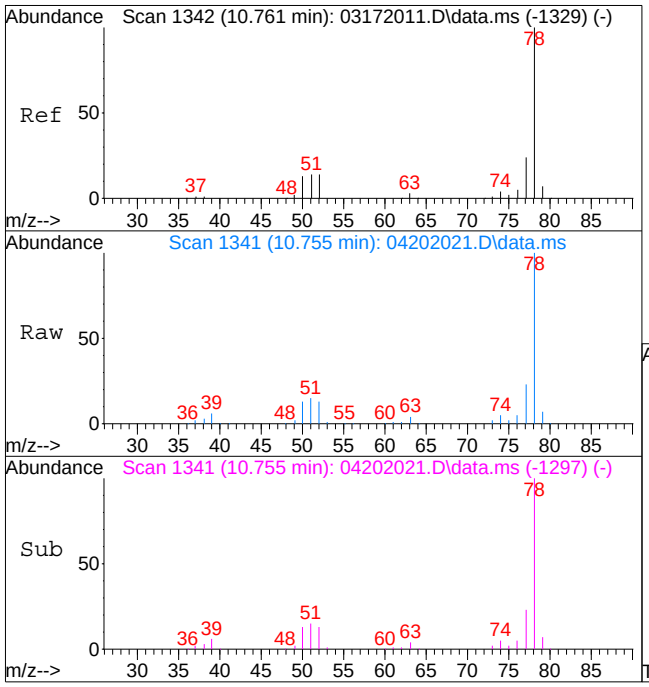


#31
n-Hexane
Concen: 5.17 ng
RT: 9.23 min Scan# 1064
Delta R.T. 0.005 min
Lab File: 04202021.D
Acq: 20 Apr 2020 14:05

Tgt Ion: 57 Resp: 71820

Ion	Ratio	Lower	Upper
57	100		
56	54.2	42.0	63.0
86	17.4	13.1	19.7

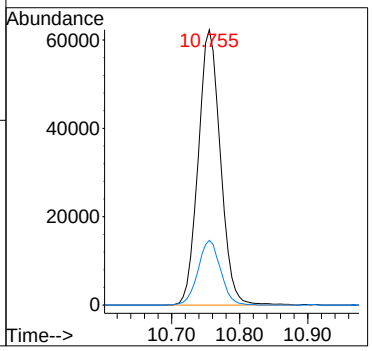


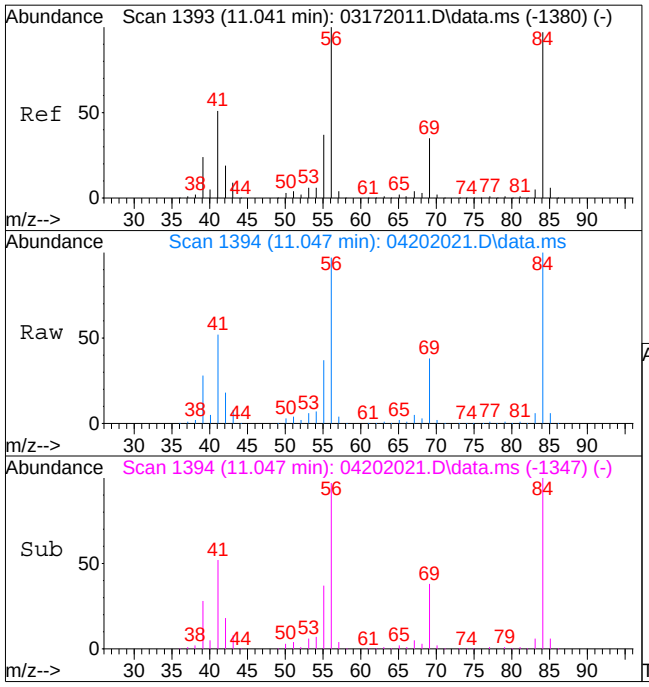


#41
Benzene
Concen: 3.67 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.006 min
Lab File: 04202021.D
Acq: 20 Apr 2020 14:05

Tgt Ion: 78 Resp: 140998

Ion	Ratio	Lower	Upper
78	100		
77	23.9	3.4	43.4

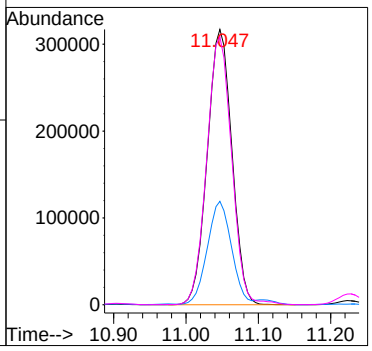


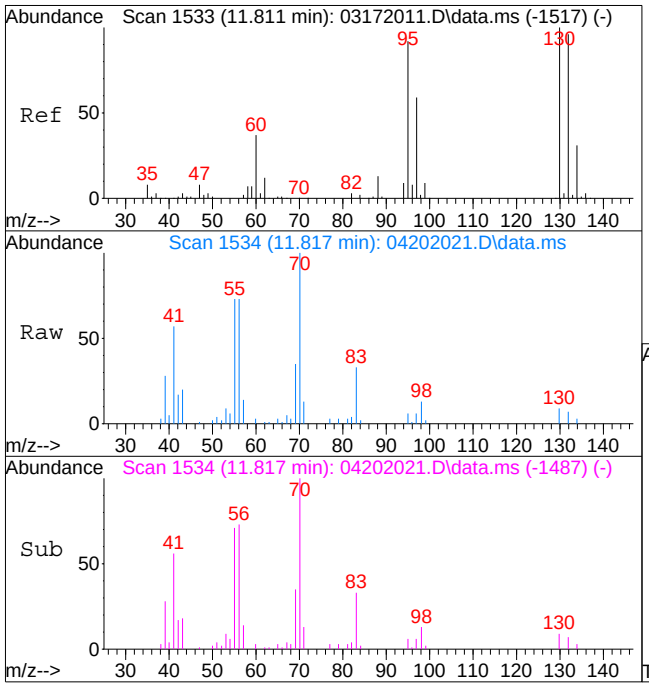


#43
Cyclohexane
Concen: 51.33 ng
RT: 11.05 min Scan# 1394
Delta R.T. 0.006 min
Lab File: 04202021.D
Acq: 20 Apr 2020 14:05

Tgt Ion: 84 Resp: 748529

Ion	Ratio	Lower	Upper
84	100		
69	38.4	16.6	56.6
56	98.9	85.3	125.3

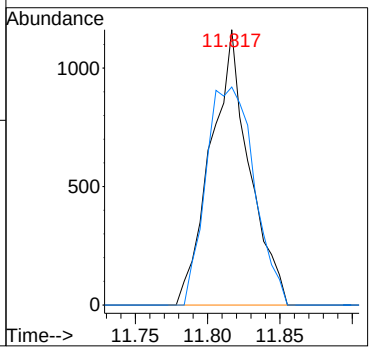


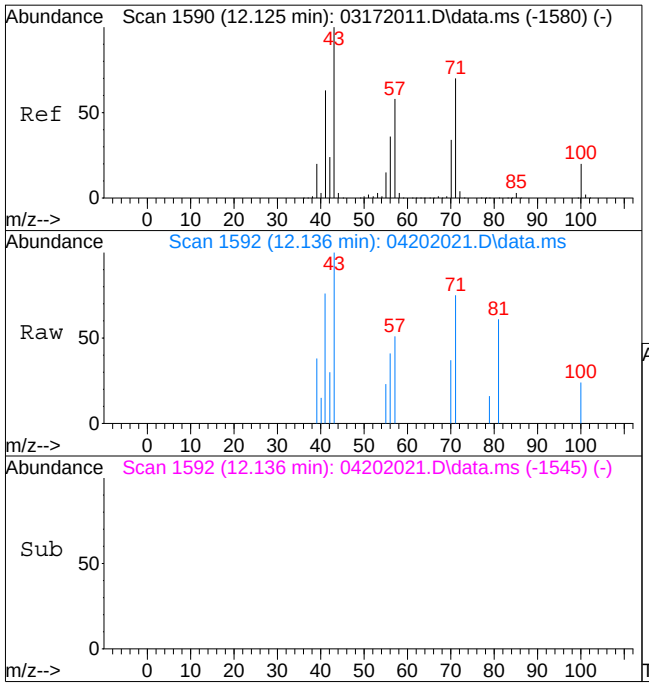


#47
Trichloroethene
Concen: 0.20 ng
RT: 11.82 min Scan# 1534
Delta R.T. 0.006 min
Lab File: 04202021.D
Acq: 20 Apr 2020 14:05

Tgt Ion:130 Resp: 2160

Ion	Ratio	Lower	Upper
130	100		
132	99.1	76.3	116.3

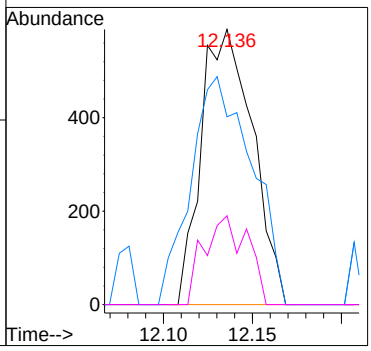


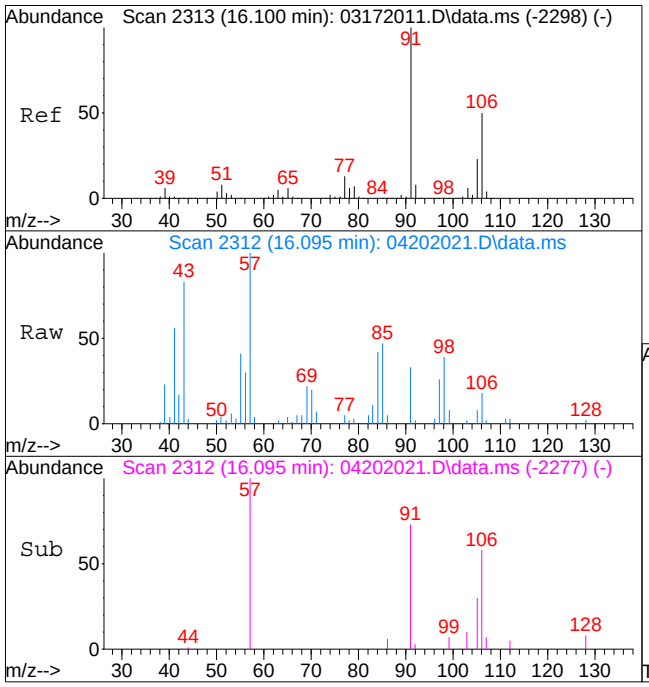


#51
n-Heptane
Concen: 0.13 ng
RT: 12.14 min Scan# 1592
Delta R.T. 0.011 min
Lab File: 04202021.D
Acq: 20 Apr 2020 14:05

Tgt Ion: 71 Resp: 1185

Ion	Ratio	Lower	Upper
71	100		
57	98.6	64.0	104.0
100	27.2	8.7	48.7

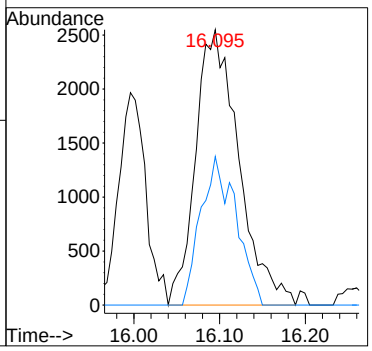


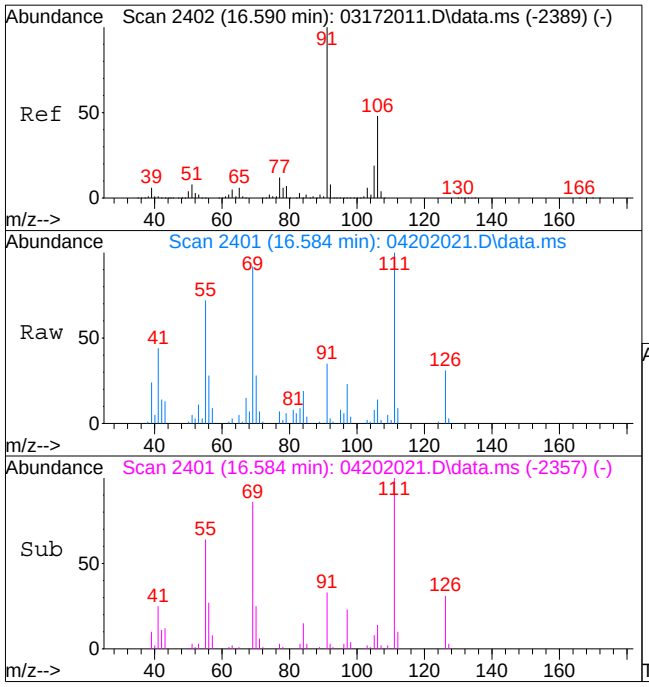


#67
m- & p-Xylenes
Concen: 0.24 ng
RT: 16.09 min Scan# 2312
Delta R.T. -0.005 min
Lab File: 04202021.D
Acq: 20 Apr 2020 14:05

Tgt Ion: 91 Resp: 8924

Ion	Ratio	Lower	Upper
91	100		
106	44.1	29.5	69.5

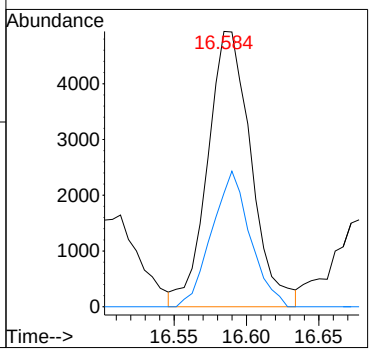


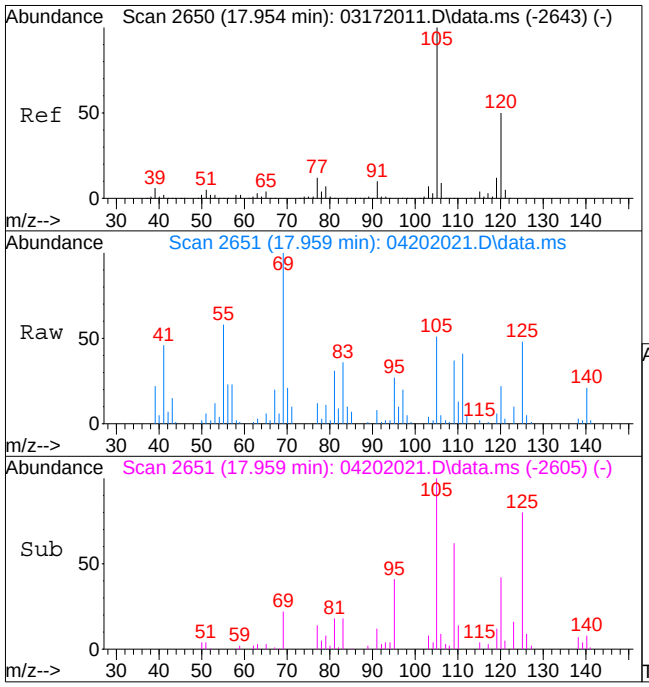


#70
o-Xylene
Concen: 0.28 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.006 min
Lab File: 04202021.D
Acq: 20 Apr 2020 14:05

Tgt Ion: 91 Resp: 10312

Ion	Ratio	Lower	Upper
91	100		
106	43.6	28.3	68.3

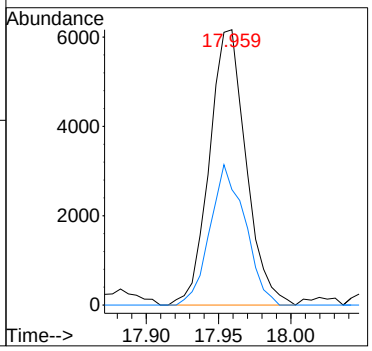


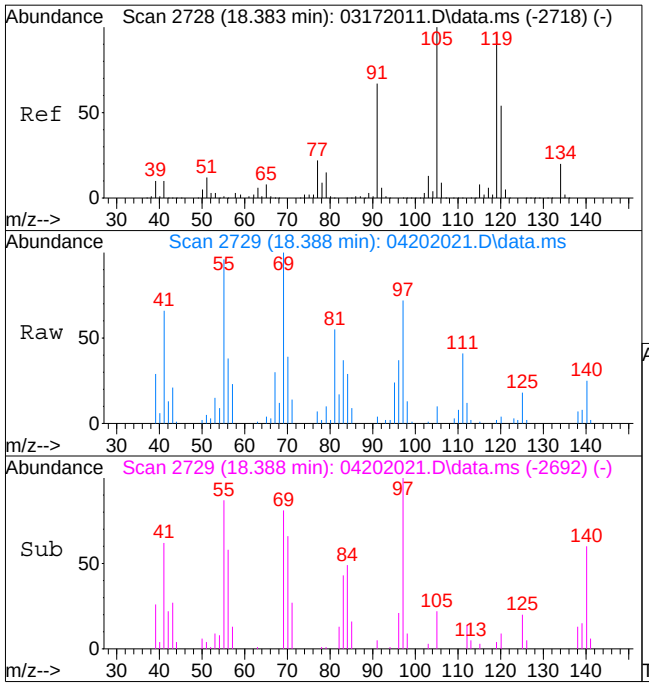


#79
1,3,5-Trimethylbenzene
Concen: 0.27 ng
RT: 17.96 min Scan# 2651
Delta R.T. 0.005 min
Lab File: 04202021.D
Acq: 20 Apr 2020 14:05

Tgt Ion:105 Resp: 10891

Ion	Ratio	Lower	Upper
105	100		
120	48.8	30.5	70.5

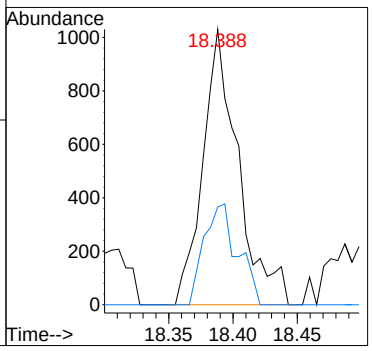




#82
1,2,4-Trimethylbenzene
Concen: 0.05 ng
RT: 18.39 min Scan# 2729
Delta R.T. 0.005 min
Lab File: 04202021.D
Acq: 20 Apr 2020 14:05

Tgt Ion:105 Resp: 1975

Ion	Ratio	Lower	Upper
105	100		
120	34.6	34.9	74.9#



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202022.D Vial: 1
Acq On : 20 Apr 2020 14:39 Operator: SC
Sample : P2002027-013 (15mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 15:49:05 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/20/20

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	125914	12.500 ng	-0.02
37) 1,4-Difluorobenzene (IS2)	11.11	114	537689	12.500 ng	-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	257291	12.500 ng	0.00
System Monitoring Compounds					
33) 1,2-Dichloroethane-d4(...	9.91	65	199108	13.977 ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.84%		
57) Toluene-d8 (SS2)	13.55	98	576525	11.267 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.16%		
73) Bromofluorobenzene (SS3)	17.05	174	219472	12.891 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.12%		
Target Compounds					Qvalue
2) Propene	3.85	42	15335m	1.989 ng	
3) Dichlorodifluoromethan...	3.98	85	31401	1.748 ng	99
4) Chloromethane	0.00	50	0	N.D.	
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D. d	
6) Vinyl Chloride	0.00	62	0	N.D.	
7) 1,3-Butadiene	4.63	54	1017	0.157 ng	92
8) Bromomethane	0.00	94	0	N.D.	
9) Chloroethane	0.00	64	0	N.D.	
10) Ethanol	0.00	45	0	N.D.	
11) Acetonitrile	0.00	41	0	N.D.	
12) Acrolein	0.00	56	0	N.D. d	
13) Acetone	0.00	58	0	N.D. d	
14) Trichlorofluoromethane	6.03	101	4141	0.255 ng	94
15) 2-Propanol (Isopropanol)	6.24	45	562	N.D.	
16) Acrylonitrile	0.00	53	0	N.D. d	
17) 1,1-Dichloroethene	0.00	96	0	N.D.	
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d	
19) Methylene Chloride	6.78	84	132	N.D.	
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D. d	
21) Trichlorotrifluoroethane	7.19	151	1139	0.126 ng	92
22) Carbon Disulfide	7.16	76	735	N.D.	
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.	
24) 1,1-Dichloroethane	0.00	63	0	N.D. d	
25) Methyl tert-Butyl Ether	8.21	73	1249	N.D.	
26) Vinyl Acetate	0.00	86	0	N.D. d	
27) 2-Butanone (MEK)	0.00	72	0	N.D. d	
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.	
29) Diisopropyl Ether	0.00	87	0	N.D. d	
30) Ethyl Acetate	0.00	61	0	N.D.	
31) n-Hexane	9.24	57	97777	7.252 ng	99
32) Chloroform	9.29	83	672	N.D.	
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.	
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.	
36) 1,2-Dichloroethane	0.00	62	0	N.D. d	
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.	
39) Isopropyl Acetate	0.00	61	0	N.D. d	
40) 1-Butanol	0.00	56	0	N.D. d	
41) Benzene	10.76	78	197755	5.161 ng	99
42) Carbon Tetrachloride	10.90	117	589	N.D.	
43) Cyclohexane	11.05	84	1018069	70.005 ng	94
44) tert-Amyl Methyl Ether	11.30	73	895	N.D.	
45) 1,2-Dichloropropane	0.00	63	0	N.D. d	
46) Bromodichloromethane	0.00	83	0	N.D. d	
47) Trichloroethene	11.82	130	3238	0.293 ng	99
48) 1,4-Dioxane	0.00	88	0	N.D.	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d	
50) Methyl Methacrylate	0.00	100	0	N.D. d	

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202022.D Vial: 1
Acq On : 20 Apr 2020 14:39 Operator: SC
Sample : P2002027-013 (15mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 15:49:05 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

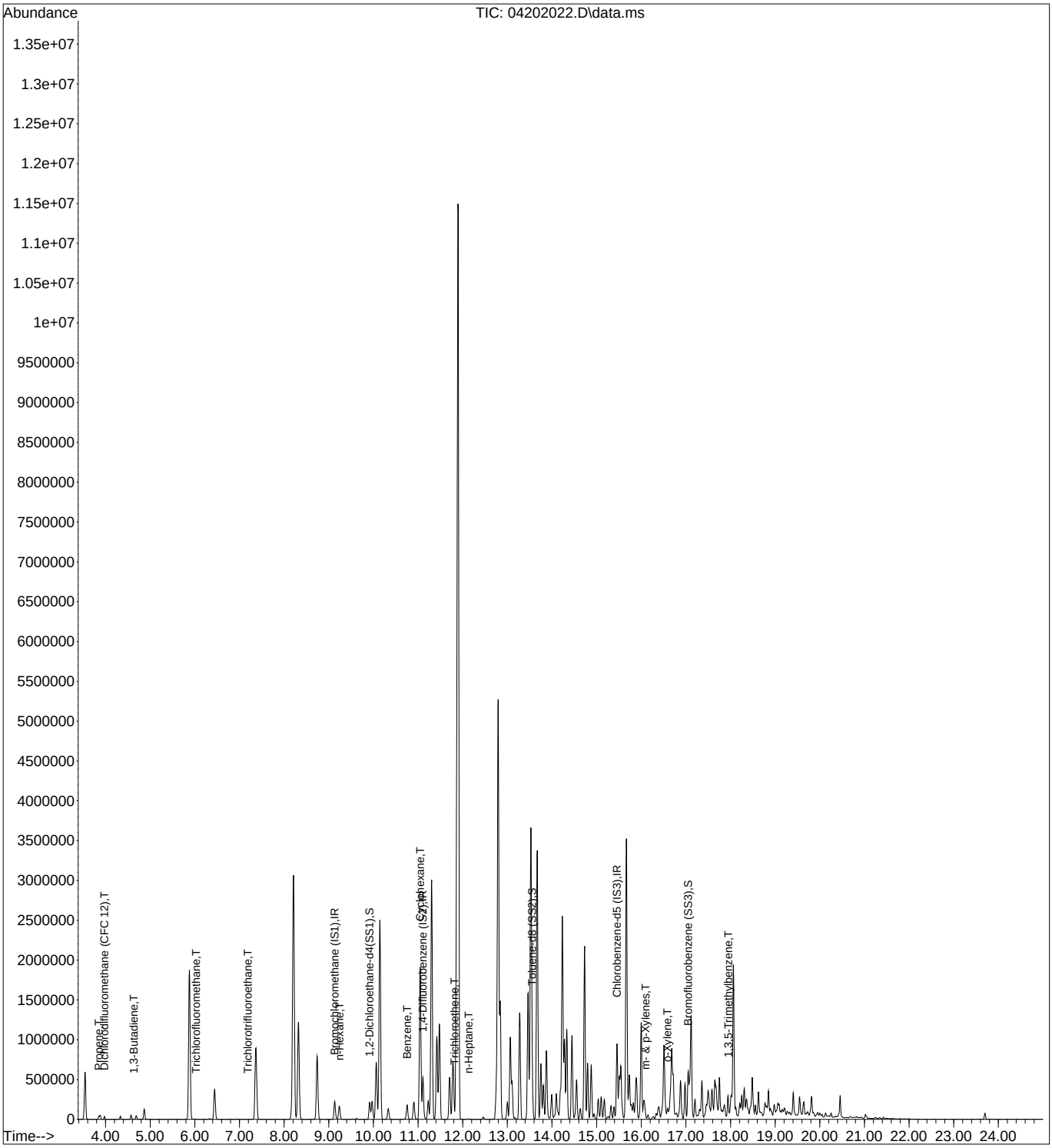
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.14	71	1511	0.165 ng	97
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	13.27	75	274	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	0.00	91	0	N.D. d	
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D. d	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	0.00	57	0	N.D. d	
64) Tetrachloroethene	14.82	166	150	N.D.	
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	0.00	91	0	N.D. d	
67) m- & p-Xylenes	16.10	91	9905	0.265 ng	92
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.59	91	12568	0.337 ng	95
71) n-Nonane	16.79	43	642	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	17.21	105	344	N.D.	
75) alpha-Pinene	17.59	93	1096	N.D.	
76) n-Propylbenzene	0.00	91	0	N.D. d	
77) 3-Ethyltoluene	17.84	105	1110	N.D.	
78) 4-Ethyltoluene	17.89	105	309	N.D.	
79) 1,3,5-Trimethylbenzene	17.95	105	13186	0.321 ng	95
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	18.16	105	792	N.D.	
82) 1,2,4-Trimethylbenzene	18.39	105	1658	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.56	91	1407	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	18.67	105	532	N.D.	
88) 4-Isopropyltoluene (p-...	18.83	119	507	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	20.92	180	152	N.D.	
95) Naphthalene	0.00	128	0	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	18.39	119	318	N.D.	
100) n-Butylbenzene	19.27	91	1051	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202022.D Vial: 1
Acq On : 20 Apr 2020 14:39 Operator: SC
Sample : P2002027-013 (15mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 15:49:05 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202022.D Vial: 1
Acq On : 20 Apr 2020 14:39 Operator: SC
Sample : P2002027-013 (15mL) Inst : MS09
Misc : S31-02272010

4/20/20

Quant Time: Apr 20 15:49:05 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

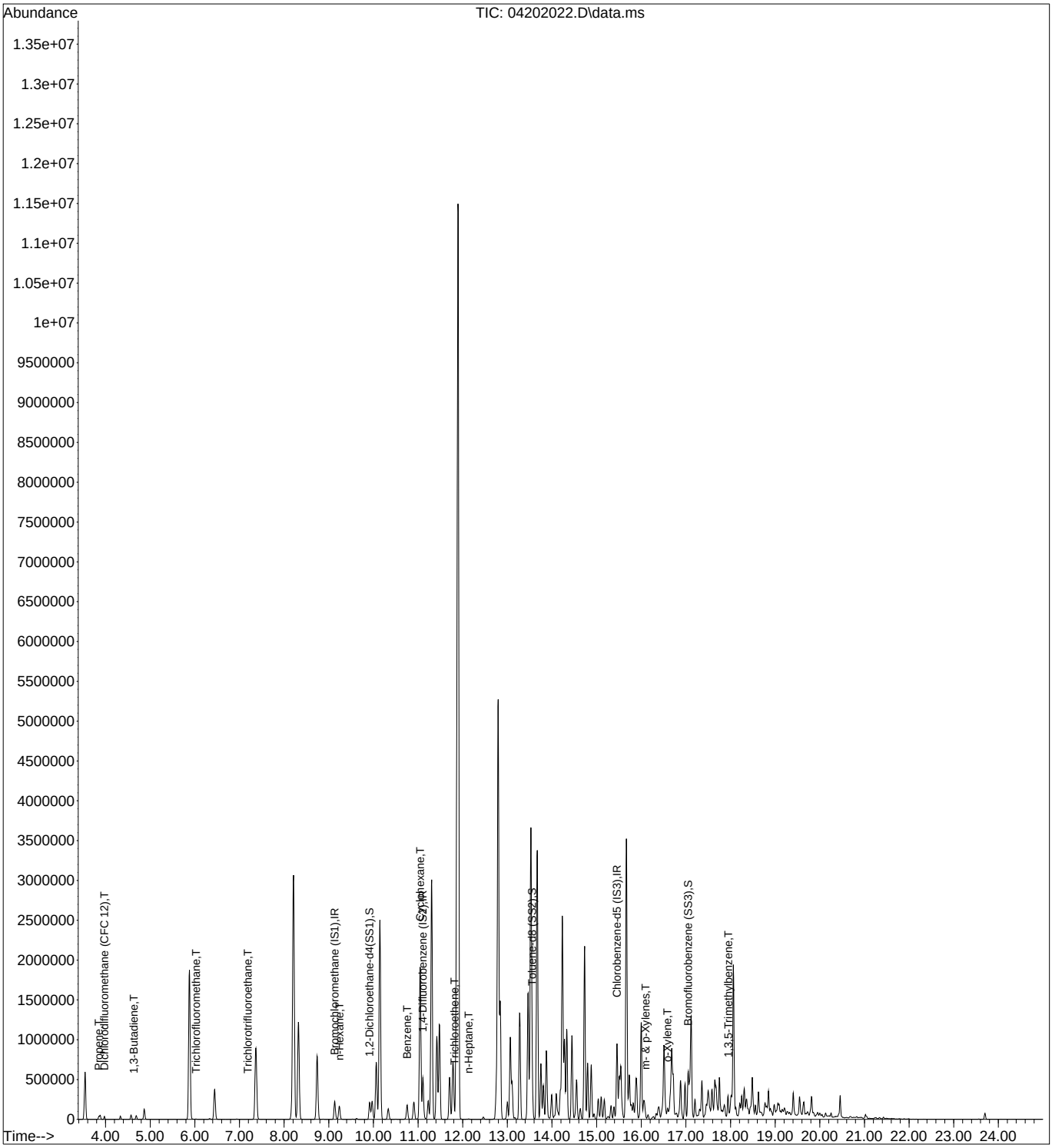
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	125914	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	11.11	114	537689	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	257291	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	199108	13.977	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.84%			
57) Toluene-d8 (SS2)	13.55	98	576525	11.267	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.16%			
73) Bromofluorobenzene (SS3)	17.05	174	219472	12.891	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.12%			
Target Compounds						Qvalue
2) Propene	3.85	42	15335m	1.989	ng	
3) Dichlorodifluoromethan...	3.98	85	31401	1.748	ng	99
7) 1,3-Butadiene	4.63	54	1017	0.157	ng	92
14) Trichlorofluoromethane	6.03	101	4141	0.255	ng	94
21) Trichlorotrifluoroethane	7.19	151	1139	0.126	ng	92
31) n-Hexane	9.24	57	97777	7.252	ng	99
41) Benzene	10.76	78	197755	5.161	ng	99
43) Cyclohexane	11.05	84	1018069	70.005	ng	94
47) Trichloroethene	11.82	130	3238	0.293	ng	99
51) n-Heptane	12.14	71	1511	0.165	ng	97
67) m- & p-Xylenes	16.10	91	9905	0.265	ng	92
70) o-Xylene	16.59	91	12568	0.337	ng	95
79) 1,3,5-Trimethylbenzene	17.95	105	13186	0.321	ng	95

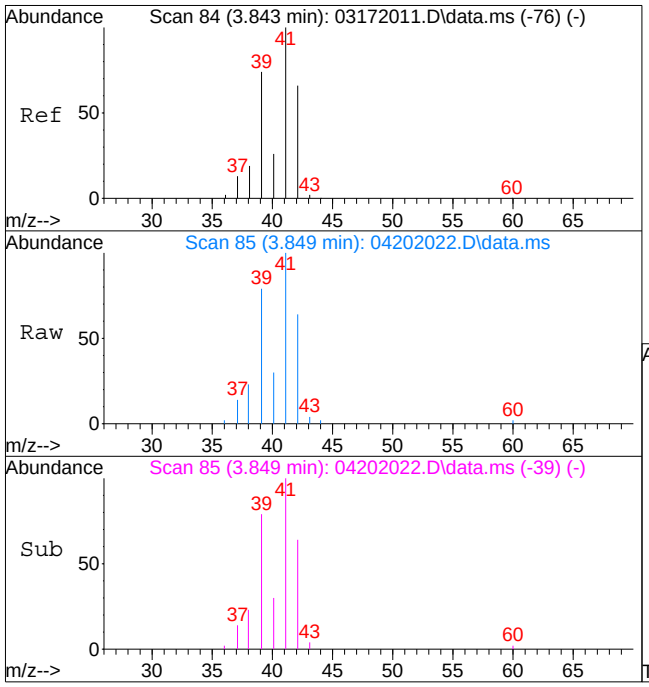
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202022.D Vial: 1
Acq On : 20 Apr 2020 14:39 Operator: SC
Sample : P2002027-013 (15mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 15:49:05 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

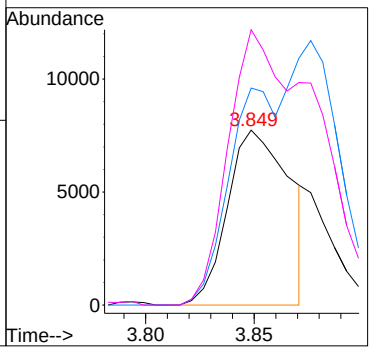


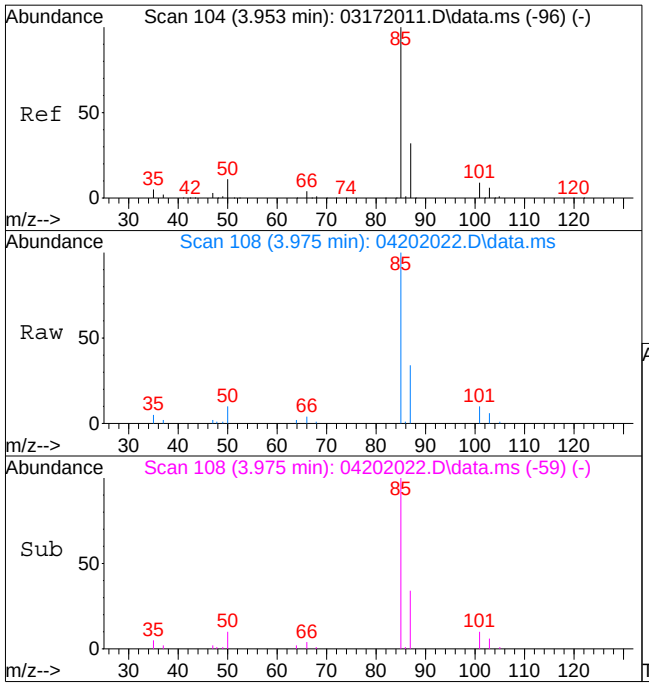


#2
Propene
Concen: 1.99 ng m
RT: 3.85 min Scan# 85
Delta R.T. 0.006 min
Lab File: 04202022.D
Acq: 20 Apr 2020 14:39

Tgt Ion: 42 Resp: 15335

Ion	Ratio	Lower	Upper
42	100		
39	96.0	91.9	131.9
41	228.8	130.5	170.5#

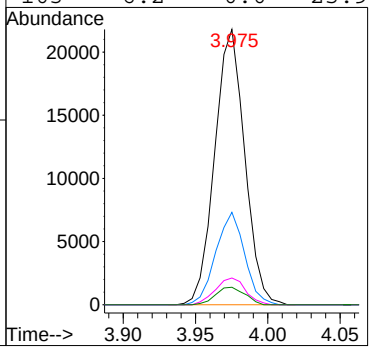


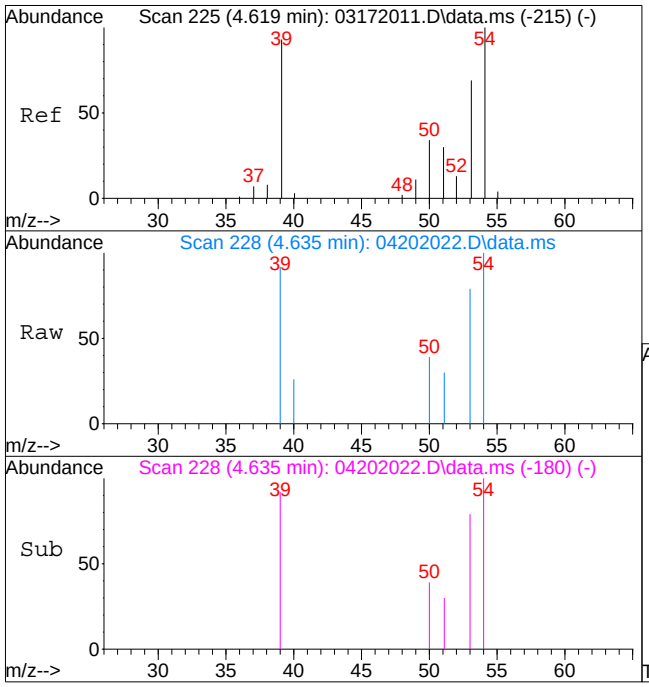


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.75 ng
RT: 3.98 min Scan# 108
Delta R.T. 0.022 min
Lab File: 04202022.D
Acq: 20 Apr 2020 14:39

Tgt Ion: 85 Resp: 31401

Ion	Ratio	Lower	Upper
85	100		
87	32.3	12.4	52.4
101	9.8	0.0	29.2
103	6.2	0.0	25.9

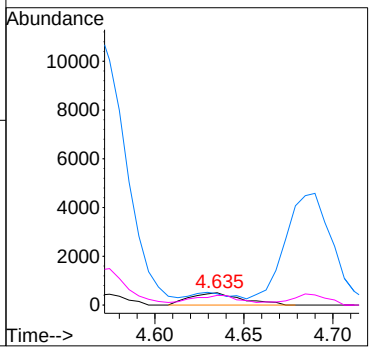


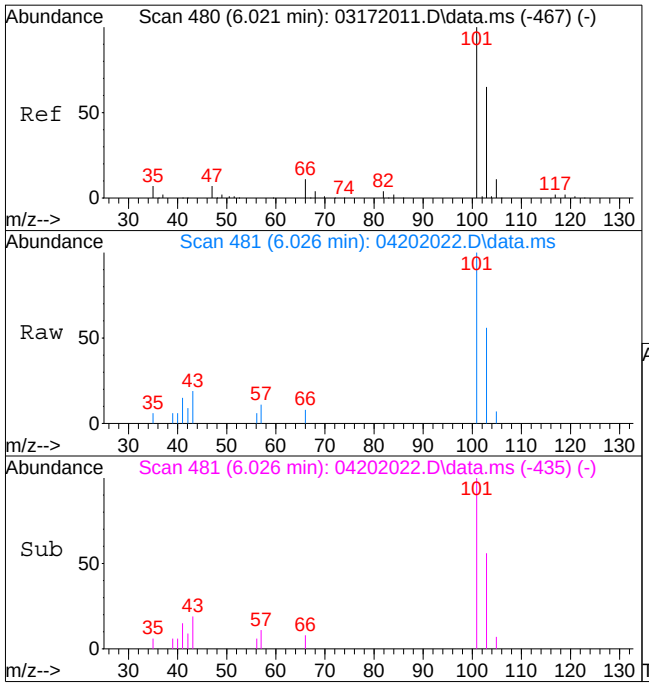


#7
1,3-Butadiene
Concen: 0.16 ng
RT: 4.63 min Scan# 228
Delta R.T. 0.016 min
Lab File: 04202022.D
Acq: 20 Apr 2020 14:39

Tgt Ion: 54 Resp: 1017

Ion	Ratio	Lower	Upper
54	100		
39	91.3	74.8	114.8
53	82.2	49.9	89.9

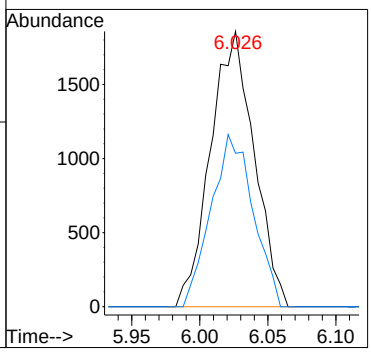


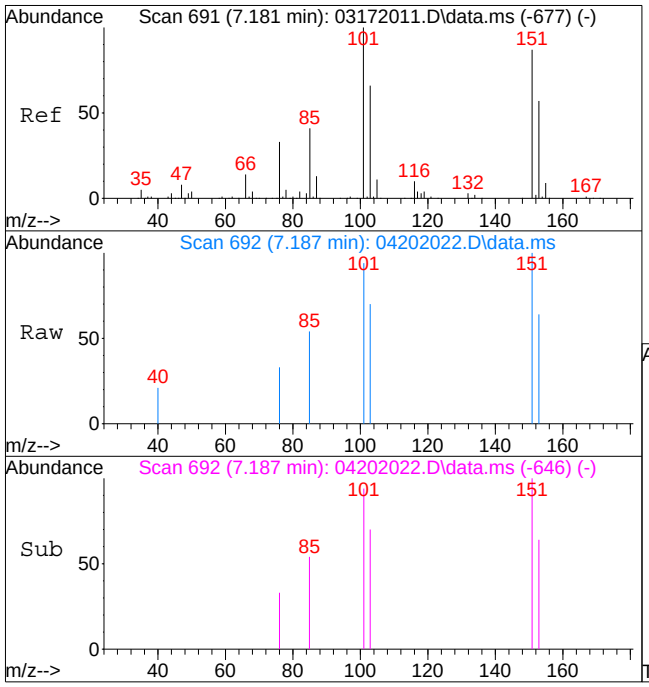


#14
Trichlorofluoromethane
Concen: 0.25 ng
RT: 6.03 min Scan# 481
Delta R.T. 0.005 min
Lab File: 04202022.D
Acq: 20 Apr 2020 14:39

Tgt Ion:101 Resp: 4141

Ion	Ratio	Lower	Upper
101	100		
103	60.3	45.3	85.3

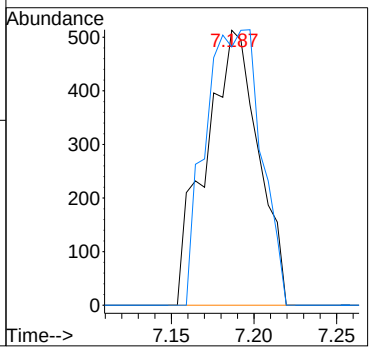


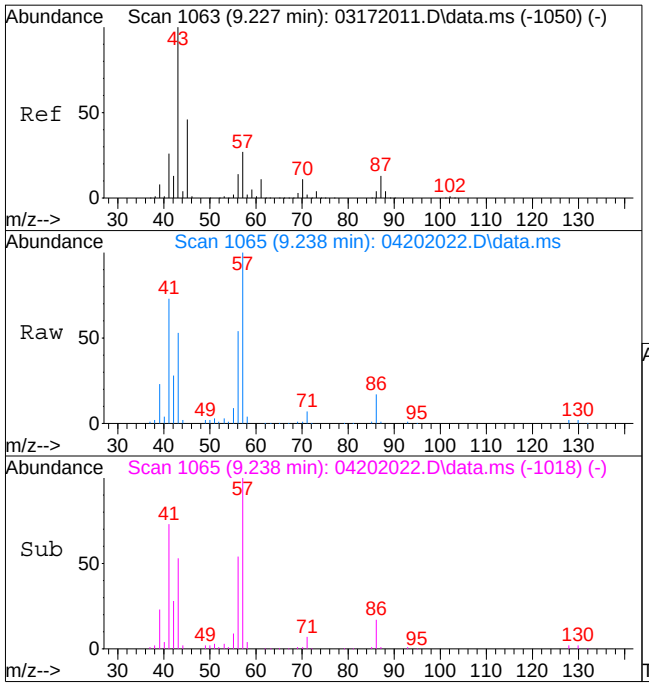


#21
Trichlorotrifluoroethane
Concen: 0.13 ng
RT: 7.19 min Scan# 692
Delta R.T. 0.006 min
Lab File: 04202022.D
Acq: 20 Apr 2020 14:39

Tgt Ion:151 Resp: 1139

Ion	Ratio	Lower	Upper
151	100		
101	106.1	94.7	134.7

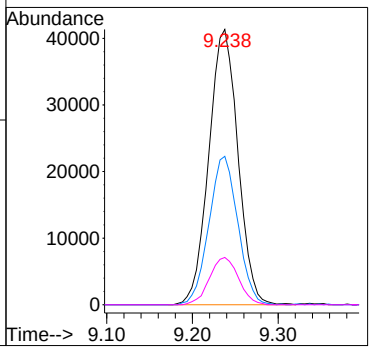


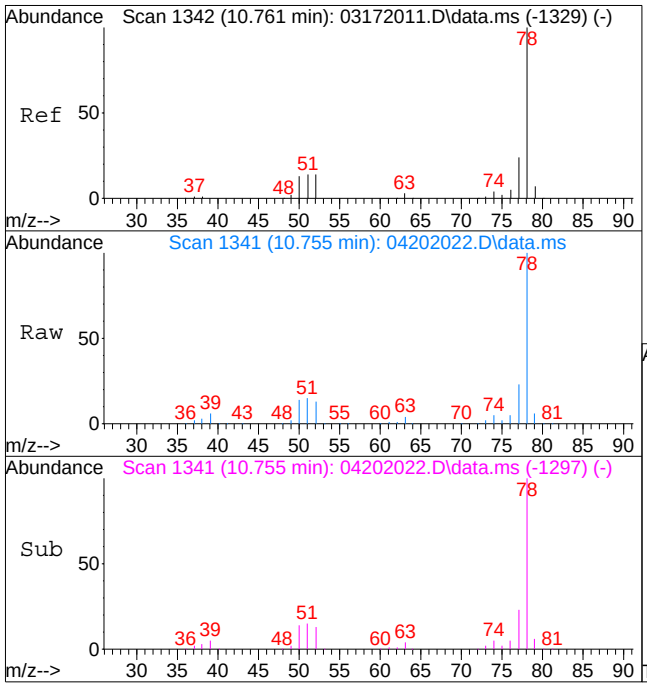


#31
n-Hexane
Concen: 7.25 ng
RT: 9.24 min Scan# 1065
Delta R.T. 0.011 min
Lab File: 04202022.D
Acq: 20 Apr 2020 14:39

Tgt Ion: 57 Resp: 97777

Ion	Ratio	Lower	Upper
57	100		
56	53.4	42.0	63.0
86	17.1	13.1	19.7

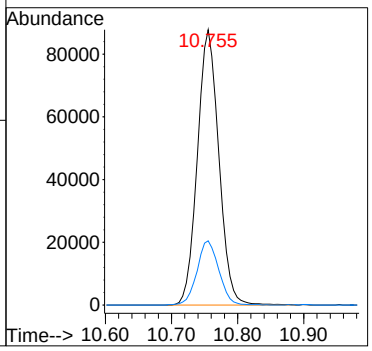


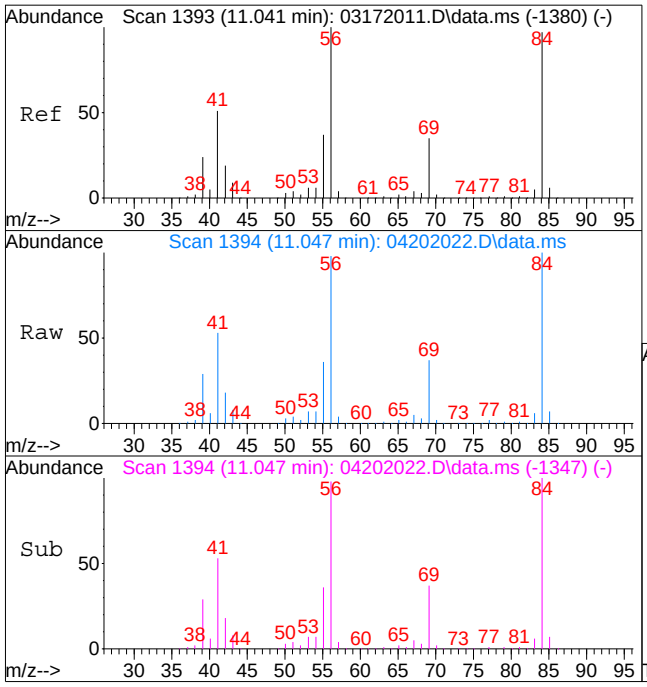


#41
Benzene
Concen: 5.16 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.006 min
Lab File: 04202022.D
Acq: 20 Apr 2020 14:39

Tgt Ion: 78 Resp: 197755

Ion	Ratio	Lower	Upper
78	100		
77	23.8	3.4	43.4

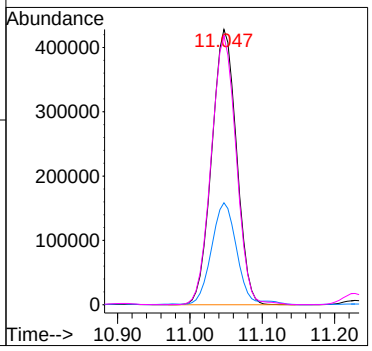


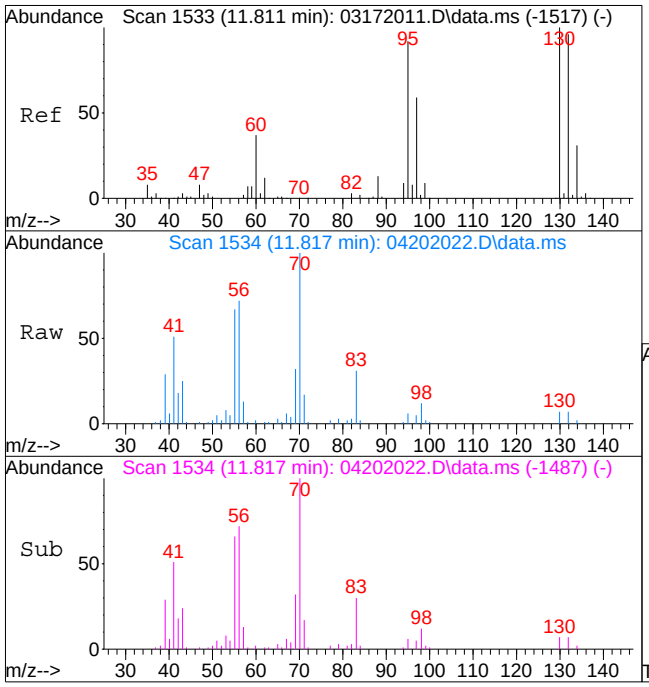


#43
Cyclohexane
Concen: 70.01 ng
RT: 11.05 min Scan# 1394
Delta R.T. 0.006 min
Lab File: 04202022.D
Acq: 20 Apr 2020 14:39

Tgt Ion: 84 Resp: 1018069

Ion	Ratio	Lower	Upper
84	100		
69	38.1	16.6	56.6
56	98.5	85.3	125.3

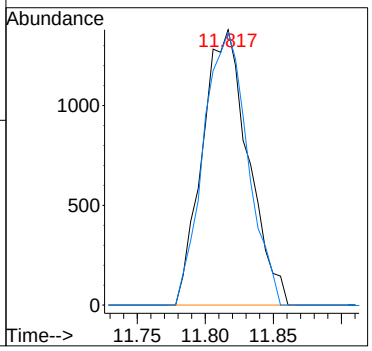


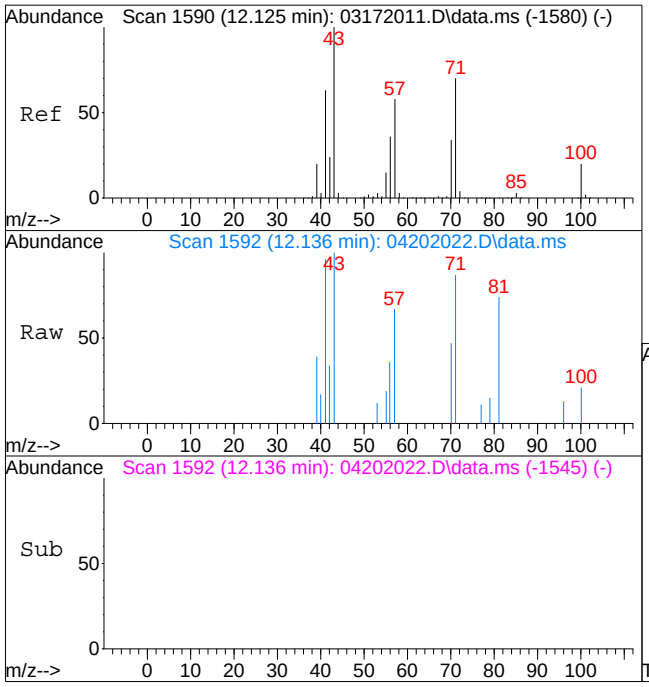


#47
Trichloroethene
Concen: 0.29 ng
RT: 11.82 min Scan# 1534
Delta R.T. 0.006 min
Lab File: 04202022.D
Acq: 20 Apr 2020 14:39

Tgt Ion:130 Resp: 3238

Ion	Ratio	Lower	Upper
130	100		
132	95.7	76.3	116.3

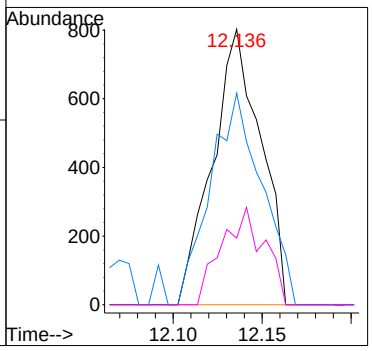


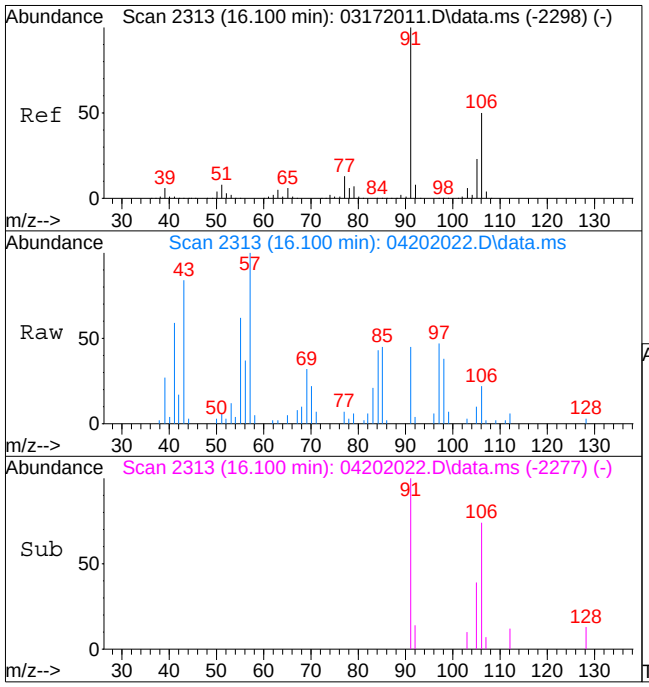


#51
n-Heptane
Concen: 0.17 ng
RT: 12.14 min Scan# 1592
Delta R.T. 0.011 min
Lab File: 04202022.D
Acq: 20 Apr 2020 14:39

Tgt Ion: 71 Resp: 1511

Ion	Ratio	Lower	Upper
71	100		
57	82.2	64.0	104.0
100	31.2	8.7	48.7

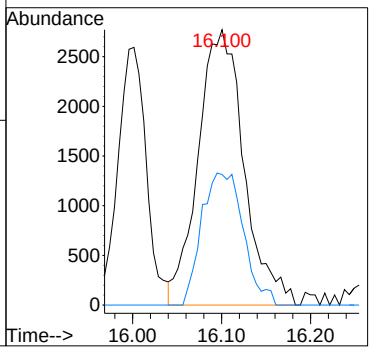


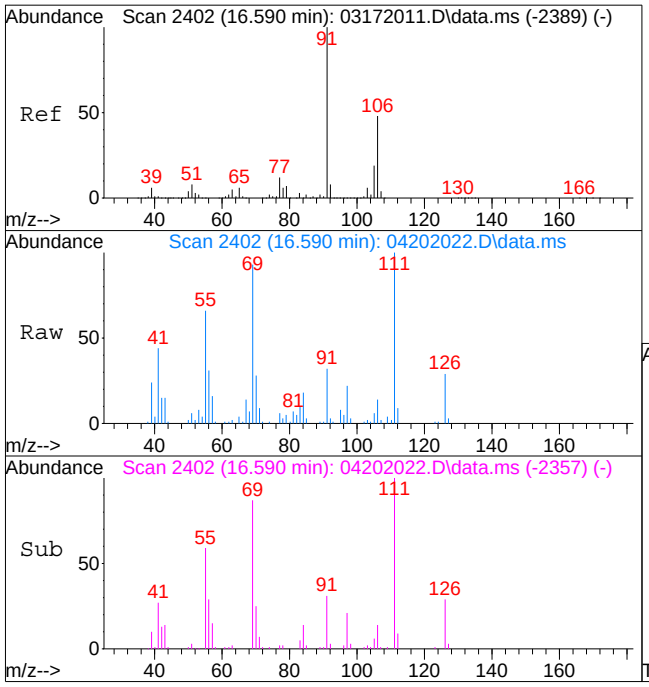


#67
m- & p-Xylenes
Concen: 0.27 ng
RT: 16.10 min Scan# 2313
Delta R.T. 0.000 min
Lab File: 04202022.D
Acq: 20 Apr 2020 14:39

Tgt Ion: 91 Resp: 9905

Ion	Ratio	Lower	Upper
91	100		
106	43.7	29.5	69.5

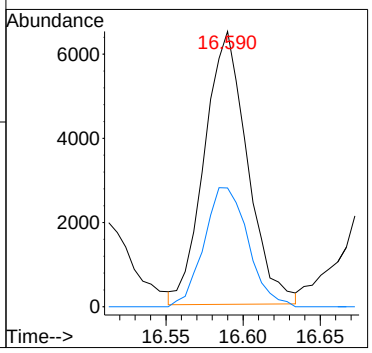


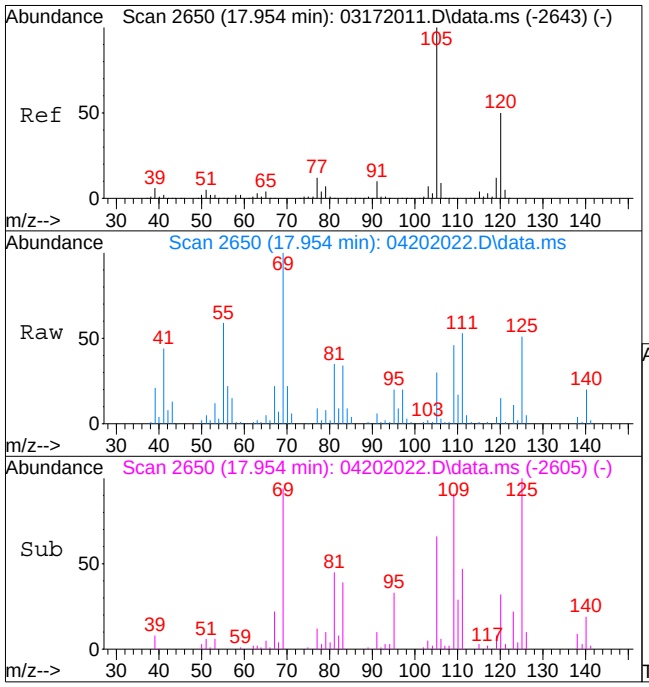


#70
o-Xylene
Concen: 0.34 ng
RT: 16.59 min Scan# 2402
Delta R.T. -0.000 min
Lab File: 04202022.D
Acq: 20 Apr 2020 14:39

Tgt Ion: 91 Resp: 12568

Ion	Ratio	Lower	Upper
91	100		
106	44.7	28.3	68.3

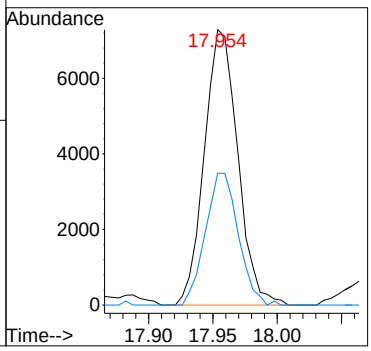




#79
1,3,5-Trimethylbenzene
Concen: 0.32 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.000 min
Lab File: 04202022.D
Acq: 20 Apr 2020 14:39

Tgt Ion:105 Resp: 13186

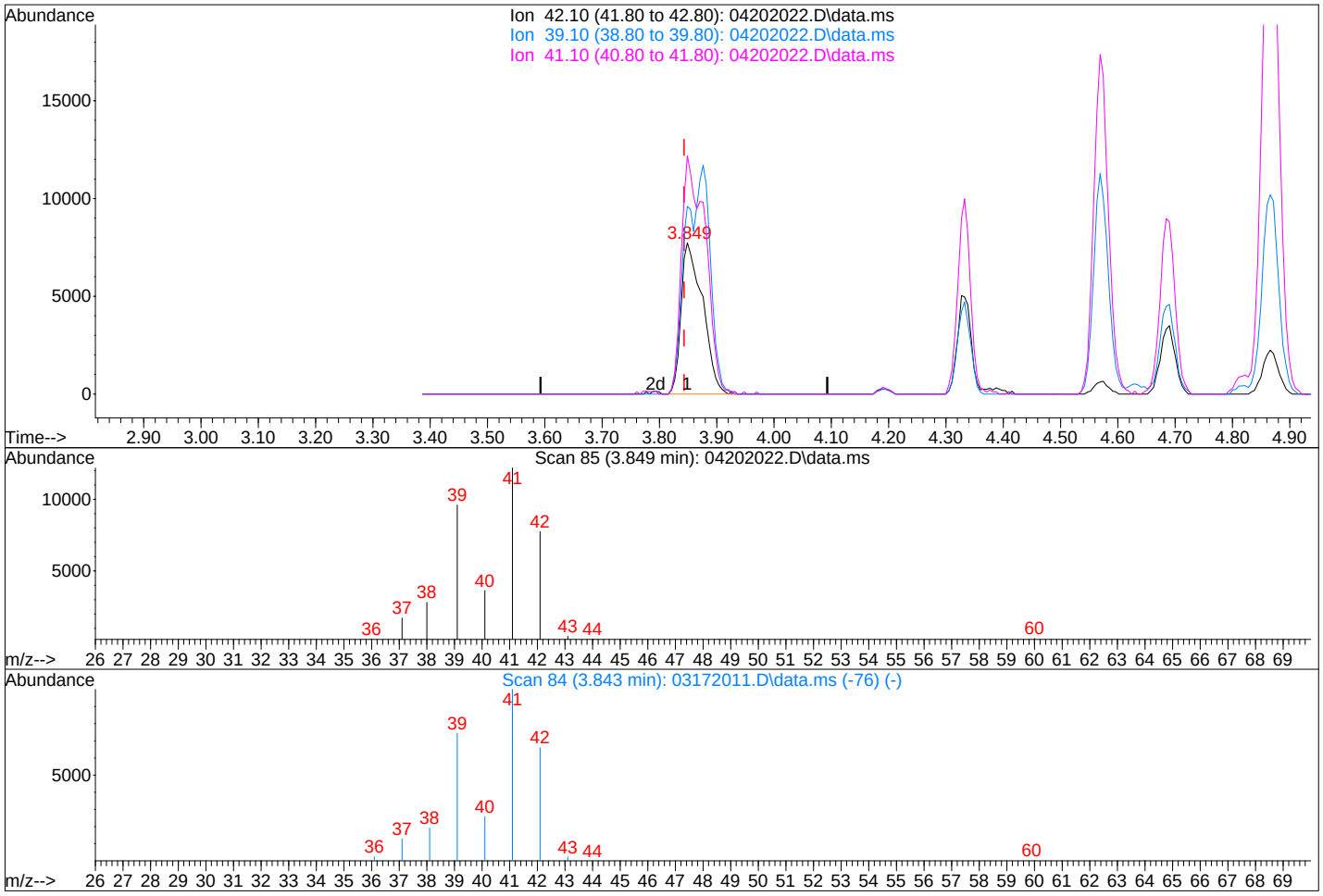
Ion	Ratio	Lower	Upper
105	100		
120	47.0	30.5	70.5



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\20\04202022.D Vial: 1
Acq On : 20 Apr 2020 14:39 Operator: SC
Sample : P2002027-013 (15mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 15:45:42 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202022.D\data.ms

(2) Propene (T)

3.849min (+0.006) 2.61ng

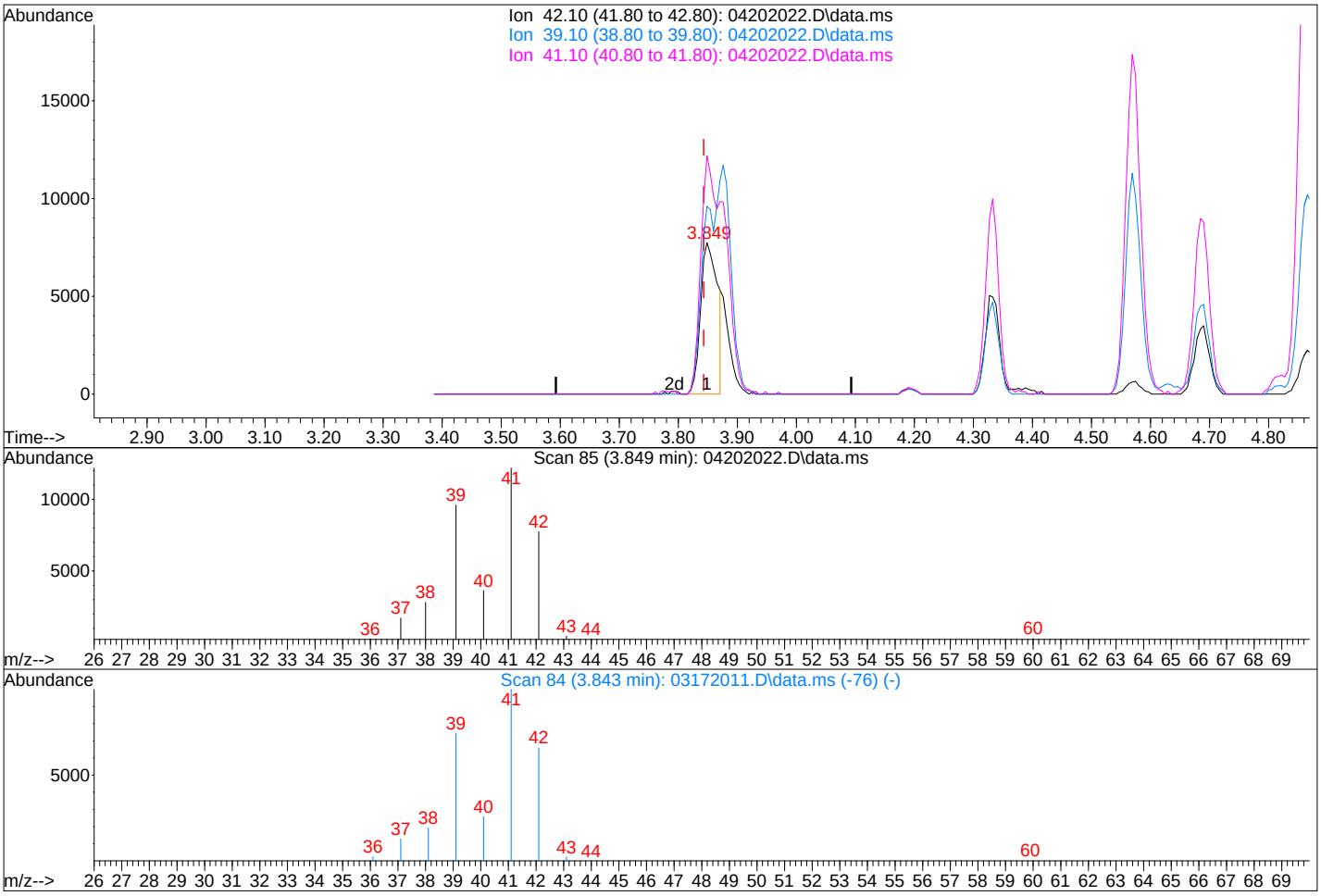
response 20103

Ion	Exp%	Act%
42.10	100	100
39.10	111.90	73.26#
41.10	150.50	174.56#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\20\04202022.D Vial: 1
Acq On : 20 Apr 2020 14:39 Operator: SC
Sample : P2002027-013 (15mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 15:45:42 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202022.D\data.ms

(2) Propene (T)

3.849min (+0.006) 1.99ng m

response 15335

Ion	Exp%	Act%
42.10	100	100
39.10	111.90	96.04
41.10	150.50	228.84#
0.00	0.00	0.00

IPC
4/20/20
LH 4/29/20

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202020.D Vial: 1
Acq On : 20 Apr 2020 13:32 Operator: SC
Sample : P2002027-014 (0.5mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 14:04:21 2020 4/20/20
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	131884	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.11	114	560416	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	269089	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	207951	13.937	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.52%				
57) Toluene-d8 (SS2)	13.55	98	621975	11.622	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.96%				
73) Bromofluorobenzene (SS3)	17.05	174	237849	13.358	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.88%				
Target Compounds							Qvalue
2) Propene	3.85	42	24625	3.049	ng	#	81
3) Dichlorodifluoromethan...	3.98	85	3821	0.203	ng		98
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	4.63	54	1907	0.280	ng		99
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.39	45	92	N.D.			
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	0.00	56	0	N.D.	d		
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	6.02	101	508	N.D.			
15) 2-Propanol (Isopropanol)	6.21	45	881	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	7.16	76	3643	0.106	ng		84
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.	d		
25) Methyl tert-Butyl Ether	8.22	73	762	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	8.56	72	452	0.071	ng	#	1
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.	d		
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	9.23	61	1486	0.510	ng	#	1
31) n-Hexane	9.24	57	1446209	102.406	ng		97
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	10.74	56	174	N.D.			
41) Benzene	10.76	78	623387	15.610	ng		100
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	11.05	84	2205784	145.524	ng		94
44) tert-Amyl Methyl Ether	11.31	73	906	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202020.D Vial: 1
Acq On : 20 Apr 2020 13:32 Operator: SC
Sample : P2002027-014 (0.5mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 14:04:21 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.14	71	1325947	139.096 ng	96
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	13.07	75	233	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	13.65	91	1428985	31.463 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D. d	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.67	57	470739	57.442 ng	94
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.90	91	126013	2.584 ng	100
67) m- & p-Xylenes	16.08	91	489198	12.531 ng	100
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D. d	
70) o-Xylene	16.58	91	307894	7.892 ng	98
71) n-Nonane	16.82	43	871991	51.746 ng	95
72) 1,1,2,2-Tetrachloroethane	16.58	83	334	N.D.	
74) Cumene	17.20	105	46282	0.909 ng	99
75) alpha-Pinene	17.61	93	862	N.D.	
76) n-Propylbenzene	17.72	91	109123	1.877 ng	98
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	24509	0.524 ng	100
79) 1,3,5-Trimethylbenzene	17.95	105	68807	1.601 ng	96
80) alpha-Methylstyrene	17.95	118	452	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	60713	1.521 ng	89
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.49	91	1058	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.92	128	164	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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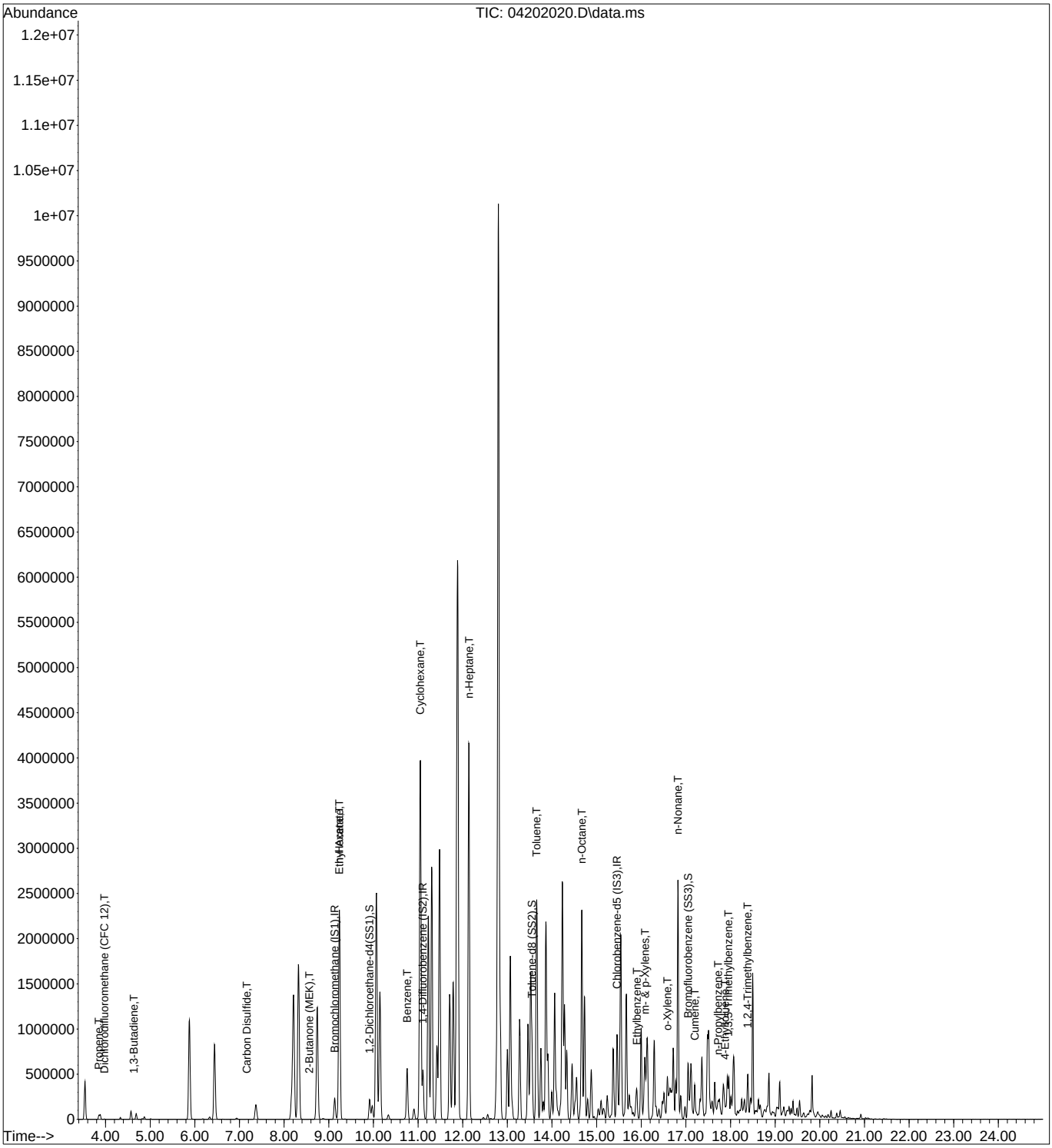
Acq On : 20 Apr 2020 13:32 Operator: SC
Sample : P2002027-014 (0.5mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 14:04:21 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202020.D Vial: 1
Acq On : 20 Apr 2020 13:32 Operator: SC
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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/20/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	131884	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.11	114	560416	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	269089	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	207951	13.937	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.52%				
57) Toluene-d8 (SS2)	13.55	98	621975	11.622	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.96%				
73) Bromofluorobenzene (SS3)	17.05	174	237849	13.358	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.88%				
Target Compounds							Qvalue
2) Propene	3.85	42	24625	3.049	ng	#	81
3) Dichlorodifluoromethan...	3.98	85	3821	0.203	ng		98
7) 1,3-Butadiene	4.63	54	1907	0.280	ng		99
22) Carbon Disulfide	7.16	76	3643	0.106	ng		84
27) 2-Butanone (MEK)	8.56	72	452	0.071	ng	#	1
30) Ethyl Acetate	9.23	61	1486	0.510	ng	#	1
31) n-Hexane	9.24	57	1446209	102.406	ng		97
41) Benzene	10.76	78	623387	15.610	ng		100
43) Cyclohexane	11.05	84	2205784	145.524	ng		94
51) n-Heptane	12.14	71	1325947	139.096	ng		96
58) Toluene	13.65	91	1428985	31.463	ng		100
63) n-Octane	14.67	57	470739	57.442	ng		94
66) Ethylbenzene	15.90	91	126013	2.584	ng		100
67) m- & p-Xylenes	16.08	91	489198	12.531	ng		100
70) o-Xylene	16.58	91	307894	7.892	ng		98
71) n-Nonane	16.82	43	871991	51.746	ng		95
74) Cumene	17.20	105	46282	0.909	ng		99
76) n-Propylbenzene	17.72	91	109123	1.877	ng		98
78) 4-Ethyltoluene	17.88	105	24509	0.524	ng		100
79) 1,3,5-Trimethylbenzene	17.95	105	68807	1.601	ng		96
82) 1,2,4-Trimethylbenzene	18.38	105	60713	1.521	ng		89

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Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202020.D Vial: 1
Acq On : 20 Apr 2020 13:32 Operator: SC
Sample : P2002027-014 (0.5mL) Inst : MS09
Misc : S31-02272010

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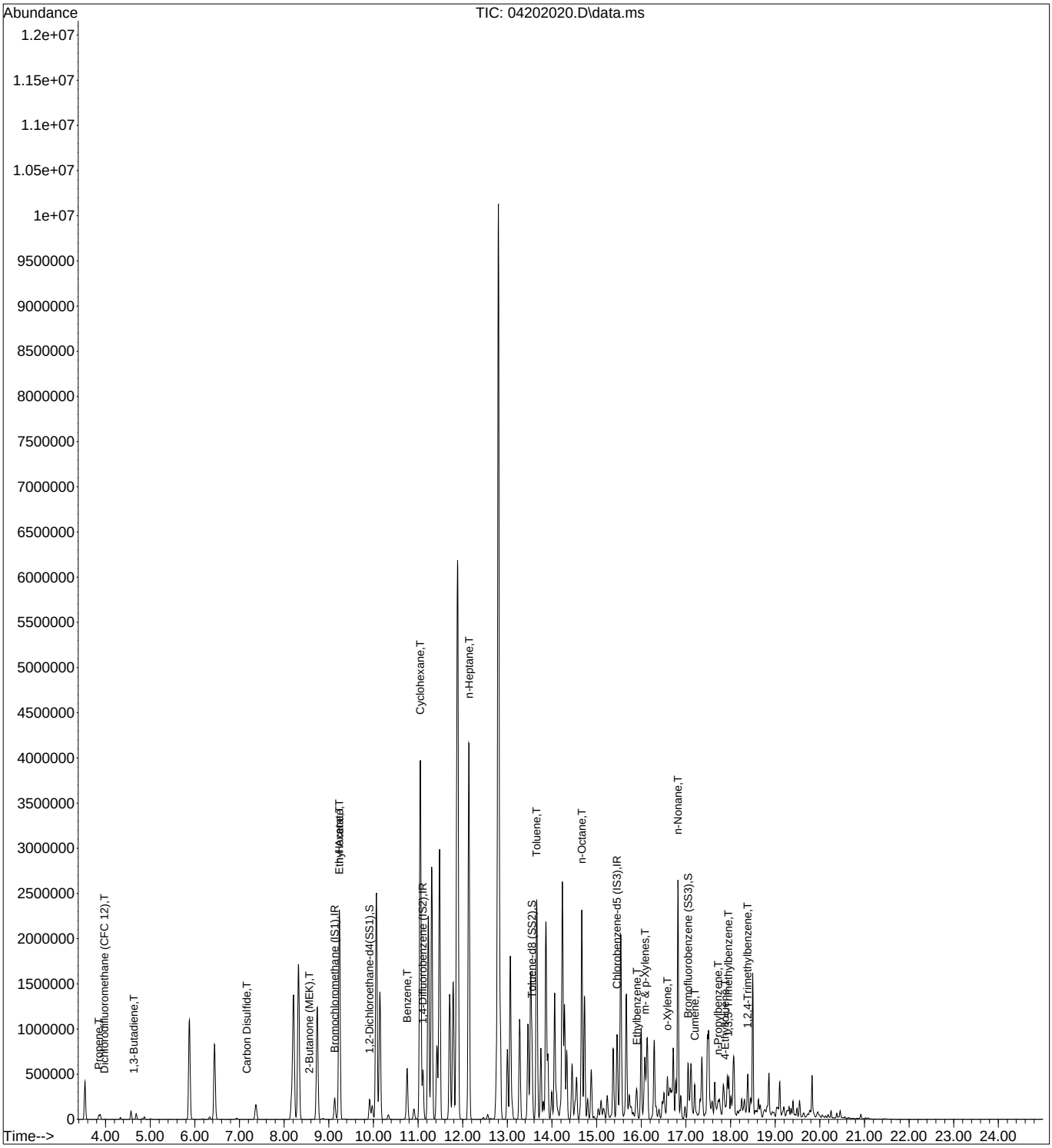
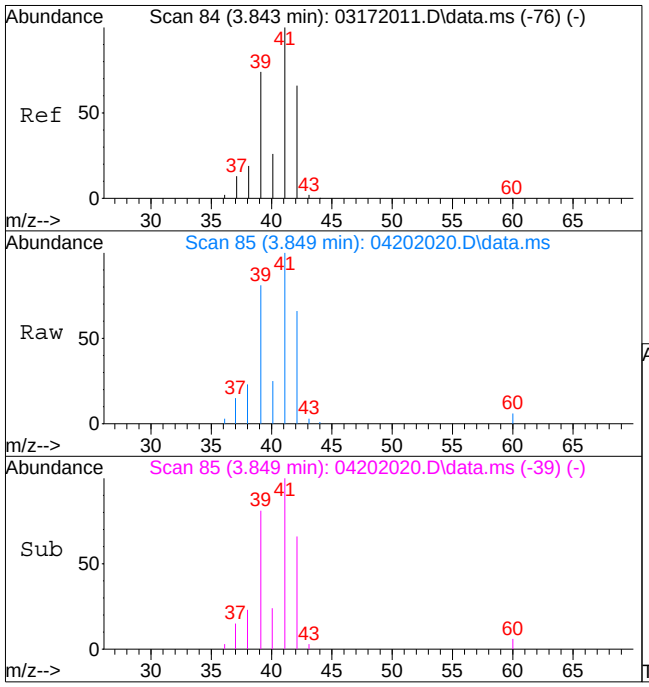
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

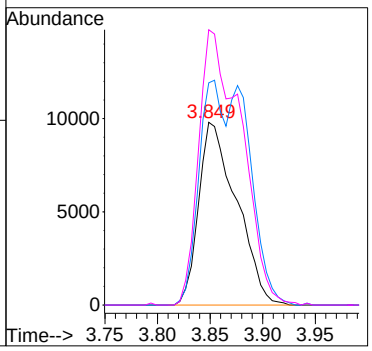


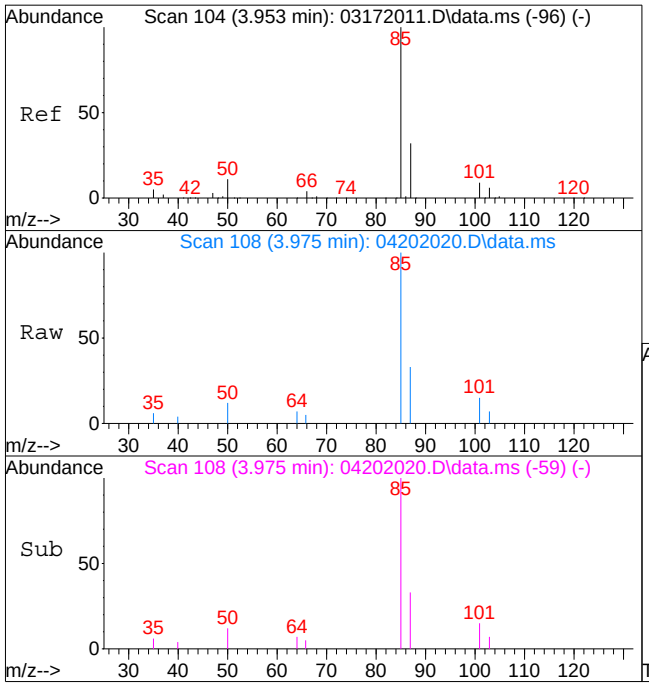


#2
Propene
Concen: 3.05 ng
RT: 3.85 min Scan# 85
Delta R.T. 0.006 min
Lab File: 04202020.D
Acq: 20 Apr 2020 13:32

Tgt Ion: 42 Resp: 24625

Ion	Ratio	Lower	Upper
42	100		
39	85.3	91.9	131.9#
41	169.3	130.5	170.5

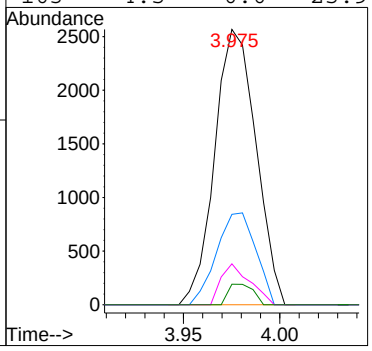


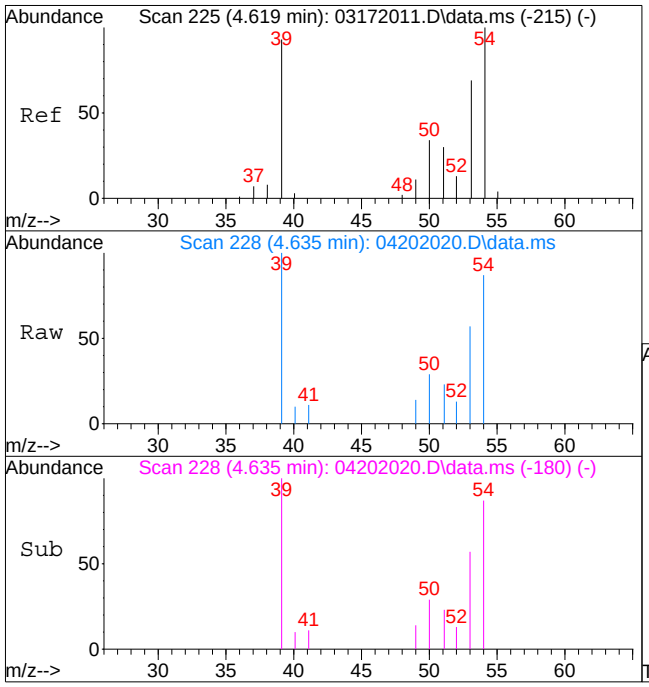


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.20 ng
RT: 3.98 min Scan# 108
Delta R.T. 0.022 min
Lab File: 04202020.D
Acq: 20 Apr 2020 13:32

Tgt Ion: 85 Resp: 3821

Ion	Ratio	Lower	Upper
85	100		
87	31.7	12.4	52.4
101	10.4	0.0	29.2
103	4.5	0.0	25.9

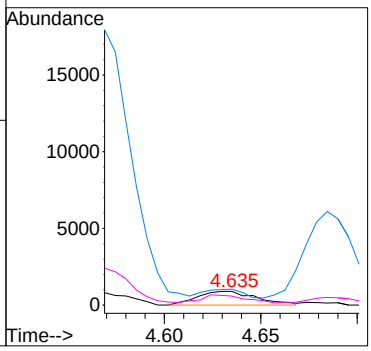


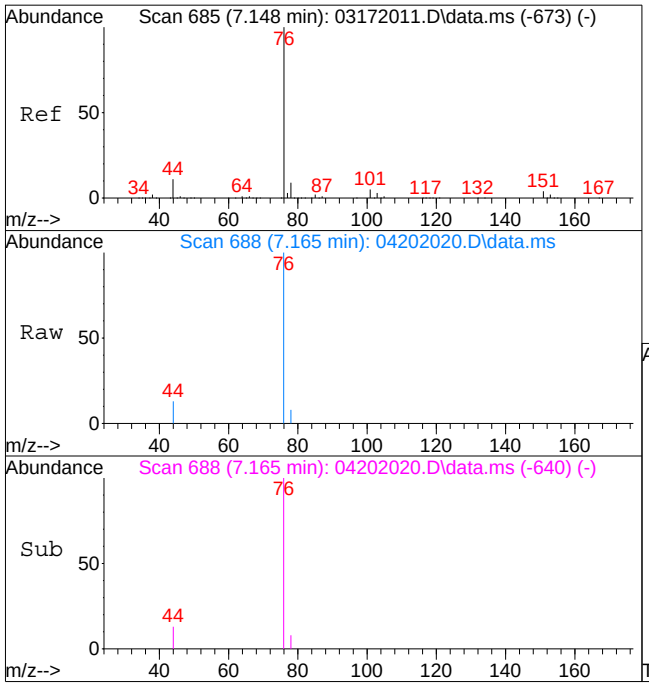


#7
1,3-Butadiene
Concen: 0.28 ng
RT: 4.63 min Scan# 228
Delta R.T. 0.016 min
Lab File: 04202020.D
Acq: 20 Apr 2020 13:32

Tgt Ion: 54 Resp: 1907

Ion	Ratio	Lower	Upper
54	100		
39	96.9	74.8	114.8
53	70.0	49.9	89.9

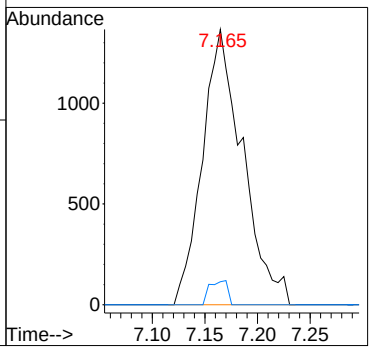


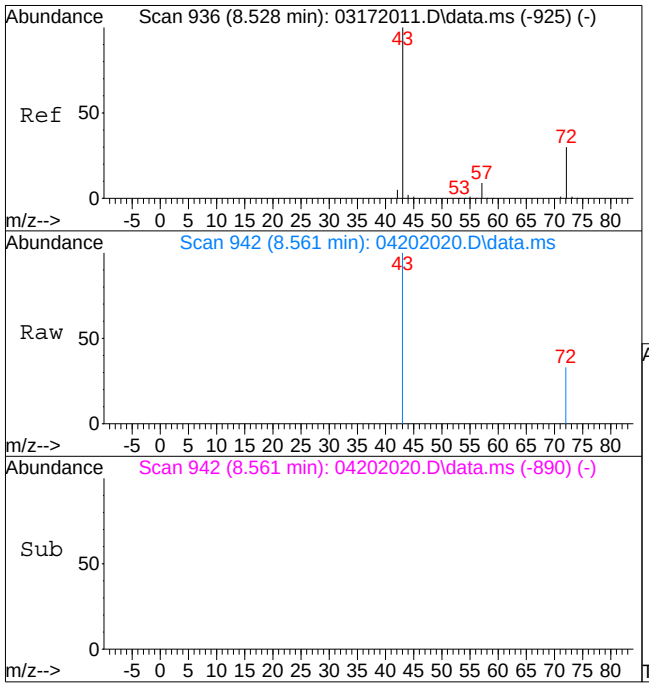


#22
Carbon Disulfide
Concen: 0.11 ng
RT: 7.16 min Scan# 688
Delta R.T. 0.017 min
Lab File: 04202020.D
Acq: 20 Apr 2020 13:32

Tgt Ion: 76 Resp: 3643

Ion	Ratio	Lower	Upper
76	100		
78	3.9	0.0	29.7

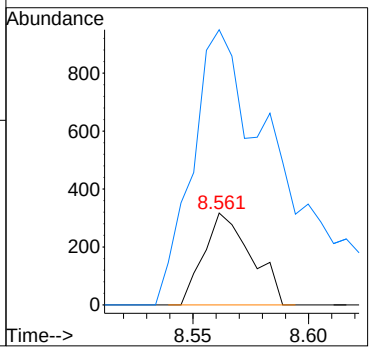


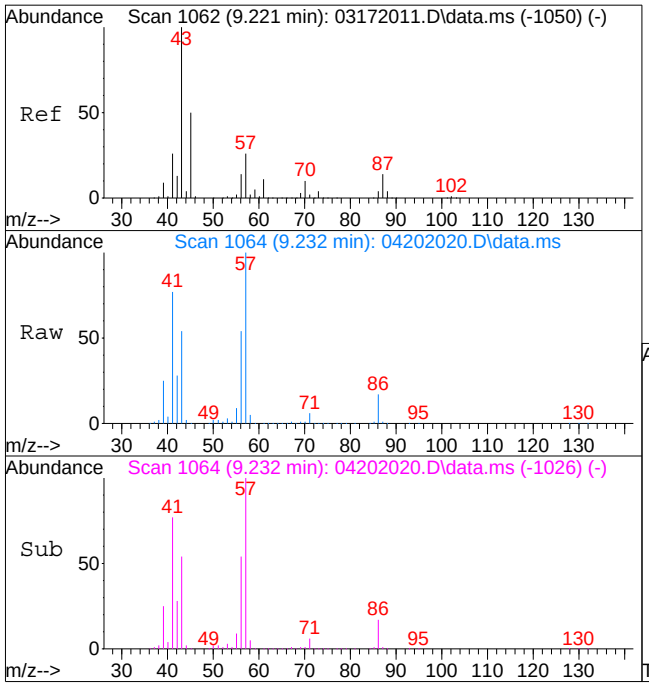


#27
2-Butanone (MEK)
Concen: 0.07 ng
RT: 8.56 min Scan# 942
Delta R.T. 0.033 min
Lab File: 04202020.D
Acq: 20 Apr 2020 13:32

Tgt Ion: 72 Resp: 452

Ion	Ratio	Lower	Upper
72	100		
43	620.1	310.6	350.6#

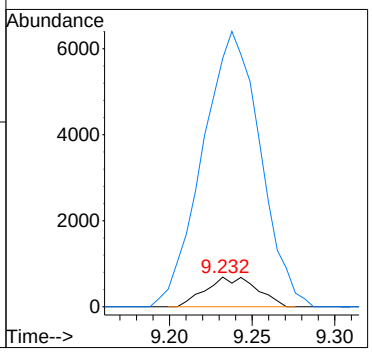


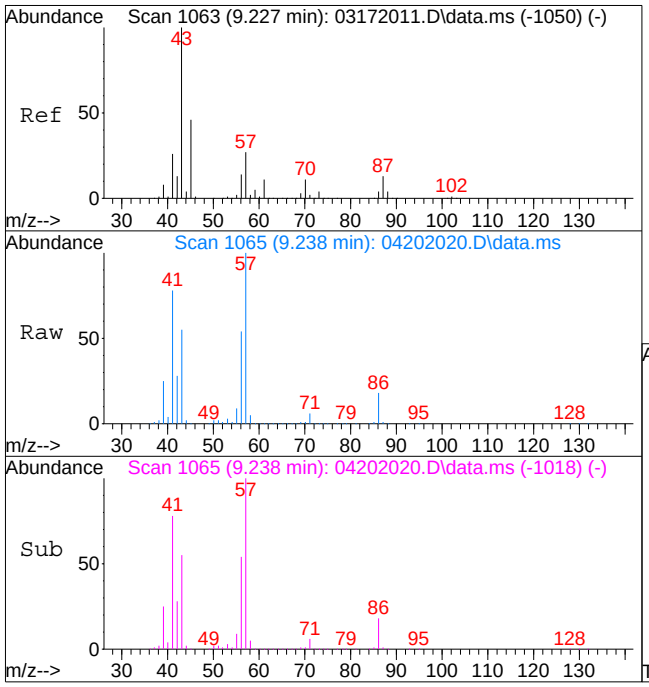


#30
Ethyl Acetate
Concen: 0.51 ng
RT: 9.23 min Scan# 1064
Delta R.T. 0.011 min
Lab File: 04202020.D
Acq: 20 Apr 2020 13:32

Tgt Ion: 61 Resp: 1486

Ion	Ratio	Lower	Upper
61	100		
70	1049.8	73.0	113.0#

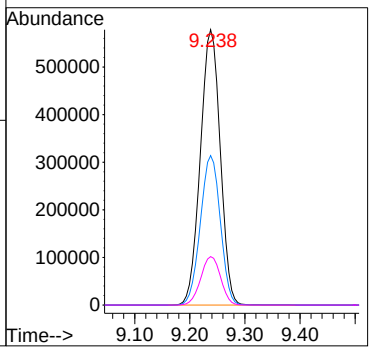


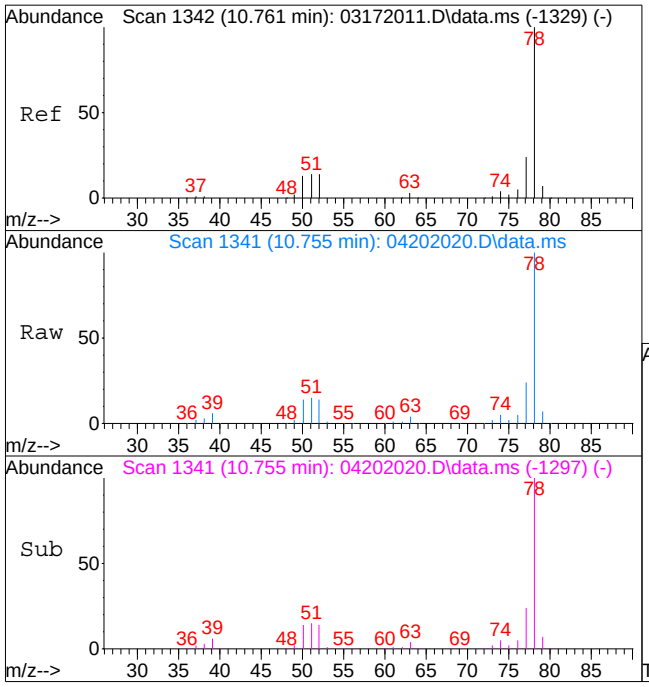


#31
n-Hexane
Concen: 102.41 ng
RT: 9.24 min Scan# 1065
Delta R.T. 0.011 min
Lab File: 04202020.D
Acq: 20 Apr 2020 13:32

Tgt Ion: 57 Resp: 1446209

Ion	Ratio	Lower	Upper
57	100		
56	54.4	42.0	63.0
86	17.6	13.1	19.7

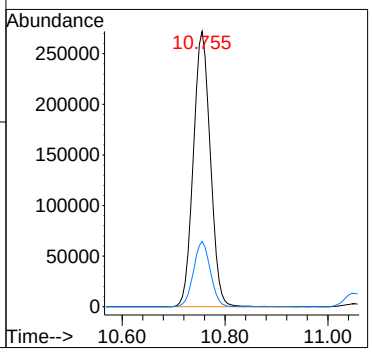


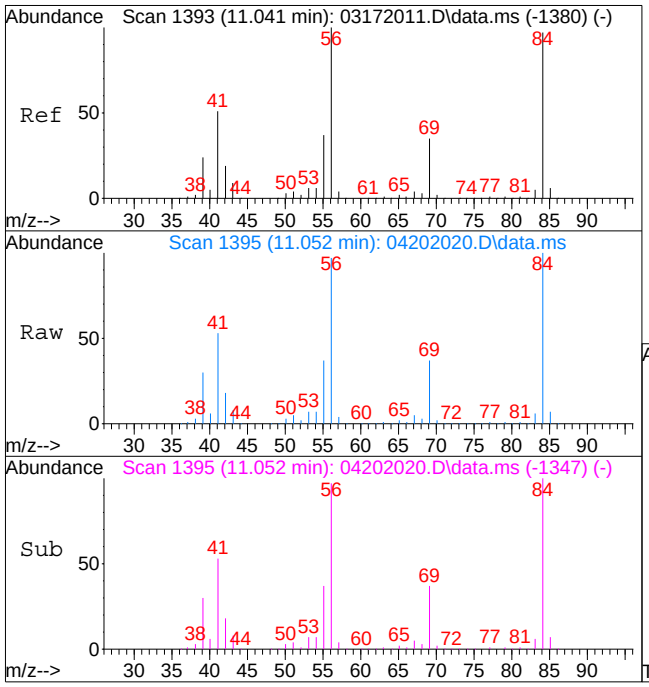


#41
Benzene
Concen: 15.61 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.006 min
Lab File: 04202020.D
Acq: 20 Apr 2020 13:32

Tgt Ion: 78 Resp: 623387

Ion	Ratio	Lower	Upper
78	100		
77	23.6	3.4	43.4

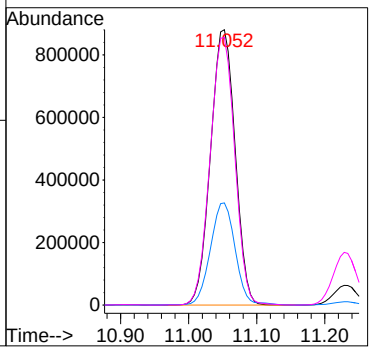


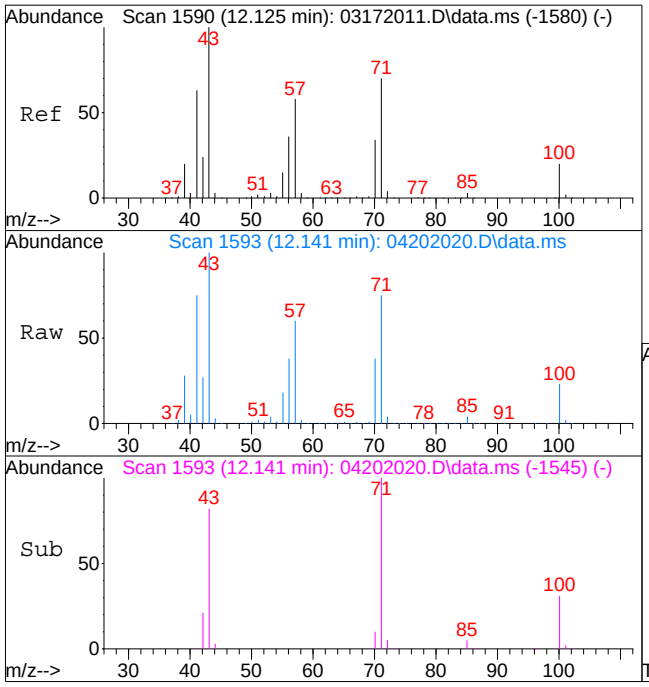


#43
Cyclohexane
Concen: 145.52 ng
RT: 11.05 min Scan# 1395
Delta R.T. 0.011 min
Lab File: 04202020.D
Acq: 20 Apr 2020 13:32

Tgt Ion: 84 Resp: 2205784

Ion	Ratio	Lower	Upper
84	100		
69	37.5	16.6	56.6
56	97.9	85.3	125.3

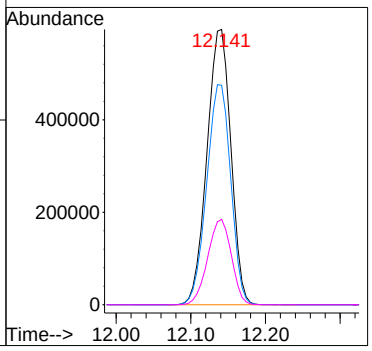


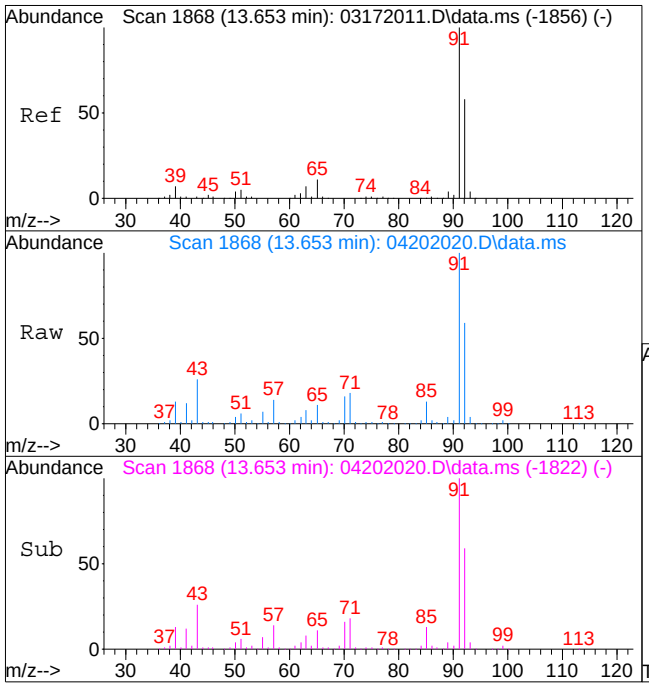


#51
n-Heptane
Concen: 139.10 ng
RT: 12.14 min Scan# 1593
Delta R.T. 0.016 min
Lab File: 04202020.D
Acq: 20 Apr 2020 13:32

Tgt Ion: 71 Resp: 1325947

Ion	Ratio	Lower	Upper
71	100		
57	80.3	64.0	104.0
100	30.6	8.7	48.7

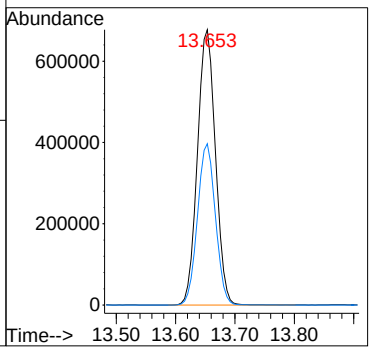


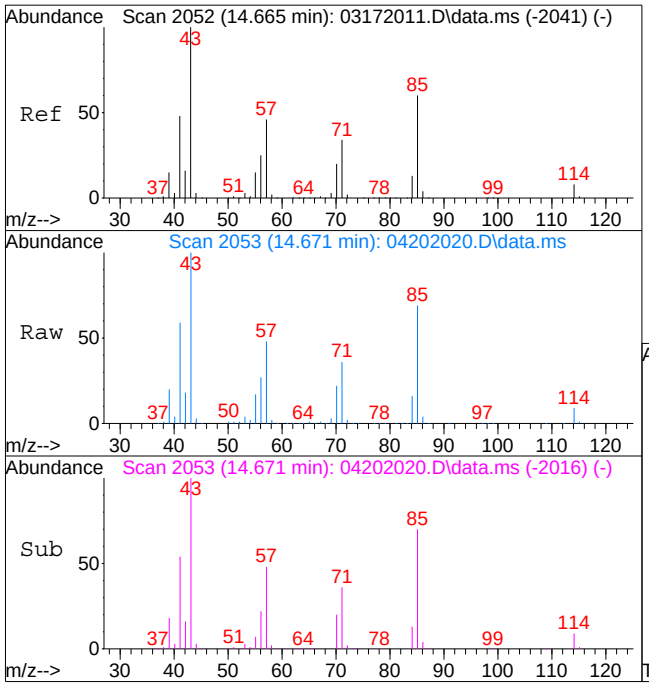


#58
Toluene
Concen: 31.46 ng
RT: 13.65 min Scan# 1868
Delta R.T. 0.000 min
Lab File: 04202020.D
Acq: 20 Apr 2020 13:32

Tgt Ion: 91 Resp: 1428985

Ion	Ratio	Lower	Upper
91	100		
92	58.3	38.6	78.6

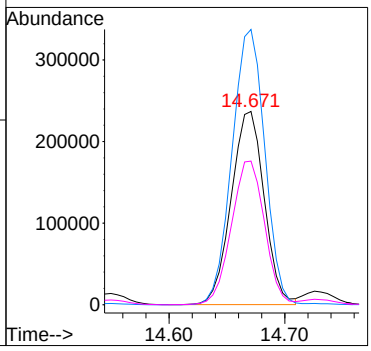


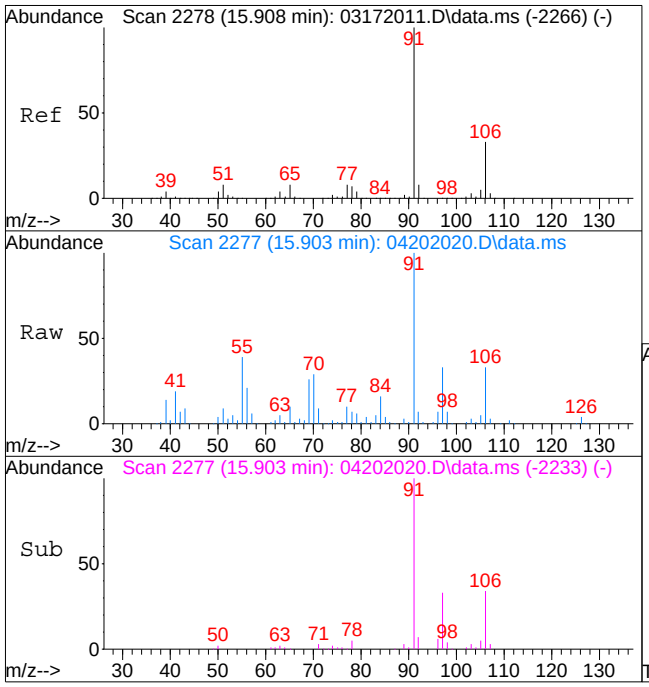


#63
n-Octane
Concen: 57.44 ng
RT: 14.67 min Scan# 2053
Delta R.T. 0.006 min
Lab File: 04202020.D
Acq: 20 Apr 2020 13:32

Tgt Ion: 57 Resp: 470739

Ion	Ratio	Lower	Upper
57	100		
85	141.6	105.4	158.2
71	74.7	59.0	88.4

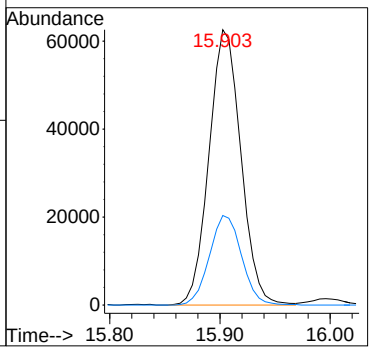


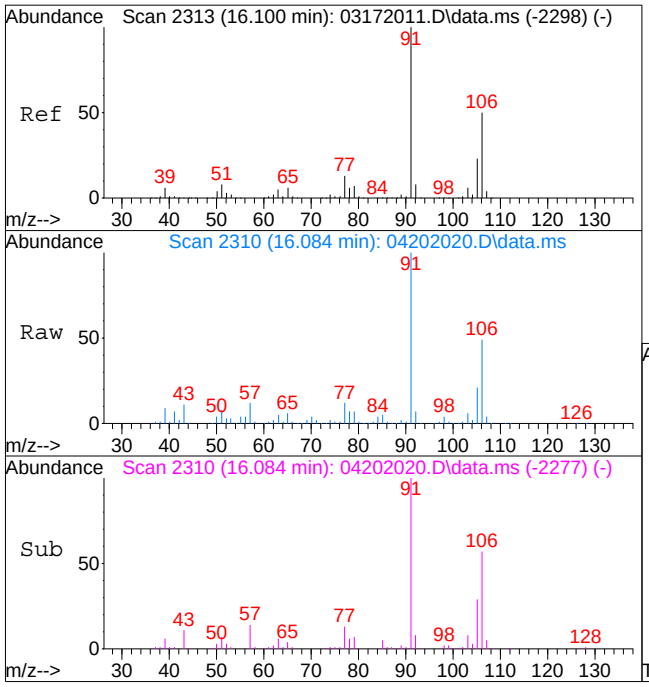


#66
Ethylbenzene
Concen: 2.58 ng
RT: 15.90 min Scan# 2277
Delta R.T. -0.005 min
Lab File: 04202020.D
Acq: 20 Apr 2020 13:32

Tgt Ion: 91 Resp: 126013

Ion	Ratio	Lower	Upper
91	100		
106	32.7	12.9	52.9

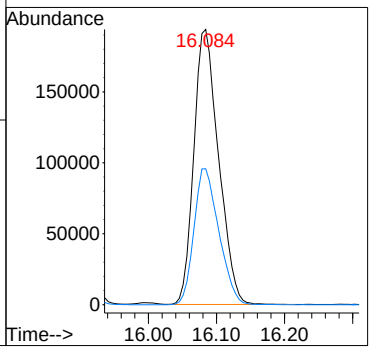


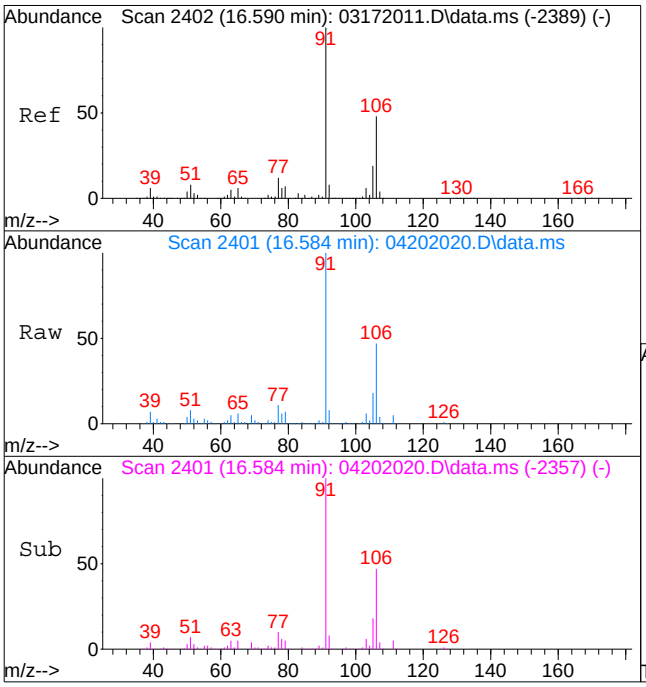


#67
m- & p-Xylenes
Concen: 12.53 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.016 min
Lab File: 04202020.D
Acq: 20 Apr 2020 13:32

Tgt Ion: 91 Resp: 489198

Ion	Ratio	Lower	Upper
91	100		
106	49.8	29.5	69.5

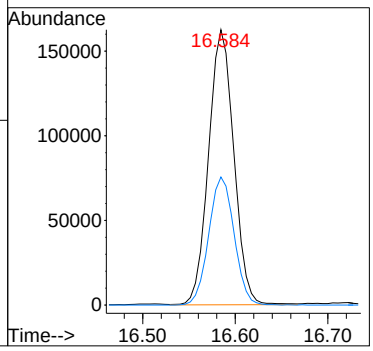


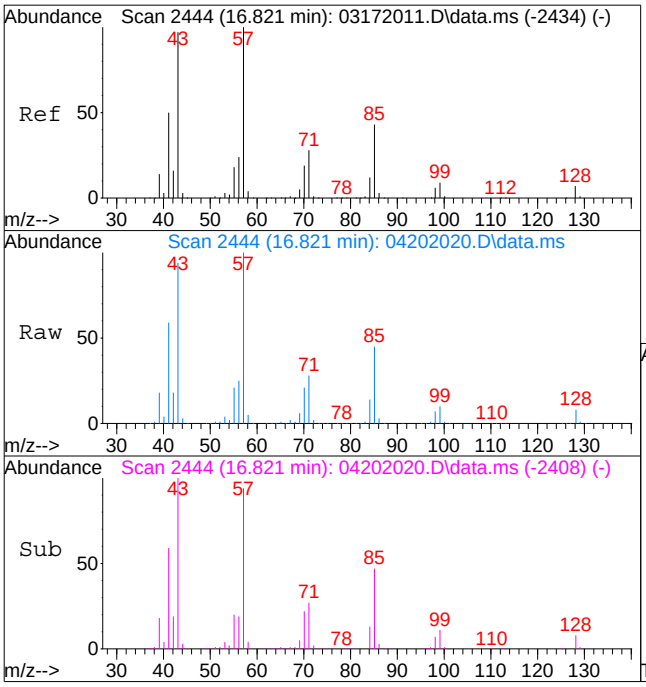


#70
o-Xylene
Concen: 7.89 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.006 min
Lab File: 04202020.D
Acq: 20 Apr 2020 13:32

Tgt Ion: 91 Resp: 307894

Ion	Ratio	Lower	Upper
91	100		
106	46.8	28.3	68.3

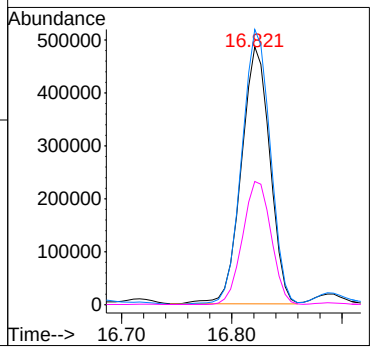


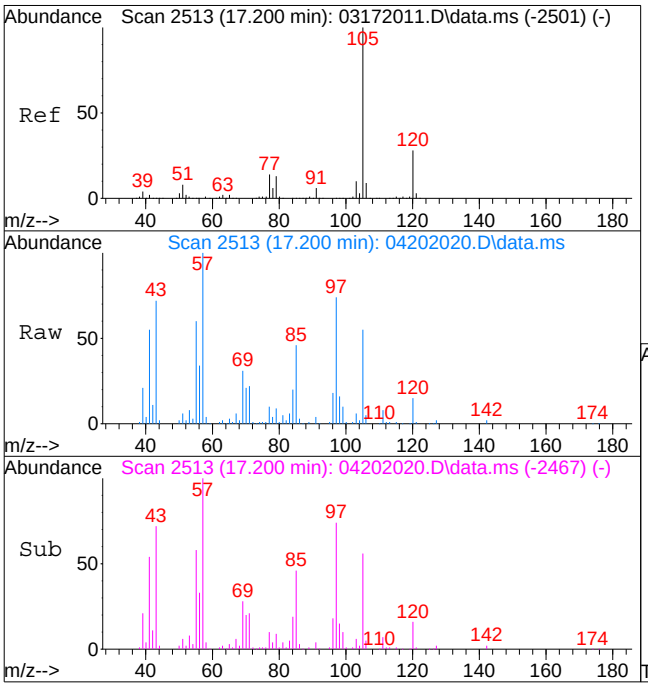


#71
n-Nonane
Concen: 51.75 ng
RT: 16.82 min Scan# 2444
Delta R.T. -0.000 min
Lab File: 04202020.D
Acq: 20 Apr 2020 13:32

Tgt Ion: 43 Resp: 871991

Ion	Ratio	Lower	Upper
43	100		
57	107.0	82.8	122.8
85	47.9	23.4	63.4

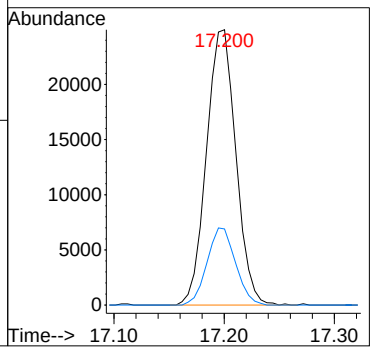


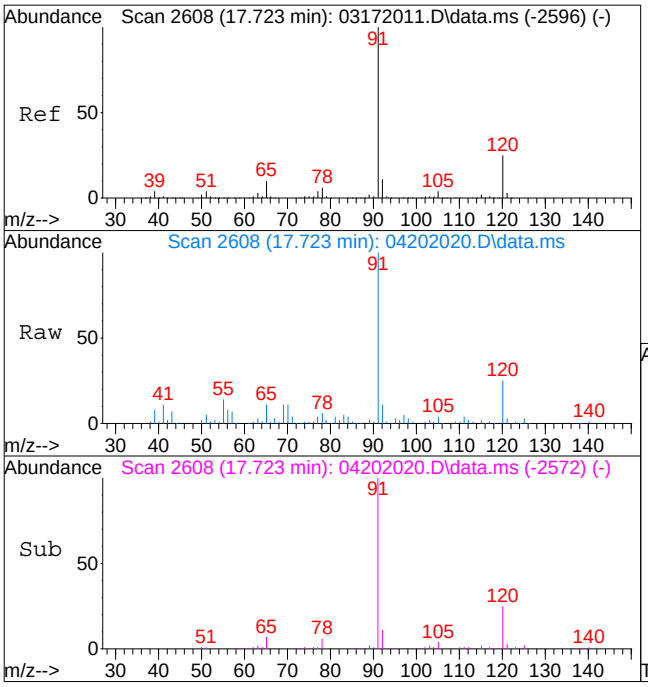


#74
Cumene
Concen: 0.91 ng
RT: 17.20 min Scan# 2513
Delta R.T. 0.000 min
Lab File: 04202020.D
Acq: 20 Apr 2020 13:32

Tgt Ion:105 Resp: 46282

Ion	Ratio	Lower	Upper
105	100		
120	27.0	7.6	47.6

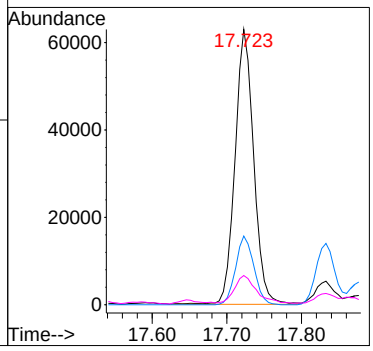


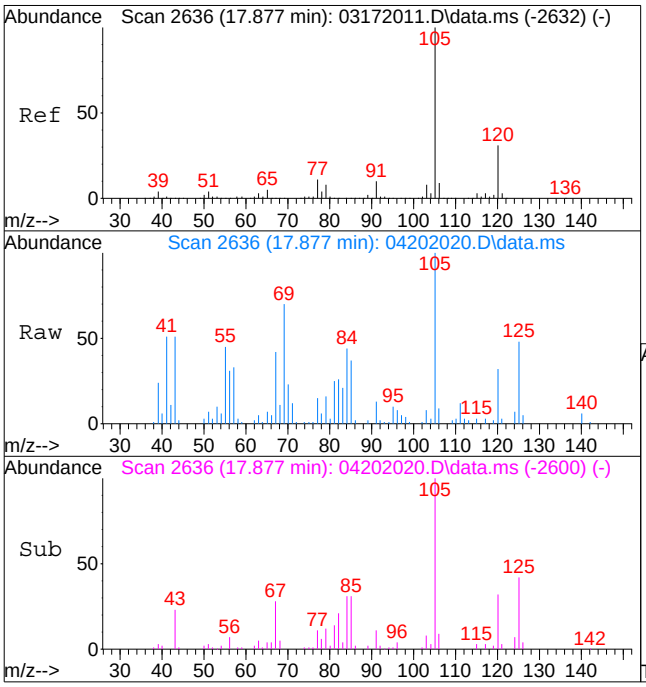


#76
n-Propylbenzene
Concen: 1.88 ng
RT: 17.72 min Scan# 2608
Delta R.T. -0.000 min
Lab File: 04202020.D
Acq: 20 Apr 2020 13:32

Tgt Ion: 91 Resp: 109123

Ion	Ratio	Lower	Upper
91	100		
120	24.4	5.0	45.0
65	11.4	0.0	30.0

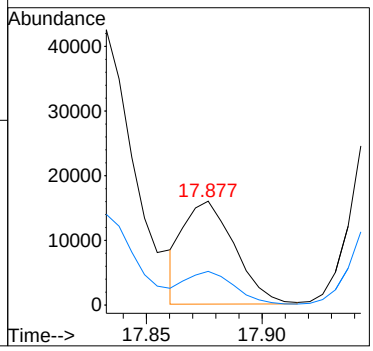


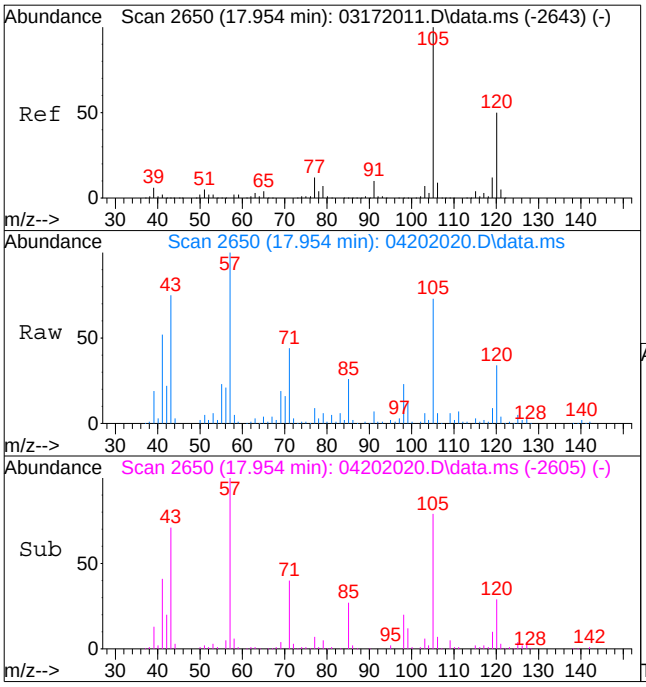


#78
4-Ethyltoluene
Concen: 0.52 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.000 min
Lab File: 04202020.D
Acq: 20 Apr 2020 13:32

Tgt Ion:105 Resp: 24509

Ion	Ratio	Lower	Upper
105	100		
120	31.4	11.2	51.2

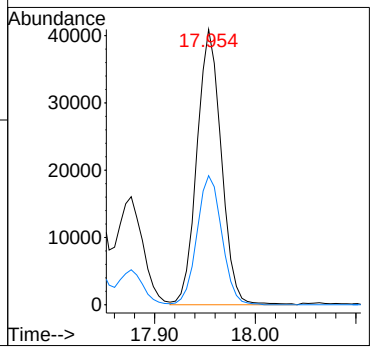


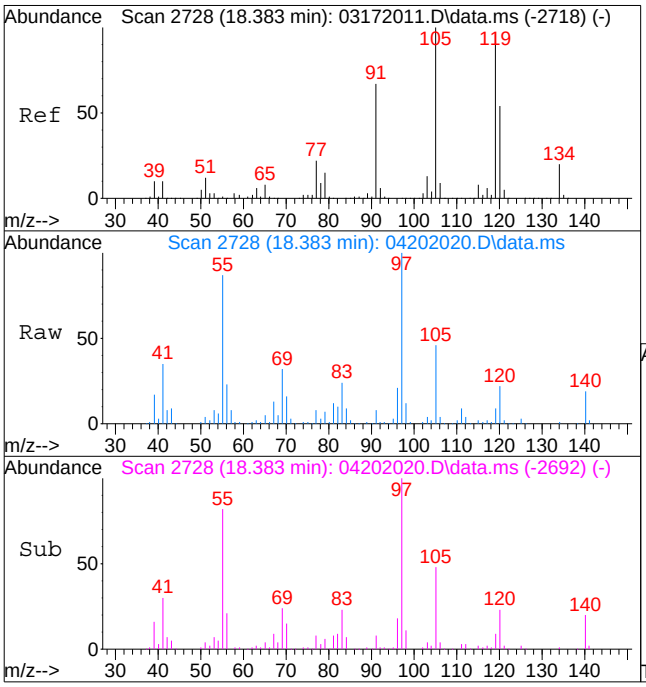


#79
1,3,5-Trimethylbenzene
Concen: 1.60 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.000 min
Lab File: 04202020.D
Acq: 20 Apr 2020 13:32

Tgt Ion:105 Resp: 68807

Ion	Ratio	Lower	Upper
105	100		
120	47.9	30.5	70.5

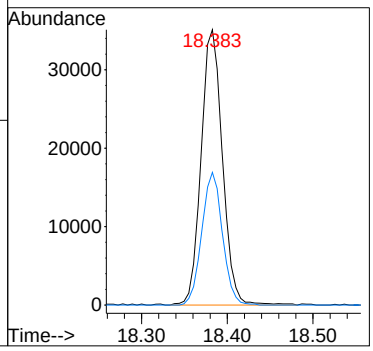




#82
1,2,4-Trimethylbenzene
Concen: 1.52 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.000 min
Lab File: 04202020.D
Acq: 20 Apr 2020 13:32

Tgt Ion:105 Resp: 60713

Ion	Ratio	Lower	Upper
105	100		
120	46.6	34.9	74.9



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202019.D Vial: 1
Acq On : 20 Apr 2020 12:47 Operator: TD
Sample : P2002027-014 Dil(0.1mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 14:28:22 2020 4/20/20
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	132360	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	11.11	114	564717	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	256980	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	205741	13.739	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.92%			
57) Toluene-d8 (SS2)	13.55	98	626796	12.264	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.08%			
73) Bromofluorobenzene (SS3)	17.05	174	235108	13.826	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.64%			
Target Compounds						Qvalue
2) Propene	3.88	42	4331	0.534	ng	# 69
3) Dichlorodifluoromethan...	3.98	85	903	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	4.59	54	101	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.40	45	37	N.D.		
11) Acetonitrile	0.00	41	0	N.D.		
12) Acrolein	0.00	56	0	N.D.	d	
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	6.24	45	165	N.D.		
16) Acrylonitrile	6.32	53	408	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	6.92	59	39	N.D.		
19) Methylene Chloride	0.00	84	0	N.D.		
20) 3-Chloro-1-propene (Al...	6.93	41	471	N.D.		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	7.17	76	332	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	8.14	63	327	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	0.00	72	0	N.D.	d	
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	9.23	57	243706	17.195	ng	98
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d	
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.	d	
40) 1-Butanol	10.89	56	354	N.D.		
41) Benzene	10.75	78	95971	2.385	ng	99
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	11.04	84	380169	24.890	ng	95
44) tert-Amyl Methyl Ether	11.47	73	137	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d	
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	11.97	100	124	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202019.D Vial: 1
Acq On : 20 Apr 2020 12:47 Operator: TD
Sample : P2002027-014 Dil(0.1mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 14:28:22 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

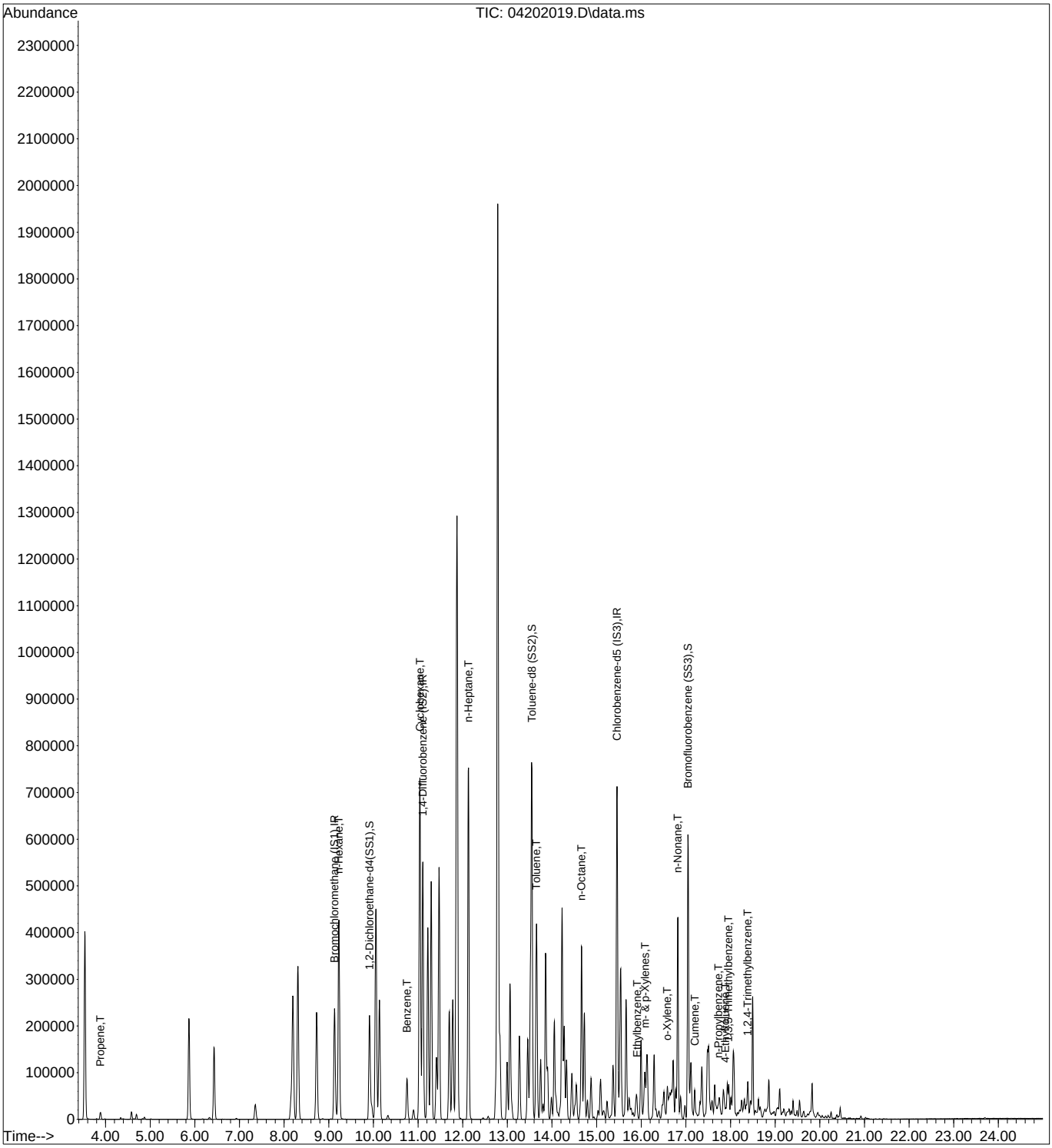
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.13	71	224640	23.386 ng	97
52) cis-1,3-Dichloropropene	12.78	75	553	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	13.65	91	219659	5.064 ng	99
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.66	57	73987	9.454 ng	96
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.91	91	18656	0.401 ng	96
67) m- & p-Xylenes	16.08	91	72272	1.939 ng	99
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.59	104	932	N.D.	
70) o-Xylene	16.58	91	46526	1.249 ng	97
71) n-Nonane	16.82	43	143681	8.928 ng	97
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	17.20	105	6845	0.141 ng	97
75) alpha-Pinene	17.60	93	687	N.D.	
76) n-Propylbenzene	17.73	91	16029	0.289 ng	96
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	4033	0.090 ng	99
79) 1,3,5-Trimethylbenzene	17.95	105	10925	0.266 ng	95
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	9390	0.246 ng	84
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.48	91	146	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	18.83	119	1160	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	0.00	128	0	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202019.D Vial: 1
Acq On : 20 Apr 2020 12:47 Operator: TD
Sample : P2002027-014 Dil(0.1mL) Inst : MS09
Misc : S31-02272010

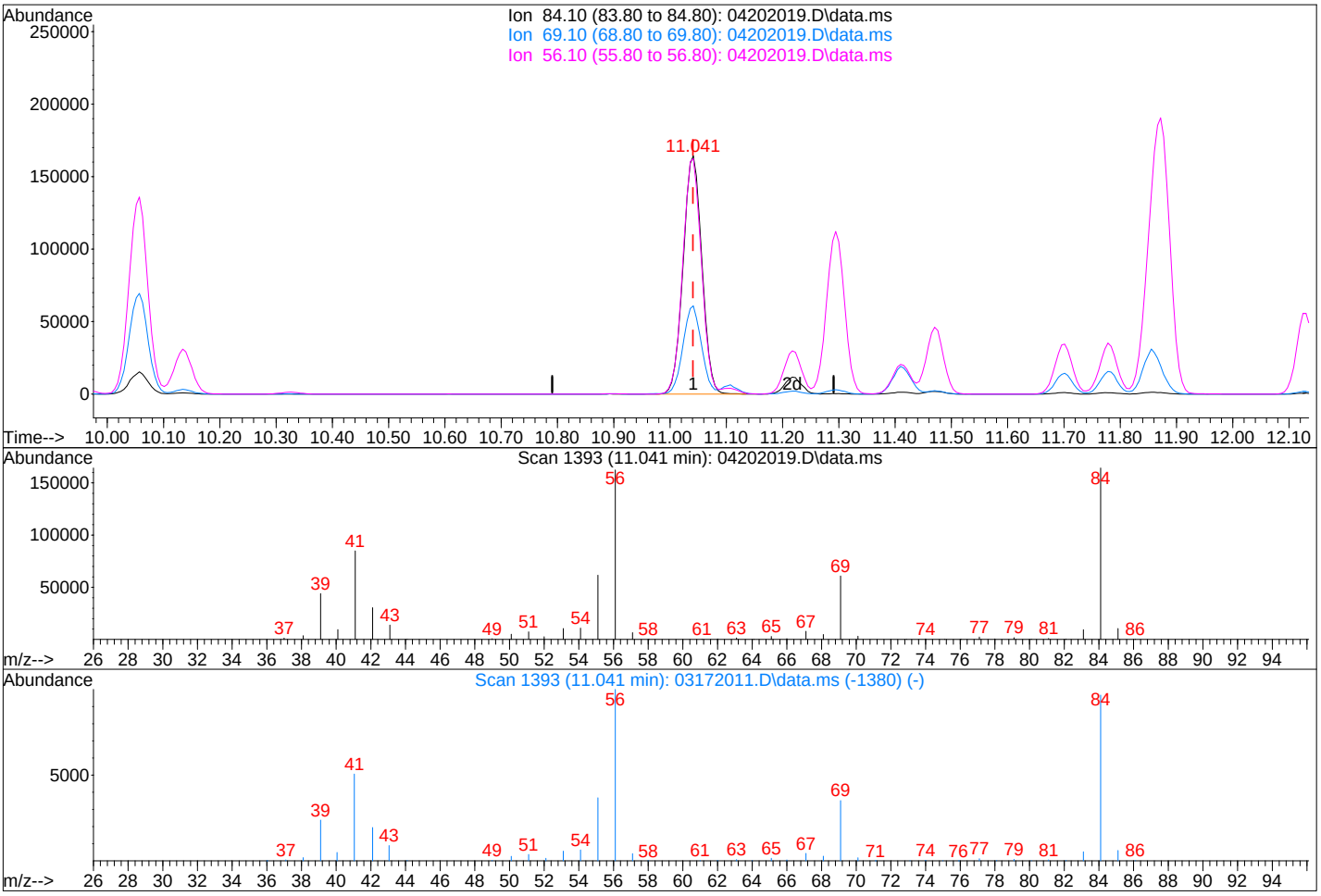
Quant Time: Apr 20 14:28:22 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\20\04202019.D Vial: 1
Acq On : 20 Apr 2020 12:47 Operator: TD
Sample : P2002027-014 Dil(0.1mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 13:22:42 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202019.D\data.ms

(43) Cyclohexane (T)

11.041min (+0.000) 24.89ng

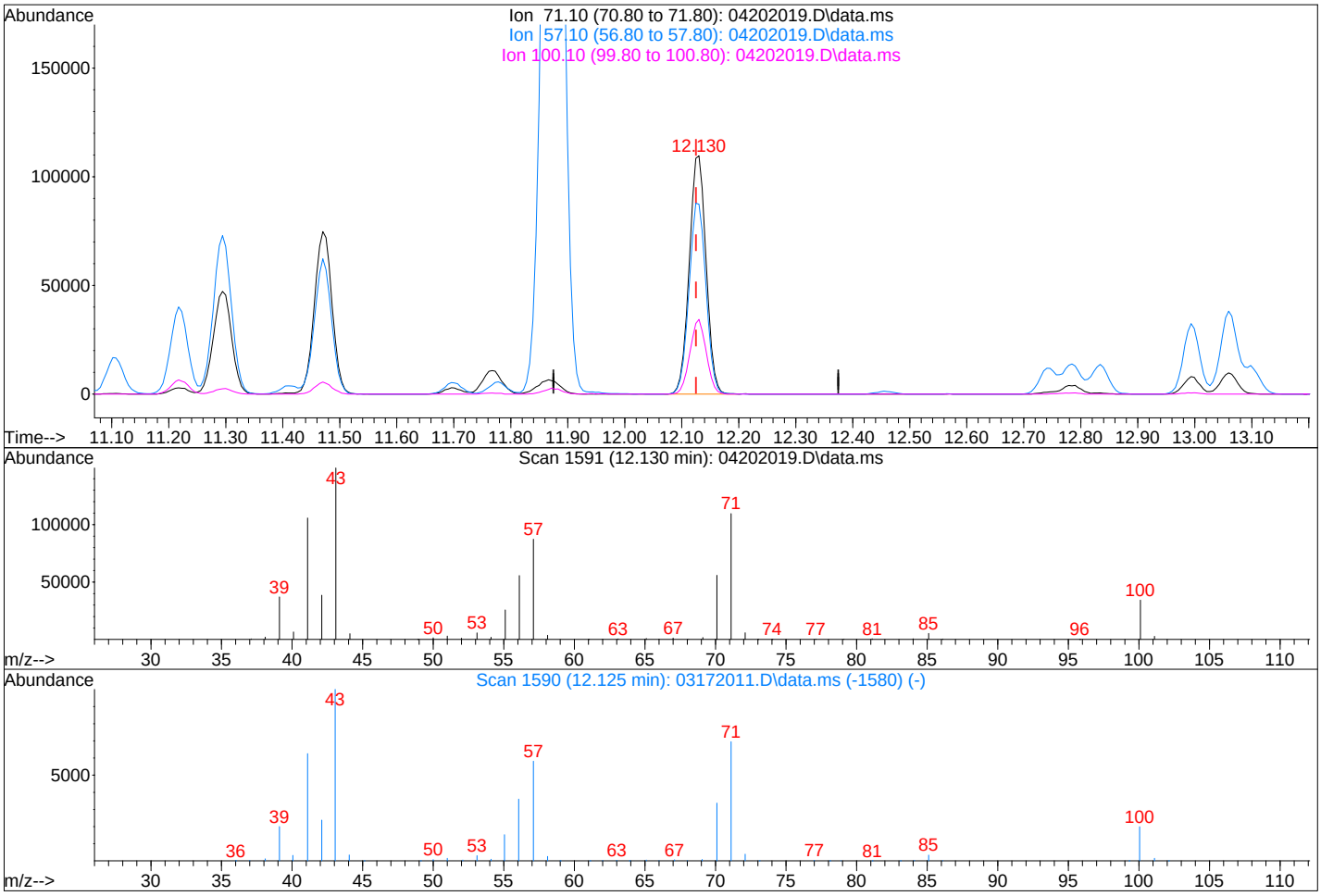
response 380169

Ion	Exp%	Act%
84.10	100	100
69.10	36.60	36.83
56.10	105.30	98.73
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\20\04202019.D Vial: 1
Acq On : 20 Apr 2020 12:47 Operator: TD
Sample : P2002027-014 Dil(0.1mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 13:22:42 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202019.D\data.ms

(51) n-Heptane (T)

12.130min (+0.005) 23.39ng

response 224640

Ion	Exp%	Act%
71.10	100	100
57.10	84.00	80.87
100.10	28.70	30.41
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172032.D Vial: 15
Acq On : 17 Apr 2020 20:22 Operator: TD
Sample : P2002027-015 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 16:15:15 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/20/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	145639	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	11.11	114	624026	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	280714	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	213504	12.957	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.68%				
57) Toluene-d8 (SS2)	13.54	98	692565	12.405	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.28%				
73) Bromofluorobenzene (SS3)	17.05	174	264450	14.237	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.92%				
Target Compounds							Qvalue
2) Propene	3.86	42	5084	0.570	ng		93
3) Dichlorodifluoromethan...	3.96	85	3775603	181.671	ng		99
4) Chloromethane	4.18	50	346	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	125089	12.903	ng		100
6) Vinyl Chloride	0.00	62	0	N.D.	d		
7) 1,3-Butadiene	4.62	54	9090	1.210	ng		93
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.35	45	2633	0.377	ng		89
11) Acetonitrile	5.59	41	116	N.D.			
12) Acrolein	5.71	56	608	0.102	ng		97
13) Acetone	5.86	58	14141	1.974	ng	#	83
14) Trichlorofluoromethane	6.02	101	534144	28.383	ng		100
15) 2-Propanol (Isopropanol)	6.18	45	1546	0.068	ng		80
16) Acrylonitrile	6.32	53	35	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	6.85	59	212	N.D.			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	6.92	41	654	N.D.			
21) Trichlorotrifluoroethane	7.18	151	330643	31.523	ng		92
22) Carbon Disulfide	7.15	76	3906	0.103	ng	#	1
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	8.54	72	2134	0.304	ng		96
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	9.22	57	18594	1.192	ng		97
32) Chloroform	9.27	83	37674	2.030	ng		99
34) Tetrahydrofuran (THF)	9.71	72	1020	0.150	ng	#	90
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	10.28	97	215	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.75	78	23010	0.517	ng		98
42) Carbon Tetrachloride	10.90	117	570305	35.982	ng		98
43) Cyclohexane	11.04	84	24111	1.429	ng		95
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	11.81	130	7496	0.585	ng		100
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172032.D Vial: 15
Acq On : 17 Apr 2020 20:22 Operator: TD
Sample : P2002027-015 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 16:15:15 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

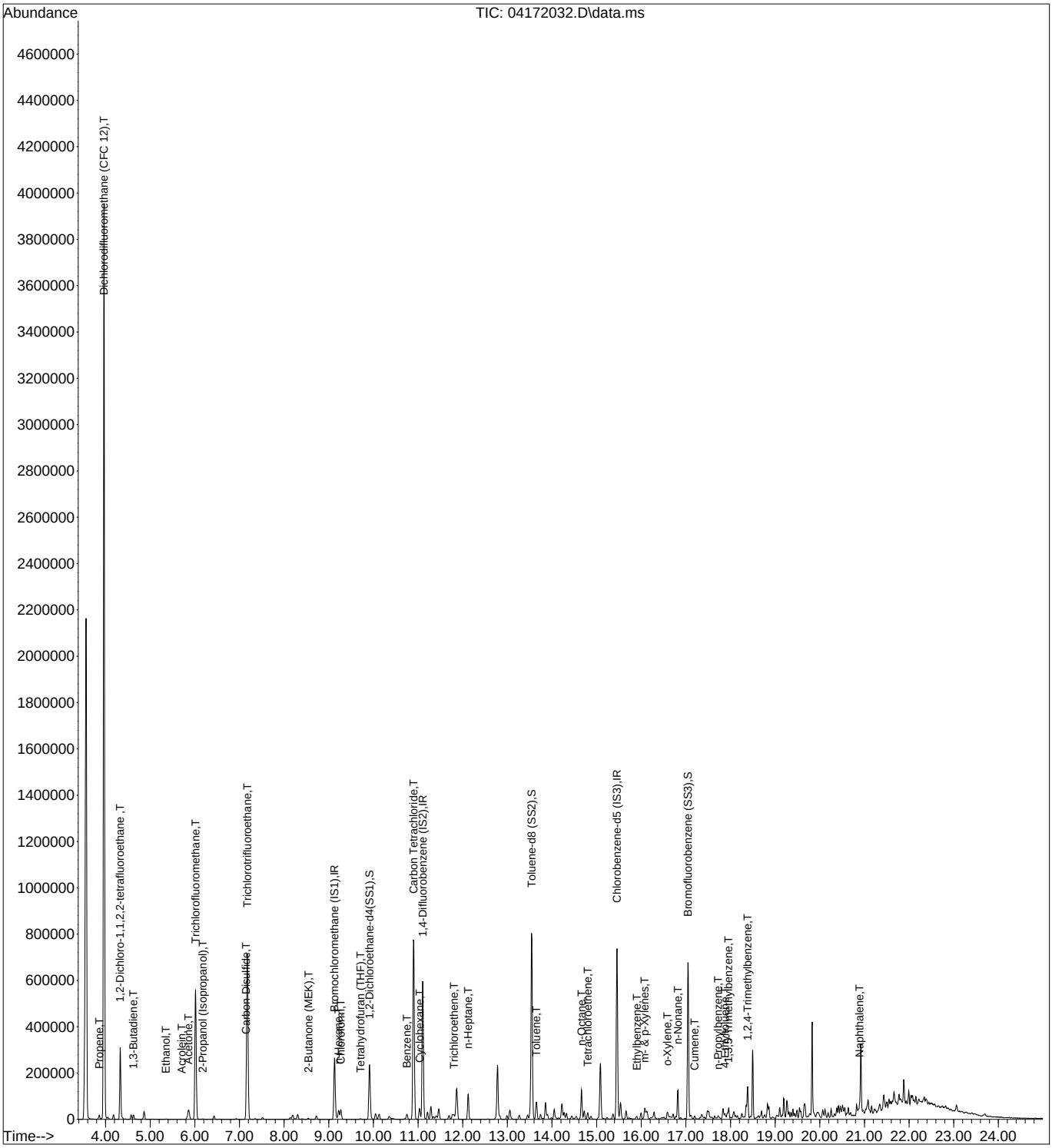
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.12	71	32324	3.045 ng	97
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	13.65	91	43628	0.921 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	14.54	43	556	N.D.	
63) n-Octane	14.67	57	25379	2.969 ng	96
64) Tetrachloroethene	14.80	166	10020	0.680 ng	96
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.90	91	8131	0.160 ng	99
67) m- & p-Xylenes	16.08	91	42394	1.041 ng	97
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.47	104	153	N.D.	
70) o-Xylene	16.58	91	21094	0.518 ng	99
71) n-Nonane	16.82	43	41374	2.354 ng	93
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	17.19	105	3551	0.067 ng	97
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.72	91	11042	0.182 ng	99
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	13311	0.273 ng	98
79) 1,3,5-Trimethylbenzene	17.95	105	17820	0.398 ng	99
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	77306	1.856 ng	89
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	0.00	91	0	N.D. d	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	18.99	68	319	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.89	128	36690	0.640 ng	98
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172032.D Vial: 15
Acq On : 17 Apr 2020 20:22 Operator: TD
Sample : P2002027-015 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 16:15:15 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172032.D Vial: 15
Acq On : 17 Apr 2020 20:22 Operator: TD
Sample : P2002027-015 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 16:15:15 2020 4/20/20
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

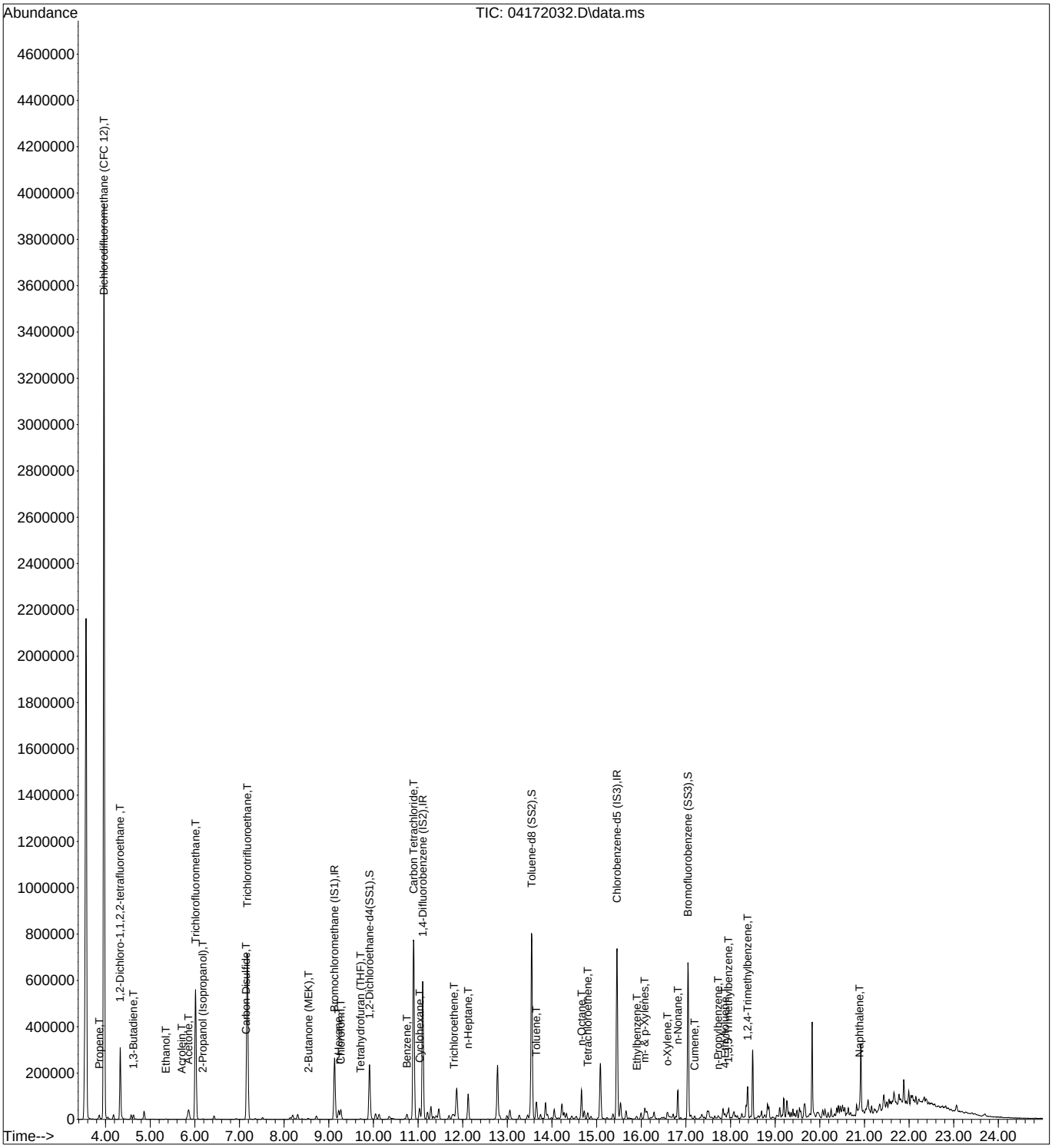
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	145639	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	11.11	114	624026	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	280714	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	213504	12.957	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.68%				
57) Toluene-d8 (SS2)	13.54	98	692565	12.405	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.28%				
73) Bromofluorobenzene (SS3)	17.05	174	264450	14.237	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.92%				
Target Compounds							Qvalue
2) Propene	3.86	42	5084	0.570	ng		93
3) Dichlorodifluoromethan...	3.96	85	3775603	181.671	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	125089	12.903	ng		100
7) 1,3-Butadiene	4.62	54	9090	1.210	ng		93
10) Ethanol	5.35	45	2633	0.377	ng		89
12) Acrolein	5.71	56	608	0.102	ng		97
13) Acetone	5.86	58	14141	1.974	ng	#	83
14) Trichlorofluoromethane	6.02	101	534144	28.383	ng		100
15) 2-Propanol (Isopropanol)	6.18	45	1546	0.068	ng		80
21) Trichlorotrifluoroethane	7.18	151	330643	31.523	ng		92
22) Carbon Disulfide	7.15	76	3906	0.103	ng	#	1
27) 2-Butanone (MEK)	8.54	72	2134	0.304	ng		96
31) n-Hexane	9.22	57	18594	1.192	ng		97
32) Chloroform	9.27	83	37674	2.030	ng		99
34) Tetrahydrofuran (THF)	9.71	72	1020	0.150	ng	#	90
41) Benzene	10.75	78	23010	0.517	ng		98
42) Carbon Tetrachloride	10.90	117	570305	35.982	ng		98
43) Cyclohexane	11.04	84	24111	1.429	ng		95
47) Trichloroethene	11.81	130	7496	0.585	ng		100
51) n-Heptane	12.12	71	32324	3.045	ng		97
58) Toluene	13.65	91	43628	0.921	ng		100
63) n-Octane	14.67	57	25379	2.969	ng		96
64) Tetrachloroethene	14.80	166	10020	0.680	ng		96
66) Ethylbenzene	15.90	91	8131	0.160	ng		99
67) m- & p-Xylenes	16.08	91	42394	1.041	ng		97
70) o-Xylene	16.58	91	21094	0.518	ng		99
71) n-Nonane	16.82	43	41374	2.354	ng		93
74) Cumene	17.19	105	3551	0.067	ng		97
76) n-Propylbenzene	17.72	91	11042	0.182	ng		99
78) 4-Ethyltoluene	17.88	105	13311	0.273	ng		98
79) 1,3,5-Trimethylbenzene	17.95	105	17820	0.398	ng		99
82) 1,2,4-Trimethylbenzene	18.38	105	77306	1.856	ng		89
95) Naphthalene	20.89	128	36690	0.640	ng		98

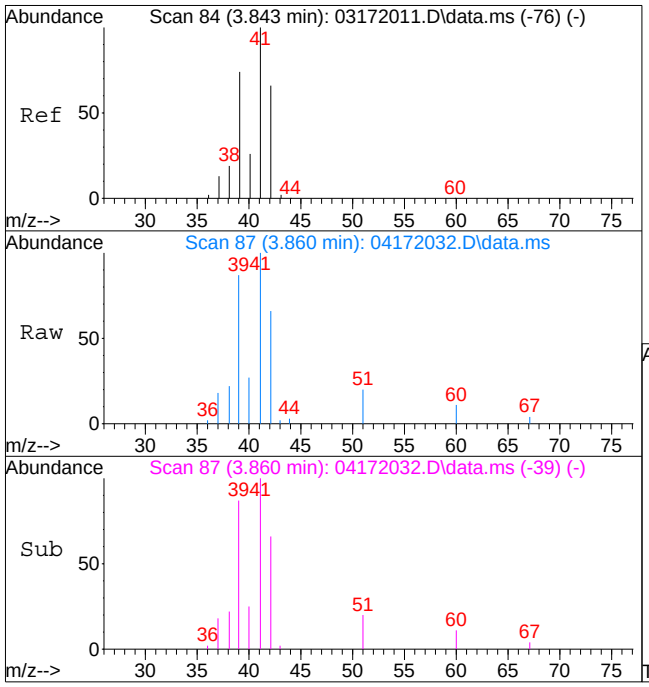
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172032.D Vial: 15
Acq On : 17 Apr 2020 20:22 Operator: TD
Sample : P2002027-015 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 16:15:15 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

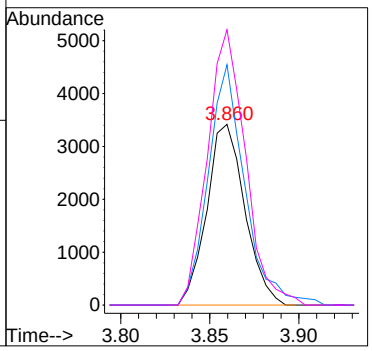


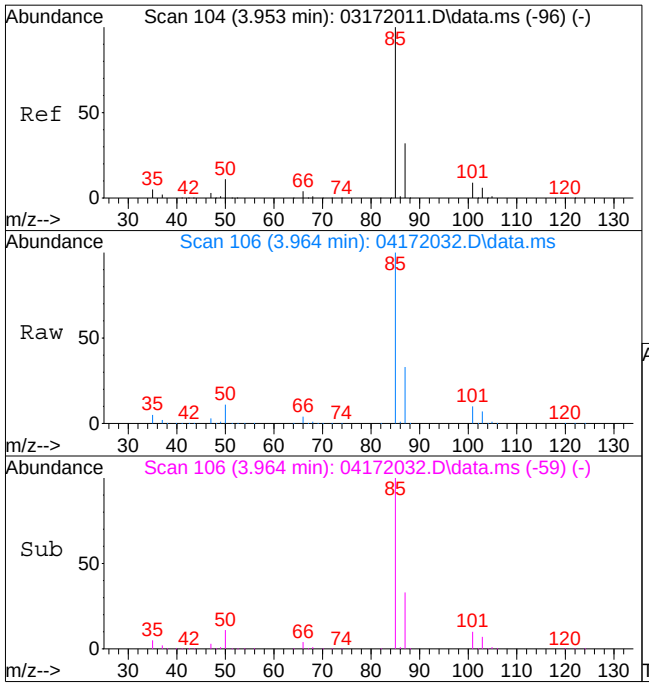


#2
Propene
Concen: 0.57 ng
RT: 3.86 min Scan# 87
Delta R.T. 0.017 min
Lab File: 04172032.D
Acq: 17 Apr 2020 20:22

Tgt Ion: 42 Resp: 5084

Ion	Ratio	Lower	Upper
42	100		
39	128.3	91.9	131.9
41	152.5	130.5	170.5

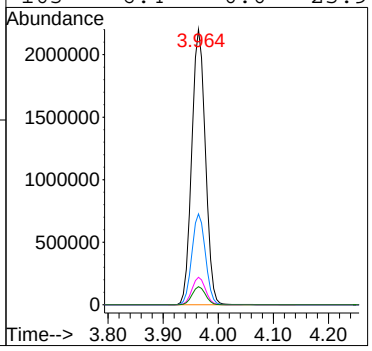


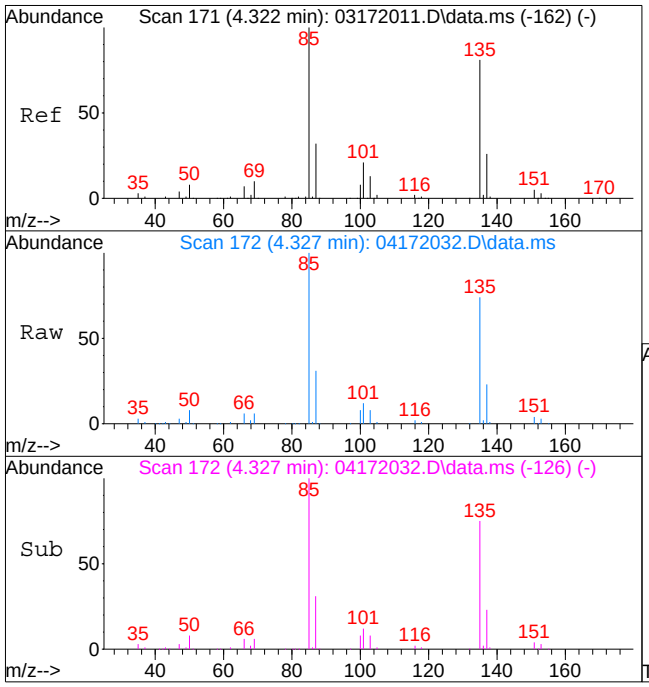


#3
Dichlorodifluoromethane (CFC 12)
Concen: 181.67 ng
RT: 3.96 min Scan# 106
Delta R.T. 0.011 min
Lab File: 04172032.D
Acq: 17 Apr 2020 20:22

Tgt Ion: 85 Resp: 3775603

Ion	Ratio	Lower	Upper
85	100		
87	32.9	12.4	52.4
101	9.9	0.0	29.2
103	6.4	0.0	25.9

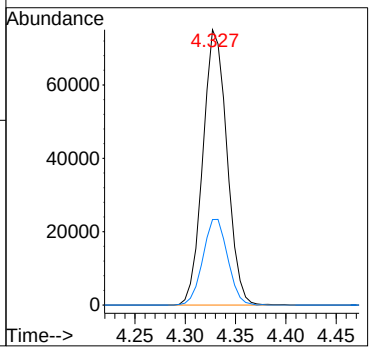


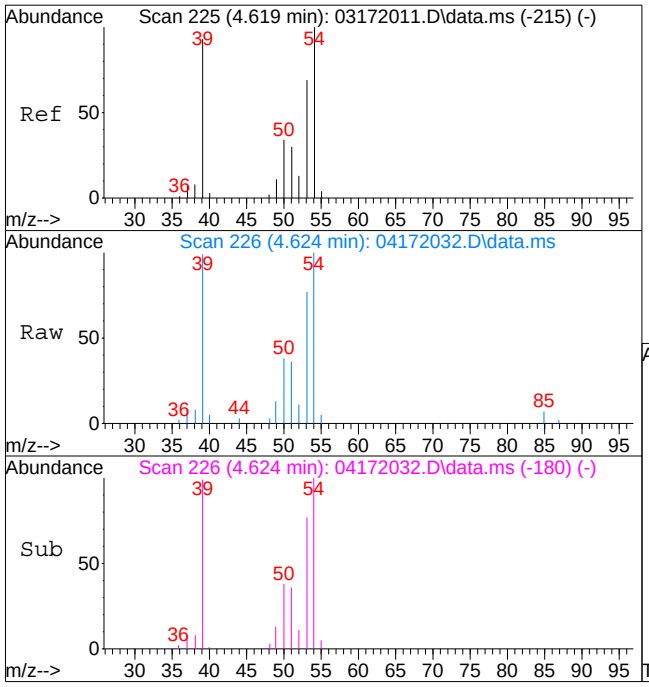


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 12.90 ng
RT: 4.33 min Scan# 172
Delta R.T. 0.005 min
Lab File: 04172032.D
Acq: 17 Apr 2020 20:22

Tgt Ion:135 Resp: 125089

Ion	Ratio	Lower	Upper
135	100		
137	32.1	12.0	52.0

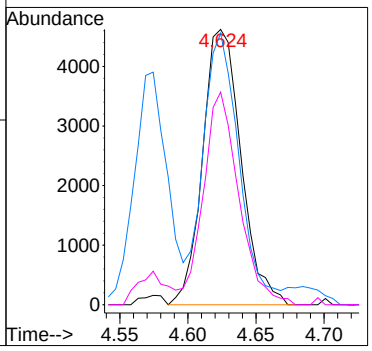


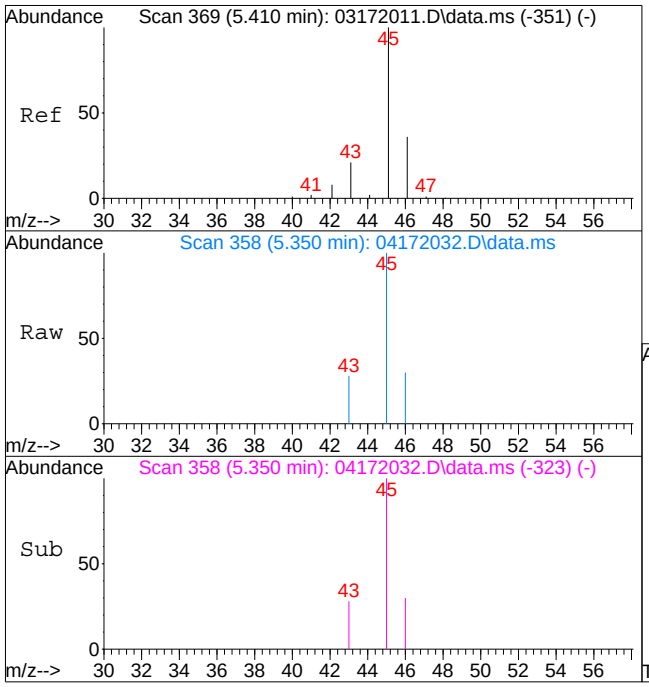


#7
1,3-Butadiene
Concen: 1.21 ng
RT: 4.62 min Scan# 226
Delta R.T. 0.005 min
Lab File: 04172032.D
Acq: 17 Apr 2020 20:22

Tgt Ion: 54 Resp: 9090

Ion	Ratio	Lower	Upper
54	100		
39	84.3	74.8	114.8
53	71.3	49.9	89.9

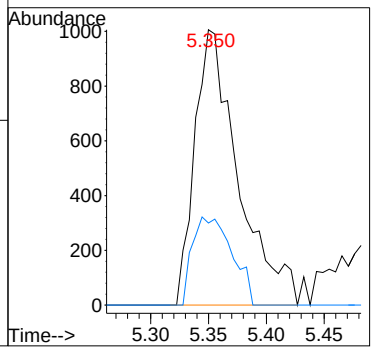


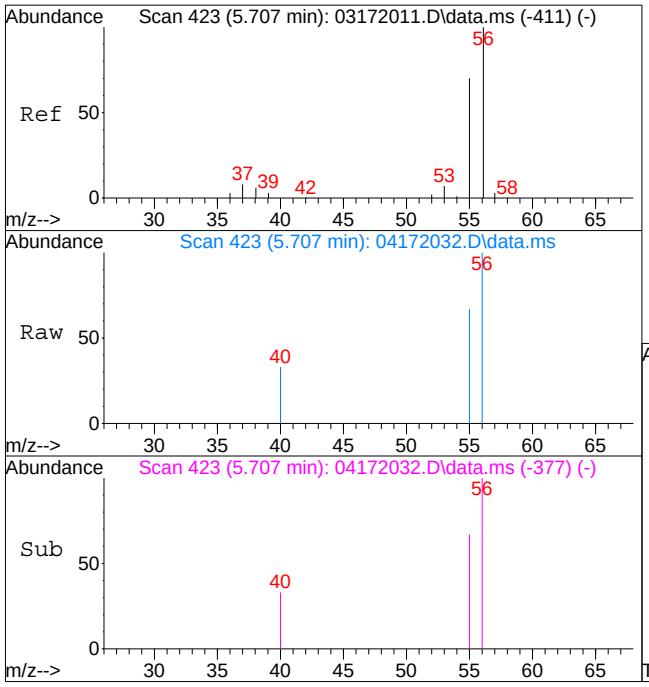


#10
Ethanol
Concen: 0.38 ng
RT: 5.35 min Scan# 358
Delta R.T. -0.060 min
Lab File: 04172032.D
Acq: 17 Apr 2020 20:22

Tgt Ion: 45 Resp: 2633

Ion	Ratio	Lower	Upper
45	100		
46	29.2	15.9	55.9

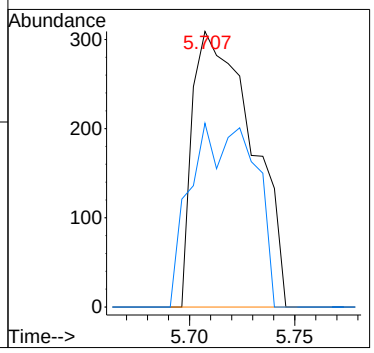


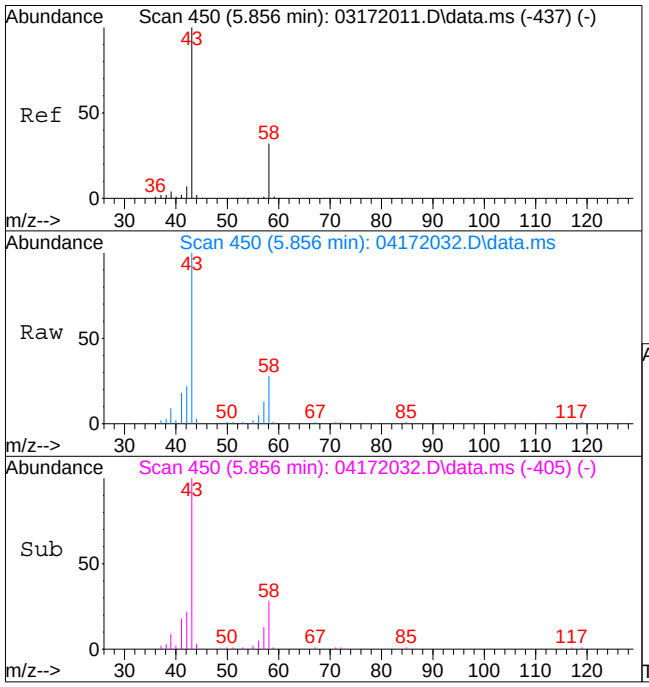


#12
Acrolein
Concen: 0.10 ng
RT: 5.71 min Scan# 423
Delta R.T. 0.000 min
Lab File: 04172032.D
Acq: 17 Apr 2020 20:22

Tgt Ion: 56 Resp: 608

Ion	Ratio	Lower	Upper
56	100		
55	71.7	49.5	89.5

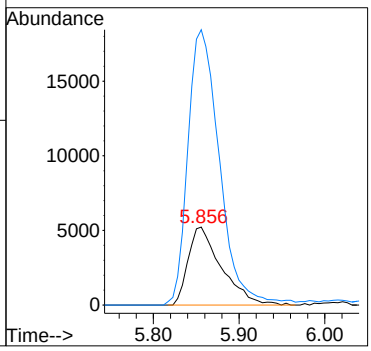


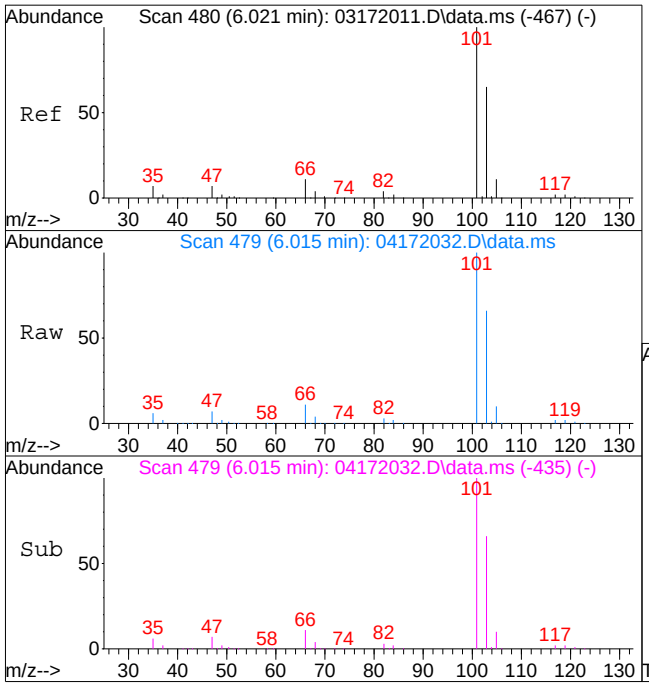


#13
Acetone
Concen: 1.97 ng
RT: 5.86 min Scan# 450
Delta R.T. -0.000 min
Lab File: 04172032.D
Acq: 17 Apr 2020 20:22

Tgt Ion: 58 Resp: 14141

Ion	Ratio	Lower	Upper
58	100		
43	335.9	272.8	332.8#

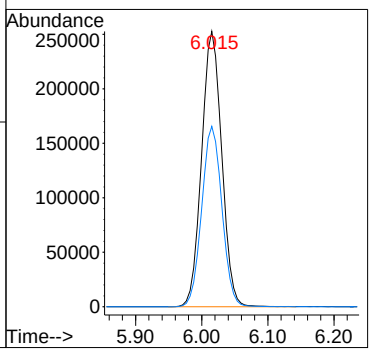


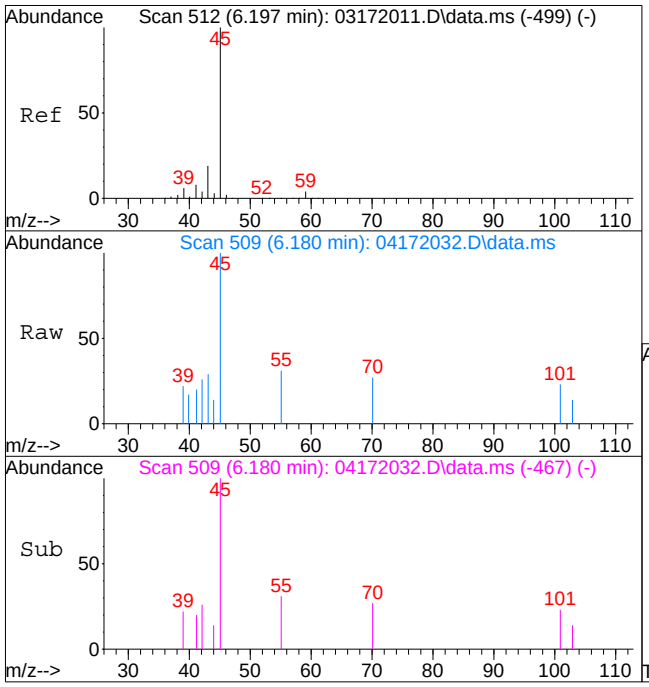


#14
Trichlorofluoromethane
Concen: 28.38 ng
RT: 6.02 min Scan# 479
Delta R.T. -0.006 min
Lab File: 04172032.D
Acq: 17 Apr 2020 20:22

Tgt Ion:101 Resp: 534144

Ion	Ratio	Lower	Upper
101	100		
103	65.7	45.3	85.3

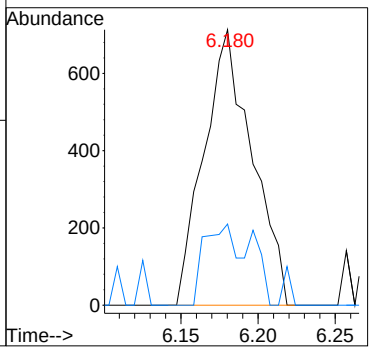


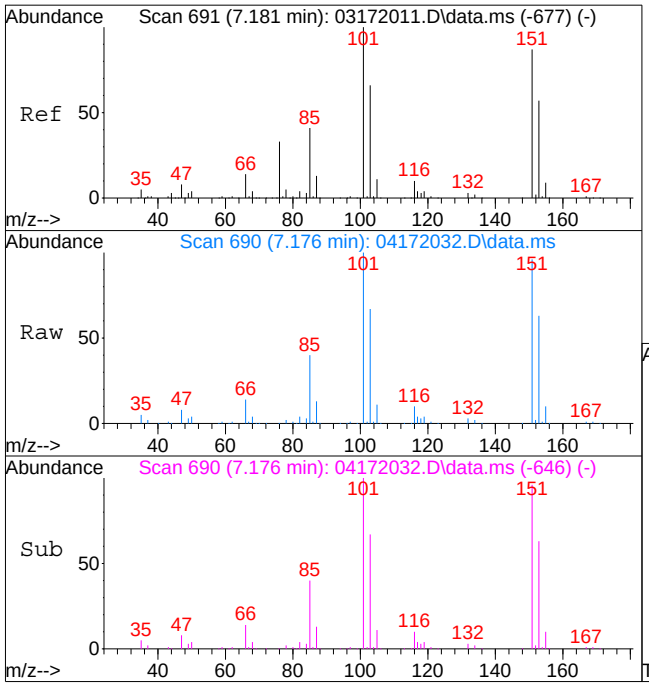


#15
2-Propanol (Isopropanol)
Concen: 0.07 ng
RT: 6.18 min Scan# 509
Delta R.T. -0.017 min
Lab File: 04172032.D
Acq: 17 Apr 2020 20:22

Tgt Ion: 45 Resp: 1546

Ion	Ratio	Lower	Upper
45	100		
43	28.1	0.0	39.0

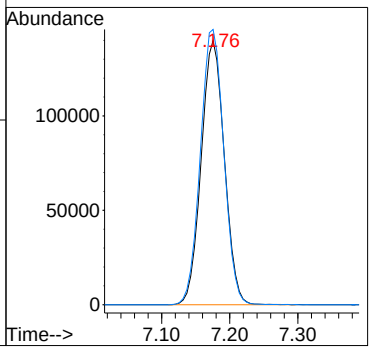


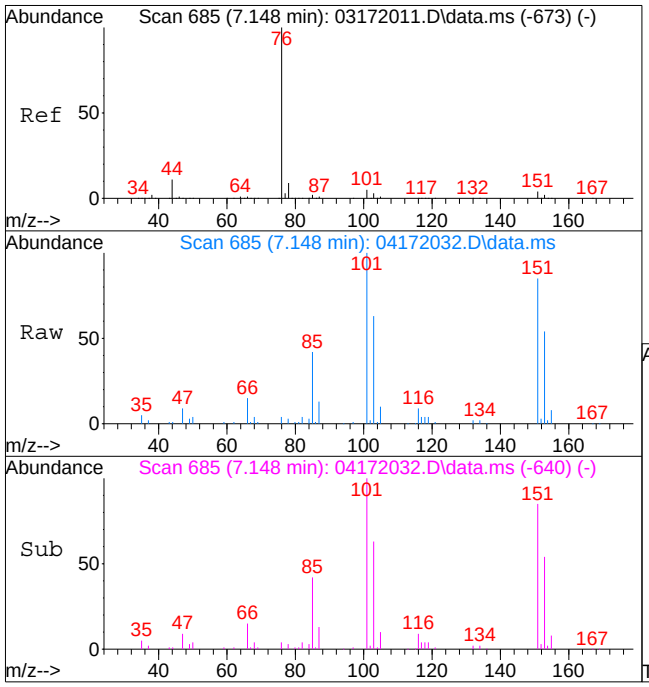


#21
Trichlorotrifluoroethane
Concen: 31.52 ng
RT: 7.18 min Scan# 690
Delta R.T. -0.005 min
Lab File: 04172032.D
Acq: 17 Apr 2020 20:22

Tgt Ion:151 Resp: 330643

Ion	Ratio	Lower	Upper
151	100		
101	105.6	94.7	134.7

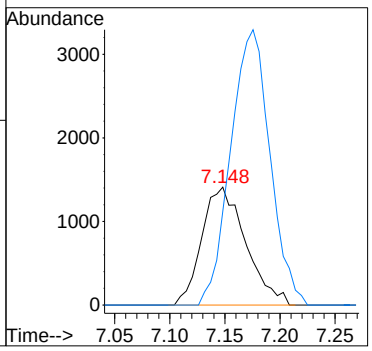


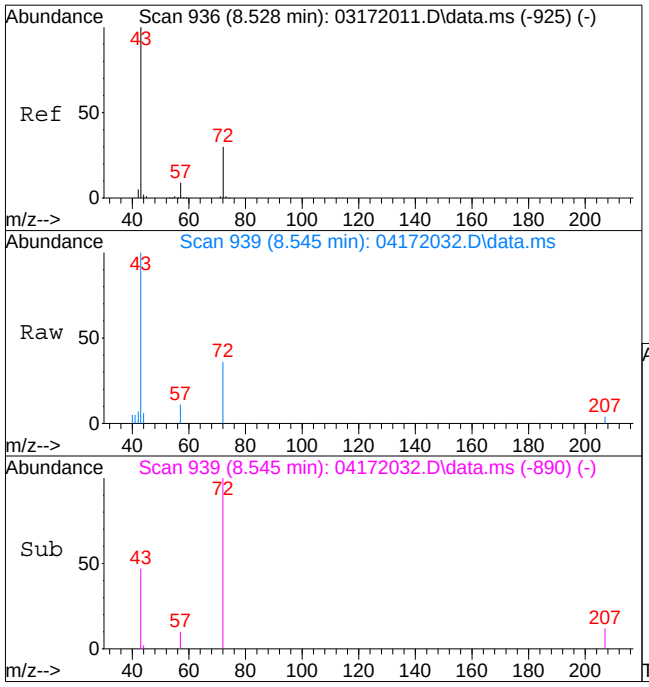


#22
Carbon Disulfide
Concen: 0.10 ng
RT: 7.15 min Scan# 685
Delta R.T. 0.000 min
Lab File: 04172032.D
Acq: 17 Apr 2020 20:22

Tgt Ion: 76 Resp: 3906

Ion	Ratio	Lower	Upper
76	100		
78	209.1	0.0	29.7#

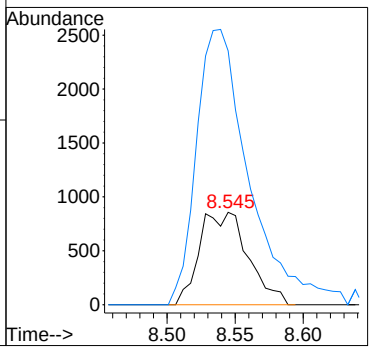


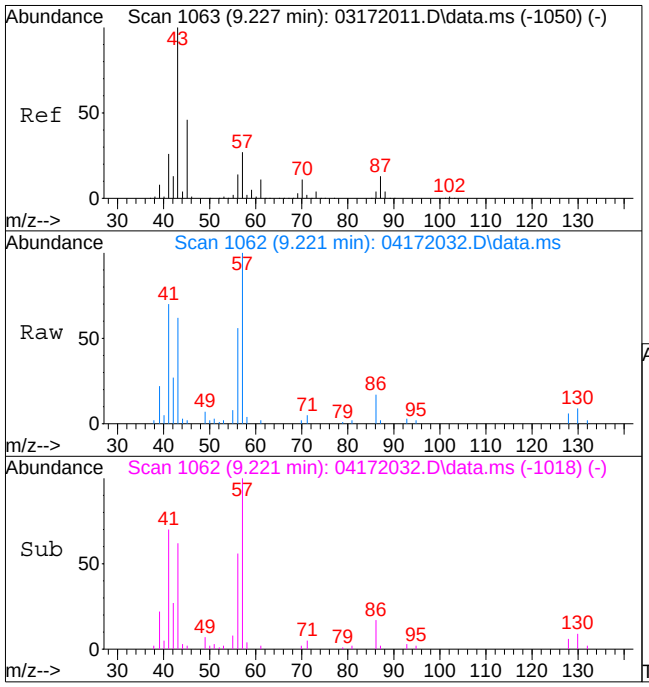


#27
2-Butanone (MEK)
Concen: 0.30 ng
RT: 8.54 min Scan# 939
Delta R.T. 0.017 min
Lab File: 04172032.D
Acq: 17 Apr 2020 20:22

Tgt Ion: 72 Resp: 2134

Ion	Ratio	Lower	Upper
72	100		
43	323.0	310.6	350.6

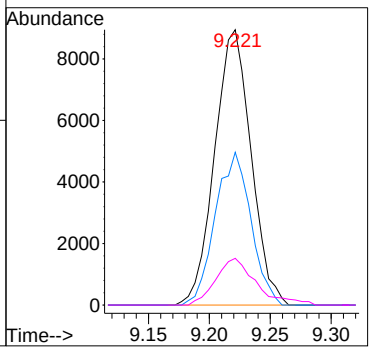


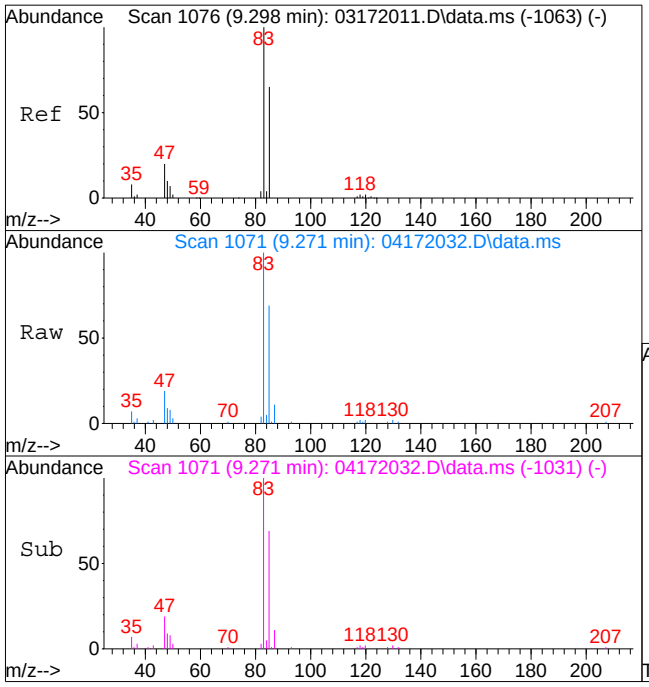


#31
n-Hexane
Concen: 1.19 ng
RT: 9.22 min Scan# 1062
Delta R.T. -0.006 min
Lab File: 04172032.D
Acq: 17 Apr 2020 20:22

Tgt Ion: 57 Resp: 18594

Ion	Ratio	Lower	Upper
57	100		
56	54.2	42.0	63.0
86	18.9	13.1	19.7

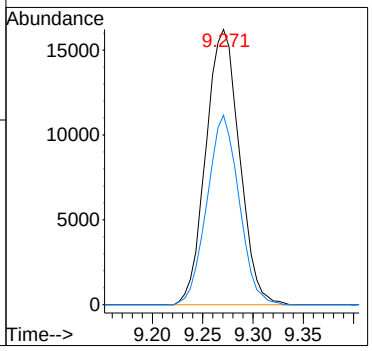


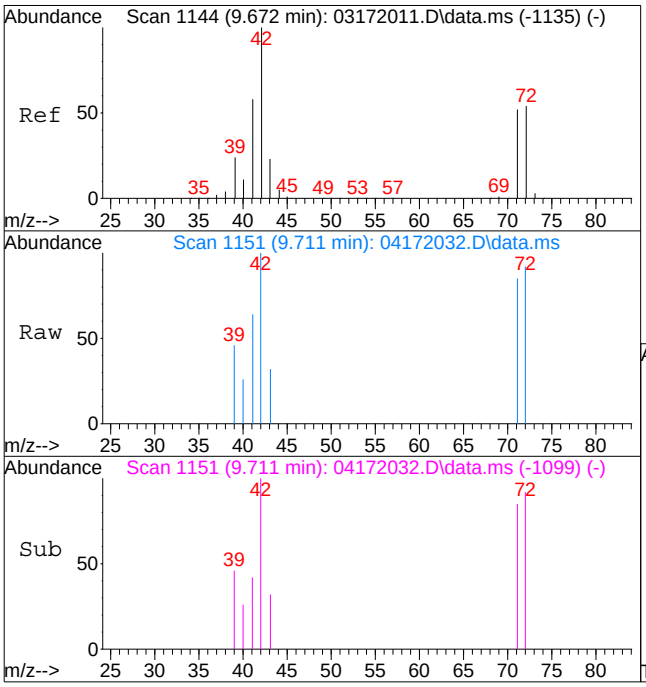


#32
Chloroform
Concen: 2.03 ng
RT: 9.27 min Scan# 1071
Delta R.T. -0.027 min
Lab File: 04172032.D
Acq: 17 Apr 2020 20:22

Tgt Ion: 83 Resp: 37674

Ion	Ratio	Lower	Upper
83	100		
85	65.7	45.1	85.1

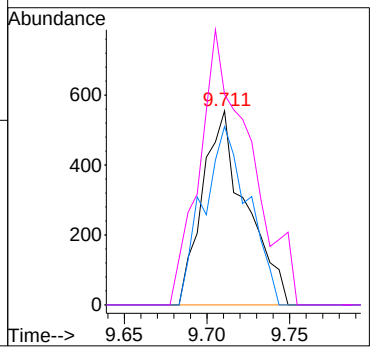


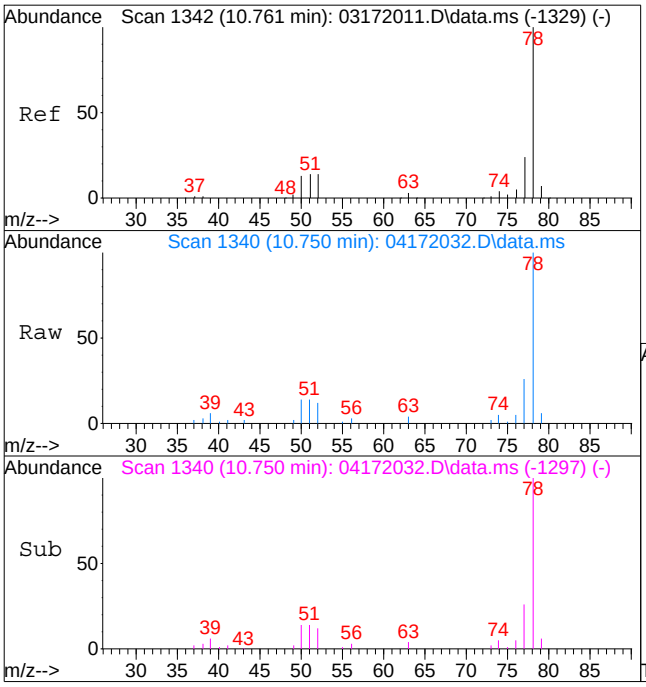


#34
Tetrahydrofuran (THF)
Concen: 0.15 ng
RT: 9.71 min Scan# 1151
Delta R.T. 0.039 min
Lab File: 04172032.D
Acq: 17 Apr 2020 20:22

Tgt Ion: 72 Resp: 1020

Ion	Ratio	Lower	Upper
72	100		
71	95.0	76.1	116.1
42	164.3	164.4	204.4#

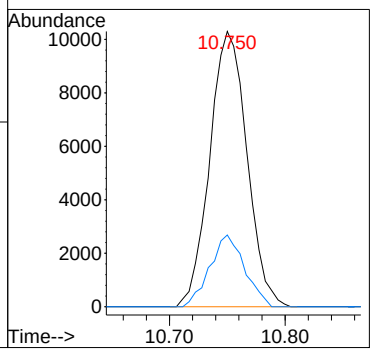


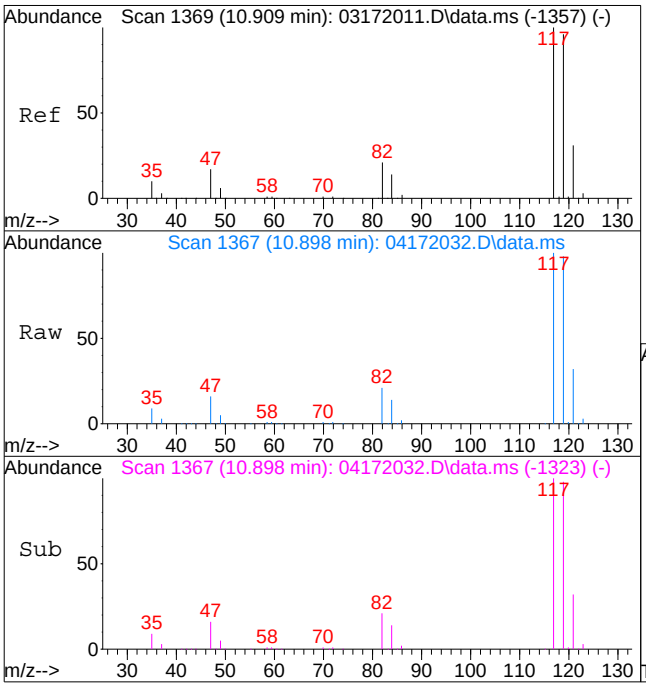


#41
Benzene
Concen: 0.52 ng
RT: 10.75 min Scan# 1340
Delta R.T. -0.011 min
Lab File: 04172032.D
Acq: 17 Apr 2020 20:22

Tgt Ion: 78 Resp: 23010

Ion	Ratio	Lower	Upper
78	100		
77	24.3	3.4	43.4

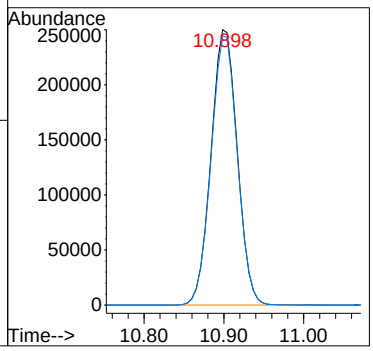


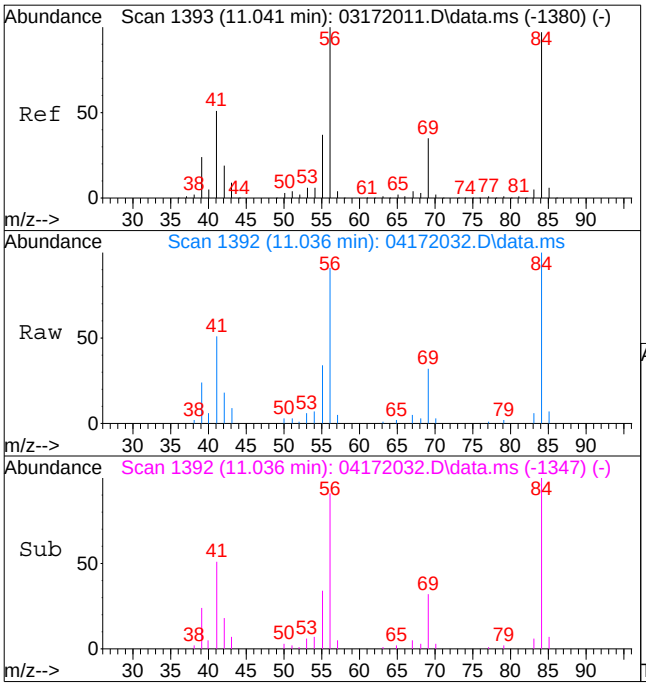


#42
Carbon Tetrachloride
Concen: 35.98 ng
RT: 10.90 min Scan# 1367
Delta R.T. -0.011 min
Lab File: 04172032.D
Acq: 17 Apr 2020 20:22

Tgt Ion:117 Resp: 570305

Ion	Ratio	Lower	Upper
117	100		
119	97.7	76.0	116.0

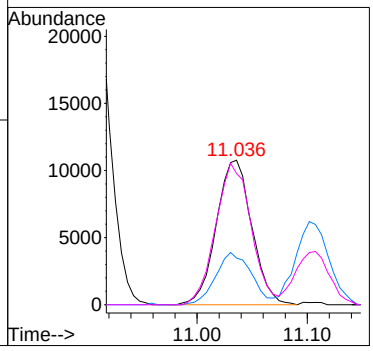


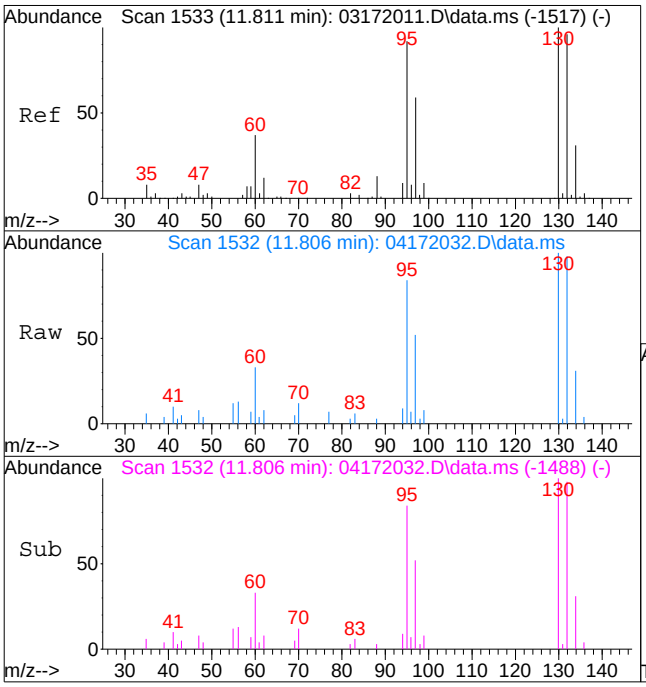


#43
Cyclohexane
Concen: 1.43 ng
RT: 11.04 min Scan# 1392
Delta R.T. -0.005 min
Lab File: 04172032.D
Acq: 17 Apr 2020 20:22

Tgt Ion: 84 Resp: 24111

Ion	Ratio	Lower	Upper
84	100		
69	36.4	16.6	56.6
56	98.2	85.3	125.3

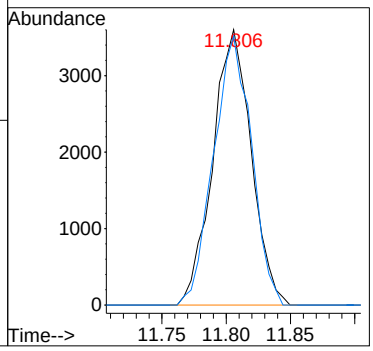


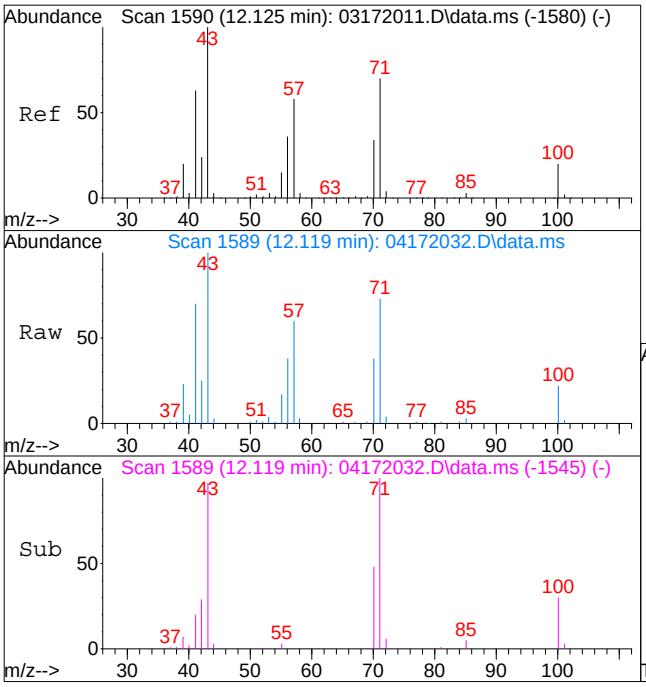


#47
Trichloroethene
Concen: 0.59 ng
RT: 11.81 min Scan# 1532
Delta R.T. -0.005 min
Lab File: 04172032.D
Acq: 17 Apr 2020 20:22

Tgt Ion:130 Resp: 7496

Ion	Ratio	Lower	Upper
130	100		
132	96.5	76.3	116.3

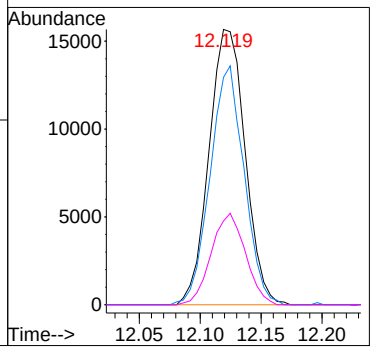


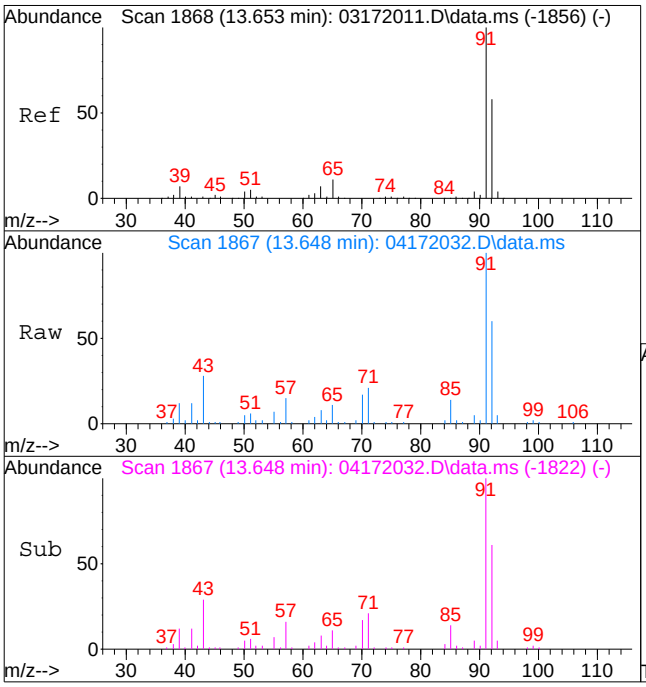


#51
n-Heptane
Concen: 3.05 ng
RT: 12.12 min Scan# 1589
Delta R.T. -0.006 min
Lab File: 04172032.D
Acq: 17 Apr 2020 20:22

Tgt Ion: 71 Resp: 32324

Ion	Ratio	Lower	Upper
71	100		
57	81.5	64.0	104.0
100	31.4	8.7	48.7

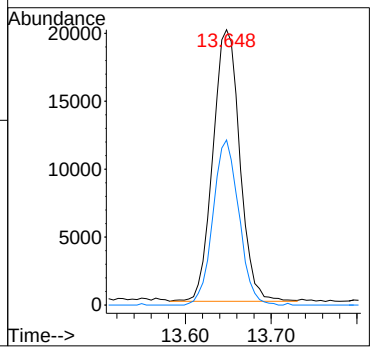


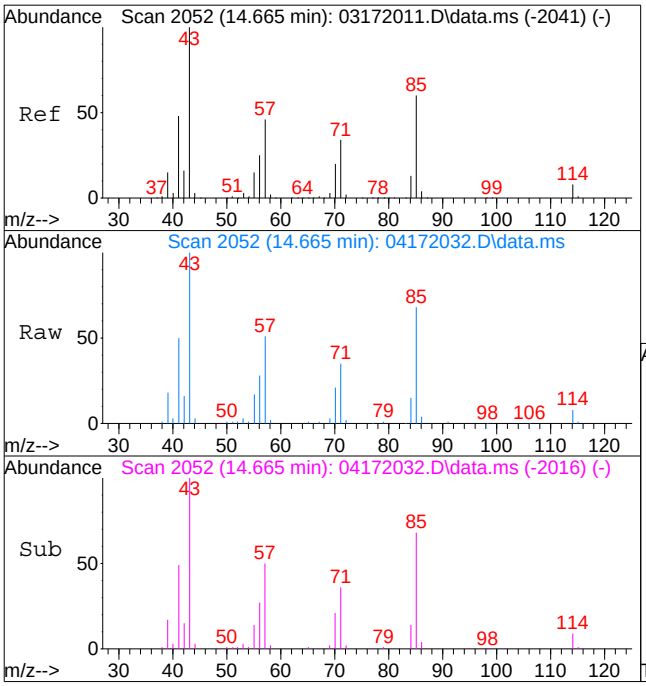


#58
Toluene
Concen: 0.92 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.005 min
Lab File: 04172032.D
Acq: 17 Apr 2020 20:22

Tgt Ion: 91 Resp: 43628

Ion	Ratio	Lower	Upper
91	100		
92	58.5	38.6	78.6

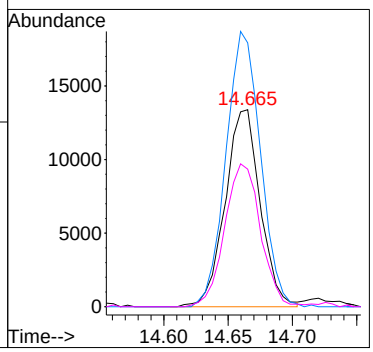


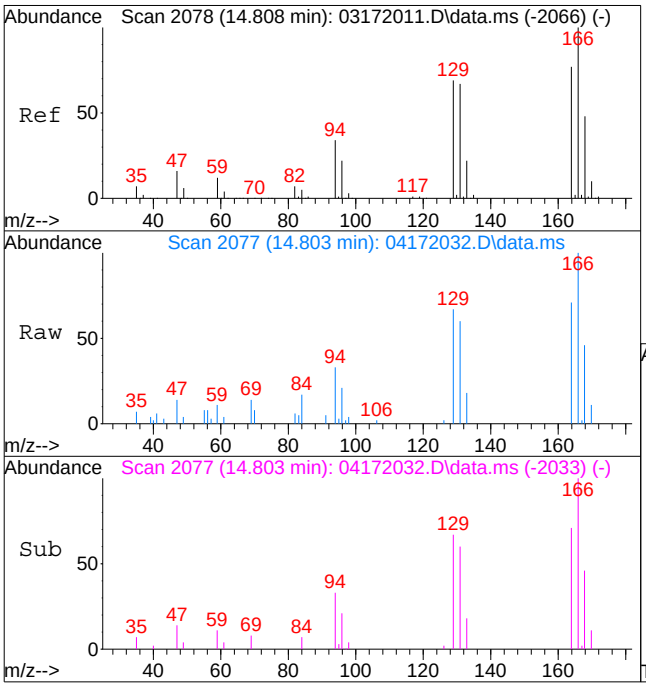


#63
n-Octane
Concen: 2.97 ng
RT: 14.67 min Scan# 2052
Delta R.T. 0.000 min
Lab File: 04172032.D
Acq: 17 Apr 2020 20:22

Tgt Ion: 57 Resp: 25379

Ion	Ratio	Lower	Upper
57	100		
85	137.9	105.4	158.2
71	74.2	59.0	88.4

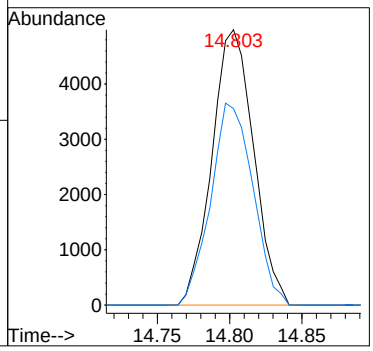


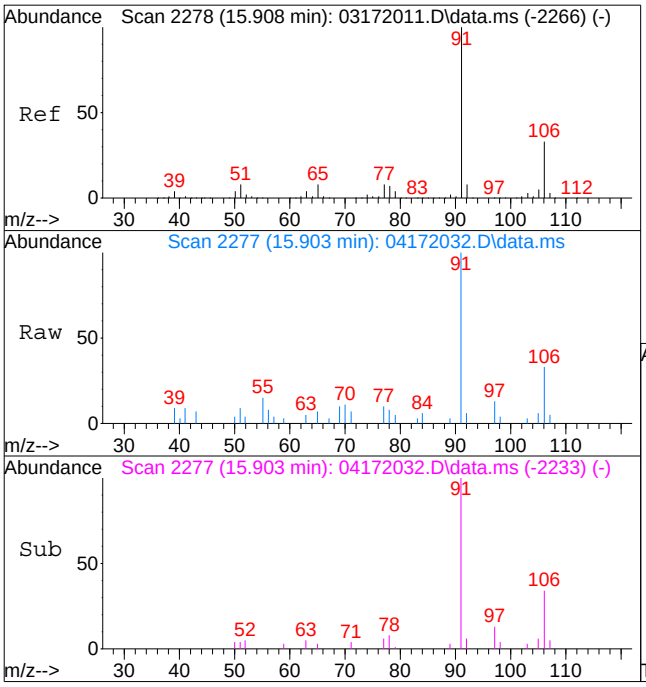


#64
Tetrachloroethene
Concen: 0.68 ng
RT: 14.80 min Scan# 2077
Delta R.T. -0.005 min
Lab File: 04172032.D
Acq: 17 Apr 2020 20:22

Tgt Ion:166 Resp: 10020

Ion	Ratio	Lower	Upper
166	100		
164	74.1	57.9	97.9

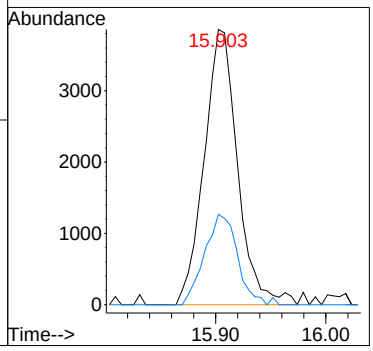


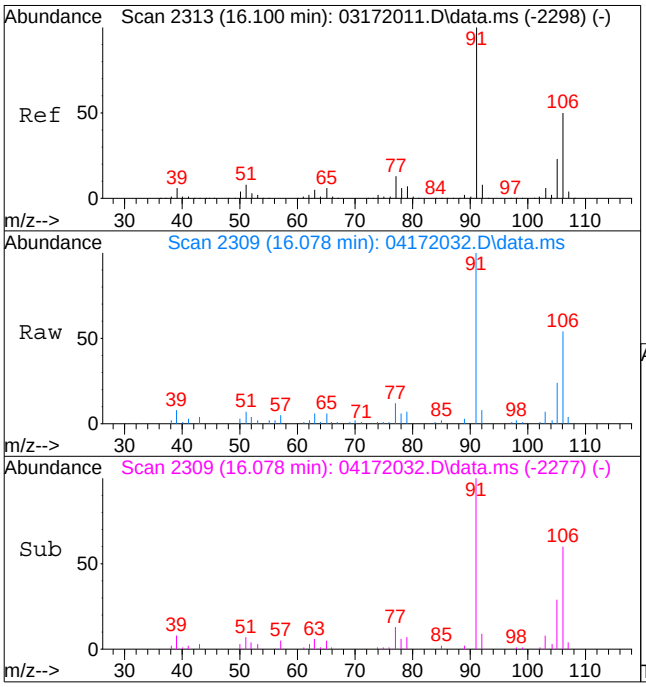


#66
Ethylbenzene
Concen: 0.16 ng
RT: 15.90 min Scan# 2277
Delta R.T. -0.005 min
Lab File: 04172032.D
Acq: 17 Apr 2020 20:22

Tgt Ion: 91 Resp: 8131

Ion	Ratio	Lower	Upper
91	100		
106	32.4	12.9	52.9

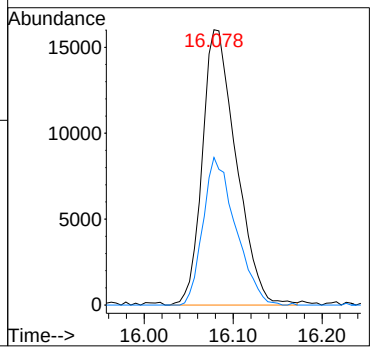


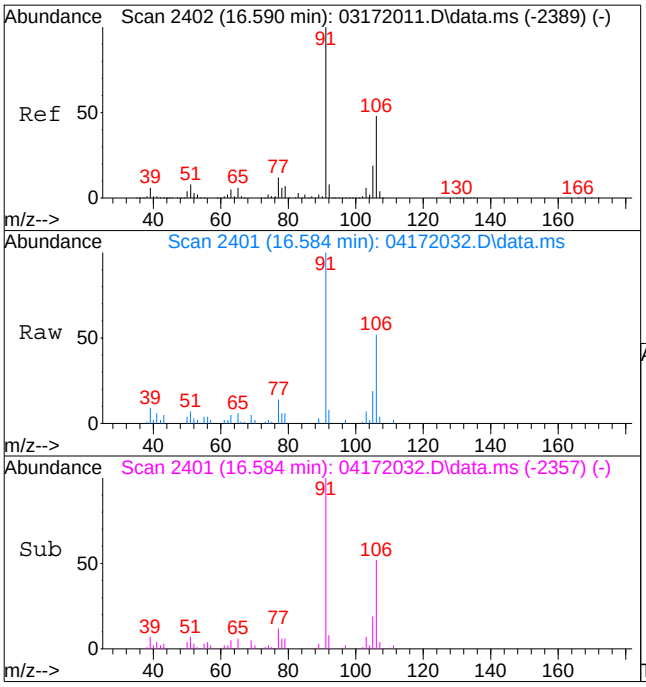


#67
m- & p-Xylenes
Concen: 1.04 ng
RT: 16.08 min Scan# 2309
Delta R.T. -0.022 min
Lab File: 04172032.D
Acq: 17 Apr 2020 20:22

Tgt Ion: 91 Resp: 42394

Ion	Ratio	Lower	Upper
91	100		
106	51.5	29.5	69.5

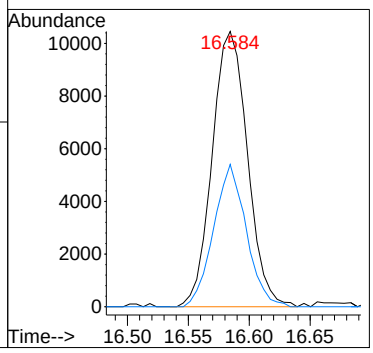


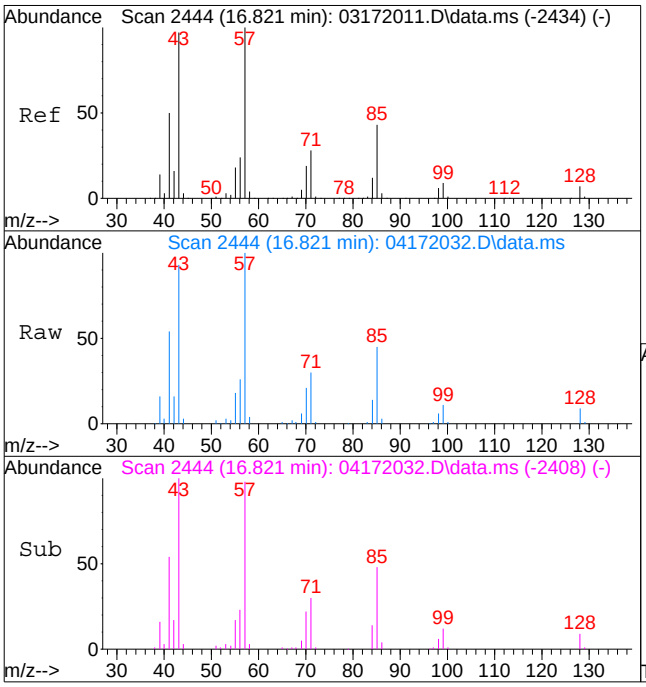


#70
o-Xylene
Concen: 0.52 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.006 min
Lab File: 04172032.D
Acq: 17 Apr 2020 20:22

Tgt Ion: 91 Resp: 21094

Ion	Ratio	Lower	Upper
91	100		
106	47.8	28.3	68.3

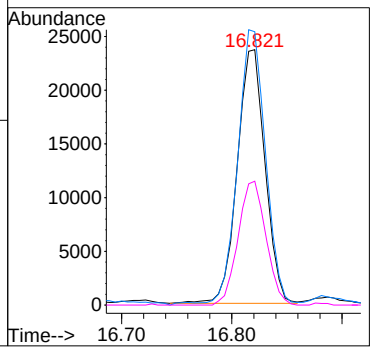


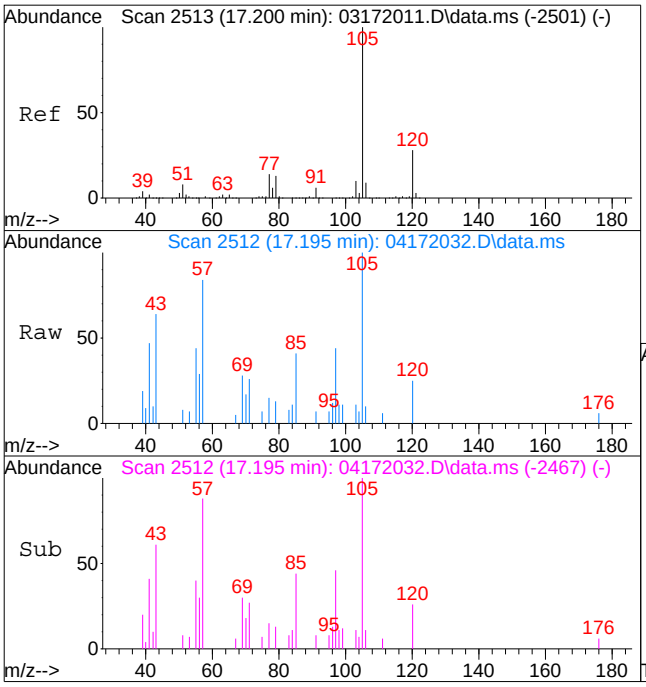


#71
n-Nonane
Concen: 2.35 ng
RT: 16.82 min Scan# 2444
Delta R.T. -0.000 min
Lab File: 04172032.D
Acq: 17 Apr 2020 20:22

Tgt Ion: 43 Resp: 41374

Ion	Ratio	Lower	Upper
43	100		
57	108.8	82.8	122.8
85	48.8	23.4	63.4

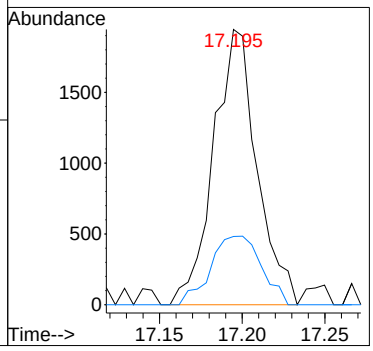


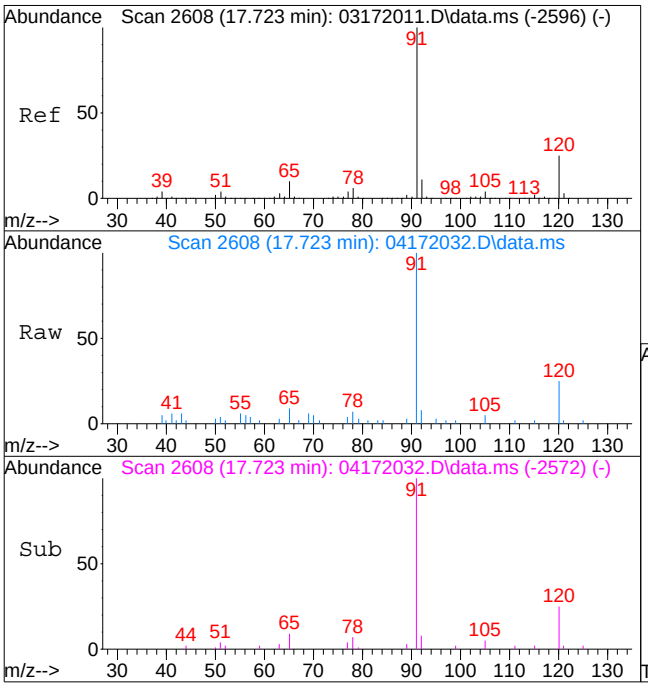


#74
Cumene
Concen: 0.07 ng
RT: 17.19 min Scan# 2512
Delta R.T. -0.005 min
Lab File: 04172032.D
Acq: 17 Apr 2020 20:22

Tgt Ion:105 Resp: 3551

Ion	Ratio	Lower	Upper
105	100		
120	29.1	7.6	47.6

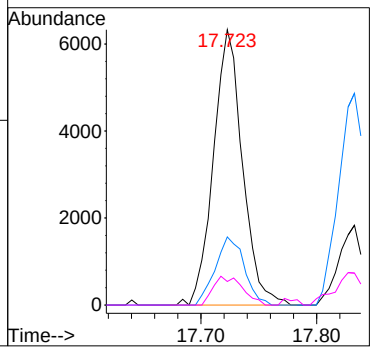


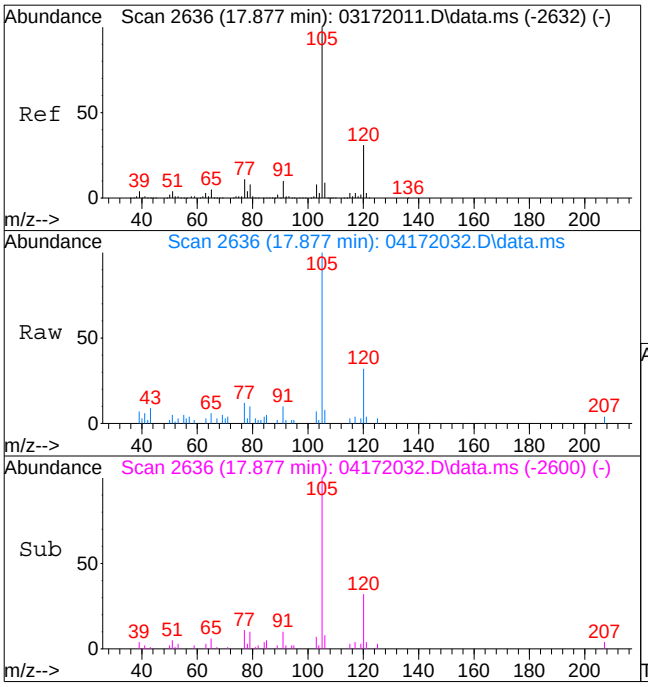


#76
n-Propylbenzene
Concen: 0.18 ng
RT: 17.72 min Scan# 2608
Delta R.T. -0.000 min
Lab File: 04172032.D
Acq: 17 Apr 2020 20:22

Tgt Ion: 91 Resp: 11042

Ion	Ratio	Lower	Upper
91	100		
120	24.7	5.0	45.0
65	10.5	0.0	30.0

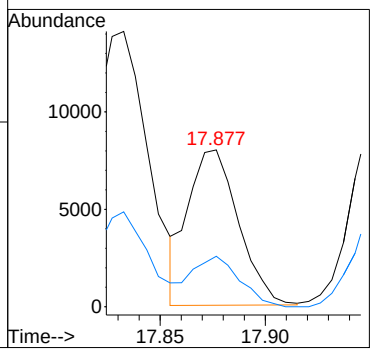


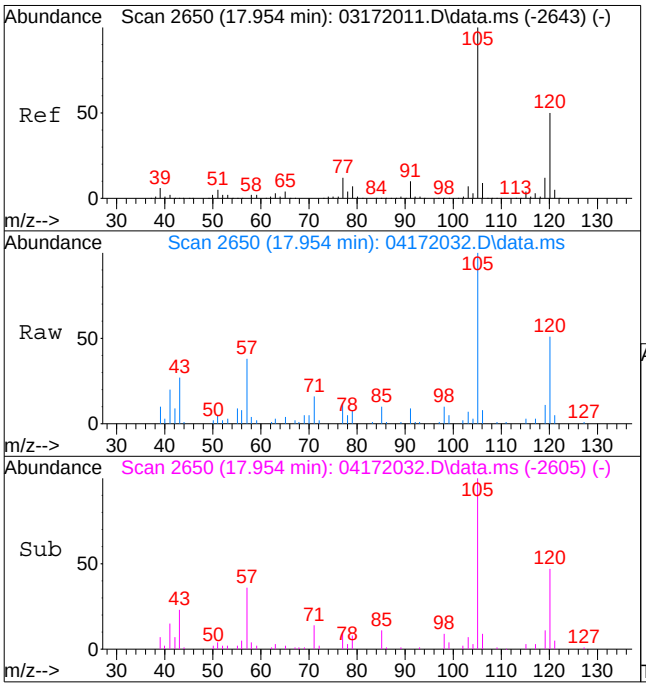


#78
4-Ethyltoluene
Concen: 0.27 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.000 min
Lab File: 04172032.D
Acq: 17 Apr 2020 20:22

Tgt Ion:105 Resp: 13311

Ion	Ratio	Lower	Upper
105	100		
120	32.0	11.2	51.2

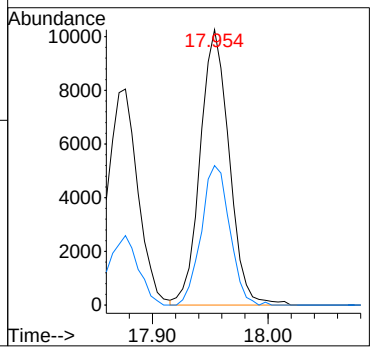


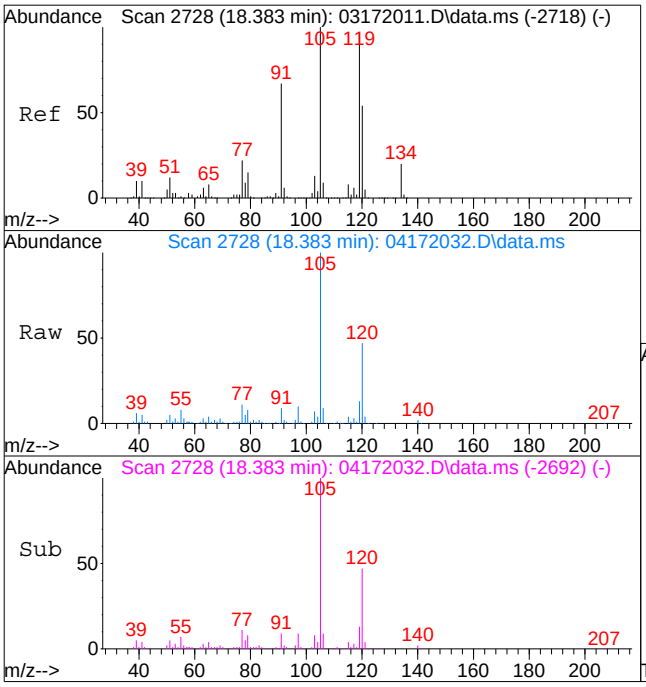


#79
1,3,5-Trimethylbenzene
Concen: 0.40 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.000 min
Lab File: 04172032.D
Acq: 17 Apr 2020 20:22

Tgt Ion:105 Resp: 17820

Ion	Ratio	Lower	Upper
105	100		
120	49.8	30.5	70.5

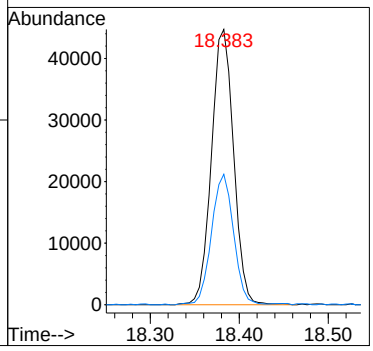


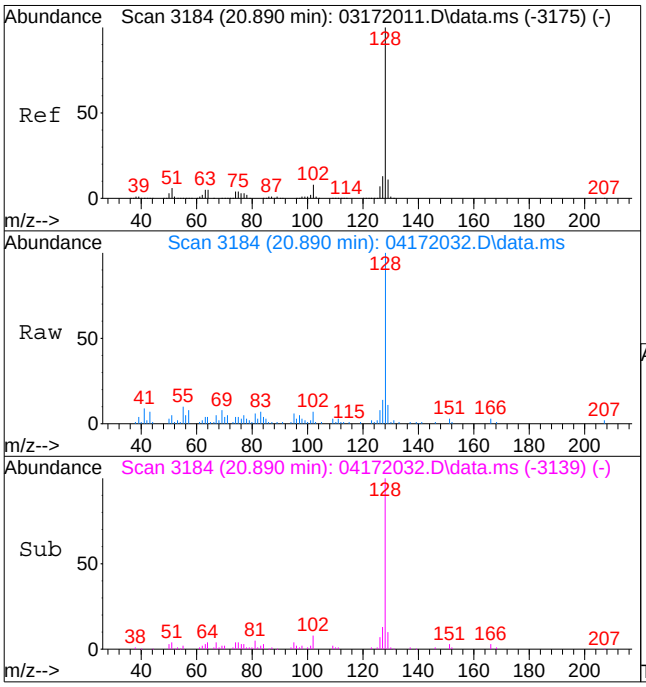


#82
1,2,4-Trimethylbenzene
Concen: 1.86 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.000 min
Lab File: 04172032.D
Acq: 17 Apr 2020 20:22

Tgt Ion:105 Resp: 77306

Ion	Ratio	Lower	Upper
105	100		
120	47.3	34.9	74.9

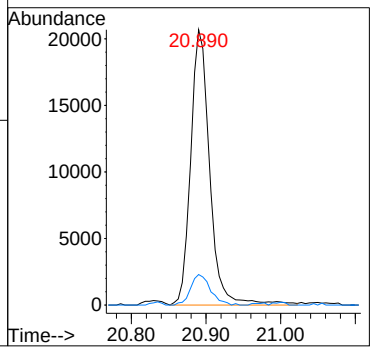




#95
Naphthalene
Concen: 0.64 ng
RT: 20.89 min Scan# 3184
Delta R.T. 0.000 min
Lab File: 04172032.D
Acq: 17 Apr 2020 20:22

Tgt Ion:128 Resp: 36690

Ion	Ratio	Lower	Upper
128	100		
129	11.6	0.0	30.9



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202012.D Vial: 15
Acq On : 20 Apr 2020 8:54 Operator: TD
Sample : P2002027-015dil (40mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 19:23:32 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/20/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	137165	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.11	114	590579	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	261935	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	214821	13.843	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.72%				
57) Toluene-d8 (SS2)	13.54	98	653489	12.544	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.32%				
73) Bromofluorobenzene (SS3)	17.05	174	235767	13.602	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.80%				
Target Compounds							Qvalue
2) Propene	3.88	42	929	0.111	ng		95
3) Dichlorodifluoromethan...	3.97	85	358422	18.312	ng		99
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	9877	1.082	ng		97
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	4.65	54	1547	0.219	ng		90
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	0.00	45	0	N.D.	d		
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	5.90	58	1453	0.215	ng	#	81
14) Trichlorofluoromethane	6.03	101	45440	2.564	ng		99
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	7.19	151	26818	2.715	ng		94
22) Carbon Disulfide	7.18	76	295	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	0.00	72	0	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	9.28	87	232	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	9.28	83	3010	0.172	ng		96
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	10.76	78	2037	N.D.			
42) Carbon Tetrachloride	10.90	117	47467	3.164	ng		98
43) Cyclohexane	11.10	84	260	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	11.81	130	378	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	11.87	57	870	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202012.D Vial: 15
Acq On : 20 Apr 2020 8:54 Operator: TD
Sample : P2002027-015dil (40mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 19:23:32 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

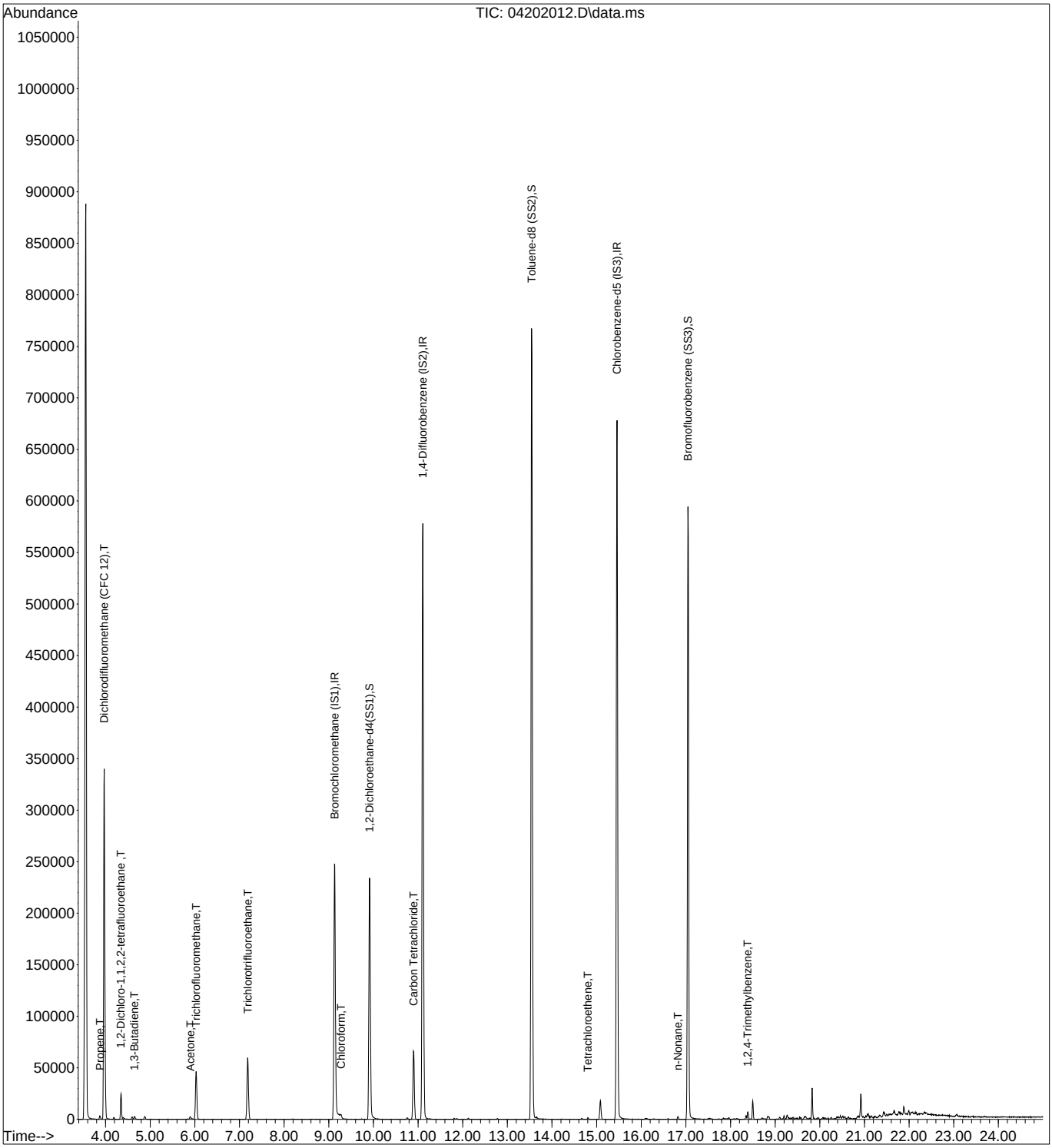
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.13	71	328	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.65	91	1770	N.D.	
59) 2-Hexanone	0.00	43	0	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	14.67	43	556	N.D.	
63) n-Octane	14.67	57	208	N.D.	
64) Tetrachloroethene	14.80	166	764	0.056 ng	96
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.94	91	193	N.D.	
67) m- & p-Xylenes	16.10	91	1728	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.60	91	627	N.D.	
71) n-Nonane	16.82	43	953	0.058 ng	95
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	17.05	105	238	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.74	91	641	N.D.	
77) 3-Ethyltoluene	17.84	105	1552	N.D.	
78) 4-Ethyltoluene	17.89	105	928	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	1270	N.D.	
80) alpha-Methylstyrene	18.13	118	475	N.D.	
81) 2-Ethyltoluene	18.16	105	670	N.D.	
82) 1,2,4-Trimethylbenzene	18.38	105	5335	0.137 ng	84
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.38	91	549	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	18.67	105	313	N.D.	
88) 4-Isopropyltoluene (p-...	18.83	119	688	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	0.00	128	0	N.D. d	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	16.29	55	235	N.D.	
99) tert-Butylbenzene	18.38	119	635	N.D.	
100) n-Butylbenzene	19.27	91	1581	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202012.D Vial: 15
Acq On : 20 Apr 2020 8:54 Operator: TD
Sample : P2002027-015dil (40mL) Inst : MS09
Misc : S31-02272010

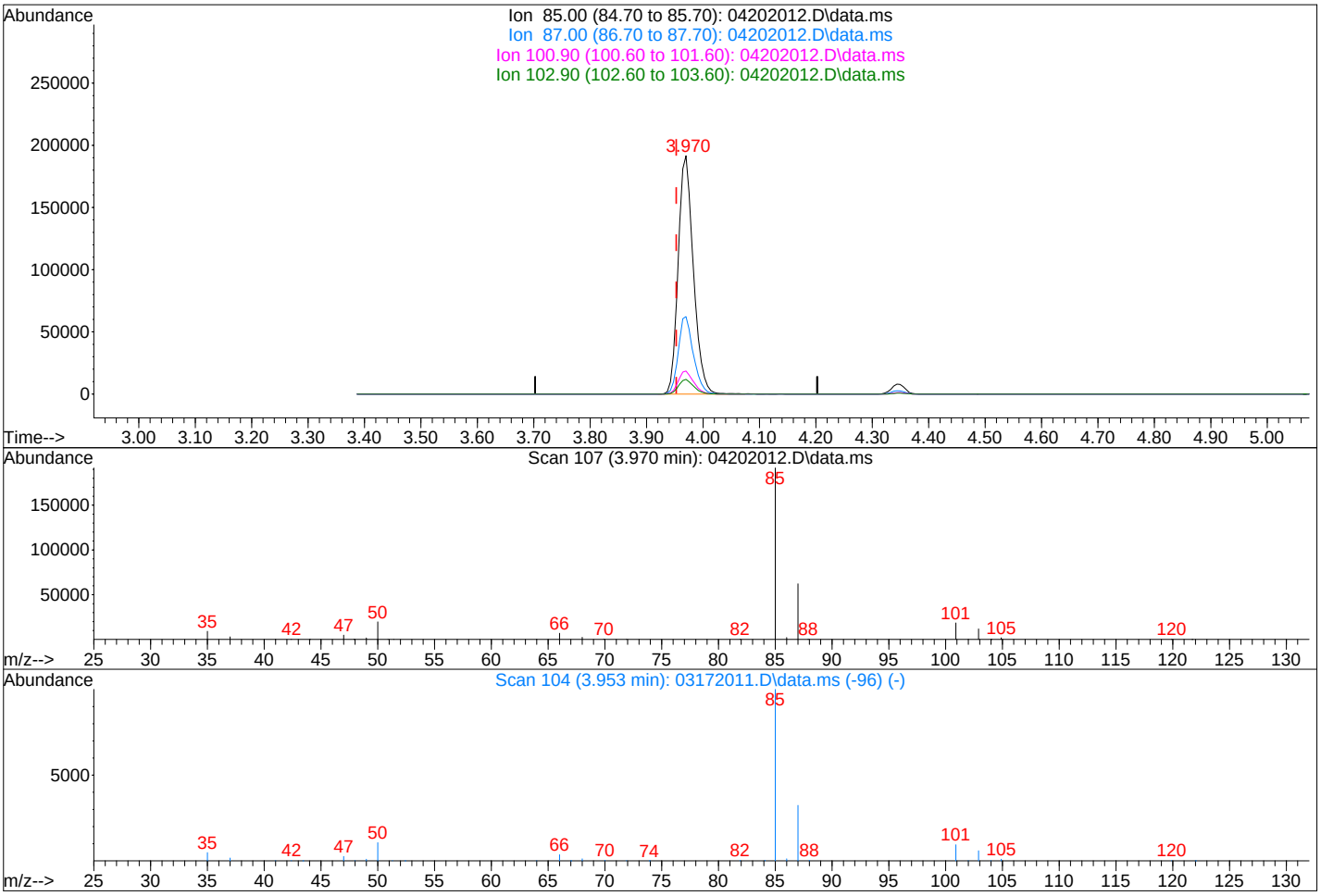
Quant Time: Apr 20 19:23:32 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\20\04202012.D Vial: 15
Acq On : 20 Apr 2020 8:54 Operator: TD
Sample : P2002027-015dil (40mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 09:39:53 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202012.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.970min (+0.017) 18.31ng

response 358422

Ion	Exp%	Act%
85.00	100	100
87.00	32.40	32.17
100.90	9.20	9.66
102.90	5.90	6.09

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172033.D Vial: 16
Acq On : 17 Apr 2020 20:56 Operator: TD
Sample : P2002027-016 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 16:11:37 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/20/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	144248	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	11.10	114	618590	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.45	82	275284	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	213177	13.062	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.48%				
57) Toluene-d8 (SS2)	13.54	98	683279	12.480	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.84%				
73) Bromofluorobenzene (SS3)	17.05	174	262636	14.418	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 115.36%				
Target Compounds							Qvalue
2) Propene	3.85	42	5292	0.599	ng		91
3) Dichlorodifluoromethan...	3.95	85	3441312	167.183	ng		99
4) Chloromethane	4.15	50	1886	0.152	ng		91
5) 1,2-Dichloro-1,1,2,2-t...	4.32	135	110877	11.547	ng		99
6) Vinyl Chloride	0.00	62	0	N.D.	d		
7) 1,3-Butadiene	4.62	54	5583	0.750	ng		97
8) Bromomethane	4.92	94	4653	0.495	ng		98
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.40	45	80	N.D.			
11) Acetonitrile	5.59	41	70	N.D.			
12) Acrolein	5.70	56	1025	0.173	ng		98
13) Acetone	5.84	58	20150	2.840	ng	#	84
14) Trichlorofluoromethane	6.00	101	477206	25.602	ng		100
15) 2-Propanol (Isopropanol)	6.17	45	749	N.D.			
16) Acrylonitrile	6.53	53	294	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	6.84	59	963	N.D.			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	6.92	41	306	N.D.			
21) Trichlorotrifluoroethane	7.17	151	321657	30.962	ng		91
22) Carbon Disulfide	7.14	76	13772	0.366	ng	#	1
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	8.26	86	1503	0.634	ng	#	64
27) 2-Butanone (MEK)	8.54	72	2067	0.297	ng		93
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	9.22	57	4296	0.278	ng		96
32) Chloroform	9.27	83	12776	0.695	ng		98
34) Tetrahydrofuran (THF)	9.70	72	1204	0.179	ng		94
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	10.29	97	401	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.75	78	13337	0.303	ng		98
42) Carbon Tetrachloride	10.90	117	613682	39.059	ng		98
43) Cyclohexane	11.02	84	3584	0.214	ng		97
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	11.76	83	600	N.D.			
47) Trichloroethene	11.80	130	14962	1.178	ng		99
48) 1,4-Dioxane	11.81	88	379	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172033.D Vial: 16
Acq On : 17 Apr 2020 20:56 Operator: TD
Sample : P2002027-016 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 16:11:37 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

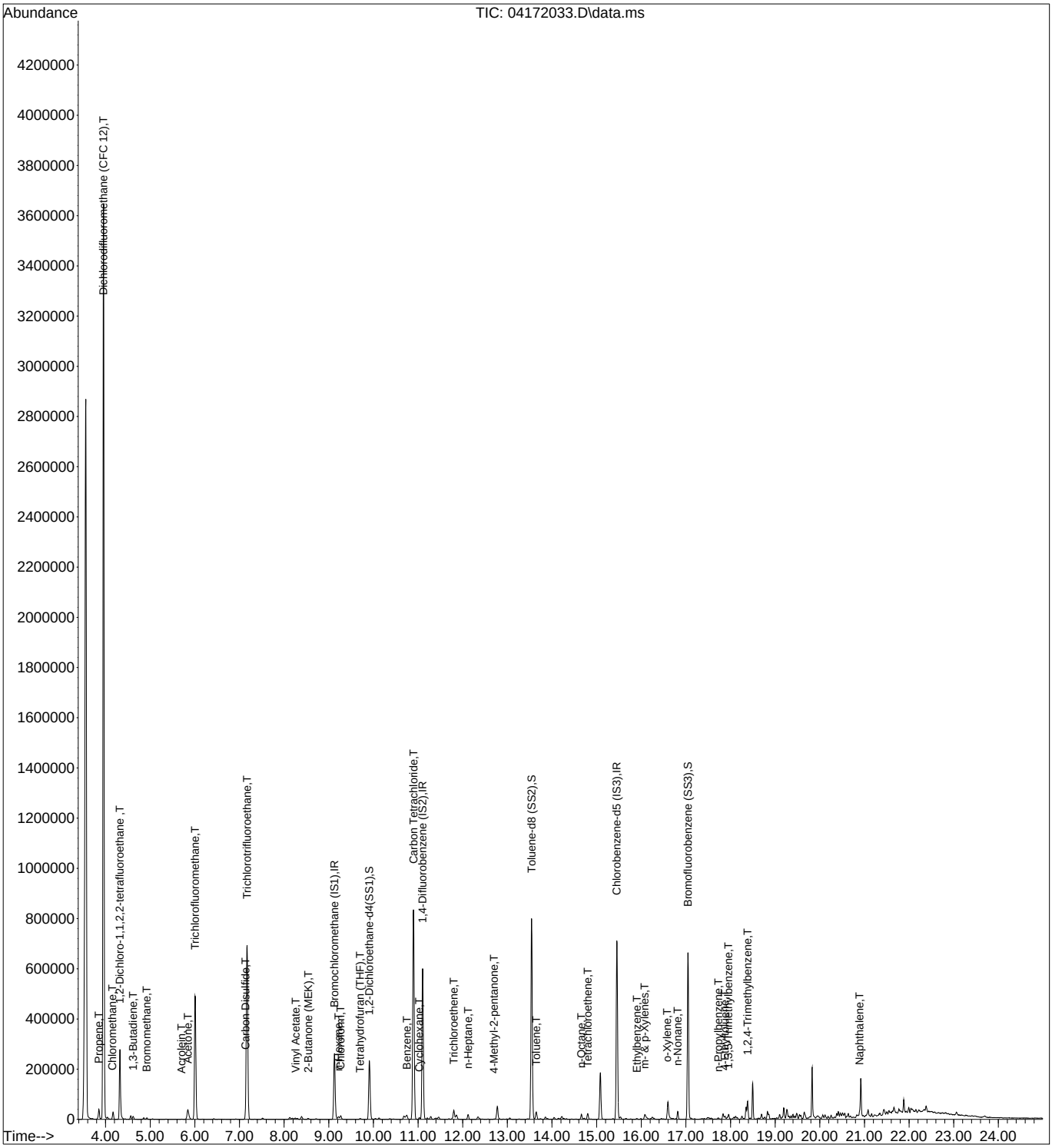
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	12.12	71	5707	0.542	ng		98
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
53) 4-Methyl-2-pentanone	12.70	58	471	0.054	ng	#	43
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.			
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.			
58) Toluene	13.65	91	24566	0.529	ng		96
59) 2-Hexanone	0.00	43	0	N.D.	d		
60) Dibromochloromethane	0.00	129	0	N.D.			
61) 1,2-Dibromoethane	0.00	107	0	N.D.			
62) n-Butyl Acetate	14.53	43	109	N.D.			
63) n-Octane	14.66	57	4013	0.479	ng		96
64) Tetrachloroethene	14.80	166	9222	0.638	ng		99
65) Chlorobenzene	15.54	112	1020	N.D.			
66) Ethylbenzene	15.90	91	3304	0.066	ng		100
67) m- & p-Xylenes	16.08	91	18775	0.470	ng		98
68) Bromoform	0.00	173	0	N.D.			
69) Styrene	0.00	104	0	N.D.			
70) o-Xylene	16.58	91	8443	0.212	ng		98
71) n-Nonane	16.82	43	11305	0.656	ng		98
72) 1,1,2,2-Tetrachloroethane	16.64	83	218	N.D.			
74) Cumene	17.19	105	1264	N.D.			
75) alpha-Pinene	0.00	93	0	N.D.			
76) n-Propylbenzene	17.73	91	5670	0.095	ng		98
77) 3-Ethyltoluene	0.00	105	0	N.D.	d		
78) 4-Ethyltoluene	17.87	105	7767	0.162	ng		98
79) 1,3,5-Trimethylbenzene	17.95	105	9107	0.207	ng		96
80) alpha-Methylstyrene	0.00	118	0	N.D.	d		
81) 2-Ethyltoluene	0.00	105	0	N.D.	d		
82) 1,2,4-Trimethylbenzene	18.38	105	43149	1.056	ng		88
83) n-Decane	0.00	57	0	N.D.	d		
84) Benzyl Chloride	18.53	91	608	N.D.			
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.			
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.			
87) sec-Butylbenzene	18.67	105	2662	N.D.			
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.	d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.			
91) d-Limonene	18.98	68	567	N.D.			
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.			
93) n-Undecane	0.00	57	0	N.D.	d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.			
95) Naphthalene	20.89	128	20137	0.358	ng		99
96) n-Dodecane	0.00	57	0	N.D.	d		
97) Hexachlorobutadiene	0.00	225	0	N.D.			
98) Cyclohexanone	0.00	55	0	N.D.	d		
99) tert-Butylbenzene	0.00	119	0	N.D.	d		
100) n-Butylbenzene	0.00	91	0	N.D.	d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172033.D Vial: 16
Acq On : 17 Apr 2020 20:56 Operator: TD
Sample : P2002027-016 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 16:11:37 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172033.D Vial: 16
Acq On : 17 Apr 2020 20:56 Operator: TD
Sample : P2002027-016 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 16:11:37 2020 4/20/20
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

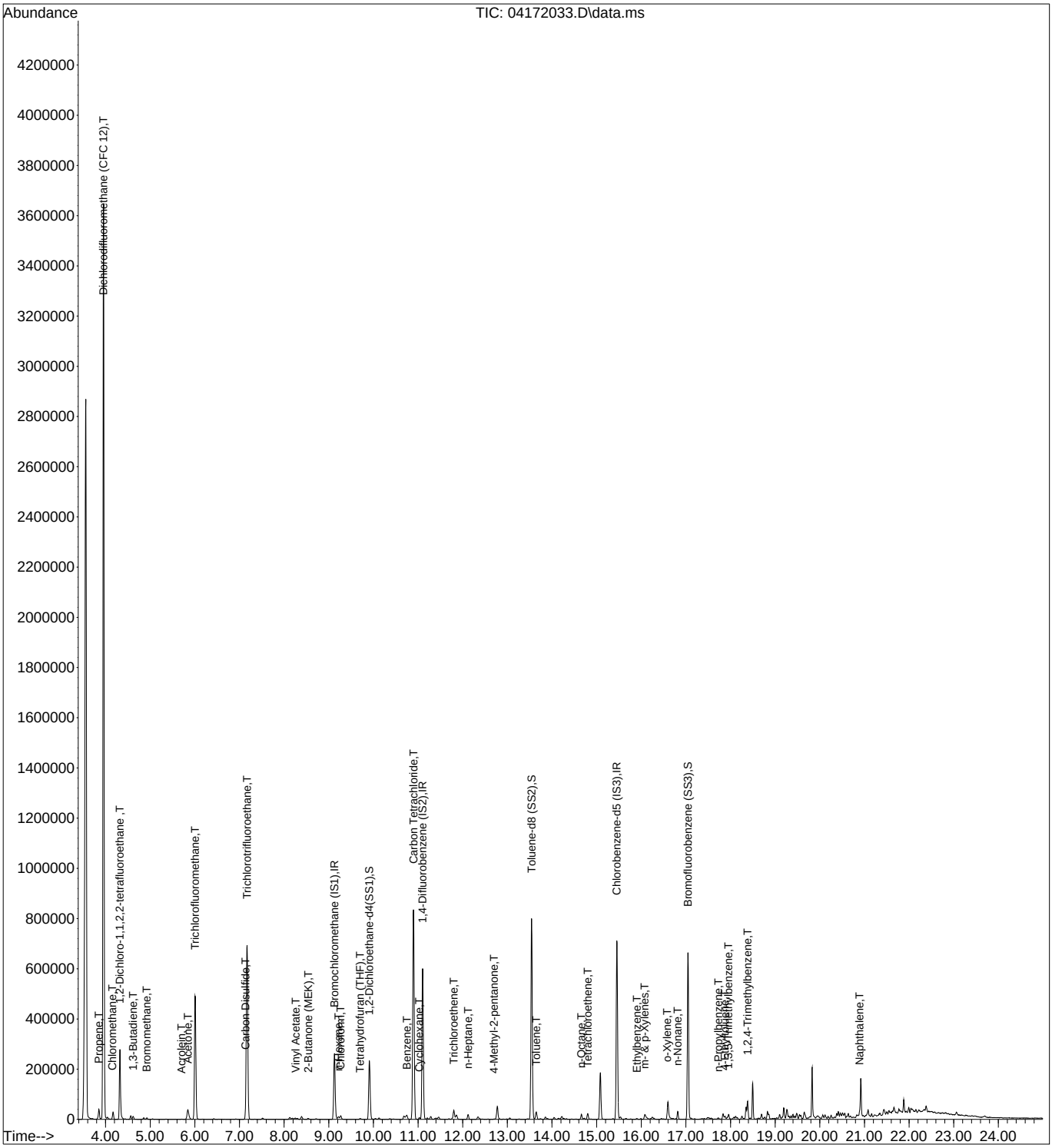
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	144248	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	11.10	114	618590	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.45	82	275284	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	213177	13.062	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.48%				
57) Toluene-d8 (SS2)	13.54	98	683279	12.480	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.84%				
73) Bromofluorobenzene (SS3)	17.05	174	262636	14.418	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 115.36%				
Target Compounds							Qvalue
2) Propene	3.85	42	5292	0.599	ng		91
3) Dichlorodifluoromethan...	3.95	85	3441312	167.183	ng		99
4) Chloromethane	4.15	50	1886	0.152	ng		91
5) 1,2-Dichloro-1,1,2,2-t...	4.32	135	110877	11.547	ng		99
7) 1,3-Butadiene	4.62	54	5583	0.750	ng		97
8) Bromomethane	4.92	94	4653	0.495	ng		98
12) Acrolein	5.70	56	1025	0.173	ng		98
13) Acetone	5.84	58	20150	2.840	ng	#	84
14) Trichlorofluoromethane	6.00	101	477206	25.602	ng		100
21) Trichlorotrifluoroethane	7.17	151	321657	30.962	ng		91
22) Carbon Disulfide	7.14	76	13772	0.366	ng	#	1
26) Vinyl Acetate	8.26	86	1503	0.634	ng	#	64
27) 2-Butanone (MEK)	8.54	72	2067	0.297	ng		93
31) n-Hexane	9.22	57	4296	0.278	ng		96
32) Chloroform	9.27	83	12776	0.695	ng		98
34) Tetrahydrofuran (THF)	9.70	72	1204	0.179	ng		94
41) Benzene	10.75	78	13337	0.303	ng		98
42) Carbon Tetrachloride	10.90	117	613682	39.059	ng		98
43) Cyclohexane	11.02	84	3584	0.214	ng		97
47) Trichloroethene	11.80	130	14962	1.178	ng		99
51) n-Heptane	12.12	71	5707	0.542	ng		98
53) 4-Methyl-2-pentanone	12.70	58	471	0.054	ng	#	43
58) Toluene	13.65	91	24566	0.529	ng		96
63) n-Octane	14.66	57	4013	0.479	ng		96
64) Tetrachloroethene	14.80	166	9222	0.638	ng		99
66) Ethylbenzene	15.90	91	3304	0.066	ng		100
67) m- & p-Xylenes	16.08	91	18775	0.470	ng		98
70) o-Xylene	16.58	91	8443	0.212	ng		98
71) n-Nonane	16.82	43	11305	0.656	ng		98
76) n-Propylbenzene	17.73	91	5670	0.095	ng		98
78) 4-Ethyltoluene	17.87	105	7767	0.162	ng		98
79) 1,3,5-Trimethylbenzene	17.95	105	9107	0.207	ng		96
82) 1,2,4-Trimethylbenzene	18.38	105	43149	1.056	ng		88
95) Naphthalene	20.89	128	20137	0.358	ng		99

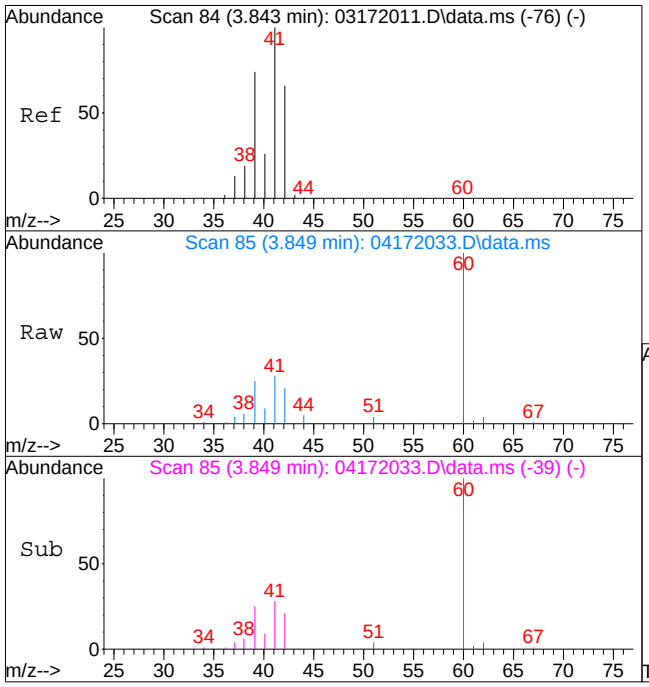
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172033.D Vial: 16
Acq On : 17 Apr 2020 20:56 Operator: TD
Sample : P2002027-016 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 16:11:37 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

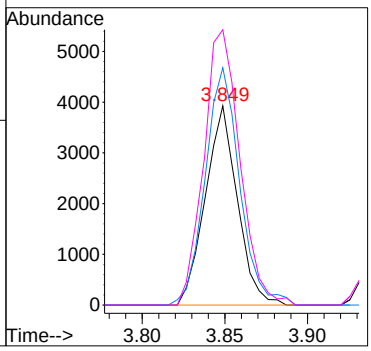


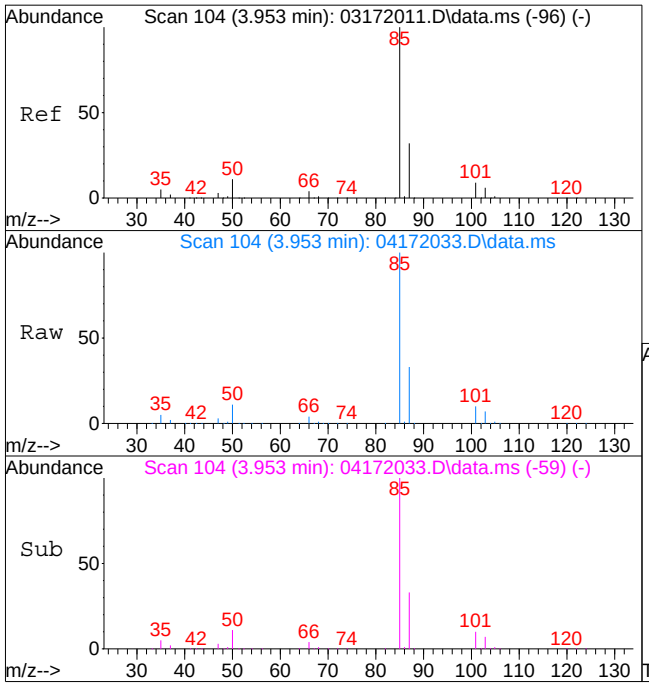


#2
Propene
Concen: 0.60 ng
RT: 3.85 min Scan# 85
Delta R.T. 0.006 min
Lab File: 04172033.D
Acq: 17 Apr 2020 20:56

Tgt Ion: 42 Resp: 5292

Ion	Ratio	Lower	Upper
42	100		
39	128.5	91.9	131.9
41	156.2	130.5	170.5

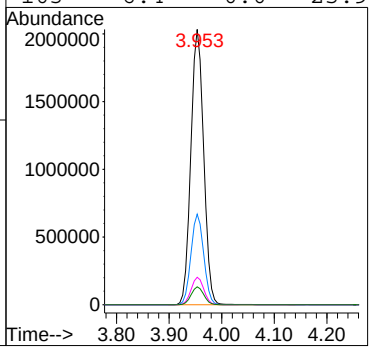


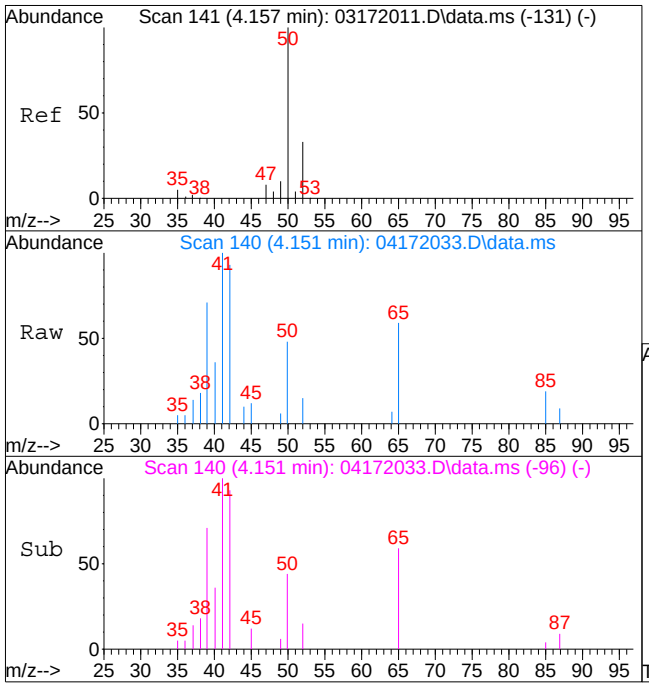


#3
Dichlorodifluoromethane (CFC 12)
Concen: 167.18 ng
RT: 3.95 min Scan# 104
Delta R.T. 0.000 min
Lab File: 04172033.D
Acq: 17 Apr 2020 20:56

Tgt Ion: 85 Resp: 3441312

Ion	Ratio	Lower	Upper
85	100		
87	32.7	12.4	52.4
101	9.9	0.0	29.2
103	6.4	0.0	25.9

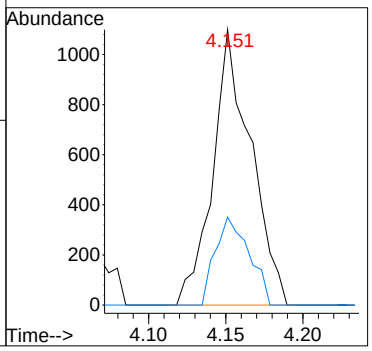


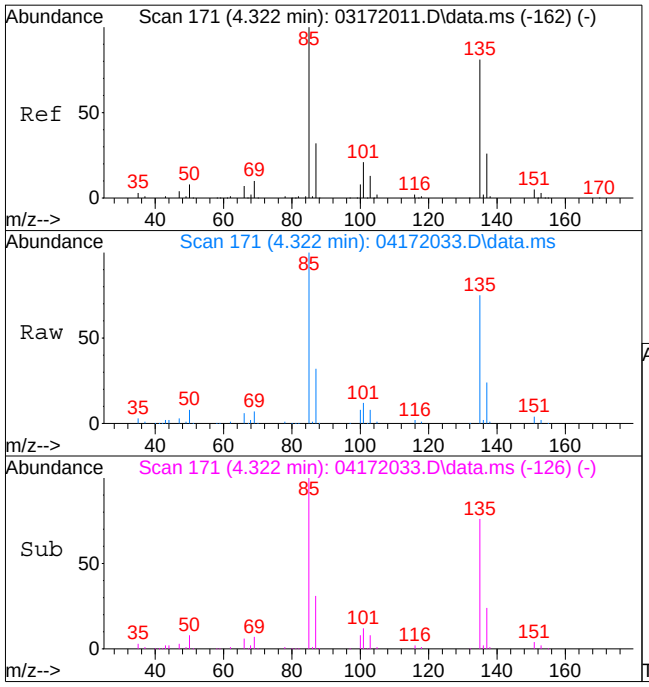


#4
Chloromethane
Concen: 0.15 ng
RT: 4.15 min Scan# 140
Delta R.T. -0.006 min
Lab File: 04172033.D
Acq: 17 Apr 2020 20:56

Tgt Ion: 50 Resp: 1886

Ion	Ratio	Lower	Upper
50	100		
52	28.4	13.3	53.3

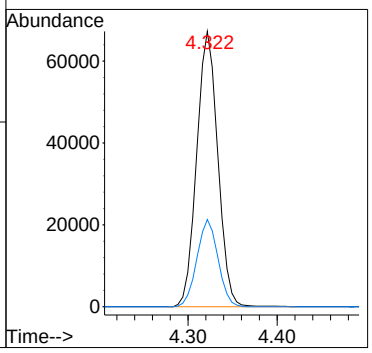


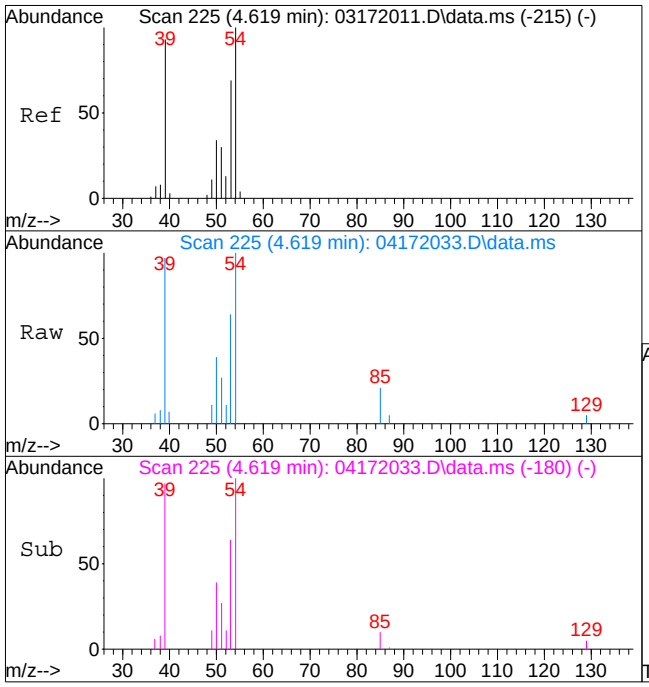


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 11.55 ng
RT: 4.32 min Scan# 171
Delta R.T. -0.000 min
Lab File: 04172033.D
Acq: 17 Apr 2020 20:56

Tgt Ion:135 Resp: 110877

Ion	Ratio	Lower	Upper
135	100		
137	31.6	12.0	52.0

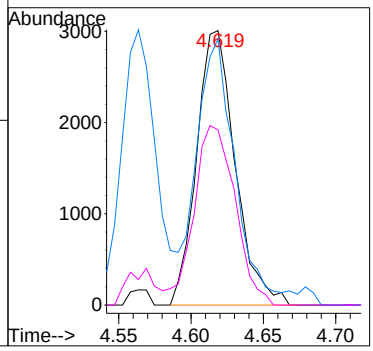


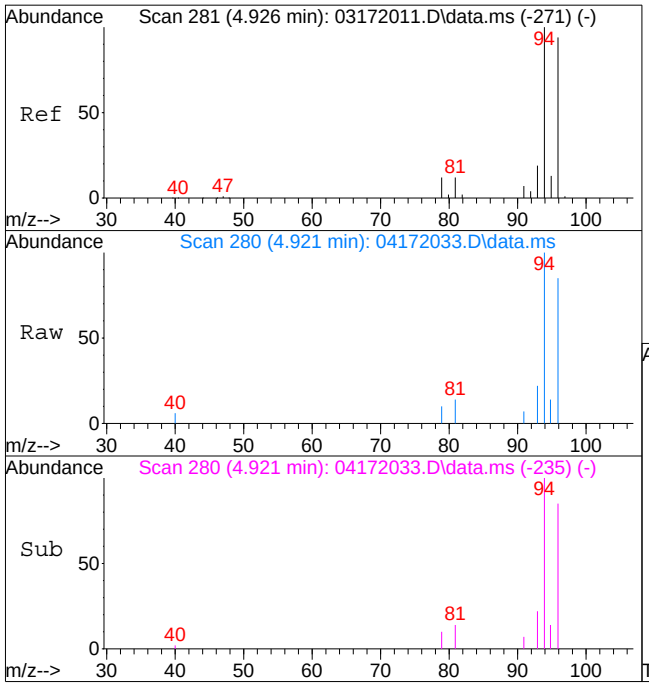


#7
1,3-Butadiene
Concen: 0.75 ng
RT: 4.62 min Scan# 225
Delta R.T. -0.000 min
Lab File: 04172033.D
Acq: 17 Apr 2020 20:56

Tgt Ion: 54 Resp: 5583

Ion	Ratio	Lower	Upper
54	100		
39	99.2	74.8	114.8
53	69.8	49.9	89.9

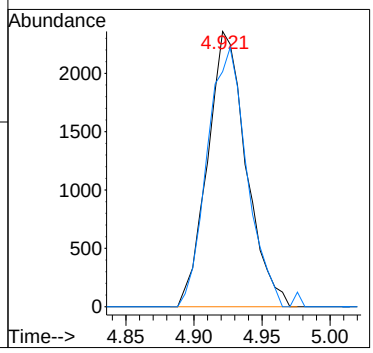


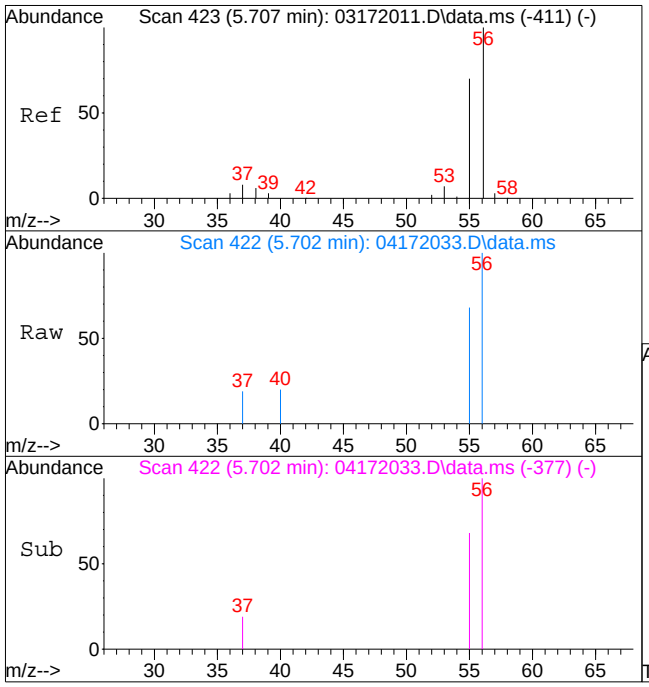


#8
Bromomethane
Concen: 0.49 ng
RT: 4.92 min Scan# 280
Delta R.T. -0.005 min
Lab File: 04172033.D
Acq: 17 Apr 2020 20:56

Tgt Ion: 94 Resp: 4653

Ion	Ratio	Lower	Upper
94	100		
96	96.7	75.1	115.1

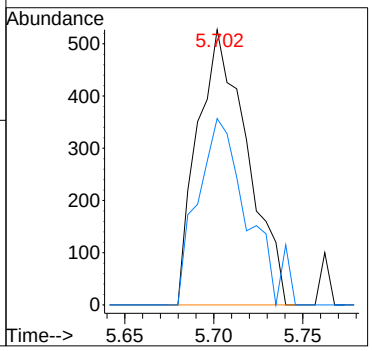


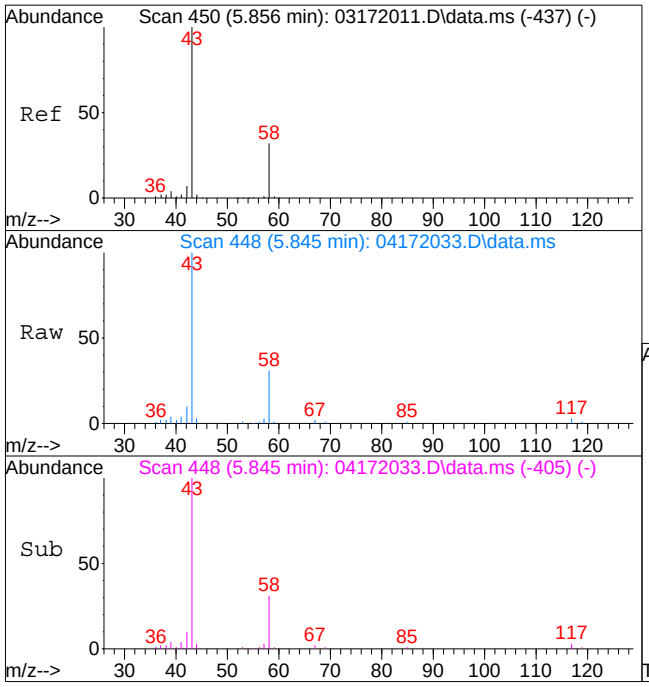


#12
Acrolein
Concen: 0.17 ng
RT: 5.70 min Scan# 422
Delta R.T. -0.005 min
Lab File: 04172033.D
Acq: 17 Apr 2020 20:56

Tgt Ion: 56 Resp: 1025

Ion	Ratio	Lower	Upper
56	100		
55	68.1	49.5	89.5

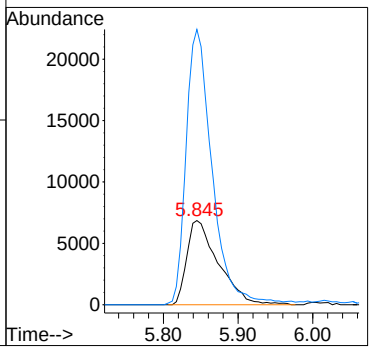


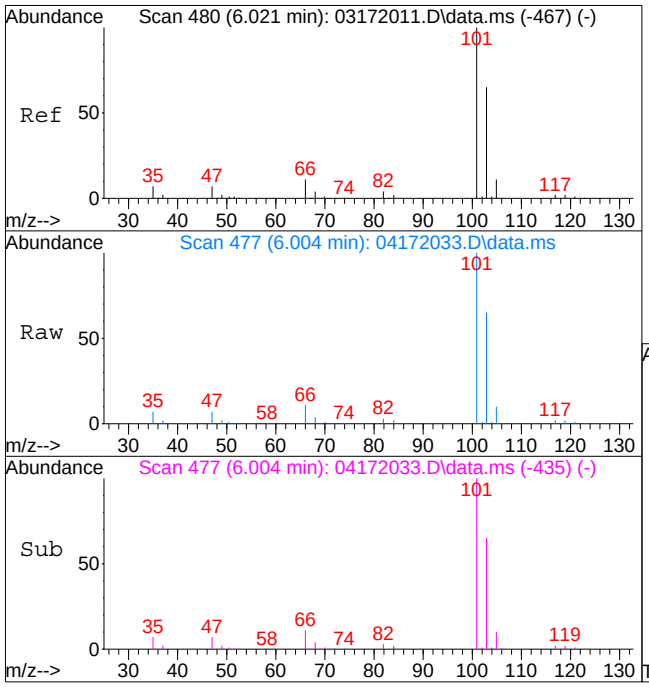


#13
Acetone
Concen: 2.84 ng
RT: 5.84 min Scan# 448
Delta R.T. -0.011 min
Lab File: 04172033.D
Acq: 17 Apr 2020 20:56

Tgt Ion: 58 Resp: 20150

Ion	Ratio	Lower	Upper
58	100		
43	270.8	272.8	332.8#

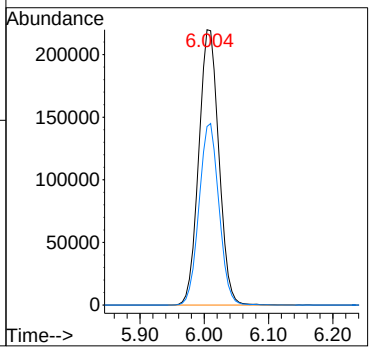


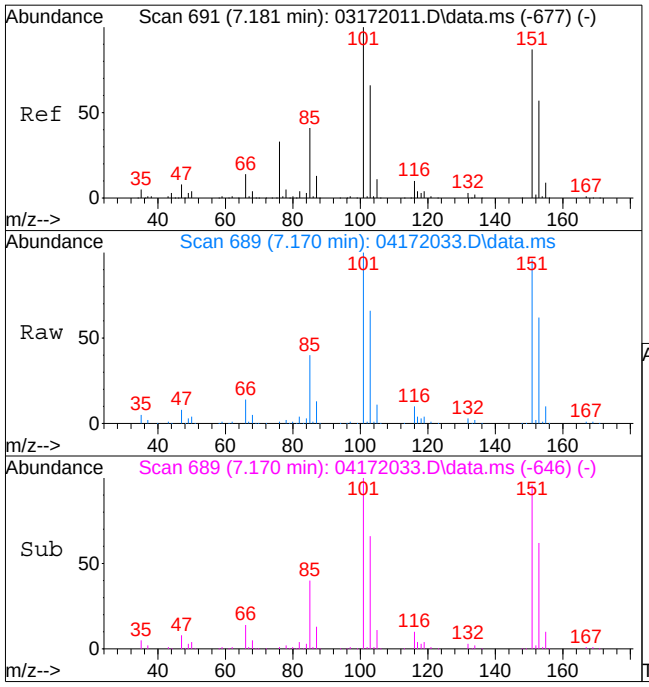


#14
Trichlorofluoromethane
Concen: 25.60 ng
RT: 6.00 min Scan# 477
Delta R.T. -0.017 min
Lab File: 04172033.D
Acq: 17 Apr 2020 20:56

Tgt Ion:101 Resp: 477206

Ion	Ratio	Lower	Upper
101	100		
103	65.3	45.3	85.3

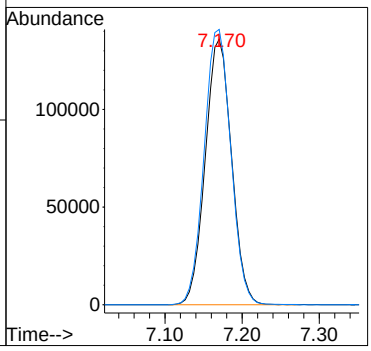


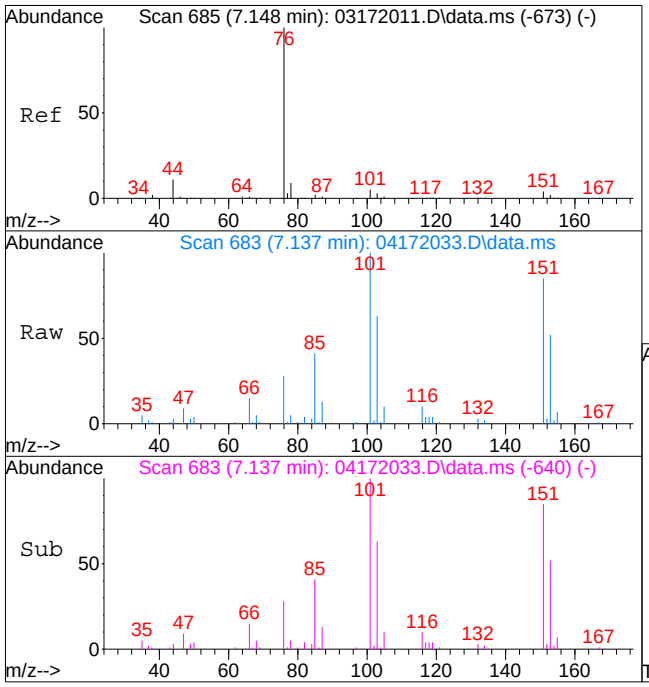


#21
Trichlorotrifluoroethane
Concen: 30.96 ng
RT: 7.17 min Scan# 689
Delta R.T. -0.011 min
Lab File: 04172033.D
Acq: 17 Apr 2020 20:56

Tgt Ion:151 Resp: 321657

Ion	Ratio	Lower	Upper
151	100		
101	105.4	94.7	134.7

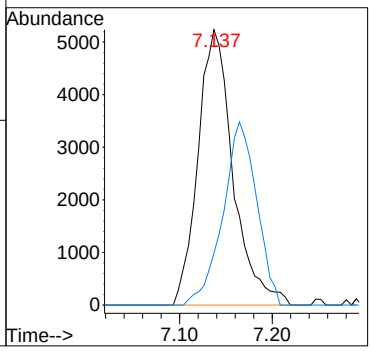


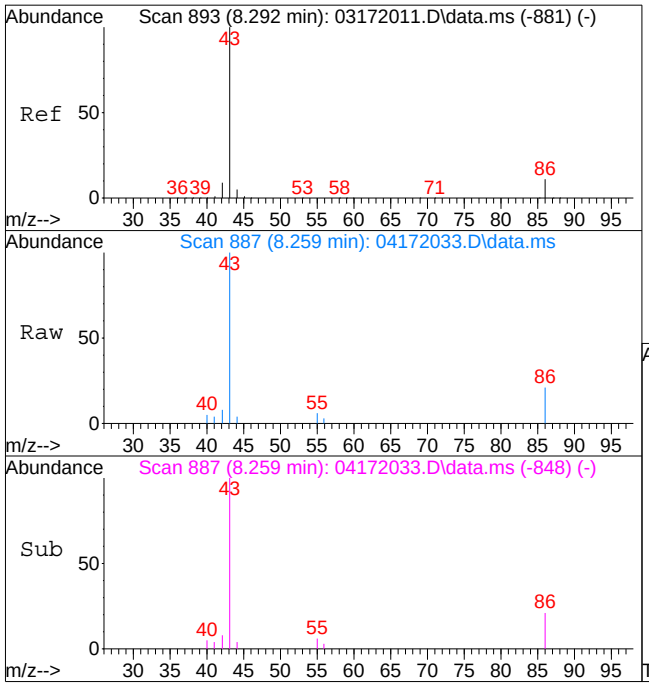


#22
Carbon Disulfide
Concen: 0.37 ng
RT: 7.14 min Scan# 683
Delta R.T. -0.011 min
Lab File: 04172033.D
Acq: 17 Apr 2020 20:56

Tgt Ion: 76 Resp: 13772

Ion	Ratio	Lower	Upper
76	100		
78	64.0	0.0	29.7#

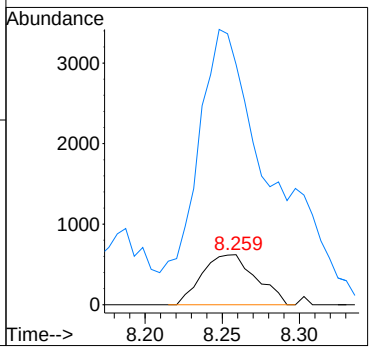


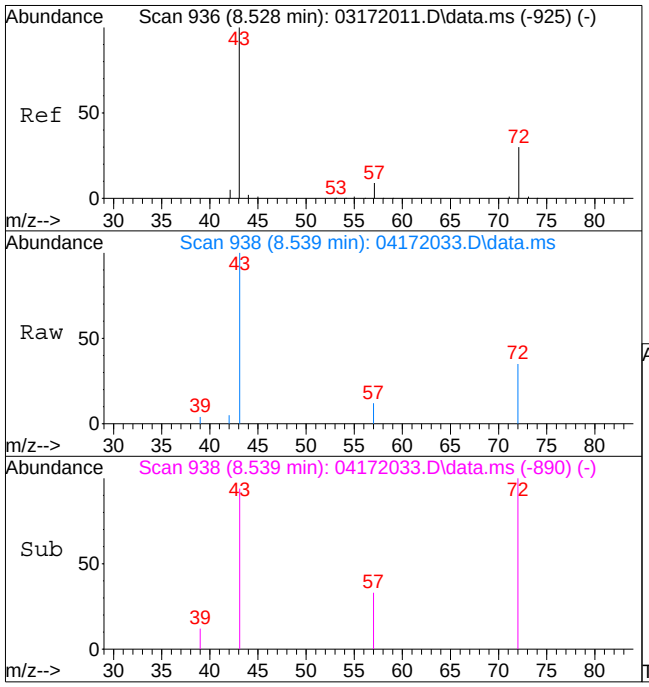


#26
Vinyl Acetate
Concen: 0.63 ng
RT: 8.26 min Scan# 887
Delta R.T. -0.033 min
Lab File: 04172033.D
Acq: 17 Apr 2020 20:56

Tgt Ion: 86 Resp: 1503

Ion	Ratio	Lower	Upper
86	100		
43	773.0	905.1	945.1#

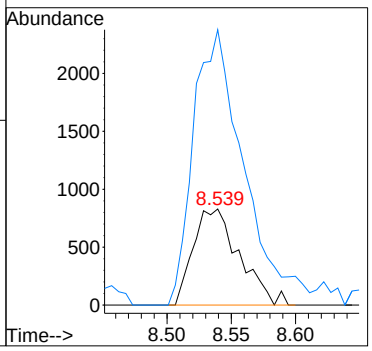


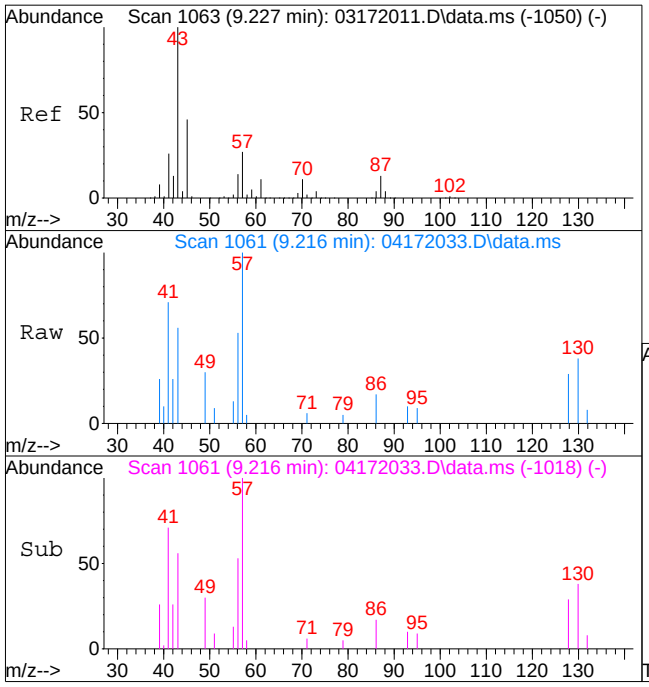


#27
2-Butanone (MEK)
Concen: 0.30 ng
RT: 8.54 min Scan# 938
Delta R.T. 0.011 min
Lab File: 04172033.D
Acq: 17 Apr 2020 20:56

Tgt Ion: 72 Resp: 2067

Ion	Ratio	Lower	Upper
72	100		
43	315.1	310.6	350.6

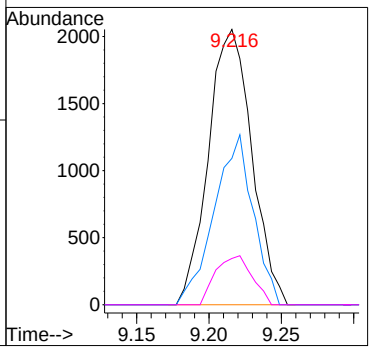


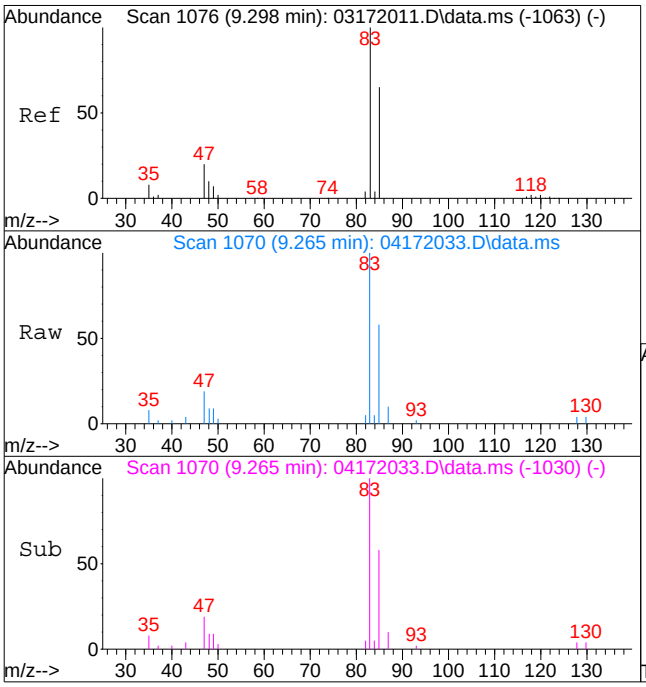


#31
n-Hexane
Concen: 0.28 ng
RT: 9.22 min Scan# 1061
Delta R.T. -0.011 min
Lab File: 04172033.D
Acq: 17 Apr 2020 20:56

Tgt Ion: 57 Resp: 4296

Ion	Ratio	Lower	Upper
57	100		
56	55.4	42.0	63.0
86	15.0	13.1	19.7

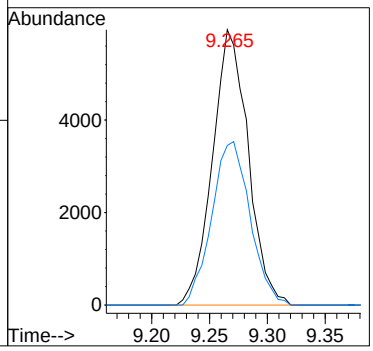


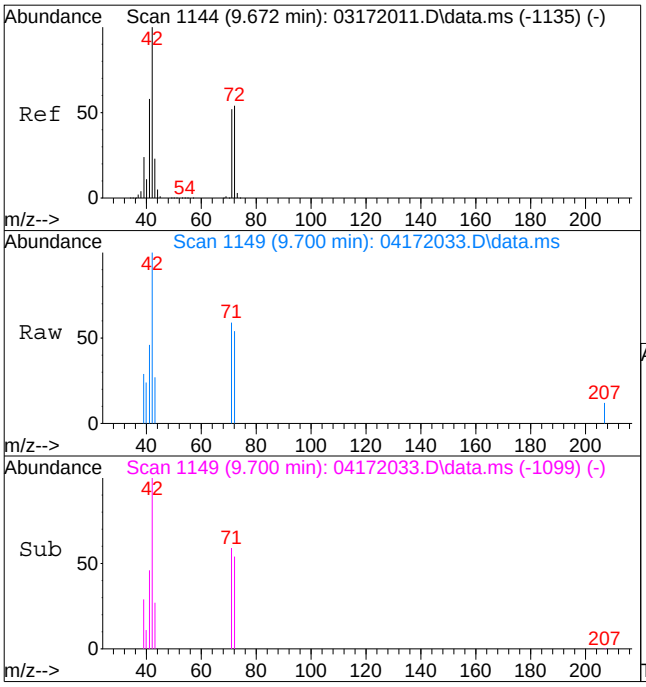


#32
Chloroform
Concen: 0.69 ng
RT: 9.27 min Scan# 1070
Delta R.T. -0.033 min
Lab File: 04172033.D
Acq: 17 Apr 2020 20:56

Tgt Ion: 83 Resp: 12776

Ion	Ratio	Lower	Upper
83	100		
85	63.7	45.1	85.1

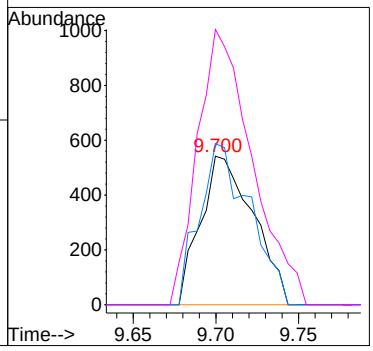


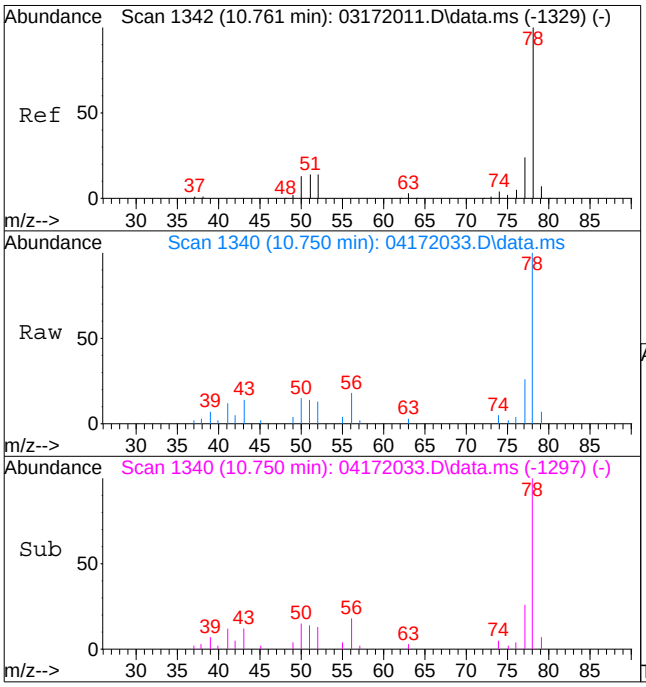


#34
Tetrahydrofuran (THF)
Concen: 0.18 ng
RT: 9.70 min Scan# 1149
Delta R.T. 0.028 min
Lab File: 04172033.D
Acq: 17 Apr 2020 20:56

Tgt Ion: 72 Resp: 1204

Ion	Ratio	Lower	Upper
72	100		
71	103.7	76.1	116.1
42	191.9	164.4	204.4

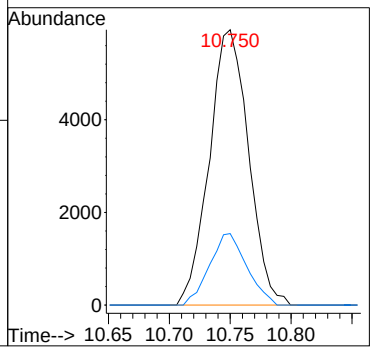


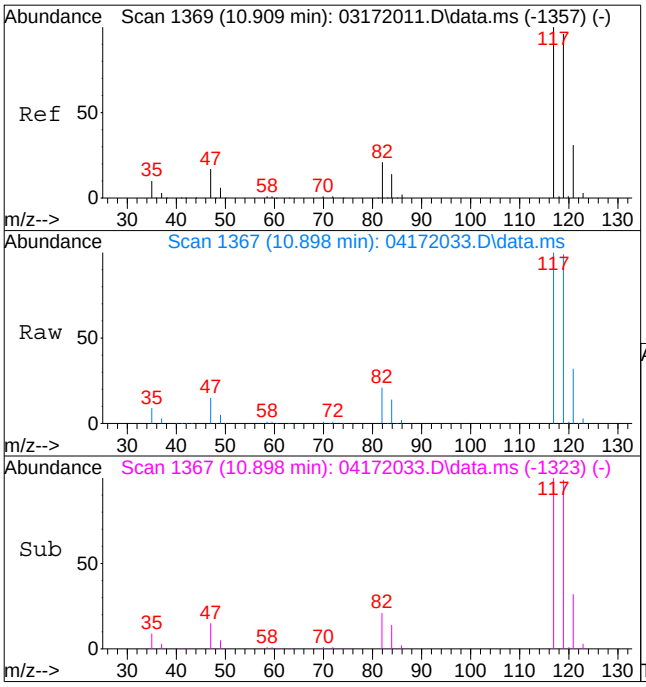


#41
Benzene
Concen: 0.30 ng
RT: 10.75 min Scan# 1340
Delta R.T. -0.011 min
Lab File: 04172033.D
Acq: 17 Apr 2020 20:56

Tgt Ion: 78 Resp: 13337

Ion	Ratio	Lower	Upper
78	100		
77	24.6	3.4	43.4

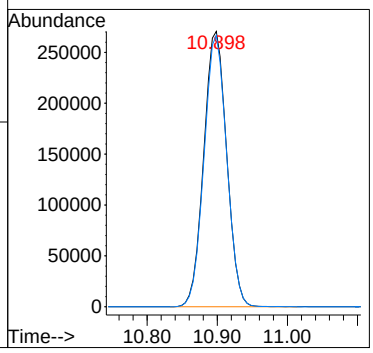


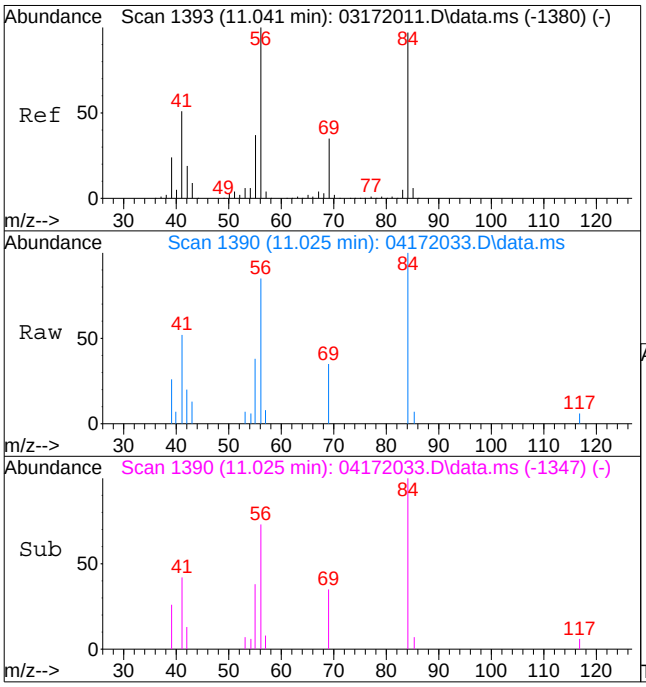


#42
Carbon Tetrachloride
Concen: 39.06 ng
RT: 10.90 min Scan# 1367
Delta R.T. -0.011 min
Lab File: 04172033.D
Acq: 17 Apr 2020 20:56

Tgt Ion:117 Resp: 613682

Ion	Ratio	Lower	Upper
117	100		
119	97.5	76.0	116.0

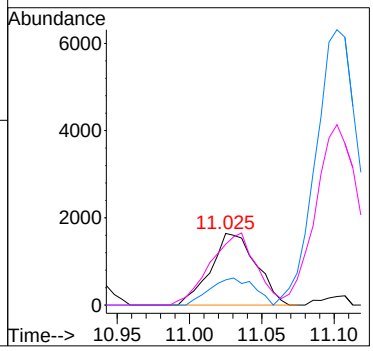


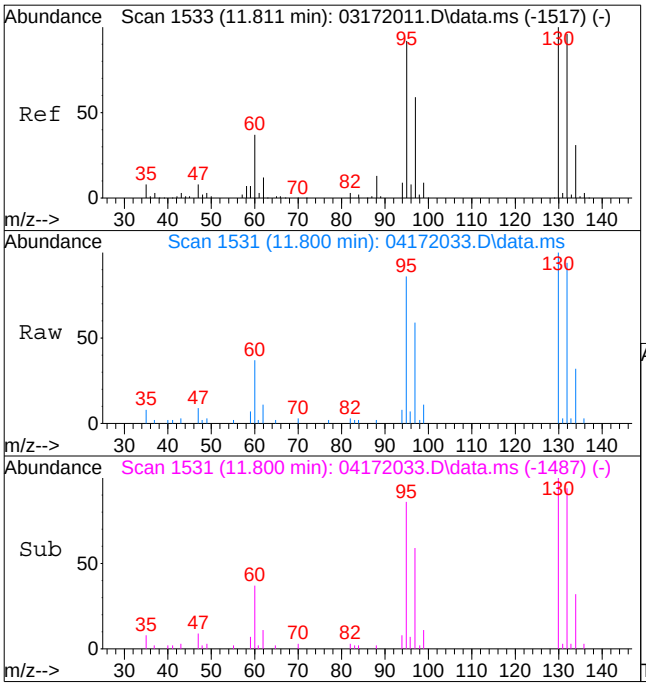


#43
Cyclohexane
Concen: 0.21 ng
RT: 11.02 min Scan# 1390
Delta R.T. -0.016 min
Lab File: 04172033.D
Acq: 17 Apr 2020 20:56

Tgt Ion: 84 Resp: 3584

Ion	Ratio	Lower	Upper
84	100		
69	36.9	16.6	56.6
56	101.8	85.3	125.3

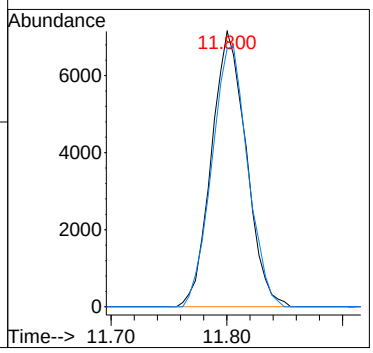


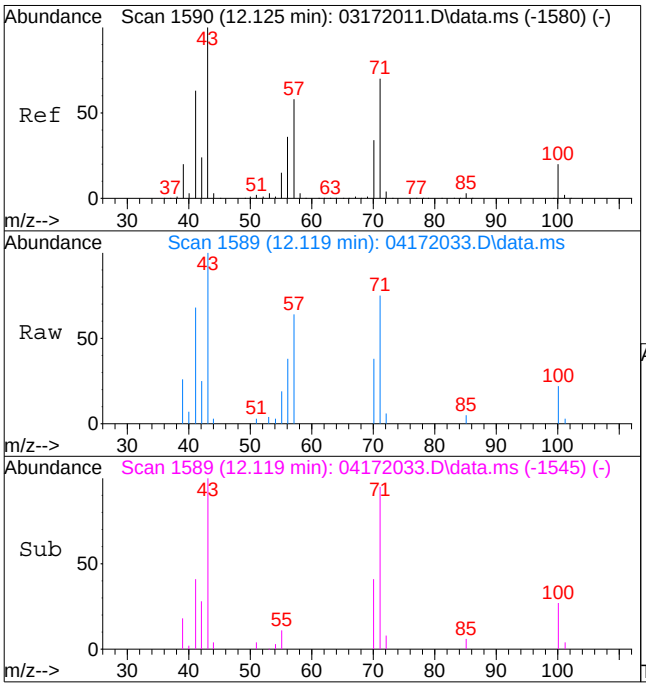


#47
Trichloroethene
Concen: 1.18 ng
RT: 11.80 min Scan# 1531
Delta R.T. -0.011 min
Lab File: 04172033.D
Acq: 17 Apr 2020 20:56

Tgt Ion:130 Resp: 14962

Ion	Ratio	Lower	Upper
130	100		
132	97.8	76.3	116.3

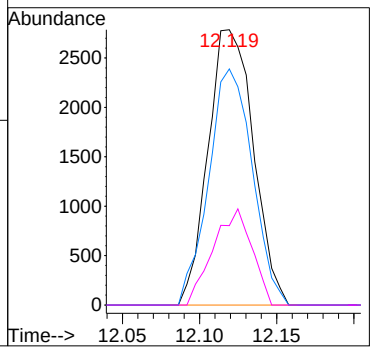


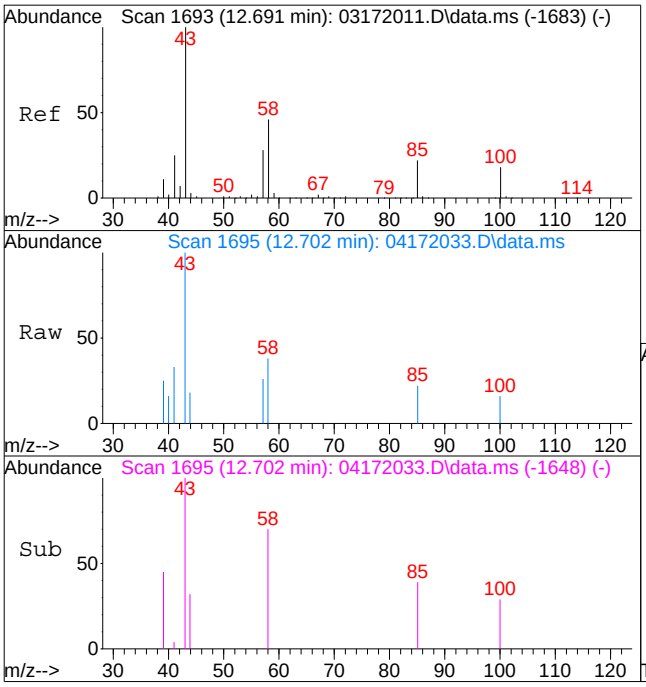


#51
n-Heptane
Concen: 0.54 ng
RT: 12.12 min Scan# 1589
Delta R.T. -0.006 min
Lab File: 04172033.D
Acq: 17 Apr 2020 20:56

Tgt Ion: 71 Resp: 5707

Ion	Ratio	Lower	Upper
71	100		
57	82.6	64.0	104.0
100	29.8	8.7	48.7

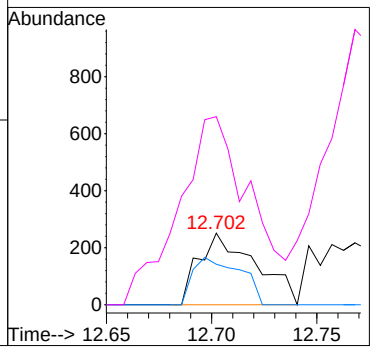


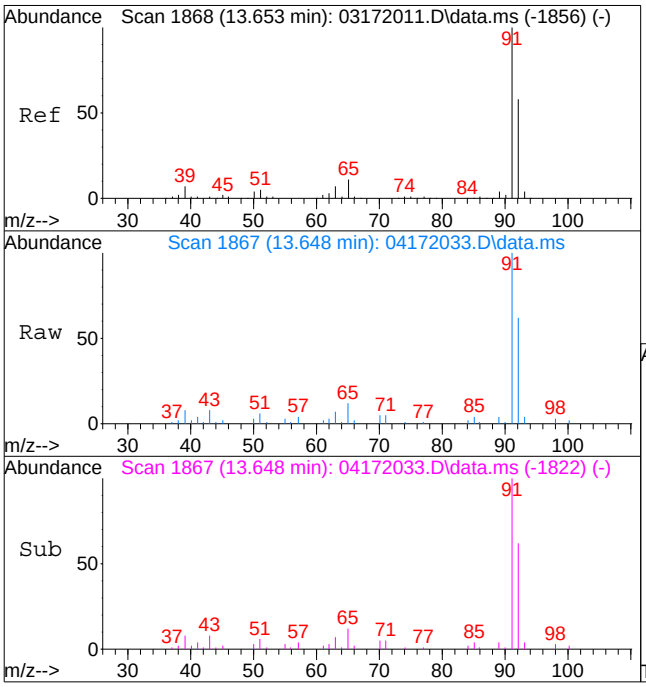


#53
4-Methyl-2-pentanone
Concen: 0.05 ng
RT: 12.70 min Scan# 1695
Delta R.T. 0.011 min
Lab File: 04172033.D
Acq: 17 Apr 2020 20:56

Tgt Ion: 58 Resp: 471

Ion	Ratio	Lower	Upper
58	100		
85	55.6	41.8	62.6
43	334.0	177.2	265.8#

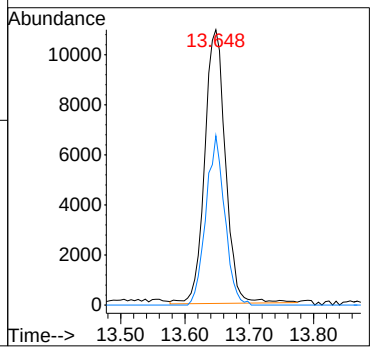


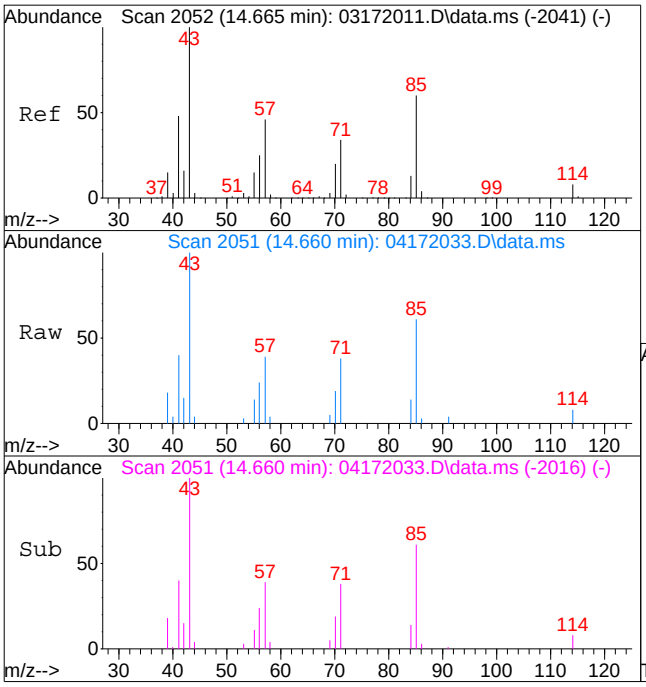


#58
Toluene
Concen: 0.53 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.005 min
Lab File: 04172033.D
Acq: 17 Apr 2020 20:56

Tgt Ion: 91 Resp: 24566

Ion	Ratio	Lower	Upper
91	100		
92	55.8	38.6	78.6

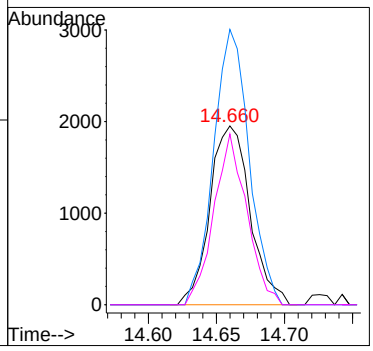


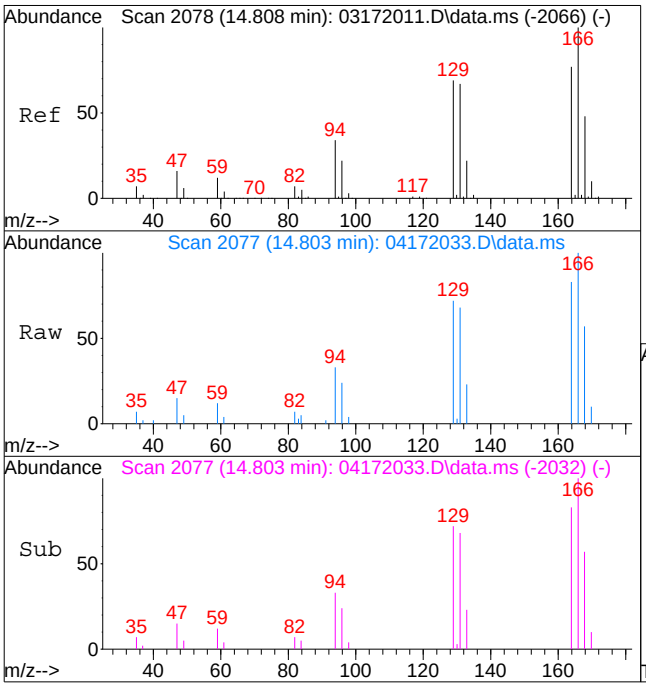


#63
n-Octane
Concen: 0.48 ng
RT: 14.66 min Scan# 2051
Delta R.T. -0.005 min
Lab File: 04172033.D
Acq: 17 Apr 2020 20:56

Tgt Ion: 57 Resp: 4013

Ion	Ratio	Lower	Upper
57	100		
85	136.3	105.4	158.2
71	78.2	59.0	88.4

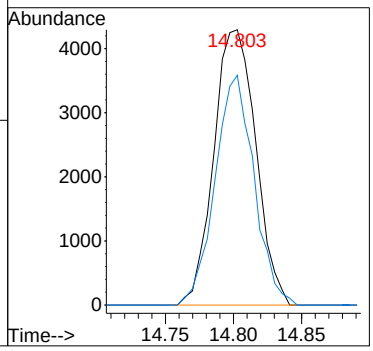


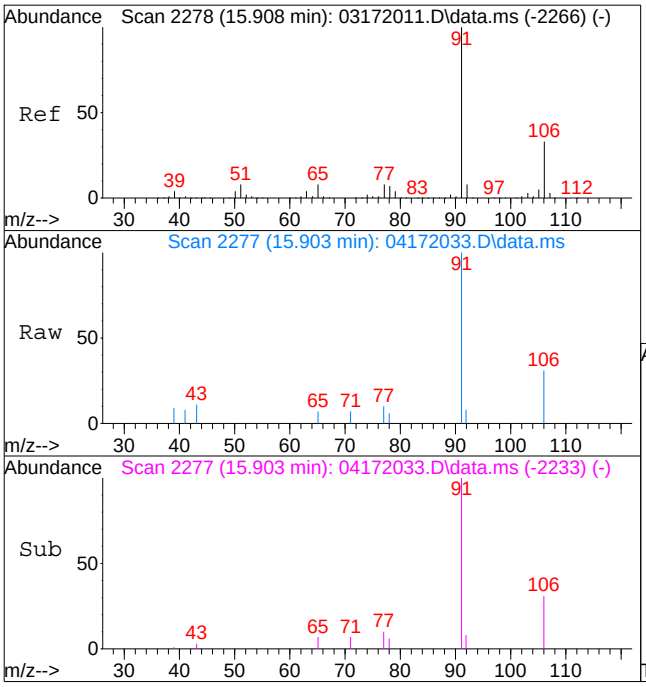


#64
Tetrachloroethene
Concen: 0.64 ng
RT: 14.80 min Scan# 2077
Delta R.T. -0.005 min
Lab File: 04172033.D
Acq: 17 Apr 2020 20:56

Tgt Ion:166 Resp: 9222

Ion	Ratio	Lower	Upper
166	100		
164	77.3	57.9	97.9

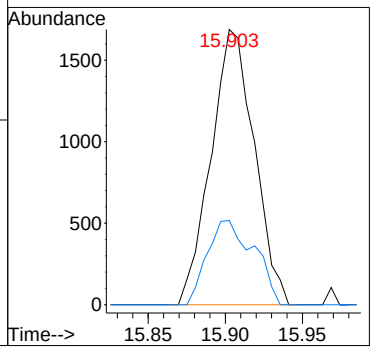


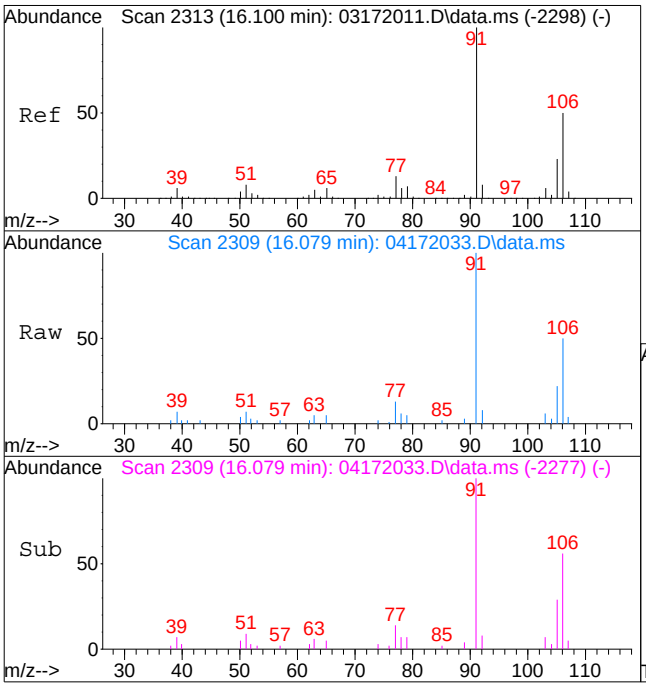


#66
Ethylbenzene
Concen: 0.07 ng
RT: 15.90 min Scan# 2277
Delta R.T. -0.005 min
Lab File: 04172033.D
Acq: 17 Apr 2020 20:56

Tgt Ion: 91 Resp: 3304

Ion	Ratio	Lower	Upper
91	100		
106	32.8	12.9	52.9

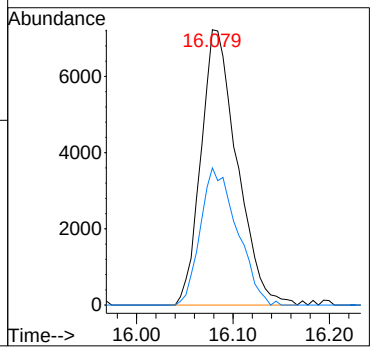


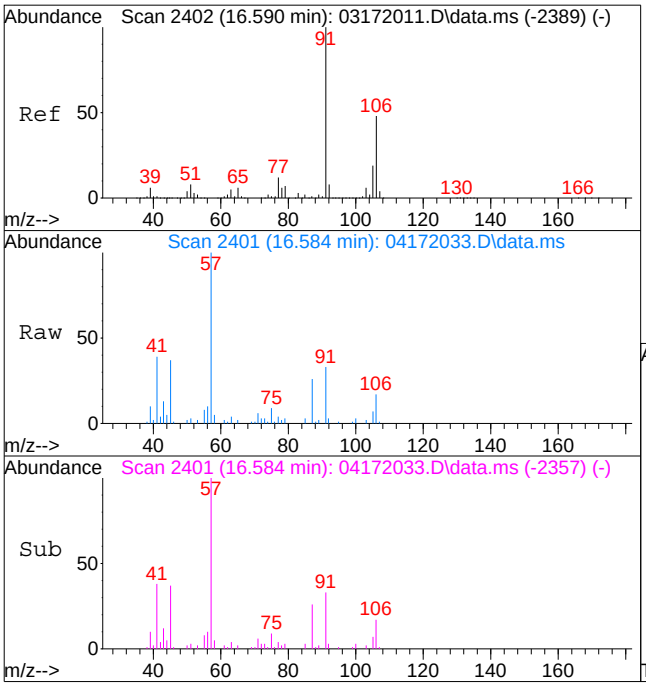


#67
m- & p-Xylenes
Concen: 0.47 ng
RT: 16.08 min Scan# 2309
Delta R.T. -0.021 min
Lab File: 04172033.D
Acq: 17 Apr 2020 20:56

Tgt Ion: 91 Resp: 18775

Ion	Ratio	Lower	Upper
91	100		
106	50.6	29.5	69.5

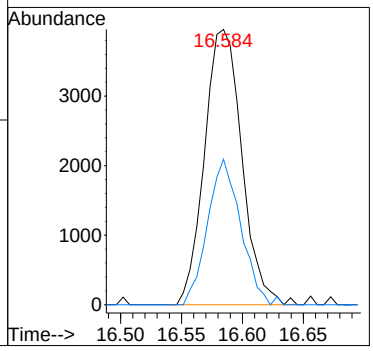


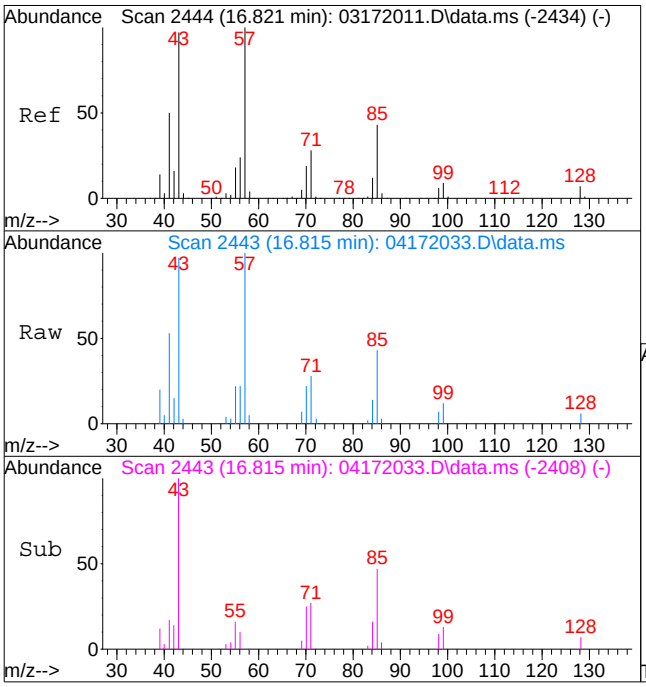


#70
o-Xylene
Concen: 0.21 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.006 min
Lab File: 04172033.D
Acq: 17 Apr 2020 20:56

Tgt Ion: 91 Resp: 8443

Ion	Ratio	Lower	Upper
91	100		
106	47.1	28.3	68.3

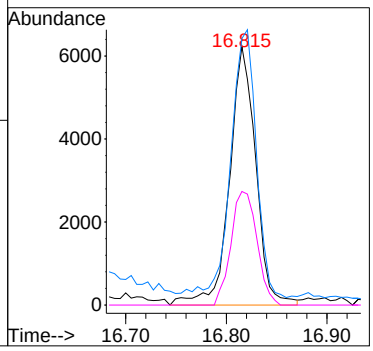


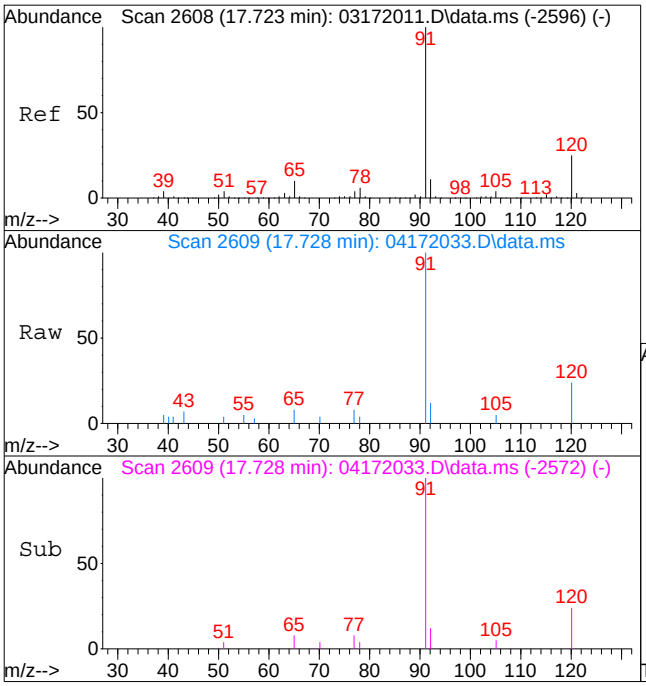


#71
n-Nonane
Concen: 0.66 ng
RT: 16.82 min Scan# 2443
Delta R.T. -0.006 min
Lab File: 04172033.D
Acq: 17 Apr 2020 20:56

Tgt Ion: 43 Resp: 11305

Ion	Ratio	Lower	Upper
43	100		
57	99.5	82.8	122.8
85	43.4	23.4	63.4

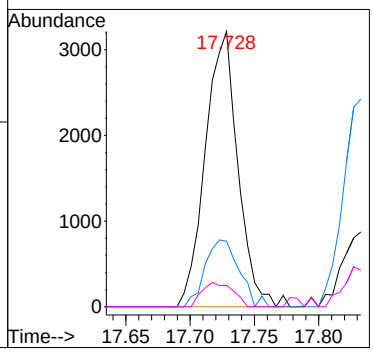


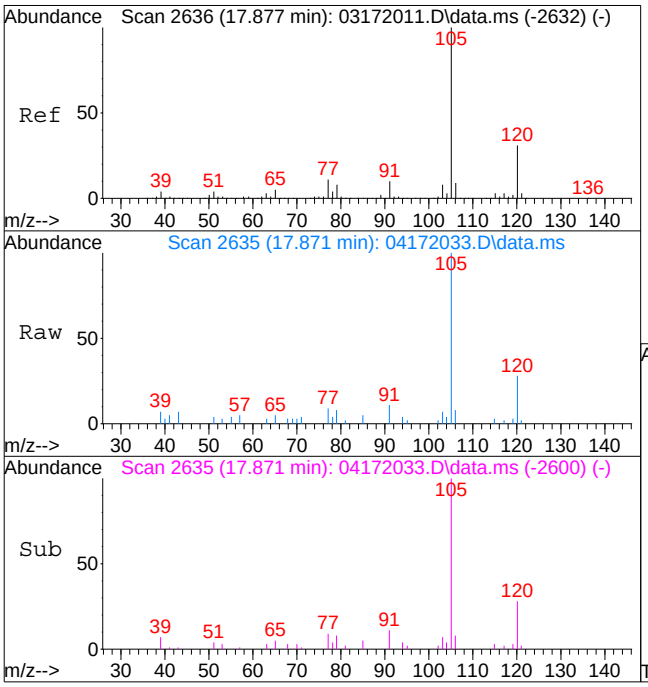


#76
n-Propylbenzene
Concen: 0.10 ng
RT: 17.73 min Scan# 2609
Delta R.T. 0.005 min
Lab File: 04172033.D
Acq: 17 Apr 2020 20:56

Tgt Ion: 91 Resp: 5670

Ion	Ratio	Lower	Upper
91	100		
120	25.4	5.0	45.0
65	8.4	0.0	30.0

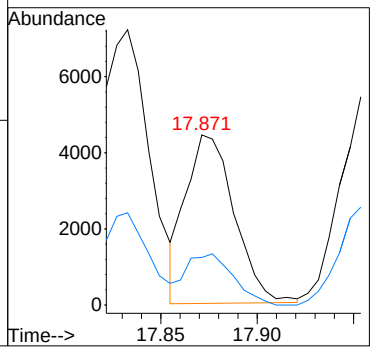


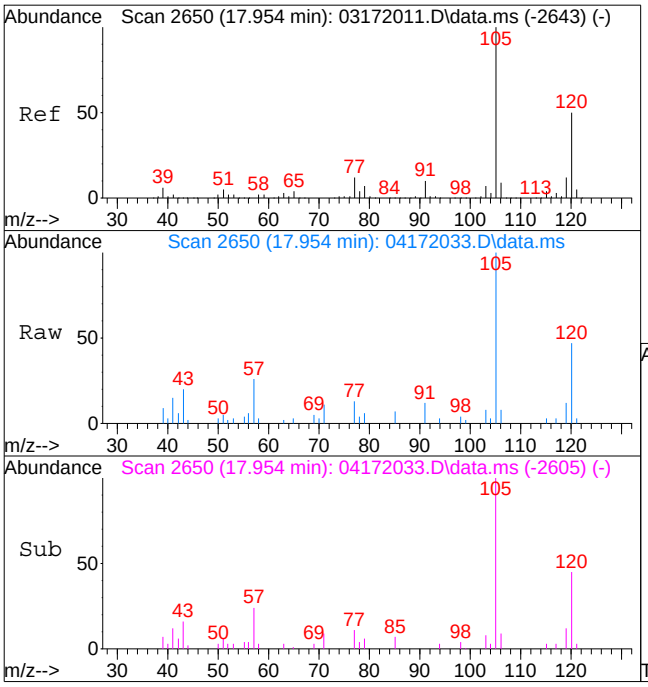


#78
4-Ethyltoluene
Concen: 0.16 ng
RT: 17.87 min Scan# 2635
Delta R.T. -0.006 min
Lab File: 04172033.D
Acq: 17 Apr 2020 20:56

Tgt Ion:105 Resp: 7767

Ion	Ratio	Lower	Upper
105	100		
120	29.9	11.2	51.2

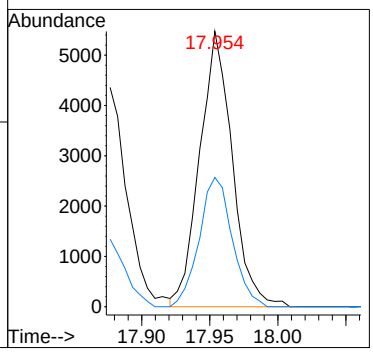


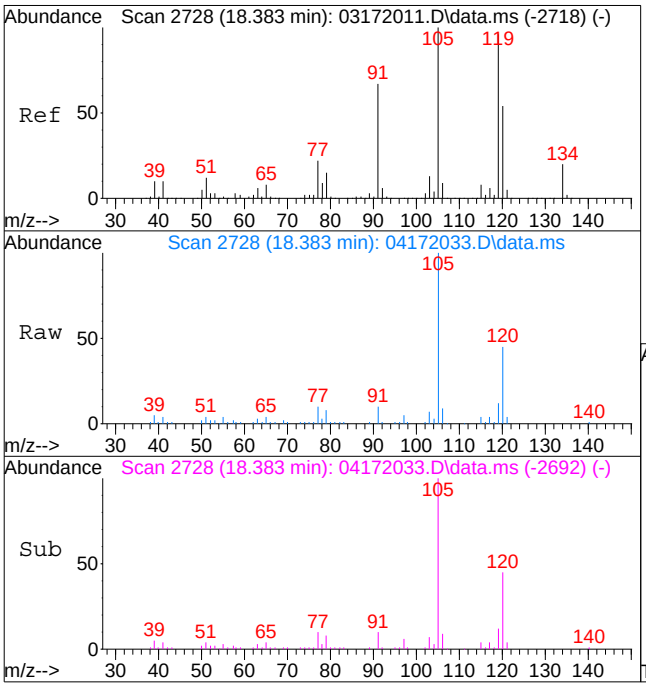


#79
1,3,5-Trimethylbenzene
Concen: 0.21 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.000 min
Lab File: 04172033.D
Acq: 17 Apr 2020 20:56

Tgt Ion:105 Resp: 9107

Ion	Ratio	Lower	Upper
105	100		
120	47.6	30.5	70.5

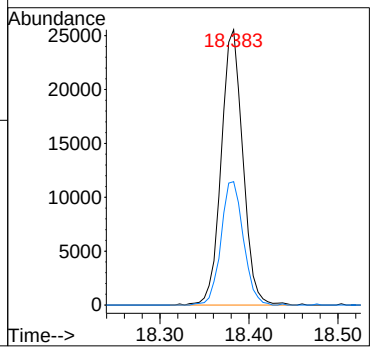


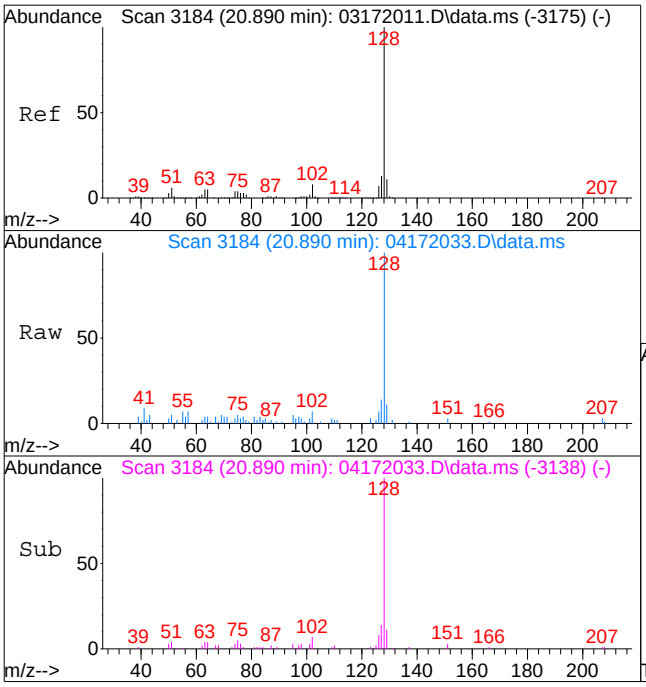


#82
1,2,4-Trimethylbenzene
Concen: 1.06 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.000 min
Lab File: 04172033.D
Acq: 17 Apr 2020 20:56

Tgt Ion:105 Resp: 43149

Ion	Ratio	Lower	Upper
105	100		
120	46.4	34.9	74.9

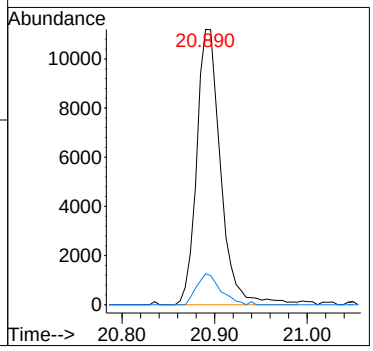




#95
Naphthalene
Concen: 0.36 ng
RT: 20.89 min Scan# 3184
Delta R.T. 0.000 min
Lab File: 04172033.D
Acq: 17 Apr 2020 20:56

Tgt Ion:128 Resp: 20137

Ion	Ratio	Lower	Upper
128	100		
129	11.1	0.0	30.9



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202013.D Vial: 16
Acq On : 20 Apr 2020 9:27 Operator: TD
Sample : P2002027-016dil (40mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 19:24:52 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/20/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	133268	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	11.10	114	568399	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	247229	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	207478	13.761	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.08%			
57) Toluene-d8 (SS2)	13.54	98	615224	12.512	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.08%			
73) Bromofluorobenzene (SS3)	17.05	174	220993	13.508	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.08%			
Target Compounds						Qvalue
2) Propene	3.86	42	934	0.114	ng	# 80
3) Dichlorodifluoromethan...	3.96	85	339988	17.878	ng	99
4) Chloromethane	4.20	50	312	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	9693	1.093	ng	100
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	4.64	54	2084	0.303	ng	98
8) Bromomethane	4.94	94	327	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.39	45	186	N.D.		
11) Acetonitrile	0.00	41	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) Acetone	5.89	58	2134	0.326	ng	97
14) Trichlorofluoromethane	6.02	101	42932	2.493	ng	100
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	0.00	84	0	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	7.18	151	27559	2.871	ng	95
22) Carbon Disulfide	7.16	76	1731	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	0.00	72	0	N.D. d		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	9.28	83	1021	0.060	ng	88
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D. d		
41) Benzene	10.76	78	2130	0.053	ng	84
42) Carbon Tetrachloride	10.90	117	53498	3.706	ng	99
43) Cyclohexane	11.11	84	149	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	11.82	130	1185	0.102	ng	95
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	11.87	57	679	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202013.D Vial: 16
Acq On : 20 Apr 2020 9:27 Operator: TD
Sample : P2002027-016dil (40mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 19:24:52 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

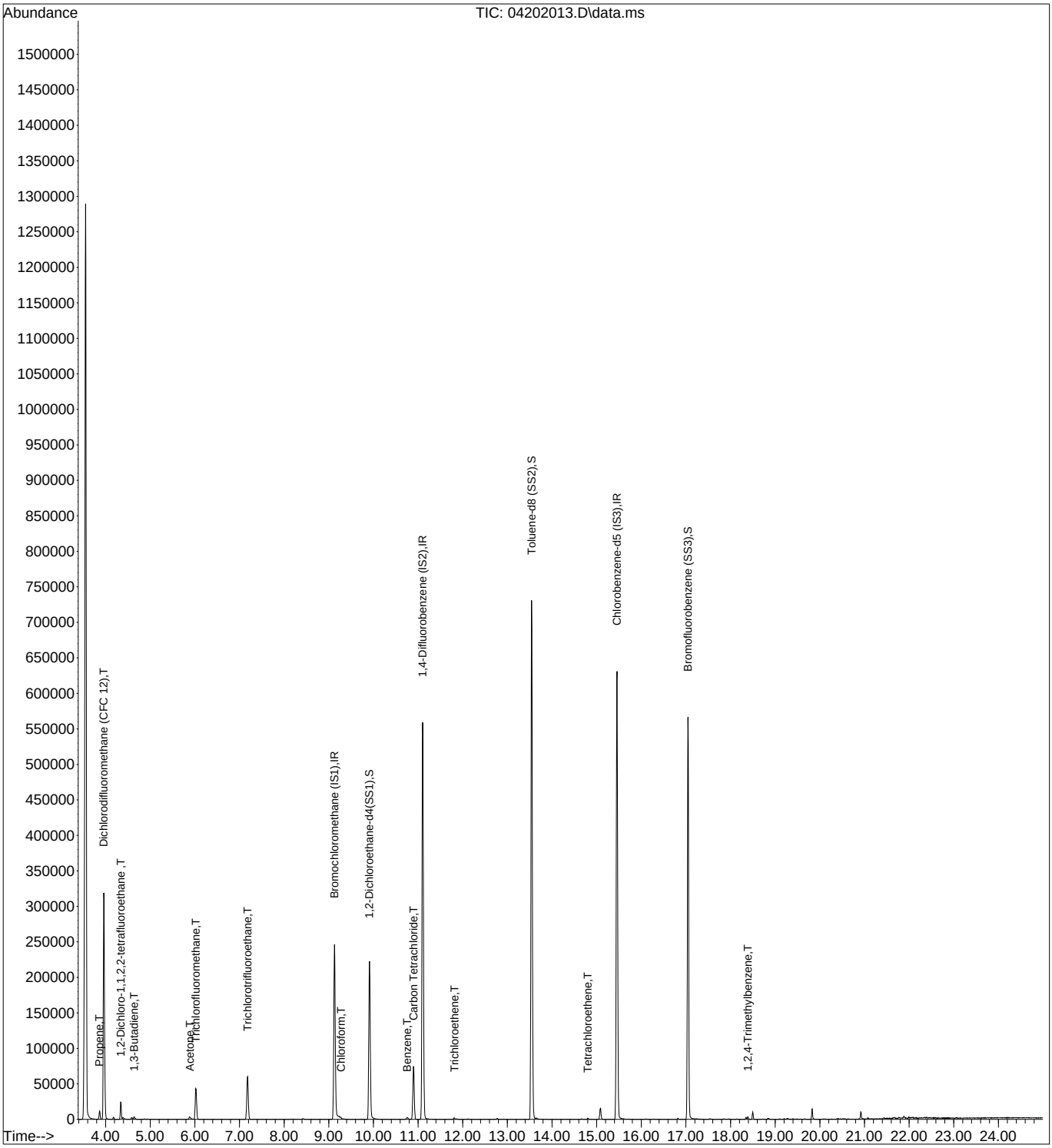
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.13	71	121	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.65	91	1561	N.D.	
59) 2-Hexanone	0.00	43	0	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	14.67	43	335	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.80	166	783	0.060 ng	89
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	0.00	91	0	N.D.	
67) m- & p-Xylenes	16.11	91	941	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.61	91	437	N.D.	
71) n-Nonane	16.82	43	720	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	17.05	105	214	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.74	91	333	N.D.	
77) 3-Ethyltoluene	17.84	105	809	N.D.	
78) 4-Ethyltoluene	17.89	105	694	N.D.	
79) 1,3,5-Trimethylbenzene	17.97	105	706	N.D.	
80) alpha-Methylstyrene	18.14	118	275	N.D.	
81) 2-Ethyltoluene	18.16	105	223	N.D.	
82) 1,2,4-Trimethylbenzene	18.39	105	2962	0.081 ng	88
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.38	91	245	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	18.83	105	1086	N.D.	
88) 4-Isopropyltoluene (p-...	18.84	119	365	N.D.	
89) 1,2,3-Trimethylbenzene	18.83	105	1086	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.92	128	1531	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	16.28	55	360	N.D.	
99) tert-Butylbenzene	18.38	119	364	N.D.	
100) n-Butylbenzene	19.28	91	831	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202013.D Vial: 16
Acq On : 20 Apr 2020 9:27 Operator: TD
Sample : P2002027-016dil (40mL) Inst : MS09
Misc : S31-02272010

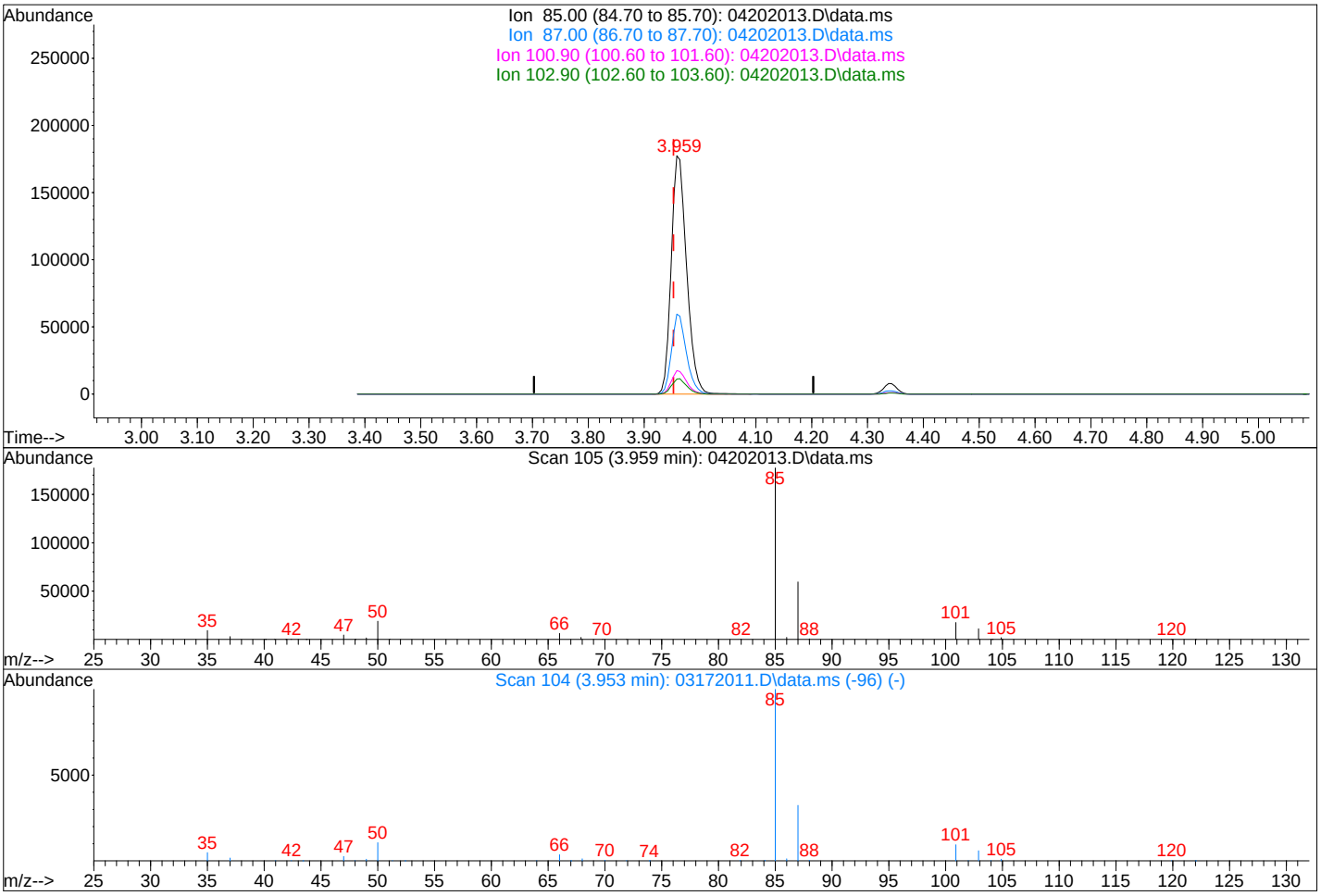
Quant Time: Apr 20 19:24:52 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\20\04202013.D Vial: 16
Acq On : 20 Apr 2020 9:27 Operator: TD
Sample : P2002027-016dil (40mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 10:04:14 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202013.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.959min (+0.006) 17.88ng

response 339988

Ion	Exp%	Act%
85.00	100	100
87.00	32.40	32.22
100.90	9.20	9.62
102.90	5.90	6.29

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202025.D Vial: 6
Acq On : 20 Apr 2020 16:21 Operator: SC
Sample : P2002027-017 (400mL) Inst : MS09
Misc : S31-02272010

4/20/20

Quant Time: Apr 20 17:28:16 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.14	130	120774	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.11	114	515520	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	230852	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.92	65	193197	14.139	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.12%				
57) Toluene-d8 (SS2)	13.54	98	566317	12.335	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.64%				
73) Bromofluorobenzene (SS3)	17.05	174	219251	14.353	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.80%				
Target Compounds							Qvalue
2) Propene	3.87	42	5508m	0.745	ng		
3) Dichlorodifluoromethan...	3.96	85	1887043	109.493	ng		99
4) Chloromethane	4.17	50	2035	0.196	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	53404	6.643	ng		99
6) Vinyl Chloride	4.33	62	256	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.	d		
8) Bromomethane	4.94	94	1215	0.154	ng		90
9) Chloroethane	5.15	64	257	N.D.			
10) Ethanol	5.37	45	5096	0.881	ng		92
11) Acetonitrile	5.57	41	8565	0.649	ng		93
12) Acrolein	5.71	56	2660	0.536	ng		100
13) Acetone	5.84	58	100635	16.943	ng	#	80
14) Trichlorofluoromethane	6.02	101	207626	13.304	ng		100
15) 2-Propanol (Isopropanol)	6.17	45	3566	0.189	ng	#	58
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	6.93	41	440	N.D.			
21) Trichlorotrifluoroethane	7.18	151	291081	33.465	ng		92
22) Carbon Disulfide	7.15	76	49475	1.570	ng		58
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	8.13	73	150	N.D.			
26) Vinyl Acetate	8.25	86	12527	6.312	ng	#	30
27) 2-Butanone (MEK)	8.52	72	23222	3.983	ng		91
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	0.00	57	0	N.D.	d		
32) Chloroform	9.28	83	364343	23.669	ng		100
34) Tetrahydrofuran (THF)	9.68	72	21170	3.758	ng		93
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	10.30	97	1961	0.141	ng		90
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.75	78	8192	0.223	ng		97
42) Carbon Tetrachloride	10.90	117	1181250	90.214	ng		99
43) Cyclohexane	11.03	84	10204	0.732	ng		95
44) tert-Amyl Methyl Ether	11.33	73	214	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	11.81	130	143530	13.560	ng		99
48) 1,4-Dioxane	11.82	88	300	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202025.D Vial: 6
Acq On : 20 Apr 2020 16:21 Operator: SC
Sample : P2002027-017 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 17:28:16 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

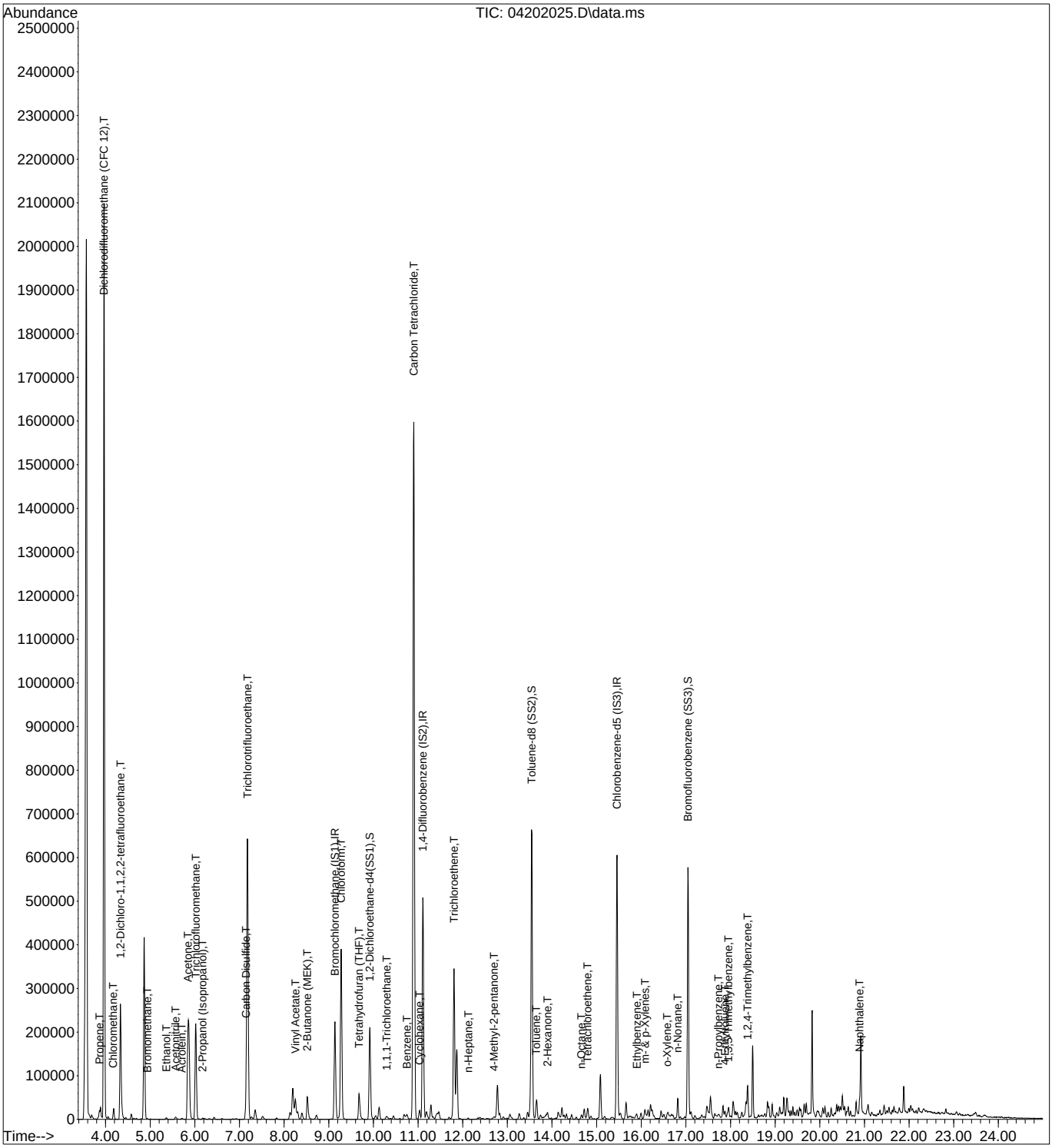
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	12.13	71	853	0.097 ng		82
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	12.70	58	1219	0.168 ng	#	1
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d		
58) Toluene	13.65	91	10618	0.273 ng		96
59) 2-Hexanone	13.90	43	10521	0.682 ng		92
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	14.55	43	423	N.D.		
63) n-Octane	14.66	57	2136	0.304 ng		96
64) Tetrachloroethene	14.80	166	6947	0.574 ng		100
65) Chlorobenzene	0.00	112	0	N.D. d		
66) Ethylbenzene	15.90	91	6613	0.158 ng		99
67) m- & p-Xylenes	16.08	91	18093	0.540 ng		98
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.49	104	368	N.D.		
70) o-Xylene	16.58	91	7357	0.220 ng		100
71) n-Nonane	16.82	43	15633	1.081 ng		96
72) 1,1,2,2-Tetrachloroethane	16.60	83	302	N.D.		
74) Cumene	17.19	105	2183	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	17.73	91	7052	0.141 ng		96
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	17.88	105	9827	0.245 ng		99
79) 1,3,5-Trimethylbenzene	17.95	105	9613	0.261 ng		96
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	18.38	105	42745	1.248 ng		87
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	18.51	91	493	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D. d		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	0.00	68	0	N.D. d		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	20.89	128	32245	0.684 ng		97
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202025.D Vial: 6
Acq On : 20 Apr 2020 16:21 Operator: SC
Sample : P2002027-017 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 17:28:16 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202025.D Vial: 6
Acq On : 20 Apr 2020 16:21 Operator: SC
Sample : P2002027-017 (400mL) Inst : MS09
Misc : S31-02272010

4/20/20

Quant Time: Apr 20 17:28:16 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

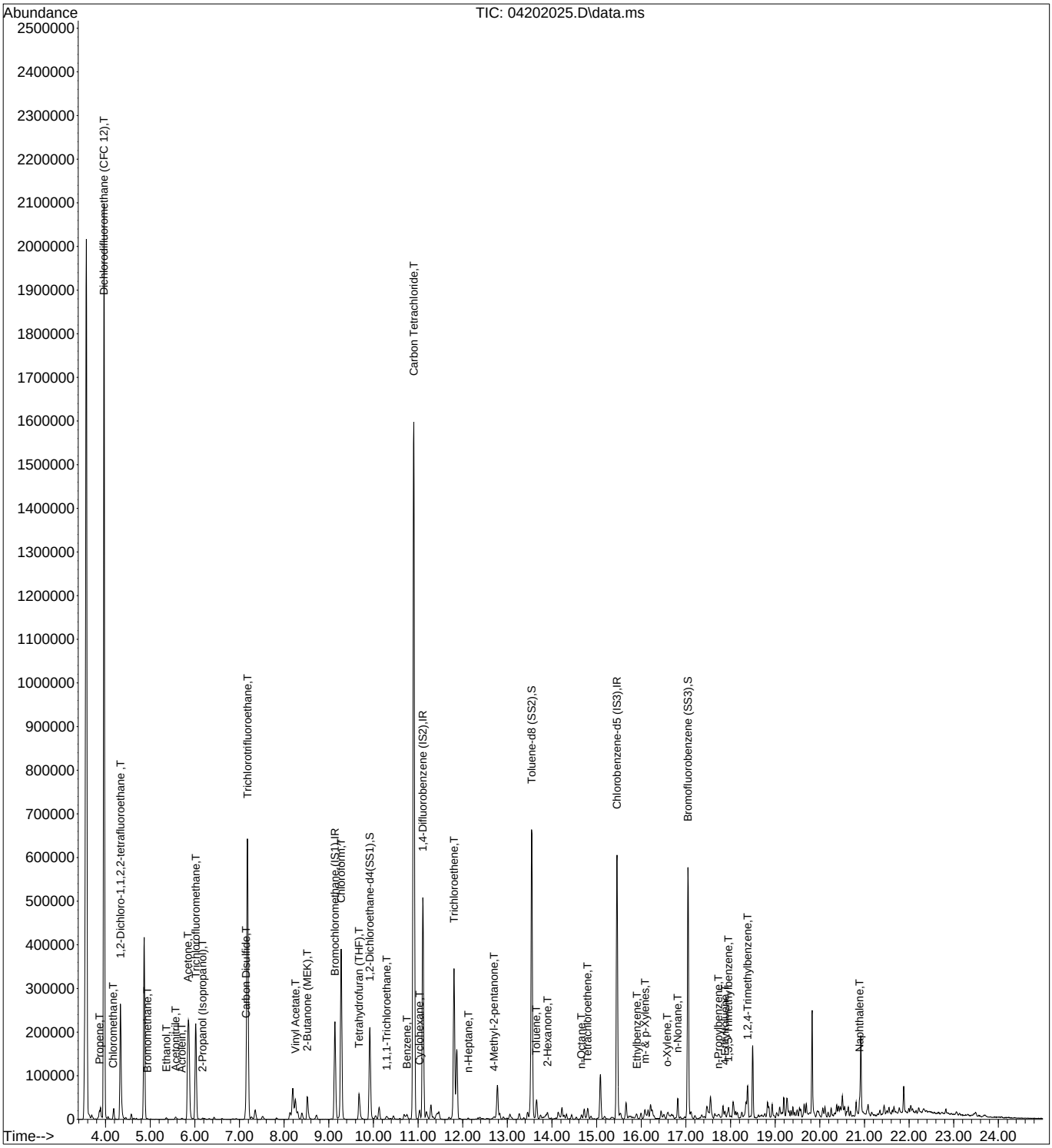
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (IS1)	9.14	130	120774	12.500 ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.11	114	515520	12.500 ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	230852	12.500 ng		0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.92	65	193197	14.139 ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.12%			
57) Toluene-d8 (SS2)	13.54	98	566317	12.335 ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.64%			
73) Bromofluorobenzene (SS3)	17.05	174	219251	14.353 ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.80%			
Target Compounds						Qvalue
2) Propene	3.87	42	5508m	0.745 ng		
3) Dichlorodifluoromethan...	3.96	85	1887043	109.493 ng		99
4) Chloromethane	4.17	50	2035	0.196 ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	53404	6.643 ng		99
8) Bromomethane	4.94	94	1215	0.154 ng		90
10) Ethanol	5.37	45	5096	0.881 ng		92
11) Acetonitrile	5.57	41	8565	0.649 ng		93
12) Acrolein	5.71	56	2660	0.536 ng		100
13) Acetone	5.84	58	100635	16.943 ng	#	80
14) Trichlorofluoromethane	6.02	101	207626	13.304 ng		100
15) 2-Propanol (Isopropanol)	6.17	45	3566	0.189 ng	#	58
21) Trichlorotrifluoroethane	7.18	151	291081	33.465 ng		92
22) Carbon Disulfide	7.15	76	49475	1.570 ng		58
26) Vinyl Acetate	8.25	86	12527	6.312 ng	#	30
27) 2-Butanone (MEK)	8.52	72	23222	3.983 ng		91
32) Chloroform	9.28	83	364343	23.669 ng		100
34) Tetrahydrofuran (THF)	9.68	72	21170	3.758 ng		93
38) 1,1,1-Trichloroethane	10.30	97	1961	0.141 ng		90
41) Benzene	10.75	78	8192	0.223 ng		97
42) Carbon Tetrachloride	10.90	117	1181250	90.214 ng		99
43) Cyclohexane	11.03	84	10204	0.732 ng		95
47) Trichloroethene	11.81	130	143530	13.560 ng		99
51) n-Heptane	12.13	71	853	0.097 ng		82
53) 4-Methyl-2-pentanone	12.70	58	1219	0.168 ng	#	1
58) Toluene	13.65	91	10618	0.273 ng		96
59) 2-Hexanone	13.90	43	10521	0.682 ng		92
63) n-Octane	14.66	57	2136	0.304 ng		96
64) Tetrachloroethene	14.80	166	6947	0.574 ng		100
66) Ethylbenzene	15.90	91	6613	0.158 ng		99
67) m- & p-Xylenes	16.08	91	18093	0.540 ng		98
70) o-Xylene	16.58	91	7357	0.220 ng		100
71) n-Nonane	16.82	43	15633	1.081 ng		96
76) n-Propylbenzene	17.73	91	7052	0.141 ng		96
78) 4-Ethyltoluene	17.88	105	9827	0.245 ng		99
79) 1,3,5-Trimethylbenzene	17.95	105	9613	0.261 ng		96
82) 1,2,4-Trimethylbenzene	18.38	105	42745	1.248 ng		87
95) Naphthalene	20.89	128	32245	0.684 ng		97

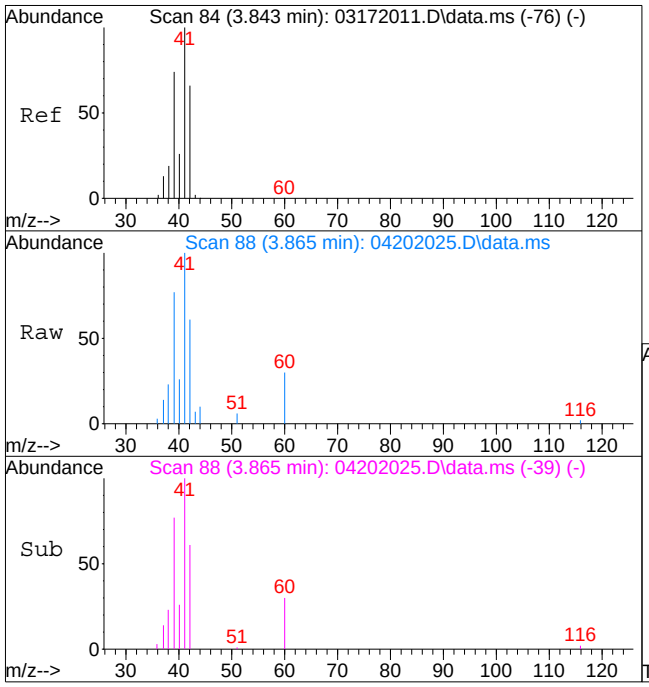
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202025.D Vial: 6
Acq On : 20 Apr 2020 16:21 Operator: SC
Sample : P2002027-017 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 17:28:16 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

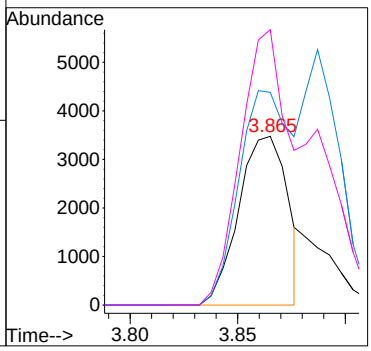


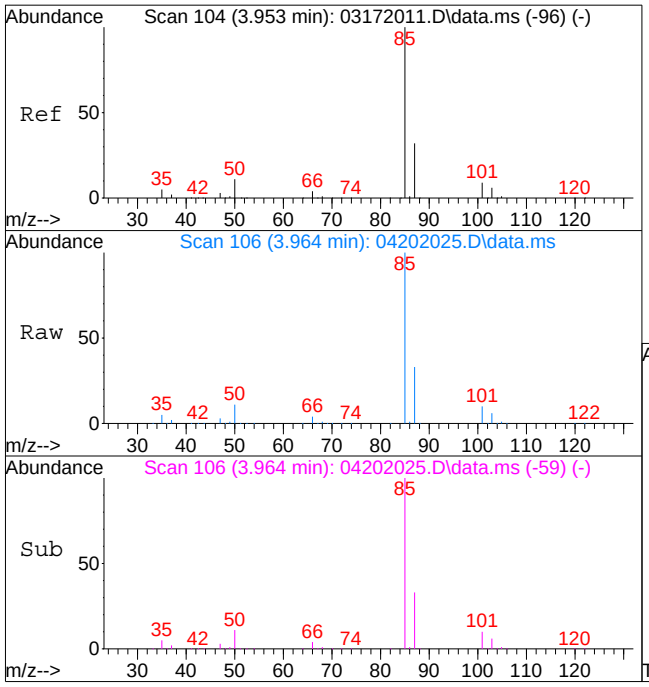


#2
Propene
Concen: 0.74 ng m
RT: 3.87 min Scan# 88
Delta R.T. 0.022 min
Lab File: 04202025.D
Acq: 20 Apr 2020 16:21

Tgt Ion: 42 Resp: 5508

Ion	Ratio	Lower	Upper
42	100		
39	135.9	91.9	131.9#
41	237.7	130.5	170.5#

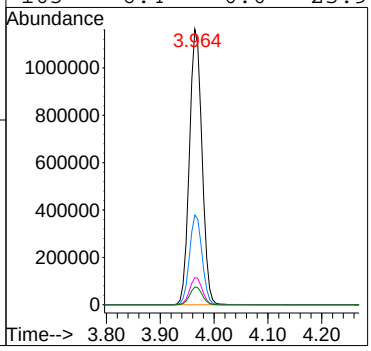


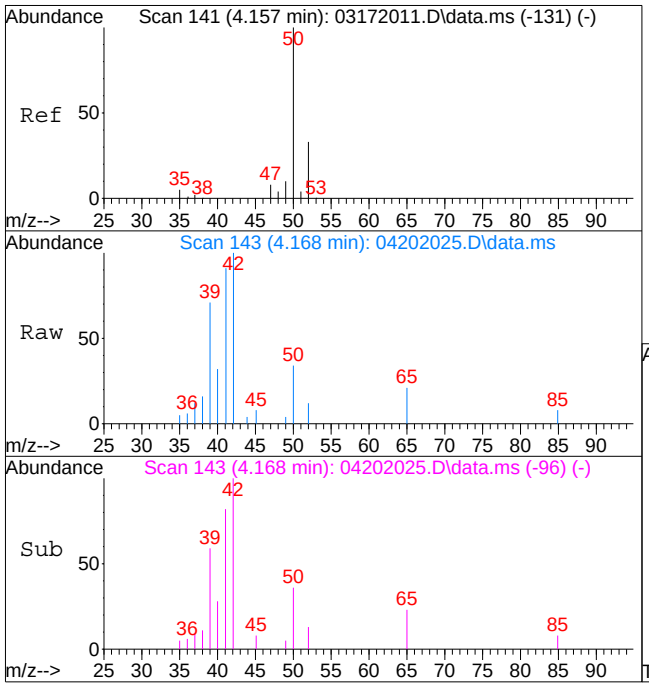


#3
Dichlorodifluoromethane (CFC 12)
Concen: 109.49 ng
RT: 3.96 min Scan# 106
Delta R.T. 0.011 min
Lab File: 04202025.D
Acq: 20 Apr 2020 16:21

Tgt Ion: 85 Resp: 1887043

Ion	Ratio	Lower	Upper
85	100		
87	32.6	12.4	52.4
101	9.9	0.0	29.2
103	6.4	0.0	25.9

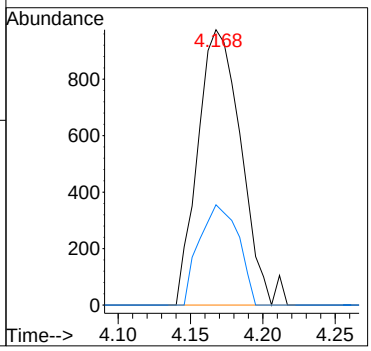


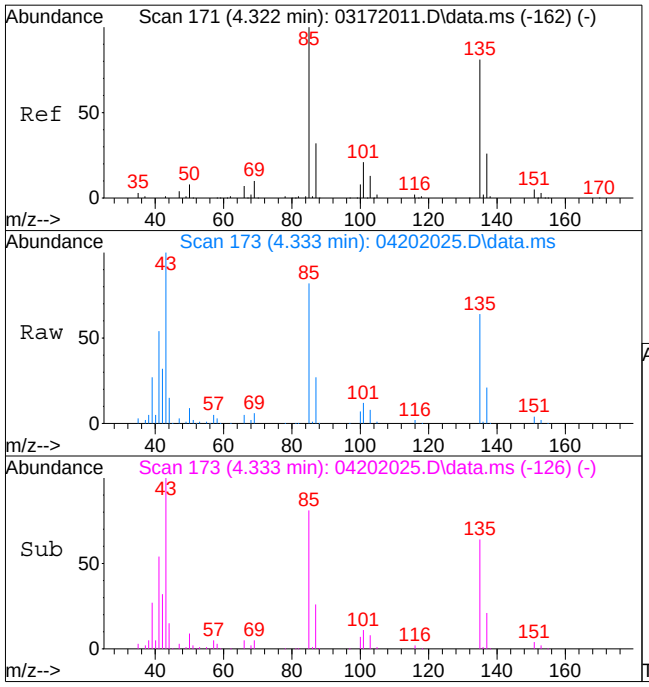


#4
Chloromethane
Concen: 0.20 ng
RT: 4.17 min Scan# 143
Delta R.T. 0.011 min
Lab File: 04202025.D
Acq: 20 Apr 2020 16:21

Tgt Ion: 50 Resp: 2035

Ion	Ratio	Lower	Upper
50	100		
52	33.0	13.3	53.3

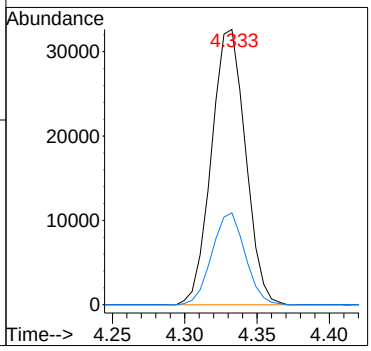


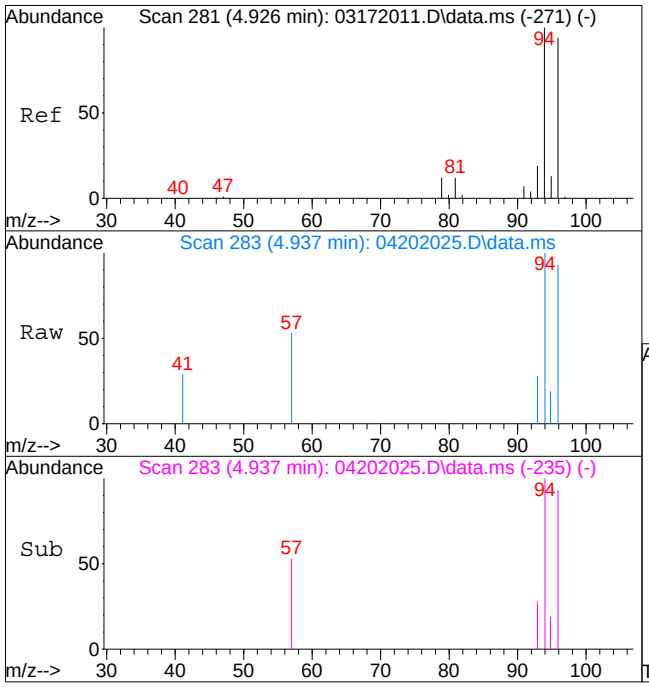


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 6.64 ng
RT: 4.33 min Scan# 173
Delta R.T. 0.011 min
Lab File: 04202025.D
Acq: 20 Apr 2020 16:21

Tgt Ion:135 Resp: 53404

Ion	Ratio	Lower	Upper
135	100		
137	32.6	12.0	52.0

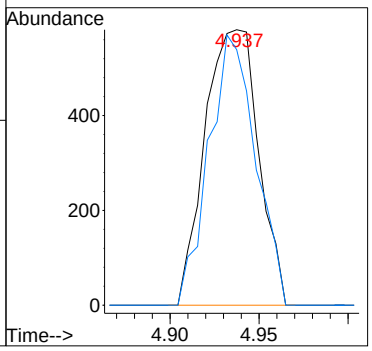


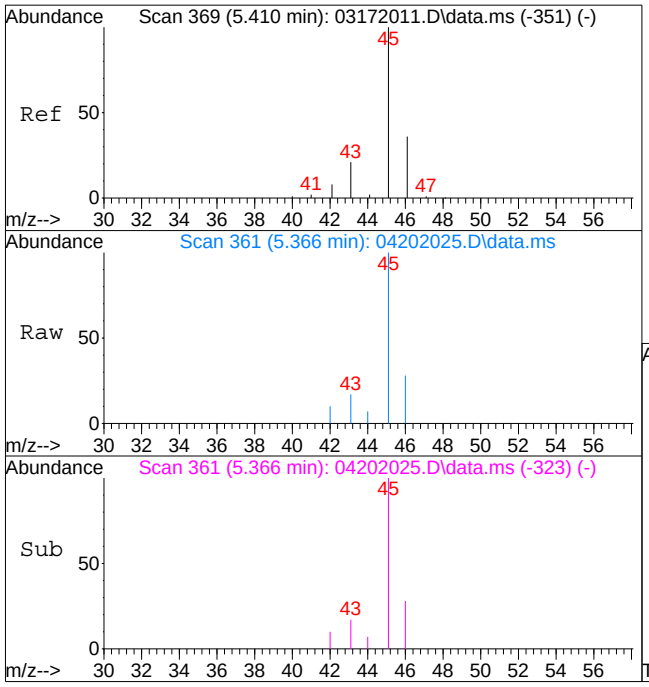


#8
Bromomethane
Concen: 0.15 ng
RT: 4.94 min Scan# 283
Delta R.T. 0.011 min
Lab File: 04202025.D
Acq: 20 Apr 2020 16:21

Tgt Ion: 94 Resp: 1215

Ion	Ratio	Lower	Upper
94	100		
96	85.5	75.1	115.1

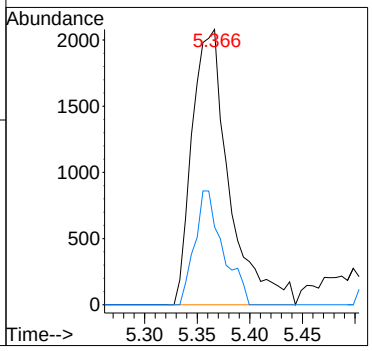


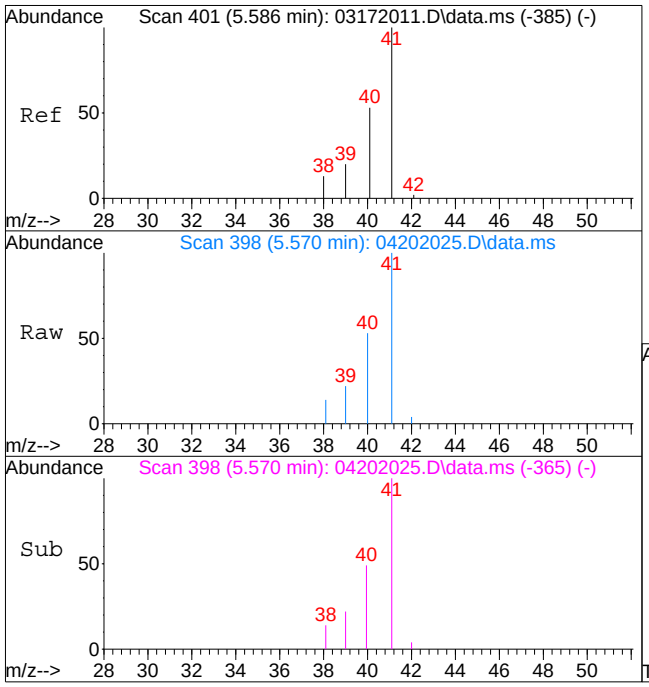


#10
Ethanol
Concen: 0.88 ng
RT: 5.37 min Scan# 361
Delta R.T. -0.044 min
Lab File: 04202025.D
Acq: 20 Apr 2020 16:21

Tgt Ion: 45 Resp: 5096

Ion	Ratio	Lower	Upper
45	100		
46	31.5	15.9	55.9

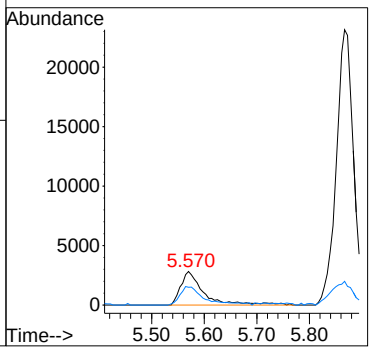


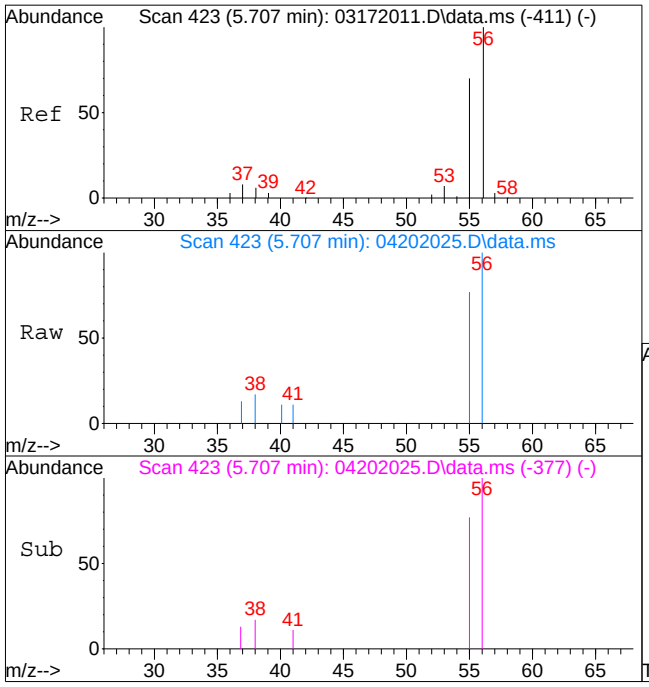


#11
Acetonitrile
Concen: 0.65 ng
RT: 5.57 min Scan# 398
Delta R.T. -0.016 min
Lab File: 04202025.D
Acq: 20 Apr 2020 16:21

Tgt Ion: 41 Resp: 8565

Ion	Ratio	Lower	Upper
41	100		
40	57.6	32.7	72.7

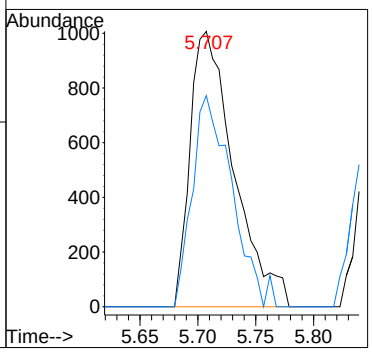


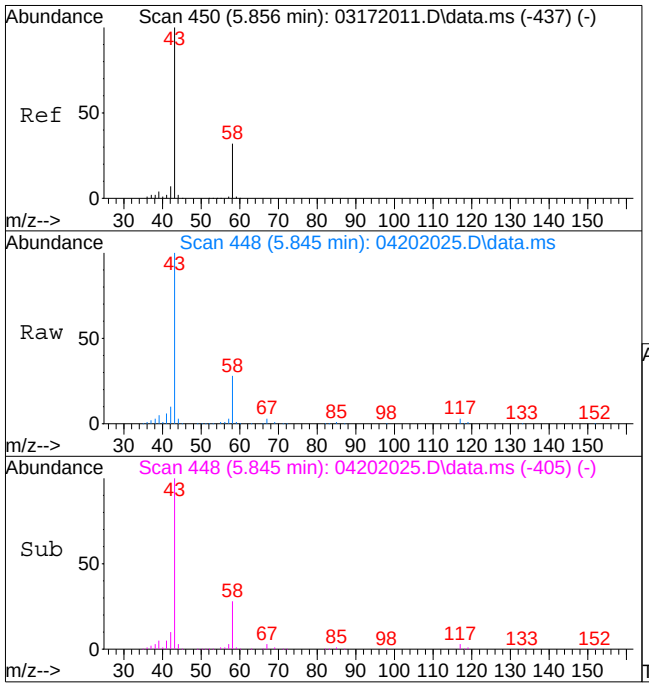


#12
Acrolein
Concen: 0.54 ng
RT: 5.71 min Scan# 423
Delta R.T. 0.000 min
Lab File: 04202025.D
Acq: 20 Apr 2020 16:21

Tgt Ion: 56 Resp: 2660

Ion	Ratio	Lower	Upper
56	100		
55	69.2	49.5	89.5

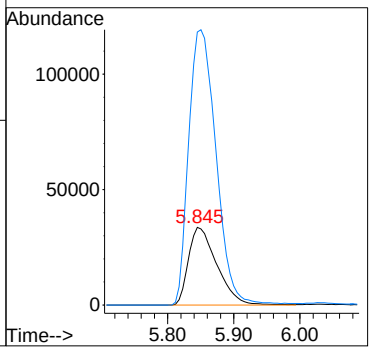


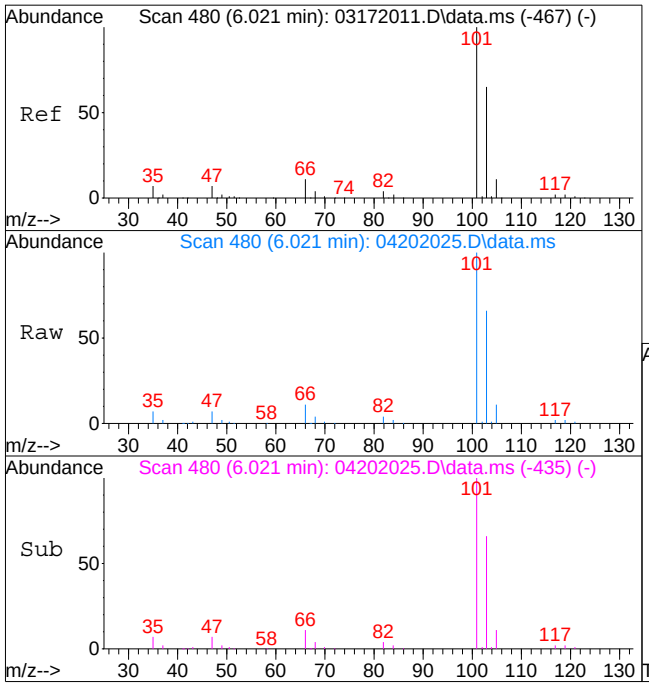


#13
Acetone
Concen: 16.94 ng
RT: 5.84 min Scan# 448
Delta R.T. -0.011 min
Lab File: 04202025.D
Acq: 20 Apr 2020 16:21

Tgt Ion: 58 Resp: 100635

Ion	Ratio	Lower	Upper
58	100		
43	341.9	272.8	332.8#

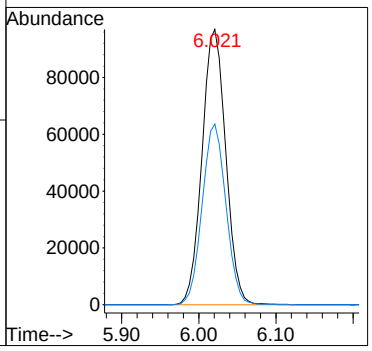


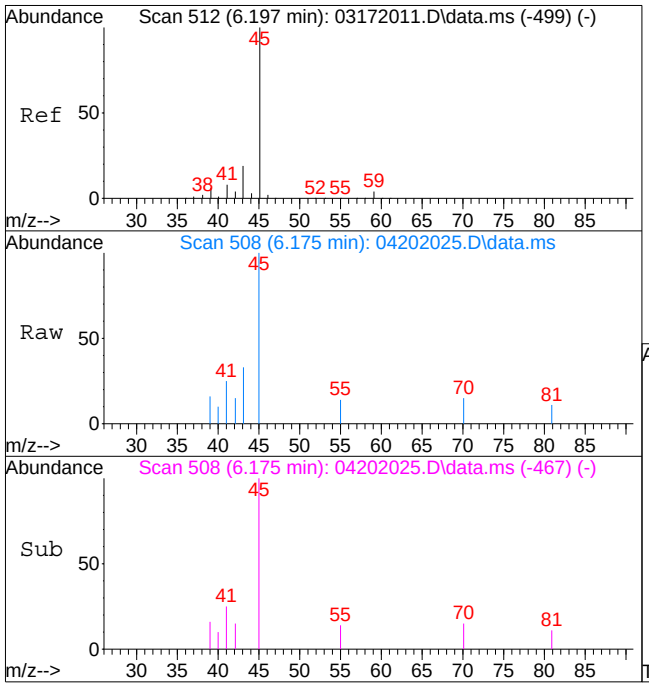


#14
Trichlorofluoromethane
Concen: 13.30 ng
RT: 6.02 min Scan# 480
Delta R.T. -0.000 min
Lab File: 04202025.D
Acq: 20 Apr 2020 16:21

Tgt Ion:101 Resp: 207626

Ion	Ratio	Lower	Upper
101	100		
103	65.6	45.3	85.3

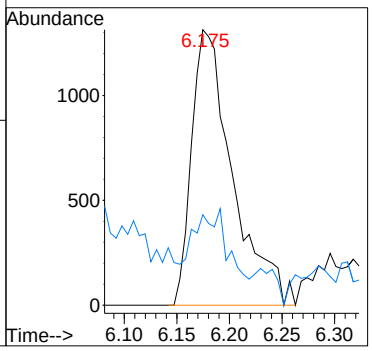


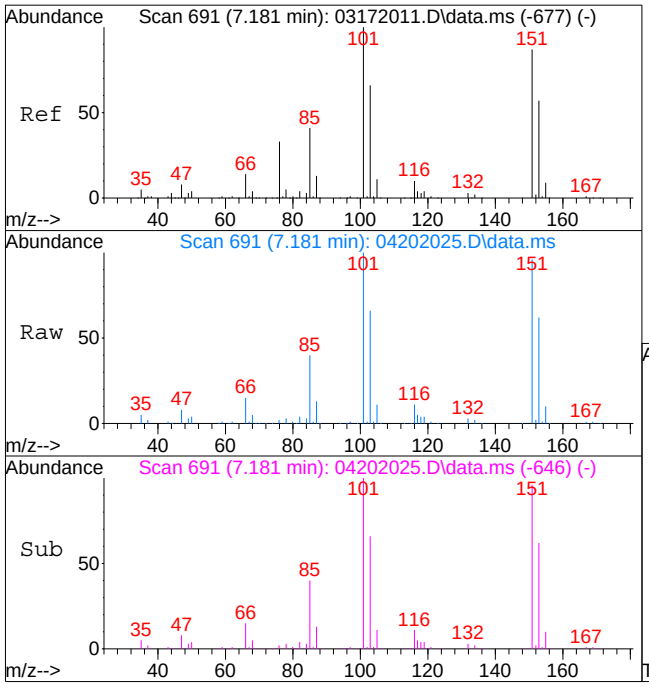


#15
2-Propanol (Isopropanol)
Concen: 0.19 ng
RT: 6.17 min Scan# 508
Delta R.T. -0.022 min
Lab File: 04202025.D
Acq: 20 Apr 2020 16:21

Tgt Ion: 45 Resp: 3566

Ion	Ratio	Lower	Upper
45	100		
43	0.0	0.0	39.0

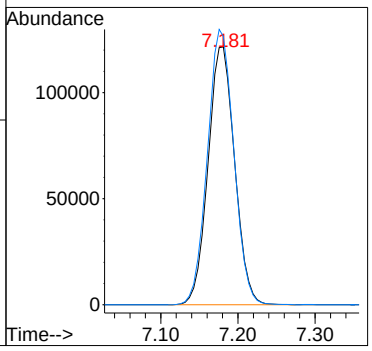


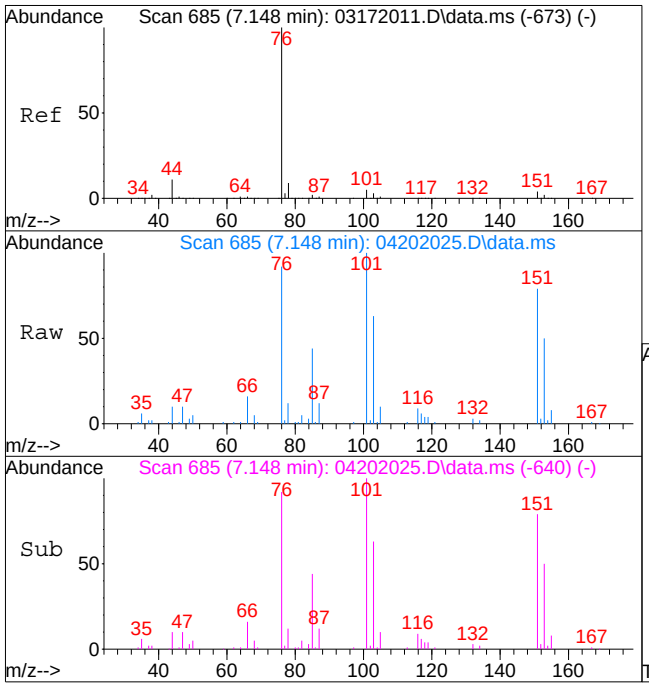


#21
Trichlorotrifluoroethane
Concen: 33.46 ng
RT: 7.18 min Scan# 691
Delta R.T. 0.000 min
Lab File: 04202025.D
Acq: 20 Apr 2020 16:21

Tgt Ion:151 Resp: 291081

Ion	Ratio	Lower	Upper
151	100		
101	106.1	94.7	134.7

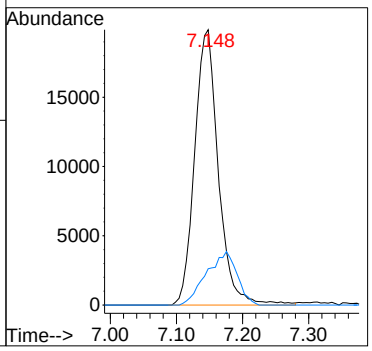


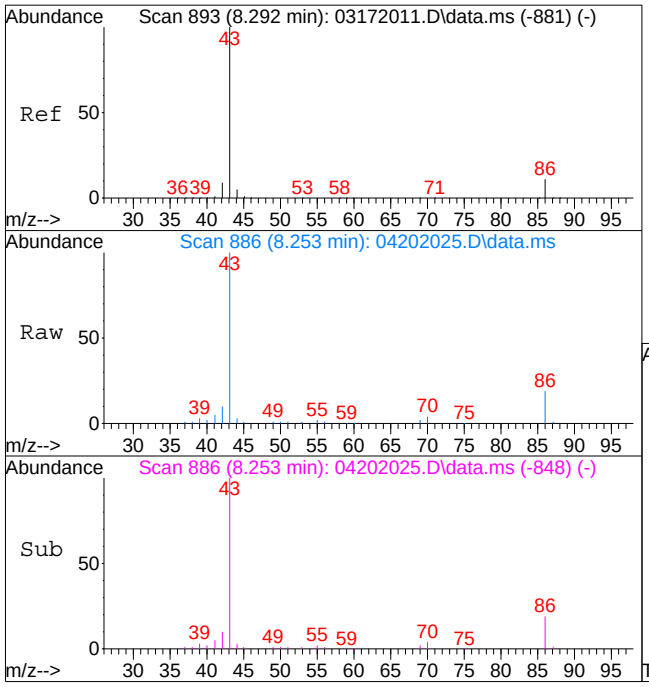


#22
Carbon Disulfide
Concen: 1.57 ng
RT: 7.15 min Scan# 685
Delta R.T. 0.000 min
Lab File: 04202025.D
Acq: 20 Apr 2020 16:21

Tgt Ion: 76 Resp: 49475

Ion	Ratio	Lower	Upper
76	100		
78	25.0	0.0	29.7

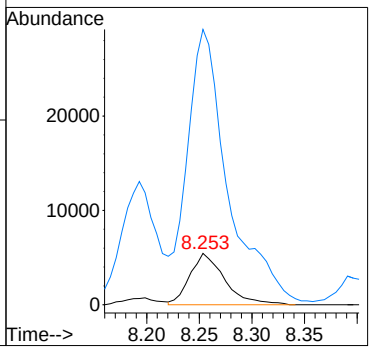


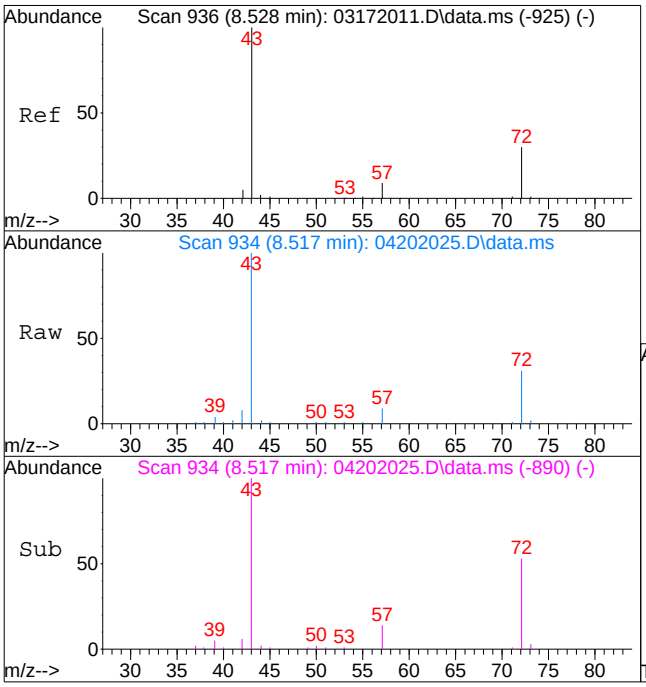


#26
Vinyl Acetate
Concen: 6.31 ng
RT: 8.25 min Scan# 886
Delta R.T. -0.039 min
Lab File: 04202025.D
Acq: 20 Apr 2020 16:21

Tgt Ion: 86 Resp: 12527

Ion	Ratio	Lower	Upper
86	100		
43	630.0	905.1	945.1#

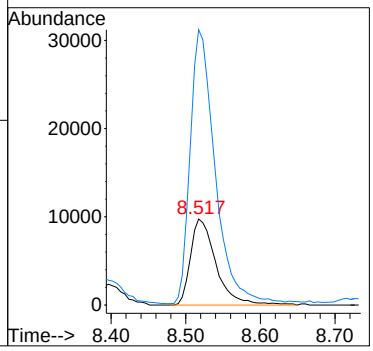


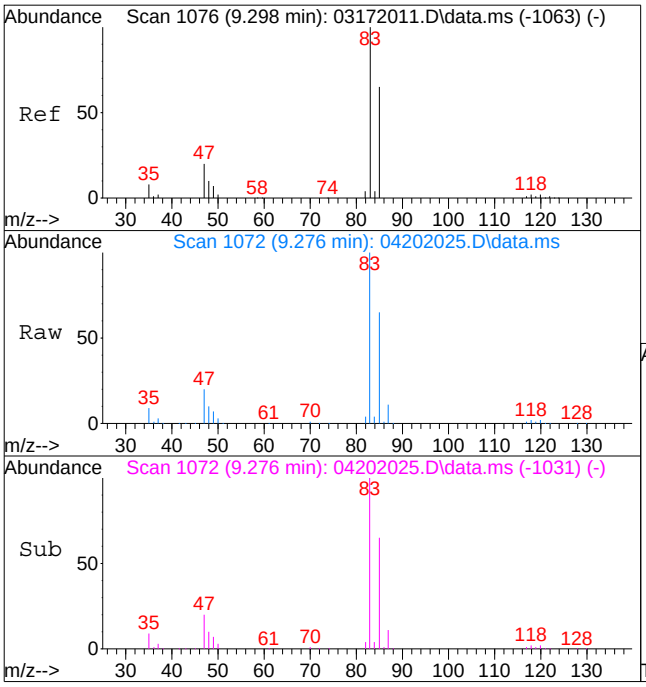


#27
2-Butanone (MEK)
Concen: 3.98 ng
RT: 8.52 min Scan# 934
Delta R.T. -0.011 min
Lab File: 04202025.D
Acq: 20 Apr 2020 16:21

Tgt Ion: 72 Resp: 23222

Ion	Ratio	Lower	Upper
72	100		
43	312.0	310.6	350.6

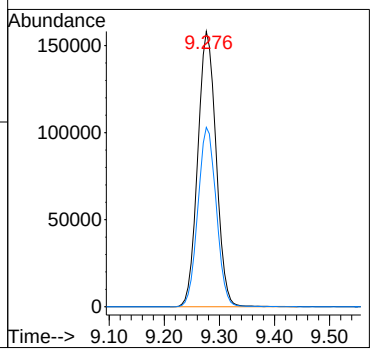


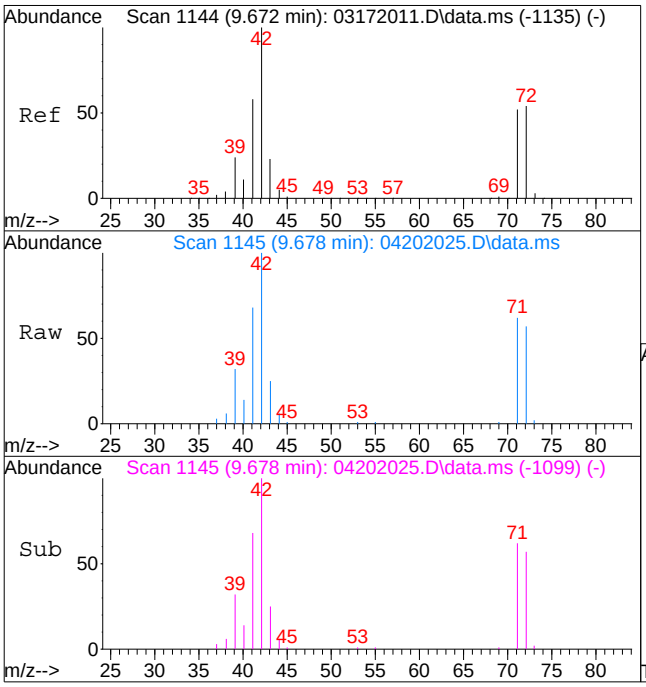


#32
Chloroform
Concen: 23.67 ng
RT: 9.28 min Scan# 1072
Delta R.T. -0.022 min
Lab File: 04202025.D
Acq: 20 Apr 2020 16:21

Tgt Ion: 83 Resp: 364343

Ion	Ratio	Lower	Upper
83	100		
85	65.2	45.1	85.1

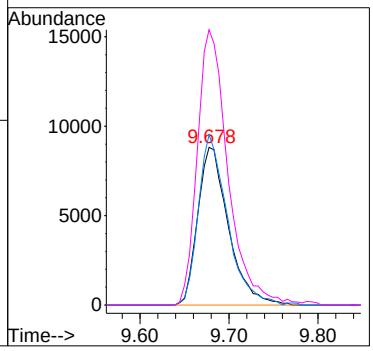


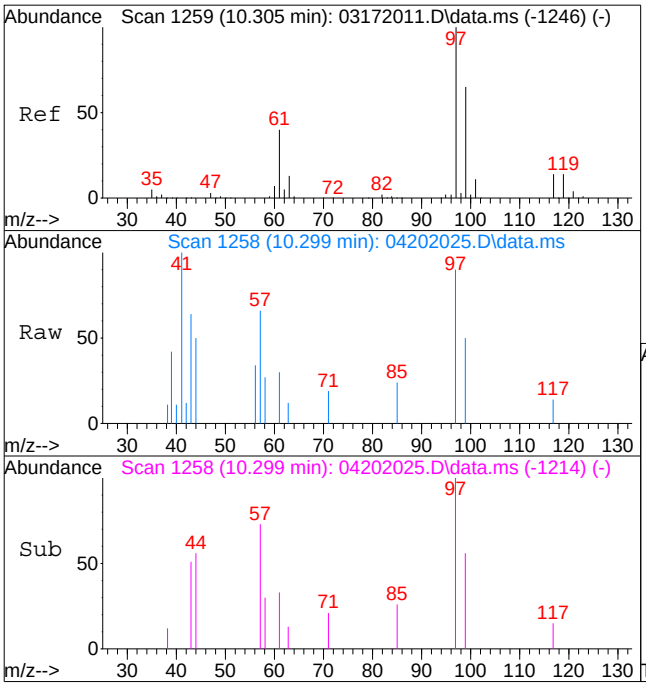


#34
Tetrahydrofuran (THF)
Concen: 3.76 ng
RT: 9.68 min Scan# 1145
Delta R.T. 0.006 min
Lab File: 04202025.D
Acq: 20 Apr 2020 16:21

Tgt Ion: 72 Resp: 21170

Ion	Ratio	Lower	Upper
72	100		
71	102.4	76.1	116.1
42	174.6	164.4	204.4

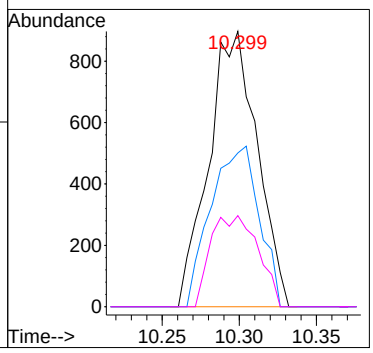


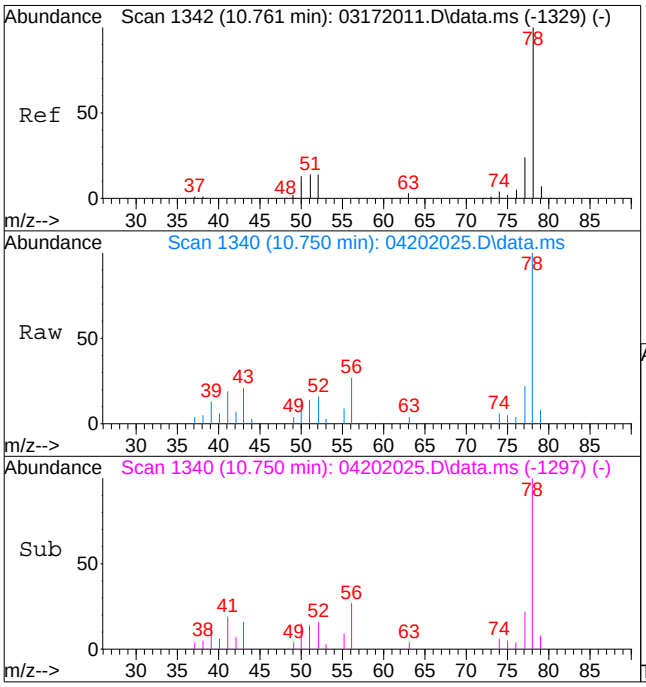


#38
1,1,1-Trichloroethane
Concen: 0.14 ng
RT: 10.30 min Scan# 1258
Delta R.T. -0.006 min
Lab File: 04202025.D
Acq: 20 Apr 2020 16:21

Tgt Ion: 97 Resp: 1961

Ion	Ratio	Lower	Upper
97	100		
99	58.0	44.4	84.4
61	32.4	20.2	60.2

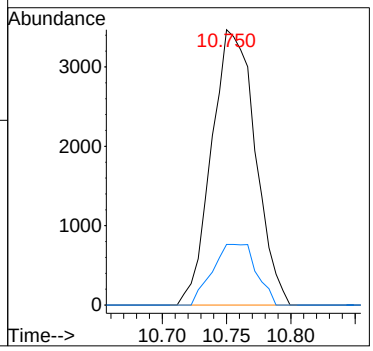


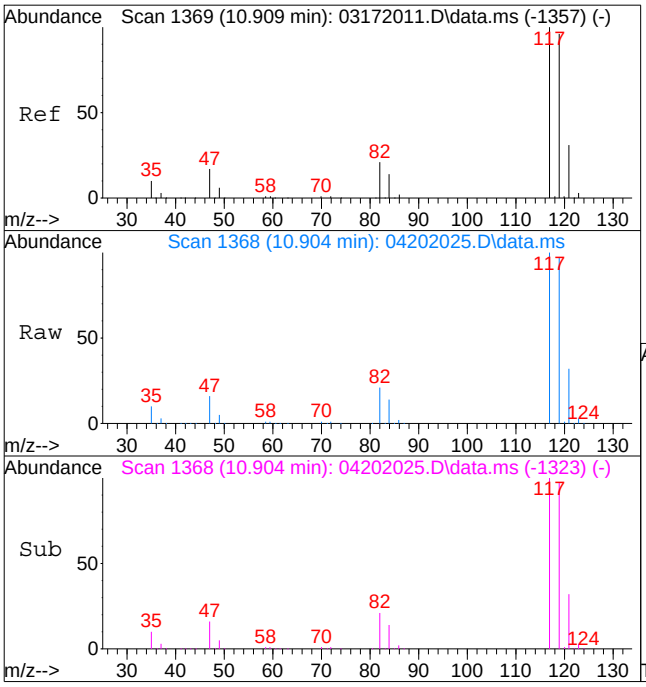


#41
Benzene
Concen: 0.22 ng
RT: 10.75 min Scan# 1340
Delta R.T. -0.011 min
Lab File: 04202025.D
Acq: 20 Apr 2020 16:21

Tgt Ion: 78 Resp: 8192

Ion	Ratio	Lower	Upper
78	100		
77	22.1	3.4	43.4

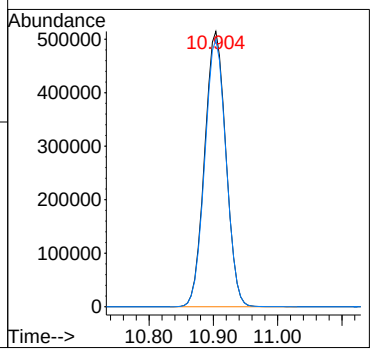


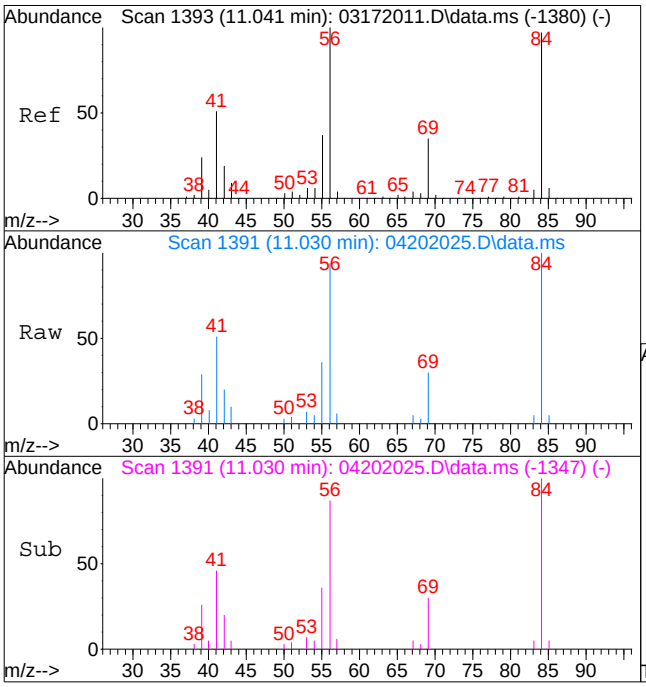


#42
Carbon Tetrachloride
Concen: 90.21 ng
RT: 10.90 min Scan# 1368
Delta R.T. -0.005 min
Lab File: 04202025.D
Acq: 20 Apr 2020 16:21

Tgt Ion:117 Resp: 1181250

Ion	Ratio	Lower	Upper
117	100		
119	97.2	76.0	116.0

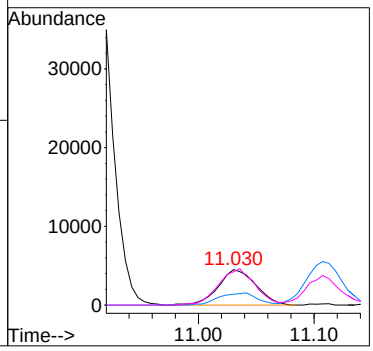


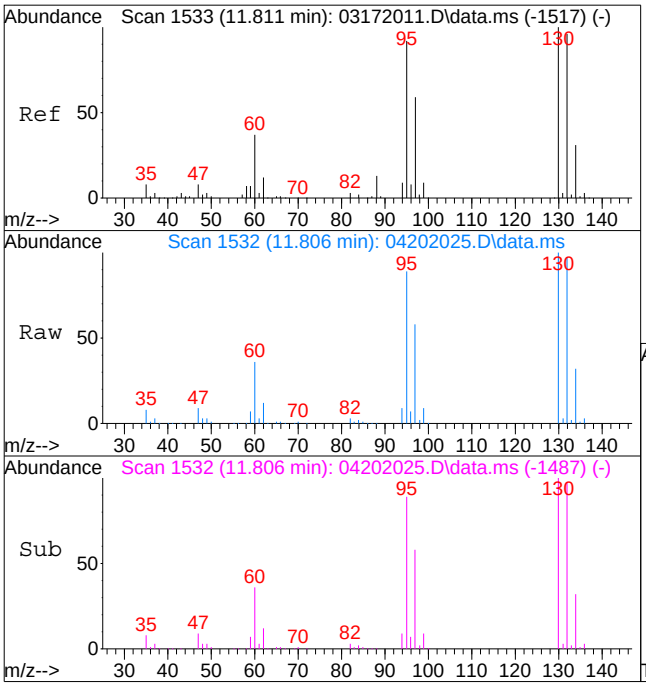


#43
Cyclohexane
Concen: 0.73 ng
RT: 11.03 min Scan# 1391
Delta R.T. -0.011 min
Lab File: 04202025.D
Acq: 20 Apr 2020 16:21

Tgt Ion: 84 Resp: 10204

Ion	Ratio	Lower	Upper
84	100		
69	35.1	16.6	56.6
56	98.8	85.3	125.3

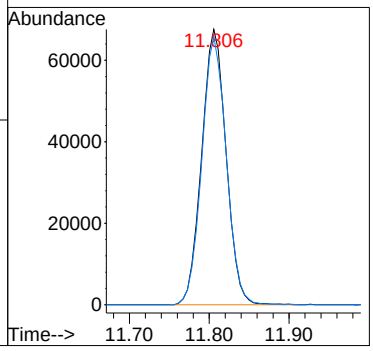


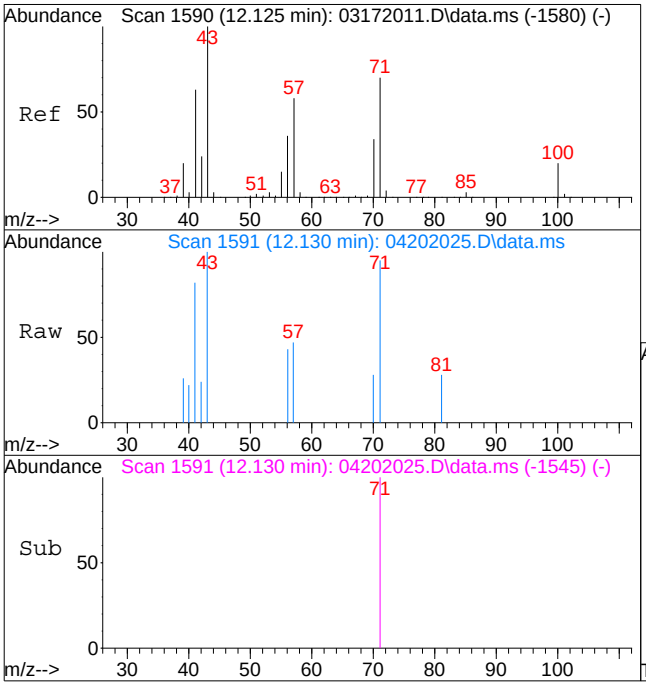


#47
Trichloroethene
Concen: 13.56 ng
RT: 11.81 min Scan# 1532
Delta R.T. -0.005 min
Lab File: 04202025.D
Acq: 20 Apr 2020 16:21

Tgt Ion:130 Resp: 143530

Ion	Ratio	Lower	Upper
130	100		
132	97.5	76.3	116.3

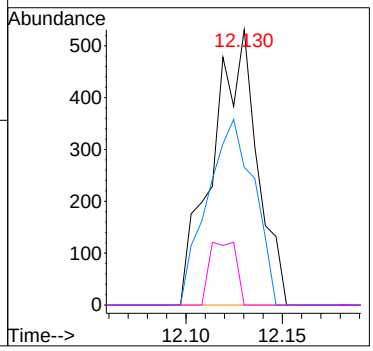


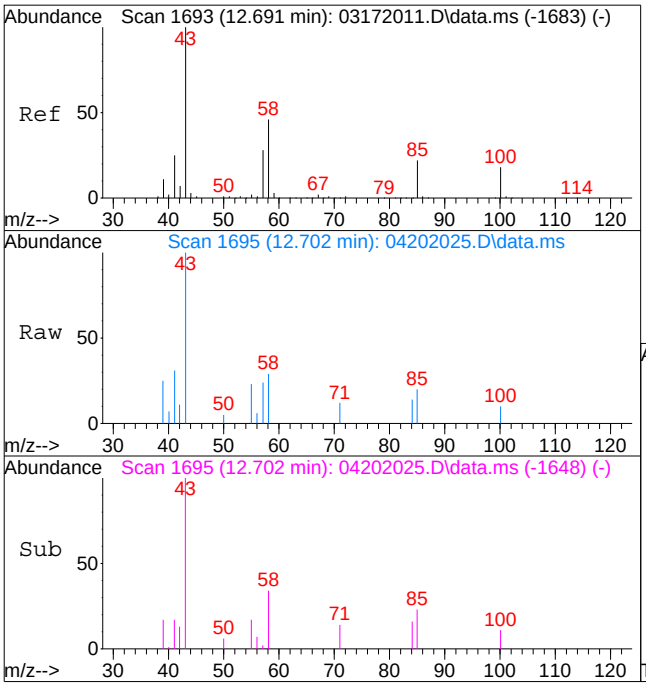


#51
n-Heptane
Concen: 0.10 ng
RT: 12.13 min Scan# 1591
Delta R.T. 0.005 min
Lab File: 04202025.D
Acq: 20 Apr 2020 16:21

Tgt Ion: 71 Resp: 853

Ion	Ratio	Lower	Upper
71	100		
57	70.8	64.0	104.0
100	13.8	8.7	48.7

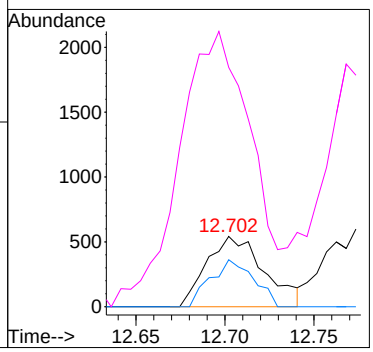


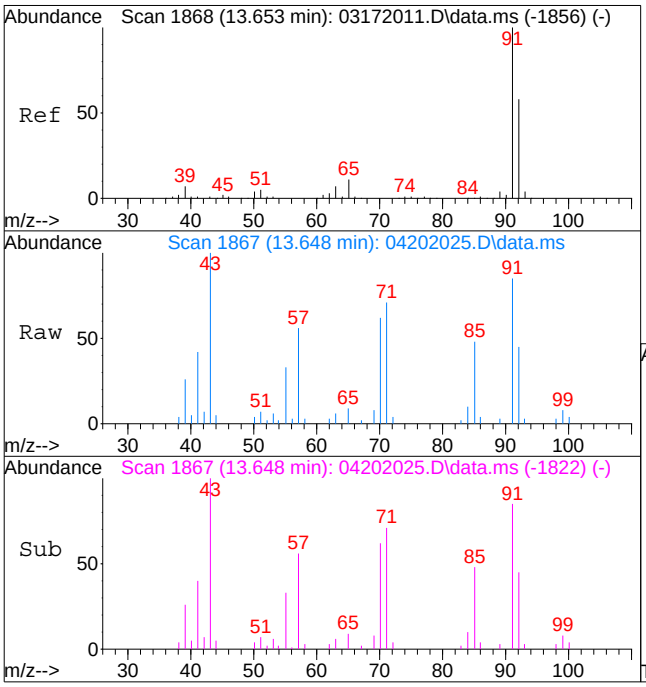


#53
4-Methyl-2-pentanone
Concen: 0.17 ng
RT: 12.70 min Scan# 1695
Delta R.T. 0.011 min
Lab File: 04202025.D
Acq: 20 Apr 2020 16:21

Tgt Ion: 58 Resp: 1219

Ion	Ratio	Lower	Upper
58	100		
85	50.0	41.8	62.6
43	502.0	177.2	265.8#

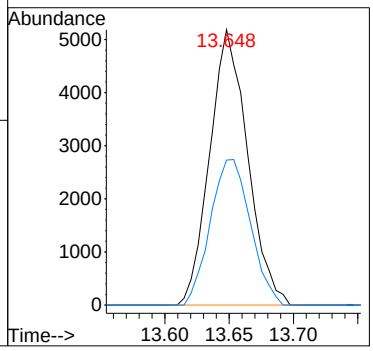


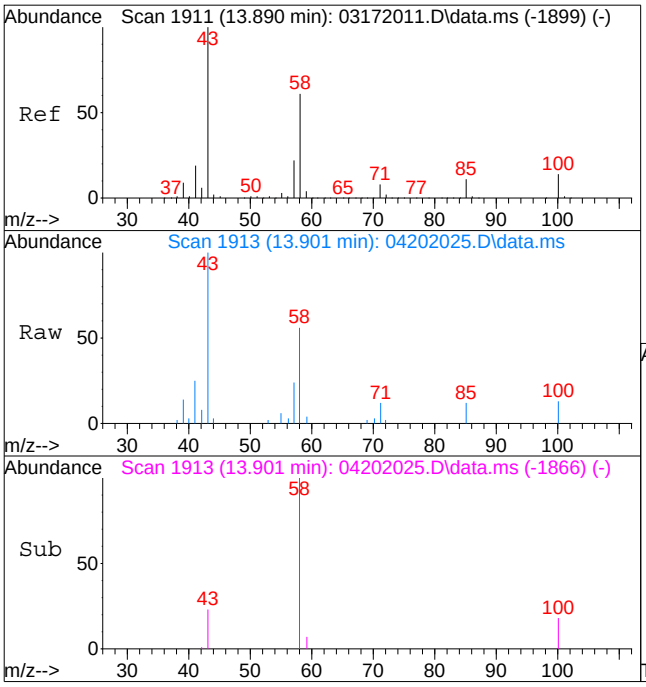


#58
Toluene
Concen: 0.27 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.005 min
Lab File: 04202025.D
Acq: 20 Apr 2020 16:21

Tgt Ion: 91 Resp: 10618

Ion	Ratio	Lower	Upper
91	100		
92	55.9	38.6	78.6

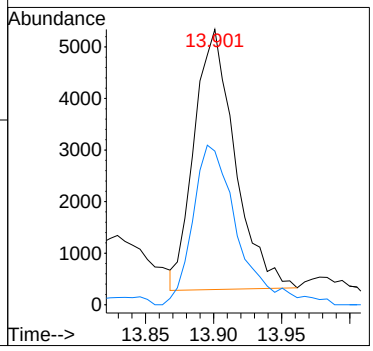


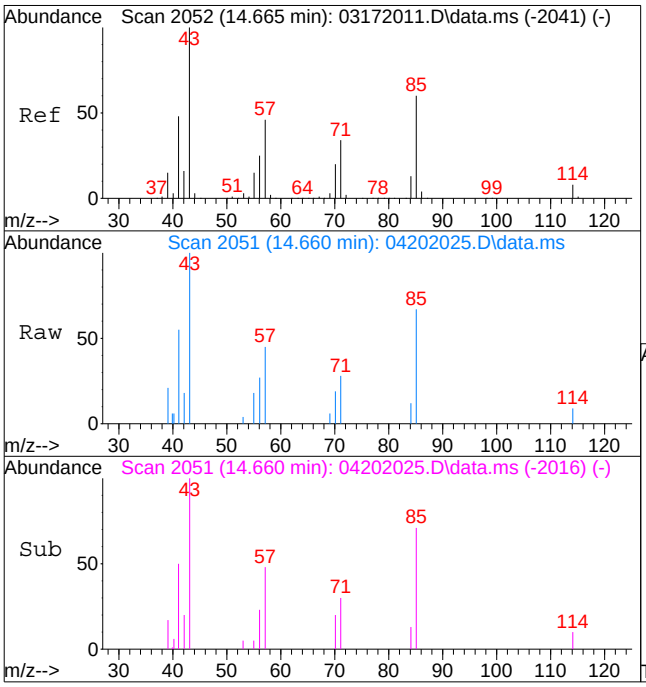


#59
2-Hexanone
Concen: 0.68 ng
RT: 13.90 min Scan# 1913
Delta R.T. 0.011 min
Lab File: 04202025.D
Acq: 20 Apr 2020 16:21

Tgt Ion: 43 Resp: 10521

Ion	Ratio	Lower	Upper
43	100		
58	67.6	41.5	81.5

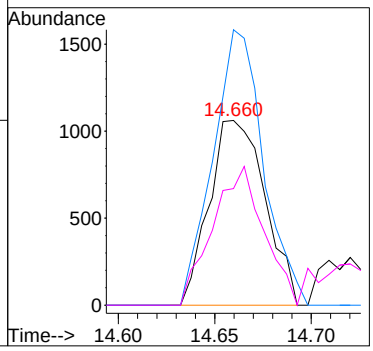


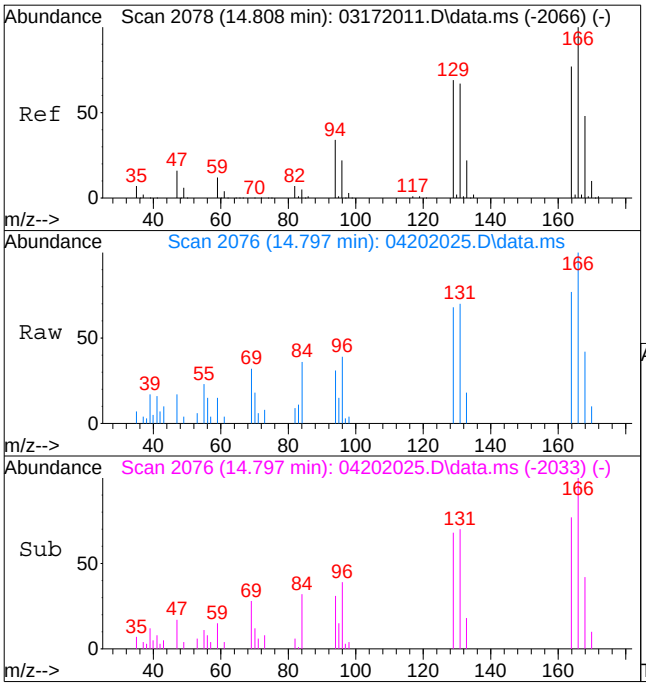


#63
n-Octane
Concen: 0.30 ng
RT: 14.66 min Scan# 2051
Delta R.T. -0.005 min
Lab File: 04202025.D
Acq: 20 Apr 2020 16:21

Tgt Ion: 57 Resp: 2136

Ion	Ratio	Lower	Upper
57	100		
85	134.6	105.4	158.2
71	68.6	59.0	88.4

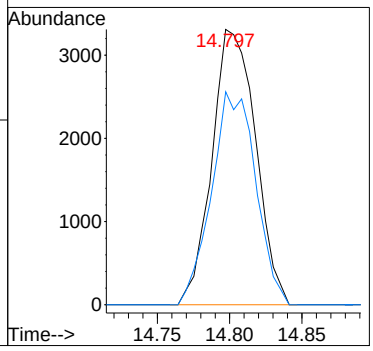


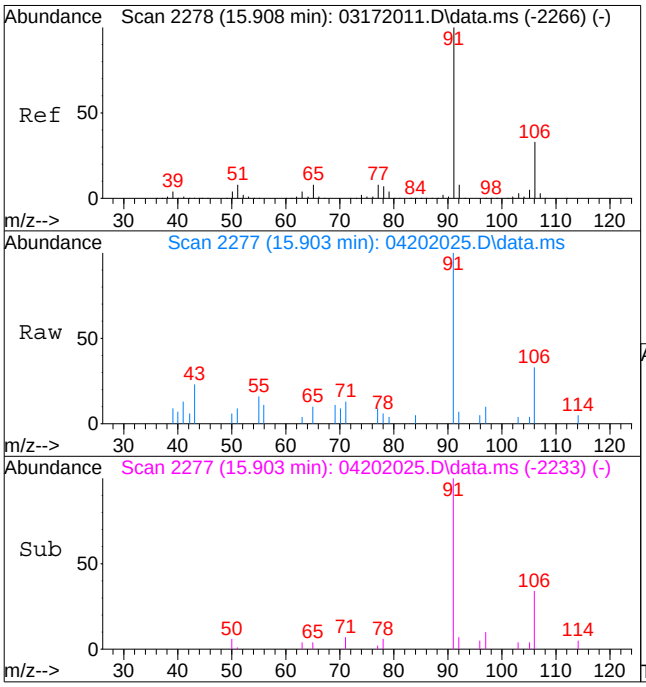


#64
Tetrachloroethene
Concen: 0.57 ng
RT: 14.80 min Scan# 2076
Delta R.T. -0.011 min
Lab File: 04202025.D
Acq: 20 Apr 2020 16:21

Tgt Ion:166 Resp: 6947

Ion	Ratio	Lower	Upper
166	100		
164	78.3	57.9	97.9

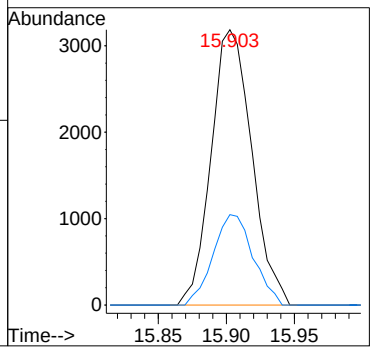


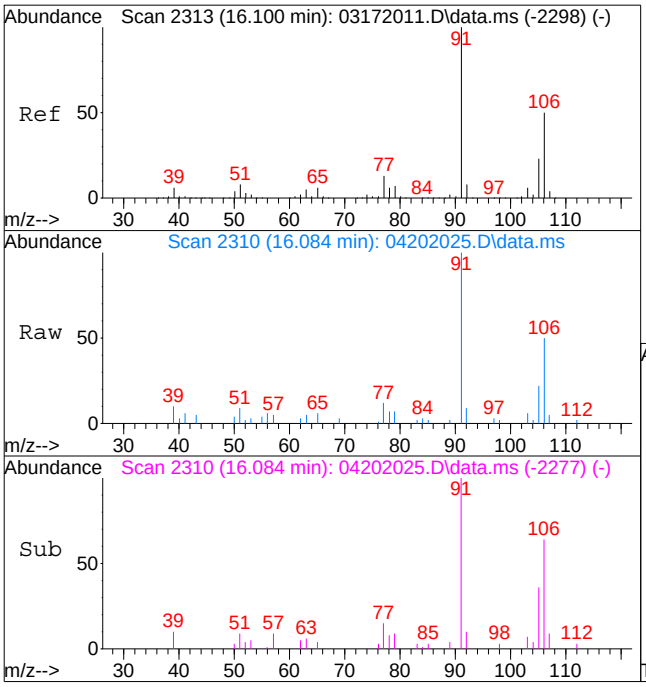


#66
Ethylbenzene
Concen: 0.16 ng
RT: 15.90 min Scan# 2277
Delta R.T. -0.005 min
Lab File: 04202025.D
Acq: 20 Apr 2020 16:21

Tgt Ion: 91 Resp: 6613

Ion	Ratio	Lower	Upper
91	100		
106	32.3	12.9	52.9

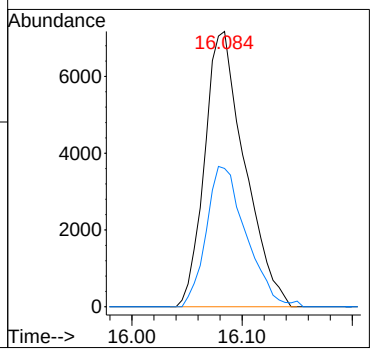


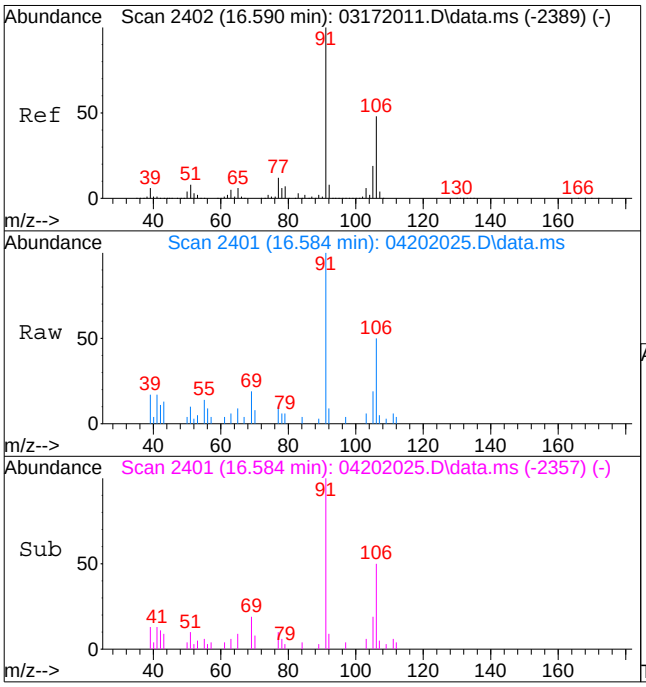


#67
m- & p-Xylenes
Concen: 0.54 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.016 min
Lab File: 04202025.D
Acq: 20 Apr 2020 16:21

Tgt Ion: 91 Resp: 18093

Ion	Ratio	Lower	Upper
91	100		
106	50.7	29.5	69.5

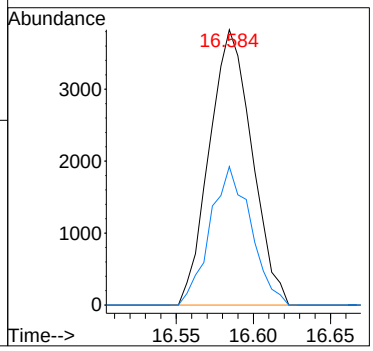


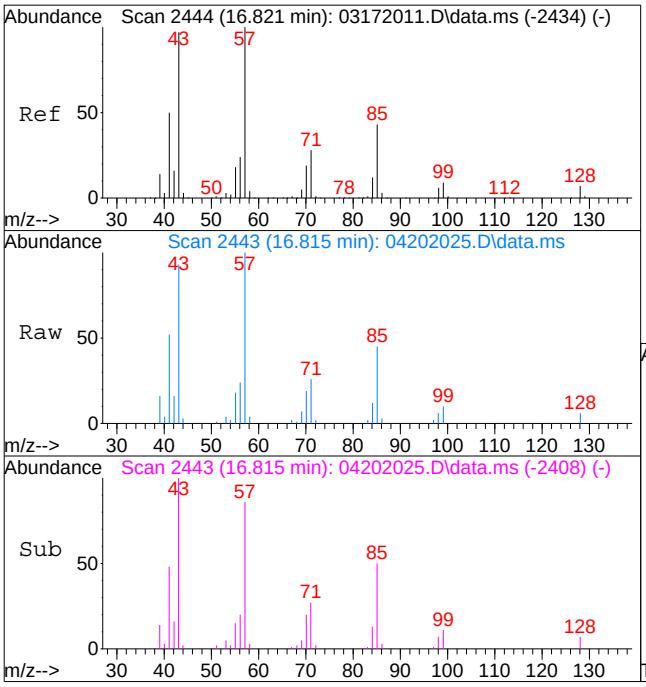


#70
o-Xylene
Concen: 0.22 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.006 min
Lab File: 04202025.D
Acq: 20 Apr 2020 16:21

Tgt Ion: 91 Resp: 7357

Ion	Ratio	Lower	Upper
91	100		
106	48.0	28.3	68.3

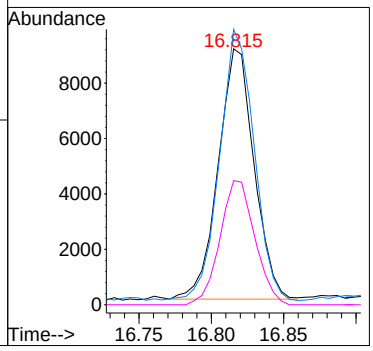


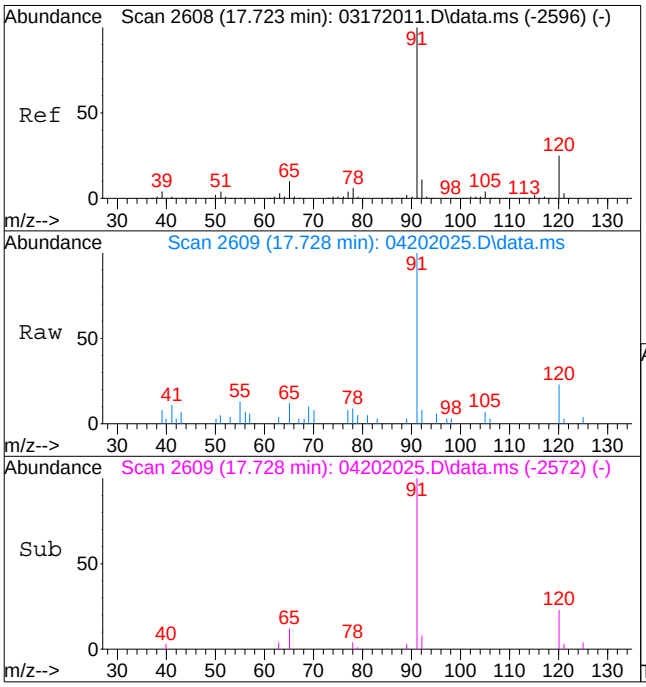


#71
n-Nonane
Concen: 1.08 ng
RT: 16.82 min Scan# 2443
Delta R.T. -0.006 min
Lab File: 04202025.D
Acq: 20 Apr 2020 16:21

Tgt Ion: 43 Resp: 15633

Ion	Ratio	Lower	Upper
43	100		
57	105.1	82.8	122.8
85	48.0	23.4	63.4

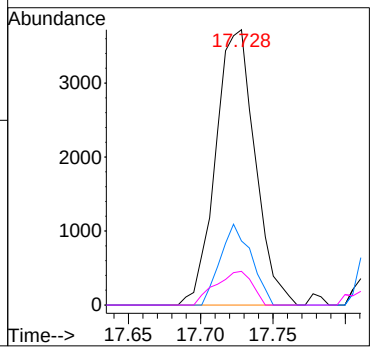


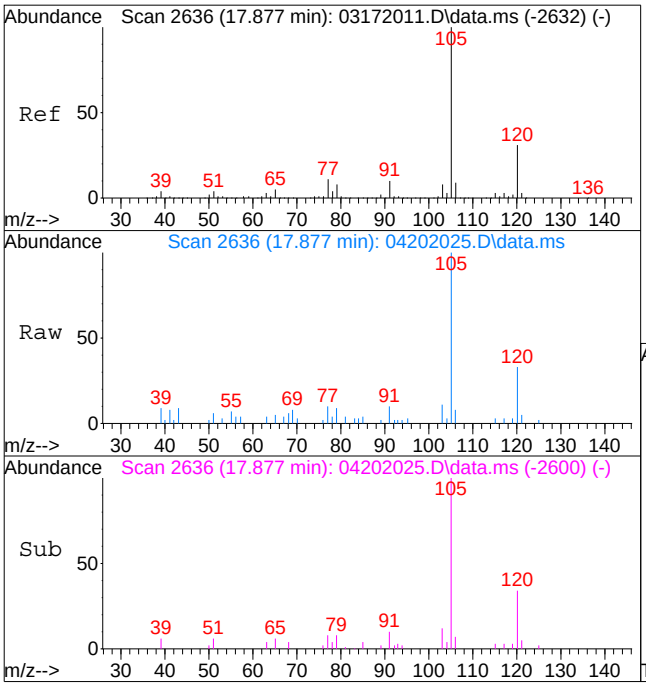


#76
n-Propylbenzene
Concen: 0.14 ng
RT: 17.73 min Scan# 2609
Delta R.T. 0.005 min
Lab File: 04202025.D
Acq: 20 Apr 2020 16:21

Tgt Ion: 91 Resp: 7052

Ion	Ratio	Lower	Upper
91	100		
120	23.2	5.0	45.0
65	11.3	0.0	30.0

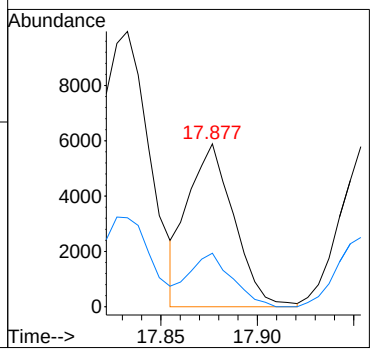


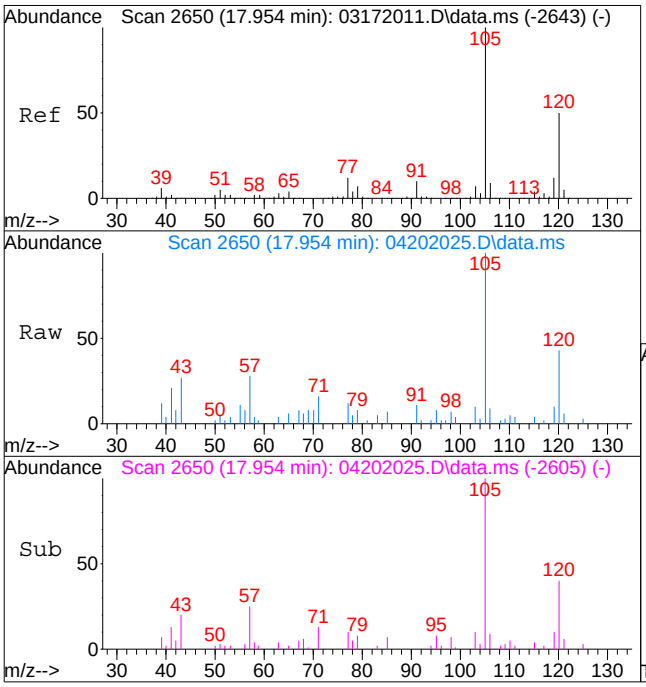


#78
4-Ethyltoluene
Concen: 0.25 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.000 min
Lab File: 04202025.D
Acq: 20 Apr 2020 16:21

Tgt Ion:105 Resp: 9827

Ion	Ratio	Lower	Upper
105	100		
120	30.9	11.2	51.2

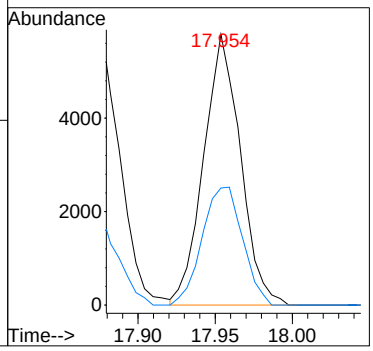


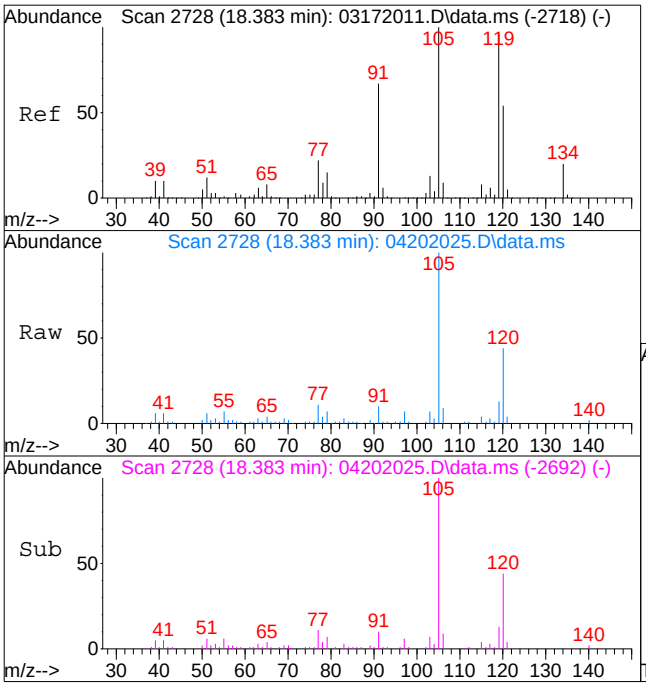


#79
1,3,5-Trimethylbenzene
Concen: 0.26 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.000 min
Lab File: 04202025.D
Acq: 20 Apr 2020 16:21

Tgt Ion:105 Resp: 9613

Ion	Ratio	Lower	Upper
105	100		
120	47.8	30.5	70.5

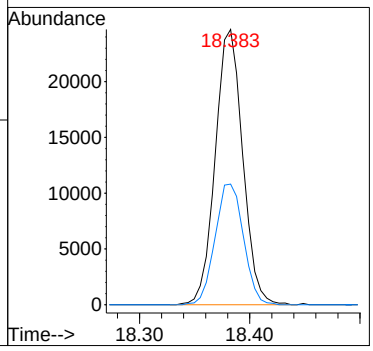


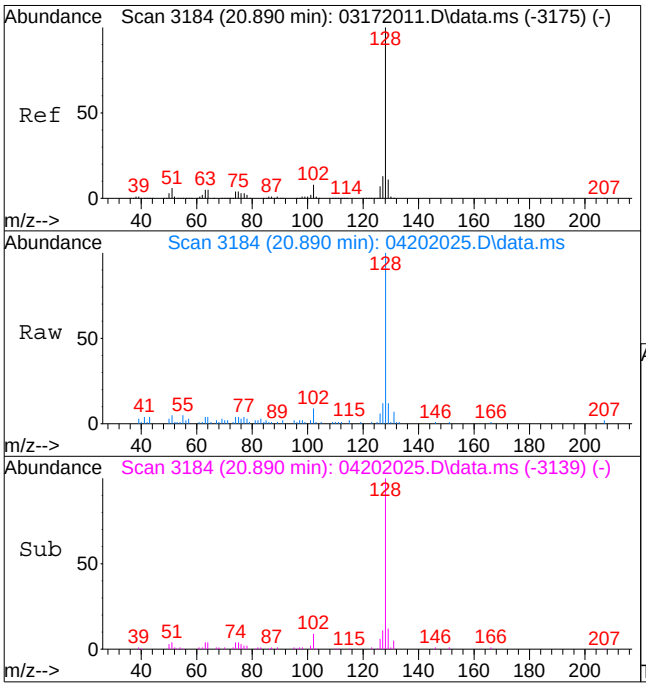


#82
1,2,4-Trimethylbenzene
Concen: 1.25 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.000 min
Lab File: 04202025.D
Acq: 20 Apr 2020 16:21

Tgt Ion:105 Resp: 42745

Ion	Ratio	Lower	Upper
105	100		
120	45.4	34.9	74.9

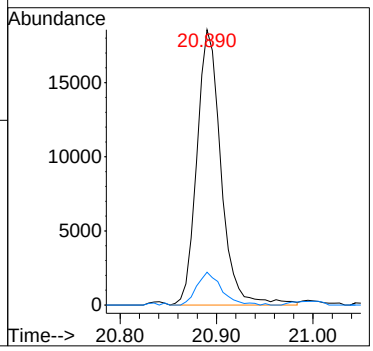




#95
Naphthalene
Concen: 0.68 ng
RT: 20.89 min Scan# 3184
Delta R.T. 0.000 min
Lab File: 04202025.D
Acq: 20 Apr 2020 16:21

Tgt Ion:128 Resp: 32245

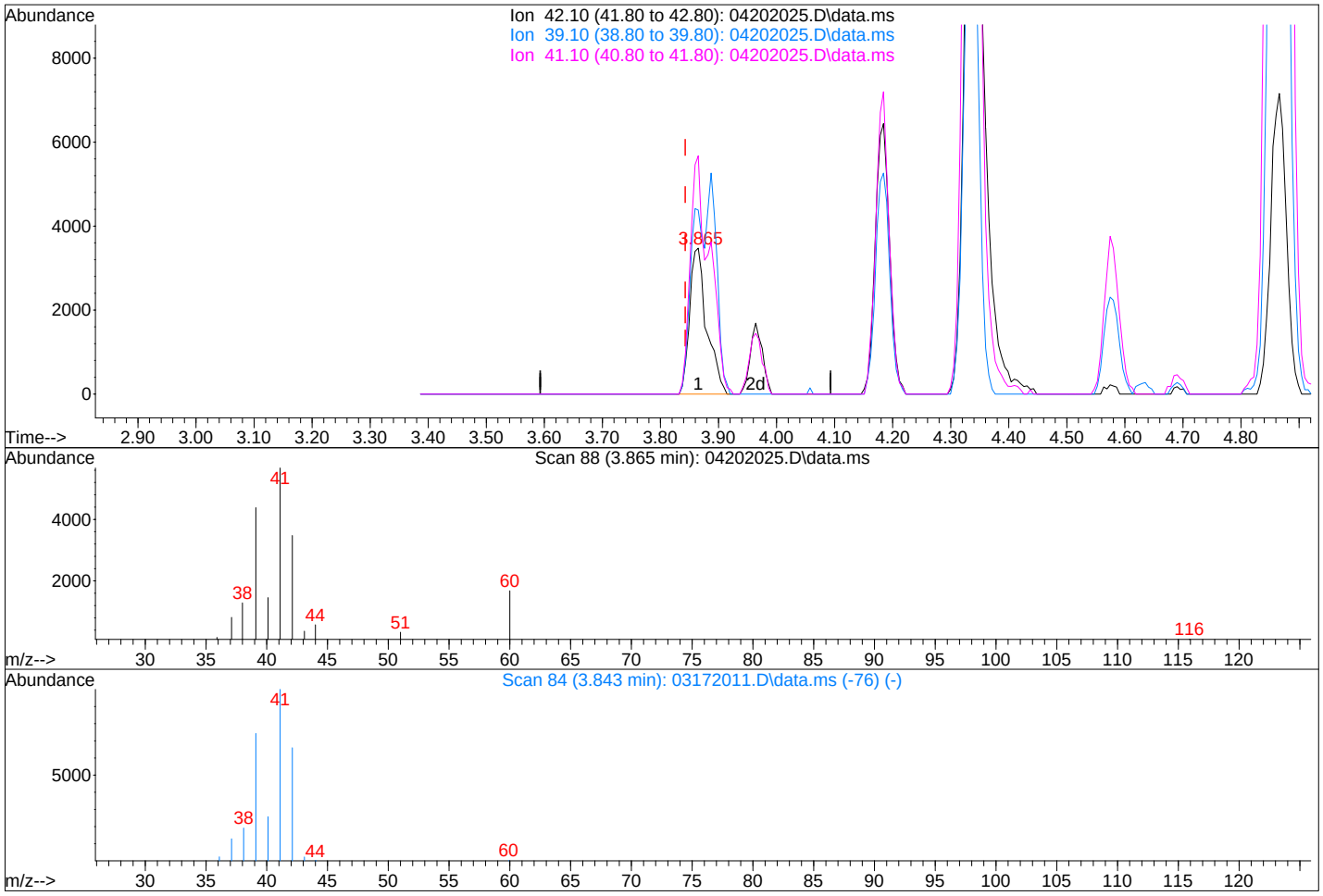
Ion	Ratio	Lower	Upper
128	100		
129	12.2	0.0	30.9



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\20\04202025.D Vial: 6
Acq On : 20 Apr 2020 16:21 Operator: SC
Sample : P2002027-017 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 17:24:14 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202025.D\data.ms

(2) Propene (T)

3.865min (+0.022) 0.96ng

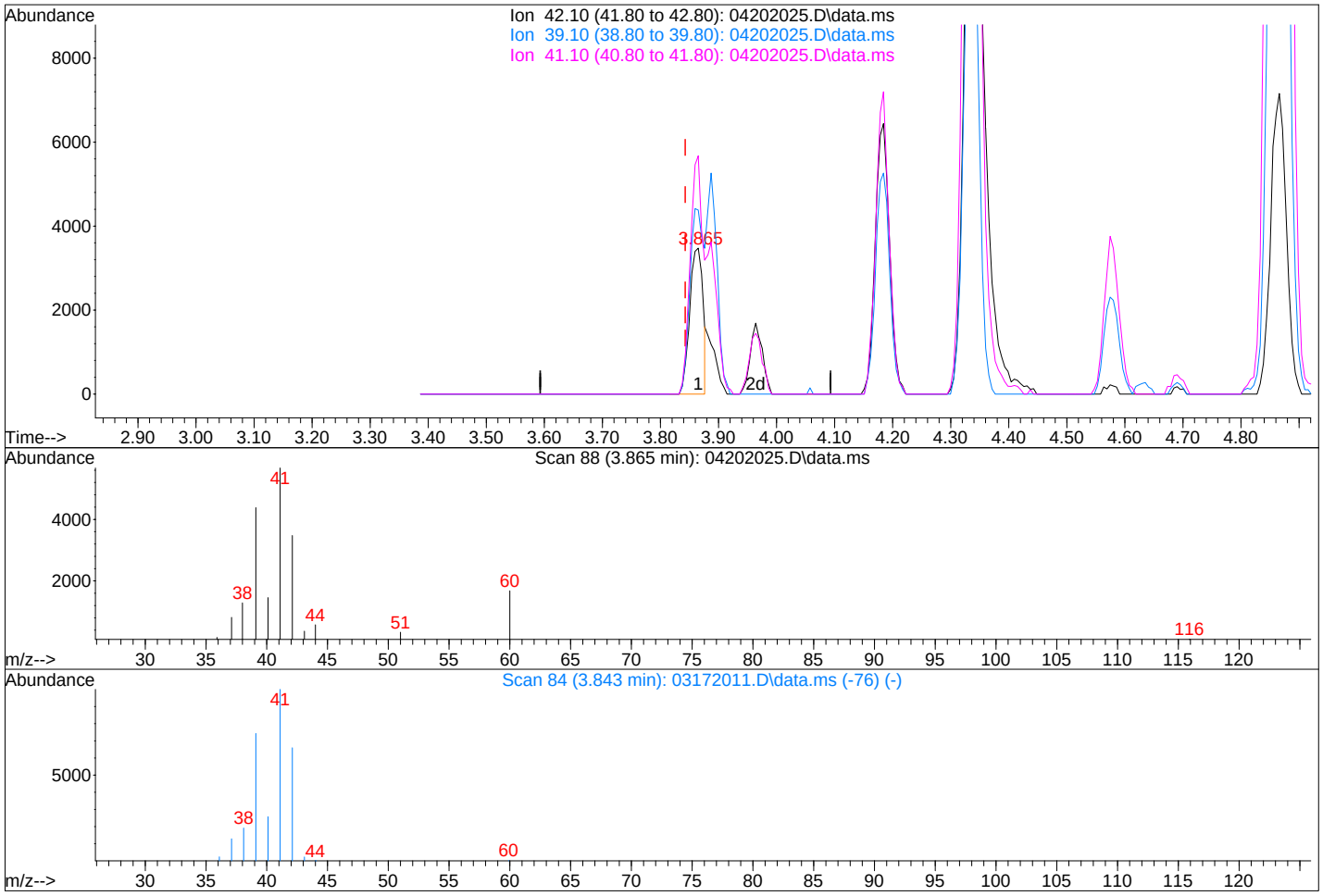
response 7073

Ion	Exp%	Act%
42.10	100	100
39.10	111.90	105.84
41.10	150.50	185.30#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\20\04202025.D Vial: 6
Acq On : 20 Apr 2020 16:21 Operator: SC
Sample : P2002027-017 (400mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 17:24:14 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202025.D\data.ms

(2) Propene (T)

3.865min (+0.022) 0.74ng m

response 5508

Ion	Exp%	Act%
42.10	100	100
39.10	111.90	135.91#
41.10	150.50	237.94#
0.00	0.00	0.00

IPC

4/20/20

LH 4/29/20

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202023.D Vial: 1
Acq On : 20 Apr 2020 15:12 Operator: SC
Sample : P2002027-017Dil (3.0mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 17:31:31 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/20/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	127944	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	11.10	114	543882	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	243877	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	202355	13.979	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.84%			
57) Toluene-d8 (SS2)	13.54	98	603860	12.450	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.60%			
73) Bromofluorobenzene (SS3)	17.05	174	225193	13.954	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.60%			
Target Compounds						Qvalue
2) Propene	3.88	42	1132	0.144	ng	# 79
3) Dichlorodifluoromethan...	3.98	85	14640	0.802	ng	99
4) Chloromethane	0.00	50	0	N.D.	d	
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	278	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	4.64	54	1527	0.231	ng	# 81
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.40	45	71	N.D.		
11) Acetonitrile	0.00	41	0	N.D.		
12) Acrolein	0.00	56	0	N.D.	d	
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	6.03	101	1467	0.089	ng	98
15) 2-Propanol (Isopropanol)	6.22	45	38	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	0.00	84	0	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	7.18	151	2094	0.227	ng	93
22) Carbon Disulfide	7.16	76	383	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	8.59	72	121	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	9.27	87	180	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	0.00	57	0	N.D.	d	
32) Chloroform	9.27	83	2570	0.158	ng	96
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.		
41) Benzene	10.76	78	3287	0.085	ng	93
42) Carbon Tetrachloride	10.90	117	8143	0.589	ng	96
43) Cyclohexane	11.03	84	5540	0.377	ng	100
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	11.78	83	446	N.D.		
47) Trichloroethene	11.82	130	1061	0.095	ng	86
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202023.D Vial: 1
Acq On : 20 Apr 2020 15:12 Operator: SC
Sample : P2002027-017Dil (3.0mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 17:31:31 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

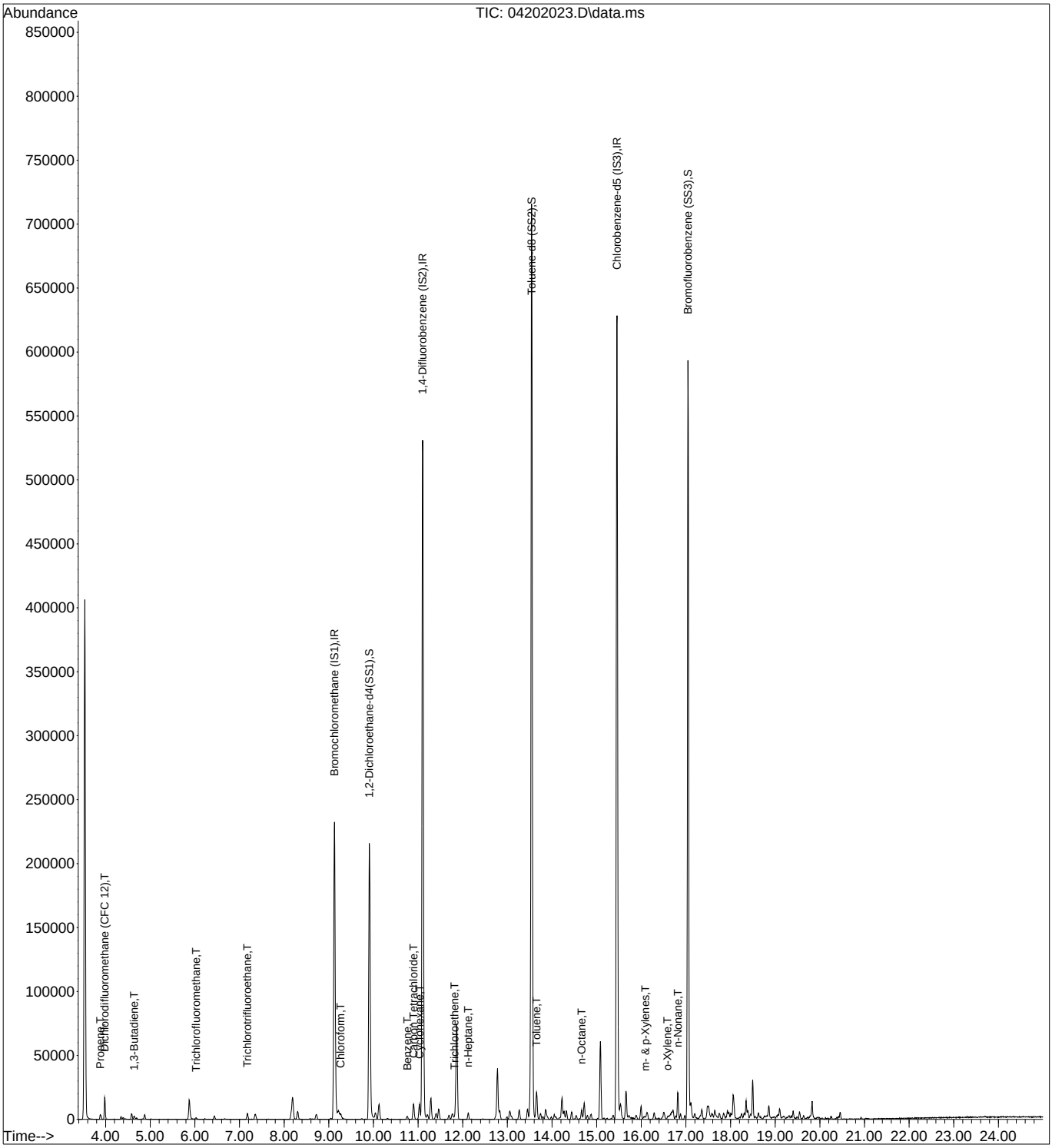
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.12	71	1412	0.153 ng	94
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	13.26	97	320	N.D.	
58) Toluene	13.65	91	3526	0.086 ng	96
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.67	57	1374	0.185 ng	92
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	15.54	112	1254	N.D.	
66) Ethylbenzene	15.93	91	555	N.D.	
67) m- & p-Xylenes	16.09	91	2527	0.071 ng	91
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.59	91	1791	0.051 ng	82
71) n-Nonane	16.82	43	7150	0.468 ng	97
72) 1,1,2,2-Tetrachloroethane	16.50	83	624	N.D.	
74) Cumene	17.21	105	370	N.D.	
75) alpha-Pinene	17.60	93	436	N.D.	
76) n-Propylbenzene	17.74	91	1061	N.D.	
77) 3-Ethyltoluene	17.84	105	989	N.D.	
78) 4-Ethyltoluene	17.89	105	368	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	942	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	18.16	105	428	N.D.	
82) 1,2,4-Trimethylbenzene	18.39	105	1002	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.63	91	137	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	18.67	105	755	N.D.	
88) 4-Isopropyltoluene (p-...	18.85	119	189	N.D.	
89) 1,2,3-Trimethylbenzene	18.83	105	397	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	18.98	68	154	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	0.00	128	0	N.D.	
96) n-Dodecane	20.92	57	404	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	18.35	119	220	N.D.	
100) n-Butylbenzene	19.29	91	275	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202023.D Vial: 1
Acq On : 20 Apr 2020 15:12 Operator: SC
Sample : P2002027-017Dil (3.0mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 17:31:31 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

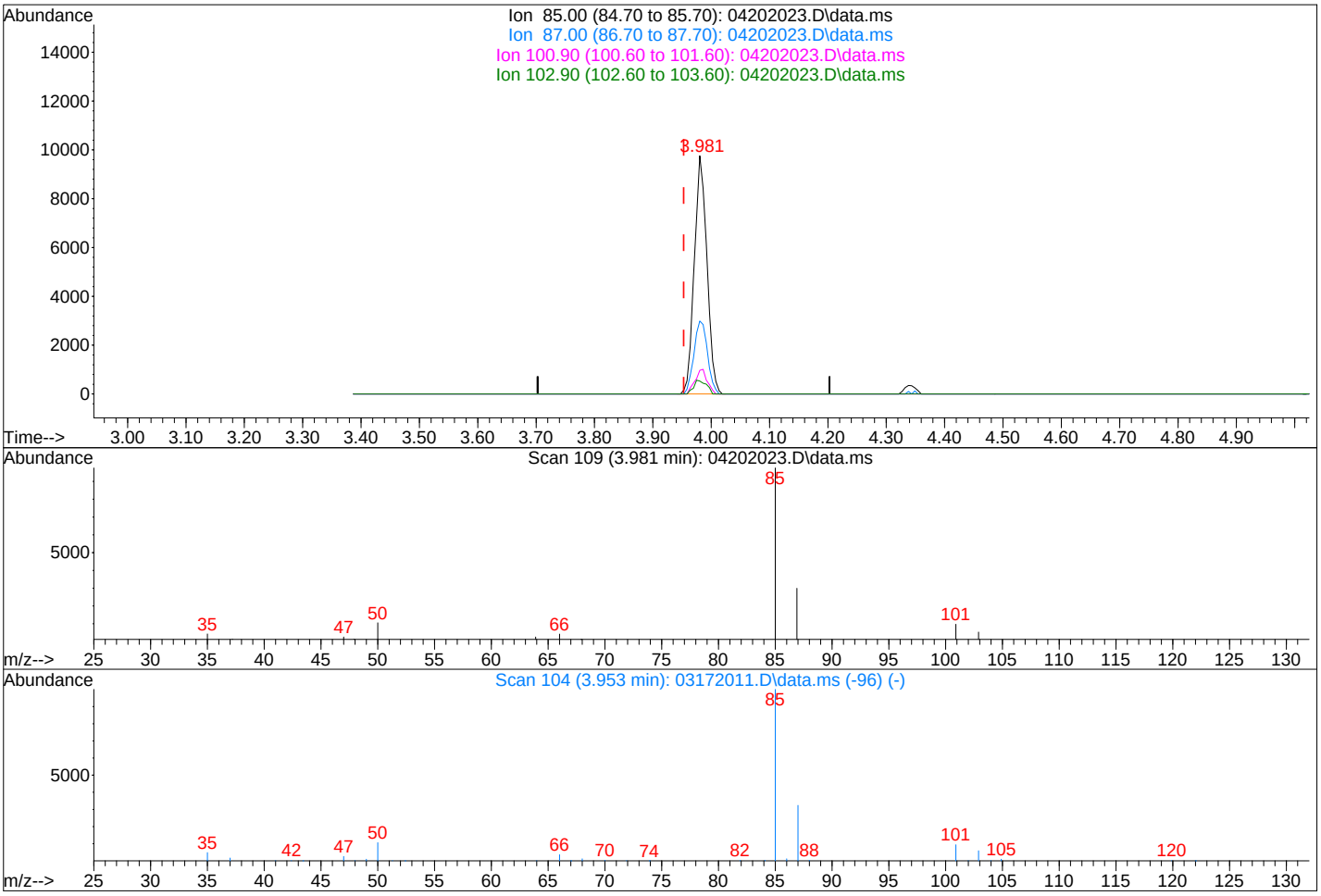


R9031720.M Mon Apr 20 17:31:37 2020 Page: 3

Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\20\04202023.D Vial: 1
Acq On : 20 Apr 2020 15:12 Operator: SC
Sample : P2002027-017Dil (3.0mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 15:52:17 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202023.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.981min (+0.028) 0.80ng

response 14640

Ion	Exp%	Act%
85.00	100	100
87.00	32.40	32.91
100.90	9.20	9.97
102.90	5.90	5.87

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202026.D Vial: 1
Acq On : 20 Apr 2020 16:54 Operator: SC
Sample : P2002027-018 (5.0mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 17:22:46 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/20/20

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	123911	12.500 ng	-0.02
37) 1,4-Difluorobenzene (IS2)	11.11	114	535586	12.500 ng	0.00
56) Chlorobenzene-d5 (IS3)	15.46	82	249991	12.500 ng	0.00
System Monitoring Compounds					
33) 1,2-Dichloroethane-d4(...	9.91	65	198758	14.178 ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.44%		
57) Toluene-d8 (SS2)	13.55	98	594399	11.955 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.68%		
73) Bromofluorobenzene (SS3)	17.05	174	228247	13.798 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.40%		
Target Compounds					Qvalue
2) Propene	0.00	42	0	N.D. d	
3) Dichlorodifluoromethan...	3.98	85	17016	0.962 ng	99
4) Chloromethane	0.00	50	0	N.D.	
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	343	N.D.	
6) Vinyl Chloride	0.00	62	0	N.D.	
7) 1,3-Butadiene	4.64	54	1074	0.168 ng	92
8) Bromomethane	0.00	94	0	N.D.	
9) Chloroethane	0.00	64	0	N.D.	
10) Ethanol	5.41	45	79	N.D.	
11) Acetonitrile	0.00	41	0	N.D.	
12) Acrolein	0.00	56	0	N.D. d	
13) Acetone	0.00	58	0	N.D. d	
14) Trichlorofluoromethane	6.02	101	1701	0.106 ng	93
15) 2-Propanol (Isopropanol)	6.25	45	170	N.D.	
16) Acrylonitrile	6.33	53	445	N.D.	
17) 1,1-Dichloroethene	0.00	96	0	N.D.	
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	
19) Methylene Chloride	6.79	84	234	N.D.	
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D. d	
21) Trichlorotrifluoroethane	7.19	151	5425	0.608 ng	96
22) Carbon Disulfide	7.17	76	941	N.D.	
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.	
24) 1,1-Dichloroethane	0.00	63	0	N.D. d	
25) Methyl tert-Butyl Ether	8.22	73	357	N.D.	
26) Vinyl Acetate	0.00	86	0	N.D. d	
27) 2-Butanone (MEK)	0.00	72	0	N.D. d	
28) cis-1,2-Dichloroethene	8.74	61	466	N.D.	
29) Diisopropyl Ether	0.00	87	0	N.D. d	
30) Ethyl Acetate	0.00	61	0	N.D. d	
31) n-Hexane	9.24	57	424039	31.958 ng	98
32) Chloroform	9.28	83	2435	0.154 ng #	1
34) Tetrahydrofuran (THF)	9.74	72	117	N.D.	
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.	
36) 1,2-Dichloroethane	0.00	62	0	N.D. d	
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.	
39) Isopropyl Acetate	0.00	61	0	N.D. d	
40) 1-Butanol	0.00	56	0	N.D. d	
41) Benzene	10.77	78	3205	0.084 ng	99
42) Carbon Tetrachloride	0.00	117	0	N.D. d	
43) Cyclohexane	11.05	84	1903942	131.434 ng	94
44) tert-Amyl Methyl Ether	11.30	73	923	N.D.	
45) 1,2-Dichloropropane	0.00	63	0	N.D. d	
46) Bromodichloromethane	0.00	83	0	N.D. d	
47) Trichloroethene	11.81	130	278	N.D.	
48) 1,4-Dioxane	0.00	88	0	N.D.	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d	
50) Methyl Methacrylate	0.00	100	0	N.D. d	

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202026.D Vial: 1
Acq On : 20 Apr 2020 16:54 Operator: SC
Sample : P2002027-018 (5.0mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 17:22:46 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

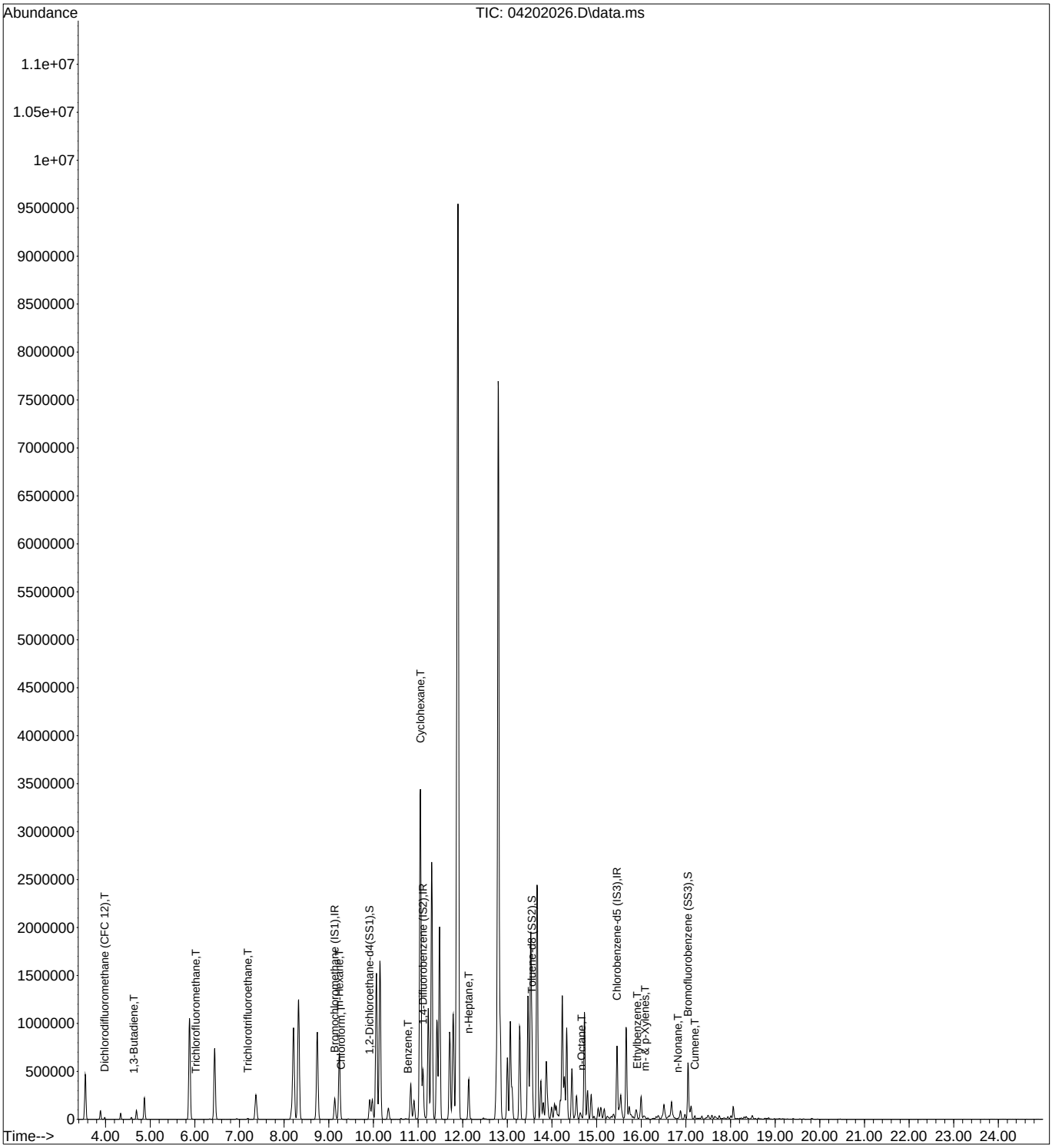
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.14	71	125009	13.722 ng	96
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	13.28	75	118	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	0.00	91	0	N.D. d	
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.67	57	5805	0.762 ng	91
64) Tetrachloroethene	14.81	166	282	N.D.	
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.91	91	5642	0.125 ng	89
67) m- & p-Xylenes	16.08	91	11186	0.308 ng	96
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.59	91	1785	N.D.	
71) n-Nonane	16.82	43	2620	0.167 ng	96
72) 1,1,2,2-Tetrachloroethane	16.58	83	275	N.D.	
74) Cumene	17.20	105	7117	0.150 ng	97
75) alpha-Pinene	17.60	93	565	N.D.	
76) n-Propylbenzene	17.74	91	1038	N.D.	
77) 3-Ethyltoluene	17.84	105	1179	N.D.	
78) 4-Ethyltoluene	17.89	105	132	N.D.	
79) 1,3,5-Trimethylbenzene	17.95	105	888	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	18.16	105	762	N.D.	
82) 1,2,4-Trimethylbenzene	18.39	105	877	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.49	91	219	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	18.67	105	618	N.D.	
88) 4-Isopropyltoluene (p-...	18.84	119	105	N.D.	
89) 1,2,3-Trimethylbenzene	18.84	105	420	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	18.99	68	438	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	0.00	128	0	N.D.	
96) n-Dodecane	20.92	57	239	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	18.34	119	278	N.D.	
100) n-Butylbenzene	19.28	91	157	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202026.D Vial: 1
Acq On : 20 Apr 2020 16:54 Operator: SC
Sample : P2002027-018 (5.0mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 17:22:46 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202026.D Vial: 1
Acq On : 20 Apr 2020 16:54 Operator: SC
Sample : P2002027-018 (5.0mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 17:22:46 2020 4/20/20
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

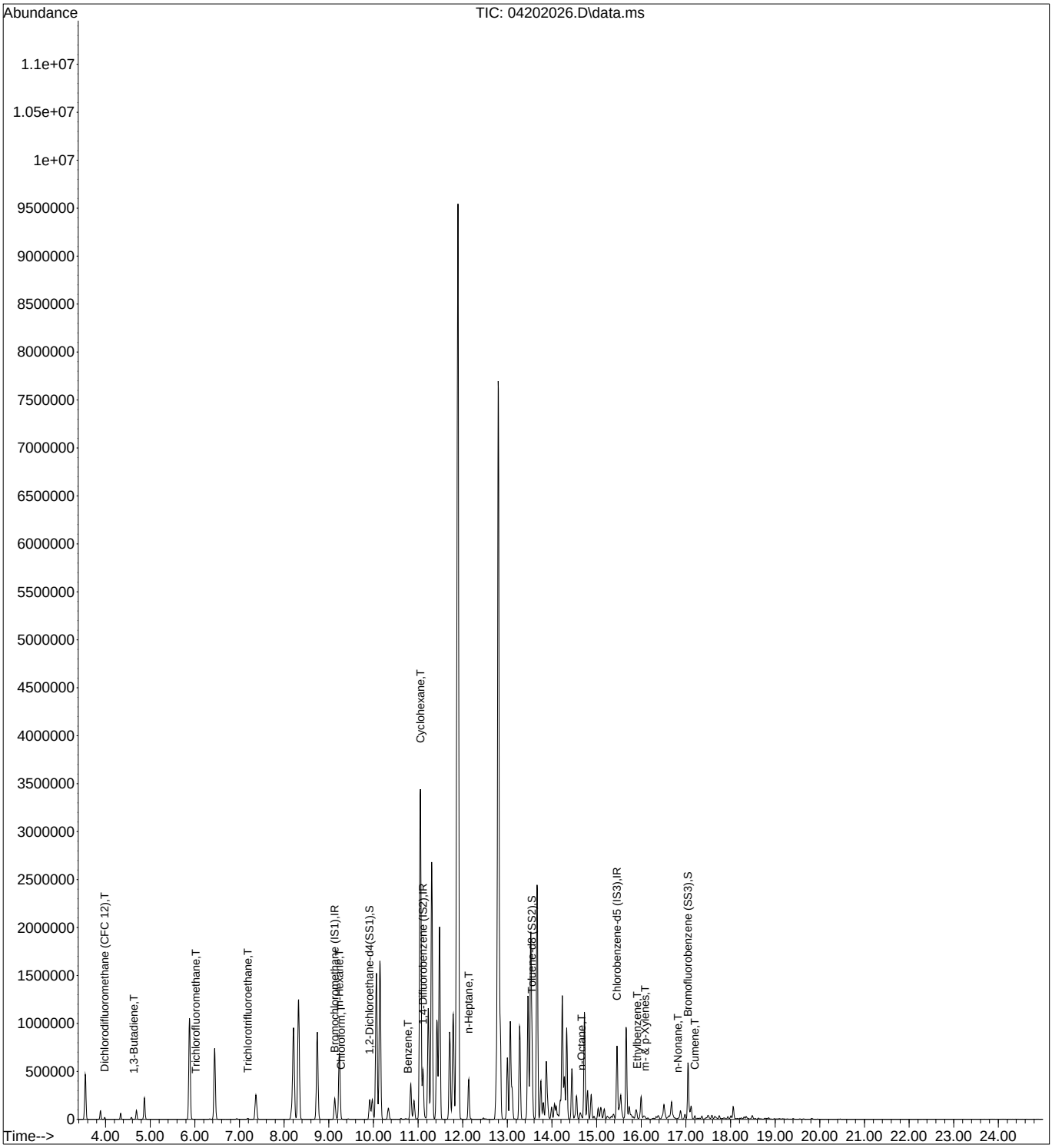
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	123911	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.11	114	535586	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	15.46	82	249991	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	198758	14.178	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.44%				
57) Toluene-d8 (SS2)	13.55	98	594399	11.955	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.68%				
73) Bromofluorobenzene (SS3)	17.05	174	228247	13.798	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.40%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.98	85	17016	0.962	ng		99
7) 1,3-Butadiene	4.64	54	1074	0.168	ng		92
14) Trichlorofluoromethane	6.02	101	1701	0.106	ng		93
21) Trichlorotrifluoroethane	7.19	151	5425	0.608	ng		96
31) n-Hexane	9.24	57	424039	31.958	ng		98
32) Chloroform	9.28	83	2435	0.154	ng	#	1
41) Benzene	10.77	78	3205	0.084	ng		99
43) Cyclohexane	11.05	84	1903942	131.434	ng		94
51) n-Heptane	12.14	71	125009	13.722	ng		96
63) n-Octane	14.67	57	5805	0.762	ng		91
66) Ethylbenzene	15.91	91	5642	0.125	ng		89
67) m- & p-Xylenes	16.08	91	11186	0.308	ng		96
71) n-Nonane	16.82	43	2620	0.167	ng		96
74) Cumene	17.20	105	7117	0.150	ng		97

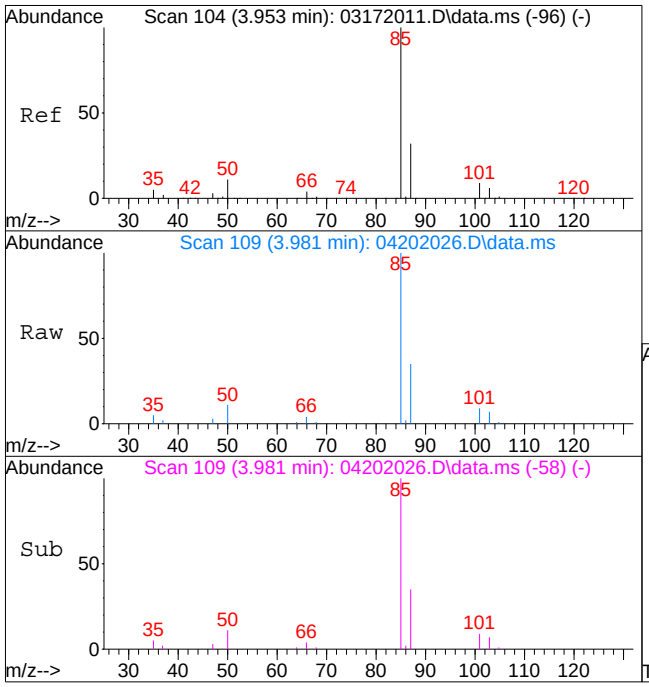
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202026.D Vial: 1
Acq On : 20 Apr 2020 16:54 Operator: SC
Sample : P2002027-018 (5.0mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 17:22:46 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

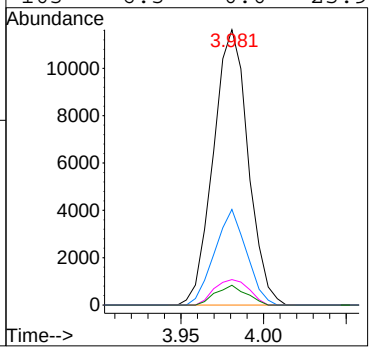


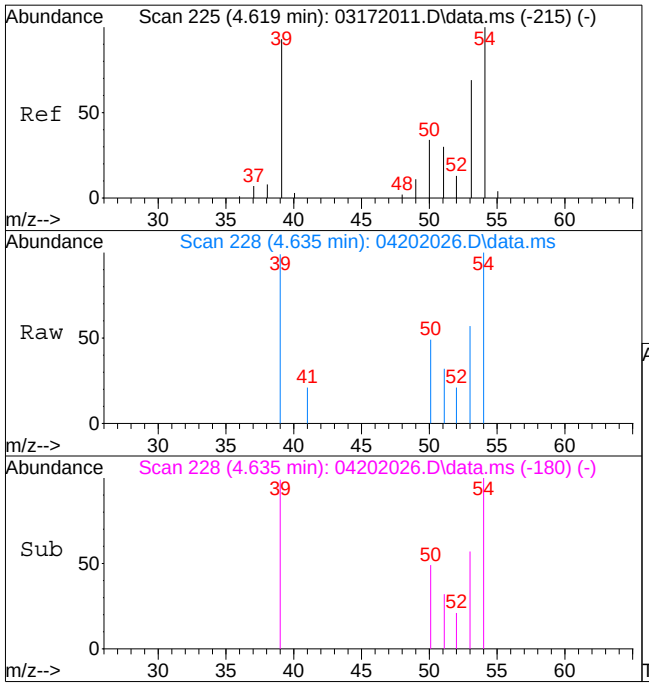


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.96 ng
RT: 3.98 min Scan# 109
Delta R.T. 0.028 min
Lab File: 04202026.D
Acq: 20 Apr 2020 16:54

Tgt Ion: 85 Resp: 17016

Ion	Ratio	Lower	Upper
85	100		
87	31.9	12.4	52.4
101	9.3	0.0	29.2
103	6.3	0.0	25.9

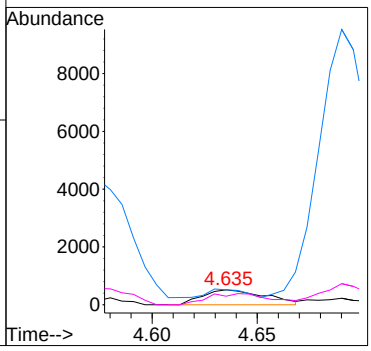


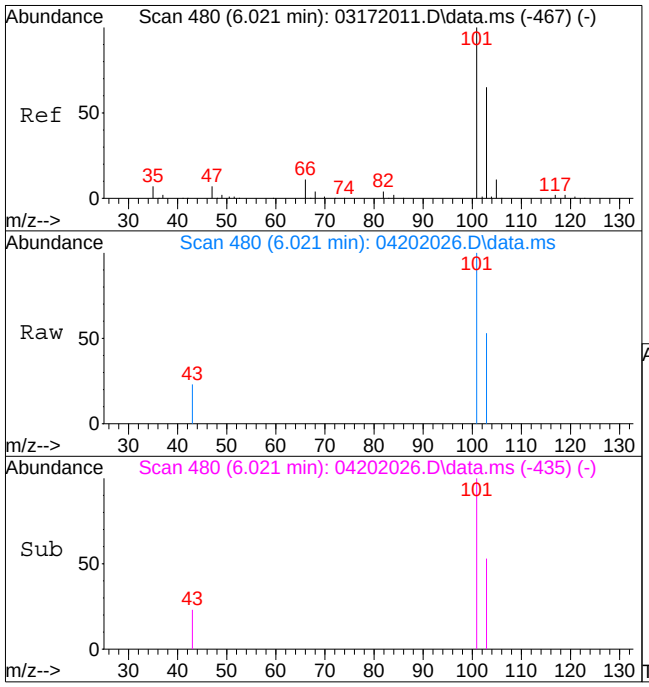


#7
1,3-Butadiene
Concen: 0.17 ng
RT: 4.64 min Scan# 228
Delta R.T. 0.016 min
Lab File: 04202026.D
Acq: 20 Apr 2020 16:54

Tgt Ion: 54 Resp: 1074

Ion	Ratio	Lower	Upper
54	100		
39	85.4	74.8	114.8
53	75.4	49.9	89.9

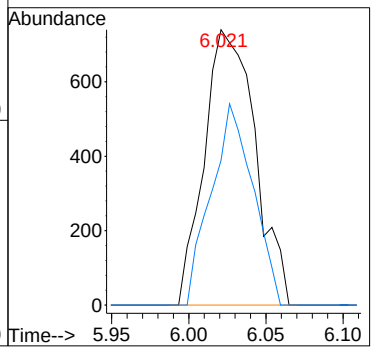


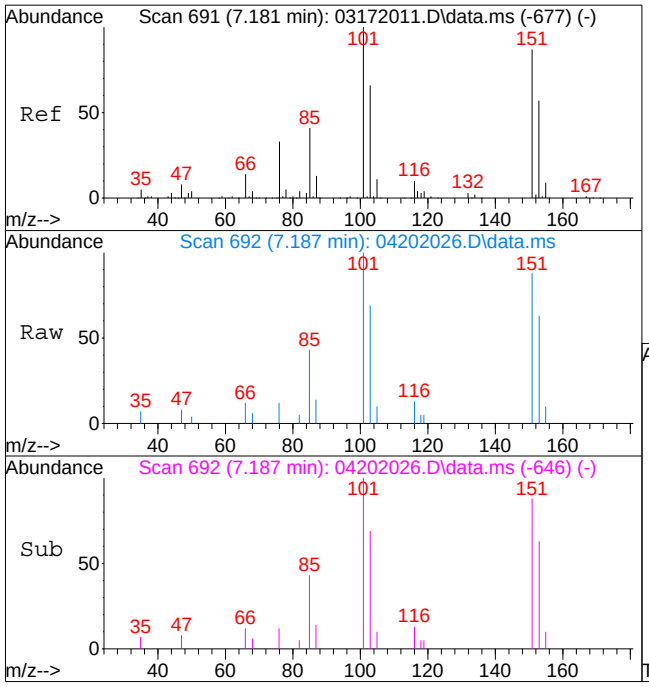


#14
Trichlorofluoromethane
Concen: 0.11 ng
RT: 6.02 min Scan# 480
Delta R.T. -0.000 min
Lab File: 04202026.D
Acq: 20 Apr 2020 16:54

Tgt Ion:101 Resp: 1701

Ion	Ratio	Lower	Upper
101	100		
103	60.0	45.3	85.3

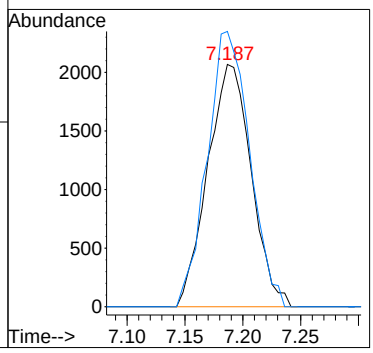


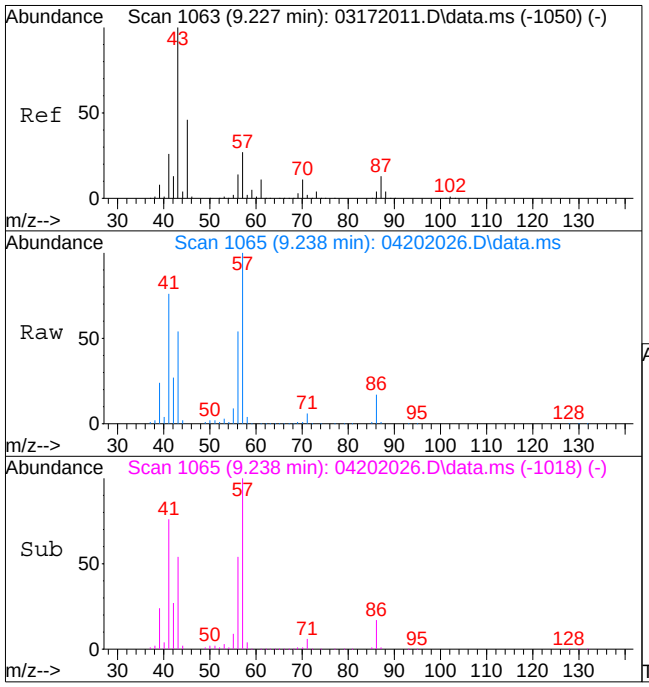


#21
Trichlorotrifluoroethane
Concen: 0.61 ng
RT: 7.19 min Scan# 692
Delta R.T. 0.006 min
Lab File: 04202026.D
Acq: 20 Apr 2020 16:54

Tgt Ion:151 Resp: 5425

Ion	Ratio	Lower	Upper
151	100		
101	110.7	94.7	134.7

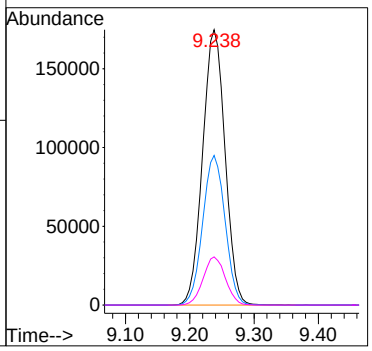


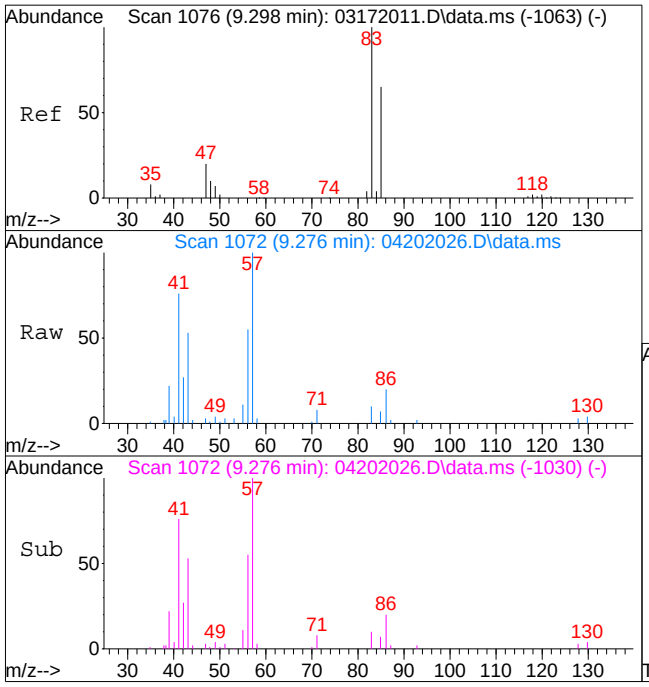


#31
n-Hexane
Concen: 31.96 ng
RT: 9.24 min Scan# 1065
Delta R.T. 0.011 min
Lab File: 04202026.D
Acq: 20 Apr 2020 16:54

Tgt Ion: 57 Resp: 424039

Ion	Ratio	Lower	Upper
57	100		
56	54.2	42.0	63.0
86	17.3	13.1	19.7

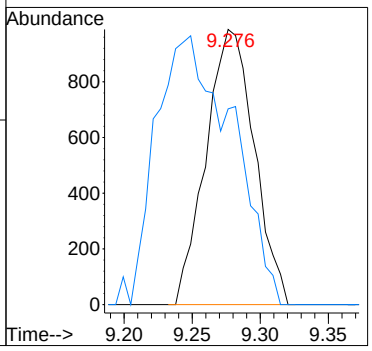


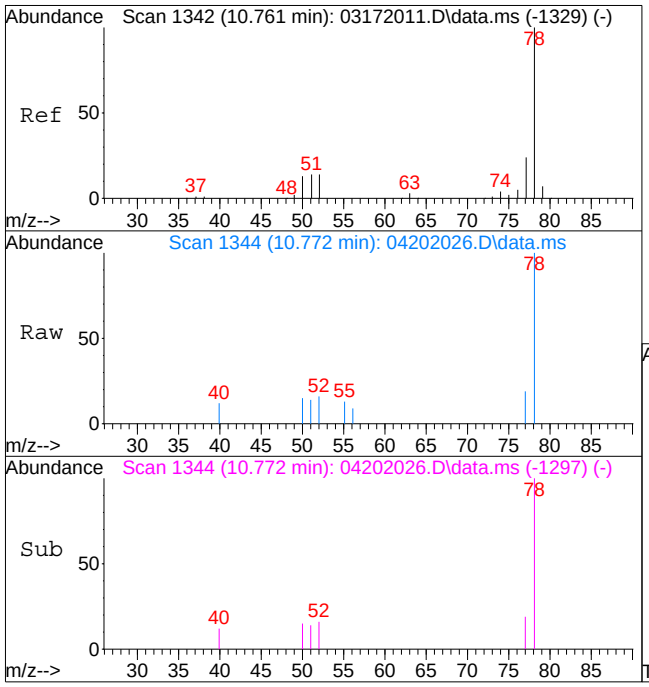


#32
Chloroform
Concen: 0.15 ng
RT: 9.28 min Scan# 1072
Delta R.T. -0.022 min
Lab File: 04202026.D
Acq: 20 Apr 2020 16:54

Tgt Ion: 83 Resp: 2435

Ion	Ratio	Lower	Upper
83	100		
85	154.9	45.1	85.1#

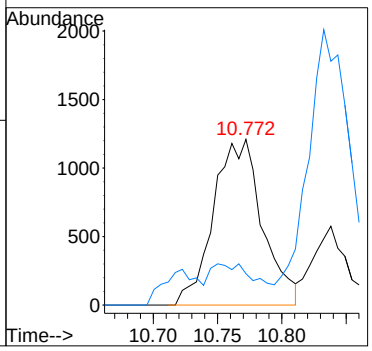


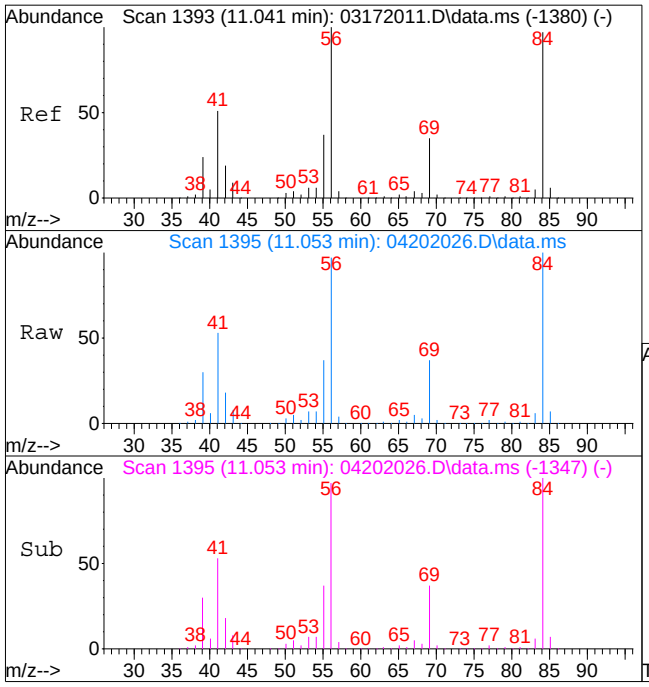


#41
Benzene
Concen: 0.08 ng
RT: 10.77 min Scan# 1344
Delta R.T. 0.011 min
Lab File: 04202026.D
Acq: 20 Apr 2020 16:54

Tgt Ion: 78 Resp: 3205

Ion	Ratio	Lower	Upper
78	100		
77	24.0	3.4	43.4

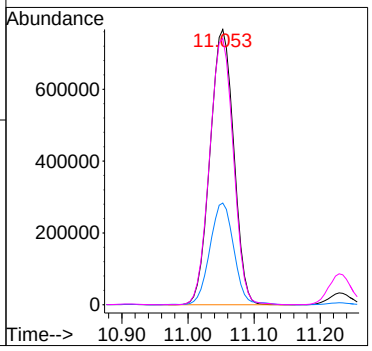


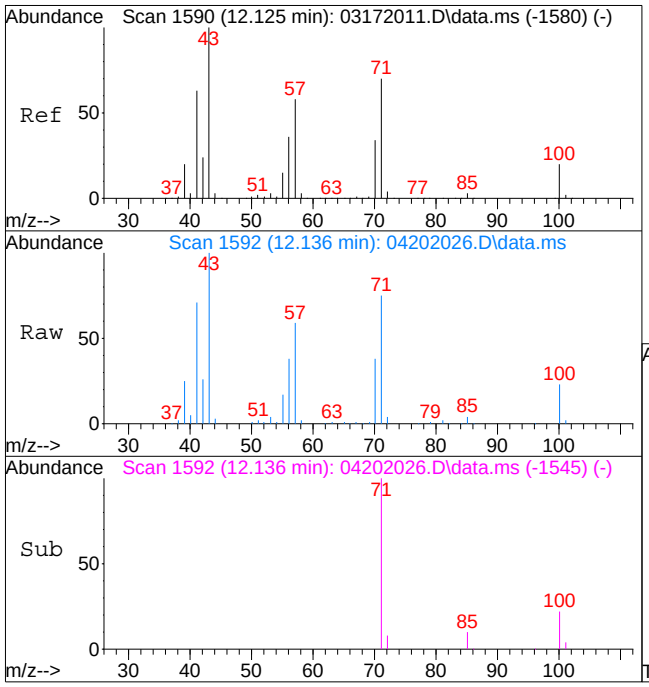


#43
Cyclohexane
Concen: 131.43 ng
RT: 11.05 min Scan# 1395
Delta R.T. 0.012 min
Lab File: 04202026.D
Acq: 20 Apr 2020 16:54

Tgt Ion: 84 Resp: 1903942

Ion	Ratio	Lower	Upper
84	100		
69	37.6	16.6	56.6
56	97.5	85.3	125.3

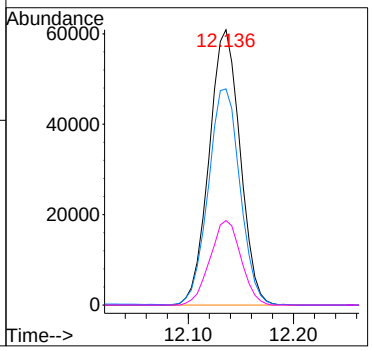


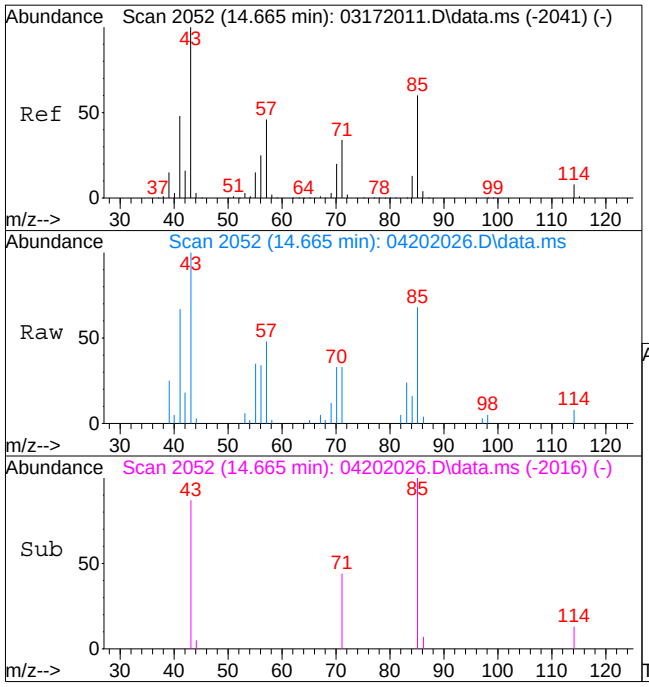


#51
n-Heptane
Concen: 13.72 ng
RT: 12.14 min Scan# 1592
Delta R.T. 0.011 min
Lab File: 04202026.D
Acq: 20 Apr 2020 16:54

Tgt Ion: 71 Resp: 125009

Ion	Ratio	Lower	Upper
71	100		
57	80.7	64.0	104.0
100	30.7	8.7	48.7

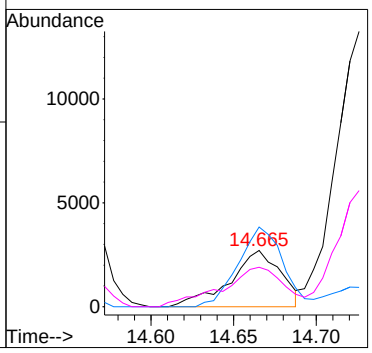


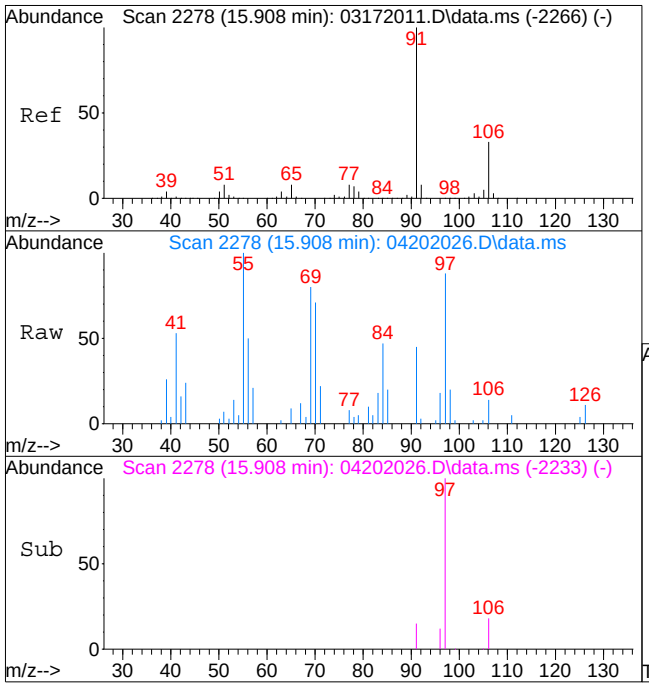


#63
n-Octane
Concen: 0.76 ng
RT: 14.67 min Scan# 2052
Delta R.T. 0.000 min
Lab File: 04202026.D
Acq: 20 Apr 2020 16:54

Tgt Ion: 57 Resp: 5805

Ion	Ratio	Lower	Upper
57	100		
85	124.8	105.4	158.2
71	85.4	59.0	88.4

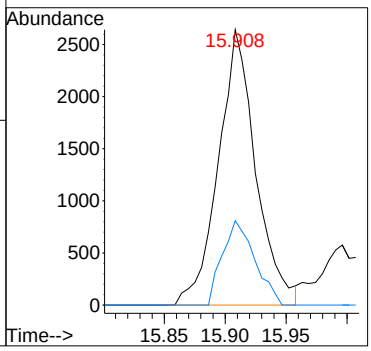


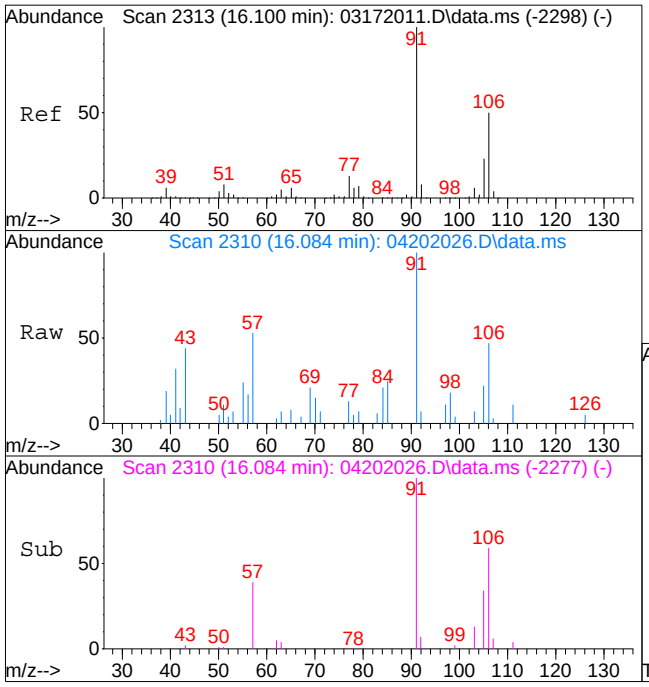


#66
Ethylbenzene
Concen: 0.12 ng
RT: 15.91 min Scan# 2278
Delta R.T. 0.000 min
Lab File: 04202026.D
Acq: 20 Apr 2020 16:54

Tgt Ion: 91 Resp: 5642

Ion	Ratio	Lower	Upper
91	100		
106	26.5	12.9	52.9

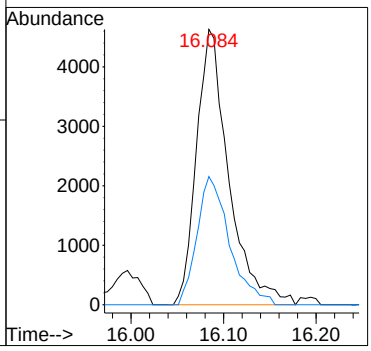


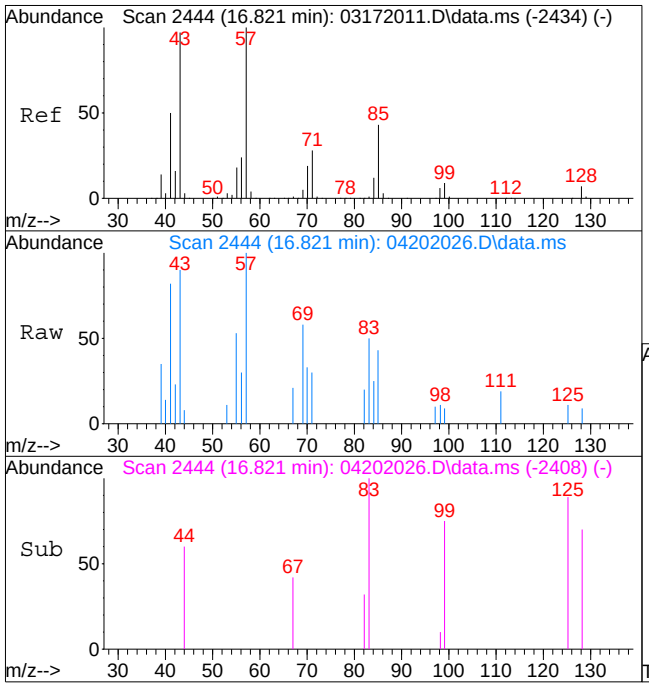


#67
m- & p-Xylenes
Concen: 0.31 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.016 min
Lab File: 04202026.D
Acq: 20 Apr 2020 16:54

Tgt Ion: 91 Resp: 11186

Ion	Ratio	Lower	Upper
91	100		
106	47.0	29.5	69.5

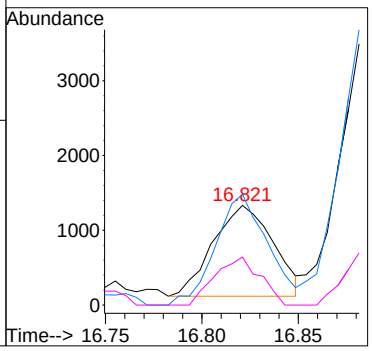


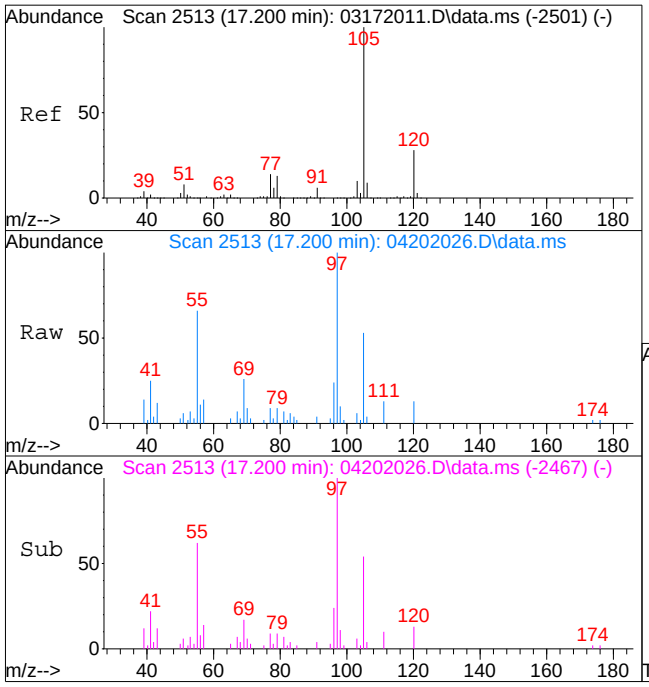


#71
n-Nonane
Concen: 0.17 ng
RT: 16.82 min Scan# 2444
Delta R.T. 0.000 min
Lab File: 04202026.D
Acq: 20 Apr 2020 16:54

Tgt Ion: 43 Resp: 2620

Ion	Ratio	Lower	Upper
43	100		
57	106.1	82.8	122.8
85	39.9	23.4	63.4

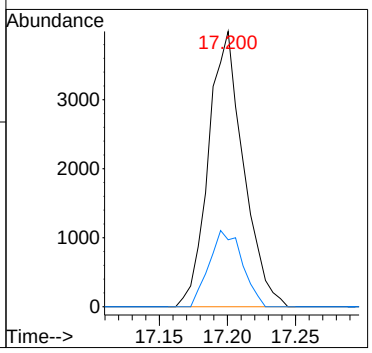




#74
Cumene
Concen: 0.15 ng
RT: 17.20 min Scan# 2513
Delta R.T. 0.000 min
Lab File: 04202026.D
Acq: 20 Apr 2020 16:54

Tgt Ion:105 Resp: 7117

Ion	Ratio	Lower	Upper
105	100		
120	26.2	7.6	47.6



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202027.D Vial: 1
Acq On : 20 Apr 2020 17:27 Operator: SC
Sample : P2002027-019 (1.0mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 17:57:58 2020 4/20/20
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (IS1)	9.14	130	127494	12.500 ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.11	114	542935	12.500 ng		0.00
56) Chlorobenzene-d5 (IS3)	15.46	82	318664	12.500 ng		0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.92	65	203802	14.129 ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.04%			
57) Toluene-d8 (SS2)	13.56	98	560065	8.837 ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 70.72%			
73) Bromofluorobenzene (SS3)	17.05	174	230377	10.925 ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.44%			
Target Compounds						Qvalue
2) Propene	3.84	42	40002m	5.123 ng		
3) Dichlorodifluoromethan...	3.97	85	31874	1.752 ng		99
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D. d		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D. d		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.40	45	157	N.D.		
11) Acetonitrile	0.00	41	0	N.D.		
12) Acrolein	0.00	56	0	N.D. d		
13) Acetone	0.00	58	0	N.D. d		
14) Trichlorofluoromethane	6.05	101	4113	0.250 ng		97
15) 2-Propanol (Isopropanol)	6.21	45	3893	0.196 ng	#	58
16) Acrylonitrile	0.00	53	0	N.D. d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d		
19) Methylene Chloride	6.80	84	335	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D. d		
21) Trichlorotrifluoroethane	7.20	151	1332	0.145 ng		94
22) Carbon Disulfide	7.18	76	374	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D. d		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D. d		
26) Vinyl Acetate	0.00	86	0	N.D. d		
27) 2-Butanone (MEK)	0.00	72	0	N.D. d		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D. d		
29) Diisopropyl Ether	0.00	87	0	N.D. d		
30) Ethyl Acetate	0.00	61	0	N.D. d		
31) n-Hexane	9.24	57	2539799	186.035 ng		97
32) Chloroform	9.27	83	323	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D. d		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D. d		
40) 1-Butanol	10.71	56	153	N.D.		
41) Benzene	10.76	78	1270984	32.852 ng		99
42) Carbon Tetrachloride	0.00	117	0	N.D. d		
43) Cyclohexane	11.06	84	3048159	207.574 ng		94
44) tert-Amyl Methyl Ether	0.00	73	0	N.D. d		
45) 1,2-Dichloropropane	0.00	63	0	N.D. d		
46) Bromodichloromethane	0.00	83	0	N.D. d		
47) Trichloroethene	0.00	130	0	N.D. d		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d		
50) Methyl Methacrylate	0.00	100	0	N.D. d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202027.D Vial: 1
Acq On : 20 Apr 2020 17:27 Operator: SC
Sample : P2002027-019 (1.0mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 17:57:58 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

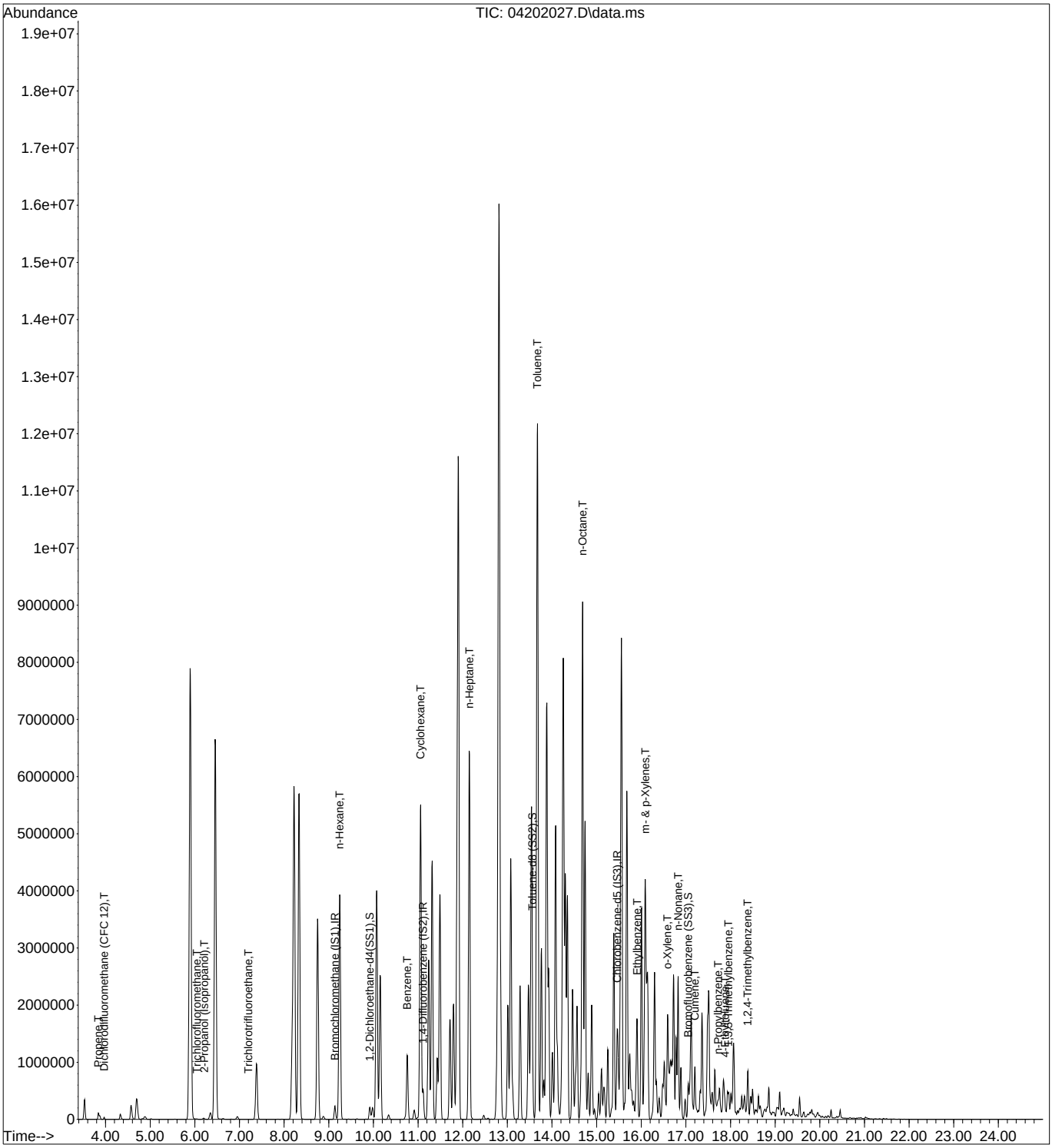
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.15	71	2149471	232.746 ng	96
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D. d	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	13.67	91	9241305	171.818 ng	99
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D. d	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.69	57	1938264	199.721 ng	96
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.91	91	851522	14.743 ng	99
67) m- & p-Xylenes	16.09	91	3426848	74.125 ng	99
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.49	104	1259	N.D.	
70) o-Xylene	16.59	91	1210220	26.196 ng	98
71) n-Nonane	16.83	43	794144	39.795 ng	96
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	17.20	105	90344	1.499 ng	98
75) alpha-Pinene	17.60	93	883	N.D.	
76) n-Propylbenzene	17.72	91	140089	2.035 ng	95
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	26191	0.473 ng	93
79) 1,3,5-Trimethylbenzene	17.95	105	111222	2.186 ng	99
80) alpha-Methylstyrene	17.95	118	645	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	96696	2.045 ng	89
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.55	91	819	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.91	128	1289	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202027.D Vial: 1
Acq On : 20 Apr 2020 17:27 Operator: SC
Sample : P2002027-019 (1.0mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 17:57:58 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202027.D Vial: 1
Acq On : 20 Apr 2020 17:27 Operator: SC
Sample : P2002027-019 (1.0mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 17:57:58 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 4/20/20
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

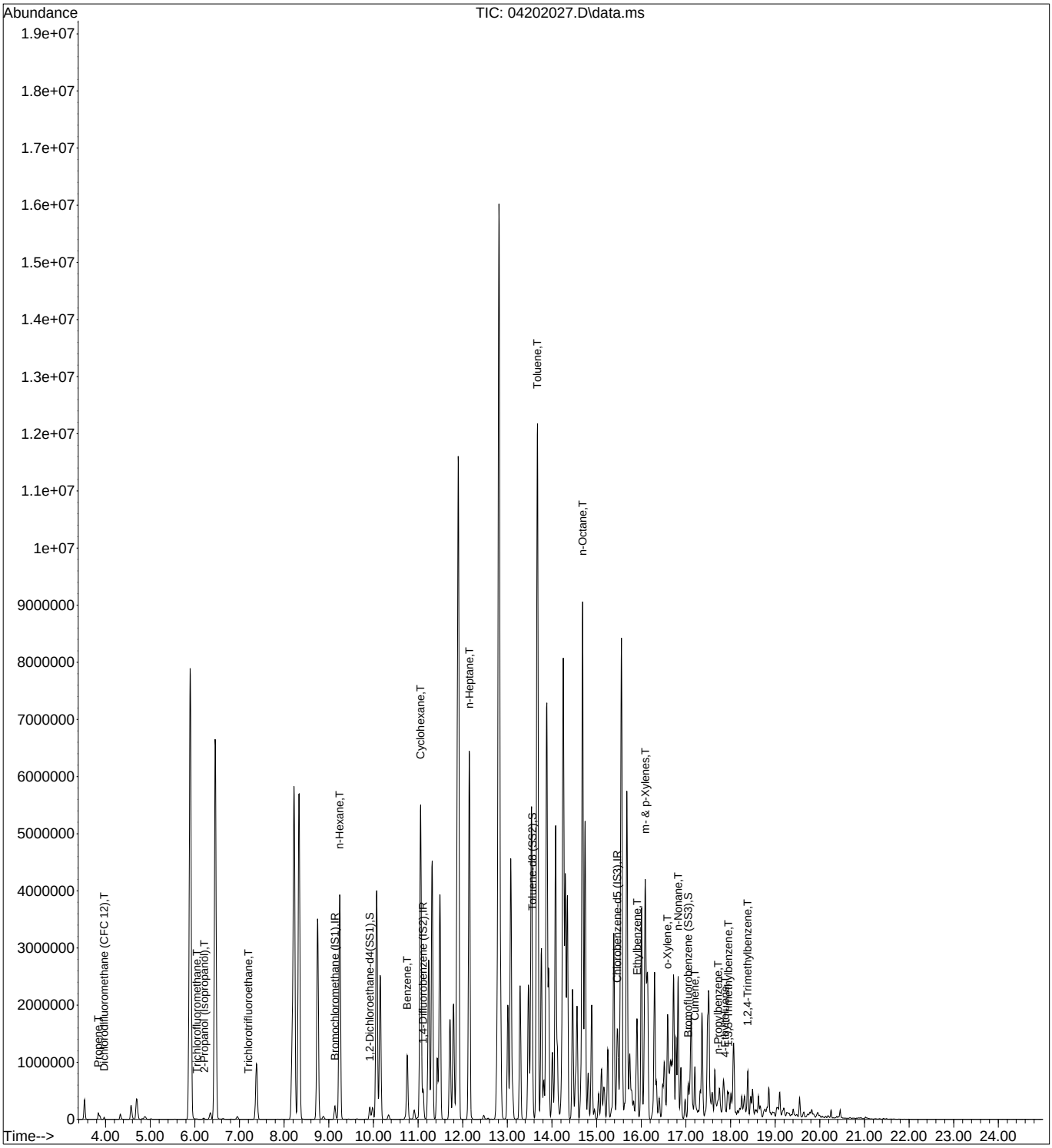
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.14	130	127494	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.11	114	542935	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	15.46	82	318664	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.92	65	203802	14.129	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.04%				
57) Toluene-d8 (SS2)	13.56	98	560065	8.837	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 70.72%				
73) Bromofluorobenzene (SS3)	17.05	174	230377	10.925	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.44%				
Target Compounds							Qvalue
2) Propene	3.84	42	40002m	5.123	ng		
3) Dichlorodifluoromethan...	3.97	85	31874	1.752	ng		99
14) Trichlorofluoromethane	6.05	101	4113	0.250	ng		97
15) 2-Propanol (Isopropanol)	6.21	45	3893	0.196	ng	#	58
21) Trichlorotrifluoroethane	7.20	151	1332	0.145	ng		94
31) n-Hexane	9.24	57	2539799	186.035	ng		97
41) Benzene	10.76	78	1270984	32.852	ng		99
43) Cyclohexane	11.06	84	3048159	207.574	ng		94
51) n-Heptane	12.15	71	2149471	232.746	ng		96
58) Toluene	13.67	91	9241305	171.818	ng		99
63) n-Octane	14.69	57	1938264	199.721	ng		96
66) Ethylbenzene	15.91	91	851522	14.743	ng		99
67) m- & p-Xylenes	16.09	91	3426848	74.125	ng		99
70) o-Xylene	16.59	91	1210220	26.196	ng		98
71) n-Nonane	16.83	43	794144	39.795	ng		96
74) Cumene	17.20	105	90344	1.499	ng		98
76) n-Propylbenzene	17.72	91	140089	2.035	ng		95
78) 4-Ethyltoluene	17.88	105	26191	0.473	ng		93
79) 1,3,5-Trimethylbenzene	17.95	105	111222	2.186	ng		99
82) 1,2,4-Trimethylbenzene	18.38	105	96696	2.045	ng		89

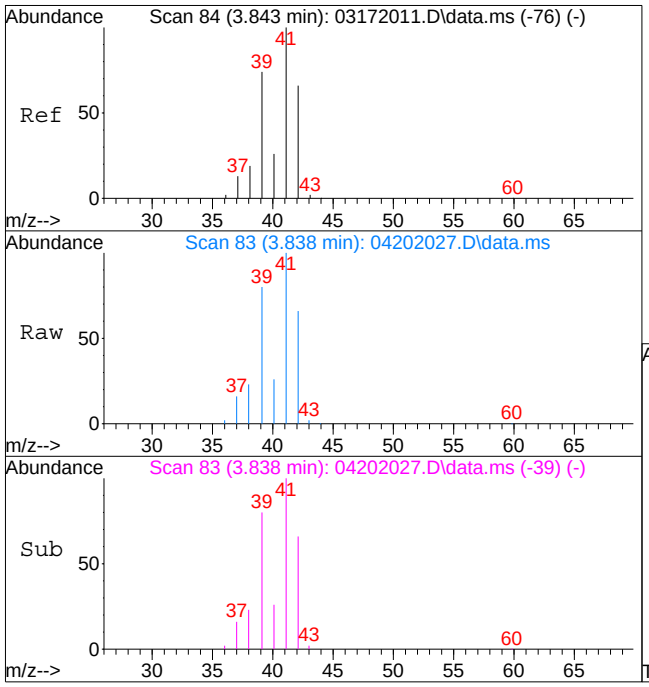
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202027.D Vial: 1
Acq On : 20 Apr 2020 17:27 Operator: SC
Sample : P2002027-019 (1.0mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 17:57:58 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

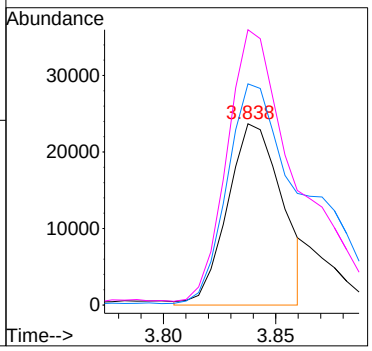


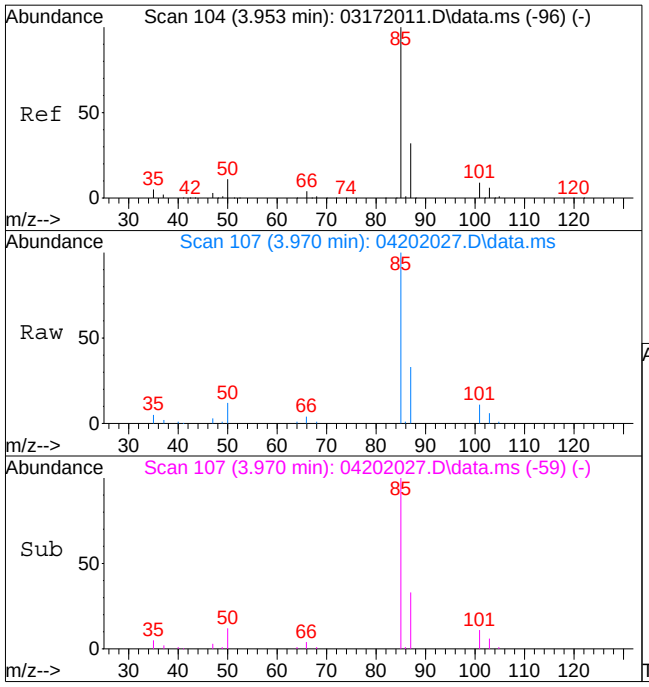


#2
Propene
Concen: 5.12 ng m
RT: 3.84 min Scan# 83
Delta R.T. -0.005 min
Lab File: 04202027.D
Acq: 20 Apr 2020 17:27

Tgt Ion: 42 Resp: 40002

Ion	Ratio	Lower	Upper
42	100		
39	181.4	91.9	131.9#
41	199.0	130.5	170.5#

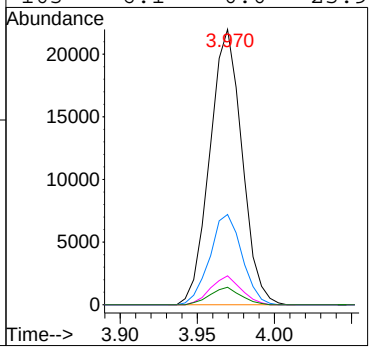


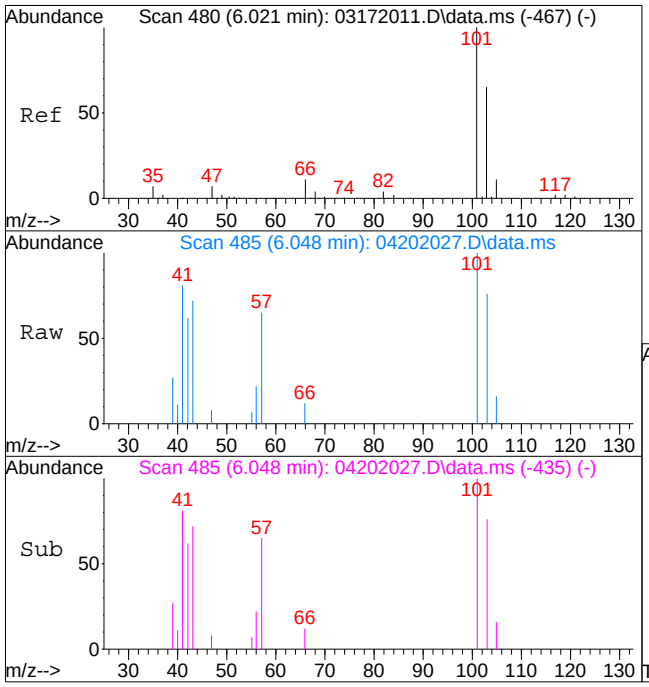


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.75 ng
RT: 3.97 min Scan# 107
Delta R.T. 0.017 min
Lab File: 04202027.D
Acq: 20 Apr 2020 17:27

Tgt Ion: 85 Resp: 31874

Ion	Ratio	Lower	Upper
85	100		
87	32.9	12.4	52.4
101	9.9	0.0	29.2
103	6.1	0.0	25.9

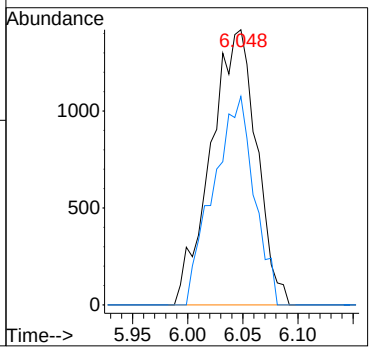


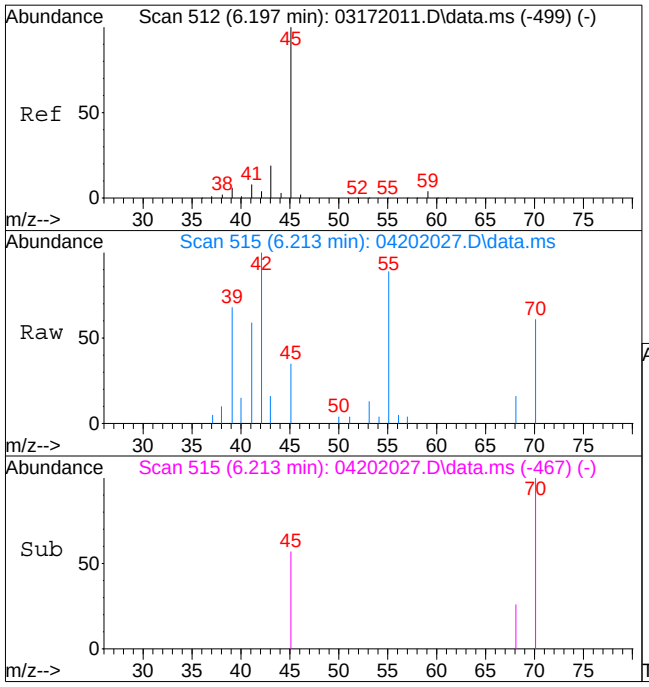


#14
Trichlorofluoromethane
Concen: 0.25 ng
RT: 6.05 min Scan# 485
Delta R.T. 0.027 min
Lab File: 04202027.D
Acq: 20 Apr 2020 17:27

Tgt Ion:101 Resp: 4113

Ion	Ratio	Lower	Upper
101	100		
103	67.4	45.3	85.3

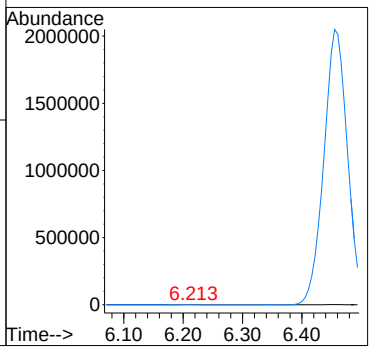


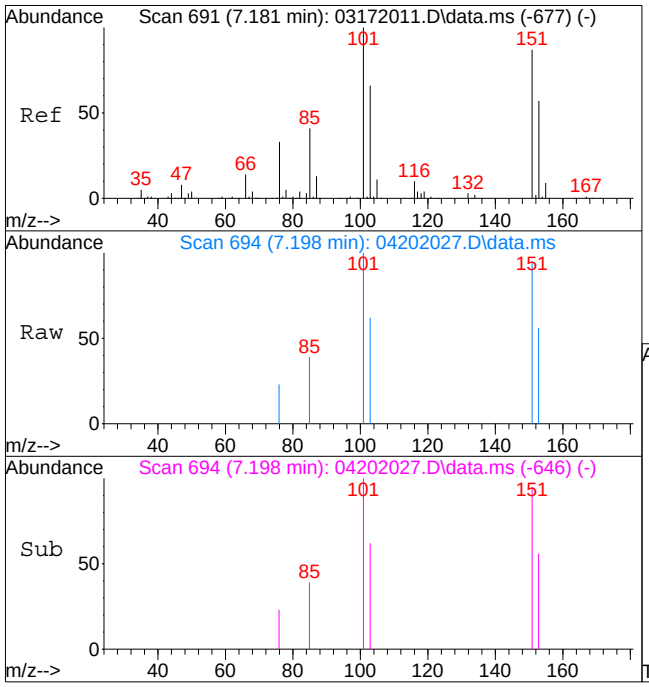


#15
2-Propanol (Isopropanol)
Concen: 0.20 ng
RT: 6.21 min Scan# 515
Delta R.T. 0.016 min
Lab File: 04202027.D
Acq: 20 Apr 2020 17:27

Tgt Ion: 45 Resp: 3893

Ion	Ratio	Lower	Upper
45	100		
43	0.0	0.0	39.0

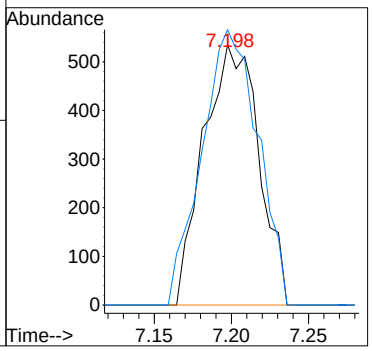


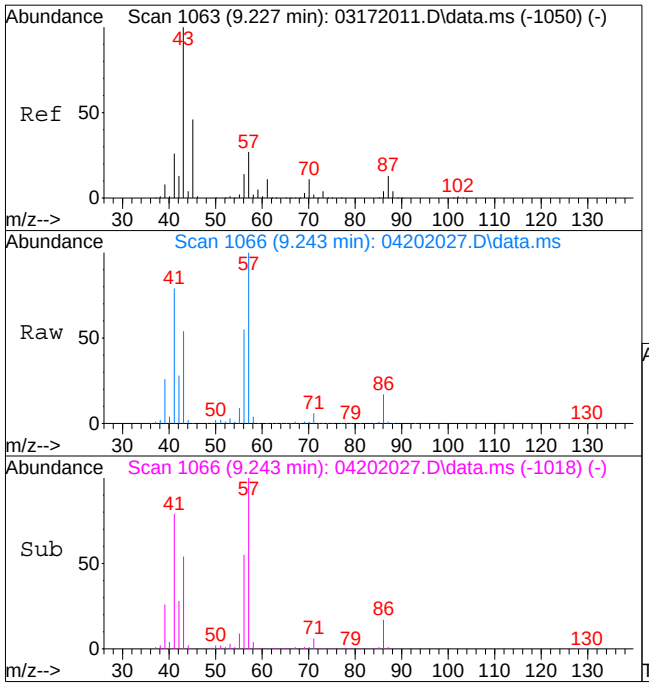


#21
Trichlorotrifluoroethane
Concen: 0.15 ng
RT: 7.20 min Scan# 694
Delta R.T. 0.017 min
Lab File: 04202027.D
Acq: 20 Apr 2020 17:27

Tgt Ion:151 Resp: 1332

Ion	Ratio	Lower	Upper
151	100		
101	107.8	94.7	134.7

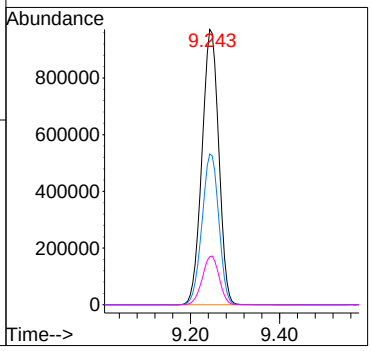


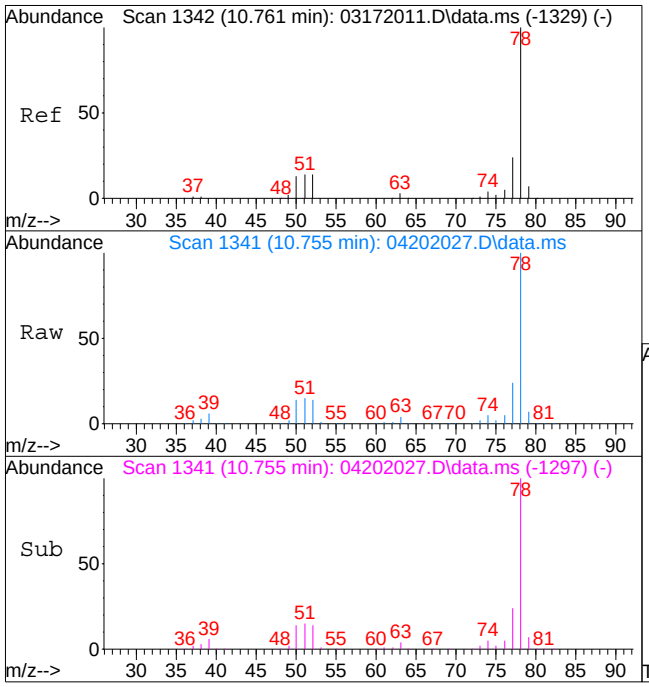


#31
n-Hexane
Concen: 186.04 ng
RT: 9.24 min Scan# 1066
Delta R.T. 0.016 min
Lab File: 04202027.D
Acq: 20 Apr 2020 17:27

Tgt Ion: 57 Resp: 2539799

Ion	Ratio	Lower	Upper
57	100		
56	54.9	42.0	63.0
86	17.7	13.1	19.7

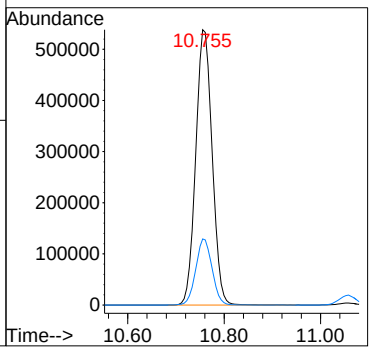


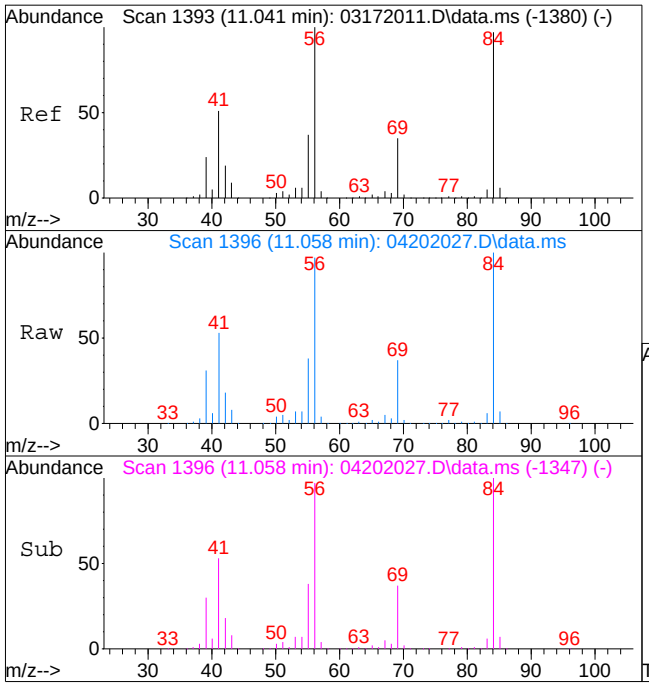


#41
Benzene
Concen: 32.85 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.006 min
Lab File: 04202027.D
Acq: 20 Apr 2020 17:27

Tgt Ion: 78 Resp: 1270984

Ion	Ratio	Lower	Upper
78	100		
77	23.9	3.4	43.4

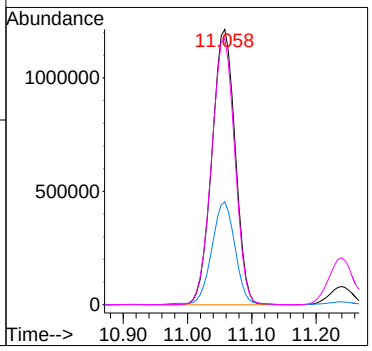


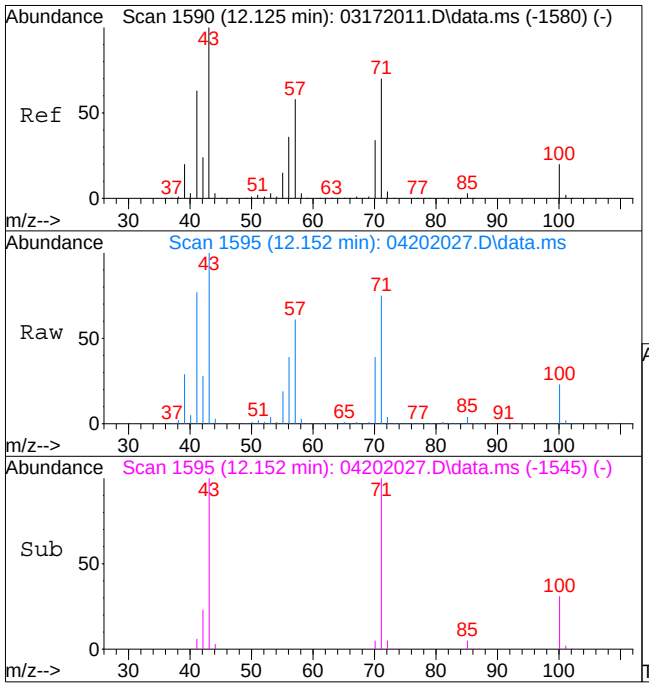


#43
Cyclohexane
Concen: 207.57 ng
RT: 11.06 min Scan# 1396
Delta R.T. 0.017 min
Lab File: 04202027.D
Acq: 20 Apr 2020 17:27

Tgt Ion: 84 Resp: 3048159

Ion	Ratio	Lower	Upper
84	100		
69	37.3	16.6	56.6
56	97.2	85.3	125.3

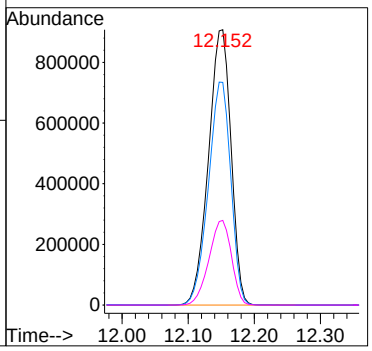


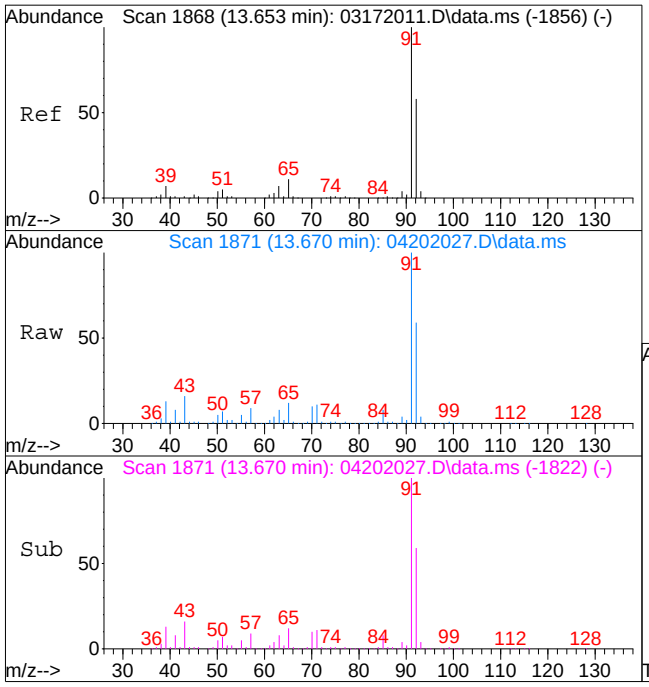


#51
n-Heptane
Concen: 232.75 ng
RT: 12.15 min Scan# 1595
Delta R.T. 0.027 min
Lab File: 04202027.D
Acq: 20 Apr 2020 17:27

Tgt Ion: 71 Resp: 2149471

Ion	Ratio	Lower	Upper
71	100		
57	80.5	64.0	104.0
100	30.7	8.7	48.7

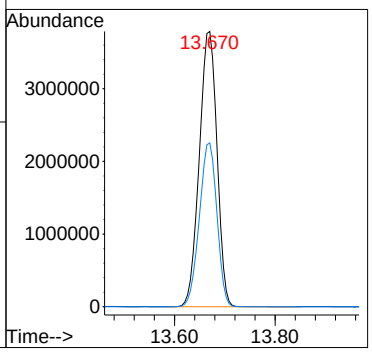


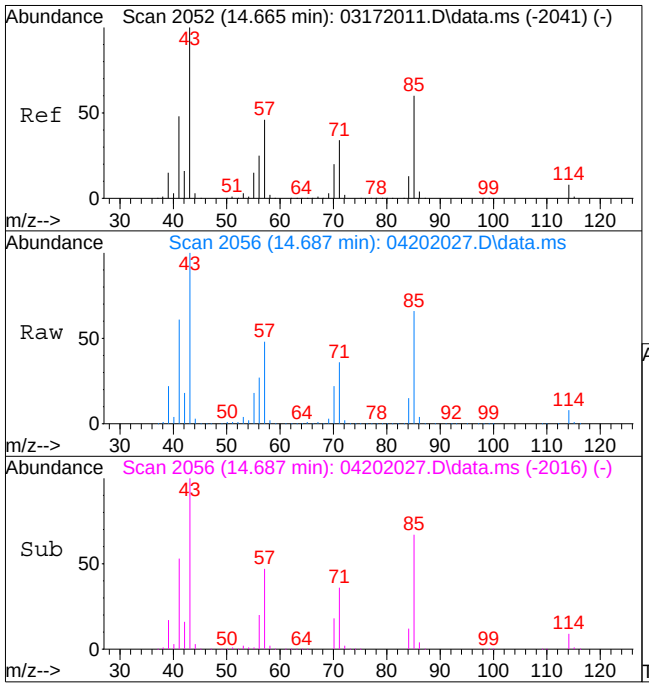


#58
Toluene
Concen: 171.82 ng
RT: 13.67 min Scan# 1871
Delta R.T. 0.017 min
Lab File: 04202027.D
Acq: 20 Apr 2020 17:27

Tgt Ion: 91 Resp: 9241305

Ion	Ratio	Lower	Upper
91	100		
92	59.0	38.6	78.6

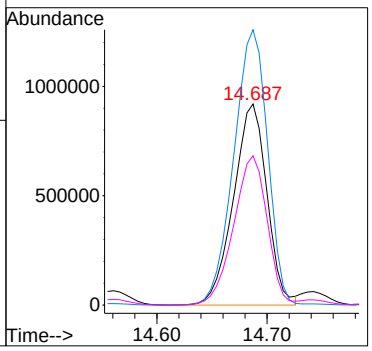


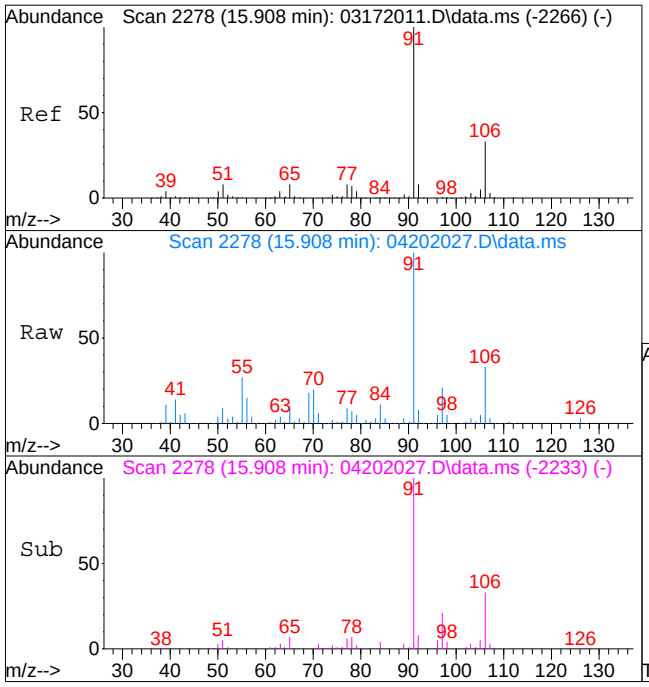


#63
n-Octane
Concen: 199.72 ng
RT: 14.69 min Scan# 2056
Delta R.T. 0.022 min
Lab File: 04202027.D
Acq: 20 Apr 2020 17:27

Tgt Ion: 57 Resp: 1938264

Ion	Ratio	Lower	Upper
57	100		
85	138.6	105.4	158.2
71	74.3	59.0	88.4

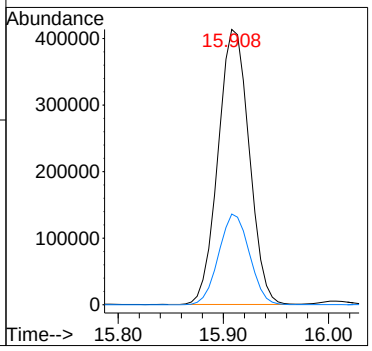


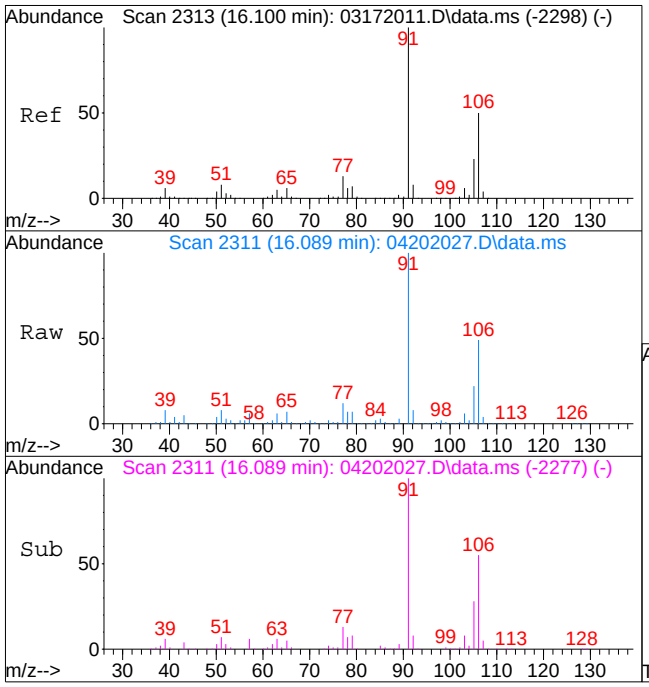


#66
Ethylbenzene
Concen: 14.74 ng
RT: 15.91 min Scan# 2278
Delta R.T. 0.000 min
Lab File: 04202027.D
Acq: 20 Apr 2020 17:27

Tgt Ion: 91 Resp: 851522

Ion	Ratio	Lower	Upper
91	100		
106	32.6	12.9	52.9

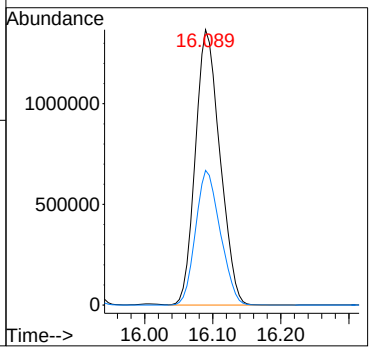


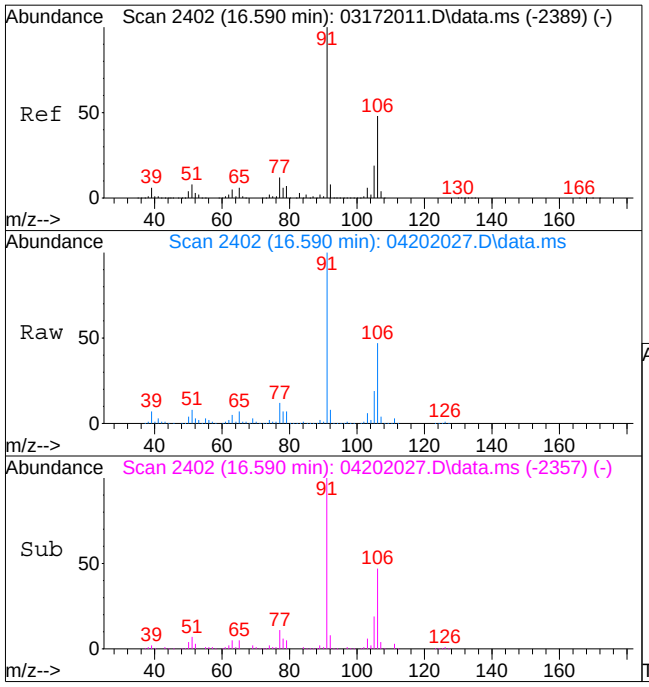


#67
m- & p-Xylenes
Concen: 74.12 ng
RT: 16.09 min Scan# 2311
Delta R.T. -0.011 min
Lab File: 04202027.D
Acq: 20 Apr 2020 17:27

Tgt Ion: 91 Resp: 3426848

Ion	Ratio	Lower	Upper
91	100		
106	49.1	29.5	69.5

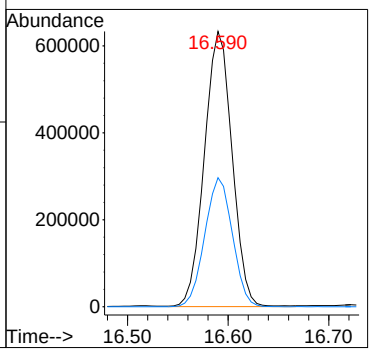


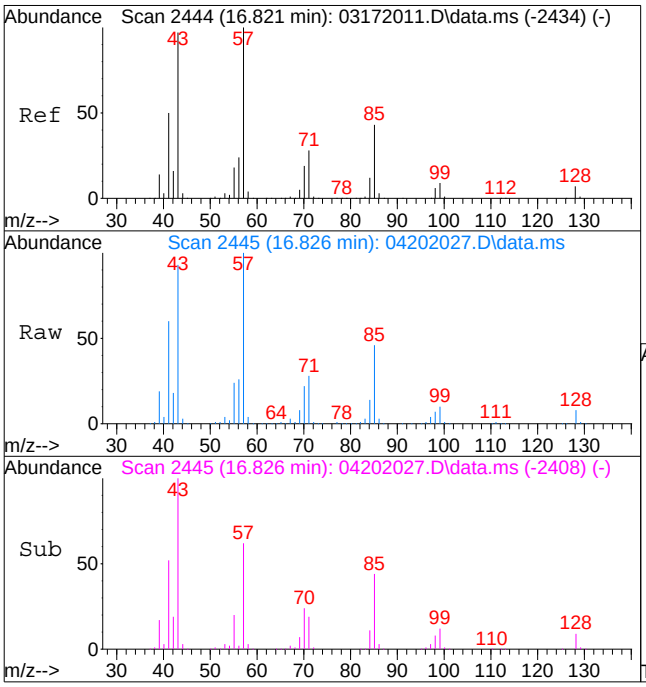


#70
o-Xylene
Concen: 26.20 ng
RT: 16.59 min Scan# 2402
Delta R.T. -0.000 min
Lab File: 04202027.D
Acq: 20 Apr 2020 17:27

Tgt Ion: 91 Resp: 1210220

Ion	Ratio	Lower	Upper
91	100		
106	46.8	28.3	68.3

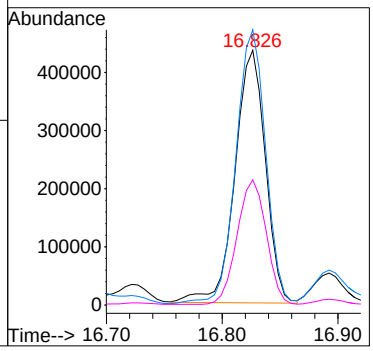


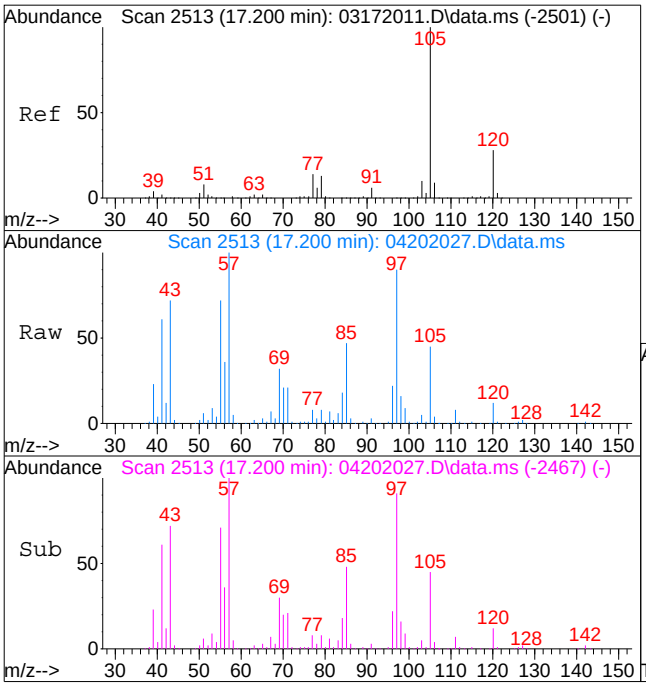


#71
n-Nonane
Concen: 39.79 ng
RT: 16.83 min Scan# 2445
Delta R.T. 0.005 min
Lab File: 04202027.D
Acq: 20 Apr 2020 17:27

Tgt Ion: 43 Resp: 794144

Ion	Ratio	Lower	Upper
43	100		
57	106.2	82.8	122.8
85	47.1	23.4	63.4

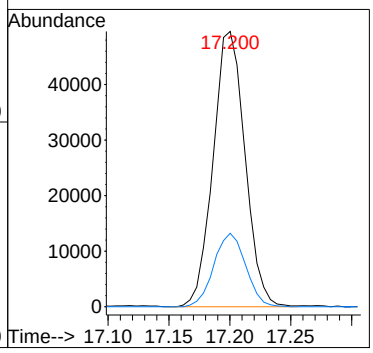


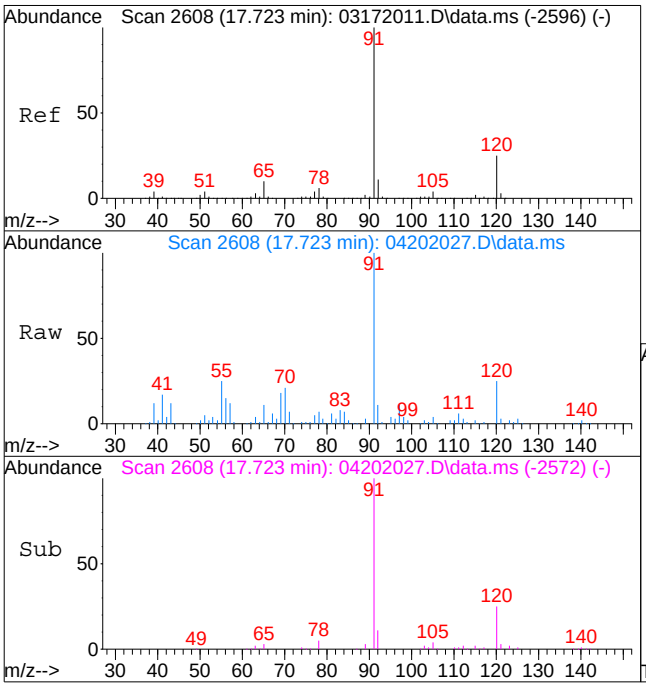


#74
Cumene
Concen: 1.50 ng
RT: 17.20 min Scan# 2513
Delta R.T. 0.000 min
Lab File: 04202027.D
Acq: 20 Apr 2020 17:27

Tgt Ion:105 Resp: 90344

Ion	Ratio	Lower	Upper
105	100		
120	26.6	7.6	47.6

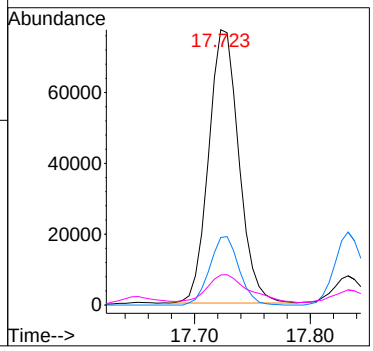


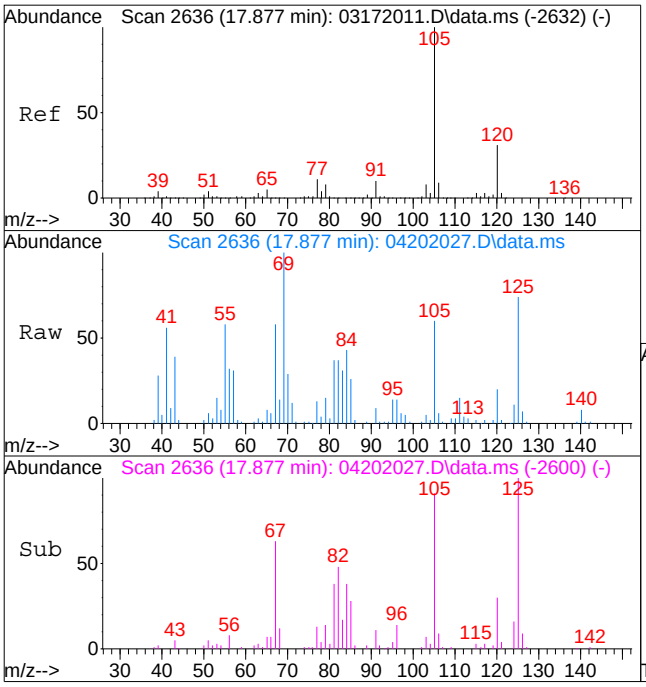


#76
n-Propylbenzene
Concen: 2.03 ng
RT: 17.72 min Scan# 2608
Delta R.T. -0.000 min
Lab File: 04202027.D
Acq: 20 Apr 2020 17:27

Tgt Ion: 91 Resp: 140089

Ion	Ratio	Lower	Upper
91	100		
120	24.3	5.0	45.0
65	15.1	0.0	30.0

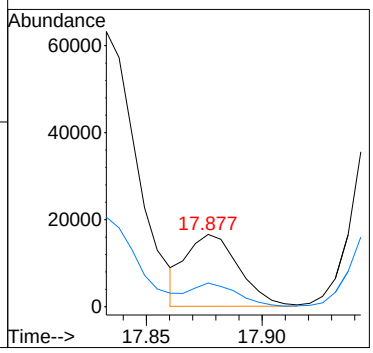


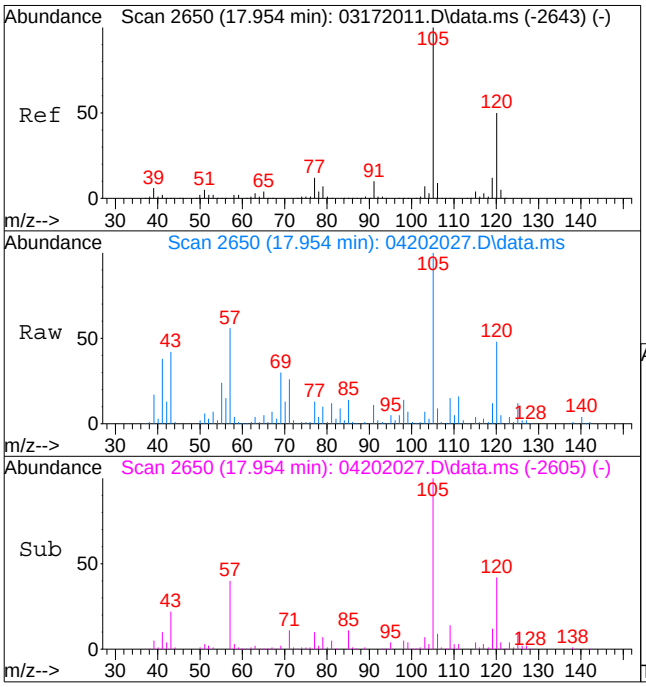


#78
4-Ethyltoluene
Concen: 0.47 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.000 min
Lab File: 04202027.D
Acq: 20 Apr 2020 17:27

Tgt Ion:105 Resp: 26191

Ion	Ratio	Lower	Upper
105	100		
120	27.3	11.2	51.2

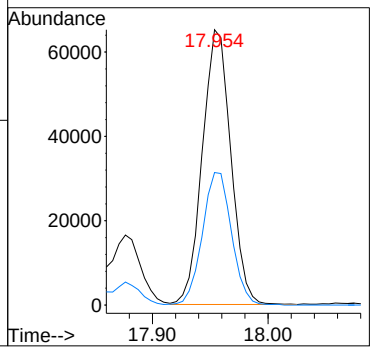


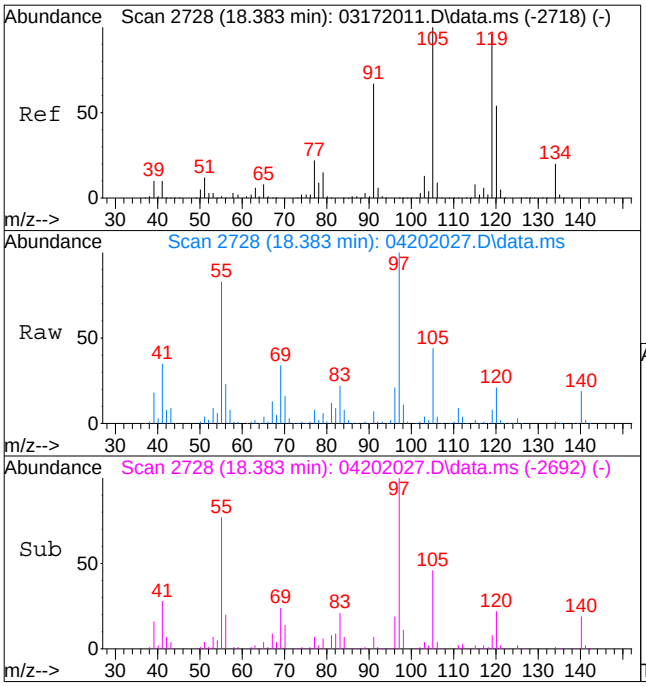


#79
1,3,5-Trimethylbenzene
Concen: 2.19 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.000 min
Lab File: 04202027.D
Acq: 20 Apr 2020 17:27

Tgt Ion:105 Resp: 111222

Ion	Ratio	Lower	Upper
105	100		
120	49.5	30.5	70.5

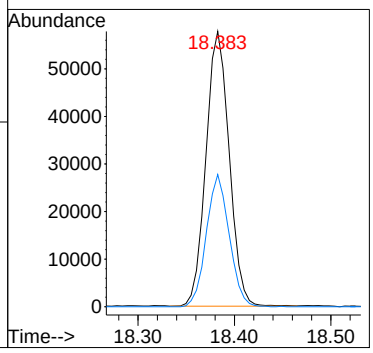




#82
1,2,4-Trimethylbenzene
Concen: 2.05 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.000 min
Lab File: 04202027.D
Acq: 20 Apr 2020 17:27

Tgt Ion:105 Resp: 96696

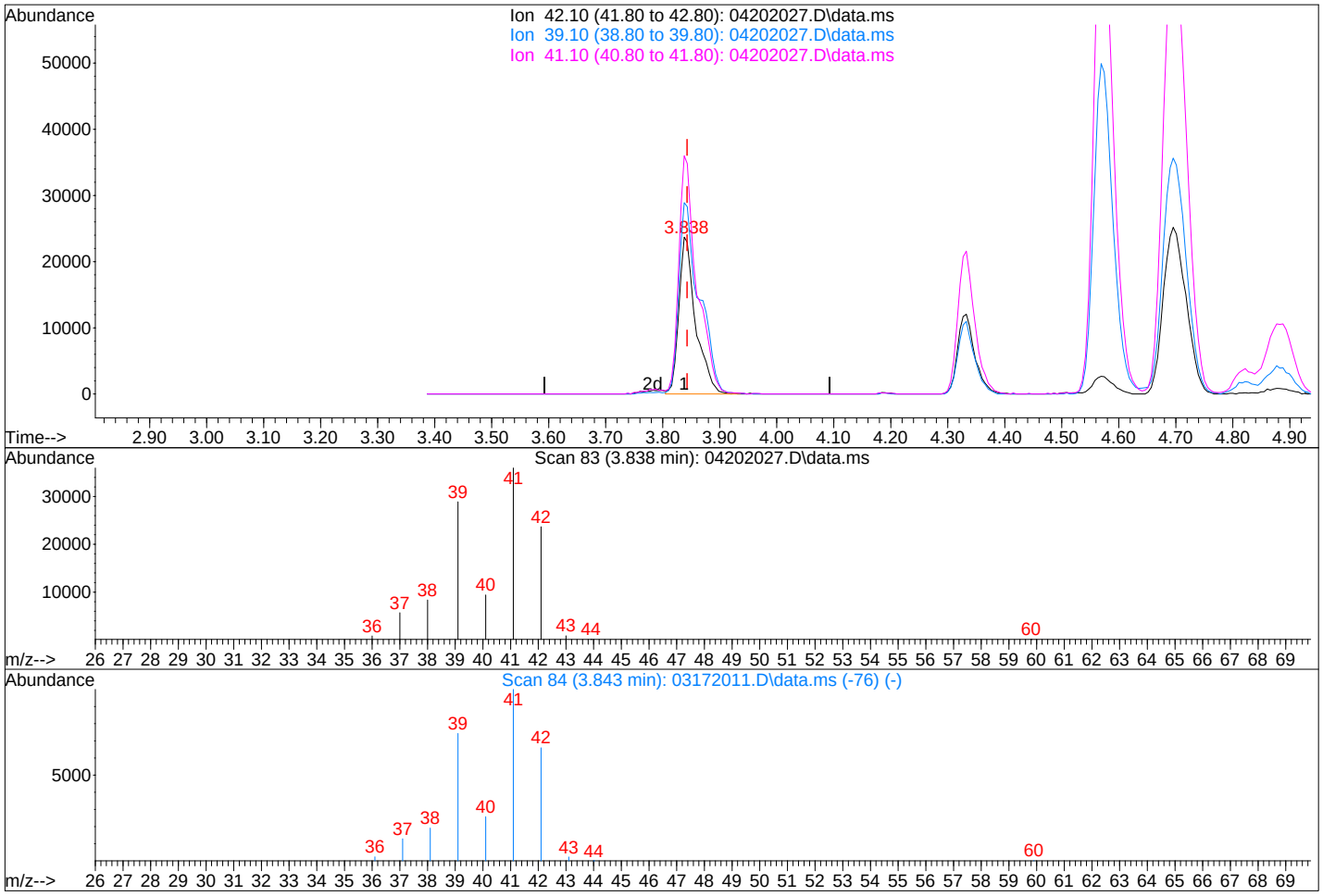
Ion	Ratio	Lower	Upper
105	100		
120	47.2	34.9	74.9



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\20\04202027.D Vial: 1
Acq On : 20 Apr 2020 17:27 Operator: SC
Sample : P2002027-019 (1.0mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 17:53:46 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202027.D\data.ms

(2) Propene (T)

3.838min (-0.005) 6.21ng

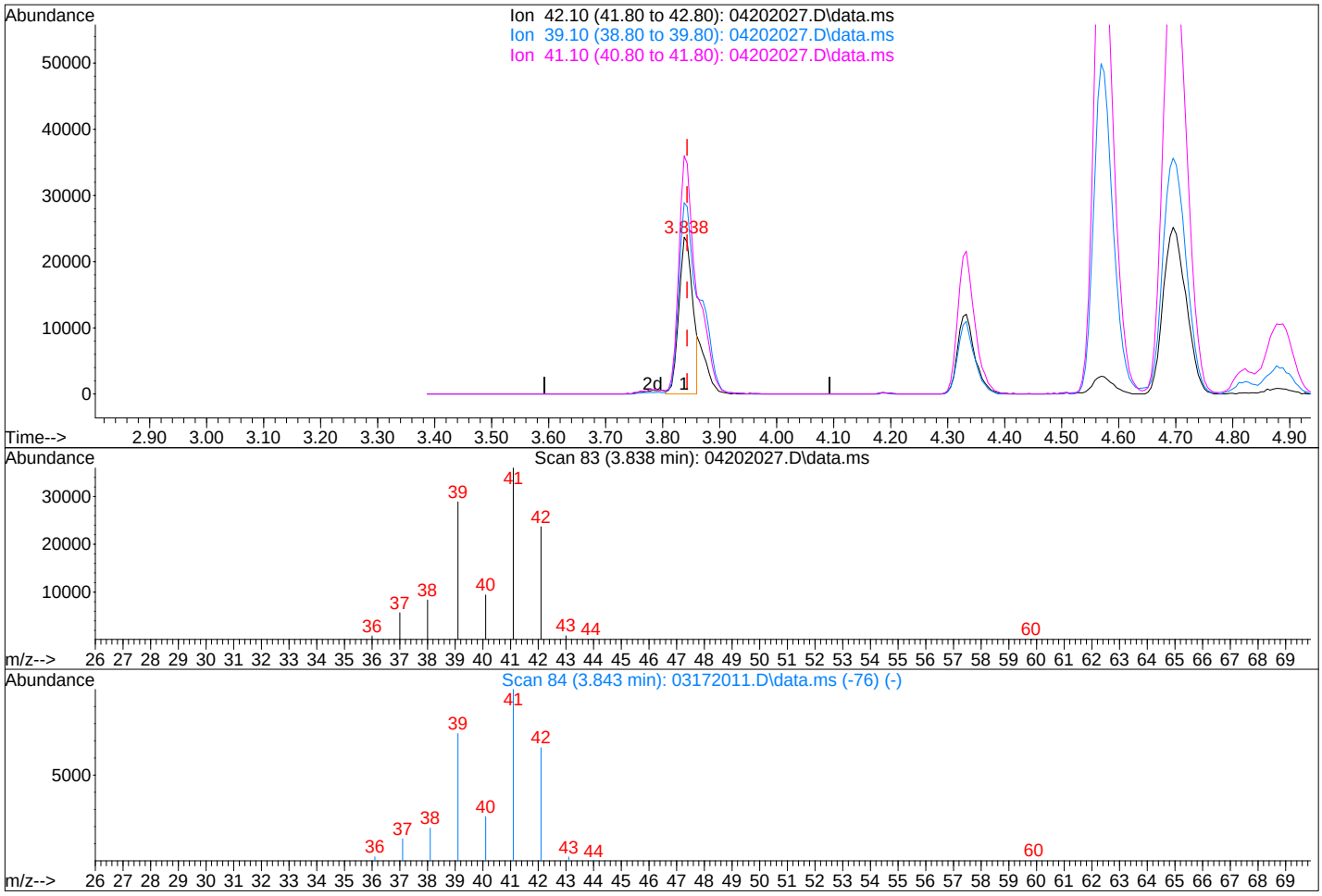
response 48456

Ion	Exp%	Act%
42.10	100	100
39.10	111.90	149.74#
41.10	150.50	164.27
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\20\04202027.D Vial: 1
Acq On : 20 Apr 2020 17:27 Operator: SC
Sample : P2002027-019 (1.0mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 17:53:46 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202027.D\data.ms

(2) Propene (T)

3.838min (-0.005) 5.12ng m

response 40002

Ion	Exp%	Act%
42.10	100	100
39.10	111.90	181.39#
41.10	150.50	198.99#
0.00	0.00	0.00

IPC

4/20/20

LH 4/29/20

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\24\04242008.D Vial: 1
Acq On : 24 Apr 2020 10:15 Operator: TD
Sample : P2002027-019dil (0.1mL) Inst : MS09
Misc : S34-04212006

TD 4/29/20

Quant Time: Apr 29 11:21:52 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	135263	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	559597	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	246256	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	208011	11.869	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.96%			
57) Toluene-d8 (SS2)	13.54	98	607623	12.779	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.24%			
73) Bromofluorobenzene (SS3)	17.05	174	236120	12.356	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.88%			
Target Compounds						Qvalue
2) Propene	3.90	42	2219	0.386	ng	# 82
3) Dichlorodifluoromethan...	4.00	85	1686	0.077	ng	# 90
4) Chloromethane	3.99	50	135	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.45	45	80	N.D.		
11) Acetonitrile	0.00	41	0	N.D.		
12) Acrolein	0.00	56	0	N.D.	d	
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	6.02	101	453	N.D.		
15) 2-Propanol (Isopropanol)	6.22	45	475	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.	d	
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	6.87	84	208	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d	
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	7.18	76	645	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.	d	
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	8.57	72	137	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	9.23	57	140093	12.085	ng	100
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	10.06	62	920	0.060	ng	77
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.	d	
40) 1-Butanol	10.91	56	280	N.D.		
41) Benzene	10.75	78	72853	1.997	ng	100
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	11.04	84	198529	13.892	ng	99
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d	
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	11.82	130	254	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\24\04242008.D Vial: 1
Acq On : 24 Apr 2020 10:15 Operator: TD
Sample : P2002027-019dil (0.1mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 11:21:52 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

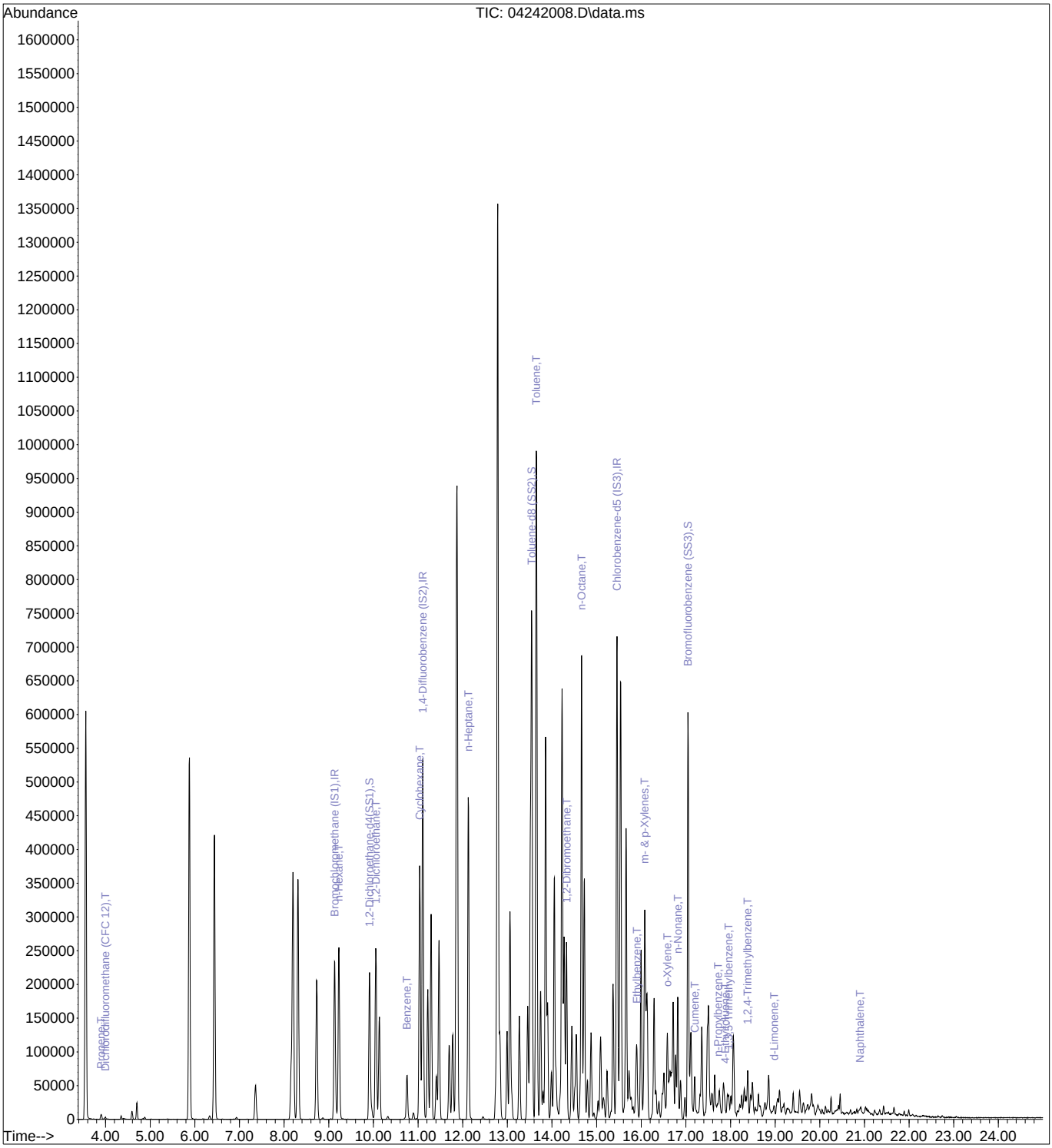
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	12.12	71	144668	17.068 ng		99
52) cis-1,3-Dichloropropene	12.77	75	393	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d		
58) Toluene	13.65	91	691846	17.331 ng		99
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	14.33	107	905	0.081 ng		95
62) n-Butyl Acetate	0.00	43	0	N.D. d		
63) n-Octane	14.67	57	133537	21.014 ng		100
64) Tetrachloroethene	14.80	166	182	N.D.		
65) Chlorobenzene	0.00	112	0	N.D. d		
66) Ethylbenzene	15.90	91	57331	1.233 ng		99
67) m- & p-Xylenes	16.08	91	246825	6.290 ng		97
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.49	104	328	N.D.		
70) o-Xylene	16.58	91	85022	2.206 ng		100
71) n-Nonane	16.82	43	54537	4.387 ng		99
72) 1,1,2,2-Tetrachloroethane	16.58	83	179	N.D.		
74) Cumene	17.20	105	7156	0.142 ng		93
75) alpha-Pinene	17.61	93	641	N.D.		
76) n-Propylbenzene	17.72	91	12382	0.226 ng		92
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	17.88	105	2812	0.059 ng		95
79) 1,3,5-Trimethylbenzene	17.96	105	9624	0.218 ng		97
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	18.38	105	8757	0.205 ng		94
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	18.54	91	775	N.D.		
85) 1,3-Dichlorobenzene	18.55	146	348	N.D.		
86) 1,4-Dichlorobenzene	18.62	146	794	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D. d		
88) 4-Isopropyltoluene (p-...	18.83	119	1948	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	18.99	146	397	N.D.		
91) d-Limonene	18.98	68	1443	0.120 ng	#	60
92) 1,2-Dibromo-3-Chloropr...	19.43	157	384	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	20.78	180	867	N.D.		
95) Naphthalene	20.90	128	4043	0.073 ng		99
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	18.38	119	1819	N.D.		
100) n-Butylbenzene	19.28	91	1542	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\24\04242008.D Vial: 1
Acq On : 24 Apr 2020 10:15 Operator: TD
Sample : P2002027-019dil (0.1mL) Inst : MS09
Misc : S34-04212006

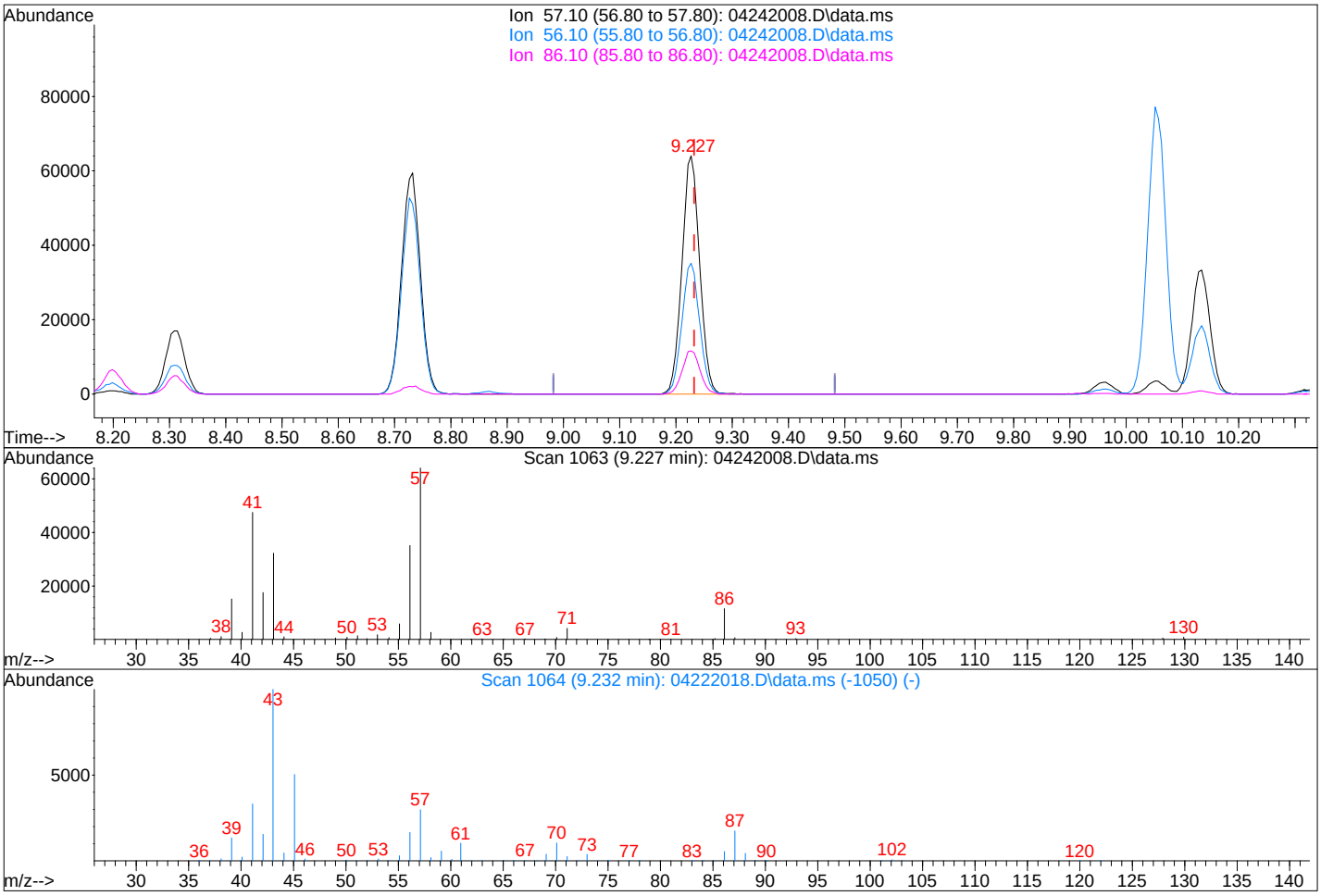
Quant Time: Apr 29 11:21:52 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\24\04242008.D Vial: 1
Acq On : 24 Apr 2020 10:15 Operator: TD
Sample : P2002027-019dil (0.1mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 25 08:27:14 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04242008.D\data.ms

(31) n-Hexane (T)

9.227min (-0.006) 12.08ng

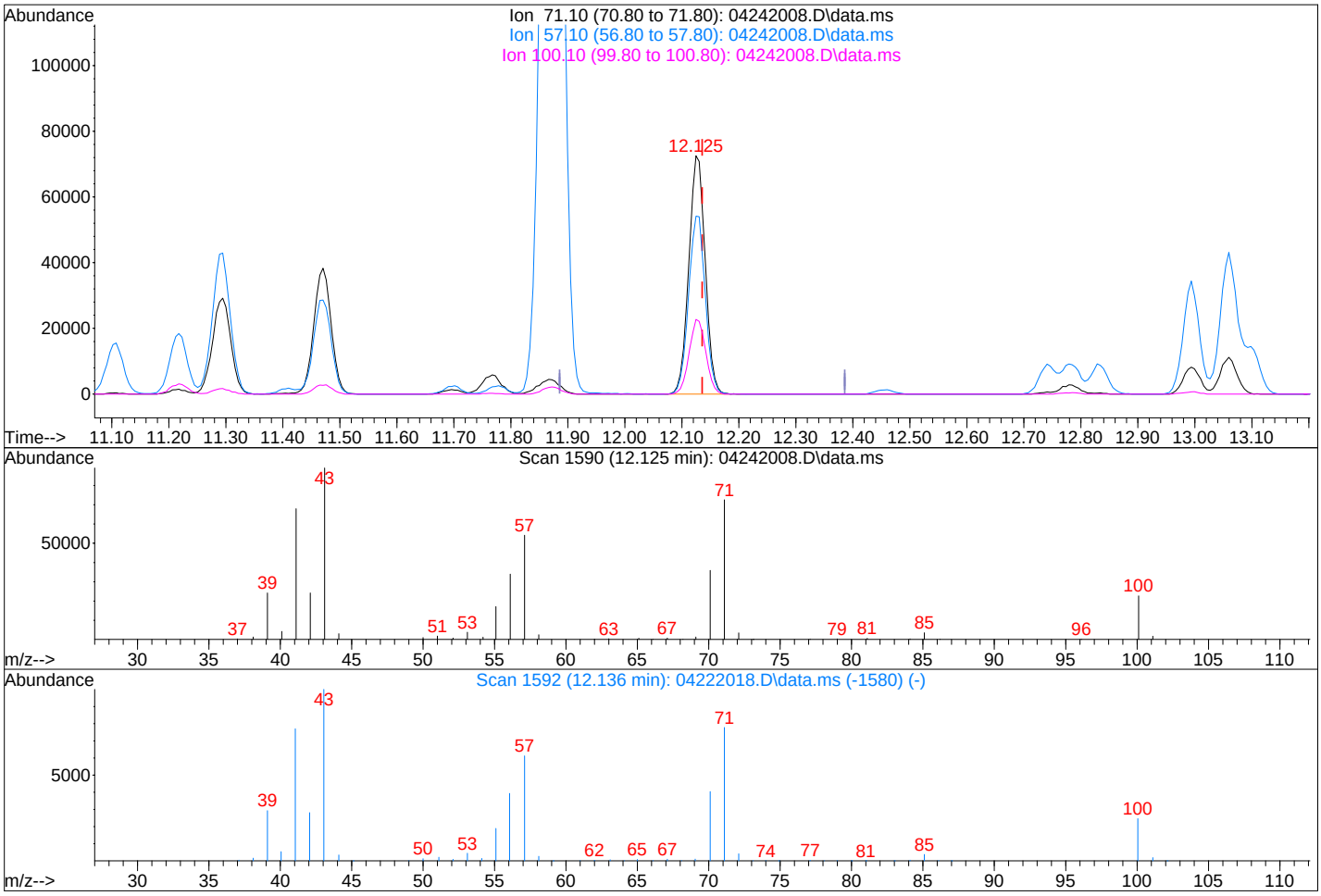
response 140093

Ion	Exp%	Act%
57.10	100	100
56.10	55.00	55.11
86.10	18.70	18.30
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\24\04242008.D Vial: 1
Acq On : 24 Apr 2020 10:15 Operator: TD
Sample : P2002027-019dil (0.1mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 25 08:27:14 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04242008.D\data.ms

(51) n-Heptane (T)

12.125min (-0.011) 17.07ng

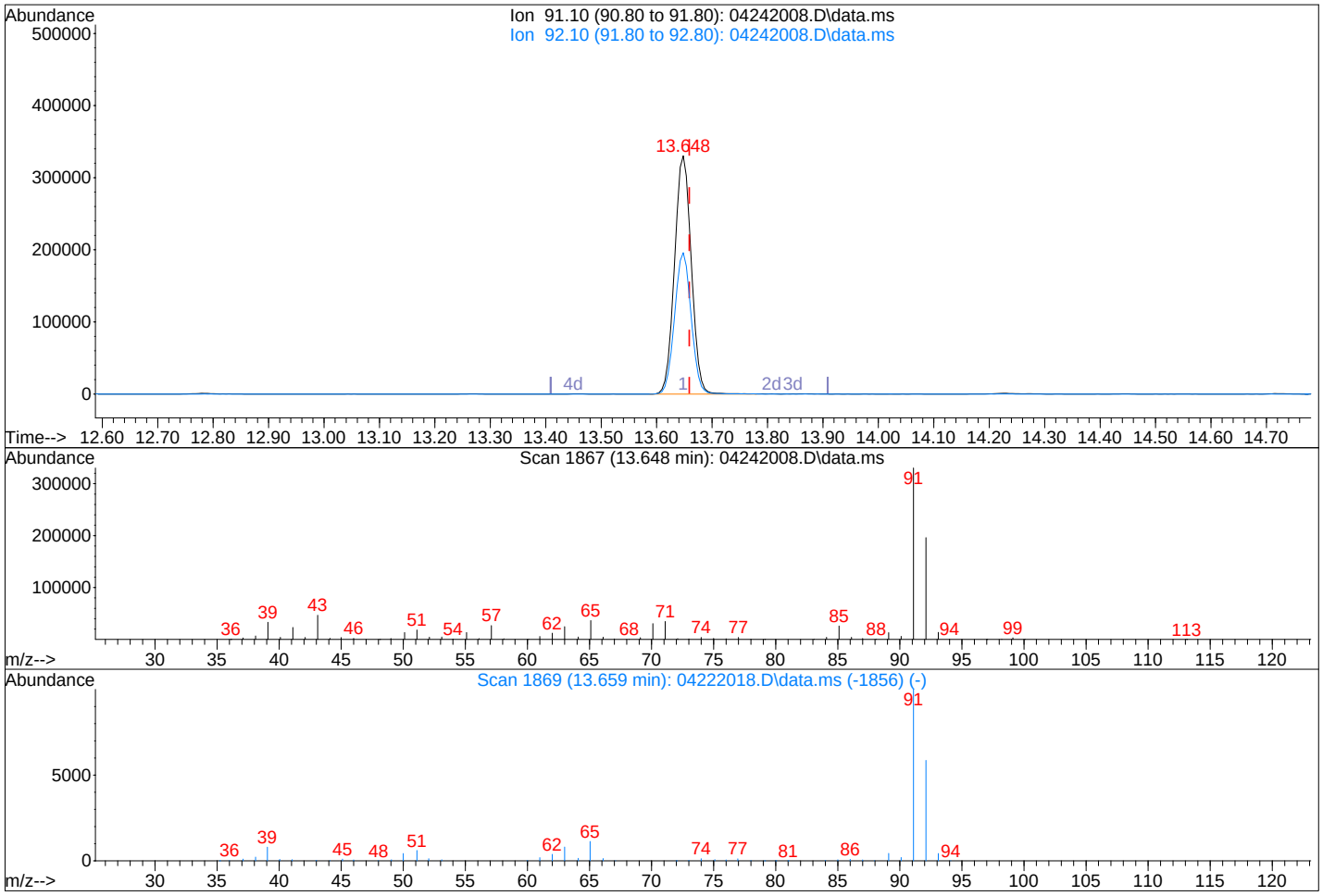
response 144668

Ion	Exp%	Act%
71.10	100	100
57.10	77.40	76.24
100.10	32.00	31.80
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\24\04242008.D Vial: 1
Acq On : 24 Apr 2020 10:15 Operator: TD
Sample : P2002027-019dil (0.1mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 25 08:27:14 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04242008.D\data.ms

(58) Toluene (T)

13.648min (-0.011) 17.33ng

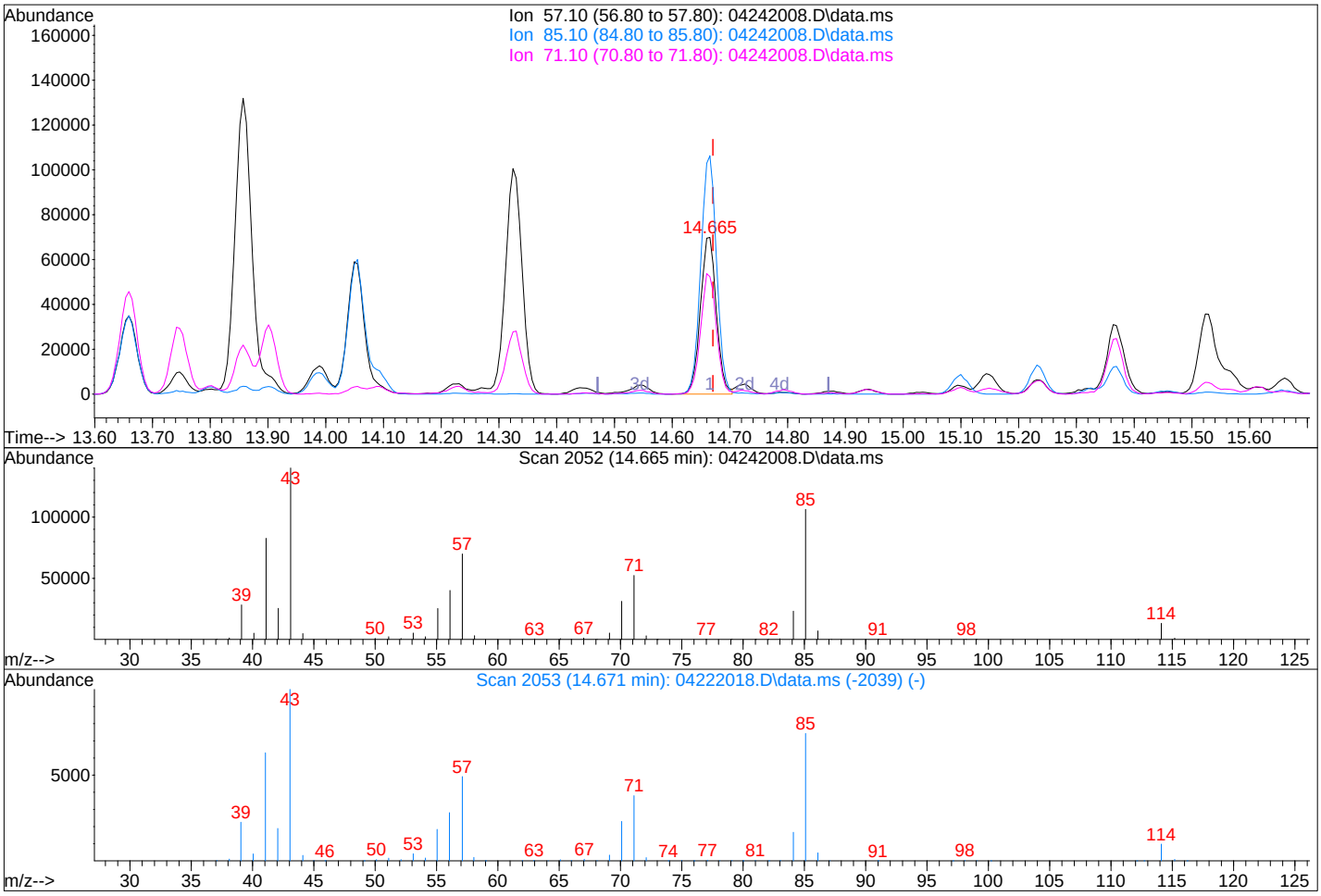
response 691846

Ion	Exp%	Act%
91.10	100	100
92.10	58.20	58.80
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\24\04242008.D Vial: 1
Acq On : 24 Apr 2020 10:15 Operator: TD
Sample : P2002027-019dil (0.1mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 25 08:27:14 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04242008.D\data.ms

(63) n-Octane (T)

14.665min (-0.006) 21.01ng

response 133537

Ion	Exp%	Act%
57.10	100	100
85.10	150.90	151.24
71.10	76.40	76.37
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202028.D Vial: 1
Acq On : 20 Apr 2020 18:01 Operator: SC
Sample : P2002027-020 (0.3mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 19:18:57 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/20/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	123908	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	11.11	114	526881	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	248635	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	195618	13.954	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.60%				
57) Toluene-d8 (SS2)	13.55	98	574817	11.624	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.96%				
73) Bromofluorobenzene (SS3)	17.05	174	222074	13.498	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.00%				
Target Compounds							Qvalue
2) Propene	3.84	42	14910m	1.965	ng		
3) Dichlorodifluoromethan...	3.97	85	7371	0.417	ng		97
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	153	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	4.62	54	1113	0.174	ng	#	88
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.38	45	36	N.D.			
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	0.00	56	0	N.D.	d		
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	6.02	101	1362	0.085	ng		95
15) 2-Propanol (Isopropanol)	6.21	45	633	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	7.18	151	308	N.D.			
22) Carbon Disulfide	7.16	76	1451	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.	d		
25) Methyl tert-Butyl Ether	8.20	73	490	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	8.56	72	1080	0.181	ng	#	47
28) cis-1,2-Dichloroethene	8.73	61	446	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	9.24	57	1207174	90.982	ng		97
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	10.72	56	121	N.D.			
41) Benzene	10.76	78	87301	2.325	ng		99
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	11.05	84	1593966	111.854	ng		94
44) tert-Amyl Methyl Ether	11.30	73	691	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202028.D Vial: 1
Acq On : 20 Apr 2020 18:01 Operator: SC
Sample : P2002027-020 (0.3mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 19:18:57 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

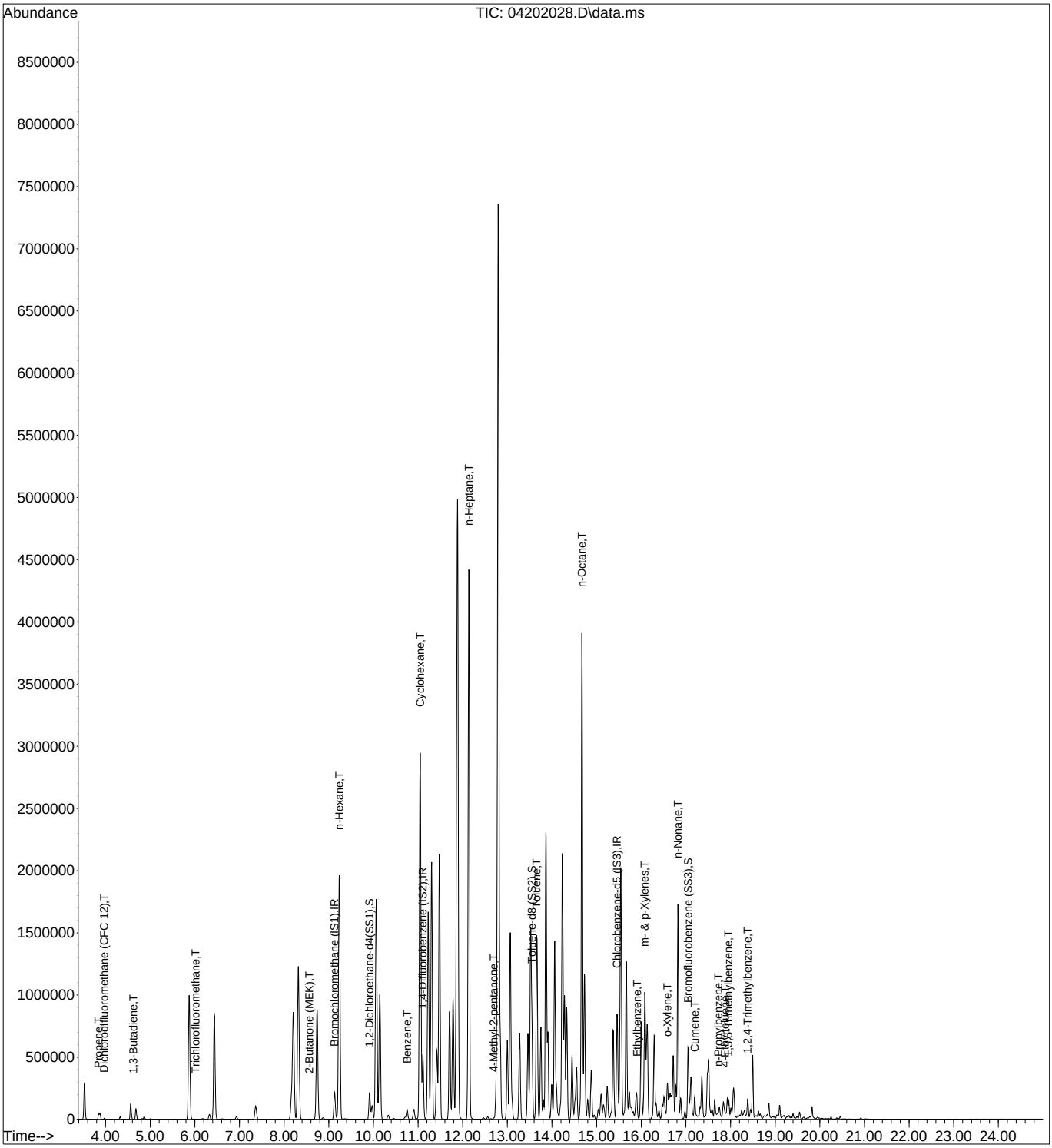
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	12.14	71	1387779	154.848	ng		96
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	d		
53) 4-Methyl-2-pentanone	12.70	58	3055	0.413	ng	#	94
54) trans-1,3-Dichloropropene	13.07	75	191	N.D.			
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	d		
58) Toluene	13.65	91	431205	10.275	ng		99
59) 2-Hexanone	0.00	43	0	N.D.	d		
60) Dibromochloromethane	0.00	129	0	N.D.			
61) 1,2-Dibromoethane	0.00	107	0	N.D.	d		
62) n-Butyl Acetate	0.00	43	0	N.D.	d		
63) n-Octane	14.67	57	784310	103.579	ng		94
64) Tetrachloroethene	0.00	166	0	N.D.			
65) Chlorobenzene	0.00	112	0	N.D.	d		
66) Ethylbenzene	15.91	91	36927	0.819	ng		98
67) m- & p-Xylenes	16.08	91	767941	21.290	ng		100
68) Bromoform	0.00	173	0	N.D.			
69) Styrene	0.00	104	0	N.D.	d		
70) o-Xylene	16.58	91	194570	5.398	ng		97
71) n-Nonane	16.82	43	559160	35.911	ng		94
72) 1,1,2,2-Tetrachloroethane	16.59	83	300	N.D.			
74) Cumene	17.20	105	13334	0.283	ng		97
75) alpha-Pinene	17.60	93	560	N.D.			
76) n-Propylbenzene	17.73	91	16375	0.305	ng		91
77) 3-Ethyltoluene	0.00	105	0	N.D.	d		
78) 4-Ethyltoluene	17.88	105	6334	0.147	ng		99
79) 1,3,5-Trimethylbenzene	17.95	105	17985	0.453	ng		98
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	0.00	105	0	N.D.	d		
82) 1,2,4-Trimethylbenzene	18.38	105	20692	0.561	ng		89
83) n-Decane	0.00	57	0	N.D.	d		
84) Benzyl Chloride	18.48	91	674	N.D.			
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.			
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.			
87) sec-Butylbenzene	0.00	105	0	N.D.	d		
88) 4-Isopropyltoluene (p-...	18.83	119	1400	N.D.			
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.			
91) d-Limonene	0.00	68	0	N.D.	d		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.			
93) n-Undecane	0.00	57	0	N.D.	d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.			
95) Naphthalene	0.00	128	0	N.D.			
96) n-Dodecane	0.00	57	0	N.D.	d		
97) Hexachlorobutadiene	0.00	225	0	N.D.			
98) Cyclohexanone	0.00	55	0	N.D.	d		
99) tert-Butylbenzene	0.00	119	0	N.D.	d		
100) n-Butylbenzene	0.00	91	0	N.D.	d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202028.D Vial: 1
Acq On : 20 Apr 2020 18:01 Operator: SC
Sample : P2002027-020 (0.3mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 19:18:57 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202028.D Vial: 1
Acq On : 20 Apr 2020 18:01 Operator: SC
Sample : P2002027-020 (0.3mL) Inst : MS09
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QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/20/20

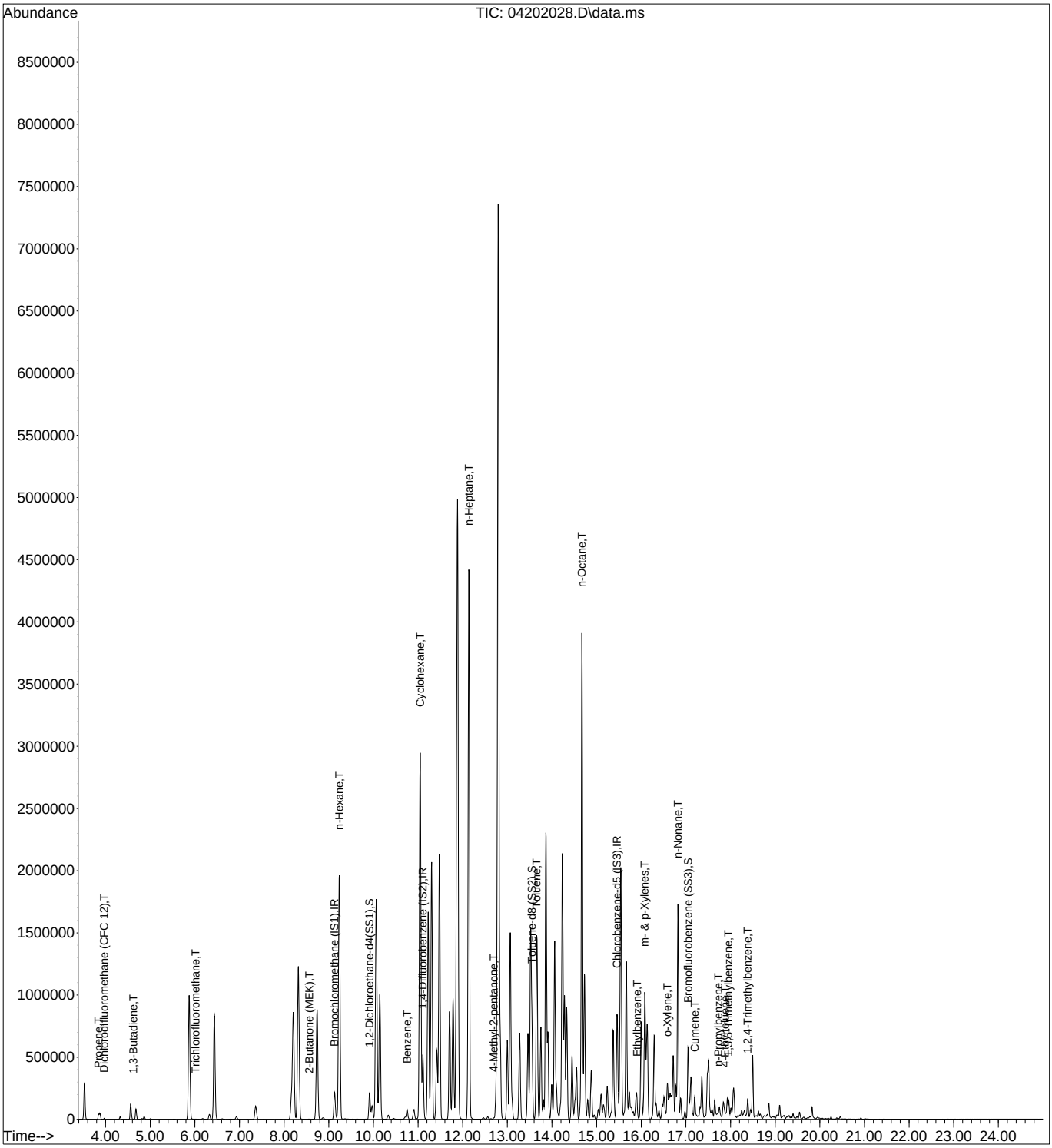
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	123908	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	11.11	114	526881	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	248635	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	195618	13.954	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.60%				
57) Toluene-d8 (SS2)	13.55	98	574817	11.624	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.96%				
73) Bromofluorobenzene (SS3)	17.05	174	222074	13.498	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.00%				
Target Compounds							Qvalue
2) Propene	3.84	42	14910m	1.965	ng		
3) Dichlorodifluoromethan...	3.97	85	7371	0.417	ng		97
7) 1,3-Butadiene	4.62	54	1113	0.174	ng	#	88
14) Trichlorofluoromethane	6.02	101	1362	0.085	ng		95
27) 2-Butanone (MEK)	8.56	72	1080	0.181	ng	#	47
31) n-Hexane	9.24	57	1207174	90.982	ng		97
41) Benzene	10.76	78	87301	2.325	ng		99
43) Cyclohexane	11.05	84	1593966	111.854	ng		94
51) n-Heptane	12.14	71	1387779	154.848	ng		96
53) 4-Methyl-2-pentanone	12.70	58	3055	0.413	ng	#	94
58) Toluene	13.65	91	431205	10.275	ng		99
63) n-Octane	14.67	57	784310	103.579	ng		94
66) Ethylbenzene	15.91	91	36927	0.819	ng		98
67) m- & p-Xylenes	16.08	91	767941	21.290	ng		100
70) o-Xylene	16.58	91	194570	5.398	ng		97
71) n-Nonane	16.82	43	559160	35.911	ng		94
74) Cumene	17.20	105	13334	0.283	ng		97
76) n-Propylbenzene	17.73	91	16375	0.305	ng		91
78) 4-Ethyltoluene	17.88	105	6334	0.147	ng		99
79) 1,3,5-Trimethylbenzene	17.95	105	17985	0.453	ng		98
82) 1,2,4-Trimethylbenzene	18.38	105	20692	0.561	ng		89

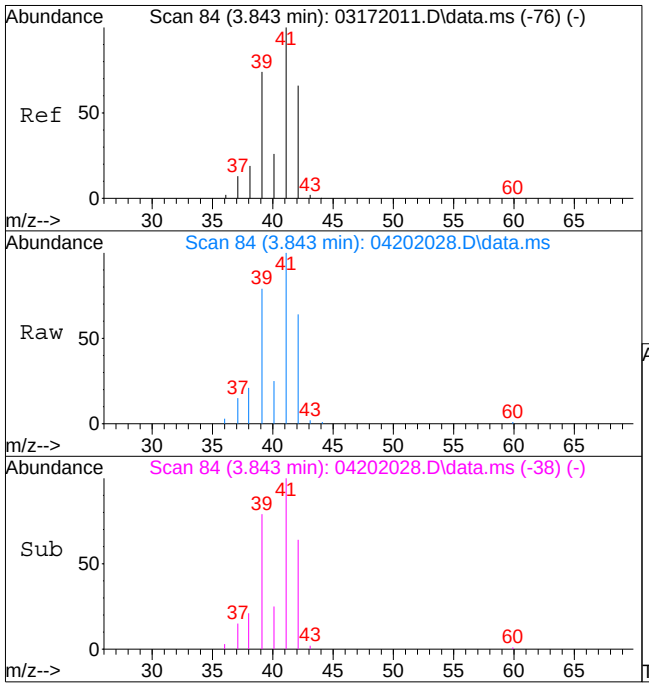
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202028.D Vial: 1
Acq On : 20 Apr 2020 18:01 Operator: SC
Sample : P2002027-020 (0.3mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 19:18:57 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

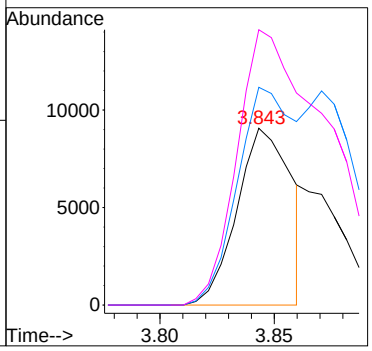


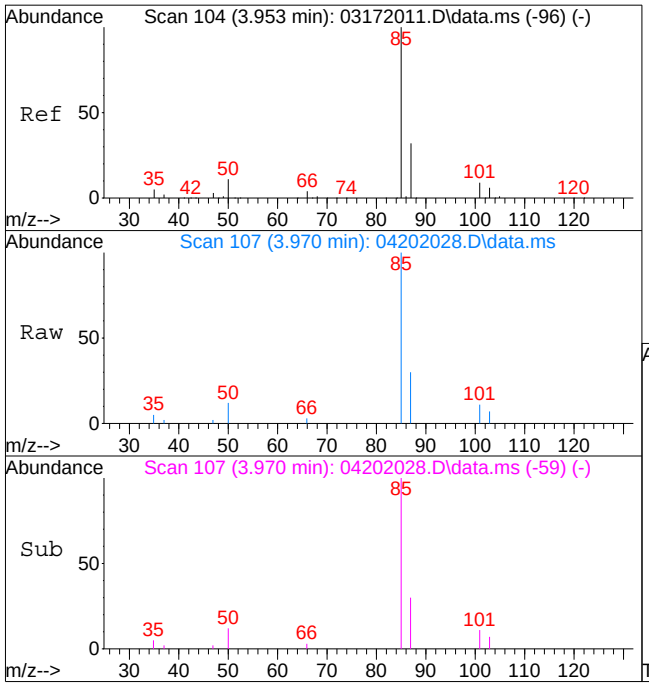


#2
Propene
Concen: 1.96 ng m
RT: 3.84 min Scan# 84
Delta R.T. 0.000 min
Lab File: 04202028.D
Acq: 20 Apr 2020 18:01

Tgt Ion: 42 Resp: 14910

Ion	Ratio	Lower	Upper
42	100		
39	245.3	91.9	131.9#
41	265.2	130.5	170.5#

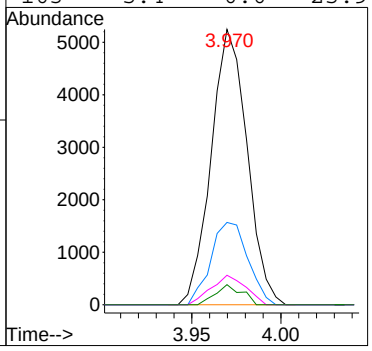


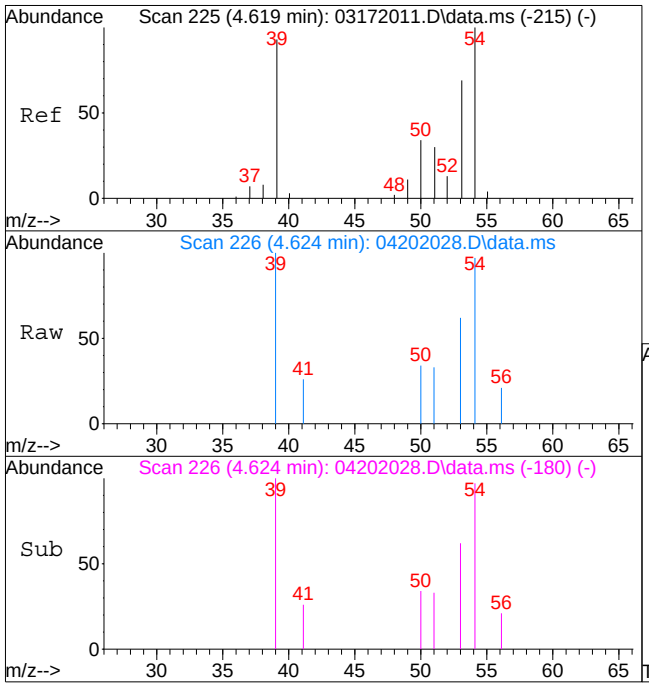


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.42 ng
RT: 3.97 min Scan# 107
Delta R.T. 0.017 min
Lab File: 04202028.D
Acq: 20 Apr 2020 18:01

Tgt Ion: 85 Resp: 7371

Ion	Ratio	Lower	Upper
85	100		
87	30.9	12.4	52.4
101	10.3	0.0	29.2
103	5.4	0.0	25.9

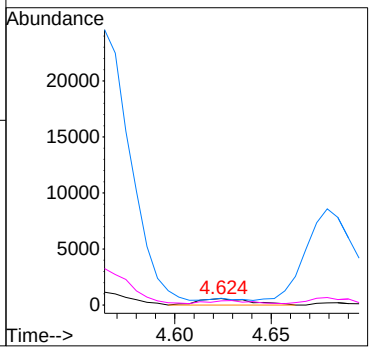


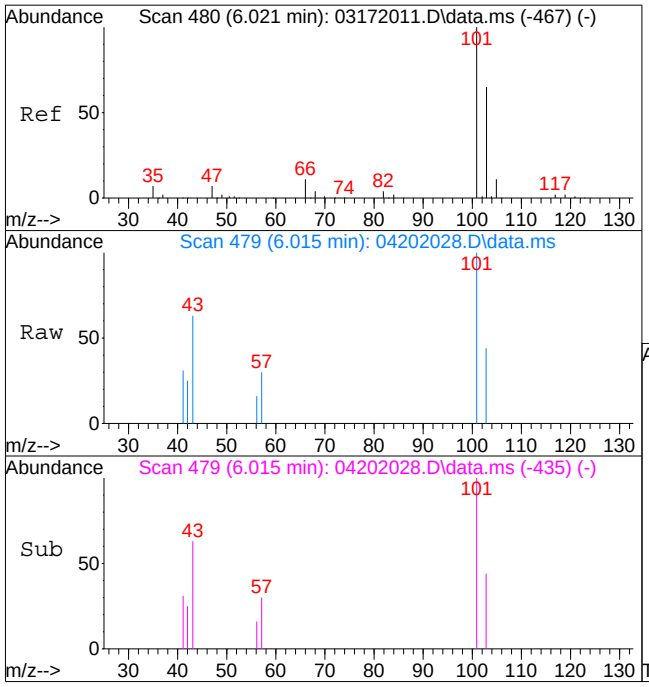


#7
1,3-Butadiene
Concen: 0.17 ng
RT: 4.62 min Scan# 226
Delta R.T. 0.005 min
Lab File: 04202028.D
Acq: 20 Apr 2020 18:01

Tgt Ion: 54 Resp: 1113

Ion	Ratio	Lower	Upper
54	100		
39	74.3	74.8	114.8#
53	69.5	49.9	89.9

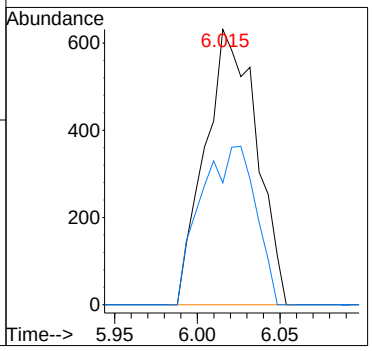


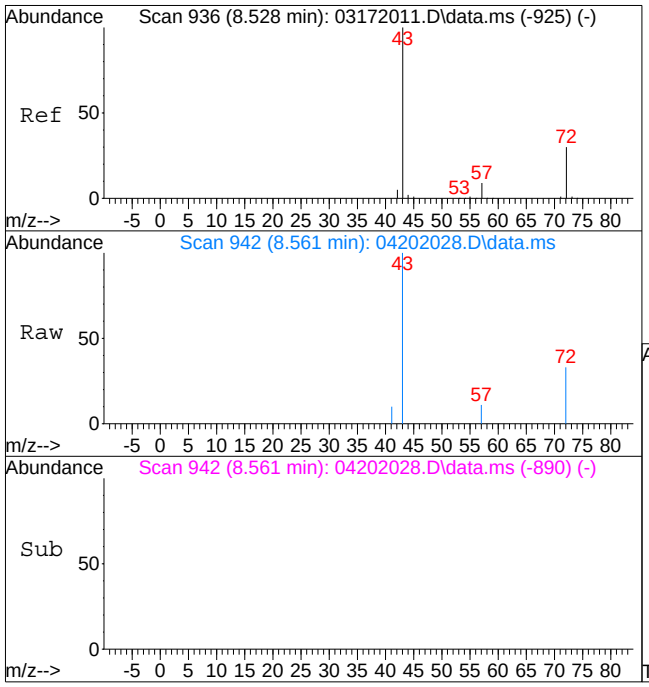


#14
Trichlorofluoromethane
Concen: 0.09 ng
RT: 6.02 min Scan# 479
Delta R.T. -0.006 min
Lab File: 04202028.D
Acq: 20 Apr 2020 18:01

Tgt Ion:101 Resp: 1362

Ion	Ratio	Lower	Upper
101	100		
103	61.6	45.3	85.3

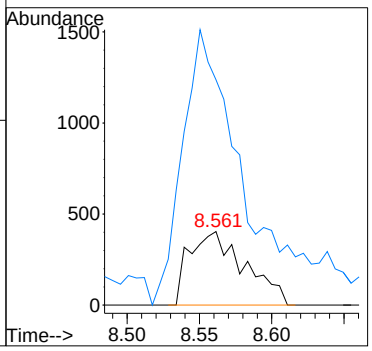


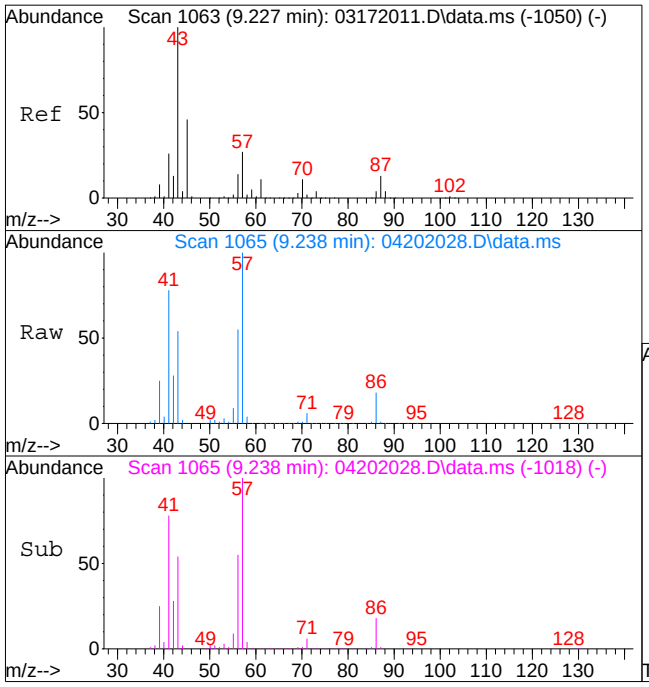


#27
2-Butanone (MEK)
Concen: 0.18 ng
RT: 8.56 min Scan# 942
Delta R.T. 0.033 min
Lab File: 04202028.D
Acq: 20 Apr 2020 18:01

Tgt Ion: 72 Resp: 1080

Ion	Ratio	Lower	Upper
72	100		
43	441.0	310.6	350.6#

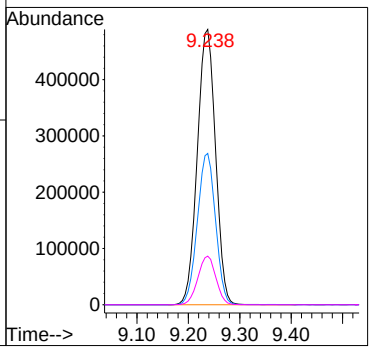


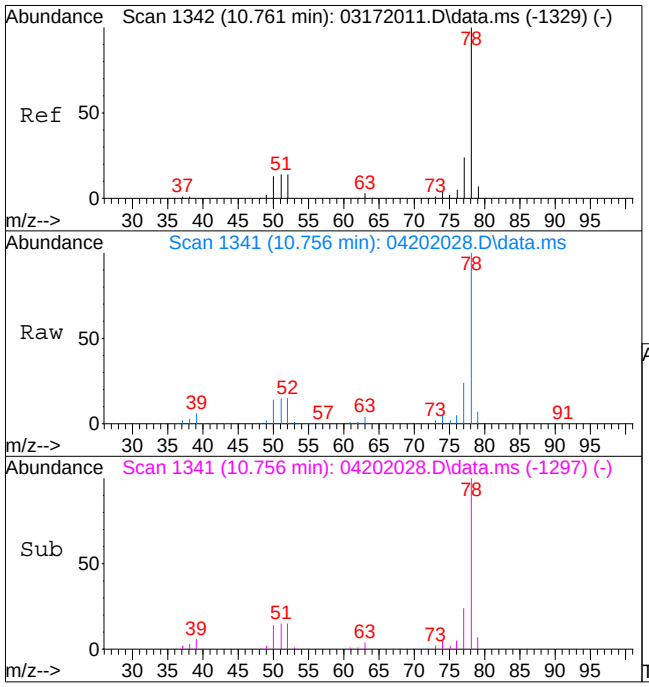


#31
n-Hexane
Concen: 90.98 ng
RT: 9.24 min Scan# 1065
Delta R.T. 0.011 min
Lab File: 04202028.D
Acq: 20 Apr 2020 18:01

Tgt Ion: 57 Resp: 1207174

Ion	Ratio	Lower	Upper
57	100		
56	54.6	42.0	63.0
86	17.4	13.1	19.7

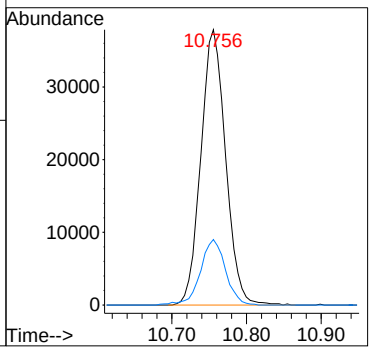


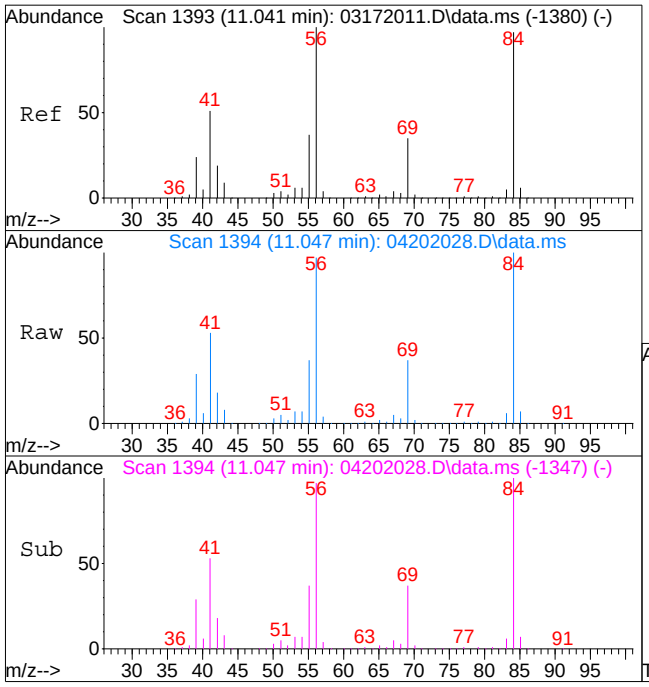


#41
Benzene
Concen: 2.33 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.005 min
Lab File: 04202028.D
Acq: 20 Apr 2020 18:01

Tgt Ion: 78 Resp: 87301

Ion	Ratio	Lower	Upper
78	100		
77	24.1	3.4	43.4

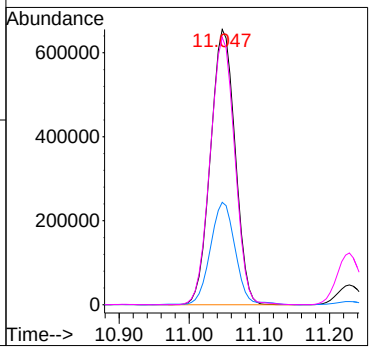


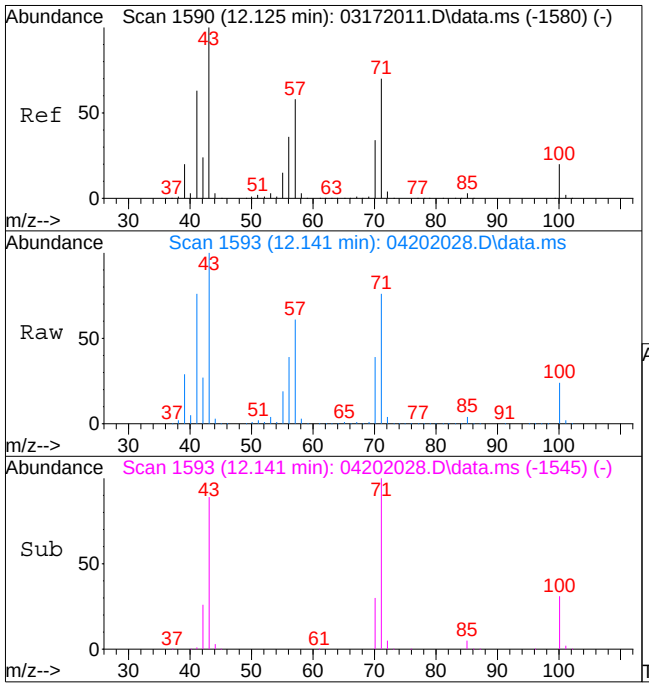


#43
Cyclohexane
Concen: 111.85 ng
RT: 11.05 min Scan# 1394
Delta R.T. 0.006 min
Lab File: 04202028.D
Acq: 20 Apr 2020 18:01

Tgt Ion: 84 Resp: 1593966

Ion	Ratio	Lower	Upper
84	100		
69	37.7	16.6	56.6
56	97.7	85.3	125.3

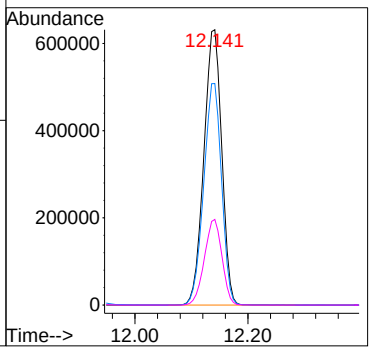


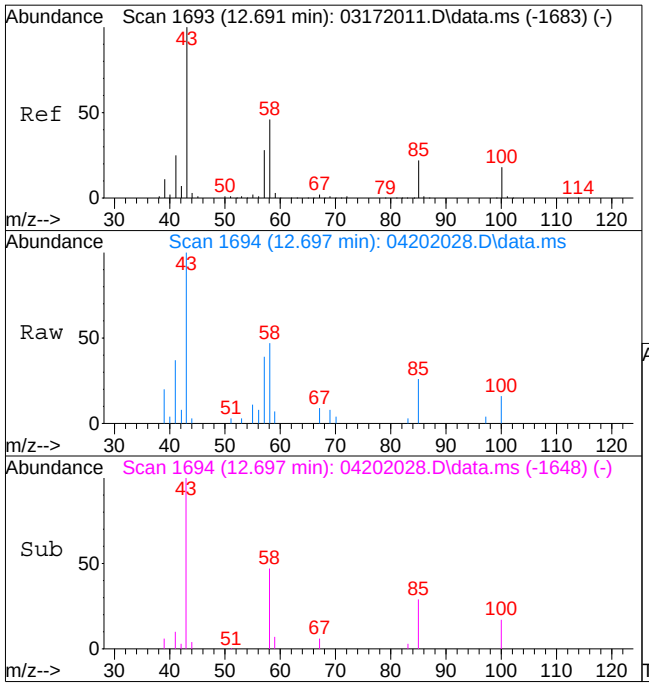


#51
n-Heptane
Concen: 154.85 ng
RT: 12.14 min Scan# 1593
Delta R.T. 0.016 min
Lab File: 04202028.D
Acq: 20 Apr 2020 18:01

Tgt Ion: 71 Resp: 1387779

Ion	Ratio	Lower	Upper
71	100		
57	80.3	64.0	104.0
100	30.6	8.7	48.7

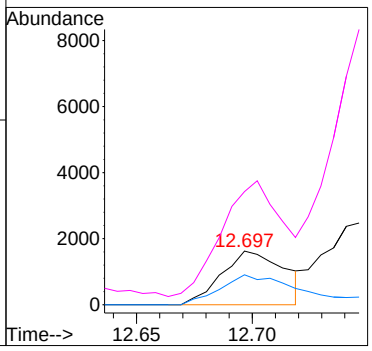


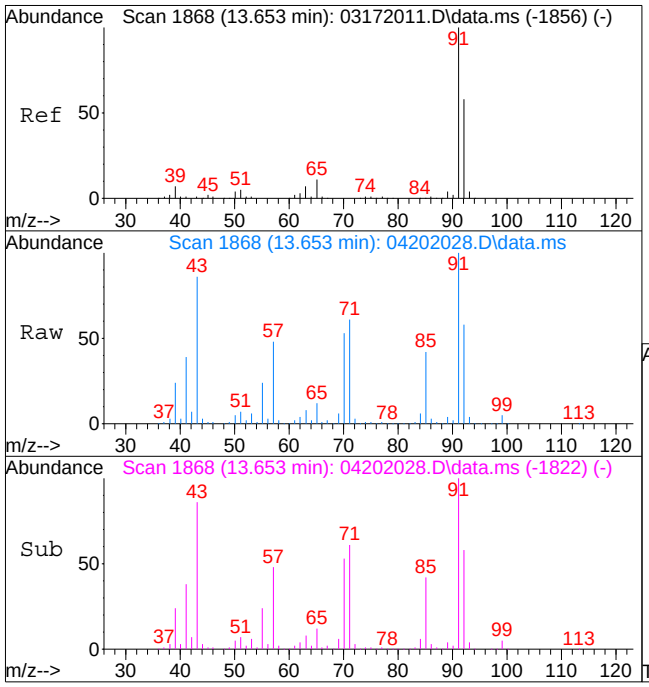


#53
4-Methyl-2-pentanone
Concen: 0.41 ng
RT: 12.70 min Scan# 1694
Delta R.T. 0.006 min
Lab File: 04202028.D
Acq: 20 Apr 2020 18:01

Tgt Ion: 58 Resp: 3055

Ion	Ratio	Lower	Upper
58	100		
85	68.9	41.8	62.6#
43	219.1	177.2	265.8

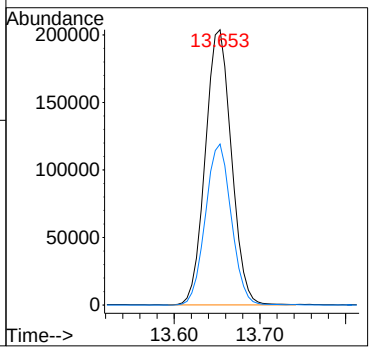


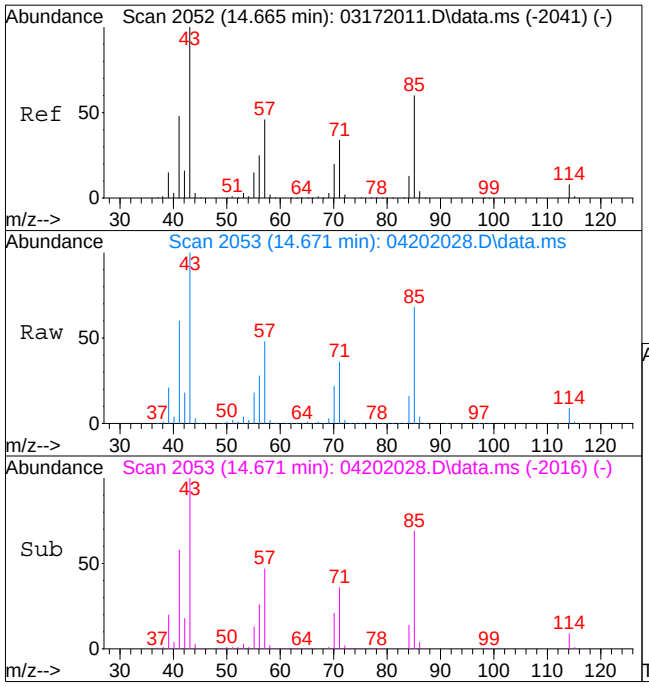


#58
Toluene
Concen: 10.28 ng
RT: 13.65 min Scan# 1868
Delta R.T. 0.000 min
Lab File: 04202028.D
Acq: 20 Apr 2020 18:01

Tgt Ion: 91 Resp: 431205

Ion	Ratio	Lower	Upper
91	100		
92	58.2	38.6	78.6

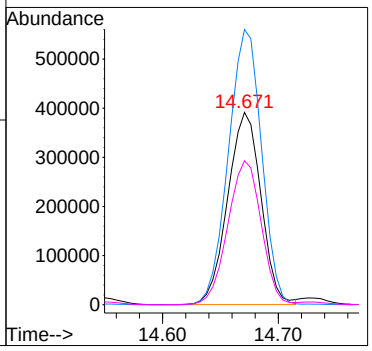


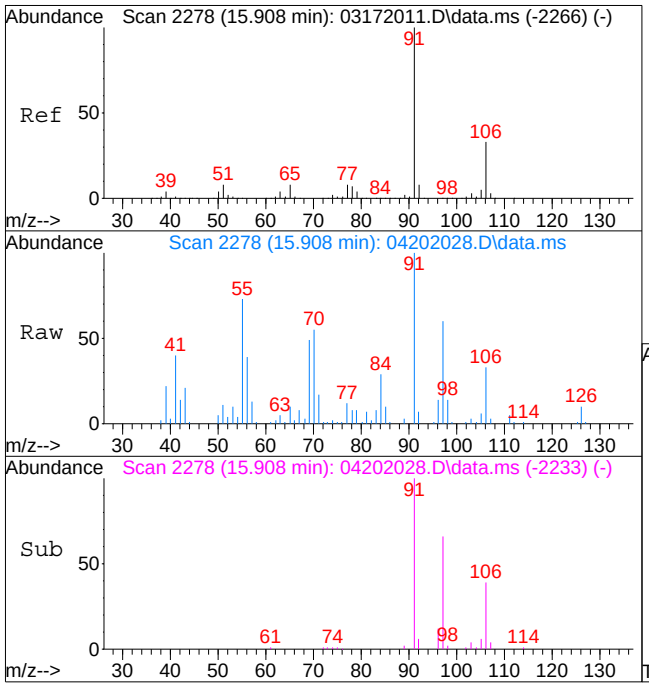


#63
n-Octane
Concen: 103.58 ng
RT: 14.67 min Scan# 2053
Delta R.T. 0.006 min
Lab File: 04202028.D
Acq: 20 Apr 2020 18:01

Tgt Ion: 57 Resp: 784310

Ion	Ratio	Lower	Upper
57	100		
85	142.6	105.4	158.2
71	75.1	59.0	88.4

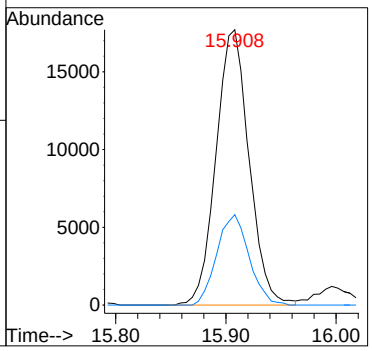


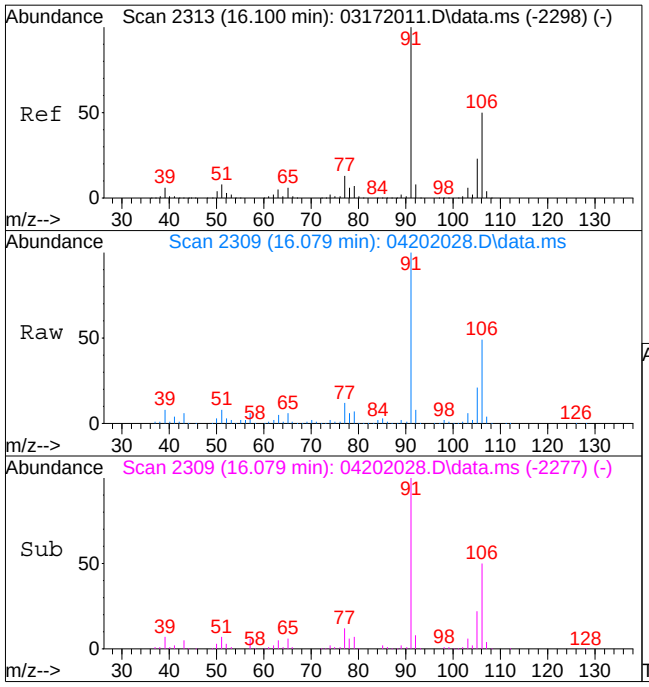


#66
Ethylbenzene
Concen: 0.82 ng
RT: 15.91 min Scan# 2278
Delta R.T. 0.000 min
Lab File: 04202028.D
Acq: 20 Apr 2020 18:01

Tgt Ion: 91 Resp: 36927

Ion	Ratio	Lower	Upper
91	100		
106	32.0	12.9	52.9

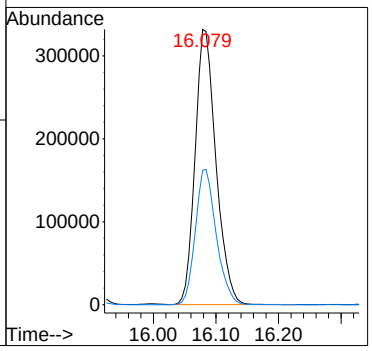


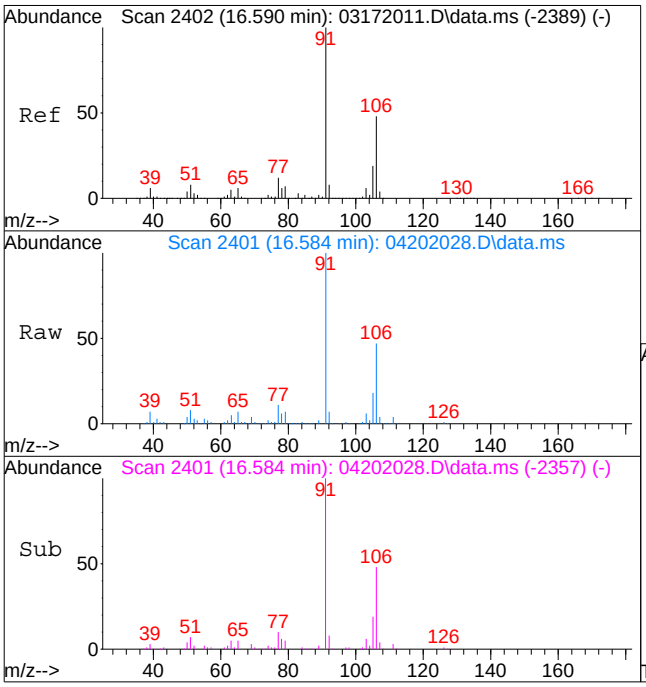


#67
m- & p-Xylenes
Concen: 21.29 ng
RT: 16.08 min Scan# 2309
Delta R.T. -0.021 min
Lab File: 04202028.D
Acq: 20 Apr 2020 18:01

Tgt Ion: 91 Resp: 767941

Ion	Ratio	Lower	Upper
91	100		
106	49.3	29.5	69.5

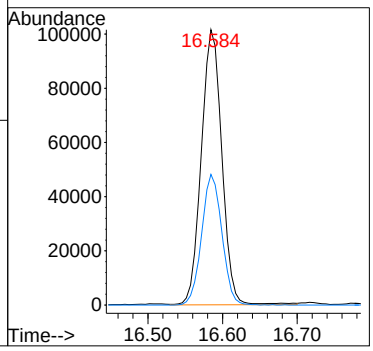


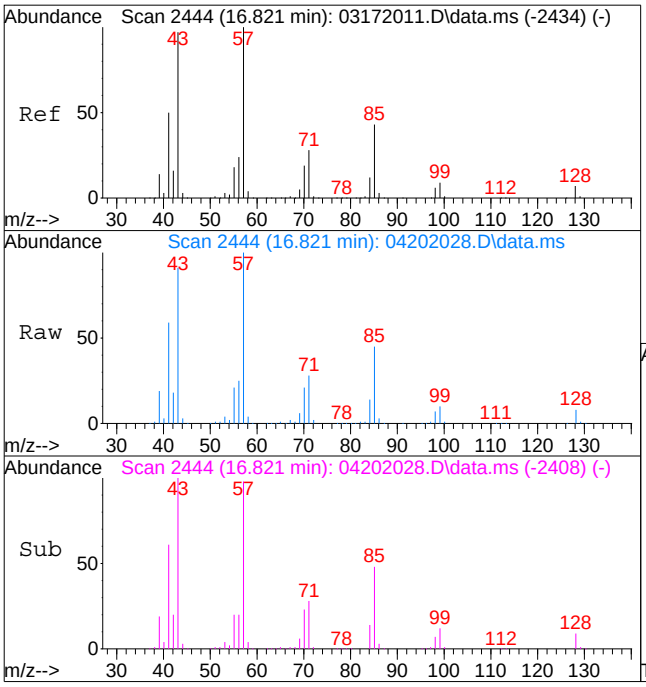


#70
o-Xylene
Concen: 5.40 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.006 min
Lab File: 04202028.D
Acq: 20 Apr 2020 18:01

Tgt Ion: 91 Resp: 194570

Ion	Ratio	Lower	Upper
91	100		
106	46.6	28.3	68.3

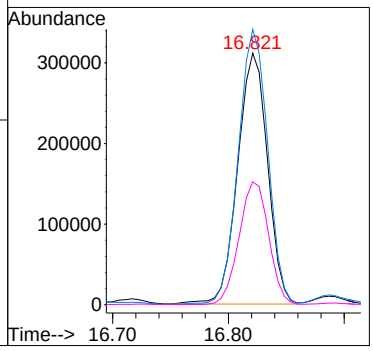


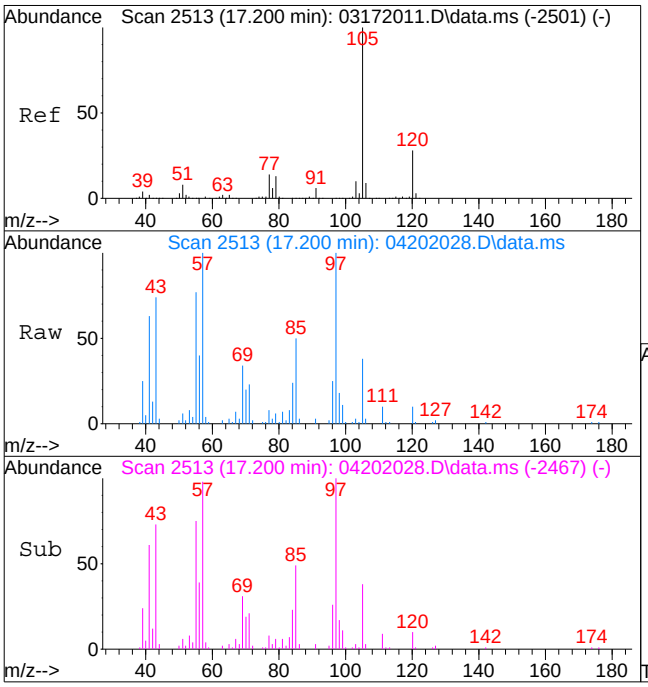


#71
n-Nonane
Concen: 35.91 ng
RT: 16.82 min Scan# 2444
Delta R.T. -0.000 min
Lab File: 04202028.D
Acq: 20 Apr 2020 18:01

Tgt Ion: 43 Resp: 559160

Ion	Ratio	Lower	Upper
43	100		
57	107.9	82.8	122.8
85	48.4	23.4	63.4

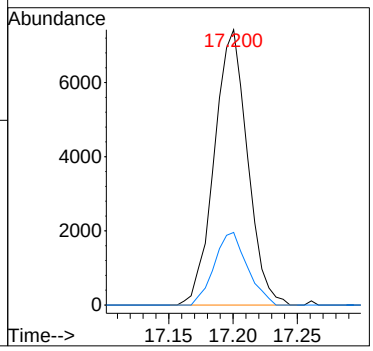


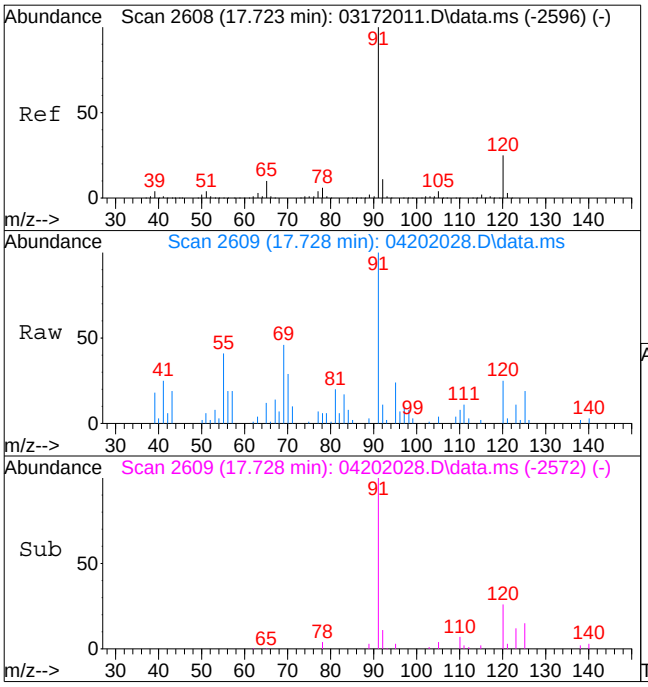


#74
Cumene
Concen: 0.28 ng
RT: 17.20 min Scan# 2513
Delta R.T. 0.000 min
Lab File: 04202028.D
Acq: 20 Apr 2020 18:01

Tgt Ion:105 Resp: 13334

Ion	Ratio	Lower	Upper
105	100		
120	26.2	7.6	47.6

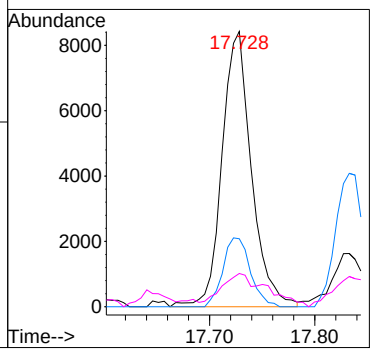


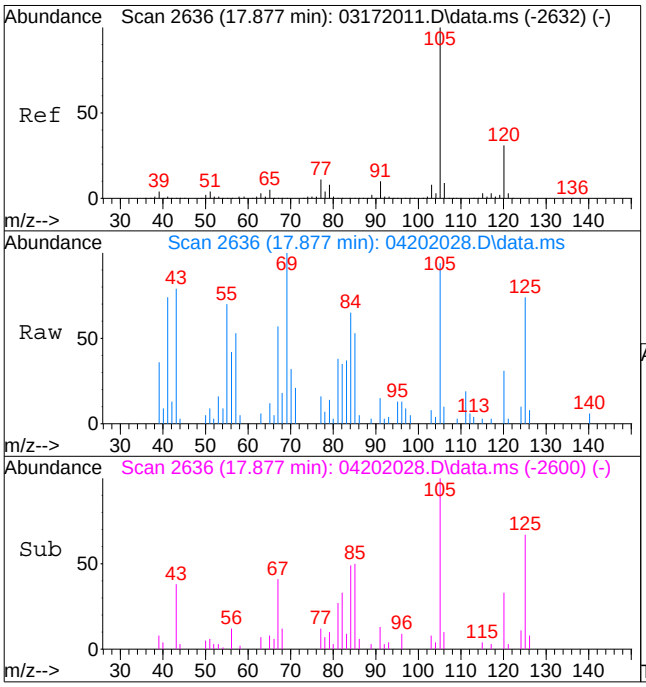


#76
n-Propylbenzene
Concen: 0.30 ng
RT: 17.73 min Scan# 2609
Delta R.T. 0.005 min
Lab File: 04202028.D
Acq: 20 Apr 2020 18:01

Tgt Ion: 91 Resp: 16375

Ion	Ratio	Lower	Upper
91	100		
120	23.3	5.0	45.0
65	18.8	0.0	30.0

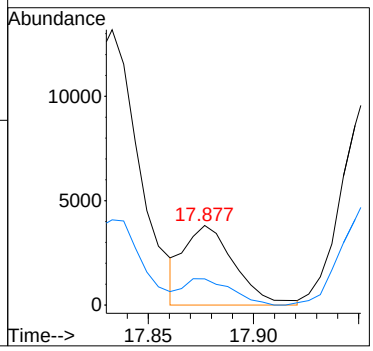


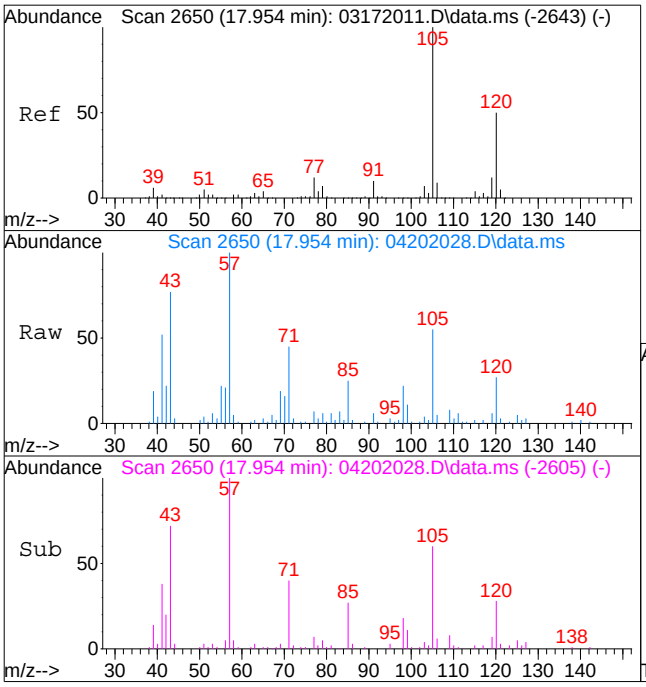


#78
4-Ethyltoluene
Concen: 0.15 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.000 min
Lab File: 04202028.D
Acq: 20 Apr 2020 18:01

Tgt Ion:105 Resp: 6334

Ion	Ratio	Lower	Upper
105	100		
120	31.9	11.2	51.2

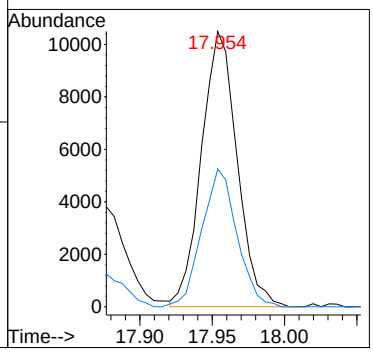


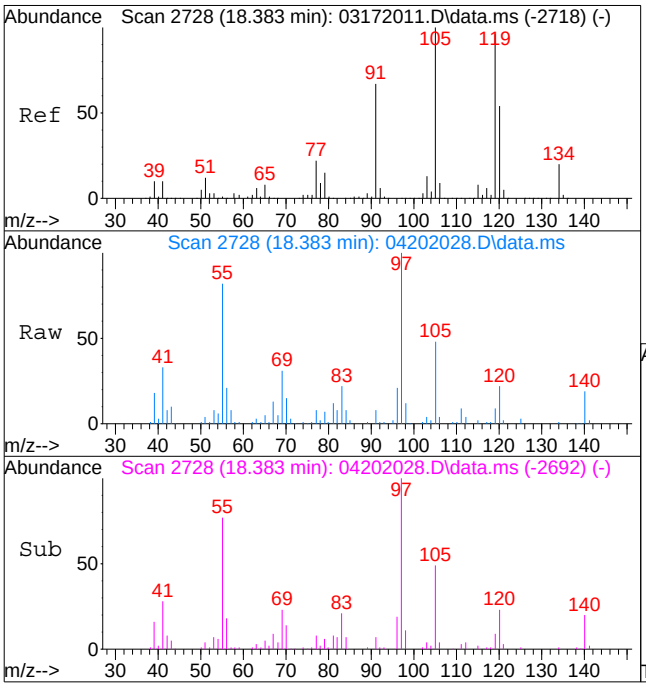


#79
1,3,5-Trimethylbenzene
Concen: 0.45 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.000 min
Lab File: 04202028.D
Acq: 20 Apr 2020 18:01

Tgt Ion:105 Resp: 17985

Ion	Ratio	Lower	Upper
105	100		
120	49.3	30.5	70.5

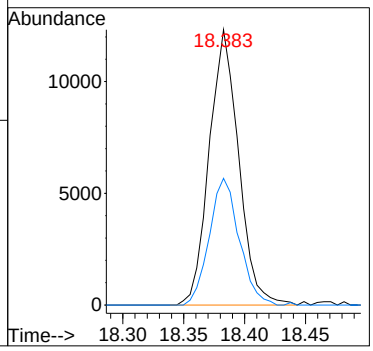




#82
1,2,4-Trimethylbenzene
Concen: 0.56 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.000 min
Lab File: 04202028.D
Acq: 20 Apr 2020 18:01

Tgt Ion:105 Resp: 20692

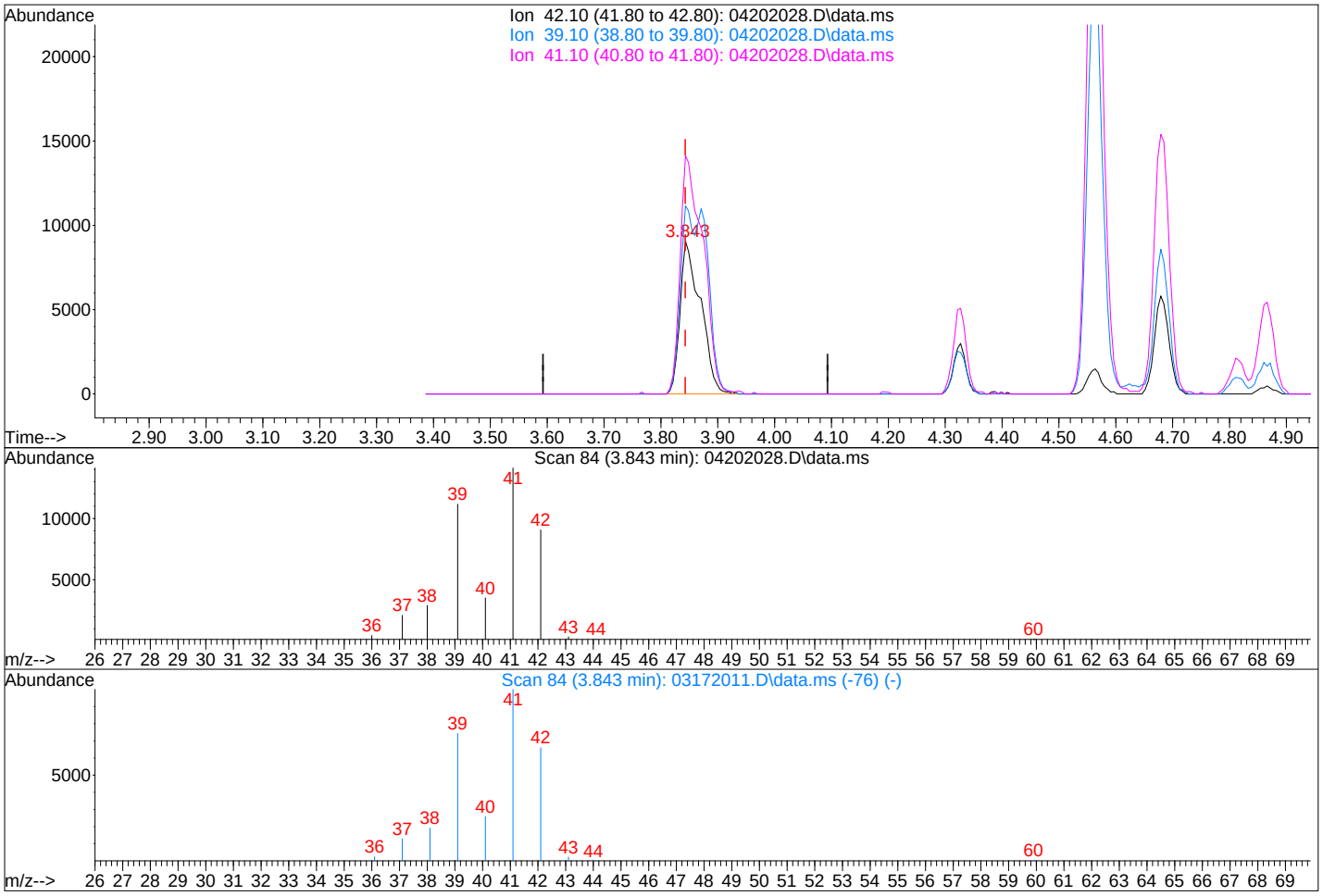
Ion	Ratio	Lower	Upper
105	100		
120	46.8	34.9	74.9



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\20\04202028.D Vial: 1
Acq On : 20 Apr 2020 18:01 Operator: SC
Sample : P2002027-020 (0.3mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 19:08:27 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202028.D\data.ms

(2) Propene (T)

3.843min (+0.000) 2.99ng

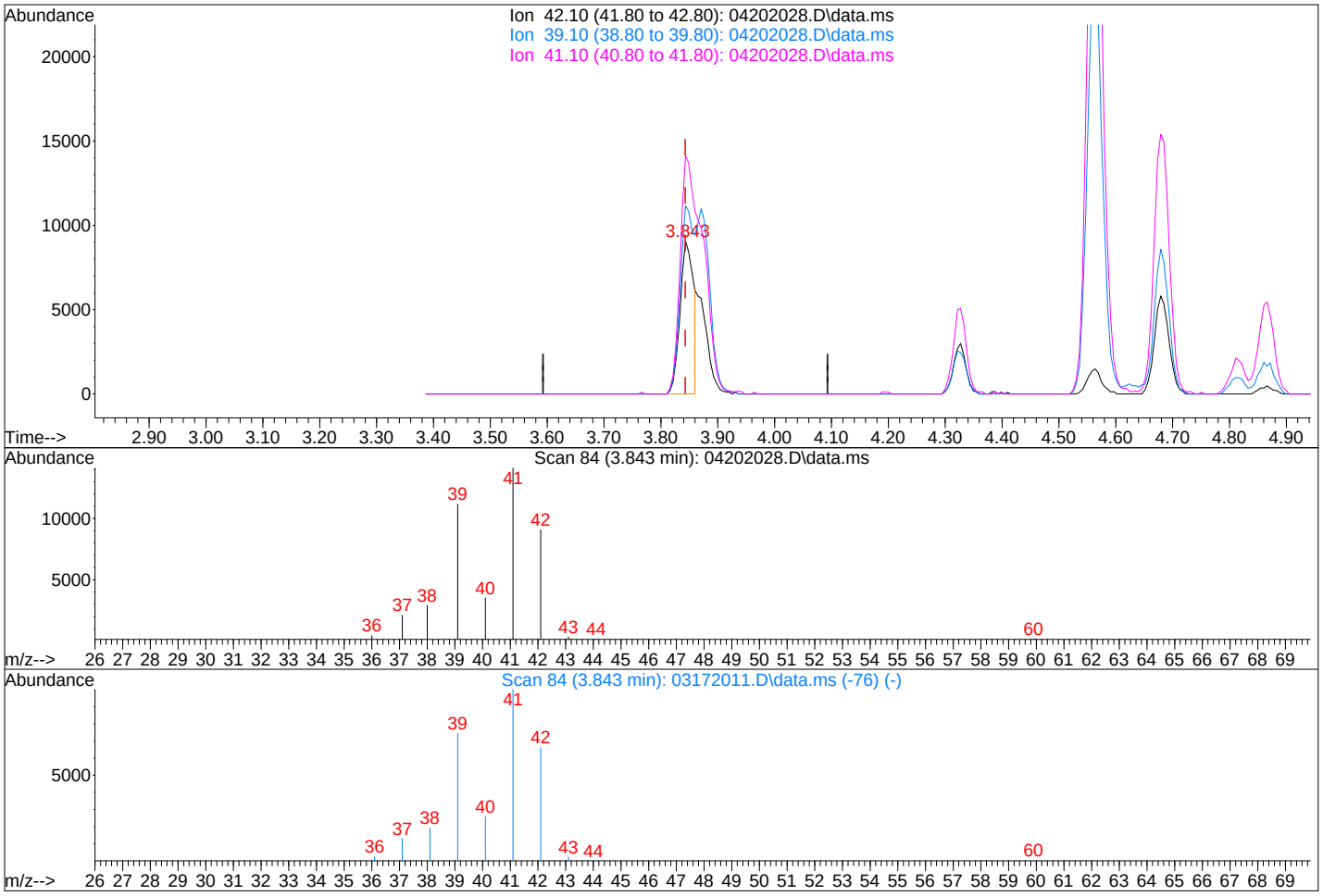
response 22718

Ion	Exp%	Act%
42.10	100	100
39.10	111.90	161.01#
41.10	150.50	174.03#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\20\04202028.D Vial: 1
Acq On : 20 Apr 2020 18:01 Operator: SC
Sample : P2002027-020 (0.3mL) Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 19:08:27 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202028.D\data.ms

(2) Propene (T)

3.843min (+0.000) 1.96ng m

response 14910

Ion	Exp%	Act%
42.10	100	100
39.10	111.90	245.33#
41.10	150.50	265.16#
0.00	0.00	0.00

IPC

4/20/20

LH 4/29/20

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\24\04242009.D Vial: 2
Acq On : 24 Apr 2020 10:55 Operator: TD
Sample : P2002027-020dil (0.1mL) Inst : MS09
Misc : S34-04212006

TD 4/29/20

Quant Time: Apr 29 11:26:28 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	133948	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	561230	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	251644	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	206394	11.893	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.12%				
57) Toluene-d8 (SS2)	13.55	98	610356	12.562	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.48%				
73) Bromofluorobenzene (SS3)	17.05	174	236248	12.098	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.80%				
Target Compounds							Qvalue
2) Propene	3.89	42	8125	1.428	ng	#	75
3) Dichlorodifluoromethan...	3.99	85	2964	0.137	ng	#	93
4) Chloromethane	4.00	50	331	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.	d		
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	0.00	45	0	N.D.	d		
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	0.00	56	0	N.D.	d		
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	6.03	101	556	N.D.			
15) 2-Propanol (Isopropanol)	6.24	45	117	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	6.95	59	38	N.D.			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	7.16	76	654	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.	d		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	8.57	72	457	0.086	ng	#	30
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	9.23	57	410058	35.720	ng		99
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	10.05	62	2167	0.143	ng		91
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	10.75	61	112	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.76	78	31537	0.862	ng		100
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	11.04	84	612498	42.733	ng		98
44) tert-Amyl Methyl Ether	11.47	73	283	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\24\04242009.D Vial: 2
Acq On : 24 Apr 2020 10:55 Operator: TD
Sample : P2002027-020dil (0.1mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 11:26:28 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

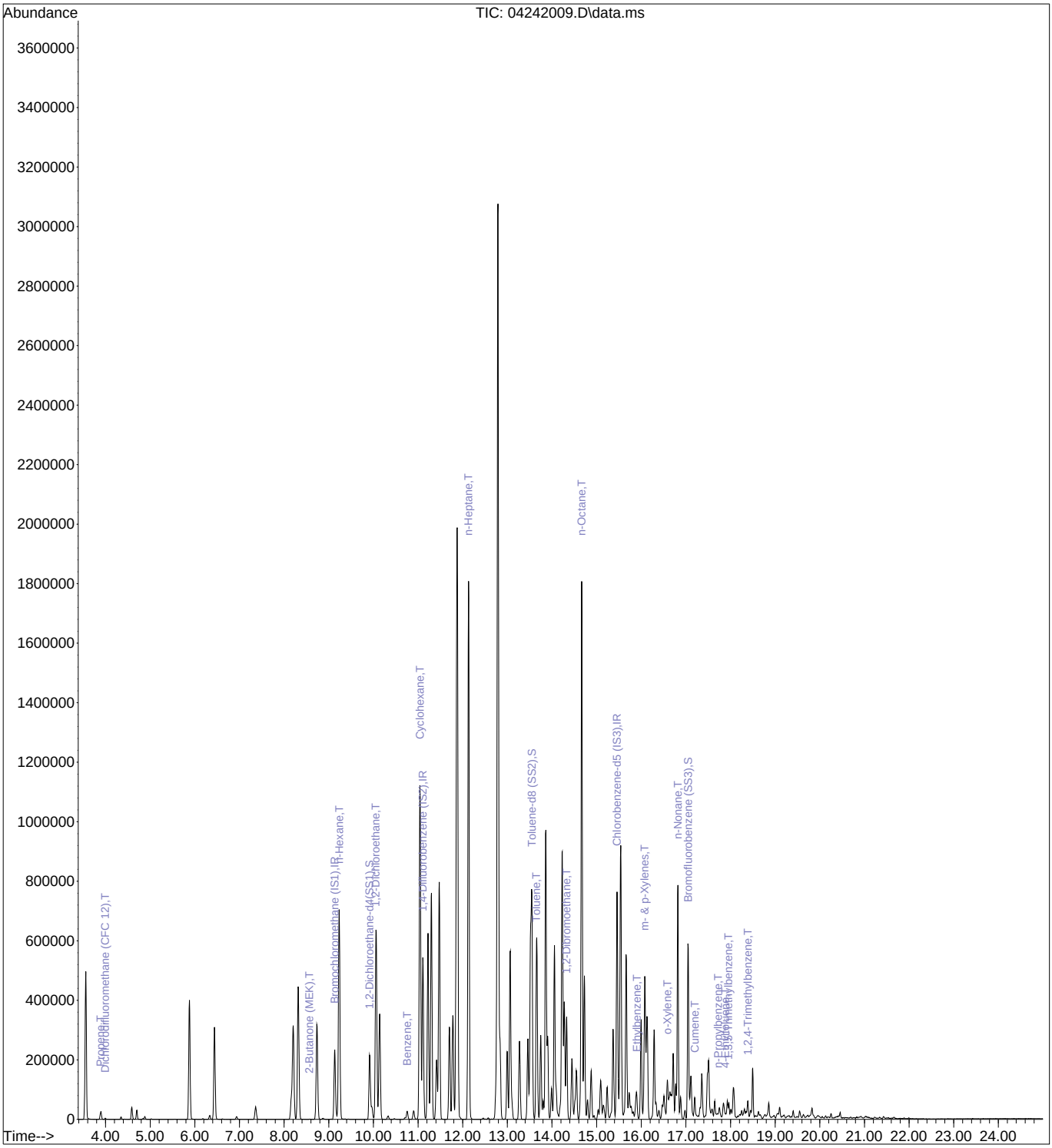
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.13	71	554619	65.245 ng	100
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	13.65	91	186087	4.562 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	14.32	107	1716	0.151 ng	87
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.67	57	349734	53.856 ng	99
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.90	91	17448	0.367 ng	98
67) m- & p-Xylenes	16.08	91	367944	9.175 ng	97
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D. d	
70) o-Xylene	16.58	91	87749	2.228 ng	99
71) n-Nonane	16.82	43	241761	19.030 ng	99
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	17.20	105	6388	0.124 ng	99
75) alpha-Pinene	17.60	93	548	N.D.	
76) n-Propylbenzene	17.72	91	7224	0.129 ng	89
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	2929	0.060 ng	95
79) 1,3,5-Trimethylbenzene	17.95	105	7336	0.163 ng	96
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.39	105	7999	0.183 ng	89
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.48	91	219	N.D.	
85) 1,3-Dichlorobenzene	18.56	146	110	N.D.	
86) 1,4-Dichlorobenzene	18.63	146	199	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	18.84	119	1255	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	19.44	157	125	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	20.80	180	126	N.D.	
95) Naphthalene	20.92	128	1096	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	18.38	119	1931	N.D.	
100) n-Butylbenzene	19.27	91	1289	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\24\04242009.D Vial: 2
Acq On : 24 Apr 2020 10:55 Operator: TD
Sample : P2002027-020dil (0.1mL) Inst : MS09
Misc : S34-04212006

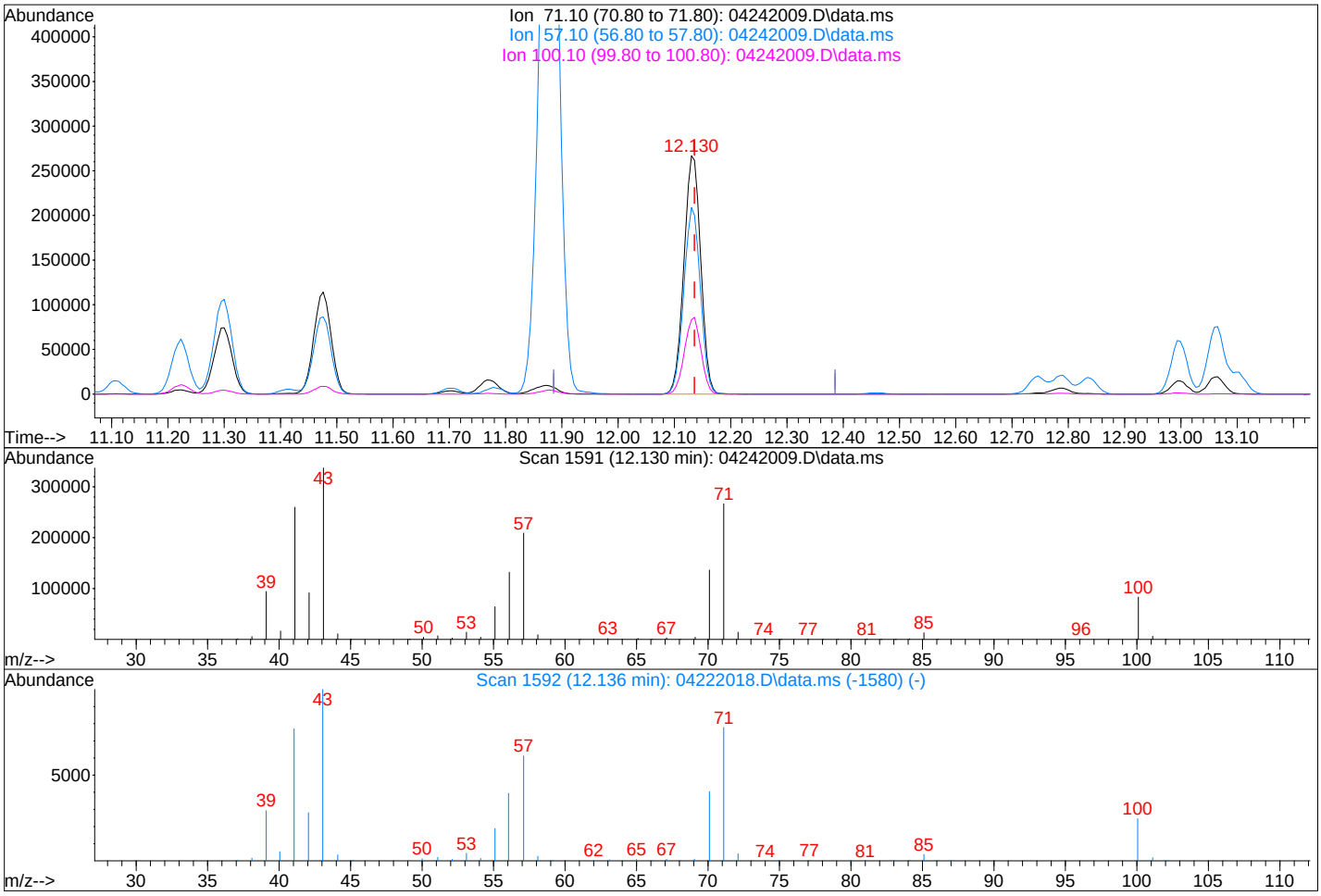
Quant Time: Apr 29 11:26:28 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\24\04242009.D Vial: 2
Acq On : 24 Apr 2020 10:55 Operator: TD
Sample : P2002027-020dil (0.1mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 24 11:52:55 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04242009.D\data.ms

(51) n-Heptane (T)

12.130min (-0.006) 65.25ng

response 554619

Ion	Exp%	Act%
71.10	100	100
57.10	77.40	77.51
100.10	32.00	31.80
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172004.D Vial: 2
Acq On : 17 Apr 2020 4:21 Operator: SC
Sample : MB R9041720_1000mL Inst : MS09
Misc : S31-02272010

Quant Time: Apr 17 05:28:11 2020
Quant Method : I:\MS09\Methods\R9031720.M TD 4/17/20
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	142997	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	11.11	114	601617	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	265243	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	206412	12.758	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.08%				
57) Toluene-d8 (SS2)	13.54	98	663371	12.575	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.64%				
73) Bromofluorobenzene (SS3)	17.05	174	247810	14.119	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.96%				
Target Compounds							Qvalue
2) Propene	3.90	42	129	N.D.			
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.39	45	945	0.138	ng	#	46
11) Acetonitrile	5.60	41	100	N.D.			
12) Acrolein	5.75	56	77	N.D.			
13) Acetone	5.88	58	3842	0.546	ng	#	65
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	6.27	45	37	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	0.00	76	0	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	8.58	72	169	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	10.75	78	262	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	11.09	84	399	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172004.D Vial: 2
Acq On : 17 Apr 2020 4:21 Operator: SC
Sample : MB R9041720_1000mL Inst : MS09
Misc : S31-02272010

Quant Time: Apr 17 05:28:11 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

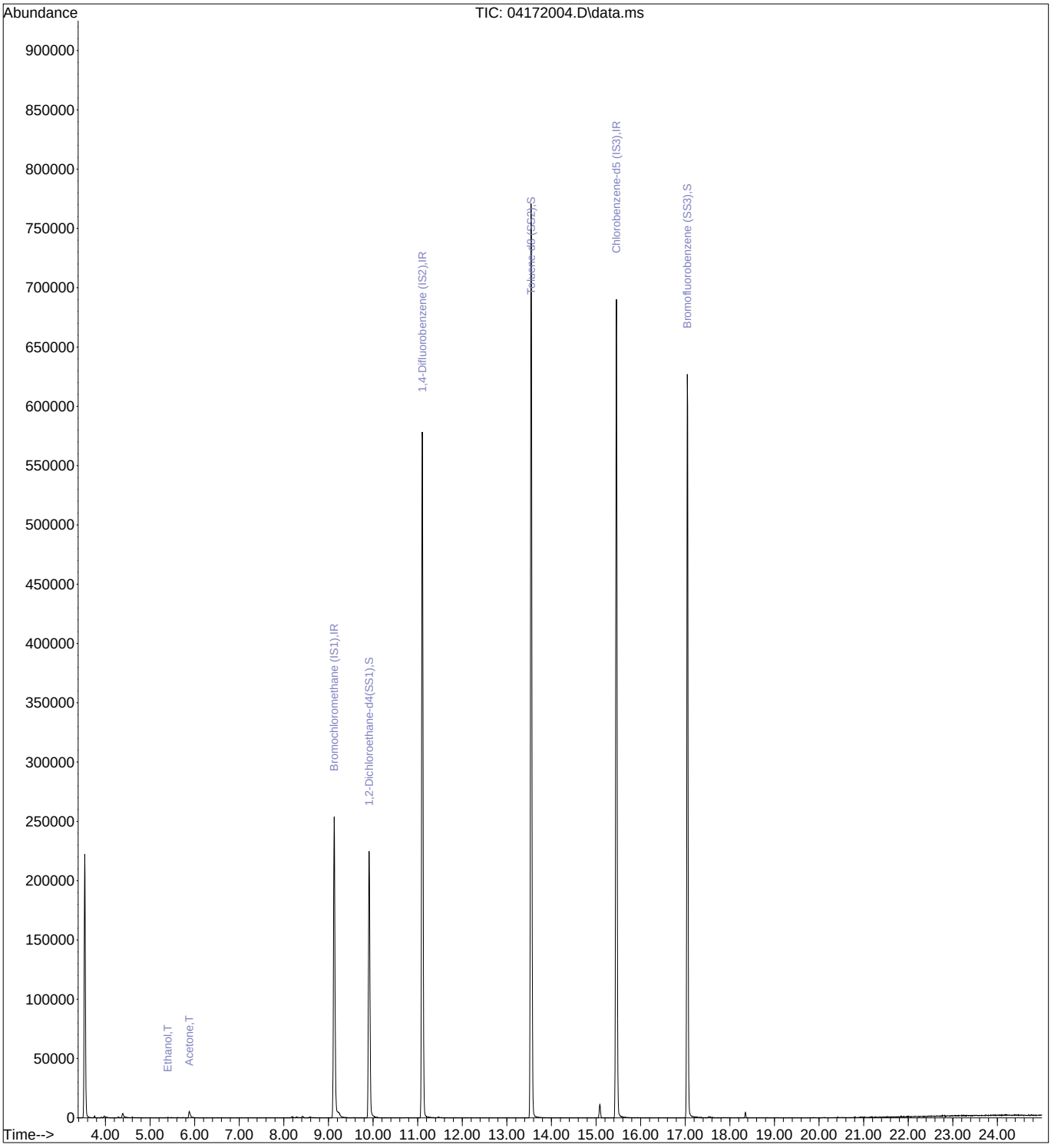
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	13.65	91	210	N.D.		
59) 2-Hexanone	0.00	43	0	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	0.00	91	0	N.D.		
67) m- & p-Xylenes	0.00	91	0	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	0.00	91	0	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	17.04	105	299	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	17.79	91	125	N.D.		
77) 3-Ethyltoluene	17.85	105	226	N.D.		
78) 4-Ethyltoluene	17.90	105	433	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	238	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	18.17	105	288	N.D.		
82) 1,2,4-Trimethylbenzene	18.39	105	204	N.D.		
83) n-Decane	0.00	57	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D.		
88) 4-Isopropyltoluene (p-...	18.84	119	110	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D.		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	20.94	128	1062	N.D.		
96) n-Dodecane	0.00	57	0	N.D.		
97) Hexachlorobutadiene	21.26	225	131	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	0.00	119	0	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172004.D Vial: 2
Acq On : 17 Apr 2020 4:21 Operator: SC
Sample : MB R9041720_1000mL Inst : MS09
Misc : S31-02272010

Quant Time: Apr 17 05:28:11 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202005.D Vial: 2
Acq On : 20 Apr 2020 4:53 Operator: TD
Sample : MB R9042020_1000mL Inst : MS09
Misc : S31-02272010

TD 4/20/20

Quant Time: Apr 20 05:29:24 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	128061	12.500 ng		-0.03
37) 1,4-Difluorobenzene (IS2)	11.10	114	553247	12.500 ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	242040	12.500 ng		0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	199562	13.774 ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.16%			
57) Toluene-d8 (SS2)	13.54	98	610350	12.679 ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.44%			
73) Bromofluorobenzene (SS3)	17.05	174	224039	13.988 ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.92%			
Target Compounds						Qvalue
2) Propene	3.88	42	1397	0.178 ng		92
3) Dichlorodifluoromethan...	0.00	85	0	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	4.64	54	2649	0.401 ng		95
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.40	45	762	0.124 ng	#	46
11) Acetonitrile	5.60	41	215	N.D.		
12) Acrolein	5.72	56	405	0.077 ng	#	70
13) Acetone	5.87	58	5139	0.816 ng	#	77
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	6.24	45	34	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	0.00	84	0	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	0.00	76	0	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	8.57	72	210	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	9.22	57	240	N.D.		
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.		
41) Benzene	10.76	78	4163	0.106 ng		94
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	11.02	84	344	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	11.87	57	2004	0.054 ng		93
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202005.D Vial: 2
Acq On : 20 Apr 2020 4:53 Operator: TD
Sample : MB R9042020_1000mL Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 05:29:24 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

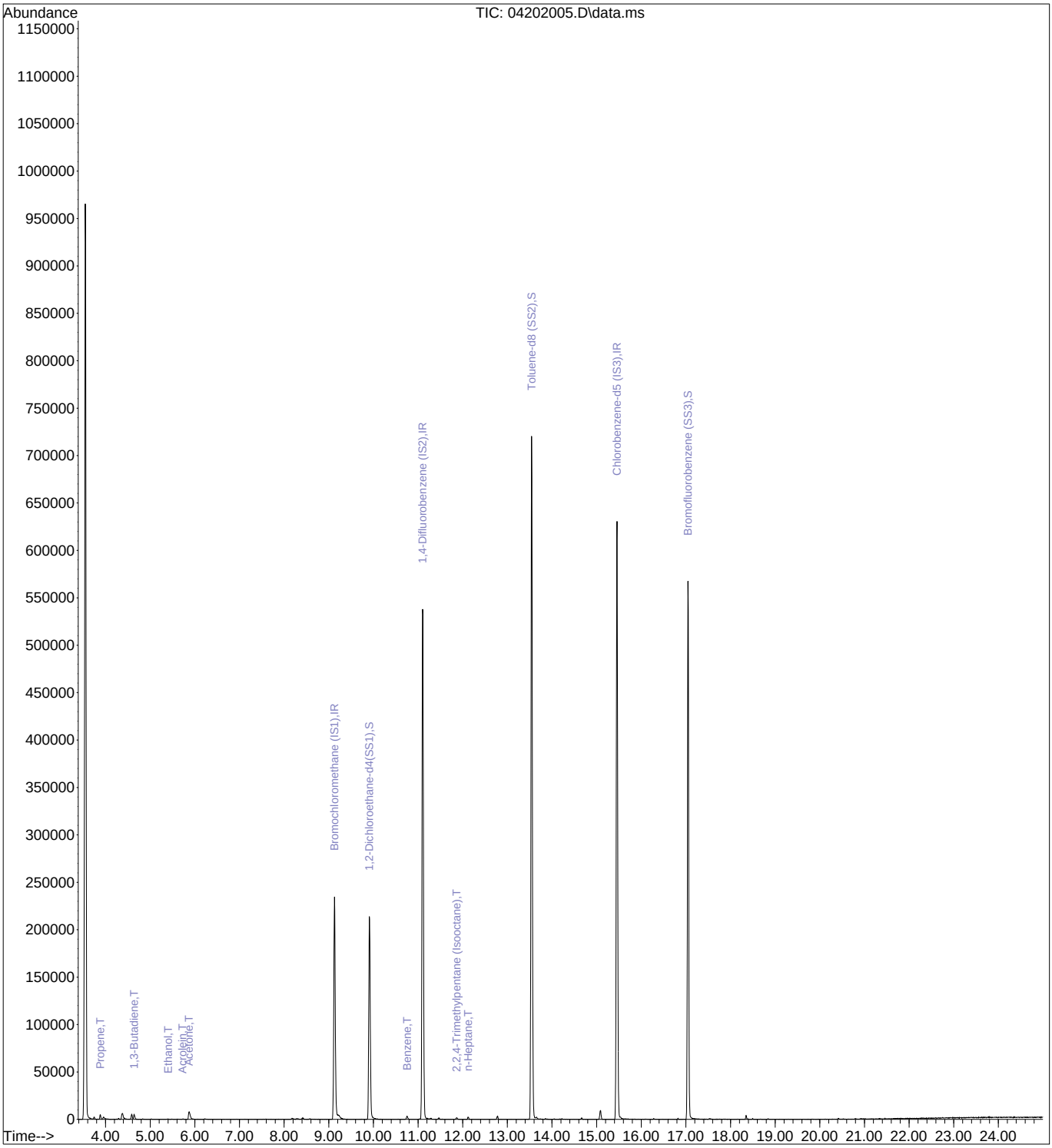
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	12.12	71	574	0.061	ng	#	75
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.			
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.			
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.			
58) Toluene	13.65	91	1938	N.D.			
59) 2-Hexanone	13.89	43	117	N.D.			
60) Dibromochloromethane	0.00	129	0	N.D.			
61) 1,2-Dibromoethane	0.00	107	0	N.D.			
62) n-Butyl Acetate	14.67	43	804	N.D.			
63) n-Octane	14.66	57	248	N.D.			
64) Tetrachloroethene	0.00	166	0	N.D.			
65) Chlorobenzene	0.00	112	0	N.D.			
66) Ethylbenzene	0.00	91	0	N.D.			
67) m- & p-Xylenes	16.11	91	328	N.D.			
68) Bromoform	0.00	173	0	N.D.			
69) Styrene	0.00	104	0	N.D.			
70) o-Xylene	16.58	91	300	N.D.			
71) n-Nonane	16.83	43	377	N.D.			
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.			
74) Cumene	17.04	105	267	N.D.			
75) alpha-Pinene	0.00	93	0	N.D.			
76) n-Propylbenzene	17.73	91	370	N.D.			
77) 3-Ethyltoluene	17.85	105	469	N.D.			
78) 4-Ethyltoluene	17.88	105	524	N.D.			
79) 1,3,5-Trimethylbenzene	17.97	105	390	N.D.			
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	18.16	105	347	N.D.			
82) 1,2,4-Trimethylbenzene	18.40	105	342	N.D.			
83) n-Decane	18.50	57	288	N.D.			
84) Benzyl Chloride	18.38	91	173	N.D.			
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.			
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.			
87) sec-Butylbenzene	18.68	105	325	N.D.			
88) 4-Isopropyltoluene (p-...	18.84	119	230	N.D.			
89) 1,2,3-Trimethylbenzene	18.83	105	262	N.D.			
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.			
91) d-Limonene	0.00	68	0	N.D.			
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.			
93) n-Undecane	19.84	57	195	N.D.			
94) 1,2,4-Trichlorobenzene	20.80	180	290	N.D.			
95) Naphthalene	20.92	128	1499	N.D.			
96) n-Dodecane	0.00	57	0	N.D.			
97) Hexachlorobutadiene	0.00	225	0	N.D.			
98) Cyclohexanone	16.29	55	248	N.D.			
99) tert-Butylbenzene	18.39	119	117	N.D.			
100) n-Butylbenzene	19.29	91	100	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202005.D Vial: 2
Acq On : 20 Apr 2020 4:53 Operator: TD
Sample : MB R9042020_1000mL Inst : MS09
Misc : S31-02272010

Quant Time: Apr 20 05:29:24 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\24\04242004.D Vial: 2
Acq On : 24 Apr 2020 7:35 Operator: SC
Sample : MB R9042420_1000mL Inst : MS09 TD 4/24/20
Misc : S34-04212006

Quant Time: Apr 24 08:09:27 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	127206	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.10	114	518393	12.500	ng	-0.03
56) Chlorobenzene-d5 (IS3)	15.45	82	237669	12.500	ng	-0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	201129	12.204	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.60%			
57) Toluene-d8 (SS2)	13.54	98	578733	12.611	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.88%			
73) Bromofluorobenzene (SS3)	17.05	174	230877	12.518	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.16%			
Target Compounds						Qvalue
2) Propene	3.90	42	113	N.D.		
3) Dichlorodifluoromethan...	0.00	85	0	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.45	45	37	N.D.		
11) Acetonitrile	5.61	41	34	N.D.		
12) Acrolein	5.73	56	35	N.D.		
13) Acetone	5.89	58	2345	0.477	ng #	65
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	0.00	84	0	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	7.17	76	124	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	0.00	72	0	N.D. d		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.		
41) Benzene	0.00	78	0	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	11.09	84	243	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	11.87	57	235	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\24\04242004.D Vial: 2
Acq On : 24 Apr 2020 7:35 Operator: SC
Sample : MB R9042420_1000mL Inst : MS09
Misc : S34-04212006

Quant Time: Apr 24 08:09:27 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

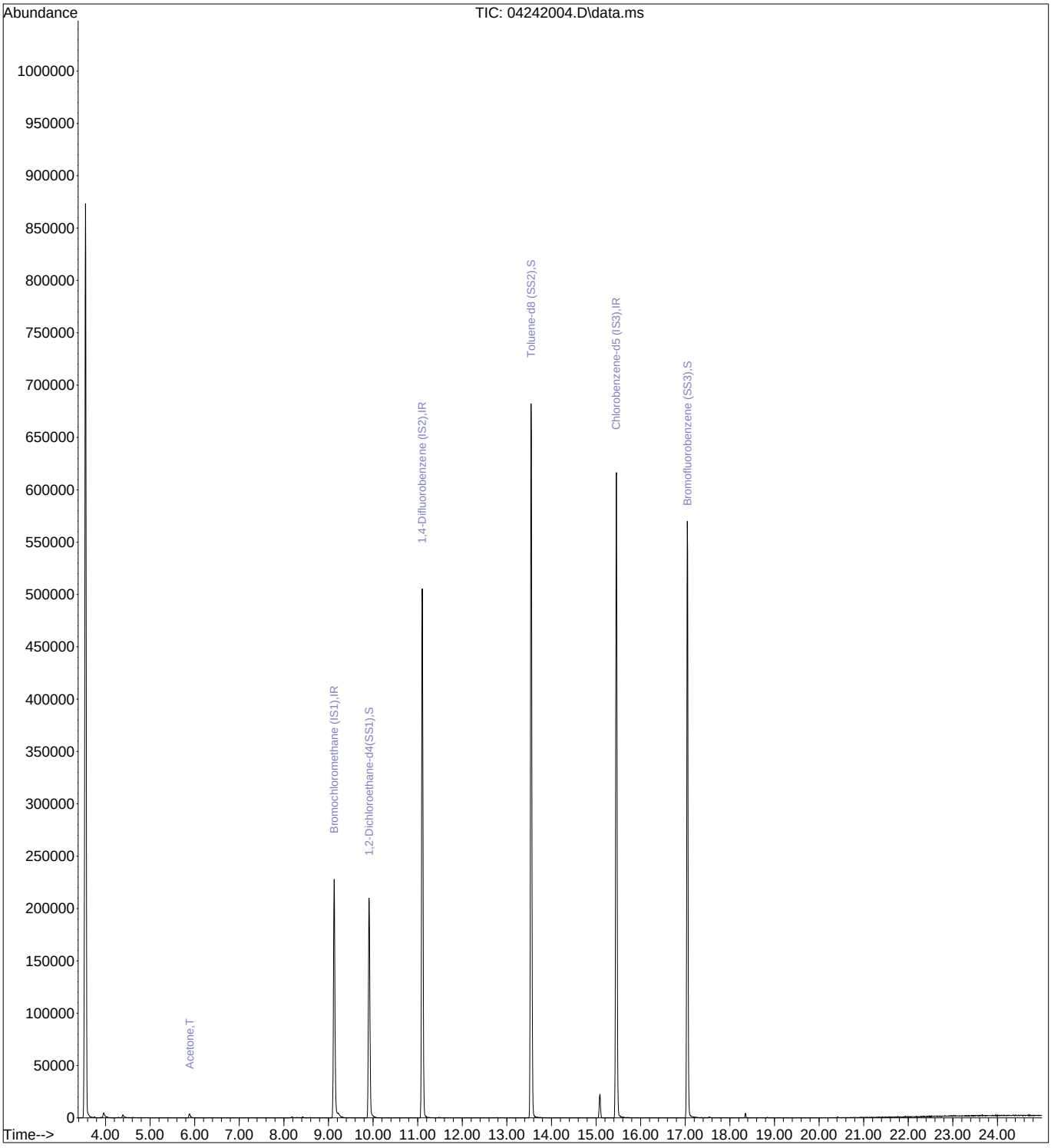
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	13.65	91	204	N.D.		
59) 2-Hexanone	0.00	43	0	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	0.00	91	0	N.D.		
67) m- & p-Xylenes	0.00	91	0	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	0.00	91	0	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	17.05	105	245	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	17.73	91	148	N.D.		
77) 3-Ethyltoluene	17.85	105	373	N.D.		
78) 4-Ethyltoluene	17.88	105	134	N.D.		
79) 1,3,5-Trimethylbenzene	17.97	105	305	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	18.17	105	208	N.D.		
82) 1,2,4-Trimethylbenzene	18.40	105	160	N.D.		
83) n-Decane	0.00	57	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	18.67	105	289	N.D.		
88) 4-Isopropyltoluene (p-...	18.83	119	324	N.D.		
89) 1,2,3-Trimethylbenzene	18.67	105	289	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.81	180	159	N.D.		
95) Naphthalene	20.93	128	495	N.D.		
96) n-Dodecane	0.00	57	0	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.38	119	122	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\24\04242004.D Vial: 2
Acq On : 24 Apr 2020 7:35 Operator: SC
Sample : MB R9042420_1000mL Inst : MS09
Misc : S34-04212006

Quant Time: Apr 24 08:09:27 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172005.D Vial: 2
Acq On : 17 Apr 2020 4:55 Operator: SC
Sample : LCS R9041720_25ng Inst : MS09
Misc : S31-02272010/S34-03252004 (4/23)

TD 4/17/20

Quant Time: Apr 17 05:28:14 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	155343	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	11.12	114	647593	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	15.46	82	283754	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.94	65	222570	12.664	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.28%				
57) Toluene-d8 (SS2)	13.55	98	708374	12.552	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.40%				
73) Bromofluorobenzene (SS3)	17.05	174	269044	14.329	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.64%				
Target Compounds							Qvalue
2) Propene	3.85	42	179934	18.912	ng		96
3) Dichlorodifluoromethan...	3.96	85	554203	25.001	ng		100
4) Chloromethane	4.17	50	270305	20.262	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	272870	26.389	ng		99
6) Vinyl Chloride	4.45	62	287233	24.991	ng		100
7) 1,3-Butadiene	4.62	54	211521	26.395	ng		99
8) Bromomethane	4.93	94	239493	23.637	ng		100
9) Chloroethane	5.15	64	157849	20.931	ng		99
10) Ethanol	5.41	45	697772	93.746	ng		98
11) Acetonitrile	5.59	41	325163	19.164	ng		99
12) Acrolein	5.71	56	133703	20.955	ng		100
13) Acetone	5.86	58	790090	103.421	ng		90
14) Trichlorofluoromethane	6.03	101	532174	26.512	ng		100
15) 2-Propanol (Isopropanol)	6.20	45	1060792	43.761	ng		95
16) Acrylonitrile	6.39	53	282270	21.272	ng		98
17) 1,1-Dichloroethene	6.72	96	280720	24.796	ng		98
18) 2-Methyl-2-Propanol (t...	6.84	59	1338360	52.165	ng		98
19) Methylene Chloride	6.88	84	270037	23.127	ng		90
20) 3-Chloro-1-propene (Al...	7.00	41	301588	20.399	ng		93
21) Trichlorotrifluoroethane	7.19	151	303383	27.117	ng		92
22) Carbon Disulfide	7.15	76	939833	23.194	ng		100
23) trans-1,2-Dichloroethene	7.90	61	376161	25.741	ng		97
24) 1,1-Dichloroethane	8.12	63	431923	22.464	ng		100
25) Methyl tert-Butyl Ether	8.18	73	874496	26.219	ng		96
26) Vinyl Acetate	8.29	86	318700	124.843	ng	#	79
27) 2-Butanone (MEK)	8.53	72	176537	23.543	ng	#	87
28) cis-1,2-Dichloroethene	8.99	61	356869	24.252	ng		95
29) Diisopropyl Ether	9.22	87	227986	24.504	ng	#	78
30) Ethyl Acetate	9.23	61	159038	46.336	ng		95
31) n-Hexane	9.23	57	362274	21.779	ng		98
32) Chloroform	9.30	83	505115	25.512	ng		99
34) Tetrahydrofuran (THF)	9.68	72	174585	24.093	ng	#	89
35) Ethyl tert-Butyl Ether	9.77	87	355990	26.307	ng		92
36) 1,2-Dichloroethane	10.04	62	399613	26.761	ng		100
38) 1,1,1-Trichloroethane	10.30	97	509212	29.048	ng		98
39) Isopropyl Acetate	10.67	61	283405	46.810	ng		94
40) 1-Butanol	10.68	56	436308	44.415	ng		96
41) Benzene	10.76	78	1063450	23.045	ng		100
42) Carbon Tetrachloride	10.91	117	467434	28.418	ng		100
43) Cyclohexane	11.04	84	842341	48.092	ng		93
44) tert-Amyl Methyl Ether	11.35	73	797948	26.285	ng		98
45) 1,2-Dichloropropane	11.58	63	237961	23.118	ng		99
46) Bromodichloromethane	11.76	83	411205	27.021	ng		100
47) Trichloroethene	11.81	130	361314	27.173	ng		100
48) 1,4-Dioxane	11.78	88	239559	26.612	ng		93
49) 2,2,4-Trimethylpentane...	11.87	57	957055	22.084	ng		96
50) Methyl Methacrylate	12.00	100	249092	55.114	ng		89

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172005.D Vial: 2
Acq On : 17 Apr 2020 4:55 Operator: SC
Sample : LCS R9041720_25ng Inst : MS09
Misc : S31-02272010/S34-03252004 (4/23)

Quant Time: Apr 17 05:28:14 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

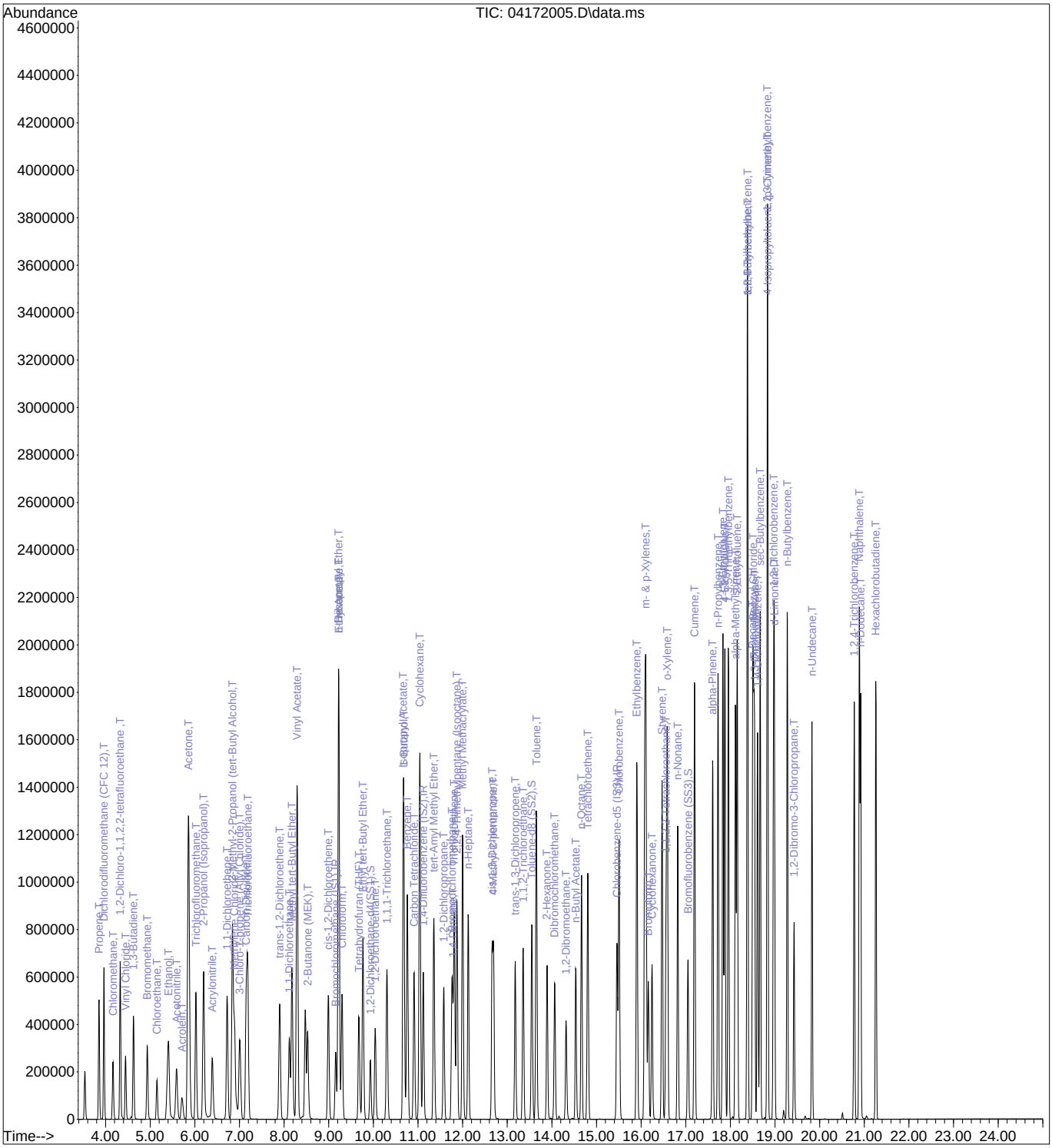
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	264285	23.992	ng	96
52) cis-1,3-Dichloropropene	12.66	75	490308	28.583	ng	99
53) 4-Methyl-2-pentanone	12.69	58	215394	23.673	ng	95
54) trans-1,3-Dichloropropene	13.18	75	456438	28.427	ng	100
55) 1,1,2-Trichloroethane	13.36	97	295320	26.158	ng	96
58) Toluene	13.65	91	1215722	25.384	ng	100
59) 2-Hexanone	13.89	43	455702	24.033	ng	98
60) Dibromochloromethane	14.06	129	409199	30.618	ng	99
61) 1,2-Dibromoethane	14.32	107	354620	29.268	ng	100
62) n-Butyl Acetate	14.53	43	495129	24.460	ng	98
63) n-Octane	14.67	57	205956	23.833	ng	93
64) Tetrachloroethene	14.81	166	419170	28.154	ng	99
65) Chlorobenzene	15.51	112	878148	26.302	ng	100
66) Ethylbenzene	15.90	91	1406903	27.355	ng	99
67) m- & p-Xylenes	16.10	91	2293007	55.701	ng	100
68) Bromoform	16.16	173	367061	33.264	ng	100
69) Styrene	16.47	104	908602	30.435	ng	99
70) o-Xylene	16.58	91	1130333	27.477	ng	100
71) n-Nonane	16.82	43	397952	22.395	ng	92
72) 1,1,2,2-Tetrachloroethane	16.56	83	476637	25.665	ng	100
74) Cumene	17.19	105	1475672	27.489	ng	100
75) alpha-Pinene	17.60	93	704630	26.056	ng	99
76) n-Propylbenzene	17.72	91	1670621	27.250	ng	99
77) 3-Ethyltoluene	17.83	105	1499031	29.135	ng	99
78) 4-Ethyltoluene	17.88	105	1387935	28.160	ng	99
79) 1,3,5-Trimethylbenzene	17.95	105	1271713	28.067	ng	99
80) alpha-Methylstyrene	18.11	118	641162	28.907	ng	99
81) 2-Ethyltoluene	18.15	105	1446743	28.149	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	1244581	29.562	ng	100
83) n-Decane	18.50	57	497115	24.274	ng	96
84) Benzyl Chloride	18.51	91	1069978	32.501	ng	99
85) 1,3-Dichlorobenzene	18.54	146	794078	32.673	ng	100
86) 1,4-Dichlorobenzene	18.61	146	823109	33.148	ng	100
87) sec-Butylbenzene	18.67	105	1614329	27.271	ng	99
88) 4-Isopropyltoluene (p-...	18.83	119	1522689	29.042	ng	100
89) 1,2,3-Trimethylbenzene	18.83	105	1219182	28.381	ng	99
90) 1,2-Dichlorobenzene	18.97	146	768710	31.793	ng	100
91) d-Limonene	18.99	68	344085	23.538	ng	91
92) 1,2-Dibromo-3-Chloropr...	19.43	157	299307	31.065	ng	96
93) n-Undecane	19.83	57	537614	24.676	ng	96
94) 1,2,4-Trichlorobenzene	20.77	180	647050	34.680	ng	100
95) Naphthalene	20.89	128	1864687	32.177	ng	100
96) n-Dodecane	20.92	57	523724	24.342	ng	95
97) Hexachlorobutadiene	21.26	225	415679	32.157	ng	100
98) Cyclohexanone	16.24	55	299068	22.168	ng	94
99) tert-Butylbenzene	18.38	119	1208983	27.826	ng	100
100) n-Butylbenzene	19.27	91	1261777	29.908	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172005.D Vial: 2
Acq On : 17 Apr 2020 4:55 Operator: SC
Sample : LCS R9041720_25ng Inst : MS09
Misc : S31-02272010/S34-03252004 (4/23)

Quant Time: Apr 17 05:28:14 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172006.D Vial: 2
Acq On : 17 Apr 2020 5:29 Operator: SC
Sample : LCSD R9041720_25ng Inst : MS09
Misc : S31-02272010/S34-03252004 (4/23)

TD 4/17/20

Quant Time: Apr 17 06:04:14 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	154717	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	11.12	114	645447	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	15.46	82	284978	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.93	65	222670	12.721	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.76%				
57) Toluene-d8 (SS2)	13.55	98	709714	12.522	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.16%				
73) Bromofluorobenzene (SS3)	17.05	174	268670	14.247	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.00%				
Target Compounds							Qvalue
2) Propene	3.85	42	184041	19.422	ng		97
3) Dichlorodifluoromethan...	3.96	85	557964	25.272	ng		99
4) Chloromethane	4.16	50	286703	21.578	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	285970	27.767	ng		100
6) Vinyl Chloride	4.44	62	298431	26.070	ng		100
7) 1,3-Butadiene	4.62	54	219837	27.544	ng		99
8) Bromomethane	4.93	94	249420	24.716	ng		100
9) Chloroethane	5.15	64	165474	22.031	ng		99
10) Ethanol	5.40	45	720399	97.178	ng		98
11) Acetonitrile	5.59	41	333929	19.760	ng		99
12) Acrolein	5.71	56	135755	21.362	ng		100
13) Acetone	5.86	58	808233	106.223	ng		91
14) Trichlorofluoromethane	6.02	101	537621	26.892	ng		100
15) 2-Propanol (Isopropanol)	6.19	45	1081369	44.790	ng		96
16) Acrylonitrile	6.39	53	289159	21.880	ng		99
17) 1,1-Dichloroethene	6.72	96	286014	25.365	ng		97
18) 2-Methyl-2-Propanol (t...	6.84	59	1365900	53.454	ng		98
19) Methylene Chloride	6.88	84	273643	23.531	ng		90
20) 3-Chloro-1-propene (Al...	7.01	41	308847	20.974	ng		93
21) Trichlorotrifluoroethane	7.18	151	304009	27.283	ng		92
22) Carbon Disulfide	7.15	76	951914	23.587	ng		100
23) trans-1,2-Dichloroethene	7.90	61	381021	26.179	ng		97
24) 1,1-Dichloroethane	8.12	63	437074	22.824	ng		100
25) Methyl tert-Butyl Ether	8.18	73	887843	26.727	ng		96
26) Vinyl Acetate	8.29	86	324015	127.438	ng	#	81
27) 2-Butanone (MEK)	8.52	72	178530	23.905	ng	#	88
28) cis-1,2-Dichloroethene	8.99	61	360954	24.629	ng		96
29) Diisopropyl Ether	9.22	87	230325	24.855	ng	#	79
30) Ethyl Acetate	9.22	61	160504	46.952	ng		91
31) n-Hexane	9.22	57	368308	22.231	ng		98
32) Chloroform	9.30	83	511516	25.939	ng		100
34) Tetrahydrofuran (THF)	9.67	72	176764	24.493	ng	#	89
35) Ethyl tert-Butyl Ether	9.77	87	362842	26.922	ng		92
36) 1,2-Dichloroethane	10.04	62	405957	27.296	ng		100
38) 1,1,1-Trichloroethane	10.30	97	513984	29.418	ng		98
39) Isopropyl Acetate	10.67	61	288805	47.860	ng		94
40) 1-Butanol	10.68	56	446842	45.639	ng		96
41) Benzene	10.76	78	1076855	23.413	ng		100
42) Carbon Tetrachloride	10.91	117	469546	28.641	ng		99
43) Cyclohexane	11.04	84	850489	48.718	ng		94
44) tert-Amyl Methyl Ether	11.35	73	809050	26.740	ng		98
45) 1,2-Dichloropropane	11.57	63	241382	23.528	ng		99
46) Bromodichloromethane	11.76	83	414340	27.318	ng		100
47) Trichloroethene	11.81	130	363922	27.460	ng		100
48) 1,4-Dioxane	11.78	88	241558	26.924	ng		94
49) 2,2,4-Trimethylpentane...	11.87	57	971253	22.486	ng		97
50) Methyl Methacrylate	12.00	100	253995	56.386	ng		88

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172006.D Vial: 2
Acq On : 17 Apr 2020 5:29 Operator: SC
Sample : LCSD R9041720_25ng Inst : MS09
Misc : S31-02272010/S34-03252004 (4/23)

Quant Time: Apr 17 06:04:14 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

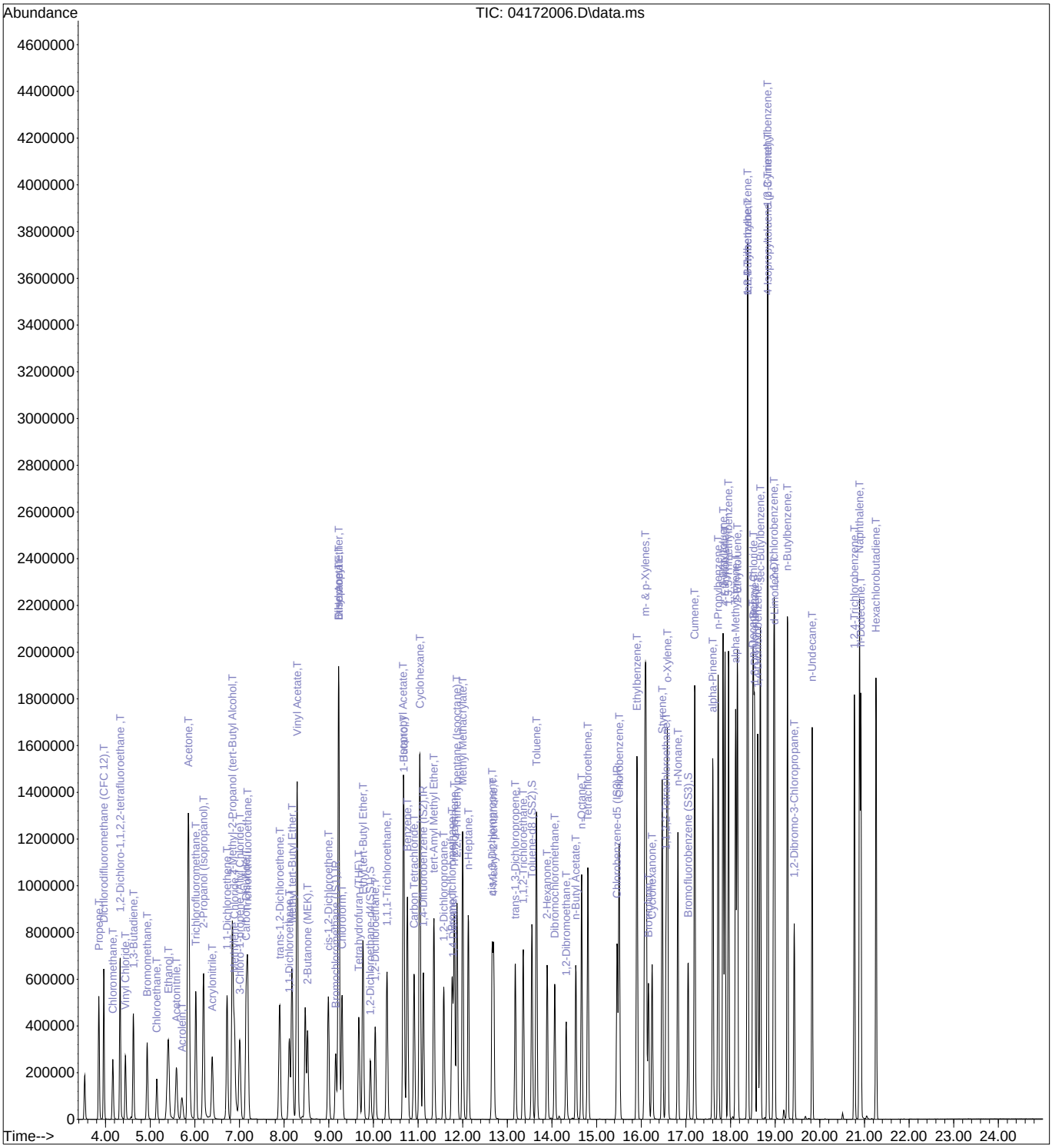
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	268989	24.500	ng	96
52) cis-1,3-Dichloropropene	12.66	75	500797	29.292	ng	100
53) 4-Methyl-2-pentanone	12.69	58	216582	23.883	ng	96
54) trans-1,3-Dichloropropene	13.18	75	462420	28.895	ng	100
55) 1,1,2-Trichloroethane	13.36	97	297008	26.395	ng	96
58) Toluene	13.65	91	1231912	25.612	ng	100
59) 2-Hexanone	13.89	43	462605	24.293	ng	98
60) Dibromochloromethane	14.06	129	411099	30.628	ng	99
61) 1,2-Dibromoethane	14.32	107	358423	29.455	ng	100
62) n-Butyl Acetate	14.53	43	503598	24.771	ng	98
63) n-Octane	14.67	57	208486	24.022	ng	93
64) Tetrachloroethene	14.80	166	421149	28.166	ng	100
65) Chlorobenzene	15.51	112	888815	26.507	ng	100
66) Ethylbenzene	15.90	91	1420480	27.501	ng	99
67) m- & p-Xylenes	16.10	91	2316312	56.026	ng	100
68) Bromoform	16.16	173	370629	33.443	ng	100
69) Styrene	16.47	104	921797	30.745	ng	99
70) o-Xylene	16.58	91	1140927	27.615	ng	100
71) n-Nonane	16.82	43	405186	22.704	ng	93
72) 1,1,2,2-Tetrachloroethane	16.56	83	482475	25.868	ng	100
74) Cumene	17.19	105	1490982	27.655	ng	100
75) alpha-Pinene	17.60	93	715545	26.346	ng	99
76) n-Propylbenzene	17.72	91	1693211	27.500	ng	99
77) 3-Ethyltoluene	17.83	105	1518460	29.386	ng	99
78) 4-Ethyltoluene	17.88	105	1401861	28.321	ng	99
79) 1,3,5-Trimethylbenzene	17.95	105	1283337	28.202	ng	100
80) alpha-Methylstyrene	18.11	118	647812	29.082	ng	99
81) 2-Ethyltoluene	18.15	105	1459973	28.285	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	1258338	29.760	ng	100
83) n-Decane	18.50	57	502719	24.442	ng	96
84) Benzyl Chloride	18.51	91	1091508	33.013	ng	99
85) 1,3-Dichlorobenzene	18.54	146	805870	33.015	ng	100
86) 1,4-Dichlorobenzene	18.61	146	830290	33.294	ng	100
87) sec-Butylbenzene	18.67	105	1626800	27.364	ng	99
88) 4-Isopropyltoluene (p-...	18.83	119	1537730	29.203	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	1231790	28.551	ng	100
90) 1,2-Dichlorobenzene	18.97	146	770895	31.747	ng	100
91) d-Limonene	18.99	68	348569	23.743	ng	91
92) 1,2-Dibromo-3-Chloropr...	19.43	157	303174	31.331	ng	96
93) n-Undecane	19.83	57	542997	24.816	ng	96
94) 1,2,4-Trichlorobenzene	20.77	180	656704	35.046	ng	99
95) Naphthalene	20.89	128	1905770	32.745	ng	100
96) n-Dodecane	20.92	57	529850	24.520	ng	95
97) Hexachlorobutadiene	21.26	225	421015	32.430	ng	100
98) Cyclohexanone	16.24	55	307675	22.708	ng	95
99) tert-Butylbenzene	18.38	119	1221187	27.986	ng	100
100) n-Butylbenzene	19.27	91	1272957	30.043	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172006.D Vial: 2
Acq On : 17 Apr 2020 5:29 Operator: SC
Sample : LCSD R9041720_25ng Inst : MS09
Misc : S31-02272010/S34-03252004 (4/23)

Quant Time: Apr 17 06:04:14 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202006.D Vial: 2
Acq On : 20 Apr 2020 5:27 Operator: TD
Sample : LCS R9042020_25ng Inst : MS09
Misc : S31-02272010/S34-03252004 (4/23)

TD 4/20/20

Quant Time: Apr 20 05:59:44 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	135273	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	11.12	114	576638	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	15.46	82	255357	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.93	65	209477	13.687	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.52%				
57) Toluene-d8 (SS2)	13.55	98	637176	12.546	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.40%				
73) Bromofluorobenzene (SS3)	17.05	174	237947	14.082	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.64%				
Target Compounds							Qvalue
2) Propene	3.84	42	162116	19.568	ng		94
3) Dichlorodifluoromethan...	3.96	85	509598	26.399	ng		99
4) Chloromethane	4.16	50	242329	20.860	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.32	135	267325	29.688	ng		100
6) Vinyl Chloride	4.44	62	283353	28.311	ng		100
7) 1,3-Butadiene	4.62	54	212700	30.480	ng		99
8) Bromomethane	4.93	94	216339	24.519	ng		99
9) Chloroethane	5.15	64	140778	21.437	ng		99
10) Ethanol	5.40	45	632387	97.567	ng		97
11) Acetonitrile	5.59	41	293145	19.840	ng		97
12) Acrolein	5.71	56	119011	21.420	ng		99
13) Acetone	5.86	58	713331	107.226	ng	#	83
14) Trichlorofluoromethane	6.02	101	493985	28.261	ng		100
15) 2-Propanol (Isopropanol)	6.19	45	980993	46.473	ng		95
16) Acrylonitrile	6.39	53	252535	21.855	ng		98
17) 1,1-Dichloroethene	6.72	96	249889	25.347	ng		98
18) 2-Methyl-2-Propanol (t...	6.84	59	1247203	55.824	ng		98
19) Methylene Chloride	6.88	84	240328	23.637	ng		93
20) 3-Chloro-1-propene (Al...	7.00	41	278848	21.659	ng		95
21) Trichlorotrifluoroethane	7.18	151	273123	28.035	ng		92
22) Carbon Disulfide	7.15	76	838482	23.763	ng		99
23) trans-1,2-Dichloroethene	7.90	61	342671	26.928	ng		98
24) 1,1-Dichloroethane	8.12	63	392127	23.420	ng		99
25) Methyl tert-Butyl Ether	8.18	73	810516	27.906	ng		95
26) Vinyl Acetate	8.29	86	285631	128.489	ng	#	89
27) 2-Butanone (MEK)	8.52	72	156502	23.967	ng		93
28) cis-1,2-Dichloroethene	8.99	61	325642	25.413	ng		98
29) Diisopropyl Ether	9.22	87	207234	25.578	ng	#	82
30) Ethyl Acetate	9.22	61	145454	48.665	ng		96
31) n-Hexane	9.22	57	333047	22.992	ng		98
32) Chloroform	9.30	83	466129	27.035	ng		100
34) Tetrahydrofuran (THF)	9.67	72	155572	24.655	ng		91
35) Ethyl tert-Butyl Ether	9.77	87	325693	27.639	ng		93
36) 1,2-Dichloroethane	10.04	62	381486	29.338	ng		99
38) 1,1,1-Trichloroethane	10.30	97	473407	30.329	ng		98
39) Isopropyl Acetate	10.67	61	256728	47.621	ng		98
40) 1-Butanol	10.68	56	393127	44.944	ng		92
41) Benzene	10.76	78	955484	23.253	ng		99
42) Carbon Tetrachloride	10.91	117	435572	29.740	ng		100
43) Cyclohexane	11.04	84	754336	48.367	ng		94
44) tert-Amyl Methyl Ether	11.35	73	733754	27.145	ng		98
45) 1,2-Dichloropropane	11.57	63	212797	23.217	ng		100
46) Bromodichloromethane	11.76	83	378957	27.966	ng		100
47) Trichloroethene	11.81	130	323545	27.327	ng		100
48) 1,4-Dioxane	11.78	88	213290	26.610	ng		94
49) 2,2,4-Trimethylpentane...	11.87	57	869944	22.544	ng		95
50) Methyl Methacrylate	12.00	100	223738	55.596	ng		90

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202006.D Vial: 2
Acq On : 20 Apr 2020 5:27 Operator: TD
Sample : LCS R9042020_25ng Inst : MS09
Misc : S31-02272010/S34-03252004 (4/23)

Quant Time: Apr 20 05:59:44 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

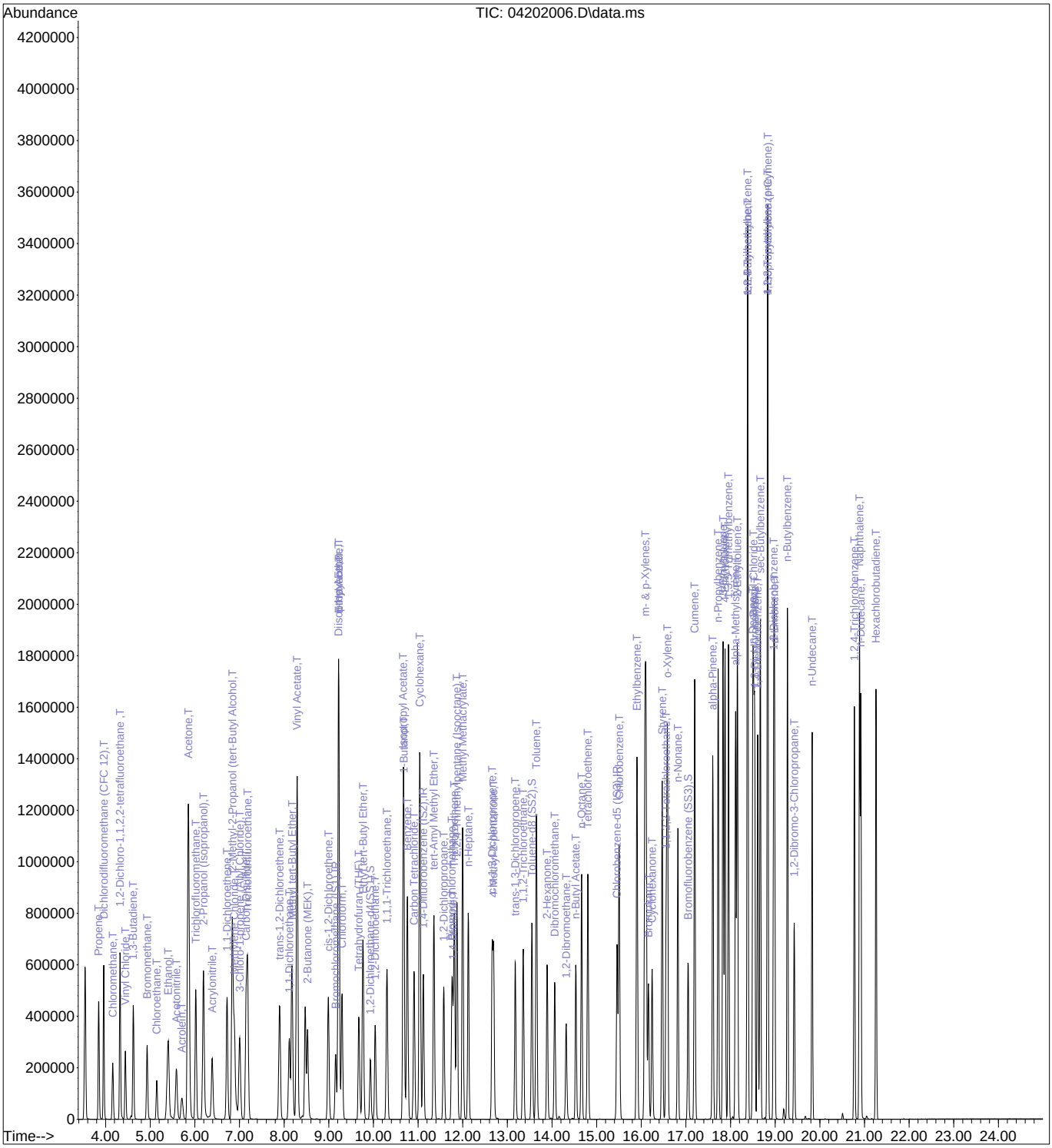
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	237799	24.244	ng	96
52) cis-1,3-Dichloropropene	12.66	75	449081	29.401	ng	100
53) 4-Methyl-2-pentanone	12.69	58	193274	23.856	ng	97
54) trans-1,3-Dichloropropene	13.17	75	420693	29.425	ng	100
55) 1,1,2-Trichloroethane	13.36	97	264354	26.296	ng	96
58) Toluene	13.65	91	1101795	25.564	ng	100
59) 2-Hexanone	13.89	43	420288	24.631	ng	100
60) Dibromochloromethane	14.06	129	372787	30.995	ng	99
61) 1,2-Dibromoethane	14.32	107	319930	29.342	ng	100
62) n-Butyl Acetate	14.53	43	459188	25.207	ng	99
63) n-Octane	14.67	57	186358	23.963	ng	94
64) Tetrachloroethene	14.80	166	376775	28.121	ng	99
65) Chlorobenzene	15.51	112	793238	26.401	ng	100
66) Ethylbenzene	15.90	91	1281159	27.681	ng	100
67) m- & p-Xylenes	16.09	91	2111488	56.996	ng	99
68) Bromoform	16.16	173	332883	33.521	ng	99
69) Styrene	16.47	104	815556	30.356	ng	98
70) o-Xylene	16.58	91	1038577	28.054	ng	98
71) n-Nonane	16.82	43	371681	23.242	ng	95
72) 1,1,2,2-Tetrachloroethane	16.56	83	428130	25.616	ng	100
74) Cumene	17.19	105	1345632	27.855	ng	99
75) alpha-Pinene	17.60	93	641161	26.346	ng	98
76) n-Propylbenzene	17.72	91	1521747	27.582	ng	99
77) 3-Ethyltoluene	17.83	105	1382123	29.850	ng	100
78) 4-Ethyltoluene	17.88	105	1262540	28.465	ng	100
79) 1,3,5-Trimethylbenzene	17.95	105	1163141	28.526	ng	99
80) alpha-Methylstyrene	18.11	118	570418	28.578	ng	99
81) 2-Ethyltoluene	18.15	105	1318617	28.509	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	1148741	30.320	ng	99
83) n-Decane	18.50	57	452751	24.566	ng	96
84) Benzyl Chloride	18.51	91	999724	33.744	ng	100
85) 1,3-Dichlorobenzene	18.54	146	716327	32.751	ng	100
86) 1,4-Dichlorobenzene	18.61	146	739327	33.085	ng	100
87) sec-Butylbenzene	18.67	105	1469623	27.587	ng	99
88) 4-Isopropyltoluene (p-...	18.83	119	1404873	29.775	ng	100
89) 1,2,3-Trimethylbenzene	18.83	105	1128137	29.182	ng	100
90) 1,2-Dichlorobenzene	18.97	146	692429	31.823	ng	100
91) d-Limonene	18.99	68	309642	23.538	ng	90
92) 1,2-Dibromo-3-Chloropr...	19.43	157	270651	31.214	ng	99
93) n-Undecane	19.83	57	486294	24.803	ng	96
94) 1,2,4-Trichlorobenzene	20.77	180	577823	34.414	ng	100
95) Naphthalene	20.89	128	1670311	32.028	ng	100
96) n-Dodecane	20.92	57	469783	24.263	ng	96
97) Hexachlorobutadiene	21.26	225	376213	32.341	ng	100
98) Cyclohexanone	16.24	55	269194	22.173	ng	94
99) tert-Butylbenzene	18.38	119	1114475	28.503	ng	99
100) n-Butylbenzene	19.27	91	1147351	30.220	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202006.D Vial: 2
Acq On : 20 Apr 2020 5:27 Operator: TD
Sample : LCS R9042020_25ng Inst : MS09
Misc : S31-02272010/S34-03252004 (4/23)

Quant Time: Apr 20 05:59:44 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202007.D Vial: 2
Acq On : 20 Apr 2020 6:00 Operator: TD
Sample : LCSD R9042020_25ng Inst : MS09
Misc : S31-02272010/S34-03252004 (4/23)

TD 4/20/20

Quant Time: Apr 20 06:55:30 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	137267	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	11.12	114	582729	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	15.46	82	259690	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.93	65	212343	13.673	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.36%				
57) Toluene-d8 (SS2)	13.55	98	643510	12.459	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.68%				
73) Bromofluorobenzene (SS3)	17.05	174	239239	13.922	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.36%				
Target Compounds							Qvalue
2) Propene	3.85	42	181968	21.645	ng		96
3) Dichlorodifluoromethan...	3.96	85	532253	27.173	ng		100
4) Chloromethane	4.16	50	265630	22.533	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	282591	30.927	ng		100
6) Vinyl Chloride	4.45	62	307978	30.324	ng		100
7) 1,3-Butadiene	4.62	54	226168	31.939	ng		98
8) Bromomethane	4.93	94	222840	24.889	ng		100
9) Chloroethane	5.15	64	144039	21.615	ng		99
10) Ethanol	5.40	45	649861	98.806	ng		97
11) Acetonitrile	5.59	41	298626	19.917	ng		98
12) Acrolein	5.71	56	120938	21.450	ng		99
13) Acetone	5.86	58	721347	106.856	ng	#	83
14) Trichlorofluoromethane	6.03	101	497525	28.050	ng		100
15) 2-Propanol (Isopropanol)	6.19	45	982165	45.852	ng		95
16) Acrylonitrile	6.39	53	255871	21.822	ng		98
17) 1,1-Dichloroethene	6.72	96	249966	24.987	ng		98
18) 2-Methyl-2-Propanol (t...	6.84	59	1259142	55.540	ng		98
19) Methylene Chloride	6.88	84	240881	23.347	ng		93
20) 3-Chloro-1-propene (Al...	7.01	41	283094	21.670	ng		96
21) Trichlorotrifluoroethane	7.19	151	274375	27.754	ng		92
22) Carbon Disulfide	7.15	76	842306	23.524	ng		99
23) trans-1,2-Dichloroethene	7.90	61	345398	26.748	ng		98
24) 1,1-Dichloroethane	8.12	63	396495	23.337	ng		100
25) Methyl tert-Butyl Ether	8.18	73	814067	27.621	ng		95
26) Vinyl Acetate	8.29	86	287040	127.247	ng	#	91
27) 2-Butanone (MEK)	8.53	72	158719	23.954	ng		92
28) cis-1,2-Dichloroethene	8.99	61	326632	25.120	ng		98
29) Diisopropyl Ether	9.22	87	207686	25.261	ng	#	83
30) Ethyl Acetate	9.22	61	144253	47.562	ng		92
31) n-Hexane	9.23	57	334593	22.763	ng		98
32) Chloroform	9.30	83	465167	26.588	ng		100
34) Tetrahydrofuran (THF)	9.67	72	154919	24.195	ng		91
35) Ethyl tert-Butyl Ether	9.77	87	328916	27.507	ng		93
36) 1,2-Dichloroethane	10.04	62	382108	28.959	ng		99
38) 1,1,1-Trichloroethane	10.30	97	475191	30.125	ng		98
39) Isopropyl Acetate	10.67	61	256778	47.133	ng		98
40) 1-Butanol	10.68	56	399928	45.244	ng		92
41) Benzene	10.76	78	960921	23.141	ng		100
42) Carbon Tetrachloride	10.91	117	435626	29.432	ng		99
43) Cyclohexane	11.04	84	751520	47.682	ng		95
44) tert-Amyl Methyl Ether	11.35	73	734012	26.871	ng		98
45) 1,2-Dichloropropane	11.58	63	212724	22.967	ng		99
46) Bromodichloromethane	11.76	83	377863	27.594	ng		100
47) Trichloroethene	11.81	130	322353	26.942	ng		100
48) 1,4-Dioxane	11.78	88	214051	26.426	ng		94
49) 2,2,4-Trimethylpentane...	11.87	57	872430	22.372	ng		94
50) Methyl Methacrylate	12.00	100	224236	55.137	ng		89

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202007.D Vial: 2
Acq On : 20 Apr 2020 6:00 Operator: TD
Sample : LCSD R9042020_25ng Inst : MS09
Misc : S31-02272010/S34-03252004 (4/23)

Quant Time: Apr 20 06:55:30 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

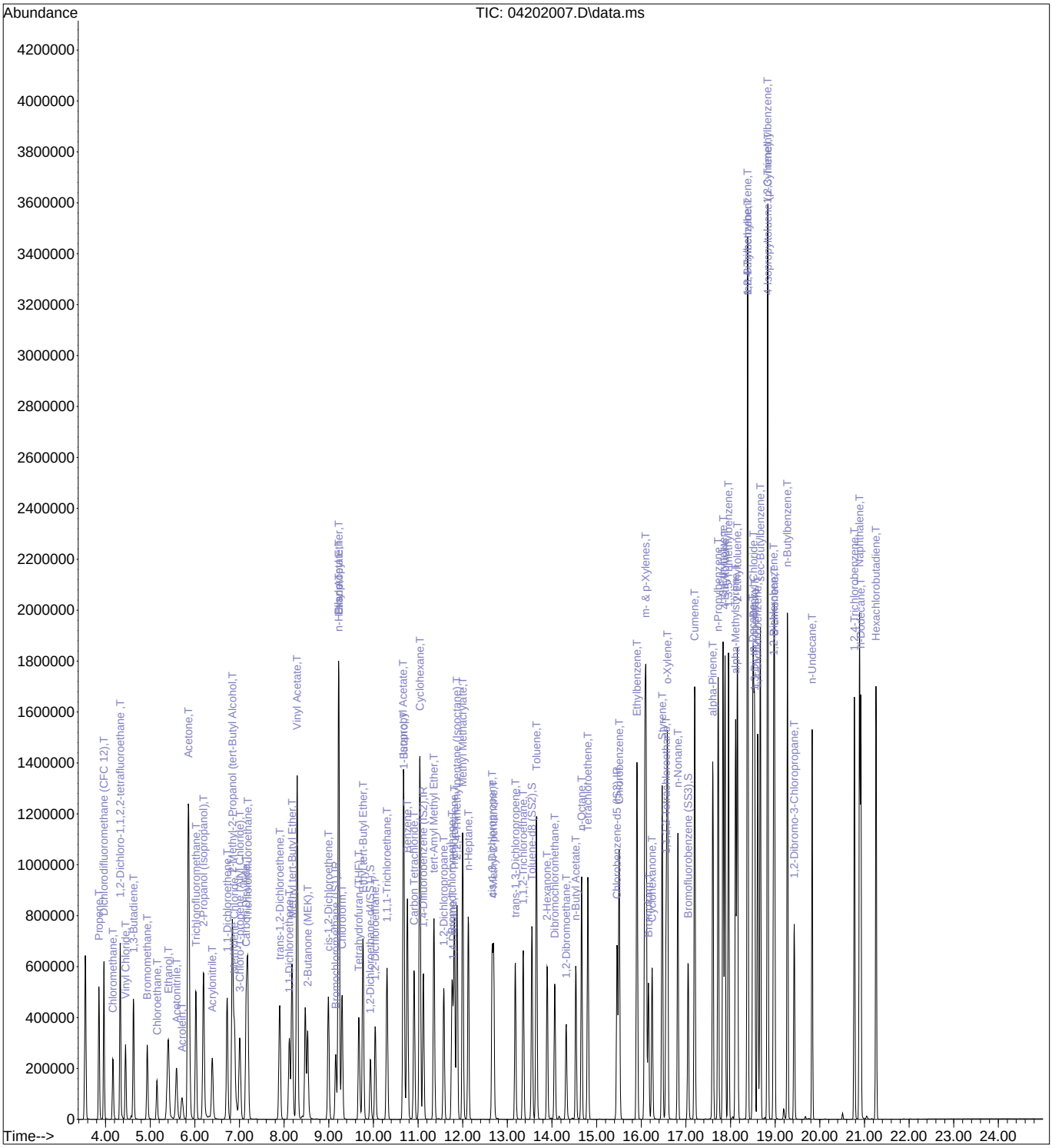
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	237286	23.939	ng	96
52) cis-1,3-Dichloropropene	12.66	75	448408	29.050	ng	100
53) 4-Methyl-2-pentanone	12.69	58	193773	23.667	ng	97
54) trans-1,3-Dichloropropene	13.18	75	423282	29.296	ng	100
55) 1,1,2-Trichloroethane	13.36	97	264374	26.023	ng	96
58) Toluene	13.65	91	1102039	25.143	ng	100
59) 2-Hexanone	13.89	43	425399	24.514	ng	100
60) Dibromochloromethane	14.06	129	372578	30.461	ng	99
61) 1,2-Dibromoethane	14.32	107	319866	28.846	ng	100
62) n-Butyl Acetate	14.53	43	458870	24.769	ng	99
63) n-Octane	14.67	57	186401	23.569	ng	94
64) Tetrachloroethene	14.80	166	373915	27.442	ng	100
65) Chlorobenzene	15.51	112	791001	25.887	ng	100
66) Ethylbenzene	15.90	91	1280159	27.198	ng	100
67) m- & p-Xylenes	16.10	91	2067133	54.867	ng	100
68) Bromoform	16.16	173	333098	32.983	ng	100
69) Styrene	16.47	104	818330	29.951	ng	98
70) o-Xylene	16.58	91	1038606	27.587	ng	98
71) n-Nonane	16.82	43	372163	22.884	ng	95
72) 1,1,2,2-Tetrachloroethane	16.56	83	428227	25.195	ng	99
74) Cumene	17.19	105	1343939	27.355	ng	99
75) alpha-Pinene	17.60	93	643894	26.017	ng	98
76) n-Propylbenzene	17.72	91	1515903	27.018	ng	99
77) 3-Ethyltoluene	17.83	105	1374123	29.182	ng	100
78) 4-Ethyltoluene	17.88	105	1264623	28.036	ng	100
79) 1,3,5-Trimethylbenzene	17.95	105	1165703	28.111	ng	98
80) alpha-Methylstyrene	18.11	118	571493	28.154	ng	99
81) 2-Ethyltoluene	18.15	105	1318819	28.038	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	1151609	29.888	ng	100
83) n-Decane	18.50	57	454398	24.244	ng	96
84) Benzyl Chloride	18.51	91	1006362	33.401	ng	100
85) 1,3-Dichlorobenzene	18.54	146	719997	32.370	ng	100
86) 1,4-Dichlorobenzene	18.61	146	742544	32.675	ng	99
87) sec-Butylbenzene	18.67	105	1475516	27.236	ng	99
88) 4-Isopropyltoluene (p-...	18.83	119	1403290	29.245	ng	100
89) 1,2,3-Trimethylbenzene	18.83	105	1127108	28.669	ng	100
90) 1,2-Dichlorobenzene	18.97	146	691489	31.250	ng	100
91) d-Limonene	18.99	68	310902	23.239	ng	91
92) 1,2-Dibromo-3-Chloropr...	19.43	157	271286	30.765	ng	99
93) n-Undecane	19.83	57	488350	24.492	ng	97
94) 1,2,4-Trichlorobenzene	20.77	180	582502	34.114	ng	99
95) Naphthalene	20.89	128	1691301	31.889	ng	100
96) n-Dodecane	20.92	57	473961	24.070	ng	96
97) Hexachlorobutadiene	21.26	225	378592	32.002	ng	100
98) Cyclohexanone	16.24	55	274439	22.228	ng	94
99) tert-Butylbenzene	18.38	119	1116561	28.080	ng	99
100) n-Butylbenzene	19.27	91	1145284	29.662	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202007.D Vial: 2
Acq On : 20 Apr 2020 6:00 Operator: TD
Sample : LCSD R9042020_25ng Inst : MS09
Misc : S31-02272010/S34-03252004 (4/23)

Quant Time: Apr 20 06:55:30 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\24\04242005.D Vial: 2
Acq On : 24 Apr 2020 8:09 Operator: TD
Sample : LCS R9042420_25ng Inst : MS09
Misc : S34-04212006/S34-04102008 (5/9)

Quant Time: Apr 24 11:07:58 2020 TD 4/24/20
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	134096	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.12	114	553273	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	246033	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.94	65	208327	11.991	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.92%				
57) Toluene-d8 (SS2)	13.55	98	607261	12.783	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.24%				
73) Bromofluorobenzene (SS3)	17.05	174	243430	12.750	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.00%				
Target Compounds							Qvalue
2) Propene	3.86	42	150216	26.374	ng		98
3) Dichlorodifluoromethan...	3.97	85	572177	26.442	ng		100
4) Chloromethane	4.17	50	224888	28.166	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	303004	25.903	ng		100
6) Vinyl Chloride	4.45	62	290096	27.706	ng		99
7) 1,3-Butadiene	4.63	54	204179	30.531	ng		98
8) Bromomethane	4.94	94	223972	27.219	ng		100
9) Chloroethane	5.16	64	137195	25.902	ng		99
10) Ethanol	5.41	45	531683	123.244	ng		99
11) Acetonitrile	5.59	41	259454	25.406	ng		99
12) Acrolein	5.71	56	108812	27.601	ng		98
13) Acetone	5.86	58	675031	130.330	ng		97
14) Trichlorofluoromethane	6.03	101	559816	26.002	ng		99
15) 2-Propanol (Isopropanol)	6.20	45	905733	55.049	ng		100
16) Acrylonitrile	6.39	53	239243	29.117	ng		99
17) 1,1-Dichloroethene	6.72	96	260498	27.522	ng		96
18) 2-Methyl-2-Propanol (t...	6.85	59	815054	54.215	ng		99
19) Methylene Chloride	6.88	84	246100	27.093	ng		97
20) 3-Chloro-1-propene (Al...	7.01	41	263828	25.031	ng		99
21) Trichlorotrifluoroethane	7.19	151	301315	26.892	ng		98
22) Carbon Disulfide	7.15	76	840295	27.822	ng		100
23) trans-1,2-Dichloroethene	7.90	61	344007	28.796	ng		99
24) 1,1-Dichloroethane	8.12	63	392341	26.284	ng		100
25) Methyl tert-Butyl Ether	8.18	73	529065	27.509	ng		100
26) Vinyl Acetate	8.30	86	277072	146.577	ng		97
27) 2-Butanone (MEK)	8.53	72	153196	28.790	ng		99
28) cis-1,2-Dichloroethene	8.99	61	326374	27.030	ng		98
29) Diisopropyl Ether	9.22	87	204214	26.497	ng	#	94
30) Ethyl Acetate	9.23	61	140011	59.137	ng		98
31) n-Hexane	9.23	57	310848	27.048	ng		100
32) Chloroform	9.30	83	495152	26.931	ng		99
34) Tetrahydrofuran (THF)	9.68	72	152512	28.297	ng		99
35) Ethyl tert-Butyl Ether	9.77	87	203760	24.731	ng		98
36) 1,2-Dichloroethane	10.04	62	412708	27.289	ng		99
38) 1,1,1-Trichloroethane	10.30	97	527107	27.709	ng		99
39) Isopropyl Acetate	10.67	61	246802	54.376	ng	#	92
40) 1-Butanol	10.68	56	295094	48.393	ng		89
41) Benzene	10.76	78	958284	26.569	ng		100
42) Carbon Tetrachloride	10.91	117	494507	26.518	ng		100
43) Cyclohexane	11.04	84	768554	54.392	ng		100
44) tert-Amyl Methyl Ether	11.35	73	461232	24.355	ng		100
45) 1,2-Dichloropropane	11.57	63	203483	27.558	ng		100
46) Bromodichloromethane	11.76	83	405108	27.298	ng		100
47) Trichloroethene	11.81	130	347397	27.812	ng		100
48) 1,4-Dioxane	11.78	88	215134	29.666	ng		100
49) 2,2,4-Trimethylpentane...	11.87	57	817163	27.124	ng		99
50) Methyl Methacrylate	12.00	100	233392	60.402	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\24\04242005.D Vial: 2
Acq On : 24 Apr 2020 8:09 Operator: TD
Sample : LCS R9042420_25ng Inst : MS09
Misc : S34-04212006/S34-04102008 (5/9)

Quant Time: Apr 24 11:07:58 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

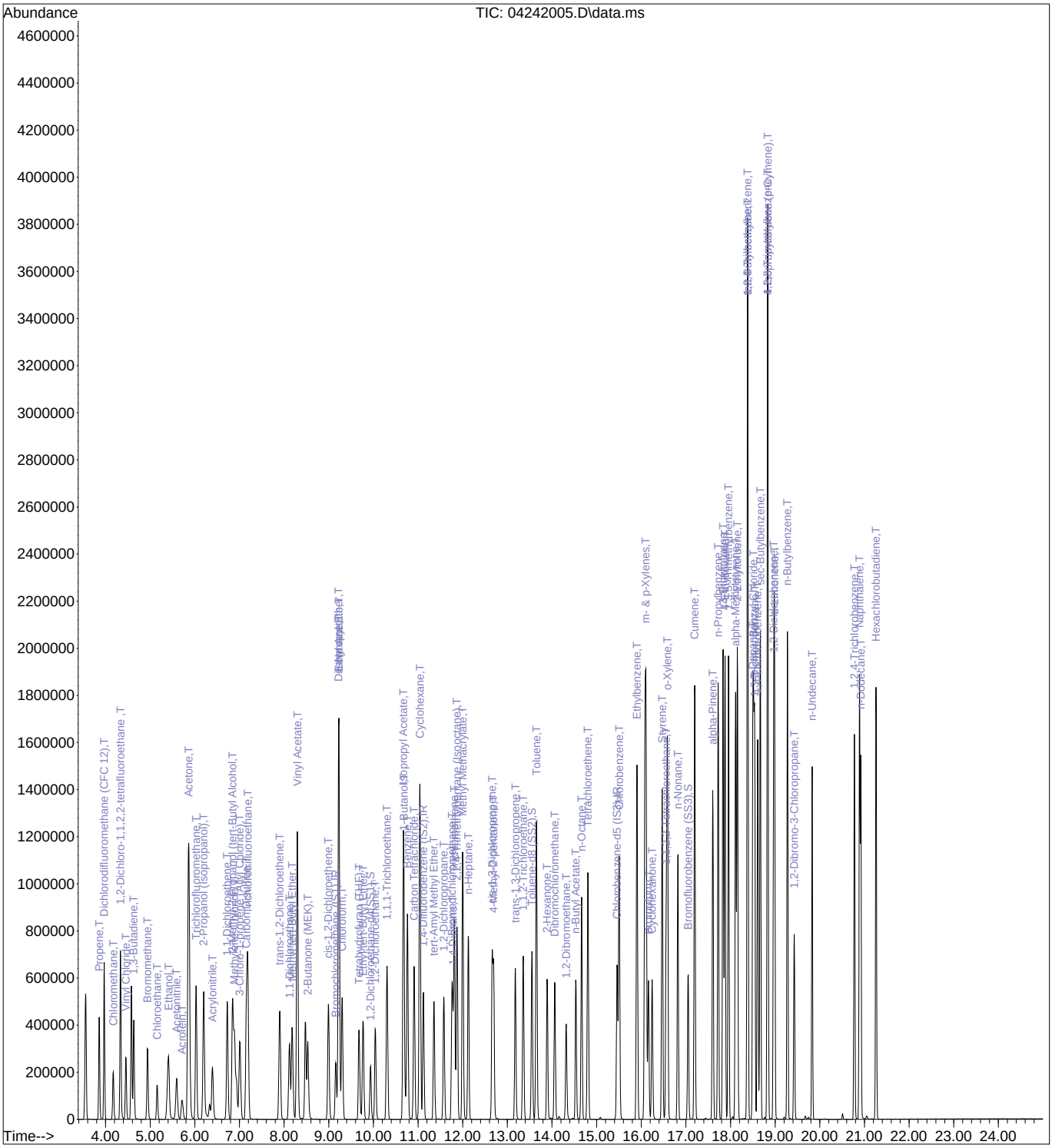
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.13	71	233891	27.911	ng	100
52) cis-1,3-Dichloropropene	12.66	75	453476	29.672	ng	100
53) 4-Methyl-2-pentanone	12.69	58	185097	29.326	ng	98
54) trans-1,3-Dichloropropene	13.18	75	435229	29.745	ng	100
55) 1,1,2-Trichloroethane	13.36	97	272704	27.661	ng	100
58) Toluene	13.65	91	1144628	28.699	ng	99
59) 2-Hexanone	13.89	43	397976	33.463	ng	99
60) Dibromochloromethane	14.06	129	412921	30.471	ng	99
61) 1,2-Dibromoethane	14.32	107	336960	30.313	ng	100
62) n-Butyl Acetate	14.53	43	439839	33.097	ng	100
63) n-Octane	14.67	57	179536	28.278	ng	99
64) Tetrachloroethene	14.80	166	414718	27.605	ng	100
65) Chlorobenzene	15.51	112	844725	28.929	ng	100
66) Ethylbenzene	15.90	91	1358199	29.226	ng	100
67) m- & p-Xylenes	16.10	91	2234347	56.989	ng	99
68) Bromoform	16.16	173	371590	30.967	ng	100
69) Styrene	16.47	104	877062	30.739	ng	99
70) o-Xylene	16.58	91	1107778	28.771	ng	100
71) n-Nonane	16.82	43	352371	28.369	ng	99
72) 1,1,2,2-Tetrachloroethane	16.56	83	428657	29.388	ng	100
74) Cumene	17.19	105	1441473	28.703	ng	99
75) alpha-Pinene	17.60	93	632155	27.641	ng	99
76) n-Propylbenzene	17.72	91	1577929	28.840	ng	99
77) 3-Ethyltoluene	17.83	105	1451858	29.609	ng	99
78) 4-Ethyltoluene	17.88	105	1335677	27.974	ng	100
79) 1,3,5-Trimethylbenzene	17.95	105	1243664	28.186	ng	100
80) alpha-Methylstyrene	18.11	118	666206	30.180	ng	100
81) 2-Ethyltoluene	18.15	105	1404366	28.784	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	1241290	29.093	ng	100
83) n-Decane	18.50	57	446968	29.735	ng	100
84) Benzyl Chloride	18.51	91	1024190	31.824	ng	100
85) 1,3-Dichlorobenzene	18.54	146	780089	30.327	ng	100
86) 1,4-Dichlorobenzene	18.61	146	799117	30.463	ng	100
87) sec-Butylbenzene	18.67	105	1565281	28.645	ng	100
88) 4-Isopropyltoluene (p-...	18.83	119	1526441	28.754	ng	100
89) 1,2,3-Trimethylbenzene	18.83	105	1210762	28.353	ng	99
90) 1,2-Dichlorobenzene	18.97	146	743325	29.746	ng	100
91) d-Limonene	18.99	68	344957	28.619	ng	100
92) 1,2-Dibromo-3-Chloropr...	19.43	157	276436	29.177	ng	98
93) n-Undecane	19.83	57	461115	29.070	ng	99
94) 1,2,4-Trichlorobenzene	20.77	180	598663	32.462	ng	100
95) Naphthalene	20.89	128	1640151	29.843	ng	100
96) n-Dodecane	20.92	57	428517	30.168	ng	100
97) Hexachlorobutadiene	21.26	225	417029	27.787	ng	100
98) Cyclohexanone	16.24	55	265248	27.288	ng	98
99) tert-Butylbenzene	18.38	119	1210513	28.252	ng	100
100) n-Butylbenzene	19.27	91	1189509	29.653	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\24\04242005.D Vial: 2
Acq On : 24 Apr 2020 8:09 Operator: TD
Sample : LCS R9042420_25ng Inst : MS09
Misc : S34-04212006/S34-04102008 (5/9)

Quant Time: Apr 24 11:07:58 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\24\04242006.D Vial: 2
Acq On : 24 Apr 2020 8:42 Operator: TD
Sample : LCSD R9042420_25ng Inst : MS09
Misc : S34-04212006/S34-04102008 (5/9)

TD 4/24/20

Quant Time: Apr 24 11:08:54 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	137360	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	11.12	114	564717	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	246346	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.94	65	212406	11.935	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.52%				
57) Toluene-d8 (SS2)	13.55	98	613467	12.897	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.20%				
73) Bromofluorobenzene (SS3)	17.05	174	242113	12.665	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.36%				
Target Compounds							Qvalue
2) Propene	3.86	42	152399	26.122	ng		99
3) Dichlorodifluoromethan...	3.97	85	574372	25.913	ng		100
4) Chloromethane	4.17	50	226525	27.697	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	310439	25.908	ng		100
6) Vinyl Chloride	4.45	62	295002	27.505	ng		100
7) 1,3-Butadiene	4.63	54	208703	30.466	ng		99
8) Bromomethane	4.94	94	230772	27.379	ng		99
9) Chloroethane	5.16	64	143015	26.359	ng		99
10) Ethanol	5.41	45	546329	123.629	ng		100
11) Acetonitrile	5.59	41	265125	25.345	ng		100
12) Acrolein	5.72	56	111784	27.681	ng		100
13) Acetone	5.86	58	690476	130.144	ng		96
14) Trichlorofluoromethane	6.03	101	566678	25.695	ng		100
15) 2-Propanol (Isopropanol)	6.20	45	932636	55.337	ng		99
16) Acrylonitrile	6.39	53	244910	29.098	ng		100
17) 1,1-Dichloroethene	6.72	96	264433	27.274	ng		97
18) 2-Methyl-2-Propanol (t...	6.85	59	832351	54.050	ng		99
19) Methylene Chloride	6.88	84	249805	26.847	ng		97
20) 3-Chloro-1-propene (Al...	7.01	41	270334	25.039	ng		100
21) Trichlorotrifluoroethane	7.19	151	302998	26.399	ng		100
22) Carbon Disulfide	7.15	76	851663	27.528	ng		100
23) trans-1,2-Dichloroethene	7.90	61	348543	28.483	ng		98
24) 1,1-Dichloroethane	8.12	63	396822	25.953	ng		100
25) Methyl tert-Butyl Ether	8.18	73	536706	27.243	ng		100
26) Vinyl Acetate	8.30	86	282288	145.788	ng		97
27) 2-Butanone (MEK)	8.53	72	157909	28.970	ng		98
28) cis-1,2-Dichloroethene	8.99	61	334241	27.024	ng		99
29) Diisopropyl Ether	9.22	87	207908	26.335	ng	#	95
30) Ethyl Acetate	9.23	61	144056	59.399	ng		98
31) n-Hexane	9.23	57	318167	27.027	ng		100
32) Chloroform	9.30	83	499062	26.498	ng		100
34) Tetrahydrofuran (THF)	9.68	72	152517	27.626	ng		99
35) Ethyl tert-Butyl Ether	9.77	87	204843	24.271	ng		98
36) 1,2-Dichloroethane	10.04	62	413642	26.700	ng		100
38) 1,1,1-Trichloroethane	10.30	97	532074	27.403	ng		99
39) Isopropyl Acetate	10.67	61	251286	54.242	ng	#	91
40) 1-Butanol	10.68	56	303030	48.687	ng		90
41) Benzene	10.76	78	971163	26.381	ng		100
42) Carbon Tetrachloride	10.91	117	498236	26.177	ng		100
43) Cyclohexane	11.04	84	777046	53.879	ng		100
44) tert-Amyl Methyl Ether	11.35	73	468683	24.247	ng		99
45) 1,2-Dichloropropane	11.58	63	207477	27.530	ng		100
46) Bromodichloromethane	11.76	83	408662	26.979	ng		100
47) Trichloroethene	11.82	130	352359	27.637	ng		100
48) 1,4-Dioxane	11.78	88	216472	29.246	ng		99
49) 2,2,4-Trimethylpentane...	11.87	57	831139	27.029	ng		99
50) Methyl Methacrylate	12.00	100	235178	59.631	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\24\04242006.D Vial: 2
Acq On : 24 Apr 2020 8:42 Operator: TD
Sample : LCSD R9042420_25ng Inst : MS09
Misc : S34-04212006/S34-04102008 (5/9)

Quant Time: Apr 24 11:08:54 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

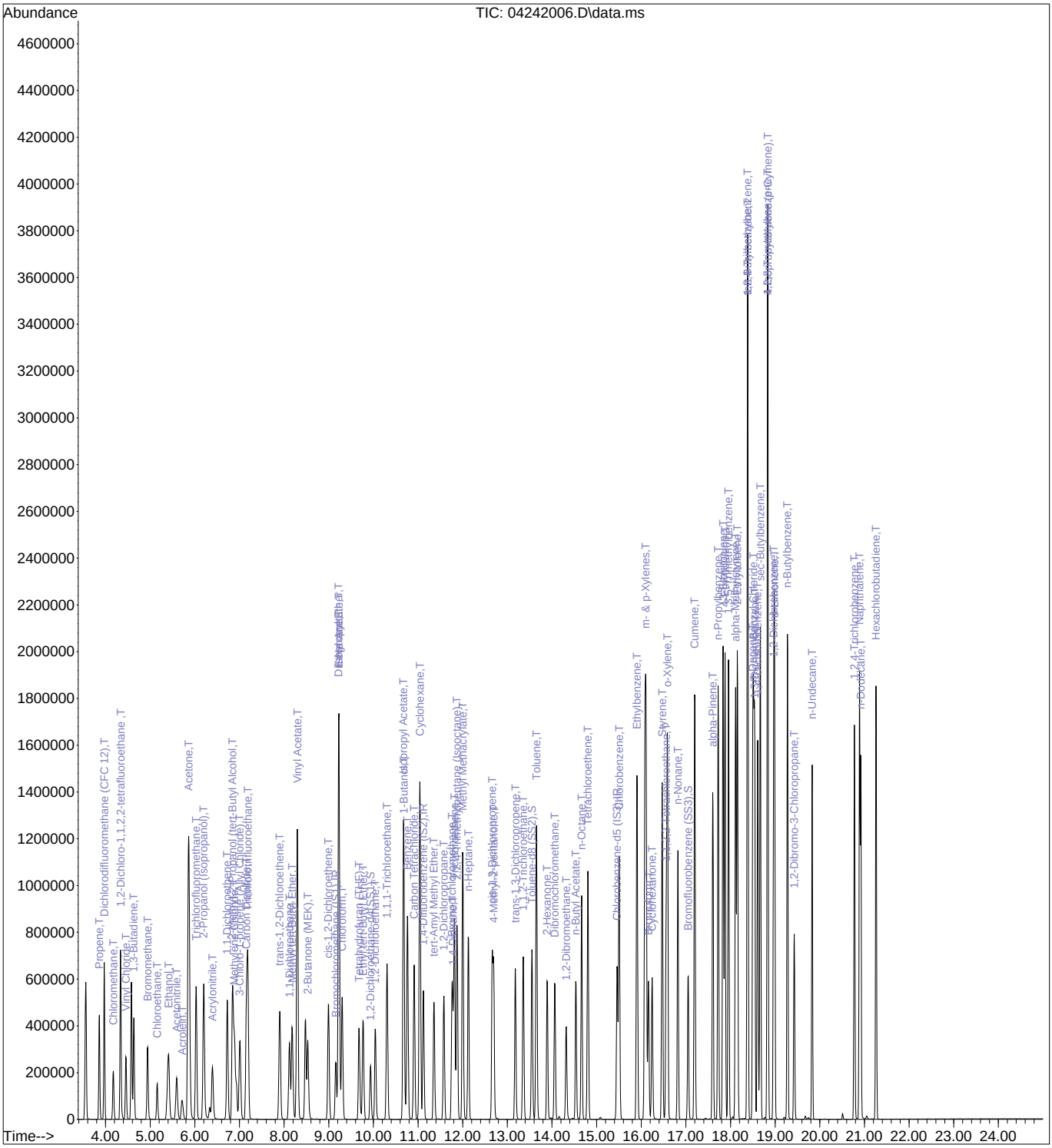
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	236594	27.661	ng	99
52) cis-1,3-Dichloropropene	12.66	75	458139	29.369	ng	100
53) 4-Methyl-2-pentanone	12.70	58	188106	29.199	ng	98
54) trans-1,3-Dichloropropene	13.18	75	439177	29.406	ng	99
55) 1,1,2-Trichloroethane	13.36	97	276989	27.527	ng	99
58) Toluene	13.65	91	1152652	28.863	ng	99
59) 2-Hexanone	13.89	43	402754	33.822	ng	98
60) Dibromochloromethane	14.06	129	410958	30.288	ng	100
61) 1,2-Dibromoethane	14.32	107	337856	30.355	ng	100
62) n-Butyl Acetate	14.53	43	443510	33.331	ng	99
63) n-Octane	14.67	57	180587	28.407	ng	99
64) Tetrachloroethene	14.80	166	418179	27.800	ng	100
65) Chlorobenzene	15.51	112	845892	28.932	ng	100
66) Ethylbenzene	15.90	91	1345885	28.924	ng	100
67) m- & p-Xylenes	16.10	91	2246653	57.230	ng	99
68) Bromoform	16.16	173	375427	31.247	ng	100
69) Styrene	16.47	104	885243	30.987	ng	100
70) o-Xylene	16.58	91	1114901	28.919	ng	100
71) n-Nonane	16.82	43	358084	28.793	ng	99
72) 1,1,2,2-Tetrachloroethane	16.56	83	430738	29.494	ng	99
74) Cumene	17.19	105	1449260	28.821	ng	100
75) alpha-Pinene	17.60	93	643206	28.089	ng	99
76) n-Propylbenzene	17.72	91	1592680	29.073	ng	99
77) 3-Ethyltoluene	17.83	105	1469862	29.939	ng	100
78) 4-Ethyltoluene	17.88	105	1348652	28.209	ng	100
79) 1,3,5-Trimethylbenzene	17.95	105	1253791	28.379	ng	100
80) alpha-Methylstyrene	18.11	118	667684	30.209	ng	99
81) 2-Ethyltoluene	18.15	105	1406706	28.795	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	1243586	29.110	ng	100
83) n-Decane	18.50	57	450190	29.911	ng	100
84) Benzyl Chloride	18.51	91	1039131	32.248	ng	100
85) 1,3-Dichlorobenzene	18.54	146	779841	30.279	ng	100
86) 1,4-Dichlorobenzene	18.61	146	801457	30.513	ng	100
87) sec-Butylbenzene	18.67	105	1566924	28.639	ng	100
88) 4-Isopropyltoluene (p-...	18.83	119	1539892	28.971	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	1215809	28.435	ng	99
90) 1,2-Dichlorobenzene	18.97	146	744286	29.747	ng	100
91) d-Limonene	18.99	68	346833	28.738	ng	100
92) 1,2-Dibromo-3-Chloropr...	19.43	157	282326	29.761	ng	97
93) n-Undecane	19.83	57	476564	30.006	ng	100
94) 1,2,4-Trichlorobenzene	20.77	180	603489	32.682	ng	100
95) Naphthalene	20.89	128	1649652	29.977	ng	100
96) n-Dodecane	20.92	57	428587	30.134	ng	100
97) Hexachlorobutadiene	21.26	225	418803	27.870	ng	99
98) Cyclohexanone	16.24	55	274345	28.188	ng	99
99) tert-Butylbenzene	18.38	119	1214348	28.305	ng	100
100) n-Butylbenzene	19.27	91	1209424	30.111	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\24\04242006.D Vial: 2
Acq On : 24 Apr 2020 8:42 Operator: TD
Sample : LCSD R9042420_25ng Inst : MS09
Misc : S34-04212006/S34-04102008 (5/9)

Quant Time: Apr 24 11:08:54 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Response Factor Report MS09

Method Path : I:\MS09\Methods\
Method File : R9031720.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Mar 18 08:55:21 2020
Response Via : Initial Calibration

3/18/20

Calibration Files
0.1 =03172006.D 0.2 =03172007.D 0.5 =03172008.D 1.0 =03172009.D 5.0 =03172010.D 25 =03172
100 =03172013.D

		Compound	0.1	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------ISTD----------									
2)	T	Propene	0.829	0.798	0.838	0.795	0.763	0.740	0.676	0.686	0.766	7.99
3)	T	Dichlorodifluo...	1.994	1.918	1.950	1.826	1.765	1.732	1.601	1.484	1.784	9.88
4)	T	Chloromethane	1.076	1.092	1.186	1.119	1.053	1.107	1.063	0.892	1.073	7.86
5)	T	1,2-Dichloro-1...	0.858	0.869	0.938	0.864	0.805	0.784	0.774	0.764	0.832	7.20
6)	T	Vinyl Chloride	0.918	0.904	1.024	0.953	0.904	0.902	0.875	0.919	0.925	4.92
7)	T	1,3-Butadiene		0.535	0.723	0.631	0.638	0.660	0.648	0.679	0.645	8.91
8)	T	Bromomethane	0.832	0.817	0.930	0.877	0.790	0.812	0.767	0.697	0.815	8.57
9)	T	Chloroethane		0.642	0.681	0.640	0.587	0.597	0.570	0.530	0.607	8.43
10)	T	Ethanol	0.695	0.642	0.683	0.638	0.599	0.567	0.517	0.451	0.599	14.02
11)	T	Acetonitrile			1.496	1.430	1.372	1.377	1.304	1.214	1.365	7.18
12)	T	Acrolein			0.502	0.496	0.534	0.546	0.517	0.485	0.513	4.53
13)	T	Acetone	0.709	0.693	0.707	0.656	0.629	0.586	0.507	0.431	0.615	16.43
14)	T	Trichlorofluor...	1.727	1.668	1.814	1.676	1.594	1.583	1.472	1.387	1.615	8.51
15)	T	2-Propanol (Is...	2.026	1.993	2.128	2.043	2.018	2.053	1.855	1.488	1.951	10.35
16)	T	Acrylonitrile			1.036	1.108	1.097	1.130	1.055	0.981	1.068	5.14
17)	T	1,1-Dichloroet...	0.906	0.944	0.988	0.947	0.913	0.928	0.860	0.802	0.911	6.32
18)	T	2-Methyl-2-Pro...	2.074	2.064	2.213	2.119	2.149	2.211	2.013	1.673	2.064	8.39
19)	T	Methylene Chlo...	1.030	0.988	1.024	0.979	0.938	0.945	0.857	0.756	0.940	9.81
20)	T	3-Chloro-1-pro...	1.160	1.270	1.284	1.248	1.165	1.221	1.125	1.044	1.190	6.85
21)	T	Trichlorotrifl...	0.905	0.965	1.038	0.947	0.888	0.892	0.815	0.753	0.900	9.82
22)	T	Carbon Disulfide	3.390	3.426	3.664	3.433	3.266	3.284	2.962	2.659	3.261	9.62
23)	T	trans-1,2-Dich...	1.012	1.052	1.278	1.210	1.244	1.288	1.200	1.124	1.176	8.75
24)	T	1,1-Dichloroet...	1.663	1.619	1.710	1.597	1.508	1.532	1.428	1.319	1.547	8.31
25)	T	Methyl tert-Bu...	2.703	2.727	2.855	2.698	2.717	2.781	2.591	2.399	2.684	5.11
26)	T	Vinyl Acetate			0.219	0.220	0.225	0.216	0.189	0.163	0.205	11.77
27)	T	2-Butanone (MEK)			0.615	0.594	0.629	0.642	0.593	0.547	0.603	5.58
28)	T	cis-1,2-Dichlo...	1.132	1.141	1.300	1.235	1.207	1.238	1.148	1.070	1.184	6.24
29)	T	Diisopropyl Ether	0.896	0.747	0.867	0.808	0.770	0.729	0.629	0.544	0.749	15.68
30)	T	Ethyl Acetate			0.308	0.319	0.307	0.282	0.239	0.203	0.276	16.63
31)	T	n-Hexane	1.545	1.426	1.581	1.487	1.410	1.274	1.077	0.908	1.339	17.72
32)	T	Chloroform	1.591	1.653	1.782	1.638	1.605	1.601	1.483	1.394	1.593	7.24
33)	S	1,2-Dichloroet...	1.415	1.422	1.395	1.406	1.403	1.418	1.418	1.436	1.414	0.90
34)	T	Tetrahydrofura...			0.622	0.595	0.595	0.606	0.565	0.517	0.583	6.44
35)	T	Ethyl tert-But...	1.089	1.096	1.152	1.119	1.098	1.132	1.052	0.974	1.089	5.08
36)	T	1,2-Dichloroet...	1.263	1.181	1.294	1.239	1.182	1.219	1.143	1.092	1.202	5.49
37)	IR	1,4-Difluorobenzen...	----------ISTD----------									
38)	T	1,1,1-Trichlor...	0.349	0.333	0.376	0.342	0.334	0.346	0.323	0.303	0.338	6.19
39)	T	Isopropyl Acetate	0.111	0.118	0.136	0.126	0.125	0.121	0.106	0.092	0.117	11.64
40)	T	1-Butanol			0.181	0.201	0.217	0.201	0.179	0.158	0.190	11.09
41)	T	Benzene	0.991	0.949	0.997	0.917	0.893	0.875	0.797	0.707	0.891	11.09
42)	T	Carbon Tetrach...	0.334	0.313	0.346	0.324	0.313	0.324	0.303	0.283	0.317	6.13
43)	T	Cyclohexane	0.375	0.364	0.387	0.357	0.347	0.332	0.292	0.250	0.338	13.65
44)	T	tert-Amyl Meth...	0.618	0.592	0.612	0.586	0.588	0.610	0.566	0.515	0.586	5.67
45)	T	1,2-Dichloropr...	0.201	0.200	0.220	0.211	0.198	0.204	0.187	0.168	0.199	7.83
46)	T	Bromodichlorom...	0.310	0.297	0.319	0.299	0.291	0.301	0.278	0.255	0.294	6.74
47)	T	Trichloroethene	0.267	0.266	0.289	0.267	0.257	0.259	0.237	0.211	0.257	9.12
48)	T	1,4-Dioxane	0.176	0.182	0.185	0.175	0.174	0.184	0.167	0.146	0.174	7.27
49)	T	2,2,4-Trimethy...	0.917	0.899	0.945	0.873	0.843	0.829	0.742	0.645	0.837	11.89
50)	T	Methyl Methacr...			0.089	0.089	0.092	0.094	0.085	0.075	0.087	7.89
51)	T	n-Heptane	0.220	0.212	0.244	0.225	0.218	0.216	0.195	0.172	0.213	10.10
52)	T	cis-1,3-Dichlo...	0.280	0.283	0.352	0.340	0.357	0.376	0.346	0.314	0.331	10.64
53)	T	4-Methyl-2-pen...			0.180	0.183	0.184	0.190	0.171	0.152	0.176	7.64
54)	T	trans-1,3-Dich...			0.285	0.286	0.314	0.348	0.326	0.302	0.310	7.85

55)	T	1,1,2-Trichlor...	0.213	0.219	0.241	0.230	0.219	0.226	0.209	0.188	0.218	7.24
56)	IR	Chlorobenzene-d5 (...	----------ISTD----------									
57)	S	Toluene-d8 (SS2)	2.514	2.509	2.485	2.484	2.489	2.476	2.451	2.479	2.486	0.79
58)	T	Toluene	2.391	2.229	2.401	2.224	2.130	2.042	1.835	1.627	2.110	12.72
59)	T	2-Hexanone			0.821	0.819	0.893	0.912	0.822	0.744	0.835	7.24
60)	T	Dibromochlorom...	0.528	0.581	0.633	0.611	0.611	0.625	0.581	0.539	0.589	6.63
61)	T	1,2-Dibromoethane	0.445	0.488	0.588	0.564	0.563	0.583	0.540	0.498	0.534	9.60
62)	T	n-Butyl Acetate			0.854	0.856	0.947	0.988	0.897	0.808	0.892	7.47
63)	T	n-Octane	0.403	0.384	0.445	0.403	0.389	0.381	0.340	0.300	0.381	11.53
64)	T	Tetrachloroethene	0.722	0.675	0.742	0.683	0.654	0.646	0.588	0.536	0.656	10.31
65)	T	Chlorobenzene	1.525	1.444	1.647	1.516	1.468	1.430	1.585	1.153	1.471	10.04
66)	T	Ethylbenzene	2.250	2.274	2.556	2.390	2.385	2.323	2.087	1.860	2.266	9.35
67)	T	m- & p-Xylenes	1.835	1.792	2.072	1.960	1.931	1.840	1.640	1.438	1.813	10.92
68)	T	Bromoform	0.431	0.449	0.507	0.494	0.511	0.534	0.497	0.464	0.486	7.13
69)	T	Styrene	0.997	1.021	1.461	1.434	1.501	1.523	1.371	1.213	1.315	16.12
70)	T	o-Xylene	1.846	1.856	2.049	1.926	1.914	1.827	1.635	1.444	1.812	10.42
71)	T	n-Nonane	0.801	0.788	0.901	0.853	0.836	0.790	0.695	0.599	0.783	12.20
72)	T	1,1,2,2-Tetrac...	0.810	0.834	0.954	0.868	0.862	0.831	0.741	0.646	0.818	11.21
73)	S	Bromofluoroben...	0.813	0.815	0.818	0.825	0.835	0.842	0.834	0.834	0.827	1.30
74)	T	Cumene	2.498	2.439	2.699	2.529	2.482	2.347	2.094	1.830	2.365	11.69
75)	T	alpha-Pinene	1.258	1.202	1.271	1.227	1.255	1.236	1.106	0.975	1.191	8.52
76)	T	n-Propylbenzene	2.787	2.532	3.116	2.914	2.913	2.765	2.451	2.129	2.701	11.65
77)	T	3-Ethyltoluene	2.049	2.138	2.567	2.501	2.537	2.350	2.172	1.818	2.267	11.78
78)	T	4-Ethyltoluene	2.050	1.920	2.583	2.402	2.374	2.298	1.958	1.784	2.171	12.94
79)	T	1,3,5-Trimethy...	2.041	1.947	2.299	2.176	2.111	2.013	1.796	1.585	1.996	11.23
80)	T	alpha-Methylst...	0.689	0.695	1.145	1.115	1.145	1.138	1.010	0.880	0.977	20.25
81)	T	2-Ethyltoluene	2.210	2.166	2.664	2.514	2.462	2.302	2.030	1.766	2.264	12.69
82)	T	1,2,4-Trimethy...	1.685	1.688	2.237	2.139	2.102	1.922	1.658	1.407	1.855	15.64
83)	T	n-Decane	0.817	0.842	1.104	1.049	1.034	0.921	0.789	0.661	0.902	16.86
84)	T	Benzyl Chloride			1.262	1.319	1.548	1.713	1.528	1.332	1.450	12.00
85)	T	1,3-Dichlorobe...	0.760	0.811	1.307	1.221	1.232	1.218	1.080	0.937	1.071	19.60
86)	T	1,4-Dichlorobe...	0.786	0.744	1.308	1.280	1.245	1.264	1.129	0.993	1.094	20.77
87)	T	sec-Butylbenzene	2.591	2.589	3.066	2.877	2.831	2.625	2.299	1.984	2.608	13.10
88)	T	4-Isopropyltol...	2.215	2.199	2.837	2.710	2.621	2.313	1.963	1.620	2.310	17.57
89)	T	1,2,3-Trimethy...	1.773	1.787	2.295	2.173	2.108	1.932	1.661	1.409	1.892	15.48
90)	T	1,2-Dichlorobe...	0.851	0.895	1.291	1.228	1.195	1.173	1.024	0.866	1.065	16.72
91)	T	d-Limonene	0.591	0.584	0.713	0.720	0.739	0.698	0.600	0.506	0.644	13.10
92)	T	1,2-Dibromo-3-...			0.405	0.408	0.440	0.469	0.429	0.395	0.424	6.51
93)	T	n-Undecane			1.076	1.046	1.064	0.990	0.852	0.730	0.960	14.54
94)	T	1,2,4-Trichlor...			0.750	0.775	0.808	0.957	0.866	0.775	0.822	9.39
95)	T	Naphthalene			2.334	2.428	2.632	2.998	2.654	2.272	2.553	10.47
96)	T	n-Dodecane			1.029	1.050	1.074	0.984	0.843	0.707	0.948	15.17
97)	T	Hexachlorobuta...	0.562	0.546	0.658	0.611	0.587	0.582	0.531	0.478	0.569	9.51
98)	T	Cyclohexanone	0.531	0.579	0.597	0.601	0.625	0.663	0.607	0.551	0.594	6.97
99)	T	tert-Butylbenzene	2.007	1.999	2.289	2.145	2.086	1.857	1.589	1.342	1.914	16.23
100)	T	n-Butylbenzene	1.340	1.392	2.234	2.181	2.197	2.094	1.838	1.593	1.859	20.05

(#) = Out of Range

R9031720.M Wed Mar 18 09:16:41 2020

Primary Source Standards Concentrations (Working & Initial Calibration)

3/18/20

1ng/L Std. ID:
4ng/L Std. ID: S31-02262005
20ng/L Std. ID: S34-03102003
200ng/L Std. ID: S34-03172003

Dilution Factors:		5	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	20	200	200	200
	Source Std.	Primary Working Standards				Injection (L):	0.025	0.050	0.025	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m³	200ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
Propene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Dichlorodifluoromethane	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Chloromethane	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Freon-114	1.05	210	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Vinyl Chloride	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3-Butadiene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Bromomethane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Chloroethane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Ethanol	5.21	1042	104.2	20.84	5.21		0.521	1.042	2.605	5.21	26.05	130.25	260.5	521
Acetonitrile	1.05	210	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Acrolein	1.03	206	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Acetone	5.33	1066	106.6	21.32	5.33		0.533	1.066	2.665	5.33	26.65	133.25	266.5	533
Trichlorofluoromethane	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Isopropanol	2.10	420	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
Acrylonitrile	1.05	210	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,1-Dichloroethene	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
tert-Butanol	2.16	432	43.2	8.64	2.16		0.216	0.432	1.080	2.16	10.80	54.00	108.0	216
Methylene Chloride	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Allyl Chloride	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Trichlorotrifluoroethane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Carbon Disulfide	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
trans-1,2-Dichloroethene	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1-Dichloroethane	1.09	218	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
Methyl tert-Butyl Ether	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Vinyl Acetate	5.35	1070	107.0	21.40	5.35		0.535	1.070	2.675	5.35	26.75	133.75	267.5	535
2-Butanone	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
cis-1,2-Dichloroethene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Diisopropyl Ether	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Ethyl Acetate	2.17	434	43.4	8.68	2.17		0.217	0.434	1.085	2.17	10.85	54.25	108.5	217
n-Hexane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Chloroform	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Tetrahydrofuran	1.09	218	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
Ethyl tert-Butyl Ether	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dichloroethane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1,1-Trichloroethane	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Isopropyl Acetate	2.11	422	42.2	8.44	2.11		0.211	0.422	1.055	2.11	10.55	52.75	105.5	211
1-Butanol	2.08	416	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
Benzene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Carbon Tetrachloride	1.05	210	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Cyclohexane	2.12	424	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
tert-Amyl Methyl Ether	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dichloropropane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Bromodichloromethane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Trichloroethene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,4-Dioxane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Isooctane	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Methyl Methacrylate	2.15	430	43.0	8.60	2.15		0.215	0.430	1.075	2.15	10.75	53.75	107.5	215
n-Heptane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108

Q:\TO15 Std. Concentrations\MS09 Std. Conc\2020\R9031720\ICAL Conc. (Primary Source)
Date Updated: 10/15/19
Version: 0

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID:
4ng/L Std. ID: S31-02262005
20ng/L Std. ID: S34-03102003
200ng/L Std. ID: S34-03172003

Dilution Factors:		5	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	20	200	200	200
	Source Std.	Primary Working Standards				Injection (L):	0.025	0.050	0.025	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m^3	200ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
cis-1,3-Dichloropropene	1.04	208	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
4-Methyl-2-pentanone	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
trans-1,3-Dichloropropene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1,2-Trichloroethane	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Toluene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
2-Hexanone	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Dibromochloromethane	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,2-Dibromoethane	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Butyl Acetate	1.09	218	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
n-Octane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Tetrachloroethene	1.04	208	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Chlorobenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Ethylbenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
m-&p-Xylene	2.14	428	42.8	8.56	2.14		0.214	0.428	1.070	2.14	10.70	53.50	107.0	214
Bromoform	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Styrene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
o-Xylene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Nonane	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,1,2,2-Tetrachloroethane	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Cumene	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
alpha-Pinene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Propylbenzene	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
3-Ethyltoluene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
4-Ethyltoluene	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3,5-Trimethylbenzene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
alpha-Methylstyrene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
2-Ethyltoluene	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2,4-Trimethylbenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Decane	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Benzyl Chloride	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3-Dichlorobenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,4-Dichlorobenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
sec-Butylbenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
p-Isopropyltoluene	1.09	218	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
1,2,3-Trimethylbenzene	1.09	218	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
1,2-Dichlorobenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
d-Limonene	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dibromo-3-chloropropane	1.05	210	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
n-Undecane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2,4-Trichlorobenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Naphthalene	1.03	206	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
n-Dodecane	1.04	208	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Hexachloro-1,3-butadiene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Methacrylonitrile	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Cyclohexanone	1.00	200	20.0	4.00	1.00		0.100	0.200	0.500	1.00	5.00	25.00	50.0	100
tert-Butylbenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Butylbenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107

Calibration Status Report MS09

Method : I:\MS09\Methods\R9031720.M (RTE Integrator)
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration

3/18/20

#	ID	Conc	ISTD Conc	Path\File
1	0.1	0	13	I:\MS09\Data\2020_03\17\03172006.D
2	0.2	0	13	I:\MS09\Data\2020_03\17\03172007.D
3	0.5	1	13	I:\MS09\Data\2020_03\17\03172008.D
4	1.0	1	13	I:\MS09\Data\2020_03\17\03172009.D
5	5.0	5	13	I:\MS09\Data\2020_03\17\03172010.D
6	25	27	13	I:\MS09\Data\2020_03\17\03172011.D
7	50	53	13	I:\MS09\Data\2020_03\17\03172012.D
8	100	106	13	I:\MS09\Data\2020_03\17\03172013.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.1	Mar 18 08:53 2020	Mar 17 16:43 2020	17 Mar 2020 13:21
2	0.2	Mar 18 08:53 2020	Mar 17 16:41 2020	17 Mar 2020 13:54
3	0.5	Mar 18 08:54 2020	Mar 17 16:40 2020	17 Mar 2020 14:27
4	1.0	Mar 18 08:54 2020	Mar 17 16:39 2020	17 Mar 2020 15:00
5	5.0	Mar 18 08:54 2020	Mar 17 16:38 2020	17 Mar 2020 15:34
6	25	Mar 18 08:54 2020	Mar 17 16:37 2020	17 Mar 2020 16:07
7	50	Mar 18 08:55 2020	Mar 17 17:06 2020	17 Mar 2020 16:40
8	100	Mar 18 08:55 2020	Mar 18 08:45 2020	17 Mar 2020 17:14

R9031720.M Wed Mar 18 09:18:06 2020

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_03\17\03172006.D Vial: 5
Acq On : 17 Mar 2020 13:21 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S31-02272010/S31-02262005 (3/26)

Quant Time: Mar 17 16:43:25 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 17 16:36:19 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	156423	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.11	114	670129	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	297089	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	221319	10.134	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 81.04%				
57) Toluene-d8 (SS2)	13.54	98	746908	13.178	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.44%				
73) Bromofluorobenzene (SS3)	17.05	174	241611	15.324	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 122.56%				
Target Compounds							Qvalue
2) Propene	3.90	42	1100	0.060	ng		95
3) Dichlorodifluoromethan...	4.00	85	2645	0.089	ng	#	94
4) Chloromethane	4.21	50	1427	0.053	ng		97
5) 1,2-Dichloro-1,1,2,2-t...	4.36	135	1127	0.073	ng		93
6) Vinyl Chloride	4.48	62	1240	0.042	ng		98
7) 1,3-Butadiene	4.66	54	838	0.039	ng		92
8) Bromomethane	4.96	94	1124	0.081	ng		97
9) Chloroethane	5.17	64	870	0.074	ng		78
10) Ethanol	5.37	45	4533	0.345	ng		78
11) Acetonitrile	5.60	41	1500	0.047	ng	#	1
12) Acrolein	5.73	56	264	0.027	ng	#	67
13) Acetone	5.87	58	4728	0.363	ng		98
14) Trichlorofluoromethane	6.03	101	2291	0.090	ng		99
15) 2-Propanol (Isopropanol)	6.21	45	5324	0.131	ng		90
16) Acrylonitrile	6.42	53	747	0.036	ng		86
17) 1,1-Dichloroethene	6.74	96	1225	0.087	ng		94
18) 2-Methyl-2-Propanol (t...	6.90	59	5605	0.153	ng		89
19) Methylene Chloride	6.87	84	1366	0.085	ng		94
20) 3-Chloro-1-propene (Al...	7.01	41	1568	0.065	ng		81
21) Trichlorotrifluoroethane	7.19	151	1223	0.103	ng		93
22) Carbon Disulfide	7.16	76	4539	0.079	ng		80
23) trans-1,2-Dichloroethene	7.90	61	1368	0.063	ng		99
24) 1,1-Dichloroethane	8.10	63	2269	0.080	ng		91
25) Methyl tert-Butyl Ether	8.21	73	3653	0.085	ng		97
26) Vinyl Acetate	8.30	86	890	0.237	ng	#	1
27) 2-Butanone (MEK)	8.57	72	441	0.041	ng	#	1
28) cis-1,2-Dichloroethene	8.98	61	1502	0.068	ng		89
29) Diisopropyl Ether	9.23	87	1211	0.091	ng	#	68
30) Ethyl Acetate	9.26	61	479	0.083	ng		87
31) n-Hexane	9.22	57	2088	0.072	ng	#	94
32) Chloroform	9.27	83	2130	0.079	ng		98
34) Tetrahydrofuran (THF)	9.72	72	760	0.075	ng	#	77
35) Ethyl tert-Butyl Ether	9.78	87	1472	0.090	ng		91
36) 1,2-Dichloroethane	10.04	62	1707	0.081	ng		90
38) 1,1,1-Trichloroethane	10.29	97	2003	0.094	ng		94
39) Isopropyl Acetate	10.68	61	1259	0.129	ng		93
40) 1-Butanol	10.75	56	950	0.058	ng		88
41) Benzene	10.76	78	5633	0.090	ng		95
42) Carbon Tetrachloride	10.90	117	1880	0.097	ng		100
43) Cyclohexane	11.04	84	4264	0.180	ng		96
44) tert-Amyl Methyl Ether	11.37	73	3579	0.093	ng		96
45) 1,2-Dichloropropane	11.57	63	1165	0.072	ng		97
46) Bromodichloromethane	11.76	83	1794	0.087	ng		88
47) Trichloroethene	11.81	130	1533	0.101	ng		99
48) 1,4-Dioxane	11.82	88	1017	0.087	ng		79
49) 2,2,4-Trimethylpentane...	11.87	57	5260	0.077	ng		97
50) Methyl Methacrylate	12.01	100	577	0.105	ng	#	54

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_03\17\03172006.D Vial: 5
Acq On : 17 Mar 2020 13:21 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S31-02272010/S31-02262005 (3/26)

Quant Time: Mar 17 16:43:25 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 17 16:36:19 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

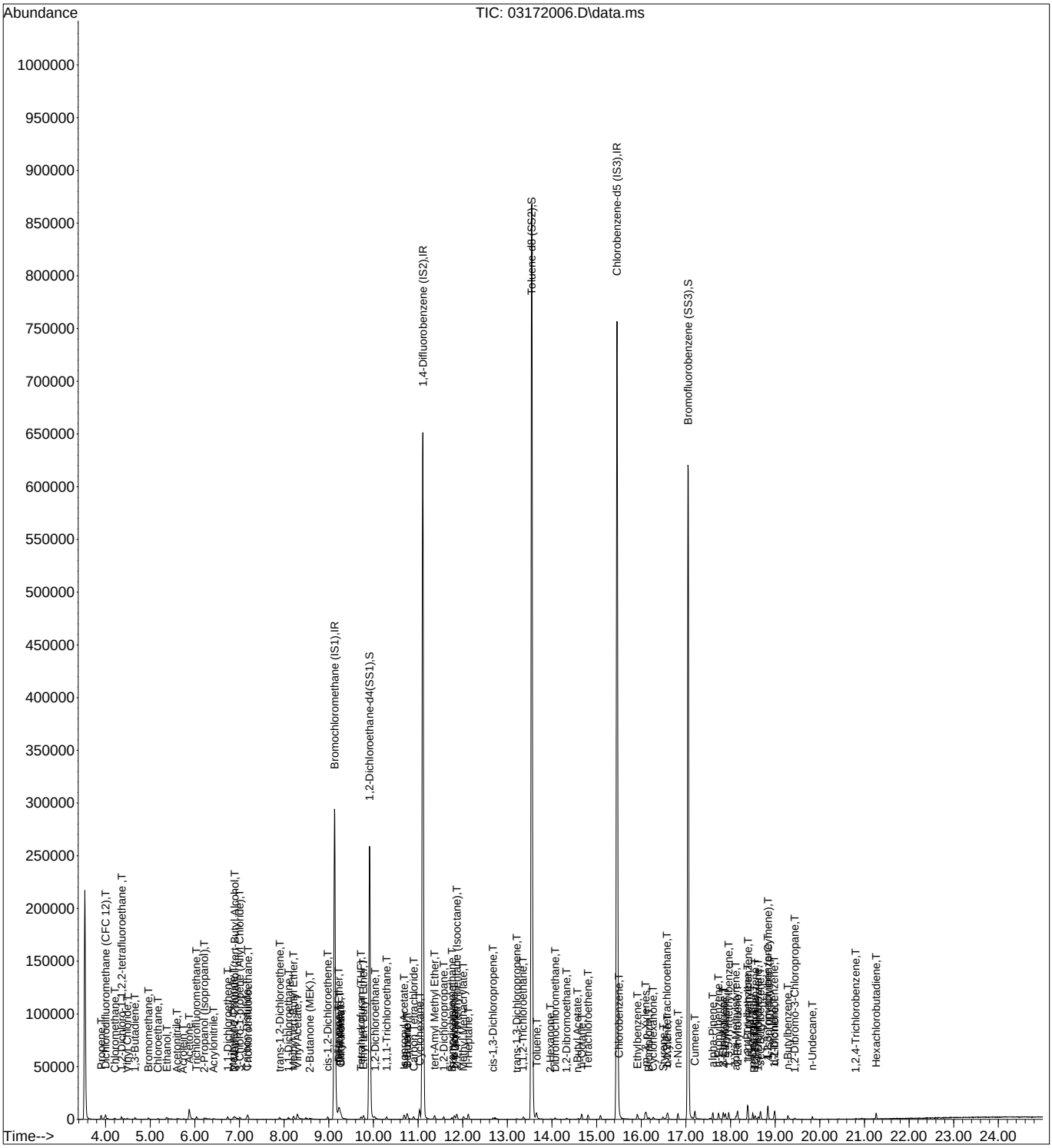
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	12.12	71	1276	0.082	ng		98
52) cis-1,3-Dichloropropene	12.67	75	1563	0.065	ng		87
53) 4-Methyl-2-pentanone	12.72	58	264	N.D.			
54) trans-1,3-Dichloropropene	13.21	75	908	0.041	ng	#	43
55) 1,1,2-Trichloroethane	13.35	97	1219	0.085	ng		99
58) Toluene	13.66	91	6080	0.110	ng		100
59) 2-Hexanone	13.96	43	622	0.021	ng	#	45
60) Dibromochloromethane	14.07	129	1342	0.094	ng		97
61) 1,2-Dibromoethane	14.32	107	1132	0.081	ng		98
62) n-Butyl Acetate	14.57	43	1179	0.034	ng	#	74
63) n-Octane	14.67	57	1035	0.084	ng		87
64) Tetrachloroethene	14.81	166	1784	0.129	ng		97
65) Chlorobenzene	15.50	112	3878	0.106	ng		97
66) Ethylbenzene	15.91	91	5723	0.095	ng		99
67) m- & p-Xylenes	16.10	91	9332	0.194	ng		98
68) Bromoform	16.17	173	1097	0.099	ng		86
69) Styrene	16.49	104	2511	0.073	ng		88
70) o-Xylene	16.59	91	4695	0.098	ng		95
71) n-Nonane	16.82	43	2038	0.070	ng		94
72) 1,1,2,2-Tetrachloroethane	16.57	83	2059	0.083	ng		99
74) Cumene	17.20	105	6412	0.110	ng		99
75) alpha-Pinene	17.60	93	3198	0.110	ng		100
76) n-Propylbenzene	17.73	91	7153	0.098	ng		90
77) 3-Ethyltoluene	17.84	105	5163	0.091	ng		98
78) 4-Ethyltoluene	17.88	105	5263	0.093	ng		99
79) 1,3,5-Trimethylbenzene	17.96	105	5141	0.104	ng		92
80) alpha-Methylstyrene	18.12	118	1751	0.070	ng		87
81) 2-Ethyltoluene	18.16	105	5672	0.098	ng		99
82) 1,2,4-Trimethylbenzene	18.39	105	4285	0.087	ng		95
83) n-Decane	18.50	57	2078	0.069	ng		90
84) Benzyl Chloride	18.53	91	1250	0.029	ng	#	53
85) 1,3-Dichlorobenzene	18.55	146	1932	0.070	ng		97
86) 1,4-Dichlorobenzene	18.62	146	1998	0.071	ng		86
87) sec-Butylbenzene	18.67	105	6589	0.100	ng		98
88) 4-Isopropyltoluene (p-...	18.84	119	5737	0.099	ng		97
89) 1,2,3-Trimethylbenzene	18.83	105	4593	0.092	ng		98
90) 1,2-Dichlorobenzene	18.98	146	2164	0.080	ng		93
91) d-Limonene	18.99	68	1518	0.074	ng		91
92) 1,2-Dibromo-3-Chloropr...	19.44	157	438	0.044	ng		90
93) n-Undecane	19.83	57	1044	0.033	ng		94
94) 1,2,4-Trichlorobenzene	20.80	180	558	0.028	ng	#	78
95) Naphthalene	20.95	128	1247	N.D.			
96) n-Dodecane	20.94	57	213	N.D.			
97) Hexachlorobutadiene	21.26	225	1416	0.124	ng		94
98) Cyclohexanone	16.27	55	1262	0.064	ng		94
99) tert-Butylbenzene	18.38	119	5103	0.110	ng		99
100) n-Butylbenzene	19.28	91	3407	0.063	ng		92

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_03\17\03172006.D Vial: 5
Acq On : 17 Mar 2020 13:21 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S31-02272010/S31-02262005 (3/26)

Quant Time: Mar 17 16:43:25 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 17 16:36:19 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_03\17\03172007.D Vial: 5
Acq On : 17 Mar 2020 13:54 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S31-02272010/S31-02262005 (3/26)

Quant Time: Mar 17 16:41:58 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 17 16:36:19 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/17/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	153193	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.11	114	661509	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	294687	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	217892	10.187	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 81.52%				
57) Toluene-d8 (SS2)	13.54	98	739277	13.149	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.20%				
73) Bromofluorobenzene (SS3)	17.05	174	240267	15.363	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 122.88%				
Target Compounds							Qvalue
2) Propene	3.89	42	2073	0.115	ng		95
3) Dichlorodifluoromethan...	3.99	85	4982	0.171	ng		98
4) Chloromethane	4.19	50	2837	0.108	ng		96
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	2236	0.147	ng		98
6) Vinyl Chloride	4.48	62	2394	0.082	ng		99
7) 1,3-Butadiene	4.65	54	1390	0.067	ng		90
8) Bromomethane	4.95	94	2163	0.159	ng		95
9) Chloroethane	5.17	64	1700	0.148	ng		91
10) Ethanol	5.36	45	8195	0.637	ng		88
11) Acetonitrile	5.59	41	3775	0.122	ng	#	1
12) Acrolein	5.72	56	785	0.081	ng		83
13) Acetone	5.86	58	9049	0.710	ng		100
14) Trichlorofluoromethane	6.03	101	4335	0.175	ng		99
15) 2-Propanol (Isopropanol)	6.19	45	10260	0.258	ng		94
16) Acrylonitrile	6.39	53	2115	0.104	ng		84
17) 1,1-Dichloroethene	6.73	96	2499	0.182	ng		96
18) 2-Methyl-2-Propanol (t...	6.89	59	10926	0.305	ng		95
19) Methylene Chloride	6.87	84	2566	0.163	ng		98
20) 3-Chloro-1-propene (Al...	7.00	41	3362	0.143	ng		86
21) Trichlorotrifluoroethane	7.19	151	2555	0.220	ng		97
22) Carbon Disulfide	7.16	76	8985	0.160	ng		95
23) trans-1,2-Dichloroethene	7.88	61	2784	0.132	ng		99
24) 1,1-Dichloroethane	8.10	63	4325	0.155	ng		95
25) Methyl tert-Butyl Ether	8.20	73	7218	0.171	ng		100
26) Vinyl Acetate	8.28	86	2247	0.611	ng	#	60
27) 2-Butanone (MEK)	8.56	72	1196	0.113	ng	#	20
28) cis-1,2-Dichloroethene	8.98	61	2965	0.137	ng		92
29) Diisopropyl Ether	9.23	87	1977	0.151	ng	#	92
30) Ethyl Acetate	9.24	61	1276	0.225	ng		96
31) n-Hexane	9.22	57	3776	0.134	ng		96
32) Chloroform	9.28	83	4335	0.165	ng		98
34) Tetrahydrofuran (THF)	9.71	72	1497	0.150	ng	#	84
35) Ethyl tert-Butyl Ether	9.78	87	2900	0.180	ng		98
36) 1,2-Dichloroethane	10.03	62	3125	0.151	ng		97
38) 1,1,1-Trichloroethane	10.30	97	3773	0.179	ng		98
39) Isopropyl Acetate	10.68	61	2629	0.272	ng		99
40) 1-Butanol	10.74	56	3252	0.200	ng	#	73
41) Benzene	10.76	78	10652	0.173	ng		94
42) Carbon Tetrachloride	10.90	117	3481	0.181	ng		97
43) Cyclohexane	11.03	84	8177	0.350	ng		99
44) tert-Amyl Methyl Ether	11.37	73	6763	0.179	ng		97
45) 1,2-Dichloropropane	11.57	63	2290	0.144	ng		99
46) Bromodichloromethane	11.76	83	3397	0.167	ng		97
47) Trichloroethene	11.81	130	3011	0.201	ng		95
48) 1,4-Dioxane	11.82	88	2081	0.180	ng		85
49) 2,2,4-Trimethylpentane...	11.87	57	10177	0.152	ng		99
50) Methyl Methacrylate	12.01	100	1594	0.293	ng	#	86

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_03\17\03172007.D Vial: 5
Acq On : 17 Mar 2020 13:54 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S31-02272010/S31-02262005 (3/26)

Quant Time: Mar 17 16:41:58 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 17 16:36:19 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

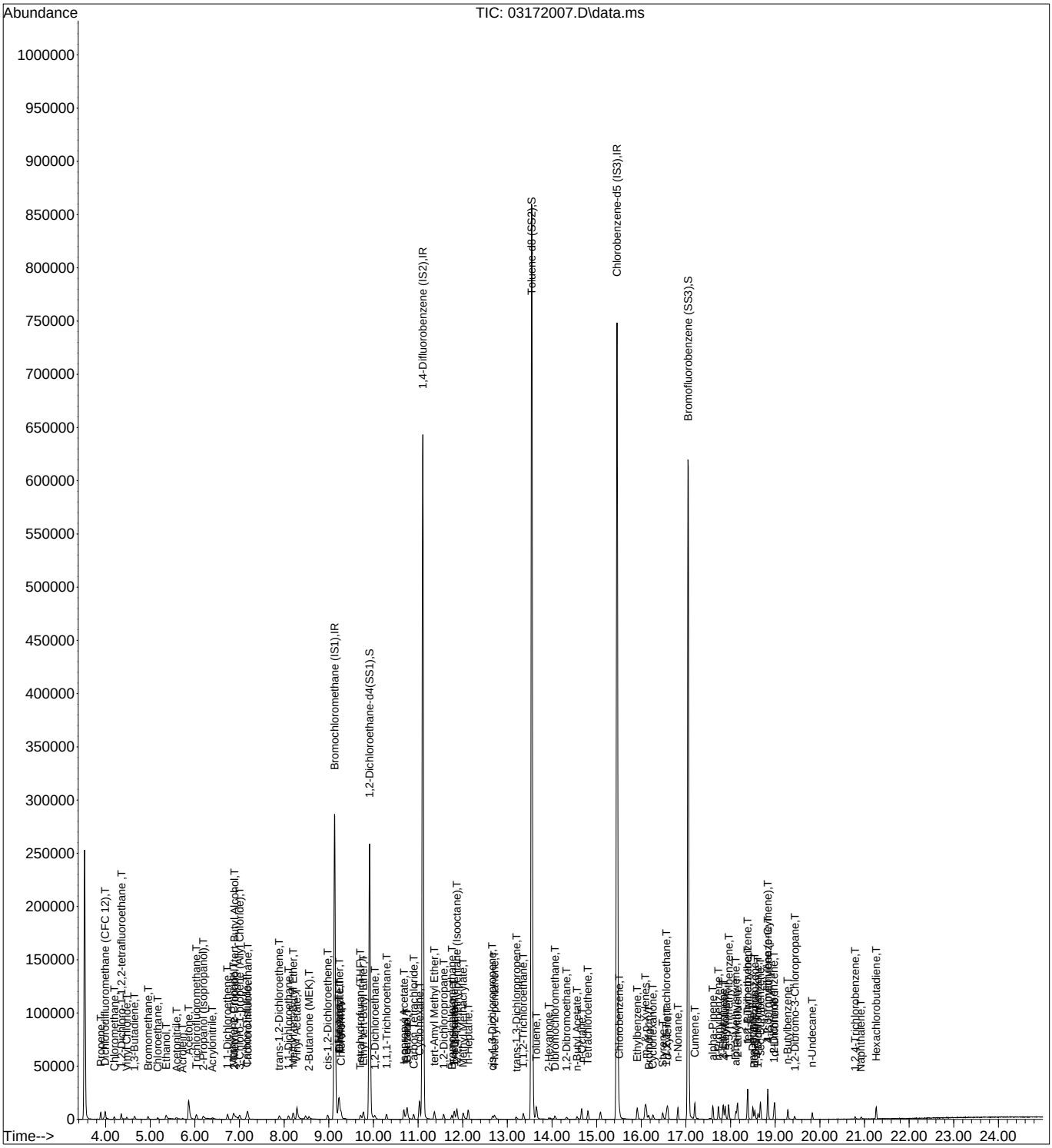
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	12.12	71	2420	0.158	ng		91
52) cis-1,3-Dichloropropene	12.66	75	3114	0.131	ng		92
53) 4-Methyl-2-pentanone	12.71	58	1474	0.100	ng	#	68
54) trans-1,3-Dichloropropene	13.21	75	2181	0.100	ng		88
55) 1,1,2-Trichloroethane	13.36	97	2478	0.176	ng		98
58) Toluene	13.65	91	11243	0.206	ng		98
59) 2-Hexanone	13.93	43	2857	0.097	ng		82
60) Dibromochloromethane	14.07	129	2931	0.207	ng		94
61) 1,2-Dibromoethane	14.32	107	2464	0.178	ng		97
62) n-Butyl Acetate	14.56	43	3145	0.092	ng		82
63) n-Octane	14.67	57	1953	0.159	ng		97
64) Tetrachloroethene	14.80	166	3310	0.242	ng		95
65) Chlorobenzene	15.51	112	7283	0.201	ng		97
66) Ethylbenzene	15.91	91	11472	0.193	ng		97
67) m- & p-Xylenes	16.09	91	18078	0.379	ng		97
68) Bromoform	16.17	173	2266	0.206	ng		90
69) Styrene	16.48	104	5104	0.150	ng		93
70) o-Xylene	16.58	91	9364	0.196	ng		95
71) n-Nonane	16.82	43	3974	0.137	ng		94
72) 1,1,2,2-Tetrachloroethane	16.56	83	4209	0.171	ng		95
74) Cumene	17.20	105	12418	0.214	ng		95
75) alpha-Pinene	17.60	93	6066	0.211	ng		94
76) n-Propylbenzene	17.73	91	12894	0.179	ng		97
77) 3-Ethyltoluene	17.84	105	10686	0.189	ng		97
78) 4-Ethyltoluene	17.88	105	9779	0.174	ng		99
79) 1,3,5-Trimethylbenzene	17.96	105	9730	0.198	ng		99
80) alpha-Methylstyrene	18.12	118	3508	0.141	ng		95
81) 2-Ethyltoluene	18.16	105	11028	0.191	ng		99
82) 1,2,4-Trimethylbenzene	18.38	105	8518	0.175	ng		95
83) n-Decane	18.50	57	4249	0.142	ng		93
84) Benzyl Chloride	18.53	91	2921	0.068	ng		92
85) 1,3-Dichlorobenzene	18.54	146	4092	0.149	ng		97
86) 1,4-Dichlorobenzene	18.61	146	3756	0.135	ng		99
87) sec-Butylbenzene	18.67	105	13061	0.199	ng		98
88) 4-Isopropyltoluene (p-...	18.83	119	11299	0.197	ng		99
89) 1,2,3-Trimethylbenzene	18.83	105	9185	0.186	ng		100
90) 1,2-Dichlorobenzene	18.97	146	4515	0.168	ng		99
91) d-Limonene	18.99	68	2975	0.147	ng		93
92) 1,2-Dibromo-3-Chloropr...	19.44	157	1177	0.118	ng		84
93) n-Undecane	19.83	57	2401	0.076	ng		92
94) 1,2,4-Trichlorobenzene	20.79	180	1376	0.071	ng	#	87
95) Naphthalene	20.92	128	2627	0.040	ng	#	71
96) n-Dodecane	20.93	57	551	N.D.			
97) Hexachlorobutadiene	21.26	225	2728	0.241	ng		92
98) Cyclohexanone	16.26	55	2728	0.139	ng		93
99) tert-Butylbenzene	18.38	119	10083	0.219	ng		98
100) n-Butylbenzene	19.28	91	7023	0.130	ng		95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_03\17\03172007.D Vial: 5
Acq On : 17 Mar 2020 13:54 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S31-02272010/S31-02262005 (3/26)

Quant Time: Mar 17 16:41:58 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 17 16:36:19 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_03\17\03172008.D Vial: 4
Acq On : 17 Mar 2020 14:27 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S31-02272010/S31-03102003 (4/8)

Quant Time: Mar 17 16:40:51 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 17 16:36:19 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/17/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	153975	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	11.11	114	659328	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	295937	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	214769	9.990	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 79.92%				
57) Toluene-d8 (SS2)	13.54	98	735501	13.027	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.24%				
73) Bromofluorobenzene (SS3)	17.05	174	242025	15.410	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 123.28%				
Target Compounds							Qvalue
2) Propene	3.88	42	5471	0.302	ng		96
3) Dichlorodifluoromethan...	3.98	85	12730	0.434	ng		99
4) Chloromethane	4.18	50	7746	0.294	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	6064	0.397	ng		97
6) Vinyl Chloride	4.46	62	6809	0.232	ng		99
7) 1,3-Butadiene	4.64	54	4721	0.225	ng		99
8) Bromomethane	4.94	94	6185	0.453	ng		98
9) Chloroethane	5.16	64	4532	0.392	ng		97
10) Ethanol	5.34	45	21913	1.695	ng		99
11) Acetonitrile	5.57	41	9672	0.311	ng		72
12) Acrolein	5.71	56	3184	0.326	ng		97
13) Acetone	5.84	58	23211	1.812	ng		95
14) Trichlorofluoromethane	6.03	101	11842	0.475	ng		100
15) 2-Propanol (Isopropanol)	6.16	45	27525	0.688	ng		90
16) Acrylonitrile	6.37	53	6698	0.329	ng		98
17) 1,1-Dichloroethene	6.72	96	6572	0.475	ng		99
18) 2-Methyl-2-Propanol (t...	6.82	59	29446	0.819	ng		98
19) Methylene Chloride	6.86	84	6682	0.422	ng		98
20) 3-Chloro-1-propene (Al...	6.99	41	8539	0.360	ng		95
21) Trichlorotrifluoroethane	7.18	151	6906	0.592	ng		97
22) Carbon Disulfide	7.15	76	24147	0.428	ng		98
23) trans-1,2-Dichloroethene	7.88	61	8498	0.400	ng		98
24) 1,1-Dichloroethane	8.09	63	11482	0.410	ng		99
25) Methyl tert-Butyl Ether	8.19	73	18991	0.447	ng		99
26) Vinyl Acetate	8.28	86	7231	1.955	ng	#	89
27) 2-Butanone (MEK)	8.53	72	4017	0.379	ng		97
28) cis-1,2-Dichloroethene	8.97	61	8490	0.389	ng		98
29) Diisopropyl Ether	9.23	87	5767	0.439	ng		99
30) Ethyl Acetate	9.23	61	4115	0.723	ng		97
31) n-Hexane	9.22	57	10514	0.370	ng		99
32) Chloroform	9.27	83	11741	0.444	ng		100
34) Tetrahydrofuran (THF)	9.69	72	4177	0.417	ng		91
35) Ethyl tert-Butyl Ether	9.77	87	7661	0.474	ng		96
36) 1,2-Dichloroethane	10.02	62	8609	0.415	ng		100
38) 1,1,1-Trichloroethane	10.29	97	10599	0.504	ng		99
39) Isopropyl Acetate	10.67	61	7565	0.787	ng		94
40) 1-Butanol	10.71	56	9919	0.612	ng	#	76
41) Benzene	10.75	78	27864	0.454	ng		99
42) Carbon Tetrachloride	10.90	117	9580	0.501	ng		97
43) Cyclohexane	11.03	84	21665	0.931	ng		99
44) tert-Amyl Methyl Ether	11.36	73	17440	0.463	ng		98
45) 1,2-Dichloropropane	11.57	63	6261	0.395	ng		99
46) Bromodichloromethane	11.75	83	9094	0.448	ng		100
47) Trichloroethene	11.81	130	8166	0.548	ng		100
48) 1,4-Dioxane	11.79	88	5282	0.459	ng		94
49) 2,2,4-Trimethylpentane...	11.87	57	26677	0.399	ng		100
50) Methyl Methacrylate	12.00	100	5059	0.933	ng		90

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_03\17\03172008.D Vial: 4
Acq On : 17 Mar 2020 14:27 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S31-02272010/S31-03102003 (4/8)

Quant Time: Mar 17 16:40:51 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 17 16:36:19 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

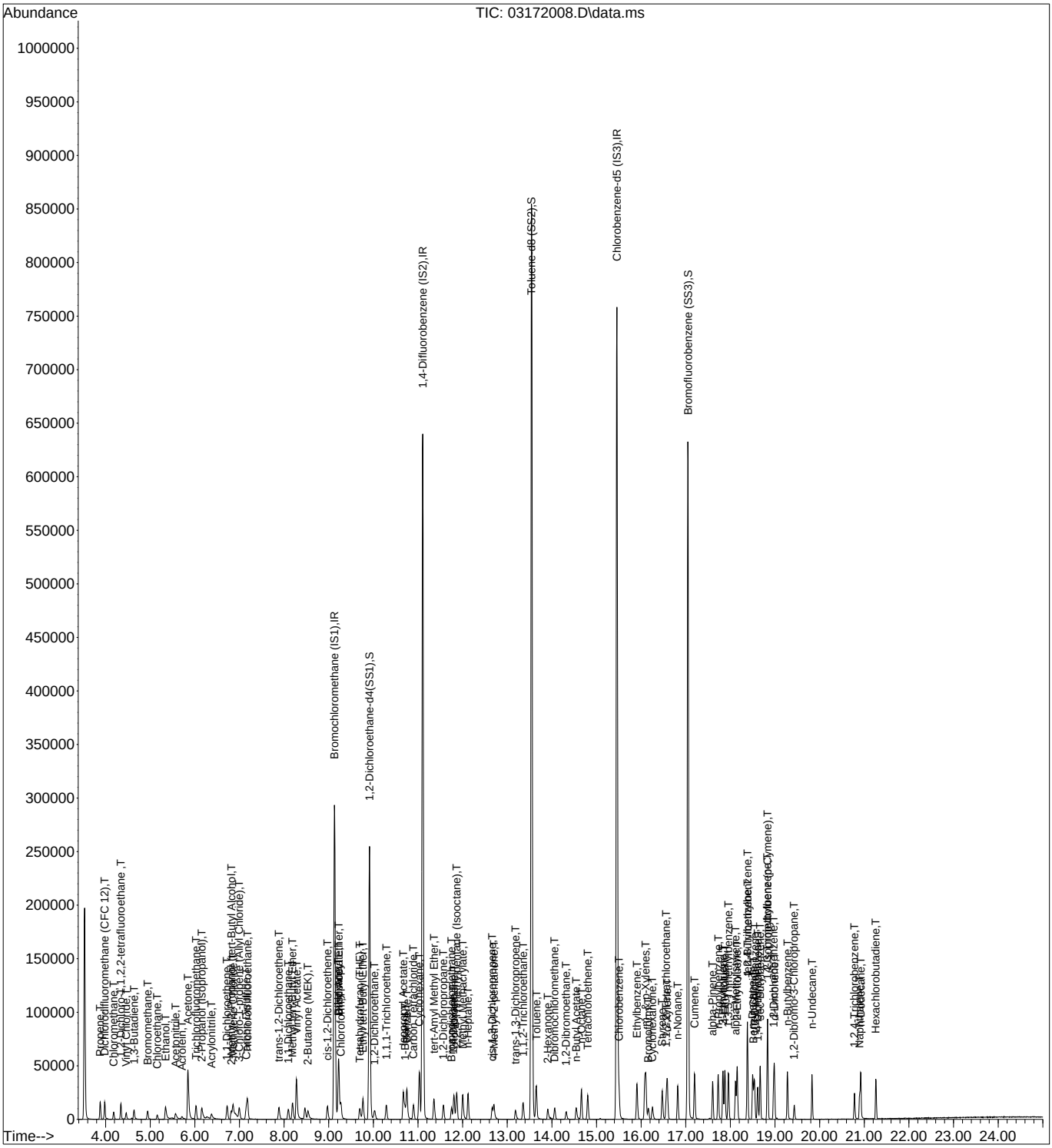
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	6961	0.455	ng	98
52) cis-1,3-Dichloropropene	12.66	75	9658	0.408	ng	99
53) 4-Methyl-2-pentanone	12.70	58	5042	0.343	ng	92
54) trans-1,3-Dichloropropene	13.19	75	7957	0.365	ng	96
55) 1,1,2-Trichloroethane	13.36	97	6793	0.483	ng	99
58) Toluene	13.65	91	30406	0.554	ng	98
59) 2-Hexanone	13.91	43	10405	0.351	ng	92
60) Dibromochloromethane	14.06	129	8018	0.564	ng	99
61) 1,2-Dibromoethane	14.32	107	7448	0.537	ng	98
62) n-Butyl Acetate	14.54	43	11016	0.320	ng	99
63) n-Octane	14.67	57	5695	0.463	ng	97
64) Tetrachloroethene	14.80	166	9140	0.666	ng	99
65) Chlorobenzene	15.51	112	20856	0.575	ng	98
66) Ethylbenzene	15.91	91	32369	0.541	ng	99
67) m- & p-Xylenes	16.10	91	52496	1.097	ng	99
68) Bromoform	16.16	173	6424	0.582	ng	98
69) Styrene	16.47	104	18333	0.535	ng	99
70) o-Xylene	16.58	91	25951	0.542	ng	100
71) n-Nonane	16.82	43	11408	0.391	ng	98
72) 1,1,2,2-Tetrachloroethane	16.56	83	12081	0.487	ng	96
74) Cumene	17.19	105	34510	0.592	ng	98
75) alpha-Pinene	17.60	93	16098	0.557	ng	98
76) n-Propylbenzene	17.73	91	39836	0.549	ng	99
77) 3-Ethyltoluene	17.83	105	32210	0.568	ng	98
78) 4-Ethyltoluene	17.88	105	33025	0.585	ng	99
79) 1,3,5-Trimethylbenzene	17.95	105	28849	0.583	ng	98
80) alpha-Methylstyrene	18.11	118	14497	0.581	ng	97
81) 2-Ethyltoluene	18.15	105	34058	0.589	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	28338	0.579	ng	98
83) n-Decane	18.50	57	13988	0.464	ng	98
84) Benzyl Chloride	18.52	91	16130	0.375	ng	97
85) 1,3-Dichlorobenzene	18.54	146	16556	0.600	ng	100
86) 1,4-Dichlorobenzene	18.61	146	16569	0.594	ng	97
87) sec-Butylbenzene	18.67	105	38828	0.589	ng	100
88) 4-Isopropyltoluene (p-...	18.83	119	36606	0.634	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	29611	0.596	ng	99
90) 1,2-Dichlorobenzene	18.97	146	16346	0.607	ng	99
91) d-Limonene	18.99	68	9119	0.449	ng	97
92) 1,2-Dibromo-3-Chloropr...	19.43	157	5028	0.503	ng	94
93) n-Undecane	19.83	57	13756	0.436	ng	97
94) 1,2,4-Trichlorobenzene	20.78	180	9505	0.486	ng	97
95) Naphthalene	20.90	128	28463	0.435	ng	96
96) n-Dodecane	20.92	57	12669	0.418	ng	96
97) Hexachlorobutadiene	21.26	225	8256	0.725	ng	99
98) Cyclohexanone	16.25	55	7072	0.359	ng	95
99) tert-Butylbenzene	18.38	119	28987	0.626	ng	100
100) n-Butylbenzene	19.28	91	28296	0.521	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_03\17\03172008.D Vial: 4
Acq On : 17 Mar 2020 14:27 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S31-02272010/S31-03102003 (4/8)

Quant Time: Mar 17 16:40:51 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 17 16:36:19 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_03\17\03172009.D Vial: 4
Acq On : 17 Mar 2020 15:00 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S31-02272010/S31-03102003 (4/8)

Quant Time: Mar 17 16:39:45 2020 3/17/20
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 17 16:36:19 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	152751	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.11	114	660652	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	296158	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	214812	10.072	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 80.56%				
57) Toluene-d8 (SS2)	13.54	98	735772	13.022	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.16%				
73) Bromofluorobenzene (SS3)	17.05	174	244385	15.549	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 124.40%				
Target Compounds							Qvalue
2) Propene	3.87	42	10292	0.573	ng		99
3) Dichlorodifluoromethan...	3.98	85	23651	0.813	ng		100
4) Chloromethane	4.17	50	14492	0.555	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	11092	0.733	ng		100
6) Vinyl Chloride	4.45	62	12575	0.431	ng		100
7) 1,3-Butadiene	4.63	54	8176	0.394	ng		98
8) Bromomethane	4.94	94	11580	0.854	ng		98
9) Chloroethane	5.15	64	8452	0.738	ng		100
10) Ethanol	5.34	45	40605	3.166	ng		100
11) Acetonitrile	5.56	41	18344	0.594	ng		86
12) Acrolein	5.70	56	6248	0.644	ng		100
13) Acetone	5.84	58	42713	3.361	ng		97
14) Trichlorofluoromethane	6.02	101	21710	0.877	ng		100
15) 2-Propanol (Isopropanol)	6.15	45	52431	1.321	ng		93
16) Acrylonitrile	6.36	53	14218	0.703	ng		97
17) 1,1-Dichloroethene	6.72	96	12504	0.911	ng		99
18) 2-Methyl-2-Propanol (t...	6.81	59	55934	1.567	ng		97
19) Methylene Chloride	6.86	84	12682	0.808	ng		97
20) 3-Chloro-1-propene (Al...	6.99	41	16465	0.700	ng		94
21) Trichlorotrifluoroethane	7.18	151	12494	1.079	ng		98
22) Carbon Disulfide	7.15	76	44894	0.801	ng		99
23) trans-1,2-Dichloroethene	7.88	61	15974	0.758	ng		100
24) 1,1-Dichloroethane	8.09	63	21276	0.765	ng		98
25) Methyl tert-Butyl Ether	8.18	73	35609	0.846	ng		99
26) Vinyl Acetate	8.28	86	14383	3.919	ng	#	95
27) 2-Butanone (MEK)	8.53	72	7697	0.732	ng	#	90
28) cis-1,2-Dichloroethene	8.97	61	15991	0.739	ng		100
29) Diisopropyl Ether	9.22	87	10658	0.819	ng		96
30) Ethyl Acetate	9.22	61	8456	1.498	ng		95
31) n-Hexane	9.22	57	19619	0.696	ng		99
32) Chloroform	9.27	83	21413	0.817	ng		99
34) Tetrahydrofuran (THF)	9.68	72	7922	0.797	ng		92
35) Ethyl tert-Butyl Ether	9.77	87	14766	0.921	ng		99
36) 1,2-Dichloroethane	10.03	62	16358	0.795	ng		98
38) 1,1,1-Trichloroethane	10.29	97	19343	0.917	ng		99
39) Isopropyl Acetate	10.67	61	14060	1.459	ng		97
40) 1-Butanol	10.70	56	22135	1.364	ng		96
41) Benzene	10.75	78	51348	0.835	ng		100
42) Carbon Tetrachloride	10.90	117	17993	0.939	ng		98
43) Cyclohexane	11.03	84	40052	1.718	ng		98
44) tert-Amyl Methyl Ether	11.35	73	33426	0.885	ng		98
45) 1,2-Dichloropropane	11.57	63	12036	0.758	ng		99
46) Bromodichloromethane	11.75	83	17079	0.839	ng		100
47) Trichloroethene	11.81	130	15091	1.011	ng		98
48) 1,4-Dioxane	11.79	88	10017	0.868	ng		99
49) 2,2,4-Trimethylpentane...	11.87	57	49343	0.736	ng		100
50) Methyl Methacrylate	12.00	100	10128	1.864	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_03\17\03172009.D Vial: 4
Acq On : 17 Mar 2020 15:00 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S31-02272010/S31-03102003 (4/8)

Quant Time: Mar 17 16:39:45 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 17 16:36:19 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

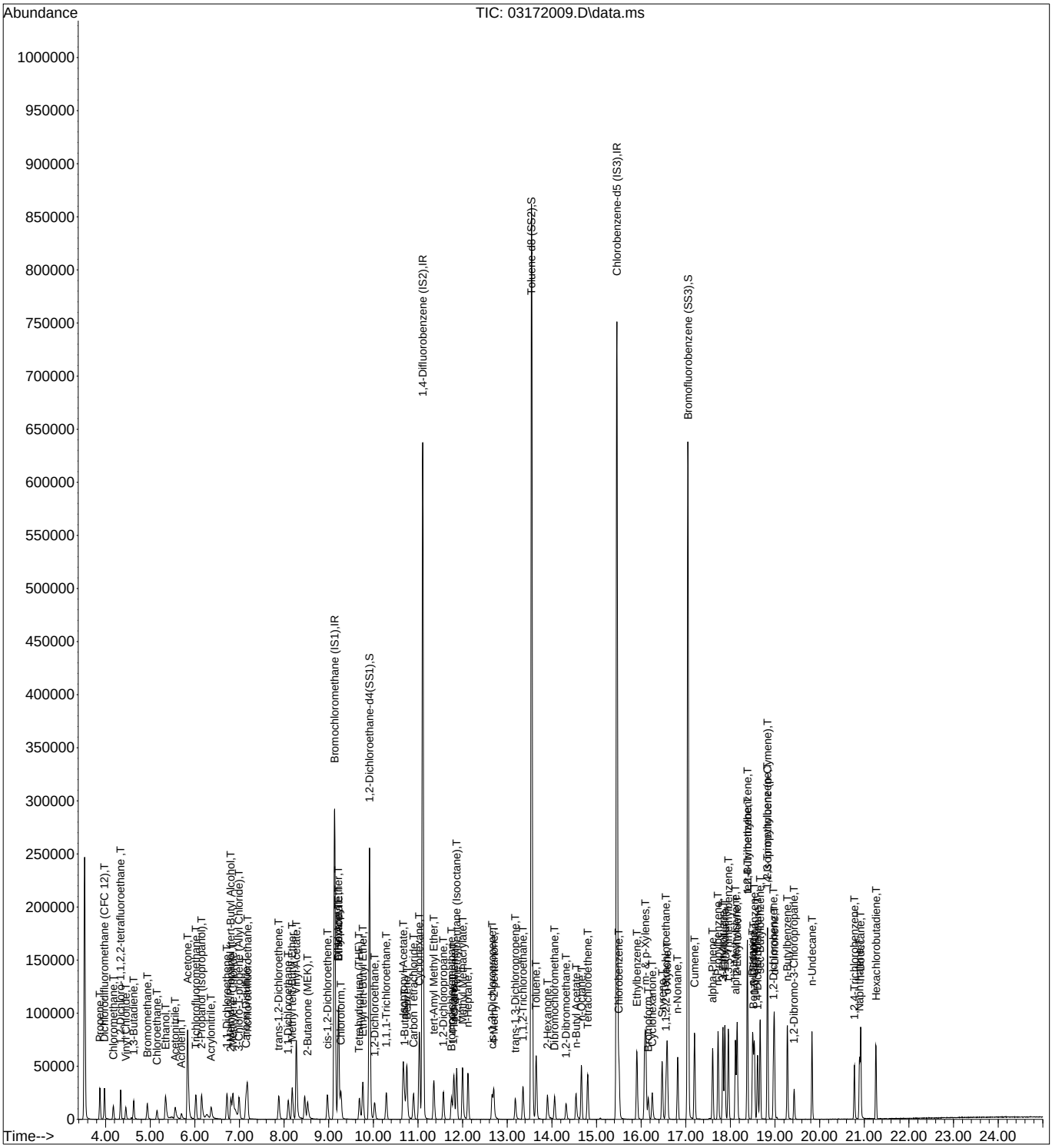
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	12823	0.836	ng	98
52) cis-1,3-Dichloropropene	12.66	75	18704	0.788	ng	100
53) 4-Methyl-2-pentanone	12.70	58	9832	0.667	ng	95
54) trans-1,3-Dichloropropene	13.18	75	16025	0.733	ng	99
55) 1,1,2-Trichloroethane	13.35	97	13020	0.924	ng	99
58) Toluene	13.65	91	56372	1.027	ng	99
59) 2-Hexanone	13.90	43	20760	0.700	ng	96
60) Dibromochloromethane	14.06	129	15496	1.088	ng	100
61) 1,2-Dibromoethane	14.32	107	14295	1.030	ng	100
62) n-Butyl Acetate	14.54	43	22113	0.643	ng	99
63) n-Octane	14.67	57	10314	0.838	ng	99
64) Tetrachloroethene	14.80	166	16838	1.226	ng	100
65) Chlorobenzene	15.50	112	38433	1.058	ng	99
66) Ethylbenzene	15.91	91	60596	1.012	ng	99
67) m- & p-Xylenes	16.09	91	99355	2.074	ng	100
68) Bromoform	16.16	173	12532	1.134	ng	99
69) Styrene	16.47	104	36014	1.050	ng	100
70) o-Xylene	16.58	91	48835	1.019	ng	99
71) n-Nonane	16.82	43	21626	0.741	ng	98
72) 1,1,2,2-Tetrachloroethane	16.56	83	21997	0.887	ng	98
74) Cumene	17.19	105	64722	1.110	ng	99
75) alpha-Pinene	17.60	93	31106	1.075	ng	99
76) n-Propylbenzene	17.72	91	74552	1.027	ng	99
77) 3-Ethyltoluene	17.83	105	62804	1.108	ng	100
78) 4-Ethyltoluene	17.88	105	61464	1.087	ng	99
79) 1,3,5-Trimethylbenzene	17.95	105	54648	1.104	ng	100
80) alpha-Methylstyrene	18.11	118	28266	1.131	ng	98
81) 2-Ethyltoluene	18.15	105	64320	1.111	ng	99
82) 1,2,4-Trimethylbenzene	18.38	105	54220	1.107	ng	98
83) n-Decane	18.50	57	26581	0.882	ng	98
84) Benzyl Chloride	18.52	91	33746	0.785	ng	99
85) 1,3-Dichlorobenzene	18.54	146	30945	1.122	ng	98
86) 1,4-Dichlorobenzene	18.61	146	32457	1.163	ng	98
87) sec-Butylbenzene	18.67	105	72928	1.105	ng	99
88) 4-Isopropyltoluene (p-...	18.83	119	69985	1.211	ng	98
89) 1,2,3-Trimethylbenzene	18.83	105	56130	1.129	ng	98
90) 1,2-Dichlorobenzene	18.97	146	31120	1.154	ng	98
91) d-Limonene	18.99	68	18419	0.906	ng	97
92) 1,2-Dibromo-3-Chloropr...	19.43	157	10150	1.014	ng	94
93) n-Undecane	19.83	57	26773	0.848	ng	99
94) 1,2,4-Trichlorobenzene	20.78	180	19655	1.005	ng	99
95) Naphthalene	20.90	128	59244	0.905	ng	98
96) n-Dodecane	20.92	57	25875	0.854	ng	98
97) Hexachlorobutadiene	21.26	225	15352	1.348	ng	97
98) Cyclohexanone	16.25	55	14243	0.723	ng	97
99) tert-Butylbenzene	18.38	119	54381	1.173	ng	99
100) n-Butylbenzene	19.27	91	55283	1.017	ng	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_03\17\03172009.D Vial: 4
Acq On : 17 Mar 2020 15:00 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S31-02272010/S31-03102003 (4/8)

Quant Time: Mar 17 16:39:45 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 17 16:36:19 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_03\17\03172010.D Vial: 4
Acq On : 17 Mar 2020 15:34 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S31-02272010/S31-03102003 (4/8)

Quant Time: Mar 17 16:38:39 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 17 16:36:19 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/17/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.14	130	153575	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	11.11	114	660324	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	15.46	82	295286	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.92	65	215512	10.051	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 80.40%				
57) Toluene-d8 (SS2)	13.55	98	735094	13.049	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.40%				
73) Bromofluorobenzene (SS3)	17.05	174	246492	15.729	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 125.84%				
Target Compounds							Qvalue
2) Propene	3.86	42	49657	2.751	ng		99
3) Dichlorodifluoromethan...	3.97	85	114909	3.930	ng		99
4) Chloromethane	4.16	50	68583	2.612	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	51912	3.411	ng		99
6) Vinyl Chloride	4.45	62	59973	2.045	ng		99
7) 1,3-Butadiene	4.62	54	41528	1.988	ng		100
8) Bromomethane	4.93	94	52425	3.846	ng		99
9) Chloroethane	5.15	64	38932	3.380	ng		98
10) Ethanol	5.37	45	191787	14.873	ng		99
11) Acetonitrile	5.56	41	88507	2.851	ng		100
12) Acrolein	5.70	56	33792	3.466	ng		98
13) Acetone	5.84	58	205981	16.123	ng		97
14) Trichlorofluoromethane	6.02	101	103768	4.170	ng		99
15) 2-Propanol (Isopropanol)	6.16	45	260280	6.520	ng		97
16) Acrylonitrile	6.37	53	70731	3.481	ng		99
17) 1,1-Dichloroethene	6.72	96	60567	4.389	ng		99
18) 2-Methyl-2-Propanol (t...	6.81	59	285129	7.947	ng		99
19) Methylene Chloride	6.86	84	61064	3.870	ng		98
20) 3-Chloro-1-propene (Al...	6.99	41	77307	3.269	ng		100
21) Trichlorotrifluoroethane	7.18	151	58898	5.060	ng		97
22) Carbon Disulfide	7.14	76	214704	3.812	ng		100
23) trans-1,2-Dichloroethene	7.88	61	82516	3.896	ng		100
24) 1,1-Dichloroethane	8.10	63	100967	3.612	ng		100
25) Methyl tert-Butyl Ether	8.18	73	180251	4.258	ng		99
26) Vinyl Acetate	8.28	86	73861	20.019	ng		95
27) 2-Butanone (MEK)	8.52	72	40964	3.876	ng		97
28) cis-1,2-Dichloroethene	8.98	61	78610	3.614	ng		99
29) Diisopropyl Ether	9.22	87	51114	3.905	ng	#	93
30) Ethyl Acetate	9.22	61	40913	7.209	ng		98
31) n-Hexane	9.22	57	93533	3.301	ng		99
32) Chloroform	9.28	83	105524	4.005	ng		99
34) Tetrahydrofuran (THF)	9.67	72	39822	3.983	ng		98
35) Ethyl tert-Butyl Ether	9.76	87	72864	4.519	ng		99
36) 1,2-Dichloroethane	10.04	62	78403	3.790	ng		99
38) 1,1,1-Trichloroethane	10.30	97	94341	4.475	ng		100
39) Isopropyl Acetate	10.67	61	69464	7.211	ng		97
40) 1-Butanol	10.68	56	119464	7.364	ng		98
41) Benzene	10.76	78	250040	4.068	ng		99
42) Carbon Tetrachloride	10.90	117	86811	4.530	ng		100
43) Cyclohexane	11.04	84	194042	8.327	ng		100
44) tert-Amyl Methyl Ether	11.35	73	167847	4.447	ng		99
45) 1,2-Dichloropropane	11.57	63	56541	3.565	ng		100
46) Bromodichloromethane	11.76	83	82902	4.075	ng		100
47) Trichloroethene	11.81	130	72643	4.869	ng		100
48) 1,4-Dioxane	11.78	88	49701	4.309	ng		98
49) 2,2,4-Trimethylpentane...	11.87	57	238299	3.555	ng		99
50) Methyl Methacrylate	12.00	100	52214	9.613	ng		97

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_03\17\03172010.D Vial: 4
Acq On : 17 Mar 2020 15:34 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S31-02272010/S31-03102003 (4/8)

Quant Time: Mar 17 16:38:39 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 17 16:36:19 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

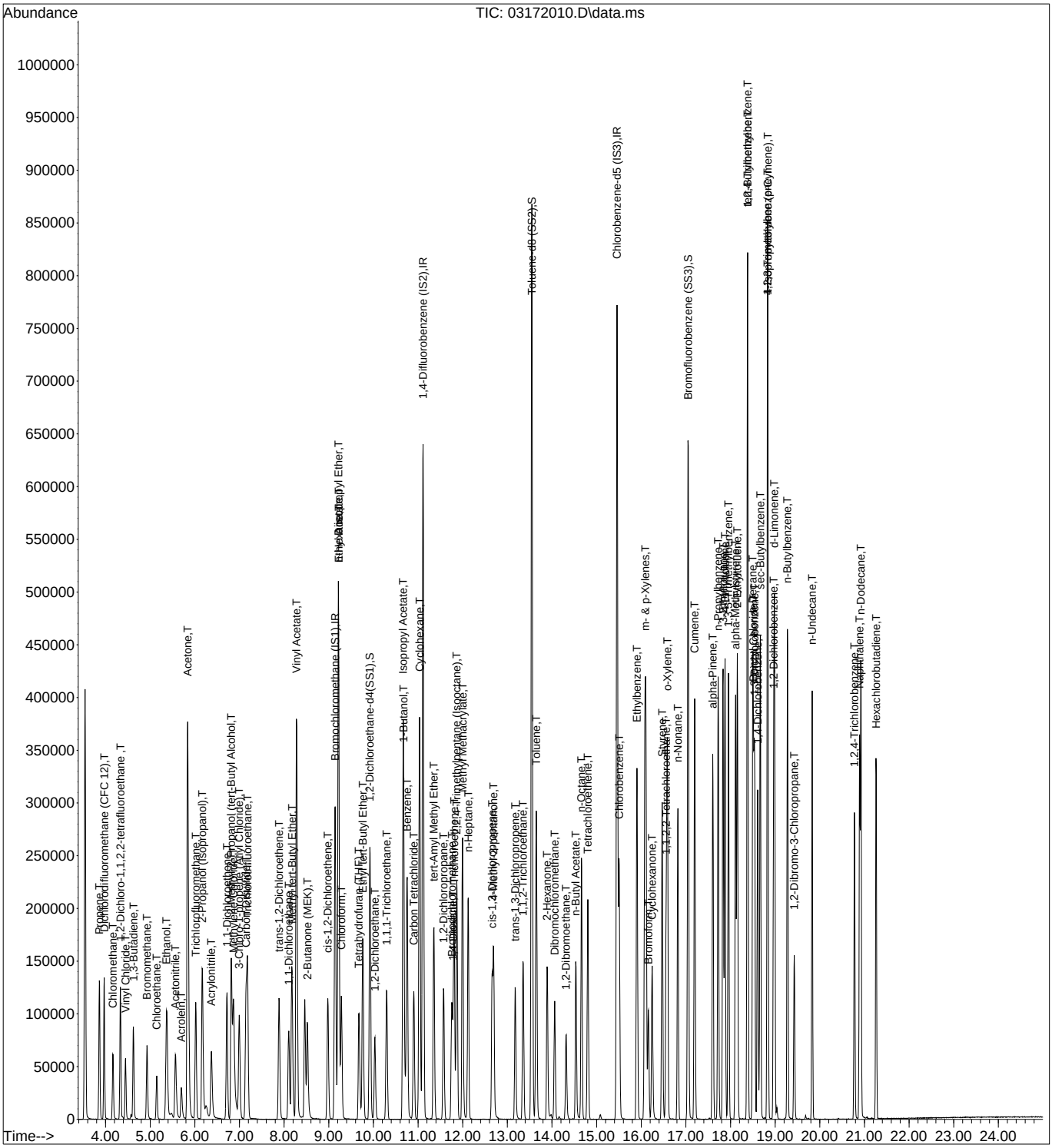
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	62099	4.050	ng	99
52) cis-1,3-Dichloropropene	12.66	75	98127	4.137	ng	100
53) 4-Methyl-2-pentanone	12.69	58	51560	3.502	ng	98
54) trans-1,3-Dichloropropene	13.18	75	87839	4.021	ng	100
55) 1,1,2-Trichloroethane	13.35	97	61819	4.391	ng	100
58) Toluene	13.65	91	269253	4.919	ng	99
59) 2-Hexanone	13.89	43	112911	3.821	ng	99
60) Dibromochloromethane	14.06	129	77267	5.443	ng	99
61) 1,2-Dibromoethane	14.31	107	71190	5.145	ng	100
62) n-Butyl Acetate	14.53	43	121961	3.554	ng	100
63) n-Octane	14.66	57	49682	4.048	ng	100
64) Tetrachloroethene	14.80	166	80325	5.865	ng	99
65) Chlorobenzene	15.51	112	185535	5.122	ng	99
66) Ethylbenzene	15.90	91	301410	5.050	ng	100
67) m- & p-Xylenes	16.09	91	488056	10.220	ng	99
68) Bromoform	16.16	173	64536	5.858	ng	99
69) Styrene	16.47	104	187956	5.497	ng	99
70) o-Xylene	16.58	91	241928	5.063	ng	99
71) n-Nonane	16.82	43	105711	3.635	ng	99
72) 1,1,2,2-Tetrachloroethane	16.56	83	108890	4.404	ng	100
74) Cumene	17.19	105	316571	5.444	ng	99
75) alpha-Pinene	17.60	93	158609	5.499	ng	99
76) n-Propylbenzene	17.72	91	371579	5.135	ng	99
77) 3-Ethyltoluene	17.83	105	317596	5.617	ng	99
78) 4-Ethyltoluene	17.88	105	302819	5.372	ng	100
79) 1,3,5-Trimethylbenzene	17.95	105	264314	5.355	ng	99
80) alpha-Methylstyrene	18.11	118	144698	5.807	ng	99
81) 2-Ethyltoluene	18.15	105	314015	5.441	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	265620	5.437	ng	99
83) n-Decane	18.50	57	130665	4.348	ng	98
84) Benzyl Chloride	18.51	91	197424	4.605	ng	99
85) 1,3-Dichlorobenzene	18.54	146	155662	5.658	ng	99
86) 1,4-Dichlorobenzene	18.61	146	157399	5.658	ng	100
87) sec-Butylbenzene	18.67	105	357817	5.438	ng	99
88) 4-Isopropyltoluene (p-...	18.83	119	337400	5.856	ng	98
89) 1,2,3-Trimethylbenzene	18.83	105	271350	5.475	ng	98
90) 1,2-Dichlorobenzene	18.97	146	151014	5.617	ng	100
91) d-Limonene	18.98	68	94259	4.649	ng	98
92) 1,2-Dibromo-3-Chloropr...	19.43	157	54576	5.470	ng	100
93) n-Undecane	19.83	57	135771	4.312	ng	100
94) 1,2,4-Trichlorobenzene	20.77	180	102077	5.232	ng	99
95) Naphthalene	20.89	128	320182	4.908	ng	99
96) n-Dodecane	20.92	57	131947	4.368	ng	99
97) Hexachlorobutadiene	21.26	225	73501	6.473	ng	100
98) Cyclohexanone	16.24	55	73792	3.755	ng	100
99) tert-Butylbenzene	18.38	119	263573	5.700	ng	99
100) n-Butylbenzene	19.27	91	277630	5.124	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_03\17\03172010.D Vial: 4
Acq On : 17 Mar 2020 15:34 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S31-02272010/S31-03102003 (4/8)

Quant Time: Mar 17 16:38:39 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 17 16:36:19 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_03\17\03172011.D Vial: 2
Acq On : 17 Mar 2020 16:07 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S31-02272010/S31-031772003 (4/15)

Quant Time: Mar 17 16:37:26 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 17 16:36:19 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/17/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	165646	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	11.12	114	702490	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	15.46	82	318941	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.94	65	234871	10.155	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 81.28%			
57) Toluene-d8 (SS2)	13.55	98	789736	12.979	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.84%			
73) Bromofluorobenzene (SS3)	17.05	174	268615	15.869	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 126.96%			
Target Compounds						Qvalue
2) Propene	3.84	42	259899	13.347	ng	100
3) Dichlorodifluoromethan...	3.95	85	608385	19.292	ng	100
4) Chloromethane	4.16	50	388603	13.723	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.32	135	272882	16.625	ng	100
6) Vinyl Chloride	4.44	62	322707	10.200	ng	100
7) 1,3-Butadiene	4.62	54	231660	10.282	ng	100
8) Bromomethane	4.93	94	290619	19.765	ng	100
9) Chloroethane	5.15	64	213671	17.197	ng	100
10) Ethanol	5.41	45	978226	70.331	ng	100
11) Acetonitrile	5.59	41	478919	14.301	ng	100
12) Acrolein	5.71	56	186289	17.715	ng	100
13) Acetone	5.86	58	1034453	75.070	ng	100
14) Trichlorofluoromethane	6.02	101	555879	20.708	ng	100
15) 2-Propanol (Isopropanol)	6.20	45	1428561	33.179	ng	100
16) Acrylonitrile	6.39	53	393128	17.936	ng	100
17) 1,1-Dichloroethene	6.72	96	331866	22.297	ng	100
18) 2-Methyl-2-Propanol (t...	6.85	59	1582271	40.888	ng	100
19) Methylene Chloride	6.88	84	331889	19.503	ng	100
20) 3-Chloro-1-propene (Al...	7.01	41	436938	17.132	ng	100
21) Trichlorotrifluoroethane	7.18	151	319018	25.409	ng	100
22) Carbon Disulfide	7.15	76	1164246	19.163	ng	100
23) trans-1,2-Dichloroethene	7.90	61	460741	20.171	ng	100
24) 1,1-Dichloroethane	8.12	63	553375	18.355	ng	100
25) Methyl tert-Butyl Ether	8.18	73	994932	21.792	ng	100
26) Vinyl Acetate	8.29	86	382371	96.086	ng	100
27) 2-Butanone (MEK)	8.53	72	225335	19.767	ng	100
28) cis-1,2-Dichloroethene	8.99	61	434816	18.534	ng	100
29) Diisopropyl Ether	9.22	87	260894	18.479	ng	100
30) Ethyl Acetate	9.22	61	202372	33.059	ng	100
31) n-Hexane	9.23	57	455978	14.921	ng	100
32) Chloroform	9.30	83	567355	19.964	ng	100
34) Tetrahydrofuran (THF)	9.67	72	218664	20.280	ng	100
35) Ethyl tert-Butyl Ether	9.77	87	404925	23.283	ng	100
36) 1,2-Dichloroethane	10.04	62	436182	19.550	ng	100
38) 1,1,1-Trichloroethane	10.30	97	520597	23.212	ng	100
39) Isopropyl Acetate	10.67	61	358865	35.018	ng	100
40) 1-Butanol	10.69	56	587166	34.020	ng	100
41) Benzene	10.76	78	1303125	19.927	ng	100
42) Carbon Tetrachloride	10.91	117	478256	23.461	ng	100
43) Cyclohexane	11.04	84	988444	39.870	ng	100
44) tert-Amyl Methyl Ether	11.35	73	925787	23.054	ng	100
45) 1,2-Dichloropropane	11.57	63	309401	18.335	ng	100
46) Bromodichloromethane	11.76	83	456370	21.087	ng	100
47) Trichloroethene	11.81	130	389382	24.534	ng	100
48) 1,4-Dioxane	11.78	88	279438	22.771	ng	100
49) 2,2,4-Trimethylpentane...	11.87	57	1246097	17.473	ng	100
50) Methyl Methacrylate	12.00	100	283110	48.997	ng	100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_03\17\03172011.D Vial: 2
Acq On : 17 Mar 2020 16:07 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S31-02272010/S31-031772003 (4/15)

Quant Time: Mar 17 16:37:26 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 17 16:36:19 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

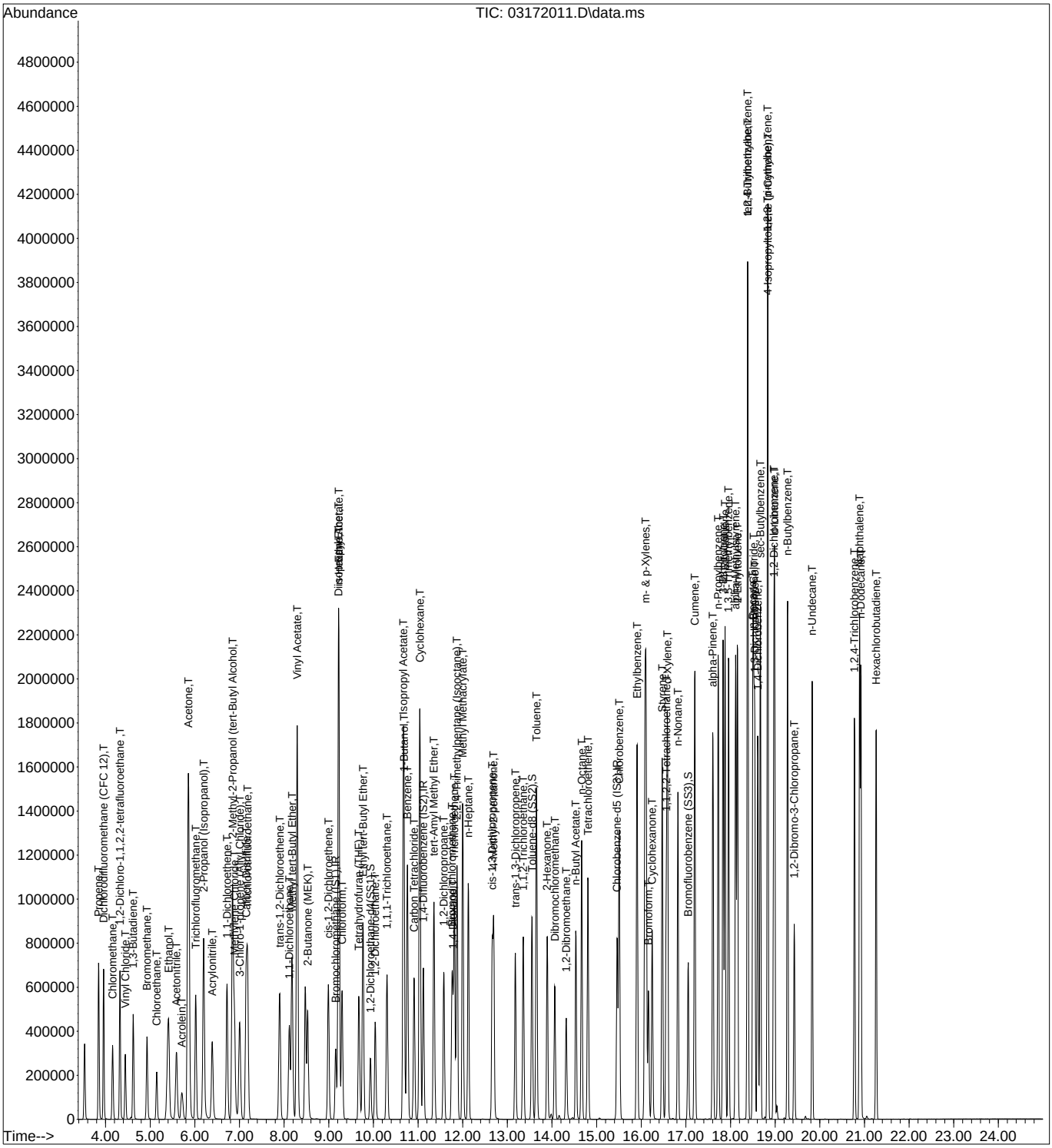
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	327099	20.052	ng	100
52) cis-1,3-Dichloropropene	12.66	75	550081	21.799	ng	100
53) 4-Methyl-2-pentanone	12.69	58	283671	18.110	ng	100
54) trans-1,3-Dichloropropene	13.18	75	517837	22.281	ng	100
55) 1,1,2-Trichloroethane	13.36	97	339267	22.654	ng	100
58) Toluene	13.65	91	1393624	23.570	ng	100
59) 2-Hexanone	13.89	43	622678	19.509	ng	100
60) Dibromochloromethane	14.07	129	426868	27.842	ng	100
61) 1,2-Dibromoethane	14.32	107	397936	26.627	ng	100
62) n-Butyl Acetate	14.53	43	686999	18.535	ng	100
63) n-Octane	14.67	57	262474	19.801	ng	100
64) Tetrachloroethene	14.81	166	428845	28.992	ng	100
65) Chlorobenzene	15.51	112	975856	24.944	ng	100
66) Ethylbenzene	15.91	91	1585704	24.599	ng	100
67) m- & p-Xylenes	16.10	91	2512070	48.704	ng	100
68) Bromoform	16.16	173	364774	30.653	ng	100
69) Styrene	16.47	104	1029811	27.883	ng	100
70) o-Xylene	16.59	91	1246934	24.161	ng	100
71) n-Nonane	16.82	43	538990	17.157	ng	100
72) 1,1,2,2-Tetrachloroethane	16.56	83	567332	21.242	ng	100
74) Cumene	17.20	105	1616860	25.741	ng	100
75) alpha-Pinene	17.60	93	843589	27.077	ng	100
76) n-Propylbenzene	17.72	91	1904961	24.373	ng	100
77) 3-Ethyltoluene	17.83	105	1589291	26.026	ng	100
78) 4-Ethyltoluene	17.88	105	1582794	25.998	ng	100
79) 1,3,5-Trimethylbenzene	17.95	105	1361427	25.536	ng	100
80) alpha-Methylstyrene	18.11	118	776480	28.852	ng	100
81) 2-Ethyltoluene	18.16	105	1585931	25.443	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	1311717	24.859	ng	100
83) n-Decane	18.50	57	628858	19.373	ng	100
84) Benzyl Chloride	18.52	91	1180173	25.488	ng	100
85) 1,3-Dichlorobenzene	18.54	146	831286	27.976	ng	100
86) 1,4-Dichlorobenzene	18.61	146	863003	28.724	ng	100
87) sec-Butylbenzene	18.67	105	1791576	25.208	ng	100
88) 4-Isopropyltoluene (p-...	18.83	119	1608556	25.847	ng	100
89) 1,2,3-Trimethylbenzene	18.83	105	1343525	25.097	ng	100
90) 1,2-Dichlorobenzene	18.97	146	800302	27.560	ng	100
91) d-Limonene	18.99	68	480866	21.958	ng	100
92) 1,2-Dibromo-3-Chloropr...	19.43	157	314446	29.180	ng	100
93) n-Undecane	19.83	57	682124	20.055	ng	100
94) 1,2,4-Trichlorobenzene	20.77	180	652958	30.987	ng	100
95) Naphthalene	20.89	128	1969905	27.954	ng	100
96) n-Dodecane	20.92	57	652629	20.001	ng	100
97) Hexachlorobutadiene	21.26	225	393804	32.110	ng	100
98) Cyclohexanone	16.24	55	423208	19.936	ng	100
99) tert-Butylbenzene	18.38	119	1267150	25.373	ng	100
100) n-Butylbenzene	19.28	91	1428969	24.418	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_03\17\03172011.D Vial: 2
Acq On : 17 Mar 2020 16:07 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S31-02272010/S31-031772003 (4/15)

Quant Time: Mar 17 16:37:26 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 17 16:36:19 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_03\17\03172012.D Vial: 2
Acq On : 17 Mar 2020 16:40 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S31-02272010/S31-031772003 (4/15)

Quant Time: Mar 17 17:06:08 2020 3/17/20
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 17 16:36:19 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	165008	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	11.12	114	699970	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	15.46	82	318601	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.94	65	233977	10.156	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 81.28%			
57) Toluene-d8 (SS2)	13.55	98	780890	12.847	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.80%			
73) Bromofluorobenzene (SS3)	17.05	174	265824	15.721	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 125.76%			
Target Compounds						Qvalue
2) Propene	3.84	42	472839	24.377	ng	99
3) Dichlorodifluoromethan...	3.95	85	1120195	35.659	ng	100
4) Chloromethane	4.16	50	743914	26.372	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.32	135	536615	32.819	ng	100
6) Vinyl Chloride	4.44	62	623911	19.798	ng	100
7) 1,3-Butadiene	4.62	54	453635	20.212	ng	100
8) Bromomethane	4.93	94	546511	37.312	ng	100
9) Chloroethane	5.15	64	406296	32.826	ng	99
10) Ethanol	5.43	45	1777300	128.275	ng	100
11) Acetonitrile	5.60	41	903753	27.091	ng	100
12) Acrolein	5.72	56	351404	33.546	ng	100
13) Acetone	5.87	58	1784574	130.006	ng	96
14) Trichlorofluoromethane	6.02	101	1030208	38.527	ng	100
15) 2-Propanol (Isopropanol)	6.22	45	2571036	59.944	ng	99
16) Acrylonitrile	6.40	53	731177	33.488	ng	100
17) 1,1-Dichloroethene	6.72	96	612908	41.339	ng	99
18) 2-Methyl-2-Propanol (t...	6.86	59	2870217	74.458	ng	100
19) Methylene Chloride	6.90	84	599752	35.379	ng	99
20) 3-Chloro-1-propene (Al...	7.01	41	802074	31.569	ng	99
21) Trichlorotrifluoroethane	7.19	151	580937	46.448	ng	100
22) Carbon Disulfide	7.15	76	2092023	34.566	ng	100
23) trans-1,2-Dichloroethene	7.91	61	855558	37.600	ng	100
24) 1,1-Dichloroethane	8.12	63	1027369	34.208	ng	100
25) Methyl tert-Butyl Ether	8.18	73	1847122	40.614	ng	100
26) Vinyl Acetate	8.30	86	668251	168.574	ng	98
27) 2-Butanone (MEK)	8.53	72	415110	36.555	ng	98
28) cis-1,2-Dichloroethene	9.00	61	803466	34.380	ng	100
29) Diisopropyl Ether	9.22	87	448248	31.872	ng	97
30) Ethyl Acetate	9.23	61	342362	56.143	ng	100
31) n-Hexane	9.23	57	768035	25.230	ng	99
32) Chloroform	9.31	83	1047375	36.997	ng	100
34) Tetrahydrofuran (THF)	9.68	72	406191	37.817	ng	99
35) Ethyl tert-Butyl Ether	9.77	87	750150	43.300	ng	99
36) 1,2-Dichloroethane	10.05	62	814510	36.648	ng	100
38) 1,1,1-Trichloroethane	10.31	97	969102	43.365	ng	100
39) Isopropyl Acetate	10.67	61	628112	61.511	ng	99
40) 1-Butanol	10.70	56	1041266	60.548	ng	99
41) Benzene	10.77	78	2363971	36.280	ng	100
42) Carbon Tetrachloride	10.92	117	890177	43.825	ng	100
43) Cyclohexane	11.05	84	1732313	70.127	ng	99
44) tert-Amyl Methyl Ether	11.36	73	1712302	42.793	ng	100
45) 1,2-Dichloropropane	11.58	63	564890	33.596	ng	100
46) Bromodichloromethane	11.76	83	839523	38.931	ng	100
47) Trichloroethene	11.82	130	708587	44.808	ng	100
48) 1,4-Dioxane	11.79	88	503552	41.181	ng	100
49) 2,2,4-Trimethylpentane...	11.88	57	2222075	31.271	ng	98
50) Methyl Methacrylate	12.00	100	510375	88.646	ng	99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_03\17\03172012.D Vial: 2
Acq On : 17 Mar 2020 16:40 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S31-02272010/S31-031772003 (4/15)

Quant Time: Mar 17 17:06:08 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 17 16:36:19 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

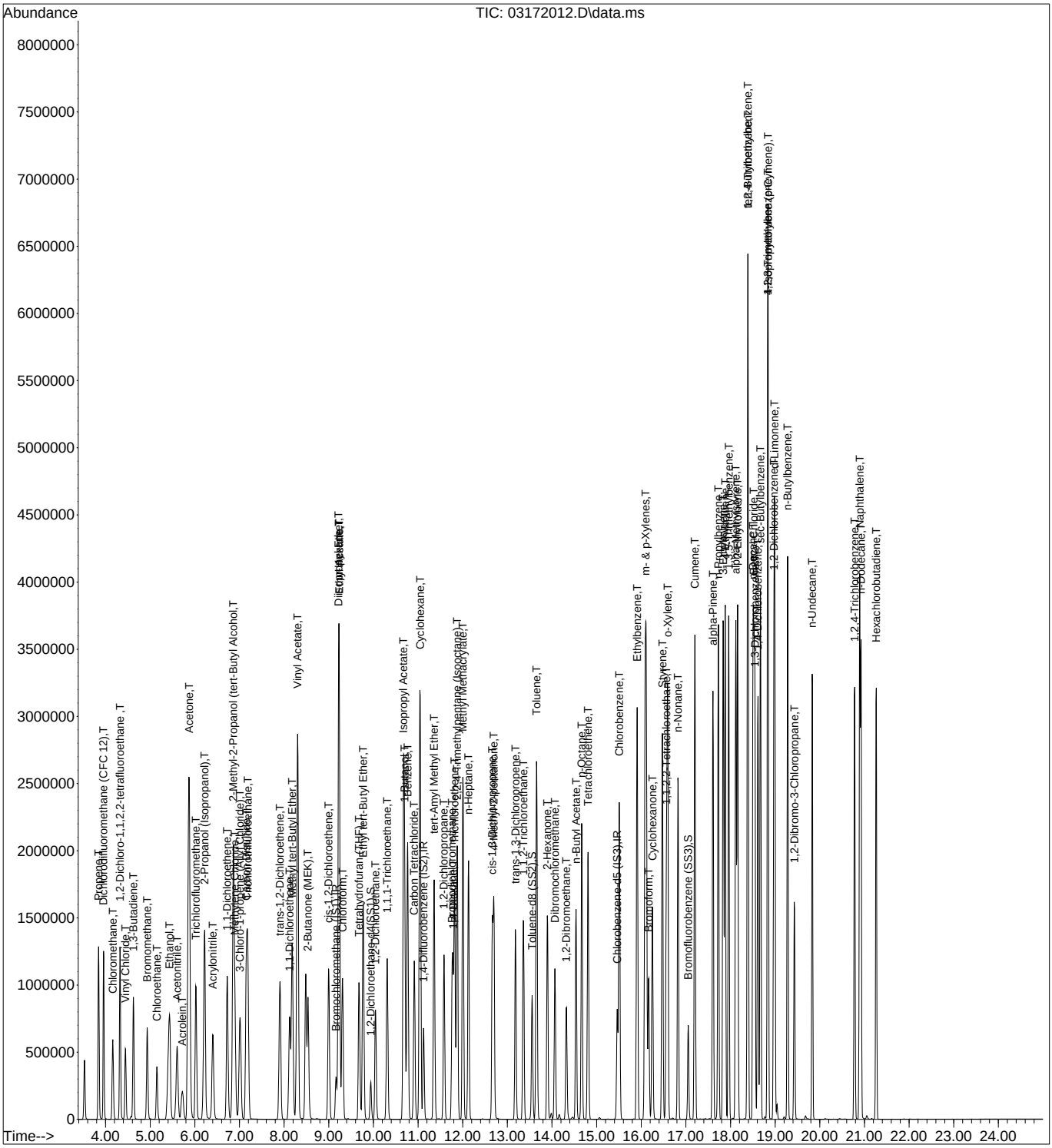
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.13	71	588638	36.215	ng	99
52) cis-1,3-Dichloropropene	12.66	75	1006828	40.043	ng	100
53) 4-Methyl-2-pentanone	12.70	58	508839	32.601	ng	99
54) trans-1,3-Dichloropropene	13.18	75	966147	41.720	ng	100
55) 1,1,2-Trichloroethane	13.36	97	625147	41.893	ng	99
58) Toluene	13.65	91	2502903	42.376	ng	100
59) 2-Hexanone	13.90	43	1120561	35.146	ng	99
60) Dibromochloromethane	14.07	129	792735	51.761	ng	99
61) 1,2-Dibromoethane	14.32	107	736750	49.351	ng	99
62) n-Butyl Acetate	14.54	43	1246668	33.671	ng	100
63) n-Octane	14.67	57	467660	35.317	ng	100
64) Tetrachloroethene	14.81	166	779462	52.751	ng	100
65) Chlorobenzene	15.51	112	1757018	44.960	ng	99
66) Ethylbenzene	15.91	91	2845933	44.196	ng	100
67) m- & p-Xylenes	16.10	91	4472864	86.812	ng	99
68) Bromoform	16.17	173	678077	57.041	ng	100
69) Styrene	16.47	104	1851560	50.186	ng	99
70) o-Xylene	16.59	91	2229829	43.252	ng	99
71) n-Nonane	16.82	43	947575	30.195	ng	99
72) 1,1,2,2-Tetrachloroethane	16.56	83	1010380	37.870	ng	100
74) Cumene	17.20	105	2882209	45.934	ng	100
75) alpha-Pinene	17.61	93	1508203	48.462	ng	99
76) n-Propylbenzene	17.73	91	3373026	43.202	ng	100
77) 3-Ethyltoluene	17.83	105	2933989	48.097	ng	100
78) 4-Ethyltoluene	17.88	105	2694388	44.303	ng	100
79) 1,3,5-Trimethylbenzene	17.96	105	2426517	45.563	ng	99
80) alpha-Methylstyrene	18.12	118	1377586	51.242	ng	99
81) 2-Ethyltoluene	18.16	105	2793796	44.869	ng	100
82) 1,2,4-Trimethylbenzene	18.39	105	2260288	42.881	ng	99
83) n-Decane	18.50	57	1075996	33.183	ng	99
84) Benzyl Chloride	18.52	91	2103134	45.469	ng	100
85) 1,3-Dichlorobenzene	18.55	146	1473075	49.627	ng	100
86) 1,4-Dichlorobenzene	18.61	146	1539983	51.310	ng	100
87) sec-Butylbenzene	18.67	105	3135555	44.165	ng	99
88) 4-Isopropyltoluene (p-...	18.84	119	2727054	43.867	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	2307891	43.158	ng	99
90) 1,2-Dichlorobenzene	18.97	146	1396008	48.125	ng	100
91) d-Limonene	18.99	68	826018	37.759	ng	98
92) 1,2-Dibromo-3-Chloropr...	19.43	157	574667	53.386	ng	99
93) n-Undecane	19.83	57	1172478	34.508	ng	99
94) 1,2,4-Trichlorobenzene	20.78	180	1181118	56.111	ng	100
95) Naphthalene	20.90	128	3483093	49.480	ng	99
96) n-Dodecane	20.92	57	1116953	34.267	ng	99
97) Hexachlorobutadiene	21.26	225	717172	58.538	ng	100
98) Cyclohexanone	16.25	55	772997	36.453	ng	99
99) tert-Butylbenzene	18.39	119	2167303	43.444	ng	100
100) n-Butylbenzene	19.28	91	2506270	42.873	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_03\17\03172012.D Vial: 2
Acq On : 17 Mar 2020 16:40 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S31-02272010/S31-031772003 (4/15)

Quant Time: Mar 17 17:06:08 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 17 16:36:19 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_03\17\03172013.D Vial: 2
Acq On : 17 Mar 2020 17:14 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S31-02272010/S31-031772003 (4/15)

Quant Time: Mar 18 08:45:18 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 17 16:36:19 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/18/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.17	130	164559	12.500	ng	0.02
37) 1,4-Difluorobenzene (IS2)	11.13	114	706881	12.500	ng	0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	320249	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.95	65	236366	10.288	ng	0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 82.32%			
57) Toluene-d8 (SS2)	13.56	98	794008	12.996	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.00%			
73) Bromofluorobenzene (SS3)	17.06	174	267169	15.719	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 125.76%			
Target Compounds						Qvalue
2) Propene	3.86	42	957736	49.510	ng	98
3) Dichlorodifluoromethan...	3.97	85	2071400	66.118	ng	100
4) Chloromethane	4.18	50	1244319	44.233	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	1056449	64.788	ng	100
6) Vinyl Chloride	4.46	62	1307059	41.588	ng	100
7) 1,3-Butadiene	4.64	54	947103	42.314	ng	98
8) Bromomethane	4.95	94	991493	67.877	ng	100
9) Chloroethane	5.16	64	753537	61.046	ng	99
10) Ethanol	5.47	45	3093108	223.851	ng	100
11) Acetonitrile	5.62	41	1677881	50.433	ng	100
12) Acrolein	5.74	56	658103	62.996	ng	94
13) Acetone	5.89	58	3026539	221.085	ng	90
14) Trichlorofluoromethane	6.04	101	1935775	72.591	ng	100
15) 2-Propanol (Isopropanol)	6.24	45	4114612	96.194	ng	99
16) Acrylonitrile	6.42	53	1355916	62.271	ng	100
17) 1,1-Dichloroethene	6.74	96	1140022	77.101	ng	99
18) 2-Methyl-2-Propanol (t...	6.89	59	4757039	123.742	ng	99
19) Methylene Chloride	6.91	84	1055267	62.420	ng	98
20) 3-Chloro-1-propene (Al...	7.03	41	1484598	58.593	ng	98
21) Trichlorotrifluoroethane	7.20	151	1070037	85.788	ng	99
22) Carbon Disulfide	7.16	76	3744954	62.046	ng	99
23) trans-1,2-Dichloroethene	7.92	61	1597710	70.408	ng	99
24) 1,1-Dichloroethane	8.13	63	1892881	63.199	ng	100
25) Methyl tert-Butyl Ether	8.19	73	3411253	75.211	ng	100
26) Vinyl Acetate	8.32	86	1150405	290.995	ng	96
27) 2-Butanone (MEK)	8.55	72	762989	67.374	ng	97
28) cis-1,2-Dichloroethene	9.01	61	1493623	64.085	ng	100
29) Diisopropyl Ether	9.23	87	772791	55.098	ng	96
30) Ethyl Acetate	9.25	61	579625	95.311	ng	98
31) n-Hexane	9.23	57	1290853	42.520	ng	98
32) Chloroform	9.32	83	1963310	69.540	ng	100
34) Tetrahydrofuran (THF)	9.68	72	741385	69.212	ng	99
35) Ethyl tert-Butyl Ether	9.78	87	1384267	80.121	ng	99
36) 1,2-Dichloroethane	10.06	62	1552381	70.038	ng	100
38) 1,1,1-Trichloroethane	10.32	97	1835774	81.343	ng	100
39) Isopropyl Acetate	10.68	61	1095998	106.282	ng	97
40) 1-Butanol	10.72	56	1862485	107.242	ng	98
41) Benzene	10.77	78	4239455	64.427	ng	99
42) Carbon Tetrachloride	10.93	117	1677680	81.788	ng	100
43) Cyclohexane	11.05	84	2996124	120.102	ng	99
44) tert-Amyl Methyl Ether	11.37	73	3146823	77.876	ng	99
45) 1,2-Dichloropropane	11.59	63	1027993	60.541	ng	100
46) Bromodichloromethane	11.77	83	1559656	71.618	ng	100
47) Trichloroethene	11.83	130	1278719	80.069	ng	100
48) 1,4-Dioxane	11.79	88	894665	72.451	ng	100
49) 2,2,4-Trimethylpentane...	11.88	57	3902092	54.377	ng	96
50) Methyl Methacrylate	12.01	100	907335	156.053	ng	98

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_03\17\03172013.D Vial: 2
Acq On : 17 Mar 2020 17:14 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S31-02272010/S31-031772003 (4/15)

Quant Time: Mar 18 08:45:18 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 17 16:36:19 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

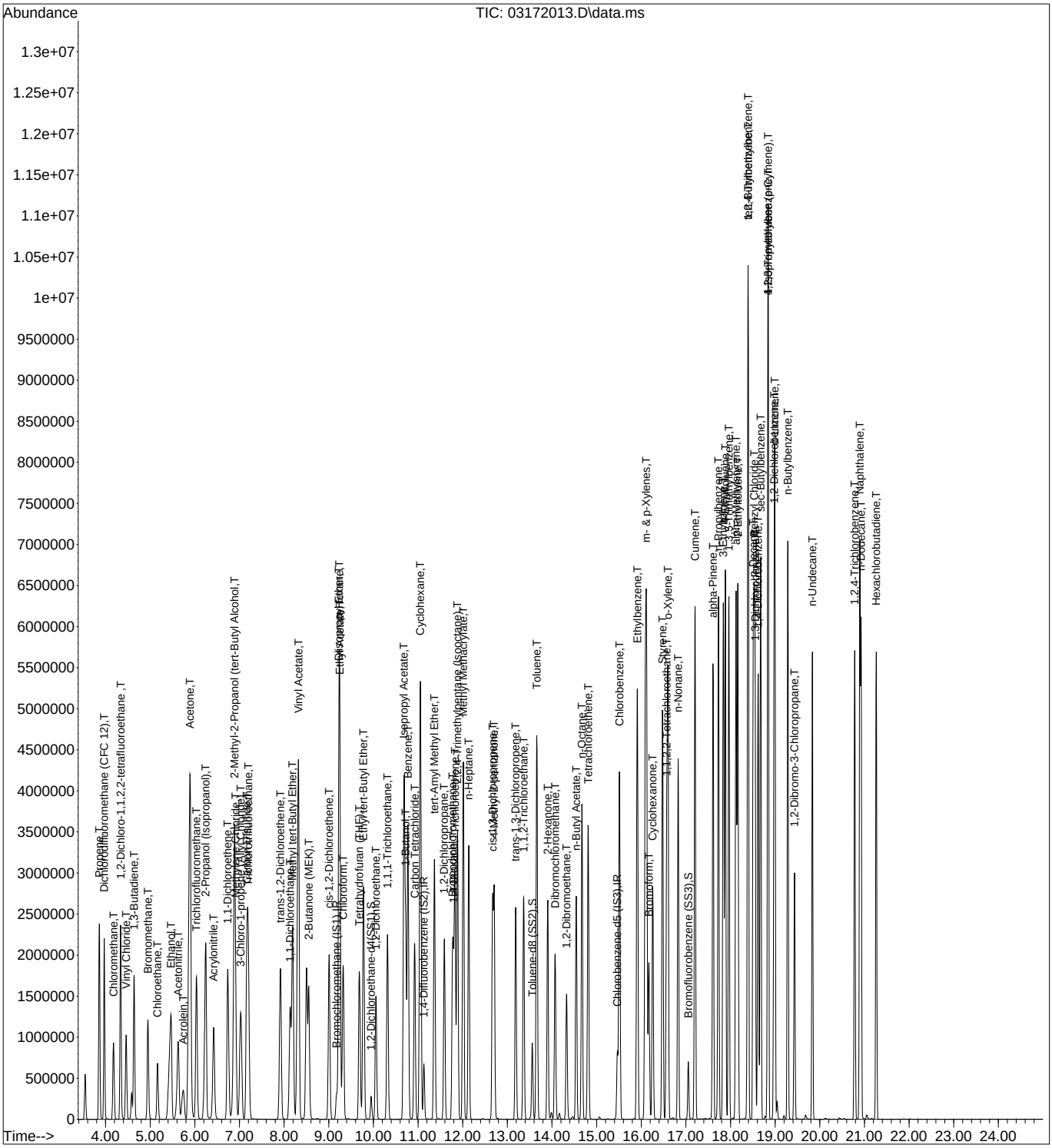
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.14	71	1050066	63.972	ng	99
52) cis-1,3-Dichloropropene	12.67	75	1845373	72.675	ng	99
53) 4-Methyl-2-pentanone	12.70	58	910010	57.734	ng	98
54) trans-1,3-Dichloropropene	13.19	75	1809778	77.385	ng	99
55) 1,1,2-Trichloroethane	13.37	97	1137762	75.499	ng	100
58) Toluene	13.66	91	4460231	75.127	ng	99
59) 2-Hexanone	13.91	43	2039198	63.630	ng	100
60) Dibromochloromethane	14.07	129	1477164	95.953	ng	100
61) 1,2-Dibromoethane	14.32	107	1364953	90.961	ng	99
62) n-Butyl Acetate	14.54	43	2255083	60.594	ng	100
63) n-Octane	14.67	57	829926	62.352	ng	99
64) Tetrachloroethene	14.81	166	1428004	96.145	ng	99
65) Chlorobenzene	15.51	112	3159763	80.439	ng	99
66) Ethylbenzene	15.91	91	5097870	78.760	ng	100
67) m- & p-Xylenes	16.11	91	7884970	152.248	ng	98
68) Bromoform	16.17	173	1273347	106.566	ng	100
69) Styrene	16.47	104	3294289	88.832	ng	97
70) o-Xylene	16.60	91	3957724	76.374	ng	99
71) n-Nonane	16.83	43	1640851	52.017	ng	98
72) 1,1,2,2-Tetrachloroethane	16.57	83	1770325	66.012	ng	100
74) Cumene	17.21	105	5063978	80.290	ng	100
75) alpha-Pinene	17.61	93	2673918	85.476	ng	97
76) n-Propylbenzene	17.73	91	5889898	75.049	ng	99
77) 3-Ethyltoluene	17.84	105	4937055	80.518	ng	100
78) 4-Ethyltoluene	17.88	105	4937447	80.767	ng	100
79) 1,3,5-Trimethylbenzene	17.96	105	4303084	80.383	ng	99
80) alpha-Methylstyrene	18.12	118	2413322	89.307	ng	98
81) 2-Ethyltoluene	18.16	105	4886826	78.079	ng	100
82) 1,2,4-Trimethylbenzene	18.39	105	3856050	72.779	ng	98
83) n-Decane	18.51	57	1811500	55.578	ng	98
84) Benzyl Chloride	18.53	91	3686245	79.286	ng	99
85) 1,3-Dichlorobenzene	18.55	146	2567984	86.068	ng	100
86) 1,4-Dichlorobenzene	18.62	146	2722533	90.245	ng	100
87) sec-Butylbenzene	18.67	105	5439228	76.219	ng	98
88) 4-Isopropyltoluene (p-...	18.84	119	4523378	72.388	ng	97
89) 1,2,3-Trimethylbenzene	18.84	105	3935568	73.217	ng	97
90) 1,2-Dichlorobenzene	18.98	146	2373170	81.390	ng	100
91) d-Limonene	18.99	68	1399734	63.655	ng	96
92) 1,2-Dibromo-3-Chloropr...	19.43	157	1062964	98.240	ng	97
93) n-Undecane	19.83	57	2019408	59.129	ng	98
94) 1,2,4-Trichlorobenzene	20.78	180	2125070	100.436	ng	99
95) Naphthalene	20.90	128	5994304	84.716	ng	99
96) n-Dodecane	20.92	57	1883878	57.499	ng	98
97) Hexachlorobutadiene	21.26	225	1298141	105.414	ng	100
98) Cyclohexanone	16.25	55	1412930	66.287	ng	98
99) tert-Butylbenzene	18.39	119	3677610	73.338	ng	100
100) n-Butylbenzene	19.28	91	4368115	74.337	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_03\17\03172013.D Vial: 2
Acq On : 17 Mar 2020 17:14 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S31-02272010/S31-031772003 (4/15)

Quant Time: Mar 18 08:45:18 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 17 16:36:19 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_03\17\03172015.D Vial: 2
Acq On : 17 Mar 2020 18:20 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S31-02272010/S31-02212001 (3/21)

Quant Time: Mar 18 09:07:57 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

V 3/18/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	157277	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	11.12	114	666650	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	15.46	82	300424	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.93	65	221144	12.428	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.44%			
57) Toluene-d8 (SS2)	13.55	98	745157	12.471	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.76%			
73) Bromofluorobenzene (SS3)	17.05	174	253182	12.736	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.92%			
Target Compounds						Qvalue
2) Propene	3.85	42	240524	24.970	ng	99
3) Dichlorodifluoromethan...	3.96	85	574251	25.587	ng	100
4) Chloromethane	4.16	50	365405	27.054	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	287385	27.451	ng	100
6) Vinyl Chloride	4.45	62	360597	30.988	ng	100
7) 1,3-Butadiene	4.62	54	265168	32.683	ng	99
8) Bromomethane	4.93	94	277537	27.055	ng	100
9) Chloroethane	5.15	64	200830	26.302	ng	100
10) Ethanol	5.41	45	926957	123.006	ng	99
11) Acetonitrile	5.59	41	453043	26.372	ng	99
12) Acrolein	5.71	56	171975	26.622	ng	100
13) Acetone	5.86	58	973740	125.892	ng	98
14) Trichlorofluoromethane	6.02	101	528972	26.028	ng	100
15) 2-Propanol (Isopropanol)	6.20	45	1348257	54.935	ng	99
16) Acrylonitrile	6.39	53	366153	27.254	ng	100
17) 1,1-Dichloroethene	6.72	96	313514	27.352	ng	100
18) 2-Methyl-2-Propanol (t...	6.84	59	1533690	59.043	ng	100
19) Methylene Chloride	6.88	84	310271	26.246	ng	99
20) 3-Chloro-1-propene (Al...	7.01	41	390673	26.100	ng	99
21) Trichlorotrifluoroethane	7.18	151	303146	26.763	ng	99
22) Carbon Disulfide	7.15	76	1089734	26.562	ng	100
23) trans-1,2-Dichloroethene	7.90	61	438703	29.651	ng	100
24) 1,1-Dichloroethane	8.12	63	508328	26.112	ng	100
25) Methyl tert-Butyl Ether	8.18	73	956751	28.332	ng	99
26) Vinyl Acetate	8.29	86	358054	138.534	ng	100
27) 2-Butanone (MEK)	8.52	72	210392	27.712	ng	98
28) cis-1,2-Dichloroethene	8.99	61	414891	27.848	ng	100
29) Diisopropyl Ether	9.22	87	246926	26.213	ng	99
30) Ethyl Acetate	9.23	61	192174	55.301	ng	99
31) n-Hexane	9.23	57	435076	25.834	ng	99
32) Chloroform	9.30	83	541147	26.995	ng	100
34) Tetrahydrofuran (THF)	9.67	72	206958	28.210	ng	99
35) Ethyl tert-Butyl Ether	9.77	87	385048	28.104	ng	99
36) 1,2-Dichloroethane	10.04	62	417898	27.642	ng	99
38) 1,1,1-Trichloroethane	10.30	97	506445	28.064	ng	100
39) Isopropyl Acetate	10.67	61	342319	54.924	ng	99
40) 1-Butanol	10.69	56	555880	54.970	ng	99
41) Benzene	10.76	78	1221244	25.708	ng	100
42) Carbon Tetrachloride	10.92	117	452843	26.744	ng	100
43) Cyclohexane	11.04	84	945762	52.453	ng	100
44) tert-Amyl Methyl Ether	11.35	73	888097	28.419	ng	100
45) 1,2-Dichloropropane	11.57	63	292111	27.568	ng	100
46) Bromodichloromethane	11.76	83	431442	27.541	ng	100
47) Trichloroethene	11.81	130	374489	27.359	ng	99
48) 1,4-Dioxane	11.78	88	267807	28.900	ng	100
49) 2,2,4-Trimethylpentane...	11.87	57	1180418	26.459	ng	99
50) Methyl Methacrylate	12.00	100	271235	58.298	ng	99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_03\17\03172015.D Vial: 2
Acq On : 17 Mar 2020 18:20 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S31-02272010/S31-02212001 (3/21)

Quant Time: Mar 18 09:07:57 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

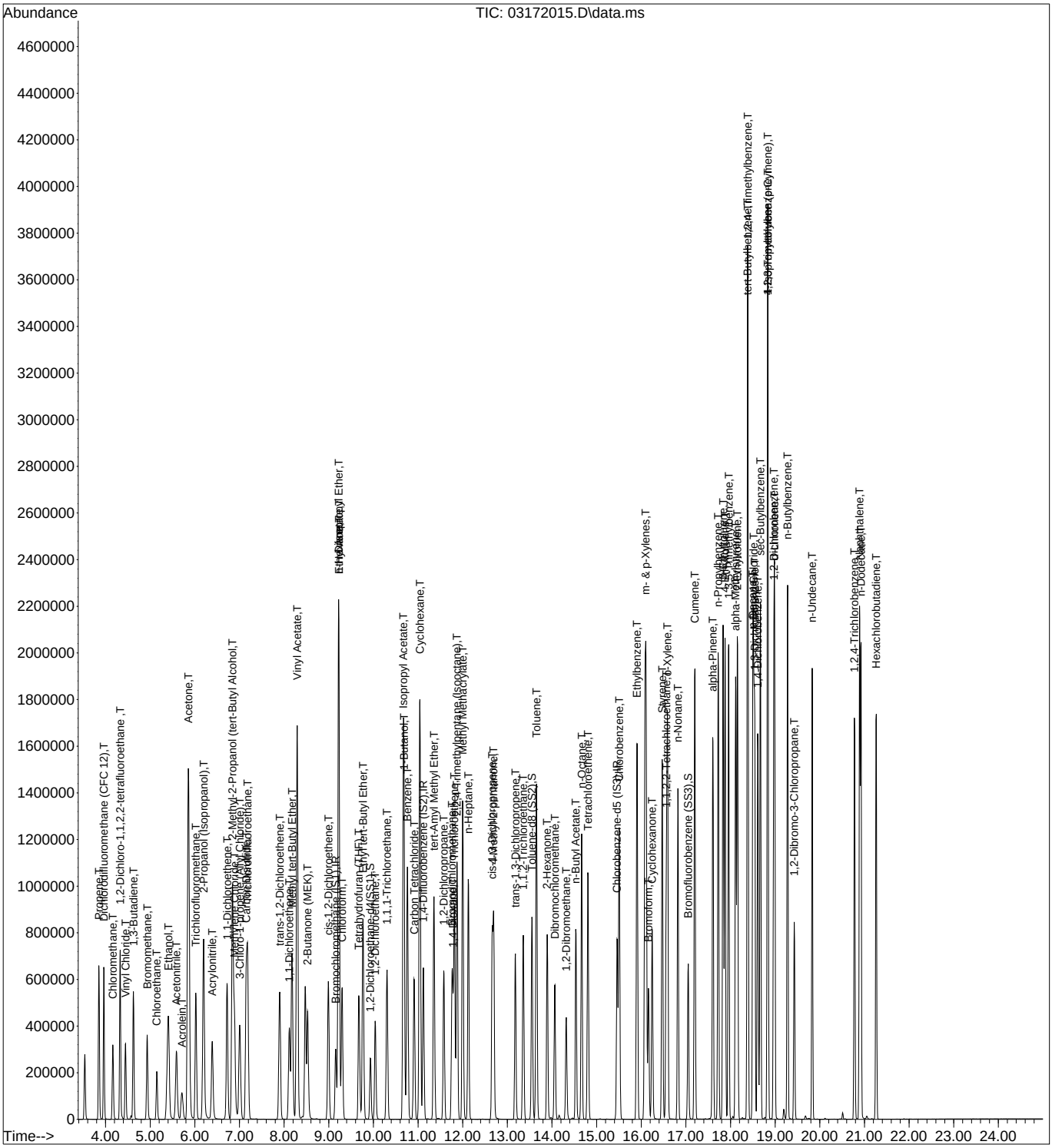
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	312665	27.573	ng	99
52) cis-1,3-Dichloropropene	12.66	75	551783	31.247	ng	100
53) 4-Methyl-2-pentanone	12.69	58	269680	28.792	ng	99
54) trans-1,3-Dichloropropene	13.18	75	491808	29.754	ng	100
55) 1,1,2-Trichloroethane	13.36	97	324089	27.885	ng	100
58) Toluene	13.65	91	1335376	26.335	ng	100
59) 2-Hexanone	13.89	43	590492	29.414	ng	100
60) Dibromochloromethane	14.07	129	407431	28.794	ng	100
61) 1,2-Dibromoethane	14.32	107	377843	29.455	ng	100
62) n-Butyl Acetate	14.53	43	650330	30.344	ng	100
63) n-Octane	14.67	57	249276	27.245	ng	100
64) Tetrachloroethene	14.81	166	413824	26.253	ng	100
65) Chlorobenzene	15.51	112	926182	26.201	ng	100
66) Ethylbenzene	15.90	91	1517500	27.869	ng	100
67) m- & p-Xylenes	16.10	91	2367676	54.324	ng	99
68) Bromoform	16.16	173	348586	29.837	ng	100
69) Styrene	16.47	104	970485	30.704	ng	99
70) o-Xylene	16.59	91	1196064	27.461	ng	100
71) n-Nonane	16.82	43	510019	27.109	ng	99
72) 1,1,2,2-Tetrachloroethane	16.56	83	543641	27.648	ng	100
74) Cumene	17.20	105	1543983	27.166	ng	100
75) alpha-Pinene	17.60	93	781093	27.281	ng	99
76) n-Propylbenzene	17.72	91	1809607	27.879	ng	100
77) 3-Ethyltoluene	17.83	105	1555845	28.561	ng	100
78) 4-Ethyltoluene	17.88	105	1476541	28.296	ng	100
79) 1,3,5-Trimethylbenzene	17.96	105	1315927	27.431	ng	100
80) alpha-Methylstyrene	18.11	118	697903	29.720	ng	100
81) 2-Ethyltoluene	18.15	105	1513284	27.810	ng	100
82) 1,2,4-Trimethylbenzene	18.39	105	1267862	28.444	ng	99
83) n-Decane	18.50	57	595318	27.456	ng	100
84) Benzyl Chloride	18.52	91	1110351	31.856	ng	100
85) 1,3-Dichlorobenzene	18.54	146	794894	30.891	ng	100
86) 1,4-Dichlorobenzene	18.61	146	821176	31.236	ng	99
87) sec-Butylbenzene	18.67	105	1718046	27.413	ng	100
88) 4-Isopropyltoluene (p-...	18.83	119	1540331	27.749	ng	100
89) 1,2,3-Trimethylbenzene	18.83	105	1252001	27.527	ng	100
90) 1,2-Dichlorobenzene	18.97	146	772331	30.171	ng	100
91) d-Limonene	18.99	68	423749	27.379	ng	98
92) 1,2-Dibromo-3-Chloropr...	19.43	157	301511	29.557	ng	99
93) n-Undecane	19.83	57	654136	28.359	ng	100
94) 1,2,4-Trichlorobenzene	20.77	180	621016	31.438	ng	100
95) Naphthalene	20.89	128	1889423	30.795	ng	100
96) n-Dodecane	20.92	57	646430	28.377	ng	100
97) Hexachlorobutadiene	21.26	225	388256	28.369	ng	100
98) Cyclohexanone	16.24	55	396904	27.788	ng	99
99) tert-Butylbenzene	18.38	119	1215519	26.424	ng	100
100) n-Butylbenzene	19.28	91	1366675	30.596	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_03\17\03172015.D Vial: 2
Acq On : 17 Mar 2020 18:20 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S31-02272010/S31-02212001 (3/21)

Quant Time: Mar 18 09:07:57 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



R9031720.M Wed Mar 18 09:08:49 2020 Page: 3

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **03172015.D** Acq. Method File: **TO15.M** 3/18/20

Data File Path: **I:\MS09\Data\2020_03\17** Sample Name: **25ng TO-15 ICV STD**

Operator: **SC** Misc Info: **S31-02272010/S31-02212001 (**

Date Acquired: **3/17/2020 18:20** Instrument Name: **MS09**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
2)	**Propene**	**3.85**	**25.0**	26.25	95	**51**	**133**	*	*
3)	**Dichlorodifluoromethane (CFC 1**	**3.96**	**25.6**	**26.25**	98	**64**	**115**	*	*
4)	**Chloromethane**	**4.16**	**27.1**	**26.50**	102	**49**	**127**	*	*
5)	**1,2-Dichloro-1,1,2,2-tetrafluoroetl**	**4.33**	**27.5**	**25.75**	107	**65**	**114**	*	*
6)	**Vinyl Chloride**	**4.45**	**31.0**	**26.50**	117	**61**	**129**	*	*
7)	**1,3-Butadiene**	**4.62**	**32.7**	**26.50**	123	**54**	**140**	*	*
8)	**Bromomethane**	**4.93**	**27.1**	**26.50**	102	**68**	**120**	*	*
9)	**Chloroethane**	**5.15**	**26.3**	**26.75**	98	**63**	**123**	*	*
10)	**Ethanol**	**5.41**	**123**	**132.50**	93	**49**	**134**	*	*
11)	**Acetonitrile**	**5.59**	**26.4**	**26.75**	99	**50**	**137**	*	*
12)	**Acrolein**	**5.71**	**26.6**	**25.75**	103	**62**	**128**	*	*
13)	**Acetone**	**5.86**	**126**	**133.50**	94	**56**	**125**	*	*
14)	**Trichlorofluoromethane**	**6.02**	**26.0**	**26.50**	98	**64**	**115**	*	*
15)	**2-Propanol (Isopropanol)**	**6.20**	**54.9**	**52.75**	104	**57**	**133**	*	*
16)	**Acrylonitrile**	**6.39**	**27.3**	**26.50**	103	**64**	**136**	*	*
17)	**1,1-Dichloroethene**	**6.72**	**27.4**	**26.75**	102	**68**	**115**	*	*
18)	2-Methyl-2-Propanol (tert-Butyl Alc	6.84	59.0	53.75	110	56	132	*	*
19)	**Methylene Chloride**	**6.88**	**26.2**	**26.25**	100	**68**	**114**	*	*
20)	**3-Chloro-1-propene (Allyl Chloric**	**7.01**	**26.1**	**26.75**	98	**55**	**139**	*	*
21)	**Trichlorotrifluoroethane**	**7.18**	**26.8**	**27.00**	99	**65**	**115**	*	*
22)	**Carbon Disulfide**	**7.15**	**26.6**	**26.50**	100	**68**	**113**	*	*
23)	**trans-1,2-Dichloroethene**	**7.90**	**29.7**	**26.75**	111	**65**	**122**	*	*
24)	**1,1-Dichloroethane**	**8.12**	**26.1**	**26.50**	98	**63**	**118**	*	*
25)	**Methyl tert-Butyl Ether**	**8.18**	**28.3**	**26.75**	106	**57**	**131**	*	*
26)	**Vinyl Acetate**	**8.29**	**139**	**133.25**	104	**71**	**128**	*	*
27)	**2-Butanone (MEK)**	**8.52**	**27.7**	**26.50**	105	**67**	**123**	*	*
28)	**cis-1,2-Dichloroethene**	**8.99**	**27.8**	**26.50**	105	**64**	**120**	*	*
29)	Diisopropyl Ether	9.22	26.2	27.00	97	62	121	*	*
30)	**Ethyl Acetate**	**9.23**	**55.3**	**54.00**	102	**64**	**131**	*	*
31)	**n-Hexane**	**9.23**	**25.8**	**27.00**	96	**58**	**125**	*	*
32)	**Chloroform**	**9.30**	**27.0**	**26.75**	101	**65**	**114**	*	*
34)	**Tetrahydrofuran (THF)**	**9.67**	**28.2**	**27.50**	103	**65**	**115**	*	*
35)	Ethyl tert-Butyl Ether	9.77	28.1	26.75	105	61	130	*	*
36)	**1,2-Dichloroethane**	**10.04**	**27.6**	**26.75**	103	**59**	**120**	*	*
38)	**1,1,1-Trichloroethane**	**10.30**	**28.1**	**26.75**	105	**66**	**115**	*	*
39)	Isopropyl Acetate	10.67	54.9	52.50	105	65	129	*	*
40)	1-Butanol	10.69	55.0	53.25	103	58	140	*	*
41)	**Benzene**	**10.76**	**25.7**	**26.25**	98	**66**	**109**	*	*
42)	**Carbon Tetrachloride**	**10.92**	**26.7**	**26.00**	103	**66**	**119**	*	*
43)	**Cyclohexane**	**11.04**	**52.5**	**52.75**	100	**67**	**117**	*	*
44)	tert-Amyl Methyl Ether	11.35	28.4	**26.75**	106	62	133	*	*
45)	**1,2-Dichloropropane**	**11.57**	**27.6**	**26.75**	103	**66**	**119**	*	*
46)	**Bromodichloromethane**	**11.76**	**27.5**	**27.25**	101	**71**	**119**	*	*
47)	**Trichloroethene**	**11.81**	**27.4**	**27.00**	101	**70**	**114**	*	*
48)	**1,4-Dioxane**	**11.78**	**28.9**	**27.00**	107	**71**	**117**	*	*
49)	2,2,4-Trimethylpentane (Isooctane)	11.87	26.5	26.75	99	61	122	*	*

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **03172015.D** **TO15.M**
Data File Path: **I:\MS09\Data\2020_03\17** Sample Name: **25ng TO-15 ICV STD**
Operator: **SC** Misc Info: **S31-02272010/S31-02212001 (**
Date Acquired: **3/17/2020** **18:20** Instrument Name: **MS09**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
50)	**Methyl Methacrylate**	**12.00**	**58.3**	**53.75**	108	**76**	**121**	*	*
51)	**n-Heptane**	**12.12**	**27.6**	**26.75**	103	**66**	**119**	*	*
52)	**cis-1,3-Dichloropropene**	**12.66**	**31.2**	**26.75**	117	**72**	**125**	*	*
53)	**4-Methyl-2-pentanone**	**12.69**	**28.8**	**26.50**	109	**68**	**130**	*	*
54)	**trans-1,3-Dichloropropene**	**13.18**	**29.8**	**26.50**	112	**71**	**132**	*	*
55)	**1,1,2-Trichloroethane**	**13.36**	**27.9**	**26.75**	104	**70**	**117**	*	*
58)	**Toluene**	**13.65**	**26.3**	**26.50**	99	**67**	**113**	*	*
59)	**2-Hexanone**	**13.89**	**29.4**	**27.00**	109	**62**	**135**	*	*
60)	**Dibromochloromethane**	**14.07**	**28.8**	**26.75**	108	**73**	**126**	*	*
61)	**1,2-Dibromoethane**	**14.32**	**29.5**	**26.75**	110	**71**	**122**	*	*
62)	**n-Butyl Acetate**	**14.53**	**30.3**	**27.25**	111	**65**	**134**	*	*
63)	**n-Octane**	**14.67**	**27.2**	**27.00**	101	**63**	**120**	*	*
64)	**Tetrachloroethene**	**14.81**	**26.3**	**26.00**	101	**64**	**120**	*	*
65)	**Chlorobenzene**	**15.51**	**26.2**	**26.75**	98	**65**	**116**	*	*
66)	**Ethylbenzene**	**15.90**	**27.9**	**26.50**	105	**65**	**117**	*	*
67)	**m- & p-Xylenes**	**16.10**	**54.3**	**53.25**	102	**64**	**121**	*	*
68)	**Bromoform**	**16.16**	**29.8**	**26.75**	111	**72**	**130**	*	*
69)	**Styrene**	**16.47**	**30.7**	**26.50**	116	**72**	**126**	*	*
70)	**o-Xylene**	**16.59**	**27.5**	**26.75**	103	**64**	**120**	*	*
71)	**n-Nonane**	**16.82**	**27.1**	**26.75**	101	**56**	**132**	*	*
72)	**1,1,2,2-Tetrachloroethane**	**16.56**	**27.6**	**26.75**	103	**66**	**122**	*	*
74)	**Cumene**	**17.20**	**27.2**	**26.75**	102	**64**	**121**	*	*
75)	**alpha-Pinene**	**17.60**	**27.3**	**26.50**	103	**62**	**136**	*	*
76)	**n-Propylbenzene**	**17.72**	**27.9**	**26.75**	104	**65**	**123**	*	*
77)	3-Ethyltoluene	17.83	28.6	26.75	107	62	123	*	*
78)	**4-Ethyltoluene**	**17.88**	**28.3**	**26.25**	**108**	**71**	**126**	*	*
79)	**1,3,5-Trimethylbenzene**	**17.96**	**27.4**	**26.50**	**103**	**65**	**120**	*	*
80)	alpha-Methylstyrene	18.11	29.7	26.50	**112**	70	132	*	*
81)	2-Ethyltoluene	18.15	27.8	26.75	**104**	66	121	*	*
82)	**1,2,4-Trimethylbenzene**	**18.39**	**28.4**	**26.50**	**107**	**63**	**129**	*	*
83)	n-Decane	18.50	27.5	26.75	**103**	61	131	*	*
84)	**Benzyl Chloride**	**18.52**	**31.9**	**26.75**	**119**	**66**	**138**	*	*
85)	**1,3-Dichlorobenzene**	**18.54**	**30.9**	**26.75**	**116**	**65**	**127**	*	*
86)	**1,4-Dichlorobenzene**	**18.61**	**31.2**	**26.75**	**117**	**66**	**125**	*	*
87)	sec-Butylbenzene	18.67	27.4	26.50	**103**	68	123	*	*
88)	4-Isopropyltoluene (p-Cymene)	18.83	27.7	27.25	**102**	61	129	*	*
89)	1,2,3-Trimethylbenzene	18.83	27.5	27.00	**102**	60	134	*	*
90)	**1,2-Dichlorobenzene**	**18.97**	**30.2**	**26.75**	**113**	**67**	**128**	*	*
91)	**d-Limonene**	**18.99**	**27.4**	**26.50**	**103**	**65**	**136**	*	*
92)	**1,2-Dibromo-3-Chloropropane**	**19.43**	**29.6**	**26.75**	**111**	**73**	**133**	*	*
93)	n-Undecane	19.83	28.4	27.00	**105**	64	131	*	*
94)	**1,2,4-Trichlorobenzene**	**20.77**	**31.4**	**27.00**	**116**	**62**	**140**	*	*
95)	**Naphthalene**	**20.89**	**30.8**	**26.50**	**116**	**57**	**149**	*	*
96)	n-Dodecane	20.92	28.4	26.50	**107**	41	181	*	*
97)	**Hexachlorobutadiene**	**21.26**	**28.4**	**26.75**	**106**	57	129	*	*
98)	Cyclohexanone	16.24	27.8	25.25	110	61	131	*	*
99)	tert-Butylbenzene	18.38	26.4	26.50	100	62	130	*	*
100)	n-Butylbenzene	19.28	30.6	26.75	114	67	124	*	*

Bold = 75 Compound List

 *** = Pass** **I:\MS09\0-Instrument Info\0-Security Certificates\ICV_LCS_2019_10111902.CRT** 3/18/2020 9:09 AM

Response Factor Report MS09

Method Path : I:\MS09\Methods\
Method File : R9042220.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Apr 23 14:12:50 2020
Response Via : Initial Calibration

4/23/20

Calibration Files
0.2 =04222023.D 0.5 =04222013.D 1.0 =04222014.D 5.0 =04222015.D 25 =04222016.D 50 =04222

		Compound	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------	ISTD	----------						
2)	T	Propene	0.558	0.530	0.468	0.498	0.500	0.537	0.625	0.531	9.61
3)	T	Dichlorodifluo...	2.167	2.392	2.121	1.989	1.939	1.797	1.715	2.017	11.45
4)	T	Chloromethane	0.859	0.912	0.802	0.679	0.788	0.662	0.508	0.744	18.49
5)	T	1,2-Dichloro-1...	1.205	1.262	1.169	1.046	1.051	0.980	0.919	1.090	11.47
6)	T	Vinyl Chloride	1.031	1.068	0.997	0.957	0.971	0.925	0.883	0.976	6.42
7)	T	1,3-Butadiene	0.625	0.663	0.609	0.614	0.661	0.601	0.590	0.623	4.56
8)	T	Bromomethane	0.810	0.873	0.801	0.727	0.749	0.718	0.691	0.767	8.32
9)	T	Chloroethane	0.532	0.560	0.535	0.457	0.474	0.455	0.442	0.494	9.62
10)	T	Ethanol	0.505	0.494	0.430	0.344	0.361	0.345	0.336	0.402	18.28
11)	T	Acetonitrile	1.105	1.061	0.977	0.888	0.896	0.875	0.862	0.952	10.27
12)	T	Acrolein	0.340	0.348	0.389	0.364	0.385	0.375	0.371	0.367	4.94
13)	T	Acetone	0.567	0.562	0.524	0.464	0.450	0.420	0.394	0.483	14.21
14)	T	Trichlorofluor...	2.131	2.315	2.163	1.969	1.940	1.812	1.719	2.007	10.41
15)	T	2-Propanol (Is...	1.808	1.766	1.670	1.473	1.616	1.364	1.039	1.534	17.48
16)	T	Acrylonitrile	0.611	0.776	0.763	0.793	0.826	0.803	0.790	0.766	9.28
17)	T	1,1-Dichloroet...	0.937	1.006	0.918	0.857	0.858	0.817	0.784	0.882	8.63
18)	T	2-Methyl-2-Pro...	1.310	1.502	1.376	1.338	1.411	1.428	1.445	1.401	4.69
19)	T	Methylene Chlo...	0.909	0.949	0.875	0.826	0.831	0.792	0.746	0.847	8.21
20)	T	3-Chloro-1-pro...	1.049	1.180	1.051	0.934	0.927	0.892	0.844	0.983	11.82
21)	T	Trichlorotrifl...	1.117	1.242	1.128	1.020	0.994	0.930	0.881	1.044	12.00
22)	T	Carbon Disulfide	2.907	3.151	2.883	2.739	2.804	2.672	2.552	2.815	6.83
23)	T	trans-1,2-Dich...	0.991	1.205	1.144	1.128	1.153	1.106	1.068	1.114	6.16
24)	T	1,1-Dichloroet...	1.476	1.555	1.490	1.341	1.353	1.284	1.239	1.391	8.42
25)	T	Methyl tert-Bu...	1.735	1.922	1.763	1.717	1.775	1.794	1.845	1.793	3.93
26)	T	Vinyl Acetate	0.143	0.183	0.179	0.186	0.192	0.180	0.170	0.176	9.11
27)	T	2-Butanone (MEK)	0.420	0.488	0.521	0.505	0.532	0.513	0.493	0.496	7.41
28)	T	cis-1,2-Dichlo...	1.106	1.268	1.184	1.109	1.113	1.068	1.030	1.126	6.97
29)	T	Diisopropyl Ether	0.905	0.842	0.744	0.679	0.660	0.616	0.584	0.718	16.53
30)	T	Ethyl Acetate	0.187	0.248	0.235	0.225	0.230	0.216	0.205	0.221	9.28
31)	T	n-Hexane	1.190	1.283	1.164	1.029	1.015	0.940	0.878	1.071	13.59
32)	T	Chloroform	1.823	1.972	1.802	1.671	1.658	1.564	1.508	1.714	9.41
33)	S	1,2-Dichloroet...	1.605	1.626	1.667	1.619	1.604	1.606	1.610	1.620	1.38
34)	T	Tetrahydrofura...	0.496	0.553	0.516	0.493	0.506	0.485	0.468	0.502	5.39
35)	T	Ethyl tert-But...	0.830	0.913	0.819	0.743	0.736	0.685	0.650	0.768	11.90
36)	T	1,2-Dichloroet...	1.392	1.582	1.491	1.397	1.395	1.328	1.283	1.410	7.08
37)	IR	1,4-Difluorobenzen...	----------	ISTD	----------						
38)	T	1,1,1-Trichlor...	0.423	0.509	0.440	0.425	0.424	0.402	0.387	0.430	9.06
39)	T	Isopropyl Acetate	0.101	0.119	0.107	0.102	0.102	0.096	0.092	0.103	8.43
40)	T	1-Butanol	0.116	0.121	0.118	0.138	0.164	0.156	0.151	0.138	14.38
41)	T	Benzene	0.888	0.924	0.845	0.799	0.789	0.744	0.714	0.815	9.27
42)	T	Carbon Tetrach...	0.416	0.487	0.432	0.421	0.420	0.394	0.378	0.421	8.15
43)	T	Cyclohexane	0.343	0.365	0.333	0.318	0.311	0.291	0.274	0.319	9.69
44)	T	tert-Amyl Meth...	0.443	0.499	0.459	0.420	0.421	0.390	0.362	0.428	10.51
45)	T	1,2-Dichloropr...	0.167	0.188	0.173	0.164	0.165	0.157	0.153	0.167	6.90
46)	T	Bromodichlorom...	0.347	0.383	0.344	0.328	0.331	0.311	0.302	0.335	7.98
47)	T	Trichloroethene	0.283	0.325	0.291	0.284	0.281	0.263	0.248	0.282	8.51
48)	T	1,4-Dioxane	0.143	0.177	0.168	0.161	0.175	0.165	0.157	0.164	7.12
49)	T	2,2,4-Trimethy...	0.771	0.780	0.691	0.663	0.650	0.617	0.593	0.681	10.61
50)	T	Methyl Methacr...	0.076	0.089	0.092	0.089	0.094	0.087	0.084	0.087	6.71
51)	T	n-Heptane	0.201	0.214	0.195	0.186	0.188	0.175	0.167	0.189	8.32
52)	T	cis-1,3-Dichlo...	0.300	0.376	0.346	0.350	0.365	0.346	0.334	0.345	7.05
53)	T	4-Methyl-2-pen...	0.110	0.154	0.140	0.149	0.155	0.147	0.143	0.143	10.90
54)	T	trans-1,3-Dich...	0.278	0.327	0.316	0.341	0.366	0.348	0.338	0.331	8.48
55)	T	1,1,2-Trichlor...	0.226	0.247	0.236	0.217	0.222	0.209	0.202	0.223	6.89

56)	IR	Chlorobenzene-d5 (...	----------ISTD----------								
57)	S	Toluene-d8 (SS2)	2.506	2.421	2.410	2.390	2.396	2.394	2.377	2.414	1.79
58)	T	Toluene	2.331	2.268	2.104	1.966	1.962	1.837	1.717	2.026	10.98
59)	T	2-Hexanone	0.404	0.541	0.577	0.636	0.724	0.691	0.657	0.604	17.94
60)	T	Dibromochlorom...	0.661	0.764	0.704	0.684	0.710	0.667	0.629	0.688	6.26
61)	T	1,2-Dibromoethane	0.574	0.600	0.559	0.563	0.586	0.549	0.523	0.565	4.50
62)	T	n-Butyl Acetate	0.561	0.644	0.653	0.670	0.763	0.733	0.703	0.675	9.83
63)	T	n-Octane	0.354	0.377	0.337	0.312	0.311	0.293	0.274	0.323	11.10
64)	T	Tetrachloroethene	0.909	0.871	0.796	0.733	0.730	0.676	0.628	0.763	13.32
65)	T	Chlorobenzene	1.613	1.741	1.521	1.444	1.448	1.352	1.265	1.484	10.76
66)	T	Ethylbenzene	2.577	2.658	2.418	2.342	2.324	2.174	2.035	2.361	9.17
67)	T	m- & p-Xylenes	2.268	2.282	2.049	1.963	1.930	1.790	1.662	1.992	11.55
68)	T	Bromoform	0.584	0.624	0.619	0.624	0.645	0.605	0.567	0.610	4.39
69)	T	Styrene	1.358	1.563	1.488	1.486	1.519	1.419	1.315	1.450	6.18
70)	T	o-Xylene	2.106	2.285	2.026	1.959	1.907	1.770	1.641	1.956	10.87
71)	T	n-Nonane	0.673	0.729	0.657	0.627	0.617	0.578	0.536	0.631	10.05
72)	T	1,1,2,2-Tetrac...	0.769	0.856	0.747	0.744	0.742	0.688	0.641	0.741	9.02
73)	S	Bromofluoroben...	0.930	0.971	0.976	0.993	0.983	0.975	0.962	0.970	2.08
74)	T	Cumene	2.871	2.932	2.616	2.546	2.496	2.289	2.111	2.552	11.51
75)	T	alpha-Pinene	1.252	1.324	1.198	1.185	1.168	1.060	0.946	1.162	10.73
76)	T	n-Propylbenzene	2.961	3.122	2.855	2.815	2.780	2.559	2.367	2.780	9.00
77)	T	3-Ethyltoluene	2.558	2.873	2.591	2.482	2.531	2.267	2.137	2.491	9.52
78)	T	4-Ethyltoluene	2.466	2.754	2.501	2.536	2.414	2.275	2.037	2.426	9.24
79)	T	1,3,5-Trimethy...	2.377	2.617	2.372	2.252	2.198	2.016	1.860	2.242	11.15
80)	T	alpha-Methylst...	0.989	1.229	1.174	1.172	1.192	1.093	1.001	1.122	8.51
81)	T	2-Ethyltoluene	2.638	2.896	2.603	2.500	2.438	2.229	2.048	2.479	11.22
82)	T	1,2,4-Trimethy...	2.216	2.548	2.314	2.223	2.149	1.949	1.775	2.168	11.51
83)	T	n-Decane	0.652	0.907	0.813	0.803	0.785	0.719	0.667	0.764	11.81
84)	T	Benzyl Chloride	1.268	1.648	1.581	1.714	1.881	1.738	1.616	1.635	11.59
85)	T	1,3-Dichlorobe...	1.192	1.516	1.386	1.357	1.351	1.228	1.118	1.307	10.34
86)	T	1,4-Dichlorobe...	1.228	1.514	1.411	1.363	1.389	1.262	1.162	1.333	9.10
87)	T	sec-Butylbenzene	2.940	3.223	2.948	2.821	2.732	2.490	2.279	2.776	11.28
88)	T	4-Isopropyltol...	2.823	3.202	2.913	2.789	2.661	2.365	2.126	2.697	13.23
89)	T	1,2,3-Trimethy...	2.115	2.642	2.298	2.248	2.160	1.952	1.772	2.170	12.67
90)	T	1,2-Dichlorobe...	1.246	1.426	1.364	1.323	1.301	1.170	1.056	1.270	9.83
91)	T	d-Limonene	0.615	0.689	0.625	0.625	0.624	0.573	0.534	0.612	7.90
92)	T	1,2-Dibromo-3-...	0.413	0.503	0.477	0.498	0.528	0.490	0.459	0.481	7.67
93)	T	n-Undecane		0.890	0.829	0.817	0.832	0.761	0.706	0.806	7.92
94)	T	1,2,4-Trichlor...	0.482	0.990	1.003	1.029	1.115	1.011	0.929	0.937	22.19
95)	T	Naphthalene		2.617	2.620	2.847	3.167	2.882	2.622	2.792	7.86
96)	T	n-Dodecane		0.706	0.699	0.715	0.802	0.730	0.677	0.722	6.00
97)	T	Hexachlorobuta...	0.809	0.879	0.811	0.766	0.759	0.688	0.626	0.762	11.00
98)	T	Cyclohexanone	0.446	0.503	0.482	0.487	0.538	0.511	0.490	0.494	5.71
99)	T	tert-Butylbenzene	2.425	2.553	2.321	2.232	2.109	1.895	1.702	2.177	13.74
100)	T	n-Butylbenzene	1.831	2.315	2.155	2.108	2.128	1.939	1.791	2.038	9.33

(#) = Out of Range

R9042220.M Thu Apr 23 14:19:49 2020

Primary Source Standards Concentrations (Working & Initial Calibration)

5/1/20

1ng/L Std. ID:
4ng/L Std. ID: S34-04162006
20ng/L Std. ID: S34-04222004
200ng/L Std. ID: S34-04202004

Dilution Factors:		5	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	20	200	200	200
	Source Std.	Primary Working Standards				Injection (L):	0.025	0.050	0.025	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m³	200ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
Propene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Dichlorodifluoromethane	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Chloromethane	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Freon-114	1.05	210	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Vinyl Chloride	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3-Butadiene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Bromomethane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Chloroethane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Ethanol	5.21	1042	104.2	20.84	5.21		0.521	1.042	2.605	5.21	26.05	130.25	260.5	521
Acetonitrile	1.05	210	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Acrolein	1.03	206	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Acetone	5.33	1066	106.6	21.32	5.33		0.533	1.066	2.665	5.33	26.65	133.25	266.5	533
Trichlorofluoromethane	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Isopropanol	2.10	420	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
Acrylonitrile	1.05	210	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,1-Dichloroethene	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
tert-Butanol	2.16	432	43.2	8.64	2.16		0.216	0.432	1.080	2.16	10.80	54.00	108.0	216
Methylene Chloride	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Allyl Chloride	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Trichlorotrifluoroethane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Carbon Disulfide	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
trans-1,2-Dichloroethene	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1-Dichloroethane	1.09	218	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
Methyl tert-Butyl Ether	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Vinyl Acetate	5.35	1070	107.0	21.40	5.35		0.535	1.070	2.675	5.35	26.75	133.75	267.5	535
2-Butanone	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
cis-1,2-Dichloroethene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Diisopropyl Ether	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Ethyl Acetate	2.17	434	43.4	8.68	2.17		0.217	0.434	1.085	2.17	10.85	54.25	108.5	217
n-Hexane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Chloroform	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Tetrahydrofuran	1.09	218	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
Ethyl tert-Butyl Ether	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dichloroethane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1,1-Trichloroethane	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Isopropyl Acetate	2.11	422	42.2	8.44	2.11		0.211	0.422	1.055	2.11	10.55	52.75	105.5	211
1-Butanol	2.08	416	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
Benzene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Carbon Tetrachloride	1.05	210	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Cyclohexane	2.12	424	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
tert-Amyl Methyl Ether	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dichloropropane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Bromodichloromethane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Trichloroethene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,4-Dioxane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Isooctane	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Methyl Methacrylate	2.15	430	43.0	8.60	2.15		0.215	0.430	1.075	2.15	10.75	53.75	107.5	215
n-Heptane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID:
4ng/L Std. ID: S34-04162006
20ng/L Std. ID: S34-04222004
200ng/L Std. ID: S34-04202004

Dilution Factors:		5	50	250	1000	**Working STD Conc.(ng/L):**	4	4	20	20	20	200	200	200
	Source Std.	**Primary Working Standards**				**Injection (L):**	0.025	0.050	0.025	0.050	0.25	0.125	0.25	0.50
Compounds	**mg/m³**	**200ng/L**	**20ng/L**	**4ng/L**	**1ng/L**	**ICAL Points:**	**0.1ng**	**0.2ng**	**0.5ng**	**1ng**	**5ng**	**25ng**	**50ng**	**100ng**
cis-1,3-Dichloropropene	1.04	208	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
4-Methyl-2-pentanone	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
trans-1,3-Dichloropropene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1,2-Trichloroethane	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Toluene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
2-Hexanone	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Dibromochloromethane	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,2-Dibromoethane	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Butyl Acetate	1.09	218	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
n-Octane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Tetrachloroethene	1.04	208	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Chlorobenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Ethylbenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
m-&p-Xylene	2.14	428	42.8	8.56	2.14		0.214	0.428	1.070	2.14	10.70	53.50	107.0	214
Bromoform	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Styrene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
o-Xylene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Nonane	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,1,2,2-Tetrachloroethane	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Cumene	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
alpha-Pinene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Propylbenzene	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
3-Ethyltoluene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
4-Ethyltoluene	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3,5-Trimethylbenzene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
alpha-Methylstyrene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
2-Ethyltoluene	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2,4-Trimethylbenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Decane	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Benzyl Chloride	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3-Dichlorobenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,4-Dichlorobenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
sec-Butylbenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
p-Isopropyltoluene	1.09	218	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
1,2,3-Trimethylbenzene	1.09	218	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
1,2-Dichlorobenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
d-Limonene	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dibromo-3-chloropropane	1.05	210	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
n-Undecane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2,4-Trichlorobenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Naphthalene	1.03	206	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
n-Dodecane	1.04	208	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Hexachloro-1,3-butadiene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Methacrylonitrile	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Cyclohexanone	1.00	200	20.0	4.00	1.00		0.100	0.200	0.500	1.00	5.00	25.00	50.0	100
tert-Butylbenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Butylbenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107

Calibration Status Report MS09

Method : I:\MS09\Methods\R9042220.M (RTE Integrator)
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration

5/4/20

#	ID	Conc	ISTD Conc	Path\File
2	0.2	13	13	I:\MS09\Data\2020_04\22\04222023.D
3	0.5	13	13	I:\MS09\Data\2020_04\22\04222013.D
4	1.0	13	13	I:\MS09\Data\2020_04\22\04222014.D
5	5.0	13	13	I:\MS09\Data\2020_04\22\04222015.D
6	25	13	13	I:\MS09\Data\2020_04\22\04222016.D
7	50	13	13	I:\MS09\Data\2020_04\22\04222017.D
8	100	13	13	I:\MS09\Data\2020_04\22\04222018.D

#	ID	Update Time	Quant Time	Acquisition Time
2	0.2	Apr 23 14:12 2020	Apr 23 14:10 2020	23 Apr 2020 13:44
3	0.5	Apr 23 11:55 2020	Apr 23 11:49 2020	22 Apr 2020 20:31
4	1.0	Apr 23 11:55 2020	Apr 23 11:49 2020	22 Apr 2020 21:05
5	5.0	Apr 23 11:55 2020	Apr 23 11:49 2020	22 Apr 2020 21:39
6	25	Apr 23 11:55 2020	Apr 23 11:49 2020	22 Apr 2020 22:12
7	50	Apr 23 11:56 2020	Apr 23 11:49 2020	22 Apr 2020 22:46
8	100	Apr 23 11:56 2020	Apr 23 11:49 2020	22 Apr 2020 23:19

R9042220.M Mon May 04 16:31:55 2020

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222023.D Vial: 4
Acq On : 23 Apr 2020 13:44 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04162006 (5/15)

Quant Time: Apr 23 14:10:30 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:56:23 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/23/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	134664	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	566655	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	249724	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	216176	12.364	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.88%				
57) Toluene-d8 (SS2)	13.54	98	625888	12.967	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.76%				
73) Bromofluorobenzene (SS3)	17.05	174	232144	11.970	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.76%				
Target Compounds							Qvalue
2) Propene	3.90	42	1275	0.203	ng		93
3) Dichlorodifluoromethan...	4.00	85	4950	0.195	ng		98
4) Chloromethane	4.20	50	1961	0.214	ng		89
5) 1,2-Dichloro-1,1,2,2-t...	4.36	135	2727	0.199	ng		97
6) Vinyl Chloride	4.48	62	2399	0.199	ng		90
7) 1,3-Butadiene	4.66	54	1428	0.196	ng		87
8) Bromomethane	4.95	94	1884	0.196	ng		94
9) Chloroethane	5.17	64	1239	0.209	ng		79
10) Ethanol	5.36	45	5666	1.175	ng		86
11) Acetonitrile	5.59	41	2501	0.223	ng	#	48
12) Acrolein	5.72	56	755	0.184	ng		87
13) Acetone	5.86	58	6508	1.062	ng		98
14) Trichlorofluoromethane	6.04	101	4867	0.192	ng		98
15) 2-Propanol (Isopropanol)	6.19	45	8179	0.436	ng		84
16) Acrylonitrile	6.41	53	1383	0.159	ng		90
17) 1,1-Dichloroethene	6.74	96	2180	0.201	ng		98
18) 2-Methyl-2-Propanol (t...	6.90	59	6097	0.358	ng		87
19) Methylene Chloride	6.87	84	2077	0.197	ng		100
20) 3-Chloro-1-propene (Al...	7.00	41	2442	0.201	ng		90
21) Trichlorotrifluoroethane	7.19	151	2599	0.200	ng		99
22) Carbon Disulfide	7.17	76	6702	0.194	ng		97
23) trans-1,2-Dichloroethene	7.90	61	2306	0.170	ng		96
24) 1,1-Dichloroethane	8.09	63	3466	0.203	ng		93
25) Methyl tert-Butyl Ether	8.21	73	4037	0.185	ng		100
26) Vinyl Acetate	8.29	86	1651	0.810	ng	#	78
27) 2-Butanone (MEK)	8.56	72	960	0.161	ng	#	35
28) cis-1,2-Dichloroethene	8.97	61	2527	0.181	ng		90
29) Diisopropyl Ether	9.23	87	2107	0.231	ng	#	58
30) Ethyl Acetate	9.23	61	872	0.343	ng		89
31) n-Hexane	9.22	57	2770	0.206	ng		99
32) Chloroform	9.28	83	4202	0.197	ng		95
34) Tetrahydrofuran (THF)	9.72	72	1164	0.187	ng		89
35) Ethyl tert-Butyl Ether	9.78	87	1932	0.203	ng		98
36) 1,2-Dichloroethane	10.02	62	3240	0.181	ng		98
38) 1,1,1-Trichloroethane	10.29	97	4101	0.178	ng		99
39) Isopropyl Acetate	10.68	61	1932	0.368	ng	#	92
40) 1-Butanol	10.73	56	2192	0.363	ng	#	74
41) Benzene	10.75	78	8534	0.199	ng		98
42) Carbon Tetrachloride	10.90	117	3964	0.179	ng		96
43) Cyclohexane	11.04	84	6587	0.389	ng		96
44) tert-Amyl Methyl Ether	11.37	73	4336	0.195	ng		96
45) 1,2-Dichloropropane	11.57	63	1635	0.190	ng		97
46) Bromodichloromethane	11.76	83	3400	0.197	ng		97
47) Trichloroethene	11.81	130	2747	0.188	ng		95
48) 1,4-Dioxane	11.81	88	1399	0.167	ng		82
49) 2,2,4-Trimethylpentane...	11.87	57	7481	0.209	ng		96
50) Methyl Methacrylate	12.02	100	1483	0.345	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222023.D Vial: 4
Acq On : 23 Apr 2020 13:44 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04162006 (5/15)

Quant Time: Apr 23 14:10:30 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:56:23 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

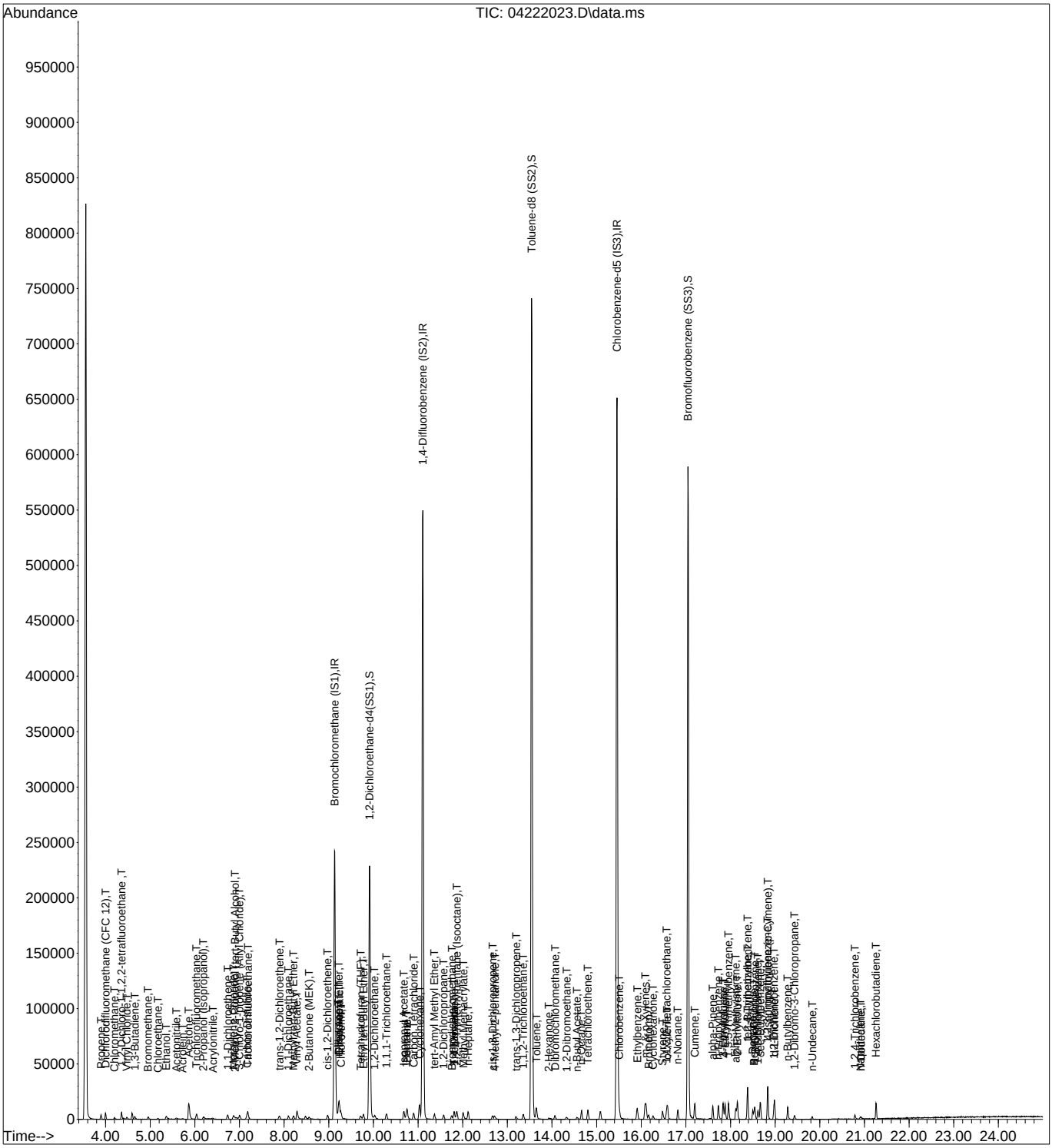
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	12.12	71	1964	0.198	ng		96
52) cis-1,3-Dichloropropene	12.67	75	2827	0.160	ng		99
53) 4-Methyl-2-pentanone	12.72	58	1053	0.152	ng	#	72
54) trans-1,3-Dichloropropene	13.20	75	2670	0.165	ng		80
55) 1,1,2-Trichloroethane	13.36	97	2197	0.190	ng		97
58) Toluene	13.65	91	9967	0.212	ng		99
59) 2-Hexanone	13.93	43	1727	0.135	ng	#	68
60) Dibromochloromethane	14.07	129	2828	0.179	ng		92
61) 1,2-Dibromoethane	14.33	107	2452	0.193	ng		96
62) n-Butyl Acetate	14.56	43	2442	0.166	ng		86
63) n-Octane	14.66	57	1529	0.203	ng		90
64) Tetrachloroethene	14.80	166	3778	0.213	ng		97
65) Chlorobenzene	15.51	112	6898	0.200	ng		99
66) Ethylbenzene	15.91	91	11017	0.202	ng		97
67) m- & p-Xylenes	16.09	91	19390	0.421	ng		93
68) Bromoform	16.17	173	2495	0.177	ng		91
69) Styrene	16.47	104	5750	0.172	ng		96
70) o-Xylene	16.58	91	9004	0.198	ng		97
71) n-Nonane	16.82	43	2878	0.196	ng		90
72) 1,1,2,2-Tetrachloroethane	16.57	83	3286	0.191	ng		94
74) Cumene	17.20	105	12390	0.210	ng		95
75) alpha-Pinene	17.60	93	5352	0.199	ng		97
76) n-Propylbenzene	17.73	91	12776	0.198	ng		98
77) 3-Ethyltoluene	17.83	105	10834	0.186	ng		98
78) 4-Ethyltoluene	17.88	105	10641	0.189	ng		98
79) 1,3,5-Trimethylbenzene	17.95	105	10069	0.190	ng		98
80) alpha-Methylstyrene	18.12	118	4228	0.161	ng		89
81) 2-Ethyltoluene	18.15	105	11382	0.193	ng		100
82) 1,2,4-Trimethylbenzene	18.38	105	9473	0.181	ng		96
83) n-Decane	18.50	57	2789	0.150	ng		91
84) Benzyl Chloride	18.53	91	5471	0.145	ng		92
85) 1,3-Dichlorobenzene	18.55	146	5096	0.162	ng		95
86) 1,4-Dichlorobenzene	18.61	146	5249	0.159	ng		100
87) sec-Butylbenzene	18.67	105	12570	0.192	ng		95
88) 4-Isopropyltoluene (p-...	18.83	119	12296	0.193	ng		99
89) 1,2,3-Trimethylbenzene	18.83	105	9210	0.177	ng		99
90) 1,2-Dichlorobenzene	18.97	146	5329	0.173	ng		98
91) d-Limonene	18.99	68	2655	0.186	ng		99
92) 1,2-Dibromo-3-Chloropr...	19.43	157	1734	0.159	ng		98
93) n-Undecane	19.83	57	1056	0.056	ng		92
94) 1,2,4-Trichlorobenzene	20.79	180	2062	0.088	ng		95
95) Naphthalene	20.91	128	3989	0.063	ng		85
96) n-Dodecane	20.92	57	109	0.007	ng	#	30
97) Hexachlorobutadiene	21.26	225	3425	0.185	ng		99
98) Cyclohexanone	16.27	55	1783	0.159	ng		96
99) tert-Butylbenzene	18.38	119	10369	0.201	ng		100
100) n-Butylbenzene	19.28	91	7829	0.161	ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222023.D Vial: 4
Acq On : 23 Apr 2020 13:44 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04162006 (5/15)

Quant Time: Apr 23 14:10:30 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:56:23 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222013.D Vial: 5
Acq On : 22 Apr 2020 20:31 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04222004 (5/21)

Quant Time: Apr 23 11:49:48 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/23/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	129332	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	11.11	114	538679	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	247239	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	210239	14.368	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.96%				
57) Toluene-d8 (SS2)	13.54	98	598520	12.172	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.36%				
73) Bromofluorobenzene (SS3)	17.05	174	240179	14.681	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 117.44%				
Target Compounds							Qvalue
2) Propene	3.88	42	2906	0.367	ng		97
3) Dichlorodifluoromethan...	3.98	85	13115	0.711	ng		98
4) Chloromethane	4.18	50	5003	0.450	ng		96
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	6856	0.796	ng		98
6) Vinyl Chloride	4.46	62	5965	0.623	ng		99
7) 1,3-Butadiene	4.64	54	3634	0.545	ng		98
8) Bromomethane	4.94	94	4880	0.578	ng		94
9) Chloroethane	5.16	64	3130	0.499	ng		95
10) Ethanol	5.34	45	13315	2.149	ng		88
11) Acetonitrile	5.56	41	5762	0.408	ng		86
12) Acrolein	5.71	56	1856	0.349	ng		98
13) Acetone	5.84	58	15493	2.436	ng		95
14) Trichlorofluoromethane	6.03	101	12695	0.760	ng		96
15) 2-Propanol (Isopropanol)	6.16	45	19185	0.951	ng		92
16) Acrylonitrile	6.37	53	4213	0.381	ng		99
17) 1,1-Dichloroethene	6.73	96	5620	0.596	ng		99
18) 2-Methyl-2-Propanol (t...	6.84	59	16787	0.786	ng		94
19) Methylene Chloride	6.86	84	5202	0.535	ng		97
20) 3-Chloro-1-propene (Al...	6.99	41	6592	0.536	ng		84
21) Trichlorotrifluoroethane	7.18	151	6939	0.745	ng		98
22) Carbon Disulfide	7.15	76	17442	0.517	ng		96
23) trans-1,2-Dichloroethene	7.88	61	6733	0.553	ng		96
24) 1,1-Dichloroethane	8.09	63	8771	0.548	ng		100
25) Methyl tert-Butyl Ether	8.19	73	10739	0.387	ng		99
26) Vinyl Acetate	8.28	86	5073	2.387	ng	#	92
27) 2-Butanone (MEK)	8.53	72	2674	0.428	ng	#	86
28) cis-1,2-Dichloroethene	8.97	61	6954	0.568	ng		98
29) Diisopropyl Ether	9.23	87	4705	0.607	ng	#	85
30) Ethyl Acetate	9.23	61	2784	0.974	ng		99
31) n-Hexane	9.22	57	7168	0.518	ng		96
32) Chloroform	9.27	83	10918	0.662	ng		97
34) Tetrahydrofuran (THF)	9.70	72	3120	0.517	ng		98
35) Ethyl tert-Butyl Ether	9.77	87	5103	0.453	ng		95
36) 1,2-Dichloroethane	10.02	62	8840	0.711	ng		98
38) 1,1,1-Trichloroethane	10.29	97	11727	0.804	ng		98
39) Isopropyl Acetate	10.67	61	5394	1.071	ng	#	86
40) 1-Butanol	10.72	56	5423	0.664	ng	#	56
41) Benzene	10.75	78	21115	0.550	ng		99
42) Carbon Tetrachloride	10.90	117	11021	0.806	ng		97
43) Cyclohexane	11.03	84	16672	1.144	ng		95
44) tert-Amyl Methyl Ether	11.36	73	11616	0.460	ng		98
45) 1,2-Dichloropropane	11.57	63	4380	0.512	ng		97
46) Bromodichloromethane	11.75	83	8920	0.705	ng		98
47) Trichloroethene	11.81	130	7497	0.678	ng		94
48) 1,4-Dioxane	11.81	88	4120	0.550	ng		88
49) 2,2,4-Trimethylpentane...	11.87	57	17992	0.499	ng		99
50) Methyl Methacrylate	12.00	100	4141	1.101	ng		94

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222013.D Vial: 5
Acq On : 22 Apr 2020 20:31 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04222004 (5/21)

Quant Time: Apr 23 11:49:48 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

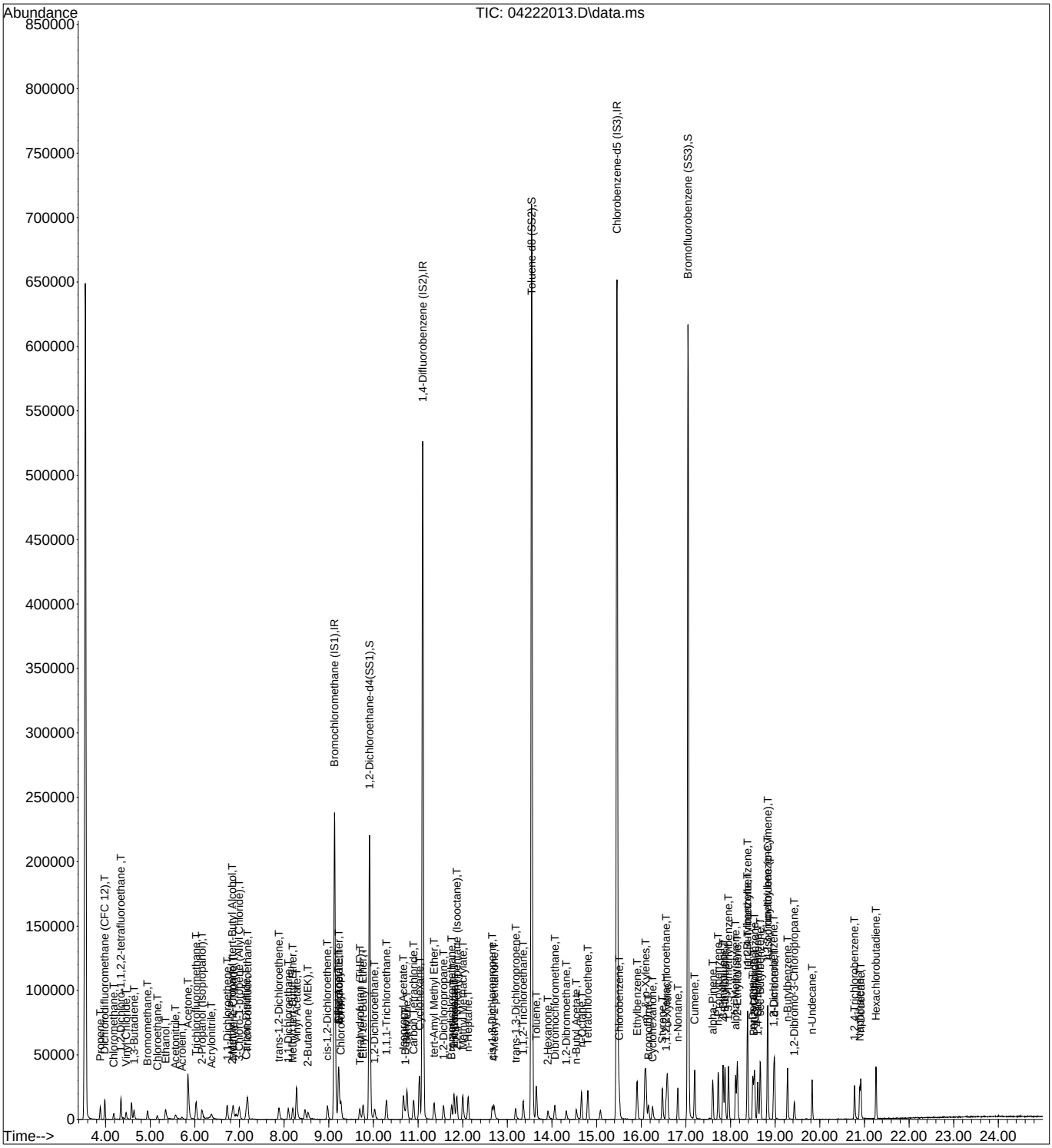
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	4984	0.544	ng	96
52) cis-1,3-Dichloropropene	12.66	75	8429	0.591	ng	94
53) 4-Methyl-2-pentanone	12.71	58	3522	0.465	ng	96
54) trans-1,3-Dichloropropene	13.19	75	7467	0.559	ng	96
55) 1,1,2-Trichloroethane	13.36	97	5686	0.605	ng	100
58) Toluene	13.65	91	23995	0.575	ng	98
59) 2-Hexanone	13.91	43	5723	0.346	ng	98
60) Dibromochloromethane	14.07	129	8081	0.694	ng	100
61) 1,2-Dibromoethane	14.32	107	6351	0.602	ng	95
62) n-Butyl Acetate	14.54	43	6937	0.393	ng	95
63) n-Octane	14.67	57	4029	0.535	ng	97
64) Tetrachloroethene	14.80	166	8957	0.690	ng	99
65) Chlorobenzene	15.51	112	18426	0.633	ng	99
66) Ethylbenzene	15.91	91	28127	0.628	ng	99
67) m- & p-Xylenes	16.10	91	48290	1.346	ng	99
68) Bromoform	16.16	173	6603	0.687	ng	94
69) Styrene	16.47	104	16387	0.630	ng	98
70) o-Xylene	16.58	91	24176	0.674	ng	98
71) n-Nonane	16.82	43	7718	0.498	ng	97
72) 1,1,2,2-Tetrachloroethane	16.56	83	9061	0.560	ng	100
74) Cumene	17.19	105	31313	0.669	ng	97
75) alpha-Pinene	17.60	93	14014	0.595	ng	100
76) n-Propylbenzene	17.72	91	33340	0.624	ng	100
77) 3-Ethyltoluene	17.83	105	30114	0.672	ng	99
78) 4-Ethyltoluene	17.87	105	29410	0.685	ng	99
79) 1,3,5-Trimethylbenzene	17.95	105	27430	0.695	ng	99
80) alpha-Methylstyrene	18.11	118	13008	0.673	ng	86
81) 2-Ethyltoluene	18.15	105	30928	0.691	ng	98
82) 1,2,4-Trimethylbenzene	18.38	105	26963	0.735	ng	98
83) n-Decane	18.50	57	9598	0.538	ng	98
84) Benzyl Chloride	18.52	91	17607	0.614	ng	97
85) 1,3-Dichlorobenzene	18.54	146	16047	0.758	ng	97
86) 1,4-Dichlorobenzene	18.61	146	16026	0.741	ng	98
87) sec-Butylbenzene	18.66	105	34100	0.661	ng	99
88) 4-Isopropyltoluene (p-...	18.83	119	34516	0.756	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	28477	0.761	ng	98
90) 1,2-Dichlorobenzene	18.97	146	15092	0.716	ng	98
91) d-Limonene	18.99	68	7364	0.578	ng	96
92) 1,2-Dibromo-3-Chloropr...	19.43	157	5228	0.623	ng	98
93) n-Undecane	19.83	57	9503	0.501	ng	99
94) 1,2,4-Trichlorobenzene	20.77	180	10478	0.645	ng	97
95) Naphthalene	20.90	128	26653	0.528	ng	97
96) n-Dodecane	20.92	57	7261	0.387	ng	95
97) Hexachlorobutadiene	21.26	225	9210	0.818	ng	98
98) Cyclohexanone	16.25	55	4973	0.423	ng	99
99) tert-Butylbenzene	18.38	119	27019	0.714	ng	98
100) n-Butylbenzene	19.28	91	24494	0.666	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222013.D Vial: 5
Acq On : 22 Apr 2020 20:31 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04222004 (5/21)

Quant Time: Apr 23 11:49:48 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222014.D Vial: 5
Acq On : 22 Apr 2020 21:05 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04222004 (5/21)

Quant Time: Apr 23 11:49:50 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/23/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	126276	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.11	114	536769	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	247388	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.92	65	210491	14.733	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 117.84%				
57) Toluene-d8 (SS2)	13.55	98	596176	12.117	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.96%				
73) Bromofluorobenzene (SS3)	17.05	174	241378	14.745	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 118.00%				
Target Compounds							Qvalue
2) Propene	3.88	42	5015	0.648	ng		91
3) Dichlorodifluoromethan...	3.99	85	22709	1.260	ng		99
4) Chloromethane	4.18	50	8593	0.792	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	12398	1.475	ng		98
6) Vinyl Chloride	4.46	62	10882	1.165	ng		100
7) 1,3-Butadiene	4.63	54	6520	1.001	ng		96
8) Bromomethane	4.94	94	8741	1.061	ng		98
9) Chloroethane	5.16	64	5840	0.953	ng		94
10) Ethanol	5.35	45	22628	3.740	ng		90
11) Acetonitrile	5.57	41	10365	0.751	ng		83
12) Acrolein	5.71	56	4051	0.781	ng		91
13) Acetone	5.84	58	28197	4.541	ng		93
14) Trichlorofluoromethane	6.03	101	23166	1.420	ng		100
15) 2-Propanol (Isopropanol)	6.16	45	35435	1.798	ng		95
16) Acrylonitrile	6.37	53	8090	0.750	ng		99
17) 1,1-Dichloroethene	6.72	96	10014	1.088	ng		100
18) 2-Methyl-2-Propanol (t...	6.82	59	30034	1.440	ng		98
19) Methylene Chloride	6.86	84	9369	0.987	ng		99
20) 3-Chloro-1-propene (Al...	7.00	41	11468	0.954	ng		94
21) Trichlorotrifluoroethane	7.19	151	12306	1.353	ng		99
22) Carbon Disulfide	7.15	76	31163	0.946	ng		99
23) trans-1,2-Dichloroethene	7.88	61	12484	1.051	ng		100
24) 1,1-Dichloroethane	8.09	63	16412	1.050	ng		100
25) Methyl tert-Butyl Ether	8.19	73	19238	0.710	ng		98
26) Vinyl Acetate	8.28	86	9679	4.664	ng	#	95
27) 2-Butanone (MEK)	8.53	72	5583	0.916	ng		90
28) cis-1,2-Dichloroethene	8.98	61	12681	1.060	ng		97
29) Diisopropyl Ether	9.22	87	8113	1.073	ng	#	95
30) Ethyl Acetate	9.22	61	5156	1.848	ng		95
31) n-Hexane	9.22	57	12702	0.939	ng		98
32) Chloroform	9.28	83	19474	1.210	ng		100
34) Tetrahydrofuran (THF)	9.69	72	5685	0.965	ng		94
35) Ethyl tert-Butyl Ether	9.77	87	8937	0.812	ng		99
36) 1,2-Dichloroethane	10.03	62	16265	1.340	ng		99
38) 1,1,1-Trichloroethane	10.29	97	20230	1.392	ng		99
39) Isopropyl Acetate	10.67	61	9686	1.930	ng	#	93
40) 1-Butanol	10.71	56	10515	1.291	ng	#	76
41) Benzene	10.76	78	38449	1.005	ng		99
42) Carbon Tetrachloride	10.90	117	19465	1.428	ng		98
43) Cyclohexane	11.03	84	30305	2.087	ng		99
44) tert-Amyl Methyl Ether	11.36	73	21307	0.847	ng		97
45) 1,2-Dichloropropane	11.57	63	8021	0.940	ng		99
46) Bromodichloromethane	11.76	83	15975	1.266	ng		99
47) Trichloroethene	11.81	130	13388	1.215	ng		98
48) 1,4-Dioxane	11.79	88	7806	1.046	ng		84
49) 2,2,4-Trimethylpentane...	11.87	57	31730	0.883	ng		99
50) Methyl Methacrylate	12.00	100	8462	2.259	ng		96

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222014.D Vial: 5
Acq On : 22 Apr 2020 21:05 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04222004 (5/21)

Quant Time: Apr 23 11:49:50 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

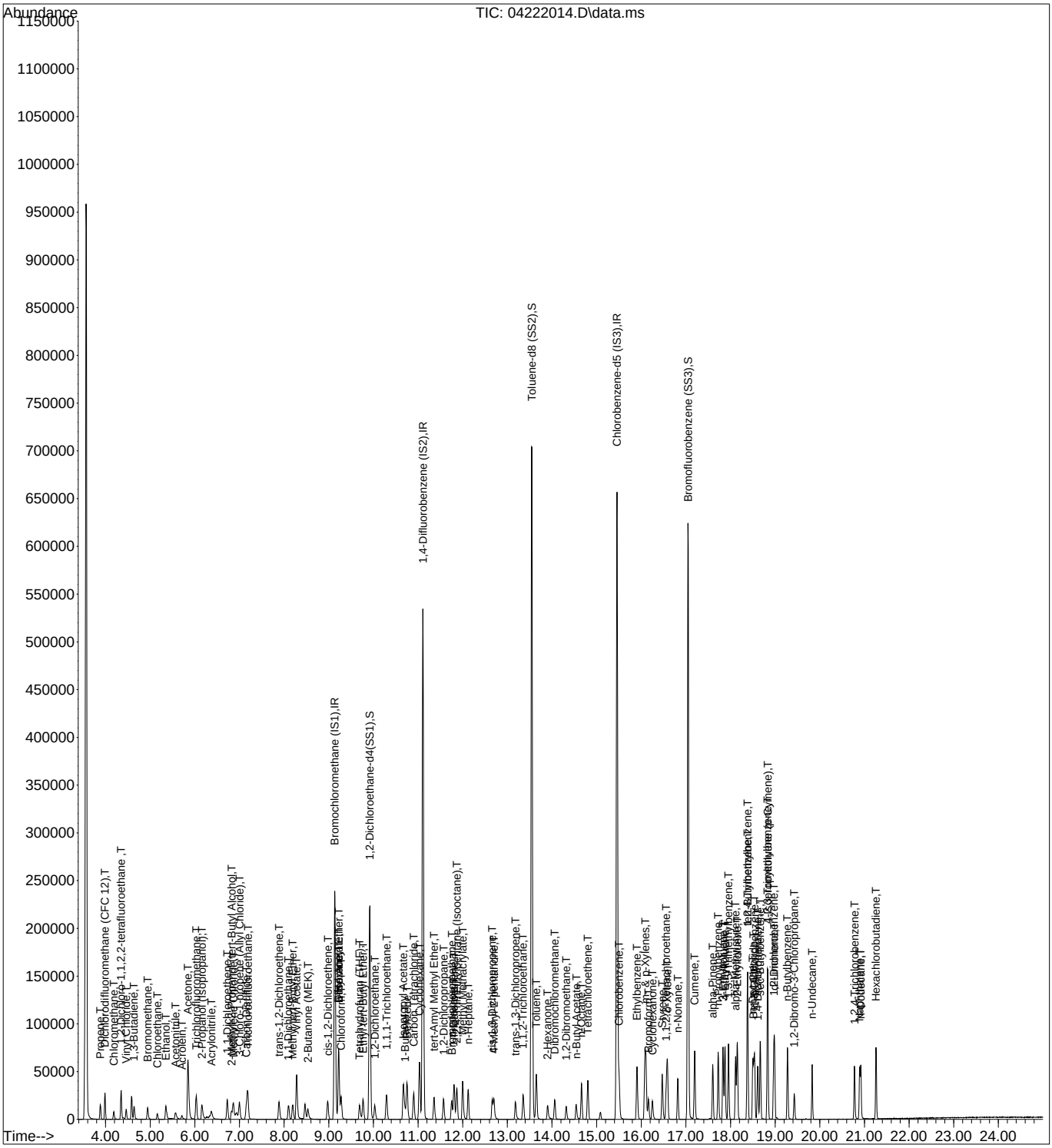
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	9029	0.989	ng	98
52) cis-1,3-Dichloropropene	12.66	75	15472	1.088	ng	98
53) 4-Methyl-2-pentanone	12.70	58	6392	0.848	ng	93
54) trans-1,3-Dichloropropene	13.18	75	14379	1.080	ng	99
55) 1,1,2-Trichloroethane	13.35	97	10838	1.158	ng	96
58) Toluene	13.65	91	44562	1.067	ng	100
59) 2-Hexanone	13.90	43	12222	0.739	ng	100
60) Dibromochloromethane	14.06	129	14909	1.280	ng	99
61) 1,2-Dibromoethane	14.32	107	11842	1.121	ng	99
62) n-Butyl Acetate	14.54	43	14091	0.798	ng	96
63) n-Octane	14.66	57	7199	0.956	ng	97
64) Tetrachloroethene	14.80	166	16393	1.263	ng	98
65) Chlorobenzene	15.50	112	32219	1.107	ng	99
66) Ethylbenzene	15.90	91	51213	1.142	ng	98
67) m- & p-Xylenes	16.09	91	86782	2.418	ng	99
68) Bromoform	16.16	173	13117	1.363	ng	100
69) Styrene	16.47	104	31213	1.199	ng	99
70) o-Xylene	16.58	91	42905	1.196	ng	100
71) n-Nonane	16.82	43	13906	0.898	ng	100
72) 1,1,2,2-Tetrachloroethane	16.56	83	15812	0.977	ng	98
74) Cumene	17.19	105	55907	1.195	ng	100
75) alpha-Pinene	17.60	93	25373	1.076	ng	100
76) n-Propylbenzene	17.72	91	61029	1.142	ng	100
77) 3-Ethyltoluene	17.83	105	54359	1.212	ng	97
78) 4-Ethyltoluene	17.88	105	53458	1.244	ng	98
79) 1,3,5-Trimethylbenzene	17.95	105	49762	1.260	ng	99
80) alpha-Methylstyrene	18.11	118	24852	1.285	ng	90
81) 2-Ethyltoluene	18.15	105	55645	1.242	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	48997	1.335	ng	100
83) n-Decane	18.50	57	17215	0.964	ng	97
84) Benzyl Chloride	18.51	91	33788	1.177	ng	100
85) 1,3-Dichlorobenzene	18.54	146	29341	1.385	ng	100
86) 1,4-Dichlorobenzene	18.61	146	29880	1.380	ng	99
87) sec-Butylbenzene	18.66	105	62433	1.210	ng	99
88) 4-Isopropyltoluene (p-...	18.83	119	62845	1.375	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	49569	1.324	ng	98
90) 1,2-Dichlorobenzene	18.97	146	28891	1.371	ng	99
91) d-Limonene	18.98	68	13364	1.049	ng	99
92) 1,2-Dibromo-3-Chloropr...	19.43	157	9913	1.180	ng	99
93) n-Undecane	19.83	57	17723	0.933	ng	99
94) 1,2,4-Trichlorobenzene	20.78	180	21234	1.305	ng	99
95) Naphthalene	20.89	128	53400	1.057	ng	100
96) n-Dodecane	20.92	57	14385	0.767	ng	98
97) Hexachlorobutadiene	21.26	225	17024	1.511	ng	100
98) Cyclohexanone	16.25	55	9545	0.812	ng	99
99) tert-Butylbenzene	18.38	119	49158	1.298	ng	100
100) n-Butylbenzene	19.27	91	45630	1.241	ng	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222014.D Vial: 5
Acq On : 22 Apr 2020 21:05 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04222004 (5/21)

Quant Time: Apr 23 11:49:50 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222015.D Vial: 5
Acq On : 22 Apr 2020 21:39 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04222004 (5/21)

Quant Time: Apr 23 11:49:52 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/23/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.14	130	127032	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	11.11	114	522643	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	242847	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.92	65	205612	14.306	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.48%			
57) Toluene-d8 (SS2)	13.55	98	580496	12.019	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.16%			
73) Bromofluorobenzene (SS3)	17.05	174	241052	15.001	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 120.00%			
Target Compounds						Qvalue
2) Propene	3.86	42	26825	3.448	ng	98
3) Dichlorodifluoromethan...	3.97	85	107121	5.909	ng	99
4) Chloromethane	4.16	50	36557	3.351	ng	99
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	55821	6.601	ng	98
6) Vinyl Chloride	4.45	62	52544	5.590	ng	99
7) 1,3-Butadiene	4.62	54	33096	5.050	ng	99
8) Bromomethane	4.93	94	39874	4.812	ng	100
9) Chloroethane	5.15	64	25067	4.065	ng	98
10) Ethanol	5.36	45	91042	14.958	ng	100
11) Acetonitrile	5.56	41	47363	3.413	ng	97
12) Acrolein	5.70	56	19034	3.648	ng	98
13) Acetone	5.83	58	125622	20.108	ng	100
14) Trichlorofluoromethane	6.02	101	106048	6.461	ng	99
15) 2-Propanol (Isopropanol)	6.16	45	157161	7.928	ng	97
16) Acrylonitrile	6.37	53	42320	3.900	ng	99
17) 1,1-Dichloroethene	6.72	96	47038	5.081	ng	98
18) 2-Methyl-2-Propanol (t...	6.81	59	146832	6.998	ng	99
19) Methylene Chloride	6.86	84	44481	4.659	ng	99
20) 3-Chloro-1-propene (Al...	6.99	41	51245	4.239	ng	98
21) Trichlorotrifluoroethane	7.18	151	55953	6.116	ng	100
22) Carbon Disulfide	7.14	76	148912	4.494	ng	99
23) trans-1,2-Dichloroethene	7.89	61	61901	5.180	ng	100
24) 1,1-Dichloroethane	8.10	63	74292	4.725	ng	99
25) Methyl tert-Butyl Ether	8.18	73	94198	3.454	ng	100
26) Vinyl Acetate	8.28	86	50438	24.161	ng	96
27) 2-Butanone (MEK)	8.52	72	27190	4.434	ng	99
28) cis-1,2-Dichloroethene	8.98	61	59734	4.964	ng	99
29) Diisopropyl Ether	9.22	87	37252	4.896	ng	98
30) Ethyl Acetate	9.22	61	24814	8.841	ng	93
31) n-Hexane	9.22	57	56462	4.151	ng	98
32) Chloroform	9.28	83	90848	5.611	ng	100
34) Tetrahydrofuran (THF)	9.68	72	27288	4.605	ng	99
35) Ethyl tert-Butyl Ether	9.76	87	40755	3.683	ng	99
36) 1,2-Dichloroethane	10.03	62	76687	6.280	ng	99
38) 1,1,1-Trichloroethane	10.29	97	94993	6.714	ng	100
39) Isopropyl Acetate	10.67	61	45123	9.235	ng	97
40) 1-Butanol	10.68	56	60020	7.571	ng	95
41) Benzene	10.75	78	177125	4.756	ng	100
42) Carbon Tetrachloride	10.90	117	92497	6.968	ng	100
43) Cyclohexane	11.03	84	141066	9.979	ng	99
44) tert-Amyl Methyl Ether	11.35	73	94835	3.871	ng	99
45) 1,2-Dichloropropane	11.57	63	37103	4.466	ng	99
46) Bromodichloromethane	11.75	83	74064	6.030	ng	98
47) Trichloroethene	11.81	130	63453	5.913	ng	100
48) 1,4-Dioxane	11.78	88	36438	5.016	ng	97
49) 2,2,4-Trimethylpentane...	11.87	57	148256	4.239	ng	100
50) Methyl Methacrylate	11.99	100	40050	10.980	ng	97

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222015.D Vial: 5
Acq On : 22 Apr 2020 21:39 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04222004 (5/21)

Quant Time: Apr 23 11:49:52 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

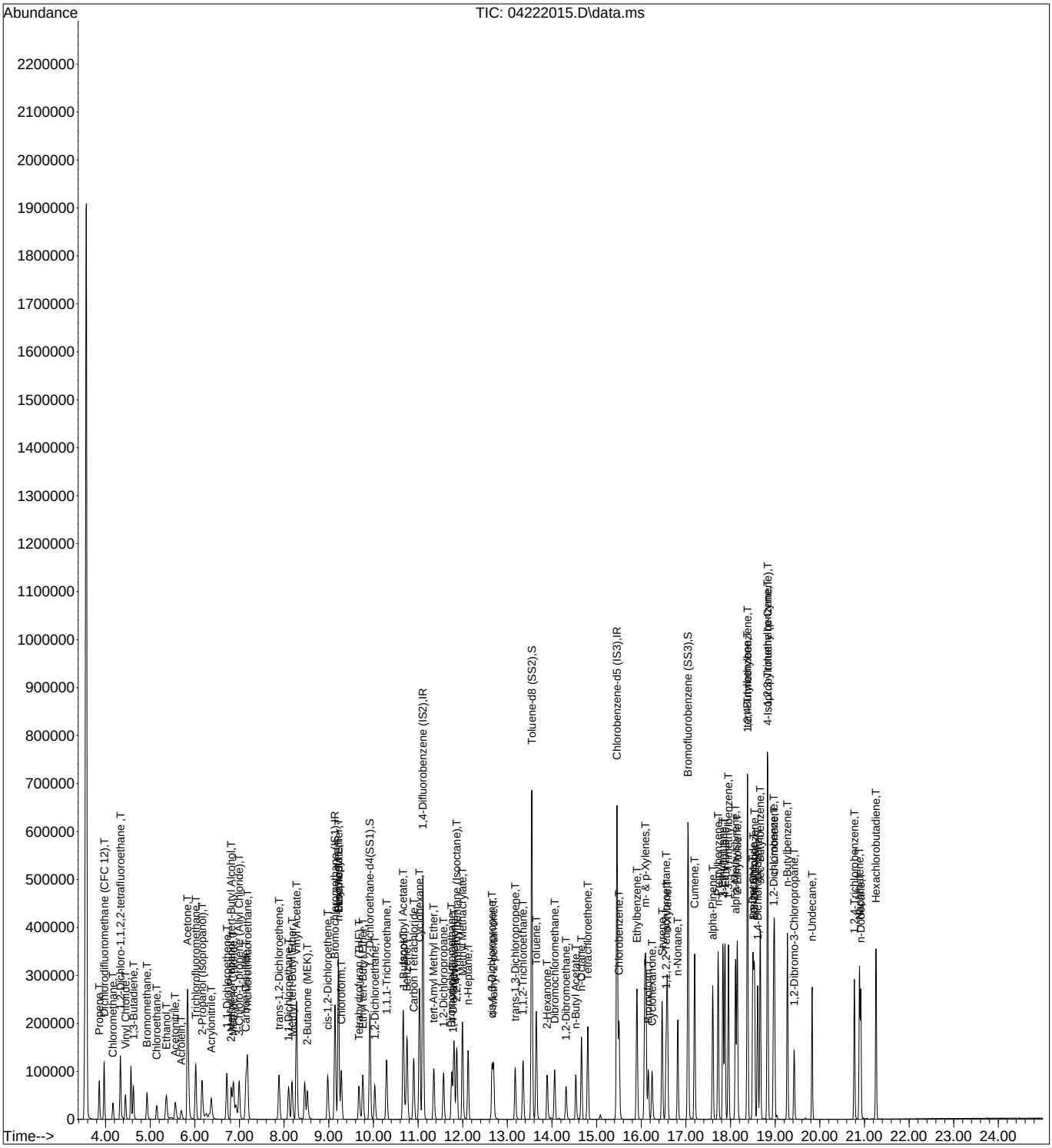
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	41995	4.724	ng	99
52) cis-1,3-Dichloropropene	12.66	75	76063	5.494	ng	100
53) 4-Methyl-2-pentanone	12.69	58	32970	4.490	ng	99
54) trans-1,3-Dichloropropene	13.18	75	75652	5.838	ng	97
55) 1,1,2-Trichloroethane	13.35	97	48516	5.325	ng	99
58) Toluene	13.65	91	204359	4.986	ng	99
59) 2-Hexanone	13.89	43	66070	4.071	ng	99
60) Dibromochloromethane	14.06	129	71135	6.219	ng	99
61) 1,2-Dibromoethane	14.31	107	58489	5.640	ng	98
62) n-Butyl Acetate	14.53	43	70906	4.093	ng	99
63) n-Octane	14.66	57	32746	4.428	ng	99
64) Tetrachloroethene	14.80	166	74010	5.808	ng	100
65) Chlorobenzene	15.50	112	150097	5.253	ng	100
66) Ethylbenzene	15.90	91	243383	5.529	ng	99
67) m- & p-Xylenes	16.10	91	408114	11.584	ng	100
68) Bromoform	16.16	173	64880	6.870	ng	100
69) Styrene	16.47	104	152968	5.987	ng	99
70) o-Xylene	16.58	91	203581	5.782	ng	99
71) n-Nonane	16.82	43	65193	4.287	ng	99
72) 1,1,2,2-Tetrachloroethane	16.56	83	77299	4.863	ng	100
74) Cumene	17.19	105	267150	5.815	ng	100
75) alpha-Pinene	17.60	93	123139	5.321	ng	99
76) n-Propylbenzene	17.72	91	295275	5.628	ng	100
77) 3-Ethyltoluene	17.83	105	255544	5.803	ng	97
78) 4-Ethyltoluene	17.88	105	266013	6.306	ng	97
79) 1,3,5-Trimethylbenzene	17.95	105	231920	5.981	ng	100
80) alpha-Methylstyrene	18.11	118	121821	6.418	ng	97
81) 2-Ethyltoluene	18.15	105	262291	5.963	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	231050	6.412	ng	100
83) n-Decane	18.50	57	83453	4.761	ng	100
84) Benzyl Chloride	18.51	91	179796	6.381	ng	99
85) 1,3-Dichlorobenzene	18.54	146	141029	6.780	ng	99
86) 1,4-Dichlorobenzene	18.61	146	141651	6.666	ng	100
87) sec-Butylbenzene	18.66	105	293214	5.788	ng	100
88) 4-Isopropyltoluene (p-...	18.83	119	295331	6.582	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	238024	6.474	ng	99
90) 1,2-Dichlorobenzene	18.97	146	137496	6.645	ng	99
91) d-Limonene	18.98	68	65560	5.240	ng	99
92) 1,2-Dibromo-3-Chloropr...	19.43	157	50779	6.158	ng	99
93) n-Undecane	19.83	57	85715	4.597	ng	99
94) 1,2,4-Trichlorobenzene	20.77	180	106907	6.695	ng	99
95) Naphthalene	20.89	128	284865	5.744	ng	100
96) n-Dodecane	20.92	57	72247	3.924	ng	99
97) Hexachlorobutadiene	21.26	225	78877	7.130	ng	100
98) Cyclohexanone	16.24	55	47265	4.094	ng	99
99) tert-Butylbenzene	18.38	119	231949	6.238	ng	99
100) n-Butylbenzene	19.27	91	219078	6.067	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222015.D Vial: 5
Acq On : 22 Apr 2020 21:39 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04222004 (5/21)

Quant Time: Apr 23 11:49:52 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222016.D Vial: 2
Acq On : 22 Apr 2020 22:12 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 23 11:49:54 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/23/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	139959	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	11.12	114	576914	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	15.46	82	270547	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.94	65	224495	14.177	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.44%			
57) Toluene-d8 (SS2)	13.55	98	648304	12.049	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.40%			
73) Bromofluorobenzene (SS3)	17.05	174	266005	14.858	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 118.88%			
Target Compounds						Qvalue
2) Propene	3.86	42	148349	17.306	ng	100
3) Dichlorodifluoromethan...	3.97	85	575420	28.811	ng	100
4) Chloromethane	4.17	50	233786	19.451	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	309011	33.168	ng	100
6) Vinyl Chloride	4.45	62	293615	28.354	ng	100
7) 1,3-Butadiene	4.63	54	196130	27.165	ng	100
8) Bromomethane	4.94	94	226533	24.815	ng	100
9) Chloroethane	5.16	64	143289	21.088	ng	100
10) Ethanol	5.40	45	526687	78.538	ng	100
11) Acetonitrile	5.59	41	263390	17.229	ng	100
12) Acrolein	5.71	56	110967	19.303	ng	100
13) Acetone	5.86	58	670690	97.441	ng	100
14) Trichlorofluoromethane	6.03	101	575484	31.821	ng	100
15) 2-Propanol (Isopropanol)	6.20	45	949734	43.486	ng	100
16) Acrylonitrile	6.39	53	242821	20.311	ng	100
17) 1,1-Dichloroethene	6.72	96	259353	25.426	ng	100
18) 2-Methyl-2-Propanol (t...	6.84	59	852826	36.894	ng	100
19) Methylene Chloride	6.88	84	246568	23.439	ng	100
20) 3-Chloro-1-propene (Al...	7.01	41	280359	21.047	ng	100
21) Trichlorotrifluoroethane	7.19	151	300508	29.813	ng	100
22) Carbon Disulfide	7.15	76	839811	23.003	ng	100
23) trans-1,2-Dichloroethene	7.90	61	348501	26.469	ng	100
24) 1,1-Dichloroethane	8.12	63	412914	23.836	ng	100
25) Methyl tert-Butyl Ether	8.18	73	536453	17.852	ng	100
26) Vinyl Acetate	8.30	86	288061	125.244	ng	100
27) 2-Butanone (MEK)	8.53	72	157863	23.366	ng	100
28) cis-1,2-Dichloroethene	8.99	61	330184	24.905	ng	100
29) Diisopropyl Ether	9.22	87	199384	23.785	ng	100
30) Ethyl Acetate	9.23	61	139703	45.176	ng	100
31) n-Hexane	9.23	57	306748	20.468	ng	100
32) Chloroform	9.30	83	496525	27.834	ng	100
34) Tetrahydrofuran (THF)	9.68	72	154237	23.625	ng	100
35) Ethyl tert-Butyl Ether	9.77	87	222400	18.241	ng	100
36) 1,2-Dichloroethane	10.04	62	421595	31.337	ng	100
38) 1,1,1-Trichloroethane	10.30	97	523386	33.514	ng	100
39) Isopropyl Acetate	10.67	61	247371	45.864	ng	100
40) 1-Butanol	10.69	56	393624	44.979	ng	100
41) Benzene	10.76	78	965159	23.478	ng	100
42) Carbon Tetrachloride	10.92	117	509202	34.750	ng	100
43) Cyclohexane	11.04	84	760478	48.737	ng	100
44) tert-Amyl Methyl Ether	11.35	73	525196	19.420	ng	100
45) 1,2-Dichloropropane	11.57	63	205952	22.460	ng	100
46) Bromodichloromethane	11.76	83	412304	30.413	ng	100
47) Trichloroethene	11.81	130	346686	29.267	ng	100
48) 1,4-Dioxane	11.78	88	218205	27.210	ng	100
49) 2,2,4-Trimethylpentane...	11.87	57	802639	20.790	ng	100
50) Methyl Methacrylate	12.00	100	232380	57.715	ng	100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222016.D Vial: 2
Acq On : 22 Apr 2020 22:12 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 23 11:49:54 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

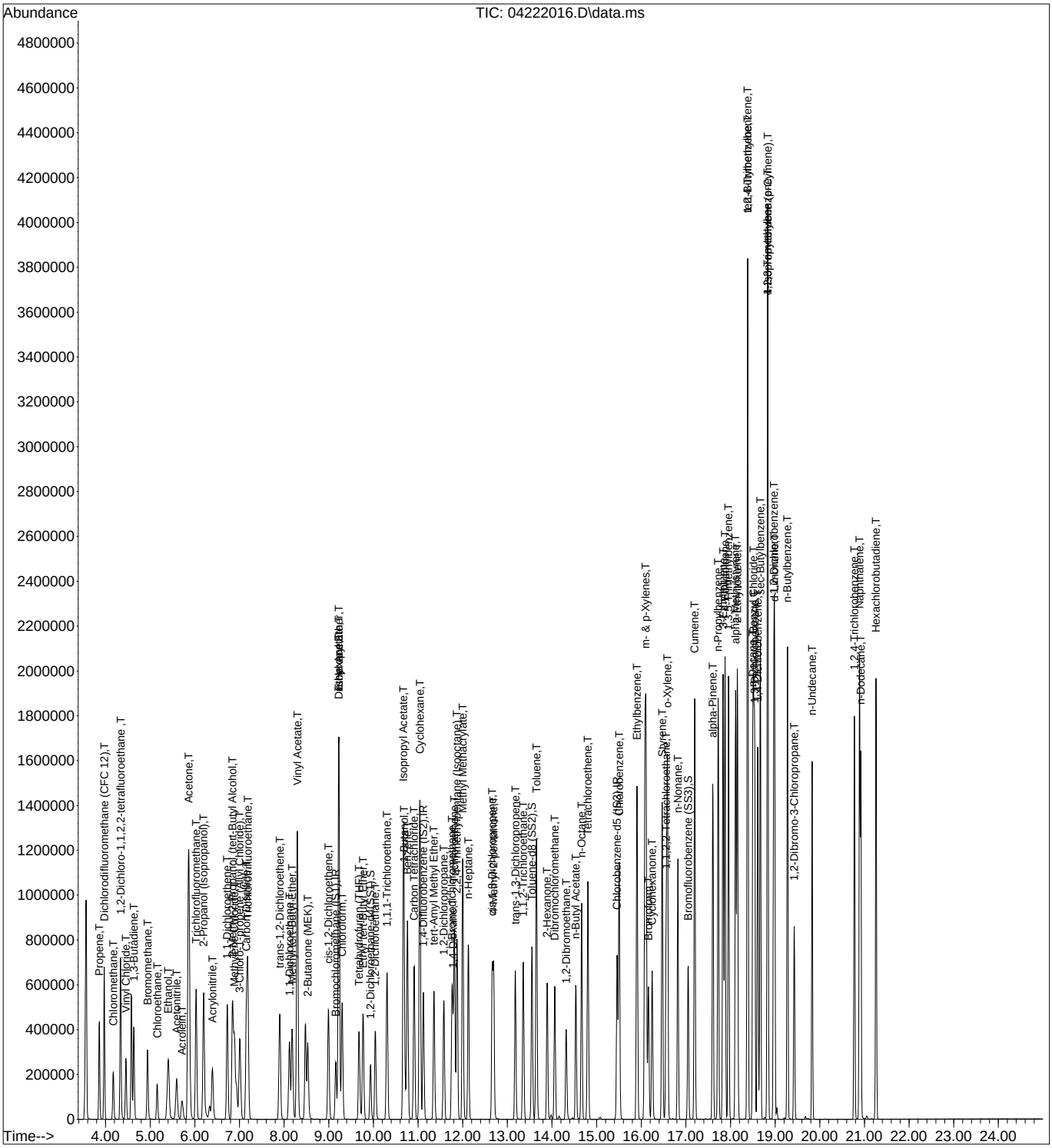
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	233894	23.835	ng	100
52) cis-1,3-Dichloropropene	12.66	75	437947	28.658	ng	100
53) 4-Methyl-2-pentanone	12.69	58	190105	23.453	ng	100
54) trans-1,3-Dichloropropene	13.18	75	447102	31.257	ng	100
55) 1,1,2-Trichloroethane	13.36	97	274331	27.275	ng	100
58) Toluene	13.65	91	1135814	24.873	ng	100
59) 2-Hexanone	13.89	43	418957	23.174	ng	100
60) Dibromochloromethane	14.06	129	411137	32.265	ng	100
61) 1,2-Dibromoethane	14.32	107	339459	29.385	ng	100
62) n-Butyl Acetate	14.53	43	449879	23.309	ng	100
63) n-Octane	14.67	57	181686	22.051	ng	100
64) Tetrachloroethene	14.80	166	410786	28.938	ng	100
65) Chlorobenzene	15.51	112	838490	26.340	ng	100
66) Ethylbenzene	15.90	91	1345406	27.437	ng	100
67) m- & p-Xylenes	16.10	91	2234588	56.932	ng	100
68) Bromoform	16.16	173	373311	35.482	ng	100
69) Styrene	16.47	104	871452	30.616	ng	100
70) o-Xylene	16.58	91	1104137	28.150	ng	100
71) n-Nonane	16.82	43	357159	21.080	ng	100
72) 1,1,2,2-Tetrachloroethane	16.56	83	429814	24.273	ng	100
74) Cumene	17.19	105	1458637	28.499	ng	100
75) alpha-Pinene	17.60	93	676336	26.231	ng	100
76) n-Propylbenzene	17.72	91	1624715	27.795	ng	100
77) 3-Ethyltoluene	17.83	105	1451425	29.587	ng	100
78) 4-Ethyltoluene	17.88	105	1410591	30.017	ng	100
79) 1,3,5-Trimethylbenzene	17.95	105	1260494	29.178	ng	100
80) alpha-Methylstyrene	18.11	118	690235	32.639	ng	100
81) 2-Ethyltoluene	18.15	105	1424607	29.071	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	1244204	30.995	ng	100
83) n-Decane	18.50	57	454506	23.277	ng	100
84) Benzyl Chloride	18.51	91	1099043	35.014	ng	100
85) 1,3-Dichlorobenzene	18.54	146	781993	33.746	ng	100
86) 1,4-Dichlorobenzene	18.61	146	804142	33.965	ng	100
87) sec-Butylbenzene	18.67	105	1581990	28.029	ng	100
88) 4-Isopropyltoluene (p-...	18.83	119	1569378	31.394	ng	100
89) 1,2,3-Trimethylbenzene	18.83	105	1273990	31.104	ng	100
90) 1,2-Dichlorobenzene	18.97	146	753213	32.673	ng	100
91) d-Limonene	18.99	68	364906	26.181	ng	100
92) 1,2-Dibromo-3-Chloropr...	19.43	157	300160	32.674	ng	100
93) n-Undecane	19.83	57	486425	23.417	ng	100
94) 1,2,4-Trichlorobenzene	20.77	180	645472	36.284	ng	100
95) Naphthalene	20.89	128	1764943	31.942	ng	100
96) n-Dodecane	20.92	57	451510	22.010	ng	100
97) Hexachlorobutadiene	21.26	225	435056	35.299	ng	100
98) Cyclohexanone	16.24	55	290938	22.618	ng	100
99) tert-Butylbenzene	18.38	119	1221323	29.482	ng	100
100) n-Butylbenzene	19.27	91	1232000	30.627	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222016.D Vial: 2
Acq On : 22 Apr 2020 22:12 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 23 11:49:54 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222017.D Vial: 2
Acq On : 22 Apr 2020 22:46 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 23 11:49:56 2020 4/23/20
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.17	130	145152	12.500	ng	0.01
37) 1,4-Difluorobenzene (IS2)	11.12	114	598248	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	15.46	82	279965	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.94	65	233121	14.195	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.60%			
57) Toluene-d8 (SS2)	13.55	98	670205	12.037	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.32%			
73) Bromofluorobenzene (SS3)	17.05	174	273089	14.741	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 117.92%			
Target Compounds						Qvalue
2) Propene	3.86	42	330392	37.165	ng	98
3) Dichlorodifluoromethan...	3.97	85	1105663	53.380	ng	100
4) Chloromethane	4.17	50	407411	32.683	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	597211	61.810	ng	99
6) Vinyl Chloride	4.46	62	580007	54.007	ng	100
7) 1,3-Butadiene	4.63	54	370058	49.421	ng	99
8) Bromomethane	4.94	94	450081	47.539	ng	99
9) Chloroethane	5.16	64	285429	40.505	ng	100
10) Ethanol	5.43	45	1044298	150.152	ng	100
11) Acetonitrile	5.60	41	533240	33.633	ng	100
12) Acrolein	5.72	56	224287	37.620	ng	99
13) Acetone	5.87	58	1299615	182.060	ng	98
14) Trichlorofluoromethane	6.03	101	1115252	59.460	ng	99
15) 2-Propanol (Isopropanol)	6.21	45	1663213	73.429	ng	100
16) Acrylonitrile	6.41	53	489337	39.466	ng	99
17) 1,1-Dichloroethene	6.73	96	512268	48.425	ng	100
18) 2-Methyl-2-Propanol (t...	6.86	59	1790353	74.681	ng	99
19) Methylene Chloride	6.90	84	487136	44.650	ng	100
20) 3-Chloro-1-propene (Al...	7.02	41	559510	40.501	ng	100
21) Trichlorotrifluoroethane	7.19	151	583089	55.778	ng	99
22) Carbon Disulfide	7.16	76	1660071	43.844	ng	100
23) trans-1,2-Dichloroethene	7.91	61	693359	50.778	ng	100
24) 1,1-Dichloroethane	8.13	63	812821	45.242	ng	99
25) Methyl tert-Butyl Ether	8.18	73	1124703	36.088	ng	100
26) Vinyl Acetate	8.30	86	558650	234.201	ng	98
27) 2-Butanone (MEK)	8.54	72	315514	45.030	ng	99
28) cis-1,2-Dichloroethene	9.00	61	657246	47.801	ng	99
29) Diisopropyl Ether	9.23	87	386021	44.402	ng	100
30) Ethyl Acetate	9.23	61	271619	84.692	ng	99
31) n-Hexane	9.23	57	589143	37.904	ng	100
32) Chloroform	9.31	83	971469	52.510	ng	100
34) Tetrahydrofuran (THF)	9.68	72	307036	45.347	ng	99
35) Ethyl tert-Butyl Ether	9.77	87	429471	33.965	ng	99
36) 1,2-Dichloroethane	10.05	62	832849	59.690	ng	100
38) 1,1,1-Trichloroethane	10.31	97	1028523	63.512	ng	100
39) Isopropyl Acetate	10.68	61	483997	86.535	ng	100
40) 1-Butanol	10.70	56	776710	85.589	ng	100
41) Benzene	10.77	78	1887102	44.267	ng	99
42) Carbon Tetrachloride	10.91	117	990936	65.214	ng	100
43) Cyclohexane	11.05	84	1474213	91.109	ng	100
44) tert-Amyl Methyl Ether	11.36	73	1007186	35.914	ng	100
45) 1,2-Dichloropropane	11.58	63	406679	42.768	ng	99
46) Bromodichloromethane	11.77	83	804293	57.212	ng	100
47) Trichloroethene	11.82	130	674075	54.877	ng	100
48) 1,4-Dioxane	11.79	88	426867	51.332	ng	99
49) 2,2,4-Trimethylpentane...	11.88	57	1579497	39.452	ng	99
50) Methyl Methacrylate	12.00	100	449956	107.769	ng	99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222017.D Vial: 2
Acq On : 22 Apr 2020 22:46 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 23 11:49:56 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

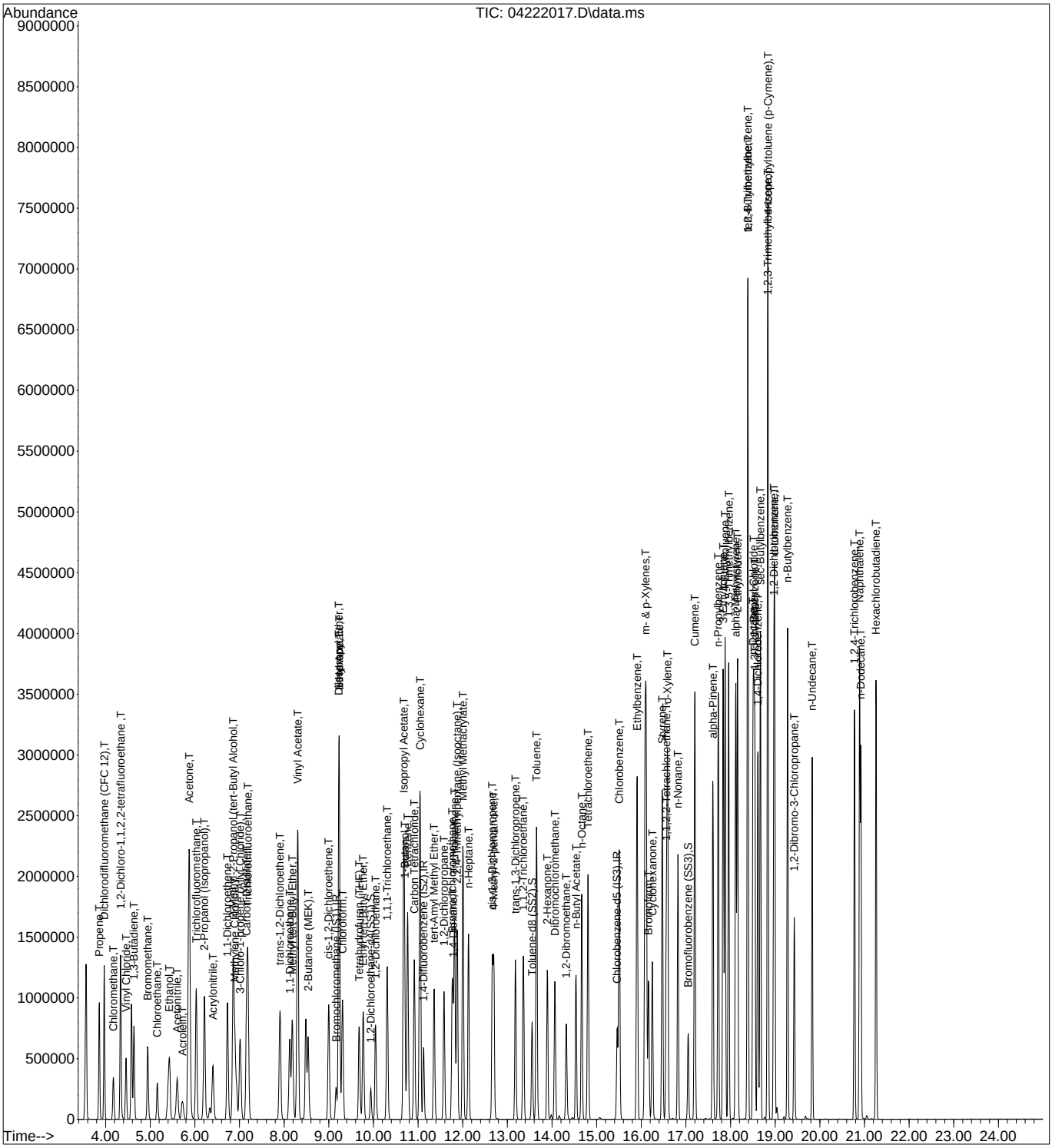
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.13	71	453213	44.537	ng	99
52) cis-1,3-Dichloropropene	12.66	75	860297	54.289	ng	100
53) 4-Methyl-2-pentanone	12.70	58	372186	44.279	ng	99
54) trans-1,3-Dichloropropene	13.18	75	882932	59.524	ng	99
55) 1,1,2-Trichloroethane	13.36	97	535895	51.381	ng	100
58) Toluene	13.65	91	2200796	46.574	ng	100
59) 2-Hexanone	13.90	43	828054	44.262	ng	100
60) Dibromochloromethane	14.07	129	799199	60.609	ng	100
61) 1,2-Dibromoethane	14.32	107	657662	55.014	ng	100
62) n-Butyl Acetate	14.54	43	895005	44.812	ng	99
63) n-Octane	14.67	57	353789	41.494	ng	100
64) Tetrachloroethene	14.81	166	787530	53.612	ng	100
65) Chlorobenzene	15.51	112	1619494	49.163	ng	100
66) Ethylbenzene	15.91	91	2605564	51.348	ng	99
67) m- & p-Xylenes	16.10	91	4289093	105.600	ng	100
68) Bromoform	16.16	173	724639	66.557	ng	99
69) Styrene	16.47	104	1684196	57.179	ng	100
70) o-Xylene	16.59	91	2120519	52.245	ng	99
71) n-Nonane	16.82	43	692402	39.492	ng	100
72) 1,1,2,2-Tetrachloroethane	16.56	83	824924	45.020	ng	100
74) Cumene	17.20	105	2768290	52.267	ng	100
75) alpha-Pinene	17.61	93	1270363	47.612	ng	100
76) n-Propylbenzene	17.72	91	3094989	51.167	ng	100
77) 3-Ethyltoluene	17.83	105	2691483	53.020	ng	100
78) 4-Ethyltoluene	17.88	105	2750937	56.570	ng	100
79) 1,3,5-Trimethylbenzene	17.96	105	2393266	53.535	ng	99
80) alpha-Methylstyrene	18.12	118	1310045	59.864	ng	99
81) 2-Ethyltoluene	18.16	105	2695906	53.164	ng	100
82) 1,2,4-Trimethylbenzene	18.39	105	2335635	56.228	ng	99
83) n-Decane	18.50	57	861713	42.646	ng	100
84) Benzyl Chloride	18.52	91	2102138	64.718	ng	100
85) 1,3-Dichlorobenzene	18.54	146	1471826	61.378	ng	100
86) 1,4-Dichlorobenzene	18.61	146	1512394	61.732	ng	99
87) sec-Butylbenzene	18.67	105	2983928	51.090	ng	100
88) 4-Isopropyltoluene (p-...	18.84	119	2886890	55.807	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	2382967	56.223	ng	99
90) 1,2-Dichlorobenzene	18.97	146	1402445	58.789	ng	99
91) d-Limonene	18.99	68	693005	48.049	ng	100
92) 1,2-Dibromo-3-Chloropr...	19.43	157	576367	60.630	ng	99
93) n-Undecane	19.83	57	920386	42.817	ng	100
94) 1,2,4-Trichlorobenzene	20.77	180	1211612	65.818	ng	99
95) Naphthalene	20.89	128	3323979	58.135	ng	100
96) n-Dodecane	20.92	57	850719	40.075	ng	100
97) Hexachlorobutadiene	21.26	225	816834	64.046	ng	100
98) Cyclohexanone	16.25	55	572657	43.022	ng	99
99) tert-Butylbenzene	18.39	119	2270698	52.970	ng	100
100) n-Butylbenzene	19.28	91	2323808	55.826	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222017.D Vial: 2
Acq On : 22 Apr 2020 22:46 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 23 11:49:56 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222018.D Vial: 2
Acq On : 22 Apr 2020 23:19 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 23 11:49:58 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/23/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.17	130	148278	12.500	ng	0.02
37) 1,4-Difluorobenzene (IS2)	11.13	114	604904	12.500	ng	0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	288609	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.95	65	238771	14.233	ng	0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.84%			
57) Toluene-d8 (SS2)	13.55	98	686115	11.953	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.60%			
73) Bromofluorobenzene (SS3)	17.05	174	277637	14.538	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 116.32%			
Target Compounds						Qvalue
2) Propene	3.86	42	785958	86.546	ng	98
3) Dichlorodifluoromethan...	3.97	85	2156956	101.939	ng	100
4) Chloromethane	4.17	50	638588	50.149	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	1145081	116.014	ng	99
6) Vinyl Chloride	4.46	62	1130766	103.071	ng	100
7) 1,3-Butadiene	4.64	54	742038	97.009	ng	98
8) Bromomethane	4.94	94	885568	91.565	ng	99
9) Chloroethane	5.16	64	566662	78.719	ng	99
10) Ethanol	5.45	45	2076910	292.329	ng	100
11) Acetonitrile	5.62	41	1073293	66.269	ng	100
12) Acrolein	5.73	56	453266	74.424	ng	99
13) Acetone	5.88	58	2491481	341.667	ng	96
14) Trichlorofluoromethane	6.03	101	2161200	112.797	ng	99
15) 2-Propanol (Isopropanol)	6.23	45	2589369	111.908	ng	100
16) Acrylonitrile	6.42	53	983771	77.671	ng	99
17) 1,1-Dichloroethene	6.74	96	1003826	92.891	ng	100
18) 2-Methyl-2-Propanol (t...	6.88	59	3702880	151.202	ng	99
19) Methylene Chloride	6.90	84	937914	84.155	ng	100
20) 3-Chloro-1-propene (Al...	7.02	41	1080840	76.590	ng	99
21) Trichlorotrifluoroethane	7.19	151	1128627	105.687	ng	99
22) Carbon Disulfide	7.16	76	3238906	83.740	ng	100
23) trans-1,2-Dichloroethene	7.91	61	1368694	98.122	ng	99
24) 1,1-Dichloroethane	8.13	63	1602393	87.310	ng	99
25) Methyl tert-Butyl Ether	8.19	73	2363460	74.237	ng	99
26) Vinyl Acetate	8.32	86	1079473	443.004	ng	97
27) 2-Butanone (MEK)	8.55	72	620311	86.665	ng	99
28) cis-1,2-Dichloroethene	9.00	61	1295452	92.230	ng	99
29) Diisopropyl Ether	9.23	87	747987	84.224	ng	99
30) Ethyl Acetate	9.24	61	526581	160.729	ng	100
31) n-Hexane	9.23	57	1125241	70.869	ng	100
32) Chloroform	9.32	83	1914415	101.297	ng	99
34) Tetrahydrofuran (THF)	9.68	72	605437	87.534	ng	99
35) Ethyl tert-Butyl Ether	9.78	87	833016	64.491	ng	100
36) 1,2-Dichloroethane	10.05	62	1643759	115.324	ng	100
38) 1,1,1-Trichloroethane	10.31	97	2001463	122.231	ng	100
39) Isopropyl Acetate	10.68	61	934426	165.230	ng	99
40) 1-Butanol	10.72	56	1523226	166.005	ng	100
41) Benzene	10.77	78	3664850	85.023	ng	99
42) Carbon Tetrachloride	10.92	117	1920120	124.974	ng	100
43) Cyclohexane	11.05	84	2813954	171.994	ng	99
44) tert-Amyl Methyl Ether	11.36	73	1894309	66.804	ng	99
45) 1,2-Dichloropropane	11.59	63	797643	82.960	ng	100
46) Bromodichloromethane	11.77	83	1577887	111.004	ng	100
47) Trichloroethene	11.82	130	1284130	103.391	ng	100
48) 1,4-Dioxane	11.79	88	820475	97.578	ng	97
49) 2,2,4-Trimethylpentane...	11.88	57	3069164	75.817	ng	98
50) Methyl Methacrylate	12.01	100	871200	206.364	ng	99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222018.D Vial: 2
Acq On : 22 Apr 2020 23:19 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 23 11:49:58 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

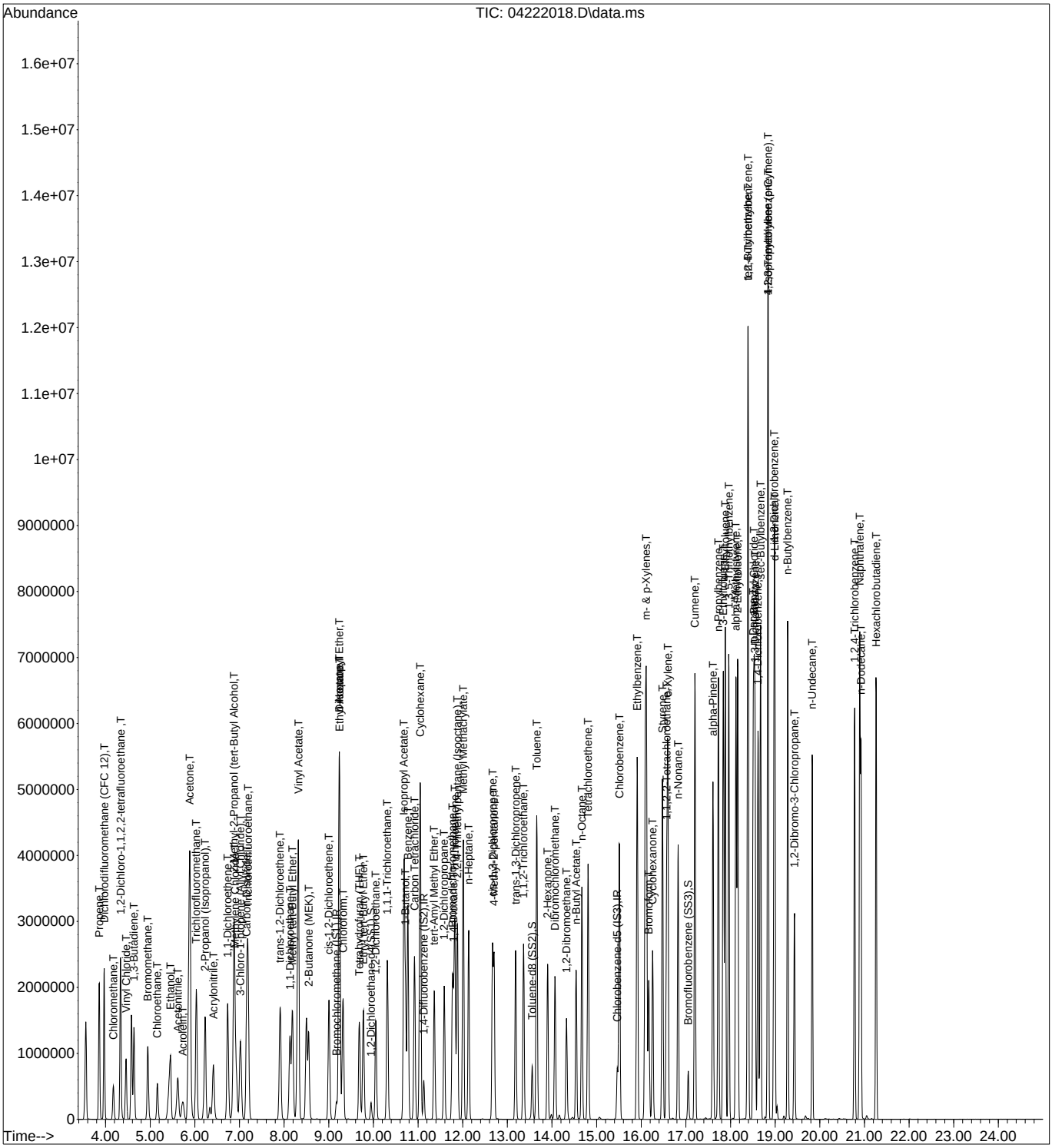
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.14	71	871756	84.724	ng	99
52) cis-1,3-Dichloropropene	12.67	75	1681640	104.951	ng	100
53) 4-Methyl-2-pentanone	12.70	58	733775	86.338	ng	99
54) trans-1,3-Dichloropropene	13.19	75	1735907	115.742	ng	100
55) 1,1,2-Trichloroethane	13.36	97	1044877	99.080	ng	100
58) Toluene	13.66	91	4241230	87.067	ng	100
59) 2-Hexanone	13.90	43	1624051	84.210	ng	100
60) Dibromochloromethane	14.07	129	1553333	114.272	ng	100
61) 1,2-Dibromoethane	14.32	107	1290897	104.751	ng	100
62) n-Butyl Acetate	14.54	43	1769562	85.947	ng	100
63) n-Octane	14.67	57	683435	77.756	ng	99
64) Tetrachloroethene	14.81	166	1507018	99.518	ng	100
65) Chlorobenzene	15.51	112	3124408	92.006	ng	100
66) Ethylbenzene	15.91	91	5026395	96.088	ng	99
67) m- & p-Xylenes	16.11	91	8213758	196.171	ng	99
68) Bromoform	16.17	173	1400185	124.753	ng	99
69) Styrene	16.47	104	3217941	105.977	ng	98
70) o-Xylene	16.60	91	4055077	96.915	ng	99
71) n-Nonane	16.83	43	1324701	73.294	ng	100
72) 1,1,2,2-Tetrachloroethane	16.57	83	1584301	83.872	ng	100
74) Cumene	17.20	105	5263540	96.402	ng	100
75) alpha-Pinene	17.61	93	2337427	84.981	ng	99
76) n-Propylbenzene	17.73	91	5902660	94.661	ng	100
77) 3-Ethyltoluene	17.84	105	5229819	99.937	ng	100
78) 4-Ethyltoluene	17.88	105	5078609	101.309	ng	100
79) 1,3,5-Trimethylbenzene	17.96	105	4552050	98.775	ng	99
80) alpha-Methylstyrene	18.12	118	2473575	109.648	ng	99
81) 2-Ethyltoluene	18.16	105	5107465	97.704	ng	99
82) 1,2,4-Trimethylbenzene	18.39	105	4385377	102.411	ng	98
83) n-Decane	18.51	57	1646824	79.061	ng	100
84) Benzyl Chloride	18.53	91	4029132	120.328	ng	99
85) 1,3-Dichlorobenzene	18.55	146	2762488	111.751	ng	100
86) 1,4-Dichlorobenzene	18.61	146	2871235	113.686	ng	99
87) sec-Butylbenzene	18.67	105	5630899	93.523	ng	99
88) 4-Isopropyltoluene (p-...	18.84	119	5350008	100.325	ng	99
89) 1,2,3-Trimethylbenzene	18.84	105	4460508	102.087	ng	99
90) 1,2-Dichlorobenzene	18.98	146	2608515	106.072	ng	99
91) d-Limonene	18.99	68	1332709	89.635	ng	99
92) 1,2-Dibromo-3-Chloropr...	19.43	157	1113665	113.641	ng	98
93) n-Undecane	19.83	57	1760518	79.448	ng	100
94) 1,2,4-Trichlorobenzene	20.78	180	2294871	120.930	ng	100
95) Naphthalene	20.90	128	6235400	105.787	ng	99
96) n-Dodecane	20.92	57	1626329	74.317	ng	100
97) Hexachlorobutadiene	21.26	225	1532118	116.531	ng	100
98) Cyclohexanone	16.25	55	1131243	82.442	ng	99
99) tert-Butylbenzene	18.39	119	4205655	95.169	ng	100
100) n-Butylbenzene	19.28	91	4424060	103.098	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222018.D Vial: 2
Acq On : 22 Apr 2020 23:19 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 23 11:49:58 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222025.D Vial: 2
Acq On : 23 Apr 2020 14:51 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S34-04212006/S34-04102008 (5/9)

Quant Time: Apr 23 15:16:38 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:40:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/23/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	138305	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	11.12	114	577705	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	257902	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.94	65	219688	12.260	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.08%				
57) Toluene-d8 (SS2)	13.55	98	636981	12.792	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.32%				
73) Bromofluorobenzene (SS3)	17.05	174	245958	12.290	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.32%				
Target Compounds							Qvalue
2) Propene	3.86	42	154699	26.335	ng		98
3) Dichlorodifluoromethan...	3.97	85	589140	26.397	ng		100
4) Chloromethane	4.17	50	237620	28.855	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	308509	25.571	ng		100
6) Vinyl Chloride	4.45	62	303367	28.091	ng		100
7) 1,3-Butadiene	4.63	54	212030	30.741	ng		99
8) Bromomethane	4.94	94	224805	26.489	ng		99
9) Chloroethane	5.16	64	148572	27.196	ng		99
10) Ethanol	5.41	45	551345	123.912	ng		99
11) Acetonitrile	5.59	41	281664	26.742	ng		99
12) Acrolein	5.72	56	115673	28.448	ng		100
13) Acetone	5.86	58	716495	134.126	ng		100
14) Trichlorofluoromethane	6.03	101	587112	26.439	ng		99
15) 2-Propanol (Isopropanol)	6.20	45	991945	58.454	ng		100
16) Acrylonitrile	6.39	53	257853	30.427	ng		99
17) 1,1-Dichloroethene	6.73	96	273599	28.027	ng		100
18) 2-Methyl-2-Propanol (t...	6.85	59	878560	56.660	ng		100
19) Methylene Chloride	6.89	84	259159	27.662	ng		99
20) 3-Chloro-1-propene (Al...	7.01	41	288466	26.536	ng		99
21) Trichlorotrifluoroethane	7.19	151	309497	26.781	ng		99
22) Carbon Disulfide	7.15	76	893442	28.681	ng		99
23) trans-1,2-Dichloroethene	7.90	61	369099	29.956	ng		99
24) 1,1-Dichloroethane	8.12	63	417588	27.124	ng		100
25) Methyl tert-Butyl Ether	8.18	73	561667	28.315	ng		100
26) Vinyl Acetate	8.30	86	288845	148.155	ng	#	95
27) 2-Butanone (MEK)	8.53	72	164286	29.934	ng		97
28) cis-1,2-Dichloroethene	8.99	61	351423	28.219	ng		100
29) Diisopropyl Ether	9.22	87	210546	26.487	ng		96
30) Ethyl Acetate	9.23	61	149636	61.279	ng		96
31) n-Hexane	9.23	57	331607	27.976	ng		100
32) Chloroform	9.30	83	520394	27.442	ng		100
34) Tetrahydrofuran (THF)	9.68	72	161914	29.128	ng		98
35) Ethyl tert-Butyl Ether	9.77	87	231641	27.259	ng		98
36) 1,2-Dichloroethane	10.04	62	437532	28.049	ng		100
38) 1,1,1-Trichloroethane	10.30	97	551673	27.774	ng		100
39) Isopropyl Acetate	10.67	61	263481	55.596	ng		95
40) 1-Butanol	10.68	56	321068	50.426	ng		89
41) Benzene	10.76	78	1014361	26.935	ng		100
42) Carbon Tetrachloride	10.91	117	514147	26.405	ng		99
43) Cyclohexane	11.04	84	804221	54.510	ng		98
44) tert-Amyl Methyl Ether	11.35	73	547671	27.696	ng		99
45) 1,2-Dichloropropane	11.58	63	220258	28.569	ng		99
46) Bromodichloromethane	11.76	83	426060	27.495	ng		99
47) Trichloroethene	11.82	130	357343	27.398	ng		99
48) 1,4-Dioxane	11.78	88	226346	29.892	ng		99
49) 2,2,4-Trimethylpentane...	11.87	57	871344	27.699	ng		100
50) Methyl Methacrylate	12.00	100	242680	60.149	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222025.D Vial: 2
Acq On : 23 Apr 2020 14:51 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S34-04212006/S34-04102008 (5/9)

Quant Time: Apr 23 15:16:38 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:40:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

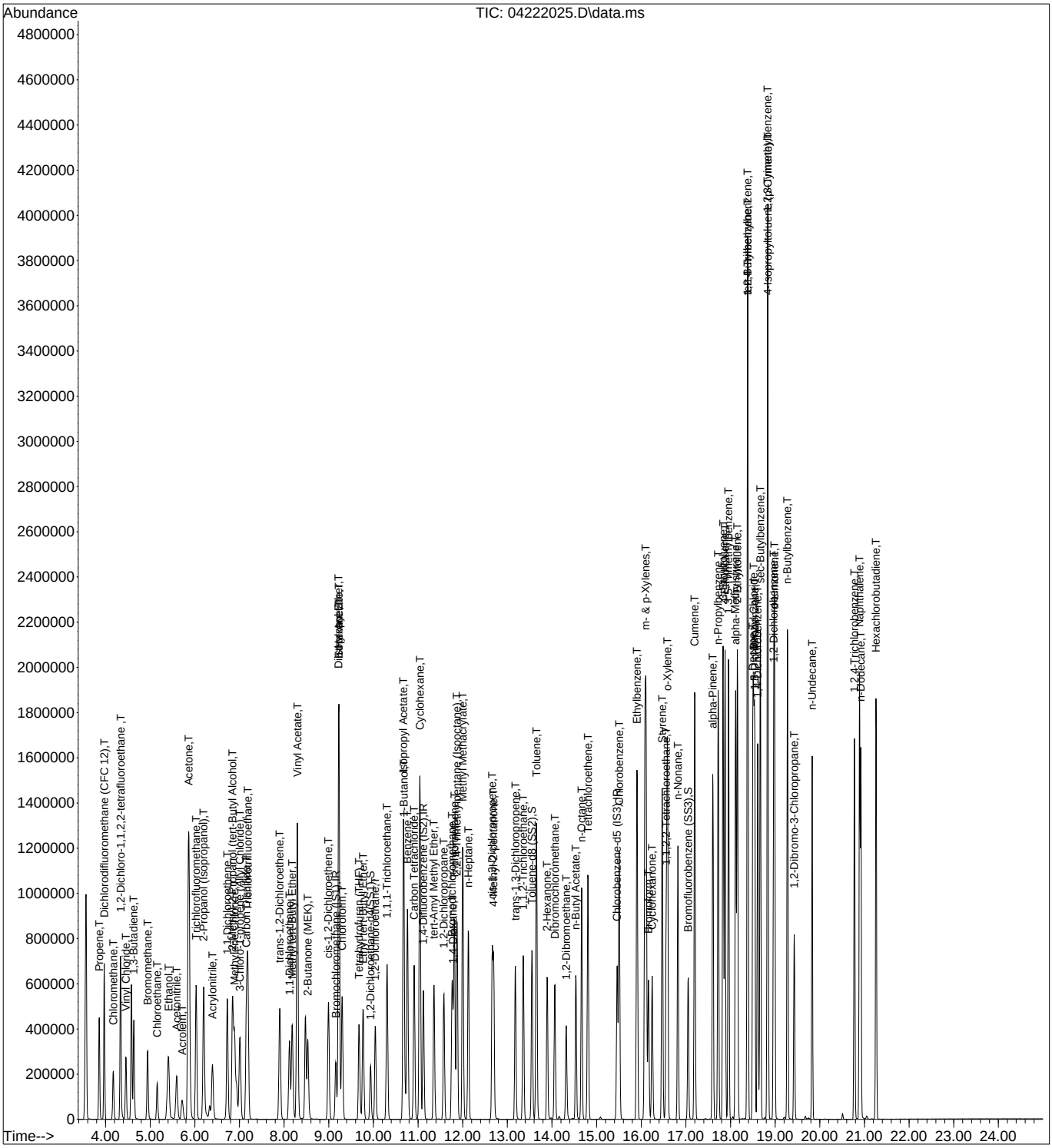
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.13	71	247582	28.295	ng	99
52) cis-1,3-Dichloropropene	12.66	75	483185	30.278	ng	100
53) 4-Methyl-2-pentanone	12.69	58	198322	30.093	ng	99
54) trans-1,3-Dichloropropene	13.18	75	459905	30.102	ng	100
55) 1,1,2-Trichloroethane	13.36	97	287117	27.892	ng	100
58) Toluene	13.65	91	1194763	28.577	ng	100
59) 2-Hexanone	13.89	43	432500	34.692	ng	100
60) Dibromochloromethane	14.07	129	421019	29.639	ng	100
61) 1,2-Dibromoethane	14.32	107	348360	29.896	ng	100
62) n-Butyl Acetate	14.53	43	481394	34.557	ng	99
63) n-Octane	14.67	57	193866	29.129	ng	99
64) Tetrachloroethene	14.81	166	424518	26.957	ng	100
65) Chlorobenzene	15.51	112	868669	28.380	ng	100
66) Ethylbenzene	15.90	91	1404245	28.826	ng	99
67) m- & p-Xylenes	16.10	91	2337527	56.877	ng	100
68) Bromoform	16.16	173	380352	30.239	ng	100
69) Styrene	16.47	104	903435	30.206	ng	100
70) o-Xylene	16.58	91	1145984	28.393	ng	99
71) n-Nonane	16.82	43	376132	28.889	ng	100
72) 1,1,2,2-Tetrachloroethane	16.56	83	446288	29.189	ng	100
74) Cumene	17.19	105	1491842	28.338	ng	100
75) alpha-Pinene	17.60	93	697167	29.081	ng	100
76) n-Propylbenzene	17.72	91	1664929	29.030	ng	100
77) 3-Ethyltoluene	17.83	105	1514987	29.475	ng	100
78) 4-Ethyltoluene	17.88	105	1406441	28.100	ng	100
79) 1,3,5-Trimethylbenzene	17.95	105	1297760	28.058	ng	100
80) alpha-Methylstyrene	18.11	118	687537	29.713	ng	99
81) 2-Ethyltoluene	18.15	105	1460305	28.553	ng	99
82) 1,2,4-Trimethylbenzene	18.38	105	1280190	28.624	ng	99
83) n-Decane	18.50	57	468311	29.721	ng	100
84) Benzyl Chloride	18.52	91	1071774	31.770	ng	100
85) 1,3-Dichlorobenzene	18.54	146	794118	29.452	ng	100
86) 1,4-Dichlorobenzene	18.61	146	815611	29.661	ng	99
87) sec-Butylbenzene	18.67	105	1616035	28.213	ng	100
88) 4-Isopropyltoluene (p-...	18.83	119	1571253	28.236	ng	100
89) 1,2,3-Trimethylbenzene	18.83	105	1253558	28.004	ng	100
90) 1,2-Dichlorobenzene	18.97	146	762623	29.114	ng	100
91) d-Limonene	18.99	68	360217	28.509	ng	99
92) 1,2-Dibromo-3-Chloropr...	19.43	157	285122	28.709	ng	100
93) n-Undecane	19.83	57	497789	29.938	ng	99
94) 1,2,4-Trichlorobenzene	20.77	180	604458	31.268	ng	100
95) Naphthalene	20.89	128	1670947	29.004	ng	100
96) n-Dodecane	20.92	57	456255	30.642	ng	99
97) Hexachlorobutadiene	21.26	225	423905	26.946	ng	99
98) Cyclohexanone	16.24	55	281643	27.641	ng	100
99) tert-Butylbenzene	18.38	119	1232641	27.444	ng	100
100) n-Butylbenzene	19.27	91	1251920	29.772	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222025.D Vial: 2
Acq On : 23 Apr 2020 14:51 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S34-04212006/S34-04102008 (5/9)

Quant Time: Apr 23 15:16:38 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:40:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **04222025.D** Acq. Method File: **TO15.M** *4/23/20*
Data File Path: **I:\MS09\Data\2020_04\22** Sample Name: **25ng TO-15 ICV STD**
Operator: **SC** Misc Info: **S34-04212006/S34-04102008 (**
Date Acquired: **4/23/2020 14:51** Instrument Name: **MS09**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
2)	**Propene**	**3.86**	**26.3**	26.25	100	**51**	**133**	*	*
3)	**Dichlorodifluoromethane (CFC 1**	**3.97**	**26.4**	**26.25**	101	**64**	**115**	*	*
4)	**Chloromethane**	**4.17**	**28.9**	**26.50**	109	**49**	**127**	*	*
5)	**1,2-Dichloro-1,1,2,2-tetrafluoroetl**	**4.34**	**25.6**	**25.75**	99	**65**	**114**	*	*
6)	**Vinyl Chloride**	**4.45**	**28.1**	**26.50**	106	**61**	**129**	*	*
7)	**1,3-Butadiene**	**4.63**	**30.7**	**26.50**	116	**54**	**140**	*	*
8)	**Bromomethane**	**4.94**	**26.5**	**26.50**	100	**68**	**120**	*	*
9)	**Chloroethane**	**5.16**	**27.2**	**26.75**	102	**63**	**123**	*	*
10)	**Ethanol**	**5.41**	**124**	**132.50**	94	**49**	**134**	*	*
11)	**Acetonitrile**	**5.59**	**26.7**	**26.75**	100	**50**	**137**	*	*
12)	**Acrolein**	**5.72**	**28.4**	**25.75**	110	**62**	**128**	*	*
13)	**Acetone**	**5.86**	**134**	**133.50**	100	**56**	**125**	*	*
14)	**Trichlorofluoromethane**	**6.03**	**26.4**	**26.50**	100	**64**	**115**	*	*
15)	**2-Propanol (Isopropanol)**	**6.20**	**58.5**	**52.75**	111	**57**	**133**	*	*
16)	**Acrylonitrile**	**6.39**	**30.4**	**26.50**	115	**64**	**136**	*	*
17)	**1,1-Dichloroethene**	**6.73**	**28.0**	**26.75**	105	**68**	**115**	*	*
18)	2-Methyl-2-Propanol (tert-Butyl Alc	6.85	56.7	53.75	105	56	132	*	*
19)	**Methylene Chloride**	**6.89**	**27.7**	**26.25**	106	**68**	**114**	*	*
20)	**3-Chloro-1-propene (Allyl Chloric**	**7.01**	**26.5**	**26.75**	99	**55**	**139**	*	*
21)	**Trichlorotrifluoroethane**	**7.19**	**26.8**	**27.00**	99	**65**	**115**	*	*
22)	**Carbon Disulfide**	**7.15**	**28.7**	**26.50**	108	**68**	**113**	*	*
23)	**trans-1,2-Dichloroethene**	**7.90**	**30.0**	**26.75**	112	**65**	**122**	*	*
24)	**1,1-Dichloroethane**	**8.12**	**27.1**	**26.50**	102	**63**	**118**	*	*
25)	**Methyl tert-Butyl Ether**	**8.18**	**28.3**	**26.75**	106	**57**	**131**	*	*
26)	**Vinyl Acetate**	**8.30**	**148**	**133.25**	111	**71**	**128**	*	*
27)	**2-Butanone (MEK)**	**8.53**	**29.9**	**26.50**	113	**67**	**123**	*	*
28)	**cis-1,2-Dichloroethene**	**8.99**	**28.2**	**26.50**	106	**64**	**120**	*	*
29)	Diisopropyl Ether	9.22	26.5	27.00	98	62	121	*	*
30)	**Ethyl Acetate**	**9.23**	**61.3**	**54.00**	114	**64**	**131**	*	*
31)	**n-Hexane**	**9.23**	**28.0**	**27.00**	104	**58**	**125**	*	*
32)	**Chloroform**	**9.30**	**27.4**	**26.75**	102	**65**	**114**	*	*
34)	**Tetrahydrofuran (THF)**	**9.68**	**29.1**	**27.50**	106	**65**	**115**	*	*
35)	Ethyl tert-Butyl Ether	9.77	27.3	26.75	102	61	130	*	*
36)	**1,2-Dichloroethane**	**10.04**	**28.0**	**26.75**	105	**59**	**120**	*	*
38)	**1,1,1-Trichloroethane**	**10.30**	**27.8**	**26.75**	104	**66**	**115**	*	*
39)	Isopropyl Acetate	10.67	55.6	52.50	106	65	129	*	*
40)	1-Butanol	10.68	50.4	53.25	95	58	140	*	*
41)	**Benzene**	**10.76**	**26.9**	**26.25**	102	**66**	**109**	*	*
42)	**Carbon Tetrachloride**	**10.91**	**26.4**	**26.00**	102	**66**	**119**	*	*
43)	**Cyclohexane**	**11.04**	**54.5**	**52.75**	103	**67**	**117**	*	*
44)	tert-Amyl Methyl Ether	11.35	27.7	**26.75**	104	62	133	*	*
45)	**1,2-Dichloropropane**	**11.58**	**28.6**	**26.75**	107	**66**	**119**	*	*
46)	**Bromodichloromethane**	**11.76**	**27.5**	**27.25**	101	**71**	**119**	*	*
47)	**Trichloroethene**	**11.82**	**27.4**	**27.00**	101	**70**	**114**	*	*
48)	**1,4-Dioxane**	**11.78**	**29.9**	**27.00**	111	**71**	**117**	*	*
49)	2,2,4-Trimethylpentane (Isooctane)	11.87	27.7	26.75	104	61	122	*	*

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **04222025.D** **TO15.M**
Data File Path: **I:\MS09\Data\2020_04\22** Sample Name: **25ng TO-15 ICV STD**
Operator: **SC** Misc Info: **S34-04212006/S34-04102008 (**
Date Acquired: **4/23/2020** **14:51** Instrument Name: **MS09**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
50)	**Methyl Methacrylate**	**12.00**	**60.1**	**53.75**	112	**76**	**121**	*	*
51)	**n-Heptane**	**12.13**	**28.3**	**26.75**	106	**66**	**119**	*	*
52)	**cis-1,3-Dichloropropene**	**12.66**	**30.3**	**26.75**	113	**72**	**125**	*	*
53)	**4-Methyl-2-pentanone**	**12.69**	**30.1**	**26.50**	114	**68**	**130**	*	*
54)	**trans-1,3-Dichloropropene**	**13.18**	**30.1**	**26.50**	114	**71**	**132**	*	*
55)	**1,1,2-Trichloroethane**	**13.36**	**27.9**	**26.75**	104	**70**	**117**	*	*
58)	**Toluene**	**13.65**	**28.6**	**26.50**	108	**67**	**113**	*	*
59)	**2-Hexanone**	**13.89**	**34.7**	**27.00**	129	**62**	**135**	*	*
60)	**Dibromochloromethane**	**14.07**	**29.6**	**26.75**	111	**73**	**126**	*	*
61)	**1,2-Dibromoethane**	**14.32**	**29.9**	**26.75**	112	**71**	**122**	*	*
62)	**n-Butyl Acetate**	**14.53**	**34.6**	**27.25**	127	**65**	**134**	*	*
63)	**n-Octane**	**14.67**	**29.1**	**27.00**	108	**63**	**120**	*	*
64)	**Tetrachloroethene**	**14.81**	**27.0**	**26.00**	104	**64**	**120**	*	*
65)	**Chlorobenzene**	**15.51**	**28.4**	**26.75**	106	**65**	**116**	*	*
66)	**Ethylbenzene**	**15.90**	**28.8**	**26.50**	109	**65**	**117**	*	*
67)	**m- & p-Xylenes**	**16.10**	**56.9**	**53.25**	107	**64**	**121**	*	*
68)	**Bromoform**	**16.16**	**30.2**	**26.75**	113	**72**	**130**	*	*
69)	**Styrene**	**16.47**	**30.2**	**26.50**	114	**72**	**126**	*	*
70)	**o-Xylene**	**16.58**	**28.4**	**26.75**	106	**64**	**120**	*	*
71)	**n-Nonane**	**16.82**	**28.9**	**26.75**	108	**56**	**132**	*	*
72)	**1,1,2,2-Tetrachloroethane**	**16.56**	**29.2**	**26.75**	109	**66**	**122**	*	*
74)	**Cumene**	**17.19**	**28.3**	**26.75**	106	**64**	**121**	*	*
75)	**alpha-Pinene**	**17.60**	**29.1**	**26.50**	110	**62**	**136**	*	*
76)	**n-Propylbenzene**	**17.72**	**29.0**	**26.75**	108	**65**	**123**	*	*
77)	3-Ethyltoluene	17.83	29.5	26.75	110	62	123	*	*
78)	**4-Ethyltoluene**	**17.88**	**28.1**	**26.25**	**107**	**71**	**126**	*	*
79)	**1,3,5-Trimethylbenzene**	**17.95**	**28.1**	**26.50**	**106**	**65**	**120**	*	*
80)	alpha-Methylstyrene	18.11	29.7	26.50	**112**	70	132	*	*
81)	2-Ethyltoluene	18.15	28.6	26.75	**107**	66	121	*	*
82)	**1,2,4-Trimethylbenzene**	**18.38**	**28.6**	**26.50**	**108**	**63**	**129**	*	*
83)	n-Decane	18.50	29.7	26.75	**111**	61	131	*	*
84)	**Benzyl Chloride**	**18.52**	**31.8**	**26.75**	**119**	**66**	**138**	*	*
85)	**1,3-Dichlorobenzene**	**18.54**	**29.5**	**26.75**	**110**	**65**	**127**	*	*
86)	**1,4-Dichlorobenzene**	**18.61**	**29.7**	**26.75**	**111**	**66**	**125**	*	*
87)	sec-Butylbenzene	18.67	28.2	26.50	**106**	68	123	*	*
88)	4-Isopropyltoluene (p-Cymene)	18.83	28.2	27.25	**103**	61	129	*	*
89)	1,2,3-Trimethylbenzene	18.83	28.0	27.00	**104**	60	134	*	*
90)	**1,2-Dichlorobenzene**	**18.97**	**29.1**	**26.75**	**109**	**67**	**128**	*	*
91)	**d-Limonene**	**18.99**	**28.5**	**26.50**	**108**	**65**	**136**	*	*
92)	**1,2-Dibromo-3-Chloropropane**	**19.43**	**28.7**	**26.75**	**107**	**73**	**133**	*	*
93)	n-Undecane	19.83	29.9	27.00	**111**	64	131	*	*
94)	**1,2,4-Trichlorobenzene**	**20.77**	**31.3**	**27.00**	**116**	**62**	**140**	*	*
95)	**Naphthalene**	**20.89**	**29.0**	**26.50**	**109**	**57**	**149**	*	*
96)	n-Dodecane	20.92	30.6	26.50	**115**	41	181	*	*
97)	**Hexachlorobutadiene**	**21.26**	**26.9**	**26.75**	**101**	57	129	*	*
98)	Cyclohexanone	16.24	27.6	25.25	109	61	131	*	*
99)	tert-Butylbenzene	18.38	27.4	26.50	103	62	130	*	*
100)	n-Butylbenzene	19.27	29.8	26.75	111	67	124	*	*

Bold = 75 Compound List

Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2020_04\17\04172002.D Vial: 2
Acq On : 17 Apr 2020 3:14 Operator: SC
Sample : CCV R9041720_25ng Inst : MS09
Misc : S31-02272010/S34-04102002 (5/9)

TD 4/17/20

Quant Time: Apr 17 05:28:08 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	96	0.00
2	T	Propene	0.766	0.544	29.0	71	0.00
3	T	Dichlorodifluoromethane (CF	1.784	1.678	5.9	93	0.00
4	T	Chloromethane	1.073	0.852	20.6	74	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	0.832	0.856	-2.9	105	0.00
6	T	Vinyl Chloride	0.925	0.868	6.2	93	0.00
7	T	1,3-Butadiene	0.645	0.628	2.6	92	0.00
8	T	Bromomethane	0.815	0.742	9.0	88	0.00
9	T	Chloroethane	0.607	0.485	20.1	78	0.00
10	T	Ethanol	0.599	0.431	28.0	73	0.00
11	T	Acetonitrile	1.365	0.979	28.3	68	0.00
12	T	Acrolein	0.513	0.411	19.9	72	0.00
13	T	Acetone	0.615	0.470	23.6	77	0.00
14	T	Trichlorofluoromethane	1.615	1.607	0.5	98	0.00
15	T	2-Propanol (Isopropanol)	1.951	1.612	17.4	76	0.00
16	T	Acrylonitrile	1.068	0.858	19.7	73	0.00
17	T	1,1-Dichloroethene	0.911	0.833	8.6	86	0.00
18	T	2-Methyl-2-Propanol (tert-B	2.064	1.964	4.8	85	0.00
19	T	Methylene Chloride	0.940	0.822	12.6	84	0.00
20	T	3-Chloro-1-propene (Allyl C	1.190	0.921	22.6	73	0.00
21	T	Trichlorotrifluoroethane	0.900	0.900	0.0	97	0.00
22	T	Carbon Disulfide	3.261	2.791	14.4	82	0.00
23	T	trans-1,2-Dichloroethene	1.176	1.102	6.3	82	0.00
24	T	1,1-Dichloroethane	1.547	1.314	15.1	83	0.00
25	T	Methyl tert-Butyl Ether	2.684	2.576	4.0	89	0.00
26	T	Vinyl Acetate	0.205	0.192	6.3	85	0.00
27	T	2-Butanone (MEK)	0.603	0.535	11.3	80	0.00
28	T	cis-1,2-Dichloroethene	1.184	1.067	9.9	83	0.00
29	T	Diisopropyl Ether	0.749	0.670	10.5	88	0.00
30	T	Ethyl Acetate	0.276	0.233	15.6	80	0.00
31	T	n-Hexane	1.339	1.059	20.9	80	0.00
32	T	Chloroform	1.593	1.510	5.2	91	0.00
33	S	1,2-Dichloroethane-d4(SS1)	1.414	1.435	-1.5	97	0.00
34	T	Tetrahydrofuran (THF)	0.583	0.510	12.5	81	0.00
35	T	Ethyl tert-Butyl Ether	1.089	1.058	2.8	90	0.00
36	T	1,2-Dichloroethane	1.202	1.193	0.7	94	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	95	0.00
38	T	1,1,1-Trichloroethane	0.338	0.356	-5.3	98	0.00
39	T	Isopropyl Acetate	0.117	0.102	12.8	80	0.00
40	T	1-Butanol	0.190	0.160	15.8	76	0.00
41	T	Benzene	0.891	0.771	13.5	84	0.00
42	T	Carbon Tetrachloride	0.317	0.340	-7.3	100	0.00
43	T	Cyclohexane	0.338	0.301	10.9	86	0.00
44	T	tert-Amyl Methyl Ether	0.586	0.561	4.3	87	0.00
45	T	1,2-Dichloropropane	0.199	0.167	16.1	78	0.00
46	T	Bromodichloromethane	0.294	0.292	0.7	92	0.00
47	T	Trichloroethene	0.257	0.259	-0.8	95	0.00
48	T	1,4-Dioxane	0.174	0.167	4.0	86	0.00
49	T	2,2,4-Trimethylpentane (Iso	0.837	0.681	18.6	78	0.00
50	T	Methyl Methacrylate	0.087	0.088	-1.1	89	0.00
51	T	n-Heptane	0.213	0.187	12.2	82	0.00
52	T	cis-1,3-Dichloropropene	0.331	0.340	-2.7	86	0.00
53	T	4-Methyl-2-pentanone	0.176	0.155	11.9	77	0.00
54	T	trans-1,3-Dichloropropene	0.310	0.327	-5.5	89	0.00
55	T	1,1,2-Trichloroethane	0.218	0.210	3.7	88	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2020_04\17\04172002.D Vial: 2
Acq On : 17 Apr 2020 3:14 Operator: SC
Sample : CCV R9041720_25ng Inst : MS09
Misc : S31-02272010/S34-04102002 (5/9)

Quant Time: Apr 17 05:28:08 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	93	0.00
57	S	Toluene-d8 (SS2)	2.486	2.477	0.4	93	0.00
58	T	Toluene	2.110	1.942	8.0	88	0.00
59	T	2-Hexanone	0.835	0.736	11.9	75	0.00
60	T	Dibromochloromethane	0.589	0.656	-11.4	97	0.00
61	T	1,2-Dibromoethane	0.534	0.570	-6.7	91	0.00
62	T	n-Butyl Acetate	0.892	0.789	11.5	74	0.00
63	T	n-Octane	0.381	0.324	15.0	79	0.00
64	T	Tetrachloroethene	0.656	0.690	-5.2	99	0.00
65	T	Chlorobenzene	1.471	1.409	4.2	91	0.00
66	T	Ethylbenzene	2.266	2.259	0.3	90	0.00
67	T	m- & p-Xylenes	1.813	1.833	-1.1	92	0.00
68	T	Bromoform	0.486	0.584	-20.2	101	0.00
69	T	Styrene	1.315	1.479	-12.5	90	0.00
70	T	o-Xylene	1.812	1.821	-0.5	92	0.00
71	T	n-Nonane	0.783	0.642	18.0	75	0.00
72	T	1,1,2,2-Tetrachloroethane	0.818	0.749	8.4	83	0.00
73	S	Bromofluorobenzene (SS3)	0.827	0.956	-15.6	105	0.00
74	T	Cumene	2.365	2.363	0.1	93	0.00
75	T	alpha-Pinene	1.191	1.198	-0.6	90	0.00
76	T	n-Propylbenzene	2.701	2.671	1.1	89	0.00
77	T	3-Ethyltoluene	2.267	2.381	-5.0	94	0.00
78	T	4-Ethyltoluene	2.171	2.294	-5.7	93	0.00
79	T	1,3,5-Trimethylbenzene	1.996	2.052	-2.8	94	0.00
80	T	alpha-Methylstyrene	0.977	1.126	-15.3	92	0.00
81	T	2-Ethyltoluene	2.264	2.297	-1.5	92	0.00
82	T	1,2,4-Trimethylbenzene	1.855	1.992	-7.4	96	0.00
83	T	n-Decane	0.902	0.798	11.5	80	0.00
84	T	Benzyl Chloride	1.450	1.706	-17.7	92	0.00
85	T	1,3-Dichlorobenzene	1.071	1.271	-18.7	97	0.00
86	T	1,4-Dichlorobenzene	1.094	1.304	-19.2	96	0.00
87	T	sec-Butylbenzene	2.608	2.593	0.6	92	0.00
88	T	4-Isopropyltoluene (p-Cymen	2.310	2.445	-5.8	98	0.00
89	T	1,2,3-Trimethylbenzene	1.892	1.994	-5.4	96	0.00
90	T	1,2-Dichlorobenzene	1.065	1.220	-14.6	96	0.00
91	T	d-Limonene	0.644	0.613	4.8	81	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.424	0.485	-14.4	96	0.00
93	T	n-Undecane	0.960	0.832	13.3	78	0.00
94	T	1,2,4-Trichlorobenzene	0.822	1.017	-23.7	98	0.00
95	T	Naphthalene	2.553	2.954	-15.7	91	0.00
96	T	n-Dodecane	0.948	0.785	17.2	74	0.00
97	T	Hexachlorobutadiene	0.569	0.665	-16.9	106	0.00
98	T	Cyclohexanone	0.594	0.541	8.9	76	0.00
99	T	tert-Butylbenzene	1.914	1.948	-1.8	97	0.00
100	T	n-Butylbenzene	1.859	1.999	-7.5	88	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172002.D Vial: 2
Acq On : 17 Apr 2020 3:14 Operator: SC
Sample : CCV R9041720_25ng Inst : MS09 TD 4/17/20
Misc : S31-02272010/S34-04102002 (5/9)

Quant Time: Apr 17 05:28:08 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	159374	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	11.12	114	667643	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	15.46	82	295435	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.93	65	228631	12.680	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.44%				
57) Toluene-d8 (SS2)	13.55	98	731899	12.456	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.68%				
73) Bromofluorobenzene (SS3)	17.05	174	282365	14.444	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 115.52%				
Target Compounds							Qvalue
2) Propene	3.85	42	183693	18.819	ng		96
3) Dichlorodifluoromethan...	3.96	85	566918	24.928	ng		99
4) Chloromethane	4.16	50	287940	21.038	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	286405	26.997	ng		100
6) Vinyl Chloride	4.44	62	298977	25.355	ng		100
7) 1,3-Butadiene	4.62	54	212114	25.800	ng		100
8) Bromomethane	4.93	94	255560	24.584	ng		100
9) Chloroethane	5.15	64	166854	21.565	ng		99
10) Ethanol	5.40	45	715129	93.648	ng		98
11) Acetonitrile	5.59	41	327500	18.813	ng		99
12) Acrolein	5.71	56	134818	20.595	ng		99
13) Acetone	5.86	58	798170	101.836	ng		90
14) Trichlorofluoromethane	6.02	101	542947	26.364	ng		100
15) 2-Propanol (Isopropanol)	6.19	45	1078891	43.381	ng		96
16) Acrylonitrile	6.39	53	287059	21.086	ng		98
17) 1,1-Dichloroethene	6.72	96	286712	24.684	ng		98
18) 2-Methyl-2-Propanol (t...	6.84	59	1352163	51.370	ng		98
19) Methylene Chloride	6.88	84	277780	23.189	ng		90
20) 3-Chloro-1-propene (Al...	7.01	41	317144	20.909	ng		92
21) Trichlorotrifluoroethane	7.18	151	309865	26.996	ng		91
22) Carbon Disulfide	7.15	76	951806	22.895	ng		99
23) trans-1,2-Dichloroethene	7.90	61	379349	25.302	ng		96
24) 1,1-Dichloroethane	8.12	63	456547	23.144	ng		99
25) Methyl tert-Butyl Ether	8.18	73	886840	25.917	ng		96
26) Vinyl Acetate	8.29	86	326676	124.730	ng	#	79
27) 2-Butanone (MEK)	8.53	72	180741	23.494	ng	#	86
28) cis-1,2-Dichloroethene	8.99	61	360459	23.876	ng		96
29) Diisopropyl Ether	9.22	87	230798	24.179	ng	#	77
30) Ethyl Acetate	9.23	61	161497	45.862	ng		92
31) n-Hexane	9.22	57	364533	21.360	ng		97
32) Chloroform	9.30	83	515104	25.358	ng		100
34) Tetrahydrofuran (THF)	9.67	72	177275	23.846	ng	#	89
35) Ethyl tert-Butyl Ether	9.77	87	364350	26.244	ng		91
36) 1,2-Dichloroethane	10.04	62	410685	26.807	ng		100
38) 1,1,1-Trichloroethane	10.30	97	508848	28.156	ng		98
39) Isopropyl Acetate	10.67	61	287344	46.035	ng		94
40) 1-Butanol	10.68	56	444066	43.848	ng		97
41) Benzene	10.76	78	1091105	22.934	ng		100
42) Carbon Tetrachloride	10.91	117	477336	28.149	ng		99
43) Cyclohexane	11.04	84	850889	47.121	ng		94
44) tert-Amyl Methyl Ether	11.35	73	809441	25.863	ng		98
45) 1,2-Dichloropropane	11.57	63	240495	22.663	ng		99
46) Bromodichloromethane	11.76	83	421532	26.868	ng		100
47) Trichloroethene	11.81	130	369994	26.990	ng		99
48) 1,4-Dioxane	11.78	88	241294	26.000	ng		94
49) 2,2,4-Trimethylpentane...	11.87	57	972623	21.769	ng		97
50) Methyl Methacrylate	12.00	100	253249	54.351	ng		89

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172002.D Vial: 2
Acq On : 17 Apr 2020 3:14 Operator: SC
Sample : CCV R9041720_25ng Inst : MS09
Misc : S31-02272010/S34-04102002 (5/9)

Quant Time: Apr 17 05:28:08 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

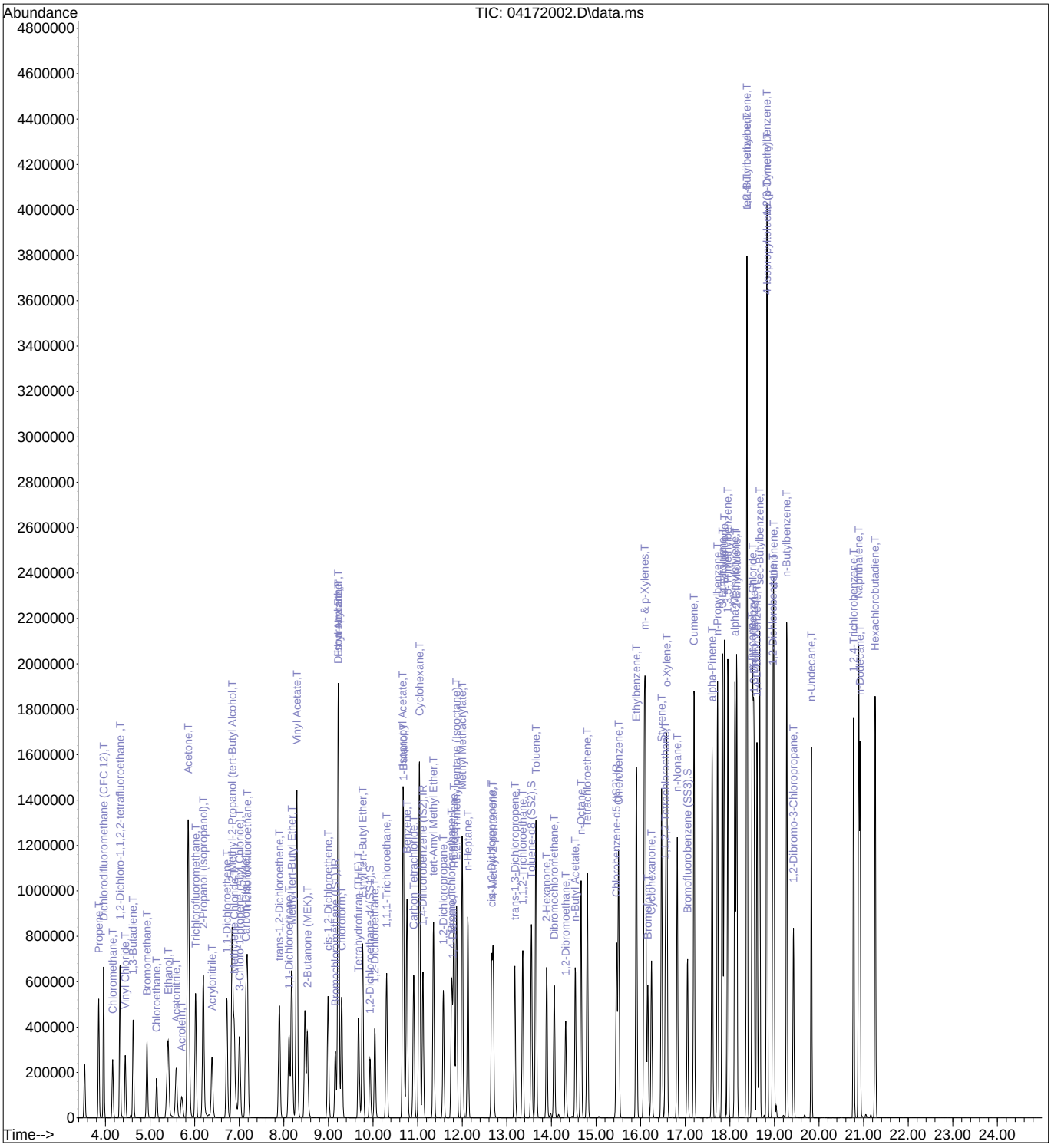
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	269499	23.731	ng	95
52) cis-1,3-Dichloropropene	12.66	75	472095	26.695	ng	99
53) 4-Methyl-2-pentanone	12.69	58	219472	23.397	ng	95
54) trans-1,3-Dichloropropene	13.18	75	463392	27.993	ng	100
55) 1,1,2-Trichloroethane	13.36	97	300004	25.774	ng	95
58) Toluene	13.65	91	1227913	24.625	ng	100
59) 2-Hexanone	13.89	43	465012	23.555	ng	98
60) Dibromochloromethane	14.06	129	414806	29.810	ng	99
61) 1,2-Dibromoethane	14.32	107	360167	28.551	ng	100
62) n-Butyl Acetate	14.53	43	508199	24.113	ng	98
63) n-Octane	14.67	57	206986	23.005	ng	92
64) Tetrachloroethene	14.80	166	424221	27.367	ng	99
65) Chlorobenzene	15.51	112	891098	25.634	ng	99
66) Ethylbenzene	15.90	91	1428402	26.675	ng	99
67) m- & p-Xylenes	16.10	91	2317517	54.071	ng	100
68) Bromoform	16.16	173	369435	32.155	ng	100
69) Styrene	16.47	104	926459	29.806	ng	99
70) o-Xylene	16.58	91	1151097	26.875	ng	100
71) n-Nonane	16.82	43	405867	21.937	ng	92
72) 1,1,2,2-Tetrachloroethane	16.56	83	473339	24.479	ng	100
74) Cumene	17.19	105	1507892	26.979	ng	100
75) alpha-Pinene	17.60	93	757303	26.897	ng	99
76) n-Propylbenzene	17.72	91	1704636	26.706	ng	98
77) 3-Ethyltoluene	17.83	105	1491231	27.838	ng	99
78) 4-Ethyltoluene	17.88	105	1464183	28.533	ng	99
79) 1,3,5-Trimethylbenzene	17.95	105	1285021	27.239	ng	100
80) alpha-Methylstyrene	18.11	118	712095	30.836	ng	100
81) 2-Ethyltoluene	18.15	105	1465855	27.393	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	1259178	28.726	ng	100
83) n-Decane	18.50	57	504737	23.672	ng	96
84) Benzyl Chloride	18.51	91	1088430	31.754	ng	99
85) 1,3-Dichlorobenzene	18.54	146	803370	31.748	ng	100
86) 1,4-Dichlorobenzene	18.61	146	824213	31.880	ng	100
87) sec-Butylbenzene	18.67	105	1639446	26.600	ng	99
88) 4-Isopropyltoluene (p-...	18.83	119	1574818	28.849	ng	100
89) 1,2,3-Trimethylbenzene	18.83	105	1284488	28.719	ng	100
90) 1,2-Dichlorobenzene	18.97	146	771067	30.630	ng	100
91) d-Limonene	18.99	68	391213	25.704	ng	90
92) 1,2-Dibromo-3-Chloropr...	19.43	157	300714	29.977	ng	96
93) n-Undecane	19.83	57	530857	23.403	ng	96
94) 1,2,4-Trichlorobenzene	20.77	180	642687	33.084	ng	99
95) Naphthalene	20.89	128	1797719	29.795	ng	100
96) n-Dodecane	20.92	57	482304	21.530	ng	95
97) Hexachlorobutadiene	21.26	225	416527	30.949	ng	100
98) Cyclohexanone	16.24	55	319659	22.758	ng	94
99) tert-Butylbenzene	18.38	119	1231656	27.227	ng	100
100) n-Butylbenzene	19.27	91	1263558	28.766	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172002.D Vial: 2
Acq On : 17 Apr 2020 3:14 Operator: SC
Sample : CCV R9041720_25ng Inst : MS09
Misc : S31-02272010/S34-04102002 (5/9)

Quant Time: Apr 17 05:28:08 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2020_04\17\04172035.D Vial: 2
Acq On : 17 Apr 2020 22:02 Operator: TD
Sample : CCVend R9041720_25ng Inst : MS09
Misc : S31-02272010/S34-04102002 (5/9)

Quant Time: Apr 19 08:10:37 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/19/20

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	92	0.00
2	T	Propene	0.766	0.559	27.0	70	0.00
3	T	Dichlorodifluoromethane (CF	1.784	1.682	5.7	90	0.01
4	T	Chloromethane	1.073	0.811	24.4	68	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	0.832	0.933	-12.1	110	0.00
6	T	Vinyl Chloride	0.925	0.957	-3.5	98	0.00
7	T	1,3-Butadiene	0.645	0.724	-12.2	101	0.00
8	T	Bromomethane	0.815	0.755	7.4	86	0.00
9	T	Chloroethane	0.607	0.480	20.9	74	0.00
10	T	Ethanol	0.599	0.435	27.4	71	0.00
11	T	Acetonitrile	1.365	0.978	28.4	66	0.00
12	T	Acrolein	0.513	0.412	19.7	70	0.00
13	T	Acetone	0.615	0.473	23.1	75	0.00
14	T	Trichlorofluoromethane	1.615	1.604	0.7	94	0.00
15	T	2-Propanol (Isopropanol)	1.951	1.637	16.1	74	0.00
16	T	Acrylonitrile	1.068	0.857	19.8	70	0.00
17	T	1,1-Dichloroethene	0.911	0.826	9.3	82	0.00
18	T	2-Methyl-2-Propanol (tert-B	2.064	2.007	2.8	84	0.00
19	T	Methylene Chloride	0.940	0.811	13.7	79	0.00
20	T	3-Chloro-1-propene (Allyl C	1.190	0.947	20.4	72	0.00
21	T	Trichlorotrifluoroethane	0.900	0.903	-0.3	93	0.00
22	T	Carbon Disulfide	3.261	2.795	14.3	79	0.00
23	T	trans-1,2-Dichloroethene	1.176	1.109	5.7	79	0.00
24	T	1,1-Dichloroethane	1.547	1.313	15.1	79	0.00
25	T	Methyl tert-Butyl Ether	2.684	2.601	3.1	86	0.00
26	T	Vinyl Acetate	0.205	0.192	6.3	82	0.00
27	T	2-Butanone (MEK)	0.603	0.530	12.1	76	0.00
28	T	cis-1,2-Dichloroethene	1.184	1.073	9.4	80	0.00
29	T	Diisopropyl Ether	0.749	0.679	9.3	86	0.00
30	T	Ethyl Acetate	0.276	0.238	13.8	78	0.00
31	T	n-Hexane	1.339	1.086	18.9	79	0.00
32	T	Chloroform	1.593	1.518	4.7	88	0.00
33	S	1,2-Dichloroethane-d4(SS1)	1.414	1.478	-4.5	96	0.00
34	T	Tetrahydrofuran (THF)	0.583	0.506	13.2	77	0.00
35	T	Ethyl tert-Butyl Ether	1.089	1.070	1.7	87	0.00
36	T	1,2-Dichloroethane	1.202	1.212	-0.8	92	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	92	0.00
38	T	1,1,1-Trichloroethane	0.338	0.354	-4.7	94	0.00
39	T	Isopropyl Acetate	0.117	0.102	12.8	78	0.00
40	T	1-Butanol	0.190	0.160	15.8	73	0.00
41	T	Benzene	0.891	0.772	13.4	81	0.00
42	T	Carbon Tetrachloride	0.317	0.339	-6.9	96	0.00
43	T	Cyclohexane	0.338	0.297	12.1	82	0.00
44	T	tert-Amyl Methyl Ether	0.586	0.568	3.1	86	0.00
45	T	1,2-Dichloropropane	0.199	0.166	16.6	75	0.00
46	T	Bromodichloromethane	0.294	0.290	1.4	89	0.00
47	T	Trichloroethene	0.257	0.256	0.4	91	0.00
48	T	1,4-Dioxane	0.174	0.165	5.2	82	0.00
49	T	2,2,4-Trimethylpentane (Iso	0.837	0.682	18.5	76	0.00
50	T	Methyl Methacrylate	0.087	0.088	-1.1	86	0.00
51	T	n-Heptane	0.213	0.186	12.7	79	0.00
52	T	cis-1,3-Dichloropropene	0.331	0.340	-2.7	83	0.00
53	T	4-Methyl-2-pentanone	0.176	0.153	13.1	74	0.00
54	T	trans-1,3-Dichloropropene	0.310	0.328	-5.8	87	0.00
55	T	1,1,2-Trichloroethane	0.218	0.207	5.0	84	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2020_04\17\04172035.D Vial: 2
Acq On : 17 Apr 2020 22:02 Operator: TD
Sample : CCVend R9041720_25ng Inst : MS09
Misc : S31-02272010/S34-04102002 (5/9)

Quant Time: Apr 19 08:10:37 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	91	0.00
57	S	Toluene-d8 (SS2)	2.486	2.461	1.0	91	0.00
58	T	Toluene	2.110	1.927	8.7	86	0.00
59	T	2-Hexanone	0.835	0.732	12.3	73	0.00
60	T	Dibromochloromethane	0.589	0.637	-8.1	93	0.00
61	T	1,2-Dibromoethane	0.534	0.554	-3.7	87	0.00
62	T	n-Butyl Acetate	0.892	0.784	12.1	72	0.00
63	T	n-Octane	0.381	0.322	15.5	77	0.00
64	T	Tetrachloroethene	0.656	0.675	-2.9	95	0.00
65	T	Chlorobenzene	1.471	1.385	5.8	88	0.00
66	T	Ethylbenzene	2.266	2.211	2.4	87	0.00
67	T	m- & p-Xylenes	1.813	1.817	-0.2	90	0.00
68	T	Bromoform	0.486	0.574	-18.1	98	0.00
69	T	Styrene	1.315	1.445	-9.9	86	0.00
70	T	o-Xylene	1.812	1.792	1.1	89	0.00
71	T	n-Nonane	0.783	0.636	18.8	73	0.00
72	T	1,1,2,2-Tetrachloroethane	0.818	0.729	10.9	80	0.00
73	S	Bromofluorobenzene (SS3)	0.827	0.951	-15.0	103	0.00
74	T	Cumene	2.365	2.329	1.5	90	0.00
75	T	alpha-Pinene	1.191	1.183	0.7	87	0.00
76	T	n-Propylbenzene	2.701	2.630	2.6	87	0.00
77	T	3-Ethyltoluene	2.267	2.366	-4.4	92	0.00
78	T	4-Ethyltoluene	2.171	2.236	-3.0	89	0.00
79	T	1,3,5-Trimethylbenzene	1.996	2.024	-1.4	92	0.00
80	T	alpha-Methylstyrene	0.977	1.106	-13.2	89	0.00
81	T	2-Ethyltoluene	2.264	2.266	-0.1	90	0.00
82	T	1,2,4-Trimethylbenzene	1.855	1.975	-6.5	94	0.00
83	T	n-Decane	0.902	0.789	12.5	78	0.00
84	T	Benzyl Chloride	1.450	1.703	-17.4	91	0.00
85	T	1,3-Dichlorobenzene	1.071	1.246	-16.3	93	0.00
86	T	1,4-Dichlorobenzene	1.094	1.278	-16.8	92	0.00
87	T	sec-Butylbenzene	2.608	2.557	2.0	89	0.00
88	T	4-Isopropyltoluene (p-Cymen	2.310	2.430	-5.2	96	0.00
89	T	1,2,3-Trimethylbenzene	1.892	1.975	-4.4	93	0.00
90	T	1,2-Dichlorobenzene	1.065	1.194	-12.1	93	0.00
91	T	d-Limonene	0.644	0.610	5.3	80	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.424	0.469	-10.6	91	0.00
93	T	n-Undecane	0.960	0.810	15.6	75	0.00
94	T	1,2,4-Trichlorobenzene	0.822	0.986	-20.0	94	0.00
95	T	Naphthalene	2.553	2.856	-11.9	87	0.00
96	T	n-Dodecane	0.948	0.767	19.1	71	0.00
97	T	Hexachlorobutadiene	0.569	0.644	-13.2	101	0.00
98	T	Cyclohexanone	0.594	0.534	10.1	73	0.00
99	T	tert-Butylbenzene	1.914	1.937	-1.2	95	0.00
100	T	n-Butylbenzene	1.859	1.972	-6.1	86	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172035.D Vial: 2
Acq On : 17 Apr 2020 22:02 Operator: TD
Sample : CCVend R9041720_25ng Inst : MS09
Misc : S31-02272010/S34-04102002 (5/9)

Quant Time: Apr 19 08:10:37 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/19/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	152852	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	11.12	114	645483	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	15.46	82	290690	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.93	65	225961	13.066	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.56%				
57) Toluene-d8 (SS2)	13.55	98	715519	12.376	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.04%				
73) Bromofluorobenzene (SS3)	17.05	174	276330	14.366	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.96%				
Target Compounds							Qvalue
2) Propene	3.85	42	180980	19.332	ng		95
3) Dichlorodifluoromethan...	3.96	85	545168	24.994	ng		99
4) Chloromethane	4.16	50	262947	20.032	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	299454	29.431	ng		99
6) Vinyl Chloride	4.45	62	315897	27.933	ng		100
7) 1,3-Butadiene	4.62	54	234590	29.751	ng		99
8) Bromomethane	4.93	94	249303	25.006	ng		99
9) Chloroethane	5.15	64	158455	21.353	ng		99
10) Ethanol	5.40	45	693027	94.626	ng		97
11) Acetonitrile	5.59	41	313837	18.797	ng		98
12) Acrolein	5.71	56	129671	20.654	ng		100
13) Acetone	5.86	58	771277	102.603	ng		87
14) Trichlorofluoromethane	6.02	101	519833	26.319	ng		100
15) 2-Propanol (Isopropanol)	6.20	45	1051210	44.072	ng		96
16) Acrylonitrile	6.39	53	275124	21.072	ng		98
17) 1,1-Dichloroethene	6.72	96	272698	24.480	ng		99
18) 2-Methyl-2-Propanol (t...	6.84	59	1325109	52.490	ng		98
19) Methylene Chloride	6.88	84	262932	22.886	ng		91
20) 3-Chloro-1-propene (Al...	7.01	41	312799	21.502	ng		94
21) Trichlorotrifluoroethane	7.18	151	298139	27.083	ng		92
22) Carbon Disulfide	7.15	76	914233	22.930	ng		100
23) trans-1,2-Dichloroethene	7.90	61	366261	25.472	ng		97
24) 1,1-Dichloroethane	8.12	63	437436	23.121	ng		100
25) Methyl tert-Butyl Ether	8.18	73	858870	26.170	ng		96
26) Vinyl Acetate	8.29	86	313258	124.711	ng	#	86
27) 2-Butanone (MEK)	8.53	72	171670	23.267	ng		92
28) cis-1,2-Dichloroethene	8.99	61	347747	24.017	ng		97
29) Diisopropyl Ether	9.22	87	224049	24.473	ng	#	81
30) Ethyl Acetate	9.22	61	157918	46.759	ng		97
31) n-Hexane	9.22	57	358581	21.908	ng		98
32) Chloroform	9.30	83	496647	25.493	ng		100
34) Tetrahydrofuran (THF)	9.67	72	168623	23.650	ng		90
35) Ethyl tert-Butyl Ether	9.77	87	353421	26.543	ng		92
36) 1,2-Dichloroethane	10.04	62	400003	27.224	ng		100
38) 1,1,1-Trichloroethane	10.30	97	488638	27.966	ng		98
39) Isopropyl Acetate	10.67	61	278956	46.225	ng		97
40) 1-Butanol	10.68	56	430894	44.008	ng		95
41) Benzene	10.76	78	1056102	22.961	ng		99
42) Carbon Tetrachloride	10.91	117	459559	28.031	ng		100
43) Cyclohexane	11.04	84	813920	46.621	ng		94
44) tert-Amyl Methyl Ether	11.35	73	791877	26.171	ng		98
45) 1,2-Dichloropropane	11.57	63	231750	22.588	ng		99
46) Bromodichloromethane	11.76	83	404234	26.650	ng		100
47) Trichloroethene	11.81	130	353842	26.698	ng		100
48) 1,4-Dioxane	11.78	88	229770	25.608	ng		95
49) 2,2,4-Trimethylpentane...	11.87	57	941594	21.798	ng		96
50) Methyl Methacrylate	12.00	100	242984	53.938	ng		90

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172035.D Vial: 2
Acq On : 17 Apr 2020 22:02 Operator: TD
Sample : CCVend R9041720_25ng Inst : MS09
Misc : S31-02272010/S34-04102002 (5/9)

Quant Time: Apr 19 08:10:37 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

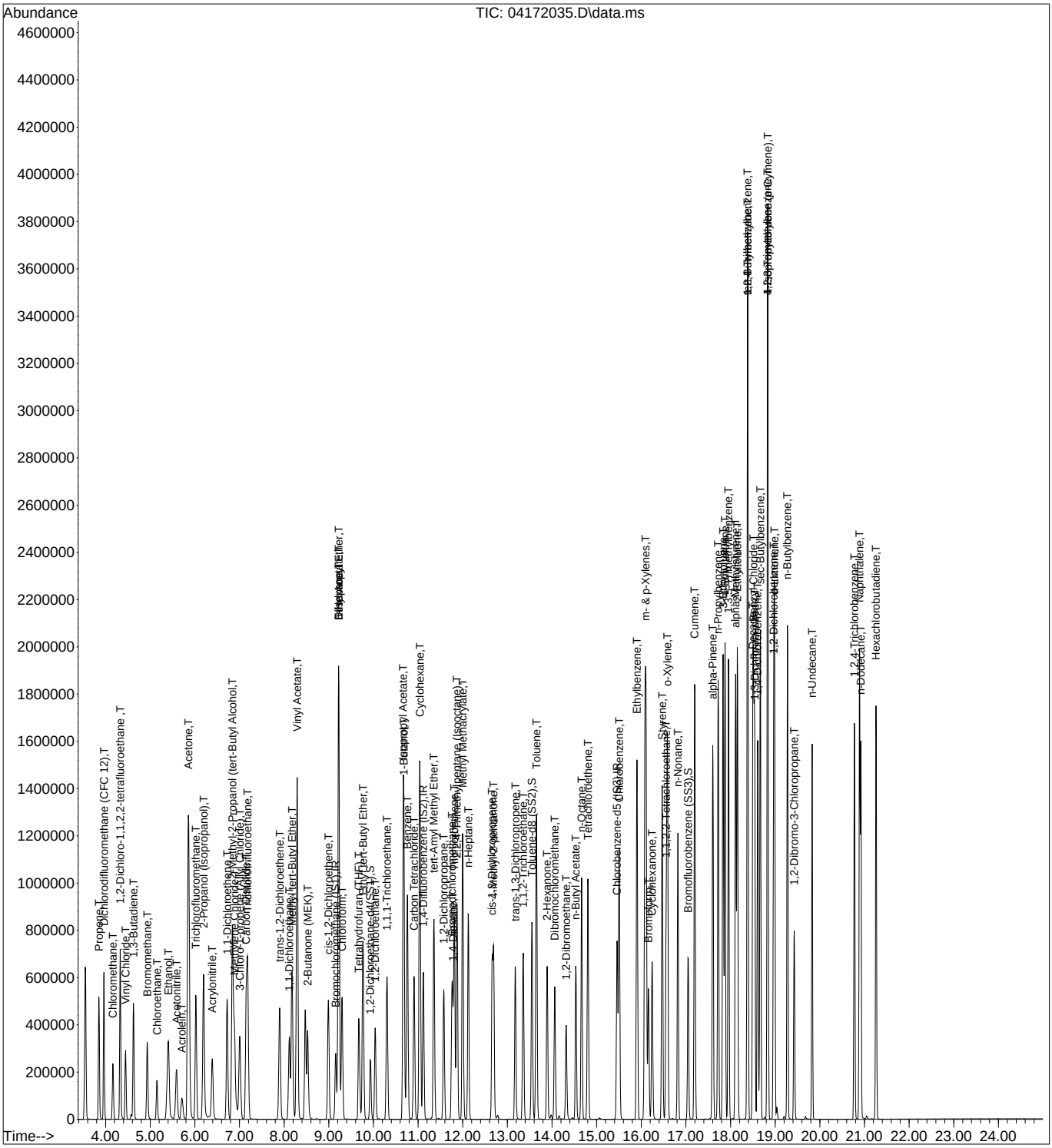
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	259522	23.637	ng	96
52) cis-1,3-Dichloropropene	12.66	75	457002	26.728	ng	100
53) 4-Methyl-2-pentanone	12.69	58	209981	23.154	ng	97
54) trans-1,3-Dichloropropene	13.18	75	449143	28.064	ng	100
55) 1,1,2-Trichloroethane	13.36	97	286357	25.447	ng	96
58) Toluene	13.65	91	1198441	24.426	ng	100
59) 2-Hexanone	13.89	43	455438	23.446	ng	99
60) Dibromochloromethane	14.06	129	396178	28.936	ng	100
61) 1,2-Dibromoethane	14.32	107	344741	27.774	ng	100
62) n-Butyl Acetate	14.53	43	496850	23.959	ng	99
63) n-Octane	14.67	57	202410	22.864	ng	94
64) Tetrachloroethene	14.81	166	408039	26.753	ng	100
65) Chlorobenzene	15.51	112	861395	25.184	ng	100
66) Ethylbenzene	15.90	91	1375137	26.100	ng	99
67) m- & p-Xylenes	16.10	91	2261100	53.616	ng	99
68) Bromoform	16.16	173	356931	31.574	ng	100
69) Styrene	16.47	104	890579	29.120	ng	98
70) o-Xylene	16.58	91	1114469	26.445	ng	99
71) n-Nonane	16.82	43	395899	21.748	ng	93
72) 1,1,2,2-Tetrachloroethane	16.56	83	453803	23.852	ng	99
74) Cumene	17.19	105	1462547	26.595	ng	100
75) alpha-Pinene	17.60	93	736006	26.567	ng	99
76) n-Propylbenzene	17.72	91	1651369	26.293	ng	99
77) 3-Ethyltoluene	17.83	105	1457918	27.660	ng	99
78) 4-Ethyltoluene	17.88	105	1403717	27.801	ng	99
79) 1,3,5-Trimethylbenzene	17.95	105	1247312	26.872	ng	99
80) alpha-Methylstyrene	18.11	118	688248	30.290	ng	100
81) 2-Ethyltoluene	18.15	105	1423070	27.028	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	1228428	28.482	ng	100
83) n-Decane	18.50	57	490861	23.397	ng	97
84) Benzyl Chloride	18.51	91	1069379	31.708	ng	99
85) 1,3-Dichlorobenzene	18.54	146	775245	31.137	ng	100
86) 1,4-Dichlorobenzene	18.61	146	794922	31.249	ng	100
87) sec-Butylbenzene	18.67	105	1590865	26.233	ng	99
88) 4-Isopropyltoluene (p-...	18.83	119	1540202	28.675	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	1251753	28.444	ng	100
90) 1,2-Dichlorobenzene	18.97	146	742721	29.986	ng	100
91) d-Limonene	18.99	68	383273	25.593	ng	91
92) 1,2-Dibromo-3-Chloropr...	19.43	157	286427	29.018	ng	97
93) n-Undecane	19.83	57	508845	22.799	ng	96
94) 1,2,4-Trichlorobenzene	20.77	180	613290	32.086	ng	100
95) Naphthalene	20.89	128	1709979	28.803	ng	100
96) n-Dodecane	20.92	57	463854	21.044	ng	96
97) Hexachlorobutadiene	21.26	225	396675	29.955	ng	99
98) Cyclohexanone	16.24	55	310517	22.468	ng	94
99) tert-Butylbenzene	18.38	119	1205158	27.076	ng	99
100) n-Butylbenzene	19.27	91	1226955	28.388	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\17\04172035.D Vial: 2
Acq On : 17 Apr 2020 22:02 Operator: TD
Sample : CCVend R9041720_25ng Inst : MS09
Misc : S31-02272010/S34-04102002 (5/9)

Quant Time: Apr 19 08:10:37 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2020_04\20\04202003.D Vial: 2
Acq On : 20 Apr 2020 3:46 Operator: TD
Sample : CCV R9042020_25ng Inst : MS09
Misc : S31-02272010/S34-04102002 (5/9)

TD 4/20/20

Quant Time: Apr 20 05:17:04 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	87	0.00
2	T	Propene	0.766	0.565	26.2	66	0.00
3	T	Dichlorodifluoromethane (CF	1.784	1.719	3.6	86	0.01
4	T	Chloromethane	1.073	0.853	20.5	67	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	0.832	0.934	-12.3	103	0.00
6	T	Vinyl Chloride	0.925	0.963	-4.1	93	0.00
7	T	1,3-Butadiene	0.645	0.721	-11.8	95	0.00
8	T	Bromomethane	0.815	0.760	6.7	81	0.00
9	T	Chloroethane	0.607	0.483	20.4	70	0.00
10	T	Ethanol	0.599	0.439	26.7	67	0.00
11	T	Acetonitrile	1.365	0.991	27.4	62	0.00
12	T	Acrolein	0.513	0.409	20.3	65	0.00
13	T	Acetone	0.615	0.478	22.3	71	0.00
14	T	Trichlorofluoromethane	1.615	1.649	-2.1	90	0.00
15	T	2-Propanol (Isopropanol)	1.951	1.668	14.5	70	0.00
16	T	Acrylonitrile	1.068	0.864	19.1	66	0.00
17	T	1,1-Dichloroethene	0.911	0.829	9.0	77	0.00
18	T	2-Methyl-2-Propanol (tert-B	2.064	2.039	1.2	80	0.00
19	T	Methylene Chloride	0.940	0.816	13.2	75	0.00
20	T	3-Chloro-1-propene (Allyl C	1.190	0.974	18.2	69	0.00
21	T	Trichlorotrifluoroethane	0.900	0.904	-0.4	88	0.00
22	T	Carbon Disulfide	3.261	2.823	13.4	74	0.00
23	T	trans-1,2-Dichloroethene	1.176	1.129	4.0	76	0.00
24	T	1,1-Dichloroethane	1.547	1.334	13.8	75	0.00
25	T	Methyl tert-Butyl Ether	2.684	2.650	1.3	83	0.00
26	T	Vinyl Acetate	0.205	0.191	6.8	77	0.00
27	T	2-Butanone (MEK)	0.603	0.535	11.3	72	0.00
28	T	cis-1,2-Dichloroethene	1.184	1.092	7.8	76	0.00
29	T	Diisopropyl Ether	0.749	0.682	8.9	81	0.00
30	T	Ethyl Acetate	0.276	0.240	13.0	74	0.00
31	T	n-Hexane	1.339	1.095	18.2	74	0.00
32	T	Chloroform	1.593	1.531	3.9	83	0.00
33	S	1,2-Dichloroethane-d4(SS1)	1.414	1.529	-8.1	93	0.00
34	T	Tetrahydrofuran (THF)	0.583	0.506	13.2	72	0.00
35	T	Ethyl tert-Butyl Ether	1.089	1.073	1.5	82	0.00
36	T	1,2-Dichloroethane	1.202	1.242	-3.3	88	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	87	0.00
38	T	1,1,1-Trichloroethane	0.338	0.359	-6.2	90	0.00
39	T	Isopropyl Acetate	0.117	0.102	12.8	74	0.00
40	T	1-Butanol	0.190	0.159	16.3	69	0.00
41	T	Benzene	0.891	0.762	14.5	76	0.00
42	T	Carbon Tetrachloride	0.317	0.344	-8.5	92	0.00
43	T	Cyclohexane	0.338	0.295	12.7	78	0.00
44	T	tert-Amyl Methyl Ether	0.586	0.570	2.7	81	0.00
45	T	1,2-Dichloropropane	0.199	0.164	17.6	70	0.00
46	T	Bromodichloromethane	0.294	0.292	0.7	85	0.00
47	T	Trichloroethene	0.257	0.252	1.9	85	0.00
48	T	1,4-Dioxane	0.174	0.163	6.3	77	0.00
49	T	2,2,4-Trimethylpentane (Iso	0.837	0.677	19.1	71	0.00
50	T	Methyl Methacrylate	0.087	0.087	0.0	81	0.00
51	T	n-Heptane	0.213	0.182	14.6	74	0.00
52	T	cis-1,3-Dichloropropene	0.331	0.341	-3.0	79	0.00
53	T	4-Methyl-2-pentanone	0.176	0.153	13.1	70	0.00
54	T	trans-1,3-Dichloropropene	0.310	0.330	-6.5	83	0.00
55	T	1,1,2-Trichloroethane	0.218	0.205	6.0	79	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2020_04\20\04202003.D Vial: 2
Acq On : 20 Apr 2020 3:46 Operator: TD
Sample : CCV R9042020_25ng Inst : MS09
Misc : S31-02272010/S34-04102002 (5/9)

Quant Time: Apr 20 05:17:04 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	85	0.00
57	S	Toluene-d8 (SS2)	2.486	2.490	-0.2	85	0.00
58	T	Toluene	2.110	1.944	7.9	81	0.00
59	T	2-Hexanone	0.835	0.753	9.8	70	0.00
60	T	Dibromochloromethane	0.589	0.653	-10.9	89	0.00
61	T	1,2-Dibromoethane	0.534	0.563	-5.4	82	0.00
62	T	n-Butyl Acetate	0.892	0.802	10.1	69	0.00
63	T	n-Octane	0.381	0.327	14.2	73	0.00
64	T	Tetrachloroethene	0.656	0.677	-3.2	89	0.00
65	T	Chlorobenzene	1.471	1.392	5.4	83	0.00
66	T	Ethylbenzene	2.266	2.254	0.5	82	0.00
67	T	m- & p-Xylenes	1.813	1.847	-1.9	85	0.00
68	T	Bromoform	0.486	0.578	-18.9	92	0.00
69	T	Styrene	1.315	1.459	-11.0	81	0.00
70	T	o-Xylene	1.812	1.820	-0.4	84	0.00
71	T	n-Nonane	0.783	0.653	16.6	70	0.00
72	T	1,1,2,2-Tetrachloroethane	0.818	0.742	9.3	76	0.00
73	S	Bromofluorobenzene (SS3)	0.827	0.931	-12.6	94	0.00
74	T	Cumene	2.365	2.358	0.3	85	0.00
75	T	alpha-Pinene	1.191	1.201	-0.8	82	0.00
76	T	n-Propylbenzene	2.701	2.670	1.1	82	0.00
77	T	3-Ethyltoluene	2.267	2.394	-5.6	86	0.00
78	T	4-Ethyltoluene	2.171	2.280	-5.0	84	0.00
79	T	1,3,5-Trimethylbenzene	1.996	2.062	-3.3	87	0.00
80	T	alpha-Methylstyrene	0.977	1.110	-13.6	83	0.00
81	T	2-Ethyltoluene	2.264	2.285	-0.9	84	0.00
82	T	1,2,4-Trimethylbenzene	1.855	2.011	-8.4	89	0.00
83	T	n-Decane	0.902	0.797	11.6	73	0.00
84	T	Benzyl Chloride	1.450	1.737	-19.8	86	0.00
85	T	1,3-Dichlorobenzene	1.071	1.252	-16.9	87	0.00
86	T	1,4-Dichlorobenzene	1.094	1.290	-17.9	86	0.00
87	T	sec-Butylbenzene	2.608	2.588	0.8	84	0.00
88	T	4-Isopropyltoluene (p-Cymen	2.310	2.453	-6.2	90	0.00
89	T	1,2,3-Trimethylbenzene	1.892	2.014	-6.4	88	0.00
90	T	1,2-Dichlorobenzene	1.065	1.199	-12.6	87	0.00
91	T	d-Limonene	0.644	0.621	3.6	75	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.424	0.477	-12.5	86	0.00
93	T	n-Undecane	0.960	0.833	13.2	71	0.00
94	T	1,2,4-Trichlorobenzene	0.822	0.993	-20.8	88	0.00
95	T	Naphthalene	2.553	2.889	-13.2	82	0.00
96	T	n-Dodecane	0.948	0.789	16.8	68	0.00
97	T	Hexachlorobutadiene	0.569	0.655	-15.1	95	0.00
98	T	Cyclohexanone	0.594	0.543	8.6	69	0.00
99	T	tert-Butylbenzene	1.914	1.967	-2.8	90	0.00
100	T	n-Butylbenzene	1.859	1.999	-7.5	81	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202003.D Vial: 2
Acq On : 20 Apr 2020 3:46 Operator: TD
Sample : CCV R9042020_25ng Inst : MS09
Misc : S31-02272010/S34-04102002 (5/9)

TD 4/20/20

Quant Time: Apr 20 05:17:04 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	143476	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	11.12	114	612786	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	15.46	82	270309	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.93	65	219310	13.510	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.08%				
57) Toluene-d8 (SS2)	13.55	98	673042	12.519	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.16%				
73) Bromofluorobenzene (SS3)	17.05	174	251528	14.062	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.48%				
Target Compounds							Qvalue
2) Propene	3.85	42	171842	19.556	ng		95
3) Dichlorodifluoromethan...	3.96	85	522805	25.535	ng		100
4) Chloromethane	4.16	50	259352	21.049	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	281308	29.455	ng		100
6) Vinyl Chloride	4.45	62	298546	28.124	ng		100
7) 1,3-Butadiene	4.62	54	219397	29.642	ng		99
8) Bromomethane	4.93	94	235565	25.172	ng		100
9) Chloroethane	5.15	64	149811	21.508	ng		99
10) Ethanol	5.40	45	656317	95.470	ng		97
11) Acetonitrile	5.59	41	298718	19.061	ng		98
12) Acrolein	5.71	56	121024	20.536	ng		99
13) Acetone	5.86	58	730460	103.524	ng	#	84
14) Trichlorofluoromethane	6.02	101	501624	27.057	ng		100
15) 2-Propanol (Isopropanol)	6.19	45	1004884	44.883	ng		95
16) Acrylonitrile	6.39	53	260401	21.247	ng		98
17) 1,1-Dichloroethene	6.72	96	256787	24.558	ng		99
18) 2-Methyl-2-Propanol (t...	6.84	59	1263735	53.330	ng		98
19) Methylene Chloride	6.88	84	248289	23.024	ng		93
20) 3-Chloro-1-propene (Al...	7.01	41	301944	22.112	ng		96
21) Trichlorotrifluoroethane	7.18	151	280227	27.119	ng		93
22) Carbon Disulfide	7.15	76	866624	23.156	ng		99
23) trans-1,2-Dichloroethene	7.90	61	349991	25.931	ng		98
24) 1,1-Dichloroethane	8.12	63	417145	23.490	ng		100
25) Methyl tert-Butyl Ether	8.18	73	821293	26.660	ng		96
26) Vinyl Acetate	8.29	86	293201	124.354	ng	#	91
27) 2-Butanone (MEK)	8.52	72	162833	23.511	ng		92
28) cis-1,2-Dichloroethene	8.99	61	332105	24.436	ng		98
29) Diisopropyl Ether	9.22	87	211207	24.578	ng	#	83
30) Ethyl Acetate	9.22	61	149575	47.183	ng		97
31) n-Hexane	9.23	57	339343	22.087	ng		98
32) Chloroform	9.30	83	469961	25.699	ng		99
34) Tetrahydrofuran (THF)	9.67	72	158111	23.625	ng		91
35) Ethyl tert-Butyl Ether	9.77	87	332484	26.602	ng		93
36) 1,2-Dichloroethane	10.04	62	384848	27.904	ng		100
38) 1,1,1-Trichloroethane	10.30	97	470649	28.373	ng		98
39) Isopropyl Acetate	10.67	61	263871	46.059	ng		99
40) 1-Butanol	10.68	56	405116	43.583	ng		92
41) Benzene	10.76	78	990282	22.679	ng		99
42) Carbon Tetrachloride	10.91	117	442200	28.411	ng		100
43) Cyclohexane	11.04	84	766342	46.238	ng		95
44) tert-Amyl Methyl Ether	11.35	73	754174	26.254	ng		98
45) 1,2-Dichloropropane	11.57	63	217139	22.293	ng		99
46) Bromodichloromethane	11.76	83	386991	26.875	ng		99
47) Trichloroethene	11.81	130	330199	26.244	ng		100
48) 1,4-Dioxane	11.78	88	216175	25.379	ng		95
49) 2,2,4-Trimethylpentane...	11.87	57	887447	21.641	ng		95
50) Methyl Methacrylate	12.00	100	229675	53.704	ng		90

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202003.D Vial: 2
Acq On : 20 Apr 2020 3:46 Operator: TD
Sample : CCV R9042020_25ng Inst : MS09
Misc : S31-02272010/S34-04102002 (5/9)

Quant Time: Apr 20 05:17:04 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

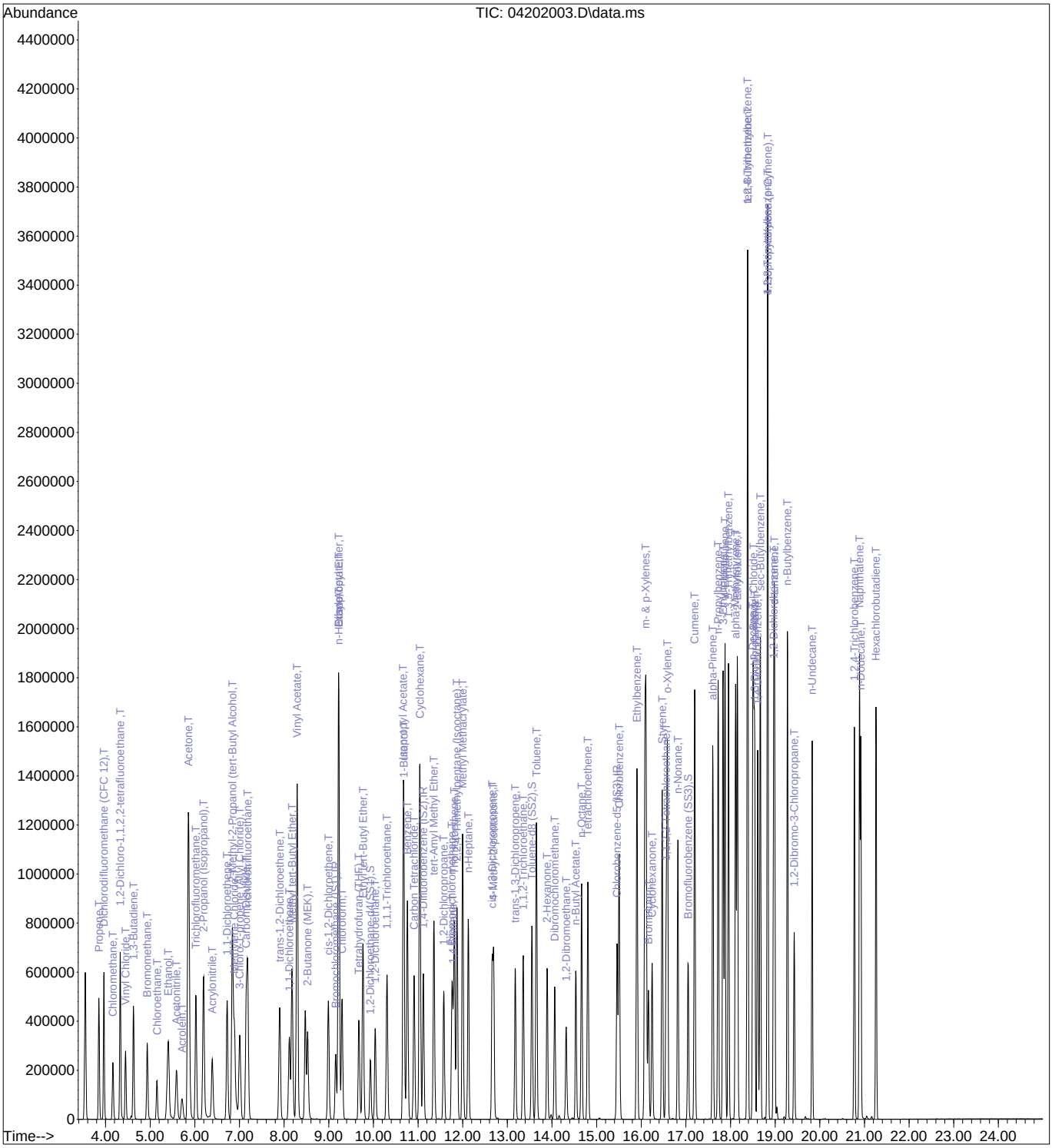
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	241044	23.125	ng	96
52) cis-1,3-Dichloropropene	12.66	75	434304	26.756	ng	100
53) 4-Methyl-2-pentanone	12.69	58	199177	23.134	ng	98
54) trans-1,3-Dichloropropene	13.18	75	428071	28.175	ng	100
55) 1,1,2-Trichloroethane	13.36	97	268845	25.165	ng	95
58) Toluene	13.65	91	1124332	24.644	ng	99
59) 2-Hexanone	13.89	43	435360	24.103	ng	100
60) Dibromochloromethane	14.06	129	377884	29.681	ng	99
61) 1,2-Dibromoethane	14.32	107	325399	28.192	ng	100
62) n-Butyl Acetate	14.53	43	472360	24.496	ng	99
63) n-Octane	14.67	57	190841	23.182	ng	94
64) Tetrachloroethene	14.80	166	380820	26.851	ng	100
65) Chlorobenzene	15.51	112	805339	25.321	ng	100
66) Ethylbenzene	15.90	91	1304120	26.618	ng	100
67) m- & p-Xylenes	16.10	91	2136589	54.483	ng	99
68) Bromoform	16.16	173	334445	31.816	ng	100
69) Styrene	16.47	104	835847	29.391	ng	98
70) o-Xylene	16.58	91	1052519	26.858	ng	99
71) n-Nonane	16.82	43	377612	22.307	ng	94
72) 1,1,2,2-Tetrachloroethane	16.56	83	429288	24.265	ng	99
74) Cumene	17.19	105	1377010	26.927	ng	99
75) alpha-Pinene	17.60	93	694478	26.958	ng	98
76) n-Propylbenzene	17.72	91	1558766	26.690	ng	99
77) 3-Ethyltoluene	17.83	105	1372012	27.993	ng	100
78) 4-Ethyltoluene	17.88	105	1331055	28.350	ng	100
79) 1,3,5-Trimethylbenzene	17.95	105	1181509	27.373	ng	99
80) alpha-Methylstyrene	18.11	118	641905	30.380	ng	99
81) 2-Ethyltoluene	18.15	105	1334361	27.254	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	1163148	29.002	ng	99
83) n-Decane	18.50	57	460952	23.628	ng	96
84) Benzyl Chloride	18.51	91	1013894	32.329	ng	99
85) 1,3-Dichlorobenzene	18.54	146	724431	31.289	ng	100
86) 1,4-Dichlorobenzene	18.61	146	746372	31.553	ng	99
87) sec-Butylbenzene	18.67	105	1497152	26.549	ng	99
88) 4-Isopropyltoluene (p-...	18.83	119	1445563	28.943	ng	100
89) 1,2,3-Trimethylbenzene	18.83	105	1186569	28.995	ng	99
90) 1,2-Dichlorobenzene	18.97	146	693412	30.106	ng	100
91) d-Limonene	18.99	68	362719	26.047	ng	91
92) 1,2-Dibromo-3-Chloropr...	19.43	157	270882	29.513	ng	98
93) n-Undecane	19.83	57	486479	23.440	ng	96
94) 1,2,4-Trichlorobenzene	20.77	180	574614	32.330	ng	100
95) Naphthalene	20.89	128	1608889	29.144	ng	100
96) n-Dodecane	20.92	57	443569	21.642	ng	96
97) Hexachlorobutadiene	21.26	225	375172	30.467	ng	100
98) Cyclohexanone	16.24	55	293397	22.830	ng	94
99) tert-Butylbenzene	18.38	119	1137983	27.495	ng	99
100) n-Butylbenzene	19.27	91	1156185	28.768	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202003.D Vial: 2
Acq On : 20 Apr 2020 3:46 Operator: TD
Sample : CCV R9042020_25ng Inst : MS09
Misc : S31-02272010/S34-04102002 (5/9)

Quant Time: Apr 20 05:17:04 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2020_04\20\04202033.D Vial: 2
Acq On : 20 Apr 2020 21:02 Operator: SC
Sample : CCV END R9042020_25ng Inst : MS09
Misc : S31-02272010/S34-04102002 (5/9)

Quant Time: Apr 20 21:28:14 2020 4/21/20
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	78	0.00
2	T	Propene	0.766	0.512	33.2#	54	0.00
3	T	Dichlorodifluoromethane (CF	1.784	1.688	5.4	76	0.00
4	T	Chloromethane	1.073	0.803	25.2	57	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	0.832	0.901	-8.3	90	0.00
6	T	Vinyl Chloride	0.925	0.906	2.1	78	0.00
7	T	1,3-Butadiene	0.645	0.648	-0.5	77	0.00
8	T	Bromomethane	0.815	0.714	12.4	69	0.00
9	T	Chloroethane	0.607	0.452	25.5	59	0.00
10	T	Ethanol	0.599	0.403	32.7#	55	-0.01
11	T	Acetonitrile	1.365	0.905	33.7#	51	0.00
12	T	Acrolein	0.513	0.375	26.9	54	0.00
13	T	Acetone	0.615	0.443	28.0	59	0.00
14	T	Trichlorofluoromethane	1.615	1.643	-1.7	81	0.00
15	T	2-Propanol (Isopropanol)	1.951	1.553	20.4	59	-0.01
16	T	Acrylonitrile	1.068	0.795	25.6	55	0.00
17	T	1,1-Dichloroethene	0.911	0.779	14.5	66	0.00
18	T	2-Methyl-2-Propanol (tert-B	2.064	1.957	5.2	69	-0.01
19	T	Methylene Chloride	0.940	0.767	18.4	63	0.00
20	T	3-Chloro-1-propene (Allyl C	1.190	0.893	25.0	57	0.00
21	T	Trichlorotrifluoroethane	0.900	0.868	3.6	76	0.00
22	T	Carbon Disulfide	3.261	2.627	19.4	62	0.00
23	T	trans-1,2-Dichloroethene	1.176	1.066	9.4	65	0.00
24	T	1,1-Dichloroethane	1.547	1.263	18.4	64	0.00
25	T	Methyl tert-Butyl Ether	2.684	2.549	5.0	72	0.00
26	T	Vinyl Acetate	0.205	0.181	11.7	66	0.00
27	T	2-Butanone (MEK)	0.603	0.499	17.2	61	0.00
28	T	cis-1,2-Dichloroethene	1.184	1.042	12.0	66	0.00
29	T	Diisopropyl Ether	0.749	0.645	13.9	69	0.00
30	T	Ethyl Acetate	0.276	0.222	19.6	62	0.00
31	T	n-Hexane	1.339	1.034	22.8	63	0.00
32	T	Chloroform	1.593	1.485	6.8	72	0.00
33	S	1,2-Dichloroethane-d4(SS1)	1.414	1.580	-11.7	87	0.00
34	T	Tetrahydrofuran (THF)	0.583	0.473	18.9	61	0.00
35	T	Ethyl tert-Butyl Ether	1.089	1.026	5.8	71	0.00
36	T	1,2-Dichloroethane	1.202	1.244	-3.5	80	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	78	0.00
38	T	1,1,1-Trichloroethane	0.338	0.360	-6.5	81	0.00
39	T	Isopropyl Acetate	0.117	0.096	17.9	62	0.00
40	T	1-Butanol	0.190	0.149	21.6	57	0.00
41	T	Benzene	0.891	0.722	19.0	64	0.00
42	T	Carbon Tetrachloride	0.317	0.346	-9.1	83	0.00
43	T	Cyclohexane	0.338	0.282	16.6	66	0.00
44	T	tert-Amyl Methyl Ether	0.586	0.549	6.3	70	0.00
45	T	1,2-Dichloropropane	0.199	0.154	22.6	59	0.00
46	T	Bromodichloromethane	0.294	0.289	1.7	75	0.00
47	T	Trichloroethene	0.257	0.245	4.7	73	0.00
48	T	1,4-Dioxane	0.174	0.156	10.3	66	0.00
49	T	2,2,4-Trimethylpentane (Iso	0.837	0.641	23.4	60	0.00
50	T	Methyl Methacrylate	0.087	0.083	4.6	69	0.00
51	T	n-Heptane	0.213	0.175	17.8	63	0.00
52	T	cis-1,3-Dichloropropene	0.331	0.326	1.5	67	0.00
53	T	4-Methyl-2-pentanone	0.176	0.145	17.6	59	0.00
54	T	trans-1,3-Dichloropropene	0.310	0.319	-2.9	71	0.00
55	T	1,1,2-Trichloroethane	0.218	0.196	10.1	67	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2020_04\20\04202033.D Vial: 2
Acq On : 20 Apr 2020 21:02 Operator: SC
Sample : CCV END R9042020_25ng Inst : MS09
Misc : S31-02272010/S34-04102002 (5/9)

Quant Time: Apr 20 21:28:14 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	78	0.00
57	S	Toluene-d8 (SS2)	2.486	2.443	1.7	77	0.00
58	T	Toluene	2.110	1.800	14.7	69	0.00
59	T	2-Hexanone	0.835	0.691	17.2	59	0.00
60	T	Dibromochloromethane	0.589	0.619	-5.1	77	0.00
61	T	1,2-Dibromoethane	0.534	0.520	2.6	70	0.00
62	T	n-Butyl Acetate	0.892	0.730	18.2	58	0.00
63	T	n-Octane	0.381	0.297	22.0	61	0.00
64	T	Tetrachloroethene	0.656	0.635	3.2	77	0.00
65	T	Chlorobenzene	1.471	1.291	12.2	71	0.00
66	T	Ethylbenzene	2.266	2.104	7.1	71	0.00
67	T	m- & p-Xylenes	1.813	1.743	3.9	74	0.00
68	T	Bromoform	0.486	0.549	-13.0	80	0.00
69	T	Styrene	1.315	1.358	-3.3	70	0.00
70	T	o-Xylene	1.812	1.713	5.5	73	0.00
71	T	n-Nonane	0.783	0.603	23.0	60	0.00
72	T	1,1,2,2-Tetrachloroethane	0.818	0.683	16.5	64	0.00
73	S	Bromofluorobenzene (SS3)	0.827	0.945	-14.3	88	0.00
74	T	Cumene	2.365	2.218	6.2	74	0.00
75	T	alpha-Pinene	1.191	1.120	6.0	71	0.00
76	T	n-Propylbenzene	2.701	2.514	6.9	71	0.00
77	T	3-Ethyltoluene	2.267	2.261	0.3	75	0.00
78	T	4-Ethyltoluene	2.171	2.128	2.0	72	0.00
79	T	1,3,5-Trimethylbenzene	1.996	1.943	2.7	75	0.00
80	T	alpha-Methylstyrene	0.977	1.037	-6.1	71	0.00
81	T	2-Ethyltoluene	2.264	2.166	4.3	74	0.00
82	T	1,2,4-Trimethylbenzene	1.855	1.904	-2.6	77	0.00
83	T	n-Decane	0.902	0.742	17.7	63	0.00
84	T	Benzyl Chloride	1.450	1.624	-12.0	74	0.00
85	T	1,3-Dichlorobenzene	1.071	1.177	-9.9	76	0.00
86	T	1,4-Dichlorobenzene	1.094	1.205	-10.1	74	0.00
87	T	sec-Butylbenzene	2.608	2.425	7.0	72	0.00
88	T	4-Isopropyltoluene (p-Cymen	2.310	2.319	-0.4	78	0.00
89	T	1,2,3-Trimethylbenzene	1.892	1.900	-0.4	77	0.00
90	T	1,2-Dichlorobenzene	1.065	1.128	-5.9	75	0.00
91	T	d-Limonene	0.644	0.571	11.3	64	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.424	0.445	-5.0	74	0.00
93	T	n-Undecane	0.960	0.769	19.9	61	0.00
94	T	1,2,4-Trichlorobenzene	0.822	0.935	-13.7	76	0.00
95	T	Naphthalene	2.553	2.702	-5.8	70	0.00
96	T	n-Dodecane	0.948	0.738	22.2	59	0.00
97	T	Hexachlorobutadiene	0.569	0.627	-10.2	84	0.00
98	T	Cyclohexanone	0.594	0.497	16.3	59	0.00
99	T	tert-Butylbenzene	1.914	1.854	3.1	78	0.00
100	T	n-Butylbenzene	1.859	1.877	-1.0	70	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202033.D Vial: 2
Acq On : 20 Apr 2020 21:02 Operator: SC
Sample : CCV END R9042020_25ng Inst : MS09
Misc : S31-02272010/S34-04102002 (5/9)

Quant Time: Apr 20 21:28:14 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/21/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.15	130	129240	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	11.12	114	546095	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	15.46	82	249388	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.93	65	204208	13.966	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.76%				
57) Toluene-d8 (SS2)	13.55	98	609149	12.281	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.24%				
73) Bromofluorobenzene (SS3)	17.05	174	235767	14.287	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.32%				
Target Compounds							Qvalue
2) Propene	3.84	42	140264	17.720	ng		94
3) Dichlorodifluoromethan...	3.95	85	462409	25.073	ng		99
4) Chloromethane	4.16	50	220070	19.828	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.32	135	244528	28.424	ng		100
6) Vinyl Chloride	4.44	62	252950	26.453	ng		100
7) 1,3-Butadiene	4.62	54	177655	26.647	ng		98
8) Bromomethane	4.93	94	199415	23.656	ng		100
9) Chloroethane	5.15	64	126147	20.105	ng		99
10) Ethanol	5.40	45	542439	87.596	ng		97
11) Acetonitrile	5.58	41	245581	17.397	ng		97
12) Acrolein	5.71	56	99727	18.787	ng		99
13) Acetone	5.85	58	610149	95.998	ng	#	79
14) Trichlorofluoromethane	6.02	101	450087	26.951	ng		100
15) 2-Propanol (Isopropanol)	6.19	45	843107	41.805	ng		94
16) Acrylonitrile	6.38	53	215640	19.533	ng		97
17) 1,1-Dichloroethene	6.72	96	217514	23.093	ng		97
18) 2-Methyl-2-Propanol (t...	6.83	59	1092595	51.187	ng		98
19) Methylene Chloride	6.88	84	210160	21.635	ng		92
20) 3-Chloro-1-propene (Al...	7.00	41	249161	20.257	ng		95
21) Trichlorotrifluoroethane	7.18	151	242378	26.040	ng		92
22) Carbon Disulfide	7.15	76	726529	21.551	ng		99
23) trans-1,2-Dichloroethene	7.90	61	297625	24.480	ng		98
24) 1,1-Dichloroethane	8.11	63	355869	22.247	ng		100
25) Methyl tert-Butyl Ether	8.17	73	711619	25.645	ng		95
26) Vinyl Acetate	8.29	86	250569	117.979	ng	#	89
27) 2-Butanone (MEK)	8.52	72	136856	21.937	ng		93
28) cis-1,2-Dichloroethene	8.98	61	285420	23.314	ng		98
29) Diisopropyl Ether	9.22	87	179983	23.252	ng	#	82
30) Ethyl Acetate	9.22	61	124782	43.698	ng		92
31) n-Hexane	9.22	57	288523	20.848	ng		98
32) Chloroform	9.29	83	410847	24.941	ng		100
34) Tetrahydrofuran (THF)	9.67	72	133130	22.083	ng		91
35) Ethyl tert-Butyl Ether	9.77	87	286526	25.450	ng		93
36) 1,2-Dichloroethane	10.04	62	347270	27.953	ng		99
38) 1,1,1-Trichloroethane	10.30	97	420312	28.433	ng		98
39) Isopropyl Acetate	10.67	61	221273	43.340	ng		97
40) 1-Butanol	10.68	56	337408	40.731	ng		89
41) Benzene	10.76	78	836289	21.491	ng		99
42) Carbon Tetrachloride	10.91	117	396391	28.578	ng		99
43) Cyclohexane	11.04	84	652259	44.161	ng		94
44) tert-Amyl Methyl Ether	11.35	73	648069	25.316	ng		98
45) 1,2-Dichloropropane	11.57	63	182140	20.984	ng		99
46) Bromodichloromethane	11.76	83	340358	26.523	ng		100
47) Trichloroethene	11.81	130	285979	25.505	ng		100
48) 1,4-Dioxane	11.78	88	183611	24.188	ng		93
49) 2,2,4-Trimethylpentane...	11.87	57	749490	20.508	ng		93
50) Methyl Methacrylate	12.00	100	195434	51.279	ng		90

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202033.D Vial: 2
Acq On : 20 Apr 2020 21:02 Operator: SC
Sample : CCV END R9042020_25ng Inst : MS09
Misc : S31-02272010/S34-04102002 (5/9)

Quant Time: Apr 20 21:28:14 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

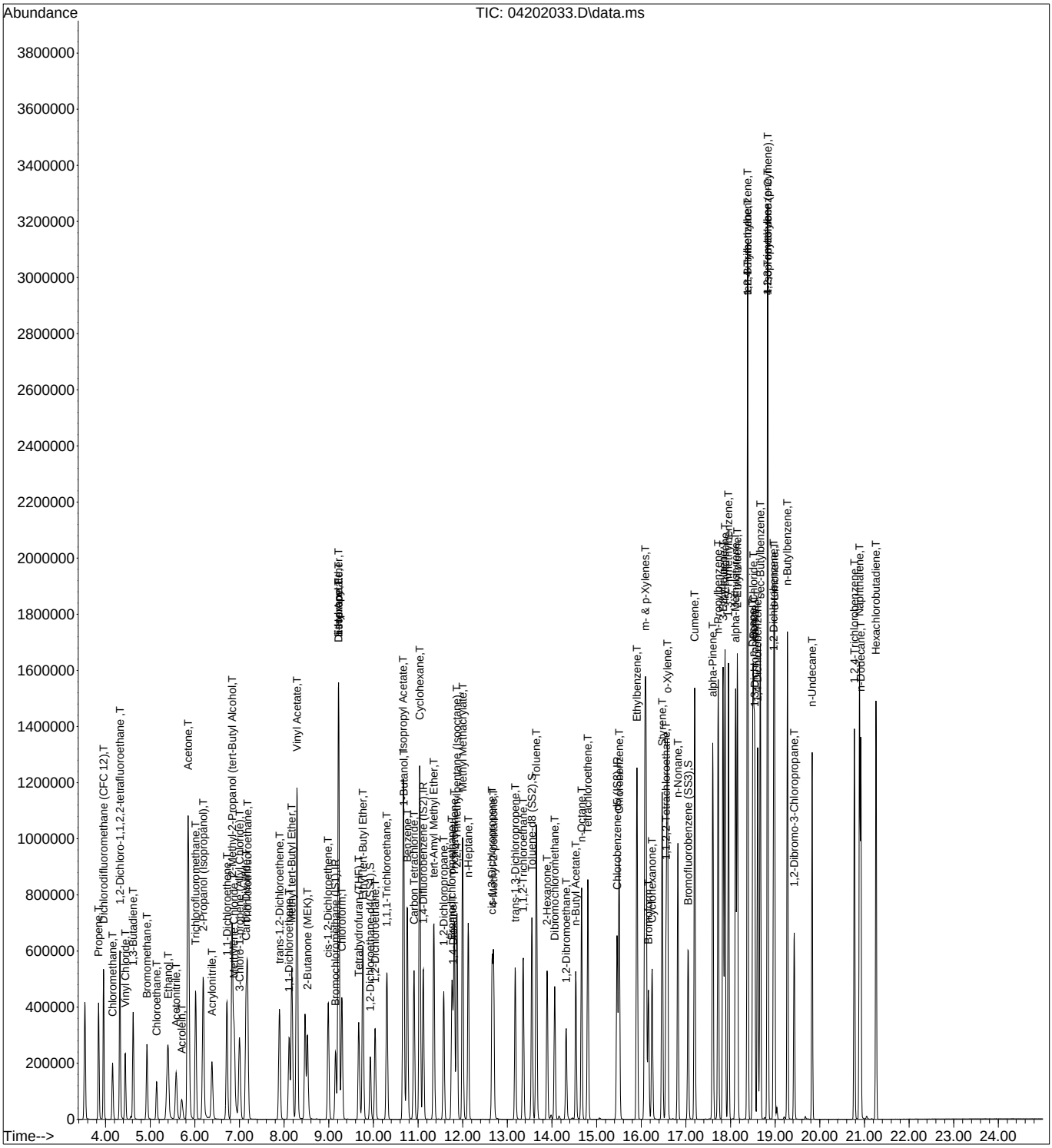
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	206619	22.243	ng	95
52) cis-1,3-Dichloropropene	12.66	75	370442	25.609	ng	100
53) 4-Methyl-2-pentanone	12.69	58	167954	21.890	ng	97
54) trans-1,3-Dichloropropene	13.18	75	368941	27.248	ng	99
55) 1,1,2-Trichloroethane	13.36	97	228856	24.038	ng	96
58) Toluene	13.65	91	960496	22.819	ng	100
59) 2-Hexanone	13.89	43	368708	22.125	ng	99
60) Dibromochloromethane	14.06	129	330431	28.131	ng	99
61) 1,2-Dibromoethane	14.32	107	277737	26.082	ng	100
62) n-Butyl Acetate	14.53	43	397024	22.316	ng	99
63) n-Octane	14.67	57	160078	21.077	ng	93
64) Tetrachloroethene	14.80	166	329516	25.182	ng	100
65) Chlorobenzene	15.51	112	689228	23.488	ng	100
66) Ethylbenzene	15.90	91	1122943	24.843	ng	100
67) m- & p-Xylenes	16.10	91	1859957	51.408	ng	98
68) Bromoform	16.16	173	293191	30.231	ng	100
69) Styrene	16.47	104	718090	27.368	ng	97
70) o-Xylene	16.58	91	914389	25.291	ng	98
71) n-Nonane	16.82	43	321586	20.591	ng	95
72) 1,1,2,2-Tetrachloroethane	16.56	83	364297	22.319	ng	100
74) Cumene	17.19	105	1194785	25.324	ng	99
75) alpha-Pinene	17.60	93	597620	25.145	ng	97
76) n-Propylbenzene	17.72	91	1354006	25.129	ng	99
77) 3-Ethyltoluene	17.83	105	1195643	26.441	ng	100
78) 4-Ethyltoluene	17.88	105	1146437	26.466	ng	100
79) 1,3,5-Trimethylbenzene	17.95	105	1027240	25.796	ng	98
80) alpha-Methylstyrene	18.11	118	553512	28.395	ng	99
81) 2-Ethyltoluene	18.15	105	1166532	25.825	ng	99
82) 1,2,4-Trimethylbenzene	18.38	105	1016209	27.464	ng	98
83) n-Decane	18.50	57	395862	21.993	ng	96
84) Benzyl Chloride	18.51	91	874571	30.226	ng	100
85) 1,3-Dichlorobenzene	18.54	146	628094	29.404	ng	100
86) 1,4-Dichlorobenzene	18.61	146	642924	29.460	ng	100
87) sec-Butylbenzene	18.67	105	1294423	24.880	ng	99
88) 4-Isopropyltoluene (p-...	18.83	119	1260688	27.359	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	1032798	27.355	ng	99
90) 1,2-Dichlorobenzene	18.97	146	601890	28.324	ng	100
91) d-Limonene	18.99	68	307659	23.947	ng	89
92) 1,2-Dibromo-3-Chloropr...	19.43	157	232984	27.513	ng	99
93) n-Undecane	19.83	57	414151	21.629	ng	96
94) 1,2,4-Trichlorobenzene	20.77	180	499209	30.443	ng	100
95) Naphthalene	20.89	128	1388113	27.254	ng	100
96) n-Dodecane	20.92	57	382651	20.236	ng	96
97) Hexachlorobutadiene	21.26	225	331544	29.183	ng	100
98) Cyclohexanone	16.24	55	247830	20.902	ng	94
99) tert-Butylbenzene	18.38	119	989552	25.914	ng	98
100) n-Butylbenzene	19.27	91	1001534	27.010	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\20\04202033.D Vial: 2
Acq On : 20 Apr 2020 21:02 Operator: SC
Sample : CCV END R9042020_25ng Inst : MS09
Misc : S31-02272010/S34-04102002 (5/9)

Quant Time: Apr 20 21:28:14 2020
Quant Method : I:\MS09\Methods\R9031720.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 18 08:55:21 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2020_04\24\04242002.D Vial: 2
Acq On : 24 Apr 2020 6:28 Operator: SC
Sample : CCV R9042420_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

TD 4/24/20

Quant Time: Apr 24 08:08:22 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	101	-0.02
2	T	Propene	0.531	0.498	6.2	101	0.00
3	T	Dichlorodifluoromethane (CF	2.017	1.852	8.2	96	0.00
4	T	Chloromethane	0.744	0.738	0.8	95	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.090	1.008	7.5	97	0.00
6	T	Vinyl Chloride	0.976	0.938	3.9	98	-0.01
7	T	1,3-Butadiene	0.623	0.658	-5.6	101	0.00
8	T	Bromomethane	0.767	0.782	-2.0	105	0.00
9	T	Chloroethane	0.494	0.470	4.9	100	0.00
10	T	Ethanol	0.402	0.374	7.0	104	-0.05
11	T	Acetonitrile	0.952	0.872	8.4	98	-0.03
12	T	Acrolein	0.367	0.392	-6.8	103	-0.02
13	T	Acetone	0.483	0.447	7.5	100	-0.03
14	T	Trichlorofluoromethane	2.007	1.870	6.8	97	0.00
15	T	2-Propanol (Isopropanol)	1.534	1.541	-0.5	96	-0.04
16	T	Acrylonitrile	0.766	0.813	-6.1	99	-0.03
17	T	1,1-Dichloroethene	0.882	0.850	3.6	100	-0.01
18	T	2-Methyl-2-Propanol (tert-B	1.401	1.419	-1.3	102	-0.04
19	T	Methylene Chloride	0.847	0.821	3.1	100	-0.02
20	T	3-Chloro-1-propene (Allyl C	0.983	0.886	9.9	96	-0.02
21	T	Trichlorotrifluoroethane	1.044	0.986	5.6	100	-0.01
22	T	Carbon Disulfide	2.815	2.782	1.2	100	-0.01
23	T	trans-1,2-Dichloroethene	1.114	1.129	-1.3	99	-0.01
24	T	1,1-Dichloroethane	1.391	1.329	4.5	99	-0.02
25	T	Methyl tert-Butyl Ether	1.793	1.825	-1.8	104	-0.01
26	T	Vinyl Acetate	0.176	0.190	-8.0	100	-0.03
27	T	2-Butanone (MEK)	0.496	0.520	-4.8	99	-0.02
28	T	cis-1,2-Dichloroethene	1.126	1.085	3.6	98	-0.01
29	T	Diisopropyl Ether	0.718	0.664	7.5	102	-0.02
30	T	Ethyl Acetate	0.221	0.226	-2.3	99	-0.02
31	T	n-Hexane	1.071	1.002	6.4	100	0.00
32	T	Chloroform	1.714	1.613	5.9	98	-0.02
33	S	1,2-Dichloroethane-d4(SS1)	1.620	1.580	2.5	99	-0.02
34	T	Tetrahydrofuran (THF)	0.502	0.492	2.0	98	0.00
35	T	Ethyl tert-Butyl Ether	0.768	0.673	12.4	92	-0.01
36	T	1,2-Dichloroethane	1.410	1.353	4.0	98	-0.01
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	102	-0.01
38	T	1,1,1-Trichloroethane	0.430	0.412	4.2	99	0.00
39	T	Isopropyl Acetate	0.103	0.099	3.9	99	-0.01
40	T	1-Butanol	0.138	0.157	-13.8	97	-0.03
41	T	Benzene	0.815	0.766	6.0	99	-0.01
42	T	Carbon Tetrachloride	0.421	0.401	4.8	97	-0.01
43	T	Cyclohexane	0.319	0.305	4.4	100	0.00
44	T	tert-Amyl Methyl Ether	0.428	0.367	14.3	89	0.00
45	T	1,2-Dichloropropane	0.167	0.160	4.2	98	-0.01
46	T	Bromodichloromethane	0.335	0.317	5.4	97	-0.01
47	T	Trichloroethene	0.282	0.273	3.2	99	-0.01
48	T	1,4-Dioxane	0.164	0.170	-3.7	99	-0.01
49	T	2,2,4-Trimethylpentane (Iso	0.681	0.638	6.3	100	-0.01
50	T	Methyl Methacrylate	0.087	0.091	-4.6	99	-0.02
51	T	n-Heptane	0.189	0.181	4.2	98	-0.01
52	T	cis-1,3-Dichloropropene	0.345	0.351	-1.7	98	0.00
53	T	4-Methyl-2-pentanone	0.143	0.149	-4.2	97	-0.01
54	T	trans-1,3-Dichloropropene	0.331	0.347	-4.8	97	-0.01
55	T	1,1,2-Trichloroethane	0.223	0.214	4.0	98	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2020_04\24\04242002.D Vial: 2
Acq On : 24 Apr 2020 6:28 Operator: SC
Sample : CCV R9042420_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 24 08:08:22 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	98	0.00
57	S	Toluene-d8 (SS2)	2.414	2.424	-0.4	99	0.00
58	T	Toluene	2.026	1.952	3.7	98	0.00
59	T	2-Hexanone	0.604	0.692	-14.6	94	-0.01
60	T	Dibromochloromethane	0.688	0.707	-2.8	98	0.00
61	T	1,2-Dibromoethane	0.565	0.580	-2.7	97	0.00
62	T	n-Butyl Acetate	0.675	0.740	-9.6	95	0.00
63	T	n-Octane	0.323	0.309	4.3	98	0.00
64	T	Tetrachloroethene	0.763	0.739	3.1	100	0.00
65	T	Chlorobenzene	1.484	1.452	2.2	99	0.00
66	T	Ethylbenzene	2.361	2.308	2.2	98	0.00
67	T	m- & p-Xylenes	1.992	1.918	3.7	98	-0.02
68	T	Bromoform	0.610	0.645	-5.7	98	0.00
69	T	Styrene	1.450	1.516	-4.6	98	0.00
70	T	o-Xylene	1.956	1.903	2.7	98	-0.01
71	T	n-Nonane	0.631	0.602	4.6	96	0.00
72	T	1,1,2,2-Tetrachloroethane	0.741	0.737	0.5	98	-0.01
73	S	Bromofluorobenzene (SS3)	0.970	1.002	-3.3	100	0.00
74	T	Cumene	2.552	2.480	2.8	98	0.00
75	T	alpha-Pinene	1.162	1.118	3.8	94	0.00
76	T	n-Propylbenzene	2.780	2.761	0.7	98	0.00
77	T	3-Ethyltoluene	2.491	2.522	-1.2	98	0.00
78	T	4-Ethyltoluene	2.426	2.389	1.5	97	0.00
79	T	1,3,5-Trimethylbenzene	2.242	2.187	2.5	98	0.00
80	T	alpha-Methylstyrene	1.122	1.190	-6.1	98	0.00
81	T	2-Ethyltoluene	2.479	2.418	2.5	97	0.00
82	T	1,2,4-Trimethylbenzene	2.168	2.142	1.2	98	-0.01
83	T	n-Decane	0.764	0.771	-0.9	97	-0.01
84	T	Benzyl Chloride	1.635	1.832	-12.0	96	-0.01
85	T	1,3-Dichlorobenzene	1.307	1.355	-3.7	99	0.00
86	T	1,4-Dichlorobenzene	1.333	1.383	-3.8	98	0.00
87	T	sec-Butylbenzene	2.776	2.715	2.2	98	0.00
88	T	4-Isopropyltoluene (p-Cymen	2.697	2.659	1.4	98	0.00
89	T	1,2,3-Trimethylbenzene	2.170	2.130	1.8	97	-0.01
90	T	1,2-Dichlorobenzene	1.270	1.308	-3.0	99	-0.01
91	T	d-Limonene	0.612	0.617	-0.8	97	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.481	0.526	-9.4	98	0.00
93	T	n-Undecane	0.806	0.816	-1.2	96	0.00
94	T	1,2,4-Trichlorobenzene	0.937	1.101	-17.5	97	0.00
95	T	Naphthalene	2.792	3.117	-11.6	97	0.00
96	T	n-Dodecane	0.722	0.788	-9.1	97	0.00
97	T	Hexachlorobutadiene	0.762	0.759	0.4	98	0.00
98	T	Cyclohexanone	0.494	0.525	-6.3	96	-0.01
99	T	tert-Butylbenzene	2.177	2.107	3.2	98	0.00
100	T	n-Butylbenzene	2.038	2.095	-2.8	97	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\24\04242002.D Vial: 2
Acq On : 24 Apr 2020 6:28 Operator: SC
Sample : CCV R9042420_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

TD 4/24/20

Quant Time: Apr 24 08:08:22 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	141305	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.12	114	587251	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	265920	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.93	65	223274	12.196	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.60%				
57) Toluene-d8 (SS2)	13.55	98	644601	12.554	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.40%				
73) Bromofluorobenzene (SS3)	17.05	174	266583	12.919	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.36%				
Target Compounds							Qvalue
2) Propene	3.85	42	149188	24.858	ng		99
3) Dichlorodifluoromethan...	3.96	85	554898	24.335	ng		100
4) Chloromethane	4.17	50	221194	26.290	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	299215	24.274	ng		99
6) Vinyl Chloride	4.45	62	286391	25.956	ng		100
7) 1,3-Butadiene	4.63	54	197172	27.979	ng		97
8) Bromomethane	4.94	94	238631	27.521	ng		99
9) Chloroethane	5.15	64	143444	25.700	ng		99
10) Ethanol	5.40	45	550089	121.005	ng		100
11) Acetonitrile	5.59	41	258838	24.053	ng		100
12) Acrolein	5.71	56	114088	27.463	ng		99
13) Acetone	5.86	58	673024	123.313	ng		96
14) Trichlorofluoromethane	6.03	101	560237	24.694	ng		99
15) 2-Propanol (Isopropanol)	6.19	45	914682	52.757	ng		100
16) Acrylonitrile	6.39	53	241147	27.852	ng		99
17) 1,1-Dichloroethene	6.72	96	259541	26.022	ng		97
18) 2-Methyl-2-Propanol (t...	6.84	59	866455	54.693	ng		99
19) Methylene Chloride	6.88	84	245991	25.699	ng		97
20) 3-Chloro-1-propene (Al...	7.01	41	270514	24.356	ng		98
21) Trichlorotrifluoroethane	7.18	151	300835	25.479	ng		100
22) Carbon Disulfide	7.15	76	841281	26.433	ng		99
23) trans-1,2-Dichloroethene	7.90	61	344555	27.371	ng		99
24) 1,1-Dichloroethane	8.12	63	409478	26.033	ng		100
25) Methyl tert-Butyl Ether	8.18	73	557023	27.485	ng		100
26) Vinyl Acetate	8.29	86	287051	144.109	ng		97
27) 2-Butanone (MEK)	8.53	72	155906	27.804	ng		100
28) cis-1,2-Dichloroethene	8.99	61	325080	25.549	ng		99
29) Diisopropyl Ether	9.22	87	202775	24.968	ng	#	93
30) Ethyl Acetate	9.22	61	138794	55.632	ng		98
31) n-Hexane	9.23	57	305723	25.245	ng		100
32) Chloroform	9.30	83	487674	25.171	ng		100
34) Tetrahydrofuran (THF)	9.68	72	151565	26.687	ng		99
35) Ethyl tert-Butyl Ether	9.77	87	205491	23.668	ng		99
36) 1,2-Dichloroethane	10.04	62	412894	25.908	ng		100
38) 1,1,1-Trichloroethane	10.30	97	517702	25.640	ng		99
39) Isopropyl Acetate	10.67	61	245945	51.052	ng		96
40) 1-Butanol	10.68	56	382362	59.076	ng		99
41) Benzene	10.76	78	953727	24.913	ng		100
42) Carbon Tetrachloride	10.91	117	494598	24.988	ng		100
43) Cyclohexane	11.04	84	759101	50.615	ng		100
44) tert-Amyl Methyl Ether	11.35	73	465570	23.161	ng		99
45) 1,2-Dichloropropane	11.57	63	202457	25.833	ng		100
46) Bromodichloromethane	11.76	83	401722	25.503	ng		99
47) Trichloroethene	11.81	130	343532	25.911	ng		100
48) 1,4-Dioxane	11.78	88	215231	27.962	ng		100
49) 2,2,4-Trimethylpentane...	11.87	57	802275	25.089	ng		99
50) Methyl Methacrylate	12.00	100	229630	55.990	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\24\04242002.D Vial: 2
Acq On : 24 Apr 2020 6:28 Operator: SC
Sample : CCV R9042420_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 24 08:08:22 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

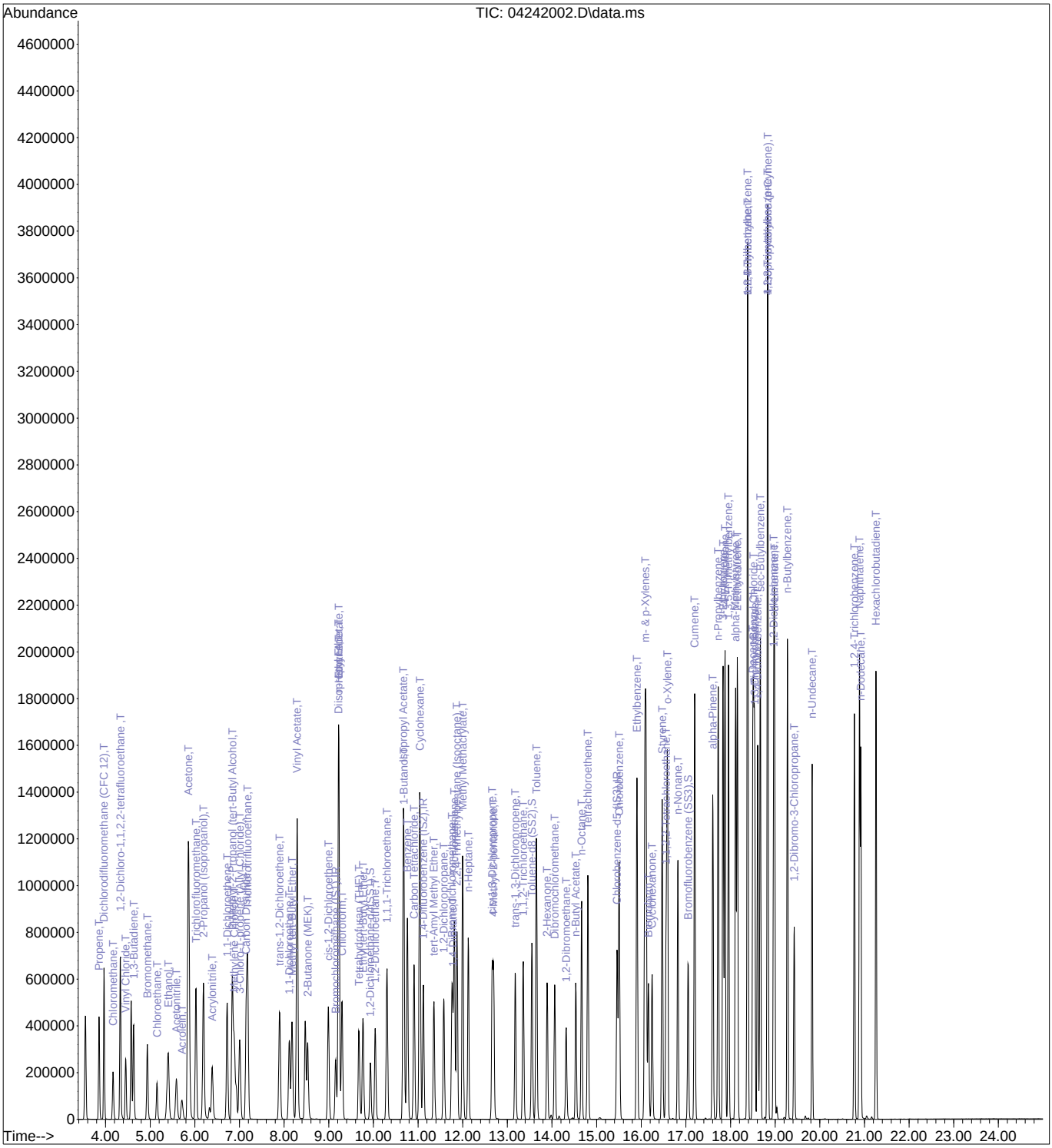
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	229616	25.815	ng	99
52) cis-1,3-Dichloropropene	12.66	75	428143	26.393	ng	100
53) 4-Methyl-2-pentanone	12.69	58	184937	27.605	ng	98
54) trans-1,3-Dichloropropene	13.18	75	432139	27.825	ng	99
55) 1,1,2-Trichloroethane	13.36	97	269118	25.718	ng	100
58) Toluene	13.65	91	1110842	25.769	ng	99
59) 2-Hexanone	13.89	43	393960	30.648	ng	99
60) Dibromochloromethane	14.06	129	402471	27.479	ng	100
61) 1,2-Dibromoethane	14.32	107	329841	27.454	ng	100
62) n-Butyl Acetate	14.53	43	429224	29.883	ng	99
63) n-Octane	14.67	57	177351	25.845	ng	98
64) Tetrachloroethene	14.80	166	408904	25.183	ng	100
65) Chlorobenzene	15.51	112	826429	26.186	ng	99
66) Ethylbenzene	15.90	91	1313282	26.146	ng	100
67) m- & p-Xylenes	16.10	91	2182805	51.511	ng	99
68) Bromoform	16.16	173	367267	28.318	ng	100
69) Styrene	16.47	104	854860	27.720	ng	100
70) o-Xylene	16.58	91	1083116	26.026	ng	100
71) n-Nonane	16.82	43	342396	25.505	ng	98
72) 1,1,2,2-Tetrachloroethane	16.56	83	419474	26.608	ng	100
74) Cumene	17.19	105	1424307	26.240	ng	99
75) alpha-Pinene	17.60	93	636144	25.735	ng	99
76) n-Propylbenzene	17.72	91	1586086	26.821	ng	99
77) 3-Ethyltoluene	17.83	105	1421594	26.824	ng	100
78) 4-Ethyltoluene	17.88	105	1372316	26.592	ng	99
79) 1,3,5-Trimethylbenzene	17.95	105	1232884	25.852	ng	100
80) alpha-Methylstyrene	18.11	118	677156	28.382	ng	100
81) 2-Ethyltoluene	18.15	105	1388902	26.338	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	1218935	26.433	ng	100
83) n-Decane	18.50	57	438733	27.004	ng	100
84) Benzyl Chloride	18.51	91	1052322	30.253	ng	99
85) 1,3-Dichlorobenzene	18.54	146	770885	27.728	ng	100
86) 1,4-Dichlorobenzene	18.61	146	787089	27.761	ng	99
87) sec-Butylbenzene	18.67	105	1544980	26.159	ng	100
88) 4-Isopropyltoluene (p-...	18.83	119	1541628	26.869	ng	100
89) 1,2,3-Trimethylbenzene	18.83	105	1234961	26.757	ng	99
90) 1,2-Dichlorobenzene	18.97	146	744406	27.562	ng	99
91) d-Limonene	18.99	68	354110	27.181	ng	99
92) 1,2-Dibromo-3-Chloropr...	19.43	157	293839	28.694	ng	98
93) n-Undecane	19.83	57	468986	27.355	ng	100
94) 1,2,4-Trichlorobenzene	20.77	180	626766	31.445	ng	99
95) Naphthalene	20.89	128	1707503	28.745	ng	100
96) n-Dodecane	20.92	57	435794	28.385	ng	100
97) Hexachlorobutadiene	21.26	225	428078	26.390	ng	100
98) Cyclohexanone	16.24	55	279015	26.558	ng	98
99) tert-Butylbenzene	18.38	119	1198814	25.886	ng	100
100) n-Butylbenzene	19.27	91	1192460	27.503	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\24\04242002.D Vial: 2
Acq On : 24 Apr 2020 6:28 Operator: SC
Sample : CCV R9042420_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 24 08:08:22 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2020_04\25\04252002.D Vial: 2
Acq On : 25 Apr 2020 1:55 Operator: LH
Sample : CCV R9042520_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 25 07:31:48 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/25/20

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	103	-0.02
2	T	Propene	0.531	0.529	0.4	109	0.00
3	T	Dichlorodifluoromethane (CF	2.017	1.905	5.6	101	0.00
4	T	Chloromethane	0.744	0.813	-9.3	106	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.090	1.017	6.7	99	0.00
6	T	Vinyl Chloride	0.976	0.960	1.6	101	-0.01
7	T	1,3-Butadiene	0.623	0.659	-5.8	102	-0.01
8	T	Bromomethane	0.767	0.775	-1.0	106	0.00
9	T	Chloroethane	0.494	0.454	8.1	98	0.00
10	T	Ethanol	0.402	0.368	8.5	105	-0.06
11	T	Acetonitrile	0.952	0.848	10.9	97	-0.03
12	T	Acrolein	0.367	0.376	-2.5	100	-0.02
13	T	Acetone	0.483	0.431	10.8	98	-0.03
14	T	Trichlorofluoromethane	2.007	1.836	8.5	97	-0.01
15	T	2-Propanol (Isopropanol)	1.534	1.506	1.8	96	-0.04
16	T	Acrylonitrile	0.766	0.785	-2.5	97	-0.03
17	T	1,1-Dichloroethene	0.882	0.829	6.0	99	-0.02
18	T	2-Methyl-2-Propanol (tert-B	1.401	1.462	-4.4	106	-0.04
19	T	Methylene Chloride	0.847	0.797	5.9	98	-0.02
20	T	3-Chloro-1-propene (Allyl C	0.983	0.864	12.1	96	-0.02
21	T	Trichlorotrifluoroethane	1.044	0.965	7.6	100	-0.01
22	T	Carbon Disulfide	2.815	2.736	2.8	100	0.00
23	T	trans-1,2-Dichloroethene	1.114	1.096	1.6	98	-0.01
24	T	1,1-Dichloroethane	1.391	1.271	8.6	96	-0.02
25	T	Methyl tert-Butyl Ether	1.793	1.908	-6.4	110	-0.01
26	T	Vinyl Acetate	0.176	0.185	-5.1	99	-0.03
27	T	2-Butanone (MEK)	0.496	0.505	-1.8	97	-0.02
28	T	cis-1,2-Dichloroethene	1.126	1.055	6.3	97	-0.01
29	T	Diisopropyl Ether	0.718	0.658	8.4	102	-0.01
30	T	Ethyl Acetate	0.221	0.219	0.9	98	-0.02
31	T	n-Hexane	1.071	0.975	9.0	99	0.00
32	T	Chloroform	1.714	1.580	7.8	98	-0.02
33	S	1,2-Dichloroethane-d4(SS1)	1.620	1.539	5.0	98	-0.02
34	T	Tetrahydrofuran (THF)	0.502	0.480	4.4	97	0.00
35	T	Ethyl tert-Butyl Ether	0.768	0.688	10.4	96	-0.01
36	T	1,2-Dichloroethane	1.410	1.298	7.9	96	-0.01
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	102	-0.01
38	T	1,1,1-Trichloroethane	0.430	0.402	6.5	97	0.00
39	T	Isopropyl Acetate	0.103	0.098	4.9	98	-0.01
40	T	1-Butanol	0.138	0.156	-13.0	97	-0.03
41	T	Benzene	0.815	0.762	6.5	99	-0.01
42	T	Carbon Tetrachloride	0.421	0.399	5.2	97	-0.01
43	T	Cyclohexane	0.319	0.302	5.3	99	0.00
44	T	tert-Amyl Methyl Ether	0.428	0.380	11.2	92	0.00
45	T	1,2-Dichloropropane	0.167	0.160	4.2	99	-0.01
46	T	Bromodichloromethane	0.335	0.314	6.3	97	-0.01
47	T	Trichloroethene	0.282	0.274	2.8	100	-0.01
48	T	1,4-Dioxane	0.164	0.169	-3.0	99	-0.01
49	T	2,2,4-Trimethylpentane (Iso	0.681	0.640	6.0	101	-0.01
50	T	Methyl Methacrylate	0.087	0.090	-3.4	98	-0.02
51	T	n-Heptane	0.189	0.181	4.2	99	-0.01
52	T	cis-1,3-Dichloropropene	0.345	0.348	-0.9	98	0.00
53	T	4-Methyl-2-pentanone	0.143	0.147	-2.8	97	-0.01
54	T	trans-1,3-Dichloropropene	0.331	0.343	-3.6	96	0.00
55	T	1,1,2-Trichloroethane	0.223	0.213	4.5	98	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2020_04\25\04252002.D Vial: 2
Acq On : 25 Apr 2020 1:55 Operator: LH
Sample : CCV R9042520_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 25 07:31:48 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	100	0.00
57	S	Toluene-d8 (SS2)	2.414	2.418	-0.2	100	0.00
58	T	Toluene	2.026	1.924	5.0	98	0.00
59	T	2-Hexanone	0.604	0.686	-13.6	94	-0.01
60	T	Dibromochloromethane	0.688	0.700	-1.7	98	0.00
61	T	1,2-Dibromoethane	0.565	0.576	-1.9	98	0.00
62	T	n-Butyl Acetate	0.675	0.728	-7.9	95	0.00
63	T	n-Octane	0.323	0.301	6.8	96	0.00
64	T	Tetrachloroethene	0.763	0.732	4.1	100	0.00
65	T	Chlorobenzene	1.484	1.430	3.6	98	0.00
66	T	Ethylbenzene	2.361	2.270	3.9	97	0.00
67	T	m- & p-Xylenes	1.992	1.880	5.6	97	-0.01
68	T	Bromoform	0.610	0.641	-5.1	99	0.00
69	T	Styrene	1.450	1.496	-3.2	98	0.00
70	T	o-Xylene	1.956	1.868	4.5	97	-0.01
71	T	n-Nonane	0.631	0.601	4.8	97	0.00
72	T	1,1,2,2-Tetrachloroethane	0.741	0.725	2.2	97	-0.01
73	S	Bromofluorobenzene (SS3)	0.970	1.029	-6.1	104	0.00
74	T	Cumene	2.552	2.535	0.7	101	0.00
75	T	alpha-Pinene	1.162	1.154	0.7	98	0.00
76	T	n-Propylbenzene	2.780	2.731	1.8	98	0.00
77	T	3-Ethyltoluene	2.491	2.501	-0.4	98	0.00
78	T	4-Ethyltoluene	2.426	2.373	2.2	98	0.00
79	T	1,3,5-Trimethylbenzene	2.242	2.198	2.0	100	0.00
80	T	alpha-Methylstyrene	1.122	1.215	-8.3	101	0.00
81	T	2-Ethyltoluene	2.479	2.482	-0.1	101	0.00
82	T	1,2,4-Trimethylbenzene	2.168	2.153	0.7	100	-0.01
83	T	n-Decane	0.764	0.786	-2.9	100	-0.01
84	T	Benzyl Chloride	1.635	1.845	-12.8	98	-0.01
85	T	1,3-Dichlorobenzene	1.307	1.370	-4.8	101	0.00
86	T	1,4-Dichlorobenzene	1.333	1.418	-6.4	102	0.00
87	T	sec-Butylbenzene	2.776	2.742	1.2	100	0.00
88	T	4-Isopropyltoluene (p-Cymen	2.697	2.666	1.1	100	0.00
89	T	1,2,3-Trimethylbenzene	2.170	2.146	1.1	99	-0.01
90	T	1,2-Dichlorobenzene	1.270	1.310	-3.1	100	-0.01
91	T	d-Limonene	0.612	0.616	-0.7	98	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.481	0.534	-11.0	101	0.00
93	T	n-Undecane	0.806	0.812	-0.7	97	0.00
94	T	1,2,4-Trichlorobenzene	0.937	1.118	-19.3	100	0.00
95	T	Naphthalene	2.792	3.135	-12.3	99	0.00
96	T	n-Dodecane	0.722	0.793	-9.8	98	0.00
97	T	Hexachlorobutadiene	0.762	0.772	-1.3	101	0.00
98	T	Cyclohexanone	0.494	0.509	-3.0	94	-0.01
99	T	tert-Butylbenzene	2.177	2.114	2.9	100	0.00
100	T	n-Butylbenzene	2.038	2.185	-7.2	102	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\25\04252002.D Vial: 2
Acq On : 25 Apr 2020 1:55 Operator: LH
Sample : CCV R9042520_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 25 07:31:48 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/25/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	143598	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.12	114	590409	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	269266	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.93	65	221062	11.882	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.04%				
57) Toluene-d8 (SS2)	13.55	98	651201	12.525	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.24%				
73) Bromofluorobenzene (SS3)	17.05	174	276978	13.256	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.08%				
Target Compounds							Qvalue
2) Propene	3.85	42	161095	26.413	ng		99
3) Dichlorodifluoromethan...	3.96	85	580002	25.030	ng		99
4) Chloromethane	4.17	50	247443	28.940	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	306807	24.492	ng		100
6) Vinyl Chloride	4.45	62	297838	26.563	ng		100
7) 1,3-Butadiene	4.62	54	200544	28.004	ng		98
8) Bromomethane	4.94	94	240423	27.285	ng		99
9) Chloroethane	5.15	64	140921	24.845	ng		100
10) Ethanol	5.40	45	550662	119.197	ng		100
11) Acetonitrile	5.59	41	255748	23.386	ng		99
12) Acrolein	5.71	56	111248	26.352	ng		100
13) Acetone	5.86	58	659088	118.832	ng		95
14) Trichlorofluoromethane	6.02	101	558844	24.239	ng		100
15) 2-Propanol (Isopropanol)	6.19	45	908065	51.539	ng		100
16) Acrylonitrile	6.39	53	236601	26.890	ng		100
17) 1,1-Dichloroethene	6.72	96	257226	25.378	ng		96
18) 2-Methyl-2-Propanol (t...	6.83	59	906760	56.324	ng		100
19) Methylene Chloride	6.88	84	242549	24.935	ng		98
20) 3-Chloro-1-propene (Al...	7.01	41	267908	23.736	ng		98
21) Trichlorotrifluoroethane	7.18	151	299249	24.940	ng		100
22) Carbon Disulfide	7.15	76	840656	25.992	ng		99
23) trans-1,2-Dichloroethene	7.90	61	339929	26.572	ng		99
24) 1,1-Dichloroethane	8.12	63	397932	24.895	ng		99
25) Methyl tert-Butyl Ether	8.18	73	591958	28.742	ng		100
26) Vinyl Acetate	8.29	86	284825	140.708	ng	#	94
27) 2-Butanone (MEK)	8.53	72	153682	26.970	ng		98
28) cis-1,2-Dichloroethene	8.99	61	321201	24.841	ng		99
29) Diisopropyl Ether	9.22	87	203941	24.711	ng	#	90
30) Ethyl Acetate	9.22	61	136700	53.918	ng		100
31) n-Hexane	9.23	57	302424	24.574	ng		99
32) Chloroform	9.30	83	485490	24.658	ng		100
34) Tetrahydrofuran (THF)	9.68	72	150211	26.026	ng		100
35) Ethyl tert-Butyl Ether	9.77	87	213360	24.182	ng		97
36) 1,2-Dichloroethane	10.04	62	402743	24.868	ng		99
38) 1,1,1-Trichloroethane	10.30	97	507927	25.021	ng		100
39) Isopropyl Acetate	10.67	61	243480	50.270	ng		95
40) 1-Butanol	10.68	56	382446	58.773	ng		97
41) Benzene	10.76	78	953223	24.767	ng		100
42) Carbon Tetrachloride	10.91	117	494739	24.862	ng		100
43) Cyclohexane	11.04	84	756249	50.155	ng		100
44) tert-Amyl Methyl Ether	11.35	73	485093	24.003	ng		99
45) 1,2-Dichloropropane	11.57	63	204606	25.968	ng		100
46) Bromodichloromethane	11.76	83	400645	25.299	ng		100
47) Trichloroethene	11.81	130	345773	25.941	ng		100
48) 1,4-Dioxane	11.78	88	215780	27.883	ng		99
49) 2,2,4-Trimethylpentane...	11.87	57	808179	25.138	ng		98
50) Methyl Methacrylate	12.00	100	228352	55.380	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\25\04252002.D Vial: 2
Acq On : 25 Apr 2020 1:55 Operator: LH
Sample : CCV R9042520_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 25 07:31:48 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

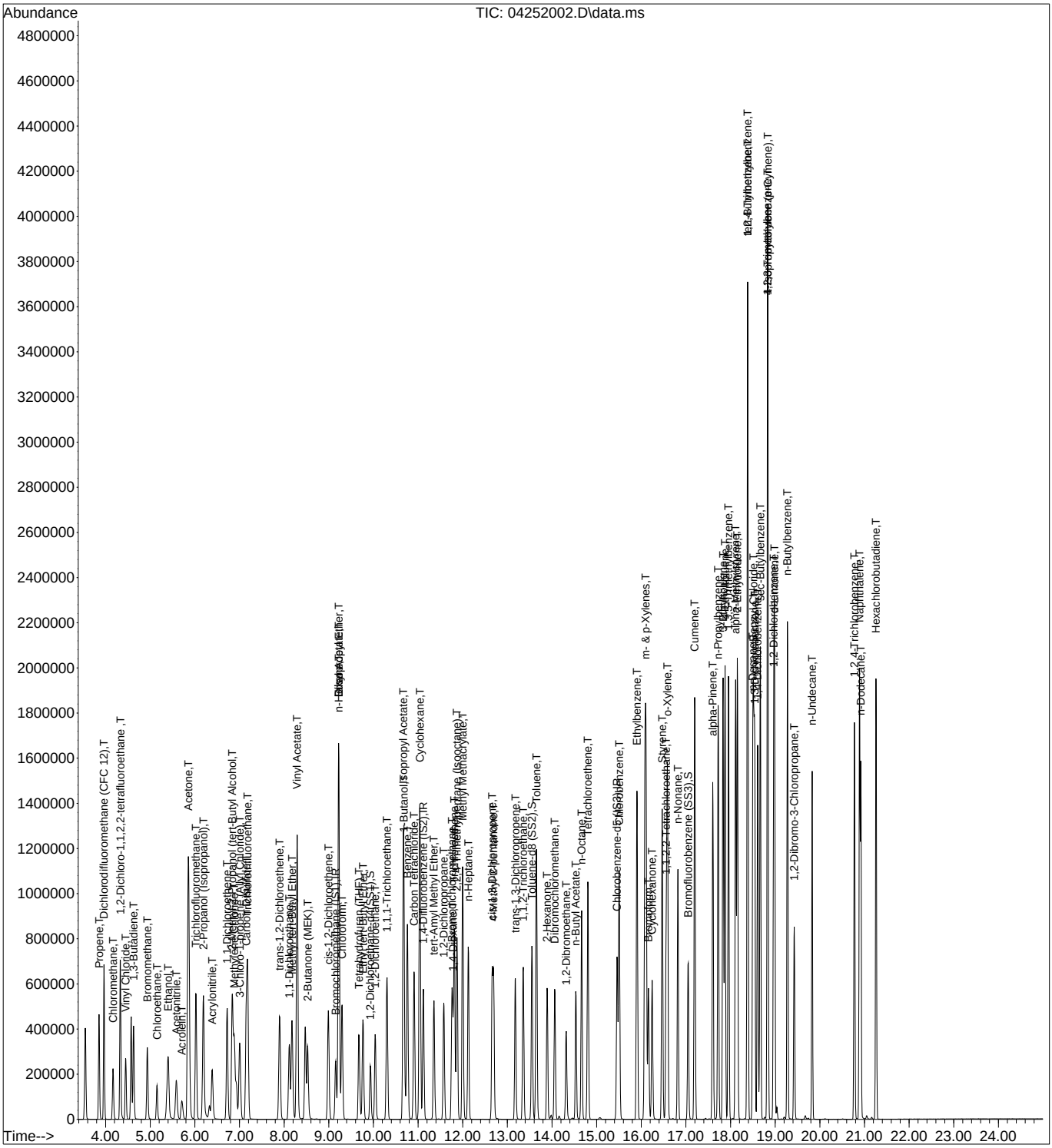
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	230446	25.770	ng	100
52) cis-1,3-Dichloropropene	12.66	75	427012	26.183	ng	99
53) 4-Methyl-2-pentanone	12.69	58	184487	27.391	ng	97
54) trans-1,3-Dichloropropene	13.18	75	429079	27.480	ng	100
55) 1,1,2-Trichloroethane	13.36	97	268525	25.524	ng	100
58) Toluene	13.65	91	1108866	25.403	ng	99
59) 2-Hexanone	13.89	43	395034	30.350	ng	98
60) Dibromochloromethane	14.06	129	403575	27.212	ng	99
61) 1,2-Dibromoethane	14.32	107	332123	27.300	ng	99
62) n-Butyl Acetate	14.53	43	427521	29.395	ng	99
63) n-Octane	14.67	57	175080	25.197	ng	98
64) Tetrachloroethene	14.80	166	409877	24.929	ng	100
65) Chlorobenzene	15.51	112	823755	25.777	ng	100
66) Ethylbenzene	15.90	91	1307994	25.717	ng	100
67) m- & p-Xylenes	16.10	91	2166168	50.483	ng	99
68) Bromoform	16.16	173	369369	28.126	ng	100
69) Styrene	16.47	104	853880	27.345	ng	99
70) o-Xylene	16.58	91	1076437	25.544	ng	100
71) n-Nonane	16.82	43	346037	25.456	ng	99
72) 1,1,2,2-Tetrachloroethane	16.56	83	417831	26.175	ng	99
74) Cumene	17.19	105	1474136	26.820	ng	99
75) alpha-Pinene	17.60	93	664806	26.561	ng	99
76) n-Propylbenzene	17.72	91	1588355	26.526	ng	99
77) 3-Ethyltoluene	17.83	105	1427749	26.605	ng	99
78) 4-Ethyltoluene	17.88	105	1379979	26.408	ng	99
79) 1,3,5-Trimethylbenzene	17.95	105	1254894	25.987	ng	99
80) alpha-Methylstyrene	18.11	118	700217	28.984	ng	99
81) 2-Ethyltoluene	18.15	105	1443697	27.037	ng	99
82) 1,2,4-Trimethylbenzene	18.38	105	1240711	26.571	ng	99
83) n-Decane	18.50	57	453113	27.543	ng	100
84) Benzyl Chloride	18.51	91	1072951	30.463	ng	99
85) 1,3-Dichlorobenzene	18.54	146	789309	28.038	ng	100
86) 1,4-Dichlorobenzene	18.61	146	817269	28.467	ng	100
87) sec-Butylbenzene	18.67	105	1579982	26.419	ng	99
88) 4-Isopropyltoluene (p-...	18.83	119	1564727	26.932	ng	100
89) 1,2,3-Trimethylbenzene	18.83	105	1259790	26.956	ng	99
90) 1,2-Dichlorobenzene	18.97	146	755025	27.608	ng	100
91) d-Limonene	18.99	68	358426	27.170	ng	99
92) 1,2-Dibromo-3-Chloropr...	19.43	157	301993	29.124	ng	97
93) n-Undecane	19.83	57	472556	27.221	ng	100
94) 1,2,4-Trichlorobenzene	20.77	180	644313	31.923	ng	100
95) Naphthalene	20.89	128	1738770	28.907	ng	100
96) n-Dodecane	20.92	57	443900	28.554	ng	100
97) Hexachlorobutadiene	21.26	225	440628	26.827	ng	100
98) Cyclohexanone	16.24	55	274214	25.776	ng	98
99) tert-Butylbenzene	18.38	119	1217961	25.973	ng	99
100) n-Butylbenzene	19.27	91	1259119	28.680	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\25\04252002.D Vial: 2
Acq On : 25 Apr 2020 1:55 Operator: LH
Sample : CCV R9042520_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 25 07:31:48 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



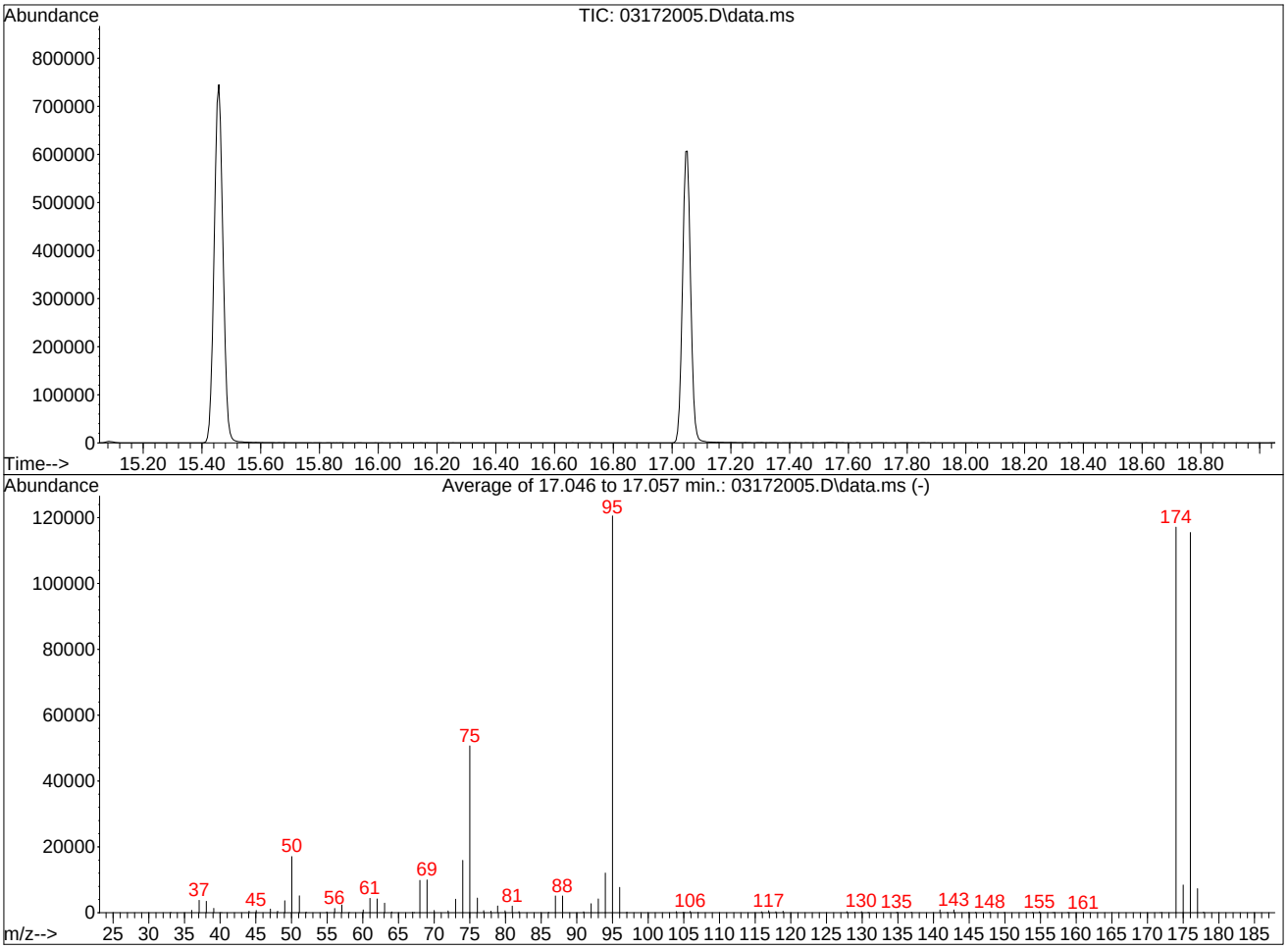
BFB

Data Path : I:\MS09\Data\2020_03\17\
Data File : 03172005.D
Acq On : 17 Mar 2020 12:47
Operator : SC
Sample : 12.5ng TO-15 BFB STD
Misc : S31-02272010
ALS Vial : 2 Sample Multiplier: 1

3/17/20

Integration File: LSCINT.P

Method : I:\MS09\Methods\R9031720.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Tue Mar 17 16:36:19 2020



AutoFind: Scans 2485, 2486, 2487; Background Corrected with Scan 2476

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	14.1	17052	PASS
75	95	30	66	42.0	50672	PASS
95	95	100	100	100.0	120528	PASS
96	95	5	9	6.4	7693	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	97.2	117101	PASS
175	174	4	9	7.2	8417	PASS
176	174	93	101	98.6	115491	PASS
177	176	5	9	6.3	7329	PASS

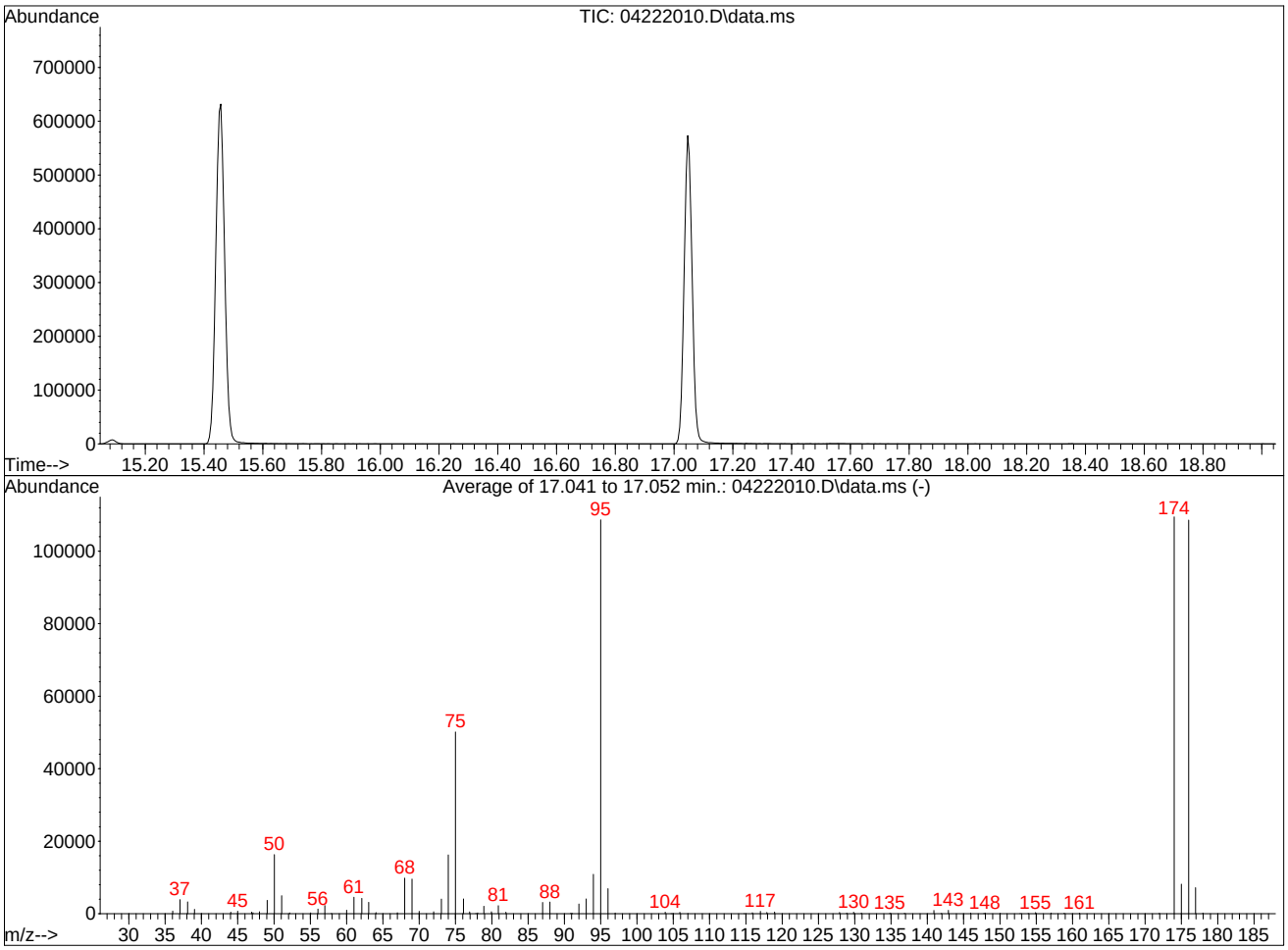
BFB

Data Path : I:\MS09\Data\2020_04\22\
Data File : 04222010.D
Acq On : 22 Apr 2020 18:51
Operator : SC
Sample : 12.5ng TO-15 BFB STD
Misc : S34-04212006
ALS Vial : 2 Sample Multiplier: 1

4/23/20

Integration File: LSCINT.P

Method : I:\MS09\Methods\R9042220.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Apr 23 11:56:23 2020



AutoFind: Scans 2484, 2485, 2486; Background Corrected with Scan 2476

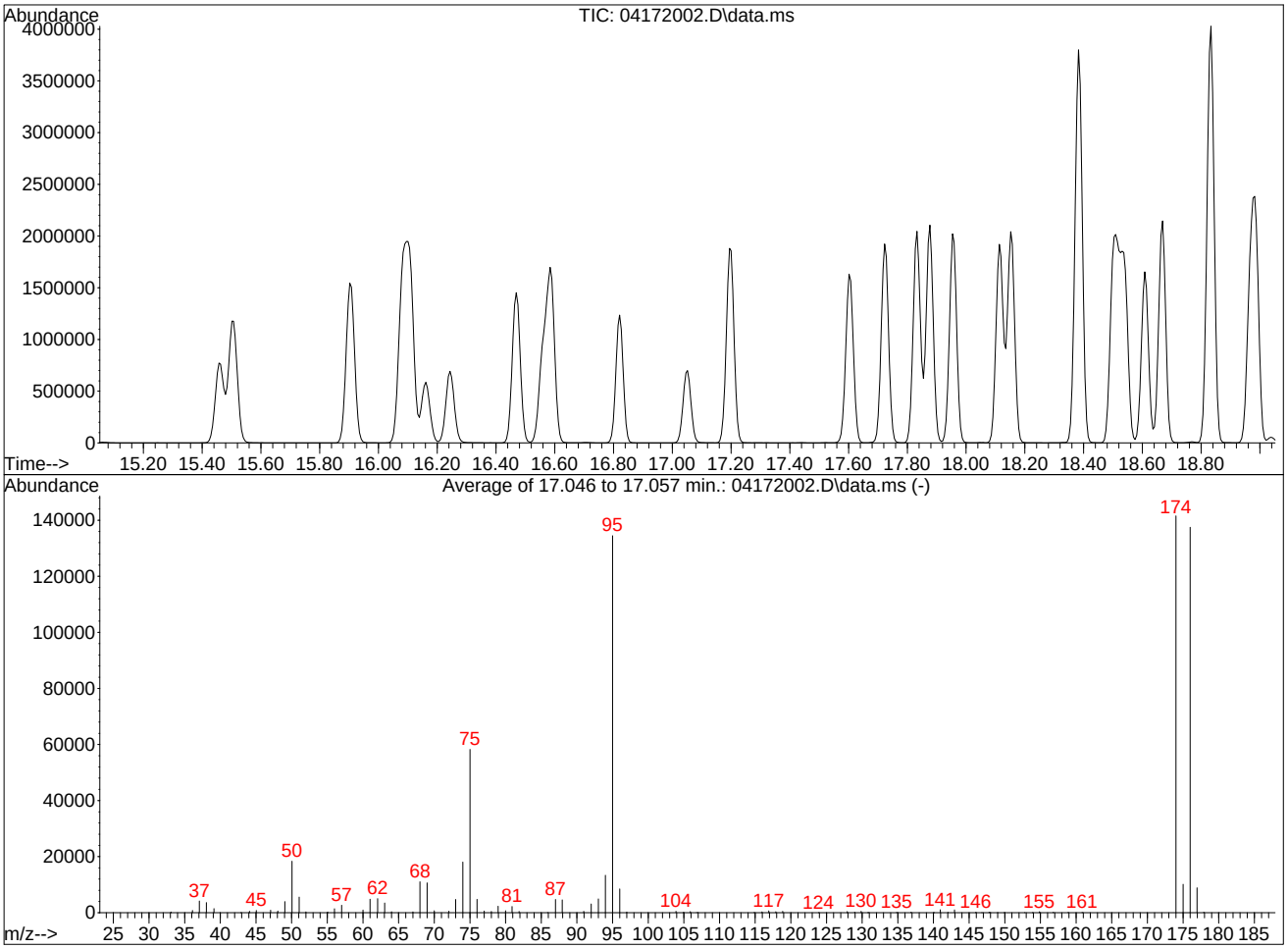
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	15.0	16304	PASS
75	95	30	66	46.1	50136	PASS
95	95	100	100	100.0	108672	PASS
96	95	5	9	6.4	6913	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	100.7	109467	PASS
175	174	4	9	7.4	8135	PASS
176	174	93	101	99.2	108563	PASS
177	176	5	9	6.6	7191	PASS

BFB

Data Path : I:\MS09\Data\2020_04\17\
Data File : 04172002.D
Acq On : 17 Apr 2020 3:14
Operator : SC
Sample : CCV R9041720_25ng
Misc : S31-02272010/S34-04102002 (5/9)
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS09\Methods\R9031720.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Mar 18 08:55:21 2020



AutoFind: Scans 2485, 2486, 2487; Background Corrected with Scan 2476

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	13.7	18366	PASS
75	95	30	66	43.3	58280	PASS
95	95	100	100	100.0	134483	PASS
96	95	5	9	6.3	8510	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	105.3	141547	PASS
175	174	4	9	7.2	10163	PASS
176	174	93	101	97.1	137504	PASS
177	176	5	9	6.5	8901	PASS

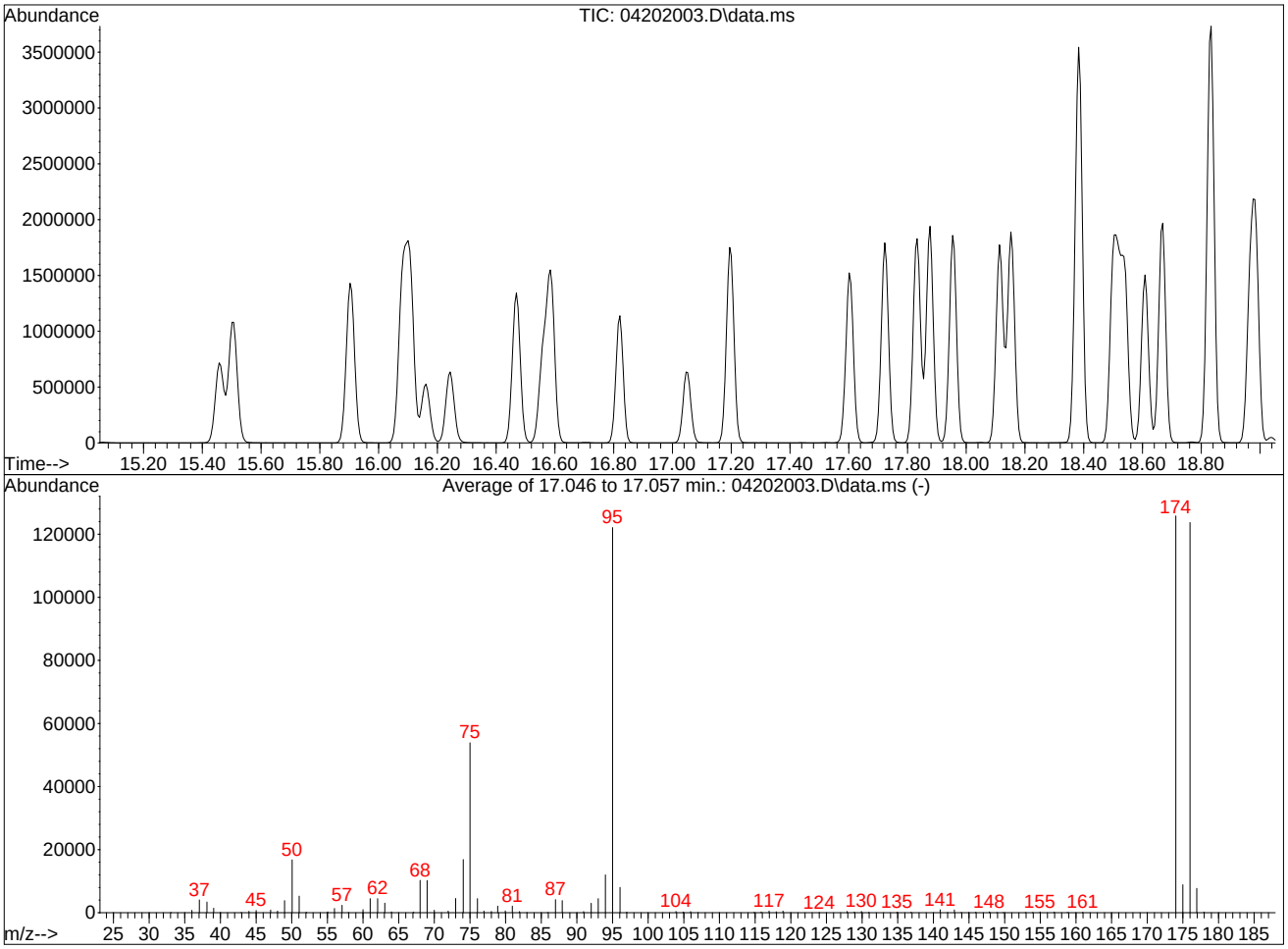
TD 4/17/20

BFB

Data Path : I:\MS09\Data\2020_04\20\
Data File : 04202003.D
Acq On : 20 Apr 2020 3:46
Operator : TD
Sample : CCV R9042020_25ng
Misc : S31-02272010/S34-04102002 (5/9)
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS09\Methods\R9031720.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Mar 18 08:55:21 2020



AutoFind: Scans 2485, 2486, 2487; Background Corrected with Scan 2476

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	13.7	16768	PASS
75	95	30	66	44.1	53893	PASS
95	95	100	100	100.0	122112	PASS
96	95	5	9	6.6	8009	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	103.0	125808	PASS
175	174	4	9	7.1	8886	PASS
176	174	93	101	98.3	123725	PASS
177	176	5	9	6.2	7712	PASS

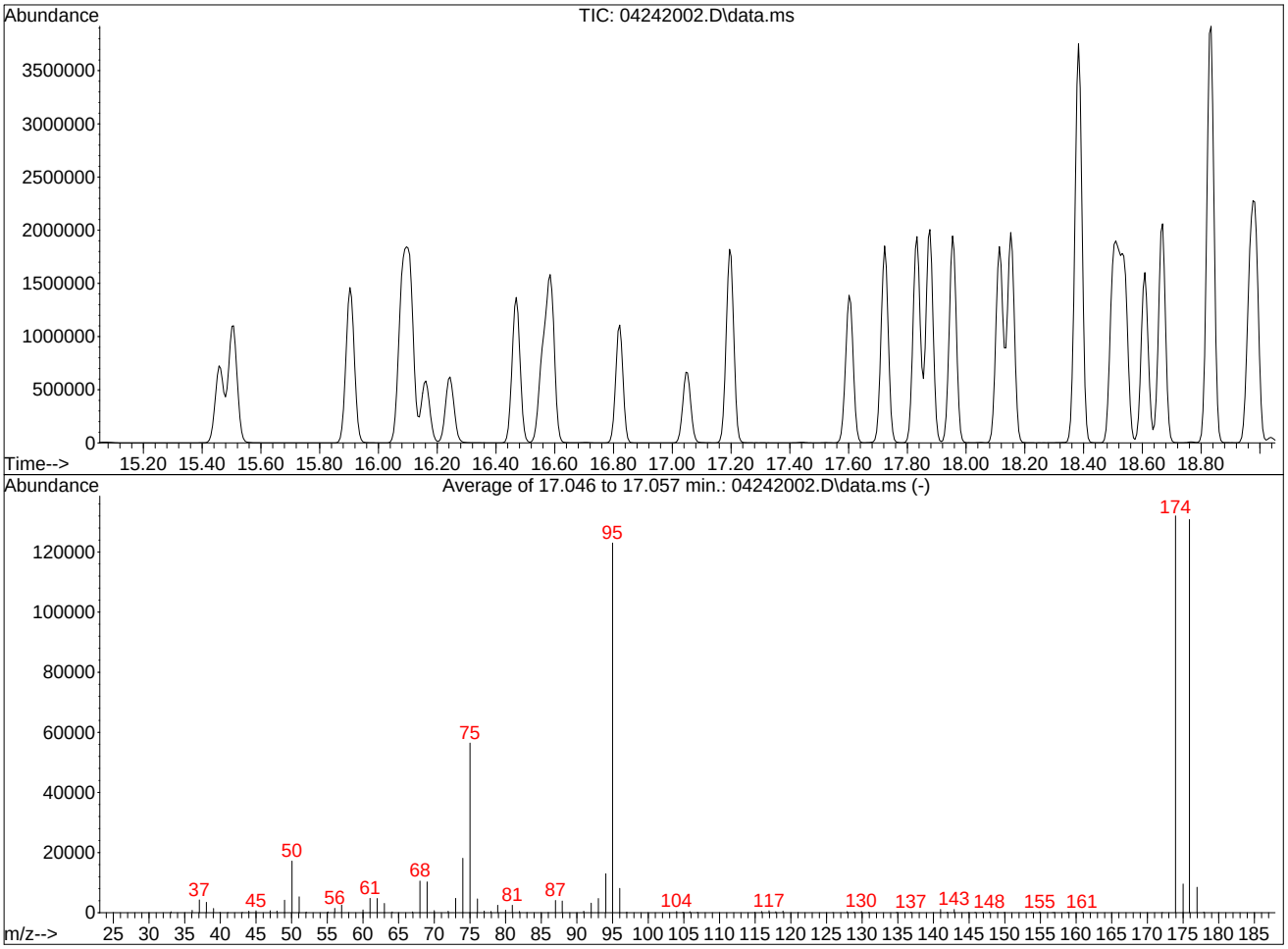
TD 4/20/20

BFB

Data Path : I:\MS09\Data\2020_04\24\
Data File : 04242002.D
Acq On : 24 Apr 2020 6:28
Operator : SC
Sample : CCV R9042420_25ng
Misc : S34-04212006/S34-04202004 (5/19)
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS09\Methods\R9042220.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Apr 23 14:12:50 2020



AutoFind: Scans 2485, 2486, 2487; Background Corrected with Scan 2476

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	14.0	17192	PASS
75	95	30	66	45.9	56467	PASS
95	95	100	100	100.0	123016	PASS
96	95	5	9	6.6	8123	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	107.3	132029	PASS
175	174	4	9	7.2	9533	PASS
176	174	93	101	99.1	130829	PASS
177	176	5	9	6.5	8493	PASS

TD 4/24/20

Injection Log

Directory: J:\MS09\Data\2020_03\17\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	3/17/20 10:21	03172001.D	Blank (100mL)	S31-02272010	SC	2	
2	3/17/20 10:54	03172002.D	CCV C9031720_25ng	S31-02272010/S31-03032005 (4/1)	SC	3	
3	3/17/20 11:28	03172003.D	CCV R9031720_25ng	S31-02272010/S31-031772003 (4/15)	SC	2	
4	3/17/20 12:14	03172004.D	Blank (100mL)	S31-02272010	SC	2	
5	3/17/20 12:47	03172005.D	12.5ng TO-15 BFB STD	S31-02272010	SC	2	pass
6	3/17/20 13:21	03172006.D	0.1ng TO-15 ICAL STD	S31-02272010/S31-02262005 (3/26)	SC	5	
7	3/17/20 13:54	03172007.D	0.2ng TO-15 ICAL STD	S31-02272010/S31-02262005 (3/26)	SC	5	
8	3/17/20 14:27	03172008.D	0.5ng TO-15 ICAL STD	S31-02272010/S31-03102003 (4/8)	SC	4	
9	3/17/20 15:00	03172009.D	1.0ng TO-15 ICAL STD	S31-02272010/S31-03102003 (4/8)	SC	4	
10	3/17/20 15:34	03172010.D	5.0ng TO-15 ICAL STD	S31-02272010/S31-03102003 (4/8)	SC	4	
11	3/17/20 16:07	03172011.D	25ng TO-15 ICAL STD	S31-02272010/S31-031772003 (4/15)	SC	2	
12	3/17/20 16:40	03172012.D	50ng TO-15 ICAL STD	S31-02272010/S31-031772003 (4/15)	SC	2	
13	3/17/20 17:14	03172013.D	100ng TO-15 ICAL STD	S31-02272010/S31-031772003 (4/15)	SC	2	
14	3/17/20 17:47	03172014.D	Blank (100mL)	S31-02272010	SC	2	
15	3/17/20 18:20	03172015.D	25ng TO-15 ICV STD	S31-02272010/S31-02212001 (3/21)	SC	2	pass
16	3/17/20 18:54	03172016.D	25ng TO-15 ICV STD	S31-02272010/S31-02212001 (3/21)	SC	2	pass
17	3/17/20 19:27	03172017.D	Blank (100mL)	S31-02272010	SC	2	
18	3/17/20 20:01	03172018.D	0.4ng TO-15 Custom ICAL	S31-02272010/S34-03172011 (4/15)	SC	3	
19	3/17/20 20:34	03172019.D	1.0ng TO-15 Custom ICAL	S31-02272010/S34-03172011 (4/15)	SC	3	
20	3/17/20 21:07	03172020.D	2.5ng TO-15 Custom ICAL	S31-02272010/S34-03172011 (4/15)	SC	3	
21	3/17/20 21:41	03172021.D	5.0ng TO-15 Custom ICAL	S31-02272010/S34-03172011 (4/15)	SC	3	
22	3/17/20 22:14	03172022.D	25ng TO-15 Custom ICAL	S31-02272010/S34-03172007 (4/15)	SC	4	
23	3/17/20 22:47	03172023.D	50ng TO-15 Custom ICAL	S31-02272010/S34-03172007 (4/15)	SC	4	
24	3/17/20 23:21	03172024.D	100ng TO-15 Custom ICAL	S31-02272010/S34-03172007 (4/15)	SC	4	
25	3/17/20 23:54	03172025.D	Blank (100mL)	S31-02272010	SC	2	
26	3/18/20 0:28	03172026.D	25ng TO-15 Custom ICV	S31-02272010/S34-03172006 (4/15)	SC	5	pass
27	3/18/20 1:01	03172027.D	25ng TO-15 Custom ICV	S31-02272010/S34-03172006 (4/15)	SC	5	
28							
29							

Injection Log

TD 4/20/20

Directory: I:\MS09\Data\2020_04\17\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	4/17/20 2:41	04172001.D	CCV C9041720_25ng	S31-02272010/S34-04162001 (5/15)	TD	3	*Passed*
2	4/17/20 3:14	04172002.D	CCV R9041720_25ng	S31-02272010/S34-04102002 (5/9)	TD	2	*Passed*
3	4/17/20 3:48	04172003.D	Blank (100mL)	S31-02272010	TD	2	
4	4/17/20 4:21	04172004.D	MB R9041720_1000mL	S31-02272010	TD	2	*Passed*
5	4/17/20 4:55	04172005.D	LCS R9041720_25ng	S31-02272010/S34-03252004 (4/23)	TD	2	*Passed*
6	4/17/20 5:29	04172006.D	LCSD R9041720_25ng	S31-02272010/S34-03252004 (4/23)	SC	2	*Passed*
7	4/17/20 6:02	04172007.D	RL R9041720_ 0.5ng	S31-02272010/S34-04102009 (5/9)	SC	4	
8	4/17/20 6:52	04172008.D	P2001888-001 (2.0mL)	S31-02272010	TD	1	
9	4/17/20 7:26	04172009.D	P2001888-002 (15mL)	S31-02272010	TD	5	
10	4/17/20 7:59	04172010.D	P2001888-001 (8.0mL)	S31-02272010	TD	1	
11	4/17/20 8:32	04172011.D	P2001888-002 (80mL)	S31-02272010	TD	5	
12	4/17/20 9:06	04172012.D	P2001888-002dup (80mL)	S31-02272010	TD	5	*Passed*
13	4/17/20 9:39	04172013.D	P2002027-006dil (10mL)	S31-02272010	TD	1	
14	4/17/20 10:17	04172014.D	P2002027-001 (400mL)	S31-02272010	TD	5	
15	4/17/20 10:50	04172015.D	P2002027-002 (400mL)	S31-02272010	TD	6	
16	4/17/20 11:23	04172016.D	P2002027-012 (1.0mL)	S31-02272010	TD	1	*over diluted*
17	4/17/20 11:57	04172017.D	P2002027-003 (400mL)	S31-02272010	TD	7	
18	4/17/20 12:35	04172018.D	P2002110-001 (0.2mL)	S31-02272010	TD	1	*over diluted*
19	4/17/20 13:08	04172019.D	P2002110-002 (0.05mL)	S31-02272010	TD	1	*bad injection*
20	4/17/20 13:41	04172020.D	P2002110-001 (0.5mL)	S31-02272010	TD	1	
21	4/17/20 14:15	04172021.D	P2002110-002 (0.125mL)	S31-02272010	TD	1	
22	4/17/20 14:48	04172022.D	P2002110-002dil (0.05mL)	S31-02272010	TD	1	
23	4/17/20 15:21	04172023.D	P2002108-001 (100mL)	S31-02272010	TD	3	
24	4/17/20 15:55	04172024.D	P2002108-002 (100mL)	S31-02272010	TD	5	
25	4/17/20 16:28	04172025.D	P2002027-004 (400mL)	S31-02272010	TD	8	
26	4/17/20 17:02	04172026.D	P2002027-005 (400mL)	S31-02272010	TD	9	
27	4/17/20 17:35	04172027.D	P2002027-006 (150mL)	S31-02272010	TD	10	
28	4/17/20 18:09	04172028.D	P2002027-007 (400mL)	S31-02272010	TD	11	*saturated-IS failed*
29	4/17/20 18:42	04172029.D	P2002027-008 (400mL)	S31-02272010	TD	12	*rerun*
30	4/17/20 19:15	04172030.D	P2002027-009 (400mL)	S31-02272010	TD	13	
31	4/17/20 19:49	04172031.D	P2002027-010 (50mL)	S31-02272010	TD	14	*over diluted*
32	4/17/20 20:22	04172032.D	P2002027-015 (400mL)	S31-02272010	TD	15	*need dil*
33	4/17/20 20:56	04172033.D	P2002027-016 (400mL)	S31-02272010	TD	16	*need dil*
34	4/17/20 21:29	04172034.D	Blank (100mL)	S31-02272010	TD	2	
35	4/17/20 22:02	04172035.D	CCVend R9041720_25ng	S31-02272010/S34-04102002 (5/9)	TD	2	*Passed*

Injection Log

Directory: I:\MS09\Data\2020_04\20\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	4/20/20 2:39	04202001.D	System	S31-02272010/S34-04102002 (5/9)	TD	2	
2	4/20/20 3:13	04202002.D	CCV C9042020_25ng	S31-02272010/S34-04162001 (5/15)	TD	3	pass
3	4/20/20 3:46	04202003.D	CCV R9042020_25ng	S31-02272010/S34-04102002 (5/9)	TD	2	pass
4	4/20/20 4:20	04202004.D	Blank (100mL)	S31-02272010	TD	2	
5	4/20/20 4:53	04202005.D	MB R9042020_1000mL	S31-02272010	TD	2	pass
6	4/20/20 5:27	04202006.D	LCS R9042020_25ng	S31-02272010/S34-03252004 (4/23)	TD	2	pass
7	4/20/20 6:00	04202007.D	LCSD R9042020_25ng	S31-02272010/S34-03252004 (4/23)	TD	2	pass
8	4/20/20 6:34	04202008.D	RL R9042020_ 0.5ng	S31-02272010/S34-04102009 (5/9)	WA	4	pass
9	4/20/20 7:13	04202009.D	P2002027-007 (0.08mL)	S31-02272010	TD	1	
10	4/20/20 7:46	04202010.D	P2002027-007 (1.0mL)	S31-02272010	TD	1	
11	4/20/20 8:20	04202011.D	P2002027-010 (400mL)	S31-02272010	TD	14	
12	4/20/20 8:54	04202012.D	P2002027-015dil (40mL)	S31-02272010	TD	15	
13	4/20/20 9:27	04202013.D	P2002027-016dil (40mL)	S31-02272010	TD	16	
14	4/20/20 10:01	04202014.D	P2002027-008 (400mL);pf2	S31-02272010	TD	12	
15	4/20/20 10:34	04202015.D	P2002027-008dil (40mL)	S31-02272010	TD	12	
16	4/20/20 11:08	04202016.D	P2002027-007dil (0.1mL)	S31-02272010	TD	1	
17	4/20/20 11:41	04202017.D	P2002027-012 (10mL)	S31-02272010	TD	1	
18	4/20/20 12:14	04202018.D	P2002027-013 (10mL)	S31-02272010	TD	1	
19	4/20/20 12:47	04202019.D	P2002027-014 Dil(0.1mL)	S31-02272010	TD	1	
20	4/20/20 13:32	04202020.D	P2002027-014 (0.5mL)	S31-02272010	SC	1	
21	4/20/20 14:05	04202021.D	P2002027-012 (15mL)	S31-02272010	SC	1	
22	4/20/20 14:39	04202022.D	P2002027-013 (15mL)	S31-02272010	SC	1	
23	4/20/20 15:12	04202023.D	P2002027-017Dil (3.0mL)	S31-02272010	SC	1	
24	4/20/20 15:47	04202024.D	P2002027-018 (1.0mL)	S31-02272010	SC	1	
25	4/20/20 16:21	04202025.D	P2002027-017 (400mL)	S31-02272010	SC	6	
26	4/20/20 16:54	04202026.D	P2002027-018 (5.0mL)	S31-02272010	SC	1	
27	4/20/20 17:27	04202027.D	P2002027-019 (1.0mL)	S31-02272010	SC	1	
28	4/20/20 18:01	04202028.D	P2002027-020 (0.3mL)	S31-02272010	SC	1	
29	4/20/20 18:34	04202029.D	P2002027-011Dil (25mL)	S31-02272010	SC	7	
30	4/20/20 19:22	04202030.D	P2002027-019Dil (0.2mL)	S31-02272010	SC	1	
31	4/20/20 19:55	04202031.D	P2002027-011 (400mL)	S31-02272010	SC	7	
32	4/20/20 20:29	04202032.D	P2002027-020Dil (0.15mL)	S31-02272010	SC	1	
33	4/20/20 21:02	04202033.D	CCV END R9042020_25ng	S31-02272010/S34-04102002 (5/9)	SC	2	pass
34	4/20/20 21:36	04202034.D	P2002151-002 (6.0mL)	S31-02272010	SC	1	
35	4/20/20 22:10	04202035.D	P2002151-001 (100mL)	S31-02272010	SC	8	
36	4/20/20 22:43	04202036.D	P2002151-003 (100mL)	S31-02272010	SC	9	
37	4/20/20 23:16	04202037.D	P2002151-003dup (100mL)	S31-02272010	SC	9	pass
38	4/20/20 23:50	04202038.D	Blank (100mL)	S31-02272010	SC	2	
							4/21/20

Injection Log

Directory: I:\MS09\Data\2020_04\22\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	4/22/20 13:32	04222001.D	Blank (100mL)	S34-04212006	SC	2	
2	4/22/20 14:06	04222002.D	CCV R9042220_25ng	S34-04212006/S34-04202004 (5/19)	SC	2	
3	4/22/20 14:59	04222003.D	Blank (100mL)	S34-04212006	SC	2	
4	4/22/20 15:32	04222004.D	MB R9042220_1000mL	S34-04212006	SC	2	
5	4/22/20 16:05	04222005.D	LCS R9042220_25ng	S34-04212006/S34-03252004 (4/23)	SC	2	
6	4/22/20 16:38	04222006.D	LCSD R9042220_25ng	S34-04212006/S34-03252004 (4/23)	SC	2	
7	4/22/20 17:12	04222007.D	RL R9042220_ 0.5ng	S34-04212006/S34-04102009 (5/9)	SC	4	
8	4/22/20 17:45	04222008.D	Chamber QC_AC00323	S34-04212006	SC	16	
9	4/22/20 18:18	04222009.D	Blank (100mL)	S34-04212006	SC	2	
10	4/22/20 18:51	04222010.D	12.5ng TO-15 BFB STD	S34-04212006	SC	2	passed
11	4/22/20 19:25	04222011.D	0.1ng TO-15 ICAL STD	S34-04212006/S34-04072004 (5/6)	SC	4	not used
12	4/22/20 19:58	04222012.D	0.2ng TO-15 ICAL STD	S34-04212006/S34-04072004 (5/6)	SC	4	
13	4/22/20 20:31	04222013.D	0.5ng TO-15 ICAL STD	S34-04212006/S34-04222004 (5/21)	SC	5	
14	4/22/20 21:05	04222014.D	1.0ng TO-15 ICAL STD	S34-04212006/S34-04222004 (5/21)	SC	5	
15	4/22/20 21:39	04222015.D	5.0ng TO-15 ICAL STD	S34-04212006/S34-04222004 (5/21)	SC	5	
16	4/22/20 22:12	04222016.D	25ng TO-15 ICAL STD	S34-04212006/S34-04202004 (5/19)	SC	2	
17	4/22/20 22:46	04222017.D	50ng TO-15 ICAL STD	S34-04212006/S34-04202004 (5/19)	SC	2	
18	4/22/20 23:19	04222018.D	100ng TO-15 ICAL STD	S34-04212006/S34-04202004 (5/19)	SC	2	
19	4/22/20 23:53	04222019.D	Blank (100mL)	S34-04212006	SC	2	
20	4/23/20 0:27	04222020.D	25ng TO-15 ICV STD	S34-04212006/S34-04102008 (5/9)	SC	2	not used
21	4/23/20 1:01	04222021.D	25ng TO-15 ICV STD	S34-04212006/S34-04102008 (5/9)	SC	2	
22	4/23/20 13:11	04222022.D	Blank (100mL)	S34-04212006	SC	2	
23	4/23/20 13:44	04222023.D	0.2ng TO-15 ICAL STD	S34-04212006/S34-04162003 (5/15)	SC	4	
24	4/23/20 14:17	04222024.D	Blank (100mL)	S34-04212006	SC	2	
25	4/23/20 14:51	04222025.D	25ng TO-15 ICV STD	S34-04212006/S34-04102008 (5/9)	SC	2	passed

Injection Log

Directory: I:\MS09\Data\2020_04\24\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	4/24/20 5:55	04242001.D	CCV C9042420_25ng	S34-04212006/S34-03312002 (4/29)	SC	3	Passed
2	4/24/20 6:28	04242002.D	CCV R9042420_25ng	S34-04212006/S34-04202004 (5/19)	SC	2	Passed
3	4/24/20 7:02	04242003.D	Blank (100mL)	S34-04212006	SC	2	
4	4/24/20 7:35	04242004.D	MB R9042420_1000mL	S34-04212006	SC	2	Passed
5	4/24/20 8:09	04242005.D	LCS R9042420_25ng	S34-04212006/S34-04102008 (5/9)	TD	2	Passed
6	4/24/20 8:42	04242006.D	LCSD R9042420_25ng	S34-04212006/S34-04102008 (5/9)	TD	2	Passed
7	4/24/20 9:15	04242007.D	Blank (100mL)	S34-04212006	SC	2	
8	4/24/20 10:15	04242008.D	P2002027-019dil (0.1mL)	S34-04212006	TD	1	
9	4/24/20 10:55	04242009.D	P2002027-020dil (0.1mL)	S34-04212006	TD	2	
10	4/24/20 11:29	04242010.D	P2002097-001 (1000mL)	S34-04212006	TD	5	
11	4/24/20 12:02	04242011.D	P2002097-002 (1000mL)	S34-04212006	TD	6	
12	4/24/20 12:36	04242012.D	P2000736-004 (1000mL)	S34-04212006	TD	4	
13	4/24/20 13:25	04242013.D	P2002243-003 (0.025mL)	S34-04212006	TD	1	bad injection
14	4/24/20 13:59	04242014.D	P2002243-003 (0.025mL)	S34-04212006	LH	1	
15	4/24/20 14:39	04242015.D	P2002243-001 (4.0mL)	S34-04212006	LH	1	
16	4/24/20 15:13	04242016.D	P2002243-002 (50mL)	S34-04212006	LH	5	
17	4/24/20 15:46	04242017.D	P2000736-004dil (100mL)	S34-04212006	LH	4	
18	4/24/20 16:20	04242018.D	P2002160-001 (1000mL)	S34-04212006	LH	6	
19	4/24/20 16:54	04242019.D	P2002160-002 (1000mL)	S34-04212006	LH	7	
20	4/24/20 17:27	04242020.D	P2002160-003 (1000mL)	S34-04212006	LH	8	
21	4/24/20 18:01	04242021.D	P2002160-004 (1000mL)	S34-04212006	LH	9	
22	4/24/20 18:34	04242022.D	P2002160-005 (1000mL)	S34-04212006	LH	10	
23	4/24/20 19:08	04242023.D	P2002161-001 (1000mL)	S34-04212006	LH	11	
24	4/24/20 20:09	04242024.D	P2002161-002 (1000mL)	S34-04212006	LH	12	
25	4/24/20 20:51	04242025.D	P2002161-003 (1000mL)	S34-04212006	LH	13	
26	4/24/20 21:25	04242026.D	P2002161-004 (1000mL)	S34-04212006	LH	14	
27	4/24/20 21:59	04242027.D	P2002161-004dup (1000mL)	S34-04212006	LH	14	Passed
28	4/24/20 22:33	04242028.D	P2002161-005 (1000mL)	S34-04212006	LH	15	
29	4/24/20 23:06	04242029.D	P2002128-001 (1000mL)	S34-04212006	LH	16	
30	4/24/20 23:40	04242030.D	P2002128-002 (1000mL)	S34-04212006	LH	4	
31	4/25/20 0:14	04242031.D	P2002128-003 (1000mL)	S34-04212006	LH	5	
32	4/25/20 0:47	04242032.D	P2002128-004 (1000mL)	S34-04212006	LH	6	

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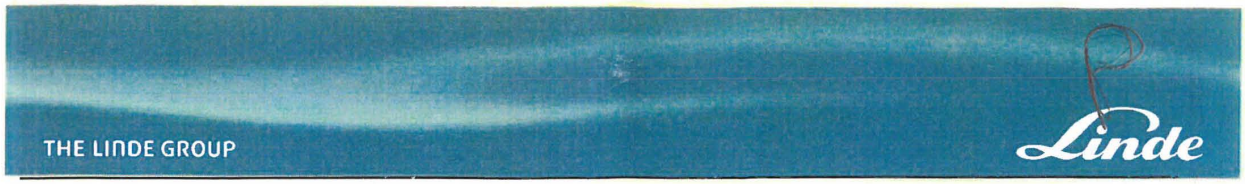
S31-1011901



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PAGE: 1 of 4

Primary

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Propylene	115-07-1	1.00 mg/m3	1.06 mg/m3
Freon-12	75-71-8	1.00 mg/m3	1.06 mg/m3
Chloromethane	74-87-3	1.00 mg/m3	1.06 mg/m3
Freon-114	76-14-2	1.00 mg/m3	1.05 mg/m3
Vinyl Chloride	75-01-4	1.00 mg/m3	1.08 mg/m3
1,3-Butadiene	106-99-0	1.00 mg/m3	1.06 mg/m3
Bromomethane	74-83-9	1.00 mg/m3	1.08 mg/m3
Chloroethane	75-00-3	1.00 mg/m3	1.08 mg/m3
Ethanol	64-17-5	5.00 mg/m3	5.21 mg/m3
Acetonitrile	75-05-8	1.00 mg/m3	1.05 mg/m3
Acrolein	107-02-8	1.00 mg/m3	1.03 mg/m3
Acetone	67-64-1	5.00 mg/m3	5.33 mg/m3
Freon-11	75-69-4	1.00 mg/m3	1.06 mg/m3
Isopropyl Alcohol	67-63-0	2.00 mg/m3	2.10 mg/m3
Acrylonitrile	107-13-1	1.00 mg/m3	1.05 mg/m3
1,1-Dichloroethene	75-35-4	1.00 mg/m3	1.08 mg/m3
Carbon Disulfide	75-15-0	1.00 mg/m3	1.07 mg/m3
Methylene Chloride	75-09-2	1.00 mg/m3	1.06 mg/m3
Tert-Butanol	75-65-0	2.00 mg/m3	2.16 mg/m3
Allyl Chloride	107-05-1	1.00 mg/m3	1.08 mg/m3
Freon-113	76-13-1	1.00 mg/m3	1.08 mg/m3
Trans-1,2-Dichloroethene	156-60-5	1.00 mg/m3	1.08 mg/m3
1,1-Dichloroethane	75-34-3	1.00 mg/m3	1.09 mg/m3
Methyl Tert Butyl Ether	1634-04-4	1.00 mg/m3	1.08 mg/m3
Vinyl Acetate	108-05-4	5.00 mg/m3	5.35 mg/m3
Methacrylonitrile	126-98-7	1.00 mg/m3	1.06 mg/m3
Methyl Ethyl Ketone	78-93-3	1.00 mg/m3	1.06 mg/m3
Cis-1,2-Dichloroethene	156-59-2	1.00 mg/m3	1.06 mg/m3
Hexane	110-54-3	1.00 mg/m3	1.08 mg/m3
Di-isopropyl Ether	108-20-3	1.00 mg/m3	1.08 mg/m3

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PAGE: 2 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chloroform	67-66-3	1.00 mg/m3	1.07 mg/m3
Ethyl Acetate	141-78-6	2.00 mg/m3	2.17 mg/m3
Tetrahydrofuran	109-99-9	1.00 mg/m3	1.09 mg/m3
Ethyl Tert-Butyl Ether	637-92-3	1.00 mg/m3	1.08 mg/m3
1,2-Dichloroethane	107-06-2	1.00 mg/m3	1.08 mg/m3
1,1,1-Trichloroethane	71-55-6	1.00 mg/m3	1.07 mg/m3
Benzene	71-43-2	1.00 mg/m3	1.06 mg/m3
Isopropyl Acetate	108-21-4	2.00 mg/m3	2.11 mg/m3
1-Butanol	71-36-3	2.00 mg/m3	2.08 mg/m3
Carbon Tetrachloride	56-23-5	1.00 mg/m3	1.05 mg/m3
Cyclohexane	110-82-7	2.00 mg/m3	2.12 mg/m3
Tert Amyl Methyl Ether	994-05-8	1.00 mg/m3	1.08 mg/m3
1,2-Dichloropropane	78-87-5	1.00 mg/m3	1.08 mg/m3
Trichloroethylene	79-01-6	1.00 mg/m3	1.07 mg/m3
Bromodichloromethane	75-27-4	1.00 mg/m3	1.08 mg/m3
1,4-Dioxane	123-91-1	1.00 mg/m3	1.08 mg/m3
Isooctane	540-84-1	1.00 mg/m3	1.07 mg/m3
Methyl Methacrylate	80-62-6	2.00 mg/m3	2.15 mg/m3
Heptane	142-82-5	1.00 mg/m3	1.08 mg/m3
Cis-1,3-Dichloropropene	10061-01-5	1.00 mg/m3	1.04 mg/m3
Methyl Isobutyl Ketone	108-10-1	1.00 mg/m3	1.06 mg/m3
Trans-1,3-Dichloropropene	10061-02-6	1.00 mg/m3	1.06 mg/m3
1,1,2-Trichloroethane	79-00-5	1.00 mg/m3	1.07 mg/m3
Toluene	108-88-3	1.00 mg/m3	1.07 mg/m3
Methyl Butyl Ketone	591-78-6	1.00 mg/m3	1.07 mg/m3
Dibromochloromethane	124-48-1	1.00 mg/m3	1.07 mg/m3
1,2-Dibromoethane	106-93-4	1.00 mg/m3	1.07 mg/m3
n-Butyl Acetate	123-86-4	1.00 mg/m3	1.09 mg/m3
n-Octane	111-65-9	1.00 mg/m3	1.08 mg/m3
Tetrachloroethylene	127-18-4	1.00 mg/m3	1.04 mg/m3

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PAGE: 3 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chlorobenzene	108-90-7	1.00 mg/m3	1.07 mg/m3
Ethylbenzene	100-41-4	1.00 mg/m3	1.07 mg/m3
p-xylene	106-42-3	1.00 mg/m3	1.07 mg/m3
m-xylene	108-38-3	1.00 mg/m3	1.07 mg/m3
Bromoform	75-25-2	1.00 mg/m3	1.07 mg/m3
Cyclohexanone	108-94-1	1.00 mg/m3	1.00 mg/m3
Styrene	100-42-5	1.00 mg/m3	1.06 mg/m3
o-xylene	95-47-6	1.00 mg/m3	1.07 mg/m3
1,1,2,2-Tetrachloroethane	79-34-5	1.00 mg/m3	1.07 mg/m3
Nonane	111-84-2	1.00 mg/m3	1.07 mg/m3
Isopropylbenzene	98-82-8	1.00 mg/m3	1.08 mg/m3
alpha-Pinene	80-56-8	1.00 mg/m3	1.07 mg/m3
n-Propylbenzene	103-65-1	1.00 mg/m3	1.08 mg/m3
3-Ethyltoluene	620-14-4	1.00 mg/m3	1.06 mg/m3
4-Ethyltoluene	622-96-8	1.00 mg/m3	1.08 mg/m3
2-Ethyltoluene	611-14-3	1.00 mg/m3	1.08 mg/m3
1,3,5-Trimethylbenzene	108-67-8	1.00 mg/m3	1.06 mg/m3
alpha-Methylstyrene	98-83-9	1.00 mg/m3	1.07 mg/m3
Tert-Butyl Benzene	98-06-6	1.00 mg/m3	1.07 mg/m3
1,2,4-Trimethylbenzene	95-63-6	1.00 mg/m3	1.07 mg/m3
1,3-Dichlorobenzene	541-73-1	1.00 mg/m3	1.07 mg/m3
Benzyl Chloride	100-44-7	1.00 mg/m3	1.08 mg/m3
n-Decane	124-18-5	1.00 mg/m3	1.07 mg/m3
1,4-Dichlorobenzene	106-46-7	1.00 mg/m3	1.07 mg/m3
Sec-Butyl Benzene	135-98-8	1.00 mg/m3	1.07 mg/m3
p-Isopropyltoluene	99-87-6	1.00 mg/m3	1.09 mg/m3
1,2,3-Trimethylbenzene	526-73-8	1.00 mg/m3	1.09 mg/m3
1,2-Dichlorobenzene	95-50-1	1.00 mg/m3	1.07 mg/m3

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PAGE: 4 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
d-Limonene	5989-27-5	1.00 mg/m3	1.08 mg/m3
n-Butyl Benzene	104-51-8	1.00 mg/m3	1.07 mg/m3
1,2-Dibromo-3-Chloropropane	96-12-8	1.00 mg/m3	1.05 mg/m3
n-Undecane	1120-21-4	1.00 mg/m3	1.08 mg/m3
1,2,4-Trichlorobenzene	120-82-1	1.00 mg/m3	1.07 mg/m3
Naphthalene	91-20-3	1.00 mg/m3	1.03 mg/m3
n-Dodecane	112-40-3	1.00 mg/m3	1.04 mg/m3
Hexachloro-1,3-Butadiene	87-68-3	1.00 mg/m3	1.06 mg/m3
Nitrogen	7727-37-9	Balance	Balance

ANALYST: Lou Lorenzetti **DATE:** Sep-24-2019

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PAGE: 1 of 4

Secondary

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Propylene	115-07-1	1.00 mg/m3	1.05 mg/m3
Freon-12	75-71-8	1.00 mg/m3	1.05 mg/m3
Chloromethane	74-87-3	1.00 mg/m3	1.06 mg/m3
Freon-114	76-14-2	1.00 mg/m3	1.03 mg/m3
Vinyl Chloride	75-01-4	1.00 mg/m3	1.06 mg/m3
1,3-Butadiene	106-99-0	1.00 mg/m3	1.06 mg/m3
Bromomethane	74-83-9	1.00 mg/m3	1.06 mg/m3
Chloroethane	75-00-3	1.00 mg/m3	1.07 mg/m3
Ethanol	64-17-5	5.00 mg/m3	5.30 mg/m3
Acetonitrile	75-05-8	1.00 mg/m3	1.07 mg/m3
Acrolein	107-02-8	1.00 mg/m3	1.03 mg/m3
Acetone	67-64-1	5.00 mg/m3	5.34 mg/m3
Freon-11	75-69-4	1.00 mg/m3	1.06 mg/m3
Isopropyl Alcohol	67-63-0	2.00 mg/m3	2.11 mg/m3
Acrylonitrile	107-13-1	1.00 mg/m3	1.06 mg/m3
1,1-Dichloroethene	75-35-4	1.00 mg/m3	1.07 mg/m3
Carbon Disulfide	75-15-0	1.00 mg/m3	1.06 mg/m3
Methylene Chloride	75-09-2	1.00 mg/m3	1.05 mg/m3
Tert-Butanol	75-65-0	2.00 mg/m3	2.15 mg/m3
Allyl Chloride	107-05-1	1.00 mg/m3	1.07 mg/m3
Freon-113	76-13-1	1.00 mg/m3	1.08 mg/m3
Trans-1,2-Dichloroethene	156-60-5	1.00 mg/m3	1.07 mg/m3
1,1-Dichloroethane	75-34-3	1.00 mg/m3	1.06 mg/m3
Methyl Tert Butyl Ether	1634-04-4	1.00 mg/m3	1.07 mg/m3
Vinyl Acetate	108-05-4	5.00 mg/m3	5.33 mg/m3
Methacrylonitrile	126-98-7	1.00 mg/m3	1.06 mg/m3
Methyl Ethyl Ketone	78-93-3	1.00 mg/m3	1.06 mg/m3
Cis-1,2-Dichloroethene	156-59-2	1.00 mg/m3	1.06 mg/m3
Hexane	110-54-3	1.00 mg/m3	1.08 mg/m3
Di-isopropyl Ether	108-20-3	1.00 mg/m3	1.08 mg/m3

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ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chloroform	67-66-3	1.00 mg/m3	1.07 mg/m3
Ethyl Acetate	141-78-6	2.00 mg/m3	2.16 mg/m3
Tetrahydrofuran	109-99-9	1.00 mg/m3	1.10 mg/m3
Ethyl Tert-Butyl Ether	637-92-3	1.00 mg/m3	1.07 mg/m3
1,2-Dichloroethane	107-06-2	1.00 mg/m3	1.07 mg/m3
1,1,1-Trichloroethane	71-55-6	1.00 mg/m3	1.07 mg/m3
Benzene	71-43-2	1.00 mg/m3	1.05 mg/m3
Isopropyl Acetate	108-21-4	2.00 mg/m3	2.10 mg/m3
1-Butanol	71-36-3	2.00 mg/m3	2.13 mg/m3
Carbon Tetrachloride	56-23-5	1.00 mg/m3	1.04 mg/m3
Cyclohexane	110-82-7	2.00 mg/m3	2.11 mg/m3
Tert Amyl Methyl Ether	994-05-8	1.00 mg/m3	1.07 mg/m3
1,2-Dichloropropane	78-87-5	1.00 mg/m3	1.07 mg/m3
Trichloroethylene	79-01-6	1.00 mg/m3	1.08 mg/m3
Bromodichloromethane	75-27-4	1.00 mg/m3	1.09 mg/m3
1,4-Dioxane	123-91-1	1.00 mg/m3	1.08 mg/m3
Isooctane	540-84-1	1.00 mg/m3	1.07 mg/m3
Methyl Methacrylate	80-62-6	2.00 mg/m3	2.15 mg/m3
Heptane	142-82-5	1.00 mg/m3	1.07 mg/m3
Cis-1,3-Dichloropropene	10061-01-5	1.00 mg/m3	1.07 mg/m3
Methyl Isobutyl Ketone	108-10-1	1.00 mg/m3	1.06 mg/m3
Trans-1,3-Dichloropropene	10061-02-6	1.00 mg/m3	1.06 mg/m3
1,1,2-Trichloroethane	79-00-5	1.00 mg/m3	1.07 mg/m3
Toluene	108-88-3	1.00 mg/m3	1.06 mg/m3
Methyl Butyl Ketone	591-78-6	1.00 mg/m3	1.08 mg/m3
Dibromochloromethane	124-48-1	1.00 mg/m3	1.07 mg/m3
1,2-Dibromoethane	106-93-4	1.00 mg/m3	1.07 mg/m3
n-Butyl Acetate	123-86-4	1.00 mg/m3	1.09 mg/m3
n-Octane	111-65-9	1.00 mg/m3	1.08 mg/m3
Tetrachloroethylene	127-18-4	1.00 mg/m3	1.04 mg/m3

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PAGE: 3 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chlorobenzene	108-90-7	1.00 mg/m3	1.07 mg/m3
Ethylbenzene	100-41-4	1.00 mg/m3	1.06 mg/m3
p-xylene	106-42-3	1.00 mg/m3	1.07 mg/m3
m-xylene	108-38-3	1.00 mg/m3	1.06 mg/m3
Bromoform	75-25-2	1.00 mg/m3	1.07 mg/m3
Cyclohexanone	108-94-1	1.00 mg/m3	1.01 mg/m3
Styrene	100-42-5	1.00 mg/m3	1.06 mg/m3
o-xylene	95-47-6	1.00 mg/m3	1.07 mg/m3
1,1,2,2-Tetrachloroethane	79-34-5	1.00 mg/m3	1.07 mg/m3
Nonane	111-84-2	1.00 mg/m3	1.07 mg/m3
Isopropylbenzene	98-82-8	1.00 mg/m3	1.07 mg/m3
alpha-Pinene	80-56-8	1.00 mg/m3	1.06 mg/m3
n-Propylbenzene	103-65-1	1.00 mg/m3	1.07 mg/m3
3-Ethyltoluene	620-14-4	1.00 mg/m3	1.07 mg/m3
4-Ethyltoluene	622-96-8	1.00 mg/m3	1.05 mg/m3
2-Ethyltoluene	611-14-3	1.00 mg/m3	1.07 mg/m3
1,3,5-Trimethylbenzene	108-67-8	1.00 mg/m3	1.06 mg/m3
alpha-Methylstyrene	98-83-9	1.00 mg/m3	1.06 mg/m3
Tert-Butyl Benzene	98-06-6	1.00 mg/m3	1.06 mg/m3
1,2,4-Trimethylbenzene	95-63-6	1.00 mg/m3	1.06 mg/m3
1,3-Dichlorobenzene	541-73-1	1.00 mg/m3	1.07 mg/m3
Benzyl Chloride	100-44-7	1.00 mg/m3	1.07 mg/m3
n-Decane	124-18-5	1.00 mg/m3	1.07 mg/m3
1,4-Dichlorobenzene	106-46-7	1.00 mg/m3	1.07 mg/m3
Sec-Butyl Benzene	135-98-8	1.00 mg/m3	1.06 mg/m3
p-Isopropyltoluene	99-87-6	1.00 mg/m3	1.09 mg/m3
1,2,3-Trimethylbenzene	526-73-8	1.00 mg/m3	1.08 mg/m3
1,2-Dichlorobenzene	95-50-1	1.00 mg/m3	1.07 mg/m3

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PAGE: **4 of 4**

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
d-Limonene	5989-27-5	1.00 mg/m3	1.06 mg/m3
n-Butyl Benzene	104-51-8	1.00 mg/m3	1.07 mg/m3
1,2-Dibromo-3-Chloropropane	96-12-8	1.00 mg/m3	1.07 mg/m3
n-Undecane	1120-21-4	1.00 mg/m3	1.08 mg/m3
1,2,4-Trichlorobenzene	120-82-1	1.00 mg/m3	1.08 mg/m3
Naphthalene	91-20-3	1.00 mg/m3	1.06 mg/m3
n-Dodecane	112-40-3	1.00 mg/m3	1.06 mg/m3
Hexachloro-1,3-Butadiene	87-68-3	1.00 mg/m3	1.07 mg/m3
Nitrogen	7727-37-9	Balance	Balance

ANALYST: _____
Lou Lorenzetti

DATE: Sep-24-2019

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1/6/20 VH

TO-15 MAPH STD				20ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of S31-11061903 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-01062006	20 ng/L	STD00164	1/6/20	**3/4/20**	LH

1/6/20 S31-01062007 TO-15 IS/SURR STD ~0.5 mg/m³

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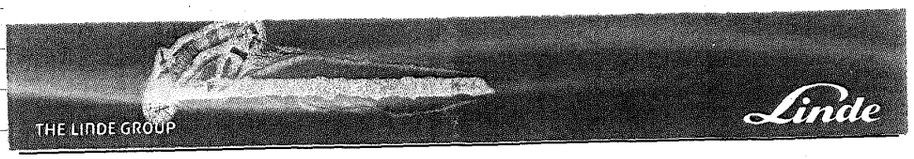

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PAGE: 1 of 1

S31-01062007 **ANALYSIS REPORT** IS/SURR STD.

Sales#:	117350975	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1502527	**Cylinder # :**	CC-430401
Report Date:	Dec-23-2019	**Cylinder Pressure:**	2000 psig
P.O.# :	SM003000	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24086333	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	4000 Liters
Expiration Date:	Dec-23-~~2020~~ 2021	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	10% Relative

VH 1/7/20

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Bromochloromethane	74-97-5	0.50 mg/m3	0.55 mg/m3
1,2-Dichloroethane-d4	17060-07-0	0.50 mg/m3	0.55 mg/m3
1,4-Difluorobenzene	540-36-3	0.50 mg/m3	0.55 mg/m3
Toluene-d8	2037-26-5	0.50 mg/m3	0.55 mg/m3
Chlorobenzene-d5	3114-55-4	0.50 mg/m3	0.55 mg/m3
4-Bromofluorobenzene	460-00-4	0.50 mg/m3	0.53 mg/m3
Nitrogen	7727-37-9	Balance	Balance

1/7/20 VH

EPA 325B STD	BTEX 1° Working Standard	200 µg/mL
S31-01072001	Expires:	1/21/2020
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 2000µg/mL BTEX stock standard S31-11271903 (expires 1/27/20).		

VH

EPA 325B STD	BTEX 2° Working Standard	200 µg/mL
S31-01072002	Expires:	1/21/2020
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 2000µg/mL BTEX stock standard S31-11271904 (expires 1/27/20).		

300

2/20/20
JC

		TO-15 STD		20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of **S31-10111901**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02202002	20 ng/L	STD00051	2/20/20	**3/20/20**	JC

JC

		TO-15 STD		1 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 20X dilution of **S31-02202002**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02202003	1 ng/L	STD00087	2/20/20	**3/20/20**	JC

	TO-15 ICV/LCS STD			200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111902** with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02212001	200 ng/L	STD00166	2/21/20	**3/21/20**	TD

TD 2/21/20

	TO-15 ICV/ LCS STD			20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S31-02212001** with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02212002	20 ng/L	STD00082	2/21/19	**3/21/20**	TD

TD

EPA 325B STD		BTEX 1° Working Standard	20 µg/mL
S31-02212002 3 MA. 3/13/20			Expires: **3/6/2020**
Into 1mL mininert vial with 990µL B&J P&T methanol, Lot #DL535, added 10µL 2000µg/mL BTEX Stock standard S31-01212006 (expires 3/21/20).			

MA

2/22/20
JC

		TO-15 STD		20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of **S31-10111901**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02222001	20 ng/L	STD00090	2/22/20	**3/22/20**	JC

302

2/26/20 S31-02262002 TO15 1ng/L Secondar
Made 20x dil. of S31-02202001 into
can STD00092. Exp. 3/26/20

2/26/20

		TO-15 STD		**200 ng/L**	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-10111901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02262003	200 ng/L	STD00180	2/26/20	**3/26/20**	LH
		TO-15 STD		**20 ng/L**	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of S31-02262003 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02262004	20 ng/L	STD00007	2/26/20	**3/26/20**	LH
		TO-15 STD		**4 ng/L**	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-02262004 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02262005	4 ng/L	STD00184	2/26/20	**3/26/20**	LH

2/26/20

		TO-15 ICV/ LCS STD		**200 ng/L**	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-10111902 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02262006	200 ng/L	STD00~~063~~ 194	2/26/20	3/26/20	LH

LH 2/27/20

S31-02272001
2/27/20 Bis-2-chloroethyl Ether 1000 µg/ml in MeOH
Transferred entire contents of S31-06281903B into 1ml
glass minivert vial. Exp. 4/27/20

S31-02278002 Bis-2-Chloroisopropyl ether 2000 µg/ml in MeOH
Transferred entire contents of S31-06281902B into 1ml
glass minivert vial. Exp 4/27/20

2/27/20
RVT

1/27/20
RVT

		TO-15 STD		200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111901**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02272003	200 ng/L	STD00013	2/27/20	3/27/20	RVT
S31-02272004	200 ng/L	STD00018	2/27/20	3/27/20	RVT
S31-02272005	200 ng/L	STD00019	2/27/20	3/27/20	RVT
S31-02272006	200 ng/L	STD00204	2/27/20	3/27/20	RVT

S31-02272007 BCEE BCIE 20.05 ng/L
Spiked 0.24 µl S31-02272001 and 0.12 µl S31-02272002
into Can STD00169 and pressurized to 14.7 psig w/HZA
Exp. 3/27/20

RVT

TO-15 STD **20 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of **S31-10111901**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02272008	20 ng/L	STD00113	2/27/20	3/27/20	RVT

RVT

TO-15 STD **4 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-02272008**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02272009	4 ng/L	STD00211	2/27/20	3/27/20	RVT

2/27/20 S31-02272010 TO-15 ZS/Surr 500 ng/L
Filled Can # STD00075 with S31-01062007 to 30psig.
Exp 4/25/20

S31-02272011A+B BCEE 1000.6 µg/ml
Absolute stds PN 70075T Lot 062419 Exp. 6/24/24

S31-02272012A+B BCIE 2005.3 µg/ml
Absolute stds PN 70105 Lot 050218 Exp 5/2/21

S31-02272013 BCEE 1000.6 µg/ml
Transferred contents of S31-02272011A into glass
minivert vial. Exp. 4/27/20

3/9/20

TO-17 STD	LEED 1° Stock Standard	2000 µg/mL
S34-03092001		5/9/2020
Into 2mL mininert vial transferred contents of 2000µg/mL LEED stock ampul primary standard S31-01251906E (expires 1/17/21).		

TO-17 STD	LEED 2° Stock Standard	2000 µg/mL
S34-03092002		5/9/2020
Into 2mL mininert vial transferred contents of 2000µg/mL LEED stock ampul secondary standard S31-09111906B (expires 8/31/20).		

TO-17 STD	LEED 1° Working Standard	200 µg/mL
S34-03092003		5/9/2020
Into 1mL mininert vial with 900uL B&J P&T methanol, Lot # DL535, added 100µL 2000ng/mL LEED 1° Stock standard S34-03092001 (expires 5/9/20).		

TO-17 STD	LEED 2° Working Standard	200 µg/mL
S34-03092004		5/9/2020
Into 1mL mininert vial with 900uL B&J P&T methanol, Lot # DL535, added 100µL 2000ng/mL LEED 2° Stock standard S34-03092002 (expires 5/9/20).		

3/10/20
RVT

TO15 ICV/LCS STD 1000 ng/L
S34-03102001
Filled Can: STD00133 w/ S31-10111901 To ~ 7.4 PSIG
Exp. 4/10/20 RVT

3/10/20
LH

		TO-15 STD		200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-10111901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-03102002	200 ng/L	STD00201	3/10/20	4/8/20	LH
LH 3/11/20					
		TO-15 STD		20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of S31-03102002 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-03102003	20 ng/L	STD00217	3/10/20	4/8/20	LH
LH 3/11/20					
		TO-15 STD		4 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-03102003 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-03102004	4 ng/L	STD00131	3/10/20	4/8/20	LH

LH 3/11/20

RVT 3/11/20

3/13/20
RVT

TO-15 ICV/ LCS STD **20 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-03112006** with HZA Lot # 70086915004 using 4700 diluter

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-03132001	20 ng/L	STD00015	3/13/20	**4/11/2020**	RVT

3/16/20
RVT

TO-15 STD **20 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of **S31-10111901** using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-03162001	20 ng/L	STD00113	3/16/20	**4/14/20**	RVT

3/16/20
LH

TO-15 Custom STD **20 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of S34-03032007 with HZA Lot # 70086915004 using 4700 diluter

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-03162002	20 ng/L	STD00207	3/16/2020	**4/1/2020**	LH

LH

TO-15 Custom ICV/LCS STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S29-06251902 with HZA Lot # 70086915004 using 4700 diluter

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-03162003	200 ng/L	STD00150	3/16/2020	**4/14/2020**	LH

3/17/20
RVT

TO-15 STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111901** using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	**Exp. Date**	Initial
S34-03172001	200 ng/L	STD00097	3/17/20	**4/15/20**	RVT
S34-03172002	200 ng/L	STD00091	3/17/20	**4/15/20**	RVT
S34-03172003	200 ng/L	STD00105	3/17/20	**4/15/20**	RVT
S34-03172004	200 ng/L	STD00151	3/17/20	**4/15/20**	RVT

RVT

TO-15 Custom ICV/LCS **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251902 with HZA Lot # 70086813001 using 4700 diluter

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-03172005	200 ng/L	STD00150	3/17/2020	**4/15/2020**	RVT
S34-03172006	200 ng/L	STD00100	3/17/2020	**4/15/2020**	RVT

S34-03192001	TO-15 IS & Surr. STD	500 ng/L
Filled 6L CAN STD00154 with	S31-01062007 to ~80 psig.	Exp. 5/19/20 TD

TD 3/23/20

S34-03202001	TO-15 SIM IS/SURR	40 ng/L
Filled can STD00226	to (-7.46) psig with S31-01062007 then pressurized to 75.4 psig	
with HZA Lot #70086833701		
	Exp: 6/18/2020	RVT
DF = 14.7+ 61.80= 12.5X		
14.7+ (-8.58)		

3/20/20 RVT

TO-17 STD S34-03202002	PAH 1° Working Standard	2 µg/ml 5/20/2020
Into 1mL mininert vial with 9900µL B&J P&T methanol, Lot #DL535, added 10µL 200µg/mL PAH 1° stock standard S31-01222001 (Exp. 7/21/20)		

MA

TO-17 STD S34-03232001	RAD VOC 1° Stock Standard	2000ng/µL 5/23/2020
Transferred stock standard S31-09061901B (exp. 3/13/27) into glass vial with mininert valve cap.		

3/23/20 CV

TO-17 STD S34-03232002	RAD VOC 1° Working Standard	200ng/µL 5/23/2020
Into 1mL mininert vial with 900uL B&J P&T methanol, Lot # DL535, added 100uL 2000ng/µL Stock Standard S34-03232001 (expires 3/13/20)		

CV

TO-15 ICV/LCS STD	200 ng/L
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-10111902 with HZA Lot # 70086915004 using 4700 diluter	

3/25/20

RVT

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34 ~~S31~~-03252001	200 ng/L	STD00033	3/25/20	4/23/20	RVT
RVT S34 ~~S31~~-03252002	200 ng/L	STD00182	3/25/20	4/23/20	RVT
4/3/20 S34 ~~S31~~-03252003	200 ng/L	STD00132	3/25/20	4/23/20	RVT
S34 ~~S31~~-03252004	200 ng/L	STD00139	3/25/20	4/23/20	RVT

S34-03262001	TO-15 IS & Surr. STD	500 ng/L
Filled 15L CAN STD00219 with	S31-10111901 to ~80 psig.	Exp. 6/26/20 WA

3/26/20 WA

3/27/20 RVT

TO-15 ICV/LCS STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111902** with HZA Lot # 70086915004 using 4700 diluter

TD 4/4/20

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04022001	200 ng/L	STD00173	4/2/20	**5/1/20**	TD

TO-17 STD **PAH 1° Stock Standard** **200 µg/ml**
S34-04022002 **10/2/2020**
Into 1mL mininert vial, directly transfered entire contents 200µg/mL PAH 1° stock standard S31-01181908D (expires 1/17/22).

TO-17 STD **PAH 2° Stock Standard** **100 µg/ml**
S34-04022003 **10/2/2020**
Into 1mL mininert vial, directly transfered entire contents of 100µg/mL PAH 1° stock standard S31-03221901B (expires 4/11/22).

TO-17 STD **PAH 1° Working Standard** **20 µg/mL**
S34-04022004 **10/2/2020**
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 200µg/mL PAH 1° stock standard S34-4022002 (Exp. 10/2/20)

TO-17 STD **PAH 1° Working Standard** **2 µg/ml**
S34-04022005 **10/2/2020**
Into 1mL mininert vial with 990µL B&J P&T methanol, Lot #DL535, added 10µL 200µg/mL PAH 1° stock standard S34-04022002 (Exp. 10/2/20)

TO-17 STD **PAH 2° Working Standard** **20 µg/ml**
S34-04022006 **10/2/2020**
Into 1mL mininert vial with 800µL B&J P&T methanol, Lot #DL535, added 200µL 100µg/mL PAH 2° stock standard S34-04022003 (Exp. 10/2/20)

EPA 325B STD **BTEX 1° Working Standard** **20 µg/mL**
MK
S34-04022007 **Expires: 4/22/2020**
Into 1mL mininert vial with 990µL B&J P&T methanol, Lot #DL535, added 10µL 2000µg/mL BTEX Stock standard S34-03312005 (expires 5/31/20).

4/7/20 RVT

TO-15 STD 1000 ng/L
S34-04072001
Filled Can: STD00056 w/S31-10111901 To ~ 10.23 PSIG
Expires: 9/24/20 RVT

TO-15 STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S34-04072001** using 4700 diluter HZA Lot #70086915004

TD 4/7/20

Standard ID	Standard conc.	CAN I.D.	Prep. Date	**Exp. Date**	Initial
S34-04072002	200 ng/L	STD00134	4/7/20	**5/6/20**	TD

12

		TO-15 STD		20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04072002**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
TD S34-04072003	20 ng/L	STD00007	4/7/20	**5/6/20**	TD

		TO-15 STD		4 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S34-04072003**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
TD S34-04072004	4 ng/L	STD00211	4/7/20	**5/6/20**	TD

RVT TO-15 ICV/LCS STD 1000ng/L
S34-04072005
Filled Can: STD00136 w/S31-10111902 To ~ 10.52 PSIG
Exp 9/24/20 RVT

		TO-15 ICV/LCS STD		200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S34-04072005** with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
TD S34-04072006	200 ng/L	STD00194	4/7/20	**5/6/20**	TD

S31-04072007 **TO-17 IS/Surr Neat Mix** **75,000** µg each compd.
34
@ 4/7/20 **Exp** **1/31/21**

CM

Compound	Std ID	d(µg/µl)	amt spiked (µl)	exp. date
Bromochloromethane	S31-11281802	1934.4	39	6/30/2021
1,4-Difluorobenzene	S31-11281803	1170.1	64	2/1/2021
Chlorobenzene-d5	S31-05131901	1157	65	5/31/2024
1,2-Dichloroethane-d4	S31-11281804	1307	57	11/28/2023
Toluene-d8	S29-04281602	943	80	4/28/2021
4-Bromofluorobenzene	S31-05131903	1593	47	1/31/2021
		total µl:	352	

neat compound density: **213.3 µg/µl**

RVT TO-15 ICV/LCS STD 1000ng/L
S34-04082001
Filled Can: STD00136 w/S31-10111902 To ~ 11.93 PSIG
Exp: 9/24/20
RVT

4/8/20 S34-~~03~~04082002 TO-17 IS/surr 50ng/ml
Spiked 23.5 µl S34-04072007 into can STDcc215 and
pressurized to 83.3 psig w/ HZA (Lot 7008600403).
Exp. 10/8/20

4/10/20
RVT

TO-15 STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111901**					
using 4700 diluter	HZA Lot #70086915004				
Standard ID	Standard conc.	CAN I.D.	Prep. Date	**Exp. Date**	Initial
S34-04102001	200 ng/L	STD00096	4/10/20	**5/9/20**	RVT
S34-04102002	200 ng/L	STD00111	4/10/20	**5/9/20**	RVT
S34-04102003	200 ng/L	STD00013	4/10/20	**5/9/20**	RVT
S34-04102004	200 ng/L	STD00018	4/10/20	**5/9/20**	RVT

RVT S34-04102005 TO-15 STD 1000 ng/L
Pressurized Can: STD00056 w/S31-10111901 To. 16.61 psig
Exp. 9/24/20
RVT

RVT

TO-15 STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S34-04102005**					
using 4700 diluter	HZA Lot #70086915004				
Standard ID	Standard conc.	CAN I.D.	Prep. Date	**Exp. Date**	Initial
S34-04102006	200 ng/L	STD00003	4/10/20	**5/9/20**	RVT

RVT S34-04102007 TO-15 STD 1000 ng/L
ICV/LCS
Pressurized Can: STD00136 w/S31-10111902 To ≈ 17 psig
Exp. 9/24/20
RVT

RVT

TO-15 ICV/LCS STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S34-04102007** with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04102008	200 ng/L	STD00158	4/10/20	**5/9/20**	RVT

RVT

TO-15 STD				20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04102004**					
using 4700 diluter	HZA Lot #70086915004				
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04102009	20 ng/L	STD00145	4/10/20	**5/9/20**	RVT

4/15/20
RVT

TO-15 STD **4 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S34-04102010**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04152001	4 ng/L	STD00161	4/15/20	**5/14/20**	RVT

TO-15 Custom STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with
HZA Lot # 70086915004 using 4700 diluter

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04162001	200 ng/L	STD00009	4/16/2020	**5/15/2020**	TD
S34-04162002	200 ng/L	STD00124	4/16/2020	**5/15/2020**	TD

TD 4/16/20

4/16/20
RVT

TO-15 STD **4 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of **S34-04102003**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04162003	4 ng/L	STD00227	4/16/20	**5/15/20**	RVT

4/20/20
RVT

TO-15 STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111901**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04202001	200 ng/L	STD00128	4/20/20	**5/19/20**	RVT
S34-04202002	200 ng/L	STD00112	4/20/20	**5/19/20**	RVT
S34-04202003	200 ng/L	STD00105	4/20/20	**5/19/20**	RVT
S34-04202004	200 ng/L	STD00047	4/20/20	**5/19/20**	RVT

TO-15 Custom STD **20 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of S31-06251901 with
HZA Lot # 70086915004 using 4700 diluter

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04212001	20 ng/L	STD00049	4/21/2020	**5/20/2020**	TD

TD 4/21/20

TD 4/21/20

16

		TO-15 Custom STD		200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04212002	200 ng/L	STD00208	4/21/2020	**5/20/2020**	TD
S34-04212003	200 ng/L	STD00140	4/21/2020	**5/20/2020**	TD

TD

		TO-15 Custom STD		20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of S34-04212003 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04212004	20 ng/L	STD00065	4/21/2020	**5/20/2020**	TD

TD

		TO-15 Custom ICV/LCS		200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251902 with HZA Lot #70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-0421~~2006~~ 2007 NN 5-5-20	200 ng/L	STD00181	4/21/2020	**5/20/2020**	TD

TD

		TO-15 Custom ICV/ LCS STD		20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of S31-06251902 with HZA Lot #70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04212005	20 ng/L	STD00080	4/21/2020	**5/20/2020**	TD

TD

4/21/20 S34-0421~~2006~~ 2007 NN 5-5-20 TO-15 IS/Surr 500 ng/L
Filled Can # STD00075 with S31-01062007 to psig 84
Exp 06/29/20

S34-04222001	**TO-15 IS & Surr. STD**	**500 ng/L**
Filled 15L CAN STD00228 with S31-01062007 to ~80 psig.		Exp. 7/22/20 TD

TD 4/22/20

4/22/20 RVT

4/22/20 RVT

S34-04222002 **TO-15 SIM IS/SURR** **40 ng/L**

Filled can STD00226 to (-6.74) psig with S31-01062007 then pressurized to 84.34 psig with HZA Lot #70086004903

Exp: 7/21/20 RVT

DF = 14.7+ 61.80= 12.5X
14.7+ (-8.58)

RVT

		TO-15 STD		20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04202002**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04222003	20 ng/L	STD00043	4/22/20	**5/21/20**	RVT

RVT

		TO-15 STD		20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04202003**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04222004	20 ng/L	STD00197	4/22/20	**5/21/20**	RVT

4/23/20 RVT

S34-04232001 TO-15 STD 1000 ng/L
Pressurized Can: ~~STD~~ 15C0109 w/ S31-10111901 To ~ 11.5 psig
RVT
Exp: 9/24/20

RVT

S34-04242001 TO-15 STD 1000 ng/L
Pressurized Can: STD00134 w/ S31-10111901 To ~ 11.01 psig
RVT
Exp 9/24/20

4/27/20 RVT

		TO-15 Custom STD		200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272001	200 ng/L	STD00153	4/27/2020	**5/26/2020**	RVT
S34-04272002	200 ng/L	STD00116	4/27/2020	**5/26/2020**	RVT
S34-04272003	200 ng/L	STD00157	4/27/2020	**5/26/2020**	RVT
S34-04272004	200 ng/L	STD00125	4/27/2020	**5/26/2020**	RVT

4/27/20
RVT

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LABORATORY REPORT

April 30, 2020

Pamela Moss
EA Engineering, Science, and Technology, Inc.
7995 E. Prentice Ave, Suite 206E
Greenwood Village, CO 80111

RE: Kirtland AFB Bulk Fuels Facility / 62735DM02

Dear Pamela:

Enclosed are the results of the samples submitted to our laboratory on April 14, 2020. For your reference, these analyses have been assigned our service request number P2002028.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

Kate Kaneko
Apr 30, 2020, 2:58 pm

Kate Kaneko
Project Manager

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

Client: EA Engineering, Science, and Technology, Inc. Service Request No: P2002028
Project: Kirtland AFB Bulk Fuels Facility / 62735DM02

CASE NARRATIVE

The samples were received intact under chain of custody on April 14, 2020 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the sampled at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The upper control criterion was exceeded for chloromethane and isopropanol in the closing Continuing Calibration Verification (CCV) analyzed on April 17, 2020. Therefore, a potential for a high bias exists for those associated sample concentrations reported with positive results. The data has been qualified accordingly.

Manual integrations were performed on the following samples and analytes. Refer to the raw data for additional information.

Sample Identification(s)	Analytes
P2002028-006, 013, 019	propene
P2002028-008, 011, 012, 014, 015, 016	acetone
P2002028-015	2-hexanone

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.1 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

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ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1776326
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-007
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272019-10
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: EA Engineering, Science, and Technology, Inc. Service Request: P2002028
Project ID: Kirtland AFB Bulk Fuels Facility / 62735DM02

Date Received: 4/14/2020
Time Received: 10:45

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	TO-15 - VOC Cans
SV136-025-202	P2002028-001	Air	4/8/2020	14:58	1SC01228	-3.33	5.86	X
SV136-050-202	P2002028-002	Air	4/8/2020	15:01	1SS00171	-4.69	6.36	X
SV136-150-202	P2002028-003	Air	4/8/2020	15:45	1SC00605	-3.12	6.63	X
SV136-250-202	P2002028-004	Air	4/8/2020	15:53	1SC01295	-3.86	6.21	X
SV136-350-202	P2002028-005	Air	4/8/2020	16:01	1SS00795	-5.08	5.70	X
SV136-450-202	P2002028-006	Air	4/8/2020	16:11	1SS00247	-3.69	6.04	X
SV138-025-202	P2002028-007	Air	4/8/2020	08:36	1SS00978	-4.61	5.61	X
SV138-050-202	P2002028-008	Air	4/8/2020	08:39	1SC00446	-2.27	6.82	X
SV138-150-202	P2002028-009	Air	4/8/2020	08:43	1SS00946	-2.91	5.80	X
SV138-150-602	P2002028-010	Air	4/8/2020	08:43	1SS00868	-5.66	5.76	X
SV138-250-202	P2002028-011	Air	4/8/2020	08:47	1SC00698	-2.25	7.38	X
SV138-350-202	P2002028-012	Air	4/8/2020	08:51	1SC00857	-2.27	5.90	X
SV138-450-202	P2002028-013	Air	4/8/2020	09:01	1SC00988	-3.03	6.03	X
SV141-025-202	P2002028-014	Air	4/8/2020	10:03	1SC00793	-2.57	5.43	X
SV141-050-202	P2002028-015	Air	4/8/2020	10:07	1SC00167	-3.70	6.33	X
SV141-170-202	P2002028-016	Air	4/8/2020	10:12	1SC00954	-4.43	5.48	X
SV141-250-202	P2002028-017	Air	4/8/2020	10:16	1SC00276	-3.01	5.67	X
SV141-350-202	P2002028-018	Air	4/8/2020	10:20	1SS00109	-4.99	6.21	X
SV141-450-202	P2002028-019	Air	4/8/2020	10:33	1SS00991	-4.77	5.92	X
SVE06-060-202	P2002028-020	Air	4/7/2020	10:52	1SS00907	-3.44	5.84	X
SVE06-060-602	P2002028-021	Air	4/7/2020	10:52	1SC00531	-3.28	5.81	X

Air - Chain of Custody Record & Analytical Service Request

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COC #: **COC-SV202-02**

Requested Turnaround Time in Business Days
10 Day-Standard

ALS Project No. R2002028

Company Name & Address (Reporting Information)	Project Name	ALS Contact: Kate Kaneko 1 (805) 577-2089
EA Engineering, Science, and Technology, Inc., PBC 225 Schilling Circle Suite 400, Hunt Valley, MD (410) 584-7000	Kirtland AFB Bulk Fuels Facility	**Analysis Method**
	Project Number: 62735DM02	
Project Manager / Project Chemist: Bernie Bockish (505) 234-1105 / Pam Moss (303) 590-9143	P.O. # / Billing Information: 17682	
Email Address for Result Reporting Tara Lamond: tlamond@eaest.com Amanda Smith: asmith@eaest.com Pam Moss: pmoss@eaest.com	Sampler (Print & Sign): Ryan Wortman	

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg	Sample Volume	TO-15 Project Specific List	Comments e.g. Actual Preservative or specific instructions
SV136-025-202		4/8/2020	1458	1SC01228	NA	-25.0	0.0	1L	X	None
SV136-050-202		4/8/2020	1501	1SS00171	NA	-24.5	-3.0	1L	X	None
SV136-150-202		4/8/2020	1545	1SC00605	NA	-24.5	0.0	1L	X	None
SV136-250-202		4/8/2020	1553	1SC01295	NA	-26.0	-3.0	1L	X	None
SV136-350-202		4/8/2020	1601	1SS00795	AVG03740	-24.5	-5.0	1L	X	None
SV136-450-202		4/8/2020	1611	1SS00247	NA	-24.5	-2.0	1L	X	None
SV138-025-202		4/8/2020	0836	1SS00978	NA	-24.0	-5.0	1L	X	None
SV138-050-202		4/8/2020	0839	1SC00446	NA	-26.0	-0.5	1L	X	None
SV138-150-202		4/8/2020	0843	1SS00946	NA	-25.0	-2.0	1L	X	None
SV138-150-802		4/8/2020	0843	1SS00868	NA	-26.0	-3.0	1L	X	None
SV138-250-202		4/8/2020	0847	1SC00698	AVG04685	-26.0	-0.5	1L	X	None

FedEX Tracking Number: 1028 3396 5126

Associated with Trip blank: SVTB-202-01

Shipping information: Box number 2 of 3

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____ Tier III (Results + QC & Calibration Summaries) ____
Tier II (Results + QC Summaries) ____ Tier IV (Data Validation Package) X

EDD required: Yes
Type: ERPIMS / EQuIS

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements: QAPP

Relinquished by: (Signature)	Date: 4/9/20	Time: 1300	Received by: (Signature)	Date: 4/14/20	Time: 1045
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Cooler / Blank Temperature NA °C

5-01-627

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

COC #: COC-SV202-02

Requested Turnaround Time in Business Days: 10 Day-Standard

ALS Project No. P1002028

Company Name & Address (Reporting Information): EA Engineering, Science, and Technology, Inc., PBC
225 Schilling Circle Suite 400, Hunt Valley, MD
(410) 584-7000

Project Name: Kirtland AFB Bulk Fuels Facility

Project Number: 62735DM02

P.O. # / Billing Information: 17682

Project Manager / Project Chemist: Bernie Bockish (505) 234-1105 / Pam Moss (303) 590-9143

Email Address for Result Reporting:
Tara Lamond: tlamond@eaest.com
Amanda Smith: asmith@eaest.com
Pam Moss: pmoss@eaest.com

Sampler (Print & Sign): Ryan Wortman

ALS Contact: Kate Kaneko
1 (805) 577-2089

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg	Sample Volume	Analysis Method: TO-15 Project Specific List	Comments e.g. Actual Preservative or specific instructions
SV138-350-202		4/8/2020	0851	1SC00857	AVG01783	-23.5	0.0	1L	X	None
SV138-450-202		4/8/2020	0901	1SC00988	NA	-25.0	-2.5	1L	X	None
SV141-025-202		4/8/2020	1003	1SC00793	SM00148	-24.0	0.0	1L	X	None
SV141-050-202		4/8/2020	1007	1SC00167	NA	-22.0	-2.0	1L	X	None
SV141-170-202		4/8/2020	1012	1SC00954	AVG04708	-23.0	-4.0	1L	X	None
SV141-250-202		4/8/2020	1016	1SC00276	NA	-21.0	0.0	1L	X	None
SV141-350-202		4/8/2020	1020	1SS00109	NA	-25.0	-5.0	1L	X	None
SV141-450-202		4/8/2020	1033	1SS00991	AVG05063	-26.0	-4.5	1L	X	None
SVE06-060-202		4/7/2020	1052	1SS00907	NA	-24.0	-2.0	1L	X	None
SVE06-060-602		4/7/2020	1052	1SC00531	NA	-24.0	-1.5	1L	X	None

FedEX Tracking Number: 1028 3396 5126

Associated with Trip blank: SVTB-202-01

Shipping information: Box number 2 of 3

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____ Tier III (Results + QC & Calibration Summaries) ____
Tier II (Results + QC Summaries) ____ Tier IV (Data Validation Package) X

EDD required: Yes
Type: ERPIMS / EQuIS

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements: QAPP

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
	4/9/20	1300		4/14/20	1045
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Cooler / Blank Temperature NA °C

ALS Environmental

Sample Acceptance Check Form

Client: EA Engineering, Science, and Technology, Inc. Work order: P2002028

Project: Kirtland AFB Bulk Fuels Facility / 62735DM02

Sample(s) received on: 04/14/20 Date opened: 04/14/20 by: DENISE.POSADA

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☒	☐	☐
	Location of seal(s)? _____ Sealing Lid?	☒	☐	☐
	Were signature and date included?	☒	☐	☐
	Were seals intact?	☒	☐	☐
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2002028-001.01	1.0 L Source Can					
P2002028-002.01	1.0 L Source Silonite Canister					
P2002028-003.01	1.0 L Source Can					
P2002028-004.01	1.0 L Source Can					
P2002028-005.01	1.0 L Source Silonite Canister					
P2002028-006.01	1.0 L Source Silonite Canister					
P2002028-007.01	1.0 L Source Silonite Canister					
P2002028-008.01	1.0 L Source Can					
P2002028-009.01	1.0 L Source Silonite Canister					
P2002028-010.01	1.0 L Source Silonite Canister					
P2002028-011.01	1.0 L Source Can					
P2002028-012.01	1.0 L Source Can					
P2002028-013.01	1.0 L Source Can					
P2002028-014.01	1.0 L Source Can					
P2002028-015.01	1.0 L Source Can					

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS Environmental

Sample Acceptance Check Form

Client: EA Engineering, Science, and Technology, Inc. Work order: P2002028

Project: Kirtland AFB Bulk Fuels Facility / 62735DM02

Sample(s) received on: 04/14/20 Date opened: 04/14/20 by: DENISE.POSADA

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2002028-016.01	1.0 L Source Can					
P2002028-017.01	1.0 L Source Can					
P2002028-018.01	1.0 L Source Silonite Canister					
P2002028-019.01	1.0 L Source Silonite Canister					
P2002028-020.01	1.0 L Source Silonite Canister					
P2002028-021.01	1.0 L Source Can					

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV136-025-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-001

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/17/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01228

Initial Pressure (psig): -3.33 Final Pressure (psig): 5.86

Container Dilution Factor: 1.81

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**0.77**	2.4	1.4	0.59	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.8**	2.4	1.4	0.39	
74-87-3	Chloromethane	1.4	2.4	1.4	0.39	**U**
75-01-4	Vinyl Chloride	0.77	2.4	0.77	0.26	**U**
106-99-0	1,3-Butadiene	1.4	2.4	1.4	0.40	**U**
75-00-3	Chloroethane	1.4	2.4	1.4	0.30	**U**
64-17-5	Ethanol	**4.1**	24	3.8	1.7	**J, B**
67-64-1	Acetone	**12**	24	12	5.4	**J**
75-69-4	Trichlorofluoromethane	**1.4**	2.4	1.4	0.37	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	2.9	9.5	2.9	1.0	**U**
75-09-2	Methylene Chloride	1.4	2.4	1.4	0.68	**U**
76-13-1	Trichlorotrifluoroethane	**0.54**	2.4	0.77	0.34	**J**
75-15-0	Carbon Disulfide	2.4	5.0	2.4	0.72	**U**
75-34-3	1,1-Dichloroethane	1.5	2.5	1.5	0.35	**U**
78-93-3	2-Butanone (MEK)	**1.1**	5.0	1.4	0.50	**J**
141-78-6	Ethyl Acetate	2.9	5.0	2.9	1.3	**U**
110-54-3	n-Hexane	1.4	2.4	1.4	0.50	**U**
67-66-3	Chloroform	**7.9**	2.4	0.77	0.32	
109-99-9	Tetrahydrofuran (THF)	**0.82**	2.5	0.77	0.30	**J**
107-06-2	1,2-Dichloroethane	0.77	2.4	0.77	0.27	**U**
71-43-2	Benzene	**0.35**	2.4	0.77	0.35	**J**
56-23-5	Carbon Tetrachloride	0.77	2.4	0.77	0.33	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV136-025-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-001

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/17/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01228

Initial Pressure (psig): -3.33 Final Pressure (psig): 5.86

Container Dilution Factor: 1.81

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.5	5.0	1.5	0.68	**U**
75-27-4	Bromodichloromethane	**1.4**	2.4	0.77	0.35	**J**
79-01-6	Trichloroethene	0.77	2.4	0.77	0.33	**U**
123-91-1	1,4-Dioxane	0.77	2.4	0.77	0.29	**U**
142-82-5	n-Heptane	1.4	2.4	1.4	0.38	**U**
108-10-1	4-Methyl-2-pentanone	0.77	2.4	0.77	0.33	**U**
108-88-3	Toluene	**0.75**	2.4	0.77	0.29	**J**
591-78-6	2-Hexanone	0.77	2.4	0.77	0.30	**U**
124-48-1	Dibromochloromethane	0.77	2.4	0.77	0.32	**U**
106-93-4	1,2-Dibromoethane	0.77	2.4	0.77	0.28	**U**
127-18-4	Tetrachloroethene	0.77	2.4	0.77	0.31	**U**
100-41-4	Ethylbenzene	0.77	2.4	0.77	0.34	**U**
179601-23-1	m,p-Xylenes	1.5	5.0	1.5	0.63	**U**
75-25-2	Bromoform	1.4	2.4	1.4	0.50	**U**
100-42-5	Styrene	1.4	2.4	1.4	0.39	**U**
95-47-6	o-Xylene	0.77	2.4	0.77	0.35	**U**
108-67-8	1,3,5-Trimethylbenzene	0.77	2.4	0.77	0.35	**U**
95-63-6	1,2,4-Trimethylbenzene	0.77	2.4	0.77	0.33	**U**
120-82-1	1,2,4-Trichlorobenzene	1.4	2.4	1.4	0.59	**U**
91-20-3	Naphthalene	1.4	2.4	1.4	0.59	**U**
1330-20-7	Xylenes, Total	1.5	5.0	1.5	0.63	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV136-050-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-002

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/17/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00171

Initial Pressure (psig): -4.69 Final Pressure (psig): 6.36

Container Dilution Factor: 2.10

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	1.7	2.8	1.7	0.68	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**3.0**	2.8	1.7	0.46	
74-87-3	Chloromethane	1.7	2.8	1.7	0.45	**U**
75-01-4	Vinyl Chloride	0.89	2.8	0.89	0.30	**U**
106-99-0	1,3-Butadiene	1.7	2.8	1.7	0.46	**U**
75-00-3	Chloroethane	1.7	2.8	1.7	0.35	**U**
64-17-5	Ethanol	**4.5**	27	4.4	1.9	**J, B**
67-64-1	Acetone	14	28	14	6.3	**U**
75-69-4	Trichlorofluoromethane	**1.6**	2.8	1.7	0.43	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	3.3	11	3.3	1.2	**U**
75-09-2	Methylene Chloride	1.7	2.8	1.7	0.79	**U**
76-13-1	Trichlorotrifluoroethane	**0.54**	2.8	0.89	0.40	**J**
75-15-0	Carbon Disulfide	**1.4**	5.8	2.8	0.84	**J**
75-34-3	1,1-Dichloroethane	1.7	2.9	1.7	0.41	**U**
78-93-3	2-Butanone (MEK)	1.7	5.8	1.7	0.58	**U**
141-78-6	Ethyl Acetate	3.4	5.8	3.4	1.5	**U**
110-54-3	n-Hexane	1.7	2.8	1.7	0.58	**U**
67-66-3	Chloroform	**9.2**	2.8	0.89	0.37	
109-99-9	Tetrahydrofuran (THF)	0.89	2.9	0.89	0.35	**U**
107-06-2	1,2-Dichloroethane	0.89	2.8	0.89	0.31	**U**
71-43-2	Benzene	0.89	2.8	0.89	0.40	**U**
56-23-5	Carbon Tetrachloride	0.89	2.8	0.89	0.39	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV136-050-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-002

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/17/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00171

Initial Pressure (psig): -4.69 Final Pressure (psig): 6.36

Container Dilution Factor: 2.10

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.8	5.8	1.8	0.79	**U**
75-27-4	Bromodichloromethane	**2.1**	2.8	0.89	0.40	**J**
79-01-6	Trichloroethene	0.89	2.8	0.89	0.38	**U**
123-91-1	1,4-Dioxane	**0.47**	2.8	0.89	0.33	**J**
142-82-5	n-Heptane	**0.46**	2.8	1.7	0.45	**J**
108-10-1	4-Methyl-2-pentanone	0.89	2.8	0.89	0.38	**U**
108-88-3	Toluene	**0.46**	2.8	0.89	0.34	**J**
591-78-6	2-Hexanone	0.89	2.8	0.89	0.35	**U**
124-48-1	Dibromochloromethane	0.89	2.8	0.89	0.37	**U**
106-93-4	1,2-Dibromoethane	0.89	2.8	0.89	0.33	**U**
127-18-4	Tetrachloroethene	**0.41**	2.7	0.89	0.36	**J**
100-41-4	Ethylbenzene	0.89	2.8	0.89	0.39	**U**
179601-23-1	m,p-Xylenes	1.8	5.8	1.8	0.74	**U**
75-25-2	Bromoform	1.7	2.8	1.7	0.58	**U**
100-42-5	Styrene	1.7	2.8	1.7	0.45	**U**
95-47-6	o-Xylene	0.89	2.8	0.89	0.40	**U**
108-67-8	1,3,5-Trimethylbenzene	0.89	2.8	0.89	0.40	**U**
95-63-6	1,2,4-Trimethylbenzene	0.89	2.8	0.89	0.39	**U**
120-82-1	1,2,4-Trichlorobenzene	1.7	2.8	1.7	0.68	**U**
91-20-3	Naphthalene	1.6	2.7	1.6	0.68	**U**
1330-20-7	Xylenes, Total	1.8	5.8	1.8	0.74	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV136-150-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-003

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/17/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00605

Initial Pressure (psig): -3.12 Final Pressure (psig): 6.63

Container Dilution Factor: 1.84

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.1**	2.4	1.5	0.60	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**3.5**	2.4	1.5	0.40	
74-87-3	Chloromethane	1.5	2.4	1.5	0.40	**U**
75-01-4	Vinyl Chloride	0.78	2.5	0.78	0.26	**U**
106-99-0	1,3-Butadiene	1.5	2.4	1.5	0.40	**U**
75-00-3	Chloroethane	1.5	2.5	1.5	0.30	**U**
64-17-5	Ethanol	**11**	24	3.8	1.7	**J, B**
67-64-1	Acetone	**15**	24	12	5.5	**J**
75-69-4	Trichlorofluoromethane	**2.9**	2.4	1.5	0.37	
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.8**	9.7	2.9	1.0	**J, V**
75-09-2	Methylene Chloride	1.5	2.4	1.5	0.69	**U**
76-13-1	Trichlorotrifluoroethane	**1.0**	2.5	0.78	0.35	**J**
75-15-0	Carbon Disulfide	**3.8**	5.1	2.5	0.74	**J**
75-34-3	1,1-Dichloroethane	1.5	2.5	1.5	0.36	**U**
78-93-3	2-Butanone (MEK)	**2.7**	5.1	1.5	0.51	**J**
141-78-6	Ethyl Acetate	**10**	5.1	3.0	1.3	
110-54-3	n-Hexane	1.5	2.5	1.5	0.51	**U**
67-66-3	Chloroform	**0.95**	2.5	0.78	0.33	**J**
109-99-9	Tetrahydrofuran (THF)	**2.7**	2.5	0.78	0.31	
107-06-2	1,2-Dichloroethane	0.78	2.5	0.78	0.27	**U**
71-43-2	Benzene	0.78	2.4	0.78	0.35	**U**
56-23-5	Carbon Tetrachloride	**2.2**	2.4	0.78	0.34	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.
V = The ending continuing calibration verification standard was outside (biased high) the specified limits for this compound.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV136-150-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-003

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/17/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00605

Initial Pressure (psig): -3.12 Final Pressure (psig): 6.63

Container Dilution Factor: 1.84

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.6	5.1	1.6	0.69	**U**
75-27-4	Bromodichloromethane	0.78	2.5	0.78	0.35	**U**
79-01-6	Trichloroethene	0.78	2.5	0.78	0.33	**U**
123-91-1	1,4-Dioxane	0.78	2.5	0.78	0.29	**U**
142-82-5	n-Heptane	1.5	2.5	1.5	0.39	**U**
108-10-1	4-Methyl-2-pentanone	0.78	2.4	0.78	0.34	**U**
108-88-3	Toluene	**1.1**	2.5	0.78	0.30	**J**
591-78-6	2-Hexanone	**0.42**	2.5	0.78	0.30	**J**
124-48-1	Dibromochloromethane	0.78	2.5	0.78	0.32	**U**
106-93-4	1,2-Dibromoethane	0.78	2.5	0.78	0.29	**U**
127-18-4	Tetrachloroethene	**1.6**	2.4	0.78	0.32	**J**
100-41-4	Ethylbenzene	0.78	2.5	0.78	0.35	**U**
179601-23-1	m,p-Xylenes	1.6	5.1	1.6	0.64	**U**
75-25-2	Bromoform	1.5	2.5	1.5	0.51	**U**
100-42-5	Styrene	1.5	2.4	1.5	0.40	**U**
95-47-6	o-Xylene	0.78	2.5	0.78	0.35	**U**
108-67-8	1,3,5-Trimethylbenzene	0.78	2.4	0.78	0.35	**U**
95-63-6	1,2,4-Trimethylbenzene	0.78	2.5	0.78	0.34	**U**
120-82-1	1,2,4-Trichlorobenzene	1.5	2.5	1.5	0.60	**U**
91-20-3	Naphthalene	1.4	2.4	1.4	0.60	**U**
1330-20-7	Xylenes, Total	1.6	5.1	1.6	0.64	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV136-250-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-004

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/17/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01295

Initial Pressure (psig): -3.86 Final Pressure (psig): 6.21

Container Dilution Factor: 1.93

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	1.5	2.6	1.5	0.63	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.9**	2.6	1.5	0.42	
74-87-3	Chloromethane	1.5	2.6	1.5	0.41	**U**
75-01-4	Vinyl Chloride	0.82	2.6	0.82	0.28	**U**
106-99-0	1,3-Butadiene	1.5	2.6	1.5	0.42	**U**
75-00-3	Chloroethane	1.5	2.6	1.5	0.32	**U**
64-17-5	Ethanol	**2.3**	25	4.0	1.8	**J, B**
67-64-1	Acetone	**7.1**	26	13	5.8	**J**
75-69-4	Trichlorofluoromethane	**3.0**	2.6	1.5	0.39	
67-63-0	2-Propanol (Isopropyl Alcohol)	3.0	10	3.0	1.1	**U**
75-09-2	Methylene Chloride	1.5	2.6	1.5	0.72	**U**
76-13-1	Trichlorotrifluoroethane	**1.2**	2.6	0.82	0.37	**J**
75-15-0	Carbon Disulfide	**13**	5.3	2.6	0.77	
75-34-3	1,1-Dichloroethane	1.6	2.7	1.6	0.38	**U**
78-93-3	2-Butanone (MEK)	**1.1**	5.3	1.5	0.53	**J**
141-78-6	Ethyl Acetate	3.1	5.3	3.1	1.4	**U**
110-54-3	n-Hexane	1.5	2.6	1.5	0.53	**U**
67-66-3	Chloroform	0.82	2.6	0.82	0.34	**U**
109-99-9	Tetrahydrofuran (THF)	**13**	2.7	0.82	0.32	
107-06-2	1,2-Dichloroethane	0.82	2.6	0.82	0.28	**U**
71-43-2	Benzene	0.82	2.6	0.82	0.37	**U**
56-23-5	Carbon Tetrachloride	**3.3**	2.6	0.82	0.36	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV136-250-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-004

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/17/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01295

Initial Pressure (psig): -3.86 Final Pressure (psig): 6.21

Container Dilution Factor: 1.93

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.6	5.3	1.6	0.72	**U**
75-27-4	Bromodichloromethane	0.82	2.6	0.82	0.37	**U**
79-01-6	Trichloroethene	**0.42**	2.6	0.82	0.35	**J**
123-91-1	1,4-Dioxane	**0.37**	2.6	0.82	0.30	**J**
142-82-5	n-Heptane	1.5	2.6	1.5	0.41	**U**
108-10-1	4-Methyl-2-pentanone	0.82	2.6	0.82	0.35	**U**
108-88-3	Toluene	0.82	2.6	0.82	0.31	**U**
591-78-6	2-Hexanone	0.82	2.6	0.82	0.32	**U**
124-48-1	Dibromochloromethane	0.82	2.6	0.82	0.34	**U**
106-93-4	1,2-Dibromoethane	0.82	2.6	0.82	0.30	**U**
127-18-4	Tetrachloroethene	**1.1**	2.5	0.82	0.33	**J**
100-41-4	Ethylbenzene	0.82	2.6	0.82	0.36	**U**
179601-23-1	m,p-Xylenes	1.6	5.3	1.6	0.68	**U**
75-25-2	Bromoform	1.5	2.6	1.5	0.53	**U**
100-42-5	Styrene	1.5	2.6	1.5	0.41	**U**
95-47-6	o-Xylene	0.82	2.6	0.82	0.37	**U**
108-67-8	1,3,5-Trimethylbenzene	0.82	2.6	0.82	0.37	**U**
95-63-6	1,2,4-Trimethylbenzene	0.82	2.6	0.82	0.36	**U**
120-82-1	1,2,4-Trichlorobenzene	1.5	2.6	1.5	0.63	**U**
91-20-3	Naphthalene	1.5	2.5	1.5	0.63	**U**
1330-20-7	Xylenes, Total	1.6	5.3	1.6	0.68	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV136-350-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-005

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/17/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00795

Initial Pressure (psig): -5.08 Final Pressure (psig): 5.70

Container Dilution Factor: 2.12

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	1.7	2.8	1.7	0.69	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.5**	2.8	1.7	0.46	**J**
74-87-3	Chloromethane	1.7	2.8	1.7	0.46	**U**
75-01-4	Vinyl Chloride	0.90	2.9	0.90	0.30	**U**
106-99-0	1,3-Butadiene	1.7	2.8	1.7	0.47	**U**
75-00-3	Chloroethane	1.7	2.9	1.7	0.35	**U**
64-17-5	Ethanol	**4.1**	28	4.4	2.0	**J, B**
67-64-1	Acetone	**27**	28	14	6.4	**J**
75-69-4	Trichlorofluoromethane	**1.3**	2.8	1.7	0.43	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	3.3	11	3.3	1.2	**U**
75-09-2	Methylene Chloride	1.7	2.8	1.7	0.80	**U**
76-13-1	Trichlorotrifluoroethane	**0.47**	2.9	0.90	0.40	**J**
75-15-0	Carbon Disulfide	**7.8**	5.8	2.9	0.85	
75-34-3	1,1-Dichloroethane	1.7	2.9	1.7	0.41	**U**
78-93-3	2-Butanone (MEK)	**1.6**	5.8	1.7	0.58	**J**
141-78-6	Ethyl Acetate	3.4	5.8	3.4	1.5	**U**
110-54-3	n-Hexane	1.7	2.9	1.7	0.58	**U**
67-66-3	Chloroform	0.90	2.9	0.90	0.38	**U**
109-99-9	Tetrahydrofuran (THF)	**21**	2.9	0.90	0.36	
107-06-2	1,2-Dichloroethane	0.90	2.9	0.90	0.31	**U**
71-43-2	Benzene	0.90	2.8	0.90	0.41	**U**
56-23-5	Carbon Tetrachloride	**1.8**	2.8	0.90	0.39	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV136-350-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-005

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/17/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00795

Initial Pressure (psig): -5.08 Final Pressure (psig): 5.70

Container Dilution Factor: 2.12

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.8	5.8	1.8	0.80	**U**
75-27-4	Bromodichloromethane	0.90	2.9	0.90	0.41	**U**
79-01-6	Trichloroethene	0.90	2.9	0.90	0.38	**U**
123-91-1	1,4-Dioxane	**0.43**	2.9	0.90	0.33	**J**
142-82-5	n-Heptane	1.7	2.9	1.7	0.45	**U**
108-10-1	4-Methyl-2-pentanone	0.90	2.8	0.90	0.39	**U**
108-88-3	Toluene	0.90	2.9	0.90	0.34	**U**
591-78-6	2-Hexanone	0.90	2.9	0.90	0.35	**U**
124-48-1	Dibromochloromethane	0.90	2.9	0.90	0.37	**U**
106-93-4	1,2-Dibromoethane	0.90	2.9	0.90	0.33	**U**
127-18-4	Tetrachloroethene	**0.38**	2.8	0.90	0.37	**J**
100-41-4	Ethylbenzene	0.90	2.9	0.90	0.40	**U**
179601-23-1	m,p-Xylenes	1.8	5.8	1.8	0.74	**U**
75-25-2	Bromoform	1.7	2.9	1.7	0.58	**U**
100-42-5	Styrene	1.7	2.8	1.7	0.46	**U**
95-47-6	o-Xylene	0.90	2.9	0.90	0.41	**U**
108-67-8	1,3,5-Trimethylbenzene	0.90	2.8	0.90	0.41	**U**
95-63-6	1,2,4-Trimethylbenzene	0.90	2.9	0.90	0.39	**U**
120-82-1	1,2,4-Trichlorobenzene	1.7	2.9	1.7	0.69	**U**
91-20-3	Naphthalene	1.6	2.8	1.6	0.69	**U**
1330-20-7	Xylenes, Total	1.8	5.8	1.8	0.74	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV136-450-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-006

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/17/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00247

Initial Pressure (psig): -3.69 Final Pressure (psig): 6.04

Container Dilution Factor: 1.88

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**7.0**	2.5	1.5	0.61	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	2.5	1.5	0.41	**J**
74-87-3	Chloromethane	**18**	2.5	1.5	0.40	**V**
75-01-4	Vinyl Chloride	**9.8**	2.5	0.80	0.27	
106-99-0	1,3-Butadiene	**0.64**	2.5	1.5	0.41	**J**
75-00-3	Chloroethane	**4.9**	2.5	1.5	0.31	
64-17-5	Ethanol	**33**	24	3.9	1.7	**B**
67-64-1	Acetone	**36**	25	13	5.6	
75-69-4	Trichlorofluoromethane	**1.2**	2.5	1.5	0.38	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**11**	9.9	3.0	1.0	**V**
75-09-2	Methylene Chloride	**0.99**	2.5	1.5	0.71	**J**
76-13-1	Trichlorotrifluoroethane	**0.44**	2.5	0.80	0.36	**J**
75-15-0	Carbon Disulfide	**170**	5.2	2.5	0.75	
75-34-3	1,1-Dichloroethane	**1.0**	2.6	1.6	0.37	**J**
78-93-3	2-Butanone (MEK)	**8.9**	5.2	1.5	0.52	
141-78-6	Ethyl Acetate	**110**	5.2	3.1	1.3	
110-54-3	n-Hexane	**1.1**	2.5	1.5	0.52	**J**
67-66-3	Chloroform	**0.33**	2.5	0.80	0.33	**J**
109-99-9	Tetrahydrofuran (THF)	**39**	2.6	0.80	0.31	
107-06-2	1,2-Dichloroethane	**1.2**	2.5	0.80	0.28	**J**
71-43-2	Benzene	**1.3**	2.5	0.80	0.36	**J**
56-23-5	Carbon Tetrachloride	**0.57**	2.5	0.80	0.35	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.
V = The ending continuing calibration verification standard was outside (biased high) the specified limits for this compound.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV136-450-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-006

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/17/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00247

Initial Pressure (psig): -3.69 Final Pressure (psig): 6.04

Container Dilution Factor: 1.88

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.6	5.2	1.6	0.71	**U**
75-27-4	Bromodichloromethane	0.80	2.5	0.80	0.36	**U**
79-01-6	Trichloroethene	0.80	2.5	0.80	0.34	**U**
123-91-1	1,4-Dioxane	**1.3**	2.5	0.80	0.30	**J**
142-82-5	n-Heptane	**1.7**	2.5	1.5	0.40	**J**
108-10-1	4-Methyl-2-pentanone	**0.96**	2.5	0.80	0.34	**J**
108-88-3	Toluene	**7.6**	2.5	0.80	0.31	
591-78-6	2-Hexanone	**0.38**	2.5	0.80	0.31	**J**
124-48-1	Dibromochloromethane	0.80	2.5	0.80	0.33	**U**
106-93-4	1,2-Dibromoethane	0.80	2.5	0.80	0.29	**U**
127-18-4	Tetrachloroethene	**0.39**	2.4	0.80	0.32	**J**
100-41-4	Ethylbenzene	**0.53**	2.5	0.80	0.35	**J**
179601-23-1	m,p-Xylenes	**1.5**	5.2	1.6	0.66	**J**
75-25-2	Bromoform	1.5	2.5	1.5	0.52	**U**
100-42-5	Styrene	1.5	2.5	1.5	0.40	**U**
95-47-6	o-Xylene	**0.58**	2.5	0.80	0.36	**J**
108-67-8	1,3,5-Trimethylbenzene	0.80	2.5	0.80	0.36	**U**
95-63-6	1,2,4-Trimethylbenzene	0.80	2.5	0.80	0.35	**U**
120-82-1	1,2,4-Trichlorobenzene	1.5	2.5	1.5	0.61	**U**
91-20-3	Naphthalene	1.5	2.4	1.5	0.61	**U**
1330-20-7	Xylenes, Total	**2.1**	5.2	1.6	0.66	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV138-025-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-007

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00978

Initial Pressure (psig): -4.61 Final Pressure (psig): 5.61

Container Dilution Factor: 2.01

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	1.6	2.7	1.6	0.65	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.5**	2.7	1.6	0.44	**J**
74-87-3	Chloromethane	1.6	2.7	1.6	0.43	**U**
75-01-4	Vinyl Chloride	0.85	2.7	0.85	0.29	**U**
106-99-0	1,3-Butadiene	1.6	2.7	1.6	0.44	**U**
75-00-3	Chloroethane	1.6	2.7	1.6	0.33	**U**
64-17-5	Ethanol	**6.2**	26	4.2	1.9	**J**
67-64-1	Acetone	**48**	27	14	6.0	
75-69-4	Trichlorofluoromethane	**9.3**	2.7	1.6	0.41	
67-63-0	2-Propanol (Isopropyl Alcohol)	3.2	11	3.2	1.1	**U**
75-09-2	Methylene Chloride	1.6	2.7	1.6	0.75	**U**
76-13-1	Trichlorotrifluoroethane	**0.46**	2.7	0.85	0.38	**J**
75-15-0	Carbon Disulfide	2.7	5.5	2.7	0.80	**U**
75-34-3	1,1-Dichloroethane	1.7	2.8	1.7	0.39	**U**
78-93-3	2-Butanone (MEK)	**2.3**	5.5	1.6	0.55	**J**
141-78-6	Ethyl Acetate	3.3	5.5	3.3	1.4	**U**
110-54-3	n-Hexane	1.6	2.7	1.6	0.55	**U**
67-66-3	Chloroform	0.85	2.7	0.85	0.36	**U**
109-99-9	Tetrahydrofuran (THF)	**0.40**	2.8	0.85	0.34	**J**
107-06-2	1,2-Dichloroethane	0.85	2.7	0.85	0.30	**U**
71-43-2	Benzene	0.85	2.7	0.85	0.39	**U**
56-23-5	Carbon Tetrachloride	0.85	2.7	0.85	0.37	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV138-025-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-007

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00978

Initial Pressure (psig): -4.61 Final Pressure (psig): 5.61

Container Dilution Factor: 2.01

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.7	5.5	1.7	0.75	**U**
75-27-4	Bromodichloromethane	0.85	2.7	0.85	0.39	**U**
79-01-6	Trichloroethene	0.85	2.7	0.85	0.36	**U**
123-91-1	1,4-Dioxane	**0.47**	2.7	0.85	0.32	**J**
142-82-5	n-Heptane	1.6	2.7	1.6	0.43	**U**
108-10-1	4-Methyl-2-pentanone	**0.39**	2.7	0.85	0.37	**J**
108-88-3	Toluene	**0.49**	2.7	0.85	0.33	**J**
591-78-6	2-Hexanone	**0.43**	2.7	0.85	0.33	**J**
124-48-1	Dibromochloromethane	0.85	2.7	0.85	0.35	**U**
106-93-4	1,2-Dibromoethane	0.85	2.7	0.85	0.31	**U**
127-18-4	Tetrachloroethene	0.85	2.6	0.85	0.35	**U**
100-41-4	Ethylbenzene	0.85	2.7	0.85	0.38	**U**
179601-23-1	m,p-Xylenes	1.7	5.5	1.7	0.70	**U**
75-25-2	Bromoform	1.6	2.7	1.6	0.55	**U**
100-42-5	Styrene	1.6	2.7	1.6	0.43	**U**
95-47-6	o-Xylene	0.85	2.7	0.85	0.39	**U**
108-67-8	1,3,5-Trimethylbenzene	0.85	2.7	0.85	0.39	**U**
95-63-6	1,2,4-Trimethylbenzene	0.85	2.7	0.85	0.37	**U**
120-82-1	1,2,4-Trichlorobenzene	1.6	2.7	1.6	0.65	**U**
91-20-3	Naphthalene	1.6	2.6	1.6	0.65	**U**
1330-20-7	Xylenes, Total	1.7	5.5	1.7	0.70	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV138-050-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-008

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00446

Initial Pressure (psig): -2.27 Final Pressure (psig): 6.82

Container Dilution Factor: 1.73

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.6**	2.3	1.4	0.56	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**3.0**	2.3	1.4	0.38	
74-87-3	Chloromethane	**0.65**	2.3	1.4	0.37	**J**
75-01-4	Vinyl Chloride	0.74	2.3	0.74	0.25	**U**
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.38	**U**
75-00-3	Chloroethane	1.4	2.3	1.4	0.29	**U**
64-17-5	Ethanol	**6.6**	22	3.6	1.6	**J**
67-64-1	Acetone	**40**	23	12	5.2	
75-69-4	Trichlorofluoromethane	**15**	2.3	1.4	0.35	
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.3**	9.1	2.7	0.95	**J**
75-09-2	Methylene Chloride	1.4	2.3	1.4	0.65	**U**
76-13-1	Trichlorotrifluoroethane	**0.54**	2.3	0.74	0.33	**J**
75-15-0	Carbon Disulfide	**2.0**	4.8	2.3	0.69	**J**
75-34-3	1,1-Dichloroethane	1.4	2.4	1.4	0.34	**U**
78-93-3	2-Butanone (MEK)	**8.2**	4.8	1.4	0.48	
141-78-6	Ethyl Acetate	2.8	4.8	2.8	1.2	**U**
110-54-3	n-Hexane	1.4	2.3	1.4	0.48	**U**
67-66-3	Chloroform	**0.37**	2.3	0.74	0.31	**J**
109-99-9	Tetrahydrofuran (THF)	**0.77**	2.4	0.74	0.29	**J**
107-06-2	1,2-Dichloroethane	0.74	2.3	0.74	0.26	**U**
71-43-2	Benzene	**1.5**	2.3	0.74	0.33	**J**
56-23-5	Carbon Tetrachloride	0.74	2.3	0.74	0.32	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV138-050-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-008

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00446

Initial Pressure (psig): -2.27 Final Pressure (psig): 6.82

Container Dilution Factor: 1.73

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.5	4.8	1.5	0.65	**U**
75-27-4	Bromodichloromethane	0.74	2.3	0.74	0.33	**U**
79-01-6	Trichloroethene	0.74	2.3	0.74	0.31	**U**
123-91-1	1,4-Dioxane	0.74	2.3	0.74	0.27	**U**
142-82-5	n-Heptane	1.4	2.3	1.4	0.37	**U**
108-10-1	4-Methyl-2-pentanone	0.74	2.3	0.74	0.32	**U**
108-88-3	Toluene	**3.7**	2.3	0.74	0.28	
591-78-6	2-Hexanone	**0.78**	2.3	0.74	0.29	**J**
124-48-1	Dibromochloromethane	0.74	2.3	0.74	0.30	**U**
106-93-4	1,2-Dibromoethane	0.74	2.3	0.74	0.27	**U**
127-18-4	Tetrachloroethene	**0.79**	2.2	0.74	0.30	**J**
100-41-4	Ethylbenzene	0.74	2.3	0.74	0.32	**U**
179601-23-1	m,p-Xylenes	**1.2**	4.8	1.5	0.61	**J**
75-25-2	Bromoform	1.4	2.3	1.4	0.48	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.37	**U**
95-47-6	o-Xylene	**0.45**	2.3	0.74	0.33	**J**
108-67-8	1,3,5-Trimethylbenzene	0.74	2.3	0.74	0.33	**U**
95-63-6	1,2,4-Trimethylbenzene	0.74	2.3	0.74	0.32	**U**
120-82-1	1,2,4-Trichlorobenzene	1.4	2.3	1.4	0.56	**U**
91-20-3	Naphthalene	1.3	2.2	1.3	0.56	**U**
1330-20-7	Xylenes, Total	**1.6**	4.8	1.5	0.61	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV138-150-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-009

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00946

Initial Pressure (psig): -2.91 Final Pressure (psig): 5.80

Container Dilution Factor: 1.74

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	1.4	2.3	1.4	0.57	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**7.1**	2.3	1.4	0.38	
74-87-3	Chloromethane	1.4	2.3	1.4	0.37	**U**
75-01-4	Vinyl Chloride	0.74	2.3	0.74	0.25	**U**
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.38	**U**
75-00-3	Chloroethane	1.4	2.3	1.4	0.29	**U**
64-17-5	Ethanol	**2.7**	23	3.6	1.6	**J**
67-64-1	Acetone	12	23	12	5.2	**U**
75-69-4	Trichlorofluoromethane	**23**	2.3	1.4	0.35	
67-63-0	2-Propanol (Isopropyl Alcohol)	2.7	9.1	2.7	0.96	**U**
75-09-2	Methylene Chloride	1.4	2.3	1.4	0.65	**U**
76-13-1	Trichlorotrifluoroethane	**6.9**	2.3	0.74	0.33	
75-15-0	Carbon Disulfide	**5.4**	4.8	2.3	0.70	
75-34-3	1,1-Dichloroethane	1.4	2.4	1.4	0.34	**U**
78-93-3	2-Butanone (MEK)	1.4	4.8	1.4	0.48	**U**
141-78-6	Ethyl Acetate	2.8	4.8	2.8	1.2	**U**
110-54-3	n-Hexane	1.4	2.3	1.4	0.48	**U**
67-66-3	Chloroform	**36**	2.3	0.74	0.31	
109-99-9	Tetrahydrofuran (THF)	**1.8**	2.4	0.74	0.29	**J**
107-06-2	1,2-Dichloroethane	0.74	2.3	0.74	0.26	**U**
71-43-2	Benzene	0.74	2.3	0.74	0.33	**U**
56-23-5	Carbon Tetrachloride	**2.9**	2.3	0.74	0.32	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV138-150-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-009

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00946

Initial Pressure (psig): -2.91 Final Pressure (psig): 5.80

Container Dilution Factor: 1.74

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.5	4.8	1.5	0.65	**U**
75-27-4	Bromodichloromethane	**7.6**	2.3	0.74	0.33	
79-01-6	Trichloroethene	**3.8**	2.3	0.74	0.31	
123-91-1	1,4-Dioxane	0.74	2.3	0.74	0.27	**U**
142-82-5	n-Heptane	1.4	2.3	1.4	0.37	**U**
108-10-1	4-Methyl-2-pentanone	0.74	2.3	0.74	0.32	**U**
108-88-3	Toluene	0.74	2.3	0.74	0.28	**U**
591-78-6	2-Hexanone	0.74	2.3	0.74	0.29	**U**
124-48-1	Dibromochloromethane	**0.71**	2.3	0.74	0.30	**J**
106-93-4	1,2-Dibromoethane	0.74	2.3	0.74	0.27	**U**
127-18-4	Tetrachloroethene	**1.2**	2.3	0.74	0.30	**J**
100-41-4	Ethylbenzene	0.74	2.3	0.74	0.33	**U**
179601-23-1	m,p-Xylenes	1.5	4.8	1.5	0.61	**U**
75-25-2	Bromoform	1.4	2.3	1.4	0.48	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.37	**U**
95-47-6	o-Xylene	0.74	2.3	0.74	0.33	**U**
108-67-8	1,3,5-Trimethylbenzene	0.74	2.3	0.74	0.33	**U**
95-63-6	1,2,4-Trimethylbenzene	0.74	2.3	0.74	0.32	**U**
120-82-1	1,2,4-Trichlorobenzene	1.4	2.3	1.4	0.57	**U**
91-20-3	Naphthalene	1.3	2.3	1.3	0.57	**U**
1330-20-7	Xylenes, Total	1.5	4.8	1.5	0.61	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV138-150-602** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-010

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00868

Initial Pressure (psig): -5.66 Final Pressure (psig): 5.76

Container Dilution Factor: 2.26

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	1.8	3.0	1.8	0.73	U
75-71-8	Dichlorodifluoromethane (CFC 12)	**7.1**	3.0	1.8	0.49	
74-87-3	Chloromethane	1.8	3.0	1.8	0.49	U
75-01-4	Vinyl Chloride	0.96	3.1	0.96	0.32	U
106-99-0	1,3-Butadiene	1.8	3.0	1.8	0.50	U
75-00-3	Chloroethane	1.8	3.1	1.8	0.37	U
64-17-5	Ethanol	**5.0**	29	4.7	2.1	J
67-64-1	Acetone	**8.4**	30	15	6.8	J
75-69-4	Trichlorofluoromethane	**23**	3.0	1.8	0.46	
67-63-0	2-Propanol (Isopropyl Alcohol)	3.6	12	3.6	1.2	U
75-09-2	Methylene Chloride	1.8	3.0	1.8	0.85	U
76-13-1	Trichlorotrifluoroethane	**6.8**	3.1	0.96	0.43	
75-15-0	Carbon Disulfide	**8.0**	6.2	3.1	0.90	
75-34-3	1,1-Dichloroethane	1.9	3.1	1.9	0.44	U
78-93-3	2-Butanone (MEK)	1.8	6.2	1.8	0.62	U
141-78-6	Ethyl Acetate	**19**	6.2	3.7	1.6	
110-54-3	n-Hexane	1.8	3.1	1.8	0.62	U
67-66-3	Chloroform	**36**	3.1	0.96	0.40	
109-99-9	Tetrahydrofuran (THF)	**3.6**	3.1	0.96	0.38	
107-06-2	1,2-Dichloroethane	0.96	3.1	0.96	0.33	U
71-43-2	Benzene	0.96	3.0	0.96	0.44	U
56-23-5	Carbon Tetrachloride	**2.8**	3.0	0.96	0.42	J

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV138-150-602** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-010

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00868

Initial Pressure (psig): -5.66 Final Pressure (psig): 5.76

Container Dilution Factor: 2.26

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.9	6.2	1.9	0.85	**U**
75-27-4	Bromodichloromethane	**7.4**	3.1	0.96	0.44	
79-01-6	Trichloroethene	**3.7**	3.1	0.96	0.41	
123-91-1	1,4-Dioxane	0.96	3.1	0.96	0.36	**U**
142-82-5	n-Heptane	1.8	3.1	1.8	0.48	**U**
108-10-1	4-Methyl-2-pentanone	0.96	3.0	0.96	0.41	**U**
108-88-3	Toluene	**0.87**	3.1	0.96	0.37	**J**
591-78-6	2-Hexanone	0.96	3.1	0.96	0.37	**U**
124-48-1	Dibromochloromethane	**0.67**	3.1	0.96	0.40	**J**
106-93-4	1,2-Dibromoethane	0.96	3.1	0.96	0.35	**U**
127-18-4	Tetrachloroethene	**1.5**	2.9	0.96	0.39	**J**
100-41-4	Ethylbenzene	0.96	3.1	0.96	0.42	**U**
179601-23-1	m,p-Xylenes	1.9	6.2	1.9	0.79	**U**
75-25-2	Bromoform	1.8	3.1	1.8	0.62	**U**
100-42-5	Styrene	1.8	3.0	1.8	0.49	**U**
95-47-6	o-Xylene	0.96	3.1	0.96	0.44	**U**
108-67-8	1,3,5-Trimethylbenzene	0.96	3.0	0.96	0.44	**U**
95-63-6	1,2,4-Trimethylbenzene	0.96	3.1	0.96	0.42	**U**
120-82-1	1,2,4-Trichlorobenzene	1.8	3.1	1.8	0.73	**U**
91-20-3	Naphthalene	1.8	2.9	1.8	0.73	**U**
1330-20-7	Xylenes, Total	1.9	6.2	1.9	0.79	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV138-250-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-011

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00698

Initial Pressure (psig): -2.25 Final Pressure (psig): 7.38

Container Dilution Factor: 1.77

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**0.93**	2.3	1.4	0.58	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**6.6**	2.3	1.4	0.38	
74-87-3	Chloromethane	1.4	2.3	1.4	0.38	**U**
75-01-4	Vinyl Chloride	0.75	2.4	0.75	0.25	**U**
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.39	**U**
75-00-3	Chloroethane	1.4	2.4	1.4	0.29	**U**
64-17-5	Ethanol	**8.3**	23	3.7	1.6	**J**
67-64-1	Acetone	**17**	23	12	5.3	**J**
75-69-4	Trichlorofluoromethane	**25**	2.3	1.4	0.36	
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.2**	9.3	2.8	0.97	**J**
75-09-2	Methylene Chloride	**2.2**	2.3	1.4	0.66	**J**
76-13-1	Trichlorotrifluoroethane	**8.2**	2.4	0.75	0.34	
75-15-0	Carbon Disulfide	**3.6**	4.9	2.4	0.71	**J**
75-34-3	1,1-Dichloroethane	**0.36**	2.4	1.5	0.35	**J**
78-93-3	2-Butanone (MEK)	**3.1**	4.9	1.4	0.49	**J**
141-78-6	Ethyl Acetate	2.9	4.9	2.9	1.2	**U**
110-54-3	n-Hexane	1.4	2.4	1.4	0.49	**U**
67-66-3	Chloroform	**95**	2.4	0.75	0.31	
109-99-9	Tetrahydrofuran (THF)	**1.6**	2.4	0.75	0.30	**J**
107-06-2	1,2-Dichloroethane	0.75	2.4	0.75	0.26	**U**
71-43-2	Benzene	0.75	2.3	0.75	0.34	**U**
56-23-5	Carbon Tetrachloride	**4.1**	2.3	0.75	0.33	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV138-250-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-011

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00698

Initial Pressure (psig): -2.25 Final Pressure (psig): 7.38

Container Dilution Factor: 1.77

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.5	4.9	1.5	0.66	**U**
75-27-4	Bromodichloromethane	**21**	2.4	0.75	0.34	
79-01-6	Trichloroethene	**8.4**	2.4	0.75	0.32	
123-91-1	1,4-Dioxane	0.75	2.4	0.75	0.28	**U**
142-82-5	n-Heptane	1.4	2.4	1.4	0.38	**U**
108-10-1	4-Methyl-2-pentanone	0.75	2.3	0.75	0.32	**U**
108-88-3	Toluene	0.75	2.4	0.75	0.29	**U**
591-78-6	2-Hexanone	**0.58**	2.4	0.75	0.29	**J**
124-48-1	Dibromochloromethane	**3.1**	2.4	0.75	0.31	
106-93-4	1,2-Dibromoethane	0.75	2.4	0.75	0.27	**U**
127-18-4	Tetrachloroethene	**1.0**	2.3	0.75	0.31	**J**
100-41-4	Ethylbenzene	0.75	2.4	0.75	0.33	**U**
179601-23-1	m,p-Xylenes	1.5	4.9	1.5	0.62	**U**
75-25-2	Bromoform	1.4	2.4	1.4	0.49	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.38	**U**
95-47-6	o-Xylene	0.75	2.4	0.75	0.34	**U**
108-67-8	1,3,5-Trimethylbenzene	0.75	2.3	0.75	0.34	**U**
95-63-6	1,2,4-Trimethylbenzene	0.75	2.4	0.75	0.33	**U**
120-82-1	1,2,4-Trichlorobenzene	1.4	2.4	1.4	0.58	**U**
91-20-3	Naphthalene	1.4	2.3	1.4	0.58	**U**
1330-20-7	Xylenes, Total	1.5	4.9	1.5	0.62	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV138-350-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-012

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00857

Initial Pressure (psig): -2.27 Final Pressure (psig): 5.90

Container Dilution Factor: 1.66

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.2**	2.2	1.3	0.54	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**3.4**	2.2	1.3	0.36	
74-87-3	Chloromethane	**0.48**	2.2	1.3	0.36	**J**
75-01-4	Vinyl Chloride	0.71	2.2	0.71	0.24	**U**
106-99-0	1,3-Butadiene	1.3	2.2	1.3	0.37	**U**
75-00-3	Chloroethane	1.3	2.2	1.3	0.27	**U**
64-17-5	Ethanol	**22**	22	3.4	1.5	
67-64-1	Acetone	**24**	22	11	5.0	
75-69-4	Trichlorofluoromethane	**5.7**	2.2	1.3	0.34	
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.5**	8.7	2.6	0.91	**J**
75-09-2	Methylene Chloride	1.3	2.2	1.3	0.62	**U**
76-13-1	Trichlorotrifluoroethane	**4.4**	2.2	0.71	0.32	
75-15-0	Carbon Disulfide	**9.6**	4.6	2.2	0.66	
75-34-3	1,1-Dichloroethane	**0.49**	2.3	1.4	0.32	**J**
78-93-3	2-Butanone (MEK)	**5.6**	4.6	1.3	0.46	
141-78-6	Ethyl Acetate	**39**	4.6	2.7	1.2	
110-54-3	n-Hexane	1.3	2.2	1.3	0.46	**U**
67-66-3	Chloroform	**100**	2.2	0.71	0.29	
109-99-9	Tetrahydrofuran (THF)	**1.5**	2.3	0.71	0.28	**J**
107-06-2	1,2-Dichloroethane	0.71	2.2	0.71	0.24	**U**
71-43-2	Benzene	**0.41**	2.2	0.71	0.32	**J**
56-23-5	Carbon Tetrachloride	**2.8**	2.2	0.71	0.31	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV138-350-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-012

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00857

Initial Pressure (psig): -2.27 Final Pressure (psig): 5.90

Container Dilution Factor: 1.66

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.4	4.6	1.4	0.62	**U**
75-27-4	Bromodichloromethane	**21**	2.2	0.71	0.32	
79-01-6	Trichloroethene	**7.1**	2.2	0.71	0.30	
123-91-1	1,4-Dioxane	**2.6**	2.2	0.71	0.26	
142-82-5	n-Heptane	1.3	2.2	1.3	0.35	**U**
108-10-1	4-Methyl-2-pentanone	**0.32**	2.2	0.71	0.30	**J**
108-88-3	Toluene	**1.7**	2.2	0.71	0.27	**J**
591-78-6	2-Hexanone	**1.6**	2.2	0.71	0.27	**J**
124-48-1	Dibromochloromethane	**2.2**	2.2	0.71	0.29	**J**
106-93-4	1,2-Dibromoethane	0.71	2.2	0.71	0.26	**U**
127-18-4	Tetrachloroethene	**0.79**	2.2	0.71	0.29	**J**
100-41-4	Ethylbenzene	0.71	2.2	0.71	0.31	**U**
179601-23-1	m,p-Xylenes	1.4	4.6	1.4	0.58	**U**
75-25-2	Bromoform	1.3	2.2	1.3	0.46	**U**
100-42-5	Styrene	1.3	2.2	1.3	0.36	**U**
95-47-6	o-Xylene	0.71	2.2	0.71	0.32	**U**
108-67-8	1,3,5-Trimethylbenzene	0.71	2.2	0.71	0.32	**U**
95-63-6	1,2,4-Trimethylbenzene	0.71	2.2	0.71	0.31	**U**
120-82-1	1,2,4-Trichlorobenzene	1.3	2.2	1.3	0.54	**U**
91-20-3	Naphthalene	1.3	2.2	1.3	0.54	**U**
1330-20-7	Xylenes, Total	1.4	4.6	1.4	0.58	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV138-450-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-013

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00988

Initial Pressure (psig): -3.03 Final Pressure (psig): 6.03

Container Dilution Factor: 1.78

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**3.5**	2.4	1.4	0.58	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.7**	2.4	1.4	0.39	
74-87-3	Chloromethane	**6.4**	2.4	1.4	0.38	
75-01-4	Vinyl Chloride	**4.0**	2.4	0.76	0.25	
106-99-0	1,3-Butadiene	1.4	2.4	1.4	0.39	**U**
75-00-3	Chloroethane	**3.4**	2.4	1.4	0.29	
64-17-5	Ethanol	**23**	23	3.7	1.6	**J**
67-64-1	Acetone	**20**	24	12	5.3	**J**
75-69-4	Trichlorofluoromethane	**8.2**	2.4	1.4	0.36	
67-63-0	2-Propanol (Isopropyl Alcohol)	**6.5**	9.3	2.8	0.98	**J**
75-09-2	Methylene Chloride	1.4	2.4	1.4	0.67	**U**
76-13-1	Trichlorotrifluoroethane	**0.55**	2.4	0.76	0.34	**J**
75-15-0	Carbon Disulfide	**120**	4.9	2.4	0.71	
75-34-3	1,1-Dichloroethane	**2.3**	2.4	1.5	0.35	**J**
78-93-3	2-Butanone (MEK)	**3.2**	4.9	1.4	0.49	**J**
141-78-6	Ethyl Acetate	**33**	4.9	2.9	1.2	
110-54-3	n-Hexane	1.4	2.4	1.4	0.49	**U**
67-66-3	Chloroform	**6.9**	2.4	0.76	0.32	
109-99-9	Tetrahydrofuran (THF)	**3.5**	2.4	0.76	0.30	
107-06-2	1,2-Dichloroethane	**1.1**	2.4	0.76	0.26	**J**
71-43-2	Benzene	**0.60**	2.4	0.76	0.34	**J**
56-23-5	Carbon Tetrachloride	0.76	2.4	0.76	0.33	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV138-450-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-013

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00988

Initial Pressure (psig): -3.03 Final Pressure (psig): 6.03

Container Dilution Factor: 1.78

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.5	4.9	1.5	0.67	**U**
75-27-4	Bromodichloromethane	**4.2**	2.4	0.76	0.34	
79-01-6	Trichloroethene	**0.69**	2.4	0.76	0.32	**J**
123-91-1	1,4-Dioxane	0.76	2.4	0.76	0.28	**U**
142-82-5	n-Heptane	**0.74**	2.4	1.4	0.38	**J**
108-10-1	4-Methyl-2-pentanone	**0.49**	2.4	0.76	0.32	**J**
108-88-3	Toluene	**4.6**	2.4	0.76	0.29	
591-78-6	2-Hexanone	**0.44**	2.4	0.76	0.29	**J**
124-48-1	Dibromochloromethane	**1.2**	2.4	0.76	0.31	**J**
106-93-4	1,2-Dibromoethane	0.76	2.4	0.76	0.28	**U**
127-18-4	Tetrachloroethene	**0.32**	2.3	0.76	0.31	**J**
100-41-4	Ethylbenzene	**0.38**	2.4	0.76	0.33	**J**
179601-23-1	m,p-Xylenes	**0.97**	4.9	1.5	0.62	**J**
75-25-2	Bromoform	1.4	2.4	1.4	0.49	**U**
100-42-5	Styrene	1.4	2.4	1.4	0.38	**U**
95-47-6	o-Xylene	**0.37**	2.4	0.76	0.34	**J**
108-67-8	1,3,5-Trimethylbenzene	0.76	2.4	0.76	0.34	**U**
95-63-6	1,2,4-Trimethylbenzene	0.76	2.4	0.76	0.33	**U**
120-82-1	1,2,4-Trichlorobenzene	1.4	2.4	1.4	0.58	**U**
91-20-3	Naphthalene	1.4	2.3	1.4	0.58	**U**
1330-20-7	Xylenes, Total	**1.3**	4.9	1.5	0.62	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV141-025-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-014

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00793

Initial Pressure (psig): -2.57 Final Pressure (psig): 5.43

Container Dilution Factor: 1.66

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.1**	2.2	1.3	0.54	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**13**	2.2	1.3	0.36	
74-87-3	Chloromethane	**0.47**	2.2	1.3	0.36	**J**
75-01-4	Vinyl Chloride	0.71	2.2	0.71	0.24	**U**
106-99-0	1,3-Butadiene	1.3	2.2	1.3	0.37	**U**
75-00-3	Chloroethane	1.3	2.2	1.3	0.27	**U**
64-17-5	Ethanol	**7.7**	22	3.4	1.5	**J**
67-64-1	Acetone	**22**	22	11	5.0	
75-69-4	Trichlorofluoromethane	**11**	2.2	1.3	0.34	
67-63-0	2-Propanol (Isopropyl Alcohol)	2.6	8.7	2.6	0.91	**U**
75-09-2	Methylene Chloride	1.3	2.2	1.3	0.62	**U**
76-13-1	Trichlorotrifluoroethane	**0.59**	2.2	0.71	0.32	**J**
75-15-0	Carbon Disulfide	**2.1**	4.6	2.2	0.66	**J**
75-34-3	1,1-Dichloroethane	1.4	2.3	1.4	0.32	**U**
78-93-3	2-Butanone (MEK)	**4.1**	4.6	1.3	0.46	**J**
141-78-6	Ethyl Acetate	2.7	4.6	2.7	1.2	**U**
110-54-3	n-Hexane	1.3	2.2	1.3	0.46	**U**
67-66-3	Chloroform	**3.8**	2.2	0.71	0.29	
109-99-9	Tetrahydrofuran (THF)	**0.37**	2.3	0.71	0.28	**J**
107-06-2	1,2-Dichloroethane	0.71	2.2	0.71	0.24	**U**
71-43-2	Benzene	0.71	2.2	0.71	0.32	**U**
56-23-5	Carbon Tetrachloride	**0.46**	2.2	0.71	0.31	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV141-025-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-014

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00793

Initial Pressure (psig): -2.57 Final Pressure (psig): 5.43

Container Dilution Factor: 1.66

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.4	4.6	1.4	0.62	**U**
75-27-4	Bromodichloromethane	**0.32**	2.2	0.71	0.32	**J**
79-01-6	Trichloroethene	0.71	2.2	0.71	0.30	**U**
123-91-1	1,4-Dioxane	**7.6**	2.2	0.71	0.26	
142-82-5	n-Heptane	1.3	2.2	1.3	0.35	**U**
108-10-1	4-Methyl-2-pentanone	0.71	2.2	0.71	0.30	**U**
108-88-3	Toluene	**0.30**	2.2	0.71	0.27	**J**
591-78-6	2-Hexanone	**0.67**	2.2	0.71	0.27	**J**
124-48-1	Dibromochloromethane	0.71	2.2	0.71	0.29	**U**
106-93-4	1,2-Dibromoethane	0.71	2.2	0.71	0.26	**U**
127-18-4	Tetrachloroethene	**3.4**	2.2	0.71	0.29	
100-41-4	Ethylbenzene	0.71	2.2	0.71	0.31	**U**
179601-23-1	m,p-Xylenes	1.4	4.6	1.4	0.58	**U**
75-25-2	Bromoform	**0.53**	2.2	1.3	0.46	**J**
100-42-5	Styrene	1.3	2.2	1.3	0.36	**U**
95-47-6	o-Xylene	0.71	2.2	0.71	0.32	**U**
108-67-8	1,3,5-Trimethylbenzene	0.71	2.2	0.71	0.32	**U**
95-63-6	1,2,4-Trimethylbenzene	0.71	2.2	0.71	0.31	**U**
120-82-1	1,2,4-Trichlorobenzene	1.3	2.2	1.3	0.54	**U**
91-20-3	Naphthalene	1.3	2.2	1.3	0.54	**U**
1330-20-7	Xylenes, Total	1.4	4.6	1.4	0.58	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV141-050-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-015

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00167

Initial Pressure (psig): -3.70 Final Pressure (psig): 6.33

Container Dilution Factor: 1.91

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**9.2**	2.5	1.5	0.62	
75-71-8	Dichlorodifluoromethane (CFC 12)	**18**	2.5	1.5	0.42	
74-87-3	Chloromethane	**3.5**	2.5	1.5	0.41	
75-01-4	Vinyl Chloride	0.81	2.6	0.81	0.27	**U**
106-99-0	1,3-Butadiene	1.5	2.5	1.5	0.42	**U**
75-00-3	Chloroethane	**0.78**	2.6	1.5	0.32	**J**
64-17-5	Ethanol	**95**	25	4.0	1.8	
67-64-1	Acetone	**74**	25	13	5.7	
75-69-4	Trichlorofluoromethane	**18**	2.5	1.5	0.39	
67-63-0	2-Propanol (Isopropyl Alcohol)	**31**	10	3.0	1.1	
75-09-2	Methylene Chloride	**1.9**	2.5	1.5	0.72	**J**
76-13-1	Trichlorotrifluoroethane	**0.69**	2.6	0.81	0.36	**J**
75-15-0	Carbon Disulfide	**1.2**	5.3	2.6	0.76	**J**
75-34-3	1,1-Dichloroethane	1.6	2.6	1.6	0.37	**U**
78-93-3	2-Butanone (MEK)	**16**	5.3	1.5	0.53	
141-78-6	Ethyl Acetate	**370**	5.3	3.1	1.3	
110-54-3	n-Hexane	**1.3**	2.6	1.5	0.53	**J**
67-66-3	Chloroform	**8.3**	2.6	0.81	0.34	
109-99-9	Tetrahydrofuran (THF)	**0.94**	2.6	0.81	0.32	**J**
107-06-2	1,2-Dichloroethane	0.81	2.6	0.81	0.28	**U**
71-43-2	Benzene	**2.3**	2.5	0.81	0.37	**J**
56-23-5	Carbon Tetrachloride	**0.84**	2.5	0.81	0.35	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV141-050-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-015

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00167

Initial Pressure (psig): -3.70 Final Pressure (psig): 6.33

Container Dilution Factor: 1.91

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**1.4**	5.3	1.6	0.72	**J**
75-27-4	Bromodichloromethane	**1.0**	2.6	0.81	0.37	**J**
79-01-6	Trichloroethene	0.81	2.6	0.81	0.34	**U**
123-91-1	1,4-Dioxane	**1.4**	2.6	0.81	0.30	**J**
142-82-5	n-Heptane	**2.7**	2.6	1.5	0.41	
108-10-1	4-Methyl-2-pentanone	**2.2**	2.5	0.81	0.35	**J**
108-88-3	Toluene	**24**	2.6	0.81	0.31	
591-78-6	2-Hexanone	**1.6**	2.6	0.81	0.32	**J**
124-48-1	Dibromochloromethane	0.81	2.6	0.81	0.33	**U**
106-93-4	1,2-Dibromoethane	0.81	2.6	0.81	0.30	**U**
127-18-4	Tetrachloroethene	**1.3**	2.5	0.81	0.33	**J**
100-41-4	Ethylbenzene	**2.1**	2.6	0.81	0.36	**J**
179601-23-1	m,p-Xylenes	**7.0**	5.3	1.6	0.67	
75-25-2	Bromoform	1.5	2.6	1.5	0.53	**U**
100-42-5	Styrene	**0.94**	2.5	1.5	0.41	**J**
95-47-6	o-Xylene	**2.6**	2.6	0.81	0.37	
108-67-8	1,3,5-Trimethylbenzene	0.81	2.5	0.81	0.37	**U**
95-63-6	1,2,4-Trimethylbenzene	**0.62**	2.6	0.81	0.35	**J**
120-82-1	1,2,4-Trichlorobenzene	1.5	2.6	1.5	0.62	**U**
91-20-3	Naphthalene	1.5	2.5	1.5	0.62	**U**
1330-20-7	Xylenes, Total	**9.7**	5.3	1.6	0.67	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV141-170-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-016

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00954

Initial Pressure (psig): -4.43 Final Pressure (psig): 5.48

Container Dilution Factor: 1.96

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**6.2**	2.6	1.6	0.64	
75-71-8	Dichlorodifluoromethane (CFC 12)	**20**	2.6	1.6	0.43	
74-87-3	Chloromethane	**1.1**	2.6	1.6	0.42	**J**
75-01-4	Vinyl Chloride	0.83	2.6	0.83	0.28	**U**
106-99-0	1,3-Butadiene	1.6	2.6	1.6	0.43	**U**
75-00-3	Chloroethane	1.6	2.6	1.6	0.32	**U**
64-17-5	Ethanol	**36**	25	4.1	1.8	
67-64-1	Acetone	**77**	26	13	5.9	
75-69-4	Trichlorofluoromethane	**24**	2.6	1.6	0.40	
67-63-0	2-Propanol (Isopropyl Alcohol)	**8.1**	10	3.1	1.1	**J**
75-09-2	Methylene Chloride	1.6	2.6	1.6	0.74	**U**
76-13-1	Trichlorotrifluoroethane	**0.89**	2.6	0.83	0.37	**J**
75-15-0	Carbon Disulfide	**6.1**	5.4	2.6	0.78	
75-34-3	1,1-Dichloroethane	1.6	2.7	1.6	0.38	**U**
78-93-3	2-Butanone (MEK)	**17**	5.4	1.6	0.54	
141-78-6	Ethyl Acetate	**200**	5.4	3.2	1.4	
110-54-3	n-Hexane	1.6	2.6	1.6	0.54	**U**
67-66-3	Chloroform	**21**	2.6	0.83	0.35	
109-99-9	Tetrahydrofuran (THF)	**3.5**	2.7	0.83	0.33	
107-06-2	1,2-Dichloroethane	0.83	2.6	0.83	0.29	**U**
71-43-2	Benzene	**1.1**	2.6	0.83	0.38	**J**
56-23-5	Carbon Tetrachloride	**1.0**	2.6	0.83	0.36	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV141-170-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-016

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00954

Initial Pressure (psig): -4.43 Final Pressure (psig): 5.48

Container Dilution Factor: 1.96

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.7	5.4	1.7	0.74	**U**
75-27-4	Bromodichloromethane	**2.8**	2.6	0.83	0.38	
79-01-6	Trichloroethene	**1.2**	2.6	0.83	0.35	**J**
123-91-1	1,4-Dioxane	**1.5**	2.6	0.83	0.31	**J**
142-82-5	n-Heptane	**1.0**	2.6	1.6	0.42	**J**
108-10-1	4-Methyl-2-pentanone	**4.0**	2.6	0.83	0.36	
108-88-3	Toluene	**6.9**	2.6	0.83	0.32	
591-78-6	2-Hexanone	**1.6**	2.6	0.83	0.32	**J**
124-48-1	Dibromochloromethane	0.83	2.6	0.83	0.34	**U**
106-93-4	1,2-Dibromoethane	0.83	2.6	0.83	0.30	**U**
127-18-4	Tetrachloroethene	**2.0**	2.5	0.83	0.34	**J**
100-41-4	Ethylbenzene	**0.88**	2.6	0.83	0.37	**J**
179601-23-1	m,p-Xylenes	**1.1**	5.4	1.7	0.69	**J**
75-25-2	Bromoform	1.6	2.6	1.6	0.54	**U**
100-42-5	Styrene	**1.8**	2.6	1.6	0.42	**J**
95-47-6	o-Xylene	**0.42**	2.6	0.83	0.38	**J**
108-67-8	1,3,5-Trimethylbenzene	0.83	2.6	0.83	0.38	**U**
95-63-6	1,2,4-Trimethylbenzene	0.83	2.6	0.83	0.36	**U**
120-82-1	1,2,4-Trichlorobenzene	1.6	2.6	1.6	0.64	**U**
91-20-3	Naphthalene	1.5	2.5	1.5	0.64	**U**
1330-20-7	Xylenes, Total	**1.5**	5.4	1.7	0.69	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV141-250-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-017

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00276

Initial Pressure (psig): -3.01 Final Pressure (psig): 5.67

Container Dilution Factor: 1.74

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**5.3**	2.3	1.4	0.57	
75-71-8	Dichlorodifluoromethane (CFC 12)	**12**	2.3	1.4	0.38	
74-87-3	Chloromethane	**4.6**	2.3	1.4	0.37	
75-01-4	Vinyl Chloride	0.74	2.3	0.74	0.25	**U**
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.38	**U**
75-00-3	Chloroethane	**1.1**	2.3	1.4	0.29	**J**
64-17-5	Ethanol	**33**	23	3.6	1.6	
67-64-1	Acetone	**120**	23	12	5.2	
75-69-4	Trichlorofluoromethane	**19**	2.3	1.4	0.35	
67-63-0	2-Propanol (Isopropyl Alcohol)	**5.0**	9.1	2.7	0.96	**J**
75-09-2	Methylene Chloride	**0.74**	2.3	1.4	0.65	**J**
76-13-1	Trichlorotrifluoroethane	**0.67**	2.3	0.74	0.33	**J**
75-15-0	Carbon Disulfide	**10**	4.8	2.3	0.70	
75-34-3	1,1-Dichloroethane	1.4	2.4	1.4	0.34	**U**
78-93-3	2-Butanone (MEK)	**25**	4.8	1.4	0.48	
141-78-6	Ethyl Acetate	**370**	4.8	2.8	1.2	
110-54-3	n-Hexane	1.4	2.3	1.4	0.48	**U**
67-66-3	Chloroform	**21**	2.3	0.74	0.31	
109-99-9	Tetrahydrofuran (THF)	**26**	2.4	0.74	0.29	
107-06-2	1,2-Dichloroethane	0.74	2.3	0.74	0.26	**U**
71-43-2	Benzene	**1.9**	2.3	0.74	0.33	**J**
56-23-5	Carbon Tetrachloride	**1.1**	2.3	0.74	0.32	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV141-250-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-017

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00276

Initial Pressure (psig): -3.01 Final Pressure (psig): 5.67

Container Dilution Factor: 1.74

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.5	4.8	1.5	0.65	**U**
75-27-4	Bromodichloromethane	**2.5**	2.3	0.74	0.33	
79-01-6	Trichloroethene	**0.63**	2.3	0.74	0.31	**J**
123-91-1	1,4-Dioxane	**6.4**	2.3	0.74	0.27	
142-82-5	n-Heptane	**0.56**	2.3	1.4	0.37	**J**
108-10-1	4-Methyl-2-pentanone	**1.1**	2.3	0.74	0.32	**J**
108-88-3	Toluene	**10**	2.3	0.74	0.28	
591-78-6	2-Hexanone	**1.7**	2.3	0.74	0.29	**J**
124-48-1	Dibromochloromethane	**0.53**	2.3	0.74	0.30	**J**
106-93-4	1,2-Dibromoethane	0.74	2.3	0.74	0.27	**U**
127-18-4	Tetrachloroethene	**1.8**	2.3	0.74	0.30	**J**
100-41-4	Ethylbenzene	0.74	2.3	0.74	0.33	**U**
179601-23-1	m,p-Xylenes	**0.80**	4.8	1.5	0.61	**J**
75-25-2	Bromoform	1.4	2.3	1.4	0.48	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.37	**U**
95-47-6	o-Xylene	0.74	2.3	0.74	0.33	**U**
108-67-8	1,3,5-Trimethylbenzene	0.74	2.3	0.74	0.33	**U**
95-63-6	1,2,4-Trimethylbenzene	0.74	2.3	0.74	0.32	**U**
120-82-1	1,2,4-Trichlorobenzene	1.4	2.3	1.4	0.57	**U**
91-20-3	Naphthalene	1.3	2.3	1.3	0.57	**U**
1330-20-7	Xylenes, Total	**0.80**	4.8	1.5	0.61	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV141-350-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-018

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00109

Initial Pressure (psig): -4.99 Final Pressure (psig): 6.21

Container Dilution Factor: 2.15

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**2.6**	2.8	1.7	0.70	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**6.0**	2.8	1.7	0.47	
74-87-3	Chloromethane	**2.3**	2.8	1.7	0.46	**J**
75-01-4	Vinyl Chloride	0.91	2.9	0.91	0.31	**U**
106-99-0	1,3-Butadiene	1.7	2.8	1.7	0.47	**U**
75-00-3	Chloroethane	**0.43**	2.9	1.7	0.35	**J**
64-17-5	Ethanol	**7.5**	28	4.5	2.0	**J**
67-64-1	Acetone	**39**	28	15	6.5	
75-69-4	Trichlorofluoromethane	**10**	2.8	1.7	0.44	
67-63-0	2-Propanol (Isopropyl Alcohol)	3.4	11	3.4	1.2	**U**
75-09-2	Methylene Chloride	1.7	2.8	1.7	0.81	**U**
76-13-1	Trichlorotrifluoroethane	0.91	2.9	0.91	0.41	**U**
75-15-0	Carbon Disulfide	**11**	5.9	2.9	0.86	
75-34-3	1,1-Dichloroethane	1.8	3.0	1.8	0.42	**U**
78-93-3	2-Butanone (MEK)	**6.8**	5.9	1.7	0.59	
141-78-6	Ethyl Acetate	**1.8**	5.9	3.5	1.5	**J**
110-54-3	n-Hexane	1.7	2.9	1.7	0.59	**U**
67-66-3	Chloroform	**8.9**	2.9	0.91	0.38	
109-99-9	Tetrahydrofuran (THF)	**31**	3.0	0.91	0.36	
107-06-2	1,2-Dichloroethane	0.91	2.9	0.91	0.32	**U**
71-43-2	Benzene	**1.3**	2.8	0.91	0.41	**J**
56-23-5	Carbon Tetrachloride	**0.71**	2.8	0.91	0.40	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV141-350-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-018

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00109

Initial Pressure (psig): -4.99 Final Pressure (psig): 6.21

Container Dilution Factor: 2.15

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.8	5.9	1.8	0.81	**U**
75-27-4	Bromodichloromethane	**1.8**	2.9	0.91	0.41	**J**
79-01-6	Trichloroethene	0.91	2.9	0.91	0.39	**U**
123-91-1	1,4-Dioxane	0.91	2.9	0.91	0.34	**U**
142-82-5	n-Heptane	1.7	2.9	1.7	0.46	**U**
108-10-1	4-Methyl-2-pentanone	**0.58**	2.8	0.91	0.39	**J**
108-88-3	Toluene	**2.1**	2.9	0.91	0.35	**J**
591-78-6	2-Hexanone	0.91	2.9	0.91	0.35	**U**
124-48-1	Dibromochloromethane	0.91	2.9	0.91	0.38	**U**
106-93-4	1,2-Dibromoethane	0.91	2.9	0.91	0.33	**U**
127-18-4	Tetrachloroethene	**0.68**	2.8	0.91	0.37	**J**
100-41-4	Ethylbenzene	0.91	2.9	0.91	0.40	**U**
179601-23-1	m,p-Xylenes	**0.99**	5.9	1.8	0.75	**J**
75-25-2	Bromoform	1.7	2.9	1.7	0.59	**U**
100-42-5	Styrene	1.7	2.8	1.7	0.46	**U**
95-47-6	o-Xylene	0.91	2.9	0.91	0.41	**U**
108-67-8	1,3,5-Trimethylbenzene	0.91	2.8	0.91	0.41	**U**
95-63-6	1,2,4-Trimethylbenzene	**0.40**	2.9	0.91	0.40	**J**
120-82-1	1,2,4-Trichlorobenzene	1.7	2.9	1.7	0.70	**U**
91-20-3	Naphthalene	1.7	2.8	1.7	0.70	**U**
1330-20-7	Xylenes, Total	**0.99**	5.9	1.8	0.75	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV141-450-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-019

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00991

Initial Pressure (psig): -4.77 Final Pressure (psig): 5.92

Container Dilution Factor: 2.08

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**3.8**	2.8	1.7	0.68	
75-71-8	Dichlorodifluoromethane (CFC 12)	**4.0**	2.8	1.7	0.45	
74-87-3	Chloromethane	**17**	2.8	1.7	0.45	
75-01-4	Vinyl Chloride	**7.6**	2.8	0.88	0.30	
106-99-0	1,3-Butadiene	**0.46**	2.8	1.7	0.46	**J**
75-00-3	Chloroethane	**6.1**	2.8	1.7	0.34	
64-17-5	Ethanol	**2.4**	27	4.3	1.9	**J**
67-64-1	Acetone	**38**	28	14	6.2	
75-69-4	Trichlorofluoromethane	**6.4**	2.8	1.7	0.42	
67-63-0	2-Propanol (Isopropyl Alcohol)	**2.3**	11	3.3	1.1	**J**
75-09-2	Methylene Chloride	1.7	2.8	1.7	0.78	**U**
76-13-1	Trichlorotrifluoroethane	0.88	2.8	0.88	0.40	**U**
75-15-0	Carbon Disulfide	**99**	5.7	2.8	0.83	
75-34-3	1,1-Dichloroethane	**5.0**	2.9	1.7	0.41	
78-93-3	2-Butanone (MEK)	**11**	5.7	1.7	0.57	
141-78-6	Ethyl Acetate	3.4	5.7	3.4	1.5	**U**
110-54-3	n-Hexane	1.7	2.8	1.7	0.57	**U**
67-66-3	Chloroform	**2.6**	2.8	0.88	0.37	**J**
109-99-9	Tetrahydrofuran (THF)	**160**	2.9	0.88	0.35	
107-06-2	1,2-Dichloroethane	**2.4**	2.8	0.88	0.31	**J**
71-43-2	Benzene	**1.1**	2.8	0.88	0.40	**J**
56-23-5	Carbon Tetrachloride	**0.66**	2.8	0.88	0.38	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV141-450-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-019

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00991

Initial Pressure (psig): -4.77 Final Pressure (psig): 5.92

Container Dilution Factor: 2.08

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.8	5.7	1.8	0.78	**U**
75-27-4	Bromodichloromethane	0.88	2.8	0.88	0.40	**U**
79-01-6	Trichloroethene	0.88	2.8	0.88	0.37	**U**
123-91-1	1,4-Dioxane	**0.33**	2.8	0.88	0.33	**J**
142-82-5	n-Heptane	**0.77**	2.8	1.7	0.44	**J**
108-10-1	4-Methyl-2-pentanone	**4.8**	2.8	0.88	0.38	
108-88-3	Toluene	**0.60**	2.8	0.88	0.34	**J**
591-78-6	2-Hexanone	0.88	2.8	0.88	0.34	**U**
124-48-1	Dibromochloromethane	0.88	2.8	0.88	0.36	**U**
106-93-4	1,2-Dibromoethane	0.88	2.8	0.88	0.32	**U**
127-18-4	Tetrachloroethene	**0.45**	2.7	0.88	0.36	**J**
100-41-4	Ethylbenzene	0.88	2.8	0.88	0.39	**U**
179601-23-1	m,p-Xylenes	1.8	5.7	1.8	0.73	**U**
75-25-2	Bromoform	1.7	2.8	1.7	0.57	**U**
100-42-5	Styrene	1.7	2.8	1.7	0.45	**U**
95-47-6	o-Xylene	0.88	2.8	0.88	0.40	**U**
108-67-8	1,3,5-Trimethylbenzene	0.88	2.8	0.88	0.40	**U**
95-63-6	1,2,4-Trimethylbenzene	0.88	2.8	0.88	0.38	**U**
120-82-1	1,2,4-Trichlorobenzene	1.7	2.8	1.7	0.68	**U**
91-20-3	Naphthalene	1.6	2.7	1.6	0.68	**U**
1330-20-7	Xylenes, Total	1.8	5.7	1.8	0.73	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVE06-060-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-020

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/17/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00020 Liter(s)
Test Notes:
Container ID: 1SS00907

Initial Pressure (psig): -3.44 Final Pressure (psig): 5.84

Container Dilution Factor: 1.82

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**6,000**	4,800	2,900	1,200	
75-71-8	Dichlorodifluoromethane (CFC 12)	2,900	4,800	2,900	790	**U**
74-87-3	Chloromethane	2,900	4,800	2,900	780	**U**
75-01-4	Vinyl Chloride	1,500	4,900	1,500	520	**U**
106-99-0	1,3-Butadiene	2,900	4,800	2,900	800	**U**
75-00-3	Chloroethane	2,900	4,900	2,900	600	**U**
64-17-5	Ethanol	**14,000**	47,000	7,600	3,400	**J, B**
67-64-1	Acetone	**140,000**	48,000	25,000	11,000	
75-69-4	Trichlorofluoromethane	2,900	4,800	2,900	740	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	**5,400**	19,000	5,700	2,000	**J**
75-09-2	Methylene Chloride	2,900	4,800	2,900	1,400	**U**
76-13-1	Trichlorotrifluoroethane	1,500	4,900	1,500	690	**U**
75-15-0	Carbon Disulfide	4,900	10,000	4,900	1,500	**U**
75-34-3	1,1-Dichloroethane	3,000	5,000	3,000	710	**U**
78-93-3	2-Butanone (MEK)	**36,000**	10,000	2,900	1,000	
141-78-6	Ethyl Acetate	5,900	10,000	5,900	2,500	**U**
110-54-3	n-Hexane	**920,000**	4,900	2,900	1,000	
67-66-3	Chloroform	1,500	4,900	1,500	650	**U**
109-99-9	Tetrahydrofuran (THF)	1,500	5,000	1,500	610	**U**
107-06-2	1,2-Dichloroethane	1,500	4,900	1,500	540	**U**
71-43-2	Benzene	**170,000**	4,800	1,500	700	
56-23-5	Carbon Tetrachloride	1,500	4,800	1,500	670	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVE06-060-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-020

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/17/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00020 Liter(s)
Test Notes:
Container ID: 1SS00907

Initial Pressure (psig): -3.44 Final Pressure (psig): 5.84

Container Dilution Factor: 1.82

CAS #	Compound	Result µg/m³		LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**920,000**		10,000	3,100	1,400	
75-27-4	Bromodichloromethane		1,500	4,900	1,500	700	**U**
79-01-6	Trichloroethene		1,500	4,900	1,500	660	**U**
123-91-1	1,4-Dioxane		1,500	4,900	1,500	570	**U**
142-82-5	n-Heptane	**910,000**		4,900	2,900	770	
108-10-1	4-Methyl-2-pentanone		1,500	4,800	1,500	660	**U**
108-88-3	Toluene	**390,000**		4,900	1,500	590	
591-78-6	2-Hexanone		1,500	4,900	1,500	600	**U**
124-48-1	Dibromochloromethane		1,500	4,900	1,500	640	**U**
106-93-4	1,2-Dibromoethane		1,500	4,900	1,500	560	**U**
127-18-4	Tetrachloroethene		1,500	4,700	1,500	630	**U**
100-41-4	Ethylbenzene	**77,000**		4,900	1,500	680	
179601-23-1	m,p-Xylenes	**77,000**		10,000	3,100	1,300	
75-25-2	Bromoform		2,900	4,900	2,900	1,000	**U**
100-42-5	Styrene		2,900	4,800	2,900	780	**U**
95-47-6	o-Xylene	**27,000**		4,900	1,500	700	
108-67-8	1,3,5-Trimethylbenzene	**6,400**		4,800	1,500	700	
95-63-6	1,2,4-Trimethylbenzene	**18,000**		4,900	1,500	670	
120-82-1	1,2,4-Trichlorobenzene		2,900	4,900	2,900	1,200	**U**
91-20-3	Naphthalene		2,800	4,700	2,800	1,200	**U**
1330-20-7	Xylenes, Total	**100,000**		10,000	3,100	1,300	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVE06-060-602** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-021

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/17/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00020 Liter(s)
Test Notes: 0.00010 Liter(s)
Container ID: 1SC00531

Initial Pressure (psig): -3.28 Final Pressure (psig): 5.81

Container Dilution Factor: 1.80

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**7,500**	4,800	2,900	1,200	
75-71-8	Dichlorodifluoromethane (CFC 12)	2,900	4,800	2,900	780	**U**
74-87-3	Chloromethane	2,900	4,800	2,900	770	**U**
75-01-4	Vinyl Chloride	1,500	4,900	1,500	510	**U**
106-99-0	1,3-Butadiene	2,900	4,800	2,900	790	**U**
75-00-3	Chloroethane	2,900	4,900	2,900	590	**U**
64-17-5	Ethanol	**15,000**	47,000	7,500	3,300	**J, B**
67-64-1	Acetone	**160,000**	48,000	24,000	11,000	
75-69-4	Trichlorofluoromethane	2,900	4,800	2,900	730	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	**5,300**	19,000	5,700	2,000	**J**
75-09-2	Methylene Chloride	2,900	4,800	2,900	1,400	**U**
76-13-1	Trichlorotrifluoroethane	1,500	4,900	1,500	680	**U**
75-15-0	Carbon Disulfide	4,900	9,900	4,900	1,400	**U**
75-34-3	1,1-Dichloroethane	3,000	5,000	3,000	700	**U**
78-93-3	2-Butanone (MEK)	**41,000**	9,900	2,900	990	
141-78-6	Ethyl Acetate	5,900	9,900	5,900	2,500	**U**
110-54-3	n-Hexane	**930,000**	9,700	5,800	2,000	**D**
67-66-3	Chloroform	1,500	4,900	1,500	640	**U**
109-99-9	Tetrahydrofuran (THF)	1,500	5,000	1,500	600	**U**
107-06-2	1,2-Dichloroethane	1,500	4,900	1,500	530	**U**
71-43-2	Benzene	**200,000**	4,800	1,500	690	
56-23-5	Carbon Tetrachloride	1,500	4,800	1,500	670	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVE06-060-602** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-021

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/17/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00020 Liter(s)
Test Notes: 0.00010 Liter(s)
Container ID: 1SC00531

Initial Pressure (psig): -3.28 Final Pressure (psig): 5.81

Container Dilution Factor: 1.80

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**1,100,000**	9,900	3,100	1,400	
75-27-4	Bromodichloromethane	1,500	4,900	1,500	690	**U**
79-01-6	Trichloroethene	1,500	4,900	1,500	650	**U**
123-91-1	1,4-Dioxane	1,500	4,900	1,500	570	**U**
142-82-5	n-Heptane	**980,000**	9,700	5,800	1,500	**D**
108-10-1	4-Methyl-2-pentanone	1,500	4,800	1,500	660	**U**
108-88-3	Toluene	**480,000**	4,900	1,500	590	
591-78-6	2-Hexanone	1,500	4,900	1,500	590	**U**
124-48-1	Dibromochloromethane	1,500	4,900	1,500	630	**U**
106-93-4	1,2-Dibromoethane	1,500	4,900	1,500	560	**U**
127-18-4	Tetrachloroethene	1,500	4,700	1,500	620	**U**
100-41-4	Ethylbenzene	**110,000**	4,900	1,500	680	
179601-23-1	m,p-Xylenes	**110,000**	9,900	3,100	1,300	
75-25-2	Bromoform	2,900	4,900	2,900	990	**U**
100-42-5	Styrene	2,900	4,800	2,900	770	**U**
95-47-6	o-Xylene	**39,000**	4,900	1,500	690	
108-67-8	1,3,5-Trimethylbenzene	**10,000**	4,800	1,500	690	
95-63-6	1,2,4-Trimethylbenzene	**30,000**	4,900	1,500	670	
120-82-1	1,2,4-Trichlorobenzene	2,900	4,900	2,900	1,200	**U**
91-20-3	Naphthalene	2,800	4,700	2,800	1,200	**U**
1330-20-7	Xylenes, Total	**150,000**	9,900	3,100	1,300	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200417-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 4/17/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	0.32	0.53	0.32	0.13	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.32	0.53	0.32	0.087	**U**
74-87-3	Chloromethane	0.32	0.53	0.32	0.086	**U**
75-01-4	Vinyl Chloride	0.17	0.54	0.17	0.057	**U**
106-99-0	1,3-Butadiene	0.32	0.53	0.32	0.088	**U**
75-00-3	Chloroethane	0.32	0.54	0.32	0.066	**U**
64-17-5	Ethanol	**0.48**	5.2	0.83	0.37	**J**
67-64-1	Acetone	2.7	5.3	2.7	1.2	**U**
75-69-4	Trichlorofluoromethane	0.32	0.53	0.32	0.081	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.63	2.1	0.63	0.22	**U**
75-09-2	Methylene Chloride	0.32	0.53	0.32	0.15	**U**
76-13-1	Trichlorotrifluoroethane	0.17	0.54	0.17	0.076	**U**
75-15-0	Carbon Disulfide	0.54	1.1	0.54	0.16	**U**
75-34-3	1,1-Dichloroethane	0.33	0.55	0.33	0.078	**U**
78-93-3	2-Butanone (MEK)	0.32	1.1	0.32	0.11	**U**
141-78-6	Ethyl Acetate	0.65	1.1	0.65	0.28	**U**
110-54-3	n-Hexane	0.32	0.54	0.32	0.11	**U**
67-66-3	Chloroform	0.17	0.54	0.17	0.071	**U**
109-99-9	Tetrahydrofuran (THF)	0.17	0.55	0.17	0.067	**U**
107-06-2	1,2-Dichloroethane	0.17	0.54	0.17	0.059	**U**
71-43-2	Benzene	0.17	0.53	0.17	0.077	**U**
56-23-5	Carbon Tetrachloride	0.17	0.53	0.17	0.074	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200417-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 4/17/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	0.34	1.1	0.34	0.15	U
75-27-4	Bromodichloromethane	0.17	0.54	0.17	0.077	U
79-01-6	Trichloroethene	0.17	0.54	0.17	0.072	U
123-91-1	1,4-Dioxane	0.17	0.54	0.17	0.063	U
142-82-5	n-Heptane	0.32	0.54	0.32	0.085	U
108-10-1	4-Methyl-2-pentanone	0.17	0.53	0.17	0.073	U
108-88-3	Toluene	0.17	0.54	0.17	0.065	U
591-78-6	2-Hexanone	0.17	0.54	0.17	0.066	U
124-48-1	Dibromochloromethane	0.17	0.54	0.17	0.070	U
106-93-4	1,2-Dibromoethane	0.17	0.54	0.17	0.062	U
127-18-4	Tetrachloroethene	0.17	0.52	0.17	0.069	U
100-41-4	Ethylbenzene	0.17	0.54	0.17	0.075	U
179601-23-1	m,p-Xylenes	0.34	1.1	0.34	0.14	U
75-25-2	Bromoform	0.32	0.54	0.32	0.11	U
100-42-5	Styrene	0.32	0.53	0.32	0.086	U
95-47-6	o-Xylene	0.17	0.54	0.17	0.077	U
108-67-8	1,3,5-Trimethylbenzene	0.17	0.53	0.17	0.077	U
95-63-6	1,2,4-Trimethylbenzene	0.17	0.54	0.17	0.074	U
120-82-1	1,2,4-Trichlorobenzene	0.32	0.54	0.32	0.13	U
91-20-3	Naphthalene	0.31	0.52	0.31	0.13	U
1330-20-7	Xylenes, Total	0.34	1.1	0.34	0.14	U

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200420-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	0.32	0.53	0.32	0.13	U
75-71-8	Dichlorodifluoromethane (CFC 12)	0.32	0.53	0.32	0.087	U
74-87-3	Chloromethane	0.32	0.53	0.32	0.086	U
75-01-4	Vinyl Chloride	0.17	0.54	0.17	0.057	U
106-99-0	1,3-Butadiene	0.32	0.53	0.32	0.088	U
75-00-3	Chloroethane	0.32	0.54	0.32	0.066	U
64-17-5	Ethanol	0.83	5.2	0.83	0.37	U
67-64-1	Acetone	2.7	5.3	2.7	1.2	U
75-69-4	Trichlorofluoromethane	0.32	0.53	0.32	0.081	U
67-63-0	2-Propanol (Isopropyl Alcohol)	0.63	2.1	0.63	0.22	U
75-09-2	Methylene Chloride	0.32	0.53	0.32	0.15	U
76-13-1	Trichlorotrifluoroethane	0.17	0.54	0.17	0.076	U
75-15-0	Carbon Disulfide	0.54	1.1	0.54	0.16	U
75-34-3	1,1-Dichloroethane	0.33	0.55	0.33	0.078	U
78-93-3	2-Butanone (MEK)	0.32	1.1	0.32	0.11	U
141-78-6	Ethyl Acetate	0.65	1.1	0.65	0.28	U
110-54-3	n-Hexane	0.32	0.54	0.32	0.11	U
67-66-3	Chloroform	0.17	0.54	0.17	0.071	U
109-99-9	Tetrahydrofuran (THF)	0.17	0.55	0.17	0.067	U
107-06-2	1,2-Dichloroethane	0.17	0.54	0.17	0.059	U
71-43-2	Benzene	0.17	0.53	0.17	0.077	U
56-23-5	Carbon Tetrachloride	0.17	0.53	0.17	0.074	U

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200420-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	0.34	1.1	0.34	0.15	U
75-27-4	Bromodichloromethane	0.17	0.54	0.17	0.077	U
79-01-6	Trichloroethene	0.17	0.54	0.17	0.072	U
123-91-1	1,4-Dioxane	0.17	0.54	0.17	0.063	U
142-82-5	n-Heptane	0.32	0.54	0.32	0.085	U
108-10-1	4-Methyl-2-pentanone	0.17	0.53	0.17	0.073	U
108-88-3	Toluene	0.17	0.54	0.17	0.065	U
591-78-6	2-Hexanone	0.17	0.54	0.17	0.066	U
124-48-1	Dibromochloromethane	0.17	0.54	0.17	0.070	U
106-93-4	1,2-Dibromoethane	0.17	0.54	0.17	0.062	U
127-18-4	Tetrachloroethene	0.17	0.52	0.17	0.069	U
100-41-4	Ethylbenzene	0.17	0.54	0.17	0.075	U
179601-23-1	m,p-Xylenes	0.34	1.1	0.34	0.14	U
75-25-2	Bromoform	0.32	0.54	0.32	0.11	U
100-42-5	Styrene	0.32	0.53	0.32	0.086	U
95-47-6	o-Xylene	0.17	0.54	0.17	0.077	U
108-67-8	1,3,5-Trimethylbenzene	0.17	0.53	0.17	0.077	U
95-63-6	1,2,4-Trimethylbenzene	0.17	0.54	0.17	0.074	U
120-82-1	1,2,4-Trichlorobenzene	0.32	0.54	0.32	0.13	U
91-20-3	Naphthalene	0.31	0.52	0.31	0.13	U
1330-20-7	Xylenes, Total	0.34	1.1	0.34	0.14	U

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Project ID: P2002028

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date(s) Collected: 4/7 - 4/8/20
Analyst: Wida Ang Date(s) Received: 4/14/20
Sampling Media: 1.0 L Summa Canister(s) / 1.0 L Silonite Summa Canister(s) Date(s) Analyzed: 4/17 - 4/20/20
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P200417-MB	**102**	**97**	**91**	70-130	
Method Blank	P200420-MB	**102**	**97**	**89**	70-130	
Lab Control Sample	P200417-LCS	**96**	**96**	**101**	70-130	
Lab Control Sample	P200420-LCS	**95**	**96**	**100**	70-130	
Duplicate Lab Control Sample	P200417-DLCS	**95**	**96**	**101**	70-130	
Duplicate Lab Control Sample	P200420-DLCS	**95**	**97**	**100**	70-130	
SV136-025-202	P2002028-001	**104**	**94**	**88**	70-130	
SV136-050-202	P2002028-002	**104**	**94**	**88**	70-130	
SV136-150-202	P2002028-003	**104**	**96**	**90**	70-130	
SV136-250-202	P2002028-004	**105**	**95**	**89**	70-130	
SV136-350-202	P2002028-005	**104**	**95**	**88**	70-130	
SV136-450-202	P2002028-006	**102**	**96**	**89**	70-130	
SV138-025-202	P2002028-007	**101**	**97**	**90**	70-130	
SV138-050-202	P2002028-008	**103**	**94**	**91**	70-130	
SV138-150-202	P2002028-009	**101**	**97**	**90**	70-130	
SV138-150-602	P2002028-010	**103**	**97**	**88**	70-130	
SV138-250-202	P2002028-011	**102**	**95**	**90**	70-130	
SV138-350-202	P2002028-012	**103**	**96**	**91**	70-130	
SV138-450-202	P2002028-013	**102**	**97**	**90**	70-130	
SV141-025-202	P2002028-014	**102**	**94**	**91**	70-130	
SV141-050-202	P2002028-015	**101**	**94**	**96**	70-130	
SV141-170-202	P2002028-016	**100**	**94**	**93**	70-130	
SV141-250-202	P2002028-017	**100**	**94**	**94**	70-130	
SV141-350-202	P2002028-018	**101**	**95**	**91**	70-130	
SV141-450-202	P2002028-019	**100**	**97**	**90**	70-130	
SVE06-060-202	P2002028-020	**103**	**96**	**96**	70-130	
SVE06-060-602	P2002028-021	**102**	**95**	**97**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200417-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 4/17/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	210	208	216	**99**	**103**	57-136	4	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	190	198	**90**	**94**	59-128	4	25	
74-87-3	Chloromethane	212	184	191	**87**	**90**	59-132	3	25	
75-01-4	Vinyl Chloride	212	197	200	**93**	**94**	64-127	1	25	
106-99-0	1,3-Butadiene	212	179	185	**84**	**87**	66-134	4	25	
75-00-3	Chloroethane	214	195	204	**91**	**95**	63-127	4	25	
64-17-5	Ethanol	1,060	963	993	**91**	**94**	59-125	3	25	
67-64-1	Acetone	1,070	1060	1070	**99**	**100**	58-128	1	25	
75-69-4	Trichlorofluoromethane	212	194	196	**92**	**92**	62-126	0	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	422	426	436	**101**	**103**	52-125	2	25	
75-09-2	Methylene Chloride	210	204	206	**97**	**98**	62-115	1	25	
76-13-1	Trichlorotrifluoroethane	216	194	199	**90**	**92**	66-126	2	25	
75-15-0	Carbon Disulfide	212	208	209	**98**	**99**	57-134	1	25	
75-34-3	1,1-Dichloroethane	212	198	200	**93**	**94**	68-126	1	25	
78-93-3	2-Butanone (MEK)	212	222	219	**105**	**103**	67-130	2	25	
141-78-6	Ethyl Acetate	432	484	482	**112**	**112**	65-128	0	25	
110-54-3	n-Hexane	216	228	225	**106**	**104**	63-120	2	25	
67-66-3	Chloroform	214	201	200	**94**	**93**	68-123	1	25	
109-99-9	Tetrahydrofuran (THF)	220	207	207	**94**	**94**	64-123	0	25	
107-06-2	1,2-Dichloroethane	214	195	194	**91**	**91**	65-128	0	25	
71-43-2	Benzene	210	199	199	**95**	**95**	69-119	0	25	
56-23-5	Carbon Tetrachloride	208	202	203	**97**	**98**	68-132	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200417-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 4/17/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	422	416	416	**99**	**99**	70-117	0	25	
75-27-4	Bromodichloromethane	218	210	212	**96**	**97**	72-128	1	25	
79-01-6	Trichloroethene	216	185	185	**86**	**86**	71-123	0	25	
123-91-1	1,4-Dioxane	216	207	210	**96**	**97**	71-122	1	25	
142-82-5	n-Heptane	214	214	215	**100**	**100**	69-123	0	25	
108-10-1	4-Methyl-2-pentanone	212	225	228	**106**	**108**	67-130	2	25	
108-88-3	Toluene	212	195	199	**92**	**94**	66-119	2	25	
591-78-6	2-Hexanone	216	219	221	**101**	**102**	62-128	1	25	
124-48-1	Dibromochloromethane	214	222	226	**104**	**106**	70-130	2	25	
106-93-4	1,2-Dibromoethane	214	218	222	**102**	**104**	74-122	2	25	
127-18-4	Tetrachloroethene	208	192	197	**92**	**95**	66-124	3	25	
100-41-4	Ethylbenzene	212	212	213	**100**	**100**	70-124	0	25	
179601-23-1	m,p-Xylenes	426	422	423	**99**	**99**	61-134	0	25	
75-25-2	Bromoform	214	212	216	**99**	**101**	66-139	2	25	
100-42-5	Styrene	212	203	203	**96**	**96**	73-127	0	25	
95-47-6	o-Xylene	214	209	209	**98**	**98**	67-125	0	25	
108-67-8	1,3,5-Trimethylbenzene	212	205	204	**97**	**96**	67-130	1	25	
95-63-6	1,2,4-Trimethylbenzene	212	220	219	**104**	**103**	66-132	1	25	
120-82-1	1,2,4-Trichlorobenzene	216	237	244	**110**	**113**	55-142	3	25	
91-20-3	Naphthalene	212	231	230	**109**	**108**	57-138	0.9	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200420-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	210	206	198	**98**	**94**	57-136	4	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	187	181	**89**	**86**	59-128	3	25	
74-87-3	Chloromethane	212	179	160	**84**	**75**	59-132	11	25	
75-01-4	Vinyl Chloride	212	195	188	**92**	**89**	64-127	3	25	
106-99-0	1,3-Butadiene	212	179	173	**84**	**82**	66-134	2	25	
75-00-3	Chloroethane	214	193	188	**90**	**88**	63-127	2	25	
64-17-5	Ethanol	1,060	946	916	**89**	**86**	59-125	3	25	
67-64-1	Acetone	1,070	1070	1000	**100**	**93**	58-128	7	25	
75-69-4	Trichlorofluoromethane	212	191	183	**90**	**86**	62-126	5	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	422	422	408	**100**	**97**	52-125	3	25	
75-09-2	Methylene Chloride	210	205	192	**98**	**91**	62-115	7	25	
76-13-1	Trichlorotrifluoroethane	216	191	185	**88**	**86**	66-126	2	25	
75-15-0	Carbon Disulfide	212	208	197	**98**	**93**	57-134	5	25	
75-34-3	1,1-Dichloroethane	212	198	188	**93**	**89**	68-126	4	25	
78-93-3	2-Butanone (MEK)	212	220	209	**104**	**99**	67-130	5	25	
141-78-6	Ethyl Acetate	432	488	454	**113**	**105**	65-128	7	25	
110-54-3	n-Hexane	216	227	213	**105**	**99**	63-120	6	25	
67-66-3	Chloroform	214	200	188	**93**	**88**	68-123	6	25	
109-99-9	Tetrahydrofuran (THF)	220	207	196	**94**	**89**	64-123	5	25	
107-06-2	1,2-Dichloroethane	214	193	182	**90**	**85**	65-128	6	25	
71-43-2	Benzene	210	202	188	**96**	**90**	69-119	6	25	
56-23-5	Carbon Tetrachloride	208	201	189	**97**	**91**	68-132	6	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200420-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	422	418	390	**99**	**92**	70-117	7	25	
75-27-4	Bromodichloromethane	218	211	199	**97**	**91**	72-128	6	25	
79-01-6	Trichloroethene	216	185	174	**86**	**81**	71-123	6	25	
123-91-1	1,4-Dioxane	216	208	195	**96**	**90**	71-122	6	25	
142-82-5	n-Heptane	214	215	202	**100**	**94**	69-123	6	25	
108-10-1	4-Methyl-2-pentanone	212	228	214	**108**	**101**	67-130	7	25	
108-88-3	Toluene	212	200	189	**94**	**89**	66-119	5	25	
591-78-6	2-Hexanone	216	223	210	**103**	**97**	62-128	6	25	
124-48-1	Dibromochloromethane	214	226	215	**106**	**100**	70-130	6	25	
106-93-4	1,2-Dibromoethane	214	222	211	**104**	**99**	74-122	5	25	
127-18-4	Tetrachloroethene	208	195	187	**94**	**90**	66-124	4	25	
100-41-4	Ethylbenzene	212	217	204	**102**	**96**	70-124	6	25	
179601-23-1	m,p-Xylenes	426	431	404	**101**	**95**	61-134	6	25	
75-25-2	Bromoform	214	216	206	**101**	**96**	66-139	5	25	
100-42-5	Styrene	212	207	194	**98**	**92**	73-127	6	25	
95-47-6	o-Xylene	214	213	200	**100**	**93**	67-125	7	25	
108-67-8	1,3,5-Trimethylbenzene	212	207	195	**98**	**92**	67-130	6	25	
95-63-6	1,2,4-Trimethylbenzene	212	224	210	**106**	**99**	66-132	7	25	
120-82-1	1,2,4-Trichlorobenzene	216	242	234	**112**	**108**	55-142	4	25	
91-20-3	Naphthalene	212	234	220	**110**	**104**	57-138	6	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV136-025-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-001

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/17/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01228

Initial Pressure (psig): -3.33 Final Pressure (psig): 5.86

Container Dilution Factor: 1.81

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.45**	1.4	0.84	0.34	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.56**	0.49	0.29	0.080	
74-87-3	Chloromethane	0.70	1.2	0.70	0.19	**U**
75-01-4	Vinyl Chloride	0.30	0.96	0.30	0.10	**U**
106-99-0	1,3-Butadiene	0.65	1.1	0.65	0.18	**U**
75-00-3	Chloroethane	0.55	0.93	0.55	0.11	**U**
64-17-5	Ethanol	**2.2**	12	2.0	0.89	**J, B**
67-64-1	Acetone	**5.1**	10	5.1	2.3	**J**
75-69-4	Trichlorofluoromethane	**0.25**	0.43	0.26	0.065	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.2	3.9	1.2	0.41	**U**
75-09-2	Methylene Chloride	0.42	0.69	0.42	0.20	**U**
76-13-1	Trichlorotrifluoroethane	**0.070**	0.32	0.10	0.045	**J**
75-15-0	Carbon Disulfide	0.78	1.6	0.78	0.23	**U**
75-34-3	1,1-Dichloroethane	0.37	0.62	0.37	0.087	**U**
78-93-3	2-Butanone (MEK)	**0.37**	1.7	0.49	0.17	**J**
141-78-6	Ethyl Acetate	0.82	1.4	0.82	0.35	**U**
110-54-3	n-Hexane	0.41	0.69	0.41	0.14	**U**
67-66-3	Chloroform	**1.6**	0.50	0.16	0.066	
109-99-9	Tetrahydrofuran (THF)	**0.28**	0.84	0.26	0.10	**J**
107-06-2	1,2-Dichloroethane	0.19	0.60	0.19	0.066	**U**
71-43-2	Benzene	**0.11**	0.75	0.24	0.11	**J**
56-23-5	Carbon Tetrachloride	0.12	0.38	0.12	0.053	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV136-025-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-001

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/17/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01228

Initial Pressure (psig): -3.33 Final Pressure (psig): 5.86

Container Dilution Factor: 1.81

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.45	1.4	0.45	0.20	**U**
75-27-4	Bromodichloromethane	**0.21**	0.36	0.11	0.052	**J**
79-01-6	Trichloroethene	0.14	0.45	0.14	0.061	**U**
123-91-1	1,4-Dioxane	0.21	0.68	0.21	0.079	**U**
142-82-5	n-Heptane	0.35	0.60	0.35	0.094	**U**
108-10-1	4-Methyl-2-pentanone	0.19	0.59	0.19	0.081	**U**
108-88-3	Toluene	**0.20**	0.65	0.20	0.078	**J**
591-78-6	2-Hexanone	0.19	0.60	0.19	0.073	**U**
124-48-1	Dibromochloromethane	0.090	0.29	0.090	0.037	**U**
106-93-4	1,2-Dibromoethane	0.10	0.32	0.10	0.037	**U**
127-18-4	Tetrachloroethene	0.11	0.35	0.11	0.046	**U**
100-41-4	Ethylbenzene	0.18	0.56	0.18	0.078	**U**
179601-23-1	m,p-Xylenes	0.35	1.1	0.35	0.15	**U**
75-25-2	Bromoform	0.14	0.24	0.14	0.048	**U**
100-42-5	Styrene	0.34	0.56	0.34	0.091	**U**
95-47-6	o-Xylene	0.18	0.56	0.18	0.080	**U**
108-67-8	1,3,5-Trimethylbenzene	0.16	0.49	0.16	0.071	**U**
95-63-6	1,2,4-Trimethylbenzene	0.16	0.50	0.16	0.068	**U**
120-82-1	1,2,4-Trichlorobenzene	0.20	0.33	0.20	0.079	**U**
91-20-3	Naphthalene	0.27	0.45	0.27	0.11	**U**
1330-20-7	Xylenes, Total	0.35	1.1	0.35	0.15	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV136-050-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-002

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/17/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00171

Initial Pressure (psig): -4.69 Final Pressure (psig): 6.36

Container Dilution Factor: 2.10

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.98	1.6	0.98	0.40	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.61**	0.56	0.34	0.092	
74-87-3	Chloromethane	0.81	1.3	0.81	0.22	**U**
75-01-4	Vinyl Chloride	0.35	1.1	0.35	0.12	**U**
106-99-0	1,3-Butadiene	0.76	1.3	0.76	0.21	**U**
75-00-3	Chloroethane	0.64	1.1	0.64	0.13	**U**
64-17-5	Ethanol	**2.4**	14	2.3	1.0	**J, B**
67-64-1	Acetone	6.0	12	6.0	2.7	**U**
75-69-4	Trichlorofluoromethane	**0.28**	0.50	0.30	0.076	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.3	4.5	1.3	0.47	**U**
75-09-2	Methylene Chloride	0.48	0.80	0.48	0.23	**U**
76-13-1	Trichlorotrifluoroethane	**0.071**	0.37	0.12	0.052	**J**
75-15-0	Carbon Disulfide	**0.45**	1.9	0.91	0.27	**J**
75-34-3	1,1-Dichloroethane	0.43	0.71	0.43	0.10	**U**
78-93-3	2-Butanone (MEK)	0.57	2.0	0.57	0.20	**U**
141-78-6	Ethyl Acetate	0.95	1.6	0.95	0.41	**U**
110-54-3	n-Hexane	0.48	0.80	0.48	0.16	**U**
67-66-3	Chloroform	**1.9**	0.58	0.18	0.076	
109-99-9	Tetrahydrofuran (THF)	0.30	0.98	0.30	0.12	**U**
107-06-2	1,2-Dichloroethane	0.22	0.70	0.22	0.077	**U**
71-43-2	Benzene	0.28	0.87	0.28	0.13	**U**
56-23-5	Carbon Tetrachloride	0.14	0.44	0.14	0.062	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV136-050-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-002

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/17/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00171

Initial Pressure (psig): -4.69 Final Pressure (psig): 6.36

Container Dilution Factor: 2.10

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.52	1.7	0.52	0.23	**U**
75-27-4	Bromodichloromethane	**0.32**	0.42	0.13	0.060	**J**
79-01-6	Trichloroethene	0.17	0.53	0.17	0.070	**U**
123-91-1	1,4-Dioxane	**0.13**	0.79	0.25	0.092	**J**
142-82-5	n-Heptane	**0.11**	0.69	0.41	0.11	**J**
108-10-1	4-Methyl-2-pentanone	0.22	0.68	0.22	0.094	**U**
108-88-3	Toluene	**0.12**	0.75	0.24	0.091	**J**
591-78-6	2-Hexanone	0.22	0.69	0.22	0.085	**U**
124-48-1	Dibromochloromethane	0.10	0.33	0.10	0.043	**U**
106-93-4	1,2-Dibromoethane	0.12	0.37	0.12	0.042	**U**
127-18-4	Tetrachloroethene	**0.061**	0.40	0.13	0.053	**J**
100-41-4	Ethylbenzene	0.21	0.65	0.21	0.091	**U**
179601-23-1	m,p-Xylenes	0.41	1.3	0.41	0.17	**U**
75-25-2	Bromoform	0.16	0.27	0.16	0.056	**U**
100-42-5	Styrene	0.39	0.65	0.39	0.11	**U**
95-47-6	o-Xylene	0.21	0.65	0.21	0.093	**U**
108-67-8	1,3,5-Trimethylbenzene	0.18	0.57	0.18	0.082	**U**
95-63-6	1,2,4-Trimethylbenzene	0.18	0.58	0.18	0.079	**U**
120-82-1	1,2,4-Trichlorobenzene	0.23	0.38	0.23	0.092	**U**
91-20-3	Naphthalene	0.31	0.52	0.31	0.13	**U**
1330-20-7	Xylenes, Total	0.41	1.3	0.41	0.17	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV136-150-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-003

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/17/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00605

Initial Pressure (psig): -3.12 Final Pressure (psig): 6.63

Container Dilution Factor: 1.84

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.66**	1.4	0.86	0.35	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.71**	0.49	0.30	0.081	
74-87-3	Chloromethane	0.71	1.2	0.71	0.19	**U**
75-01-4	Vinyl Chloride	0.31	0.97	0.31	0.10	**U**
106-99-0	1,3-Butadiene	0.67	1.1	0.67	0.18	**U**
75-00-3	Chloroethane	0.56	0.94	0.56	0.12	**U**
64-17-5	Ethanol	**5.9**	13	2.0	0.90	**J, B**
67-64-1	Acetone	**6.3**	10	5.2	2.3	**J**
75-69-4	Trichlorofluoromethane	**0.51**	0.43	0.26	0.066	
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.73**	3.9	1.2	0.41	**J, V**
75-09-2	Methylene Chloride	0.42	0.70	0.42	0.20	**U**
76-13-1	Trichlorotrifluoroethane	**0.13**	0.32	0.10	0.046	**J**
75-15-0	Carbon Disulfide	**1.2**	1.6	0.80	0.24	**J**
75-34-3	1,1-Dichloroethane	0.38	0.63	0.38	0.089	**U**
78-93-3	2-Butanone (MEK)	**0.91**	1.7	0.50	0.17	**J**
141-78-6	Ethyl Acetate	**2.9**	1.4	0.83	0.36	
110-54-3	n-Hexane	0.42	0.71	0.42	0.14	**U**
67-66-3	Chloroform	**0.20**	0.51	0.16	0.067	**J**
109-99-9	Tetrahydrofuran (THF)	**0.93**	0.86	0.27	0.10	
107-06-2	1,2-Dichloroethane	0.19	0.61	0.19	0.067	**U**
71-43-2	Benzene	0.24	0.76	0.24	0.11	**U**
56-23-5	Carbon Tetrachloride	**0.35**	0.39	0.12	0.054	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.
V = The ending continuing calibration verification standard was outside (biased high) the specified limits for this compound.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV136-150-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-003

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/17/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00605

Initial Pressure (psig): -3.12 Final Pressure (psig): 6.63

Container Dilution Factor: 1.84

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.45	1.5	0.45	0.20	**U**
75-27-4	Bromodichloromethane	0.12	0.37	0.12	0.053	**U**
79-01-6	Trichloroethene	0.15	0.46	0.15	0.062	**U**
123-91-1	1,4-Dioxane	0.22	0.69	0.22	0.080	**U**
142-82-5	n-Heptane	0.36	0.61	0.36	0.095	**U**
108-10-1	4-Methyl-2-pentanone	0.19	0.60	0.19	0.082	**U**
108-88-3	Toluene	**0.29**	0.66	0.21	0.079	**J**
591-78-6	2-Hexanone	**0.10**	0.61	0.19	0.074	**J**
124-48-1	Dibromochloromethane	0.092	0.29	0.092	0.038	**U**
106-93-4	1,2-Dibromoethane	0.10	0.32	0.10	0.037	**U**
127-18-4	Tetrachloroethene	**0.23**	0.35	0.12	0.047	**J**
100-41-4	Ethylbenzene	0.18	0.57	0.18	0.079	**U**
179601-23-1	m,p-Xylenes	0.36	1.2	0.36	0.15	**U**
75-25-2	Bromoform	0.14	0.24	0.14	0.049	**U**
100-42-5	Styrene	0.35	0.57	0.35	0.093	**U**
95-47-6	o-Xylene	0.18	0.57	0.18	0.082	**U**
108-67-8	1,3,5-Trimethylbenzene	0.16	0.50	0.16	0.072	**U**
95-63-6	1,2,4-Trimethylbenzene	0.16	0.51	0.16	0.069	**U**
120-82-1	1,2,4-Trichlorobenzene	0.20	0.33	0.20	0.081	**U**
91-20-3	Naphthalene	0.27	0.46	0.27	0.11	**U**
1330-20-7	Xylenes, Total	0.36	1.2	0.36	0.15	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV136-250-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-004

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/17/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01295

Initial Pressure (psig): -3.86 Final Pressure (psig): 6.21

Container Dilution Factor: 1.93

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.90	1.5	0.90	0.36	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.58**	0.52	0.31	0.085	
74-87-3	Chloromethane	0.75	1.2	0.75	0.20	**U**
75-01-4	Vinyl Chloride	0.32	1.0	0.32	0.11	**U**
106-99-0	1,3-Butadiene	0.70	1.2	0.70	0.19	**U**
75-00-3	Chloroethane	0.59	0.99	0.59	0.12	**U**
64-17-5	Ethanol	**1.2**	13	2.1	0.95	**J, B**
67-64-1	Acetone	**3.0**	11	5.5	2.4	**J**
75-69-4	Trichlorofluoromethane	**0.54**	0.46	0.27	0.070	
67-63-0	2-Propanol (Isopropyl Alcohol)	1.2	4.1	1.2	0.43	**U**
75-09-2	Methylene Chloride	0.44	0.74	0.44	0.21	**U**
76-13-1	Trichlorotrifluoroethane	**0.15**	0.34	0.11	0.048	**J**
75-15-0	Carbon Disulfide	**4.0**	1.7	0.84	0.25	
75-34-3	1,1-Dichloroethane	0.39	0.66	0.39	0.093	**U**
78-93-3	2-Butanone (MEK)	**0.37**	1.8	0.52	0.18	**J**
141-78-6	Ethyl Acetate	0.87	1.5	0.87	0.38	**U**
110-54-3	n-Hexane	0.44	0.74	0.44	0.15	**U**
67-66-3	Chloroform	0.17	0.53	0.17	0.070	**U**
109-99-9	Tetrahydrofuran (THF)	**4.5**	0.90	0.28	0.11	
107-06-2	1,2-Dichloroethane	0.20	0.64	0.20	0.070	**U**
71-43-2	Benzene	0.26	0.80	0.26	0.12	**U**
56-23-5	Carbon Tetrachloride	**0.52**	0.41	0.13	0.057	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV136-250-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-004

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/17/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01295

Initial Pressure (psig): -3.86 Final Pressure (psig): 6.21

Container Dilution Factor: 1.93

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.48	1.5	0.48	0.21	**U**
75-27-4	Bromodichloromethane	0.12	0.39	0.12	0.055	**U**
79-01-6	Trichloroethene	**0.078**	0.49	0.15	0.065	**J**
123-91-1	1,4-Dioxane	**0.10**	0.72	0.23	0.084	**J**
142-82-5	n-Heptane	0.38	0.64	0.38	0.10	**U**
108-10-1	4-Methyl-2-pentanone	0.20	0.62	0.20	0.086	**U**
108-88-3	Toluene	0.22	0.69	0.22	0.083	**U**
591-78-6	2-Hexanone	0.20	0.64	0.20	0.078	**U**
124-48-1	Dibromochloromethane	0.096	0.31	0.096	0.040	**U**
106-93-4	1,2-Dibromoethane	0.11	0.34	0.11	0.039	**U**
127-18-4	Tetrachloroethene	**0.16**	0.37	0.12	0.049	**J**
100-41-4	Ethylbenzene	0.19	0.60	0.19	0.083	**U**
179601-23-1	m,p-Xylenes	0.38	1.2	0.38	0.16	**U**
75-25-2	Bromoform	0.15	0.25	0.15	0.051	**U**
100-42-5	Styrene	0.36	0.60	0.36	0.097	**U**
95-47-6	o-Xylene	0.19	0.60	0.19	0.086	**U**
108-67-8	1,3,5-Trimethylbenzene	0.17	0.52	0.17	0.076	**U**
95-63-6	1,2,4-Trimethylbenzene	0.17	0.53	0.17	0.073	**U**
120-82-1	1,2,4-Trichlorobenzene	0.21	0.35	0.21	0.085	**U**
91-20-3	Naphthalene	0.29	0.48	0.29	0.12	**U**
1330-20-7	Xylenes, Total	0.38	1.2	0.38	0.16	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV136-350-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-005

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/17/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00795

Initial Pressure (psig): -5.08 Final Pressure (psig): 5.70

Container Dilution Factor: 2.12

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.99	1.6	0.99	0.40	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.30**	0.57	0.34	0.093	**J**
74-87-3	Chloromethane	0.82	1.4	0.82	0.22	**U**
75-01-4	Vinyl Chloride	0.35	1.1	0.35	0.12	**U**
106-99-0	1,3-Butadiene	0.77	1.3	0.77	0.21	**U**
75-00-3	Chloroethane	0.64	1.1	0.64	0.13	**U**
64-17-5	Ethanol	**2.2**	15	2.3	1.0	**J, B**
67-64-1	Acetone	**11**	12	6.0	2.7	**J**
75-69-4	Trichlorofluoromethane	**0.23**	0.50	0.30	0.076	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.4	4.5	1.4	0.47	**U**
75-09-2	Methylene Chloride	0.49	0.81	0.49	0.23	**U**
76-13-1	Trichlorotrifluoroethane	**0.061**	0.37	0.12	0.053	**J**
75-15-0	Carbon Disulfide	**2.5**	1.9	0.92	0.27	
75-34-3	1,1-Dichloroethane	0.43	0.72	0.43	0.10	**U**
78-93-3	2-Butanone (MEK)	**0.53**	2.0	0.58	0.20	**J**
141-78-6	Ethyl Acetate	0.96	1.6	0.96	0.41	**U**
110-54-3	n-Hexane	0.48	0.81	0.48	0.17	**U**
67-66-3	Chloroform	0.18	0.59	0.18	0.077	**U**
109-99-9	Tetrahydrofuran (THF)	**7.2**	0.99	0.31	0.12	
107-06-2	1,2-Dichloroethane	0.22	0.71	0.22	0.077	**U**
71-43-2	Benzene	0.28	0.88	0.28	0.13	**U**
56-23-5	Carbon Tetrachloride	**0.29**	0.45	0.14	0.062	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV136-350-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-005

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/17/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00795

Initial Pressure (psig): -5.08 Final Pressure (psig): 5.70

Container Dilution Factor: 2.12

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.52	1.7	0.52	0.23	**U**
75-27-4	Bromodichloromethane	0.13	0.43	0.13	0.061	**U**
79-01-6	Trichloroethene	0.17	0.53	0.17	0.071	**U**
123-91-1	1,4-Dioxane	**0.12**	0.79	0.25	0.093	**J**
142-82-5	n-Heptane	0.41	0.70	0.41	0.11	**U**
108-10-1	4-Methyl-2-pentanone	0.22	0.69	0.22	0.094	**U**
108-88-3	Toluene	0.24	0.76	0.24	0.091	**U**
591-78-6	2-Hexanone	0.22	0.70	0.22	0.085	**U**
124-48-1	Dibromochloromethane	0.11	0.34	0.11	0.044	**U**
106-93-4	1,2-Dibromoethane	0.12	0.37	0.12	0.043	**U**
127-18-4	Tetrachloroethene	**0.056**	0.41	0.13	0.054	**J**
100-41-4	Ethylbenzene	0.21	0.66	0.21	0.092	**U**
179601-23-1	m,p-Xylenes	0.42	1.3	0.42	0.17	**U**
75-25-2	Bromoform	0.16	0.28	0.16	0.056	**U**
100-42-5	Styrene	0.40	0.66	0.40	0.11	**U**
95-47-6	o-Xylene	0.21	0.66	0.21	0.094	**U**
108-67-8	1,3,5-Trimethylbenzene	0.18	0.57	0.18	0.083	**U**
95-63-6	1,2,4-Trimethylbenzene	0.18	0.58	0.18	0.080	**U**
120-82-1	1,2,4-Trichlorobenzene	0.23	0.39	0.23	0.093	**U**
91-20-3	Naphthalene	0.31	0.53	0.31	0.13	**U**
1330-20-7	Xylenes, Total	0.42	1.3	0.42	0.17	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV136-450-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-006

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/17/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00247

Initial Pressure (psig): -3.69 Final Pressure (psig): 6.04

Container Dilution Factor: 1.88

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**4.1**	1.4	0.87	0.36	
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.46**	0.50	0.30	0.083	**J**
74-87-3	Chloromethane	**8.5**	1.2	0.73	0.20	**V**
75-01-4	Vinyl Chloride	**3.8**	0.99	0.31	0.10	
106-99-0	1,3-Butadiene	**0.29**	1.1	0.68	0.19	**J**
75-00-3	Chloroethane	**1.9**	0.96	0.57	0.12	
64-17-5	Ethanol	**18**	13	2.1	0.92	**B**
67-64-1	Acetone	**15**	10	5.3	2.4	
75-69-4	Trichlorofluoromethane	**0.21**	0.44	0.27	0.068	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**4.5**	4.0	1.2	0.42	**V**
75-09-2	Methylene Chloride	**0.29**	0.72	0.43	0.20	**J**
76-13-1	Trichlorotrifluoroethane	**0.058**	0.33	0.10	0.047	**J**
75-15-0	Carbon Disulfide	**54**	1.7	0.82	0.24	
75-34-3	1,1-Dichloroethane	**0.26**	0.64	0.38	0.091	**J**
78-93-3	2-Butanone (MEK)	**3.0**	1.8	0.51	0.18	
141-78-6	Ethyl Acetate	**31**	1.4	0.85	0.37	
110-54-3	n-Hexane	**0.32**	0.72	0.43	0.15	**J**
67-66-3	Chloroform	**0.068**	0.52	0.16	0.068	**J**
109-99-9	Tetrahydrofuran (THF)	**13**	0.88	0.27	0.11	
107-06-2	1,2-Dichloroethane	**0.30**	0.63	0.20	0.069	**J**
71-43-2	Benzene	**0.39**	0.78	0.25	0.11	**J**
56-23-5	Carbon Tetrachloride	**0.091**	0.40	0.13	0.055	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.
V = The ending continuing calibration verification standard was outside (biased high) the specified limits for this compound.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV136-450-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-006

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/17/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00247

Initial Pressure (psig): -3.69 Final Pressure (psig): 6.04

Container Dilution Factor: 1.88

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.46	1.5	0.46	0.20	**U**
75-27-4	Bromodichloromethane	0.12	0.38	0.12	0.054	**U**
79-01-6	Trichloroethene	0.15	0.47	0.15	0.063	**U**
123-91-1	1,4-Dioxane	**0.35**	0.70	0.22	0.082	**J**
142-82-5	n-Heptane	**0.40**	0.62	0.37	0.098	**J**
108-10-1	4-Methyl-2-pentanone	**0.24**	0.61	0.20	0.084	**J**
108-88-3	Toluene	**2.0**	0.67	0.21	0.081	
591-78-6	2-Hexanone	**0.092**	0.62	0.20	0.076	**J**
124-48-1	Dibromochloromethane	0.094	0.30	0.094	0.039	**U**
106-93-4	1,2-Dibromoethane	0.10	0.33	0.10	0.038	**U**
127-18-4	Tetrachloroethene	**0.058**	0.36	0.12	0.048	**J**
100-41-4	Ethylbenzene	**0.12**	0.58	0.18	0.081	**J**
179601-23-1	m,p-Xylenes	**0.35**	1.2	0.37	0.15	**J**
75-25-2	Bromoform	0.15	0.25	0.15	0.050	**U**
100-42-5	Styrene	0.35	0.59	0.35	0.095	**U**
95-47-6	o-Xylene	**0.13**	0.58	0.18	0.083	**J**
108-67-8	1,3,5-Trimethylbenzene	0.16	0.51	0.16	0.074	**U**
95-63-6	1,2,4-Trimethylbenzene	0.16	0.52	0.16	0.071	**U**
120-82-1	1,2,4-Trichlorobenzene	0.20	0.34	0.20	0.082	**U**
91-20-3	Naphthalene	0.28	0.47	0.28	0.12	**U**
1330-20-7	Xylenes, Total	**0.49**	1.2	0.37	0.15	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV138-025-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-007

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00978

Initial Pressure (psig): -4.61 Final Pressure (psig): 5.61

Container Dilution Factor: 2.01

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.93	1.5	0.93	0.38	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.51**	0.54	0.33	0.088	**J**
74-87-3	Chloromethane	0.78	1.3	0.78	0.21	**U**
75-01-4	Vinyl Chloride	0.33	1.1	0.33	0.11	**U**
106-99-0	1,3-Butadiene	0.73	1.2	0.73	0.20	**U**
75-00-3	Chloroethane	0.61	1.0	0.61	0.13	**U**
64-17-5	Ethanol	**3.3**	14	2.2	0.99	**J**
67-64-1	Acetone	**20**	11	5.7	2.5	
75-69-4	Trichlorofluoromethane	**1.6**	0.47	0.29	0.072	
67-63-0	2-Propanol (Isopropyl Alcohol)	1.3	4.3	1.3	0.45	**U**
75-09-2	Methylene Chloride	0.46	0.77	0.46	0.22	**U**
76-13-1	Trichlorotrifluoroethane	**0.060**	0.35	0.11	0.050	**J**
75-15-0	Carbon Disulfide	0.87	1.8	0.87	0.26	**U**
75-34-3	1,1-Dichloroethane	0.41	0.68	0.41	0.097	**U**
78-93-3	2-Butanone (MEK)	**0.77**	1.9	0.55	0.19	**J**
141-78-6	Ethyl Acetate	0.91	1.5	0.91	0.39	**U**
110-54-3	n-Hexane	0.46	0.77	0.46	0.16	**U**
67-66-3	Chloroform	0.17	0.56	0.17	0.073	**U**
109-99-9	Tetrahydrofuran (THF)	**0.14**	0.94	0.29	0.11	**J**
107-06-2	1,2-Dichloroethane	0.21	0.67	0.21	0.073	**U**
71-43-2	Benzene	0.27	0.83	0.27	0.12	**U**
56-23-5	Carbon Tetrachloride	0.14	0.42	0.14	0.059	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV138-025-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-007

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00978

Initial Pressure (psig): -4.61 Final Pressure (psig): 5.61

Container Dilution Factor: 2.01

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.50	1.6	0.50	0.22	**U**
75-27-4	Bromodichloromethane	0.13	0.41	0.13	0.058	**U**
79-01-6	Trichloroethene	0.16	0.51	0.16	0.067	**U**
123-91-1	1,4-Dioxane	**0.13**	0.75	0.24	0.088	**J**
142-82-5	n-Heptane	0.39	0.66	0.39	0.10	**U**
108-10-1	4-Methyl-2-pentanone	**0.096**	0.65	0.21	0.090	**J**
108-88-3	Toluene	**0.13**	0.72	0.23	0.087	**J**
591-78-6	2-Hexanone	**0.11**	0.66	0.21	0.081	**J**
124-48-1	Dibromochloromethane	0.10	0.32	0.10	0.041	**U**
106-93-4	1,2-Dibromoethane	0.11	0.35	0.11	0.041	**U**
127-18-4	Tetrachloroethene	0.13	0.39	0.13	0.051	**U**
100-41-4	Ethylbenzene	0.20	0.62	0.20	0.087	**U**
179601-23-1	m,p-Xylenes	0.39	1.3	0.39	0.16	**U**
75-25-2	Bromoform	0.16	0.26	0.16	0.053	**U**
100-42-5	Styrene	0.38	0.63	0.38	0.10	**U**
95-47-6	o-Xylene	0.20	0.62	0.20	0.089	**U**
108-67-8	1,3,5-Trimethylbenzene	0.17	0.54	0.17	0.079	**U**
95-63-6	1,2,4-Trimethylbenzene	0.17	0.55	0.17	0.076	**U**
120-82-1	1,2,4-Trichlorobenzene	0.22	0.37	0.22	0.088	**U**
91-20-3	Naphthalene	0.30	0.50	0.30	0.12	**U**
1330-20-7	Xylenes, Total	0.39	1.3	0.39	0.16	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV138-050-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-008

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00446

Initial Pressure (psig): -2.27 Final Pressure (psig): 6.82

Container Dilution Factor: 1.73

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.92**	1.3	0.80	0.33	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.60**	0.46	0.28	0.076	
74-87-3	Chloromethane	**0.31**	1.1	0.67	0.18	**J**
75-01-4	Vinyl Chloride	0.29	0.91	0.29	0.096	**U**
106-99-0	1,3-Butadiene	0.63	1.0	0.63	0.17	**U**
75-00-3	Chloroethane	0.52	0.89	0.52	0.11	**U**
64-17-5	Ethanol	**3.5**	12	1.9	0.85	**J**
67-64-1	Acetone	**17**	9.7	4.9	2.2	
75-69-4	Trichlorofluoromethane	**2.6**	0.41	0.25	0.062	
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.52**	3.7	1.1	0.39	**J**
75-09-2	Methylene Chloride	0.40	0.66	0.40	0.19	**U**
76-13-1	Trichlorotrifluoroethane	**0.070**	0.30	0.096	0.043	**J**
75-15-0	Carbon Disulfide	**0.65**	1.5	0.75	0.22	**J**
75-34-3	1,1-Dichloroethane	0.35	0.59	0.35	0.083	**U**
78-93-3	2-Butanone (MEK)	**2.8**	1.6	0.47	0.16	
141-78-6	Ethyl Acetate	0.78	1.3	0.78	0.34	**U**
110-54-3	n-Hexane	0.39	0.66	0.39	0.14	**U**
67-66-3	Chloroform	**0.075**	0.48	0.15	0.063	**J**
109-99-9	Tetrahydrofuran (THF)	**0.26**	0.81	0.25	0.098	**J**
107-06-2	1,2-Dichloroethane	0.18	0.58	0.18	0.063	**U**
71-43-2	Benzene	**0.47**	0.72	0.23	0.10	**J**
56-23-5	Carbon Tetrachloride	0.12	0.36	0.12	0.051	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV138-050-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-008

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00446

Initial Pressure (psig): -2.27 Final Pressure (psig): 6.82

Container Dilution Factor: 1.73

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.43	1.4	0.43	0.19	**U**
75-27-4	Bromodichloromethane	0.11	0.35	0.11	0.050	**U**
79-01-6	Trichloroethene	0.14	0.43	0.14	0.058	**U**
123-91-1	1,4-Dioxane	0.20	0.65	0.20	0.076	**U**
142-82-5	n-Heptane	0.34	0.57	0.34	0.090	**U**
108-10-1	4-Methyl-2-pentanone	0.18	0.56	0.18	0.077	**U**
108-88-3	Toluene	**0.99**	0.62	0.20	0.075	
591-78-6	2-Hexanone	**0.19**	0.57	0.18	0.070	**J**
124-48-1	Dibromochloromethane	0.086	0.27	0.086	0.036	**U**
106-93-4	1,2-Dibromoethane	0.096	0.30	0.096	0.035	**U**
127-18-4	Tetrachloroethene	**0.12**	0.33	0.11	0.044	**J**
100-41-4	Ethylbenzene	0.17	0.54	0.17	0.075	**U**
179601-23-1	m,p-Xylenes	**0.27**	1.1	0.34	0.14	**J**
75-25-2	Bromoform	0.13	0.23	0.13	0.046	**U**
100-42-5	Styrene	0.33	0.54	0.33	0.087	**U**
95-47-6	o-Xylene	**0.10**	0.54	0.17	0.077	**J**
108-67-8	1,3,5-Trimethylbenzene	0.15	0.47	0.15	0.068	**U**
95-63-6	1,2,4-Trimethylbenzene	0.15	0.48	0.15	0.065	**U**
120-82-1	1,2,4-Trichlorobenzene	0.19	0.31	0.19	0.076	**U**
91-20-3	Naphthalene	0.26	0.43	0.26	0.11	**U**
1330-20-7	Xylenes, Total	**0.38**	1.1	0.34	0.14	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV138-150-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-009

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00946

Initial Pressure (psig): -2.91 Final Pressure (psig): 5.80

Container Dilution Factor: 1.74

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.81	1.3	0.81	0.33	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.4**	0.47	0.28	0.077	
74-87-3	Chloromethane	0.67	1.1	0.67	0.18	**U**
75-01-4	Vinyl Chloride	0.29	0.92	0.29	0.097	**U**
106-99-0	1,3-Butadiene	0.63	1.0	0.63	0.17	**U**
75-00-3	Chloroethane	0.53	0.89	0.53	0.11	**U**
64-17-5	Ethanol	**1.4**	12	1.9	0.85	**J**
67-64-1	Acetone	4.9	9.7	4.9	2.2	**U**
75-69-4	Trichlorofluoromethane	**4.1**	0.41	0.25	0.063	
67-63-0	2-Propanol (Isopropyl Alcohol)	1.1	3.7	1.1	0.39	**U**
75-09-2	Methylene Chloride	0.40	0.66	0.40	0.19	**U**
76-13-1	Trichlorotrifluoroethane	**0.90**	0.31	0.097	0.043	
75-15-0	Carbon Disulfide	**1.7**	1.5	0.75	0.22	
75-34-3	1,1-Dichloroethane	0.35	0.59	0.35	0.084	**U**
78-93-3	2-Butanone (MEK)	0.47	1.6	0.47	0.16	**U**
141-78-6	Ethyl Acetate	0.78	1.3	0.78	0.34	**U**
110-54-3	n-Hexane	0.40	0.67	0.40	0.14	**U**
67-66-3	Chloroform	**7.5**	0.48	0.15	0.063	
109-99-9	Tetrahydrofuran (THF)	**0.62**	0.81	0.25	0.099	**J**
107-06-2	1,2-Dichloroethane	0.18	0.58	0.18	0.063	**U**
71-43-2	Benzene	0.23	0.72	0.23	0.10	**U**
56-23-5	Carbon Tetrachloride	**0.47**	0.37	0.12	0.051	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV138-150-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-009

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00946

Initial Pressure (psig): -2.91 Final Pressure (psig): 5.80

Container Dilution Factor: 1.74

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.43	1.4	0.43	0.19	**U**
75-27-4	Bromodichloromethane	**1.1**	0.35	0.11	0.050	
79-01-6	Trichloroethene	**0.70**	0.44	0.14	0.058	
123-91-1	1,4-Dioxane	0.21	0.65	0.21	0.076	**U**
142-82-5	n-Heptane	0.34	0.57	0.34	0.090	**U**
108-10-1	4-Methyl-2-pentanone	0.18	0.56	0.18	0.078	**U**
108-88-3	Toluene	0.20	0.62	0.20	0.075	**U**
591-78-6	2-Hexanone	0.18	0.57	0.18	0.070	**U**
124-48-1	Dibromochloromethane	**0.084**	0.28	0.087	0.036	**J**
106-93-4	1,2-Dibromoethane	0.096	0.31	0.096	0.035	**U**
127-18-4	Tetrachloroethene	**0.17**	0.33	0.11	0.044	**J**
100-41-4	Ethylbenzene	0.17	0.54	0.17	0.075	**U**
179601-23-1	m,p-Xylenes	0.34	1.1	0.34	0.14	**U**
75-25-2	Bromoform	0.13	0.23	0.13	0.046	**U**
100-42-5	Styrene	0.33	0.54	0.33	0.088	**U**
95-47-6	o-Xylene	0.17	0.54	0.17	0.077	**U**
108-67-8	1,3,5-Trimethylbenzene	0.15	0.47	0.15	0.068	**U**
95-63-6	1,2,4-Trimethylbenzene	0.15	0.48	0.15	0.066	**U**
120-82-1	1,2,4-Trichlorobenzene	0.19	0.32	0.19	0.076	**U**
91-20-3	Naphthalene	0.26	0.43	0.26	0.11	**U**
1330-20-7	Xylenes, Total	0.34	1.1	0.34	0.14	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV138-150-602** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-010

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00868

Initial Pressure (psig): -5.66 Final Pressure (psig): 5.76

Container Dilution Factor: 2.26

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	1.1	1.7	1.1	0.43	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.4**	0.61	0.37	0.099	
74-87-3	Chloromethane	0.88	1.5	0.88	0.24	**U**
75-01-4	Vinyl Chloride	0.38	1.2	0.38	0.13	**U**
106-99-0	1,3-Butadiene	0.82	1.4	0.82	0.22	**U**
75-00-3	Chloroethane	0.69	1.2	0.69	0.14	**U**
64-17-5	Ethanol	**2.7**	16	2.5	1.1	**J**
67-64-1	Acetone	**3.6**	13	6.4	2.9	**J**
75-69-4	Trichlorofluoromethane	**4.1**	0.53	0.32	0.081	
67-63-0	2-Propanol (Isopropyl Alcohol)	1.4	4.8	1.4	0.51	**U**
75-09-2	Methylene Chloride	0.52	0.86	0.52	0.24	**U**
76-13-1	Trichlorotrifluoroethane	**0.89**	0.40	0.13	0.056	
75-15-0	Carbon Disulfide	**2.6**	2.0	0.98	0.29	
75-34-3	1,1-Dichloroethane	0.46	0.77	0.46	0.11	**U**
78-93-3	2-Butanone (MEK)	0.61	2.1	0.61	0.21	**U**
141-78-6	Ethyl Acetate	**5.2**	1.7	1.0	0.44	
110-54-3	n-Hexane	0.51	0.87	0.51	0.18	**U**
67-66-3	Chloroform	**7.4**	0.63	0.20	0.082	
109-99-9	Tetrahydrofuran (THF)	**1.2**	1.1	0.33	0.13	
107-06-2	1,2-Dichloroethane	0.24	0.75	0.24	0.082	**U**
71-43-2	Benzene	0.30	0.94	0.30	0.14	**U**
56-23-5	Carbon Tetrachloride	**0.45**	0.48	0.15	0.066	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV138-150-602** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-010

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00868

Initial Pressure (psig): -5.66 Final Pressure (psig): 5.76

Container Dilution Factor: 2.26

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.56	1.8	0.56	0.25	**U**
75-27-4	Bromodichloromethane	**1.1**	0.46	0.14	0.065	
79-01-6	Trichloroethene	**0.68**	0.57	0.18	0.076	
123-91-1	1,4-Dioxane	0.27	0.85	0.27	0.099	**U**
142-82-5	n-Heptane	0.44	0.74	0.44	0.12	**U**
108-10-1	4-Methyl-2-pentanone	0.23	0.73	0.23	0.10	**U**
108-88-3	Toluene	**0.23**	0.81	0.25	0.097	**J**
591-78-6	2-Hexanone	0.23	0.75	0.23	0.091	**U**
124-48-1	Dibromochloromethane	**0.079**	0.36	0.11	0.046	**J**
106-93-4	1,2-Dibromoethane	0.13	0.40	0.13	0.046	**U**
127-18-4	Tetrachloroethene	**0.22**	0.43	0.14	0.058	**J**
100-41-4	Ethylbenzene	0.22	0.70	0.22	0.098	**U**
179601-23-1	m,p-Xylenes	0.44	1.4	0.44	0.18	**U**
75-25-2	Bromoform	0.17	0.30	0.17	0.060	**U**
100-42-5	Styrene	0.42	0.70	0.42	0.11	**U**
95-47-6	o-Xylene	0.22	0.70	0.22	0.10	**U**
108-67-8	1,3,5-Trimethylbenzene	0.20	0.61	0.20	0.089	**U**
95-63-6	1,2,4-Trimethylbenzene	0.20	0.62	0.20	0.085	**U**
120-82-1	1,2,4-Trichlorobenzene	0.24	0.41	0.24	0.099	**U**
91-20-3	Naphthalene	0.33	0.56	0.33	0.14	**U**
1330-20-7	Xylenes, Total	0.44	1.4	0.44	0.18	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV138-250-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-011

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00698

Initial Pressure (psig): -2.25 Final Pressure (psig): 7.38

Container Dilution Factor: 1.77

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.54**	1.4	0.82	0.33	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.3**	0.47	0.29	0.078	
74-87-3	Chloromethane	0.69	1.1	0.69	0.18	**U**
75-01-4	Vinyl Chloride	0.29	0.94	0.29	0.099	**U**
106-99-0	1,3-Butadiene	0.64	1.1	0.64	0.18	**U**
75-00-3	Chloroethane	0.54	0.91	0.54	0.11	**U**
64-17-5	Ethanol	**4.4**	12	1.9	0.87	**J**
67-64-1	Acetone	**7.1**	9.9	5.0	2.2	**J**
75-69-4	Trichlorofluoromethane	**4.4**	0.42	0.25	0.064	
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.48**	3.8	1.1	0.40	**J**
75-09-2	Methylene Chloride	**0.63**	0.68	0.41	0.19	**J**
76-13-1	Trichlorotrifluoroethane	**1.1**	0.31	0.098	0.044	
75-15-0	Carbon Disulfide	**1.2**	1.6	0.77	0.23	**J**
75-34-3	1,1-Dichloroethane	**0.090**	0.60	0.36	0.085	**J**
78-93-3	2-Butanone (MEK)	**1.0**	1.7	0.48	0.17	**J**
141-78-6	Ethyl Acetate	0.80	1.4	0.80	0.34	**U**
110-54-3	n-Hexane	0.40	0.68	0.40	0.14	**U**
67-66-3	Chloroform	**19**	0.49	0.15	0.064	
109-99-9	Tetrahydrofuran (THF)	**0.53**	0.83	0.26	0.10	**J**
107-06-2	1,2-Dichloroethane	0.19	0.59	0.19	0.065	**U**
71-43-2	Benzene	0.24	0.73	0.24	0.11	**U**
56-23-5	Carbon Tetrachloride	**0.65**	0.37	0.12	0.052	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV138-250-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-011

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00698

Initial Pressure (psig): -2.25 Final Pressure (psig): 7.38

Container Dilution Factor: 1.77

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.44	1.4	0.44	0.19	**U**
75-27-4	Bromodichloromethane	**3.2**	0.36	0.11	0.051	
79-01-6	Trichloroethene	**1.6**	0.44	0.14	0.059	
123-91-1	1,4-Dioxane	0.21	0.66	0.21	0.077	**U**
142-82-5	n-Heptane	0.35	0.58	0.35	0.092	**U**
108-10-1	4-Methyl-2-pentanone	0.18	0.57	0.18	0.079	**U**
108-88-3	Toluene	0.20	0.63	0.20	0.076	**U**
591-78-6	2-Hexanone	**0.14**	0.58	0.18	0.071	**J**
124-48-1	Dibromochloromethane	**0.36**	0.28	0.088	0.036	
106-93-4	1,2-Dibromoethane	0.098	0.31	0.098	0.036	**U**
127-18-4	Tetrachloroethene	**0.15**	0.34	0.11	0.045	**J**
100-41-4	Ethylbenzene	0.17	0.55	0.17	0.076	**U**
179601-23-1	m,p-Xylenes	0.35	1.1	0.35	0.14	**U**
75-25-2	Bromoform	0.14	0.23	0.14	0.047	**U**
100-42-5	Styrene	0.33	0.55	0.33	0.089	**U**
95-47-6	o-Xylene	0.17	0.55	0.17	0.078	**U**
108-67-8	1,3,5-Trimethylbenzene	0.15	0.48	0.15	0.069	**U**
95-63-6	1,2,4-Trimethylbenzene	0.15	0.49	0.15	0.067	**U**
120-82-1	1,2,4-Trichlorobenzene	0.19	0.32	0.19	0.078	**U**
91-20-3	Naphthalene	0.26	0.44	0.26	0.11	**U**
1330-20-7	Xylenes, Total	0.35	1.1	0.35	0.14	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV138-350-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-012

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00857

Initial Pressure (psig): -2.27 Final Pressure (psig): 5.90

Container Dilution Factor: 1.66

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.70**	1.3	0.77	0.31	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.68**	0.44	0.27	0.073	
74-87-3	Chloromethane	**0.23**	1.1	0.64	0.17	**J**
75-01-4	Vinyl Chloride	0.28	0.88	0.28	0.093	**U**
106-99-0	1,3-Butadiene	0.60	0.99	0.60	0.17	**U**
75-00-3	Chloroethane	0.50	0.85	0.50	0.10	**U**
64-17-5	Ethanol	**12**	11	1.8	0.82	
67-64-1	Acetone	**10**	9.3	4.7	2.1	
75-69-4	Trichlorofluoromethane	**1.0**	0.39	0.24	0.060	
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.60**	3.5	1.1	0.37	**J**
75-09-2	Methylene Chloride	0.38	0.63	0.38	0.18	**U**
76-13-1	Trichlorotrifluoroethane	**0.57**	0.29	0.092	0.041	
75-15-0	Carbon Disulfide	**3.1**	1.5	0.72	0.21	
75-34-3	1,1-Dichloroethane	**0.12**	0.56	0.34	0.080	**J**
78-93-3	2-Butanone (MEK)	**1.9**	1.5	0.45	0.15	
141-78-6	Ethyl Acetate	**11**	1.3	0.75	0.32	
110-54-3	n-Hexane	0.38	0.64	0.38	0.13	**U**
67-66-3	Chloroform	**21**	0.46	0.14	0.060	
109-99-9	Tetrahydrofuran (THF)	**0.51**	0.77	0.24	0.094	**J**
107-06-2	1,2-Dichloroethane	0.17	0.55	0.17	0.061	**U**
71-43-2	Benzene	**0.13**	0.69	0.22	0.10	**J**
56-23-5	Carbon Tetrachloride	**0.44**	0.35	0.11	0.049	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV138-350-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-012

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00857

Initial Pressure (psig): -2.27 Final Pressure (psig): 5.90

Container Dilution Factor: 1.66

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.41	1.3	0.41	0.18	**U**
75-27-4	Bromodichloromethane	**3.1**	0.33	0.11	0.048	
79-01-6	Trichloroethene	**1.3**	0.42	0.13	0.056	
123-91-1	1,4-Dioxane	**0.73**	0.62	0.20	0.073	
142-82-5	n-Heptane	0.32	0.55	0.32	0.086	**U**
108-10-1	4-Methyl-2-pentanone	**0.077**	0.54	0.17	0.074	**J**
108-88-3	Toluene	**0.45**	0.59	0.19	0.072	**J**
591-78-6	2-Hexanone	**0.40**	0.55	0.17	0.067	**J**
124-48-1	Dibromochloromethane	**0.26**	0.26	0.083	0.034	**J**
106-93-4	1,2-Dibromoethane	0.092	0.29	0.092	0.033	**U**
127-18-4	Tetrachloroethene	**0.12**	0.32	0.10	0.042	**J**
100-41-4	Ethylbenzene	0.16	0.52	0.16	0.072	**U**
179601-23-1	m,p-Xylenes	0.32	1.1	0.32	0.13	**U**
75-25-2	Bromoform	0.13	0.22	0.13	0.044	**U**
100-42-5	Styrene	0.31	0.52	0.31	0.084	**U**
95-47-6	o-Xylene	0.16	0.52	0.16	0.074	**U**
108-67-8	1,3,5-Trimethylbenzene	0.14	0.45	0.14	0.065	**U**
95-63-6	1,2,4-Trimethylbenzene	0.14	0.46	0.14	0.062	**U**
120-82-1	1,2,4-Trichlorobenzene	0.18	0.30	0.18	0.073	**U**
91-20-3	Naphthalene	0.25	0.41	0.25	0.10	**U**
1330-20-7	Xylenes, Total	0.32	1.1	0.32	0.13	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV138-450-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-013

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00988

Initial Pressure (psig): -3.03 Final Pressure (psig): 6.03

Container Dilution Factor: 1.78

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**2.0**	1.4	0.83	0.34	
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.54**	0.48	0.29	0.078	
74-87-3	Chloromethane	**3.1**	1.1	0.69	0.19	
75-01-4	Vinyl Chloride	**1.6**	0.94	0.30	0.099	
106-99-0	1,3-Butadiene	0.64	1.1	0.64	0.18	**U**
75-00-3	Chloroethane	**1.3**	0.91	0.54	0.11	
64-17-5	Ethanol	**12**	12	2.0	0.87	**J**
67-64-1	Acetone	**8.4**	9.9	5.1	2.2	**J**
75-69-4	Trichlorofluoromethane	**1.5**	0.42	0.25	0.064	
67-63-0	2-Propanol (Isopropyl Alcohol)	**2.7**	3.8	1.1	0.40	**J**
75-09-2	Methylene Chloride	0.41	0.68	0.41	0.19	**U**
76-13-1	Trichlorotrifluoroethane	**0.072**	0.31	0.099	0.044	**J**
75-15-0	Carbon Disulfide	**37**	1.6	0.77	0.23	
75-34-3	1,1-Dichloroethane	**0.58**	0.60	0.36	0.086	**J**
78-93-3	2-Butanone (MEK)	**1.1**	1.7	0.48	0.17	**J**
141-78-6	Ethyl Acetate	**9.1**	1.4	0.80	0.35	
110-54-3	n-Hexane	0.40	0.68	0.40	0.14	**U**
67-66-3	Chloroform	**1.4**	0.49	0.15	0.065	
109-99-9	Tetrahydrofuran (THF)	**1.2**	0.83	0.26	0.10	
107-06-2	1,2-Dichloroethane	**0.27**	0.59	0.19	0.065	**J**
71-43-2	Benzene	**0.19**	0.74	0.24	0.11	**J**
56-23-5	Carbon Tetrachloride	0.12	0.38	0.12	0.052	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV138-450-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-013

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00988

Initial Pressure (psig): -3.03 Final Pressure (psig): 6.03

Container Dilution Factor: 1.78

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.44	1.4	0.44	0.19	**U**
75-27-4	Bromodichloromethane	**0.62**	0.36	0.11	0.051	
79-01-6	Trichloroethene	**0.13**	0.45	0.14	0.060	**J**
123-91-1	1,4-Dioxane	0.21	0.67	0.21	0.078	**U**
142-82-5	n-Heptane	**0.18**	0.59	0.35	0.092	**J**
108-10-1	4-Methyl-2-pentanone	**0.12**	0.58	0.18	0.079	**J**
108-88-3	Toluene	**1.2**	0.64	0.20	0.077	
591-78-6	2-Hexanone	**0.11**	0.59	0.18	0.072	**J**
124-48-1	Dibromochloromethane	**0.14**	0.28	0.089	0.037	**J**
106-93-4	1,2-Dibromoethane	0.098	0.31	0.098	0.036	**U**
127-18-4	Tetrachloroethene	**0.047**	0.34	0.11	0.045	**J**
100-41-4	Ethylbenzene	**0.087**	0.55	0.17	0.077	**J**
179601-23-1	m,p-Xylenes	**0.22**	1.1	0.35	0.14	**J**
75-25-2	Bromoform	0.14	0.23	0.14	0.047	**U**
100-42-5	Styrene	0.33	0.55	0.33	0.090	**U**
95-47-6	o-Xylene	**0.085**	0.55	0.17	0.079	**J**
108-67-8	1,3,5-Trimethylbenzene	0.15	0.48	0.15	0.070	**U**
95-63-6	1,2,4-Trimethylbenzene	0.15	0.49	0.15	0.067	**U**
120-82-1	1,2,4-Trichlorobenzene	0.19	0.32	0.19	0.078	**U**
91-20-3	Naphthalene	0.26	0.44	0.26	0.11	**U**
1330-20-7	Xylenes, Total	**0.31**	1.1	0.35	0.14	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV141-025-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-014

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00793

Initial Pressure (psig): -2.57 Final Pressure (psig): 5.43

Container Dilution Factor: 1.66

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.61**	1.3	0.77	0.31	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.5**	0.44	0.27	0.073	
74-87-3	Chloromethane	**0.23**	1.1	0.64	0.17	**J**
75-01-4	Vinyl Chloride	0.28	0.88	0.28	0.093	**U**
106-99-0	1,3-Butadiene	0.60	0.99	0.60	0.17	**U**
75-00-3	Chloroethane	0.50	0.85	0.50	0.10	**U**
64-17-5	Ethanol	**4.1**	11	1.8	0.82	**J**
67-64-1	Acetone	**9.4**	9.3	4.7	2.1	
75-69-4	Trichlorofluoromethane	**2.0**	0.39	0.24	0.060	
67-63-0	2-Propanol (Isopropyl Alcohol)	1.1	3.5	1.1	0.37	**U**
75-09-2	Methylene Chloride	0.38	0.63	0.38	0.18	**U**
76-13-1	Trichlorotrifluoroethane	**0.077**	0.29	0.092	0.041	**J**
75-15-0	Carbon Disulfide	**0.67**	1.5	0.72	0.21	**J**
75-34-3	1,1-Dichloroethane	0.34	0.56	0.34	0.080	**U**
78-93-3	2-Butanone (MEK)	**1.4**	1.5	0.45	0.15	**J**
141-78-6	Ethyl Acetate	0.75	1.3	0.75	0.32	**U**
110-54-3	n-Hexane	0.38	0.64	0.38	0.13	**U**
67-66-3	Chloroform	**0.77**	0.46	0.14	0.060	
109-99-9	Tetrahydrofuran (THF)	**0.13**	0.77	0.24	0.094	**J**
107-06-2	1,2-Dichloroethane	0.17	0.55	0.17	0.061	**U**
71-43-2	Benzene	0.22	0.69	0.22	0.10	**U**
56-23-5	Carbon Tetrachloride	**0.073**	0.35	0.11	0.049	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV141-025-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-014

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00793

Initial Pressure (psig): -2.57 Final Pressure (psig): 5.43

Container Dilution Factor: 1.66

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.41	1.3	0.41	0.18	**U**
75-27-4	Bromodichloromethane	**0.048**	0.33	0.11	0.048	**J**
79-01-6	Trichloroethene	0.13	0.42	0.13	0.056	**U**
123-91-1	1,4-Dioxane	**2.1**	0.62	0.20	0.073	
142-82-5	n-Heptane	0.32	0.55	0.32	0.086	**U**
108-10-1	4-Methyl-2-pentanone	0.17	0.54	0.17	0.074	**U**
108-88-3	Toluene	**0.079**	0.59	0.19	0.072	**J**
591-78-6	2-Hexanone	**0.16**	0.55	0.17	0.067	**J**
124-48-1	Dibromochloromethane	0.083	0.26	0.083	0.034	**U**
106-93-4	1,2-Dibromoethane	0.092	0.29	0.092	0.033	**U**
127-18-4	Tetrachloroethene	**0.50**	0.32	0.10	0.042	
100-41-4	Ethylbenzene	0.16	0.52	0.16	0.072	**U**
179601-23-1	m,p-Xylenes	0.32	1.1	0.32	0.13	**U**
75-25-2	Bromoform	**0.051**	0.22	0.13	0.044	**J**
100-42-5	Styrene	0.31	0.52	0.31	0.084	**U**
95-47-6	o-Xylene	0.16	0.52	0.16	0.074	**U**
108-67-8	1,3,5-Trimethylbenzene	0.14	0.45	0.14	0.065	**U**
95-63-6	1,2,4-Trimethylbenzene	0.14	0.46	0.14	0.062	**U**
120-82-1	1,2,4-Trichlorobenzene	0.18	0.30	0.18	0.073	**U**
91-20-3	Naphthalene	0.25	0.41	0.25	0.10	**U**
1330-20-7	Xylenes, Total	0.32	1.1	0.32	0.13	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV141-050-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-015

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00167

Initial Pressure (psig): -3.70 Final Pressure (psig): 6.33

Container Dilution Factor: 1.91

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**5.4**	1.5	0.89	0.36	
75-71-8	Dichlorodifluoromethane (CFC 12)	**3.7**	0.51	0.31	0.084	
74-87-3	Chloromethane	**1.7**	1.2	0.74	0.20	
75-01-4	Vinyl Chloride	0.32	1.0	0.32	0.11	**U**
106-99-0	1,3-Butadiene	0.69	1.1	0.69	0.19	**U**
75-00-3	Chloroethane	**0.30**	0.98	0.58	0.12	**J**
64-17-5	Ethanol	**51**	13	2.1	0.94	
67-64-1	Acetone	**31**	11	5.4	2.4	
75-69-4	Trichlorofluoromethane	**3.1**	0.45	0.27	0.069	
67-63-0	2-Propanol (Isopropyl Alcohol)	**12**	4.1	1.2	0.43	
75-09-2	Methylene Chloride	**0.54**	0.73	0.44	0.21	**J**
76-13-1	Trichlorotrifluoroethane	**0.090**	0.34	0.11	0.047	**J**
75-15-0	Carbon Disulfide	**0.37**	1.7	0.83	0.25	**J**
75-34-3	1,1-Dichloroethane	0.39	0.65	0.39	0.092	**U**
78-93-3	2-Butanone (MEK)	**5.6**	1.8	0.52	0.18	
141-78-6	Ethyl Acetate	**100**	1.5	0.86	0.37	
110-54-3	n-Hexane	**0.36**	0.73	0.43	0.15	**J**
67-66-3	Chloroform	**1.7**	0.53	0.17	0.069	
109-99-9	Tetrahydrofuran (THF)	**0.32**	0.89	0.28	0.11	**J**
107-06-2	1,2-Dichloroethane	0.20	0.64	0.20	0.070	**U**
71-43-2	Benzene	**0.71**	0.79	0.25	0.12	**J**
56-23-5	Carbon Tetrachloride	**0.13**	0.40	0.13	0.056	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV141-050-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-015

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00167

Initial Pressure (psig): -3.70 Final Pressure (psig): 6.33

Container Dilution Factor: 1.91

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**0.42**	1.5	0.47	0.21	**J**
75-27-4	Bromodichloromethane	**0.15**	0.39	0.12	0.055	**J**
79-01-6	Trichloroethene	0.15	0.48	0.15	0.064	**U**
123-91-1	1,4-Dioxane	**0.40**	0.72	0.23	0.084	**J**
142-82-5	n-Heptane	**0.67**	0.63	0.37	0.099	
108-10-1	4-Methyl-2-pentanone	**0.55**	0.62	0.20	0.085	**J**
108-88-3	Toluene	**6.3**	0.68	0.22	0.082	
591-78-6	2-Hexanone	**0.40**	0.63	0.20	0.077	**J**
124-48-1	Dibromochloromethane	0.095	0.30	0.095	0.039	**U**
106-93-4	1,2-Dibromoethane	0.11	0.34	0.11	0.039	**U**
127-18-4	Tetrachloroethene	**0.19**	0.37	0.12	0.049	**J**
100-41-4	Ethylbenzene	**0.48**	0.59	0.19	0.082	**J**
179601-23-1	m,p-Xylenes	**1.6**	1.2	0.37	0.15	
75-25-2	Bromoform	0.15	0.25	0.15	0.051	**U**
100-42-5	Styrene	**0.22**	0.59	0.36	0.096	**J**
95-47-6	o-Xylene	**0.61**	0.59	0.19	0.085	
108-67-8	1,3,5-Trimethylbenzene	0.17	0.51	0.17	0.075	**U**
95-63-6	1,2,4-Trimethylbenzene	**0.13**	0.52	0.17	0.072	**J**
120-82-1	1,2,4-Trichlorobenzene	0.21	0.35	0.21	0.084	**U**
91-20-3	Naphthalene	0.28	0.47	0.28	0.12	**U**
1330-20-7	Xylenes, Total	**2.2**	1.2	0.37	0.15	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV141-170-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-016

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00954

Initial Pressure (psig): -4.43 Final Pressure (psig): 5.48

Container Dilution Factor: 1.96

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**3.6**	1.5	0.91	0.37	
75-71-8	Dichlorodifluoromethane (CFC 12)	**4.0**	0.53	0.32	0.086	
74-87-3	Chloromethane	**0.52**	1.3	0.76	0.20	**J**
75-01-4	Vinyl Chloride	0.33	1.0	0.33	0.11	**U**
106-99-0	1,3-Butadiene	0.71	1.2	0.71	0.19	**U**
75-00-3	Chloroethane	0.59	1.0	0.59	0.12	**U**
64-17-5	Ethanol	**19**	14	2.2	0.96	
67-64-1	Acetone	**32**	11	5.6	2.5	
75-69-4	Trichlorofluoromethane	**4.3**	0.46	0.28	0.071	
67-63-0	2-Propanol (Isopropyl Alcohol)	**3.3**	4.2	1.3	0.44	**J**
75-09-2	Methylene Chloride	0.45	0.75	0.45	0.21	**U**
76-13-1	Trichlorotrifluoroethane	**0.12**	0.35	0.11	0.049	**J**
75-15-0	Carbon Disulfide	**2.0**	1.7	0.85	0.25	
75-34-3	1,1-Dichloroethane	0.40	0.67	0.40	0.094	**U**
78-93-3	2-Butanone (MEK)	**5.7**	1.8	0.53	0.18	
141-78-6	Ethyl Acetate	**57**	1.5	0.88	0.38	
110-54-3	n-Hexane	0.45	0.75	0.45	0.15	**U**
67-66-3	Chloroform	**4.2**	0.54	0.17	0.071	
109-99-9	Tetrahydrofuran (THF)	**1.2**	0.91	0.28	0.11	
107-06-2	1,2-Dichloroethane	0.21	0.65	0.21	0.071	**U**
71-43-2	Benzene	**0.35**	0.81	0.26	0.12	**J**
56-23-5	Carbon Tetrachloride	**0.17**	0.41	0.13	0.058	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV141-170-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-016

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00954

Initial Pressure (psig): -4.43 Final Pressure (psig): 5.48

Container Dilution Factor: 1.96

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.48	1.6	0.48	0.21	**U**
75-27-4	Bromodichloromethane	**0.42**	0.40	0.12	0.056	
79-01-6	Trichloroethene	**0.22**	0.49	0.16	0.066	**J**
123-91-1	1,4-Dioxane	**0.41**	0.73	0.23	0.086	**J**
142-82-5	n-Heptane	**0.25**	0.65	0.38	0.10	**J**
108-10-1	4-Methyl-2-pentanone	**0.98**	0.63	0.20	0.087	
108-88-3	Toluene	**1.8**	0.70	0.22	0.085	
591-78-6	2-Hexanone	**0.40**	0.65	0.20	0.079	**J**
124-48-1	Dibromochloromethane	0.098	0.31	0.098	0.040	**U**
106-93-4	1,2-Dibromoethane	0.11	0.34	0.11	0.040	**U**
127-18-4	Tetrachloroethene	**0.30**	0.38	0.12	0.050	**J**
100-41-4	Ethylbenzene	**0.20**	0.61	0.19	0.085	**J**
179601-23-1	m,p-Xylenes	**0.24**	1.2	0.38	0.16	**J**
75-25-2	Bromoform	0.15	0.26	0.15	0.052	**U**
100-42-5	Styrene	**0.43**	0.61	0.37	0.099	**J**
95-47-6	o-Xylene	**0.097**	0.61	0.19	0.087	**J**
108-67-8	1,3,5-Trimethylbenzene	0.17	0.53	0.17	0.077	**U**
95-63-6	1,2,4-Trimethylbenzene	0.17	0.54	0.17	0.074	**U**
120-82-1	1,2,4-Trichlorobenzene	0.21	0.36	0.21	0.086	**U**
91-20-3	Naphthalene	0.29	0.49	0.29	0.12	**U**
1330-20-7	Xylenes, Total	**0.34**	1.2	0.38	0.16	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV141-250-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-017

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00276

Initial Pressure (psig): -3.01 Final Pressure (psig): 5.67

Container Dilution Factor: 1.74

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**3.1**	1.3	0.81	0.33	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.4**	0.47	0.28	0.077	
74-87-3	Chloromethane	**2.2**	1.1	0.67	0.18	
75-01-4	Vinyl Chloride	0.29	0.92	0.29	0.097	**U**
106-99-0	1,3-Butadiene	0.63	1.0	0.63	0.17	**U**
75-00-3	Chloroethane	**0.40**	0.89	0.53	0.11	**J**
64-17-5	Ethanol	**17**	12	1.9	0.85	
67-64-1	Acetone	**49**	9.7	4.9	2.2	
75-69-4	Trichlorofluoromethane	**3.4**	0.41	0.25	0.063	
67-63-0	2-Propanol (Isopropyl Alcohol)	**2.0**	3.7	1.1	0.39	**J**
75-09-2	Methylene Chloride	**0.21**	0.66	0.40	0.19	**J**
76-13-1	Trichlorotrifluoroethane	**0.088**	0.31	0.097	0.043	**J**
75-15-0	Carbon Disulfide	**3.4**	1.5	0.75	0.22	
75-34-3	1,1-Dichloroethane	0.35	0.59	0.35	0.084	**U**
78-93-3	2-Butanone (MEK)	**8.3**	1.6	0.47	0.16	
141-78-6	Ethyl Acetate	**100**	1.3	0.78	0.34	
110-54-3	n-Hexane	0.40	0.67	0.40	0.14	**U**
67-66-3	Chloroform	**4.2**	0.48	0.15	0.063	
109-99-9	Tetrahydrofuran (THF)	**9.0**	0.81	0.25	0.099	
107-06-2	1,2-Dichloroethane	0.18	0.58	0.18	0.063	**U**
71-43-2	Benzene	**0.59**	0.72	0.23	0.10	**J**
56-23-5	Carbon Tetrachloride	**0.17**	0.37	0.12	0.051	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV141-250-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-017

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00276

Initial Pressure (psig): -3.01 Final Pressure (psig): 5.67

Container Dilution Factor: 1.74

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.43	1.4	0.43	0.19	**U**
75-27-4	Bromodichloromethane	**0.37**	0.35	0.11	0.050	
79-01-6	Trichloroethene	**0.12**	0.44	0.14	0.058	**J**
123-91-1	1,4-Dioxane	**1.8**	0.65	0.21	0.076	
142-82-5	n-Heptane	**0.14**	0.57	0.34	0.090	**J**
108-10-1	4-Methyl-2-pentanone	**0.27**	0.56	0.18	0.078	**J**
108-88-3	Toluene	**2.7**	0.62	0.20	0.075	
591-78-6	2-Hexanone	**0.41**	0.57	0.18	0.070	**J**
124-48-1	Dibromochloromethane	**0.062**	0.28	0.087	0.036	**J**
106-93-4	1,2-Dibromoethane	0.096	0.31	0.096	0.035	**U**
127-18-4	Tetrachloroethene	**0.27**	0.33	0.11	0.044	**J**
100-41-4	Ethylbenzene	0.17	0.54	0.17	0.075	**U**
179601-23-1	m,p-Xylenes	**0.19**	1.1	0.34	0.14	**J**
75-25-2	Bromoform	0.13	0.23	0.13	0.046	**U**
100-42-5	Styrene	0.33	0.54	0.33	0.088	**U**
95-47-6	o-Xylene	0.17	0.54	0.17	0.077	**U**
108-67-8	1,3,5-Trimethylbenzene	0.15	0.47	0.15	0.068	**U**
95-63-6	1,2,4-Trimethylbenzene	0.15	0.48	0.15	0.066	**U**
120-82-1	1,2,4-Trichlorobenzene	0.19	0.32	0.19	0.076	**U**
91-20-3	Naphthalene	0.26	0.43	0.26	0.11	**U**
1330-20-7	Xylenes, Total	**0.19**	1.1	0.34	0.14	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV141-350-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-018

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00109

Initial Pressure (psig): -4.99 Final Pressure (psig): 6.21

Container Dilution Factor: 2.15

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**1.5**	1.7	1.0	0.41	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.2**	0.58	0.35	0.095	
74-87-3	Chloromethane	**1.1**	1.4	0.83	0.22	**J**
75-01-4	Vinyl Chloride	0.36	1.1	0.36	0.12	**U**
106-99-0	1,3-Butadiene	0.78	1.3	0.78	0.21	**U**
75-00-3	Chloroethane	**0.16**	1.1	0.65	0.13	**J**
64-17-5	Ethanol	**4.0**	15	2.4	1.1	**J**
67-64-1	Acetone	**16**	12	6.1	2.7	
75-69-4	Trichlorofluoromethane	**1.8**	0.51	0.31	0.078	
67-63-0	2-Propanol (Isopropyl Alcohol)	1.4	4.6	1.4	0.48	**U**
75-09-2	Methylene Chloride	0.50	0.82	0.50	0.23	**U**
76-13-1	Trichlorotrifluoroethane	0.12	0.38	0.12	0.053	**U**
75-15-0	Carbon Disulfide	**3.6**	1.9	0.93	0.28	
75-34-3	1,1-Dichloroethane	0.44	0.73	0.44	0.10	**U**
78-93-3	2-Butanone (MEK)	**2.3**	2.0	0.58	0.20	
141-78-6	Ethyl Acetate	**0.51**	1.6	0.97	0.42	**J**
110-54-3	n-Hexane	0.49	0.82	0.49	0.17	**U**
67-66-3	Chloroform	**1.8**	0.59	0.19	0.078	
109-99-9	Tetrahydrofuran (THF)	**11**	1.0	0.31	0.12	
107-06-2	1,2-Dichloroethane	0.23	0.72	0.23	0.078	**U**
71-43-2	Benzene	**0.41**	0.89	0.29	0.13	**J**
56-23-5	Carbon Tetrachloride	**0.11**	0.45	0.15	0.063	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV141-350-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-018

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00109

Initial Pressure (psig): -4.99 Final Pressure (psig): 6.21

Container Dilution Factor: 2.15

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.53	1.7	0.53	0.23	**U**
75-27-4	Bromodichloromethane	**0.28**	0.43	0.14	0.062	**J**
79-01-6	Trichloroethene	0.17	0.54	0.17	0.072	**U**
123-91-1	1,4-Dioxane	0.25	0.81	0.25	0.094	**U**
142-82-5	n-Heptane	0.42	0.71	0.42	0.11	**U**
108-10-1	4-Methyl-2-pentanone	**0.14**	0.70	0.22	0.096	**J**
108-88-3	Toluene	**0.57**	0.77	0.24	0.093	**J**
591-78-6	2-Hexanone	0.22	0.71	0.22	0.087	**U**
124-48-1	Dibromochloromethane	0.11	0.34	0.11	0.044	**U**
106-93-4	1,2-Dibromoethane	0.12	0.38	0.12	0.043	**U**
127-18-4	Tetrachloroethene	**0.10**	0.41	0.13	0.055	**J**
100-41-4	Ethylbenzene	0.21	0.67	0.21	0.093	**U**
179601-23-1	m,p-Xylenes	**0.23**	1.4	0.42	0.17	**J**
75-25-2	Bromoform	0.17	0.28	0.17	0.057	**U**
100-42-5	Styrene	0.40	0.67	0.40	0.11	**U**
95-47-6	o-Xylene	0.21	0.67	0.21	0.095	**U**
108-67-8	1,3,5-Trimethylbenzene	0.19	0.58	0.19	0.084	**U**
95-63-6	1,2,4-Trimethylbenzene	**0.081**	0.59	0.19	0.081	**J**
120-82-1	1,2,4-Trichlorobenzene	0.23	0.39	0.23	0.094	**U**
91-20-3	Naphthalene	0.32	0.53	0.32	0.13	**U**
1330-20-7	Xylenes, Total	**0.23**	1.4	0.42	0.17	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV141-450-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-019

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00991

Initial Pressure (psig): -4.77 Final Pressure (psig): 5.92

Container Dilution Factor: 2.08

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**2.2**	1.6	0.97	0.39	
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.81**	0.56	0.34	0.092	
74-87-3	Chloromethane	**8.0**	1.3	0.81	0.22	
75-01-4	Vinyl Chloride	**3.0**	1.1	0.35	0.12	
106-99-0	1,3-Butadiene	**0.21**	1.2	0.75	0.21	**J**
75-00-3	Chloroethane	**2.3**	1.1	0.63	0.13	
64-17-5	Ethanol	**1.3**	14	2.3	1.0	**J**
67-64-1	Acetone	**16**	12	5.9	2.6	
75-69-4	Trichlorofluoromethane	**1.1**	0.49	0.30	0.075	
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.93**	4.4	1.3	0.47	**J**
75-09-2	Methylene Chloride	0.48	0.79	0.48	0.22	**U**
76-13-1	Trichlorotrifluoroethane	0.12	0.37	0.12	0.052	**U**
75-15-0	Carbon Disulfide	**32**	1.8	0.90	0.27	
75-34-3	1,1-Dichloroethane	**1.2**	0.71	0.42	0.10	
78-93-3	2-Butanone (MEK)	**3.6**	1.9	0.56	0.19	
141-78-6	Ethyl Acetate	0.94	1.6	0.94	0.40	**U**
110-54-3	n-Hexane	0.47	0.80	0.47	0.16	**U**
67-66-3	Chloroform	**0.54**	0.58	0.18	0.076	**J**
109-99-9	Tetrahydrofuran (THF)	**56**	0.97	0.30	0.12	
107-06-2	1,2-Dichloroethane	**0.60**	0.69	0.22	0.076	**J**
71-43-2	Benzene	**0.35**	0.86	0.28	0.13	**J**
56-23-5	Carbon Tetrachloride	**0.10**	0.44	0.14	0.061	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV141-450-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-019

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00991

Initial Pressure (psig): -4.77 Final Pressure (psig): 5.92

Container Dilution Factor: 2.08

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.51	1.7	0.51	0.23	**U**
75-27-4	Bromodichloromethane	0.13	0.42	0.13	0.060	**U**
79-01-6	Trichloroethene	0.16	0.52	0.16	0.070	**U**
123-91-1	1,4-Dioxane	**0.091**	0.78	0.25	0.091	**J**
142-82-5	n-Heptane	**0.19**	0.69	0.41	0.11	**J**
108-10-1	4-Methyl-2-pentanone	**1.2**	0.67	0.22	0.093	
108-88-3	Toluene	**0.16**	0.75	0.23	0.090	**J**
591-78-6	2-Hexanone	0.22	0.69	0.22	0.084	**U**
124-48-1	Dibromochloromethane	0.10	0.33	0.10	0.043	**U**
106-93-4	1,2-Dibromoethane	0.12	0.37	0.12	0.042	**U**
127-18-4	Tetrachloroethene	**0.066**	0.40	0.13	0.053	**J**
100-41-4	Ethylbenzene	0.20	0.65	0.20	0.090	**U**
179601-23-1	m,p-Xylenes	0.41	1.3	0.41	0.17	**U**
75-25-2	Bromoform	0.16	0.27	0.16	0.055	**U**
100-42-5	Styrene	0.39	0.65	0.39	0.11	**U**
95-47-6	o-Xylene	0.20	0.65	0.20	0.092	**U**
108-67-8	1,3,5-Trimethylbenzene	0.18	0.56	0.18	0.081	**U**
95-63-6	1,2,4-Trimethylbenzene	0.18	0.57	0.18	0.078	**U**
120-82-1	1,2,4-Trichlorobenzene	0.22	0.38	0.22	0.091	**U**
91-20-3	Naphthalene	0.31	0.52	0.31	0.13	**U**
1330-20-7	Xylenes, Total	0.41	1.3	0.41	0.17	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVE06-060-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-020

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/17/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00020 Liter(s)
Test Notes:
Container ID: 1SS00907

Initial Pressure (psig): -3.44 Final Pressure (psig): 5.84

Container Dilution Factor: 1.82

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**3,500**		2,800	1,700	690	
75-71-8	Dichlorodifluoromethane (CFC 12)		590	980	590	160	**U**
74-87-3	Chloromethane		1,400	2,300	1,400	380	**U**
75-01-4	Vinyl Chloride		610	1,900	610	200	**U**
106-99-0	1,3-Butadiene		1,300	2,200	1,300	360	**U**
75-00-3	Chloroethane		1,100	1,900	1,100	230	**U**
64-17-5	Ethanol	**7,200**		25,000	4,000	1,800	**J, B**
67-64-1	Acetone	**58,000**		20,000	10,000	4,600	
75-69-4	Trichlorofluoromethane		520	860	520	130	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	**2,200**		7,800	2,300	810	**J**
75-09-2	Methylene Chloride		840	1,400	840	390	**U**
76-13-1	Trichlorotrifluoroethane		200	640	200	90	**U**
75-15-0	Carbon Disulfide		1,600	3,200	1,600	470	**U**
75-34-3	1,1-Dichloroethane		740	1,200	740	180	**U**
78-93-3	2-Butanone (MEK)	**12,000**		3,400	990	340	
141-78-6	Ethyl Acetate		1,600	2,800	1,600	710	**U**
110-54-3	n-Hexane	**260,000**		1,400	830	280	
67-66-3	Chloroform		320	1,000	320	130	**U**
109-99-9	Tetrahydrofuran (THF)		520	1,700	520	210	**U**
107-06-2	1,2-Dichloroethane		380	1,200	380	130	**U**
71-43-2	Benzene	**52,000**		1,500	480	220	
56-23-5	Carbon Tetrachloride		250	770	250	110	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVE06-060-202** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-020

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/17/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00020 Liter(s)
Test Notes:
Container ID: 1SS00907

Initial Pressure (psig): -3.44 Final Pressure (psig): 5.84

Container Dilution Factor: 1.82

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**270,000**		2,900	900	400	
75-27-4	Bromodichloromethane		230	730	230	100	**U**
79-01-6	Trichloroethene		290	910	290	120	**U**
123-91-1	1,4-Dioxane		430	1,400	430	160	**U**
142-82-5	n-Heptane	**220,000**		1,200	710	190	
108-10-1	4-Methyl-2-pentanone		380	1,200	380	160	**U**
108-88-3	Toluene	**100,000**		1,300	410	160	
591-78-6	2-Hexanone		380	1,200	380	150	**U**
124-48-1	Dibromochloromethane		180	580	180	75	**U**
106-93-4	1,2-Dibromoethane		200	640	200	73	**U**
127-18-4	Tetrachloroethene		230	700	230	93	**U**
100-41-4	Ethylbenzene	**18,000**		1,100	360	160	
179601-23-1	m,p-Xylenes	**18,000**		2,300	710	290	
75-25-2	Bromoform		280	480	280	97	**U**
100-42-5	Styrene		680	1,100	680	180	**U**
95-47-6	o-Xylene	**6,200**		1,100	360	160	
108-67-8	1,3,5-Trimethylbenzene	**1,300**		980	310	140	
95-63-6	1,2,4-Trimethylbenzene	**3,700**		1,000	310	140	
120-82-1	1,2,4-Trichlorobenzene		390	660	390	160	**U**
91-20-3	Naphthalene		540	900	540	230	**U**
1330-20-7	Xylenes, Total	**24,000**		2,300	710	290	

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVE06-060-602** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-021

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/17/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00020 Liter(s)
Test Notes: 0.00010 Liter(s)
Container ID: 1SC00531

Initial Pressure (psig): -3.28 Final Pressure (psig): 5.81

Container Dilution Factor: 1.80

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**4,400**		2,800	1,700	680	
75-71-8	Dichlorodifluoromethane (CFC 12)		580	970	580	160	**U**
74-87-3	Chloromethane		1,400	2,300	1,400	370	**U**
75-01-4	Vinyl Chloride		600	1,900	600	200	**U**
106-99-0	1,3-Butadiene		1,300	2,200	1,300	360	**U**
75-00-3	Chloroethane		1,100	1,800	1,100	230	**U**
64-17-5	Ethanol	**8,000**		25,000	4,000	1,800	**J, B**
67-64-1	Acetone	**67,000**		20,000	10,000	4,500	
75-69-4	Trichlorofluoromethane		510	850	510	130	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	**2,100**		7,700	2,300	810	**J**
75-09-2	Methylene Chloride		830	1,400	830	390	**U**
76-13-1	Trichlorotrifluoroethane		200	630	200	89	**U**
75-15-0	Carbon Disulfide		1,600	3,200	1,600	460	**U**
75-34-3	1,1-Dichloroethane		730	1,200	730	170	**U**
78-93-3	2-Butanone (MEK)	**14,000**		3,400	980	340	
141-78-6	Ethyl Acetate		1,600	2,700	1,600	700	**U**
110-54-3	n-Hexane	**260,000**		2,800	1,600	560	**D**
67-66-3	Chloroform		310	1,000	310	130	**U**
109-99-9	Tetrahydrofuran (THF)		520	1,700	520	200	**U**
107-06-2	1,2-Dichloroethane		380	1,200	380	130	**U**
71-43-2	Benzene	**61,000**		1,500	480	220	
56-23-5	Carbon Tetrachloride		240	760	240	110	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVE06-060-602** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002028-021

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/17/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00020 Liter(s)
Test Notes: 0.00010 Liter(s)
Container ID: 1SC00531

Initial Pressure (psig): -3.28 Final Pressure (psig): 5.81

Container Dilution Factor: 1.80

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**310,000**		2,900	890	390	
75-27-4	Bromodichloromethane		230	730	230	100	**U**
79-01-6	Trichloroethene		280	900	280	120	**U**
123-91-1	1,4-Dioxane		420	1,300	420	160	**U**
142-82-5	n-Heptane	**240,000**		2,400	1,400	370	**D**
108-10-1	4-Methyl-2-pentanone		370	1,200	370	160	**U**
108-88-3	Toluene	**130,000**		1,300	410	160	
591-78-6	2-Hexanone		370	1,200	370	150	**U**
124-48-1	Dibromochloromethane		180	570	180	74	**U**
106-93-4	1,2-Dibromoethane		200	630	200	73	**U**
127-18-4	Tetrachloroethene		230	690	230	92	**U**
100-41-4	Ethylbenzene	**25,000**		1,100	350	160	
179601-23-1	m,p-Xylenes	**26,000**		2,300	700	290	
75-25-2	Bromoform		280	470	280	96	**U**
100-42-5	Styrene		680	1,100	680	180	**U**
95-47-6	o-Xylene	**9,100**		1,100	350	160	
108-67-8	1,3,5-Trimethylbenzene	**2,100**		970	310	140	
95-63-6	1,2,4-Trimethylbenzene	**6,100**		990	310	140	
120-82-1	1,2,4-Trichlorobenzene		390	650	390	160	**U**
91-20-3	Naphthalene		530	890	530	220	**U**
1330-20-7	Xylenes, Total	**35,000**		2,300	700	290	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200417-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 4/17/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.19	0.31	0.19	0.076	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.065	0.11	0.065	0.018	**U**
74-87-3	Chloromethane	0.16	0.26	0.16	0.042	**U**
75-01-4	Vinyl Chloride	0.067	0.21	0.067	0.022	**U**
106-99-0	1,3-Butadiene	0.14	0.24	0.14	0.040	**U**
75-00-3	Chloroethane	0.12	0.20	0.12	0.025	**U**
64-17-5	Ethanol	**0.26**	2.8	0.44	0.20	**J**
67-64-1	Acetone	1.1	2.2	1.1	0.51	**U**
75-69-4	Trichlorofluoromethane	0.057	0.094	0.057	0.014	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.26	0.85	0.26	0.090	**U**
75-09-2	Methylene Chloride	0.092	0.15	0.092	0.043	**U**
76-13-1	Trichlorotrifluoroethane	0.022	0.070	0.022	0.0099	**U**
75-15-0	Carbon Disulfide	0.17	0.35	0.17	0.051	**U**
75-34-3	1,1-Dichloroethane	0.082	0.14	0.082	0.019	**U**
78-93-3	2-Butanone (MEK)	0.11	0.37	0.11	0.037	**U**
141-78-6	Ethyl Acetate	0.18	0.31	0.18	0.078	**U**
110-54-3	n-Hexane	0.091	0.15	0.091	0.031	**U**
67-66-3	Chloroform	0.035	0.11	0.035	0.015	**U**
109-99-9	Tetrahydrofuran (THF)	0.058	0.19	0.058	0.023	**U**
107-06-2	1,2-Dichloroethane	0.042	0.13	0.042	0.015	**U**
71-43-2	Benzene	0.053	0.17	0.053	0.024	**U**
56-23-5	Carbon Tetrachloride	0.027	0.084	0.027	0.012	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200417-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 4/17/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.099	0.32	0.099	0.044	**U**
75-27-4	Bromodichloromethane	0.025	0.081	0.025	0.011	**U**
79-01-6	Trichloroethene	0.032	0.10	0.032	0.013	**U**
123-91-1	1,4-Dioxane	0.047	0.15	0.047	0.017	**U**
142-82-5	n-Heptane	0.078	0.13	0.078	0.021	**U**
108-10-1	4-Methyl-2-pentanone	0.041	0.13	0.041	0.018	**U**
108-88-3	Toluene	0.045	0.14	0.045	0.017	**U**
591-78-6	2-Hexanone	0.042	0.13	0.042	0.016	**U**
124-48-1	Dibromochloromethane	0.020	0.063	0.020	0.0082	**U**
106-93-4	1,2-Dibromoethane	0.022	0.070	0.022	0.0081	**U**
127-18-4	Tetrachloroethene	0.025	0.077	0.025	0.010	**U**
100-41-4	Ethylbenzene	0.039	0.12	0.039	0.017	**U**
179601-23-1	m,p-Xylenes	0.078	0.25	0.078	0.032	**U**
75-25-2	Bromoform	0.031	0.052	0.031	0.011	**U**
100-42-5	Styrene	0.075	0.12	0.075	0.020	**U**
95-47-6	o-Xylene	0.039	0.12	0.039	0.018	**U**
108-67-8	1,3,5-Trimethylbenzene	0.035	0.11	0.035	0.016	**U**
95-63-6	1,2,4-Trimethylbenzene	0.035	0.11	0.035	0.015	**U**
120-82-1	1,2,4-Trichlorobenzene	0.043	0.073	0.043	0.018	**U**
91-20-3	Naphthalene	0.059	0.099	0.059	0.025	**U**
1330-20-7	Xylenes, Total	0.078	0.25	0.078	0.032	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200420-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.19	0.31	0.19	0.076	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.065	0.11	0.065	0.018	**U**
74-87-3	Chloromethane	0.16	0.26	0.16	0.042	**U**
75-01-4	Vinyl Chloride	0.067	0.21	0.067	0.022	**U**
106-99-0	1,3-Butadiene	0.14	0.24	0.14	0.040	**U**
75-00-3	Chloroethane	0.12	0.20	0.12	0.025	**U**
64-17-5	Ethanol	0.44	2.8	0.44	0.20	**U**
67-64-1	Acetone	1.1	2.2	1.1	0.51	**U**
75-69-4	Trichlorofluoromethane	0.057	0.094	0.057	0.014	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.26	0.85	0.26	0.090	**U**
75-09-2	Methylene Chloride	0.092	0.15	0.092	0.043	**U**
76-13-1	Trichlorotrifluoroethane	0.022	0.070	0.022	0.0099	**U**
75-15-0	Carbon Disulfide	0.17	0.35	0.17	0.051	**U**
75-34-3	1,1-Dichloroethane	0.082	0.14	0.082	0.019	**U**
78-93-3	2-Butanone (MEK)	0.11	0.37	0.11	0.037	**U**
141-78-6	Ethyl Acetate	0.18	0.31	0.18	0.078	**U**
110-54-3	n-Hexane	0.091	0.15	0.091	0.031	**U**
67-66-3	Chloroform	0.035	0.11	0.035	0.015	**U**
109-99-9	Tetrahydrofuran (THF)	0.058	0.19	0.058	0.023	**U**
107-06-2	1,2-Dichloroethane	0.042	0.13	0.042	0.015	**U**
71-43-2	Benzene	0.053	0.17	0.053	0.024	**U**
56-23-5	Carbon Tetrachloride	0.027	0.084	0.027	0.012	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200420-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.099	0.32	0.099	0.044	**U**
75-27-4	Bromodichloromethane	0.025	0.081	0.025	0.011	**U**
79-01-6	Trichloroethene	0.032	0.10	0.032	0.013	**U**
123-91-1	1,4-Dioxane	0.047	0.15	0.047	0.017	**U**
142-82-5	n-Heptane	0.078	0.13	0.078	0.021	**U**
108-10-1	4-Methyl-2-pentanone	0.041	0.13	0.041	0.018	**U**
108-88-3	Toluene	0.045	0.14	0.045	0.017	**U**
591-78-6	2-Hexanone	0.042	0.13	0.042	0.016	**U**
124-48-1	Dibromochloromethane	0.020	0.063	0.020	0.0082	**U**
106-93-4	1,2-Dibromoethane	0.022	0.070	0.022	0.0081	**U**
127-18-4	Tetrachloroethene	0.025	0.077	0.025	0.010	**U**
100-41-4	Ethylbenzene	0.039	0.12	0.039	0.017	**U**
179601-23-1	m,p-Xylenes	0.078	0.25	0.078	0.032	**U**
75-25-2	Bromoform	0.031	0.052	0.031	0.011	**U**
100-42-5	Styrene	0.075	0.12	0.075	0.020	**U**
95-47-6	o-Xylene	0.039	0.12	0.039	0.018	**U**
108-67-8	1,3,5-Trimethylbenzene	0.035	0.11	0.035	0.016	**U**
95-63-6	1,2,4-Trimethylbenzene	0.035	0.11	0.035	0.015	**U**
120-82-1	1,2,4-Trichlorobenzene	0.043	0.073	0.043	0.018	**U**
91-20-3	Naphthalene	0.059	0.099	0.059	0.025	**U**
1330-20-7	Xylenes, Total	0.078	0.25	0.078	0.032	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Project ID: P2002028

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date(s) Collected: 4/7 - 4/8/20
Analyst: Wida Ang Date(s) Received: 4/14/20
Sampling Media: 1.0 L Summa Canister(s) / 1.0 L Silonite Summa Canister(s) Date(s) Analyzed: 4/17 - 4/20/20
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P200417-MB	**102**	**98**	**91**	70-130	
Method Blank	P200420-MB	**103**	**97**	**89**	70-130	
Lab Control Sample	P200417-LCS	**96**	**96**	**101**	70-130	
Lab Control Sample	P200420-LCS	**95**	**96**	**100**	70-130	
Duplicate Lab Control Sample	P200417-DLCS	**95**	**97**	**101**	70-130	
Duplicate Lab Control Sample	P200420-DLCS	**95**	**97**	**100**	70-130	
SV136-025-202	P2002028-001	**103**	**93**	**88**	70-130	
SV136-050-202	P2002028-002	**103**	**94**	**88**	70-130	
SV136-150-202	P2002028-003	**104**	**97**	**90**	70-130	
SV136-250-202	P2002028-004	**104**	**95**	**89**	70-130	
SV136-350-202	P2002028-005	**103**	**95**	**88**	70-130	
SV136-450-202	P2002028-006	**102**	**96**	**89**	70-130	
SV138-025-202	P2002028-007	**102**	**97**	**90**	70-130	
SV138-050-202	P2002028-008	**103**	**94**	**91**	70-130	
SV138-150-202	P2002028-009	**102**	**97**	**90**	70-130	
SV138-150-602	P2002028-010	**103**	**97**	**88**	70-130	
SV138-250-202	P2002028-011	**102**	**95**	**90**	70-130	
SV138-350-202	P2002028-012	**103**	**96**	**91**	70-130	
SV138-450-202	P2002028-013	**102**	**97**	**90**	70-130	
SV141-025-202	P2002028-014	**102**	**94**	**91**	70-130	
SV141-050-202	P2002028-015	**101**	**94**	**96**	70-130	
SV141-170-202	P2002028-016	**100**	**94**	**93**	70-130	
SV141-250-202	P2002028-017	**100**	**93**	**94**	70-130	
SV141-350-202	P2002028-018	**101**	**95**	**91**	70-130	
SV141-450-202	P2002028-019	**100**	**98**	**90**	70-130	
SVE06-060-202	P2002028-020	**103**	**96**	**96**	70-130	
SVE06-060-602	P2002028-021	**102**	**95**	**97**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200417-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 4/17/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	122	121	126	**99**	**103**	57-136	4	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	42.5	38.4	40.1	**90**	**94**	59-128	4	25	
74-87-3	Chloromethane	103	89.0	92.3	**86**	**90**	59-132	5	25	
75-01-4	Vinyl Chloride	83.0	77.2	78.4	**93**	**94**	64-127	1	25	
106-99-0	1,3-Butadiene	95.9	81.1	83.8	**85**	**87**	66-134	2	25	
75-00-3	Chloroethane	81.1	73.8	77.3	**91**	**95**	63-127	4	25	
64-17-5	Ethanol	563	511	527	**91**	**94**	59-125	3	25	
67-64-1	Acetone	450	448	451	**100**	**100**	58-128	0	25	
75-69-4	Trichlorofluoromethane	37.7	34.6	34.9	**92**	**93**	62-126	1	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	172	173	178	**101**	**103**	52-125	2	25	
75-09-2	Methylene Chloride	60.5	58.9	59.4	**97**	**98**	62-115	1	25	
76-13-1	Trichlorotrifluoroethane	28.2	25.4	26.0	**90**	**92**	66-126	2	25	
75-15-0	Carbon Disulfide	68.1	66.7	67.2	**98**	**99**	57-134	1	25	
75-34-3	1,1-Dichloroethane	52.4	49.0	49.3	**94**	**94**	68-126	0	25	
78-93-3	2-Butanone (MEK)	71.9	75.2	74.4	**105**	**103**	67-130	2	25	
141-78-6	Ethyl Acetate	120	134	134	**112**	**112**	65-128	0	25	
110-54-3	n-Hexane	61.3	64.8	63.9	**106**	**104**	63-120	2	25	
67-66-3	Chloroform	43.8	41.1	40.9	**94**	**93**	68-123	1	25	
109-99-9	Tetrahydrofuran (THF)	74.6	70.3	70.2	**94**	**94**	64-123	0	25	
107-06-2	1,2-Dichloroethane	52.9	48.2	47.9	**91**	**91**	65-128	0	25	
71-43-2	Benzene	65.8	62.2	62.4	**95**	**95**	69-119	0	25	
56-23-5	Carbon Tetrachloride	33.1	32.2	32.3	**97**	**98**	68-132	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200417-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 4/17/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	123	121	121	**98**	**98**	70-117	0	25	
75-27-4	Bromodichloromethane	32.6	31.4	31.7	**96**	**97**	72-128	1	25	
79-01-6	Trichloroethene	40.2	34.4	34.5	**86**	**86**	71-123	0	25	
123-91-1	1,4-Dioxane	60.0	57.4	58.3	**96**	**97**	71-122	1	25	
142-82-5	n-Heptane	52.2	52.3	52.4	**100**	**100**	69-123	0	25	
108-10-1	4-Methyl-2-pentanone	51.8	54.9	55.6	**106**	**107**	67-130	0.9	25	
108-88-3	Toluene	56.3	51.9	52.8	**92**	**94**	66-119	2	25	
591-78-6	2-Hexanone	52.7	53.5	54.0	**102**	**102**	62-128	0	25	
124-48-1	Dibromochloromethane	25.1	26.1	26.6	**104**	**106**	70-130	2	25	
106-93-4	1,2-Dibromoethane	27.9	28.4	28.9	**102**	**104**	74-122	2	25	
127-18-4	Tetrachloroethene	30.7	28.3	29.1	**92**	**95**	66-124	3	25	
100-41-4	Ethylbenzene	48.8	48.8	49.2	**100**	**101**	70-124	1	25	
179601-23-1	m,p-Xylenes	98.1	97.3	97.5	**99**	**99**	61-134	0	25	
75-25-2	Bromoform	20.7	20.5	20.9	**99**	**101**	66-139	2	25	
100-42-5	Styrene	49.8	47.8	47.7	**96**	**96**	73-127	0	25	
95-47-6	o-Xylene	49.3	48.2	48.0	**98**	**97**	67-125	1	25	
108-67-8	1,3,5-Trimethylbenzene	43.1	41.6	41.4	**97**	**96**	67-130	1	25	
95-63-6	1,2,4-Trimethylbenzene	43.1	44.8	44.6	**104**	**103**	66-132	1	25	
120-82-1	1,2,4-Trichlorobenzene	29.1	31.9	32.9	**110**	**113**	55-142	3	25	
91-20-3	Naphthalene	40.5	44.1	44.0	**109**	**109**	57-138	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200420-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	122	119	115	**98**	**94**	57-136	4	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	42.5	37.9	36.7	**89**	**86**	59-128	3	25	
74-87-3	Chloromethane	103	86.9	77.7	**84**	**75**	59-132	11	25	
75-01-4	Vinyl Chloride	83.0	76.4	73.5	**92**	**89**	64-127	3	25	
106-99-0	1,3-Butadiene	95.9	80.9	78.2	**84**	**82**	66-134	2	25	
75-00-3	Chloroethane	81.1	73.1	71.4	**90**	**88**	63-127	2	25	
64-17-5	Ethanol	563	502	486	**89**	**86**	59-125	3	25	
67-64-1	Acetone	450	450	421	**100**	**94**	58-128	6	25	
75-69-4	Trichlorofluoromethane	37.7	33.9	32.6	**90**	**86**	62-126	5	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	172	172	166	**100**	**97**	52-125	3	25	
75-09-2	Methylene Chloride	60.5	59.0	55.4	**98**	**92**	62-115	6	25	
76-13-1	Trichlorotrifluoroethane	28.2	24.9	24.1	**88**	**85**	66-126	3	25	
75-15-0	Carbon Disulfide	68.1	66.8	63.1	**98**	**93**	57-134	5	25	
75-34-3	1,1-Dichloroethane	52.4	49.0	46.4	**94**	**89**	68-126	5	25	
78-93-3	2-Butanone (MEK)	71.9	74.8	71.1	**104**	**99**	67-130	5	25	
141-78-6	Ethyl Acetate	120	135	126	**113**	**105**	65-128	7	25	
110-54-3	n-Hexane	61.3	64.6	60.4	**105**	**99**	63-120	6	25	
67-66-3	Chloroform	43.8	40.9	38.5	**93**	**88**	68-123	6	25	
109-99-9	Tetrahydrofuran (THF)	74.6	70.4	66.5	**94**	**89**	64-123	5	25	
107-06-2	1,2-Dichloroethane	52.9	47.7	45.0	**90**	**85**	65-128	6	25	
71-43-2	Benzene	65.8	63.2	59.0	**96**	**90**	69-119	6	25	
56-23-5	Carbon Tetrachloride	33.1	32.0	30.0	**97**	**91**	68-132	6	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200420-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	123	122	113	**99**	**92**	70-117	7	25	
75-27-4	Bromodichloromethane	32.6	31.5	29.7	**97**	**91**	72-128	6	25	
79-01-6	Trichloroethene	40.2	34.4	32.4	**86**	**81**	71-123	6	25	
123-91-1	1,4-Dioxane	60.0	57.6	54.2	**96**	**90**	71-122	6	25	
142-82-5	n-Heptane	52.2	52.5	49.3	**101**	**94**	69-123	7	25	
108-10-1	4-Methyl-2-pentanone	51.8	55.7	52.3	**108**	**101**	67-130	7	25	
108-88-3	Toluene	56.3	53.0	50.3	**94**	**89**	66-119	5	25	
591-78-6	2-Hexanone	52.7	54.5	51.3	**103**	**97**	62-128	6	25	
124-48-1	Dibromochloromethane	25.1	26.5	25.2	**106**	**100**	70-130	6	25	
106-93-4	1,2-Dibromoethane	27.9	28.9	27.5	**104**	**99**	74-122	5	25	
127-18-4	Tetrachloroethene	30.7	28.8	27.6	**94**	**90**	66-124	4	25	
100-41-4	Ethylbenzene	48.8	49.9	47.1	**102**	**97**	70-124	5	25	
179601-23-1	m,p-Xylenes	98.1	99.3	93.1	**101**	**95**	61-134	6	25	
75-25-2	Bromoform	20.7	20.9	20.0	**101**	**97**	66-139	4	25	
100-42-5	Styrene	49.8	48.6	45.7	**98**	**92**	73-127	6	25	
95-47-6	o-Xylene	49.3	49.2	46.1	**100**	**94**	67-125	6	25	
108-67-8	1,3,5-Trimethylbenzene	43.1	42.2	39.7	**98**	**92**	67-130	6	25	
95-63-6	1,2,4-Trimethylbenzene	43.1	45.6	42.8	**106**	**99**	66-132	7	25	
120-82-1	1,2,4-Trichlorobenzene	29.1	32.6	31.6	**112**	**109**	55-142	3	25	
91-20-3	Naphthalene	40.5	44.6	42.0	**110**	**104**	57-138	6	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: **EA Engineering, Science, and Technology, Inc.** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Lab File ID: 04172001.D
Analyst: Wida Ang Date Analyzed: 4/16/20
Sampling Media: 1.0 L Summa Canister(s) Time Analyzed: 23:43
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	394114		11.17	1704222		13.30		821342		17.61	
	Upper Limit	551760		11.50	2385911		13.63		1149879		17.94	
	Lower Limit	236468		10.84	1022533		12.97		492805		17.28	
	Client Sample ID											
01	Method Blank	325851		11.15	1463250		13.29		706138		17.61	
02	Lab Control Sample	375164		11.17	1648495		13.30		793350		17.61	
03	Duplicate Lab Control Sample	394798		11.17	1715880		13.30		819224		17.61	
04	SVE06-060-202	329001		11.16	1551403		13.30		796238		17.61	
05	SVE06-060-602	345045		11.16	1613282		13.30		834818		17.61	
06	SVE06-060-602 (Dilution)	348058		11.16	1603383		13.30		807958		17.61	
07	SV136-025-202	346228		11.16	1542400		13.29		773712		17.61	
08	SV136-050-202	326544		11.16	1467556		13.29		737150		17.61	
09	SV136-150-202	328157		11.16	1494634		13.29		723147		17.61	
10	SV136-250-202	316889		11.16	1426825		13.29		702440		17.61	
11	SV136-350-202	316680		11.16	1413063		13.29		704668		17.61	
12	SV136-450-202	333521		11.16	1476060		13.29		717253		17.61	
13												
14												
15												
16												
17												
18												
19												
20												

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: **EA Engineering, Science, and Technology, Inc.** ALS Project ID: P2002028
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Lab File ID: 04202002.D
Analyst: Wida Ang Date Analyzed: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister(s) Time Analyzed: 02:06
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	389398		11.17	1693715		13.30		810042		17.61	
	Upper Limit	545157		11.50	2371201		13.63		1134059		17.94	
	Lower Limit	233639		10.84	1016229		12.97		486025		17.28	
	Client Sample ID											
01	Method Blank	311865		11.15	1401042		13.29		673708		17.61	
02	Lab Control Sample	371043		11.17	1615010		13.30		770119		17.61	
03	Duplicate Lab Control Sample	410061		11.17	1790086		13.30		844091		17.61	
04	SV138-025-202	353766		11.16	1573077		13.29		758815		17.61	
05	SV138-050-202	326561		11.16	1475163		13.29		732138		17.61	
06	SV138-150-202	325485		11.16	1456485		13.29		697855		17.61	
07	SV138-150-602	318826		11.16	1436996		13.29		688490		17.61	
08	SV138-250-202	319891		11.16	1420349		13.29		701281		17.61	
09	SV138-350-202	322960		11.16	1441431		13.29		712749		17.61	
10	SV138-450-202	329803		11.16	1448540		13.29		702486		17.61	
11	SV141-025-202	321116		11.16	1425298		13.29		714213		17.61	
12	SV141-050-202	328721		11.16	1469040		13.29		727743		17.61	
13	SV141-170-202	336362		11.16	1479824		13.29		737682		17.61	
14	SV141-250-202	344960		11.16	1544678		13.30		769049		17.61	
15	SV141-350-202	333752		11.16	1472925		13.29		729005		17.61	
16	SV141-450-202	334151		11.16	1476552		13.29		710227		17.61	
17												
18												
19												
20												

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172029.D Vial: 9
Acq On : 17 Apr 2020 20:17 Operator: LH
Sample : P2002028-001 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 18:23:42 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/20/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	346228	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1542400	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	773712	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.01	65	621404	12.962	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.68%				
57) Toluene-d8 (SS2)	15.74	98	1603482	11.692	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.52%				
73) Bromofluorobenzene (SS3)	19.00	174	534182	11.030	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.24%				
Target Compounds							Qvalue
2) Propene	4.14	42	6155	0.170	ng		94
3) Dichlorodifluoromethan...	4.28	85	47845	0.612	ng		100
4) Chloromethane	4.55	50	2613	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	1151	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.25	54	957	N.D.			
8) Bromomethane	5.67	94	330	N.D.			
9) Chloroethane	6.00	64	162	N.D.			
10) Ethanol	6.34	45	26128	0.910	ng		93
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	6.83	56	2257	0.107	ng		93
13) Acetone	7.02	58	76536	2.702	ng		97
14) Trichlorofluoromethane	7.26	101	21653	0.314	ng		97
15) 2-Propanol (Isopropanol)	7.55	45	7149	0.085	ng	#	20
16) Acrylonitrile	8.02	53	745	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.44	84	590	N.D.			
20) 3-Chloro-1-propene (Al...	8.51	41	132	N.D.			
21) Trichlorotrifluoroethane	8.87	151	3930	0.119	ng		96
22) Carbon Disulfide	8.71	76	8415	0.063	ng		97
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.50	72	5660	0.240	ng		93
28) cis-1,2-Dichloroethene	10.99	61	602	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	11.28	57	3427	0.053	ng		97
32) Chloroform	11.32	83	119494	1.738	ng		98
34) Tetrahydrofuran (THF)	11.78	72	4427	0.182	ng	#	78
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.90	78	12217	0.077	ng		100
42) Carbon Tetrachloride	13.06	117	3943	0.072	ng		100
43) Cyclohexane	13.19	84	1813	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	13.54	63	557	N.D.			
46) Bromodichloromethane	13.95	83	17097	0.317	ng		99
47) Trichloroethene	13.98	130	691	N.D.			
48) 1,4-Dioxane	14.01	88	739	N.D.			
49) 2,2,4-Trimethylpentane...	14.07	57	6434	N.D.			
50) Methyl Methacrylate	14.33	100	358	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172029.D Vial: 9
Acq On : 17 Apr 2020 20:17 Operator: LH
Sample : P2002028-001 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 18:23:42 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

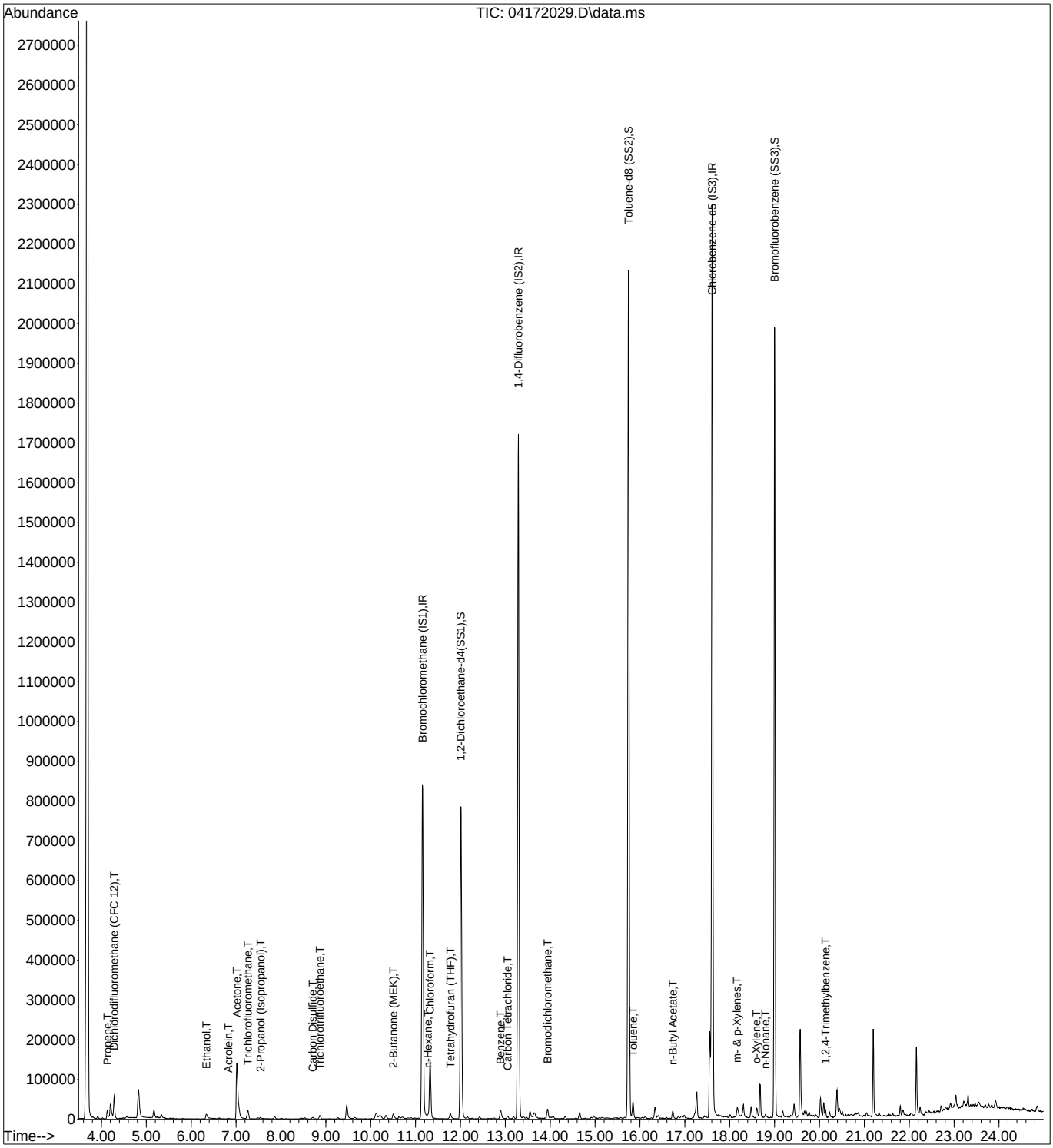
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.34	71	1420	N.D.			
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
53) 4-Methyl-2-pentanone	14.91	58	915	N.D.			
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.			
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.			
58) Toluene	15.85	91	28028	0.165	ng		100
59) 2-Hexanone	16.11	43	3514	N.D.			
60) Dibromochloromethane	0.00	129	0	N.D.			
61) 1,2-Dibromoethane	0.00	107	0	N.D.			
62) n-Butyl Acetate	16.73	43	17901	0.197	ng		97
63) n-Octane	16.85	57	1099	N.D.			
64) Tetrachloroethene	16.99	166	2034	N.D.			
65) Chlorobenzene	17.66	112	117	N.D.			
66) Ethylbenzene	18.01	91	6097	N.D.			
67) m- & p-Xylenes	18.16	91	15837	0.105	ng		98
68) Bromoform	0.00	173	0	N.D.			
69) Styrene	18.50	104	1434	N.D.			
70) o-Xylene	18.60	91	7790	0.051	ng		93
71) n-Nonane	18.80	43	4252	0.056	ng	#	54
72) 1,1,2,2-Tetrachloroethane	18.62	83	842	N.D.			
74) Cumene	19.13	105	1189	N.D.			
75) alpha-Pinene	19.48	93	185	N.D.			
76) n-Propylbenzene	19.58	91	2737	N.D.			
77) 3-Ethyltoluene	19.67	105	6095	N.D.			
78) 4-Ethyltoluene	19.71	105	2638	N.D.			
79) 1,3,5-Trimethylbenzene	19.77	105	3722	N.D.			
80) alpha-Methylstyrene	19.91	118	1834	N.D.			
81) 2-Ethyltoluene	19.94	105	2795	N.D.			
82) 1,2,4-Trimethylbenzene	20.14	105	8713	0.052	ng		86
83) n-Decane	20.23	57	3774	N.D.			
84) Benzyl Chloride	20.25	91	536	N.D.			
85) 1,3-Dichlorobenzene	20.26	146	302	N.D.			
86) 1,4-Dichlorobenzene	20.32	146	248	N.D.			
87) sec-Butylbenzene	20.38	105	759	N.D.			
88) 4-Isopropyltoluene (p-...	20.51	119	1740	N.D.			
89) 1,2,3-Trimethylbenzene	20.51	105	3740	N.D.			
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.			
91) d-Limonene	20.63	68	1734	N.D.			
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.			
93) n-Undecane	21.33	57	2083	N.D.			
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.			
95) Naphthalene	22.25	128	4623	N.D.			
96) n-Dodecane	22.24	57	4113	N.D.			
97) Hexachlorobutadiene	0.00	225	0	N.D.			
98) Cyclohexanone	0.00	55	0	N.D.	d		
99) tert-Butylbenzene	20.13	119	1289	N.D.			
100) n-Butylbenzene	20.86	91	3310	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172029.D Vial: 9
Acq On : 17 Apr 2020 20:17 Operator: LH
Sample : P2002028-001 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 18:23:42 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172029.D Vial: 9
Acq On : 17 Apr 2020 20:17 Operator: LH
Sample : P2002028-001 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 18:23:42 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/20/20

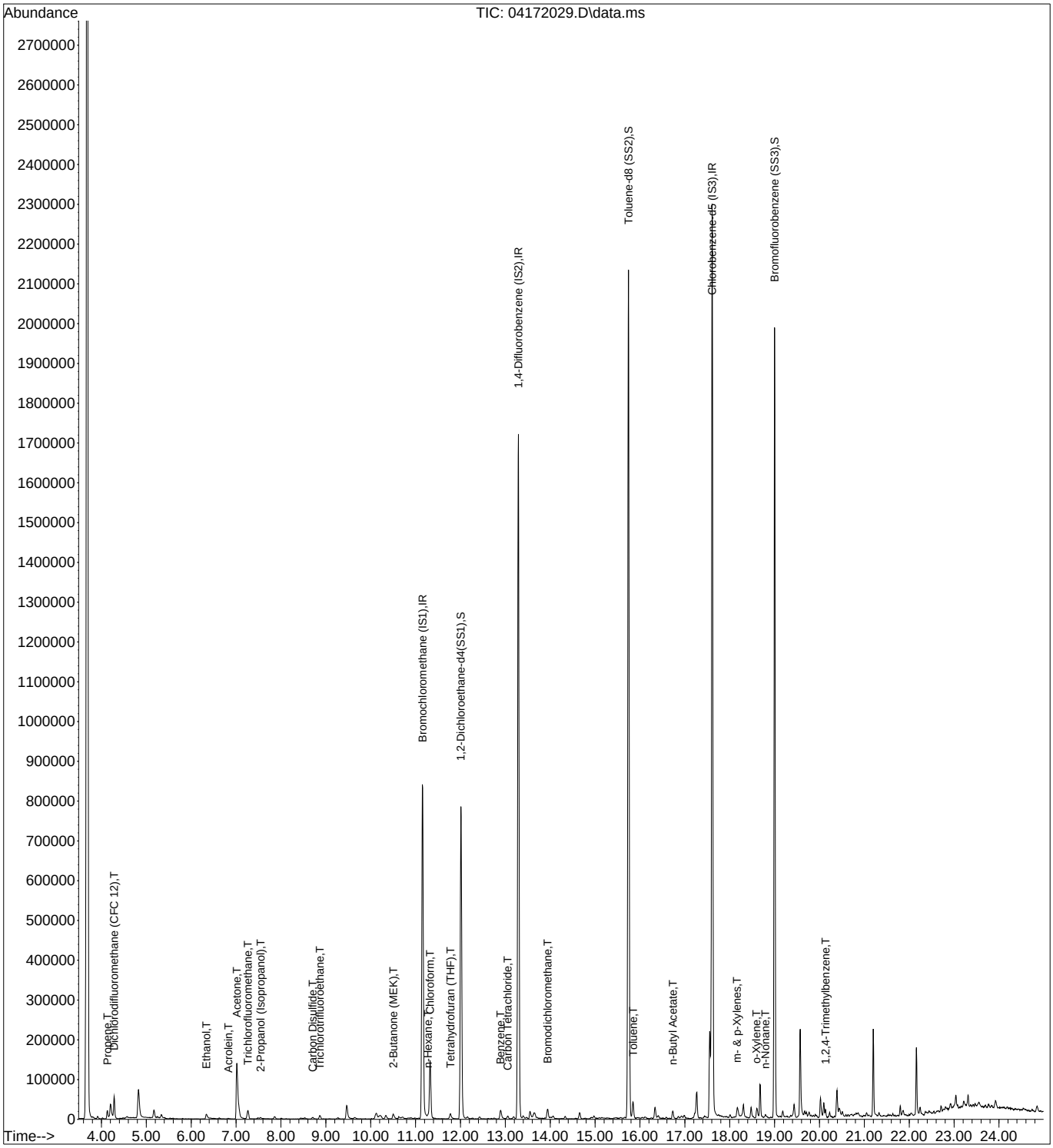
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	346228	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1542400	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	773712	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.01	65	621404	12.962	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.68%				
57) Toluene-d8 (SS2)	15.74	98	1603482	11.692	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.52%				
73) Bromofluorobenzene (SS3)	19.00	174	534182	11.030	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.24%				
Target Compounds							Qvalue
2) Propene	4.14	42	6155	0.170	ng		94
3) Dichlorodifluoromethan...	4.28	85	47845	0.612	ng		100
10) Ethanol	6.34	45	26128	0.910	ng		93
12) Acrolein	6.83	56	2257	0.107	ng		93
13) Acetone	7.02	58	76536	2.702	ng		97
14) Trichlorofluoromethane	7.26	101	21653	0.314	ng		97
15) 2-Propanol (Isopropanol)	7.55	45	7149	0.085	ng	#	20
21) Trichlorotrifluoroethane	8.87	151	3930	0.119	ng		96
22) Carbon Disulfide	8.71	76	8415	0.063	ng		97
27) 2-Butanone (MEK)	10.50	72	5660	0.240	ng		93
31) n-Hexane	11.28	57	3427	0.053	ng		97
32) Chloroform	11.32	83	119494	1.738	ng		98
34) Tetrahydrofuran (THF)	11.78	72	4427	0.182	ng	#	78
41) Benzene	12.90	78	12217	0.077	ng		100
42) Carbon Tetrachloride	13.06	117	3943	0.072	ng		100
46) Bromodichloromethane	13.95	83	17097	0.317	ng		99
58) Toluene	15.85	91	28028	0.165	ng		100
62) n-Butyl Acetate	16.73	43	17901	0.197	ng		97
67) m- & p-Xylenes	18.16	91	15837	0.105	ng		98
70) o-Xylene	18.60	91	7790	0.051	ng		93
71) n-Nonane	18.80	43	4252	0.056	ng	#	54
82) 1,2,4-Trimethylbenzene	20.14	105	8713	0.052	ng		86

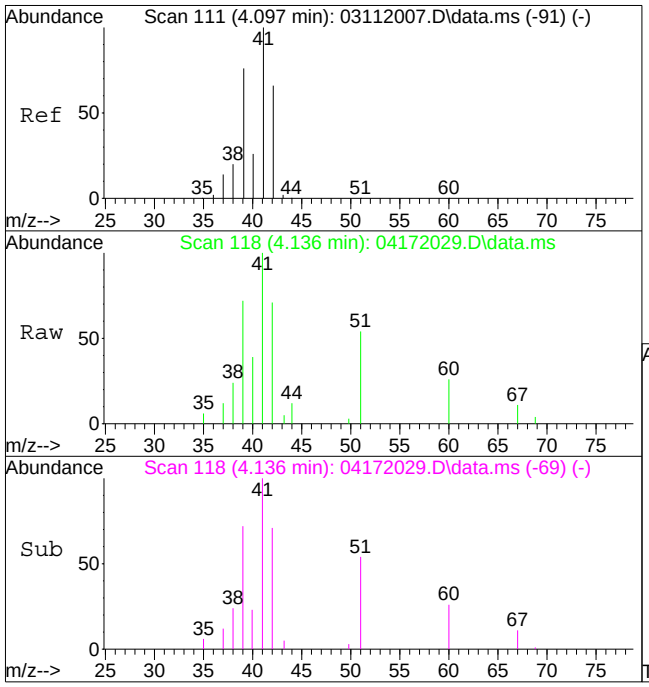
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172029.D Vial: 9
Acq On : 17 Apr 2020 20:17 Operator: LH
Sample : P2002028-001 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 18:23:42 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

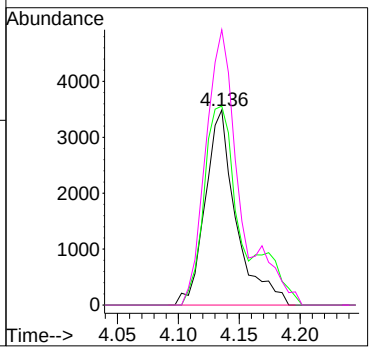


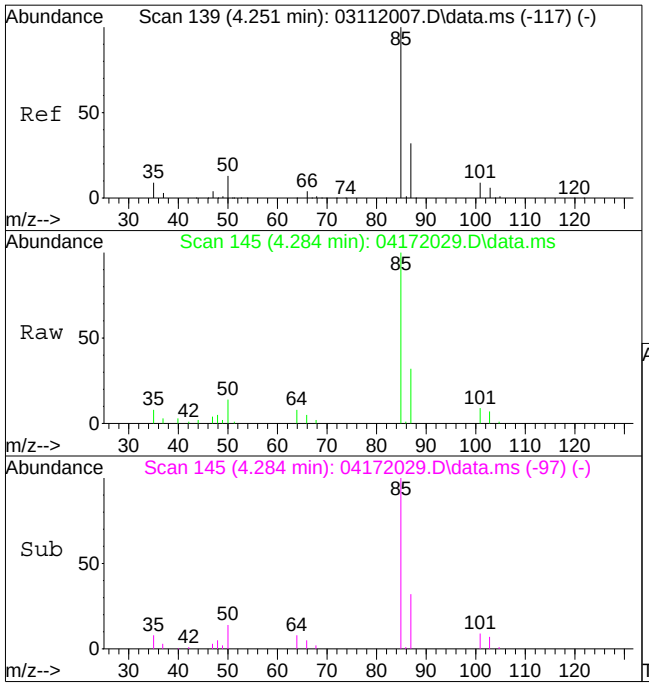


#2
Propene
Concen: 0.17 ng
RT: 4.14 min Scan# 118
Delta R.T. 0.022 min
Lab File: 04172029.D
Acq: 17 Apr 2020 20:17

Tgt Ion: 42 Resp: 6155

Ion	Ratio	Lower	Upper
42	100		
39	125.7	95.3	135.3
41	156.0	132.0	172.0

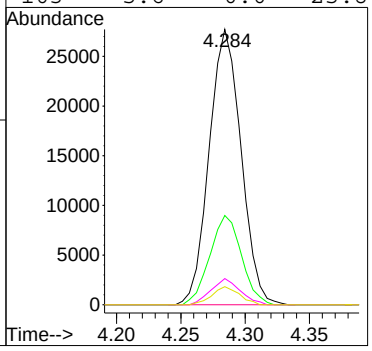


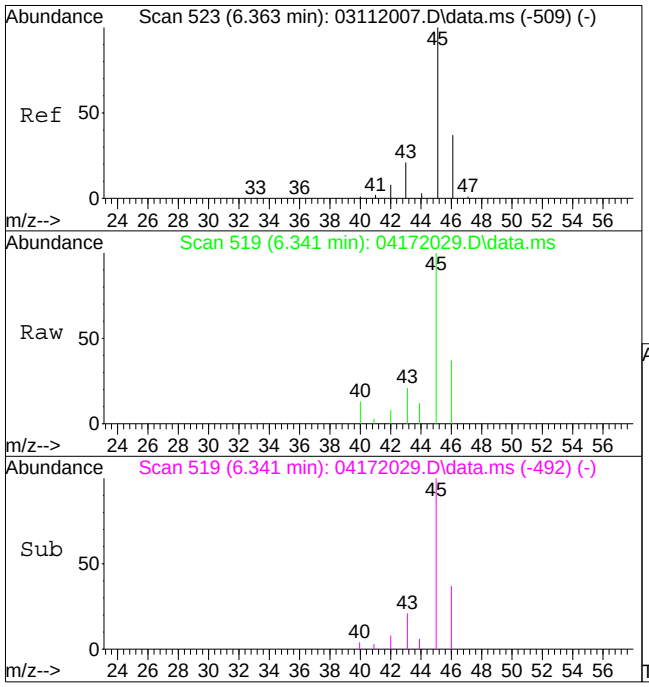


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.61 ng
RT: 4.28 min Scan# 145
Delta R.T. 0.016 min
Lab File: 04172029.D
Acq: 17 Apr 2020 20:17

Tgt Ion: 85 Resp: 47845

Ion	Ratio	Lower	Upper
85	100		
87	32.1	12.3	52.3
101	8.7	0.0	29.0
103	5.6	0.0	25.8

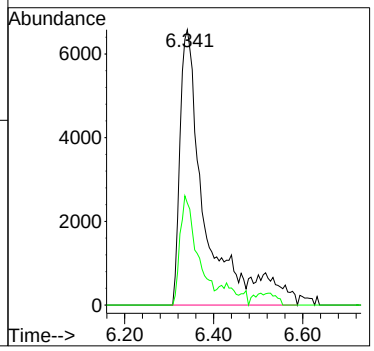


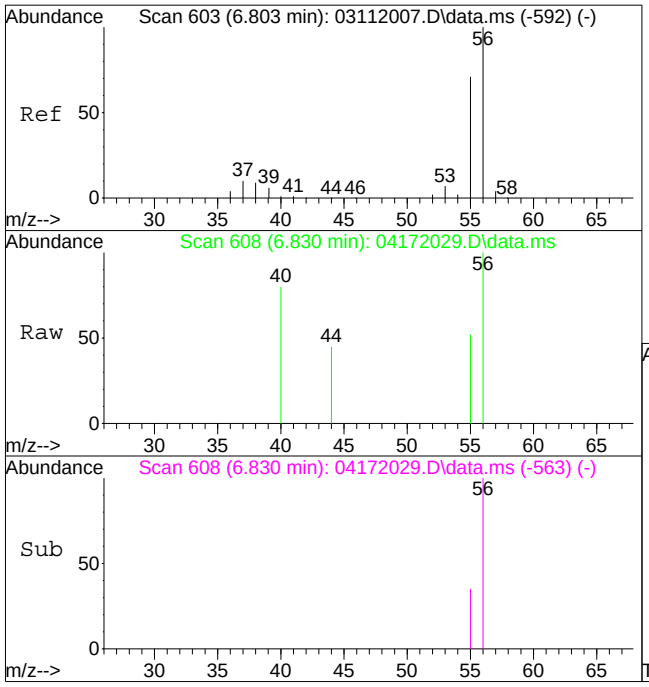


#10
Ethanol
Concen: 0.91 ng
RT: 6.34 min Scan# 519
Delta R.T. -0.099 min
Lab File: 04172029.D
Acq: 17 Apr 2020 20:17

Tgt Ion: 45 Resp: 26128

Ion	Ratio	Lower	Upper
45	100		
46	32.9	17.3	57.3

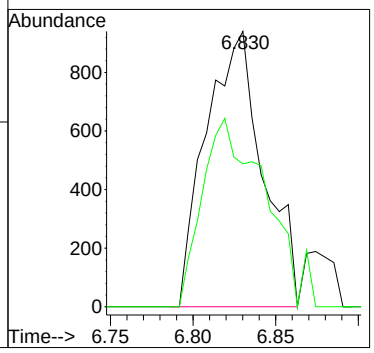


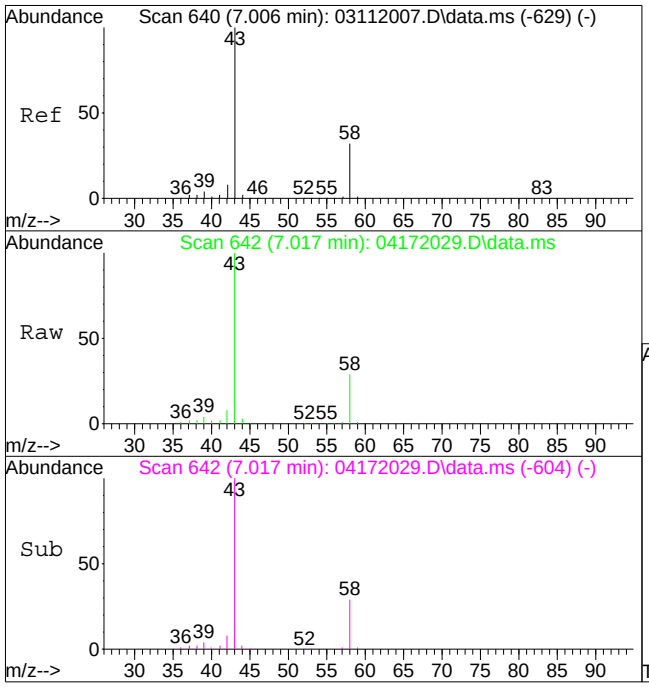


#12
Acrolein
Concen: 0.11 ng
RT: 6.83 min Scan# 608
Delta R.T. 0.000 min
Lab File: 04172029.D
Acq: 17 Apr 2020 20:17

Tgt Ion: 56 Resp: 2257

Ion	Ratio	Lower	Upper
56	100		
55	75.9	50.4	90.4

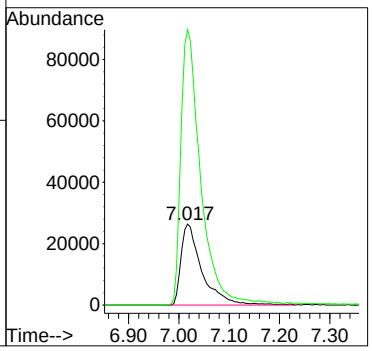


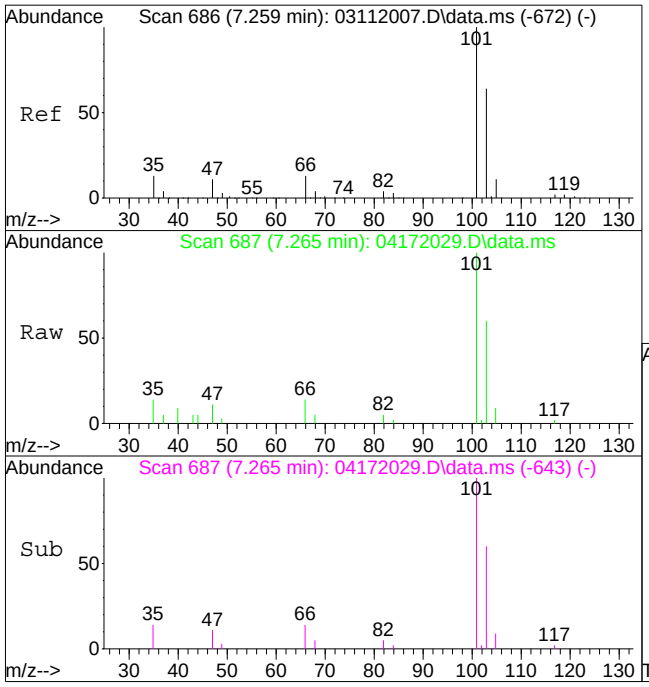


#13
Acetone
Concen: 2.70 ng
RT: 7.02 min Scan# 642
Delta R.T. -0.039 min
Lab File: 04172029.D
Acq: 17 Apr 2020 20:17

Tgt Ion: 58 Resp: 76536

Ion	Ratio	Lower	Upper
58	100		
43	323.8	287.3	347.3

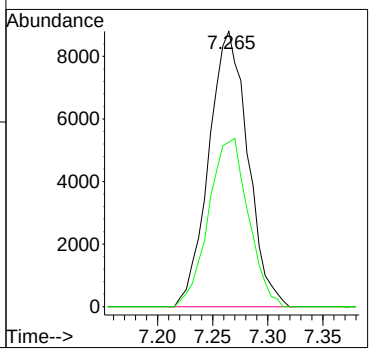


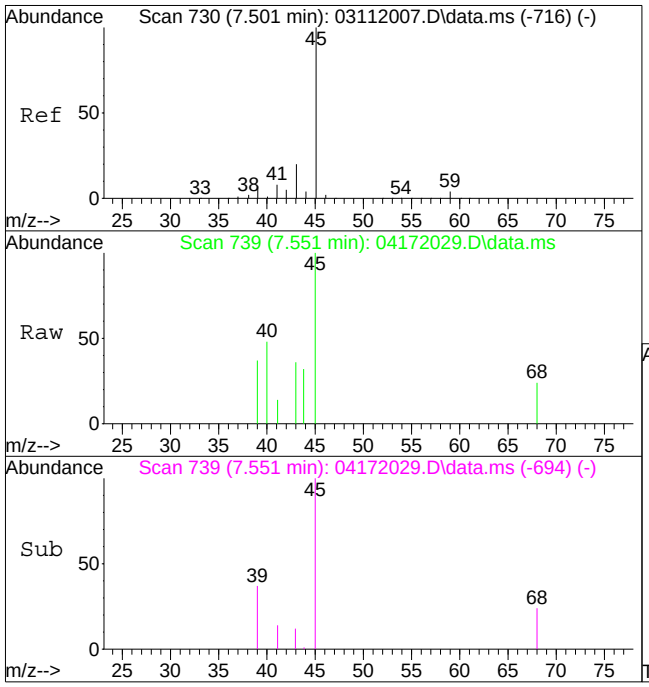


#14
Trichlorofluoromethane
Concen: 0.31 ng
RT: 7.26 min Scan# 687
Delta R.T. -0.010 min
Lab File: 04172029.D
Acq: 17 Apr 2020 20:17

Tgt Ion:101 Resp: 21653

Ion	Ratio	Lower	Upper
101	100		
103	62.2	44.6	84.6

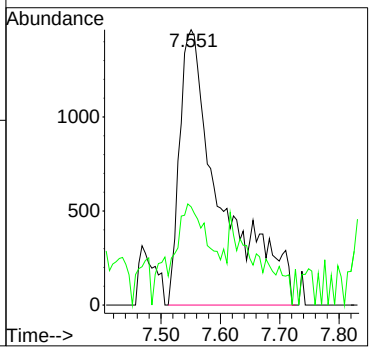


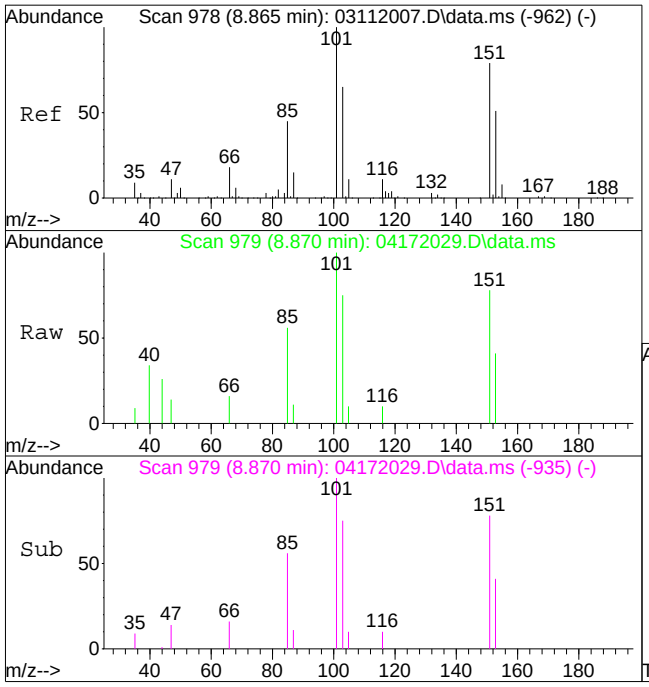


#15
2-Propanol (Isopropanol)
Concen: 0.09 ng
RT: 7.55 min Scan# 739
Delta R.T. 0.000 min
Lab File: 04172029.D
Acq: 17 Apr 2020 20:17

Tgt Ion: 45 Resp: 7149

Ion	Ratio	Lower	Upper
45	100		
43	57.1	0.3	40.3#

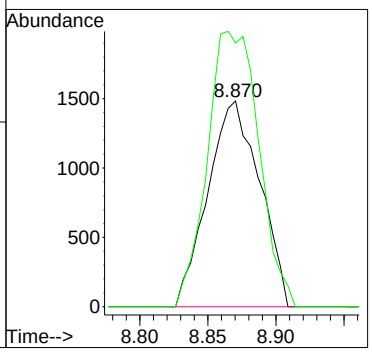


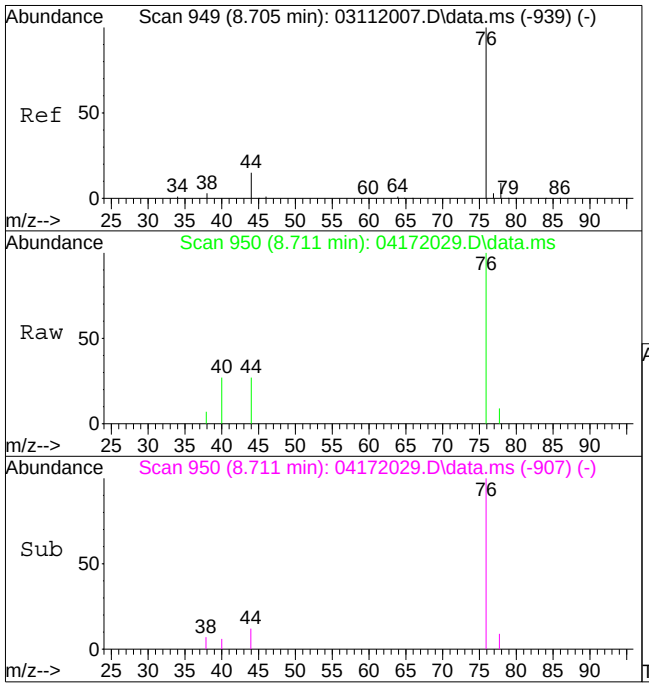


#21
Trichlorotrifluoroethane
Concen: 0.12 ng
RT: 8.87 min Scan# 979
Delta R.T. -0.006 min
Lab File: 04172029.D
Acq: 17 Apr 2020 20:17

Tgt Ion:151 Resp: 3930

Ion	Ratio	Lower	Upper
151	100		
101	133.3	108.4	148.4

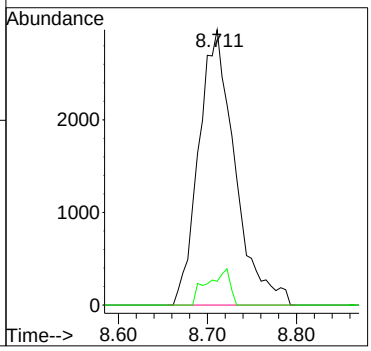


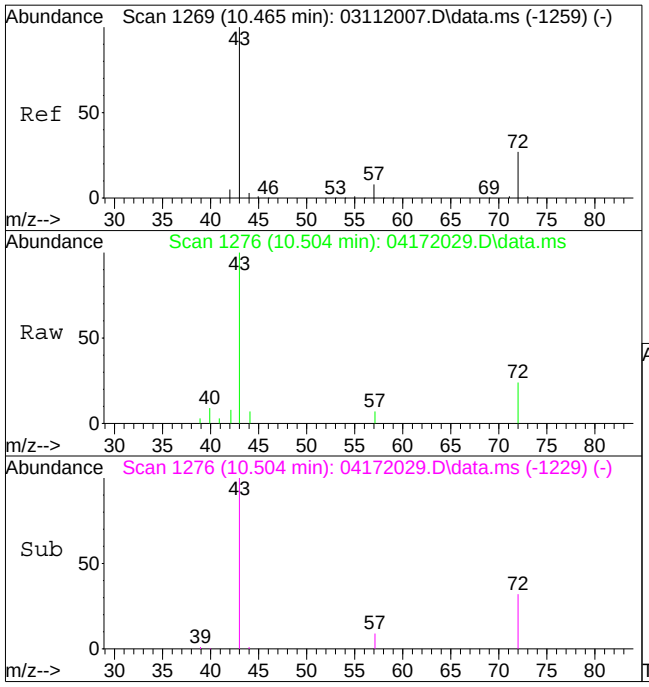


#22
Carbon Disulfide
Concen: 0.06 ng
RT: 8.71 min Scan# 950
Delta R.T. -0.011 min
Lab File: 04172029.D
Acq: 17 Apr 2020 20:17

Tgt Ion: 76 Resp: 8415

Ion	Ratio	Lower	Upper
76	100		
78	8.2	0.0	29.2

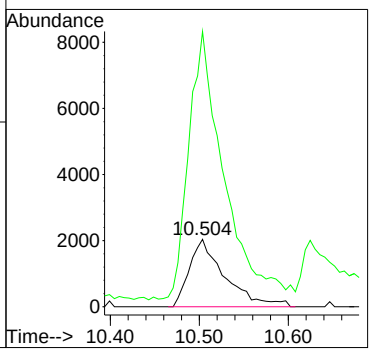


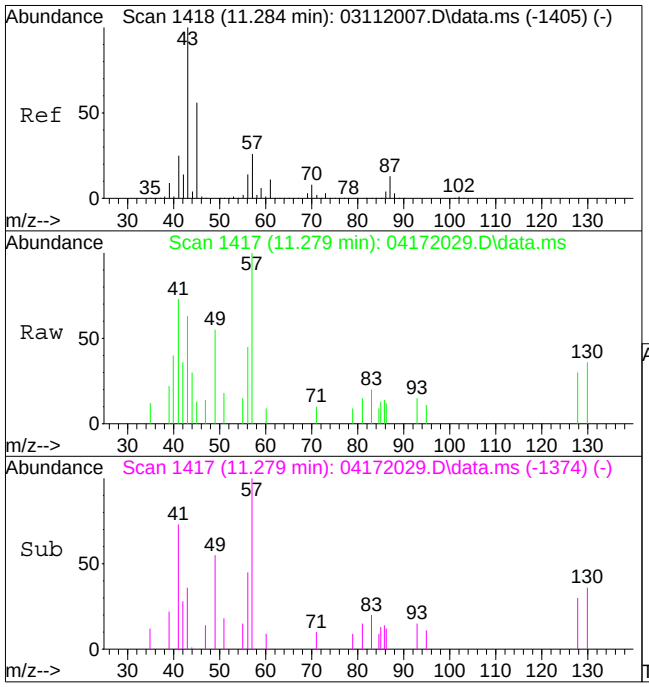


#27
2-Butanone (MEK)
Concen: 0.24 ng
RT: 10.50 min Scan# 1276
Delta R.T. 0.011 min
Lab File: 04172029.D
Acq: 17 Apr 2020 20:17

Tgt Ion: 72 Resp: 5660

Ion	Ratio	Lower	Upper
72	100		
43	389.0	353.4	393.4

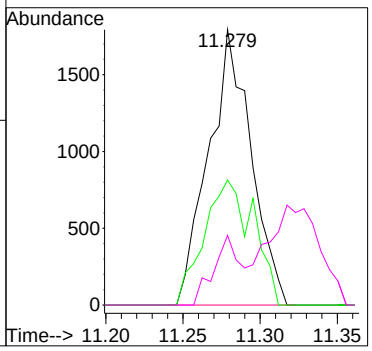


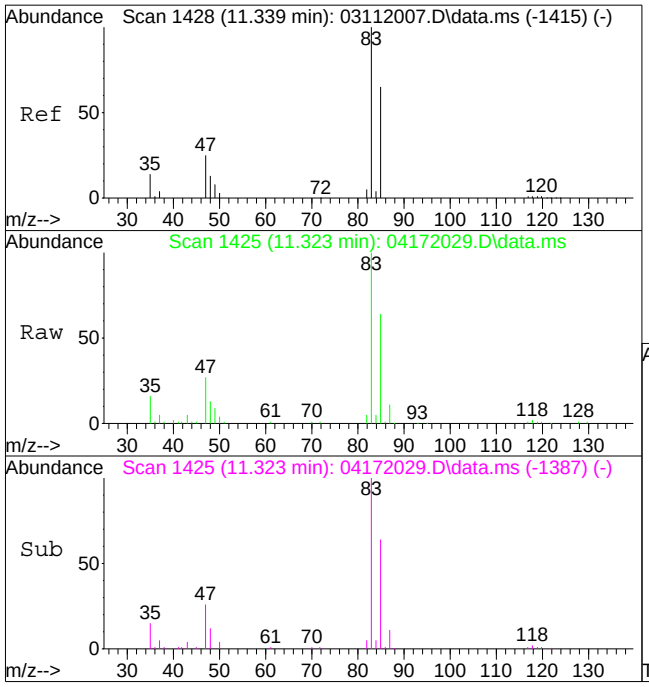


#31
n-Hexane
Concen: 0.05 ng
RT: 11.28 min Scan# 1417
Delta R.T. -0.011 min
Lab File: 04172029.D
Acq: 17 Apr 2020 20:17

Tgt Ion: 57 Resp: 3427

Ion	Ratio	Lower	Upper
57	100		
56	52.8	41.0	61.4
86	15.7	13.9	20.9

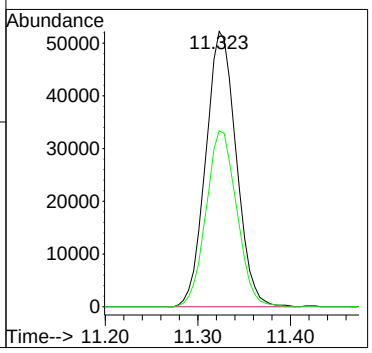


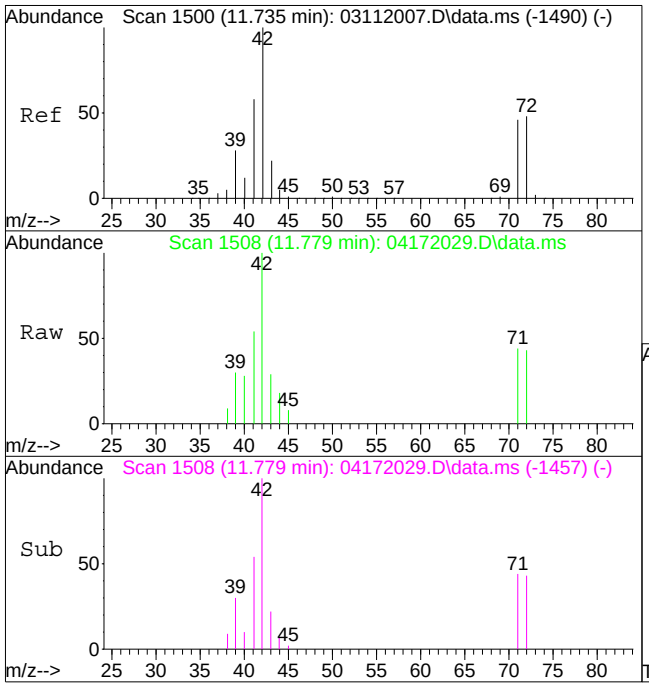


#32
Chloroform
Concen: 1.74 ng
RT: 11.32 min Scan# 1425
Delta R.T. -0.038 min
Lab File: 04172029.D
Acq: 17 Apr 2020 20:17

Tgt Ion: 83 Resp: 119494

Ion	Ratio	Lower	Upper
83	100		
85	64.2	45.5	85.5

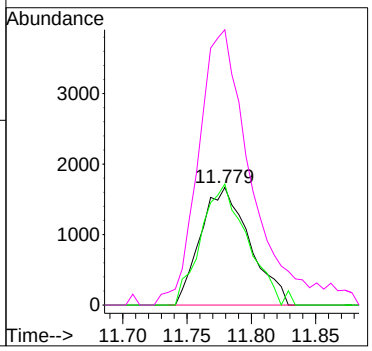


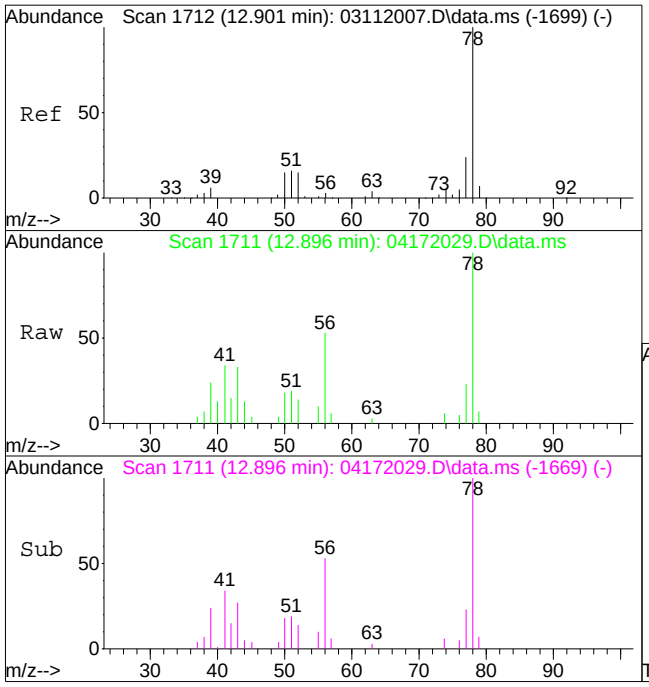


#34
Tetrahydrofuran (THF)
Concen: 0.18 ng
RT: 11.78 min Scan# 1508
Delta R.T. 0.033 min
Lab File: 04172029.D
Acq: 17 Apr 2020 20:17

Tgt Ion: 72 Resp: 4427

Ion	Ratio	Lower	Upper
72	100		
71	97.6	75.9	115.9
42	257.0	189.3	229.3#

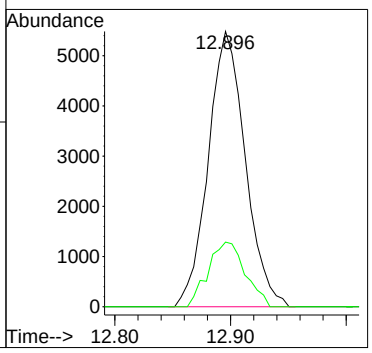


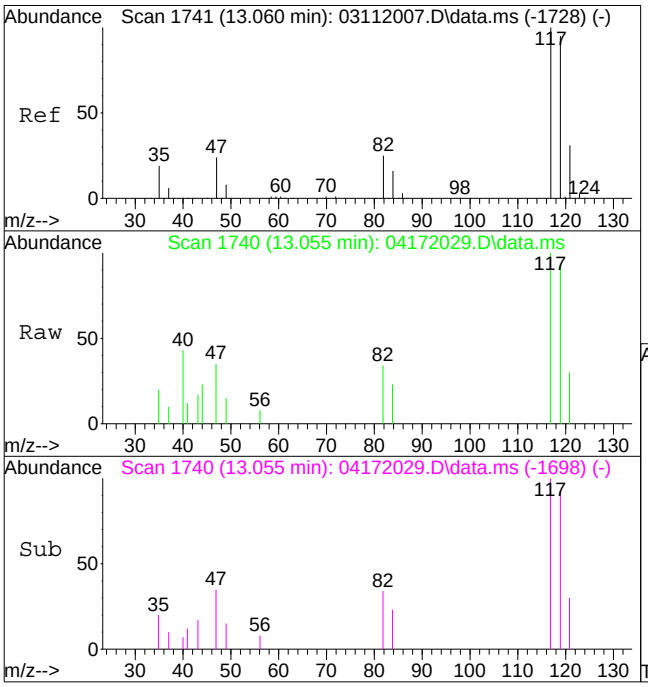


#41
Benzene
Concen: 0.08 ng
RT: 12.90 min Scan# 1711
Delta R.T. -0.016 min
Lab File: 04172029.D
Acq: 17 Apr 2020 20:17

Tgt Ion: 78 Resp: 12217

Ion	Ratio	Lower	Upper
78	100		
77	23.5	3.4	43.4

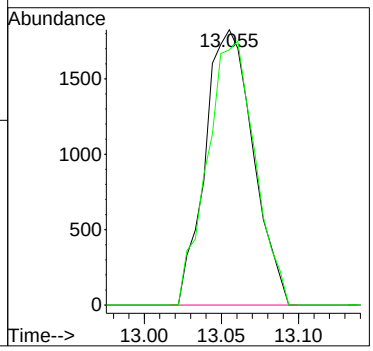


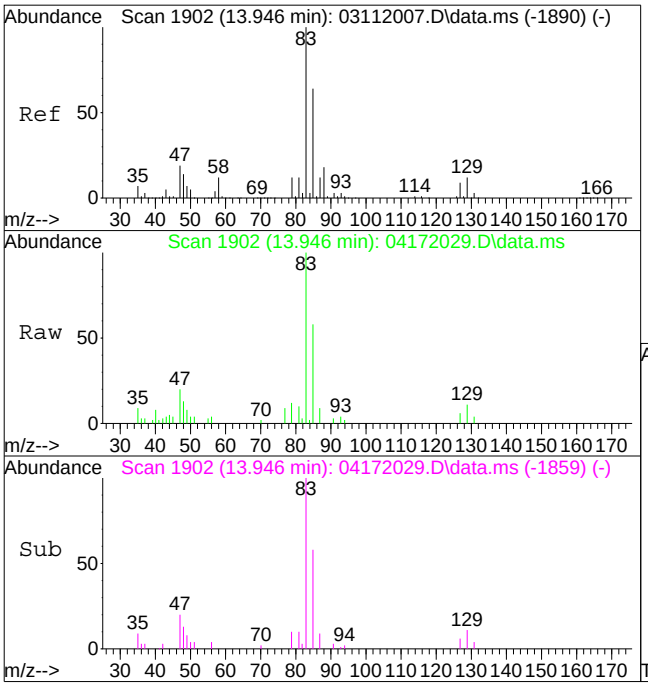


#42
Carbon Tetrachloride
Concen: 0.07 ng
RT: 13.06 min Scan# 1740
Delta R.T. -0.016 min
Lab File: 04172029.D
Acq: 17 Apr 2020 20:17

Tgt Ion:117 Resp: 3943

Ion	Ratio	Lower	Upper
117	100		
119	95.8	75.4	115.4

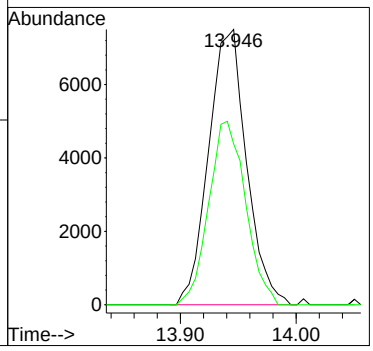


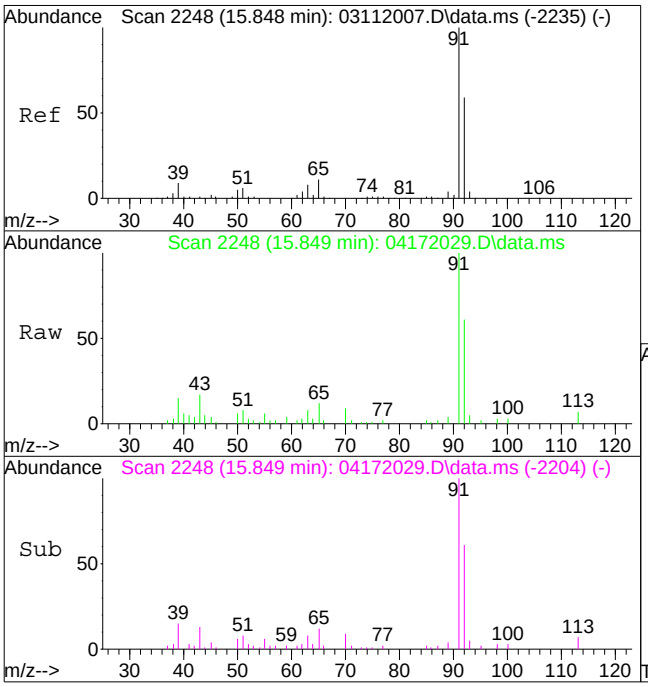


#46
Bromodichloromethane
Concen: 0.32 ng
RT: 13.95 min Scan# 1902
Delta R.T. -0.011 min
Lab File: 04172029.D
Acq: 17 Apr 2020 20:17

Tgt Ion: 83 Resp: 17097

Ion	Ratio	Lower	Upper
83	100		
85	64.6	44.0	84.0

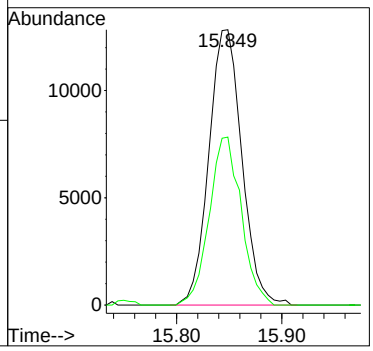


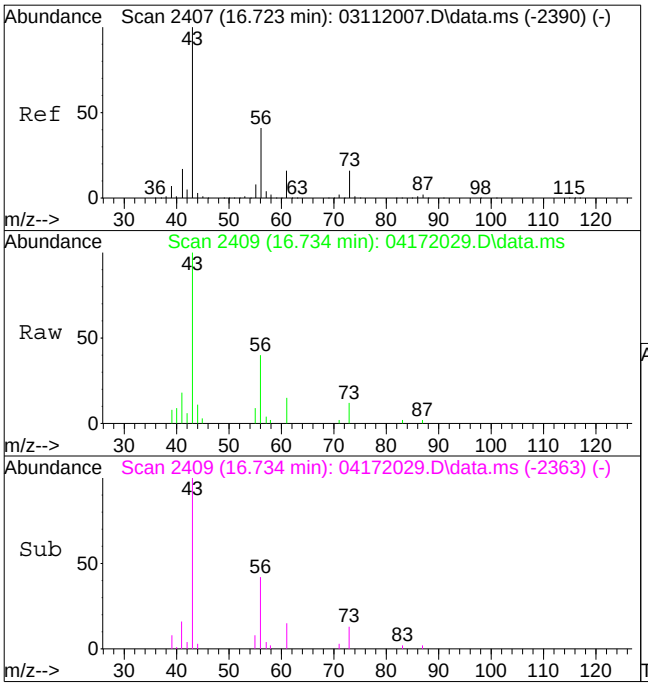


#58
Toluene
Concen: 0.17 ng
RT: 15.85 min Scan# 2248
Delta R.T. -0.005 min
Lab File: 04172029.D
Acq: 17 Apr 2020 20:17

Tgt Ion: 91 Resp: 28028

Ion	Ratio	Lower	Upper
91	100		
92	59.1	39.0	79.0

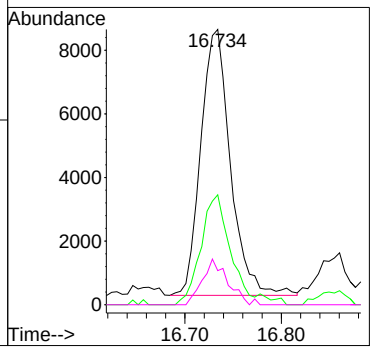


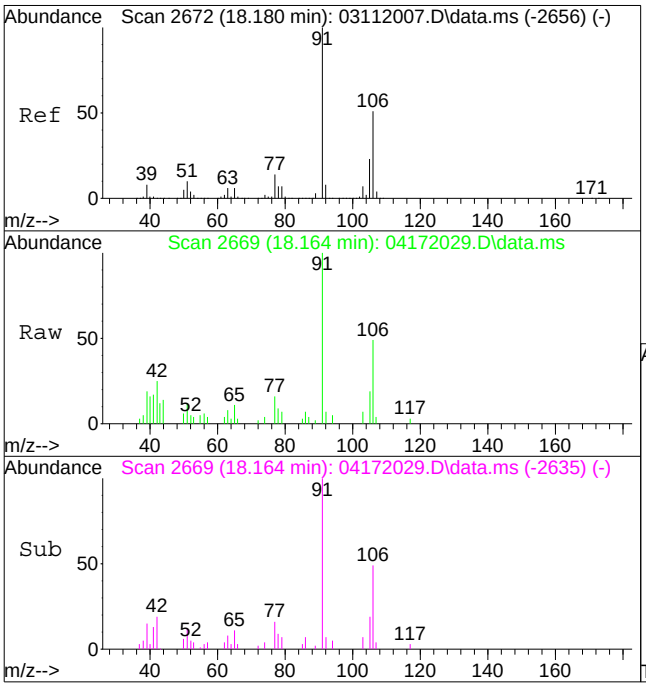


#62
n-Butyl Acetate
Concen: 0.20 ng
RT: 16.73 min Scan# 2409
Delta R.T. 0.006 min
Lab File: 04172029.D
Acq: 17 Apr 2020 20:17

Tgt Ion: 43 Resp: 17901

Ion	Ratio	Lower	Upper
43	100		
56	42.6	20.7	60.7
73	14.7	0.0	35.5

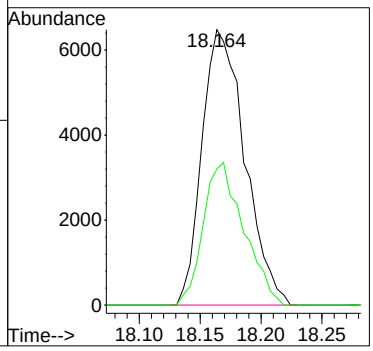


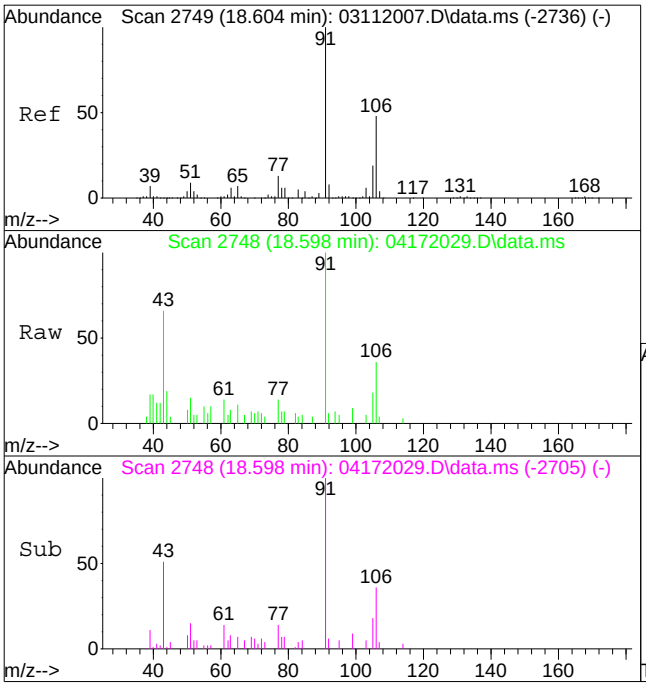


#67
m- & p-Xylenes
Concen: 0.10 ng
RT: 18.16 min Scan# 2669
Delta R.T. -0.011 min
Lab File: 04172029.D
Acq: 17 Apr 2020 20:17

Tgt Ion: 91 Resp: 15837

Ion	Ratio	Lower	Upper
91	100		
106	48.9	30.4	70.4

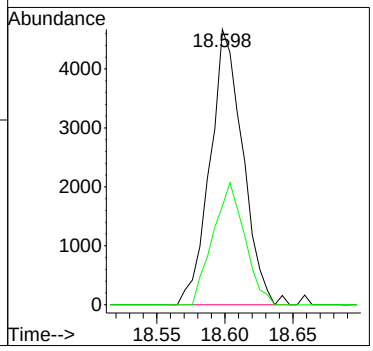


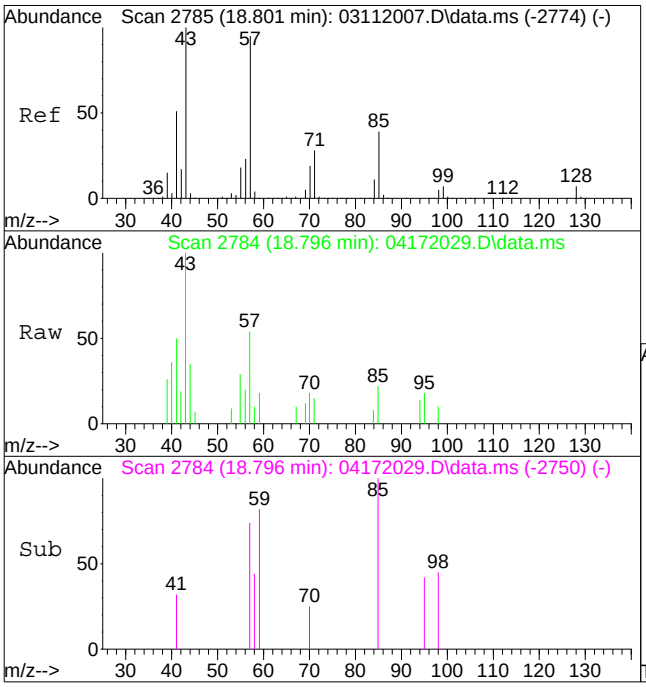


#70
o-Xylene
Concen: 0.05 ng
RT: 18.60 min Scan# 2748
Delta R.T. -0.011 min
Lab File: 04172029.D
Acq: 17 Apr 2020 20:17

Tgt Ion: 91 Resp: 7790

Ion	Ratio	Lower	Upper
91	100		
106	43.2	28.1	68.1

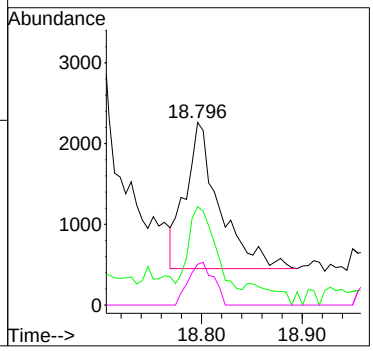


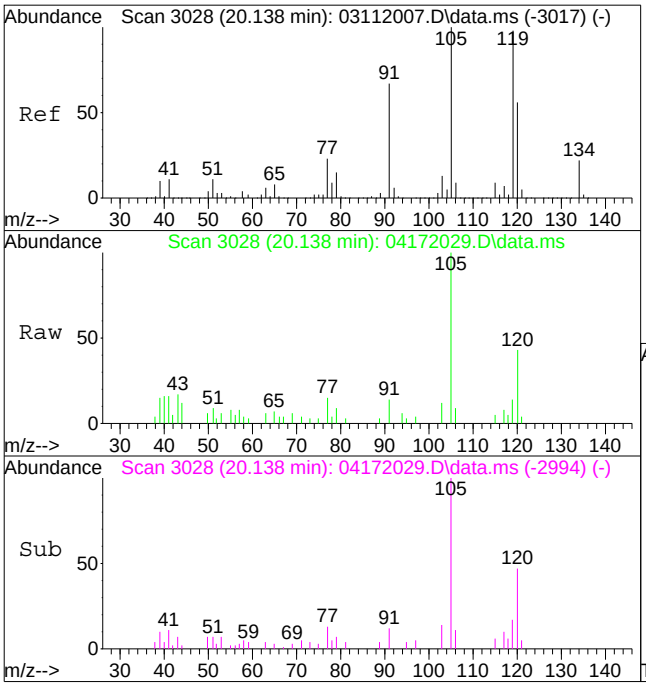


#71
n-Nonane
Concen: 0.06 ng
RT: 18.80 min Scan# 2784
Delta R.T. -0.011 min
Lab File: 04172029.D
Acq: 17 Apr 2020 20:17

Tgt Ion: 43 Resp: 4252

Ion	Ratio	Lower	Upper
43	100		
57	42.2	73.6	113.6#
85	21.5	18.7	58.7

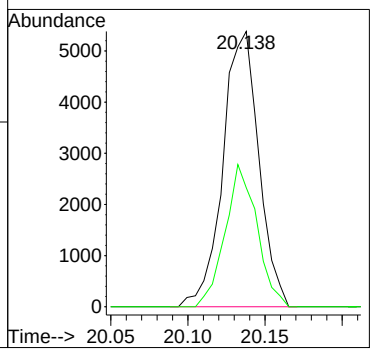




#82
1,2,4-Trimethylbenzene
Concen: 0.05 ng
RT: 20.14 min Scan# 3028
Delta R.T. -0.011 min
Lab File: 04172029.D
Acq: 17 Apr 2020 20:17

Tgt Ion:105 Resp: 8713

Ion	Ratio	Lower	Upper
105	100		
120	45.7	35.8	75.8



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172030.D Vial: 10
Acq On : 17 Apr 2020 20:50 Operator: LH
Sample : P2002028-002 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 18:25:21 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/20/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	326544	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1467556	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	737150	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.01	65	585993	12.960	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.68%				
57) Toluene-d8 (SS2)	15.74	98	1532061	11.726	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.84%				
73) Bromofluorobenzene (SS3)	19.00	174	504754	10.940	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.52%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	4.29	85	42478	0.577	ng		97
4) Chloromethane	4.57	50	1817	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.83	135	913	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.26	54	407	N.D.			
8) Bromomethane	5.68	94	159	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.34	45	23346	0.863	ng		99
11) Acetonitrile	6.63	41	2097	N.D.			
12) Acrolein	6.82	56	1215	0.061	ng		87
13) Acetone	7.04	58	27581	1.033	ng		100
14) Trichlorofluoromethane	7.27	101	19257	0.296	ng		98
15) 2-Propanol (Isopropanol)	7.55	45	6369	0.080	ng		74
16) Acrylonitrile	8.00	53	169	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.47	59	3407	N.D.			
19) Methylene Chloride	8.44	84	403	N.D.			
20) 3-Chloro-1-propene (Al...	8.52	41	803	N.D.			
21) Trichlorotrifluoroethane	8.87	151	3213	0.103	ng		99
22) Carbon Disulfide	8.71	76	32941	0.264	ng		100
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.51	72	2340	0.105	ng	#	73
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	11.28	57	5540	0.091	ng		98
32) Chloroform	11.32	83	113210	1.746	ng		99
34) Tetrahydrofuran (THF)	11.78	72	1267	0.055	ng	#	34
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.03	62	122	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.90	78	8577	0.057	ng		99
42) Carbon Tetrachloride	13.06	117	3672	0.070	ng		93
43) Cyclohexane	13.19	84	1288	N.D.			
44) tert-Amyl Methyl Ether	13.57	73	554	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	13.93	83	20627	0.402	ng		99
47) Trichloroethene	13.99	130	2203	0.051	ng		96
48) 1,4-Dioxane	14.00	88	2634	0.090	ng		95
49) 2,2,4-Trimethylpentane...	14.07	57	3376	N.D.			
50) Methyl Methacrylate	14.34	100	693	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172030.D Vial: 10
Acq On : 17 Apr 2020 20:50 Operator: LH
Sample : P2002028-002 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 18:25:21 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.34	71	3111	0.088 ng	96
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.91	58	398	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.84	91	14057	0.087 ng	98
59) 2-Hexanone	16.13	43	3754	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.74	43	466	N.D.	
63) n-Octane	16.85	57	3594	0.112 ng	92
64) Tetrachloroethene	16.99	166	3548	0.079 ng	96
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	18.01	91	3413	N.D.	
67) m- & p-Xylenes	18.17	91	7409	0.051 ng	99
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.51	104	755	N.D.	
70) o-Xylene	18.60	91	4785	N.D.	
71) n-Nonane	18.80	43	7497	0.104 ng	83
72) 1,1,2,2-Tetrachloroethane	18.61	83	1458	N.D.	
74) Cumene	19.13	105	1568	N.D.	
75) alpha-Pinene	19.48	93	385	N.D.	
76) n-Propylbenzene	19.57	91	2933	N.D.	
77) 3-Ethyltoluene	19.67	105	3389	N.D.	
78) 4-Ethyltoluene	19.71	105	1798	N.D.	
79) 1,3,5-Trimethylbenzene	19.77	105	2700	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	19.94	105	2213	N.D.	
82) 1,2,4-Trimethylbenzene	20.13	105	5281	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.25	91	357	N.D.	
85) 1,3-Dichlorobenzene	20.27	146	842	N.D.	
86) 1,4-Dichlorobenzene	20.33	146	302	N.D.	
87) sec-Butylbenzene	20.37	105	1508	N.D.	
88) 4-Isopropyltoluene (p-...	20.51	119	2840	N.D.	
89) 1,2,3-Trimethylbenzene	20.51	105	4083	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.64	68	1274	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.15	180	131	N.D.	
95) Naphthalene	22.25	128	4658	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.13	119	929	N.D.	
100) n-Butylbenzene	20.86	91	4074	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172030.D Vial: 10
Acq On : 17 Apr 2020 20:50 Operator: LH
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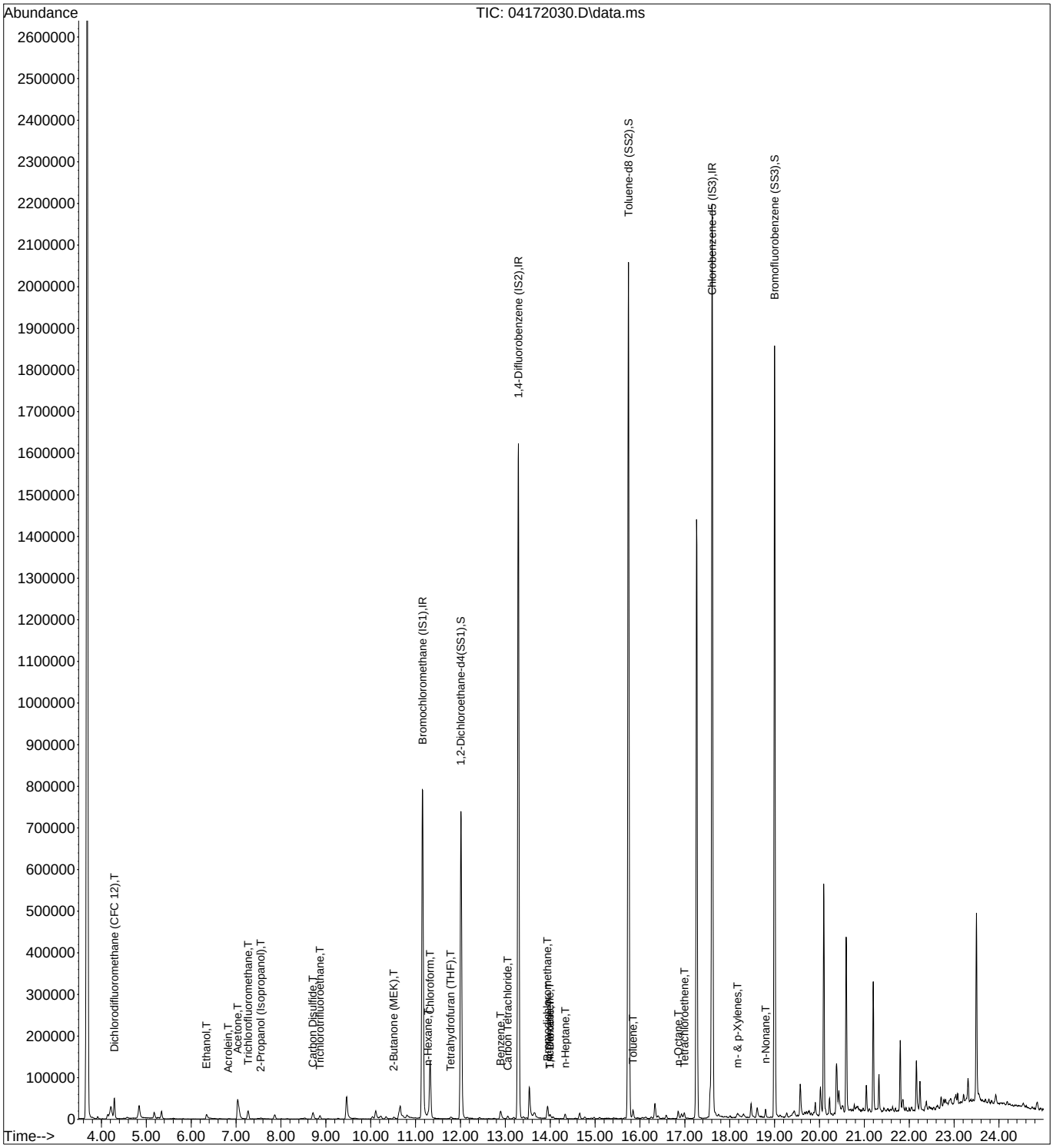
Misc : S31-02112001

Quant Time: Apr 20 18:25:21 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

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LH 4/20/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	326544	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1467556	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	737150	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.01	65	585993	12.960	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.68%				
57) Toluene-d8 (SS2)	15.74	98	1532061	11.726	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.84%				
73) Bromofluorobenzene (SS3)	19.00	174	504754	10.940	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.52%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.29	85	42478	0.577	ng		97
10) Ethanol	6.34	45	23346	0.863	ng		99
12) Acrolein	6.82	56	1215	0.061	ng		87
13) Acetone	7.04	58	27581	1.033	ng		100
14) Trichlorofluoromethane	7.27	101	19257	0.296	ng		98
15) 2-Propanol (Isopropanol)	7.55	45	6369	0.080	ng		74
21) Trichlorotrifluoroethane	8.87	151	3213	0.103	ng		99
22) Carbon Disulfide	8.71	76	32941	0.264	ng		100
27) 2-Butanone (MEK)	10.51	72	2340	0.105	ng	#	73
31) n-Hexane	11.28	57	5540	0.091	ng		98
32) Chloroform	11.32	83	113210	1.746	ng		99
34) Tetrahydrofuran (THF)	11.78	72	1267	0.055	ng	#	34
41) Benzene	12.90	78	8577	0.057	ng		99
42) Carbon Tetrachloride	13.06	117	3672	0.070	ng		93
46) Bromodichloromethane	13.93	83	20627	0.402	ng		99
47) Trichloroethene	13.99	130	2203	0.051	ng		96
48) 1,4-Dioxane	14.00	88	2634	0.090	ng		95
51) n-Heptane	14.34	71	3111	0.088	ng		96
58) Toluene	15.84	91	14057	0.087	ng		98
63) n-Octane	16.85	57	3594	0.112	ng		92
64) Tetrachloroethene	16.99	166	3548	0.079	ng		96
67) m- & p-Xylenes	18.17	91	7409	0.051	ng		99
71) n-Nonane	18.80	43	7497	0.104	ng		83

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172030.D Vial: 10
Acq On : 17 Apr 2020 20:50 Operator: LH
Sample : P2002028-002 (400mL) Inst : GCMS-16
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Quant Method : I:\MS16\METHODS\R16031120.M
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QLast Update : Wed Mar 11 10:42:05 2020
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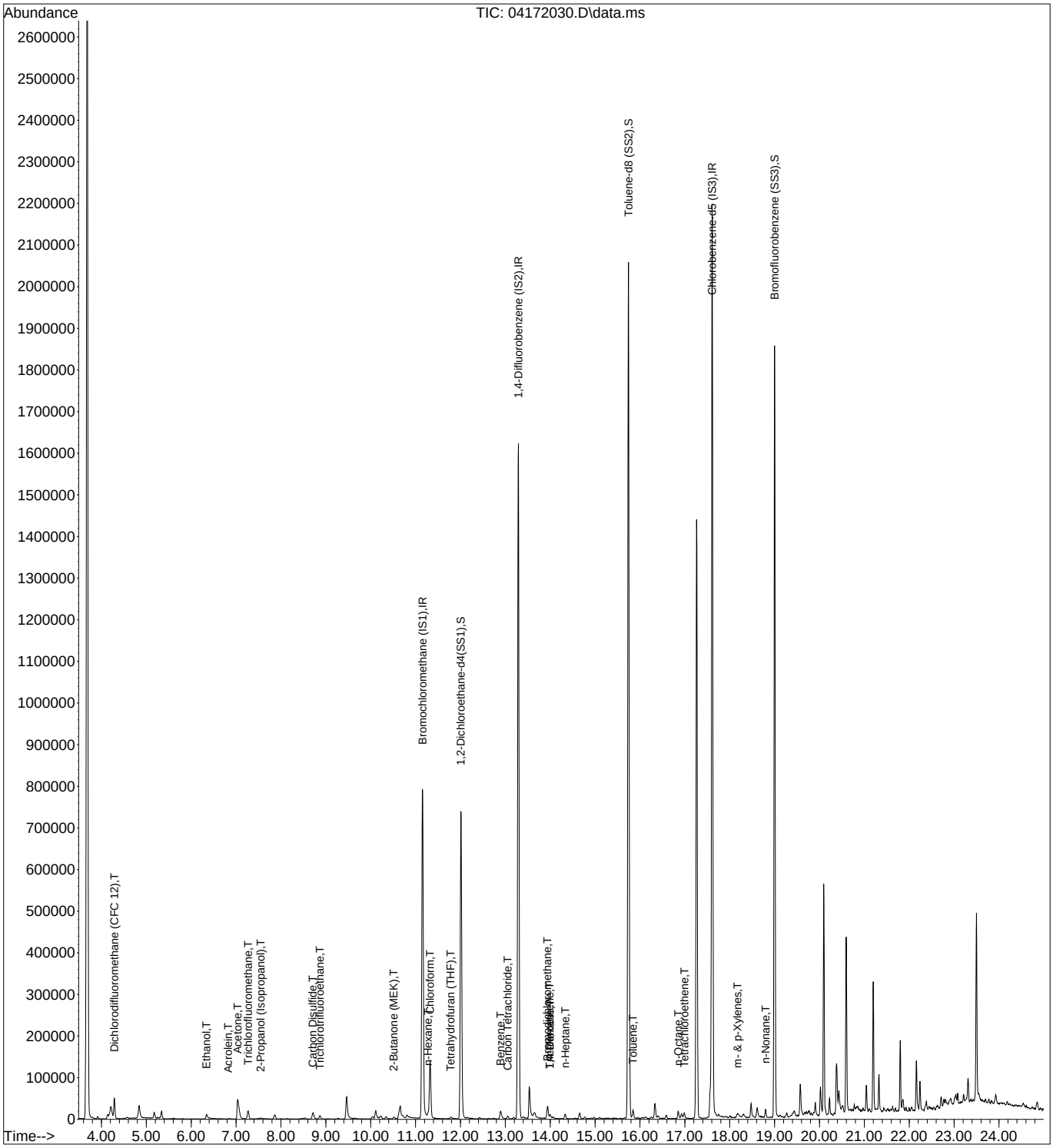
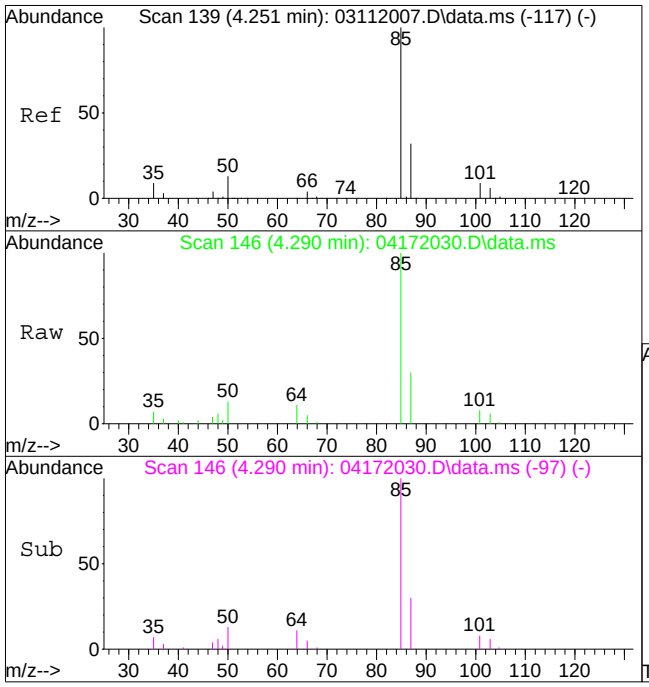
DataAcq Meth:TO15.M

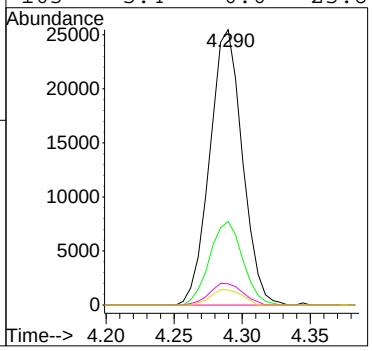


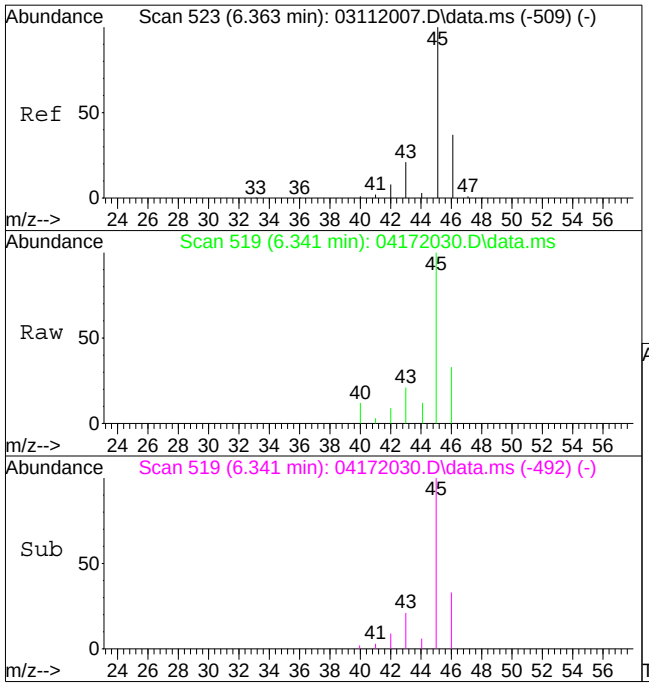


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.58 ng
RT: 4.29 min Scan# 146
Delta R.T. 0.022 min
Lab File: 04172030.D
Acq: 17 Apr 2020 20:50

Tgt Ion: 85 Resp: 42478

Ion	Ratio	Lower	Upper
85	100		
87	30.7	12.3	52.3
101	8.1	0.0	29.0
103	5.4	0.0	25.8

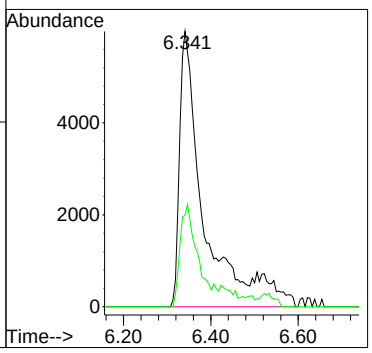


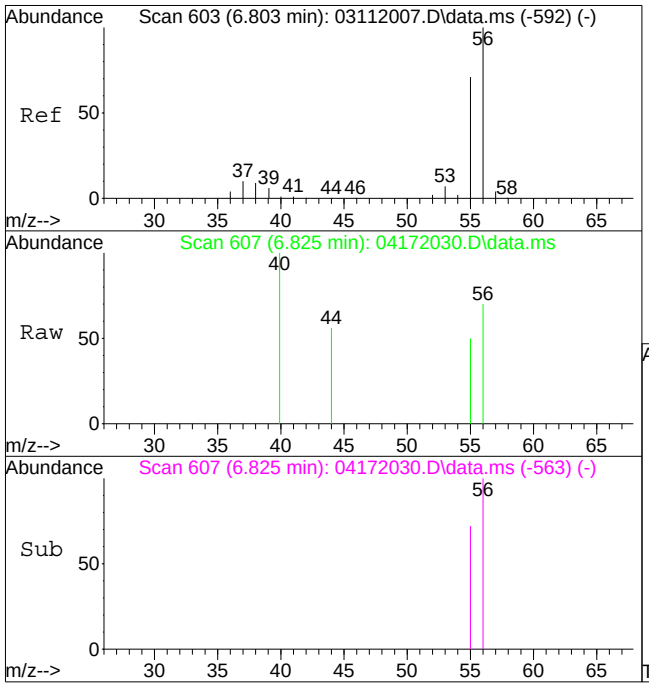


#10
Ethanol
Concen: 0.86 ng
RT: 6.34 min Scan# 519
Delta R.T. -0.099 min
Lab File: 04172030.D
Acq: 17 Apr 2020 20:50

Tgt Ion: 45 Resp: 23346

Ion	Ratio	Lower	Upper
45	100		
46	36.6	17.3	57.3

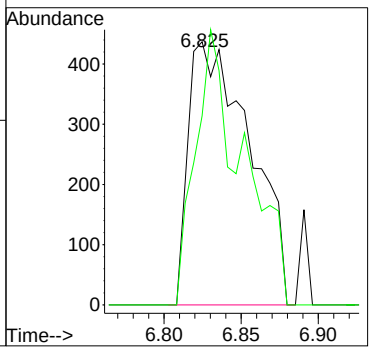


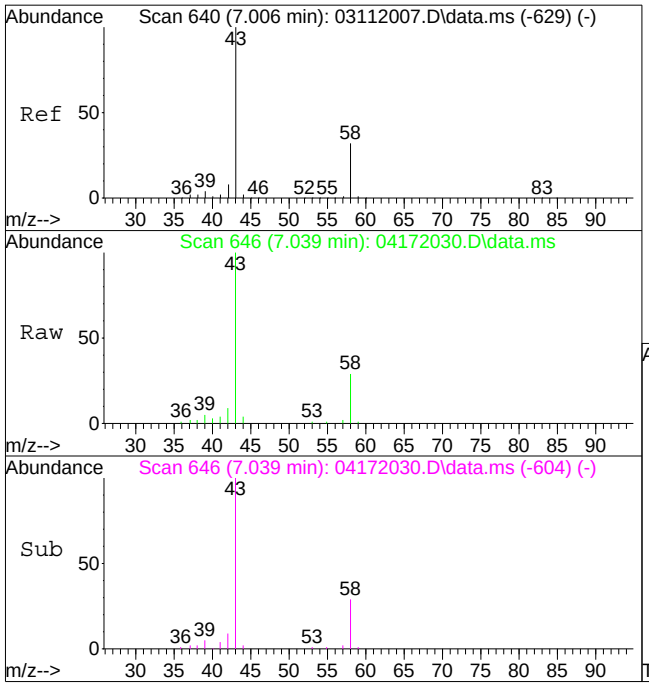


#12
Acrolein
Concen: 0.06 ng
RT: 6.82 min Scan# 607
Delta R.T. -0.005 min
Lab File: 04172030.D
Acq: 17 Apr 2020 20:50

Tgt Ion: 56 Resp: 1215

Ion	Ratio	Lower	Upper
56	100		
55	81.2	50.4	90.4

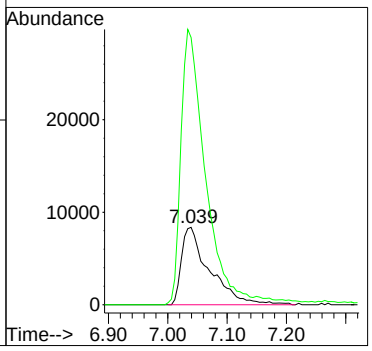


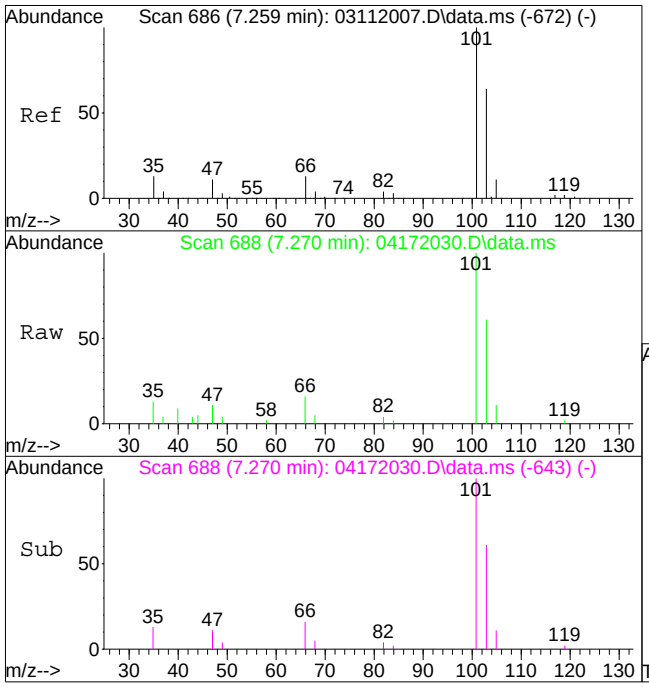


#13
Acetone
Concen: 1.03 ng
RT: 7.04 min Scan# 646
Delta R.T. -0.017 min
Lab File: 04172030.D
Acq: 17 Apr 2020 20:50

Tgt Ion: 58 Resp: 27581

Ion	Ratio	Lower	Upper
58	100		
43	316.8	287.3	347.3

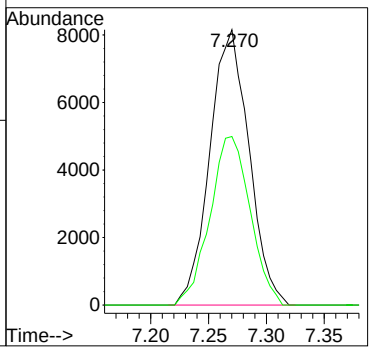


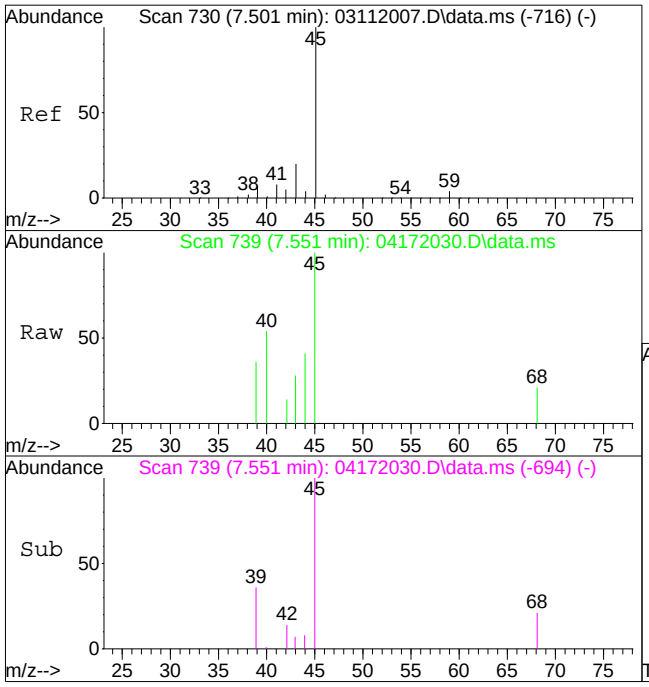


#14
Trichlorofluoromethane
Concen: 0.30 ng
RT: 7.27 min Scan# 688
Delta R.T. -0.005 min
Lab File: 04172030.D
Acq: 17 Apr 2020 20:50

Tgt Ion:101 Resp: 19257

Ion	Ratio	Lower	Upper
101	100		
103	62.9	44.6	84.6

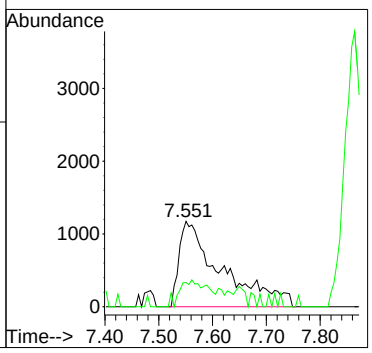


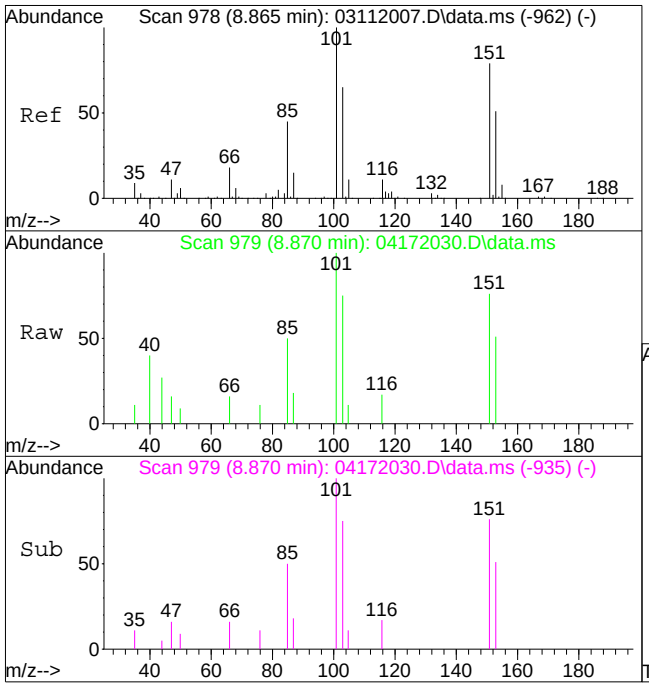


#15
2-Propanol (Isopropanol)
Concen: 0.08 ng
RT: 7.55 min Scan# 739
Delta R.T. 0.000 min
Lab File: 04172030.D
Acq: 17 Apr 2020 20:50

Tgt Ion: 45 Resp: 6369

Ion	Ratio	Lower	Upper
45	100		
43	32.1	0.3	40.3

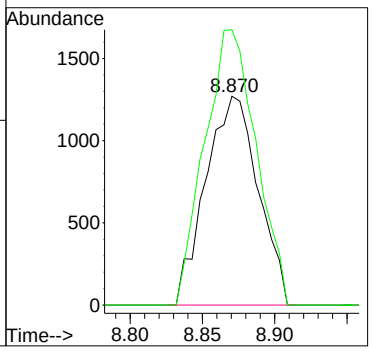


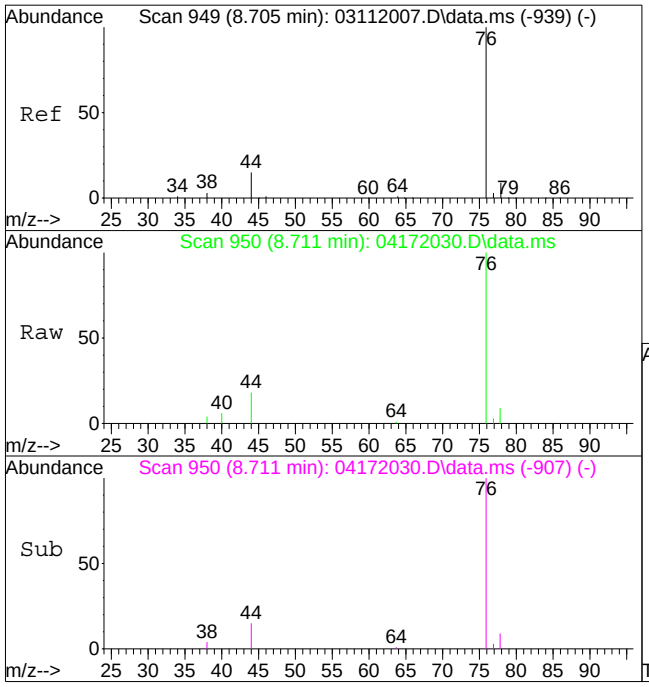


#21
Trichlorotrifluoroethane
Concen: 0.10 ng
RT: 8.87 min Scan# 979
Delta R.T. -0.006 min
Lab File: 04172030.D
Acq: 17 Apr 2020 20:50

Tgt Ion:151 Resp: 3213

Ion	Ratio	Lower	Upper
151	100		
101	129.6	108.4	148.4

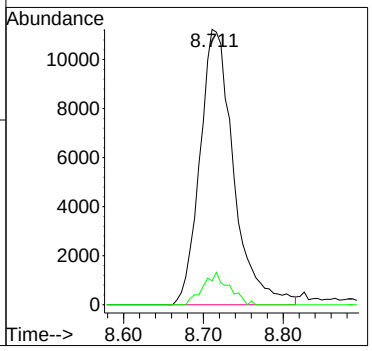


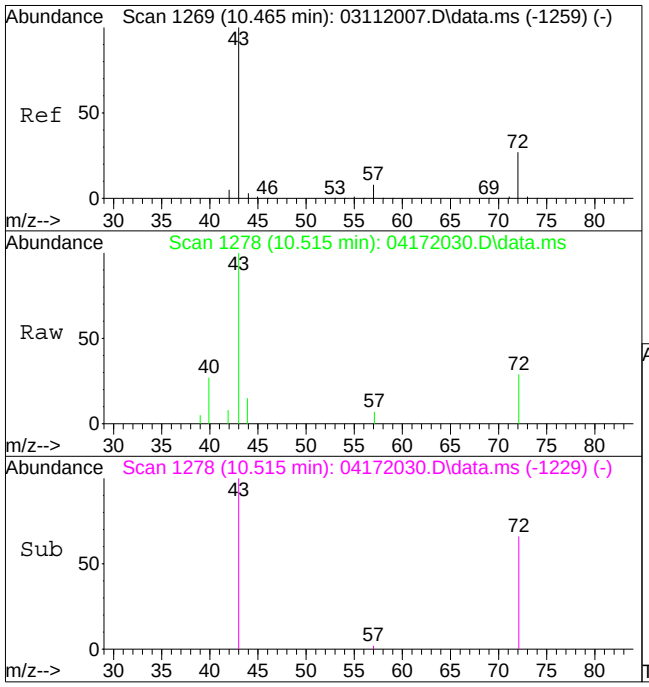


#22
Carbon Disulfide
Concen: 0.26 ng
RT: 8.71 min Scan# 950
Delta R.T. -0.011 min
Lab File: 04172030.D
Acq: 17 Apr 2020 20:50

Tgt Ion: 76 Resp: 32941

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	29.2

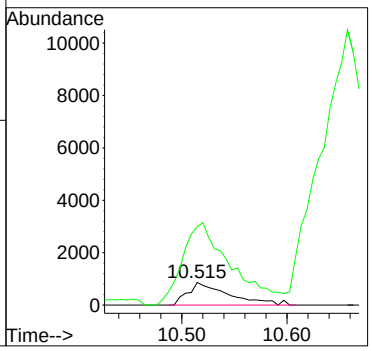


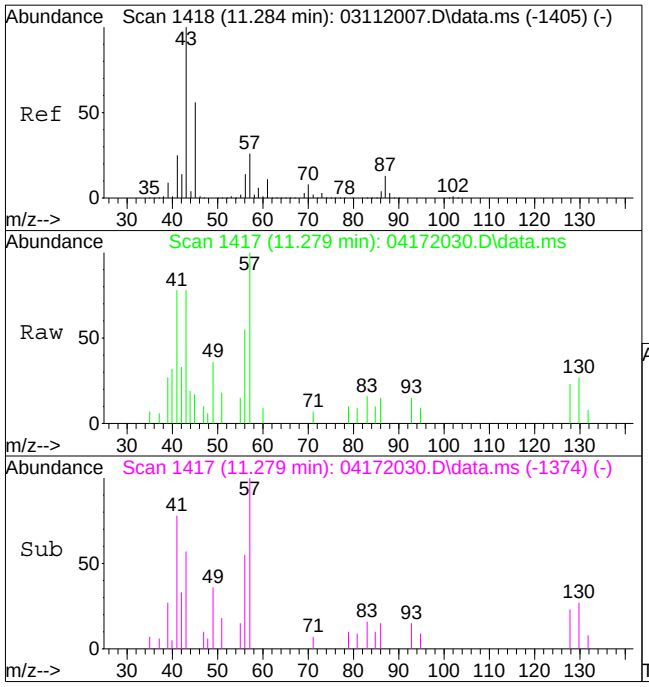


#27
2-Butanone (MEK)
Concen: 0.11 ng
RT: 10.51 min Scan# 1278
Delta R.T. 0.022 min
Lab File: 04172030.D
Acq: 17 Apr 2020 20:50

Tgt Ion: 72 Resp: 2340

Ion	Ratio	Lower	Upper
72	100		
43	433.6	353.4	393.4#

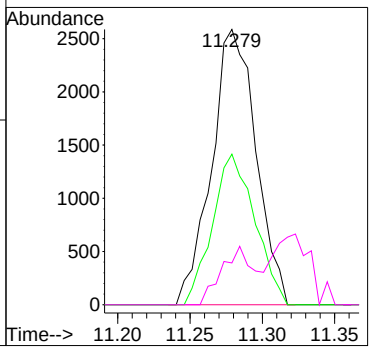


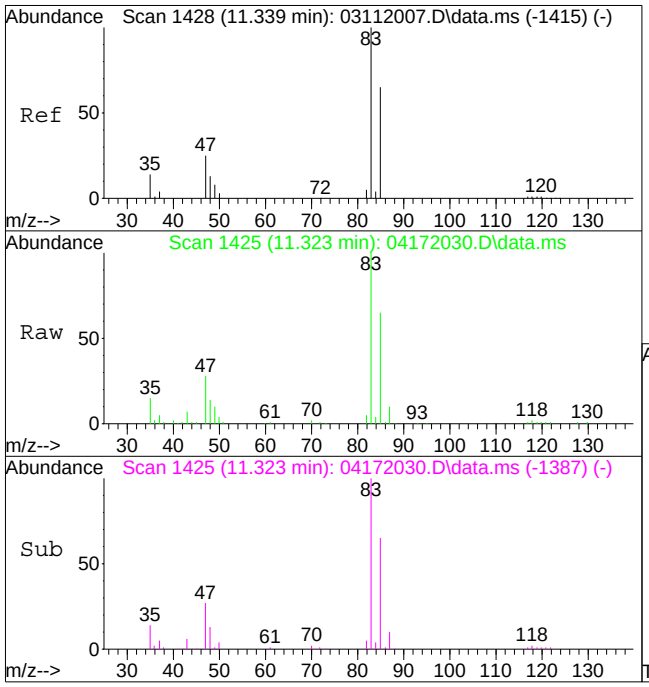


#31
n-Hexane
Concen: 0.09 ng
RT: 11.28 min Scan# 1417
Delta R.T. -0.011 min
Lab File: 04172030.D
Acq: 17 Apr 2020 20:50

Tgt Ion: 57 Resp: 5540

Ion	Ratio	Lower	Upper
57	100		
56	52.2	41.0	61.4
86	16.1	13.9	20.9

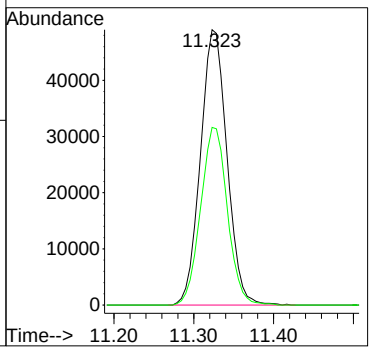


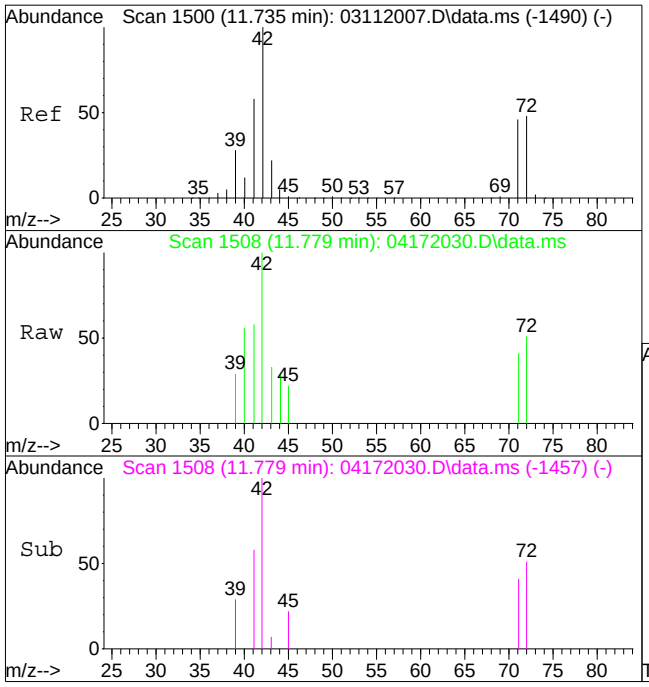


#32
Chloroform
Concen: 1.75 ng
RT: 11.32 min Scan# 1425
Delta R.T. -0.038 min
Lab File: 04172030.D
Acq: 17 Apr 2020 20:50

Tgt Ion: 83 Resp: 113210

Ion	Ratio	Lower	Upper
83	100		
85	65.0	45.5	85.5

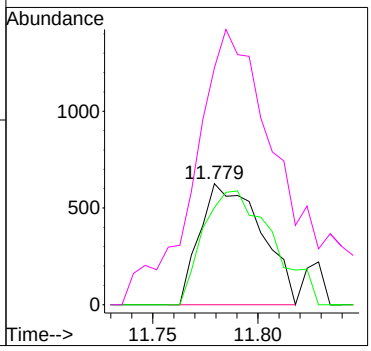


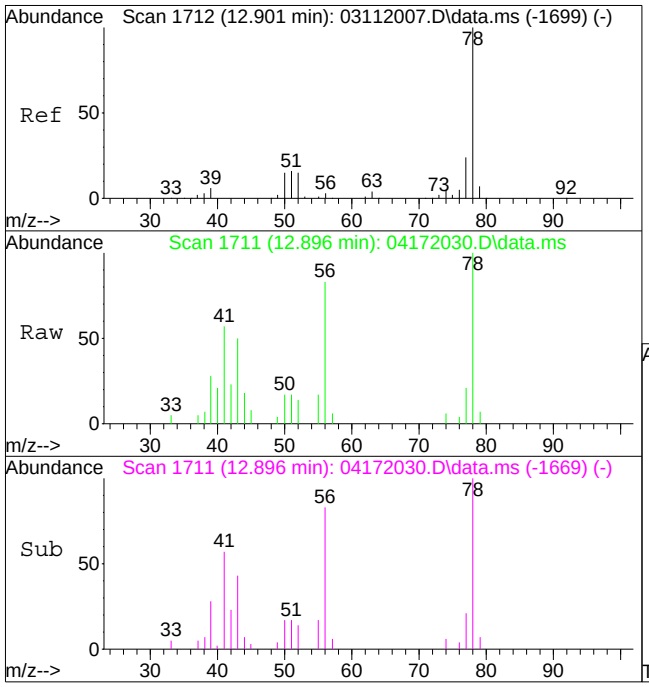


#34
Tetrahydrofuran (THF)
Concen: 0.06 ng
RT: 11.78 min Scan# 1508
Delta R.T. 0.033 min
Lab File: 04172030.D
Acq: 17 Apr 2020 20:50

Tgt Ion: 72 Resp: 1267

Ion	Ratio	Lower	Upper
72	100		
71	106.6	75.9	115.9
42	351.3	189.3	229.3#

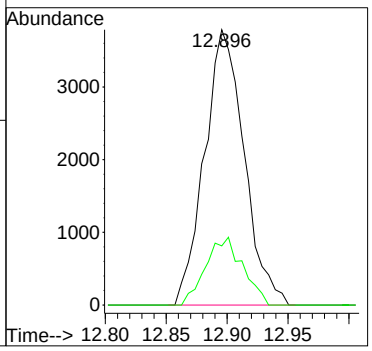


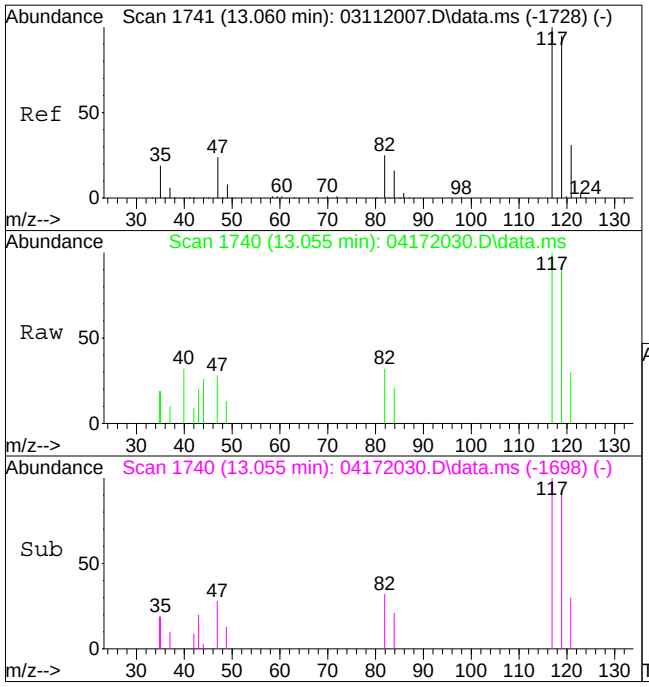


#41
Benzene
Concen: 0.06 ng
RT: 12.90 min Scan# 1711
Delta R.T. -0.016 min
Lab File: 04172030.D
Acq: 17 Apr 2020 20:50

Tgt Ion: 78 Resp: 8577

Ion	Ratio	Lower	Upper
78	100		
77	23.1	3.4	43.4

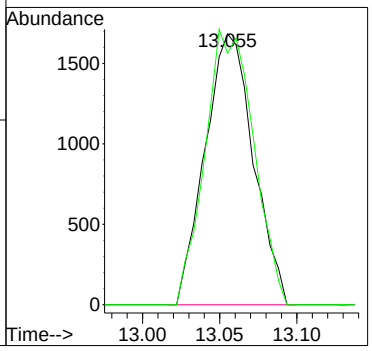


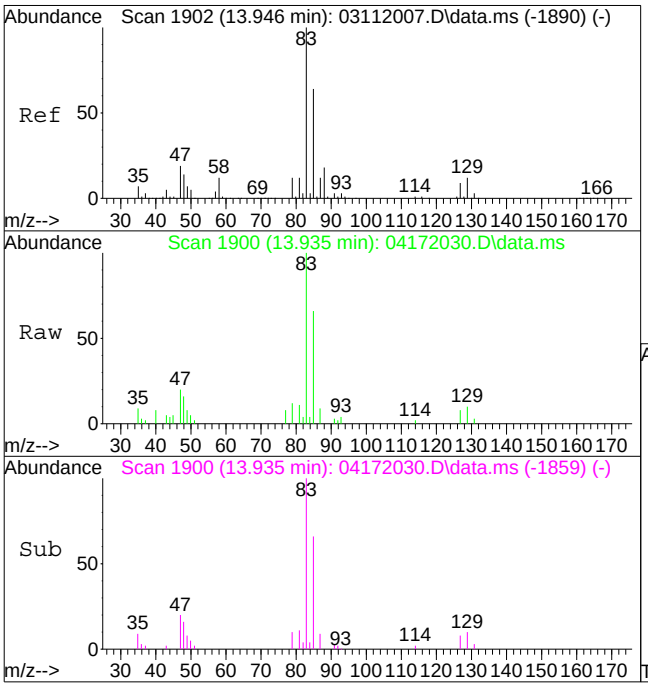


#42
Carbon Tetrachloride
Concen: 0.07 ng
RT: 13.06 min Scan# 1740
Delta R.T. -0.016 min
Lab File: 04172030.D
Acq: 17 Apr 2020 20:50

Tgt Ion:117 Resp: 3672

Ion	Ratio	Lower	Upper
117	100		
119	102.2	75.4	115.4

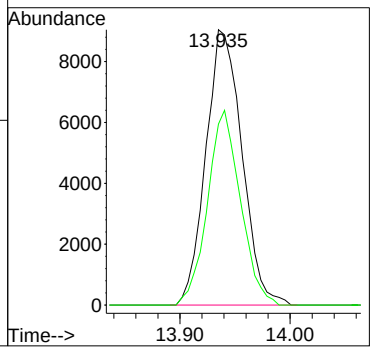


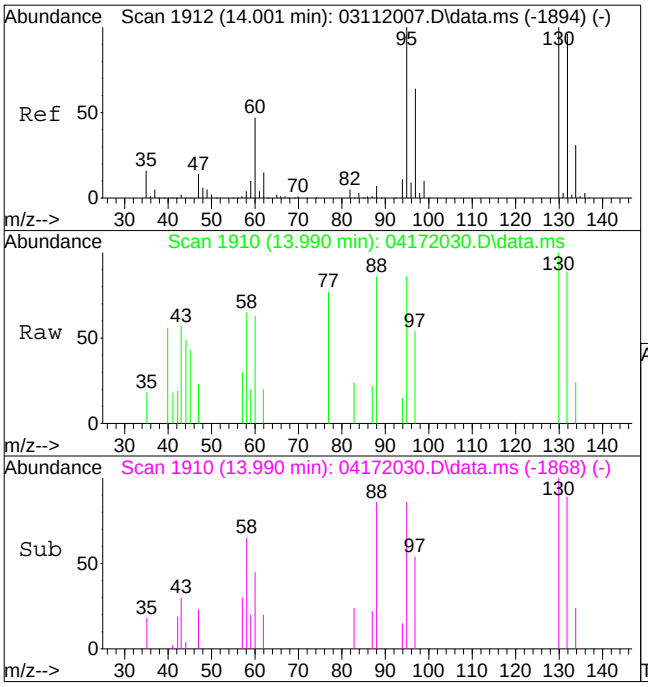


#46
Bromodichloromethane
Concen: 0.40 ng
RT: 13.93 min Scan# 1900
Delta R.T. -0.022 min
Lab File: 04172030.D
Acq: 17 Apr 2020 20:50

Tgt Ion: 83 Resp: 20627

Ion	Ratio	Lower	Upper
83	100		
85	64.4	44.0	84.0

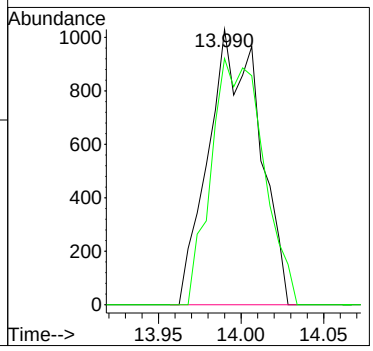


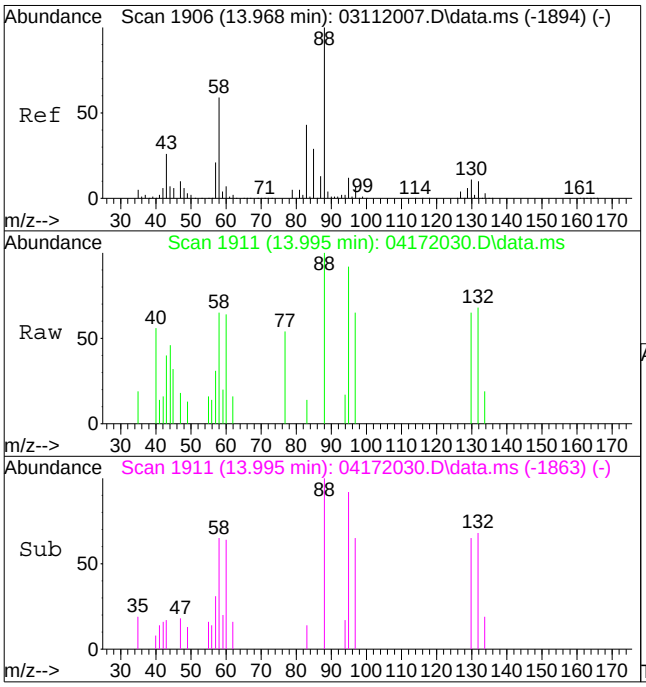


#47
Trichloroethene
Concen: 0.05 ng
RT: 13.99 min Scan# 1910
Delta R.T. -0.016 min
Lab File: 04172030.D
Acq: 17 Apr 2020 20:50

Tgt Ion:130 Resp: 2203

Ion	Ratio	Lower	Upper
130	100		
132	91.2	74.7	114.7

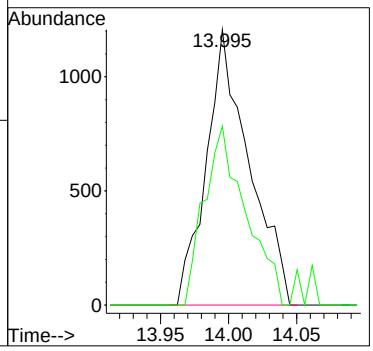


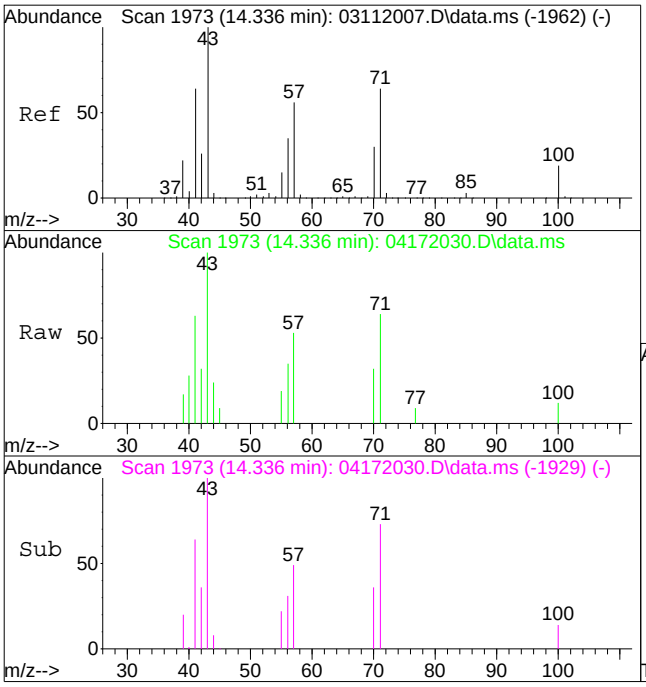


#48
1,4-Dioxane
Concen: 0.09 ng
RT: 14.00 min Scan# 1911
Delta R.T. 0.017 min
Lab File: 04172030.D
Acq: 17 Apr 2020 20:50

Tgt Ion: 88 Resp: 2634

Ion	Ratio	Lower	Upper
88	100		
58	63.2	39.5	79.5

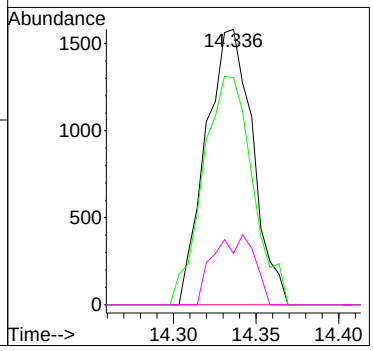


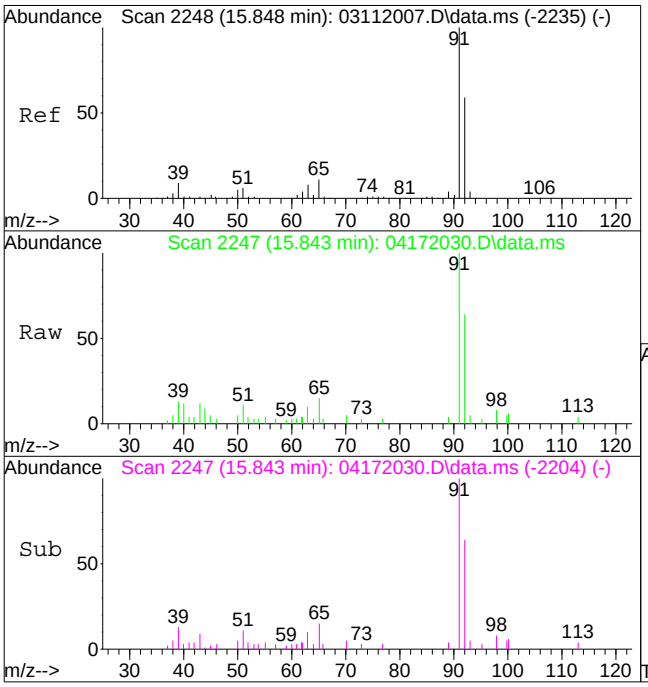


#51
n-Heptane
Concen: 0.09 ng
RT: 14.34 min Scan# 1973
Delta R.T. -0.005 min
Lab File: 04172030.D
Acq: 17 Apr 2020 20:50

Tgt Ion: 71 Resp: 3111

Ion	Ratio	Lower	Upper
71	100		
57	87.9	68.6	108.6
100	22.3	9.1	49.1

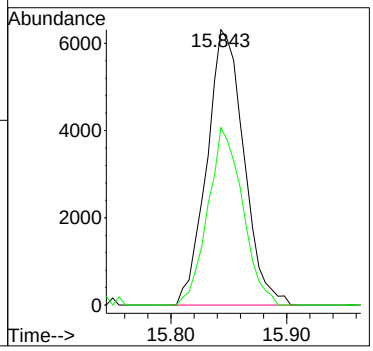


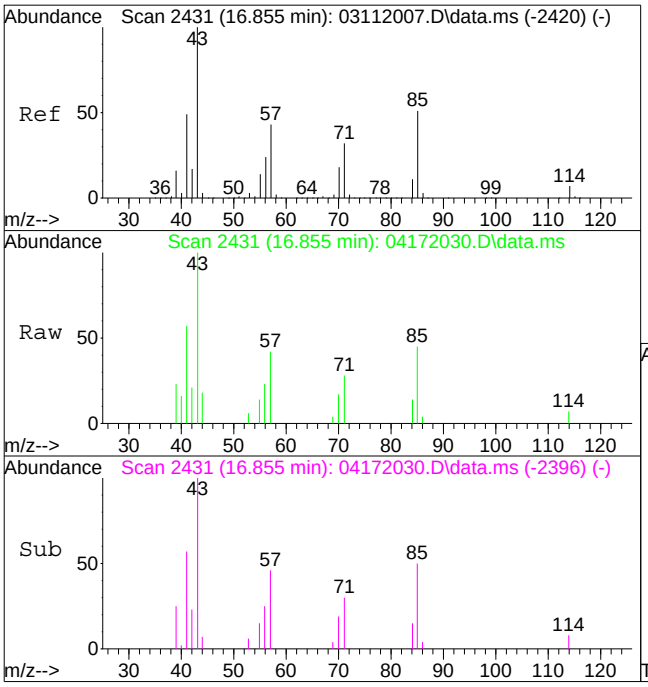


#58
Toluene
Concen: 0.09 ng
RT: 15.84 min Scan# 2247
Delta R.T. -0.011 min
Lab File: 04172030.D
Acq: 17 Apr 2020 20:50

Tgt Ion: 91 Resp: 14057

Ion	Ratio	Lower	Upper
91	100		
92	60.4	39.0	79.0

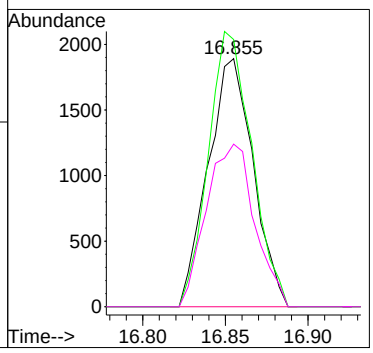


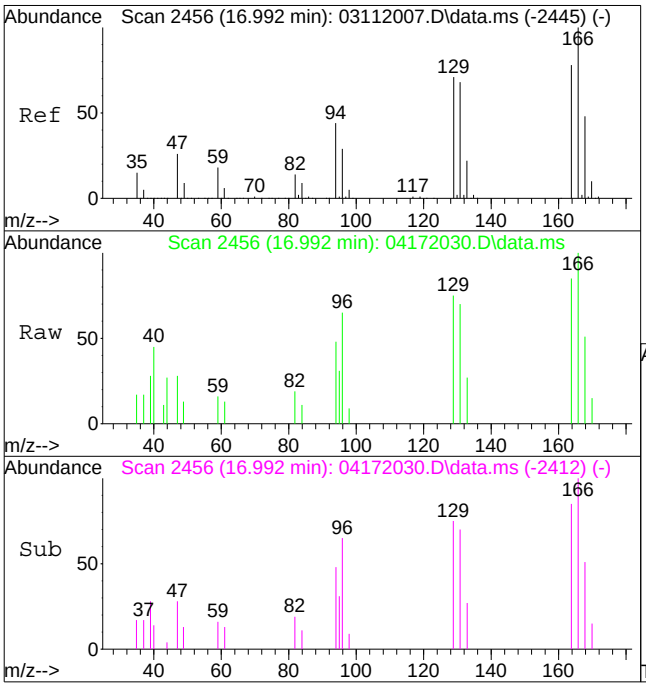


#63
n-Octane
Concen: 0.11 ng
RT: 16.85 min Scan# 2431
Delta R.T. -0.005 min
Lab File: 04172030.D
Acq: 17 Apr 2020 20:50

Tgt Ion: 57 Resp: 3594

Ion	Ratio	Lower	Upper
57	100		
85	106.6	95.1	142.7
71	70.1	58.2	87.4

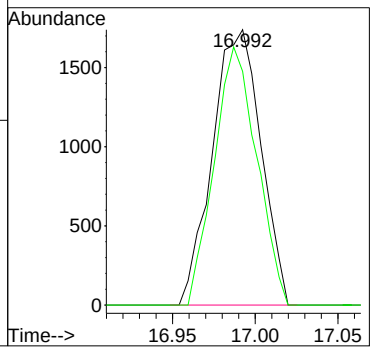


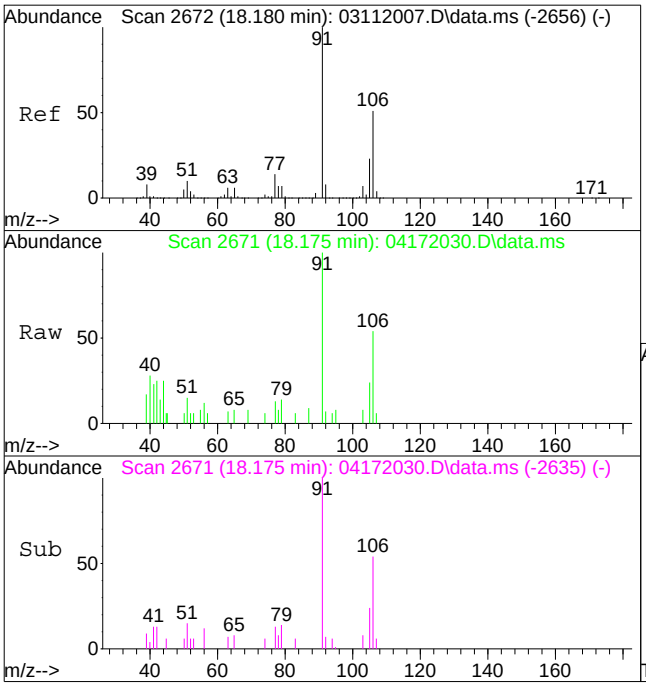


#64
Tetrachloroethene
Concen: 0.08 ng
RT: 16.99 min Scan# 2456
Delta R.T. -0.005 min
Lab File: 04172030.D
Acq: 17 Apr 2020 20:50

Tgt Ion:166 Resp: 3548

Ion	Ratio	Lower	Upper
166	100		
164	82.3	58.6	98.6

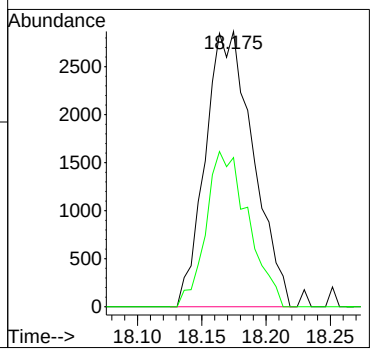


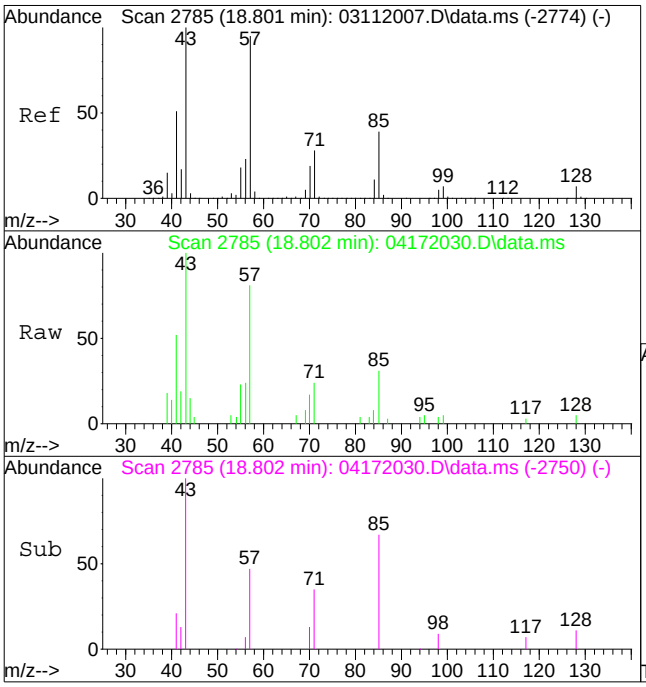


#67
m- & p-Xylenes
Concen: 0.05 ng
RT: 18.17 min Scan# 2671
Delta R.T. 0.000 min
Lab File: 04172030.D
Acq: 17 Apr 2020 20:50

Tgt Ion: 91 Resp: 7409

Ion	Ratio	Lower	Upper
91	100		
106	49.7	30.4	70.4

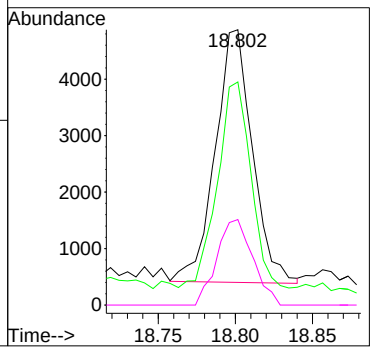




#71
n-Nonane
Concen: 0.10 ng
RT: 18.80 min Scan# 2785
Delta R.T. -0.005 min
Lab File: 04172030.D
Acq: 17 Apr 2020 20:50

Tgt Ion: 43 Resp: 7497

Ion	Ratio	Lower	Upper
43	100		
57	74.4	73.6	113.6
85	32.6	18.7	58.7



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172031.D Vial: 11
Acq On : 17 Apr 2020 21:24 Operator: LH
Sample : P2002028-003 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 18:26:11 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/20/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	328157	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1494634	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	723147	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.01	65	591979	13.028	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.24%				
57) Toluene-d8 (SS2)	15.74	98	1545937	12.061	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.48%				
73) Bromofluorobenzene (SS3)	19.00	174	508285	11.230	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.84%				
Target Compounds							Qvalue
2) Propene	4.13	42	8538	0.248	ng		87
3) Dichlorodifluoromethan...	4.28	85	56555	0.764	ng		100
4) Chloromethane	4.56	50	4282	0.073	ng		95
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	1005	N.D.			
6) Vinyl Chloride	4.98	62	684	N.D.			
7) 1,3-Butadiene	5.24	54	1151	N.D.			
8) Bromomethane	5.67	94	959	N.D.			
9) Chloroethane	5.99	64	347	N.D.			
10) Ethanol	6.32	45	65220	2.398	ng		99
11) Acetonitrile	6.61	41	6339	0.106	ng		87
12) Acrolein	6.81	56	16590	0.829	ng		98
13) Acetone	7.01	58	86674	3.229	ng	#	74
14) Trichlorofluoromethane	7.25	101	40765	0.624	ng		99
15) 2-Propanol (Isopropanol)	7.52	45	31036	0.390	ng		74
16) Acrylonitrile	7.85	53	1808	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.43	84	1247	N.D.			
20) 3-Chloro-1-propene (Al...	8.62	41	145	N.D.			
21) Trichlorotrifluoroethane	8.87	151	6860	0.220	ng		92
22) Carbon Disulfide	8.70	76	104065	0.828	ng		98
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.10	73	127	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.49	72	12993	0.581	ng		99
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.30	61	29918	2.265	ng		93
31) n-Hexane	11.28	57	2554	N.D.			
32) Chloroform	11.33	83	13492	0.207	ng		98
34) Tetrahydrofuran (THF)	11.76	72	13690	0.595	ng	#	85
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.13	62	116	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.90	78	7763	0.050	ng		97
42) Carbon Tetrachloride	13.06	117	25597	0.482	ng		97
43) Cyclohexane	13.19	84	1440	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	13.95	83	3793	0.073	ng		98
47) Trichloroethene	14.00	130	1657	N.D.			
48) 1,4-Dioxane	14.01	88	867	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.33	100	424	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172031.D Vial: 11
Acq On : 17 Apr 2020 21:24 Operator: LH
Sample : P2002028-003 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 18:26:11 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

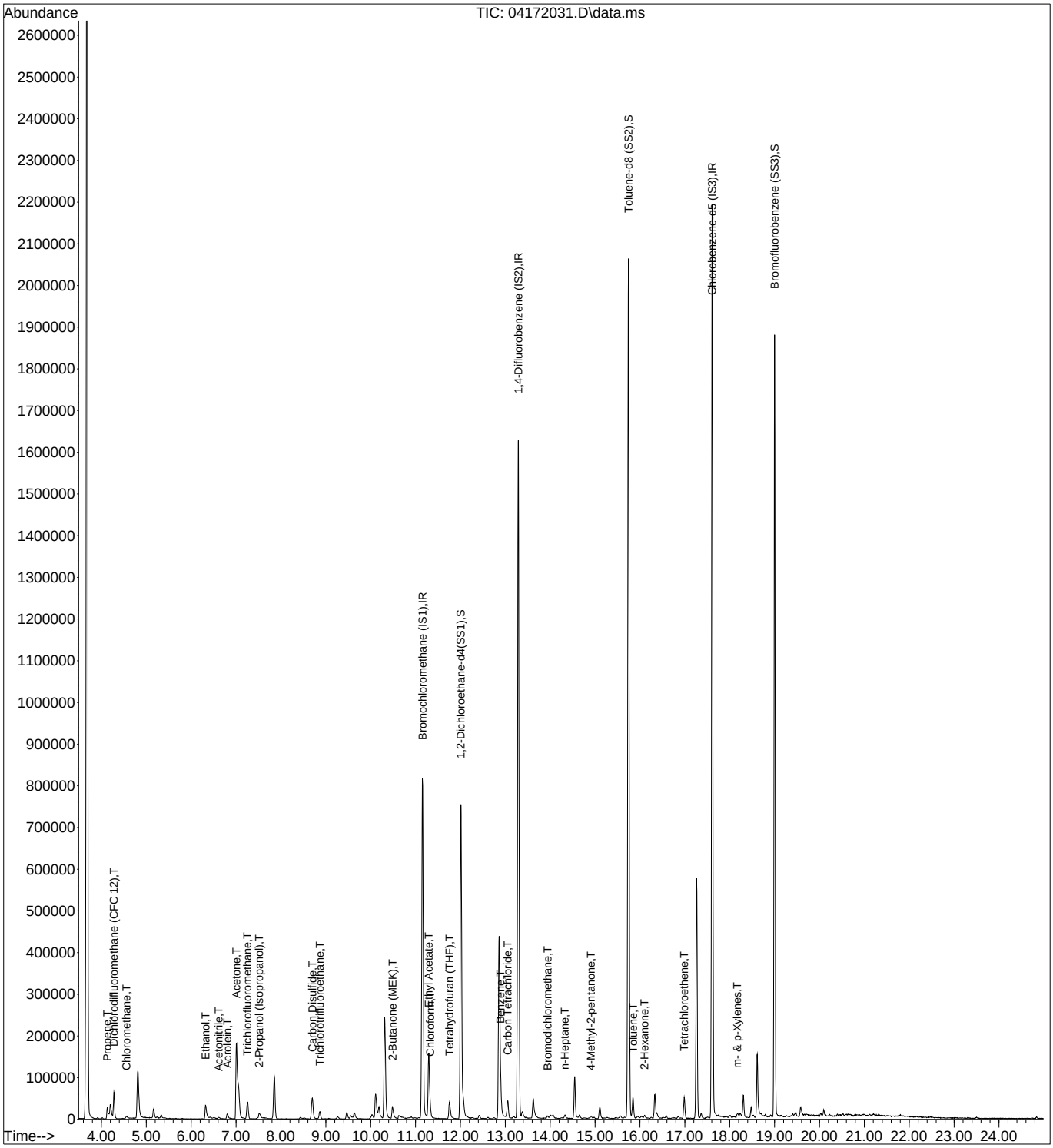
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.33	71	2007	0.056 ng		87
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.91	58	1743	0.054 ng	#	55
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.85	91	37252	0.235 ng		99
59) 2-Hexanone	16.10	43	7309	0.092 ng		82
60) Dibromochloromethane	16.26	129	225	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.73	43	2321	N.D.		
63) n-Octane	16.85	57	1282	N.D.		
64) Tetrachloroethene	16.99	166	15296	0.346 ng		98
65) Chlorobenzene	17.66	112	407	N.D.		
66) Ethylbenzene	18.02	91	4365	N.D.		
67) m- & p-Xylenes	18.17	91	7319	0.052 ng		94
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.51	104	361	N.D.		
70) o-Xylene	18.60	91	2492	N.D.		
71) n-Nonane	18.80	43	2440	N.D.		
72) 1,1,2,2-Tetrachloroethane	18.61	83	627	N.D.		
74) Cumene	19.13	105	867	N.D.		
75) alpha-Pinene	19.47	93	3301	N.D.		
76) n-Propylbenzene	19.57	91	1883	N.D.		
77) 3-Ethyltoluene	19.68	105	1205	N.D.		
78) 4-Ethyltoluene	19.71	105	1143	N.D.		
79) 1,3,5-Trimethylbenzene	19.78	105	1081	N.D.		
80) alpha-Methylstyrene	19.91	118	358	N.D.		
81) 2-Ethyltoluene	19.95	105	1180	N.D.		
82) 1,2,4-Trimethylbenzene	20.13	105	1406	N.D.		
83) n-Decane	20.23	57	1055	N.D.		
84) Benzyl Chloride	20.27	91	909	N.D.		
85) 1,3-Dichlorobenzene	20.33	146	107	N.D.		
86) 1,4-Dichlorobenzene	20.33	146	107	N.D.		
87) sec-Butylbenzene	20.38	105	807	N.D.		
88) 4-Isopropyltoluene (p-...	20.51	119	1017	N.D.		
89) 1,2,3-Trimethylbenzene	20.50	105	932	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.64	68	1114	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.32	57	487	N.D.		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	22.26	128	886	N.D.		
96) n-Dodecane	22.24	57	505	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	20.14	119	368	N.D.		
100) n-Butylbenzene	20.88	91	1345	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172031.D Vial: 11
Acq On : 17 Apr 2020 21:24 Operator: LH
Sample : P2002028-003 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 18:26:11 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

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DataAcq Meth:TO15.M

LH 4/20/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	328157	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1494634	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	723147	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.01	65	591979	13.028	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.24%				
57) Toluene-d8 (SS2)	15.74	98	1545937	12.061	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.48%				
73) Bromofluorobenzene (SS3)	19.00	174	508285	11.230	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.84%				
Target Compounds							Qvalue
2) Propene	4.13	42	8538	0.248	ng		87
3) Dichlorodifluoromethan...	4.28	85	56555	0.764	ng		100
4) Chloromethane	4.56	50	4282	0.073	ng		95
10) Ethanol	6.32	45	65220	2.398	ng		99
11) Acetonitrile	6.61	41	6339	0.106	ng		87
12) Acrolein	6.81	56	16590	0.829	ng		98
13) Acetone	7.01	58	86674	3.229	ng	#	74
14) Trichlorofluoromethane	7.25	101	40765	0.624	ng		99
15) 2-Propanol (Isopropanol)	7.52	45	31036	0.390	ng		74
21) Trichlorotrifluoroethane	8.87	151	6860	0.220	ng		92
22) Carbon Disulfide	8.70	76	104065	0.828	ng		98
27) 2-Butanone (MEK)	10.49	72	12993	0.581	ng		99
30) Ethyl Acetate	11.30	61	29918	2.265	ng		93
32) Chloroform	11.33	83	13492	0.207	ng		98
34) Tetrahydrofuran (THF)	11.76	72	13690	0.595	ng	#	85
41) Benzene	12.90	78	7763	0.050	ng		97
42) Carbon Tetrachloride	13.06	117	25597	0.482	ng		97
46) Bromodichloromethane	13.95	83	3793	0.073	ng		98
51) n-Heptane	14.33	71	2007	0.056	ng		87
53) 4-Methyl-2-pentanone	14.91	58	1743	0.054	ng	#	55
58) Toluene	15.85	91	37252	0.235	ng		99
59) 2-Hexanone	16.10	43	7309	0.092	ng		82
64) Tetrachloroethene	16.99	166	15296	0.346	ng		98
67) m- & p-Xylenes	18.17	91	7319	0.052	ng		94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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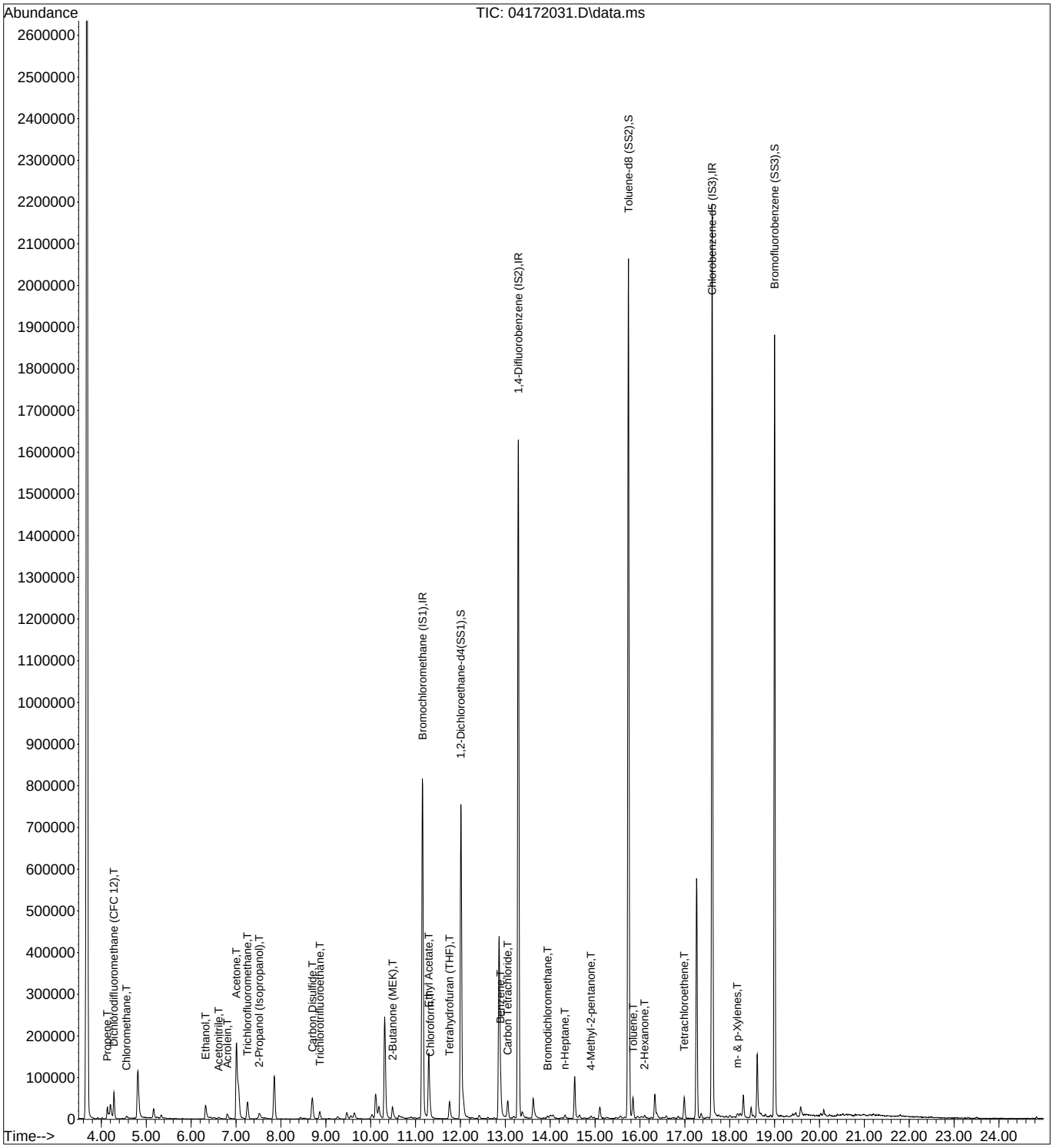
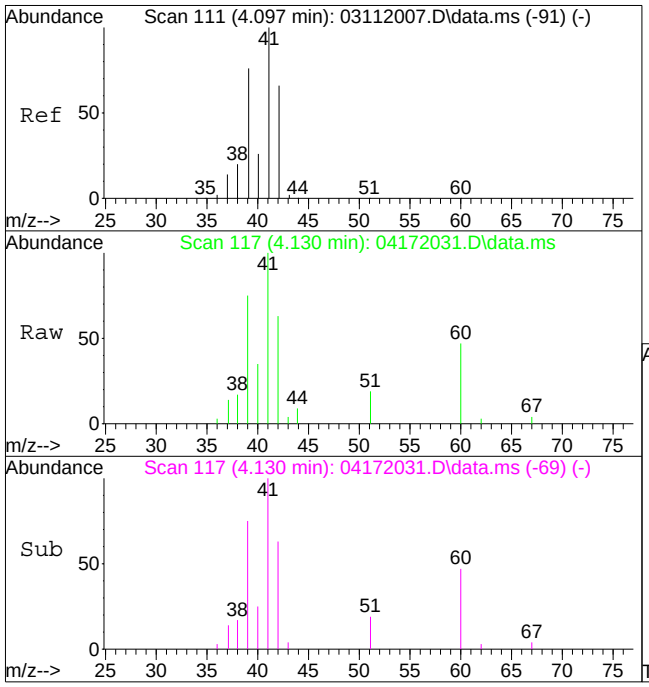
DataAcq Meth:TO15.M

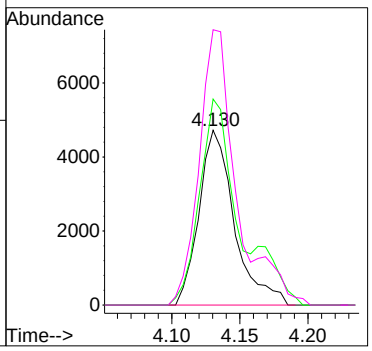


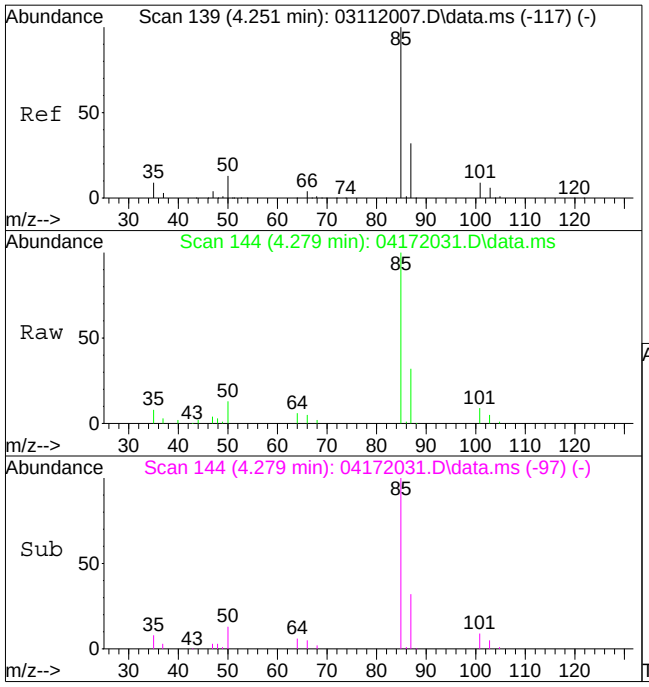


#2
Propene
Concen: 0.25 ng
RT: 4.13 min Scan# 117
Delta R.T. 0.016 min
Lab File: 04172031.D
Acq: 17 Apr 2020 21:24

Tgt Ion: 42 Resp: 8538

Ion	Ratio	Lower	Upper
42	100		
39	133.0	95.3	135.3
41	165.9	132.0	172.0

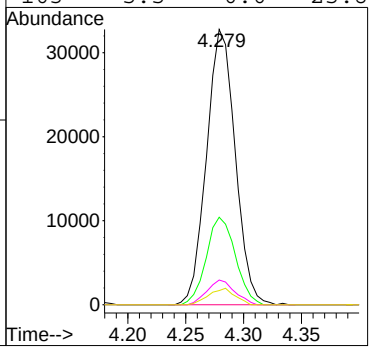


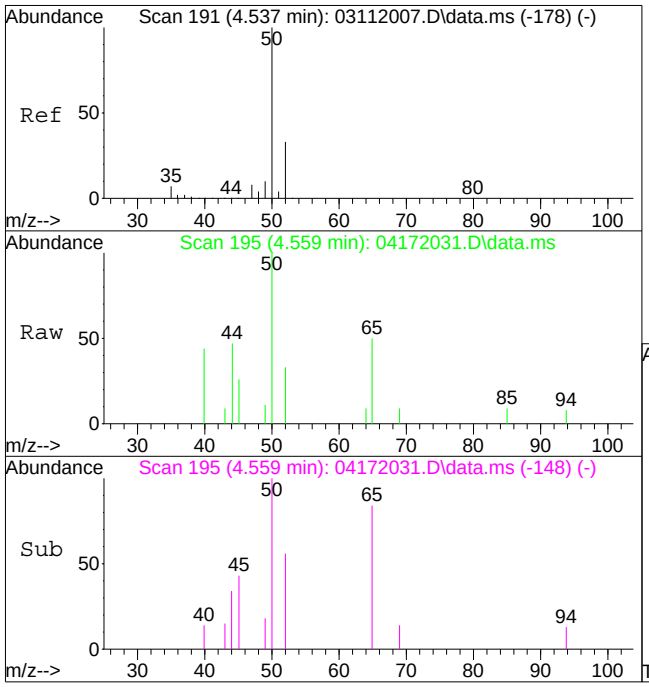


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.76 ng
RT: 4.28 min Scan# 144
Delta R.T. 0.011 min
Lab File: 04172031.D
Acq: 17 Apr 2020 21:24

Tgt Ion: 85 Resp: 56555

Ion	Ratio	Lower	Upper
85	100		
87	32.2	12.3	52.3
101	8.7	0.0	29.0
103	5.5	0.0	25.8

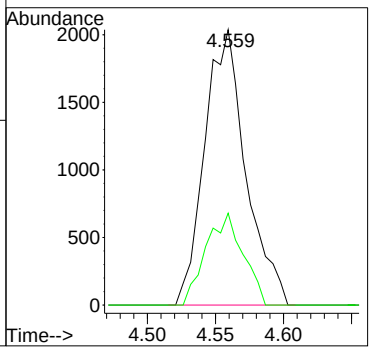


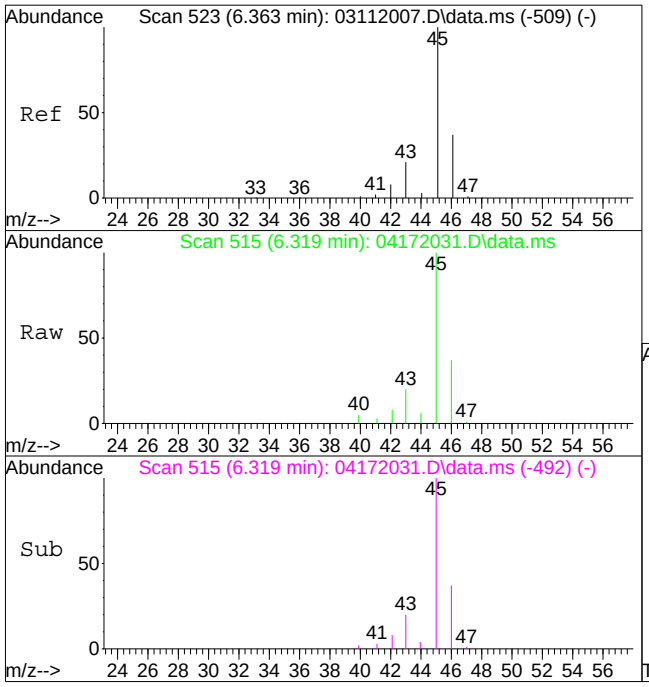


#4
Chloromethane
Concen: 0.07 ng
RT: 4.56 min Scan# 195
Delta R.T. 0.006 min
Lab File: 04172031.D
Acq: 17 Apr 2020 21:24

Tgt Ion: 50 Resp: 4282

Ion	Ratio	Lower	Upper
50	100		
52	30.1	12.8	52.8

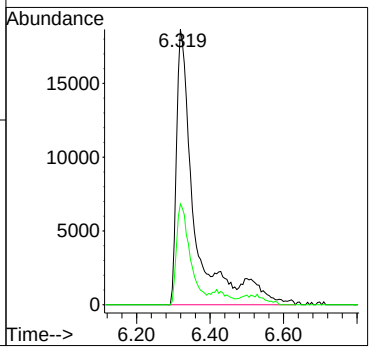


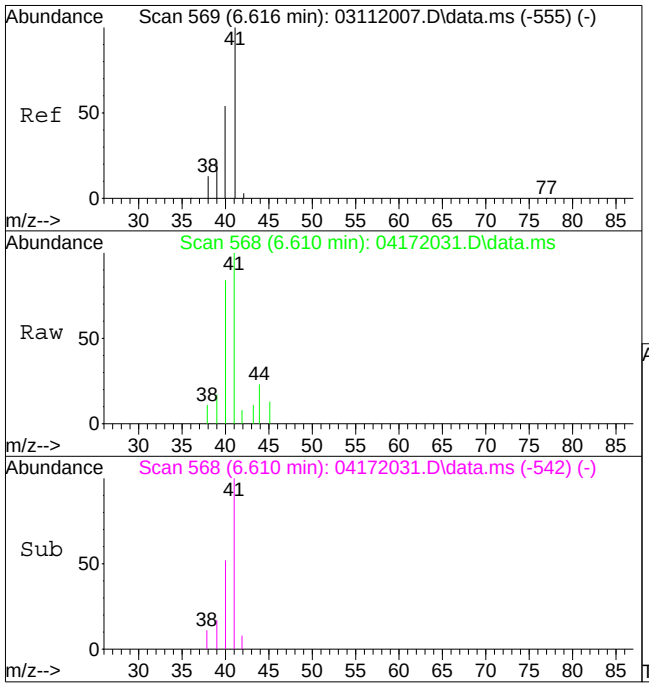


#10
Ethanol
Concen: 2.40 ng
RT: 6.32 min Scan# 515
Delta R.T. -0.121 min
Lab File: 04172031.D
Acq: 17 Apr 2020 21:24

Tgt Ion: 45 Resp: 65220

Ion	Ratio	Lower	Upper
45	100		
46	36.9	17.3	57.3

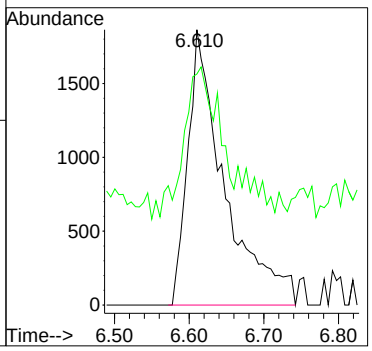


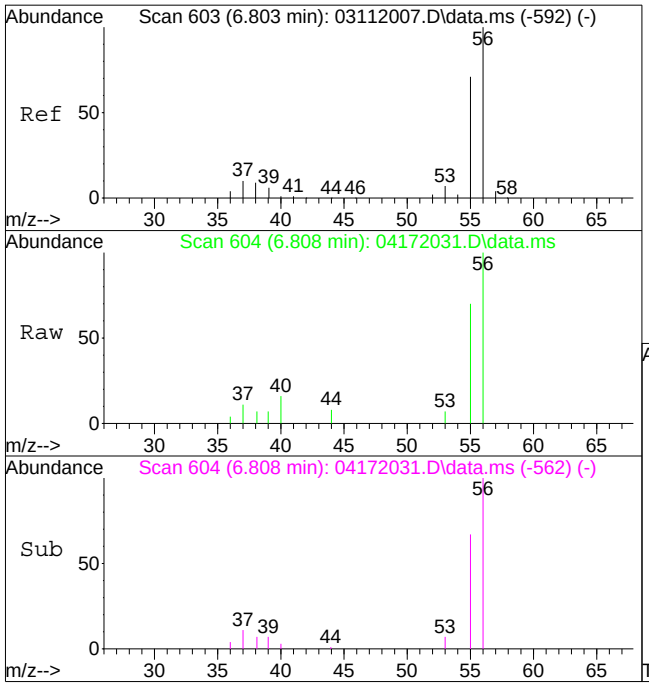


#11
Acetonitrile
Concen: 0.11 ng
RT: 6.61 min Scan# 568
Delta R.T. -0.055 min
Lab File: 04172031.D
Acq: 17 Apr 2020 21:24

Tgt Ion: 41 Resp: 6339

Ion	Ratio	Lower	Upper
41	100		
40	62.7	33.6	73.6

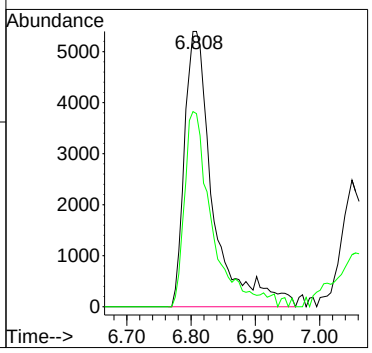


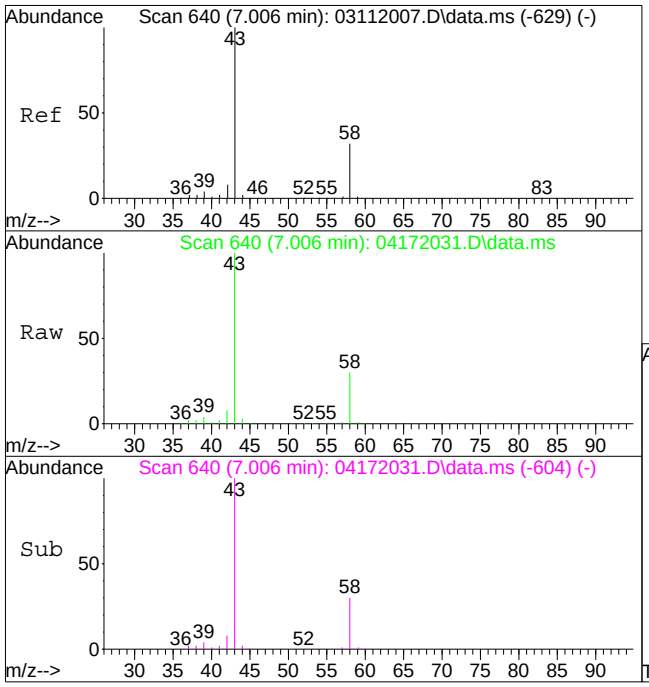


#12
Acrolein
Concen: 0.83 ng
RT: 6.81 min Scan# 604
Delta R.T. -0.022 min
Lab File: 04172031.D
Acq: 17 Apr 2020 21:24

Tgt Ion: 56 Resp: 16590

Ion	Ratio	Lower	Upper
56	100		
55	68.4	50.4	90.4

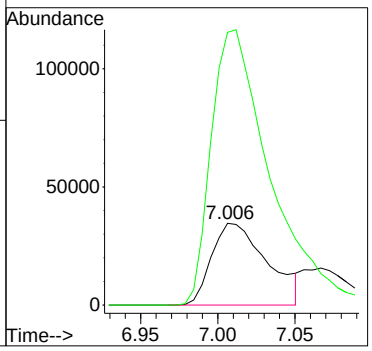


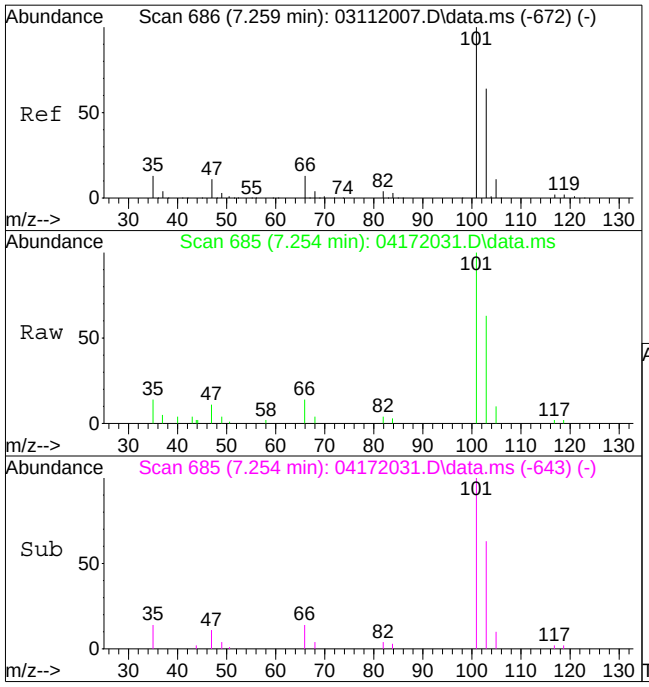


#13
Acetone
Concen: 3.23 ng
RT: 7.01 min Scan# 640
Delta R.T. -0.050 min
Lab File: 04172031.D
Acq: 17 Apr 2020 21:24

Tgt Ion: 58 Resp: 86674

Ion	Ratio	Lower	Upper
58	100		
43	369.3	287.3	347.3#

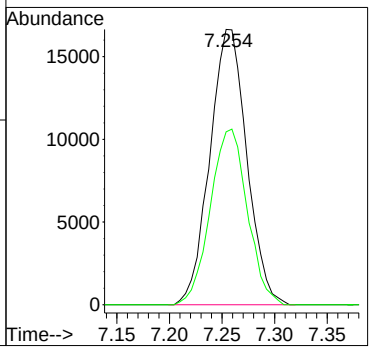


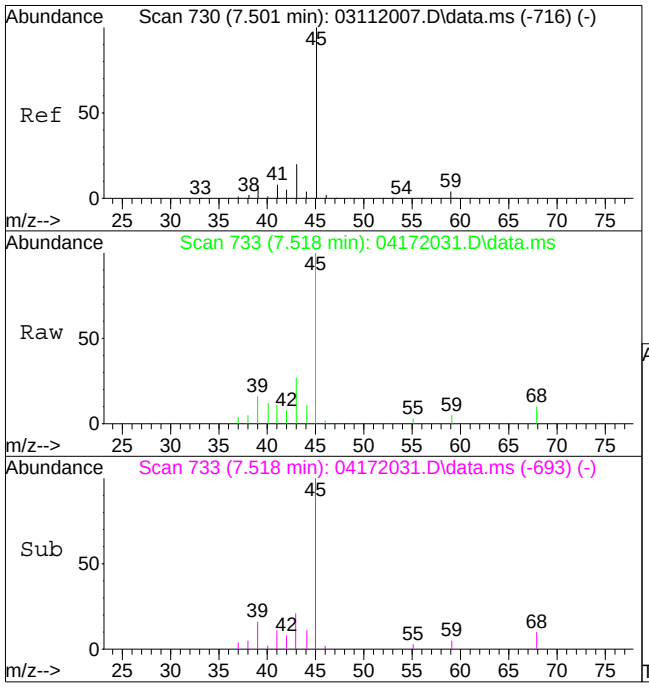


#14
Trichlorofluoromethane
Concen: 0.62 ng
RT: 7.25 min Scan# 685
Delta R.T. -0.021 min
Lab File: 04172031.D
Acq: 17 Apr 2020 21:24

Tgt Ion:101 Resp: 40765

Ion	Ratio	Lower	Upper
101	100		
103	63.9	44.6	84.6

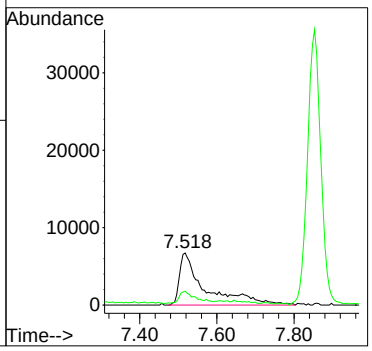


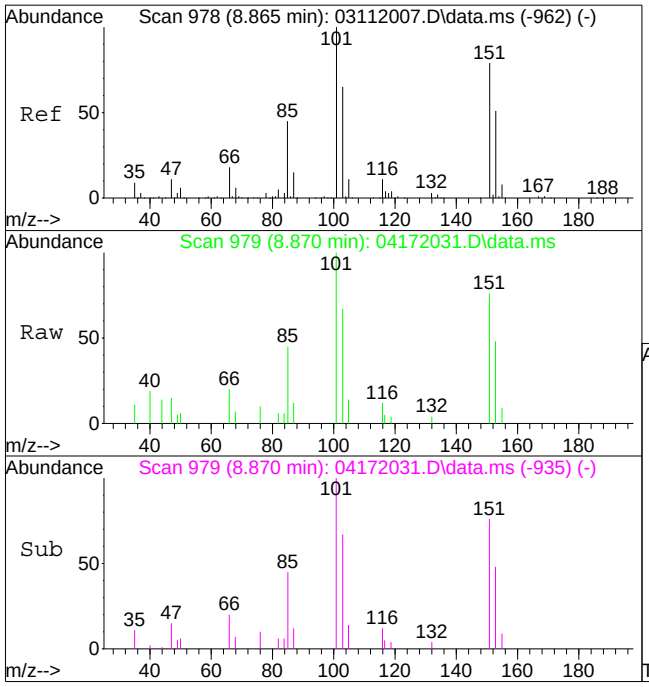


#15
2-Propanol (Isopropanol)
Concen: 0.39 ng
RT: 7.52 min Scan# 733
Delta R.T. -0.033 min
Lab File: 04172031.D
Acq: 17 Apr 2020 21:24

Tgt Ion: 45 Resp: 31036

Ion	Ratio	Lower	Upper
45	100		
43	32.3	0.3	40.3

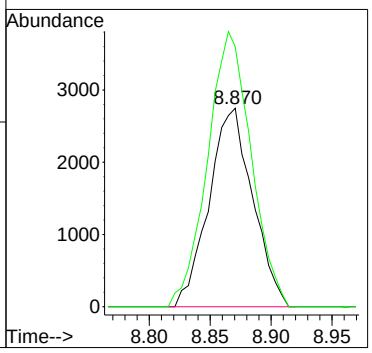


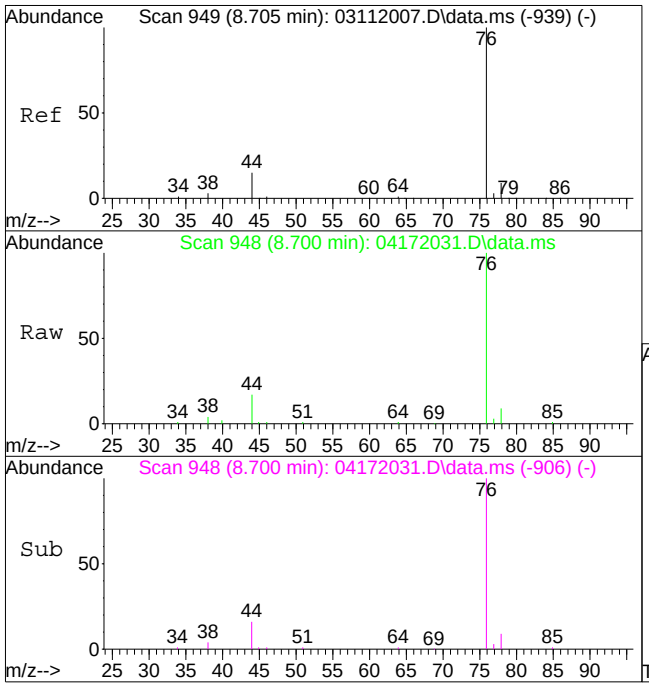


#21
Trichlorotrifluoroethane
Concen: 0.22 ng
RT: 8.87 min Scan# 979
Delta R.T. -0.006 min
Lab File: 04172031.D
Acq: 17 Apr 2020 21:24

Tgt Ion:151 Resp: 6860

Ion	Ratio	Lower	Upper
151	100		
101	138.2	108.4	148.4

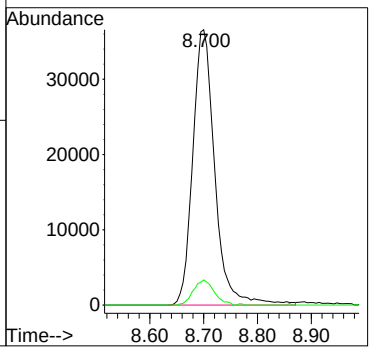


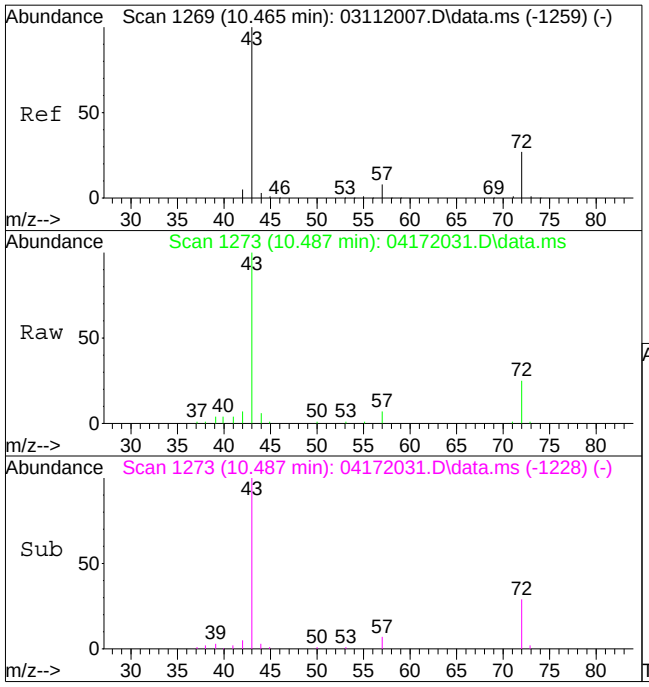


#22
Carbon Disulfide
Concen: 0.83 ng
RT: 8.70 min Scan# 948
Delta R.T. -0.022 min
Lab File: 04172031.D
Acq: 17 Apr 2020 21:24

Tgt Ion: 76 Resp: 104065

Ion	Ratio	Lower	Upper
76	100		
78	8.6	0.0	29.2

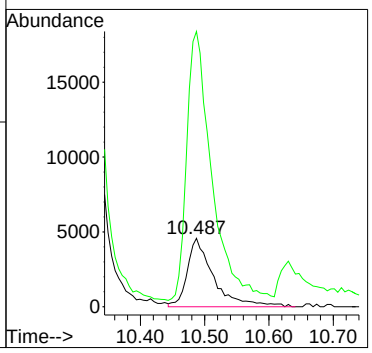


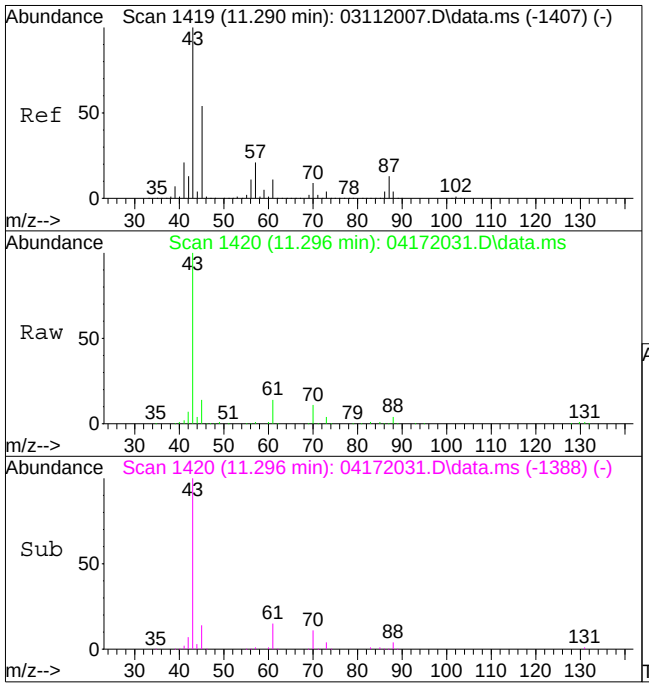


#27
2-Butanone (MEK)
Concen: 0.58 ng
RT: 10.49 min Scan# 1273
Delta R.T. -0.005 min
Lab File: 04172031.D
Acq: 17 Apr 2020 21:24

Tgt Ion: 72 Resp: 12993

Ion	Ratio	Lower	Upper
72	100		
43	375.2	353.4	393.4

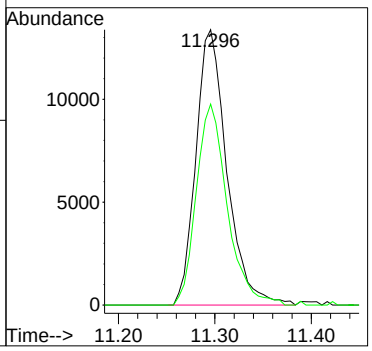


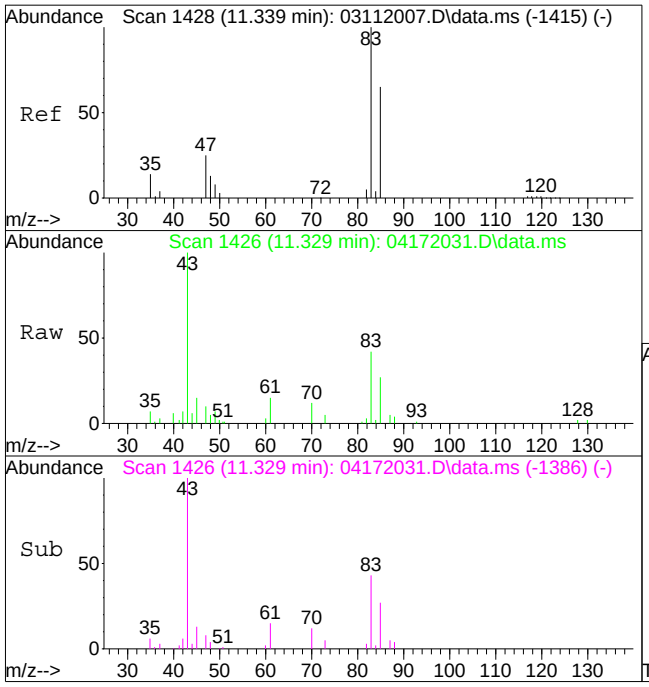


#30
Ethyl Acetate
Concen: 2.26 ng
RT: 11.30 min Scan# 1420
Delta R.T. -0.022 min
Lab File: 04172031.D
Acq: 17 Apr 2020 21:24

Tgt Ion: 61 Resp: 29918

Ion	Ratio	Lower	Upper
61	100		
70	72.9	59.1	99.1

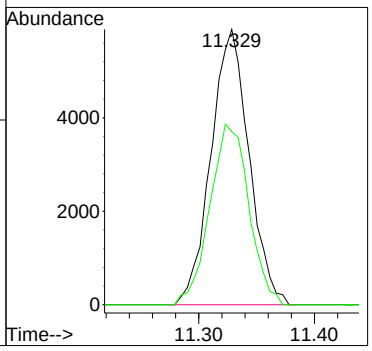


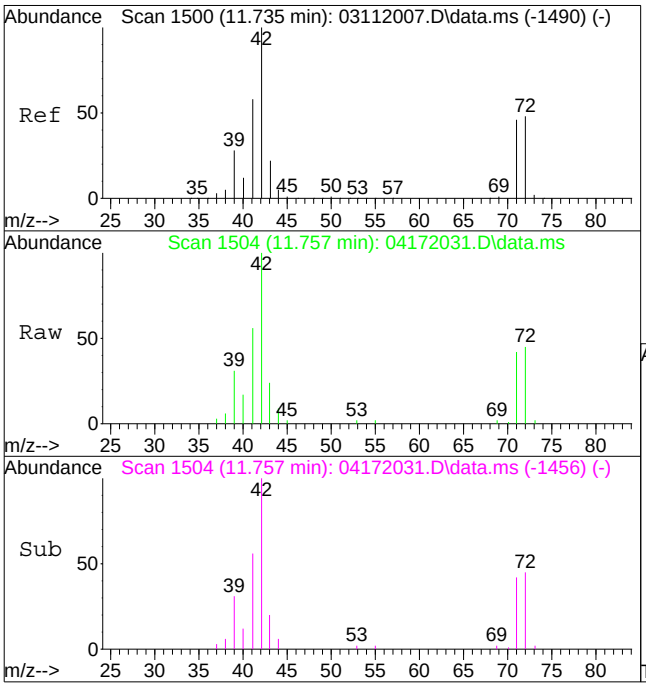


#32
Chloroform
Concen: 0.21 ng
RT: 11.33 min Scan# 1426
Delta R.T. -0.033 min
Lab File: 04172031.D
Acq: 17 Apr 2020 21:24

Tgt Ion: 83 Resp: 13492

Ion	Ratio	Lower	Upper
83	100		
85	67.1	45.5	85.5

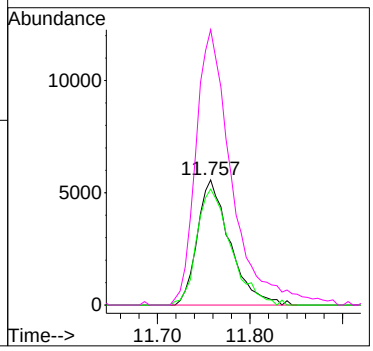


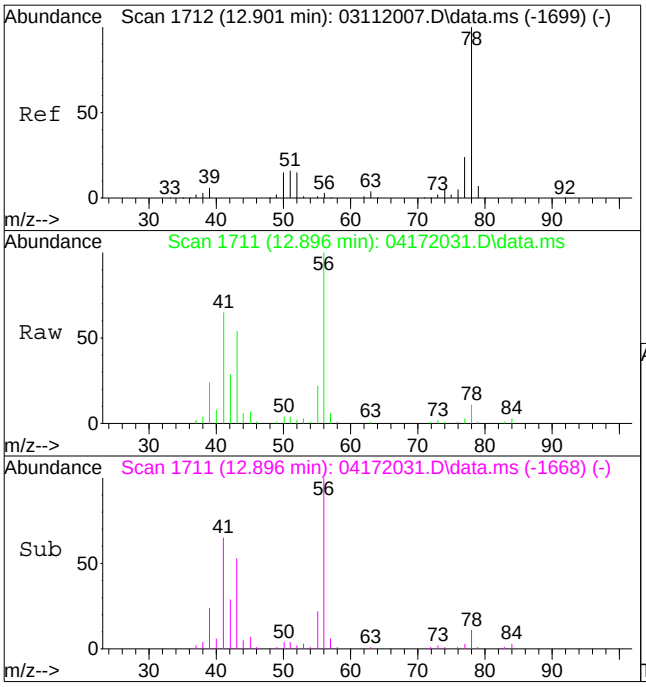


#34
Tetrahydrofuran (THF)
Concen: 0.60 ng
RT: 11.76 min Scan# 1504
Delta R.T. 0.011 min
Lab File: 04172031.D
Acq: 17 Apr 2020 21:24

Tgt Ion: 72 Resp: 13690

Ion	Ratio	Lower	Upper
72	100		
71	96.7	75.9	115.9
42	243.3	189.3	229.3#

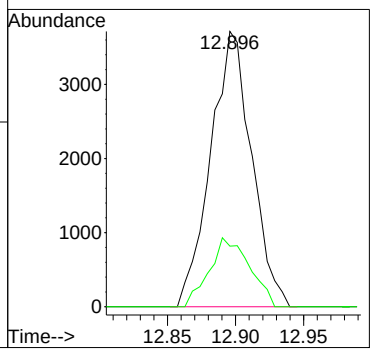


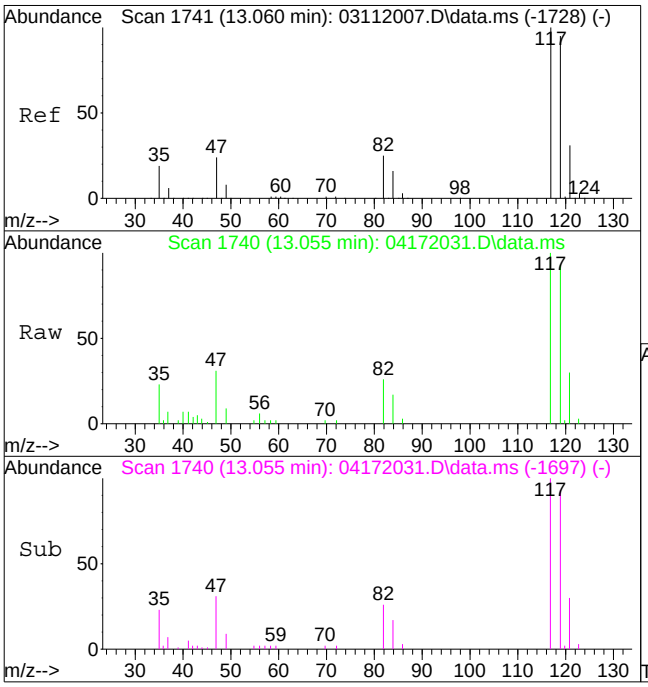


#41
Benzene
Concen: 0.05 ng
RT: 12.90 min Scan# 1711
Delta R.T. -0.016 min
Lab File: 04172031.D
Acq: 17 Apr 2020 21:24

Tgt Ion: 78 Resp: 7763

Ion	Ratio	Lower	Upper
78	100		
77	24.6	3.4	43.4

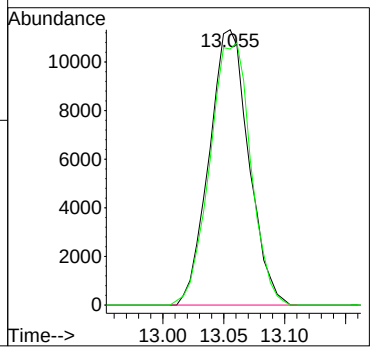


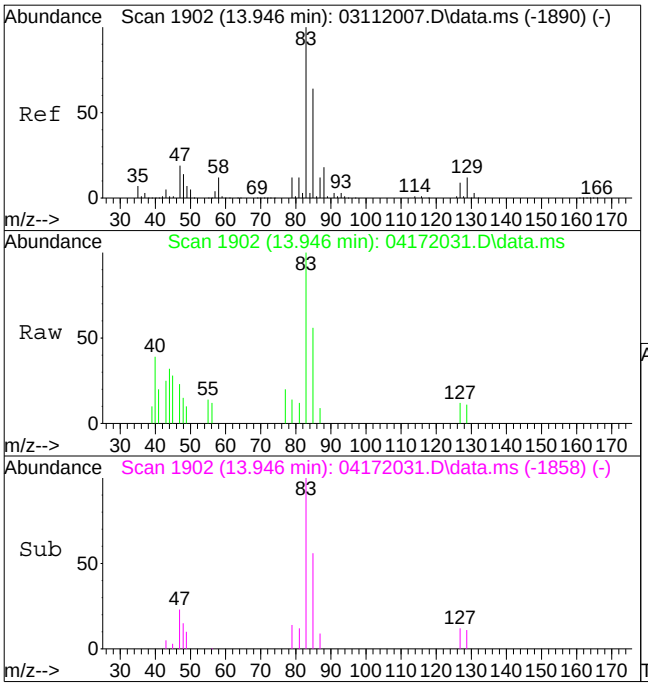


#42
Carbon Tetrachloride
Concen: 0.48 ng
RT: 13.06 min Scan# 1740
Delta R.T. -0.016 min
Lab File: 04172031.D
Acq: 17 Apr 2020 21:24

Tgt Ion:117 Resp: 25597

Ion	Ratio	Lower	Upper
117	100		
119	98.4	75.4	115.4

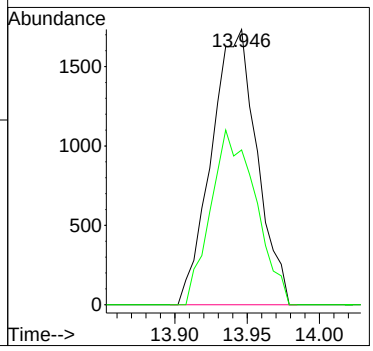


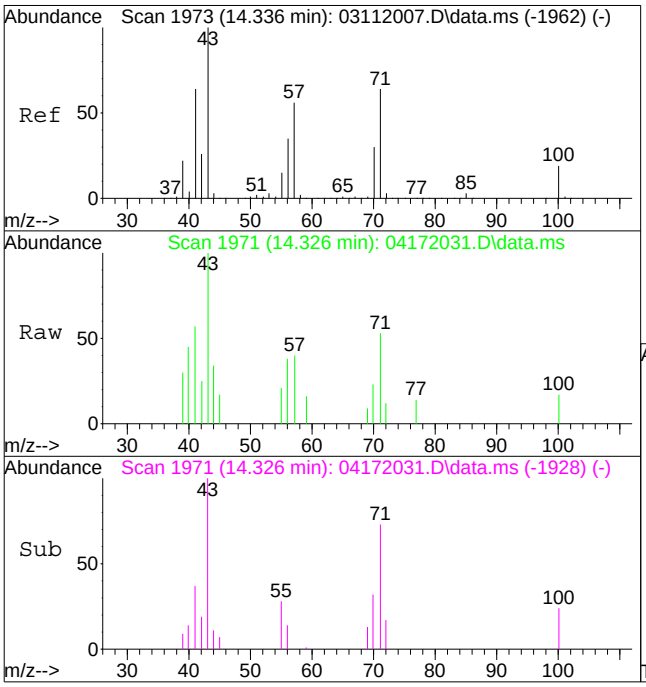


#46
Bromodichloromethane
Concen: 0.07 ng
RT: 13.95 min Scan# 1902
Delta R.T. -0.011 min
Lab File: 04172031.D
Acq: 17 Apr 2020 21:24

Tgt Ion: 83 Resp: 3793

Ion	Ratio	Lower	Upper
83	100		
85	62.7	44.0	84.0

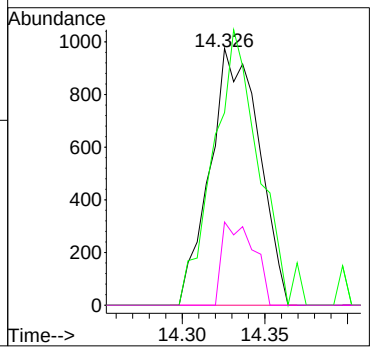


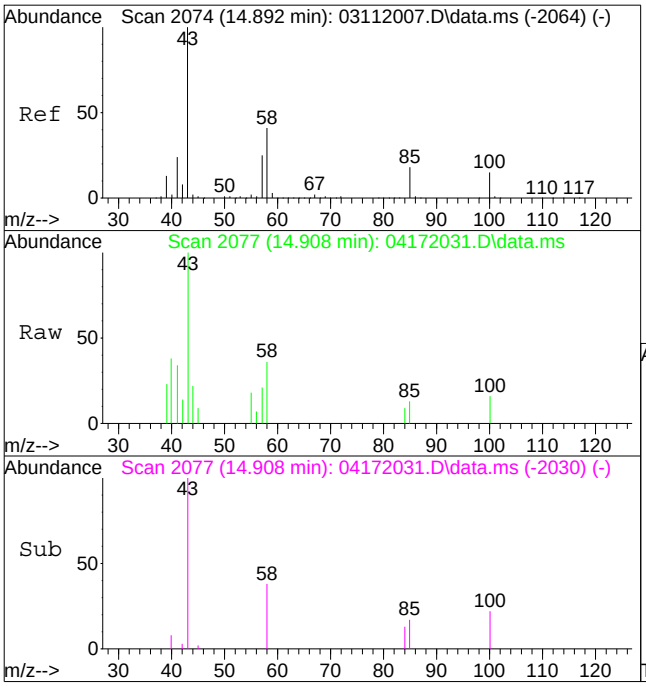


#51
n-Heptane
Concen: 0.06 ng
RT: 14.33 min Scan# 1971
Delta R.T. -0.016 min
Lab File: 04172031.D
Acq: 17 Apr 2020 21:24

Tgt Ion: 71 Resp: 2007

Ion	Ratio	Lower	Upper
71	100		
57	99.7	68.6	108.6
100	21.1	9.1	49.1

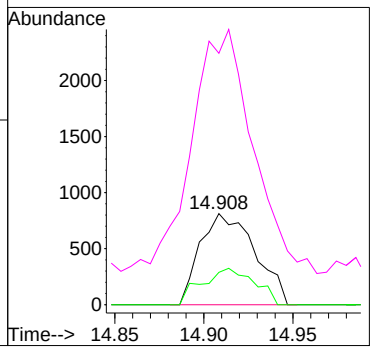


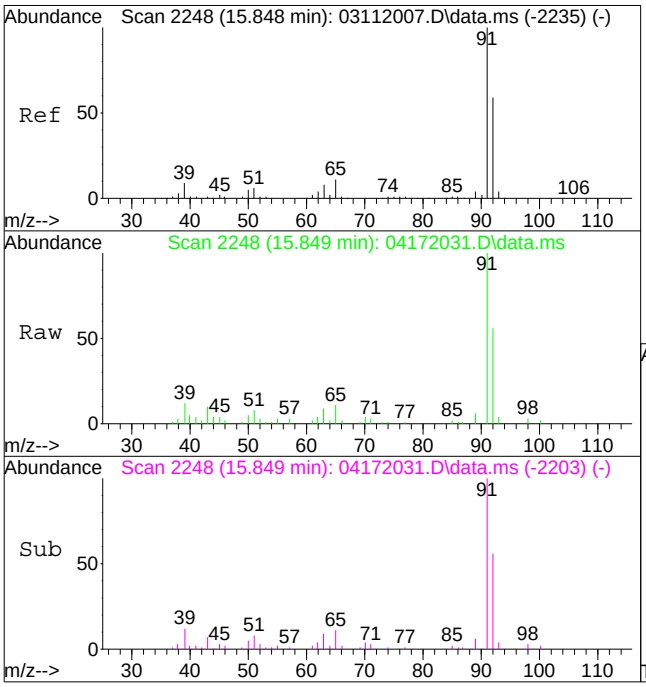


#53
4-Methyl-2-pentanone
Concen: 0.05 ng
RT: 14.91 min Scan# 2077
Delta R.T. 0.006 min
Lab File: 04172031.D
Acq: 17 Apr 2020 21:24

Tgt Ion: 58 Resp: 1743

Ion	Ratio	Lower	Upper
58	100		
85	38.2	37.0	55.4
43	332.9	196.3	294.5#

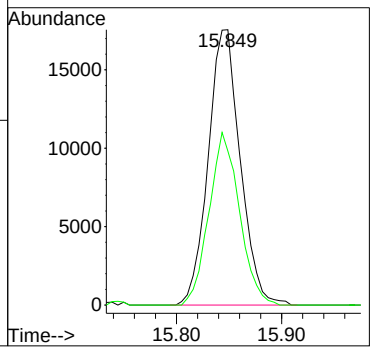


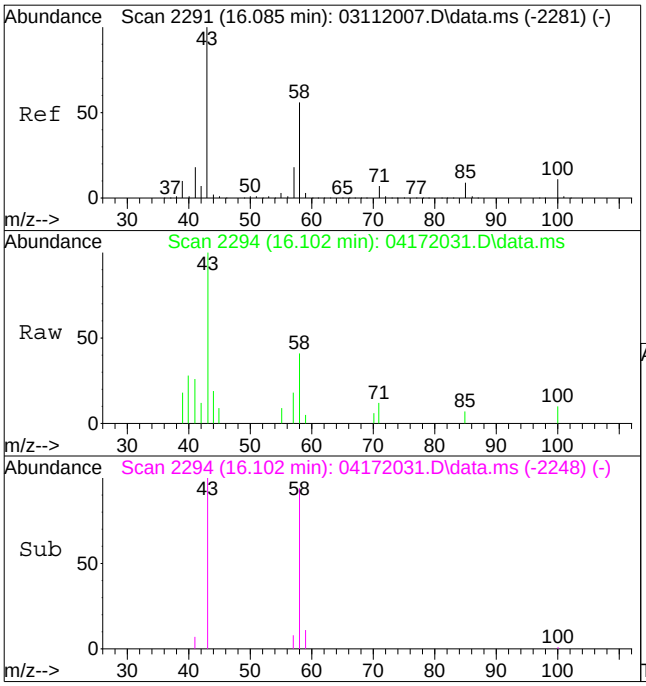


#58
Toluene
Concen: 0.24 ng
RT: 15.85 min Scan# 2248
Delta R.T. -0.005 min
Lab File: 04172031.D
Acq: 17 Apr 2020 21:24

Tgt Ion: 91 Resp: 37252

Ion	Ratio	Lower	Upper
91	100		
92	59.5	39.0	79.0

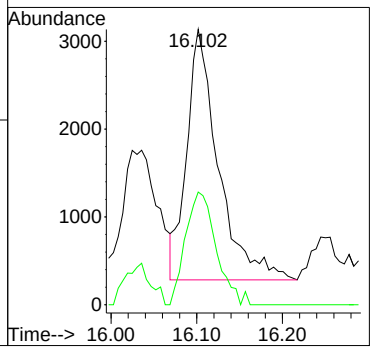


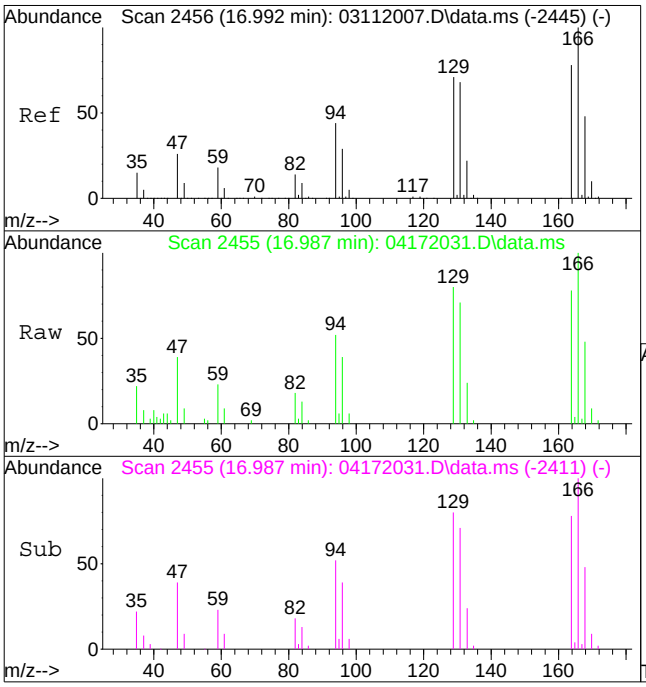


#59
2-Hexanone
Concen: 0.09 ng
RT: 16.10 min Scan# 2294
Delta R.T. 0.000 min
Lab File: 04172031.D
Acq: 17 Apr 2020 21:24

Tgt Ion: 43 Resp: 7309

Ion	Ratio	Lower	Upper
43	100		
58	43.6	36.5	76.5

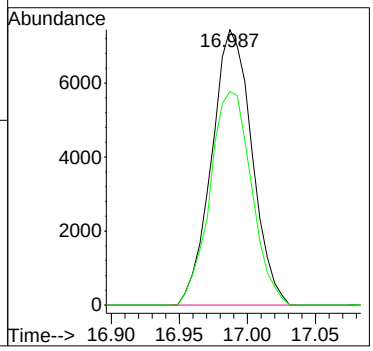


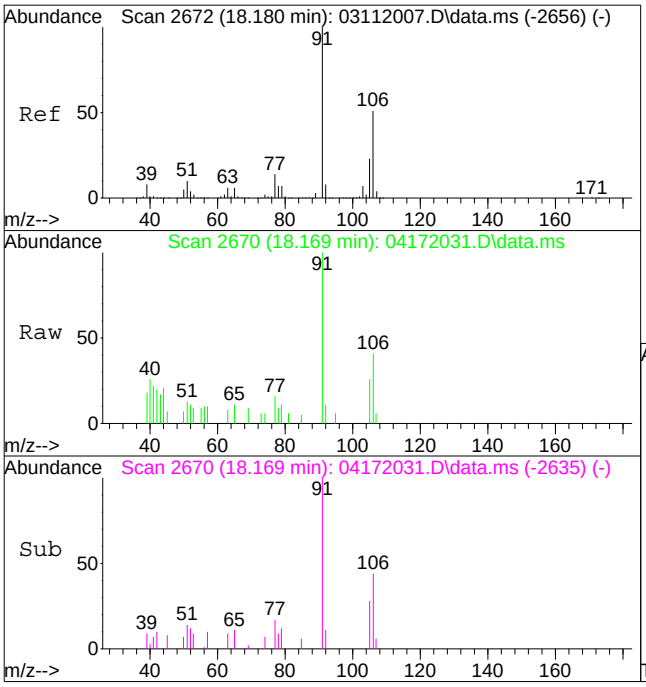


#64
Tetrachloroethene
Concen: 0.35 ng
RT: 16.99 min Scan# 2455
Delta R.T. -0.011 min
Lab File: 04172031.D
Acq: 17 Apr 2020 21:24

Tgt Ion:166 Resp: 15296

Ion	Ratio	Lower	Upper
166	100		
164	80.0	58.6	98.6

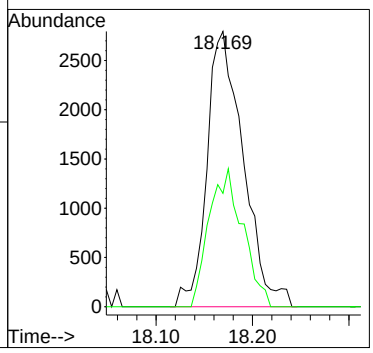




#67
m- & p-Xylenes
Concen: 0.05 ng
RT: 18.17 min Scan# 2670
Delta R.T. -0.005 min
Lab File: 04172031.D
Acq: 17 Apr 2020 21:24

Tgt Ion: 91 Resp: 7319

Ion	Ratio	Lower	Upper
91	100		
106	46.5	30.4	70.4



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172032.D Vial: 12
Acq On : 17 Apr 2020 21:57 Operator: LH
Sample : P2002028-004 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 18:27:30 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/20/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	316889	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1426825	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	702440	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.01	65	573663	13.074	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.56%			
57) Toluene-d8 (SS2)	15.74	98	1484376	11.922	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.36%			
73) Bromofluorobenzene (SS3)	19.00	174	487867	11.096	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.80%			
Target Compounds						Qvalue
2) Propene	4.15	42	2566	0.077	ng	# 79
3) Dichlorodifluoromethan...	4.29	85	42311	0.592	ng	100
4) Chloromethane	4.56	50	3903	0.069	ng	95
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	650	N.D.		
6) Vinyl Chloride	4.99	62	1208	N.D.		
7) 1,3-Butadiene	5.17	54	118	N.D.		
8) Bromomethane	5.66	94	134	N.D.		
9) Chloroethane	6.01	64	332	N.D.		
10) Ethanol	6.35	45	12410	0.472	ng	86
11) Acetonitrile	6.64	41	1964	N.D.		
12) Acrolein	6.82	56	2738	0.142	ng	94
13) Acetone	7.03	58	37961	1.464	ng	98
14) Trichlorofluoromethane	7.26	101	39675	0.629	ng	99
15) 2-Propanol (Isopropanol)	7.57	45	3432	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d	
19) Methylene Chloride	8.44	84	430	N.D.		
20) 3-Chloro-1-propene (Al...	8.52	41	307	N.D.		
21) Trichlorotrifluoroethane	8.87	151	7219	0.239	ng	99
22) Carbon Disulfide	8.71	76	315252	2.599	ng	99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	10.50	72	4905	0.227	ng	95
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	11.33	87	119	N.D.		
30) Ethyl Acetate	11.32	61	873	0.068	ng	92
31) n-Hexane	11.28	57	2481	N.D.		
32) Chloroform	11.33	83	2776	N.D.		
34) Tetrahydrofuran (THF)	11.75	72	60861	2.741	ng	92
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.13	62	225	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	12.90	78	9443	0.064	ng	98
42) Carbon Tetrachloride	13.06	117	34270	0.676	ng	97
43) Cyclohexane	13.17	84	674	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	13.54	63	1108	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	14.00	130	3638	0.087	ng	96
48) 1,4-Dioxane	14.00	88	2177	0.076	ng	98
49) 2,2,4-Trimethylpentane...	14.07	57	2474	N.D.		
50) Methyl Methacrylate	14.33	100	205	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172032.D Vial: 12
Acq On : 17 Apr 2020 21:57 Operator: LH
Sample : P2002028-004 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 18:27:30 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

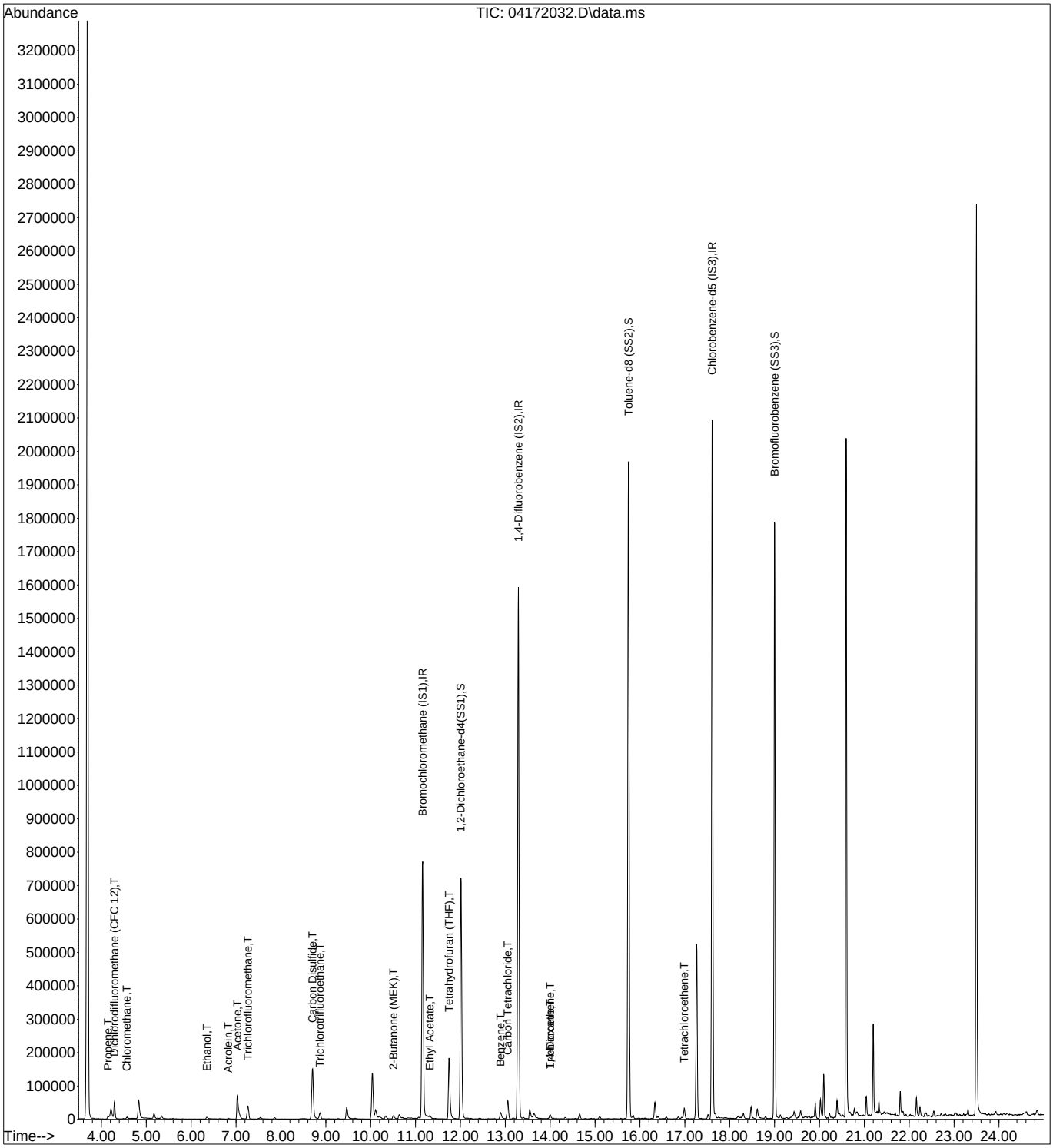
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.33	71	1031	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.92	58	257	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.85	91	7402	N.D.	
59) 2-Hexanone	16.11	43	2068	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.74	43	676	N.D.	
63) n-Octane	16.86	57	1209	N.D.	
64) Tetrachloroethene	16.99	166	9416	0.219 ng	98
65) Chlorobenzene	17.65	112	238	N.D.	
66) Ethylbenzene	18.02	91	1316	N.D.	
67) m- & p-Xylenes	18.17	91	2777	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.50	104	640	N.D.	
70) o-Xylene	18.60	91	1717	N.D.	
71) n-Nonane	18.80	43	2983	N.D.	
72) 1,1,2,2-Tetrachloroethane	18.60	83	222	N.D.	
74) Cumene	19.13	105	5989	N.D.	
75) alpha-Pinene	19.48	93	102	N.D.	
76) n-Propylbenzene	19.58	91	1501	N.D.	
77) 3-Ethyltoluene	19.67	105	1074	N.D.	
78) 4-Ethyltoluene	19.71	105	713	N.D.	
79) 1,3,5-Trimethylbenzene	19.78	105	810	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	19.94	105	693	N.D.	
82) 1,2,4-Trimethylbenzene	20.14	105	1537	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.25	91	172	N.D.	
85) 1,3-Dichlorobenzene	20.33	146	408	N.D.	
86) 1,4-Dichlorobenzene	20.33	146	408	N.D.	
87) sec-Butylbenzene	20.38	105	450	N.D.	
88) 4-Isopropyltoluene (p-...	20.51	119	1048	N.D.	
89) 1,2,3-Trimethylbenzene	20.51	105	1061	N.D.	
90) 1,2-Dichlorobenzene	20.63	146	107	N.D.	
91) d-Limonene	20.63	68	1698	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.25	128	3215	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.13	119	413	N.D.	
100) n-Butylbenzene	20.86	91	2605	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172032.D Vial: 12
Acq On : 17 Apr 2020 21:57 Operator: LH
Sample : P2002028-004 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 18:27:30 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172032.D Vial: 12
Acq On : 17 Apr 2020 21:57 Operator: LH
Sample : P2002028-004 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 18:27:30 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/20/20

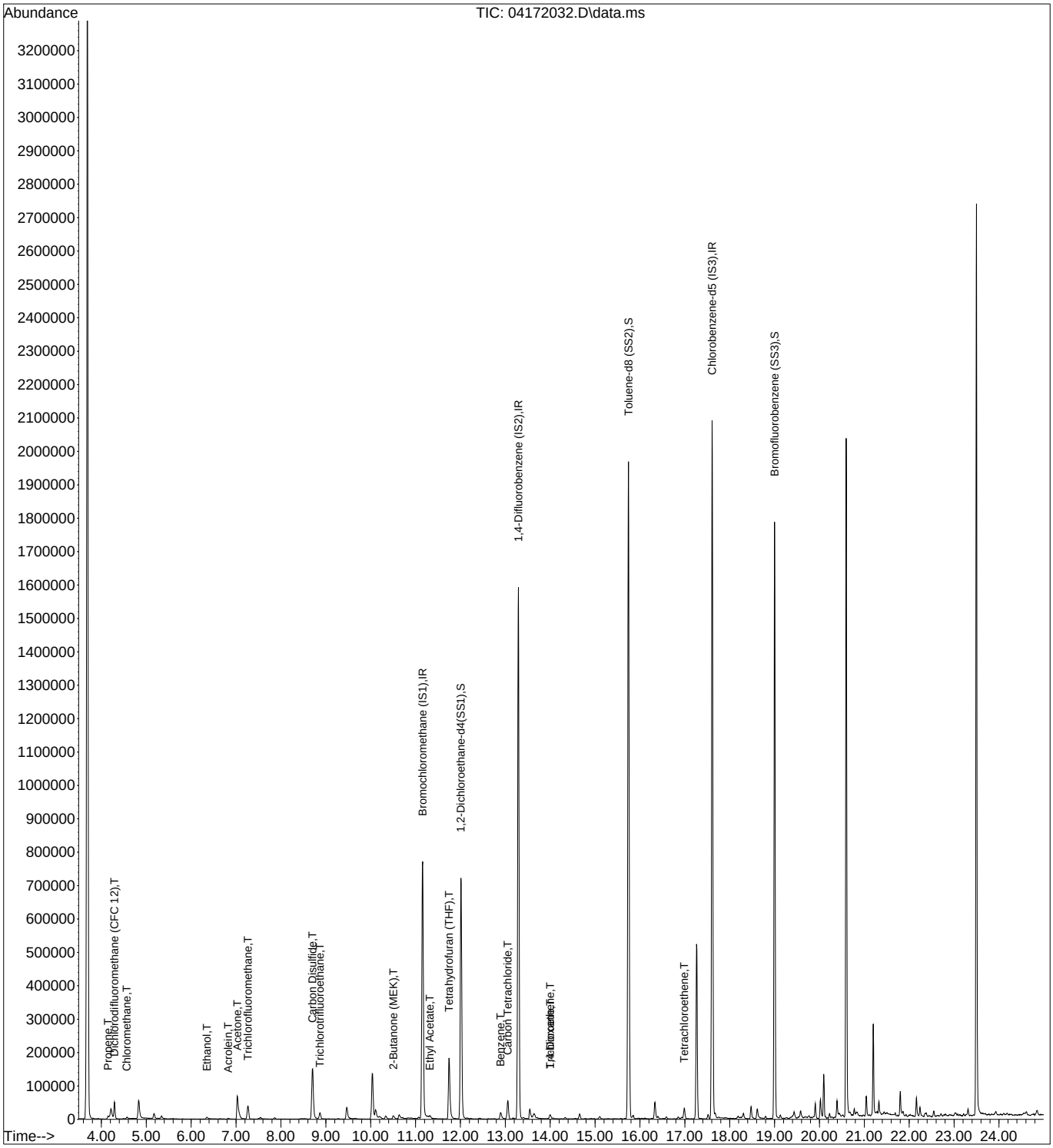
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	316889	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1426825	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	702440	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.01	65	573663	13.074	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.56%			
57) Toluene-d8 (SS2)	15.74	98	1484376	11.922	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.36%			
73) Bromofluorobenzene (SS3)	19.00	174	487867	11.096	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.80%			
Target Compounds						Qvalue
2) Propene	4.15	42	2566	0.077	ng	# 79
3) Dichlorodifluoromethan...	4.29	85	42311	0.592	ng	100
4) Chloromethane	4.56	50	3903	0.069	ng	95
10) Ethanol	6.35	45	12410	0.472	ng	86
12) Acrolein	6.82	56	2738	0.142	ng	94
13) Acetone	7.03	58	37961	1.464	ng	98
14) Trichlorofluoromethane	7.26	101	39675	0.629	ng	99
21) Trichlorotrifluoroethane	8.87	151	7219	0.239	ng	99
22) Carbon Disulfide	8.71	76	315252	2.599	ng	99
27) 2-Butanone (MEK)	10.50	72	4905	0.227	ng	95
30) Ethyl Acetate	11.32	61	873	0.068	ng	92
34) Tetrahydrofuran (THF)	11.75	72	60861	2.741	ng	92
41) Benzene	12.90	78	9443	0.064	ng	98
42) Carbon Tetrachloride	13.06	117	34270	0.676	ng	97
47) Trichloroethene	14.00	130	3638	0.087	ng	96
48) 1,4-Dioxane	14.00	88	2177	0.076	ng	98
64) Tetrachloroethene	16.99	166	9416	0.219	ng	98

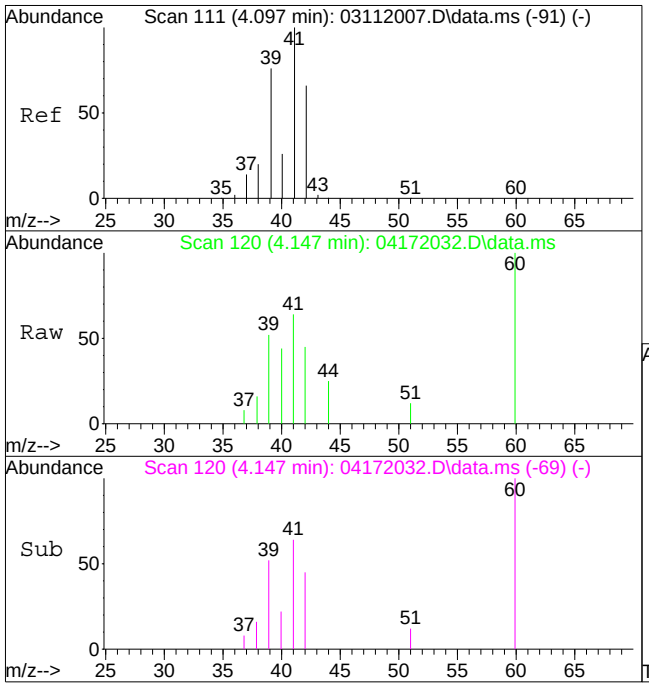
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172032.D Vial: 12
Acq On : 17 Apr 2020 21:57 Operator: LH
Sample : P2002028-004 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 18:27:30 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

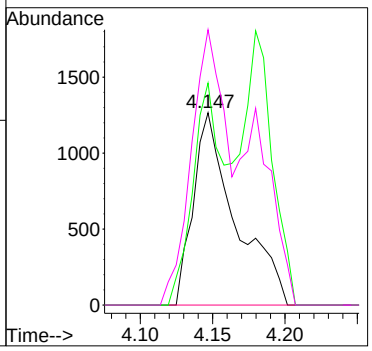


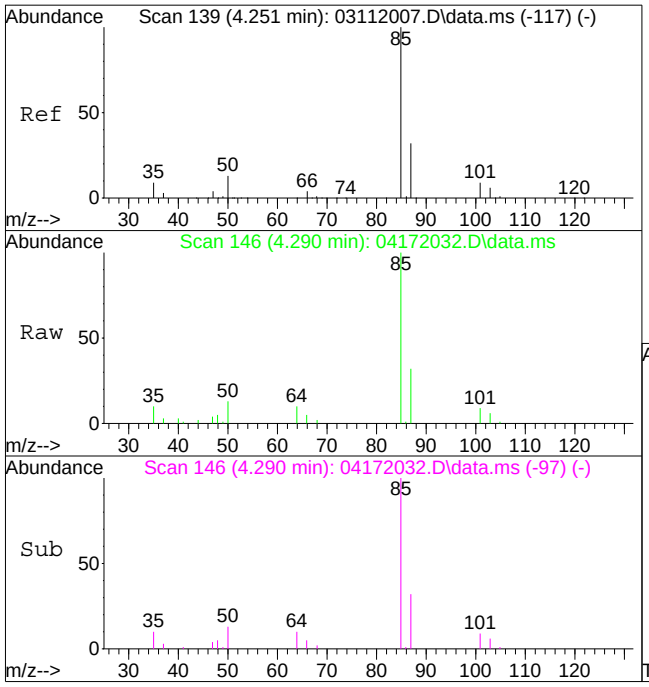


#2
Propene
Concen: 0.08 ng
RT: 4.15 min Scan# 120
Delta R.T. 0.033 min
Lab File: 04172032.D
Acq: 17 Apr 2020 21:57

Tgt Ion: 42 Resp: 2566

Ion	Ratio	Lower	Upper
42	100		
39	88.4	95.3	135.3#
41	128.3	132.0	172.0#

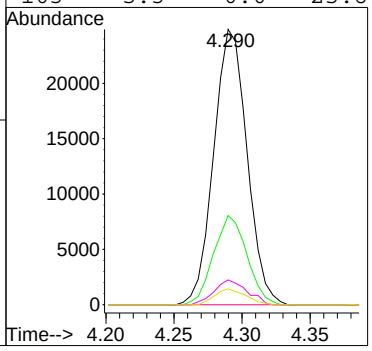


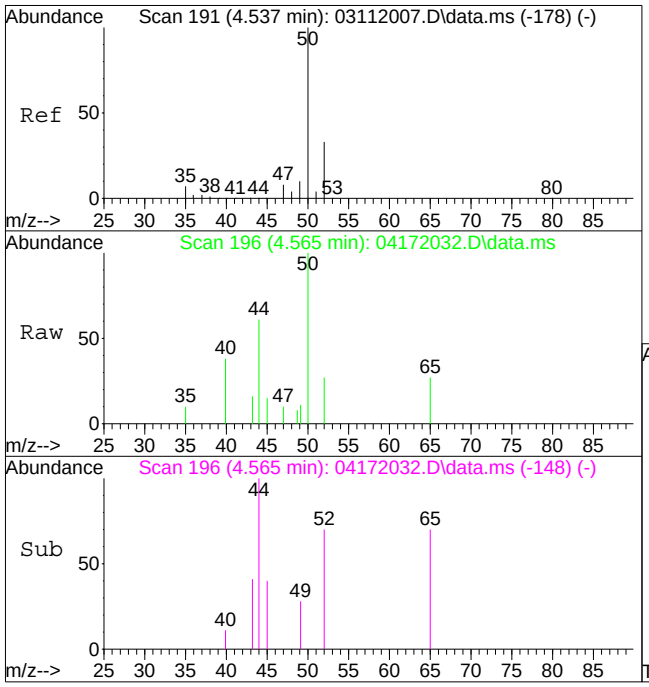


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.59 ng
RT: 4.29 min Scan# 146
Delta R.T. 0.022 min
Lab File: 04172032.D
Acq: 17 Apr 2020 21:57

Tgt Ion: 85 Resp: 42311

Ion	Ratio	Lower	Upper
85	100		
87	32.4	12.3	52.3
101	8.9	0.0	29.0
103	5.3	0.0	25.8

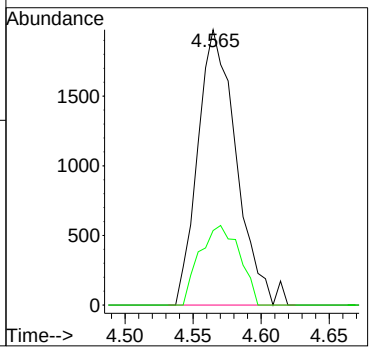


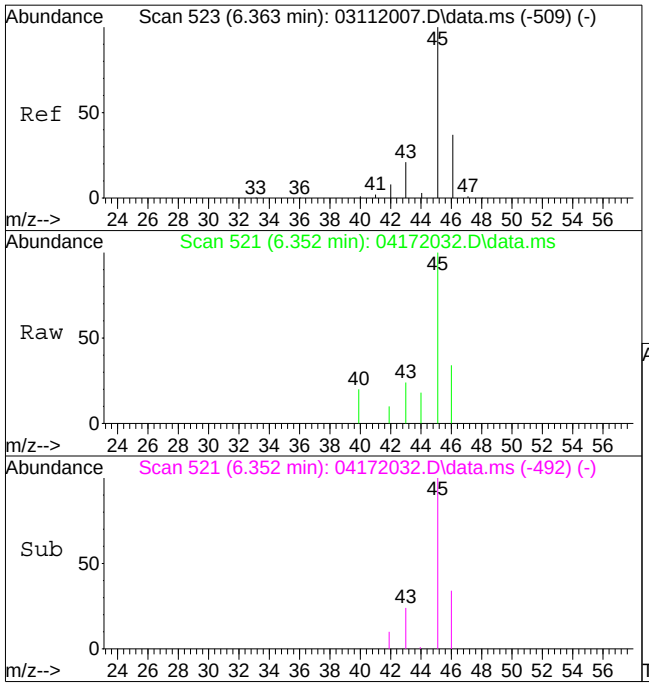


#4
Chloromethane
Concen: 0.07 ng
RT: 4.56 min Scan# 196
Delta R.T. 0.012 min
Lab File: 04172032.D
Acq: 17 Apr 2020 21:57

Tgt Ion: 50 Resp: 3903

Ion	Ratio	Lower	Upper
50	100		
52	29.9	12.8	52.8

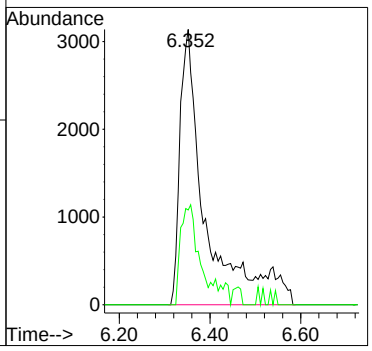


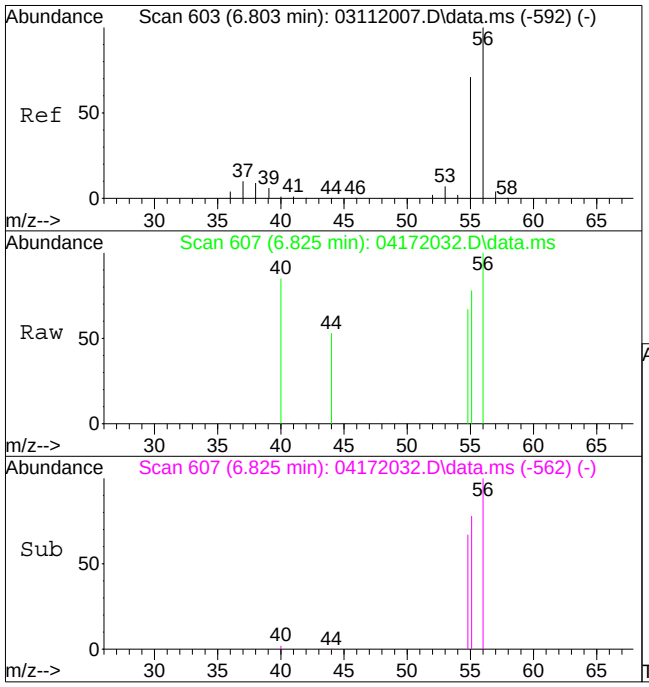


#10
Ethanol
Concen: 0.47 ng
RT: 6.35 min Scan# 521
Delta R.T. -0.088 min
Lab File: 04172032.D
Acq: 17 Apr 2020 21:57

Tgt Ion: 45 Resp: 12410

Ion	Ratio	Lower	Upper
45	100		
46	29.0	17.3	57.3

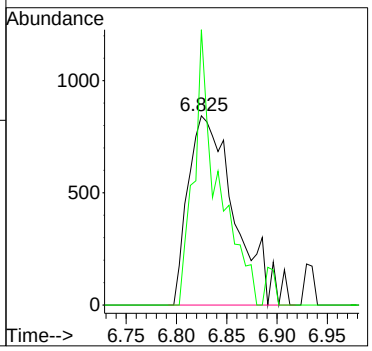


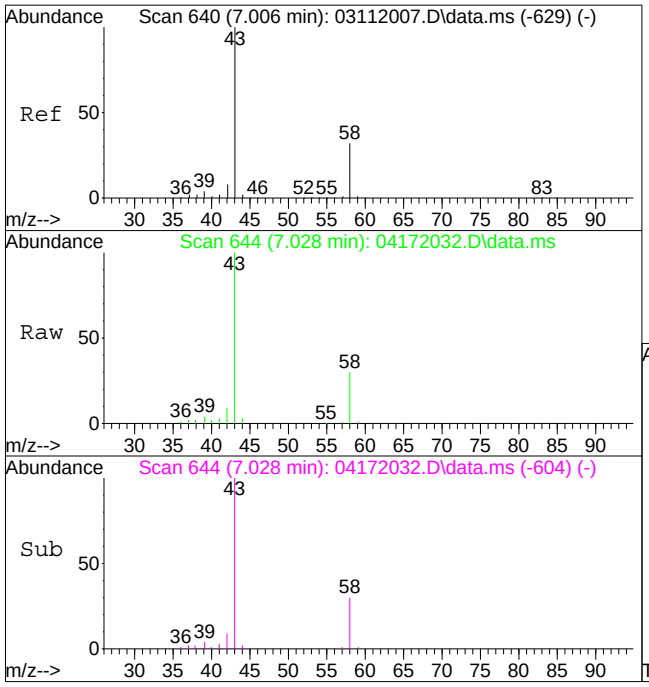


#12
Acrolein
Concen: 0.14 ng
RT: 6.82 min Scan# 607
Delta R.T. -0.005 min
Lab File: 04172032.D
Acq: 17 Apr 2020 21:57

Tgt Ion: 56 Resp: 2738

Ion	Ratio	Lower	Upper
56	100		
55	75.2	50.4	90.4

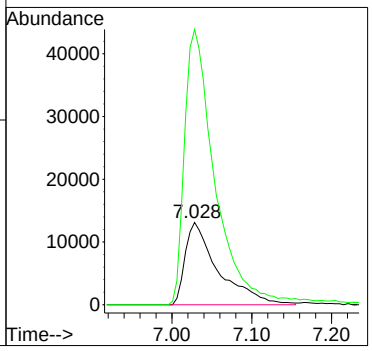


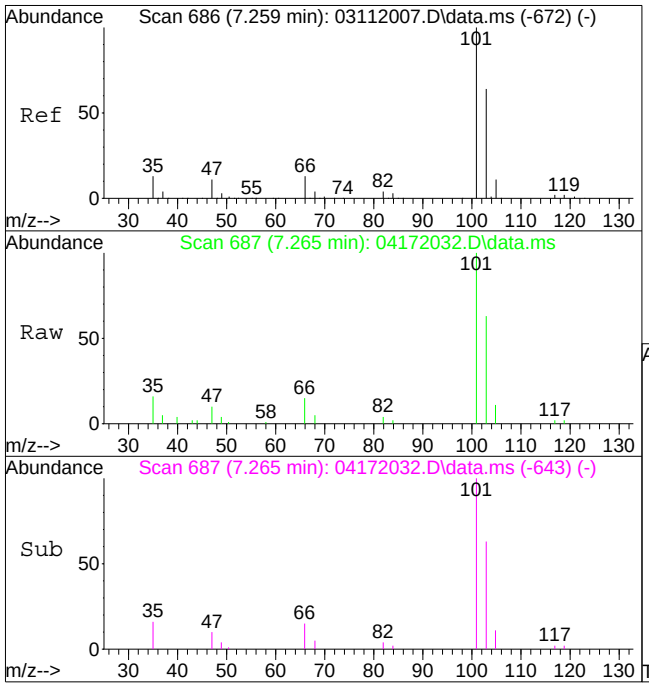


#13
Acetone
Concen: 1.46 ng
RT: 7.03 min Scan# 644
Delta R.T. -0.028 min
Lab File: 04172032.D
Acq: 17 Apr 2020 21:57

Tgt Ion: 58 Resp: 37961

Ion	Ratio	Lower	Upper
58	100		
43	313.9	287.3	347.3

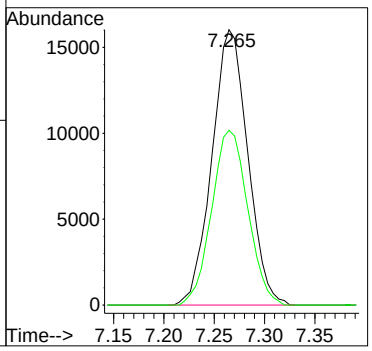


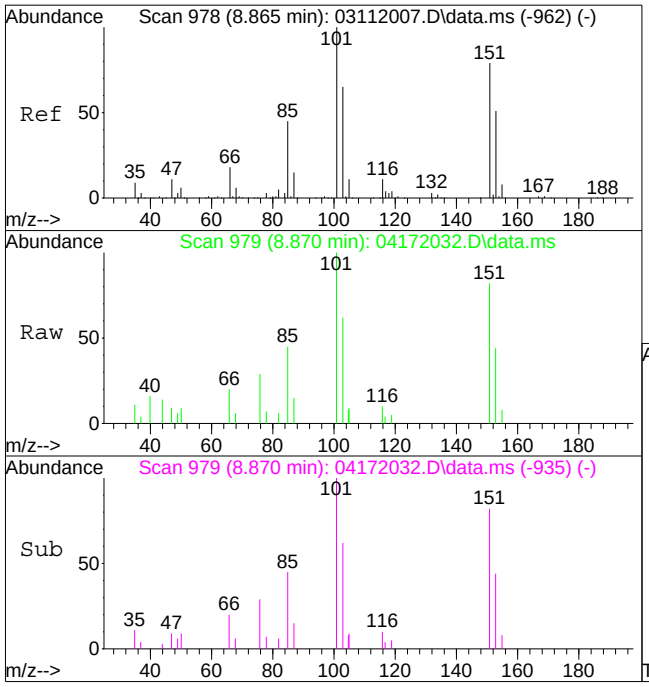


#14
Trichlorofluoromethane
Concen: 0.63 ng
RT: 7.26 min Scan# 687
Delta R.T. -0.010 min
Lab File: 04172032.D
Acq: 17 Apr 2020 21:57

Tgt Ion:101 Resp: 39675

Ion	Ratio	Lower	Upper
101	100		
103	64.0	44.6	84.6

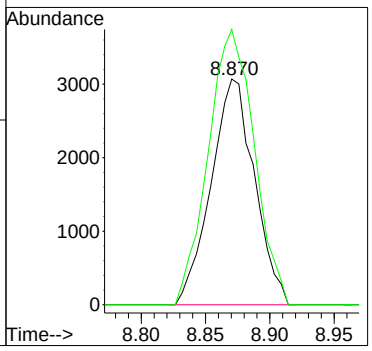


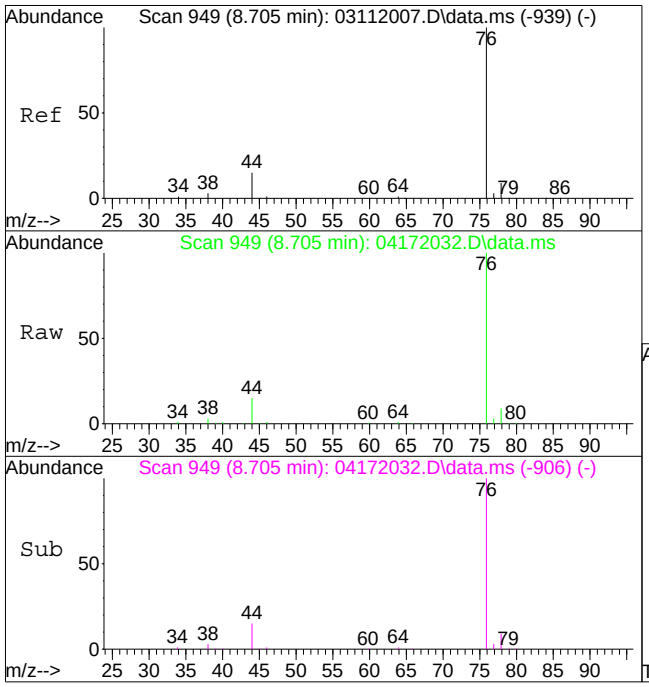


#21
Trichlorotrifluoroethane
Concen: 0.24 ng
RT: 8.87 min Scan# 979
Delta R.T. -0.006 min
Lab File: 04172032.D
Acq: 17 Apr 2020 21:57

Tgt Ion:151 Resp: 7219

Ion	Ratio	Lower	Upper
151	100		
101	129.5	108.4	148.4

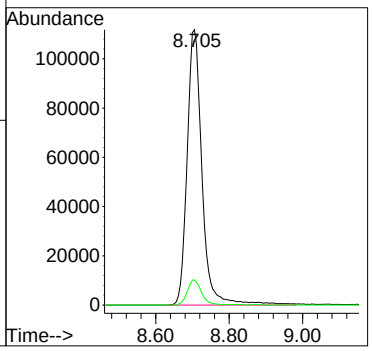


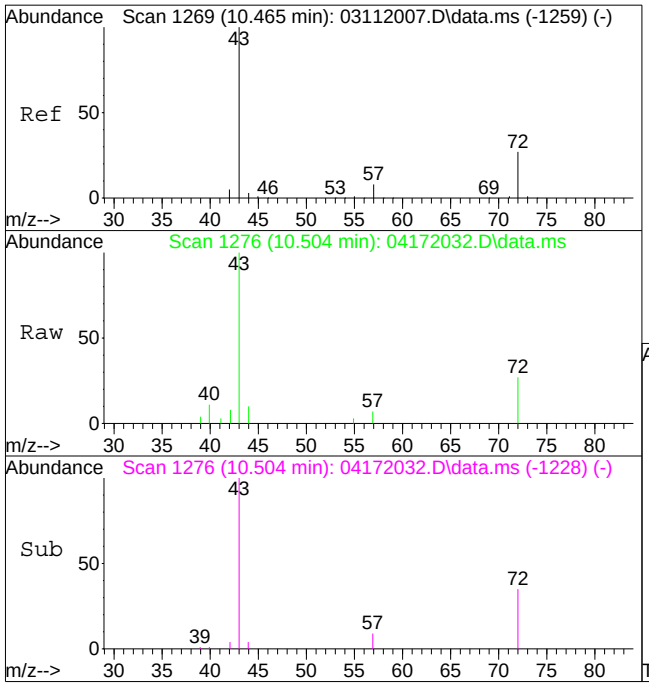


#22
Carbon Disulfide
Concen: 2.60 ng
RT: 8.71 min Scan# 949
Delta R.T. -0.016 min
Lab File: 04172032.D
Acq: 17 Apr 2020 21:57

Tgt Ion: 76 Resp: 315252

Ion	Ratio	Lower	Upper
76	100		
78	8.9	0.0	29.2

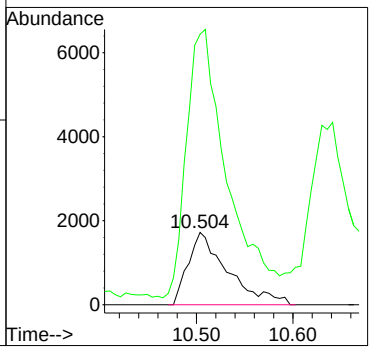


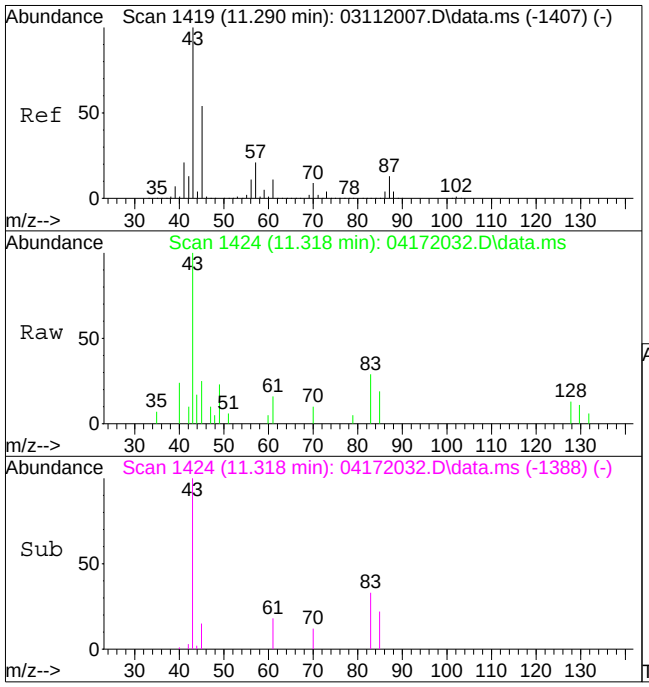


#27
2-Butanone (MEK)
Concen: 0.23 ng
RT: 10.50 min Scan# 1276
Delta R.T. 0.011 min
Lab File: 04172032.D
Acq: 17 Apr 2020 21:57

Tgt Ion: 72 Resp: 4905

Ion	Ratio	Lower	Upper
72	100		
43	384.3	353.4	393.4

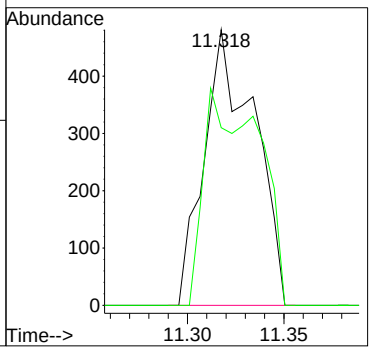


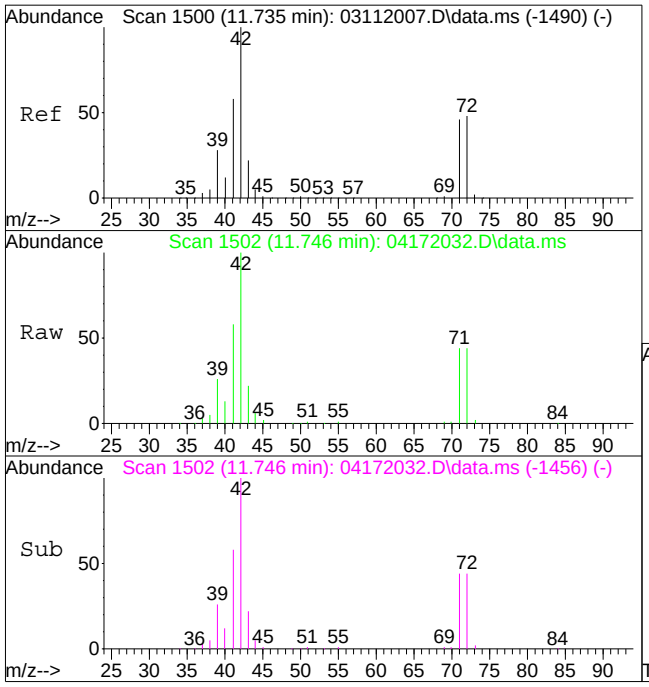


#30
Ethyl Acetate
Concen: 0.07 ng
RT: 11.32 min Scan# 1424
Delta R.T. 0.000 min
Lab File: 04172032.D
Acq: 17 Apr 2020 21:57

Tgt Ion: 61 Resp: 873

Ion	Ratio	Lower	Upper
61	100		
70	86.5	59.1	99.1

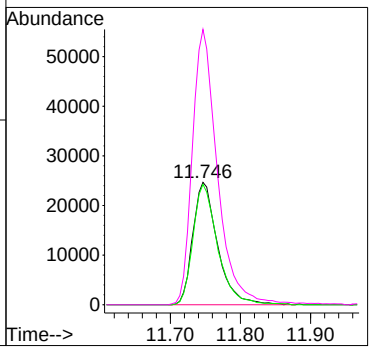


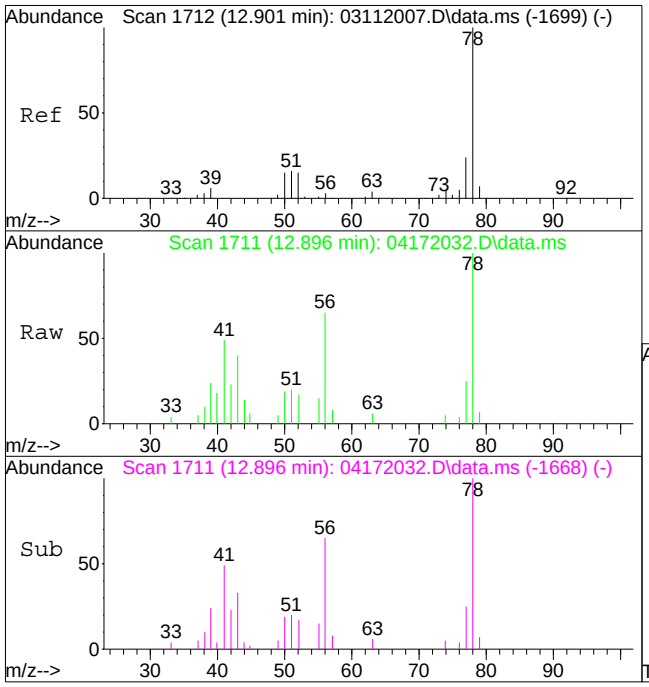


#34
Tetrahydrofuran (THF)
Concen: 2.74 ng
RT: 11.75 min Scan# 1502
Delta R.T. 0.000 min
Lab File: 04172032.D
Acq: 17 Apr 2020 21:57

Tgt Ion: 72 Resp: 60861

Ion	Ratio	Lower	Upper
72	100		
71	97.4	75.9	115.9
42	227.5	189.3	229.3

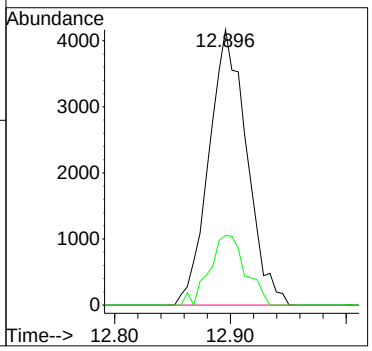


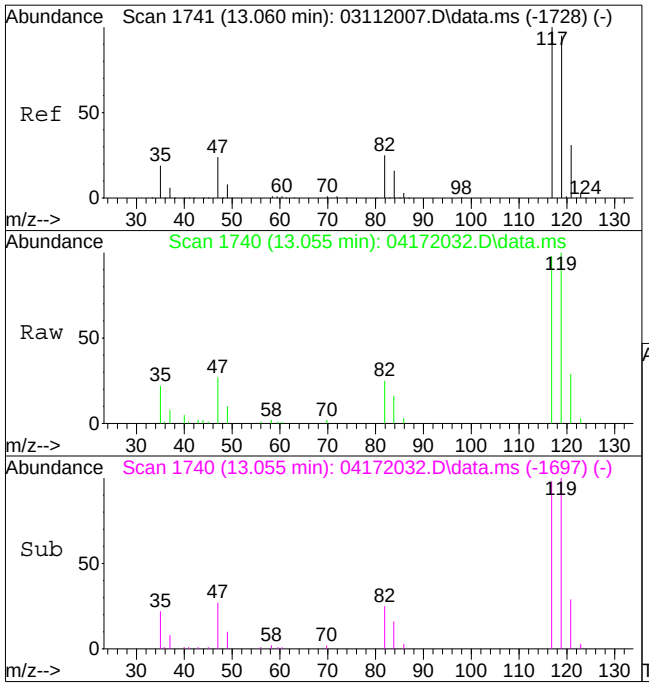


#41
Benzene
Concen: 0.06 ng
RT: 12.90 min Scan# 1711
Delta R.T. -0.016 min
Lab File: 04172032.D
Acq: 17 Apr 2020 21:57

Tgt Ion: 78 Resp: 9443

Ion	Ratio	Lower	Upper
78	100		
77	24.1	3.4	43.4

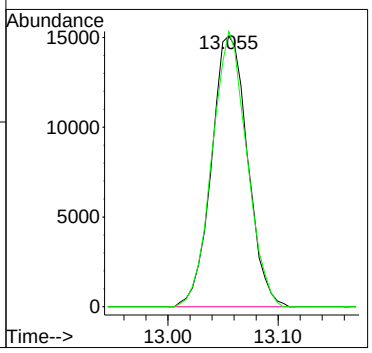


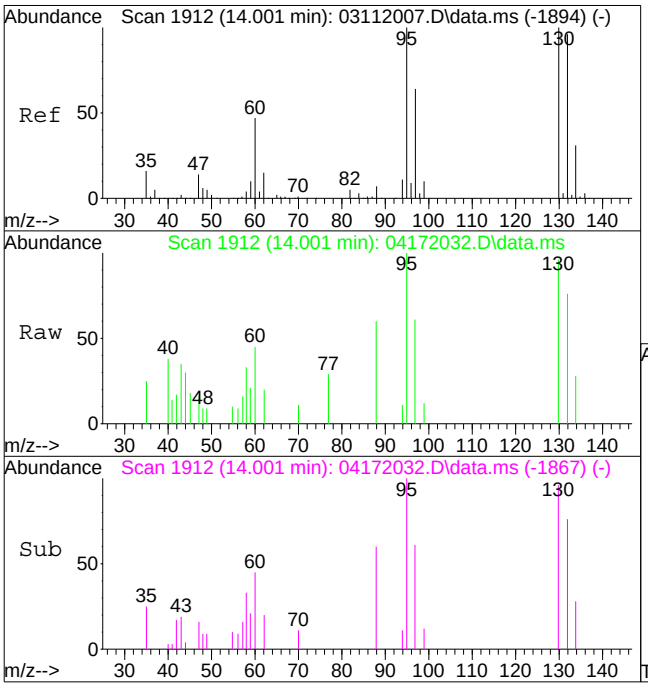


#42
Carbon Tetrachloride
Concen: 0.68 ng
RT: 13.06 min Scan# 1740
Delta R.T. -0.016 min
Lab File: 04172032.D
Acq: 17 Apr 2020 21:57

Tgt Ion:117 Resp: 34270

Ion	Ratio	Lower	Upper
117	100		
119	97.9	75.4	115.4

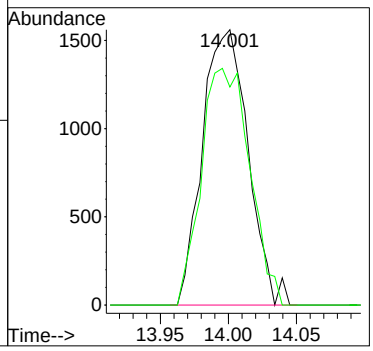


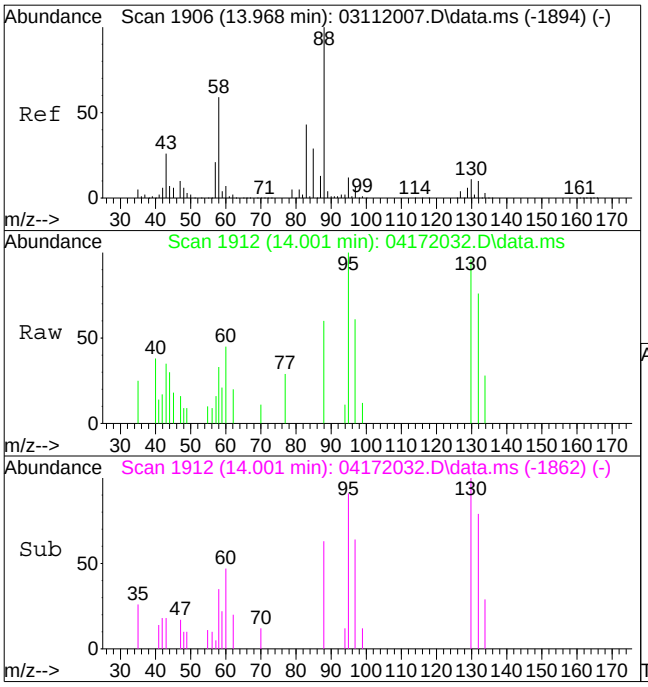


#47
Trichloroethene
Concen: 0.09 ng
RT: 14.00 min Scan# 1912
Delta R.T. -0.005 min
Lab File: 04172032.D
Acq: 17 Apr 2020 21:57

Tgt Ion:130 Resp: 3638

Ion	Ratio	Lower	Upper
130	100		
132	91.2	74.7	114.7

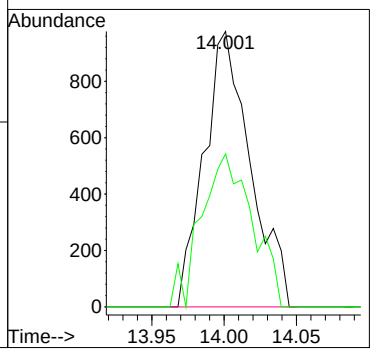


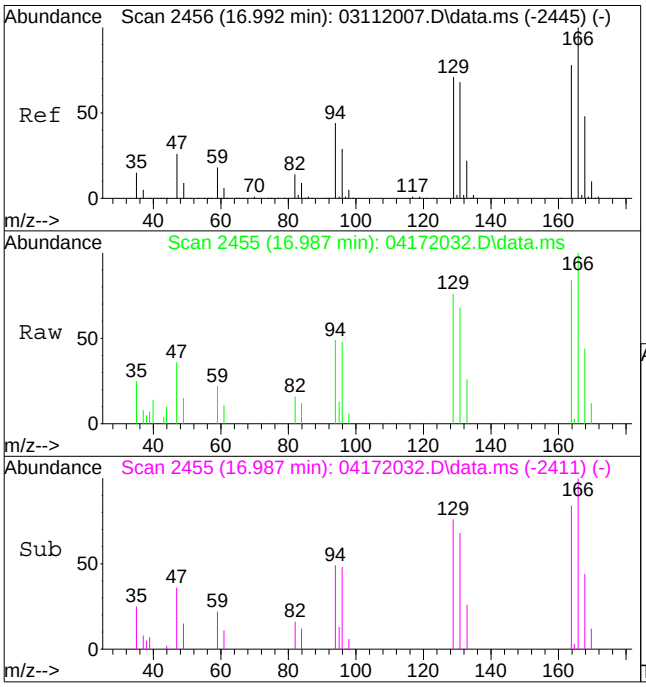


#48
1,4-Dioxane
Concen: 0.08 ng
RT: 14.00 min Scan# 1912
Delta R.T. 0.022 min
Lab File: 04172032.D
Acq: 17 Apr 2020 21:57

Tgt Ion: 88 Resp: 2177

Ion	Ratio	Lower	Upper
88	100		
58	61.4	39.5	79.5

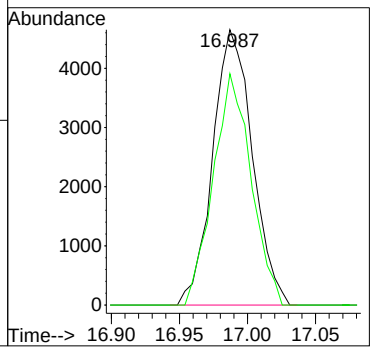




#64
Tetrachloroethene
Concen: 0.22 ng
RT: 16.99 min Scan# 2455
Delta R.T. -0.011 min
Lab File: 04172032.D
Acq: 17 Apr 2020 21:57

Tgt Ion:166 Resp: 9416

Ion	Ratio	Lower	Upper
166	100		
164	80.2	58.6	98.6



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172033.D Vial: 13
Acq On : 17 Apr 2020 22:31 Operator: LH
Sample : P2002028-005 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 18:28:22 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/20/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	316680	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1413063	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	704668	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.01	65	568013	12.953	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.60%				
57) Toluene-d8 (SS2)	15.74	98	1478808	11.840	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.72%				
73) Bromofluorobenzene (SS3)	19.00	174	487543	11.054	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.40%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	4.28	85	19777	0.277	ng		99
4) Chloromethane	4.56	50	4249	0.075	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	332	N.D.			
6) Vinyl Chloride	4.98	62	693	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.99	64	206	N.D.			
10) Ethanol	6.34	45	20083	0.765	ng		95
11) Acetonitrile	6.61	41	8462	0.147	ng	#	63
12) Acrolein	6.82	56	3665	0.190	ng		86
13) Acetone	7.01	58	132731	5.124	ng		88
14) Trichlorofluoromethane	7.26	101	15243	0.242	ng		98
15) 2-Propanol (Isopropanol)	7.56	45	7527	0.098	ng	#	1
16) Acrylonitrile	7.83	53	50	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.48	59	2494	N.D.			
19) Methylene Chloride	8.42	84	479	N.D.			
20) 3-Chloro-1-propene (Al...	8.56	41	155	N.D.			
21) Trichlorotrifluoroethane	8.86	151	2645	0.088	ng		87
22) Carbon Disulfide	8.70	76	178434	1.472	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.11	73	448	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	10.50	72	6371	0.295	ng	#	70
28) cis-1,2-Dichloroethene	10.99	61	181	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	11.32	61	1529	0.120	ng		85
31) n-Hexane	11.28	57	1761	N.D.			
32) Chloroform	11.33	83	2895	N.D.			
34) Tetrahydrofuran (THF)	11.74	72	88564	3.992	ng		92
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D. d			
41) Benzene	12.90	78	4650	N.D.			
42) Carbon Tetrachloride	13.05	117	17163	0.342	ng		98
43) Cyclohexane	13.18	84	115	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D. d			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	14.00	130	2550	0.062	ng		93
48) 1,4-Dioxane	14.00	88	2333	0.082	ng		96
49) 2,2,4-Trimethylpentane...	14.06	57	2897	N.D.			
50) Methyl Methacrylate	14.33	100	107	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172033.D Vial: 13
Acq On : 17 Apr 2020 22:31 Operator: LH
Sample : P2002028-005 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 18:28:22 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.33	71	818	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.91	58	2214	0.072 ng	#	63
54) trans-1,3-Dichloropropene	15.40	75	379	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.85	91	7195	N.D.		
59) 2-Hexanone	16.11	43	5002	0.065 ng	#	66
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.75	43	506	N.D.		
63) n-Octane	16.85	57	1166	N.D.		
64) Tetrachloroethene	16.99	166	3109	0.072 ng		97
65) Chlorobenzene	17.65	112	109	N.D.		
66) Ethylbenzene	18.01	91	1966	N.D.		
67) m- & p-Xylenes	18.17	91	4037	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.51	104	695	N.D.		
70) o-Xylene	18.60	91	2305	N.D.		
71) n-Nonane	18.80	43	3946	0.057 ng		89
72) 1,1,2,2-Tetrachloroethane	18.61	83	1630	N.D.		
74) Cumene	19.13	105	1593	N.D.		
75) alpha-Pinene	19.48	93	601	N.D.		
76) n-Propylbenzene	19.58	91	2294	N.D.		
77) 3-Ethyltoluene	19.67	105	1812	N.D.		
78) 4-Ethyltoluene	19.71	105	1429	N.D.		
79) 1,3,5-Trimethylbenzene	19.77	105	1853	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	19.95	105	1570	N.D.		
82) 1,2,4-Trimethylbenzene	20.14	105	2305	N.D.		
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.25	91	635	N.D.		
85) 1,3-Dichlorobenzene	20.32	146	250	N.D.		
86) 1,4-Dichlorobenzene	20.32	146	250	N.D.		
87) sec-Butylbenzene	20.37	105	953	N.D.		
88) 4-Isopropyltoluene (p-...	20.52	119	2489	N.D.		
89) 1,2,3-Trimethylbenzene	20.51	105	2066	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.64	68	940	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	22.25	128	1714	N.D.		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	20.86	91	2076	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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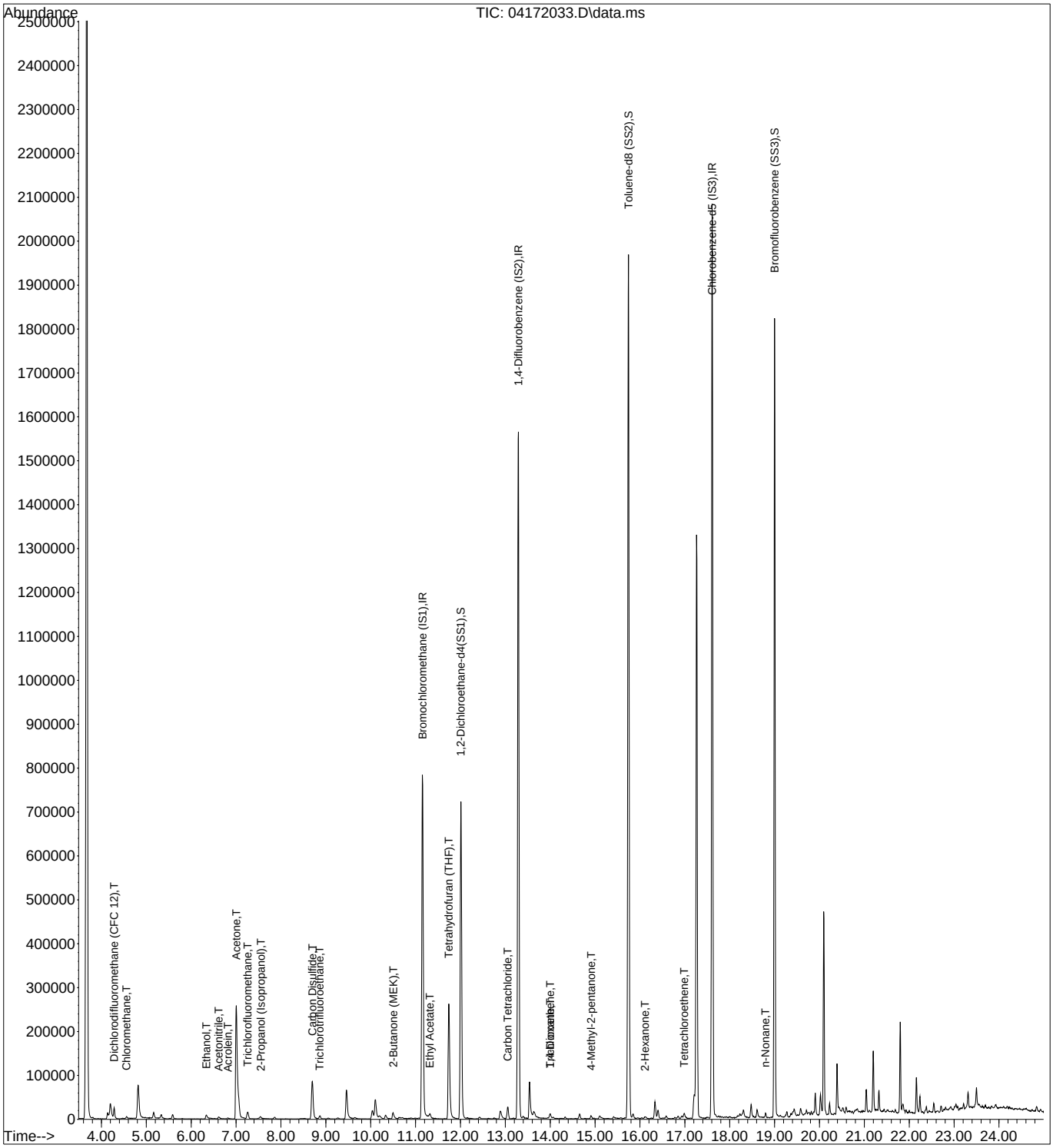
Sample : P2002028-005 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 18:28:22 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020 LH 4/20/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	316680	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1413063	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	704668	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.01	65	568013	12.953	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.60%				
57) Toluene-d8 (SS2)	15.74	98	1478808	11.840	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.72%				
73) Bromofluorobenzene (SS3)	19.00	174	487543	11.054	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.40%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.28	85	19777	0.277	ng		99
4) Chloromethane	4.56	50	4249	0.075	ng		99
10) Ethanol	6.34	45	20083	0.765	ng		95
11) Acetonitrile	6.61	41	8462	0.147	ng	#	63
12) Acrolein	6.82	56	3665	0.190	ng		86
13) Acetone	7.01	58	132731	5.124	ng		88
14) Trichlorofluoromethane	7.26	101	15243	0.242	ng		98
15) 2-Propanol (Isopropanol)	7.56	45	7527	0.098	ng	#	1
21) Trichlorotrifluoroethane	8.86	151	2645	0.088	ng		87
22) Carbon Disulfide	8.70	76	178434	1.472	ng		99
27) 2-Butanone (MEK)	10.50	72	6371	0.295	ng	#	70
30) Ethyl Acetate	11.32	61	1529	0.120	ng		85
34) Tetrahydrofuran (THF)	11.74	72	88564	3.992	ng		92
42) Carbon Tetrachloride	13.05	117	17163	0.342	ng		98
47) Trichloroethene	14.00	130	2550	0.062	ng		93
48) 1,4-Dioxane	14.00	88	2333	0.082	ng		96
53) 4-Methyl-2-pentanone	14.91	58	2214	0.072	ng	#	63
59) 2-Hexanone	16.11	43	5002	0.065	ng	#	66
64) Tetrachloroethene	16.99	166	3109	0.072	ng		97
71) n-Nonane	18.80	43	3946	0.057	ng		89

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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Acq On : 17 Apr 2020 22:31 Operator: LH
Sample : P2002028-005 (400mL) Inst : GCMS-16
Misc : S31-02112001

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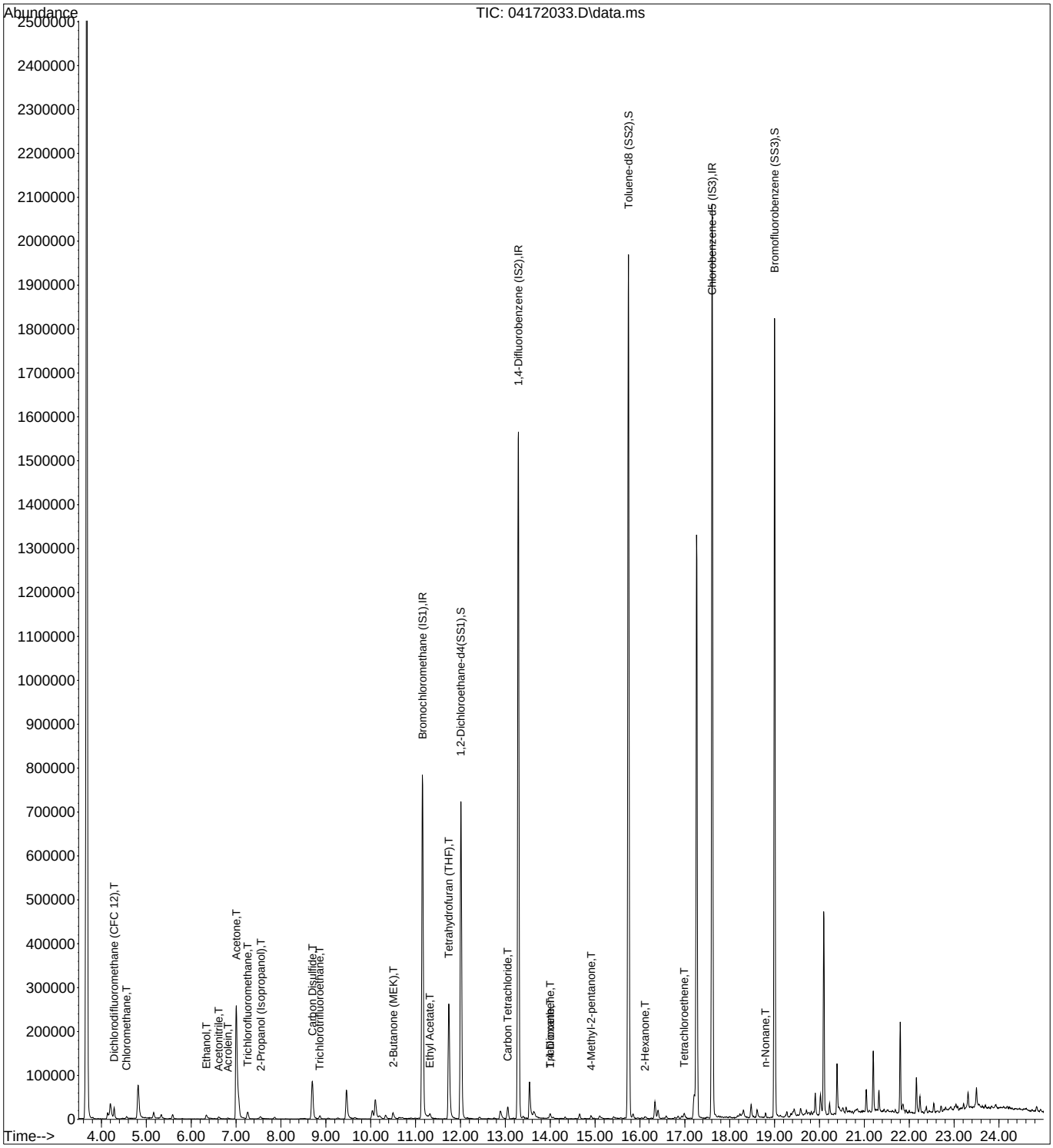
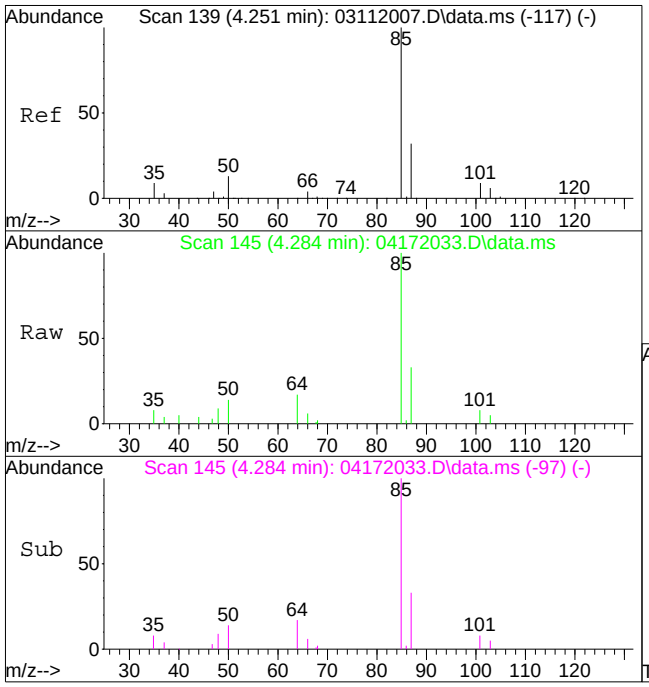
Response via : Initial Calibration
DataAcq Meth:TO15.M

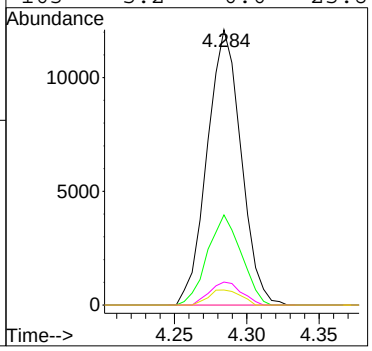


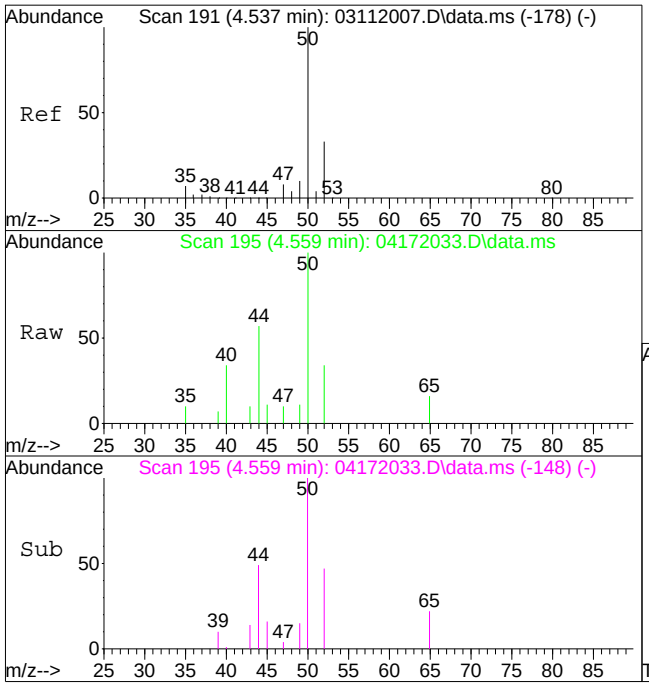


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.28 ng
RT: 4.28 min Scan# 145
Delta R.T. 0.016 min
Lab File: 04172033.D
Acq: 17 Apr 2020 22:31

Tgt Ion: 85 Resp: 19777

Ion	Ratio	Lower	Upper
85	100		
87	32.6	12.3	52.3
101	7.8	0.0	29.0
103	5.2	0.0	25.8

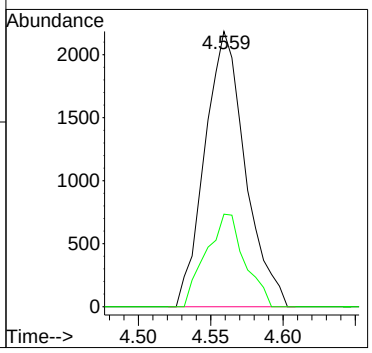


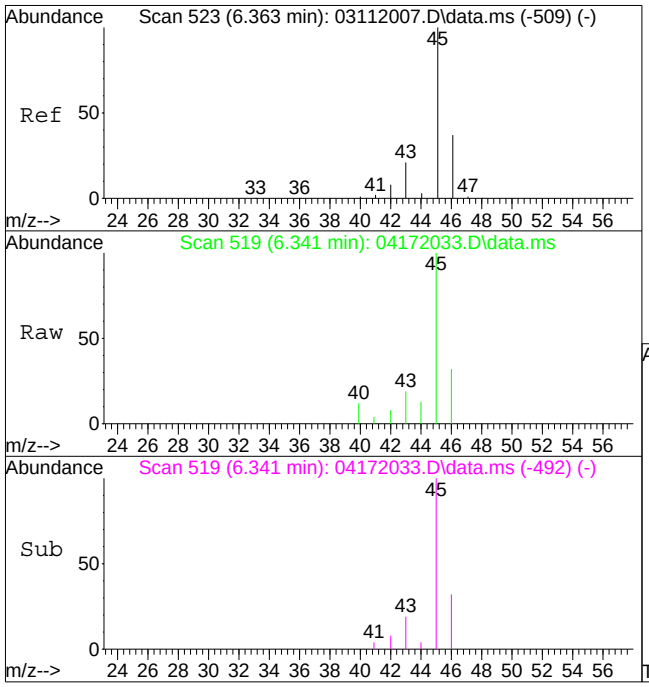


#4
Chloromethane
Concen: 0.08 ng
RT: 4.56 min Scan# 195
Delta R.T. 0.006 min
Lab File: 04172033.D
Acq: 17 Apr 2020 22:31

Tgt Ion: 50 Resp: 4249

Ion	Ratio	Lower	Upper
50	100		
52	32.1	12.8	52.8

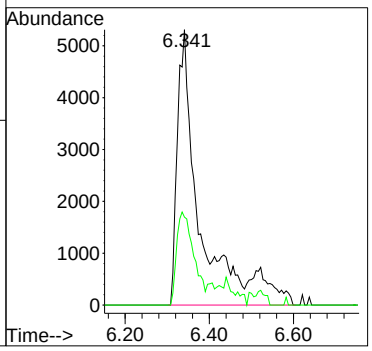


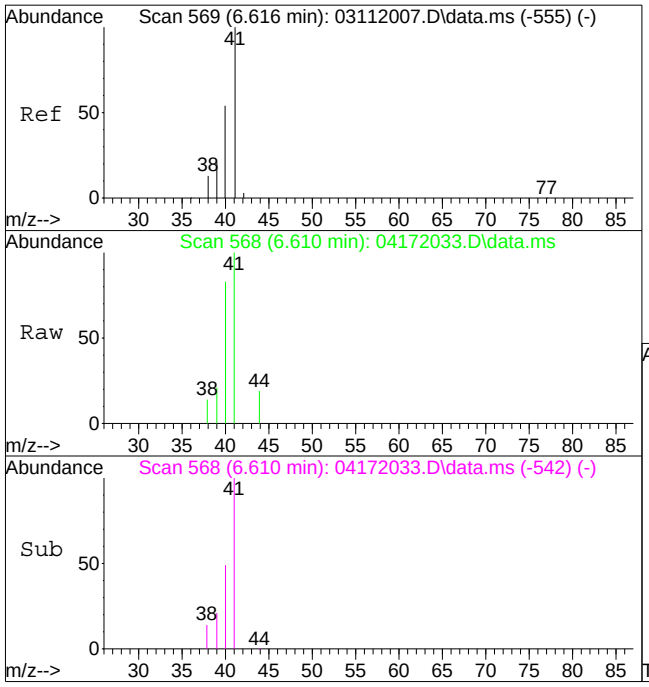


#10
Ethanol
Concen: 0.77 ng
RT: 6.34 min Scan# 519
Delta R.T. -0.099 min
Lab File: 04172033.D
Acq: 17 Apr 2020 22:31

Tgt Ion: 45 Resp: 20083

Ion	Ratio	Lower	Upper
45	100		
46	34.2	17.3	57.3

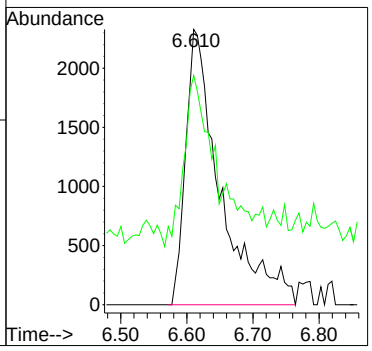


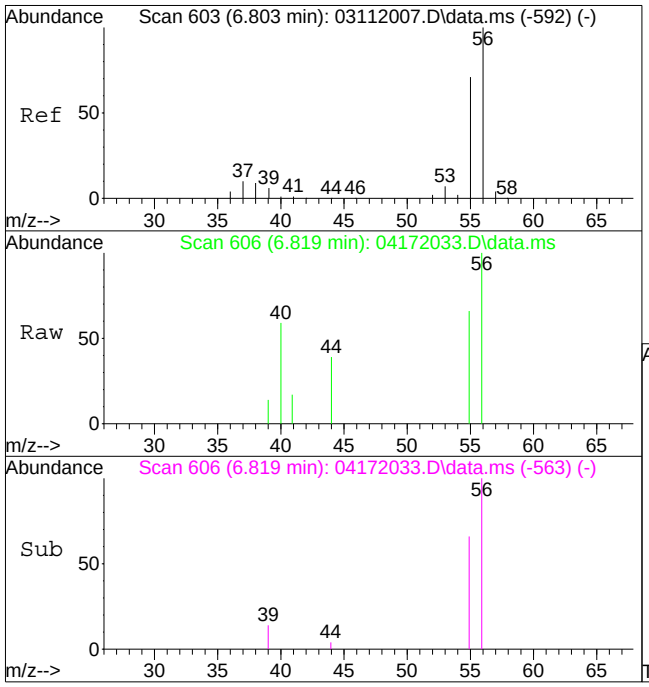


#11
Acetonitrile
Concen: 0.15 ng
RT: 6.61 min Scan# 568
Delta R.T. -0.055 min
Lab File: 04172033.D
Acq: 17 Apr 2020 22:31

Tgt Ion: 41 Resp: 8462

Ion	Ratio	Lower	Upper
41	100		
40	79.7	33.6	73.6#

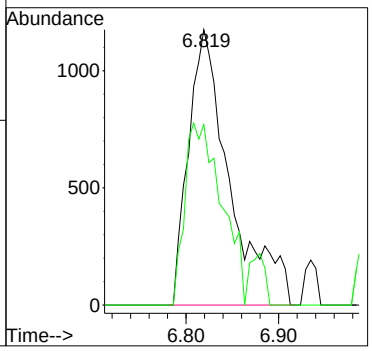


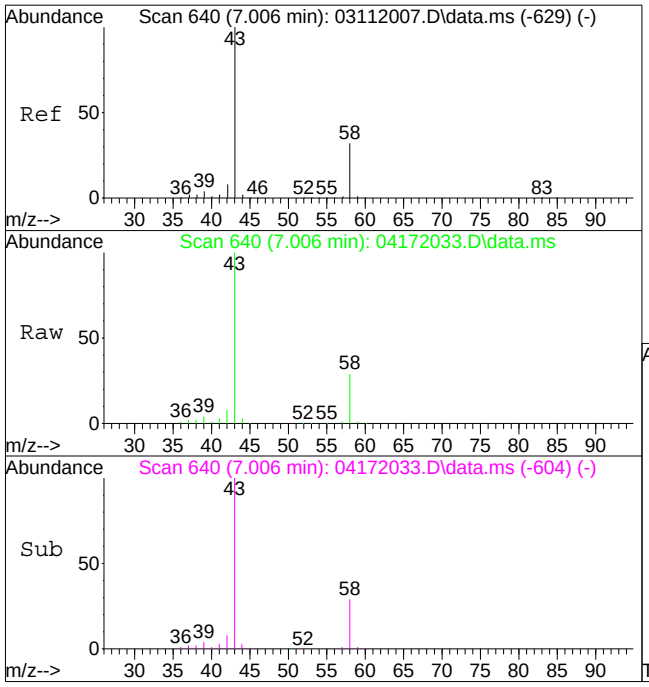


#12
Acrolein
Concen: 0.19 ng
RT: 6.82 min Scan# 606
Delta R.T. -0.011 min
Lab File: 04172033.D
Acq: 17 Apr 2020 22:31

Tgt Ion: 56 Resp: 3665

Ion	Ratio	Lower	Upper
56	100		
55	58.9	50.4	90.4

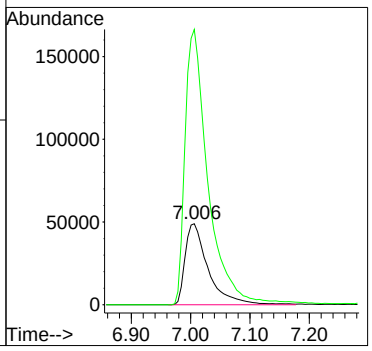


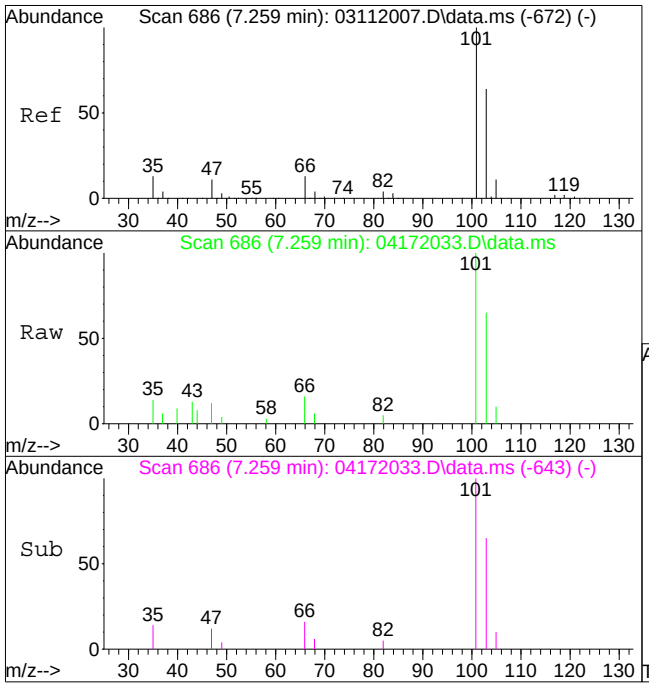


#13
Acetone
Concen: 5.12 ng
RT: 7.01 min Scan# 640
Delta R.T. -0.050 min
Lab File: 04172033.D
Acq: 17 Apr 2020 22:31

Tgt Ion: 58 Resp: 132731

Ion	Ratio	Lower	Upper
58	100		
43	341.0	287.3	347.3

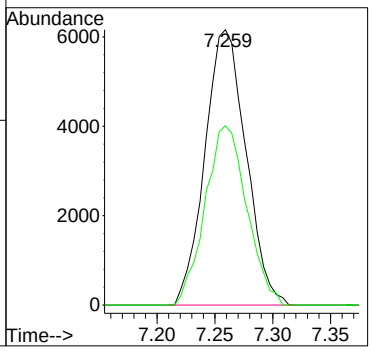


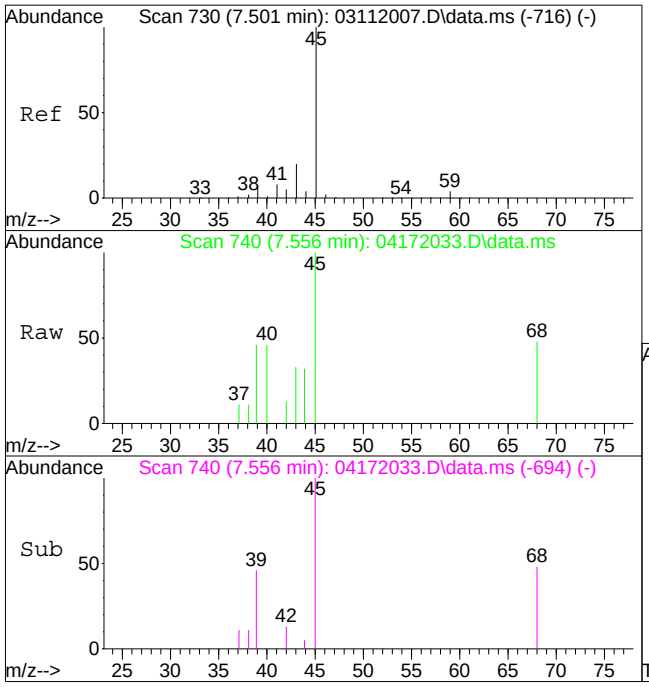


#14
Trichlorofluoromethane
Concen: 0.24 ng
RT: 7.26 min Scan# 686
Delta R.T. -0.016 min
Lab File: 04172033.D
Acq: 17 Apr 2020 22:31

Tgt Ion:101 Resp: 15243

Ion	Ratio	Lower	Upper
101	100		
103	66.0	44.6	84.6

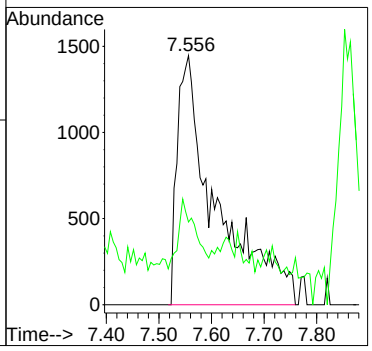


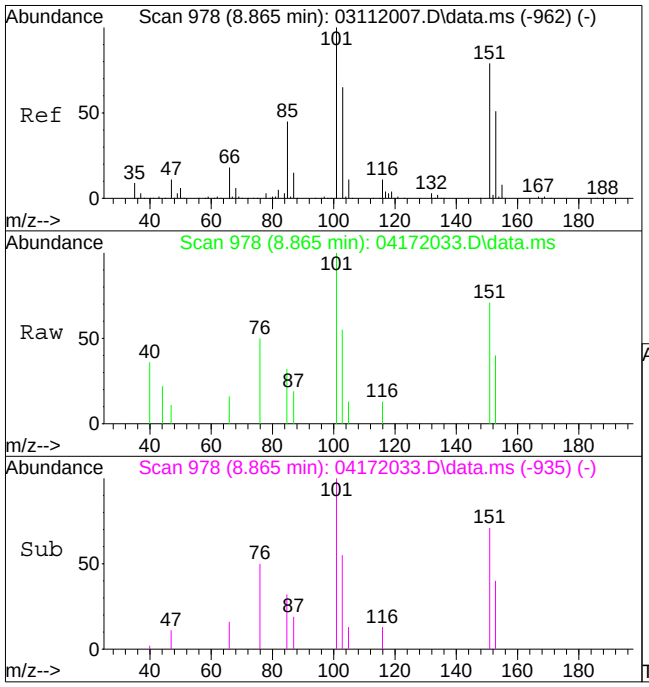


#15
2-Propanol (Isopropanol)
Concen: 0.10 ng
RT: 7.56 min Scan# 740
Delta R.T. 0.006 min
Lab File: 04172033.D
Acq: 17 Apr 2020 22:31

Tgt Ion: 45 Resp: 7527

Ion	Ratio	Lower	Upper
45	100		
43	81.7	0.3	40.3#

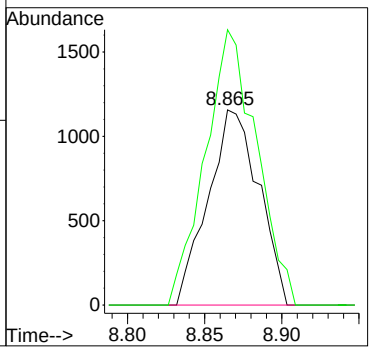


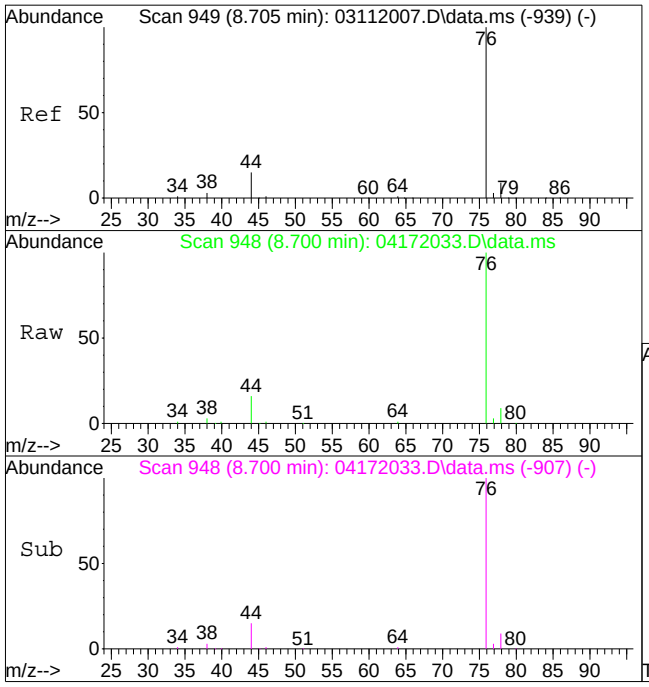


#21
Trichlorotrifluoroethane
Concen: 0.09 ng
RT: 8.86 min Scan# 978
Delta R.T. -0.011 min
Lab File: 04172033.D
Acq: 17 Apr 2020 22:31

Tgt Ion:151 Resp: 2645

Ion	Ratio	Lower	Upper
151	100		
101	143.0	108.4	148.4

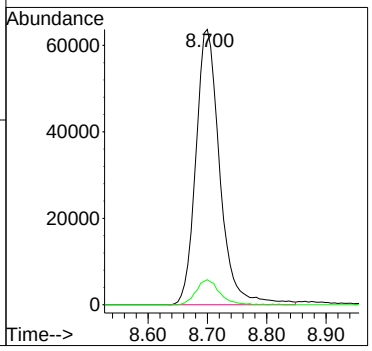


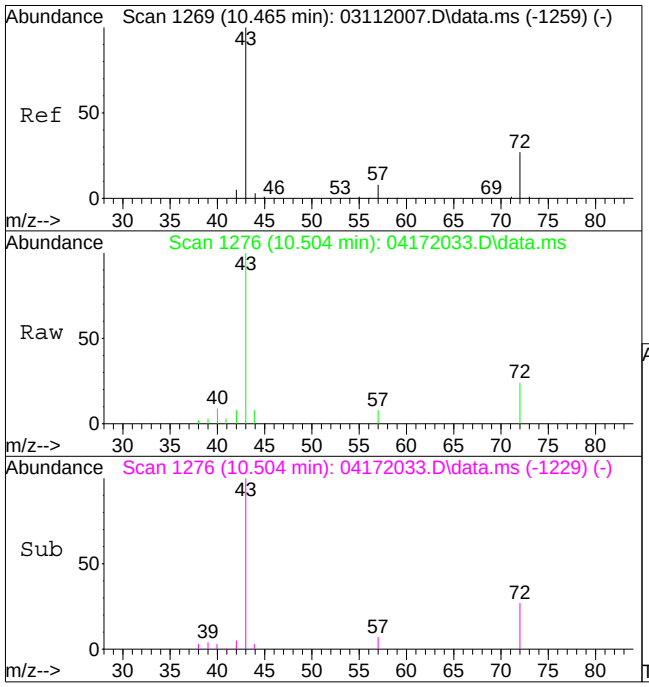


#22
Carbon Disulfide
Concen: 1.47 ng
RT: 8.70 min Scan# 948
Delta R.T. -0.022 min
Lab File: 04172033.D
Acq: 17 Apr 2020 22:31

Tgt Ion: 76 Resp: 178434

Ion	Ratio	Lower	Upper
76	100		
78	8.9	0.0	29.2

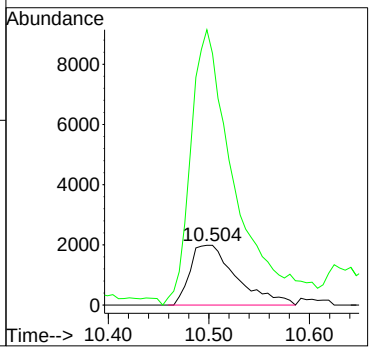


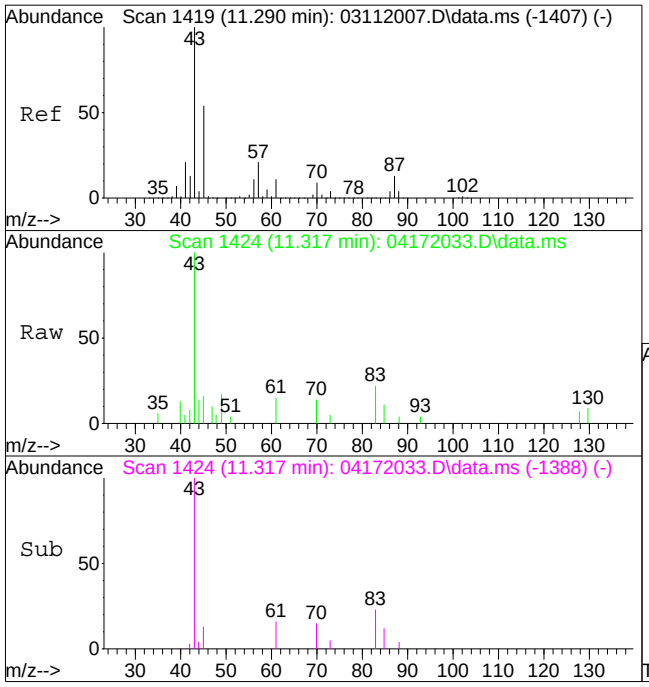


#27
2-Butanone (MEK)
Concen: 0.30 ng
RT: 10.50 min Scan# 1276
Delta R.T. 0.011 min
Lab File: 04172033.D
Acq: 17 Apr 2020 22:31

Tgt Ion: 72 Resp: 6371

Ion	Ratio	Lower	Upper
72	100		
43	441.9	353.4	393.4#

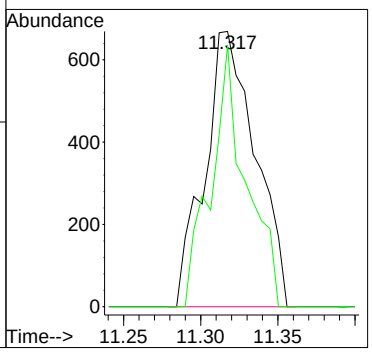


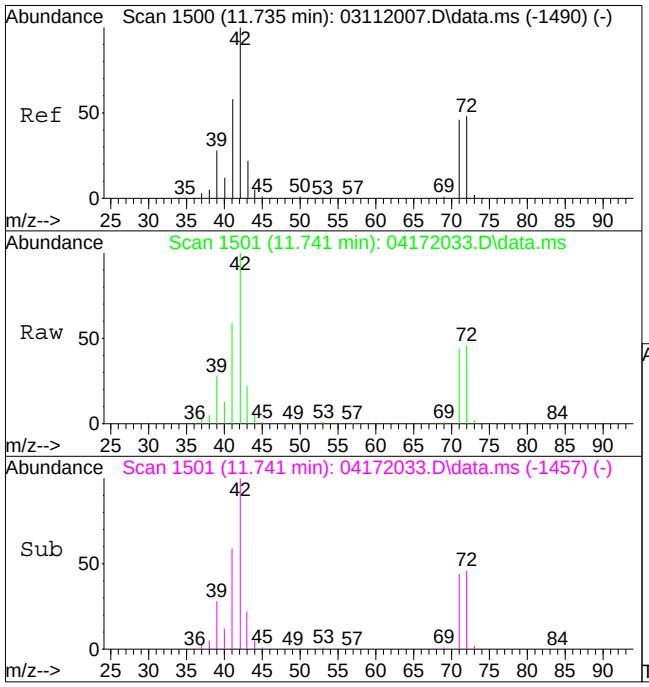


#30
Ethyl Acetate
Concen: 0.12 ng
RT: 11.32 min Scan# 1424
Delta R.T. 0.000 min
Lab File: 04172033.D
Acq: 17 Apr 2020 22:31

Tgt Ion: 61 Resp: 1529

Ion	Ratio	Lower	Upper
61	100		
70	65.9	59.1	99.1

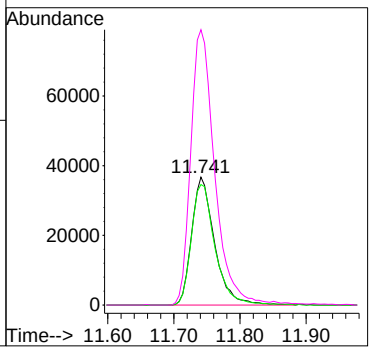


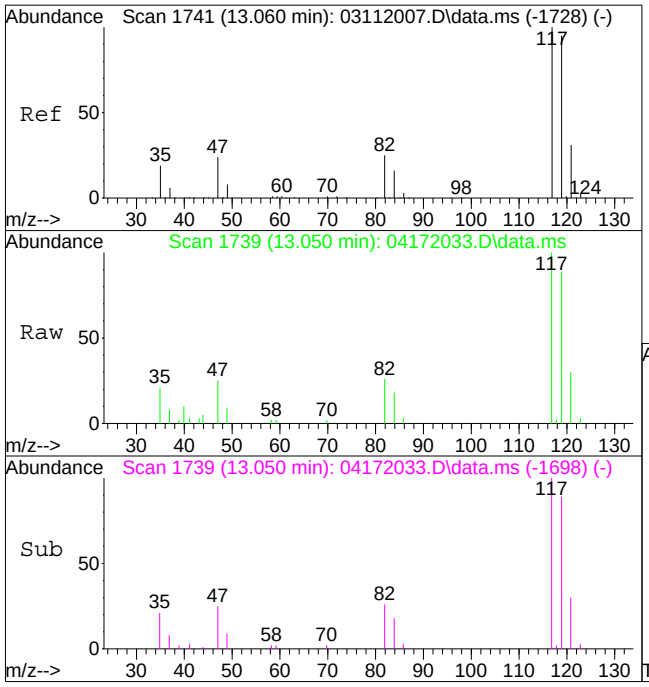


#34
Tetrahydrofuran (THF)
Concen: 3.99 ng
RT: 11.74 min Scan# 1501
Delta R.T. -0.005 min
Lab File: 04172033.D
Acq: 17 Apr 2020 22:31

Tgt Ion: 72 Resp: 88564

Ion	Ratio	Lower	Upper
72	100		
71	97.5	75.9	115.9
42	226.6	189.3	229.3

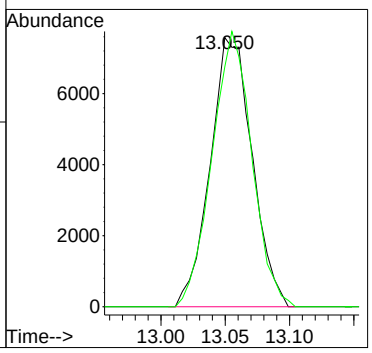


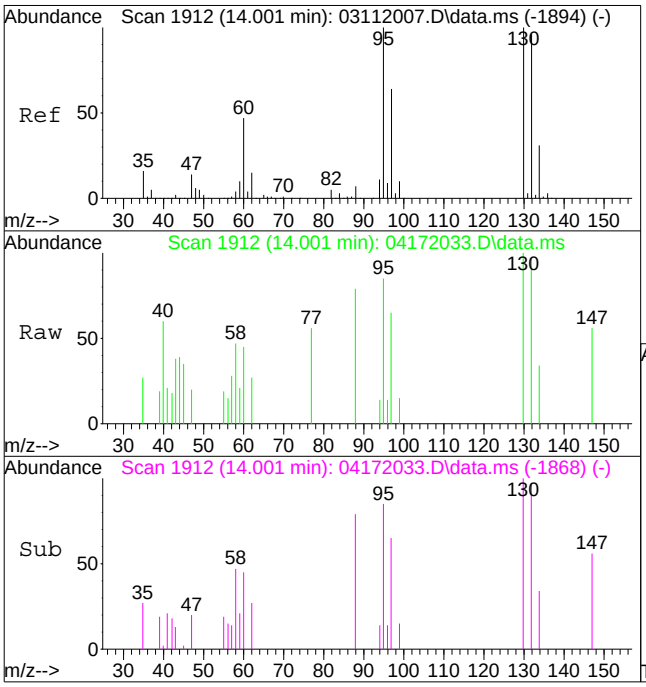


#42
Carbon Tetrachloride
Concen: 0.34 ng
RT: 13.05 min Scan# 1739
Delta R.T. -0.022 min
Lab File: 04172033.D
Acq: 17 Apr 2020 22:31

Tgt Ion:117 Resp: 17163

Ion	Ratio	Lower	Upper
117	100		
119	97.4	75.4	115.4

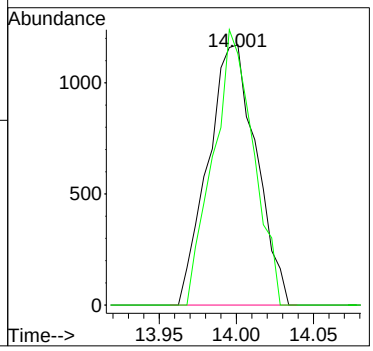


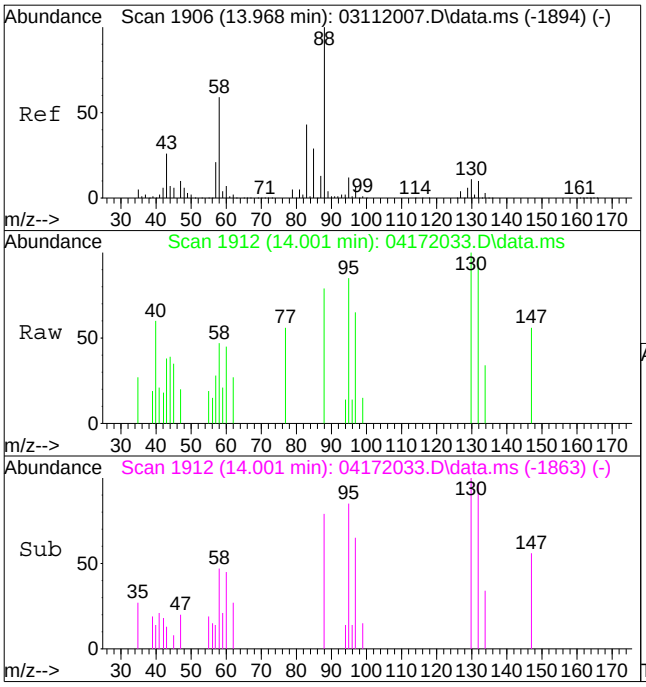


#47
Trichloroethene
Concen: 0.06 ng
RT: 14.00 min Scan# 1912
Delta R.T. -0.005 min
Lab File: 04172033.D
Acq: 17 Apr 2020 22:31

Tgt Ion:130 Resp: 2550

Ion	Ratio	Lower	Upper
130	100		
132	88.0	74.7	114.7

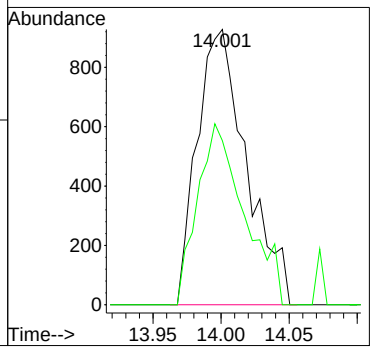


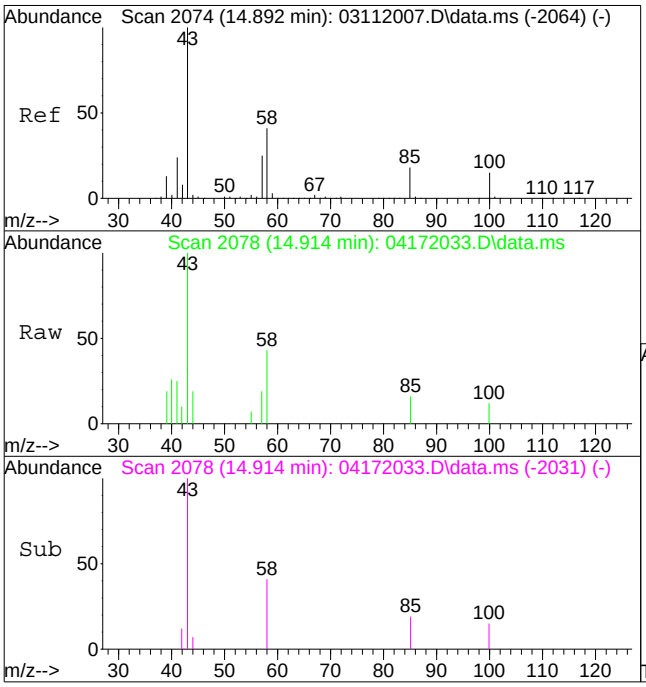


#48
1,4-Dioxane
Concen: 0.08 ng
RT: 14.00 min Scan# 1912
Delta R.T. 0.022 min
Lab File: 04172033.D
Acq: 17 Apr 2020 22:31

Tgt Ion: 88 Resp: 2333

Ion	Ratio	Lower	Upper
88	100		
58	62.4	39.5	79.5

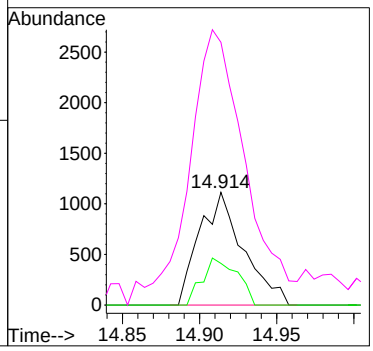


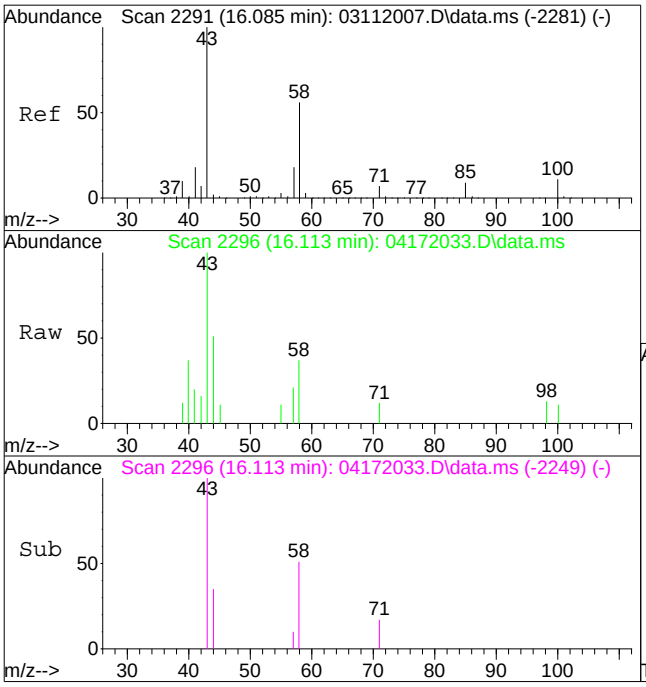


#53
4-Methyl-2-pentanone
Concen: 0.07 ng
RT: 14.91 min Scan# 2078
Delta R.T. 0.011 min
Lab File: 04172033.D
Acq: 17 Apr 2020 22:31

Tgt Ion: 58 Resp: 2214

Ion	Ratio	Lower	Upper
58	100		
85	32.9	37.0	55.4#
43	313.7	196.3	294.5#

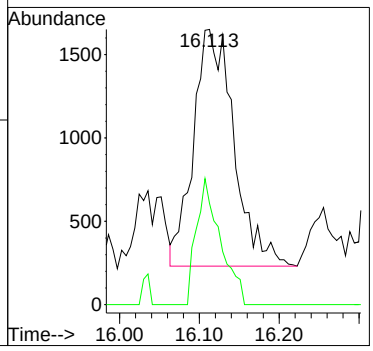


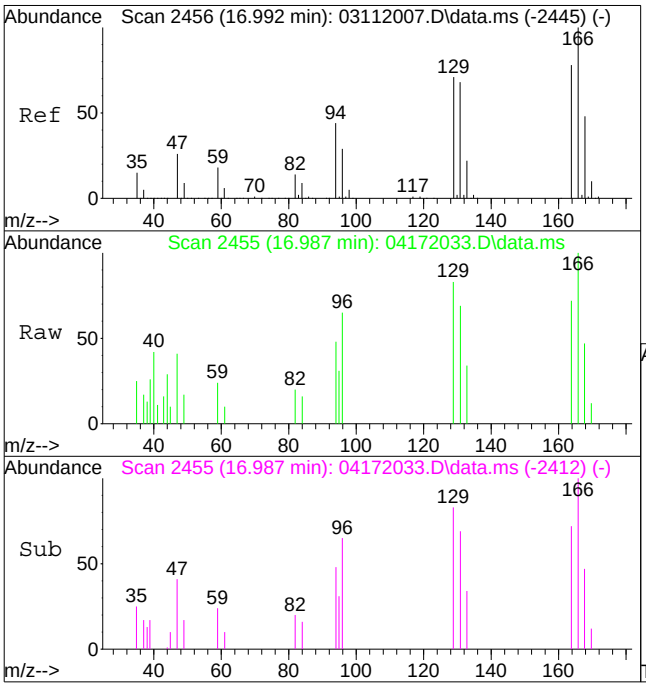


#59
2-Hexanone
Concen: 0.06 ng
RT: 16.11 min Scan# 2296
Delta R.T. 0.011 min
Lab File: 04172033.D
Acq: 17 Apr 2020 22:31

Tgt Ion: 43 Resp: 5002

Ion	Ratio	Lower	Upper
43	100		
58	31.6	36.5	76.5#

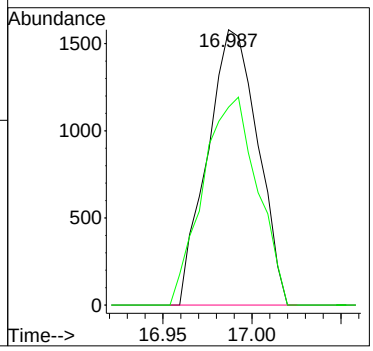


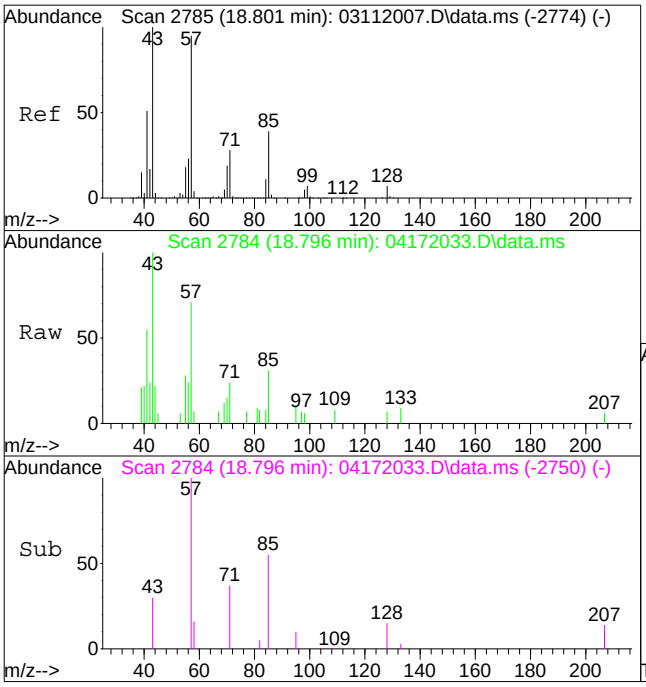


#64
Tetrachloroethene
Concen: 0.07 ng
RT: 16.99 min Scan# 2455
Delta R.T. -0.011 min
Lab File: 04172033.D
Acq: 17 Apr 2020 22:31

Tgt Ion:166 Resp: 3109

Ion	Ratio	Lower	Upper
166	100		
164	81.6	58.6	98.6

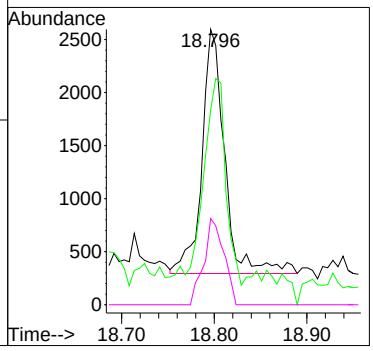




#71
n-Nonane
Concen: 0.06 ng
RT: 18.80 min Scan# 2784
Delta R.T. -0.011 min
Lab File: 04172033.D
Acq: 17 Apr 2020 22:31

Tgt Ion: 43 Resp: 3946

Ion	Ratio	Lower	Upper
43	100		
57	84.1	73.6	113.6
85	30.9	18.7	58.7



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172034.D Vial: 14
Acq On : 17 Apr 2020 23:04 Operator: LH
Sample : P2002028-006 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 18:29:47 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/20/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	333521	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1476060	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	717253	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	588868	12.751	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.00%				
57) Toluene-d8 (SS2)	15.74	98	1520269	11.958	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.68%				
73) Bromofluorobenzene (SS3)	19.00	174	498675	11.108	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.88%				
Target Compounds							Qvalue
2) Propene	4.11	42	52142m	1.491	ng		
3) Dichlorodifluoromethan...	4.27	85	36691	0.488	ng		99
4) Chloromethane	4.54	50	222270	3.740	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	892	N.D.			
6) Vinyl Chloride	4.95	62	130390	2.079	ng		99
7) 1,3-Butadiene	5.22	54	6190	0.136	ng	#	39
8) Bromomethane	5.65	94	736	N.D.			
9) Chloroethane	5.98	64	25035	1.040	ng		99
10) Ethanol	6.31	45	195553	7.074	ng		100
11) Acetonitrile	6.60	41	11089	0.182	ng		80
12) Acrolein	6.81	56	6707	0.330	ng		100
13) Acetone	7.00	58	206593	7.572	ng	#	57
14) Trichlorofluoromethane	7.25	101	16855	0.254	ng		99
15) 2-Propanol (Isopropanol)	7.48	45	188265	2.327	ng		96
16) Acrylonitrile	7.79	53	66	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.43	84	7495	0.211	ng		98
20) 3-Chloro-1-propene (Al...	8.60	41	2068	N.D.			
21) Trichlorotrifluoroethane	8.86	151	2981	0.094	ng		85
22) Carbon Disulfide	8.71	76	4543473	35.587	ng		100
23) trans-1,2-Dichloroethene	9.72	61	341	N.D.			
24) 1,1-Dichloroethane	9.96	63	13356	0.220	ng		99
25) Methyl tert-Butyl Ether	10.11	73	1704	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.48	72	43205	1.902	ng	#	90
28) cis-1,2-Dichloroethene	10.99	61	387	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.28	61	322860	24.049	ng		90
31) n-Hexane	11.28	57	15073	0.242	ng		94
32) Chloroform	11.33	83	4721	0.071	ng		99
34) Tetrahydrofuran (THF)	11.74	72	195467	8.365	ng		93
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.14	62	13266	0.257	ng		98
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	12.88	61	465	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.90	78	40908	0.268	ng		99
42) Carbon Tetrachloride	13.06	117	6407	0.122	ng		96
43) Cyclohexane	13.19	84	6922	0.118	ng		93
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	13.76	63	105	N.D.			
46) Bromodichloromethane	13.94	83	209	N.D.			
47) Trichloroethene	14.00	130	853	N.D.			
48) 1,4-Dioxane	13.98	88	7898	0.267	ng		94
49) 2,2,4-Trimethylpentane...	14.07	57	6434	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172034.D Vial: 14
Acq On : 17 Apr 2020 23:04 Operator: LH
Sample : P2002028-006 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 18:29:47 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

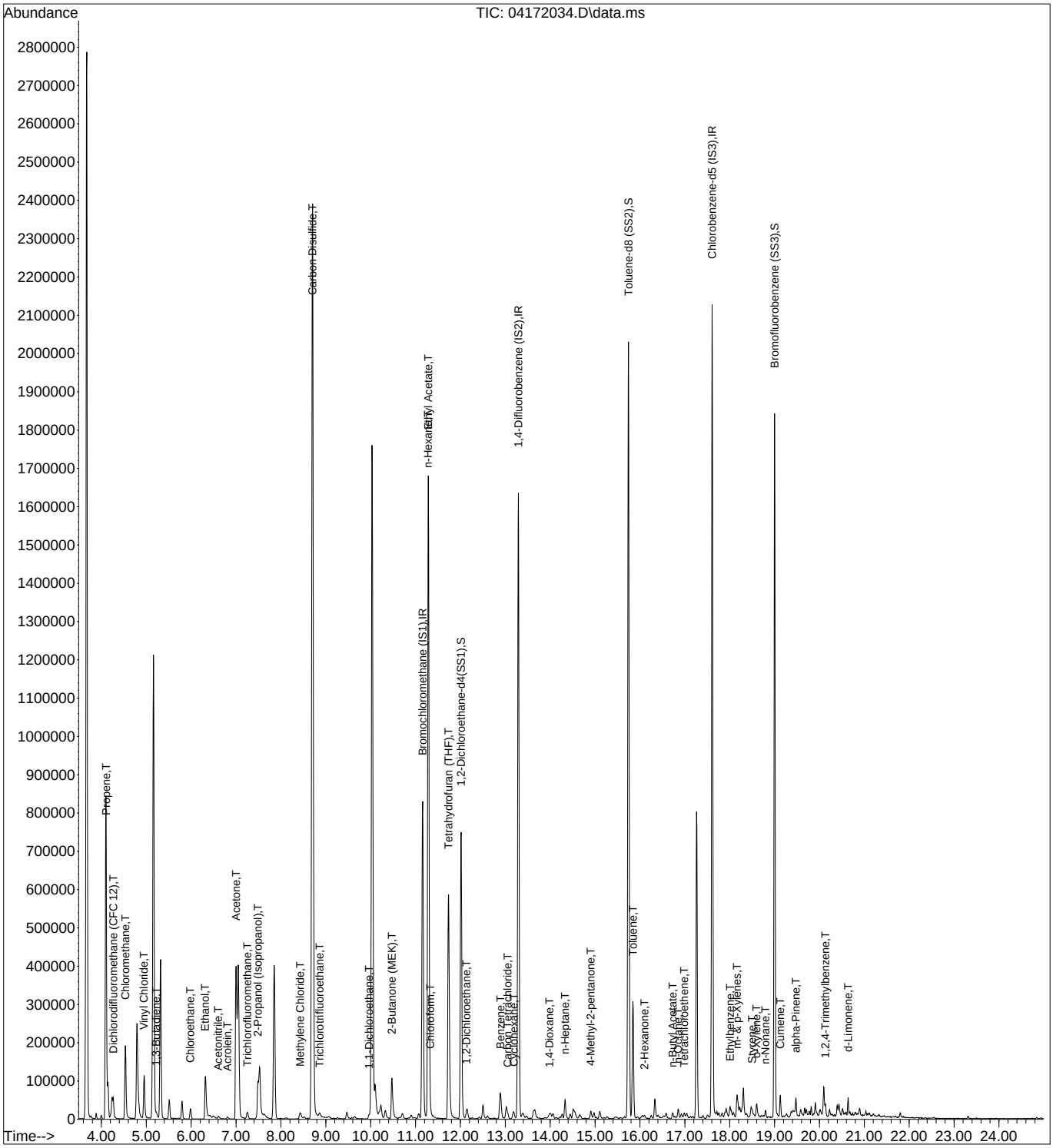
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.33	71	12534	0.352 ng	95
52) cis-1,3-Dichloropropene	14.86	75	103	N.D.	
53) 4-Methyl-2-pentanone	14.90	58	6547	0.205 ng	88
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.84	91	254893	1.622 ng	100
59) 2-Hexanone	16.10	43	6315	0.080 ng	89
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.73	43	13090	0.156 ng	94
63) n-Octane	16.85	57	4829	0.155 ng	85
64) Tetrachloroethene	16.99	166	3655	0.083 ng	98
65) Chlorobenzene	17.65	112	758	N.D.	
66) Ethylbenzene	18.01	91	19298	0.112 ng	96
67) m- & p-Xylenes	18.16	91	45887	0.327 ng	96
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.50	104	6347	0.058 ng	98
70) o-Xylene	18.60	91	17180	0.123 ng	95
71) n-Nonane	18.80	43	7616	0.109 ng	84
72) 1,1,2,2-Tetrachloroethane	18.58	83	1066	N.D.	
74) Cumene	19.13	105	35393	0.200 ng	97
75) alpha-Pinene	19.48	93	18377	0.205 ng	80
76) n-Propylbenzene	19.58	91	6565	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.70	105	5031	N.D.	
79) 1,3,5-Trimethylbenzene	19.77	105	4663	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	19.94	105	3674	N.D.	
82) 1,2,4-Trimethylbenzene	20.13	105	9458	0.061 ng	93
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.20	91	521	N.D.	
85) 1,3-Dichlorobenzene	20.27	146	114	N.D.	
86) 1,4-Dichlorobenzene	20.34	146	862	N.D.	
87) sec-Butylbenzene	20.37	105	1171	N.D.	
88) 4-Isopropyltoluene (p-...	20.51	119	6572	N.D.	
89) 1,2,3-Trimethylbenzene	20.51	105	2205	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.64	68	11290	0.188 ng	96
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.33	57	1321	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.25	128	802	N.D.	
96) n-Dodecane	22.24	57	755	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.14	119	1301	N.D.	
100) n-Butylbenzene	20.89	91	1984	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172034.D Vial: 14
Acq On : 17 Apr 2020 23:04 Operator: LH
Sample : P2002028-006 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 18:29:47 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172034.D Vial: 14
Acq On : 17 Apr 2020 23:04 Operator: LH
Sample : P2002028-006 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 18:29:47 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/20/20

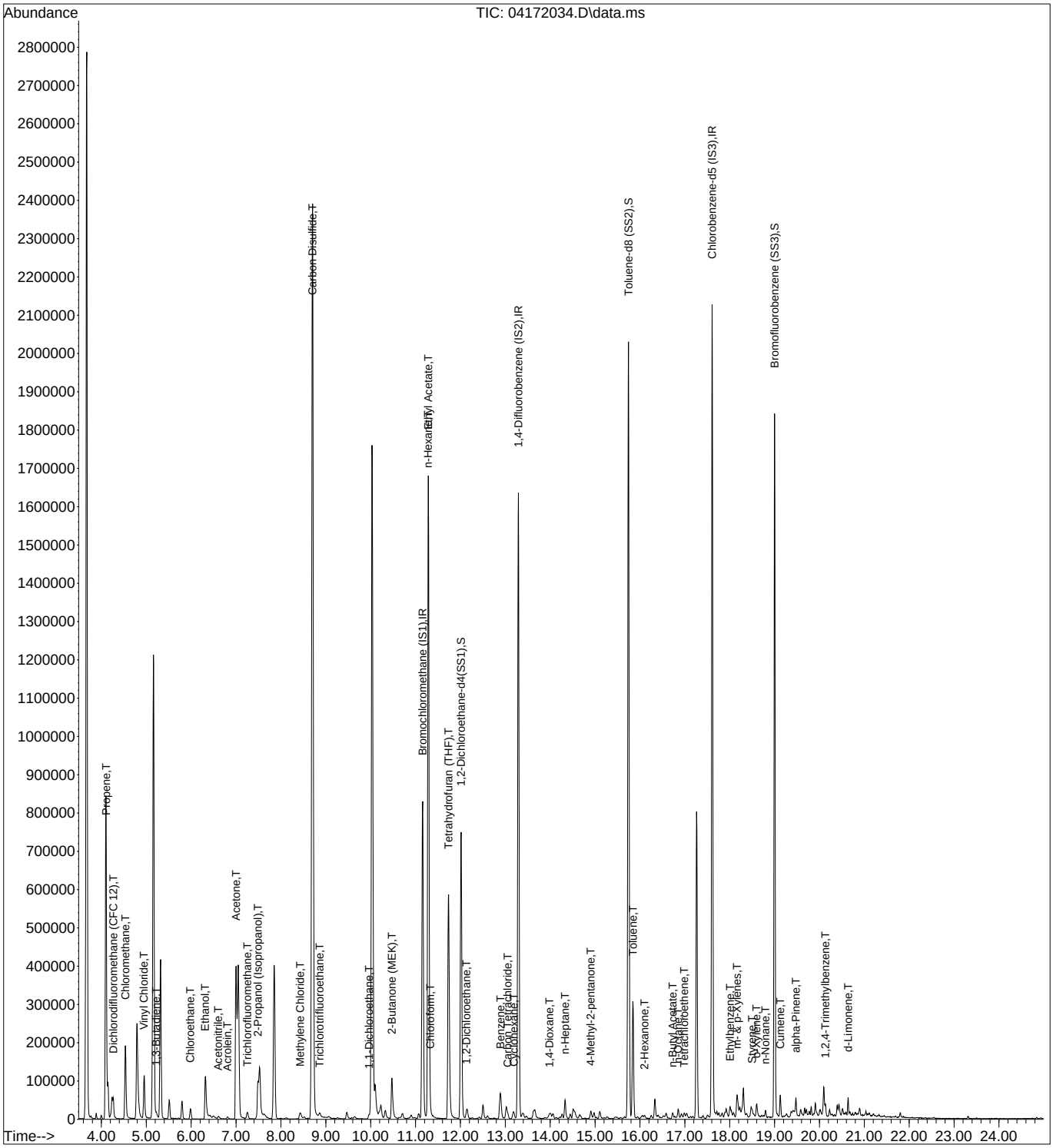
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	333521	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1476060	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	717253	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	588868	12.751	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.00%				
57) Toluene-d8 (SS2)	15.74	98	1520269	11.958	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.68%				
73) Bromofluorobenzene (SS3)	19.00	174	498675	11.108	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.88%				
Target Compounds							Qvalue
2) Propene	4.11	42	52142m	1.491	ng		
3) Dichlorodifluoromethan...	4.27	85	36691	0.488	ng		99
4) Chloromethane	4.54	50	222270	3.740	ng		99
6) Vinyl Chloride	4.95	62	130390	2.079	ng		99
7) 1,3-Butadiene	5.22	54	6190	0.136	ng	#	39
9) Chloroethane	5.98	64	25035	1.040	ng		99
10) Ethanol	6.31	45	195553	7.074	ng		100
11) Acetonitrile	6.60	41	11089	0.182	ng		80
12) Acrolein	6.81	56	6707	0.330	ng		100
13) Acetone	7.00	58	206593	7.572	ng	#	57
14) Trichlorofluoromethane	7.25	101	16855	0.254	ng		99
15) 2-Propanol (Isopropanol)	7.48	45	188265	2.327	ng		96
19) Methylene Chloride	8.43	84	7495	0.211	ng		98
21) Trichlorotrifluoroethane	8.86	151	2981	0.094	ng		85
22) Carbon Disulfide	8.71	76	4543473	35.587	ng		100
24) 1,1-Dichloroethane	9.96	63	13356	0.220	ng		99
27) 2-Butanone (MEK)	10.48	72	43205	1.902	ng	#	90
30) Ethyl Acetate	11.28	61	322860	24.049	ng		90
31) n-Hexane	11.28	57	15073	0.242	ng		94
32) Chloroform	11.33	83	4721	0.071	ng		99
34) Tetrahydrofuran (THF)	11.74	72	195467	8.365	ng		93
36) 1,2-Dichloroethane	12.14	62	13266	0.257	ng		98
41) Benzene	12.90	78	40908	0.268	ng		99
42) Carbon Tetrachloride	13.06	117	6407	0.122	ng		96
43) Cyclohexane	13.19	84	6922	0.118	ng		93
48) 1,4-Dioxane	13.98	88	7898	0.267	ng		94
51) n-Heptane	14.33	71	12534	0.352	ng		95
53) 4-Methyl-2-pentanone	14.90	58	6547	0.205	ng		88
58) Toluene	15.84	91	254893	1.622	ng		100
59) 2-Hexanone	16.10	43	6315	0.080	ng		89
62) n-Butyl Acetate	16.73	43	13090	0.156	ng		94
63) n-Octane	16.85	57	4829	0.155	ng		85
64) Tetrachloroethene	16.99	166	3655	0.083	ng		98
66) Ethylbenzene	18.01	91	19298	0.112	ng		96
67) m- & p-Xylenes	18.16	91	45887	0.327	ng		96
69) Styrene	18.50	104	6347	0.058	ng		98
70) o-Xylene	18.60	91	17180	0.123	ng		95
71) n-Nonane	18.80	43	7616	0.109	ng		84
74) Cumene	19.13	105	35393	0.200	ng		97
75) alpha-Pinene	19.48	93	18377	0.205	ng		80
82) 1,2,4-Trimethylbenzene	20.13	105	9458	0.061	ng		93
91) d-Limonene	20.64	68	11290	0.188	ng		96

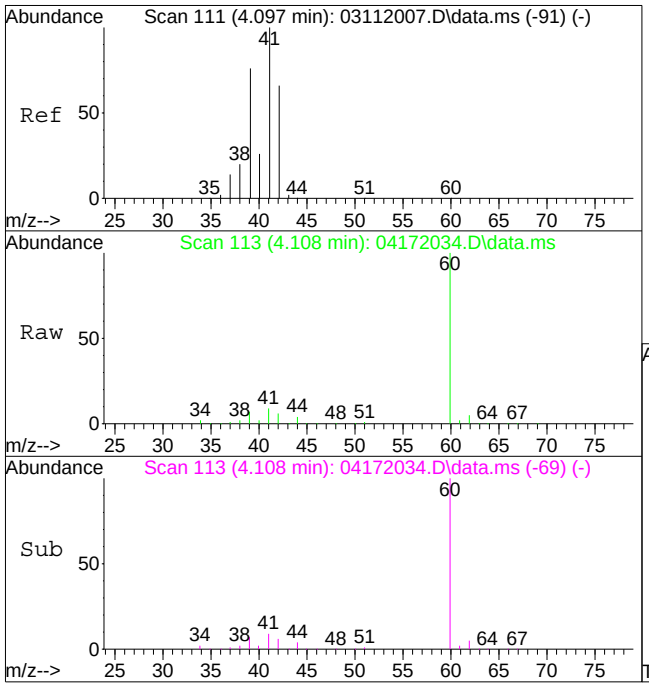
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172034.D Vial: 14
Acq On : 17 Apr 2020 23:04 Operator: LH
Sample : P2002028-006 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 18:29:47 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

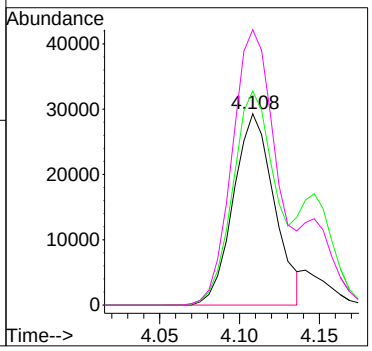


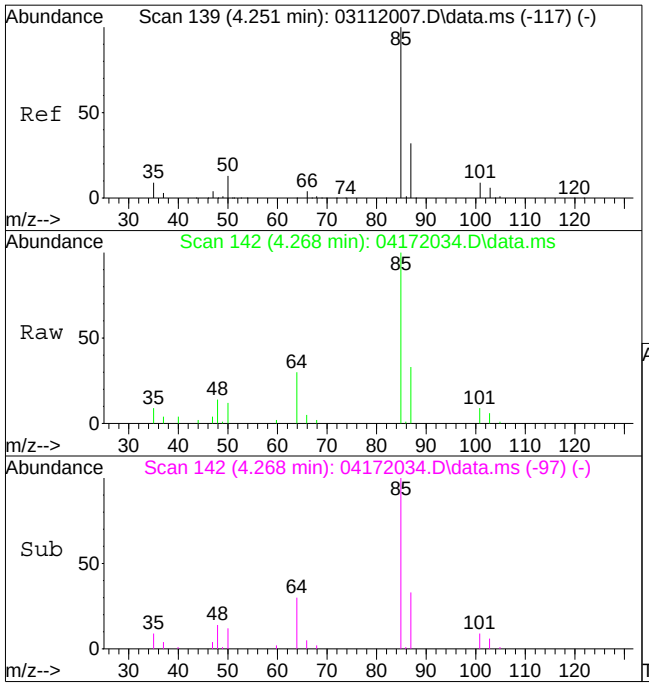


#2
Propene
Concen: 1.49 ng m
RT: 4.11 min Scan# 113
Delta R.T. -0.006 min
Lab File: 04172034.D
Acq: 17 Apr 2020 23:04

Tgt Ion: 42 Resp: 52142

Ion	Ratio	Lower	Upper
42	100		
39	115.2	95.3	135.3
41	188.2	132.0	172.0#

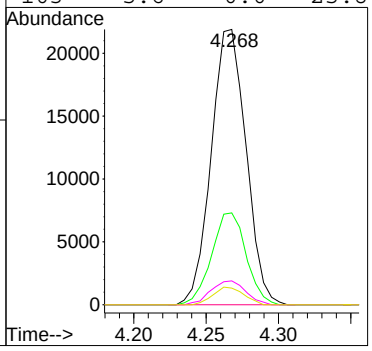


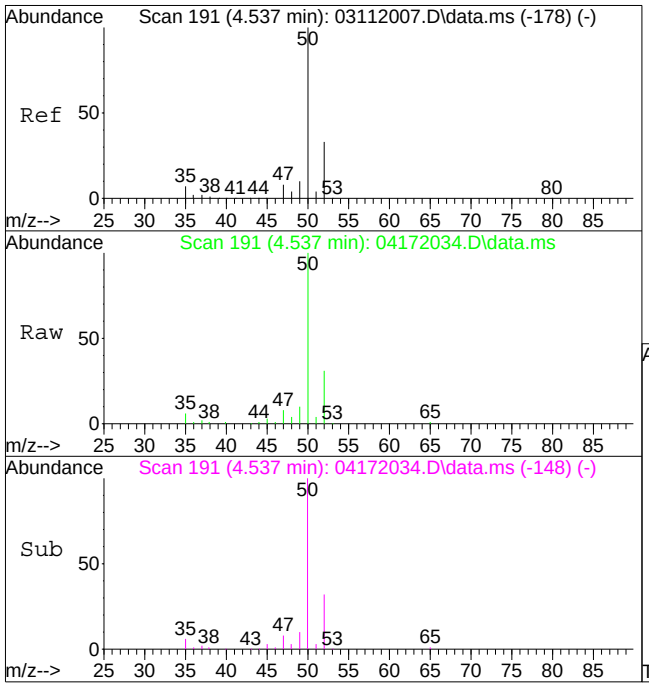


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.49 ng
RT: 4.27 min Scan# 142
Delta R.T. -0.000 min
Lab File: 04172034.D
Acq: 17 Apr 2020 23:04

Tgt Ion: 85 Resp: 36691

Ion	Ratio	Lower	Upper
85	100		
87	33.1	12.3	52.3
101	8.7	0.0	29.0
103	5.6	0.0	25.8

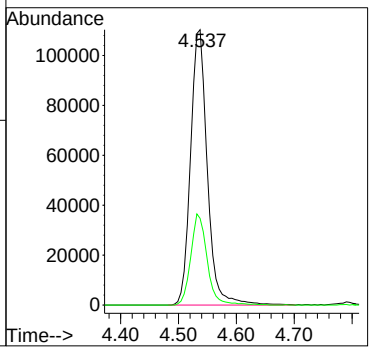


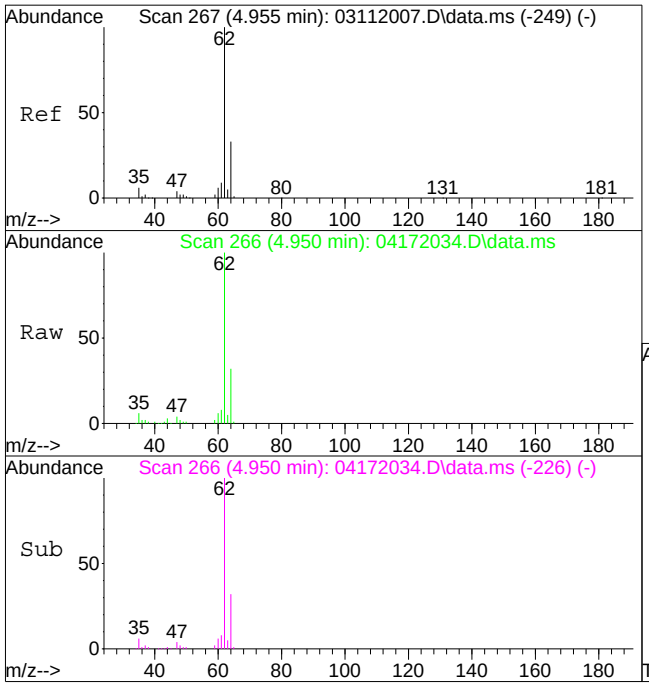


#4
Chloromethane
Concen: 3.74 ng
RT: 4.54 min Scan# 191
Delta R.T. -0.016 min
Lab File: 04172034.D
Acq: 17 Apr 2020 23:04

Tgt Ion: 50 Resp: 222270

Ion	Ratio	Lower	Upper
50	100		
52	32.3	12.8	52.8

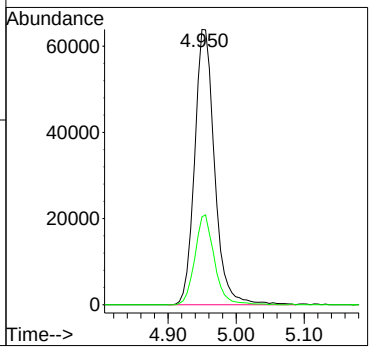


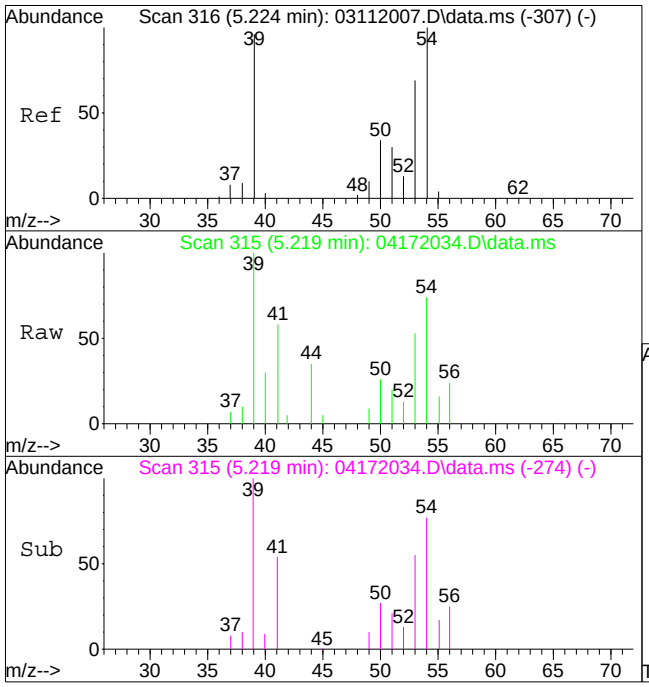


#6
Vinyl Chloride
Concen: 2.08 ng
RT: 4.95 min Scan# 266
Delta R.T. -0.032 min
Lab File: 04172034.D
Acq: 17 Apr 2020 23:04

Tgt Ion: 62 Resp: 130390

Ion	Ratio	Lower	Upper
62	100		
64	31.9	12.3	52.3

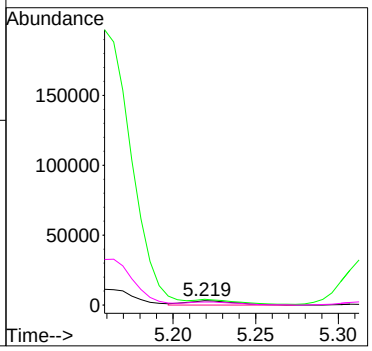


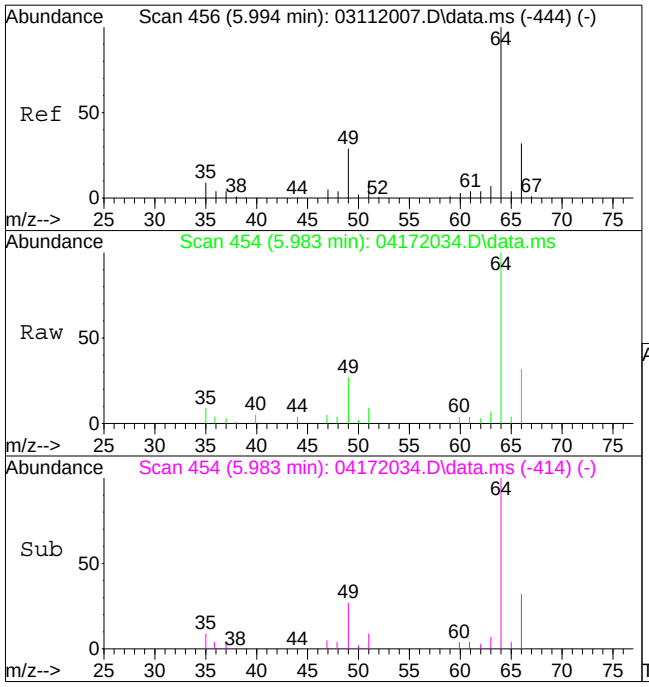


#7
1,3-Butadiene
Concen: 0.14 ng
RT: 5.22 min Scan# 315
Delta R.T. -0.027 min
Lab File: 04172034.D
Acq: 17 Apr 2020 23:04

Tgt Ion: 54 Resp: 6190

Ion	Ratio	Lower	Upper
54	100		
39	0.0	79.5	119.5#
53	73.2	49.3	89.3

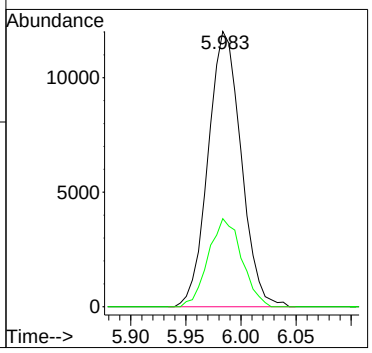


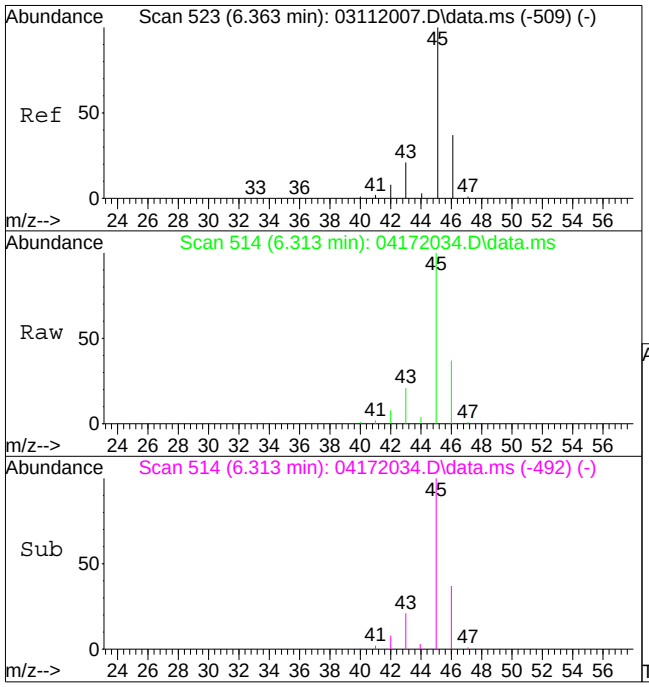


#9
Chloroethane
Concen: 1.04 ng
RT: 5.98 min Scan# 454
Delta R.T. -0.033 min
Lab File: 04172034.D
Acq: 17 Apr 2020 23:04

Tgt Ion: 64 Resp: 25035

Ion	Ratio	Lower	Upper
64	100		
66	32.5	11.7	51.7

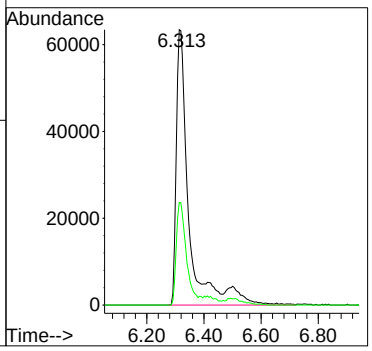


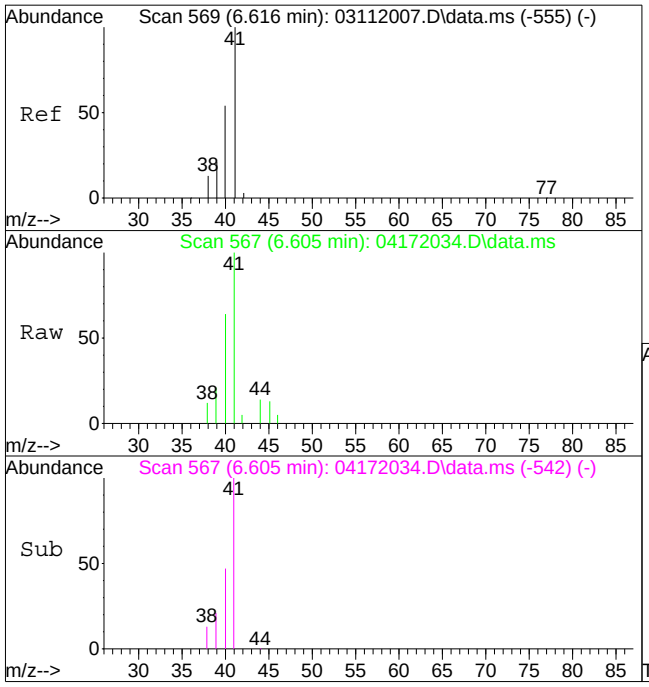


#10
Ethanol
Concen: 7.07 ng
RT: 6.31 min Scan# 514
Delta R.T. -0.127 min
Lab File: 04172034.D
Acq: 17 Apr 2020 23:04

Tgt Ion: 45 Resp: 195553

Ion	Ratio	Lower	Upper
45	100		
46	37.1	17.3	57.3

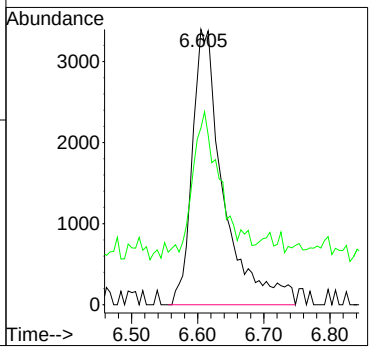


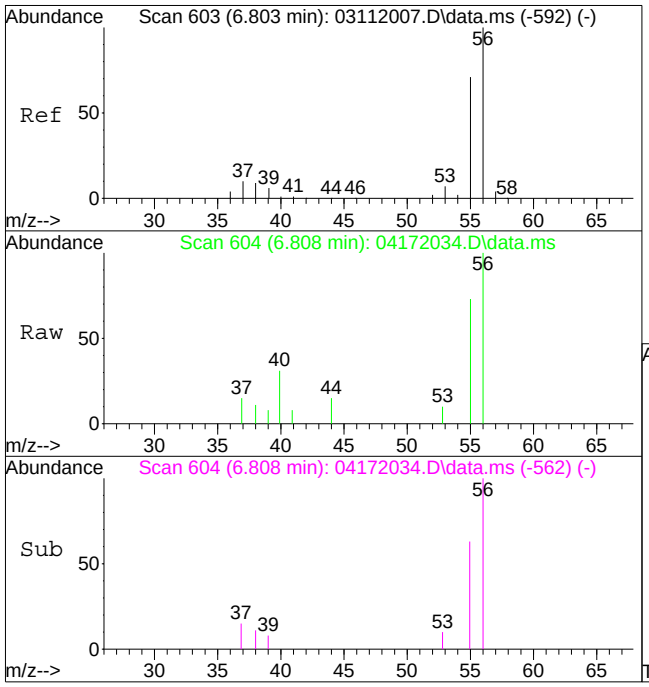


#11
Acetonitrile
Concen: 0.18 ng
RT: 6.60 min Scan# 567
Delta R.T. -0.060 min
Lab File: 04172034.D
Acq: 17 Apr 2020 23:04

Tgt Ion: 41 Resp: 11089

Ion	Ratio	Lower	Upper
41	100		
40	68.1	33.6	73.6

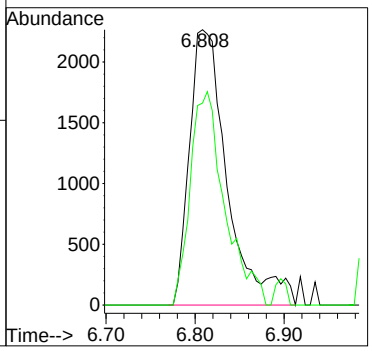


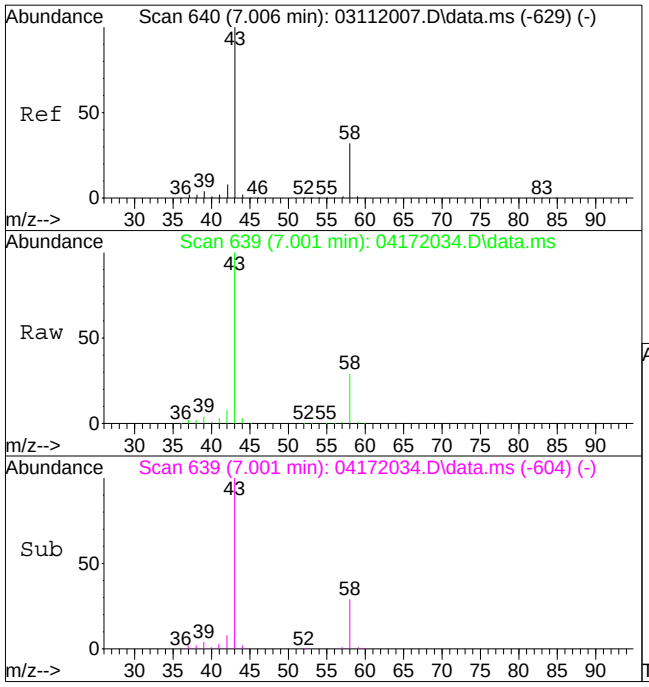


#12
Acrolein
Concen: 0.33 ng
RT: 6.81 min Scan# 604
Delta R.T. -0.022 min
Lab File: 04172034.D
Acq: 17 Apr 2020 23:04

Tgt Ion: 56 Resp: 6707

Ion	Ratio	Lower	Upper
56	100		
55	70.3	50.4	90.4

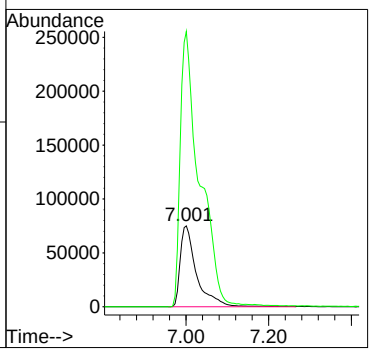


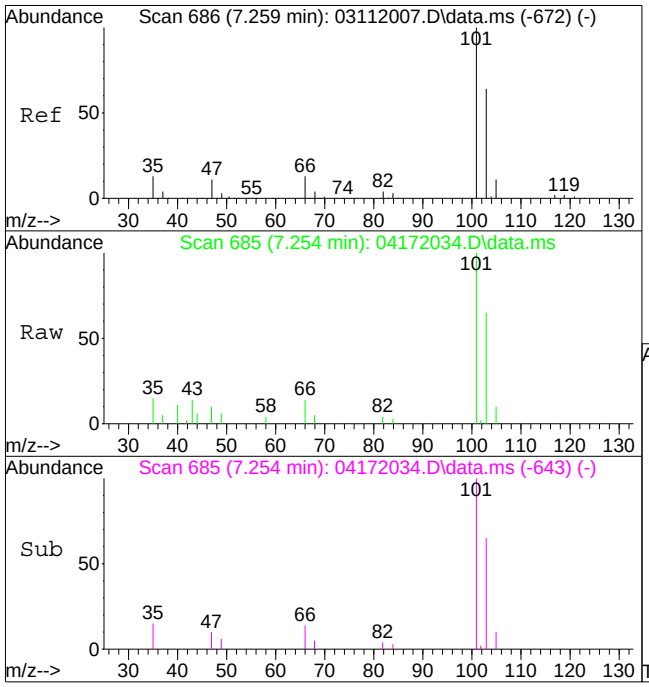


#13
Acetone
Concen: 7.57 ng
RT: 7.00 min Scan# 639
Delta R.T. -0.055 min
Lab File: 04172034.D
Acq: 17 Apr 2020 23:04

Tgt Ion: 58 Resp: 206593

Ion	Ratio	Lower	Upper
58	100		
43	404.0	287.3	347.3#

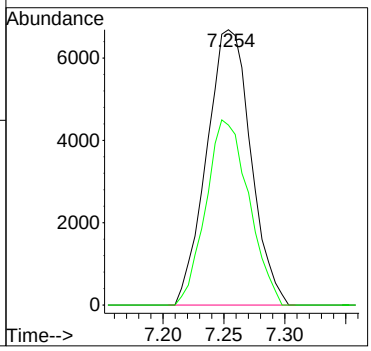


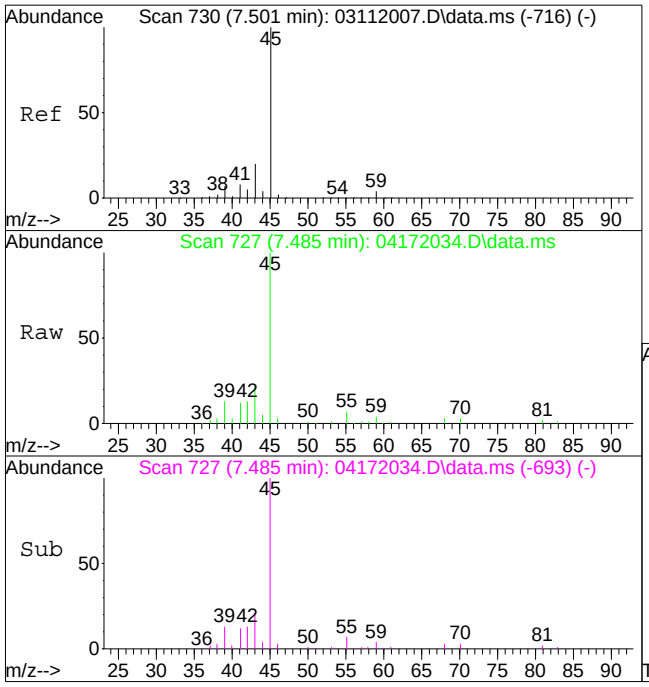


#14
Trichlorofluoromethane
Concen: 0.25 ng
RT: 7.25 min Scan# 685
Delta R.T. -0.021 min
Lab File: 04172034.D
Acq: 17 Apr 2020 23:04

Tgt Ion:101 Resp: 16855

Ion	Ratio	Lower	Upper
101	100		
103	65.2	44.6	84.6

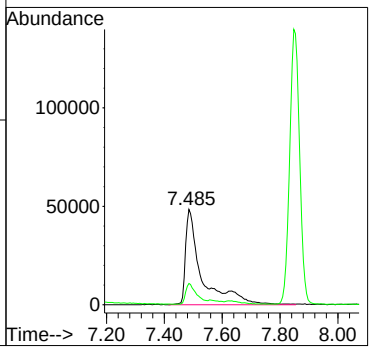


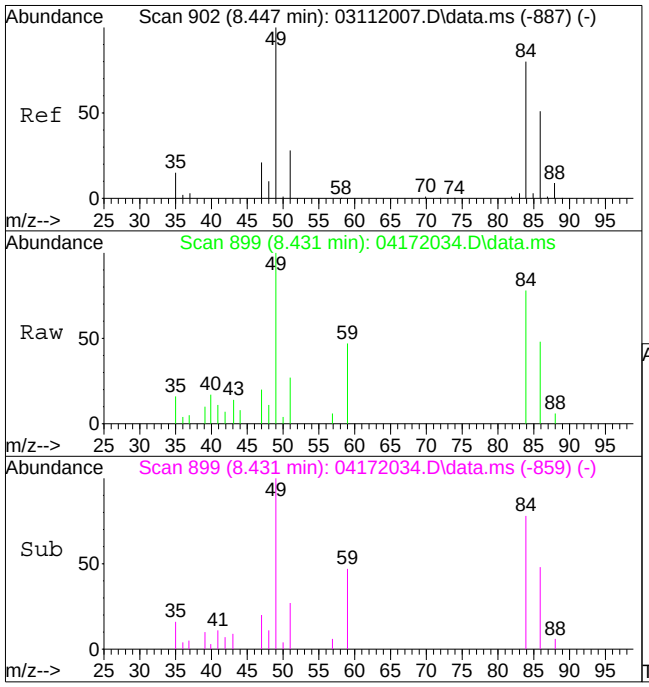


#15
2-Propanol (Isopropanol)
Concen: 2.33 ng
RT: 7.48 min Scan# 727
Delta R.T. -0.066 min
Lab File: 04172034.D
Acq: 17 Apr 2020 23:04

Tgt Ion: 45 Resp: 188265

Ion	Ratio	Lower	Upper
45	100		
43	22.0	0.3	40.3

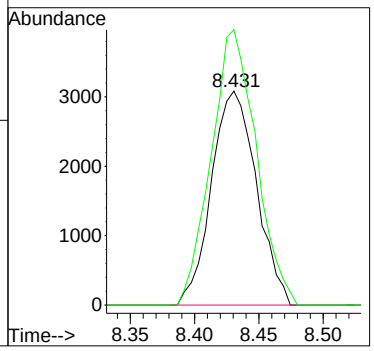


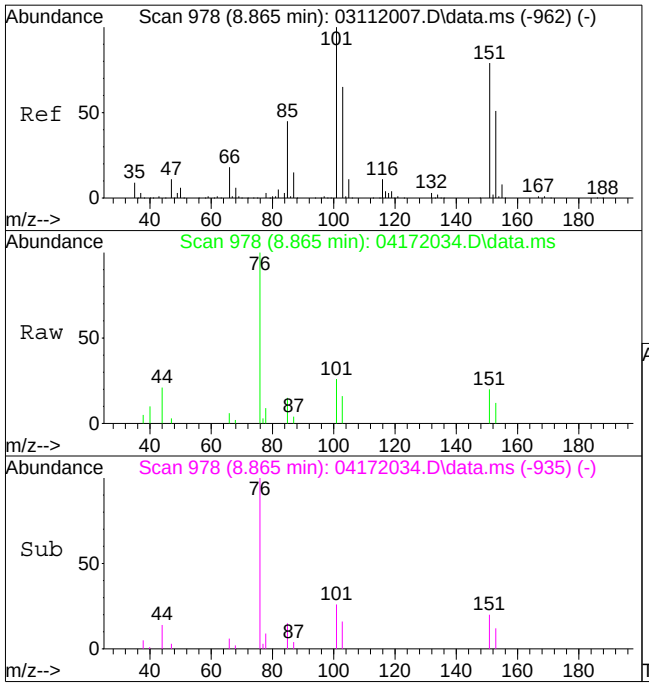


#19
Methylene Chloride
Concen: 0.21 ng
RT: 8.43 min Scan# 899
Delta R.T. -0.032 min
Lab File: 04172034.D
Acq: 17 Apr 2020 23:04

Tgt Ion: 84 Resp: 7495

Ion	Ratio	Lower	Upper
84	100		
49	129.1	102.2	152.2

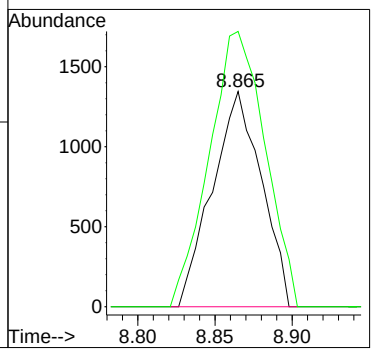


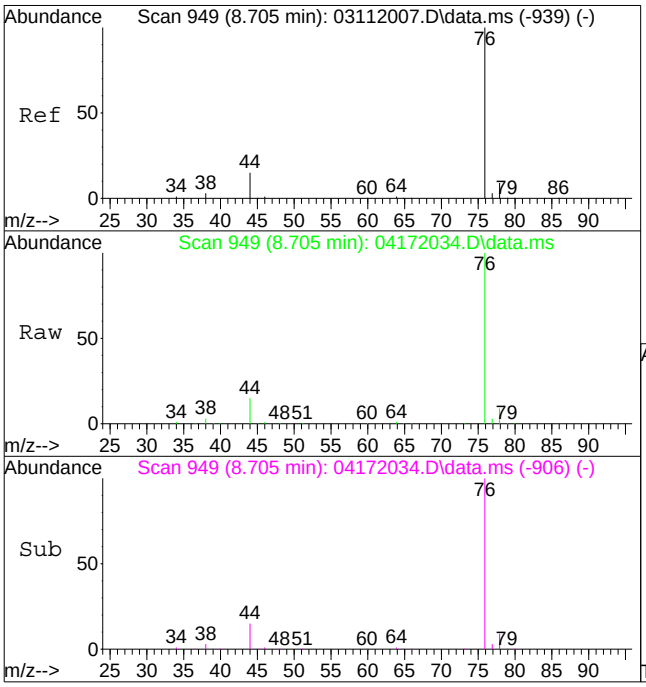


#21
Trichlorotrifluoroethane
Concen: 0.09 ng
RT: 8.86 min Scan# 978
Delta R.T. -0.011 min
Lab File: 04172034.D
Acq: 17 Apr 2020 23:04

Tgt Ion:151 Resp: 2981

Ion	Ratio	Lower	Upper
151	100		
101	145.4	108.4	148.4

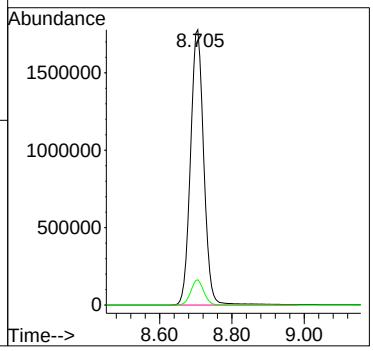


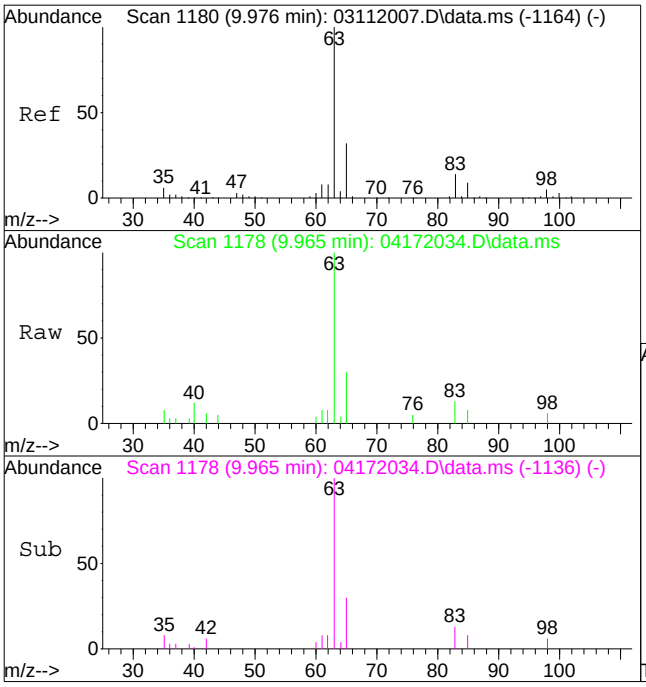


#22
Carbon Disulfide
Concen: 35.59 ng
RT: 8.71 min Scan# 949
Delta R.T. -0.016 min
Lab File: 04172034.D
Acq: 17 Apr 2020 23:04

Tgt Ion: 76 Resp: 4543473

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	29.2

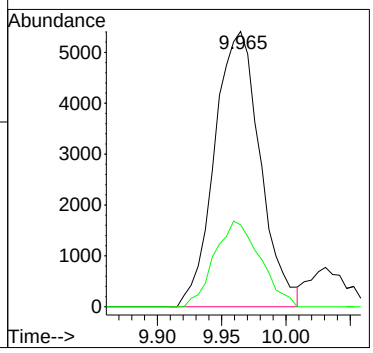


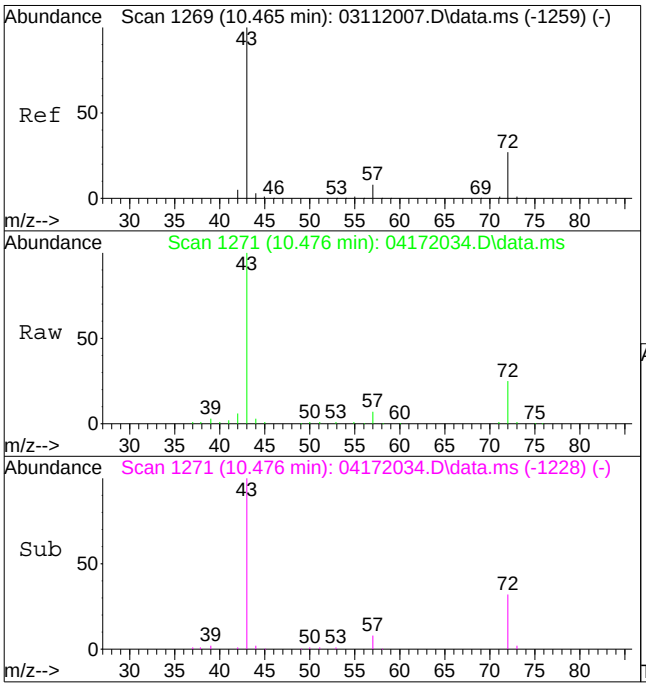


#24
1,1-Dichloroethane
Concen: 0.22 ng
RT: 9.96 min Scan# 1178
Delta R.T. -0.022 min
Lab File: 04172034.D
Acq: 17 Apr 2020 23:04

Tgt Ion: 63 Resp: 13356

Ion	Ratio	Lower	Upper
63	100		
65	31.1	11.8	51.8

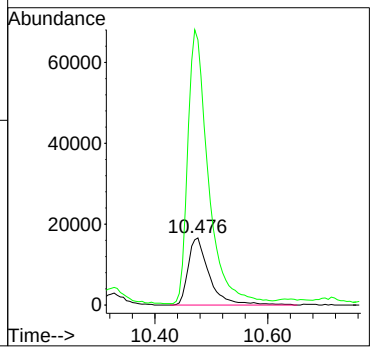


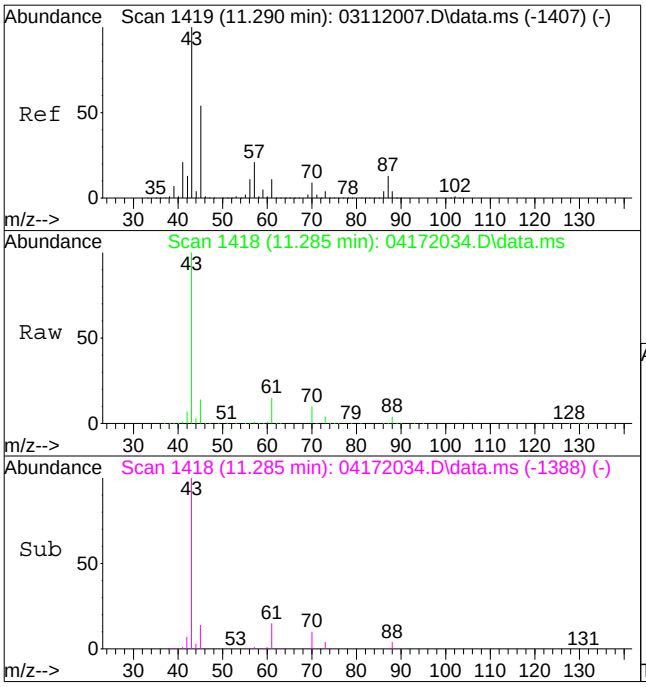


#27
2-Butanone (MEK)
Concen: 1.90 ng
RT: 10.48 min Scan# 1271
Delta R.T. -0.016 min
Lab File: 04172034.D
Acq: 17 Apr 2020 23:04

Tgt Ion: 72 Resp: 43205

Ion	Ratio	Lower	Upper
72	100		
43	395.6	353.4	393.4#

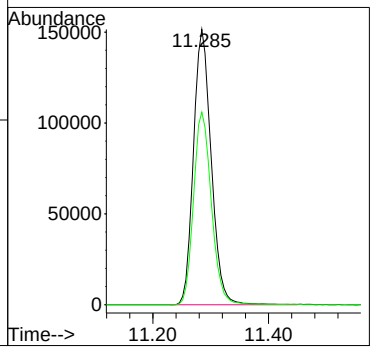


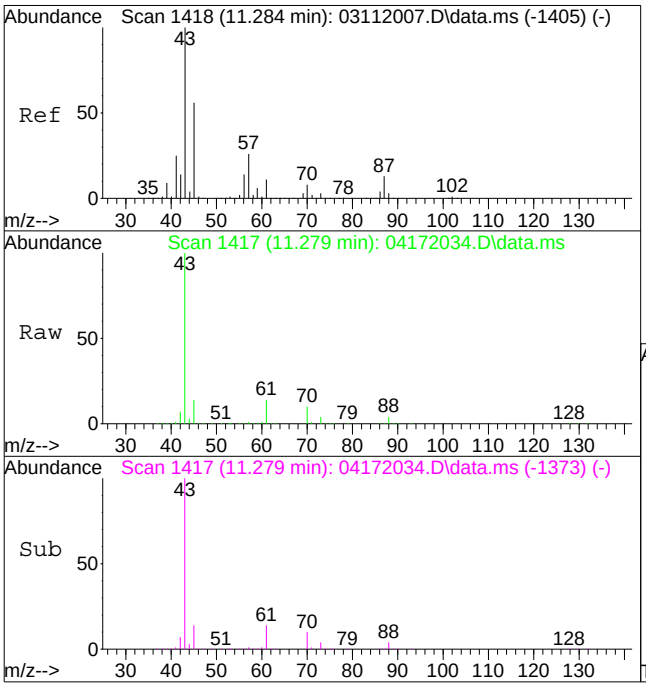


#30
Ethyl Acetate
Concen: 24.05 ng
RT: 11.28 min Scan# 1418
Delta R.T. -0.033 min
Lab File: 04172034.D
Acq: 17 Apr 2020 23:04

Tgt Ion: 61 Resp: 322860

Ion	Ratio	Lower	Upper
61	100		
70	70.2	59.1	99.1

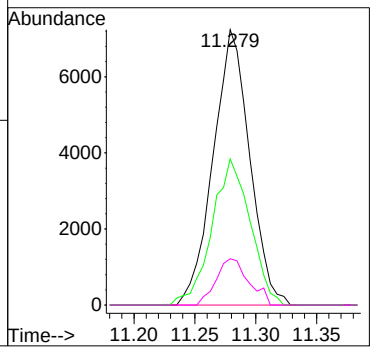


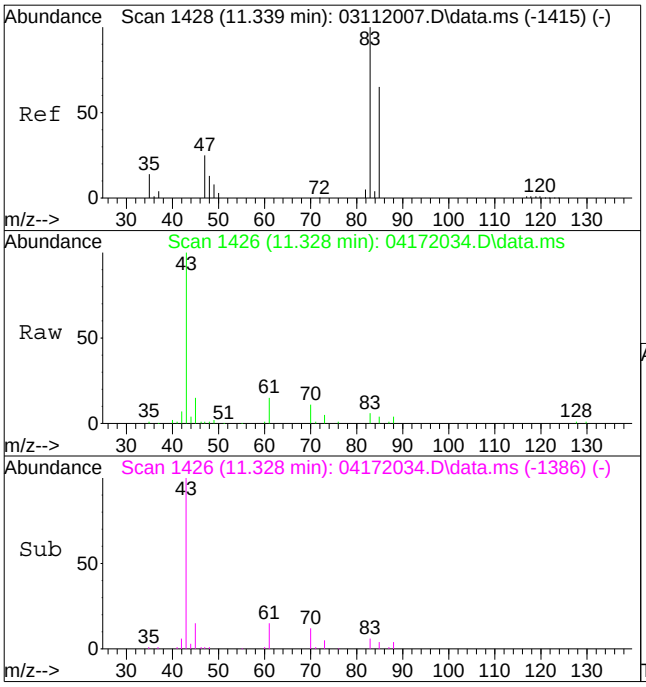


#31
n-Hexane
Concen: 0.24 ng
RT: 11.28 min Scan# 1417
Delta R.T. -0.011 min
Lab File: 04172034.D
Acq: 17 Apr 2020 23:04

Tgt Ion: 57 Resp: 15073

Ion	Ratio	Lower	Upper
57	100		
56	55.6	41.0	61.4
86	15.0	13.9	20.9

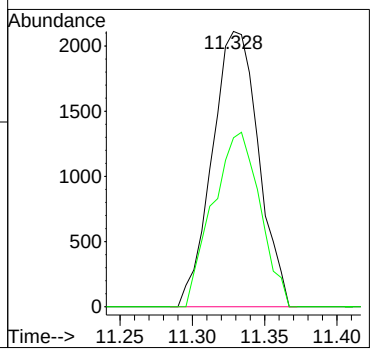


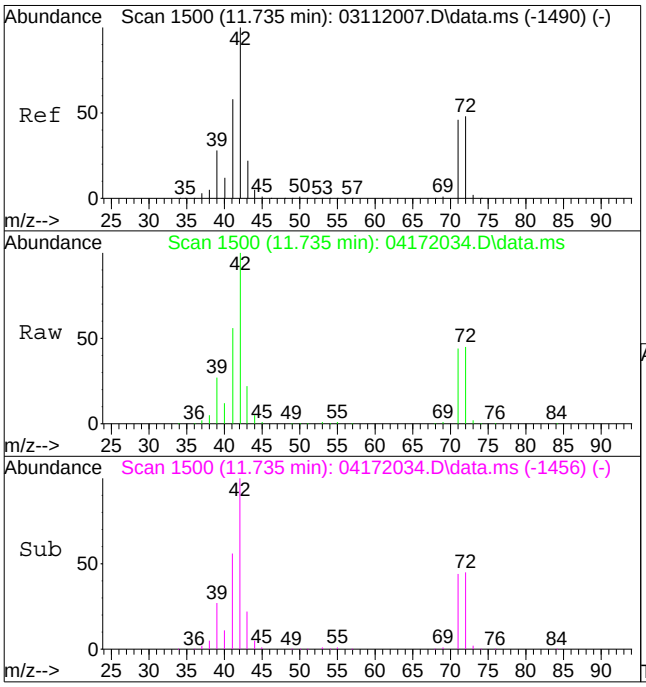


#32
Chloroform
Concen: 0.07 ng
RT: 11.33 min Scan# 1426
Delta R.T. -0.033 min
Lab File: 04172034.D
Acq: 17 Apr 2020 23:04

Tgt Ion: 83 Resp: 4721

Ion	Ratio	Lower	Upper
83	100		
85	64.5	45.5	85.5

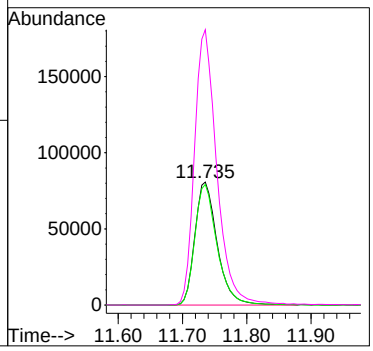


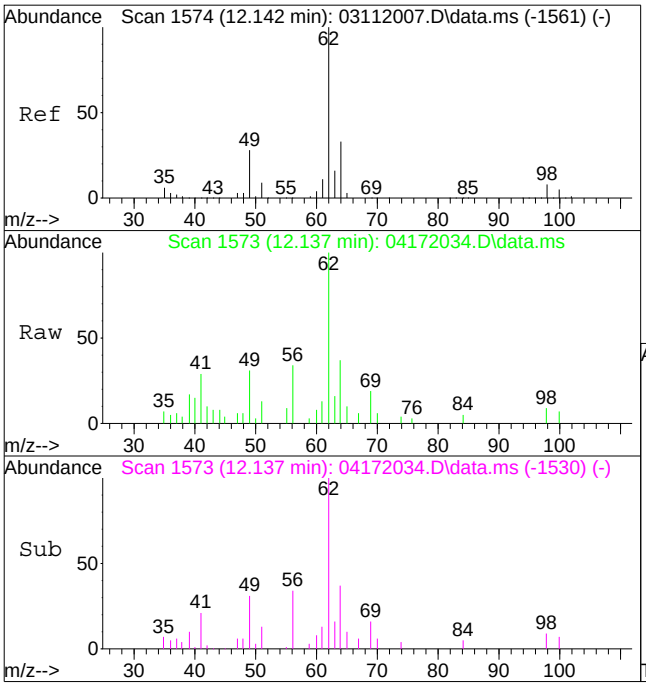


#34
Tetrahydrofuran (THF)
Concen: 8.36 ng
RT: 11.74 min Scan# 1500
Delta R.T. -0.011 min
Lab File: 04172034.D
Acq: 17 Apr 2020 23:04

Tgt Ion: 72 Resp: 195467

Ion	Ratio	Lower	Upper
72	100		
71	97.6	75.9	115.9
42	223.6	189.3	229.3

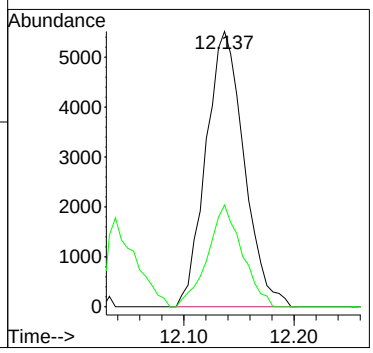


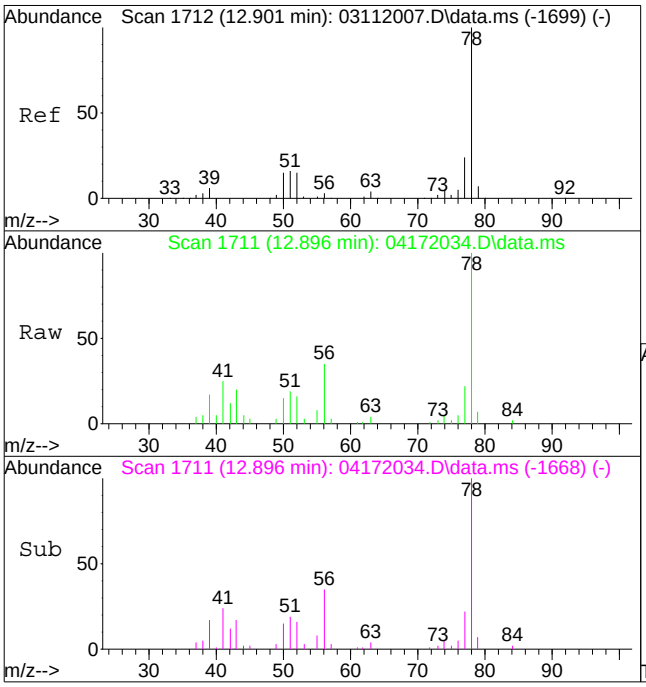


#36
1,2-Dichloroethane
Concen: 0.26 ng
RT: 12.14 min Scan# 1573
Delta R.T. -0.016 min
Lab File: 04172034.D
Acq: 17 Apr 2020 23:04

Tgt Ion: 62 Resp: 13266

Ion	Ratio	Lower	Upper
62	100		
64	33.5	12.4	52.4

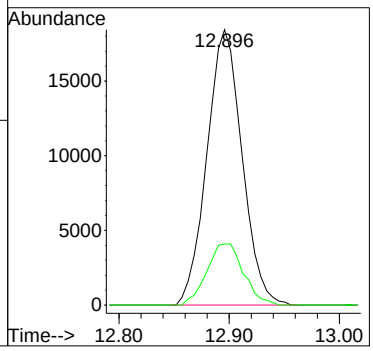


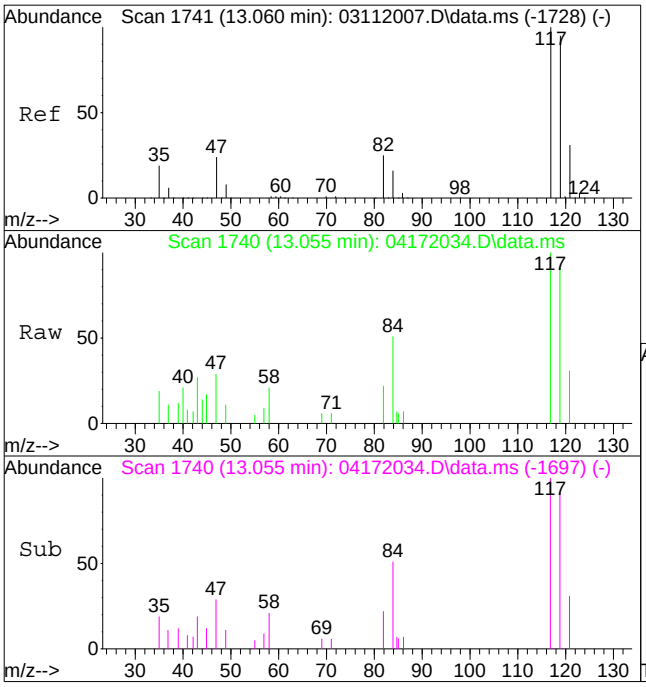


#41
Benzene
Concen: 0.27 ng
RT: 12.90 min Scan# 1711
Delta R.T. -0.016 min
Lab File: 04172034.D
Acq: 17 Apr 2020 23:04

Tgt Ion: 78 Resp: 40908

Ion	Ratio	Lower	Upper
78	100		
77	23.1	3.4	43.4

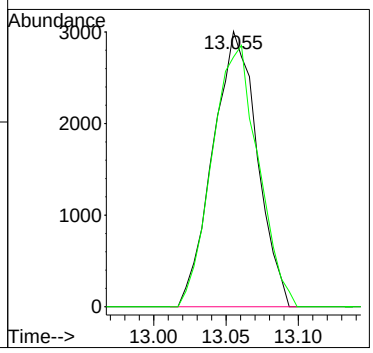


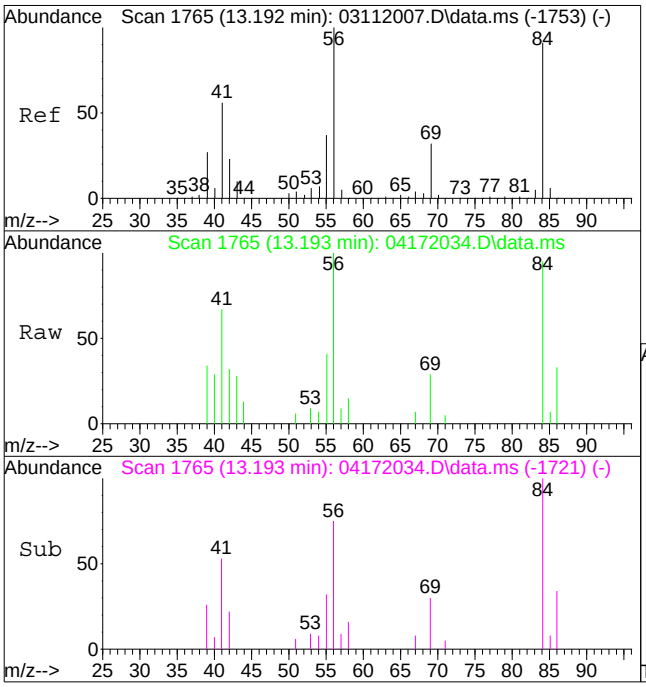


#42
Carbon Tetrachloride
Concen: 0.12 ng
RT: 13.06 min Scan# 1740
Delta R.T. -0.016 min
Lab File: 04172034.D
Acq: 17 Apr 2020 23:04

Tgt Ion:117 Resp: 6407

Ion	Ratio	Lower	Upper
117	100		
119	98.8	75.4	115.4

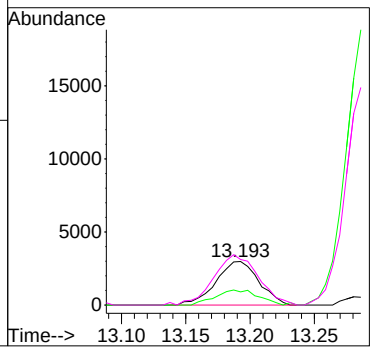


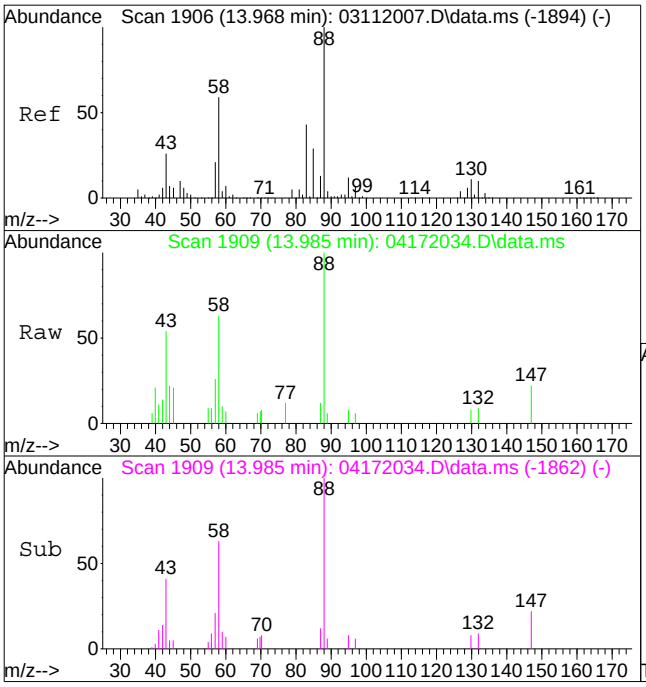


#43
Cyclohexane
Concen: 0.12 ng
RT: 13.19 min Scan# 1765
Delta R.T. -0.011 min
Lab File: 04172034.D
Acq: 17 Apr 2020 23:04

Tgt Ion: 84 Resp: 6922

Ion	Ratio	Lower	Upper
84	100		
69	35.2	15.3	55.3
56	120.0	90.5	130.5

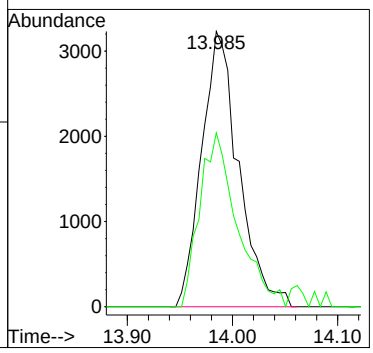


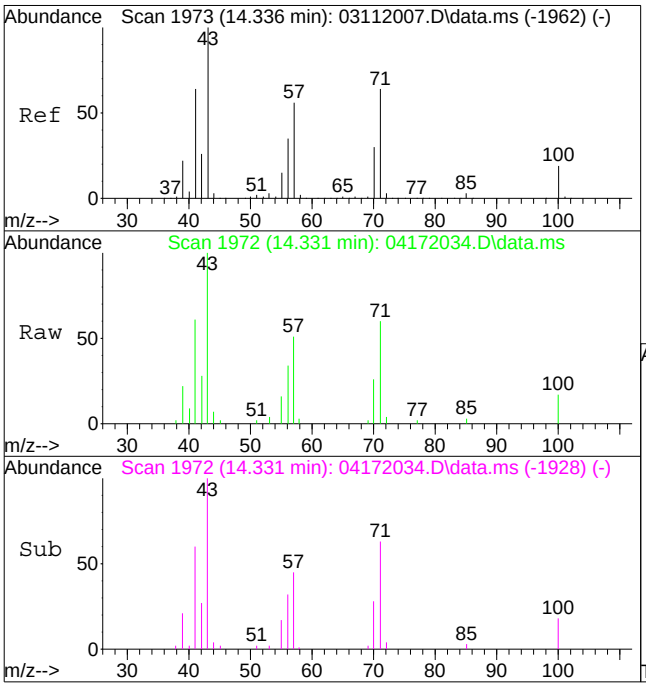


#48
1,4-Dioxane
Concen: 0.27 ng
RT: 13.98 min Scan# 1909
Delta R.T. 0.006 min
Lab File: 04172034.D
Acq: 17 Apr 2020 23:04

Tgt Ion: 88 Resp: 7898

Ion	Ratio	Lower	Upper
88	100		
58	64.2	39.5	79.5

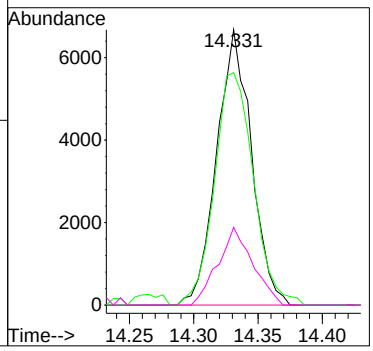


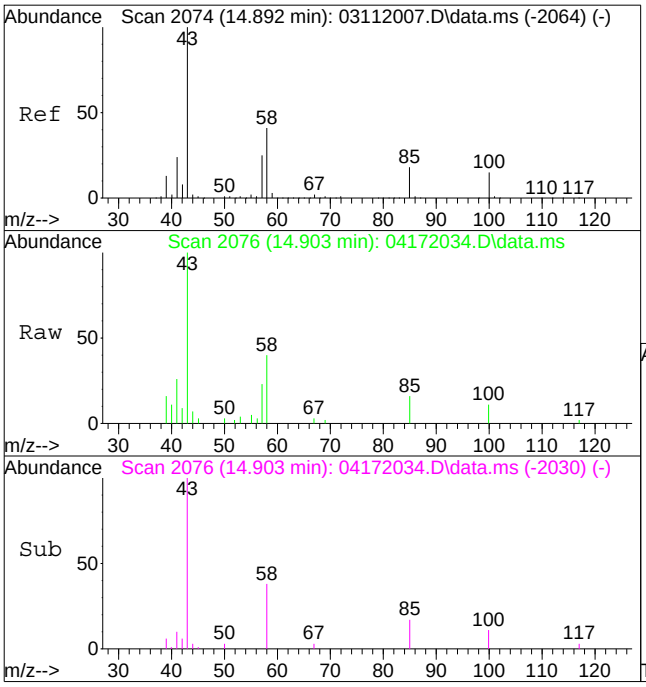


#51
n-Heptane
Concen: 0.35 ng
RT: 14.33 min Scan# 1972
Delta R.T. -0.011 min
Lab File: 04172034.D
Acq: 17 Apr 2020 23:04

Tgt Ion: 71 Resp: 12534

Ion	Ratio	Lower	Upper
71	100		
57	94.9	68.6	108.6
100	28.3	9.1	49.1

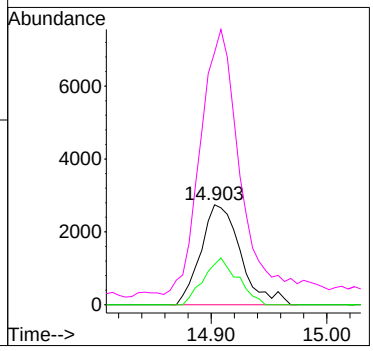


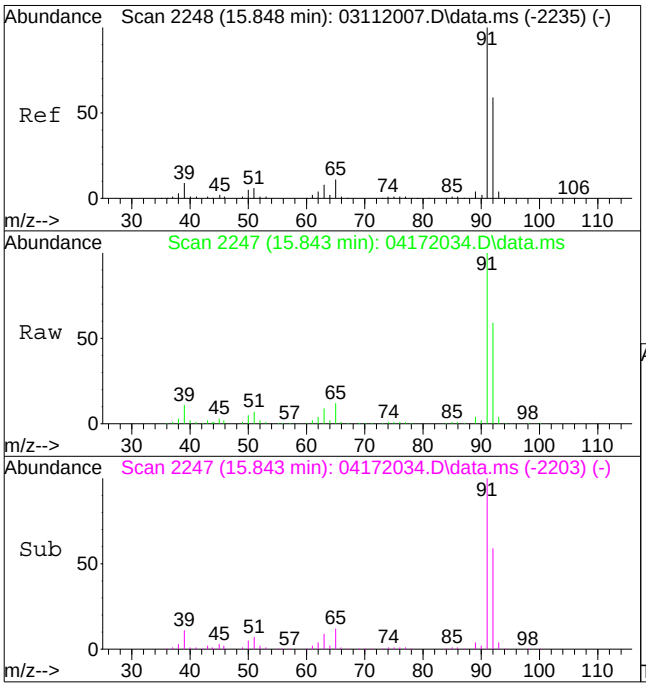


#53
4-Methyl-2-pentanone
Concen: 0.20 ng
RT: 14.90 min Scan# 2076
Delta R.T. 0.000 min
Lab File: 04172034.D
Acq: 17 Apr 2020 23:04

Tgt Ion: 58 Resp: 6547

Ion	Ratio	Lower	Upper
58	100		
85	40.0	37.0	55.4
43	267.3	196.3	294.5

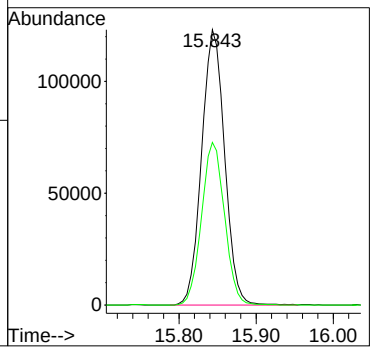


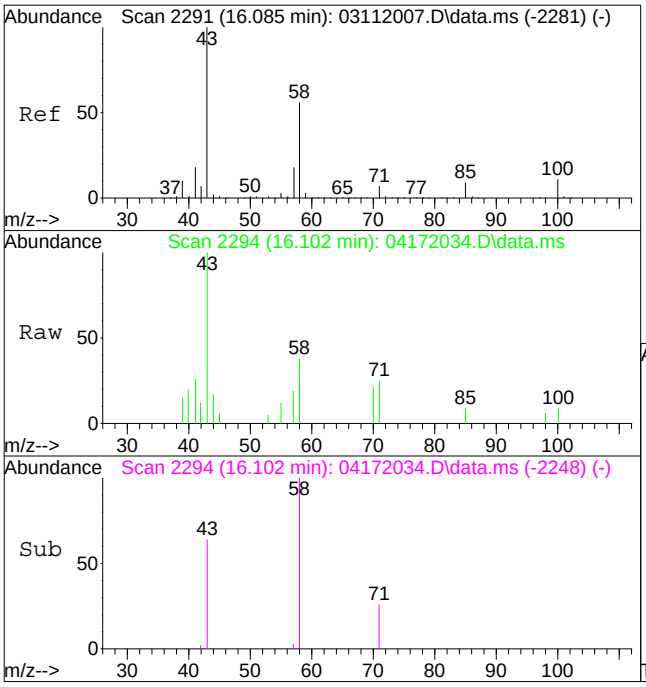


#58
Toluene
Concen: 1.62 ng
RT: 15.84 min Scan# 2247
Delta R.T. -0.011 min
Lab File: 04172034.D
Acq: 17 Apr 2020 23:04

Tgt Ion: 91 Resp: 254893

Ion	Ratio	Lower	Upper
91	100		
92	59.0	39.0	79.0

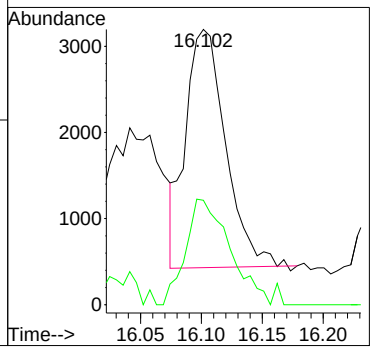


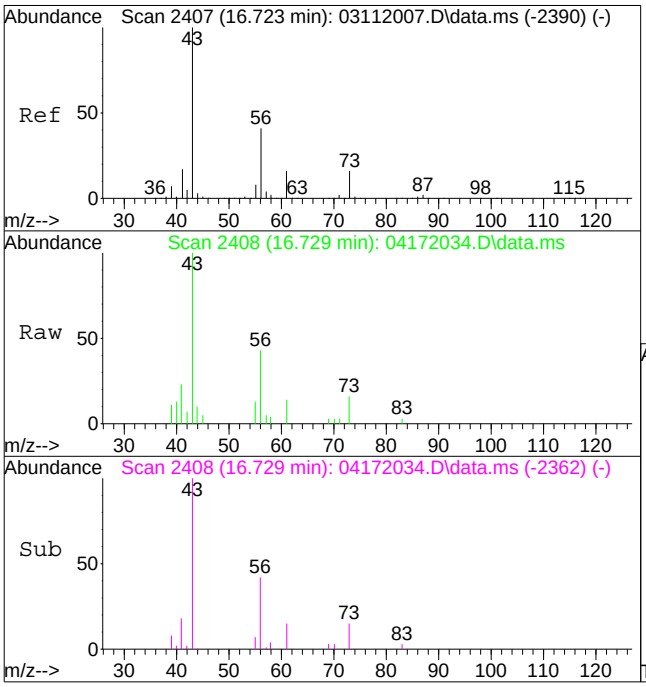


#59
2-Hexanone
Concen: 0.08 ng
RT: 16.10 min Scan# 2294
Delta R.T. 0.000 min
Lab File: 04172034.D
Acq: 17 Apr 2020 23:04

Tgt Ion: 43 Resp: 6315

Ion	Ratio	Lower	Upper
43	100		
58	48.8	36.5	76.5

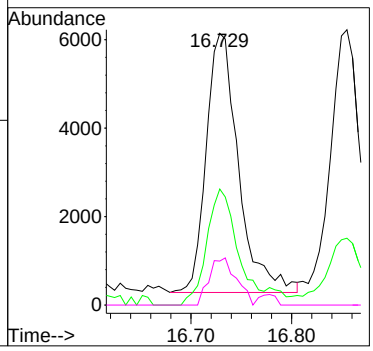


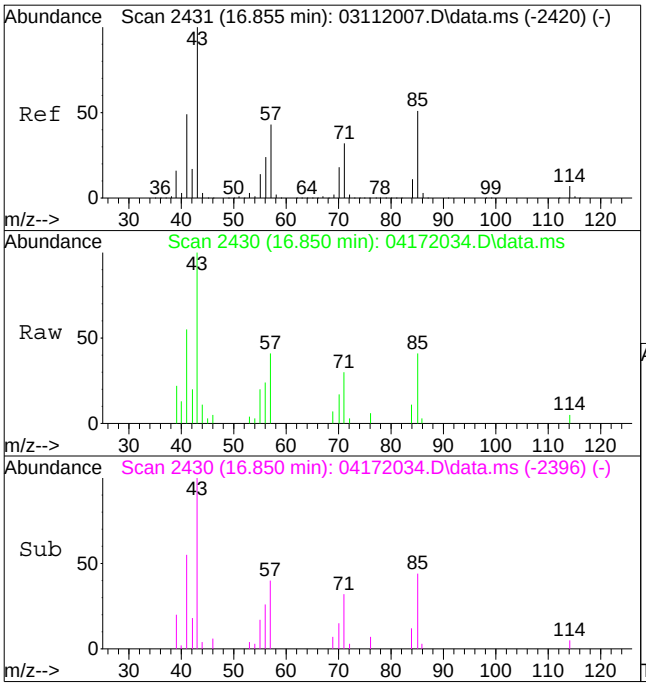


#62
n-Butyl Acetate
Concen: 0.16 ng
RT: 16.73 min Scan# 2408
Delta R.T. 0.000 min
Lab File: 04172034.D
Acq: 17 Apr 2020 23:04

Tgt Ion: 43 Resp: 13090

Ion	Ratio	Lower	Upper
43	100		
56	46.1	20.7	60.7
73	15.2	0.0	35.5

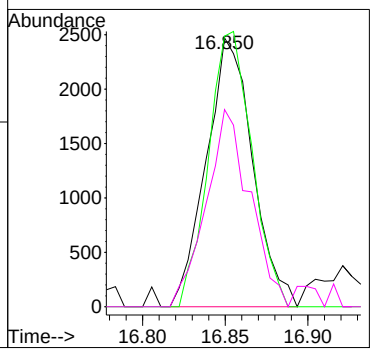


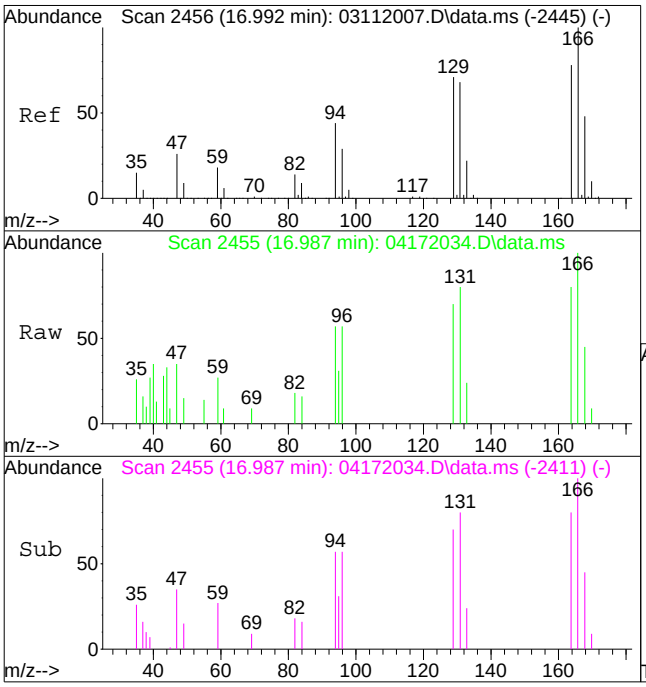


#63
n-Octane
Concen: 0.15 ng
RT: 16.85 min Scan# 2430
Delta R.T. -0.011 min
Lab File: 04172034.D
Acq: 17 Apr 2020 23:04

Tgt Ion: 57 Resp: 4829

Ion	Ratio	Lower	Upper
57	100		
85	96.0	95.1	142.7
71	69.0	58.2	87.4

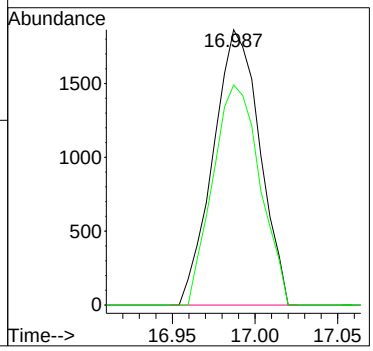


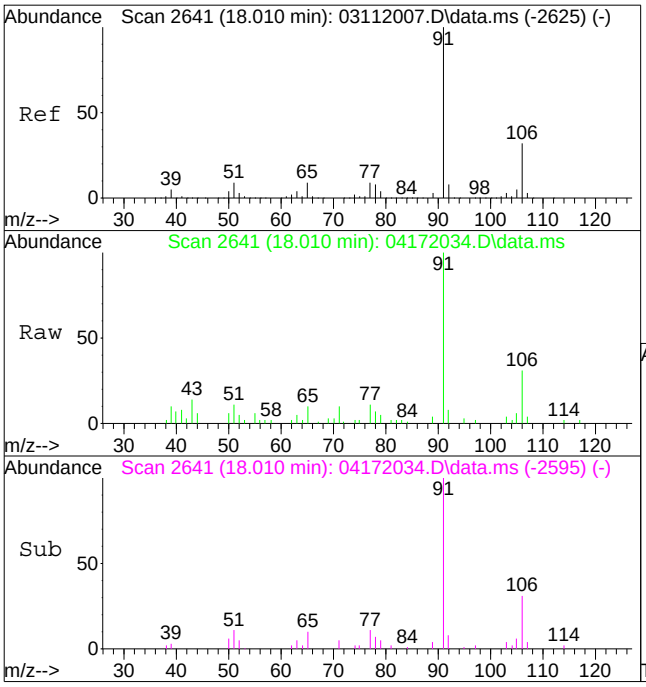


#64
Tetrachloroethene
Concen: 0.08 ng
RT: 16.99 min Scan# 2455
Delta R.T. -0.011 min
Lab File: 04172034.D
Acq: 17 Apr 2020 23:04

Tgt Ion:166 Resp: 3655

Ion	Ratio	Lower	Upper
166	100		
164	80.7	58.6	98.6

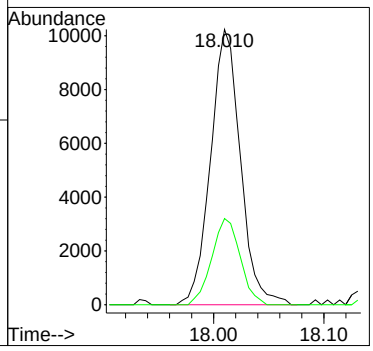


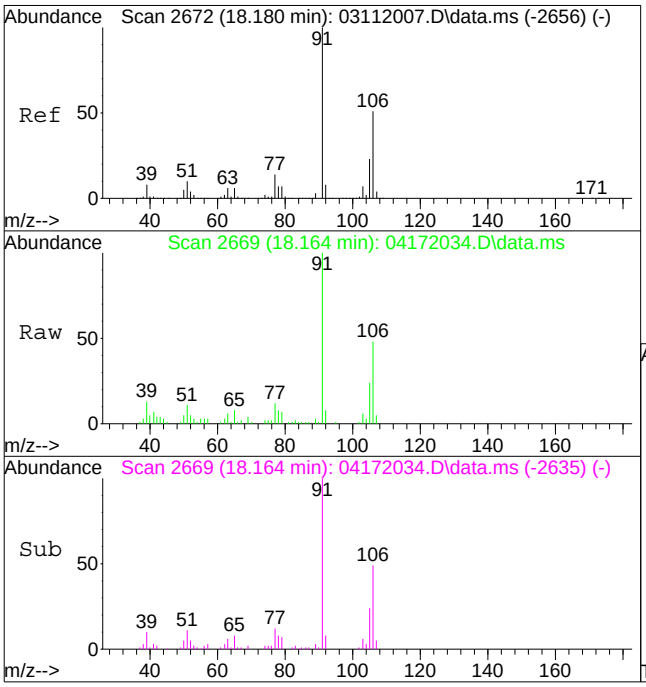


#66
Ethylbenzene
Concen: 0.11 ng
RT: 18.01 min Scan# 2641
Delta R.T. 0.000 min
Lab File: 04172034.D
Acq: 17 Apr 2020 23:04

Tgt Ion: 91 Resp: 19298

Ion	Ratio	Lower	Upper
91	100		
106	29.8	11.7	51.7

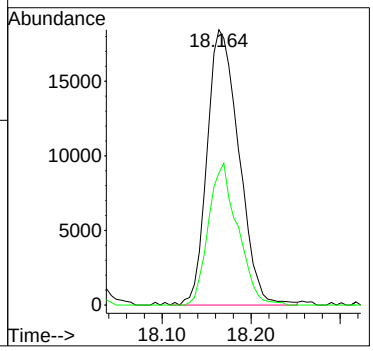


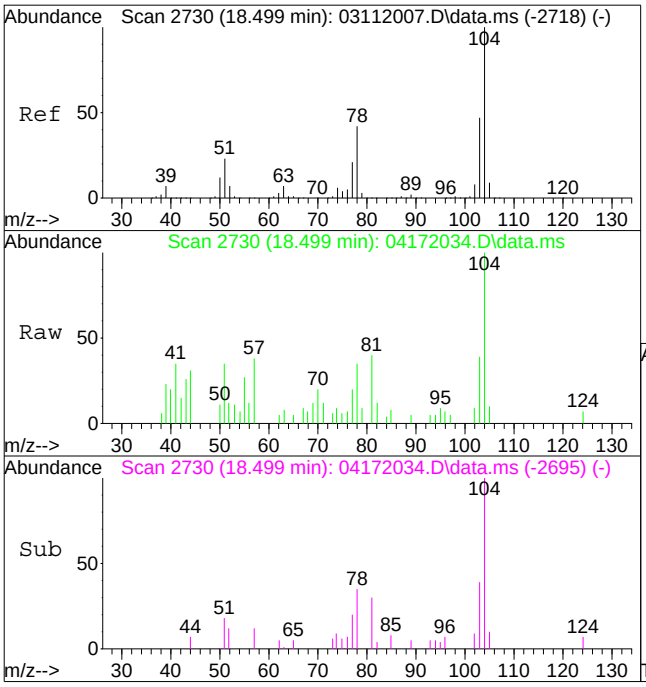


#67
m- & p-Xylenes
Concen: 0.33 ng
RT: 18.16 min Scan# 2669
Delta R.T. -0.011 min
Lab File: 04172034.D
Acq: 17 Apr 2020 23:04

Tgt Ion: 91 Resp: 45887

Ion	Ratio	Lower	Upper
91	100		
106	47.3	30.4	70.4

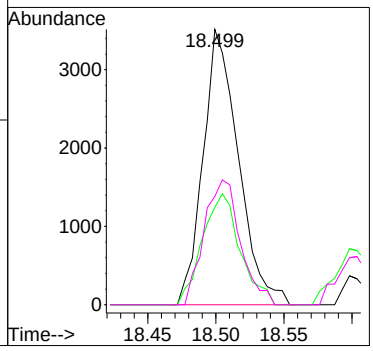


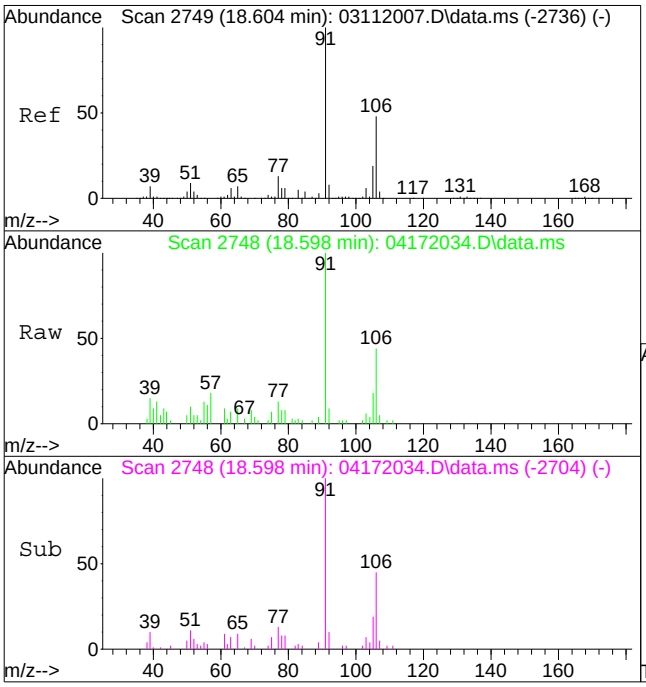


#69
Styrene
Concen: 0.06 ng
RT: 18.50 min Scan# 2730
Delta R.T. -0.006 min
Lab File: 04172034.D
Acq: 17 Apr 2020 23:04

Tgt Ion:104 Resp: 6347

Ion	Ratio	Lower	Upper
104	100		
78	43.1	20.9	60.9
103	46.6	27.4	67.4

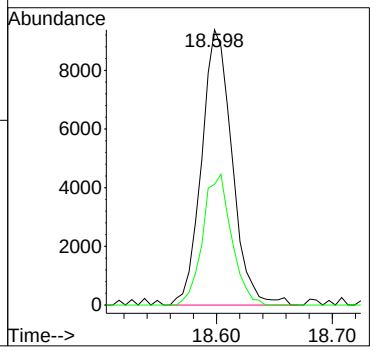


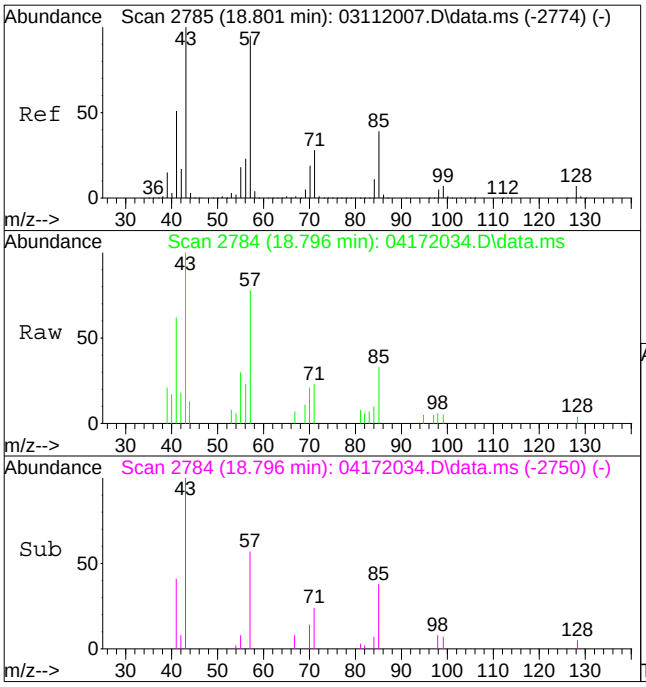


#70
o-Xylene
Concen: 0.12 ng
RT: 18.60 min Scan# 2748
Delta R.T. -0.011 min
Lab File: 04172034.D
Acq: 17 Apr 2020 23:04

Tgt Ion: 91 Resp: 17180

Ion	Ratio	Lower	Upper
91	100		
106	44.8	28.1	68.1

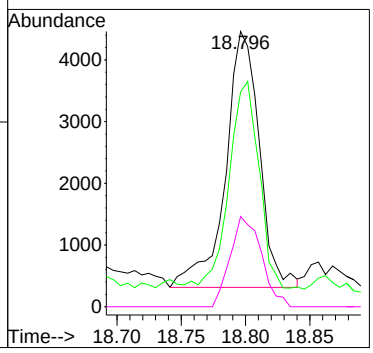


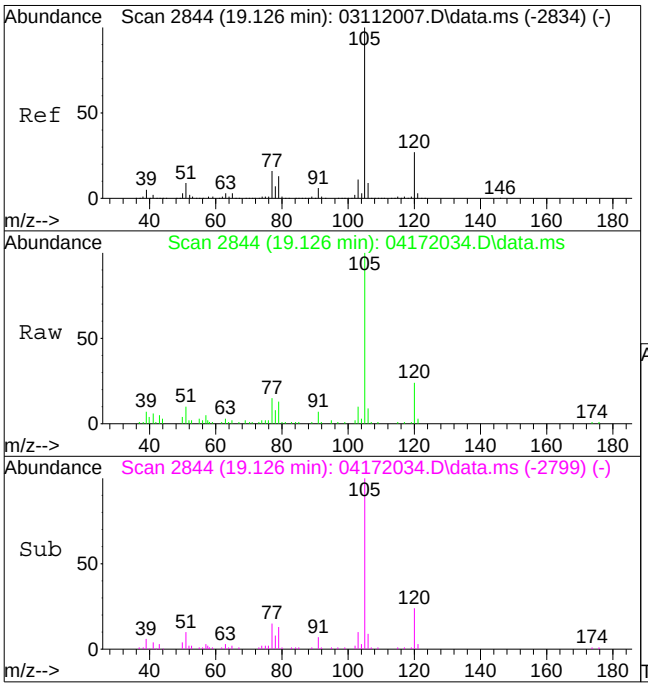


#71
n-Nonane
Concen: 0.11 ng
RT: 18.80 min Scan# 2784
Delta R.T. -0.011 min
Lab File: 04172034.D
Acq: 17 Apr 2020 23:04

Tgt Ion: 43 Resp: 7616

Ion	Ratio	Lower	Upper
43	100		
57	76.2	73.6	113.6
85	32.3	18.7	58.7

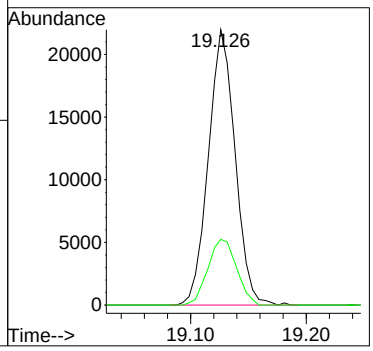


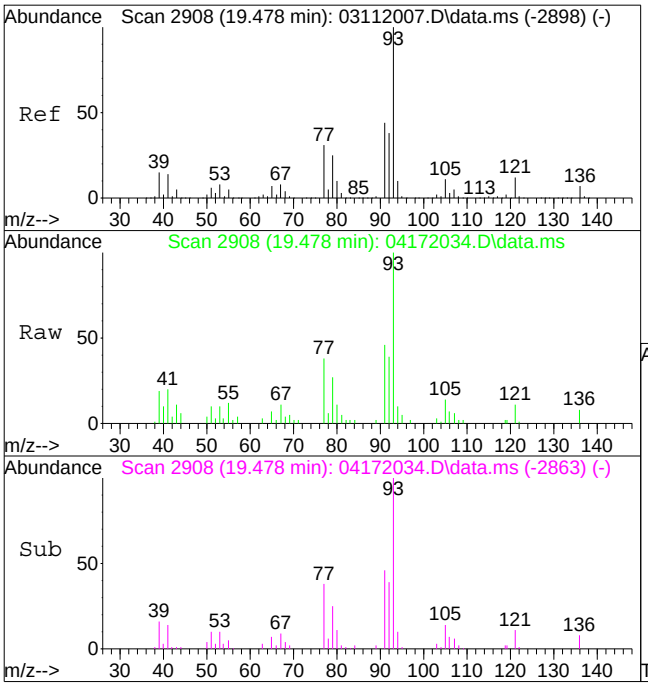


#74
Cumene
Concen: 0.20 ng
RT: 19.13 min Scan# 2844
Delta R.T. 0.000 min
Lab File: 04172034.D
Acq: 17 Apr 2020 23:04

Tgt Ion:105 Resp: 35393

Ion	Ratio	Lower	Upper
105	100		
120	25.6	7.2	47.2

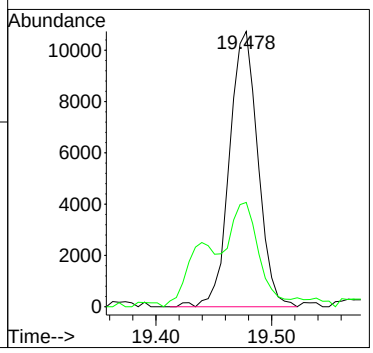


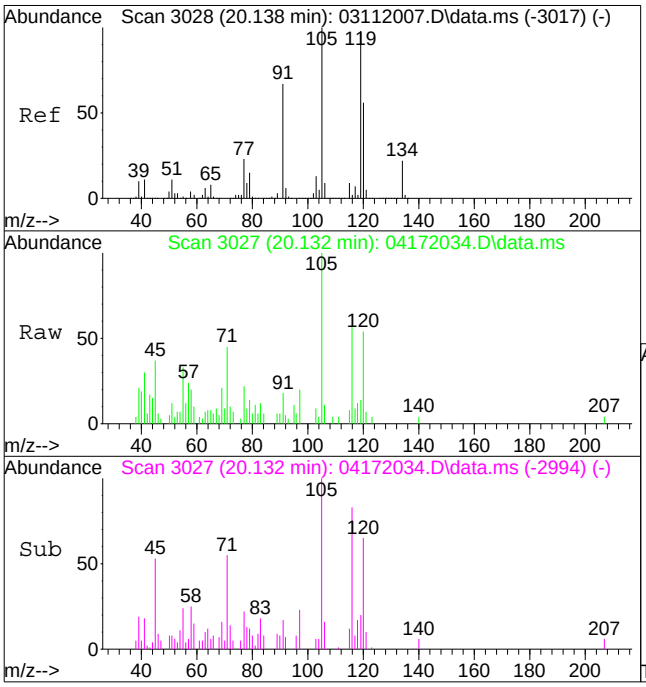


#75
alpha-Pinene
Concen: 0.20 ng
RT: 19.48 min Scan# 2908
Delta R.T. -0.005 min
Lab File: 04172034.D
Acq: 17 Apr 2020 23:04

Tgt Ion: 93 Resp: 18377

Ion	Ratio	Lower	Upper
93	100		
77	42.1	11.1	51.1

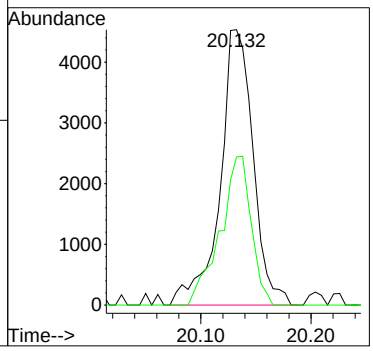


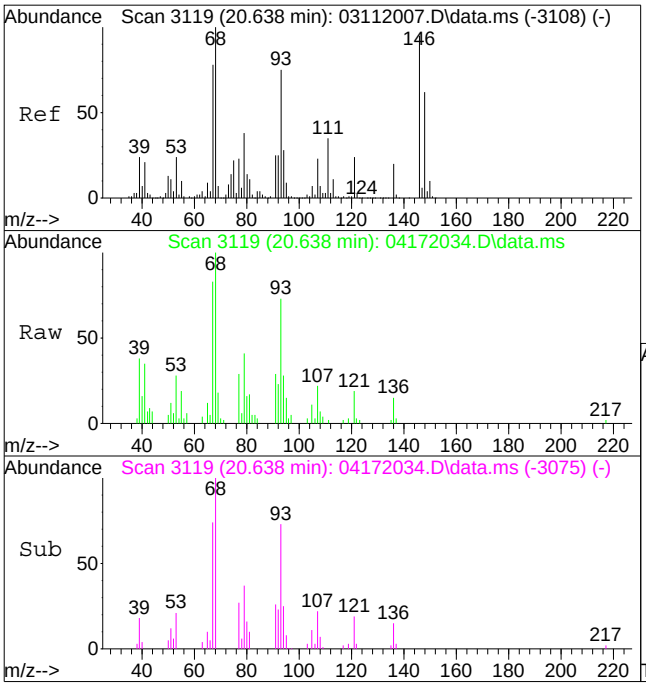


#82
1,2,4-Trimethylbenzene
Concen: 0.06 ng
RT: 20.13 min Scan# 3027
Delta R.T. -0.017 min
Lab File: 04172034.D
Acq: 17 Apr 2020 23:04

Tgt Ion:105 Resp: 9458

Ion	Ratio	Lower	Upper
105	100		
120	50.7	35.8	75.8

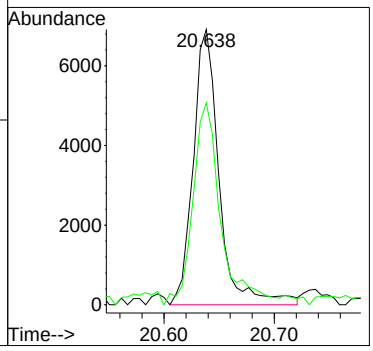




#91
d-Limonene
Concen: 0.19 ng
RT: 20.64 min Scan# 3119
Delta R.T. -0.011 min
Lab File: 04172034.D
Acq: 17 Apr 2020 23:04

Tgt Ion: 68 Resp: 11290

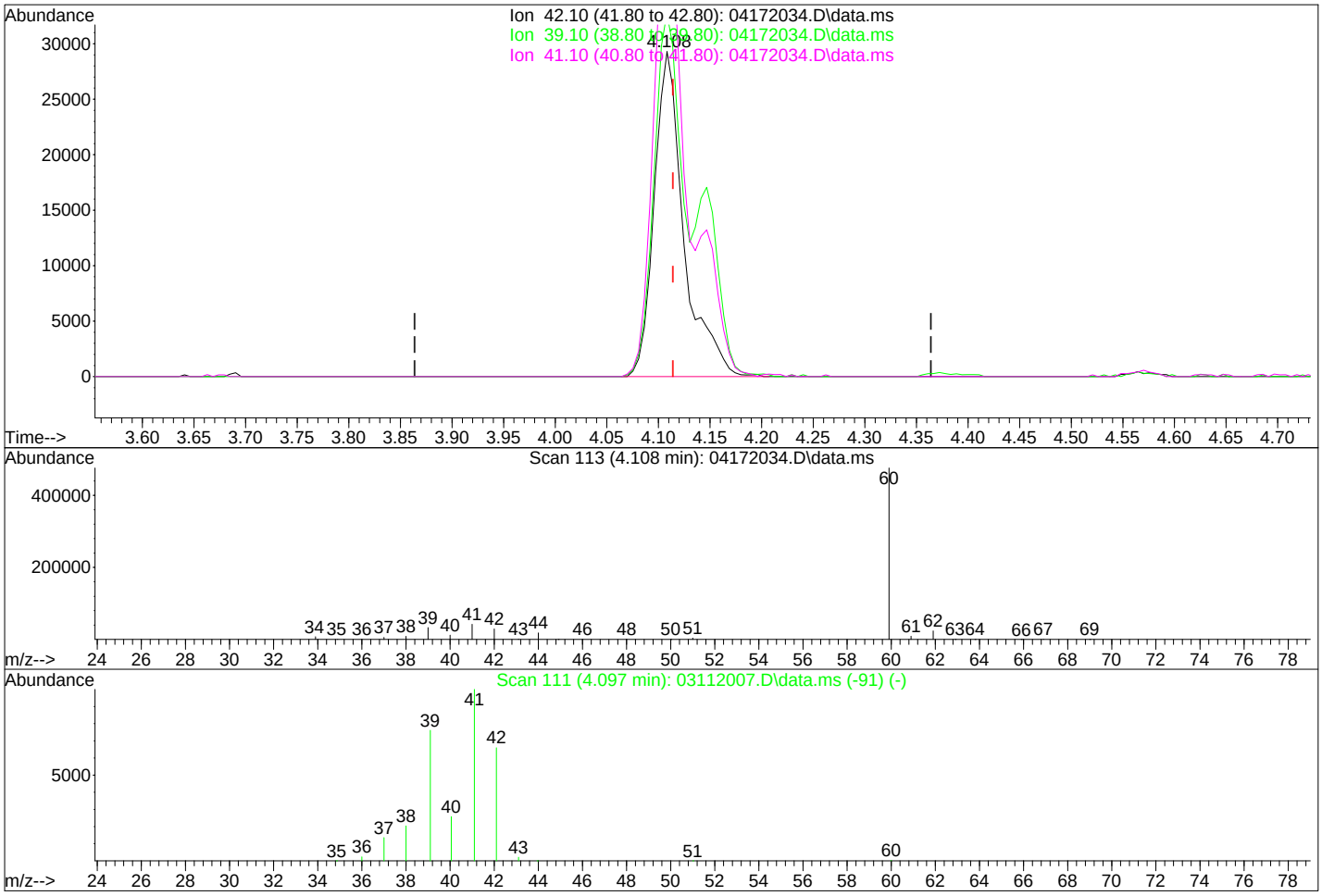
Ion	Ratio	Lower	Upper
68	100		
93	78.2	54.7	94.7



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\17\04172034.D Vial: 14
Acq On : 17 Apr 2020 23:04 Operator: LH
Sample : P2002028-006 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 19 09:09:13 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04172034.D\data.ms

(2) Propene (T)

4.108min (-0.006) 1.67ng

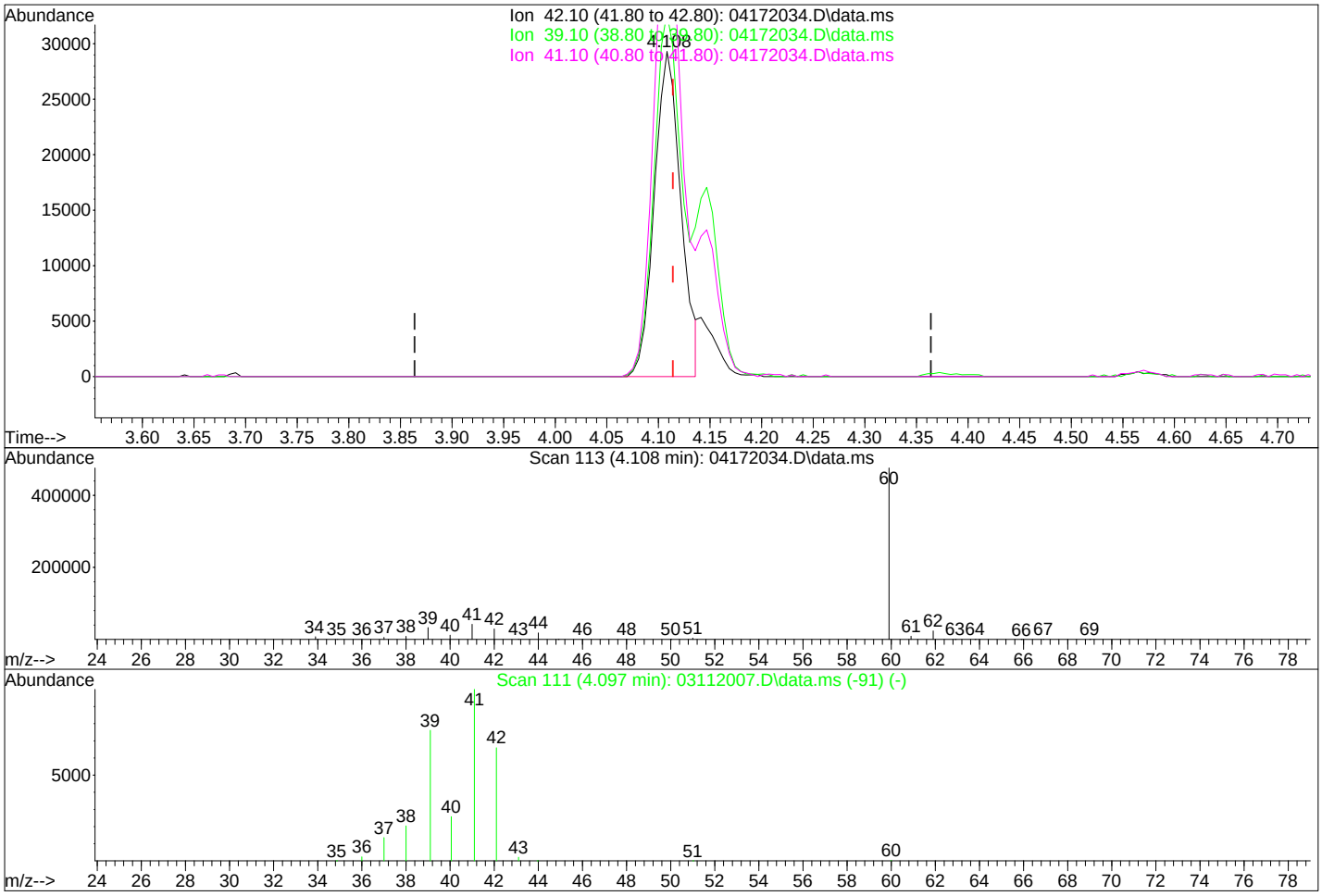
response 58553

Ion	Exp%	Act%
42.10	100	100
39.10	115.30	102.62
41.10	152.00	167.61
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\17\04172034.D Vial: 14
Acq On : 17 Apr 2020 23:04 Operator: LH
Sample : P2002028-006 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 19 09:09:13 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04172034.D\data.ms

(2) Propene (T)

4.108min (-0.006) 1.49ng m

response 52142

Ion	Exp%	Act%
42.10	100	100
39.10	115.30	115.24
41.10	152.00	188.22#
0.00	0.00	0.00

IPC

LH 4/20/20

4/24/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202009.D Vial: 4
Acq On : 20 Apr 2020 8:21 Operator: TD
Sample : P2002028-007 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 19:53:43 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/20/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	353766	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1573077	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	758815	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.01	65	621395	12.685	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.52%				
57) Toluene-d8 (SS2)	15.74	98	1632027	12.134	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.04%				
73) Bromofluorobenzene (SS3)	19.00	174	534937	11.263	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.08%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	4.28	85	40047	0.502	ng		99
4) Chloromethane	4.58	50	721	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	1018	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.34	45	35891	1.224	ng		99
11) Acetonitrile	6.62	41	9133	0.142	ng	#	69
12) Acrolein	6.82	56	3683	0.171	ng		100
13) Acetone	7.01	58	278670	9.630	ng		99
14) Trichlorofluoromethane	7.26	101	129783	1.844	ng		99
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D. d			
16) Acrylonitrile	7.80	53	716	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.50	59	2592	N.D.			
19) Methylene Chloride	8.44	84	477	N.D.			
20) 3-Chloro-1-propene (Al...	8.52	41	311	N.D.			
21) Trichlorotrifluoroethane	8.87	151	3076	0.091	ng		87
22) Carbon Disulfide	8.71	76	10716	0.079	ng		97
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	10.50	72	10867	0.451	ng		92
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.32	87	116	N.D.			
30) Ethyl Acetate	11.34	61	631	N.D.			
31) n-Hexane	11.28	57	1344	N.D.			
32) Chloroform	11.33	83	2742	N.D.			
34) Tetrahydrofuran (THF)	11.79	72	1987	0.080	ng	#	67
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.01	62	101	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D. d			
41) Benzene	12.90	78	5262	N.D.			
42) Carbon Tetrachloride	13.06	117	629	N.D.			
43) Cyclohexane	13.20	84	601	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	13.99	88	2967	0.094	ng		82
49) 2,2,4-Trimethylpentane...	14.06	57	4353	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D. d			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202009.D Vial: 4
Acq On : 20 Apr 2020 8:21 Operator: TD
Sample : P2002028-007 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 19:53:43 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

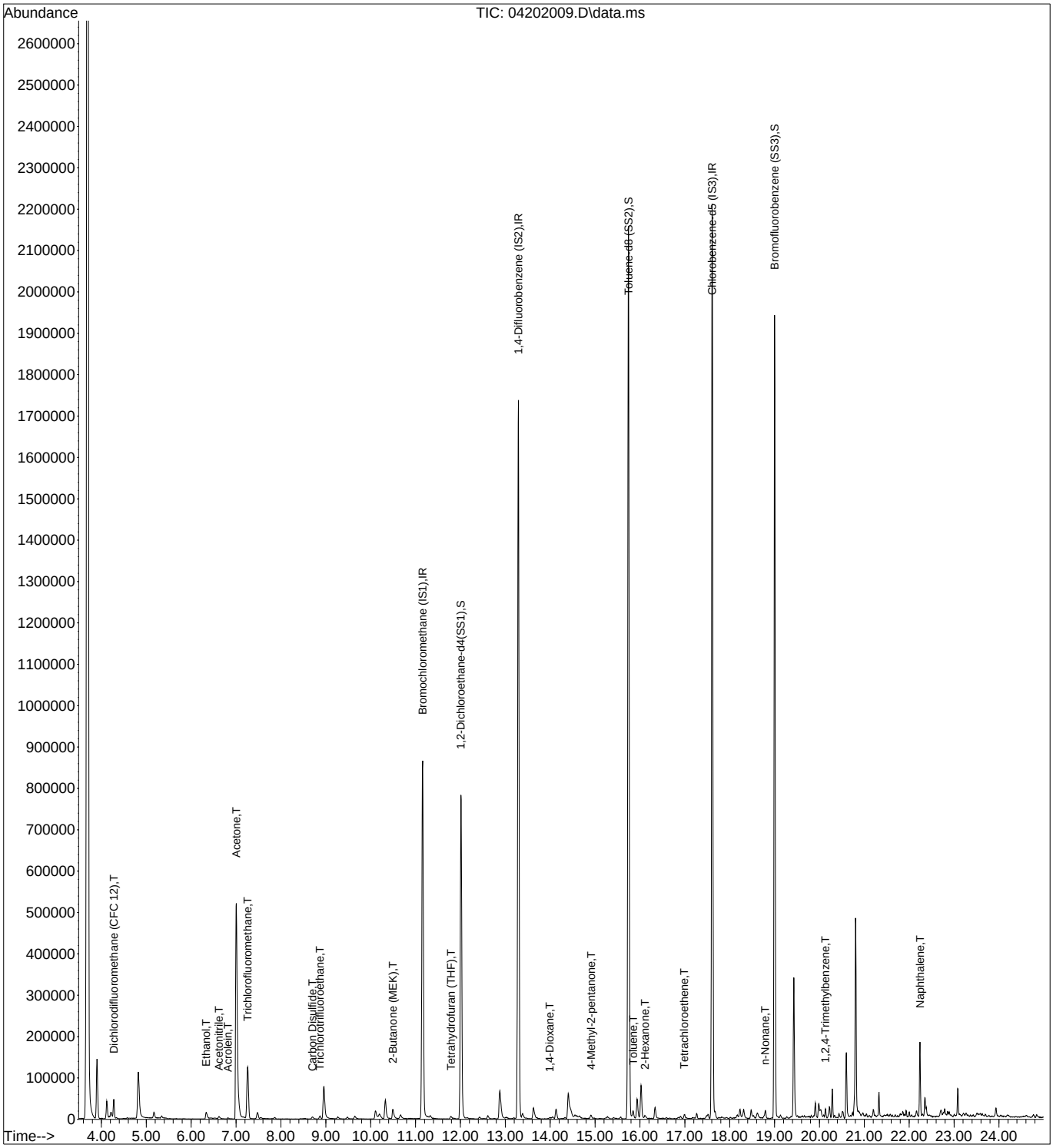
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.33	71	1187	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.91	58	2652	0.078 ng	#	59
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.85	91	16318	0.098 ng		95
59) 2-Hexanone	16.11	43	7145	0.086 ng		93
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.75	43	287	N.D.		
63) n-Octane	16.86	57	729	N.D.		
64) Tetrachloroethene	16.99	166	2368	0.051 ng		88
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	18.01	91	3056	N.D.		
67) m- & p-Xylenes	18.17	91	7006	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.51	104	779	N.D.		
70) o-Xylene	18.60	91	2977	N.D.		
71) n-Nonane	18.79	43	13228	0.178 ng	#	49
72) 1,1,2,2-Tetrachloroethane	18.58	83	101	N.D.		
74) Cumene	19.13	105	4014	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	19.58	91	3292	N.D.		
77) 3-Ethyltoluene	19.67	105	1981	N.D.		
78) 4-Ethyltoluene	19.71	105	1096	N.D.		
79) 1,3,5-Trimethylbenzene	19.78	105	1962	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	19.93	105	1501	N.D.		
82) 1,2,4-Trimethylbenzene	20.13	105	9990	0.061 ng		81
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.25	91	430	N.D.		
85) 1,3-Dichlorobenzene	20.27	146	240	N.D.		
86) 1,4-Dichlorobenzene	20.33	146	636	N.D.		
87) sec-Butylbenzene	20.37	105	1034	N.D.		
88) 4-Isopropyltoluene (p-...	20.52	119	1677	N.D.		
89) 1,2,3-Trimethylbenzene	20.51	105	6856	N.D.		
90) 1,2-Dichlorobenzene	20.64	146	294	N.D.		
91) d-Limonene	20.63	68	566	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.14	180	576	N.D.		
95) Naphthalene	22.24	128	12393	0.067 ng		99
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	20.13	119	1583	N.D.		
100) n-Butylbenzene	20.88	91	4735	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202009.D Vial: 4
Acq On : 20 Apr 2020 8:21 Operator: TD
Sample : P2002028-007 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 19:53:43 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202009.D Vial: 4
Acq On : 20 Apr 2020 8:21 Operator: TD
Sample : P2002028-007 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 19:53:43 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/20/20

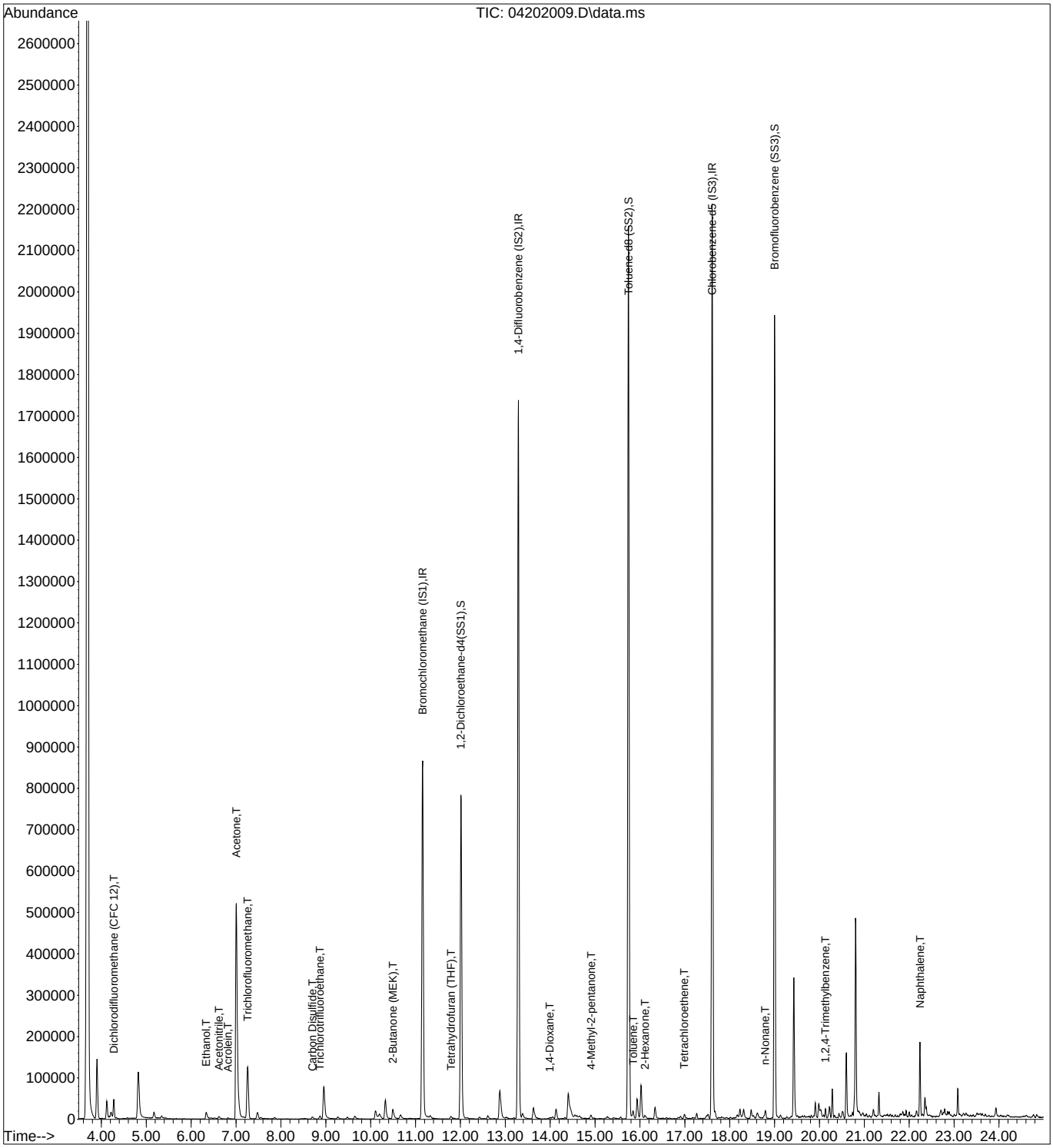
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	353766	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1573077	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	758815	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.01	65	621395	12.685	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.52%				
57) Toluene-d8 (SS2)	15.74	98	1632027	12.134	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.04%				
73) Bromofluorobenzene (SS3)	19.00	174	534937	11.263	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.08%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.28	85	40047	0.502	ng		99
10) Ethanol	6.34	45	35891	1.224	ng		99
11) Acetonitrile	6.62	41	9133	0.142	ng	#	69
12) Acrolein	6.82	56	3683	0.171	ng		100
13) Acetone	7.01	58	278670	9.630	ng		99
14) Trichlorofluoromethane	7.26	101	129783	1.844	ng		99
21) Trichlorotrifluoroethane	8.87	151	3076	0.091	ng		87
22) Carbon Disulfide	8.71	76	10716	0.079	ng		97
27) 2-Butanone (MEK)	10.50	72	10867	0.451	ng		92
34) Tetrahydrofuran (THF)	11.79	72	1987	0.080	ng	#	67
48) 1,4-Dioxane	13.99	88	2967	0.094	ng		82
53) 4-Methyl-2-pentanone	14.91	58	2652	0.078	ng	#	59
58) Toluene	15.85	91	16318	0.098	ng		95
59) 2-Hexanone	16.11	43	7145	0.086	ng		93
64) Tetrachloroethene	16.99	166	2368	0.051	ng		88
71) n-Nonane	18.79	43	13228	0.178	ng	#	49
82) 1,2,4-Trimethylbenzene	20.13	105	9990	0.061	ng		81
95) Naphthalene	22.24	128	12393	0.067	ng		99

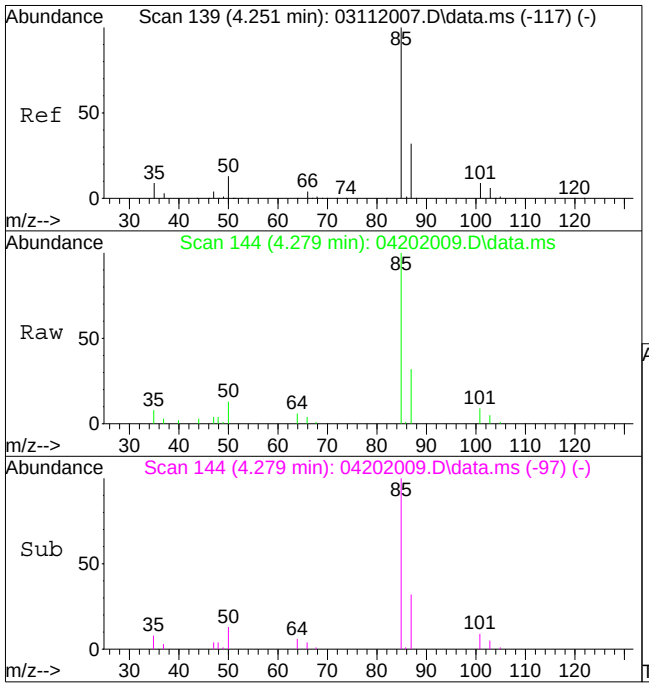
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202009.D Vial: 4
Acq On : 20 Apr 2020 8:21 Operator: TD
Sample : P2002028-007 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 19:53:43 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

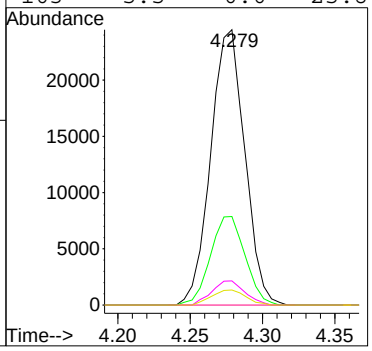


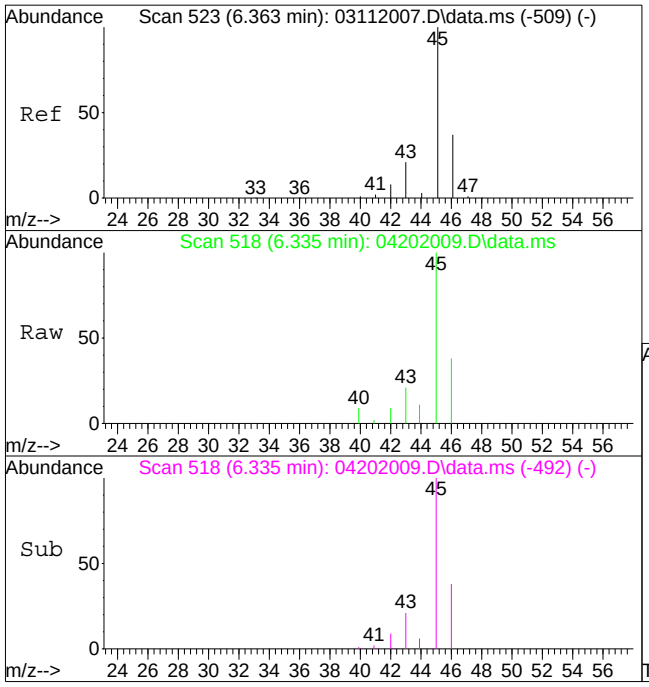


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.50 ng
RT: 4.28 min Scan# 144
Delta R.T. 0.011 min
Lab File: 04202009.D
Acq: 20 Apr 2020 8:21

Tgt Ion: 85 Resp: 40047

Ion	Ratio	Lower	Upper
85	100		
87	32.7	12.3	52.3
101	8.5	0.0	29.0
103	5.5	0.0	25.8

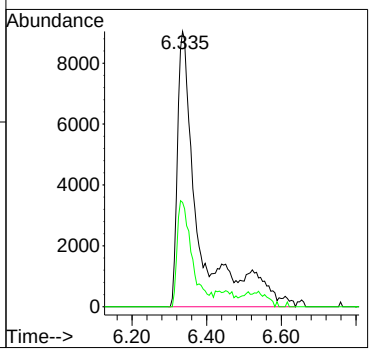


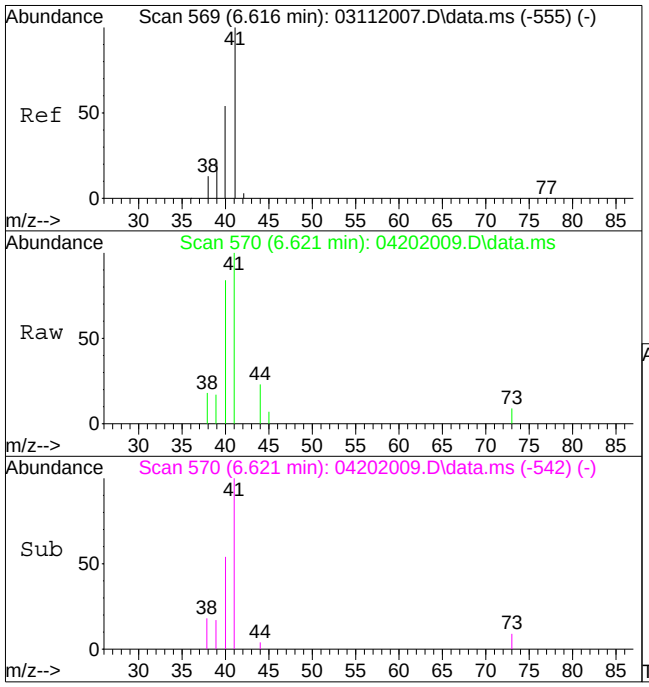


#10
Ethanol
Concen: 1.22 ng
RT: 6.34 min Scan# 518
Delta R.T. -0.105 min
Lab File: 04202009.D
Acq: 20 Apr 2020 8:21

Tgt Ion: 45 Resp: 35891

Ion	Ratio	Lower	Upper
45	100		
46	38.0	17.3	57.3

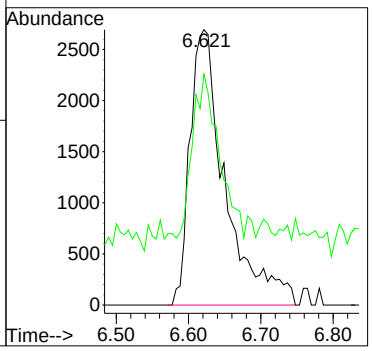


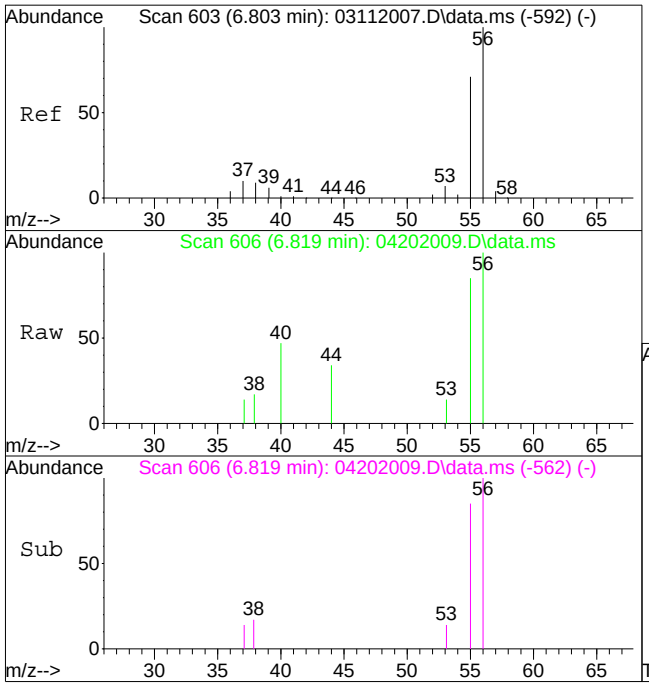


#11
Acetonitrile
Concen: 0.14 ng
RT: 6.62 min Scan# 570
Delta R.T. -0.044 min
Lab File: 04202009.D
Acq: 20 Apr 2020 8:21

Tgt Ion: 41 Resp: 9133

Ion	Ratio	Lower	Upper
41	100		
40	75.4	33.6	73.6#

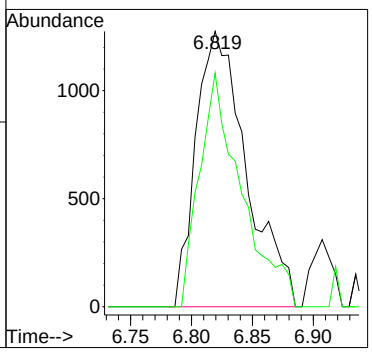


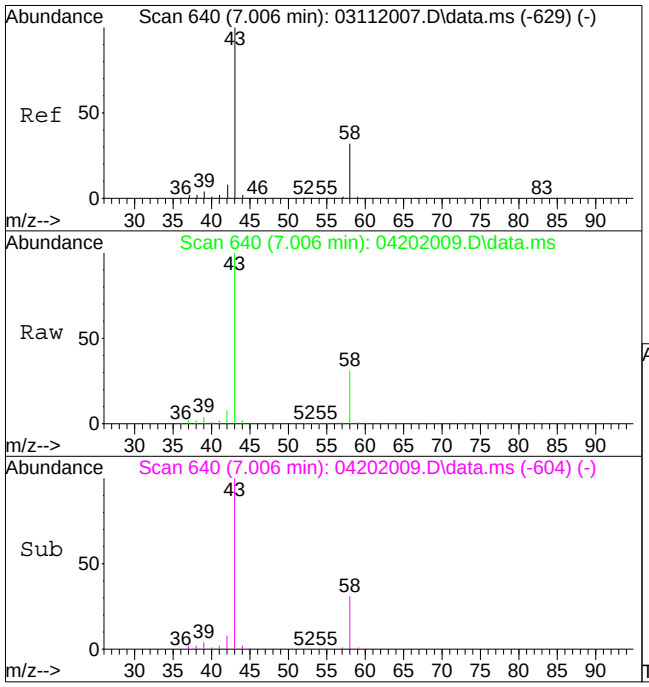


#12
Acrolein
Concen: 0.17 ng
RT: 6.82 min Scan# 606
Delta R.T. -0.011 min
Lab File: 04202009.D
Acq: 20 Apr 2020 8:21

Tgt Ion: 56 Resp: 3683

Ion	Ratio	Lower	Upper
56	100		
55	70.6	50.4	90.4

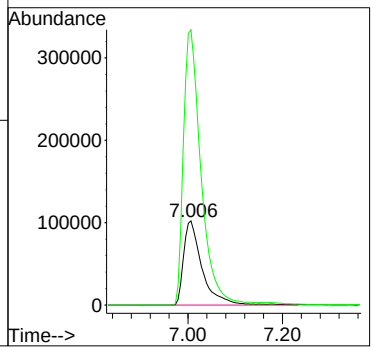


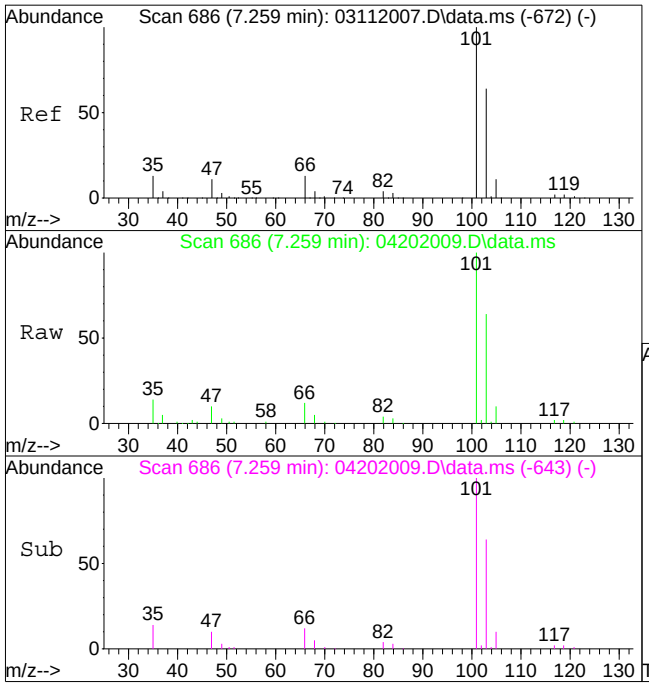


#13
Acetone
Concen: 9.63 ng
RT: 7.01 min Scan# 640
Delta R.T. -0.050 min
Lab File: 04202009.D
Acq: 20 Apr 2020 8:21

Tgt Ion: 58 Resp: 278670

Ion	Ratio	Lower	Upper
58	100		
43	315.1	287.3	347.3

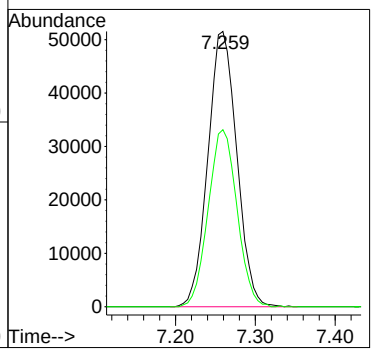


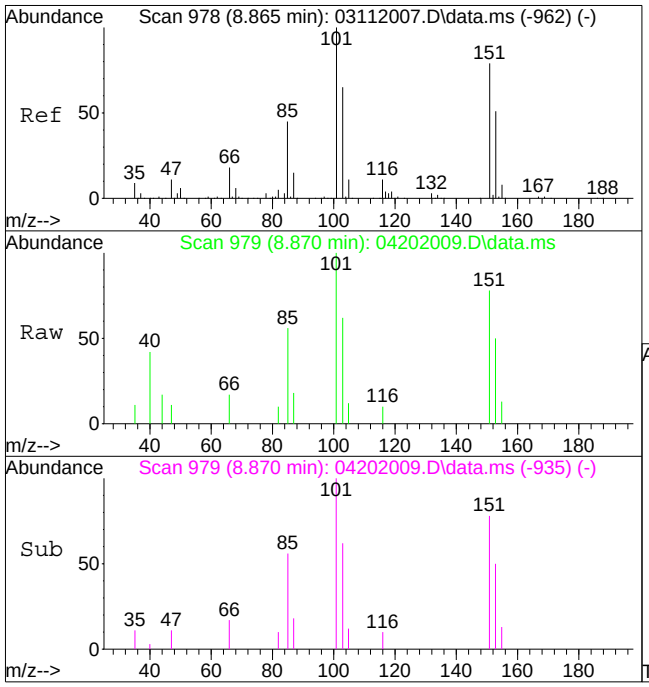


#14
Trichlorofluoromethane
Concen: 1.84 ng
RT: 7.26 min Scan# 686
Delta R.T. -0.016 min
Lab File: 04202009.D
Acq: 20 Apr 2020 8:21

Tgt Ion:101 Resp: 129783

Ion	Ratio	Lower	Upper
101	100		
103	64.0	44.6	84.6

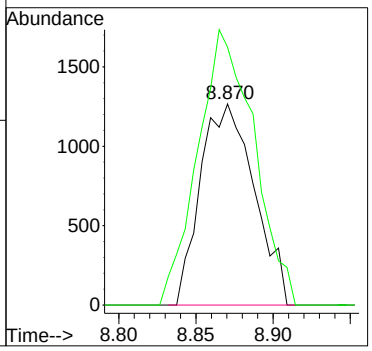


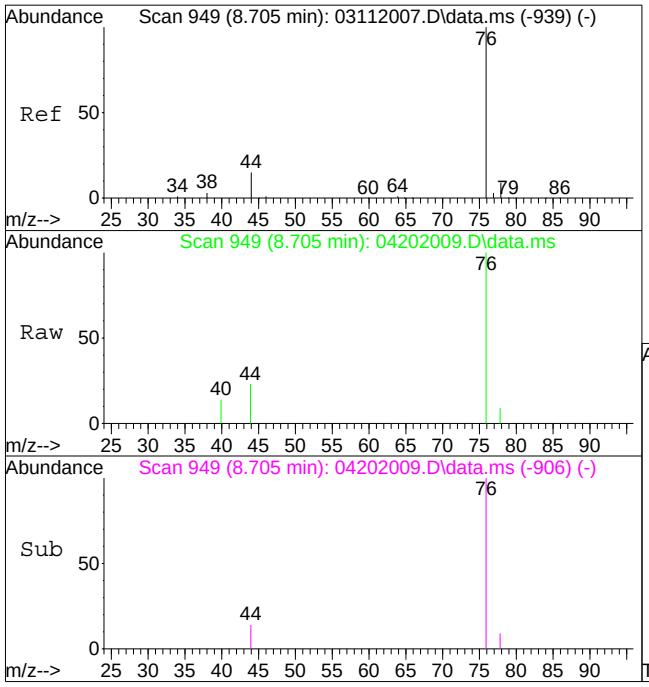


#21
Trichlorotrifluoroethane
Concen: 0.09 ng
RT: 8.87 min Scan# 979
Delta R.T. -0.006 min
Lab File: 04202009.D
Acq: 20 Apr 2020 8:21

Tgt Ion:151 Resp: 3076

Ion	Ratio	Lower	Upper
151	100		
101	143.0	108.4	148.4

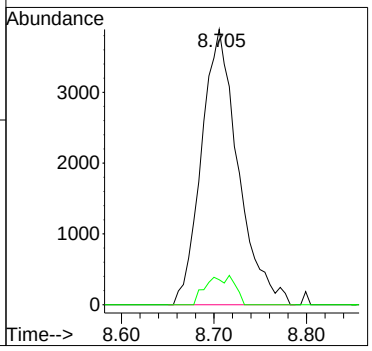


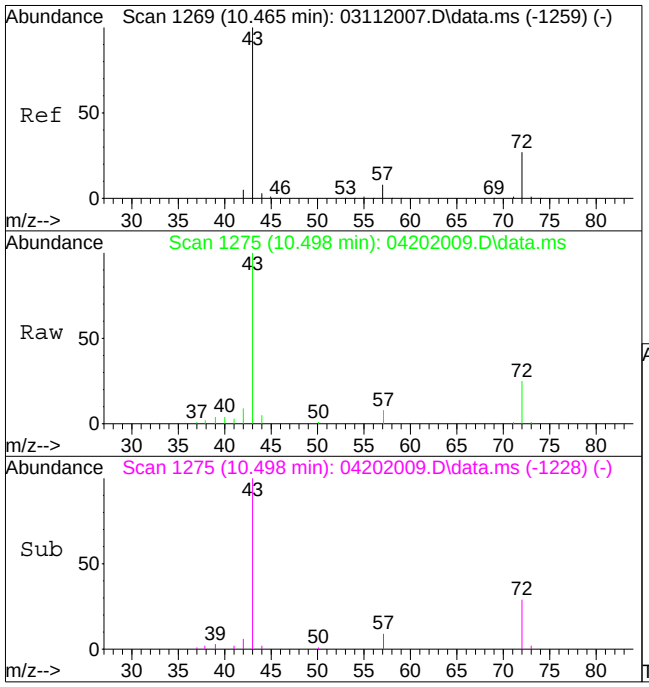


#22
Carbon Disulfide
Concen: 0.08 ng
RT: 8.71 min Scan# 949
Delta R.T. -0.016 min
Lab File: 04202009.D
Acq: 20 Apr 2020 8:21

Tgt Ion: 76 Resp: 10716

Ion	Ratio	Lower	Upper
76	100		
78	8.2	0.0	29.2

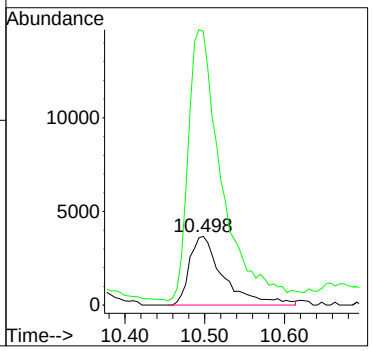


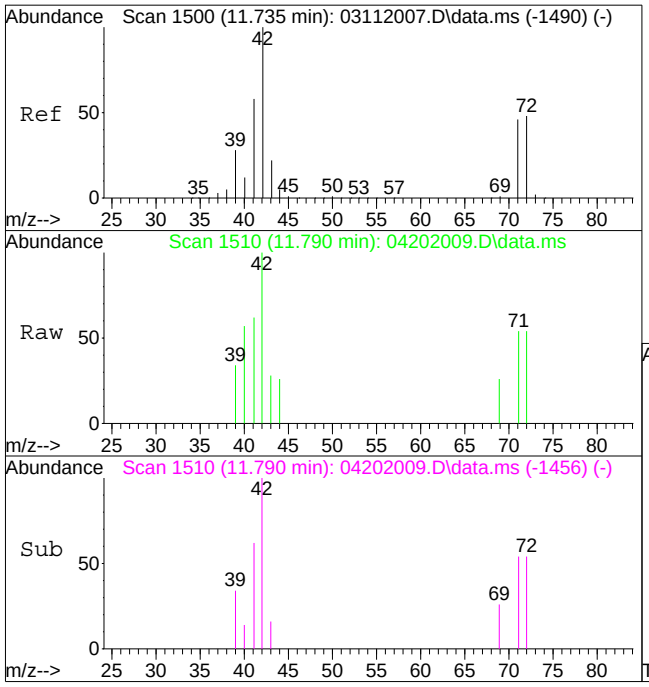


#27
2-Butanone (MEK)
Concen: 0.45 ng
RT: 10.50 min Scan# 1275
Delta R.T. 0.006 min
Lab File: 04202009.D
Acq: 20 Apr 2020 8:21

Tgt Ion: 72 Resp: 10867

Ion	Ratio	Lower	Upper
72	100		
43	391.6	353.4	393.4

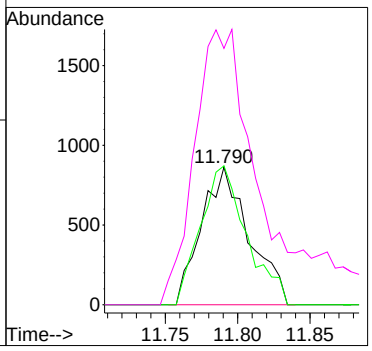


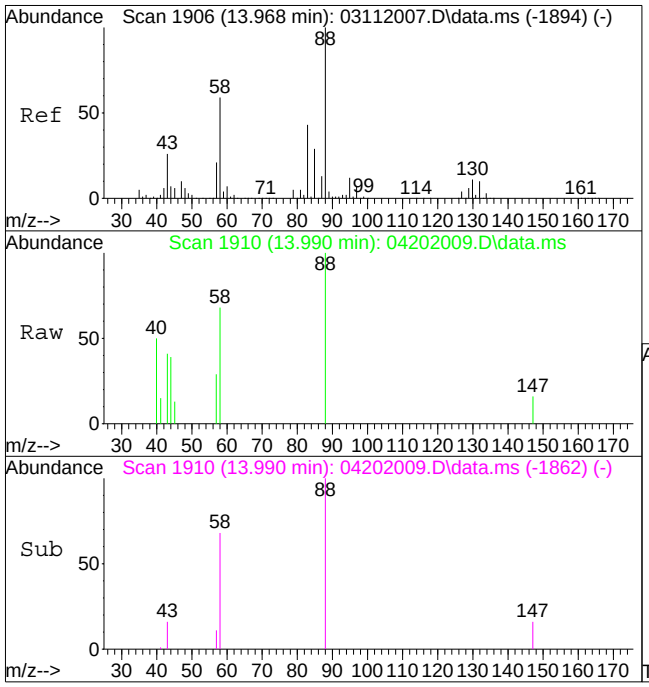


#34
Tetrahydrofuran (THF)
Concen: 0.08 ng
RT: 11.79 min Scan# 1510
Delta R.T. 0.044 min
Lab File: 04202009.D
Acq: 20 Apr 2020 8:21

Tgt Ion: 72 Resp: 1987

Ion	Ratio	Lower	Upper
72	100		
71	97.2	75.9	115.9
42	282.2	189.3	229.3#

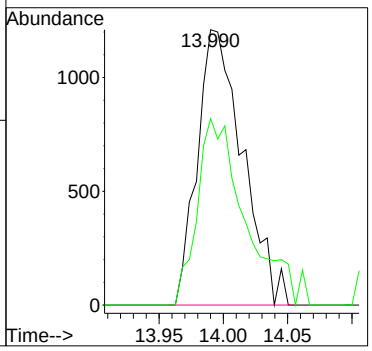


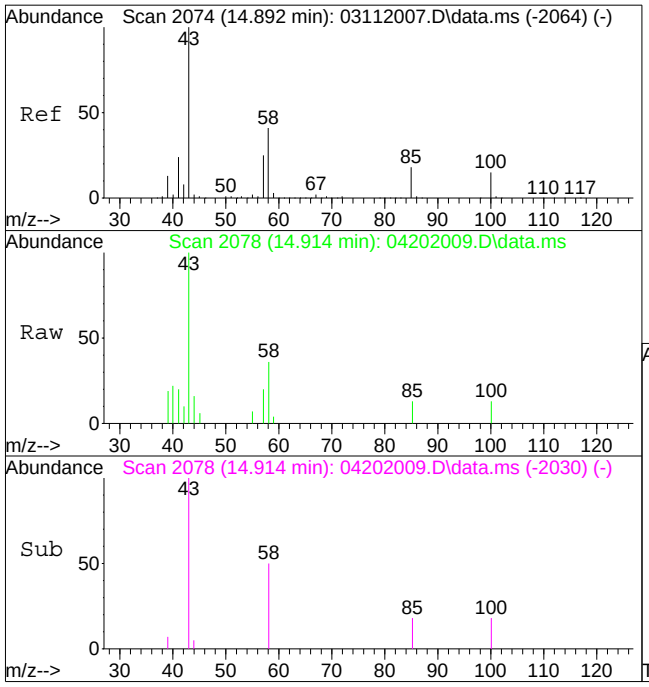


#48
1,4-Dioxane
Concen: 0.09 ng
RT: 13.99 min Scan# 1910
Delta R.T. 0.011 min
Lab File: 04202009.D
Acq: 20 Apr 2020 8:21

Tgt Ion: 88 Resp: 2967

Ion	Ratio	Lower	Upper
88	100		
58	72.8	39.5	79.5

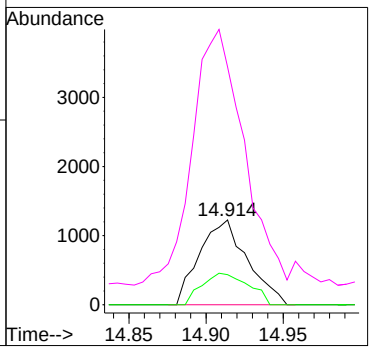


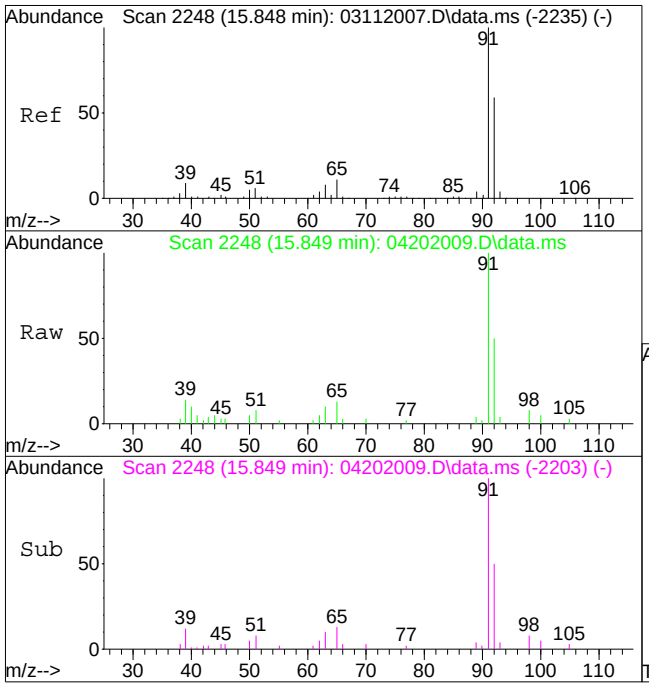


#53
4-Methyl-2-pentanone
Concen: 0.08 ng
RT: 14.91 min Scan# 2078
Delta R.T. 0.011 min
Lab File: 04202009.D
Acq: 20 Apr 2020 8:21

Tgt Ion: 58 Resp: 2652

Ion	Ratio	Lower	Upper
58	100		
85	36.1	37.0	55.4#
43	324.0	196.3	294.5#

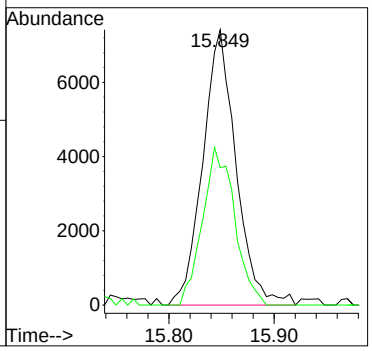


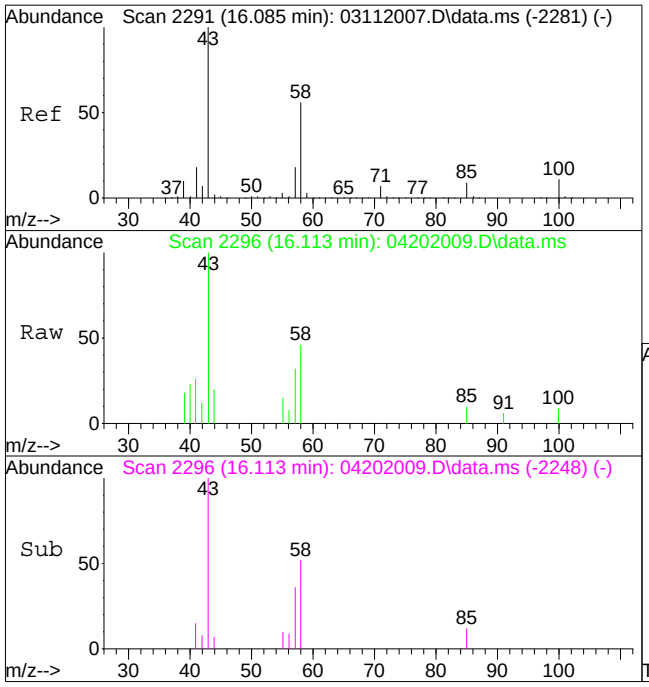


#58
Toluene
Concen: 0.10 ng
RT: 15.85 min Scan# 2248
Delta R.T. -0.005 min
Lab File: 04202009.D
Acq: 20 Apr 2020 8:21

Tgt Ion: 91 Resp: 16318

Ion	Ratio	Lower	Upper
91	100		
92	55.3	39.0	79.0

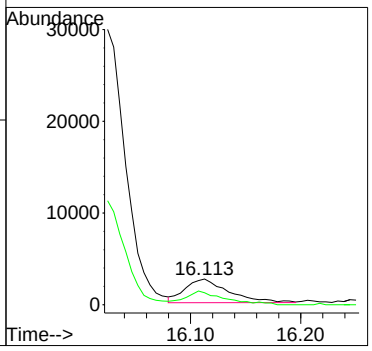


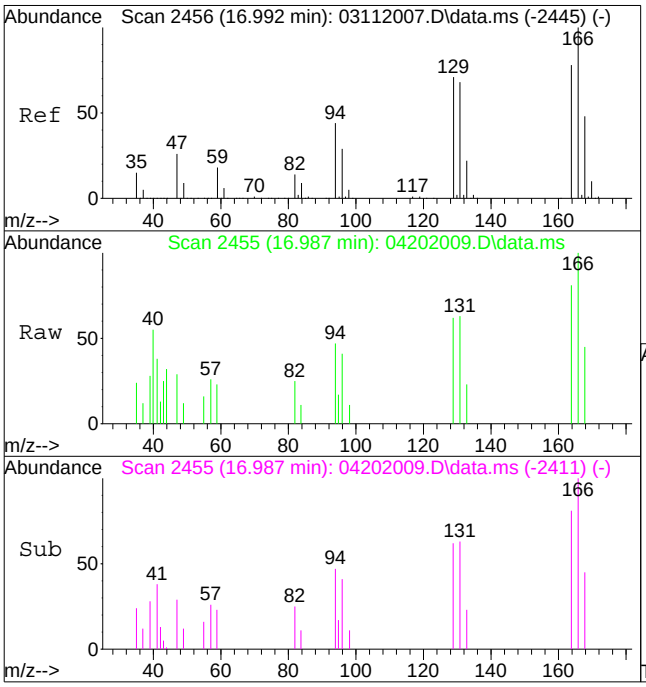


#59
2-Hexanone
Concen: 0.09 ng
RT: 16.11 min Scan# 2296
Delta R.T. 0.011 min
Lab File: 04202009.D
Acq: 20 Apr 2020 8:21

Tgt Ion: 43 Resp: 7145

Ion	Ratio	Lower	Upper
43	100		
58	51.3	36.5	76.5

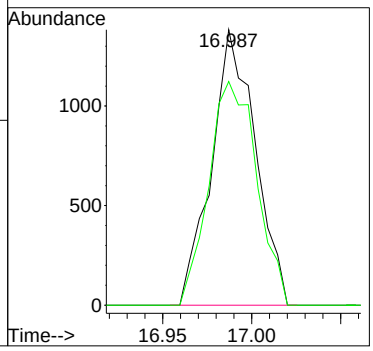


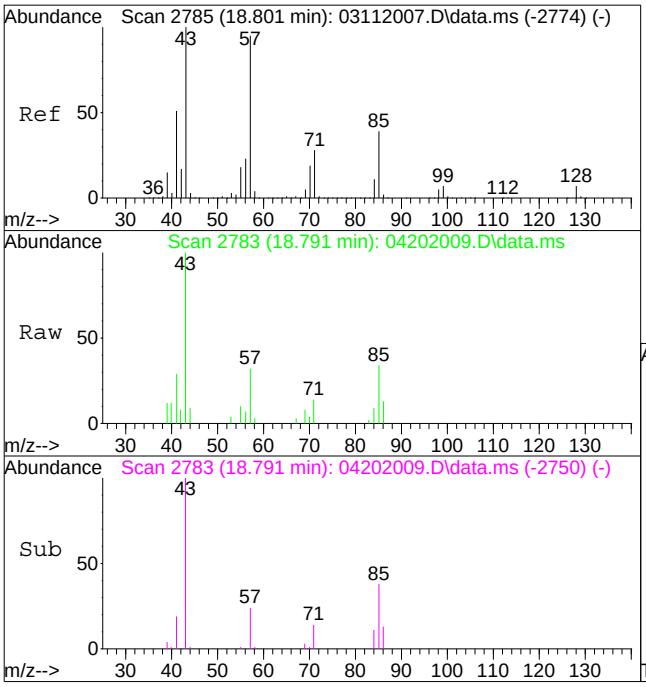


#64
Tetrachloroethene
Concen: 0.05 ng
RT: 16.99 min Scan# 2455
Delta R.T. -0.011 min
Lab File: 04202009.D
Acq: 20 Apr 2020 8:21

Tgt Ion:166 Resp: 2368

Ion	Ratio	Lower	Upper
166	100		
164	88.8	58.6	98.6

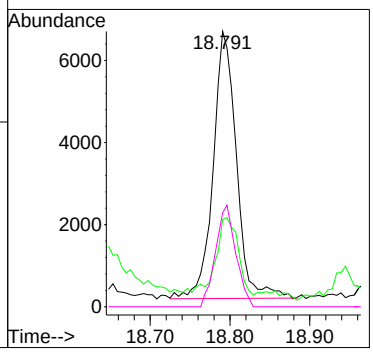


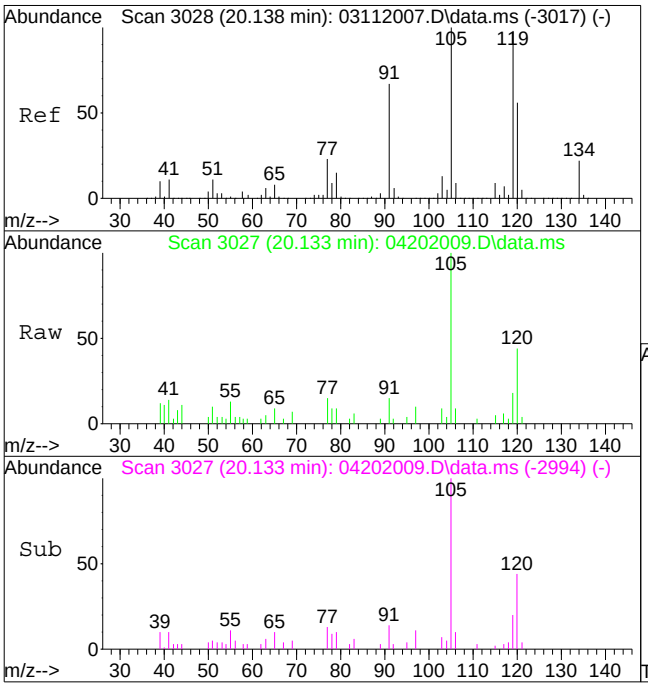


#71
n-Nonane
Concen: 0.18 ng
RT: 18.79 min Scan# 2783
Delta R.T. -0.016 min
Lab File: 04202009.D
Acq: 20 Apr 2020 8:21

Tgt Ion: 43 Resp: 13228

Ion	Ratio	Lower	Upper
43	100		
57	27.7	73.6	113.6#
85	32.8	18.7	58.7

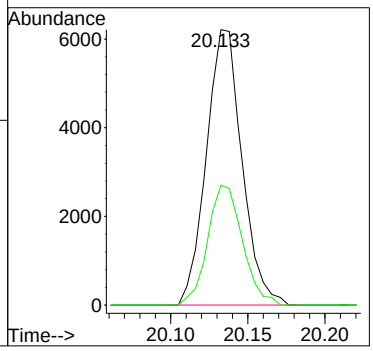


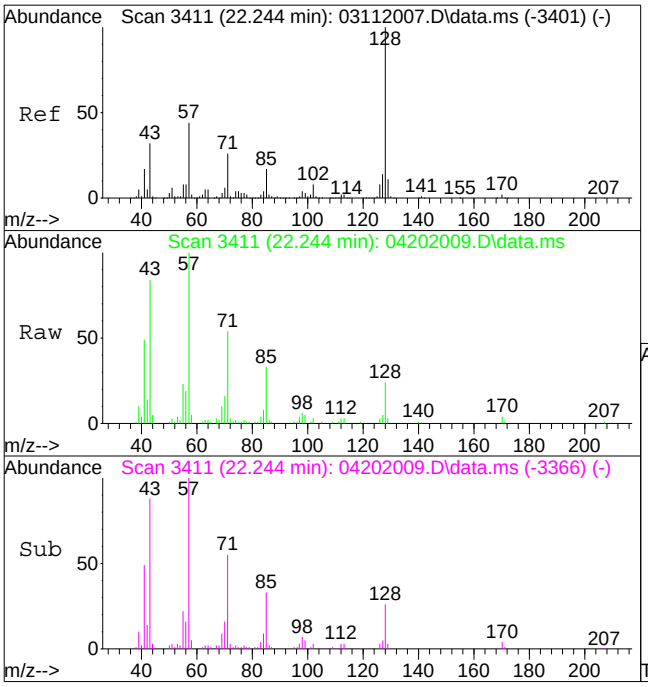


#82
1,2,4-Trimethylbenzene
Concen: 0.06 ng
RT: 20.13 min Scan# 3027
Delta R.T. -0.017 min
Lab File: 04202009.D
Acq: 20 Apr 2020 8:21

Tgt Ion:105 Resp: 9990

Ion	Ratio	Lower	Upper
105	100		
120	42.3	35.8	75.8

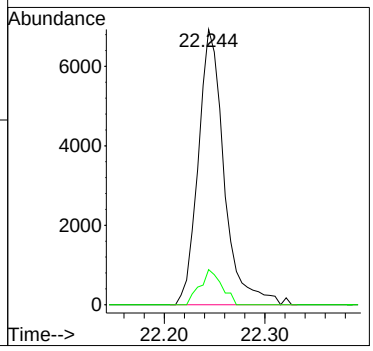




#95
Naphthalene
Concen: 0.07 ng
RT: 22.24 min Scan# 3411
Delta R.T. -0.005 min
Lab File: 04202009.D
Acq: 20 Apr 2020 8:21

Tgt Ion:128 Resp: 12393

Ion	Ratio	Lower	Upper
128	100		
129	10.7	0.0	31.1



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202010.D Vial: 5
Acq On : 20 Apr 2020 8:55 Operator: TD
Sample : P2002028-008 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 20:08:05 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020 LH 4/20/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	326561	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.29	114	1475163	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	732138	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	582352	12.879	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.04%				
57) Toluene-d8 (SS2)	15.74	98	1529640	11.787	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.32%				
73) Bromofluorobenzene (SS3)	19.00	174	524101	11.437	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.52%				
Target Compounds							Qvalue
2) Propene	4.12	42	12487	0.365	ng		96
3) Dichlorodifluoromethan...	4.27	85	50418	0.684	ng		100
4) Chloromethane	4.56	50	8718	0.150	ng		97
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	1354	N.D.			
6) Vinyl Chloride	4.98	62	198	N.D.			
7) 1,3-Butadiene	5.25	54	382	N.D.			
8) Bromomethane	5.67	94	12904	0.419	ng		99
9) Chloroethane	5.99	64	884	N.D.			
10) Ethanol	6.34	45	41406	1.530	ng		99
11) Acetonitrile	6.62	41	13893	0.233	ng		78
12) Acrolein	6.81	56	15362	0.771	ng		98
13) Acetone	7.01	58	247328m	9.259	ng		
14) Trichlorofluoromethane	7.26	101	223530	3.440	ng		100
15) 2-Propanol (Isopropanol)	7.54	45	23439	0.296	ng		85
16) Acrylonitrile	7.82	53	714	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.45	84	1046	N.D.			
20) 3-Chloro-1-propene (Al...	8.61	41	307	N.D.			
21) Trichlorotrifluoroethane	8.88	151	3859	0.124	ng		85
22) Carbon Disulfide	8.71	76	58333	0.467	ng		100
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.10	73	1063	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.48	72	42249	1.900	ng		92
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.34	87	476	N.D.			
30) Ethyl Acetate	11.32	61	937	0.071	ng	#	74
31) n-Hexane	11.29	57	3752	0.062	ng	#	95
32) Chloroform	11.33	83	5540	0.085	ng		98
34) Tetrahydrofuran (THF)	11.78	72	4089	0.179	ng	#	47
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	12.89	61	500	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.90	78	53155	0.348	ng		98
42) Carbon Tetrachloride	13.06	117	891	N.D.			
43) Cyclohexane	13.20	84	2317	N.D.			
44) tert-Amyl Methyl Ether	13.56	73	3119	N.D.			
45) 1,2-Dichloropropane	13.62	63	111	N.D.			
46) Bromodichloromethane	13.96	83	657	N.D.			
47) Trichloroethene	14.01	130	311	N.D.			
48) 1,4-Dioxane	14.00	88	1375	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.34	100	533	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202010.D Vial: 5
Acq On : 20 Apr 2020 8:55 Operator: TD
Sample : P2002028-008 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 20:08:05 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

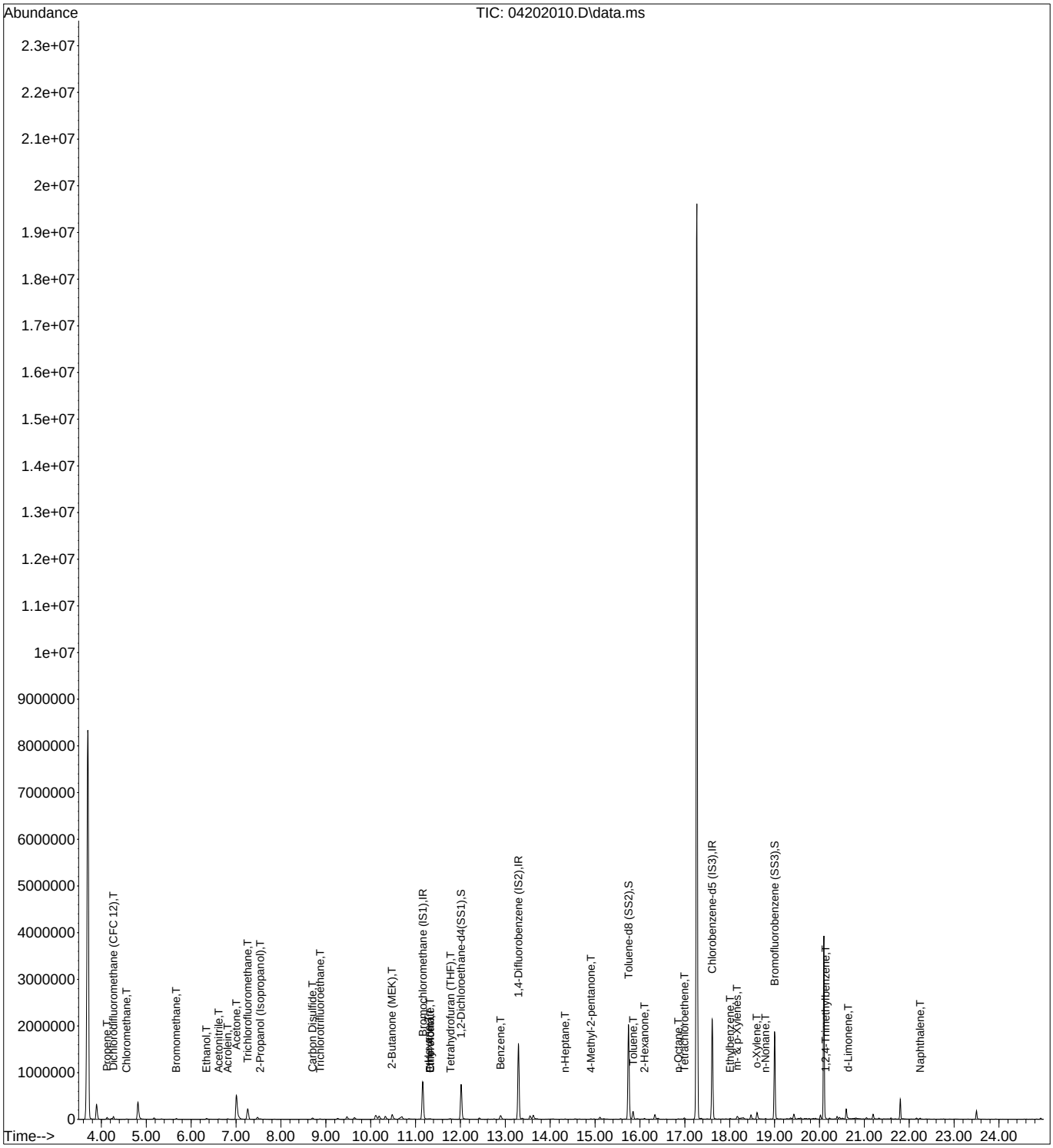
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.33	71	2062	0.058 ng		91
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.91	58	2063	0.065 ng	#	35
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.85	91	138480	0.863 ng		98
59) 2-Hexanone	16.10	43	14570	0.181 ng		94
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.73	43	1754	N.D.		
63) n-Octane	16.85	57	1728	0.054 ng		89
64) Tetrachloroethene	16.99	166	8118	0.182 ng		100
65) Chlorobenzene	17.67	112	973	N.D.		
66) Ethylbenzene	18.01	91	12401	0.070 ng		97
67) m- & p-Xylenes	18.16	91	39381	0.275 ng		95
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.50	104	1207	N.D.		
70) o-Xylene	18.60	91	14940	0.104 ng		94
71) n-Nonane	18.80	43	5206	0.073 ng		88
72) 1,1,2,2-Tetrachloroethane	18.61	83	908	N.D.		
74) Cumene	19.13	105	3048	N.D.		
75) alpha-Pinene	19.58	93	339	N.D.		
76) n-Propylbenzene	19.58	91	5351	N.D.		
77) 3-Ethyltoluene	19.66	105	5274	N.D.		
78) 4-Ethyltoluene	19.70	105	2658	N.D.		
79) 1,3,5-Trimethylbenzene	19.77	105	3687	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	19.94	105	2637	N.D.		
82) 1,2,4-Trimethylbenzene	20.14	105	11645	0.073 ng		84
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.25	91	1875	N.D.		
85) 1,3-Dichlorobenzene	20.26	146	617	N.D.		
86) 1,4-Dichlorobenzene	20.33	146	944	N.D.		
87) sec-Butylbenzene	20.37	105	1849	N.D.		
88) 4-Isopropyltoluene (p-...	20.51	119	2893	N.D.		
89) 1,2,3-Trimethylbenzene	20.51	105	5545	N.D.		
90) 1,2-Dichlorobenzene	20.62	146	403	N.D.		
91) d-Limonene	20.64	68	3874	0.063 ng		81
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.14	180	638	N.D.		
95) Naphthalene	22.24	128	8991	0.051 ng		98
96) n-Dodecane	22.24	57	2829	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	20.88	91	4961	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202010.D Vial: 5
Acq On : 20 Apr 2020 8:55 Operator: TD
Sample : P2002028-008 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 20:08:05 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202010.D Vial: 5
Acq On : 20 Apr 2020 8:55 Operator: TD
Sample : P2002028-008 (400mL) Inst : GCMS-16
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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/20/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	326561	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.29	114	1475163	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	732138	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	582352	12.879	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.04%				
57) Toluene-d8 (SS2)	15.74	98	1529640	11.787	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.32%				
73) Bromofluorobenzene (SS3)	19.00	174	524101	11.437	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.52%				
Target Compounds							Qvalue
2) Propene	4.12	42	12487	0.365	ng		96
3) Dichlorodifluoromethan...	4.27	85	50418	0.684	ng		100
4) Chloromethane	4.56	50	8718	0.150	ng		97
8) Bromomethane	5.67	94	12904	0.419	ng		99
10) Ethanol	6.34	45	41406	1.530	ng		99
11) Acetonitrile	6.62	41	13893	0.233	ng		78
12) Acrolein	6.81	56	15362	0.771	ng		98
13) Acetone	7.01	58	247328m	9.259	ng		
14) Trichlorofluoromethane	7.26	101	223530	3.440	ng		100
15) 2-Propanol (Isopropanol)	7.54	45	23439	0.296	ng		85
21) Trichlorotrifluoroethane	8.88	151	3859	0.124	ng		85
22) Carbon Disulfide	8.71	76	58333	0.467	ng		100
27) 2-Butanone (MEK)	10.48	72	42249	1.900	ng		92
30) Ethyl Acetate	11.32	61	937	0.071	ng	#	74
31) n-Hexane	11.29	57	3752	0.062	ng	#	95
32) Chloroform	11.33	83	5540	0.085	ng		98
34) Tetrahydrofuran (THF)	11.78	72	4089	0.179	ng	#	47
41) Benzene	12.90	78	53155	0.348	ng		98
51) n-Heptane	14.33	71	2062	0.058	ng		91
53) 4-Methyl-2-pentanone	14.91	58	2063	0.065	ng	#	35
58) Toluene	15.85	91	138480	0.863	ng		98
59) 2-Hexanone	16.10	43	14570	0.181	ng		94
63) n-Octane	16.85	57	1728	0.054	ng		89
64) Tetrachloroethene	16.99	166	8118	0.182	ng		100
66) Ethylbenzene	18.01	91	12401	0.070	ng		97
67) m- & p-Xylenes	18.16	91	39381	0.275	ng		95
70) o-Xylene	18.60	91	14940	0.104	ng		94
71) n-Nonane	18.80	43	5206	0.073	ng		88
82) 1,2,4-Trimethylbenzene	20.14	105	11645	0.073	ng		84
91) d-Limonene	20.64	68	3874	0.063	ng		81
95) Naphthalene	22.24	128	8991	0.051	ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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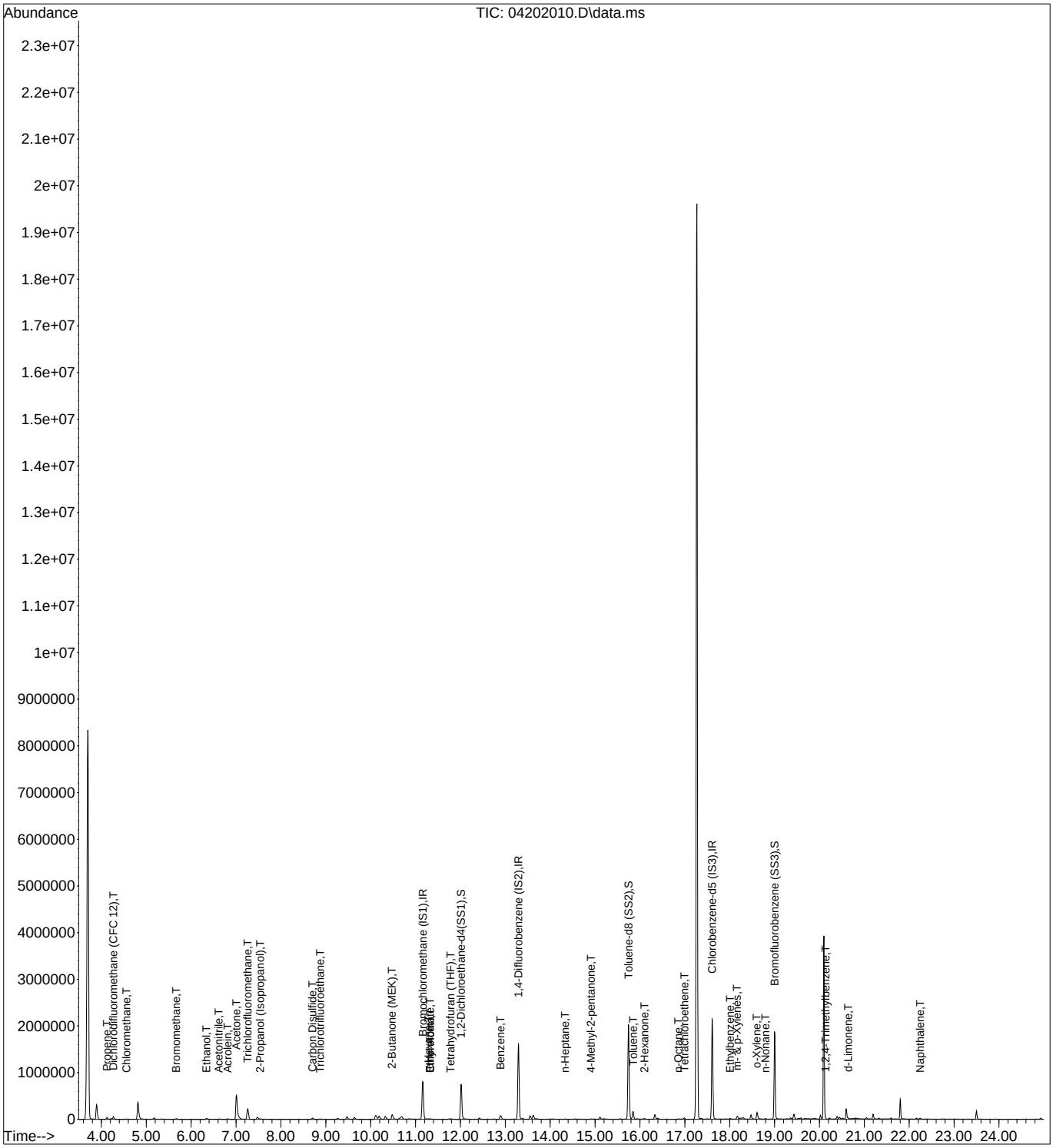
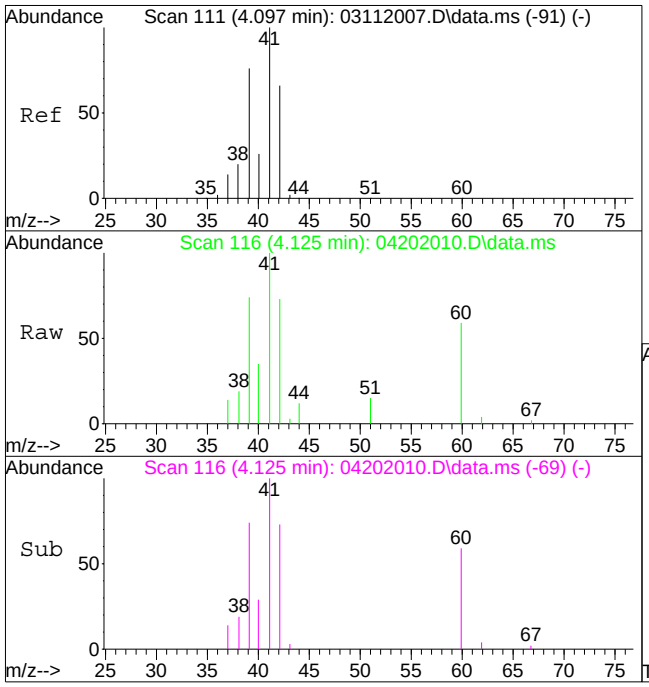
Sample : P2002028-008 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 20:08:05 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

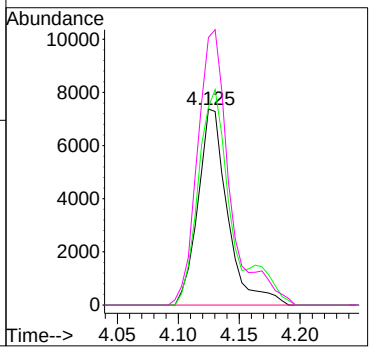


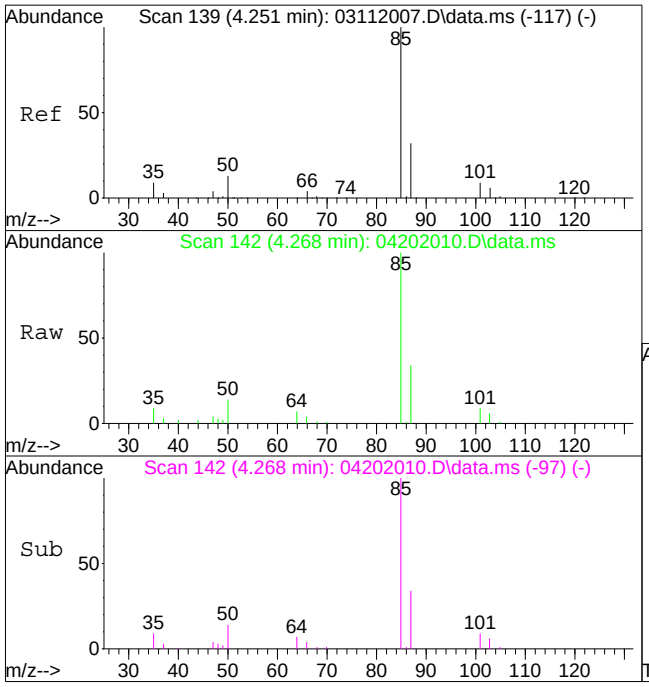


#2
Propene
Concen: 0.36 ng
RT: 4.12 min Scan# 116
Delta R.T. 0.011 min
Lab File: 04202010.D
Acq: 20 Apr 2020 8:55

Tgt Ion: 42 Resp: 12487

Ion	Ratio	Lower	Upper
42	100		
39	124.8	95.3	135.3
41	153.5	132.0	172.0

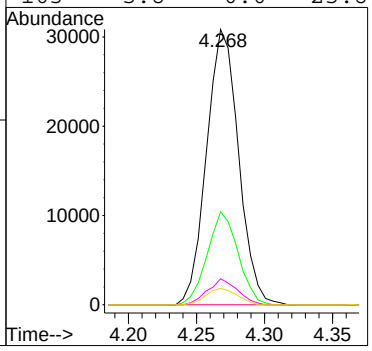


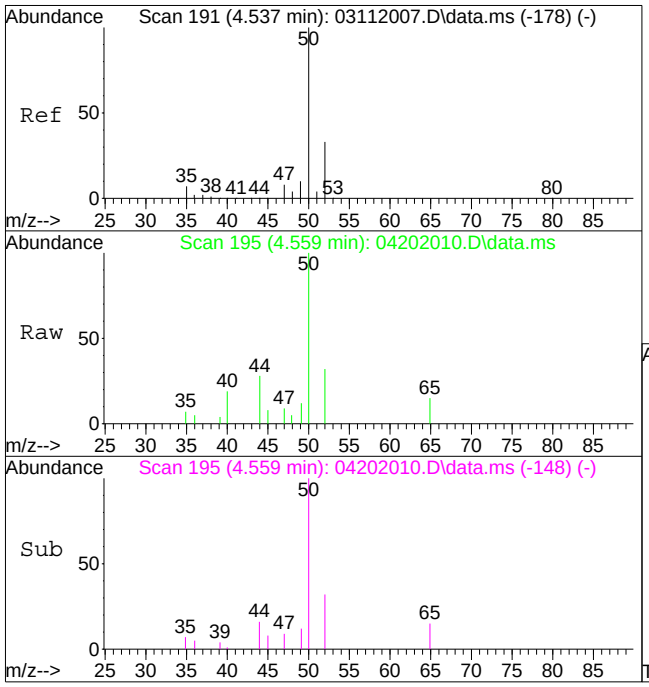


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.68 ng
RT: 4.27 min Scan# 142
Delta R.T. -0.000 min
Lab File: 04202010.D
Acq: 20 Apr 2020 8:55

Tgt Ion: 85 Resp: 50418

Ion	Ratio	Lower	Upper
85	100		
87	32.5	12.3	52.3
101	8.7	0.0	29.0
103	5.8	0.0	25.8

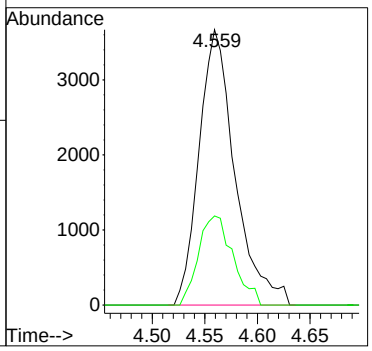


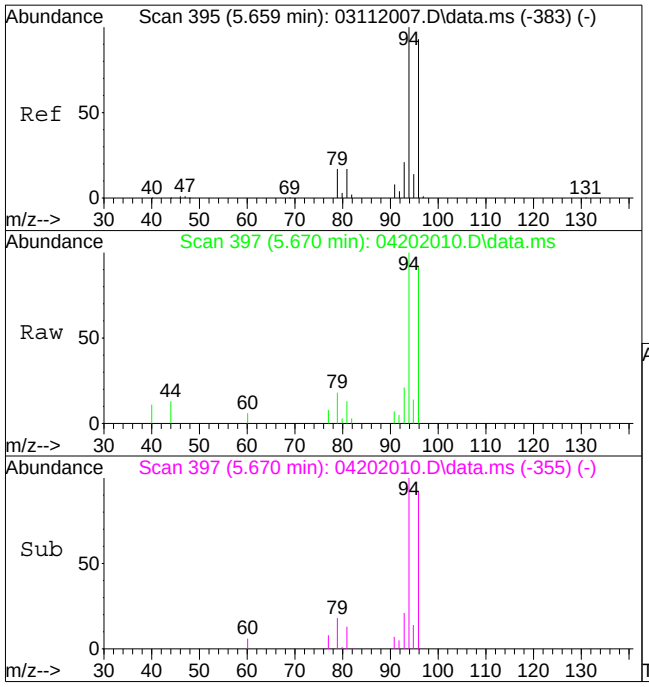


#4
Chloromethane
Concen: 0.15 ng
RT: 4.56 min Scan# 195
Delta R.T. 0.006 min
Lab File: 04202010.D
Acq: 20 Apr 2020 8:55

Tgt Ion: 50 Resp: 8718

Ion	Ratio	Lower	Upper
50	100		
52	31.2	12.8	52.8

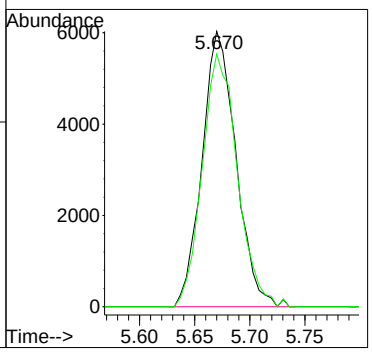


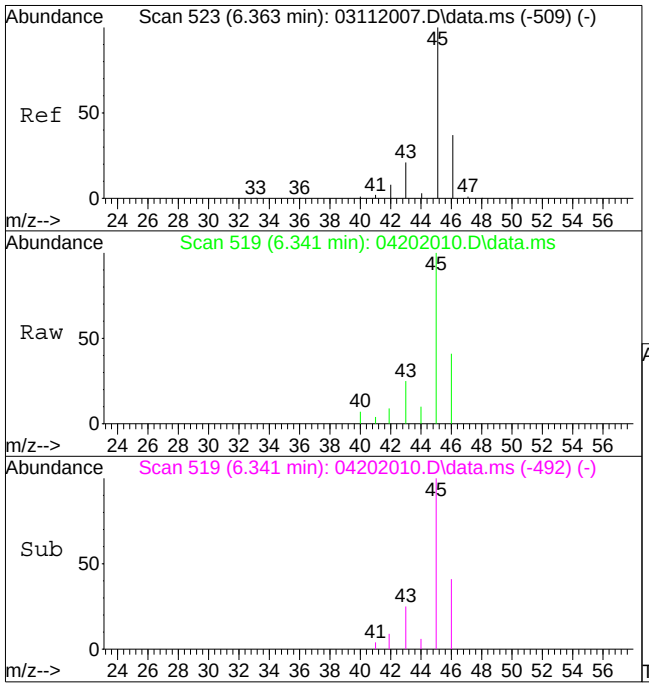


#8
Bromomethane
Concen: 0.42 ng
RT: 5.67 min Scan# 397
Delta R.T. -0.016 min
Lab File: 04202010.D
Acq: 20 Apr 2020 8:55

Tgt Ion: 94 Resp: 12904

Ion	Ratio	Lower	Upper
94	100		
96	95.1	73.8	113.8

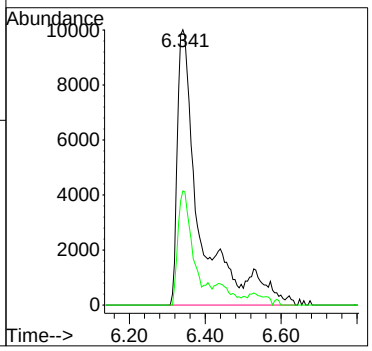


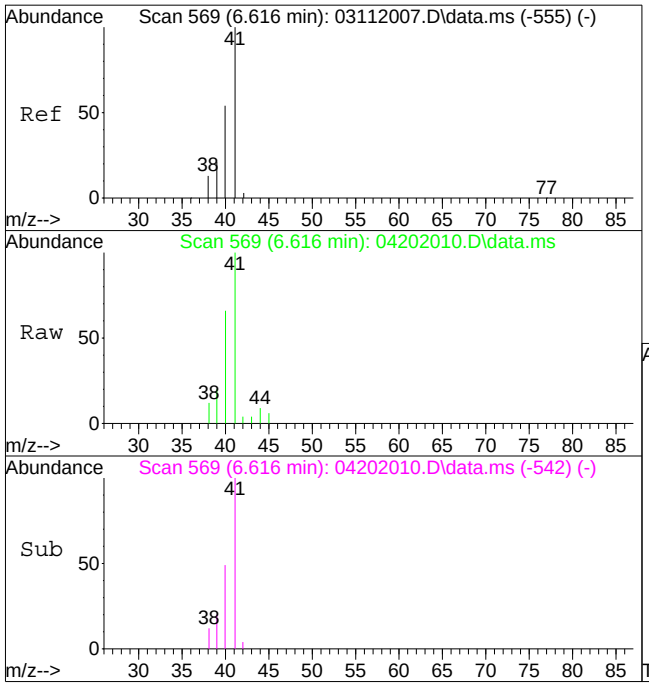


#10
Ethanol
Concen: 1.53 ng
RT: 6.34 min Scan# 519
Delta R.T. -0.099 min
Lab File: 04202010.D
Acq: 20 Apr 2020 8:55

Tgt Ion: 45 Resp: 41406

Ion	Ratio	Lower	Upper
45	100		
46	38.1	17.3	57.3

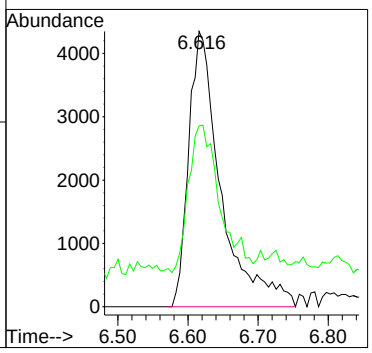


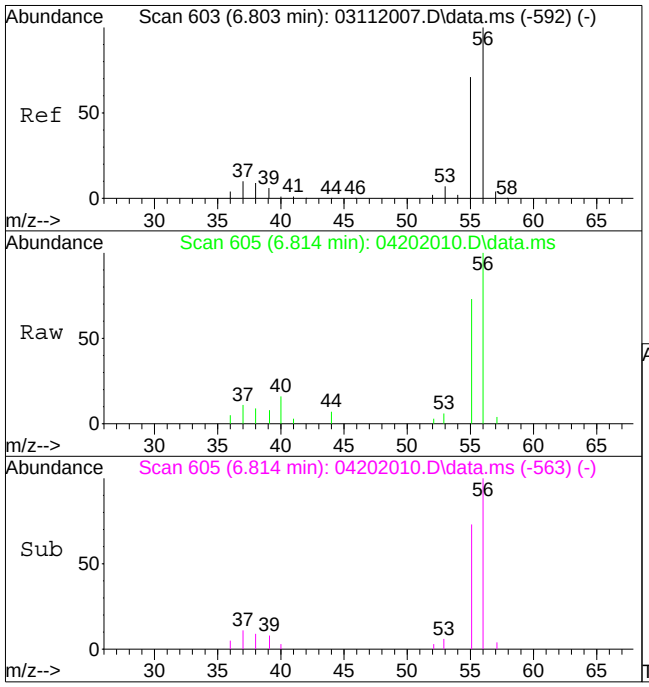


#11
Acetonitrile
Concen: 0.23 ng
RT: 6.62 min Scan# 569
Delta R.T. -0.049 min
Lab File: 04202010.D
Acq: 20 Apr 2020 8:55

Tgt Ion: 41 Resp: 13893

Ion	Ratio	Lower	Upper
41	100		
40	69.0	33.6	73.6

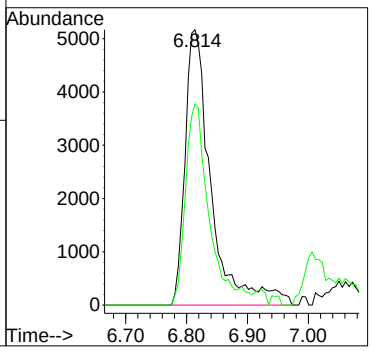


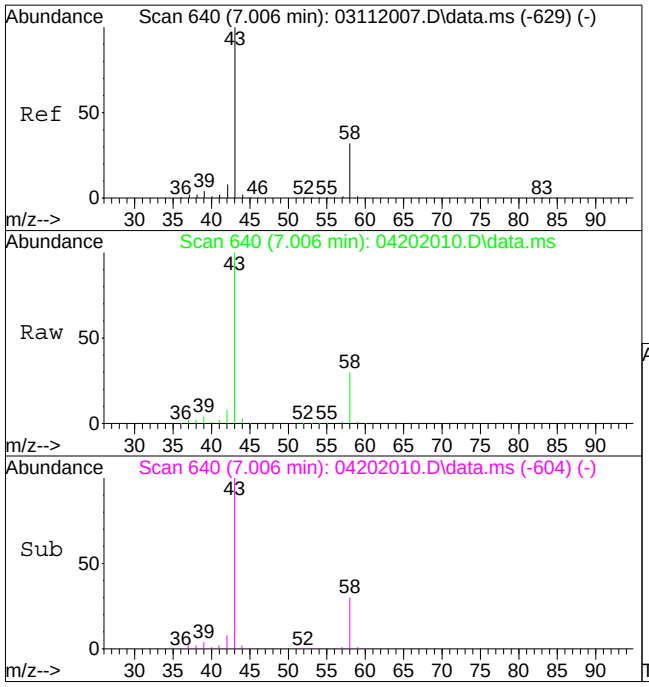


#12
Acrolein
Concen: 0.77 ng
RT: 6.81 min Scan# 605
Delta R.T. -0.016 min
Lab File: 04202010.D
Acq: 20 Apr 2020 8:55

Tgt Ion: 56 Resp: 15362

Ion	Ratio	Lower	Upper
56	100		
55	68.9	50.4	90.4

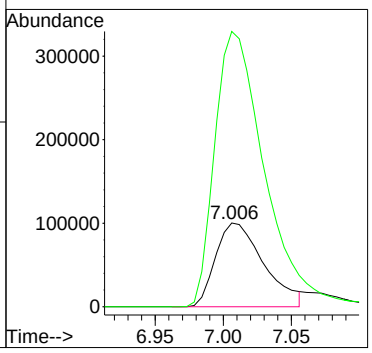


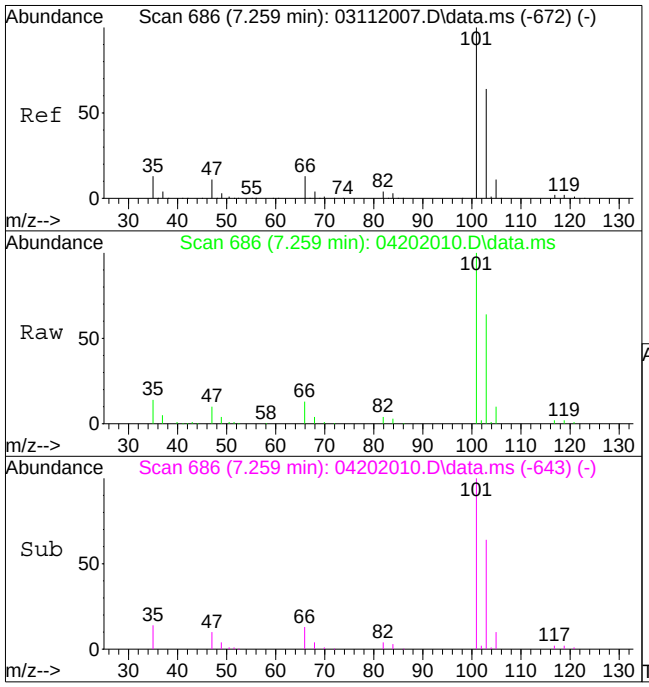


#13
Acetone
Concen: 9.26 ng m
RT: 7.01 min Scan# 640
Delta R.T. -0.050 min
Lab File: 04202010.D
Acq: 20 Apr 2020 8:55

Tgt Ion: 58 Resp: 247328

Ion	Ratio	Lower	Upper
58	100		
43	348.8	287.3	347.3#

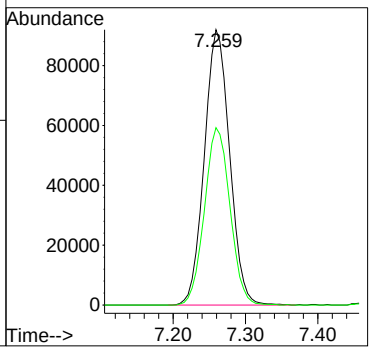


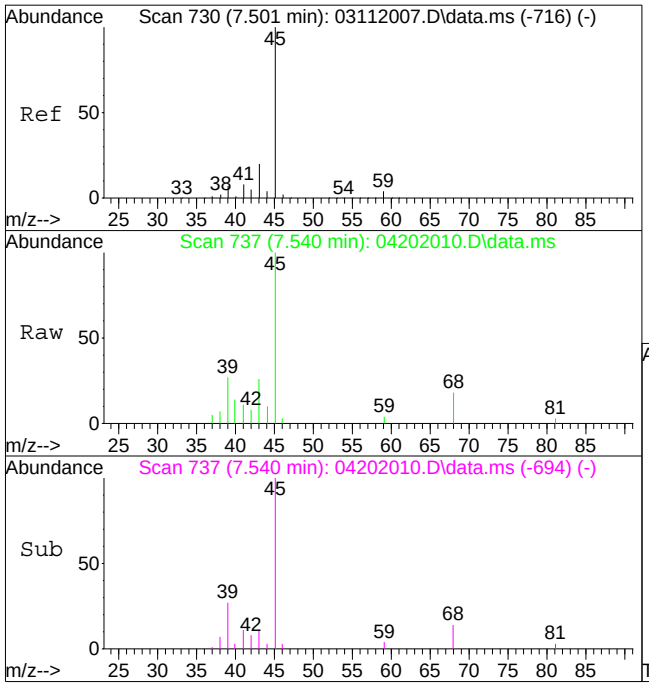


#14
Trichlorofluoromethane
Concen: 3.44 ng
RT: 7.26 min Scan# 686
Delta R.T. -0.016 min
Lab File: 04202010.D
Acq: 20 Apr 2020 8:55

Tgt Ion:101 Resp: 223530

Ion	Ratio	Lower	Upper
101	100		
103	64.9	44.6	84.6

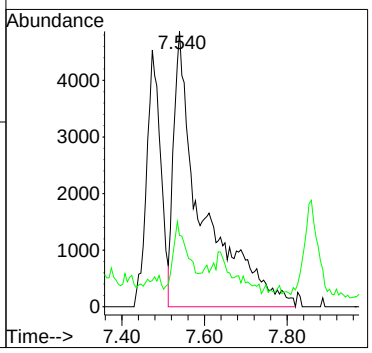


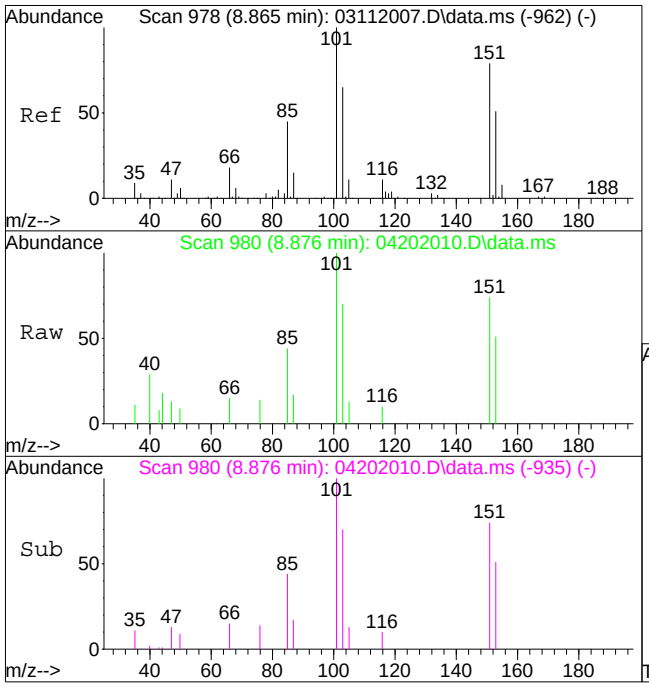


#15
2-Propanol (Isopropanol)
Concen: 0.30 ng
RT: 7.54 min Scan# 737
Delta R.T. -0.011 min
Lab File: 04202010.D
Acq: 20 Apr 2020 8:55

Tgt Ion: 45 Resp: 23439

Ion	Ratio	Lower	Upper
45	100		
43	27.2	0.3	40.3

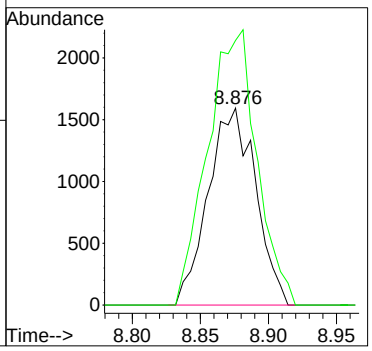


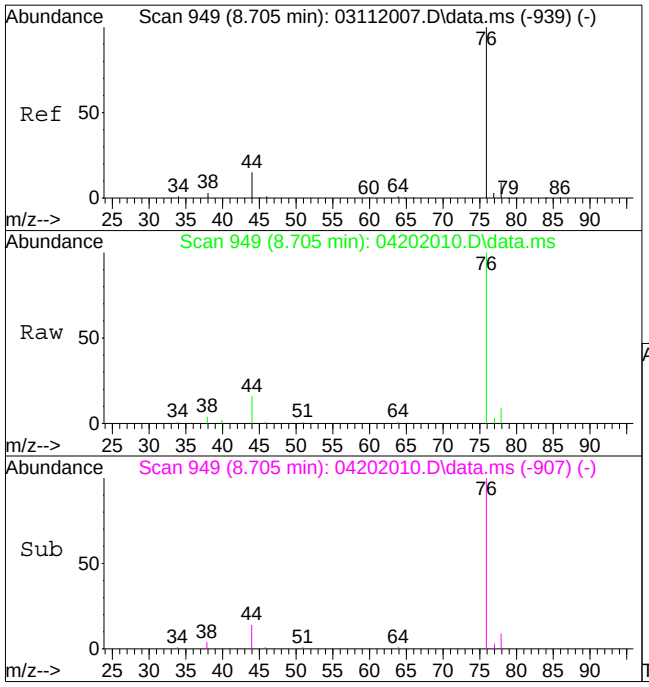


#21
Trichlorotrifluoroethane
Concen: 0.12 ng
RT: 8.88 min Scan# 980
Delta R.T. -0.000 min
Lab File: 04202010.D
Acq: 20 Apr 2020 8:55

Tgt Ion:151 Resp: 3859

Ion	Ratio	Lower	Upper
151	100		
101	145.4	108.4	148.4

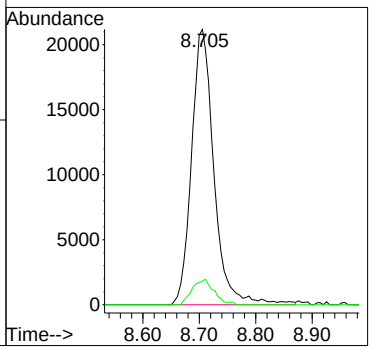


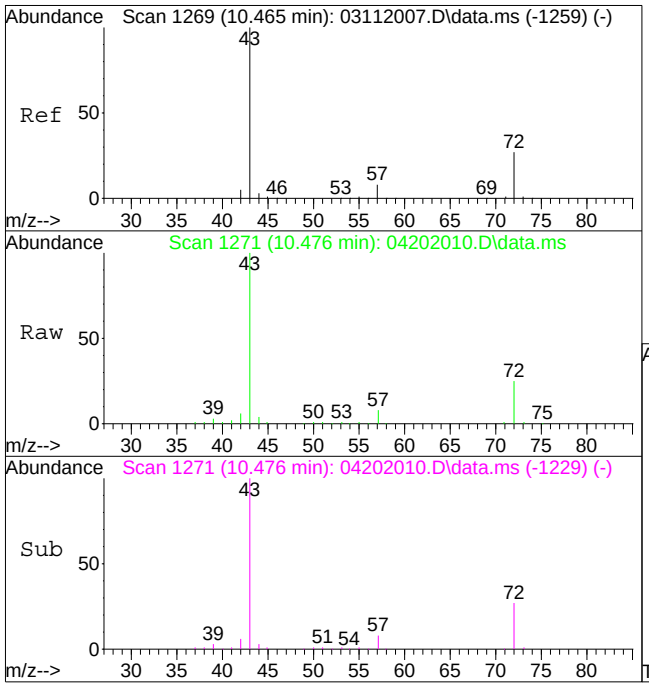


#22
Carbon Disulfide
Concen: 0.47 ng
RT: 8.71 min Scan# 949
Delta R.T. -0.016 min
Lab File: 04202010.D
Acq: 20 Apr 2020 8:55

Tgt Ion: 76 Resp: 58333

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	29.2

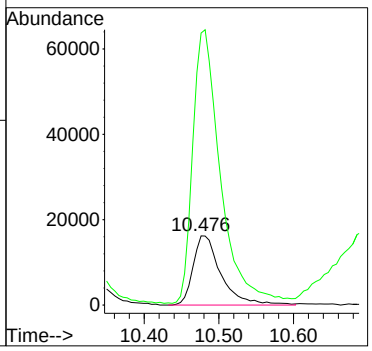


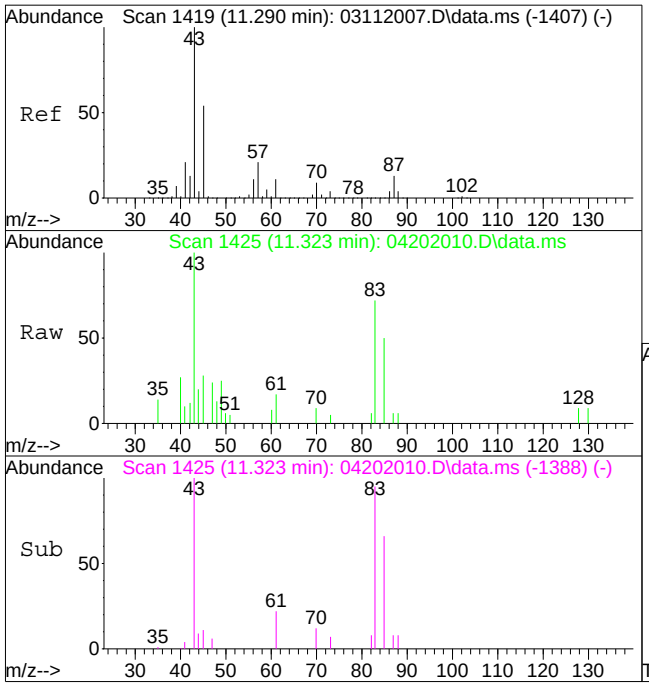


#27
2-Butanone (MEK)
Concen: 1.90 ng
RT: 10.48 min Scan# 1271
Delta R.T. -0.016 min
Lab File: 04202010.D
Acq: 20 Apr 2020 8:55

Tgt Ion: 72 Resp: 42249

Ion	Ratio	Lower	Upper
72	100		
43	391.4	353.4	393.4

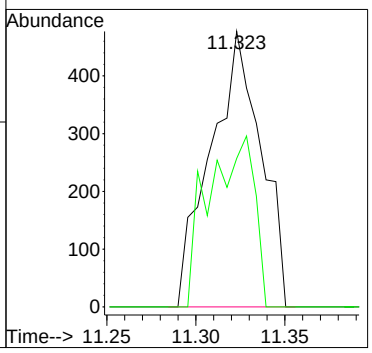


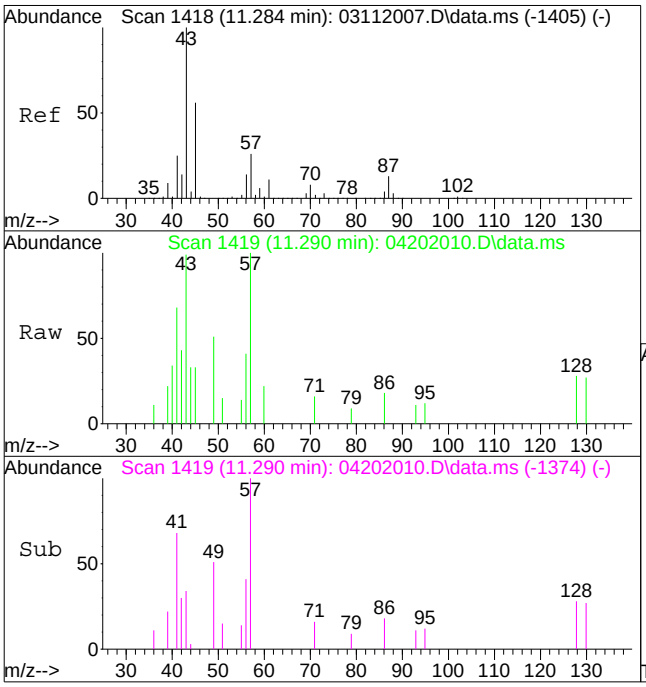


#30
Ethyl Acetate
Concen: 0.07 ng
RT: 11.32 min Scan# 1425
Delta R.T. 0.006 min
Lab File: 04202010.D
Acq: 20 Apr 2020 8:55

Tgt Ion: 61 Resp: 937

Ion	Ratio	Lower	Upper
61	100		
70	56.4	59.1	99.1#

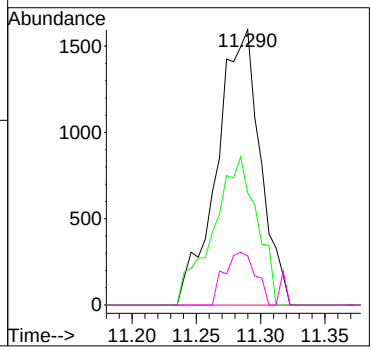


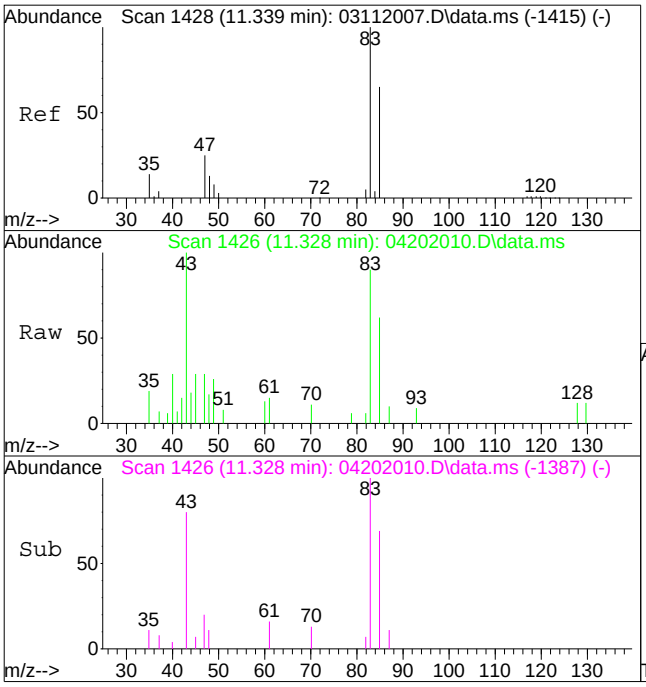


#31
n-Hexane
Concen: 0.06 ng
RT: 11.29 min Scan# 1419
Delta R.T. 0.000 min
Lab File: 04202010.D
Acq: 20 Apr 2020 8:55

Tgt Ion: 57 Resp: 3752

Ion	Ratio	Lower	Upper
57	100		
56	54.3	41.0	61.4
86	13.9	13.9	20.9#

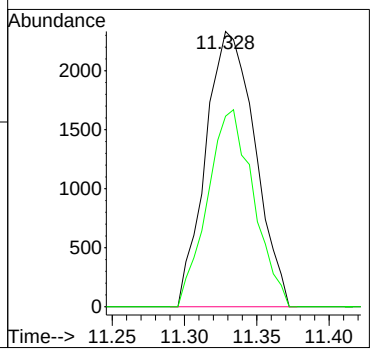


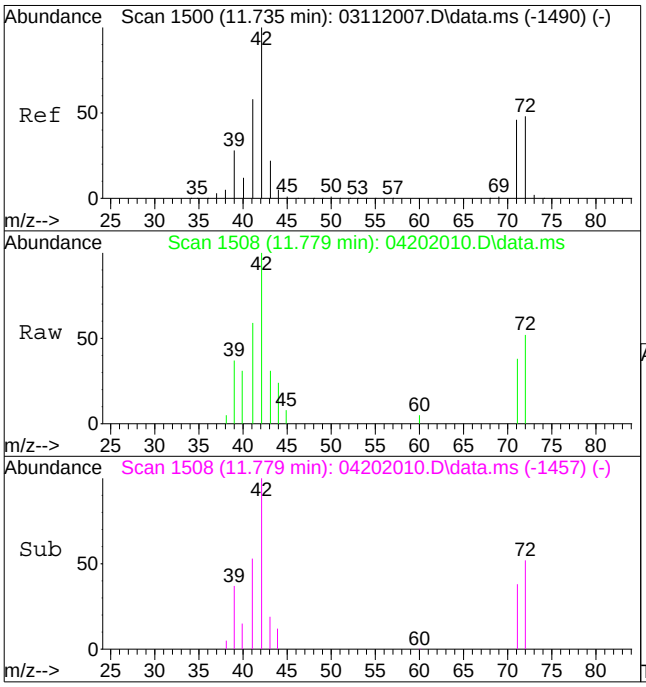


#32
Chloroform
Concen: 0.09 ng
RT: 11.33 min Scan# 1426
Delta R.T. -0.033 min
Lab File: 04202010.D
Acq: 20 Apr 2020 8:55

Tgt Ion: 83 Resp: 5540

Ion	Ratio	Lower	Upper
83	100		
85	66.8	45.5	85.5

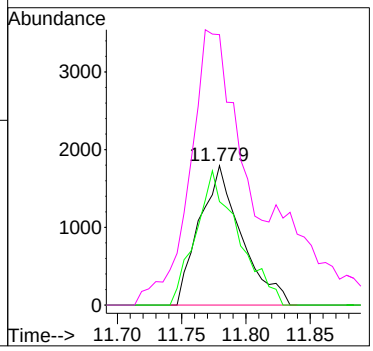


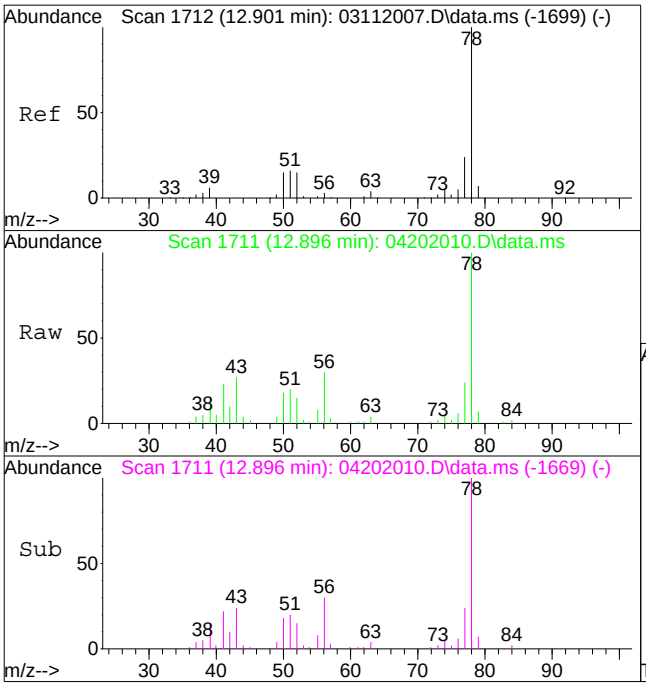


#34
Tetrahydrofuran (THF)
Concen: 0.18 ng
RT: 11.78 min Scan# 1508
Delta R.T. 0.033 min
Lab File: 04202010.D
Acq: 20 Apr 2020 8:55

Tgt Ion: 72 Resp: 4089

Ion	Ratio	Lower	Upper
72	100		
71	97.6	75.9	115.9
42	328.3	189.3	229.3#

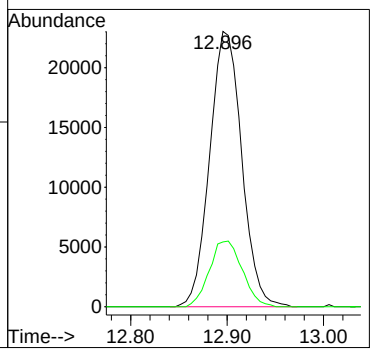


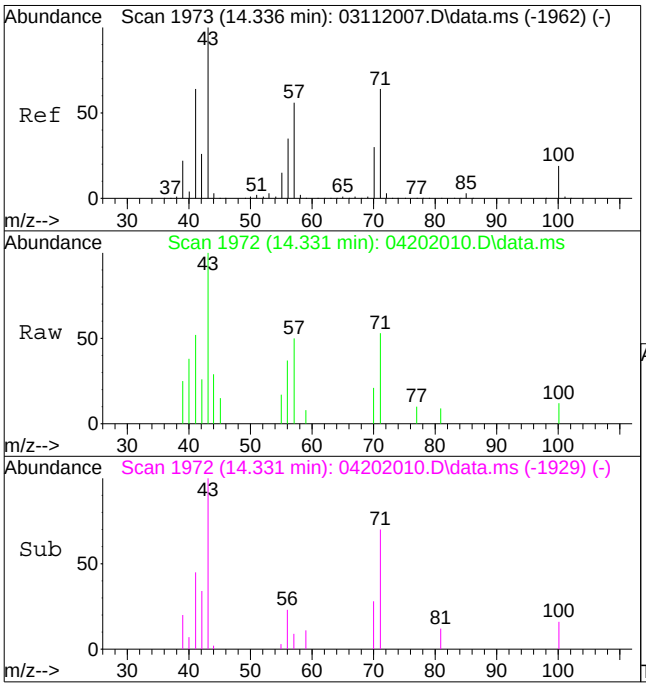


#41
Benzene
Concen: 0.35 ng
RT: 12.90 min Scan# 1711
Delta R.T. -0.016 min
Lab File: 04202010.D
Acq: 20 Apr 2020 8:55

Tgt Ion: 78 Resp: 53155

Ion	Ratio	Lower	Upper
78	100		
77	24.5	3.4	43.4

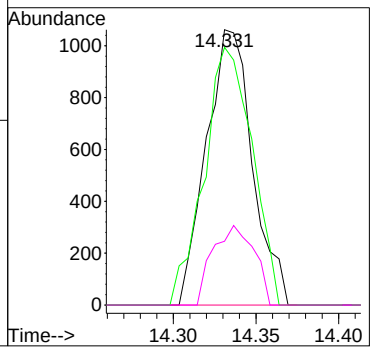


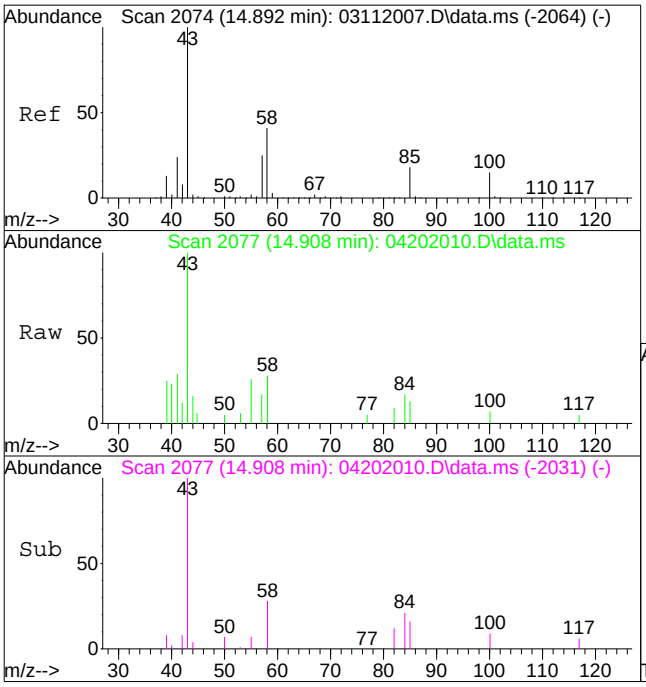


#51
n-Heptane
Concen: 0.06 ng
RT: 14.33 min Scan# 1972
Delta R.T. -0.011 min
Lab File: 04202010.D
Acq: 20 Apr 2020 8:55

Tgt Ion: 71 Resp: 2062

Ion	Ratio	Lower	Upper
71	100		
57	97.4	68.6	108.6
100	25.8	9.1	49.1

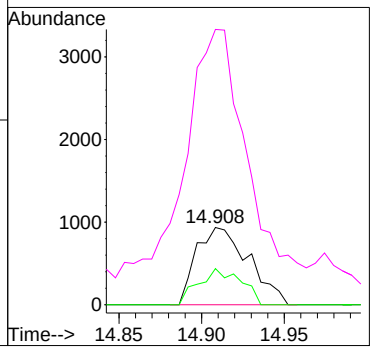


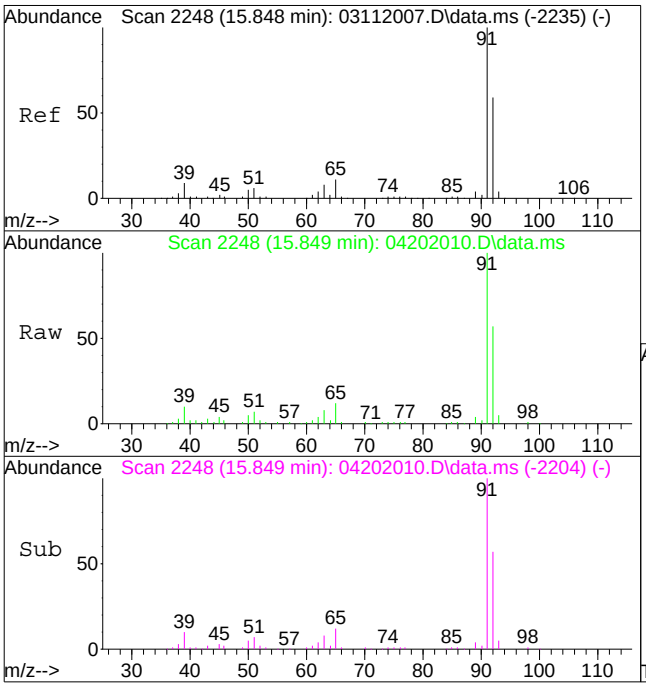


#53
4-Methyl-2-pentanone
Concen: 0.06 ng
RT: 14.91 min Scan# 2077
Delta R.T. 0.006 min
Lab File: 04202010.D
Acq: 20 Apr 2020 8:55

Tgt Ion: 58 Resp: 2063

Ion	Ratio	Lower	Upper
58	100		
85	37.8	37.0	55.4
43	373.8	196.3	294.5#

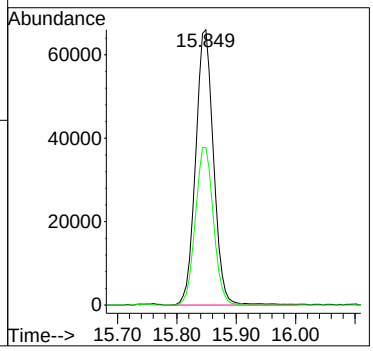


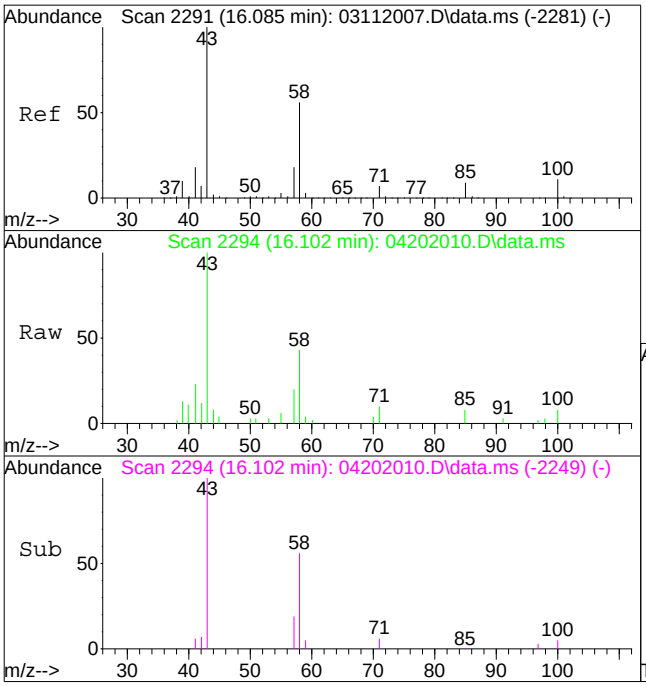


#58
Toluene
Concen: 0.86 ng
RT: 15.85 min Scan# 2248
Delta R.T. -0.005 min
Lab File: 04202010.D
Acq: 20 Apr 2020 8:55

Tgt Ion: 91 Resp: 138480

Ion	Ratio	Lower	Upper
91	100		
92	57.7	39.0	79.0

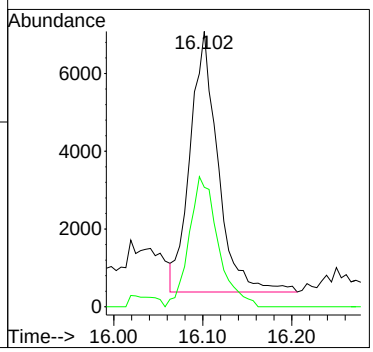


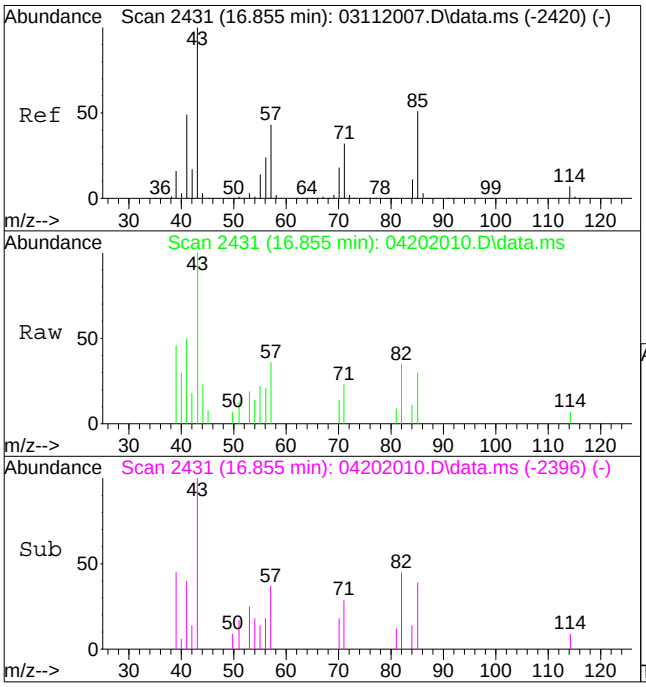


#59
2-Hexanone
Concen: 0.18 ng
RT: 16.10 min Scan# 2294
Delta R.T. 0.000 min
Lab File: 04202010.D
Acq: 20 Apr 2020 8:55

Tgt Ion: 43 Resp: 14570

Ion	Ratio	Lower	Upper
43	100		
58	51.8	36.5	76.5

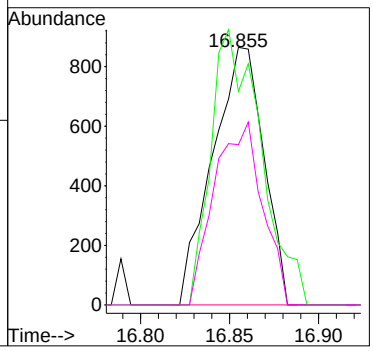


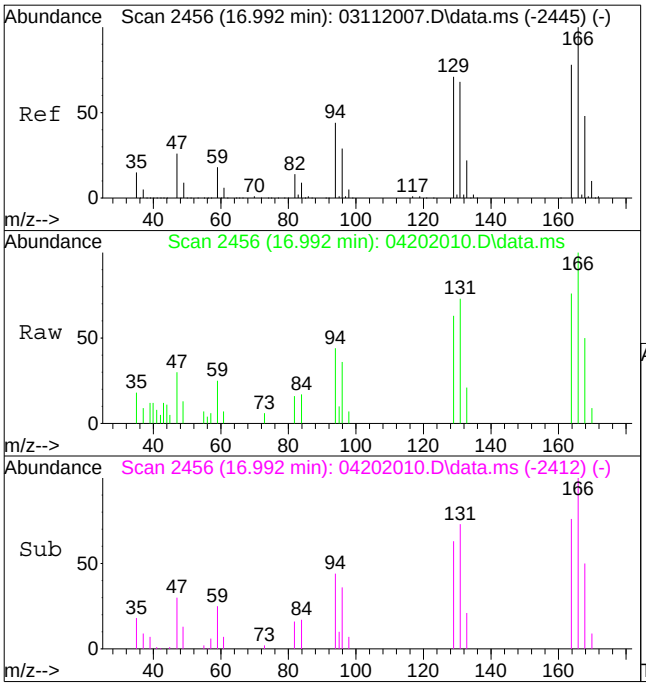


#63
n-Octane
Concen: 0.05 ng
RT: 16.85 min Scan# 2431
Delta R.T. -0.005 min
Lab File: 04202010.D
Acq: 20 Apr 2020 8:55

Tgt Ion: 57 Resp: 1728

Ion	Ratio	Lower	Upper
57	100		
85	104.6	95.1	142.7
71	66.7	58.2	87.4

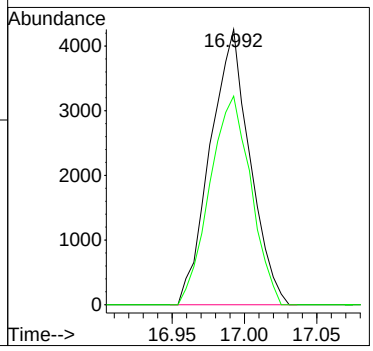


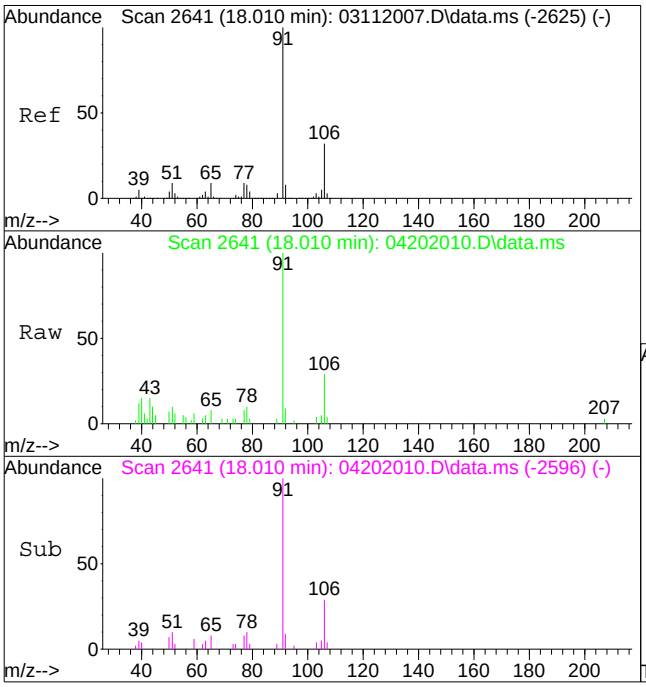


#64
Tetrachloroethene
Concen: 0.18 ng
RT: 16.99 min Scan# 2456
Delta R.T. -0.005 min
Lab File: 04202010.D
Acq: 20 Apr 2020 8:55

Tgt Ion:166 Resp: 8118

Ion	Ratio	Lower	Upper
166	100		
164	78.5	58.6	98.6

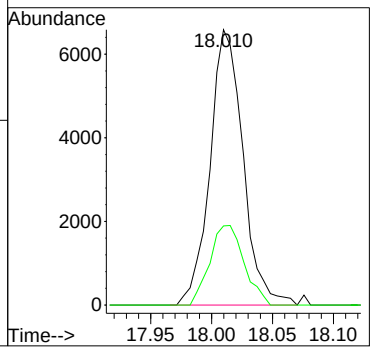


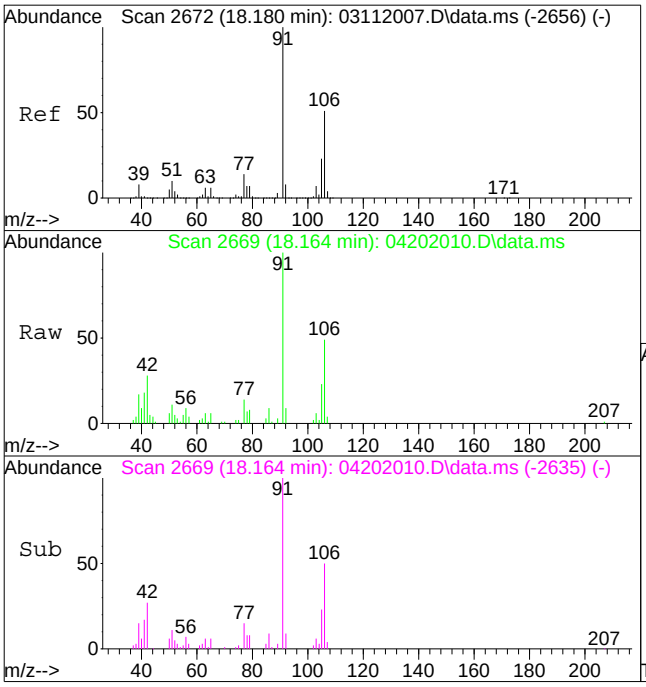


#66
Ethylbenzene
Concen: 0.07 ng
RT: 18.01 min Scan# 2641
Delta R.T. 0.000 min
Lab File: 04202010.D
Acq: 20 Apr 2020 8:55

Tgt Ion: 91 Resp: 12401

Ion	Ratio	Lower	Upper
91	100		
106	30.0	11.7	51.7

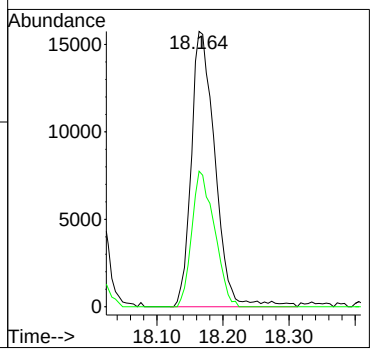


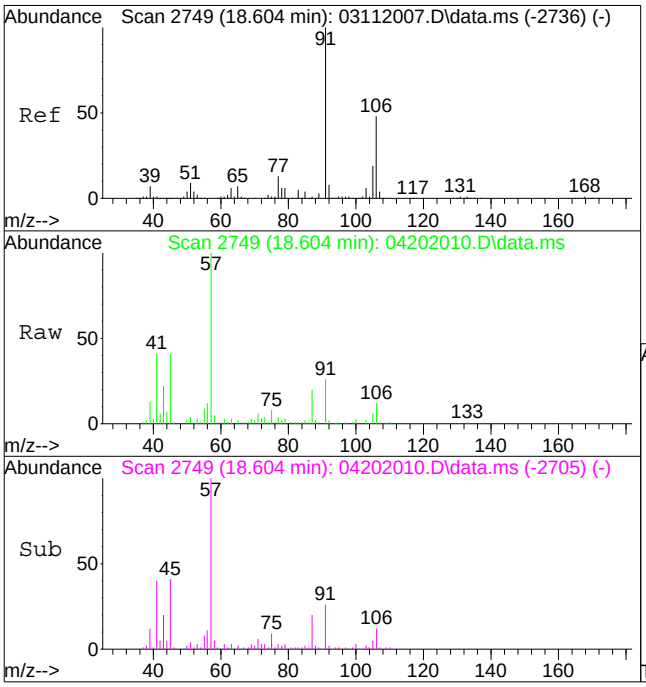


#67
m- & p-Xylenes
Concen: 0.28 ng
RT: 18.16 min Scan# 2669
Delta R.T. -0.011 min
Lab File: 04202010.D
Acq: 20 Apr 2020 8:55

Tgt Ion: 91 Resp: 39381

Ion	Ratio	Lower	Upper
91	100		
106	46.9	30.4	70.4

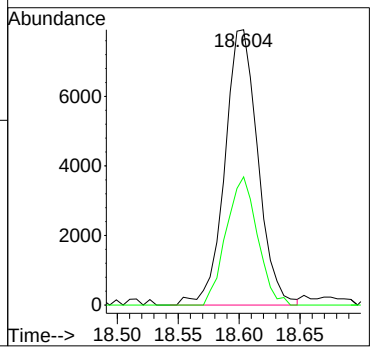


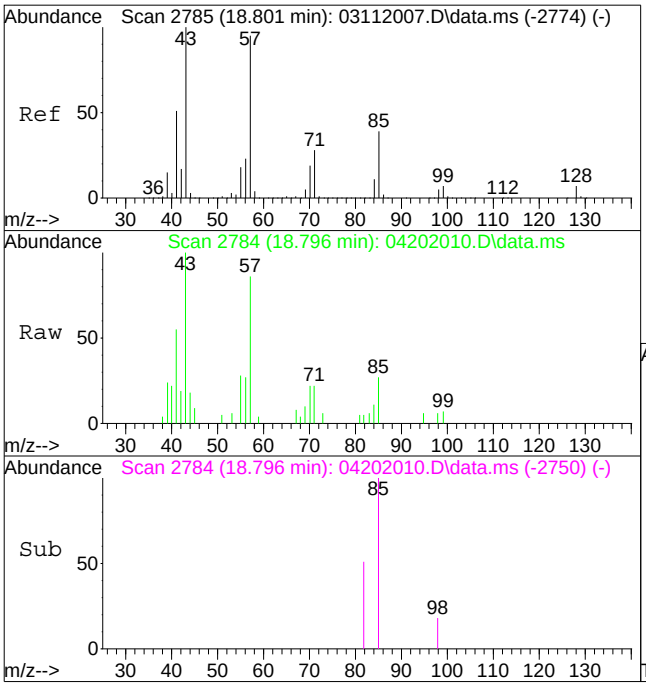


#70
o-Xylene
Concen: 0.10 ng
RT: 18.60 min Scan# 2749
Delta R.T. -0.005 min
Lab File: 04202010.D
Acq: 20 Apr 2020 8:55

Tgt Ion: 91 Resp: 14940

Ion	Ratio	Lower	Upper
91	100		
106	43.9	28.1	68.1

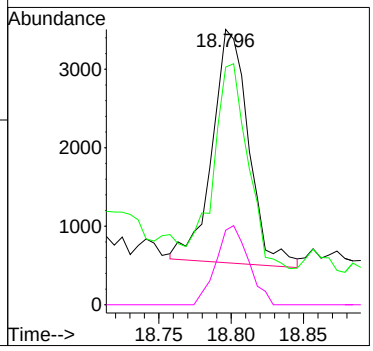


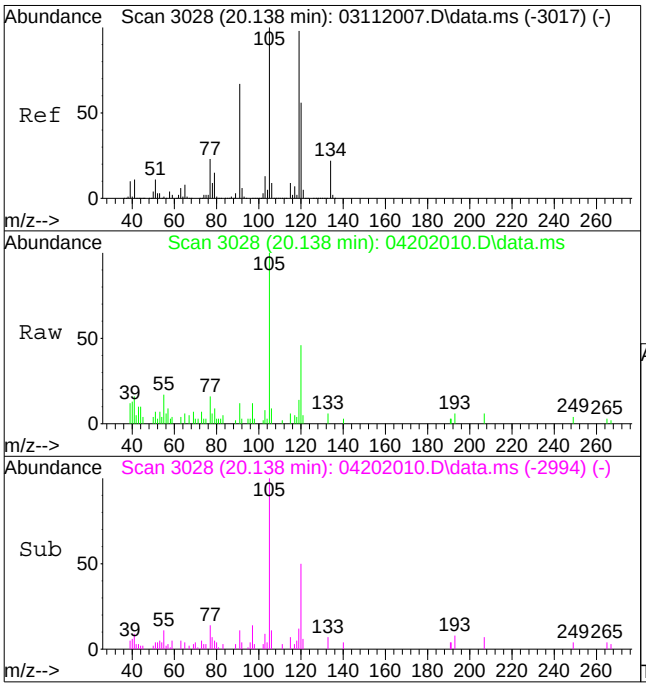


#71
n-Nonane
Concen: 0.07 ng
RT: 18.80 min Scan# 2784
Delta R.T. -0.011 min
Lab File: 04202010.D
Acq: 20 Apr 2020 8:55

Tgt Ion: 43 Resp: 5206

Ion	Ratio	Lower	Upper
43	100		
57	83.2	73.6	113.6
85	30.2	18.7	58.7

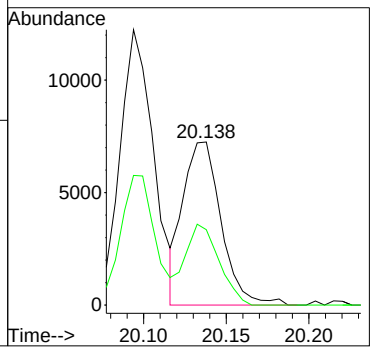


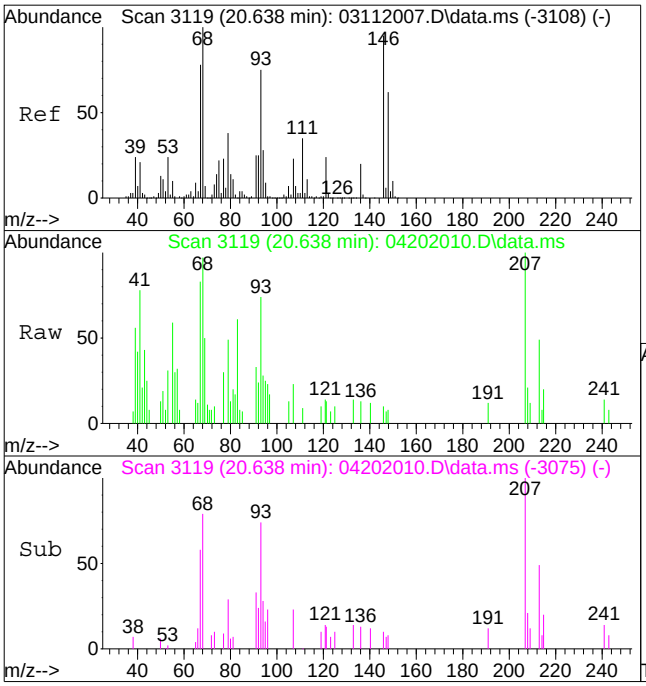


#82
1,2,4-Trimethylbenzene
Concen: 0.07 ng
RT: 20.14 min Scan# 3028
Delta R.T. -0.011 min
Lab File: 04202010.D
Acq: 20 Apr 2020 8:55

Tgt Ion:105 Resp: 11645

Ion	Ratio	Lower	Upper
105	100		
120	44.3	35.8	75.8

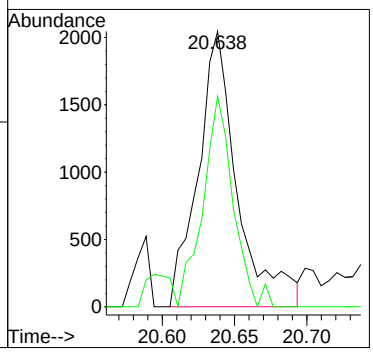


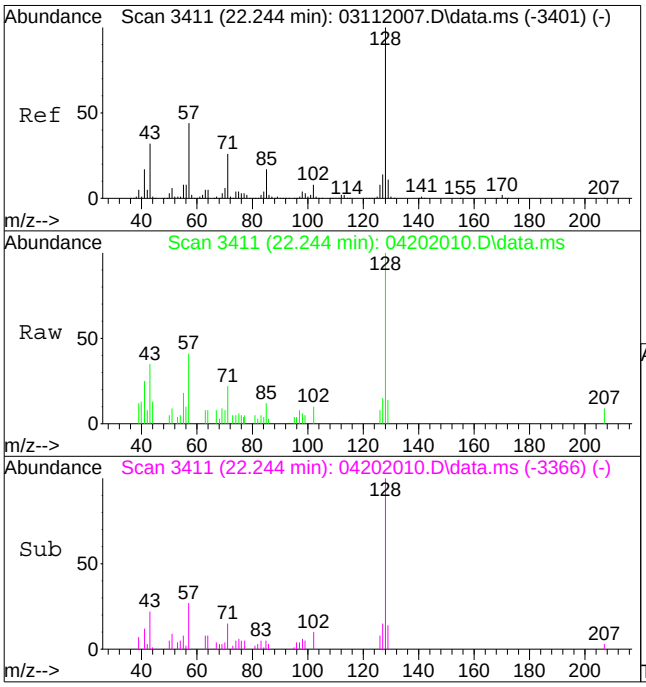


#91
d-Limonene
Concen: 0.06 ng
RT: 20.64 min Scan# 3119
Delta R.T. -0.011 min
Lab File: 04202010.D
Acq: 20 Apr 2020 8:55

Tgt Ion: 68 Resp: 3874

Ion	Ratio	Lower	Upper
68	100		
93	58.7	54.7	94.7

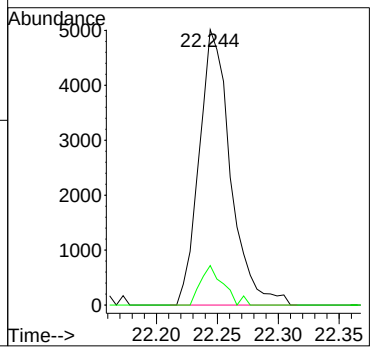




#95
Naphthalene
Concen: 0.05 ng
RT: 22.24 min Scan# 3411
Delta R.T. -0.005 min
Lab File: 04202010.D
Acq: 20 Apr 2020 8:55

Tgt Ion:128 Resp: 8991

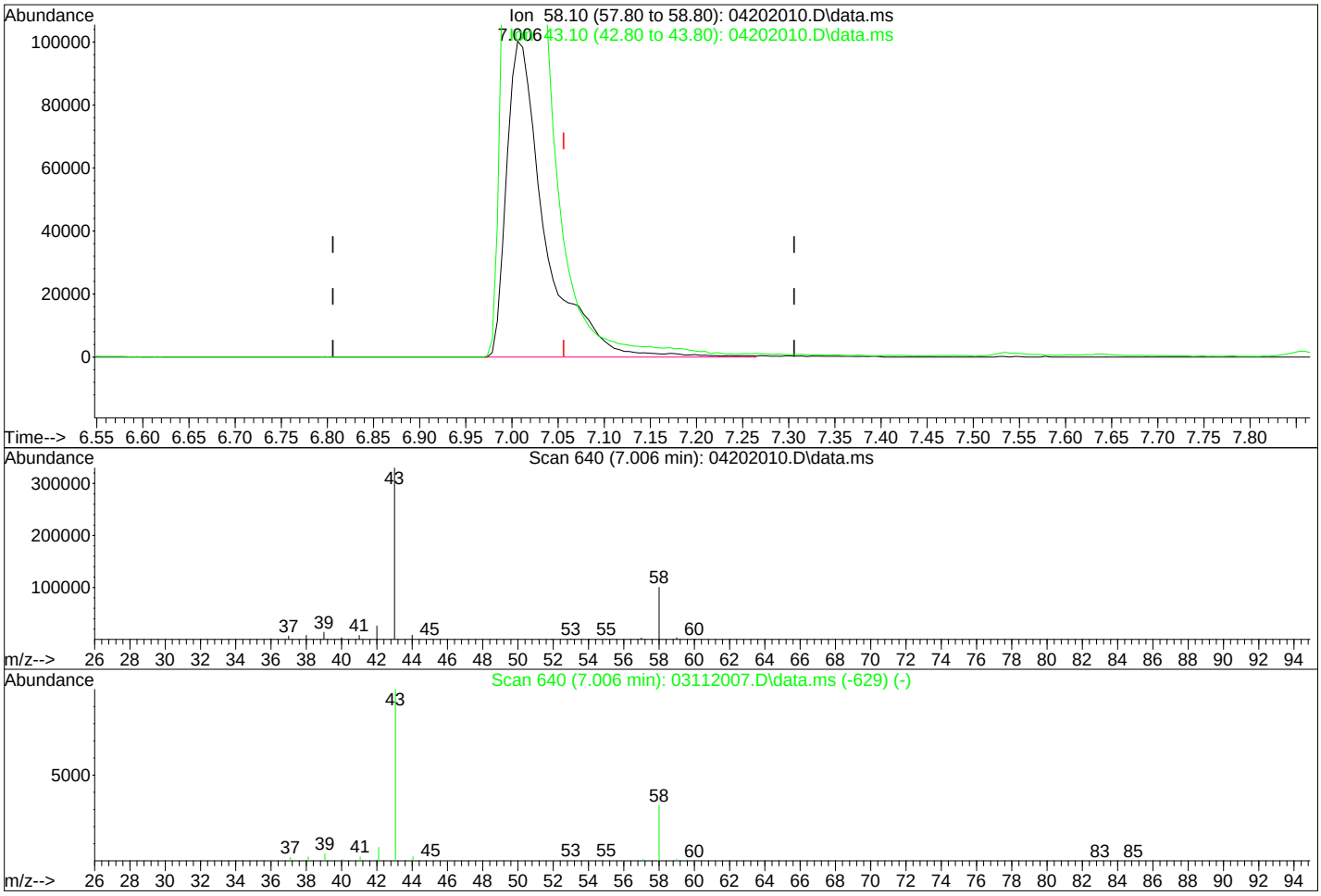
Ion	Ratio	Lower	Upper
128	100		
129	10.4	0.0	31.1



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\20\04202010.D Vial: 5
Acq On : 20 Apr 2020 8:55 Operator: TD
Sample : P2002028-008 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 11:45:53 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202010.D\data.ms

(13) Acetone (T)

7.006min (-0.050) 10.84ng

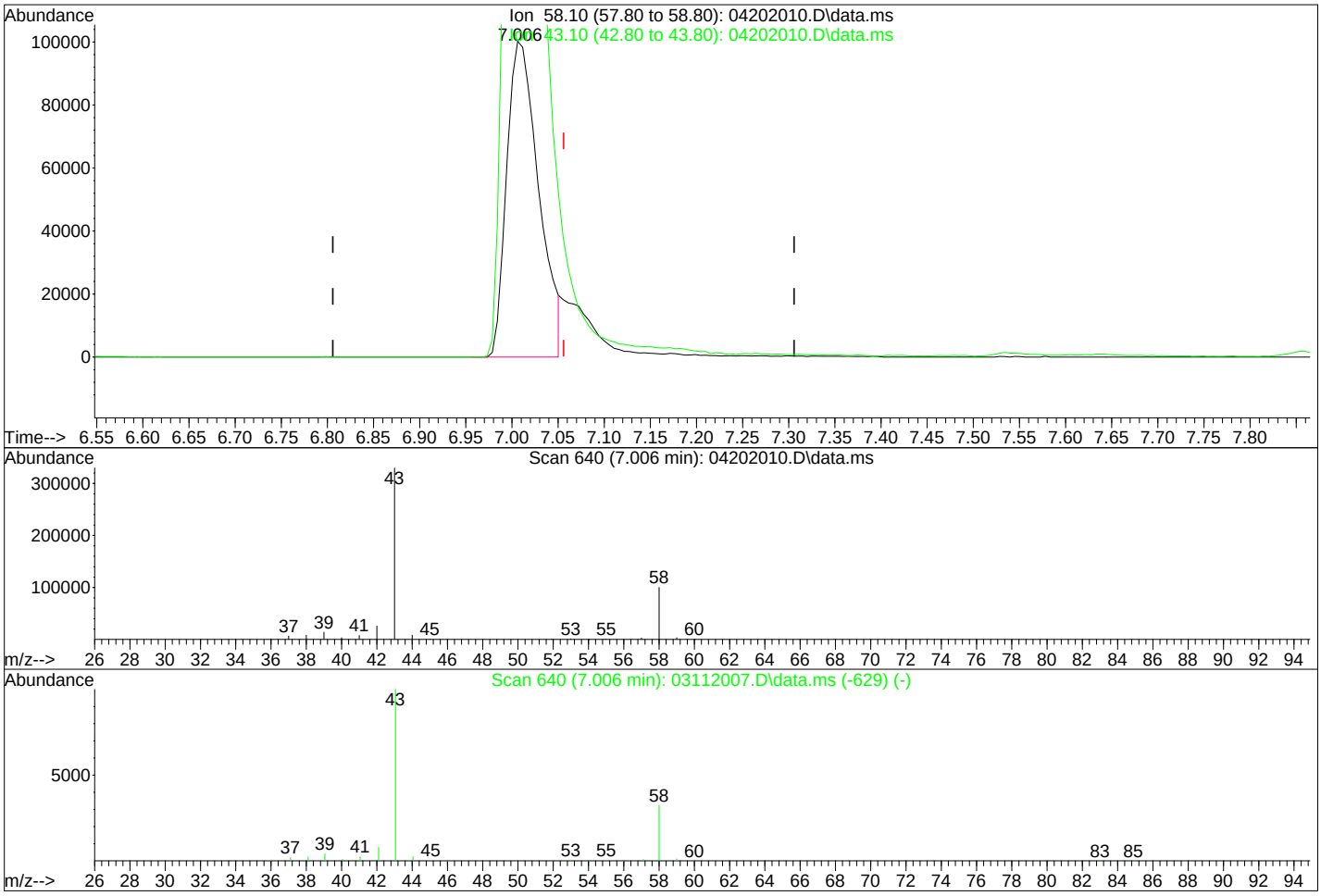
response 289617

Ion	Exp%	Act%
58.10	100	100
43.10	317.30	297.90
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\20\04202010.D Vial: 5
Acq On : 20 Apr 2020 8:55 Operator: TD
Sample : P2002028-008 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 11:45:53 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202010.D\data.ms

(13) Acetone (T)

7.006min (-0.050) 9.26ng m

response 241328

Ion	Exp%	Act%
58.10	100	100
43.10	317.30	357.51#
0.00	0.00	0.00
0.00	0.00	0.00

IPC

LH 4/20/20

4/24/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202011.D Vial: 6
Acq On : 20 Apr 2020 9:28 Operator: TD
Sample : P2002028-009 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 20:09:03 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 4/20/20
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	325485	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1456485	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	697855	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	571791	12.687	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.52%				
57) Toluene-d8 (SS2)	15.74	98	1500893	12.134	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.04%				
73) Bromofluorobenzene (SS3)	19.01	174	492230	11.269	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.16%				
Target Compounds							Qvalue
2) Propene	4.12	42	1975	0.058	ng		97
3) Dichlorodifluoromethan...	4.26	85	120665	1.643	ng		99
4) Chloromethane	4.57	50	2123	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	1076	N.D.			
6) Vinyl Chloride	4.99	62	577	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.35	45	16696	0.619	ng		91
11) Acetonitrile	6.64	41	2365	N.D.			
12) Acrolein	6.84	56	1181	0.059	ng		86
13) Acetone	7.04	58	28014	1.052	ng		94
14) Trichlorofluoromethane	7.26	101	344232	5.316	ng		100
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.	d		
16) Acrylonitrile	7.82	53	152	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.51	59	1137	N.D.			
19) Methylene Chloride	8.45	84	770	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	8.87	151	49044	1.584	ng		93
22) Carbon Disulfide	8.71	76	155910	1.251	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	9.96	63	1893	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	10.22	86	321	N.D.			
27) 2-Butanone (MEK)	10.53	72	1765	0.080	ng		93
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.33	61	227	N.D.			
31) n-Hexane	11.29	57	924	N.D.			
32) Chloroform	11.32	83	541035	8.372	ng		100
34) Tetrahydrofuran (THF)	11.77	72	9537	0.418	ng	#	87
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.03	62	133	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.90	78	4017	N.D.			
42) Carbon Tetrachloride	13.06	117	34914	0.675	ng		99
43) Cyclohexane	13.19	84	248	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	13.56	63	775	N.D.			
46) Bromodichloromethane	13.94	83	88365	1.736	ng		99
47) Trichloroethene	14.00	130	36828	0.863	ng		100
48) 1,4-Dioxane	14.02	88	491	N.D.			
49) 2,2,4-Trimethylpentane...	14.07	57	2877	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202011.D Vial: 6
Acq On : 20 Apr 2020 9:28 Operator: TD
Sample : P2002028-009 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 20:09:03 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

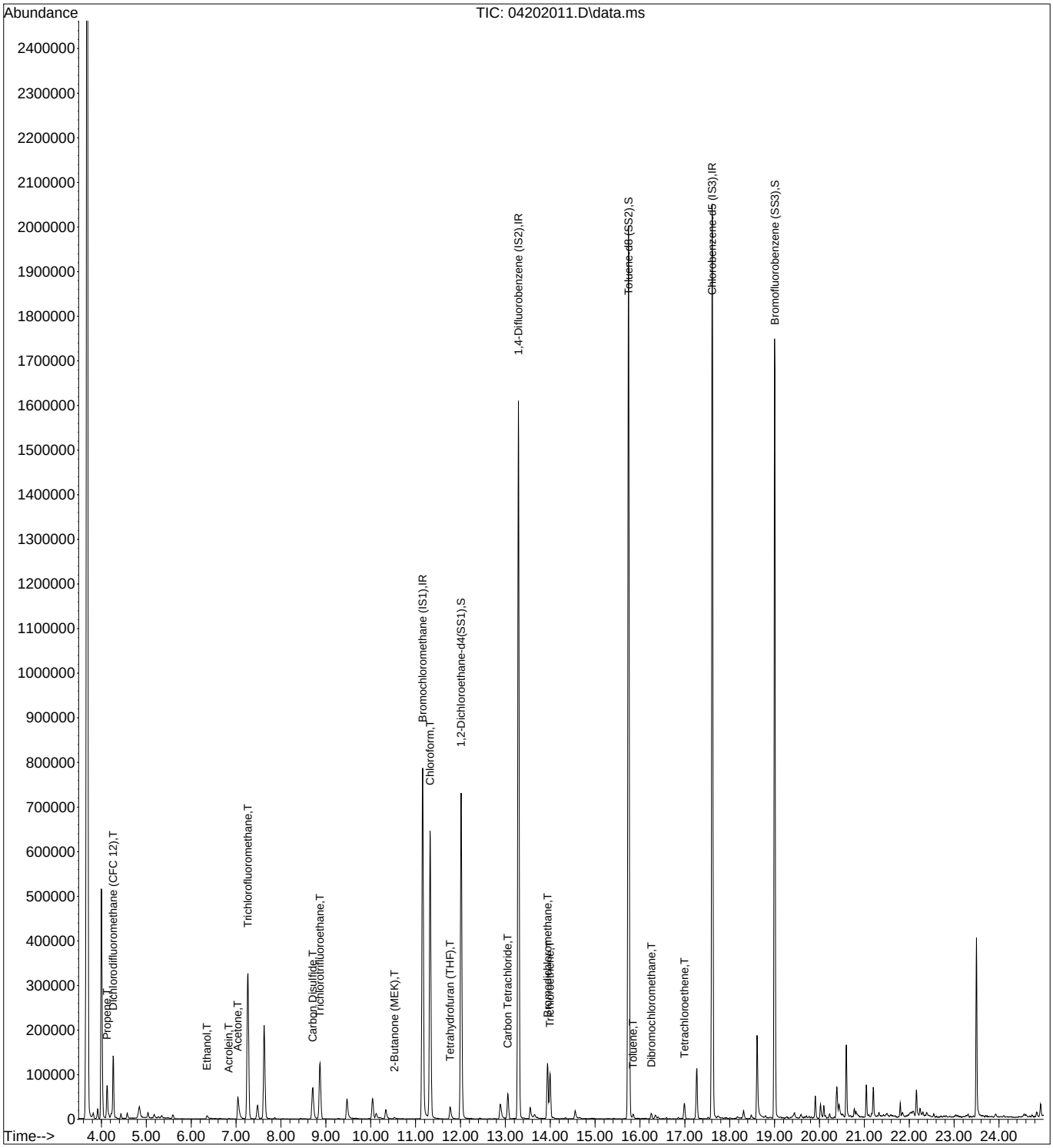
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.34	71	495	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.94	58	328	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.84	91	7946	0.052 ng	96
59) 2-Hexanone	16.12	43	2340	N.D.	
60) Dibromochloromethane	16.26	129	6683	0.164 ng	99
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.76	43	1259	N.D.	
63) n-Octane	16.85	57	659	N.D.	
64) Tetrachloroethene	16.99	166	11375	0.267 ng	98
65) Chlorobenzene	17.66	112	310	N.D.	
66) Ethylbenzene	18.02	91	1645	N.D.	
67) m- & p-Xylenes	18.17	91	3907	N.D.	
68) Bromoform	18.24	173	138	N.D.	
69) Styrene	18.51	104	519	N.D.	
70) o-Xylene	18.60	91	1955	N.D.	
71) n-Nonane	18.80	43	1957	N.D.	
72) 1,1,2,2-Tetrachloroethane	18.62	83	418	N.D.	
74) Cumene	19.13	105	1259	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	19.58	91	1562	N.D.	
77) 3-Ethyltoluene	19.67	105	1353	N.D.	
78) 4-Ethyltoluene	19.71	105	1067	N.D.	
79) 1,3,5-Trimethylbenzene	19.77	105	1134	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	19.94	105	1053	N.D.	
82) 1,2,4-Trimethylbenzene	20.13	105	2467	N.D.	
83) n-Decane	20.23	57	2984	N.D.	
84) Benzyl Chloride	20.25	91	285	N.D.	
85) 1,3-Dichlorobenzene	20.27	146	463	N.D.	
86) 1,4-Dichlorobenzene	20.33	146	629	N.D.	
87) sec-Butylbenzene	20.37	105	844	N.D.	
88) 4-Isopropyltoluene (p-...	20.51	119	958	N.D.	
89) 1,2,3-Trimethylbenzene	20.51	105	1390	N.D.	
90) 1,2-Dichlorobenzene	20.63	146	375	N.D.	
91) d-Limonene	20.64	68	628	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.33	57	3053	N.D.	
94) 1,2,4-Trichlorobenzene	22.14	180	504	N.D.	
95) Naphthalene	22.25	128	4523	N.D.	
96) n-Dodecane	22.24	57	3201	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.14	119	616	N.D.	
100) n-Butylbenzene	20.87	91	2290	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202011.D Vial: 6
Acq On : 20 Apr 2020 9:28 Operator: TD
Sample : P2002028-009 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 20:09:03 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202011.D Vial: 6
Acq On : 20 Apr 2020 9:28 Operator: TD
Sample : P2002028-009 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 20:09:03 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/20/20

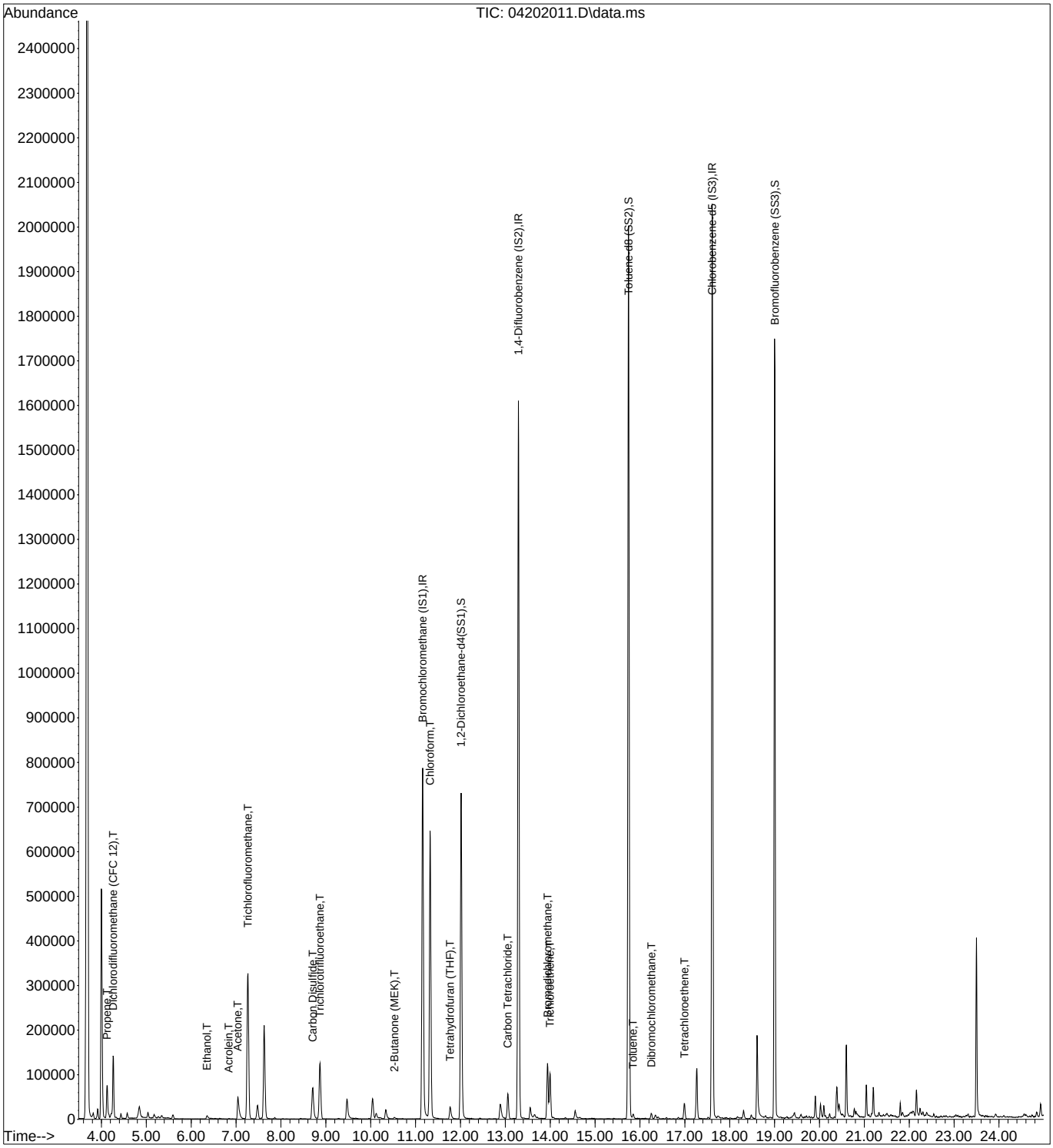
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	325485	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1456485	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	697855	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	571791	12.687	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.52%				
57) Toluene-d8 (SS2)	15.74	98	1500893	12.134	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.04%				
73) Bromofluorobenzene (SS3)	19.01	174	492230	11.269	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.16%				
Target Compounds							Qvalue
2) Propene	4.12	42	1975	0.058	ng		97
3) Dichlorodifluoromethan...	4.26	85	120665	1.643	ng		99
10) Ethanol	6.35	45	16696	0.619	ng		91
12) Acrolein	6.84	56	1181	0.059	ng		86
13) Acetone	7.04	58	28014	1.052	ng		94
14) Trichlorofluoromethane	7.26	101	344232	5.316	ng		100
21) Trichlorotrifluoroethane	8.87	151	49044	1.584	ng		93
22) Carbon Disulfide	8.71	76	155910	1.251	ng		99
27) 2-Butanone (MEK)	10.53	72	1765	0.080	ng		93
32) Chloroform	11.32	83	541035	8.372	ng		100
34) Tetrahydrofuran (THF)	11.77	72	9537	0.418	ng	#	87
42) Carbon Tetrachloride	13.06	117	34914	0.675	ng		99
46) Bromodichloromethane	13.94	83	88365	1.736	ng		99
47) Trichloroethene	14.00	130	36828	0.863	ng		100
58) Toluene	15.84	91	7946	0.052	ng		96
60) Dibromochloromethane	16.26	129	6683	0.164	ng		99
64) Tetrachloroethene	16.99	166	11375	0.267	ng		98

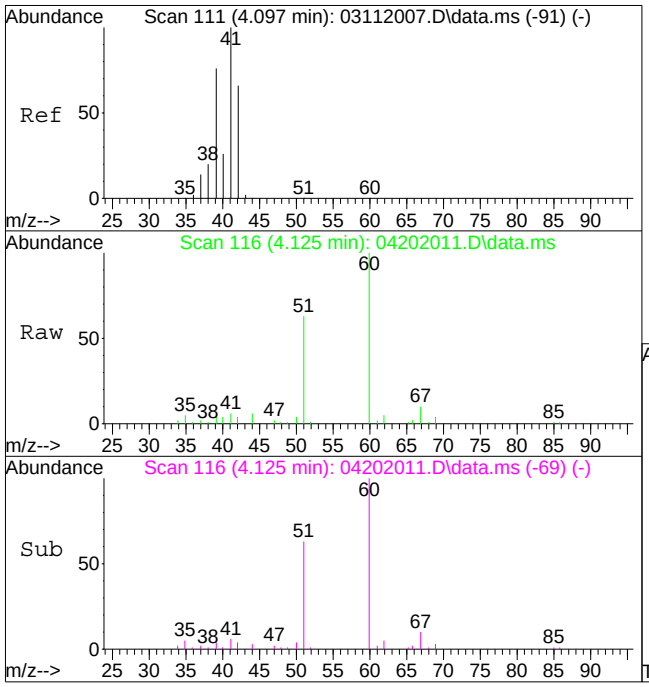
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202011.D Vial: 6
Acq On : 20 Apr 2020 9:28 Operator: TD
Sample : P2002028-009 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 20:09:03 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

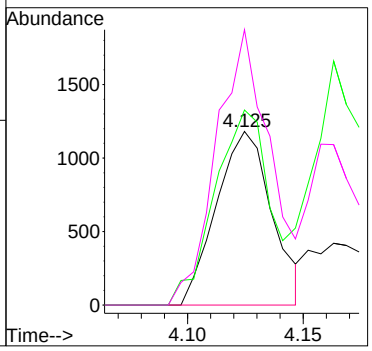


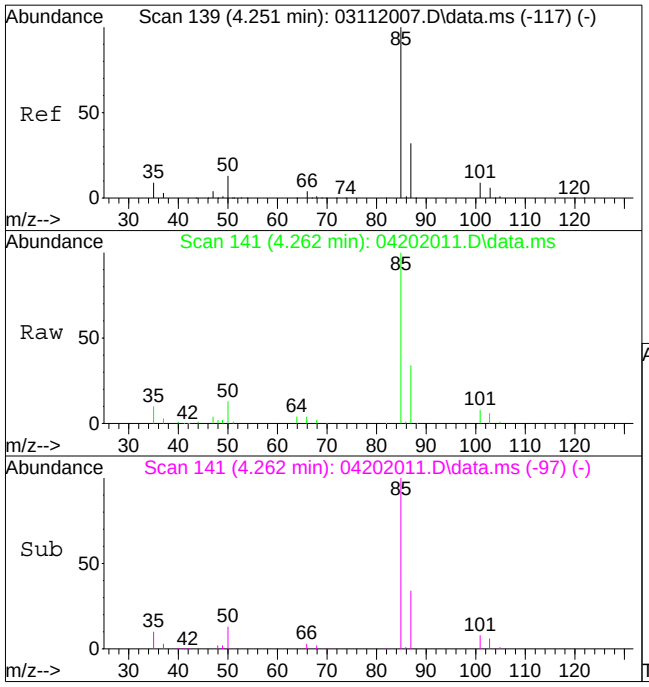


#2
Propene
Concen: 0.06 ng
RT: 4.12 min Scan# 116
Delta R.T. 0.011 min
Lab File: 04202011.D
Acq: 20 Apr 2020 9:28

Tgt Ion: 42 Resp: 1975

Ion	Ratio	Lower	Upper
42	100		
39	110.0	95.3	135.3
41	153.7	132.0	172.0

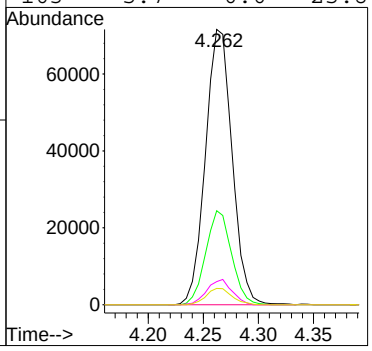


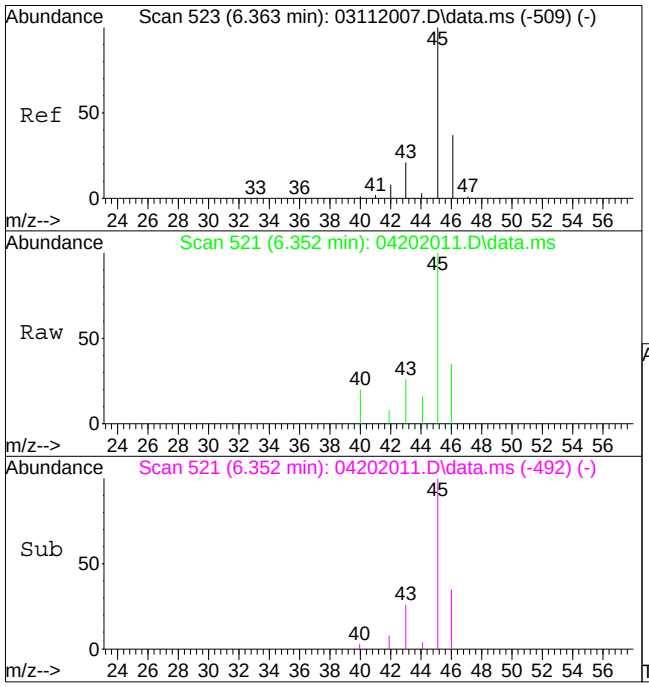


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.64 ng
RT: 4.26 min Scan# 141
Delta R.T. -0.006 min
Lab File: 04202011.D
Acq: 20 Apr 2020 9:28

Tgt Ion: 85 Resp: 120665

Ion	Ratio	Lower	Upper
85	100		
87	33.0	12.3	52.3
101	8.7	0.0	29.0
103	5.7	0.0	25.8

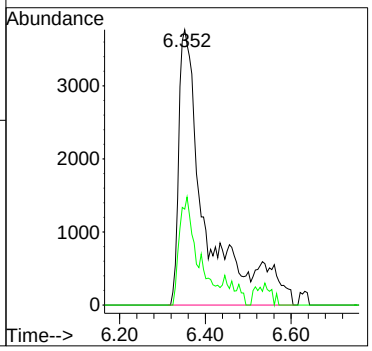


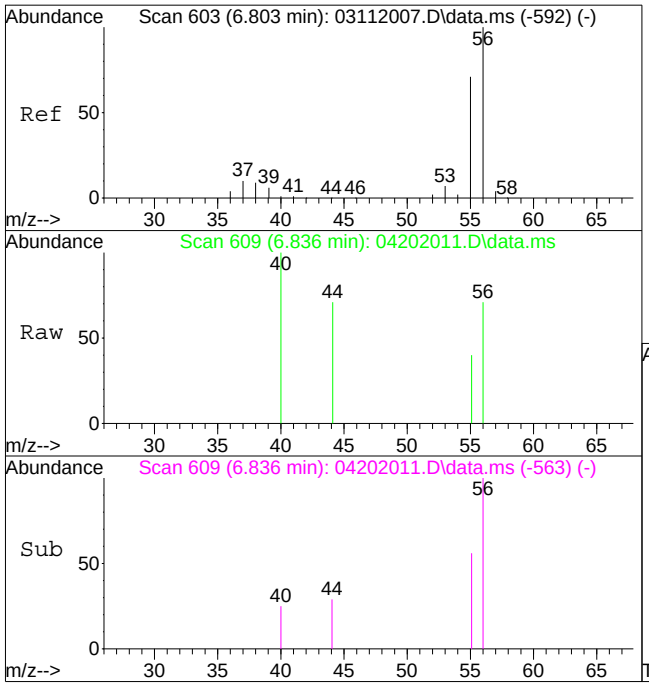


#10
Ethanol
Concen: 0.62 ng
RT: 6.35 min Scan# 521
Delta R.T. -0.088 min
Lab File: 04202011.D
Acq: 20 Apr 2020 9:28

Tgt Ion: 45 Resp: 16696

Ion	Ratio	Lower	Upper
45	100		
46	31.8	17.3	57.3

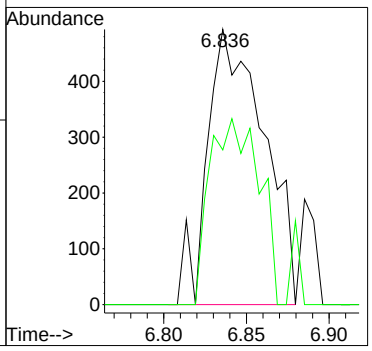


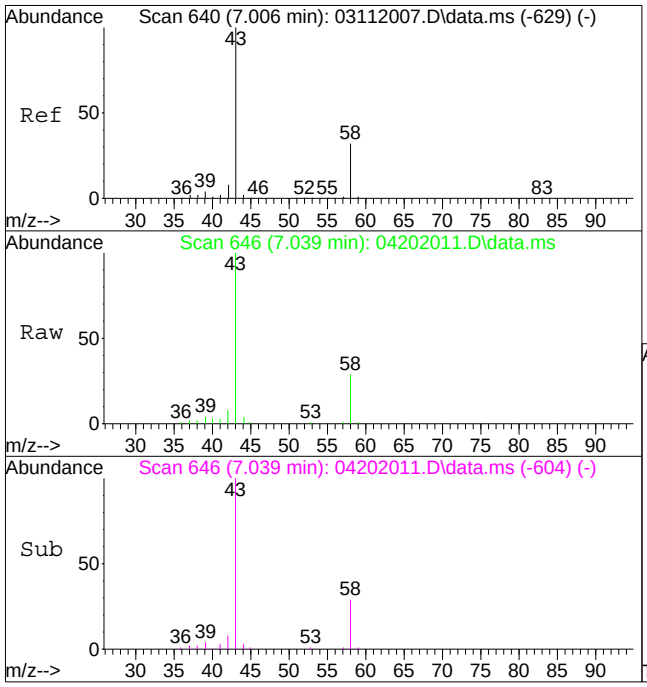


#12
Acrolein
Concen: 0.06 ng
RT: 6.84 min Scan# 609
Delta R.T. 0.006 min
Lab File: 04202011.D
Acq: 20 Apr 2020 9:28

Tgt Ion: 56 Resp: 1181

Ion	Ratio	Lower	Upper
56	100		
55	59.0	50.4	90.4

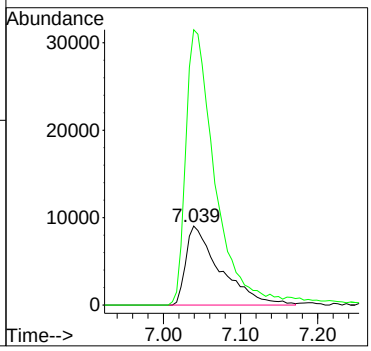


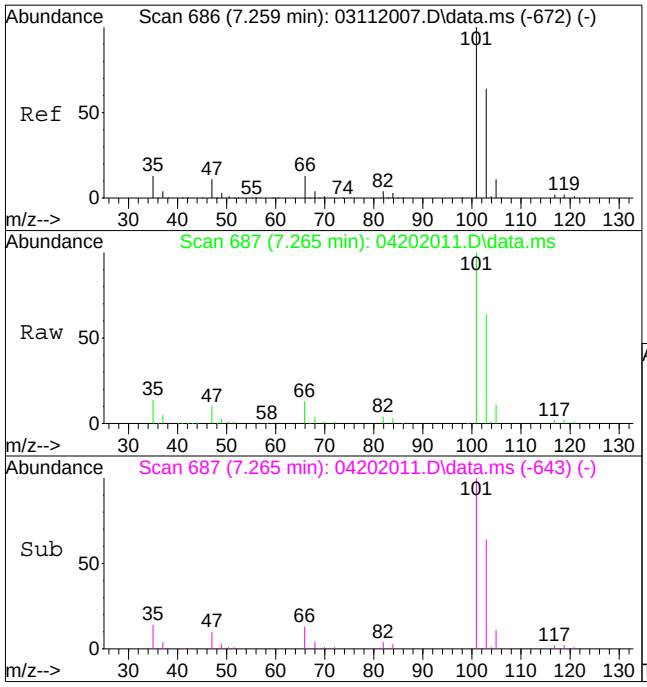


#13
Acetone
Concen: 1.05 ng
RT: 7.04 min Scan# 646
Delta R.T. -0.017 min
Lab File: 04202011.D
Acq: 20 Apr 2020 9:28

Tgt Ion: 58 Resp: 28014

Ion	Ratio	Lower	Upper
58	100		
43	305.6	287.3	347.3

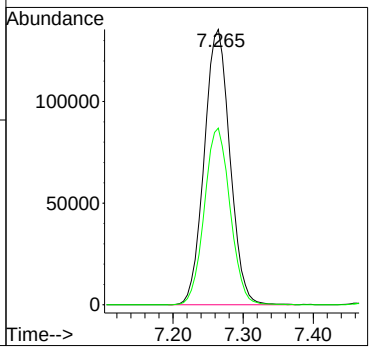


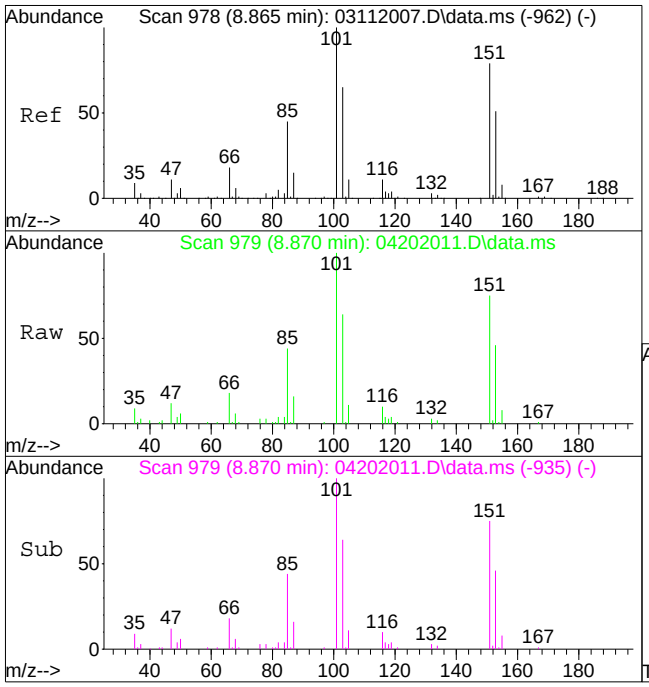


#14
Trichlorofluoromethane
Concen: 5.32 ng
RT: 7.26 min Scan# 687
Delta R.T. -0.010 min
Lab File: 04202011.D
Acq: 20 Apr 2020 9:28

Tgt Ion:101 Resp: 344232

Ion	Ratio	Lower	Upper
101	100		
103	64.5	44.6	84.6

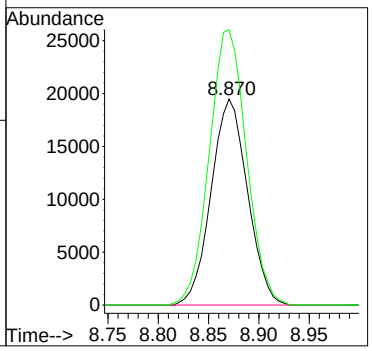


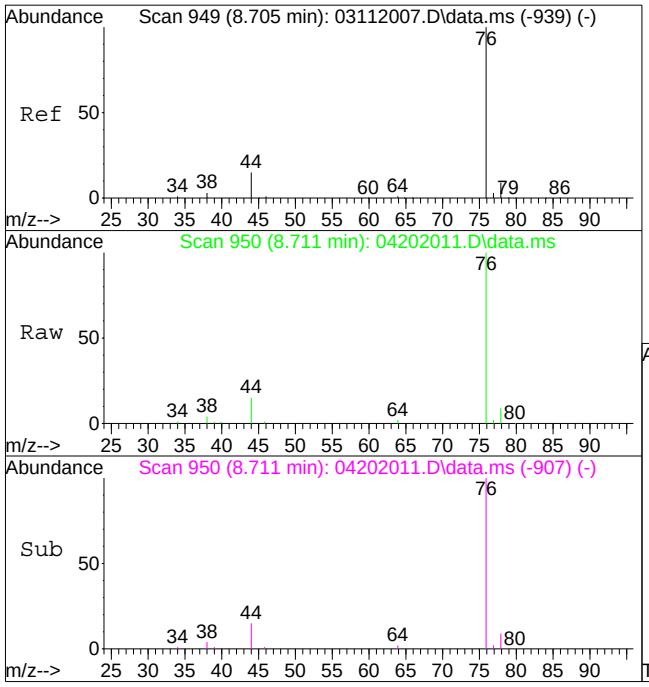


#21
Trichlorotrifluoroethane
Concen: 1.58 ng
RT: 8.87 min Scan# 979
Delta R.T. -0.006 min
Lab File: 04202011.D
Acq: 20 Apr 2020 9:28

Tgt Ion:151 Resp: 49044

Ion	Ratio	Lower	Upper
151	100		
101	136.7	108.4	148.4

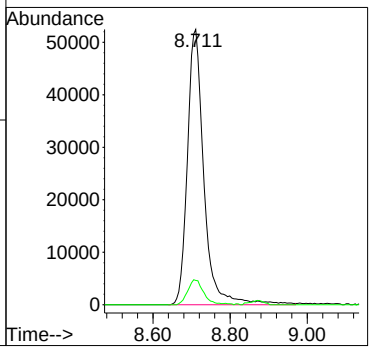


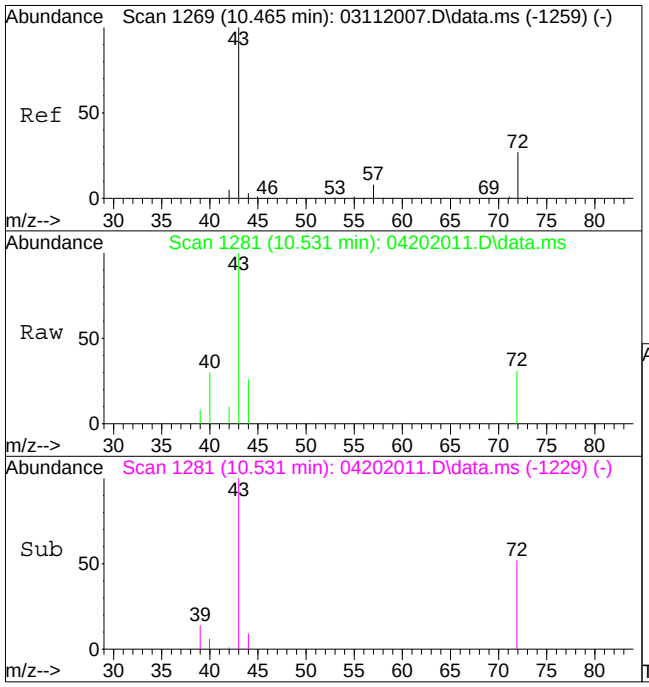


#22
Carbon Disulfide
Concen: 1.25 ng
RT: 8.71 min Scan# 950
Delta R.T. -0.011 min
Lab File: 04202011.D
Acq: 20 Apr 2020 9:28

Tgt Ion: 76 Resp: 155910

Ion	Ratio	Lower	Upper
76	100		
78	8.9	0.0	29.2

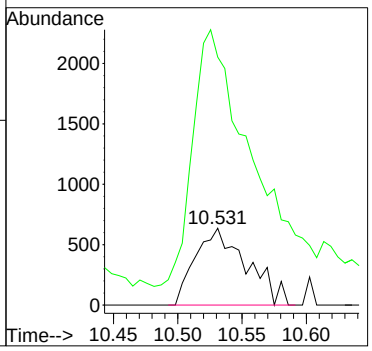


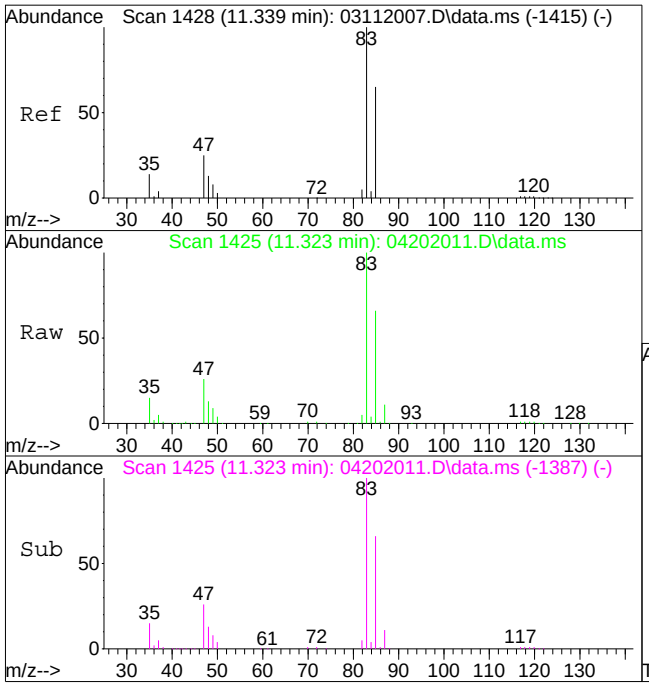


#27
2-Butanone (MEK)
Concen: 0.08 ng
RT: 10.53 min Scan# 1281
Delta R.T. 0.039 min
Lab File: 04202011.D
Acq: 20 Apr 2020 9:28

Tgt Ion: 72 Resp: 1765

Ion	Ratio	Lower	Upper
72	100		
43	388.7	353.4	393.4

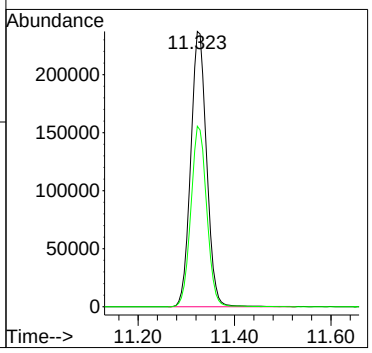


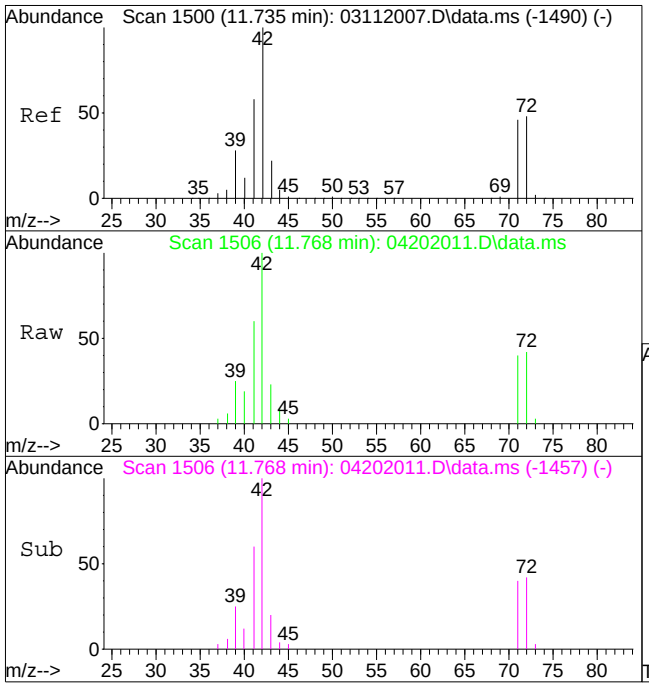


#32
Chloroform
Concen: 8.37 ng
RT: 11.32 min Scan# 1425
Delta R.T. -0.038 min
Lab File: 04202011.D
Acq: 20 Apr 2020 9:28

Tgt Ion: 83 Resp: 541035

Ion	Ratio	Lower	Upper
83	100		
85	65.7	45.5	85.5

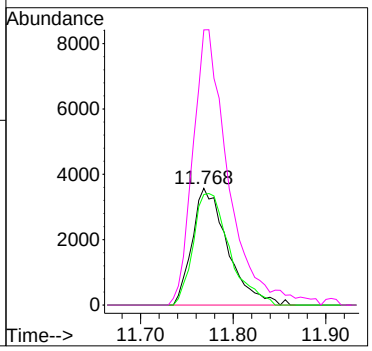


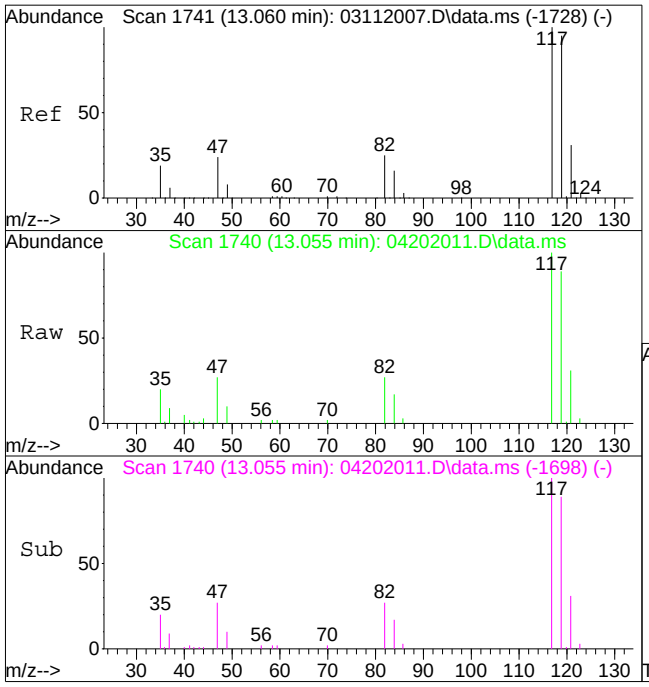


#34
Tetrahydrofuran (THF)
Concen: 0.42 ng
RT: 11.77 min Scan# 1506
Delta R.T. 0.022 min
Lab File: 04202011.D
Acq: 20 Apr 2020 9:28

Tgt Ion: 72 Resp: 9537

Ion	Ratio	Lower	Upper
72	100		
71	97.8	75.9	115.9
42	236.5	189.3	229.3#

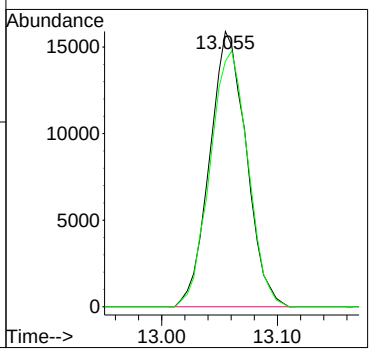


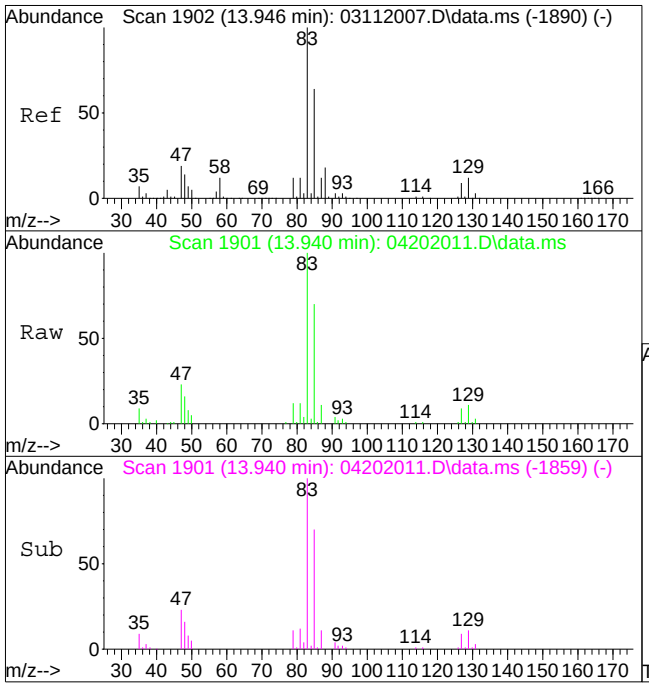


#42
Carbon Tetrachloride
Concen: 0.68 ng
RT: 13.06 min Scan# 1740
Delta R.T. -0.016 min
Lab File: 04202011.D
Acq: 20 Apr 2020 9:28

Tgt Ion:117 Resp: 34914

Ion	Ratio	Lower	Upper
117	100		
119	96.3	75.4	115.4

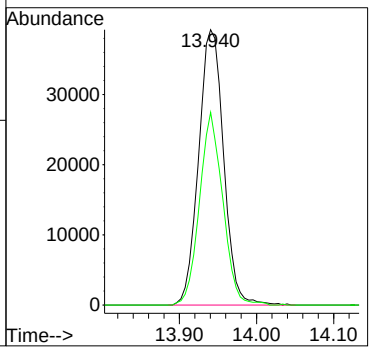


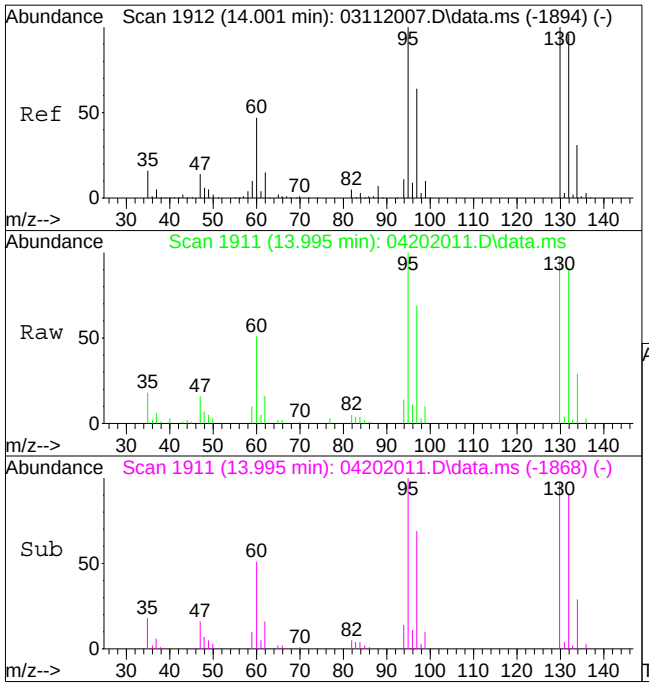


#46
Bromodichloromethane
Concen: 1.74 ng
RT: 13.94 min Scan# 1901
Delta R.T. -0.016 min
Lab File: 04202011.D
Acq: 20 Apr 2020 9:28

Tgt Ion: 83 Resp: 88365

Ion	Ratio	Lower	Upper
83	100		
85	65.0	44.0	84.0

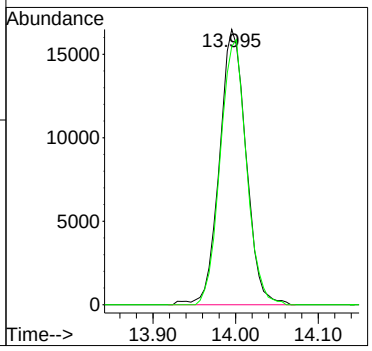


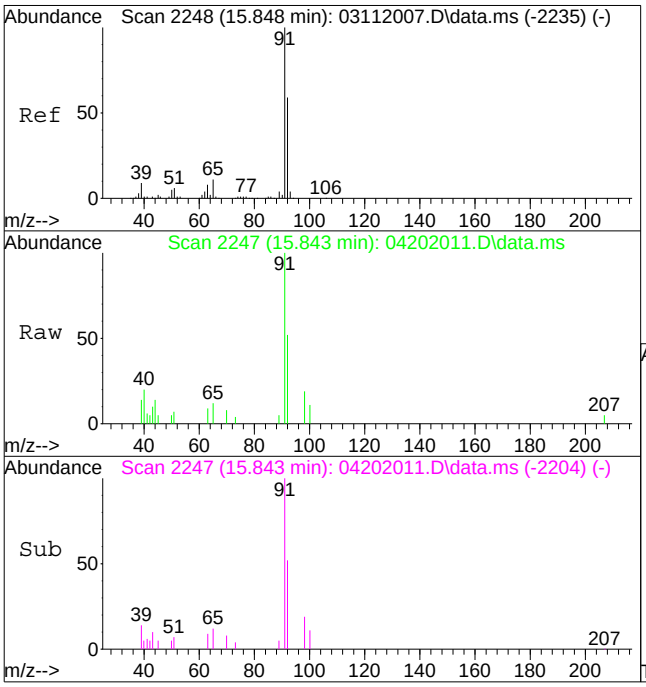


#47
Trichloroethene
Concen: 0.86 ng
RT: 14.00 min Scan# 1911
Delta R.T. -0.011 min
Lab File: 04202011.D
Acq: 20 Apr 2020 9:28

Tgt Ion:130 Resp: 36828

Ion	Ratio	Lower	Upper
130	100		
132	94.9	74.7	114.7

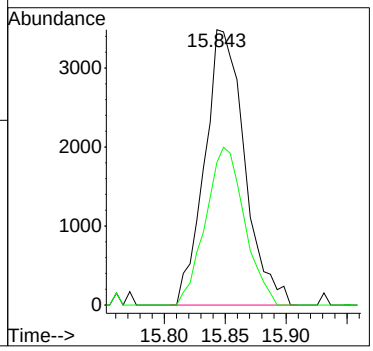


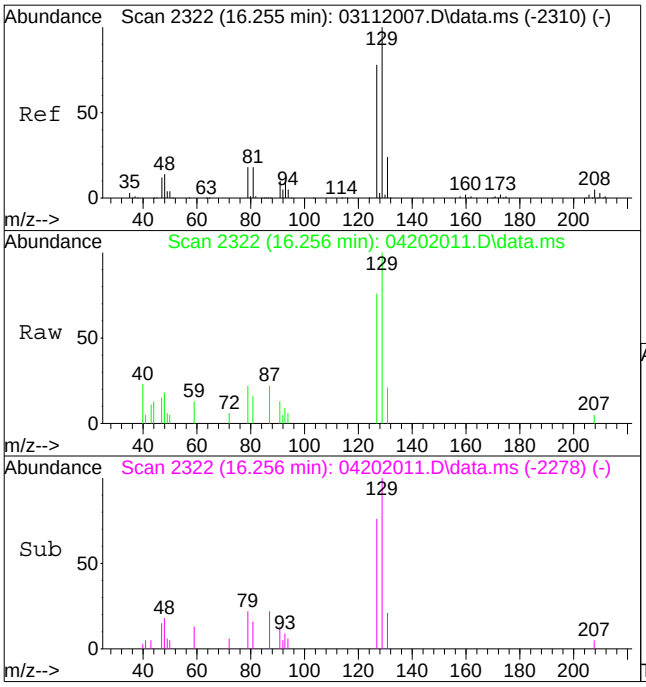


#58
Toluene
Concen: 0.05 ng
RT: 15.84 min Scan# 2247
Delta R.T. -0.011 min
Lab File: 04202011.D
Acq: 20 Apr 2020 9:28

Tgt Ion: 91 Resp: 7946

Ion	Ratio	Lower	Upper
91	100		
92	55.7	39.0	79.0

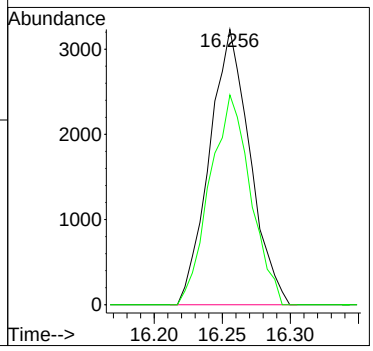


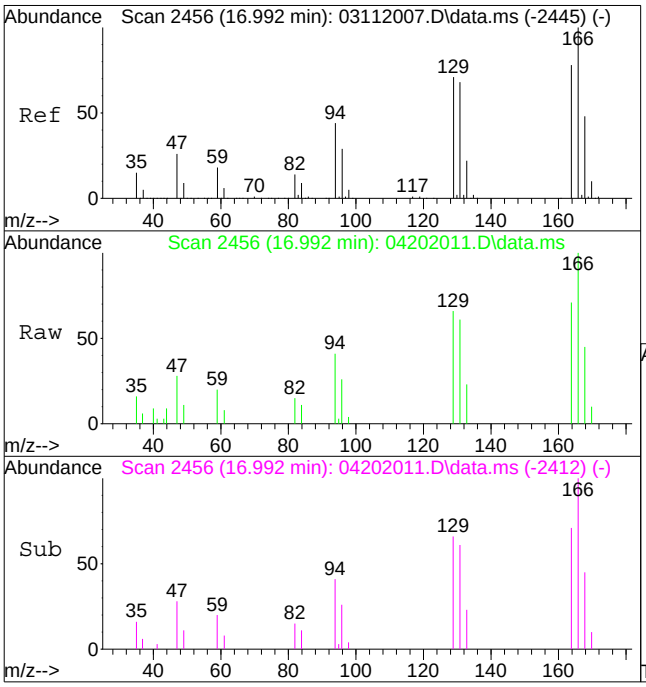


#60
Dibromochloromethane
Concen: 0.16 ng
RT: 16.26 min Scan# 2322
Delta R.T. -0.005 min
Lab File: 04202011.D
Acq: 20 Apr 2020 9:28

Tgt Ion:129 Resp: 6683

Ion	Ratio	Lower	Upper
129	100		
127	76.6	57.3	97.3

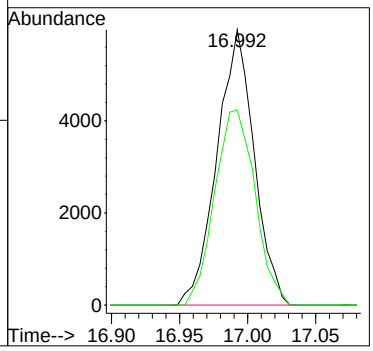




#64
Tetrachloroethene
Concen: 0.27 ng
RT: 16.99 min Scan# 2456
Delta R.T. -0.005 min
Lab File: 04202011.D
Acq: 20 Apr 2020 9:28

Tgt Ion:166 Resp: 11375

Ion	Ratio	Lower	Upper
166	100		
164	76.9	58.6	98.6



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202012.D Vial: 7
Acq On : 20 Apr 2020 10:02 Operator: TD
Sample : P2002028-010 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 20:09:50 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/20/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	318826	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1436996	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	688490	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.02	65	570855	12.931	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.44%			
57) Toluene-d8 (SS2)	15.74	98	1479921	12.127	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.04%			
73) Bromofluorobenzene (SS3)	19.00	174	473837	10.996	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.00%			
Target Compounds						Qvalue
2) Propene	4.13	42	2290	0.068	ng	95
3) Dichlorodifluoromethan...	4.27	85	90459	1.257	ng	100
4) Chloromethane	4.58	50	2111	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	869	N.D.		
6) Vinyl Chloride	4.99	62	546	N.D.		
7) 1,3-Butadiene	5.18	54	451	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.34	45	23584	0.892	ng	96
11) Acetonitrile	6.65	41	1721	N.D.		
12) Acrolein	6.82	56	820	N.D.		
13) Acetone	7.03	58	38966	1.494	ng	88
14) Trichlorofluoromethane	7.26	101	256684	4.046	ng	100
15) 2-Propanol (Isopropanol)	7.55	45	10850	0.140	ng	61
16) Acrylonitrile	7.86	53	920	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d	
19) Methylene Chloride	8.44	84	844	N.D.		
20) 3-Chloro-1-propene (Al...	8.60	41	113	N.D.		
21) Trichlorotrifluoroethane	8.86	151	36465	1.202	ng	92
22) Carbon Disulfide	8.71	76	173389	1.421	ng	99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	9.96	63	1579	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	10.38	72	187	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	11.30	61	42481	3.310	ng	100
31) n-Hexane	11.28	57	1422	N.D.		
32) Chloroform	11.32	83	406885	6.428	ng	100
34) Tetrahydrofuran (THF)	11.77	72	14180	0.635	ng	92
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.02	62	147	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	12.91	78	4884	N.D.		
42) Carbon Tetrachloride	13.06	117	25717	0.504	ng	99
43) Cyclohexane	13.19	84	651	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	13.94	83	65985	1.314	ng	99
47) Trichloroethene	14.00	130	27308	0.649	ng	99
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	14.07	57	1853	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202012.D Vial: 7
Acq On : 20 Apr 2020 10:02 Operator: TD
Sample : P2002028-010 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 20:09:50 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

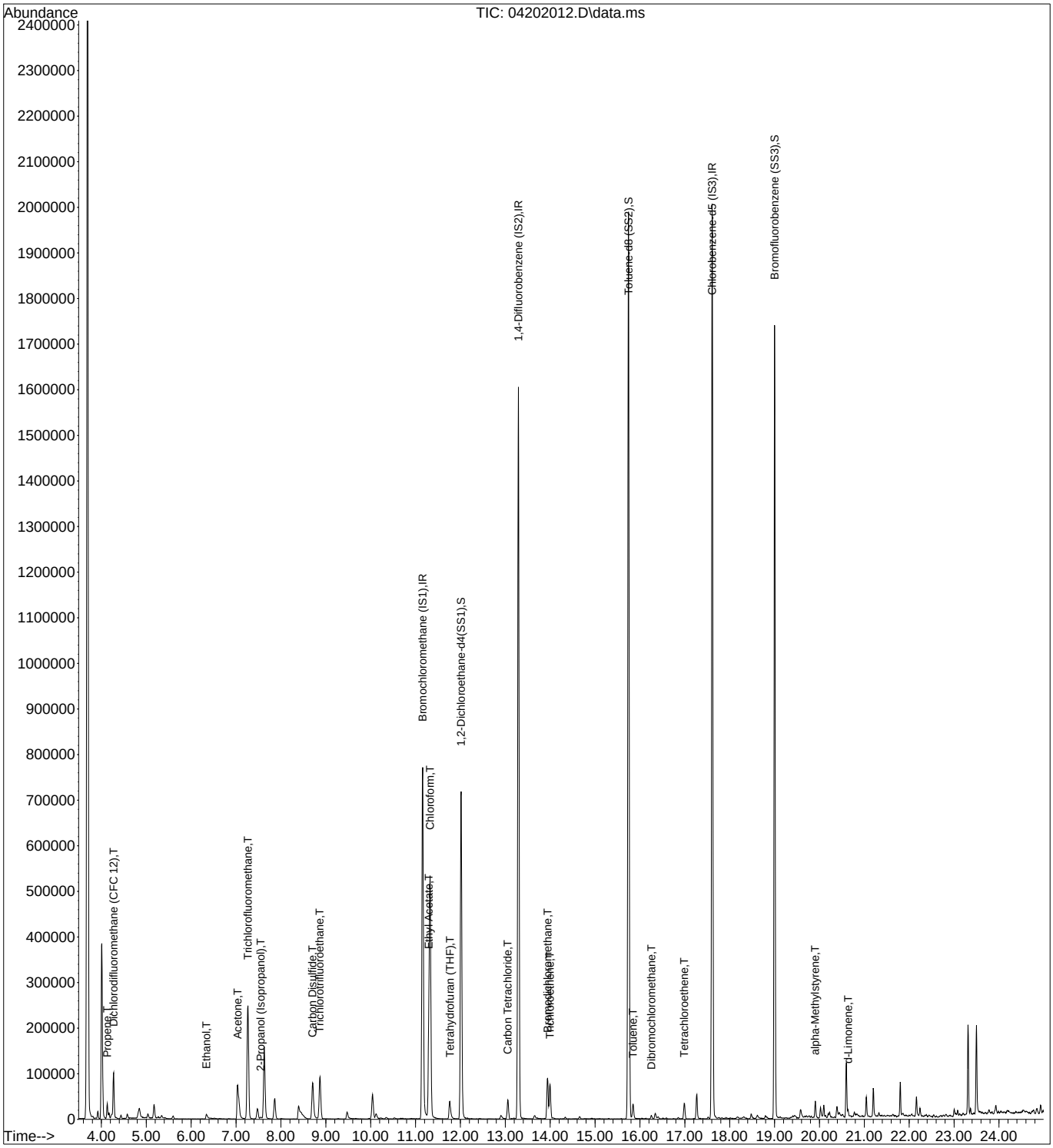
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.33	71	743	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.91	58	114	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.84	91	23309	0.154 ng	98
59) 2-Hexanone	16.12	43	1517	N.D.	
60) Dibromochloromethane	16.26	129	4776	0.119 ng	97
61) 1,2-Dibromoethane	16.51	107	508	N.D.	
62) n-Butyl Acetate	16.74	43	1185	N.D.	
63) n-Octane	16.87	57	886	N.D.	
64) Tetrachloroethene	16.99	166	11223	0.267 ng	98
65) Chlorobenzene	17.66	112	277	N.D.	
66) Ethylbenzene	18.02	91	1953	N.D.	
67) m- & p-Xylenes	18.17	91	3857	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.51	104	727	N.D.	
70) o-Xylene	18.60	91	1706	N.D.	
71) n-Nonane	0.00	43	0	N.D. d	
72) 1,1,2,2-Tetrachloroethane	18.59	83	116	N.D.	
74) Cumene	19.13	105	977	N.D.	
75) alpha-Pinene	19.48	93	713	N.D.	
76) n-Propylbenzene	19.58	91	1747	N.D.	
77) 3-Ethyltoluene	19.66	105	1439	N.D.	
78) 4-Ethyltoluene	19.71	105	1021	N.D.	
79) 1,3,5-Trimethylbenzene	19.77	105	912	N.D.	
80) alpha-Methylstyrene	19.91	118	10854	0.138 ng	89
81) 2-Ethyltoluene	19.94	105	942	N.D.	
82) 1,2,4-Trimethylbenzene	20.14	105	1926	N.D.	
83) n-Decane	20.23	57	3250	N.D.	
84) Benzyl Chloride	20.36	91	170	N.D.	
85) 1,3-Dichlorobenzene	20.27	146	507	N.D.	
86) 1,4-Dichlorobenzene	20.34	146	582	N.D.	
87) sec-Butylbenzene	20.37	105	594	N.D.	
88) 4-Isopropyltoluene (p-...	20.51	119	1258	N.D.	
89) 1,2,3-Trimethylbenzene	20.51	105	1026	N.D.	
90) 1,2-Dichlorobenzene	20.63	146	324	N.D.	
91) d-Limonene	20.64	68	3350	0.058 ng	93
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.32	57	2416	N.D.	
94) 1,2,4-Trichlorobenzene	22.15	180	413	N.D.	
95) Naphthalene	22.25	128	3625	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.13	119	598	N.D.	
100) n-Butylbenzene	20.87	91	1753	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202012.D Vial: 7
Acq On : 20 Apr 2020 10:02 Operator: TD
Sample : P2002028-010 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 20:09:50 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202012.D Vial: 7
Acq On : 20 Apr 2020 10:02 Operator: TD
Sample : P2002028-010 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 20:09:50 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/20/20

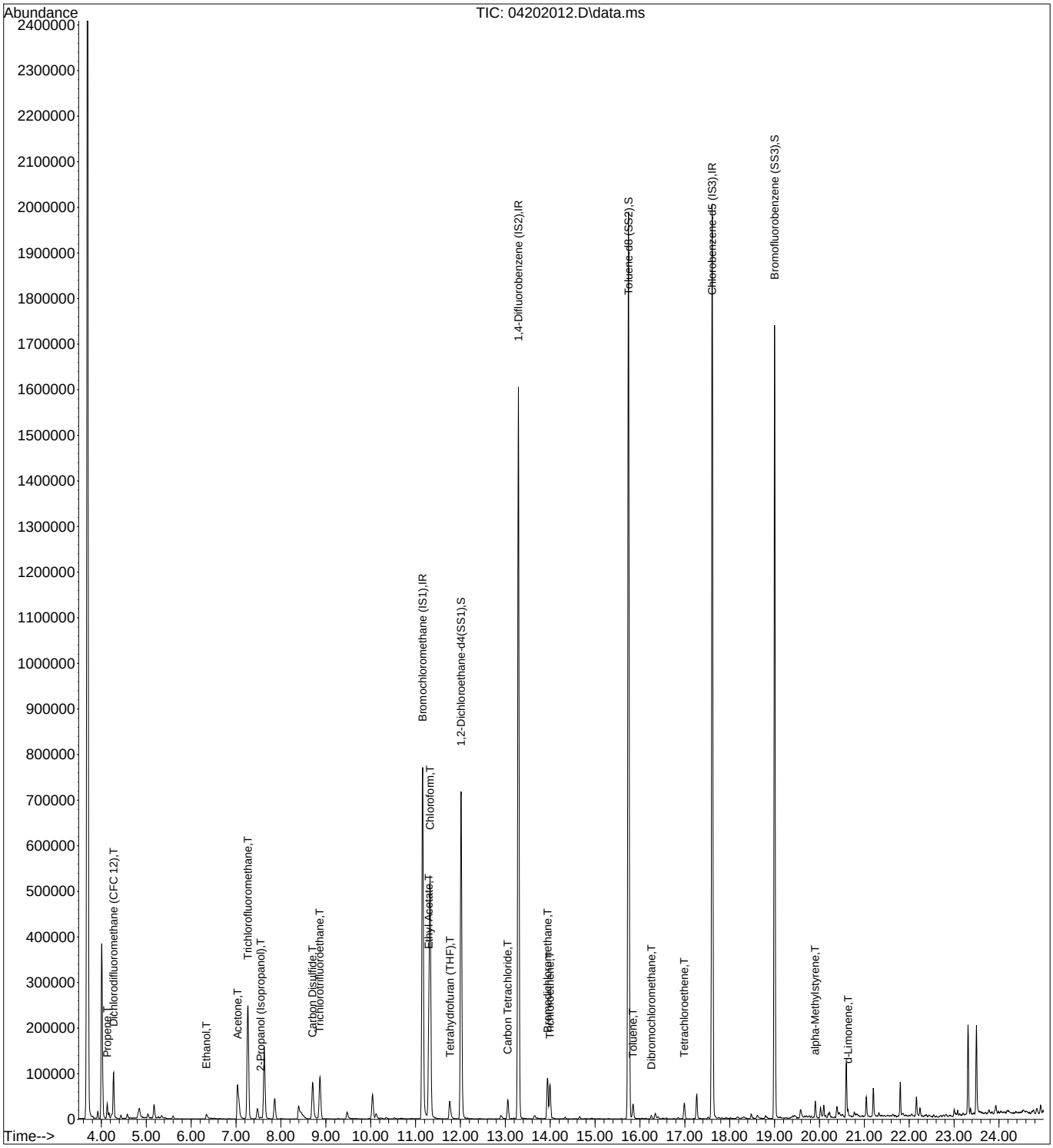
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	318826	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1436996	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	688490	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.02	65	570855	12.931	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.44%			
57) Toluene-d8 (SS2)	15.74	98	1479921	12.127	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.04%			
73) Bromofluorobenzene (SS3)	19.00	174	473837	10.996	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.00%			
Target Compounds						Qvalue
2) Propene	4.13	42	2290	0.068	ng	95
3) Dichlorodifluoromethan...	4.27	85	90459	1.257	ng	100
10) Ethanol	6.34	45	23584	0.892	ng	96
13) Acetone	7.03	58	38966	1.494	ng	88
14) Trichlorofluoromethane	7.26	101	256684	4.046	ng	100
15) 2-Propanol (Isopropanol)	7.55	45	10850	0.140	ng	61
21) Trichlorotrifluoroethane	8.86	151	36465	1.202	ng	92
22) Carbon Disulfide	8.71	76	173389	1.421	ng	99
30) Ethyl Acetate	11.30	61	42481	3.310	ng	100
32) Chloroform	11.32	83	406885	6.428	ng	100
34) Tetrahydrofuran (THF)	11.77	72	14180	0.635	ng	92
42) Carbon Tetrachloride	13.06	117	25717	0.504	ng	99
46) Bromodichloromethane	13.94	83	65985	1.314	ng	99
47) Trichloroethene	14.00	130	27308	0.649	ng	99
58) Toluene	15.84	91	23309	0.154	ng	98
60) Dibromochloromethane	16.26	129	4776	0.119	ng	97
64) Tetrachloroethene	16.99	166	11223	0.267	ng	98
80) alpha-Methylstyrene	19.91	118	10854	0.138	ng	89
91) d-Limonene	20.64	68	3350	0.058	ng	93

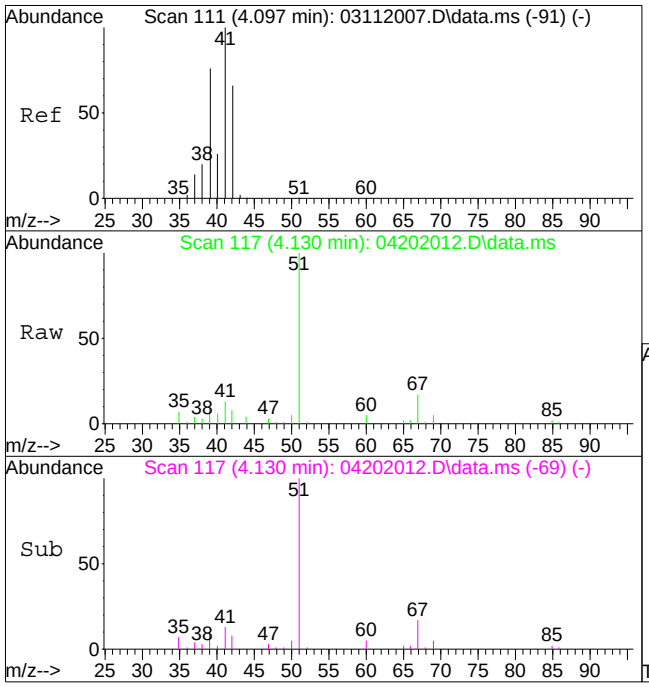
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202012.D Vial: 7
Acq On : 20 Apr 2020 10:02 Operator: TD
Sample : P2002028-010 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 20:09:50 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

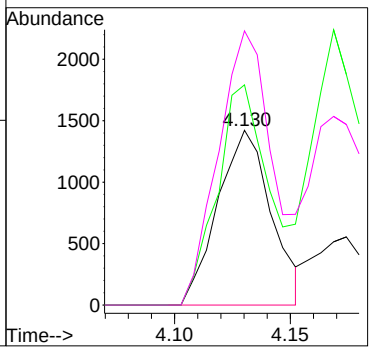


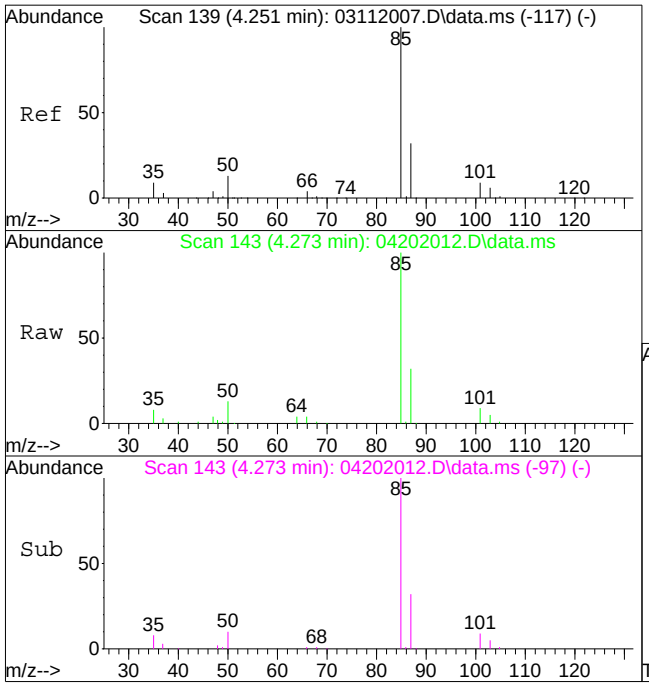


#2
Propene
Concen: 0.07 ng
RT: 4.13 min Scan# 117
Delta R.T. 0.016 min
Lab File: 04202012.D
Acq: 20 Apr 2020 10:02

Tgt Ion: 42 Resp: 2290

Ion	Ratio	Lower	Upper
42	100		
39	118.3	95.3	135.3
41	161.2	132.0	172.0

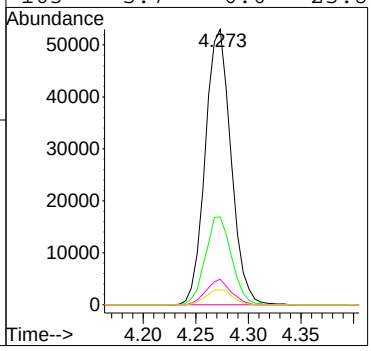


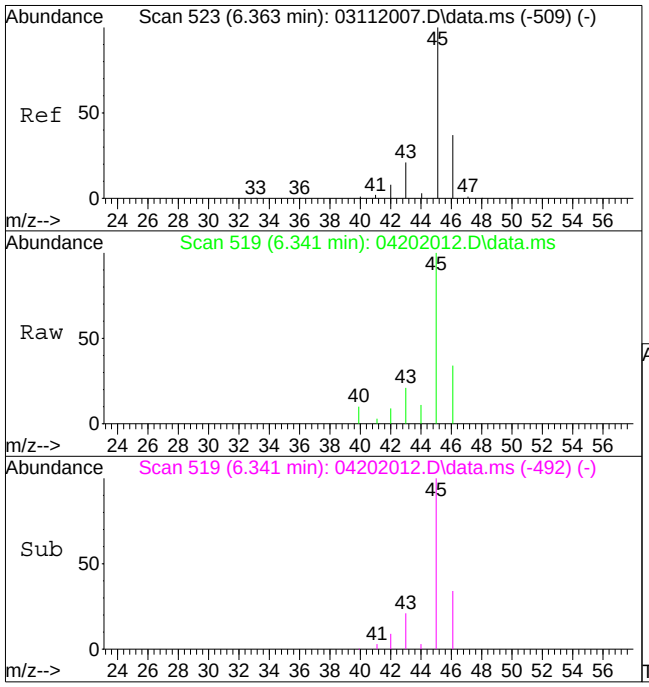


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.26 ng
RT: 4.27 min Scan# 143
Delta R.T. 0.005 min
Lab File: 04202012.D
Acq: 20 Apr 2020 10:02

Tgt Ion: 85 Resp: 90459

Ion	Ratio	Lower	Upper
85	100		
87	32.4	12.3	52.3
101	8.8	0.0	29.0
103	5.7	0.0	25.8

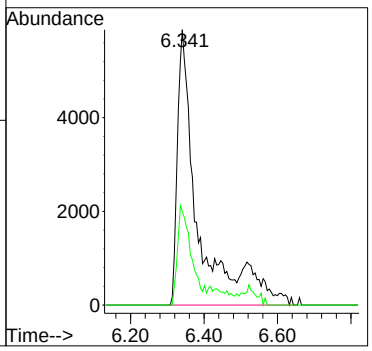


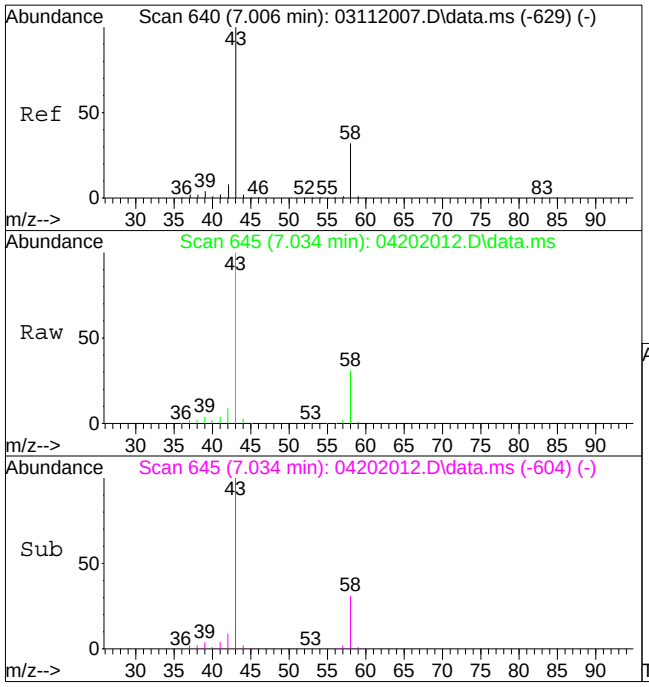


#10
Ethanol
Concen: 0.89 ng
RT: 6.34 min Scan# 519
Delta R.T. -0.099 min
Lab File: 04202012.D
Acq: 20 Apr 2020 10:02

Tgt Ion: 45 Resp: 23584

Ion	Ratio	Lower	Upper
45	100		
46	34.6	17.3	57.3

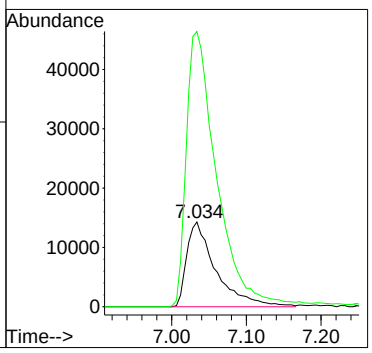


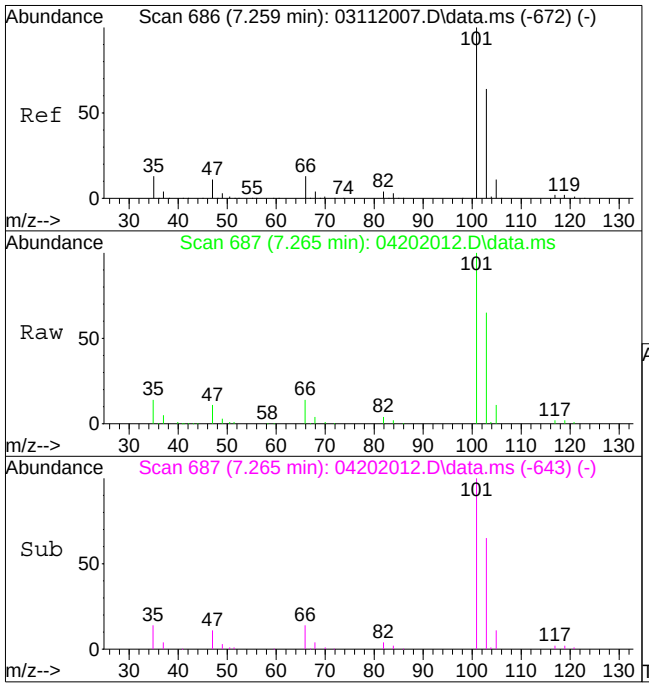


#13
Acetone
Concen: 1.49 ng
RT: 7.03 min Scan# 645
Delta R.T. -0.022 min
Lab File: 04202012.D
Acq: 20 Apr 2020 10:02

Tgt Ion: 58 Resp: 38966

Ion	Ratio	Lower	Upper
58	100		
43	341.4	287.3	347.3

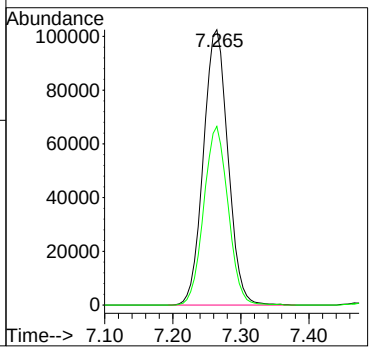


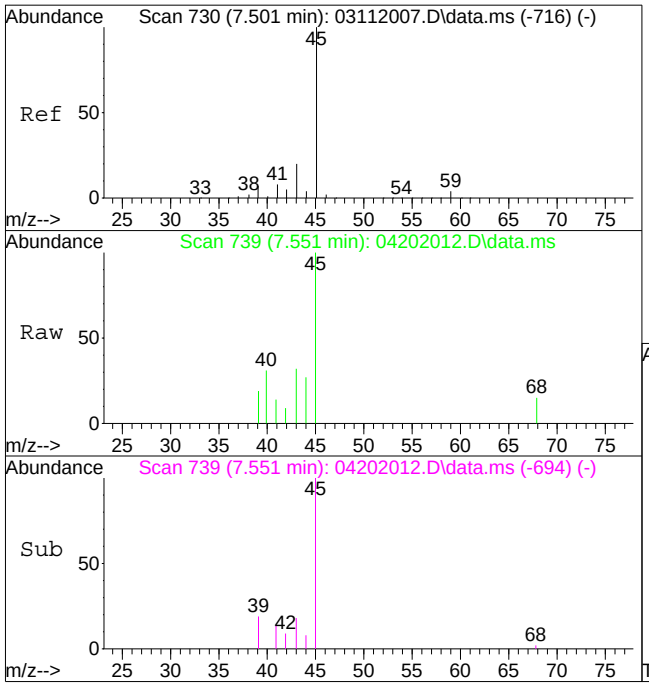


#14
Trichlorofluoromethane
Concen: 4.05 ng
RT: 7.26 min Scan# 687
Delta R.T. -0.010 min
Lab File: 04202012.D
Acq: 20 Apr 2020 10:02

Tgt Ion:101 Resp: 256684

Ion	Ratio	Lower	Upper
101	100		
103	64.3	44.6	84.6

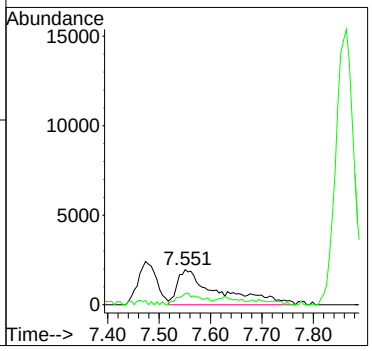


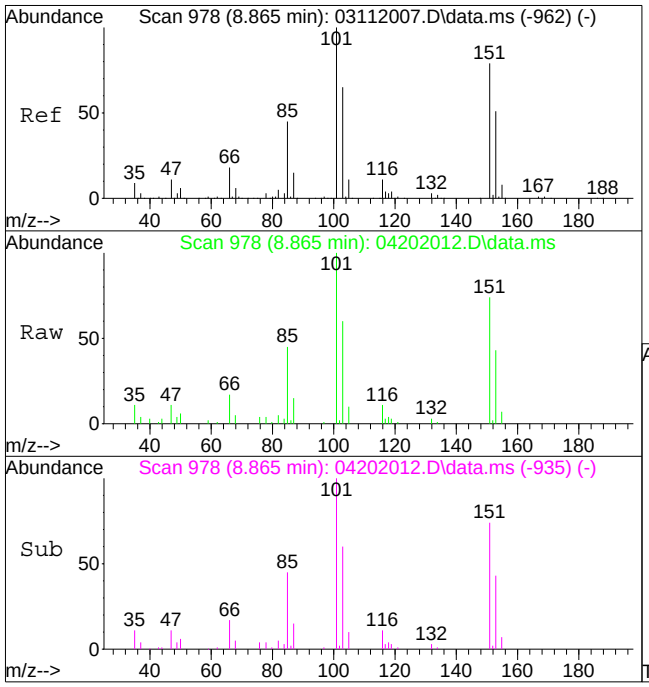


#15
2-Propanol (Isopropanol)
Concen: 0.14 ng
RT: 7.55 min Scan# 739
Delta R.T. 0.000 min
Lab File: 04202012.D
Acq: 20 Apr 2020 10:02

Tgt Ion: 45 Resp: 10850

Ion	Ratio	Lower	Upper
45	100		
43	38.4	0.3	40.3

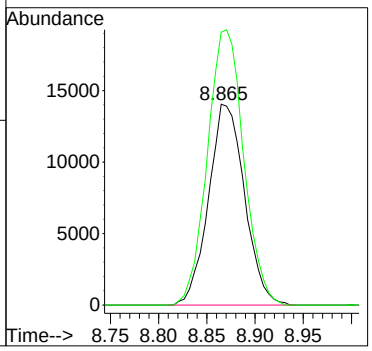


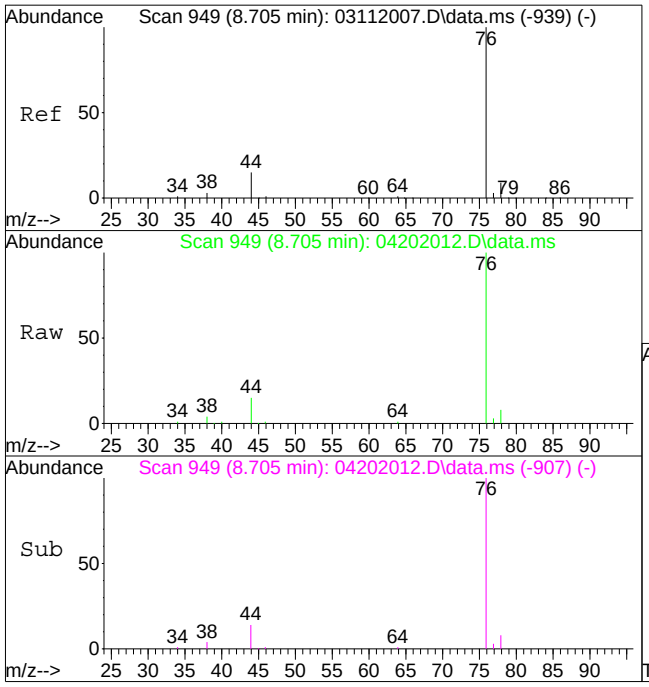


#21
Trichlorotrifluoroethane
Concen: 1.20 ng
RT: 8.86 min Scan# 978
Delta R.T. -0.011 min
Lab File: 04202012.D
Acq: 20 Apr 2020 10:02

Tgt Ion:151 Resp: 36465

Ion	Ratio	Lower	Upper
151	100		
101	138.1	108.4	148.4

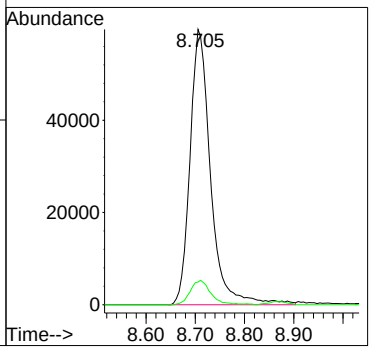


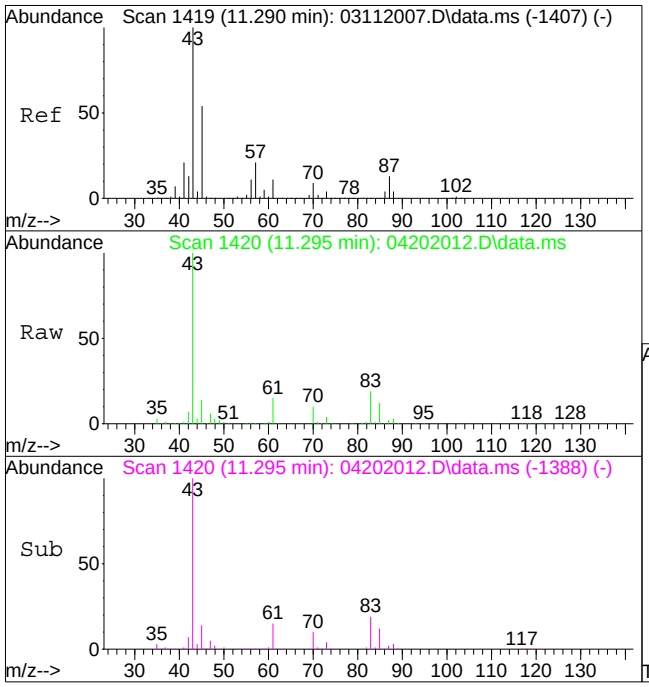


#22
Carbon Disulfide
Concen: 1.42 ng
RT: 8.71 min Scan# 949
Delta R.T. -0.016 min
Lab File: 04202012.D
Acq: 20 Apr 2020 10:02

Tgt Ion: 76 Resp: 173389

Ion	Ratio	Lower	Upper
76	100		
78	8.9	0.0	29.2

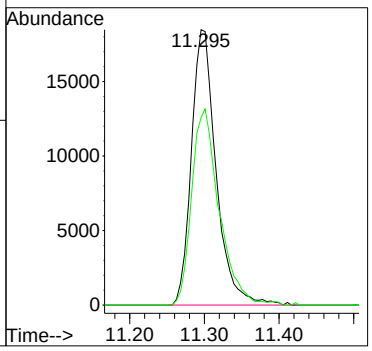


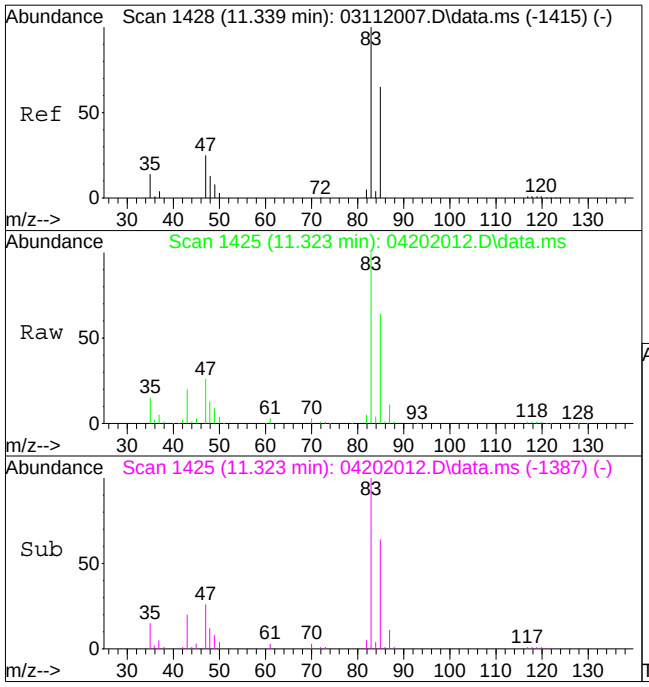


#30
Ethyl Acetate
Concen: 3.31 ng
RT: 11.30 min Scan# 1420
Delta R.T. -0.022 min
Lab File: 04202012.D
Acq: 20 Apr 2020 10:02

Tgt Ion: 61 Resp: 42481

Ion	Ratio	Lower	Upper
61	100		
70	79.1	59.1	99.1

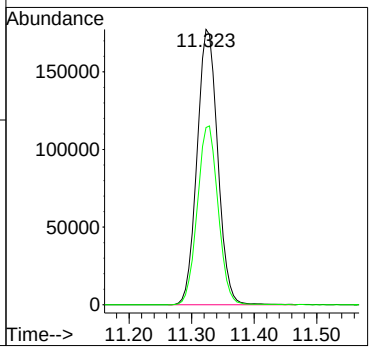


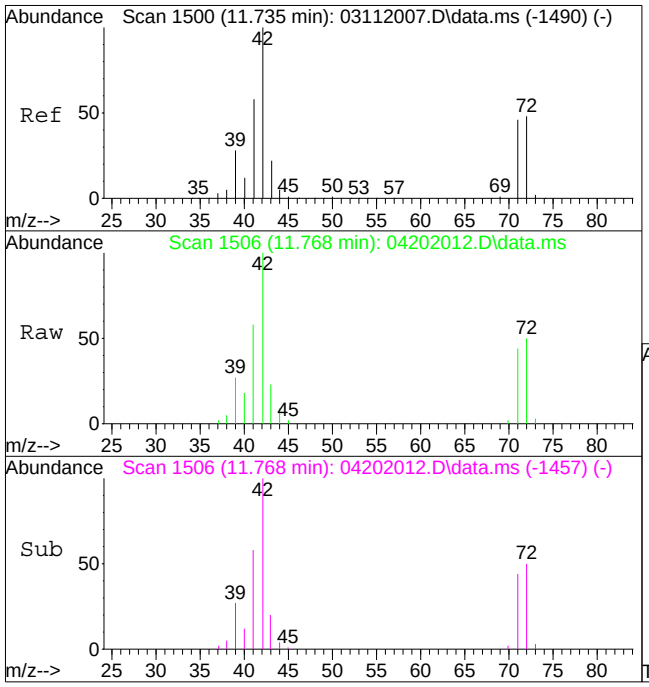


#32
Chloroform
Concen: 6.43 ng
RT: 11.32 min Scan# 1425
Delta R.T. -0.038 min
Lab File: 04202012.D
Acq: 20 Apr 2020 10:02

Tgt Ion: 83 Resp: 406885

Ion	Ratio	Lower	Upper
83	100		
85	65.3	45.5	85.5

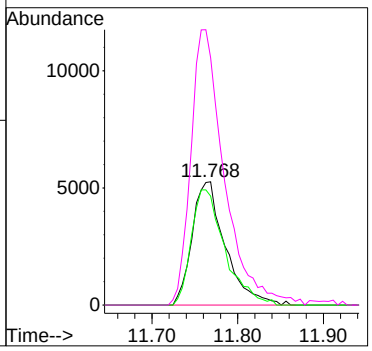


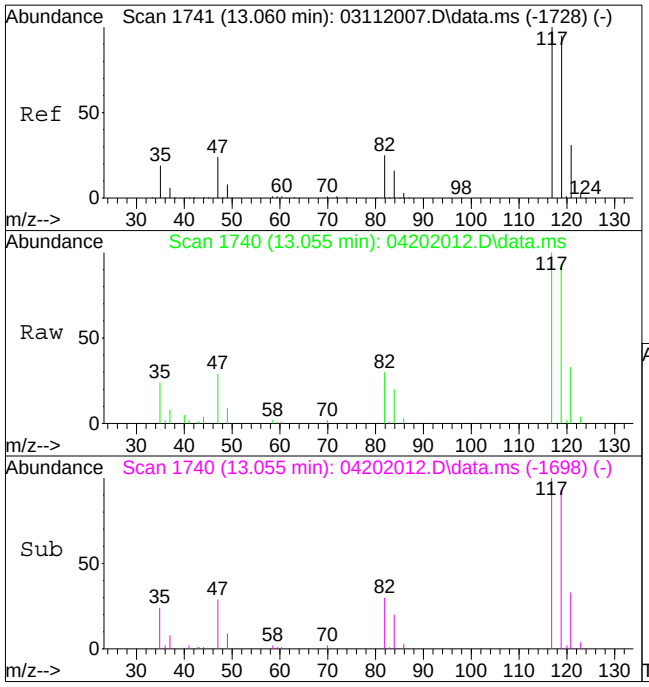


#34
Tetrahydrofuran (THF)
Concen: 0.63 ng
RT: 11.77 min Scan# 1506
Delta R.T. 0.022 min
Lab File: 04202012.D
Acq: 20 Apr 2020 10:02

Tgt Ion: 72 Resp: 14180

Ion	Ratio	Lower	Upper
72	100		
71	94.3	75.9	115.9
42	225.8	189.3	229.3

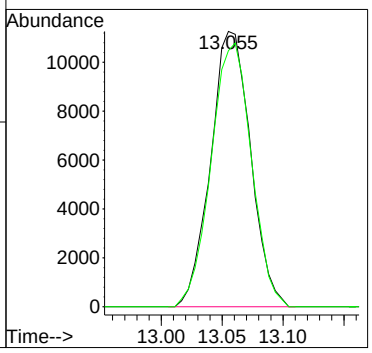


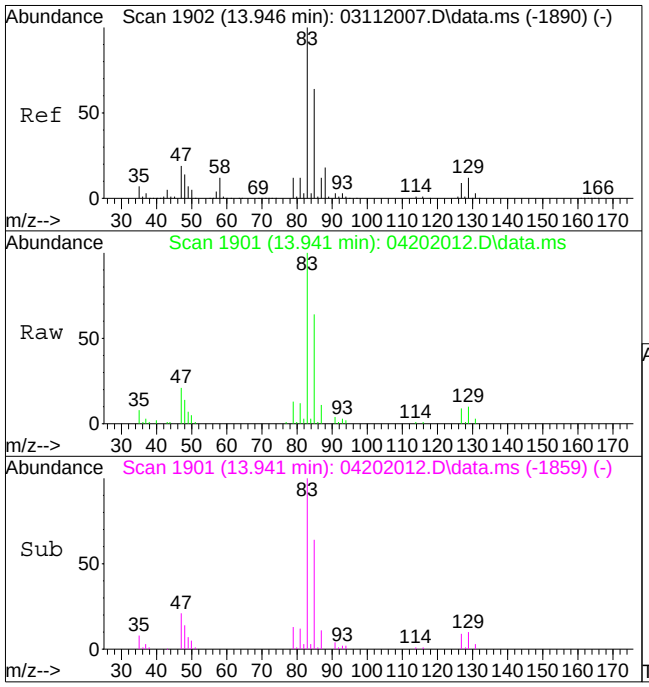


#42
Carbon Tetrachloride
Concen: 0.50 ng
RT: 13.06 min Scan# 1740
Delta R.T. -0.016 min
Lab File: 04202012.D
Acq: 20 Apr 2020 10:02

Tgt Ion:117 Resp: 25717

Ion	Ratio	Lower	Upper
117	100		
119	96.6	75.4	115.4

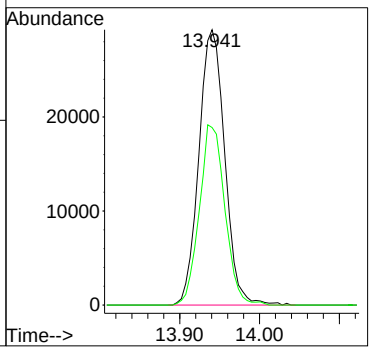


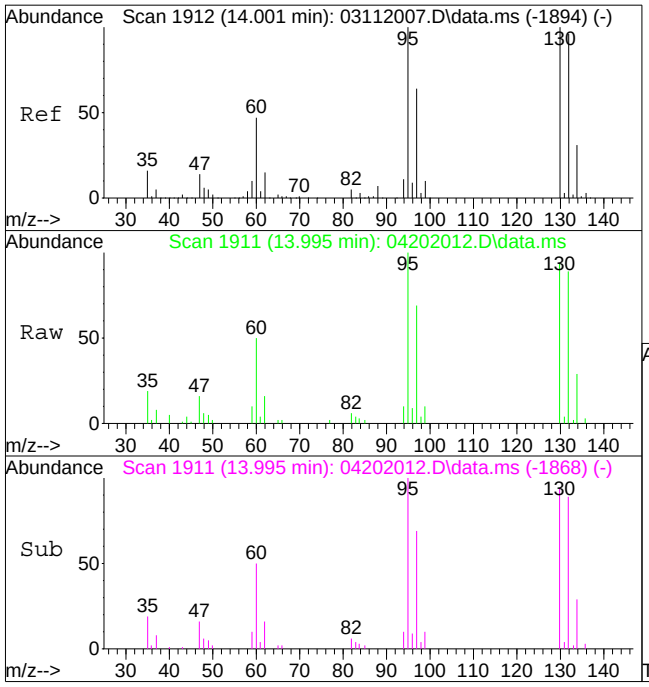


#46
Bromodichloromethane
Concen: 1.31 ng
RT: 13.94 min Scan# 1901
Delta R.T. -0.016 min
Lab File: 04202012.D
Acq: 20 Apr 2020 10:02

Tgt Ion: 83 Resp: 65985

Ion	Ratio	Lower	Upper
83	100		
85	64.4	44.0	84.0

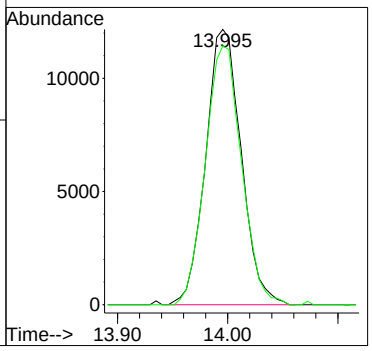


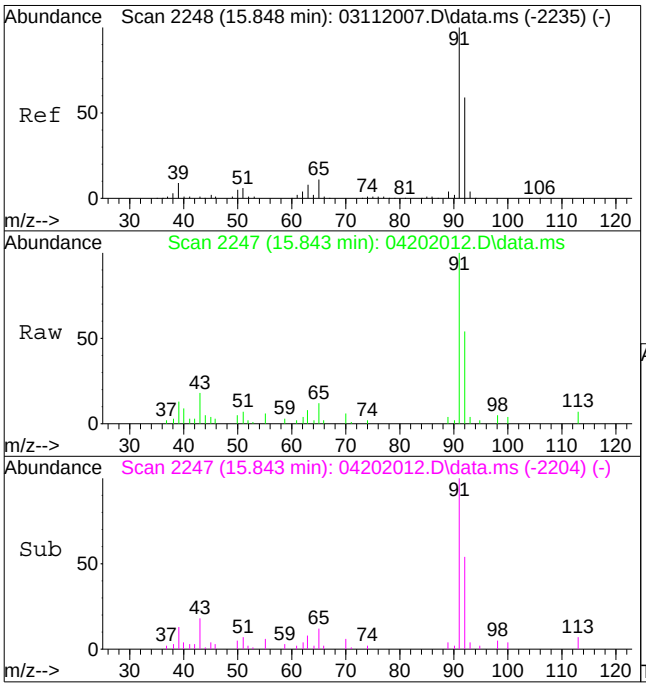


#47
Trichloroethene
Concen: 0.65 ng
RT: 14.00 min Scan# 1911
Delta R.T. -0.011 min
Lab File: 04202012.D
Acq: 20 Apr 2020 10:02

Tgt Ion:130 Resp: 27308

Ion	Ratio	Lower	Upper
130	100		
132	95.6	74.7	114.7

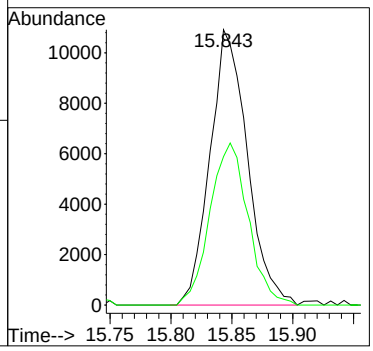


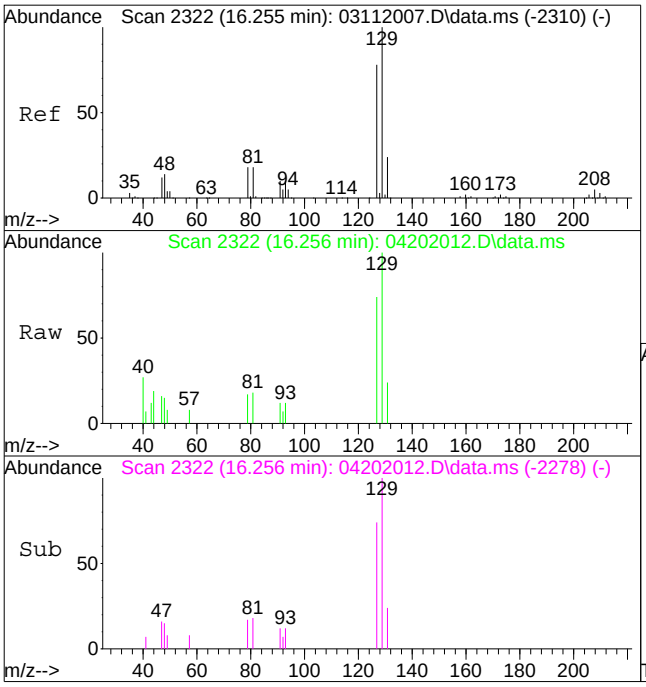


#58
Toluene
Concen: 0.15 ng
RT: 15.84 min Scan# 2247
Delta R.T. -0.011 min
Lab File: 04202012.D
Acq: 20 Apr 2020 10:02

Tgt Ion: 91 Resp: 23309

Ion	Ratio	Lower	Upper
91	100		
92	60.3	39.0	79.0

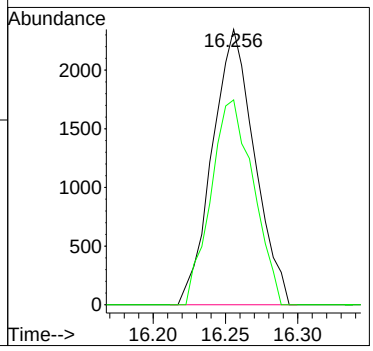


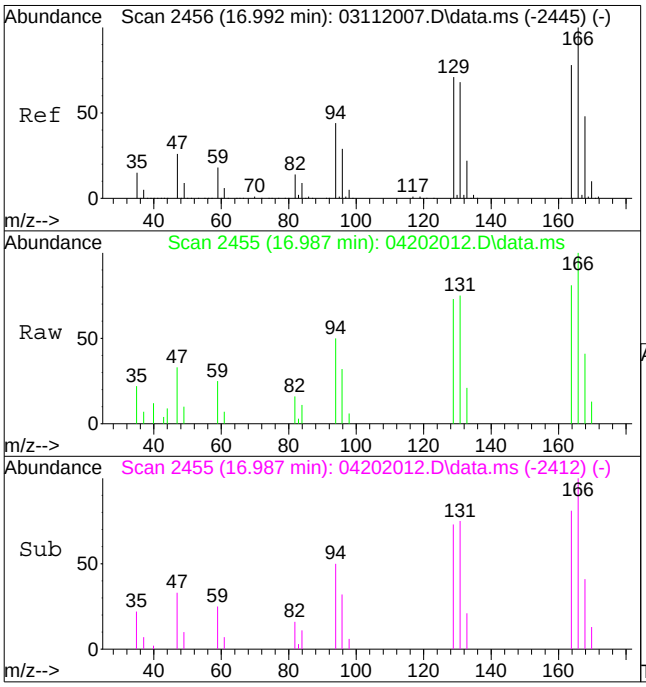


#60
Dibromochloromethane
Concen: 0.12 ng
RT: 16.26 min Scan# 2322
Delta R.T. -0.005 min
Lab File: 04202012.D
Acq: 20 Apr 2020 10:02

Tgt Ion:129 Resp: 4776

Ion	Ratio	Lower	Upper
129	100		
127	74.6	57.3	97.3

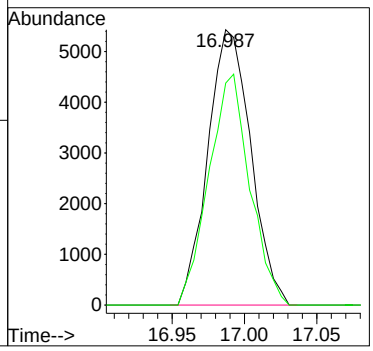


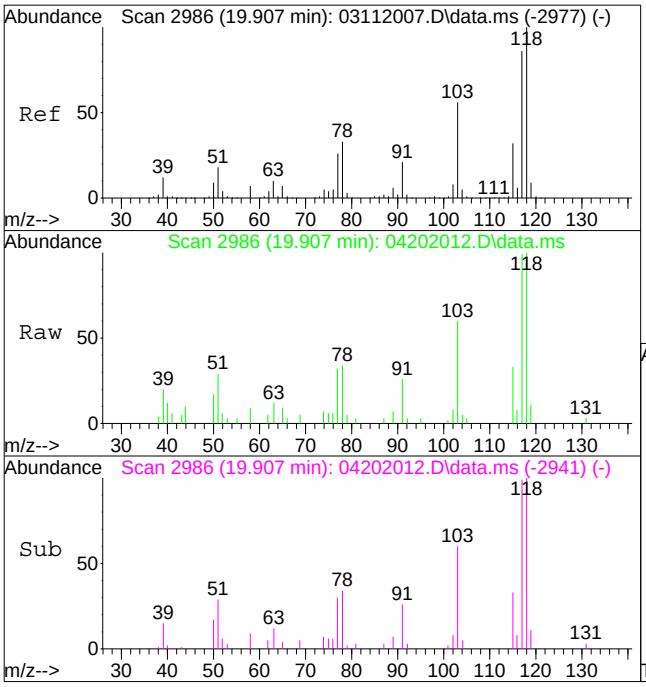


#64
Tetrachloroethene
Concen: 0.27 ng
RT: 16.99 min Scan# 2455
Delta R.T. -0.011 min
Lab File: 04202012.D
Acq: 20 Apr 2020 10:02

Tgt Ion:166 Resp: 11223

Ion	Ratio	Lower	Upper
166	100		
164	80.0	58.6	98.6

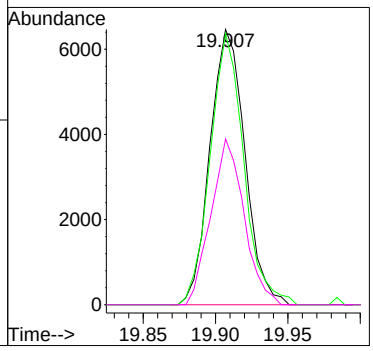


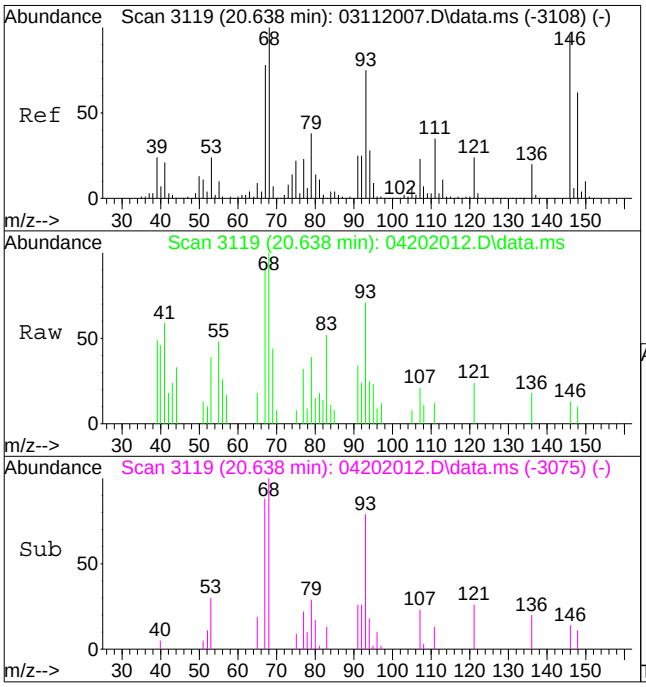


#80
alpha-Methylstyrene
Concen: 0.14 ng
RT: 19.91 min Scan# 2986
Delta R.T. -0.005 min
Lab File: 04202012.D
Acq: 20 Apr 2020 10:02

Tgt Ion:118 Resp: 10854

Ion	Ratio	Lower	Upper
118	100		
117	94.9	70.6	110.6
103	57.2	53.2	93.2

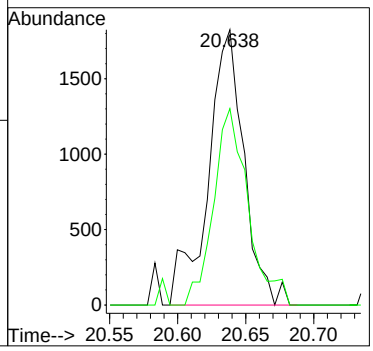




#91
d-Limonene
Concen: 0.06 ng
RT: 20.64 min Scan# 3119
Delta R.T. -0.011 min
Lab File: 04202012.D
Acq: 20 Apr 2020 10:02

Tgt Ion: 68 Resp: 3350

Ion	Ratio	Lower	Upper
68	100		
93	68.4	54.7	94.7



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202013.D Vial: 8
Acq On : 20 Apr 2020 10:36 Operator: TD
Sample : P2002028-011 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 20:12:16 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 4/20/20
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	319891	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1420349	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	701281	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	564577	12.746	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.00%				
57) Toluene-d8 (SS2)	15.74	98	1475407	11.869	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.96%				
73) Bromofluorobenzene (SS3)	19.00	174	493892	11.252	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.00%				
Target Compounds							Qvalue
2) Propene	4.14	42	7054	0.210	ng		96
3) Dichlorodifluoromethan...	4.28	85	107397	1.488	ng		99
4) Chloromethane	4.58	50	2917	0.051	ng		88
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	851	N.D.			
6) Vinyl Chloride	4.99	62	204	N.D.			
7) 1,3-Butadiene	5.25	54	454	N.D.			
8) Bromomethane	5.68	94	529	N.D.			
9) Chloroethane	6.01	64	500	N.D.			
10) Ethanol	6.33	45	49785	1.878	ng		100
11) Acetonitrile	6.63	41	5668	0.097	ng		82
12) Acrolein	6.82	56	12670	0.649	ng		98
13) Acetone	7.02	58	100021m	3.822	ng		
14) Trichlorofluoromethane	7.26	101	358698	5.636	ng		100
15) 2-Propanol (Isopropanol)	7.53	45	20510	0.264	ng		65
16) Acrylonitrile	7.79	53	56	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.44	84	16758	0.492	ng		94
20) 3-Chloro-1-propene (Al...	8.54	41	569	N.D.			
21) Trichlorotrifluoroethane	8.86	151	56247	1.848	ng		94
22) Carbon Disulfide	8.71	76	100175	0.818	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	9.96	63	4782	0.082	ng		98
25) Methyl tert-Butyl Ether	10.11	73	130	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.49	72	15238	0.699	ng		95
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	11.28	57	1596	N.D.			
32) Chloroform	11.32	83	1363233	21.464	ng		100
34) Tetrahydrofuran (THF)	11.77	72	7944	0.354	ng	#	82
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.02	62	218	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	12.98	61	418	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.90	78	4701	N.D.			
42) Carbon Tetrachloride	13.06	117	46311	0.918	ng		99
43) Cyclohexane	13.17	84	1371	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	13.62	63	176	N.D.			
46) Bromodichloromethane	13.94	83	240116	4.837	ng		99
47) Trichloroethene	14.00	130	78772	1.893	ng		100
48) 1,4-Dioxane	14.00	88	1006	N.D.			
49) 2,2,4-Trimethylpentane...	14.07	57	2344	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

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Misc : S31-02112001

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Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.33	71	705	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.92	58	968	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.85	91	8196	0.053 ng	96
59) 2-Hexanone	16.10	43	9994	0.130 ng	96
60) Dibromochloromethane	16.25	129	28628	0.700 ng	100
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.73	43	1033	N.D.	
63) n-Octane	16.85	57	1123	N.D.	
64) Tetrachloroethene	16.99	166	9784	0.228 ng	95
65) Chlorobenzene	17.65	112	305	N.D.	
66) Ethylbenzene	18.02	91	1432	N.D.	
67) m- & p-Xylenes	18.17	91	3310	N.D.	
68) Bromoform	18.23	173	175	N.D.	
69) Styrene	18.50	104	974	N.D.	
70) o-Xylene	18.60	91	1535	N.D.	
71) n-Nonane	18.80	43	1975	N.D.	
72) 1,1,2,2-Tetrachloroethane	18.61	83	1431	N.D.	
74) Cumene	19.13	105	1526	N.D.	
75) alpha-Pinene	19.47	93	310	N.D.	
76) n-Propylbenzene	19.56	91	2554	N.D.	
77) 3-Ethyltoluene	19.68	105	1353	N.D.	
78) 4-Ethyltoluene	19.70	105	1141	N.D.	
79) 1,3,5-Trimethylbenzene	19.77	105	881	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	19.94	105	1012	N.D.	
82) 1,2,4-Trimethylbenzene	20.14	105	2132	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.24	91	1276	N.D.	
85) 1,3-Dichlorobenzene	20.26	146	304	N.D.	
86) 1,4-Dichlorobenzene	20.32	146	502	N.D.	
87) sec-Butylbenzene	20.38	105	787	N.D.	
88) 4-Isopropyltoluene (p-...	20.51	119	1155	N.D.	
89) 1,2,3-Trimethylbenzene	20.51	105	1182	N.D.	
90) 1,2-Dichlorobenzene	20.63	146	254	N.D.	
91) d-Limonene	20.64	68	2482	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.33	57	3300	N.D.	
94) 1,2,4-Trichlorobenzene	22.14	180	476	N.D.	
95) Naphthalene	22.24	128	3132	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.14	119	348	N.D.	
100) n-Butylbenzene	20.86	91	4590	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

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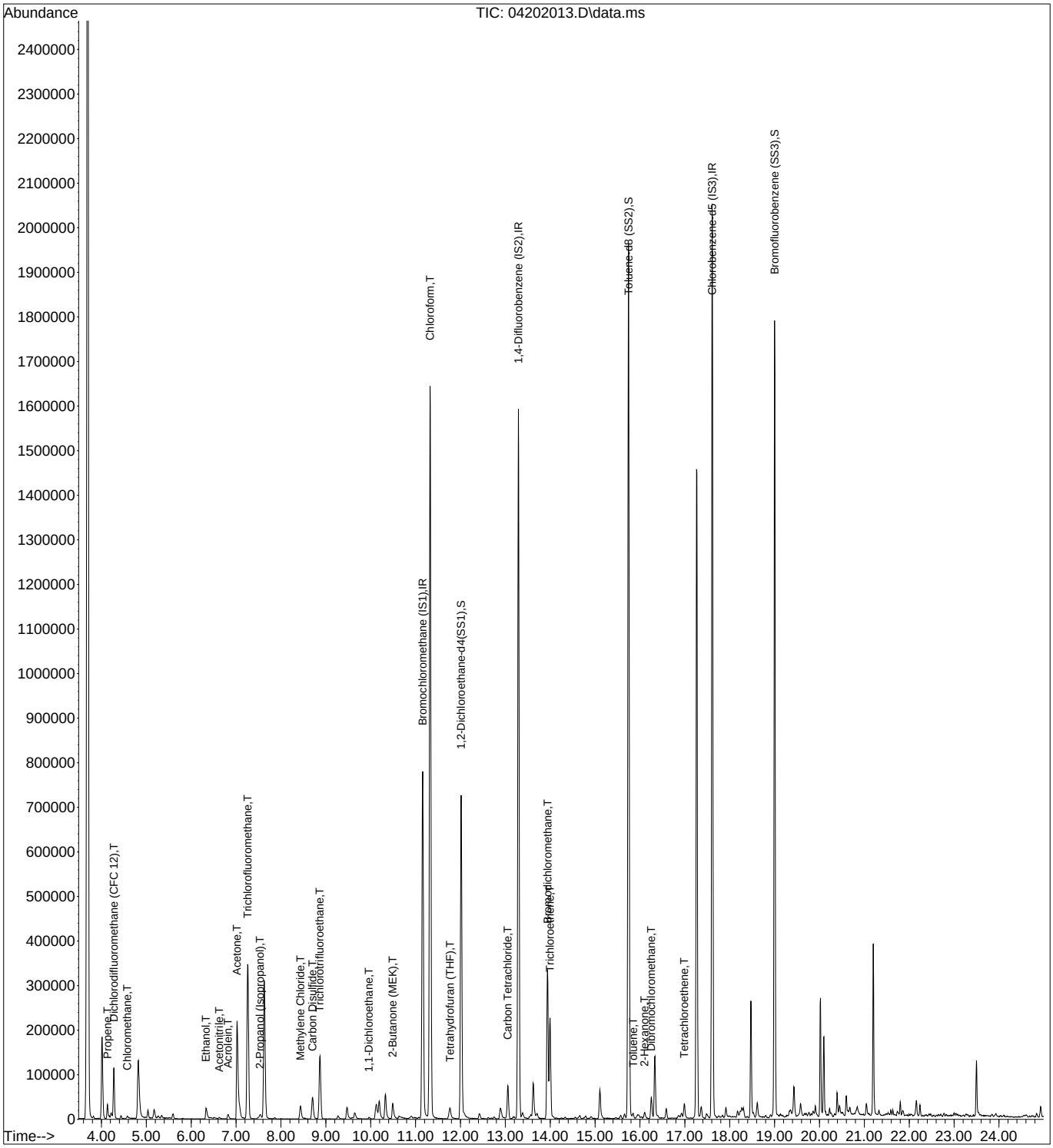

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LH 4/20/20

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37) 1,4-Difluorobenzene (IS2)	13.29	114	1420349	12.500	ng		-0.02
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Spiked Amount 12.500	Range 70 - 130		Recovery = 102.00%				
57) Toluene-d8 (SS2)	15.74	98	1475407	11.869	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.96%				
73) Bromofluorobenzene (SS3)	19.00	174	493892	11.252	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.00%				
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15) 2-Propanol (Isopropanol)	7.53	45	20510	0.264	ng		65
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32) Chloroform	11.32	83	1363233	21.464	ng		100
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42) Carbon Tetrachloride	13.06	117	46311	0.918	ng		99
46) Bromodichloromethane	13.94	83	240116	4.837	ng		99
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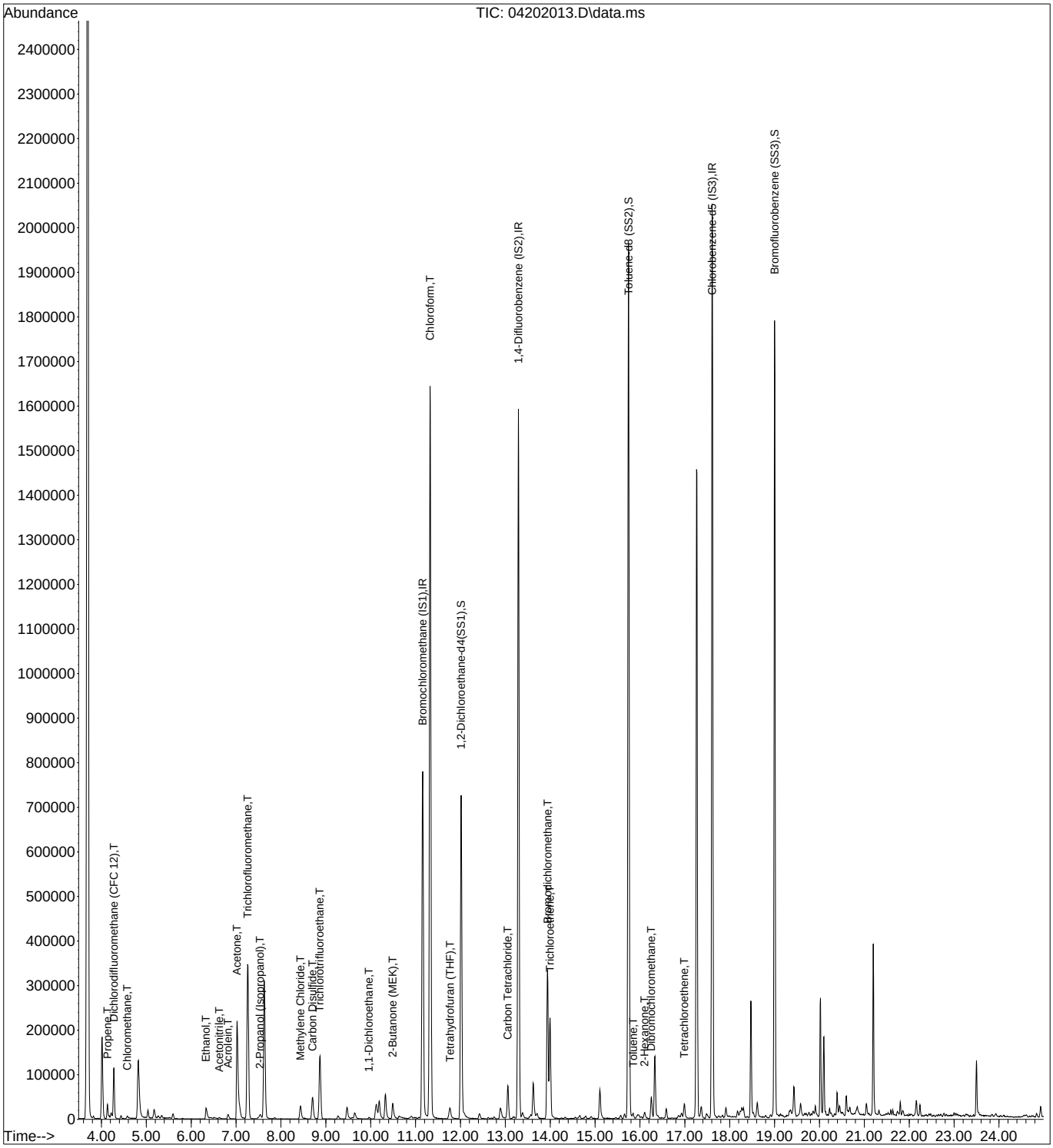
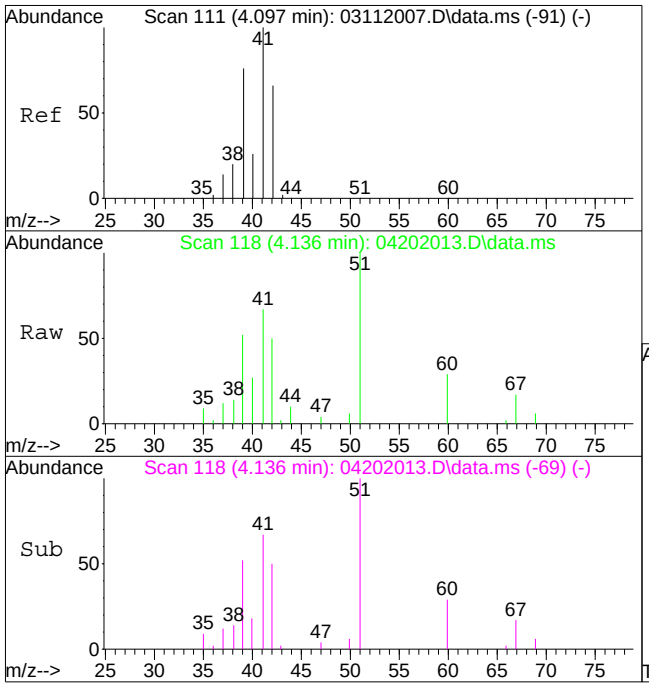
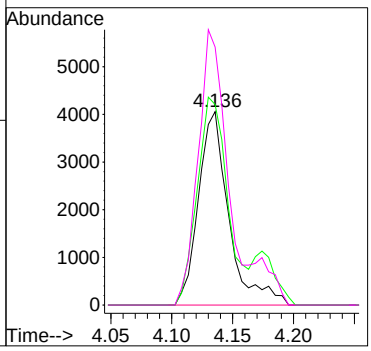


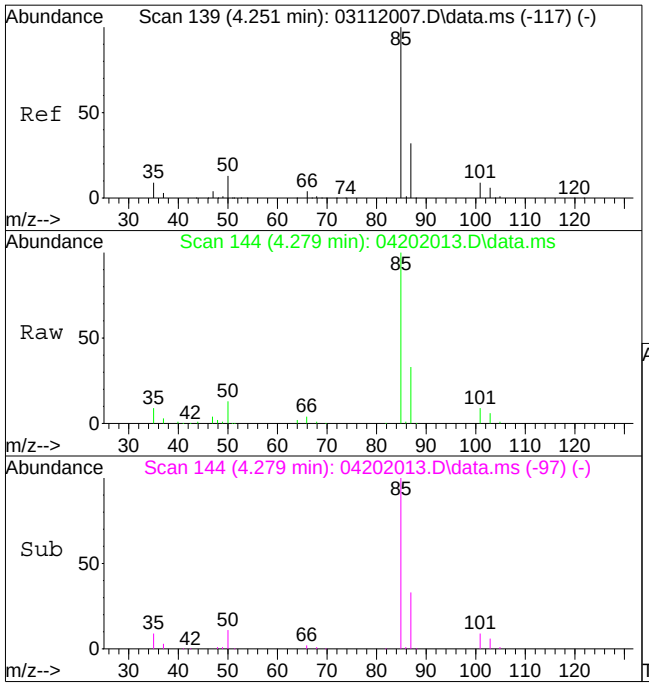


#2
Propene
Concen: 0.21 ng
RT: 4.14 min Scan# 118
Delta R.T. 0.022 min
Lab File: 04202013.D
Acq: 20 Apr 2020 10:36

Tgt Ion: 42 Resp: 7054

Ion	Ratio	Lower	Upper
42	100		
39	108.6	95.3	135.3
41	149.5	132.0	172.0

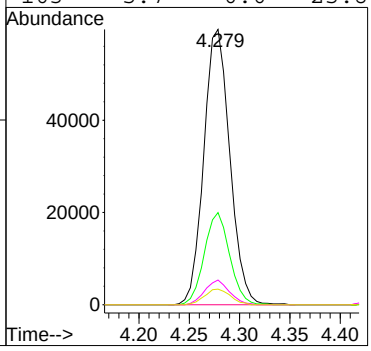


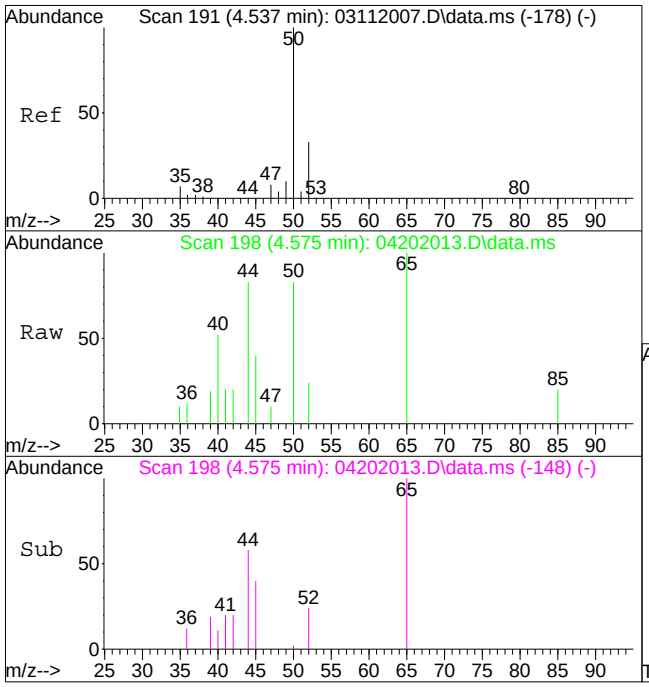


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.49 ng
RT: 4.28 min Scan# 144
Delta R.T. 0.011 min
Lab File: 04202013.D
Acq: 20 Apr 2020 10:36

Tgt Ion: 85 Resp: 107397

Ion	Ratio	Lower	Upper
85	100		
87	32.5	12.3	52.3
101	8.5	0.0	29.0
103	5.7	0.0	25.8

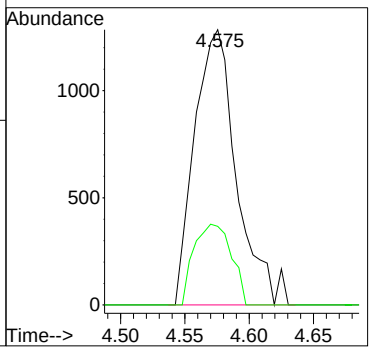


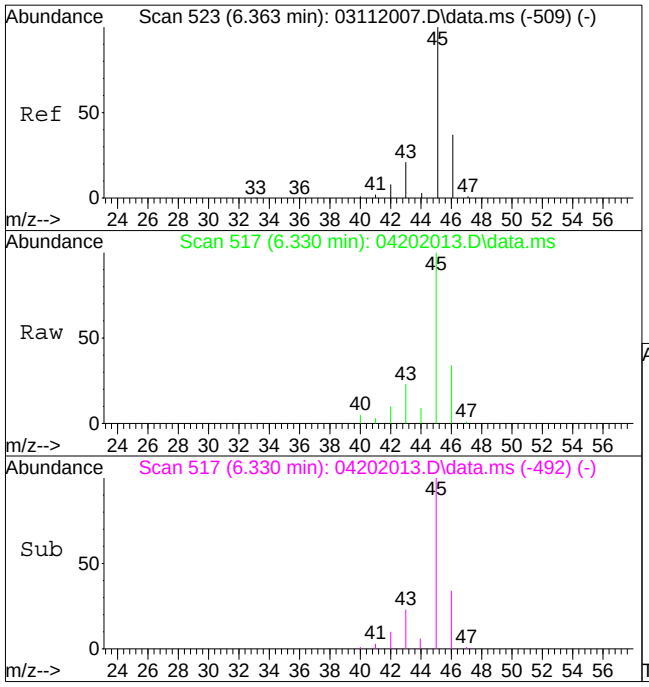


#4
Chloromethane
Concen: 0.05 ng
RT: 4.58 min Scan# 198
Delta R.T. 0.022 min
Lab File: 04202013.D
Acq: 20 Apr 2020 10:36

Tgt Ion: 50 Resp: 2917

Ion	Ratio	Lower	Upper
50	100		
52	26.1	12.8	52.8

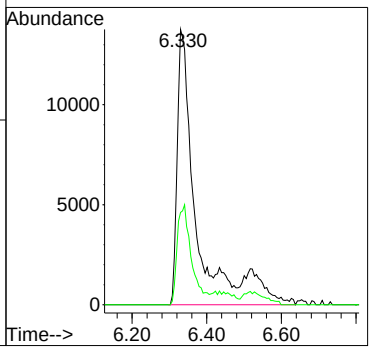


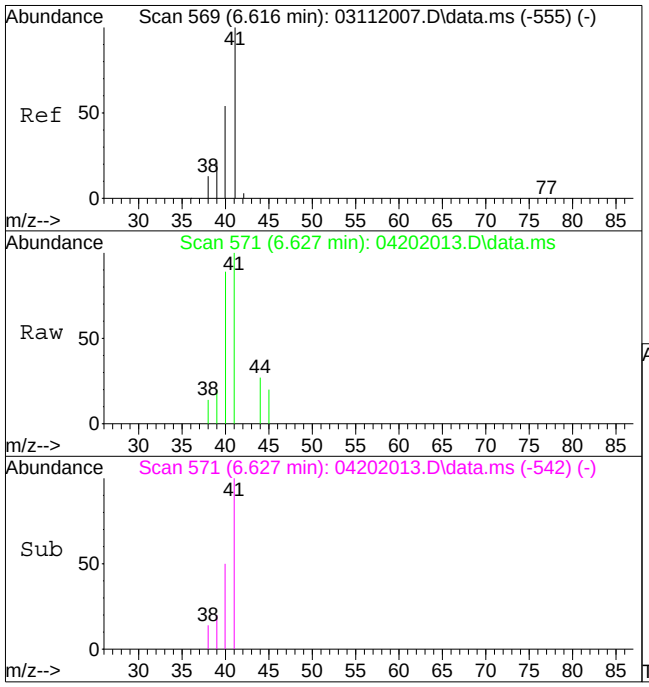


#10
Ethanol
Concen: 1.88 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.110 min
Lab File: 04202013.D
Acq: 20 Apr 2020 10:36

Tgt Ion: 45 Resp: 49785

Ion	Ratio	Lower	Upper
45	100		
46	37.1	17.3	57.3

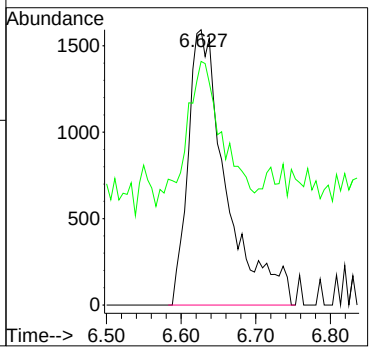


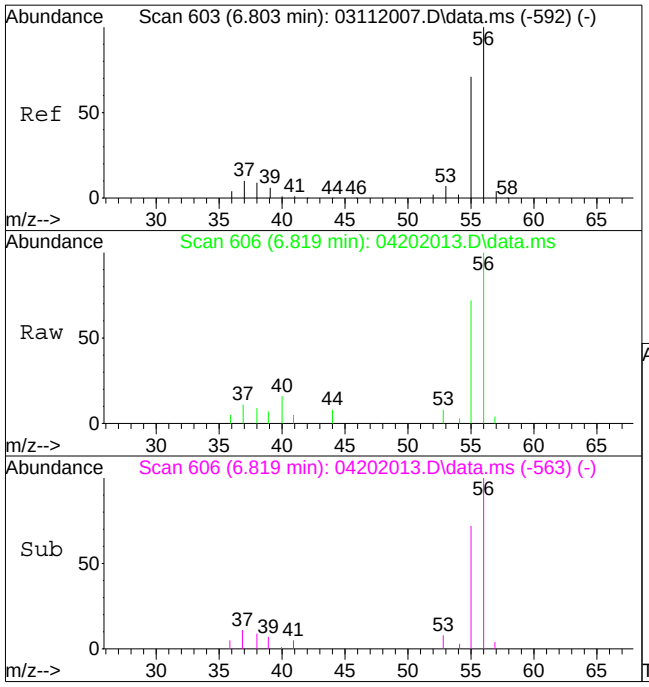


#11
Acetonitrile
Concen: 0.10 ng
RT: 6.63 min Scan# 571
Delta R.T. -0.038 min
Lab File: 04202013.D
Acq: 20 Apr 2020 10:36

Tgt Ion: 41 Resp: 5668

Ion	Ratio	Lower	Upper
41	100		
40	66.1	33.6	73.6

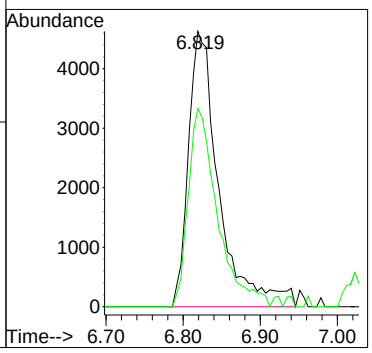


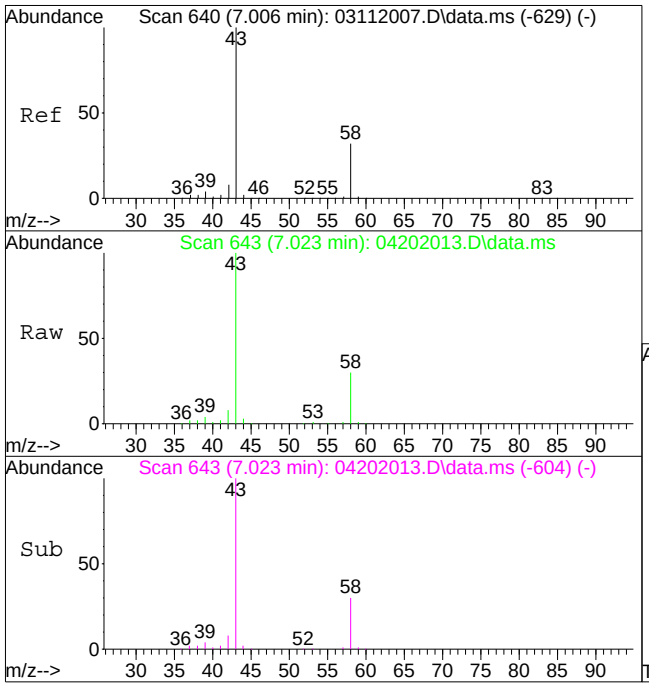


#12
Acrolein
Concen: 0.65 ng
RT: 6.82 min Scan# 606
Delta R.T. -0.011 min
Lab File: 04202013.D
Acq: 20 Apr 2020 10:36

Tgt Ion: 56 Resp: 12670

Ion	Ratio	Lower	Upper
56	100		
55	69.1	50.4	90.4

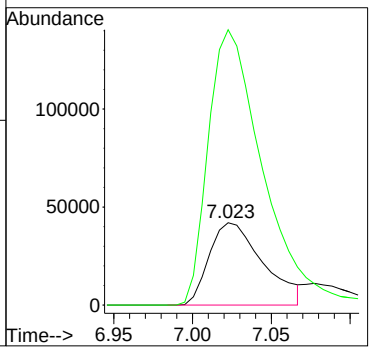


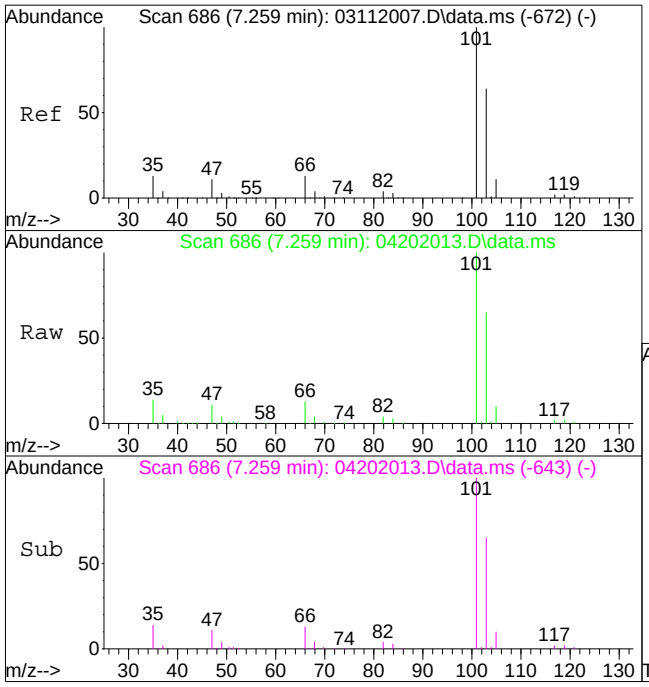


#13
Acetone
Concen: 3.82 ng m
RT: 7.02 min Scan# 643
Delta R.T. -0.033 min
Lab File: 04202013.D
Acq: 20 Apr 2020 10:36

Tgt Ion: 58 Resp: 100021

Ion	Ratio	Lower	Upper
58	100		
43	349.7	287.3	347.3#

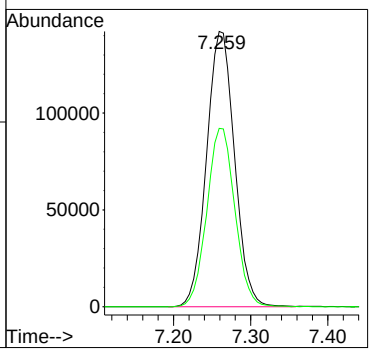


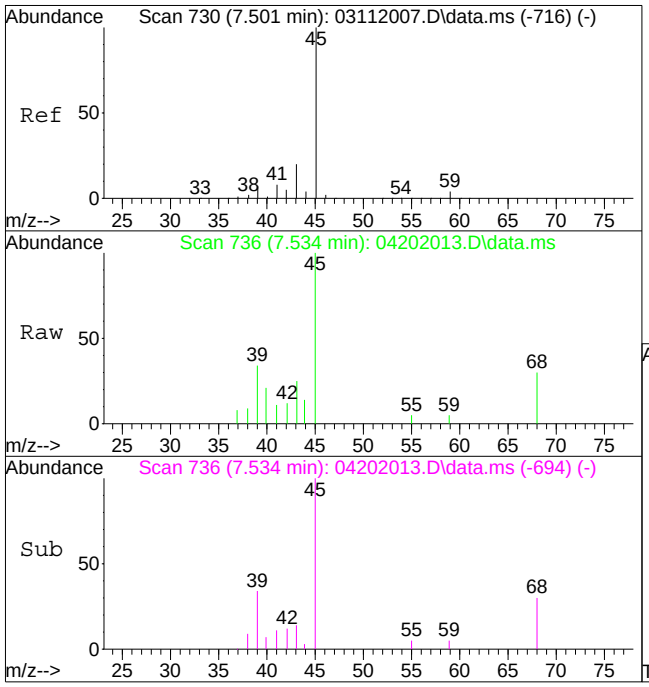


#14
Trichlorofluoromethane
Concen: 5.64 ng
RT: 7.26 min Scan# 686
Delta R.T. -0.016 min
Lab File: 04202013.D
Acq: 20 Apr 2020 10:36

Tgt Ion:101 Resp: 358698

Ion	Ratio	Lower	Upper
101	100		
103	64.9	44.6	84.6

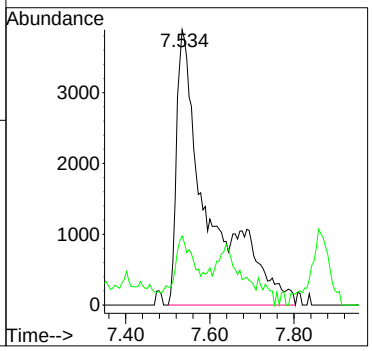


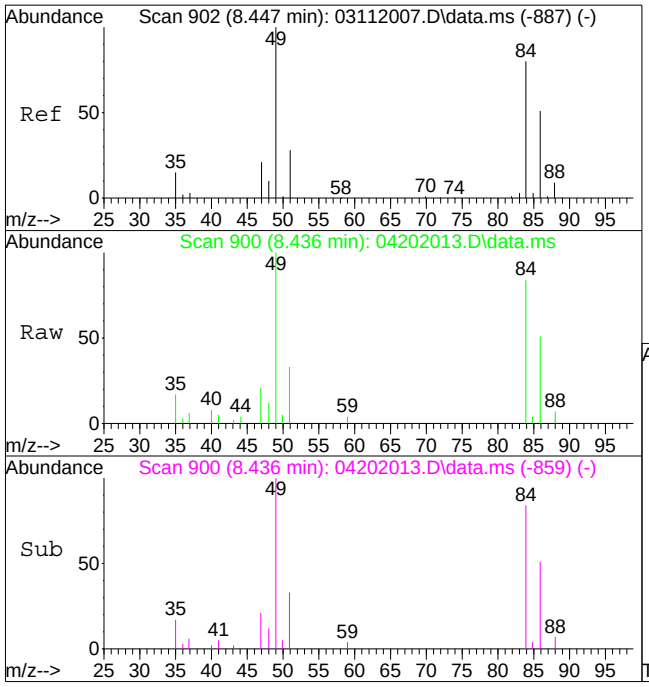


#15
2-Propanol (Isopropanol)
Concen: 0.26 ng
RT: 7.53 min Scan# 736
Delta R.T. -0.016 min
Lab File: 04202013.D
Acq: 20 Apr 2020 10:36

Tgt Ion: 45 Resp: 20510

Ion	Ratio	Lower	Upper
45	100		
43	36.3	0.3	40.3

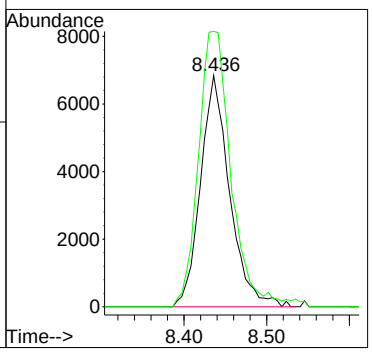


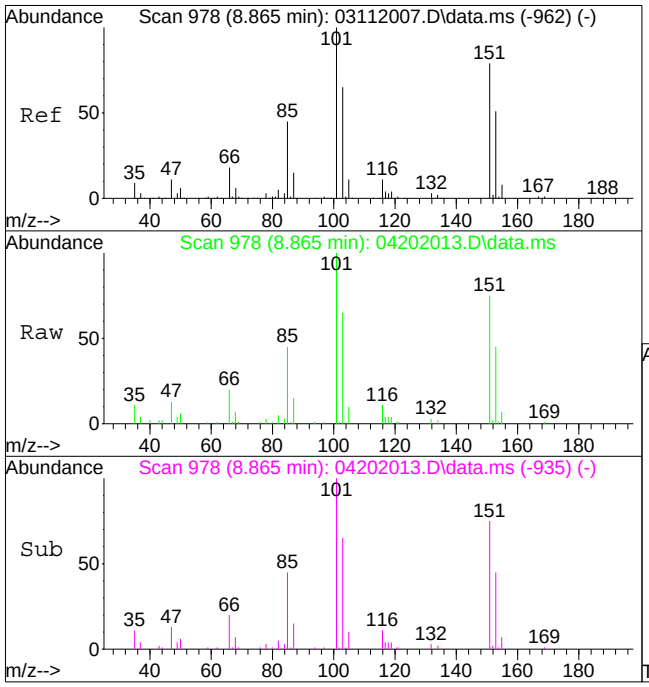


#19
Methylene Chloride
Concen: 0.49 ng
RT: 8.44 min Scan# 900
Delta R.T. -0.027 min
Lab File: 04202013.D
Acq: 20 Apr 2020 10:36

Tgt Ion: 84 Resp: 16758

Ion	Ratio	Lower	Upper
84	100		
49	134.2	102.2	152.2

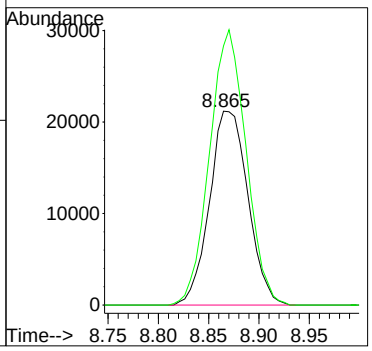


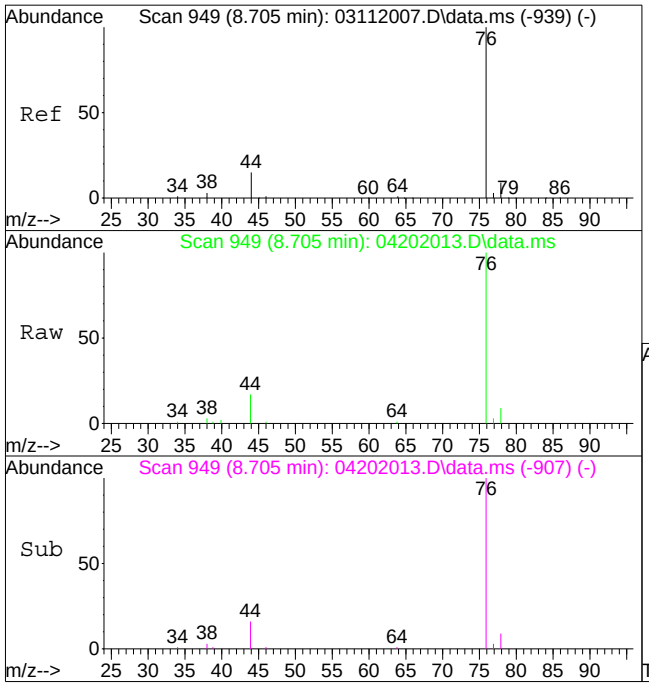


#21
Trichlorotrifluoroethane
Concen: 1.85 ng
RT: 8.86 min Scan# 978
Delta R.T. -0.011 min
Lab File: 04202013.D
Acq: 20 Apr 2020 10:36

Tgt Ion:151 Resp: 56247

Ion	Ratio	Lower	Upper
151	100		
101	135.2	108.4	148.4

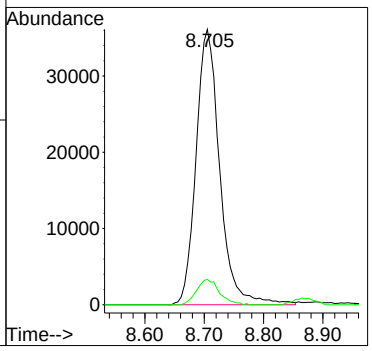


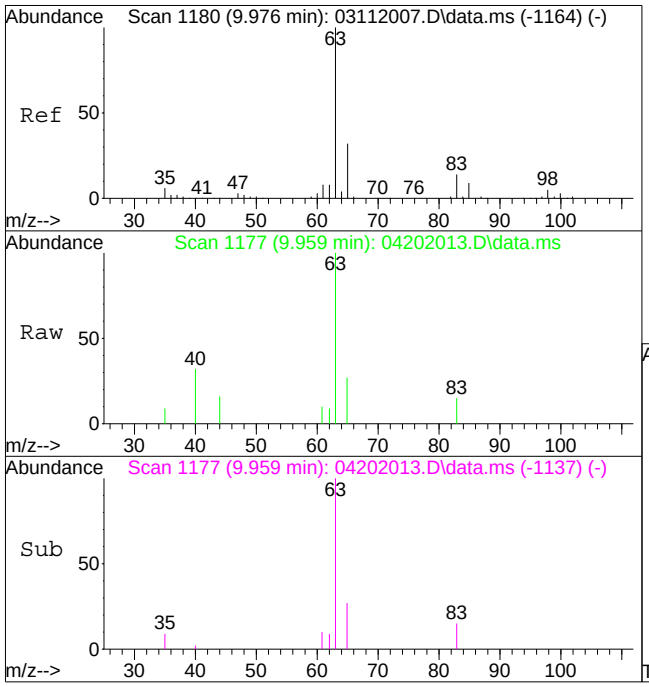


#22
Carbon Disulfide
Concen: 0.82 ng
RT: 8.71 min Scan# 949
Delta R.T. -0.016 min
Lab File: 04202013.D
Acq: 20 Apr 2020 10:36

Tgt Ion: 76 Resp: 100175

Ion	Ratio	Lower	Upper
76	100		
78	8.9	0.0	29.2

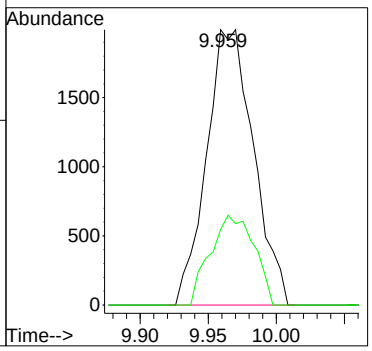


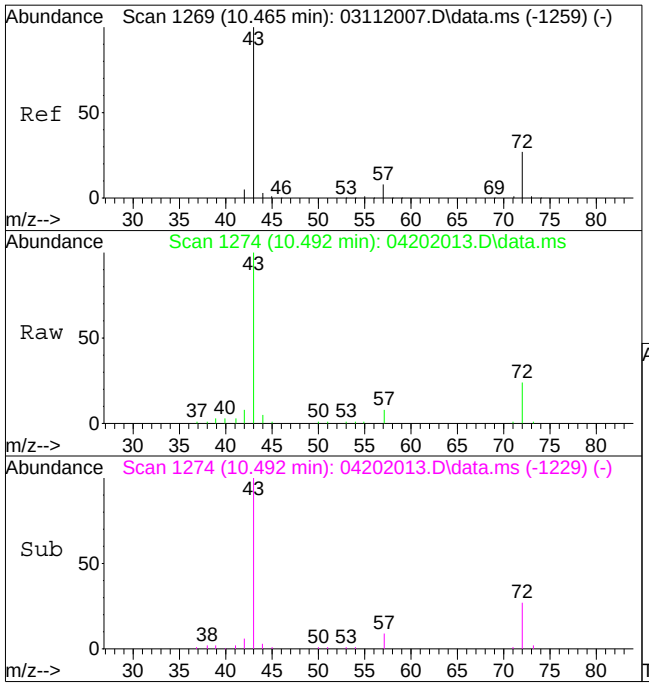


#24
1,1-Dichloroethane
Concen: 0.08 ng
RT: 9.96 min Scan# 1177
Delta R.T. -0.027 min
Lab File: 04202013.D
Acq: 20 Apr 2020 10:36

Tgt Ion: 63 Resp: 4782

Ion	Ratio	Lower	Upper
63	100		
65	30.5	11.8	51.8

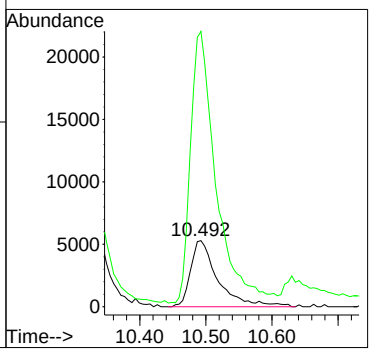


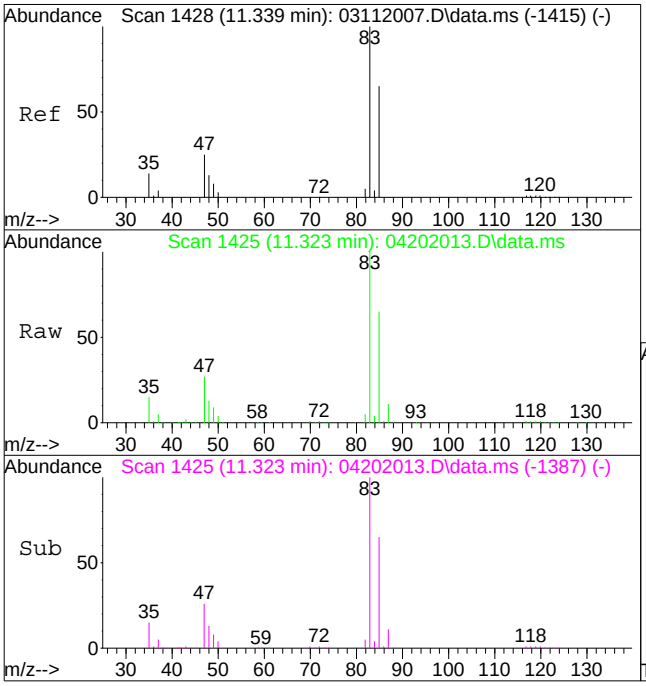


#27
2-Butanone (MEK)
Concen: 0.70 ng
RT: 10.49 min Scan# 1274
Delta R.T. 0.000 min
Lab File: 04202013.D
Acq: 20 Apr 2020 10:36

Tgt Ion: 72 Resp: 15238

Ion	Ratio	Lower	Upper
72	100		
43	384.7	353.4	393.4

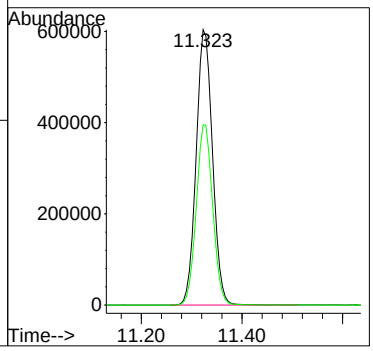


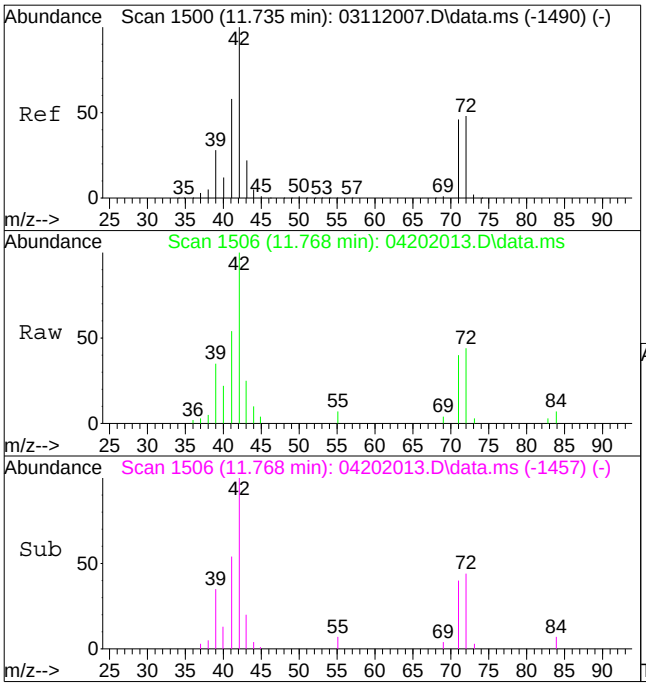


#32
Chloroform
Concen: 21.46 ng
RT: 11.32 min Scan# 1425
Delta R.T. -0.038 min
Lab File: 04202013.D
Acq: 20 Apr 2020 10:36

Tgt Ion: 83 Resp: 1363233

Ion	Ratio	Lower	Upper
83	100		
85	65.7	45.5	85.5

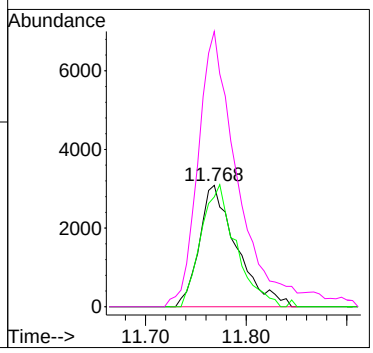


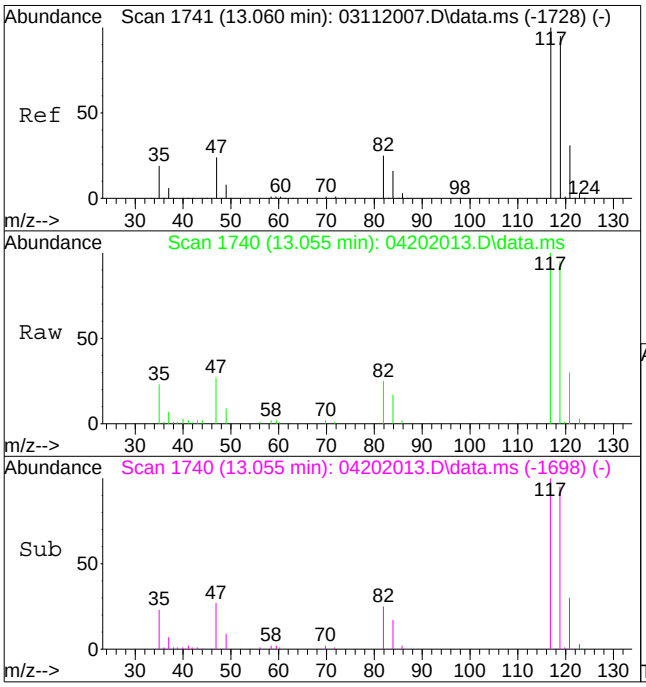


#34
Tetrahydrofuran (THF)
Concen: 0.35 ng
RT: 11.77 min Scan# 1506
Delta R.T. 0.022 min
Lab File: 04202013.D
Acq: 20 Apr 2020 10:36

Tgt Ion: 72 Resp: 7944

Ion	Ratio	Lower	Upper
72	100		
71	93.9	75.9	115.9
42	247.6	189.3	229.3#

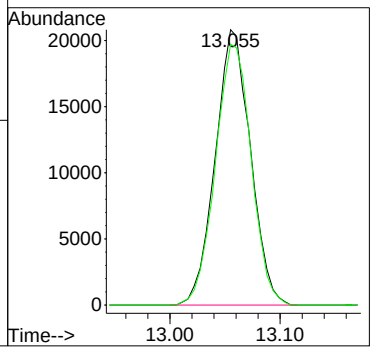


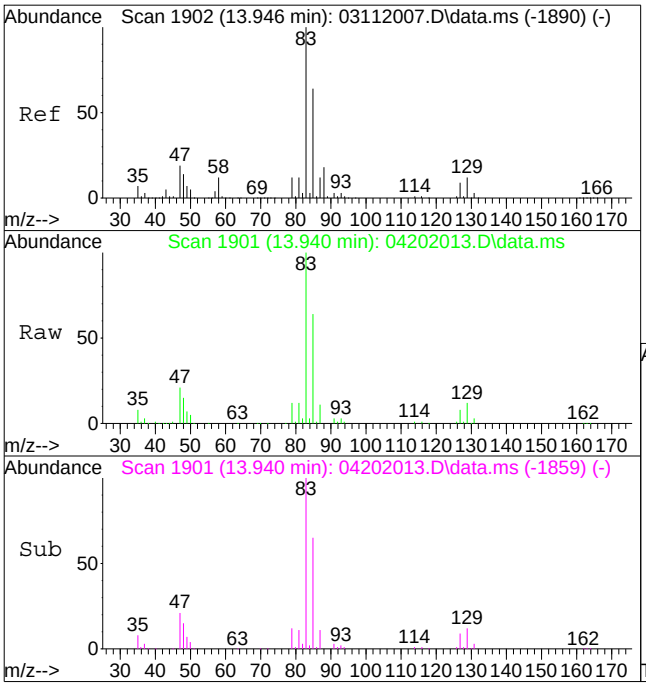


#42
Carbon Tetrachloride
Concen: 0.92 ng
RT: 13.06 min Scan# 1740
Delta R.T. -0.016 min
Lab File: 04202013.D
Acq: 20 Apr 2020 10:36

Tgt Ion:117 Resp: 46311

Ion	Ratio	Lower	Upper
117	100		
119	96.2	75.4	115.4

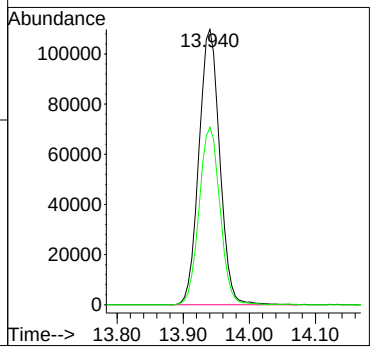


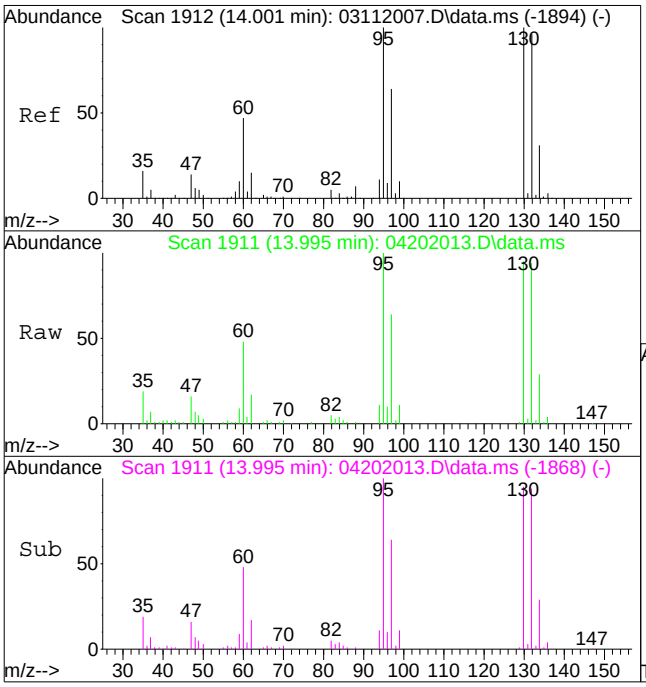


#46
Bromodichloromethane
Concen: 4.84 ng
RT: 13.94 min Scan# 1901
Delta R.T. -0.016 min
Lab File: 04202013.D
Acq: 20 Apr 2020 10:36

Tgt Ion: 83 Resp: 240116

Ion	Ratio	Lower	Upper
83	100		
85	64.7	44.0	84.0

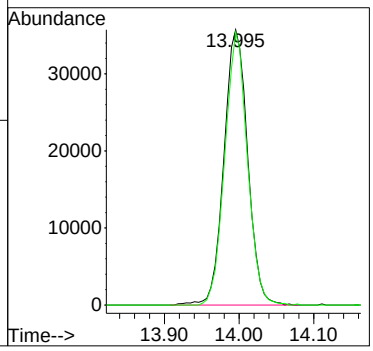


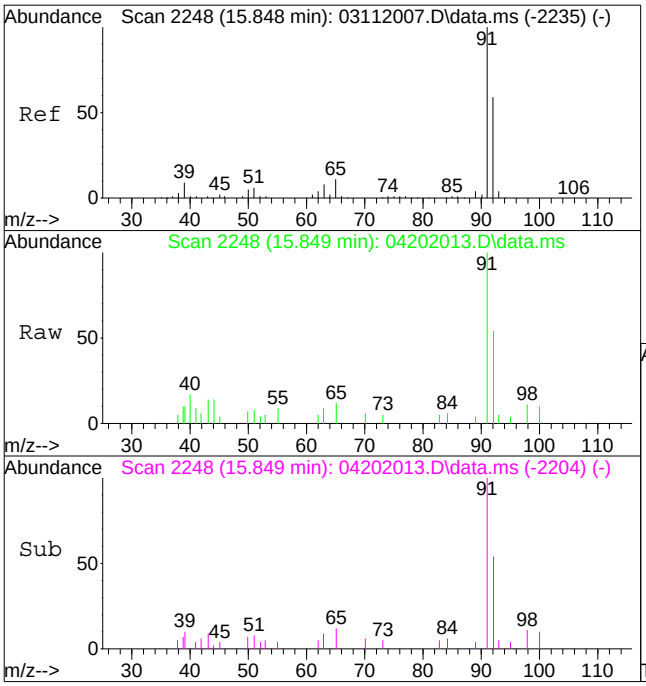


#47
Trichloroethene
Concen: 1.89 ng
RT: 14.00 min Scan# 1911
Delta R.T. -0.011 min
Lab File: 04202013.D
Acq: 20 Apr 2020 10:36

Tgt Ion:130 Resp: 78772

Ion	Ratio	Lower	Upper
130	100		
132	94.5	74.7	114.7

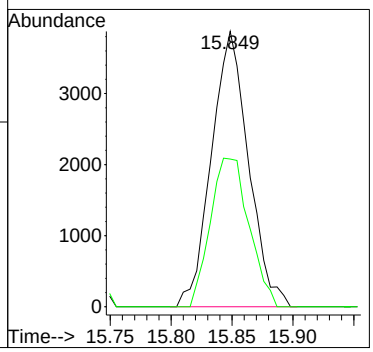


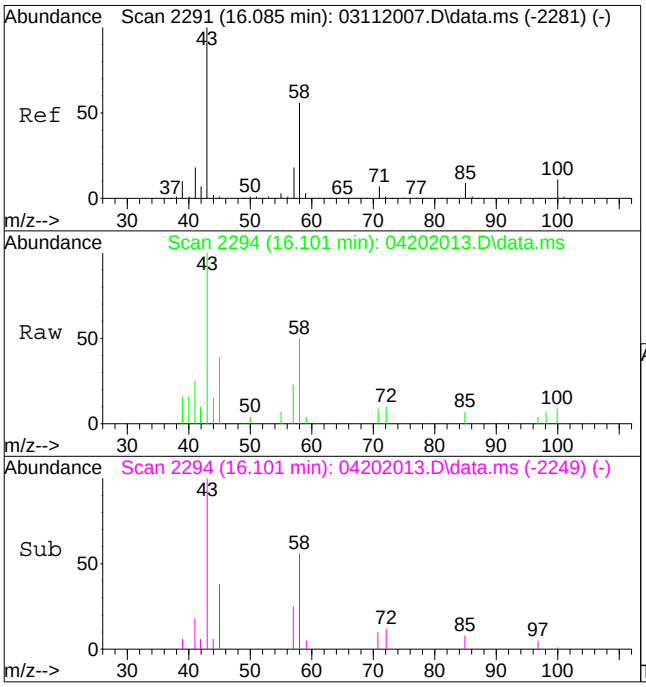


#58
Toluene
Concen: 0.05 ng
RT: 15.85 min Scan# 2248
Delta R.T. -0.005 min
Lab File: 04202013.D
Acq: 20 Apr 2020 10:36

Tgt Ion: 91 Resp: 8196

Ion	Ratio	Lower	Upper
91	100		
92	56.4	39.0	79.0

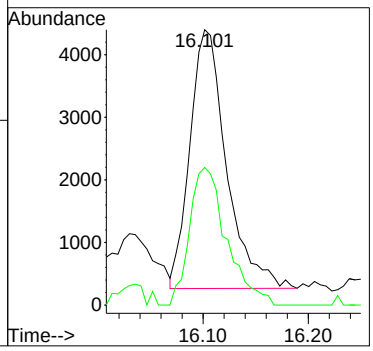


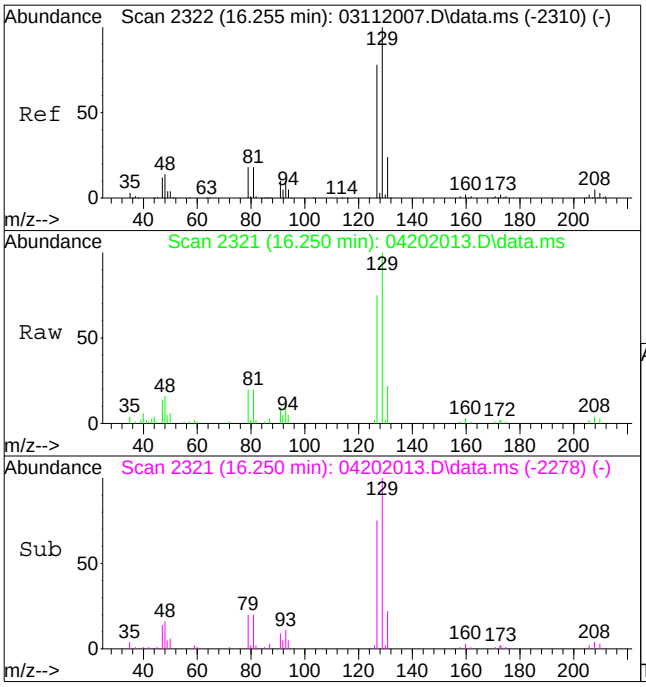


#59
2-Hexanone
Concen: 0.13 ng
RT: 16.10 min Scan# 2294
Delta R.T. 0.000 min
Lab File: 04202013.D
Acq: 20 Apr 2020 10:36

Tgt Ion: 43 Resp: 9994

Ion	Ratio	Lower	Upper
43	100		
58	53.7	36.5	76.5

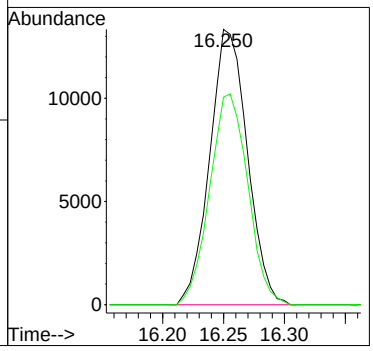


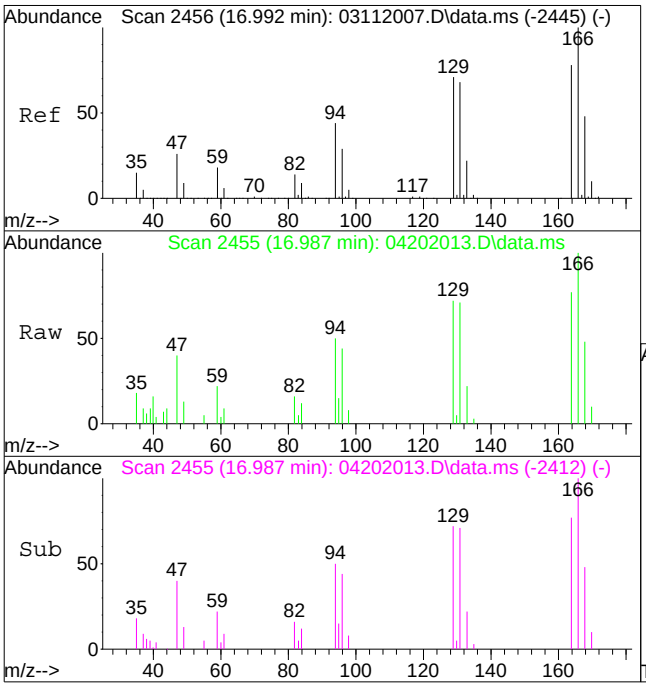


#60
Dibromochloromethane
Concen: 0.70 ng
RT: 16.25 min Scan# 2321
Delta R.T. -0.011 min
Lab File: 04202013.D
Acq: 20 Apr 2020 10:36

Tgt Ion:129 Resp: 28628

Ion	Ratio	Lower	Upper
129	100		
127	77.6	57.3	97.3

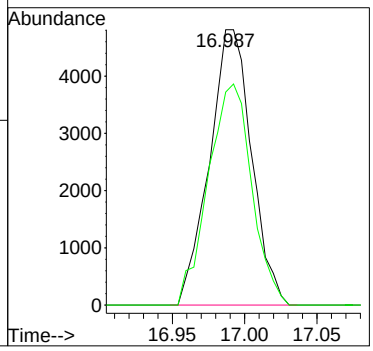




#64
Tetrachloroethene
Concen: 0.23 ng
RT: 16.99 min Scan# 2455
Delta R.T. -0.011 min
Lab File: 04202013.D
Acq: 20 Apr 2020 10:36

Tgt Ion:166 Resp: 9784

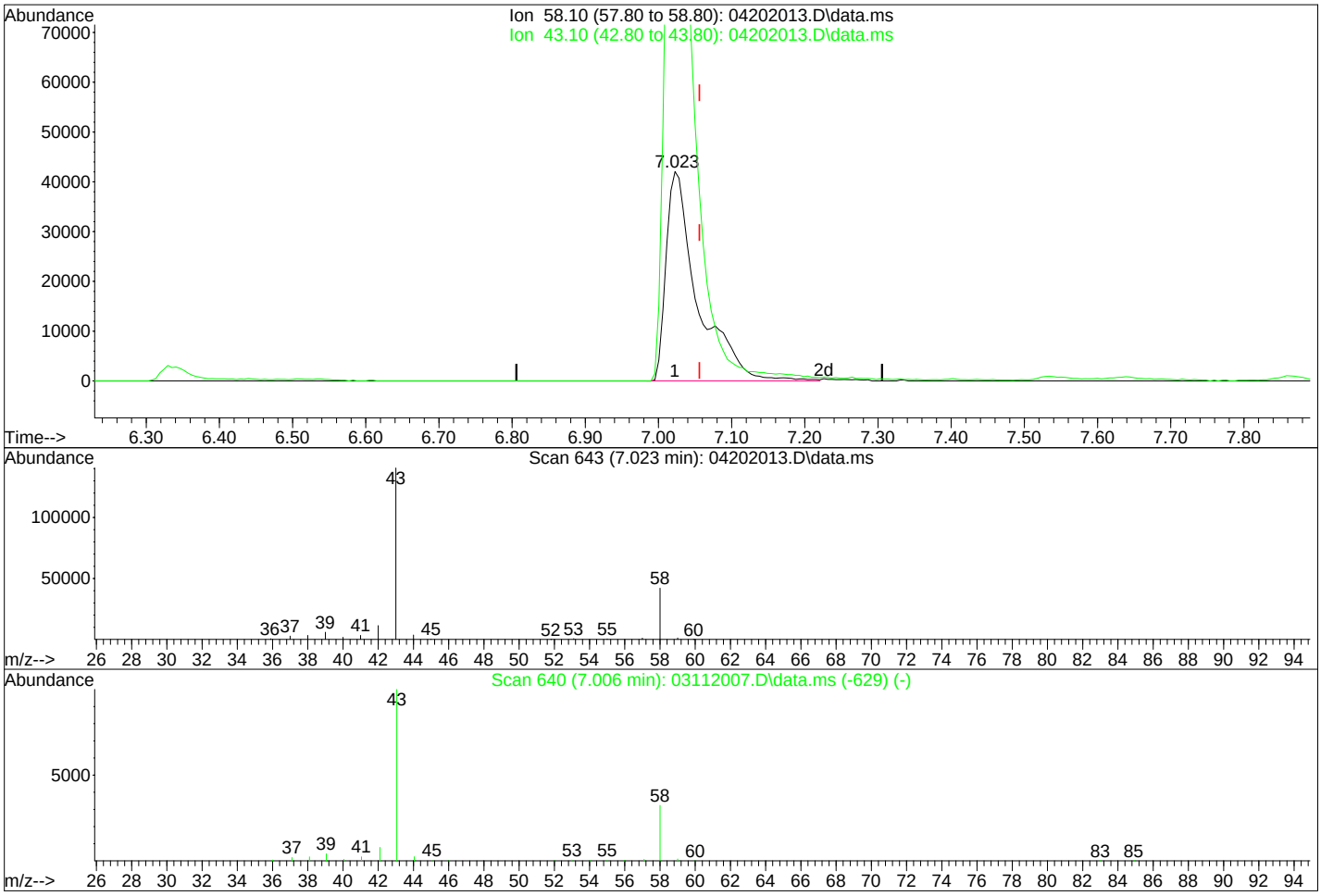
Ion	Ratio	Lower	Upper
166	100		
164	82.6	58.6	98.6



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\20\04202013.D Vial: 8
Acq On : 20 Apr 2020 10:36 Operator: TD
Sample : P2002028-011 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 11:45:59 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202013.D\data.ms

(13) Acetone (T)

7.023min (-0.033) 4.83ng

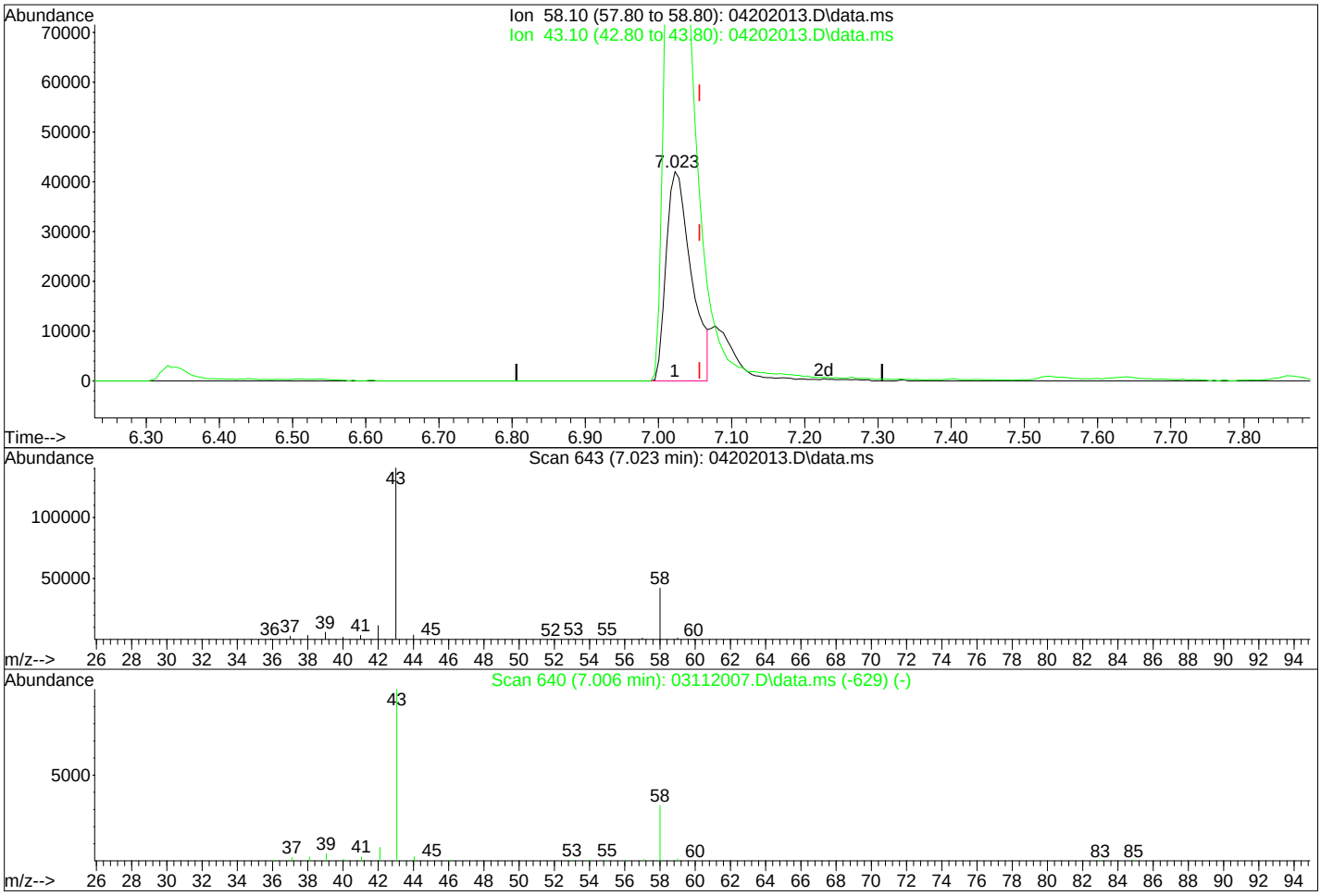
response 126477

Ion	Exp%	Act%
58.10	100	100
43.10	317.30	276.58#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\20\04202013.D Vial: 8
Acq On : 20 Apr 2020 10:36 Operator: TD
Sample : P2002028-011 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 11:45:59 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202013.D\data.ms

(13) Acetone (T)

7.023min (-0.033) 3.82ng m

response 100021

Ion	Exp%	Act%
58.10	100	100
43.10	317.30	349.74#
0.00	0.00	0.00
0.00	0.00	0.00

IPC

LH 4/20/20

4/24/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202014.D Vial: 9
Acq On : 20 Apr 2020 11:09 Operator: TD
Sample : P2002028-012 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 20:14:47 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/20/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	322960	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1441431	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	712749	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	573585	12.826	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.64%				
57) Toluene-d8 (SS2)	15.74	98	1510506	11.956	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.68%				
73) Bromofluorobenzene (SS3)	19.00	174	507018	11.365	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.96%				
Target Compounds							Qvalue
2) Propene	4.13	42	9902	0.292	ng		92
3) Dichlorodifluoromethan...	4.27	85	58982	0.809	ng		99
4) Chloromethane	4.56	50	6669	0.116	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	496	N.D.			
6) Vinyl Chloride	4.98	62	979	N.D.			
7) 1,3-Butadiene	5.24	54	696	N.D.			
8) Bromomethane	5.66	94	252	N.D.			
9) Chloroethane	5.98	64	889	N.D.			
10) Ethanol	6.32	45	141190	5.274	ng		100
11) Acetonitrile	6.62	41	8064	0.137	ng		85
12) Acrolein	6.81	56	17206	0.873	ng		98
13) Acetone	7.01	58	155420m	5.883	ng		
14) Trichlorofluoromethane	7.26	101	89003	1.385	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	27744	0.354	ng		73
16) Acrylonitrile	7.79	53	52	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.44	84	3093	0.090	ng		92
20) 3-Chloro-1-propene (Al...	8.58	41	100	N.D.			
21) Trichlorotrifluoroethane	8.87	151	32329	1.052	ng		95
22) Carbon Disulfide	8.70	76	285934	2.313	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	9.96	63	6902	0.117	ng		99
25) Methyl tert-Butyl Ether	10.10	73	816	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.48	72	29512	1.342	ng		93
28) cis-1,2-Dichloroethene	11.00	61	682	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.29	61	123619	9.509	ng		97
31) n-Hexane	11.28	57	2716	N.D.			
32) Chloroform	11.32	83	1577081	24.594	ng		100
34) Tetrahydrofuran (THF)	11.77	72	8178	0.361	ng	#	77
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.14	62	204	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.90	78	14667	0.098	ng		98
42) Carbon Tetrachloride	13.06	117	34510	0.674	ng		99
43) Cyclohexane	13.19	84	2213	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	13.59	63	168	N.D.			
46) Bromodichloromethane	13.94	83	249682	4.956	ng		100
47) Trichloroethene	14.00	130	72330	1.713	ng		100
48) 1,4-Dioxane	13.98	88	18227	0.632	ng		92
49) 2,2,4-Trimethylpentane...	14.06	57	4214	N.D.			
50) Methyl Methacrylate	14.14	100	276	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202014.D Vial: 9
Acq On : 20 Apr 2020 11:09 Operator: TD
Sample : P2002028-012 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 20:14:47 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

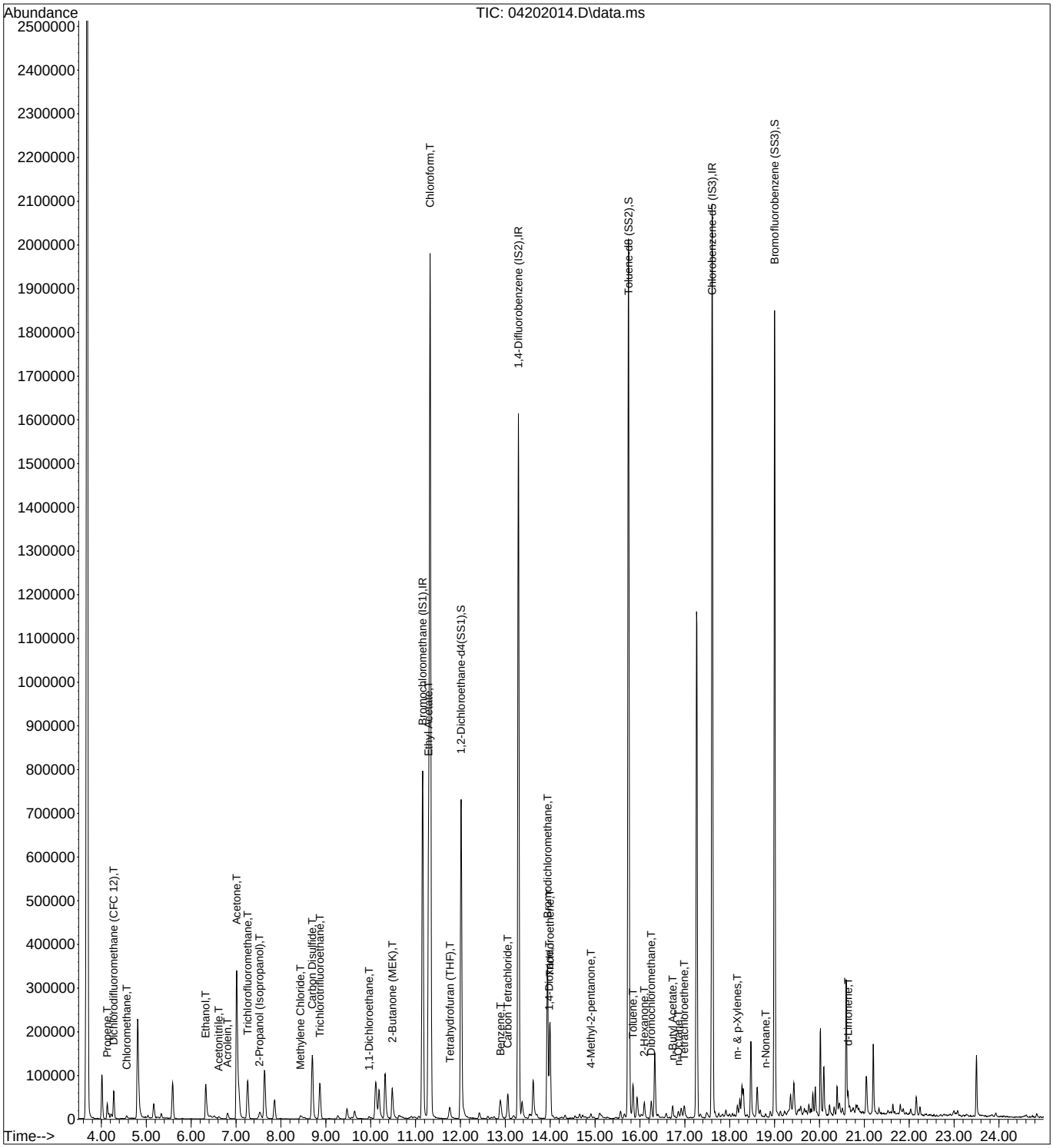
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.33	71	1708	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.91	58	2364	0.076 ng	#	53
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.84	91	64429	0.412 ng		99
59) 2-Hexanone	16.10	43	30750	0.393 ng		96
60) Dibromochloromethane	16.25	129	22332	0.537 ng		100
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.73	43	25791	0.309 ng		96
63) n-Octane	16.86	57	1609	0.052 ng	#	81
64) Tetrachloroethene	16.99	166	8327	0.191 ng		97
65) Chlorobenzene	17.65	112	442	N.D.		
66) Ethylbenzene	18.01	91	3413	N.D.		
67) m- & p-Xylenes	18.17	91	7966	0.057 ng		100
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.50	104	1566	N.D.		
70) o-Xylene	18.60	91	2914	N.D.		
71) n-Nonane	18.80	43	3528	0.051 ng		83
72) 1,1,2,2-Tetrachloroethane	18.61	83	1059	N.D.		
74) Cumene	19.13	105	3425	N.D.		
75) alpha-Pinene	19.48	93	1003	N.D.		
76) n-Propylbenzene	19.58	91	2983	N.D.		
77) 3-Ethyltoluene	19.67	105	2373	N.D.		
78) 4-Ethyltoluene	19.70	105	1234	N.D.		
79) 1,3,5-Trimethylbenzene	19.76	105	1471	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	19.94	105	1213	N.D.		
82) 1,2,4-Trimethylbenzene	20.13	105	3742	N.D.		
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.25	91	1113	N.D.		
85) 1,3-Dichlorobenzene	20.27	146	320	N.D.		
86) 1,4-Dichlorobenzene	20.33	146	549	N.D.		
87) sec-Butylbenzene	20.37	105	618	N.D.		
88) 4-Isopropyltoluene (p-...	20.51	119	4189	N.D.		
89) 1,2,3-Trimethylbenzene	20.51	105	1782	N.D.		
90) 1,2-Dichlorobenzene	20.63	146	229	N.D.		
91) d-Limonene	20.64	68	10296	0.173 ng		94
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.33	57	3772	N.D.		
94) 1,2,4-Trichlorobenzene	22.13	180	301	N.D.		
95) Naphthalene	22.25	128	3681	N.D.		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	20.09	119	2324	N.D.		
100) n-Butylbenzene	20.87	91	5290	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202014.D Vial: 9
Acq On : 20 Apr 2020 11:09 Operator: TD
Sample : P2002028-012 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 20:14:47 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

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Acq On : 20 Apr 2020 11:09 Operator: TD
Sample : P2002028-012 (400mL) Inst : GCMS-16
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QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/20/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	322960	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1441431	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	712749	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	573585	12.826	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.64%				
57) Toluene-d8 (SS2)	15.74	98	1510506	11.956	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.68%				
73) Bromofluorobenzene (SS3)	19.00	174	507018	11.365	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.96%				
Target Compounds							Qvalue
2) Propene	4.13	42	9902	0.292	ng		92
3) Dichlorodifluoromethan...	4.27	85	58982	0.809	ng		99
4) Chloromethane	4.56	50	6669	0.116	ng		99
10) Ethanol	6.32	45	141190	5.274	ng		100
11) Acetonitrile	6.62	41	8064	0.137	ng		85
12) Acrolein	6.81	56	17206	0.873	ng		98
13) Acetone	7.01	58	155420m	5.883	ng		
14) Trichlorofluoromethane	7.26	101	89003	1.385	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	27744	0.354	ng		73
19) Methylene Chloride	8.44	84	3093	0.090	ng		92
21) Trichlorotrifluoroethane	8.87	151	32329	1.052	ng		95
22) Carbon Disulfide	8.70	76	285934	2.313	ng		99
24) 1,1-Dichloroethane	9.96	63	6902	0.117	ng		99
27) 2-Butanone (MEK)	10.48	72	29512	1.342	ng		93
30) Ethyl Acetate	11.29	61	123619	9.509	ng		97
32) Chloroform	11.32	83	1577081	24.594	ng		100
34) Tetrahydrofuran (THF)	11.77	72	8178	0.361	ng	#	77
41) Benzene	12.90	78	14667	0.098	ng		98
42) Carbon Tetrachloride	13.06	117	34510	0.674	ng		99
46) Bromodichloromethane	13.94	83	249682	4.956	ng		100
47) Trichloroethene	14.00	130	72330	1.713	ng		100
48) 1,4-Dioxane	13.98	88	18227	0.632	ng		92
53) 4-Methyl-2-pentanone	14.91	58	2364	0.076	ng	#	53
58) Toluene	15.84	91	64429	0.412	ng		99
59) 2-Hexanone	16.10	43	30750	0.393	ng		96
60) Dibromochloromethane	16.25	129	22332	0.537	ng		100
62) n-Butyl Acetate	16.73	43	25791	0.309	ng		96
63) n-Octane	16.86	57	1609	0.052	ng	#	81
64) Tetrachloroethene	16.99	166	8327	0.191	ng		97
67) m- & p-Xylenes	18.17	91	7966	0.057	ng		100
71) n-Nonane	18.80	43	3528	0.051	ng		83
91) d-Limonene	20.64	68	10296	0.173	ng		94

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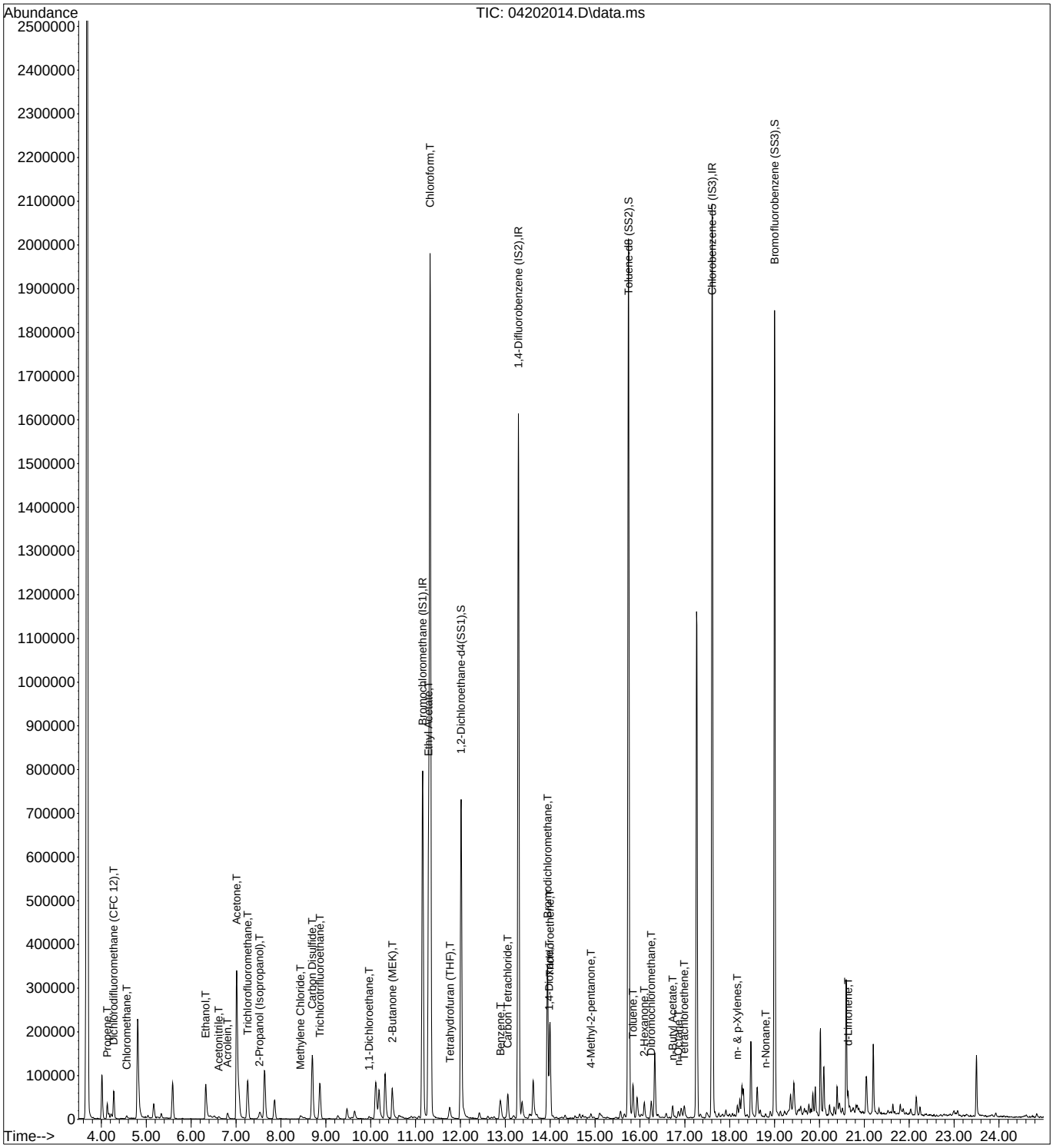
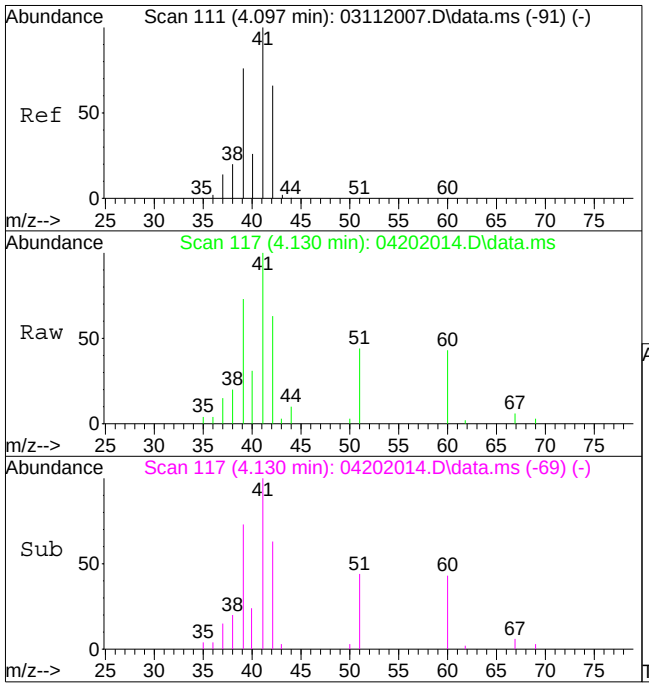
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

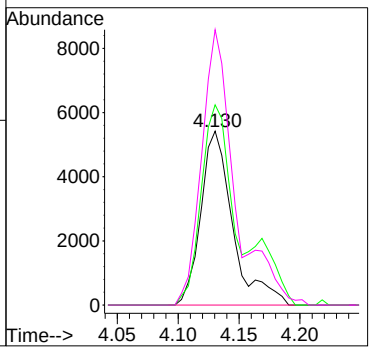


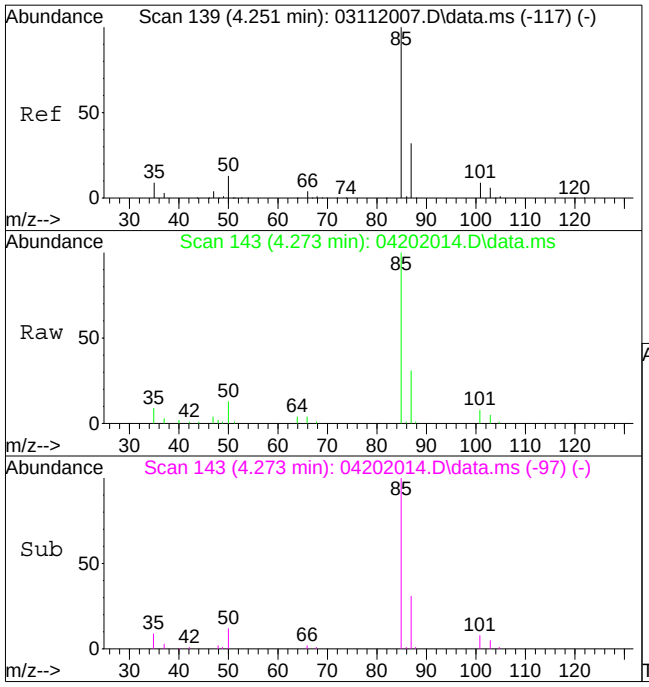


#2
Propene
Concen: 0.29 ng
RT: 4.13 min Scan# 117
Delta R.T. 0.016 min
Lab File: 04202014.D
Acq: 20 Apr 2020 11:09

Tgt Ion: 42 Resp: 9902

Ion	Ratio	Lower	Upper
42	100		
39	110.9	95.3	135.3
41	165.3	132.0	172.0

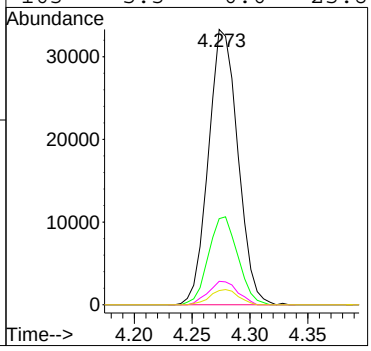


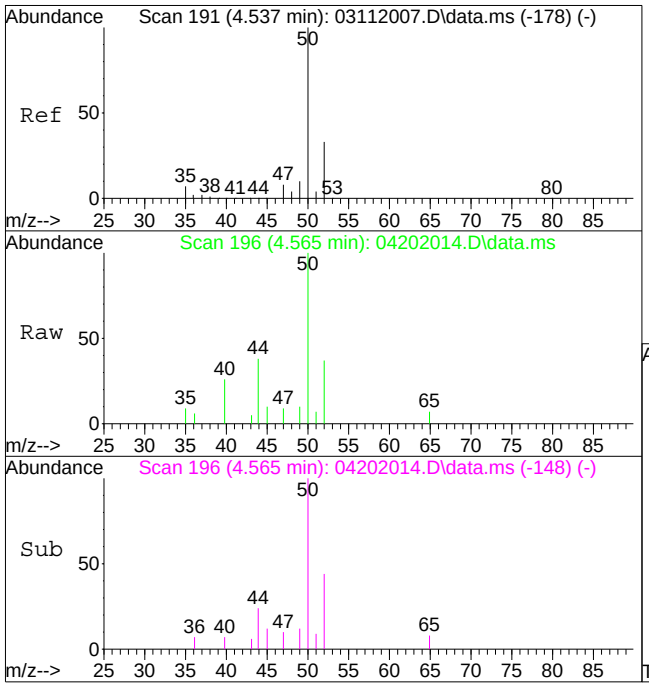


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.81 ng
RT: 4.27 min Scan# 143
Delta R.T. 0.005 min
Lab File: 04202014.D
Acq: 20 Apr 2020 11:09

Tgt Ion: 85 Resp: 58982

Ion	Ratio	Lower	Upper
85	100		
87	31.8	12.3	52.3
101	8.5	0.0	29.0
103	5.3	0.0	25.8

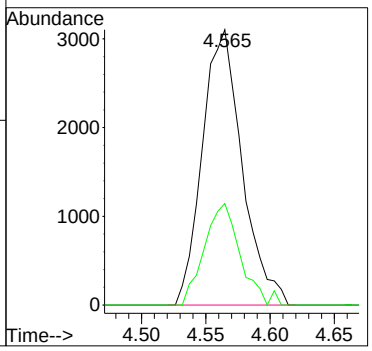


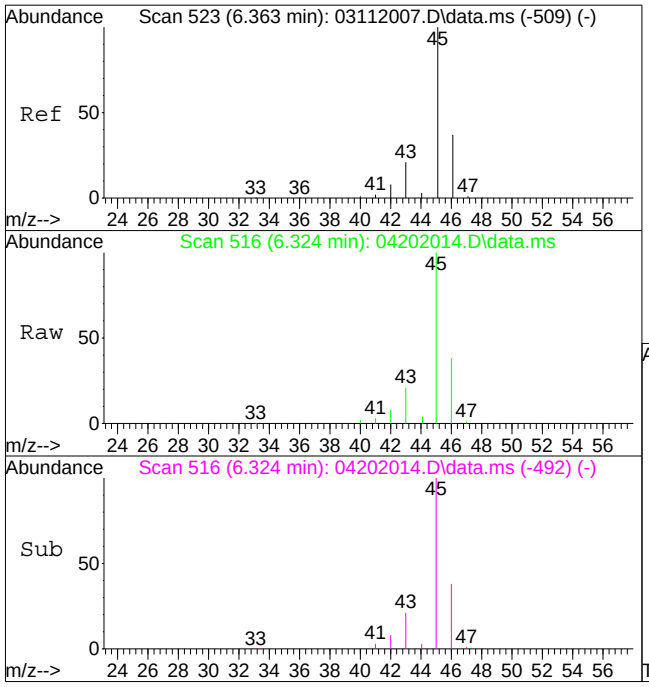


#4
Chloromethane
Concen: 0.12 ng
RT: 4.56 min Scan# 196
Delta R.T. 0.012 min
Lab File: 04202014.D
Acq: 20 Apr 2020 11:09

Tgt Ion: 50 Resp: 6669

Ion	Ratio	Lower	Upper
50	100		
52	33.4	12.8	52.8

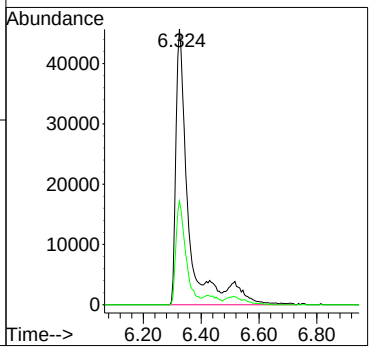


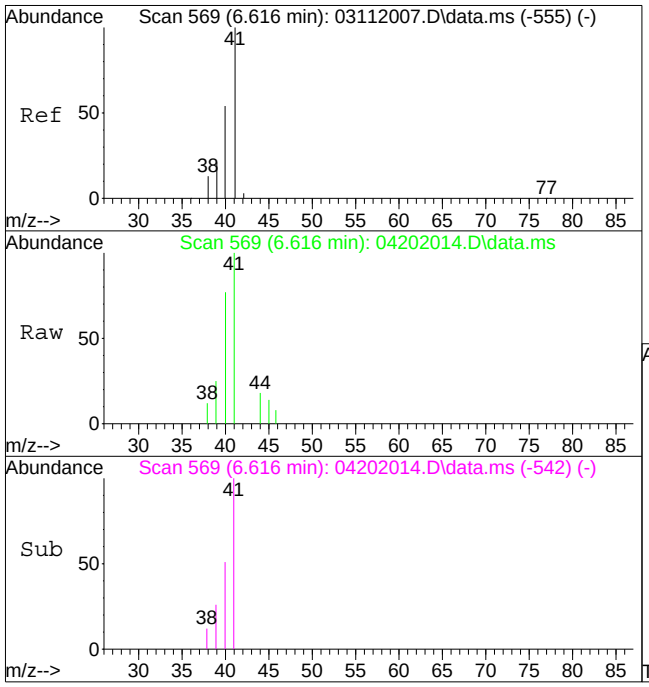


#10
Ethanol
Concen: 5.27 ng
RT: 6.32 min Scan# 516
Delta R.T. -0.116 min
Lab File: 04202014.D
Acq: 20 Apr 2020 11:09

Tgt Ion: 45 Resp: 141190

Ion	Ratio	Lower	Upper
45	100		
46	37.3	17.3	57.3

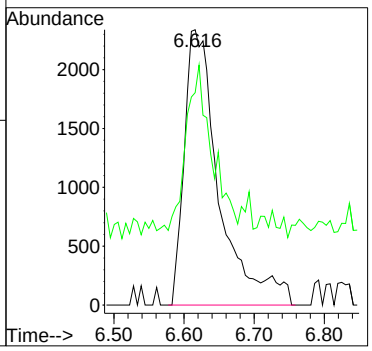


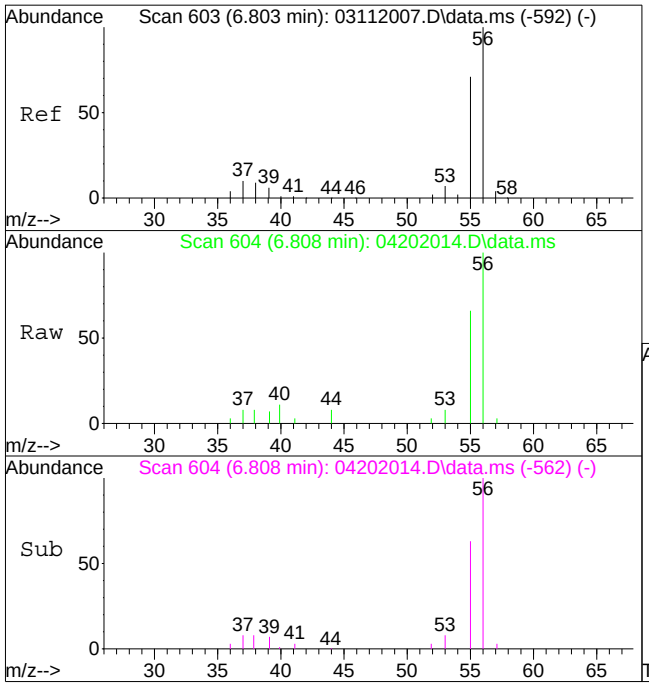


#11
Acetonitrile
Concen: 0.14 ng
RT: 6.62 min Scan# 569
Delta R.T. -0.049 min
Lab File: 04202014.D
Acq: 20 Apr 2020 11:09

Tgt Ion: 41 Resp: 8064

Ion	Ratio	Lower	Upper
41	100		
40	64.1	33.6	73.6

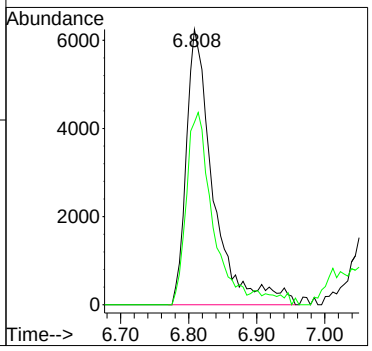


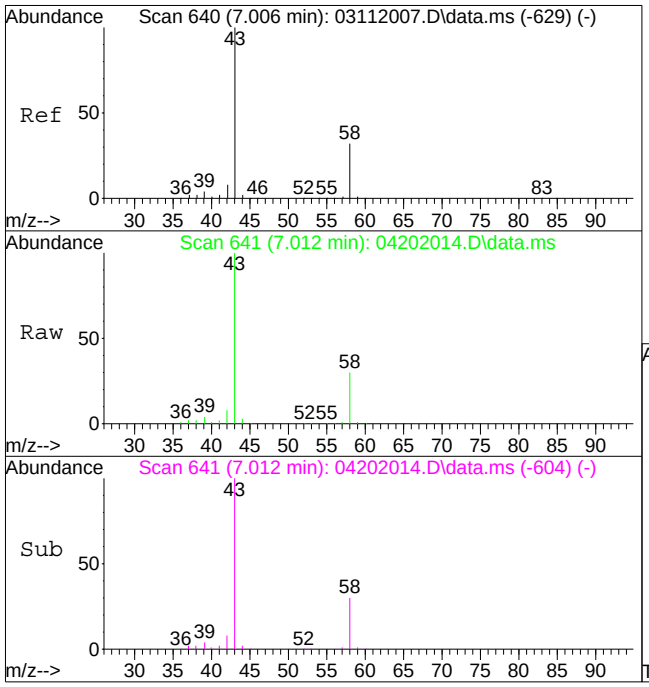


#12
Acrolein
Concen: 0.87 ng
RT: 6.81 min Scan# 604
Delta R.T. -0.022 min
Lab File: 04202014.D
Acq: 20 Apr 2020 11:09

Tgt Ion: 56 Resp: 17206

Ion	Ratio	Lower	Upper
56	100		
55	71.8	50.4	90.4

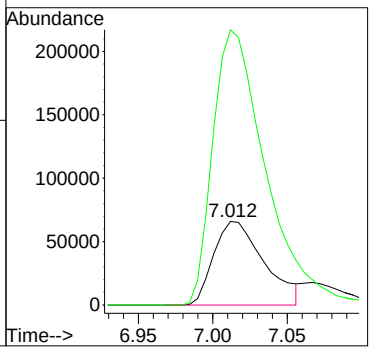


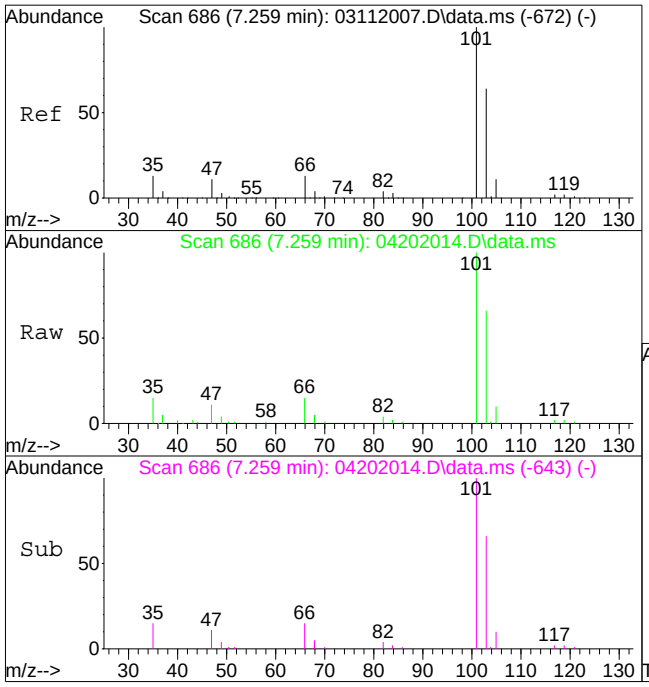


#13
Acetone
Concen: 5.88 ng m
RT: 7.01 min Scan# 641
Delta R.T. -0.044 min
Lab File: 04202014.D
Acq: 20 Apr 2020 11:09

Tgt Ion: 58 Resp: 155420

Ion	Ratio	Lower	Upper
58	100		
43	354.1	287.3	347.3#

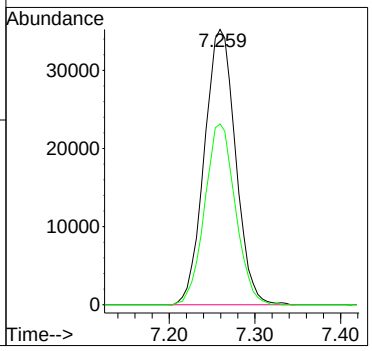


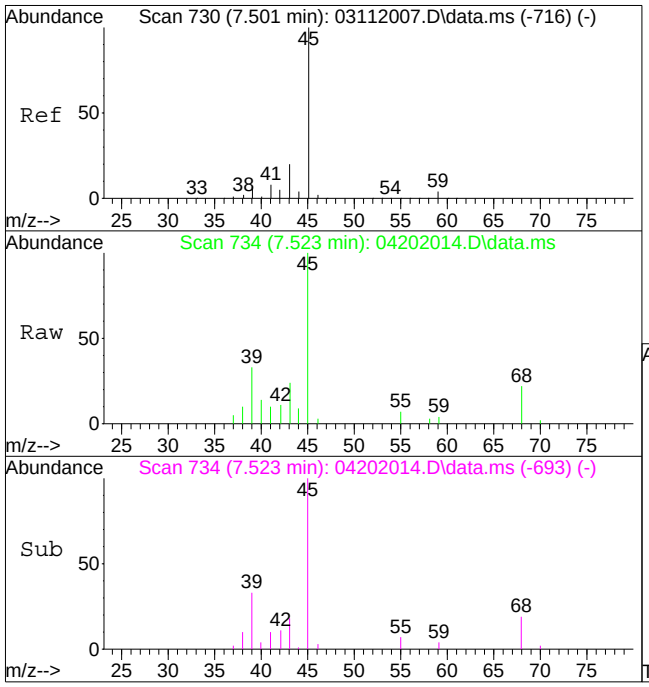


#14
Trichlorofluoromethane
Concen: 1.39 ng
RT: 7.26 min Scan# 686
Delta R.T. -0.016 min
Lab File: 04202014.D
Acq: 20 Apr 2020 11:09

Tgt Ion:101 Resp: 89003

Ion	Ratio	Lower	Upper
101	100		
103	64.6	44.6	84.6

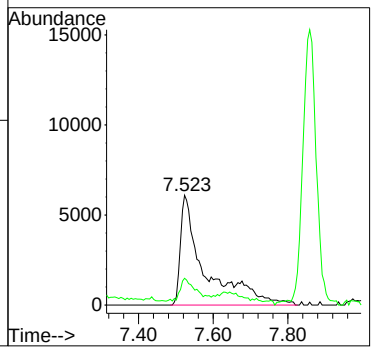


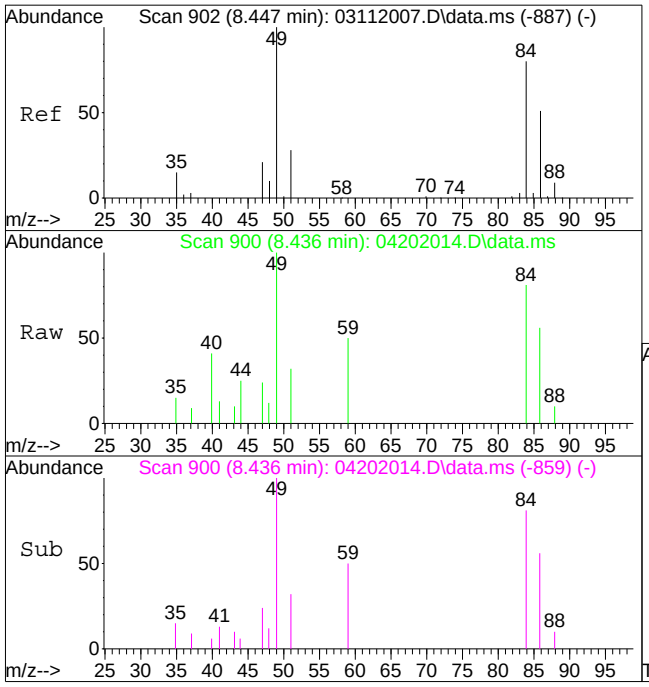


#15
2-Propanol (Isopropanol)
Concen: 0.35 ng
RT: 7.52 min Scan# 734
Delta R.T. -0.027 min
Lab File: 04202014.D
Acq: 20 Apr 2020 11:09

Tgt Ion: 45 Resp: 27744

Ion	Ratio	Lower	Upper
45	100		
43	33.0	0.3	40.3

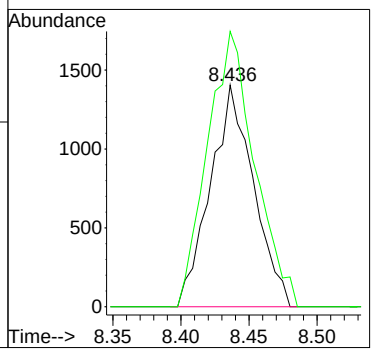


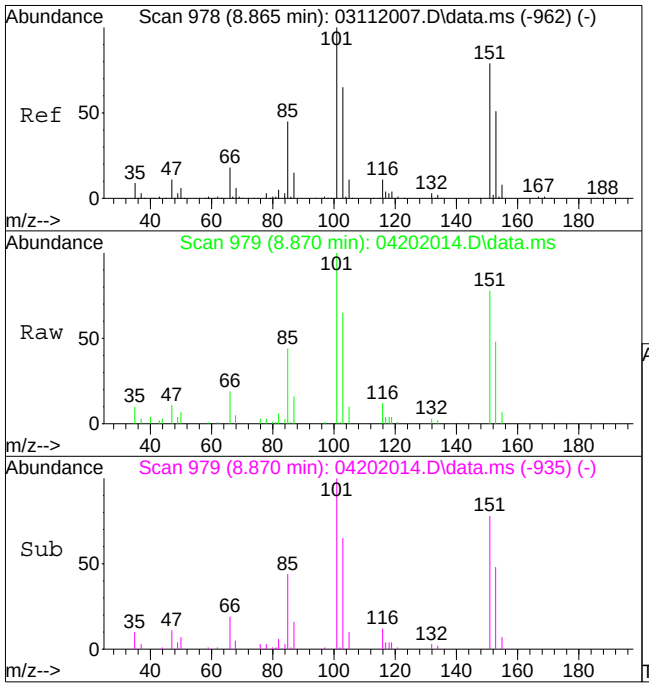


#19
Methylene Chloride
Concen: 0.09 ng
RT: 8.44 min Scan# 900
Delta R.T. -0.027 min
Lab File: 04202014.D
Acq: 20 Apr 2020 11:09

Tgt Ion: 84 Resp: 3093

Ion	Ratio	Lower	Upper
84	100		
49	136.1	102.2	152.2

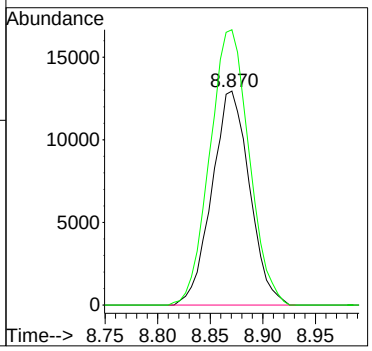


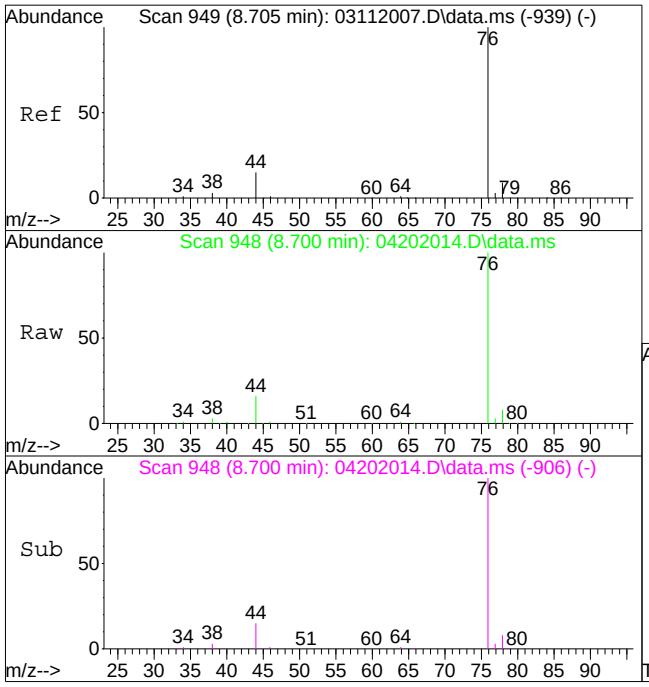


#21
Trichlorotrifluoroethane
Concen: 1.05 ng
RT: 8.87 min Scan# 979
Delta R.T. -0.006 min
Lab File: 04202014.D
Acq: 20 Apr 2020 11:09

Tgt Ion:151 Resp: 32329

Ion	Ratio	Lower	Upper
151	100		
101	134.2	108.4	148.4

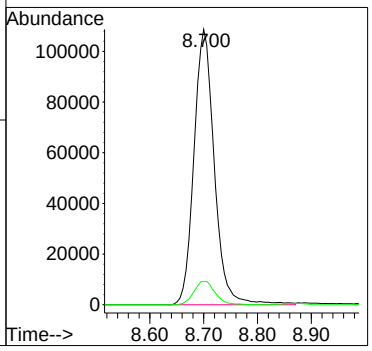


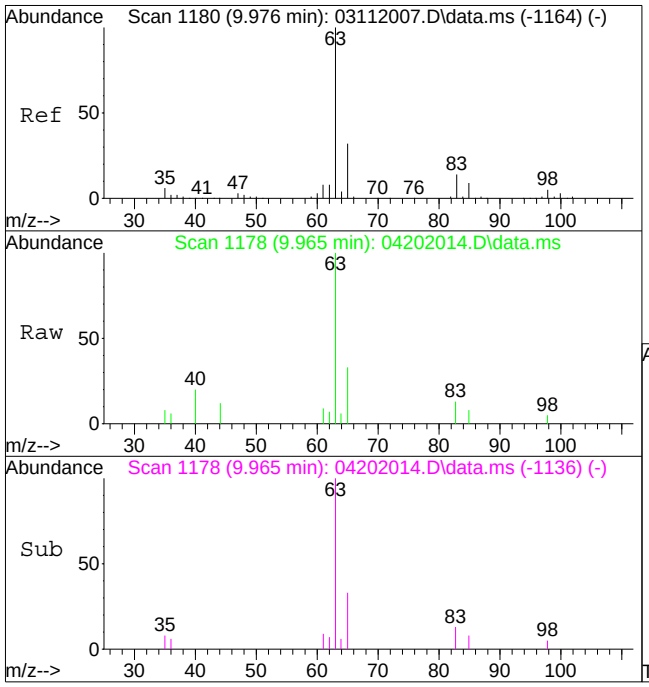


#22
Carbon Disulfide
Concen: 2.31 ng
RT: 8.70 min Scan# 948
Delta R.T. -0.022 min
Lab File: 04202014.D
Acq: 20 Apr 2020 11:09

Tgt Ion: 76 Resp: 285934

Ion	Ratio	Lower	Upper
76	100		
78	8.9	0.0	29.2

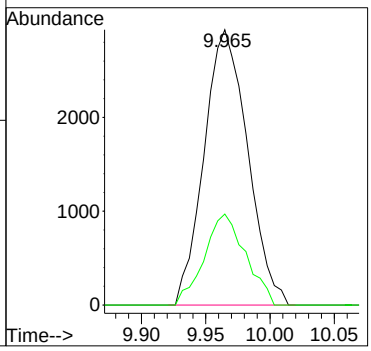


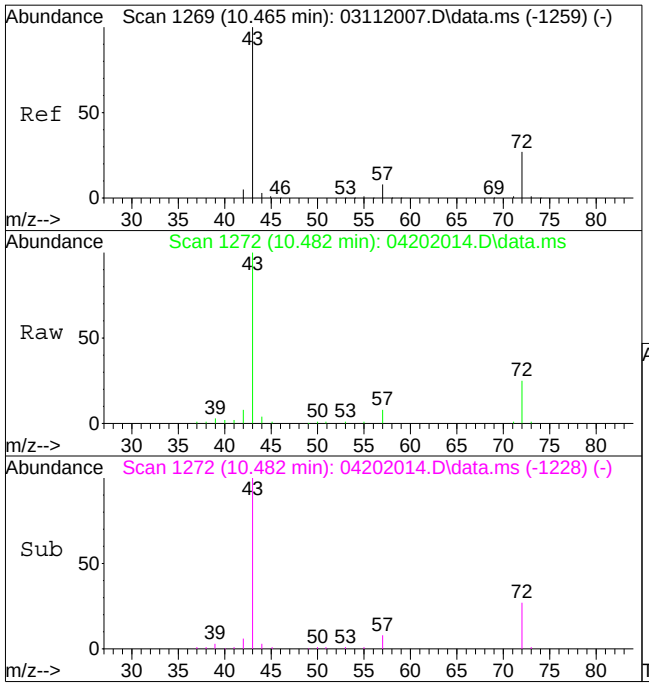


#24
1,1-Dichloroethane
Concen: 0.12 ng
RT: 9.96 min Scan# 1178
Delta R.T. -0.022 min
Lab File: 04202014.D
Acq: 20 Apr 2020 11:09

Tgt Ion: 63 Resp: 6902

Ion	Ratio	Lower	Upper
63	100		
65	31.4	11.8	51.8

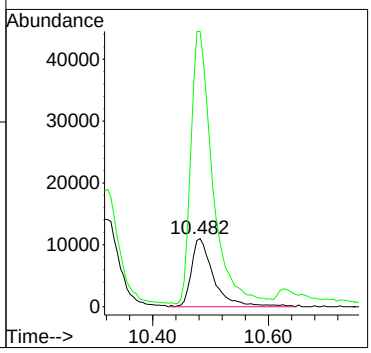


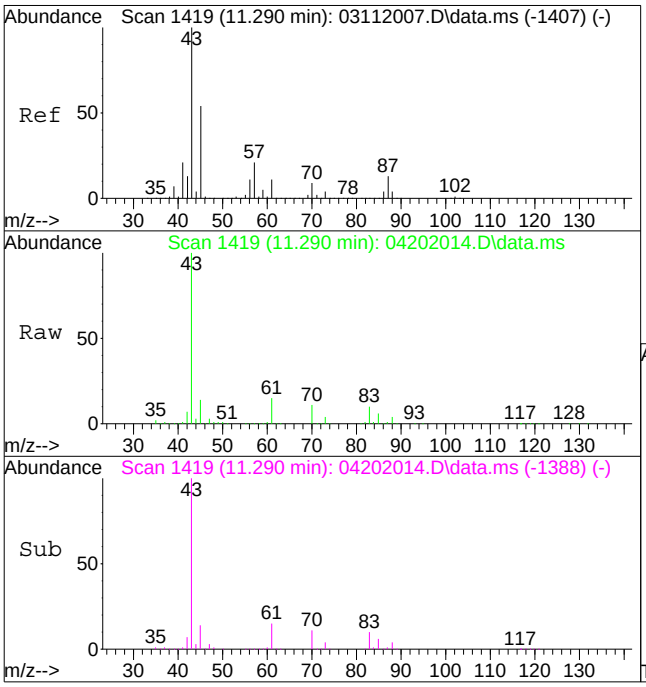


#27
2-Butanone (MEK)
Concen: 1.34 ng
RT: 10.48 min Scan# 1272
Delta R.T. -0.011 min
Lab File: 04202014.D
Acq: 20 Apr 2020 11:09

Tgt Ion: 72 Resp: 29512

Ion	Ratio	Lower	Upper
72	100		
43	388.2	353.4	393.4

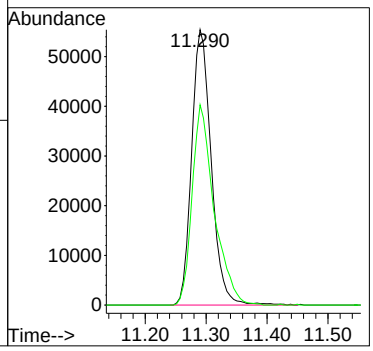


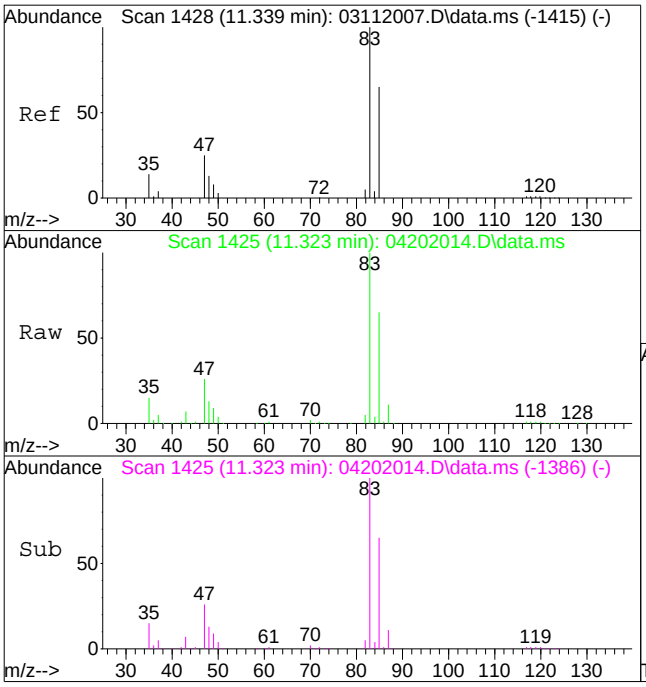


#30
Ethyl Acetate
Concen: 9.51 ng
RT: 11.29 min Scan# 1419
Delta R.T. -0.027 min
Lab File: 04202014.D
Acq: 20 Apr 2020 11:09

Tgt Ion: 61 Resp: 123619

Ion	Ratio	Lower	Upper
61	100		
70	81.8	59.1	99.1

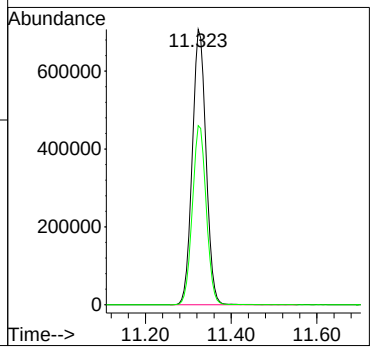


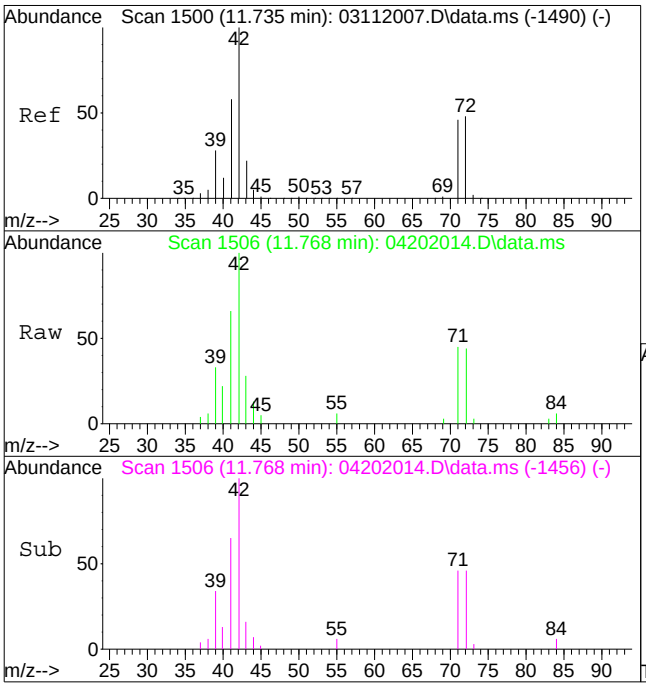


#32
Chloroform
Concen: 24.59 ng
RT: 11.32 min Scan# 1425
Delta R.T. -0.038 min
Lab File: 04202014.D
Acq: 20 Apr 2020 11:09

Tgt Ion: 83 Resp: 1577081

Ion	Ratio	Lower	Upper
83	100		
85	65.5	45.5	85.5

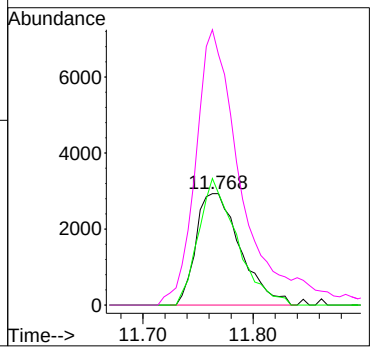


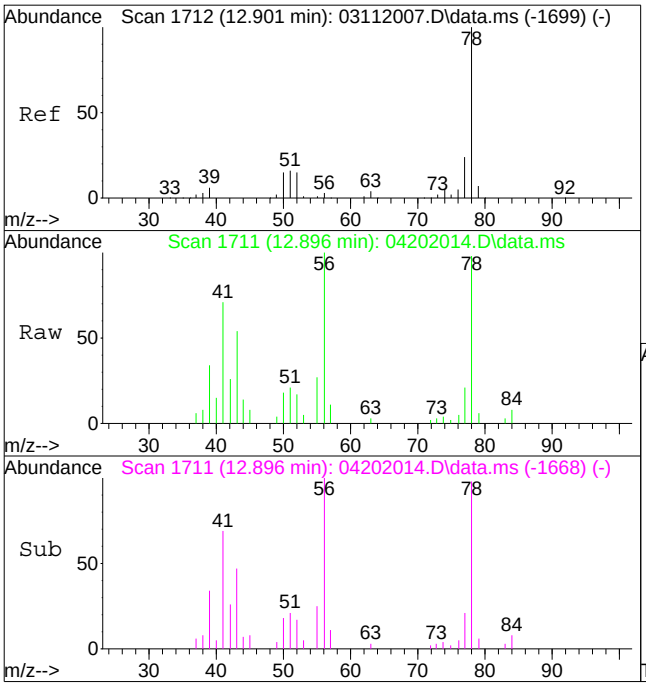


#34
Tetrahydrofuran (THF)
Concen: 0.36 ng
RT: 11.77 min Scan# 1506
Delta R.T. 0.022 min
Lab File: 04202014.D
Acq: 20 Apr 2020 11:09

Tgt Ion: 72 Resp: 8178

Ion	Ratio	Lower	Upper
72	100		
71	98.9	75.9	115.9
42	259.6	189.3	229.3#

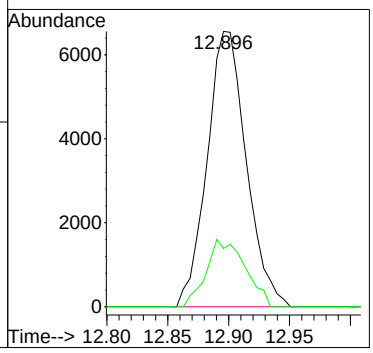


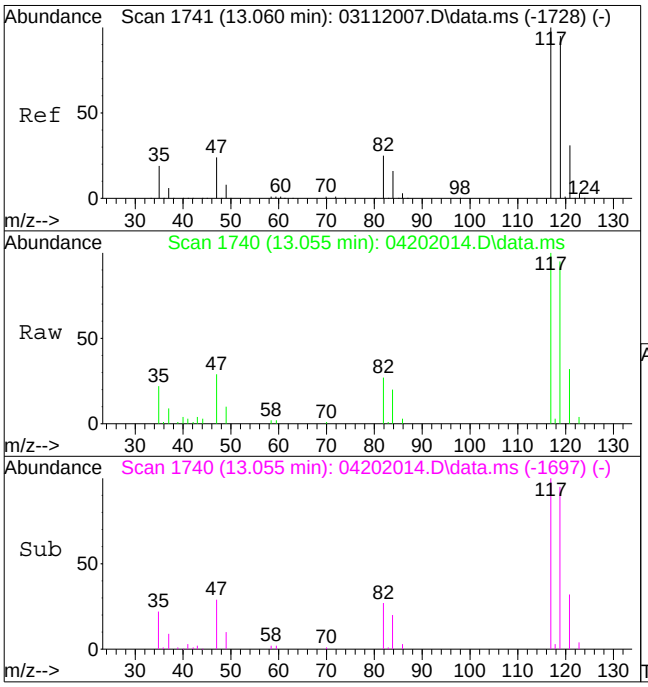


#41
Benzene
Concen: 0.10 ng
RT: 12.90 min Scan# 1711
Delta R.T. -0.016 min
Lab File: 04202014.D
Acq: 20 Apr 2020 11:09

Tgt Ion: 78 Resp: 14667

Ion	Ratio	Lower	Upper
78	100		
77	24.2	3.4	43.4

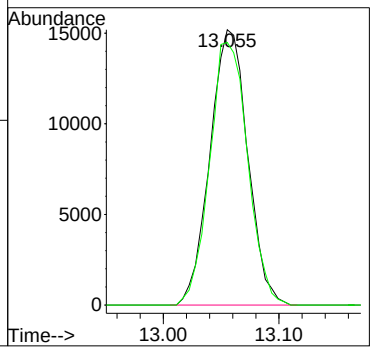


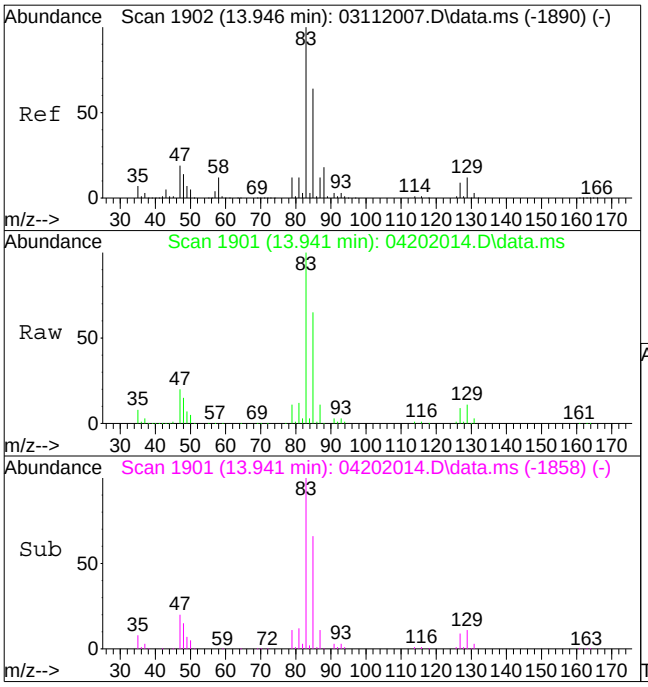


#42
Carbon Tetrachloride
Concen: 0.67 ng
RT: 13.06 min Scan# 1740
Delta R.T. -0.016 min
Lab File: 04202014.D
Acq: 20 Apr 2020 11:09

Tgt Ion:117 Resp: 34510

Ion	Ratio	Lower	Upper
117	100		
119	96.2	75.4	115.4

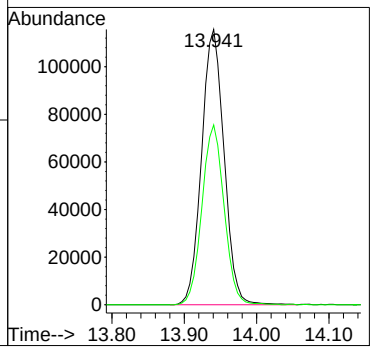


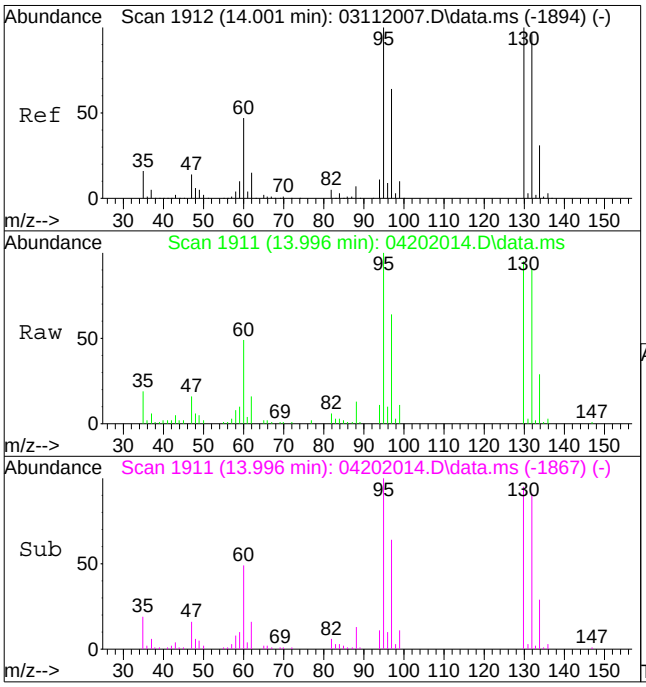


#46
Bromodichloromethane
Concen: 4.96 ng
RT: 13.94 min Scan# 1901
Delta R.T. -0.016 min
Lab File: 04202014.D
Acq: 20 Apr 2020 11:09

Tgt Ion: 83 Resp: 249682

Ion	Ratio	Lower	Upper
83	100		
85	64.3	44.0	84.0

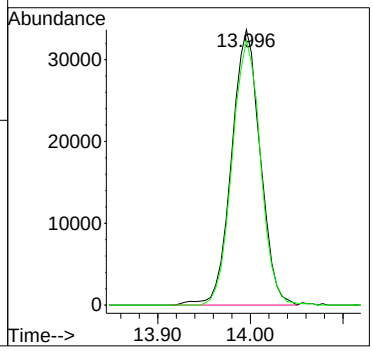


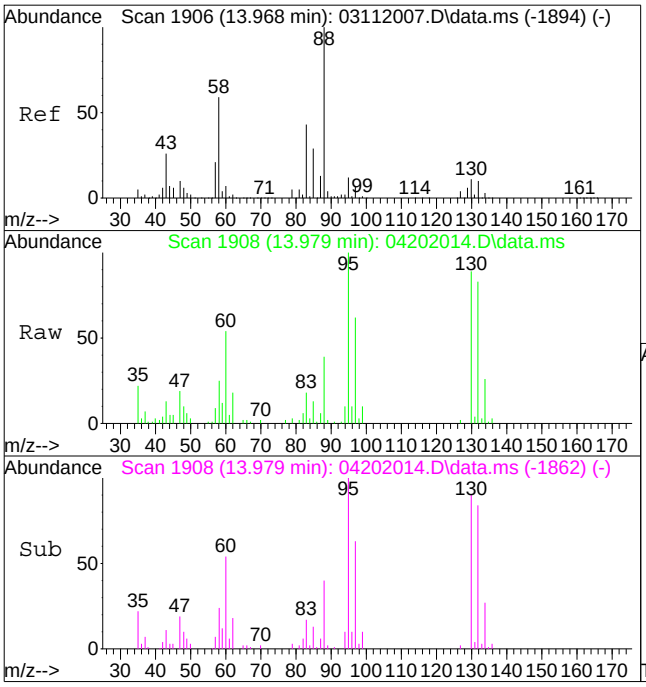


#47
Trichloroethene
Concen: 1.71 ng
RT: 14.00 min Scan# 1911
Delta R.T. -0.011 min
Lab File: 04202014.D
Acq: 20 Apr 2020 11:09

Tgt Ion:130 Resp: 72330

Ion	Ratio	Lower	Upper
130	100		
132	95.0	74.7	114.7

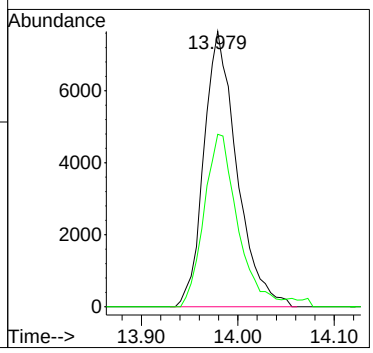


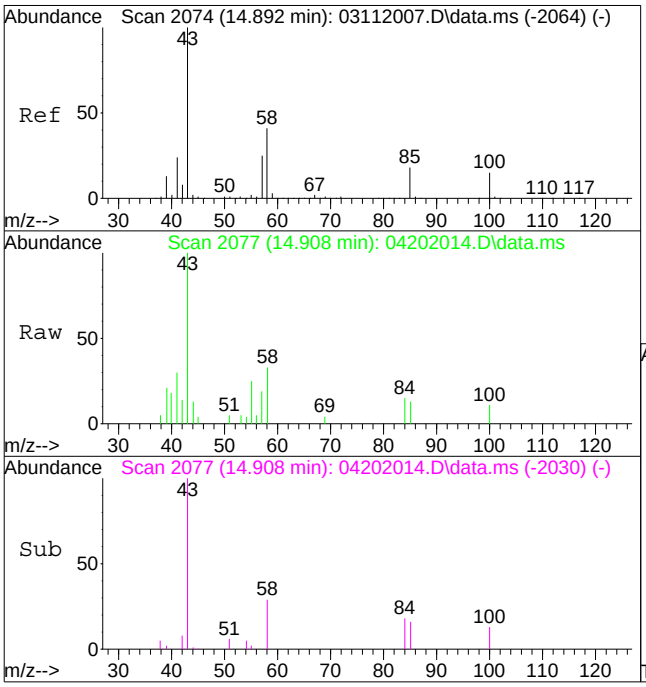


#48
1,4-Dioxane
Concen: 0.63 ng
RT: 13.98 min Scan# 1908
Delta R.T. 0.000 min
Lab File: 04202014.D
Acq: 20 Apr 2020 11:09

Tgt Ion: 88 Resp: 18227

Ion	Ratio	Lower	Upper
88	100		
58	65.2	39.5	79.5

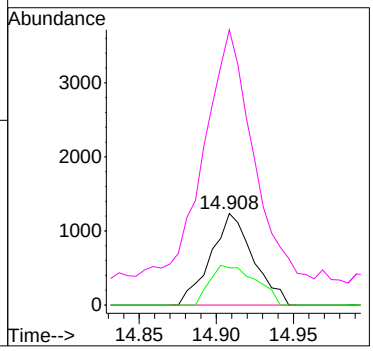


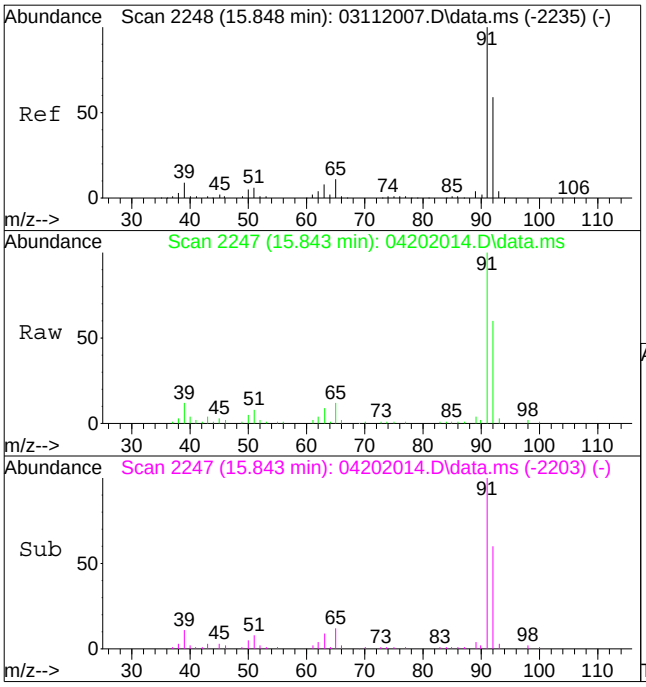


#53
4-Methyl-2-pentanone
Concen: 0.08 ng
RT: 14.91 min Scan# 2077
Delta R.T. 0.006 min
Lab File: 04202014.D
Acq: 20 Apr 2020 11:09

Tgt Ion: 58 Resp: 2364

Ion	Ratio	Lower	Upper
58	100		
85	46.7	37.0	55.4
43	342.0	196.3	294.5#

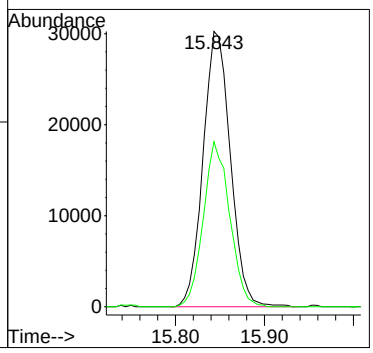


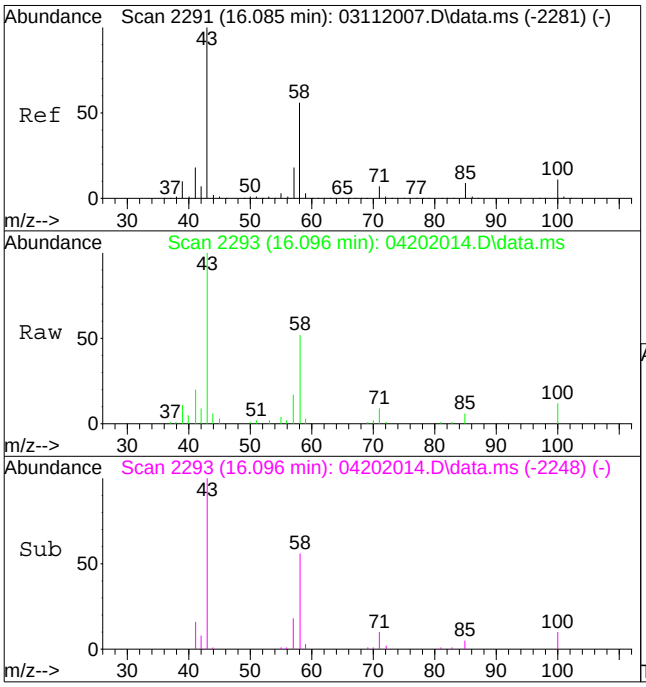


#58
Toluene
Concen: 0.41 ng
RT: 15.84 min Scan# 2247
Delta R.T. -0.011 min
Lab File: 04202014.D
Acq: 20 Apr 2020 11:09

Tgt Ion: 91 Resp: 64429

Ion	Ratio	Lower	Upper
91	100		
92	58.0	39.0	79.0

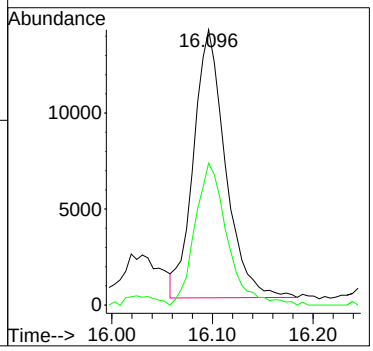


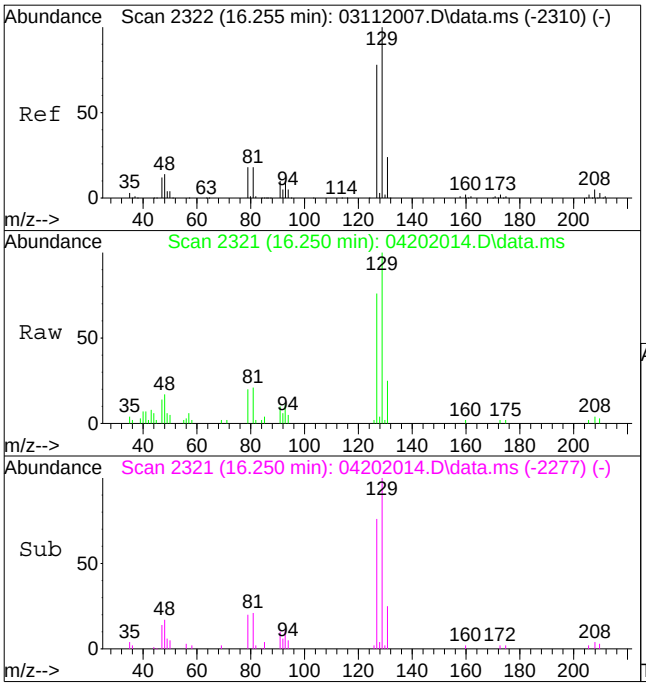


#59
2-Hexanone
Concen: 0.39 ng
RT: 16.10 min Scan# 2293
Delta R.T. -0.005 min
Lab File: 04202014.D
Acq: 20 Apr 2020 11:09

Tgt Ion: 43 Resp: 30750

Ion	Ratio	Lower	Upper
43	100		
58	53.5	36.5	76.5

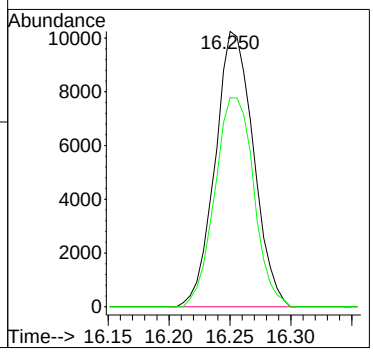


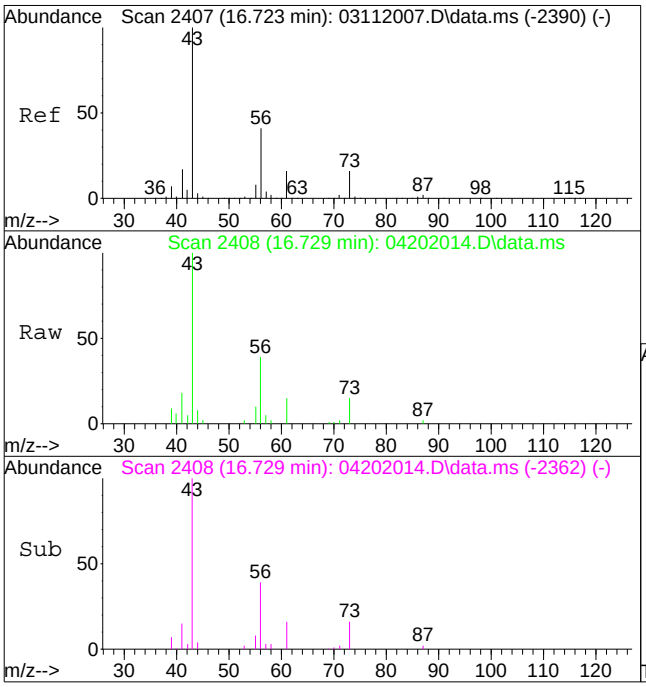


#60
Dibromochloromethane
Concen: 0.54 ng
RT: 16.25 min Scan# 2321
Delta R.T. -0.011 min
Lab File: 04202014.D
Acq: 20 Apr 2020 11:09

Tgt Ion:129 Resp: 22332

Ion	Ratio	Lower	Upper
129	100		
127	77.3	57.3	97.3

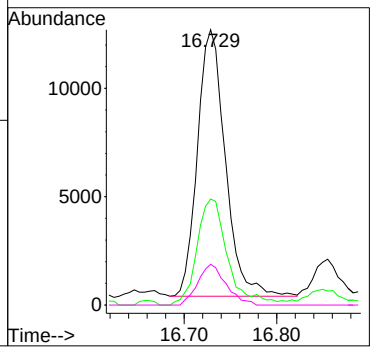


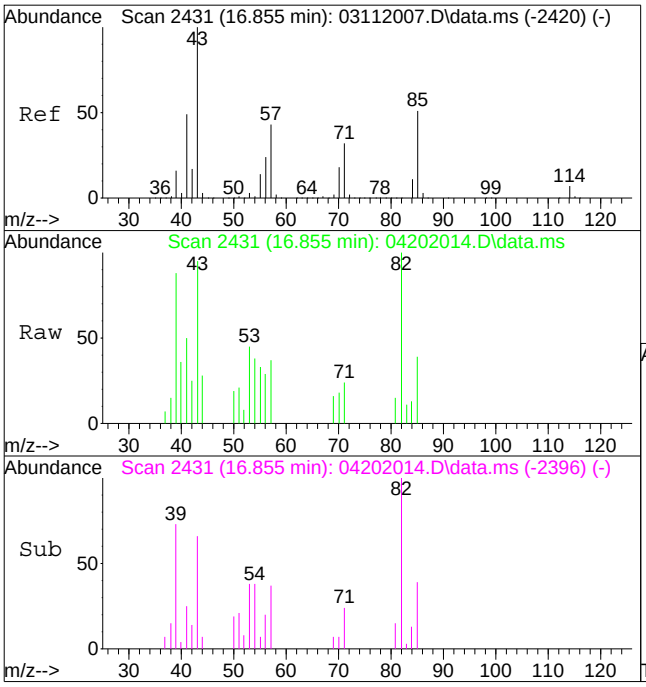


#62
n-Butyl Acetate
Concen: 0.31 ng
RT: 16.73 min Scan# 2408
Delta R.T. 0.000 min
Lab File: 04202014.D
Acq: 20 Apr 2020 11:09

Tgt Ion: 43 Resp: 25791

Ion	Ratio	Lower	Upper
43	100		
56	43.8	20.7	60.7
73	15.4	0.0	35.5

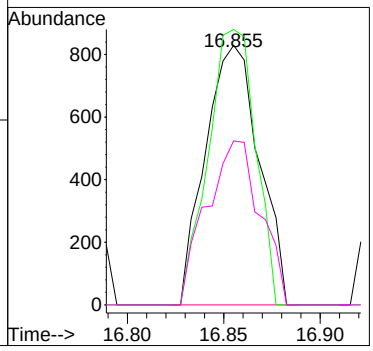


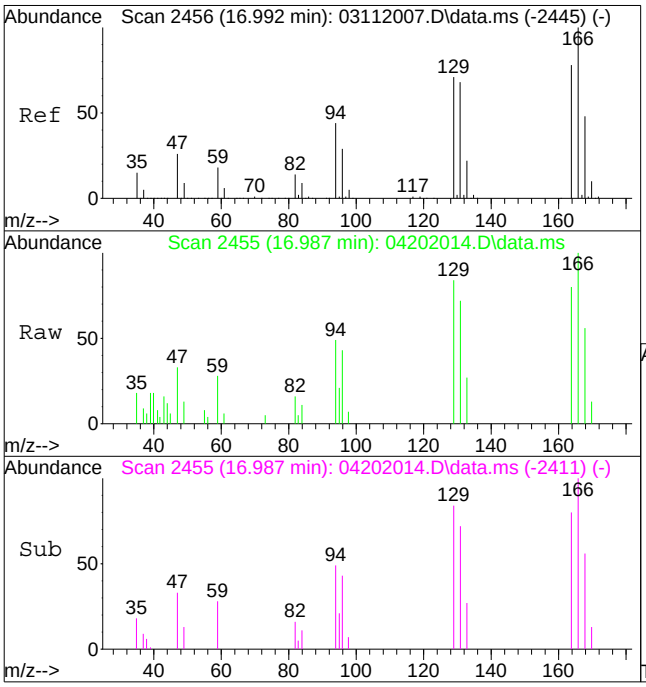


#63
n-Octane
Concen: 0.05 ng
RT: 16.86 min Scan# 2431
Delta R.T. -0.005 min
Lab File: 04202014.D
Acq: 20 Apr 2020 11:09

Tgt Ion: 57 Resp: 1609

Ion	Ratio	Lower	Upper
57	100		
85	93.1	95.1	142.7#
71	63.1	58.2	87.4

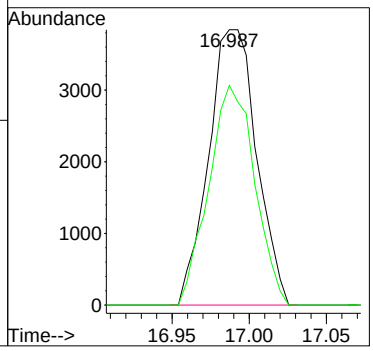


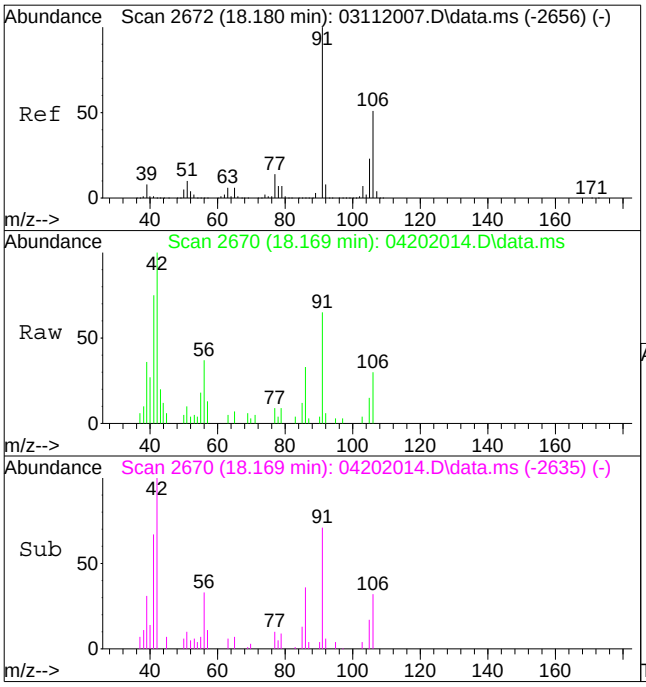


#64
Tetrachloroethene
Concen: 0.19 ng
RT: 16.99 min Scan# 2455
Delta R.T. -0.011 min
Lab File: 04202014.D
Acq: 20 Apr 2020 11:09

Tgt Ion:166 Resp: 8327

Ion	Ratio	Lower	Upper
166	100		
164	76.2	58.6	98.6

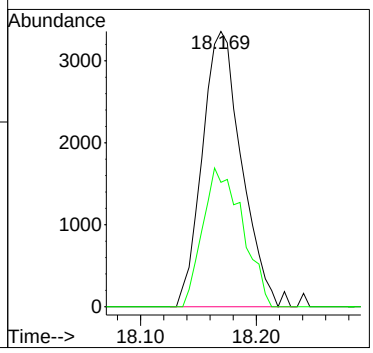


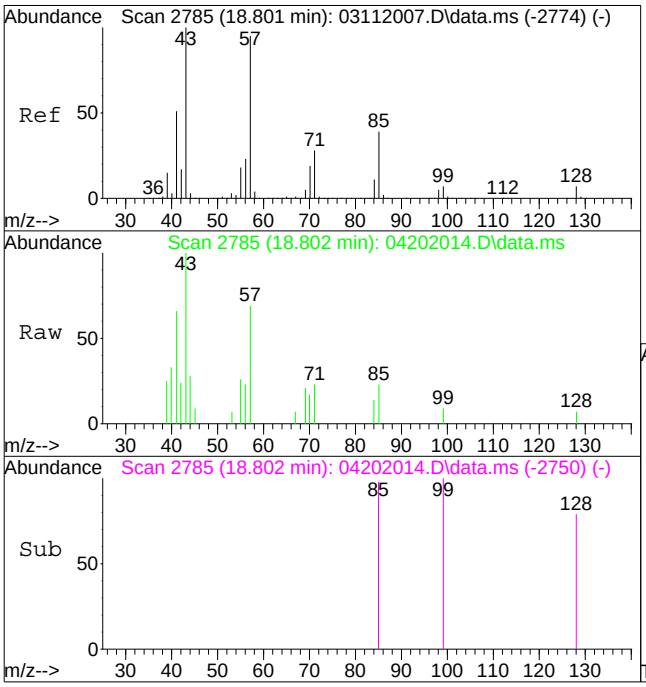


#67
m- & p-Xylenes
Concen: 0.06 ng
RT: 18.17 min Scan# 2670
Delta R.T. -0.005 min
Lab File: 04202014.D
Acq: 20 Apr 2020 11:09

Tgt Ion: 91 Resp: 7966

Ion	Ratio	Lower	Upper
91	100		
106	50.7	30.4	70.4

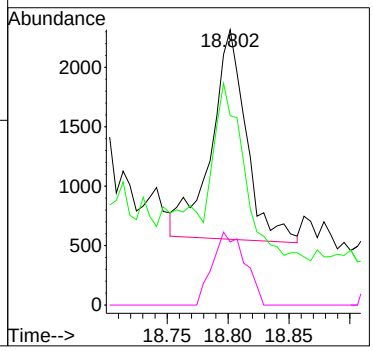


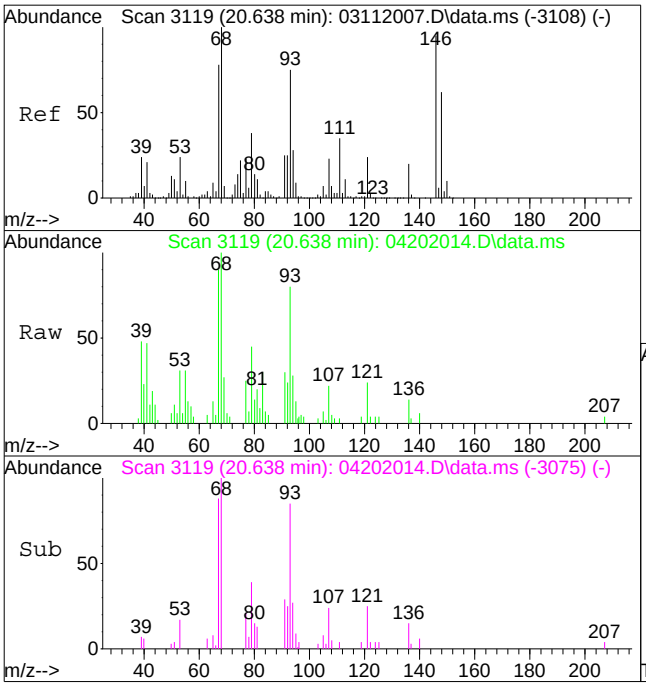


#71
n-Nonane
Concen: 0.05 ng
RT: 18.80 min Scan# 2785
Delta R.T. -0.005 min
Lab File: 04202014.D
Acq: 20 Apr 2020 11:09

Tgt Ion: 43 Resp: 3528

Ion	Ratio	Lower	Upper
43	100		
57	74.4	73.6	113.6
85	32.2	18.7	58.7

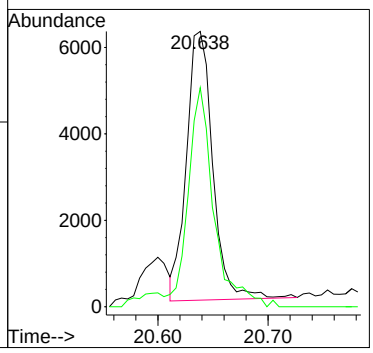




#91
d-Limonene
Concen: 0.17 ng
RT: 20.64 min Scan# 3119
Delta R.T. -0.011 min
Lab File: 04202014.D
Acq: 20 Apr 2020 11:09

Tgt Ion: 68 Resp: 10296

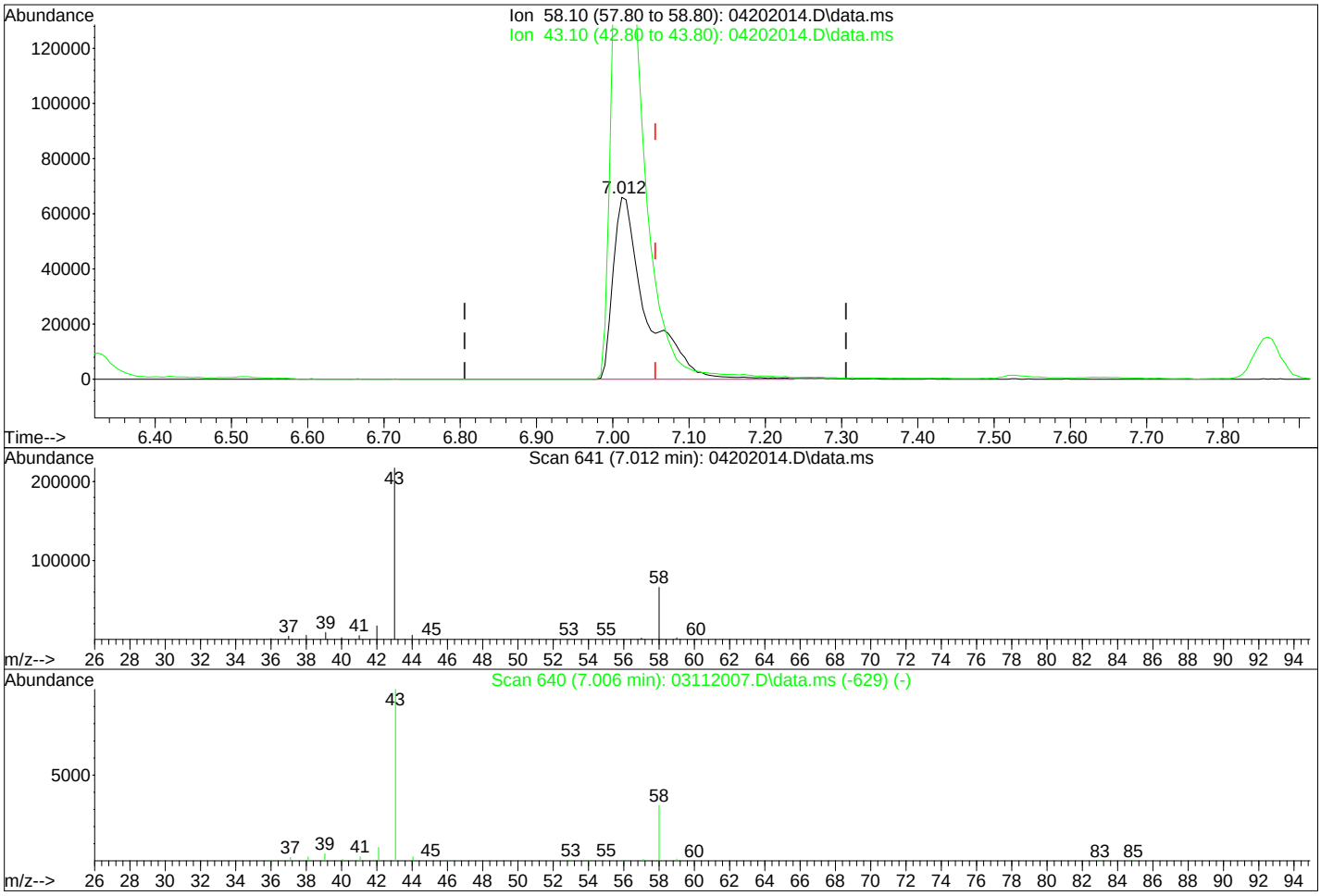
Ion	Ratio	Lower	Upper
68	100		
93	79.4	54.7	94.7



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\20\04202014.D Vial: 9
Acq On : 20 Apr 2020 11:09 Operator: TD
Sample : P2002028-012 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 11:46:01 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202014.D\data.ms

(13) Acetone (T)

7.012min (-0.044) 7.45ng

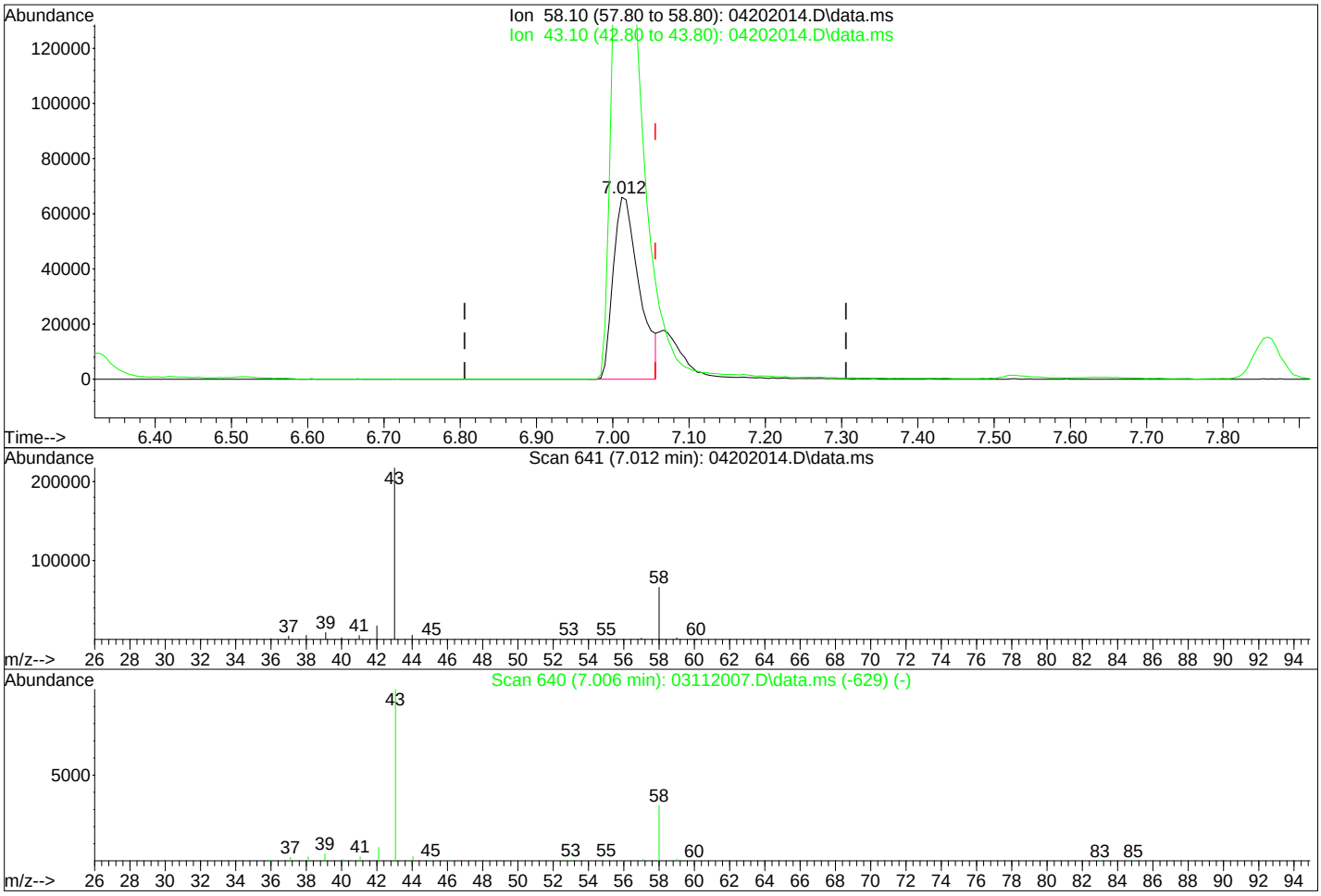
response 196738

Ion	Exp%	Act%
58.10	100	100
43.10	317.30	279.74#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\20\04202014.D Vial: 9
Acq On : 20 Apr 2020 11:09 Operator: TD
Sample : P2002028-012 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 11:46:01 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202014.D\data.ms

(13) Acetone (T)

7.012min (-0.044) 5.88ng m

response 155420

Ion	Exp%	Act%
58.10	100	100
43.10	317.30	354.11#
0.00	0.00	0.00
0.00	0.00	0.00

IPC

LH 4/20/20

4/24/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202015.D Vial: 10
Acq On : 20 Apr 2020 11:42 Operator: TD
Sample : P2002028-013 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 20:16:19 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 4/20/20
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	329803	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1448540	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	702486	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	579814	12.696	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.60%				
57) Toluene-d8 (SS2)	15.74	98	1503434	12.074	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.56%				
73) Bromofluorobenzene (SS3)	19.00	174	496357	11.289	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.32%				
Target Compounds							Qvalue
2) Propene	4.12	42	27338m	0.790	ng		
3) Dichlorodifluoromethan...	4.27	85	44688	0.601	ng		99
4) Chloromethane	4.54	50	84108	1.431	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	1104	N.D.			
6) Vinyl Chloride	4.97	62	55762	0.899	ng		99
7) 1,3-Butadiene	5.24	54	2172	N.D.			
8) Bromomethane	5.67	94	483	N.D.			
9) Chloroethane	5.99	64	18024	0.757	ng		99
10) Ethanol	6.33	45	138436	5.064	ng		100
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	6.81	56	10288	0.511	ng		91
13) Acetone	7.02	58	120970	4.484	ng	#	69
14) Trichlorofluoromethane	7.26	101	120669	1.839	ng		99
15) 2-Propanol (Isopropanol)	7.51	45	117706	1.471	ng		93
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.43	84	3647	0.104	ng		87
20) 3-Chloro-1-propene (Al...	8.61	41	1080	N.D.			
21) Trichlorotrifluoroethane	8.88	151	3896	0.124	ng		95
22) Carbon Disulfide	8.71	76	3282421	26.000	ng		99
23) trans-1,2-Dichloroethene	9.72	61	116	N.D.			
24) 1,1-Dichloroethane	9.96	63	31425	0.523	ng		100
25) Methyl tert-Butyl Ether	10.11	73	1847	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.49	72	16228	0.723	ng	#	89
28) cis-1,2-Dichloroethene	11.00	61	154	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.29	61	97464	7.342	ng		91
31) n-Hexane	11.28	57	6389	0.104	ng		91
32) Chloroform	11.33	83	101412	1.549	ng		100
34) Tetrahydrofuran (THF)	11.76	72	17944	0.777	ng	#	87
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.13	62	12289	0.241	ng		96
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	12.88	61	109	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.90	78	20257	0.135	ng		98
42) Carbon Tetrachloride	13.06	117	2882	0.056	ng		91
43) Cyclohexane	13.19	84	3245	0.056	ng		94
44) tert-Amyl Methyl Ether	13.58	73	1410	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	13.94	83	47314	0.935	ng		99
47) Trichloroethene	14.00	130	6615	0.156	ng		99
48) 1,4-Dioxane	14.01	88	716	N.D.			
49) 2,2,4-Trimethylpentane...	14.06	57	3230	N.D.			
50) Methyl Methacrylate	14.22	100	566	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202015.D Vial: 10
Acq On : 20 Apr 2020 11:42 Operator: TD
Sample : P2002028-013 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 20:16:19 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

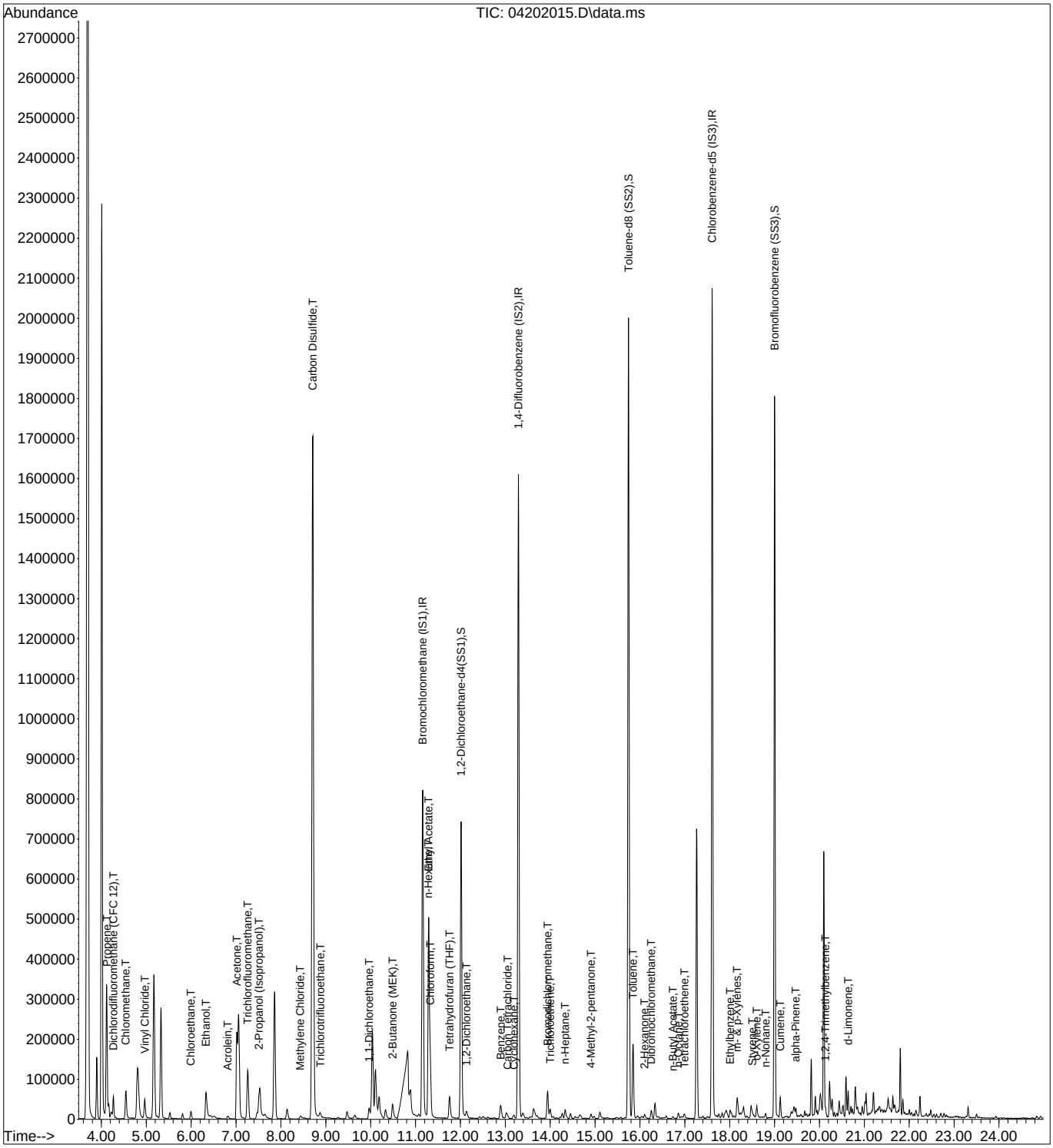
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.33	71	5817	0.166	ng		95
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
53) 4-Methyl-2-pentanone	14.91	58	3466	0.110	ng		79
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.			
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.			
58) Toluene	15.84	91	159457	1.036	ng		99
59) 2-Hexanone	16.10	43	7628	0.099	ng		97
60) Dibromochloromethane	16.25	129	11233	0.274	ng		98
61) 1,2-Dibromoethane	0.00	107	0	N.D.			
62) n-Butyl Acetate	16.73	43	4755	0.058	ng		95
63) n-Octane	16.85	57	2528	0.083	ng		87
64) Tetrachloroethene	16.99	166	3097	0.072	ng		98
65) Chlorobenzene	17.65	112	261	N.D.			
66) Ethylbenzene	18.01	91	14413	0.085	ng		99
67) m- & p-Xylenes	18.16	91	29867	0.217	ng		99
68) Bromoform	18.24	173	319	N.D.			
69) Styrene	18.50	104	6203	0.058	ng		95
70) o-Xylene	18.60	91	11352	0.083	ng		96
71) n-Nonane	18.80	43	5052	0.074	ng		94
72) 1,1,2,2-Tetrachloroethane	18.58	83	874	N.D.			
74) Cumene	19.13	105	28992	0.167	ng		99
75) alpha-Pinene	19.47	93	7487	0.085	ng	#	1
76) n-Propylbenzene	19.58	91	3775	N.D.			
77) 3-Ethyltoluene	19.67	105	5364	N.D.			
78) 4-Ethyltoluene	19.71	105	2712	N.D.			
79) 1,3,5-Trimethylbenzene	19.77	105	3106	N.D.			
80) alpha-Methylstyrene	0.00	118	0	N.D.	d		
81) 2-Ethyltoluene	19.94	105	2406	N.D.			
82) 1,2,4-Trimethylbenzene	20.13	105	8880	0.058	ng		89
83) n-Decane	0.00	57	0	N.D.	d		
84) Benzyl Chloride	20.26	91	566	N.D.			
85) 1,3-Dichlorobenzene	20.27	146	302	N.D.			
86) 1,4-Dichlorobenzene	20.34	146	718	N.D.			
87) sec-Butylbenzene	20.37	105	1130	N.D.			
88) 4-Isopropyltoluene (p-...	20.51	119	2824	N.D.			
89) 1,2,3-Trimethylbenzene	20.51	105	2992	N.D.			
90) 1,2-Dichlorobenzene	20.62	146	365	N.D.			
91) d-Limonene	20.64	68	13913	0.237	ng		98
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.			
93) n-Undecane	0.00	57	0	N.D.	d		
94) 1,2,4-Trichlorobenzene	22.15	180	278	N.D.			
95) Naphthalene	22.24	128	4058	N.D.			
96) n-Dodecane	0.00	57	0	N.D.	d		
97) Hexachlorobutadiene	0.00	225	0	N.D.			
98) Cyclohexanone	0.00	55	0	N.D.	d		
99) tert-Butylbenzene	0.00	119	0	N.D.	d		
100) n-Butylbenzene	20.86	91	4296	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202015.D Vial: 10
Acq On : 20 Apr 2020 11:42 Operator: TD
Sample : P2002028-013 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 20:16:19 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202015.D Vial: 10
Acq On : 20 Apr 2020 11:42 Operator: TD
Sample : P2002028-013 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 20:16:19 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 4/20/20
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

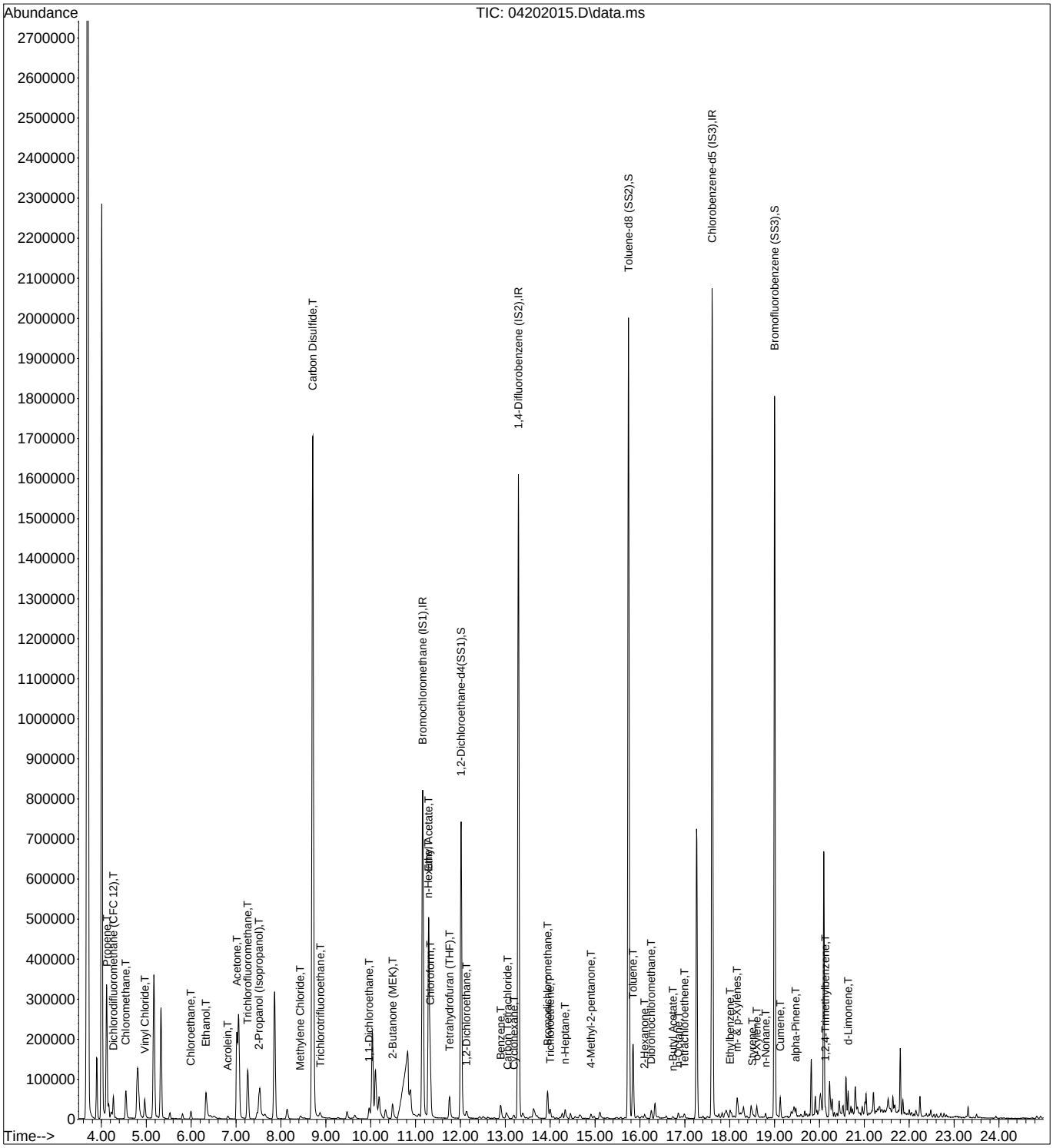
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	329803	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1448540	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	702486	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	579814	12.696	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.60%				
57) Toluene-d8 (SS2)	15.74	98	1503434	12.074	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.56%				
73) Bromofluorobenzene (SS3)	19.00	174	496357	11.289	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.32%				
Target Compounds							Qvalue
2) Propene	4.12	42	27338m	0.790	ng		
3) Dichlorodifluoromethan...	4.27	85	44688	0.601	ng		99
4) Chloromethane	4.54	50	84108	1.431	ng		100
6) Vinyl Chloride	4.97	62	55762	0.899	ng		99
9) Chloroethane	5.99	64	18024	0.757	ng		99
10) Ethanol	6.33	45	138436	5.064	ng		100
12) Acrolein	6.81	56	10288	0.511	ng		91
13) Acetone	7.02	58	120970	4.484	ng	#	69
14) Trichlorofluoromethane	7.26	101	120669	1.839	ng		99
15) 2-Propanol (Isopropanol)	7.51	45	117706	1.471	ng		93
19) Methylene Chloride	8.43	84	3647	0.104	ng		87
21) Trichlorotrifluoroethane	8.88	151	3896	0.124	ng		95
22) Carbon Disulfide	8.71	76	3282421	26.000	ng		99
24) 1,1-Dichloroethane	9.96	63	31425	0.523	ng		100
27) 2-Butanone (MEK)	10.49	72	16228	0.723	ng	#	89
30) Ethyl Acetate	11.29	61	97464	7.342	ng		91
31) n-Hexane	11.28	57	6389	0.104	ng		91
32) Chloroform	11.33	83	101412	1.549	ng		100
34) Tetrahydrofuran (THF)	11.76	72	17944	0.777	ng	#	87
36) 1,2-Dichloroethane	12.13	62	12289	0.241	ng		96
41) Benzene	12.90	78	20257	0.135	ng		98
42) Carbon Tetrachloride	13.06	117	2882	0.056	ng		91
43) Cyclohexane	13.19	84	3245	0.056	ng		94
46) Bromodichloromethane	13.94	83	47314	0.935	ng		99
47) Trichloroethene	14.00	130	6615	0.156	ng		99
51) n-Heptane	14.33	71	5817	0.166	ng		95
53) 4-Methyl-2-pentanone	14.91	58	3466	0.110	ng		79
58) Toluene	15.84	91	159457	1.036	ng		99
59) 2-Hexanone	16.10	43	7628	0.099	ng		97
60) Dibromochloromethane	16.25	129	11233	0.274	ng		98
62) n-Butyl Acetate	16.73	43	4755	0.058	ng		95
63) n-Octane	16.85	57	2528	0.083	ng		87
64) Tetrachloroethene	16.99	166	3097	0.072	ng		98
66) Ethylbenzene	18.01	91	14413	0.085	ng		99
67) m- & p-Xylenes	18.16	91	29867	0.217	ng		99
69) Styrene	18.50	104	6203	0.058	ng		95
70) o-Xylene	18.60	91	11352	0.083	ng		96
71) n-Nonane	18.80	43	5052	0.074	ng		94
74) Cumene	19.13	105	28992	0.167	ng		99
75) alpha-Pinene	19.47	93	7487	0.085	ng	#	1
82) 1,2,4-Trimethylbenzene	20.13	105	8880	0.058	ng		89
91) d-Limonene	20.64	68	13913	0.237	ng		98

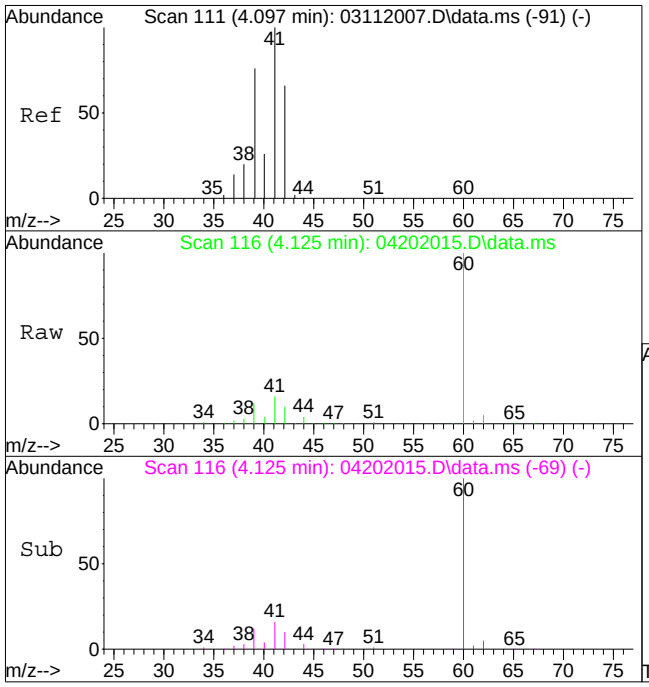
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202015.D Vial: 10
Acq On : 20 Apr 2020 11:42 Operator: TD
Sample : P2002028-013 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 20:16:19 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

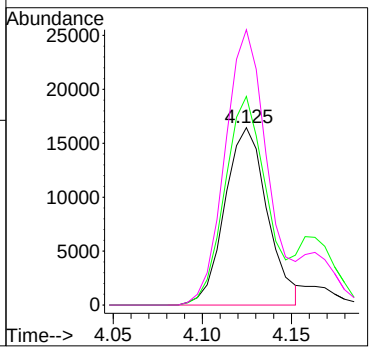


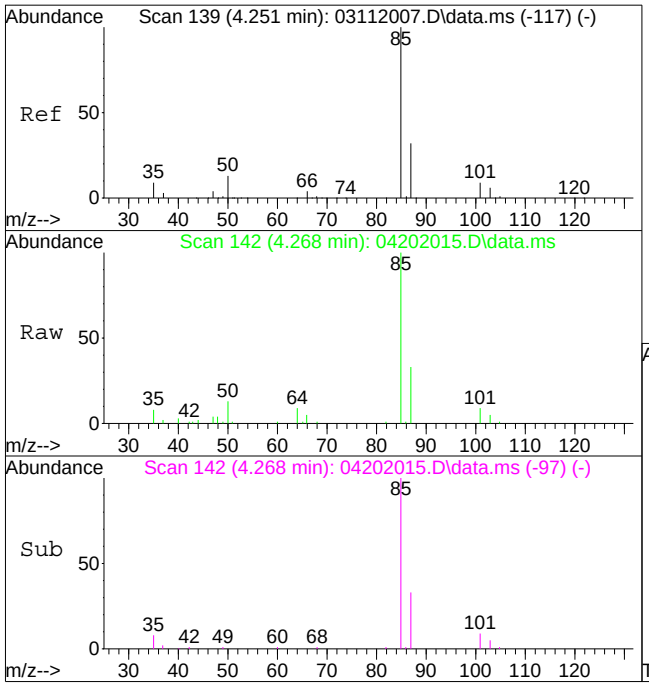


#2
Propene
Concen: 0.79 ng m
RT: 4.12 min Scan# 116
Delta R.T. 0.011 min
Lab File: 04202015.D
Acq: 20 Apr 2020 11:42

Tgt Ion: 42 Resp: 27338

Ion	Ratio	Lower	Upper
42	100		
39	114.6	95.3	135.3
41	178.3	132.0	172.0#

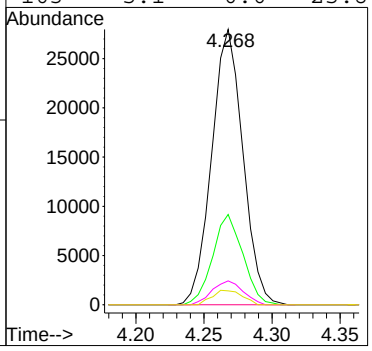


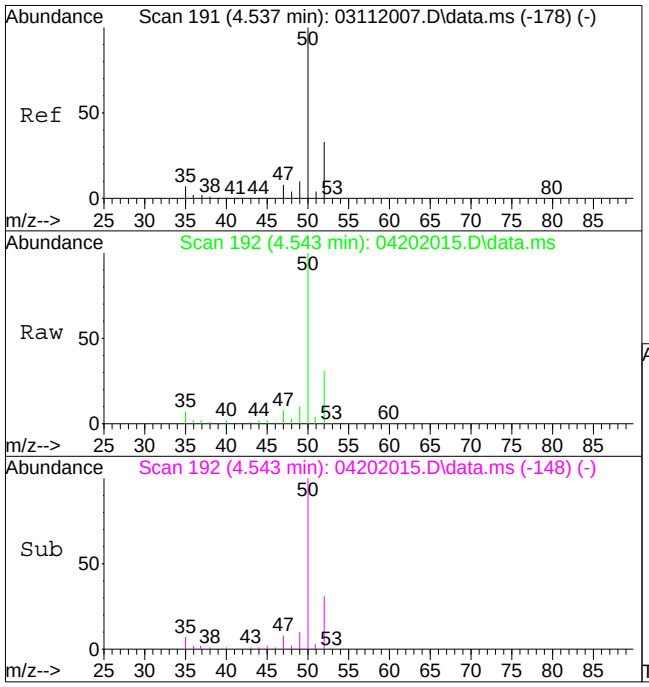


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.60 ng
RT: 4.27 min Scan# 142
Delta R.T. -0.000 min
Lab File: 04202015.D
Acq: 20 Apr 2020 11:42

Tgt Ion: 85 Resp: 44688

Ion	Ratio	Lower	Upper
85	100		
87	31.6	12.3	52.3
101	8.6	0.0	29.0
103	5.1	0.0	25.8

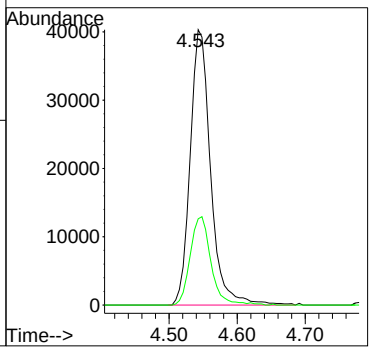


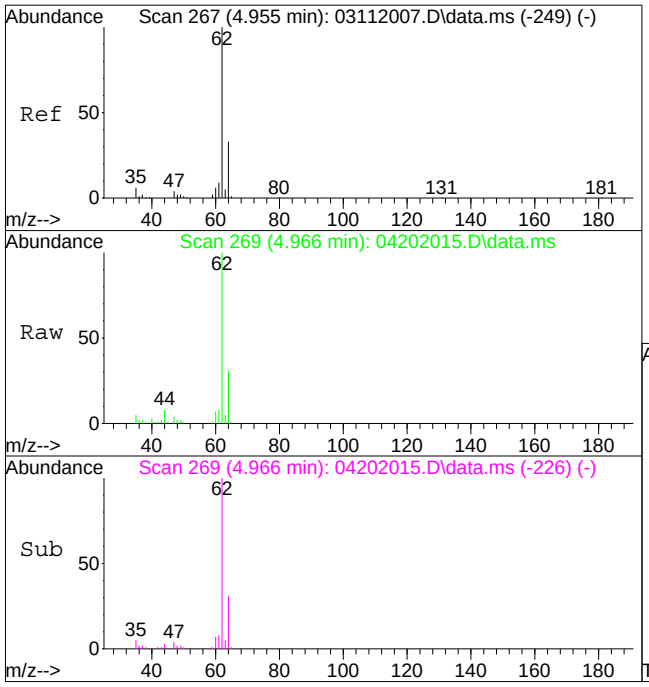


#4
Chloromethane
Concen: 1.43 ng
RT: 4.54 min Scan# 192
Delta R.T. -0.010 min
Lab File: 04202015.D
Acq: 20 Apr 2020 11:42

Tgt Ion: 50 Resp: 84108

Ion	Ratio	Lower	Upper
50	100		
52	32.6	12.8	52.8

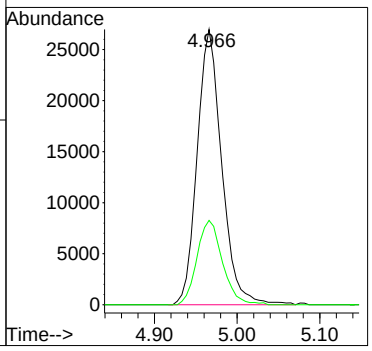


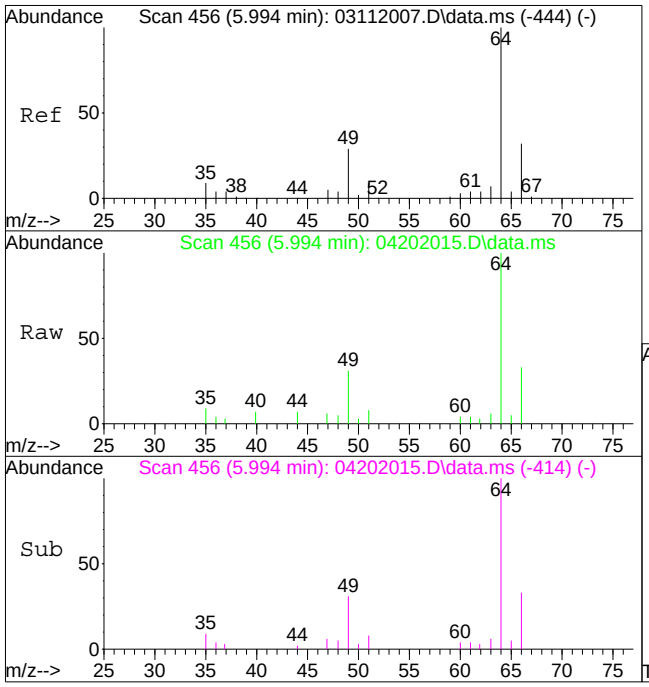


#6
Vinyl Chloride
Concen: 0.90 ng
RT: 4.97 min Scan# 269
Delta R.T. -0.016 min
Lab File: 04202015.D
Acq: 20 Apr 2020 11:42

Tgt Ion: 62 Resp: 55762

Ion	Ratio	Lower	Upper
62	100		
64	31.7	12.3	52.3

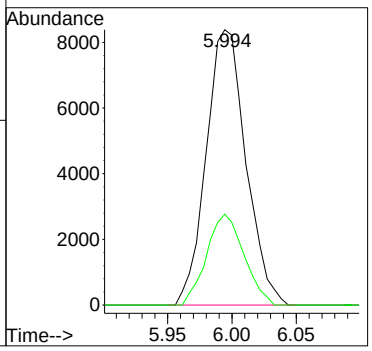


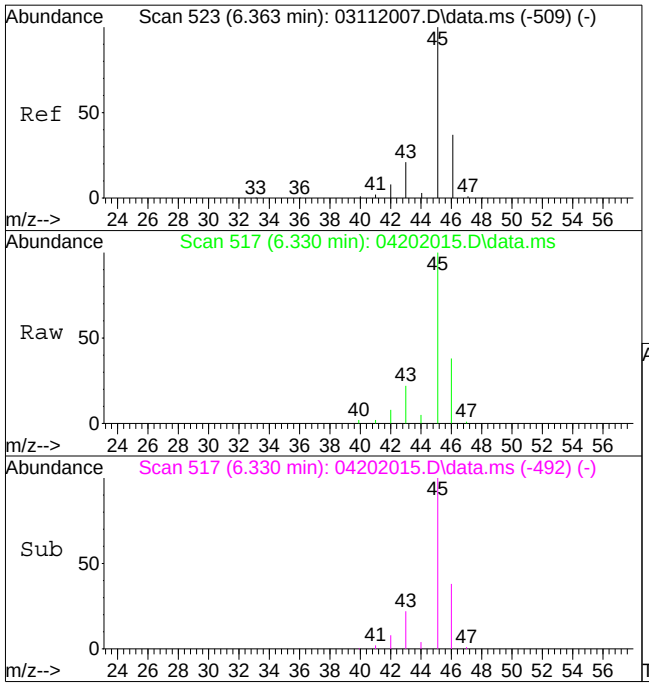


#9
Chloroethane
Concen: 0.76 ng
RT: 5.99 min Scan# 456
Delta R.T. -0.022 min
Lab File: 04202015.D
Acq: 20 Apr 2020 11:42

Tgt Ion: 64 Resp: 18024

Ion	Ratio	Lower	Upper
64	100		
66	31.0	11.7	51.7

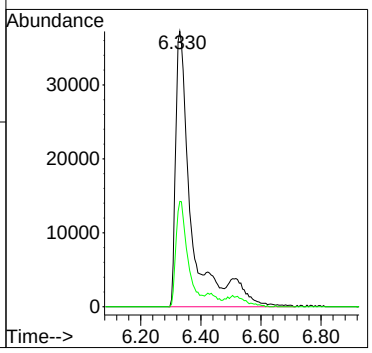


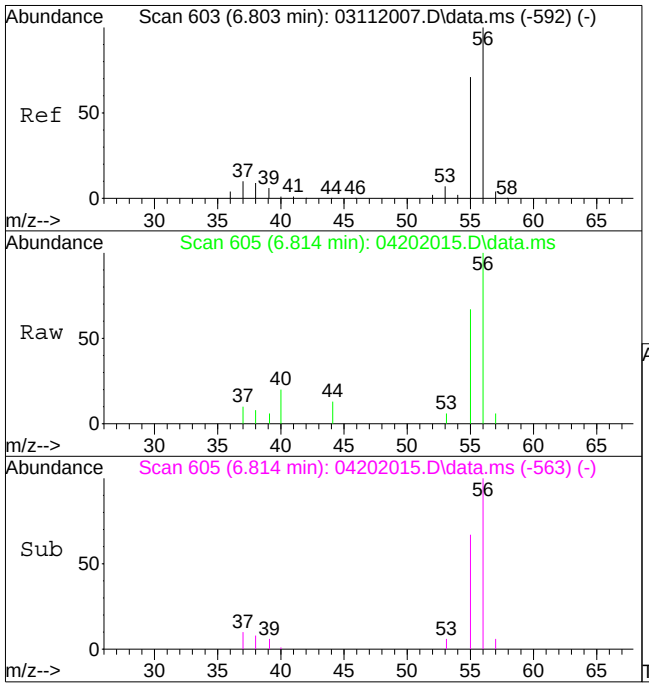


#10
Ethanol
Concen: 5.06 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.110 min
Lab File: 04202015.D
Acq: 20 Apr 2020 11:42

Tgt Ion: 45 Resp: 138436

Ion	Ratio	Lower	Upper
45	100		
46	37.0	17.3	57.3

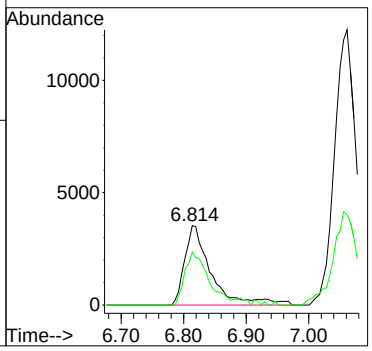


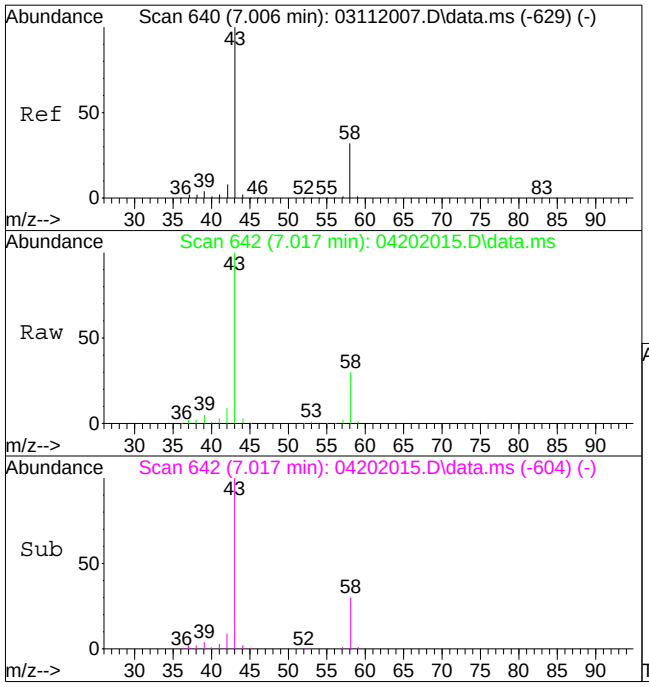


#12
Acrolein
Concen: 0.51 ng
RT: 6.81 min Scan# 605
Delta R.T. -0.016 min
Lab File: 04202015.D
Acq: 20 Apr 2020 11:42

Tgt Ion: 56 Resp: 10288

Ion	Ratio	Lower	Upper
56	100		
55	63.1	50.4	90.4

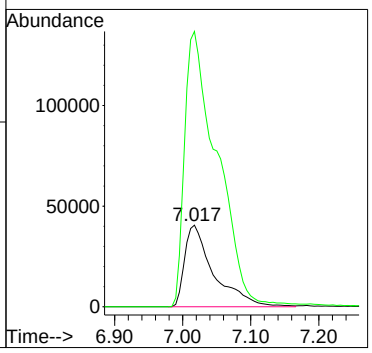


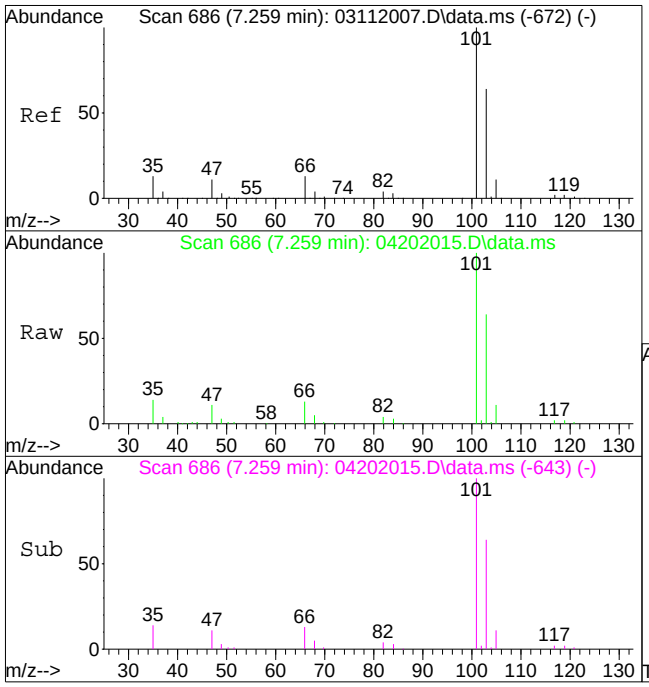


#13
Acetone
Concen: 4.48 ng
RT: 7.02 min Scan# 642
Delta R.T. -0.039 min
Lab File: 04202015.D
Acq: 20 Apr 2020 11:42

Tgt Ion: 58 Resp: 120970

Ion	Ratio	Lower	Upper
58	100		
43	381.3	287.3	347.3#

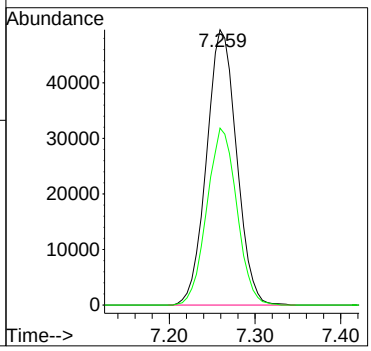


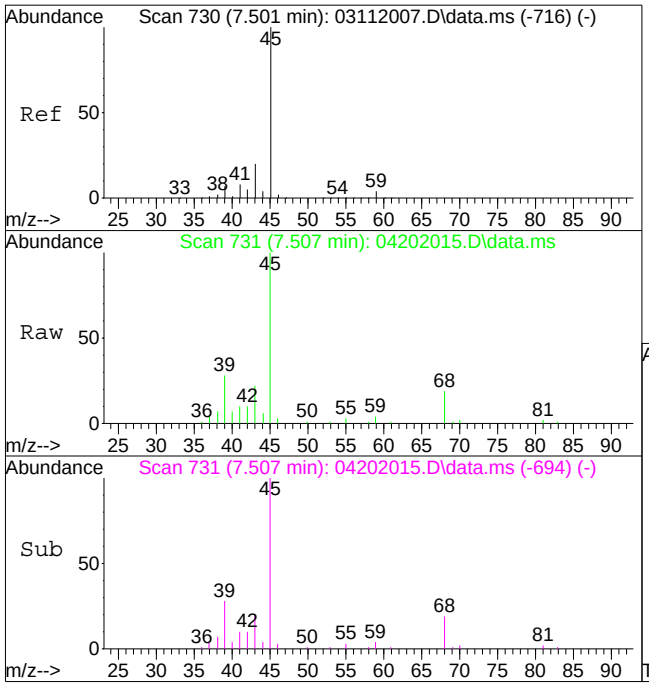


#14
Trichlorofluoromethane
Concen: 1.84 ng
RT: 7.26 min Scan# 686
Delta R.T. -0.016 min
Lab File: 04202015.D
Acq: 20 Apr 2020 11:42

Tgt Ion:101 Resp: 120669

Ion	Ratio	Lower	Upper
101	100		
103	64.0	44.6	84.6

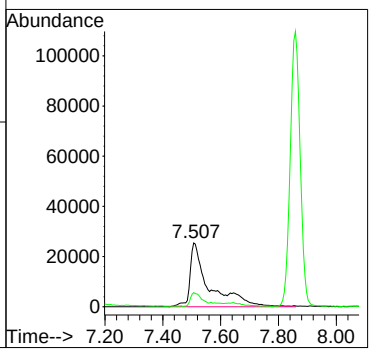


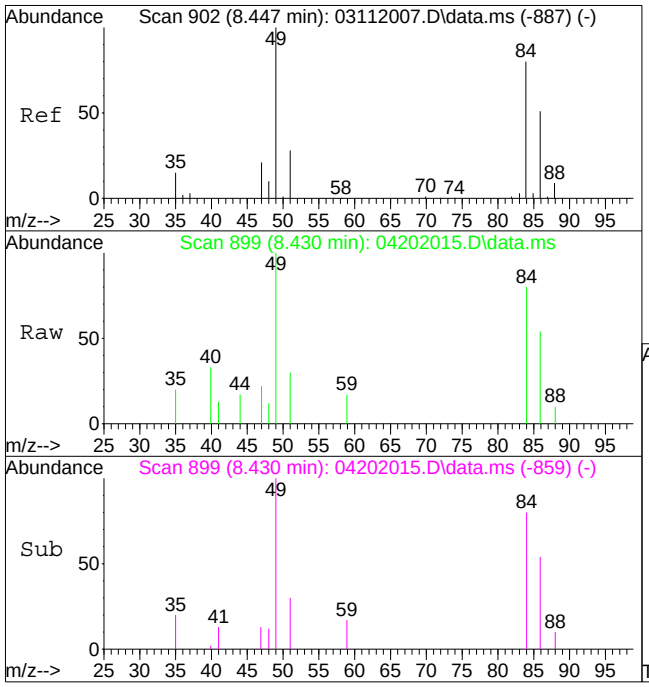


#15
2-Propanol (Isopropanol)
Concen: 1.47 ng
RT: 7.51 min Scan# 731
Delta R.T. -0.044 min
Lab File: 04202015.D
Acq: 20 Apr 2020 11:42

Tgt Ion: 45 Resp: 117706

Ion	Ratio	Lower	Upper
45	100		
43	23.5	0.3	40.3

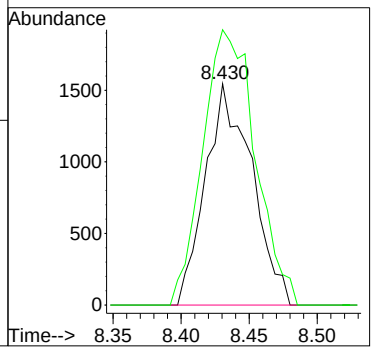


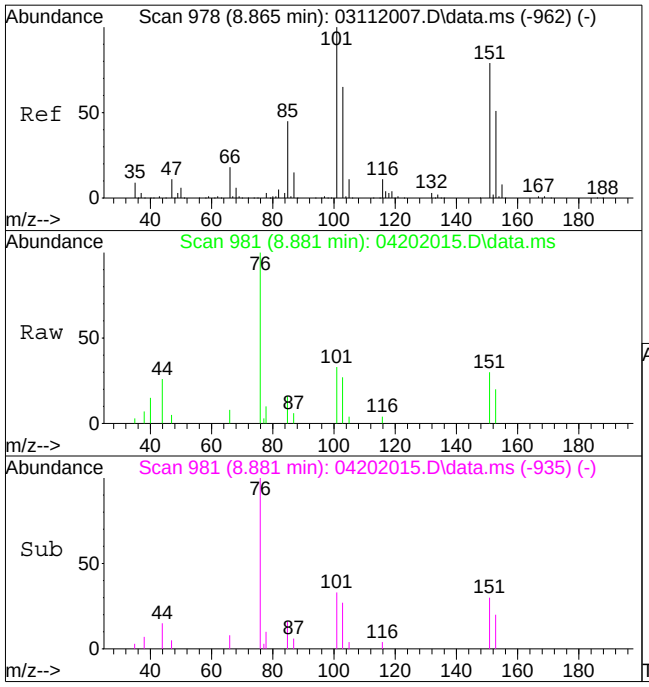


#19
Methylene Chloride
Concen: 0.10 ng
RT: 8.43 min Scan# 899
Delta R.T. -0.033 min
Lab File: 04202015.D
Acq: 20 Apr 2020 11:42

Tgt Ion: 84 Resp: 3647

Ion	Ratio	Lower	Upper
84	100		
49	141.8	102.2	152.2

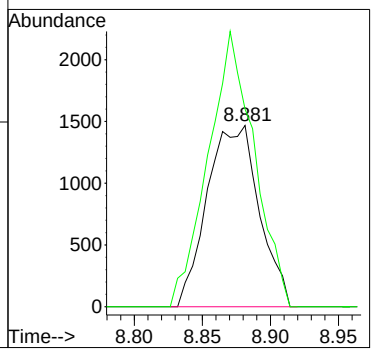


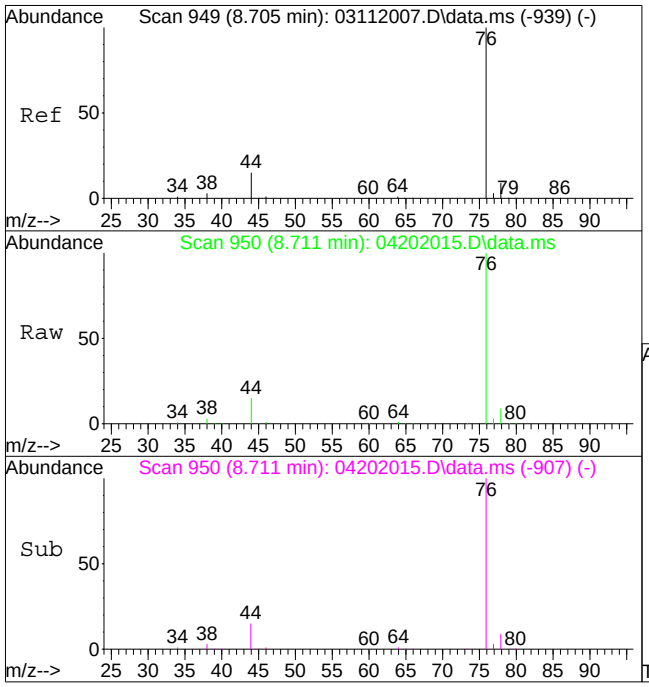


#21
Trichlorotrifluoroethane
Concen: 0.12 ng
RT: 8.88 min Scan# 981
Delta R.T. 0.005 min
Lab File: 04202015.D
Acq: 20 Apr 2020 11:42

Tgt Ion:151 Resp: 3896

Ion	Ratio	Lower	Upper
151	100		
101	134.7	108.4	148.4

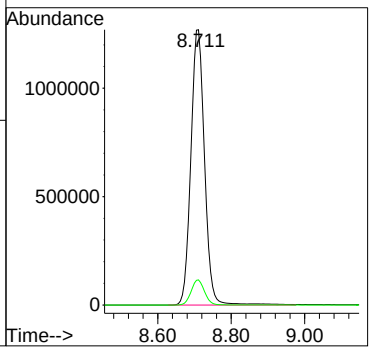


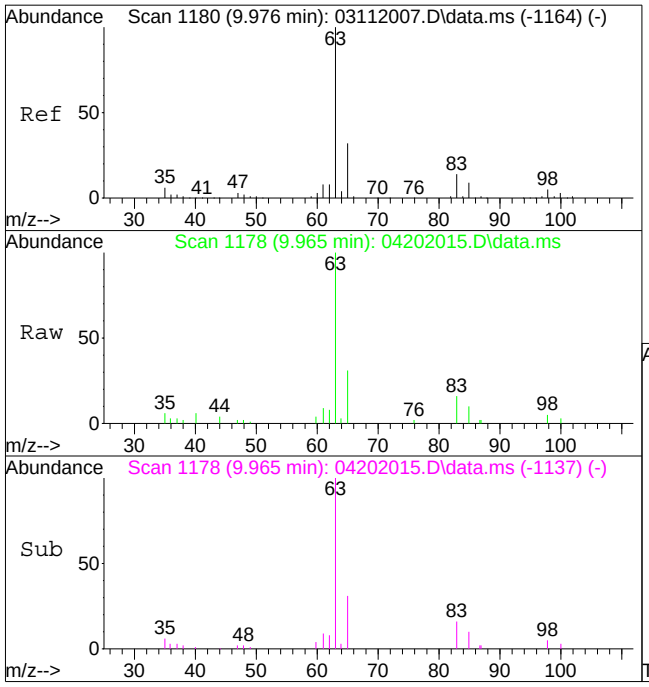


#22
Carbon Disulfide
Concen: 26.00 ng
RT: 8.71 min Scan# 950
Delta R.T. -0.011 min
Lab File: 04202015.D
Acq: 20 Apr 2020 11:42

Tgt Ion: 76 Resp: 3282421

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	29.2

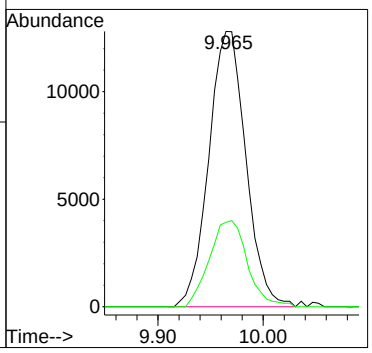


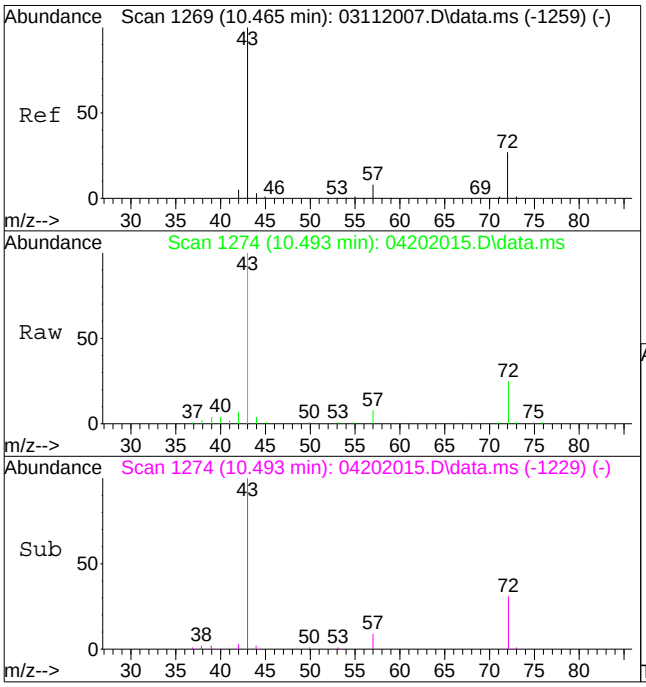


#24
1,1-Dichloroethane
Concen: 0.52 ng
RT: 9.96 min Scan# 1178
Delta R.T. -0.022 min
Lab File: 04202015.D
Acq: 20 Apr 2020 11:42

Tgt Ion: 63 Resp: 31425

Ion	Ratio	Lower	Upper
63	100		
65	32.1	11.8	51.8

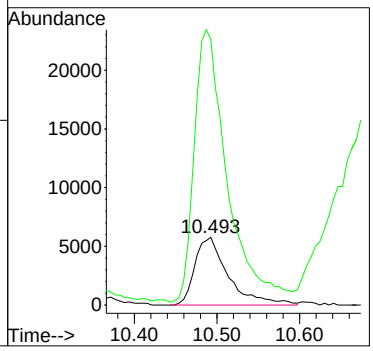


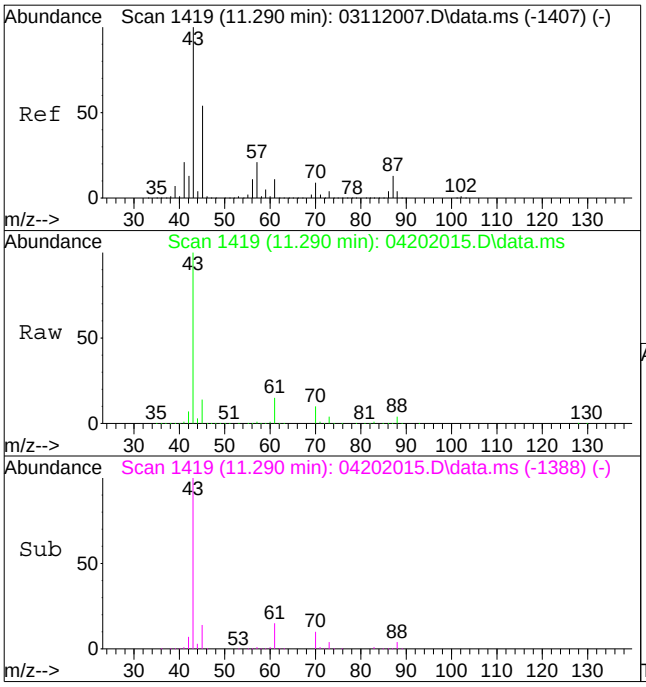


#27
2-Butanone (MEK)
Concen: 0.72 ng
RT: 10.49 min Scan# 1274
Delta R.T. 0.000 min
Lab File: 04202015.D
Acq: 20 Apr 2020 11:42

Tgt Ion: 72 Resp: 16228

Ion	Ratio	Lower	Upper
72	100		
43	397.5	353.4	393.4#

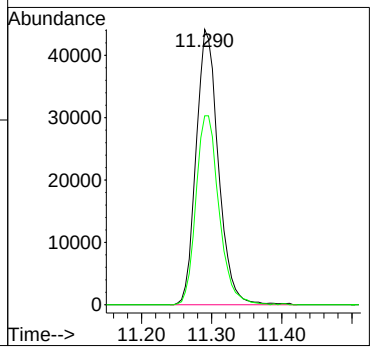


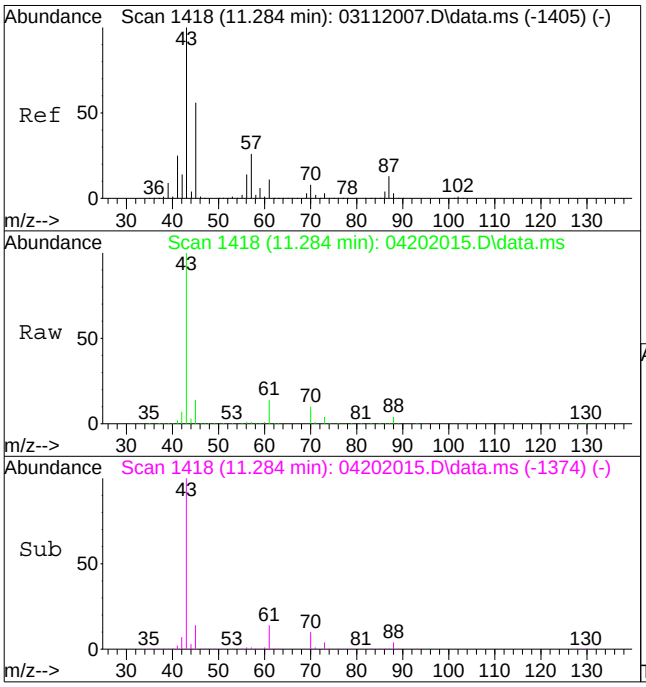


#30
Ethyl Acetate
Concen: 7.34 ng
RT: 11.29 min Scan# 1419
Delta R.T. -0.027 min
Lab File: 04202015.D
Acq: 20 Apr 2020 11:42

Tgt Ion: 61 Resp: 97464

Ion	Ratio	Lower	Upper
61	100		
70	71.0	59.1	99.1

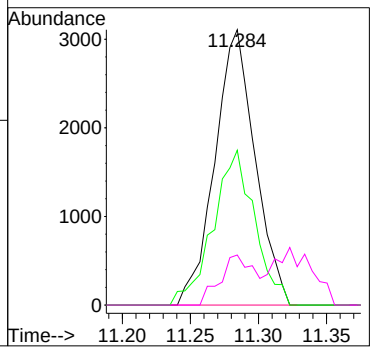


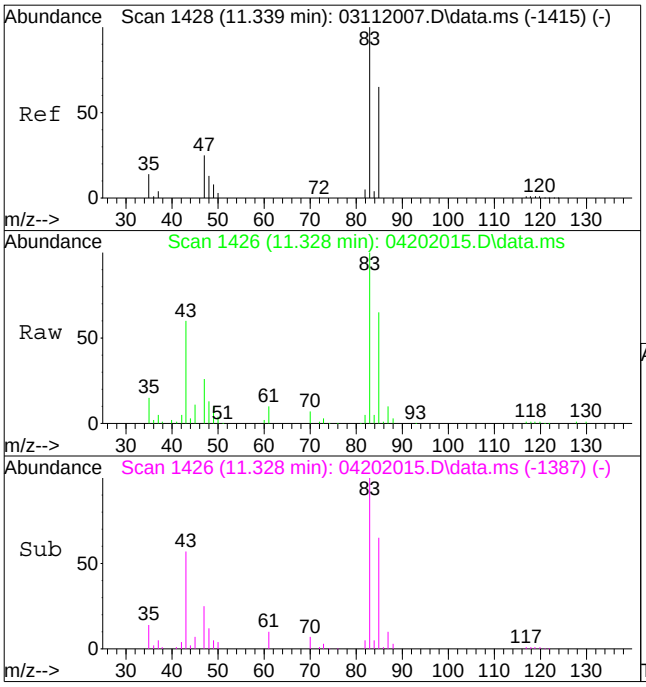


#31
n-Hexane
Concen: 0.10 ng
RT: 11.28 min Scan# 1418
Delta R.T. -0.005 min
Lab File: 04202015.D
Acq: 20 Apr 2020 11:42

Tgt Ion: 57 Resp: 6389

Ion	Ratio	Lower	Upper
57	100		
56	58.1	41.0	61.4
86	15.3	13.9	20.9

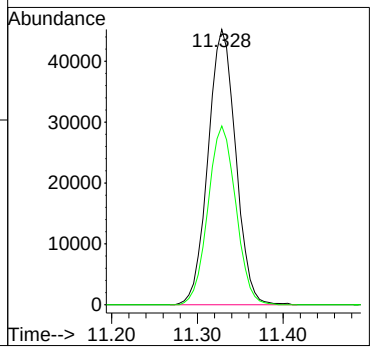


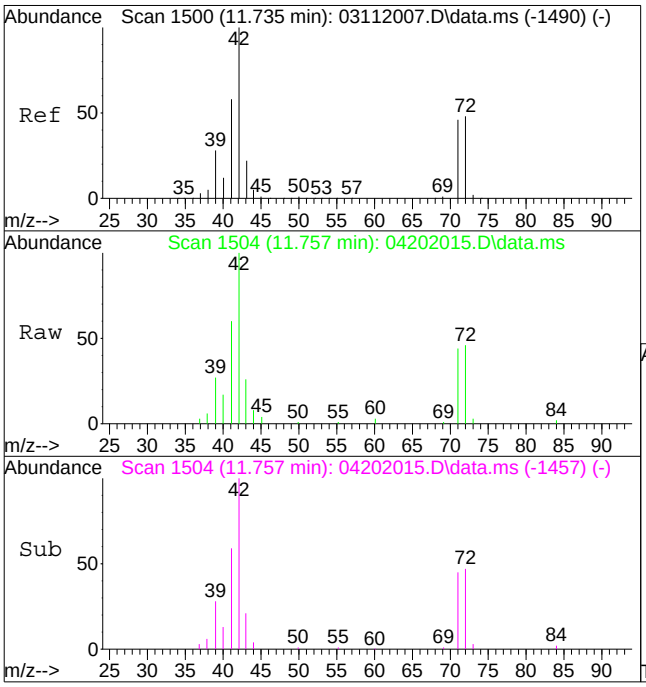


#32
Chloroform
Concen: 1.55 ng
RT: 11.33 min Scan# 1426
Delta R.T. -0.033 min
Lab File: 04202015.D
Acq: 20 Apr 2020 11:42

Tgt Ion: 83 Resp: 101412

Ion	Ratio	Lower	Upper
83	100		
85	65.2	45.5	85.5

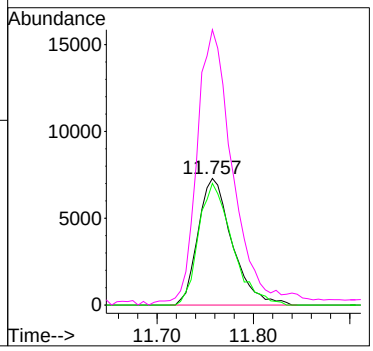


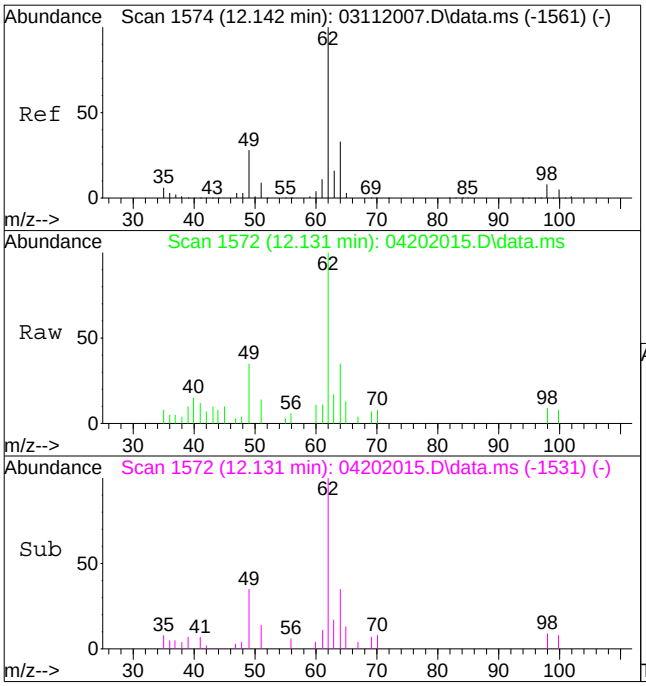


#34
Tetrahydrofuran (THF)
Concen: 0.78 ng
RT: 11.76 min Scan# 1504
Delta R.T. 0.011 min
Lab File: 04202015.D
Acq: 20 Apr 2020 11:42

Tgt Ion: 72 Resp: 17944

Ion	Ratio	Lower	Upper
72	100		
71	94.9	75.9	115.9
42	238.6	189.3	229.3#

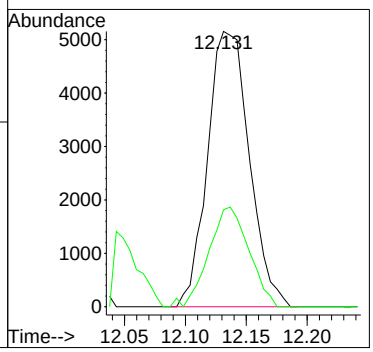


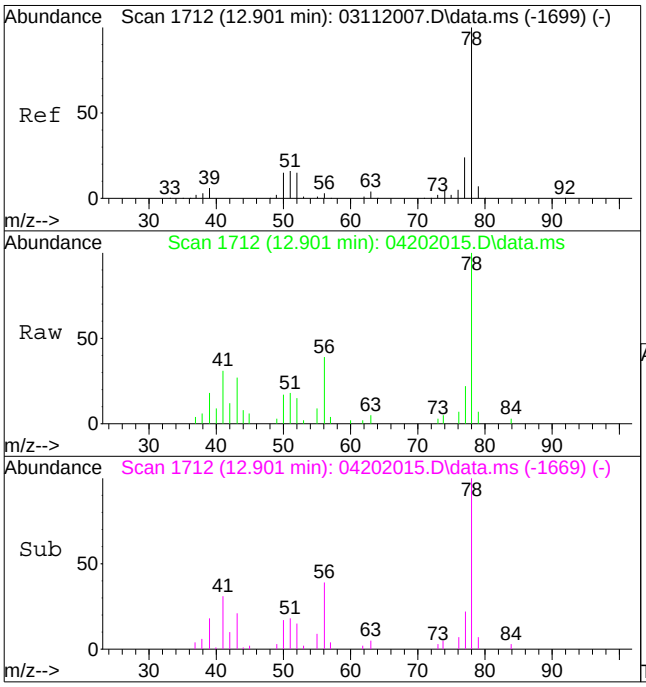


#36
1,2-Dichloroethane
Concen: 0.24 ng
RT: 12.13 min Scan# 1572
Delta R.T. -0.022 min
Lab File: 04202015.D
Acq: 20 Apr 2020 11:42

Tgt Ion: 62 Resp: 12289

Ion	Ratio	Lower	Upper
62	100		
64	34.7	12.4	52.4

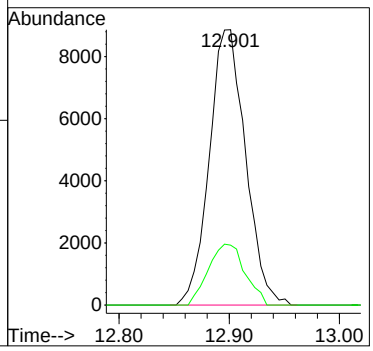


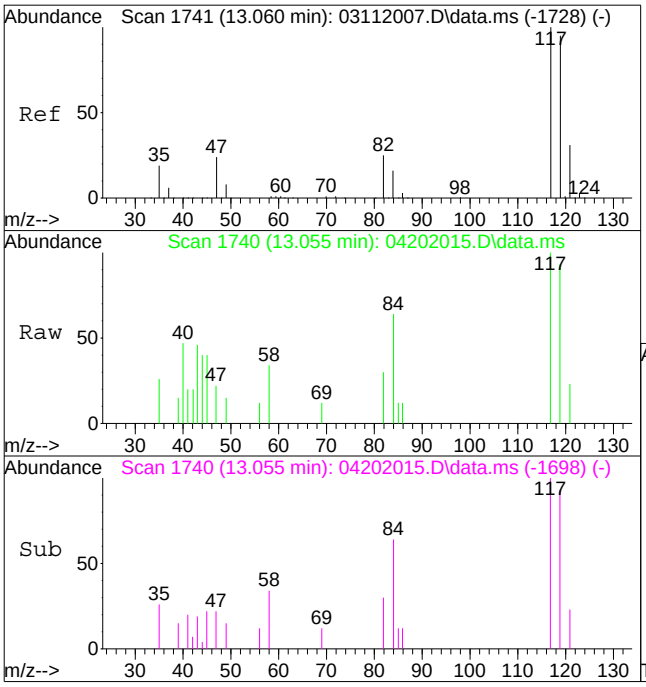


#41
Benzene
Concen: 0.14 ng
RT: 12.90 min Scan# 1712
Delta R.T. -0.011 min
Lab File: 04202015.D
Acq: 20 Apr 2020 11:42

Tgt Ion: 78 Resp: 20257

Ion	Ratio	Lower	Upper
78	100		
77	22.3	3.4	43.4

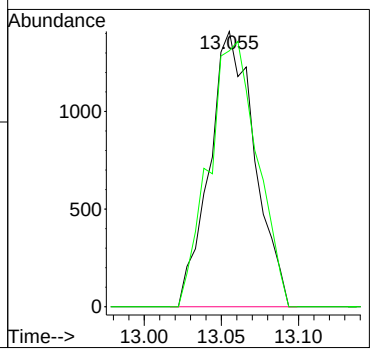


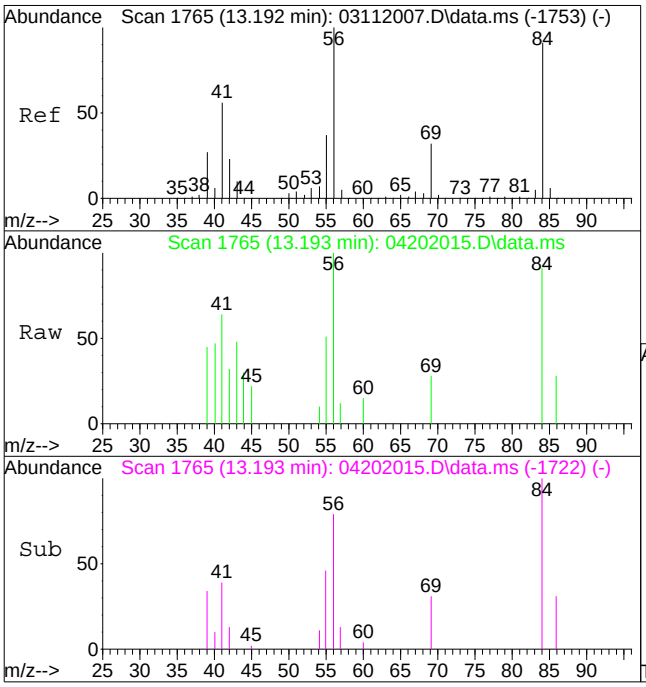


#42
Carbon Tetrachloride
Concen: 0.06 ng
RT: 13.06 min Scan# 1740
Delta R.T. -0.016 min
Lab File: 04202015.D
Acq: 20 Apr 2020 11:42

Tgt Ion:117 Resp: 2882

Ion	Ratio	Lower	Upper
117	100		
119	103.7	75.4	115.4

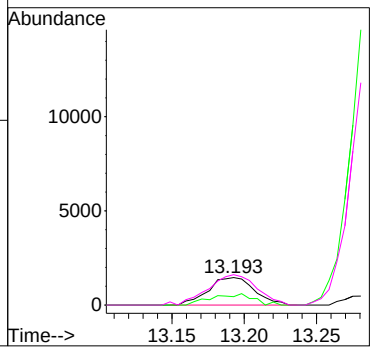


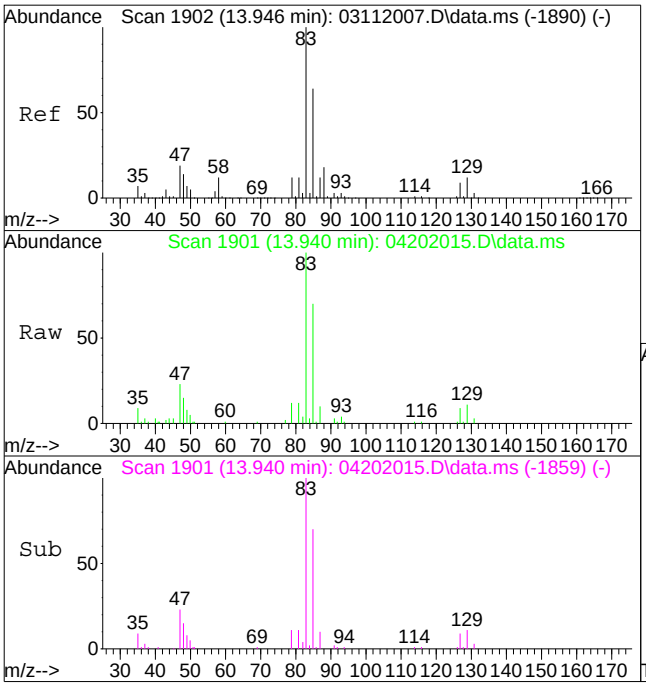


#43
Cyclohexane
Concen: 0.06 ng
RT: 13.19 min Scan# 1765
Delta R.T. -0.011 min
Lab File: 04202015.D
Acq: 20 Apr 2020 11:42

Tgt Ion: 84 Resp: 3245

Ion	Ratio	Lower	Upper
84	100		
69	37.2	15.3	55.3
56	117.2	90.5	130.5

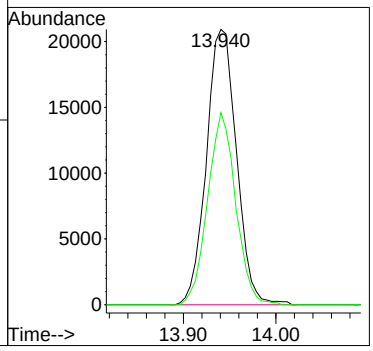


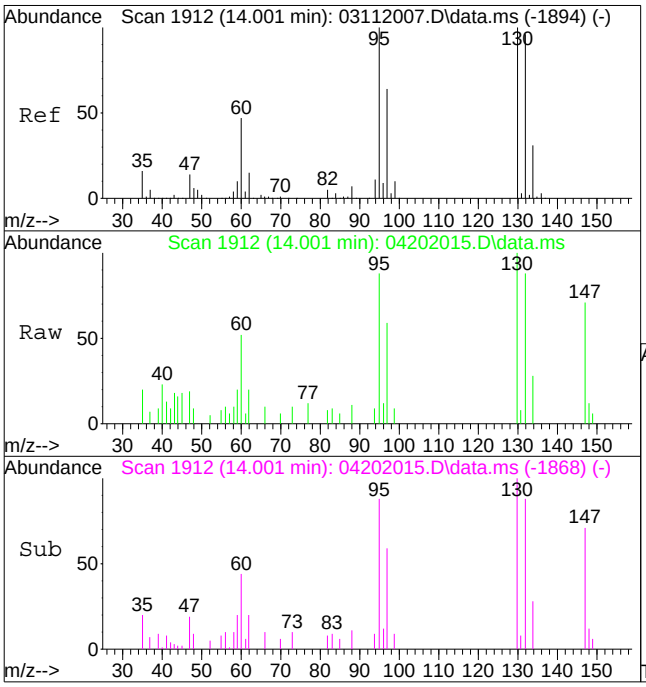


#46
Bromodichloromethane
Concen: 0.93 ng
RT: 13.94 min Scan# 1901
Delta R.T. -0.016 min
Lab File: 04202015.D
Acq: 20 Apr 2020 11:42

Tgt Ion: 83 Resp: 47314

Ion	Ratio	Lower	Upper
83	100		
85	64.9	44.0	84.0

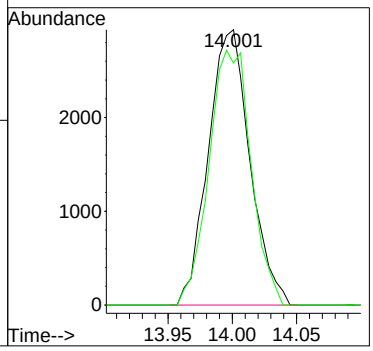


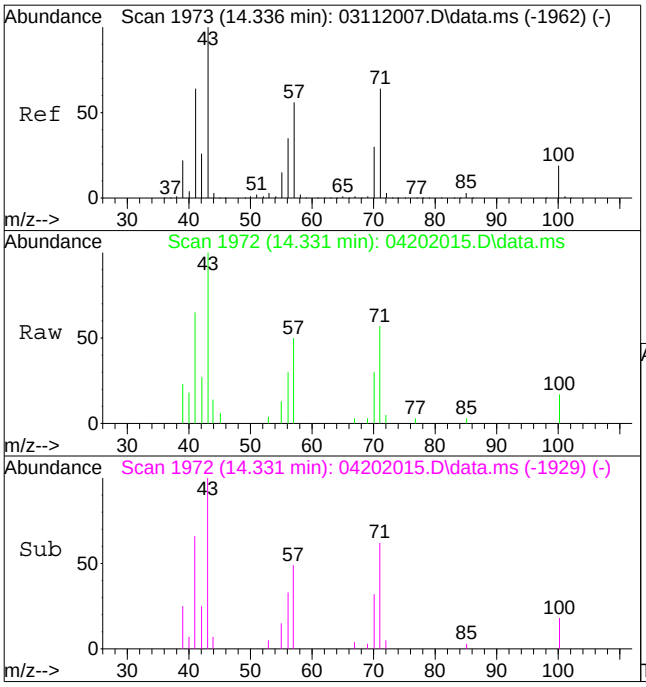


#47
Trichloroethene
Concen: 0.16 ng
RT: 14.00 min Scan# 1912
Delta R.T. -0.005 min
Lab File: 04202015.D
Acq: 20 Apr 2020 11:42

Tgt Ion:130 Resp: 6615

Ion	Ratio	Lower	Upper
130	100		
132	93.5	74.7	114.7

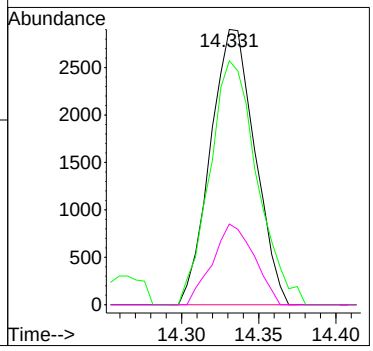


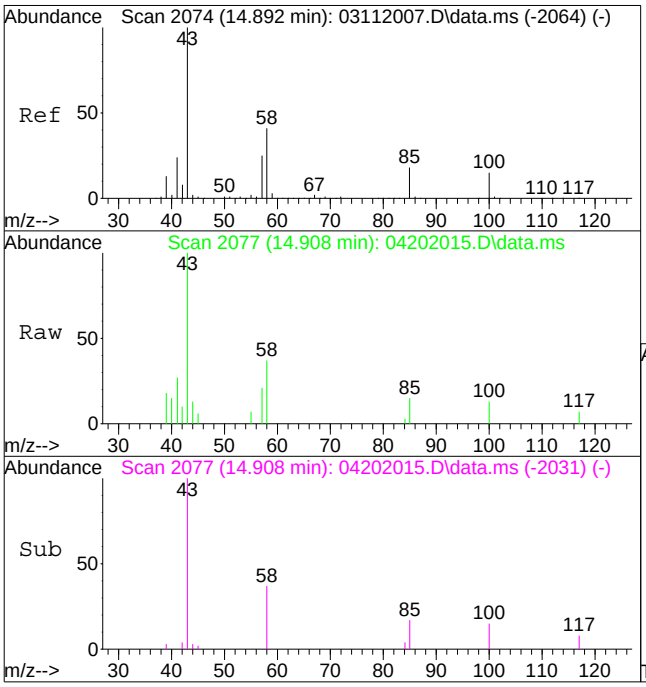


#51
n-Heptane
Concen: 0.17 ng
RT: 14.33 min Scan# 1972
Delta R.T. -0.011 min
Lab File: 04202015.D
Acq: 20 Apr 2020 11:42

Tgt Ion: 71 Resp: 5817

Ion	Ratio	Lower	Upper
71	100		
57	94.4	68.6	108.6
100	27.5	9.1	49.1

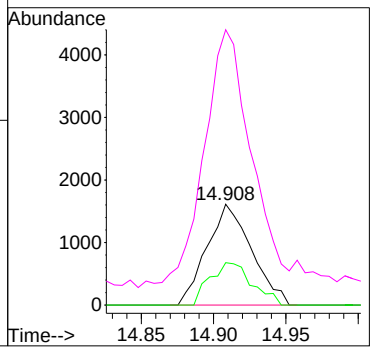


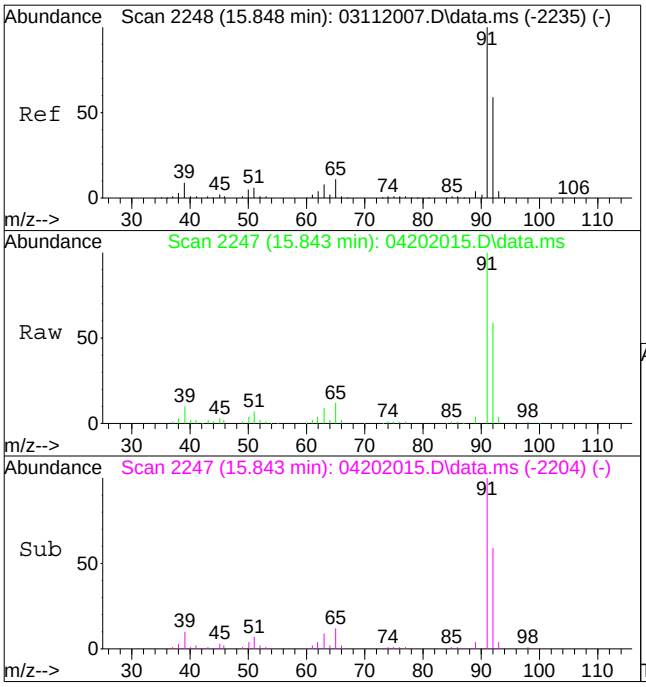


#53
4-Methyl-2-pentanone
Concen: 0.11 ng
RT: 14.91 min Scan# 2077
Delta R.T. 0.006 min
Lab File: 04202015.D
Acq: 20 Apr 2020 11:42

Tgt Ion: 58 Resp: 3466

Ion	Ratio	Lower	Upper
58	100		
85	39.6	37.0	55.4
43	284.6	196.3	294.5

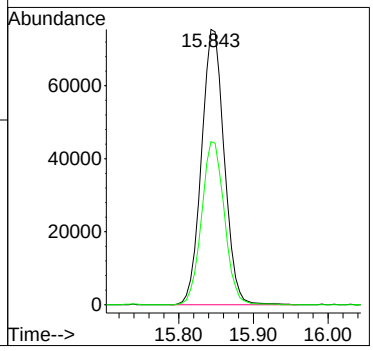


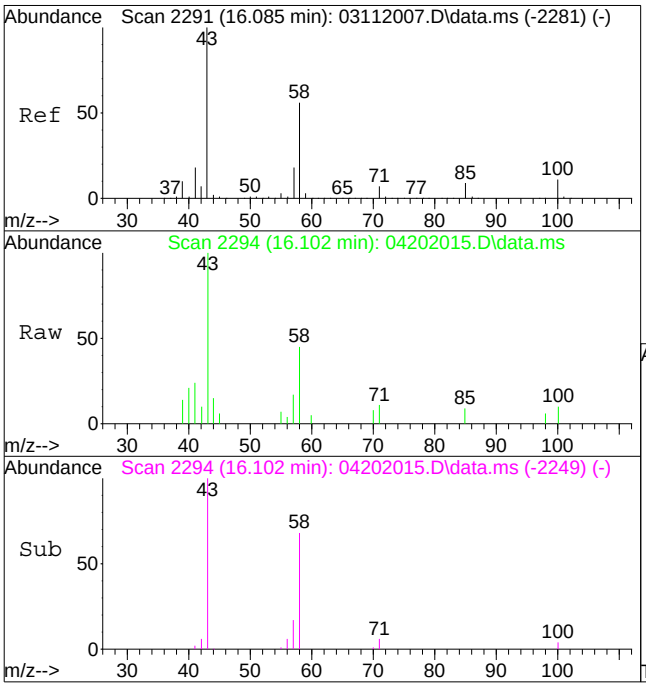


#58
Toluene
Concen: 1.04 ng
RT: 15.84 min Scan# 2247
Delta R.T. -0.011 min
Lab File: 04202015.D
Acq: 20 Apr 2020 11:42

Tgt Ion: 91 Resp: 159457

Ion	Ratio	Lower	Upper
91	100		
92	59.5	39.0	79.0

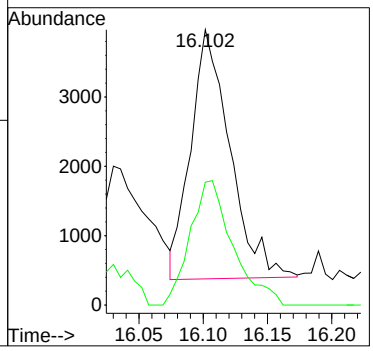


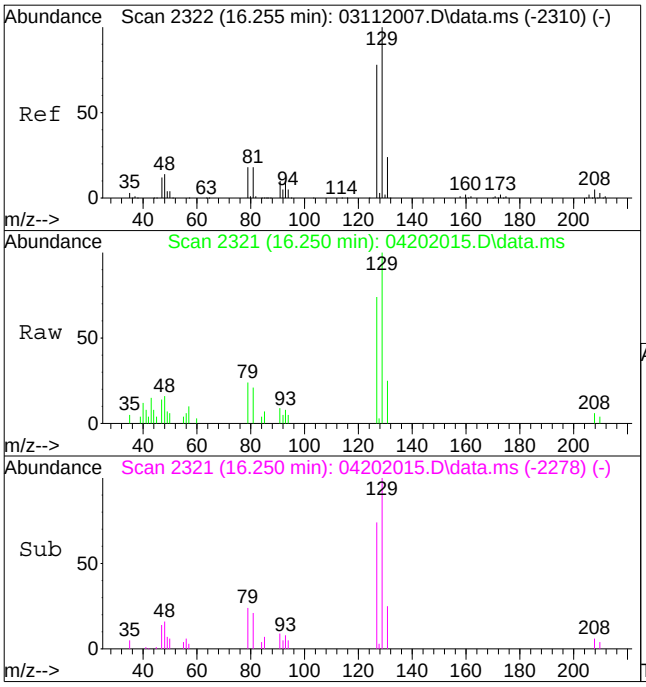


#59
2-Hexanone
Concen: 0.10 ng
RT: 16.10 min Scan# 2294
Delta R.T. 0.000 min
Lab File: 04202015.D
Acq: 20 Apr 2020 11:42

Tgt Ion: 43 Resp: 7628

Ion	Ratio	Lower	Upper
43	100		
58	54.2	36.5	76.5

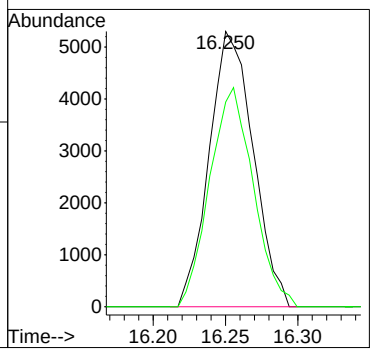


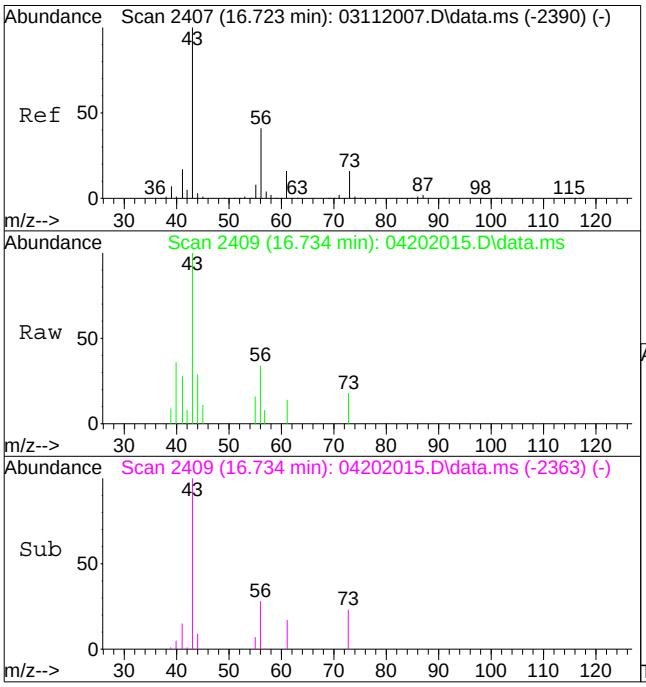


#60
Dibromochloromethane
Concen: 0.27 ng
RT: 16.25 min Scan# 2321
Delta R.T. -0.011 min
Lab File: 04202015.D
Acq: 20 Apr 2020 11:42

Tgt Ion:129 Resp: 11233

Ion	Ratio	Lower	Upper
129	100		
127	78.9	57.3	97.3

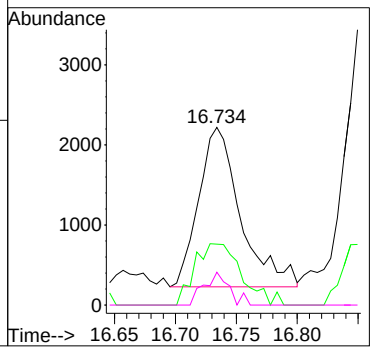


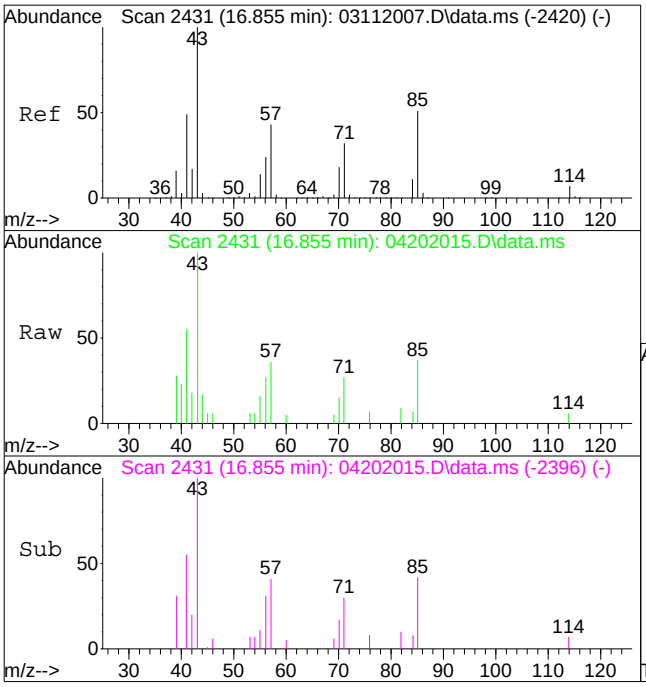


#62
n-Butyl Acetate
Concen: 0.06 ng
RT: 16.73 min Scan# 2409
Delta R.T. 0.006 min
Lab File: 04202015.D
Acq: 20 Apr 2020 11:42

Tgt Ion: 43 Resp: 4755

Ion	Ratio	Lower	Upper
43	100		
56	43.2	20.7	60.7
73	12.4	0.0	35.5

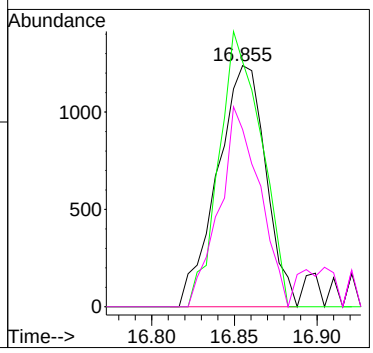


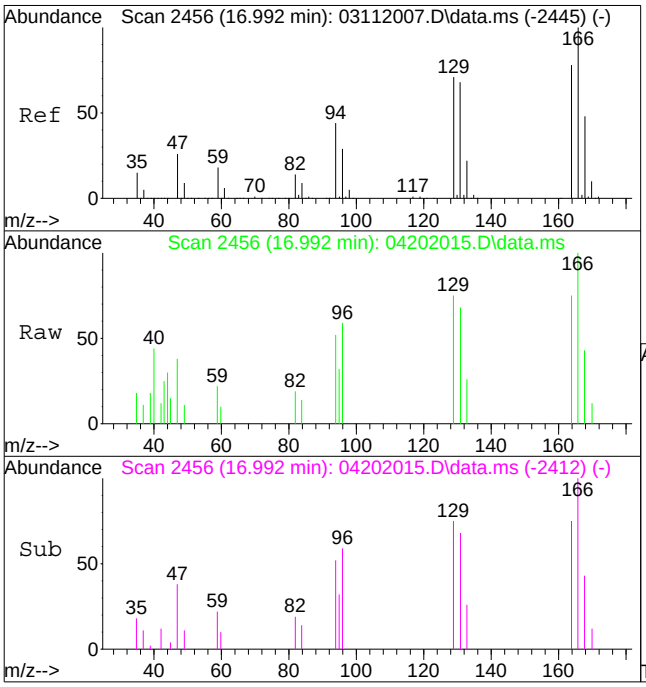


#63
n-Octane
Concen: 0.08 ng
RT: 16.85 min Scan# 2431
Delta R.T. -0.005 min
Lab File: 04202015.D
Acq: 20 Apr 2020 11:42

Tgt Ion: 57 Resp: 2528

Ion	Ratio	Lower	Upper
57	100		
85	99.4	95.1	142.7
71	68.5	58.2	87.4

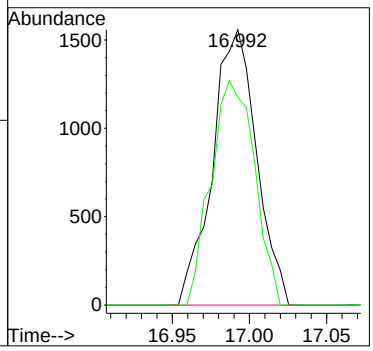


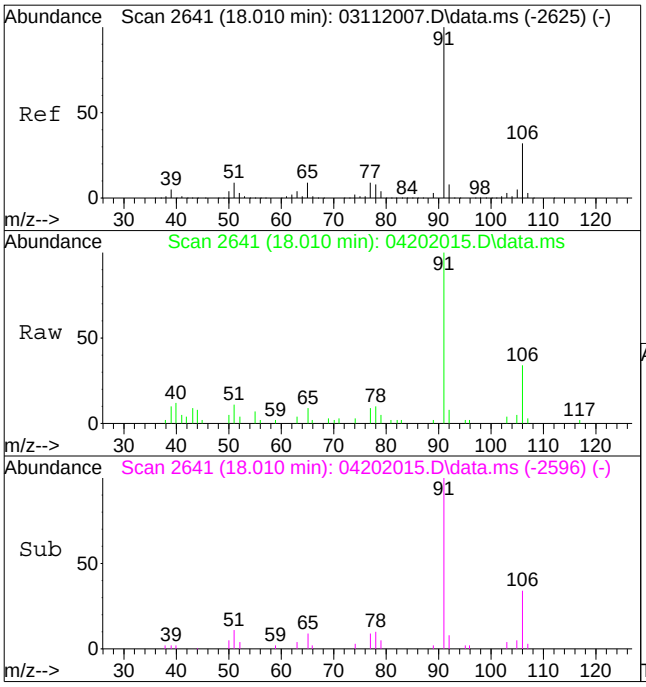


#64
Tetrachloroethene
Concen: 0.07 ng
RT: 16.99 min Scan# 2456
Delta R.T. -0.005 min
Lab File: 04202015.D
Acq: 20 Apr 2020 11:42

Tgt Ion:166 Resp: 3097

Ion	Ratio	Lower	Upper
166	100		
164	80.7	58.6	98.6

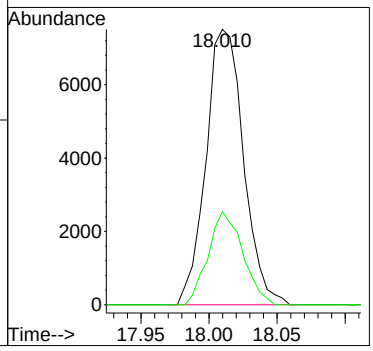


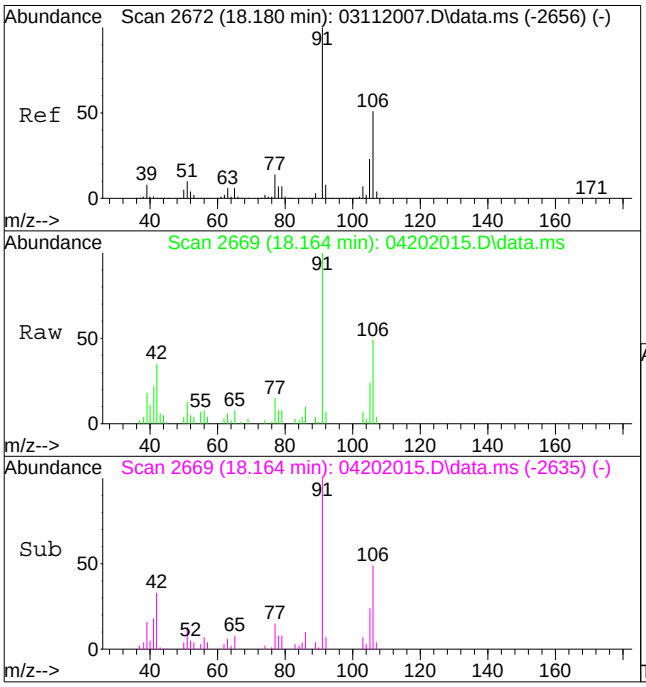


#66
Ethylbenzene
Concen: 0.09 ng
RT: 18.01 min Scan# 2641
Delta R.T. 0.000 min
Lab File: 04202015.D
Acq: 20 Apr 2020 11:42

Tgt Ion: 91 Resp: 14413

Ion	Ratio	Lower	Upper
91	100		
106	31.1	11.7	51.7

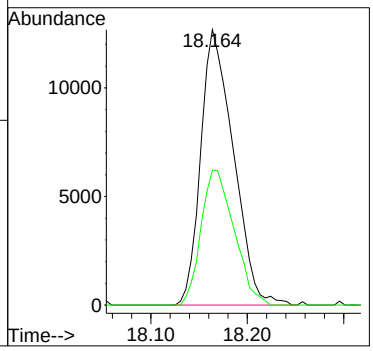


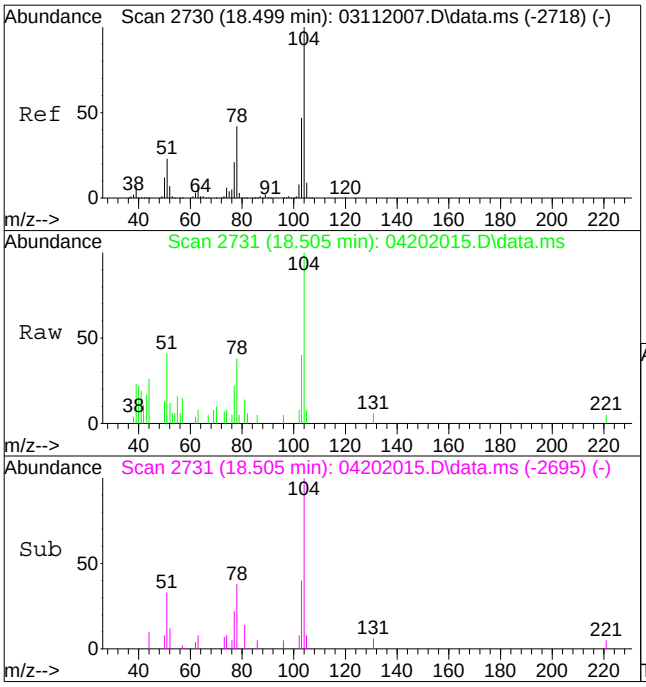


#67
m- & p-Xylenes
Concen: 0.22 ng
RT: 18.16 min Scan# 2669
Delta R.T. -0.011 min
Lab File: 04202015.D
Acq: 20 Apr 2020 11:42

Tgt Ion: 91 Resp: 29867

Ion	Ratio	Lower	Upper
91	100		
106	49.6	30.4	70.4

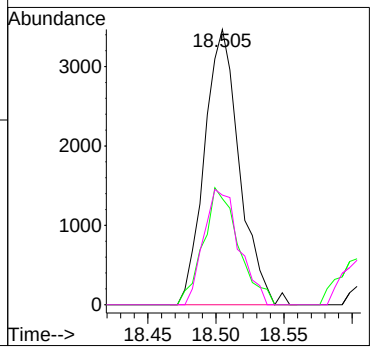


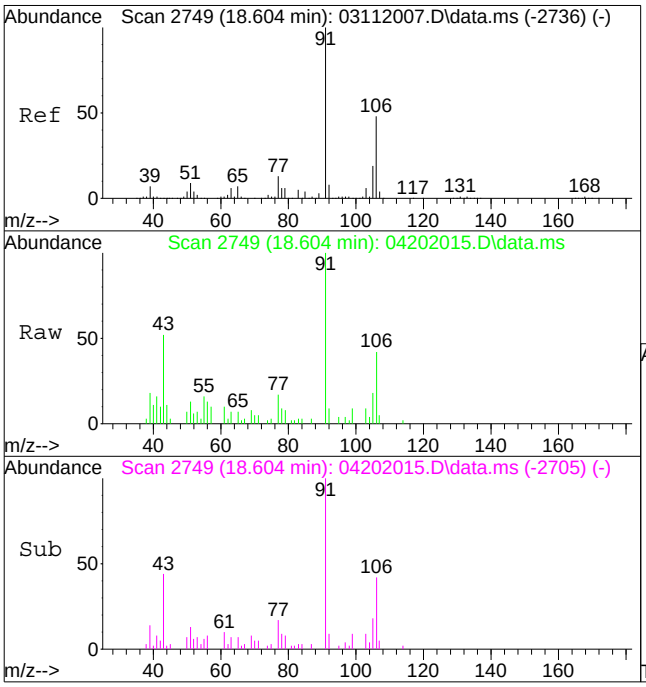


#69
Styrene
Concen: 0.06 ng
RT: 18.50 min Scan# 2731
Delta R.T. -0.000 min
Lab File: 04202015.D
Acq: 20 Apr 2020 11:42

Tgt Ion:104 Resp: 6203

Ion	Ratio	Lower	Upper
104	100		
78	42.7	20.9	60.9
103	42.4	27.4	67.4

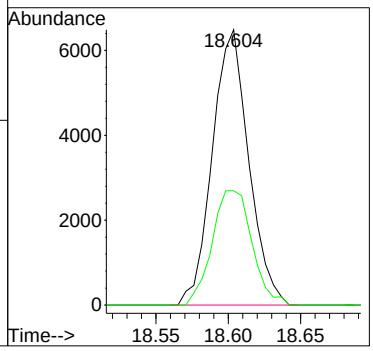


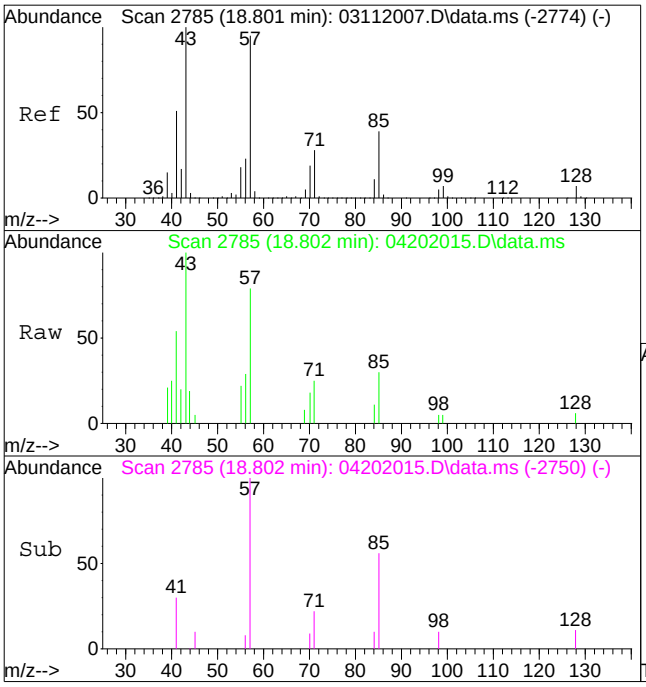


#70
o-Xylene
Concen: 0.08 ng
RT: 18.60 min Scan# 2749
Delta R.T. -0.005 min
Lab File: 04202015.D
Acq: 20 Apr 2020 11:42

Tgt Ion: 91 Resp: 11352

Ion	Ratio	Lower	Upper
91	100		
106	45.4	28.1	68.1

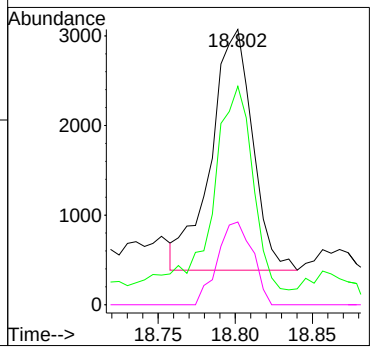


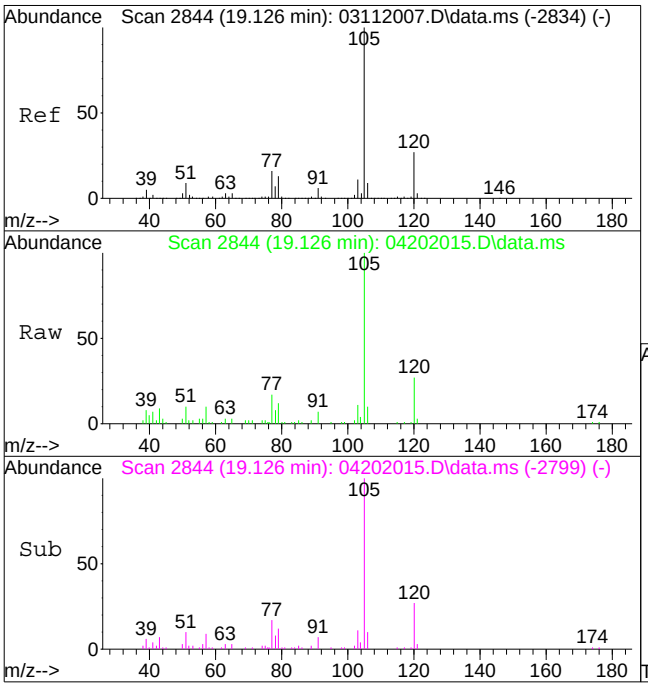


#71
n-Nonane
Concen: 0.07 ng
RT: 18.80 min Scan# 2785
Delta R.T. -0.005 min
Lab File: 04202015.D
Acq: 20 Apr 2020 11:42

Tgt Ion: 43 Resp: 5052

Ion	Ratio	Lower	Upper
43	100		
57	91.8	73.6	113.6
85	28.9	18.7	58.7

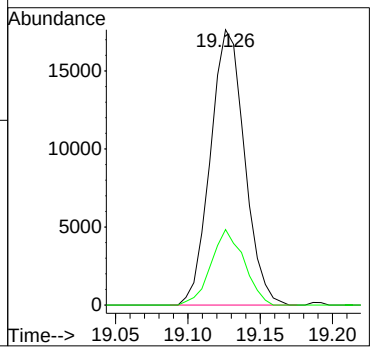


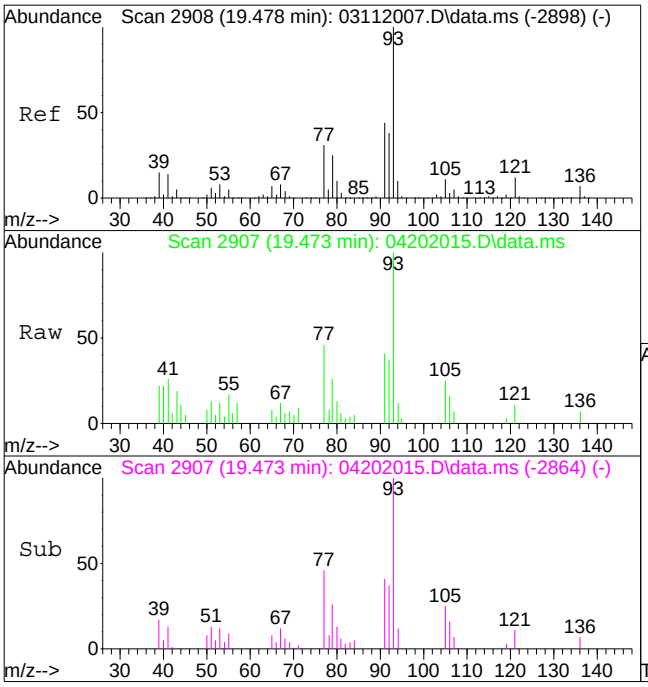


#74
Cumene
Concen: 0.17 ng
RT: 19.13 min Scan# 2844
Delta R.T. 0.000 min
Lab File: 04202015.D
Acq: 20 Apr 2020 11:42

Tgt Ion:105 Resp: 28992

Ion	Ratio	Lower	Upper
105	100		
120	26.5	7.2	47.2

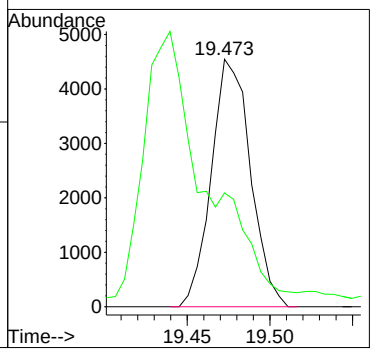


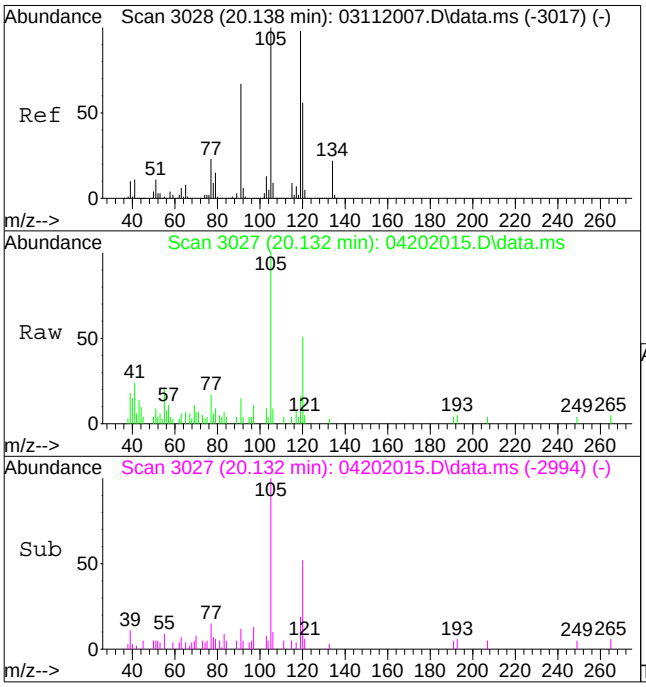


#75
alpha-Pinene
Concen: 0.09 ng
RT: 19.47 min Scan# 2907
Delta R.T. -0.011 min
Lab File: 04202015.D
Acq: 20 Apr 2020 11:42

Tgt Ion: 93 Resp: 7487

Ion	Ratio	Lower	Upper
93	100		
77	188.8	11.1	51.1#

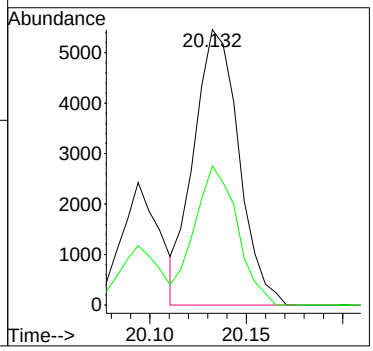


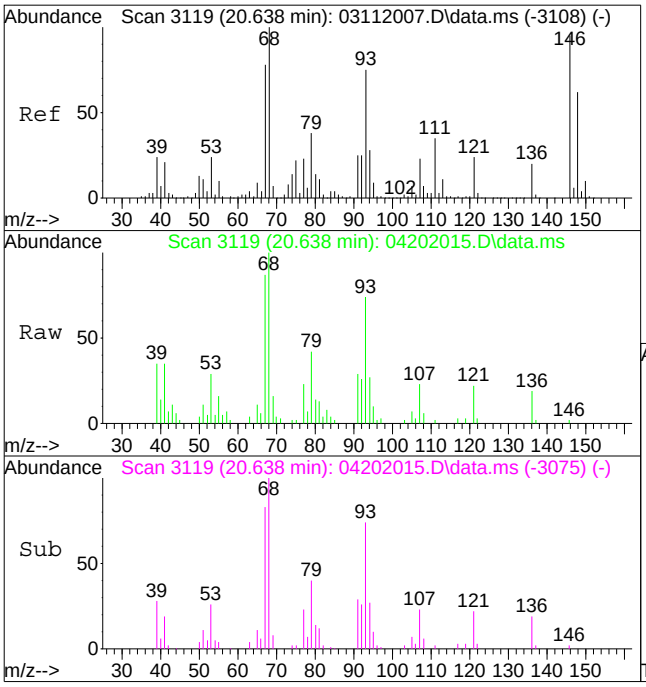


#82
1,2,4-Trimethylbenzene
Concen: 0.06 ng
RT: 20.13 min Scan# 3027
Delta R.T. -0.017 min
Lab File: 04202015.D
Acq: 20 Apr 2020 11:42

Tgt Ion:105 Resp: 8880

Ion	Ratio	Lower	Upper
105	100		
120	48.1	35.8	75.8

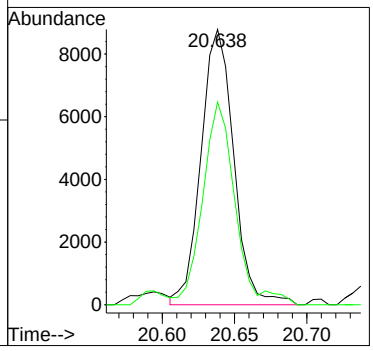




#91
d-Limonene
Concen: 0.24 ng
RT: 20.64 min Scan# 3119
Delta R.T. -0.011 min
Lab File: 04202015.D
Acq: 20 Apr 2020 11:42

Tgt Ion: 68 Resp: 13913

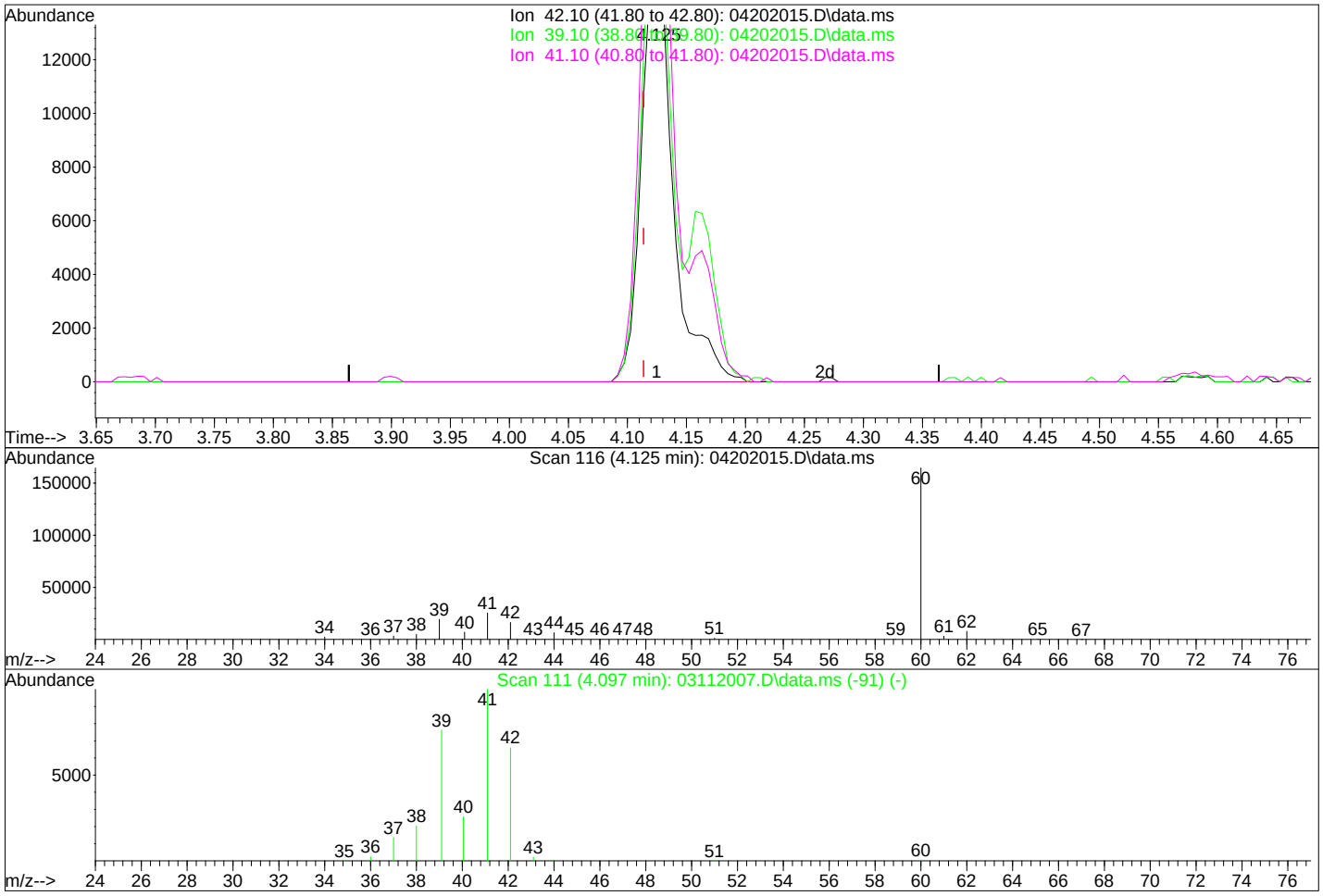
Ion	Ratio	Lower	Upper
68	100		
93	72.7	54.7	94.7



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\20\04202015.D Vial: 10
Acq On : 20 Apr 2020 11:42 Operator: TD
Sample : P2002028-013 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 12:18:40 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202015.D\data.ms

(2) Propene (T)

4.125min (+0.011) 0.86ng

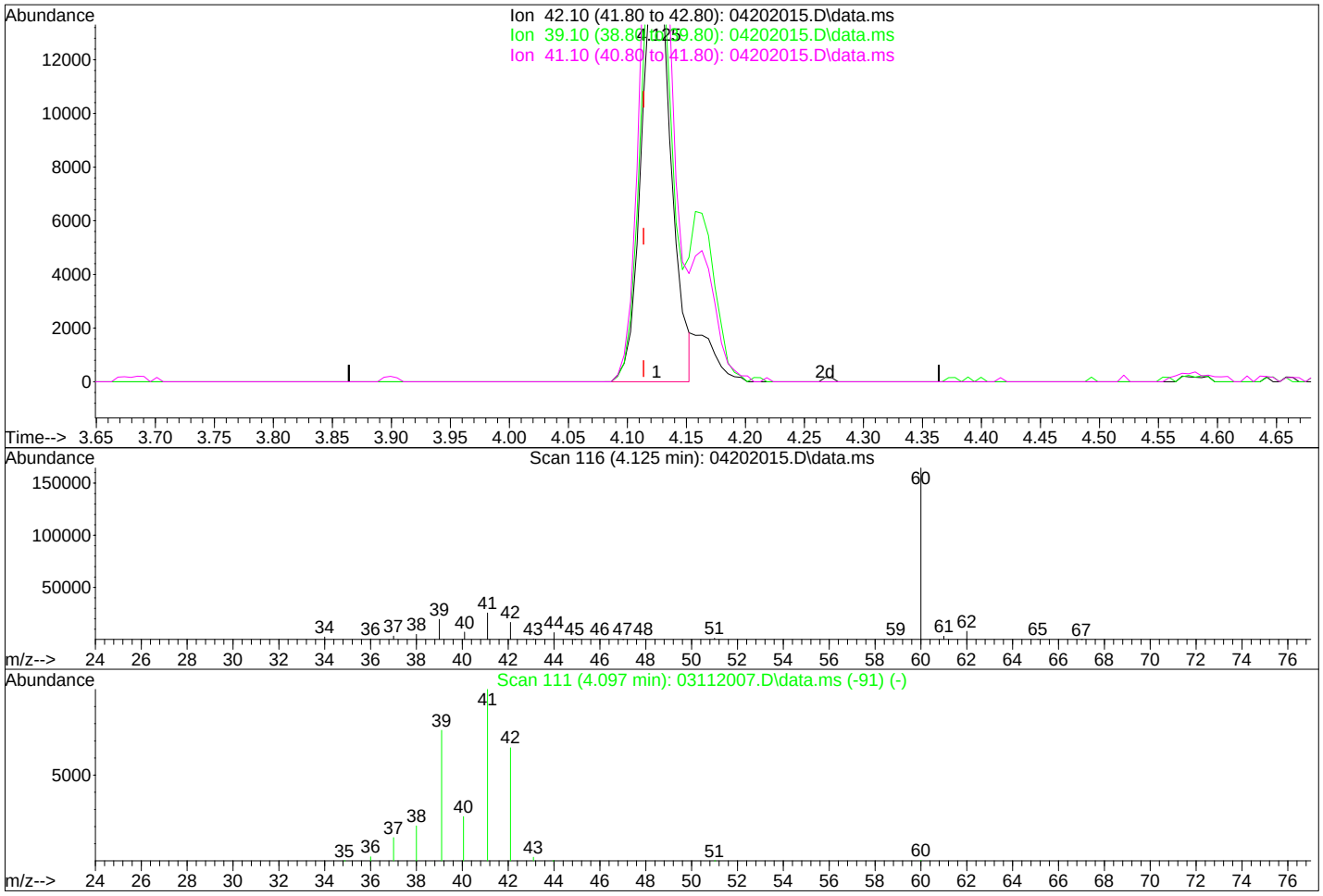
response 29748

Ion	Exp%	Act%
42.10	100	100
39.10	115.30	105.35
41.10	152.00	163.85
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\20\04202015.D Vial: 10
Acq On : 20 Apr 2020 11:42 Operator: TD
Sample : P2002028-013 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 12:18:40 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202015.D\data.ms

(2) Propene (T)

4.125min (+0.011) 0.79ng m

response 27338

Ion	Exp%	Act%
42.10	100	100
39.10	115.30	114.64
41.10	152.00	178.30#
0.00	0.00	0.00

IPC

LH 4/20/20

4/24/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202016.D Vial: 11
Acq On : 20 Apr 2020 12:15 Operator: TD
Sample : P2002028-014 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 20:17:36 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/20/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	321116	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1425298	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	714213	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	564672	12.699	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.60%				
57) Toluene-d8 (SS2)	15.74	98	1492903	11.793	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.32%				
73) Bromofluorobenzene (SS3)	19.00	174	506553	11.331	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.64%				
Target Compounds							Qvalue
2) Propene	4.12	42	8546	0.254	ng		94
3) Dichlorodifluoromethan...	4.27	85	219520	3.030	ng		100
4) Chloromethane	4.56	50	6550	0.114	ng		87
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	1879	N.D.			
6) Vinyl Chloride	4.99	62	173	N.D.			
7) 1,3-Butadiene	5.24	54	561	N.D.			
8) Bromomethane	5.67	94	409	N.D.			
9) Chloroethane	5.99	64	634	N.D.			
10) Ethanol	6.33	45	49591	1.863	ng		99
11) Acetonitrile	6.62	41	6328	0.108	ng		98
12) Acrolein	6.82	56	14607	0.746	ng		100
13) Acetone	7.01	58	141582m	5.390	ng		
14) Trichlorofluoromethane	7.26	101	176233	2.758	ng		99
15) 2-Propanol (Isopropanol)	7.54	45	15602	0.200	ng	#	48
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.48	59	2929	N.D.			
19) Methylene Chloride	8.44	84	850	N.D.			
20) 3-Chloro-1-propene (Al...	8.53	41	551	N.D.			
21) Trichlorotrifluoroethane	8.88	151	4356	0.143	ng		85
22) Carbon Disulfide	8.70	76	62093	0.505	ng		98
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.11	73	484	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.49	72	21452	0.981	ng		92
28) cis-1,2-Dichloroethene	10.99	61	222	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.32	61	1624	0.126	ng	#	77
31) n-Hexane	11.27	57	1740	N.D.			
32) Chloroform	11.33	83	57675	0.905	ng		99
34) Tetrahydrofuran (THF)	11.78	72	2004	0.089	ng	#	25
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.02	62	129	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.90	78	4772	N.D.			
42) Carbon Tetrachloride	13.06	117	5621	0.111	ng		100
43) Cyclohexane	13.16	84	1405	N.D.			
44) tert-Amyl Methyl Ether	13.57	73	391	N.D.			
45) 1,2-Dichloropropane	13.56	63	1004	N.D.			
46) Bromodichloromethane	13.95	83	3856	0.077	ng		97
47) Trichloroethene	14.00	130	2777	0.066	ng		98
48) 1,4-Dioxane	13.97	88	52164	1.828	ng		94
49) 2,2,4-Trimethylpentane...	14.06	57	3077	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202016.D Vial: 11
Acq On : 20 Apr 2020 12:15 Operator: TD
Sample : P2002028-014 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 20:17:36 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.33	71	904	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.91	58	1863	0.060 ng	#	53
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.84	91	11241	0.072 ng		99
59) 2-Hexanone	16.10	43	12578	0.161 ng		97
60) Dibromochloromethane	16.25	129	260	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.73	43	2450	N.D.		
63) n-Octane	16.86	57	925	N.D.		
64) Tetrachloroethene	16.99	166	35460	0.813 ng		100
65) Chlorobenzene	17.65	112	325	N.D.		
66) Ethylbenzene	18.02	91	2299	N.D.		
67) m- & p-Xylenes	18.16	91	5515	N.D.		
68) Bromoform	18.24	173	4834	0.128 ng		97
69) Styrene	18.50	104	1333	N.D.		
70) o-Xylene	18.60	91	2218	N.D.		
71) n-Nonane	18.80	43	2194	N.D.		
72) 1,1,2,2-Tetrachloroethane	18.61	83	944	N.D.		
74) Cumene	19.13	105	824	N.D.		
75) alpha-Pinene	19.48	93	113	N.D.		
76) n-Propylbenzene	19.57	91	2218	N.D.		
77) 3-Ethyltoluene	19.67	105	1949	N.D.		
78) 4-Ethyltoluene	19.70	105	1158	N.D.		
79) 1,3,5-Trimethylbenzene	19.77	105	1246	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	19.93	105	1040	N.D.		
82) 1,2,4-Trimethylbenzene	20.13	105	2643	N.D.		
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.25	91	1262	N.D.		
85) 1,3-Dichlorobenzene	20.27	146	172	N.D.		
86) 1,4-Dichlorobenzene	20.33	146	428	N.D.		
87) sec-Butylbenzene	20.38	105	669	N.D.		
88) 4-Isopropyltoluene (p-...	20.51	119	1398	N.D.		
89) 1,2,3-Trimethylbenzene	20.51	105	1256	N.D.		
90) 1,2-Dichlorobenzene	20.62	146	119	N.D.		
91) d-Limonene	20.64	68	2675	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.33	57	3228	N.D.		
94) 1,2,4-Trichlorobenzene	22.14	180	186	N.D.		
95) Naphthalene	22.24	128	3099	N.D.		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	20.88	91	4540	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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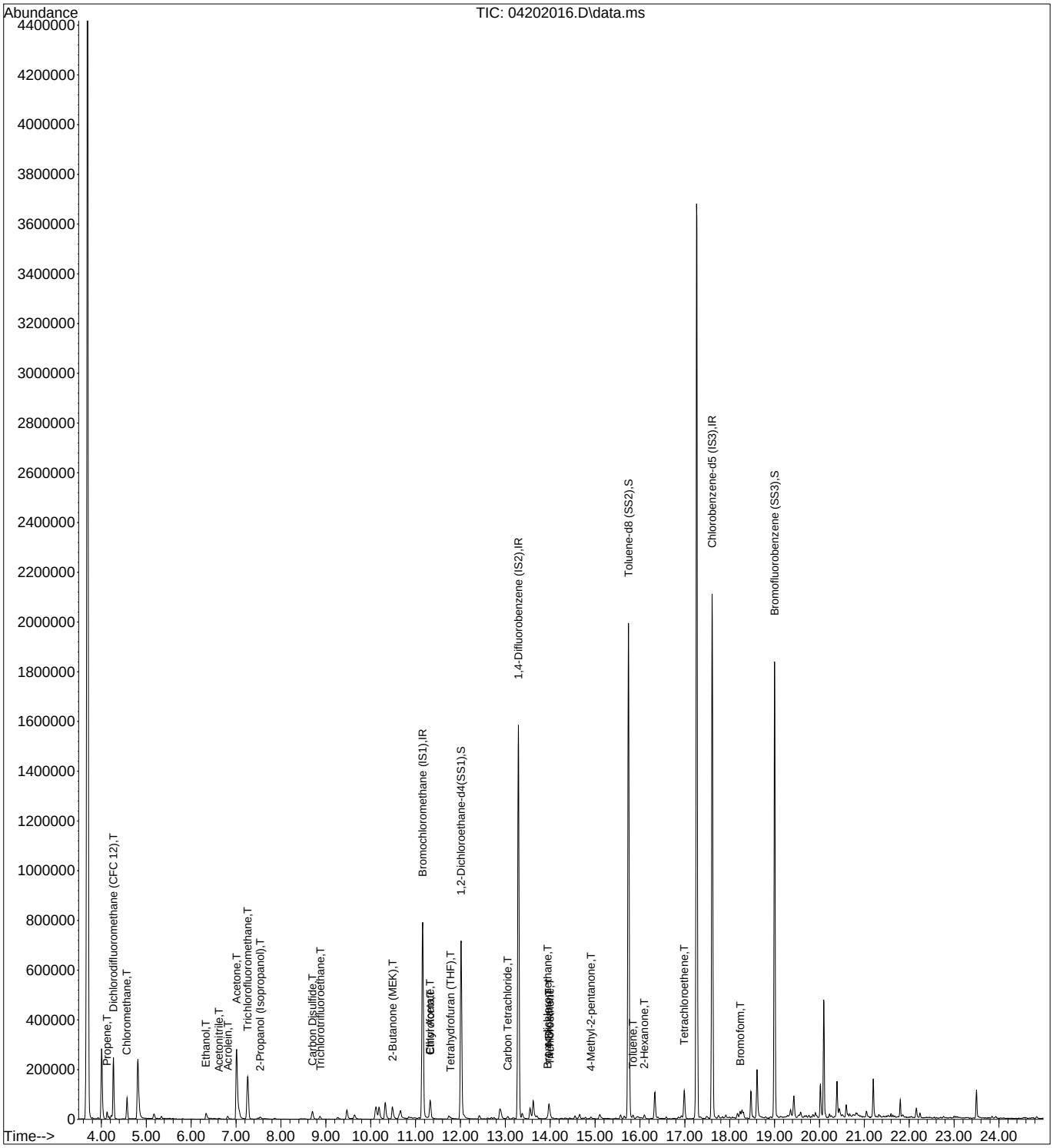
Acq On : 20 Apr 2020 12:15 Operator: TD
Sample : P2002028-014 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 20:17:36 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

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Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/20/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	321116	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1425298	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	714213	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	564672	12.699	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.60%				
57) Toluene-d8 (SS2)	15.74	98	1492903	11.793	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.32%				
73) Bromofluorobenzene (SS3)	19.00	174	506553	11.331	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.64%				
Target Compounds							Qvalue
2) Propene	4.12	42	8546	0.254	ng		94
3) Dichlorodifluoromethan...	4.27	85	219520	3.030	ng		100
4) Chloromethane	4.56	50	6550	0.114	ng		87
10) Ethanol	6.33	45	49591	1.863	ng		99
11) Acetonitrile	6.62	41	6328	0.108	ng		98
12) Acrolein	6.82	56	14607	0.746	ng		100
13) Acetone	7.01	58	141582m	5.390	ng		
14) Trichlorofluoromethane	7.26	101	176233	2.758	ng		99
15) 2-Propanol (Isopropanol)	7.54	45	15602	0.200	ng	#	48
21) Trichlorotrifluoroethane	8.88	151	4356	0.143	ng		85
22) Carbon Disulfide	8.70	76	62093	0.505	ng		98
27) 2-Butanone (MEK)	10.49	72	21452	0.981	ng		92
30) Ethyl Acetate	11.32	61	1624	0.126	ng	#	77
32) Chloroform	11.33	83	57675	0.905	ng		99
34) Tetrahydrofuran (THF)	11.78	72	2004	0.089	ng	#	25
42) Carbon Tetrachloride	13.06	117	5621	0.111	ng		100
46) Bromodichloromethane	13.95	83	3856	0.077	ng		97
47) Trichloroethene	14.00	130	2777	0.066	ng		98
48) 1,4-Dioxane	13.97	88	52164	1.828	ng		94
53) 4-Methyl-2-pentanone	14.91	58	1863	0.060	ng	#	53
58) Toluene	15.84	91	11241	0.072	ng		99
59) 2-Hexanone	16.10	43	12578	0.161	ng		97
64) Tetrachloroethene	16.99	166	35460	0.813	ng		100
68) Bromoform	18.24	173	4834	0.128	ng		97

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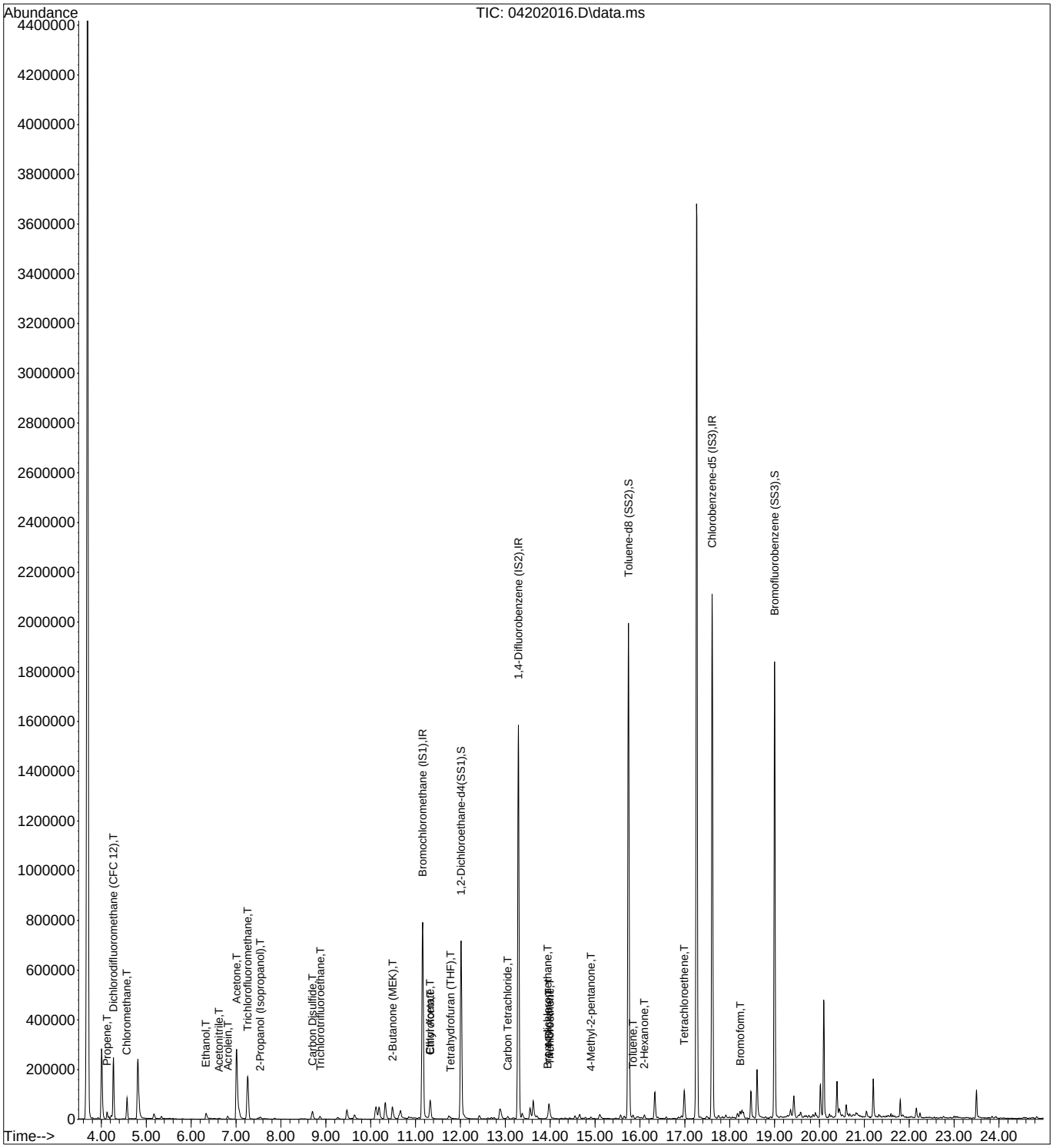
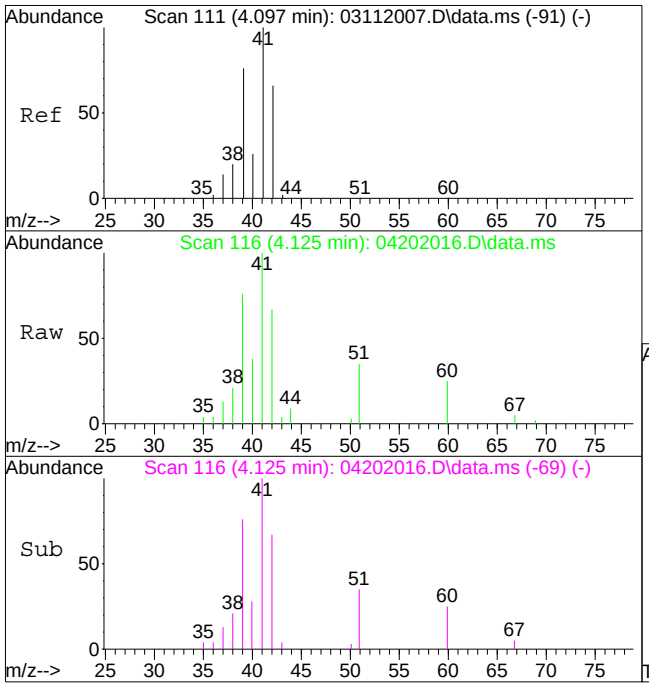
DataAcq Meth:TO15.M

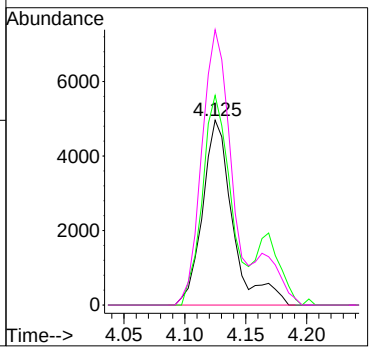


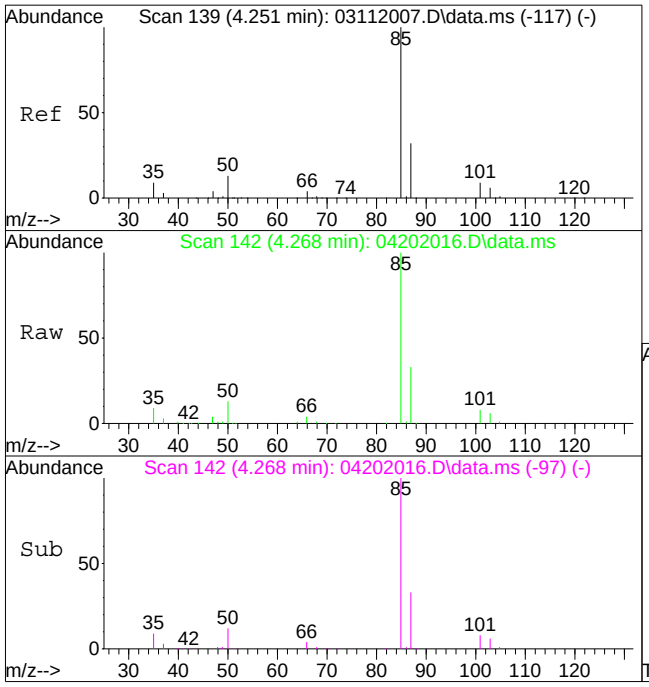


#2
Propene
Concen: 0.25 ng
RT: 4.12 min Scan# 116
Delta R.T. 0.011 min
Lab File: 04202016.D
Acq: 20 Apr 2020 12:15

Tgt Ion: 42 Resp: 8546

Ion	Ratio	Lower	Upper
42	100		
39	106.3	95.3	135.3
41	145.8	132.0	172.0

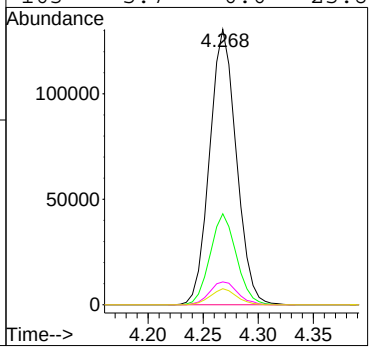


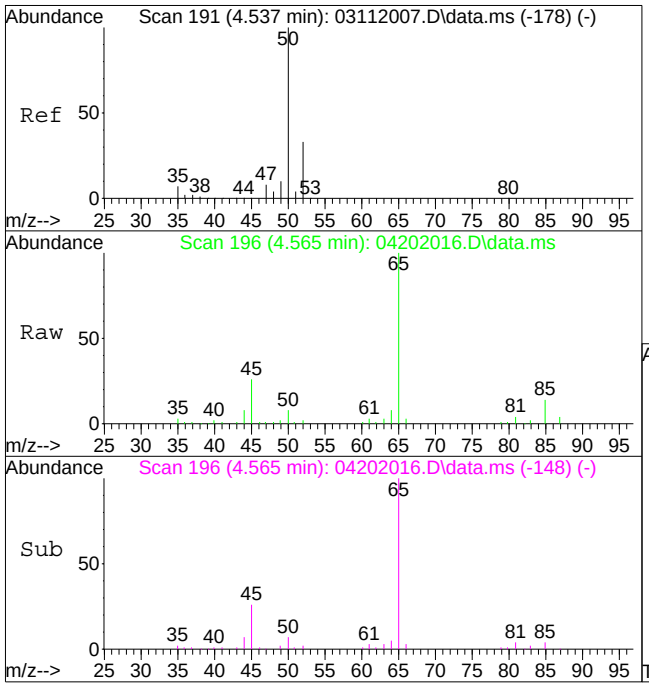


#3
Dichlorodifluoromethane (CFC 12)
Concen: 3.03 ng
RT: 4.27 min Scan# 142
Delta R.T. -0.000 min
Lab File: 04202016.D
Acq: 20 Apr 2020 12:15

Tgt Ion: 85 Resp: 219520

Ion	Ratio	Lower	Upper
85	100		
87	32.5	12.3	52.3
101	8.8	0.0	29.0
103	5.7	0.0	25.8

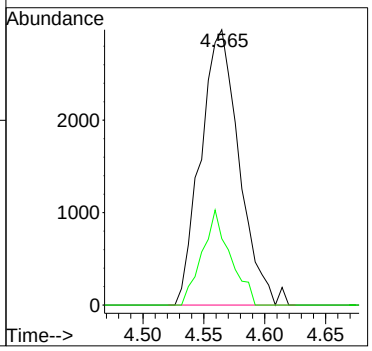


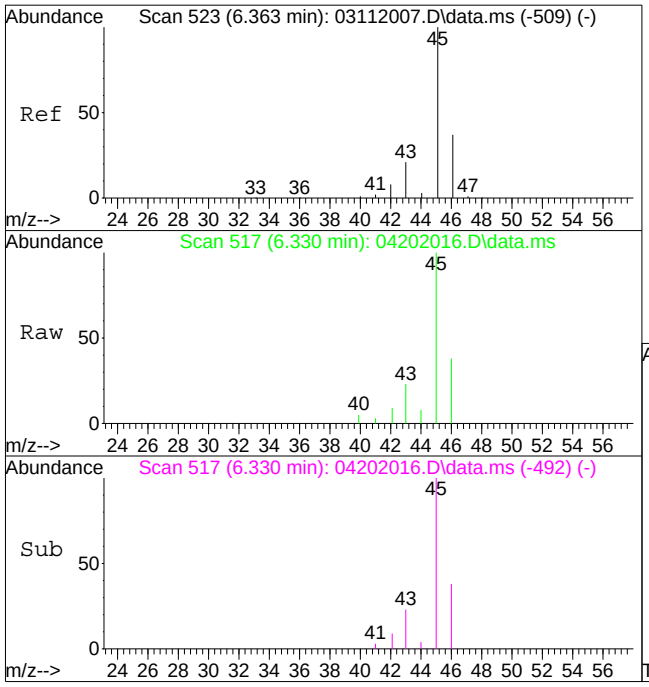


#4
Chloromethane
Concen: 0.11 ng
RT: 4.56 min Scan# 196
Delta R.T. 0.012 min
Lab File: 04202016.D
Acq: 20 Apr 2020 12:15

Tgt Ion: 50 Resp: 6550

Ion	Ratio	Lower	Upper
50	100		
52	25.3	12.8	52.8

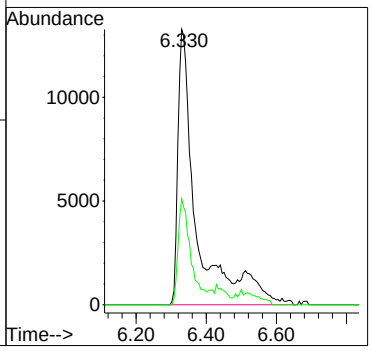


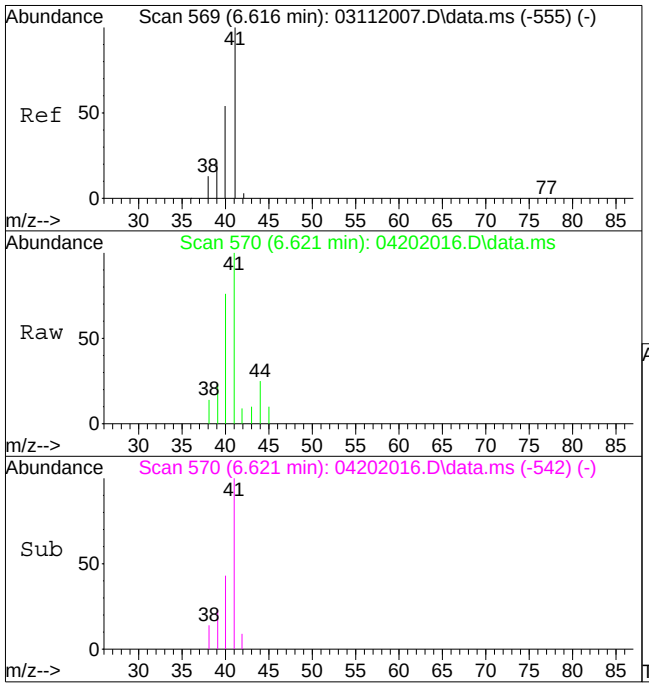


#10
Ethanol
Concen: 1.86 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.110 min
Lab File: 04202016.D
Acq: 20 Apr 2020 12:15

Tgt Ion: 45 Resp: 49591

Ion	Ratio	Lower	Upper
45	100		
46	37.0	17.3	57.3

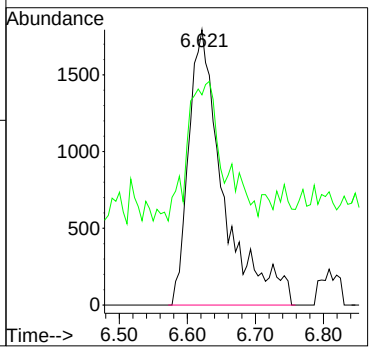


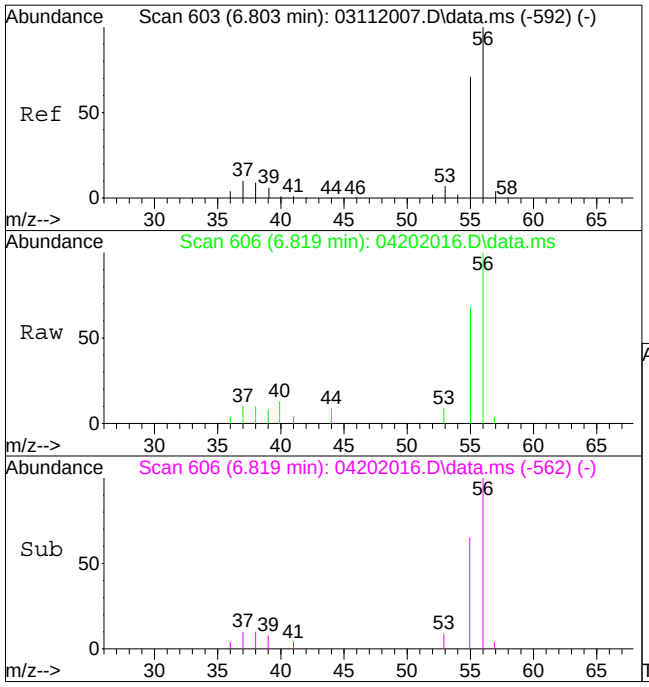


#11
Acetonitrile
Concen: 0.11 ng
RT: 6.62 min Scan# 570
Delta R.T. -0.044 min
Lab File: 04202016.D
Acq: 20 Apr 2020 12:15

Tgt Ion: 41 Resp: 6328

Ion	Ratio	Lower	Upper
41	100		
40	54.8	33.6	73.6

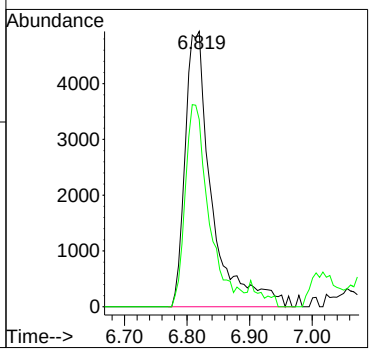


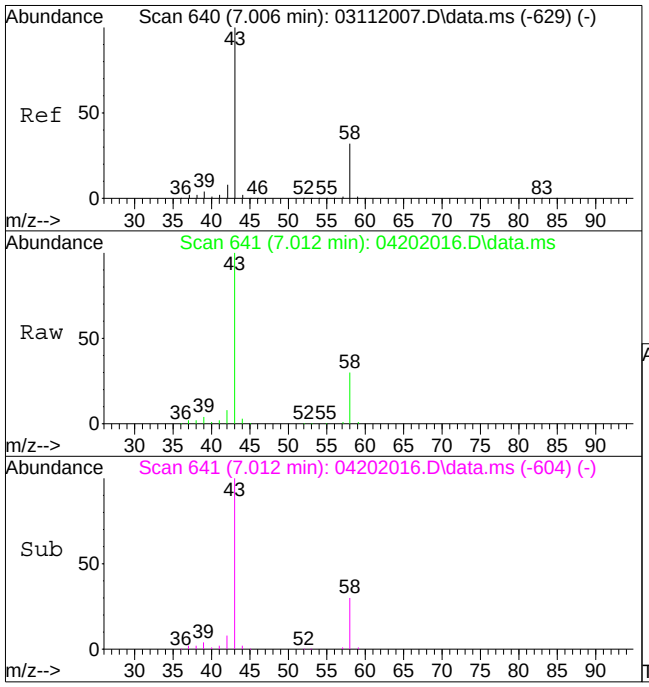


#12
Acrolein
Concen: 0.75 ng
RT: 6.82 min Scan# 606
Delta R.T. -0.011 min
Lab File: 04202016.D
Acq: 20 Apr 2020 12:15

Tgt Ion: 56 Resp: 14607

Ion	Ratio	Lower	Upper
56	100		
55	70.7	50.4	90.4

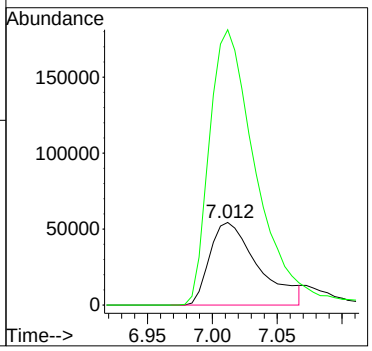


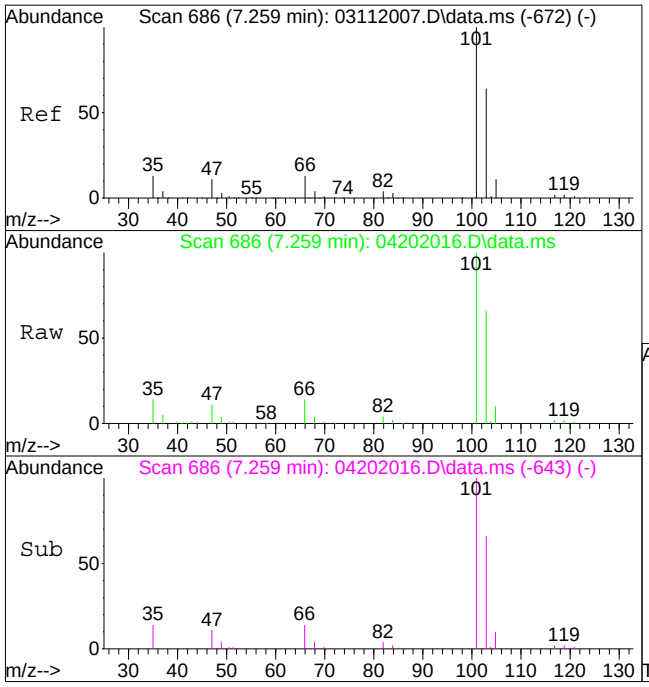


#13
Acetone
Concen: 5.39 ng m
RT: 7.01 min Scan# 641
Delta R.T. -0.044 min
Lab File: 04202016.D
Acq: 20 Apr 2020 12:15

Tgt Ion: 58 Resp: 141582

Ion	Ratio	Lower	Upper
58	100		
43	331.4	287.3	347.3

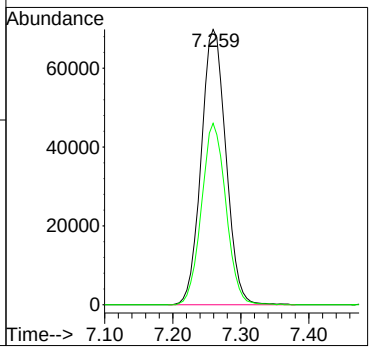


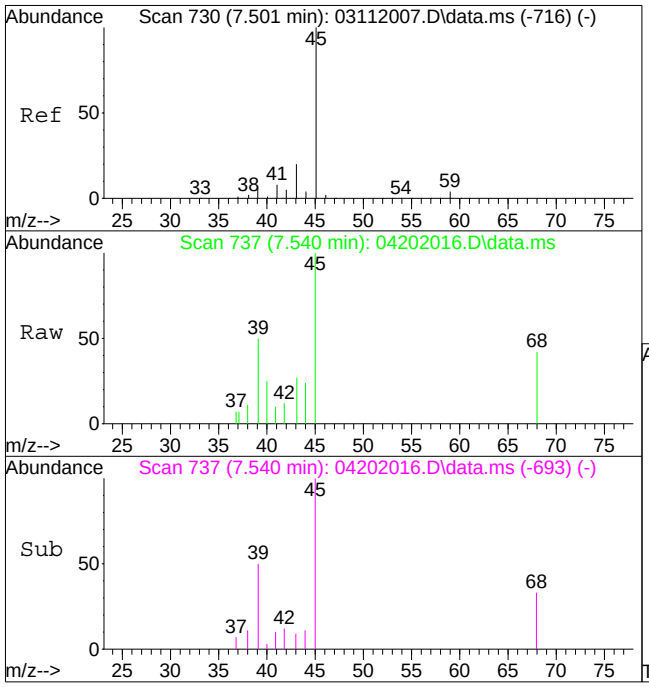


#14
Trichlorofluoromethane
Concen: 2.76 ng
RT: 7.26 min Scan# 686
Delta R.T. -0.016 min
Lab File: 04202016.D
Acq: 20 Apr 2020 12:15

Tgt Ion:101 Resp: 176233

Ion	Ratio	Lower	Upper
101	100		
103	65.1	44.6	84.6

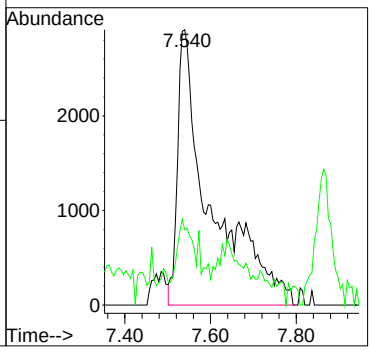


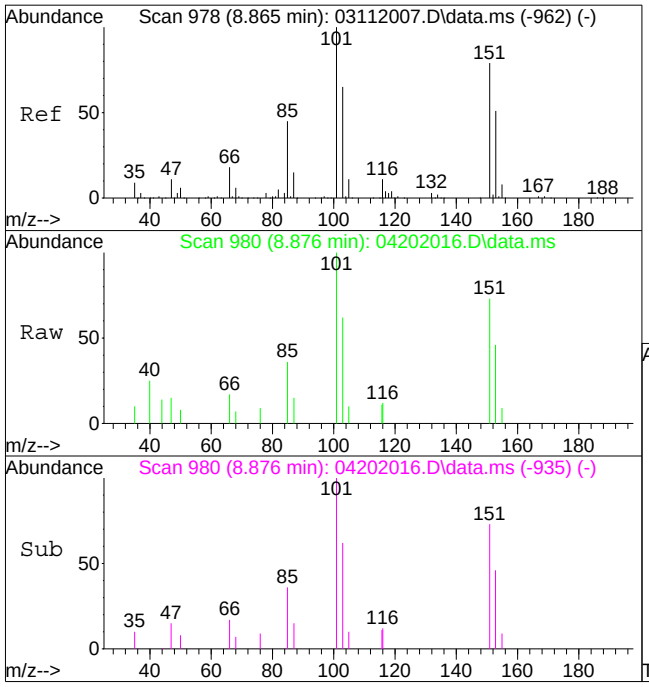


#15
2-Propanol (Isopropanol)
Concen: 0.20 ng
RT: 7.54 min Scan# 737
Delta R.T. -0.011 min
Lab File: 04202016.D
Acq: 20 Apr 2020 12:15

Tgt Ion: 45 Resp: 15602

Ion	Ratio	Lower	Upper
45	100		
43	44.5	0.3	40.3#

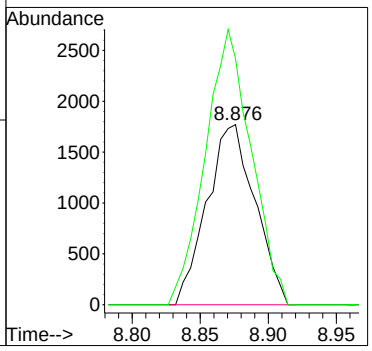


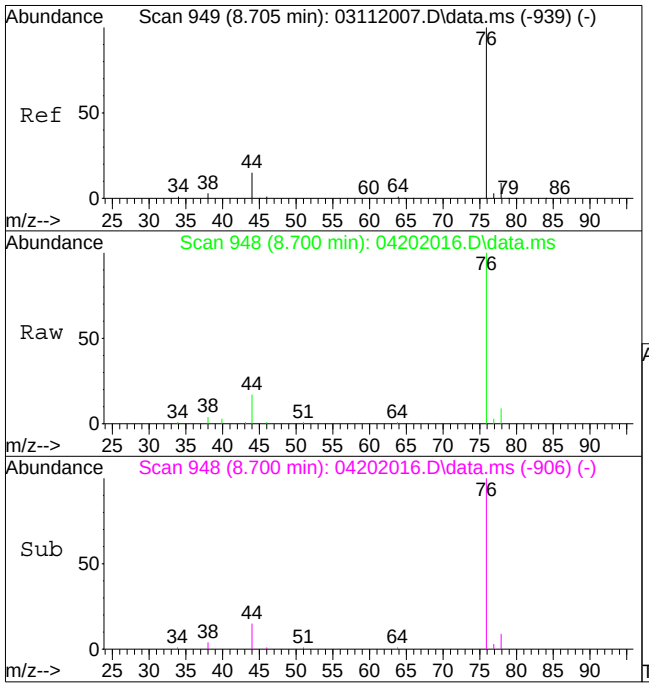


#21
Trichlorotrifluoroethane
Concen: 0.14 ng
RT: 8.88 min Scan# 980
Delta R.T. -0.000 min
Lab File: 04202016.D
Acq: 20 Apr 2020 12:15

Tgt Ion:151 Resp: 4356

Ion	Ratio	Lower	Upper
151	100		
101	146.1	108.4	148.4

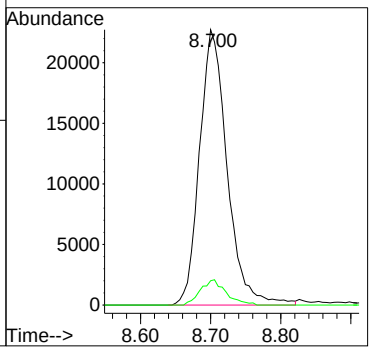


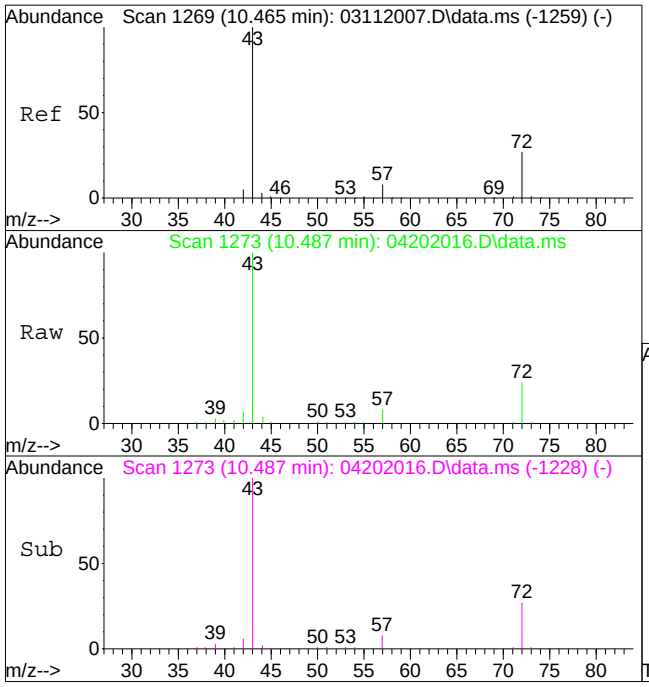


#22
Carbon Disulfide
Concen: 0.51 ng
RT: 8.70 min Scan# 948
Delta R.T. -0.022 min
Lab File: 04202016.D
Acq: 20 Apr 2020 12:15

Tgt Ion: 76 Resp: 62093

Ion	Ratio	Lower	Upper
76	100		
78	8.5	0.0	29.2

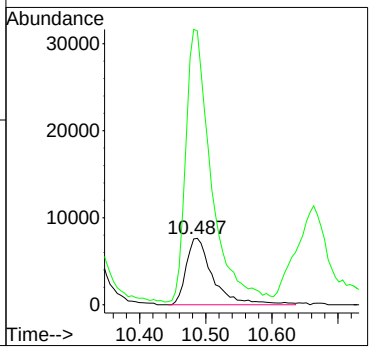


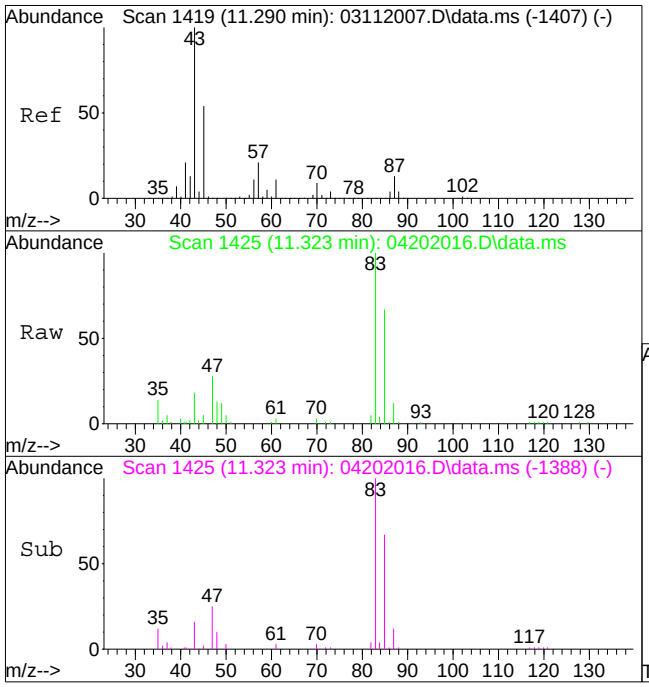


#27
2-Butanone (MEK)
Concen: 0.98 ng
RT: 10.49 min Scan# 1273
Delta R.T. -0.005 min
Lab File: 04202016.D
Acq: 20 Apr 2020 12:15

Tgt Ion: 72 Resp: 21452

Ion	Ratio	Lower	Upper
72	100		
43	391.0	353.4	393.4

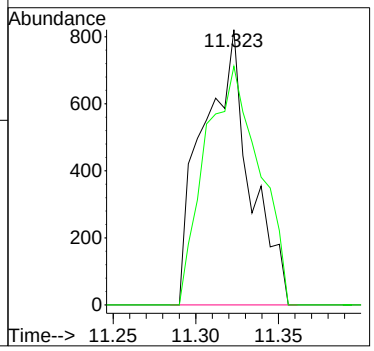


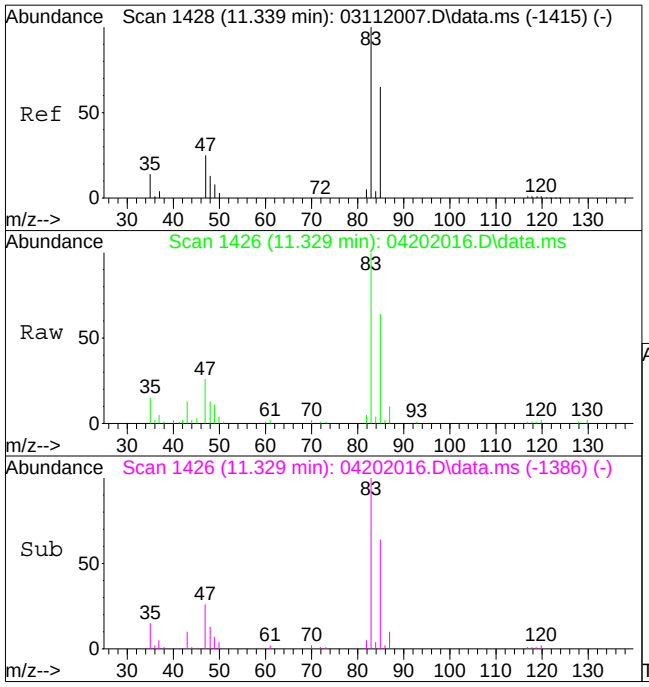


#30
Ethyl Acetate
Concen: 0.13 ng
RT: 11.32 min Scan# 1425
Delta R.T. 0.006 min
Lab File: 04202016.D
Acq: 20 Apr 2020 12:15

Tgt Ion: 61 Resp: 1624

Ion	Ratio	Lower	Upper
61	100		
70	99.7	59.1	99.1#

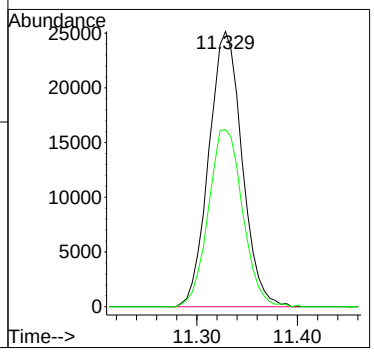


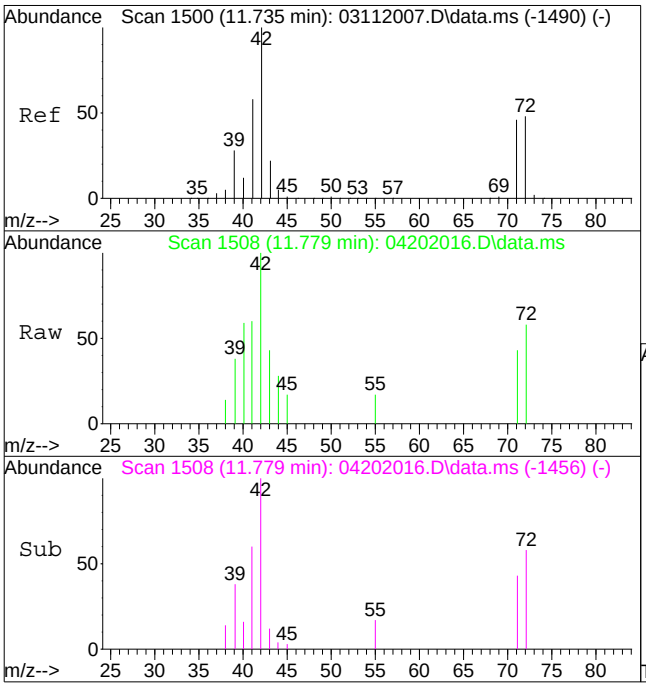


#32
Chloroform
Concen: 0.90 ng
RT: 11.33 min Scan# 1426
Delta R.T. -0.033 min
Lab File: 04202016.D
Acq: 20 Apr 2020 12:15

Tgt Ion: 83 Resp: 57675

Ion	Ratio	Lower	Upper
83	100		
85	66.4	45.5	85.5

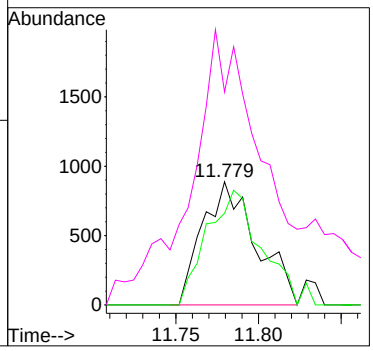


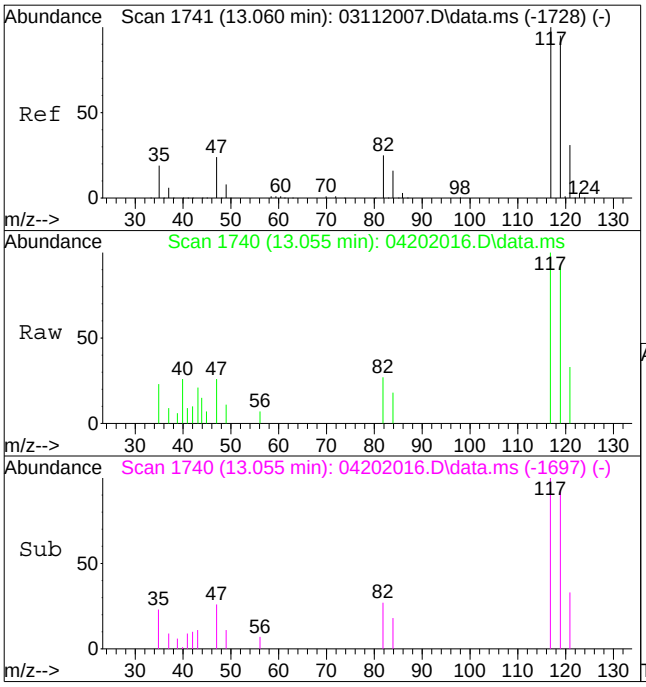


#34
Tetrahydrofuran (THF)
Concen: 0.09 ng
RT: 11.78 min Scan# 1508
Delta R.T. 0.033 min
Lab File: 04202016.D
Acq: 20 Apr 2020 12:15

Tgt Ion: 72 Resp: 2004

Ion	Ratio	Lower	Upper
72	100		
71	95.3	75.9	115.9
42	379.4	189.3	229.3#

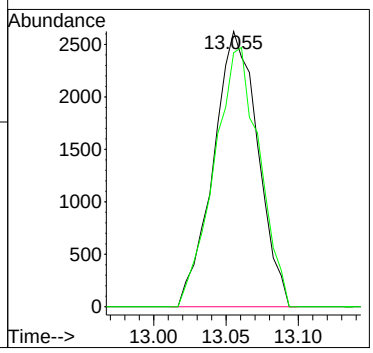


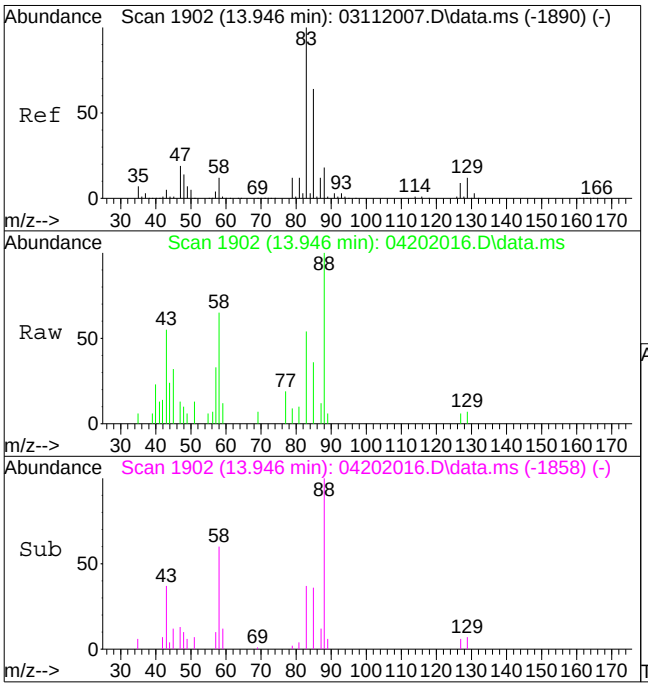


#42
Carbon Tetrachloride
Concen: 0.11 ng
RT: 13.06 min Scan# 1740
Delta R.T. -0.016 min
Lab File: 04202016.D
Acq: 20 Apr 2020 12:15

Tgt Ion:117 Resp: 5621

Ion	Ratio	Lower	Upper
117	100		
119	95.6	75.4	115.4

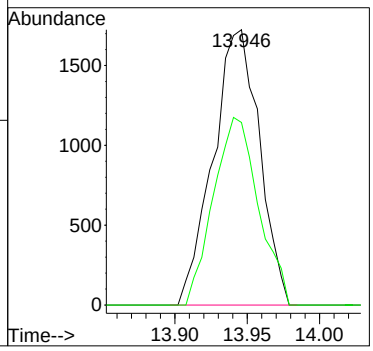


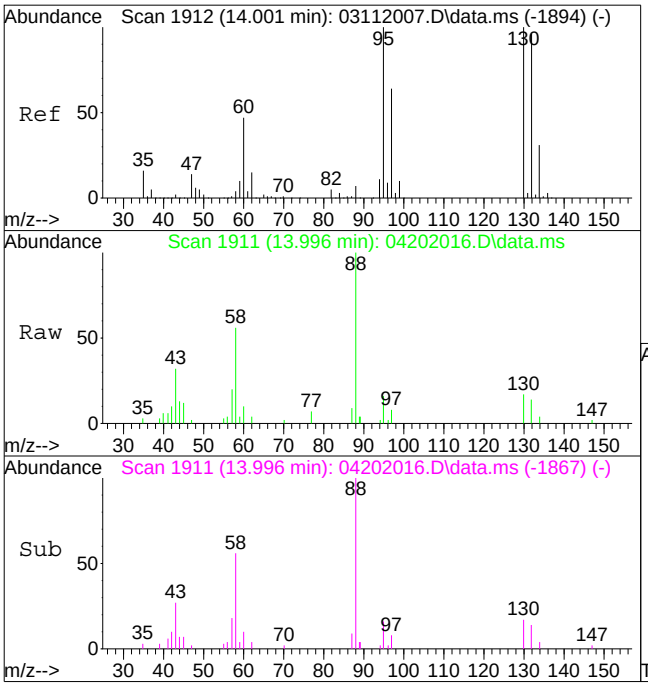


#46
Bromodichloromethane
Concen: 0.08 ng
RT: 13.95 min Scan# 1902
Delta R.T. -0.011 min
Lab File: 04202016.D
Acq: 20 Apr 2020 12:15

Tgt Ion: 83 Resp: 3856

Ion	Ratio	Lower	Upper
83	100		
85	66.1	44.0	84.0

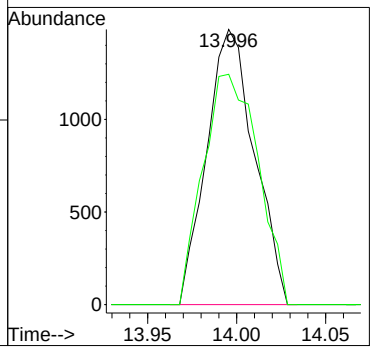


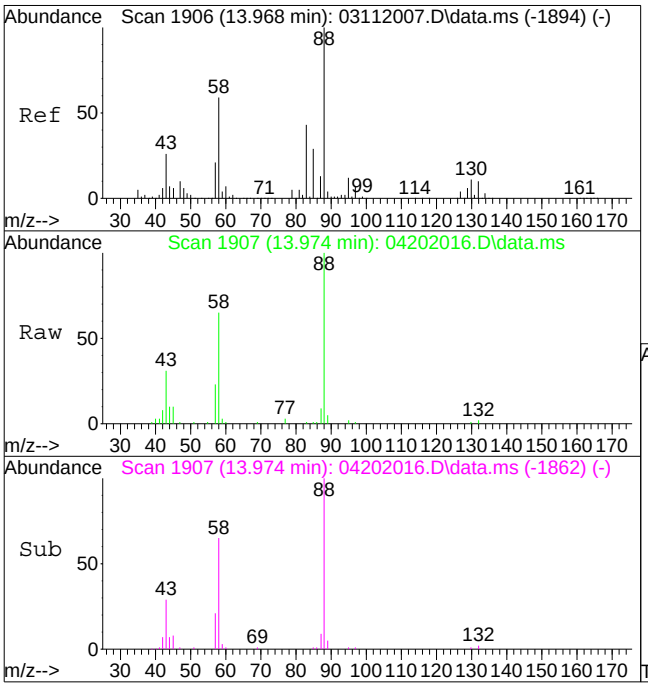


#47
Trichloroethene
Concen: 0.07 ng
RT: 14.00 min Scan# 1911
Delta R.T. -0.011 min
Lab File: 04202016.D
Acq: 20 Apr 2020 12:15

Tgt Ion:130 Resp: 2777

Ion	Ratio	Lower	Upper
130	100		
132	96.4	74.7	114.7

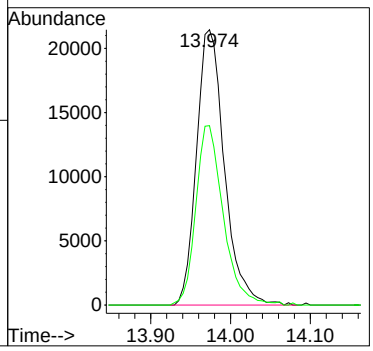


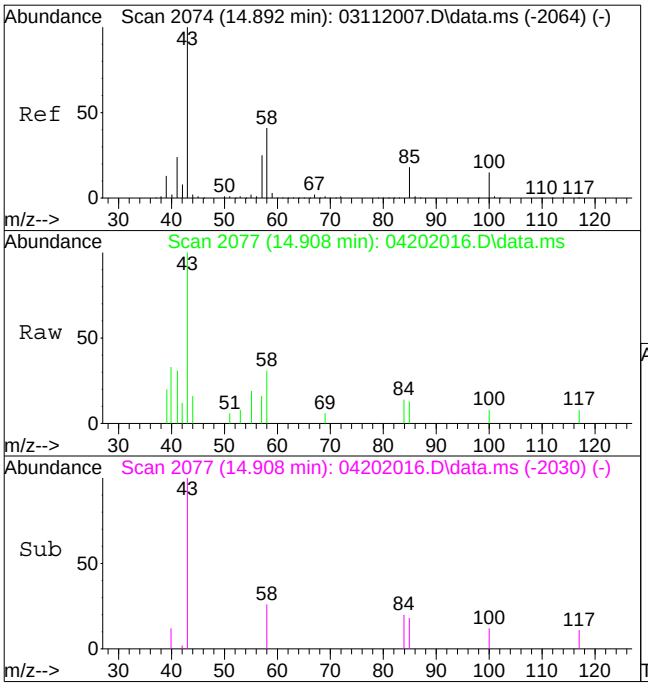


#48
1,4-Dioxane
Concen: 1.83 ng
RT: 13.97 min Scan# 1907
Delta R.T. -0.005 min
Lab File: 04202016.D
Acq: 20 Apr 2020 12:15

Tgt Ion: 88 Resp: 52164

Ion	Ratio	Lower	Upper
88	100		
58	64.1	39.5	79.5

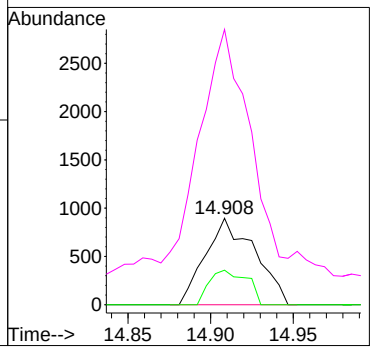


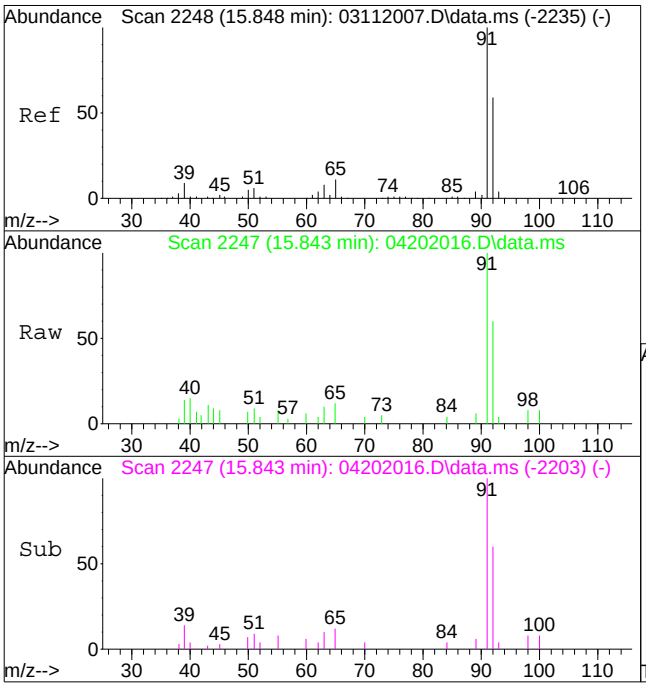


#53
4-Methyl-2-pentanone
Concen: 0.06 ng
RT: 14.91 min Scan# 2077
Delta R.T. 0.006 min
Lab File: 04202016.D
Acq: 20 Apr 2020 12:15

Tgt Ion: 58 Resp: 1863

Ion	Ratio	Lower	Upper
58	100		
85	30.4	37.0	55.4#
43	334.7	196.3	294.5#

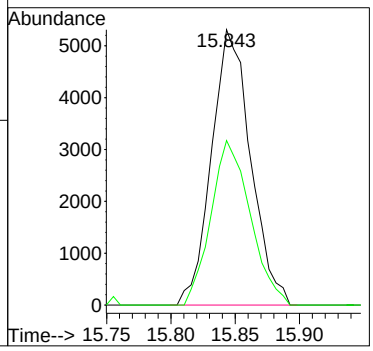


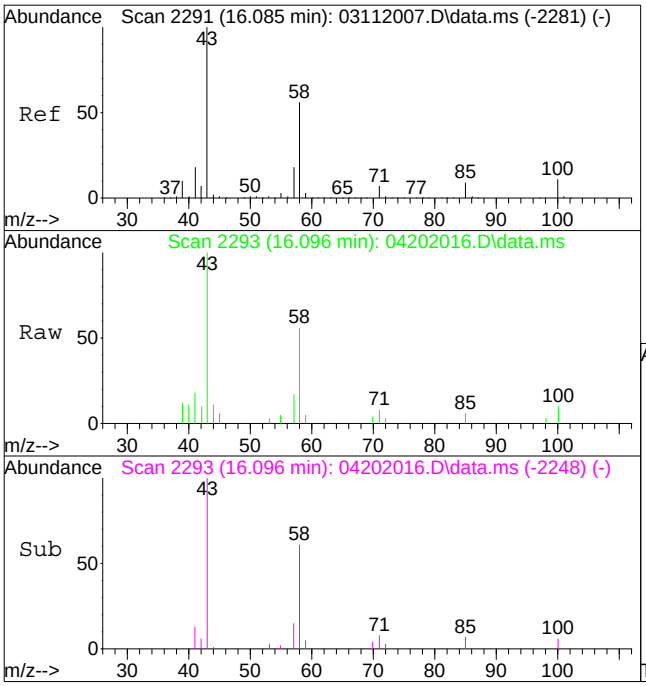


#58
Toluene
Concen: 0.07 ng
RT: 15.84 min Scan# 2247
Delta R.T. -0.011 min
Lab File: 04202016.D
Acq: 20 Apr 2020 12:15

Tgt Ion: 91 Resp: 11241

Ion	Ratio	Lower	Upper
91	100		
92	60.1	39.0	79.0

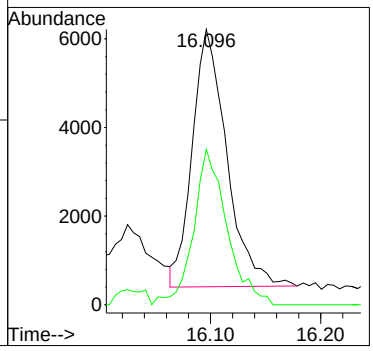


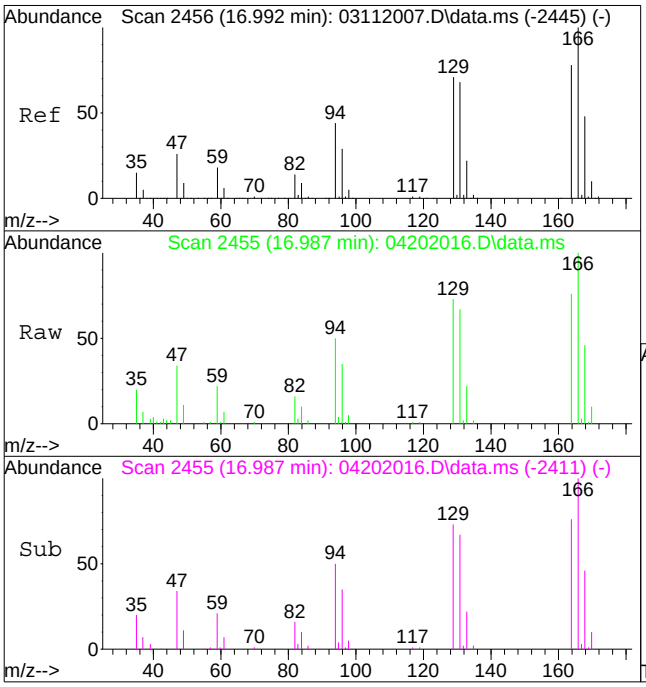


#59
2-Hexanone
Concen: 0.16 ng
RT: 16.10 min Scan# 2293
Delta R.T. -0.005 min
Lab File: 04202016.D
Acq: 20 Apr 2020 12:15

Tgt Ion: 43 Resp: 12578

Ion	Ratio	Lower	Upper
43	100		
58	58.6	36.5	76.5

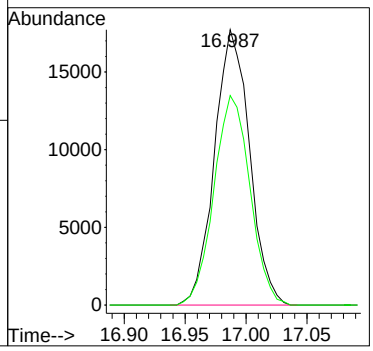


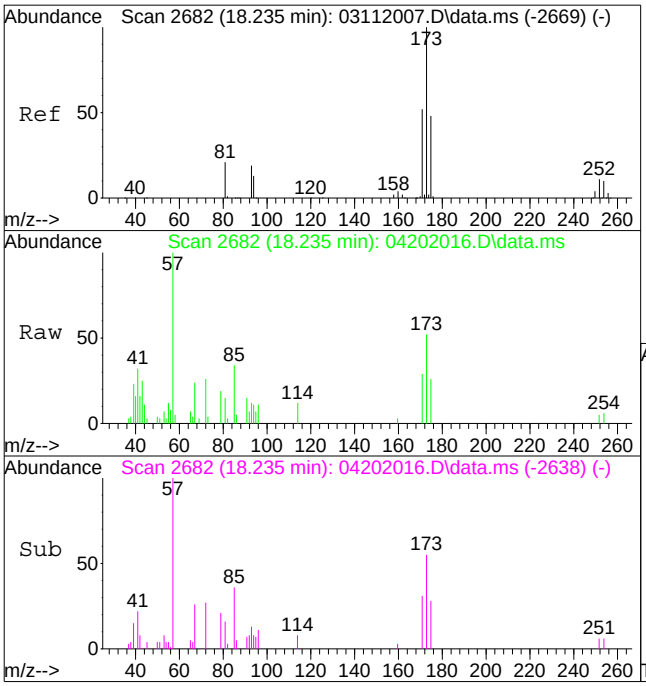


#64
Tetrachloroethene
Concen: 0.81 ng
RT: 16.99 min Scan# 2455
Delta R.T. -0.011 min
Lab File: 04202016.D
Acq: 20 Apr 2020 12:15

Tgt Ion:166 Resp: 35460

Ion	Ratio	Lower	Upper
166	100		
164	78.3	58.6	98.6

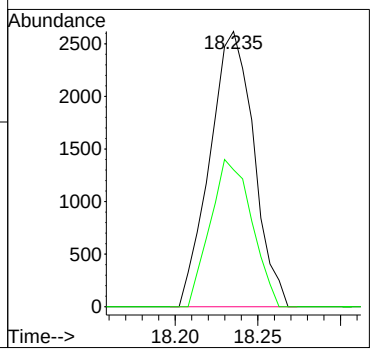




#68
Bromoform
Concen: 0.13 ng
RT: 18.24 min Scan# 2682
Delta R.T. -0.006 min
Lab File: 04202016.D
Acq: 20 Apr 2020 12:15

Tgt Ion:173 Resp: 4834

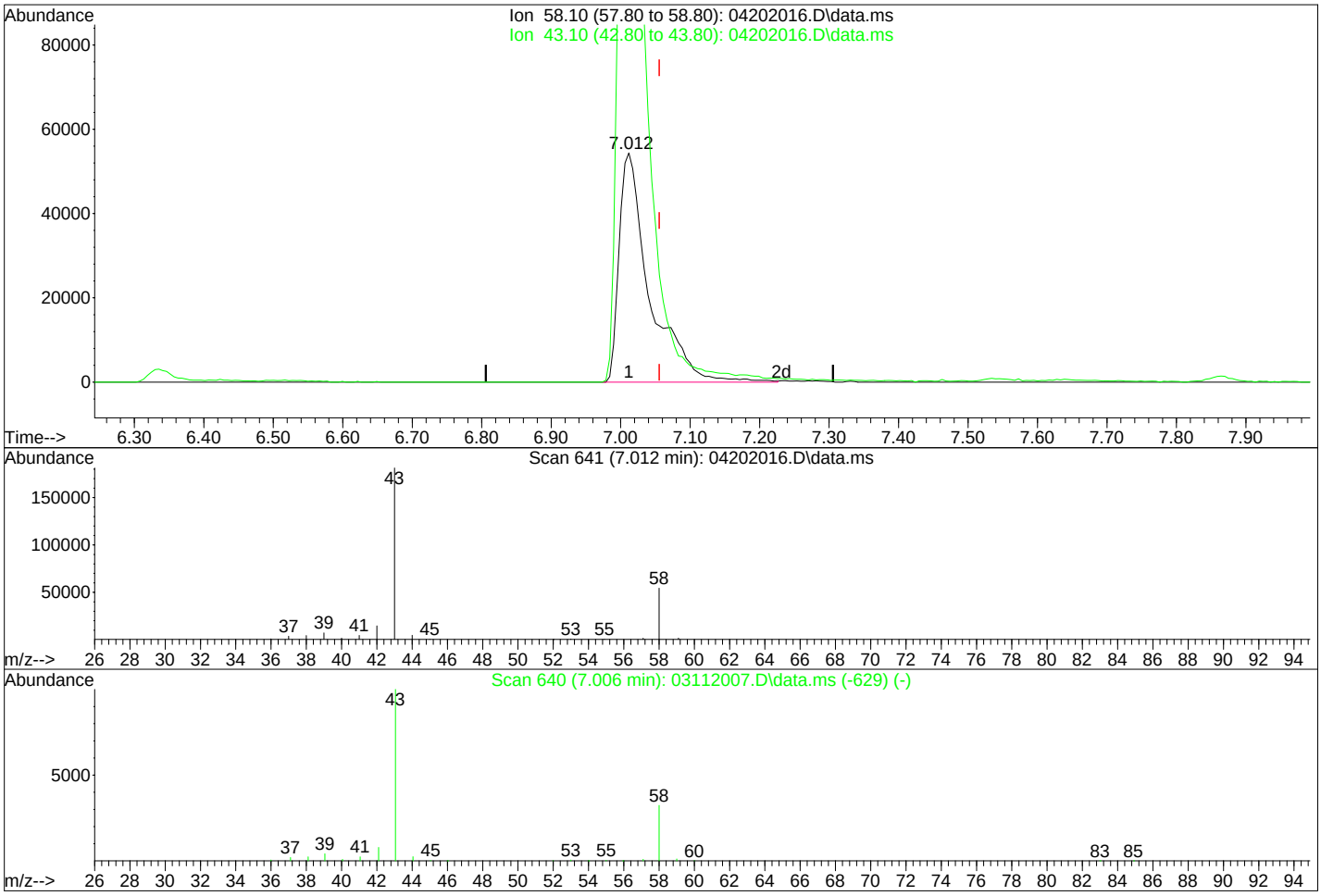
Ion	Ratio	Lower	Upper
173	100		
175	50.5	28.7	68.7



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\20\04202016.D Vial: 11
Acq On : 20 Apr 2020 12:15 Operator: TD
Sample : P2002028-014 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 13:43:44 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202016.D\data.ms

(13) Acetone (T)

7.012min (-0.044) 6.31ng

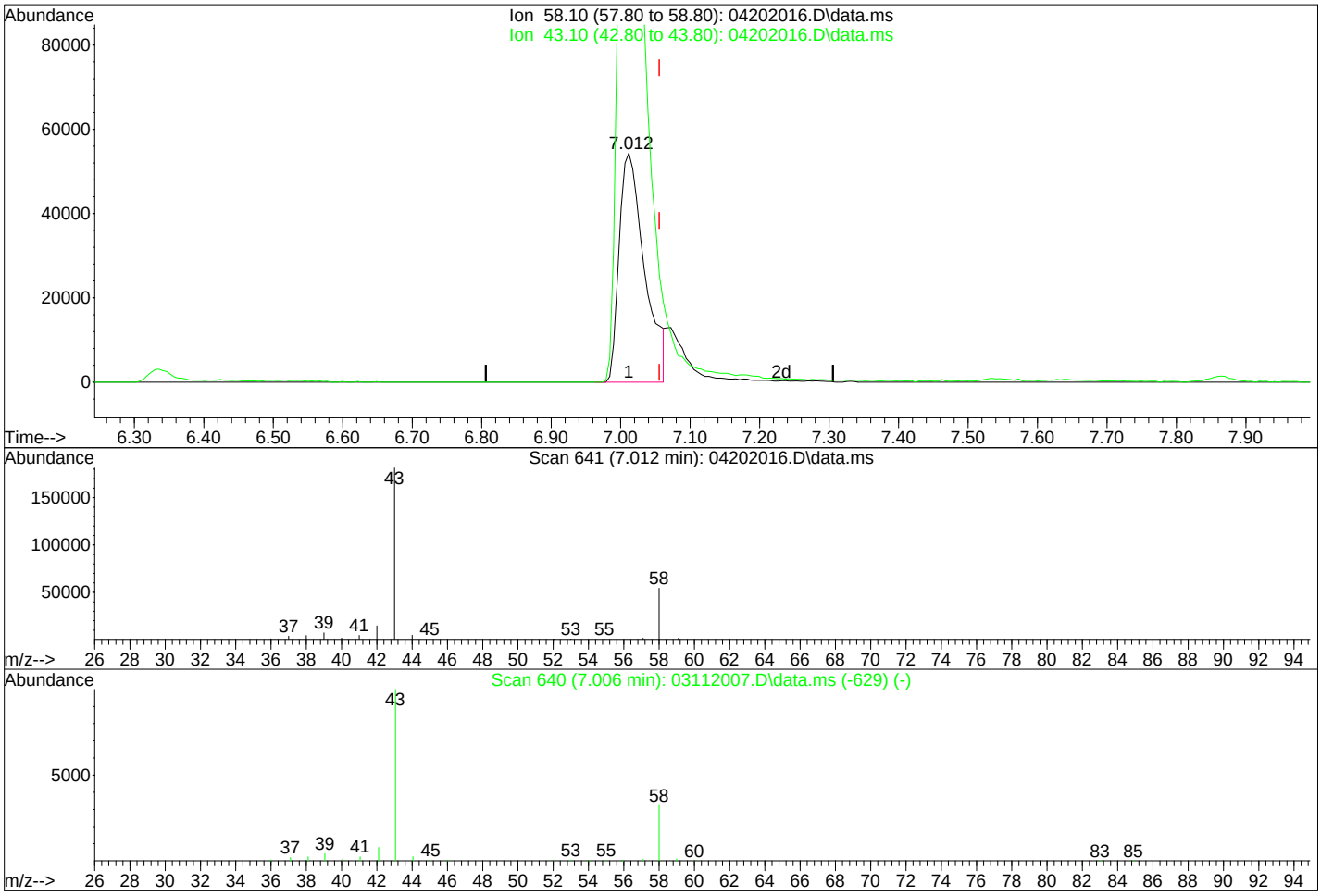
response 165691

Ion	Exp%	Act%
58.10	100	100
43.10	317.30	283.21#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\20\04202016.D Vial: 11
Acq On : 20 Apr 2020 12:15 Operator: TD
Sample : P2002028-014 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 13:43:44 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202016.D\data.ms

(13) Acetone (T)

7.012min (-0.044) 5.39ng m

response 137322

Ion	Exp%	Act%
58.10	100	100
43.10	317.30	341.72
0.00	0.00	0.00
0.00	0.00	0.00

IPC

LH 4/20/20

4/24/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202017.D Vial: 12
Acq On : 20 Apr 2020 12:48 Operator: TD
Sample : P2002028-015 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 20:22:46 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/20/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	328721	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.29	114	1469040	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	727743	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	576726	12.670	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.36%				
57) Toluene-d8 (SS2)	15.74	98	1514138	11.738	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.92%				
73) Bromofluorobenzene (SS3)	19.00	174	546105	11.989	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.92%				
Target Compounds							Qvalue
2) Propene	4.10	42	66742	1.936	ng		89
3) Dichlorodifluoromethan...	4.26	85	284807	3.840	ng		100
4) Chloromethane	4.54	50	42352	0.723	ng		95
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	1890	N.D.			
6) Vinyl Chloride	4.96	62	1317	N.D.			
7) 1,3-Butadiene	5.23	54	1013	N.D.			
8) Bromomethane	5.65	94	34272	1.107	ng		98
9) Chloroethane	5.99	64	3902	0.164	ng		100
10) Ethanol	6.33	45	543827	19.959	ng		100
11) Acetonitrile	6.60	41	50715	0.846	ng		100
12) Acrolein	6.80	56	22652	1.130	ng		99
13) Acetone	7.00	58	419097m	15.586	ng		
14) Trichlorofluoromethane	7.25	101	240346	3.675	ng		100
15) 2-Propanol (Isopropanol)	7.48	45	511315	6.412	ng		98
16) Acrylonitrile	7.78	53	969	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.44	84	13661	0.390	ng		91
20) 3-Chloro-1-propene (Al...	8.61	41	1083	N.D.			
21) Trichlorotrifluoroethane	8.86	151	4545	0.145	ng		88
22) Carbon Disulfide	8.70	76	30755	0.244	ng		99
23) trans-1,2-Dichloroethene	9.72	61	669	N.D.			
24) 1,1-Dichloroethane	9.96	63	159	N.D.			
25) Methyl tert-Butyl Ether	10.11	73	1406	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.47	72	76859	3.433	ng	#	91
28) cis-1,2-Dichloroethene	10.99	61	116	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.28	61	1024461	77.424	ng		91
31) n-Hexane	11.28	57	16055	0.262	ng	#	82
32) Chloroform	11.33	83	112918	1.730	ng		100
34) Tetrahydrofuran (THF)	11.77	72	4534	0.197	ng	#	1
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.14	62	1252	N.D.			
38) 1,1,1-Trichloroethane	12.42	97	107	N.D.			
39) Isopropyl Acetate	12.87	61	720	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.90	78	71921	0.473	ng		97
42) Carbon Tetrachloride	13.06	117	9169	0.176	ng		99
43) Cyclohexane	13.19	84	17529	0.301	ng		97
44) tert-Amyl Methyl Ether	13.57	73	3716	N.D.			
45) 1,2-Dichloropropane	13.75	63	485	N.D.			
46) Bromodichloromethane	13.94	83	10981	0.214	ng		93
47) Trichloroethene	13.99	130	2973	0.069	ng		100
48) 1,4-Dioxane	13.98	88	8826	0.300	ng		86
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.20	100	1979	0.135	ng	#	79

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202017.D Vial: 12
Acq On : 20 Apr 2020 12:48 Operator: TD
Sample : P2002028-015 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 20:22:46 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

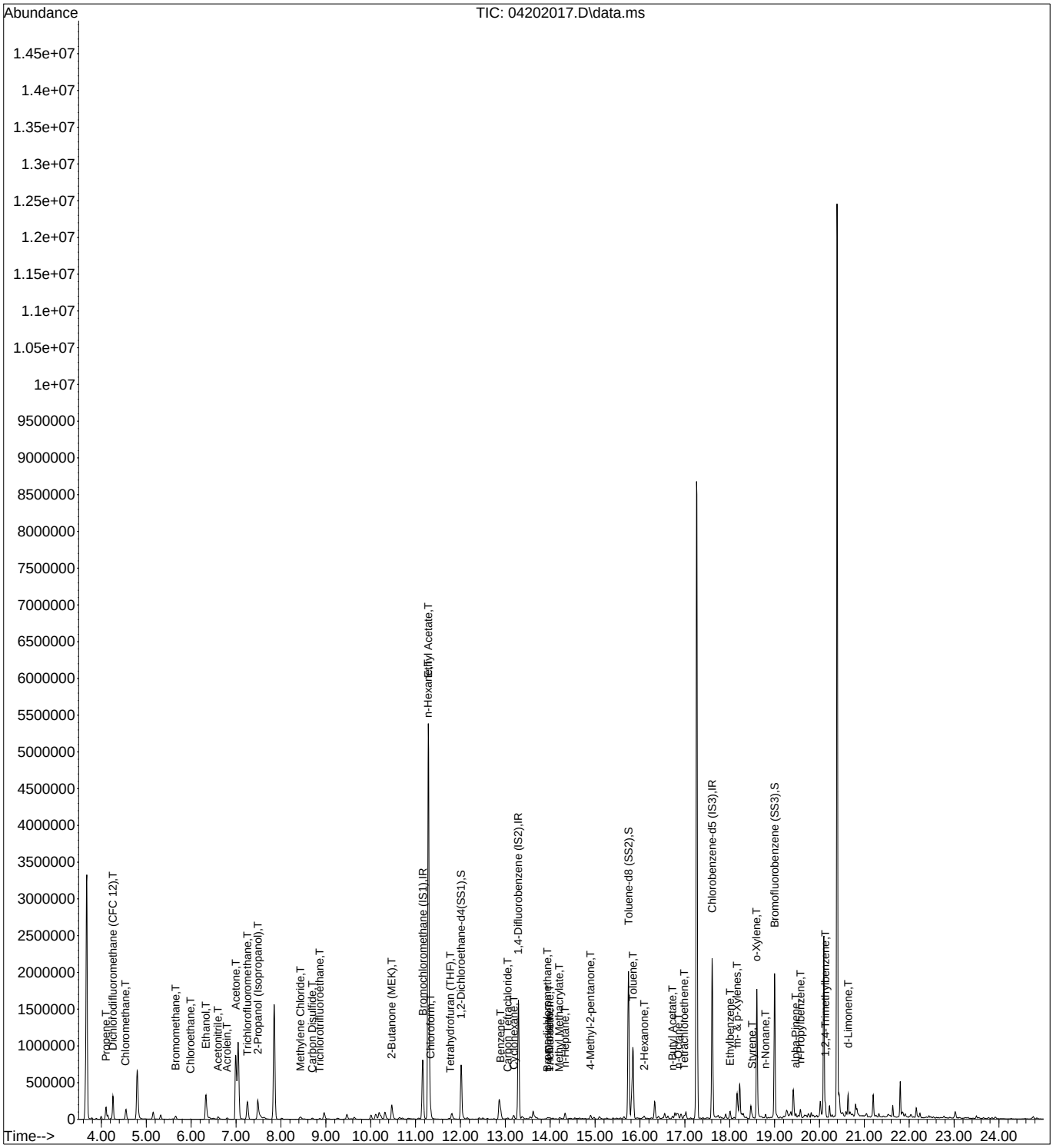
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.33	71	20364	0.574 ng		92
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.90	58	14933	0.469 ng		89
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.84	91	794434	4.981 ng		100
59) 2-Hexanone	16.10	43	27530m	0.345 ng		
60) Dibromochloromethane	16.25	129	1051	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.72	43	23729	0.278 ng		90
63) n-Octane	16.86	57	8666	0.274 ng	#	78
64) Tetrachloroethene	16.99	166	12195	0.274 ng		96
65) Chlorobenzene	17.66	112	4682	N.D.		
66) Ethylbenzene	18.01	91	77008	0.440 ng		98
67) m- & p-Xylenes	18.16	91	209743	1.474 ng		98
68) Bromoform	18.24	173	974	N.D.		
69) Styrene	18.50	104	21956	0.197 ng		95
70) o-Xylene	18.60	91	78545	0.552 ng		96
71) n-Nonane	18.80	43	20367	0.286 ng		87
72) 1,1,2,2-Tetrachloroethane	18.61	83	1442	N.D.		
74) Cumene	19.13	105	4512	N.D.		
75) alpha-Pinene	19.47	93	23410	0.257 ng		99
76) n-Propylbenzene	19.58	91	11302	0.054 ng	#	39
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.70	105	6996	N.D.		
79) 1,3,5-Trimethylbenzene	19.77	105	6920	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	19.94	105	6399	N.D.		
82) 1,2,4-Trimethylbenzene	20.13	105	20488	0.130 ng		86
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.25	91	3777	N.D.		
85) 1,3-Dichlorobenzene	20.26	146	583	N.D.		
86) 1,4-Dichlorobenzene	20.32	146	650	N.D.		
87) sec-Butylbenzene	20.37	105	2969	N.D.		
88) 4-Isopropyltoluene (p-...	20.51	119	9232	N.D.		
89) 1,2,3-Trimethylbenzene	20.51	105	7889	N.D.		
90) 1,2-Dichlorobenzene	20.63	146	424	N.D.		
91) d-Limonene	20.64	68	64369	1.056 ng		97
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.13	180	253	N.D.		
95) Naphthalene	22.24	128	5957	N.D.		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202017.D Vial: 12
Acq On : 20 Apr 2020 12:48 Operator: TD
Sample : P2002028-015 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 20:22:46 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202017.D Vial: 12
Acq On : 20 Apr 2020 12:48 Operator: TD
Sample : P2002028-015 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 20:22:46 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020 LH 4/20/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	328721	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.29	114	1469040	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	727743	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	576726	12.670	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.36%				
57) Toluene-d8 (SS2)	15.74	98	1514138	11.738	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.92%				
73) Bromofluorobenzene (SS3)	19.00	174	546105	11.989	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.92%				
Target Compounds							Qvalue
2) Propene	4.10	42	66742	1.936	ng		89
3) Dichlorodifluoromethan...	4.26	85	284807	3.840	ng		100
4) Chloromethane	4.54	50	42352	0.723	ng		95
8) Bromomethane	5.65	94	34272	1.107	ng		98
9) Chloroethane	5.99	64	3902	0.164	ng		100
10) Ethanol	6.33	45	543827	19.959	ng		100
11) Acetonitrile	6.60	41	50715	0.846	ng		100
12) Acrolein	6.80	56	22652	1.130	ng		99
13) Acetone	7.00	58	419097m	15.586	ng		
14) Trichlorofluoromethane	7.25	101	240346	3.675	ng		100
15) 2-Propanol (Isopropanol)	7.48	45	511315	6.412	ng		98
19) Methylene Chloride	8.44	84	13661	0.390	ng		91
21) Trichlorotrifluoroethane	8.86	151	4545	0.145	ng		88
22) Carbon Disulfide	8.70	76	30755	0.244	ng		99
27) 2-Butanone (MEK)	10.47	72	76859	3.433	ng	#	91
30) Ethyl Acetate	11.28	61	1024461	77.424	ng		91
31) n-Hexane	11.28	57	16055	0.262	ng	#	82
32) Chloroform	11.33	83	112918	1.730	ng		100
34) Tetrahydrofuran (THF)	11.77	72	4534	0.197	ng	#	1
41) Benzene	12.90	78	71921	0.473	ng		97
42) Carbon Tetrachloride	13.06	117	9169	0.176	ng		99
43) Cyclohexane	13.19	84	17529	0.301	ng		97
46) Bromodichloromethane	13.94	83	10981	0.214	ng		93
47) Trichloroethene	13.99	130	2973	0.069	ng		100
48) 1,4-Dioxane	13.98	88	8826	0.300	ng		86
50) Methyl Methacrylate	14.20	100	1979	0.135	ng	#	79
51) n-Heptane	14.33	71	20364	0.574	ng		92
53) 4-Methyl-2-pentanone	14.90	58	14933	0.469	ng		89
58) Toluene	15.84	91	794434	4.981	ng		100
59) 2-Hexanone	16.10	43	27530m	0.345	ng		
62) n-Butyl Acetate	16.72	43	23729	0.278	ng		90
63) n-Octane	16.86	57	8666	0.274	ng	#	78
64) Tetrachloroethene	16.99	166	12195	0.274	ng		96
66) Ethylbenzene	18.01	91	77008	0.440	ng		98
67) m- & p-Xylenes	18.16	91	209743	1.474	ng		98
69) Styrene	18.50	104	21956	0.197	ng		95
70) o-Xylene	18.60	91	78545	0.552	ng		96
71) n-Nonane	18.80	43	20367	0.286	ng		87
75) alpha-Pinene	19.47	93	23410	0.257	ng		99
76) n-Propylbenzene	19.58	91	11302	0.054	ng	#	39
82) 1,2,4-Trimethylbenzene	20.13	105	20488	0.130	ng		86
91) d-Limonene	20.64	68	64369	1.056	ng		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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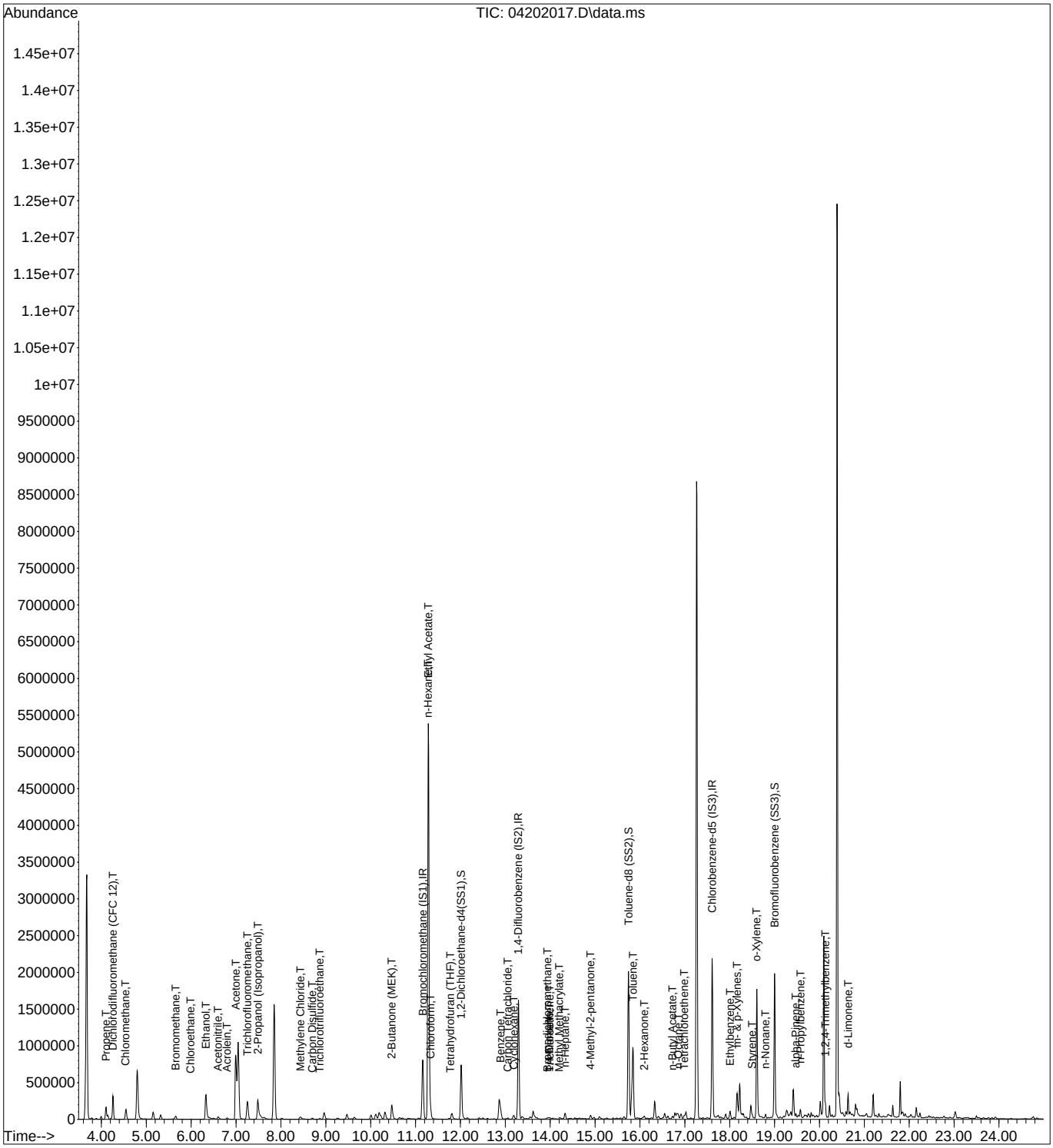
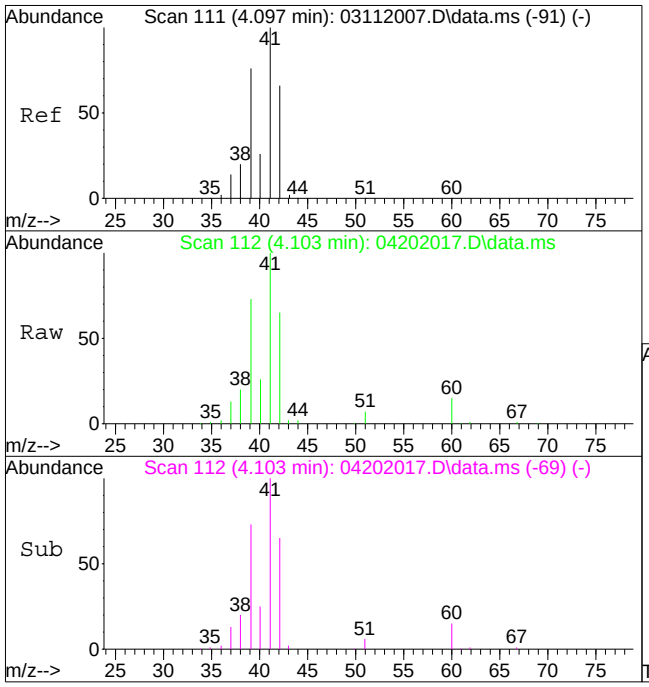
Acq On : 20 Apr 2020 12:48 Operator: TD
Sample : P2002028-015 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 20:22:46 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

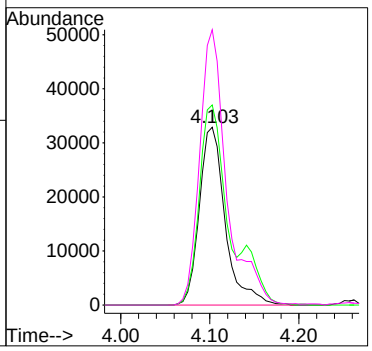


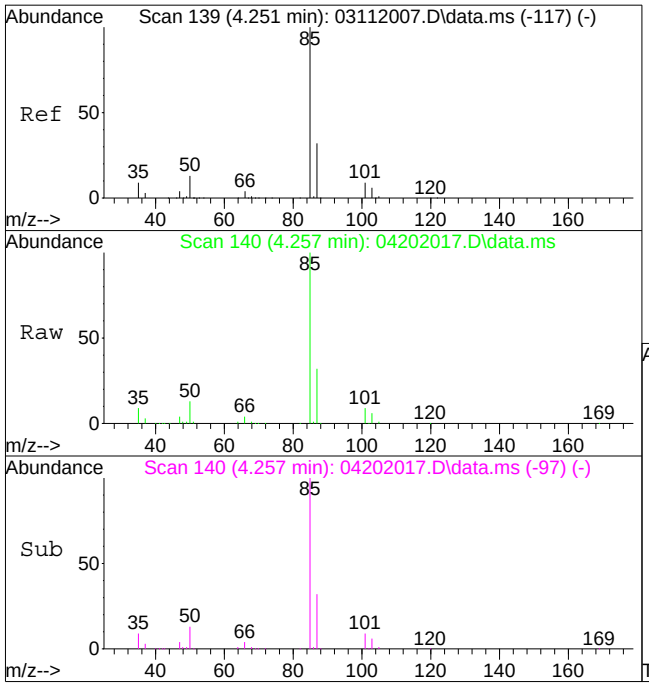


#2
Propene
Concen: 1.94 ng
RT: 4.10 min Scan# 112
Delta R.T. -0.011 min
Lab File: 04202017.D
Acq: 20 Apr 2020 12:48

Tgt Ion: 42 Resp: 66742

Ion	Ratio	Lower	Upper
42	100		
39	132.0	95.3	135.3
41	162.4	132.0	172.0

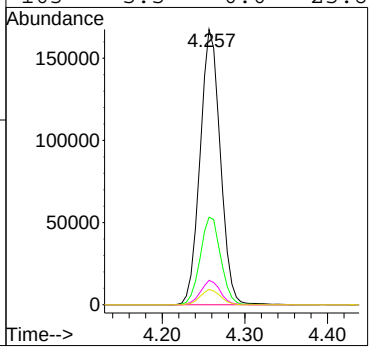


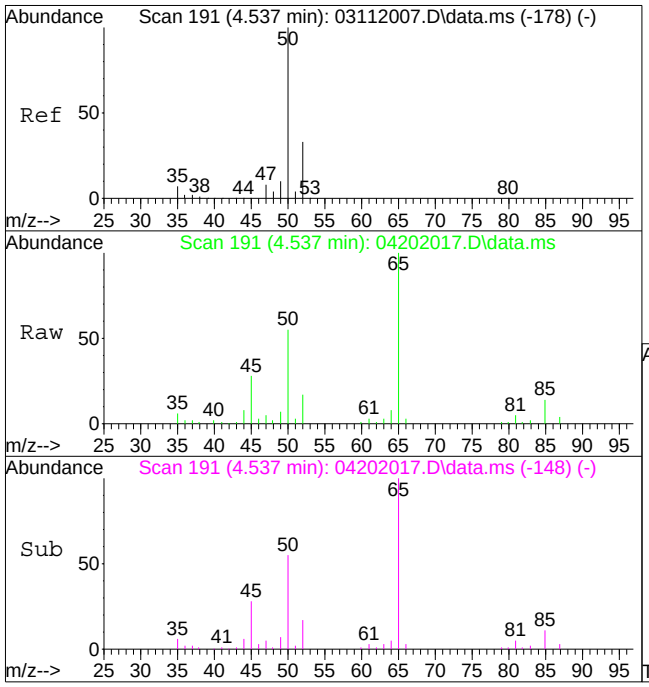


#3
Dichlorodifluoromethane (CFC 12)
Concen: 3.84 ng
RT: 4.26 min Scan# 140
Delta R.T. -0.011 min
Lab File: 04202017.D
Acq: 20 Apr 2020 12:48

Tgt Ion: 85 Resp: 284807

Ion	Ratio	Lower	Upper
85	100		
87	32.3	12.3	52.3
101	8.6	0.0	29.0
103	5.5	0.0	25.8

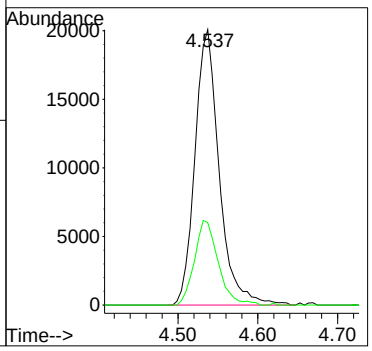


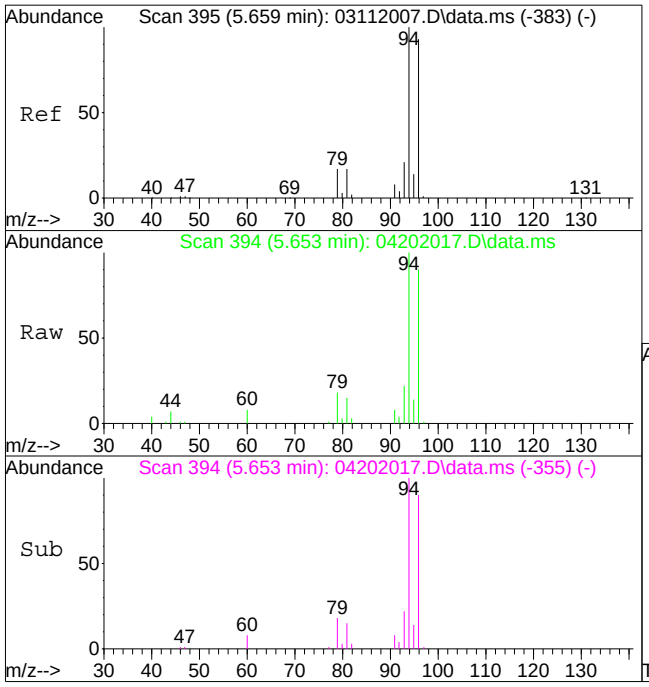


#4
Chloromethane
Concen: 0.72 ng
RT: 4.54 min Scan# 191
Delta R.T. -0.016 min
Lab File: 04202017.D
Acq: 20 Apr 2020 12:48

Tgt Ion: 50 Resp: 42352

Ion	Ratio	Lower	Upper
50	100		
52	30.1	12.8	52.8

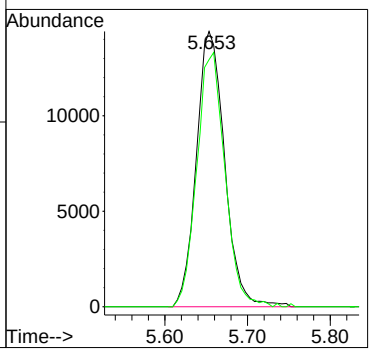


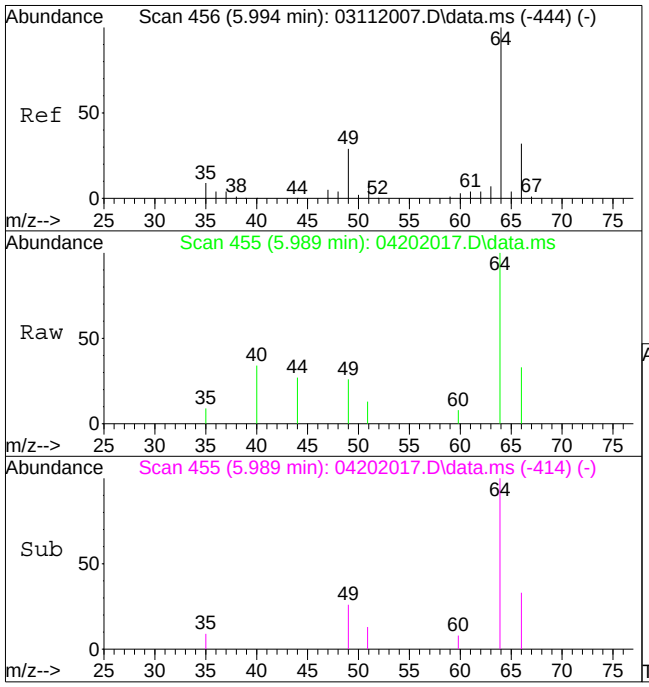


#8
Bromomethane
Concen: 1.11 ng
RT: 5.65 min Scan# 394
Delta R.T. -0.033 min
Lab File: 04202017.D
Acq: 20 Apr 2020 12:48

Tgt Ion: 94 Resp: 34272

Ion	Ratio	Lower	Upper
94	100		
96	91.6	73.8	113.8

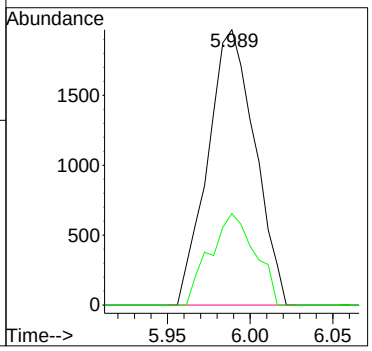


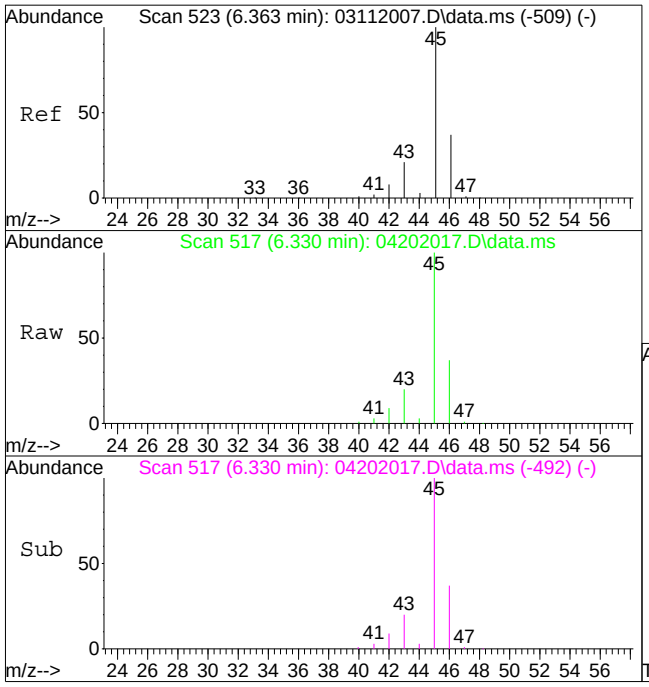


#9
Chloroethane
Concen: 0.16 ng
RT: 5.99 min Scan# 455
Delta R.T. -0.027 min
Lab File: 04202017.D
Acq: 20 Apr 2020 12:48

Tgt Ion: 64 Resp: 3902

Ion	Ratio	Lower	Upper
64	100		
66	31.8	11.7	51.7

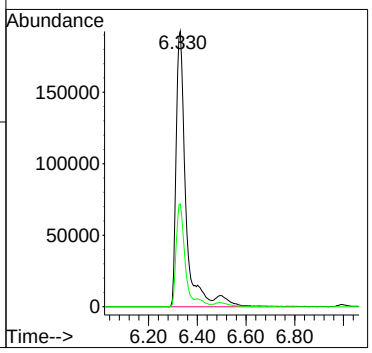


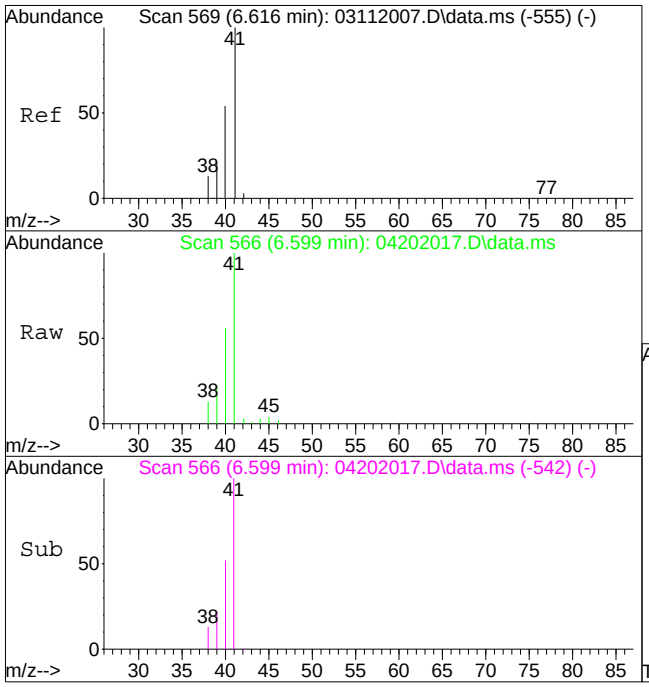


#10
Ethanol
Concen: 19.96 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.110 min
Lab File: 04202017.D
Acq: 20 Apr 2020 12:48

Tgt Ion: 45 Resp: 543827

Ion	Ratio	Lower	Upper
45	100		
46	37.0	17.3	57.3

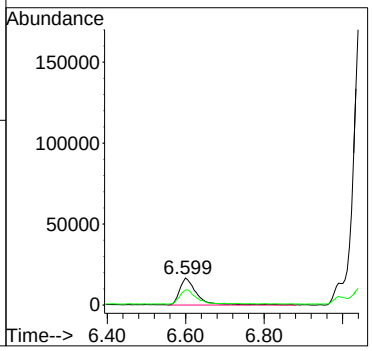


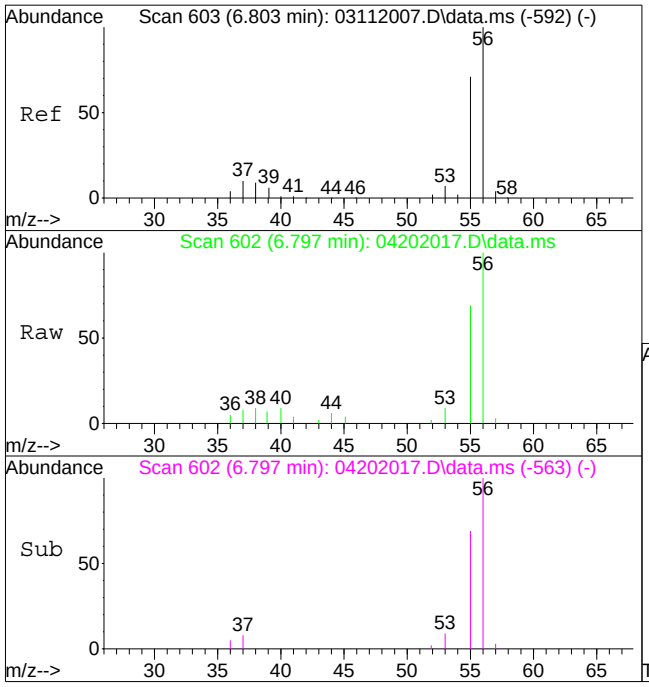


#11
Acetonitrile
Concen: 0.85 ng
RT: 6.60 min Scan# 566
Delta R.T. -0.066 min
Lab File: 04202017.D
Acq: 20 Apr 2020 12:48

Tgt Ion: 41 Resp: 50715

Ion	Ratio	Lower	Upper
41	100		
40	53.5	33.6	73.6

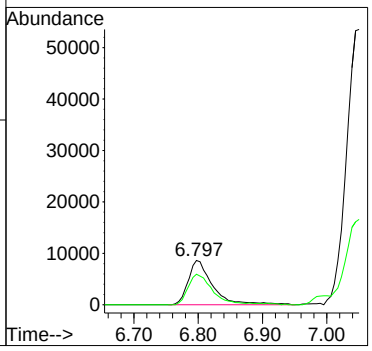


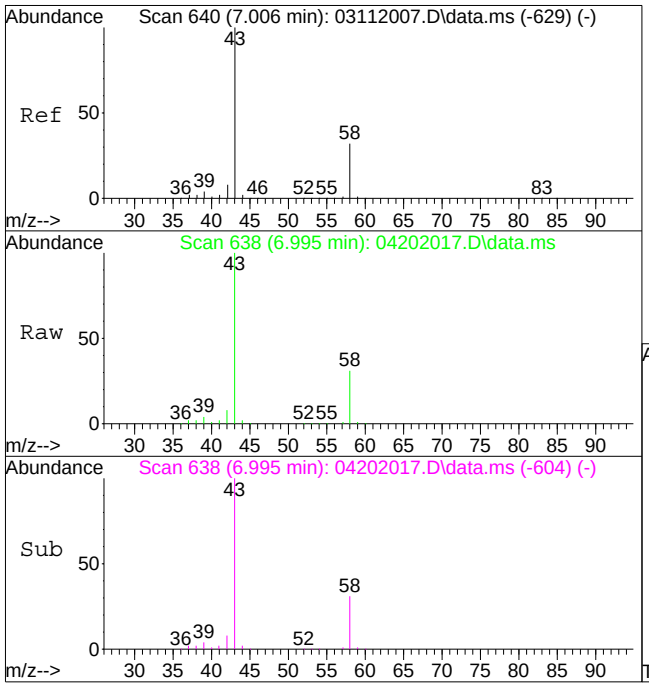


#12
Acrolein
Concen: 1.13 ng
RT: 6.80 min Scan# 602
Delta R.T. -0.033 min
Lab File: 04202017.D
Acq: 20 Apr 2020 12:48

Tgt Ion: 56 Resp: 22652

Ion	Ratio	Lower	Upper
56	100		
55	70.9	50.4	90.4

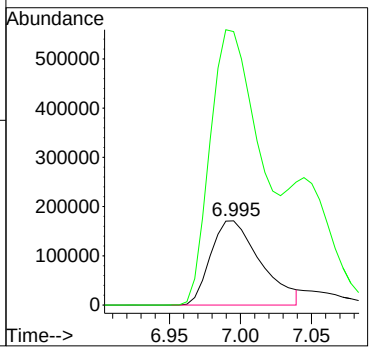


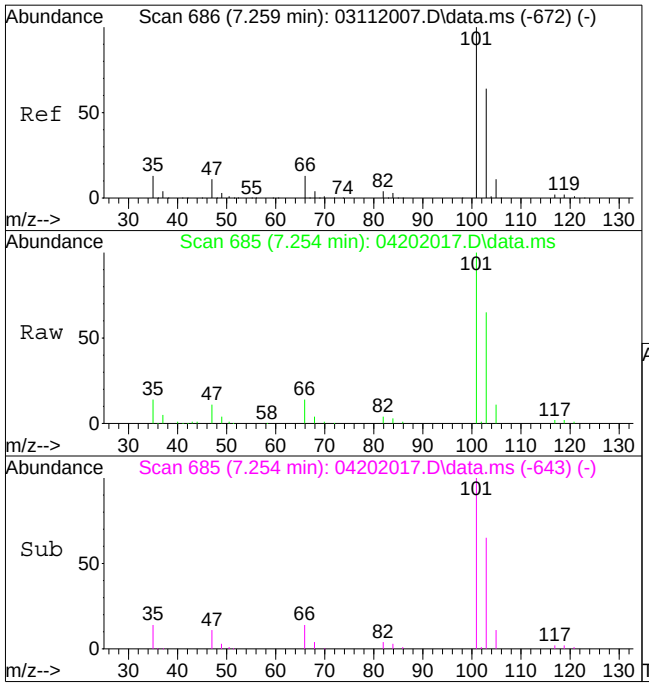


#13
Acetone
Concen: 15.59 ng m
RT: 7.00 min Scan# 638
Delta R.T. -0.061 min
Lab File: 04202017.D
Acq: 20 Apr 2020 12:48

Tgt Ion: 58 Resp: 419097

Ion	Ratio	Lower	Upper
58	100		
43	462.1	287.3	347.3#

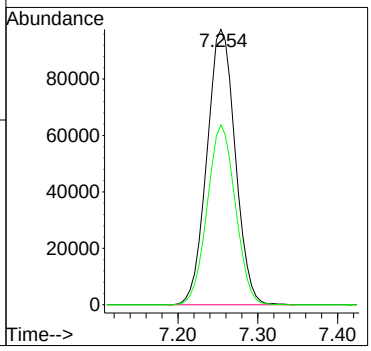


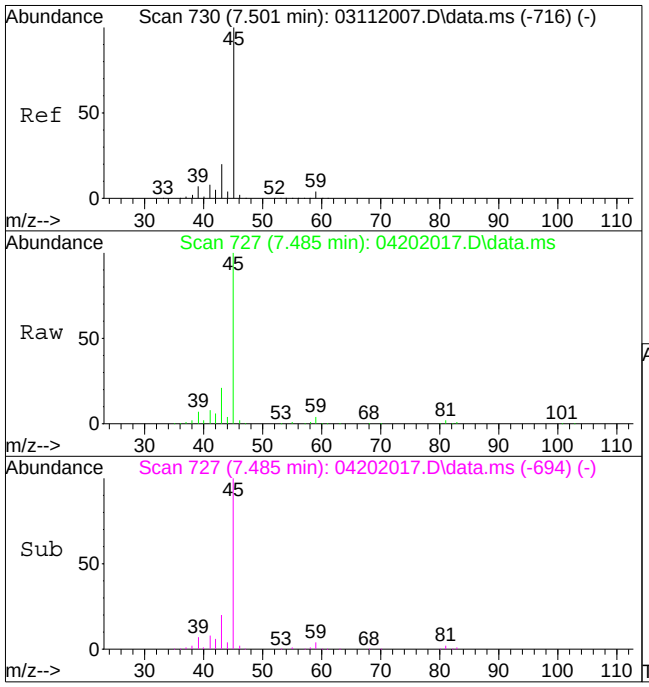


#14
Trichlorofluoromethane
Concen: 3.67 ng
RT: 7.25 min Scan# 685
Delta R.T. -0.021 min
Lab File: 04202017.D
Acq: 20 Apr 2020 12:48

Tgt Ion:101 Resp: 240346

Ion	Ratio	Lower	Upper
101	100		
103	64.9	44.6	84.6

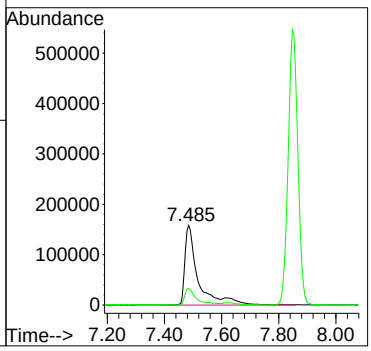


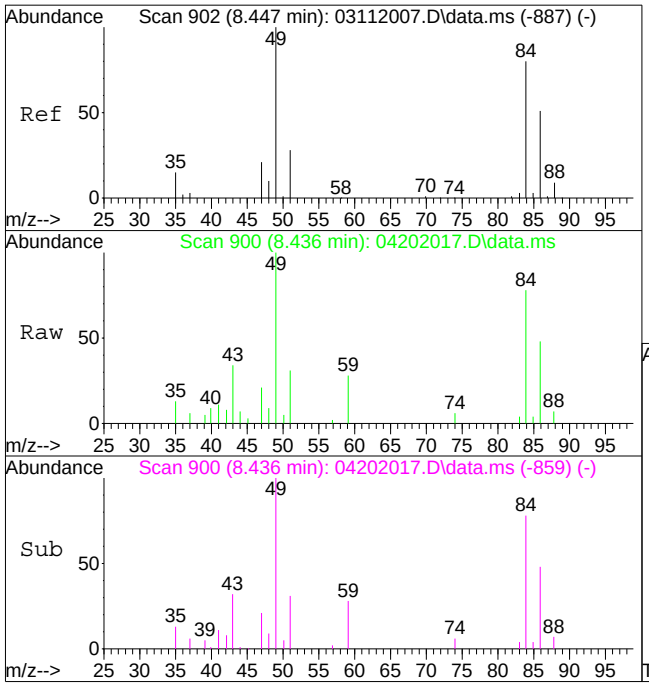


#15
2-Propanol (Isopropanol)
Concen: 6.41 ng
RT: 7.48 min Scan# 727
Delta R.T. -0.066 min
Lab File: 04202017.D
Acq: 20 Apr 2020 12:48

Tgt Ion: 45 Resp: 511315

Ion	Ratio	Lower	Upper
45	100		
43	21.1	0.3	40.3

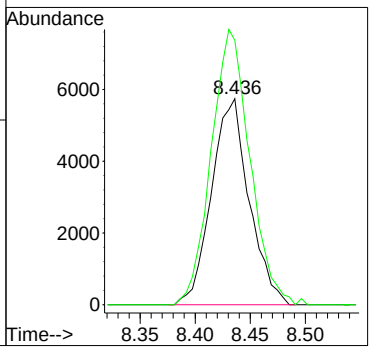


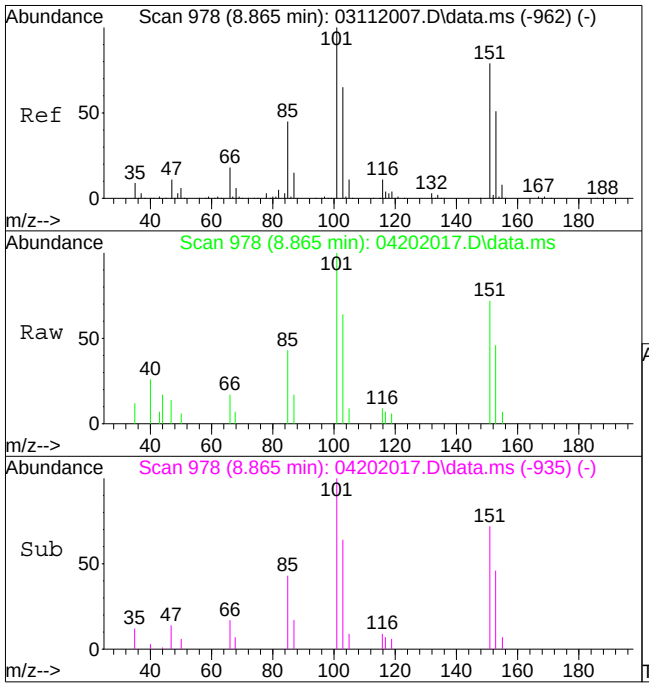


#19
Methylene Chloride
Concen: 0.39 ng
RT: 8.44 min Scan# 900
Delta R.T. -0.027 min
Lab File: 04202017.D
Acq: 20 Apr 2020 12:48

Tgt Ion: 84 Resp: 13661

Ion	Ratio	Lower	Upper
84	100		
49	137.5	102.2	152.2

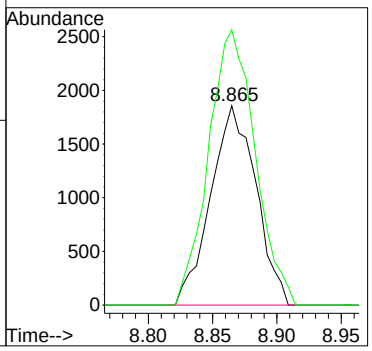


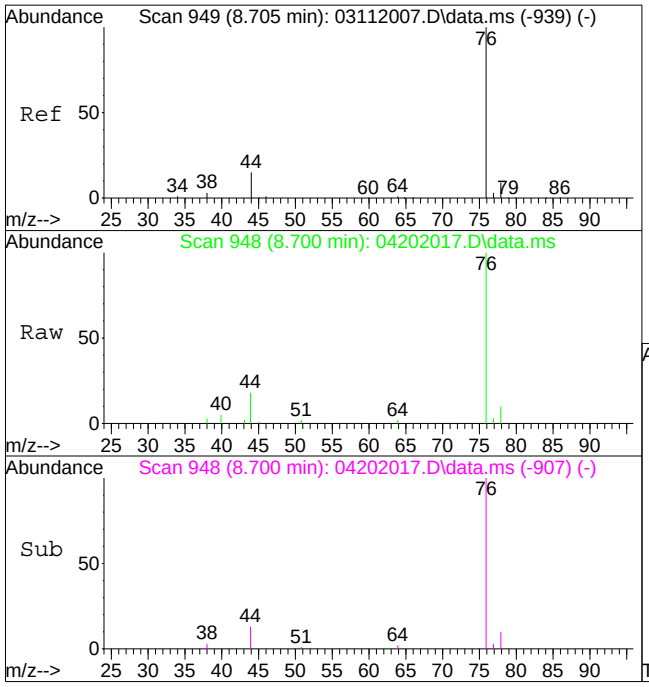


#21
Trichlorotrifluoroethane
Concen: 0.15 ng
RT: 8.86 min Scan# 978
Delta R.T. -0.011 min
Lab File: 04202017.D
Acq: 20 Apr 2020 12:48

Tgt Ion:151 Resp: 4545

Ion	Ratio	Lower	Upper
151	100		
101	142.4	108.4	148.4

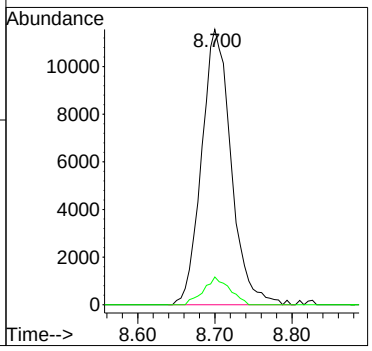


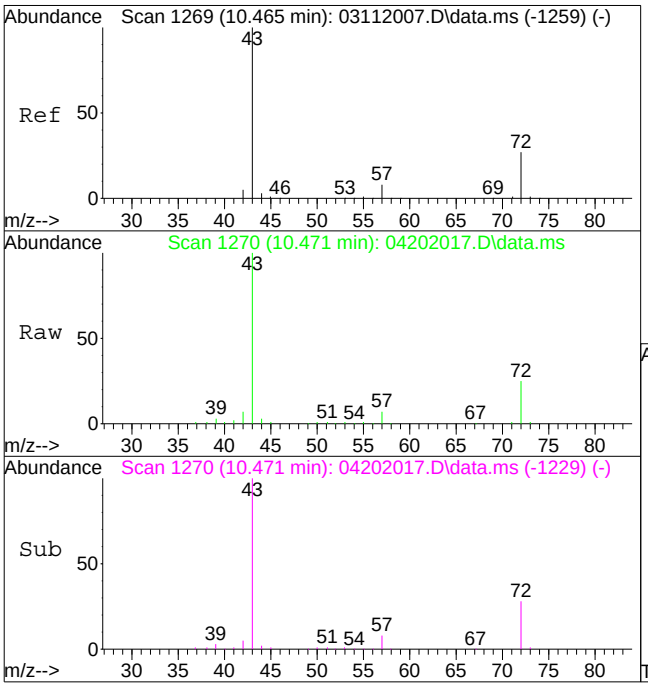


#22
Carbon Disulfide
Concen: 0.24 ng
RT: 8.70 min Scan# 948
Delta R.T. -0.022 min
Lab File: 04202017.D
Acq: 20 Apr 2020 12:48

Tgt Ion: 76 Resp: 30755

Ion	Ratio	Lower	Upper
76	100		
78	8.9	0.0	29.2

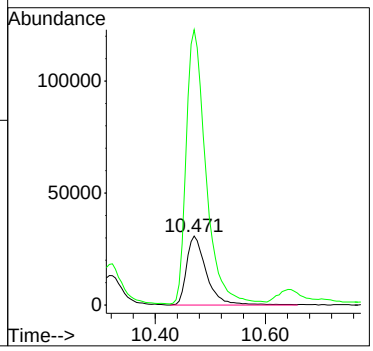


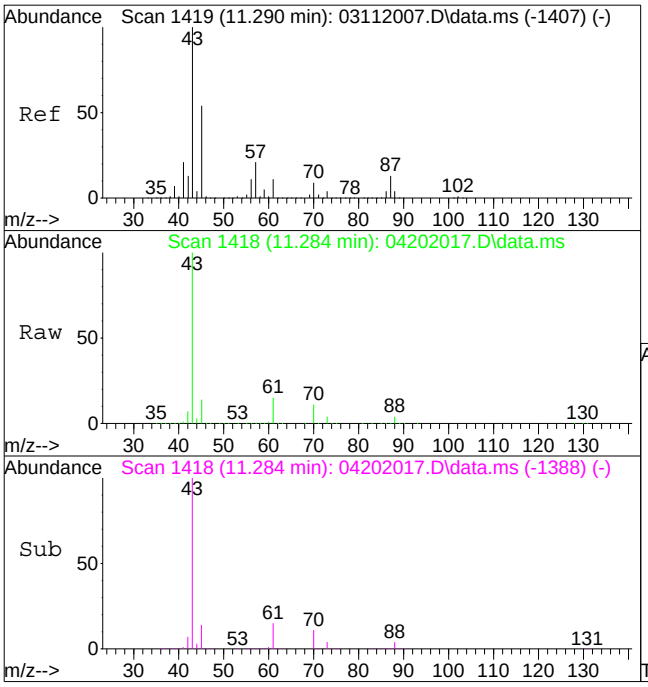


#27
2-Butanone (MEK)
Concen: 3.43 ng
RT: 10.47 min Scan# 1270
Delta R.T. -0.022 min
Lab File: 04202017.D
Acq: 20 Apr 2020 12:48

Tgt Ion: 72 Resp: 76859

Ion	Ratio	Lower	Upper
72	100		
43	394.6	353.4	393.4#

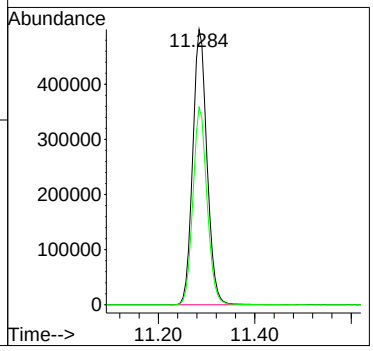


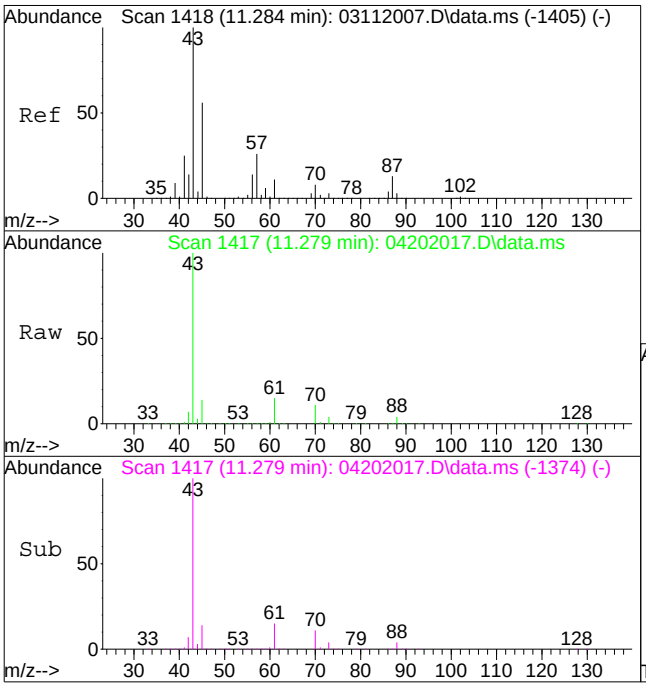


#30
Ethyl Acetate
Concen: 77.42 ng
RT: 11.28 min Scan# 1418
Delta R.T. -0.033 min
Lab File: 04202017.D
Acq: 20 Apr 2020 12:48

Tgt Ion: 61 Resp: 1024461

Ion	Ratio	Lower	Upper
61	100		
70	71.1	59.1	99.1

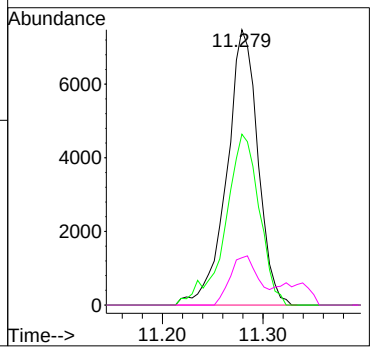


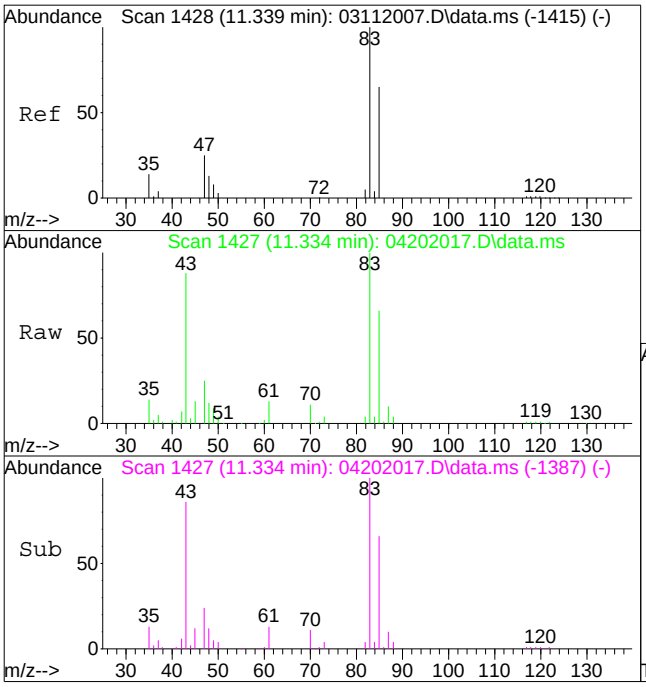


#31
n-Hexane
Concen: 0.26 ng
RT: 11.28 min Scan# 1417
Delta R.T. -0.011 min
Lab File: 04202017.D
Acq: 20 Apr 2020 12:48

Tgt Ion: 57 Resp: 16055

Ion	Ratio	Lower	Upper
57	100		
56	67.8	41.0	61.4#
86	16.3	13.9	20.9

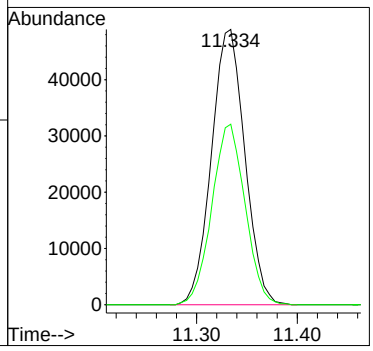


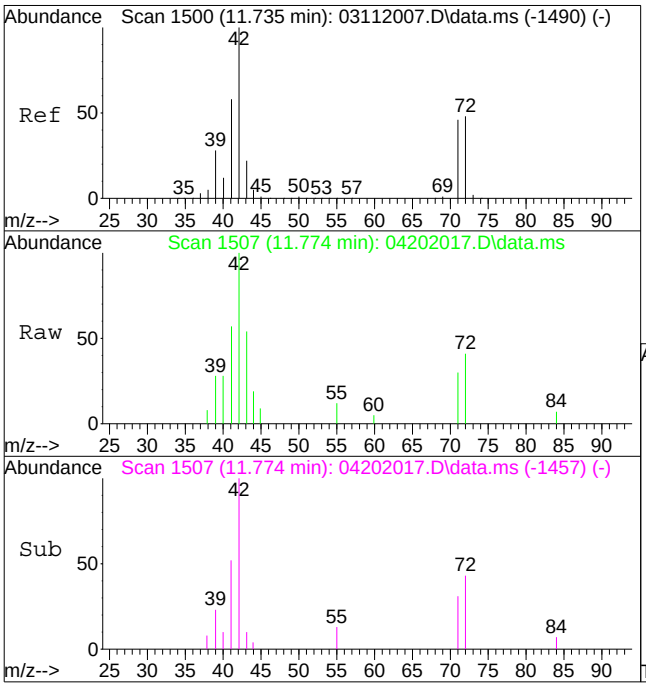


#32
Chloroform
Concen: 1.73 ng
RT: 11.33 min Scan# 1427
Delta R.T. -0.027 min
Lab File: 04202017.D
Acq: 20 Apr 2020 12:48

Tgt Ion: 83 Resp: 112918

Ion	Ratio	Lower	Upper
83	100		
85	65.2	45.5	85.5

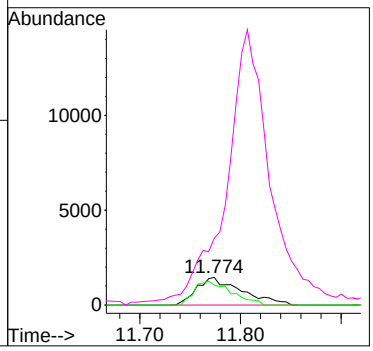


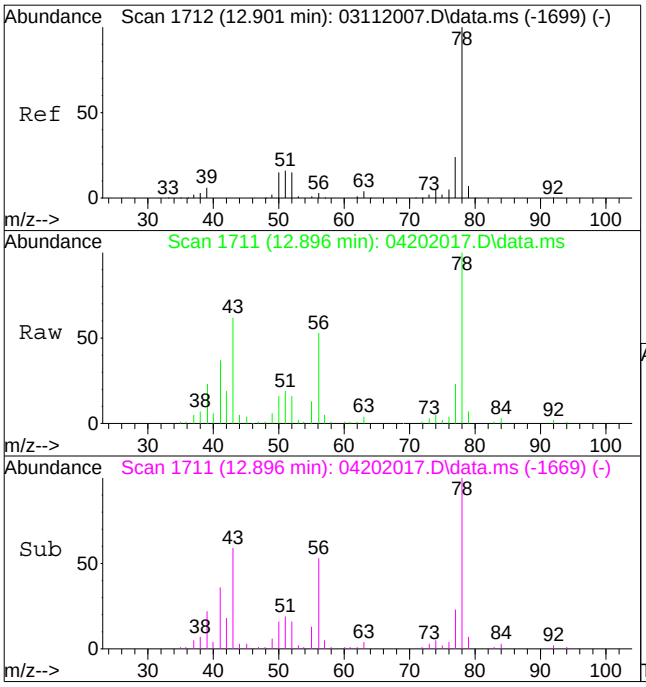


#34
Tetrahydrofuran (THF)
Concen: 0.20 ng
RT: 11.77 min Scan# 1507
Delta R.T. 0.028 min
Lab File: 04202017.D
Acq: 20 Apr 2020 12:48

Tgt Ion: 72 Resp: 4534

Ion	Ratio	Lower	Upper
72	100		
71	71.4	75.9	115.9#
42	1001.7	189.3	229.3#

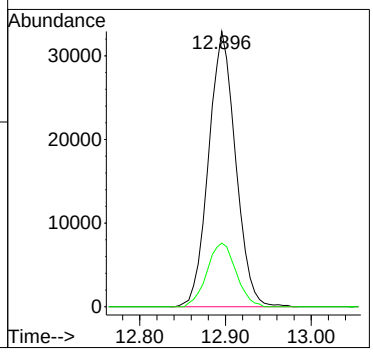


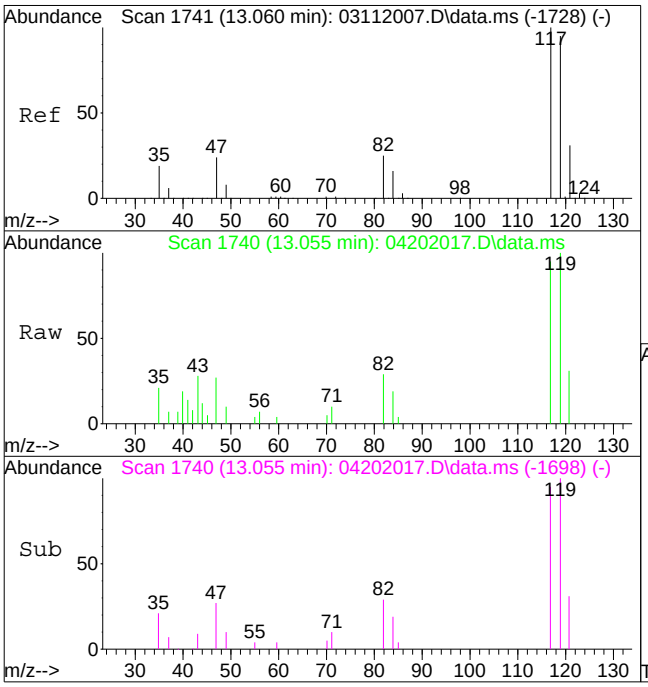


#41
Benzene
Concen: 0.47 ng
RT: 12.90 min Scan# 1711
Delta R.T. -0.016 min
Lab File: 04202017.D
Acq: 20 Apr 2020 12:48

Tgt Ion: 78 Resp: 71921

Ion	Ratio	Lower	Upper
78	100		
77	24.9	3.4	43.4

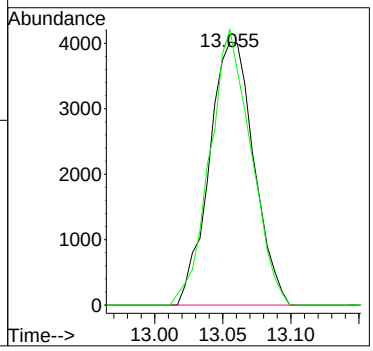


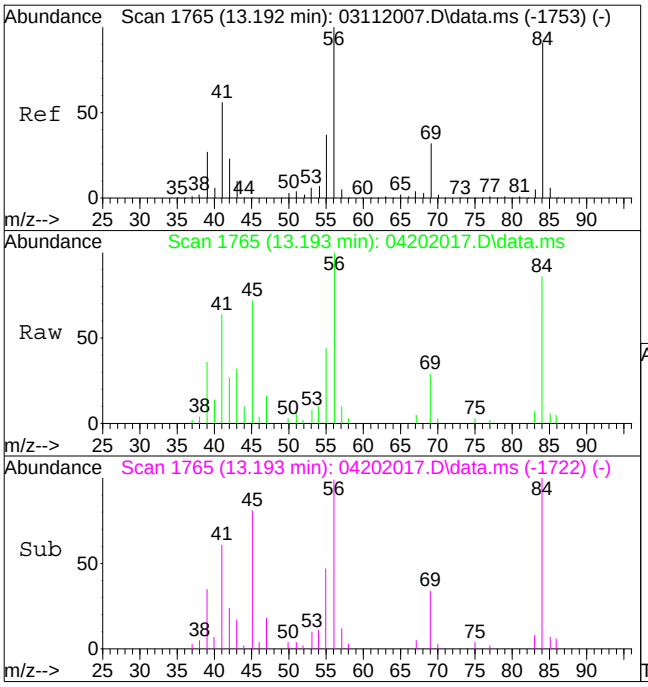


#42
Carbon Tetrachloride
Concen: 0.18 ng
RT: 13.06 min Scan# 1740
Delta R.T. -0.016 min
Lab File: 04202017.D
Acq: 20 Apr 2020 12:48

Tgt Ion:117 Resp: 9169

Ion	Ratio	Lower	Upper
117	100		
119	96.8	75.4	115.4

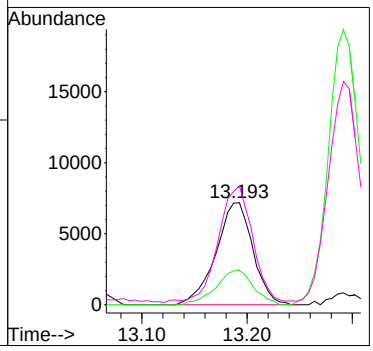


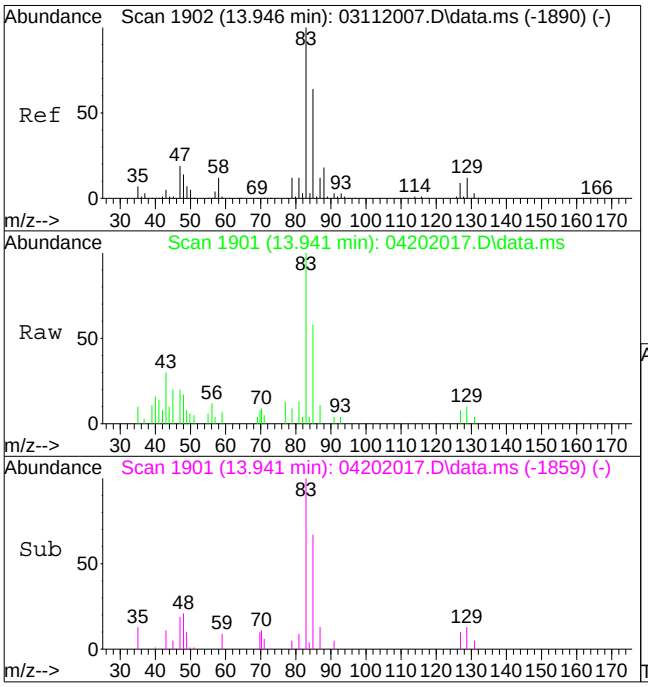


#43
Cyclohexane
Concen: 0.30 ng
RT: 13.19 min Scan# 1765
Delta R.T. -0.011 min
Lab File: 04202017.D
Acq: 20 Apr 2020 12:48

Tgt Ion: 84 Resp: 17529

Ion	Ratio	Lower	Upper
84	100		
69	34.1	15.3	55.3
56	106.5	90.5	130.5

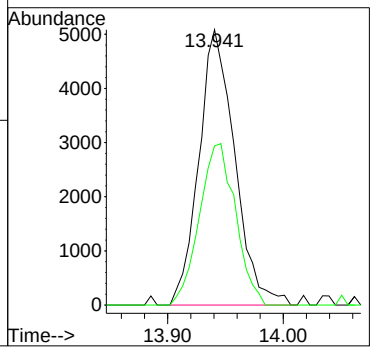


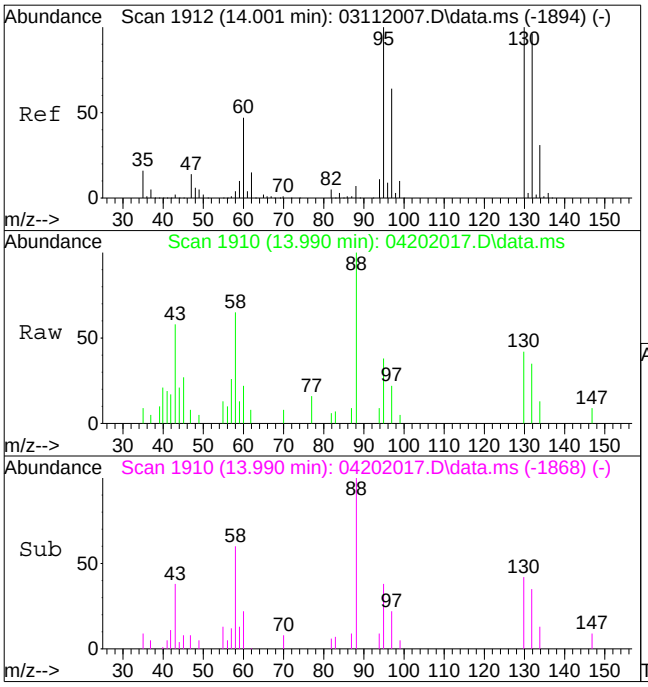


#46
Bromodichloromethane
Concen: 0.21 ng
RT: 13.94 min Scan# 1901
Delta R.T. -0.016 min
Lab File: 04202017.D
Acq: 20 Apr 2020 12:48

Tgt Ion: 83 Resp: 10981

Ion	Ratio	Lower	Upper
83	100		
85	58.8	44.0	84.0

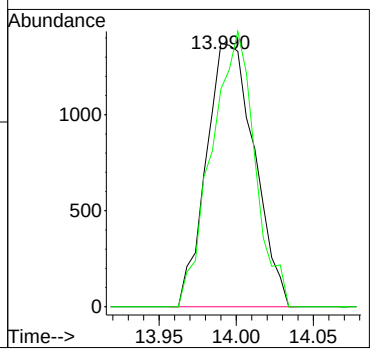


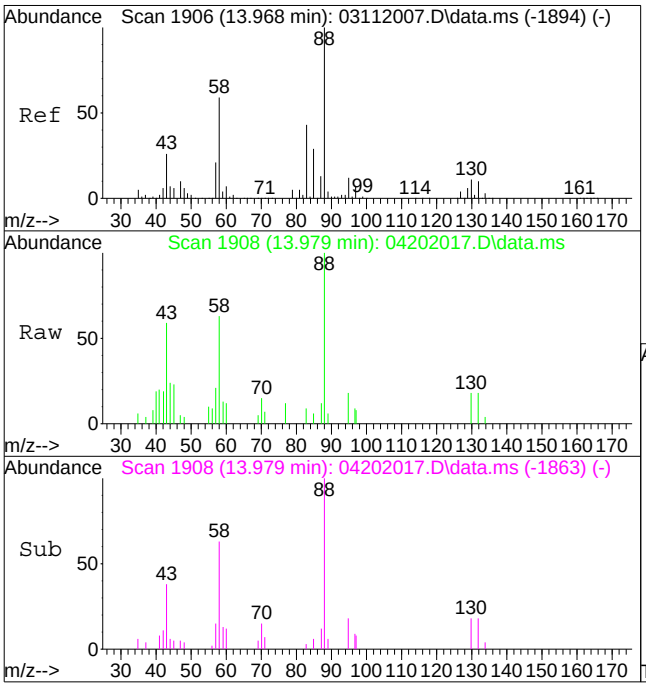


#47
Trichloroethene
Concen: 0.07 ng
RT: 13.99 min Scan# 1910
Delta R.T. -0.016 min
Lab File: 04202017.D
Acq: 20 Apr 2020 12:48

Tgt Ion:130 Resp: 2973

Ion	Ratio	Lower	Upper
130	100		
132	94.3	74.7	114.7

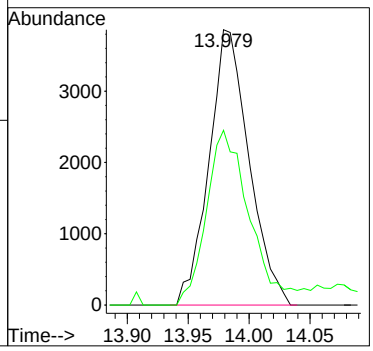


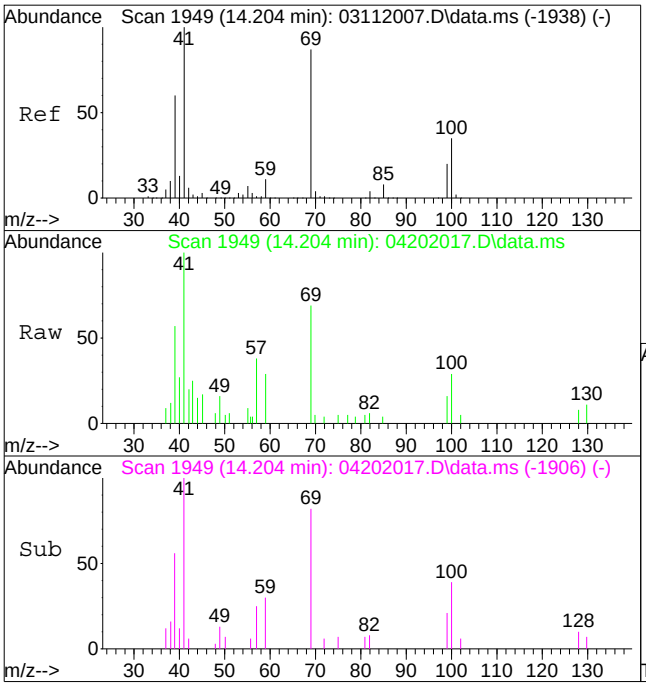


#48
1,4-Dioxane
Concen: 0.30 ng
RT: 13.98 min Scan# 1908
Delta R.T. 0.000 min
Lab File: 04202017.D
Acq: 20 Apr 2020 12:48

Tgt Ion: 88 Resp: 8826

Ion	Ratio	Lower	Upper
88	100		
58	69.8	39.5	79.5

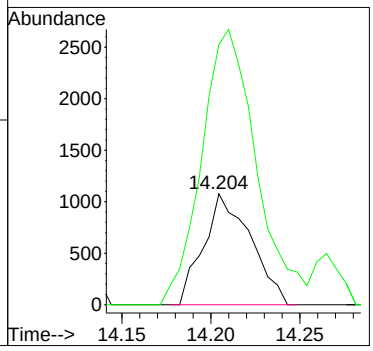


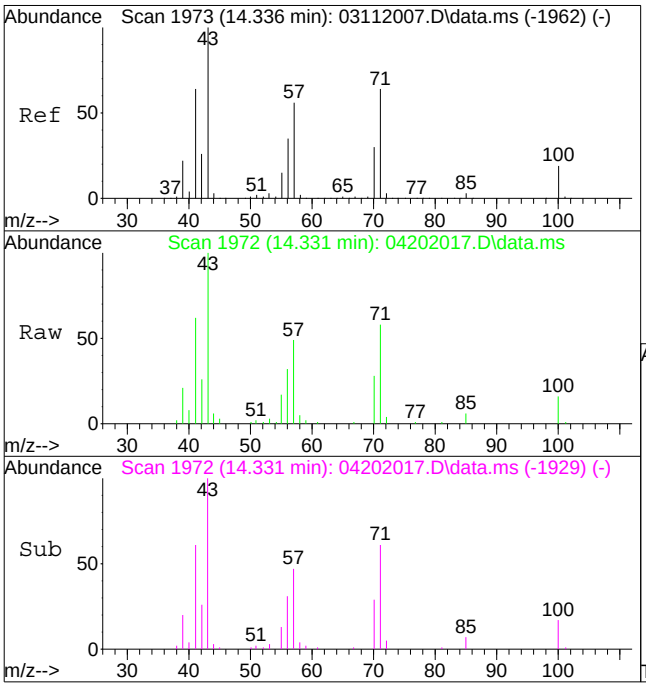


#50
Methyl Methacrylate
Concen: 0.13 ng
RT: 14.20 min Scan# 1949
Delta R.T. -0.011 min
Lab File: 04202017.D
Acq: 20 Apr 2020 12:48

Tgt Ion:100 Resp: 1979

Ion	Ratio	Lower	Upper
100	100		
69	289.3	232.9	272.9#

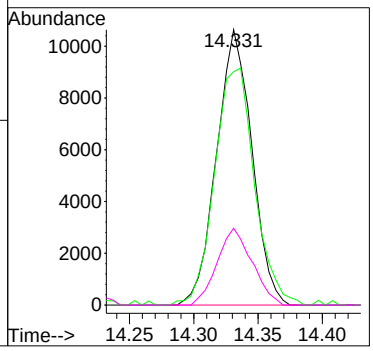


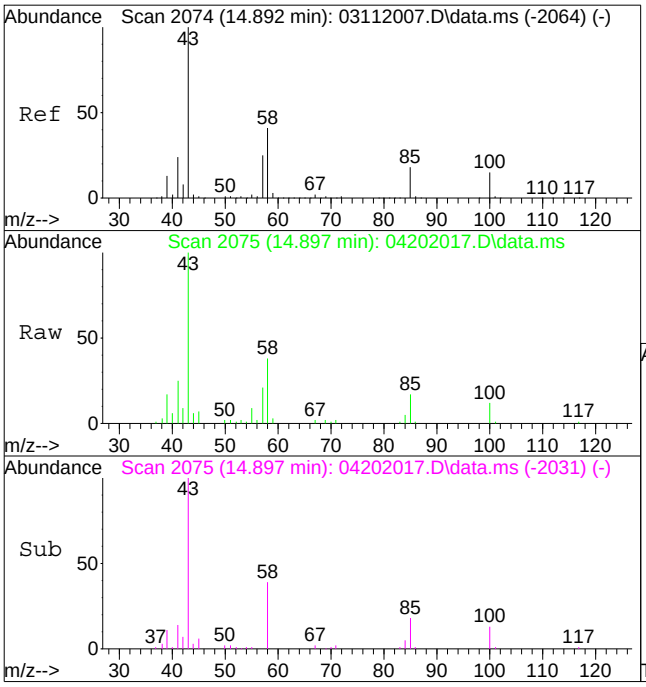


#51
n-Heptane
Concen: 0.57 ng
RT: 14.33 min Scan# 1972
Delta R.T. -0.011 min
Lab File: 04202017.D
Acq: 20 Apr 2020 12:48

Tgt Ion: 71 Resp: 20364

Ion	Ratio	Lower	Upper
71	100		
57	97.1	68.6	108.6
100	27.5	9.1	49.1

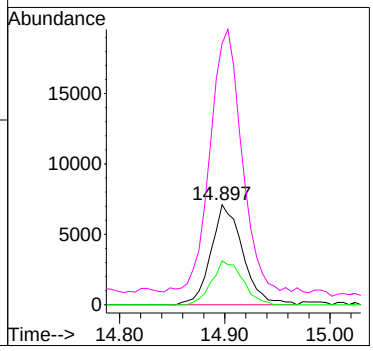


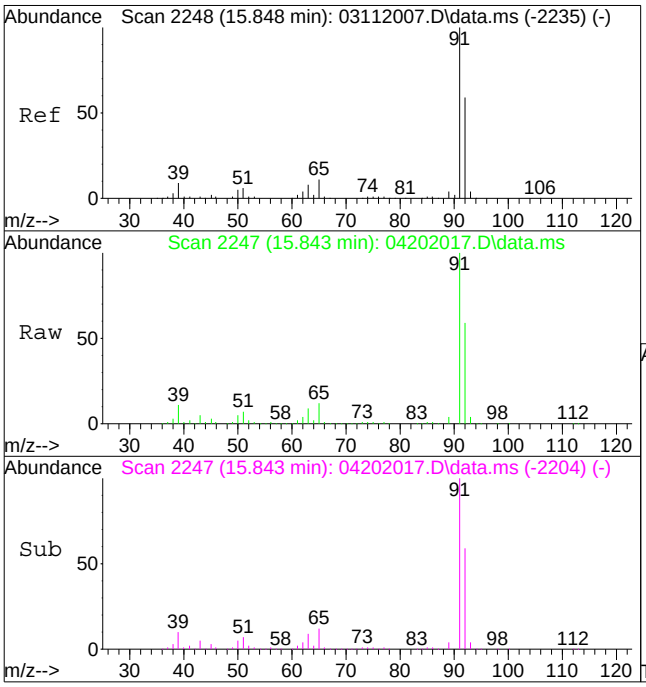


#53
4-Methyl-2-pentanone
Concen: 0.47 ng
RT: 14.90 min Scan# 2075
Delta R.T. -0.005 min
Lab File: 04202017.D
Acq: 20 Apr 2020 12:48

Tgt Ion: 58 Resp: 14933

Ion	Ratio	Lower	Upper
58	100		
85	42.6	37.0	55.4
43	265.9	196.3	294.5

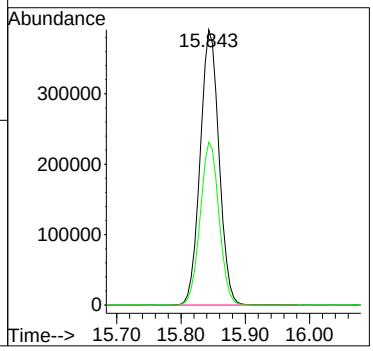


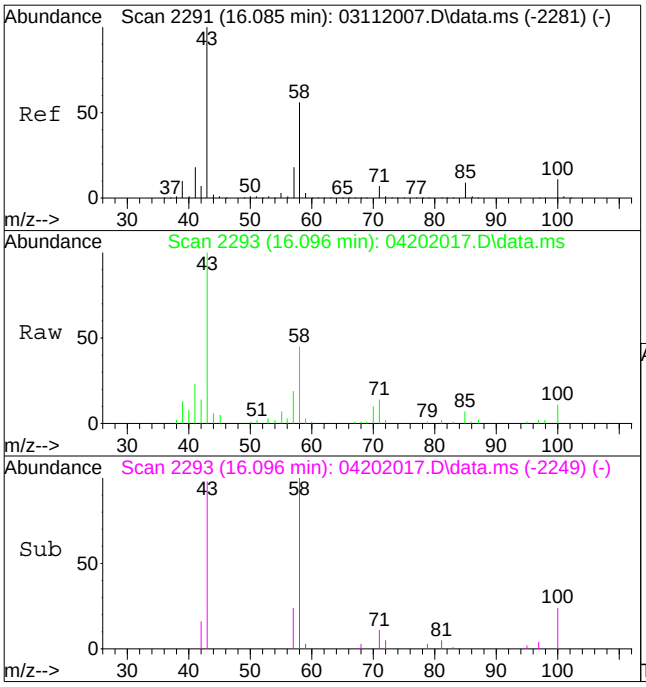


#58
Toluene
Concen: 4.98 ng
RT: 15.84 min Scan# 2247
Delta R.T. -0.011 min
Lab File: 04202017.D
Acq: 20 Apr 2020 12:48

Tgt Ion: 91 Resp: 794434

Ion	Ratio	Lower	Upper
91	100		
92	59.2	39.0	79.0

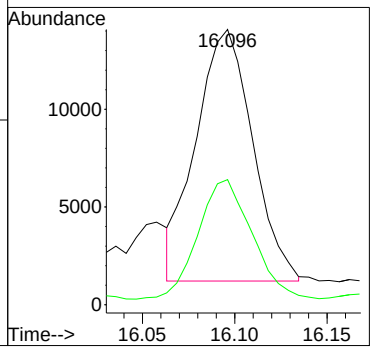


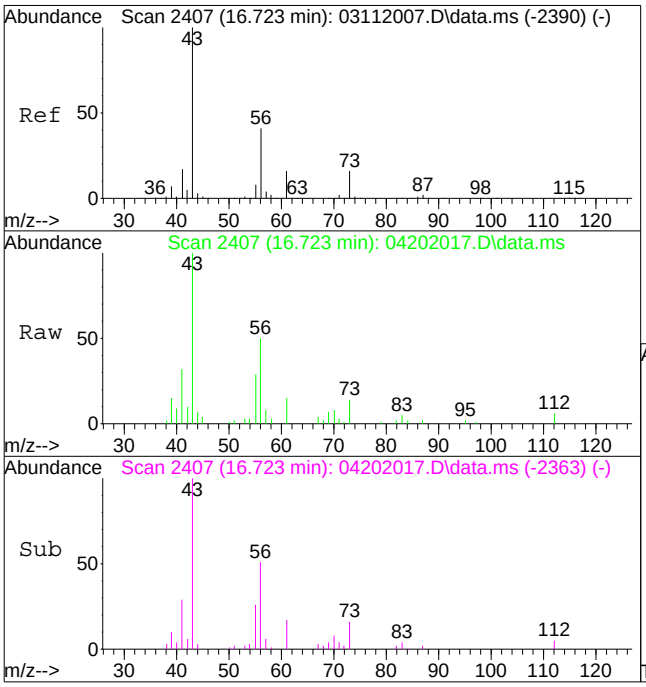


#59
2-Hexanone
Concen: 0.34 ng m
RT: 16.10 min Scan# 2293
Delta R.T. -0.005 min
Lab File: 04202017.D
Acq: 20 Apr 2020 12:48

Tgt Ion: 43 Resp: 27530

Ion	Ratio	Lower	Upper
43	100		
58	51.5	36.5	76.5

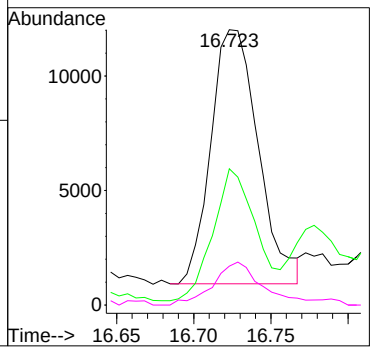


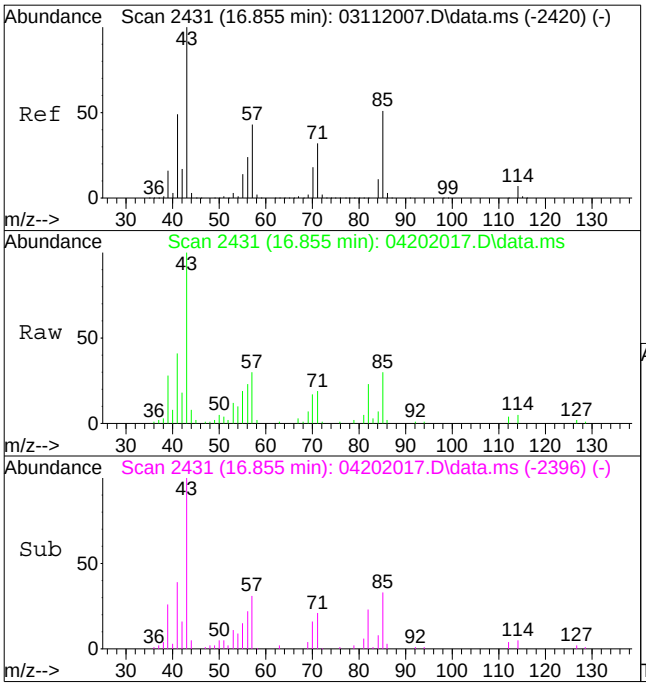


#62
n-Butyl Acetate
Concen: 0.28 ng
RT: 16.72 min Scan# 2407
Delta R.T. -0.005 min
Lab File: 04202017.D
Acq: 20 Apr 2020 12:48

Tgt Ion: 43 Resp: 23729

Ion	Ratio	Lower	Upper
43	100		
56	47.8	20.7	60.7
73	18.5	0.0	35.5

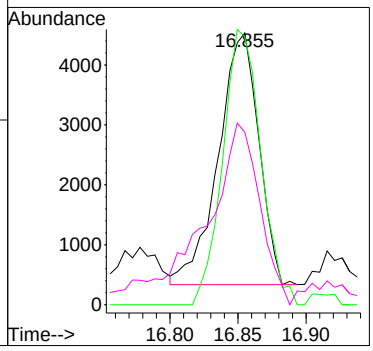


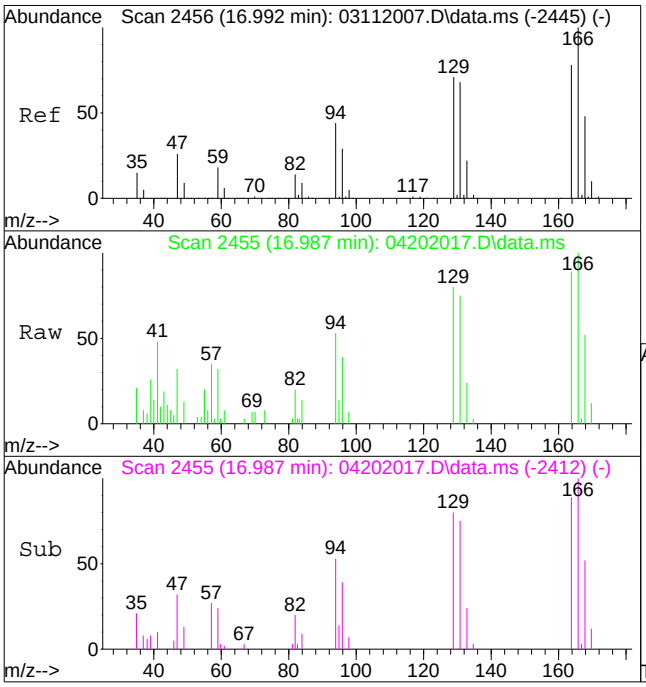


#63
n-Octane
Concen: 0.27 ng
RT: 16.86 min Scan# 2431
Delta R.T. -0.005 min
Lab File: 04202017.D
Acq: 20 Apr 2020 12:48

Tgt Ion: 57 Resp: 8666

Ion	Ratio	Lower	Upper
57	100		
85	103.3	95.1	142.7
71	101.7	58.2	87.4#

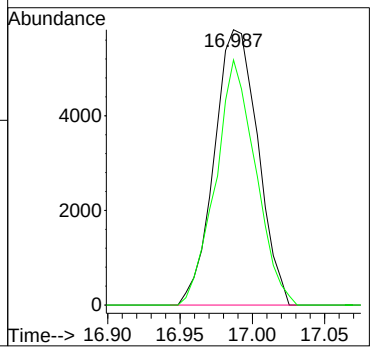


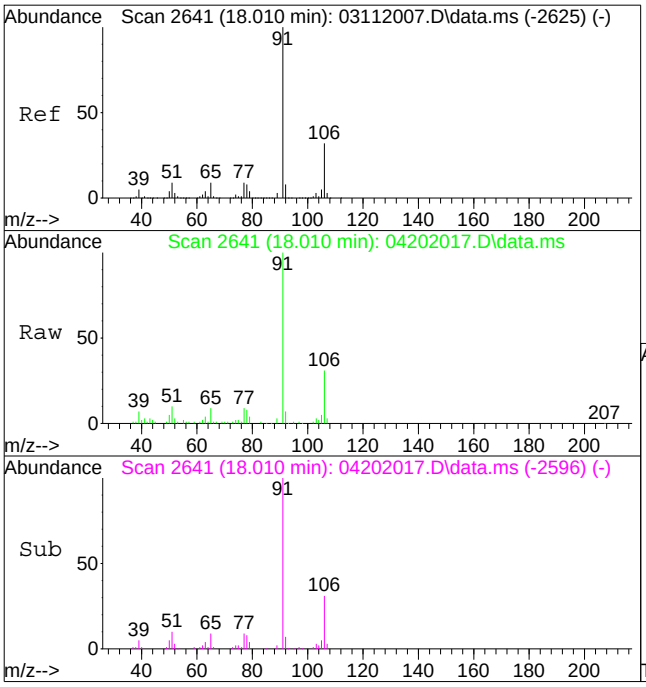


#64
Tetrachloroethene
Concen: 0.27 ng
RT: 16.99 min Scan# 2455
Delta R.T. -0.011 min
Lab File: 04202017.D
Acq: 20 Apr 2020 12:48

Tgt Ion:166 Resp: 12195

Ion	Ratio	Lower	Upper
166	100		
164	81.7	58.6	98.6

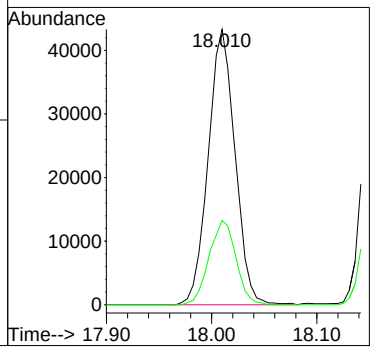


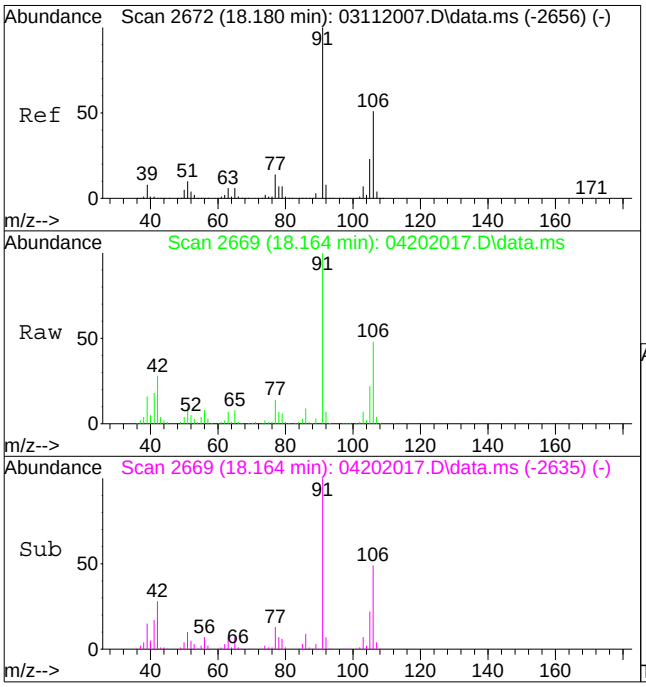


#66
Ethylbenzene
Concen: 0.44 ng
RT: 18.01 min Scan# 2641
Delta R.T. 0.000 min
Lab File: 04202017.D
Acq: 20 Apr 2020 12:48

Tgt Ion: 91 Resp: 77008

Ion	Ratio	Lower	Upper
91	100		
106	30.6	11.7	51.7

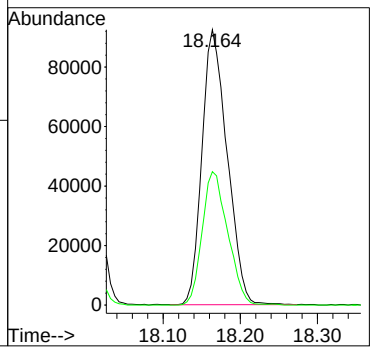


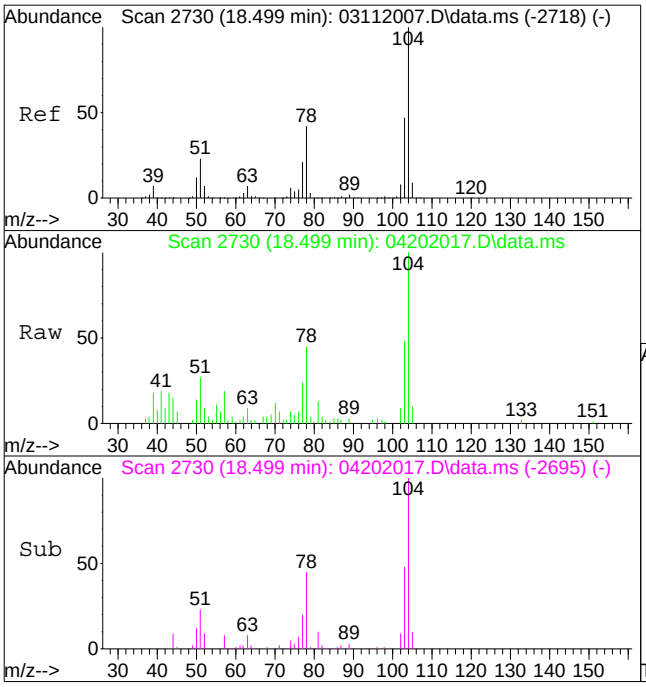


#67
m- & p-Xylenes
Concen: 1.47 ng
RT: 18.16 min Scan# 2669
Delta R.T. -0.011 min
Lab File: 04202017.D
Acq: 20 Apr 2020 12:48

Tgt Ion: 91 Resp: 209743

Ion	Ratio	Lower	Upper
91	100		
106	49.2	30.4	70.4

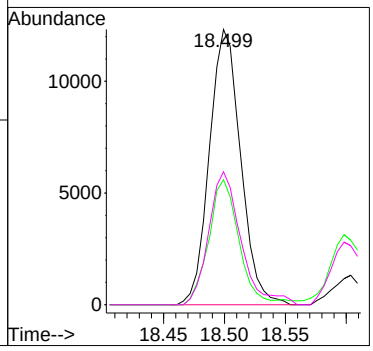


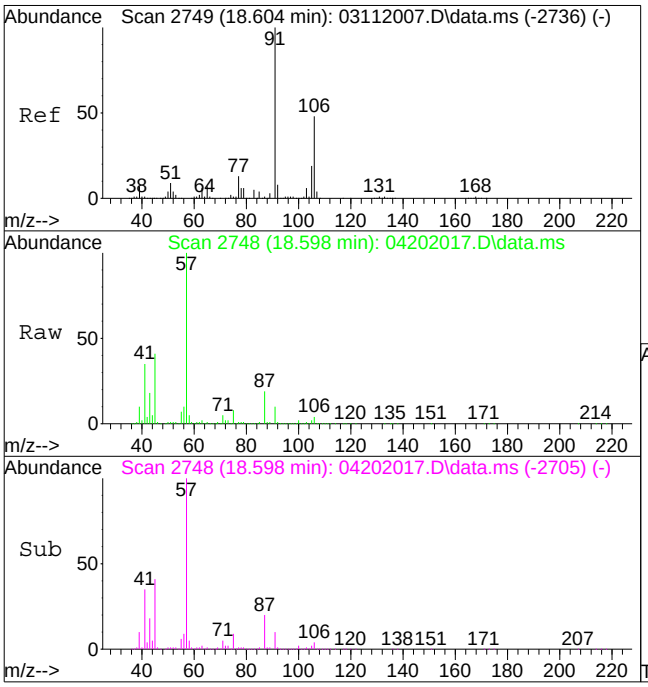


#69
Styrene
Concen: 0.20 ng
RT: 18.50 min Scan# 2730
Delta R.T. -0.006 min
Lab File: 04202017.D
Acq: 20 Apr 2020 12:48

Tgt Ion:104 Resp: 21956

Ion	Ratio	Lower	Upper
104	100		
78	44.6	20.9	60.9
103	49.8	27.4	67.4

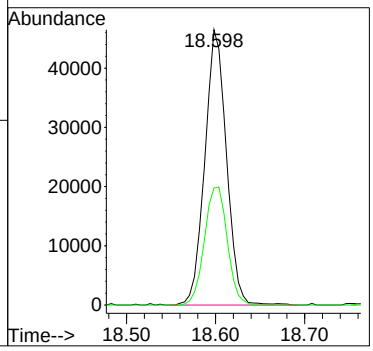


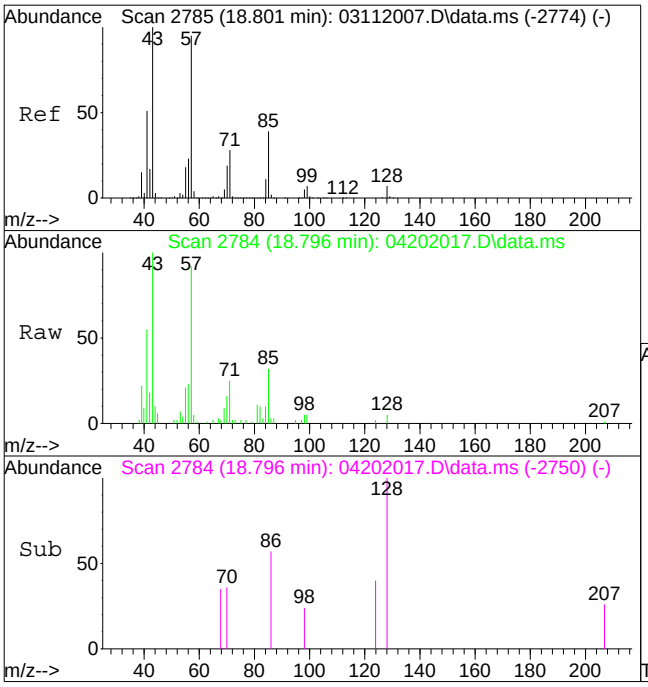


#70
o-Xylene
Concen: 0.55 ng
RT: 18.60 min Scan# 2748
Delta R.T. -0.011 min
Lab File: 04202017.D
Acq: 20 Apr 2020 12:48

Tgt Ion: 91 Resp: 78545

Ion	Ratio	Lower	Upper
91	100		
106	45.1	28.1	68.1

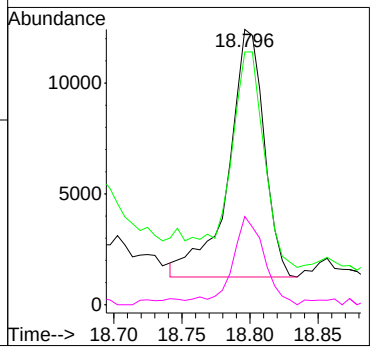


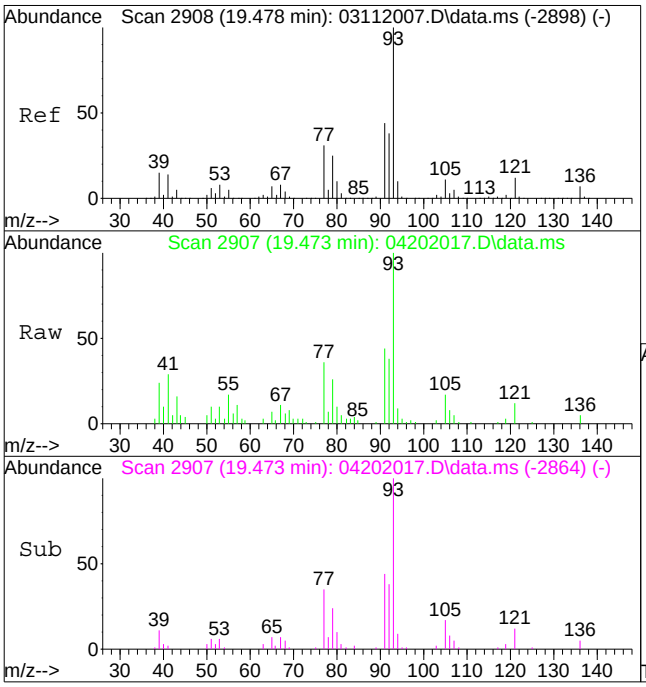


#71
n-Nonane
Concen: 0.29 ng
RT: 18.80 min Scan# 2784
Delta R.T. -0.011 min
Lab File: 04202017.D
Acq: 20 Apr 2020 12:48

Tgt Ion: 43 Resp: 20367

Ion	Ratio	Lower	Upper
43	100		
57	81.0	73.6	113.6
85	31.9	18.7	58.7

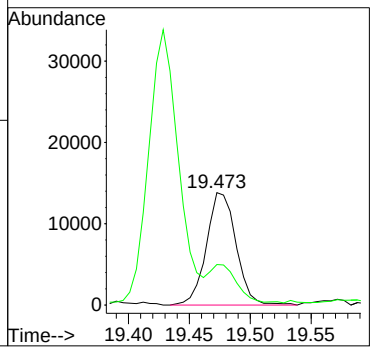


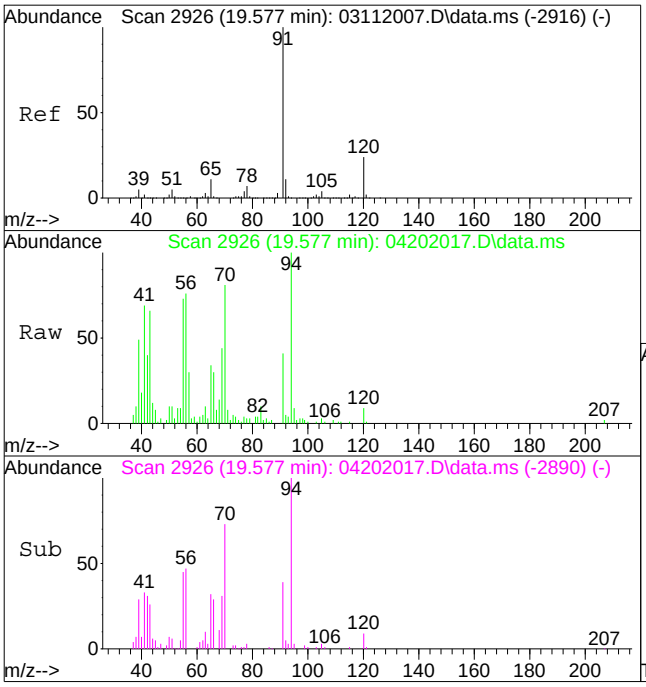


#75
alpha-Pinene
Concen: 0.26 ng
RT: 19.47 min Scan# 2907
Delta R.T. -0.011 min
Lab File: 04202017.D
Acq: 20 Apr 2020 12:48

Tgt Ion: 93 Resp: 23410

Ion	Ratio	Lower	Upper
93	100		
77	31.5	11.1	51.1

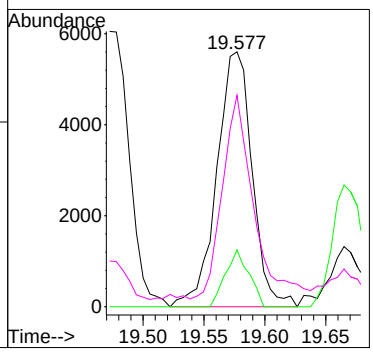


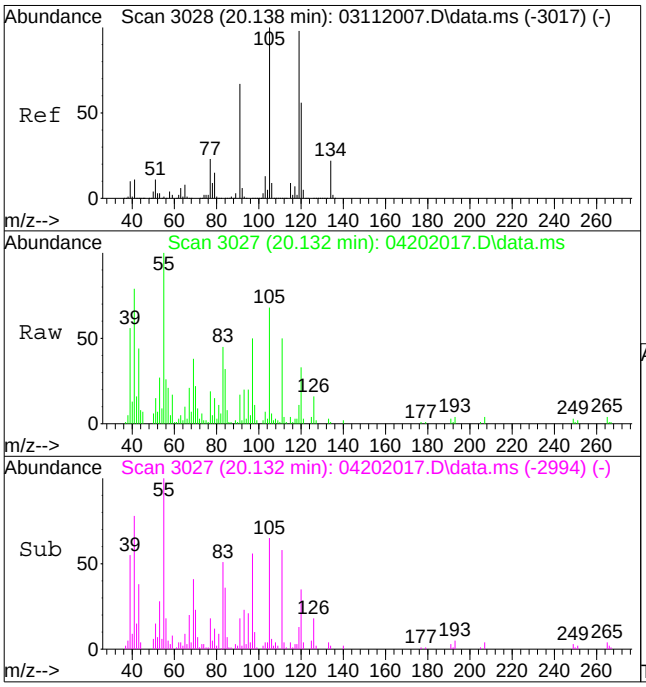


#76
n-Propylbenzene
Concen: 0.05 ng
RT: 19.58 min Scan# 2926
Delta R.T. 0.000 min
Lab File: 04202017.D
Acq: 20 Apr 2020 12:48

Tgt Ion: 91 Resp: 11302

Ion	Ratio	Lower	Upper
91	100		
120	14.8	3.9	43.9
65	70.2	0.0	30.5#

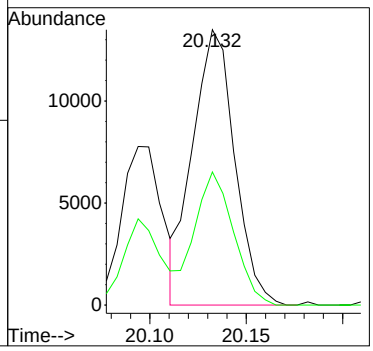


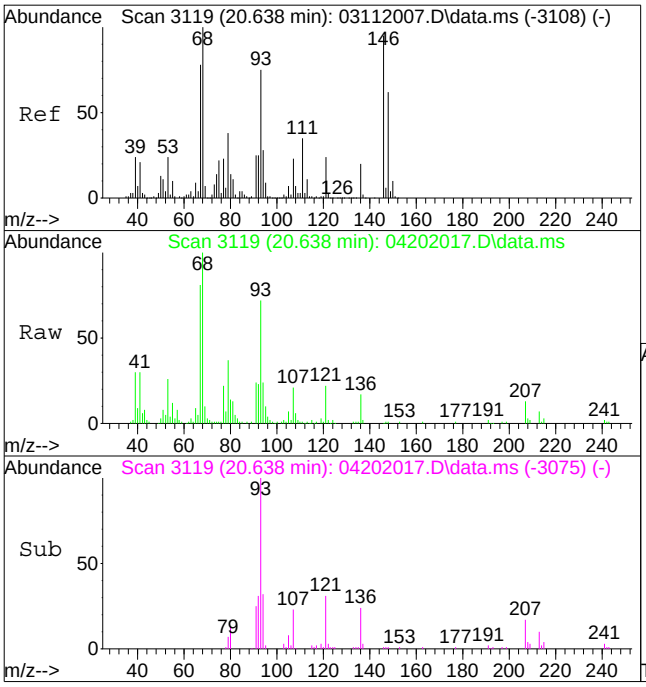


#82
1,2,4-Trimethylbenzene
Concen: 0.13 ng
RT: 20.13 min Scan# 3027
Delta R.T. -0.017 min
Lab File: 04202017.D
Acq: 20 Apr 2020 12:48

Tgt Ion:105 Resp: 20488

Ion	Ratio	Lower	Upper
105	100		
120	45.6	35.8	75.8

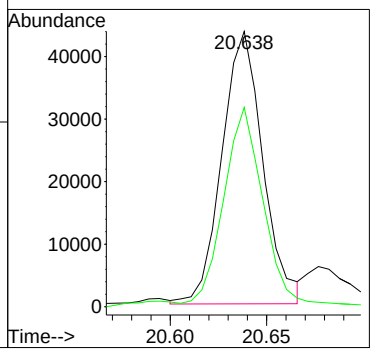




#91
d-Limonene
Concen: 1.06 ng
RT: 20.64 min Scan# 3119
Delta R.T. -0.011 min
Lab File: 04202017.D
Acq: 20 Apr 2020 12:48

Tgt Ion: 68 Resp: 64369

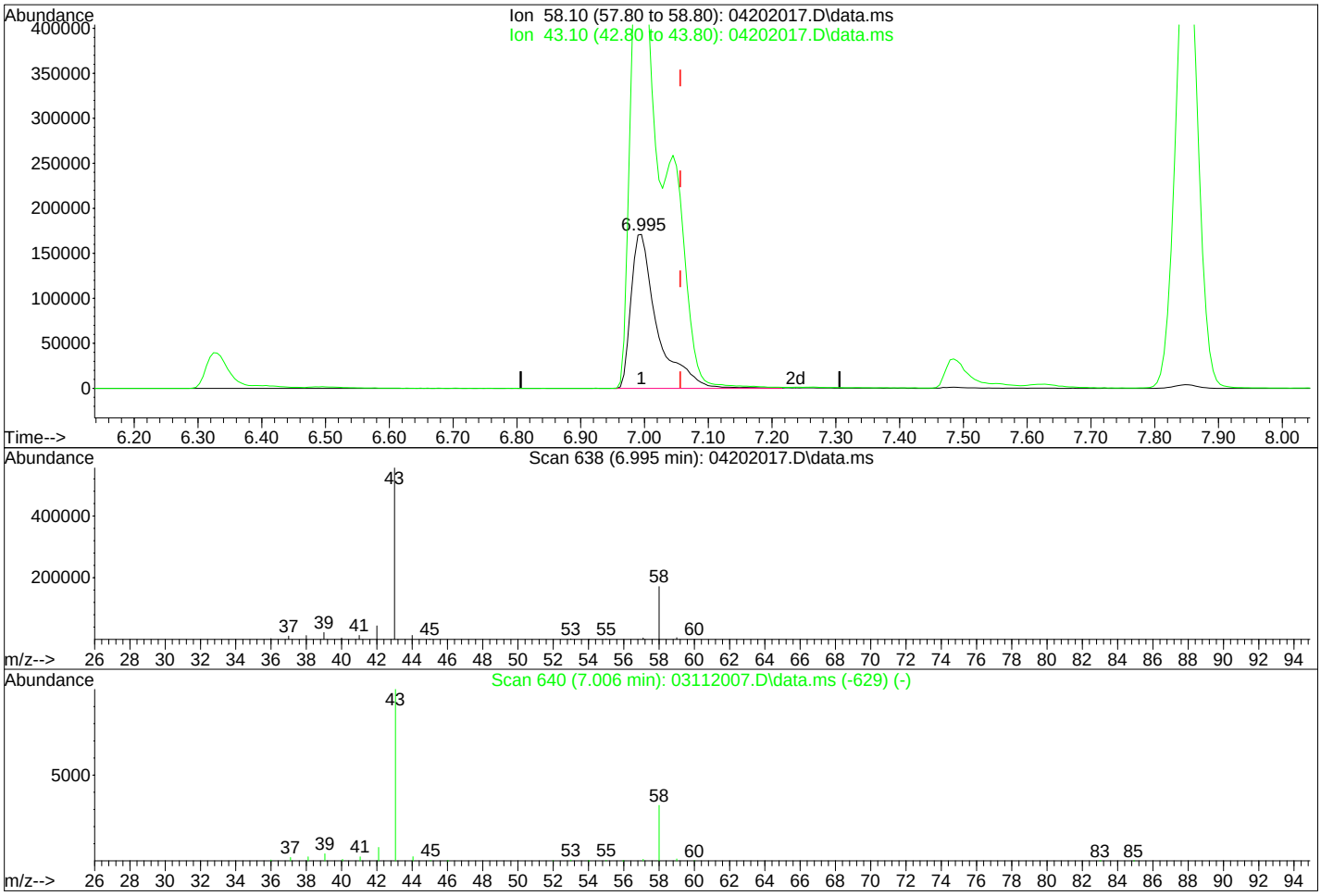
Ion	Ratio	Lower	Upper
68	100		
93	72.0	54.7	94.7



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\20\04202017.D Vial: 12
Acq On : 20 Apr 2020 12:48 Operator: TD
Sample : P2002028-015 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 13:43:53 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202017.D\data.ms

(13) Acetone (T)

6.995min (-0.061) 18.08ng

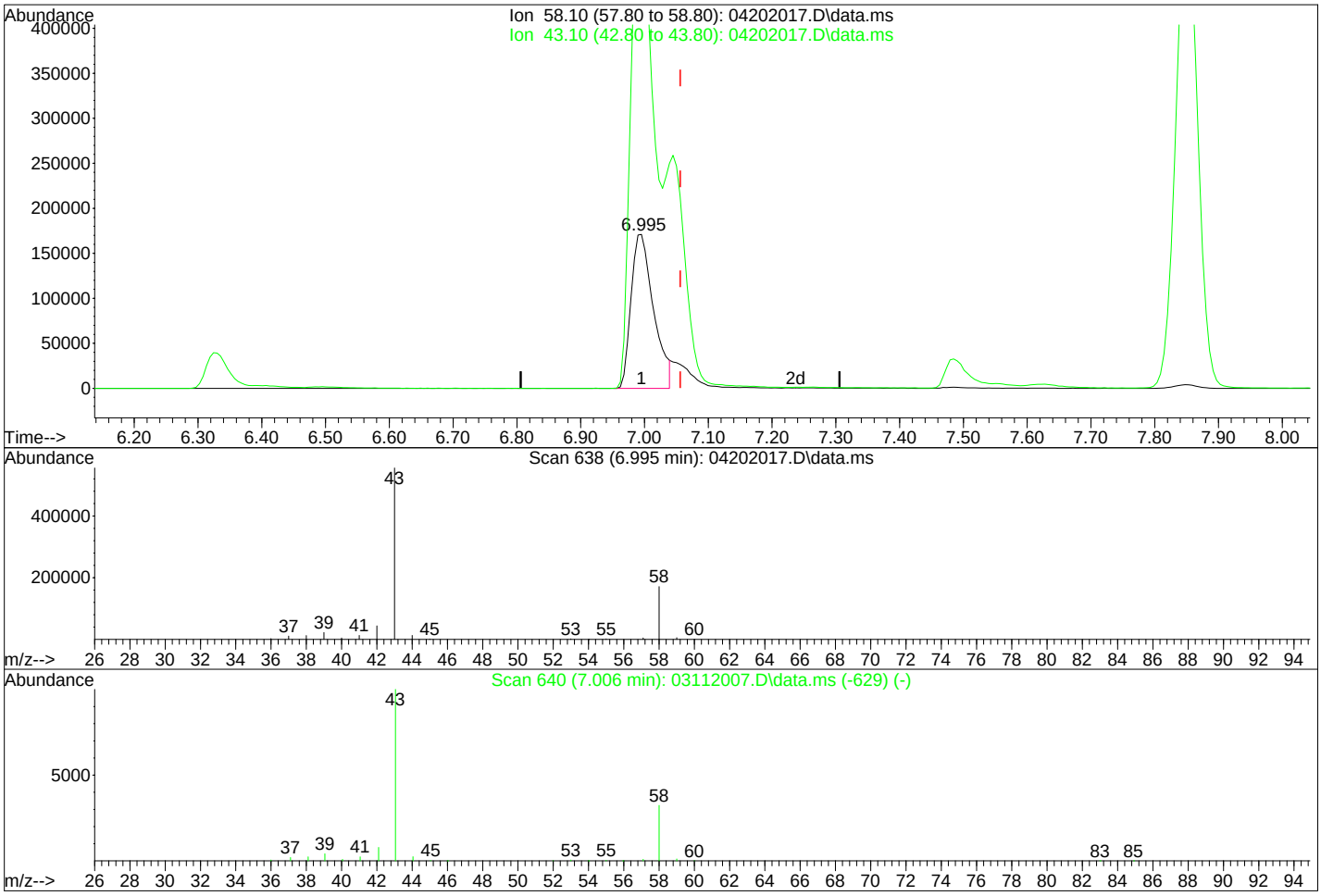
response 486281

Ion	Exp%	Act%
58.10	100	100
43.10	317.30	398.24#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\20\04202017.D Vial: 12
Acq On : 20 Apr 2020 12:48 Operator: TD
Sample : P2002028-015 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 13:43:53 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202017.D\data.ms

(13) Acetone (T)

6.995min (-0.061) 15.59ng m

response 419097

Ion	Exp%	Act%
58.10	100	100
43.10	317.30	462.08#
0.00	0.00	0.00
0.00	0.00	0.00

IPC

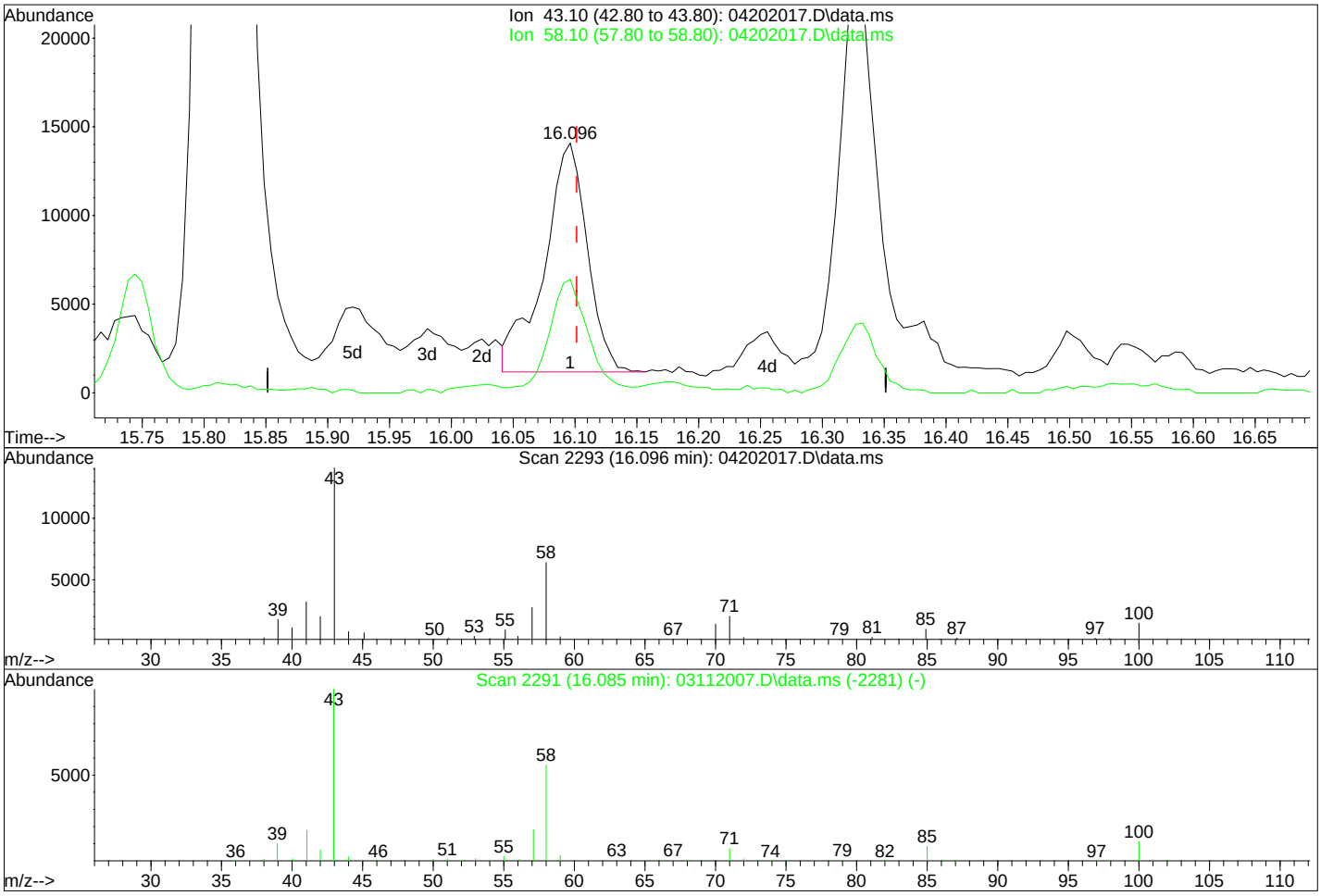
LH 4/20/20

WA 4/24/20

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\20\04202017.D Vial: 12
Acq On : 20 Apr 2020 12:48 Operator: TD
Sample : P2002028-015 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 13:43:53 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202017.D\data.ms

(59) 2-Hexanone (T)

16.096min (-0.005) 0.39ng

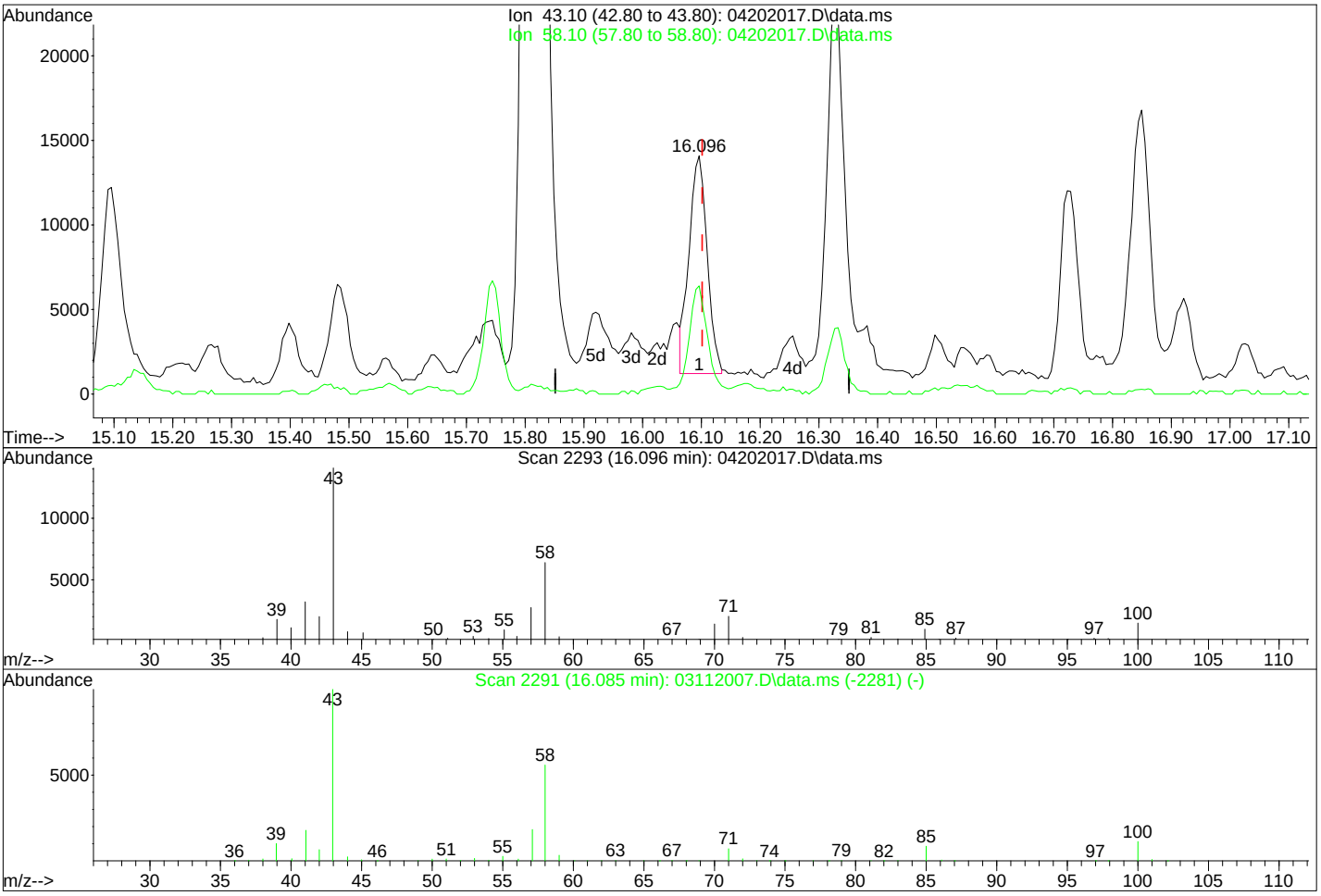
response 31421

Ion	Exp%	Act%
43.10	100	100
58.10	56.50	45.08
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\20\04202017.D Vial: 12
Acq On : 20 Apr 2020 12:48 Operator: TD
Sample : P2002028-015 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 13:43:53 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202017.D\data.ms

(59) 2-Hexanone (T)

16.096min (-0.005) 0.34ng m

response 27530

Ion	Exp%	Act%
43.10	100	100
58.10	56.50	51.45
0.00	0.00	0.00
0.00	0.00	0.00

IPC

LH 4/20/20

4/24/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202018.D Vial: 13
Acq On : 20 Apr 2020 13:22 Operator: TD
Sample : P2002028-016 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 20:41:56 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/20/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	336362	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.29	114	1479824	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	737682	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	582316	12.502	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.00%				
57) Toluene-d8 (SS2)	15.74	98	1534989	11.739	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.92%				
73) Bromofluorobenzene (SS3)	19.00	174	539322	11.681	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.44%				
Target Compounds							Qvalue
2) Propene	4.13	42	44884	1.272	ng		94
3) Dichlorodifluoromethan...	4.28	85	303854	4.003	ng		100
4) Chloromethane	4.56	50	13005	0.217	ng		91
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	1779	N.D.			
6) Vinyl Chloride	4.98	62	558	N.D.			
7) 1,3-Butadiene	5.24	54	1631	N.D.			
8) Bromomethane	5.68	94	1300	N.D.			
9) Chloroethane	5.99	64	1561	0.064	ng		91
10) Ethanol	6.33	45	202557	7.265	ng		100
11) Acetonitrile	6.62	41	22519	0.367	ng		97
12) Acrolein	6.81	56	34648	1.689	ng		100
13) Acetone	7.00	58	430737m	15.655	ng		
14) Trichlorofluoromethane	7.26	101	328814	4.913	ng		100
15) 2-Propanol (Isopropanol)	7.50	45	134767	1.651	ng		94
16) Acrylonitrile	0.00	53	0	N.D. d			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d			
19) Methylene Chloride	8.44	84	4165	0.116	ng		98
20) 3-Chloro-1-propene (Al...	8.60	41	264	N.D.			
21) Trichlorotrifluoroethane	8.86	151	5816	0.182	ng		92
22) Carbon Disulfide	8.71	76	160392	1.246	ng		100
23) trans-1,2-Dichloroethene	9.72	61	169	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.10	73	1773	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	10.47	72	78001	3.405	ng	#	91
28) cis-1,2-Dichloroethene	11.00	61	107	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D. d			
30) Ethyl Acetate	11.29	61	562972	41.580	ng		91
31) n-Hexane	0.00	57	0	N.D. d			
32) Chloroform	11.33	83	281097	4.209	ng		100
34) Tetrahydrofuran (THF)	11.76	72	16751	0.711	ng	#	82
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.14	62	351	N.D.			
38) 1,1,1-Trichloroethane	12.42	97	168	N.D.			
39) Isopropyl Acetate	12.87	61	372	N.D.			
40) 1-Butanol	0.00	56	0	N.D. d			
41) Benzene	12.90	78	34466	0.225	ng		96
42) Carbon Tetrachloride	13.06	117	11132	0.212	ng		95
43) Cyclohexane	13.20	84	3289	0.056	ng	#	83
44) tert-Amyl Methyl Ether	13.56	73	1151	N.D.			
45) 1,2-Dichloropropane	13.63	63	196	N.D.			
46) Bromodichloromethane	13.94	83	29638	0.573	ng		99
47) Trichloroethene	14.00	130	10404	0.240	ng		98
48) 1,4-Dioxane	13.98	88	8904	0.301	ng		86
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d			
50) Methyl Methacrylate	14.22	100	269	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202018.D Vial: 13
Acq On : 20 Apr 2020 13:22 Operator: TD
Sample : P2002028-016 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 20:41:56 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

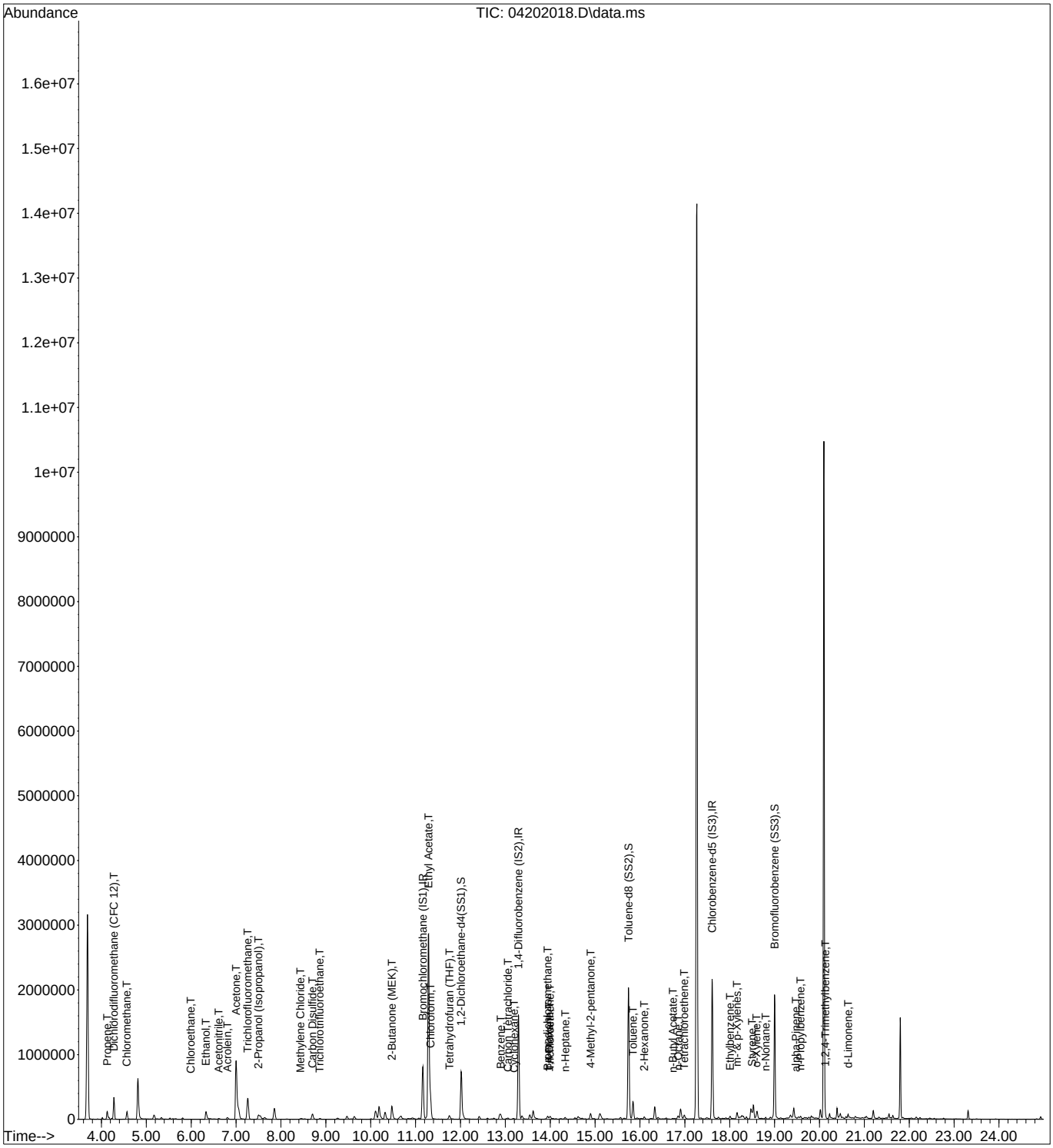
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.34	71	7388	0.207	ng		98
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
53) 4-Methyl-2-pentanone	14.90	58	26252	0.819	ng		95
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.			
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.			
58) Toluene	15.84	91	228244	1.412	ng		100
59) 2-Hexanone	16.10	43	26894	0.332	ng		98
60) Dibromochloromethane	16.25	129	1862	N.D.			
61) 1,2-Dibromoethane	0.00	107	0	N.D.			
62) n-Butyl Acetate	16.73	43	10273	0.119	ng		89
63) n-Octane	16.85	57	5731	0.179	ng	#	83
64) Tetrachloroethene	16.99	166	18586	0.413	ng		100
65) Chlorobenzene	17.65	112	911	N.D.			
66) Ethylbenzene	18.01	91	31775	0.179	ng		99
67) m- & p-Xylenes	18.16	91	31032	0.215	ng		96
68) Bromoform	18.24	173	309	N.D.			
69) Styrene	18.50	104	42213	0.373	ng		97
70) o-Xylene	18.60	91	12350	0.086	ng		95
71) n-Nonane	18.80	43	10565	0.146	ng		85
72) 1,1,2,2-Tetrachloroethane	18.57	83	197	N.D.			
74) Cumene	19.13	105	2940	N.D.			
75) alpha-Pinene	19.48	93	6798	0.074	ng	#	1
76) n-Propylbenzene	19.58	91	13555	0.064	ng	#	76
77) 3-Ethyltoluene	19.67	105	6910	N.D.			
78) 4-Ethyltoluene	19.70	105	3151	N.D.			
79) 1,3,5-Trimethylbenzene	19.77	105	3436	N.D.			
80) alpha-Methylstyrene	19.91	118	2895	N.D.			
81) 2-Ethyltoluene	19.94	105	3145	N.D.			
82) 1,2,4-Trimethylbenzene	20.13	105	9053	0.057	ng		89
83) n-Decane	0.00	57	0	N.D.	d		
84) Benzyl Chloride	20.25	91	3098	N.D.			
85) 1,3-Dichlorobenzene	20.27	146	530	N.D.			
86) 1,4-Dichlorobenzene	20.33	146	810	N.D.			
87) sec-Butylbenzene	20.37	105	1531	N.D.			
88) 4-Isopropyltoluene (p-...	20.51	119	5704	N.D.			
89) 1,2,3-Trimethylbenzene	20.51	105	4103	N.D.			
90) 1,2-Dichlorobenzene	20.63	146	376	N.D.			
91) d-Limonene	20.64	68	15832	0.256	ng		95
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.			
93) n-Undecane	0.00	57	0	N.D.	d		
94) 1,2,4-Trichlorobenzene	22.13	180	169	N.D.			
95) Naphthalene	22.25	128	2239	N.D.			
96) n-Dodecane	0.00	57	0	N.D.	d		
97) Hexachlorobutadiene	0.00	225	0	N.D.			
98) Cyclohexanone	0.00	55	0	N.D.	d		
99) tert-Butylbenzene	0.00	119	0	N.D.	d		
100) n-Butylbenzene	20.88	91	6765	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202018.D Vial: 13
Acq On : 20 Apr 2020 13:22 Operator: TD
Sample : P2002028-016 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 20:41:56 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202018.D Vial: 13
Acq On : 20 Apr 2020 13:22 Operator: TD
Sample : P2002028-016 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 20:41:56 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020 LH 4/20/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	336362	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.29	114	1479824	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	737682	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	582316	12.502	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.00%				
57) Toluene-d8 (SS2)	15.74	98	1534989	11.739	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.92%				
73) Bromofluorobenzene (SS3)	19.00	174	539322	11.681	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.44%				
Target Compounds							Qvalue
2) Propene	4.13	42	44884	1.272	ng		94
3) Dichlorodifluoromethan...	4.28	85	303854	4.003	ng		100
4) Chloromethane	4.56	50	13005	0.217	ng		91
9) Chloroethane	5.99	64	1561	0.064	ng		91
10) Ethanol	6.33	45	202557	7.265	ng		100
11) Acetonitrile	6.62	41	22519	0.367	ng		97
12) Acrolein	6.81	56	34648	1.689	ng		100
13) Acetone	7.00	58	430737m	15.655	ng		
14) Trichlorofluoromethane	7.26	101	328814	4.913	ng		100
15) 2-Propanol (Isopropanol)	7.50	45	134767	1.651	ng		94
19) Methylene Chloride	8.44	84	4165	0.116	ng		98
21) Trichlorotrifluoroethane	8.86	151	5816	0.182	ng		92
22) Carbon Disulfide	8.71	76	160392	1.246	ng		100
27) 2-Butanone (MEK)	10.47	72	78001	3.405	ng	#	91
30) Ethyl Acetate	11.29	61	562972	41.580	ng		91
32) Chloroform	11.33	83	281097	4.209	ng		100
34) Tetrahydrofuran (THF)	11.76	72	16751	0.711	ng	#	82
41) Benzene	12.90	78	34466	0.225	ng		96
42) Carbon Tetrachloride	13.06	117	11132	0.212	ng		95
43) Cyclohexane	13.20	84	3289	0.056	ng	#	83
46) Bromodichloromethane	13.94	83	29638	0.573	ng		99
47) Trichloroethene	14.00	130	10404	0.240	ng		98
48) 1,4-Dioxane	13.98	88	8904	0.301	ng		86
51) n-Heptane	14.34	71	7388	0.207	ng		98
53) 4-Methyl-2-pentanone	14.90	58	26252	0.819	ng		95
58) Toluene	15.84	91	228244	1.412	ng		100
59) 2-Hexanone	16.10	43	26894	0.332	ng		98
62) n-Butyl Acetate	16.73	43	10273	0.119	ng		89
63) n-Octane	16.85	57	5731	0.179	ng	#	83
64) Tetrachloroethene	16.99	166	18586	0.413	ng		100
66) Ethylbenzene	18.01	91	31775	0.179	ng		99
67) m- & p-Xylenes	18.16	91	31032	0.215	ng		96
69) Styrene	18.50	104	42213	0.373	ng		97
70) o-Xylene	18.60	91	12350	0.086	ng		95
71) n-Nonane	18.80	43	10565	0.146	ng		85
75) alpha-Pinene	19.48	93	6798	0.074	ng	#	1
76) n-Propylbenzene	19.58	91	13555	0.064	ng	#	76
82) 1,2,4-Trimethylbenzene	20.13	105	9053	0.057	ng		89
91) d-Limonene	20.64	68	15832	0.256	ng		95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202018.D Vial: 13
Acq On : 20 Apr 2020 13:22 Operator: TD
Sample : P2002028-016 (400mL) Inst : GCMS-16
Misc : S31-02112001

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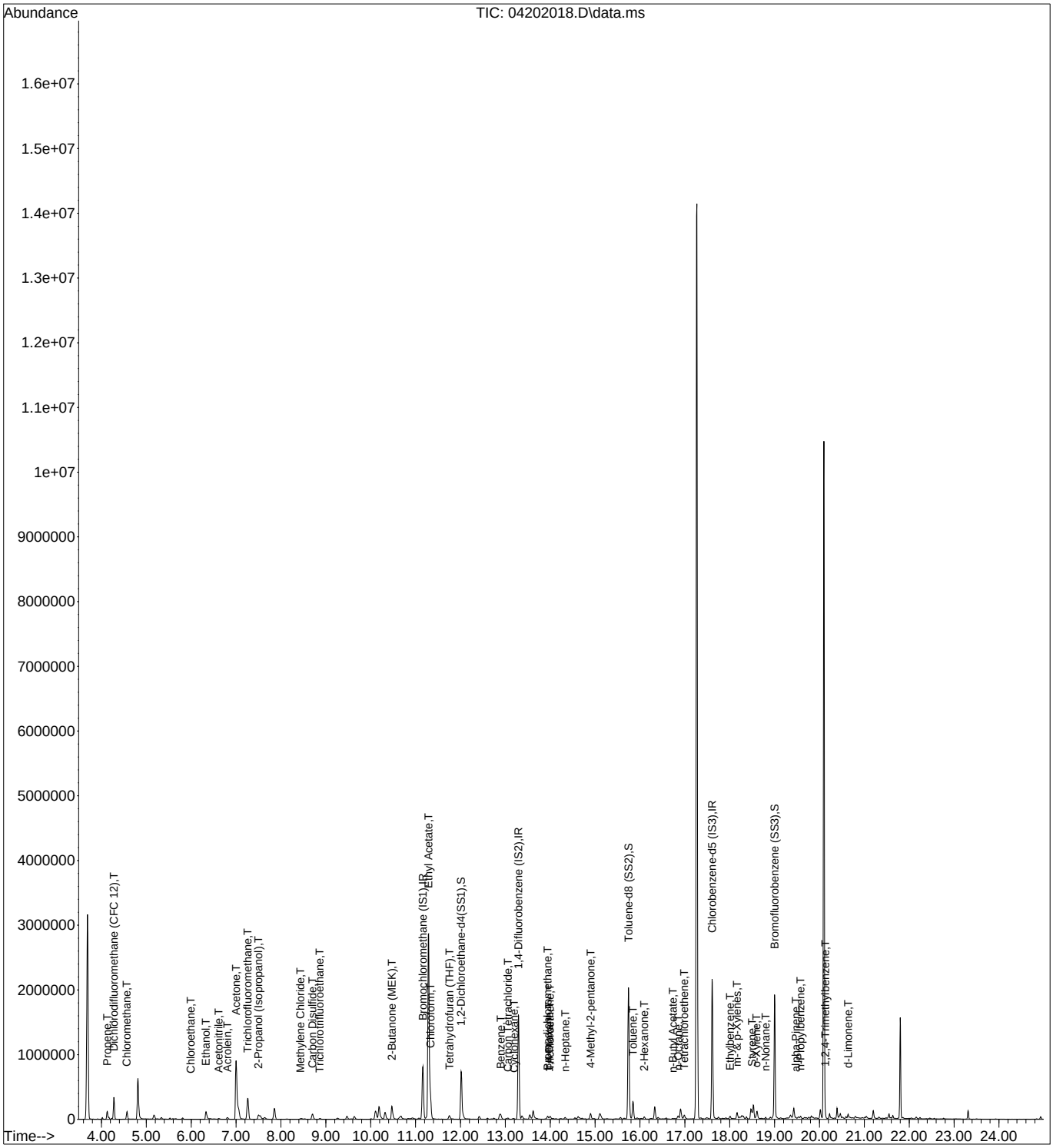
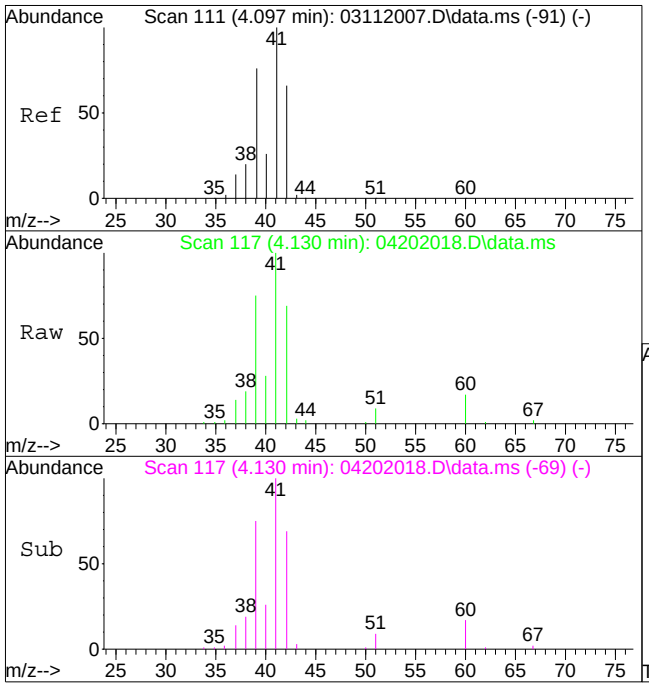
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

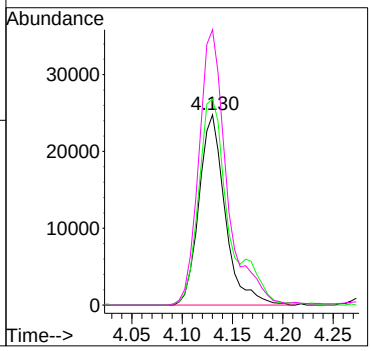


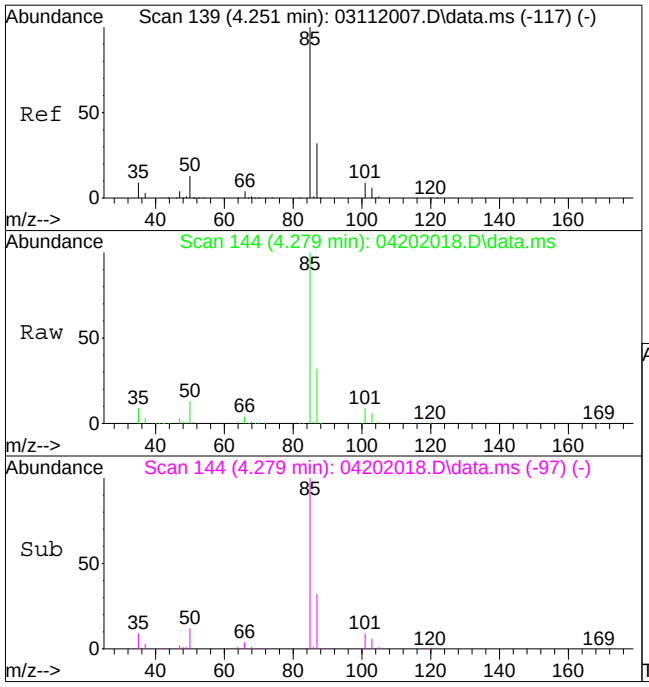


#2
Propene
Concen: 1.27 ng
RT: 4.13 min Scan# 117
Delta R.T. 0.016 min
Lab File: 04202018.D
Acq: 20 Apr 2020 13:22

Tgt Ion: 42 Resp: 44884

Ion	Ratio	Lower	Upper
42	100		
39	126.6	95.3	135.3
41	155.8	132.0	172.0

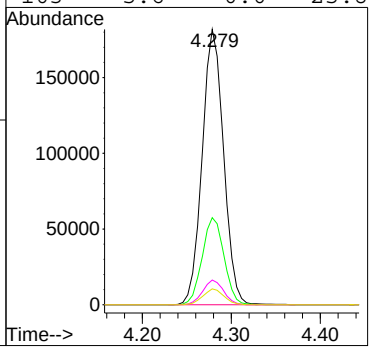


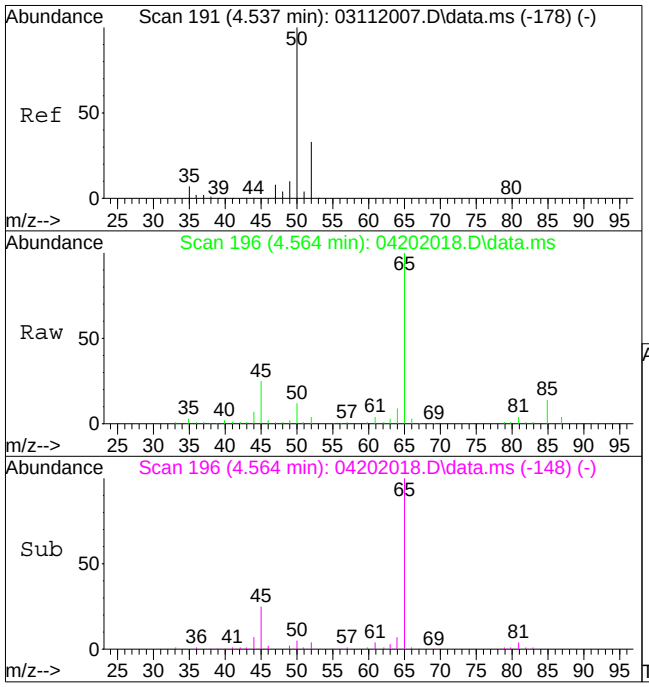


#3
Dichlorodifluoromethane (CFC 12)
Concen: 4.00 ng
RT: 4.28 min Scan# 144
Delta R.T. 0.011 min
Lab File: 04202018.D
Acq: 20 Apr 2020 13:22

Tgt Ion: 85 Resp: 303854

Ion	Ratio	Lower	Upper
85	100		
87	32.2	12.3	52.3
101	8.8	0.0	29.0
103	5.6	0.0	25.8

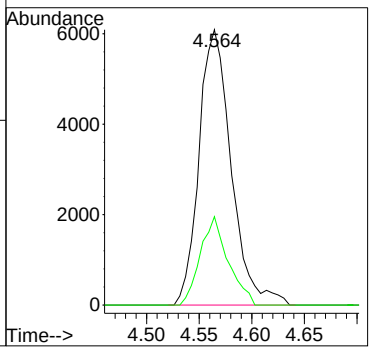


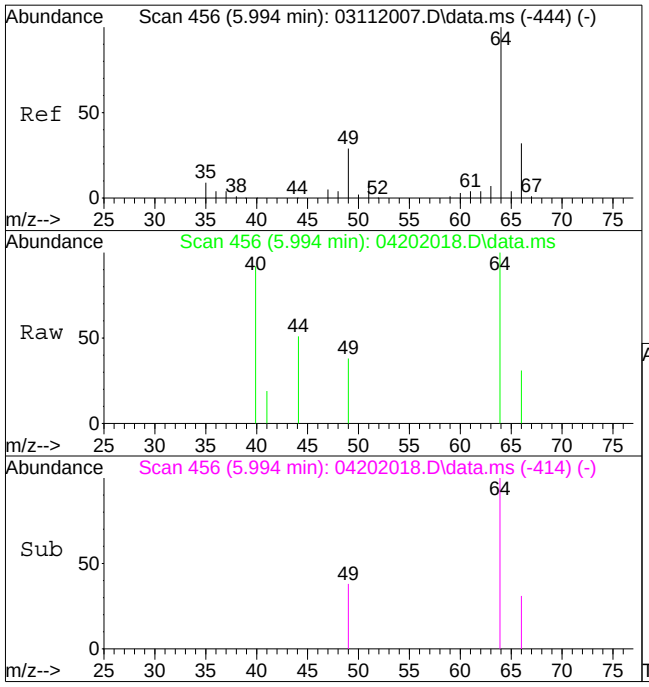


#4
Chloromethane
Concen: 0.22 ng
RT: 4.56 min Scan# 196
Delta R.T. 0.011 min
Lab File: 04202018.D
Acq: 20 Apr 2020 13:22

Tgt Ion: 50 Resp: 13005

Ion	Ratio	Lower	Upper
50	100		
52	27.8	12.8	52.8

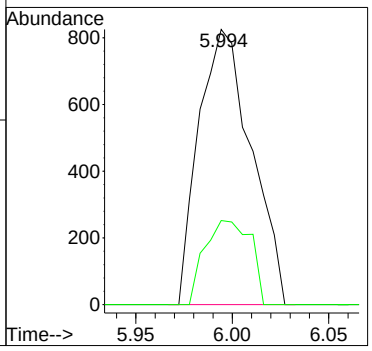


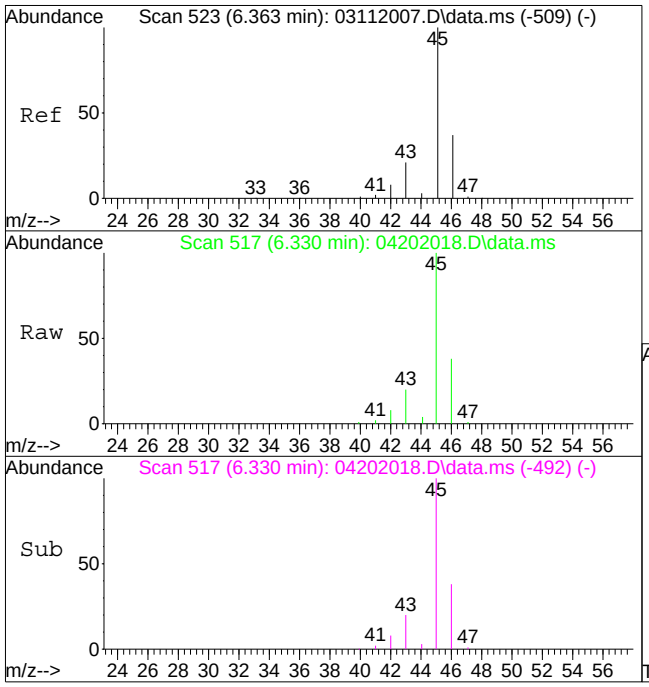


#9
Chloroethane
Concen: 0.06 ng
RT: 5.99 min Scan# 456
Delta R.T. -0.022 min
Lab File: 04202018.D
Acq: 20 Apr 2020 13:22

Tgt Ion: 64 Resp: 1561

Ion	Ratio	Lower	Upper
64	100		
66	26.8	11.7	51.7

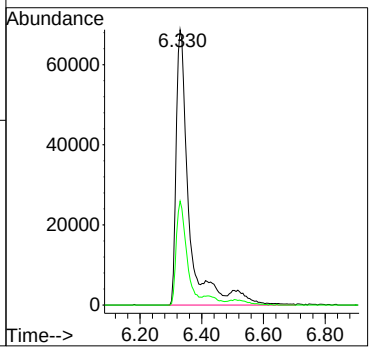


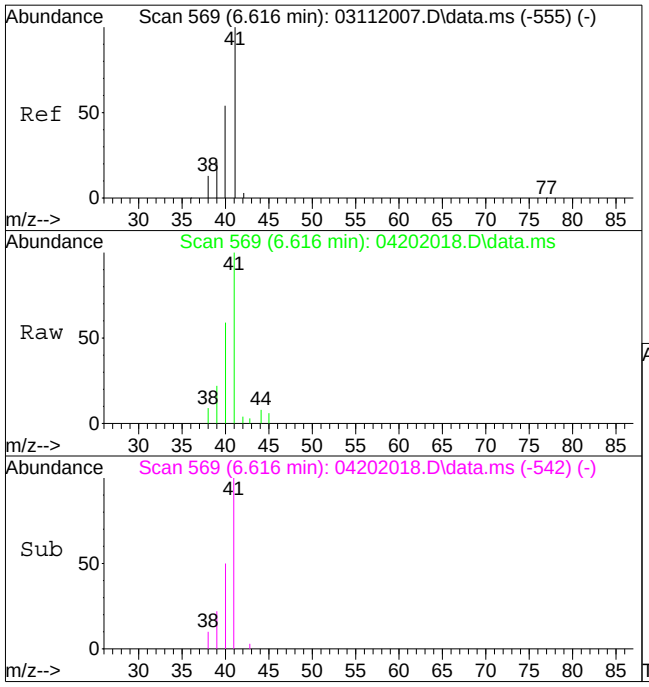


#10
Ethanol
Concen: 7.27 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.110 min
Lab File: 04202018.D
Acq: 20 Apr 2020 13:22

Tgt Ion: 45 Resp: 202557

Ion	Ratio	Lower	Upper
45	100		
46	37.0	17.3	57.3

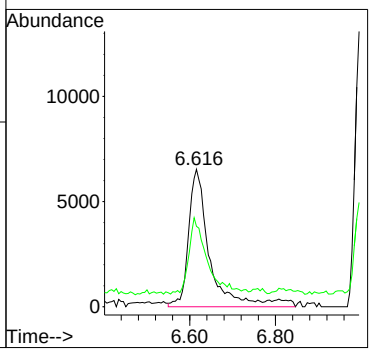


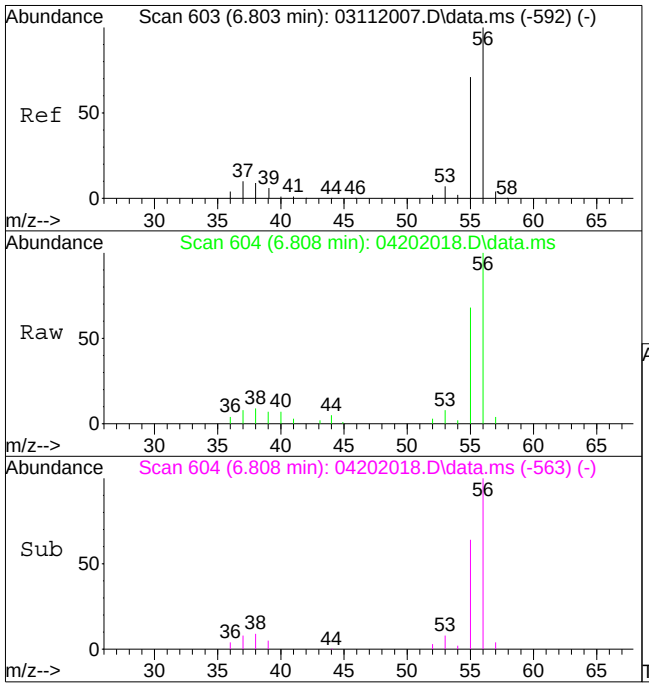


#11
Acetonitrile
Concen: 0.37 ng
RT: 6.62 min Scan# 569
Delta R.T. -0.049 min
Lab File: 04202018.D
Acq: 20 Apr 2020 13:22

Tgt Ion: 41 Resp: 22519

Ion	Ratio	Lower	Upper
41	100		
40	51.1	33.6	73.6

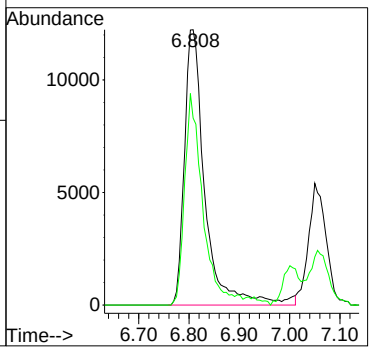


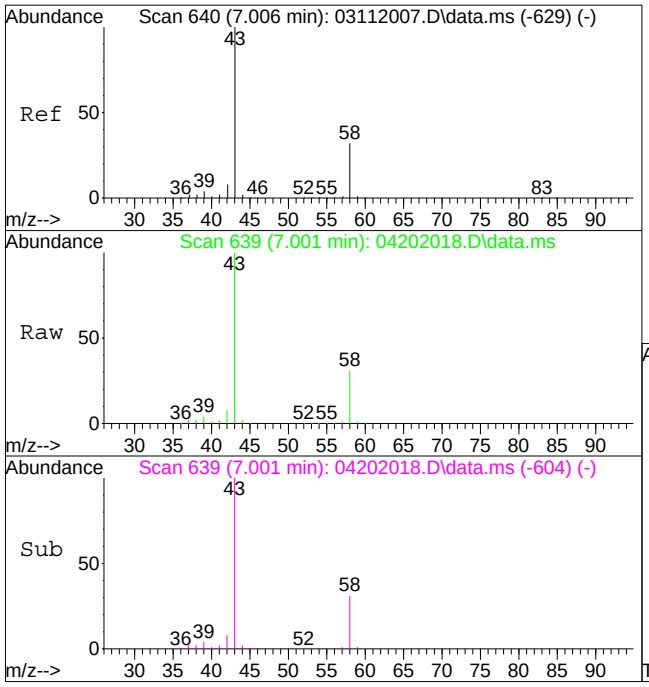


#12
Acrolein
Concen: 1.69 ng
RT: 6.81 min Scan# 604
Delta R.T. -0.022 min
Lab File: 04202018.D
Acq: 20 Apr 2020 13:22

Tgt Ion: 56 Resp: 34648

Ion	Ratio	Lower	Upper
56	100		
55	70.2	50.4	90.4

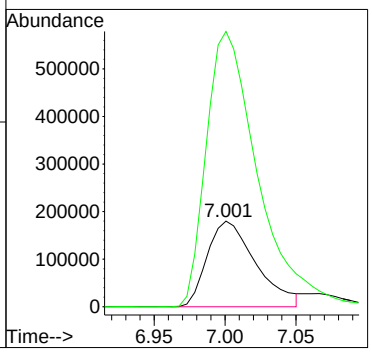


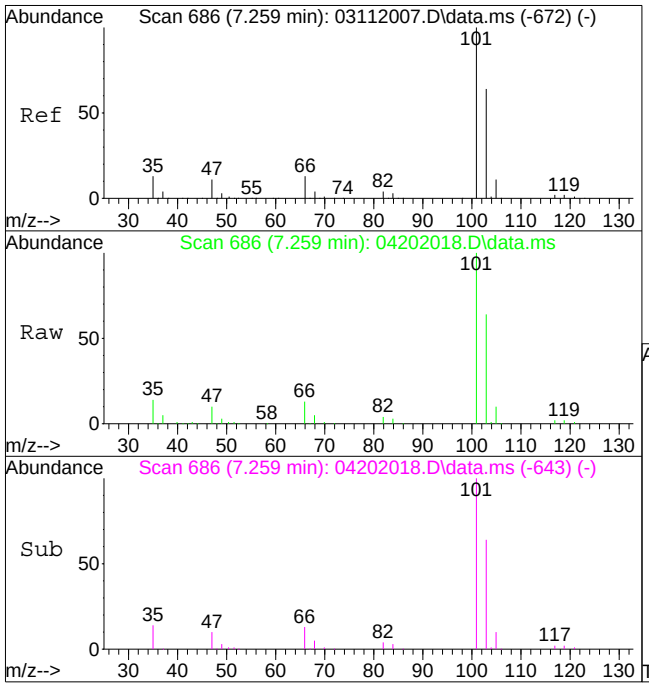


#13
Acetone
Concen: 15.65 ng m
RT: 7.00 min Scan# 639
Delta R.T. -0.055 min
Lab File: 04202018.D
Acq: 20 Apr 2020 13:22

Tgt Ion: 58 Resp: 430737

Ion	Ratio	Lower	Upper
58	100		
43	347.2	287.3	347.3

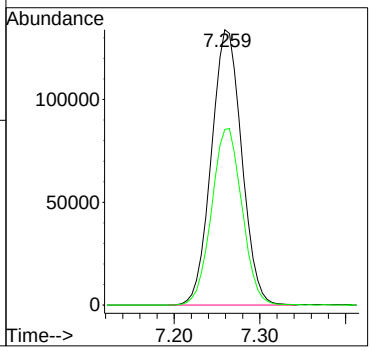


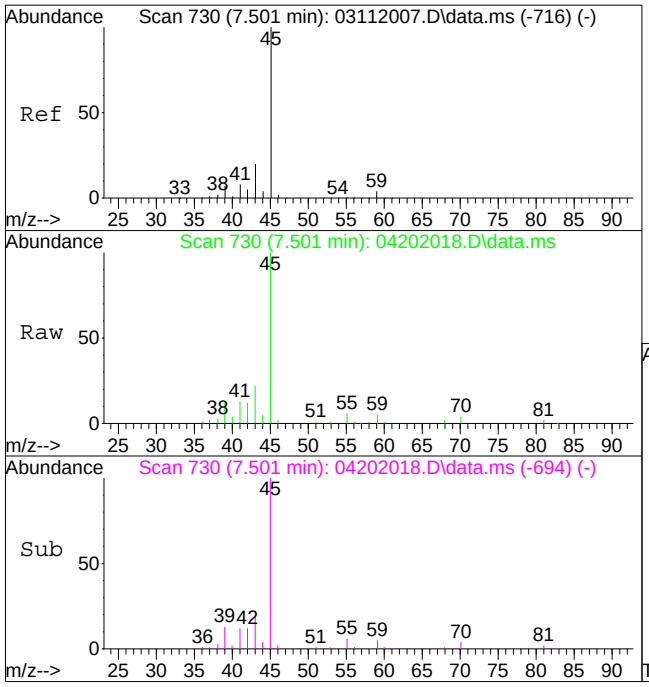


#14
Trichlorofluoromethane
Concen: 4.91 ng
RT: 7.26 min Scan# 686
Delta R.T. -0.016 min
Lab File: 04202018.D
Acq: 20 Apr 2020 13:22

Tgt Ion:101 Resp: 328814

Ion	Ratio	Lower	Upper
101	100		
103	64.3	44.6	84.6

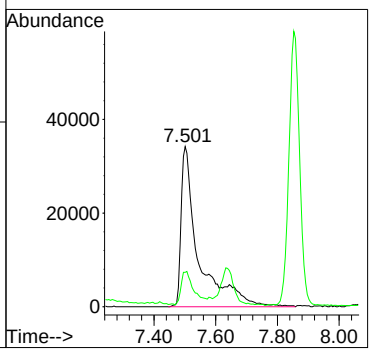


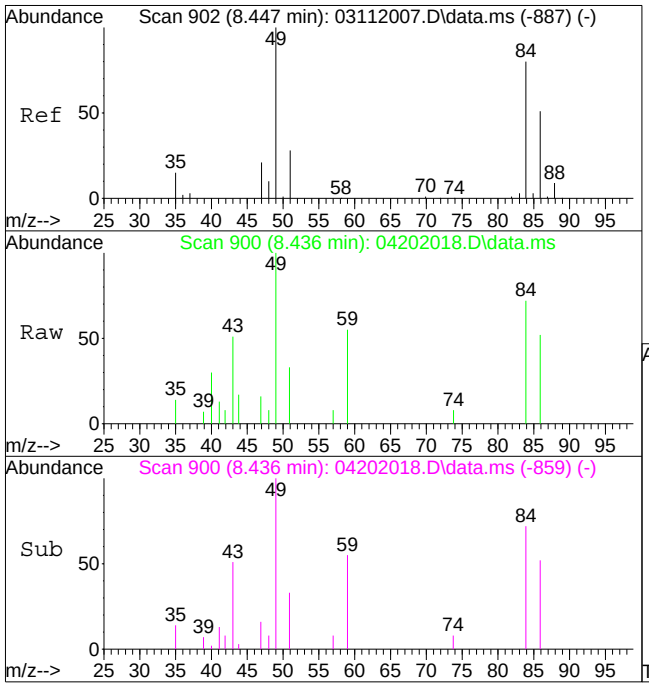


#15
2-Propanol (Isopropanol)
Concen: 1.65 ng
RT: 7.50 min Scan# 730
Delta R.T. -0.049 min
Lab File: 04202018.D
Acq: 20 Apr 2020 13:22

Tgt Ion: 45 Resp: 134767

Ion	Ratio	Lower	Upper
45	100		
43	17.6	0.3	40.3

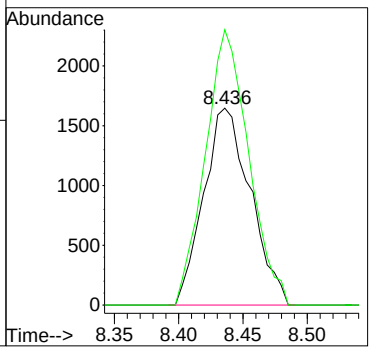


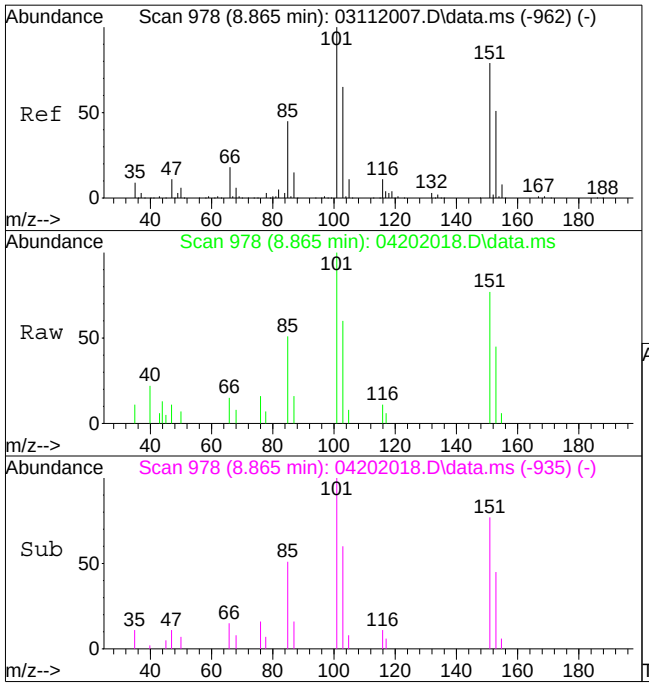


#19
Methylene Chloride
Concen: 0.12 ng
RT: 8.44 min Scan# 900
Delta R.T. -0.027 min
Lab File: 04202018.D
Acq: 20 Apr 2020 13:22

Tgt Ion: 84 Resp: 4165

Ion	Ratio	Lower	Upper
84	100		
49	129.9	102.2	152.2

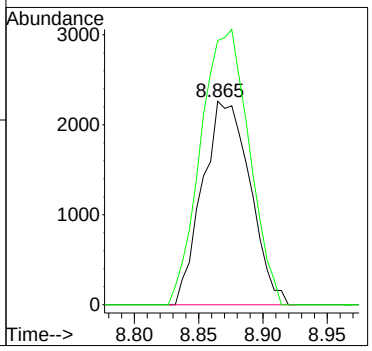


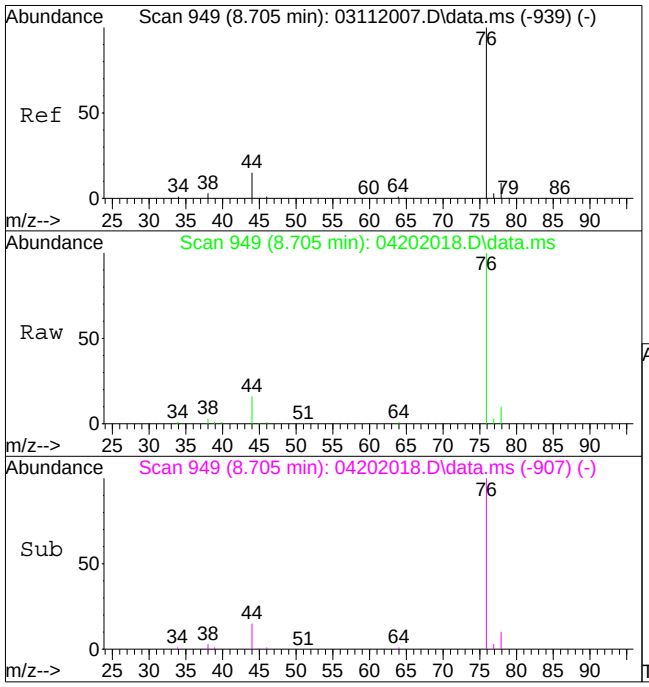


#21
Trichlorotrifluoroethane
Concen: 0.18 ng
RT: 8.86 min Scan# 978
Delta R.T. -0.011 min
Lab File: 04202018.D
Acq: 20 Apr 2020 13:22

Tgt Ion:151 Resp: 5816

Ion	Ratio	Lower	Upper
151	100		
101	137.9	108.4	148.4

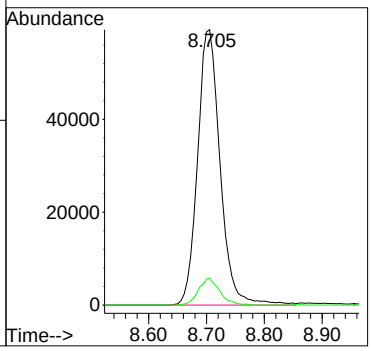


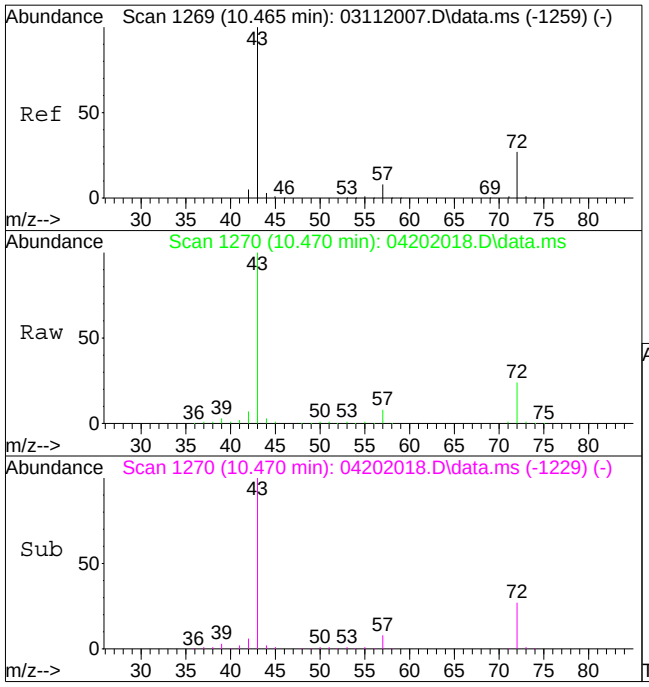


#22
Carbon Disulfide
Concen: 1.25 ng
RT: 8.71 min Scan# 949
Delta R.T. -0.016 min
Lab File: 04202018.D
Acq: 20 Apr 2020 13:22

Tgt Ion: 76 Resp: 160392

Ion	Ratio	Lower	Upper
76	100		
78	9.2	0.0	29.2

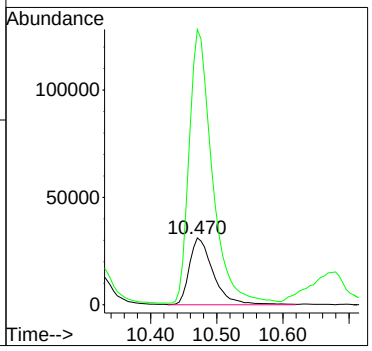




#27
2-Butanone (MEK)
Concen: 3.41 ng
RT: 10.47 min Scan# 1270
Delta R.T. -0.022 min
Lab File: 04202018.D
Acq: 20 Apr 2020 13:22

Tgt Ion: 72 Resp: 78001

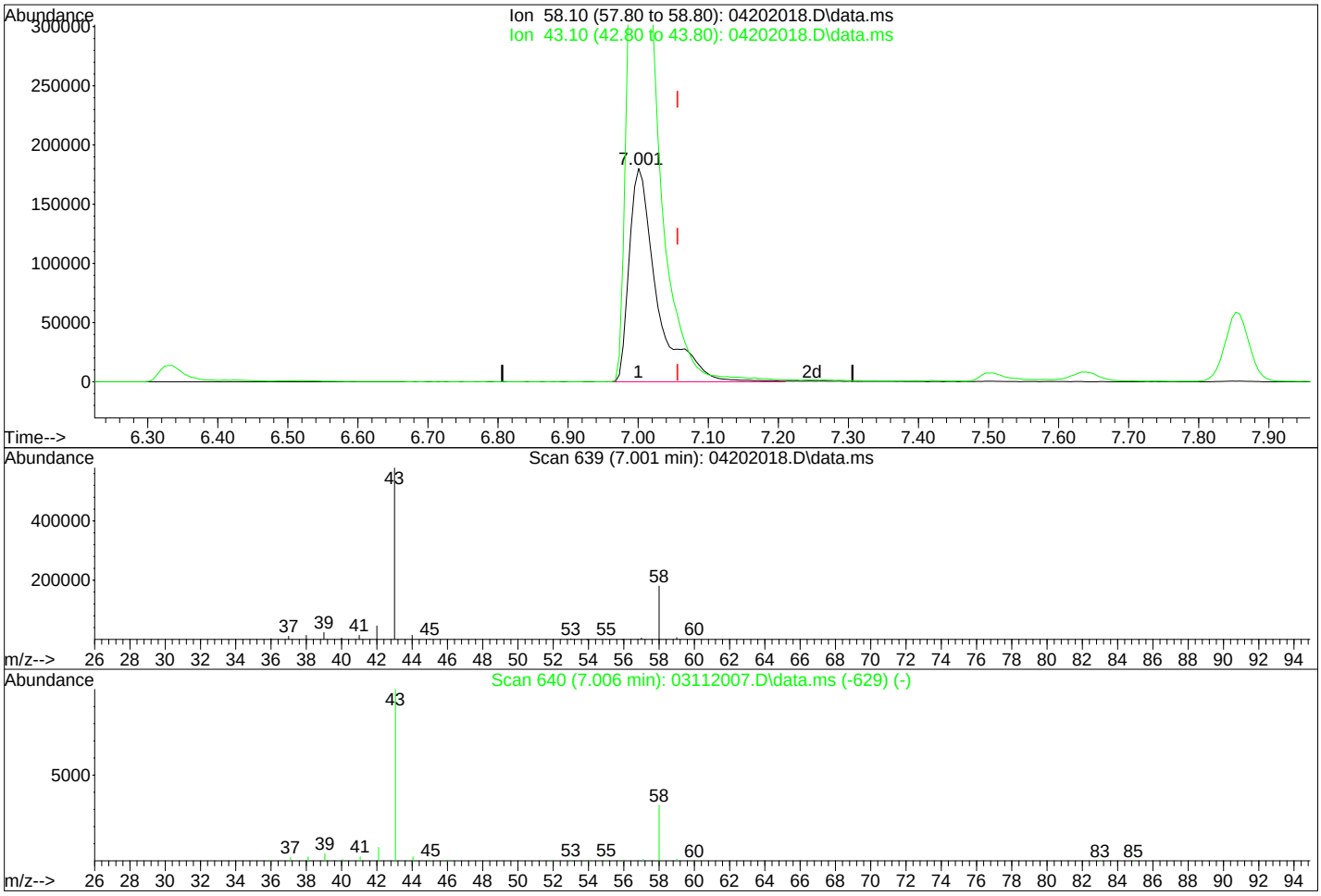
Ion	Ratio	Lower	Upper
72	100		
43	393.7	353.4	393.4#



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\20\04202018.D Vial: 13
Acq On : 20 Apr 2020 13:22 Operator: TD
Sample : P2002028-016 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 16:49:04 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202018.D\data.ms

(13) Acetone (T)

7.001min (-0.055) 18.12ng

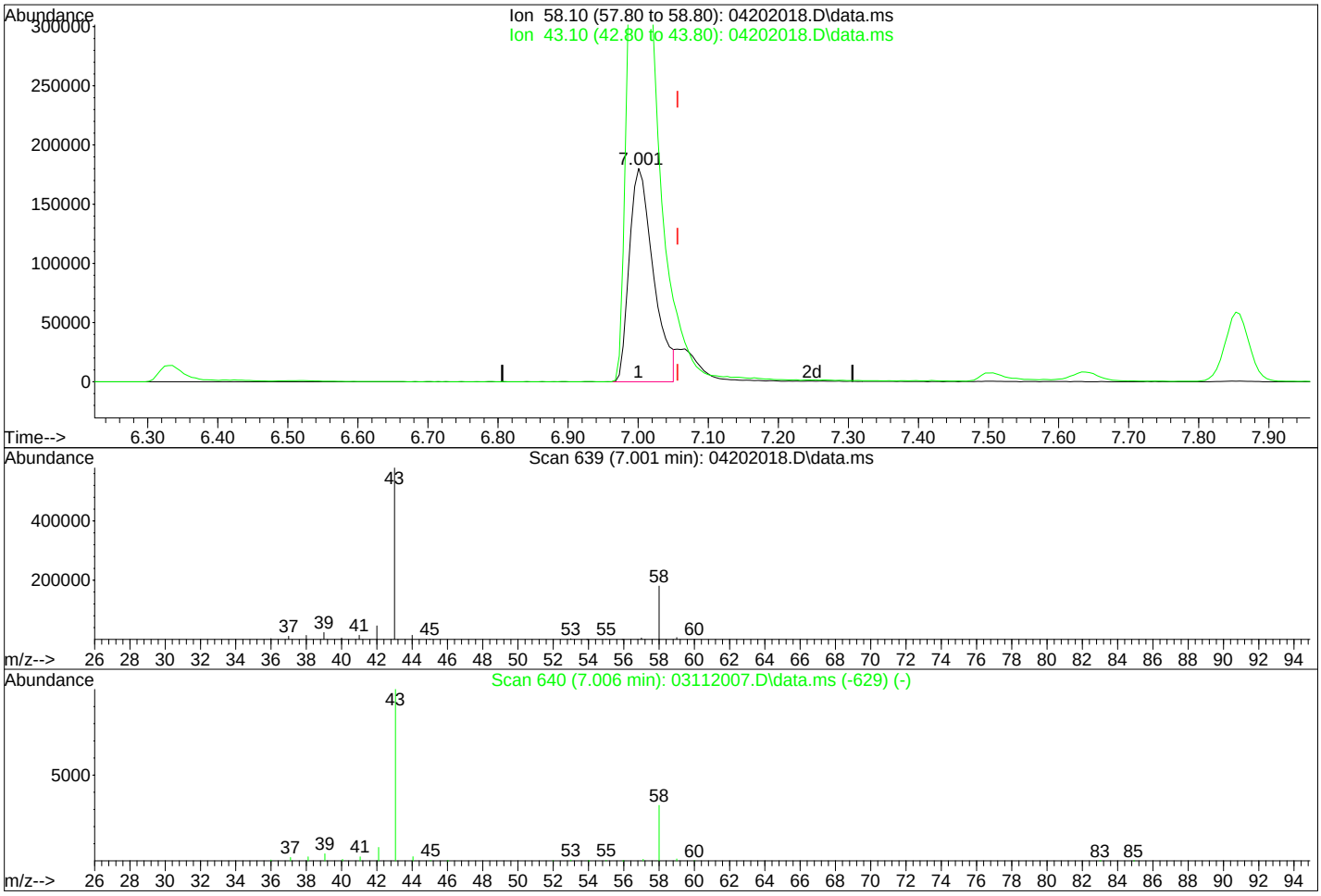
response 498588

Ion	Exp%	Act%
58.10	100	100
43.10	317.30	299.91
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\20\04202018.D Vial: 13
Acq On : 20 Apr 2020 13:22 Operator: TD
Sample : P2002028-016 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 16:49:04 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202018.D\data.ms

(13) Acetone (T)

7.001min (-0.055) 15.65ng m

response 430737

Ion	Exp%	Act%
58.10	100	100
43.10	317.30	347.16
0.00	0.00	0.00
0.00	0.00	0.00

IPC

LH 4/20/20

4/24/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202019.D Vial: 14
Acq On : 20 Apr 2020 13:55 Operator: TD
Sample : P2002028-017 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 20:45:00 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/20/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	344960	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.30	114	1544678	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.61	82	769049	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	598879	12.538	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.32%				
57) Toluene-d8 (SS2)	15.74	98	1597485	11.719	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.76%				
73) Bromofluorobenzene (SS3)	19.00	174	562871	11.693	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.52%				
Target Compounds							Qvalue
2) Propene	4.12	42	43875	1.213	ng		89
3) Dichlorodifluoromethan...	4.27	85	213388	2.741	ng		100
4) Chloromethane	4.55	50	64383	1.048	ng		97
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	1221	N.D.			
6) Vinyl Chloride	4.98	62	1402	N.D.			
7) 1,3-Butadiene	5.24	54	1384	N.D.			
8) Bromomethane	5.66	94	22683	0.698	ng		99
9) Chloroethane	5.99	64	6091	0.245	ng		98
10) Ethanol	6.33	45	215357	7.532	ng		100
11) Acetonitrile	6.61	41	68436	1.088	ng		97
12) Acrolein	6.80	56	33581	1.596	ng		99
13) Acetone	7.00	58	753205	26.692	ng		93
14) Trichlorofluoromethane	7.26	101	301704	4.396	ng		99
15) 2-Propanol (Isopropanol)	7.51	45	96611	1.154	ng		90
16) Acrylonitrile	0.00	53	0	N.D. d			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d			
19) Methylene Chloride	8.44	84	6191	0.169	ng		94
20) 3-Chloro-1-propene (Al...	8.61	41	912	N.D.			
21) Trichlorotrifluoroethane	8.88	151	5087	0.155	ng		94
22) Carbon Disulfide	8.70	76	317547	2.405	ng		99
23) trans-1,2-Dichloroethene	9.72	61	1102	N.D.			
24) 1,1-Dichloroethane	9.97	63	554	N.D.			
25) Methyl tert-Butyl Ether	10.11	73	1716	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	10.47	72	132581	5.644	ng	#	85
28) cis-1,2-Dichloroethene	10.99	61	1829	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D. d			
30) Ethyl Acetate	11.29	61	1173407	84.506	ng		92
31) n-Hexane	0.00	57	0	N.D. d			
32) Chloroform	11.33	83	325364	4.750	ng		100
34) Tetrahydrofuran (THF)	11.74	72	147122	6.087	ng		93
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.14	62	1015	N.D.			
38) 1,1,1-Trichloroethane	12.42	97	236	N.D.			
39) Isopropyl Acetate	12.87	61	467	N.D.			
40) 1-Butanol	0.00	56	0	N.D. d			
41) Benzene	12.90	78	69285	0.434	ng		98
42) Carbon Tetrachloride	13.06	117	13378	0.244	ng		99
43) Cyclohexane	13.19	84	5112	0.083	ng		92
44) tert-Amyl Methyl Ether	0.00	73	0	N.D. d			
45) 1,2-Dichloropropane	13.75	63	218	N.D.			
46) Bromodichloromethane	13.94	83	30458	0.564	ng		100
47) Trichloroethene	14.00	130	6510	0.144	ng		98
48) 1,4-Dioxane	13.98	88	45395	1.468	ng		97
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d			
50) Methyl Methacrylate	0.00	100	0	N.D. d			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202019.D Vial: 14
Acq On : 20 Apr 2020 13:55 Operator: TD
Sample : P2002028-017 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 20:45:00 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

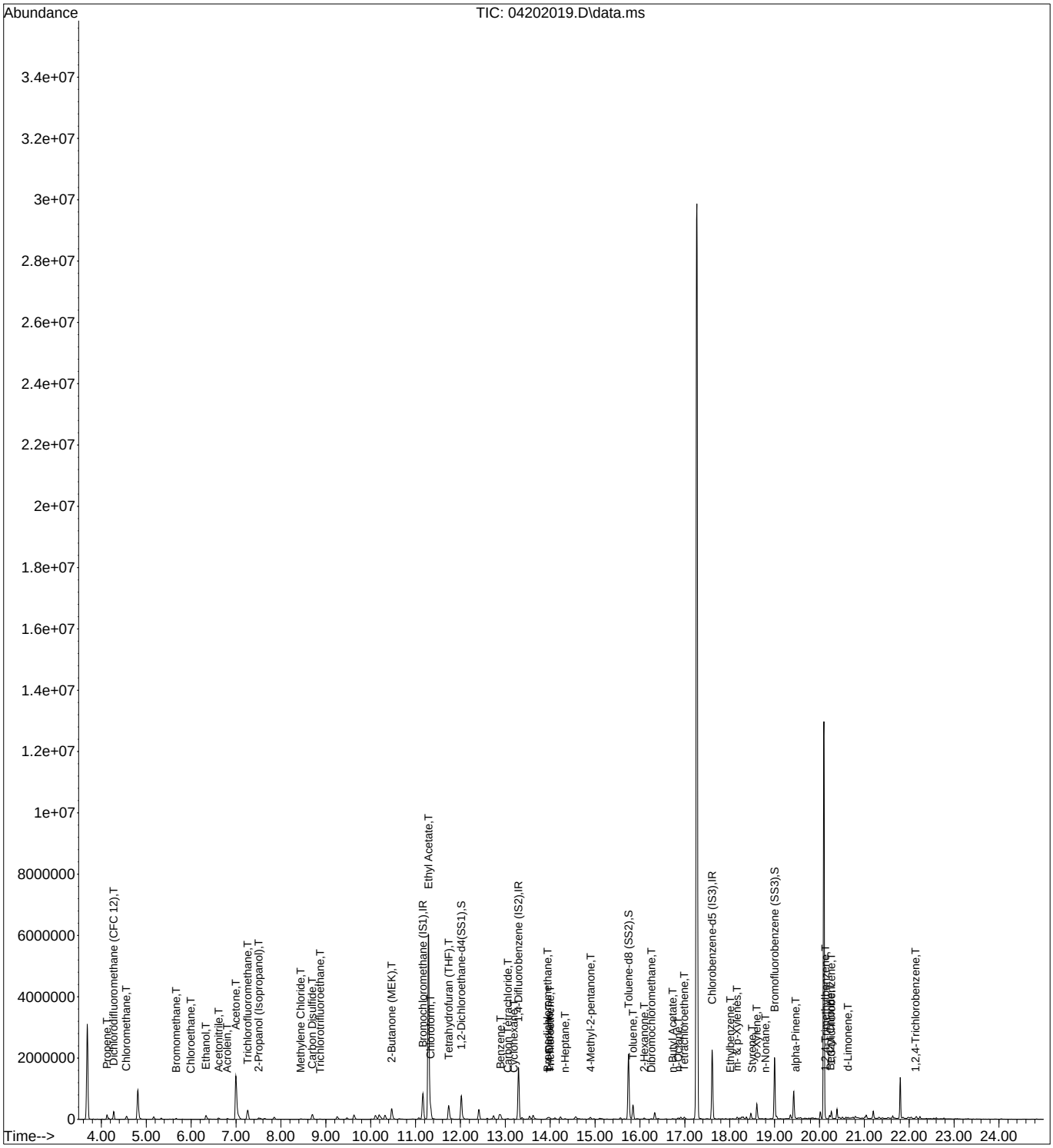
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.33	71	4818	0.129 ng	#	75
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.90	58	8480	0.253 ng	#	24
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.84	91	389576	2.311 ng		100
59) 2-Hexanone	16.10	43	32701	0.388 ng		91
60) Dibromochloromethane	16.26	129	5467	0.122 ng		99
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.73	43	16828	0.187 ng		93
63) n-Octane	16.86	57	5304	0.159 ng		93
64) Tetrachloroethene	16.99	166	19617	0.418 ng		99
65) Chlorobenzene	17.65	112	3913	N.D.		
66) Ethylbenzene	18.01	91	12088	0.065 ng		97
67) m- & p-Xylenes	18.16	91	27863	0.185 ng		97
68) Bromoform	18.24	173	309	N.D.		
69) Styrene	18.50	104	8769	0.074 ng		98
70) o-Xylene	18.60	91	10355	0.069 ng		97
71) n-Nonane	18.80	43	9103	0.121 ng		94
72) 1,1,2,2-Tetrachloroethane	18.62	83	1235	N.D.		
74) Cumene	19.13	105	4148	N.D.		
75) alpha-Pinene	19.47	93	9965	0.103 ng	#	1
76) n-Propylbenzene	19.57	91	9025	N.D.		
77) 3-Ethyltoluene	19.67	105	6972	N.D.		
78) 4-Ethyltoluene	19.70	105	4176	N.D.		
79) 1,3,5-Trimethylbenzene	19.77	105	4313	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	19.94	105	4256	N.D.		
82) 1,2,4-Trimethylbenzene	20.13	105	11078	0.067 ng		86
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.25	91	21209	0.164 ng		99
85) 1,3-Dichlorobenzene	20.26	146	94745	1.060 ng		99
86) 1,4-Dichlorobenzene	20.33	146	3407	N.D.		
87) sec-Butylbenzene	20.37	105	2519	N.D.		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	20.51	105	6743	N.D.		
90) 1,2-Dichlorobenzene	20.63	146	420	N.D.		
91) d-Limonene	20.63	68	7796	0.121 ng		79
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.14	180	2856	0.054 ng		98
95) Naphthalene	22.24	128	6875	N.D.		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202019.D Vial: 14
Acq On : 20 Apr 2020 13:55 Operator: TD
Sample : P2002028-017 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 20:45:00 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202019.D Vial: 14
Acq On : 20 Apr 2020 13:55 Operator: TD
Sample : P2002028-017 (400mL) Inst : GCMS-16
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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/20/20

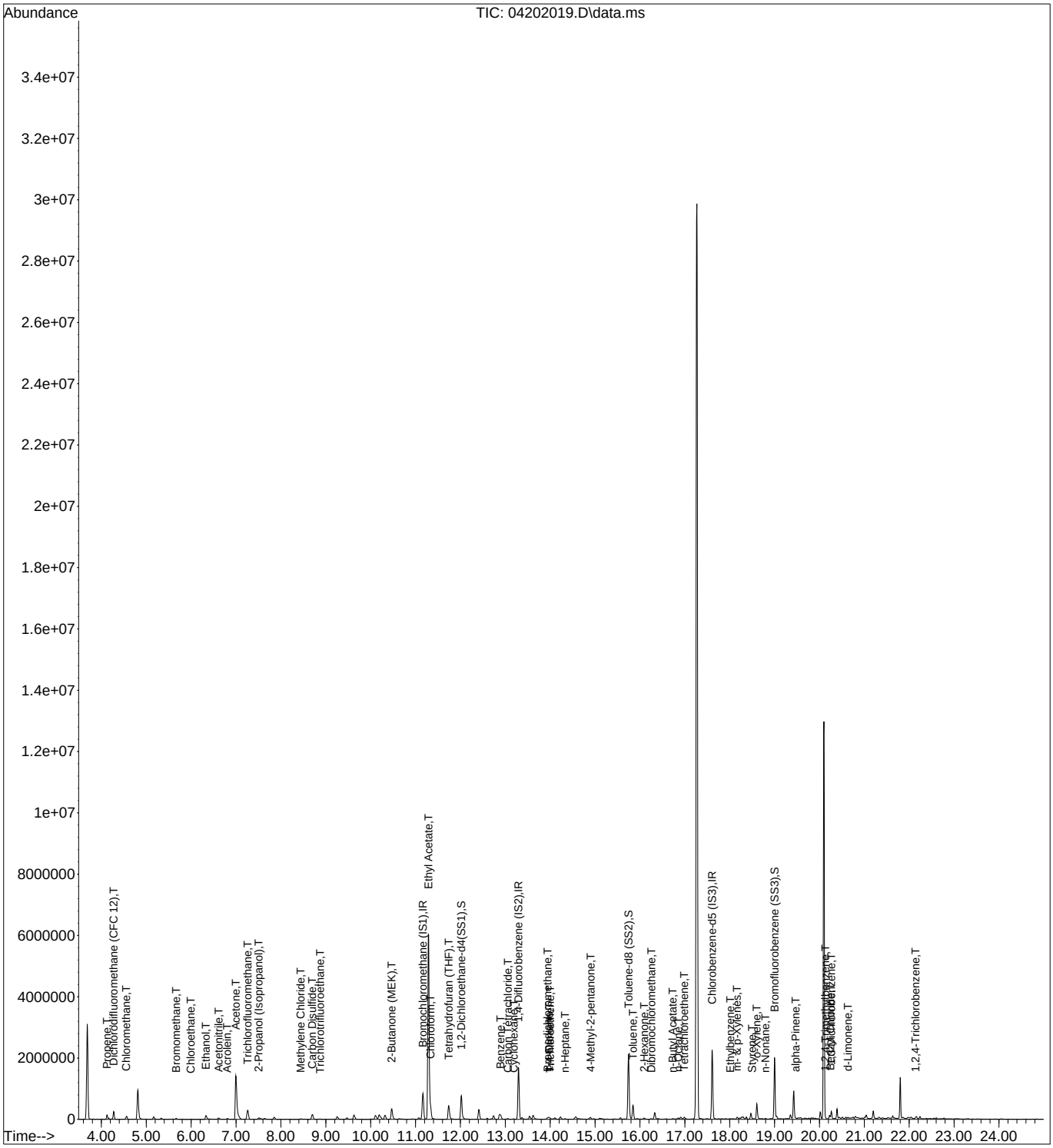
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	344960	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.30	114	1544678	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.61	82	769049	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	598879	12.538	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.32%				
57) Toluene-d8 (SS2)	15.74	98	1597485	11.719	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.76%				
73) Bromofluorobenzene (SS3)	19.00	174	562871	11.693	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.52%				
Target Compounds							Qvalue
2) Propene	4.12	42	43875	1.213	ng		89
3) Dichlorodifluoromethan...	4.27	85	213388	2.741	ng		100
4) Chloromethane	4.55	50	64383	1.048	ng		97
8) Bromomethane	5.66	94	22683	0.698	ng		99
9) Chloroethane	5.99	64	6091	0.245	ng		98
10) Ethanol	6.33	45	215357	7.532	ng		100
11) Acetonitrile	6.61	41	68436	1.088	ng		97
12) Acrolein	6.80	56	33581	1.596	ng		99
13) Acetone	7.00	58	753205	26.692	ng		93
14) Trichlorofluoromethane	7.26	101	301704	4.396	ng		99
15) 2-Propanol (Isopropanol)	7.51	45	96611	1.154	ng		90
19) Methylene Chloride	8.44	84	6191	0.169	ng		94
21) Trichlorotrifluoroethane	8.88	151	5087	0.155	ng		94
22) Carbon Disulfide	8.70	76	317547	2.405	ng		99
27) 2-Butanone (MEK)	10.47	72	132581	5.644	ng	#	85
30) Ethyl Acetate	11.29	61	1173407	84.506	ng		92
32) Chloroform	11.33	83	325364	4.750	ng		100
34) Tetrahydrofuran (THF)	11.74	72	147122	6.087	ng		93
41) Benzene	12.90	78	69285	0.434	ng		98
42) Carbon Tetrachloride	13.06	117	13378	0.244	ng		99
43) Cyclohexane	13.19	84	5112	0.083	ng		92
46) Bromodichloromethane	13.94	83	30458	0.564	ng		100
47) Trichloroethene	14.00	130	6510	0.144	ng		98
48) 1,4-Dioxane	13.98	88	45395	1.468	ng		97
51) n-Heptane	14.33	71	4818	0.129	ng	#	75
53) 4-Methyl-2-pentanone	14.90	58	8480	0.253	ng	#	24
58) Toluene	15.84	91	389576	2.311	ng		100
59) 2-Hexanone	16.10	43	32701	0.388	ng		91
60) Dibromochloromethane	16.26	129	5467	0.122	ng		99
62) n-Butyl Acetate	16.73	43	16828	0.187	ng		93
63) n-Octane	16.86	57	5304	0.159	ng		93
64) Tetrachloroethene	16.99	166	19617	0.418	ng		99
66) Ethylbenzene	18.01	91	12088	0.065	ng		97
67) m- & p-Xylenes	18.16	91	27863	0.185	ng		97
69) Styrene	18.50	104	8769	0.074	ng		98
70) o-Xylene	18.60	91	10355	0.069	ng		97
71) n-Nonane	18.80	43	9103	0.121	ng		94
75) alpha-Pinene	19.47	93	9965	0.103	ng	#	1
82) 1,2,4-Trimethylbenzene	20.13	105	11078	0.067	ng		86
84) Benzyl Chloride	20.25	91	21209	0.164	ng		99
85) 1,3-Dichlorobenzene	20.26	146	94745	1.060	ng		99
91) d-Limonene	20.63	68	7796	0.121	ng		79
94) 1,2,4-Trichlorobenzene	22.14	180	2856	0.054	ng		98

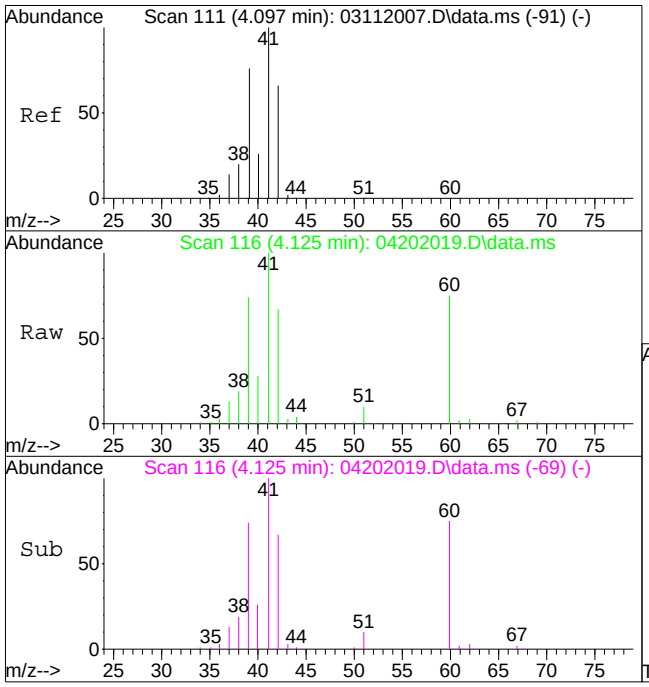
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202019.D Vial: 14
Acq On : 20 Apr 2020 13:55 Operator: TD
Sample : P2002028-017 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 20:45:00 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

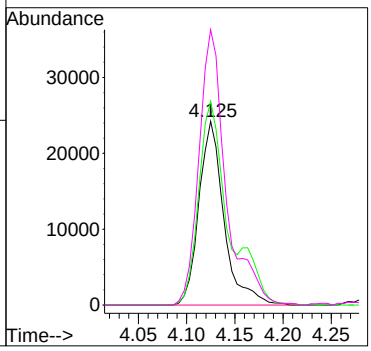


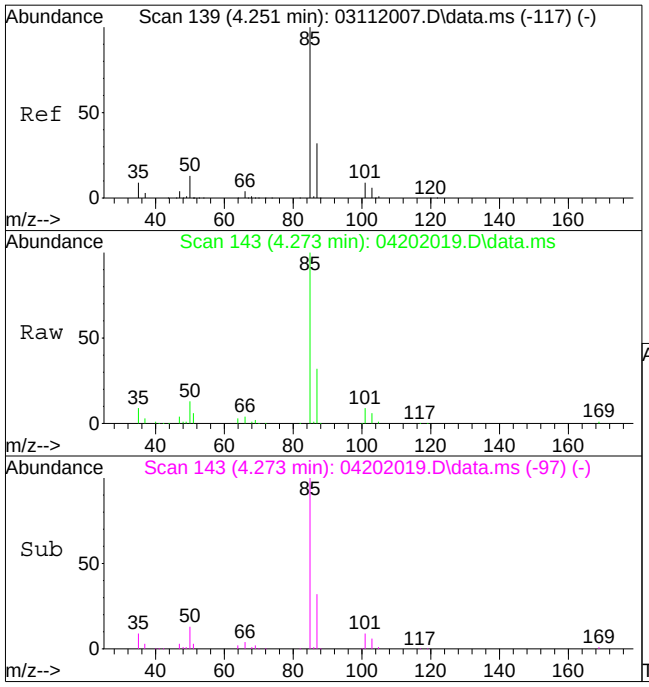


#2
Propene
Concen: 1.21 ng
RT: 4.12 min Scan# 116
Delta R.T. 0.011 min
Lab File: 04202019.D
Acq: 20 Apr 2020 13:55

Tgt Ion: 42 Resp: 43875

Ion	Ratio	Lower	Upper
42	100		
39	132.1	95.3	135.3
41	161.5	132.0	172.0

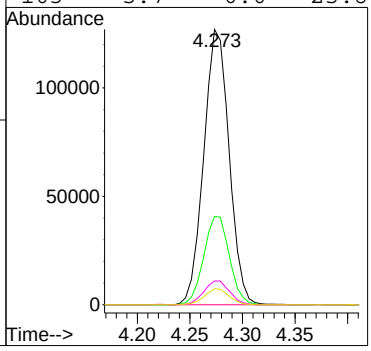


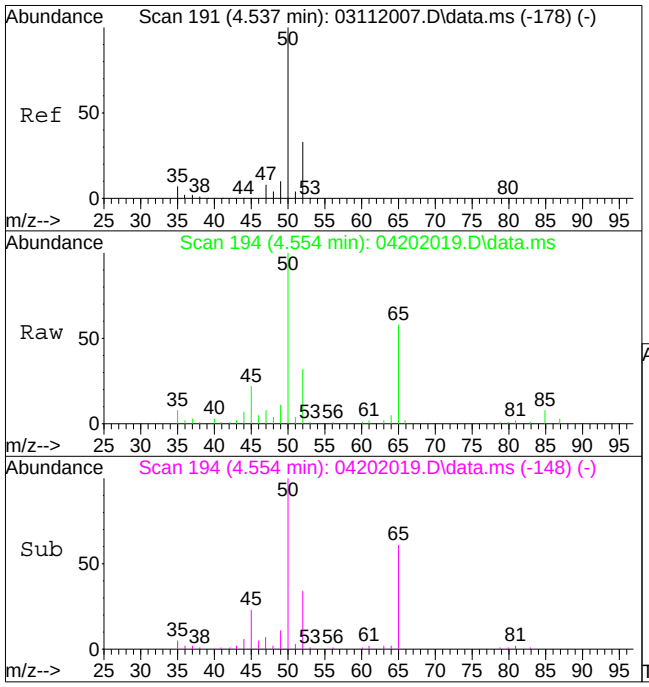


#3
Dichlorodifluoromethane (CFC 12)
Concen: 2.74 ng
RT: 4.27 min Scan# 143
Delta R.T. 0.005 min
Lab File: 04202019.D
Acq: 20 Apr 2020 13:55

Tgt Ion: 85 Resp: 213388

Ion	Ratio	Lower	Upper
85	100		
87	32.3	12.3	52.3
101	8.8	0.0	29.0
103	5.7	0.0	25.8

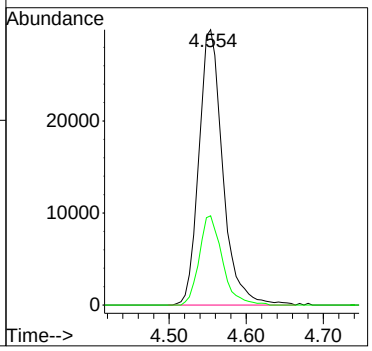


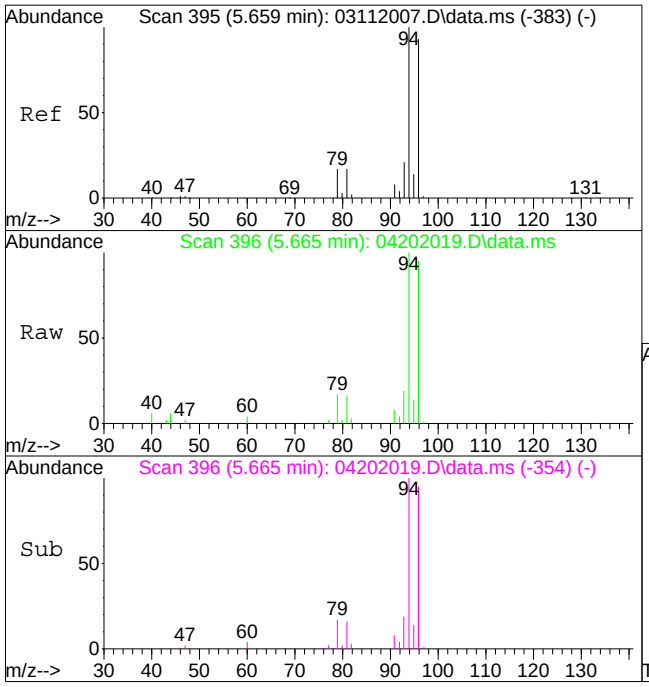


#4
Chloromethane
Concen: 1.05 ng
RT: 4.55 min Scan# 194
Delta R.T. 0.001 min
Lab File: 04202019.D
Acq: 20 Apr 2020 13:55

Tgt Ion: 50 Resp: 64383

Ion	Ratio	Lower	Upper
50	100		
52	31.4	12.8	52.8

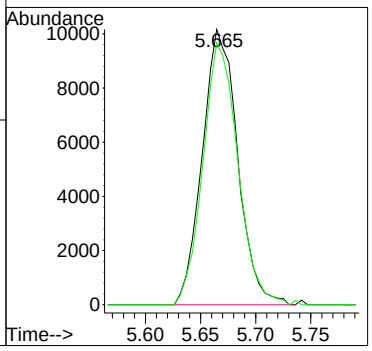


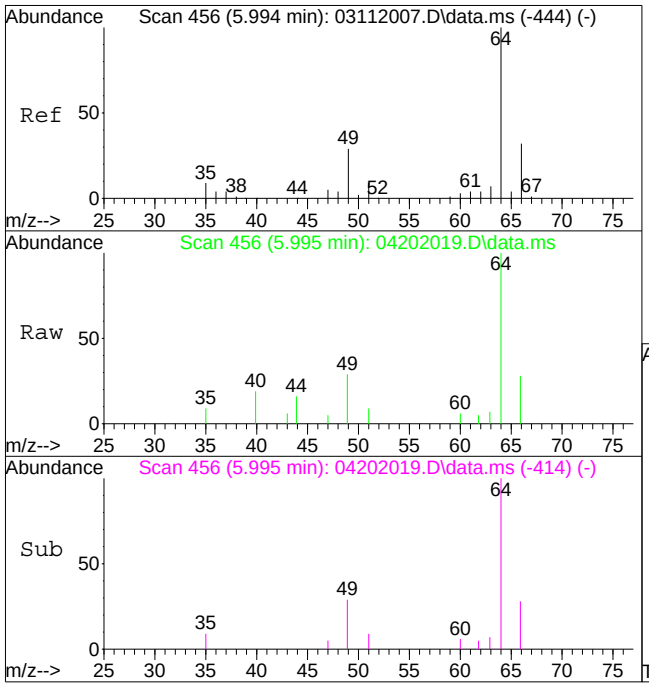


#8
Bromomethane
Concen: 0.70 ng
RT: 5.66 min Scan# 396
Delta R.T. -0.022 min
Lab File: 04202019.D
Acq: 20 Apr 2020 13:55

Tgt Ion: 94 Resp: 22683

Ion	Ratio	Lower	Upper
94	100		
96	94.3	73.8	113.8

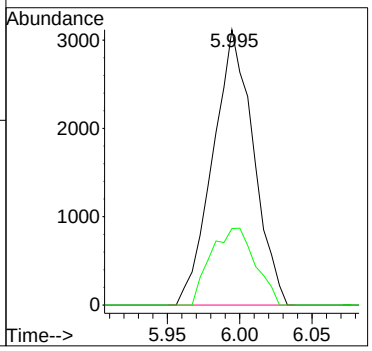


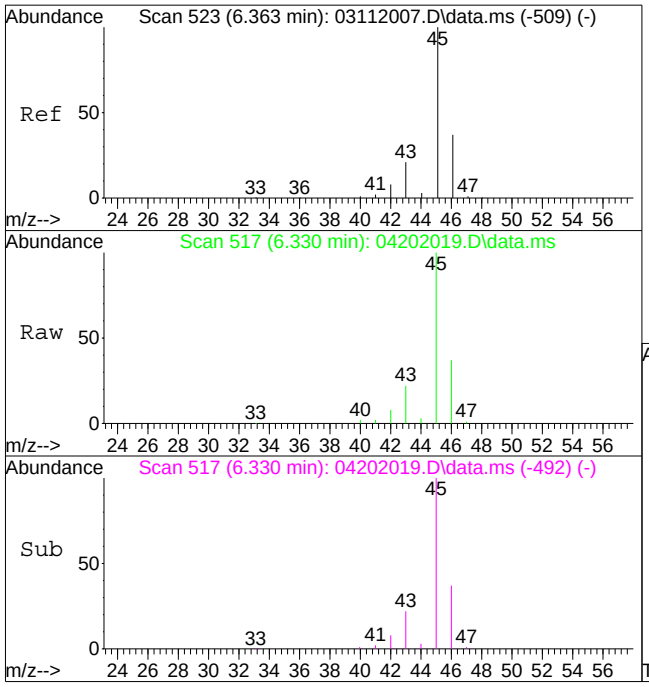


#9
Chloroethane
Concen: 0.24 ng
RT: 5.99 min Scan# 456
Delta R.T. -0.021 min
Lab File: 04202019.D
Acq: 20 Apr 2020 13:55

Tgt Ion: 64 Resp: 6091

Ion	Ratio	Lower	Upper
64	100		
66	30.6	11.7	51.7

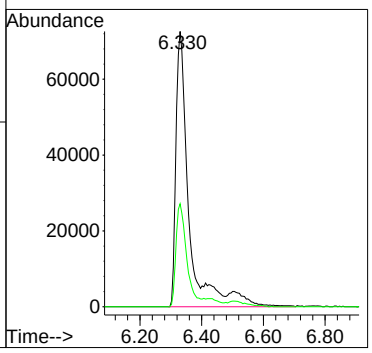


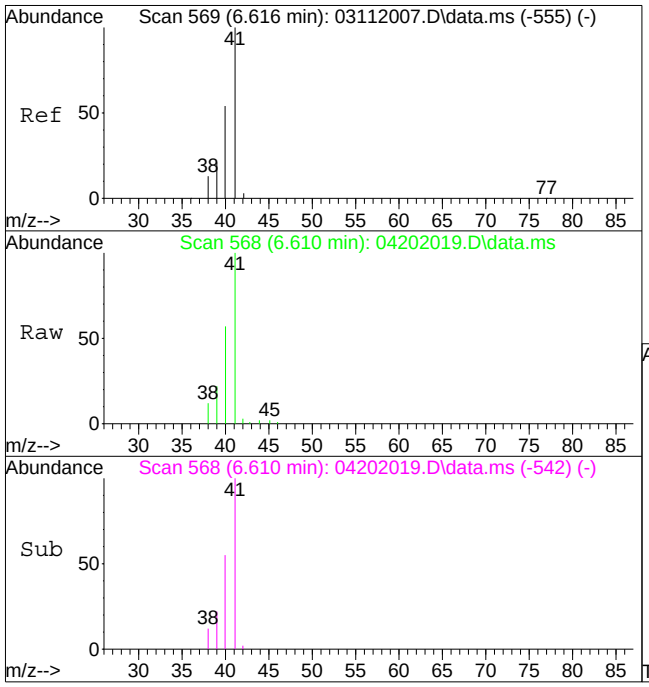


#10
Ethanol
Concen: 7.53 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.110 min
Lab File: 04202019.D
Acq: 20 Apr 2020 13:55

Tgt Ion: 45 Resp: 215357

Ion	Ratio	Lower	Upper
45	100		
46	37.1	17.3	57.3

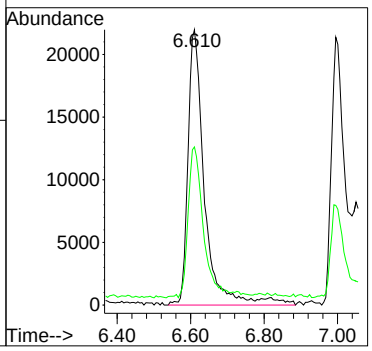


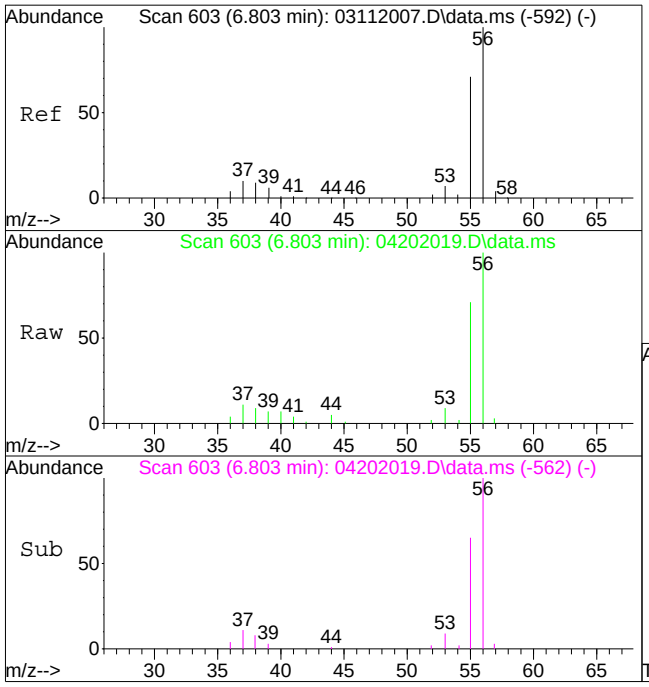


#11
Acetonitrile
Concen: 1.09 ng
RT: 6.61 min Scan# 568
Delta R.T. -0.055 min
Lab File: 04202019.D
Acq: 20 Apr 2020 13:55

Tgt Ion: 41 Resp: 68436

Ion	Ratio	Lower	Upper
41	100		
40	55.5	33.6	73.6

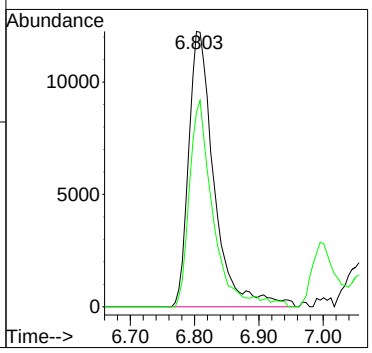


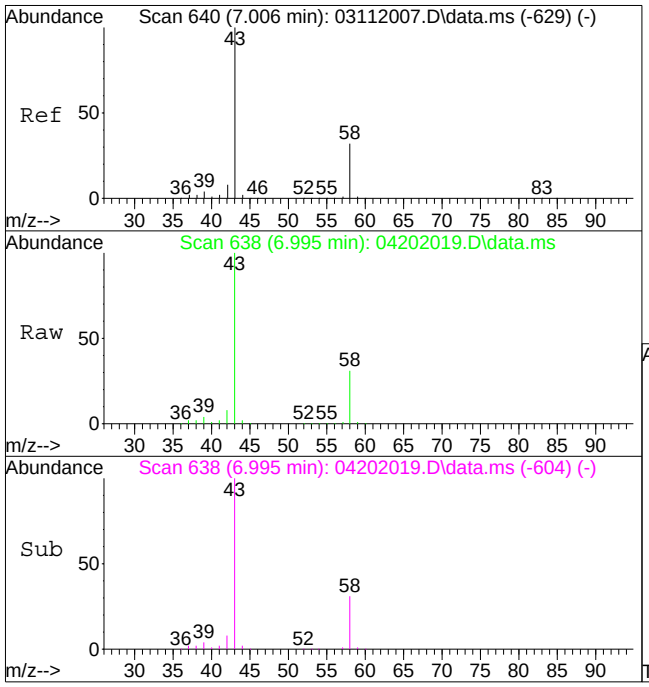


#12
Acrolein
Concen: 1.60 ng
RT: 6.80 min Scan# 603
Delta R.T. -0.027 min
Lab File: 04202019.D
Acq: 20 Apr 2020 13:55

Tgt Ion: 56 Resp: 33581

Ion	Ratio	Lower	Upper
56	100		
55	69.8	50.4	90.4

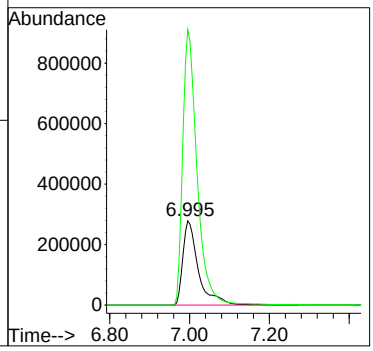


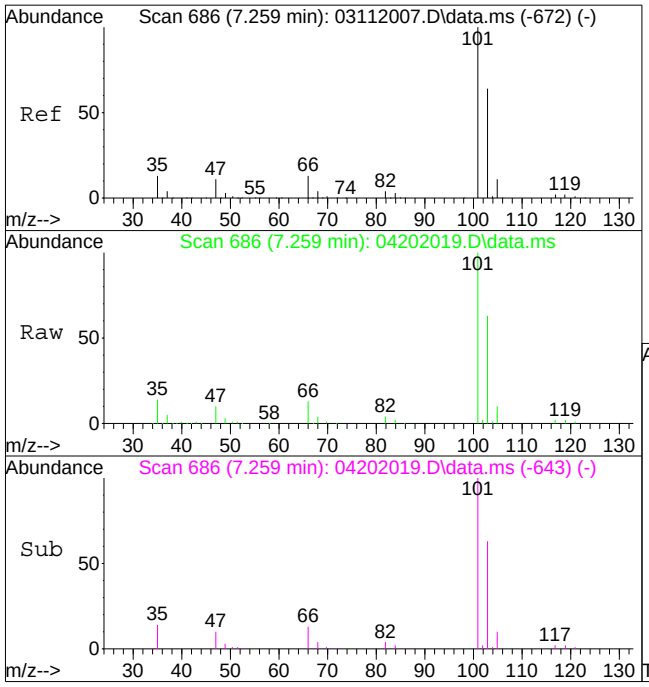


#13
Acetone
Concen: 26.69 ng
RT: 7.00 min Scan# 638
Delta R.T. -0.061 min
Lab File: 04202019.D
Acq: 20 Apr 2020 13:55

Tgt Ion: 58 Resp: 753205

Ion	Ratio	Lower	Upper
58	100		
43	302.7	287.3	347.3

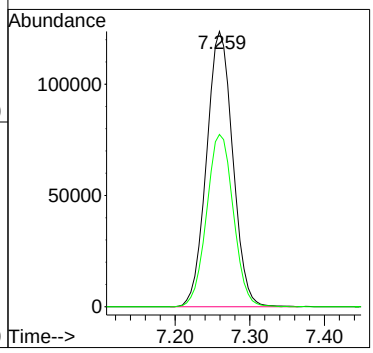


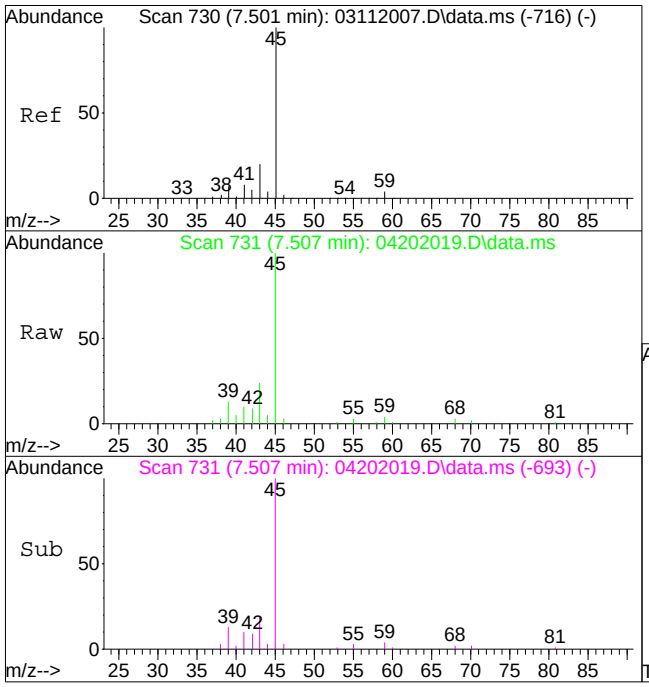


#14
Trichlorofluoromethane
Concen: 4.40 ng
RT: 7.26 min Scan# 686
Delta R.T. -0.016 min
Lab File: 04202019.D
Acq: 20 Apr 2020 13:55

Tgt Ion:101 Resp: 301704

Ion	Ratio	Lower	Upper
101	100		
103	63.7	44.6	84.6

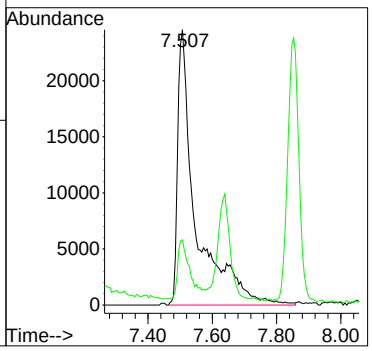


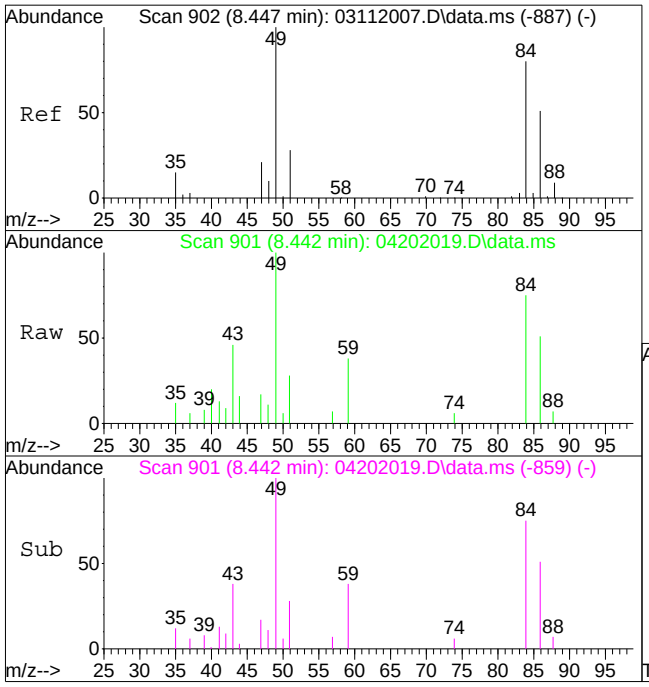


#15
2-Propanol (Isopropanol)
Concen: 1.15 ng
RT: 7.51 min Scan# 731
Delta R.T. -0.044 min
Lab File: 04202019.D
Acq: 20 Apr 2020 13:55

Tgt Ion: 45 Resp: 96611

Ion	Ratio	Lower	Upper
45	100		
43	15.5	0.3	40.3

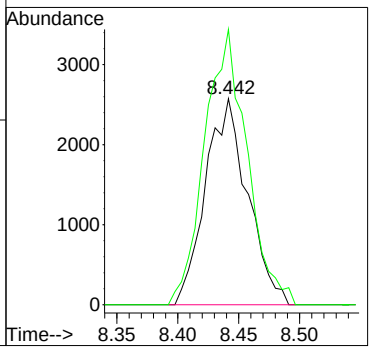


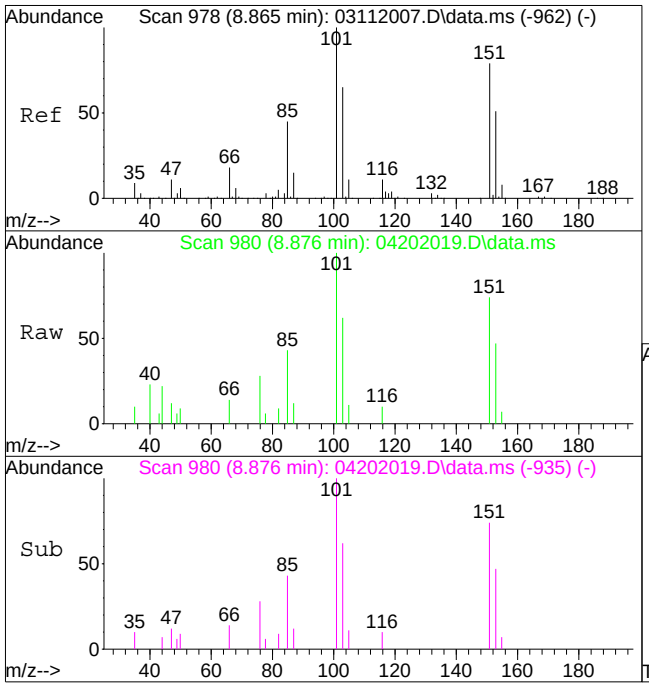


#19
Methylene Chloride
Concen: 0.17 ng
RT: 8.44 min Scan# 901
Delta R.T. -0.021 min
Lab File: 04202019.D
Acq: 20 Apr 2020 13:55

Tgt Ion: 84 Resp: 6191

Ion	Ratio	Lower	Upper
84	100		
49	134.6	102.2	152.2

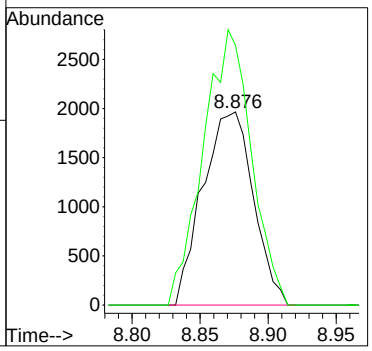


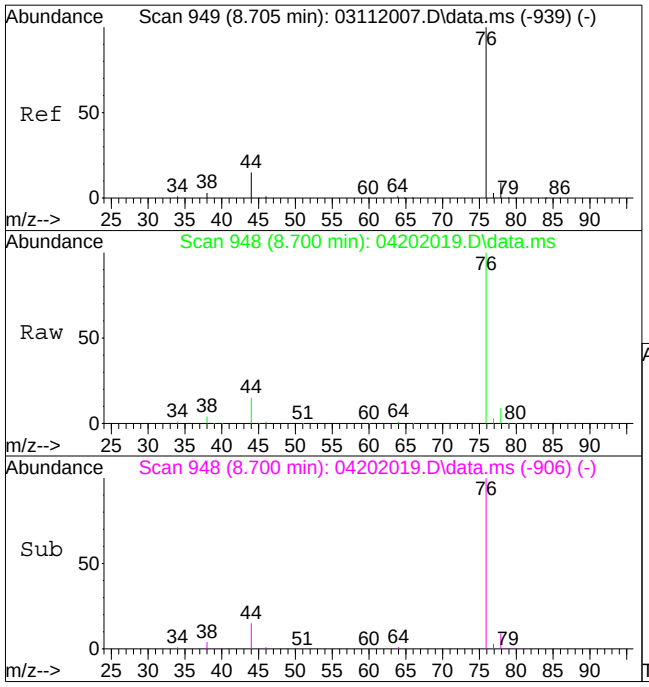


#21
Trichlorotrifluoroethane
Concen: 0.15 ng
RT: 8.88 min Scan# 980
Delta R.T. 0.000 min
Lab File: 04202019.D
Acq: 20 Apr 2020 13:55

Tgt Ion:151 Resp: 5087

Ion	Ratio	Lower	Upper
151	100		
101	135.6	108.4	148.4

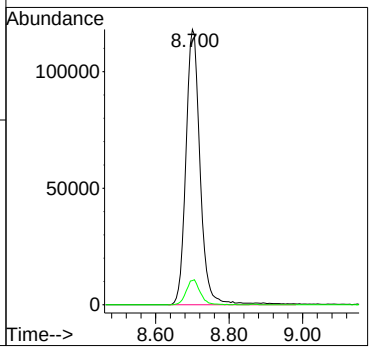


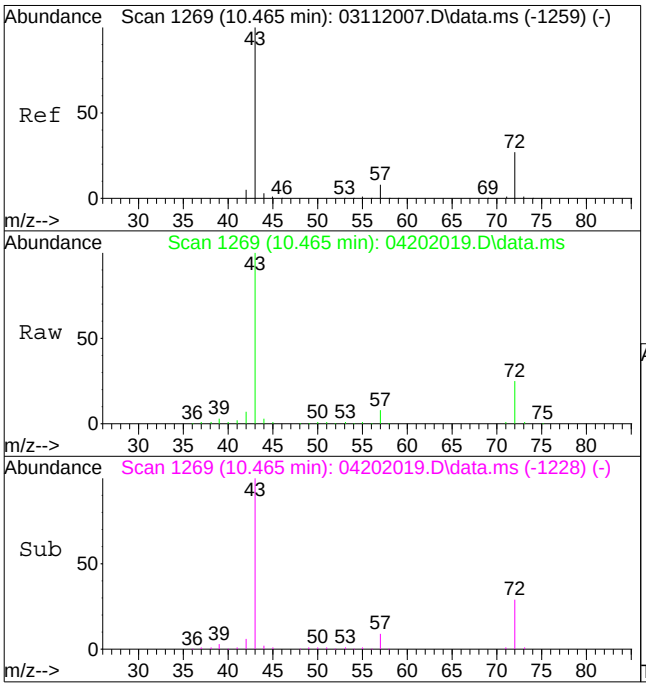


#22
Carbon Disulfide
Concen: 2.40 ng
RT: 8.70 min Scan# 948
Delta R.T. -0.022 min
Lab File: 04202019.D
Acq: 20 Apr 2020 13:55

Tgt Ion: 76 Resp: 317547

Ion	Ratio	Lower	Upper
76	100		
78	8.9	0.0	29.2

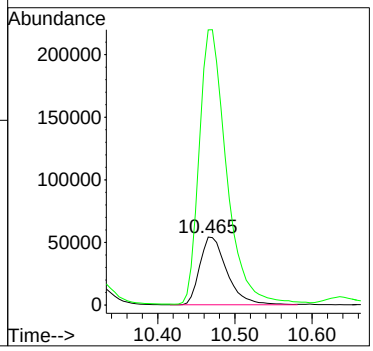


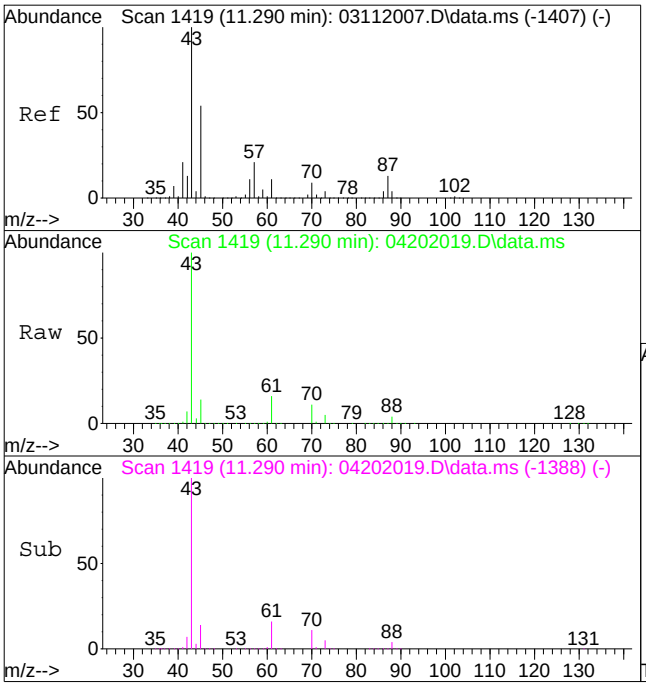


#27
2-Butanone (MEK)
Concen: 5.64 ng
RT: 10.47 min Scan# 1269
Delta R.T. -0.027 min
Lab File: 04202019.D
Acq: 20 Apr 2020 13:55

Tgt Ion: 72 Resp: 132581

Ion	Ratio	Lower	Upper
72	100		
43	407.8	353.4	393.4#

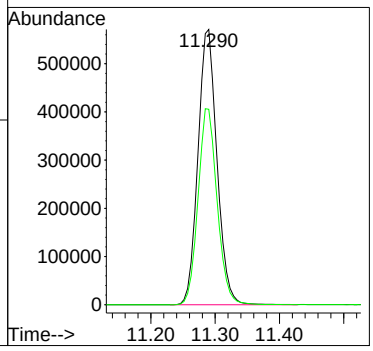


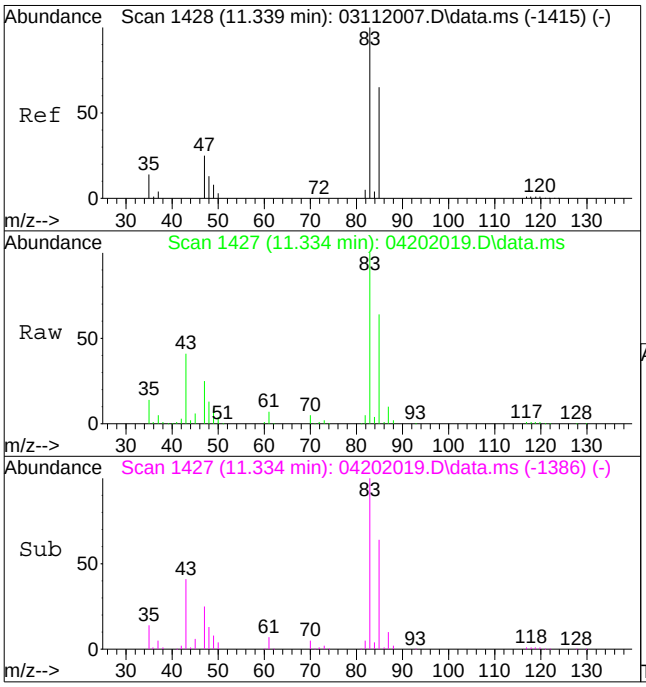


#30
Ethyl Acetate
Concen: 84.51 ng
RT: 11.29 min Scan# 1419
Delta R.T. -0.027 min
Lab File: 04202019.D
Acq: 20 Apr 2020 13:55

Tgt Ion: 61 Resp: 1173407

Ion	Ratio	Lower	Upper
61	100		
70	71.7	59.1	99.1

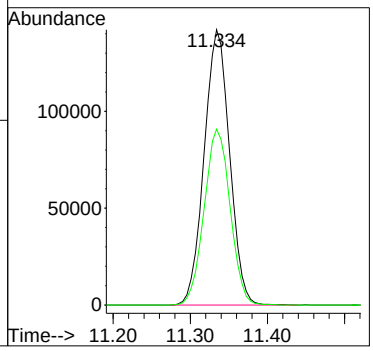


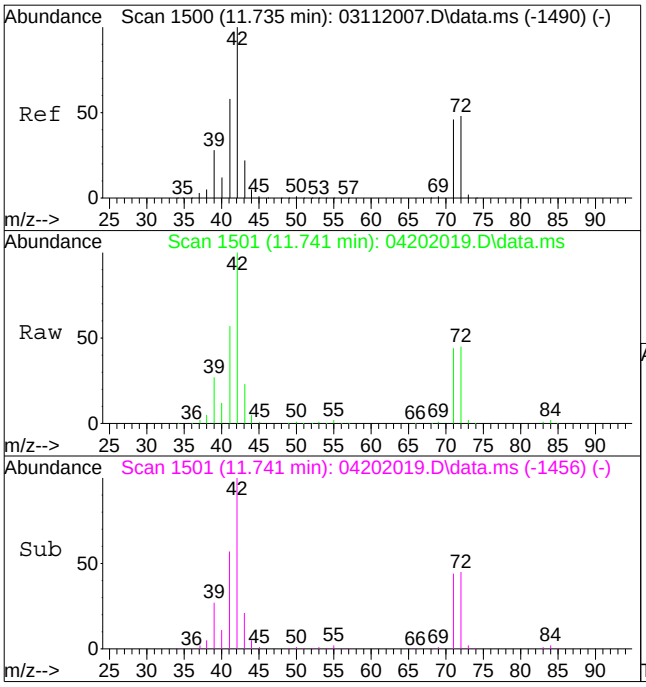


#32
Chloroform
Concen: 4.75 ng
RT: 11.33 min Scan# 1427
Delta R.T. -0.027 min
Lab File: 04202019.D
Acq: 20 Apr 2020 13:55

Tgt Ion: 83 Resp: 325364

Ion	Ratio	Lower	Upper
83	100		
85	65.2	45.5	85.5

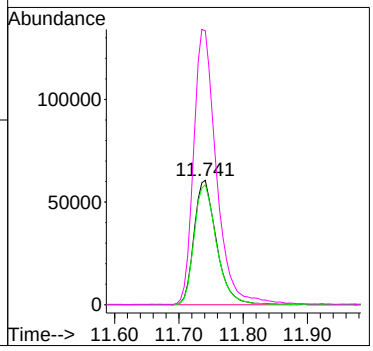


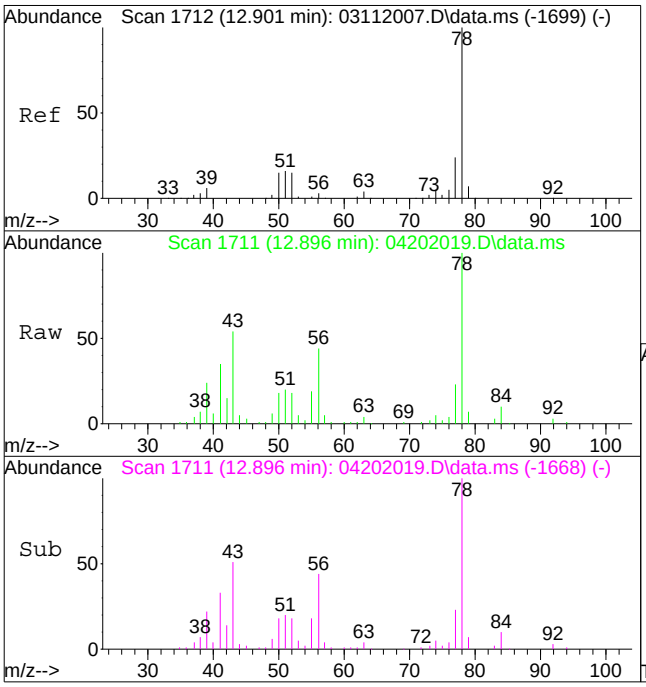


#34
Tetrahydrofuran (THF)
Concen: 6.09 ng
RT: 11.74 min Scan# 1501
Delta R.T. -0.005 min
Lab File: 04202019.D
Acq: 20 Apr 2020 13:55

Tgt Ion: 72 Resp: 147122

Ion	Ratio	Lower	Upper
72	100		
71	97.1	75.9	115.9
42	223.9	189.3	229.3

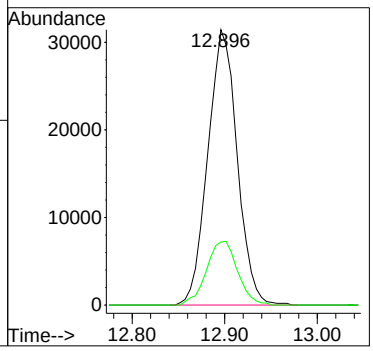


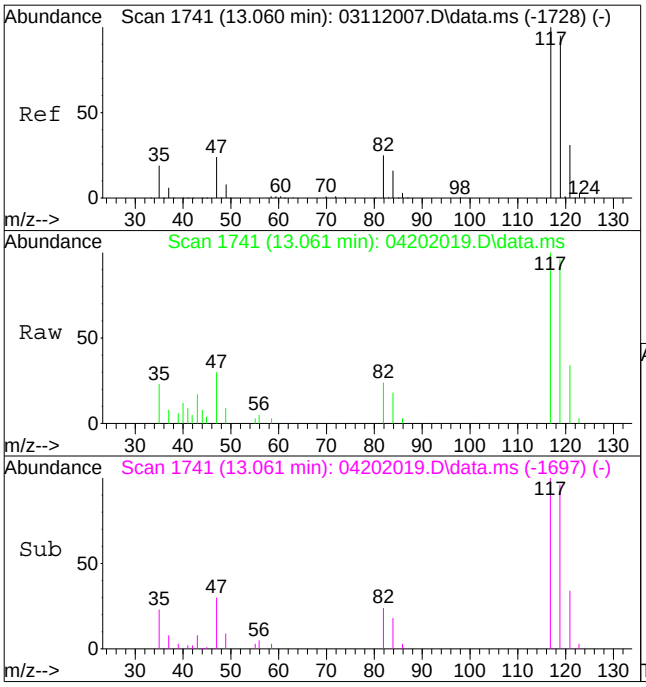


#41
Benzene
Concen: 0.43 ng
RT: 12.90 min Scan# 1711
Delta R.T. -0.016 min
Lab File: 04202019.D
Acq: 20 Apr 2020 13:55

Tgt Ion: 78 Resp: 69285

Ion	Ratio	Lower	Upper
78	100		
77	24.6	3.4	43.4

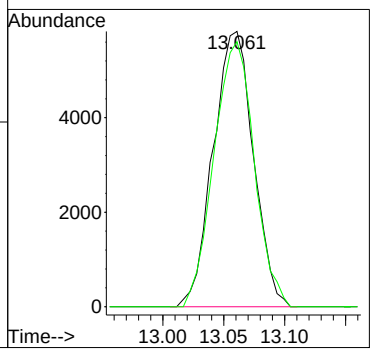


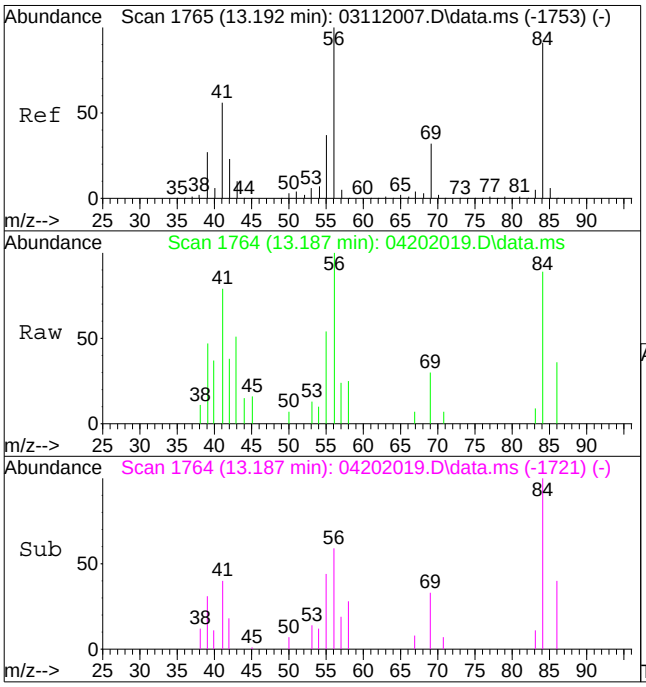


#42
Carbon Tetrachloride
Concen: 0.24 ng
RT: 13.06 min Scan# 1741
Delta R.T. -0.011 min
Lab File: 04202019.D
Acq: 20 Apr 2020 13:55

Tgt Ion:117 Resp: 13378

Ion	Ratio	Lower	Upper
117	100		
119	96.4	75.4	115.4

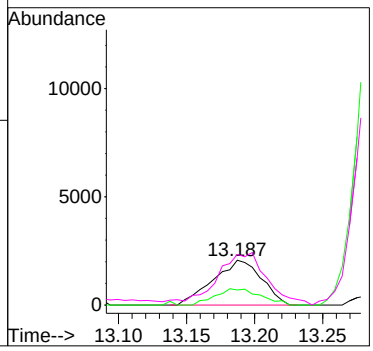


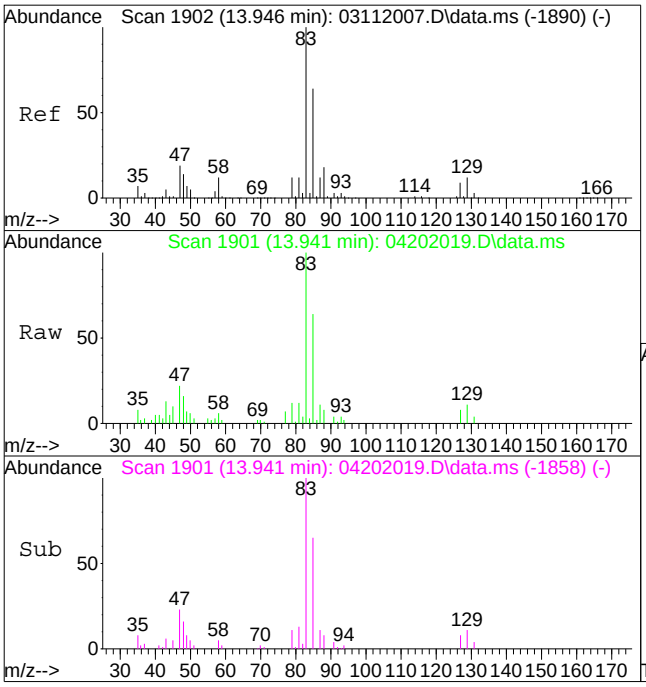


#43
Cyclohexane
Concen: 0.08 ng
RT: 13.19 min Scan# 1764
Delta R.T. -0.016 min
Lab File: 04202019.D
Acq: 20 Apr 2020 13:55

Tgt Ion: 84 Resp: 5112

Ion	Ratio	Lower	Upper
84	100		
69	33.9	15.3	55.3
56	121.4	90.5	130.5

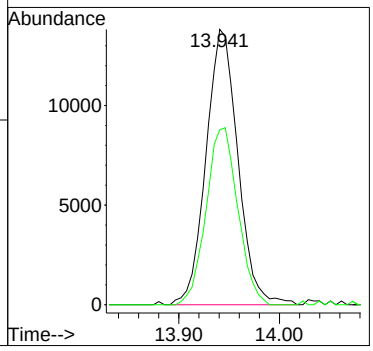


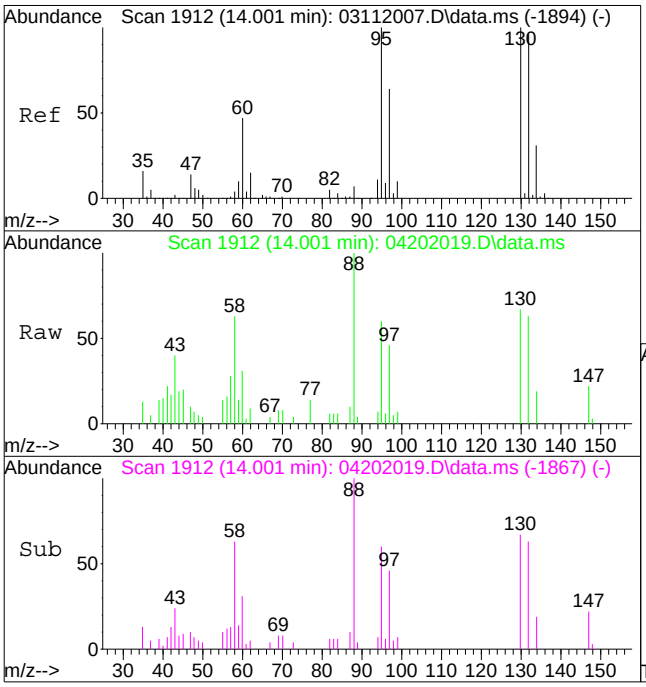


#46
Bromodichloromethane
Concen: 0.56 ng
RT: 13.94 min Scan# 1901
Delta R.T. -0.016 min
Lab File: 04202019.D
Acq: 20 Apr 2020 13:55

Tgt Ion: 83 Resp: 30458

Ion	Ratio	Lower	Upper
83	100		
85	63.8	44.0	84.0

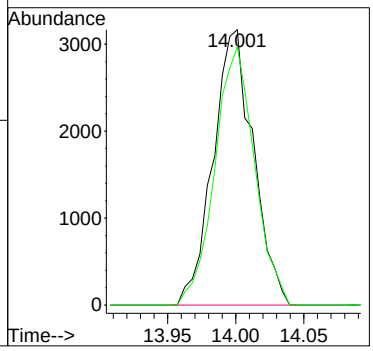


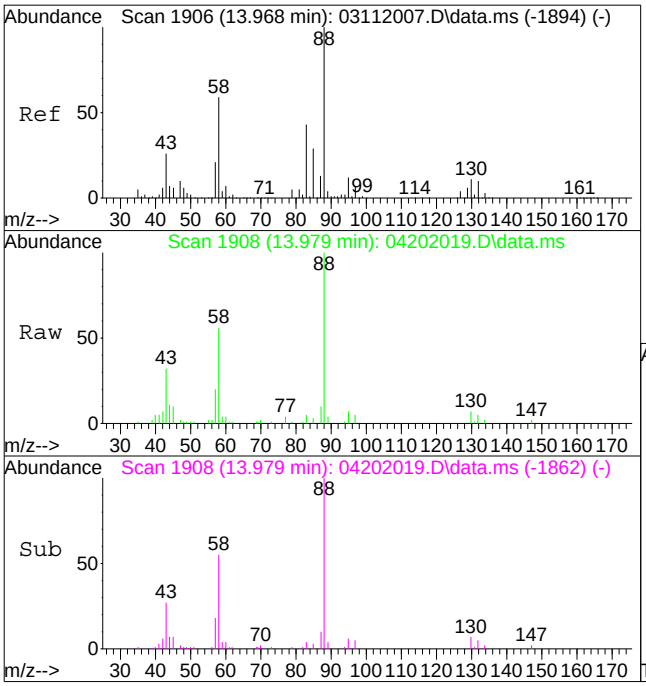


#47
Trichloroethene
Concen: 0.14 ng
RT: 14.00 min Scan# 1912
Delta R.T. -0.005 min
Lab File: 04202019.D
Acq: 20 Apr 2020 13:55

Tgt Ion:130 Resp: 6510

Ion	Ratio	Lower	Upper
130	100		
132	92.4	74.7	114.7

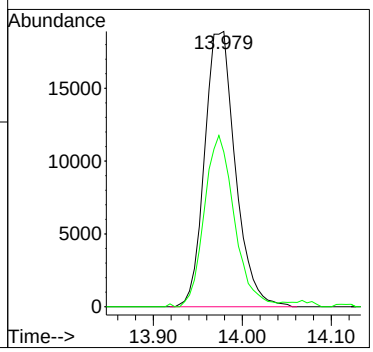


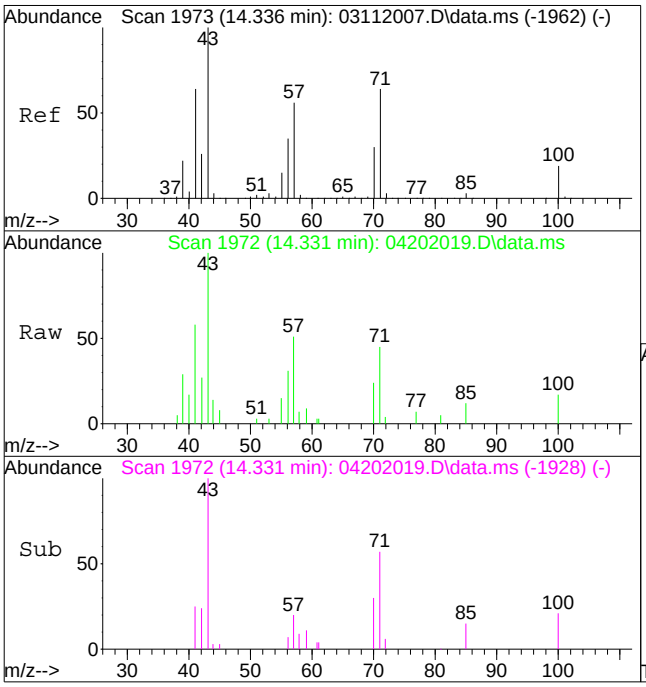


#48
1,4-Dioxane
Concen: 1.47 ng
RT: 13.98 min Scan# 1908
Delta R.T. 0.000 min
Lab File: 04202019.D
Acq: 20 Apr 2020 13:55

Tgt Ion: 88 Resp: 45395

Ion	Ratio	Lower	Upper
88	100		
58	61.7	39.5	79.5

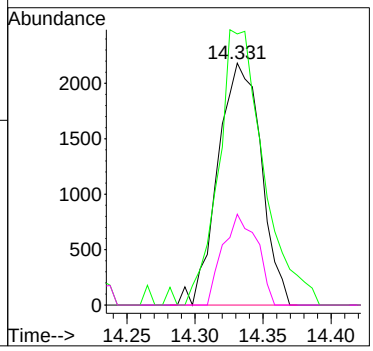


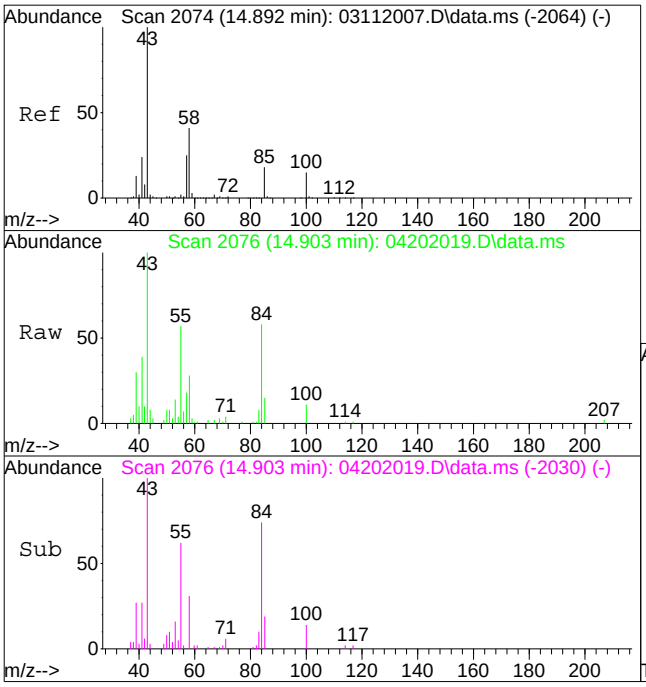


#51
n-Heptane
Concen: 0.13 ng
RT: 14.33 min Scan# 1972
Delta R.T. -0.011 min
Lab File: 04202019.D
Acq: 20 Apr 2020 13:55

Tgt Ion: 71 Resp: 4818

Ion	Ratio	Lower	Upper
71	100		
57	118.7	68.6	108.6#
100	29.8	9.1	49.1

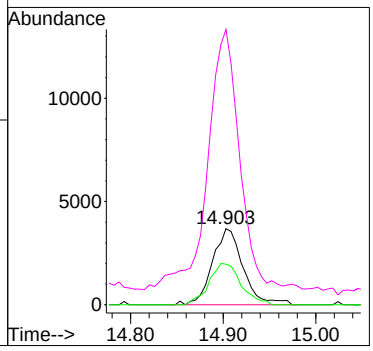


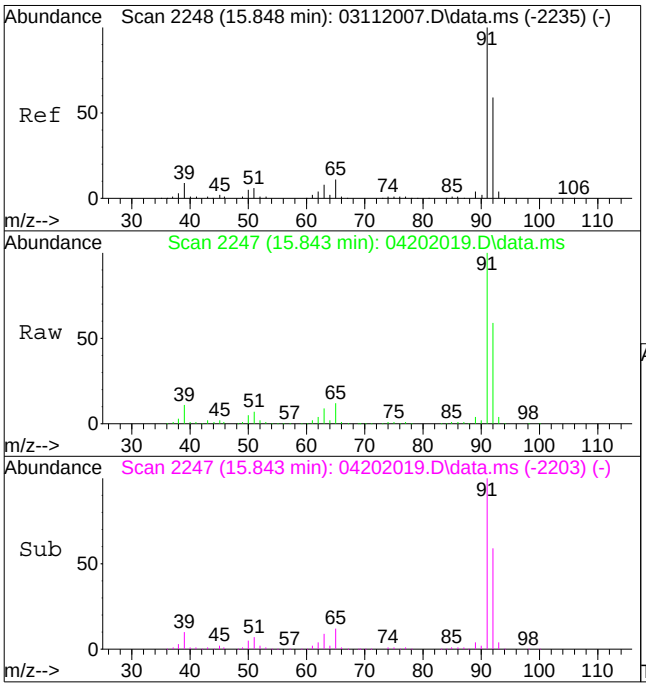


#53
4-Methyl-2-pentanone
Concen: 0.25 ng
RT: 14.90 min Scan# 2076
Delta R.T. 0.000 min
Lab File: 04202019.D
Acq: 20 Apr 2020 13:55

Tgt Ion: 58 Resp: 8480

Ion	Ratio	Lower	Upper
58	100		
85	56.6	37.0	55.4#
43	395.2	196.3	294.5#

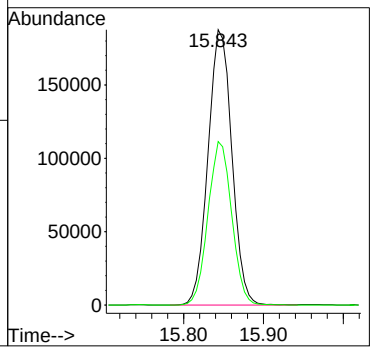


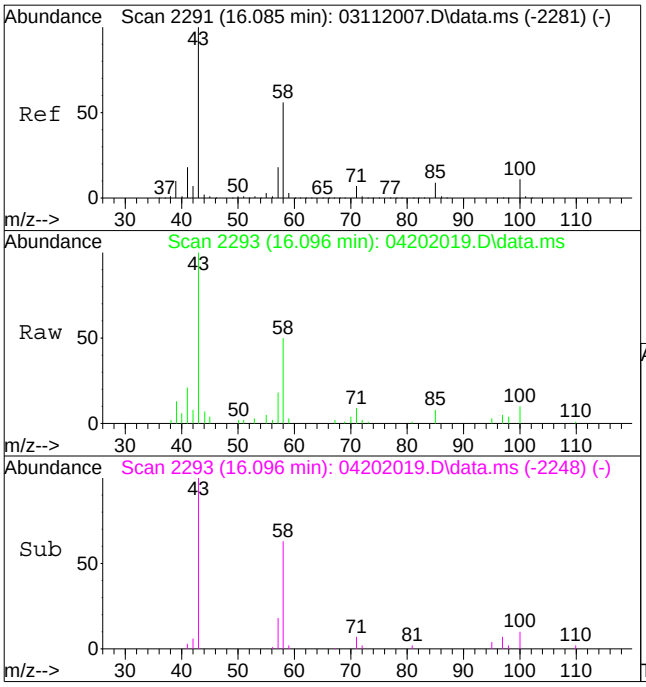


#58
Toluene
Concen: 2.31 ng
RT: 15.84 min Scan# 2247
Delta R.T. -0.011 min
Lab File: 04202019.D
Acq: 20 Apr 2020 13:55

Tgt Ion: 91 Resp: 389576

Ion	Ratio	Lower	Upper
91	100		
92	59.0	39.0	79.0

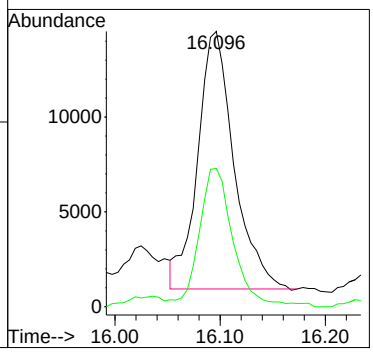


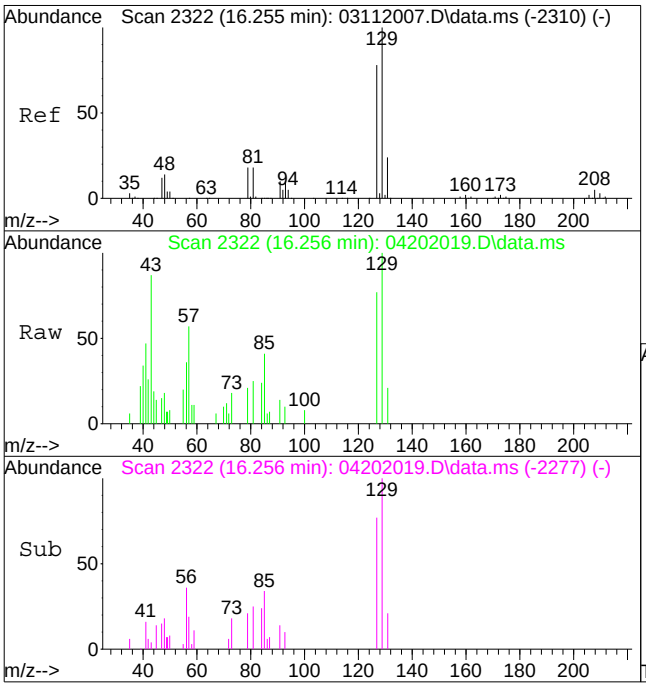


#59
2-Hexanone
Concen: 0.39 ng
RT: 16.10 min Scan# 2293
Delta R.T. -0.005 min
Lab File: 04202019.D
Acq: 20 Apr 2020 13:55

Tgt Ion: 43 Resp: 32701

Ion	Ratio	Lower	Upper
43	100		
58	50.0	36.5	76.5

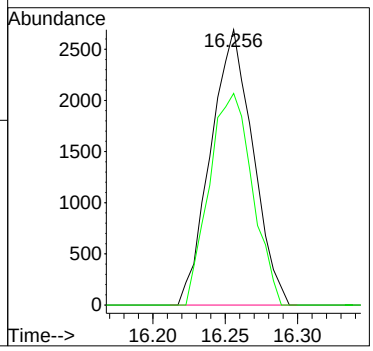


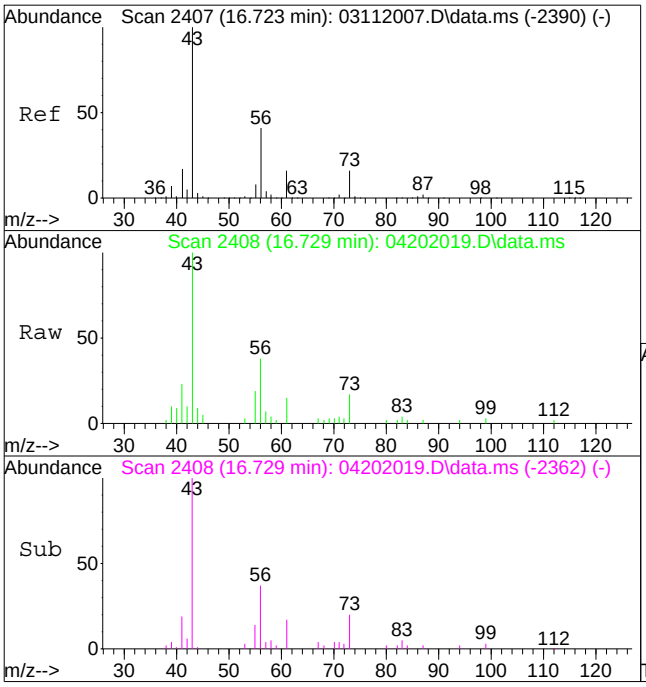


#60
Dibromochloromethane
Concen: 0.12 ng
RT: 16.26 min Scan# 2322
Delta R.T. -0.005 min
Lab File: 04202019.D
Acq: 20 Apr 2020 13:55

Tgt Ion:129 Resp: 5467

Ion	Ratio	Lower	Upper
129	100		
127	78.2	57.3	97.3

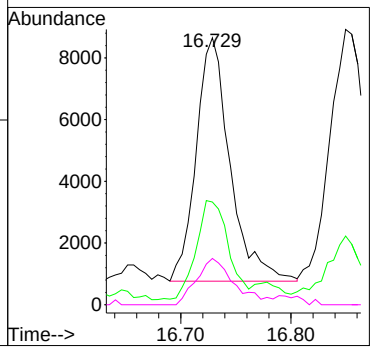


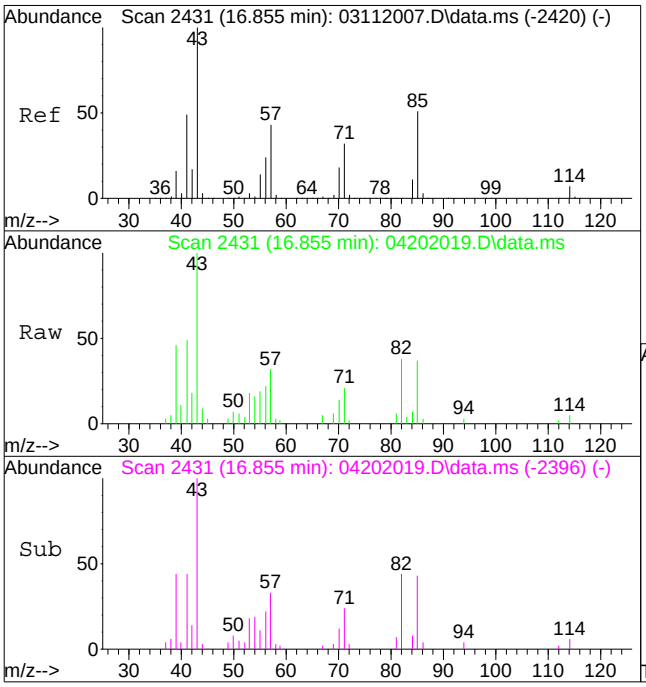


#62
n-Butyl Acetate
Concen: 0.19 ng
RT: 16.73 min Scan# 2408
Delta R.T. 0.000 min
Lab File: 04202019.D
Acq: 20 Apr 2020 13:55

Tgt Ion: 43 Resp: 16828

Ion	Ratio	Lower	Upper
43	100		
56	38.2	20.7	60.7
73	21.3	0.0	35.5

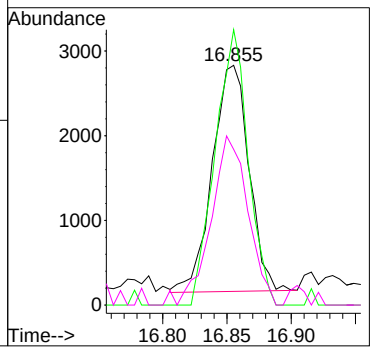


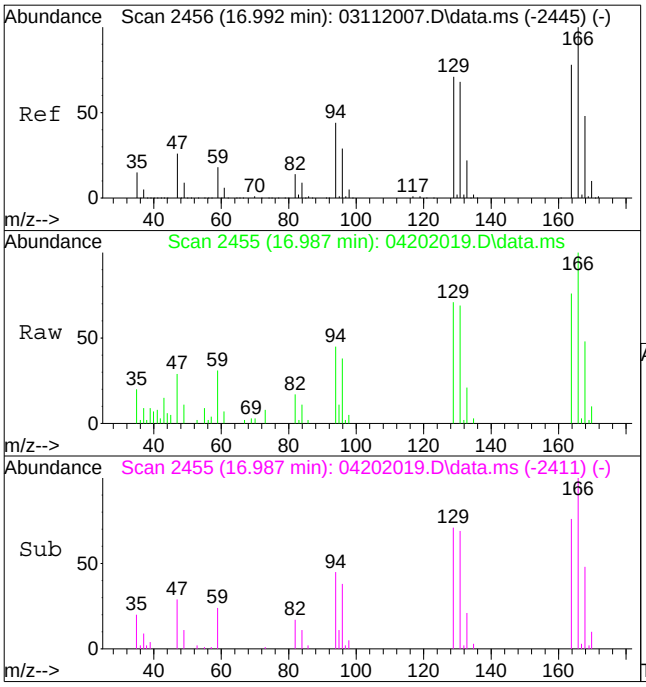


#63
n-Octane
Concen: 0.16 ng
RT: 16.86 min Scan# 2431
Delta R.T. -0.005 min
Lab File: 04202019.D
Acq: 20 Apr 2020 13:55

Tgt Ion: 57 Resp: 5304

Ion	Ratio	Lower	Upper
57	100		
85	109.4	95.1	142.7
71	75.9	58.2	87.4

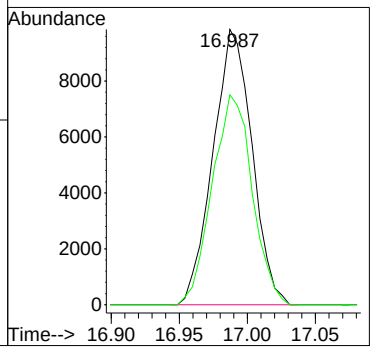


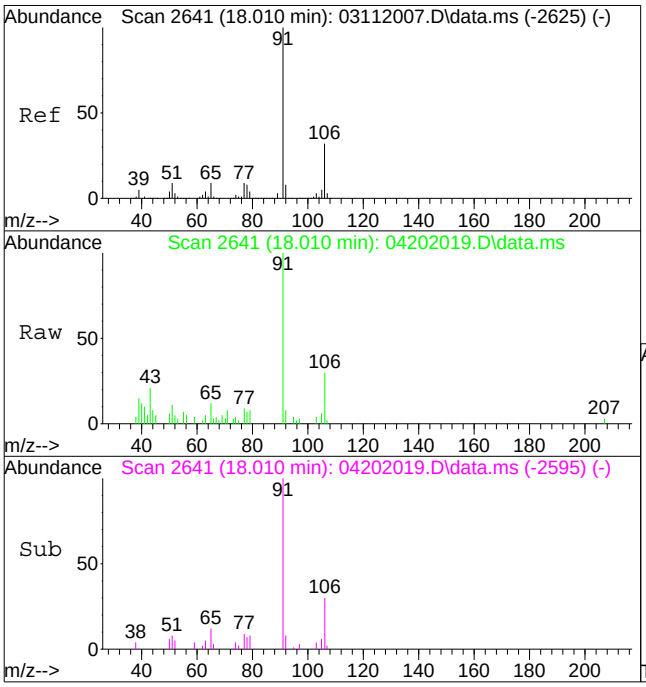


#64
Tetrachloroethene
Concen: 0.42 ng
RT: 16.99 min Scan# 2455
Delta R.T. -0.011 min
Lab File: 04202019.D
Acq: 20 Apr 2020 13:55

Tgt Ion:166 Resp: 19617

Ion	Ratio	Lower	Upper
166	100		
164	78.1	58.6	98.6

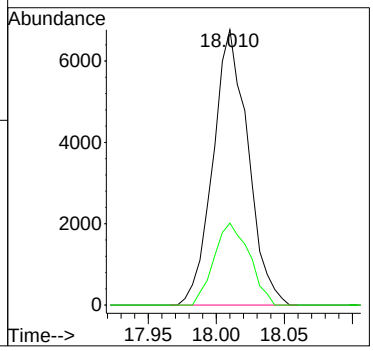


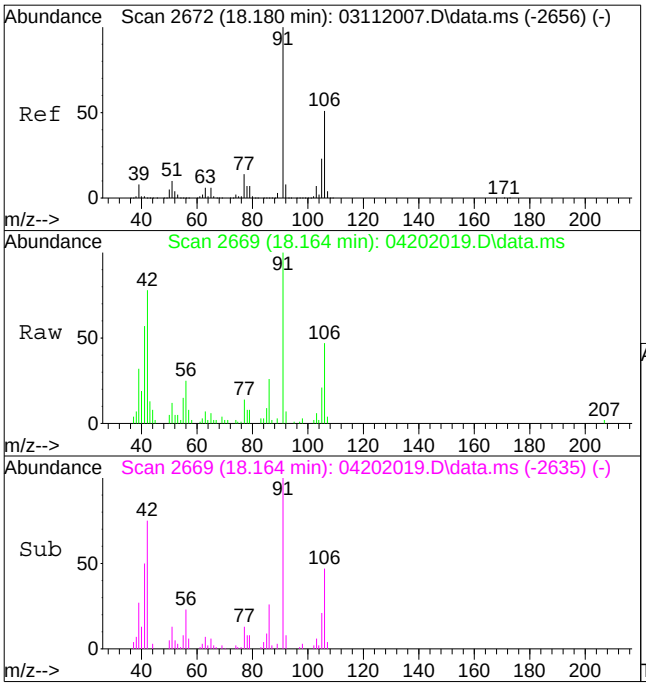


#66
Ethylbenzene
Concen: 0.07 ng
RT: 18.01 min Scan# 2641
Delta R.T. 0.000 min
Lab File: 04202019.D
Acq: 20 Apr 2020 13:55

Tgt Ion: 91 Resp: 12088

Ion	Ratio	Lower	Upper
91	100		
106	30.1	11.7	51.7

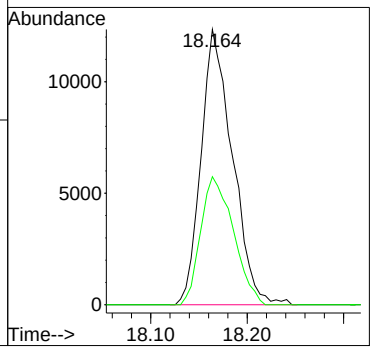


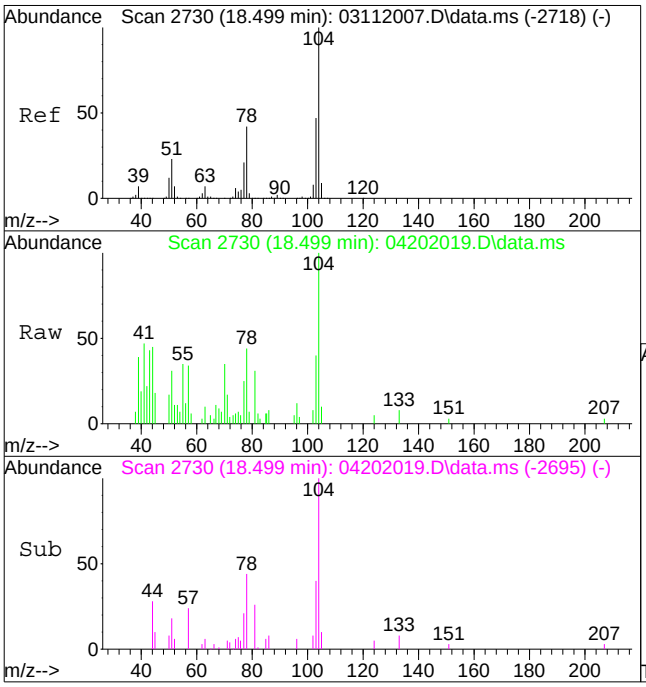


#67
m- & p-Xylenes
Concen: 0.19 ng
RT: 18.16 min Scan# 2669
Delta R.T. -0.011 min
Lab File: 04202019.D
Acq: 20 Apr 2020 13:55

Tgt Ion: 91 Resp: 27863

Ion	Ratio	Lower	Upper
91	100		
106	48.5	30.4	70.4

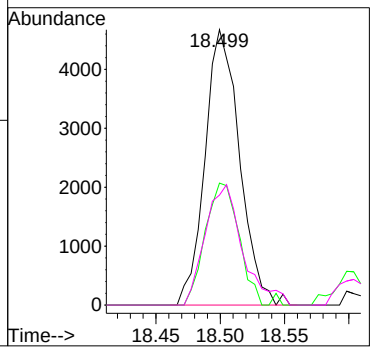


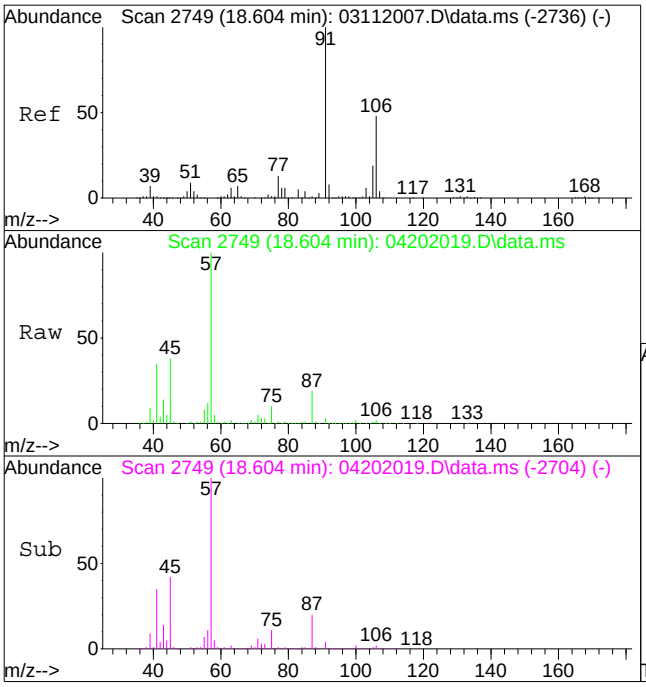


#69
Styrene
Concen: 0.07 ng
RT: 18.50 min Scan# 2730
Delta R.T. -0.006 min
Lab File: 04202019.D
Acq: 20 Apr 2020 13:55

Tgt Ion:104 Resp: 8769

Ion	Ratio	Lower	Upper
104	100		
78	42.9	20.9	60.9
103	47.3	27.4	67.4

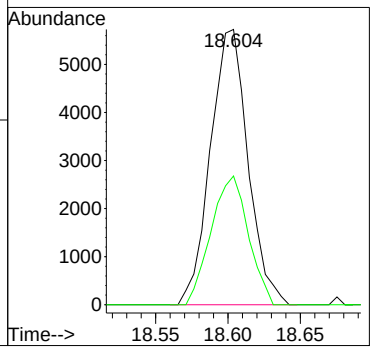


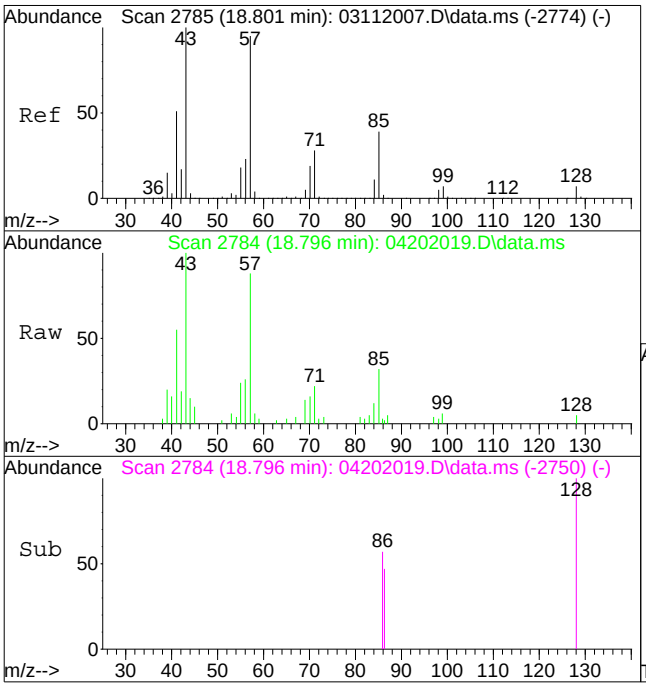


#70
o-Xylene
Concen: 0.07 ng
RT: 18.60 min Scan# 2749
Delta R.T. -0.005 min
Lab File: 04202019.D
Acq: 20 Apr 2020 13:55

Tgt Ion: 91 Resp: 10355

Ion	Ratio	Lower	Upper
91	100		
106	46.3	28.1	68.1

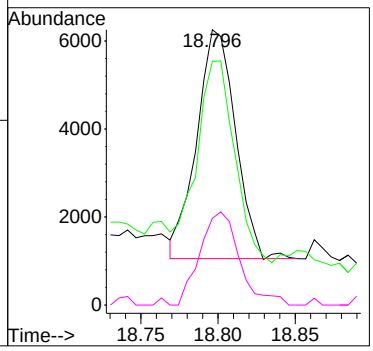


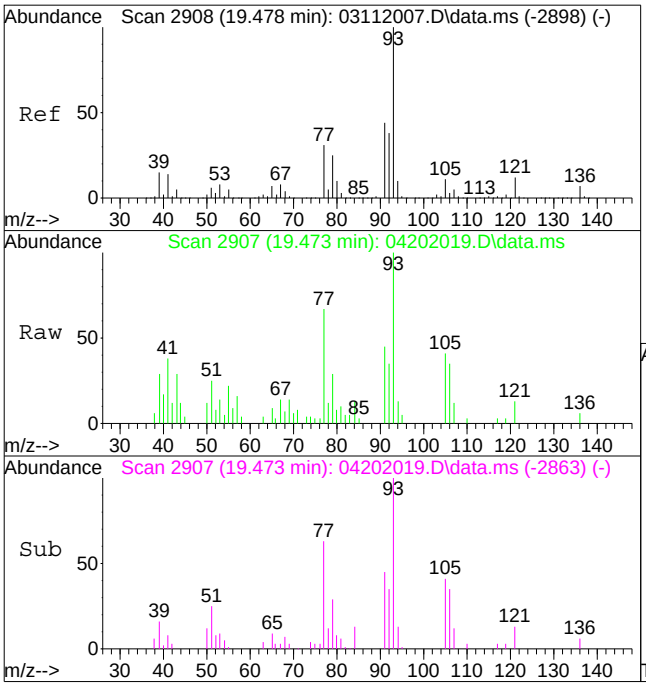


#71
n-Nonane
Concen: 0.12 ng
RT: 18.80 min Scan# 2784
Delta R.T. -0.011 min
Lab File: 04202019.D
Acq: 20 Apr 2020 13:55

Tgt Ion: 43 Resp: 9103

Ion	Ratio	Lower	Upper
43	100		
57	87.3	73.6	113.6
85	42.0	18.7	58.7

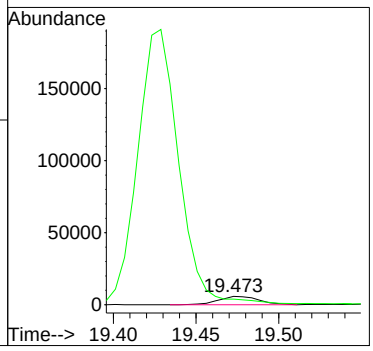


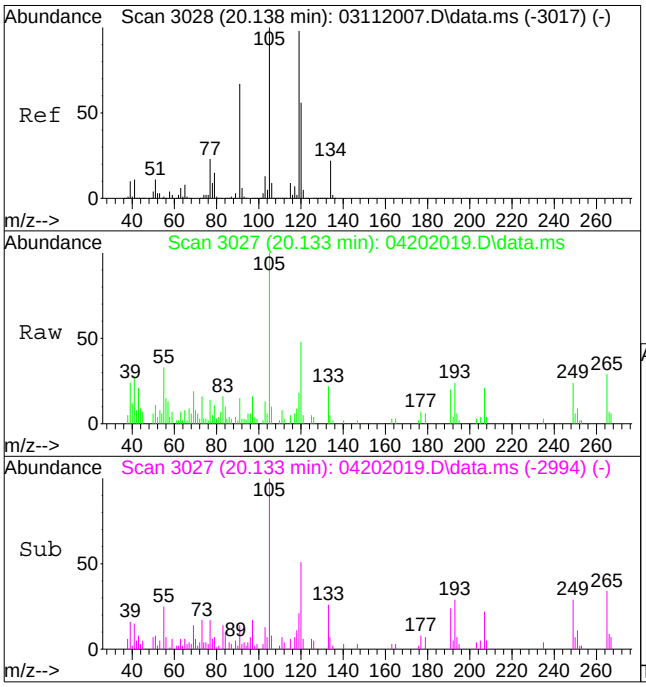


#75
alpha-Pinene
Concen: 0.10 ng
RT: 19.47 min Scan# 2907
Delta R.T. -0.011 min
Lab File: 04202019.D
Acq: 20 Apr 2020 13:55

Tgt Ion: 93 Resp: 9965

Ion	Ratio	Lower	Upper
93	100		
77	3359.9	11.1	51.1#

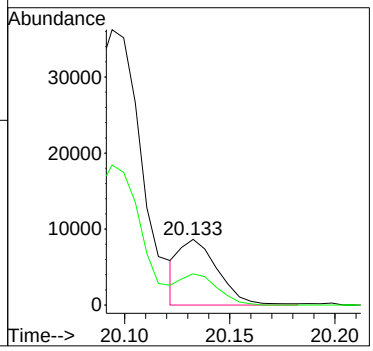


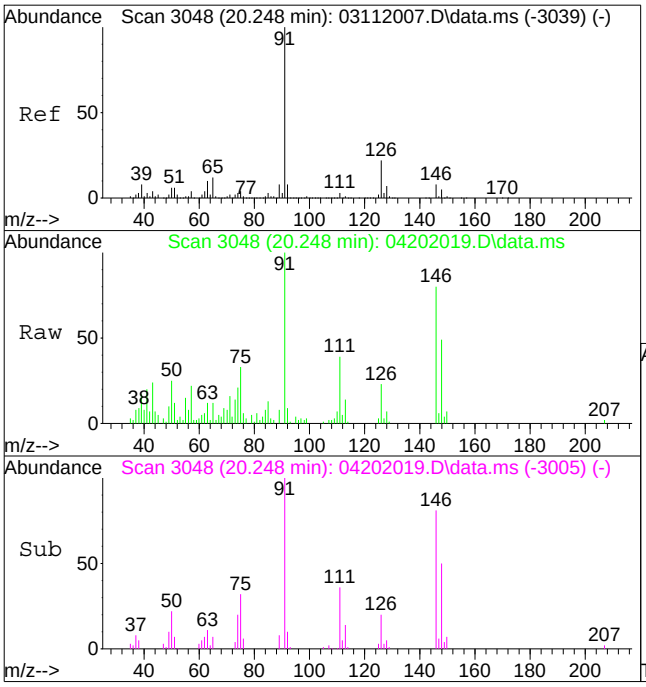


#82
1,2,4-Trimethylbenzene
Concen: 0.07 ng
RT: 20.13 min Scan# 3027
Delta R.T. -0.016 min
Lab File: 04202019.D
Acq: 20 Apr 2020 13:55

Tgt Ion:105 Resp: 11078

Ion	Ratio	Lower	Upper
105	100		
120	45.9	35.8	75.8

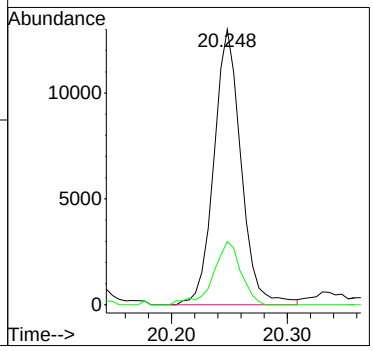


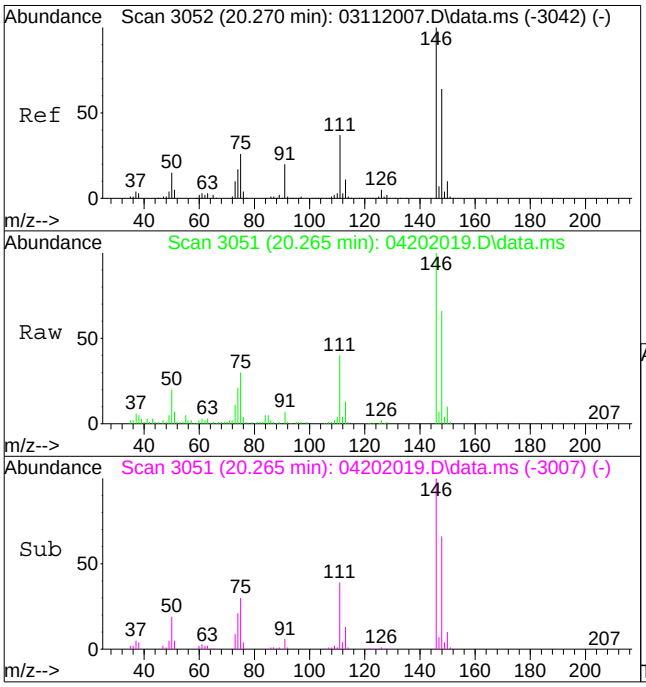


#84
Benzyl Chloride
Concen: 0.16 ng
RT: 20.25 min Scan# 3048
Delta R.T. -0.011 min
Lab File: 04202019.D
Acq: 20 Apr 2020 13:55

Tgt Ion: 91 Resp: 21209

Ion	Ratio	Lower	Upper
91	100		
126	23.2	2.6	42.6

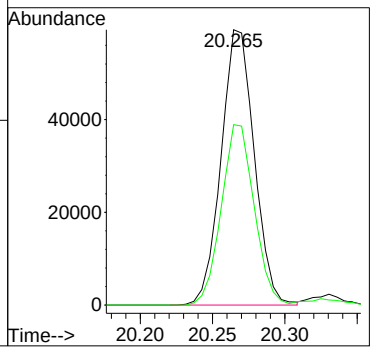


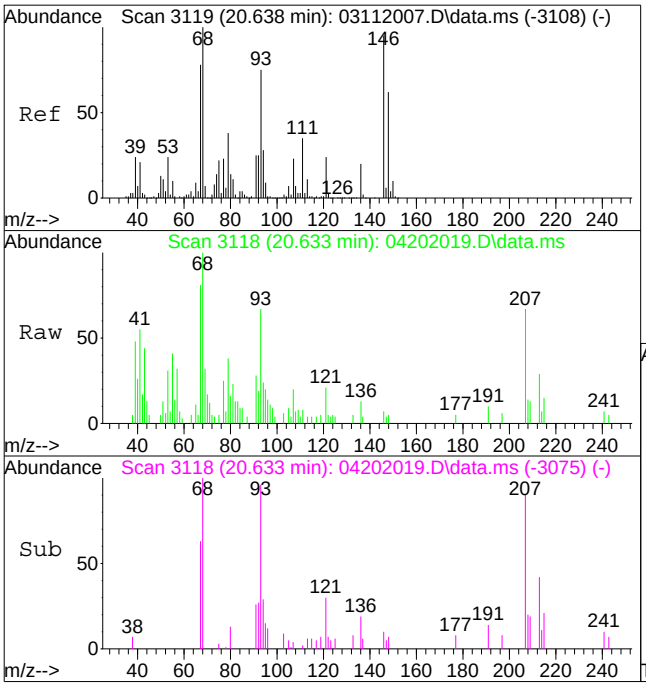


#85
1,3-Dichlorobenzene
Concen: 1.06 ng
RT: 20.26 min Scan# 3051
Delta R.T. -0.011 min
Lab File: 04202019.D
Acq: 20 Apr 2020 13:55

Tgt Ion:146 Resp: 94745

Ion	Ratio	Lower	Upper
146	100		
148	64.8	44.2	84.2

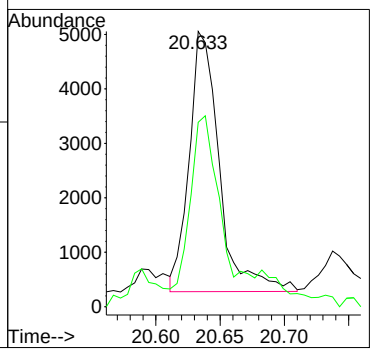


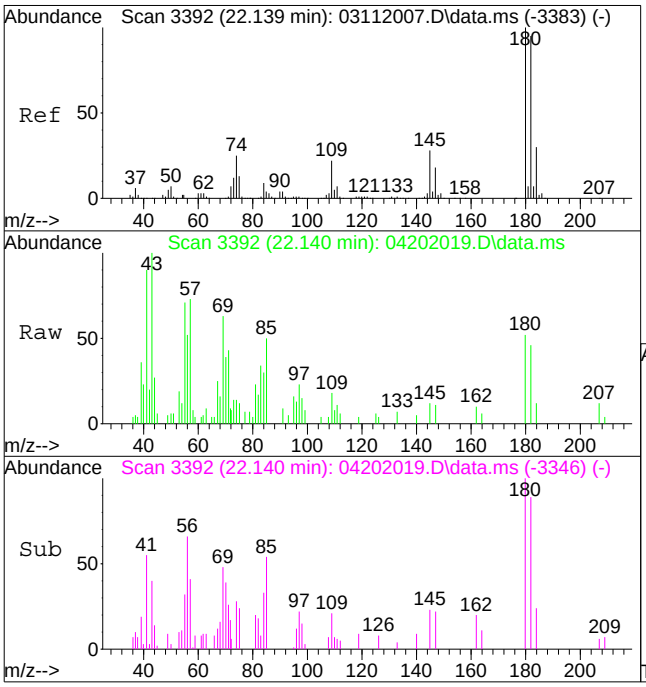


#91
d-Limonene
Concen: 0.12 ng
RT: 20.63 min Scan# 3118
Delta R.T. -0.016 min
Lab File: 04202019.D
Acq: 20 Apr 2020 13:55

Tgt Ion: 68 Resp: 7796

Ion	Ratio	Lower	Upper
68	100		
93	92.7	54.7	94.7

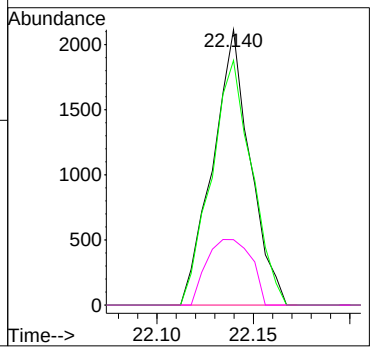




#94
1,2,4-Trichlorobenzene
Concen: 0.05 ng
RT: 22.14 min Scan# 3392
Delta R.T. 0.001 min
Lab File: 04202019.D
Acq: 20 Apr 2020 13:55

Tgt Ion:180 Resp: 2856

Ion	Ratio	Lower	Upper
180	100		
182	95.9	75.8	113.6
184	28.3	24.3	36.5



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202020.D Vial: 15
Acq On : 20 Apr 2020 14:28 Operator: TD
Sample : P2002028-018 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 20:46:38 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/20/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	333752	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1472925	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	729005	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	583824	12.633	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.04%				
57) Toluene-d8 (SS2)	15.74	98	1528832	11.832	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.64%				
73) Bromofluorobenzene (SS3)	19.00	174	518362	11.360	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.88%				
Target Compounds							Qvalue
2) Propene	4.13	42	16864	0.482	ng	#	79
3) Dichlorodifluoromethan...	4.28	85	83529	1.109	ng		99
4) Chloromethane	4.56	50	25037	0.421	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	721	N.D.			
6) Vinyl Chloride	4.98	62	1750	N.D.			
7) 1,3-Butadiene	5.24	54	2799	0.062	ng	#	82
8) Bromomethane	5.66	94	3975	0.126	ng		97
9) Chloroethane	5.99	64	1916	0.080	ng		89
10) Ethanol	6.34	45	38579	1.395	ng		99
11) Acetonitrile	6.61	41	6829	0.112	ng		95
12) Acrolein	6.80	56	30570m	1.502	ng		
13) Acetone	7.01	58	197108	7.220	ng		97
14) Trichlorofluoromethane	7.26	101	124538	1.875	ng		98
15) 2-Propanol (Isopropanol)	7.54	45	12881	0.159	ng	#	56
16) Acrylonitrile	7.81	53	1113	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.44	84	1613	N.D.			
20) 3-Chloro-1-propene (Al...	8.61	41	633	N.D.			
21) Trichlorotrifluoroethane	8.85	151	2287	0.072	ng		95
22) Carbon Disulfide	8.70	76	267975	2.097	ng		100
23) trans-1,2-Dichloroethene	9.72	61	718	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.10	73	1982	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.48	72	28672	1.262	ng	#	89
28) cis-1,2-Dichloroethene	10.98	61	8048	0.163	ng		97
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.31	61	4553	0.339	ng		85
31) n-Hexane	11.28	57	6369	0.102	ng	#	86
32) Chloroform	11.33	83	109384	1.651	ng		100
34) Tetrahydrofuran (THF)	11.74	72	135520	5.795	ng		94
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.15	62	522	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	12.88	61	462	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.90	78	37438	0.246	ng		93
42) Carbon Tetrachloride	13.05	117	6900	0.132	ng		100
43) Cyclohexane	13.19	84	2872	N.D.			
44) tert-Amyl Methyl Ether	13.54	73	163	N.D.			
45) 1,2-Dichloropropane	13.68	63	374	N.D.			
46) Bromodichloromethane	13.94	83	17679	0.343	ng		100
47) Trichloroethene	13.99	130	2147	N.D.			
48) 1,4-Dioxane	14.00	88	1669	0.057	ng		88
49) 2,2,4-Trimethylpentane...	14.06	57	5182	N.D.			
50) Methyl Methacrylate	14.33	100	681	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202020.D Vial: 15
Acq On : 20 Apr 2020 14:28 Operator: TD
Sample : P2002028-018 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 20:46:38 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.34	71	2599	0.073 ng		96
52) cis-1,3-Dichloropropene	14.86	75	105	N.D.		
53) 4-Methyl-2-pentanone	14.91	58	3406	0.107 ng	#	79
54) trans-1,3-Dichloropropene	15.41	75	189	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.84	91	63705	0.399 ng		98
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	16.25	129	2252	0.053 ng		92
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.74	43	1511	N.D.		
63) n-Octane	16.86	57	2152	0.068 ng		89
64) Tetrachloroethene	16.99	166	5618	0.126 ng		99
65) Chlorobenzene	17.66	112	501	N.D.		
66) Ethylbenzene	18.01	91	9988	0.057 ng		98
67) m- & p-Xylenes	18.16	91	26176	0.184 ng		100
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.50	104	3349	N.D.		
70) o-Xylene	18.60	91	9802	0.069 ng		97
71) n-Nonane	18.80	43	3971	0.056 ng		88
72) 1,1,2,2-Tetrachloroethane	18.58	83	128	N.D.		
74) Cumene	19.13	105	3094	N.D.		
75) alpha-Pinene	19.47	93	500	N.D.		
76) n-Propylbenzene	19.58	91	3939	N.D.		
77) 3-Ethyltoluene	19.67	105	7776	N.D.		
78) 4-Ethyltoluene	19.70	105	3813	N.D.		
79) 1,3,5-Trimethylbenzene	19.78	105	3814	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	19.94	105	3052	N.D.		
82) 1,2,4-Trimethylbenzene	20.13	105	11658	0.074 ng		84
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.25	91	3575	N.D.		
85) 1,3-Dichlorobenzene	20.26	146	324	N.D.		
86) 1,4-Dichlorobenzene	20.33	146	801	N.D.		
87) sec-Butylbenzene	20.37	105	1436	N.D.		
88) 4-Isopropyltoluene (p-...	20.52	119	2115	N.D.		
89) 1,2,3-Trimethylbenzene	20.51	105	3426	N.D.		
90) 1,2-Dichlorobenzene	20.63	146	277	N.D.		
91) d-Limonene	20.64	68	2902	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.33	57	3592	N.D.		
94) 1,2,4-Trichlorobenzene	22.14	180	119	N.D.		
95) Naphthalene	22.24	128	6283	N.D.		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	20.18	119	255	N.D.		
100) n-Butylbenzene	20.86	91	4742	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

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Misc : S31-02112001

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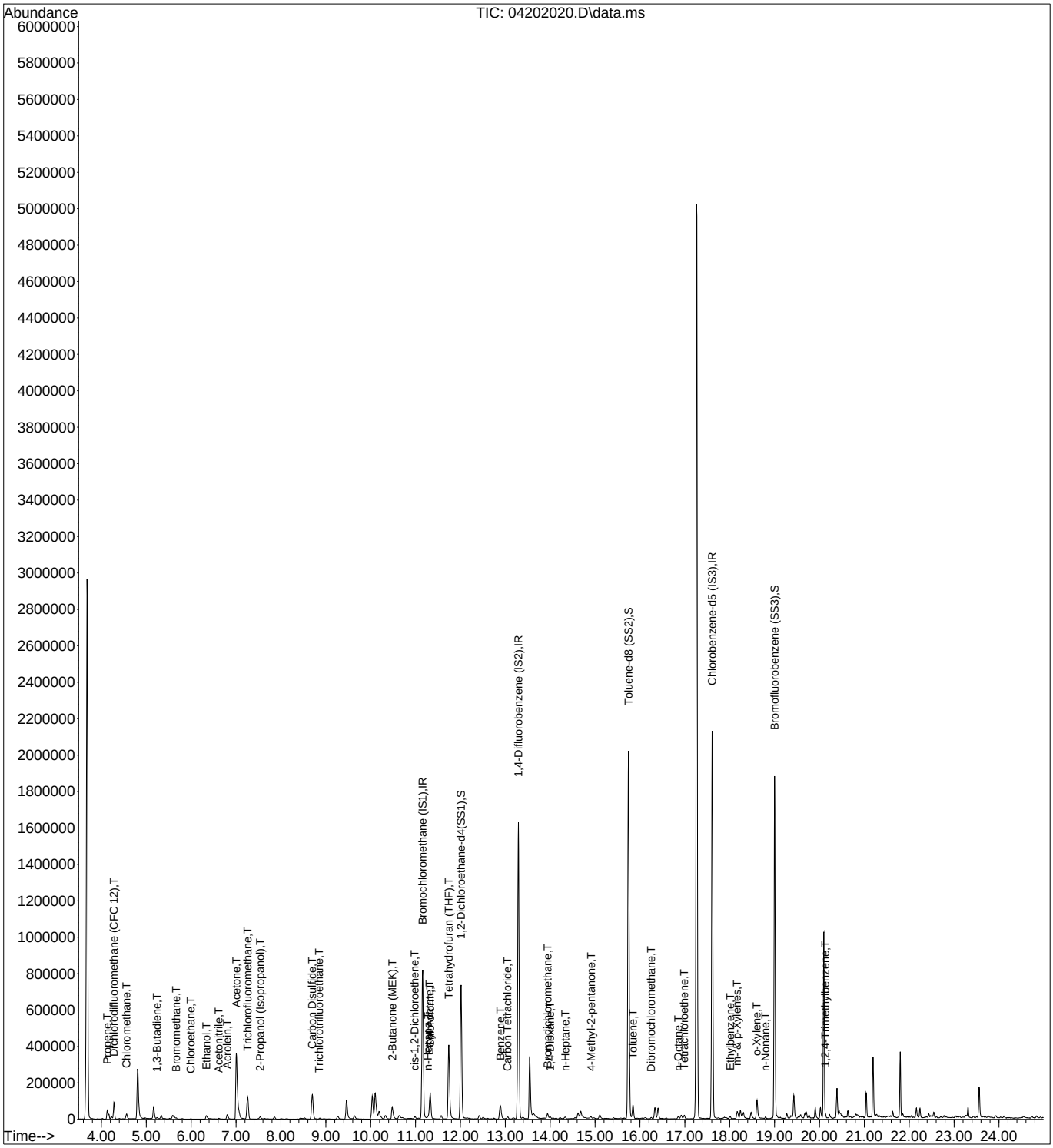
DataAcq Meth:TO15.M



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LH 4/20/20

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53) 4-Methyl-2-pentanone	14.91	58	3406	0.107	ng	#	79
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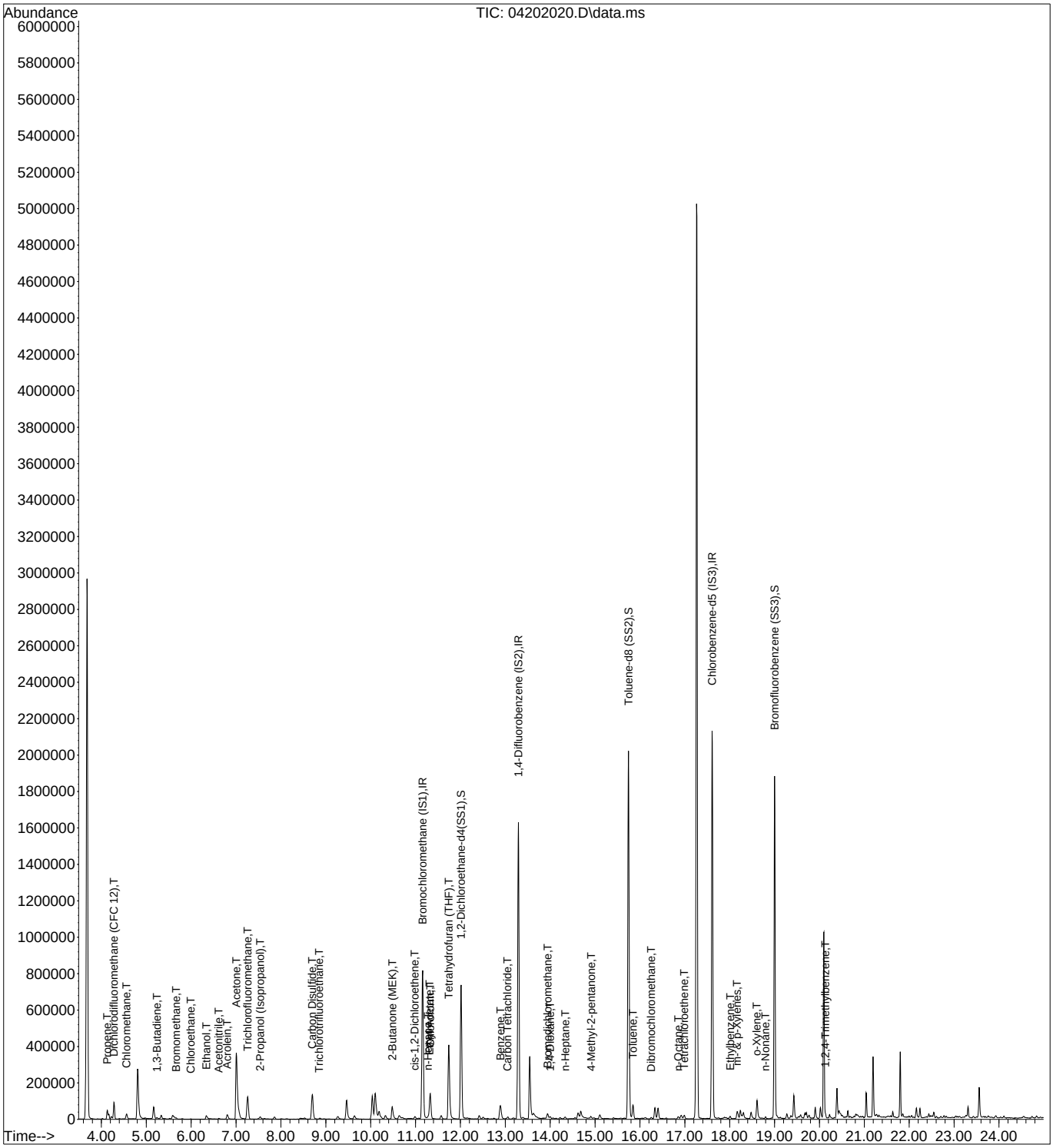
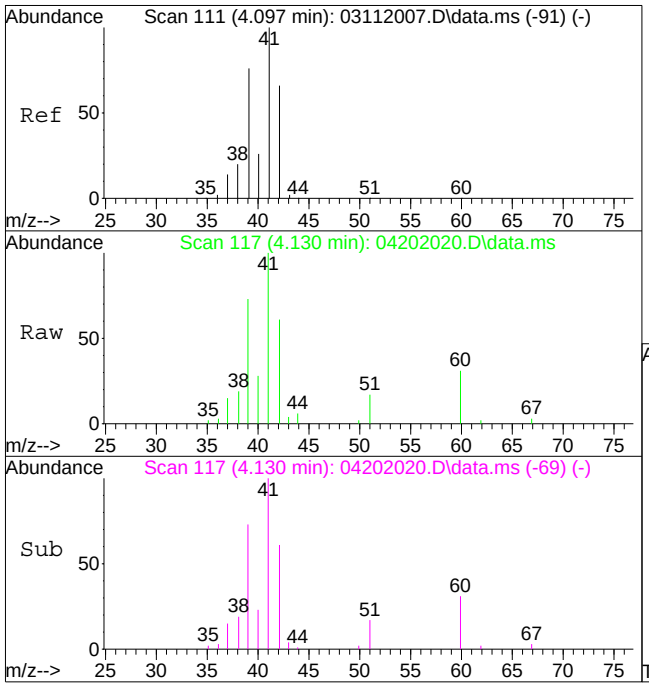
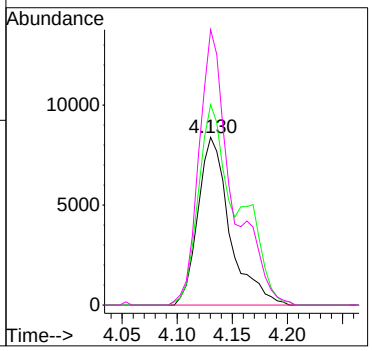


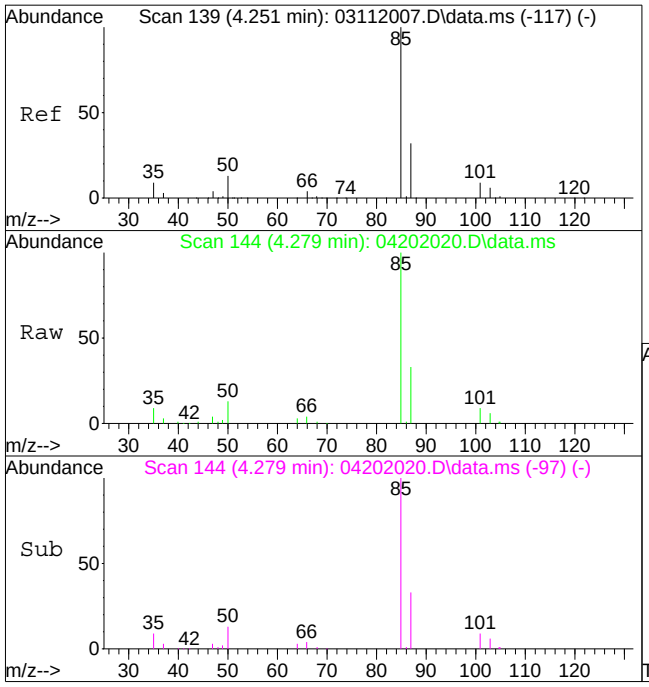


#2
Propene
Concen: 0.48 ng
RT: 4.13 min Scan# 117
Delta R.T. 0.016 min
Lab File: 04202020.D
Acq: 20 Apr 2020 14:28

Tgt Ion: 42 Resp: 16864

Ion	Ratio	Lower	Upper
42	100		
39	148.4	95.3	135.3#
41	169.7	132.0	172.0

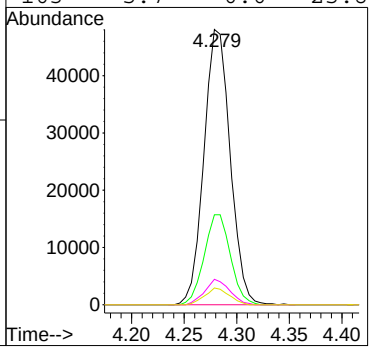


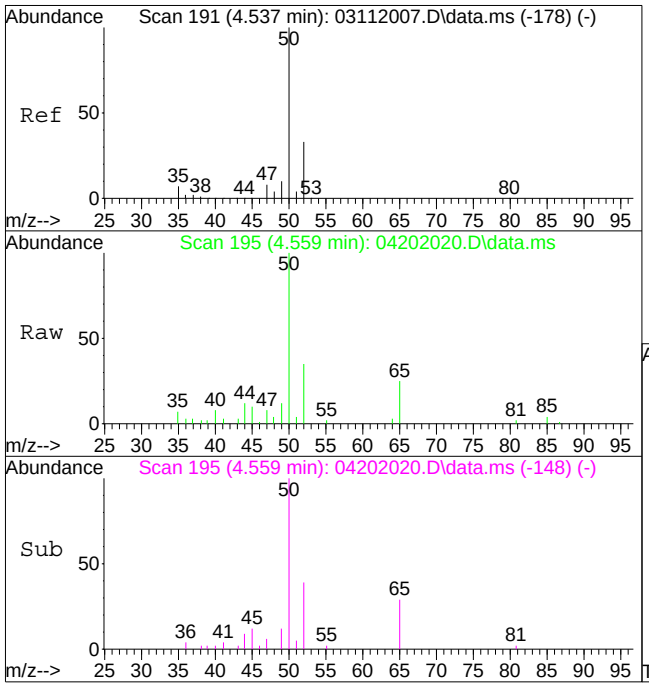


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.11 ng
RT: 4.28 min Scan# 144
Delta R.T. 0.011 min
Lab File: 04202020.D
Acq: 20 Apr 2020 14:28

Tgt Ion: 85 Resp: 83529

Ion	Ratio	Lower	Upper
85	100		
87	32.6	12.3	52.3
101	8.8	0.0	29.0
103	5.7	0.0	25.8

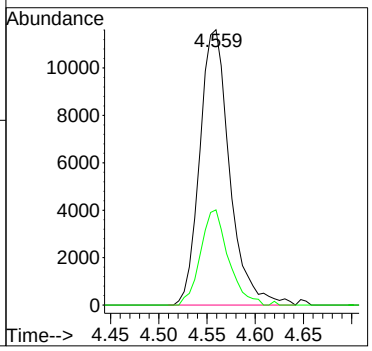


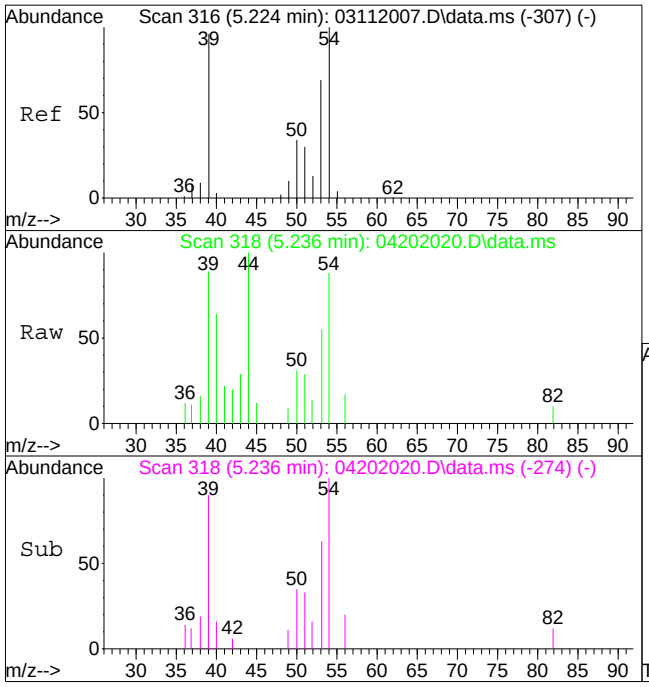


#4
Chloromethane
Concen: 0.42 ng
RT: 4.56 min Scan# 195
Delta R.T. 0.006 min
Lab File: 04202020.D
Acq: 20 Apr 2020 14:28

Tgt Ion: 50 Resp: 25037

Ion	Ratio	Lower	Upper
50	100		
52	32.2	12.8	52.8

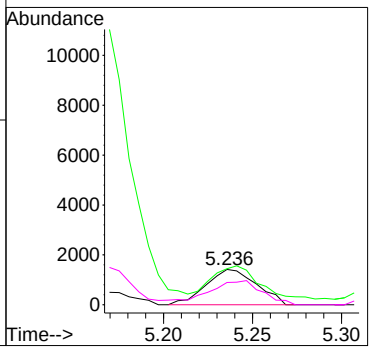


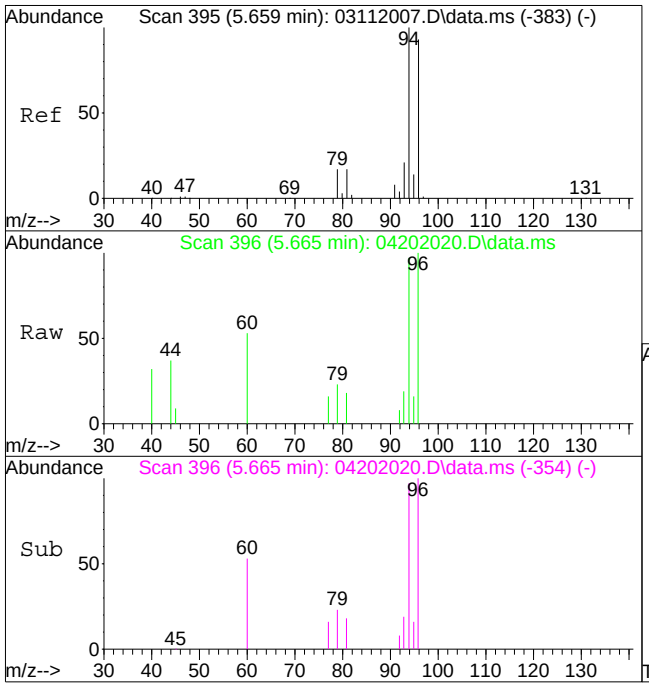


#7
1,3-Butadiene
Concen: 0.06 ng
RT: 5.24 min Scan# 318
Delta R.T. -0.010 min
Lab File: 04202020.D
Acq: 20 Apr 2020 14:28

Tgt Ion: 54 Resp: 2799

Ion	Ratio	Lower	Upper
54	100		
39	128.2	79.5	119.5#
53	72.1	49.3	89.3

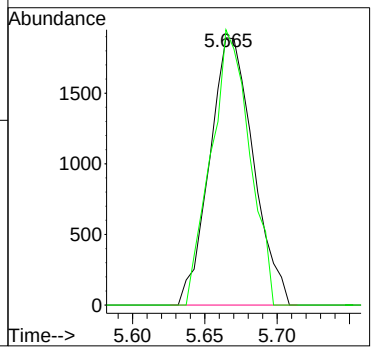


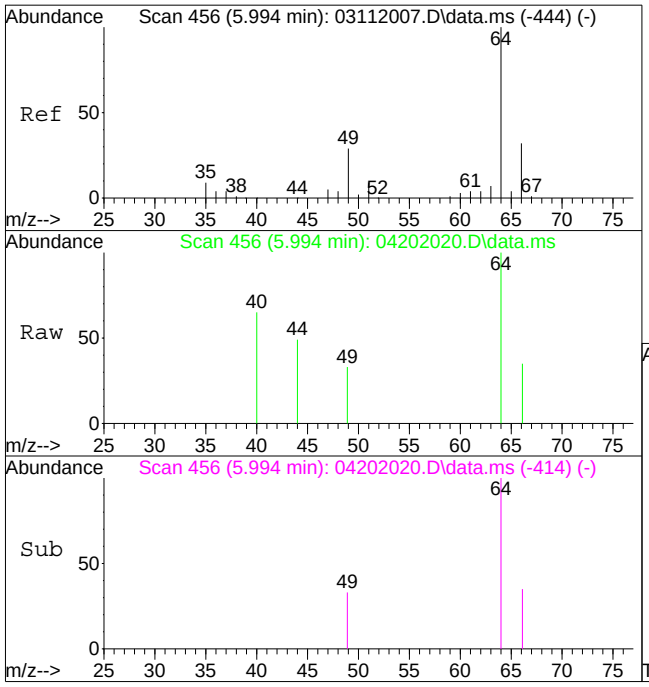


#8
Bromomethane
Concen: 0.13 ng
RT: 5.66 min Scan# 396
Delta R.T. -0.022 min
Lab File: 04202020.D
Acq: 20 Apr 2020 14:28

Tgt Ion: 94 Resp: 3975

Ion	Ratio	Lower	Upper
94	100		
96	91.0	73.8	113.8

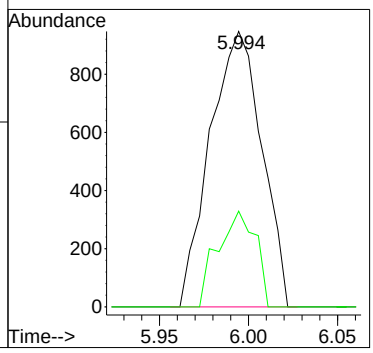


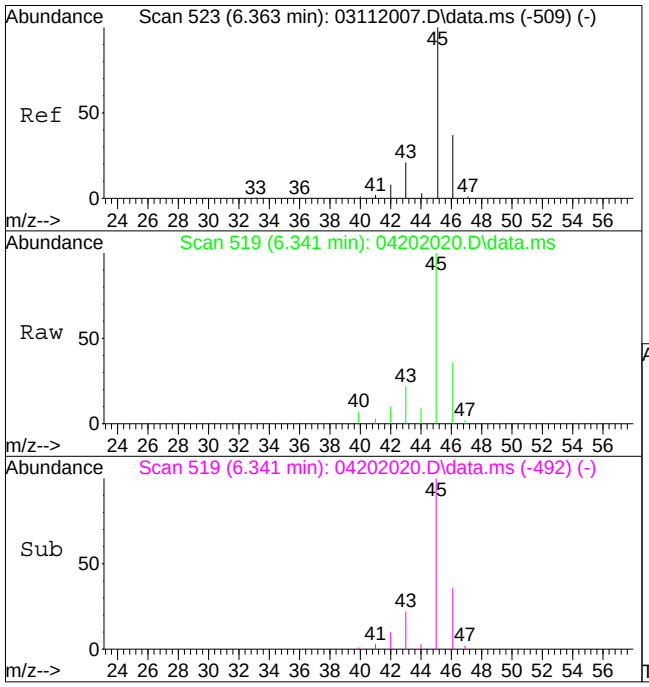


#9
Chloroethane
Concen: 0.08 ng
RT: 5.99 min Scan# 456
Delta R.T. -0.022 min
Lab File: 04202020.D
Acq: 20 Apr 2020 14:28

Tgt Ion: 64 Resp: 1916

Ion	Ratio	Lower	Upper
64	100		
66	25.5	11.7	51.7

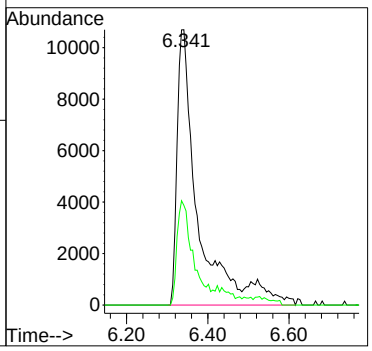


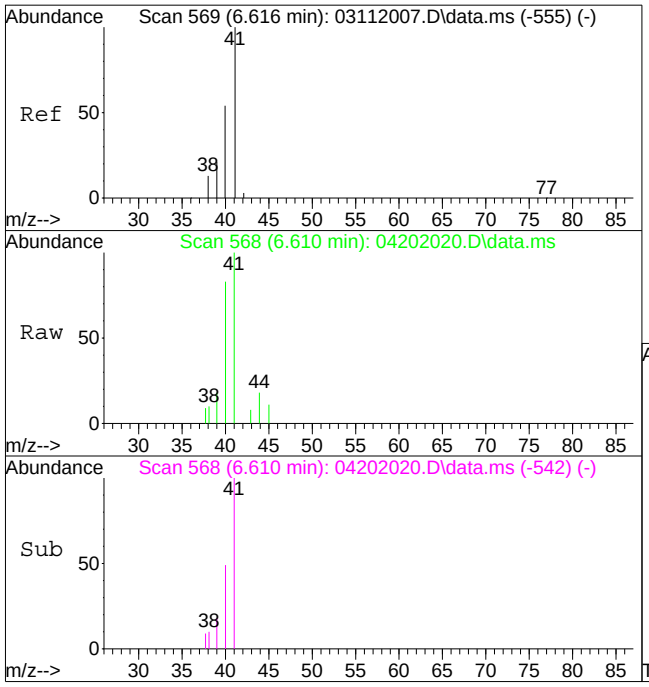


#10
Ethanol
Concen: 1.39 ng
RT: 6.34 min Scan# 519
Delta R.T. -0.099 min
Lab File: 04202020.D
Acq: 20 Apr 2020 14:28

Tgt Ion: 45 Resp: 38579

Ion	Ratio	Lower	Upper
45	100		
46	37.8	17.3	57.3

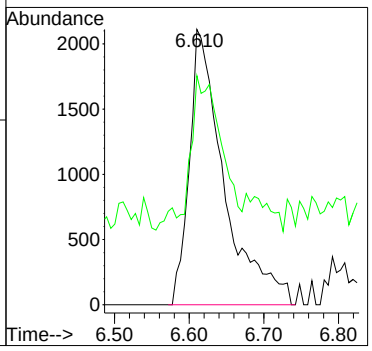


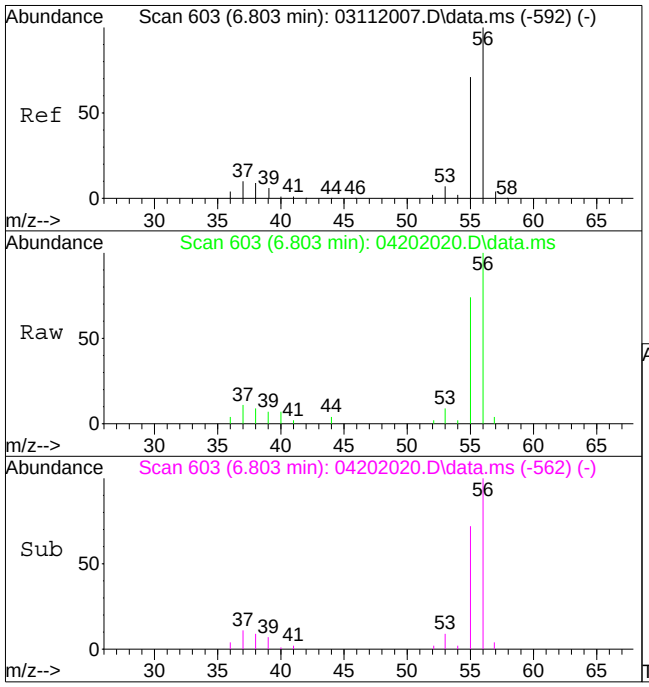


#11
Acetonitrile
Concen: 0.11 ng
RT: 6.61 min Scan# 568
Delta R.T. -0.055 min
Lab File: 04202020.D
Acq: 20 Apr 2020 14:28

Tgt Ion: 41 Resp: 6829

Ion	Ratio	Lower	Upper
41	100		
40	57.1	33.6	73.6

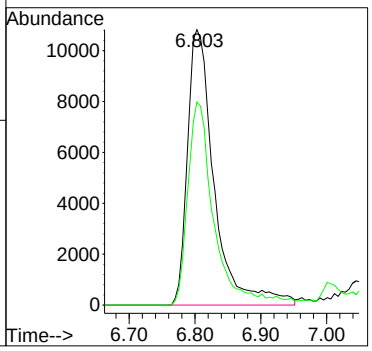


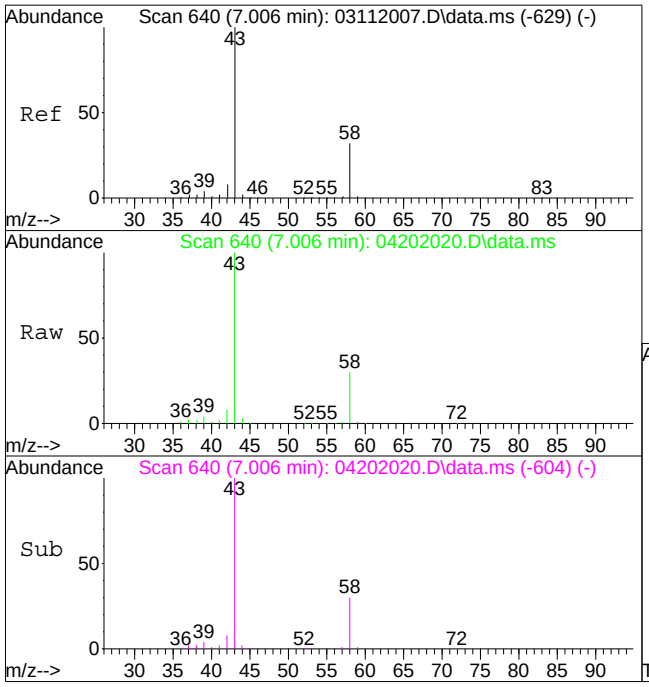


#12
Acrolein
Concen: 1.50 ng m
RT: 6.80 min Scan# 603
Delta R.T. -0.027 min
Lab File: 04202020.D
Acq: 20 Apr 2020 14:28

Tgt Ion: 56 Resp: 30570

Ion	Ratio	Lower	Upper
56	100		
55	73.1	50.4	90.4

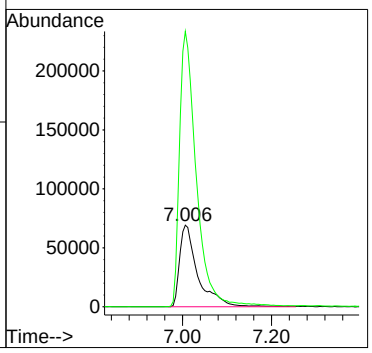


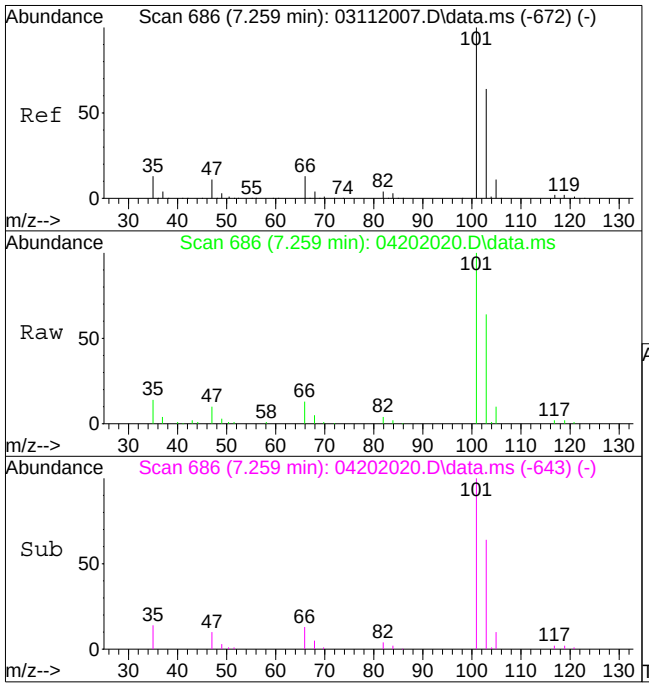


#13
Acetone
Concen: 7.22 ng
RT: 7.01 min Scan# 640
Delta R.T. -0.050 min
Lab File: 04202020.D
Acq: 20 Apr 2020 14:28

Tgt Ion: 58 Resp: 197108

Ion	Ratio	Lower	Upper
58	100		
43	311.3	287.3	347.3

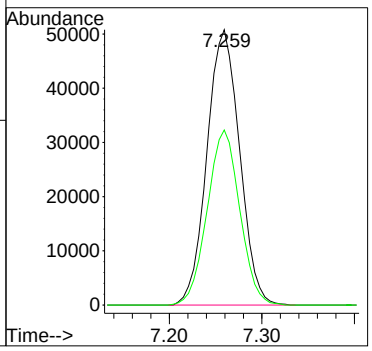


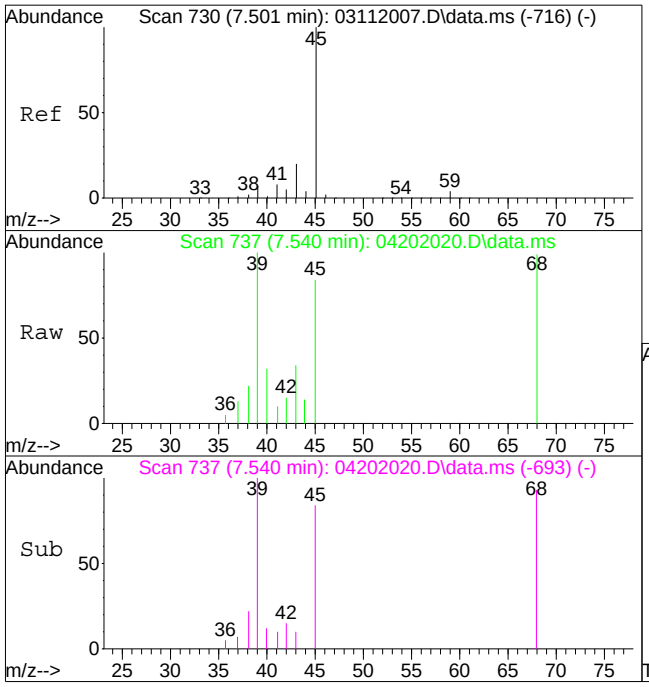


#14
Trichlorofluoromethane
Concen: 1.88 ng
RT: 7.26 min Scan# 686
Delta R.T. -0.016 min
Lab File: 04202020.D
Acq: 20 Apr 2020 14:28

Tgt Ion:101 Resp: 124538

Ion	Ratio	Lower	Upper
101	100		
103	63.3	44.6	84.6

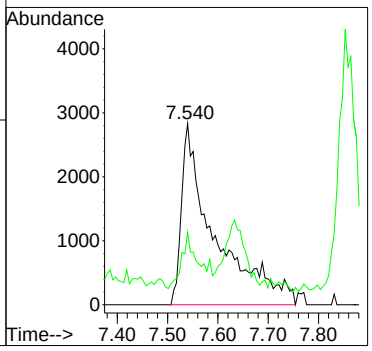


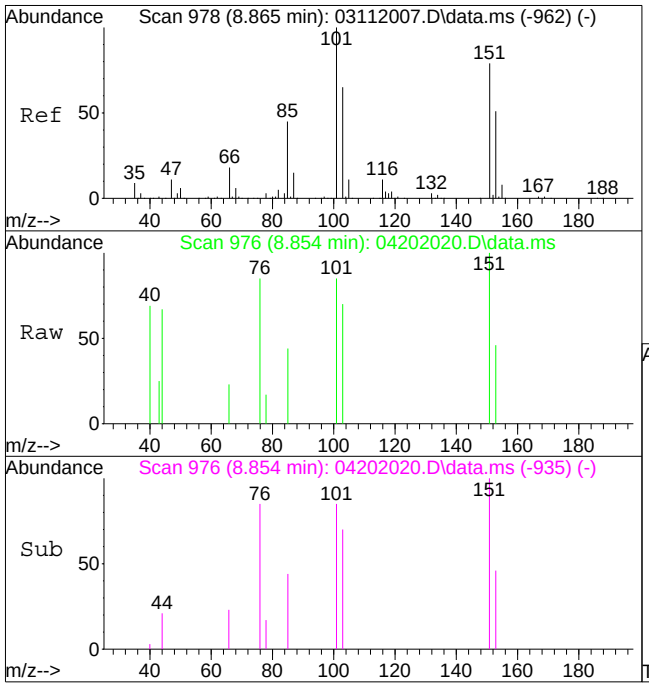


#15
2-Propanol (Isopropanol)
Concen: 0.16 ng
RT: 7.54 min Scan# 737
Delta R.T. -0.011 min
Lab File: 04202020.D
Acq: 20 Apr 2020 14:28

Tgt Ion: 45 Resp: 12881

Ion	Ratio	Lower	Upper
45	100		
43	0.0	0.3	40.3#

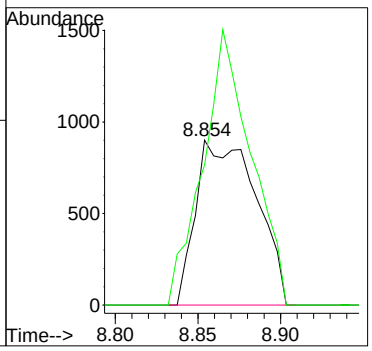


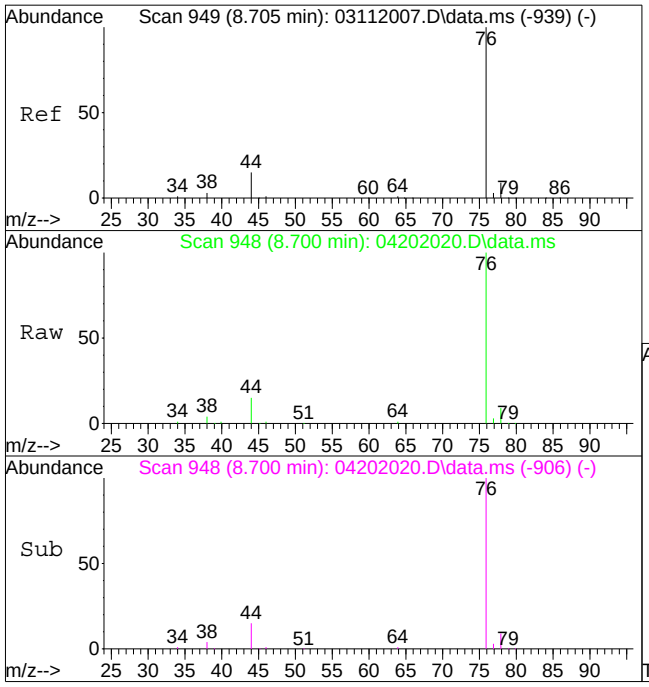


#21
Trichlorotrifluoroethane
Concen: 0.07 ng
RT: 8.85 min Scan# 976
Delta R.T. -0.022 min
Lab File: 04202020.D
Acq: 20 Apr 2020 14:28

Tgt Ion:151 Resp: 2287

Ion	Ratio	Lower	Upper
151	100		
101	133.8	108.4	148.4

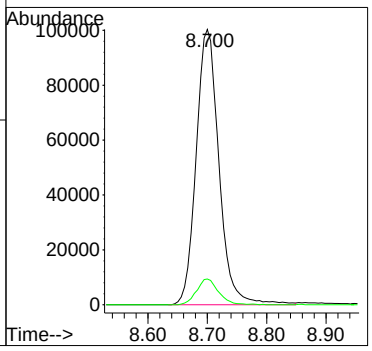


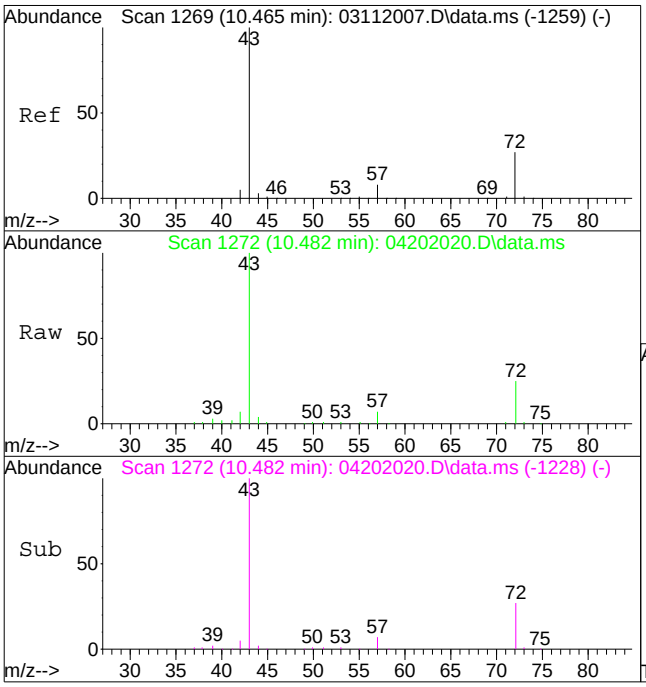


#22
Carbon Disulfide
Concen: 2.10 ng
RT: 8.70 min Scan# 948
Delta R.T. -0.022 min
Lab File: 04202020.D
Acq: 20 Apr 2020 14:28

Tgt Ion: 76 Resp: 267975

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	29.2

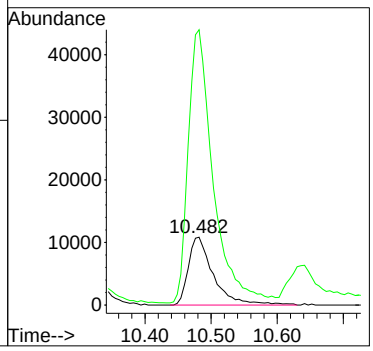


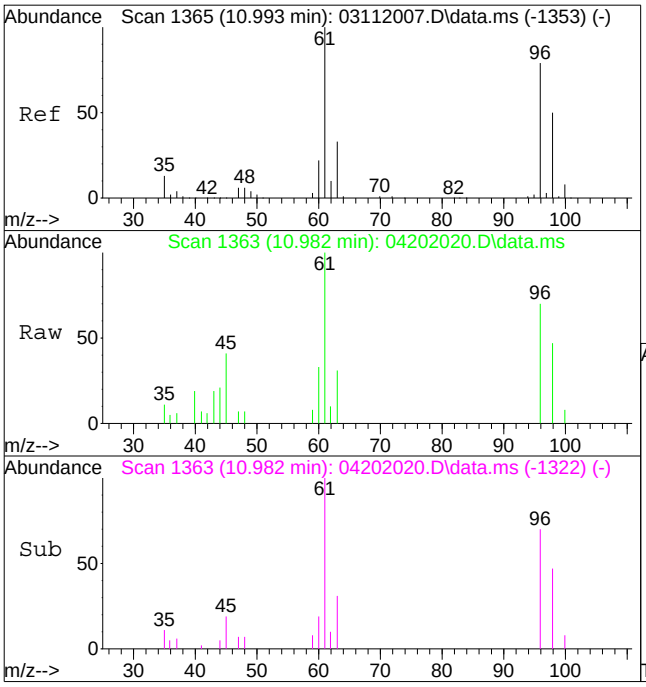


#27
2-Butanone (MEK)
Concen: 1.26 ng
RT: 10.48 min Scan# 1272
Delta R.T. -0.011 min
Lab File: 04202020.D
Acq: 20 Apr 2020 14:28

Tgt Ion: 72 Resp: 28672

Ion	Ratio	Lower	Upper
72	100		
43	397.9	353.4	393.4#

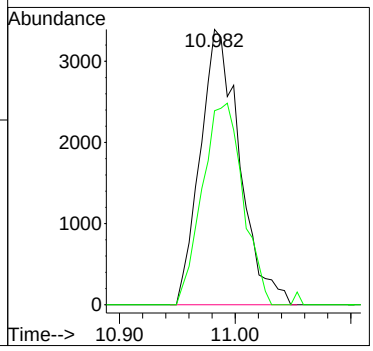


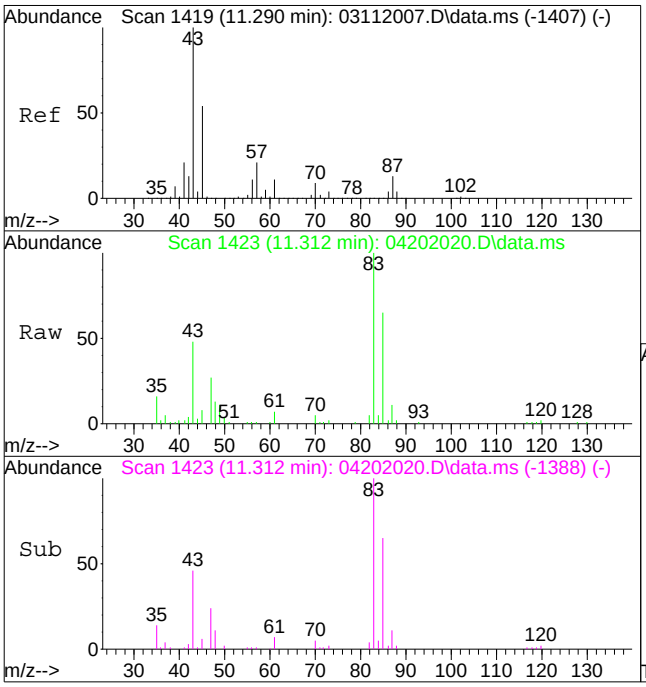


#28
cis-1,2-Dichloroethene
Concen: 0.16 ng
RT: 10.98 min Scan# 1363
Delta R.T. -0.027 min
Lab File: 04202020.D
Acq: 20 Apr 2020 14:28

Tgt Ion: 61 Resp: 8048

Ion	Ratio	Lower	Upper
61	100		
96	75.4	58.0	98.0

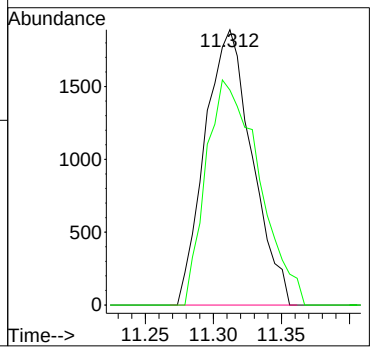


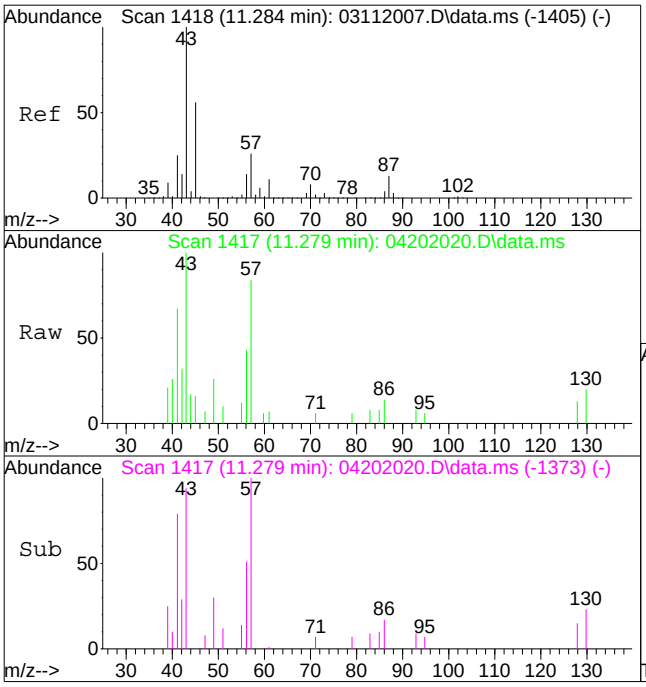


#30
Ethyl Acetate
Concen: 0.34 ng
RT: 11.31 min Scan# 1423
Delta R.T. -0.005 min
Lab File: 04202020.D
Acq: 20 Apr 2020 14:28

Tgt Ion: 61 Resp: 4553

Ion	Ratio	Lower	Upper
61	100		
70	91.9	59.1	99.1

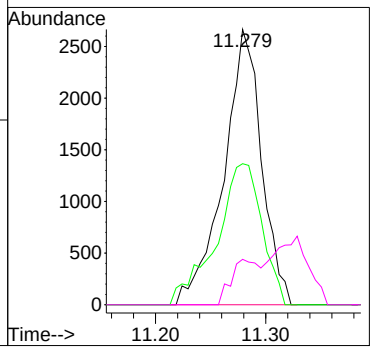


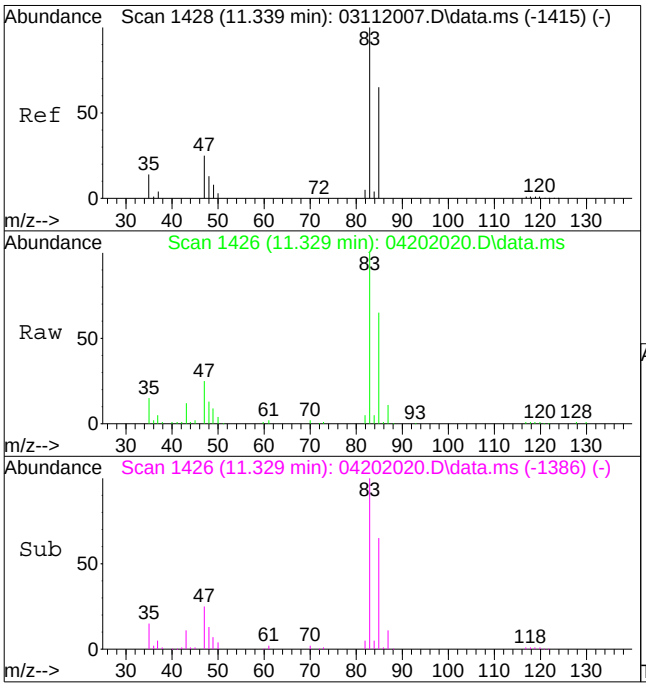


#31
n-Hexane
Concen: 0.10 ng
RT: 11.28 min Scan# 1417
Delta R.T. -0.011 min
Lab File: 04202020.D
Acq: 20 Apr 2020 14:28

Tgt Ion: 57 Resp: 6369

Ion	Ratio	Lower	Upper
57	100		
56	61.5	41.0	61.4#
86	12.4	13.9	20.9#

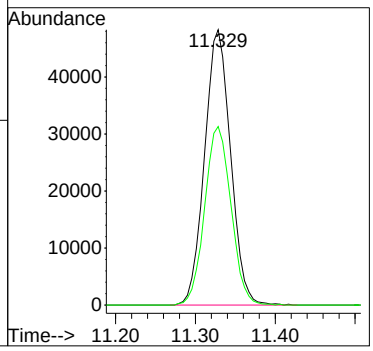


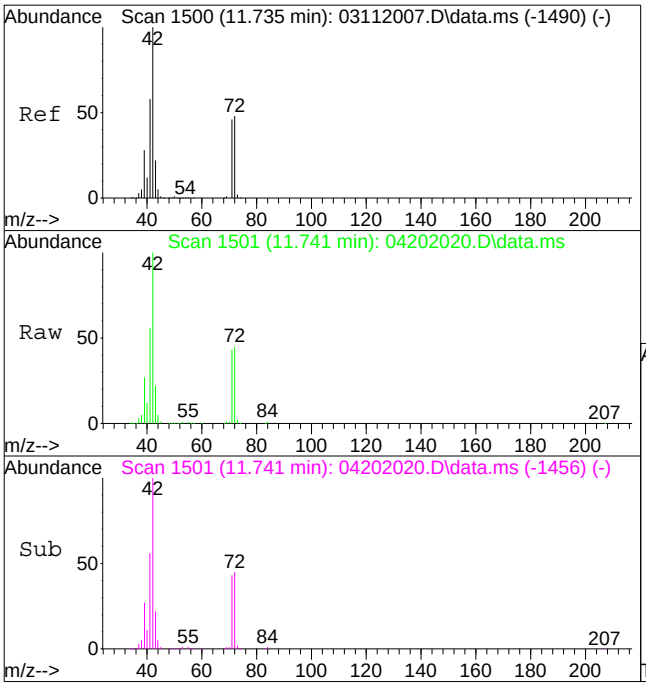


#32
Chloroform
Concen: 1.65 ng
RT: 11.33 min Scan# 1426
Delta R.T. -0.033 min
Lab File: 04202020.D
Acq: 20 Apr 2020 14:28

Tgt Ion: 83 Resp: 109384

Ion	Ratio	Lower	Upper
83	100		
85	65.6	45.5	85.5

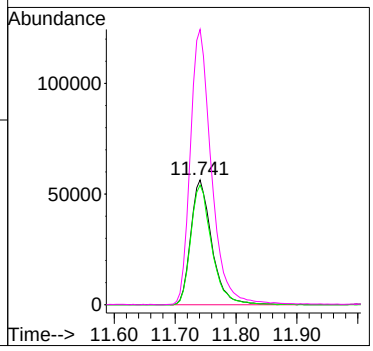


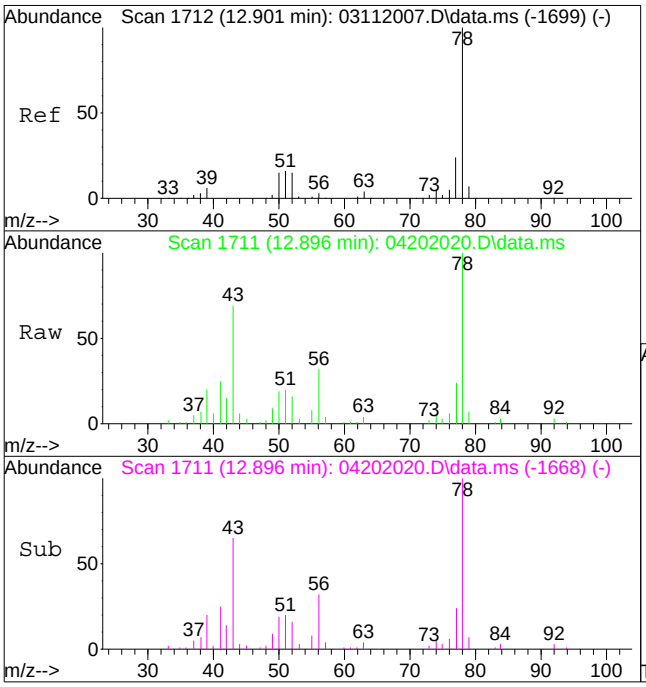


#34
Tetrahydrofuran (THF)
Concen: 5.80 ng
RT: 11.74 min Scan# 1501
Delta R.T. -0.005 min
Lab File: 04202020.D
Acq: 20 Apr 2020 14:28

Tgt Ion: 72 Resp: 135520

Ion	Ratio	Lower	Upper
72	100		
71	95.5	75.9	115.9
42	223.5	189.3	229.3

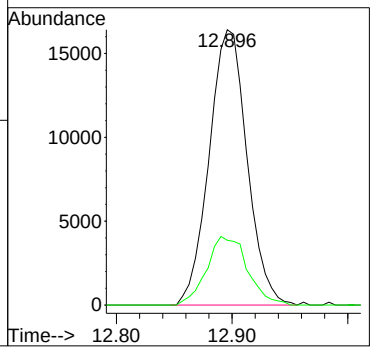


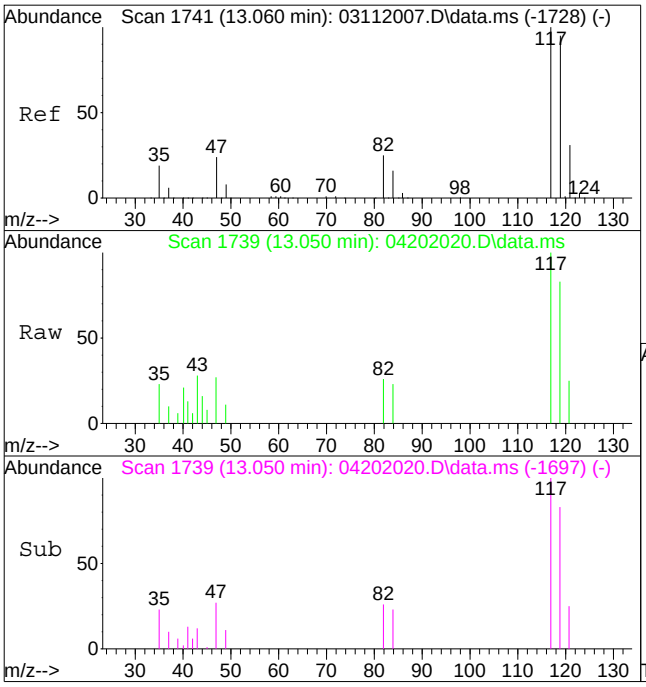


#41
Benzene
Concen: 0.25 ng
RT: 12.90 min Scan# 1711
Delta R.T. -0.016 min
Lab File: 04202020.D
Acq: 20 Apr 2020 14:28

Tgt Ion: 78 Resp: 37438

Ion	Ratio	Lower	Upper
78	100		
77	26.7	3.4	43.4

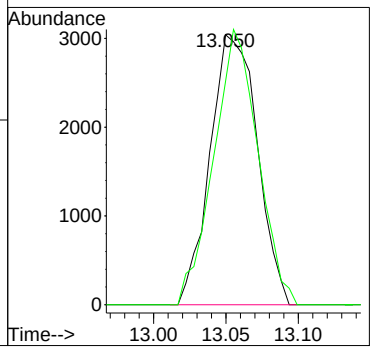


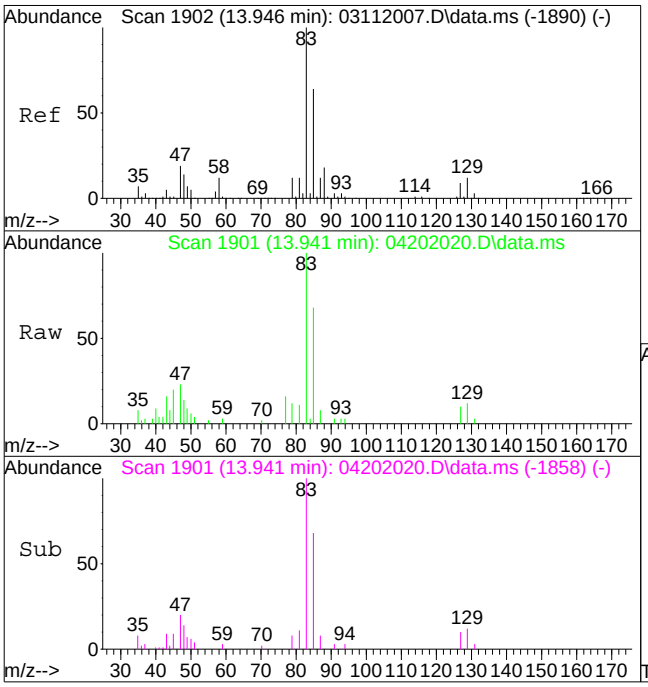


#42
Carbon Tetrachloride
Concen: 0.13 ng
RT: 13.05 min Scan# 1739
Delta R.T. -0.022 min
Lab File: 04202020.D
Acq: 20 Apr 2020 14:28

Tgt Ion:117 Resp: 6900

Ion	Ratio	Lower	Upper
117	100		
119	95.4	75.4	115.4

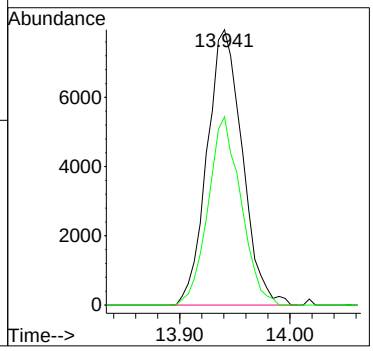


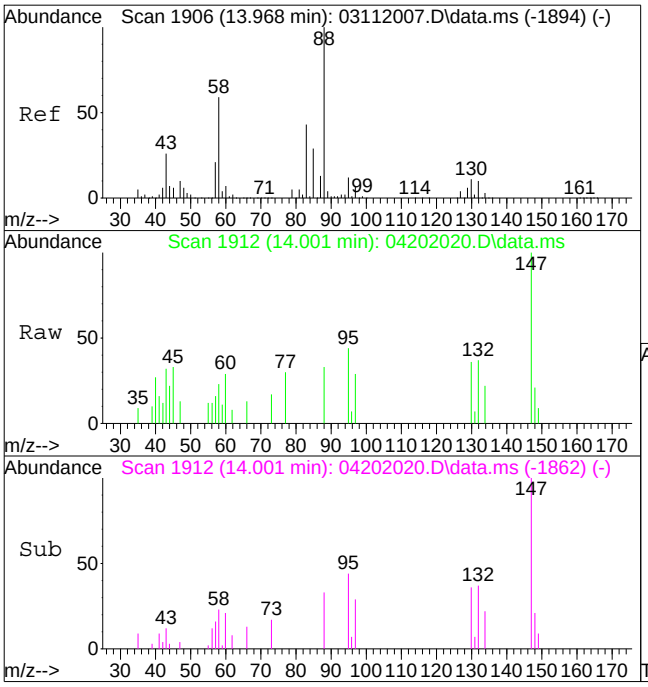


#46
Bromodichloromethane
Concen: 0.34 ng
RT: 13.94 min Scan# 1901
Delta R.T. -0.016 min
Lab File: 04202020.D
Acq: 20 Apr 2020 14:28

Tgt Ion: 83 Resp: 17679

Ion	Ratio	Lower	Upper
83	100		
85	63.6	44.0	84.0

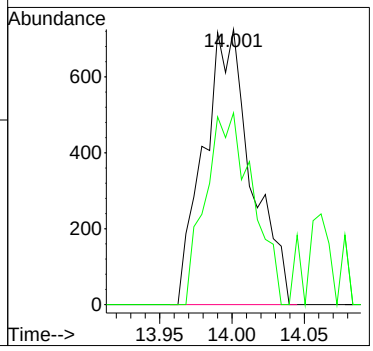


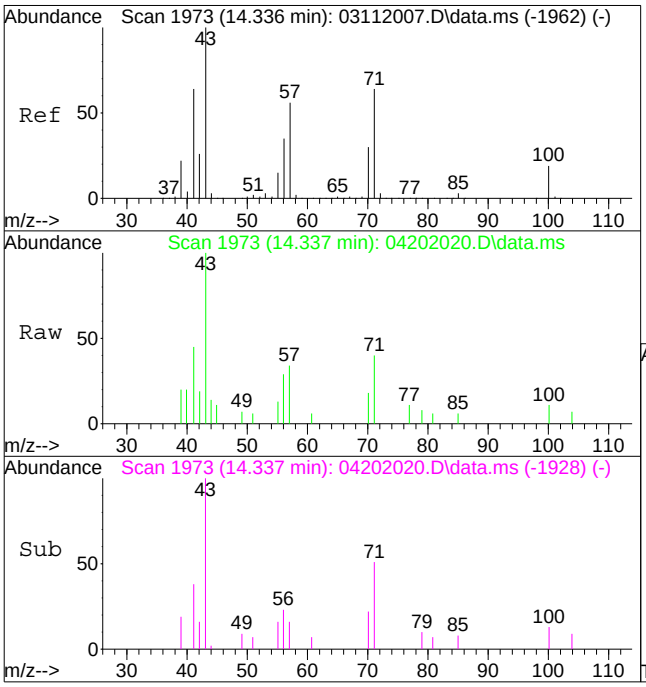


#48
1,4-Dioxane
Concen: 0.06 ng
RT: 14.00 min Scan# 1912
Delta R.T. 0.022 min
Lab File: 04202020.D
Acq: 20 Apr 2020 14:28

Tgt Ion: 88 Resp: 1669

Ion	Ratio	Lower	Upper
88	100		
58	68.5	39.5	79.5

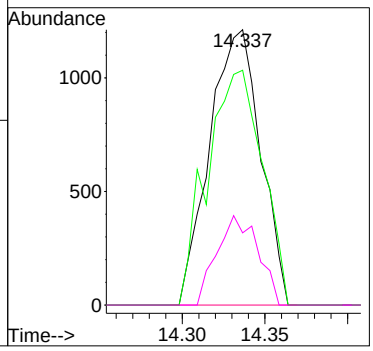


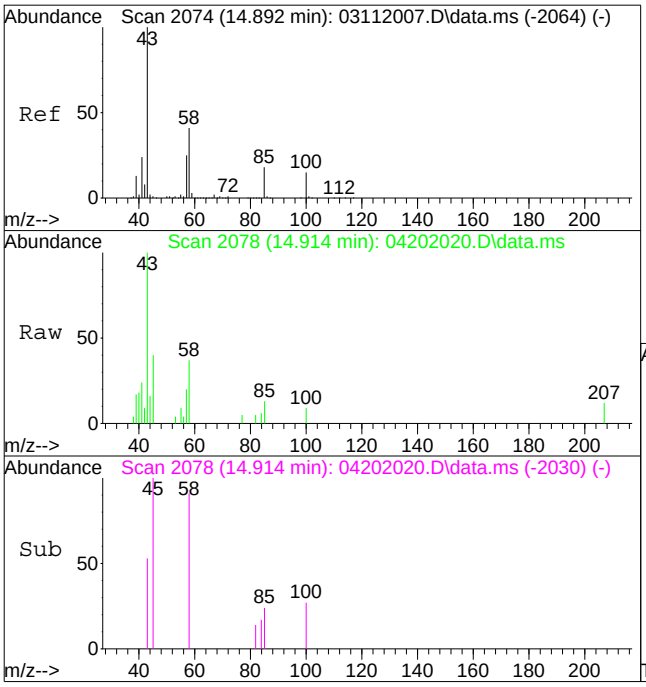


#51
n-Heptane
Concen: 0.07 ng
RT: 14.34 min Scan# 1973
Delta R.T. -0.005 min
Lab File: 04202020.D
Acq: 20 Apr 2020 14:28

Tgt Ion: 71 Resp: 2599

Ion	Ratio	Lower	Upper
71	100		
57	92.3	68.6	108.6
100	26.2	9.1	49.1

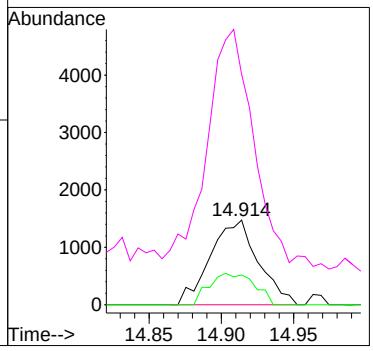


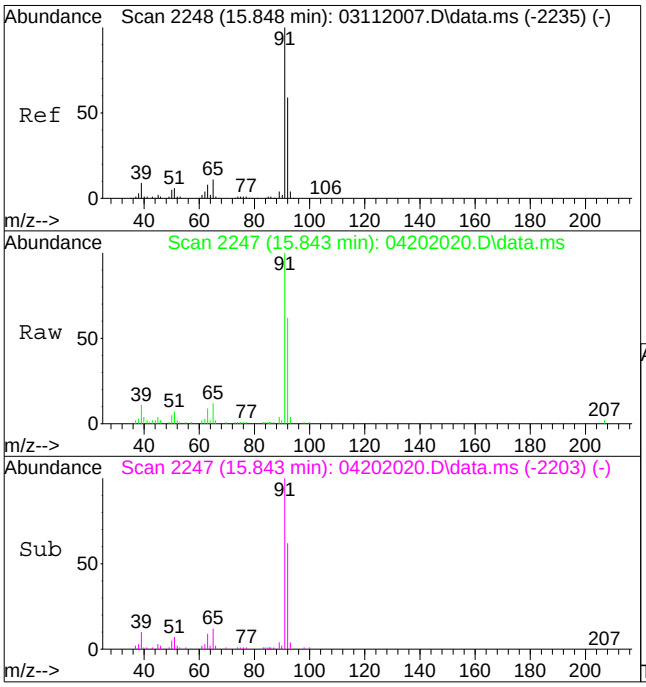


#53
4-Methyl-2-pentanone
Concen: 0.11 ng
RT: 14.91 min Scan# 2078
Delta R.T. 0.011 min
Lab File: 04202020.D
Acq: 20 Apr 2020 14:28

Tgt Ion: 58 Resp: 3406

Ion	Ratio	Lower	Upper
58	100		
85	35.0	37.0	55.4#
43	282.4	196.3	294.5

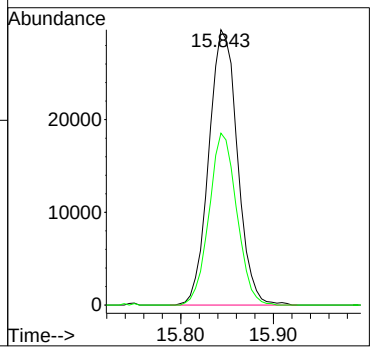


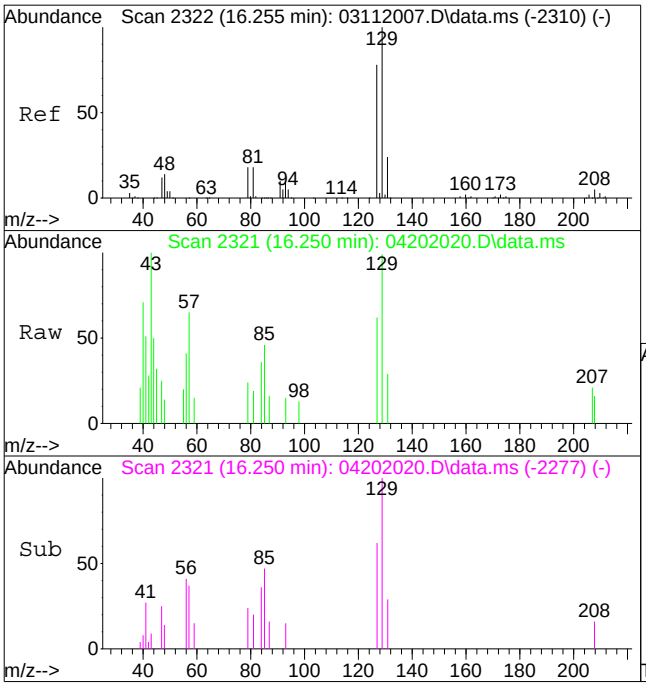


#58
Toluene
Concen: 0.40 ng
RT: 15.84 min Scan# 2247
Delta R.T. -0.011 min
Lab File: 04202020.D
Acq: 20 Apr 2020 14:28

Tgt Ion: 91 Resp: 63705

Ion	Ratio	Lower	Upper
91	100		
92	60.4	39.0	79.0

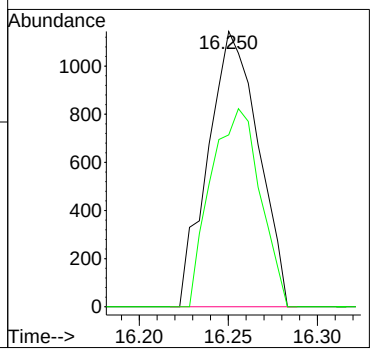


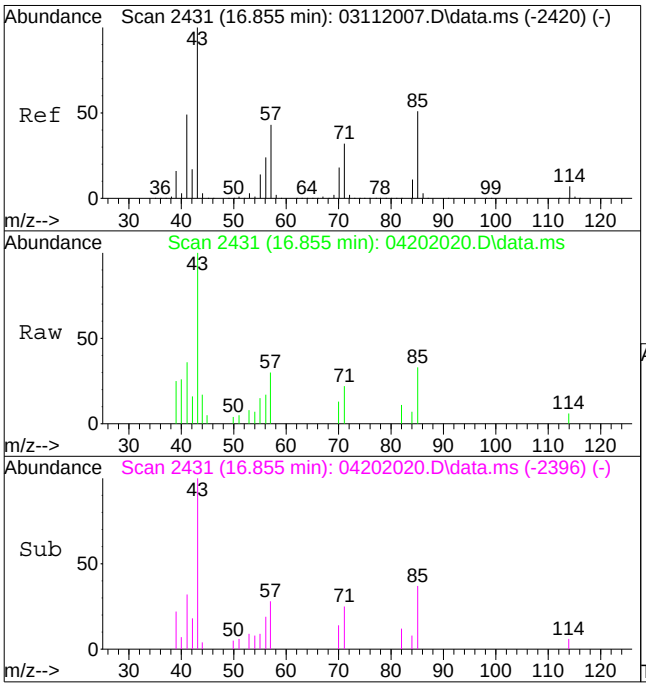


#60
Dibromochloromethane
Concen: 0.05 ng
RT: 16.25 min Scan# 2321
Delta R.T. -0.011 min
Lab File: 04202020.D
Acq: 20 Apr 2020 14:28

Tgt Ion:129 Resp: 2252

Ion	Ratio	Lower	Upper
129	100		
127	70.6	57.3	97.3

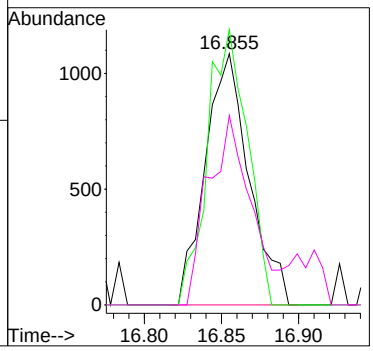


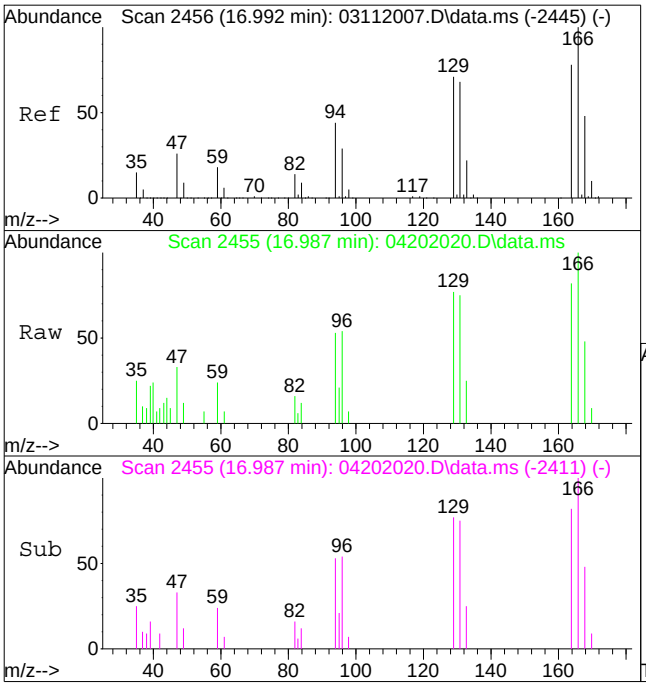


#63
n-Octane
Concen: 0.07 ng
RT: 16.86 min Scan# 2431
Delta R.T. -0.005 min
Lab File: 04202020.D
Acq: 20 Apr 2020 14:28

Tgt Ion: 57 Resp: 2152

Ion	Ratio	Lower	Upper
57	100		
85	100.3	95.1	142.7
71	73.9	58.2	87.4

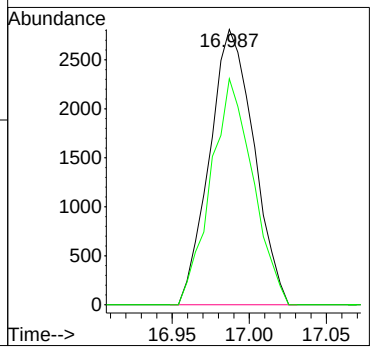


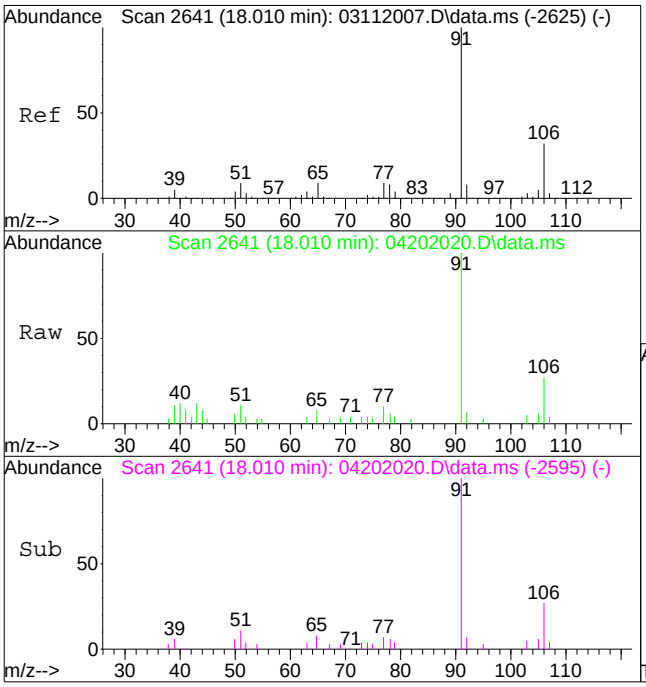


#64
Tetrachloroethene
Concen: 0.13 ng
RT: 16.99 min Scan# 2455
Delta R.T. -0.011 min
Lab File: 04202020.D
Acq: 20 Apr 2020 14:28

Tgt Ion:166 Resp: 5618

Ion	Ratio	Lower	Upper
166	100		
164	78.0	58.6	98.6

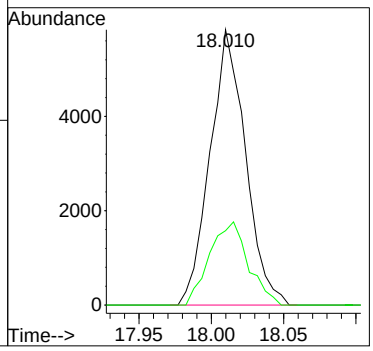


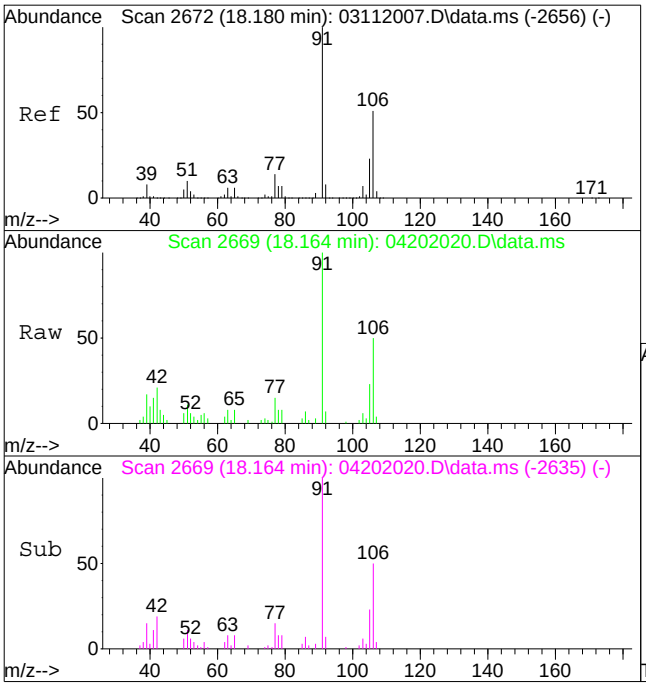


#66
Ethylbenzene
Concen: 0.06 ng
RT: 18.01 min Scan# 2641
Delta R.T. 0.000 min
Lab File: 04202020.D
Acq: 20 Apr 2020 14:28

Tgt Ion: 91 Resp: 9988

Ion	Ratio	Lower	Upper
91	100		
106	32.9	11.7	51.7

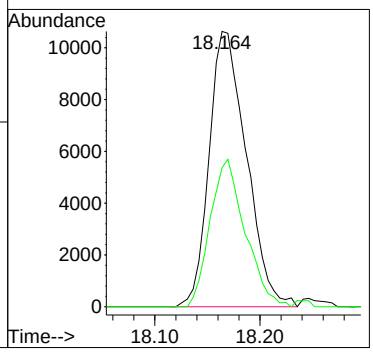


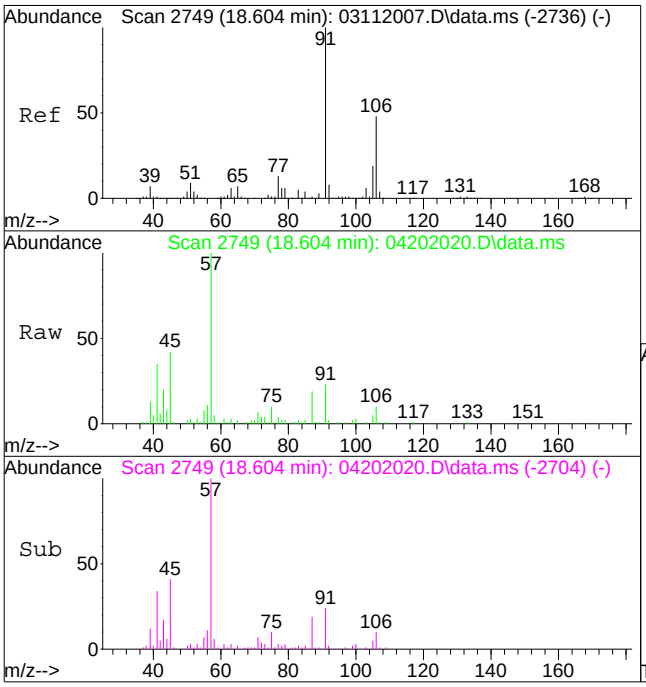


#67
m- & p-Xylenes
Concen: 0.18 ng
RT: 18.16 min Scan# 2669
Delta R.T. -0.011 min
Lab File: 04202020.D
Acq: 20 Apr 2020 14:28

Tgt Ion: 91 Resp: 26176

Ion	Ratio	Lower	Upper
91	100		
106	50.3	30.4	70.4

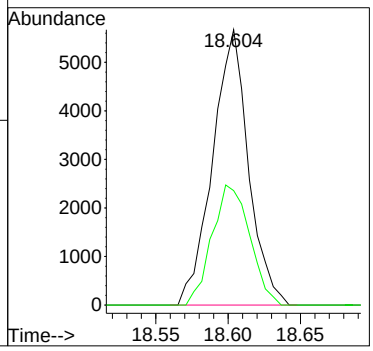


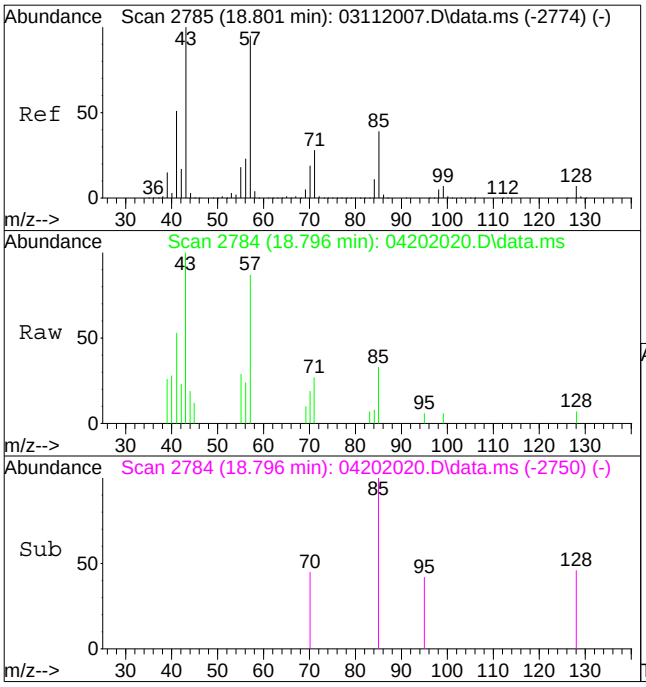


#70
o-Xylene
Concen: 0.07 ng
RT: 18.60 min Scan# 2749
Delta R.T. -0.005 min
Lab File: 04202020.D
Acq: 20 Apr 2020 14:28

Tgt Ion: 91 Resp: 9802

Ion	Ratio	Lower	Upper
91	100		
106	45.8	28.1	68.1

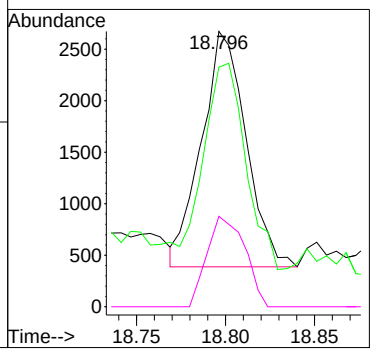


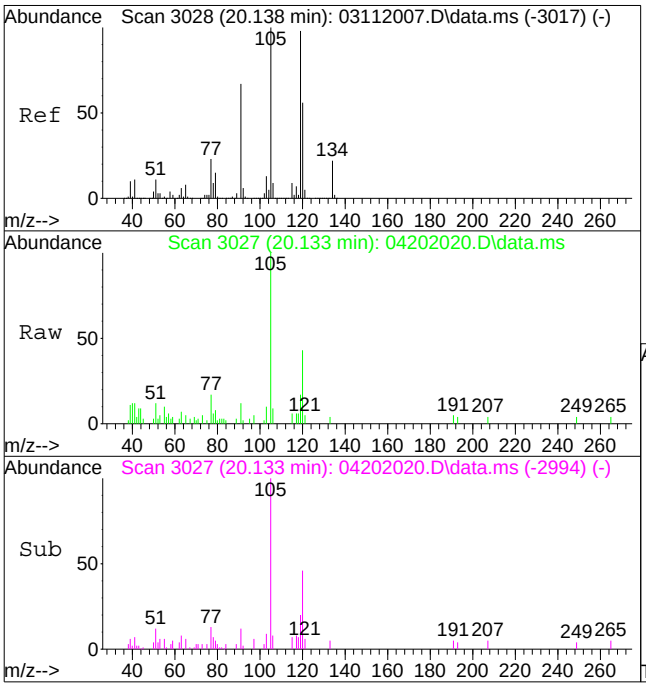


#71
n-Nonane
Concen: 0.06 ng
RT: 18.80 min Scan# 2784
Delta R.T. -0.011 min
Lab File: 04202020.D
Acq: 20 Apr 2020 14:28

Tgt Ion: 43 Resp: 3971

Ion	Ratio	Lower	Upper
43	100		
57	81.7	73.6	113.6
85	32.7	18.7	58.7

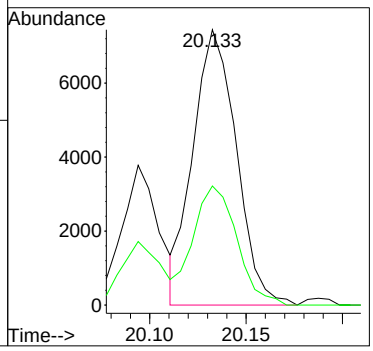




#82
1,2,4-Trimethylbenzene
Concen: 0.07 ng
RT: 20.13 min Scan# 3027
Delta R.T. -0.017 min
Lab File: 04202020.D
Acq: 20 Apr 2020 14:28

Tgt Ion:105 Resp: 11658

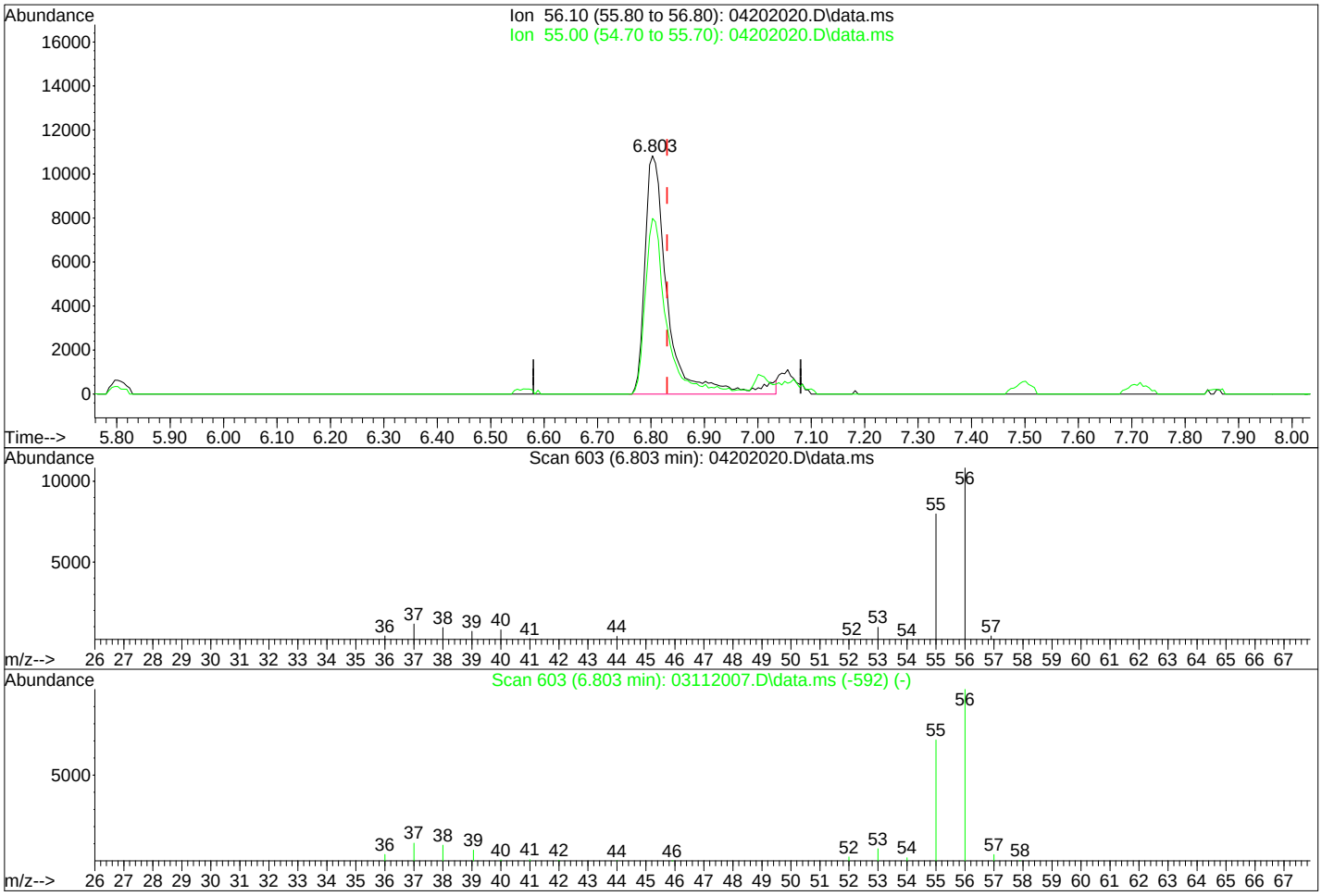
Ion	Ratio	Lower	Upper
105	100		
120	43.8	35.8	75.8



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\20\04202020.D Vial: 15
Acq On : 20 Apr 2020 14:28 Operator: TD
Sample : P2002028-018 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 15:42:50 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202020.D\data.ms

(12) Acrolein (T)

6.803min (-0.027) 1.58ng

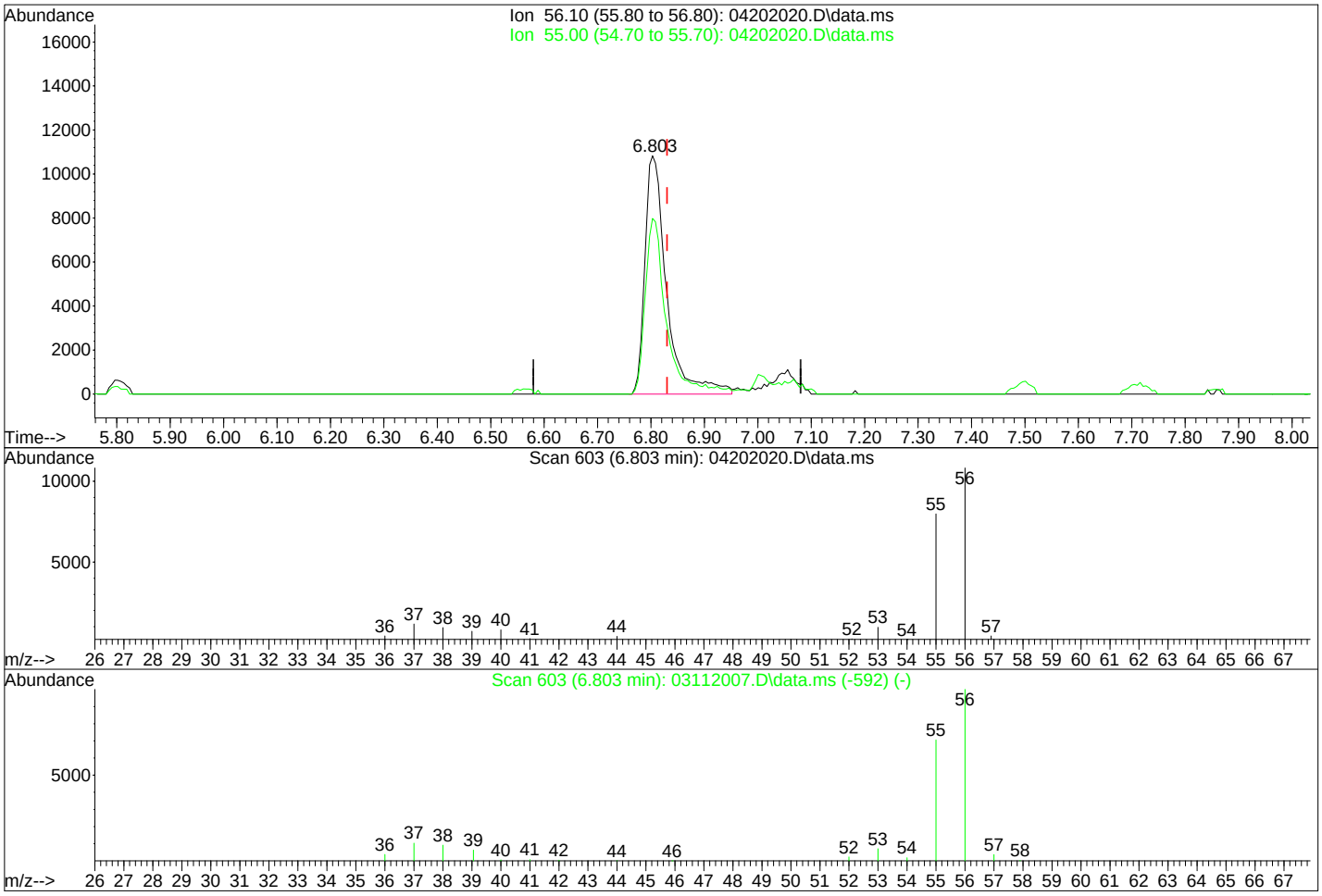
response 32117

Ion	Exp%	Act%
56.10	100	100
55.00	70.40	69.56
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\20\04202020.D Vial: 15
Acq On : 20 Apr 2020 14:28 Operator: TD
Sample : P2002028-018 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 15:42:50 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202020.D\data.ms

(12) Acrolein (T)

6.803min (-0.027) 1.50ng m

response 30570

Ion	Exp%	Act%
56.10	100	100
55.00	70.40	73.08
0.00	0.00	0.00
0.00	0.00	0.00

IPC

LH 4/20/20

WDA 4/24/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202022.D Vial: 16
Acq On : 20 Apr 2020 15:36 Operator: TD
Sample : P2002028-019 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 20:48:17 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/20/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	334151	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.29	114	1476552	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	710227	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	579868	12.532	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.24%				
57) Toluene-d8 (SS2)	15.74	98	1533598	12.182	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.44%				
73) Bromofluorobenzene (SS3)	19.00	174	502633	11.307	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.48%				
Target Compounds							Qvalue
2) Propene	4.12	42	25395m	0.725	ng		
3) Dichlorodifluoromethan...	4.28	85	58006	0.769	ng		100
4) Chloromethane	4.55	50	189146	3.177	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	595	N.D.			
6) Vinyl Chloride	4.96	62	91685	1.459	ng		99
7) 1,3-Butadiene	5.24	54	4026	0.088	ng	#	41
8) Bromomethane	5.66	94	665	N.D.			
9) Chloroethane	5.99	64	28471	1.181	ng		100
10) Ethanol	6.35	45	12654	0.457	ng		90
11) Acetonitrile	6.62	41	7999	0.131	ng		99
12) Acrolein	6.82	56	3147	0.154	ng		99
13) Acetone	7.01	58	200616	7.339	ng		94
14) Trichlorofluoromethane	7.26	101	82203	1.236	ng		99
15) 2-Propanol (Isopropanol)	7.52	45	35603	0.439	ng		87
16) Acrylonitrile	0.00	53	0	N.D. d			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d			
19) Methylene Chloride	8.44	84	1636	N.D.			
20) 3-Chloro-1-propene (Al...	8.60	41	1677	N.D.			
21) Trichlorotrifluoroethane	8.88	151	1824	0.057	ng		88
22) Carbon Disulfide	8.71	76	2430965	19.005	ng		99
23) trans-1,2-Dichloroethene	9.72	61	1145	N.D.			
24) 1,1-Dichloroethane	9.96	63	58699	0.964	ng		99
25) Methyl tert-Butyl Ether	10.14	73	1001	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	10.48	72	46885	2.060	ng	#	87
28) cis-1,2-Dichloroethene	10.99	61	1320	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D. d			
30) Ethyl Acetate	11.32	61	907	0.067	ng		83
31) n-Hexane	11.28	57	5473	0.088	ng		98
32) Chloroform	11.33	83	33379	0.503	ng		100
34) Tetrahydrofuran (THF)	11.73	72	739685	31.595	ng		95
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.14	62	24121	0.466	ng		100
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	12.89	61	119	N.D.			
40) 1-Butanol	0.00	56	0	N.D. d			
41) Benzene	12.90	78	32707	0.214	ng		99
42) Carbon Tetrachloride	13.06	117	6597	0.126	ng		96
43) Cyclohexane	13.19	84	566	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D. d			
45) 1,2-Dichloropropane	13.56	63	784	N.D.			
46) Bromodichloromethane	13.94	83	2581	0.050	ng		93
47) Trichloroethene	13.99	130	717	N.D.			
48) 1,4-Dioxane	14.00	88	1848	0.063	ng		76
49) 2,2,4-Trimethylpentane...	14.07	57	4210	N.D.			
50) Methyl Methacrylate	14.14	100	384	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202022.D Vial: 16
Acq On : 20 Apr 2020 15:36 Operator: TD
Sample : P2002028-019 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 20:48:17 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

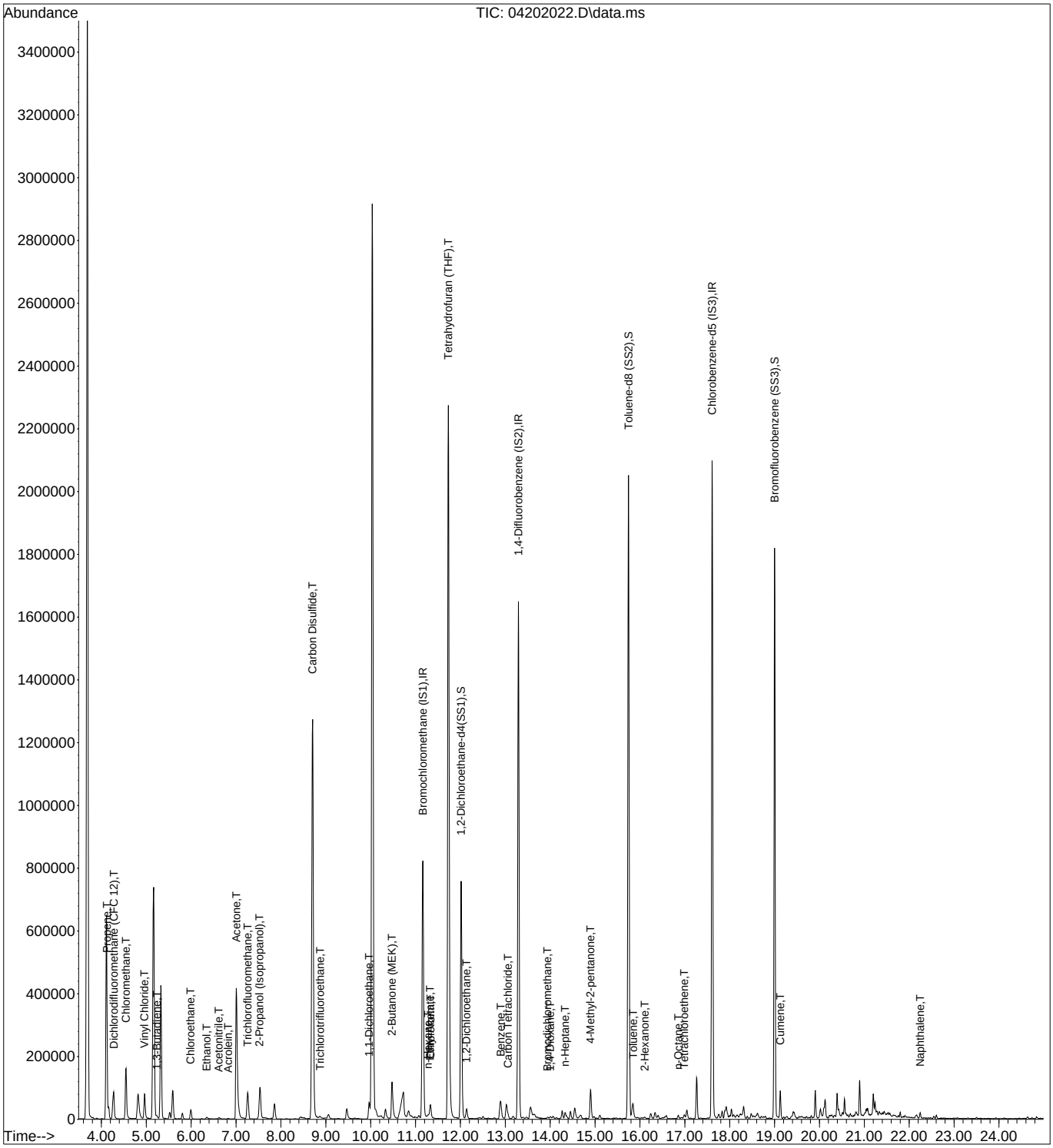
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.33	71	5285	0.148 ng	86
52) cis-1,3-Dichloropropene	14.86	75	1016	N.D.	
53) 4-Methyl-2-pentanone	14.90	58	29248	0.914 ng	91
54) trans-1,3-Dichloropropene	15.39	75	1219	N.D.	
55) 1,1,2-Trichloroethane	15.56	97	542	N.D.	
58) Toluene	15.85	91	18001	0.116 ng	99
59) 2-Hexanone	16.11	43	4365	0.056 ng	87
60) Dibromochloromethane	16.25	129	939	N.D.	
61) 1,2-Dibromoethane	16.51	107	867	N.D.	
62) n-Butyl Acetate	16.73	43	772	N.D.	
63) n-Octane	16.85	57	1937	0.063 ng	87
64) Tetrachloroethene	16.99	166	3736	0.086 ng	91
65) Chlorobenzene	17.65	112	1353	N.D.	
66) Ethylbenzene	18.01	91	3157	N.D.	
67) m- & p-Xylenes	18.17	91	5963	N.D.	
68) Bromoform	18.24	173	337	N.D.	
69) Styrene	18.51	104	2017	N.D.	
70) o-Xylene	18.60	91	2500	N.D.	
71) n-Nonane	18.80	43	3047	N.D.	
72) 1,1,2,2-Tetrachloroethane	18.58	83	1714	N.D.	
74) Cumene	19.13	105	56143	0.320 ng	97
75) alpha-Pinene	19.40	93	111	N.D.	
76) n-Propylbenzene	19.58	91	2225	N.D.	
77) 3-Ethyltoluene	19.67	105	1750	N.D.	
78) 4-Ethyltoluene	19.71	105	1269	N.D.	
79) 1,3,5-Trimethylbenzene	19.77	105	1202	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	19.94	105	1085	N.D.	
82) 1,2,4-Trimethylbenzene	20.13	105	4086	N.D.	
83) n-Decane	20.22	57	3410	N.D.	
84) Benzyl Chloride	20.25	91	1477	N.D.	
85) 1,3-Dichlorobenzene	20.27	146	1179	N.D.	
86) 1,4-Dichlorobenzene	20.33	146	1598	N.D.	
87) sec-Butylbenzene	20.37	105	1054	N.D.	
88) 4-Isopropyltoluene (p-...	20.51	119	1525	N.D.	
89) 1,2,3-Trimethylbenzene	20.51	105	1216	N.D.	
90) 1,2-Dichlorobenzene	20.63	146	1076	N.D.	
91) d-Limonene	20.63	68	1193	N.D.	
92) 1,2-Dibromo-3-Chloropr...	21.02	157	488	N.D.	
93) n-Undecane	21.33	57	1675	N.D.	
94) 1,2,4-Trichlorobenzene	22.14	180	1774	N.D.	
95) Naphthalene	22.24	128	9030	0.052 ng	96
96) n-Dodecane	22.24	57	1995	N.D.	
97) Hexachlorobutadiene	22.56	225	237	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.13	119	757	N.D.	
100) n-Butylbenzene	20.89	91	4197	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202022.D Vial: 16
Acq On : 20 Apr 2020 15:36 Operator: TD
Sample : P2002028-019 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 20:48:17 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202022.D Vial: 16
Acq On : 20 Apr 2020 15:36 Operator: TD
Sample : P2002028-019 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 20:48:17 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/20/20

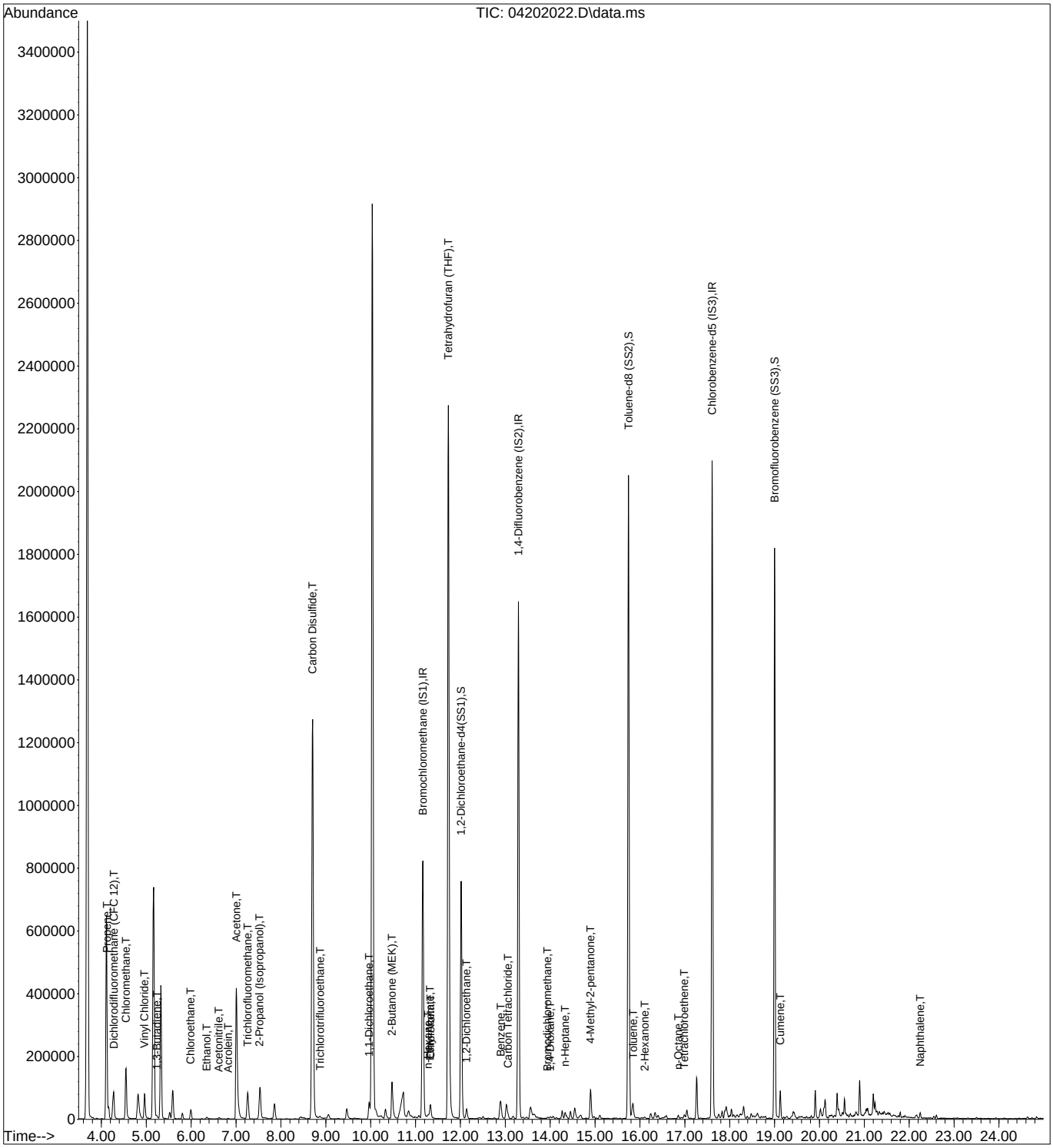
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	334151	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.29	114	1476552	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	710227	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	579868	12.532	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.24%				
57) Toluene-d8 (SS2)	15.74	98	1533598	12.182	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.44%				
73) Bromofluorobenzene (SS3)	19.00	174	502633	11.307	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.48%				
Target Compounds							Qvalue
2) Propene	4.12	42	25395m	0.725	ng		
3) Dichlorodifluoromethan...	4.28	85	58006	0.769	ng		100
4) Chloromethane	4.55	50	189146	3.177	ng		100
6) Vinyl Chloride	4.96	62	91685	1.459	ng		99
7) 1,3-Butadiene	5.24	54	4026	0.088	ng	#	41
9) Chloroethane	5.99	64	28471	1.181	ng		100
10) Ethanol	6.35	45	12654	0.457	ng		90
11) Acetonitrile	6.62	41	7999	0.131	ng		99
12) Acrolein	6.82	56	3147	0.154	ng		99
13) Acetone	7.01	58	200616	7.339	ng		94
14) Trichlorofluoromethane	7.26	101	82203	1.236	ng		99
15) 2-Propanol (Isopropanol)	7.52	45	35603	0.439	ng		87
21) Trichlorotrifluoroethane	8.88	151	1824	0.057	ng		88
22) Carbon Disulfide	8.71	76	2430965	19.005	ng		99
24) 1,1-Dichloroethane	9.96	63	58699	0.964	ng		99
27) 2-Butanone (MEK)	10.48	72	46885	2.060	ng	#	87
30) Ethyl Acetate	11.32	61	907	0.067	ng		83
31) n-Hexane	11.28	57	5473	0.088	ng		98
32) Chloroform	11.33	83	33379	0.503	ng		100
34) Tetrahydrofuran (THF)	11.73	72	739685	31.595	ng		95
36) 1,2-Dichloroethane	12.14	62	24121	0.466	ng		100
41) Benzene	12.90	78	32707	0.214	ng		99
42) Carbon Tetrachloride	13.06	117	6597	0.126	ng		96
46) Bromodichloromethane	13.94	83	2581	0.050	ng		93
48) 1,4-Dioxane	14.00	88	1848	0.063	ng		76
51) n-Heptane	14.33	71	5285	0.148	ng		86
53) 4-Methyl-2-pentanone	14.90	58	29248	0.914	ng		91
58) Toluene	15.85	91	18001	0.116	ng		99
59) 2-Hexanone	16.11	43	4365	0.056	ng		87
63) n-Octane	16.85	57	1937	0.063	ng		87
64) Tetrachloroethene	16.99	166	3736	0.086	ng		91
74) Cumene	19.13	105	56143	0.320	ng		97
95) Naphthalene	22.24	128	9030	0.052	ng		96

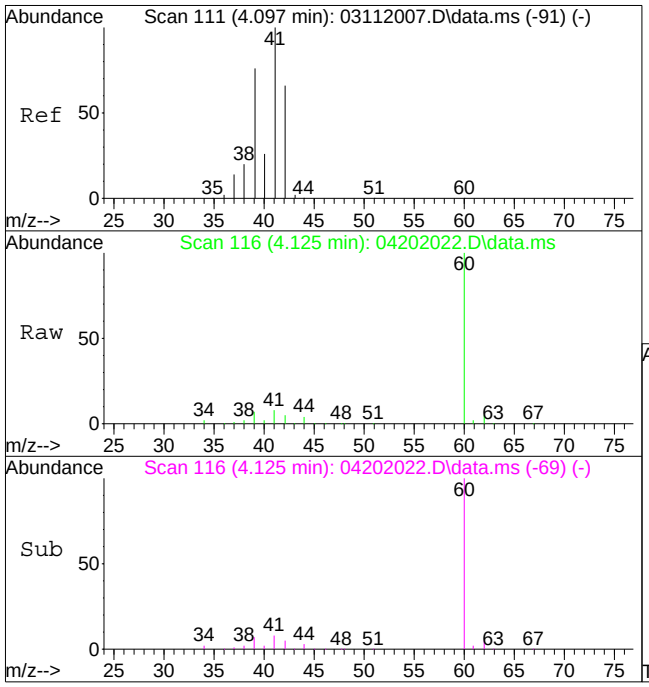
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202022.D Vial: 16
Acq On : 20 Apr 2020 15:36 Operator: TD
Sample : P2002028-019 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 20:48:17 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

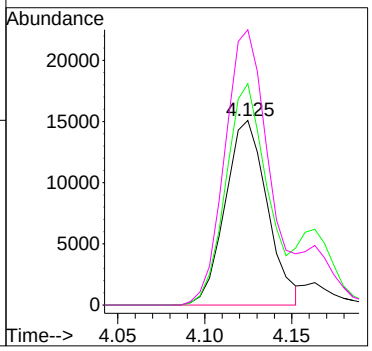


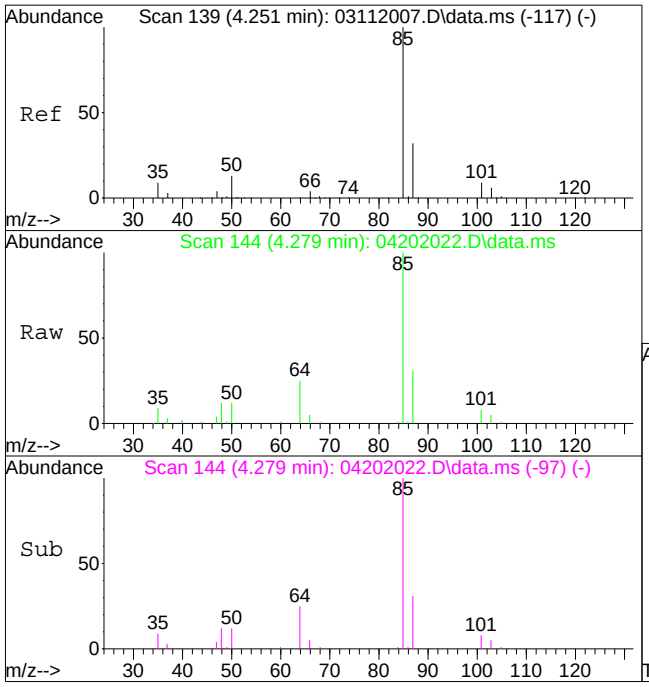


#2
Propene
Concen: 0.72 ng m
RT: 4.12 min Scan# 116
Delta R.T. 0.011 min
Lab File: 04202022.D
Acq: 20 Apr 2020 15:36

Tgt Ion: 42 Resp: 25395

Ion	Ratio	Lower	Upper
42	100		
39	117.5	95.3	135.3
41	179.3	132.0	172.0#

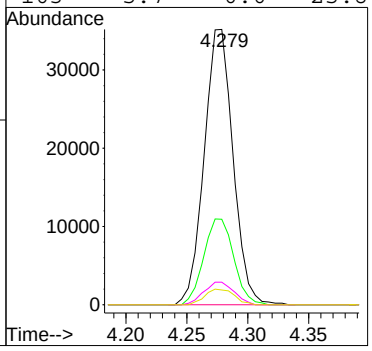


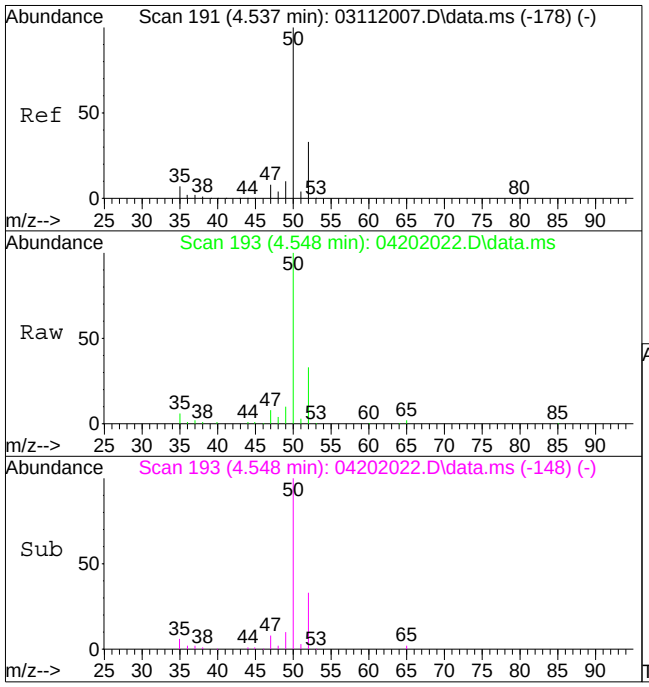


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.77 ng
RT: 4.28 min Scan# 144
Delta R.T. 0.011 min
Lab File: 04202022.D
Acq: 20 Apr 2020 15:36

Tgt Ion: 85 Resp: 58006

Ion	Ratio	Lower	Upper
85	100		
87	32.3	12.3	52.3
101	8.6	0.0	29.0
103	5.7	0.0	25.8

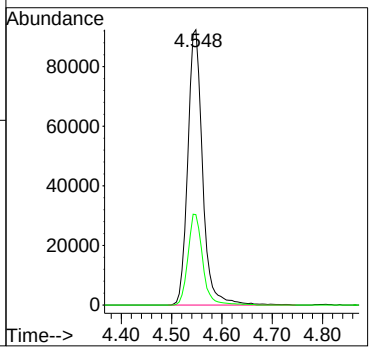


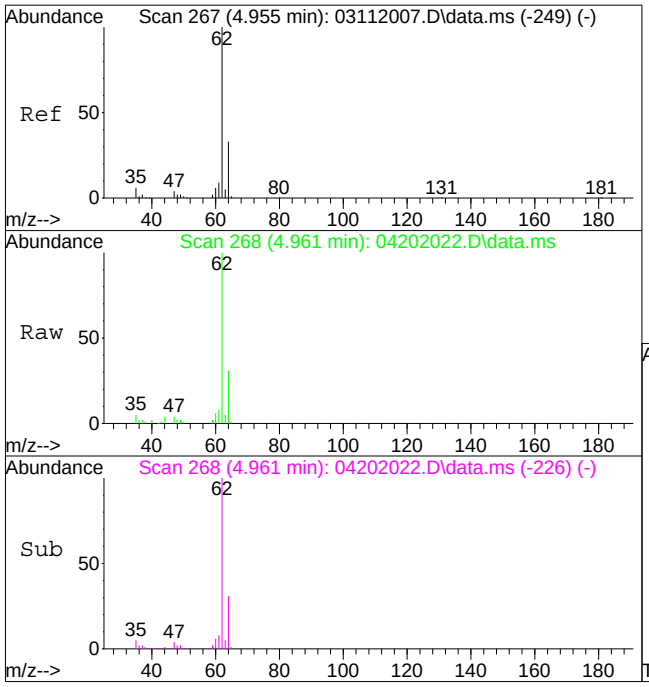


#4
Chloromethane
Concen: 3.18 ng
RT: 4.55 min Scan# 193
Delta R.T. -0.005 min
Lab File: 04202022.D
Acq: 20 Apr 2020 15:36

Tgt Ion: 50 Resp: 189146

Ion	Ratio	Lower	Upper
50	100		
52	32.8	12.8	52.8

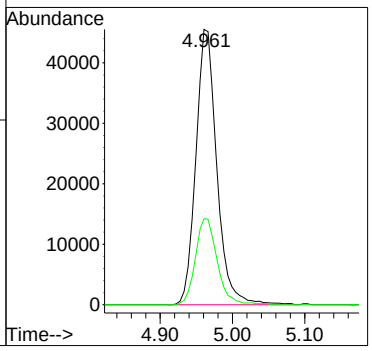


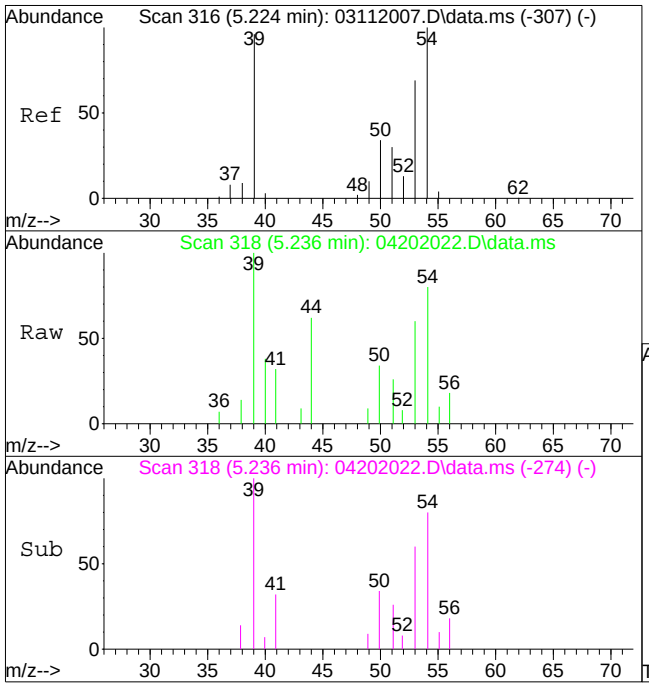


#6
Vinyl Chloride
Concen: 1.46 ng
RT: 4.96 min Scan# 268
Delta R.T. -0.021 min
Lab File: 04202022.D
Acq: 20 Apr 2020 15:36

Tgt Ion: 62 Resp: 91685

Ion	Ratio	Lower	Upper
62	100		
64	32.6	12.3	52.3

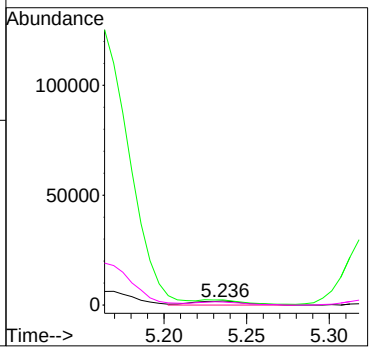


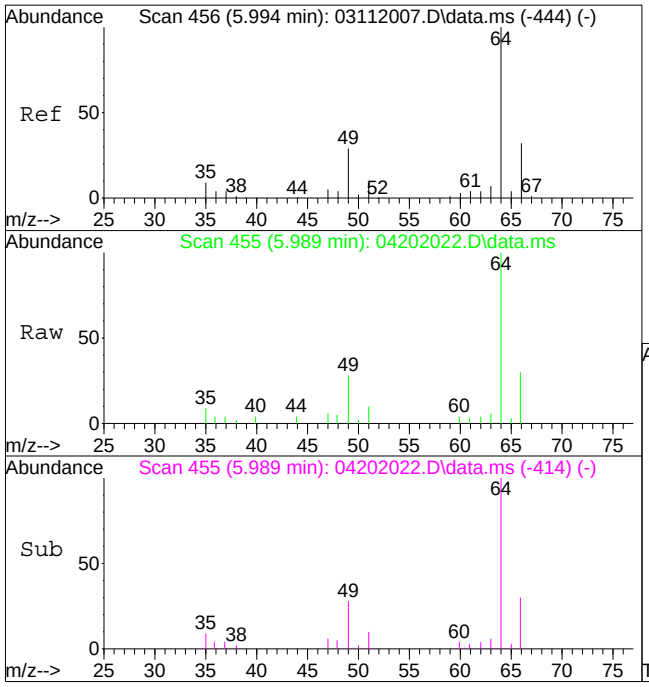


#7
1,3-Butadiene
Concen: 0.09 ng
RT: 5.24 min Scan# 318
Delta R.T. -0.011 min
Lab File: 04202022.D
Acq: 20 Apr 2020 15:36

Tgt Ion: 54 Resp: 4026

Ion	Ratio	Lower	Upper
54	100		
39	0.0	79.5	119.5#
53	70.0	49.3	89.3

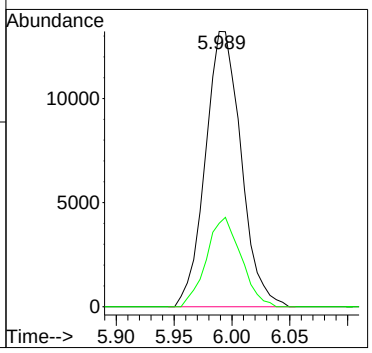


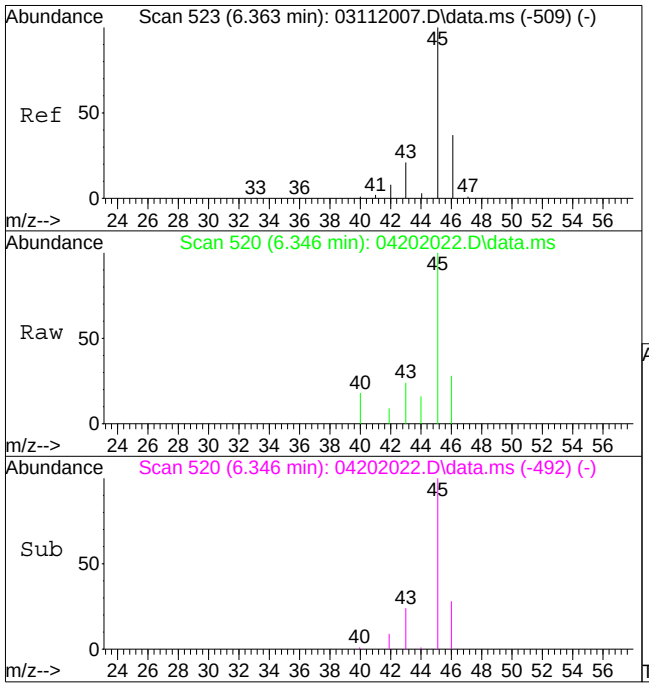


#9
Chloroethane
Concen: 1.18 ng
RT: 5.99 min Scan# 455
Delta R.T. -0.027 min
Lab File: 04202022.D
Acq: 20 Apr 2020 15:36

Tgt Ion: 64 Resp: 28471

Ion	Ratio	Lower	Upper
64	100		
66	31.5	11.7	51.7

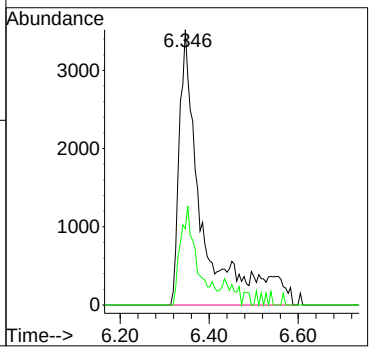


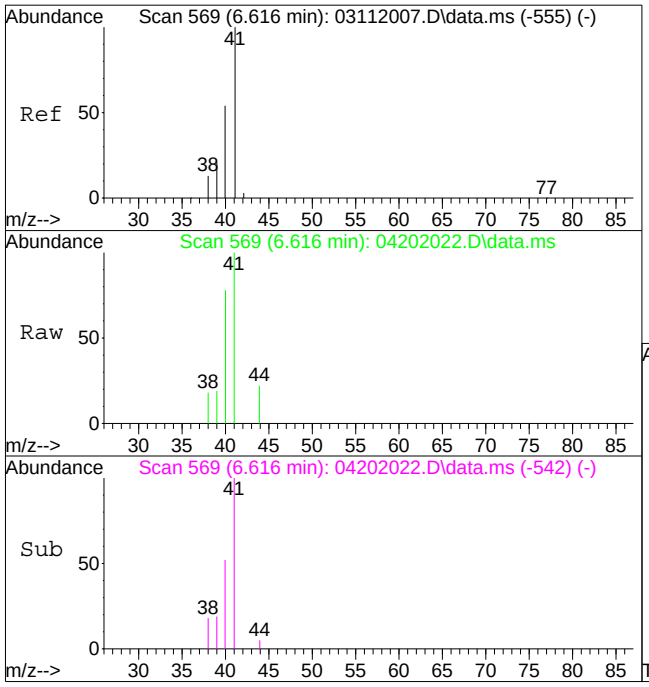


#10
Ethanol
Concen: 0.46 ng
RT: 6.35 min Scan# 520
Delta R.T. -0.094 min
Lab File: 04202022.D
Acq: 20 Apr 2020 15:36

Tgt Ion: 45 Resp: 12654

Ion	Ratio	Lower	Upper
45	100		
46	31.2	17.3	57.3

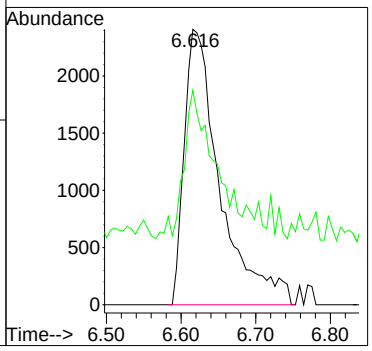


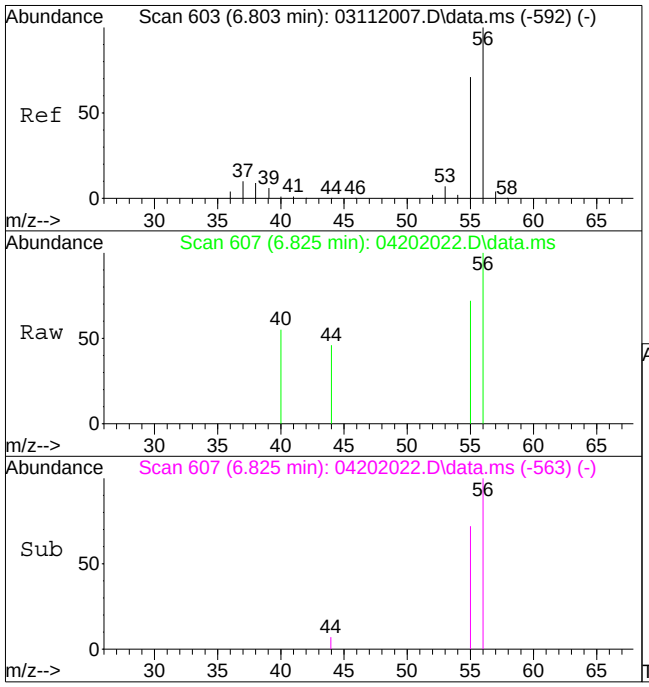


#11
Acetonitrile
Concen: 0.13 ng
RT: 6.62 min Scan# 569
Delta R.T. -0.049 min
Lab File: 04202022.D
Acq: 20 Apr 2020 15:36

Tgt Ion: 41 Resp: 7999

Ion	Ratio	Lower	Upper
41	100		
40	53.2	33.6	73.6

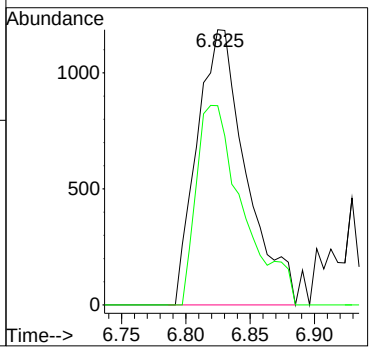


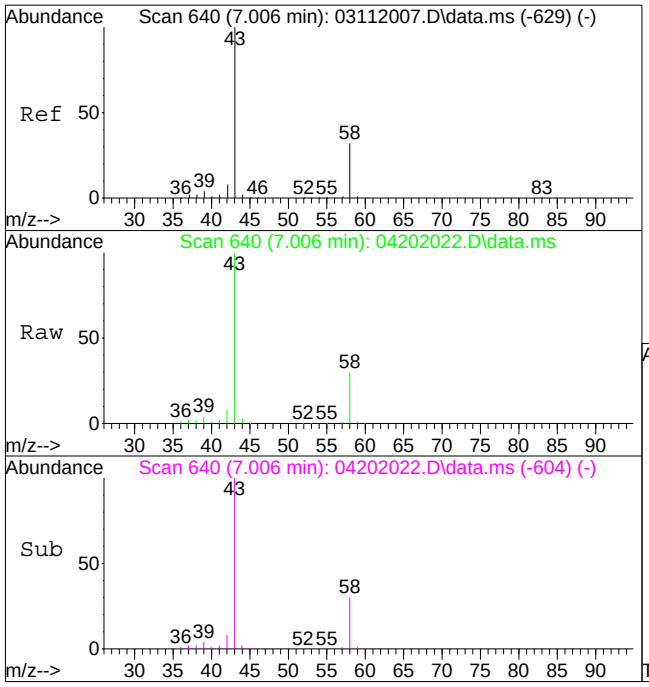


#12
Acrolein
Concen: 0.15 ng
RT: 6.82 min Scan# 607
Delta R.T. -0.005 min
Lab File: 04202022.D
Acq: 20 Apr 2020 15:36

Tgt Ion: 56 Resp: 3147

Ion	Ratio	Lower	Upper
56	100		
55	69.3	50.4	90.4

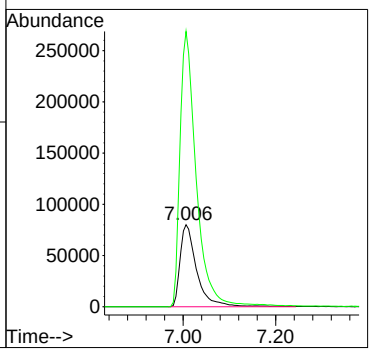


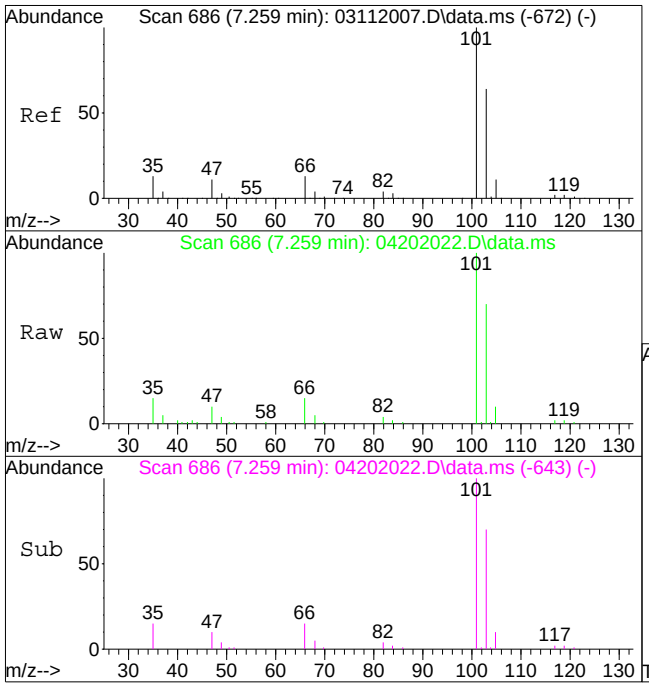


#13
Acetone
Concen: 7.34 ng
RT: 7.01 min Scan# 640
Delta R.T. -0.050 min
Lab File: 04202022.D
Acq: 20 Apr 2020 15:36

Tgt Ion: 58 Resp: 200616

Ion	Ratio	Lower	Upper
58	100		
43	328.5	287.3	347.3

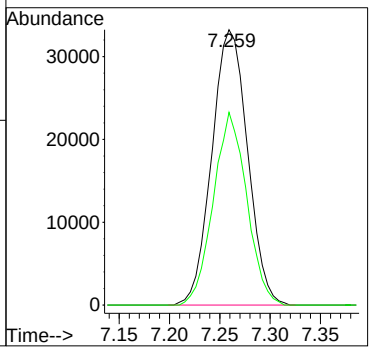


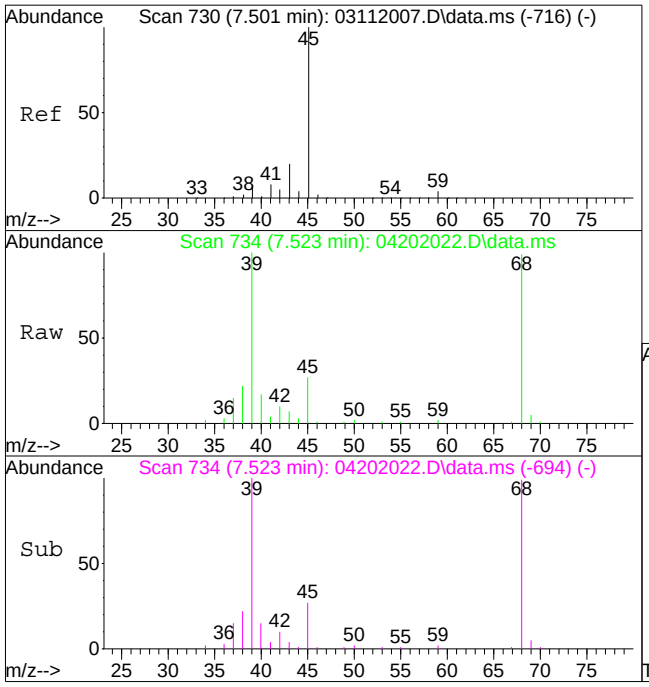


#14
Trichlorofluoromethane
Concen: 1.24 ng
RT: 7.26 min Scan# 686
Delta R.T. -0.016 min
Lab File: 04202022.D
Acq: 20 Apr 2020 15:36

Tgt Ion:101 Resp: 82203

Ion	Ratio	Lower	Upper
101	100		
103	65.3	44.6	84.6

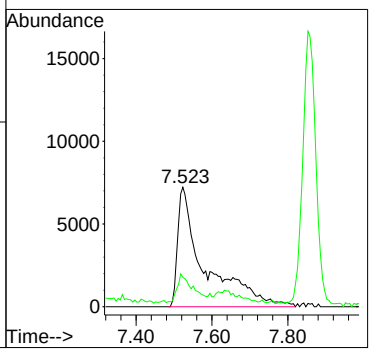


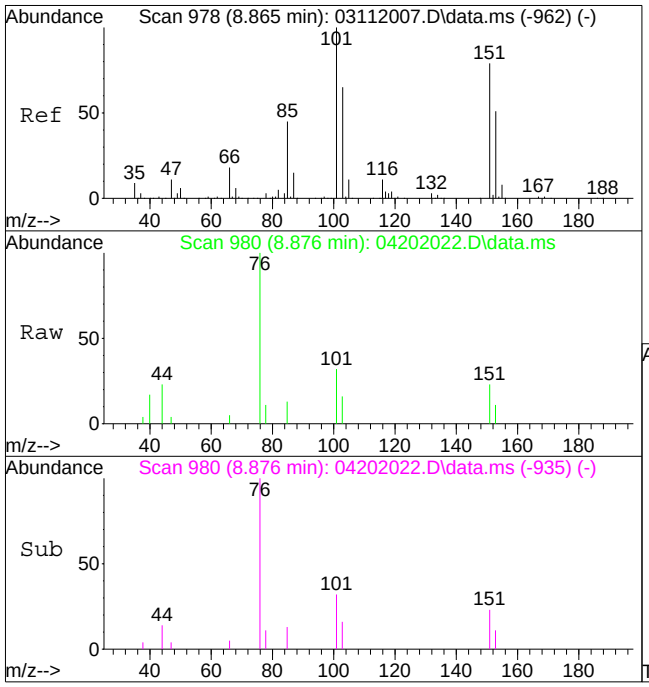


#15
2-Propanol (Isopropanol)
Concen: 0.44 ng
RT: 7.52 min Scan# 734
Delta R.T. -0.027 min
Lab File: 04202022.D
Acq: 20 Apr 2020 15:36

Tgt Ion: 45 Resp: 35603

Ion	Ratio	Lower	Upper
45	100		
43	26.4	0.3	40.3

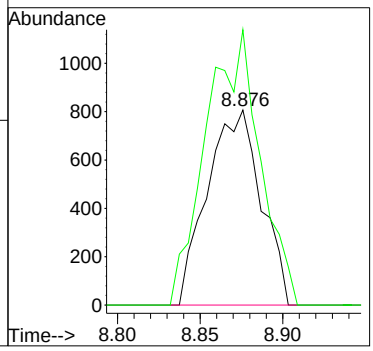


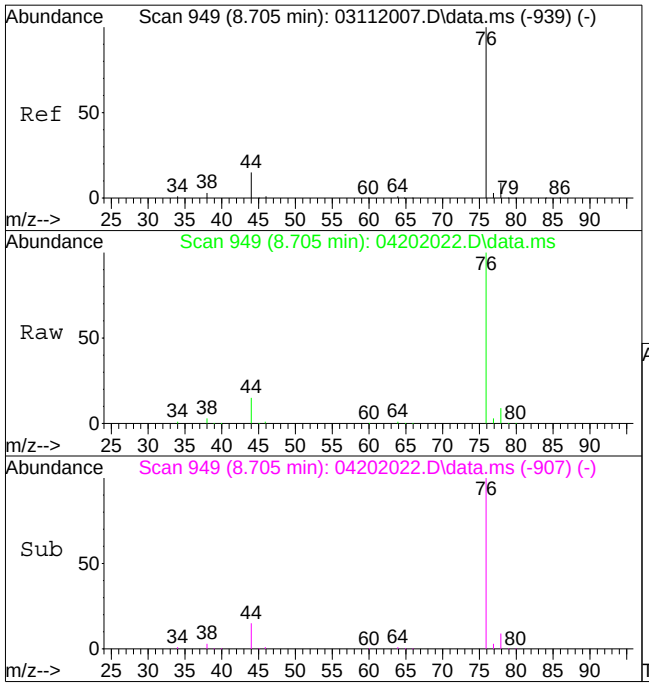


#21
Trichlorotrifluoroethane
Concen: 0.06 ng
RT: 8.88 min Scan# 980
Delta R.T. -0.000 min
Lab File: 04202022.D
Acq: 20 Apr 2020 15:36

Tgt Ion:151 Resp: 1824

Ion	Ratio	Lower	Upper
151	100		
101	142.2	108.4	148.4

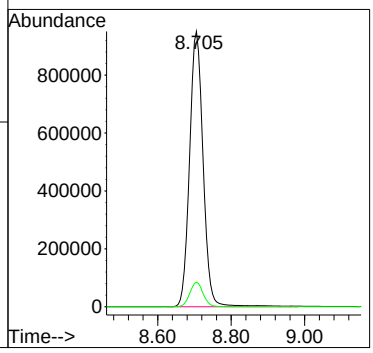


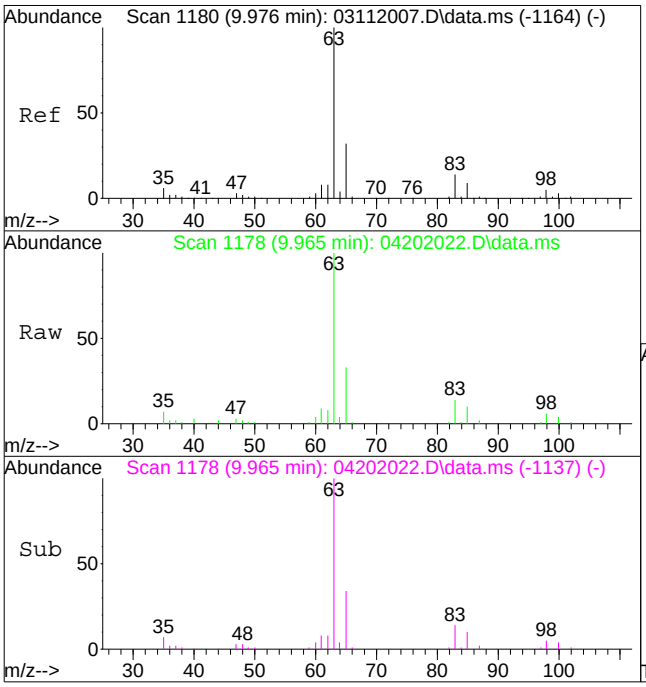


#22
Carbon Disulfide
Concen: 19.00 ng
RT: 8.71 min Scan# 949
Delta R.T. -0.016 min
Lab File: 04202022.D
Acq: 20 Apr 2020 15:36

Tgt Ion: 76 Resp: 2430965

Ion	Ratio	Lower	Upper
76	100		
78	8.8	0.0	29.2

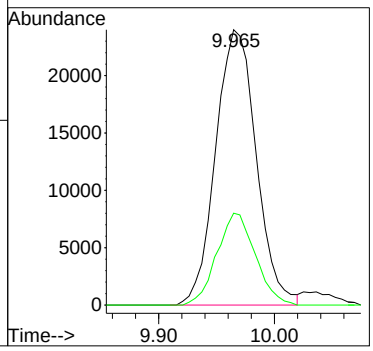


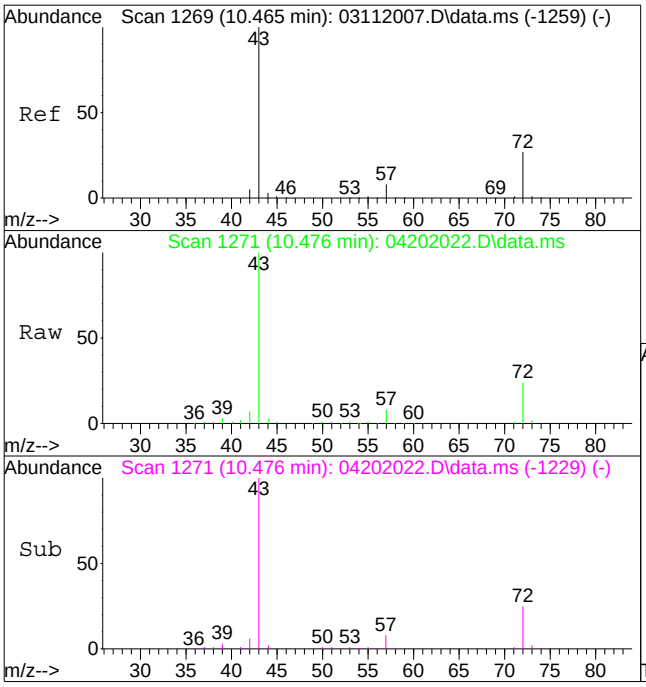


#24
1,1-Dichloroethane
Concen: 0.96 ng
RT: 9.96 min Scan# 1178
Delta R.T. -0.022 min
Lab File: 04202022.D
Acq: 20 Apr 2020 15:36

Tgt Ion: 63 Resp: 58699

Ion	Ratio	Lower	Upper
63	100		
65	31.5	11.8	51.8

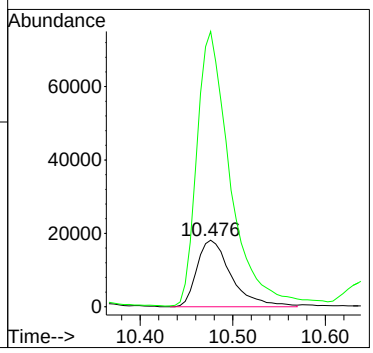


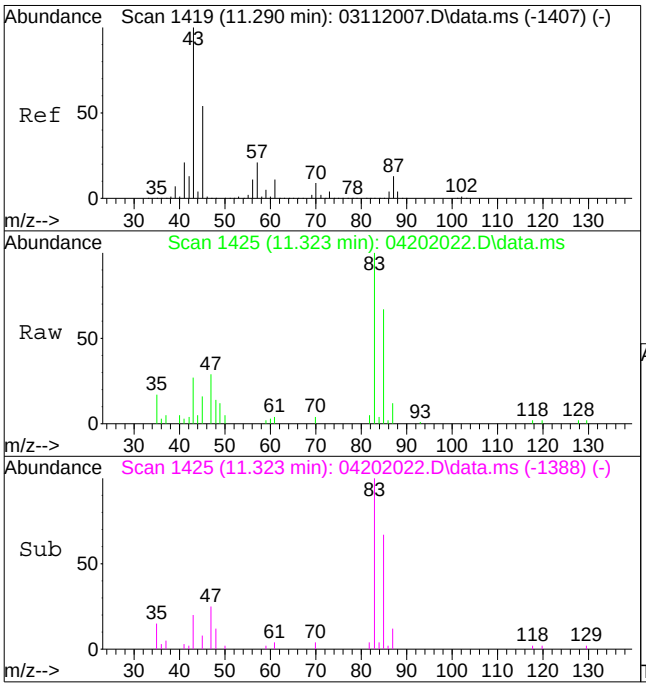


#27
2-Butanone (MEK)
Concen: 2.06 ng
RT: 10.48 min Scan# 1271
Delta R.T. -0.016 min
Lab File: 04202022.D
Acq: 20 Apr 2020 15:36

Tgt Ion: 72 Resp: 46885

Ion	Ratio	Lower	Upper
72	100		
43	402.4	353.4	393.4#

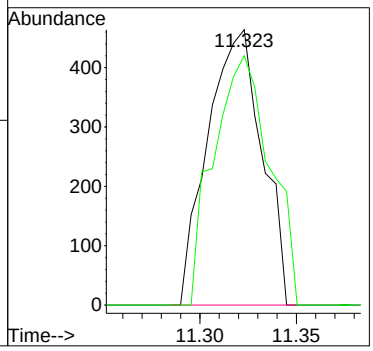


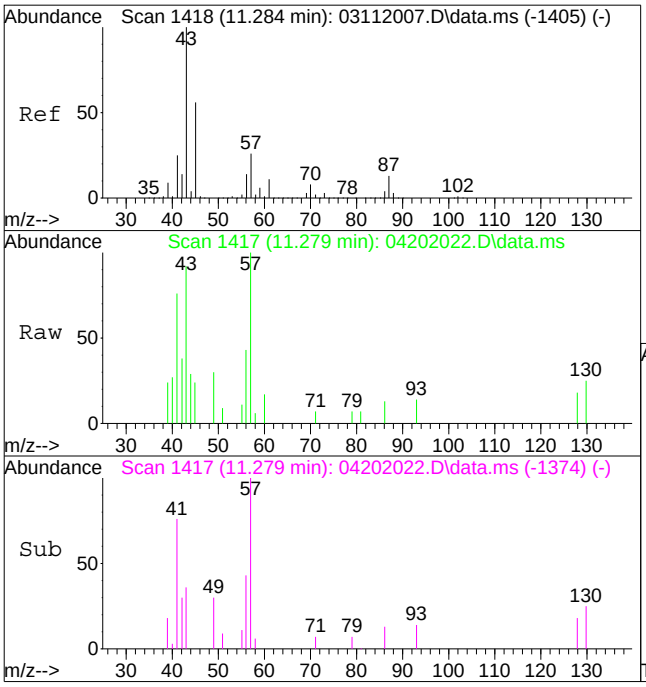


#30
Ethyl Acetate
Concen: 0.07 ng
RT: 11.32 min Scan# 1425
Delta R.T. 0.006 min
Lab File: 04202022.D
Acq: 20 Apr 2020 15:36

Tgt Ion: 61 Resp: 907

Ion	Ratio	Lower	Upper
61	100		
70	94.3	59.1	99.1

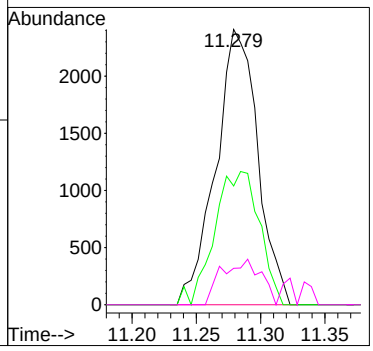


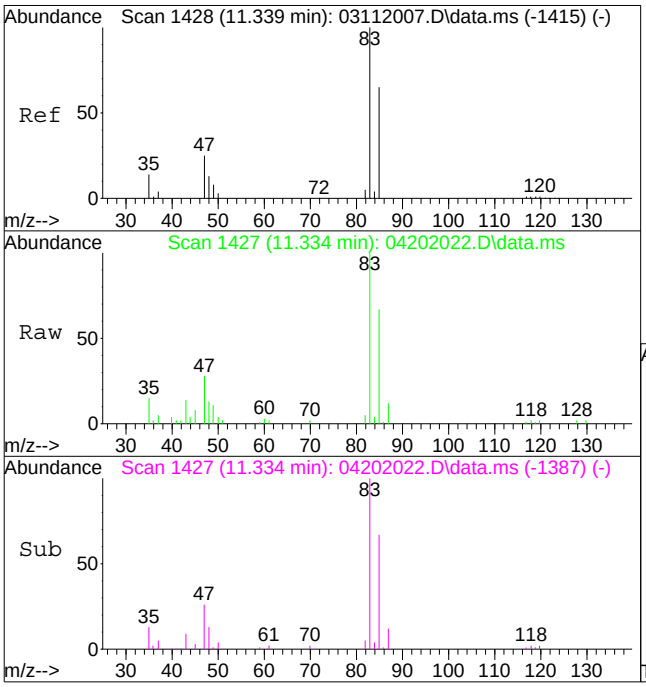


#31
n-Hexane
Concen: 0.09 ng
RT: 11.28 min Scan# 1417
Delta R.T. -0.011 min
Lab File: 04202022.D
Acq: 20 Apr 2020 15:36

Tgt Ion: 57 Resp: 5473

Ion	Ratio	Lower	Upper
57	100		
56	51.8	41.0	61.4
86	15.3	13.9	20.9

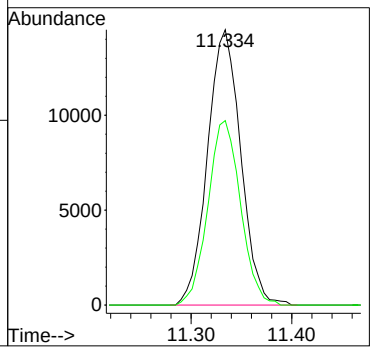


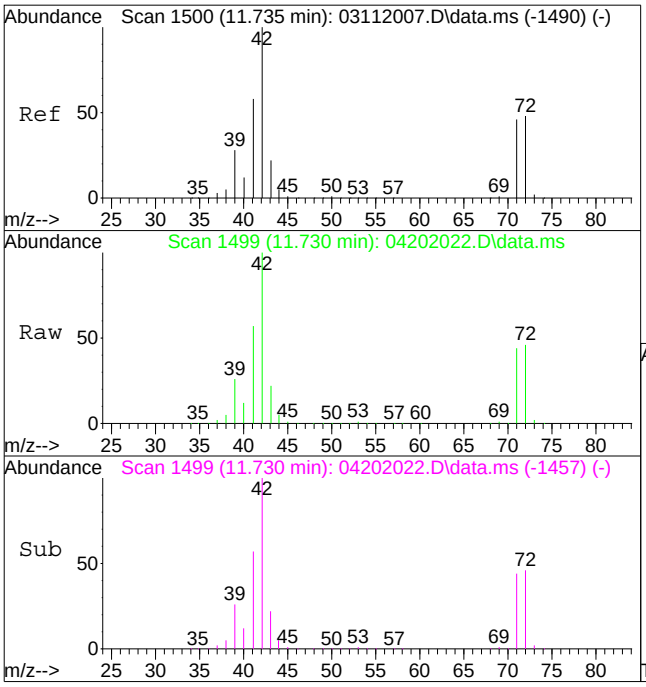


#32
Chloroform
Concen: 0.50 ng
RT: 11.33 min Scan# 1427
Delta R.T. -0.027 min
Lab File: 04202022.D
Acq: 20 Apr 2020 15:36

Tgt Ion: 83 Resp: 33379

Ion	Ratio	Lower	Upper
83	100		
85	65.6	45.5	85.5

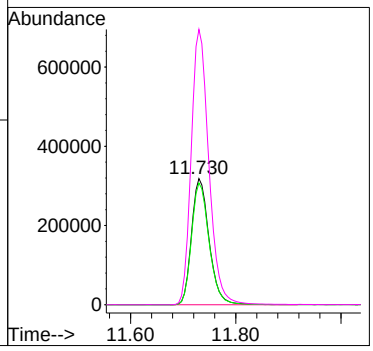


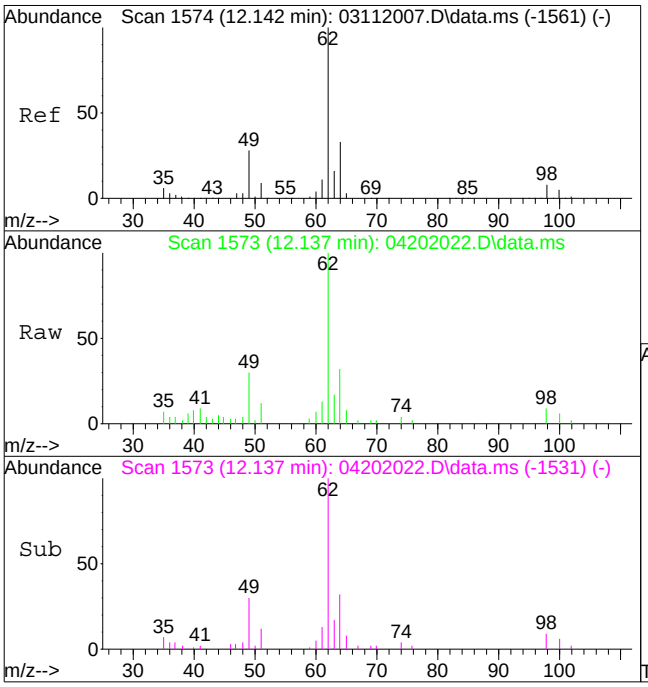


#34
Tetrahydrofuran (THF)
Concen: 31.59 ng
RT: 11.73 min Scan# 1499
Delta R.T. -0.016 min
Lab File: 04202022.D
Acq: 20 Apr 2020 15:36

Tgt Ion: 72 Resp: 739685

Ion	Ratio	Lower	Upper
72	100		
71	96.5	75.9	115.9
42	219.3	189.3	229.3

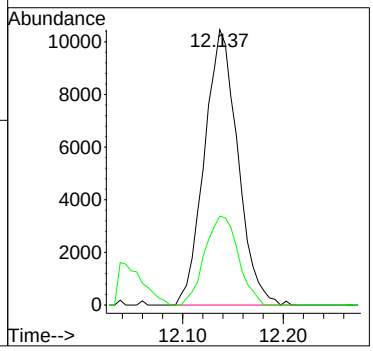


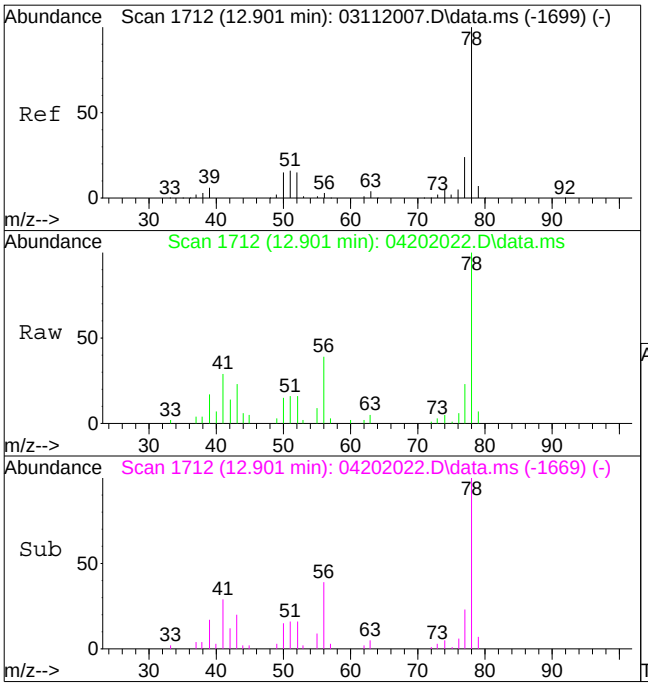


#36
1,2-Dichloroethane
Concen: 0.47 ng
RT: 12.14 min Scan# 1573
Delta R.T. -0.016 min
Lab File: 04202022.D
Acq: 20 Apr 2020 15:36

Tgt Ion: 62 Resp: 24121

Ion	Ratio	Lower	Upper
62	100		
64	32.4	12.4	52.4

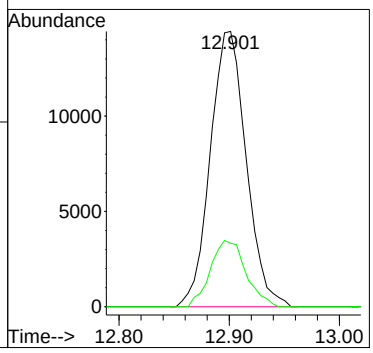


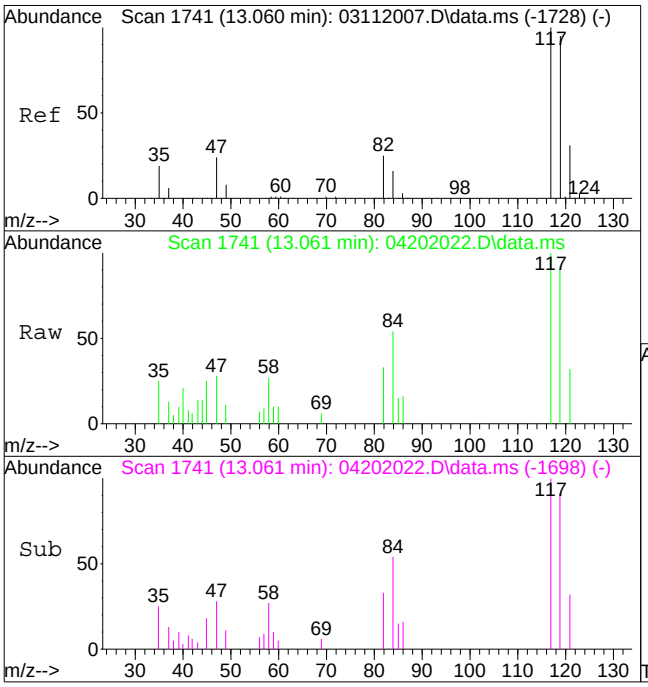


#41
Benzene
Concen: 0.21 ng
RT: 12.90 min Scan# 1712
Delta R.T. -0.011 min
Lab File: 04202022.D
Acq: 20 Apr 2020 15:36

Tgt Ion: 78 Resp: 32707

Ion	Ratio	Lower	Upper
78	100		
77	23.8	3.4	43.4

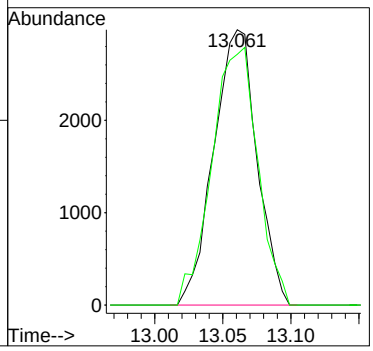


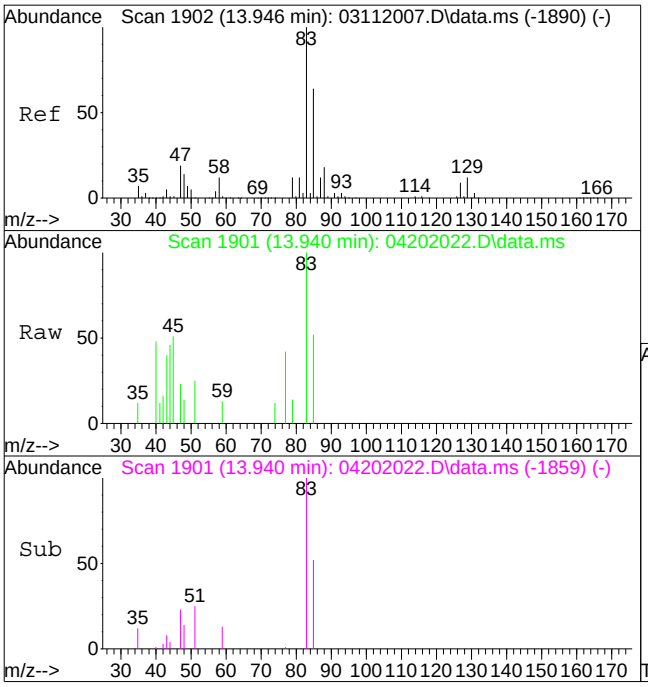


#42
Carbon Tetrachloride
Concen: 0.13 ng
RT: 13.06 min Scan# 1741
Delta R.T. -0.011 min
Lab File: 04202022.D
Acq: 20 Apr 2020 15:36

Tgt Ion:117 Resp: 6597

Ion	Ratio	Lower	Upper
117	100		
119	99.0	75.4	115.4

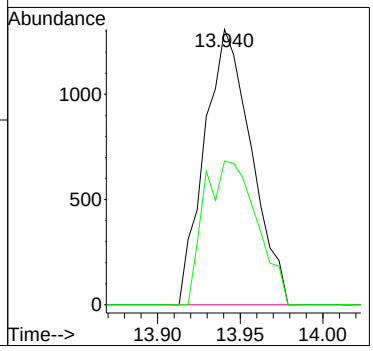


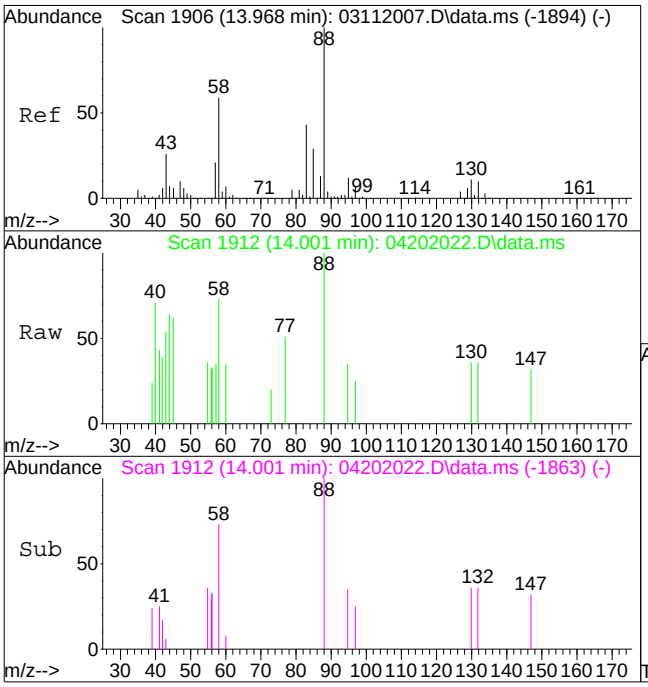


#46
Bromodichloromethane
Concen: 0.05 ng
RT: 13.94 min Scan# 1901
Delta R.T. -0.016 min
Lab File: 04202022.D
Acq: 20 Apr 2020 15:36

Tgt Ion: 83 Resp: 2581

Ion	Ratio	Lower	Upper
83	100		
85	58.6	44.0	84.0

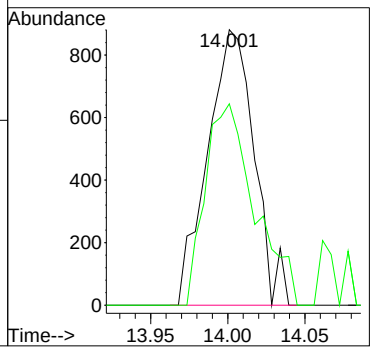


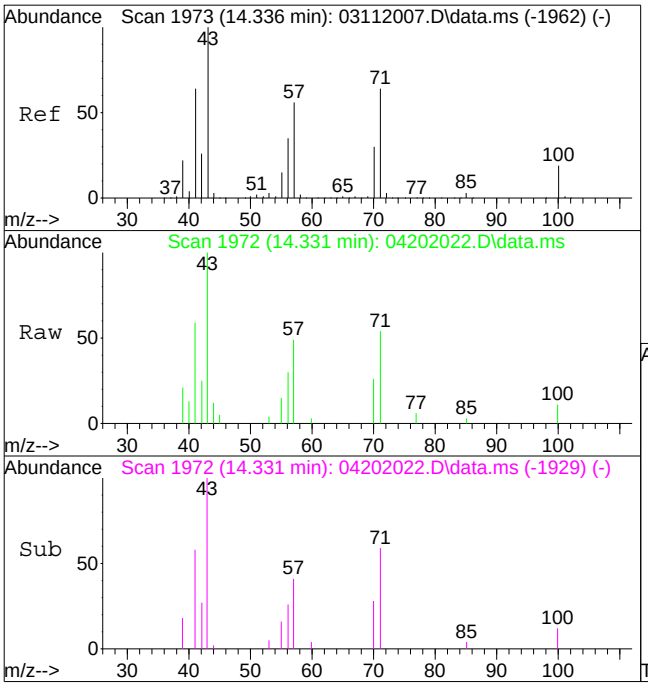


#48
1,4-Dioxane
Concen: 0.06 ng
RT: 14.00 min Scan# 1912
Delta R.T. 0.022 min
Lab File: 04202022.D
Acq: 20 Apr 2020 15:36

Tgt Ion: 88 Resp: 1848

Ion	Ratio	Lower	Upper
88	100		
58	77.7	39.5	79.5

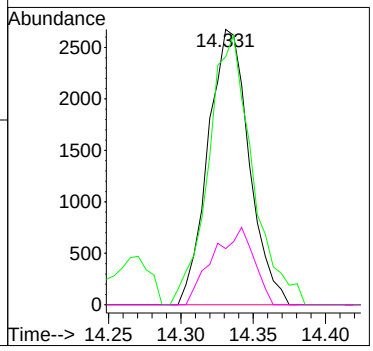


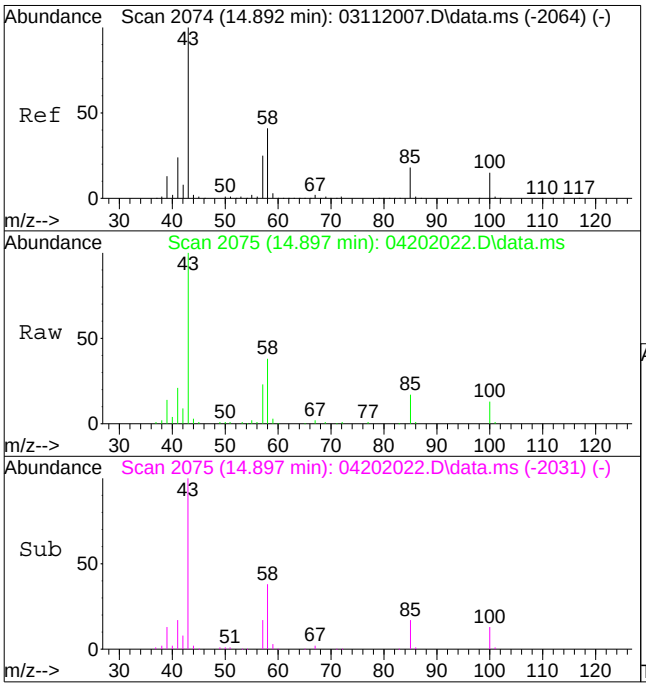


#51
n-Heptane
Concen: 0.15 ng
RT: 14.33 min Scan# 1972
Delta R.T. -0.011 min
Lab File: 04202022.D
Acq: 20 Apr 2020 15:36

Tgt Ion: 71 Resp: 5285

Ion	Ratio	Lower	Upper
71	100		
57	104.9	68.6	108.6
100	27.9	9.1	49.1

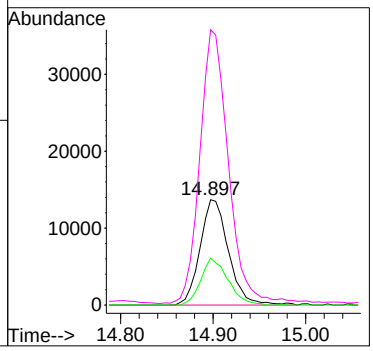


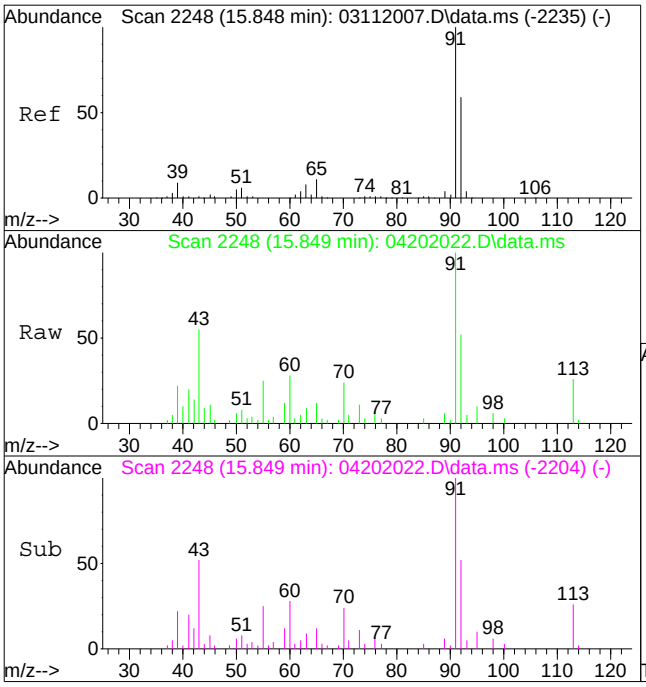


#53
4-Methyl-2-pentanone
Concen: 0.91 ng
RT: 14.90 min Scan# 2075
Delta R.T. -0.005 min
Lab File: 04202022.D
Acq: 20 Apr 2020 15:36

Tgt Ion: 58 Resp: 29248

Ion	Ratio	Lower	Upper
58	100		
85	42.4	37.0	55.4
43	262.0	196.3	294.5

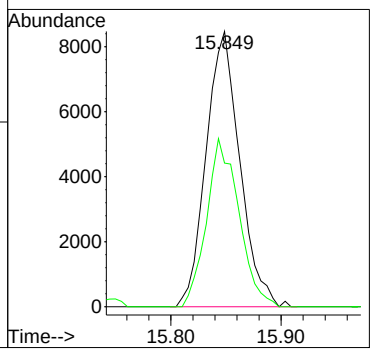


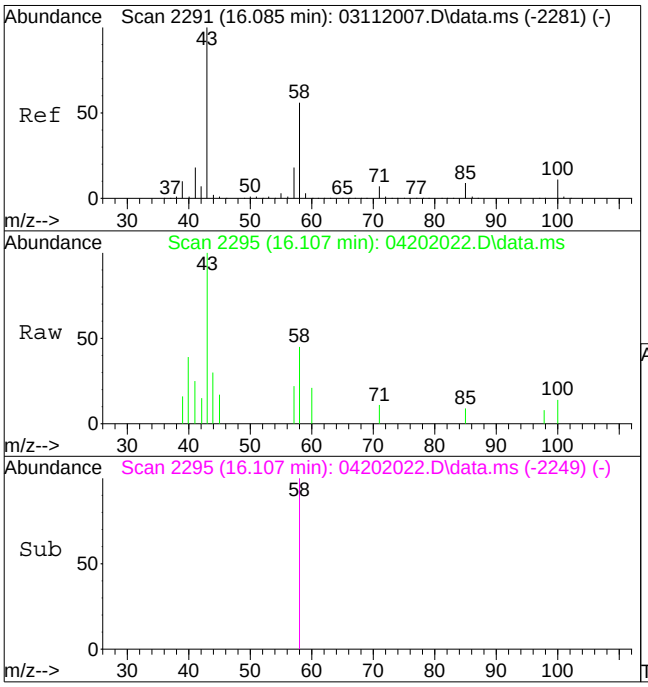


#58
Toluene
Concen: 0.12 ng
RT: 15.85 min Scan# 2248
Delta R.T. -0.005 min
Lab File: 04202022.D
Acq: 20 Apr 2020 15:36

Tgt Ion: 91 Resp: 18001

Ion	Ratio	Lower	Upper
91	100		
92	58.5	39.0	79.0

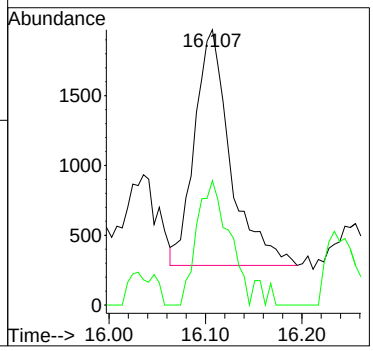


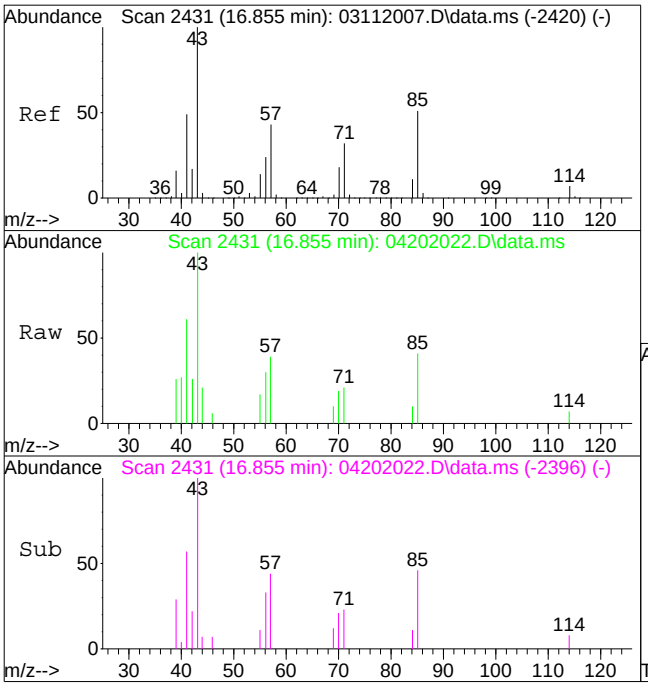


#59
2-Hexanone
Concen: 0.06 ng
RT: 16.11 min Scan# 2295
Delta R.T. 0.006 min
Lab File: 04202022.D
Acq: 20 Apr 2020 15:36

Tgt Ion: 43 Resp: 4365

Ion	Ratio	Lower	Upper
43	100		
58	47.0	36.5	76.5

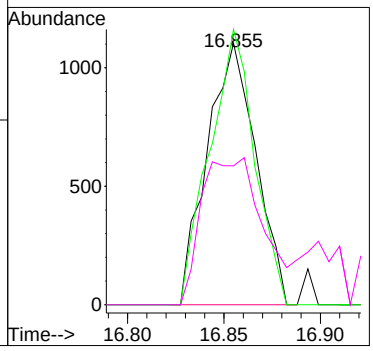


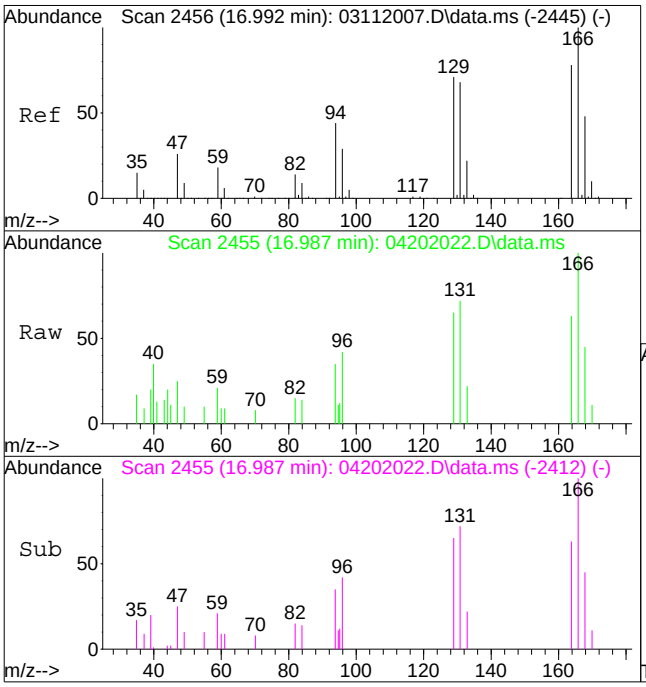


#63
n-Octane
Concen: 0.06 ng
RT: 16.85 min Scan# 2431
Delta R.T. -0.005 min
Lab File: 04202022.D
Acq: 20 Apr 2020 15:36

Tgt Ion: 57 Resp: 1937

Ion	Ratio	Lower	Upper
57	100		
85	97.6	95.1	142.7
71	70.3	58.2	87.4

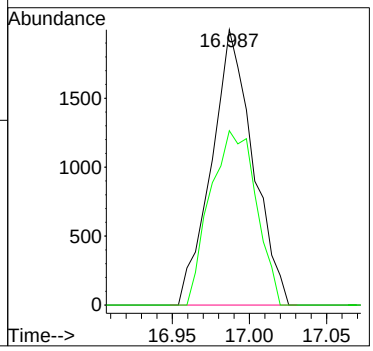


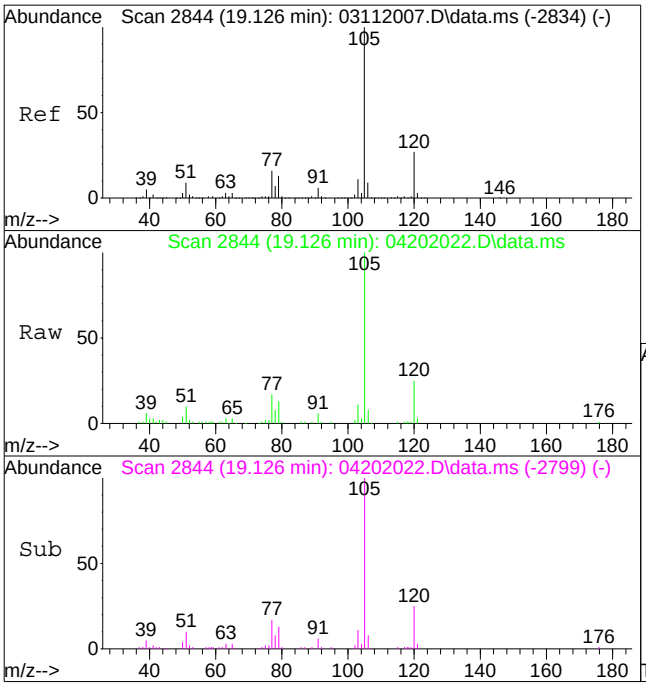


#64
Tetrachloroethene
Concen: 0.09 ng
RT: 16.99 min Scan# 2455
Delta R.T. -0.011 min
Lab File: 04202022.D
Acq: 20 Apr 2020 15:36

Tgt Ion:166 Resp: 3736

Ion	Ratio	Lower	Upper
166	100		
164	70.3	58.6	98.6

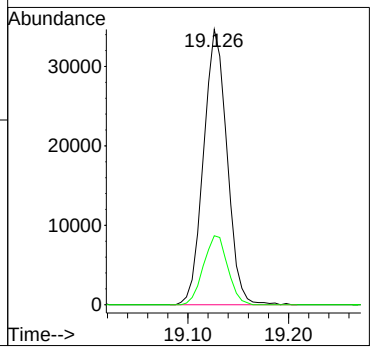


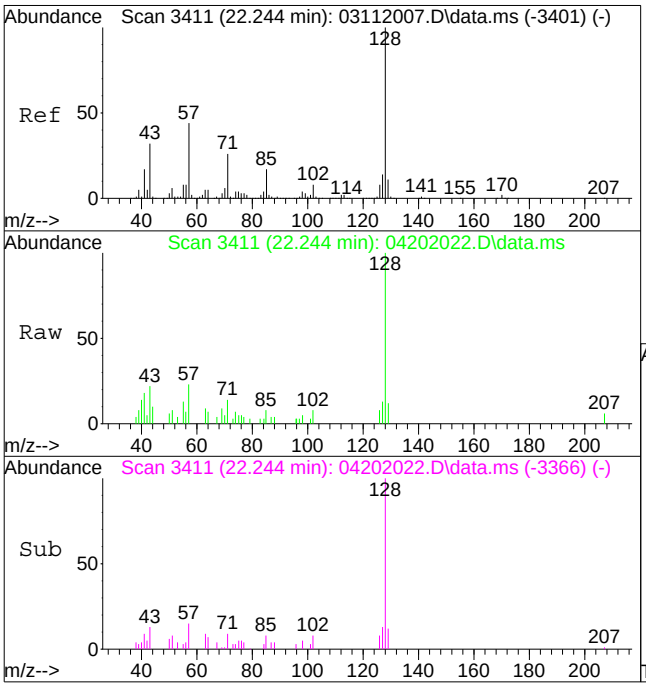


#74
Cumene
Concen: 0.32 ng
RT: 19.13 min Scan# 2844
Delta R.T. 0.000 min
Lab File: 04202022.D
Acq: 20 Apr 2020 15:36

Tgt Ion:105 Resp: 56143

Ion	Ratio	Lower	Upper
105	100		
120	25.9	7.2	47.2

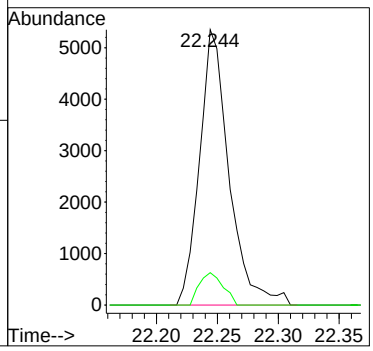




#95
Naphthalene
Concen: 0.05 ng
RT: 22.24 min Scan# 3411
Delta R.T. -0.005 min
Lab File: 04202022.D
Acq: 20 Apr 2020 15:36

Tgt Ion:128 Resp: 9030

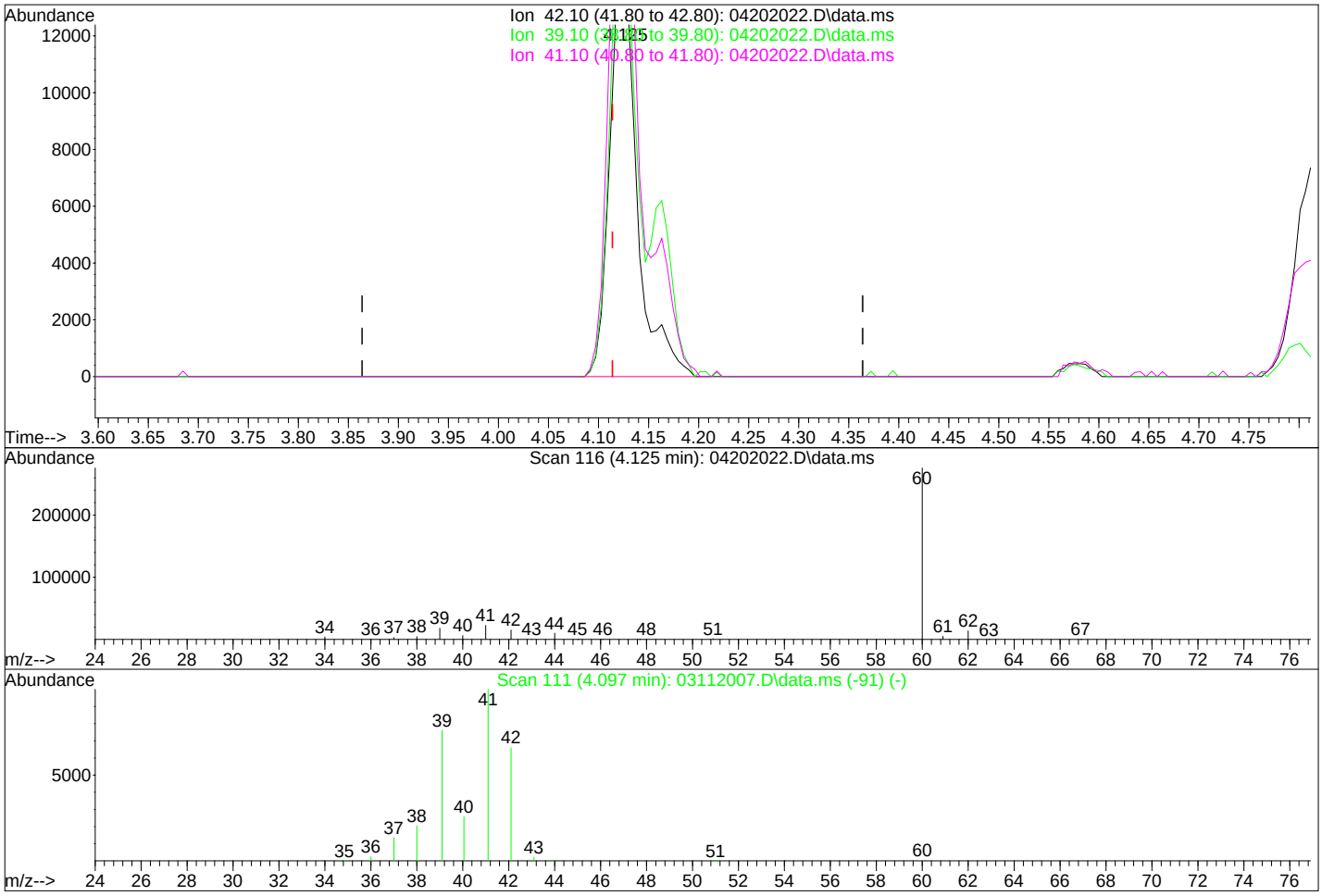
Ion	Ratio	Lower	Upper
128	100		
129	9.4	0.0	31.1



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\20\04202022.D Vial: 16
Acq On : 20 Apr 2020 15:36 Operator: TD
Sample : P2002028-019 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 16:46:59 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202022.D\data.ms

(2) Propene (T)

4.125min (+0.011) 0.79ng

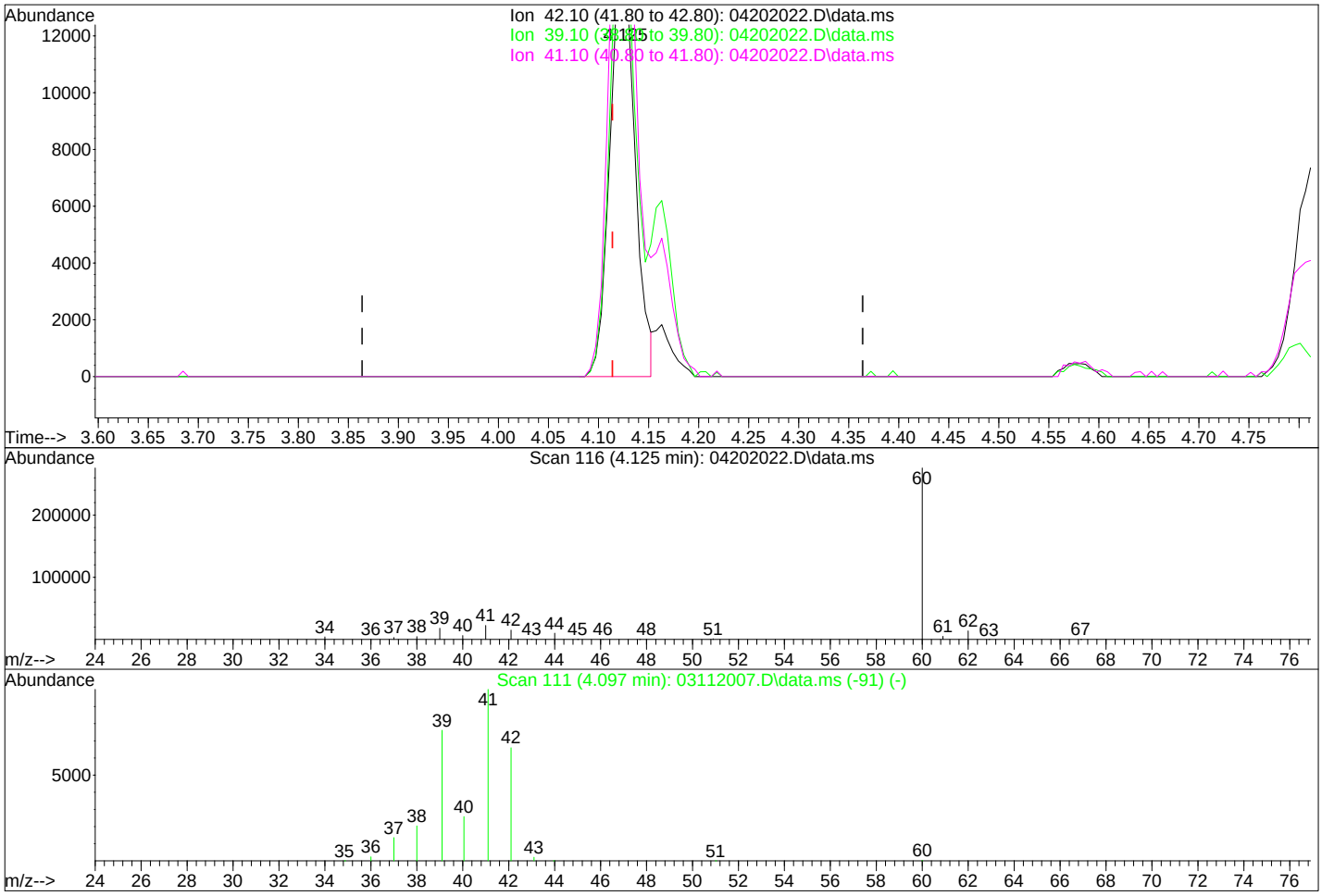
response 27638

Ion	Exp%	Act%
42.10	100	100
39.10	115.30	107.95
41.10	152.00	164.73
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\20\04202022.D Vial: 16
Acq On : 20 Apr 2020 15:36 Operator: TD
Sample : P2002028-019 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 16:46:59 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202022.D\data.ms

(2) Propene (T)

4.125min (+0.011) 0.72ng m

response 25395

Ion	Exp%	Act%
42.10	100	100
39.10	115.30	117.48
41.10	152.00	179.28#
0.00	0.00	0.00

IPC

LH 4/20/20

4/24/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172012.D Vial: 1
Acq On : 17 Apr 2020 8:58 Operator: WA
Sample : P2002028-020 (0.20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 18:17:13 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/20/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	329001	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.30	114	1551403	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.61	82	796238	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	586327	12.870	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.96%				
57) Toluene-d8 (SS2)	15.75	98	1693662	12.000	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.00%				
73) Bromofluorobenzene (SS3)	19.01	174	599308	12.025	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.24%				
Target Compounds							Qvalue
2) Propene	4.14	42	22851	0.662	ng		91
3) Dichlorodifluoromethan...	4.30	85	555	N.D.			
4) Chloromethane	4.58	50	681	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.83	135	248	N.D.			
6) Vinyl Chloride	4.99	62	301	N.D.			
7) 1,3-Butadiene	5.25	54	182	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	6.00	64	153	N.D.			
10) Ethanol	6.34	45	40646	1.490	ng		99
11) Acetonitrile	6.65	41	411	N.D.			
12) Acrolein	6.84	56	421	N.D.			
13) Acetone	7.00	58	409332	15.210	ng		87
14) Trichlorofluoromethane	7.27	101	383	N.D.			
15) 2-Propanol (Isopropanol)	7.52	45	46948	0.588	ng		88
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.44	84	504	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	8.88	151	166	N.D.			
22) Carbon Disulfide	8.73	76	3059	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	9.96	63	217	N.D.			
25) Methyl tert-Butyl Ether	10.14	73	1469	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.47	72	87543	3.907	ng	#	86
28) cis-1,2-Dichloroethene	10.99	61	181	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	11.29	57	6173962	100.591	ng		98
32) Chloroform	11.33	83	778	N.D.			
34) Tetrahydrofuran (THF)	11.81	72	521	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d		
38) 1,1,1-Trichloroethane	12.43	97	288	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.90	78	2919881	18.201	ng		100
42) Carbon Tetrachloride	13.06	117	160	N.D.			
43) Cyclohexane	13.20	84	6195473	100.581	ng		96
44) tert-Amyl Methyl Ether	13.56	73	478	N.D.			
45) 1,2-Dichloropropane	13.75	63	202	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	14.01	130	1387	N.D.			
48) 1,4-Dioxane	14.04	88	101	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172012.D Vial: 1
Acq On : 17 Apr 2020 8:58 Operator: WA
Sample : P2002028-020 (0.20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 18:17:13 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

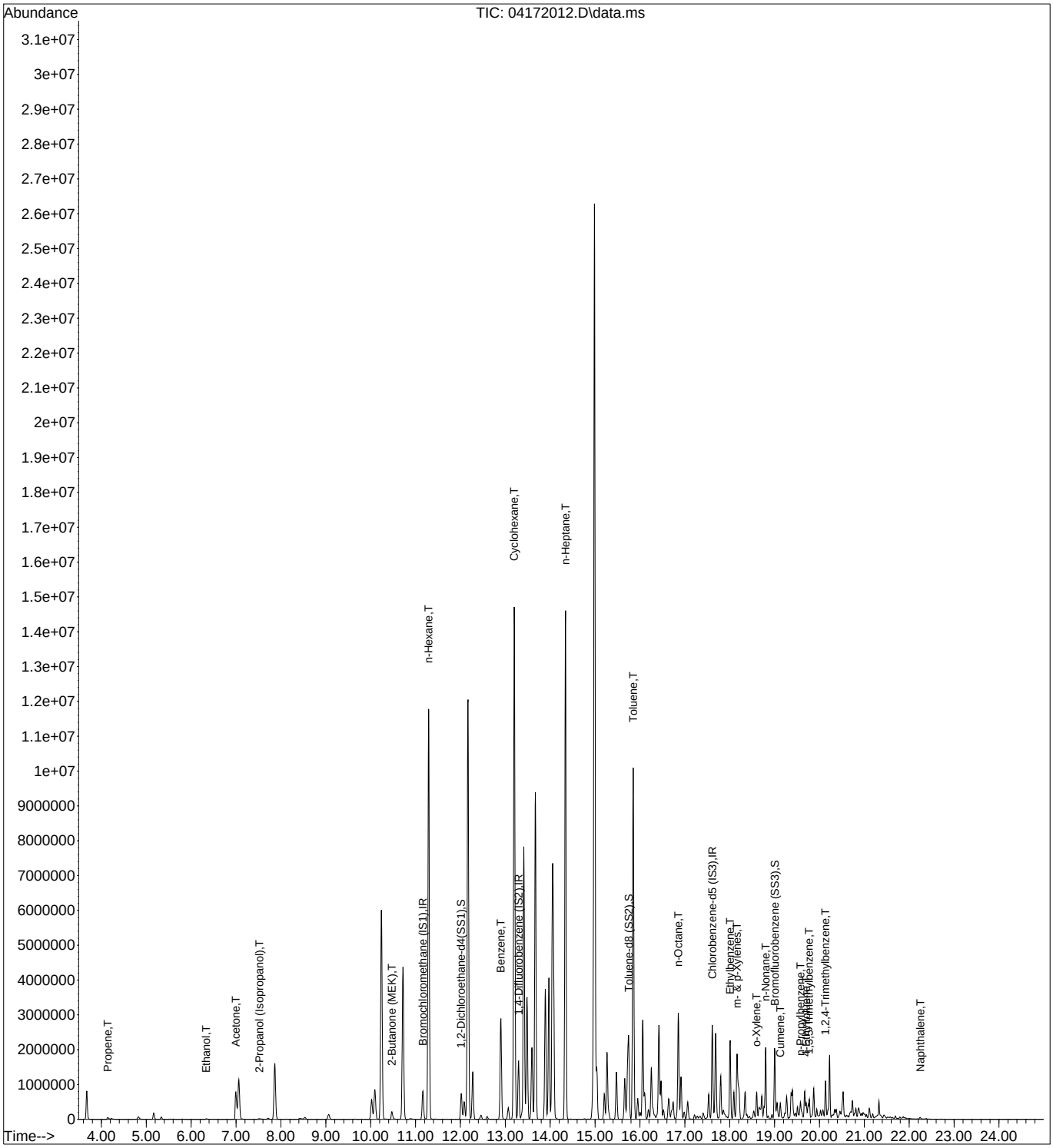
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.34	71	3755530	100.263 ng	98
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	15.48	75	243	N.D.	
55) 1,1,2-Trichloroethane	15.56	97	156	N.D.	
58) Toluene	15.85	91	7395574	42.381 ng	99
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	16.51	107	1131	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	16.85	57	588544	16.996 ng	98
64) Tetrachloroethene	17.00	166	1983	N.D.	
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	18.01	91	1624742	8.487 ng	99
67) m- & p-Xylenes	18.16	91	1309866	8.412 ng	100
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.50	104	1012	N.D.	
70) o-Xylene	18.60	91	461269	2.963 ng	99
71) n-Nonane	18.80	43	681576	8.756 ng	95
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	19.13	105	188386	0.957 ng	97
75) alpha-Pinene	19.47	93	230	N.D.	
76) n-Propylbenzene	19.58	91	335569	1.459 ng	97
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.70	105	181880	0.973 ng	92
79) 1,3,5-Trimethylbenzene	19.77	105	117547	0.706 ng	99
80) alpha-Methylstyrene	19.91	118	749	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.13	105	347159	2.014 ng	88
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.22	91	1228	N.D.	
85) 1,3-Dichlorobenzene	20.27	146	832	N.D.	
86) 1,4-Dichlorobenzene	20.33	146	901	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	20.62	146	638	N.D.	
91) d-Limonene	20.63	68	2301	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.15	180	480	N.D.	
95) Naphthalene	22.25	128	11225	0.058 ng	94
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172012.D Vial: 1
Acq On : 17 Apr 2020 8:58 Operator: WA
Sample : P2002028-020 (0.20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 18:17:13 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172012.D Vial: 1
Acq On : 17 Apr 2020 8:58 Operator: WA
Sample : P2002028-020 (0.20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 18:17:13 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/20/20

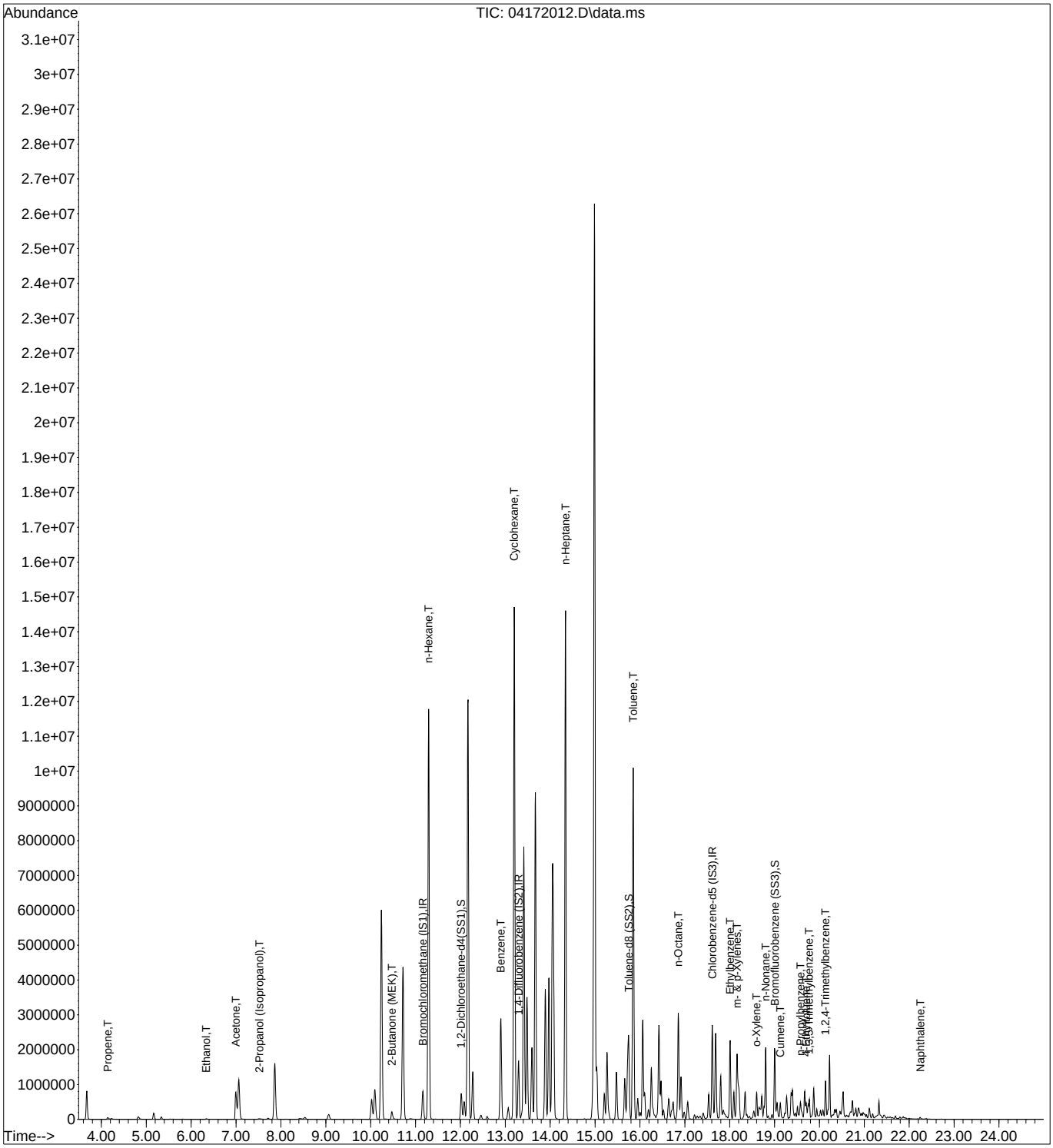
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	329001	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.30	114	1551403	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.61	82	796238	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	586327	12.870	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.96%				
57) Toluene-d8 (SS2)	15.75	98	1693662	12.000	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.00%				
73) Bromofluorobenzene (SS3)	19.01	174	599308	12.025	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.24%				
Target Compounds							Qvalue
2) Propene	4.14	42	22851	0.662	ng		91
10) Ethanol	6.34	45	40646	1.490	ng		99
13) Acetone	7.00	58	409332	15.210	ng		87
15) 2-Propanol (Isopropanol)	7.52	45	46948	0.588	ng		88
27) 2-Butanone (MEK)	10.47	72	87543	3.907	ng	#	86
31) n-Hexane	11.29	57	6173962	100.591	ng		98
41) Benzene	12.90	78	2919881	18.201	ng		100
43) Cyclohexane	13.20	84	6195473	100.581	ng		96
51) n-Heptane	14.34	71	3755530	100.263	ng		98
58) Toluene	15.85	91	7395574	42.381	ng		99
63) n-Octane	16.85	57	588544	16.996	ng		98
66) Ethylbenzene	18.01	91	1624742	8.487	ng		99
67) m- & p-Xylenes	18.16	91	1309866	8.412	ng		100
70) o-Xylene	18.60	91	461269	2.963	ng		99
71) n-Nonane	18.80	43	681576	8.756	ng		95
74) Cumene	19.13	105	188386	0.957	ng		97
76) n-Propylbenzene	19.58	91	335569	1.459	ng		97
78) 4-Ethyltoluene	19.70	105	181880	0.973	ng		92
79) 1,3,5-Trimethylbenzene	19.77	105	117547	0.706	ng		99
82) 1,2,4-Trimethylbenzene	20.13	105	347159	2.014	ng		88
95) Naphthalene	22.25	128	11225	0.058	ng		94

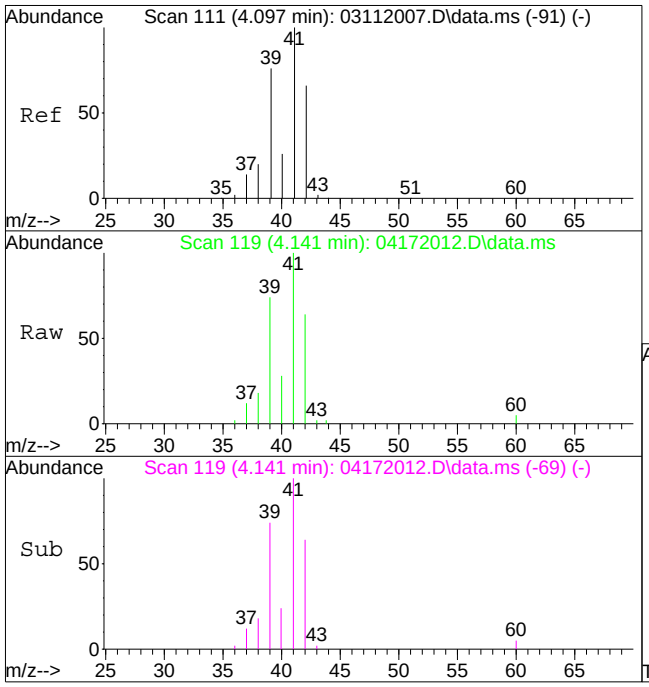
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172012.D Vial: 1
Acq On : 17 Apr 2020 8:58 Operator: WA
Sample : P2002028-020 (0.20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 18:17:13 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

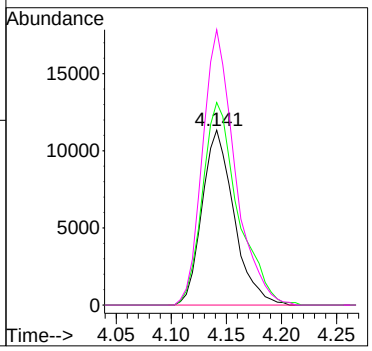


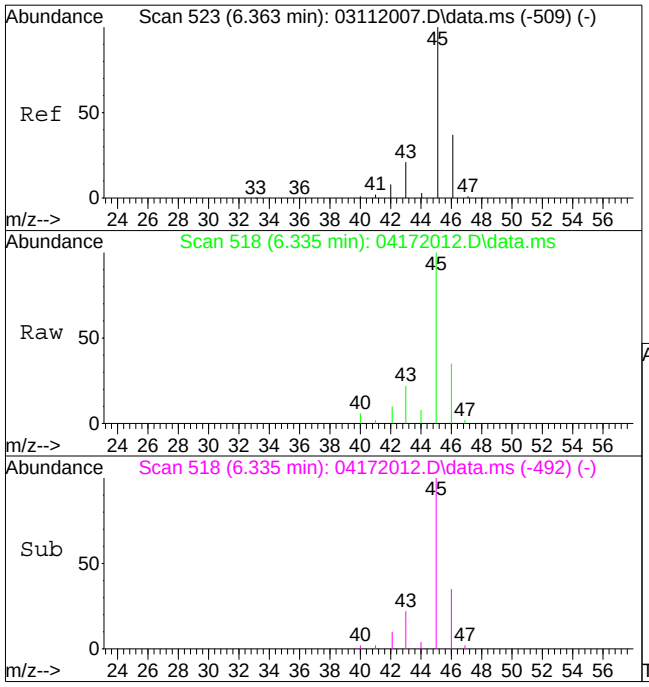


#2
Propene
Concen: 0.66 ng
RT: 4.14 min Scan# 119
Delta R.T. 0.027 min
Lab File: 04172012.D
Acq: 17 Apr 2020 8:58

Tgt Ion: 42 Resp: 22851

Ion	Ratio	Lower	Upper
42	100		
39	128.6	95.3	135.3
41	160.4	132.0	172.0

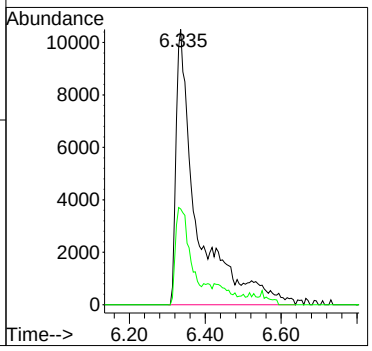


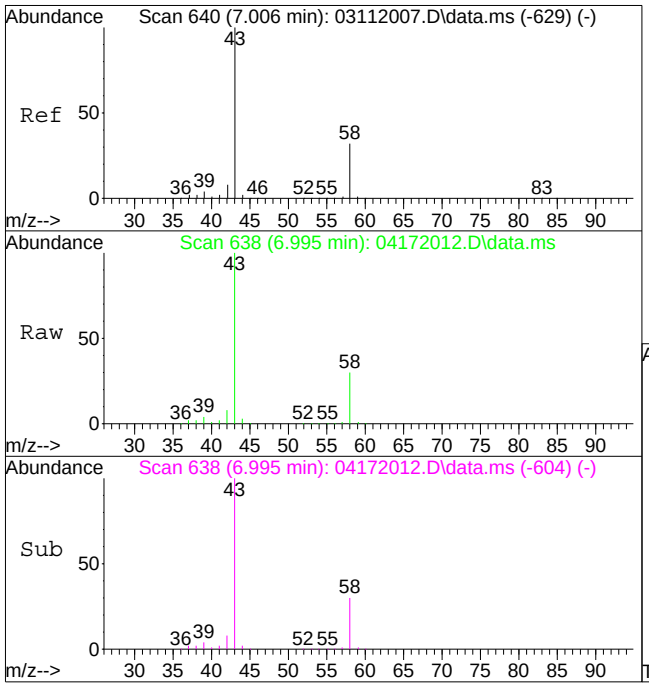


#10
Ethanol
Concen: 1.49 ng
RT: 6.34 min Scan# 518
Delta R.T. -0.105 min
Lab File: 04172012.D
Acq: 17 Apr 2020 8:58

Tgt Ion: 45 Resp: 40646

Ion	Ratio	Lower	Upper
45	100		
46	37.9	17.3	57.3

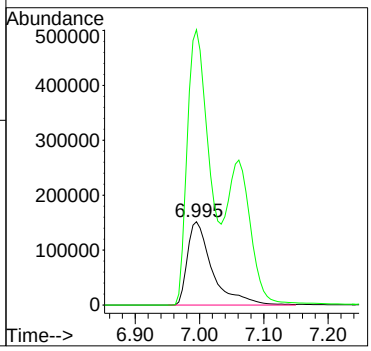


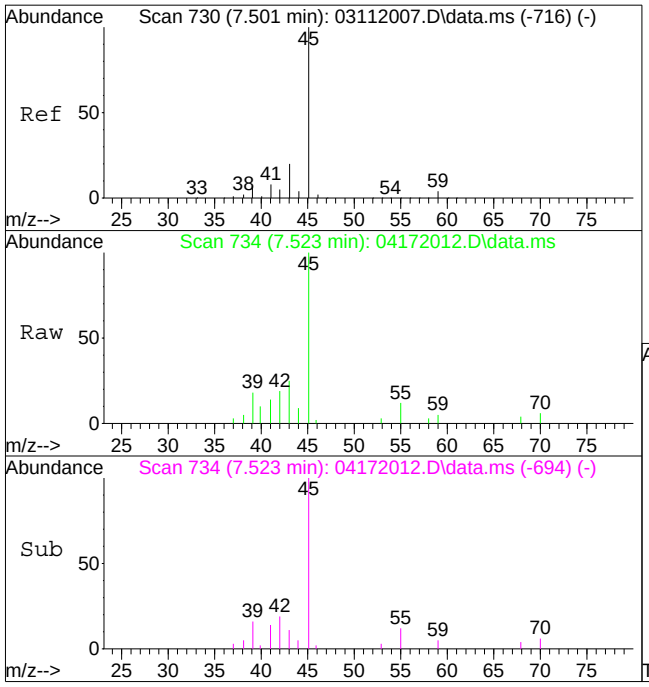


#13
Acetone
Concen: 15.21 ng
RT: 7.00 min Scan# 638
Delta R.T. -0.061 min
Lab File: 04172012.D
Acq: 17 Apr 2020 8:58

Tgt Ion: 58 Resp: 409332

Ion	Ratio	Lower	Upper
58	100		
43	291.8	287.3	347.3

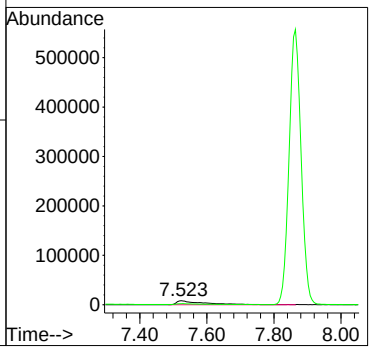


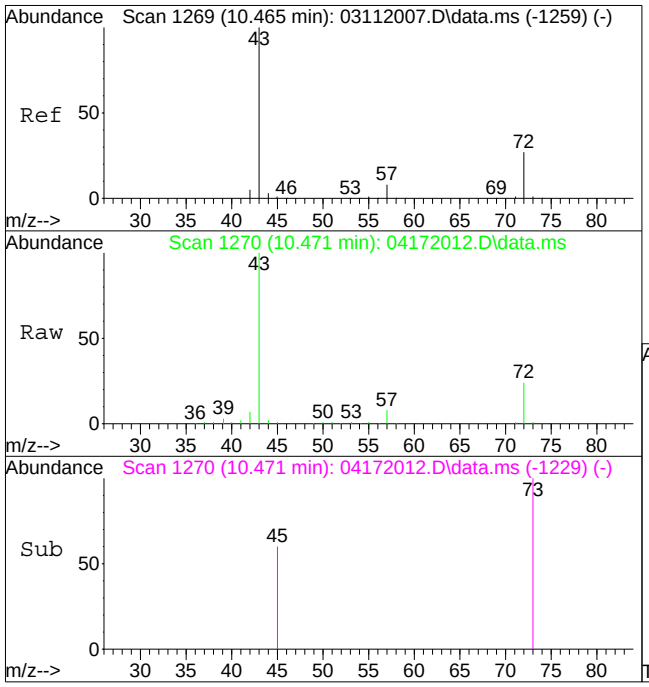


#15
2-Propanol (Isopropanol)
Concen: 0.59 ng
RT: 7.52 min Scan# 734
Delta R.T. -0.027 min
Lab File: 04172012.D
Acq: 17 Apr 2020 8:58

Tgt Ion: 45 Resp: 46948

Ion	Ratio	Lower	Upper
45	100		
43	25.7	0.3	40.3

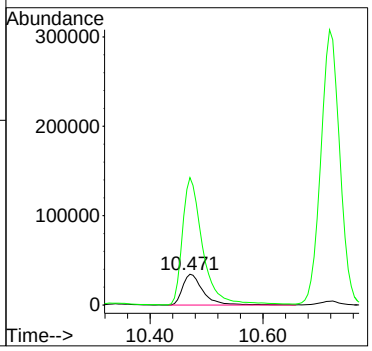


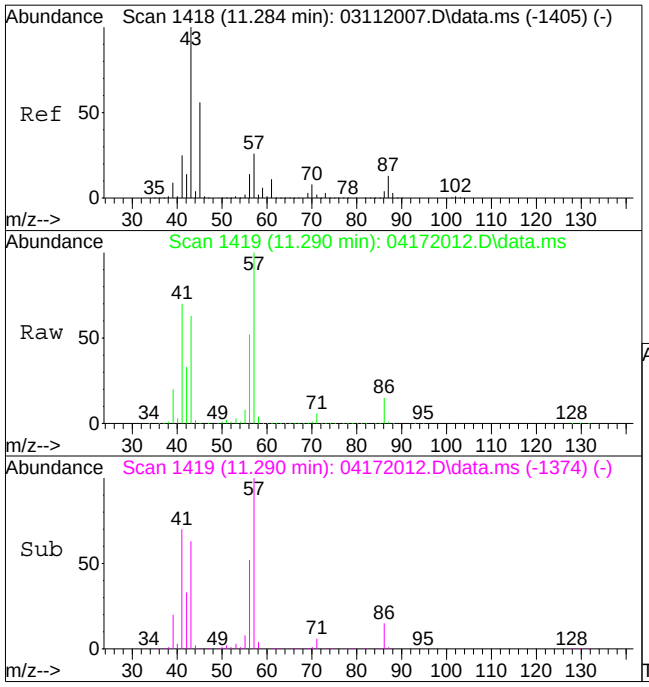


#27
2-Butanone (MEK)
Concen: 3.91 ng
RT: 10.47 min Scan# 1270
Delta R.T. -0.022 min
Lab File: 04172012.D
Acq: 17 Apr 2020 8:58

Tgt Ion: 72 Resp: 87543

Ion	Ratio	Lower	Upper
72	100		
43	404.8	353.4	393.4#

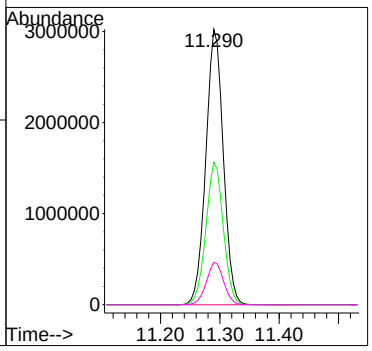


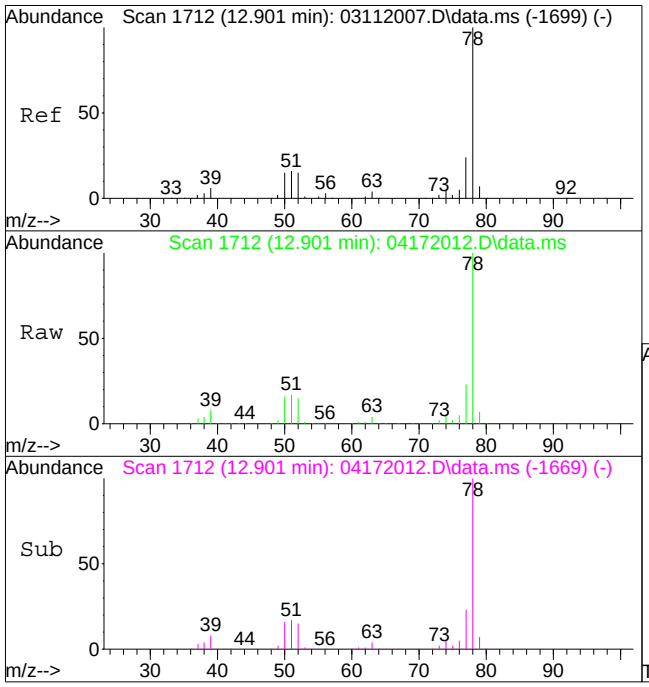


#31
n-Hexane
Concen: 100.59 ng
RT: 11.29 min Scan# 1419
Delta R.T. 0.000 min
Lab File: 04172012.D
Acq: 17 Apr 2020 8:58

Tgt Ion: 57 Resp: 6173962

Ion	Ratio	Lower	Upper
57	100		
56	51.6	41.0	61.4
86	15.3	13.9	20.9

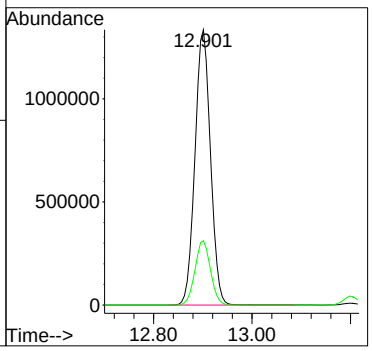


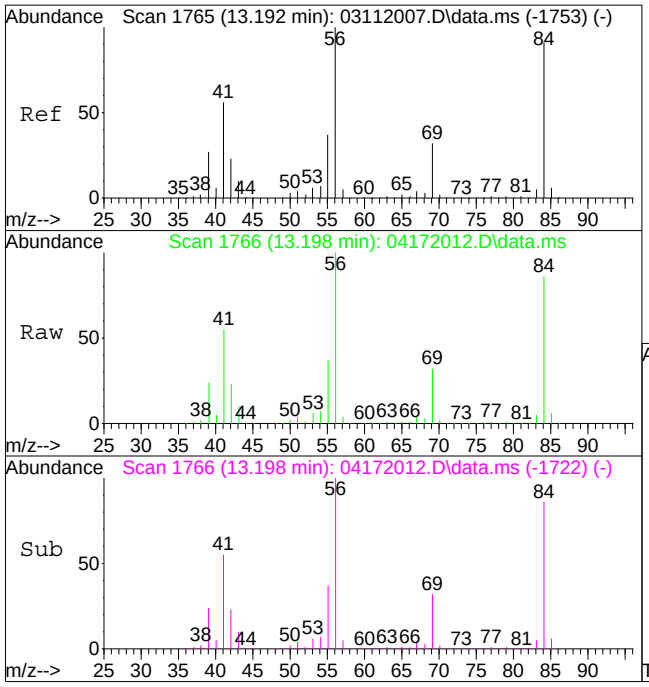


#41
Benzene
Concen: 18.20 ng
RT: 12.90 min Scan# 1712
Delta R.T. -0.011 min
Lab File: 04172012.D
Acq: 17 Apr 2020 8:58

Tgt Ion: 78 Resp: 2919881

Ion	Ratio	Lower	Upper
78	100		
77	23.3	3.4	43.4

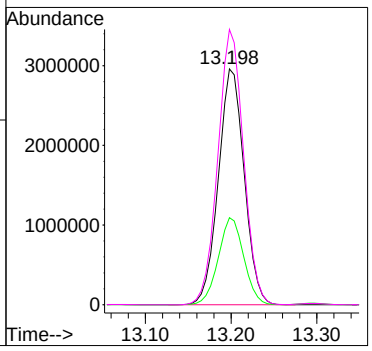


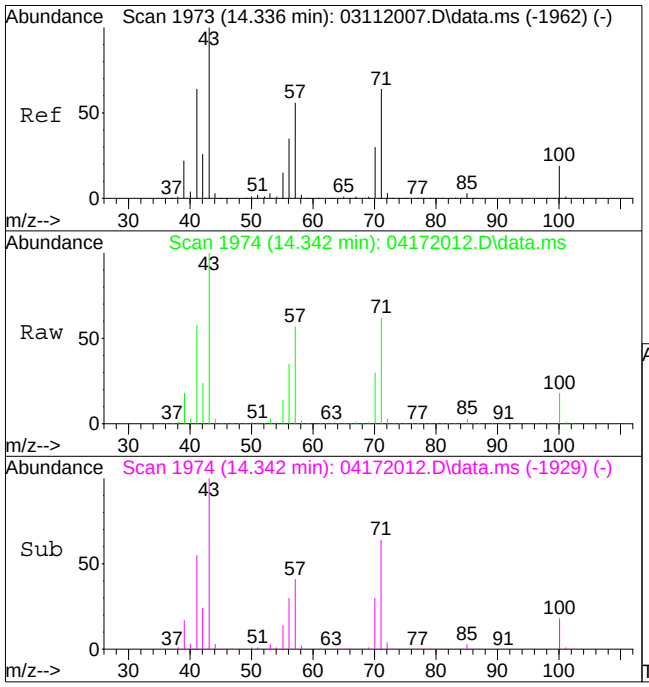


#43
Cyclohexane
Concen: 100.58 ng
RT: 13.20 min Scan# 1766
Delta R.T. -0.005 min
Lab File: 04172012.D
Acq: 17 Apr 2020 8:58

Tgt Ion: 84 Resp: 6195473

Ion	Ratio	Lower	Upper
84	100		
69	36.4	15.3	55.3
56	115.9	90.5	130.5

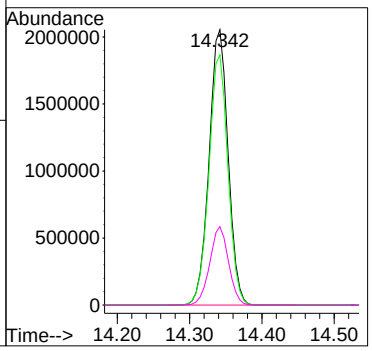


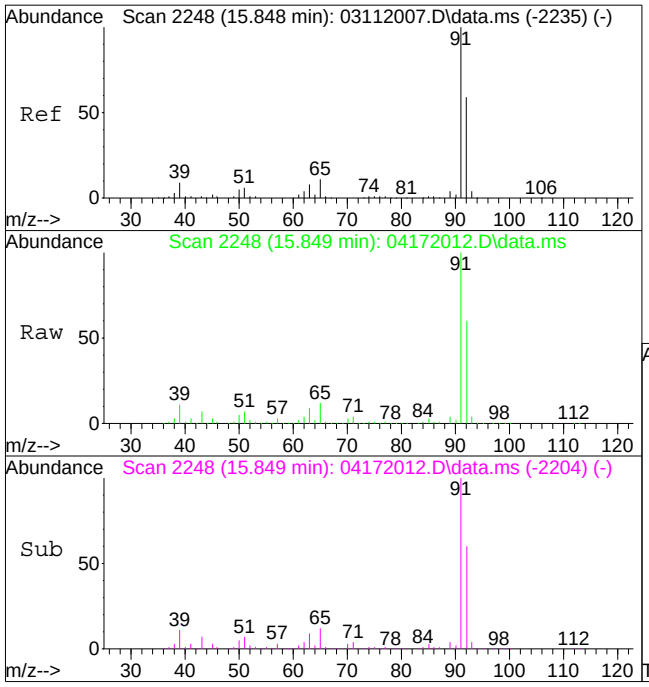


#51
n-Heptane
Concen: 100.26 ng
RT: 14.34 min Scan# 1974
Delta R.T. 0.000 min
Lab File: 04172012.D
Acq: 17 Apr 2020 8:58

Tgt Ion: 71 Resp: 3755530

Ion	Ratio	Lower	Upper
71	100		
57	90.8	68.6	108.6
100	28.1	9.1	49.1

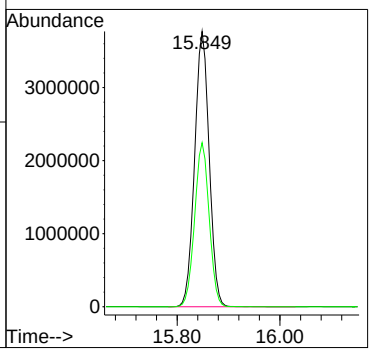


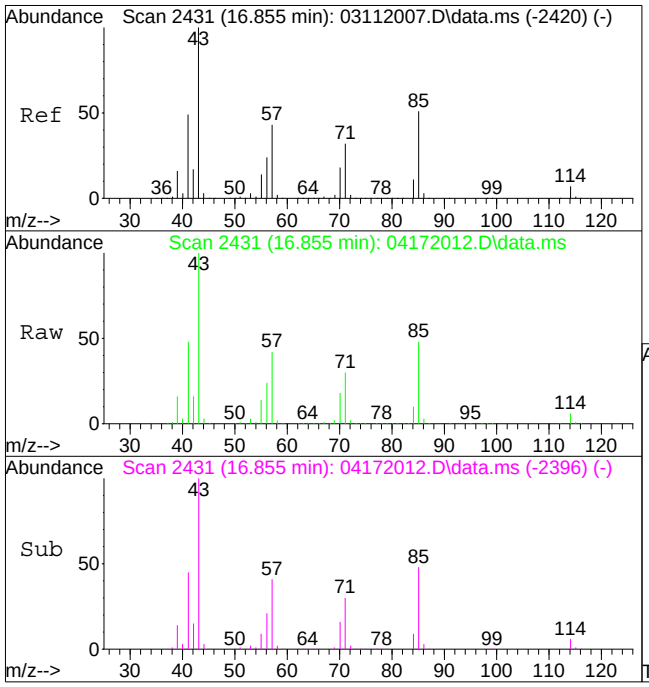


#58
Toluene
Concen: 42.38 ng
RT: 15.85 min Scan# 2248
Delta R.T. -0.005 min
Lab File: 04172012.D
Acq: 17 Apr 2020 8:58

Tgt Ion: 91 Resp: 7395574

Ion	Ratio	Lower	Upper
91	100		
92	59.5	39.0	79.0

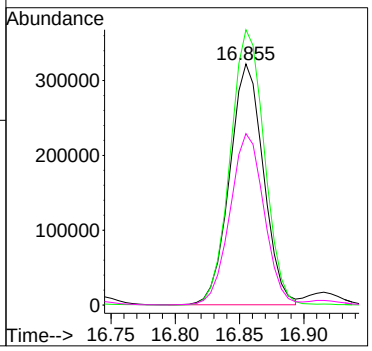


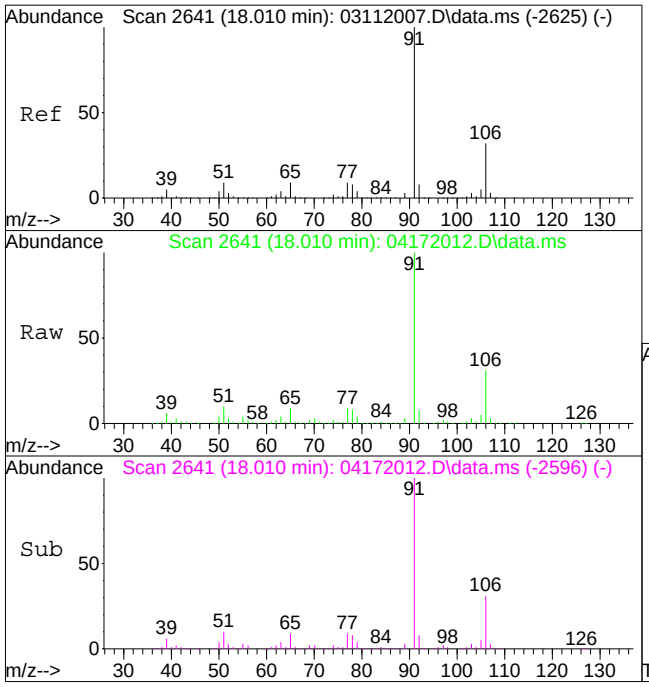


#63
n-Octane
Concen: 17.00 ng
RT: 16.85 min Scan# 2431
Delta R.T. -0.005 min
Lab File: 04172012.D
Acq: 17 Apr 2020 8:58

Tgt Ion: 57 Resp: 588544

Ion	Ratio	Lower	Upper
57	100		
85	115.5	95.1	142.7
71	71.8	58.2	87.4

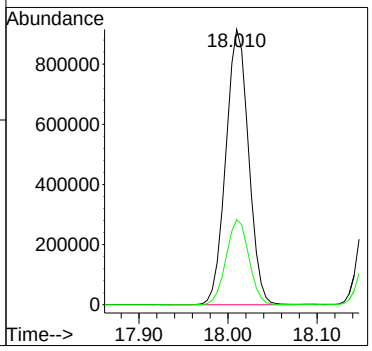


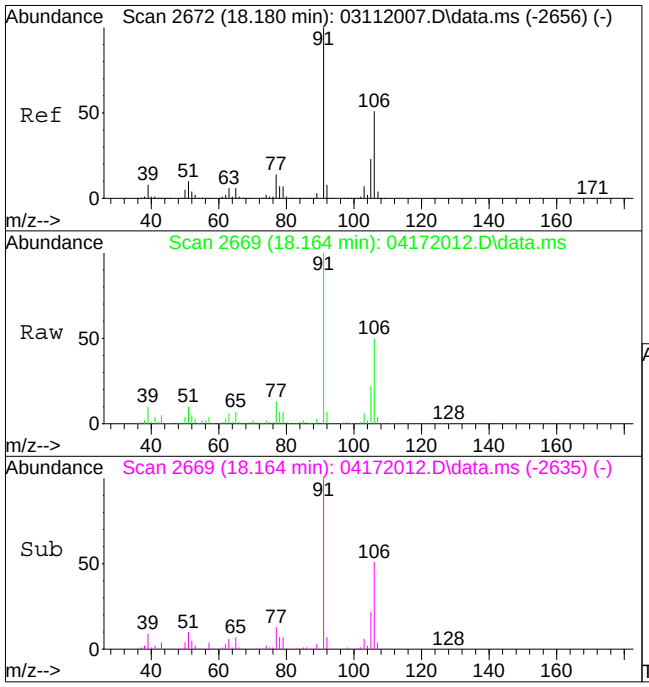


#66
Ethylbenzene
Concen: 8.49 ng
RT: 18.01 min Scan# 2641
Delta R.T. 0.000 min
Lab File: 04172012.D
Acq: 17 Apr 2020 8:58

Tgt Ion: 91 Resp: 1624742

Ion	Ratio	Lower	Upper
91	100		
106	31.0	11.7	51.7

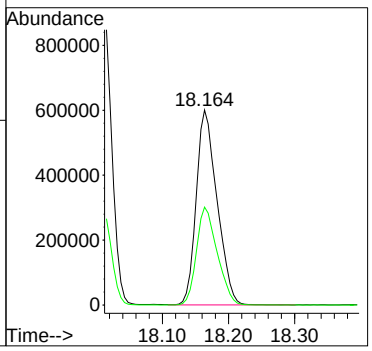


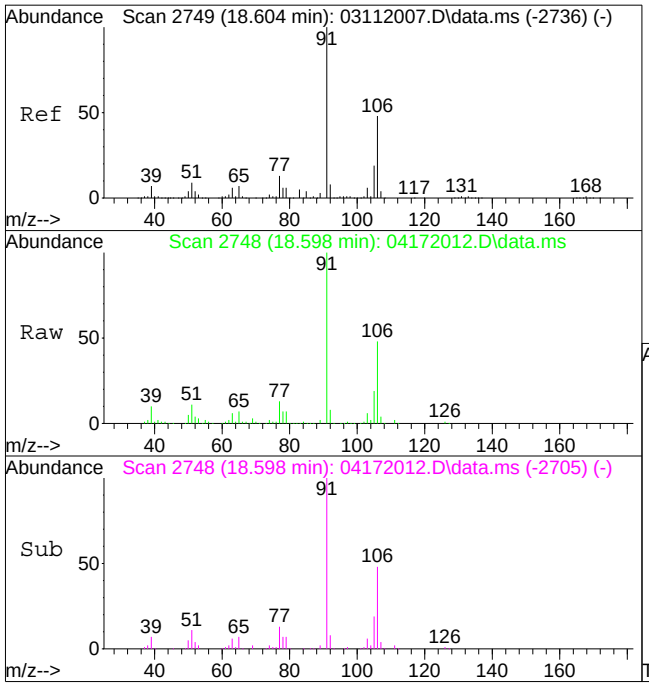


#67
m- & p-Xylenes
Concen: 8.41 ng
RT: 18.16 min Scan# 2669
Delta R.T. -0.011 min
Lab File: 04172012.D
Acq: 17 Apr 2020 8:58

Tgt Ion: 91 Resp: 1309866

Ion	Ratio	Lower	Upper
91	100		
106	50.1	30.4	70.4

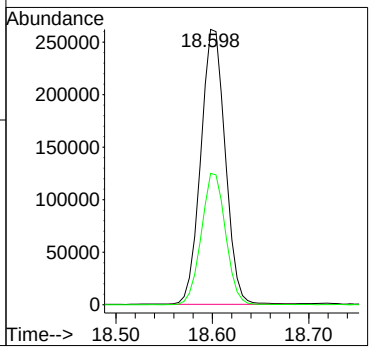


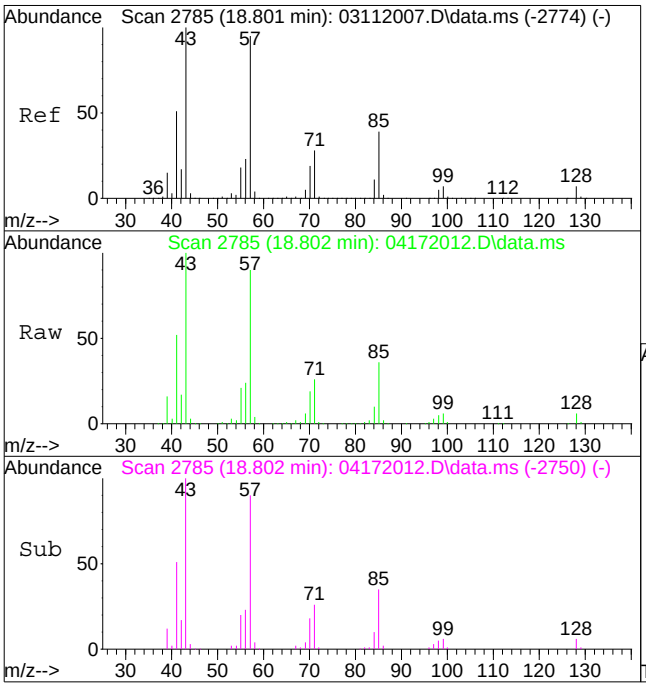


#70
o-Xylene
Concen: 2.96 ng
RT: 18.60 min Scan# 2748
Delta R.T. -0.011 min
Lab File: 04172012.D
Acq: 17 Apr 2020 8:58

Tgt Ion: 91 Resp: 461269

Ion	Ratio	Lower	Upper
91	100		
106	47.5	28.1	68.1

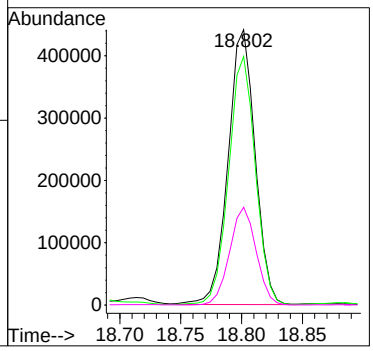


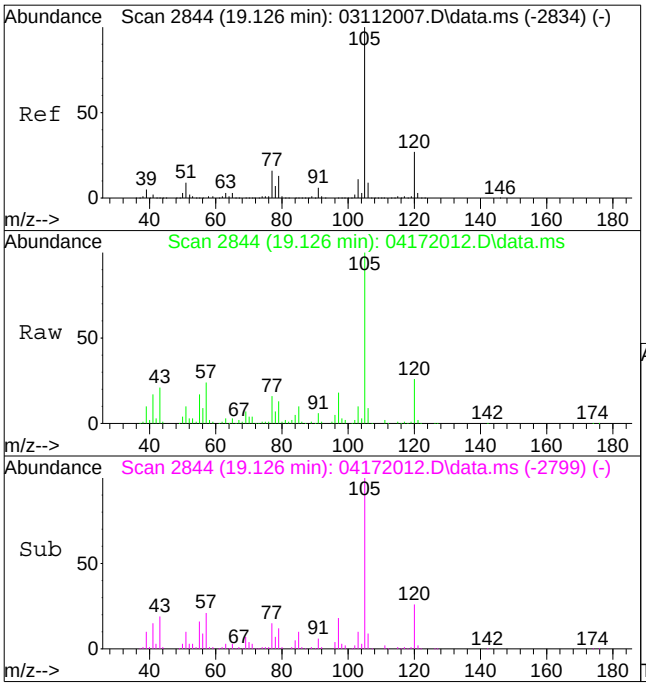


#71
n-Nonane
Concen: 8.76 ng
RT: 18.80 min Scan# 2785
Delta R.T. -0.005 min
Lab File: 04172012.D
Acq: 17 Apr 2020 8:58

Tgt Ion: 43 Resp: 681576

Ion	Ratio	Lower	Upper
43	100		
57	89.2	73.6	113.6
85	34.7	18.7	58.7

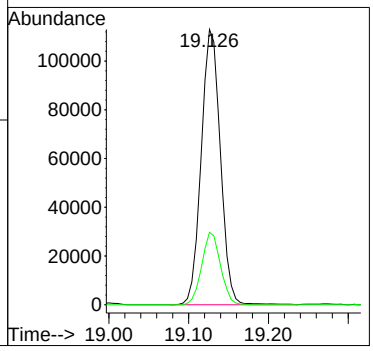


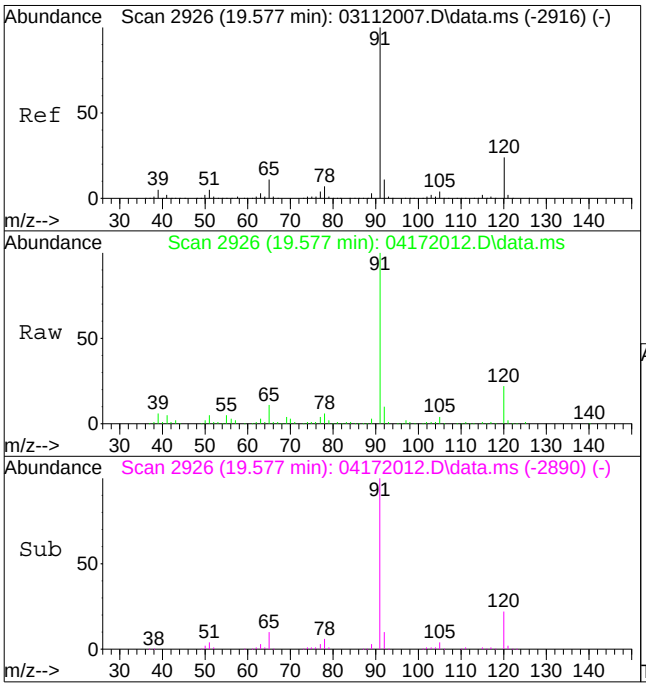


#74
Cumene
Concen: 0.96 ng
RT: 19.13 min Scan# 2844
Delta R.T. 0.000 min
Lab File: 04172012.D
Acq: 17 Apr 2020 8:58

Tgt Ion:105 Resp: 188386

Ion	Ratio	Lower	Upper
105	100		
120	25.7	7.2	47.2

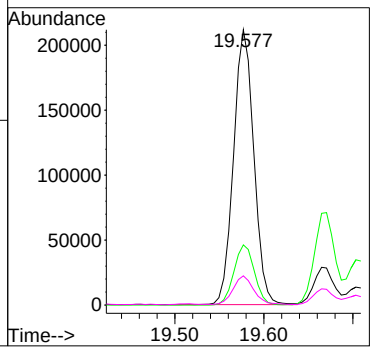


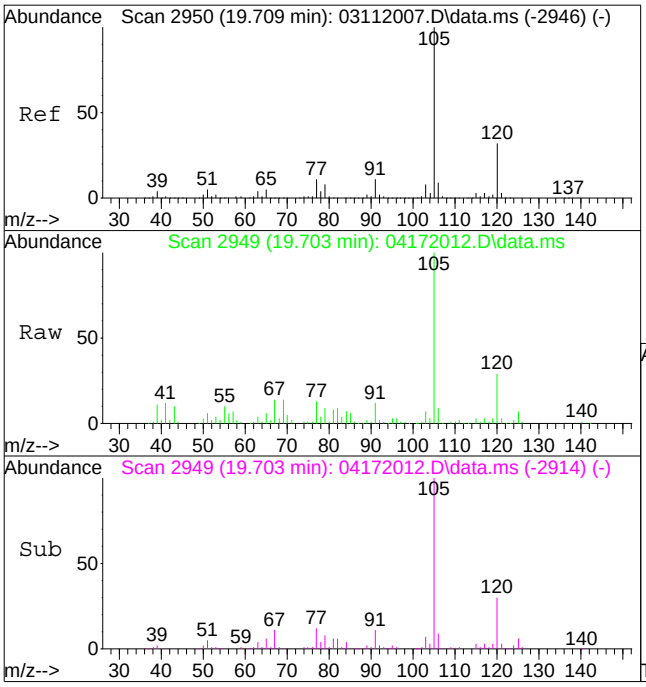


#76
n-Propylbenzene
Concen: 1.46 ng
RT: 19.58 min Scan# 2926
Delta R.T. -0.000 min
Lab File: 04172012.D
Acq: 17 Apr 2020 8:58

Tgt Ion: 91 Resp: 335569

Ion	Ratio	Lower	Upper
91	100		
120	22.0	3.9	43.9
65	10.6	0.0	30.5

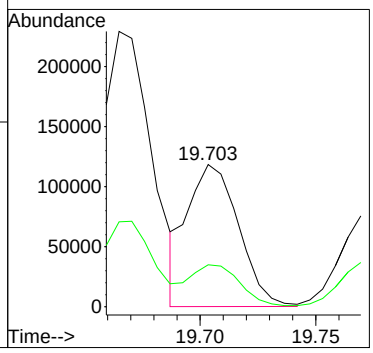


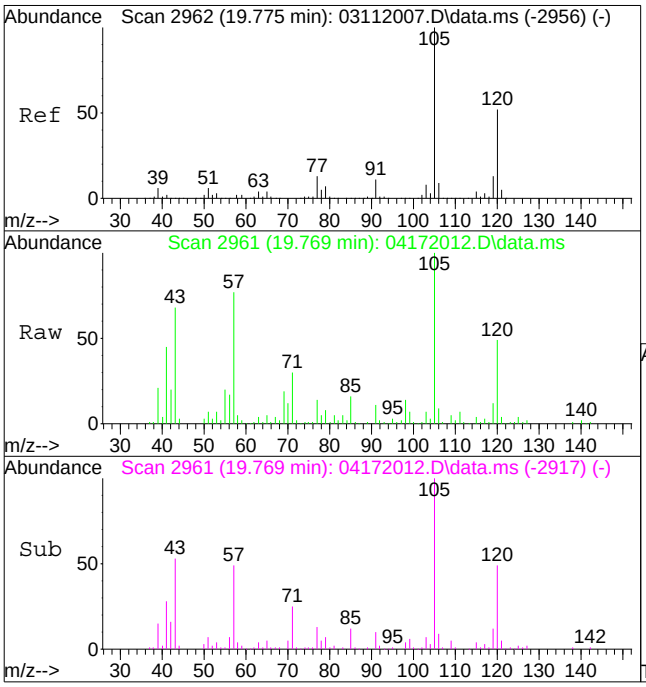


#78
4-Ethyltoluene
Concen: 0.97 ng
RT: 19.70 min Scan# 2949
Delta R.T. -0.006 min
Lab File: 04172012.D
Acq: 17 Apr 2020 8:58

Tgt Ion:105 Resp: 181880

Ion	Ratio	Lower	Upper
105	100		
120	26.5	11.1	51.1

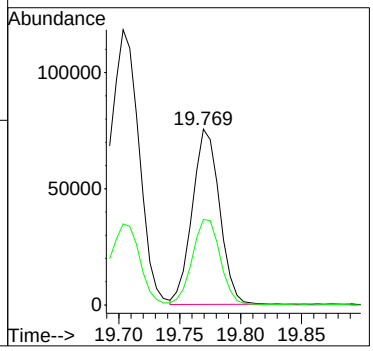


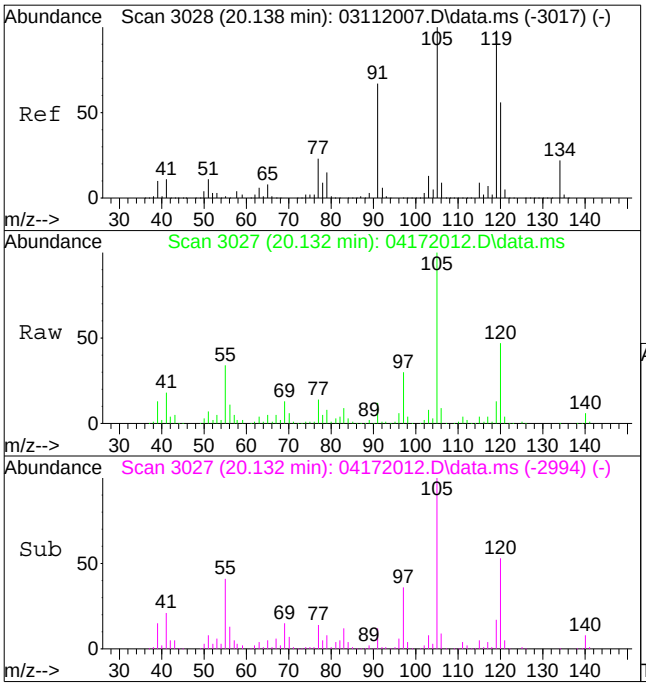


#79
1,3,5-Trimethylbenzene
Concen: 0.71 ng
RT: 19.77 min Scan# 2961
Delta R.T. -0.006 min
Lab File: 04172012.D
Acq: 17 Apr 2020 8:58

Tgt Ion:105 Resp: 117547

Ion	Ratio	Lower	Upper
105	100		
120	50.6	31.3	71.3

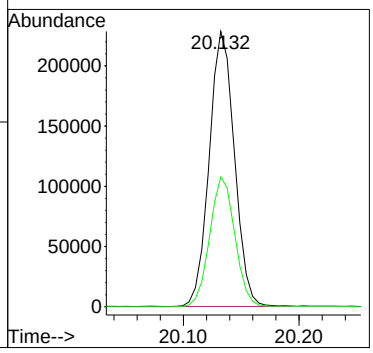


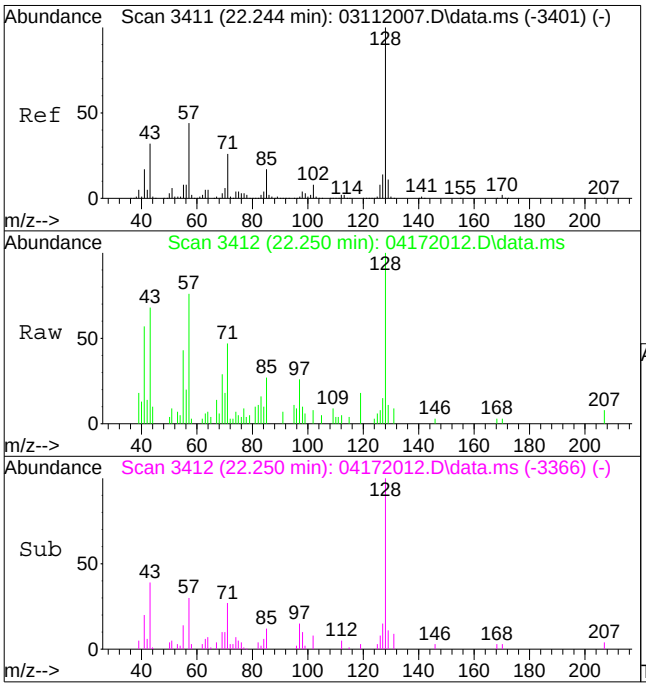


#82
1,2,4-Trimethylbenzene
Concen: 2.01 ng
RT: 20.13 min Scan# 3027
Delta R.T. -0.017 min
Lab File: 04172012.D
Acq: 17 Apr 2020 8:58

Tgt Ion:105 Resp: 347159

Ion	Ratio	Lower	Upper
105	100		
120	47.3	35.8	75.8

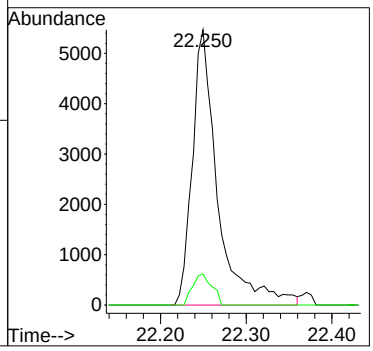




#95
Naphthalene
Concen: 0.06 ng
RT: 22.25 min Scan# 3412
Delta R.T. 0.001 min
Lab File: 04172012.D
Acq: 17 Apr 2020 8:58

Tgt Ion:128 Resp: 11225

Ion	Ratio	Lower	Upper
128	100		
129	8.7	0.0	31.1



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172013.D Vial: 1
Acq On : 17 Apr 2020 9:52 Operator: LH
Sample : P2002028-021 (0.20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 18:18:34 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 4/20/20
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	345045	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.30	114	1613282	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.61	82	834818	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	607179	12.708	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.68%				
57) Toluene-d8 (SS2)	15.75	98	1755570	11.864	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.88%				
73) Bromofluorobenzene (SS3)	19.00	174	633846	12.130	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.04%				
Target Compounds							Qvalue
2) Propene	4.14	42	30208	0.835	ng		91
3) Dichlorodifluoromethan...	4.28	85	639	N.D.			
4) Chloromethane	4.57	50	1067	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	237	N.D.			
6) Vinyl Chloride	4.98	62	311	N.D.			
7) 1,3-Butadiene	5.24	54	206	N.D.			
8) Bromomethane	5.68	94	210	N.D.			
9) Chloroethane	6.01	64	549	N.D.			
10) Ethanol	6.33	45	47906	1.675	ng		100
11) Acetonitrile	6.64	41	953	N.D.			
12) Acrolein	6.85	56	659	N.D.			
13) Acetone	6.99	58	502498	17.803	ng	#	84
14) Trichlorofluoromethane	7.26	101	612	N.D.			
15) 2-Propanol (Isopropanol)	7.52	45	48987	0.585	ng		87
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.44	84	565	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	8.88	151	119	N.D.			
22) Carbon Disulfide	8.72	76	3667	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.	d		
25) Methyl tert-Butyl Ether	10.13	73	1750	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.47	72	106816	4.546	ng	#	87
28) cis-1,2-Dichloroethene	10.99	61	121	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	11.29	57	7560612	117.456	ng		98
32) Chloroform	11.33	83	676	N.D.			
34) Tetrahydrofuran (THF)	11.80	72	1248	0.052	ng	#	9
35) Ethyl tert-Butyl Ether	12.09	87	158	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d		
38) 1,1,1-Trichloroethane	12.43	97	127	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.90	78	3623379	21.720	ng		100
42) Carbon Tetrachloride	13.07	117	186	N.D.			
43) Cyclohexane	13.20	84	7699583	120.205	ng		96
44) tert-Amyl Methyl Ether	13.48	73	1145	N.D.			
45) 1,2-Dichloropropane	13.76	63	379	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	14.00	130	1375	N.D.			
48) 1,4-Dioxane	14.02	88	224	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172013.D Vial: 1
Acq On : 17 Apr 2020 9:52 Operator: LH
Sample : P2002028-021 (0.20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 18:18:34 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

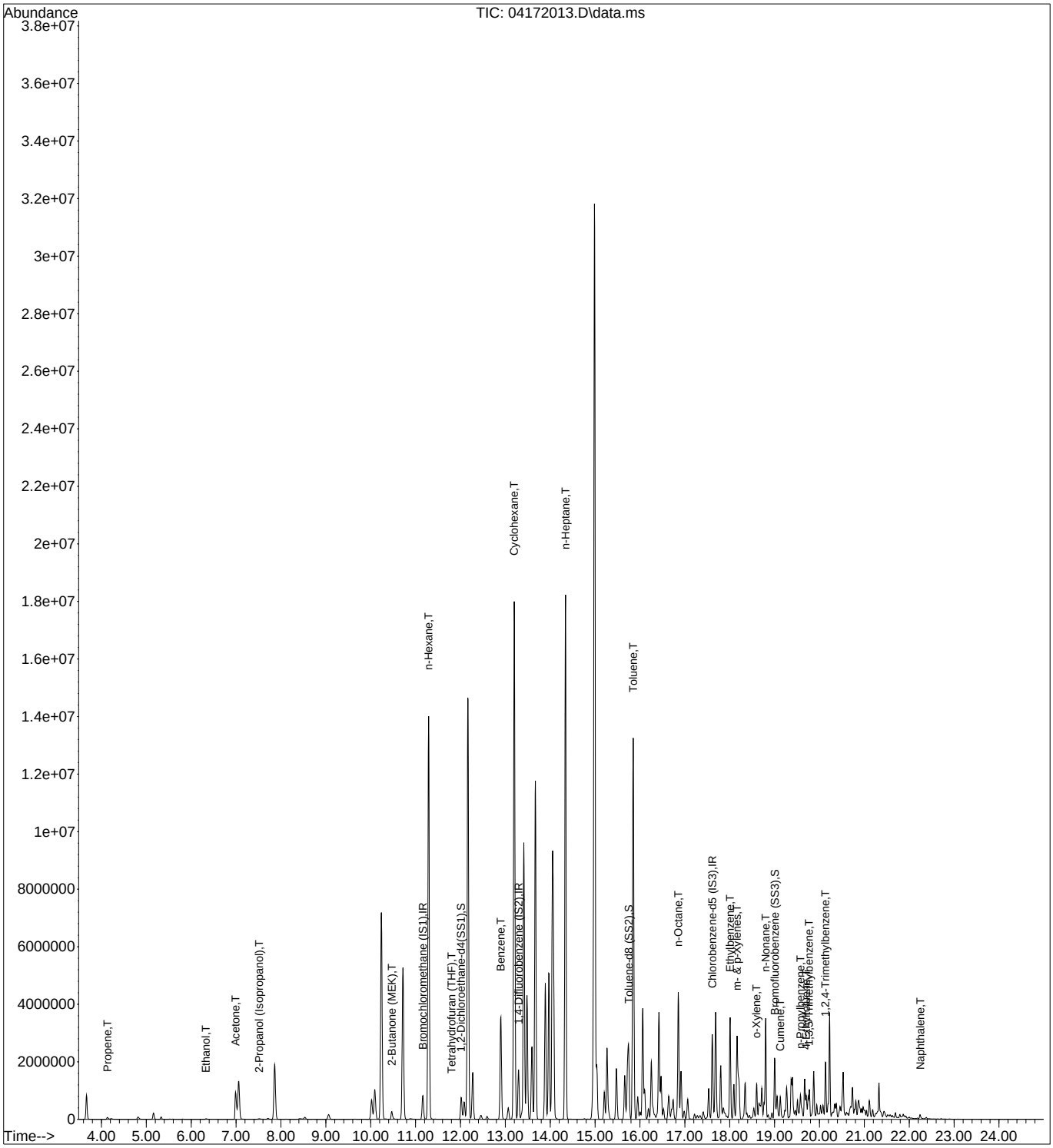
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.34	71	4814474	123.604 ng	98
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	15.47	75	240	N.D.	
55) 1,1,2-Trichloroethane	15.56	97	107	N.D.	
58) Toluene	15.85	91	9824409	53.698 ng	99
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	16.51	107	1554	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	16.85	57	848907	23.382 ng	98
64) Tetrachloroethene	17.00	166	1427	N.D.	
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	18.01	91	2460958	12.260 ng	100
67) m- & p-Xylenes	18.16	91	2010348	12.314 ng	100
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.50	104	1075	N.D.	
70) o-Xylene	18.60	91	716065	4.387 ng	100
71) n-Nonane	18.80	43	1134595	13.902 ng	96
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	19.13	105	311826	1.511 ng	99
75) alpha-Pinene	19.47	93	534	N.D.	
76) n-Propylbenzene	19.58	91	564066	2.340 ng	98
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.70	105	272612	1.391 ng	98
79) 1,3,5-Trimethylbenzene	19.77	105	201991	1.158 ng	99
80) alpha-Methylstyrene	19.91	118	560	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.13	105	606569	3.356 ng	89
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.23	91	3375	N.D.	
85) 1,3-Dichlorobenzene	20.26	146	987	N.D.	
86) 1,4-Dichlorobenzene	20.34	146	1073	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	20.63	146	694	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.14	180	909	N.D.	
95) Naphthalene	22.25	128	21513	0.106 ng	93
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	22.56	225	174	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172013.D Vial: 1
Acq On : 17 Apr 2020 9:52 Operator: LH
Sample : P2002028-021 (0.20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 18:18:34 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172013.D Vial: 1
Acq On : 17 Apr 2020 9:52 Operator: LH
Sample : P2002028-021 (0.20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 18:18:34 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020 LH 4/20/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

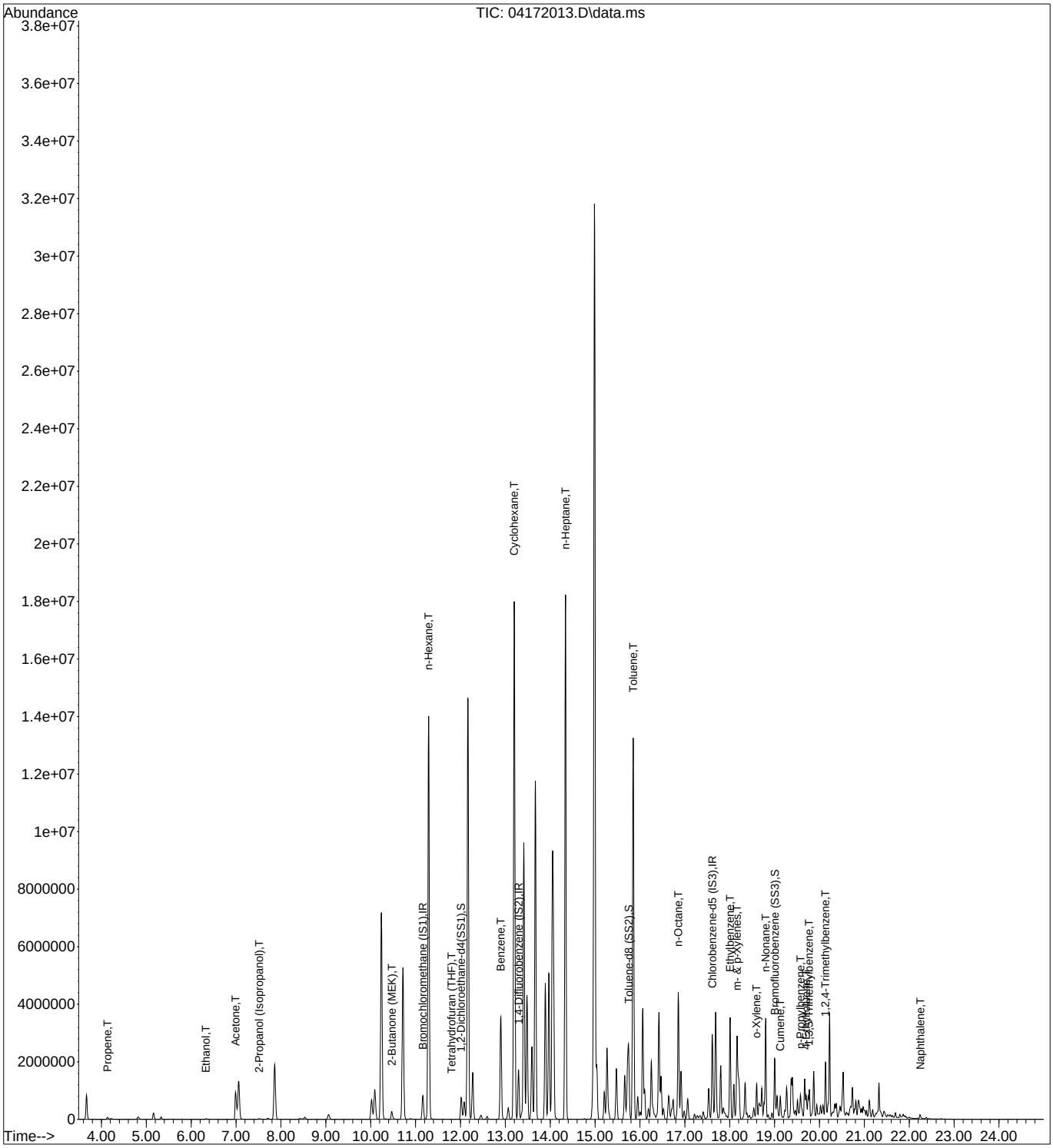
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	345045	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.30	114	1613282	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.61	82	834818	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	607179	12.708	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.68%				
57) Toluene-d8 (SS2)	15.75	98	1755570	11.864	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.88%				
73) Bromofluorobenzene (SS3)	19.00	174	633846	12.130	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.04%				
Target Compounds							Qvalue
2) Propene	4.14	42	30208	0.835	ng		91
10) Ethanol	6.33	45	47906	1.675	ng		100
13) Acetone	6.99	58	502498	17.803	ng	#	84
15) 2-Propanol (Isopropanol)	7.52	45	48987	0.585	ng		87
27) 2-Butanone (MEK)	10.47	72	106816	4.546	ng	#	87
31) n-Hexane	11.29	57	7560612	117.456	ng		98
34) Tetrahydrofuran (THF)	11.80	72	1248	0.052	ng	#	9
41) Benzene	12.90	78	3623379	21.720	ng		100
43) Cyclohexane	13.20	84	7699583	120.205	ng		96
51) n-Heptane	14.34	71	4814474	123.604	ng		98
58) Toluene	15.85	91	9824409	53.698	ng		99
63) n-Octane	16.85	57	848907	23.382	ng		98
66) Ethylbenzene	18.01	91	2460958	12.260	ng		100
67) m- & p-Xylenes	18.16	91	2010348	12.314	ng		100
70) o-Xylene	18.60	91	716065	4.387	ng		100
71) n-Nonane	18.80	43	1134595	13.902	ng		96
74) Cumene	19.13	105	311826	1.511	ng		99
76) n-Propylbenzene	19.58	91	564066	2.340	ng		98
78) 4-Ethyltoluene	19.70	105	272612	1.391	ng		98
79) 1,3,5-Trimethylbenzene	19.77	105	201991	1.158	ng		99
82) 1,2,4-Trimethylbenzene	20.13	105	606569	3.356	ng		89
95) Naphthalene	22.25	128	21513	0.106	ng		93

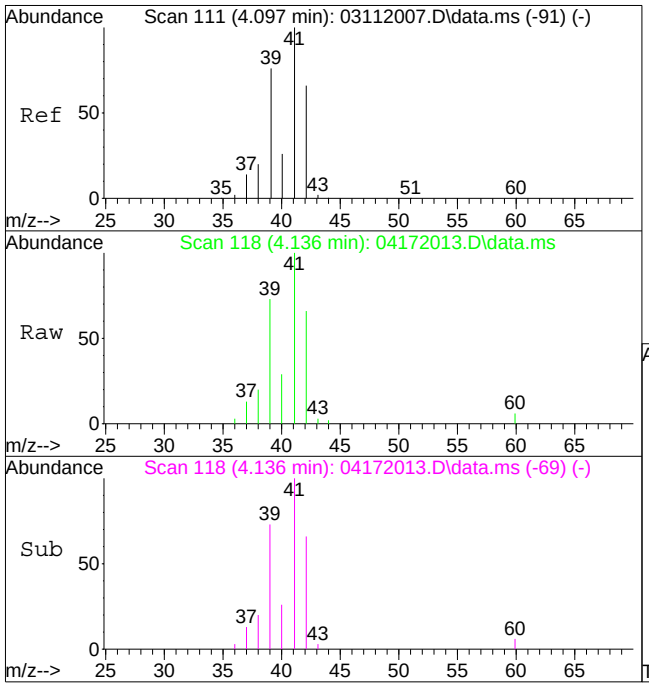
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172013.D Vial: 1
Acq On : 17 Apr 2020 9:52 Operator: LH
Sample : P2002028-021 (0.20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 18:18:34 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

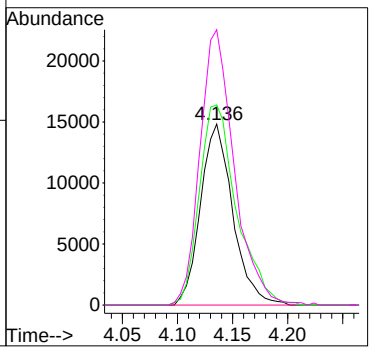


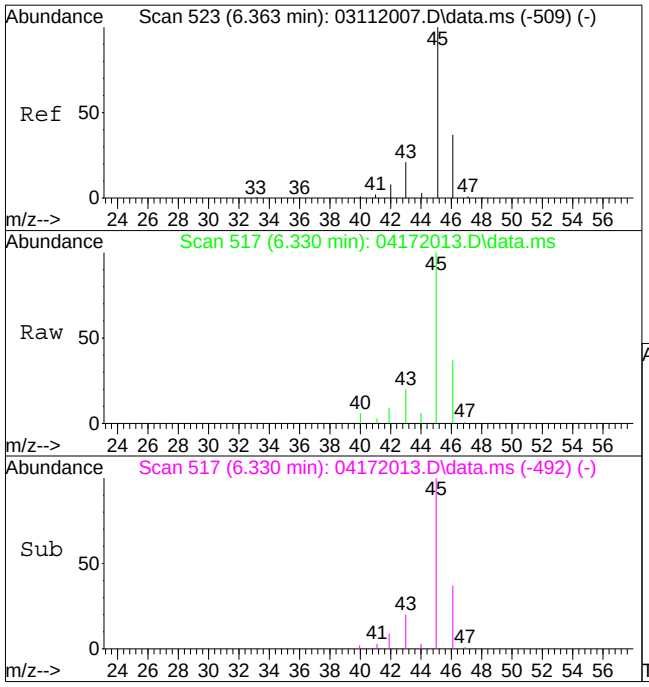


#2
Propene
Concen: 0.83 ng
RT: 4.14 min Scan# 118
Delta R.T. 0.022 min
Lab File: 04172013.D
Acq: 17 Apr 2020 9:52

Tgt Ion: 42 Resp: 30208

Ion	Ratio	Lower	Upper
42	100		
39	128.0	95.3	135.3
41	161.4	132.0	172.0

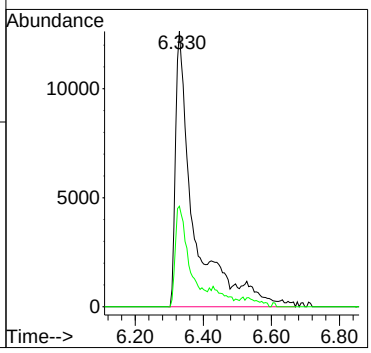


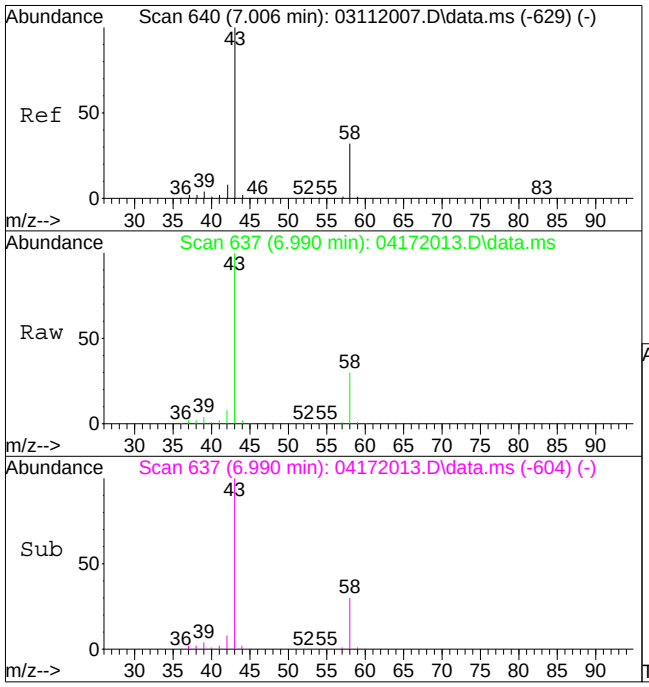


#10
Ethanol
Concen: 1.67 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.110 min
Lab File: 04172013.D
Acq: 17 Apr 2020 9:52

Tgt Ion: 45 Resp: 47906

Ion	Ratio	Lower	Upper
45	100		
46	37.0	17.3	57.3

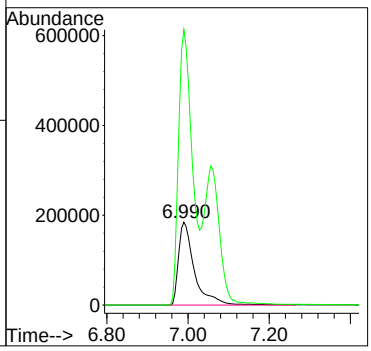


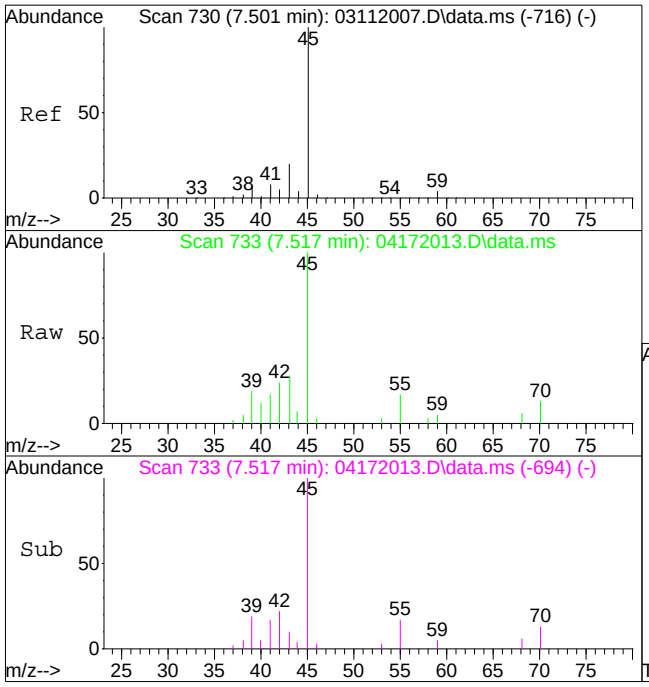


#13
Acetone
Concen: 17.80 ng
RT: 6.99 min Scan# 637
Delta R.T. -0.066 min
Lab File: 04172013.D
Acq: 17 Apr 2020 9:52

Tgt Ion: 58 Resp: 502498

Ion	Ratio	Lower	Upper
58	100		
43	283.8	287.3	347.3#

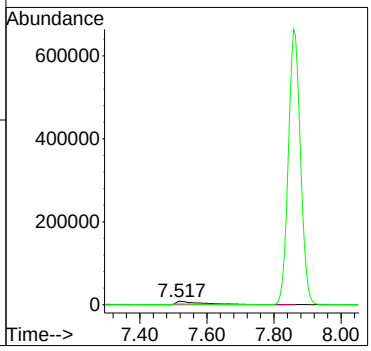


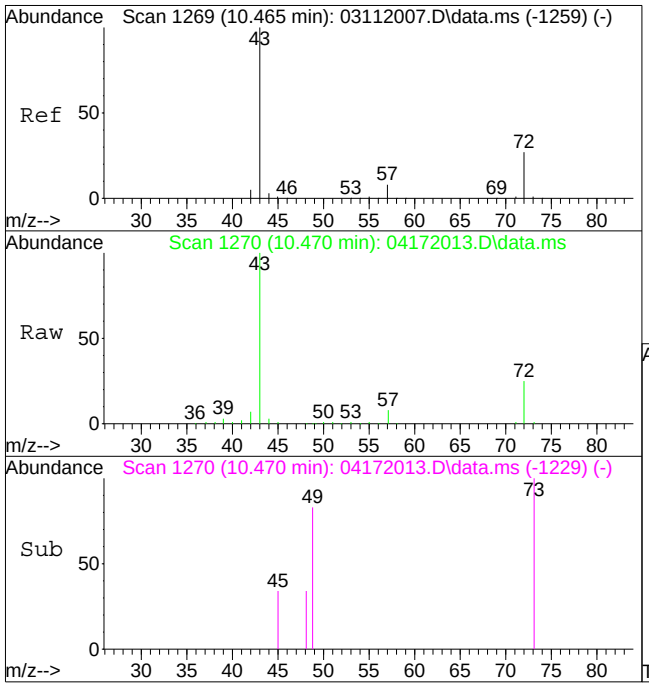


#15
2-Propanol (Isopropanol)
Concen: 0.59 ng
RT: 7.52 min Scan# 733
Delta R.T. -0.033 min
Lab File: 04172013.D
Acq: 17 Apr 2020 9:52

Tgt Ion: 45 Resp: 48987

Ion	Ratio	Lower	Upper
45	100		
43	26.3	0.3	40.3

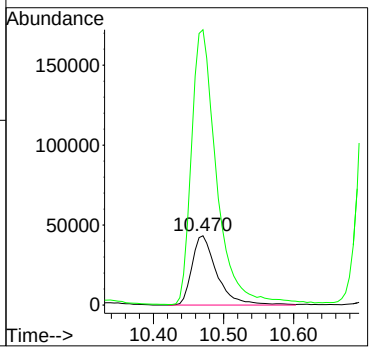


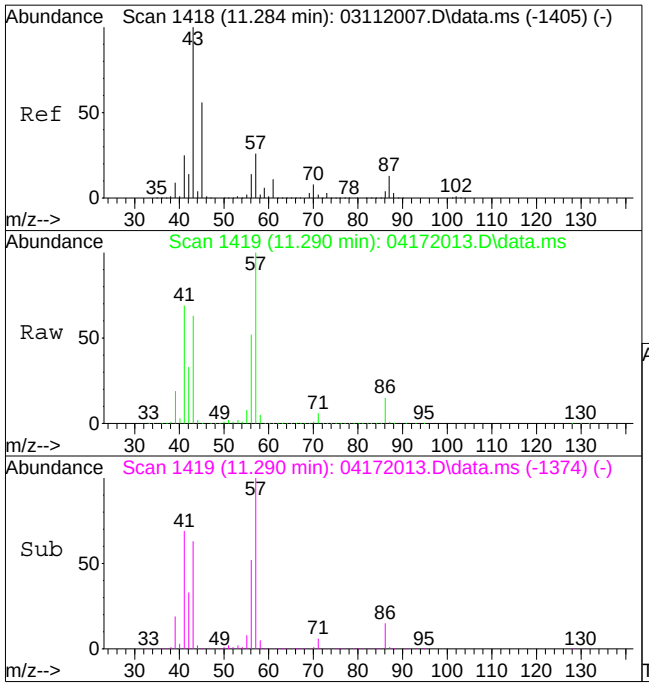


#27
2-Butanone (MEK)
Concen: 4.55 ng
RT: 10.47 min Scan# 1270
Delta R.T. -0.022 min
Lab File: 04172013.D
Acq: 17 Apr 2020 9:52

Tgt Ion: 72 Resp: 106816

Ion	Ratio	Lower	Upper
72	100		
43	403.8	353.4	393.4#

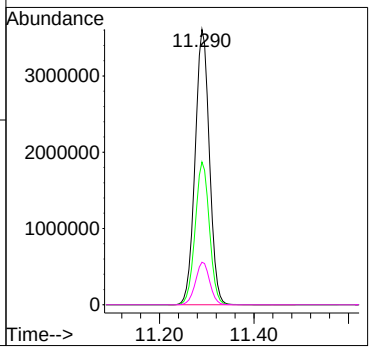


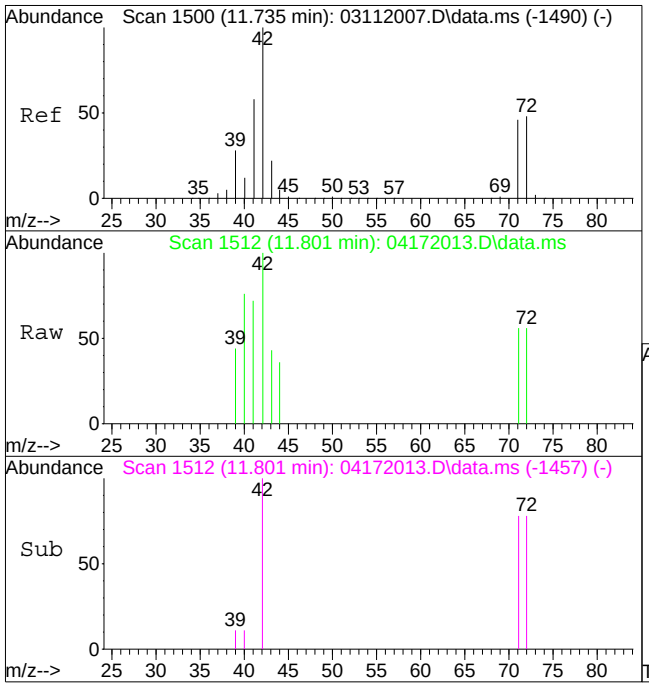


#31
n-Hexane
Concen: 117.46 ng
RT: 11.29 min Scan# 1419
Delta R.T. 0.000 min
Lab File: 04172013.D
Acq: 17 Apr 2020 9:52

Tgt Ion: 57 Resp: 7560612

Ion	Ratio	Lower	Upper
57	100		
56	51.7	41.0	61.4
86	15.4	13.9	20.9

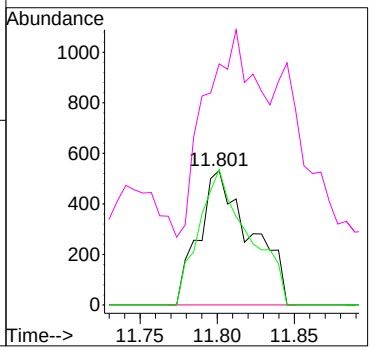


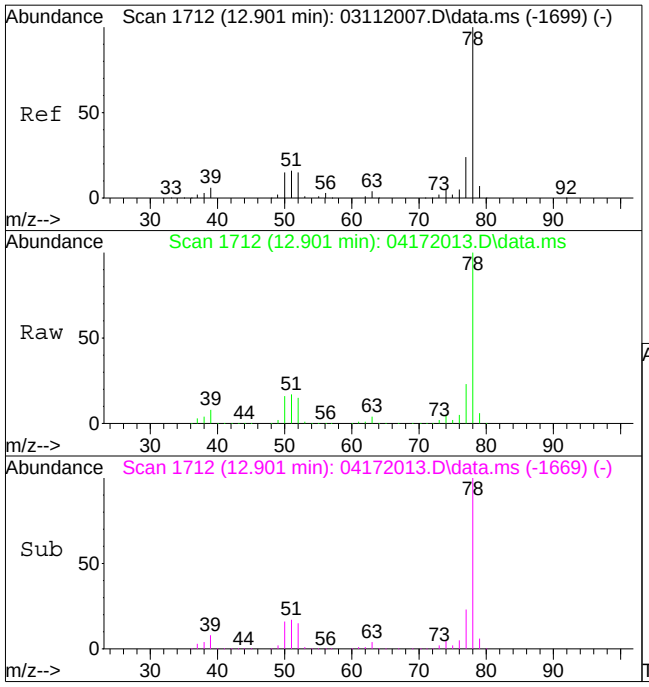


#34
Tetrahydrofuran (THF)
Concen: 0.05 ng
RT: 11.80 min Scan# 1512
Delta R.T. 0.055 min
Lab File: 04172013.D
Acq: 17 Apr 2020 9:52

Tgt Ion: 72 Resp: 1248

Ion	Ratio	Lower	Upper
72	100		
71	96.2	75.9	115.9
42	416.5	189.3	229.3#

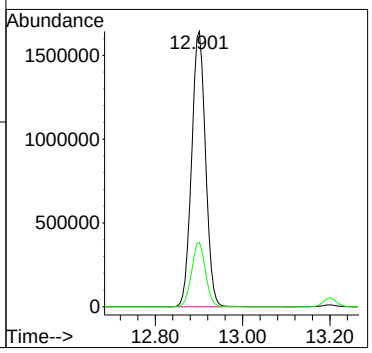


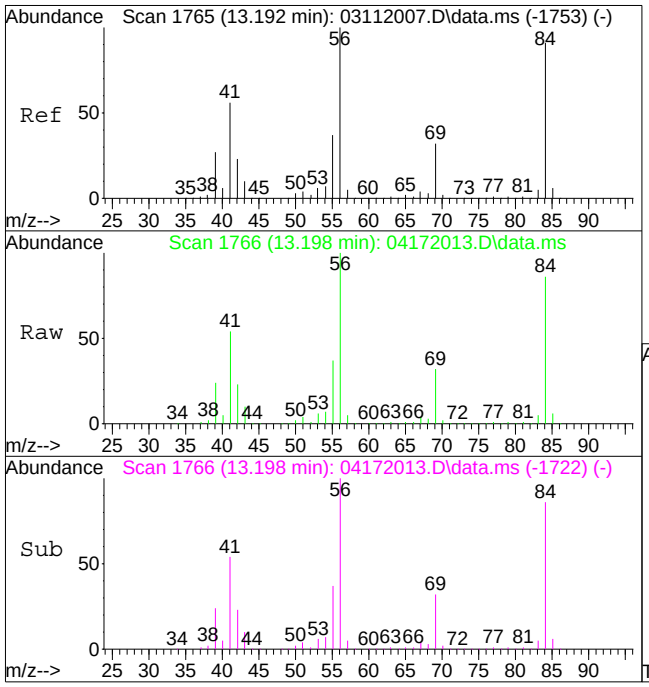


#41
Benzene
Concen: 21.72 ng
RT: 12.90 min Scan# 1712
Delta R.T. -0.011 min
Lab File: 04172013.D
Acq: 17 Apr 2020 9:52

Tgt Ion: 78 Resp: 3623379

Ion	Ratio	Lower	Upper
78	100		
77	23.4	3.4	43.4

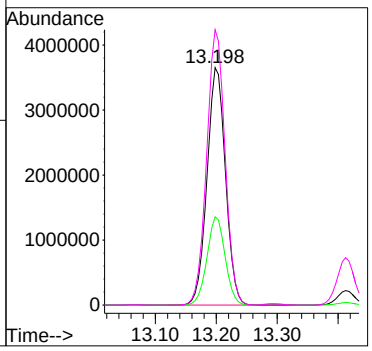


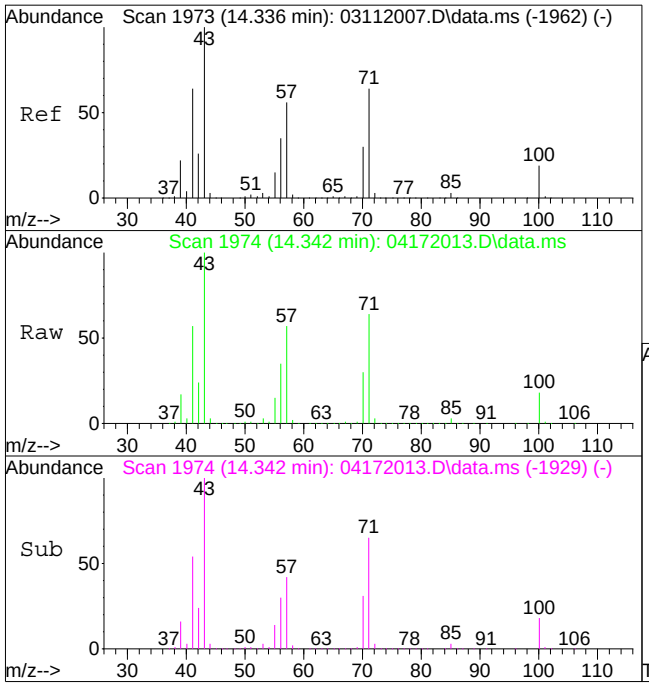


#43
Cyclohexane
Concen: 120.21 ng
RT: 13.20 min Scan# 1766
Delta R.T. -0.005 min
Lab File: 04172013.D
Acq: 17 Apr 2020 9:52

Tgt Ion: 84 Resp: 7699583

Ion	Ratio	Lower	Upper
84	100		
69	36.6	15.3	55.3
56	115.8	90.5	130.5

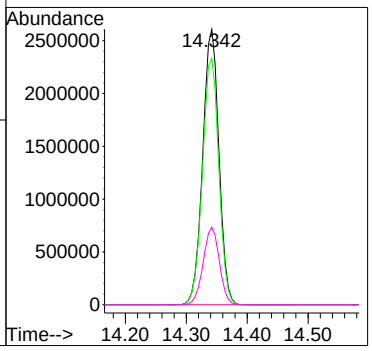


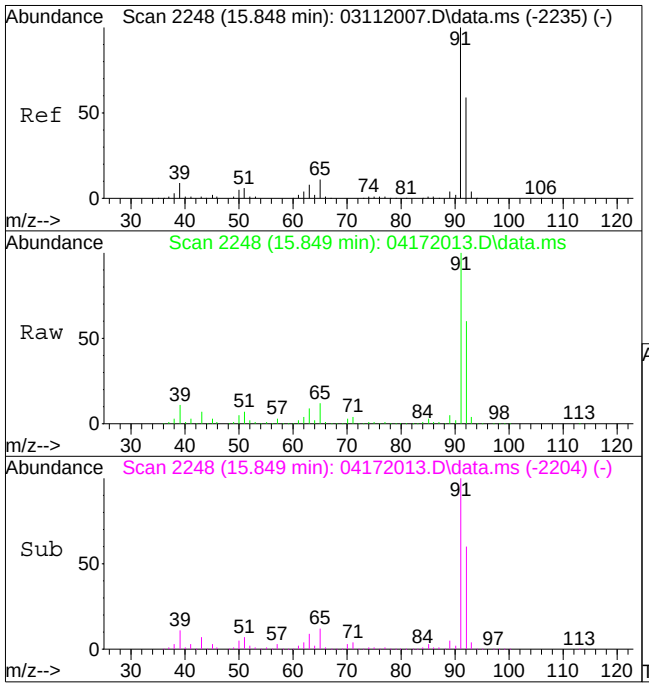


#51
n-Heptane
Concen: 123.60 ng
RT: 14.34 min Scan# 1974
Delta R.T. 0.000 min
Lab File: 04172013.D
Acq: 17 Apr 2020 9:52

Tgt Ion: 71 Resp: 4814474

Ion	Ratio	Lower	Upper
71	100		
57	90.4	68.6	108.6
100	28.1	9.1	49.1

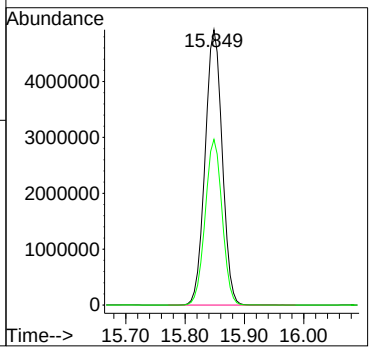


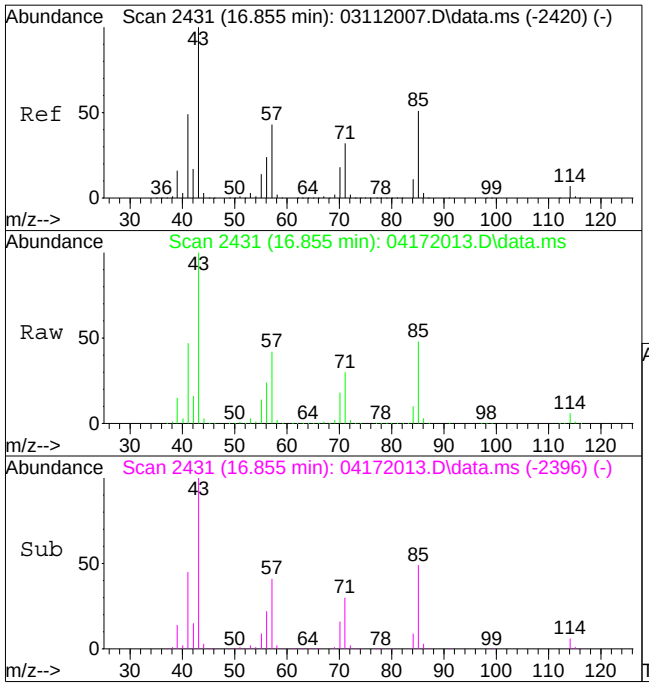


#58
Toluene
Concen: 53.70 ng
RT: 15.85 min Scan# 2248
Delta R.T. -0.005 min
Lab File: 04172013.D
Acq: 17 Apr 2020 9:52

Tgt Ion: 91 Resp: 9824409

Ion	Ratio	Lower	Upper
91	100		
92	59.8	39.0	79.0

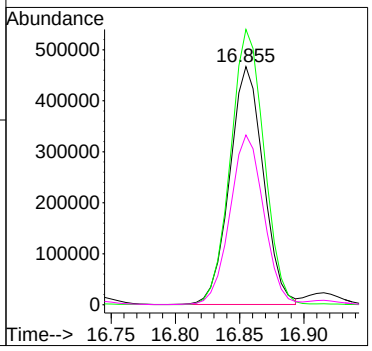


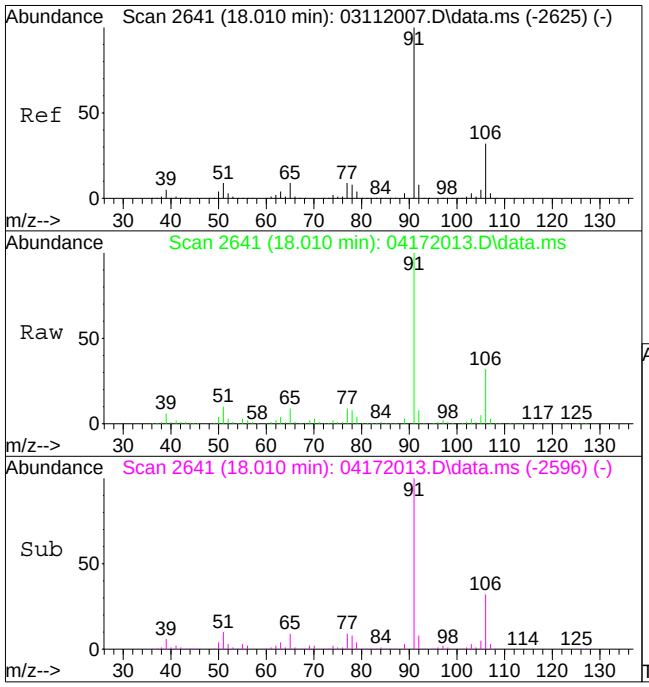


#63
n-Octane
Concen: 23.38 ng
RT: 16.85 min Scan# 2431
Delta R.T. -0.005 min
Lab File: 04172013.D
Acq: 17 Apr 2020 9:52

Tgt Ion: 57 Resp: 848907

Ion	Ratio	Lower	Upper
57	100		
85	115.6	95.1	142.7
71	71.5	58.2	87.4

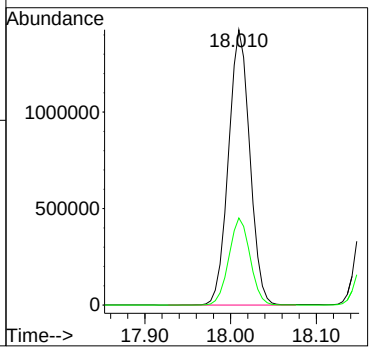


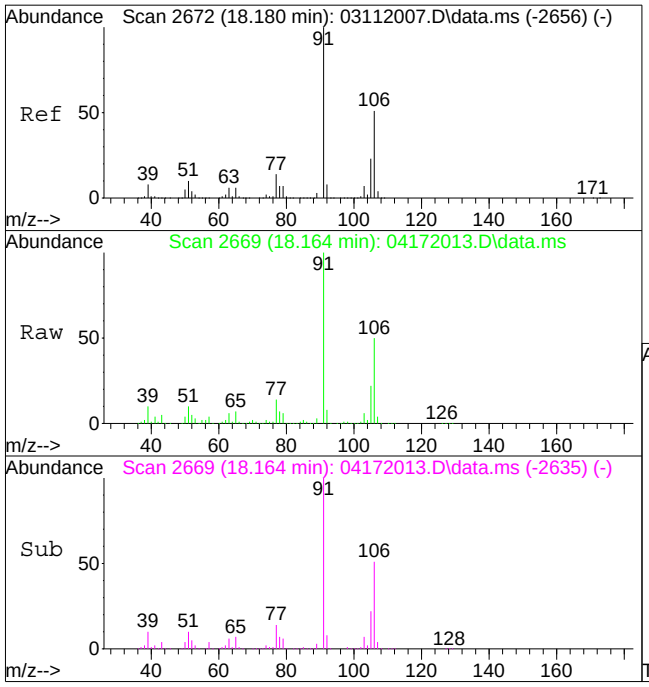


#66
Ethylbenzene
Concen: 12.26 ng
RT: 18.01 min Scan# 2641
Delta R.T. 0.000 min
Lab File: 04172013.D
Acq: 17 Apr 2020 9:52

Tgt Ion: 91 Resp: 2460958

Ion	Ratio	Lower	Upper
91	100		
106	31.5	11.7	51.7

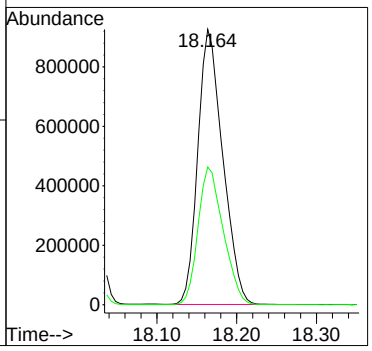


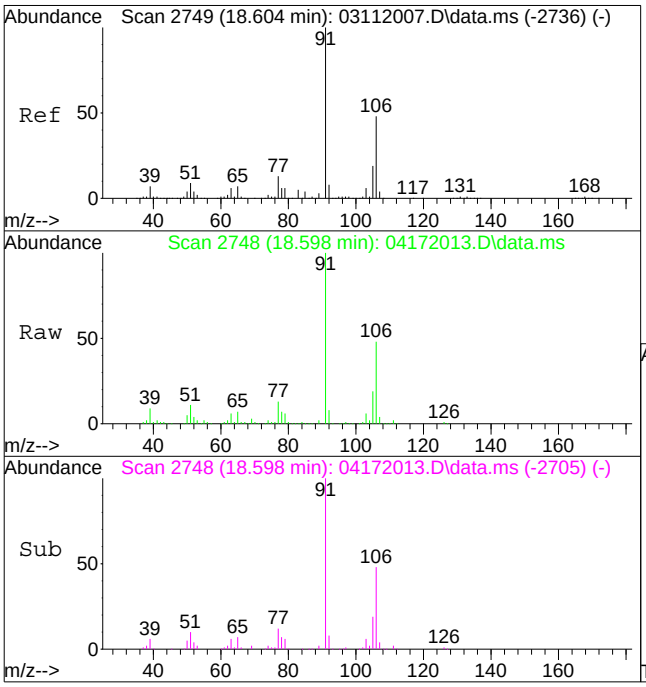


#67
m- & p-Xylenes
Concen: 12.31 ng
RT: 18.16 min Scan# 2669
Delta R.T. -0.011 min
Lab File: 04172013.D
Acq: 17 Apr 2020 9:52

Tgt Ion: 91 Resp: 2010348

Ion	Ratio	Lower	Upper
91	100		
106	50.6	30.4	70.4

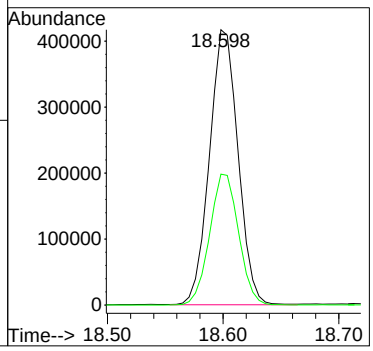


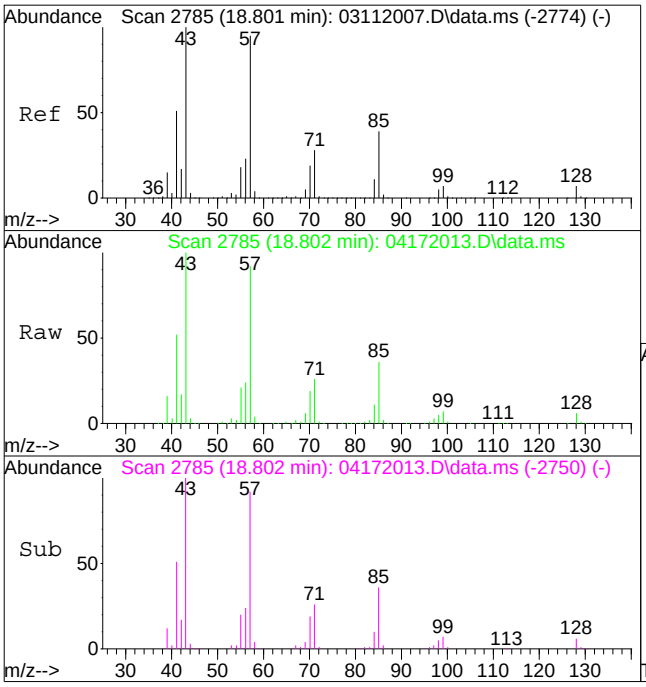


#70
o-Xylene
Concen: 4.39 ng
RT: 18.60 min Scan# 2748
Delta R.T. -0.011 min
Lab File: 04172013.D
Acq: 17 Apr 2020 9:52

Tgt Ion: 91 Resp: 716065

Ion	Ratio	Lower	Upper
91	100		
106	48.2	28.1	68.1

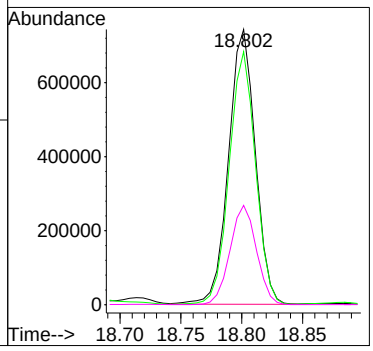


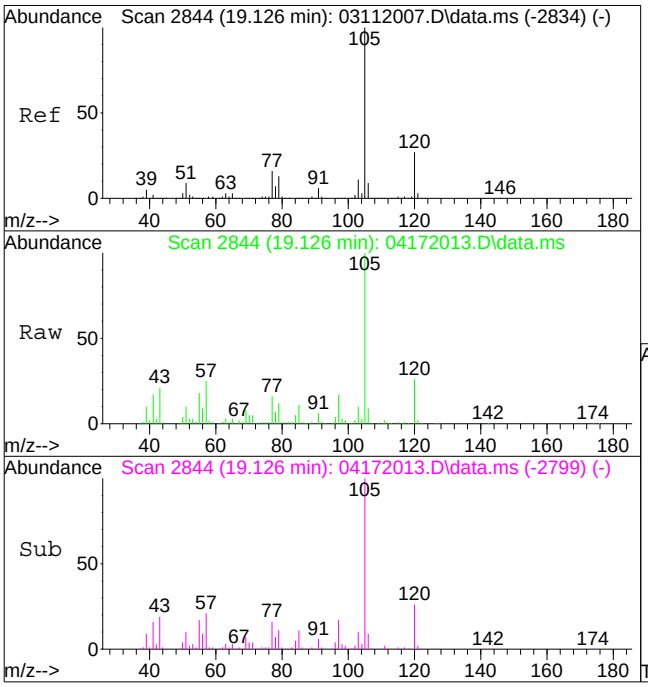


#71
n-Nonane
Concen: 13.90 ng
RT: 18.80 min Scan# 2785
Delta R.T. -0.005 min
Lab File: 04172013.D
Acq: 17 Apr 2020 9:52

Tgt Ion: 43 Resp: 1134595

Ion	Ratio	Lower	Upper
43	100		
57	90.3	73.6	113.6
85	35.6	18.7	58.7

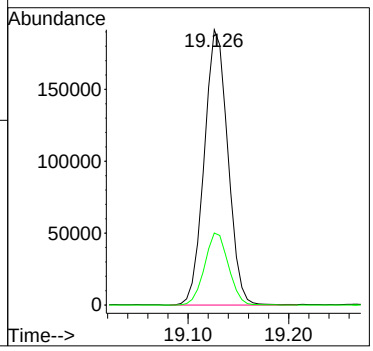


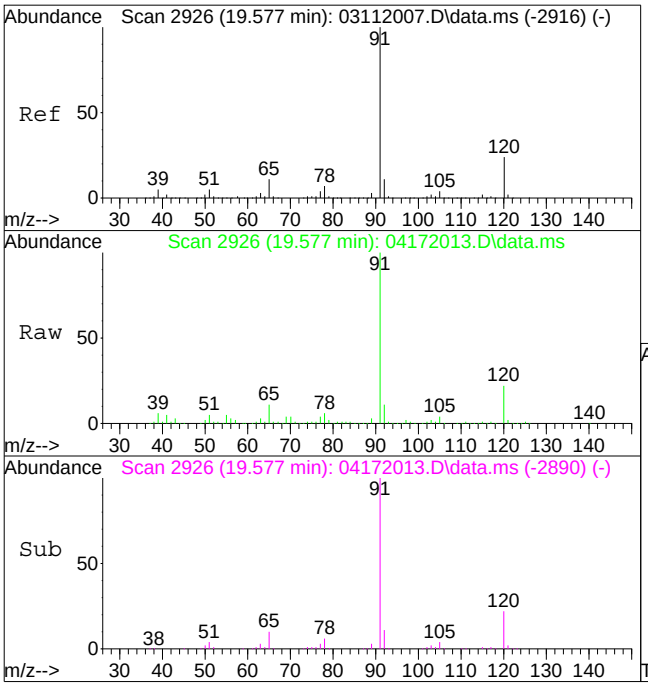


#74
Cumene
Concen: 1.51 ng
RT: 19.13 min Scan# 2844
Delta R.T. -0.000 min
Lab File: 04172013.D
Acq: 17 Apr 2020 9:52

Tgt Ion:105 Resp: 311826

Ion	Ratio	Lower	Upper
105	100		
120	26.5	7.2	47.2

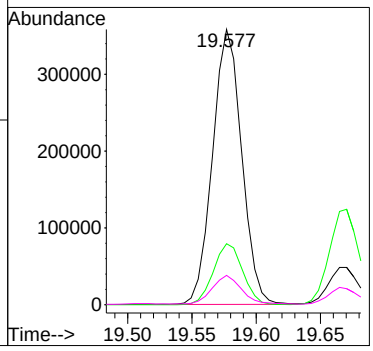


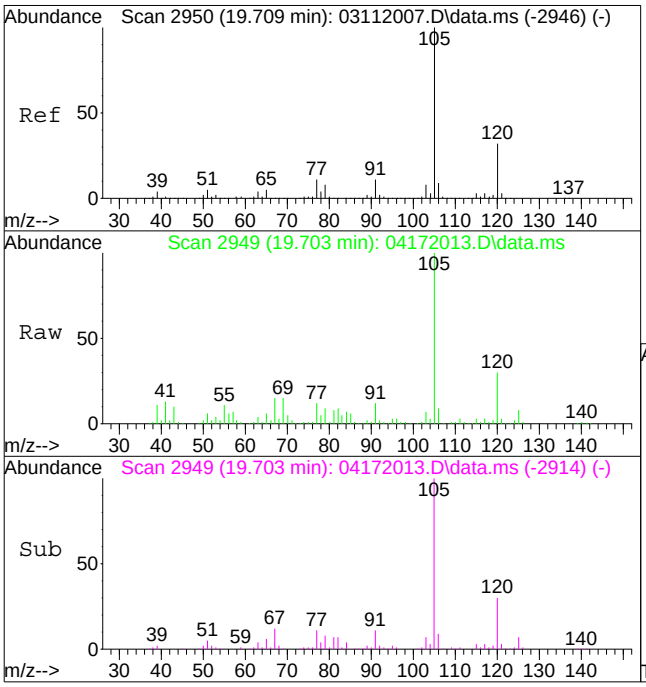


#76
n-Propylbenzene
Concen: 2.34 ng
RT: 19.58 min Scan# 2926
Delta R.T. -0.000 min
Lab File: 04172013.D
Acq: 17 Apr 2020 9:52

Tgt Ion: 91 Resp: 564066

Ion	Ratio	Lower	Upper
91	100		
120	22.4	3.9	43.9
65	10.6	0.0	30.5

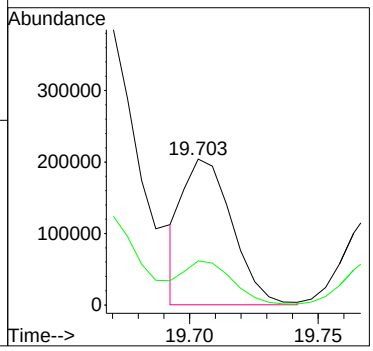


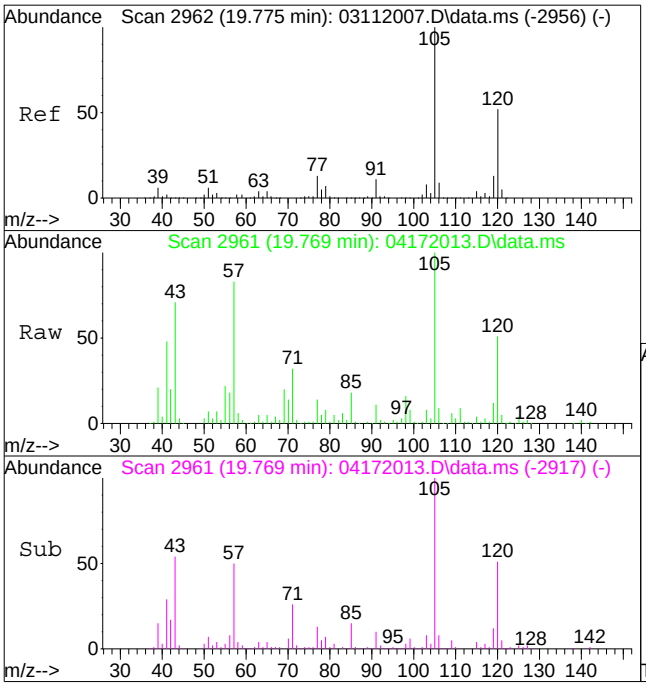


#78
4-Ethyltoluene
Concen: 1.39 ng
RT: 19.70 min Scan# 2949
Delta R.T. -0.006 min
Lab File: 04172013.D
Acq: 17 Apr 2020 9:52

Tgt Ion:105 Resp: 272612

Ion	Ratio	Lower	Upper
105	100		
120	30.3	11.1	51.1

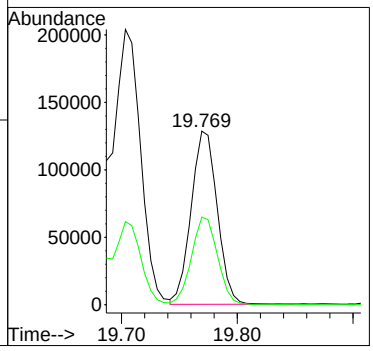


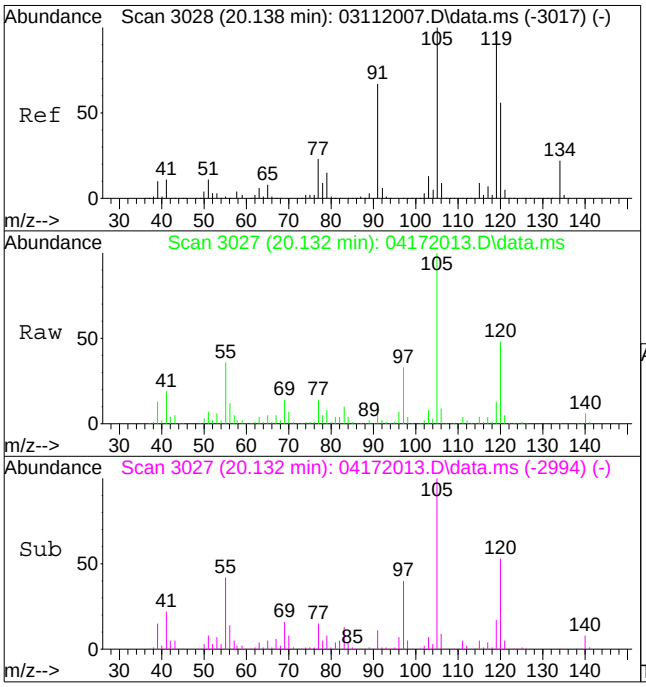


#79
1,3,5-Trimethylbenzene
Concen: 1.16 ng
RT: 19.77 min Scan# 2961
Delta R.T. -0.006 min
Lab File: 04172013.D
Acq: 17 Apr 2020 9:52

Tgt Ion:105 Resp: 201991

Ion	Ratio	Lower	Upper
105	100		
120	50.8	31.3	71.3

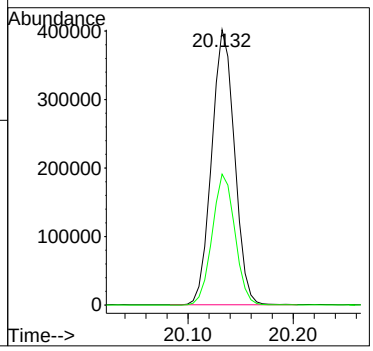


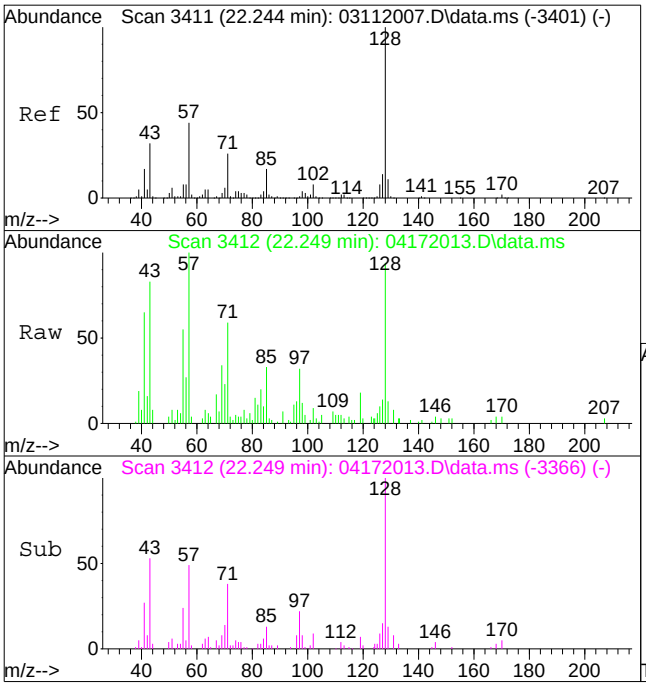


#82
1,2,4-Trimethylbenzene
Concen: 3.36 ng
RT: 20.13 min Scan# 3027
Delta R.T. -0.017 min
Lab File: 04172013.D
Acq: 17 Apr 2020 9:52

Tgt Ion:105 Resp: 606569

Ion	Ratio	Lower	Upper
105	100		
120	47.5	35.8	75.8

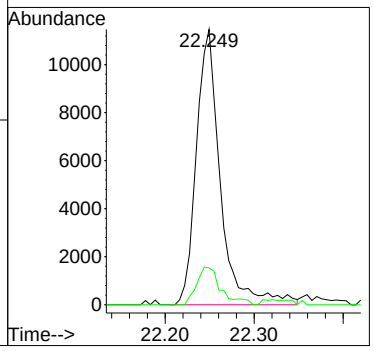




#95
Naphthalene
Concen: 0.11 ng
RT: 22.25 min Scan# 3412
Delta R.T. 0.000 min
Lab File: 04172013.D
Acq: 17 Apr 2020 9:52

Tgt Ion:128 Resp: 21513

Ion	Ratio	Lower	Upper
128	100		
129	13.7	0.0	31.1



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172014.D Vial: 1
Acq On : 17 Apr 2020 10:42 Operator: LH
Sample : P2002028-021dil (0.10mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 18:20:09 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020 LH 4/20/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	348058	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.30	114	1603383	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.61	82	807958	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	613200	12.723	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.76%				
57) Toluene-d8 (SS2)	15.75	98	1718948	12.003	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.00%				
73) Bromofluorobenzene (SS3)	19.01	174	609365	12.050	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.40%				
Target Compounds							Qvalue
2) Propene	4.15	42	15088	0.413	ng		91
3) Dichlorodifluoromethan...	4.30	85	612	N.D.			
4) Chloromethane	4.59	50	1572	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.83	135	117	N.D.			
6) Vinyl Chloride	4.99	62	266	N.D.			
7) 1,3-Butadiene	5.17	54	1884	N.D.			
8) Bromomethane	5.69	94	243	N.D.			
9) Chloroethane	6.02	64	231	N.D.			
10) Ethanol	6.35	45	25291	0.877	ng		100
11) Acetonitrile	6.65	41	472	N.D.			
12) Acrolein	6.84	56	126	N.D.			
13) Acetone	7.00	58	246372	8.653	ng	#	80
14) Trichlorofluoromethane	7.26	101	446	N.D.			
15) 2-Propanol (Isopropanol)	7.55	45	26761	0.317	ng		91
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.44	84	576	N.D.			
20) 3-Chloro-1-propene (Al...	8.64	41	171	N.D.			
21) Trichlorotrifluoroethane	8.88	151	103	N.D.			
22) Carbon Disulfide	8.72	76	2996	N.D.			
23) trans-1,2-Dichloroethene	9.73	61	105	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.	d		
25) Methyl tert-Butyl Ether	10.16	73	906	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.48	72	50276	2.121	ng	#	84
28) cis-1,2-Dichloroethene	10.98	61	109	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	11.29	57	3344769	51.512	ng		98
32) Chloroform	11.33	83	433	N.D.			
34) Tetrahydrofuran (THF)	11.81	72	1038	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d		
38) 1,1,1-Trichloroethane	12.42	97	181	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.90	78	1728020	10.422	ng		100
42) Carbon Tetrachloride	13.07	117	376	N.D.			
43) Cyclohexane	13.20	84	3383456	53.148	ng		96
44) tert-Amyl Methyl Ether	13.48	73	631	N.D.			
45) 1,2-Dichloropropane	13.75	63	283	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	14.00	130	1279	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172014.D Vial: 1
Acq On : 17 Apr 2020 10:42 Operator: LH
Sample : P2002028-021dil (0.10mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 20 18:20:09 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

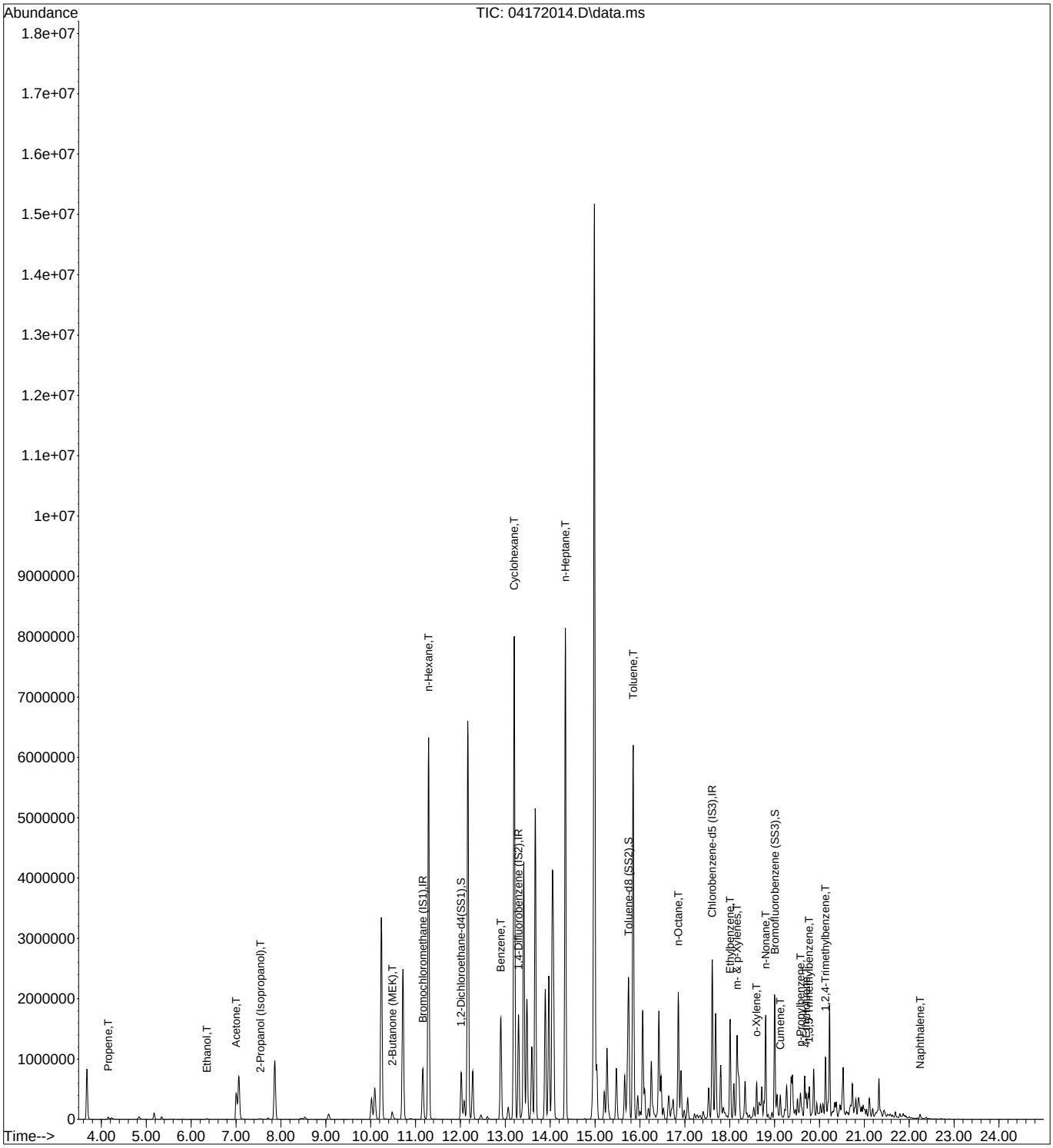
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.34	71	2105942	54.400 ng	98
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	15.56	97	286	N.D.	
58) Toluene	15.85	91	4612035	26.046 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	16.51	107	816	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	16.86	57	402596	11.458 ng	96
64) Tetrachloroethene	16.99	166	1187	N.D.	
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	18.01	91	1181113	6.080 ng	99
67) m- & p-Xylenes	18.16	91	967076	6.121 ng	100
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.51	104	1013	N.D.	
70) o-Xylene	18.60	91	352136	2.229 ng	99
71) n-Nonane	18.80	43	572689	7.250 ng	95
72) 1,1,2,2-Tetrachloroethane	18.60	83	258	N.D.	
74) Cumene	19.13	105	155837	0.780 ng	98
75) alpha-Pinene	19.48	93	135	N.D.	
76) n-Propylbenzene	19.58	91	286769	1.229 ng	97
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.70	105	138696	0.731 ng	98
79) 1,3,5-Trimethylbenzene	19.77	105	102887	0.609 ng	100
80) alpha-Methylstyrene	19.91	118	635	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.13	105	313822	1.794 ng	87
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.22	91	1422	N.D.	
85) 1,3-Dichlorobenzene	20.28	146	841	N.D.	
86) 1,4-Dichlorobenzene	20.33	146	808	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	20.63	146	755	N.D.	
91) d-Limonene	20.64	68	2100	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.14	180	596	N.D.	
95) Naphthalene	22.24	128	11674	0.060 ng	98
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172014.D Vial: 1
Acq On : 17 Apr 2020 10:42 Operator: LH
Sample : P2002028-021dil (0.10mL) Inst : GCMS-16
Misc : S31-02112001

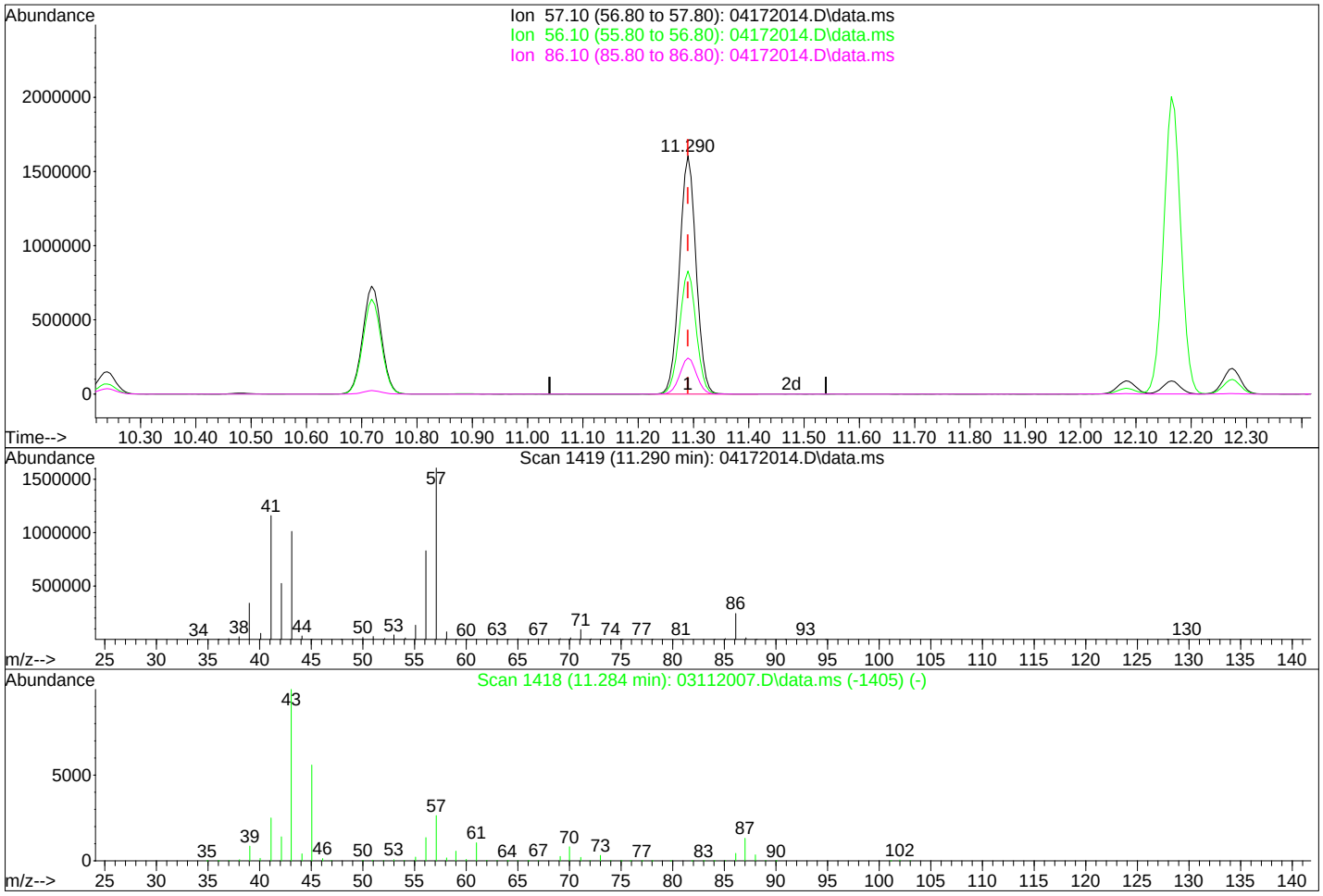
Quant Time: Apr 20 18:20:09 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\17\04172014.D Vial: 1
Acq On : 17 Apr 2020 10:42 Operator: LH
Sample : P2002028-021dil (0.10mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 19 09:04:41 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04172014.D\data.ms

(31) n-Hexane (T)

11.290min (+0.000) 51.51ng

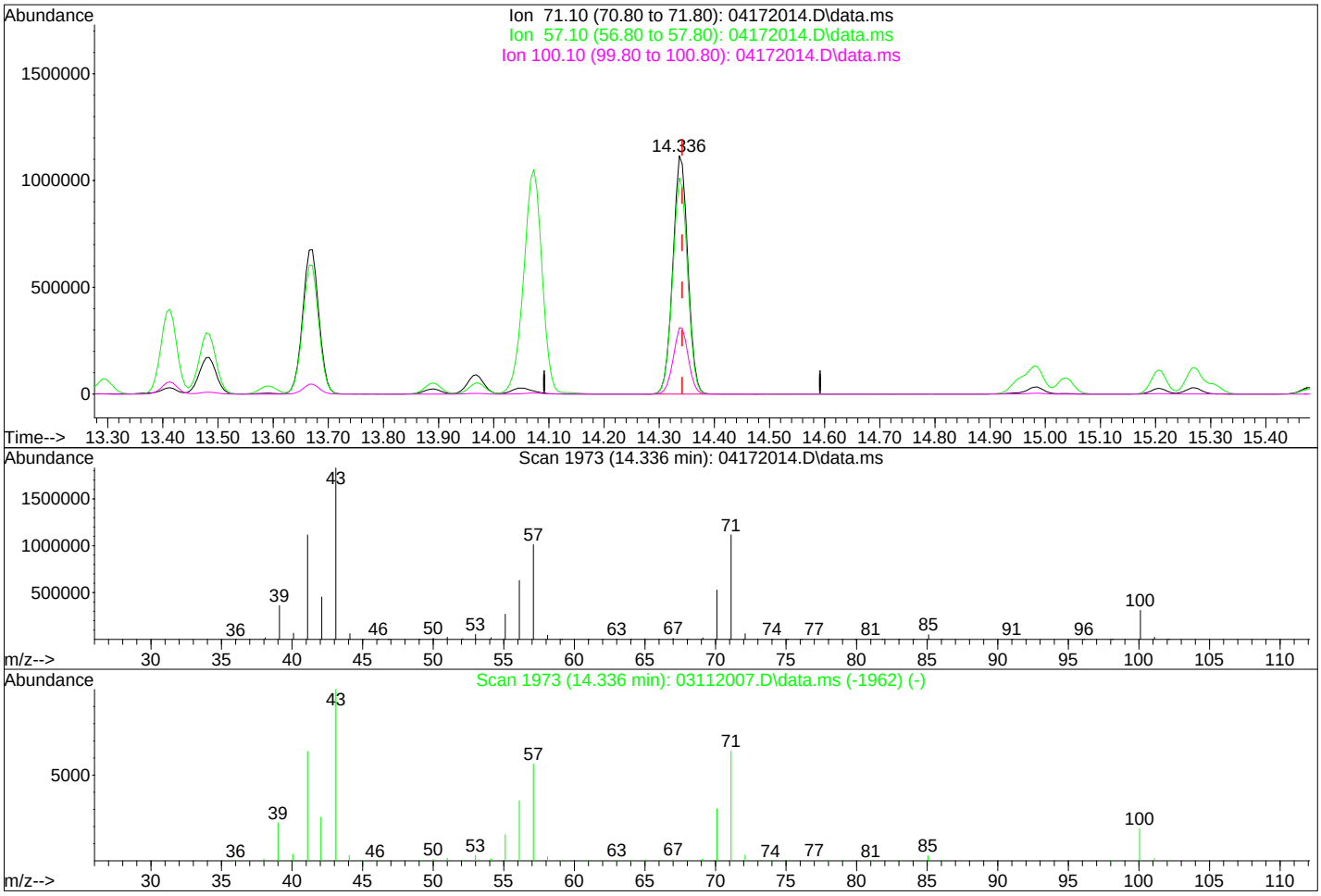
response 3344769

Ion	Exp%	Act%
57.10	100	100
56.10	51.20	51.57
86.10	17.40	15.20
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\17\04172014.D Vial: 1
Acq On : 17 Apr 2020 10:42 Operator: LH
Sample : P2002028-021dil (0.10mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 19 09:04:41 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04172014.D\data.ms

(51) n-Heptane (T)

14.336min (-0.005) 54.40ng

response 2105942

Ion	Exp%	Act%
71.10	100	100
57.10	88.60	90.94
100.10	29.10	28.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172005.D Vial: 2
Acq On : 17 Apr 2020 1:58 Operator: WA
Sample : MB R16041720_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: Apr 17 05:58:23 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/17/20

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	325851	12.500 ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1463250	12.500 ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	706138	12.500 ng	0.00
System Monitoring Compounds					
33) 1,2-Dichloroethane-d4(...	12.01	65	576166	12.769 ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.16%		
57) Toluene-d8 (SS2)	15.74	98	1523022	12.168 ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.36%		
73) Bromofluorobenzene (SS3)	19.00	174	504230	11.408 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.28%		
Target Compounds					Qvalue
2) Propene	4.14	42	655	N.D.	
3) Dichlorodifluoromethan...	4.28	85	104	N.D.	
4) Chloromethane	4.55	50	249	N.D.	
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.	
6) Vinyl Chloride	0.00	62	0	N.D.	
7) 1,3-Butadiene	0.00	54	0	N.D.	
8) Bromomethane	0.00	94	0	N.D.	
9) Chloroethane	0.00	64	0	N.D.	
10) Ethanol	6.36	45	13068	0.484 ng	92
11) Acetonitrile	0.00	41	0	N.D. d	
12) Acrolein	6.84	56	114	N.D.	
13) Acetone	7.07	58	4102	0.154 ng	90
14) Trichlorofluoromethane	0.00	101	0	N.D.	
15) 2-Propanol (Isopropanol)	7.61	45	1662	N.D.	
16) Acrylonitrile	7.83	53	137	N.D.	
17) 1,1-Dichloroethene	0.00	96	0	N.D.	
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	
19) Methylene Chloride	8.44	84	173	N.D.	
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	
21) Trichlorotrifluoroethane	0.00	151	0	N.D.	
22) Carbon Disulfide	8.72	76	3346	N.D.	
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.	
24) 1,1-Dichloroethane	0.00	63	0	N.D.	
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	
26) Vinyl Acetate	0.00	86	0	N.D.	
27) 2-Butanone (MEK)	0.00	72	0	N.D.	
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.	
29) Diisopropyl Ether	0.00	87	0	N.D.	
30) Ethyl Acetate	0.00	61	0	N.D.	
31) n-Hexane	0.00	57	0	N.D.	
32) Chloroform	0.00	83	0	N.D.	
34) Tetrahydrofuran (THF)	11.82	72	301	N.D.	
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.	
36) 1,2-Dichloroethane	12.00	62	113	N.D.	
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.	
39) Isopropyl Acetate	0.00	61	0	N.D.	
40) 1-Butanol	12.93	56	2455	0.065 ng	84
41) Benzene	12.90	78	1320	N.D.	
42) Carbon Tetrachloride	0.00	117	0	N.D.	
43) Cyclohexane	13.29	84	1124	N.D.	
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.	
45) 1,2-Dichloropropane	0.00	63	0	N.D.	
46) Bromodichloromethane	0.00	83	0	N.D.	
47) Trichloroethene	0.00	130	0	N.D.	
48) 1,4-Dioxane	0.00	88	0	N.D.	
49) 2,2,4-Trimethylpentane...	14.06	57	420	N.D.	
50) Methyl Methacrylate	0.00	100	0	N.D.	

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172005.D Vial: 2
Acq On : 17 Apr 2020 1:58 Operator: WA
Sample : MB R16041720_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: Apr 17 05:58:23 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

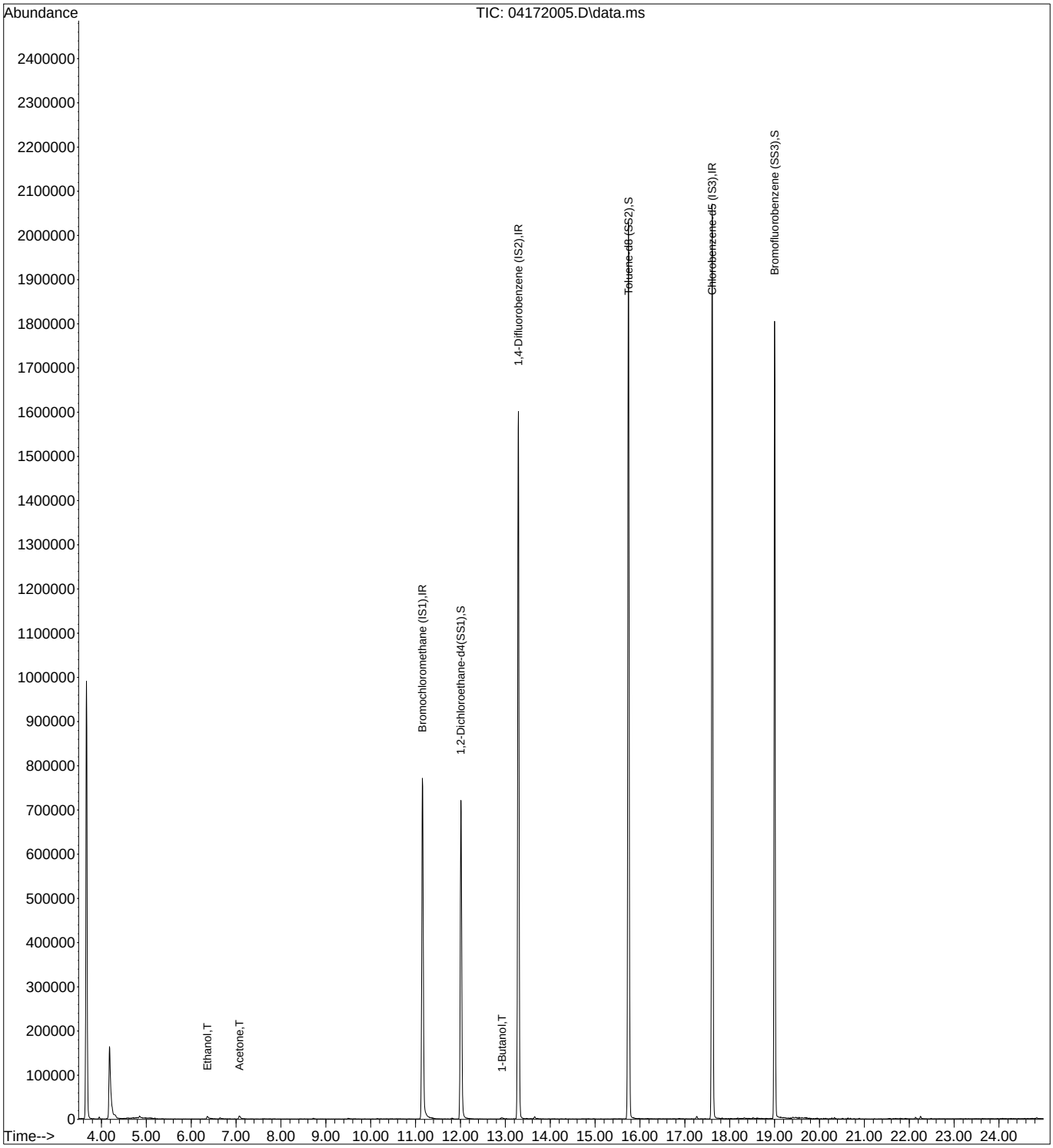
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.85	91	1287	N.D.		
59) 2-Hexanone	16.15	43	112	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.77	43	727	N.D.		
63) n-Octane	16.88	57	106	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	17.66	112	749	N.D.		
66) Ethylbenzene	18.02	91	1533	N.D.		
67) m- & p-Xylenes	18.18	91	1733	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.52	104	821	N.D.		
70) o-Xylene	18.61	91	1117	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.13	105	410	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	19.58	91	545	N.D.		
77) 3-Ethyltoluene	19.68	105	769	N.D.		
78) 4-Ethyltoluene	19.70	105	1006	N.D.		
79) 1,3,5-Trimethylbenzene	19.78	105	546	N.D.		
80) alpha-Methylstyrene	19.91	118	192	N.D.		
81) 2-Ethyltoluene	19.95	105	1239	N.D.		
82) 1,2,4-Trimethylbenzene	20.14	105	984	N.D.		
83) n-Decane	20.42	57	170	N.D.		
84) Benzyl Chloride	20.25	91	1002	N.D.		
85) 1,3-Dichlorobenzene	20.28	146	1123	N.D.		
86) 1,4-Dichlorobenzene	20.33	146	1461	N.D.		
87) sec-Butylbenzene	20.38	105	497	N.D.		
88) 4-Isopropyltoluene (p-...	20.52	119	534	N.D.		
89) 1,2,3-Trimethylbenzene	20.51	105	559	N.D.		
90) 1,2-Dichlorobenzene	20.63	146	902	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.22	57	100	N.D.		
94) 1,2,4-Trichlorobenzene	22.14	180	1432	N.D.		
95) Naphthalene	22.25	128	6303	N.D.		
96) n-Dodecane	22.24	57	110	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.32	55	808	N.D.		
99) tert-Butylbenzene	20.14	119	369	N.D.		
100) n-Butylbenzene	20.88	91	842	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172005.D Vial: 2
Acq On : 17 Apr 2020 1:58 Operator: WA
Sample : MB R16041720_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: Apr 17 05:58:23 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202006.D Vial: 2
Acq On : 20 Apr 2020 3:47 Operator: WA
Sample : MB R16042020_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

TD 4/20/20

Quant Time: Apr 20 05:39:58 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	311865	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1401042	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	673708	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.01	65	552752	12.800	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.40%			
57) Toluene-d8 (SS2)	15.74	98	1448666	12.131	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.04%			
73) Bromofluorobenzene (SS3)	19.00	174	470365	11.154	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.20%			
Target Compounds						Qvalue
2) Propene	4.16	42	526	N.D.		
3) Dichlorodifluoromethan...	4.30	85	180	N.D.		
4) Chloromethane	4.59	50	248	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	4.99	62	228	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.37	45	5569	0.215	ng	77
11) Acetonitrile	6.65	41	1934	N.D.		
12) Acrolein	6.85	56	52	N.D.		
13) Acetone	7.08	58	3001	0.118	ng	93
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	7.63	45	870	N.D.		
16) Acrylonitrile	7.85	53	55	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	8.44	84	107	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	8.73	76	2115	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	0.00	72	0	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	11.81	72	402	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	12.95	56	764	N.D.		
41) Benzene	12.90	78	1230	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	13.19	84	104	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	14.08	57	464	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202006.D Vial: 2
Acq On : 20 Apr 2020 3:47 Operator: WA
Sample : MB R16042020_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: Apr 20 05:39:58 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

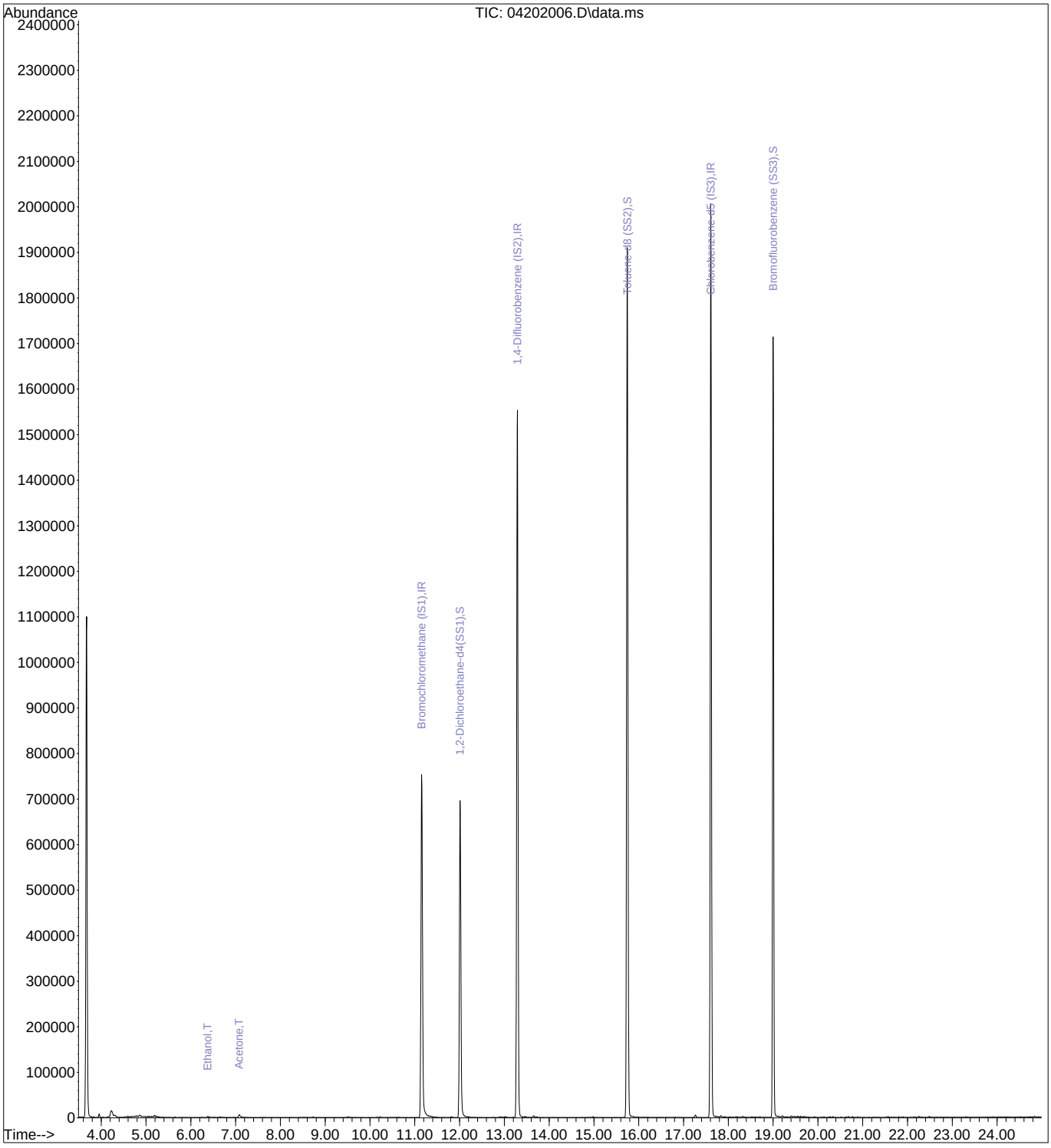
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.85	91	2188	N.D.		
59) 2-Hexanone	16.17	43	109	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.77	43	324	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	17.66	112	499	N.D.		
66) Ethylbenzene	18.02	91	1254	N.D.		
67) m- & p-Xylenes	18.19	91	3880	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.52	104	422	N.D.		
70) o-Xylene	18.61	91	1494	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.13	105	922	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	19.55	91	1848	N.D.		
77) 3-Ethyltoluene	19.66	105	1185	N.D.		
78) 4-Ethyltoluene	19.71	105	973	N.D.		
79) 1,3,5-Trimethylbenzene	19.77	105	748	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	19.95	105	773	N.D.		
82) 1,2,4-Trimethylbenzene	20.15	105	553	N.D.		
83) n-Decane	20.22	57	117	N.D.		
84) Benzyl Chloride	20.26	91	298	N.D.		
85) 1,3-Dichlorobenzene	20.28	146	623	N.D.		
86) 1,4-Dichlorobenzene	20.34	146	1102	N.D.		
87) sec-Butylbenzene	20.38	105	358	N.D.		
88) 4-Isopropyltoluene (p-...	20.51	119	555	N.D.		
89) 1,2,3-Trimethylbenzene	20.52	105	350	N.D.		
90) 1,2-Dichlorobenzene	20.64	146	535	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.14	180	888	N.D.		
95) Naphthalene	22.26	128	3005	N.D.		
96) n-Dodecane	0.00	57	0	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.32	55	953	N.D.		
99) tert-Butylbenzene	20.13	119	394	N.D.		
100) n-Butylbenzene	20.89	91	822	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202006.D Vial: 2
Acq On : 20 Apr 2020 3:47 Operator: WA
Sample : MB R16042020_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: Apr 20 05:39:58 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172006.D Vial: 2
Acq On : 17 Apr 2020 2:32 Operator: WA
Sample : LCS R16041720_25ng Inst : GCMS-16
Misc : S31-02112001/S34-03252003 (4/23)

Quant Time: Apr 17 05:48:17 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020 4/17/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	375164	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.30	114	1648495	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.61	82	793350	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	622876	11.990	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.92%				
57) Toluene-d8 (SS2)	15.75	98	1683091	11.969	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.76%				
73) Bromofluorobenzene (SS3)	19.01	174	624038	12.567	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.56%				
Target Compounds							Qvalue
2) Propene	4.10	42	1021138	25.952	ng		99
3) Dichlorodifluoromethan...	4.26	85	2008057	23.721	ng		100
4) Chloromethane	4.54	50	1535658	22.974	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	1178389	21.856	ng		99
6) Vinyl Chloride	4.96	62	1739390	24.653	ng		99
7) 1,3-Butadiene	5.23	54	1146440	22.430	ng		99
8) Bromomethane	5.66	94	843572	23.867	ng		100
9) Chloroethane	5.99	64	658707	24.331	ng		100
10) Ethanol	6.36	45	3743790	120.390	ng		100
11) Acetonitrile	6.62	41	1685404	24.637	ng		100
12) Acrolein	6.80	56	589155	25.746	ng		100
13) Acetone	7.01	58	4084411	133.090	ng		100
14) Trichlorofluoromethane	7.26	101	1814621	24.311	ng		100
15) 2-Propanol (Isopropanol)	7.50	45	4846565	53.249	ng		99
16) Acrylonitrile	7.77	53	1305361	28.346	ng		99
17) 1,1-Dichloroethene	8.22	96	968114	26.224	ng		99
18) 2-Methyl-2-Propanol (t...	8.37	59	4611318	56.458	ng		99
19) Methylene Chloride	8.45	84	1020440	25.554	ng		98
20) 3-Chloro-1-propene (Al...	8.61	41	1358099	26.250	ng		98
21) Trichlorotrifluoroethane	8.86	151	867763	24.308	ng		97
22) Carbon Disulfide	8.71	76	3727225	25.953	ng		100
23) trans-1,2-Dichloroethene	9.72	61	1443467	26.939	ng		99
24) 1,1-Dichloroethane	9.98	63	1693872	24.770	ng		100
25) Methyl tert-Butyl Ether	10.07	73	2652123	23.960	ng		99
26) Vinyl Acetate	10.23	86	1388737	131.869	ng	#	82
27) 2-Butanone (MEK)	10.47	72	708045	27.714	ng		91
28) cis-1,2-Dichloroethene	10.99	61	1427435	25.641	ng		99
29) Diisopropyl Ether	11.29	87	1012429	24.852	ng	#	85
30) Ethyl Acetate	11.30	61	913501	60.492	ng		98
31) n-Hexane	11.28	57	1997823	28.545	ng		99
32) Chloroform	11.34	83	1867859	25.076	ng		100
34) Tetrahydrofuran (THF)	11.74	72	680855	25.902	ng		95
35) Ethyl tert-Butyl Ether	11.88	87	1235162	25.961	ng		97
36) 1,2-Dichloroethane	12.14	62	1415269	24.357	ng		100
38) 1,1,1-Trichloroethane	12.42	97	1652024	25.538	ng		100
39) Isopropyl Acetate	12.85	61	1542412	57.630	ng		99
40) 1-Butanol	12.86	56	2226777	51.995	ng		94
41) Benzene	12.90	78	4233948	24.837	ng		100
42) Carbon Tetrachloride	13.06	117	1479811	25.280	ng		100
43) Cyclohexane	13.19	84	3400759	51.958	ng		96
44) tert-Amyl Methyl Ether	13.54	73	2984368	27.064	ng		99
45) 1,2-Dichloropropane	13.75	63	1033931	26.523	ng		99
46) Bromodichloromethane	13.95	83	1513578	26.270	ng		99
47) Trichloroethene	14.00	130	1116029	23.106	ng		100
48) 1,4-Dioxane	13.97	88	853687	25.867	ng		98
49) 2,2,4-Trimethylpentane...	14.07	57	4275830	26.398	ng		98
50) Methyl Methacrylate	14.20	100	921299	55.909	ng		94

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172006.D Vial: 2
Acq On : 17 Apr 2020 2:32 Operator: WA
Sample : LCS R16041720_25ng Inst : GCMS-16
Misc : S31-02112001/S34-03252003 (4/23)

Quant Time: Apr 17 05:48:17 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

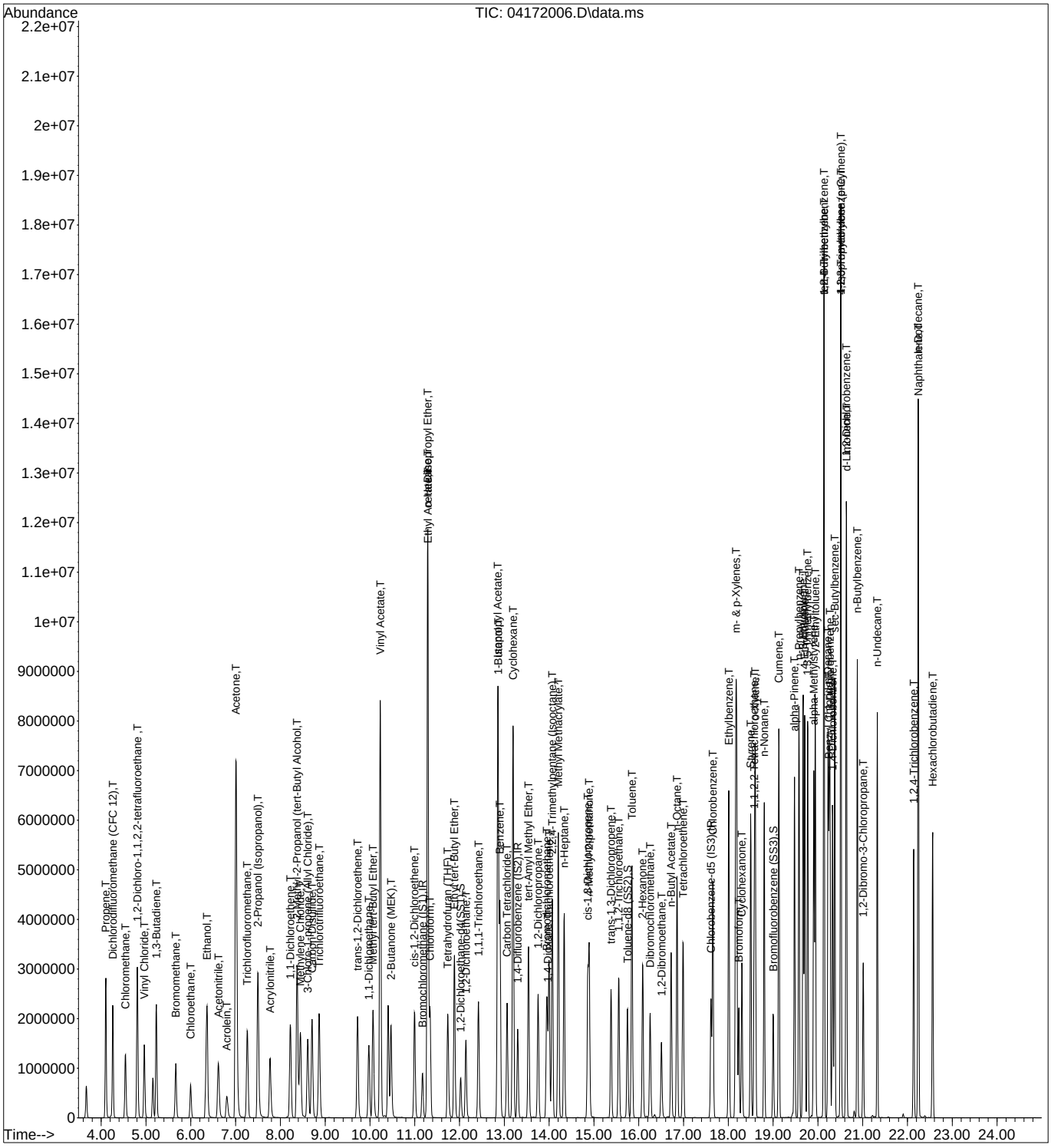
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.34	71	1065102	26.761	ng	98
52) cis-1,3-Dichloropropene	14.86	75	1868088	29.687	ng	99
53) 4-Methyl-2-pentanone	14.89	58	1003960	28.100	ng	98
54) trans-1,3-Dichloropropene	15.38	75	1588258	27.169	ng	100
55) 1,1,2-Trichloroethane	15.55	97	1024811	26.044	ng	99
58) Toluene	15.85	91	4248192	24.433	ng	100
59) 2-Hexanone	16.09	43	2383020	27.389	ng	99
60) Dibromochloromethane	16.26	129	1285070	27.763	ng	100
61) 1,2-Dibromoethane	16.51	107	1212647	27.251	ng	100
62) n-Butyl Acetate	16.72	43	2692112	28.933	ng	100
63) n-Octane	16.85	57	919296	26.644	ng	97
64) Tetrachloroethene	16.99	166	1163390	24.012	ng	100
65) Chlorobenzene	17.65	112	2895519	24.751	ng	100
66) Ethylbenzene	18.01	91	5049157	26.469	ng	99
67) m- & p-Xylenes	18.17	91	8192224	52.803	ng	99
68) Bromoform	18.24	173	1108753	26.529	ng	100
69) Styrene	18.50	104	3093326	25.419	ng	99
70) o-Xylene	18.60	91	4055915	26.146	ng	99
71) n-Nonane	18.80	43	2126489	27.418	ng	96
72) 1,1,2,2-Tetrachloroethane	18.58	83	2043762	27.418	ng	100
74) Cumene	19.13	105	5075383	25.873	ng	99
75) alpha-Pinene	19.48	93	2566743	25.823	ng	97
76) n-Propylbenzene	19.58	91	6218723	27.145	ng	99
77) 3-Ethyltoluene	19.67	105	5221493	26.823	ng	99
78) 4-Ethyltoluene	19.70	105	4867396	26.126	ng	99
79) 1,3,5-Trimethylbenzene	19.77	105	4240039	25.571	ng	99
80) alpha-Methylstyrene	19.91	118	2055190	22.678	ng	92
81) 2-Ethyltoluene	19.94	105	5044611	26.251	ng	99
82) 1,2,4-Trimethylbenzene	20.14	105	4731733	27.546	ng	98
83) n-Decane	20.23	57	2274680	27.400	ng	98
84) Benzyl Chloride	20.25	91	3539171	26.582	ng	98
85) 1,3-Dichlorobenzene	20.27	146	2604534	28.256	ng	100
86) 1,4-Dichlorobenzene	20.33	146	2577205	28.154	ng	99
87) sec-Butylbenzene	20.37	105	5655489	26.472	ng	99
88) 4-Isopropyltoluene (p-...	20.51	119	5606471	27.447	ng	98
89) 1,2,3-Trimethylbenzene	20.51	105	4644905	26.938	ng	99
90) 1,2-Dichlorobenzene	20.63	146	2563574	27.214	ng	99
91) d-Limonene	20.64	68	1630585	24.546	ng	98
92) 1,2-Dibromo-3-Chloropr...	21.01	157	850179	26.891	ng	95
93) n-Undecane	21.33	57	2274544	26.556	ng	98
94) 1,2,4-Trichlorobenzene	22.14	180	1625862	29.613	ng	99
95) Naphthalene	22.24	128	5551404	28.892	ng	100
96) n-Dodecane	22.24	57	2105219	24.736	ng	98
97) Hexachlorobutadiene	22.56	225	1021737	23.342	ng	100
98) Cyclohexanone	18.30	55	1371003	22.796	ng	97
99) tert-Butylbenzene	20.14	119	4487378	26.640	ng	99
100) n-Butylbenzene	20.88	91	4615136	26.727	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172006.D Vial: 2
Acq On : 17 Apr 2020 2:32 Operator: WA
Sample : LCS R16041720_25ng Inst : GCMS-16
Misc : S31-02112001/S34-03252003 (4/23)

Quant Time: Apr 17 05:48:17 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172007.D Vial: 2
Acq On : 17 Apr 2020 3:05 Operator: WA
Sample : LCSD R16041720_25ng Inst : GCMS-16
Misc : S31-02112001/S34-03252003 (4/23)

Quant Time: Apr 17 05:48:19 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/17/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	394798	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.30	114	1715880	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.61	82	819224	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	647802	11.850	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.80%				
57) Toluene-d8 (SS2)	15.75	98	1748976	12.045	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.32%				
73) Bromofluorobenzene (SS3)	19.01	174	649018	12.657	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.28%				
Target Compounds							Qvalue
2) Propene	4.10	42	1119301	27.032	ng		99
3) Dichlorodifluoromethan...	4.26	85	2205520	24.758	ng		100
4) Chloromethane	4.54	50	1676089	23.828	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	1253361	22.090	ng		99
6) Vinyl Chloride	4.97	62	1859618	25.047	ng		99
7) 1,3-Butadiene	5.23	54	1245638	23.159	ng		99
8) Bromomethane	5.66	94	945536	25.422	ng		100
9) Chloroethane	6.00	64	726282	25.492	ng		99
10) Ethanol	6.36	45	4060782	124.090	ng		100
11) Acetonitrile	6.62	41	1839380	25.551	ng		100
12) Acrolein	6.81	56	638326	26.507	ng		99
13) Acetone	7.01	58	4324946	133.919	ng		99
14) Trichlorofluoromethane	7.26	101	1923459	24.487	ng		100
15) 2-Propanol (Isopropanol)	7.50	45	5222033	54.521	ng		98
16) Acrylonitrile	7.77	53	1395411	28.794	ng		99
17) 1,1-Dichloroethene	8.22	96	1036024	26.668	ng		98
18) 2-Methyl-2-Propanol (t...	8.38	59	4929498	57.352	ng		98
19) Methylene Chloride	8.45	84	1083348	25.781	ng		99
20) 3-Chloro-1-propene (Al...	8.61	41	1426543	26.201	ng		98
21) Trichlorotrifluoroethane	8.86	151	936112	24.919	ng		99
22) Carbon Disulfide	8.71	76	3952785	26.155	ng		100
23) trans-1,2-Dichloroethene	9.72	61	1532574	27.180	ng		99
24) 1,1-Dichloroethane	9.98	63	1795925	24.957	ng		100
25) Methyl tert-Butyl Ether	10.07	73	2819077	24.201	ng		99
26) Vinyl Acetate	10.23	86	1446839	130.553	ng	#	84
27) 2-Butanone (MEK)	10.47	72	737543	27.433	ng		92
28) cis-1,2-Dichloroethene	10.99	61	1502864	25.653	ng		99
29) Diisopropyl Ether	11.29	87	1215836	28.360	ng	#	86
30) Ethyl Acetate	11.30	61	957788	60.270	ng		98
31) n-Hexane	11.28	57	2073907	28.158	ng		99
32) Chloroform	11.34	83	1955334	24.945	ng		100
34) Tetrahydrofuran (THF)	11.74	72	715842	25.879	ng		95
35) Ethyl tert-Butyl Ether	11.88	87	1304782	26.060	ng		97
36) 1,2-Dichloroethane	12.14	62	1479847	24.202	ng		100
38) 1,1,1-Trichloroethane	12.42	97	1736263	25.786	ng		100
39) Isopropyl Acetate	12.85	61	1617047	58.046	ng		98
40) 1-Butanol	12.87	56	2316519	51.967	ng		95
41) Benzene	12.90	78	4416326	24.890	ng		100
42) Carbon Tetrachloride	13.06	117	1546825	25.387	ng		100
43) Cyclohexane	13.19	84	3546307	52.054	ng		96
44) tert-Amyl Methyl Ether	13.54	73	3120513	27.187	ng		99
45) 1,2-Dichloropropane	13.75	63	1085972	26.764	ng		99
46) Bromodichloromethane	13.95	83	1590783	26.526	ng		99
47) Trichloroethene	14.00	130	1164761	23.168	ng		100
48) 1,4-Dioxane	13.97	88	902516	26.273	ng		97
49) 2,2,4-Trimethylpentane...	14.07	57	4448964	26.388	ng		98
50) Methyl Methacrylate	14.20	100	965656	56.300	ng		94

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172007.D Vial: 2
Acq On : 17 Apr 2020 3:05 Operator: WA
Sample : LCSD R16041720_25ng Inst : GCMS-16
Misc : S31-02112001/S34-03252003 (4/23)

Quant Time: Apr 17 05:48:19 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

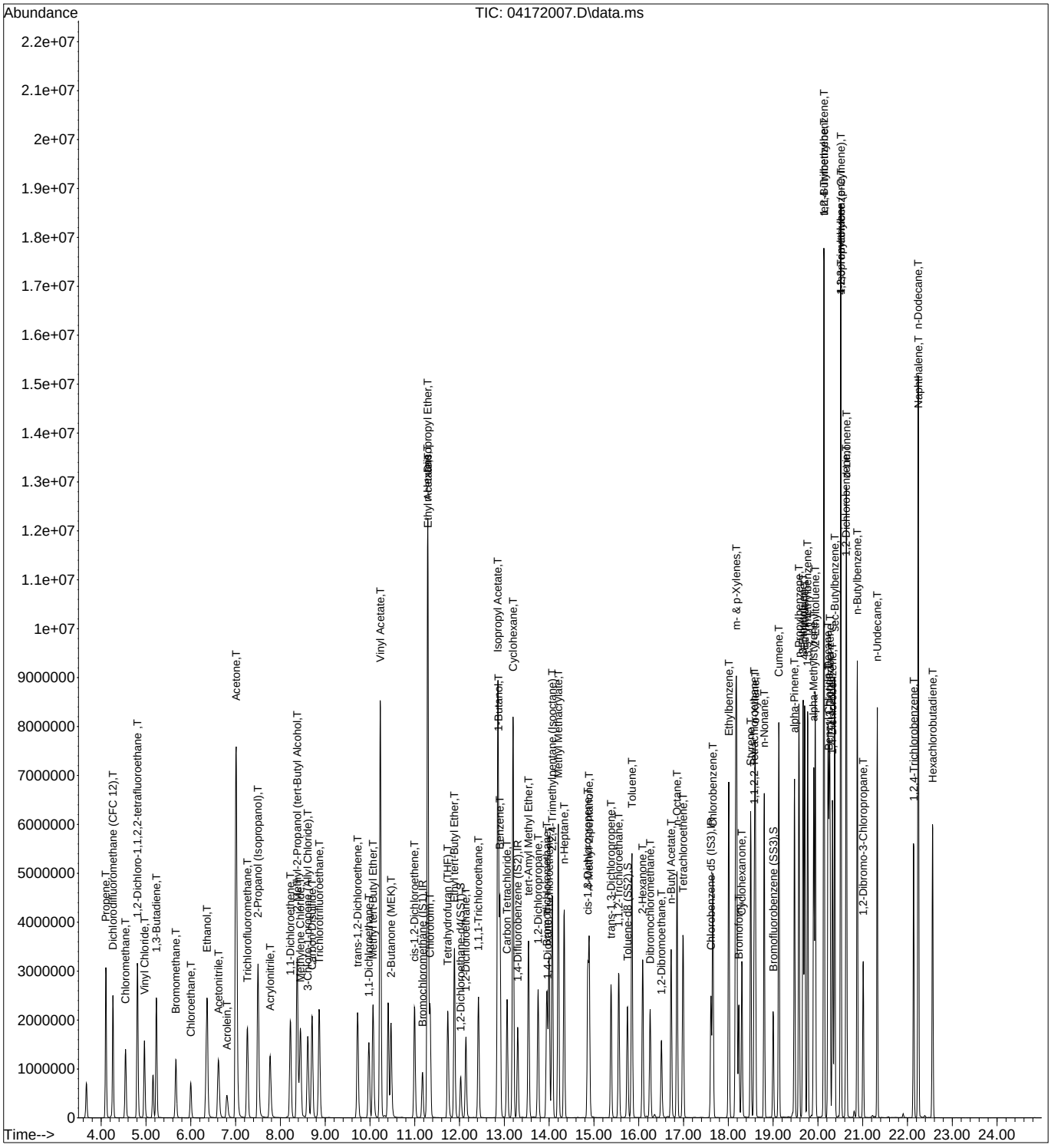
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.34	71	1111826	26.838	ng	98
52) cis-1,3-Dichloropropene	14.86	75	1967648	30.042	ng	99
53) 4-Methyl-2-pentanone	14.89	58	1058663	28.467	ng	98
54) trans-1,3-Dichloropropene	15.38	75	1687046	27.726	ng	100
55) 1,1,2-Trichloroethane	15.55	97	1081904	26.415	ng	99
58) Toluene	15.85	91	4462818	24.857	ng	100
59) 2-Hexanone	16.09	43	2484161	27.649	ng	99
60) Dibromochloromethane	16.26	129	1352597	28.299	ng	100
61) 1,2-Dibromoethane	16.51	107	1276527	27.780	ng	100
62) n-Butyl Acetate	16.72	43	2800887	29.151	ng	100
63) n-Octane	16.86	57	953133	26.753	ng	97
64) Tetrachloroethene	16.99	166	1232850	24.642	ng	100
65) Chlorobenzene	17.65	112	3019107	24.992	ng	100
66) Ethylbenzene	18.01	91	5254748	26.677	ng	100
67) m- & p-Xylenes	18.18	91	8479137	52.926	ng	99
68) Bromoform	18.24	173	1166346	27.026	ng	100
69) Styrene	18.50	104	3187271	25.364	ng	99
70) o-Xylene	18.60	91	4174804	26.063	ng	99
71) n-Nonane	18.80	43	2173336	27.137	ng	97
72) 1,1,2,2-Tetrachloroethane	18.58	83	2100713	27.292	ng	100
74) Cumene	19.13	105	5250168	25.918	ng	100
75) alpha-Pinene	19.48	93	2651952	25.838	ng	98
76) n-Propylbenzene	19.58	91	6380237	26.971	ng	99
77) 3-Ethyltoluene	19.67	105	5365482	26.692	ng	99
78) 4-Ethyltoluene	19.70	105	4975164	25.861	ng	99
79) 1,3,5-Trimethylbenzene	19.77	105	4356696	25.444	ng	99
80) alpha-Methylstyrene	19.91	118	2109784	22.545	ng	92
81) 2-Ethyltoluene	19.94	105	5186506	26.137	ng	99
82) 1,2,4-Trimethylbenzene	20.14	105	4859850	27.398	ng	98
83) n-Decane	20.23	57	2338356	27.277	ng	98
84) Benzyl Chloride	20.25	91	3654735	26.583	ng	99
85) 1,3-Dichlorobenzene	20.27	146	2656297	27.908	ng	100
86) 1,4-Dichlorobenzene	20.32	146	2628522	27.807	ng	99
87) sec-Butylbenzene	20.37	105	5800417	26.292	ng	99
88) 4-Isopropyltoluene (p-...	20.51	119	5710308	27.072	ng	99
89) 1,2,3-Trimethylbenzene	20.51	105	4742159	26.633	ng	98
90) 1,2-Dichlorobenzene	20.63	146	2621625	26.951	ng	99
91) d-Limonene	20.64	68	1674586	24.412	ng	97
92) 1,2-Dibromo-3-Chloropr...	21.01	157	875774	26.826	ng	96
93) n-Undecane	21.33	57	2341115	26.470	ng	98
94) 1,2,4-Trichlorobenzene	22.14	180	1731044	30.533	ng	100
95) Naphthalene	22.24	128	5715999	28.809	ng	100
96) n-Dodecane	22.24	57	2169690	24.688	ng	98
97) Hexachlorobutadiene	22.56	225	1086830	24.045	ng	100
98) Cyclohexanone	18.30	55	1414910	22.783	ng	98
99) tert-Butylbenzene	20.14	119	4600449	26.449	ng	99
100) n-Butylbenzene	20.88	91	4718342	26.462	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172007.D Vial: 2
Acq On : 17 Apr 2020 3:05 Operator: WA
Sample : LCSD R16041720_25ng Inst : GCMS-16
Misc : S31-02112001/S34-03252003 (4/23)

Quant Time: Apr 17 05:48:19 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202007.D Vial: 2
Acq On : 20 Apr 2020 4:20 Operator: WA
Sample : LCS R16042020_25ng Inst : GCMS-16
Misc : S31-02112001/S34-03252003 (4/23)

TD 4/20/20

Quant Time: Apr 20 05:40:00 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	371043	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.30	114	1615010	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.61	82	770119	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	612705	11.925	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.44%				
57) Toluene-d8 (SS2)	15.75	98	1640081	12.015	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.08%				
73) Bromofluorobenzene (SS3)	19.01	174	601258	12.473	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.76%				
Target Compounds							Qvalue
2) Propene	4.10	42	999987	25.697	ng		99
3) Dichlorodifluoromethan...	4.25	85	1960524	23.417	ng		100
4) Chloromethane	4.54	50	1482797	22.429	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	1133503	21.257	ng		99
6) Vinyl Chloride	4.96	62	1703475	24.412	ng		99
7) 1,3-Butadiene	5.22	54	1130611	22.366	ng		100
8) Bromomethane	5.66	94	816343	23.354	ng		100
9) Chloroethane	5.99	64	645213	24.097	ng		100
10) Ethanol	6.36	45	3638269	118.296	ng		100
11) Acetonitrile	6.62	41	1670034	24.684	ng		100
12) Acrolein	6.80	56	577608	25.522	ng		100
13) Acetone	7.01	58	4051916	133.498	ng		100
14) Trichlorofluoromethane	7.26	101	1759339	23.832	ng		100
15) 2-Propanol (Isopropanol)	7.50	45	4743114	52.692	ng		99
16) Acrylonitrile	7.77	53	1297881	28.496	ng		99
17) 1,1-Dichloroethene	8.22	96	944109	25.858	ng		99
18) 2-Methyl-2-Propanol (t...	8.38	59	4366834	54.059	ng		99
19) Methylene Chloride	8.44	84	1011066	25.601	ng		98
20) 3-Chloro-1-propene (Al...	8.61	41	1324432	25.883	ng		98
21) Trichlorotrifluoroethane	8.86	151	841703	23.840	ng		97
22) Carbon Disulfide	8.71	76	3691359	25.989	ng		100
23) trans-1,2-Dichloroethene	9.72	61	1425493	26.899	ng		99
24) 1,1-Dichloroethane	9.98	63	1675733	24.777	ng		100
25) Methyl tert-Butyl Ether	10.07	73	2608801	23.830	ng		99
26) Vinyl Acetate	10.23	86	1359560	130.532	ng	#	81
27) 2-Butanone (MEK)	10.47	72	696269	27.556	ng	#	91
28) cis-1,2-Dichloroethene	10.99	61	1405645	25.530	ng		99
29) Diisopropyl Ether	11.29	87	1145560	28.432	ng	#	88
30) Ethyl Acetate	11.30	61	910705	60.976	ng		97
31) n-Hexane	11.28	57	1967918	28.430	ng		99
32) Chloroform	11.34	83	1839047	24.963	ng		100
34) Tetrahydrofuran (THF)	11.74	72	673951	25.925	ng		96
35) Ethyl tert-Butyl Ether	11.88	87	1209377	25.701	ng		96
36) 1,2-Dichloroethane	12.14	62	1384921	24.100	ng		100
38) 1,1,1-Trichloroethane	12.42	97	1625038	25.641	ng		100
39) Isopropyl Acetate	12.85	61	1515431	57.796	ng		100
40) 1-Butanol	12.86	56	2152992	51.315	ng		93
41) Benzene	12.90	78	4212940	25.227	ng		100
42) Carbon Tetrachloride	13.06	117	1441875	25.142	ng		100
43) Cyclohexane	13.19	84	3354339	52.312	ng		96
44) tert-Amyl Methyl Ether	13.54	73	2899860	26.843	ng		99
45) 1,2-Dichloropropane	13.75	63	1023157	26.791	ng		99
46) Bromodichloromethane	13.95	83	1486949	26.343	ng		99
47) Trichloroethene	14.00	130	1092965	23.097	ng		100
48) 1,4-Dioxane	13.97	88	839043	25.950	ng		98
49) 2,2,4-Trimethylpentane...	14.07	57	4203581	26.490	ng		98
50) Methyl Methacrylate	14.20	100	902291	55.891	ng		93

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202007.D Vial: 2
Acq On : 20 Apr 2020 4:20 Operator: WA
Sample : LCS R16042020_25ng Inst : GCMS-16
Misc : S31-02112001/S34-03252003 (4/23)

Quant Time: Apr 20 05:40:00 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

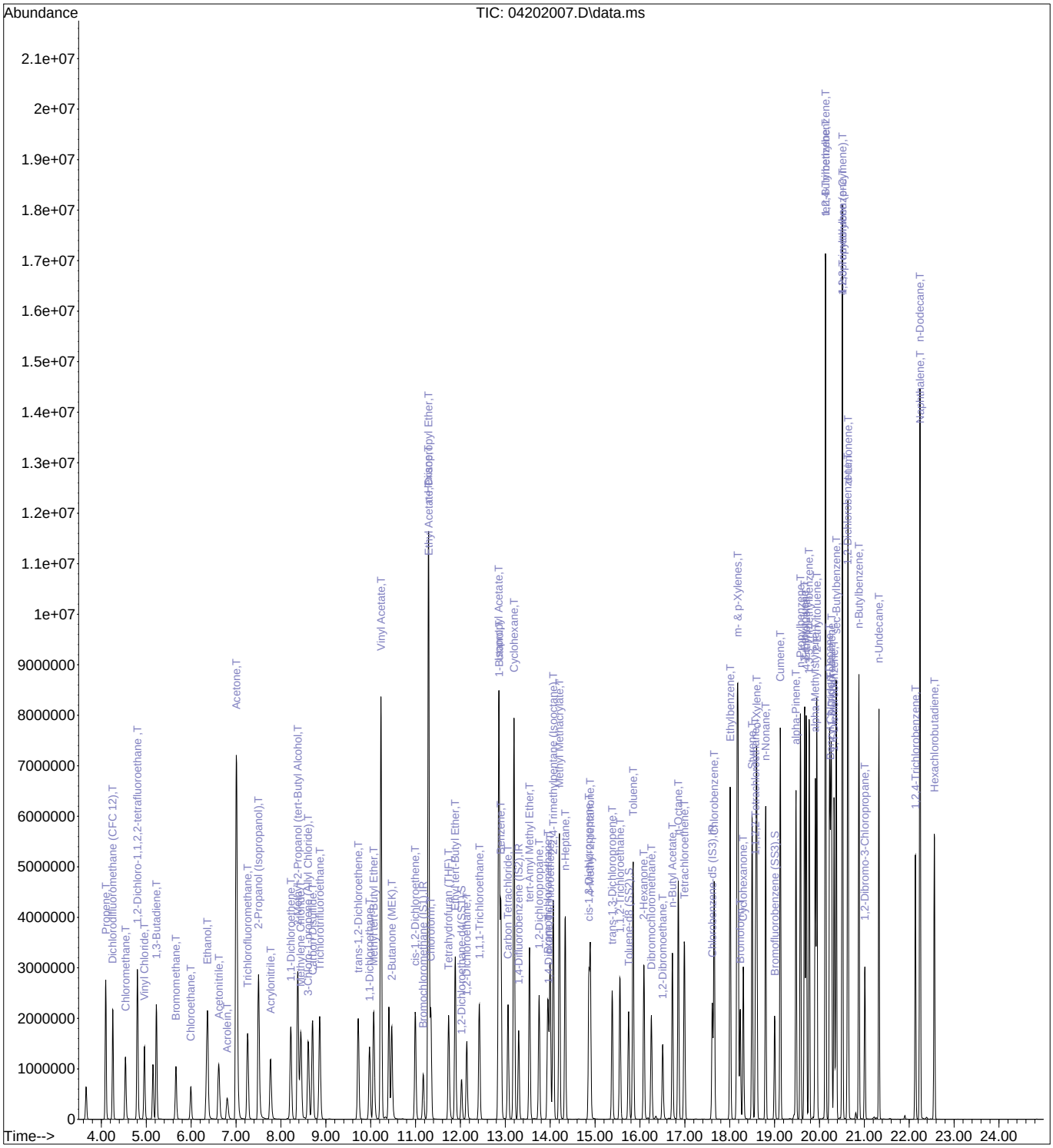
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.34	71	1049057	26.904	ng	98
52) cis-1,3-Dichloropropene	14.86	75	1824563	29.597	ng	100
53) 4-Methyl-2-pentanone	14.89	58	999191	28.546	ng	98
54) trans-1,3-Dichloropropene	15.38	75	1567117	27.363	ng	100
55) 1,1,2-Trichloroethane	15.56	97	1016606	26.371	ng	99
58) Toluene	15.85	91	4213819	24.966	ng	100
59) 2-Hexanone	16.09	43	2356415	27.900	ng	99
60) Dibromochloromethane	16.26	129	1268926	28.242	ng	100
61) 1,2-Dibromoethane	16.51	107	1197799	27.729	ng	100
62) n-Butyl Acetate	16.72	43	2658969	29.438	ng	99
63) n-Octane	16.86	57	900357	26.883	ng	97
64) Tetrachloroethene	16.99	166	1148805	24.427	ng	100
65) Chlorobenzene	17.65	112	2847045	25.071	ng	100
66) Ethylbenzene	18.01	91	5013014	27.073	ng	99
67) m- & p-Xylenes	18.18	91	8113061	53.870	ng	99
68) Bromoform	18.24	173	1095123	26.993	ng	100
69) Styrene	18.50	104	3051784	25.834	ng	99
70) o-Xylene	18.60	91	4016819	26.675	ng	99
71) n-Nonane	18.80	43	2075063	27.562	ng	97
72) 1,1,2,2-Tetrachloroethane	18.58	83	2008346	27.755	ng	100
74) Cumene	19.13	105	5038646	26.460	ng	99
75) alpha-Pinene	19.48	93	2508654	26.000	ng	97
76) n-Propylbenzene	19.58	91	6116988	27.507	ng	99
77) 3-Ethyltoluene	19.67	105	5126371	27.129	ng	99
78) 4-Ethyltoluene	19.70	105	4733818	26.176	ng	99
79) 1,3,5-Trimethylbenzene	19.77	105	4167670	25.893	ng	99
80) alpha-Methylstyrene	19.91	118	1991846	22.642	ng	92
81) 2-Ethyltoluene	19.94	105	4953184	26.553	ng	99
82) 1,2,4-Trimethylbenzene	20.14	105	4669754	28.005	ng	98
83) n-Decane	20.23	57	2234674	27.730	ng	98
84) Benzyl Chloride	20.25	91	3461157	26.780	ng	98
85) 1,3-Dichlorobenzene	20.27	146	2549879	28.498	ng	100
86) 1,4-Dichlorobenzene	20.32	146	2535169	28.530	ng	99
87) sec-Butylbenzene	20.37	105	5562850	26.823	ng	99
88) 4-Isopropyltoluene (p-...	20.51	119	5527341	27.876	ng	99
89) 1,2,3-Trimethylbenzene	20.51	105	4594404	27.449	ng	98
90) 1,2-Dichlorobenzene	20.63	146	2516363	27.518	ng	99
91) d-Limonene	20.64	68	1596791	24.762	ng	98
92) 1,2-Dibromo-3-Chloropr...	21.01	157	832444	27.124	ng	96
93) n-Undecane	21.33	57	2237834	26.916	ng	98
94) 1,2,4-Trichlorobenzene	22.14	180	1609469	30.199	ng	100
95) Naphthalene	22.24	128	5454176	29.243	ng	100
96) n-Dodecane	22.24	57	2062225	24.962	ng	98
97) Hexachlorobutadiene	22.56	225	1006562	23.689	ng	100
98) Cyclohexanone	18.30	55	1328239	22.751	ng	98
99) tert-Butylbenzene	20.14	119	4420202	27.033	ng	99
100) n-Butylbenzene	20.88	91	4524003	26.990	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202007.D Vial: 2
Acq On : 20 Apr 2020 4:20 Operator: WA
Sample : LCS R16042020_25ng Inst : GCMS-16
Misc : S31-02112001/S34-03252003 (4/23)

Quant Time: Apr 20 05:40:00 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202007.D Vial: 2
Acq On : 20 Apr 2020 6:15 Operator: TD
Sample : LCSD R16042020_25ng Inst : GCMS-16
Misc : S31-02112001/S34-03252003 (4/23)

TD 4/20/20

Quant Time: Apr 20 11:45:46 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	410061	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.30	114	1790086	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.61	82	844091	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	672443	11.843	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.72%				
57) Toluene-d8 (SS2)	15.75	98	1807085	12.078	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.64%				
73) Bromofluorobenzene (SS3)	19.01	174	659838	12.489	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.92%				
Target Compounds							Qvalue
2) Propene	4.10	42	1065282	24.770	ng		99
3) Dichlorodifluoromethan...	4.25	85	2096654	22.660	ng		100
4) Chloromethane	4.54	50	1464010	20.038	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	1219615	20.695	ng		99
6) Vinyl Chloride	4.96	62	1809616	23.466	ng		99
7) 1,3-Butadiene	5.22	54	1207791	21.619	ng		99
8) Bromomethane	5.66	94	887215	22.966	ng		100
9) Chloroethane	5.99	64	697010	23.554	ng		99
10) Ethanol	6.36	45	3892935	114.533	ng		100
11) Acetonitrile	6.62	41	1757614	23.506	ng		100
12) Acrolein	6.80	56	602041	24.070	ng		100
13) Acetone	7.01	58	4193624	125.020	ng		100
14) Trichlorofluoromethane	7.26	101	1865235	22.862	ng		100
15) 2-Propanol (Isopropanol)	7.50	45	5071087	50.975	ng		98
16) Acrylonitrile	7.77	53	1352710	26.874	ng		99
17) 1,1-Dichloroethene	8.22	96	1003567	24.871	ng		99
18) 2-Methyl-2-Propanol (t...	8.38	59	4702246	52.672	ng		99
19) Methylene Chloride	8.44	84	1049406	24.043	ng		98
20) 3-Chloro-1-propene (Al...	8.61	41	1396213	24.690	ng		98
21) Trichlorotrifluoroethane	8.86	151	900180	23.071	ng		99
22) Carbon Disulfide	8.70	76	3855849	24.564	ng		100
23) trans-1,2-Dichloroethene	9.72	61	1485007	25.356	ng		99
24) 1,1-Dichloroethane	9.97	63	1754768	23.477	ng		100
25) Methyl tert-Butyl Ether	10.06	73	2832529	23.412	ng		99
26) Vinyl Acetate	10.23	86	1420985	123.448	ng	#	82
27) 2-Butanone (MEK)	10.47	72	731173	26.184	ng		92
28) cis-1,2-Dichloroethene	10.99	61	1461113	24.012	ng		99
29) Diisopropyl Ether	11.29	87	1036707	23.282	ng	#	86
30) Ethyl Acetate	11.29	61	937492	56.797	ng		98
31) n-Hexane	11.28	57	2033605	26.584	ng		99
32) Chloroform	11.34	83	1914949	23.520	ng		100
34) Tetrahydrofuran (THF)	11.74	72	703555	24.488	ng		96
35) Ethyl tert-Butyl Ether	11.88	87	1266257	24.350	ng		97
36) 1,2-Dichloroethane	12.14	62	1444345	22.742	ng		100
38) 1,1,1-Trichloroethane	12.42	97	1692682	24.096	ng		100
39) Isopropyl Acetate	12.85	61	1582346	54.446	ng		99
40) 1-Butanol	12.86	56	2226418	47.875	ng		93
41) Benzene	12.90	78	4359216	23.550	ng		100
42) Carbon Tetrachloride	13.06	117	1497953	23.566	ng		100
43) Cyclohexane	13.19	84	3462396	48.716	ng		96
44) tert-Amyl Methyl Ether	13.54	73	3039684	25.385	ng		99
45) 1,2-Dichloropropane	13.75	63	1066541	25.195	ng		99
46) Bromodichloromethane	13.95	83	1558047	24.903	ng		99
47) Trichloroethene	14.00	130	1140786	21.750	ng		100
48) 1,4-Dioxane	13.97	88	874650	24.406	ng		97
49) 2,2,4-Trimethylpentane...	14.07	57	4377186	24.886	ng		98
50) Methyl Methacrylate	14.20	100	946595	52.901	ng		93

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202007.D Vial: 2
Acq On : 20 Apr 2020 6:15 Operator: TD
Sample : LCSD R16042020_25ng Inst : GCMS-16
Misc : S31-02112001/S34-03252003 (4/23)

Quant Time: Apr 20 11:45:46 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

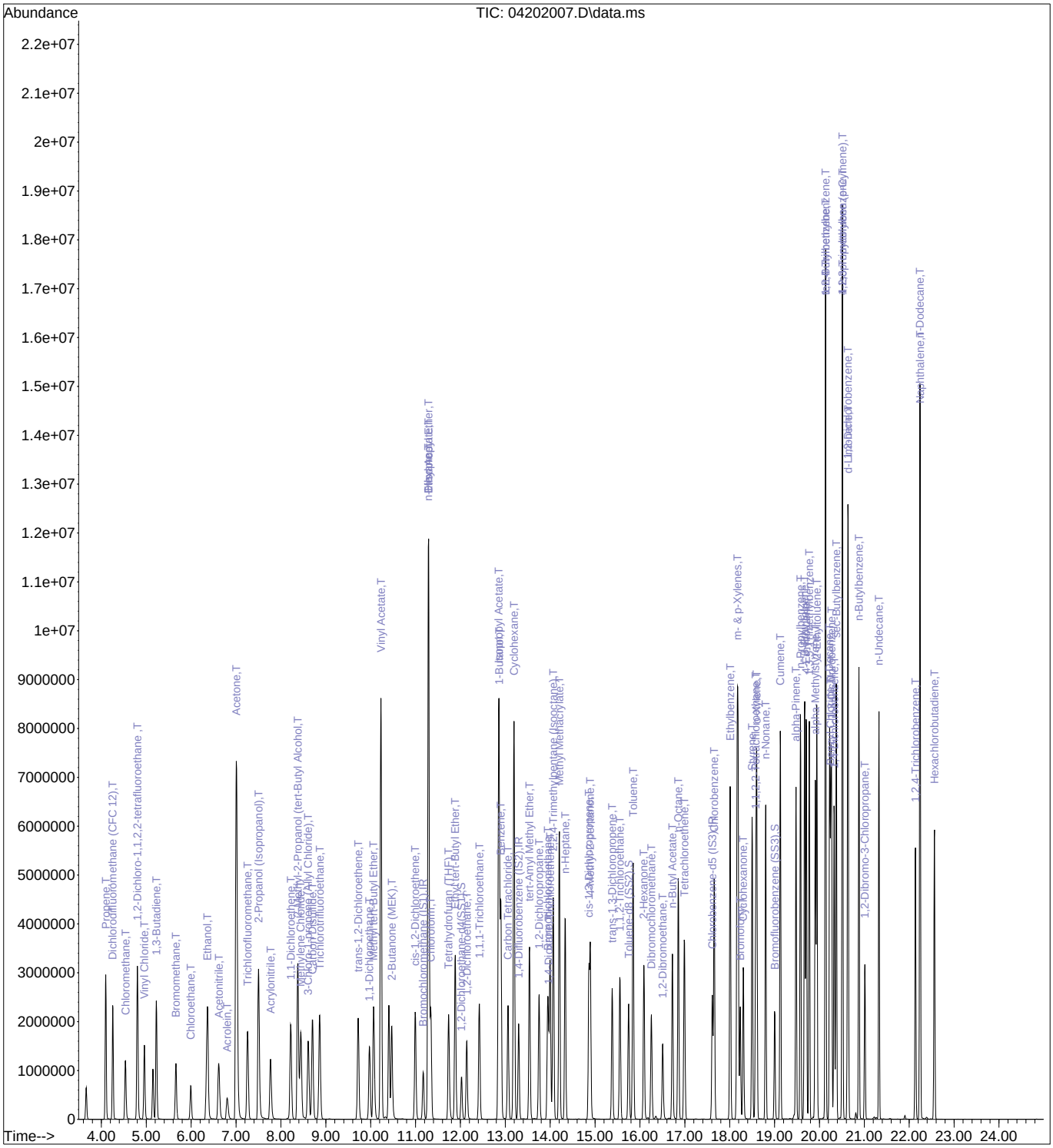
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.34	71	1090521	25.232	ng	98
52) cis-1,3-Dichloropropene	14.86	75	1922578	28.137	ng	99
53) 4-Methyl-2-pentanone	14.89	58	1038140	26.758	ng	98
54) trans-1,3-Dichloropropene	15.38	75	1643575	25.892	ng	100
55) 1,1,2-Trichloroethane	15.55	97	1063794	24.896	ng	100
58) Toluene	15.85	91	4381675	23.686	ng	99
59) 2-Hexanone	16.09	43	2431969	26.271	ng	99
60) Dibromochloromethane	16.26	129	1322139	26.847	ng	100
61) 1,2-Dibromoethane	16.51	107	1248668	26.373	ng	100
62) n-Butyl Acetate	16.72	43	2740978	27.687	ng	99
63) n-Octane	16.86	57	937304	25.533	ng	97
64) Tetrachloroethene	16.99	166	1205996	23.395	ng	100
65) Chlorobenzene	17.65	112	2957185	23.758	ng	100
66) Ethylbenzene	18.01	91	5186820	25.556	ng	99
67) m- & p-Xylenes	18.17	91	8341915	50.536	ng	99
68) Bromoform	18.24	173	1146154	25.776	ng	100
69) Styrene	18.50	104	3147721	24.311	ng	99
70) o-Xylene	18.60	91	4133422	25.044	ng	99
71) n-Nonane	18.80	43	2130706	25.821	ng	97
72) 1,1,2,2-Tetrachloroethane	18.58	83	2083121	26.266	ng	100
74) Cumene	19.13	105	5181433	24.826	ng	99
75) alpha-Pinene	19.48	93	2586166	24.455	ng	97
76) n-Propylbenzene	19.58	91	6319121	25.925	ng	99
77) 3-Ethyltoluene	19.67	105	5272507	25.457	ng	99
78) 4-Ethyltoluene	19.70	105	4923483	24.839	ng	99
79) 1,3,5-Trimethylbenzene	19.78	105	4306900	24.413	ng	99
80) alpha-Methylstyrene	19.91	118	2056787	21.331	ng	92
81) 2-Ethyltoluene	19.94	105	5127863	25.080	ng	99
82) 1,2,4-Trimethylbenzene	20.14	105	4806491	26.299	ng	98
83) n-Decane	20.23	57	2313486	26.192	ng	98
84) Benzyl Chloride	20.25	91	3582941	25.293	ng	99
85) 1,3-Dichlorobenzene	20.27	146	2631307	26.831	ng	100
86) 1,4-Dichlorobenzene	20.33	146	2604153	26.738	ng	100
87) sec-Butylbenzene	20.37	105	5730577	25.211	ng	99
88) 4-Isopropyltoluene (p-...	20.51	119	5683451	26.151	ng	98
89) 1,2,3-Trimethylbenzene	20.51	105	4727775	25.770	ng	98
90) 1,2-Dichlorobenzene	20.63	146	2591825	25.860	ng	99
91) d-Limonene	20.64	68	1653533	23.395	ng	97
92) 1,2-Dibromo-3-Chloropr...	21.01	157	865185	25.721	ng	96
93) n-Undecane	21.33	57	2314984	25.404	ng	98
94) 1,2,4-Trichlorobenzene	22.14	180	1709711	29.269	ng	99
95) Naphthalene	22.24	128	5621955	27.501	ng	100
96) n-Dodecane	22.24	57	2157061	23.822	ng	98
97) Hexachlorobutadiene	22.56	225	1073120	23.042	ng	100
98) Cyclohexanone	18.30	55	1375901	21.502	ng	98
99) tert-Butylbenzene	20.14	119	4564752	25.470	ng	99
100) n-Butylbenzene	20.88	91	4677043	25.458	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202007.D Vial: 2
Acq On : 20 Apr 2020 6:15 Operator: TD
Sample : LCSD R16042020_25ng Inst : GCMS-16
Misc : S31-02112001/S34-03252003 (4/23)

Quant Time: Apr 20 11:45:46 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Response Factor Report GCMS-16

Method Path : I:\MS16\METHODS\
Method File : R16031120.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Mar 11 10:42:05 2020
Response Via : Initial Calibration

LH 3/11/20

Calibration Files
0.1 =03112002.D 0.2 =03112003.D 0.5 =03112004.D 1.0 =03112005.D 5.0 =03112006.D 25 =03112
100 =03112009.D

		Compound	0.1	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------	ISTD	----------							
2)	T	Propene	1.484	1.302	1.317	1.227	1.437	1.254	1.320	1.147	1.311	8.32
3)	T	Dichlorodifluo...	3.312	2.974	3.197	2.868	2.801	2.658	2.501	2.254	2.821	12.42
4)	T	Chloromethane	2.766	2.486	2.617	2.409	2.072	2.149	1.957	1.361	2.227	20.05
5)	T	1,2-Dichloro-1...	2.087	1.848	1.942	1.791	1.754	1.694	1.649	1.607	1.796	8.88
6)	T	Vinyl Chloride	2.581	2.415	2.582	2.394	2.357	2.248	2.160	2.069	2.351	7.86
7)	T	1,3-Butadiene	1.731	1.774	1.731	1.783	1.791	1.445	1.708	1.660	1.703	6.63
8)	T	Bromomethane	1.312	1.126	1.231	1.136	1.109	1.139	1.178	1.190	1.178	5.70
9)	T	Chloroethane	1.027	0.877	0.949	0.879	0.853	0.867	0.878	0.887	0.902	6.41
10)	T	Ethanol	1.336	1.017	0.987	0.910	0.929	1.005	1.058	1.046	1.036	12.73
11)	T	Acetonitrile	2.985	2.385	2.317	2.132	2.155	2.110	2.109	2.042	2.279	13.49
12)	T	Acrolein	0.742	0.697	0.781	0.723	0.776	0.804	0.806	0.770	0.762	5.05
13)	T	Acetone	1.084	0.936	0.961	0.904	0.948	1.096	1.138	1.113	1.023	9.15
14)	T	Trichlorofluor...	2.643	2.472	2.635	2.414	2.412	2.465	2.434	2.421	2.487	3.88
15)	T	2-Propanol (Is...	3.445	2.983	3.234	3.064	2.717	3.293	2.967	2.557	3.033	9.75
16)	T	Acrylonitrile	1.236	1.318	1.523	1.527	1.622	1.703	1.693	1.654	1.534	11.33
17)	T	1,1-Dichloroet...	1.216	1.148	1.286	1.172	1.196	1.259	1.267	1.297	1.230	4.50
18)	T	2-Methyl-2-Pro...	3.082	2.861	3.144	2.953	2.636	3.323	2.587	1.185	2.721	24.57
19)	T	Methylene Chlo...	1.393	1.290	1.345	1.250	1.286	1.366	1.358	1.356	1.330	3.68
20)	T	3-Chloro-1-pro...	1.835	1.602	1.748	1.648	1.638	1.800	1.773	1.746	1.724	4.88
21)	T	Trichlorotrifl...	1.319	1.142	1.223	1.121	1.111	1.171	1.183	1.246	1.189	5.90
22)	T	Carbon Disulfide	5.167	4.610	4.865	4.604	4.601	4.942	4.834	4.656	4.785	4.28
23)	T	trans-1,2-Dich...	1.668	1.663	1.842	1.771	1.782	1.854	1.844	1.858	1.785	4.51
24)	T	1,1-Dichloroet...	2.451	2.234	2.370	2.236	2.226	2.286	2.223	2.202	2.278	3.85
25)	T	Methyl tert-Bu...	4.103	3.758	4.015	3.718	3.660	3.737	3.495	3.018	3.688	9.01
26)	T	Vinyl Acetate			0.274	0.271	0.305	0.409	0.435	0.412	0.351	21.56
27)	T	2-Butanone (MEK)	0.688	0.692	0.835	0.819	0.887	0.984	0.961	0.944	0.851	13.55
28)	T	cis-1,2-Dichlo...	2.026	1.746	1.922	1.770	1.803	1.880	1.848	1.846	1.855	4.84
29)	T	Diisopropyl Ether	1.390	1.199	1.373	1.249	1.344	1.426	1.526	1.353	1.357	7.45
30)	T	Ethyl Acetate	0.404	0.382	0.446	0.455	0.493	0.622	0.657	0.567	0.503	20.16
31)	T	n-Hexane	2.432	2.073	2.248	2.068	2.186	2.599	2.698	2.351	2.332	10.00
32)	T	Chloroform	2.556	2.409	2.583	2.408	2.438	2.536	2.500	2.425	2.482	2.84
33)	S	1,2-Dichloroet...	1.826	1.819	1.808	1.793	1.747	1.676	1.639	1.538	1.731	5.99
34)	T	Tetrahydrofura...	0.966	0.833	0.871	0.818	0.853	0.893	0.889	0.885	0.876	5.18
35)	T	Ethyl tert-But...	1.615	1.426	1.538	1.444	1.511	1.660	1.716	1.772	1.585	7.96
36)	T	1,2-Dichloroet...	2.197	1.920	1.993	1.859	1.883	1.925	1.882	1.830	1.936	6.01
37)	IR	1,4-Difluorobenzen...	----------	ISTD	----------							
38)	T	1,1,1-Trichlor...	0.516	0.450	0.502	0.458	0.473	0.507	0.507	0.511	0.491	5.30
39)	T	Isopropyl Acetate	0.177	0.165	0.182	0.168	0.193	0.240	0.252	0.247	0.203	18.23
40)	T	1-Butanol	0.273	0.256	0.255	0.264	0.323	0.398	0.425	0.405	0.325	22.66
41)	T	Benzene	1.300	1.174	1.231	1.155	1.222	1.396	1.462	1.400	1.293	8.91
42)	T	Carbon Tetrach...	0.434	0.393	0.435	0.402	0.431	0.476	0.483	0.496	0.444	8.51
43)	T	Cyclohexane	0.485	0.436	0.479	0.442	0.467	0.538	0.571	0.553	0.496	10.31
44)	T	tert-Amyl Meth...	0.827	0.747	0.803	0.752	0.801	0.905	0.931	0.923	0.836	8.88
45)	T	1,2-Dichloropr...	0.311	0.286	0.296	0.274	0.287	0.304	0.304	0.303	0.296	4.18
46)	T	Bromodichlorom...	0.417	0.384	0.432	0.398	0.426	0.475	0.483	0.480	0.437	8.75
47)	T	Trichloroethene	0.500	0.365	0.336	0.302	0.311	0.351	0.370	0.396	0.366	16.97
48)	T	1,4-Dioxane	0.231	0.209	0.238	0.223	0.236	0.273	0.287	0.303	0.250	13.41
49)	T	2,2,4-Trimethy...	1.323	1.153	1.245	1.138	1.186	1.269	1.281	1.231	1.228	5.26
50)	T	Methyl Methacr...	0.097	0.091	0.110	0.108	0.122	0.151	0.159	0.161	0.125	22.71
51)	T	n-Heptane	0.297	0.278	0.290	0.269	0.289	0.319	0.330	0.342	0.302	8.54
52)	T	cis-1,3-Dichlo...	0.412	0.375	0.433	0.423	0.481	0.552	0.569	0.572	0.477	16.37
53)	T	4-Methyl-2-pen...	0.230	0.222	0.254	0.250	0.270	0.309	0.314	0.318	0.271	14.17
54)	T	trans-1,3-Dich...			0.360	0.370	0.430	0.492	0.502	0.506	0.443	15.04

55)	T	1,1,2-Trichlor...	0.300	0.278	0.289	0.280	0.286	0.314	0.319	0.323	0.298	6.01
56)	IR	Chlorobenzene-d5 (...	----------ISTD----------									
57)	S	Toluene-d8 (SS2)	2.224	2.231	2.228	2.206	2.233	2.208	2.210	2.186	2.216	0.72
58)	T	Toluene	3.188	2.597	2.661	2.468	2.577	2.844	2.838	2.744	2.739	8.14
59)	T	2-Hexanone	1.344	1.187	1.308	1.219	1.376	1.518	1.500	1.515	1.371	9.58
60)	T	Dibromochlorom...	0.607	0.586	0.655	0.644	0.731	0.836	0.866	0.909	0.729	17.23
61)	T	1,2-Dibromoethane	0.642	0.600	0.651	0.643	0.702	0.773	0.789	0.809	0.701	11.35
62)	T	n-Butyl Acetate	1.326	1.218	1.335	1.334	1.502	1.678	1.664	1.671	1.466	12.70
63)	T	n-Octane	0.570	0.489	0.521	0.487	0.514	0.566	0.582	0.620	0.544	8.83
64)	T	Tetrachloroethene	0.748	0.691	0.722	0.660	0.702	0.799	0.853	0.931	0.763	12.04
65)	T	Chlorobenzene	1.793	1.598	1.697	1.605	1.687	1.897	2.447	2.020	1.843	15.40
66)	T	Ethylbenzene	3.073	2.711	2.899	2.705	2.950	3.381	3.368	2.958	3.006	8.62
67)	T	m- & p-Xylenes	2.543	2.158	2.327	2.182	2.402	2.780	2.800	2.363	2.444	10.05
68)	T	Bromoform			0.478	0.490	0.595	0.762	0.797	0.828	0.659	23.88
69)	T	Styrene			1.609	1.553	1.828	2.191	2.185	2.138	1.917	15.31
70)	T	o-Xylene	2.371	2.166	2.324	2.165	2.398	2.762	2.780	2.586	2.444	9.91
71)	T	n-Nonane	1.219	1.101	1.183	1.119	1.196	1.313	1.340	1.306	1.222	7.38
72)	T	1,1,2,2-Tetrac...	1.059	1.027	1.114	1.050	1.180	1.319	1.321	1.325	1.174	11.11
73)	S	Bromofluoroben...	0.743	0.748	0.753	0.751	0.780	0.795	0.841	0.849	0.782	5.43
74)	T	Cumene			2.982	2.731	3.023	3.494	3.484	2.830	3.091	10.54
75)	T	alpha-Pinene	1.350	1.301	1.396	1.346	1.551	1.833	1.894	1.856	1.566	16.32
76)	T	n-Propylbenzene			3.518	3.281	3.690	4.174	4.031	2.964	3.610	12.61
77)	T	3-Ethyltoluene			2.831	2.679	3.086	3.503	3.406	2.897	3.067	10.72
78)	T	4-Ethyltoluene			2.643	2.493	2.900	3.445	3.493	2.637	2.935	14.78
79)	T	1,3,5-Trimethy...			2.423	2.203	2.569	2.947	2.972	2.561	2.613	11.48
80)	T	alpha-Methylst...			1.108	1.104	1.371	1.652	1.683	1.649	1.428	19.16
81)	T	2-Ethyltoluene			2.809	2.635	3.049	3.457	3.421	2.796	3.028	11.40
82)	T	1,2,4-Trimethy...			2.362	2.209	2.683	3.339	3.250	2.397	2.707	17.77
83)	T	n-Decane	1.136	1.085	1.203	1.134	1.314	1.500	1.577	1.515	1.308	15.07
84)	T	Benzyl Chloride				1.161	1.874	2.432	2.608	2.413	2.098	28.19
85)	T	1,3-Dichlorobe...	1.181	1.158	1.267	1.203	1.458	1.772	1.813	1.766	1.452	19.94
86)	T	1,4-Dichlorobe...	1.266	1.183	1.289	1.216	1.450	1.719	1.723	1.693	1.442	16.40
87)	T	sec-Butylbenzene			3.138	3.009	3.510	3.921	3.800	2.818	3.366	13.26
88)	T	4-Isopropyltol...			2.848	2.695	3.352	4.073	3.754	2.590	3.218	18.86
89)	T	1,2,3-Trimethy...			2.353	2.258	2.755	3.372	3.240	2.323	2.717	18.05
90)	T	1,2-Dichlorobe...			1.215	1.180	1.427	1.763	1.807	1.513	1.484	17.88
91)	T	d-Limonene			0.841	0.845	1.040	1.224	1.274	1.057	1.047	17.42
92)	T	1,2-Dibromo-3-...			0.383	0.385	0.494	0.560	0.572	0.595	0.498	18.98
93)	T	n-Undecane			1.124	1.103	1.293	1.504	1.576	1.496	1.349	15.23
94)	T	1,2,4-Trichlor...			0.701	0.705	0.833	0.871	1.001	1.078	0.865	17.72
95)	T	Naphthalene			2.445	2.470	3.115	3.634	3.705	2.796	3.027	18.33
96)	T	n-Dodecane			1.008	1.033	1.294	1.619	1.716	1.375	1.341	21.78
97)	T	Hexachlorobuta...			0.525	0.508	0.590	0.723	0.865	0.927	0.690	25.74
98)	T	Cyclohexanone	1.010	0.820	0.842	0.804	0.915	1.059	1.051	1.079	0.948	12.20
99)	T	tert-Butylbenzene			2.327	2.182	2.625	3.293	3.145	2.351	2.654	17.44
100)	T	n-Butylbenzene			2.541	2.386	2.836	3.070	3.019	2.471	2.721	10.79

(#) = Out of Range

R16031120.M Wed Mar 11 14:09:31 2020

Primary Source Standards Concentrations (Working & Initial Calibration)

LH 3/13/20

1ng/L Std. ID:
4ng/L Std. ID: S34-03102004
20ng/L Std. ID: S34-03102003
40ng/L Std. ID:
200ng/L Std. ID: S34-03102002
1000ng/L Std. ID:

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	4	20	200	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.1250	0.050	0.025	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
Propene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Dichlorodifluoromethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Chloromethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Freon-114	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Vinyl Chloride	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3-Butadiene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Bromomethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Chloroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Ethanol	5.21	5210	1042	208.4	104.2	20.84	5.21		0.521	1.042	2.605	5.21	26.05	130.25	260.5	521
Acetonitrile	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Acrolein	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Acetone	5.33	5330	1066	213.2	106.6	21.32	5.33		0.533	1.066	2.665	5.33	26.65	133.25	266.5	533
Trichlorofluoromethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Isopropanol	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
Acrylonitrile	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,1-Dichloroethene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
tert-Butanol	2.16	2160	432	86.4	43.2	8.64	2.16		0.216	0.432	1.080	2.16	10.80	54.00	108.0	216
Methylene Chloride	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Allyl Chloride	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Dichlorotrifluoroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Carbon Disulfide	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
trans-1,2-Dichloroethene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1-Dichloroethane	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
Methyl tert-Butyl Ether	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Vinyl Acetate	5.35	5350	1070	214.0	107.0	21.40	5.35		0.535	1.070	2.675	5.35	26.75	133.75	267.5	535
2-Butanone	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
cis-1,2-Dichloroethene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Diisopropyl Ether	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Ethyl Acetate	2.17	2170	434	86.8	43.4	8.68	2.17		0.217	0.434	1.085	2.17	10.85	54.25	108.5	217
n-Hexane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Chloroform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Tetrahydrofuran	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
Ethyl tert-Butyl Ether	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dichloroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1,1-Trichloroethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Isopropyl Acetate	2.11	2110	422	84.4	42.2	8.44	2.11		0.211	0.422	1.055	2.11	10.55	52.75	105.5	211
1-Butanol	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
Benzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Carbon Tetrachloride	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Cyclohexane	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
tert-Amyl Methyl Ether	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dichloropropane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Bromodichloromethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Trichloroethene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,4-Dioxane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Isooctane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Methyl Methacrylate	2.15	2150	430	86.0	43.0	8.60	2.15		0.215	0.430	1.075	2.15	10.75	53.75	107.5	215
n-Heptane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108

Primary Source Standards Concentrations (Working & Initial Calibration)

LH 3/13/20

1ng/L Std. ID:
4ng/L Std. ID: S34-03102004
20ng/L Std. ID: S34-03102003
40ng/L Std. ID:
200ng/L Std. ID: S34-03102002
1000ng/L Std. ID:

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	4	20	200	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.1250	0.050	0.025	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
cis-1,3-Dichloropropene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
4-Methyl-2-pentanone	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
trans-1,3-Dichloropropene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1,2-Trichloroethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Toluene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
2-Hexanone	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Dibromochloromethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,2-Dibromoethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Butyl Acetate	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
n-Octane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Tetrachloroethene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Chlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Ethylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
m-&p-Xylene	2.14	2140	428	85.6	42.8	8.56	2.14		0.214	0.428	1.070	2.14	10.70	53.50	107.0	214
Bromoform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Styrene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
o-Xylene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Nonane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,1,2,2-Tetrachloroethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Cumene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
alpha-Pinene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Propylbenzene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
3-Ethyltoluene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
4-Ethyltoluene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3,5-Trimethylbenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
alpha-Methylstyrene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
2-Ethyltoluene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2,4-Trimethylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Decane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Benzyl Chloride	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3-Dichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,4-Dichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
sec-Butylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
p-Isopropyltoluene	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
1,2,3-Trimethylbenzene	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
1,2-Dichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
d-Limonene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dibromo-3-chloropropane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
n-Undecane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2,4-Trichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Naphthalene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
n-Dodecane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Hexachloro-1,3-butadiene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Methacrylonitrile	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Cyclohexanone	1.00	1000	200	40.0	20.0	4.00	1.00		0.100	0.200	0.500	1.00	5.00	25.00	50.0	100
tert-Butylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Butylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107

Q:\TO15 Std. Concentrations\MS16 Std. Conc\2020\R16031120\ICAL Conc. (Primary Source)

Calibration Status Report GCMS-16

Method : I:\MS16\METHODS\R16031120.M (RTE Integrator)
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	0.1	0	13	I:\MS16\DATA\2020_03\11\03112002.D
2	0.2	0	13	I:\MS16\DATA\2020_03\11\03112003.D
3	0.5	1	13	I:\MS16\DATA\2020_03\11\03112004.D
4	1.0	1	13	I:\MS16\DATA\2020_03\11\03112005.D
5	5.0	5	13	I:\MS16\DATA\2020_03\11\03112006.D
6	25	27	13	I:\MS16\DATA\2020_03\11\03112007.D
7	50	53	13	I:\MS16\DATA\2020_03\11\03112008.D
8	100	106	13	I:\MS16\DATA\2020_03\11\03112009.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.1	Mar 11 10:40 2020	Mar 11 10:34 2020	11 Mar 2020 00:59
2	0.2	Mar 11 10:40 2020	Mar 11 10:34 2020	11 Mar 2020 1:32
3	0.5	Mar 11 10:41 2020	Mar 11 10:34 2020	11 Mar 2020 2:05
4	1.0	Mar 11 10:41 2020	Mar 11 10:34 2020	11 Mar 2020 2:38
5	5.0	Mar 11 10:41 2020	Mar 11 10:34 2020	11 Mar 2020 3:12
6	25	Mar 11 10:41 2020	Mar 11 10:34 2020	11 Mar 2020 3:45
7	50	Mar 11 10:41 2020	Mar 11 10:34 2020	11 Mar 2020 4:18
8	100	Mar 11 10:42 2020	Mar 11 10:34 2020	11 Mar 2020 4:52

R16031120.M Wed Mar 11 14:10:31 2020

LH 3/11/20

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112002.D
Acq On : 11 Mar 2020 00:59 Operator: LH
Sample : 0.1ng TO15 ICAL STD
Misc : S31-02112001/S34-03102004 (4/8)
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 11 10:34:43 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 3/11/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	256423	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.29	114	1153081	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.61	82	557196	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.01	65	468187	13.481	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.84%				
57) Toluene-d8 (SS2)	15.74	98	1238985	12.458	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.68%				
73) Bromofluorobenzene (SS3)	19.00	174	413930	11.789	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.32%				
Target Compounds							Qvalue
2) Propene	4.15	42	3227	0.114	ng		96
3) Dichlorodifluoromethan...	4.30	85	7202	0.124	ng		99
4) Chloromethane	4.58	50	6014	0.130	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.83	135	4495	0.123	ng		94
6) Vinyl Chloride	4.99	62	5719	0.116	ng		98
7) 1,3-Butadiene	5.25	54	3763	0.104	ng		89
8) Bromomethane	5.68	94	2906	0.119	ng		97
9) Chloroethane	6.02	64	2275	0.122	ng		87
10) Ethanol	6.34	45	14284	0.701	ng		94
11) Acetonitrile	6.63	41	6430	0.140	ng		75
12) Acrolein	6.82	56	1568	0.102	ng		98
13) Acetone	7.03	58	11847	0.542	ng	#	77
14) Trichlorofluoromethane	7.27	101	5747	0.112	ng		99
15) 2-Propanol (Isopropanol)	7.54	45	14841	0.238	ng		84
16) Acrylonitrile	7.79	53	2662	0.082	ng		97
17) 1,1-Dichloroethene	8.23	96	2694	0.105	ng	#	82
18) 2-Methyl-2-Propanol (t...	8.44	59	13657	0.249	ng		90
19) Methylene Chloride	8.44	84	3029	0.110	ng		88
20) 3-Chloro-1-propene (Al...	8.61	41	4066	0.112	ng		87
21) Trichlorotrifluoroethane	8.86	151	2922	0.119	ng		97
22) Carbon Disulfide	8.72	76	11342	0.112	ng		95
23) trans-1,2-Dichloroethene	9.72	61	3696	0.099	ng		96
24) 1,1-Dichloroethane	9.96	63	5480	0.116	ng		100
25) Methyl tert-Butyl Ether	10.11	73	9090	0.118	ng		99
26) Vinyl Acetate	10.23	86	2373	0.418	ng	#	23
27) 2-Butanone (MEK)	10.51	72	1495	0.084	ng	#	59
28) cis-1,2-Dichloroethene	10.99	61	4405	0.116	ng		97
29) Diisopropyl Ether	11.31	87	3079	0.107	ng	#	90
30) Ethyl Acetate	11.31	61	1797	0.168	ng		91
31) n-Hexane	11.28	57	5388	0.111	ng		97
32) Chloroform	11.33	83	5610	0.112	ng		98
34) Tetrahydrofuran (THF)	11.78	72	2160	0.119	ng	#	85
35) Ethyl tert-Butyl Ether	11.91	87	3579	0.110	ng		99
36) 1,2-Dichloroethane	12.13	62	4868	0.125	ng		96
38) 1,1,1-Trichloroethane	12.41	97	5097	0.115	ng		98
39) Isopropyl Acetate	12.87	61	3445	0.184	ng	#	64
40) 1-Butanol	12.91	56	5234	0.219	ng		91
41) Benzene	12.90	78	12713	0.108	ng		99
42) Carbon Tetrachloride	13.06	117	4204	0.102	ng		99
43) Cyclohexane	13.19	84	9486	0.207	ng		97
44) tert-Amyl Methyl Ether	13.55	73	8242	0.105	ng		88
45) 1,2-Dichloropropane	13.75	63	3100	0.113	ng		98
46) Bromodichloromethane	13.93	83	4151	0.103	ng		91
47) Trichloroethene	14.00	130	4931	0.159	ng		97
48) 1,4-Dioxane	14.00	88	2301	0.097	ng		91
49) 2,2,4-Trimethylpentane...	14.07	57	13059	0.115	ng		89

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112002.D
Acq On : 11 Mar 2020 00:59 Operator: LH
Sample : 0.1ng TO15 ICAL STD
Misc : S31-02112001/S34-03102004 (4/8)
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 11 10:34:43 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

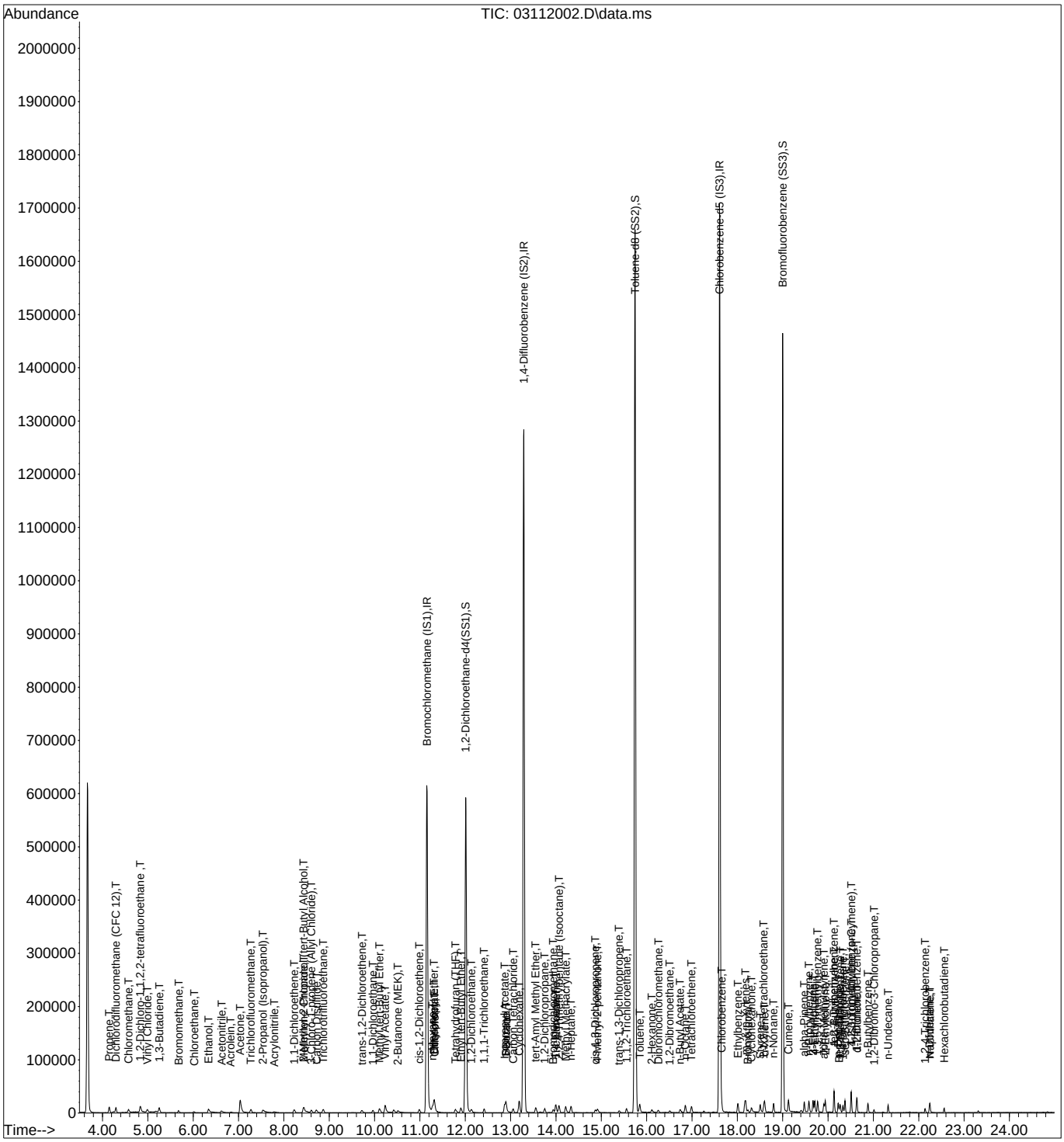
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
50) Methyl Methacrylate	14.22	100	1926	0.166 ng	#	79
51) n-Heptane	14.33	71	2960	0.106 ng		91
52) cis-1,3-Dichloropropene	14.87	75	3951	0.089 ng		98
53) 4-Methyl-2-pentanone	14.91	58	2251	0.089 ng	#	39
54) trans-1,3-Dichloropropene	15.39	75	2694	0.072 ng		98
55) 1,1,2-Trichloroethane	15.56	97	2957	0.107 ng		98
58) Toluene	15.85	91	15204	0.128 ng		92
59) 2-Hexanone	16.11	43	6411	0.109 ng		82
60) Dibromochloromethane	16.26	129	2896	0.087 ng		98
61) 1,2-Dibromoethane	16.51	107	3061	0.098 ng		92
62) n-Butyl Acetate	16.73	43	6445	0.099 ng		92
63) n-Octane	16.85	57	2743	0.114 ng		88
64) Tetrachloroethene	16.99	166	3469	0.102 ng		100
65) Chlorobenzene	17.65	112	8554	0.104 ng		91
66) Ethylbenzene	18.02	91	14658	0.112 ng		97
67) m- & p-Xylenes	18.18	91	24259	0.234 ng		91
68) Bromoform	18.23	173	2174	0.077 ng		99
69) Styrene	18.50	104	7283	0.095 ng		95
70) o-Xylene	18.60	91	11310	0.107 ng		98
71) n-Nonane	18.80	43	5813	0.107 ng		93
72) 1,1,2,2-Tetrachloroethane	18.58	83	5053	0.096 ng		94
74) Cumene	19.13	105	14205	0.108 ng		93
75) alpha-Pinene	19.48	93	6441	0.095 ng	#	59
76) n-Propylbenzene	19.58	91	17060	0.112 ng		99
77) 3-Ethyltoluene	19.67	105	13172	0.104 ng		98
78) 4-Ethyltoluene	19.71	105	12527	0.102 ng		97
79) 1,3,5-Trimethylbenzene	19.77	105	10857	0.100 ng		96
80) alpha-Methylstyrene	19.91	118	4616	0.086 ng		86
81) 2-Ethyltoluene	19.94	105	13003	0.103 ng		98
82) 1,2,4-Trimethylbenzene	20.13	105	11799	0.106 ng		91
83) n-Decane	20.23	57	5420	0.095 ng		93
84) Benzyl Chloride	20.25	91	4881	0.071 ng		81
85) 1,3-Dichlorobenzene	20.27	146	5633	0.088 ng		97
86) 1,4-Dichlorobenzene	20.33	146	6038	0.098 ng		98
87) sec-Butylbenzene	20.37	105	14623	0.103 ng		95
88) 4-Isopropyltoluene (p-...	20.51	119	12617	0.095 ng		92
89) 1,2,3-Trimethylbenzene	20.51	105	10649	0.095 ng		98
90) 1,2-Dichlorobenzene	20.63	146	5386	0.086 ng		98
91) d-Limonene	20.64	68	3716	0.090 ng		90
92) 1,2-Dibromo-3-Chloropr...	21.02	157	1237	0.058 ng	#	39
93) n-Undecane	21.33	57	4032	0.079 ng		95
94) 1,2,4-Trichlorobenzene	22.14	180	2790	0.059 ng		97
95) Naphthalene	22.25	128	10472	0.073 ng		95
96) n-Dodecane	22.24	57	2583	0.046 ng		93
97) Hexachlorobutadiene	22.56	225	1668	0.057 ng		98
98) Cyclohexanone	18.31	55	4503	0.115 ng	#	93
99) tert-Butylbenzene	20.13	119	11295	0.101 ng		99
100) n-Butylbenzene	20.88	91	10167	0.093 ng		94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112002.D
Acq On : 11 Mar 2020 00:59 Operator: LH
Sample : 0.1ng TO15 ICAL STD
Misc : S31-02112001/S34-03102004 (4/8)
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 11 10:34:43 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112003.D
Acq On : 11 Mar 2020 1:32 Operator: LH
Sample : 0.2ng TO15 ICAL STD
Misc : S31-02112001/S34-03102004 (4/8)
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 11 10:34:46 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 3/11/20
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	249384	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.29	114	1122523	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.61	82	545376	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	453537	13.428	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.44%				
57) Toluene-d8 (SS2)	15.74	98	1216540	12.497	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.00%				
73) Bromofluorobenzene (SS3)	19.00	174	407799	11.866	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.96%				
Target Compounds							Qvalue
2) Propene	4.15	42	5507	0.200	ng		96
3) Dichlorodifluoromethan...	4.30	85	12579	0.222	ng		98
4) Chloromethane	4.58	50	10516	0.233	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.83	135	7744	0.217	ng		97
6) Vinyl Chloride	4.99	62	10406	0.217	ng		99
7) 1,3-Butadiene	5.25	54	7505	0.213	ng		95
8) Bromomethane	5.68	94	4852	0.204	ng		99
9) Chloroethane	6.02	64	3780	0.208	ng		96
10) Ethanol	6.34	45	21141	1.067	ng		98
11) Acetonitrile	6.62	41	9992	0.224	ng		93
12) Acrolein	6.82	56	2866	0.192	ng		91
13) Acetone	7.03	58	19909	0.937	ng	#	80
14) Trichlorofluoromethane	7.28	101	10457	0.209	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	24992	0.412	ng		86
16) Acrylonitrile	7.78	53	5522	0.176	ng		97
17) 1,1-Dichloroethene	8.23	96	4945	0.198	ng		92
18) 2-Methyl-2-Propanol (t...	8.43	59	24656	0.461	ng		93
19) Methylene Chloride	8.43	84	5458	0.203	ng		95
20) 3-Chloro-1-propene (Al...	8.61	41	6905	0.196	ng		88
21) Trichlorotrifluoroethane	8.88	151	4920	0.205	ng		98
22) Carbon Disulfide	8.72	76	19683	0.199	ng		99
23) trans-1,2-Dichloroethene	9.72	61	7168	0.198	ng		94
24) 1,1-Dichloroethane	9.96	63	9716	0.211	ng		98
25) Methyl tert-Butyl Ether	10.10	73	16195	0.217	ng		99
26) Vinyl Acetate	10.24	86	4334	0.786	ng	#	18
27) 2-Butanone (MEK)	10.51	72	2928	0.169	ng	#	80
28) cis-1,2-Dichloroethene	10.99	61	7384	0.201	ng		98
29) Diisopropyl Ether	11.31	87	5165	0.185	ng	#	94
30) Ethyl Acetate	11.31	61	3304	0.318	ng		96
31) n-Hexane	11.28	57	8933	0.189	ng		96
32) Chloroform	11.33	83	10286	0.212	ng		96
34) Tetrahydrofuran (THF)	11.78	72	3622	0.206	ng		93
35) Ethyl tert-Butyl Ether	11.91	87	6143	0.194	ng		95
36) 1,2-Dichloroethane	12.14	62	8272	0.219	ng		99
38) 1,1,1-Trichloroethane	12.42	97	8643	0.200	ng		97
39) Isopropyl Acetate	12.86	61	6247	0.343	ng	#	77
40) 1-Butanol	12.90	56	9557	0.412	ng	#	77
41) Benzene	12.90	78	22360	0.196	ng		99
42) Carbon Tetrachloride	13.06	117	7406	0.185	ng		99
43) Cyclohexane	13.19	84	16591	0.372	ng		96
44) tert-Amyl Methyl Ether	13.55	73	14491	0.190	ng		92
45) 1,2-Dichloropropane	13.75	63	5545	0.208	ng		96
46) Bromodichloromethane	13.95	83	7450	0.189	ng		99
47) Trichloroethene	14.00	130	7011	0.232	ng		99
48) 1,4-Dioxane	13.99	88	4052	0.176	ng		92
49) 2,2,4-Trimethylpentane...	14.07	57	22167	0.200	ng		94

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112003.D
Acq On : 11 Mar 2020 1:32 Operator: LH
Sample : 0.2ng TO15 ICAL STD
Misc : S31-02112001/S34-03102004 (4/8)
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 11 10:34:46 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

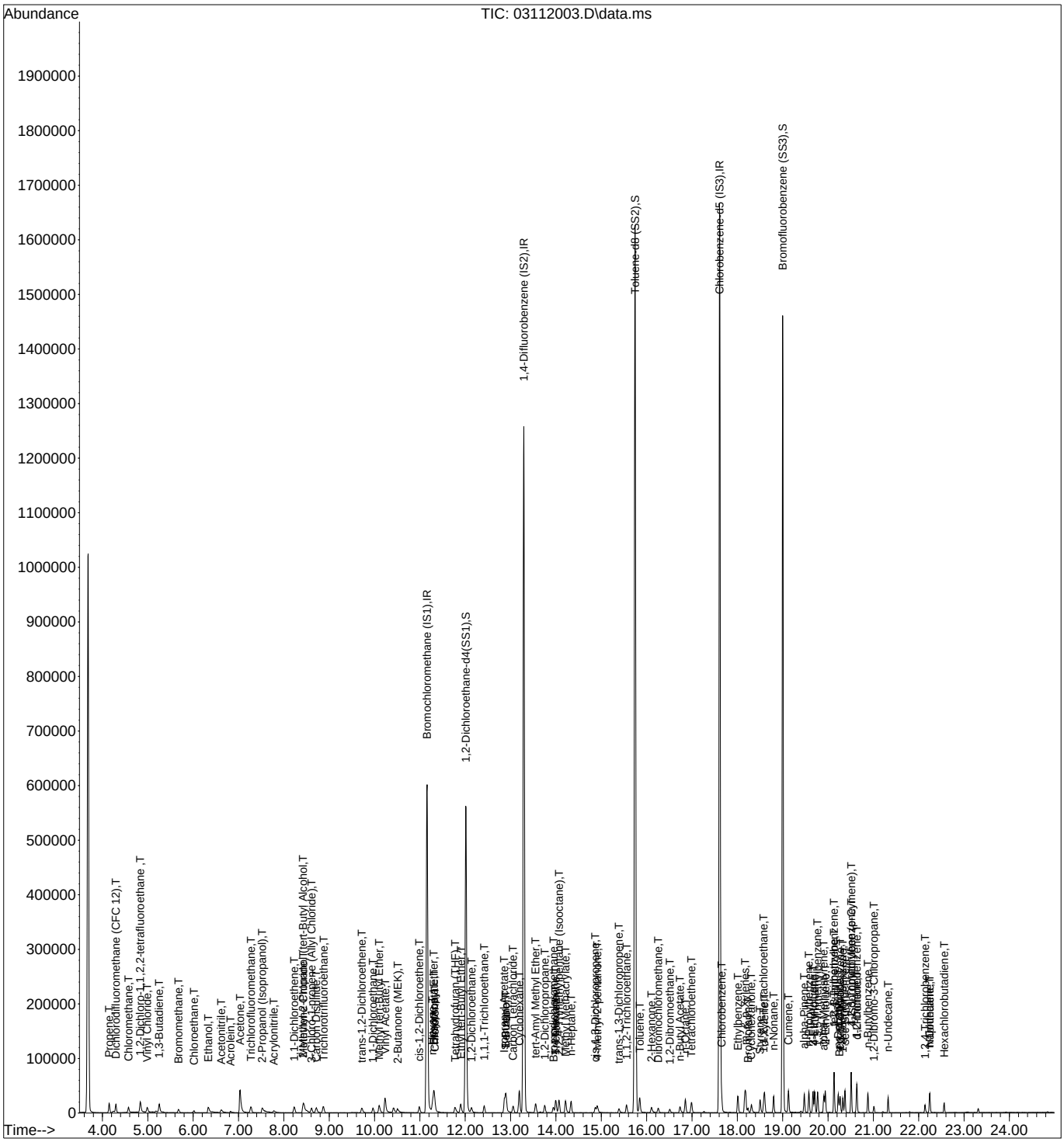
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
50) Methyl Methacrylate	14.22	100	3495	0.310 ng	#	75
51) n-Heptane	14.34	71	5388	0.198 ng		97
52) cis-1,3-Dichloropropene	14.87	75	6997	0.162 ng		98
53) 4-Methyl-2-pentanone	14.91	58	4222	0.172 ng	#	68
54) trans-1,3-Dichloropropene	15.39	75	5897	0.163 ng		96
55) 1,1,2-Trichloroethane	15.56	97	5337	0.199 ng		97
58) Toluene	15.85	91	24251	0.209 ng		96
59) 2-Hexanone	16.11	43	11087	0.193 ng		92
60) Dibromochloromethane	16.26	129	5472	0.168 ng		98
61) 1,2-Dibromoethane	16.51	107	5601	0.184 ng		99
62) n-Butyl Acetate	16.73	43	11589	0.182 ng		93
63) n-Octane	16.86	57	4604	0.195 ng		94
64) Tetrachloroethene	16.99	166	6268	0.189 ng		97
65) Chlorobenzene	17.65	112	14924	0.185 ng		99
66) Ethylbenzene	18.01	91	25310	0.198 ng		97
67) m- & p-Xylenes	18.17	91	40300	0.397 ng		96
68) Bromoform	18.24	173	4169	0.152 ng		96
69) Styrene	18.50	104	13038	0.173 ng		97
70) o-Xylene	18.60	91	20227	0.195 ng		94
71) n-Nonane	18.80	43	10276	0.193 ng		94
72) 1,1,2,2-Tetrachloroethane	18.58	83	9592	0.187 ng		95
74) Cumene	19.13	105	27547	0.213 ng		95
75) alpha-Pinene	19.48	93	12148	0.183 ng		87
76) n-Propylbenzene	19.58	91	30547	0.205 ng		97
77) 3-Ethyltoluene	19.67	105	24120	0.195 ng		97
78) 4-Ethyltoluene	19.70	105	23329	0.194 ng		98
79) 1,3,5-Trimethylbenzene	19.77	105	21310	0.200 ng		93
80) alpha-Methylstyrene	19.91	118	8867	0.168 ng		88
81) 2-Ethyltoluene	19.94	105	24804	0.200 ng		95
82) 1,2,4-Trimethylbenzene	20.13	105	19961	0.183 ng		96
83) n-Decane	20.23	57	10132	0.182 ng		96
84) Benzyl Chloride	20.25	91	8029	0.119 ng		90
85) 1,3-Dichlorobenzene	20.27	146	10812	0.173 ng		98
86) 1,4-Dichlorobenzene	20.32	146	11042	0.183 ng		100
87) sec-Butylbenzene	20.37	105	26898	0.193 ng		96
88) 4-Isopropyltoluene (p-...	20.51	119	23895	0.184 ng		94
89) 1,2,3-Trimethylbenzene	20.51	105	19484	0.178 ng		99
90) 1,2-Dichlorobenzene	20.63	146	9907	0.161 ng		98
91) d-Limonene	20.64	68	6944	0.172 ng		94
92) 1,2-Dibromo-3-Chloropr...	21.01	157	2830	0.136 ng	#	63
93) n-Undecane	21.33	57	7977	0.160 ng		95
94) 1,2,4-Trichlorobenzene	22.14	180	4672	0.101 ng		97
95) Naphthalene	22.24	128	17152	0.122 ng		97
96) n-Dodecane	22.24	57	5207	0.095 ng		95
97) Hexachlorobutadiene	22.56	225	3175	0.111 ng		98
98) Cyclohexanone	18.31	55	7157	0.186 ng		94
99) tert-Butylbenzene	20.13	119	20125	0.185 ng		99
100) n-Butylbenzene	20.88	91	19916	0.185 ng		94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112003.D
Acq On : 11 Mar 2020 1:32 Operator: LH
Sample : 0.2ng TO15 ICAL STD
Misc : S31-02112001/S34-03102004 (4/8)
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 11 10:34:46 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112004.D
Acq On : 11 Mar 2020 2:05 Operator: LH
Sample : 0.5ng TO15 ICAL STD
Misc : S31-02112001/S34-03102003 (4/8)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 11 10:34:48 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 3/11/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	250199	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.29	114	1119180	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.61	82	536851	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	452455	13.352	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.80%				
57) Toluene-d8 (SS2)	15.74	98	1195902	12.480	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.84%				
73) Bromofluorobenzene (SS3)	19.00	174	404242	11.950	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.60%				
Target Compounds							Qvalue
2) Propene	4.14	42	13970	0.506	ng		99
3) Dichlorodifluoromethan...	4.28	85	33913	0.597	ng		98
4) Chloromethane	4.56	50	27759	0.613	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	20406	0.570	ng		99
6) Vinyl Chloride	4.98	62	27909	0.580	ng		100
7) 1,3-Butadiene	5.24	54	18365	0.520	ng		95
8) Bromomethane	5.67	94	13307	0.557	ng		98
9) Chloroethane	6.01	64	10253	0.562	ng		96
10) Ethanol	6.32	45	51461	2.589	ng		98
11) Acetonitrile	6.60	41	24346	0.543	ng		92
12) Acrolein	6.81	56	8055	0.539	ng		99
13) Acetone	7.01	58	51278	2.406	ng	#	83
14) Trichlorofluoromethane	7.27	101	27953	0.556	ng		99
15) 2-Propanol (Isopropanol)	7.50	45	67976	1.118	ng		88
16) Acrylonitrile	7.77	53	16002	0.508	ng		99
17) 1,1-Dichloroethene	8.22	96	13904	0.556	ng		96
18) 2-Methyl-2-Propanol (t...	8.39	59	67959	1.268	ng		94
19) Methylene Chloride	8.44	84	14269	0.529	ng		91
20) 3-Chloro-1-propene (Al...	8.60	41	18896	0.534	ng		92
21) Trichlorotrifluoroethane	8.87	151	13215	0.550	ng		99
22) Carbon Disulfide	8.71	76	52101	0.525	ng		99
23) trans-1,2-Dichloroethene	9.72	61	19907	0.548	ng		96
24) 1,1-Dichloroethane	9.96	63	25859	0.560	ng		99
25) Methyl tert-Butyl Ether	10.09	73	43396	0.579	ng		98
26) Vinyl Acetate	10.22	86	14652	2.648	ng	#	56
27) 2-Butanone (MEK)	10.49	72	8854	0.511	ng	#	90
28) cis-1,2-Dichloroethene	10.99	61	20385	0.552	ng		95
29) Diisopropyl Ether	11.30	87	14836	0.530	ng	#	82
30) Ethyl Acetate	11.30	61	9693	0.931	ng		97
31) n-Hexane	11.28	57	24296	0.511	ng		100
32) Chloroform	11.33	83	27661	0.568	ng		99
34) Tetrahydrofuran (THF)	11.76	72	9497	0.538	ng		95
35) Ethyl tert-Butyl Ether	11.89	87	16627	0.522	ng		96
36) 1,2-Dichloroethane	12.13	62	21537	0.568	ng		100
38) 1,1,1-Trichloroethane	12.42	97	24045	0.557	ng		98
39) Isopropyl Acetate	12.86	61	17229	0.949	ng	#	84
40) 1-Butanol	12.88	56	23731	1.025	ng	#	72
41) Benzene	12.90	78	58428	0.513	ng		99
42) Carbon Tetrachloride	13.06	117	20467	0.512	ng		99
43) Cyclohexane	13.19	84	45418	1.022	ng		96
44) tert-Amyl Methyl Ether	13.54	73	38832	0.511	ng		95
45) 1,2-Dichloropropane	13.75	63	14304	0.538	ng		98
46) Bromodichloromethane	13.94	83	20909	0.532	ng		97
47) Trichloroethene	14.00	130	16071	0.534	ng		100
48) 1,4-Dioxane	13.98	88	11529	0.502	ng		96
49) 2,2,4-Trimethylpentane...	14.07	57	59617	0.539	ng		96

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112004.D
Acq On : 11 Mar 2020 2:05 Operator: LH
Sample : 0.5ng TO15 ICAL STD
Misc : S31-02112001/S34-03102003 (4/8)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 11 10:34:48 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

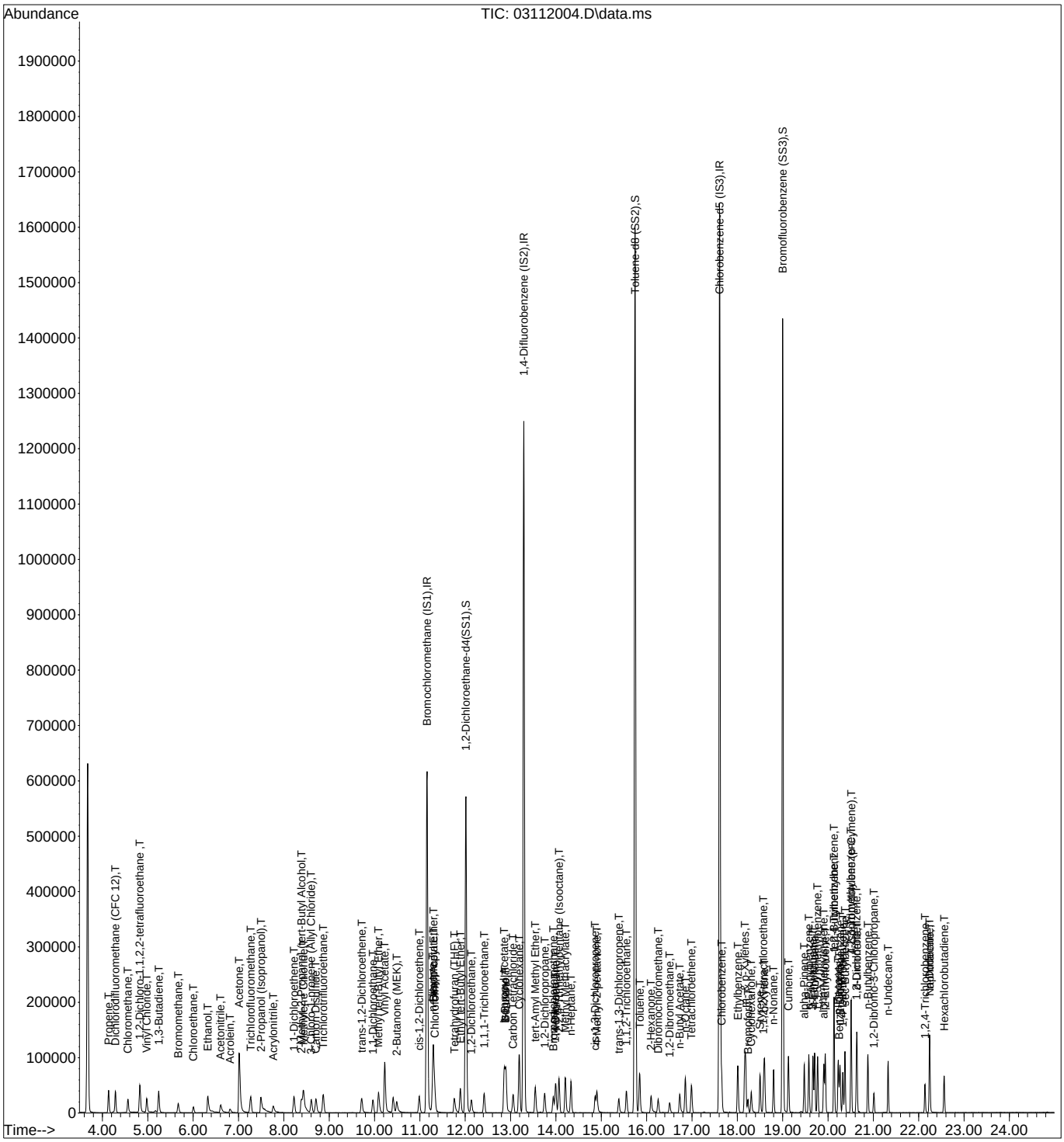
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
50) Methyl Methacrylate	14.21	100	10577	0.941 ng	#	88
51) n-Heptane	14.33	71	14039	0.517 ng		96
52) cis-1,3-Dichloropropene	14.86	75	20178	0.469 ng		98
53) 4-Methyl-2-pentanone	14.90	58	12063	0.492 ng		92
54) trans-1,3-Dichloropropene	15.39	75	17101	0.473 ng		100
55) 1,1,2-Trichloroethane	15.55	97	13848	0.518 ng		99
58) Toluene	15.85	91	61148	0.534 ng		99
59) 2-Hexanone	16.10	43	30048	0.532 ng		91
60) Dibromochloromethane	16.26	129	15049	0.468 ng		99
61) 1,2-Dibromoethane	16.51	107	14951	0.498 ng		98
62) n-Butyl Acetate	16.73	43	31247	0.498 ng		97
63) n-Octane	16.85	57	12094	0.521 ng		95
64) Tetrachloroethene	16.99	166	16134	0.494 ng		99
65) Chlorobenzene	17.65	112	39003	0.491 ng		96
66) Ethylbenzene	18.01	91	66620	0.529 ng		99
67) m- & p-Xylenes	18.17	91	106916	1.069 ng		95
68) Bromoform	18.24	173	10990	0.406 ng		98
69) Styrene	18.50	104	36622	0.495 ng		98
70) o-Xylene	18.60	91	53400	0.523 ng		96
71) n-Nonane	18.80	43	27192	0.520 ng		95
72) 1,1,2,2-Tetrachloroethane	18.58	83	25596	0.506 ng		100
74) Cumene	19.13	105	69162	0.543 ng		96
75) alpha-Pinene	19.48	93	32085	0.492 ng		92
76) n-Propylbenzene	19.58	91	81587	0.555 ng		97
77) 3-Ethyltoluene	19.66	105	64446	0.528 ng		97
78) 4-Ethyltoluene	19.70	105	61305	0.518 ng		98
79) 1,3,5-Trimethylbenzene	19.77	105	55163	0.525 ng		95
80) alpha-Methylstyrene	19.91	118	25464	0.491 ng		95
81) 2-Ethyltoluene	19.94	105	65146	0.534 ng		97
82) 1,2,4-Trimethylbenzene	20.13	105	54274	0.506 ng		96
83) n-Decane	20.23	57	27650	0.506 ng		97
84) Benzyl Chloride	20.25	91	25179	0.380 ng		93
85) 1,3-Dichlorobenzene	20.27	146	29123	0.474 ng		99
86) 1,4-Dichlorobenzene	20.32	146	29617	0.499 ng		99
87) sec-Butylbenzene	20.37	105	72113	0.527 ng		97
88) 4-Isopropyltoluene (p-...	20.51	119	66651	0.521 ng		97
89) 1,2,3-Trimethylbenzene	20.51	105	55067	0.511 ng		98
90) 1,2-Dichlorobenzene	20.63	146	27907	0.461 ng		99
91) d-Limonene	20.64	68	19496	0.491 ng		97
92) 1,2-Dibromo-3-Chloropr...	21.01	157	8646	0.422 ng	#	70
93) n-Undecane	21.33	57	26079	0.533 ng		95
94) 1,2,4-Trichlorobenzene	22.14	180	16118	0.353 ng		99
95) Naphthalene	22.24	128	54073	0.391 ng		98
96) n-Dodecane	22.24	57	22522	0.418 ng		94
97) Hexachlorobutadiene	22.56	225	11961	0.425 ng		98
98) Cyclohexanone	18.31	55	18072	0.478 ng		94
99) tert-Butylbenzene	20.13	119	53477	0.499 ng		98
100) n-Butylbenzene	20.88	91	58386	0.552 ng		94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112004.D
Acq On : 11 Mar 2020 2:05 Operator: LH
Sample : 0.5ng TO15 ICAL STD
Misc : S31-02112001/S34-03102003 (4/8)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 11 10:34:48 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112005.D
Acq On : 11 Mar 2020 2:38 Operator: LH
Sample : 1.0ng TO15 ICAL STD
Misc : S31-02112001/S34-03102003 (4/8)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 11 10:34:50 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 3/11/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	252175	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.29	114	1130413	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.61	82	545964	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	452154	13.238	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.92%				
57) Toluene-d8 (SS2)	15.74	98	1204259	12.358	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.88%				
73) Bromofluorobenzene (SS3)	19.00	174	410040	11.919	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.36%				
Target Compounds							Qvalue
2) Propene	4.13	42	26239	0.944	ng		99
3) Dichlorodifluoromethan...	4.28	85	61335	1.072	ng		99
4) Chloromethane	4.56	50	51518	1.129	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	37929	1.052	ng		99
6) Vinyl Chloride	4.97	62	52171	1.075	ng		99
7) 1,3-Butadiene	5.24	54	38124	1.072	ng		99
8) Bromomethane	5.67	94	24756	1.028	ng		100
9) Chloroethane	6.01	64	19155	1.041	ng		98
10) Ethanol	6.32	45	95679	4.776	ng		99
11) Acetonitrile	6.60	41	45165	0.999	ng		93
12) Acrolein	6.81	56	15031	0.998	ng		96
13) Acetone	7.01	58	97221	4.525	ng	#	85
14) Trichlorofluoromethane	7.26	101	51616	1.019	ng		99
15) 2-Propanol (Isopropanol)	7.48	45	129808	2.119	ng		91
16) Acrylonitrile	7.76	53	32346	1.019	ng		100
17) 1,1-Dichloroethene	8.22	96	25530	1.012	ng		95
18) 2-Methyl-2-Propanol (t...	8.37	59	128678	2.381	ng		95
19) Methylene Chloride	8.43	84	26734	0.984	ng		93
20) 3-Chloro-1-propene (Al...	8.61	41	35910	1.006	ng		95
21) Trichlorotrifluoroethane	8.86	151	24428	1.008	ng		97
22) Carbon Disulfide	8.71	76	99387	0.994	ng		99
23) trans-1,2-Dichloroethene	9.72	61	38578	1.055	ng		97
24) 1,1-Dichloroethane	9.96	63	49172	1.057	ng		100
25) Methyl tert-Butyl Ether	10.08	73	81018	1.072	ng		100
26) Vinyl Acetate	10.22	86	29241	5.243	ng	#	63
27) 2-Butanone (MEK)	10.48	72	17507	1.002	ng	#	89
28) cis-1,2-Dichloroethene	10.99	61	37840	1.017	ng		97
29) Diisopropyl Ether	11.30	87	27212	0.964	ng	#	87
30) Ethyl Acetate	11.30	61	19931	1.899	ng		96
31) n-Hexane	11.28	57	45051	0.941	ng		98
32) Chloroform	11.33	83	51974	1.058	ng		97
34) Tetrahydrofuran (THF)	11.75	72	17985	1.011	ng		96
35) Ethyl tert-Butyl Ether	11.89	87	31469	0.981	ng		96
36) 1,2-Dichloroethane	12.14	62	40493	1.059	ng		99
38) 1,1,1-Trichloroethane	12.42	97	44354	1.018	ng		98
39) Isopropyl Acetate	12.85	61	31963	1.743	ng	#	78
40) 1-Butanol	12.87	56	49627	2.123	ng		82
41) Benzene	12.90	78	110674	0.962	ng		99
42) Carbon Tetrachloride	13.06	117	38200	0.946	ng		98
43) Cyclohexane	13.19	84	84782	1.888	ng		97
44) tert-Amyl Methyl Ether	13.54	73	73466	0.957	ng		95
45) 1,2-Dichloropropane	13.75	63	26752	0.995	ng		99
46) Bromodichloromethane	13.94	83	38892	0.981	ng		100
47) Trichloroethene	14.00	130	29217	0.961	ng		100
48) 1,4-Dioxane	13.97	88	21827	0.942	ng		100
49) 2,2,4-Trimethylpentane...	14.07	57	110125	0.985	ng		96

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112005.D
Acq On : 11 Mar 2020 2:38 Operator: LH
Sample : 1.0ng TO15 ICAL STD
Misc : S31-02112001/S34-03102003 (4/8)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 11 10:34:50 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

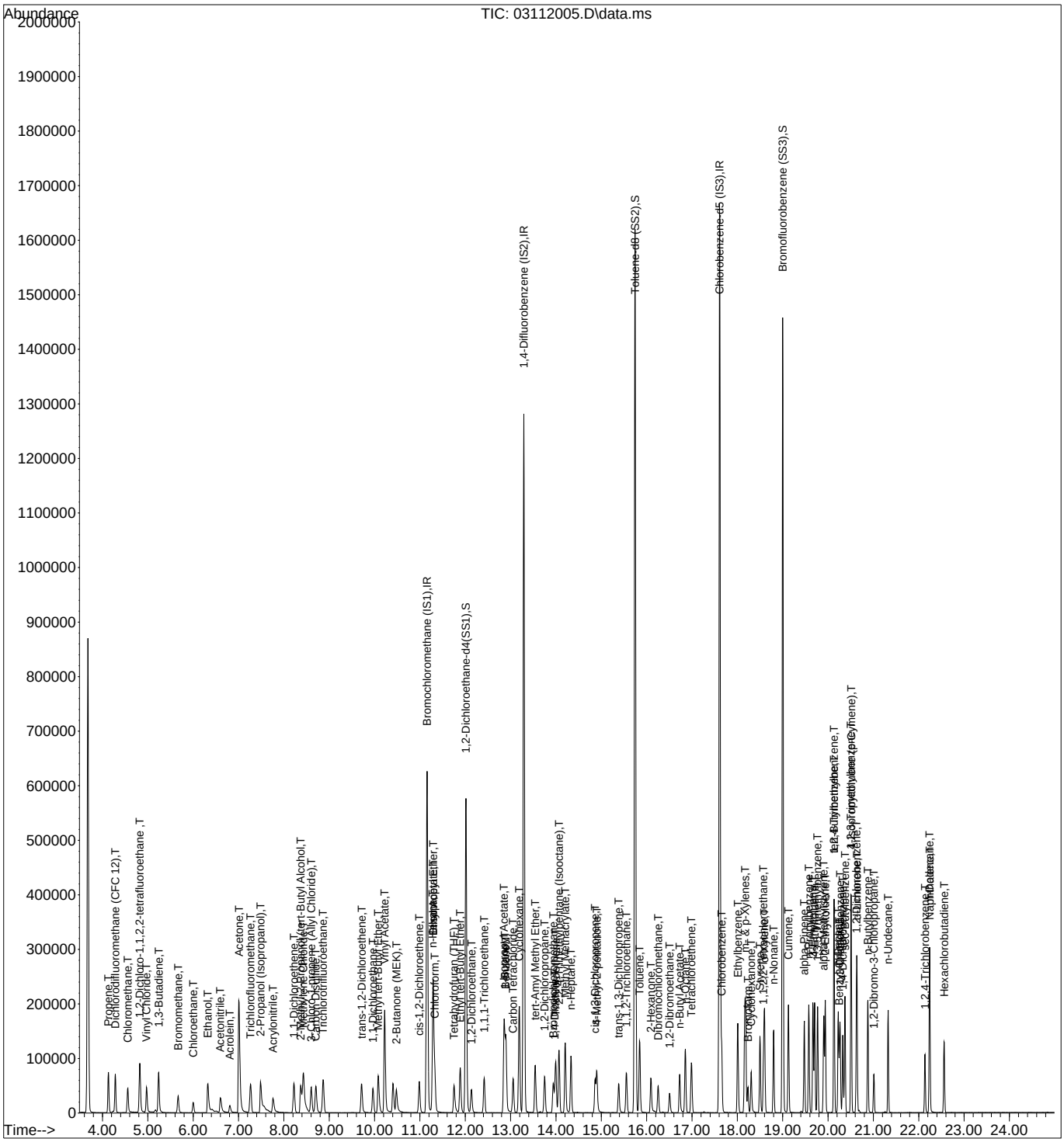
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
50) Methyl Methacrylate	14.20	100	21083	1.856	ng		93
51) n-Heptane	14.33	71	26321	0.960	ng		96
52) cis-1,3-Dichloropropene	14.86	75	39790	0.916	ng		99
53) 4-Methyl-2-pentanone	14.90	58	23994	0.968	ng		90
54) trans-1,3-Dichloropropene	15.38	75	35431	0.970	ng		98
55) 1,1,2-Trichloroethane	15.55	97	27091	1.003	ng		98
58) Toluene	15.84	91	115334	0.991	ng		99
59) 2-Hexanone	16.10	43	56954	0.991	ng		96
60) Dibromochloromethane	16.26	129	30105	0.921	ng		99
61) 1,2-Dibromoethane	16.50	107	30054	0.985	ng		98
62) n-Butyl Acetate	16.73	43	63513	0.994	ng		97
63) n-Octane	16.85	57	22966	0.972	ng		93
64) Tetrachloroethene	16.99	166	29989	0.904	ng		100
65) Chlorobenzene	17.65	112	74997	0.928	ng		99
66) Ethylbenzene	18.01	91	126409	0.987	ng		99
67) m- & p-Xylenes	18.17	91	203937	2.004	ng		95
68) Bromoform	18.24	173	22899	0.832	ng		99
69) Styrene	18.50	104	71908	0.955	ng		98
70) o-Xylene	18.60	91	101189	0.975	ng		98
71) n-Nonane	18.80	43	52281	0.983	ng		93
72) 1,1,2,2-Tetrachloroethane	18.58	83	49059	0.953	ng		100
74) Cumene	19.13	105	128846	0.995	ng		97
75) alpha-Pinene	19.48	93	62905	0.948	ng		95
76) n-Propylbenzene	19.58	91	154753	1.035	ng		97
77) 3-Ethyltoluene	19.66	105	124019	0.999	ng		97
78) 4-Ethyltoluene	19.70	105	117611	0.978	ng		98
79) 1,3,5-Trimethylbenzene	19.77	105	101971	0.954	ng		96
80) alpha-Methylstyrene	19.91	118	51608	0.978	ng		91
81) 2-Ethyltoluene	19.94	105	124284	1.002	ng		97
82) 1,2,4-Trimethylbenzene	20.13	105	103254	0.946	ng		98
83) n-Decane	20.23	57	53015	0.953	ng		97
84) Benzyl Chloride	20.25	91	54780	0.812	ng		94
85) 1,3-Dichlorobenzene	20.27	146	56239	0.900	ng		100
86) 1,4-Dichlorobenzene	20.32	146	56816	0.942	ng		100
87) sec-Butylbenzene	20.37	105	140647	1.010	ng		97
88) 4-Isopropyltoluene (p-...	20.51	119	128282	0.987	ng		97
89) 1,2,3-Trimethylbenzene	20.51	105	107501	0.981	ng		97
90) 1,2-Dichlorobenzene	20.63	146	55130	0.896	ng		99
91) d-Limonene	20.64	68	39857	0.986	ng		96
92) 1,2-Dibromo-3-Chloropr...	21.01	157	17644	0.846	ng	#	74
93) n-Undecane	21.33	57	52052	1.045	ng		95
94) 1,2,4-Trichlorobenzene	22.14	180	32927	0.709	ng		98
95) Naphthalene	22.24	128	111106	0.791	ng		98
96) n-Dodecane	22.24	57	46935	0.858	ng		93
97) Hexachlorobutadiene	22.56	225	23529	0.821	ng		100
98) Cyclohexanone	18.31	55	35128	0.914	ng		95
99) tert-Butylbenzene	20.13	119	101979	0.935	ng		98
100) n-Butylbenzene	20.88	91	111526	1.037	ng		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112005.D
Acq On : 11 Mar 2020 2:38 Operator: LH
Sample : 1.0ng TO15 ICAL STD
Misc : S31-02112001/S34-03102003 (4/8)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 11 10:34:50 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112006.D
Acq On : 11 Mar 2020 3:12 Operator: LH
Sample : 5.0ng TO15 ICAL STD
Misc : S31-02112001/S34-03102003 (4/8)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 11 10:34:52 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 3/11/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	238218	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.30	114	1069189	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.61	82	507258	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	416208	12.900	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.20%				
57) Toluene-d8 (SS2)	15.74	98	1132691	12.510	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.08%				
73) Bromofluorobenzene (SS3)	19.00	174	395620	12.377	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.04%				
Target Compounds							Qvalue
2) Propene	4.12	42	145141	5.525	ng		99
3) Dichlorodifluoromethan...	4.27	85	282879	5.232	ng		100
4) Chloromethane	4.55	50	209292	4.855	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	175446	5.151	ng		99
6) Vinyl Chloride	4.97	62	242569	5.292	ng		99
7) 1,3-Butadiene	5.24	54	180943	5.386	ng		100
8) Bromomethane	5.66	94	114126	5.017	ng		99
9) Chloroethane	6.00	64	87740	5.048	ng		100
10) Ethanol	6.34	45	461152	24.367	ng		99
11) Acetonitrile	6.60	41	215596	5.049	ng		100
12) Acrolein	6.80	56	76151	5.353	ng		100
13) Acetone	7.01	58	481629	23.731	ng		90
14) Trichlorofluoromethane	7.26	101	243627	5.091	ng		100
15) 2-Propanol (Isopropanol)	7.48	45	543655	9.393	ng		97
16) Acrylonitrile	7.76	53	162242	5.412	ng		99
17) 1,1-Dichloroethene	8.22	96	123062	5.165	ng		98
18) 2-Methyl-2-Propanol (t...	8.36	59	542601	10.630	ng		97
19) Methylene Chloride	8.44	84	129883	5.059	ng		96
20) 3-Chloro-1-propene (Al...	8.61	41	168559	4.999	ng		98
21) Trichlorotrifluoroethane	8.87	151	114355	4.995	ng		99
22) Carbon Disulfide	8.71	76	469089	4.968	ng		100
23) trans-1,2-Dichloroethene	9.72	61	183436	5.308	ng		98
24) 1,1-Dichloroethane	9.97	63	231228	5.261	ng		100
25) Methyl tert-Butyl Ether	10.07	73	376696	5.278	ng		100
26) Vinyl Acetate	10.22	86	155488	29.512	ng	#	72
27) 2-Butanone (MEK)	10.47	72	89640	5.432	ng		92
28) cis-1,2-Dichloroethene	10.99	61	182067	5.179	ng		99
29) Diisopropyl Ether	11.29	87	138319	5.189	ng	#	84
30) Ethyl Acetate	11.29	61	101949	10.281	ng		98
31) n-Hexane	11.28	57	225009	4.975	ng		99
32) Chloroform	11.33	83	248621	5.359	ng		100
34) Tetrahydrofuran (THF)	11.74	72	88587	5.273	ng		99
35) Ethyl tert-Butyl Ether	11.88	87	155453	5.130	ng		97
36) 1,2-Dichloroethane	12.14	62	193754	5.365	ng		99
38) 1,1,1-Trichloroethane	12.42	97	216619	5.257	ng		99
39) Isopropyl Acetate	12.85	61	174388	10.052	ng	#	89
40) 1-Butanol	12.86	56	287057	12.983	ng		93
41) Benzene	12.90	78	553925	5.093	ng		99
42) Carbon Tetrachloride	13.06	117	193610	5.071	ng		99
43) Cyclohexane	13.19	84	423719	9.977	ng		99
44) tert-Amyl Methyl Ether	13.54	73	369982	5.098	ng		98
45) 1,2-Dichloropropane	13.75	63	132658	5.219	ng		99
46) Bromodichloromethane	13.94	83	196821	5.247	ng		100
47) Trichloroethene	14.00	130	142319	4.947	ng		100
48) 1,4-Dioxane	13.97	88	108996	4.973	ng		100
49) 2,2,4-Trimethylpentane...	14.07	57	542593	5.131	ng		98

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112006.D
Acq On : 11 Mar 2020 3:12 Operator: LH
Sample : 5.0ng TO15 ICAL STD
Misc : S31-02112001/S34-03102003 (4/8)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 11 10:34:52 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

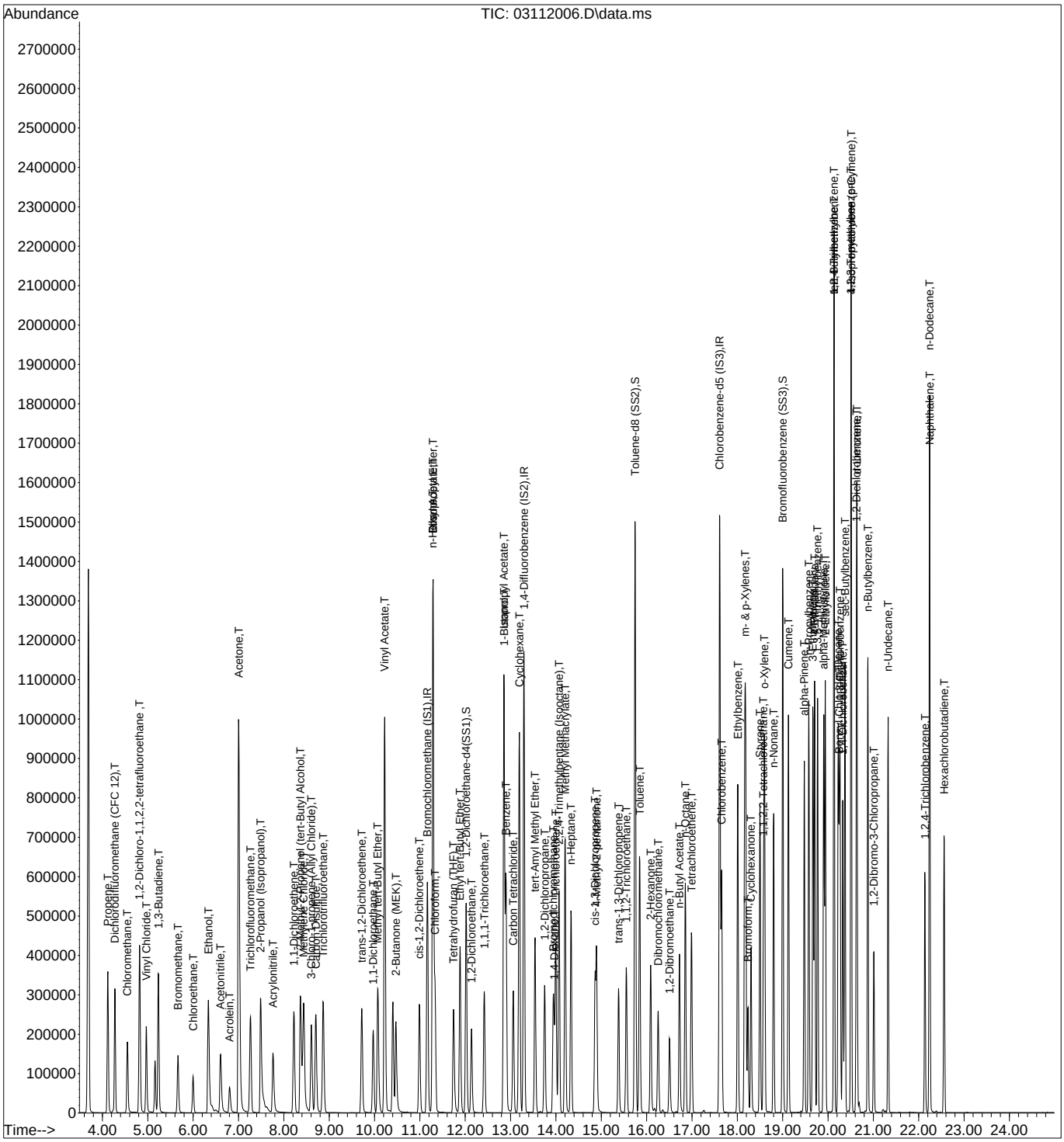
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
50) Methyl Methacrylate	14.20	100	112455	10.468 ng	93
51) n-Heptane	14.33	71	133327	5.140 ng	98
52) cis-1,3-Dichloropropene	14.86	75	213998	5.208 ng	99
53) 4-Methyl-2-pentanone	14.90	58	122251	5.214 ng	95
54) trans-1,3-Dichloropropene	15.38	75	194822	5.637 ng	99
55) 1,1,2-Trichloroethane	15.55	97	130704	5.115 ng	100
58) Toluene	15.85	91	559389	5.173 ng	100
59) 2-Hexanone	16.09	43	298789	5.598 ng	98
60) Dibromochloromethane	16.26	129	158717	5.225 ng	99
61) 1,2-Dibromoethane	16.51	107	152463	5.379 ng	100
62) n-Butyl Acetate	16.72	43	332169	5.597 ng	99
63) n-Octane	16.85	57	112712	5.136 ng	97
64) Tetrachloroethene	16.99	166	148052	4.801 ng	100
65) Chlorobenzene	17.65	112	366324	4.878 ng	100
66) Ethylbenzene	18.01	91	640484	5.385 ng	98
67) m- & p-Xylenes	18.17	91	1043063	11.034 ng	96
68) Bromoform	18.24	173	129238	5.055 ng	100
69) Styrene	18.50	104	393265	5.623 ng	98
70) o-Xylene	18.60	91	520597	5.398 ng	98
71) n-Nonane	18.80	43	259617	5.253 ng	97
72) 1,1,2,2-Tetrachloroethane	18.58	83	256262	5.360 ng	99
74) Cumene	19.13	105	662458	5.508 ng	98
75) alpha-Pinene	19.48	93	336768	5.460 ng	97
76) n-Propylbenzene	19.58	91	808635	5.821 ng	97
77) 3-Ethyltoluene	19.66	105	663831	5.758 ng	97
78) 4-Ethyltoluene	19.70	105	635592	5.687 ng	98
79) 1,3,5-Trimethylbenzene	19.77	105	552584	5.566 ng	97
80) alpha-Methylstyrene	19.91	118	297603	6.068 ng	92
81) 2-Ethyltoluene	19.94	105	668088	5.800 ng	98
82) 1,2,4-Trimethylbenzene	20.13	105	582401	5.743 ng	98
83) n-Decane	20.23	57	285221	5.520 ng	98
84) Benzyl Chloride	20.25	91	410724	6.555 ng	96
85) 1,3-Dichlorobenzene	20.26	146	316489	5.453 ng	100
86) 1,4-Dichlorobenzene	20.32	146	314824	5.617 ng	100
87) sec-Butylbenzene	20.37	105	761982	5.890 ng	98
88) 4-Isopropyltoluene (p-...	20.51	119	741313	6.137 ng	98
89) 1,2,3-Trimethylbenzene	20.51	105	609414	5.988 ng	99
90) 1,2-Dichlorobenzene	20.63	146	309829	5.420 ng	100
91) d-Limonene	20.64	68	227926	6.071 ng	99
92) 1,2-Dibromo-3-Chloropr...	21.01	157	105153	5.429 ng	83
93) n-Undecane	21.33	57	283261	6.122 ng	98
94) 1,2,4-Trichlorobenzene	22.14	180	180953	4.197 ng	99
95) Naphthalene	22.24	128	650949	4.985 ng	99
96) n-Dodecane	22.24	57	273009	5.369 ng	97
97) Hexachlorobutadiene	22.56	225	126999	4.771 ng	99
98) Cyclohexanone	18.30	55	185637	5.200 ng	96
99) tert-Butylbenzene	20.13	119	569860	5.624 ng	98
100) n-Butylbenzene	20.88	91	615822	6.160 ng	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112006.D
Acq On : 11 Mar 2020 3:12 Operator: LH
Sample : 5.0ng TO15 ICAL STD
Misc : S31-02112001/S34-03102003 (4/8)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 11 10:34:52 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112007.D
Acq On : 11 Mar 2020 3:45 Operator: LH
Sample : 25ng TO15 ICAL STD
Misc : S31-02112001/S34-03102002 (4/8)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 11 10:34:54 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 3/11/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	275523	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	13.30	114	1204193	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.61	82	580422	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.03	65	461792	12.375	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.96%			
57) Toluene-d8 (SS2)	15.75	98	1281620	12.371	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.96%			
73) Bromofluorobenzene (SS3)	19.00	174	461189	12.610	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.88%			
Target Compounds						Qvalue
2) Propene	4.10	42	732648	24.115	ng	100
3) Dichlorodifluoromethan...	4.25	85	1552346	24.824	ng	100
4) Chloromethane	4.54	50	1255490	25.180	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	980363	24.884	ng	100
6) Vinyl Chloride	4.95	62	1337587	25.228	ng	100
7) 1,3-Butadiene	5.22	54	844167	21.726	ng	100
8) Bromomethane	5.66	94	678029	25.771	ng	100
9) Chloroethane	5.99	64	515740	25.654	ng	100
10) Ethanol	6.36	45	2885969	131.847	ng	100
11) Acetonitrile	6.62	41	1220644	24.714	ng	100
12) Acrolein	6.80	56	456386	27.736	ng	100
13) Acetone	7.01	58	3219201	137.142	ng	100
14) Trichlorofluoromethane	7.26	101	1439835	26.015	ng	100
15) 2-Propanol (Isopropanol)	7.50	45	3810750	56.924	ng	100
16) Acrylonitrile	7.76	53	985120	28.412	ng	100
17) 1,1-Dichloroethene	8.22	96	749018	27.182	ng	100
18) 2-Methyl-2-Propanol (t...	8.38	59	3954797	66.986	ng	100
19) Methylene Chloride	8.45	84	798032	26.873	ng	100
20) 3-Chloro-1-propene (Al...	8.61	41	1071292	27.471	ng	100
21) Trichlorotrifluoroethane	8.86	151	696620	26.307	ng	100
22) Carbon Disulfide	8.71	76	2914068	26.683	ng	100
23) trans-1,2-Dichloroethene	9.72	61	1103619	27.611	ng	100
24) 1,1-Dichloroethane	9.98	63	1372815	27.005	ng	100
25) Methyl tert-Butyl Ether	10.07	73	2223740	26.939	ng	100
26) Vinyl Acetate	10.23	86	1204502	197.665	ng	100
27) 2-Butanone (MEK)	10.46	72	575007	30.127	ng	100
28) cis-1,2-Dichloroethene	10.99	61	1098112	27.010	ng	100
29) Diisopropyl Ether	11.29	87	848476	27.520	ng	100
30) Ethyl Acetate	11.29	61	744039	64.873	ng	100
31) n-Hexane	11.28	57	1547007	29.571	ng	100
32) Chloroform	11.34	83	1495177	27.865	ng	100
34) Tetrahydrofuran (THF)	11.74	72	536090	27.588	ng	100
35) Ethyl tert-Butyl Ether	11.88	87	987864	28.186	ng	100
36) 1,2-Dichloroethane	12.14	62	1145801	27.434	ng	100
38) 1,1,1-Trichloroethane	12.42	97	1305781	28.136	ng	100
39) Isopropyl Acetate	12.85	61	1219183	62.396	ng	100
40) 1-Butanol	12.87	56	1995046	80.114	ng	100
41) Benzene	12.90	78	3564123	29.097	ng	100
42) Carbon Tetrachloride	13.06	117	1204113	28.001	ng	100
43) Cyclohexane	13.19	84	2746994	57.427	ng	100
44) tert-Amyl Methyl Ether	13.54	73	2354204	28.803	ng	100
45) 1,2-Dichloropropane	13.75	63	790482	27.611	ng	100
46) Bromodichloromethane	13.95	83	1235596	29.245	ng	100
47) Trichloroethene	14.00	130	904618	27.918	ng	100
48) 1,4-Dioxane	13.97	88	711385	28.817	ng	100
49) 2,2,4-Trimethylpentane...	14.07	57	3271244	27.468	ng	100

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112007.D
Acq On : 11 Mar 2020 3:45 Operator: LH
Sample : 25ng TO15 ICAL STD
Misc : S31-02112001/S34-03102002 (4/8)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 11 10:34:54 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

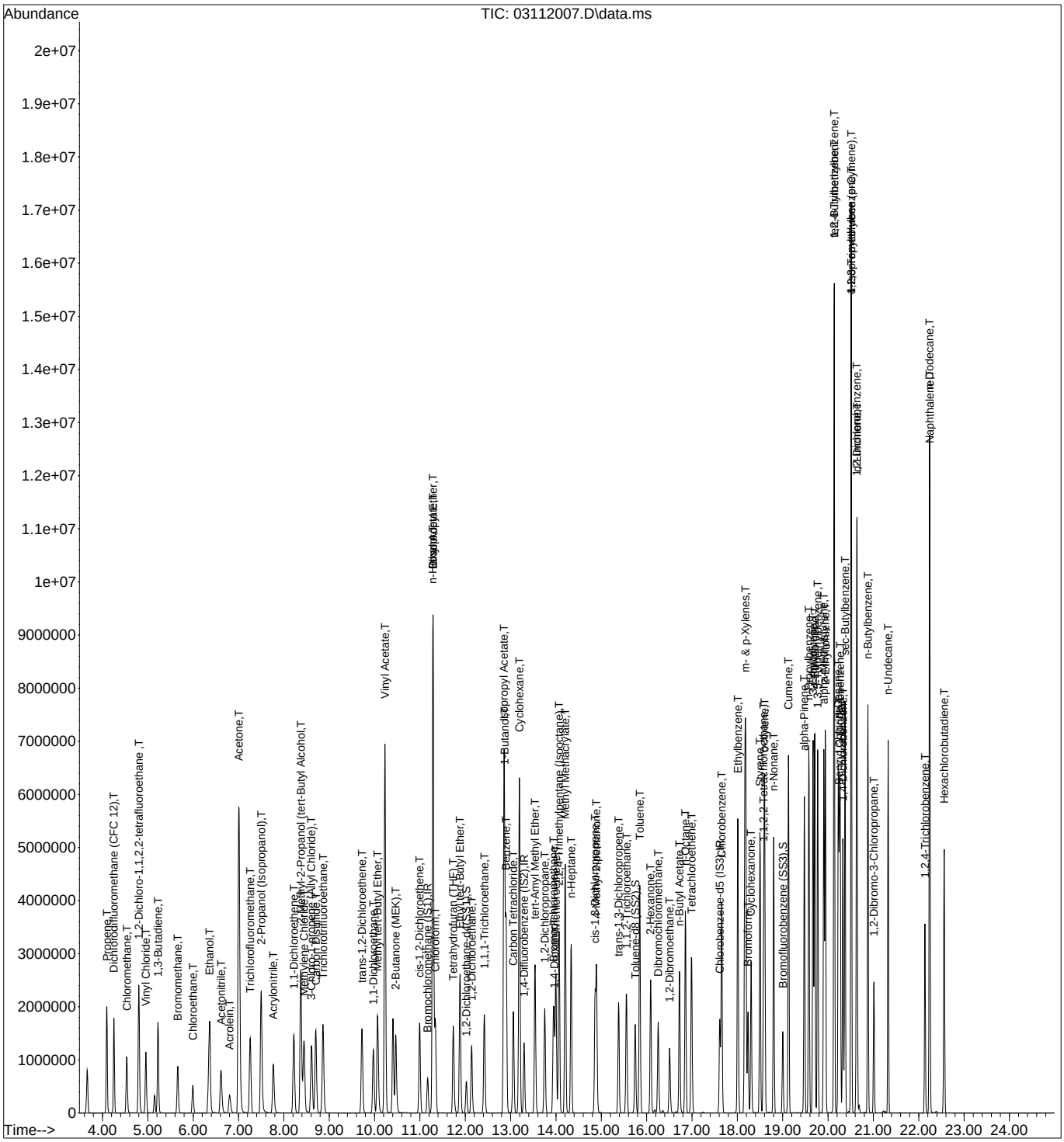
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
50) Methyl Methacrylate	14.20	100	780154	64.478 ng	100
51) n-Heptane	14.34	71	829035	28.376 ng	100
52) cis-1,3-Dichloropropene	14.86	75	1383086	29.887 ng	100
53) 4-Methyl-2-pentanone	14.89	58	789437	29.897 ng	100
54) trans-1,3-Dichloropropene	15.38	75	1255465	32.252 ng	100
55) 1,1,2-Trichloroethane	15.56	97	807884	28.073 ng	100
58) Toluene	15.85	91	3531977	28.542 ng	100
59) 2-Hexanone	16.08	43	1885972	30.881 ng	100
60) Dibromochloromethane	16.26	129	1038566	29.882 ng	100
61) 1,2-Dibromoethane	16.51	107	959746	29.594 ng	100
62) n-Butyl Acetate	16.72	43	2123196	31.268 ng	100
63) n-Octane	16.85	57	709225	28.246 ng	100
64) Tetrachloroethene	16.99	166	965213	27.354 ng	100
65) Chlorobenzene	17.65	112	2356552	27.425 ng	100
66) Ethylbenzene	18.01	91	4199242	30.853 ng	100
67) m- & p-Xylenes	18.18	91	6906672	63.854 ng	100
68) Bromoform	18.24	173	946147	32.345 ng	100
69) Styrene	18.50	104	2696459	33.694 ng	100
70) o-Xylene	18.60	91	3430407	31.083 ng	100
71) n-Nonane	18.80	43	1630756	28.839 ng	100
72) 1,1,2,2-Tetrachloroethane	18.58	83	1638552	29.952 ng	100
74) Cumene	19.13	105	4380463	31.830 ng	100
75) alpha-Pinene	19.48	93	2277036	32.265 ng	100
76) n-Propylbenzene	19.58	91	5233241	32.926 ng	100
77) 3-Ethyltoluene	19.67	105	4310331	32.672 ng	100
78) 4-Ethyltoluene	19.71	105	4319137	33.776 ng	100
79) 1,3,5-Trimethylbenzene	19.77	105	3626127	31.919 ng	100
80) alpha-Methylstyrene	19.91	118	2051941	36.564 ng	100
81) 2-Ethyltoluene	19.94	105	4334620	32.887 ng	100
82) 1,2,4-Trimethylbenzene	20.14	105	4147203	35.743 ng	100
83) n-Decane	20.23	57	1863375	31.518 ng	100
84) Benzyl Chloride	20.25	91	3048474	42.517 ng	100
85) 1,3-Dichlorobenzene	20.27	146	2201522	33.151 ng	100
86) 1,4-Dichlorobenzene	20.33	146	2135420	33.295 ng	100
87) sec-Butylbenzene	20.37	105	4870061	32.899 ng	100
88) 4-Isopropyltoluene (p-...	20.51	119	5153039	37.282 ng	100
89) 1,2,3-Trimethylbenzene	20.51	105	4266734	36.640 ng	100
90) 1,2-Dichlorobenzene	20.63	146	2190113	33.480 ng	100
91) d-Limonene	20.64	68	1534676	35.726 ng	100
92) 1,2-Dibromo-3-Chloropr...	21.01	157	682932	30.815 ng	100
93) n-Undecane	21.33	57	1886046	35.623 ng	100
94) 1,2,4-Trichlorobenzene	22.14	180	1082289	21.936 ng	100
95) Naphthalene	22.24	128	4345162	29.082 ng	100
96) n-Dodecane	22.24	57	1954797	33.596 ng	100
97) Hexachlorobutadiene	22.56	225	889484	29.204 ng	100
98) Cyclohexanone	18.30	55	1229074	30.090 ng	100
99) tert-Butylbenzene	20.14	119	4090534	35.282 ng	100
100) n-Butylbenzene	20.88	91	3813717	33.340 ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112007.D
Acq On : 11 Mar 2020 3:45 Operator: LH
Sample : 25ng TO15 ICAL STD
Misc : S31-02112001/S34-03102002 (4/8)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 11 10:34:54 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112008.D
Acq On : 11 Mar 2020 4:18 Operator: LH
Sample : 50ng TO15 ICAL STD
Misc : S31-02112001/S34-03102002 (4/8)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 11 10:34:56 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 3/11/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	302425	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.30	114	1314811	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.61	82	630918	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	495825	12.105	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.80%				
57) Toluene-d8 (SS2)	15.75	98	1394388	12.382	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.04%				
73) Bromofluorobenzene (SS3)	19.01	174	530896	13.354	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.80%				
Target Compounds							Qvalue
2) Propene	4.10	42	1692785	50.761	ng		100
3) Dichlorodifluoromethan...	4.26	85	3206981	46.722	ng		100
4) Chloromethane	4.54	50	2509316	45.851	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	2094249	48.429	ng		100
6) Vinyl Chloride	4.97	62	2821519	48.483	ng		100
7) 1,3-Butadiene	5.24	54	2190012	51.350	ng		98
8) Bromomethane	5.67	94	1538413	53.272	ng		100
9) Chloroethane	6.00	64	1147102	51.983	ng		99
10) Ethanol	6.40	45	6666384	277.466	ng		100
11) Acetonitrile	6.63	41	2678665	49.410	ng		100
12) Acrolein	6.81	56	1003673	55.571	ng		100
13) Acetone	7.02	58	7337698	284.788	ng		86
14) Trichlorofluoromethane	7.26	101	3121030	51.374	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	7537150	102.573	ng		99
16) Acrylonitrile	7.78	53	2150296	56.500	ng		99
17) 1,1-Dichloroethene	8.23	96	1655606	54.737	ng		96
18) 2-Methyl-2-Propanol (t...	8.39	59	6760531	104.324	ng		99
19) Methylene Chloride	8.45	84	1740731	53.402	ng		97
20) 3-Chloro-1-propene (Al...	8.62	41	2315969	54.106	ng		99
21) Trichlorotrifluoroethane	8.87	151	1545999	53.189	ng		98
22) Carbon Disulfide	8.71	76	6257317	52.198	ng		100
23) trans-1,2-Dichloroethene	9.73	61	2408745	54.902	ng		99
24) 1,1-Dichloroethane	9.98	63	2930829	52.524	ng		100
25) Methyl tert-Butyl Ether	10.07	73	4565915	50.392	ng		100
26) Vinyl Acetate	10.24	86	2813224	420.597	ng	#	59
27) 2-Butanone (MEK)	10.48	72	1232226	58.818	ng		98
28) cis-1,2-Dichloroethene	11.00	61	2369751	53.102	ng		98
29) Diisopropyl Ether	11.30	87	1993471	58.906	ng	#	80
30) Ethyl Acetate	11.30	61	1723440	136.900	ng		97
31) n-Hexane	11.28	57	3524401	61.376	ng		100
32) Chloroform	11.34	83	3235940	54.942	ng		100
34) Tetrahydrofuran (THF)	11.74	72	1171746	54.935	ng		99
35) Ethyl tert-Butyl Ether	11.89	87	2241467	58.265	ng		97
36) 1,2-Dichloroethane	12.14	62	2458246	53.622	ng		100
38) 1,1,1-Trichloroethane	12.42	97	2852203	56.287	ng		99
39) Isopropyl Acetate	12.86	61	2795121	131.015	ng	#	89
40) 1-Butanol	12.88	56	4648415	170.959	ng		93
41) Benzene	12.90	78	8151984	60.952	ng		100
42) Carbon Tetrachloride	13.07	117	2665844	56.776	ng		100
43) Cyclohexane	13.20	84	6365480	121.877	ng		98
44) tert-Amyl Methyl Ether	13.54	73	5286234	59.234	ng		99
45) 1,2-Dichloropropane	13.75	63	1726847	55.243	ng		100
46) Bromodichloromethane	13.95	83	2741579	59.430	ng		99
47) Trichloroethene	14.00	130	2083094	58.880	ng		100
48) 1,4-Dioxane	13.97	88	1631988	60.547	ng		100
49) 2,2,4-Trimethylpentane...	14.07	57	7207940	55.432	ng		98

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112008.D
Acq On : 11 Mar 2020 4:18 Operator: LH
Sample : 50ng TO15 ICAL STD
Misc : S31-02112001/S34-03102002 (4/8)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 11 10:34:56 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

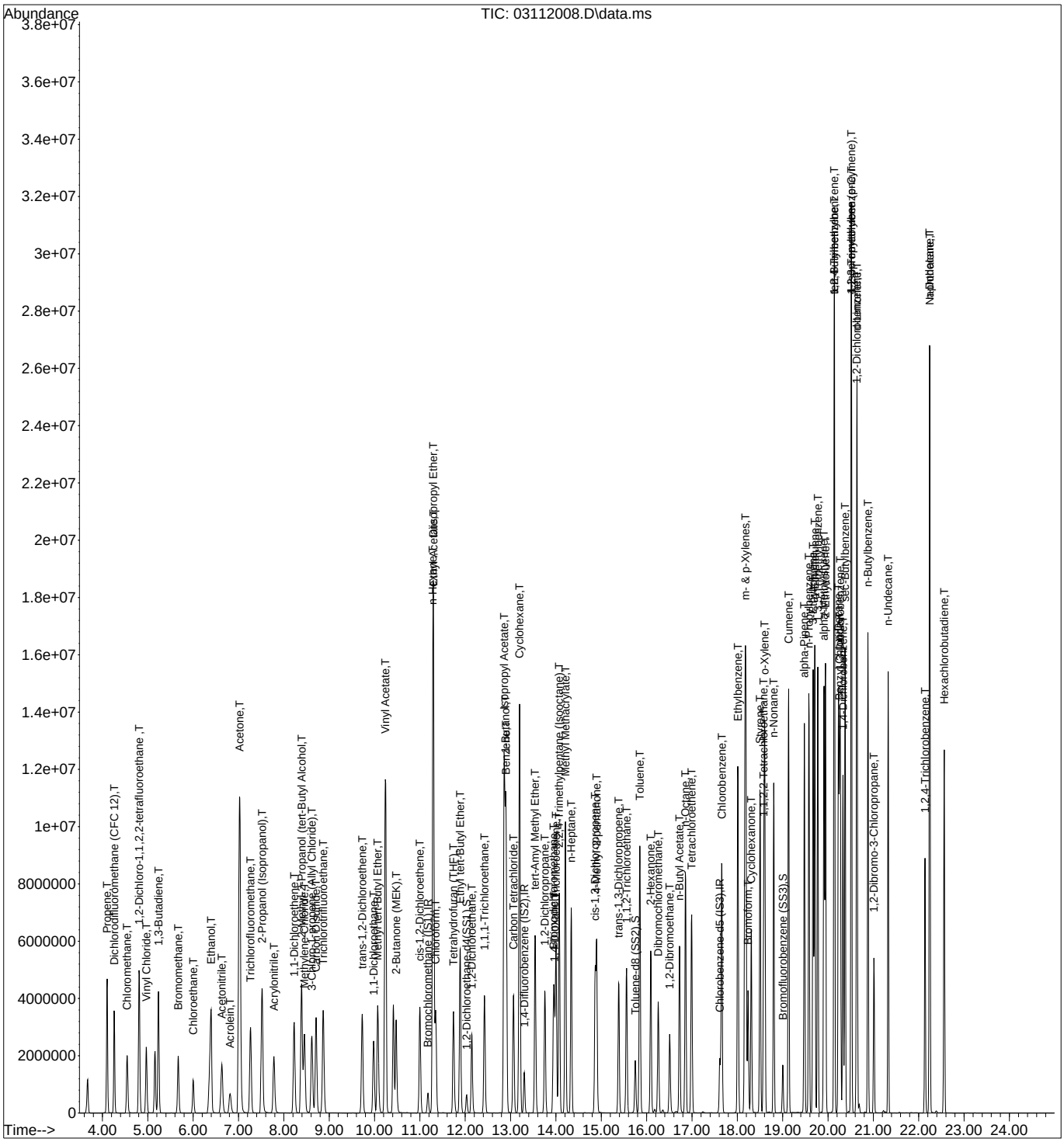
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
50) Methyl Methacrylate	14.21	100	1801367	136.354 ng	96
51) n-Heptane	14.34	71	1877124	58.844 ng	99
52) cis-1,3-Dichloropropene	14.86	75	3113121	61.611 ng	100
53) 4-Methyl-2-pentanone	14.90	58	1750395	60.712 ng	97
54) trans-1,3-Dichloropropene	15.38	75	2800588	65.893 ng	100
55) 1,1,2-Trichloroethane	15.56	97	1794492	57.110 ng	99
58) Toluene	15.85	91	7662489	56.966 ng	99
59) 2-Hexanone	16.09	43	4050093	61.008 ng	98
60) Dibromochloromethane	16.26	129	2338701	61.905 ng	100
61) 1,2-Dibromoethane	16.51	107	2131582	60.468 ng	100
62) n-Butyl Acetate	16.72	43	4577516	62.017 ng	98
63) n-Octane	16.86	57	1586200	58.117 ng	98
64) Tetrachloroethene	16.99	166	2239126	58.377 ng	99
65) Chlorobenzene	17.66	112	5372885	57.524 ng	100
66) Ethylbenzene	18.01	91	9093466	61.465 ng	98
67) m- & p-Xylenes	18.18	91	15123656	128.631 ng	98
68) Bromoform	18.24	173	2153059	67.713 ng	100
69) Styrene	18.50	104	5844983	67.190 ng	99
70) o-Xylene	18.60	91	7507257	62.579 ng	99
71) n-Nonane	18.80	43	3619496	58.886 ng	98
72) 1,1,2,2-Tetrachloroethane	18.58	83	3566640	59.978 ng	100
74) Cumene	19.13	105	9495400	63.474 ng	98
75) alpha-Pinene	19.48	93	5115469	66.684 ng	100
76) n-Propylbenzene	19.58	91	10986096	63.588 ng	97
77) 3-Ethyltoluene	19.67	105	9112158	63.541 ng	93
78) 4-Ethyltoluene	19.71	105	9520256	68.491 ng	98
79) 1,3,5-Trimethylbenzene	19.77	105	7951249	64.390 ng	99
80) alpha-Methylstyrene	19.91	118	4544511	74.499 ng	93
81) 2-Ethyltoluene	19.95	105	9323235	65.075 ng	98
82) 1,2,4-Trimethylbenzene	20.14	105	8775163	69.577 ng	100
83) n-Decane	20.23	57	4257106	66.243 ng	99
84) Benzyl Chloride	20.25	91	7109228	91.217 ng	98
85) 1,3-Dichlorobenzene	20.27	146	4895322	67.815 ng	100
86) 1,4-Dichlorobenzene	20.33	146	4651609	66.721 ng	100
87) sec-Butylbenzene	20.37	105	10262187	63.776 ng	98
88) 4-Isopropyltoluene (p-...	20.51	119	10327338	68.737 ng	97
89) 1,2,3-Trimethylbenzene	20.51	105	8911811	70.404 ng	99
90) 1,2-Dichlorobenzene	20.63	146	4880829	68.642 ng	99
91) d-Limonene	20.64	68	3471524	74.347 ng	99
92) 1,2-Dibromo-3-Chloropr...	21.01	157	1516018	62.930 ng	97
93) n-Undecane	21.33	57	4295149	74.631 ng	99
94) 1,2,4-Trichlorobenzene	22.14	180	2703404	50.407 ng	100
95) Naphthalene	22.24	128	9631249	59.303 ng	99
96) n-Dodecane	22.24	57	4503023	71.196 ng	98
97) Hexachlorobutadiene	22.56	225	2312637	69.853 ng	100
98) Cyclohexanone	18.31	55	2653569	59.765 ng	99
99) tert-Butylbenzene	20.14	119	8493187	67.393 ng	98
100) n-Butylbenzene	20.88	91	8151772	65.560 ng	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112008.D
Acq On : 11 Mar 2020 4:18 Operator: LH
Sample : 50ng TO15 ICAL STD
Misc : S31-02112001/S34-03102002 (4/8)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 11 10:34:56 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112009.D
Acq On : 11 Mar 2020 4:52 Operator: LH
Sample : 100ng TO15 ICAL STD
Misc : S31-02112001/S34-03102002 (4/8)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 11 10:34:58 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 3/11/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.19	130	340305	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	13.31	114	1483064	12.500	ng		0.01
56) Chlorobenzene-d5 (IS3)	17.61	82	685836	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.04	65	523523	11.358	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.88%				
57) Toluene-d8 (SS2)	15.75	98	1499466	12.249	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.00%				
73) Bromofluorobenzene (SS3)	19.00	174	581970	13.466	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.76%				
Target Compounds							Qvalue
2) Propene	4.11	42	3308592	88.171	ng		98
3) Dichlorodifluoromethan...	4.27	85	6504336	84.212	ng		99
4) Chloromethane	4.55	50	3927058	63.769	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	4594070	94.411	ng		100
6) Vinyl Chloride	4.98	62	6083796	92.902	ng		100
7) 1,3-Butadiene	5.25	54	4791631	99.845	ng		95
8) Bromomethane	5.69	94	3499486	107.691	ng		100
9) Chloroethane	6.02	64	2609147	105.078	ng		99
10) Ethanol	6.44	45	14841917	548.982	ng		99
11) Acetonitrile	6.67	41	5837097	95.684	ng		100
12) Acrolein	6.83	56	2158760	106.220	ng		100
13) Acetone	7.06	58	16145799	556.891	ng	#	54
14) Trichlorofluoromethane	7.28	101	6986424	102.200	ng		99
15) 2-Propanol (Isopropanol)	7.55	45	14621518	176.835	ng		98
16) Acrylonitrile	7.80	53	4728655	110.418	ng		99
17) 1,1-Dichloroethene	8.24	96	3813459	112.045	ng		92
18) 2-Methyl-2-Propanol (t...	8.41	59	6968956	95.570	ng		99
19) Methylene Chloride	8.46	84	3911789	106.648	ng		94
20) 3-Chloro-1-propene (Al...	8.63	41	5133890	106.587	ng		98
21) Trichlorotrifluoroethane	8.88	151	3662961	111.993	ng		93
22) Carbon Disulfide	8.72	76	13562562	100.545	ng		99
23) trans-1,2-Dichloroethene	9.73	61	5462056	110.638	ng		96
24) 1,1-Dichloroethane	9.99	63	6532991	104.046	ng		99
25) Methyl tert-Butyl Ether	10.08	73	8874667	87.044	ng		100
26) Vinyl Acetate	10.26	86	6007925	798.244	ng	#	1
27) 2-Butanone (MEK)	10.49	72	2724115	115.556	ng		94
28) cis-1,2-Dichloroethene	11.01	61	5326062	106.064	ng		96
29) Diisopropyl Ether	11.30	87	3979432	104.501	ng	#	60
30) Ethyl Acetate	11.32	61	3347027	236.273	ng		94
31) n-Hexane	11.29	57	6913854	107.000	ng		100
32) Chloroform	11.36	83	7063197	106.575	ng		100
34) Tetrahydrofuran (THF)	11.75	72	2626150	109.417	ng		97
35) Ethyl tert-Butyl Ether	11.89	87	5210458	120.364	ng		92
36) 1,2-Dichloroethane	12.15	62	5381589	104.322	ng		99
38) 1,1,1-Trichloroethane	12.43	97	6484249	113.446	ng		98
39) Isopropyl Acetate	12.86	61	6177142	256.691	ng	#	62
40) 1-Butanol	12.91	56	9988032	325.665	ng		86
41) Benzene	12.91	78	17606253	116.706	ng		98
42) Carbon Tetrachloride	13.07	117	6184539	116.773	ng		100
43) Cyclohexane	13.20	84	13898242	235.915	ng		96
44) tert-Amyl Methyl Ether	13.55	73	11823139	117.452	ng		97
45) 1,2-Dichloropropane	13.76	63	3880134	110.046	ng		100
46) Bromodichloromethane	13.96	83	6148658	118.166	ng		99
47) Trichloroethene	14.01	130	5026454	125.957	ng		100
48) 1,4-Dioxane	13.98	88	3887727	127.871	ng		99
49) 2,2,4-Trimethylpentane...	14.08	57	15623076	106.517	ng		96

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112009.D
Acq On : 11 Mar 2020 4:52 Operator: LH
Sample : 100ng TO15 ICAL STD
Misc : S31-02112001/S34-03102002 (4/8)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 11 10:34:58 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

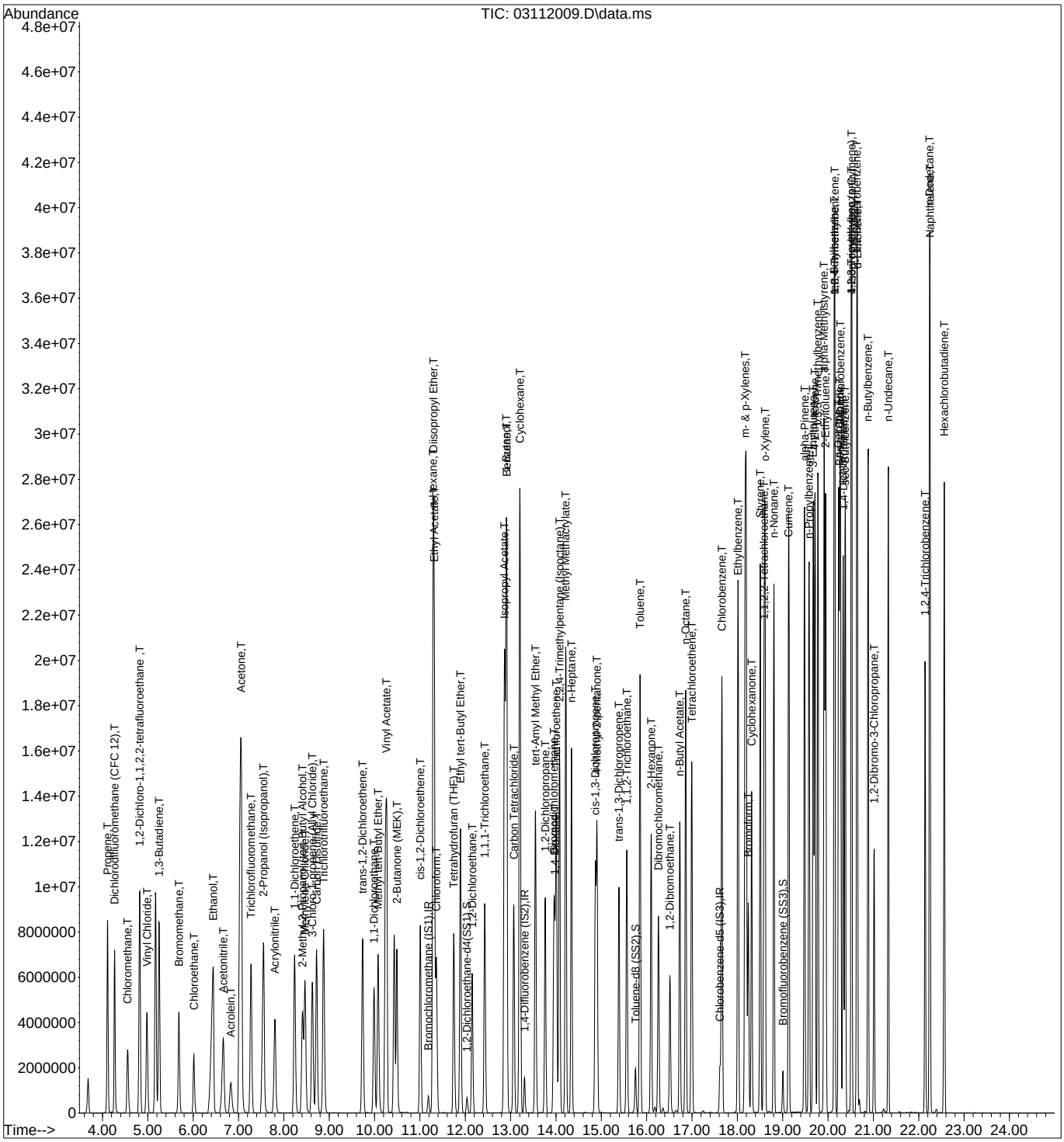
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
50) Methyl Methacrylate	14.22	100	4116642	276.256	ng		93
51) n-Heptane	14.34	71	4379355	121.709	ng		98
52) cis-1,3-Dichloropropene	14.87	75	7054768	123.779	ng		99
53) 4-Methyl-2-pentanone	14.90	58	3998874	122.965	ng		92
54) trans-1,3-Dichloropropene	15.39	75	6360167	132.667	ng		99
55) 1,1,2-Trichloroethane	15.56	97	4095708	115.559	ng		99
58) Toluene	15.85	91	16109947	110.177	ng		95
59) 2-Hexanone	16.10	43	8892572	123.226	ng		95
60) Dibromochloromethane	16.26	129	5334635	129.899	ng		99
61) 1,2-Dibromoethane	16.51	107	4751430	123.994	ng		100
62) n-Butyl Acetate	16.73	43	9990678	124.518	ng		95
63) n-Octane	16.86	57	3675490	123.883	ng		96
64) Tetrachloroethene	17.00	166	5313256	127.431	ng		98
65) Chlorobenzene	17.66	112	11859997	116.809	ng		98
66) Ethylbenzene	18.01	91	17363471	107.965	ng		87
67) m- & p-Xylenes	18.17	91	27751033	217.130	ng		89
68) Bromoform	18.24	173	4863241	140.699	ng		99
69) Styrene	18.50	104	12431681	131.464	ng		96
70) o-Xylene	18.61	91	15183937	116.436	ng		93
71) n-Nonane	18.81	43	7664626	114.712	ng		93
72) 1,1,2,2-Tetrachloroethane	18.59	83	7778557	120.334	ng		99
74) Cumene	19.13	105	16771442	103.135	ng		85
75) alpha-Pinene	19.48	93	10896652	130.672	ng		99
76) n-Propylbenzene	19.58	91	17561192	93.506	ng		81
77) 3-Ethyltoluene	19.67	105	16849385	108.086	ng		86
78) 4-Ethyltoluene	19.71	105	15626045	103.415	ng		82
79) 1,3,5-Trimethylbenzene	19.77	105	14895394	110.965	ng		90
80) alpha-Methylstyrene	19.91	118	9682152	146.011	ng		98
81) 2-Ethyltoluene	19.95	105	16569621	106.393	ng		85
82) 1,2,4-Trimethylbenzene	20.15	105	14070480	102.629	ng		98
83) n-Decane	20.23	57	8891803	127.283	ng		97
84) Benzyl Chloride	20.26	91	14301238	168.803	ng		92
85) 1,3-Dichlorobenzene	20.28	146	10365398	132.094	ng		99
86) 1,4-Dichlorobenzene	20.34	146	9941138	131.175	ng		99
87) sec-Butylbenzene	20.37	105	16544733	94.587	ng		83
88) 4-Isopropyltoluene (p-...	20.52	119	15487849	94.830	ng		93
89) 1,2,3-Trimethylbenzene	20.51	105	13892984	100.967	ng		99
90) 1,2-Dichlorobenzene	20.63	146	8884885	114.947	ng		100
91) d-Limonene	20.65	68	6260753	123.346	ng		99
92) 1,2-Dibromo-3-Chloropr...	21.02	157	3425810	130.819	ng		93
93) n-Undecane	21.33	57	8865627	141.712	ng		96
94) 1,2,4-Trichlorobenzene	22.14	180	6330456	108.584	ng		99
95) Naphthalene	22.25	128	15799261	89.492	ng		97
96) n-Dodecane	22.24	57	7848075	114.148	ng		97
97) Hexachlorobutadiene	22.56	225	5388871	149.737	ng		100
98) Cyclohexanone	18.32	55	5922169	122.701	ng		97
99) tert-Butylbenzene	20.14	119	13804796	100.769	ng		97
100) n-Butylbenzene	20.88	91	14505586	107.319	ng	#	86

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112009.D
Acq On : 11 Mar 2020 4:52 Operator: LH
Sample : 100ng TO15 ICAL STD
Misc : S31-02112001/S34-03102002 (4/8)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 11 10:34:58 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112010.D
Acq On : 11 Mar 2020 5:25 Operator: LH
Sample : 25ng TO15 ICV STD
Misc : S31-02112001/S31-02262006 (3/26)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 11 10:56:51 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 3/11/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	355611	12.500	ng	-0.01
37) 1,4-Difluorobenzene (IS2)	13.30	114	1527052	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.61	82	684548	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.03	65	538729	10.941	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.52%			
57) Toluene-d8 (SS2)	15.75	98	1547325	12.752	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.00%			
73) Bromofluorobenzene (SS3)	19.01	174	582961	13.606	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.88%			
Target Compounds						Qvalue
2) Propene	4.10	42	862551	23.127	ng	100
3) Dichlorodifluoromethan...	4.26	85	1856195	23.133	ng	100
4) Chloromethane	4.54	50	1381695	21.807	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	1141380	22.333	ng	100
6) Vinyl Chloride	4.97	62	1520058	22.729	ng	100
7) 1,3-Butadiene	5.23	54	1020011	21.054	ng	99
8) Bromomethane	5.66	94	824075	24.598	ng	99
9) Chloroethane	6.00	64	609554	23.753	ng	99
10) Ethanol	6.37	45	3340839	113.339	ng	100
11) Acetonitrile	6.62	41	1469354	22.660	ng	100
12) Acrolein	6.81	56	521559	24.045	ng	100
13) Acetone	7.01	58	3600757	123.782	ng	97
14) Trichlorofluoromethane	7.26	101	1663600	23.513	ng	100
15) 2-Propanol (Isopropanol)	7.51	45	4265842	49.446	ng	99
16) Acrylonitrile	7.77	53	1135244	26.007	ng	100
17) 1,1-Dichloroethene	8.22	96	897050	25.635	ng	92
18) 2-Methyl-2-Propanol (t...	8.38	59	4419701	57.087	ng	99
19) Methylene Chloride	8.45	84	931250	24.603	ng	95
20) 3-Chloro-1-propene (Al...	8.61	41	1158146	23.616	ng	98
21) Trichlorotrifluoroethane	8.87	151	873168	25.805	ng	93
22) Carbon Disulfide	8.71	76	3295065	24.206	ng	100
23) trans-1,2-Dichloroethene	9.72	61	1283815	25.277	ng	96
24) 1,1-Dichloroethane	9.98	63	1505850	23.232	ng	99
25) Methyl tert-Butyl Ether	10.07	73	2557821	24.378	ng	99
26) Vinyl Acetate	10.23	86	1265244	126.748	ng	99
27) 2-Butanone (MEK)	10.47	72	625851	25.844	ng	99
28) cis-1,2-Dichloroethene	10.99	61	1237482	23.451	ng	96
29) Diisopropyl Ether	11.29	87	909931	23.564	ng	97
30) Ethyl Acetate	11.30	61	795072	55.544	ng	98
31) n-Hexane	11.28	57	1669683	25.168	ng	100
32) Chloroform	11.34	83	1678465	23.772	ng	100
34) Tetrahydrofuran (THF)	11.74	72	614462	24.662	ng	97
35) Ethyl tert-Butyl Ether	11.88	87	1123408	24.910	ng	97
36) 1,2-Dichloroethane	12.14	62	1258333	22.847	ng	100
38) 1,1,1-Trichloroethane	12.42	97	1517992	25.332	ng	99
39) Isopropyl Acetate	12.85	61	1321796	53.315	ng	95
40) 1-Butanol	12.87	56	2113360	53.272	ng	100
41) Benzene	12.90	78	3776411	23.915	ng	100
42) Carbon Tetrachloride	13.06	117	1356485	25.016	ng	100
43) Cyclohexane	13.20	84	3055382	50.394	ng	98
44) tert-Amyl Methyl Ether	13.54	73	2623216	25.681	ng	99
45) 1,2-Dichloropropane	13.75	63	890161	24.651	ng	100
46) Bromodichloromethane	13.95	83	1367552	25.623	ng	100
47) Trichloroethene	14.00	130	1077020	24.071	ng	100
48) 1,4-Dioxane	13.97	88	827725	27.075	ng	98
49) 2,2,4-Trimethylpentane...	14.07	57	3608118	24.047	ng	98

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112010.D
Acq On : 11 Mar 2020 5:25 Operator: LH
Sample : 25ng TO15 ICV STD
Misc : S31-02112001/S31-02262006 (3/26)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 11 10:56:51 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

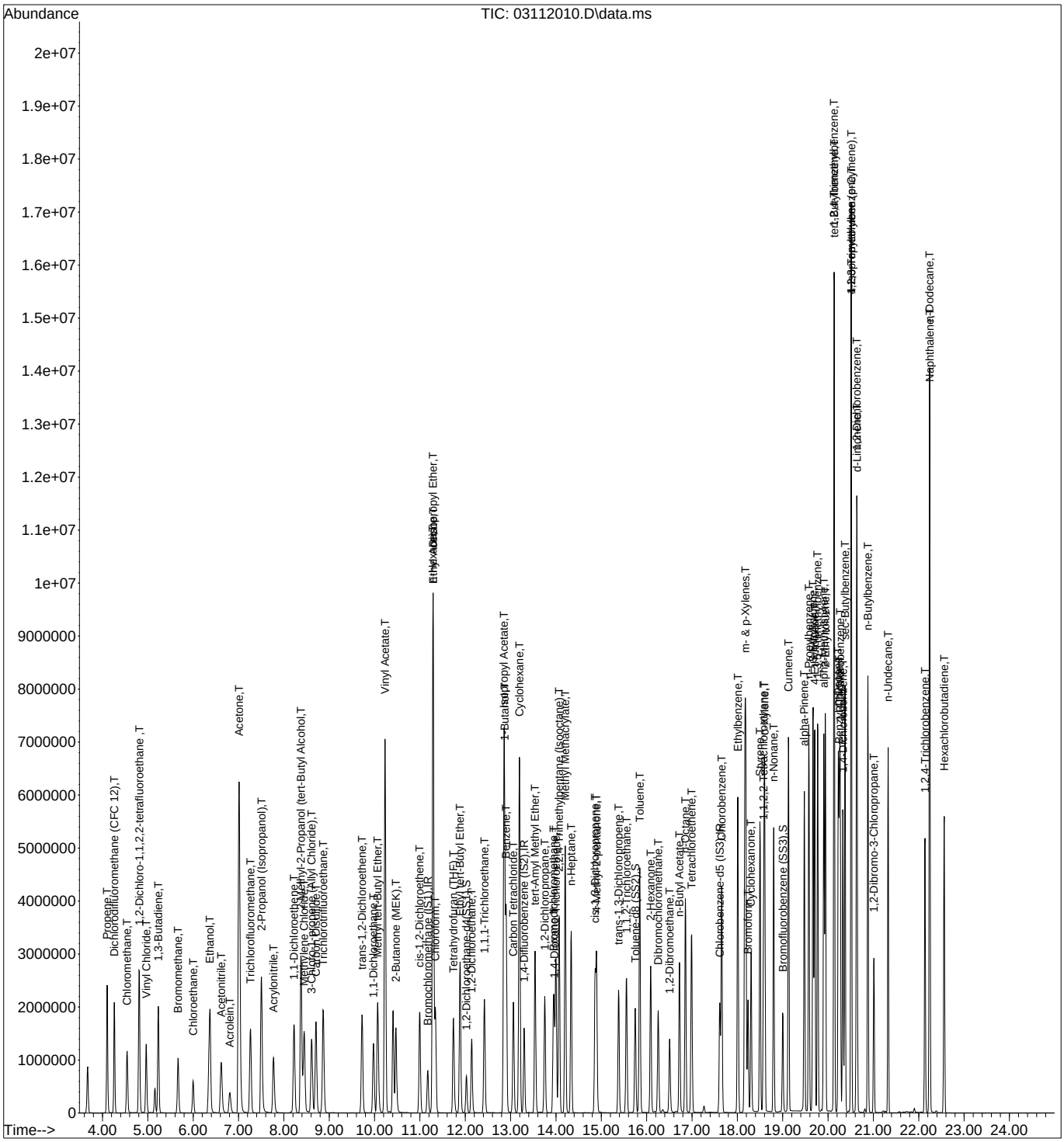
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
50) Methyl Methacrylate	14.20	100	863790	56.588 ng	96
51) n-Heptane	14.34	71	913344	24.773 ng	99
52) cis-1,3-Dichloropropene	14.86	75	1658900	28.460 ng	100
53) 4-Methyl-2-pentanone	14.90	58	870419	26.299 ng	98
54) trans-1,3-Dichloropropene	15.38	75	1423525	26.288 ng	100
55) 1,1,2-Trichloroethane	15.56	97	939017	25.761 ng	98
58) Toluene	15.85	91	3866473	25.772 ng	100
59) 2-Hexanone	16.09	43	2041667	27.195 ng	99
60) Dibromochloromethane	16.26	129	1202505	30.109 ng	100
61) 1,2-Dibromoethane	16.51	107	1109710	28.901 ng	99
62) n-Butyl Acetate	16.72	43	2253362	28.066 ng	98
63) n-Octane	16.85	57	762661	25.618 ng	98
64) Tetrachloroethene	16.99	166	1157710	27.693 ng	100
65) Chlorobenzene	17.65	112	2682704	26.577 ng	100
66) Ethylbenzene	18.01	91	4512452	27.416 ng	99
67) m- & p-Xylenes	18.18	91	7345655	54.872 ng	100
68) Bromoform	18.24	173	1087333	30.152 ng	99
69) Styrene	18.50	104	2875489	27.385 ng	100
70) o-Xylene	18.60	91	3617042	27.023 ng	100
71) n-Nonane	18.80	43	1721846	25.729 ng	100
72) 1,1,2,2-Tetrachloroethane	18.58	83	1781192	27.693 ng	100
74) Cumene	19.13	105	4614166	27.260 ng	100
75) alpha-Pinene	19.48	93	2328963	27.155 ng	99
76) n-Propylbenzene	19.58	91	5481109	27.728 ng	100
77) 3-Ethyltoluene	19.67	105	4700952	27.987 ng	100
78) 4-Ethyltoluene	19.71	105	4371195	27.192 ng	100
79) 1,3,5-Trimethylbenzene	19.77	105	3849300	26.904 ng	100
80) alpha-Methylstyrene	19.91	118	2108810	26.968 ng	91
81) 2-Ethyltoluene	19.94	105	4578575	27.613 ng	100
82) 1,2,4-Trimethylbenzene	20.13	105	4393633	29.643 ng	99
83) n-Decane	20.23	57	1945135	27.154 ng	100
84) Benzyl Chloride	20.25	91	3479562	30.288 ng	100
85) 1,3-Dichlorobenzene	20.27	146	2423133	30.467 ng	100
86) 1,4-Dichlorobenzene	20.33	146	2365608	29.950 ng	100
87) sec-Butylbenzene	20.37	105	5109372	27.716 ng	100
88) 4-Isopropyltoluene (p-...	20.51	119	5256318	29.823 ng	100
89) 1,2,3-Trimethylbenzene	20.51	105	4300815	28.906 ng	100
90) 1,2-Dichlorobenzene	20.63	146	2408869	29.636 ng	100
91) d-Limonene	20.64	68	1519103	26.502 ng	100
92) 1,2-Dibromo-3-Chloropr...	21.01	157	824904	30.239 ng	99
93) n-Undecane	21.33	57	1922457	26.013 ng	100
94) 1,2,4-Trichlorobenzene	22.14	180	1654245	34.919 ng	99
95) Naphthalene	22.24	128	5657733	34.126 ng	100
96) n-Dodecane	22.24	57	1873801	25.516 ng	100
97) Hexachlorobutadiene	22.56	225	1057194	27.990 ng	100
98) Cyclohexanone	18.30	55	1297660	25.006 ng	100
99) tert-Butylbenzene	20.14	119	4200985	28.904 ng	100
100) n-Butylbenzene	20.88	91	4108973	27.578 ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112010.D
Acq On : 11 Mar 2020 5:25 Operator: LH
Sample : 25ng TO15 ICV STD
Misc : S31-02112001/S31-02262006 (3/26)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 11 10:56:51 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



LH 3/11/20

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **03112010.D**
Data File Path: **I:\MS16\DATA\2020_03\11**
Operator: **LH**
Date Acquired: **3/11/20** **5:25**

Acq. Method File: **TO15.M**
Sample Name: **25ng TO15 ICV STD**
Misc Info: **S31-02112001/S31-02262006 (**
Instrument Name: **GCMS-16**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
2)	**Propene**	**4.10**	**23.1**	26.25	88	**51**	**133**	*	*
3)	**Dichlorodifluoromethane (CFC 1**	**4.26**	**23.1**	**26.25**	88	**64**	**115**	*	*
4)	**Chloromethane**	**4.54**	**21.8**	**26.50**	82	**49**	**127**	*	*
5)	**1,2-Dichloro-1,1,2,2-tetrafluoroet**	**4.81**	**22.3**	**25.75**	87	**65**	**114**	*	*
6)	**Vinyl Chloride**	**4.97**	**22.7**	**26.50**	86	**61**	**129**	*	*
7)	**1,3-Butadiene**	**5.23**	**21.1**	**26.50**	80	**54**	**140**	*	*
8)	**Bromomethane**	**5.66**	**24.6**	**26.50**	93	**68**	**120**	*	*
9)	**Chloroethane**	**6.00**	**23.8**	**26.75**	89	**63**	**123**	*	*
10)	**Ethanol**	**6.37**	**113**	**132.50**	85	**49**	**134**	*	*
11)	**Acetonitrile**	**6.62**	**22.7**	**26.75**	85	**50**	**137**	*	*
12)	**Acrolein**	**6.81**	**24.0**	**25.75**	93	**62**	**128**	*	*
13)	**Acetone**	**7.01**	**124**	**133.50**	93	**56**	**125**	*	*
14)	**Trichlorofluoromethane**	**7.26**	**23.5**	**26.50**	89	**64**	**115**	*	*
15)	**2-Propanol (Isopropanol)**	**7.51**	**49.4**	**52.75**	94	**57**	**133**	*	*
16)	**Acrylonitrile**	**7.77**	**26.0**	**26.50**	98	**64**	**136**	*	*
17)	**1,1-Dichloroethene**	**8.22**	**25.6**	**26.75**	96	**68**	**115**	*	*
18)	2-Methyl-2-Propanol (tert-Butyl Alc	8.38	57.1	53.75	106	56	132	*	*
19)	**Methylene Chloride**	**8.45**	**24.6**	**26.25**	94	**68**	**114**	*	*
20)	**3-Chloro-1-propene (Allyl Chloric**	**8.61**	**23.6**	**26.75**	88	**55**	**139**	*	*
21)	**Trichlorotrifluoroethane**	**8.87**	**25.8**	**27.00**	96	**65**	**115**	*	*
22)	**Carbon Disulfide**	**8.71**	**24.2**	**26.50**	91	**68**	**113**	*	*
23)	**trans-1,2-Dichloroethene**	**9.72**	**25.3**	**26.75**	95	**65**	**122**	*	*
24)	**1,1-Dichloroethane**	**9.98**	**23.2**	**26.50**	88	**63**	**118**	*	*
25)	**Methyl tert-Butyl Ether**	**10.07**	**24.4**	**26.75**	91	**57**	**131**	*	*
26)	**Vinyl Acetate**	**10.23**	**127**	**133.25**	95	**71**	**128**	*	*
27)	**2-Butanone (MEK)**	**10.47**	**25.8**	**26.50**	97	**67**	**123**	*	*
28)	**cis-1,2-Dichloroethene**	**10.99**	**23.5**	**26.50**	89	**64**	**120**	*	*
29)	Diisopropyl Ether	11.29	23.6	27.00	87	62	121	*	*
30)	**Ethyl Acetate**	**11.30**	**55.5**	**54.00**	103	**64**	**131**	*	*
31)	**n-Hexane**	**11.28**	**25.2**	**27.00**	93	**58**	**125**	*	*
32)	**Chloroform**	**11.34**	**23.8**	**26.75**	89	**65**	**114**	*	*
34)	**Tetrahydrofuran (THF)**	**11.74**	**24.7**	**27.50**	90	**65**	**115**	*	*
35)	Ethyl tert-Butyl Ether	11.88	24.9	26.75	93	61	130	*	*
36)	**1,2-Dichloroethane**	**12.14**	**22.8**	**26.75**	85	**59**	**120**	*	*
38)	**1,1,1-Trichloroethane**	**12.42**	**25.3**	**26.75**	95	**66**	**115**	*	*
39)	Isopropyl Acetate	12.85	53.3	52.50	102	65	129	*	*
40)	1-Butanol	12.87	53.3	53.25	100	58	140	*	*
41)	**Benzene**	**12.90**	**23.9**	**26.25**	91	**66**	**109**	*	*
42)	**Carbon Tetrachloride**	**13.06**	**25.0**	**26.00**	96	**66**	**119**	*	*
43)	**Cyclohexane**	**13.20**	**50.4**	**52.75**	96	**67**	**117**	*	*
44)	tert-Amyl Methyl Ether	13.54	25.7	**26.75**	96	62	133	*	*
45)	**1,2-Dichloropropane**	**13.75**	**24.7**	**26.75**	92	**66**	**119**	*	*
46)	**Bromodichloromethane**	**13.95**	**25.6**	**27.25**	94	**71**	**119**	*	*
47)	**Trichloroethene**	**14.00**	**24.1**	**27.00**	89	**70**	**114**	*	*
48)	**1,4-Dioxane**	**13.97**	**27.1**	**27.00**	100	**71**	**117**	*	*
49)	2,2,4-Trimethylpentane (Isooctane)	14.07	24.0	26.75	90	61	122	*	*

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **03112010.D** **TO15.M**
Data File Path: **I:\MS16\DATA\2020_03\11** Sample Name: **25ng TO15 ICV STD**
Operator: **LH** Misc Info: **S31-02112001/S31-02262006 (**
Date Acquired: **3/11/20** **5:25** Instrument Name: **GCMS-16**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
50)	**Methyl Methacrylate**	**14.20**	**56.6**	**53.75**	105	**76**	**121**	*	*
51)	**n-Heptane**	**14.34**	**24.8**	**26.75**	93	**66**	**119**	*	*
52)	**cis-1,3-Dichloropropene**	**14.86**	**28.5**	**26.75**	107	**72**	**125**	*	*
53)	**4-Methyl-2-pentanone**	**14.90**	**26.3**	**26.50**	99	**68**	**130**	*	*
54)	**trans-1,3-Dichloropropene**	**15.38**	**26.3**	**26.50**	99	**71**	**132**	*	*
55)	**1,1,2-Trichloroethane**	**15.56**	**25.8**	**26.75**	96	**70**	**117**	*	*
58)	**Toluene**	**15.85**	**25.8**	**26.50**	97	**67**	**113**	*	*
59)	**2-Hexanone**	**16.09**	**27.2**	**27.00**	101	**62**	**135**	*	*
60)	**Dibromochloromethane**	**16.26**	**30.1**	**26.75**	113	**73**	**126**	*	*
61)	**1,2-Dibromoethane**	**16.51**	**28.9**	**26.75**	108	**71**	**122**	*	*
62)	**n-Butyl Acetate**	**16.72**	**28.1**	**27.25**	103	**65**	**134**	*	*
63)	**n-Octane**	**16.85**	**25.6**	**27.00**	95	**63**	**120**	*	*
64)	**Tetrachloroethene**	**16.99**	**27.7**	**26.00**	107	**64**	**120**	*	*
65)	**Chlorobenzene**	**17.65**	**26.6**	**26.75**	99	**65**	**116**	*	*
66)	**Ethylbenzene**	**18.01**	**27.4**	**26.50**	103	**65**	**117**	*	*
67)	**m- & p-Xylenes**	**18.18**	**54.9**	**53.25**	103	**64**	**121**	*	*
68)	**Bromoform**	**18.24**	**30.2**	**26.75**	113	**72**	**130**	*	*
69)	**Styrene**	**18.50**	**27.4**	**26.50**	103	**72**	**126**	*	*
70)	**o-Xylene**	**18.60**	**27.0**	**26.75**	101	**64**	**120**	*	*
71)	**n-Nonane**	**18.80**	**25.7**	**26.75**	96	**56**	**132**	*	*
72)	**1,1,2,2-Tetrachloroethane**	**18.58**	**27.7**	**26.75**	104	**66**	**122**	*	*
74)	**Cumene**	**19.13**	**27.3**	**26.75**	102	**64**	**121**	*	*
75)	**alpha-Pinene**	**19.48**	**27.2**	**26.50**	103	**62**	**136**	*	*
76)	**n-Propylbenzene**	**19.58**	**27.7**	**26.75**	104	**65**	**123**	*	*
77)	3-Ethyltoluene	19.67	28.0	26.75	105	62	123	*	*
78)	**4-Ethyltoluene**	**19.71**	**27.2**	**26.25**	**104**	**71**	**126**	*	*
79)	**1,3,5-Trimethylbenzene**	**19.77**	**26.9**	**26.50**	**102**	**65**	**120**	*	*
80)	alpha-Methylstyrene	19.91	27.0	26.50	**102**	70	132	*	*
81)	2-Ethyltoluene	19.94	27.6	26.75	**103**	66	121	*	*
82)	**1,2,4-Trimethylbenzene**	**20.13**	**29.6**	**26.50**	**112**	**63**	**129**	*	*
83)	n-Decane	20.23	27.2	26.75	**102**	61	131	*	*
84)	**Benzyl Chloride**	**20.25**	**30.3**	**26.75**	**113**	**66**	**138**	*	*
85)	**1,3-Dichlorobenzene**	**20.27**	**30.5**	**26.75**	**114**	**65**	**127**	*	*
86)	**1,4-Dichlorobenzene**	**20.33**	**29.9**	**26.75**	**112**	**66**	**125**	*	*
87)	sec-Butylbenzene	20.37	27.7	26.50	**105**	68	123	*	*
88)	4-Isopropyltoluene (p-Cymene)	20.51	29.8	27.25	**109**	61	129	*	*
89)	1,2,3-Trimethylbenzene	20.51	28.9	27.00	**107**	60	134	*	*
90)	**1,2-Dichlorobenzene**	**20.63**	**29.6**	**26.75**	**111**	**67**	**128**	*	*
91)	**d-Limonene**	**20.64**	**26.5**	**26.50**	**100**	**65**	**136**	*	*
92)	**1,2-Dibromo-3-Chloropropane**	**21.01**	**30.2**	**26.75**	**113**	**73**	**133**	*	*
93)	n-Undecane	21.33	26.0	27.00	**96**	64	131	*	*
94)	**1,2,4-Trichlorobenzene**	**22.14**	**34.9**	**27.00**	**129**	**62**	**140**	*	*
95)	**Naphthalene**	**22.24**	**34.1**	**26.50**	**129**	**57**	**149**	*	*
96)	n-Dodecane	22.24	25.5	26.50	**96**	41	181	*	*
97)	**Hexachlorobutadiene**	**22.56**	**28.0**	**26.75**	**105**	57	129	*	*
98)	Cyclohexanone	18.31	25.0	25.25	99	61	131	*	*
99)	tert-Butylbenzene	20.14	28.9	26.50	109	62	130	*	*
100)	n-Butylbenzene	20.88	27.6	26.75	103	67	124	*	*

Bold = 75 Compound List

 *** = Pass** **I:\MS16\0-Instrument Info\0-Security Certificates\ICV_LCS_2019_10111902.CRT** 3/11/20 10:58 AM

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_04\17\04172001.D Vial: 16
Acq On : 16 Apr 2020 23:43 Operator: WA
Sample : CCV R16041720_25ng Inst : GCMS-16
Misc : S31-02112001 /S34-04102010 (5/8)

Quant Time: Apr 17 05:48:07 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 4/17/20

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	143	-0.01
2	T	Propene	1.311	1.429	-9.0	163	-0.02
3	T	Dichlorodifluoromethane (CF	2.821	2.863	-1.5	154	-0.01
4	T	Chloromethane	2.227	2.362	-6.1	157	-0.02
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.796	1.684	6.2	142	-0.02
6	T	Vinyl Chloride	2.351	2.414	-2.7	154	-0.02
7	T	1,3-Butadiene	1.703	1.696	0.4	168	-0.02
8	T	Bromomethane	1.178	1.273	-8.1	160	-0.02
9	T	Chloroethane	0.902	0.957	-6.1	158	-0.02
10	T	Ethanol	1.036	1.089	-5.1	155	-0.07
11	T	Acetonitrile	2.279	2.341	-2.7	159	-0.05
12	T	Acrolein	0.762	0.878	-15.2	156	-0.03
13	T	Acetone	1.023	1.124	-9.9	147	-0.04
14	T	Trichlorofluoromethane	2.487	2.512	-1.0	146	-0.02
15	T	2-Propanol (Isopropanol)	3.033	3.537	-16.6	154	-0.05
16	T	Acrylonitrile	1.534	1.808	-17.9	152	-0.03
17	T	1,1-Dichloroethene	1.230	1.317	-7.1	150	-0.02
18	T	2-Methyl-2-Propanol (tert-B	2.721	3.354	-23.3	144	-0.03
19	T	Methylene Chloride	1.330	1.403	-5.5	147	-0.02
20	T	3-Chloro-1-propene (Allyl C	1.724	1.891	-9.7	150	-0.02
21	T	Trichlorotrifluoroethane	1.189	1.190	-0.1	145	-0.01
22	T	Carbon Disulfide	4.785	5.102	-6.6	148	-0.02
23	T	trans-1,2-Dichloroethene	1.785	1.938	-8.6	150	-0.01
24	T	1,1-Dichloroethane	2.278	2.354	-3.3	147	-0.01
25	T	Methyl tert-Butyl Ether	3.688	3.498	5.2	134	-0.01
26	T	Vinyl Acetate	0.351	0.381	-8.5	133	-0.03
27	T	2-Butanone (MEK)	0.851	0.971	-14.1	141	-0.02
28	T	cis-1,2-Dichloroethene	1.855	1.930	-4.0	147	-0.02
29	T	Diisopropyl Ether	1.357	1.367	-0.7	137	-0.01
30	T	Ethyl Acetate	0.503	0.614	-22.1	141	-0.02
31	T	n-Hexane	2.332	2.638	-13.1	145	0.00
32	T	Chloroform	2.482	2.515	-1.3	142	-0.02
33	S	1,2-Dichloroethane-d4(SS1)	1.731	1.632	5.7	139	-0.01
34	T	Tetrahydrofuran (THF)	0.876	0.909	-3.8	146	-0.01
35	T	Ethyl tert-Butyl Ether	1.585	1.666	-5.1	144	-0.01
36	T	1,2-Dichloroethane	1.936	1.898	2.0	141	-0.01
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	142	-0.01
38	T	1,1,1-Trichloroethane	0.491	0.508	-3.5	142	0.00
39	T	Isopropyl Acetate	0.203	0.246	-21.2	145	-0.01
40	T	1-Butanol	0.325	0.386	-18.8	137	-0.04
41	T	Benzene	1.293	1.357	-4.9	138	-0.01
42	T	Carbon Tetrachloride	0.444	0.475	-7.0	141	-0.01
43	T	Cyclohexane	0.496	0.533	-7.5	140	-0.01
44	T	tert-Amyl Methyl Ether	0.836	0.928	-11.0	145	-0.01
45	T	1,2-Dichloropropane	0.296	0.319	-7.8	149	-0.01
46	T	Bromodichloromethane	0.437	0.475	-8.7	142	-0.01
47	T	Trichloroethene	0.366	0.351	4.1	141	0.00
48	T	1,4-Dioxane	0.250	0.277	-10.8	143	-0.01
49	T	2,2,4-Trimethylpentane (Iso	1.228	1.330	-8.3	148	-0.01
50	T	Methyl Methacrylate	0.125	0.145	-16.0	136	-0.01
51	T	n-Heptane	0.302	0.326	-7.9	145	0.00
52	T	cis-1,3-Dichloropropene	0.477	0.568	-19.1	146	0.00
53	T	4-Methyl-2-pentanone	0.271	0.319	-17.7	146	-0.01
54	T	trans-1,3-Dichloropropene	0.443	0.504	-13.8	145	0.00
55	T	1,1,2-Trichloroethane	0.298	0.320	-7.4	144	-0.01

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_04\17\04172001.D Vial: 16
Acq On : 16 Apr 2020 23:43 Operator: WA
Sample : CCV R16041720_25ng Inst : GCMS-16
Misc : S31-02112001 /S34-04102010 (5/8)

Quant Time: Apr 17 05:48:07 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	142	0.00
57	S	Toluene-d8 (SS2)	2.216	2.115	4.6	136	0.00
58	T	Toluene	2.739	2.736	0.1	136	0.00
59	T	2-Hexanone	1.371	1.572	-14.7	146	-0.02
60	T	Dibromochloromethane	0.729	0.837	-14.8	142	0.00
61	T	1,2-Dibromoethane	0.701	0.783	-11.7	143	0.00
62	T	n-Butyl Acetate	1.466	1.743	-18.9	147	0.00
63	T	n-Octane	0.544	0.583	-7.2	146	0.00
64	T	Tetrachloroethene	0.763	0.783	-2.6	139	0.00
65	T	Chlorobenzene	1.843	1.873	-1.6	140	0.00
66	T	Ethylbenzene	3.006	3.253	-8.2	136	0.00
67	T	m- & p-Xylenes	2.444	2.624	-7.4	134	0.00
68	T	Bromoform	0.659	0.720	-9.3	134	0.00
69	T	Styrene	1.917	2.047	-6.8	132	0.00
70	T	o-Xylene	2.444	2.611	-6.8	134	0.00
71	T	n-Nonane	1.222	1.336	-9.3	144	0.00
72	T	1,1,2,2-Tetrachloroethane	1.174	1.305	-11.2	140	0.00
73	S	Bromofluorobenzene (SS3)	0.782	0.800	-2.3	143	0.00
74	T	Cumene	3.091	3.270	-5.8	132	0.00
75	T	alpha-Pinene	1.566	1.718	-9.7	133	0.00
76	T	n-Propylbenzene	3.610	3.970	-10.0	135	0.00
77	T	3-Ethyltoluene	3.067	3.293	-7.4	133	0.00
78	T	4-Ethyltoluene	2.935	3.185	-8.5	131	0.00
79	T	1,3,5-Trimethylbenzene	2.613	2.712	-3.8	130	0.00
80	T	alpha-Methylstyrene	1.428	1.482	-3.8	127	0.00
81	T	2-Ethyltoluene	3.028	3.189	-5.3	131	0.00
82	T	1,2,4-Trimethylbenzene	2.707	2.996	-10.7	127	-0.01
83	T	n-Decane	1.308	1.348	-3.1	127	0.00
84	T	Benzyl Chloride	2.098	2.394	-14.1	139	-0.01
85	T	1,3-Dichlorobenzene	1.452	1.669	-14.9	133	0.00
86	T	1,4-Dichlorobenzene	1.442	1.629	-13.0	134	0.00
87	T	sec-Butylbenzene	3.366	3.623	-7.6	131	0.00
88	T	4-Isopropyltoluene (p-Cymen	3.218	3.573	-11.0	124	-0.01
89	T	1,2,3-Trimethylbenzene	2.717	2.998	-10.3	126	0.00
90	T	1,2-Dichlorobenzene	1.484	1.660	-11.9	133	0.00
91	T	d-Limonene	1.047	1.124	-7.4	130	-0.01
92	T	1,2-Dibromo-3-Chloropropane	0.498	0.596	-19.7	151	0.00
93	T	n-Undecane	1.349	0.921	31.7#	87	0.00
94	T	1,2,4-Trichlorobenzene	0.865	0.971	-12.3	158	0.00
95	T	Naphthalene	3.027	3.102	-2.5	121	0.00
96	T	n-Dodecane	1.341	0.357	73.4#	31#	0.00
97	T	Hexachlorobutadiene	0.690	0.677	1.9	133	0.00
98	T	Cyclohexanone	0.948	1.058	-11.6	141	-0.02
99	T	tert-Butylbenzene	2.654	2.894	-9.0	124	0.00
100	T	n-Butylbenzene	2.721	2.915	-7.1	134	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172001.D Vial: 16
Acq On : 16 Apr 2020 23:43 Operator: WA
Sample : CCV R16041720_25ng Inst : GCMS-16
Misc : S31-02112001 /S34-04102010 (5/8)

Quant Time: Apr 17 05:48:07 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/17/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	394114	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.30	114	1704222	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.61	82	821342	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	643258	11.787	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.32%				
57) Toluene-d8 (SS2)	15.75	98	1736954	11.931	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.44%				
73) Bromofluorobenzene (SS3)	19.01	174	657389	12.787	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.32%				
Target Compounds							Qvalue
2) Propene	4.10	42	1193614	28.877	ng		99
3) Dichlorodifluoromethan...	4.26	85	2392067	26.899	ng		100
4) Chloromethane	4.54	50	1973367	28.103	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	1393604	24.605	ng		99
6) Vinyl Chloride	4.96	62	2054999	27.726	ng		100
7) 1,3-Butadiene	5.22	54	1416941	26.389	ng		99
8) Bromomethane	5.66	94	1083672	29.186	ng		100
9) Chloroethane	5.99	64	814473	28.638	ng		100
10) Ethanol	6.37	45	4472117	136.896	ng		100
11) Acetonitrile	6.62	41	1937370	26.959	ng		100
12) Acrolein	6.80	56	712944	29.657	ng		100
13) Acetone	7.01	58	4721363	146.448	ng		98
14) Trichlorofluoromethane	7.26	101	2098418	26.761	ng		100
15) 2-Propanol (Isopropanol)	7.50	45	5854880	61.235	ng		98
16) Acrylonitrile	7.77	53	1496191	30.928	ng		100
17) 1,1-Dichloroethene	8.22	96	1120729	28.898	ng		98
18) 2-Methyl-2-Propanol (t...	8.38	59	5709901	66.547	ng		98
19) Methylene Chloride	8.45	84	1172163	27.943	ng		99
20) 3-Chloro-1-propene (Al...	8.61	41	1609602	29.615	ng		98
21) Trichlorotrifluoroethane	8.86	151	1012664	27.004	ng		99
22) Carbon Disulfide	8.71	76	4302721	28.520	ng		100
23) trans-1,2-Dichloroethene	9.72	61	1650120	29.315	ng		99
24) 1,1-Dichloroethane	9.98	63	2022400	28.153	ng		100
25) Methyl tert-Butyl Ether	10.07	73	2977401	25.605	ng		99
26) Vinyl Acetate	10.23	86	1606595	145.220	ng	#	89
27) 2-Butanone (MEK)	10.47	72	811140	30.223	ng		91
28) cis-1,2-Dichloroethene	10.99	61	1612970	27.580	ng		99
29) Diisopropyl Ether	11.29	87	1163730	27.192	ng	#	88
30) Ethyl Acetate	11.30	61	1050131	66.196	ng		98
31) n-Hexane	11.28	57	2245506	30.541	ng		99
32) Chloroform	11.34	83	2120798	27.103	ng		100
34) Tetrahydrofuran (THF)	11.74	72	780843	28.278	ng		96
35) Ethyl tert-Butyl Ether	11.88	87	1418650	28.384	ng		98
36) 1,2-Dichloroethane	12.14	62	1615420	26.465	ng		100
38) 1,1,1-Trichloroethane	12.42	97	1853314	27.712	ng		100
39) Isopropyl Acetate	12.85	61	1765799	63.819	ng		99
40) 1-Butanol	12.87	56	2738062	61.843	ng		98
41) Benzene	12.90	78	4901285	27.812	ng		100
42) Carbon Tetrachloride	13.06	117	1699564	28.084	ng		100
43) Cyclohexane	13.19	84	3848005	56.869	ng		96
44) tert-Amyl Methyl Ether	13.54	73	3415934	29.965	ng		99
45) 1,2-Dichloropropane	13.75	63	1174608	29.146	ng		100
46) Bromodichloromethane	13.95	83	1749323	29.369	ng		99
47) Trichloroethene	14.00	130	1280022	25.634	ng		100
48) 1,4-Dioxane	13.97	88	1019665	29.886	ng		98
49) 2,2,4-Trimethylpentane...	14.07	57	4848951	28.957	ng		98
50) Methyl Methacrylate	14.20	100	1060188	62.234	ng		94

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172001.D Vial: 16
Acq On : 16 Apr 2020 23:43 Operator: WA
Sample : CCV R16041720_25ng Inst : GCMS-16
Misc : S31-02112001 /S34-04102010 (5/8)

Quant Time: Apr 17 05:48:07 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

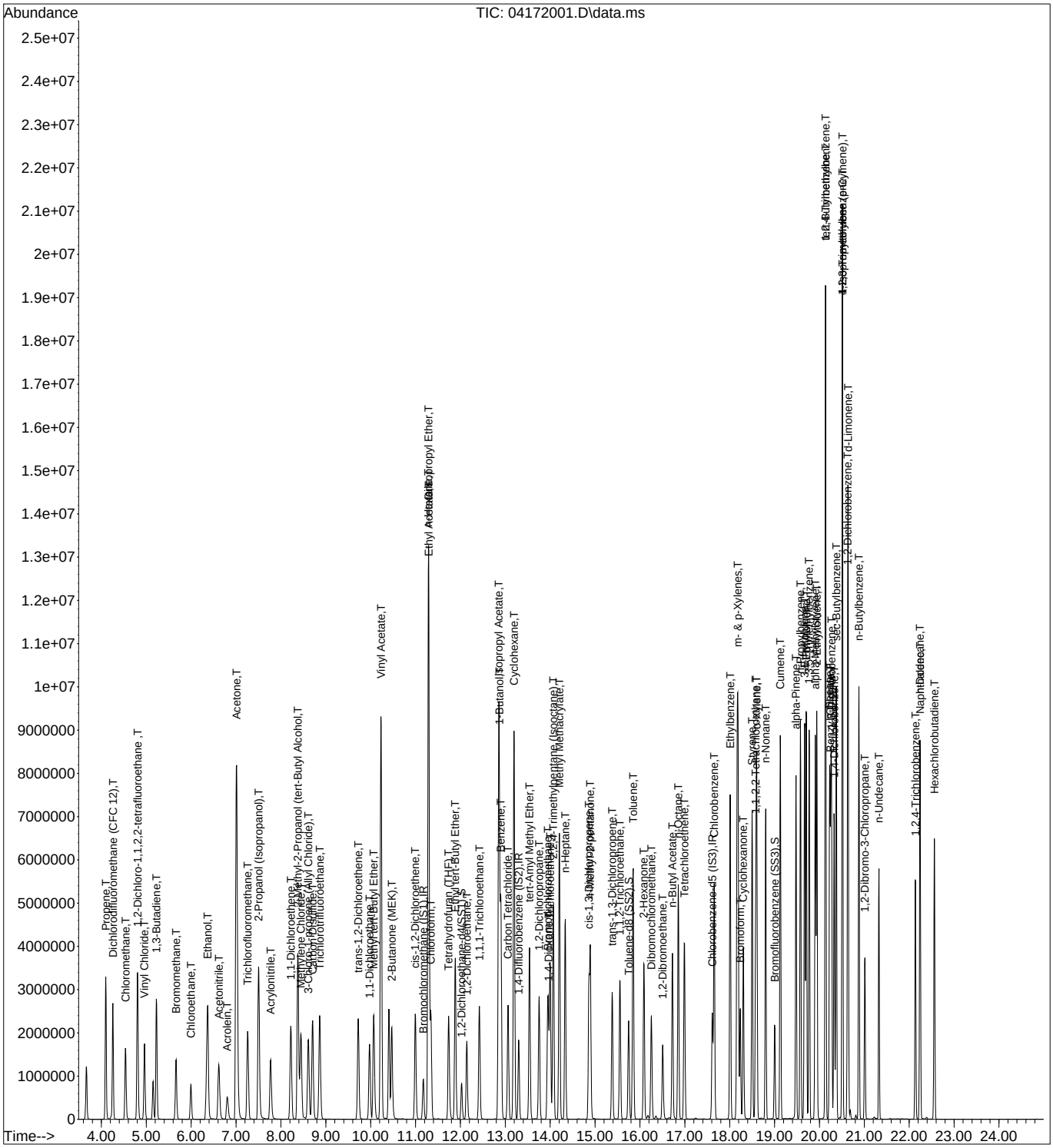
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.34	71	1198269	29.122	ng	98
52) cis-1,3-Dichloropropene	14.86	75	2012855	30.942	ng	100
53) 4-Methyl-2-pentanone	14.89	58	1152315	31.197	ng	98
54) trans-1,3-Dichloropropene	15.38	75	1820491	30.123	ng	100
55) 1,1,2-Trichloroethane	15.55	97	1166744	28.681	ng	99
58) Toluene	15.85	91	4809807	26.720	ng	100
59) 2-Hexanone	16.09	43	2762921	30.673	ng	99
60) Dibromochloromethane	16.26	129	1470430	30.685	ng	100
61) 1,2-Dibromoethane	16.51	107	1376836	29.886	ng	100
62) n-Butyl Acetate	16.72	43	3121605	32.405	ng	100
63) n-Octane	16.86	57	1033562	28.935	ng	97
64) Tetrachloroethene	16.99	166	1338294	26.681	ng	100
65) Chlorobenzene	17.65	112	3291320	27.175	ng	100
66) Ethylbenzene	18.01	91	5718519	28.957	ng	100
67) m- & p-Xylenes	18.18	91	9224423	57.430	ng	99
68) Bromoform	18.24	173	1265155	29.240	ng	100
69) Styrene	18.50	104	3564934	28.296	ng	99
70) o-Xylene	18.60	91	4589411	28.577	ng	99
71) n-Nonane	18.80	43	2348866	29.253	ng	97
72) 1,1,2,2-Tetrachloroethane	18.58	83	2294528	29.733	ng	100
74) Cumene	19.13	105	5800607	28.562	ng	100
75) alpha-Pinene	19.48	93	3020419	29.352	ng	99
76) n-Propylbenzene	19.58	91	7043856	29.699	ng	99
77) 3-Ethyltoluene	19.67	105	5733444	28.449	ng	100
78) 4-Ethyltoluene	19.71	105	5651167	29.300	ng	99
79) 1,3,5-Trimethylbenzene	19.77	105	4722949	27.512	ng	99
80) alpha-Methylstyrene	19.91	118	2604283	27.757	ng	99
81) 2-Ethyltoluene	19.94	105	5657661	28.438	ng	99
82) 1,2,4-Trimethylbenzene	20.14	105	5265355	29.607	ng	98
83) n-Decane	20.23	57	2369061	27.564	ng	98
84) Benzyl Chloride	20.25	91	4247118	30.812	ng	99
85) 1,3-Dichlorobenzene	20.27	146	2933881	30.745	ng	99
86) 1,4-Dichlorobenzene	20.33	146	2862660	30.206	ng	99
87) sec-Butylbenzene	20.37	105	6367948	28.791	ng	99
88) 4-Isopropyltoluene (p-...	20.51	119	6396854	30.249	ng	98
89) 1,2,3-Trimethylbenzene	20.51	105	5367133	30.065	ng	98
90) 1,2-Dichlorobenzene	20.63	146	2917436	29.915	ng	99
91) d-Limonene	20.64	68	1993281	28.983	ng	98
92) 1,2-Dibromo-3-Chloropr...	21.01	157	1028850	31.433	ng	97
93) n-Undecane	21.33	57	1633562	18.423	ng	98
94) 1,2,4-Trichlorobenzene	22.14	180	1706233	30.018	ng	100
95) Naphthalene	22.24	128	5248707	26.386	ng	100
96) n-Dodecane	22.24	57	609314	6.915	ng	99
97) Hexachlorobutadiene	22.56	225	1178847	26.013	ng	100
98) Cyclohexanone	18.30	55	1737716	27.909	ng	98
99) tert-Butylbenzene	20.14	119	5086001	29.165	ng	99
100) n-Butylbenzene	20.88	91	5122847	28.657	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172001.D Vial: 16
Acq On : 16 Apr 2020 23:43 Operator: WA
Sample : CCV R16041720_25ng Inst : GCMS-16
Misc : S31-02112001 /S34-04102010 (5/8)

Quant Time: Apr 17 05:48:07 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_04\17\04172035.D Vial: 1
Acq On : 17 Apr 2020 23:38 Operator: LH
Sample : CCVend R16041720_5.0ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 19 09:09:15 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/20/20

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	162	-0.02
2	T	Propene	1.311	1.557	-18.8	175	-0.01
3	T	Dichlorodifluoromethane (CF	2.821	3.269	-15.9	189	-0.01
4	T	Chloromethane	2.227	2.934	-31.7#	229#	-0.02
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.796	1.921	-7.0	177	-0.02
6	T	Vinyl Chloride	2.351	2.834	-20.5	195	-0.03
7	T	1,3-Butadiene	1.703	2.143	-25.8	194	-0.03
8	T	Bromomethane	1.178	1.372	-16.5	200#	-0.03
9	T	Chloroethane	0.902	1.053	-16.7	200	-0.03
10	T	Ethanol	1.036	1.163	-12.3	203#	-0.11
11	T	Acetonitrile	2.279	2.647	-16.1	199	-0.07
12	T	Acrolein	0.762	0.984	-29.1	205#	-0.04
13	T	Acetone	1.023	1.196	-16.9	204#	-0.06
14	T	Trichlorofluoromethane	2.487	2.782	-11.9	187	-0.02
15	T	2-Propanol (Isopropanol)	3.033	4.031	-32.9#	240#	-0.07
16	T	Acrylonitrile	1.534	2.026	-32.1#	202#	-0.05
17	T	1,1-Dichloroethene	1.230	1.435	-16.7	194	-0.02
18	T	2-Methyl-2-Propanol (tert-B	2.721	3.980	-46.3#	244#	-0.05
19	T	Methylene Chloride	1.330	1.565	-17.7	197	-0.03
20	T	3-Chloro-1-propene (Allyl C	1.724	2.089	-21.2	206#	-0.03
21	T	Trichlorotrifluoroethane	1.189	1.255	-5.6	183	-0.02
22	T	Carbon Disulfide	4.785	5.752	-20.2	202#	-0.02
23	T	trans-1,2-Dichloroethene	1.785	2.153	-20.6	195	-0.02
24	T	1,1-Dichloroethane	2.278	2.668	-17.1	194	-0.02
25	T	Methyl tert-Butyl Ether	3.688	4.504	-22.1	199	-0.02
26	T	Vinyl Acetate	0.351	0.385	-9.7	204#	-0.04
27	T	2-Butanone (MEK)	0.851	1.100	-29.3	201#	-0.03
28	T	cis-1,2-Dichloroethene	1.855	2.160	-16.4	194	-0.02
29	T	Diisopropyl Ether	1.357	1.563	-15.2	188	-0.02
30	T	Ethyl Acetate	0.503	0.611	-21.5	200#	-0.03
31	T	n-Hexane	2.332	2.591	-11.1	192	-0.01
32	T	Chloroform	2.482	2.833	-14.1	188	-0.03
33	S	1,2-Dichloroethane-d4(SS1)	1.731	1.728	0.2	160	-0.02
34	T	Tetrahydrofuran (THF)	0.876	1.019	-16.3	193	-0.01
35	T	Ethyl tert-Butyl Ether	1.585	1.805	-13.9	193	-0.01
36	T	1,2-Dichloroethane	1.936	2.140	-10.5	184	-0.02
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	160	-0.02
38	T	1,1,1-Trichloroethane	0.491	0.545	-11.0	184	-0.01
39	T	Isopropyl Acetate	0.203	0.240	-18.2	199	-0.02
40	T	1-Butanol	0.325	0.357	-9.8	177	-0.05
41	T	Benzene	1.293	1.436	-11.1	188	-0.02
42	T	Carbon Tetrachloride	0.444	0.491	-10.6	182	-0.02
43	T	Cyclohexane	0.496	0.540	-8.9	185	-0.01
44	T	tert-Amyl Methyl Ether	0.836	0.982	-17.5	196	-0.01
45	T	1,2-Dichloropropane	0.296	0.346	-16.9	193	-0.02
46	T	Bromodichloromethane	0.437	0.497	-13.7	187	-0.02
47	T	Trichloroethene	0.366	0.359	1.9	185	-0.01
48	T	1,4-Dioxane	0.250	0.292	-16.8	198	-0.02
49	T	2,2,4-Trimethylpentane (Iso	1.228	1.436	-16.9	194	-0.01
50	T	Methyl Methacrylate	0.125	0.145	-16.0	190	-0.02
51	T	n-Heptane	0.302	0.339	-12.3	188	-0.01
52	T	cis-1,3-Dichloropropene	0.477	0.580	-21.6	193	-0.01
53	T	4-Methyl-2-pentanone	0.271	0.341	-25.8	202#	-0.01
54	T	trans-1,3-Dichloropropene	0.443	0.510	-15.1	190	0.00
55	T	1,1,2-Trichloroethane	0.298	0.339	-13.8	190	-0.01

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_04\17\04172035.D Vial: 1
Acq On : 17 Apr 2020 23:38 Operator: LH
Sample : CCVend R16041720_5.0ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 19 09:09:15 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	162	0.00
57	S	Toluene-d8 (SS2)	2.216	2.115	4.6	154	-0.01
58	T	Toluene	2.739	2.943	-7.4	185	-0.01
59	T	2-Hexanone	1.371	1.709	-24.7	202#	-0.02
60	T	Dibromochloromethane	0.729	0.851	-16.7	189	-0.01
61	T	1,2-Dibromoethane	0.701	0.825	-17.7	191	-0.01
62	T	n-Butyl Acetate	1.466	1.862	-27.0	201#	0.00
63	T	n-Octane	0.544	0.610	-12.1	192	0.00
64	T	Tetrachloroethene	0.763	0.777	-1.8	180	-0.01
65	T	Chlorobenzene	1.843	1.954	-6.0	188	0.00
66	T	Ethylbenzene	3.006	3.437	-14.3	189	0.00
67	T	m- & p-Xylenes	2.444	2.699	-10.4	182	0.00
68	T	Bromoform	0.659	0.676	-2.6	184	0.00
69	T	Styrene	1.917	2.131	-11.2	189	0.00
70	T	o-Xylene	2.444	2.761	-13.0	187	-0.01
71	T	n-Nonane	1.222	1.426	-16.7	194	0.00
72	T	1,1,2,2-Tetrachloroethane	1.174	1.390	-18.4	191	-0.01
73	S	Bromofluorobenzene (SS3)	0.782	0.752	3.8	157	0.00
74	T	Cumene	3.091	3.459	-11.9	186	0.00
75	T	alpha-Pinene	1.566	1.749	-11.7	183	0.00
76	T	n-Propylbenzene	3.610	4.269	-18.3	188	0.00
77	T	3-Ethyltoluene	3.067	3.542	-15.5	186	0.00
78	T	4-Ethyltoluene	2.935	3.266	-11.3	183	0.00
79	T	1,3,5-Trimethylbenzene	2.613	2.855	-9.3	180	0.00
80	T	alpha-Methylstyrene	1.428	1.513	-6.0	179	0.00
81	T	2-Ethyltoluene	3.028	3.408	-12.5	181	0.00
82	T	1,2,4-Trimethylbenzene	2.707	2.969	-9.7	180	-0.02
83	T	n-Decane	1.308	1.422	-8.7	176	0.00
84	T	Benzyl Chloride	2.098	2.175	-3.7	188	-0.01
85	T	1,3-Dichlorobenzene	1.452	1.698	-16.9	189	-0.01
86	T	1,4-Dichlorobenzene	1.442	1.672	-16.0	187	-0.01
87	T	sec-Butylbenzene	3.366	3.930	-16.8	182	0.00
88	T	4-Isopropyltoluene (p-Cymen	3.218	3.640	-13.1	176	-0.01
89	T	1,2,3-Trimethylbenzene	2.717	2.974	-9.5	175	0.00
90	T	1,2-Dichlorobenzene	1.484	1.658	-11.7	189	0.00
91	T	d-Limonene	1.047	1.142	-9.1	178	-0.01
92	T	1,2-Dibromo-3-Chloropropane	0.498	0.584	-17.3	192	0.00
93	T	n-Undecane	1.349	0.984	27.1	124	0.00
94	T	1,2,4-Trichlorobenzene	0.865	0.894	-3.4	174	0.00
95	T	Naphthalene	3.027	3.000	0.9	156	0.00
96	T	n-Dodecane	1.341	0.414	69.1#	52	0.00
97	T	Hexachlorobutadiene	0.690	0.615	10.9	169	0.00
98	T	Cyclohexanone	0.948	1.140	-20.3	202#	-0.02
99	T	tert-Butylbenzene	2.654	2.901	-9.3	179	0.00
100	T	n-Butylbenzene	2.721	3.146	-15.6	180	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172035.D Vial: 1
Acq On : 17 Apr 2020 23:38 Operator: LH
Sample : CCVend R16041720_5.0ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 19 09:09:15 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/20/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	385511	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.29	114	1710770	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	823255	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	666204	12.480	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.84%				
57) Toluene-d8 (SS2)	15.74	98	1740975	11.931	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.44%				
73) Bromofluorobenzene (SS3)	19.00	174	619313	12.019	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.16%				
Target Compounds							Qvalue
2) Propene	4.10	42	254481	6.294	ng		100
3) Dichlorodifluoromethan...	4.26	85	534411	6.143	ng		100
4) Chloromethane	4.53	50	479600	6.982	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	311049	5.614	ng		99
6) Vinyl Chloride	4.96	62	472021	6.511	ng		100
7) 1,3-Butadiene	5.22	54	350212	6.668	ng		100
8) Bromomethane	5.65	94	228426	6.289	ng		99
9) Chloroethane	5.99	64	175321	6.302	ng		100
10) Ethanol	6.33	45	934479	29.244	ng		100
11) Acetonitrile	6.59	41	428509	6.096	ng		99
12) Acrolein	6.79	56	156231	6.644	ng		99
13) Acetone	7.00	58	982649	31.160	ng		95
14) Trichlorofluoromethane	7.25	101	454687	5.928	ng		99
15) 2-Propanol (Isopropanol)	7.48	45	1305418	13.958	ng		100
16) Acrylonitrile	7.75	53	328115	6.934	ng		100
17) 1,1-Dichloroethene	8.22	96	238976	6.300	ng		98
18) 2-Methyl-2-Propanol (t...	8.35	59	1325704	15.795	ng		99
19) Methylene Chloride	8.43	84	255889	6.236	ng		96
20) 3-Chloro-1-propene (Al...	8.60	41	347907	6.544	ng		97
21) Trichlorotrifluoroethane	8.86	151	209073	5.700	ng		93
22) Carbon Disulfide	8.70	76	949122	6.431	ng		100
23) trans-1,2-Dichloroethene	9.71	61	358512	6.511	ng		97
24) 1,1-Dichloroethane	9.96	63	448463	6.382	ng		99
25) Methyl tert-Butyl Ether	10.06	73	750112	6.595	ng		99
26) Vinyl Acetate	10.22	86	317342	29.325	ng	#	63
27) 2-Butanone (MEK)	10.47	72	179786	6.848	ng	#	88
28) cis-1,2-Dichloroethene	10.99	61	353056	6.172	ng		98
29) Diisopropyl Ether	11.28	87	260347	6.219	ng	#	93
30) Ethyl Acetate	11.29	61	204343	13.168	ng		96
31) n-Hexane	11.28	57	431558	6.001	ng		99
32) Chloroform	11.33	83	467365	6.106	ng		99
34) Tetrahydrofuran (THF)	11.74	72	171220	6.339	ng		94
35) Ethyl tert-Butyl Ether	11.88	87	300643	6.149	ng		95
36) 1,2-Dichloroethane	12.14	62	356399	5.969	ng		99
38) 1,1,1-Trichloroethane	12.42	97	399207	5.946	ng		99
39) Isopropyl Acetate	12.85	61	346675	12.482	ng	#	92
40) 1-Butanol	12.86	56	507436	11.417	ng		91
41) Benzene	12.90	78	1041329	5.886	ng		100
42) Carbon Tetrachloride	13.06	117	352515	5.803	ng		100
43) Cyclohexane	13.19	84	783599	11.536	ng		95
44) tert-Amyl Methyl Ether	13.54	73	725491	6.340	ng		99
45) 1,2-Dichloropropane	13.75	63	255756	6.322	ng		99
46) Bromodichloromethane	13.94	83	367504	6.146	ng		100
47) Trichloroethene	14.00	130	262859	5.244	ng		100
48) 1,4-Dioxane	13.96	88	215931	6.305	ng		97
49) 2,2,4-Trimethylpentane...	14.07	57	1051602	6.256	ng		99
50) Methyl Methacrylate	14.20	100	213691	12.496	ng		91

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172035.D Vial: 1
Acq On : 17 Apr 2020 23:38 Operator: LH
Sample : CCVend R16041720_5.0ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 19 09:09:15 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

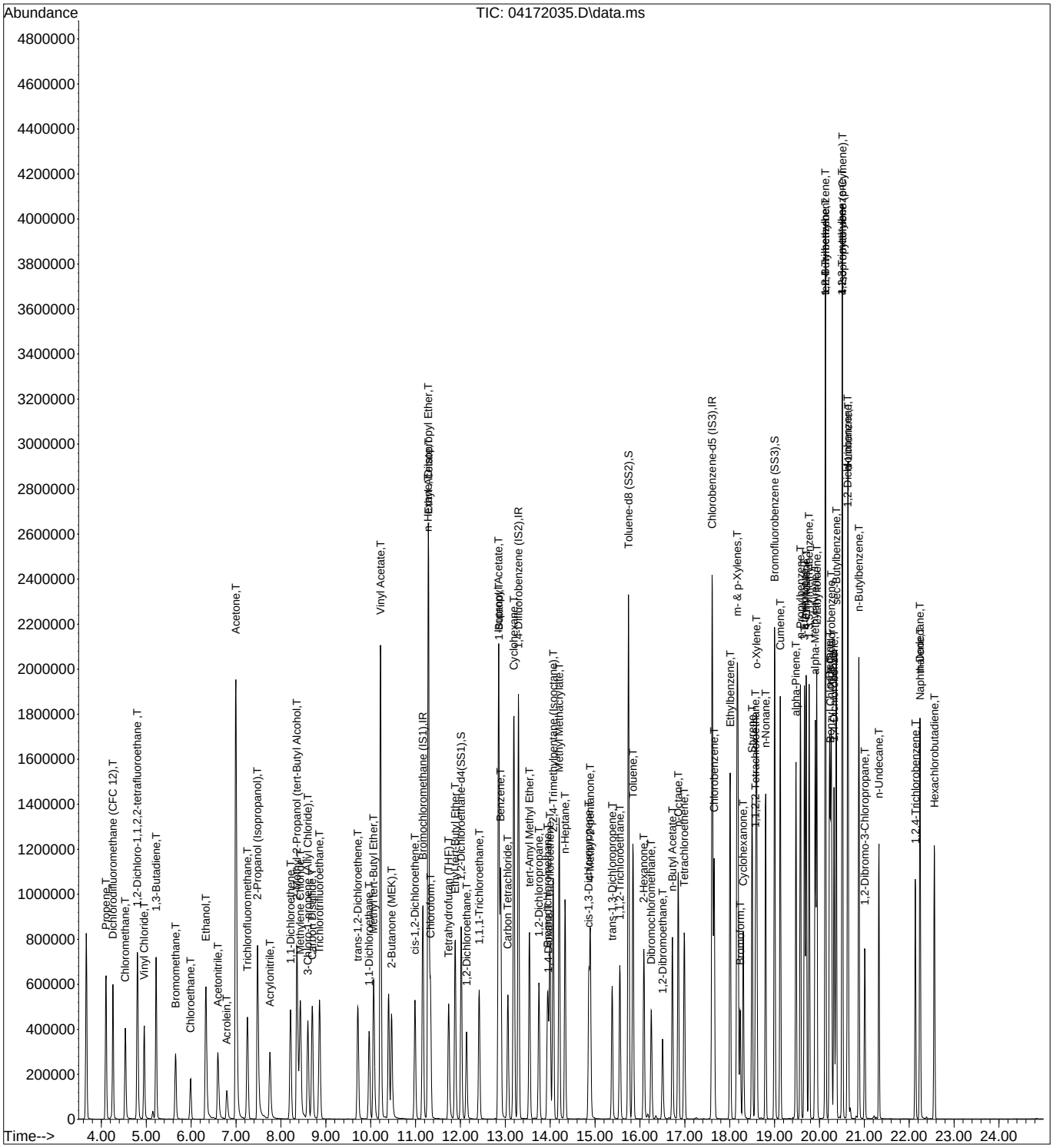
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.33	71	250459	6.064	ng	97
52) cis-1,3-Dichloropropene	14.86	75	412804	6.321	ng	99
53) 4-Methyl-2-pentanone	14.89	58	247079	6.664	ng	95
54) trans-1,3-Dichloropropene	15.38	75	370133	6.101	ng	100
55) 1,1,2-Trichloroethane	15.55	97	248346	6.082	ng	99
58) Toluene	15.84	91	1036905	5.747	ng	100
59) 2-Hexanone	16.09	43	602098	6.669	ng	98
60) Dibromochloromethane	16.25	129	299999	6.246	ng	99
61) 1,2-Dibromoethane	16.50	107	290830	6.298	ng	100
62) n-Butyl Acetate	16.72	43	668469	6.923	ng	99
63) n-Octane	16.86	57	216781	6.055	ng	95
64) Tetrachloroethene	16.99	166	266018	5.291	ng	100
65) Chlorobenzene	17.65	112	688354	5.670	ng	100
66) Ethylbenzene	18.01	91	1211081	6.118	ng	98
67) m- & p-Xylenes	18.17	91	1902155	11.815	ng	99
68) Bromoform	18.24	173	238101	5.490	ng	99
69) Styrene	18.50	104	743913	5.891	ng	99
70) o-Xylene	18.60	91	972699	6.043	ng	98
71) n-Nonane	18.80	43	502480	6.243	ng	95
72) 1,1,2,2-Tetrachloroethane	18.58	83	489886	6.333	ng	100
74) Cumene	19.13	105	1230044	6.043	ng	98
75) alpha-Pinene	19.48	93	616363	5.976	ng	99
76) n-Propylbenzene	19.58	91	1518106	6.386	ng	97
77) 3-Ethyltoluene	19.67	105	1236277	6.120	ng	98
78) 4-Ethyltoluene	19.70	105	1161658	6.009	ng	98
79) 1,3,5-Trimethylbenzene	19.77	105	996554	5.792	ng	98
80) alpha-Methylstyrene	19.91	118	532978	5.667	ng	92
81) 2-Ethyltoluene	19.94	105	1212208	6.079	ng	98
82) 1,2,4-Trimethylbenzene	20.13	105	1046228	5.869	ng	98
83) n-Decane	20.23	57	501053	5.816	ng	97
84) Benzyl Chloride	20.25	91	773655	5.600	ng	96
85) 1,3-Dichlorobenzene	20.26	146	598337	6.255	ng	100
86) 1,4-Dichlorobenzene	20.32	146	588990	6.200	ng	100
87) sec-Butylbenzene	20.37	105	1384875	6.247	ng	98
88) 4-Isopropyltoluene (p-...	20.51	119	1306647	6.164	ng	98
89) 1,2,3-Trimethylbenzene	20.51	105	1067491	5.966	ng	99
90) 1,2-Dichlorobenzene	20.63	146	584169	5.976	ng	99
91) d-Limonene	20.64	68	406219	5.893	ng	96
92) 1,2-Dibromo-3-Chloropr...	21.01	157	202036	6.158	ng	86
93) n-Undecane	21.33	57	350009	3.938	ng	96
94) 1,2,4-Trichlorobenzene	22.14	180	314872	5.527	ng	99
95) Naphthalene	22.24	128	1017410	5.103	ng	99
96) n-Dodecane	22.24	57	141904	1.607	ng	97
97) Hexachlorobutadiene	22.56	225	214546	4.723	ng	100
98) Cyclohexanone	18.30	55	375336	6.014	ng	97
99) tert-Butylbenzene	20.13	119	1022291	5.848	ng	98
100) n-Butylbenzene	20.88	91	1108329	6.185	ng	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\17\04172035.D Vial: 1
Acq On : 17 Apr 2020 23:38 Operator: LH
Sample : CCVend R16041720_5.0ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 19 09:09:15 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_04\20\04202002.D Vial: 2
Acq On : 20 Apr 2020 2:06 Operator: WA
Sample : CCV R16042020_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

TD 4/20/20

Quant Time: Apr 20 05:39:52 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	141	-0.01
2	T	Propene	1.311	1.448	-10.5	163	-0.01
3	T	Dichlorodifluoromethane (CF	2.821	2.854	-1.2	152	-0.01
4	T	Chloromethane	2.227	2.349	-5.5	154	-0.01
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.796	1.659	7.6	138	-0.02
6	T	Vinyl Chloride	2.351	2.403	-2.2	151	-0.02
7	T	1,3-Butadiene	1.703	1.943	-14.1	190	-0.02
8	T	Bromomethane	1.178	1.266	-7.5	157	-0.02
9	T	Chloroethane	0.902	0.951	-5.4	155	-0.02
10	T	Ethanol	1.036	1.099	-6.1	155	-0.07
11	T	Acetonitrile	2.279	2.381	-4.5	160	-0.04
12	T	Acrolein	0.762	0.889	-16.7	156	-0.02
13	T	Acetone	1.023	1.129	-10.4	146	-0.04
14	T	Trichlorofluoromethane	2.487	2.458	1.2	141	-0.02
15	T	2-Propanol (Isopropanol)	3.033	3.540	-16.7	152	-0.04
16	T	Acrylonitrile	1.534	1.832	-19.4	152	-0.03
17	T	1,1-Dichloroethene	1.230	1.306	-6.2	147	-0.02
18	T	2-Methyl-2-Propanol (tert-B	2.721	3.288	-20.8	140	-0.03
19	T	Methylene Chloride	1.330	1.428	-7.4	148	-0.02
20	T	3-Chloro-1-propene (Allyl C	1.724	1.899	-10.2	149	-0.02
21	T	Trichlorotrifluoroethane	1.189	1.192	-0.3	144	-0.01
22	T	Carbon Disulfide	4.785	5.071	-6.0	145	-0.02
23	T	trans-1,2-Dichloroethene	1.785	1.961	-9.9	149	-0.01
24	T	1,1-Dichloroethane	2.278	2.368	-4.0	146	-0.01
25	T	Methyl tert-Butyl Ether	3.688	3.521	4.5	133	-0.01
26	T	Vinyl Acetate	0.351	0.375	-6.8	130	-0.03
27	T	2-Butanone (MEK)	0.851	0.975	-14.6	140	-0.02
28	T	cis-1,2-Dichloroethene	1.855	1.930	-4.0	145	-0.01
29	T	Diisopropyl Ether	1.357	1.566	-15.4	155	-0.01
30	T	Ethyl Acetate	0.503	0.617	-22.7	140	-0.02
31	T	n-Hexane	2.332	2.660	-14.1	145	0.00
32	T	Chloroform	2.482	2.512	-1.2	140	-0.02
33	S	1,2-Dichloroethane-d4(SS1)	1.731	1.633	5.7	138	-0.01
34	T	Tetrahydrofuran (THF)	0.876	0.913	-4.2	145	0.00
35	T	Ethyl tert-Butyl Ether	1.585	1.656	-4.5	141	-0.01
36	T	1,2-Dichloroethane	1.936	1.880	2.9	138	-0.01
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	141	0.00
38	T	1,1,1-Trichloroethane	0.491	0.506	-3.1	140	0.00
39	T	Isopropyl Acetate	0.203	0.246	-21.2	144	-0.01
40	T	1-Butanol	0.325	0.379	-16.6	134	-0.04
41	T	Benzene	1.293	1.359	-5.1	137	-0.01
42	T	Carbon Tetrachloride	0.444	0.467	-5.2	138	-0.01
43	T	Cyclohexane	0.496	0.535	-7.9	140	-0.01
44	T	tert-Amyl Methyl Ether	0.836	0.919	-9.9	143	-0.01
45	T	1,2-Dichloropropane	0.296	0.320	-8.1	148	-0.01
46	T	Bromodichloromethane	0.437	0.474	-8.5	140	-0.01
47	T	Trichloroethene	0.366	0.346	5.5	139	0.00
48	T	1,4-Dioxane	0.250	0.279	-11.6	144	-0.01
49	T	2,2,4-Trimethylpentane (Iso	1.228	1.330	-8.3	147	0.00
50	T	Methyl Methacrylate	0.125	0.145	-16.0	136	-0.01
51	T	n-Heptane	0.302	0.327	-8.3	144	0.00
52	T	cis-1,3-Dichloropropene	0.477	0.569	-19.3	145	0.00
53	T	4-Methyl-2-pentanone	0.271	0.321	-18.5	146	0.00
54	T	trans-1,3-Dichloropropene	0.443	0.508	-14.7	145	0.00
55	T	1,1,2-Trichloroethane	0.298	0.322	-8.1	145	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_04\20\04202002.D Vial: 2
Acq On : 20 Apr 2020 2:06 Operator: WA
Sample : CCV R16042020_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 20 05:39:52 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	140	0.00
57	S	Toluene-d8 (SS2)	2.216	2.129	3.9	135	0.00
58	T	Toluene	2.739	2.784	-1.6	137	0.00
59	T	2-Hexanone	1.371	1.582	-15.4	145	-0.01
60	T	Dibromochloromethane	0.729	0.844	-15.8	141	0.00
61	T	1,2-Dibromoethane	0.701	0.792	-13.0	143	0.00
62	T	n-Butyl Acetate	1.466	1.764	-20.3	147	0.00
63	T	n-Octane	0.544	0.588	-8.1	145	0.00
64	T	Tetrachloroethene	0.763	0.789	-3.4	138	0.00
65	T	Chlorobenzene	1.843	1.882	-2.1	138	0.00
66	T	Ethylbenzene	3.006	3.280	-9.1	135	0.00
67	T	m- & p-Xylenes	2.444	2.643	-8.1	133	0.00
68	T	Bromoform	0.659	0.731	-10.9	134	0.00
69	T	Styrene	1.917	2.058	-7.4	131	0.00
70	T	o-Xylene	2.444	2.627	-7.5	133	0.00
71	T	n-Nonane	1.222	1.340	-9.7	142	0.00
72	T	1,1,2,2-Tetrachloroethane	1.174	1.310	-11.6	139	0.00
73	S	Bromofluorobenzene (SS3)	0.782	0.801	-2.4	141	0.00
74	T	Cumene	3.091	3.290	-6.4	131	0.00
75	T	alpha-Pinene	1.566	1.715	-9.5	131	0.00
76	T	n-Propylbenzene	3.610	3.988	-10.5	133	0.00
77	T	3-Ethyltoluene	3.067	3.302	-7.7	132	0.00
78	T	4-Ethyltoluene	2.935	3.197	-8.9	130	0.00
79	T	1,3,5-Trimethylbenzene	2.613	2.723	-4.2	129	0.00
80	T	alpha-Methylstyrene	1.428	1.477	-3.4	125	0.00
81	T	2-Ethyltoluene	3.028	3.196	-5.5	129	0.00
82	T	1,2,4-Trimethylbenzene	2.707	3.014	-11.3	126	-0.01
83	T	n-Decane	1.308	1.354	-3.5	126	0.00
84	T	Benzyl Chloride	2.098	2.438	-16.2	140	-0.01
85	T	1,3-Dichlorobenzene	1.452	1.665	-14.7	131	0.00
86	T	1,4-Dichlorobenzene	1.442	1.625	-12.7	132	0.00
87	T	sec-Butylbenzene	3.366	3.633	-7.9	129	0.00
88	T	4-Isopropyltoluene (p-Cymen	3.218	3.590	-11.6	123	-0.01
89	T	1,2,3-Trimethylbenzene	2.717	3.008	-10.7	124	0.00
90	T	1,2-Dichlorobenzene	1.484	1.651	-11.3	131	0.00
91	T	d-Limonene	1.047	1.132	-8.1	129	-0.01
92	T	1,2-Dibromo-3-Chloropropane	0.498	0.594	-19.3	148	0.00
93	T	n-Undecane	1.349	0.903	33.1#	84	0.00
94	T	1,2,4-Trichlorobenzene	0.865	0.983	-13.6	157	0.00
95	T	Naphthalene	3.027	3.056	-1.0	117	0.00
96	T	n-Dodecane	1.341	0.332	75.2#	29#	0.00
97	T	Hexachlorobutadiene	0.690	0.691	-0.1	133	0.00
98	T	Cyclohexanone	0.948	1.056	-11.4	139	-0.02
99	T	tert-Butylbenzene	2.654	2.904	-9.4	123	0.00
100	T	n-Butylbenzene	2.721	2.922	-7.4	133	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202002.D Vial: 2
Acq On : 20 Apr 2020 2:06 Operator: WA
Sample : CCV R16042020_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

TD 4/20/20

Quant Time: Apr 20 05:39:52 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	389398	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.30	114	1693715	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.61	82	810042	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	635714	11.790	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.32%				
57) Toluene-d8 (SS2)	15.75	98	1724664	12.012	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.08%				
73) Bromofluorobenzene (SS3)	19.01	174	648785	12.796	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.40%				
Target Compounds							Qvalue
2) Propene	4.10	42	1195350	29.269	ng		99
3) Dichlorodifluoromethan...	4.26	85	2356085	26.815	ng		100
4) Chloromethane	4.54	50	1938792	27.945	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	1356871	24.246	ng		99
6) Vinyl Chloride	4.97	62	2020952	27.597	ng		100
7) 1,3-Butadiene	5.23	54	1604157	30.238	ng		99
8) Bromomethane	5.66	94	1065072	29.033	ng		100
9) Chloroethane	6.00	64	800280	28.479	ng		100
10) Ethanol	6.37	45	4459168	138.153	ng		100
11) Acetonitrile	6.62	41	1947273	27.425	ng		100
12) Acrolein	6.81	56	712970	30.018	ng		100
13) Acetone	7.01	58	4686465	147.126	ng		98
14) Trichlorofluoromethane	7.26	101	2029047	26.190	ng		100
15) 2-Propanol (Isopropanol)	7.51	45	5790224	61.292	ng		98
16) Acrylonitrile	7.78	53	1498207	31.344	ng		99
17) 1,1-Dichloroethene	8.22	96	1098639	28.672	ng		98
18) 2-Methyl-2-Propanol (t...	8.38	59	5530629	65.238	ng		98
19) Methylene Chloride	8.45	84	1178917	28.444	ng		99
20) 3-Chloro-1-propene (Al...	8.61	41	1597167	29.742	ng		99
21) Trichlorotrifluoroethane	8.86	151	1002815	27.065	ng		99
22) Carbon Disulfide	8.71	76	4225838	28.349	ng		100
23) trans-1,2-Dichloroethene	9.72	61	1649550	29.660	ng		99
24) 1,1-Dichloroethane	9.98	63	2010067	28.320	ng		100
25) Methyl tert-Butyl Ether	10.07	73	2961845	25.780	ng		99
26) Vinyl Acetate	10.23	86	1563919	143.075	ng	#	85
27) 2-Butanone (MEK)	10.47	72	804530	30.339	ng		94
28) cis-1,2-Dichloroethene	11.00	61	1593027	27.569	ng		100
29) Diisopropyl Ether	11.29	87	1317353	31.155	ng	#	87
30) Ethyl Acetate	11.30	61	1043428	66.570	ng		98
31) n-Hexane	11.28	57	2237159	30.796	ng		99
32) Chloroform	11.34	83	2093486	27.078	ng		100
34) Tetrahydrofuran (THF)	11.74	72	775078	28.409	ng		96
35) Ethyl tert-Butyl Ether	11.88	87	1393167	28.212	ng		97
36) 1,2-Dichloroethane	12.14	62	1581448	26.222	ng		100
38) 1,1,1-Trichloroethane	12.42	97	1833533	27.587	ng		100
39) Isopropyl Acetate	12.85	61	1761308	64.052	ng		99
40) 1-Butanol	12.87	56	2673615	60.762	ng		97
41) Benzene	12.90	78	4880214	27.864	ng		100
42) Carbon Tetrachloride	13.06	117	1662796	27.647	ng		100
43) Cyclohexane	13.19	84	3840183	57.106	ng		96
44) tert-Amyl Methyl Ether	13.54	73	3360766	29.664	ng		99
45) 1,2-Dichloropropane	13.75	63	1170610	29.227	ng		99
46) Bromodichloromethane	13.95	83	1734253	29.296	ng		99
47) Trichloroethene	14.00	130	1253496	25.259	ng		100
48) 1,4-Dioxane	13.97	88	1021049	30.112	ng		97
49) 2,2,4-Trimethylpentane...	14.07	57	4819866	28.962	ng		98
50) Methyl Methacrylate	14.20	100	1057528	62.463	ng		94

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202002.D Vial: 2
Acq On : 20 Apr 2020 2:06 Operator: WA
Sample : CCV R16042020_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 20 05:39:52 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

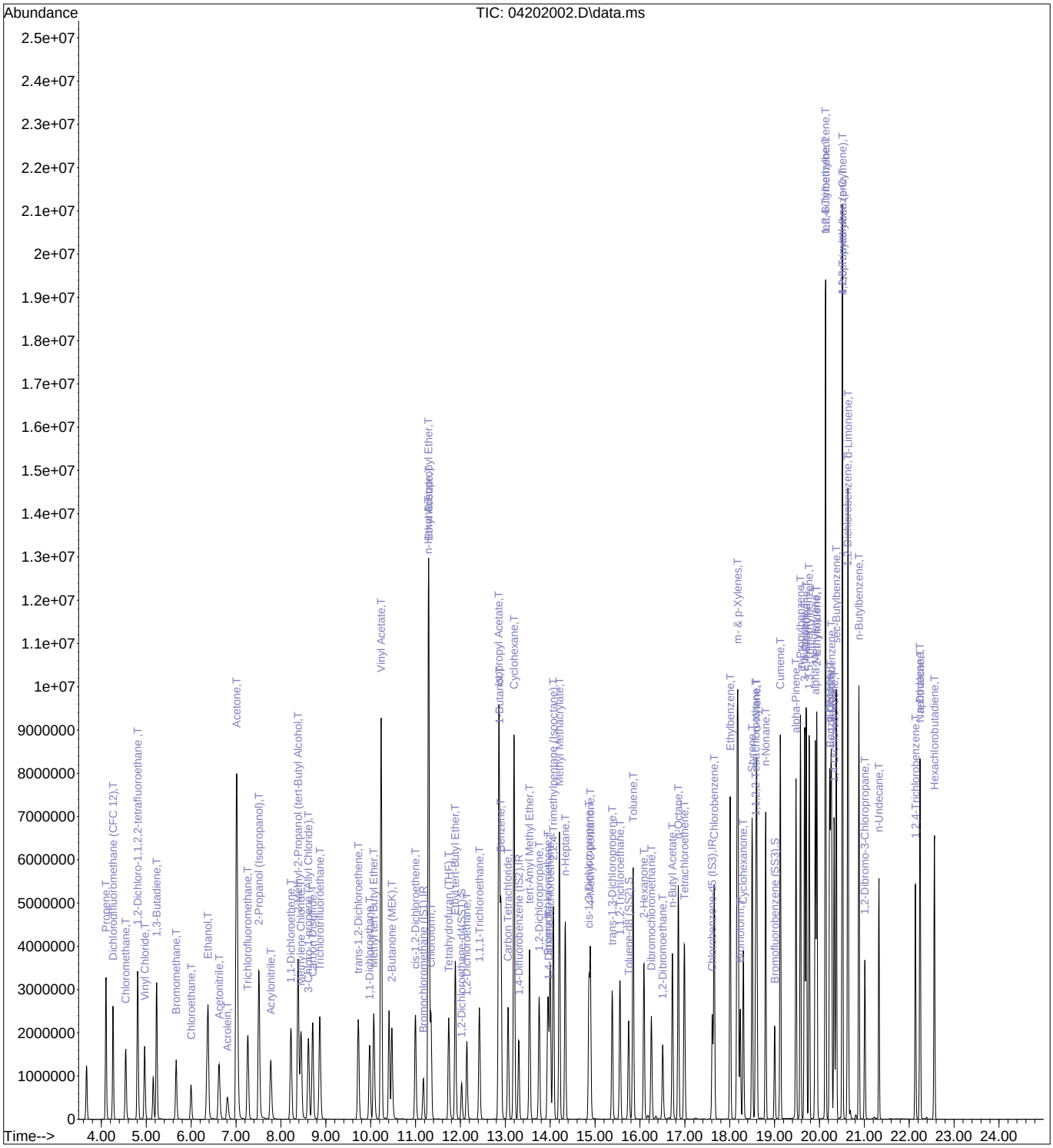
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.34	71	1196095	29.250	ng	98
52) cis-1,3-Dichloropropene	14.86	75	2005242	31.016	ng	100
53) 4-Methyl-2-pentanone	14.90	58	1154326	31.446	ng	98
54) trans-1,3-Dichloropropene	15.38	75	1824876	30.383	ng	100
55) 1,1,2-Trichloroethane	15.56	97	1168901	28.912	ng	99
58) Toluene	15.85	91	4826846	27.189	ng	100
59) 2-Hexanone	16.09	43	2742289	30.868	ng	100
60) Dibromochloromethane	16.26	129	1462480	30.945	ng	100
61) 1,2-Dibromoethane	16.51	107	1372558	30.209	ng	100
62) n-Butyl Acetate	16.72	43	3115012	32.788	ng	100
63) n-Octane	16.86	57	1029012	29.210	ng	98
64) Tetrachloroethene	16.99	166	1329951	26.884	ng	100
65) Chlorobenzene	17.65	112	3262737	27.315	ng	100
66) Ethylbenzene	18.01	91	5685926	29.193	ng	100
67) m- & p-Xylenes	18.18	91	9162051	57.837	ng	99
68) Bromoform	18.24	173	1267257	29.697	ng	100
69) Styrene	18.50	104	3534106	28.443	ng	99
70) o-Xylene	18.60	91	4554152	28.753	ng	99
71) n-Nonane	18.80	43	2322177	29.324	ng	97
72) 1,1,2,2-Tetrachloroethane	18.58	83	2271552	29.846	ng	100
74) Cumene	19.13	105	5756587	28.741	ng	99
75) alpha-Pinene	19.48	93	2973563	29.300	ng	99
76) n-Propylbenzene	19.58	91	6977942	29.832	ng	99
77) 3-Ethyltoluene	19.67	105	5670927	28.531	ng	99
78) 4-Ethyltoluene	19.70	105	5593488	29.405	ng	99
79) 1,3,5-Trimethylbenzene	19.77	105	4675550	27.616	ng	99
80) alpha-Methylstyrene	19.91	118	2559987	27.666	ng	92
81) 2-Ethyltoluene	19.94	105	5591765	28.499	ng	99
82) 1,2,4-Trimethylbenzene	20.14	105	5224107	29.785	ng	98
83) n-Decane	20.23	57	2347530	27.694	ng	98
84) Benzyl Chloride	20.25	91	4264969	31.373	ng	99
85) 1,3-Dichlorobenzene	20.27	146	2885655	30.661	ng	99
86) 1,4-Dichlorobenzene	20.33	146	2816523	30.134	ng	100
87) sec-Butylbenzene	20.37	105	6297669	28.870	ng	99
88) 4-Isopropyltoluene (p-...	20.51	119	6339013	30.394	ng	98
89) 1,2,3-Trimethylbenzene	20.51	105	5311782	30.170	ng	98
90) 1,2-Dichlorobenzene	20.63	146	2861538	29.751	ng	99
91) d-Limonene	20.64	68	1980569	29.200	ng	97
92) 1,2-Dibromo-3-Chloropr...	21.01	157	1009619	31.276	ng	96
93) n-Undecane	21.33	57	1579587	18.062	ng	98
94) 1,2,4-Trichlorobenzene	22.14	180	1704004	30.397	ng	100
95) Naphthalene	22.24	128	5098958	25.991	ng	100
96) n-Dodecane	22.24	57	559203	6.435	ng	98
97) Hexachlorobutadiene	22.56	225	1185901	26.534	ng	100
98) Cyclohexanone	18.30	55	1710262	27.851	ng	98
99) tert-Butylbenzene	20.14	119	5034382	29.271	ng	99
100) n-Butylbenzene	20.88	91	5065941	28.734	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202002.D Vial: 2
Acq On : 20 Apr 2020 2:06 Operator: WA
Sample : CCV R16042020_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 20 05:39:52 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_04\20\04202023.D Vial: 2
Acq On : 20 Apr 2020 16:10 Operator: TD
Sample : CCVend R16042020_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 20 16:47:14 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/20/20

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	133	-0.01
2	T	Propene	1.311	1.434	-9.4	153	-0.01
3	T	Dichlorodifluoromethane (CF	2.821	2.840	-0.7	143	0.00
4	T	Chloromethane	2.227	2.458	-10.4	153	-0.01
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.796	1.704	5.1	134	-0.01
6	T	Vinyl Chloride	2.351	2.467	-4.9	146	-0.02
7	T	1,3-Butadiene	1.703	1.655	2.8	153	-0.02
8	T	Bromomethane	1.178	1.229	-4.3	144	-0.02
9	T	Chloroethane	0.902	0.944	-4.7	145	-0.02
10	T	Ethanol	1.036	1.102	-6.4	146	-0.07
11	T	Acetonitrile	2.279	2.372	-4.1	150	-0.04
12	T	Acrolein	0.762	0.892	-17.1	148	-0.02
13	T	Acetone	1.023	1.151	-12.5	140	-0.04
14	T	Trichlorofluoromethane	2.487	2.515	-1.1	136	-0.01
15	T	2-Propanol (Isopropanol)	3.033	3.612	-19.1	146	-0.04
16	T	Acrylonitrile	1.534	1.848	-20.5	145	-0.03
17	T	1,1-Dichloroethene	1.230	1.329	-8.0	141	-0.01
18	T	2-Methyl-2-Propanol (tert-B	2.721	3.413	-25.4	137	-0.03
19	T	Methylene Chloride	1.330	1.437	-8.0	140	-0.02
20	T	3-Chloro-1-propene (Allyl C	1.724	1.954	-13.3	145	-0.02
21	T	Trichlorotrifluoroethane	1.189	1.191	-0.2	136	-0.01
22	T	Carbon Disulfide	4.785	5.222	-9.1	141	-0.01
23	T	trans-1,2-Dichloroethene	1.785	1.983	-11.1	143	-0.01
24	T	1,1-Dichloroethane	2.278	2.396	-5.2	140	-0.01
25	T	Methyl tert-Butyl Ether	3.688	3.608	2.2	129	-0.01
26	T	Vinyl Acetate	0.351	0.396	-12.8	129	-0.03
27	T	2-Butanone (MEK)	0.851	0.996	-17.0	135	-0.02
28	T	cis-1,2-Dichloroethene	1.855	1.975	-6.5	140	-0.01
29	T	Diisopropyl Ether	1.357	1.621	-19.5	152	-0.01
30	T	Ethyl Acetate	0.503	0.640	-27.2	137	-0.02
31	T	n-Hexane	2.332	2.759	-18.3	142	0.00
32	T	Chloroform	2.482	2.575	-3.7	135	-0.02
33	S	1,2-Dichloroethane-d4(SS1)	1.731	1.650	4.7	131	-0.01
34	T	Tetrahydrofuran (THF)	0.876	0.933	-6.5	140	0.00
35	T	Ethyl tert-Butyl Ether	1.585	1.700	-7.3	137	-0.01
36	T	1,2-Dichloroethane	1.936	1.937	-0.1	134	-0.01
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	133	0.00
38	T	1,1,1-Trichloroethane	0.491	0.513	-4.5	135	0.00
39	T	Isopropyl Acetate	0.203	0.250	-23.2	139	-0.01
40	T	1-Butanol	0.325	0.393	-20.9	132	-0.04
41	T	Benzene	1.293	1.385	-7.1	132	-0.01
42	T	Carbon Tetrachloride	0.444	0.478	-7.7	134	-0.01
43	T	Cyclohexane	0.496	0.546	-10.1	135	0.00
44	T	tert-Amyl Methyl Ether	0.836	0.946	-13.2	139	-0.01
45	T	1,2-Dichloropropane	0.296	0.323	-9.1	142	-0.01
46	T	Bromodichloromethane	0.437	0.481	-10.1	135	-0.01
47	T	Trichloroethene	0.366	0.354	3.3	134	0.00
48	T	1,4-Dioxane	0.250	0.281	-12.4	137	-0.01
49	T	2,2,4-Trimethylpentane (Iso	1.228	1.361	-10.8	143	0.00
50	T	Methyl Methacrylate	0.125	0.145	-16.0	129	-0.01
51	T	n-Heptane	0.302	0.332	-9.9	139	0.00
52	T	cis-1,3-Dichloropropene	0.477	0.575	-20.5	139	0.00
53	T	4-Methyl-2-pentanone	0.271	0.325	-19.9	140	0.00
54	T	trans-1,3-Dichloropropene	0.443	0.512	-15.6	139	0.00
55	T	1,1,2-Trichloroethane	0.298	0.323	-8.4	138	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_04\20\04202023.D Vial: 2
Acq On : 20 Apr 2020 16:10 Operator: TD
Sample : CCVend R16042020_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 20 16:47:14 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	132	0.00
57	S	Toluene-d8 (SS2)	2.216	2.118	4.4	127	0.00
58	T	Toluene	2.739	2.799	-2.2	130	0.00
59	T	2-Hexanone	1.371	1.614	-17.7	141	-0.01
60	T	Dibromochloromethane	0.729	0.851	-16.7	135	0.00
61	T	1,2-Dibromoethane	0.701	0.797	-13.7	136	0.00
62	T	n-Butyl Acetate	1.466	1.797	-22.6	142	0.00
63	T	n-Octane	0.544	0.597	-9.7	139	0.00
64	T	Tetrachloroethene	0.763	0.794	-4.1	131	0.00
65	T	Chlorobenzene	1.843	1.907	-3.5	133	0.00
66	T	Ethylbenzene	3.006	3.353	-11.5	131	0.00
67	T	m- & p-Xylenes	2.444	2.712	-11.0	129	0.00
68	T	Bromoform	0.659	0.735	-11.5	128	0.00
69	T	Styrene	1.917	2.115	-10.3	128	0.00
70	T	o-Xylene	2.444	2.706	-10.7	130	0.00
71	T	n-Nonane	1.222	1.388	-13.6	140	0.00
72	T	1,1,2,2-Tetrachloroethane	1.174	1.355	-15.4	136	0.00
73	S	Bromofluorobenzene (SS3)	0.782	0.782	0.0	130	0.00
74	T	Cumene	3.091	3.381	-9.4	128	0.00
75	T	alpha-Pinene	1.566	1.775	-13.3	128	0.00
76	T	n-Propylbenzene	3.610	4.104	-13.7	130	0.00
77	T	3-Ethyltoluene	3.067	3.365	-9.7	127	0.00
78	T	4-Ethyltoluene	2.935	3.325	-13.3	128	0.00
79	T	1,3,5-Trimethylbenzene	2.613	2.805	-7.3	126	0.00
80	T	alpha-Methylstyrene	1.428	1.520	-6.4	122	0.00
81	T	2-Ethyltoluene	3.028	3.301	-9.0	126	0.00
82	T	1,2,4-Trimethylbenzene	2.707	3.112	-15.0	123	-0.01
83	T	n-Decane	1.308	1.383	-5.7	122	0.00
84	T	Benzyl Chloride	2.098	2.547	-21.4	139	-0.01
85	T	1,3-Dichlorobenzene	1.452	1.719	-18.4	128	0.00
86	T	1,4-Dichlorobenzene	1.442	1.685	-16.9	130	0.00
87	T	sec-Butylbenzene	3.366	3.753	-11.5	127	0.00
88	T	4-Isopropyltoluene (p-Cymen	3.218	3.725	-15.8	121	-0.01
89	T	1,2,3-Trimethylbenzene	2.717	3.114	-14.6	122	0.00
90	T	1,2-Dichlorobenzene	1.484	1.712	-15.4	128	0.00
91	T	d-Limonene	1.047	1.165	-11.3	126	-0.01
92	T	1,2-Dibromo-3-Chloropropane	0.498	0.615	-23.5	145	0.00
93	T	n-Undecane	1.349	0.926	31.4#	81	0.00
94	T	1,2,4-Trichlorobenzene	0.865	0.972	-12.4	148	0.00
95	T	Naphthalene	3.027	3.133	-3.5	114	0.00
96	T	n-Dodecane	1.341	0.342	74.5#	28#	0.00
97	T	Hexachlorobutadiene	0.690	0.686	0.6	125	0.00
98	T	Cyclohexanone	0.948	1.091	-15.1	136	-0.02
99	T	tert-Butylbenzene	2.654	3.009	-13.4	121	0.00
100	T	n-Butylbenzene	2.721	3.001	-10.3	129	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202023.D Vial: 2
Acq On : 20 Apr 2020 16:10 Operator: TD
Sample : CCVend R16042020_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 20 16:47:14 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/20/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	367672	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.30	114	1606221	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.61	82	767692	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	606646	11.916	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.36%				
57) Toluene-d8 (SS2)	15.75	98	1626291	11.952	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.60%				
73) Bromofluorobenzene (SS3)	19.01	174	600006	12.487	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.92%				
Target Compounds							Qvalue
2) Propene	4.10	42	1117792	28.988	ng		99
3) Dichlorodifluoromethan...	4.26	85	2213356	26.679	ng		100
4) Chloromethane	4.54	50	1915632	29.242	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	1315619	24.898	ng		99
6) Vinyl Chloride	4.97	62	1959066	28.333	ng		100
7) 1,3-Butadiene	5.23	54	1289728	25.748	ng		99
8) Bromomethane	5.66	94	975962	28.176	ng		100
9) Chloroethane	6.00	64	749614	28.253	ng		100
10) Ethanol	6.37	45	4220153	138.474	ng		100
11) Acetonitrile	6.62	41	1831207	27.314	ng		100
12) Acrolein	6.81	56	675499	30.121	ng		99
13) Acetone	7.01	58	4512177	150.025	ng		99
14) Trichlorofluoromethane	7.26	101	1960657	26.802	ng		100
15) 2-Propanol (Isopropanol)	7.51	45	5577189	62.525	ng		98
16) Acrylonitrile	7.77	53	1427226	31.624	ng		100
17) 1,1-Dichloroethene	8.23	96	1055462	29.173	ng		99
18) 2-Methyl-2-Propanol (t...	8.38	59	5420422	67.717	ng		98
19) Methylene Chloride	8.45	84	1119788	28.614	ng		98
20) 3-Chloro-1-propene (Al...	8.61	41	1551723	30.603	ng		98
21) Trichlorotrifluoroethane	8.86	151	945512	27.026	ng		97
22) Carbon Disulfide	8.71	76	4109152	29.196	ng		100
23) trans-1,2-Dichloroethene	9.72	61	1574451	29.983	ng		99
24) 1,1-Dichloroethane	9.98	63	1920493	28.657	ng		100
25) Methyl tert-Butyl Ether	10.07	73	2865362	26.414	ng		99
26) Vinyl Acetate	10.23	86	1556576	150.818	ng	#	84
27) 2-Butanone (MEK)	10.47	72	776386	31.008	ng	#	91
28) cis-1,2-Dichloroethene	11.00	61	1539116	28.210	ng		100
29) Diisopropyl Ether	11.29	87	1287178	32.240	ng	#	88
30) Ethyl Acetate	11.30	61	1020630	68.963	ng		98
31) n-Hexane	11.28	57	2191405	31.949	ng		99
32) Chloroform	11.34	83	2025953	27.752	ng		100
34) Tetrahydrofuran (THF)	11.74	72	748009	29.037	ng		95
35) Ethyl tert-Butyl Ether	11.88	87	1349753	28.947	ng		96
36) 1,2-Dichloroethane	12.14	62	1538585	27.019	ng		100
38) 1,1,1-Trichloroethane	12.42	97	1764933	28.001	ng		100
39) Isopropyl Acetate	12.85	61	1692777	64.913	ng		98
40) 1-Butanol	12.87	56	2628907	63.001	ng		97
41) Benzene	12.90	78	4714987	28.387	ng		100
42) Carbon Tetrachloride	13.06	117	1612812	28.277	ng		99
43) Cyclohexane	13.20	84	3717903	58.299	ng		96
44) tert-Amyl Methyl Ether	13.54	73	3282787	30.554	ng		99
45) 1,2-Dichloropropane	13.75	63	1121150	29.517	ng		99
46) Bromodichloromethane	13.95	83	1668947	29.729	ng		100
47) Trichloroethene	14.00	130	1215536	25.828	ng		100
48) 1,4-Dioxane	13.97	88	973389	30.270	ng		97
49) 2,2,4-Trimethylpentane...	14.07	57	4676471	29.631	ng		98
50) Methyl Methacrylate	14.20	100	1003771	62.518	ng		93

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202023.D Vial: 2
Acq On : 20 Apr 2020 16:10 Operator: TD
Sample : CCVend R16042020_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 20 16:47:14 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

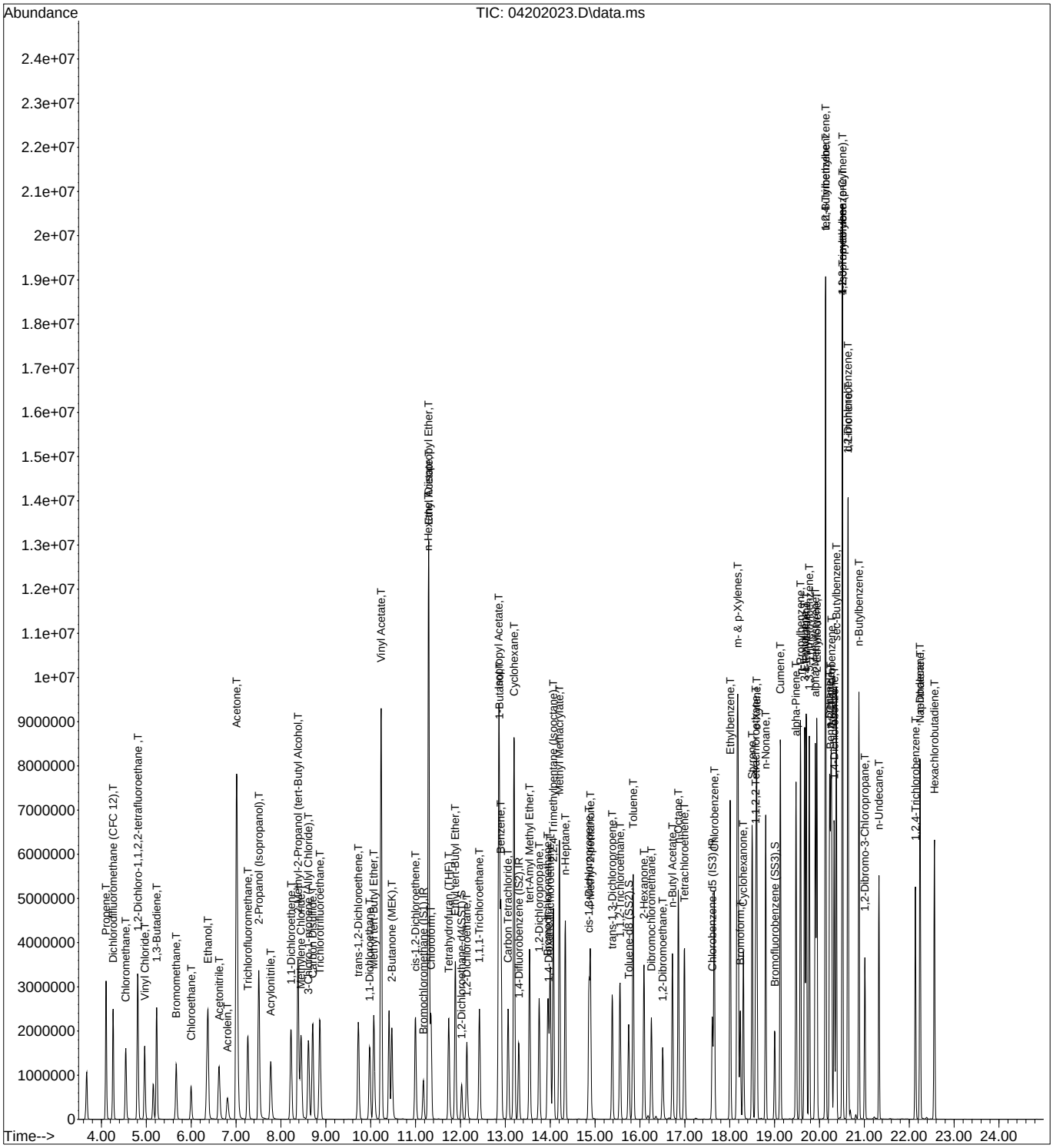
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.34	71	1152403	29.716	ng	98
52) cis-1,3-Dichloropropene	14.86	75	1921720	31.344	ng	100
53) 4-Methyl-2-pentanone	14.90	58	1107325	31.808	ng	98
54) trans-1,3-Dichloropropene	15.38	75	1743267	30.606	ng	100
55) 1,1,2-Trichloroethane	15.56	97	1111507	28.990	ng	99
58) Toluene	15.85	91	4597832	27.328	ng	100
59) 2-Hexanone	16.09	43	2650810	31.485	ng	99
60) Dibromochloromethane	16.26	129	1397490	31.201	ng	100
61) 1,2-Dibromoethane	16.51	107	1309638	30.414	ng	100
62) n-Butyl Acetate	16.72	43	3007163	33.399	ng	100
63) n-Octane	16.85	57	989235	29.630	ng	97
64) Tetrachloroethene	16.99	166	1268221	27.051	ng	100
65) Chlorobenzene	17.66	112	3133399	27.679	ng	100
66) Ethylbenzene	18.01	91	5508325	29.842	ng	99
67) m- & p-Xylenes	18.18	91	8909522	59.346	ng	99
68) Bromoform	18.24	173	1207060	29.847	ng	100
69) Styrene	18.50	104	3441893	29.229	ng	99
70) o-Xylene	18.60	91	4445824	29.618	ng	99
71) n-Nonane	18.80	43	2279523	30.373	ng	97
72) 1,1,2,2-Tetrachloroethane	18.58	83	2226890	30.873	ng	100
74) Cumene	19.13	105	5606726	29.537	ng	100
75) alpha-Pinene	19.48	93	2916174	30.319	ng	99
76) n-Propylbenzene	19.58	91	6805008	30.697	ng	99
77) 3-Ethyltoluene	19.67	105	5477017	29.076	ng	99
78) 4-Ethyltoluene	19.71	105	5513285	30.582	ng	99
79) 1,3,5-Trimethylbenzene	19.77	105	4564971	28.451	ng	99
80) alpha-Methylstyrene	19.91	118	2496354	28.466	ng	99
81) 2-Ethyltoluene	19.94	105	5473018	29.432	ng	99
82) 1,2,4-Trimethylbenzene	20.14	105	5112240	30.755	ng	98
83) n-Decane	20.23	57	2272606	28.290	ng	99
84) Benzyl Chloride	20.25	91	4222800	32.776	ng	99
85) 1,3-Dichlorobenzene	20.27	146	2823958	31.661	ng	100
86) 1,4-Dichlorobenzene	20.33	146	2768182	31.251	ng	99
87) sec-Butylbenzene	20.37	105	6166452	29.828	ng	99
88) 4-Isopropyltoluene (p-...	20.51	119	6234352	31.541	ng	99
89) 1,2,3-Trimethylbenzene	20.51	105	5212134	31.238	ng	98
90) 1,2-Dichlorobenzene	20.63	146	2813181	30.862	ng	99
91) d-Limonene	20.64	68	1931653	30.050	ng	98
92) 1,2-Dibromo-3-Chloropr...	21.01	157	992189	32.432	ng	97
93) n-Undecane	21.33	57	1535469	18.526	ng	98
94) 1,2,4-Trichlorobenzene	22.14	180	1597632	30.072	ng	99
95) Naphthalene	22.24	128	4954804	26.649	ng	100
96) n-Dodecane	22.24	57	545307	6.621	ng	98
97) Hexachlorobutadiene	22.56	225	1115906	26.345	ng	100
98) Cyclohexanone	18.30	55	1674489	28.773	ng	98
99) tert-Butylbenzene	20.14	119	4943600	30.329	ng	99
100) n-Butylbenzene	20.88	91	4931018	29.511	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202023.D Vial: 2
Acq On : 20 Apr 2020 16:10 Operator: TD
Sample : CCVend R16042020_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 20 16:47:14 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

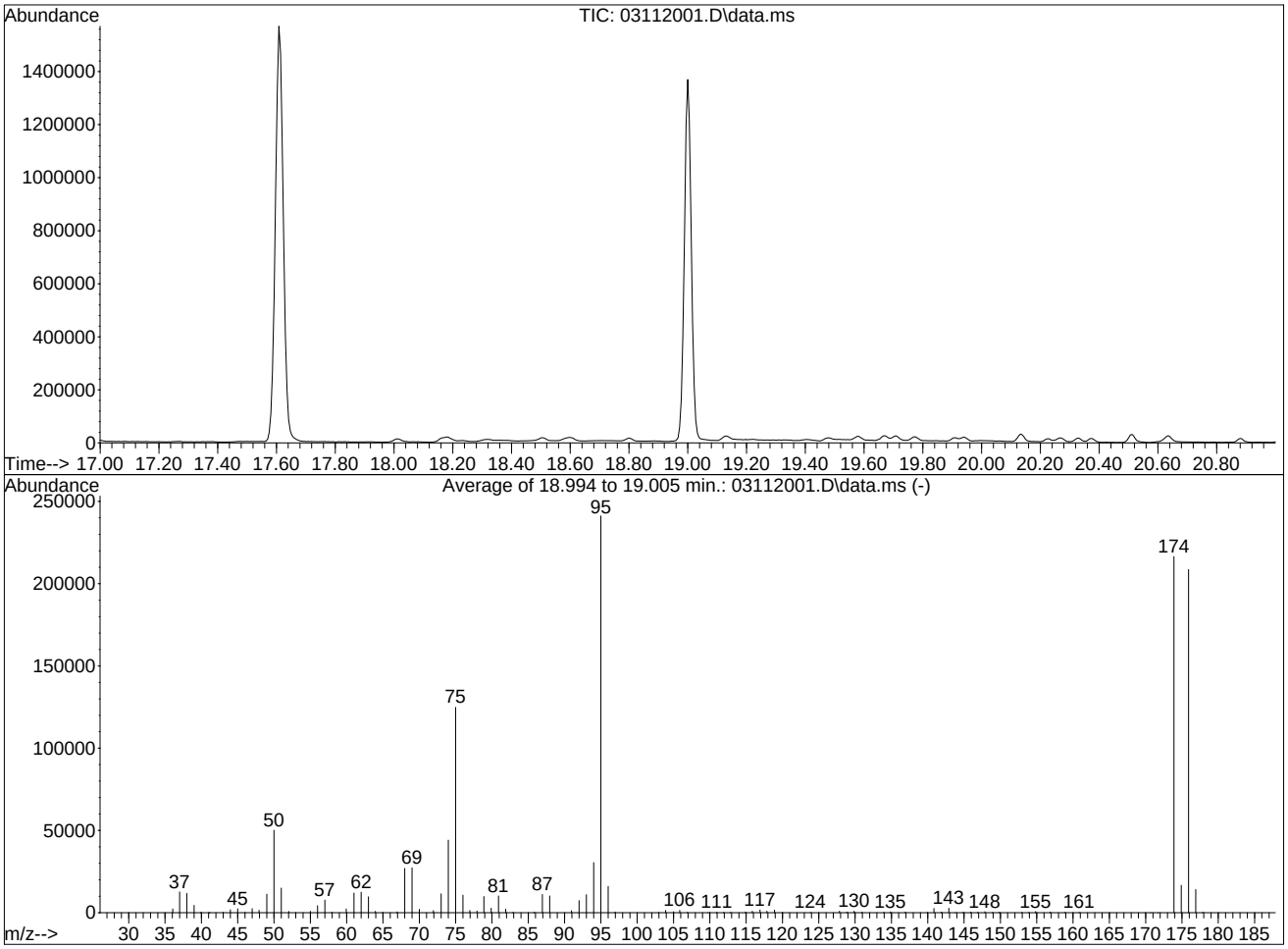


BFB

Data Path : I:\MS16\DATA\2020_03\11\
Data File : 03112001.D
Acq On : 11 Mar 2020 00:26
Operator : LH
Sample : 12.5ng TO15 BFB
Misc : S31-02112001
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16031120.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Mar 11 10:34:22 2020



AutoFind: Scans 2820, 2821, 2822; Background Corrected with Scan 2812

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	20.8	50085	PASS
75	95	30	66	51.8	124832	PASS
95	95	100	100	100.0	241195	PASS
96	95	5	9	6.6	15976	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	89.7	216448	PASS
175	174	4	9	7.7	16698	PASS
176	174	93	101	96.4	208661	PASS
177	176	5	9	6.7	14072	PASS

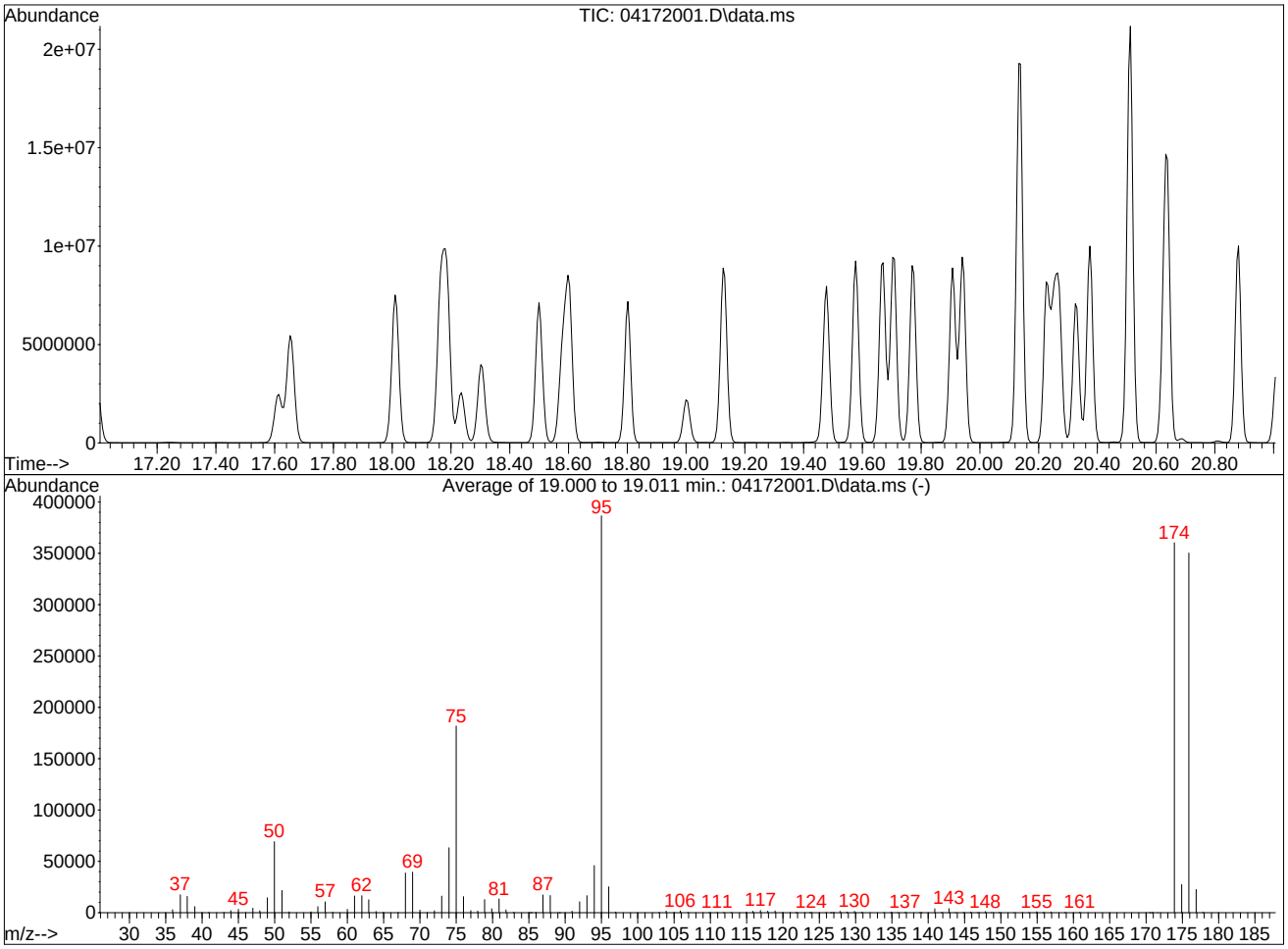
LH 3/11/20

BFB

Data Path : I:\MS16\DATA\2020_04\17\
Data File : 04172001.D
Acq On : 16 Apr 2020 23:43
Operator : WA
Sample : CCV R16041720_25ng
Misc : S31-02112001 /S34-04102010 (5/8)
ALS Vial : 16 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16031120.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Mar 11 10:42:05 2020



AutoFind: Scans 2821, 2822, 2823; Background Corrected with Scan 2812

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	17.9	69190	PASS
75	95	30	66	47.0	181760	PASS
95	95	100	100	100.0	386496	PASS
96	95	5	9	6.5	25224	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	93.2	360299	PASS
175	174	4	9	7.6	27453	PASS
176	174	93	101	97.2	350272	PASS
177	176	5	9	6.5	22632	PASS

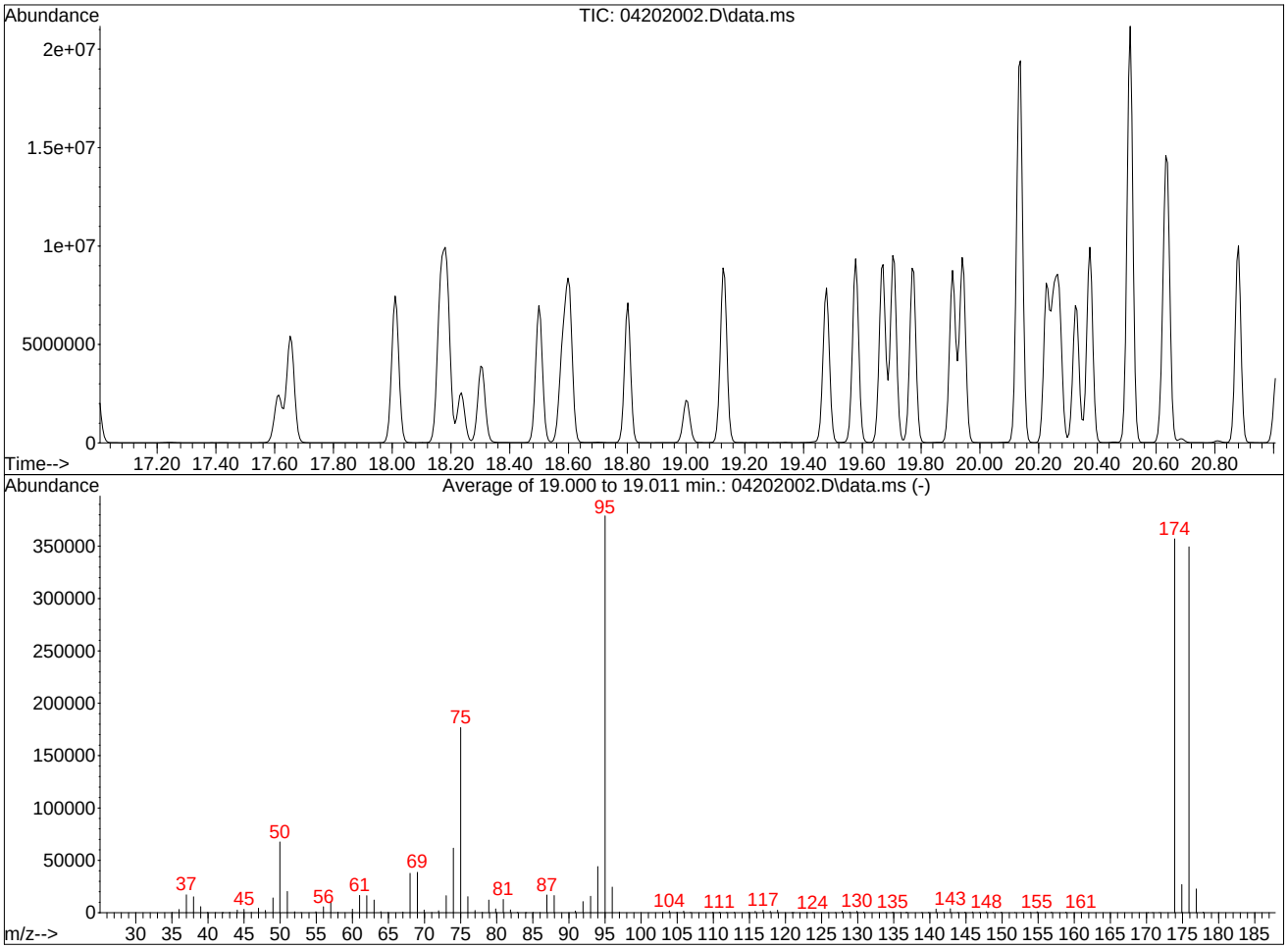
WA 4/17/20

BFB

Data Path : I:\MS16\DATA\2020_04\20\
Data File : 04202002.D
Acq On : 20 Apr 2020 2:06
Operator : WA
Sample : CCV R16042020_25ng
Misc : S31-02112001/S34-04102001 (5/9)
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16031120.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Mar 11 10:42:05 2020



AutoFind: Scans 2821, 2822, 2823; Background Corrected with Scan 2812

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	17.8	67506	PASS
75	95	30	66	46.7	176828	PASS
95	95	100	100	100.0	378923	PASS
96	95	5	9	6.4	24435	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	94.2	357099	PASS
175	174	4	9	7.5	26912	PASS
176	174	93	101	97.8	349376	PASS
177	176	5	9	6.5	22709	PASS

TD 4/20/20

Injection Log

Directory: J:\MS16\DATA\2020_03\11\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	3/11/20 0:26	03112001.D	12.5ng TO15 BFB	S31-02112001	LH	2	passed
2	3/11/20 0:59	03112002.D	0.1ng TO15 ICAL STD	S31-02112001/S34-03102004 (4/8)	LH	3	
3	3/11/20 1:32	03112003.D	0.2ng TO15 ICAL STD	S31-02112001/S34-03102004 (4/8)	LH	3	
4	3/11/20 2:05	03112004.D	0.5ng TO15 ICAL STD	S31-02112001/S34-03102003 (4/8)	LH	4	
5	3/11/20 2:38	03112005.D	1.0ng TO15 ICAL STD	S31-02112001/S34-03102003 (4/8)	LH	4	
6	3/11/20 3:12	03112006.D	5.0ng TO15 ICAL STD	S31-02112001/S34-03102003 (4/8)	LH	4	
7	3/11/20 3:45	03112007.D	25ng TO15 ICAL STD	S31-02112001/S34-03102002 (4/8)	LH	2	**R16031120.M**
8	3/11/20 4:18	03112008.D	50ng TO15 ICAL STD	S31-02112001/S34-03102002 (4/8)	LH	2	
9	3/11/20 4:52	03112009.D	100ng TO15 ICAL STD	S31-02112001/S34-03102002 (4/8)	LH	2	
10	3/11/20 5:25	03112010.D	25ng TO15 ICV STD	S31-02112001/S31-02262006 (3/26)	LH	2	passed

ICAL R16031120.M passed for all compounds.

LH *3/13/20*

Injection Log

Directory: I:\MS16\DATA\2020_04\17\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	4/16/20 23:43	04172001.D	CCV R16041720_25ng	S31-02112001 /S34-04102010 (5/8)	WA	16	Passed
2	4/17/20 0:17	04172002.D	CCV C16041720_25ng	S31-02112001/S34-04162002 (5/14)	WA	3	Not used
3	4/17/20 0:51	04172003.D	Std check_25ng	S31-02112001/S34-03272003 (4/25)	WA	2	
4	4/17/20 1:24	04172004.D	Blank (100mL)	S31-02112001	WA	2	
5	4/17/20 1:58	04172005.D	MB R16041720_1000mL	S31-02112001/AS01319	WA	2	Passed
6	4/17/20 2:32	04172006.D	LCS R16041720_25ng	S31-02112001/S34-03252003 (4/23)	WA	2	Passed
7	4/17/20 3:05	04172007.D	LCSD R16041720_25ng	S31-02112001/S34-03252003 (4/23)	WA	2	Passed
8	4/17/20 3:39	04172008.D	Blank (100mL)	S31-02112001	WA	2	
9	4/17/20 6:13	04172009.D	P2002081-001 (0.15mL)	S31-02112001	WA	1	
10	4/17/20 6:47	04172010.D	P2002014-001dil (0.15mL)x bad injection	S31-02112001	WA	1	bad injection
11	4/17/20 8:16	04172011.D	P2002014-001 (0.15mL)	S31-02112001	WA	1	
12	4/17/20 8:58	04172012.D	P2002028-020 (0.20mL)	S31-02112001	WA	1	
13	4/17/20 9:52	04172013.D	P2002028-021 (0.20mL)	S31-02112001	LH	1	
14	4/17/20 10:42	04172014.D	P2002028-021dil (0.10mL)	S31-02112001	LH	1	
15	4/17/20 11:15	04172015.D	P2002112-001 (25mL)	S31-02112001	LH	4	IS3 - failed
16	4/17/20 11:52	04172016.D	Blank (100mL)	S31-02112001	LH	2	
17	4/17/20 12:26	04172017.D	P2002112-001 (15mL)	S31-02112001	LH	4	
18	4/17/20 13:00	04172018.D	P2002109-002 (3.5mL)	S31-02112001	LH	1	
19	4/17/20 13:33	04172019.D	P2002114-001 (4.0mL)	S31-02112001	LH	1	
20	4/17/20 14:07	04172020.D	P2002109-001 (100mL)	S31-02112001	LH	5	
21	4/17/20 14:40	04172021.D	P2002109-001dup (100mL)	S31-02112001	LH	5	Passed
22	4/17/20 15:14	04172022.D	P2002114-002 (4.0mL)	S31-02112001	LH	1	
23	4/17/20 15:47	04172023.D	P2002114-003 (4.0mL)	S31-02112001	LH	1	
24	4/17/20 17:26	04172024.D	P2002133-001 (4.0mL)	S31-02112001	LH	1	
25	4/17/20 18:02	04172025.D	P2002133-001dil (1.0mL)	S31-02112001	LH	1	
26	4/17/20 18:36	04172026.D	P2002114-004 (100mL)	S31-02112001	LH	6	
27	4/17/20 19:09	04172027.D	P2002114-005 (100mL)	S31-02112001	LH	7	
28	4/17/20 19:43	04172028.D	P2002114-006 (100mL)	S31-02112001	LH	8	
29	4/17/20 20:17	04172029.D	P2002028-001 (400mL)	S31-02112001	LH	9	
30	4/17/20 20:50	04172030.D	P2002028-002 (400mL)	S31-02112001	LH	10	
31	4/17/20 21:24	04172031.D	P2002028-003 (400mL)	S31-02112001	LH	11	
32	4/17/20 21:57	04172032.D	P2002028-004 (400mL)	S31-02112001	LH	12	
33	4/17/20 22:31	04172033.D	P2002028-005 (400mL)	S31-02112001	LH	13	
34	4/17/20 23:04	04172034.D	P2002028-006 (400mL)	S31-02112001	LH	14	
35	4/17/20 23:38	04172035.D	CCVend R16041720_5ng	S31-02112001/S34-04102001 (5/9)	LH	1	Passed*
	CCVend: biased high for Isopropanol and Acrylonitrile (DoD samples ND)						

4/19/20

Injection Log

Directory: I:\MS16\DATA\2020_04\20\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	4/20/20 1:33	04202001.D	*System	S31-02112001/S34-04102004 (5/8)	WA	16	
2	4/20/20 2:06	04202002.D	CCV R16042020_25ng	S31-02112001/S34-04102001 (5/9)	WA	2	passed
3	4/20/20 2:40	04202003.D	CCV C16042020_25ng	S31-02112001/S34-03172008 (4/29)	WA	3	not used
4	4/20/20 3:13	04202004.D	Blank (100mL)	S31-02112001	WA	2	
5	4/20/20 3:47	04202005.D	MB R16042020_1000mL	S31-02112001/AS01319	WA	2	passed
6	4/20/20 4:20	04202006.D	LCS R16042020_25ng	S31-02112001/S34-03252003 (4/23)	WA	2	passed
7	4/20/20 6:15	04202007.D	LCSD R16042020_25ng	S31-02112001/S34-03252003 (4/23)	TD	2	passed
8	4/20/20 6:49	04202008.D	Blank (100mL)	S31-02112001	TD	2	
9	4/20/20 8:21	04202009.D	P2002028-007 (400mL)	S31-02112001	TD	4	
10	4/20/20 8:55	04202010.D	P2002028-008 (400mL)	S31-02112001	TD	5	
11	4/20/20 9:28	04202011.D	P2002028-009 (400mL)	S31-02112001	TD	6	
12	4/20/20 10:02	04202012.D	P2002028-010 (400mL)	S31-02112001	TD	7	
13	4/20/20 10:36	04202013.D	P2002028-011 (400mL)	S31-02112001	TD	8	
14	4/20/20 11:09	04202014.D	P2002028-012 (400mL)	S31-02112001	TD	9	
15	4/20/20 11:42	04202015.D	P2002028-013 (400mL)	S31-02112001	TD	10	
16	4/20/20 12:15	04202016.D	P2002028-014 (400mL)	S31-02112001	TD	11	
17	4/20/20 12:48	04202017.D	P2002028-015 (400mL)	S31-02112001	TD	12	
18	4/20/20 13:22	04202018.D	P2002028-016 (400mL)	S31-02112001	TD	13	
19	4/20/20 13:55	04202019.D	P2002028-017 (400mL)	S31-02112001	TD	14	
20	4/20/20 14:28	04202020.D	P2002028-018 (400mL)	S31-02112001	TD	15	
21	4/20/20 15:02	04202021.D	P2002028-019 (50mL)	S31-02112001	TD	16	over diluted
22	4/20/20 15:36	04202022.D	P2002028-019 (400mL)	S31-02112001	TD	16	
23	4/20/20 16:10	04202023.D	CCVend R16042020_25ng	S31-02112001/S34-04102001 (5/9)	TD	2	passed
					LH 4/20/20		

224

6/24/19

TO-17 STD	PAH 1° Stock Standard	200 µg/ml
S31-06241903		12/24/2019
Into 1mL mininert vial, directly transfered entire contents 200µg/mL PAH 1° stock standard S31-01181908B (expires 1/17/22).		

TO-17 STD	PAH 1° Working Standard	20 µg/mL
S31-06241904		12/24/2019
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 200µg/mL PAH 1° stock standard S31-06241903 (Exp. 12/24/19)		

TO-17 STD	PAH 1° Working Standard	2 µg/ml
S31-06241905 @ 6/24/19		12/24/2019
Into 1mL mininert vial with 9900µL B&J P&T methanol, Lot #DL535, added 10µL 200µg/mL PAH 1° stock standard S31-06241903 (Exp. 12/24/19)		

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PAGE: 1 of 2

Primary STD

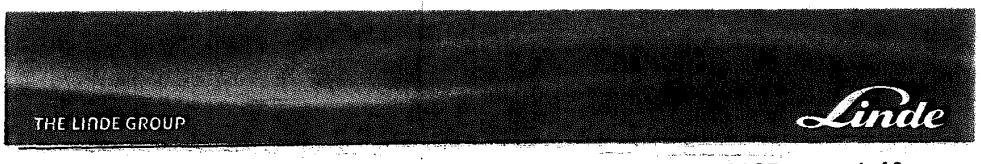
S31-06251901

CERTIFICATE OF ANALYSIS

Sales#:	117209081	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1490293	**Cylinder # :**	CC-106678
Certification Date:	Jun-13-2019	**Cylinder Pressure:**	1500 psig
P.O.# :	SM002804	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	CERTIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24106776	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	3000 Liters
Expiration Date:	Jun-13-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	10% Relative

Rcvd 6/25/19

ISO 9001:2008 Linde **SPECTRA** Environmental Gases, 80 Industrial Drive, Alpha, NJ 08865



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PAGE: 1 of 2

Secondary STD

S31-06251902

CERTIFICATE OF ANALYSIS

Sales#:	117209081	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1490294	**Cylinder # :**	CC-94582
Certification Date:	Jun-13-2019	**Cylinder Pressure:**	1400 psig
P.O.# :	SM002804	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	CERTIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24106776	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2800 Liters
Expiration Date:	Jun-13-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	10% Relative

Rcvd 6/25/19

6/25/19

259

11/19

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S31-10111901 TO-15 stock std (Primary)

CA

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PAGE: 1 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

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S31-10111902 TO-15 stock std (Secondary)

CA

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PAGE: 1 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

10/11/19
LH

TO-15 STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-10111901 with HZA Lot # 70086915004 using 4700 diluter

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-10111903	200 ng/L	STD00139	10/11/19	**11/9/19**	LH
S31-10111904	200 ng/L	STD00120	10/11/19	**11/9/19**	LH
S31-10111905	200 ng/L	STD00110	10/11/19	**11/9/19**	LH

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S31-1011901

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PAGE: 1 of 4

Primary

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Propylene	115-07-1	1.00 mg/m3	1.06 mg/m3
Freon-12	75-71-8	1.00 mg/m3	1.06 mg/m3
Chloromethane	74-87-3	1.00 mg/m3	1.06 mg/m3
Freon-114	76-14-2	1.00 mg/m3	1.05 mg/m3
Vinyl Chloride	75-01-4	1.00 mg/m3	1.08 mg/m3
1,3-Butadiene	106-99-0	1.00 mg/m3	1.06 mg/m3
Bromomethane	74-83-9	1.00 mg/m3	1.08 mg/m3
Chloroethane	75-00-3	1.00 mg/m3	1.08 mg/m3
Ethanol	64-17-5	5.00 mg/m3	5.21 mg/m3
Acetonitrile	75-05-8	1.00 mg/m3	1.05 mg/m3
Acrolein	107-02-8	1.00 mg/m3	1.03 mg/m3
Acetone	67-64-1	5.00 mg/m3	5.33 mg/m3
Freon-11	75-69-4	1.00 mg/m3	1.06 mg/m3
Isopropyl Alcohol	67-63-0	2.00 mg/m3	2.10 mg/m3
Acrylonitrile	107-13-1	1.00 mg/m3	1.05 mg/m3
1,1-Dichloroethene	75-35-4	1.00 mg/m3	1.08 mg/m3
Carbon Disulfide	75-15-0	1.00 mg/m3	1.07 mg/m3
Methylene Chloride	75-09-2	1.00 mg/m3	1.06 mg/m3
Tert-Butanol	75-65-0	2.00 mg/m3	2.16 mg/m3
Allyl Chloride	107-05-1	1.00 mg/m3	1.08 mg/m3
Freon-113	76-13-1	1.00 mg/m3	1.08 mg/m3
Trans-1,2-Dichloroethene	156-60-5	1.00 mg/m3	1.08 mg/m3
1,1-Dichloroethane	75-34-3	1.00 mg/m3	1.09 mg/m3
Methyl Tert Butyl Ether	1634-04-4	1.00 mg/m3	1.08 mg/m3
Vinyl Acetate	108-05-4	5.00 mg/m3	5.35 mg/m3
Methacrylonitrile	126-98-7	1.00 mg/m3	1.06 mg/m3
Methyl Ethyl Ketone	78-93-3	1.00 mg/m3	1.06 mg/m3
Cis-1,2-Dichloroethene	156-59-2	1.00 mg/m3	1.06 mg/m3
Hexane	110-54-3	1.00 mg/m3	1.08 mg/m3
Di-isopropyl Ether	108-20-3	1.00 mg/m3	1.08 mg/m3

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PAGE: 2 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chloroform	67-66-3	1.00 mg/m3	1.07 mg/m3
Ethyl Acetate	141-78-6	2.00 mg/m3	2.17 mg/m3
Tetrahydrofuran	109-99-9	1.00 mg/m3	1.09 mg/m3
Ethyl Tert-Butyl Ether	637-92-3	1.00 mg/m3	1.08 mg/m3
1,2-Dichloroethane	107-06-2	1.00 mg/m3	1.08 mg/m3
1,1,1-Trichloroethane	71-55-6	1.00 mg/m3	1.07 mg/m3
Benzene	71-43-2	1.00 mg/m3	1.06 mg/m3
Isopropyl Acetate	108-21-4	2.00 mg/m3	2.11 mg/m3
1-Butanol	71-36-3	2.00 mg/m3	2.08 mg/m3
Carbon Tetrachloride	56-23-5	1.00 mg/m3	1.05 mg/m3
Cyclohexane	110-82-7	2.00 mg/m3	2.12 mg/m3
Tert Amyl Methyl Ether	994-05-8	1.00 mg/m3	1.08 mg/m3
1,2-Dichloropropane	78-87-5	1.00 mg/m3	1.08 mg/m3
Trichloroethylene	79-01-6	1.00 mg/m3	1.07 mg/m3
Bromodichloromethane	75-27-4	1.00 mg/m3	1.08 mg/m3
1,4-Dioxane	123-91-1	1.00 mg/m3	1.08 mg/m3
Isooctane	540-84-1	1.00 mg/m3	1.07 mg/m3
Methyl Methacrylate	80-62-6	2.00 mg/m3	2.15 mg/m3
Heptane	142-82-5	1.00 mg/m3	1.08 mg/m3
Cis-1,3-Dichloropropene	10061-01-5	1.00 mg/m3	1.04 mg/m3
Methyl Isobutyl Ketone	108-10-1	1.00 mg/m3	1.06 mg/m3
Trans-1,3-Dichloropropene	10061-02-6	1.00 mg/m3	1.06 mg/m3
1,1,2-Trichloroethane	79-00-5	1.00 mg/m3	1.07 mg/m3
Toluene	108-88-3	1.00 mg/m3	1.07 mg/m3
Methyl Butyl Ketone	591-78-6	1.00 mg/m3	1.07 mg/m3
Dibromochloromethane	124-48-1	1.00 mg/m3	1.07 mg/m3
1,2-Dibromoethane	106-93-4	1.00 mg/m3	1.07 mg/m3
n-Butyl Acetate	123-86-4	1.00 mg/m3	1.09 mg/m3
n-Octane	111-65-9	1.00 mg/m3	1.08 mg/m3
Tetrachloroethylene	127-18-4	1.00 mg/m3	1.04 mg/m3

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PAGE: 3 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chlorobenzene	108-90-7	1.00 mg/m3	1.07 mg/m3
Ethylbenzene	100-41-4	1.00 mg/m3	1.07 mg/m3
p-xylene	106-42-3	1.00 mg/m3	1.07 mg/m3
m-xylene	108-38-3	1.00 mg/m3	1.07 mg/m3
Bromoform	75-25-2	1.00 mg/m3	1.07 mg/m3
Cyclohexanone	108-94-1	1.00 mg/m3	1.00 mg/m3
Styrene	100-42-5	1.00 mg/m3	1.06 mg/m3
o-xylene	95-47-6	1.00 mg/m3	1.07 mg/m3
1,1,2,2-Tetrachloroethane	79-34-5	1.00 mg/m3	1.07 mg/m3
Nonane	111-84-2	1.00 mg/m3	1.07 mg/m3
Isopropylbenzene	98-82-8	1.00 mg/m3	1.08 mg/m3
alpha-Pinene	80-56-8	1.00 mg/m3	1.07 mg/m3
n-Propylbenzene	103-65-1	1.00 mg/m3	1.08 mg/m3
3-Ethyltoluene	620-14-4	1.00 mg/m3	1.06 mg/m3
4-Ethyltoluene	622-96-8	1.00 mg/m3	1.08 mg/m3
2-Ethyltoluene	611-14-3	1.00 mg/m3	1.08 mg/m3
1,3,5-Trimethylbenzene	108-67-8	1.00 mg/m3	1.06 mg/m3
alpha-Methylstyrene	98-83-9	1.00 mg/m3	1.07 mg/m3
Tert-Butyl Benzene	98-06-6	1.00 mg/m3	1.07 mg/m3
1,2,4-Trimethylbenzene	95-63-6	1.00 mg/m3	1.07 mg/m3
1,3-Dichlorobenzene	541-73-1	1.00 mg/m3	1.07 mg/m3
Benzyl Chloride	100-44-7	1.00 mg/m3	1.08 mg/m3
n-Decane	124-18-5	1.00 mg/m3	1.07 mg/m3
1,4-Dichlorobenzene	106-46-7	1.00 mg/m3	1.07 mg/m3
Sec-Butyl Benzene	135-98-8	1.00 mg/m3	1.07 mg/m3
p-Isopropyltoluene	99-87-6	1.00 mg/m3	1.09 mg/m3
1,2,3-Trimethylbenzene	526-73-8	1.00 mg/m3	1.09 mg/m3
1,2-Dichlorobenzene	95-50-1	1.00 mg/m3	1.07 mg/m3

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PAGE: 4 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
d-Limonene	5989-27-5	1.00 mg/m3	1.08 mg/m3
n-Butyl Benzene	104-51-8	1.00 mg/m3	1.07 mg/m3
1,2-Dibromo-3-Chloropropane	96-12-8	1.00 mg/m3	1.05 mg/m3
n-Undecane	1120-21-4	1.00 mg/m3	1.08 mg/m3
1,2,4-Trichlorobenzene	120-82-1	1.00 mg/m3	1.07 mg/m3
Naphthalene	91-20-3	1.00 mg/m3	1.03 mg/m3
n-Dodecane	112-40-3	1.00 mg/m3	1.04 mg/m3
Hexachloro-1,3-Butadiene	87-68-3	1.00 mg/m3	1.06 mg/m3
Nitrogen	7727-37-9	Balance	Balance

ANALYST: Lou Lorenzetti **DATE:** Sep-24-2019

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PAGE: 1 of 4

Secondary

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Propylene	115-07-1	1.00 mg/m3	1.05 mg/m3
Freon-12	75-71-8	1.00 mg/m3	1.05 mg/m3
Chloromethane	74-87-3	1.00 mg/m3	1.06 mg/m3
Freon-114	76-14-2	1.00 mg/m3	1.03 mg/m3
Vinyl Chloride	75-01-4	1.00 mg/m3	1.06 mg/m3
1,3-Butadiene	106-99-0	1.00 mg/m3	1.06 mg/m3
Bromomethane	74-83-9	1.00 mg/m3	1.06 mg/m3
Chloroethane	75-00-3	1.00 mg/m3	1.07 mg/m3
Ethanol	64-17-5	5.00 mg/m3	5.30 mg/m3
Acetonitrile	75-05-8	1.00 mg/m3	1.07 mg/m3
Acrolein	107-02-8	1.00 mg/m3	1.03 mg/m3
Acetone	67-64-1	5.00 mg/m3	5.34 mg/m3
Freon-11	75-69-4	1.00 mg/m3	1.06 mg/m3
Isopropyl Alcohol	67-63-0	2.00 mg/m3	2.11 mg/m3
Acrylonitrile	107-13-1	1.00 mg/m3	1.06 mg/m3
1,1-Dichloroethene	75-35-4	1.00 mg/m3	1.07 mg/m3
Carbon Disulfide	75-15-0	1.00 mg/m3	1.06 mg/m3
Methylene Chloride	75-09-2	1.00 mg/m3	1.05 mg/m3
Tert-Butanol	75-65-0	2.00 mg/m3	2.15 mg/m3
Allyl Chloride	107-05-1	1.00 mg/m3	1.07 mg/m3
Freon-113	76-13-1	1.00 mg/m3	1.08 mg/m3
Trans-1,2-Dichloroethene	156-60-5	1.00 mg/m3	1.07 mg/m3
1,1-Dichloroethane	75-34-3	1.00 mg/m3	1.06 mg/m3
Methyl Tert Butyl Ether	1634-04-4	1.00 mg/m3	1.07 mg/m3
Vinyl Acetate	108-05-4	5.00 mg/m3	5.33 mg/m3
Methacrylonitrile	126-98-7	1.00 mg/m3	1.06 mg/m3
Methyl Ethyl Ketone	78-93-3	1.00 mg/m3	1.06 mg/m3
Cis-1,2-Dichloroethene	156-59-2	1.00 mg/m3	1.06 mg/m3
Hexane	110-54-3	1.00 mg/m3	1.08 mg/m3
Di-isopropyl Ether	108-20-3	1.00 mg/m3	1.08 mg/m3

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PAGE: 2 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chloroform	67-66-3	1.00 mg/m3	1.07 mg/m3
Ethyl Acetate	141-78-6	2.00 mg/m3	2.16 mg/m3
Tetrahydrofuran	109-99-9	1.00 mg/m3	1.10 mg/m3
Ethyl Tert-Butyl Ether	637-92-3	1.00 mg/m3	1.07 mg/m3
1,2-Dichloroethane	107-06-2	1.00 mg/m3	1.07 mg/m3
1,1,1-Trichloroethane	71-55-6	1.00 mg/m3	1.07 mg/m3
Benzene	71-43-2	1.00 mg/m3	1.05 mg/m3
Isopropyl Acetate	108-21-4	2.00 mg/m3	2.10 mg/m3
1-Butanol	71-36-3	2.00 mg/m3	2.13 mg/m3
Carbon Tetrachloride	56-23-5	1.00 mg/m3	1.04 mg/m3
Cyclohexane	110-82-7	2.00 mg/m3	2.11 mg/m3
Tert Amyl Methyl Ether	994-05-8	1.00 mg/m3	1.07 mg/m3
1,2-Dichloropropane	78-87-5	1.00 mg/m3	1.07 mg/m3
Trichloroethylene	79-01-6	1.00 mg/m3	1.08 mg/m3
Bromodichloromethane	75-27-4	1.00 mg/m3	1.09 mg/m3
1,4-Dioxane	123-91-1	1.00 mg/m3	1.08 mg/m3
Isooctane	540-84-1	1.00 mg/m3	1.07 mg/m3
Methyl Methacrylate	80-62-6	2.00 mg/m3	2.15 mg/m3
Heptane	142-82-5	1.00 mg/m3	1.07 mg/m3
Cis-1,3-Dichloropropene	10061-01-5	1.00 mg/m3	1.07 mg/m3
Methyl Isobutyl Ketone	108-10-1	1.00 mg/m3	1.06 mg/m3
Trans-1,3-Dichloropropene	10061-02-6	1.00 mg/m3	1.06 mg/m3
1,1,2-Trichloroethane	79-00-5	1.00 mg/m3	1.07 mg/m3
Toluene	108-88-3	1.00 mg/m3	1.06 mg/m3
Methyl Butyl Ketone	591-78-6	1.00 mg/m3	1.08 mg/m3
Dibromochloromethane	124-48-1	1.00 mg/m3	1.07 mg/m3
1,2-Dibromoethane	106-93-4	1.00 mg/m3	1.07 mg/m3
n-Butyl Acetate	123-86-4	1.00 mg/m3	1.09 mg/m3
n-Octane	111-65-9	1.00 mg/m3	1.08 mg/m3
Tetrachloroethylene	127-18-4	1.00 mg/m3	1.04 mg/m3

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PAGE: 3 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chlorobenzene	108-90-7	1.00 mg/m3	1.07 mg/m3
Ethylbenzene	100-41-4	1.00 mg/m3	1.06 mg/m3
p-xylene	106-42-3	1.00 mg/m3	1.07 mg/m3
m-xylene	108-38-3	1.00 mg/m3	1.06 mg/m3
Bromoform	75-25-2	1.00 mg/m3	1.07 mg/m3
Cyclohexanone	108-94-1	1.00 mg/m3	1.01 mg/m3
Styrene	100-42-5	1.00 mg/m3	1.06 mg/m3
o-xylene	95-47-6	1.00 mg/m3	1.07 mg/m3
1,1,2,2-Tetrachloroethane	79-34-5	1.00 mg/m3	1.07 mg/m3
Nonane	111-84-2	1.00 mg/m3	1.07 mg/m3
Isopropylbenzene	98-82-8	1.00 mg/m3	1.07 mg/m3
alpha-Pinene	80-56-8	1.00 mg/m3	1.06 mg/m3
n-Propylbenzene	103-65-1	1.00 mg/m3	1.07 mg/m3
3-Ethyltoluene	620-14-4	1.00 mg/m3	1.07 mg/m3
4-Ethyltoluene	622-96-8	1.00 mg/m3	1.05 mg/m3
2-Ethyltoluene	611-14-3	1.00 mg/m3	1.07 mg/m3
1,3,5-Trimethylbenzene	108-67-8	1.00 mg/m3	1.06 mg/m3
alpha-Methylstyrene	98-83-9	1.00 mg/m3	1.06 mg/m3
Tert-Butyl Benzene	98-06-6	1.00 mg/m3	1.06 mg/m3
1,2,4-Trimethylbenzene	95-63-6	1.00 mg/m3	1.06 mg/m3
1,3-Dichlorobenzene	541-73-1	1.00 mg/m3	1.07 mg/m3
Benzyl Chloride	100-44-7	1.00 mg/m3	1.07 mg/m3
n-Decane	124-18-5	1.00 mg/m3	1.07 mg/m3
1,4-Dichlorobenzene	106-46-7	1.00 mg/m3	1.07 mg/m3
Sec-Butyl Benzene	135-98-8	1.00 mg/m3	1.06 mg/m3
p-Isopropyltoluene	99-87-6	1.00 mg/m3	1.09 mg/m3
1,2,3-Trimethylbenzene	526-73-8	1.00 mg/m3	1.08 mg/m3
1,2-Dichlorobenzene	95-50-1	1.00 mg/m3	1.07 mg/m3

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PAGE: 4 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
d-Limonene	5989-27-5	1.00 mg/m3	1.06 mg/m3
n-Butyl Benzene	104-51-8	1.00 mg/m3	1.07 mg/m3
1,2-Dibromo-3-Chloropropane	96-12-8	1.00 mg/m3	1.07 mg/m3
n-Undecane	1120-21-4	1.00 mg/m3	1.08 mg/m3
1,2,4-Trichlorobenzene	120-82-1	1.00 mg/m3	1.08 mg/m3
Naphthalene	91-20-3	1.00 mg/m3	1.06 mg/m3
n-Dodecane	112-40-3	1.00 mg/m3	1.06 mg/m3
Hexachloro-1,3-Butadiene	87-68-3	1.00 mg/m3	1.07 mg/m3
Nitrogen	7727-37-9	Balance	Balance

ANALYST: _____
Lou Lorenzetti

DATE: Sep-24-2019

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1/6/20 VH

TO-15 MAPH STD				20ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of S31-11061903 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-01062006	20 ng/L	STD00164	1/6/20	3/4/20	LH

1/6/20 S31-01062007 TO-15 IS/SURR STD ~0.5 mg/m³

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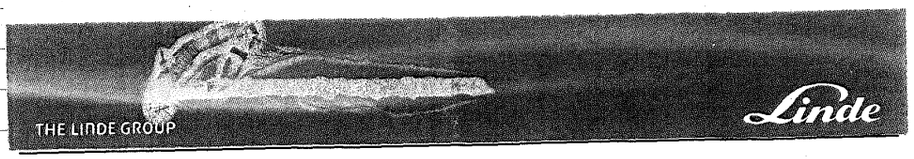

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PAGE: 1 of 1

S31-01062007 **ANALYSIS REPORT** IS/SURR STD.

Sales#:	117350975	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1502527	**Cylinder # :**	CC-430401
Report Date:	Dec-23-2019	**Cylinder Pressure:**	2000 psig
P.O.# :	SM003000	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24086333	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	4000 Liters
Expiration Date:	Dec-23-~~2020~~ 2021	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	10% Relative

VH 1/7/20

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Bromochloromethane	74-97-5	0.50 mg/m3	0.55 mg/m3
1,2-Dichloroethane-d4	17060-07-0	0.50 mg/m3	0.55 mg/m3
1,4-Difluorobenzene	540-36-3	0.50 mg/m3	0.55 mg/m3
Toluene-d8	2037-26-5	0.50 mg/m3	0.55 mg/m3
Chlorobenzene-d5	3114-55-4	0.50 mg/m3	0.55 mg/m3
4-Bromofluorobenzene	460-00-4	0.50 mg/m3	0.53 mg/m3
Nitrogen	7727-37-9	Balance	Balance

1/7/20 VH

EPA 325B STD	BTEX 1° Working Standard	200 µg/mL
S31-01072001	Expires:	1/21/2020
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 2000µg/mL BTEX stock standard S31-11271903 (expires 1/27/20).		

VH

EPA 325B STD	BTEX 2° Working Standard	200 µg/mL
S31-01072002	Expires:	1/21/2020
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 2000µg/mL BTEX stock standard S31-11271904 (expires 1/27/20).		

2/5/2020 RVT

		TO-15 STD		4 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S31-01292007**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02052009	4 ng/L	STD00094	2/5/20	3/5/20	RVT

RVT

TO-15 STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111901**

using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02052010	200 ng/L	STD00224	2/5/20	3/5/20	RVT

2/6/2020 RVT

TO-15 STD **20 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S31-02052007**

using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02062001	20 ng/L	STD00064	2/6/20	3/6/20	RVT

RVT

TO-15 ICV/ LCS STD **20 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S31-02052002**

with HZA Lot # 70086915004 using 4700 diluter

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02062002	20 ng/L	STD00113	2/6/20	3/6/2020	RVT

RVT TO15 STD 1000 ng/L

S31-02062003

Filled Can STD00136 w/ S31-10111901 To ~ 5.61 psig

Exp. 3/6/2020

2/7/20 S31-02072001 Toluene-d8 2.0 µg/ml

Spiked 4.2 µl S29-04281601 into 2010 ml glass SDB

purged w/ helium. Exp. 3/7/20.

CK

02/11/20 S31-02112001 TO-15 IS/SURR 500 ng/L

VH FILLED CAN # STD 00214 TO ~ 20 PSIG WITH S31-01062007

EXP 08/09/20

302

2/26/20 CW — S31-02262002 TO15 1ng/L Secondar Made 20x dil. of S31-02202001 into Can STD00092. Exp. 3/26/20

2/26/20 LH

		TO-15 STD		200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-10111901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02262003	200 ng/L	STD00180	2/26/20	**3/26/20**	LH
		TO-15 STD		**20 ng/L**	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of S31-02262003 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02262004	20 ng/L	STD00007	2/26/20	**3/26/20**	LH
		TO-15 STD		**4 ng/L**	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-02262004 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02262005	4 ng/L	STD00184	2/26/20	**3/26/20**	LH

2/26/20 LH

		TO-15 ICV/ LCS STD		200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-10111902 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02262006	200 ng/L	STD00~~063~~ 194	2/26/20	3/26/20	LH

LH 2/27/20

2/27/20 CW — S31-02272001 Bis-2-chloroethyl Ether 1000 µg/ml in MeOH Transferred entire contents of S31-06281903B into 1ml glass minivert vial. Exp. 4/27/20

CW — S31-02278002 Bis-2-chloroisopropyl ether 2000 µg/ml in MeOH Transferred entire contents of S31-06281902B into 1ml glass minivert vial. Exp 4/27/20

2/27/20 RVT

3/9/20

TO-17 STD	LEED 1° Stock Standard	2000 µg/mL
S34-03092001		5/9/2020
Into 2mL mininert vial transferred contents of 2000µg/mL LEED stock ampul primary standard S31-01251906E (expires 1/17/21).		

TO-17 STD	LEED 2° Stock Standard	2000 µg/mL
S34-03092002		5/9/2020
Into 2mL mininert vial transferred contents of 2000µg/mL LEED stock ampul secondary standard S31-09111906B (expires 8/31/20).		

TO-17 STD	LEED 1° Working Standard	200 µg/mL
S34-03092003		5/9/2020
Into 1mL mininert vial with 900uL B&J P&T methanol, Lot # DL535, added 100µL 2000ng/mL LEED 1° Stock standard S34-03092001 (expires 5/9/20).		

TO-17 STD	LEED 2° Working Standard	200 µg/mL
S34-03092004		5/9/2020
Into 1mL mininert vial with 900uL B&J P&T methanol, Lot # DL535, added 100µL 2000ng/mL LEED 2° Stock standard S34-03092002 (expires 5/9/20).		

3/10/20 RVT

TO15 ICV/LCS STD 1000 ng/L
S34-03102001
Filled Can: STD00133 w/ S31-10111901 To ~ 7.4 PSIG
Exp. 4/10/20 RVT

3/10/20 LH

		TO-15 STD		200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-10111901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-03102002	200 ng/L	STD00201	3/10/20	4/8/20	LH
LH 3/11/20					
		TO-15 STD		20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of S31-03102002 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-03102003	20 ng/L	STD00217	3/10/20	4/8/20	LH
LH 3/11/20					
		TO-15 STD		4 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-03102003 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-03102004	4 ng/L	STD00131	3/10/20	4/8/20	LH

LH 3/11/20

RVT 3/11/20

TD 3/23/20

S34-03192001	TO-15 IS & Surr. STD	500 ng/L
Filled 6L CAN STD00154 with	S31-01062007 to ~80 psig.	Exp. 5/19/20 TD

3/20/20 RVT

S34-03202001	TO-15 SIM IS/SURR	40 ng/L
Filled can STD00226	to (-7.46) psig with S31-01062007 then pressurized to 75.4 psig	
with HZA Lot #70086833701		
	Exp: 6/18/2020	RVT
DF = 14.7+ 61.80= 12.5X		
14.7+ (-8.58)		

MA

TO-17 STD S34-03202002	PAH 1° Working Standard	2 µg/ml 5/20/2020
Into 1mL mininert vial with 9900µL B&J P&T methanol, Lot #DL535, added 10µL 200µg/mL PAH 1° stock standard S31-01222001 (Exp. 7/21/20)		

3/23/20 CV

TO-17 STD S34-03232001	RAD VOC 1° Stock Standard	2000ng/µL 5/23/2020
Transferred stock standard S31-09061901B (exp. 3/13/27) into glass vial with mininert valve cap.		

CV

TO-17 STD S34-03232002	RAD VOC 1° Working Standard	200ng/µL 5/23/2020
Into 1mL mininert vial with 900uL B&J P&T methanol, Lot # DL535, added 100uL 2000ng/µL Stock Standard S34-03232001 (expires 3/13/20)		

3/25/20

TO-15 ICV/LCS STD 200 ng/L

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111902** with HZA Lot # 70086915004 using 4700 diluter

RVT

	Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34	~~S31~~-03252001	200 ng/L	STD00033	3/25/20	4/23/20	RVT
RVT S34	~~S31~~-03252002	200 ng/L	STD00182	3/25/20	4/23/20	RVT
4/3/20 S34	~~S31~~-03252003	200 ng/L	STD00132	3/25/20	4/23/20	RVT
S34	~~S31~~-03252004	200 ng/L	STD00139	3/25/20	4/23/20	RVT

3/26/20 WA

S34-03262001	TO-15 IS & Surr. STD	500 ng/L
Filled 15L CAN STD00219 with	S31-10111901 to ~80 psig.	Exp. 6/26/20 WA

3/27/20 RVT

8

3/26/20 RVT

S34-03262002	**TO-15 SIM IS/SURR**		**40 ng/L**
Filled can STD00226	to (-7) psig with S31-01062007 then pressurized to 80.65 psig		
with HZA Lot #70086004903			
		Exp: 6/24/2020	RVT
DF = 14.7+ 61.80= 12.5X			
14.7+ (-8.58)			

3/27/20 RVT

S34-03272001	**TO-15 SIM IS/SURR**		**40 ng/L**
Filled can STD00042	to (-6.67) psig with S31-01062007 then pressurized to 85.36 psig		
with HZA Lot #70086004903			
		Exp: 6/25/2020	RVT
DF = 14.7+ 61.80= 12.5X			
14.7+ (-8.58)			

3/27/20 RVT

		TO-15 STD		**200 ng/L**	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111901**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	**Exp. Date**	Initial
S34-03272002	200 ng/L	STD00050	3/27/20	**4/25/20**	RVT
S34-03272003	200 ng/L	STD00115	3/27/20	**4/25/20**	RVT
S34-03272004	200 ng/L	STD00001	3/27/20	**4/25/20**	RVT
S34-03272005	200 ng/L	STD00053	3/27/20	**4/25/20**	RVT

3/30/20 RVT

		TO-15 STD		**20 ng/L**	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-03272005**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-03302001	20 ng/L	STD00057	3/30/20	**4/28/20**	RVT

RVT

		TO-15 STD		**20 ng/L**	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-03272004**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-03302002	20 ng/L	STD00090	3/30/20	**4/28/20**	RVT

RVT

		TO-15 STD		**1 ng/L**	
Spiked 60 uL of DI H2O into Standard CAN and made 20X dilution of **S34-03302001**					
using 4700 diluter		HZA Lot #70086915004		RVT 3/30/20	
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-03302003	1 ng/L	STD00079	3/30/20	**4/28/20**	RVT

S34

4/8/20 S34-~~03~~04082002 TO-17 IS/surr 50ng/ml
Spiked 23.5 µl S34-04072007 into can STD00215 and
pressurized to 83.3 psig w/ HZA (Lot 7008600403).
Exp. 10/8/20

4/10/20
RVT

TO-15 STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111901**					
using 4700 diluter	HZA Lot #70086915004				
Standard ID	Standard conc.	CAN I.D.	Prep. Date	**Exp. Date**	Initial
S34-04102001	200 ng/L	STD00096	4/10/20	**5/9/20**	RVT
S34-04102002	200 ng/L	STD00111	4/10/20	**5/9/20**	RVT
S34-04102003	200 ng/L	STD00013	4/10/20	**5/9/20**	RVT
S34-04102004	200 ng/L	STD00018	4/10/20	**5/9/20**	RVT

RVT S34-04102005 TO-15 STD 1000 ng/L
Pressurized Can: STD00056 w/S31-10111901 To. 16.61 psig
Exp. 9/24/20
RVT

RVT

TO-15 STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S34-04102005**					
using 4700 diluter	HZA Lot #70086915004				
Standard ID	Standard conc.	CAN I.D.	Prep. Date	**Exp. Date**	Initial
S34-04102006	200 ng/L	STD00003	4/10/20	**5/9/20**	RVT

RVT S34-04102007 TO-15 STD 1000 ng/L
ICV/LCS
Pressurized Can: STD00136 w/S31-10111902 To ≈ 17 psig
Exp. 9/24/20
RVT

RVT

TO-15 ICV/LCS STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S34-04102007** with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04102008	200 ng/L	STD00158	4/10/20	**5/9/20**	RVT

RVT

TO-15 STD				20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04102004**					
using 4700 diluter	HZA Lot #70086915004				
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04102009	20 ng/L	STD00145	4/10/20	**5/9/20**	RVT

4/15/20 RVT

TO-15 STD **4 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S34-04102010** using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04152001	4 ng/L	STD00161	4/15/20	**5/14/20**	RVT

TO-15 Custom STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter

TD 4/16/20

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04162001	200 ng/L	STD00009	4/16/2020	**5/15/2020**	TD
S34-04162002	200 ng/L	STD00124	4/16/2020	**5/15/2020**	TD

4/16/20 RVT

TO-15 STD **4 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of **S34-04102003** using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04162003	4 ng/L	STD00227	4/16/20	**5/15/20**	RVT

4/20/20 RVT

TO-15 STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111901** using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04202001	200 ng/L	STD00128	4/20/20	**5/19/20**	RVT
S34-04202002	200 ng/L	STD00112	4/20/20	**5/19/20**	RVT
S34-04202003	200 ng/L	STD00105	4/20/20	**5/19/20**	RVT
S34-04202004	200 ng/L	STD00047	4/20/20	**5/19/20**	RVT

TO-15 Custom STD **20 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter

TD 4/21/20

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04212001	20 ng/L	STD00049	4/21/2020	**5/20/2020**	TD

TD 4/21/20

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

LABORATORY REPORT

May 5, 2020

Pamela Moss
EA Engineering, Science, and Technology, Inc.
7995 E. Prentice Ave, Suite 206E
Greenwood Village, CO 80111

RE: Kirtland AFB Bulk Fuels Facility / 62735DM02

Dear Pamela:

Enclosed are the results of the samples submitted to our laboratory on April 14, 2020. For your reference, these analyses have been assigned our service request number P2002029.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

Kate Kaneko
May 05, 2020, 3:29 pm

Kate Kaneko
Project Manager

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

Client: EA Engineering, Science, and Technology, Inc. Service Request No: P2002029
Project: Kirtland AFB Bulk Fuels Facility / 62735DM02

CASE NARRATIVE

The samples were received intact under chain of custody on April 14, 2020 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

Manual integrations were performed on the following sample(s) and analyte(s). Refer to the raw data for additional information.

Sample Identification(s)	Analyte(s)
P2002029-011	propene

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.1 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

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Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1776326
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-007
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272019-10
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: EA Engineering, Science, and Technology, Inc. Service Request: P2002029

Project ID: Kirtland AFB Bulk Fuels Facility / 62735DM02

Date Received: 4/14/2020

Time Received: 10:45

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	TO-15 - VOC Cans
SVE07-160-202	P2002029-001	Air	4/7/2020	10:58	1SS00108	-2.80	6.41	X
SVE08-260-202	P2002029-002	Air	4/7/2020	11:10	1SC01139	-2.92	6.52	X
SVE09-460-202	P2002029-003	Air	4/7/2020	11:18	1SC00919	-3.16	5.99	X
SV03-050-202	P2002029-004	Air	4/7/2020	14:58	1SC01043	-3.46	5.78	X
SV03-100-202	P2002029-005	Air	4/7/2020	15:01	1SC00899	-3.10	6.45	X
SV03-250-202	P2002029-006	Air	4/7/2020	15:05	1SC00616	-3.72	5.87	X
SV03-300-202	P2002029-007	Air	4/7/2020	15:09	1SS01027	-3.13	5.80	X
SV04-050-202	P2002029-008	Air	4/7/2020	14:23	1SS00982	-3.90	5.42	X
SV04-050-602	P2002029-009	Air	4/7/2020	14:23	1SS00919	-4.12	5.39	X
SV04-100-202	P2002029-010	Air	4/7/2020	14:27	1SC00684	-2.84	6.15	X
SV04-250-202	P2002029-011	Air	4/7/2020	14:32	1SS00713	-3.66	6.23	X
SV04-300-202	P2002029-012	Air	4/7/2020	14:36	1SC01186	-3.21	5.83	X
SV08-050-202	P2002029-013	Air	4/7/2020	13:13	1SC00507	-3.86	5.81	X
SV08-100-202	P2002029-014	Air	4/7/2020	13:18	1SS00041	-3.25	5.92	X
SV08-250-202	P2002029-015	Air	4/7/2020	13:21	1SC00746	-3.45	6.54	X
SV09-050-202	P2002029-016	Air	4/7/2020	12:38	1SC01028	-3.42	7.43	X
SV09-100-202	P2002029-017	Air	4/7/2020	12:40	1SC00732	-3.12	5.35	X
SV09-250-202	P2002029-018	Air	4/7/2020	12:45	1SC00646	-2.93	6.09	X
SV09-266-202	P2002029-019	Air	4/7/2020	12:50	1SC01253	-3.89	5.91	X
SVTB-202-01	P2002029-020	Air	4/9/2020	08:00	1SC01145	-14.33	5.87	X

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

COC #: **COC-SV202-03**

Requested Turnaround Time in Business Days: 10 Day-Standard

ALS Project No: 12002029

Company Name & Address (Reporting Information)	Project Name	ALS Contact: Kate Kaneko 1 (805) 577-2089
EA Engineering, Science, and Technology, Inc., PBC 225 Schilling Circle Suite 400, Hunt Valley, MD (410) 584-7000	Kirtland AFB Bulk Fuels Faciltiy	**Analysis Method**
	Project Number: 62735DM02	TO-15 Project Specific List
Project Manager / Project Chemist: Bernie Bockish (505) 234-1105 / Pam Moss (303) 590-9143	P.O. # / Billing Information: 17682	
Email Address for Result Reporting Tara Lamond: tlamond@eaest.com Amanda Smith: asmith@eaest.com Pam Moss: pmoss@eaest.com	Sampler (Print & Sign): Ryan Worthen	

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg	Sample Volume	TO-15 Project Specific List	Comments e.g. Actual Preservative or specific instructions
SVE07-160-202		4/7/2020	1058	1SS00108	NA	-25.0	-2.0	1L	X	None
SVE08-260-202		4/7/2020	1110	1SC01139	NA	-24.0	-2.0	1L	X	None
SVE09-460-202		4/7/2020	1118	1SC00919	NA	-23.5	-1.0	1L	X	None
SV03-050-202		4/7/2020	1458	1SC01043	NA	-23.0	-1.0	1L	X	None
SV03-100-202		4/7/2020	1501	1SC00899	NA	-24.0	-1.0	1L	X	None
SV03-250-202		4/7/2020	1505	1SC00616	NA	-24.0	-1.5	1L	X	None
SV03-300-202		4/7/2020	1509	1SS01027	NA	-25.0	-1.0	1L	X	None
SV04-050-202		4/7/2020	1423	1SS00982	NA	-24.0	-3.0	1L	X	None
SV04-050-602		4/7/2020	1423	1SS00919	NA	-25.0	-3.0	1L	X	None
SV04-100-202		4/7/2020	1427	1SC00684	NA	-26.0	-1.0	1L	X	None

FedEX Tracking Number: 1028 3396 5181

Associated with Trip blank: SVTB-202-01

Shipping information: Box number 3 of 3

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____ Tier III (Results + QC & Calibration Summaries) ____
Tier II (Results + QC Summaries) ____ Tier IV (Data Validation Package) X

EDD required: Yes
Type: ERPIMS / EQuIS

Chain-of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements: QAPP

Relinquished by: (Signature)	Date: 4/19/20	Time: 1300	Received by: (Signature)	Date: 4-14-20	Time: 1045
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Cooler / Blank Temperature NA °C

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

COC #: COC-SV202-03

Requested Turnaround Time in Business Days: 10 Day-Standard

ALS Project No: P2002029

Company Name & Address (Reporting Information)	EA Engineering, Science, and Technology, Inc., PBC 225 Schilling Circle Suite 400, Hunt Valley, MD (410) 584-7000
Project Manager / Project Chemist	Bernie Bockish (505) 234-1105 / Pam Moss (303) 590-9143
Email Address for Result Reporting	Tara Lamond: tlamond@eaest.com Amanda Smith: asmith@eaest.com Pam Moss: pmoss@eaest.com
Project Name	Kirtland AFB Bulk Fuels Facility
Project Number	62735DM02
P.O. # / Billing Information	17682
Sampler (Print & Sign)	Ryan Wortman

ALS Contact: Kate Kaneko
1 (805) 577-2089

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg	Sample Volume	Analysis Method: TO-15 Project Specific List	Comments e.g. Actual Preservative or specific instructions
SV04-250-202		4/7/2020	1432	1SS00713	AVG04448	-23.5	-1.5	1L	X	None
SV04-300-202		4/7/2020	1436	1SC01186	NA	-26.0	-1.0	1L	X	None
SV08-050-202		4/7/2020	1313	1SC00507	AVG02856	-25.0	-3.0	1L	X	None
SV08-100-202		4/7/2020	1318	1SS00041	NA	-26.0	-2.0	1L	X	None
SV08-250-202		4/7/2020	1321	1SC00746	NA	-26.0	-1.5	1L	X	None
SV09-050-202		4/7/2020	1238	1SC01028	NA	-25.0	-1.0	1L	X	None
SV09-100-202		4/7/2020	1240	1SC00732	AVG0####	-25.0	-1.0	1L	X	None
SV09-250-202		4/7/2020	1245	1SC00646	NA	-25.0	-1.5	1L	X	None
SV09-266-202		4/7/2020	1250	1SC01253	NA	-25.5	-3.0	1L	X	None
SVTB-202-01		4/9/2020	0800	1SC01145	NA	-25.0	-25.0	1L	X	None

4/9/20

FedEX Tracking Number: 1028 3396 5181

Associated with Trip blank: SVTB-202-01

Shipping information: Box number 3 of 3

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____ Tier III (Results + QC & Calibration Summaries) ____
Tier II (Results + QC Summaries) ____ Tier IV (Data Validation Package) X

EDD required: Yes
Type: ERPIMS / EQuIS

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements: QAPP

Relinquished by: (Signature)	Date: 4/9/20	Time: 1300	Received by: (Signature)	Date: 4/10	Time: 0845
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Cooler / Blank Temperature NA °C

ALS Environmental

Sample Acceptance Check Form

Client: EA Engineering, Science, and Technology, Inc. Work order: P2002029

Project: Kirtland AFB Bulk Fuels Facility / 62735DM02

Sample(s) received on: 04/14/20 Date opened: 04/14/20 by: DENISE.POSADA

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☒	☐	☐
	Location of seal(s)? _____ Sealing Lid?	☒	☐	☐
	Were signature and date included?	☒	☐	☐
	Were seals intact?	☒	☐	☐
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2002029-001.01	1.0 L Source Silonite Canister					
P2002029-002.01	1.0 L Source Can					
P2002029-003.01	1.0 L Source Can					
P2002029-004.01	1.0 L Source Can					
P2002029-005.01	1.0 L Source Can					
P2002029-006.01	1.0 L Source Can					
P2002029-007.01	1.0 L Source Silonite Canister					
P2002029-008.01	1.0 L Source Silonite Canister					
P2002029-009.01	1.0 L Source Silonite Canister					
P2002029-010.01	1.0 L Source Can					
P2002029-011.01	1.0 L Source Silonite Canister					
P2002029-012.01	1.0 L Source Can					
P2002029-013.01	1.0 L Source Can					
P2002029-014.01	1.0 L Source Silonite Canister					
P2002029-015.01	1.0 L Source Can					

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS Environmental

Sample Acceptance Check Form

Client: EA Engineering, Science, and Technology, Inc. Work order: P2002029

Project: Kirtland AFB Bulk Fuels Facility / 62735DM02

Sample(s) received on: 04/14/20 Date opened: 04/14/20 by: DENISE.POSADA

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2002029-016.01	1.0 L Source Can					
P2002029-017.01	1.0 L Source Can					
P2002029-018.01	1.0 L Source Can					
P2002029-019.01	1.0 L Source Can					
P2002029-020.01	1.0 L Source Can					

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVE07-160-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-001

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/30/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.000020 Liter(s)
Test Notes:

Initial Pressure (psig): -2.80 Final Pressure (psig): 6.41

Container Dilution Factor: 1.77

CAS #	Compound	Result µg/m³		LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**34,000**		47,000	28,000	12,000	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)		28,000	47,000	28,000	7,700	**U**
74-87-3	Chloromethane		28,000	47,000	28,000	7,600	**U**
75-01-4	Vinyl Chloride		15,000	48,000	15,000	5,000	**U**
106-99-0	1,3-Butadiene		28,000	47,000	28,000	7,800	**U**
75-00-3	Chloroethane		28,000	48,000	28,000	5,800	**U**
64-17-5	Ethanol		73,000	460,000	73,000	33,000	**U**
67-64-1	Acetone		240,000	470,000	240,000	110,000	**U**
75-69-4	Trichlorofluoromethane		28,000	47,000	28,000	7,200	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)		56,000	190,000	56,000	19,000	**U**
75-09-2	Methylene Chloride	**34,000**		47,000	28,000	13,000	**J**
76-13-1	Trichlorotrifluoroethane	**94,000**		48,000	15,000	6,700	
75-15-0	Carbon Disulfide		48,000	97,000	48,000	14,000	**U**
75-34-3	1,1-Dichloroethane		29,000	49,000	29,000	6,900	**U**
78-93-3	2-Butanone (MEK)	**150,000**		97,000	28,000	9,700	
141-78-6	Ethyl Acetate		58,000	97,000	58,000	25,000	**U**
110-54-3	n-Hexane	**7,900,000**		48,000	28,000	9,700	
67-66-3	Chloroform		15,000	48,000	15,000	6,300	**U**
109-99-9	Tetrahydrofuran (THF)		15,000	49,000	15,000	5,900	**U**
107-06-2	1,2-Dichloroethane		15,000	48,000	15,000	5,200	**U**
71-43-2	Benzene	**960,000**		47,000	15,000	6,800	
56-23-5	Carbon Tetrachloride		15,000	47,000	15,000	6,500	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVE07-160-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-001

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/30/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.000020 Liter(s)
Test Notes:

Initial Pressure (psig): -2.80 Final Pressure (psig): 6.41

Container Dilution Factor: 1.77

CAS #	Compound	Result µg/m³		LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**3,800,000**		97,000	30,000	13,000	
75-27-4	Bromodichloromethane		15,000	48,000	15,000	6,800	**U**
79-01-6	Trichloroethene		15,000	48,000	15,000	6,400	**U**
123-91-1	1,4-Dioxane		15,000	48,000	15,000	5,600	**U**
142-82-5	n-Heptane	**3,200,000**		48,000	28,000	7,500	
108-10-1	4-Methyl-2-pentanone		15,000	47,000	15,000	6,500	**U**
108-88-3	Toluene	**1,300,000**		48,000	15,000	5,800	
591-78-6	2-Hexanone		15,000	48,000	15,000	5,800	**U**
124-48-1	Dibromochloromethane		15,000	48,000	15,000	6,200	**U**
106-93-4	1,2-Dibromoethane		15,000	48,000	15,000	5,500	**U**
127-18-4	Tetrachloroethene	**27,000**		46,000	15,000	6,100	**J**
100-41-4	Ethylbenzene	**130,000**		48,000	15,000	6,600	
179601-23-1	m,p-Xylenes	**280,000**		97,000	30,000	12,000	
75-25-2	Bromoform		28,000	48,000	28,000	9,700	**U**
100-42-5	Styrene		28,000	47,000	28,000	7,600	**U**
95-47-6	o-Xylene	**89,000**		48,000	15,000	6,800	
108-67-8	1,3,5-Trimethylbenzene	**15,000**		47,000	15,000	6,800	**J**
95-63-6	1,2,4-Trimethylbenzene	**32,000**		48,000	15,000	6,500	**J**
120-82-1	1,2,4-Trichlorobenzene		28,000	48,000	28,000	12,000	**U**
91-20-3	Naphthalene		27,000	46,000	27,000	12,000	**U**
1330-20-7	Xylenes, Total	**370,000**		97,000	30,000	12,000	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVE08-260-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-002

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.030 Liter(s)
Test Notes:
Container ID: 1SC01139

Initial Pressure (psig): -2.92 Final Pressure (psig): 6.52

Container Dilution Factor: 1.80

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**20**	32	19	7.8	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	19	32	19	5.2	**U**
74-87-3	Chloromethane	**5.9**	32	19	5.2	**J**
75-01-4	Vinyl Chloride	10	32	10	3.4	**U**
106-99-0	1,3-Butadiene	19	32	19	5.3	**U**
75-00-3	Chloroethane	19	32	19	4.0	**U**
64-17-5	Ethanol	50	310	50	22	**U**
67-64-1	Acetone	**260**	320	160	72	**J**
75-69-4	Trichlorofluoromethane	19	32	19	4.9	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	38	130	38	13	**U**
75-09-2	Methylene Chloride	19	32	19	9.0	**U**
76-13-1	Trichlorotrifluoroethane	**45**	32	10	4.6	
75-15-0	Carbon Disulfide	32	66	32	9.6	**U**
75-34-3	1,1-Dichloroethane	20	33	20	4.7	**U**
78-93-3	2-Butanone (MEK)	**70**	66	19	6.6	
141-78-6	Ethyl Acetate	39	66	39	17	**U**
110-54-3	n-Hexane	**490**	32	19	6.6	
67-66-3	Chloroform	10	32	10	4.3	**U**
109-99-9	Tetrahydrofuran (THF)	10	33	10	4.0	**U**
107-06-2	1,2-Dichloroethane	10	32	10	3.5	**U**
71-43-2	Benzene	**1,400**	32	10	4.6	
56-23-5	Carbon Tetrachloride	10	32	10	4.4	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVE08-260-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-002

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.030 Liter(s)
Test Notes:
Container ID: 1SC01139

Initial Pressure (psig): -2.92 Final Pressure (psig): 6.52

Container Dilution Factor: 1.80

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**1,100**	66	20	9.0	
75-27-4	Bromodichloromethane	10	32	10	4.6	**U**
79-01-6	Trichloroethene	10	32	10	4.3	**U**
123-91-1	1,4-Dioxane	10	32	10	3.8	**U**
142-82-5	n-Heptane	**420**	32	19	5.1	
108-10-1	4-Methyl-2-pentanone	10	32	10	4.4	**U**
108-88-3	Toluene	**370**	32	10	3.9	
591-78-6	2-Hexanone	10	32	10	4.0	**U**
124-48-1	Dibromochloromethane	10	32	10	4.2	**U**
106-93-4	1,2-Dibromoethane	10	32	10	3.7	**U**
127-18-4	Tetrachloroethene	10	31	10	4.1	**U**
100-41-4	Ethylbenzene	**98**	32	10	4.5	
179601-23-1	m,p-Xylenes	**240**	66	20	8.4	
75-25-2	Bromoform	19	32	19	6.6	**U**
100-42-5	Styrene	19	32	19	5.2	**U**
95-47-6	o-Xylene	**92**	32	10	4.6	
108-67-8	1,3,5-Trimethylbenzene	**47**	32	10	4.6	
95-63-6	1,2,4-Trimethylbenzene	**110**	32	10	4.4	
120-82-1	1,2,4-Trichlorobenzene	19	32	19	7.8	**U**
91-20-3	Naphthalene	**20**	31	19	7.8	**J**
1330-20-7	Xylenes, Total	**330**	66	20	8.4	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVE09-460-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-003

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.030 Liter(s)
Test Notes:
Container ID: 1SC00919

Initial Pressure (psig): -3.16 Final Pressure (psig): 5.99

Container Dilution Factor: 1.79

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**40**	32	19	7.8	
75-71-8	Dichlorodifluoromethane (CFC 12)	19	32	19	5.2	**U**
74-87-3	Chloromethane	19	32	19	5.1	**U**
75-01-4	Vinyl Chloride	10	32	10	3.4	**U**
106-99-0	1,3-Butadiene	19	32	19	5.3	**U**
75-00-3	Chloroethane	19	32	19	3.9	**U**
64-17-5	Ethanol	50	310	50	22	**U**
67-64-1	Acetone	160	320	160	72	**U**
75-69-4	Trichlorofluoromethane	19	32	19	4.8	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	38	130	38	13	**U**
75-09-2	Methylene Chloride	19	32	19	9.0	**U**
76-13-1	Trichlorotrifluoroethane	**53**	32	10	4.5	
75-15-0	Carbon Disulfide	**36**	66	32	9.5	**J**
75-34-3	1,1-Dichloroethane	20	33	20	4.7	**U**
78-93-3	2-Butanone (MEK)	**32**	66	19	6.6	**J**
141-78-6	Ethyl Acetate	39	66	39	17	**U**
110-54-3	n-Hexane	**490**	32	19	6.6	
67-66-3	Chloroform	10	32	10	4.2	**U**
109-99-9	Tetrahydrofuran (THF)	10	33	10	4.0	**U**
107-06-2	1,2-Dichloroethane	10	32	10	3.5	**U**
71-43-2	Benzene	**1,100**	32	10	4.6	
56-23-5	Carbon Tetrachloride	10	32	10	4.4	**U**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVE09-460-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-003

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.030 Liter(s)
Test Notes:
Container ID: 1SC00919

Initial Pressure (psig): -3.16 Final Pressure (psig): 5.99

Container Dilution Factor: 1.79

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**3,200**	66	20	9.0	
75-27-4	Bromodichloromethane	10	32	10	4.6	**U**
79-01-6	Trichloroethene	10	32	10	4.3	**U**
123-91-1	1,4-Dioxane	10	32	10	3.8	**U**
142-82-5	n-Heptane	**280**	32	19	5.1	
108-10-1	4-Methyl-2-pentanone	10	32	10	4.4	**U**
108-88-3	Toluene	**170**	32	10	3.9	
591-78-6	2-Hexanone	10	32	10	3.9	**U**
124-48-1	Dibromochloromethane	10	32	10	4.2	**U**
106-93-4	1,2-Dibromoethane	10	32	10	3.7	**U**
127-18-4	Tetrachloroethene	10	31	10	4.1	**U**
100-41-4	Ethylbenzene	**52**	32	10	4.5	
179601-23-1	m,p-Xylenes	**120**	66	20	8.4	
75-25-2	Bromoform	19	32	19	6.6	**U**
100-42-5	Styrene	19	32	19	5.1	**U**
95-47-6	o-Xylene	**47**	32	10	4.6	
108-67-8	1,3,5-Trimethylbenzene	**20**	32	10	4.6	**J**
95-63-6	1,2,4-Trimethylbenzene	**47**	32	10	4.4	
120-82-1	1,2,4-Trichlorobenzene	19	32	19	7.8	**U**
91-20-3	Naphthalene	**9.0**	31	18	7.8	**J**
1330-20-7	Xylenes, Total	**160**	66	20	8.4	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV03-050-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-004

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.15 Liter(s)
Test Notes:
Container ID: 1SC01043

Initial Pressure (psig): -3.46 Final Pressure (psig): 5.78

Container Dilution Factor: 1.82

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**6.2**	6.4	3.9	1.6	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.7**	6.4	3.9	1.1	**J**
74-87-3	Chloromethane	3.9	6.4	3.9	1.0	**U**
75-01-4	Vinyl Chloride	2.1	6.6	2.1	0.69	**U**
106-99-0	1,3-Butadiene	3.9	6.4	3.9	1.1	**U**
75-00-3	Chloroethane	3.9	6.6	3.9	0.80	**U**
64-17-5	Ethanol	10	63	10	4.5	**U**
67-64-1	Acetone	**26**	64	33	15	**J**
75-69-4	Trichlorofluoromethane	**2.2**	6.4	3.9	0.98	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**15**	25	7.6	2.7	**J**
75-09-2	Methylene Chloride	3.9	6.4	3.9	1.8	**U**
76-13-1	Trichlorotrifluoroethane	**150**	6.6	2.1	0.92	
75-15-0	Carbon Disulfide	6.6	13	6.6	1.9	**U**
75-34-3	1,1-Dichloroethane	4.0	6.7	4.0	0.95	**U**
78-93-3	2-Butanone (MEK)	**3.0**	13	3.9	1.3	**J**
141-78-6	Ethyl Acetate	7.9	13	7.9	3.4	**U**
110-54-3	n-Hexane	**12**	6.6	3.9	1.3	
67-66-3	Chloroform	**3.4**	6.6	2.1	0.86	**J**
109-99-9	Tetrahydrofuran (THF)	2.1	6.7	2.1	0.81	**U**
107-06-2	1,2-Dichloroethane	2.1	6.6	2.1	0.72	**U**
71-43-2	Benzene	**17**	6.4	2.1	0.93	
56-23-5	Carbon Tetrachloride	**26**	6.4	2.1	0.90	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV03-050-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-004

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.15 Liter(s)
Test Notes:
Container ID: 1SC01043

Initial Pressure (psig): -3.46 Final Pressure (psig): 5.78

Container Dilution Factor: 1.82

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**25**	13	4.1	1.8	
75-27-4	Bromodichloromethane	2.1	6.6	2.1	0.93	**U**
79-01-6	Trichloroethene	**5.1**	6.6	2.1	0.87	**J**
123-91-1	1,4-Dioxane	2.1	6.6	2.1	0.76	**U**
142-82-5	n-Heptane	**24**	6.6	3.9	1.0	
108-10-1	4-Methyl-2-pentanone	2.1	6.4	2.1	0.89	**U**
108-88-3	Toluene	**40**	6.6	2.1	0.79	
591-78-6	2-Hexanone	2.1	6.6	2.1	0.80	**U**
124-48-1	Dibromochloromethane	2.1	6.6	2.1	0.85	**U**
106-93-4	1,2-Dibromoethane	2.1	6.6	2.1	0.75	**U**
127-18-4	Tetrachloroethene	**77**	6.3	2.1	0.84	
100-41-4	Ethylbenzene	**5.7**	6.6	2.1	0.91	**J**
179601-23-1	m,p-Xylenes	**26**	13	4.1	1.7	
75-25-2	Bromoform	3.9	6.6	3.9	1.3	**U**
100-42-5	Styrene	3.9	6.4	3.9	1.0	**U**
95-47-6	o-Xylene	**9.2**	6.6	2.1	0.93	
108-67-8	1,3,5-Trimethylbenzene	**5.0**	6.4	2.1	0.93	**J**
95-63-6	1,2,4-Trimethylbenzene	**8.1**	6.6	2.1	0.90	
120-82-1	1,2,4-Trichlorobenzene	3.9	6.6	3.9	1.6	**U**
91-20-3	Naphthalene	3.8	6.3	3.8	1.6	**U**
1330-20-7	Xylenes, Total	**35**	13	4.1	1.7	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV03-100-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-005

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00020 Liter(s)
Test Notes:
Container ID: 1SC00899

Initial Pressure (psig): -3.10 Final Pressure (psig): 6.45

Container Dilution Factor: 1.82

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1,800**	4,800	2,900	1,200	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	2,900	4,800	2,900	790	**U**
74-87-3	Chloromethane	2,900	4,800	2,900	780	**U**
75-01-4	Vinyl Chloride	1,500	4,900	1,500	520	**U**
106-99-0	1,3-Butadiene	2,900	4,800	2,900	800	**U**
75-00-3	Chloroethane	2,900	4,900	2,900	600	**U**
64-17-5	Ethanol	7,600	47,000	7,600	3,400	**U**
67-64-1	Acetone	25,000	48,000	25,000	11,000	**U**
75-69-4	Trichlorofluoromethane	2,900	4,800	2,900	740	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	5,700	19,000	5,700	2,000	**U**
75-09-2	Methylene Chloride	**5,000**	4,800	2,900	1,400	
76-13-1	Trichlorotrifluoroethane	**13,000**	4,900	1,500	690	
75-15-0	Carbon Disulfide	4,900	10,000	4,900	1,500	**U**
75-34-3	1,1-Dichloroethane	3,000	5,000	3,000	710	**U**
78-93-3	2-Butanone (MEK)	2,900	10,000	2,900	1,000	**U**
141-78-6	Ethyl Acetate	5,900	10,000	5,900	2,500	**U**
110-54-3	n-Hexane	**170,000**	4,900	2,900	1,000	
67-66-3	Chloroform	1,500	4,900	1,500	650	**U**
109-99-9	Tetrahydrofuran (THF)	1,500	5,000	1,500	610	**U**
107-06-2	1,2-Dichloroethane	1,500	4,900	1,500	540	**U**
71-43-2	Benzene	**7,100**	4,800	1,500	700	
56-23-5	Carbon Tetrachloride	1,500	4,800	1,500	670	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV03-100-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-005

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00020 Liter(s)
Test Notes:
Container ID: 1SC00899

Initial Pressure (psig): -3.10 Final Pressure (psig): 6.45

Container Dilution Factor: 1.82

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**1,300,000**	10,000	3,100	1,400	
75-27-4	Bromodichloromethane	1,500	4,900	1,500	700	**U**
79-01-6	Trichloroethene	1,500	4,900	1,500	660	**U**
123-91-1	1,4-Dioxane	1,500	4,900	1,500	570	**U**
142-82-5	n-Heptane	**66,000**	4,900	2,900	770	
108-10-1	4-Methyl-2-pentanone	1,500	4,800	1,500	660	**U**
108-88-3	Toluene	**25,000**	4,900	1,500	590	
591-78-6	2-Hexanone	1,500	4,900	1,500	600	**U**
124-48-1	Dibromochloromethane	1,500	4,900	1,500	640	**U**
106-93-4	1,2-Dibromoethane	1,500	4,900	1,500	560	**U**
127-18-4	Tetrachloroethene	**3,500**	4,700	1,500	630	**J**
100-41-4	Ethylbenzene	**4,600**	4,900	1,500	680	**J**
179601-23-1	m,p-Xylenes	**12,000**	10,000	3,100	1,300	
75-25-2	Bromoform	2,900	4,900	2,900	1,000	**U**
100-42-5	Styrene	2,900	4,800	2,900	780	**U**
95-47-6	o-Xylene	**6,900**	4,900	1,500	700	
108-67-8	1,3,5-Trimethylbenzene	**4,800**	4,800	1,500	700	**J**
95-63-6	1,2,4-Trimethylbenzene	**3,500**	4,900	1,500	670	**J**
120-82-1	1,2,4-Trichlorobenzene	2,900	4,900	2,900	1,200	**U**
91-20-3	Naphthalene	2,800	4,700	2,800	1,200	**U**
1330-20-7	Xylenes, Total	**19,000**	10,000	3,100	1,300	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV03-250-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-006

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00025 Liter(s)
Test Notes: 0.000050 Liter(s)
Container ID: 1SC00616

Initial Pressure (psig): -3.72 Final Pressure (psig): 5.87

Container Dilution Factor: 1.87

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**2,800**	4,000	2,400	970	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	2,400	4,000	2,400	650	**U**
74-87-3	Chloromethane	2,400	4,000	2,400	640	**U**
75-01-4	Vinyl Chloride	1,300	4,000	1,300	430	**U**
106-99-0	1,3-Butadiene	2,400	4,000	2,400	660	**U**
75-00-3	Chloroethane	2,400	4,000	2,400	490	**U**
64-17-5	Ethanol	6,200	39,000	6,200	2,800	**U**
67-64-1	Acetone	20,000	40,000	20,000	9,000	**U**
75-69-4	Trichlorofluoromethane	2,400	4,000	2,400	610	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	4,700	16,000	4,700	1,600	**U**
75-09-2	Methylene Chloride	**4,000**	4,000	2,400	1,100	
76-13-1	Trichlorotrifluoroethane	**12,000**	4,000	1,300	570	
75-15-0	Carbon Disulfide	4,000	8,200	4,000	1,200	**U**
75-34-3	1,1-Dichloroethane	2,500	4,100	2,500	580	**U**
78-93-3	2-Butanone (MEK)	2,400	8,200	2,400	820	**U**
141-78-6	Ethyl Acetate	4,900	8,200	4,900	2,100	**U**
110-54-3	n-Hexane	**1,800,000**	20,000	12,000	4,100	**D**
67-66-3	Chloroform	1,300	4,000	1,300	530	**U**
109-99-9	Tetrahydrofuran (THF)	1,300	4,100	1,300	500	**U**
107-06-2	1,2-Dichloroethane	1,300	4,000	1,300	440	**U**
71-43-2	Benzene	**520,000**	4,000	1,300	580	
56-23-5	Carbon Tetrachloride	1,300	4,000	1,300	550	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV03-250-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-006

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00025 Liter(s)
Test Notes: 0.000050 Liter(s)
Container ID: 1SC00616

Initial Pressure (psig): -3.72 Final Pressure (psig): 5.87

Container Dilution Factor: 1.87

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**1,500,000**	8,200	2,500	1,100	
75-27-4	Bromodichloromethane	1,300	4,000	1,300	580	**U**
79-01-6	Trichloroethene	**580**	4,000	1,300	540	**J**
123-91-1	1,4-Dioxane	1,300	4,000	1,300	470	**U**
142-82-5	n-Heptane	**1,300,000**	20,000	12,000	3,200	**D**
108-10-1	4-Methyl-2-pentanone	1,300	4,000	1,300	550	**U**
108-88-3	Toluene	**840,000**	20,000	6,400	2,400	**D**
591-78-6	2-Hexanone	1,300	4,000	1,300	490	**U**
124-48-1	Dibromochloromethane	1,300	4,000	1,300	520	**U**
106-93-4	1,2-Dibromoethane	1,300	4,000	1,300	460	**U**
127-18-4	Tetrachloroethene	**2,700**	3,900	1,300	520	**J**
100-41-4	Ethylbenzene	**98,000**	4,000	1,300	560	
179601-23-1	m,p-Xylenes	**300,000**	8,200	2,500	1,000	
75-25-2	Bromoform	2,400	4,000	2,400	820	**U**
100-42-5	Styrene	2,400	4,000	2,400	640	**U**
95-47-6	o-Xylene	**95,000**	4,000	1,300	580	
108-67-8	1,3,5-Trimethylbenzene	**13,000**	4,000	1,300	580	
95-63-6	1,2,4-Trimethylbenzene	**18,000**	4,000	1,300	550	
120-82-1	1,2,4-Trichlorobenzene	2,400	4,000	2,400	970	**U**
91-20-3	Naphthalene	2,300	3,900	2,300	970	**U**
1330-20-7	Xylenes, Total	**400,000**	8,200	2,500	1,000	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV03-300-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-007

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00030 Liter(s)
Test Notes: 0.000080 Liter(s)
Container ID: 1SS01027

Initial Pressure (psig): -3.13 Final Pressure (psig): 5.80

Container Dilution Factor: 1.77

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1,900**	3,100	1,900	770	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	1,900	3,100	1,900	510	**U**
74-87-3	Chloromethane	1,900	3,100	1,900	510	**U**
75-01-4	Vinyl Chloride	1,000	3,200	1,000	340	**U**
106-99-0	1,3-Butadiene	1,900	3,100	1,900	520	**U**
75-00-3	Chloroethane	1,900	3,200	1,900	390	**U**
64-17-5	Ethanol	4,900	31,000	4,900	2,200	**U**
67-64-1	Acetone	16,000	31,000	16,000	7,100	**U**
75-69-4	Trichlorofluoromethane	1,900	3,100	1,900	480	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	3,700	12,000	3,700	1,300	**U**
75-09-2	Methylene Chloride	**2,100**	3,100	1,900	890	**J**
76-13-1	Trichlorotrifluoroethane	**5,900**	3,200	1,000	450	
75-15-0	Carbon Disulfide	3,200	6,500	3,200	940	**U**
75-34-3	1,1-Dichloroethane	1,900	3,200	1,900	460	**U**
78-93-3	2-Butanone (MEK)	1,900	6,500	1,900	650	**U**
141-78-6	Ethyl Acetate	3,800	6,500	3,800	1,700	**U**
110-54-3	n-Hexane	**630,000**	3,200	1,900	650	
67-66-3	Chloroform	1,000	3,200	1,000	420	**U**
109-99-9	Tetrahydrofuran (THF)	1,000	3,200	1,000	400	**U**
107-06-2	1,2-Dichloroethane	1,000	3,200	1,000	350	**U**
71-43-2	Benzene	**180,000**	3,100	1,000	450	
56-23-5	Carbon Tetrachloride	1,000	3,100	1,000	440	**U**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV03-300-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-007

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00030 Liter(s)
Test Notes: 0.000080 Liter(s)
Container ID: 1SS01027

Initial Pressure (psig): -3.13 Final Pressure (psig): 5.80

Container Dilution Factor: 1.77

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**810,000**	6,500	2,000	890	
75-27-4	Bromodichloromethane	1,000	3,200	1,000	450	**U**
79-01-6	Trichloroethene	1,000	3,200	1,000	420	**U**
123-91-1	1,4-Dioxane	1,000	3,200	1,000	370	**U**
142-82-5	n-Heptane	**480,000**	12,000	7,100	1,900	**D**
108-10-1	4-Methyl-2-pentanone	1,000	3,100	1,000	430	**U**
108-88-3	Toluene	**470,000**	12,000	3,800	1,400	**D**
591-78-6	2-Hexanone	1,000	3,200	1,000	390	**U**
124-48-1	Dibromochloromethane	1,000	3,200	1,000	410	**U**
106-93-4	1,2-Dibromoethane	1,000	3,200	1,000	370	**U**
127-18-4	Tetrachloroethene	**1,400**	3,100	1,000	410	**J**
100-41-4	Ethylbenzene	**97,000**	3,200	1,000	440	
179601-23-1	m,p-Xylenes	**260,000**	6,500	2,000	830	
75-25-2	Bromoform	1,900	3,200	1,900	650	**U**
100-42-5	Styrene	1,900	3,100	1,900	510	**U**
95-47-6	o-Xylene	**84,000**	3,200	1,000	450	
108-67-8	1,3,5-Trimethylbenzene	**15,000**	3,100	1,000	450	
95-63-6	1,2,4-Trimethylbenzene	**35,000**	3,200	1,000	440	
120-82-1	1,2,4-Trichlorobenzene	1,900	3,200	1,900	770	**U**
91-20-3	Naphthalene	1,800	3,100	1,800	770	**U**
1330-20-7	Xylenes, Total	**340,000**	6,500	2,000	830	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV04-050-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-008

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/30/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.000050 Liter(s)
Test Notes:
Container ID: 1SS00982

Initial Pressure (psig): -3.90 Final Pressure (psig): 5.42

Container Dilution Factor: 1.86

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	12,000	20,000	12,000	4,800	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	12,000	20,000	12,000	3,200	**U**
74-87-3	Chloromethane	12,000	20,000	12,000	3,200	**U**
75-01-4	Vinyl Chloride	6,300	20,000	6,300	2,100	**U**
106-99-0	1,3-Butadiene	12,000	20,000	12,000	3,300	**U**
75-00-3	Chloroethane	12,000	20,000	12,000	2,500	**U**
64-17-5	Ethanol	31,000	190,000	31,000	14,000	**U**
67-64-1	Acetone	100,000	200,000	100,000	45,000	**U**
75-69-4	Trichlorofluoromethane	12,000	20,000	12,000	3,000	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	23,000	78,000	23,000	8,200	**U**
75-09-2	Methylene Chloride	**16,000**	20,000	12,000	5,600	**J**
76-13-1	Trichlorotrifluoroethane	**41,000**	20,000	6,300	2,800	
75-15-0	Carbon Disulfide	20,000	41,000	20,000	6,000	**U**
75-34-3	1,1-Dichloroethane	12,000	20,000	12,000	2,900	**U**
78-93-3	2-Butanone (MEK)	12,000	41,000	12,000	4,100	**U**
141-78-6	Ethyl Acetate	24,000	41,000	24,000	10,000	**U**
110-54-3	n-Hexane	12,000	20,000	12,000	4,100	**U**
67-66-3	Chloroform	6,300	20,000	6,300	2,600	**U**
109-99-9	Tetrahydrofuran (THF)	6,300	20,000	6,300	2,500	**U**
107-06-2	1,2-Dichloroethane	6,300	20,000	6,300	2,200	**U**
71-43-2	Benzene	**240,000**	20,000	6,300	2,900	
56-23-5	Carbon Tetrachloride	6,300	20,000	6,300	2,800	**U**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV04-050-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-008

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/30/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.000050 Liter(s)
Test Notes:
Container ID: 1SS00982

Initial Pressure (psig): -3.90 Final Pressure (psig): 5.42

Container Dilution Factor: 1.86

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**6,800**	41,000	13,000	5,600	**J**
75-27-4	Bromodichloromethane	6,300	20,000	6,300	2,900	**U**
79-01-6	Trichloroethene	6,300	20,000	6,300	2,700	**U**
123-91-1	1,4-Dioxane	**23,000**	20,000	6,300	2,300	
142-82-5	n-Heptane	**3,700**	20,000	12,000	3,200	**J**
108-10-1	4-Methyl-2-pentanone	6,300	20,000	6,300	2,700	**U**
108-88-3	Toluene	6,300	20,000	6,300	2,400	**U**
591-78-6	2-Hexanone	6,300	20,000	6,300	2,500	**U**
124-48-1	Dibromochloromethane	6,300	20,000	6,300	2,600	**U**
106-93-4	1,2-Dibromoethane	6,300	20,000	6,300	2,300	**U**
127-18-4	Tetrachloroethene	**11,000**	19,000	6,300	2,600	**J**
100-41-4	Ethylbenzene	6,300	20,000	6,300	2,800	**U**
179601-23-1	m,p-Xylenes	**6,700**	41,000	13,000	5,200	**J**
75-25-2	Bromoform	12,000	20,000	12,000	4,100	**U**
100-42-5	Styrene	12,000	20,000	12,000	3,200	**U**
95-47-6	o-Xylene	**3,100**	20,000	6,300	2,900	**J**
108-67-8	1,3,5-Trimethylbenzene	6,300	20,000	6,300	2,900	**U**
95-63-6	1,2,4-Trimethylbenzene	**3,000**	20,000	6,300	2,800	**J**
120-82-1	1,2,4-Trichlorobenzene	12,000	20,000	12,000	4,800	**U**
91-20-3	Naphthalene	12,000	19,000	12,000	4,800	**U**
1330-20-7	Xylenes, Total	**9,700**	41,000	13,000	5,200	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV04-050-602** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-009

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/30/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.000075 Liter(s)
Test Notes:
Container ID: 1SS00919

Initial Pressure (psig): -4.12 Final Pressure (psig): 5.39

Container Dilution Factor: 1.90

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	8,100	13,000	8,100	3,300	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	8,100	13,000	8,100	2,200	**U**
74-87-3	Chloromethane	8,100	13,000	8,100	2,200	**U**
75-01-4	Vinyl Chloride	4,300	14,000	4,300	1,400	**U**
106-99-0	1,3-Butadiene	8,100	13,000	8,100	2,200	**U**
75-00-3	Chloroethane	8,100	14,000	8,100	1,700	**U**
64-17-5	Ethanol	21,000	130,000	21,000	9,400	**U**
67-64-1	Acetone	68,000	130,000	68,000	30,000	**U**
75-69-4	Trichlorofluoromethane	8,100	13,000	8,100	2,100	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	16,000	53,000	16,000	5,600	**U**
75-09-2	Methylene Chloride	**10,000**	13,000	8,100	3,800	**J**
76-13-1	Trichlorotrifluoroethane	**29,000**	14,000	4,300	1,900	
75-15-0	Carbon Disulfide	14,000	28,000	14,000	4,100	**U**
75-34-3	1,1-Dichloroethane	8,400	14,000	8,400	2,000	**U**
78-93-3	2-Butanone (MEK)	8,100	28,000	8,100	2,800	**U**
141-78-6	Ethyl Acetate	16,000	28,000	16,000	7,100	**U**
110-54-3	n-Hexane	8,100	14,000	8,100	2,800	**U**
67-66-3	Chloroform	4,300	14,000	4,300	1,800	**U**
109-99-9	Tetrahydrofuran (THF)	4,300	14,000	4,300	1,700	**U**
107-06-2	1,2-Dichloroethane	4,300	14,000	4,300	1,500	**U**
71-43-2	Benzene	**180,000**	13,000	4,300	2,000	
56-23-5	Carbon Tetrachloride	4,300	13,000	4,300	1,900	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV04-050-602** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-009

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/30/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.000075 Liter(s)
Test Notes:
Container ID: 1SS00919

Initial Pressure (psig): -4.12 Final Pressure (psig): 5.39

Container Dilution Factor: 1.90

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**4,600**	28,000	8,600	3,800	**J**
75-27-4	Bromodichloromethane	4,300	14,000	4,300	2,000	**U**
79-01-6	Trichloroethene	**1,900**	14,000	4,300	1,800	**J**
123-91-1	1,4-Dioxane	**15,000**	14,000	4,300	1,600	
142-82-5	n-Heptane	8,100	14,000	8,100	2,200	**U**
108-10-1	4-Methyl-2-pentanone	4,300	13,000	4,300	1,800	**U**
108-88-3	Toluene	4,300	14,000	4,300	1,600	**U**
591-78-6	2-Hexanone	4,300	14,000	4,300	1,700	**U**
124-48-1	Dibromochloromethane	4,300	14,000	4,300	1,800	**U**
106-93-4	1,2-Dibromoethane	4,300	14,000	4,300	1,600	**U**
127-18-4	Tetrachloroethene	**7,700**	13,000	4,300	1,700	**J**
100-41-4	Ethylbenzene	4,300	14,000	4,300	1,900	**U**
179601-23-1	m,p-Xylenes	**3,600**	28,000	8,600	3,500	**J**
75-25-2	Bromoform	8,100	14,000	8,100	2,800	**U**
100-42-5	Styrene	8,100	13,000	8,100	2,200	**U**
95-47-6	o-Xylene	4,300	14,000	4,300	2,000	**U**
108-67-8	1,3,5-Trimethylbenzene	4,300	13,000	4,300	2,000	**U**
95-63-6	1,2,4-Trimethylbenzene	4,300	14,000	4,300	1,900	**U**
120-82-1	1,2,4-Trichlorobenzene	8,100	14,000	8,100	3,300	**U**
91-20-3	Naphthalene	7,900	13,000	7,900	3,300	**U**
1330-20-7	Xylenes, Total	**3,600**	28,000	8,600	3,500	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV04-100-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-010

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/30/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00010 Liter(s)
Test Notes: 0.000050 Liter(s)
Container ID: 1SC00684

Initial Pressure (psig): -2.84 Final Pressure (psig): 6.15

Container Dilution Factor: 1.76

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**6,100**	9,300	5,600	2,300	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	5,600	9,300	5,600	1,500	**U**
74-87-3	Chloromethane	5,600	9,300	5,600	1,500	**U**
75-01-4	Vinyl Chloride	3,000	9,500	3,000	1,000	**U**
106-99-0	1,3-Butadiene	5,600	9,300	5,600	1,500	**U**
75-00-3	Chloroethane	5,600	9,500	5,600	1,200	**U**
64-17-5	Ethanol	15,000	92,000	15,000	6,500	**U**
67-64-1	Acetone	48,000	93,000	48,000	21,000	**U**
75-69-4	Trichlorofluoromethane	5,600	9,300	5,600	1,400	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	11,000	37,000	11,000	3,900	**U**
75-09-2	Methylene Chloride	**4,800**	9,300	5,600	2,600	**J**
76-13-1	Trichlorotrifluoroethane	**13,000**	9,500	3,000	1,300	
75-15-0	Carbon Disulfide	9,500	19,000	9,500	2,800	**U**
75-34-3	1,1-Dichloroethane	5,800	9,700	5,800	1,400	**U**
78-93-3	2-Butanone (MEK)	5,600	19,000	5,600	1,900	**U**
141-78-6	Ethyl Acetate	11,000	19,000	11,000	4,900	**U**
110-54-3	n-Hexane	**1,500,000**	19,000	11,000	3,900	**D**
67-66-3	Chloroform	3,000	9,500	3,000	1,200	**U**
109-99-9	Tetrahydrofuran (THF)	3,000	9,700	3,000	1,200	**U**
107-06-2	1,2-Dichloroethane	3,000	9,500	3,000	1,000	**U**
71-43-2	Benzene	**820,000**	9,300	3,000	1,400	
56-23-5	Carbon Tetrachloride	3,000	9,300	3,000	1,300	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV04-100-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-010

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/30/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00010 Liter(s)
Test Notes: 0.000050 Liter(s)
Container ID: 1SC00684

Initial Pressure (psig): -2.84 Final Pressure (psig): 6.15

Container Dilution Factor: 1.76

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**2,100,000**	19,000	6,000	2,600	
75-27-4	Bromodichloromethane	3,000	9,500	3,000	1,400	**U**
79-01-6	Trichloroethene	3,000	9,500	3,000	1,300	**U**
123-91-1	1,4-Dioxane	3,000	9,500	3,000	1,100	**U**
142-82-5	n-Heptane	**1,500,000**	19,000	11,000	3,000	**D**
108-10-1	4-Methyl-2-pentanone	3,000	9,300	3,000	1,300	**U**
108-88-3	Toluene	**1,600,000**	19,000	6,000	2,300	**D**
591-78-6	2-Hexanone	3,000	9,500	3,000	1,200	**U**
124-48-1	Dibromochloromethane	3,000	9,500	3,000	1,200	**U**
106-93-4	1,2-Dibromoethane	3,000	9,500	3,000	1,100	**U**
127-18-4	Tetrachloroethene	**3,500**	9,200	3,000	1,200	**J**
100-41-4	Ethylbenzene	**150,000**	9,500	3,000	1,300	
179601-23-1	m,p-Xylenes	**390,000**	19,000	6,000	2,500	
75-25-2	Bromoform	5,600	9,500	5,600	1,900	**U**
100-42-5	Styrene	5,600	9,300	5,600	1,500	**U**
95-47-6	o-Xylene	**100,000**	9,500	3,000	1,400	
108-67-8	1,3,5-Trimethylbenzene	**7,800**	9,300	3,000	1,400	**J**
95-63-6	1,2,4-Trimethylbenzene	**13,000**	9,500	3,000	1,300	
120-82-1	1,2,4-Trichlorobenzene	5,600	9,500	5,600	2,300	**U**
91-20-3	Naphthalene	5,500	9,200	5,500	2,300	**U**
1330-20-7	Xylenes, Total	**500,000**	19,000	6,000	2,500	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV04-250-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-011

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/30/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.000075 Liter(s)
Test Notes:
Container ID: 1SS00713

Initial Pressure (psig): -3.66 Final Pressure (psig): 6.23

Container Dilution Factor: 1.90

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**5,500**	13,000	8,100	3,300	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	8,100	13,000	8,100	2,200	**U**
74-87-3	Chloromethane	8,100	13,000	8,100	2,200	**U**
75-01-4	Vinyl Chloride	4,300	14,000	4,300	1,400	**U**
106-99-0	1,3-Butadiene	8,100	13,000	8,100	2,200	**U**
75-00-3	Chloroethane	8,100	14,000	8,100	1,700	**U**
64-17-5	Ethanol	21,000	130,000	21,000	9,400	**U**
67-64-1	Acetone	68,000	130,000	68,000	30,000	**U**
75-69-4	Trichlorofluoromethane	8,100	13,000	8,100	2,100	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	16,000	53,000	16,000	5,600	**U**
75-09-2	Methylene Chloride	**6,800**	13,000	8,100	3,800	**J**
76-13-1	Trichlorotrifluoroethane	**20,000**	14,000	4,300	1,900	
75-15-0	Carbon Disulfide	14,000	28,000	14,000	4,100	**U**
75-34-3	1,1-Dichloroethane	8,400	14,000	8,400	2,000	**U**
78-93-3	2-Butanone (MEK)	8,100	28,000	8,100	2,800	**U**
141-78-6	Ethyl Acetate	16,000	28,000	16,000	7,100	**U**
110-54-3	n-Hexane	**1,700,000**	14,000	8,100	2,800	
67-66-3	Chloroform	4,300	14,000	4,300	1,800	**U**
109-99-9	Tetrahydrofuran (THF)	4,300	14,000	4,300	1,700	**U**
107-06-2	1,2-Dichloroethane	4,300	14,000	4,300	1,500	**U**
71-43-2	Benzene	**360,000**	13,000	4,300	2,000	
56-23-5	Carbon Tetrachloride	4,300	13,000	4,300	1,900	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV04-250-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-011

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/30/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.000075 Liter(s)
Test Notes:
Container ID: 1SS00713

Initial Pressure (psig): -3.66 Final Pressure (psig): 6.23

Container Dilution Factor: 1.90

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**1,100,000**	28,000	8,600	3,800	
75-27-4	Bromodichloromethane	4,300	14,000	4,300	2,000	**U**
79-01-6	Trichloroethene	4,300	14,000	4,300	1,800	**U**
123-91-1	1,4-Dioxane	4,300	14,000	4,300	1,600	**U**
142-82-5	n-Heptane	**1,400,000**	14,000	8,100	2,200	
108-10-1	4-Methyl-2-pentanone	4,300	13,000	4,300	1,800	**U**
108-88-3	Toluene	**260,000**	14,000	4,300	1,600	
591-78-6	2-Hexanone	4,300	14,000	4,300	1,700	**U**
124-48-1	Dibromochloromethane	4,300	14,000	4,300	1,800	**U**
106-93-4	1,2-Dibromoethane	4,300	14,000	4,300	1,600	**U**
127-18-4	Tetrachloroethene	**5,100**	13,000	4,300	1,700	**J**
100-41-4	Ethylbenzene	**11,000**	14,000	4,300	1,900	**J**
179601-23-1	m,p-Xylenes	**48,000**	28,000	8,600	3,500	
75-25-2	Bromoform	8,100	14,000	8,100	2,800	**U**
100-42-5	Styrene	8,100	13,000	8,100	2,200	**U**
95-47-6	o-Xylene	**16,000**	14,000	4,300	2,000	
108-67-8	1,3,5-Trimethylbenzene	4,300	13,000	4,300	2,000	**U**
95-63-6	1,2,4-Trimethylbenzene	**2,000**	14,000	4,300	1,900	**J**
120-82-1	1,2,4-Trichlorobenzene	8,100	14,000	8,100	3,300	**U**
91-20-3	Naphthalene	7,900	13,000	7,900	3,300	**U**
1330-20-7	Xylenes, Total	**63,000**	28,000	8,600	3,500	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV04-300-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-012

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/30/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0010 Liter(s)
Test Notes:
Container ID: 1SC01186

Initial Pressure (psig): -3.21 Final Pressure (psig): 5.83

Container Dilution Factor: 1.79

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**830**	950	570	230	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	570	950	570	160	**U**
74-87-3	Chloromethane	570	950	570	150	**U**
75-01-4	Vinyl Chloride	300	970	300	100	**U**
106-99-0	1,3-Butadiene	570	950	570	160	**U**
75-00-3	Chloroethane	570	970	570	120	**U**
64-17-5	Ethanol	1,500	9,300	1,500	660	**U**
67-64-1	Acetone	4,800	9,500	4,800	2,100	**U**
75-69-4	Trichlorofluoromethane	570	950	570	140	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	1,100	3,800	1,100	390	**U**
75-09-2	Methylene Chloride	**680**	950	570	270	**J**
76-13-1	Trichlorotrifluoroethane	**2,000**	970	300	140	
75-15-0	Carbon Disulfide	970	2,000	970	290	**U**
75-34-3	1,1-Dichloroethane	590	980	590	140	**U**
78-93-3	2-Butanone (MEK)	570	2,000	570	200	**U**
141-78-6	Ethyl Acetate	1,200	2,000	1,200	500	**U**
110-54-3	n-Hexane	**170,000**	970	570	200	
67-66-3	Chloroform	300	970	300	130	**U**
109-99-9	Tetrahydrofuran (THF)	300	980	300	120	**U**
107-06-2	1,2-Dichloroethane	300	970	300	110	**U**
71-43-2	Benzene	**100,000**	950	300	140	
56-23-5	Carbon Tetrachloride	300	950	300	130	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV04-300-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-012

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/30/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0010 Liter(s)
Test Notes:
Container ID: 1SC01186

Initial Pressure (psig): -3.21 Final Pressure (psig): 5.83

Container Dilution Factor: 1.79

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**200,000**	2,000	610	270	
75-27-4	Bromodichloromethane	300	970	300	140	**U**
79-01-6	Trichloroethene	300	970	300	130	**U**
123-91-1	1,4-Dioxane	300	970	300	110	**U**
142-82-5	n-Heptane	**170,000**	970	570	150	
108-10-1	4-Methyl-2-pentanone	300	950	300	130	**U**
108-88-3	Toluene	**5,700**	970	300	120	
591-78-6	2-Hexanone	300	970	300	120	**U**
124-48-1	Dibromochloromethane	300	970	300	130	**U**
106-93-4	1,2-Dibromoethane	300	970	300	110	**U**
127-18-4	Tetrachloroethene	**520**	930	300	120	**J**
100-41-4	Ethylbenzene	**300**	970	300	130	**J**
179601-23-1	m,p-Xylenes	**5,600**	2,000	610	250	
75-25-2	Bromoform	570	970	570	200	**U**
100-42-5	Styrene	570	950	570	150	**U**
95-47-6	o-Xylene	**1,800**	970	300	140	
108-67-8	1,3,5-Trimethylbenzene	**970**	950	300	140	
95-63-6	1,2,4-Trimethylbenzene	**1,000**	970	300	130	
120-82-1	1,2,4-Trichlorobenzene	570	970	570	230	**U**
91-20-3	Naphthalene	550	930	550	230	**U**
1330-20-7	Xylenes, Total	**7,400**	2,000	610	250	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV08-050-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-013

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/30/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00040 Liter(s)
Test Notes: 0.00010 Liter(s)
Container ID: 1SC00507

Initial Pressure (psig): -3.86 Final Pressure (psig): 5.81

Container Dilution Factor: 1.89

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1,900**	2,500	1,500	610	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	1,500	2,500	1,500	410	**U**
74-87-3	Chloromethane	1,500	2,500	1,500	410	**U**
75-01-4	Vinyl Chloride	800	2,600	800	270	**U**
106-99-0	1,3-Butadiene	1,500	2,500	1,500	420	**U**
75-00-3	Chloroethane	1,500	2,600	1,500	310	**U**
64-17-5	Ethanol	3,900	25,000	3,900	1,700	**U**
67-64-1	Acetone	13,000	25,000	13,000	5,700	**U**
75-69-4	Trichlorofluoromethane	1,500	2,500	1,500	380	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	3,000	9,900	3,000	1,000	**U**
75-09-2	Methylene Chloride	**1,900**	2,500	1,500	710	**J**
76-13-1	Trichlorotrifluoroethane	**5,200**	2,600	800	360	
75-15-0	Carbon Disulfide	2,600	5,200	2,600	760	**U**
75-34-3	1,1-Dichloroethane	1,600	2,600	1,600	370	**U**
78-93-3	2-Butanone (MEK)	1,500	5,200	1,500	520	**U**
141-78-6	Ethyl Acetate	3,100	5,200	3,100	1,300	**U**
110-54-3	n-Hexane	**440,000**	2,600	1,500	520	
67-66-3	Chloroform	800	2,600	800	340	**U**
109-99-9	Tetrahydrofuran (THF)	800	2,600	800	320	**U**
107-06-2	1,2-Dichloroethane	800	2,600	800	280	**U**
71-43-2	Benzene	**290,000**	2,500	800	360	
56-23-5	Carbon Tetrachloride	800	2,500	800	350	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV08-050-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-013

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/30/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00040 Liter(s)
Test Notes: 0.00010 Liter(s)
Container ID: 1SC00507

Initial Pressure (psig): -3.86 Final Pressure (psig): 5.81

Container Dilution Factor: 1.89

CAS #	Compound	Result µg/m³		LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**570,000**		5,200	1,600	710	
75-27-4	Bromodichloromethane		800	2,600	800	360	**U**
79-01-6	Trichloroethene		800	2,600	800	340	**U**
123-91-1	1,4-Dioxane		800	2,600	800	300	**U**
142-82-5	n-Heptane	**870,000**		10,000	6,000	1,600	**D**
108-10-1	4-Methyl-2-pentanone		800	2,500	800	340	**U**
108-88-3	Toluene	**330,000**		2,600	800	310	
591-78-6	2-Hexanone		800	2,600	800	310	**U**
124-48-1	Dibromochloromethane		800	2,600	800	330	**U**
106-93-4	1,2-Dibromoethane		800	2,600	800	290	**U**
127-18-4	Tetrachloroethene	**1,300**		2,500	800	330	**J**
100-41-4	Ethylbenzene	**5,900**		2,600	800	350	
179601-23-1	m,p-Xylenes	**78,000**		5,200	1,600	660	
75-25-2	Bromoform		1,500	2,600	1,500	520	**U**
100-42-5	Styrene		1,500	2,500	1,500	410	**U**
95-47-6	o-Xylene	**28,000**		2,600	800	360	
108-67-8	1,3,5-Trimethylbenzene	**2,200**		2,500	800	360	**J**
95-63-6	1,2,4-Trimethylbenzene	**2,000**		2,600	800	350	**J**
120-82-1	1,2,4-Trichlorobenzene		1,500	2,600	1,500	610	**U**
91-20-3	Naphthalene		1,500	2,500	1,500	610	**U**
1330-20-7	Xylenes, Total	**110,000**		5,200	1,600	660	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV08-100-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-014

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/30/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0015 Liter(s)
Test Notes:
Container ID: 1SS00041

Initial Pressure (psig): -3.25 Final Pressure (psig): 5.92

Container Dilution Factor: 1.80

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**160**	640	380	160	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	380	640	380	100	**U**
74-87-3	Chloromethane	380	640	380	100	**U**
75-01-4	Vinyl Chloride	200	650	200	68	**U**
106-99-0	1,3-Butadiene	380	640	380	110	**U**
75-00-3	Chloroethane	380	650	380	79	**U**
64-17-5	Ethanol	1,000	6,200	1,000	440	**U**
67-64-1	Acetone	3,200	6,400	3,200	1,400	**U**
75-69-4	Trichlorofluoromethane	380	640	380	97	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	760	2,500	760	260	**U**
75-09-2	Methylene Chloride	**430**	640	380	180	**J**
76-13-1	Trichlorotrifluoroethane	**1,100**	650	200	91	
75-15-0	Carbon Disulfide	650	1,300	650	190	**U**
75-34-3	1,1-Dichloroethane	400	660	400	94	**U**
78-93-3	2-Butanone (MEK)	380	1,300	380	130	**U**
141-78-6	Ethyl Acetate	780	1,300	780	340	**U**
110-54-3	n-Hexane	380	650	380	130	**U**
67-66-3	Chloroform	200	650	200	85	**U**
109-99-9	Tetrahydrofuran (THF)	200	660	200	80	**U**
107-06-2	1,2-Dichloroethane	200	650	200	71	**U**
71-43-2	Benzene	200	640	200	92	**U**
56-23-5	Carbon Tetrachloride	200	640	200	89	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV08-100-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-014

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/30/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0015 Liter(s)
Test Notes:
Container ID: 1SS00041

Initial Pressure (psig): -3.25 Final Pressure (psig): 5.92

Container Dilution Factor: 1.80

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	410	1,300	410	180	**U**
75-27-4	Bromodichloromethane	200	650	200	92	**U**
79-01-6	Trichloroethene	200	650	200	86	**U**
123-91-1	1,4-Dioxane	**590**	650	200	76	**J**
142-82-5	n-Heptane	**150**	650	380	100	**J**
108-10-1	4-Methyl-2-pentanone	200	640	200	88	**U**
108-88-3	Toluene	200	650	200	78	**U**
591-78-6	2-Hexanone	200	650	200	79	**U**
124-48-1	Dibromochloromethane	200	650	200	84	**U**
106-93-4	1,2-Dibromoethane	200	650	200	74	**U**
127-18-4	Tetrachloroethene	**310**	620	200	83	**J**
100-41-4	Ethylbenzene	200	650	200	90	**U**
179601-23-1	m,p-Xylenes	410	1,300	410	170	**U**
75-25-2	Bromoform	380	650	380	130	**U**
100-42-5	Styrene	380	640	380	100	**U**
95-47-6	o-Xylene	200	650	200	92	**U**
108-67-8	1,3,5-Trimethylbenzene	200	640	200	92	**U**
95-63-6	1,2,4-Trimethylbenzene	200	650	200	89	**U**
120-82-1	1,2,4-Trichlorobenzene	380	650	380	160	**U**
91-20-3	Naphthalene	370	620	370	160	**U**
1330-20-7	Xylenes, Total	410	1,300	410	170	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV08-250-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-015

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/30/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00012 Liter(s)
Test Notes:
Container ID: 1SC00746

Initial Pressure (psig): -3.45 Final Pressure (psig): 6.54

Container Dilution Factor: 1.89

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**6,600**	8,300	5,000	2,000	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	5,000	8,300	5,000	1,400	**U**
74-87-3	Chloromethane	5,000	8,300	5,000	1,400	**U**
75-01-4	Vinyl Chloride	2,700	8,500	2,700	900	**U**
106-99-0	1,3-Butadiene	5,000	8,300	5,000	1,400	**U**
75-00-3	Chloroethane	5,000	8,500	5,000	1,000	**U**
64-17-5	Ethanol	13,000	82,000	13,000	5,800	**U**
67-64-1	Acetone	43,000	83,000	43,000	19,000	**U**
75-69-4	Trichlorofluoromethane	5,000	8,300	5,000	1,300	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	9,900	33,000	9,900	3,500	**U**
75-09-2	Methylene Chloride	**4,300**	8,300	5,000	2,400	**J**
76-13-1	Trichlorotrifluoroethane	**12,000**	8,500	2,700	1,200	
75-15-0	Carbon Disulfide	8,500	17,000	8,500	2,500	**U**
75-34-3	1,1-Dichloroethane	5,200	8,700	5,200	1,200	**U**
78-93-3	2-Butanone (MEK)	5,000	17,000	5,000	1,700	**U**
141-78-6	Ethyl Acetate	10,000	17,000	10,000	4,400	**U**
110-54-3	n-Hexane	**1,300,000**	8,500	5,000	1,700	
67-66-3	Chloroform	2,700	8,500	2,700	1,100	**U**
109-99-9	Tetrahydrofuran (THF)	2,700	8,700	2,700	1,100	**U**
107-06-2	1,2-Dichloroethane	2,700	8,500	2,700	930	**U**
71-43-2	Benzene	**690,000**	8,300	2,700	1,200	
56-23-5	Carbon Tetrachloride	2,700	8,300	2,700	1,200	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV08-250-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-015

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/30/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00012 Liter(s)
Test Notes:
Container ID: 1SC00746

Initial Pressure (psig): -3.45 Final Pressure (psig): 6.54

Container Dilution Factor: 1.89

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**1,900,000**	17,000	5,400	2,400	
75-27-4	Bromodichloromethane	2,700	8,500	2,700	1,200	**U**
79-01-6	Trichloroethene	2,700	8,500	2,700	1,100	**U**
123-91-1	1,4-Dioxane	2,700	8,500	2,700	990	**U**
142-82-5	n-Heptane	**870,000**	8,500	5,000	1,300	
108-10-1	4-Methyl-2-pentanone	2,700	8,300	2,700	1,100	**U**
108-88-3	Toluene	**1,500,000**	8,500	2,700	1,000	
591-78-6	2-Hexanone	2,700	8,500	2,700	1,000	**U**
124-48-1	Dibromochloromethane	2,700	8,500	2,700	1,100	**U**
106-93-4	1,2-Dibromoethane	2,700	8,500	2,700	980	**U**
127-18-4	Tetrachloroethene	**3,300**	8,200	2,700	1,100	**J**
100-41-4	Ethylbenzene	**71,000**	8,500	2,700	1,200	
179601-23-1	m,p-Xylenes	**230,000**	17,000	5,400	2,200	
75-25-2	Bromoform	5,000	8,500	5,000	1,700	**U**
100-42-5	Styrene	5,000	8,300	5,000	1,400	**U**
95-47-6	o-Xylene	**68,000**	8,500	2,700	1,200	
108-67-8	1,3,5-Trimethylbenzene	**11,000**	8,300	2,700	1,200	
95-63-6	1,2,4-Trimethylbenzene	**24,000**	8,500	2,700	1,200	
120-82-1	1,2,4-Trichlorobenzene	5,000	8,500	5,000	2,000	**U**
91-20-3	Naphthalene	4,900	8,200	4,900	2,000	**U**
1330-20-7	Xylenes, Total	**300,000**	17,000	5,400	2,200	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV09-050-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-016

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/30/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00025 Liter(s)
Test Notes:
Container ID: 1SC01028

Initial Pressure (psig): -3.42 Final Pressure (psig): 7.43

Container Dilution Factor: 1.96

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	2,500	4,200	2,500	1,000	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	2,500	4,200	2,500	680	**U**
74-87-3	Chloromethane	2,500	4,200	2,500	670	**U**
75-01-4	Vinyl Chloride	1,300	4,200	1,300	450	**U**
106-99-0	1,3-Butadiene	2,500	4,200	2,500	690	**U**
75-00-3	Chloroethane	2,500	4,200	2,500	520	**U**
64-17-5	Ethanol	6,500	41,000	6,500	2,900	**U**
67-64-1	Acetone	21,000	42,000	21,000	9,400	**U**
75-69-4	Trichlorofluoromethane	2,500	4,200	2,500	640	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	4,900	16,000	4,900	1,700	**U**
75-09-2	Methylene Chloride	**2,300**	4,200	2,500	1,200	**J**
76-13-1	Trichlorotrifluoroethane	**6,200**	4,200	1,300	600	
75-15-0	Carbon Disulfide	4,200	8,600	4,200	1,300	**U**
75-34-3	1,1-Dichloroethane	2,600	4,300	2,600	610	**U**
78-93-3	2-Butanone (MEK)	2,500	8,600	2,500	860	**U**
141-78-6	Ethyl Acetate	5,100	8,600	5,100	2,200	**U**
110-54-3	n-Hexane	2,500	4,200	2,500	860	**U**
67-66-3	Chloroform	1,300	4,200	1,300	560	**U**
109-99-9	Tetrahydrofuran (THF)	1,300	4,300	1,300	530	**U**
107-06-2	1,2-Dichloroethane	1,300	4,200	1,300	460	**U**
71-43-2	Benzene	1,300	4,200	1,300	600	**U**
56-23-5	Carbon Tetrachloride	1,300	4,200	1,300	580	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV09-050-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-016

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/30/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00025 Liter(s)
Test Notes:
Container ID: 1SC01028

Initial Pressure (psig): -3.42 Final Pressure (psig): 7.43

Container Dilution Factor: 1.96

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**1,400**	8,600	2,700	1,200	**J**
75-27-4	Bromodichloromethane	1,300	4,200	1,300	600	**U**
79-01-6	Trichloroethene	1,300	4,200	1,300	560	**U**
123-91-1	1,4-Dioxane	**3,200**	4,200	1,300	490	**J**
142-82-5	n-Heptane	2,500	4,200	2,500	670	**U**
108-10-1	4-Methyl-2-pentanone	1,300	4,200	1,300	570	**U**
108-88-3	Toluene	**1,700**	4,200	1,300	510	**J**
591-78-6	2-Hexanone	1,300	4,200	1,300	520	**U**
124-48-1	Dibromochloromethane	1,300	4,200	1,300	550	**U**
106-93-4	1,2-Dibromoethane	1,300	4,200	1,300	490	**U**
127-18-4	Tetrachloroethene	**1,700**	4,100	1,300	540	**J**
100-41-4	Ethylbenzene	1,300	4,200	1,300	590	**U**
179601-23-1	m,p-Xylenes	2,700	8,600	2,700	1,100	**U**
75-25-2	Bromoform	2,500	4,200	2,500	860	**U**
100-42-5	Styrene	2,500	4,200	2,500	670	**U**
95-47-6	o-Xylene	1,300	4,200	1,300	600	**U**
108-67-8	1,3,5-Trimethylbenzene	1,300	4,200	1,300	600	**U**
95-63-6	1,2,4-Trimethylbenzene	1,300	4,200	1,300	580	**U**
120-82-1	1,2,4-Trichlorobenzene	2,500	4,200	2,500	1,000	**U**
91-20-3	Naphthalene	2,400	4,100	2,400	1,000	**U**
1330-20-7	Xylenes, Total	2,700	8,600	2,700	1,100	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV09-100-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-017

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/30/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00010 Liter(s)
Test Notes:
Container ID: 1SC00732

Initial Pressure (psig): -3.12 Final Pressure (psig): 5.35

Container Dilution Factor: 1.73

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**6,500**	9,200	5,500	2,200	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	5,500	9,200	5,500	1,500	**U**
74-87-3	Chloromethane	5,500	9,200	5,500	1,500	**U**
75-01-4	Vinyl Chloride	2,900	9,300	2,900	990	**U**
106-99-0	1,3-Butadiene	5,500	9,200	5,500	1,500	**U**
75-00-3	Chloroethane	5,500	9,300	5,500	1,100	**U**
64-17-5	Ethanol	14,000	90,000	14,000	6,400	**U**
67-64-1	Acetone	47,000	92,000	47,000	21,000	**U**
75-69-4	Trichlorofluoromethane	5,500	9,200	5,500	1,400	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	11,000	36,000	11,000	3,800	**U**
75-09-2	Methylene Chloride	**4,500**	9,200	5,500	2,600	**J**
76-13-1	Trichlorotrifluoroethane	**13,000**	9,300	2,900	1,300	
75-15-0	Carbon Disulfide	9,300	19,000	9,300	2,800	**U**
75-34-3	1,1-Dichloroethane	5,700	9,500	5,700	1,300	**U**
78-93-3	2-Butanone (MEK)	5,500	19,000	5,500	1,900	**U**
141-78-6	Ethyl Acetate	11,000	19,000	11,000	4,800	**U**
110-54-3	n-Hexane	**1,700,000**	9,300	5,500	1,900	
67-66-3	Chloroform	2,900	9,300	2,900	1,200	**U**
109-99-9	Tetrahydrofuran (THF)	2,900	9,500	2,900	1,200	**U**
107-06-2	1,2-Dichloroethane	2,900	9,300	2,900	1,000	**U**
71-43-2	Benzene	**860,000**	9,200	2,900	1,300	
56-23-5	Carbon Tetrachloride	2,900	9,200	2,900	1,300	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV09-100-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-017

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/30/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00010 Liter(s)
Test Notes:
Container ID: 1SC00732

Initial Pressure (psig): -3.12 Final Pressure (psig): 5.35

Container Dilution Factor: 1.73

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**1,600,000**	19,000	5,900	2,600	
75-27-4	Bromodichloromethane	2,900	9,300	2,900	1,300	**U**
79-01-6	Trichloroethene	2,900	9,300	2,900	1,200	**U**
123-91-1	1,4-Dioxane	2,900	9,300	2,900	1,100	**U**
142-82-5	n-Heptane	**1,800,000**	9,300	5,500	1,500	
108-10-1	4-Methyl-2-pentanone	2,900	9,200	2,900	1,300	**U**
108-88-3	Toluene	**1,800,000**	9,300	2,900	1,100	
591-78-6	2-Hexanone	2,900	9,300	2,900	1,100	**U**
124-48-1	Dibromochloromethane	2,900	9,300	2,900	1,200	**U**
106-93-4	1,2-Dibromoethane	2,900	9,300	2,900	1,100	**U**
127-18-4	Tetrachloroethene	**3,400**	9,000	2,900	1,200	**J**
100-41-4	Ethylbenzene	**110,000**	9,300	2,900	1,300	
179601-23-1	m,p-Xylenes	**320,000**	19,000	5,900	2,400	
75-25-2	Bromoform	5,500	9,300	5,500	1,900	**U**
100-42-5	Styrene	5,500	9,200	5,500	1,500	**U**
95-47-6	o-Xylene	**110,000**	9,300	2,900	1,300	
108-67-8	1,3,5-Trimethylbenzene	**12,000**	9,200	2,900	1,300	
95-63-6	1,2,4-Trimethylbenzene	**19,000**	9,300	2,900	1,300	
120-82-1	1,2,4-Trichlorobenzene	5,500	9,300	5,500	2,200	**U**
91-20-3	Naphthalene	5,400	9,000	5,400	2,200	**U**
1330-20-7	Xylenes, Total	**430,000**	19,000	5,900	2,400	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV09-250-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-018

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/30/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00015 Liter(s)
Test Notes:
Container ID: 1SC00646

Initial Pressure (psig): -2.93 Final Pressure (psig): 6.09

Container Dilution Factor: 1.77

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**2,300**	6,300	3,800	1,500	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	3,800	6,300	3,800	1,000	**U**
74-87-3	Chloromethane	3,800	6,300	3,800	1,000	**U**
75-01-4	Vinyl Chloride	2,000	6,400	2,000	670	**U**
106-99-0	1,3-Butadiene	3,800	6,300	3,800	1,000	**U**
75-00-3	Chloroethane	3,800	6,400	3,800	780	**U**
64-17-5	Ethanol	9,800	61,000	9,800	4,400	**U**
67-64-1	Acetone	32,000	63,000	32,000	14,000	**U**
75-69-4	Trichlorofluoromethane	3,800	6,300	3,800	960	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	7,400	25,000	7,400	2,600	**U**
75-09-2	Methylene Chloride	**3,400**	6,300	3,800	1,800	**J**
76-13-1	Trichlorotrifluoroethane	**9,100**	6,400	2,000	900	
75-15-0	Carbon Disulfide	6,400	13,000	6,400	1,900	**U**
75-34-3	1,1-Dichloroethane	3,900	6,500	3,900	920	**U**
78-93-3	2-Butanone (MEK)	3,800	13,000	3,800	1,300	**U**
141-78-6	Ethyl Acetate	7,700	13,000	7,700	3,300	**U**
110-54-3	n-Hexane	**290,000**	6,400	3,800	1,300	
67-66-3	Chloroform	2,000	6,400	2,000	840	**U**
109-99-9	Tetrahydrofuran (THF)	2,000	6,500	2,000	790	**U**
107-06-2	1,2-Dichloroethane	2,000	6,400	2,000	700	**U**
71-43-2	Benzene	**130,000**	6,300	2,000	910	
56-23-5	Carbon Tetrachloride	2,000	6,300	2,000	870	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV09-250-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-018

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/30/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00015 Liter(s)
Test Notes:
Container ID: 1SC00646

Initial Pressure (psig): -2.93 Final Pressure (psig): 6.09

Container Dilution Factor: 1.77

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**380,000**	13,000	4,000	1,800	
75-27-4	Bromodichloromethane	2,000	6,400	2,000	910	**U**
79-01-6	Trichloroethene	2,000	6,400	2,000	850	**U**
123-91-1	1,4-Dioxane	2,000	6,400	2,000	740	**U**
142-82-5	n-Heptane	**900,000**	6,400	3,800	1,000	
108-10-1	4-Methyl-2-pentanone	2,000	6,300	2,000	860	**U**
108-88-3	Toluene	**860,000**	6,400	2,000	770	
591-78-6	2-Hexanone	2,000	6,400	2,000	780	**U**
124-48-1	Dibromochloromethane	2,000	6,400	2,000	830	**U**
106-93-4	1,2-Dibromoethane	2,000	6,400	2,000	730	**U**
127-18-4	Tetrachloroethene	**2,300**	6,100	2,000	810	**J**
100-41-4	Ethylbenzene	**36,000**	6,400	2,000	890	
179601-23-1	m,p-Xylenes	**180,000**	13,000	4,000	1,700	
75-25-2	Bromoform	3,800	6,400	3,800	1,300	**U**
100-42-5	Styrene	3,800	6,300	3,800	1,000	**U**
95-47-6	o-Xylene	**46,000**	6,400	2,000	910	
108-67-8	1,3,5-Trimethylbenzene	**3,800**	6,300	2,000	910	**J**
95-63-6	1,2,4-Trimethylbenzene	**4,600**	6,400	2,000	870	**J**
120-82-1	1,2,4-Trichlorobenzene	3,800	6,400	3,800	1,500	**U**
91-20-3	Naphthalene	3,700	6,100	3,700	1,500	**U**
1330-20-7	Xylenes, Total	**230,000**	13,000	4,000	1,700	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV09-266-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-019

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/30/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00015 Liter(s)
Test Notes: 0.000025 Liter(s)
Container ID: 1SC01253

Initial Pressure (psig): -3.89 Final Pressure (psig): 5.91

Container Dilution Factor: 1.91

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**8,500**	6,700	4,100	1,700	
75-71-8	Dichlorodifluoromethane (CFC 12)	4,100	6,700	4,100	1,100	**U**
74-87-3	Chloromethane	4,100	6,700	4,100	1,100	**U**
75-01-4	Vinyl Chloride	2,200	6,900	2,200	730	**U**
106-99-0	1,3-Butadiene	4,100	6,700	4,100	1,100	**U**
75-00-3	Chloroethane	4,100	6,900	4,100	840	**U**
64-17-5	Ethanol	11,000	66,000	11,000	4,700	**U**
67-64-1	Acetone	34,000	67,000	34,000	15,000	**U**
75-69-4	Trichlorofluoromethane	4,100	6,700	4,100	1,000	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	8,000	27,000	8,000	2,800	**U**
75-09-2	Methylene Chloride	**3,600**	6,700	4,100	1,900	**J**
76-13-1	Trichlorotrifluoroethane	**9,800**	6,900	2,200	970	
75-15-0	Carbon Disulfide	6,900	14,000	6,900	2,000	**U**
75-34-3	1,1-Dichloroethane	4,200	7,000	4,200	990	**U**
78-93-3	2-Butanone (MEK)	4,100	14,000	4,100	1,400	**U**
141-78-6	Ethyl Acetate	8,300	14,000	8,300	3,600	**U**
110-54-3	n-Hexane	**2,100,000**	41,000	24,000	8,400	**D**
67-66-3	Chloroform	2,200	6,900	2,200	900	**U**
109-99-9	Tetrahydrofuran (THF)	2,200	7,000	2,200	850	**U**
107-06-2	1,2-Dichloroethane	2,200	6,900	2,200	750	**U**
71-43-2	Benzene	**750,000**	6,700	2,200	980	
56-23-5	Carbon Tetrachloride	2,200	6,700	2,200	940	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV09-266-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-019

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/30/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00015 Liter(s)
Test Notes: 0.000025 Liter(s)
Container ID: 1SC01253

Initial Pressure (psig): -3.89 Final Pressure (psig): 5.91

Container Dilution Factor: 1.91

CAS #	Compound	Result µg/m³		LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**1,700,000**		14,000	4,300	1,900	
75-27-4	Bromodichloromethane		2,200	6,900	2,200	980	**U**
79-01-6	Trichloroethene		2,200	6,900	2,200	920	**U**
123-91-1	1,4-Dioxane		2,200	6,900	2,200	800	**U**
142-82-5	n-Heptane	**1,700,000**		41,000	24,000	6,500	**D**
108-10-1	4-Methyl-2-pentanone		2,200	6,700	2,200	930	**U**
108-88-3	Toluene	**1,500,000**		41,000	13,000	5,000	**D**
591-78-6	2-Hexanone		2,200	6,900	2,200	840	**U**
124-48-1	Dibromochloromethane		2,200	6,900	2,200	890	**U**
106-93-4	1,2-Dibromoethane		2,200	6,900	2,200	790	**U**
127-18-4	Tetrachloroethene	**2,500**		6,600	2,200	880	**J**
100-41-4	Ethylbenzene	**150,000**		6,900	2,200	960	
179601-23-1	m,p-Xylenes	**340,000**		14,000	4,300	1,800	
75-25-2	Bromoform		4,100	6,900	4,100	1,400	**U**
100-42-5	Styrene		4,100	6,700	4,100	1,100	**U**
95-47-6	o-Xylene	**100,000**		6,900	2,200	980	
108-67-8	1,3,5-Trimethylbenzene	**12,000**		6,700	2,200	980	
95-63-6	1,2,4-Trimethylbenzene	**26,000**		6,900	2,200	940	
120-82-1	1,2,4-Trichlorobenzene		4,100	6,900	4,100	1,700	**U**
91-20-3	Naphthalene		3,900	6,600	3,900	1,700	**U**
1330-20-7	Xylenes, Total	**440,000**		14,000	4,300	1,800	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVTB-202-01** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-020

Test Code: EPA TO-15 Date Collected: 4/9/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/30/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01145

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	0.80	1.3	0.80	0.33	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.80	1.3	0.80	0.22	**U**
74-87-3	Chloromethane	0.80	1.3	0.80	0.22	**U**
75-01-4	Vinyl Chloride	0.43	1.4	0.43	0.14	**U**
106-99-0	1,3-Butadiene	0.80	1.3	0.80	0.22	**U**
75-00-3	Chloroethane	0.80	1.4	0.80	0.17	**U**
64-17-5	Ethanol	2.1	13	2.1	0.93	**U**
67-64-1	Acetone	6.8	13	6.8	3.0	**U**
75-69-4	Trichlorofluoromethane	0.80	1.3	0.80	0.20	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.6	5.3	1.6	0.55	**U**
75-09-2	Methylene Chloride	0.80	1.3	0.80	0.38	**U**
76-13-1	Trichlorotrifluoroethane	0.43	1.4	0.43	0.19	**U**
75-15-0	Carbon Disulfide	1.4	2.8	1.4	0.40	**U**
75-34-3	1,1-Dichloroethane	0.83	1.4	0.83	0.20	**U**
78-93-3	2-Butanone (MEK)	0.80	2.8	0.80	0.28	**U**
141-78-6	Ethyl Acetate	1.6	2.8	1.6	0.70	**U**
110-54-3	n-Hexane	0.80	1.4	0.80	0.28	**U**
67-66-3	Chloroform	0.43	1.4	0.43	0.18	**U**
109-99-9	Tetrahydrofuran (THF)	0.43	1.4	0.43	0.17	**U**
107-06-2	1,2-Dichloroethane	0.43	1.4	0.43	0.15	**U**
71-43-2	Benzene	**0.26**	1.3	0.43	0.19	**J**
56-23-5	Carbon Tetrachloride	0.43	1.3	0.43	0.19	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVTB-202-01** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-020

Test Code: EPA TO-15 Date Collected: 4/9/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/30/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01145

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	0.85	2.8	0.85	0.38	**U**
75-27-4	Bromodichloromethane	0.43	1.4	0.43	0.19	**U**
79-01-6	Trichloroethene	0.43	1.4	0.43	0.18	**U**
123-91-1	1,4-Dioxane	0.43	1.4	0.43	0.16	**U**
142-82-5	n-Heptane	**0.25**	1.4	0.80	0.21	**J**
108-10-1	4-Methyl-2-pentanone	0.43	1.3	0.43	0.18	**U**
108-88-3	Toluene	**0.32**	1.4	0.43	0.16	**J**
591-78-6	2-Hexanone	0.43	1.4	0.43	0.17	**U**
124-48-1	Dibromochloromethane	0.43	1.4	0.43	0.18	**U**
106-93-4	1,2-Dibromoethane	0.43	1.4	0.43	0.16	**U**
127-18-4	Tetrachloroethene	**0.57**	1.3	0.43	0.17	**J**
100-41-4	Ethylbenzene	0.43	1.4	0.43	0.19	**U**
179601-23-1	m,p-Xylenes	0.85	2.8	0.85	0.35	**U**
75-25-2	Bromoform	0.80	1.4	0.80	0.28	**U**
100-42-5	Styrene	0.80	1.3	0.80	0.22	**U**
95-47-6	o-Xylene	0.43	1.4	0.43	0.19	**U**
108-67-8	1,3,5-Trimethylbenzene	0.43	1.3	0.43	0.19	**U**
95-63-6	1,2,4-Trimethylbenzene	0.43	1.4	0.43	0.19	**U**
120-82-1	1,2,4-Trichlorobenzene	0.80	1.4	0.80	0.33	**U**
91-20-3	Naphthalene	0.78	1.3	0.78	0.33	**U**
1330-20-7	Xylenes, Total	0.85	2.8	0.85	0.35	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200429-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	0.32	0.53	0.32	0.13	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.32	0.53	0.32	0.087	**U**
74-87-3	Chloromethane	0.32	0.53	0.32	0.086	**U**
75-01-4	Vinyl Chloride	0.17	0.54	0.17	0.057	**U**
106-99-0	1,3-Butadiene	0.32	0.53	0.32	0.088	**U**
75-00-3	Chloroethane	0.32	0.54	0.32	0.066	**U**
64-17-5	Ethanol	0.83	5.2	0.83	0.37	**U**
67-64-1	Acetone	2.7	5.3	2.7	1.2	**U**
75-69-4	Trichlorofluoromethane	0.32	0.53	0.32	0.081	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.63	2.1	0.63	0.22	**U**
75-09-2	Methylene Chloride	0.32	0.53	0.32	0.15	**U**
76-13-1	Trichlorotrifluoroethane	0.17	0.54	0.17	0.076	**U**
75-15-0	Carbon Disulfide	0.54	1.1	0.54	0.16	**U**
75-34-3	1,1-Dichloroethane	0.33	0.55	0.33	0.078	**U**
78-93-3	2-Butanone (MEK)	0.32	1.1	0.32	0.11	**U**
141-78-6	Ethyl Acetate	0.65	1.1	0.65	0.28	**U**
110-54-3	n-Hexane	0.32	0.54	0.32	0.11	**U**
67-66-3	Chloroform	0.17	0.54	0.17	0.071	**U**
109-99-9	Tetrahydrofuran (THF)	0.17	0.55	0.17	0.067	**U**
107-06-2	1,2-Dichloroethane	0.17	0.54	0.17	0.059	**U**
71-43-2	Benzene	0.17	0.53	0.17	0.077	**U**
56-23-5	Carbon Tetrachloride	0.17	0.53	0.17	0.074	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200429-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	0.34	1.1	0.34	0.15	U
75-27-4	Bromodichloromethane	0.17	0.54	0.17	0.077	U
79-01-6	Trichloroethene	0.17	0.54	0.17	0.072	U
123-91-1	1,4-Dioxane	0.17	0.54	0.17	0.063	U
142-82-5	n-Heptane	0.32	0.54	0.32	0.085	U
108-10-1	4-Methyl-2-pentanone	0.17	0.53	0.17	0.073	U
108-88-3	Toluene	0.17	0.54	0.17	0.065	U
591-78-6	2-Hexanone	0.17	0.54	0.17	0.066	U
124-48-1	Dibromochloromethane	0.17	0.54	0.17	0.070	U
106-93-4	1,2-Dibromoethane	0.17	0.54	0.17	0.062	U
127-18-4	Tetrachloroethene	0.17	0.52	0.17	0.069	U
100-41-4	Ethylbenzene	0.17	0.54	0.17	0.075	U
179601-23-1	m,p-Xylenes	0.34	1.1	0.34	0.14	U
75-25-2	Bromoform	0.32	0.54	0.32	0.11	U
100-42-5	Styrene	0.32	0.53	0.32	0.086	U
95-47-6	o-Xylene	0.17	0.54	0.17	0.077	U
108-67-8	1,3,5-Trimethylbenzene	0.17	0.53	0.17	0.077	U
95-63-6	1,2,4-Trimethylbenzene	0.17	0.54	0.17	0.074	U
120-82-1	1,2,4-Trichlorobenzene	0.32	0.54	0.32	0.13	U
91-20-3	Naphthalene	0.31	0.52	0.31	0.13	U
1330-20-7	Xylenes, Total	0.34	1.1	0.34	0.14	U

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200430-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 4/30/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	0.32	0.53	0.32	0.13	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.32	0.53	0.32	0.087	**U**
74-87-3	Chloromethane	0.32	0.53	0.32	0.086	**U**
75-01-4	Vinyl Chloride	0.17	0.54	0.17	0.057	**U**
106-99-0	1,3-Butadiene	0.32	0.53	0.32	0.088	**U**
75-00-3	Chloroethane	0.32	0.54	0.32	0.066	**U**
64-17-5	Ethanol	0.83	5.2	0.83	0.37	**U**
67-64-1	Acetone	2.7	5.3	2.7	1.2	**U**
75-69-4	Trichlorofluoromethane	0.32	0.53	0.32	0.081	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.63	2.1	0.63	0.22	**U**
75-09-2	Methylene Chloride	0.32	0.53	0.32	0.15	**U**
76-13-1	Trichlorotrifluoroethane	0.17	0.54	0.17	0.076	**U**
75-15-0	Carbon Disulfide	0.54	1.1	0.54	0.16	**U**
75-34-3	1,1-Dichloroethane	0.33	0.55	0.33	0.078	**U**
78-93-3	2-Butanone (MEK)	0.32	1.1	0.32	0.11	**U**
141-78-6	Ethyl Acetate	0.65	1.1	0.65	0.28	**U**
110-54-3	n-Hexane	0.32	0.54	0.32	0.11	**U**
67-66-3	Chloroform	0.17	0.54	0.17	0.071	**U**
109-99-9	Tetrahydrofuran (THF)	0.17	0.55	0.17	0.067	**U**
107-06-2	1,2-Dichloroethane	0.17	0.54	0.17	0.059	**U**
71-43-2	Benzene	0.17	0.53	0.17	0.077	**U**
56-23-5	Carbon Tetrachloride	0.17	0.53	0.17	0.074	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200430-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 4/30/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	0.34	1.1	0.34	0.15	U
75-27-4	Bromodichloromethane	0.17	0.54	0.17	0.077	U
79-01-6	Trichloroethene	0.17	0.54	0.17	0.072	U
123-91-1	1,4-Dioxane	0.17	0.54	0.17	0.063	U
142-82-5	n-Heptane	0.32	0.54	0.32	0.085	U
108-10-1	4-Methyl-2-pentanone	0.17	0.53	0.17	0.073	U
108-88-3	Toluene	0.17	0.54	0.17	0.065	U
591-78-6	2-Hexanone	0.17	0.54	0.17	0.066	U
124-48-1	Dibromochloromethane	0.17	0.54	0.17	0.070	U
106-93-4	1,2-Dibromoethane	0.17	0.54	0.17	0.062	U
127-18-4	Tetrachloroethene	0.17	0.52	0.17	0.069	U
100-41-4	Ethylbenzene	0.17	0.54	0.17	0.075	U
179601-23-1	m,p-Xylenes	0.34	1.1	0.34	0.14	U
75-25-2	Bromoform	0.32	0.54	0.32	0.11	U
100-42-5	Styrene	0.32	0.53	0.32	0.086	U
95-47-6	o-Xylene	0.17	0.54	0.17	0.077	U
108-67-8	1,3,5-Trimethylbenzene	0.17	0.53	0.17	0.077	U
95-63-6	1,2,4-Trimethylbenzene	0.17	0.54	0.17	0.074	U
120-82-1	1,2,4-Trichlorobenzene	0.32	0.54	0.32	0.13	U
91-20-3	Naphthalene	0.31	0.52	0.31	0.13	U
1330-20-7	Xylenes, Total	0.34	1.1	0.34	0.14	U

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Project ID: P2002029

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date(s) Collected: 4/7 - 4/9/20
Analyst: Simon Cao Date(s) Received: 4/14/20
Sampling Media: 1.0 L Silonite Summa Canister(s) Date(s) Analyzed: 4/29 - 4/30/20
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P200429-MB	**92**	**102**	**99**	70-130	
Method Blank	P200430-MB	**93**	**103**	**101**	70-130	
Lab Control Sample	P200429-LCS	**93**	**104**	**100**	70-130	
Lab Control Sample	P200430-LCS	**93**	**102**	**101**	70-130	
Duplicate Lab Control Sample	P200429-DLCS	**93**	**104**	**99**	70-130	
Duplicate Lab Control Sample	P200430-DLCS	**93**	**102**	**101**	70-130	
SVE07-160-202	P2002029-001	**93**	**104**	**98**	70-130	
SVE08-260-202	P2002029-002	**95**	**92**	**89**	70-130	
SVE09-460-202	P2002029-003	**93**	**94**	**92**	70-130	
SV03-050-202	P2002029-004	**94**	**101**	**95**	70-130	
SV03-100-202	P2002029-005	**92**	**98**	**94**	70-130	
SV03-250-202	P2002029-006	**94**	**95**	**89**	70-130	
SV03-300-202	P2002029-007	**90**	**95**	**90**	70-130	
SV04-050-202	P2002029-008	**93**	**103**	**99**	70-130	
SV04-050-602	P2002029-009	**93**	**102**	**98**	70-130	
SV04-100-202	P2002029-010	**92**	**97**	**94**	70-130	
SV04-250-202	P2002029-011	**93**	**101**	**100**	70-130	
SV04-300-202	P2002029-012	**93**	**99**	**95**	70-130	
SV04-300-202	P2002029-012DUP	**92**	**99**	**95**	70-130	
SV08-050-202	P2002029-013	**92**	**93**	**91**	70-130	
SV08-100-202	P2002029-014	**94**	**103**	**99**	70-130	
SV08-250-202	P2002029-015	**93**	**100**	**97**	70-130	
SV09-050-202	P2002029-016	**93**	**102**	**99**	70-130	
SV09-100-202	P2002029-017	**93**	**99**	**97**	70-130	
SV09-250-202	P2002029-018	**93**	**100**	**97**	70-130	
SV09-266-202	P2002029-019	**93**	**98**	**95**	70-130	
SVTB-202-01	P2002029-020	**92**	**103**	**99**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200429-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	210	227	238	**108**	**113**	57-136	5	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	191	195	**91**	**93**	59-128	2	25	
74-87-3	Chloromethane	212	230	240	**108**	**113**	59-132	5	25	
75-01-4	Vinyl Chloride	212	209	217	**99**	**102**	64-127	3	25	
106-99-0	1,3-Butadiene	212	235	240	**111**	**113**	66-134	2	25	
75-00-3	Chloroethane	214	200	209	**93**	**98**	63-127	5	25	
64-17-5	Ethanol	1,060	974	1010	**92**	**95**	59-125	3	25	
67-64-1	Acetone	1,070	1010	1040	**94**	**97**	58-128	3	25	
75-69-4	Trichlorofluoromethane	212	185	188	**87**	**89**	62-126	2	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	422	391	397	**93**	**94**	52-125	1	25	
75-09-2	Methylene Chloride	210	204	208	**97**	**99**	62-115	2	25	
76-13-1	Trichlorotrifluoroethane	216	196	200	**91**	**93**	66-126	2	25	
75-15-0	Carbon Disulfide	212	212	216	**100**	**102**	57-134	2	25	
75-34-3	1,1-Dichloroethane	212	197	201	**93**	**95**	68-126	2	25	
78-93-3	2-Butanone (MEK)	212	220	227	**104**	**107**	67-130	3	25	
141-78-6	Ethyl Acetate	432	456	465	**106**	**108**	65-128	2	25	
110-54-3	n-Hexane	216	214	220	**99**	**102**	63-120	3	25	
67-66-3	Chloroform	214	196	200	**92**	**93**	68-123	1	25	
109-99-9	Tetrahydrofuran (THF)	220	216	222	**98**	**101**	64-123	3	25	
107-06-2	1,2-Dichloroethane	214	195	199	**91**	**93**	65-128	2	25	
71-43-2	Benzene	210	199	204	**95**	**97**	69-119	2	25	
56-23-5	Carbon Tetrachloride	208	184	188	**88**	**90**	68-132	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200429-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	422	406	414	**96**	**98**	70-117	2	25	
75-27-4	Bromodichloromethane	218	195	200	**89**	**92**	72-128	3	25	
79-01-6	Trichloroethene	216	203	207	**94**	**96**	71-123	2	25	
123-91-1	1,4-Dioxane	216	221	225	**102**	**104**	71-122	2	25	
142-82-5	n-Heptane	214	211	214	**99**	**100**	69-123	1	25	
108-10-1	4-Methyl-2-pentanone	212	225	228	**106**	**108**	67-130	2	25	
108-88-3	Toluene	212	214	219	**101**	**103**	66-119	2	25	
591-78-6	2-Hexanone	216	255	261	**118**	**121**	62-128	3	25	
124-48-1	Dibromochloromethane	214	219	224	**102**	**105**	70-130	3	25	
106-93-4	1,2-Dibromoethane	214	226	229	**106**	**107**	74-122	0.9	25	
127-18-4	Tetrachloroethene	208	203	207	**98**	**100**	66-124	2	25	
100-41-4	Ethylbenzene	212	214	219	**101**	**103**	70-124	2	25	
179601-23-1	m,p-Xylenes	426	420	428	**99**	**100**	61-134	1	25	
75-25-2	Bromoform	214	225	229	**105**	**107**	66-139	2	25	
100-42-5	Styrene	212	226	231	**107**	**109**	73-127	2	25	
95-47-6	o-Xylene	214	211	215	**99**	**100**	67-125	1	25	
108-67-8	1,3,5-Trimethylbenzene	212	207	211	**98**	**100**	67-130	2	25	
95-63-6	1,2,4-Trimethylbenzene	212	211	215	**100**	**101**	66-132	1	25	
120-82-1	1,2,4-Trichlorobenzene	216	240	245	**111**	**113**	55-142	2	25	
91-20-3	Naphthalene	212	223	228	**105**	**108**	57-138	3	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200430-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 4/30/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	210	232	232	**110**	**110**	57-136	0	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	206	201	**98**	**96**	59-128	2	25	
74-87-3	Chloromethane	212	237	235	**112**	**111**	59-132	0.9	25	
75-01-4	Vinyl Chloride	212	228	225	**108**	**106**	64-127	2	25	
106-99-0	1,3-Butadiene	212	251	249	**118**	**117**	66-134	0.9	25	
75-00-3	Chloroethane	214	218	215	**102**	**100**	63-127	2	25	
64-17-5	Ethanol	1,060	1110	1090	**105**	**103**	59-125	2	25	
67-64-1	Acetone	1,070	1090	1080	**102**	**101**	58-128	1	25	
75-69-4	Trichlorofluoromethane	212	205	199	**97**	**94**	62-126	3	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	422	443	435	**105**	**103**	52-125	2	25	
75-09-2	Methylene Chloride	210	224	220	**107**	**105**	62-115	2	25	
76-13-1	Trichlorotrifluoroethane	216	215	211	**100**	**98**	66-126	2	25	
75-15-0	Carbon Disulfide	212	228	225	**108**	**106**	57-134	2	25	
75-34-3	1,1-Dichloroethane	212	214	211	**101**	**100**	68-126	1	25	
78-93-3	2-Butanone (MEK)	212	243	239	**115**	**113**	67-130	2	25	
141-78-6	Ethyl Acetate	432	484	484	**112**	**112**	65-128	0	25	
110-54-3	n-Hexane	216	231	229	**107**	**106**	63-120	0.9	25	
67-66-3	Chloroform	214	215	211	**100**	**99**	68-123	1	25	
109-99-9	Tetrahydrofuran (THF)	220	236	229	**107**	**104**	64-123	3	25	
107-06-2	1,2-Dichloroethane	214	213	209	**100**	**98**	65-128	2	25	
71-43-2	Benzene	210	216	211	**103**	**100**	69-119	3	25	
56-23-5	Carbon Tetrachloride	208	203	198	**98**	**95**	68-132	3	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200430-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 4/30/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	422	439	433	**104**	**103**	70-117	1	25	
75-27-4	Bromodichloromethane	218	212	208	**97**	**95**	72-128	2	25	
79-01-6	Trichloroethene	216	221	217	**102**	**100**	71-123	2	25	
123-91-1	1,4-Dioxane	216	240	238	**111**	**110**	71-122	0.9	25	
142-82-5	n-Heptane	214	226	225	**106**	**105**	69-123	0.9	25	
108-10-1	4-Methyl-2-pentanone	212	238	239	**112**	**113**	67-130	0.9	25	
108-88-3	Toluene	212	229	225	**108**	**106**	66-119	2	25	
591-78-6	2-Hexanone	216	270	270	**125**	**125**	62-128	0	25	
124-48-1	Dibromochloromethane	214	236	232	**110**	**108**	70-130	2	25	
106-93-4	1,2-Dibromoethane	214	242	238	**113**	**111**	74-122	2	25	
127-18-4	Tetrachloroethene	208	219	213	**105**	**102**	66-124	3	25	
100-41-4	Ethylbenzene	212	227	224	**107**	**106**	70-124	0.9	25	
179601-23-1	m,p-Xylenes	426	446	440	**105**	**103**	61-134	2	25	
75-25-2	Bromoform	214	243	238	**114**	**111**	66-139	3	25	
100-42-5	Styrene	212	242	238	**114**	**112**	73-127	2	25	
95-47-6	o-Xylene	214	222	221	**104**	**103**	67-125	1	25	
108-67-8	1,3,5-Trimethylbenzene	212	216	216	**102**	**102**	67-130	0	25	
95-63-6	1,2,4-Trimethylbenzene	212	219	218	**103**	**103**	66-132	0	25	
120-82-1	1,2,4-Trichlorobenzene	216	212	229	**98**	**106**	55-142	8	25	
91-20-3	Naphthalene	212	193	209	**91**	**99**	57-138	8	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV04-300-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-012DUP

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/30/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0010 Liter(s)
Test Notes:
Container ID: 1SC01186

Initial Pressure (psig): -3.21 Final Pressure (psig): 5.83

Container Dilution Factor: 1.79

Compound	Sample Result µg/m³	Duplicate Sample Result µg/m³	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Propene	830	970	900	**16**	25	
Dichlorodifluoromethane (CFC 12)	ND	ND	-	-	25	
Chloromethane	ND	ND	-	-	25	
Vinyl Chloride	ND	ND	-	-	25	
1,3-Butadiene	ND	ND	-	-	25	
Chloroethane	ND	ND	-	-	25	
Ethanol	ND	ND	-	-	25	
Acetone	ND	ND	-	-	25	
Trichlorofluoromethane	ND	ND	-	-	25	
2-Propanol (Isopropyl Alcohol)	ND	ND	-	-	25	
Methylene Chloride	680	740	710	**8**	25	**J**
Trichlorotrifluoroethane	2,000	2,000	2000	**0**	25	
Carbon Disulfide	ND	ND	-	-	25	
1,1-Dichloroethane	ND	ND	-	-	25	
2-Butanone (MEK)	ND	ND	-	-	25	
Ethyl Acetate	ND	ND	-	-	25	
n-Hexane	170,000	160,000	165000	**6**	25	
Chloroform	ND	ND	-	-	25	
Tetrahydrofuran (THF)	ND	ND	-	-	25	
1,2-Dichloroethane	ND	ND	-	-	25	
Benzene	100,000	98,000	99000	**2**	25	
Carbon Tetrachloride	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV04-300-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-012DUP

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/30/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0010 Liter(s)
Test Notes:
Container ID: 1SC01186

Initial Pressure (psig): -3.21 Final Pressure (psig): 5.83

Container Dilution Factor: 1.79

Compound	Sample Result µg/m³	Duplicate Sample Result µg/m³	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Cyclohexane	200,000	190,000	195000	**5**	25	
Bromodichloromethane	ND	ND	-	-	25	
Trichloroethene	ND	140	-	-	25	**J**
1,4-Dioxane	ND	ND	-	-	25	
n-Heptane	170,000	170,000	170000	**0**	25	
4-Methyl-2-pentanone	ND	ND	-	-	25	
Toluene	5,700	5,500	5600	**4**	25	
2-Hexanone	ND	ND	-	-	25	
Dibromochloromethane	ND	ND	-	-	25	
1,2-Dibromoethane	ND	ND	-	-	25	
Tetrachloroethene	520	520	520	**0**	25	**J**
Ethylbenzene	300	290	295	**3**	25	**J**
m,p-Xylenes	5,600	5,100	5350	**9**	25	
Bromoform	ND	ND	-	-	25	
Styrene	ND	ND	-	-	25	
o-Xylene	1,800	1,600	1700	**12**	25	
1,3,5-Trimethylbenzene	970	860	915	**12**	25	**J**
1,2,4-Trimethylbenzene	1,000	950	975	**5**	25	**J**
1,2,4-Trichlorobenzene	ND	ND	-	-	25	
Naphthalene	ND	ND	-	-	25	
Xylenes, Total	7,400	6,700	7050	**10**	25	

ND = Compound was analyzed for, but not detected.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: **EA Engineering, Science, and Technology, Inc.** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 04292003.D
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Silonite Summa Canister(s) Time Analyzed: 06:19
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	165863		9.16	693341		11.12		304929		15.46	
	Upper Limit	232208		9.49	970677		11.45		426901		15.79	
	Lower Limit	99518		8.83	416005		10.79		182957		15.13	
	Client Sample ID											
01	Method Blank	147560		9.13	622939		11.10		273854		15.46	
02	Lab Control Sample	159720		9.16	668762		11.12		290463		15.46	
03	Duplicate Lab Control Sample	157698		9.16	660725		11.12		286674		15.46	
04	SV03-100-202	160216		9.13	688099		11.11		309875		15.46	
05	SVE08-260-202	153457		9.13	655239		11.11		316512		15.46	
06	SVE09-460-202	155370		9.13	662898		11.11		306897		15.46	
07	SV03-050-202	152736		9.13	651214		11.11		292673		15.46	
08	SV03-250-202	160474		9.14	680983		11.11		331143		15.46	
09	SV03-250-202 (Dilution)	160110		9.13	673184		11.11		298811		15.46	
10	SV03-300-202 (Dilution)	161181		9.13	680245		11.11		303175		15.46	
11	SV03-300-202	168221		9.13	688467		11.11		329718		15.46	
12												
13												
14												
15												
16												
17												
18												
19												
20												

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: **EA Engineering, Science, and Technology, Inc.** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 04302003.D
Analyst: Simon Cao Date Analyzed: 4/30/20
Sampling Media: 1.0 L Silonite Summa Canister(s) Time Analyzed: 04:10
Test Notes:

		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	24 Hour Standard	164204	9.16	685002	11.12	302763	15.46
	Upper Limit	229886	9.49	959003	11.45	423868	15.79
	Lower Limit	98522	8.83	411001	10.79	181658	15.13
	Client Sample ID						
01	Method Blank	145397	9.13	618438	11.11	271053	15.45
02	Lab Control Sample	150642	9.16	635307	11.12	280448	15.46
03	Duplicate Lab Control Sample	155176	9.16	653401	11.12	287841	15.46
04	SV04-050-202	150848	9.13	640108	11.11	277030	15.46
05	SV04-050-602	150082	9.13	633787	11.11	279585	15.46
06	SV04-300-202	151162	9.14	639396	11.11	288281	15.46
07	SV04-300-202 (Lab Duplicate)	153015	9.13	647165	11.11	293010	15.46
08	SV08-050-202	154477	9.13	651928	11.11	314218	15.46
09	SVE07-160-202	154805	9.13	652680	11.11	284313	15.45
10	SV08-050-202 (Dilution)	156069	9.13	660187	11.11	293797	15.46
11	SV08-100-202	151792	9.13	640628	11.11	283794	15.46
12	SV08-250-202	155715	9.14	663526	11.11	296020	15.46
13	SV09-050-202	155531	9.13	652443	11.11	287072	15.46
14	SV09-100-202	156692	9.14	663415	11.11	299834	15.46
15	SV09-250-202	157730	9.13	664417	11.11	301474	15.46
16	SV09-266-202 (Dilution)	158246	9.13	669502	11.11	290767	15.46
17	SV09-266-202	158433	9.14	669329	11.11	307949	15.46
18	SV04-100-202	158285	9.13	669234	11.11	306560	15.46
19	SVTB-202-01	149911	9.13	629905	11.10	279074	15.46
20	SV04-100-202 (Dilution)	159887	9.13	675992	11.11	305454	15.46
21	SV04-250-202	157038	9.13	661242	11.11	298559	15.46

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVE07-160-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-001

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/30/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.000020 Liter(s)
Test Notes:

Initial Pressure (psig): -2.80 Final Pressure (psig): 6.41

Container Dilution Factor: 1.77

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**20,000**		27,000	16,000	6,700	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)		5,700	9,500	5,700	1,600	**U**
74-87-3	Chloromethane		14,000	23,000	14,000	3,700	**U**
75-01-4	Vinyl Chloride		5,900	19,000	5,900	2,000	**U**
106-99-0	1,3-Butadiene		13,000	21,000	13,000	3,500	**U**
75-00-3	Chloroethane		11,000	18,000	11,000	2,200	**U**
64-17-5	Ethanol		39,000	240,000	39,000	17,000	**U**
67-64-1	Acetone		100,000	200,000	100,000	45,000	**U**
75-69-4	Trichlorofluoromethane		5,000	8,400	5,000	1,300	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)		23,000	76,000	23,000	7,900	**U**
75-09-2	Methylene Chloride	**9,900**		14,000	8,200	3,800	**J**
76-13-1	Trichlorotrifluoroethane	**12,000**		6,200	2,000	880	
75-15-0	Carbon Disulfide		15,000	31,000	15,000	4,500	**U**
75-34-3	1,1-Dichloroethane		7,200	12,000	7,200	1,700	**U**
78-93-3	2-Butanone (MEK)	**51,000**		33,000	9,600	3,300	
141-78-6	Ethyl Acetate		16,000	27,000	16,000	6,900	**U**
110-54-3	n-Hexane	**2,200,000**		14,000	8,000	2,800	
67-66-3	Chloroform		3,100	9,800	3,100	1,300	**U**
109-99-9	Tetrahydrofuran (THF)		5,100	17,000	5,100	2,000	**U**
107-06-2	1,2-Dichloroethane		3,700	12,000	3,700	1,300	**U**
71-43-2	Benzene	**300,000**		15,000	4,700	2,100	
56-23-5	Carbon Tetrachloride		2,400	7,500	2,400	1,000	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVE07-160-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-001

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/30/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.000020 Liter(s)
Test Notes:

Initial Pressure (psig): -2.80 Final Pressure (psig): 6.41

Container Dilution Factor: 1.77

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**1,100,000**		28,000	8,700	3,900	
75-27-4	Bromodichloromethane		2,200	7,100	2,200	1,000	**U**
79-01-6	Trichloroethene		2,800	8,900	2,800	1,200	**U**
123-91-1	1,4-Dioxane		4,200	13,000	4,200	1,500	**U**
142-82-5	n-Heptane	**770,000**		12,000	6,900	1,800	
108-10-1	4-Methyl-2-pentanone		3,700	11,000	3,700	1,600	**U**
108-88-3	Toluene	**340,000**		13,000	4,000	1,500	
591-78-6	2-Hexanone		3,700	12,000	3,700	1,400	**U**
124-48-1	Dibromochloromethane		1,800	5,600	1,800	730	**U**
106-93-4	1,2-Dibromoethane		2,000	6,200	2,000	710	**U**
127-18-4	Tetrachloroethene	**3,900**		6,800	2,200	900	**J**
100-41-4	Ethylbenzene	**29,000**		11,000	3,500	1,500	
179601-23-1	m,p-Xylenes	**64,000**		22,000	6,900	2,900	
75-25-2	Bromoform		2,700	4,600	2,700	940	**U**
100-42-5	Styrene		6,700	11,000	6,700	1,800	**U**
95-47-6	o-Xylene	**20,000**		11,000	3,500	1,600	
108-67-8	1,3,5-Trimethylbenzene	**3,000**		9,500	3,100	1,400	**J**
95-63-6	1,2,4-Trimethylbenzene	**6,600**		9,700	3,100	1,300	**J**
120-82-1	1,2,4-Trichlorobenzene		3,800	6,400	3,800	1,600	**U**
91-20-3	Naphthalene		5,200	8,800	5,200	2,200	**U**
1330-20-7	Xylenes, Total	**85,000**		22,000	6,900	2,900	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVE08-260-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-002

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.030 Liter(s)
Test Notes:
Container ID: 1SC01139

Initial Pressure (psig): -2.92 Final Pressure (psig): 6.52

Container Dilution Factor: 1.80

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**12**	18	11	4.5	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	3.9	6.4	3.9	1.1	**U**
74-87-3	Chloromethane	**2.9**	15	9.3	2.5	**J**
75-01-4	Vinyl Chloride	4.0	13	4.0	1.3	**U**
106-99-0	1,3-Butadiene	8.7	14	8.7	2.4	**U**
75-00-3	Chloroethane	7.3	12	7.3	1.5	**U**
64-17-5	Ethanol	26	170	26	12	**U**
67-64-1	Acetone	**110**	130	68	30	**J**
75-69-4	Trichlorofluoromethane	3.4	5.7	3.4	0.87	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	15	51	15	5.4	**U**
75-09-2	Methylene Chloride	5.5	9.2	5.5	2.6	**U**
76-13-1	Trichlorotrifluoroethane	**5.9**	4.2	1.3	0.60	
75-15-0	Carbon Disulfide	10	21	10	3.1	**U**
75-34-3	1,1-Dichloroethane	4.9	8.2	4.9	1.2	**U**
78-93-3	2-Butanone (MEK)	**24**	22	6.5	2.2	
141-78-6	Ethyl Acetate	11	18	11	4.7	**U**
110-54-3	n-Hexane	**140**	9.2	5.4	1.9	
67-66-3	Chloroform	2.1	6.6	2.1	0.87	**U**
109-99-9	Tetrahydrofuran (THF)	3.5	11	3.5	1.4	**U**
107-06-2	1,2-Dichloroethane	2.5	8.0	2.5	0.87	**U**
71-43-2	Benzene	**450**	10	3.2	1.4	
56-23-5	Carbon Tetrachloride	1.6	5.1	1.6	0.71	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVE08-260-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-002

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.030 Liter(s)
Test Notes:
Container ID: 1SC01139

Initial Pressure (psig): -2.92 Final Pressure (psig): 6.52

Container Dilution Factor: 1.80

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**320**	19	5.9	2.6	
75-27-4	Bromodichloromethane	1.5	4.8	1.5	0.69	**U**
79-01-6	Trichloroethene	1.9	6.0	1.9	0.80	**U**
123-91-1	1,4-Dioxane	2.8	9.0	2.8	1.0	**U**
142-82-5	n-Heptane	**100**	7.9	4.7	1.2	
108-10-1	4-Methyl-2-pentanone	2.5	7.8	2.5	1.1	**U**
108-88-3	Toluene	**99**	8.6	2.7	1.0	
591-78-6	2-Hexanone	2.5	7.9	2.5	0.97	**U**
124-48-1	Dibromochloromethane	1.2	3.8	1.2	0.49	**U**
106-93-4	1,2-Dibromoethane	1.3	4.2	1.3	0.48	**U**
127-18-4	Tetrachloroethene	1.5	4.6	1.5	0.61	**U**
100-41-4	Ethylbenzene	**22**	7.5	2.3	1.0	
179601-23-1	m,p-Xylenes	**54**	15	4.7	1.9	
75-25-2	Bromoform	1.9	3.1	1.9	0.64	**U**
100-42-5	Styrene	4.5	7.5	4.5	1.2	**U**
95-47-6	o-Xylene	**21**	7.5	2.3	1.1	
108-67-8	1,3,5-Trimethylbenzene	**9.6**	6.5	2.1	0.94	
95-63-6	1,2,4-Trimethylbenzene	**22**	6.6	2.1	0.90	
120-82-1	1,2,4-Trichlorobenzene	2.6	4.4	2.6	1.1	**U**
91-20-3	Naphthalene	**3.8**	6.0	3.5	1.5	**J**
1330-20-7	Xylenes, Total	**75**	15	4.7	1.9	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVE09-460-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-003

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.030 Liter(s)
Test Notes:
Container ID: 1SC00919

Initial Pressure (psig): -3.16 Final Pressure (psig): 5.99

Container Dilution Factor: 1.79

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**23**	18	11	4.5	
75-71-8	Dichlorodifluoromethane (CFC 12)	3.9	6.4	3.9	1.1	**U**
74-87-3	Chloromethane	9.2	15	9.2	2.5	**U**
75-01-4	Vinyl Chloride	4.0	13	4.0	1.3	**U**
106-99-0	1,3-Butadiene	8.6	14	8.6	2.4	**U**
75-00-3	Chloroethane	7.2	12	7.2	1.5	**U**
64-17-5	Ethanol	26	160	26	12	**U**
67-64-1	Acetone	68	130	68	30	**U**
75-69-4	Trichlorofluoromethane	3.4	5.6	3.4	0.86	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	15	51	15	5.3	**U**
75-09-2	Methylene Chloride	5.5	9.1	5.5	2.6	**U**
76-13-1	Trichlorotrifluoroethane	**7.0**	4.2	1.3	0.59	
75-15-0	Carbon Disulfide	**12**	21	10	3.1	**J**
75-34-3	1,1-Dichloroethane	4.9	8.1	4.9	1.2	**U**
78-93-3	2-Butanone (MEK)	**11**	22	6.5	2.2	**J**
141-78-6	Ethyl Acetate	11	18	11	4.6	**U**
110-54-3	n-Hexane	**140**	9.1	5.4	1.9	
67-66-3	Chloroform	2.1	6.6	2.1	0.87	**U**
109-99-9	Tetrahydrofuran (THF)	3.4	11	3.4	1.4	**U**
107-06-2	1,2-Dichloroethane	2.5	8.0	2.5	0.87	**U**
71-43-2	Benzene	**350**	9.9	3.2	1.4	
56-23-5	Carbon Tetrachloride	1.6	5.0	1.6	0.70	**U**

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVE09-460-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-003

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.030 Liter(s)
Test Notes:
Container ID: 1SC00919

Initial Pressure (psig): -3.16 Final Pressure (psig): 5.99

Container Dilution Factor: 1.79

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**920**	19	5.9	2.6	
75-27-4	Bromodichloromethane	1.5	4.8	1.5	0.69	**U**
79-01-6	Trichloroethene	1.9	6.0	1.9	0.80	**U**
123-91-1	1,4-Dioxane	2.8	8.9	2.8	1.0	**U**
142-82-5	n-Heptane	**68**	7.9	4.7	1.2	
108-10-1	4-Methyl-2-pentanone	2.5	7.7	2.5	1.1	**U**
108-88-3	Toluene	**46**	8.6	2.7	1.0	
591-78-6	2-Hexanone	2.5	7.9	2.5	0.96	**U**
124-48-1	Dibromochloromethane	1.2	3.8	1.2	0.49	**U**
106-93-4	1,2-Dibromoethane	1.3	4.2	1.3	0.48	**U**
127-18-4	Tetrachloroethene	1.5	4.6	1.5	0.61	**U**
100-41-4	Ethylbenzene	**12**	7.4	2.3	1.0	
179601-23-1	m,p-Xylenes	**27**	15	4.7	1.9	
75-25-2	Bromoform	1.8	3.1	1.8	0.64	**U**
100-42-5	Styrene	4.5	7.4	4.5	1.2	**U**
95-47-6	o-Xylene	**11**	7.4	2.3	1.1	
108-67-8	1,3,5-Trimethylbenzene	**4.1**	6.4	2.1	0.93	**J**
95-63-6	1,2,4-Trimethylbenzene	**9.5**	6.6	2.1	0.90	
120-82-1	1,2,4-Trichlorobenzene	2.6	4.3	2.6	1.0	**U**
91-20-3	Naphthalene	**1.7**	5.9	3.5	1.5	**J**
1330-20-7	Xylenes, Total	**38**	15	4.7	1.9	

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV03-050-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-004

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.15 Liter(s)
Test Notes:
Container ID: 1SC01043

Initial Pressure (psig): -3.46 Final Pressure (psig): 5.78

Container Dilution Factor: 1.82

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**3.6**	3.7	2.3	0.92	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.54**	1.3	0.79	0.21	**J**
74-87-3	Chloromethane	1.9	3.1	1.9	0.51	**U**
75-01-4	Vinyl Chloride	0.81	2.6	0.81	0.27	**U**
106-99-0	1,3-Butadiene	1.8	2.9	1.8	0.48	**U**
75-00-3	Chloroethane	1.5	2.5	1.5	0.30	**U**
64-17-5	Ethanol	5.3	33	5.3	2.4	**U**
67-64-1	Acetone	**11**	27	14	6.1	**J**
75-69-4	Trichlorofluoromethane	**0.40**	1.1	0.69	0.17	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**6.0**	10	3.1	1.1	**J**
75-09-2	Methylene Chloride	1.1	1.9	1.1	0.52	**U**
76-13-1	Trichlorotrifluoroethane	**20**	0.86	0.27	0.12	
75-15-0	Carbon Disulfide	2.1	4.3	2.1	0.62	**U**
75-34-3	1,1-Dichloroethane	0.99	1.6	0.99	0.23	**U**
78-93-3	2-Butanone (MEK)	**1.0**	4.5	1.3	0.45	**J**
141-78-6	Ethyl Acetate	2.2	3.7	2.2	0.94	**U**
110-54-3	n-Hexane	**3.5**	1.9	1.1	0.38	
67-66-3	Chloroform	**0.71**	1.3	0.42	0.18	**J**
109-99-9	Tetrahydrofuran (THF)	0.70	2.3	0.70	0.28	**U**
107-06-2	1,2-Dichloroethane	0.51	1.6	0.51	0.18	**U**
71-43-2	Benzene	**5.2**	2.0	0.65	0.29	
56-23-5	Carbon Tetrachloride	**4.2**	1.0	0.33	0.14	

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV03-050-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-004

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.15 Liter(s)
Test Notes:
Container ID: 1SC01043

Initial Pressure (psig): -3.46 Final Pressure (psig): 5.78

Container Dilution Factor: 1.82

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**7.3**	3.9	1.2	0.53	
75-27-4	Bromodichloromethane	0.31	0.98	0.31	0.14	**U**
79-01-6	Trichloroethene	**0.96**	1.2	0.38	0.16	**J**
123-91-1	1,4-Dioxane	0.57	1.8	0.57	0.21	**U**
142-82-5	n-Heptane	**5.8**	1.6	0.95	0.25	
108-10-1	4-Methyl-2-pentanone	0.50	1.6	0.50	0.22	**U**
108-88-3	Toluene	**11**	1.7	0.55	0.21	
591-78-6	2-Hexanone	0.50	1.6	0.50	0.20	**U**
124-48-1	Dibromochloromethane	0.24	0.77	0.24	0.10	**U**
106-93-4	1,2-Dibromoethane	0.27	0.85	0.27	0.098	**U**
127-18-4	Tetrachloroethene	**11**	0.93	0.30	0.12	
100-41-4	Ethylbenzene	**1.3**	1.5	0.48	0.21	**J**
179601-23-1	m,p-Xylenes	**6.0**	3.1	0.95	0.39	
75-25-2	Bromoform	0.38	0.63	0.38	0.13	**U**
100-42-5	Styrene	0.91	1.5	0.91	0.25	**U**
95-47-6	o-Xylene	**2.1**	1.5	0.48	0.22	
108-67-8	1,3,5-Trimethylbenzene	**1.0**	1.3	0.42	0.19	**J**
95-63-6	1,2,4-Trimethylbenzene	**1.6**	1.3	0.42	0.18	
120-82-1	1,2,4-Trichlorobenzene	0.52	0.88	0.52	0.21	**U**
91-20-3	Naphthalene	0.72	1.2	0.72	0.30	**U**
1330-20-7	Xylenes, Total	**8.1**	3.1	0.95	0.39	

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV03-100-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-005

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00020 Liter(s)
Test Notes:
Container ID: 1SC00899

Initial Pressure (psig): -3.10 Final Pressure (psig): 6.45

Container Dilution Factor: 1.82

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**1,100**	2,800	1,700	690	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	590	980	590	160	**U**
74-87-3	Chloromethane	1,400	2,300	1,400	380	**U**
75-01-4	Vinyl Chloride	610	1,900	610	200	**U**
106-99-0	1,3-Butadiene	1,300	2,200	1,300	360	**U**
75-00-3	Chloroethane	1,100	1,900	1,100	230	**U**
64-17-5	Ethanol	4,000	25,000	4,000	1,800	**U**
67-64-1	Acetone	10,000	20,000	10,000	4,600	**U**
75-69-4	Trichlorofluoromethane	520	860	520	130	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	2,300	7,800	2,300	810	**U**
75-09-2	Methylene Chloride	**1,400**	1,400	840	390	
76-13-1	Trichlorotrifluoroethane	**1,800**	640	200	90	
75-15-0	Carbon Disulfide	1,600	3,200	1,600	470	**U**
75-34-3	1,1-Dichloroethane	740	1,200	740	180	**U**
78-93-3	2-Butanone (MEK)	990	3,400	990	340	**U**
141-78-6	Ethyl Acetate	1,600	2,800	1,600	710	**U**
110-54-3	n-Hexane	**48,000**	1,400	830	280	
67-66-3	Chloroform	320	1,000	320	130	**U**
109-99-9	Tetrahydrofuran (THF)	520	1,700	520	210	**U**
107-06-2	1,2-Dichloroethane	380	1,200	380	130	**U**
71-43-2	Benzene	**2,200**	1,500	480	220	
56-23-5	Carbon Tetrachloride	250	770	250	110	**U**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV03-100-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-005

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00020 Liter(s)
Test Notes:
Container ID: 1SC00899

Initial Pressure (psig): -3.10 Final Pressure (psig): 6.45

Container Dilution Factor: 1.82

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**380,000**		2,900	900	400	
75-27-4	Bromodichloromethane		230	730	230	100	**U**
79-01-6	Trichloroethene		290	910	290	120	**U**
123-91-1	1,4-Dioxane		430	1,400	430	160	**U**
142-82-5	n-Heptane	**16,000**		1,200	710	190	
108-10-1	4-Methyl-2-pentanone		380	1,200	380	160	**U**
108-88-3	Toluene	**6,600**		1,300	410	160	
591-78-6	2-Hexanone		380	1,200	380	150	**U**
124-48-1	Dibromochloromethane		180	580	180	75	**U**
106-93-4	1,2-Dibromoethane		200	640	200	73	**U**
127-18-4	Tetrachloroethene	**520**		700	230	93	**J**
100-41-4	Ethylbenzene	**1,100**		1,100	360	160	**J**
179601-23-1	m,p-Xylenes	**2,800**		2,300	710	290	
75-25-2	Bromoform		280	480	280	97	**U**
100-42-5	Styrene		680	1,100	680	180	**U**
95-47-6	o-Xylene	**1,600**		1,100	360	160	
108-67-8	1,3,5-Trimethylbenzene	**970**		980	310	140	**J**
95-63-6	1,2,4-Trimethylbenzene	**720**		1,000	310	140	**J**
120-82-1	1,2,4-Trichlorobenzene		390	660	390	160	**U**
91-20-3	Naphthalene		540	900	540	230	**U**
1330-20-7	Xylenes, Total	**4,300**		2,300	710	290	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV03-250-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-006

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00025 Liter(s)
Test Notes: 0.000050 Liter(s)
Container ID: 1SC00616

Initial Pressure (psig): -3.72 Final Pressure (psig): 5.87

Container Dilution Factor: 1.87

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**1,600**		2,300	1,400	570	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)		480	800	480	130	**U**
74-87-3	Chloromethane		1,200	1,900	1,200	310	**U**
75-01-4	Vinyl Chloride		500	1,600	500	170	**U**
106-99-0	1,3-Butadiene		1,100	1,800	1,100	300	**U**
75-00-3	Chloroethane		910	1,500	910	190	**U**
64-17-5	Ethanol		3,300	21,000	3,300	1,500	**U**
67-64-1	Acetone		8,500	17,000	8,500	3,800	**U**
75-69-4	Trichlorofluoromethane		430	710	430	110	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)		1,900	6,400	1,900	670	**U**
75-09-2	Methylene Chloride	**1,100**		1,100	690	320	
76-13-1	Trichlorotrifluoroethane	**1,500**		530	170	74	
75-15-0	Carbon Disulfide		1,300	2,600	1,300	380	**U**
75-34-3	1,1-Dichloroethane		610	1,000	610	140	**U**
78-93-3	2-Butanone (MEK)		810	2,800	810	280	**U**
141-78-6	Ethyl Acetate		1,300	2,300	1,300	580	**U**
110-54-3	n-Hexane	**500,000**		5,700	3,400	1,200	**D**
67-66-3	Chloroform		260	830	260	110	**U**
109-99-9	Tetrahydrofuran (THF)		430	1,400	430	170	**U**
107-06-2	1,2-Dichloroethane		310	1,000	310	110	**U**
71-43-2	Benzene	**160,000**		1,200	400	180	
56-23-5	Carbon Tetrachloride		200	630	200	88	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV03-250-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-006

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00025 Liter(s)
Test Notes: 0.000050 Liter(s)
Container ID: 1SC00616

Initial Pressure (psig): -3.72 Final Pressure (psig): 5.87

Container Dilution Factor: 1.87

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**440,000**		2,400	740	330	
75-27-4	Bromodichloromethane		190	600	190	86	**U**
79-01-6	Trichloroethene	**110**		750	240	100	**J**
123-91-1	1,4-Dioxane		350	1,100	350	130	**U**
142-82-5	n-Heptane	**310,000**		4,900	2,900	780	**D**
108-10-1	4-Methyl-2-pentanone		310	970	310	130	**U**
108-88-3	Toluene	**220,000**		5,400	1,700	650	**D**
591-78-6	2-Hexanone		310	990	310	120	**U**
124-48-1	Dibromochloromethane		150	470	150	61	**U**
106-93-4	1,2-Dibromoethane		170	530	170	60	**U**
127-18-4	Tetrachloroethene	**400**		570	190	76	**J**
100-41-4	Ethylbenzene	**22,000**		930	290	130	
179601-23-1	m,p-Xylenes	**69,000**		1,900	590	240	
75-25-2	Bromoform		230	390	230	80	**U**
100-42-5	Styrene		560	930	560	150	**U**
95-47-6	o-Xylene	**22,000**		930	290	130	
108-67-8	1,3,5-Trimethylbenzene	**2,700**		810	260	120	
95-63-6	1,2,4-Trimethylbenzene	**3,800**		820	260	110	
120-82-1	1,2,4-Trichlorobenzene		320	540	320	130	**U**
91-20-3	Naphthalene		440	740	440	190	**U**
1330-20-7	Xylenes, Total	**91,000**		1,900	590	240	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV03-300-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-007

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00030 Liter(s)
Test Notes: 0.000080 Liter(s)
Container ID: 1SS01027

Initial Pressure (psig): -3.13 Final Pressure (psig): 5.80

Container Dilution Factor: 1.77

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**1,100**	1,800	1,100	450	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	380	630	380	100	**U**
74-87-3	Chloromethane	910	1,500	910	250	**U**
75-01-4	Vinyl Chloride	390	1,200	390	130	**U**
106-99-0	1,3-Butadiene	850	1,400	850	230	**U**
75-00-3	Chloroethane	720	1,200	720	150	**U**
64-17-5	Ethanol	2,600	16,000	2,600	1,200	**U**
67-64-1	Acetone	6,700	13,000	6,700	3,000	**U**
75-69-4	Trichlorofluoromethane	340	560	340	85	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	1,500	5,000	1,500	530	**U**
75-09-2	Methylene Chloride	**610**	900	540	250	**J**
76-13-1	Trichlorotrifluoroethane	**770**	420	130	59	
75-15-0	Carbon Disulfide	1,000	2,100	1,000	300	**U**
75-34-3	1,1-Dichloroethane	480	800	480	110	**U**
78-93-3	2-Butanone (MEK)	640	2,200	640	220	**U**
141-78-6	Ethyl Acetate	1,100	1,800	1,100	460	**U**
110-54-3	n-Hexane	**180,000**	900	540	180	
67-66-3	Chloroform	210	650	210	86	**U**
109-99-9	Tetrahydrofuran (THF)	340	1,100	340	130	**U**
107-06-2	1,2-Dichloroethane	250	790	250	86	**U**
71-43-2	Benzene	**57,000**	980	310	140	
56-23-5	Carbon Tetrachloride	160	500	160	69	**U**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV03-300-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-007

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00030 Liter(s)
Test Notes: 0.000080 Liter(s)
Container ID: 1SS01027

Initial Pressure (psig): -3.13 Final Pressure (psig): 5.80

Container Dilution Factor: 1.77

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**240,000**		1,900	580	260	
75-27-4	Bromodichloromethane		150	480	150	68	**U**
79-01-6	Trichloroethene		190	590	190	79	**U**
123-91-1	1,4-Dioxane		280	880	280	100	**U**
142-82-5	n-Heptane	**120,000**		2,900	1,700	460	**D**
108-10-1	4-Methyl-2-pentanone		240	760	240	110	**U**
108-88-3	Toluene	**120,000**		3,200	1,000	380	**D**
591-78-6	2-Hexanone		240	780	240	95	**U**
124-48-1	Dibromochloromethane		120	370	120	48	**U**
106-93-4	1,2-Dibromoethane		130	410	130	48	**U**
127-18-4	Tetrachloroethene	**210**		450	150	60	**J**
100-41-4	Ethylbenzene	**22,000**		730	230	100	
179601-23-1	m,p-Xylenes	**59,000**		1,500	460	190	
75-25-2	Bromoform		180	310	180	63	**U**
100-42-5	Styrene		440	730	440	120	**U**
95-47-6	o-Xylene	**19,000**		730	230	100	
108-67-8	1,3,5-Trimethylbenzene	**3,000**		640	200	92	
95-63-6	1,2,4-Trimethylbenzene	**7,200**		650	200	89	
120-82-1	1,2,4-Trichlorobenzene		250	430	250	100	**U**
91-20-3	Naphthalene		350	590	350	150	**U**
1330-20-7	Xylenes, Total	**79,000**		1,500	460	190	

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV04-050-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-008

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/30/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.000050 Liter(s)
Test Notes:
Container ID: 1SS00982

Initial Pressure (psig): -3.90 Final Pressure (psig): 5.42

Container Dilution Factor: 1.86

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	6,900	11,000	6,900	2,800	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	2,400	4,000	2,400	650	**U**
74-87-3	Chloromethane	5,800	9,600	5,800	1,500	**U**
75-01-4	Vinyl Chloride	2,500	7,900	2,500	830	**U**
106-99-0	1,3-Butadiene	5,400	8,900	5,400	1,500	**U**
75-00-3	Chloroethane	4,500	7,600	4,500	930	**U**
64-17-5	Ethanol	16,000	100,000	16,000	7,300	**U**
67-64-1	Acetone	42,000	83,000	42,000	19,000	**U**
75-69-4	Trichlorofluoromethane	2,100	3,500	2,100	540	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	9,500	32,000	9,500	3,300	**U**
75-09-2	Methylene Chloride	**4,500**	5,700	3,400	1,600	**J**
76-13-1	Trichlorotrifluoroethane	**5,400**	2,600	830	370	
75-15-0	Carbon Disulfide	6,500	13,000	6,500	1,900	**U**
75-34-3	1,1-Dichloroethane	3,000	5,100	3,000	720	**U**
78-93-3	2-Butanone (MEK)	4,000	14,000	4,000	1,400	**U**
141-78-6	Ethyl Acetate	6,700	11,000	6,700	2,900	**U**
110-54-3	n-Hexane	3,400	5,700	3,400	1,200	**U**
67-66-3	Chloroform	1,300	4,100	1,300	540	**U**
109-99-9	Tetrahydrofuran (THF)	2,100	6,900	2,100	850	**U**
107-06-2	1,2-Dichloroethane	1,600	5,000	1,600	540	**U**
71-43-2	Benzene	**74,000**	6,200	2,000	900	
56-23-5	Carbon Tetrachloride	1,000	3,100	1,000	440	**U**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV04-050-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-008

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/30/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.000050 Liter(s)
Test Notes:
Container ID: 1SS00982

Initial Pressure (psig): -3.90 Final Pressure (psig): 5.42

Container Dilution Factor: 1.86

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**2,000**	12,000	3,700	1,600	**J**
75-27-4	Bromodichloromethane	940	3,000	940	430	**U**
79-01-6	Trichloroethene	1,200	3,700	1,200	500	**U**
123-91-1	1,4-Dioxane	**6,400**	5,600	1,800	650	
142-82-5	n-Heptane	**900**	4,900	2,900	770	**J**
108-10-1	4-Methyl-2-pentanone	1,500	4,800	1,500	660	**U**
108-88-3	Toluene	1,700	5,300	1,700	640	**U**
591-78-6	2-Hexanone	1,500	4,900	1,500	600	**U**
124-48-1	Dibromochloromethane	740	2,400	740	310	**U**
106-93-4	1,2-Dibromoethane	820	2,600	820	300	**U**
127-18-4	Tetrachloroethene	**1,600**	2,900	930	380	**J**
100-41-4	Ethylbenzene	1,500	4,600	1,500	640	**U**
179601-23-1	m,p-Xylenes	**1,500**	9,400	2,900	1,200	**J**
75-25-2	Bromoform	1,200	1,900	1,200	400	**U**
100-42-5	Styrene	2,800	4,600	2,800	750	**U**
95-47-6	o-Xylene	**700**	4,600	1,500	660	**J**
108-67-8	1,3,5-Trimethylbenzene	1,300	4,000	1,300	580	**U**
95-63-6	1,2,4-Trimethylbenzene	**610**	4,100	1,300	560	**J**
120-82-1	1,2,4-Trichlorobenzene	1,600	2,700	1,600	650	**U**
91-20-3	Naphthalene	2,200	3,700	2,200	920	**U**
1330-20-7	Xylenes, Total	**2,200**	9,400	2,900	1,200	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV04-050-602** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-009

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/30/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.000075 Liter(s)
Test Notes:
Container ID: 1SS00919

Initial Pressure (psig): -4.12 Final Pressure (psig): 5.39

Container Dilution Factor: 1.90

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	4,700	7,800	4,700	1,900	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	1,600	2,700	1,600	450	**U**
74-87-3	Chloromethane	3,900	6,500	3,900	1,100	**U**
75-01-4	Vinyl Chloride	1,700	5,400	1,700	570	**U**
106-99-0	1,3-Butadiene	3,700	6,100	3,700	1,000	**U**
75-00-3	Chloroethane	3,100	5,200	3,100	630	**U**
64-17-5	Ethanol	11,000	70,000	11,000	5,000	**U**
67-64-1	Acetone	29,000	57,000	29,000	13,000	**U**
75-69-4	Trichlorofluoromethane	1,400	2,400	1,400	370	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	6,500	22,000	6,500	2,300	**U**
75-09-2	Methylene Chloride	**2,900**	3,900	2,300	1,100	**J**
76-13-1	Trichlorotrifluoroethane	**3,700**	1,800	560	250	
75-15-0	Carbon Disulfide	4,400	9,000	4,400	1,300	**U**
75-34-3	1,1-Dichloroethane	2,100	3,400	2,100	490	**U**
78-93-3	2-Butanone (MEK)	2,700	9,500	2,700	950	**U**
141-78-6	Ethyl Acetate	4,600	7,700	4,600	2,000	**U**
110-54-3	n-Hexane	2,300	3,900	2,300	790	**U**
67-66-3	Chloroform	880	2,800	880	370	**U**
109-99-9	Tetrahydrofuran (THF)	1,500	4,700	1,500	580	**U**
107-06-2	1,2-Dichloroethane	1,100	3,400	1,100	370	**U**
71-43-2	Benzene	**56,000**	4,200	1,300	610	
56-23-5	Carbon Tetrachloride	680	2,100	680	300	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV04-050-602** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-009

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/30/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.000075 Liter(s)
Test Notes:
Container ID: 1SS00919

Initial Pressure (psig): -4.12 Final Pressure (psig): 5.39

Container Dilution Factor: 1.90

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**1,300**	8,100	2,500	1,100	**J**
75-27-4	Bromodichloromethane	640	2,000	640	290	**U**
79-01-6	Trichloroethene	**360**	2,500	800	340	**J**
123-91-1	1,4-Dioxane	**4,300**	3,800	1,200	440	
142-82-5	n-Heptane	2,000	3,300	2,000	530	**U**
108-10-1	4-Methyl-2-pentanone	1,100	3,300	1,100	450	**U**
108-88-3	Toluene	1,100	3,600	1,100	440	**U**
591-78-6	2-Hexanone	1,100	3,300	1,100	410	**U**
124-48-1	Dibromochloromethane	510	1,600	510	210	**U**
106-93-4	1,2-Dibromoethane	560	1,800	560	200	**U**
127-18-4	Tetrachloroethene	**1,100**	1,900	640	260	**J**
100-41-4	Ethylbenzene	990	3,200	990	440	**U**
179601-23-1	m,p-Xylenes	**830**	6,400	2,000	820	**J**
75-25-2	Bromoform	780	1,300	780	270	**U**
100-42-5	Styrene	1,900	3,200	1,900	510	**U**
95-47-6	o-Xylene	990	3,200	990	450	**U**
108-67-8	1,3,5-Trimethylbenzene	880	2,700	880	400	**U**
95-63-6	1,2,4-Trimethylbenzene	880	2,800	880	380	**U**
120-82-1	1,2,4-Trichlorobenzene	1,100	1,800	1,100	440	**U**
91-20-3	Naphthalene	1,500	2,500	1,500	630	**U**
1330-20-7	Xylenes, Total	**830**	6,400	2,000	820	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV04-100-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-010

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/30/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00010 Liter(s)
Test Notes: 0.000050 Liter(s)
Container ID: 1SC00684

Initial Pressure (psig): -2.84 Final Pressure (psig): 6.15

Container Dilution Factor: 1.76

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**3,500**	5,400	3,300	1,300	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	1,100	1,900	1,100	310	**U**
74-87-3	Chloromethane	2,700	4,500	2,700	730	**U**
75-01-4	Vinyl Chloride	1,200	3,700	1,200	390	**U**
106-99-0	1,3-Butadiene	2,500	4,200	2,500	700	**U**
75-00-3	Chloroethane	2,100	3,600	2,100	440	**U**
64-17-5	Ethanol	7,800	49,000	7,800	3,500	**U**
67-64-1	Acetone	20,000	39,000	20,000	8,900	**U**
75-69-4	Trichlorofluoromethane	1,000	1,700	1,000	250	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	4,500	15,000	4,500	1,600	**U**
75-09-2	Methylene Chloride	**1,400**	2,700	1,600	760	**J**
76-13-1	Trichlorotrifluoroethane	**1,700**	1,200	390	170	
75-15-0	Carbon Disulfide	3,100	6,200	3,100	900	**U**
75-34-3	1,1-Dichloroethane	1,400	2,400	1,400	340	**U**
78-93-3	2-Butanone (MEK)	1,900	6,600	1,900	660	**U**
141-78-6	Ethyl Acetate	3,200	5,400	3,200	1,400	**U**
110-54-3	n-Hexane	**430,000**	5,400	3,200	1,100	**D**
67-66-3	Chloroform	610	1,900	610	260	**U**
109-99-9	Tetrahydrofuran (THF)	1,000	3,300	1,000	400	**U**
107-06-2	1,2-Dichloroethane	740	2,300	740	260	**U**
71-43-2	Benzene	**260,000**	2,900	940	420	
56-23-5	Carbon Tetrachloride	480	1,500	480	210	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV04-100-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-010

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/30/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00010 Liter(s)
Test Notes: 0.000050 Liter(s)
Container ID: 1SC00684

Initial Pressure (psig): -2.84 Final Pressure (psig): 6.15

Container Dilution Factor: 1.76

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**620,000**		5,600	1,700	770	
75-27-4	Bromodichloromethane		450	1,400	450	200	**U**
79-01-6	Trichloroethene		560	1,800	560	240	**U**
123-91-1	1,4-Dioxane		830	2,600	830	310	**U**
142-82-5	n-Heptane	**380,000**		4,600	2,700	730	**D**
108-10-1	4-Methyl-2-pentanone		730	2,300	730	310	**U**
108-88-3	Toluene	**430,000**		5,000	1,600	610	**D**
591-78-6	2-Hexanone		730	2,300	730	280	**U**
124-48-1	Dibromochloromethane		350	1,100	350	140	**U**
106-93-4	1,2-Dibromoethane		390	1,200	390	140	**U**
127-18-4	Tetrachloroethene	**520**		1,400	440	180	**J**
100-41-4	Ethylbenzene	**34,000**		2,200	690	300	
179601-23-1	m,p-Xylenes	**90,000**		4,500	1,400	570	
75-25-2	Bromoform		540	920	540	190	**U**
100-42-5	Styrene		1,300	2,200	1,300	360	**U**
95-47-6	o-Xylene	**24,000**		2,200	690	310	
108-67-8	1,3,5-Trimethylbenzene	**1,600**		1,900	610	280	**J**
95-63-6	1,2,4-Trimethylbenzene	**2,600**		1,900	610	270	
120-82-1	1,2,4-Trichlorobenzene		760	1,300	760	310	**U**
91-20-3	Naphthalene		1,000	1,700	1,000	440	**U**
1330-20-7	Xylenes, Total	**110,000**		4,500	1,400	570	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV04-250-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-011

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/30/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.000075 Liter(s)
Test Notes:
Container ID: 1SS00713

Initial Pressure (psig): -3.66 Final Pressure (psig): 6.23

Container Dilution Factor: 1.90

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**3,200**	7,800	4,700	1,900	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	1,600	2,700	1,600	450	**U**
74-87-3	Chloromethane	3,900	6,500	3,900	1,100	**U**
75-01-4	Vinyl Chloride	1,700	5,400	1,700	570	**U**
106-99-0	1,3-Butadiene	3,700	6,100	3,700	1,000	**U**
75-00-3	Chloroethane	3,100	5,200	3,100	630	**U**
64-17-5	Ethanol	11,000	70,000	11,000	5,000	**U**
67-64-1	Acetone	29,000	57,000	29,000	13,000	**U**
75-69-4	Trichlorofluoromethane	1,400	2,400	1,400	370	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	6,500	22,000	6,500	2,300	**U**
75-09-2	Methylene Chloride	**2,000**	3,900	2,300	1,100	**J**
76-13-1	Trichlorotrifluoroethane	**2,600**	1,800	560	250	
75-15-0	Carbon Disulfide	4,400	9,000	4,400	1,300	**U**
75-34-3	1,1-Dichloroethane	2,100	3,400	2,100	490	**U**
78-93-3	2-Butanone (MEK)	2,700	9,500	2,700	950	**U**
141-78-6	Ethyl Acetate	4,600	7,700	4,600	2,000	**U**
110-54-3	n-Hexane	**470,000**	3,900	2,300	790	
67-66-3	Chloroform	880	2,800	880	370	**U**
109-99-9	Tetrahydrofuran (THF)	1,500	4,700	1,500	580	**U**
107-06-2	1,2-Dichloroethane	1,100	3,400	1,100	370	**U**
71-43-2	Benzene	**110,000**	4,200	1,300	610	
56-23-5	Carbon Tetrachloride	680	2,100	680	300	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV04-250-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-011

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/30/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.000075 Liter(s)
Test Notes:
Container ID: 1SS00713

Initial Pressure (psig): -3.66 Final Pressure (psig): 6.23

Container Dilution Factor: 1.90

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**330,000**		8,100	2,500	1,100	
75-27-4	Bromodichloromethane		640	2,000	640	290	**U**
79-01-6	Trichloroethene		800	2,500	800	340	**U**
123-91-1	1,4-Dioxane		1,200	3,800	1,200	440	**U**
142-82-5	n-Heptane	**340,000**		3,300	2,000	530	
108-10-1	4-Methyl-2-pentanone		1,100	3,300	1,100	450	**U**
108-88-3	Toluene	**69,000**		3,600	1,100	440	
591-78-6	2-Hexanone		1,100	3,300	1,100	410	**U**
124-48-1	Dibromochloromethane		510	1,600	510	210	**U**
106-93-4	1,2-Dibromoethane		560	1,800	560	200	**U**
127-18-4	Tetrachloroethene	**750**		1,900	640	260	**J**
100-41-4	Ethylbenzene	**2,500**		3,200	990	440	**J**
179601-23-1	m,p-Xylenes	**11,000**		6,400	2,000	820	
75-25-2	Bromoform		780	1,300	780	270	**U**
100-42-5	Styrene		1,900	3,200	1,900	510	**U**
95-47-6	o-Xylene	**3,600**		3,200	990	450	
108-67-8	1,3,5-Trimethylbenzene		880	2,700	880	400	**U**
95-63-6	1,2,4-Trimethylbenzene	**410**		2,800	880	380	**J**
120-82-1	1,2,4-Trichlorobenzene		1,100	1,800	1,100	440	**U**
91-20-3	Naphthalene		1,500	2,500	1,500	630	**U**
1330-20-7	Xylenes, Total	**15,000**		6,400	2,000	820	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV04-300-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-012

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/30/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0010 Liter(s)
Test Notes:
Container ID: 1SC01186

Initial Pressure (psig): -3.21 Final Pressure (psig): 5.83

Container Dilution Factor: 1.79

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**480**	550	330	140	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	120	190	120	32	**U**
74-87-3	Chloromethane	280	460	280	75	**U**
75-01-4	Vinyl Chloride	120	380	120	40	**U**
106-99-0	1,3-Butadiene	260	430	260	71	**U**
75-00-3	Chloroethane	220	370	220	45	**U**
64-17-5	Ethanol	790	4,900	790	350	**U**
67-64-1	Acetone	2,000	4,000	2,000	900	**U**
75-69-4	Trichlorofluoromethane	100	170	100	26	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	460	1,500	460	160	**U**
75-09-2	Methylene Chloride	**200**	270	160	77	**J**
76-13-1	Trichlorotrifluoroethane	**260**	130	40	18	
75-15-0	Carbon Disulfide	310	630	310	92	**U**
75-34-3	1,1-Dichloroethane	150	240	150	35	**U**
78-93-3	2-Butanone (MEK)	190	670	190	67	**U**
141-78-6	Ethyl Acetate	320	550	320	140	**U**
110-54-3	n-Hexane	**48,000**	270	160	56	
67-66-3	Chloroform	62	200	62	26	**U**
109-99-9	Tetrahydrofuran (THF)	100	330	100	41	**U**
107-06-2	1,2-Dichloroethane	75	240	75	26	**U**
71-43-2	Benzene	**31,000**	300	95	43	
56-23-5	Carbon Tetrachloride	48	150	48	21	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV04-300-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-012

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/30/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0010 Liter(s)
Test Notes:
Container ID: 1SC01186

Initial Pressure (psig): -3.21 Final Pressure (psig): 5.83

Container Dilution Factor: 1.79

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**57,000**	570	180	78	
75-27-4	Bromodichloromethane	45	140	45	21	**U**
79-01-6	Trichloroethene	57	180	57	24	**U**
123-91-1	1,4-Dioxane	84	270	84	31	**U**
142-82-5	n-Heptane	**41,000**	240	140	37	
108-10-1	4-Methyl-2-pentanone	74	230	74	32	**U**
108-88-3	Toluene	**1,500**	260	81	31	
591-78-6	2-Hexanone	74	240	74	29	**U**
124-48-1	Dibromochloromethane	36	110	36	15	**U**
106-93-4	1,2-Dibromoethane	40	130	40	14	**U**
127-18-4	Tetrachloroethene	**77**	140	45	18	**J**
100-41-4	Ethylbenzene	**68**	220	70	31	**J**
179601-23-1	m,p-Xylenes	**1,300**	450	140	58	
75-25-2	Bromoform	55	94	55	19	**U**
100-42-5	Styrene	130	220	130	36	**U**
95-47-6	o-Xylene	**410**	220	70	32	
108-67-8	1,3,5-Trimethylbenzene	**200**	190	62	28	
95-63-6	1,2,4-Trimethylbenzene	**210**	200	62	27	
120-82-1	1,2,4-Trichlorobenzene	77	130	77	31	**U**
91-20-3	Naphthalene	110	180	110	44	**U**
1330-20-7	Xylenes, Total	**1,700**	450	140	58	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV08-050-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-013

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/30/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00040 Liter(s)
Test Notes: 0.00010 Liter(s)
Container ID: 1SC00507

Initial Pressure (psig): -3.86 Final Pressure (psig): 5.81

Container Dilution Factor: 1.89

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**1,100**	1,500	880	360	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	310	510	310	83	**U**
74-87-3	Chloromethane	730	1,200	730	200	**U**
75-01-4	Vinyl Chloride	310	1,000	310	110	**U**
106-99-0	1,3-Butadiene	680	1,100	680	190	**U**
75-00-3	Chloroethane	570	970	570	120	**U**
64-17-5	Ethanol	2,100	13,000	2,100	930	**U**
67-64-1	Acetone	5,400	11,000	5,400	2,400	**U**
75-69-4	Trichlorofluoromethane	270	450	270	68	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	1,200	4,000	1,200	420	**U**
75-09-2	Methylene Chloride	**530**	720	440	200	**J**
76-13-1	Trichlorotrifluoroethane	**680**	330	100	47	
75-15-0	Carbon Disulfide	820	1,700	820	240	**U**
75-34-3	1,1-Dichloroethane	390	640	390	91	**U**
78-93-3	2-Butanone (MEK)	510	1,800	510	180	**U**
141-78-6	Ethyl Acetate	850	1,400	850	370	**U**
110-54-3	n-Hexane	**130,000**	720	430	150	
67-66-3	Chloroform	160	520	160	69	**U**
109-99-9	Tetrahydrofuran (THF)	270	880	270	110	**U**
107-06-2	1,2-Dichloroethane	200	630	200	69	**U**
71-43-2	Benzene	**91,000**	780	250	110	
56-23-5	Carbon Tetrachloride	130	400	130	56	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV08-050-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-013

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/30/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00040 Liter(s)
Test Notes: 0.00010 Liter(s)
Container ID: 1SC00507

Initial Pressure (psig): -3.86 Final Pressure (psig): 5.81

Container Dilution Factor: 1.89

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**170,000**		1,500	470	210	
75-27-4	Bromodichloromethane		120	380	120	54	**U**
79-01-6	Trichloroethene		150	470	150	63	**U**
123-91-1	1,4-Dioxane		220	710	220	83	**U**
142-82-5	n-Heptane	**210,000**		2,500	1,500	390	**D**
108-10-1	4-Methyl-2-pentanone		200	610	200	84	**U**
108-88-3	Toluene	**88,000**		680	210	82	
591-78-6	2-Hexanone		200	620	200	76	**U**
124-48-1	Dibromochloromethane		94	300	94	39	**U**
106-93-4	1,2-Dibromoethane		100	330	100	38	**U**
127-18-4	Tetrachloroethene	**190**		360	120	48	**J**
100-41-4	Ethylbenzene	**1,300**		590	190	82	
179601-23-1	m,p-Xylenes	**18,000**		1,200	370	150	
75-25-2	Bromoform		150	250	150	50	**U**
100-42-5	Styrene		360	590	360	95	**U**
95-47-6	o-Xylene	**6,400**		590	190	84	
108-67-8	1,3,5-Trimethylbenzene	**450**		510	160	74	**J**
95-63-6	1,2,4-Trimethylbenzene	**400**		520	160	71	**J**
120-82-1	1,2,4-Trichlorobenzene		200	340	200	83	**U**
91-20-3	Naphthalene		280	470	280	120	**U**
1330-20-7	Xylenes, Total	**24,000**		1,200	370	150	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV08-100-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-014

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/30/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0015 Liter(s)
Test Notes:
Container ID: 1SS00041

Initial Pressure (psig): -3.25 Final Pressure (psig): 5.92

Container Dilution Factor: 1.80

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**92**	370	220	91	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	78	130	78	21	**U**
74-87-3	Chloromethane	190	310	190	50	**U**
75-01-4	Vinyl Chloride	80	250	80	27	**U**
106-99-0	1,3-Butadiene	170	290	170	48	**U**
75-00-3	Chloroethane	150	250	150	30	**U**
64-17-5	Ethanol	530	3,300	530	240	**U**
67-64-1	Acetone	1,400	2,700	1,400	610	**U**
75-69-4	Trichlorofluoromethane	68	110	68	17	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	310	1,000	310	110	**U**
75-09-2	Methylene Chloride	**120**	180	110	52	**J**
76-13-1	Trichlorotrifluoroethane	**150**	85	27	12	
75-15-0	Carbon Disulfide	210	420	210	62	**U**
75-34-3	1,1-Dichloroethane	98	160	98	23	**U**
78-93-3	2-Butanone (MEK)	130	450	130	45	**U**
141-78-6	Ethyl Acetate	220	370	220	93	**U**
110-54-3	n-Hexane	110	180	110	37	**U**
67-66-3	Chloroform	42	130	42	17	**U**
109-99-9	Tetrahydrofuran (THF)	69	220	69	27	**U**
107-06-2	1,2-Dichloroethane	50	160	50	17	**U**
71-43-2	Benzene	64	200	64	29	**U**
56-23-5	Carbon Tetrachloride	32	100	32	14	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV08-100-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-014

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/30/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0015 Liter(s)
Test Notes:
Container ID: 1SS00041

Initial Pressure (psig): -3.25 Final Pressure (psig): 5.92

Container Dilution Factor: 1.80

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	120	380	120	52	**U**
75-27-4	Bromodichloromethane	30	97	30	14	**U**
79-01-6	Trichloroethene	38	120	38	16	**U**
123-91-1	1,4-Dioxane	**160**	180	57	21	**J**
142-82-5	n-Heptane	**37**	160	94	25	**J**
108-10-1	4-Methyl-2-pentanone	50	160	50	21	**U**
108-88-3	Toluene	54	170	54	21	**U**
591-78-6	2-Hexanone	50	160	50	19	**U**
124-48-1	Dibromochloromethane	24	76	24	9.9	**U**
106-93-4	1,2-Dibromoethane	27	84	27	9.7	**U**
127-18-4	Tetrachloroethene	**46**	92	30	12	**J**
100-41-4	Ethylbenzene	47	150	47	21	**U**
179601-23-1	m,p-Xylenes	94	300	94	39	**U**
75-25-2	Bromoform	37	63	37	13	**U**
100-42-5	Styrene	90	150	90	24	**U**
95-47-6	o-Xylene	47	150	47	21	**U**
108-67-8	1,3,5-Trimethylbenzene	42	130	42	19	**U**
95-63-6	1,2,4-Trimethylbenzene	42	130	42	18	**U**
120-82-1	1,2,4-Trichlorobenzene	52	87	52	21	**U**
91-20-3	Naphthalene	71	120	71	30	**U**
1330-20-7	Xylenes, Total	94	300	94	39	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV08-250-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-015

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/30/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00012 Liter(s)
Test Notes:
Container ID: 1SC00746

Initial Pressure (psig): -3.45 Final Pressure (psig): 6.54

Container Dilution Factor: 1.89

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**3,800**		4,900	2,900	1,200	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)		1,000	1,700	1,000	280	**U**
74-87-3	Chloromethane		2,400	4,000	2,400	660	**U**
75-01-4	Vinyl Chloride		1,000	3,300	1,000	350	**U**
106-99-0	1,3-Butadiene		2,300	3,800	2,300	630	**U**
75-00-3	Chloroethane		1,900	3,200	1,900	390	**U**
64-17-5	Ethanol		6,900	43,000	6,900	3,100	**U**
67-64-1	Acetone		18,000	35,000	18,000	8,000	**U**
75-69-4	Trichlorofluoromethane		900	1,500	900	230	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)		4,000	13,000	4,000	1,400	**U**
75-09-2	Methylene Chloride	**1,200**		2,400	1,500	680	**J**
76-13-1	Trichlorotrifluoroethane	**1,600**		1,100	350	160	
75-15-0	Carbon Disulfide		2,700	5,600	2,700	810	**U**
75-34-3	1,1-Dichloroethane		1,300	2,100	1,300	300	**U**
78-93-3	2-Butanone (MEK)		1,700	5,900	1,700	590	**U**
141-78-6	Ethyl Acetate		2,800	4,800	2,800	1,200	**U**
110-54-3	n-Hexane	**380,000**		2,400	1,400	490	
67-66-3	Chloroform		550	1,700	550	230	**U**
109-99-9	Tetrahydrofuran (THF)		910	2,900	910	360	**U**
107-06-2	1,2-Dichloroethane		660	2,100	660	230	**U**
71-43-2	Benzene	**210,000**		2,600	840	380	
56-23-5	Carbon Tetrachloride		430	1,300	430	190	**U**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV08-250-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-015

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/30/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00012 Liter(s)
Test Notes:
Container ID: 1SC00746

Initial Pressure (psig): -3.45 Final Pressure (psig): 6.54

Container Dilution Factor: 1.89

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**550,000**		5,000	1,600	690	
75-27-4	Bromodichloromethane		400	1,300	400	180	**U**
79-01-6	Trichloroethene		500	1,600	500	210	**U**
123-91-1	1,4-Dioxane		740	2,400	740	280	**U**
142-82-5	n-Heptane	**210,000**		2,100	1,200	330	
108-10-1	4-Methyl-2-pentanone		650	2,000	650	280	**U**
108-88-3	Toluene	**400,000**		2,300	710	270	
591-78-6	2-Hexanone		650	2,100	650	250	**U**
124-48-1	Dibromochloromethane		310	1,000	310	130	**U**
106-93-4	1,2-Dibromoethane		350	1,100	350	130	**U**
127-18-4	Tetrachloroethene	**480**		1,200	400	160	**J**
100-41-4	Ethylbenzene	**16,000**		2,000	620	270	
179601-23-1	m,p-Xylenes	**54,000**		4,000	1,200	510	
75-25-2	Bromoform		490	820	490	170	**U**
100-42-5	Styrene		1,200	2,000	1,200	320	**U**
95-47-6	o-Xylene	**16,000**		2,000	620	280	
108-67-8	1,3,5-Trimethylbenzene	**2,200**		1,700	540	250	
95-63-6	1,2,4-Trimethylbenzene	**4,900**		1,700	540	240	
120-82-1	1,2,4-Trichlorobenzene		680	1,100	680	280	**U**
91-20-3	Naphthalene		930	1,600	930	390	**U**
1330-20-7	Xylenes, Total	**70,000**		4,000	1,200	510	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV09-050-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-016

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/30/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00025 Liter(s)
Test Notes:
Container ID: 1SC01028

Initial Pressure (psig): -3.42 Final Pressure (psig): 7.43

Container Dilution Factor: 1.96

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	1,500	2,400	1,500	590	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	510	840	510	140	**U**
74-87-3	Chloromethane	1,200	2,000	1,200	330	**U**
75-01-4	Vinyl Chloride	520	1,700	520	170	**U**
106-99-0	1,3-Butadiene	1,100	1,900	1,100	310	**U**
75-00-3	Chloroethane	950	1,600	950	200	**U**
64-17-5	Ethanol	3,500	22,000	3,500	1,500	**U**
67-64-1	Acetone	8,900	17,000	8,900	4,000	**U**
75-69-4	Trichlorofluoromethane	450	740	450	110	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	2,000	6,700	2,000	700	**U**
75-09-2	Methylene Chloride	**650**	1,200	720	340	**J**
76-13-1	Trichlorotrifluoroethane	**800**	550	170	78	
75-15-0	Carbon Disulfide	1,400	2,800	1,400	400	**U**
75-34-3	1,1-Dichloroethane	640	1,100	640	150	**U**
78-93-3	2-Butanone (MEK)	850	2,900	850	290	**U**
141-78-6	Ethyl Acetate	1,400	2,400	1,400	610	**U**
110-54-3	n-Hexane	710	1,200	710	240	**U**
67-66-3	Chloroform	270	870	270	110	**U**
109-99-9	Tetrahydrofuran (THF)	450	1,500	450	180	**U**
107-06-2	1,2-Dichloroethane	330	1,000	330	110	**U**
71-43-2	Benzene	420	1,300	420	190	**U**
56-23-5	Carbon Tetrachloride	210	660	210	92	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV09-050-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-016

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/30/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00025 Liter(s)
Test Notes:
Container ID: 1SC01028

Initial Pressure (psig): -3.42 Final Pressure (psig): 7.43

Container Dilution Factor: 1.96

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**400**	2,500	770	340	**J**
75-27-4	Bromodichloromethane	200	630	200	90	**U**
79-01-6	Trichloroethene	250	790	250	110	**U**
123-91-1	1,4-Dioxane	**890**	1,200	370	140	**J**
142-82-5	n-Heptane	610	1,000	610	160	**U**
108-10-1	4-Methyl-2-pentanone	330	1,000	330	140	**U**
108-88-3	Toluene	**440**	1,100	350	140	**J**
591-78-6	2-Hexanone	330	1,000	330	130	**U**
124-48-1	Dibromochloromethane	160	500	160	64	**U**
106-93-4	1,2-Dibromoethane	170	550	170	63	**U**
127-18-4	Tetrachloroethene	**250**	600	200	80	**J**
100-41-4	Ethylbenzene	310	980	310	140	**U**
179601-23-1	m,p-Xylenes	610	2,000	610	250	**U**
75-25-2	Bromoform	240	410	240	83	**U**
100-42-5	Styrene	590	980	590	160	**U**
95-47-6	o-Xylene	310	980	310	140	**U**
108-67-8	1,3,5-Trimethylbenzene	270	850	270	120	**U**
95-63-6	1,2,4-Trimethylbenzene	270	860	270	120	**U**
120-82-1	1,2,4-Trichlorobenzene	340	570	340	140	**U**
91-20-3	Naphthalene	460	780	460	190	**U**
1330-20-7	Xylenes, Total	610	2,000	610	250	**U**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV09-100-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-017

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/30/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00010 Liter(s)
Test Notes:
Container ID: 1SC00732

Initial Pressure (psig): -3.12 Final Pressure (psig): 5.35

Container Dilution Factor: 1.73

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**3,800**	5,300	3,200	1,300	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	1,100	1,900	1,100	300	**U**
74-87-3	Chloromethane	2,700	4,400	2,700	720	**U**
75-01-4	Vinyl Chloride	1,200	3,700	1,200	390	**U**
106-99-0	1,3-Butadiene	2,500	4,100	2,500	690	**U**
75-00-3	Chloroethane	2,100	3,500	2,100	430	**U**
64-17-5	Ethanol	7,600	48,000	7,600	3,400	**U**
67-64-1	Acetone	20,000	39,000	20,000	8,700	**U**
75-69-4	Trichlorofluoromethane	990	1,600	990	250	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	4,400	15,000	4,400	1,500	**U**
75-09-2	Methylene Chloride	**1,300**	2,600	1,600	750	**J**
76-13-1	Trichlorotrifluoroethane	**1,800**	1,200	380	170	
75-15-0	Carbon Disulfide	3,000	6,100	3,000	890	**U**
75-34-3	1,1-Dichloroethane	1,400	2,400	1,400	330	**U**
78-93-3	2-Butanone (MEK)	1,900	6,500	1,900	650	**U**
141-78-6	Ethyl Acetate	3,100	5,300	3,100	1,300	**U**
110-54-3	n-Hexane	**500,000**	2,700	1,600	540	
67-66-3	Chloroform	600	1,900	600	250	**U**
109-99-9	Tetrahydrofuran (THF)	1,000	3,200	1,000	390	**U**
107-06-2	1,2-Dichloroethane	730	2,300	730	250	**U**
71-43-2	Benzene	**270,000**	2,900	920	420	
56-23-5	Carbon Tetrachloride	470	1,500	470	200	**U**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV09-100-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-017

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/30/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00010 Liter(s)
Test Notes:
Container ID: 1SC00732

Initial Pressure (psig): -3.12 Final Pressure (psig): 5.35

Container Dilution Factor: 1.73

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**480,000**		5,500	1,700	750	
75-27-4	Bromodichloromethane		440	1,400	440	200	**U**
79-01-6	Trichloroethene		550	1,700	550	230	**U**
123-91-1	1,4-Dioxane		820	2,600	820	300	**U**
142-82-5	n-Heptane	**450,000**		2,300	1,400	360	
108-10-1	4-Methyl-2-pentanone		720	2,200	720	310	**U**
108-88-3	Toluene	**490,000**		2,500	780	300	
591-78-6	2-Hexanone		720	2,300	720	280	**U**
124-48-1	Dibromochloromethane		350	1,100	350	140	**U**
106-93-4	1,2-Dibromoethane		380	1,200	380	140	**U**
127-18-4	Tetrachloroethene	**510**		1,300	430	180	**J**
100-41-4	Ethylbenzene	**25,000**		2,200	680	300	
179601-23-1	m,p-Xylenes	**75,000**		4,400	1,400	560	
75-25-2	Bromoform		540	900	540	180	**U**
100-42-5	Styrene		1,300	2,200	1,300	350	**U**
95-47-6	o-Xylene	**24,000**		2,200	680	310	
108-67-8	1,3,5-Trimethylbenzene	**2,400**		1,900	600	270	
95-63-6	1,2,4-Trimethylbenzene	**4,000**		1,900	600	260	
120-82-1	1,2,4-Trichlorobenzene		750	1,300	750	300	**U**
91-20-3	Naphthalene		1,000	1,700	1,000	430	**U**
1330-20-7	Xylenes, Total	**99,000**		4,400	1,400	560	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV09-250-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-018

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/30/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00015 Liter(s)
Test Notes:
Container ID: 1SC00646

Initial Pressure (psig): -2.93 Final Pressure (psig): 6.09

Container Dilution Factor: 1.77

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**1,300**	3,600	2,200	890	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	760	1,300	760	210	**U**
74-87-3	Chloromethane	1,800	3,000	1,800	490	**U**
75-01-4	Vinyl Chloride	790	2,500	790	260	**U**
106-99-0	1,3-Butadiene	1,700	2,800	1,700	470	**U**
75-00-3	Chloroethane	1,400	2,400	1,400	300	**U**
64-17-5	Ethanol	5,200	33,000	5,200	2,300	**U**
67-64-1	Acetone	13,000	26,000	13,000	6,000	**U**
75-69-4	Trichlorofluoromethane	670	1,100	670	170	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	3,000	10,000	3,000	1,100	**U**
75-09-2	Methylene Chloride	**970**	1,800	1,100	510	**J**
76-13-1	Trichlorotrifluoroethane	**1,200**	830	260	120	
75-15-0	Carbon Disulfide	2,000	4,200	2,000	610	**U**
75-34-3	1,1-Dichloroethane	960	1,600	960	230	**U**
78-93-3	2-Butanone (MEK)	1,300	4,400	1,300	440	**U**
141-78-6	Ethyl Acetate	2,100	3,600	2,100	920	**U**
110-54-3	n-Hexane	**83,000**	1,800	1,100	370	
67-66-3	Chloroform	410	1,300	410	170	**U**
109-99-9	Tetrahydrofuran (THF)	680	2,200	680	270	**U**
107-06-2	1,2-Dichloroethane	500	1,600	500	170	**U**
71-43-2	Benzene	**40,000**	2,000	630	280	
56-23-5	Carbon Tetrachloride	320	990	320	140	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV09-250-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-018

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/30/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00015 Liter(s)
Test Notes:
Container ID: 1SC00646

Initial Pressure (psig): -2.93 Final Pressure (psig): 6.09

Container Dilution Factor: 1.77

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**110,000**		3,800	1,200	510	
75-27-4	Bromodichloromethane		300	950	300	140	**U**
79-01-6	Trichloroethene		370	1,200	370	160	**U**
123-91-1	1,4-Dioxane		560	1,800	560	210	**U**
142-82-5	n-Heptane	**220,000**		1,600	920	240	
108-10-1	4-Methyl-2-pentanone		490	1,500	490	210	**U**
108-88-3	Toluene	**230,000**		1,700	530	200	
591-78-6	2-Hexanone		490	1,600	490	190	**U**
124-48-1	Dibromochloromethane		240	750	240	97	**U**
106-93-4	1,2-Dibromoethane		260	830	260	95	**U**
127-18-4	Tetrachloroethene	**340**		910	300	120	**J**
100-41-4	Ethylbenzene	**8,300**		1,500	460	200	
179601-23-1	m,p-Xylenes	**42,000**		3,000	920	380	
75-25-2	Bromoform		370	620	370	130	**U**
100-42-5	Styrene		890	1,500	890	240	**U**
95-47-6	o-Xylene	**11,000**		1,500	460	210	
108-67-8	1,3,5-Trimethylbenzene	**770**		1,300	410	180	**J**
95-63-6	1,2,4-Trimethylbenzene	**930**		1,300	410	180	**J**
120-82-1	1,2,4-Trichlorobenzene		510	860	510	210	**U**
91-20-3	Naphthalene		700	1,200	700	290	**U**
1330-20-7	Xylenes, Total	**53,000**		3,000	920	380	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV09-266-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-019

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/30/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00015 Liter(s)
Test Notes: 0.000025 Liter(s)
Container ID: 1SC01253

Initial Pressure (psig): -3.89 Final Pressure (psig): 5.91

Container Dilution Factor: 1.91

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**5,000**	3,900	2,400	960	
75-71-8	Dichlorodifluoromethane (CFC 12)	820	1,400	820	220	**U**
74-87-3	Chloromethane	2,000	3,300	2,000	530	**U**
75-01-4	Vinyl Chloride	850	2,700	850	280	**U**
106-99-0	1,3-Butadiene	1,800	3,100	1,800	510	**U**
75-00-3	Chloroethane	1,500	2,600	1,500	320	**U**
64-17-5	Ethanol	5,600	35,000	5,600	2,500	**U**
67-64-1	Acetone	14,000	28,000	14,000	6,400	**U**
75-69-4	Trichlorofluoromethane	730	1,200	730	180	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	3,300	11,000	3,300	1,100	**U**
75-09-2	Methylene Chloride	**1,000**	1,900	1,200	550	**J**
76-13-1	Trichlorotrifluoroethane	**1,300**	900	280	130	
75-15-0	Carbon Disulfide	2,200	4,500	2,200	650	**U**
75-34-3	1,1-Dichloroethane	1,000	1,700	1,000	250	**U**
78-93-3	2-Butanone (MEK)	1,400	4,800	1,400	480	**U**
141-78-6	Ethyl Acetate	2,300	3,900	2,300	990	**U**
110-54-3	n-Hexane	**600,000**	12,000	6,900	2,400	**D**
67-66-3	Chloroform	440	1,400	440	190	**U**
109-99-9	Tetrahydrofuran (THF)	730	2,400	730	290	**U**
107-06-2	1,2-Dichloroethane	540	1,700	540	190	**U**
71-43-2	Benzene	**230,000**	2,100	680	310	
56-23-5	Carbon Tetrachloride	340	1,100	340	150	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV09-266-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-019

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/30/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00015 Liter(s)
Test Notes: 0.000025 Liter(s)
Container ID: 1SC01253

Initial Pressure (psig): -3.89 Final Pressure (psig): 5.91

Container Dilution Factor: 1.91

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**510,000**		4,100	1,300	560	
75-27-4	Bromodichloromethane		320	1,000	320	150	**U**
79-01-6	Trichloroethene		400	1,300	400	170	**U**
123-91-1	1,4-Dioxane		600	1,900	600	220	**U**
142-82-5	n-Heptane	**410,000**		10,000	6,000	1,600	**D**
108-10-1	4-Methyl-2-pentanone		530	1,600	530	230	**U**
108-88-3	Toluene	**410,000**		11,000	3,400	1,300	**D**
591-78-6	2-Hexanone		530	1,700	530	210	**U**
124-48-1	Dibromochloromethane		250	810	250	100	**U**
106-93-4	1,2-Dibromoethane		280	900	280	100	**U**
127-18-4	Tetrachloroethene	**370**		980	320	130	**J**
100-41-4	Ethylbenzene	**34,000**		1,600	500	220	
179601-23-1	m,p-Xylenes	**78,000**		3,200	1,000	410	
75-25-2	Bromoform		390	670	390	140	**U**
100-42-5	Styrene		960	1,600	960	260	**U**
95-47-6	o-Xylene	**23,000**		1,600	500	230	
108-67-8	1,3,5-Trimethylbenzene	**2,500**		1,400	440	200	
95-63-6	1,2,4-Trimethylbenzene	**5,200**		1,400	440	190	
120-82-1	1,2,4-Trichlorobenzene		550	930	550	220	**U**
91-20-3	Naphthalene		750	1,300	750	320	**U**
1330-20-7	Xylenes, Total	**100,000**		3,200	1,000	410	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVTB-202-01** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-020

Test Code: EPA TO-15 Date Collected: 4/9/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/30/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01145

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.47	0.77	0.47	0.19	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.16	0.27	0.16	0.044	**U**
74-87-3	Chloromethane	0.39	0.64	0.39	0.10	**U**
75-01-4	Vinyl Chloride	0.17	0.53	0.17	0.056	**U**
106-99-0	1,3-Butadiene	0.36	0.60	0.36	0.099	**U**
75-00-3	Chloroethane	0.30	0.51	0.30	0.063	**U**
64-17-5	Ethanol	1.1	6.9	1.1	0.49	**U**
67-64-1	Acetone	2.8	5.6	2.8	1.3	**U**
75-69-4	Trichlorofluoromethane	0.14	0.24	0.14	0.036	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.64	2.1	0.64	0.22	**U**
75-09-2	Methylene Chloride	0.23	0.38	0.23	0.11	**U**
76-13-1	Trichlorotrifluoroethane	0.055	0.18	0.055	0.025	**U**
75-15-0	Carbon Disulfide	0.43	0.88	0.43	0.13	**U**
75-34-3	1,1-Dichloroethane	0.20	0.34	0.20	0.048	**U**
78-93-3	2-Butanone (MEK)	0.27	0.93	0.27	0.093	**U**
141-78-6	Ethyl Acetate	0.45	0.76	0.45	0.19	**U**
110-54-3	n-Hexane	0.23	0.38	0.23	0.078	**U**
67-66-3	Chloroform	0.087	0.28	0.087	0.036	**U**
109-99-9	Tetrahydrofuran (THF)	0.14	0.47	0.14	0.057	**U**
107-06-2	1,2-Dichloroethane	0.11	0.33	0.11	0.036	**U**
71-43-2	Benzene	**0.081**	0.41	0.13	0.060	**J**
56-23-5	Carbon Tetrachloride	0.068	0.21	0.068	0.029	**U**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVTB-202-01** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-020

Test Code: EPA TO-15 Date Collected: 4/9/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/30/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01145

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.25	0.80	0.25	0.11	**U**
75-27-4	Bromodichloromethane	0.063	0.20	0.063	0.029	**U**
79-01-6	Trichloroethene	0.079	0.25	0.079	0.034	**U**
123-91-1	1,4-Dioxane	0.12	0.37	0.12	0.044	**U**
142-82-5	n-Heptane	**0.062**	0.33	0.20	0.052	**J**
108-10-1	4-Methyl-2-pentanone	0.10	0.32	0.10	0.045	**U**
108-88-3	Toluene	**0.084**	0.36	0.11	0.043	**J**
591-78-6	2-Hexanone	0.10	0.33	0.10	0.040	**U**
124-48-1	Dibromochloromethane	0.050	0.16	0.050	0.021	**U**
106-93-4	1,2-Dibromoethane	0.055	0.18	0.055	0.020	**U**
127-18-4	Tetrachloroethene	**0.084**	0.19	0.063	0.025	**J**
100-41-4	Ethylbenzene	0.098	0.31	0.098	0.043	**U**
179601-23-1	m,p-Xylenes	0.20	0.63	0.20	0.081	**U**
75-25-2	Bromoform	0.077	0.13	0.077	0.027	**U**
100-42-5	Styrene	0.19	0.31	0.19	0.051	**U**
95-47-6	o-Xylene	0.098	0.31	0.098	0.044	**U**
108-67-8	1,3,5-Trimethylbenzene	0.086	0.27	0.086	0.039	**U**
95-63-6	1,2,4-Trimethylbenzene	0.086	0.27	0.086	0.038	**U**
120-82-1	1,2,4-Trichlorobenzene	0.11	0.18	0.11	0.044	**U**
91-20-3	Naphthalene	0.15	0.25	0.15	0.062	**U**
1330-20-7	Xylenes, Total	0.20	0.63	0.20	0.081	**U**

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200429-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.19	0.31	0.19	0.076	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.065	0.11	0.065	0.018	**U**
74-87-3	Chloromethane	0.16	0.26	0.16	0.042	**U**
75-01-4	Vinyl Chloride	0.067	0.21	0.067	0.022	**U**
106-99-0	1,3-Butadiene	0.14	0.24	0.14	0.040	**U**
75-00-3	Chloroethane	0.12	0.20	0.12	0.025	**U**
64-17-5	Ethanol	0.44	2.8	0.44	0.20	**U**
67-64-1	Acetone	1.1	2.2	1.1	0.51	**U**
75-69-4	Trichlorofluoromethane	0.057	0.094	0.057	0.014	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.26	0.85	0.26	0.090	**U**
75-09-2	Methylene Chloride	0.092	0.15	0.092	0.043	**U**
76-13-1	Trichlorotrifluoroethane	0.022	0.070	0.022	0.0099	**U**
75-15-0	Carbon Disulfide	0.17	0.35	0.17	0.051	**U**
75-34-3	1,1-Dichloroethane	0.082	0.14	0.082	0.019	**U**
78-93-3	2-Butanone (MEK)	0.11	0.37	0.11	0.037	**U**
141-78-6	Ethyl Acetate	0.18	0.31	0.18	0.078	**U**
110-54-3	n-Hexane	0.091	0.15	0.091	0.031	**U**
67-66-3	Chloroform	0.035	0.11	0.035	0.015	**U**
109-99-9	Tetrahydrofuran (THF)	0.058	0.19	0.058	0.023	**U**
107-06-2	1,2-Dichloroethane	0.042	0.13	0.042	0.015	**U**
71-43-2	Benzene	0.053	0.17	0.053	0.024	**U**
56-23-5	Carbon Tetrachloride	0.027	0.084	0.027	0.012	**U**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200429-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.099	0.32	0.099	0.044	**U**
75-27-4	Bromodichloromethane	0.025	0.081	0.025	0.011	**U**
79-01-6	Trichloroethene	0.032	0.10	0.032	0.013	**U**
123-91-1	1,4-Dioxane	0.047	0.15	0.047	0.017	**U**
142-82-5	n-Heptane	0.078	0.13	0.078	0.021	**U**
108-10-1	4-Methyl-2-pentanone	0.041	0.13	0.041	0.018	**U**
108-88-3	Toluene	0.045	0.14	0.045	0.017	**U**
591-78-6	2-Hexanone	0.042	0.13	0.042	0.016	**U**
124-48-1	Dibromochloromethane	0.020	0.063	0.020	0.0082	**U**
106-93-4	1,2-Dibromoethane	0.022	0.070	0.022	0.0081	**U**
127-18-4	Tetrachloroethene	0.025	0.077	0.025	0.010	**U**
100-41-4	Ethylbenzene	0.039	0.12	0.039	0.017	**U**
179601-23-1	m,p-Xylenes	0.078	0.25	0.078	0.032	**U**
75-25-2	Bromoform	0.031	0.052	0.031	0.011	**U**
100-42-5	Styrene	0.075	0.12	0.075	0.020	**U**
95-47-6	o-Xylene	0.039	0.12	0.039	0.018	**U**
108-67-8	1,3,5-Trimethylbenzene	0.035	0.11	0.035	0.016	**U**
95-63-6	1,2,4-Trimethylbenzene	0.035	0.11	0.035	0.015	**U**
120-82-1	1,2,4-Trichlorobenzene	0.043	0.073	0.043	0.018	**U**
91-20-3	Naphthalene	0.059	0.099	0.059	0.025	**U**
1330-20-7	Xylenes, Total	0.078	0.25	0.078	0.032	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200430-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 4/30/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.19	0.31	0.19	0.076	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.065	0.11	0.065	0.018	**U**
74-87-3	Chloromethane	0.16	0.26	0.16	0.042	**U**
75-01-4	Vinyl Chloride	0.067	0.21	0.067	0.022	**U**
106-99-0	1,3-Butadiene	0.14	0.24	0.14	0.040	**U**
75-00-3	Chloroethane	0.12	0.20	0.12	0.025	**U**
64-17-5	Ethanol	0.44	2.8	0.44	0.20	**U**
67-64-1	Acetone	1.1	2.2	1.1	0.51	**U**
75-69-4	Trichlorofluoromethane	0.057	0.094	0.057	0.014	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.26	0.85	0.26	0.090	**U**
75-09-2	Methylene Chloride	0.092	0.15	0.092	0.043	**U**
76-13-1	Trichlorotrifluoroethane	0.022	0.070	0.022	0.0099	**U**
75-15-0	Carbon Disulfide	0.17	0.35	0.17	0.051	**U**
75-34-3	1,1-Dichloroethane	0.082	0.14	0.082	0.019	**U**
78-93-3	2-Butanone (MEK)	0.11	0.37	0.11	0.037	**U**
141-78-6	Ethyl Acetate	0.18	0.31	0.18	0.078	**U**
110-54-3	n-Hexane	0.091	0.15	0.091	0.031	**U**
67-66-3	Chloroform	0.035	0.11	0.035	0.015	**U**
109-99-9	Tetrahydrofuran (THF)	0.058	0.19	0.058	0.023	**U**
107-06-2	1,2-Dichloroethane	0.042	0.13	0.042	0.015	**U**
71-43-2	Benzene	0.053	0.17	0.053	0.024	**U**
56-23-5	Carbon Tetrachloride	0.027	0.084	0.027	0.012	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200430-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 4/30/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.099	0.32	0.099	0.044	**U**
75-27-4	Bromodichloromethane	0.025	0.081	0.025	0.011	**U**
79-01-6	Trichloroethene	0.032	0.10	0.032	0.013	**U**
123-91-1	1,4-Dioxane	0.047	0.15	0.047	0.017	**U**
142-82-5	n-Heptane	0.078	0.13	0.078	0.021	**U**
108-10-1	4-Methyl-2-pentanone	0.041	0.13	0.041	0.018	**U**
108-88-3	Toluene	0.045	0.14	0.045	0.017	**U**
591-78-6	2-Hexanone	0.042	0.13	0.042	0.016	**U**
124-48-1	Dibromochloromethane	0.020	0.063	0.020	0.0082	**U**
106-93-4	1,2-Dibromoethane	0.022	0.070	0.022	0.0081	**U**
127-18-4	Tetrachloroethene	0.025	0.077	0.025	0.010	**U**
100-41-4	Ethylbenzene	0.039	0.12	0.039	0.017	**U**
179601-23-1	m,p-Xylenes	0.078	0.25	0.078	0.032	**U**
75-25-2	Bromoform	0.031	0.052	0.031	0.011	**U**
100-42-5	Styrene	0.075	0.12	0.075	0.020	**U**
95-47-6	o-Xylene	0.039	0.12	0.039	0.018	**U**
108-67-8	1,3,5-Trimethylbenzene	0.035	0.11	0.035	0.016	**U**
95-63-6	1,2,4-Trimethylbenzene	0.035	0.11	0.035	0.015	**U**
120-82-1	1,2,4-Trichlorobenzene	0.043	0.073	0.043	0.018	**U**
91-20-3	Naphthalene	0.059	0.099	0.059	0.025	**U**
1330-20-7	Xylenes, Total	0.078	0.25	0.078	0.032	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Project ID: P2002029

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date(s) Collected: 4/7 - 4/9/20
Analyst: Simon Cao Date(s) Received: 4/14/20
Sampling Media: 1.0 L Silonite Summa Canister(s) Date(s) Analyzed: 4/29 - 4/30/20
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P200429-MB	**92**	**102**	**99**	70-130	
Method Blank	P200430-MB	**92**	**103**	**101**	70-130	
Lab Control Sample	P200429-LCS	**92**	**104**	**100**	70-130	
Lab Control Sample	P200430-LCS	**93**	**102**	**101**	70-130	
Duplicate Lab Control Sample	P200429-DLCS	**92**	**104**	**99**	70-130	
Duplicate Lab Control Sample	P200430-DLCS	**93**	**102**	**101**	70-130	
SVE07-160-202	P2002029-001	**93**	**104**	**98**	70-130	
SVE08-260-202	P2002029-002	**94**	**92**	**89**	70-130	
SVE09-460-202	P2002029-003	**93**	**94**	**92**	70-130	
SV03-050-202	P2002029-004	**94**	**101**	**95**	70-130	
SV03-100-202	P2002029-005	**92**	**98**	**94**	70-130	
SV03-250-202	P2002029-006	**93**	**94**	**89**	70-130	
SV03-300-202	P2002029-007	**90**	**95**	**90**	70-130	
SV04-050-202	P2002029-008	**93**	**102**	**99**	70-130	
SV04-050-602	P2002029-009	**93**	**102**	**98**	70-130	
SV04-100-202	P2002029-010	**92**	**98**	**94**	70-130	
SV04-250-202	P2002029-011	**93**	**102**	**100**	70-130	
SV04-300-202	P2002029-012	**93**	**99**	**95**	70-130	
SV04-300-202	P2002029-012DUP	**92**	**99**	**95**	70-130	
SV08-050-202	P2002029-013	**92**	**93**	**91**	70-130	
SV08-100-202	P2002029-014	**93**	**103**	**99**	70-130	
SV08-250-202	P2002029-015	**92**	**100**	**97**	70-130	
SV09-050-202	P2002029-016	**92**	**102**	**99**	70-130	
SV09-100-202	P2002029-017	**92**	**99**	**97**	70-130	
SV09-250-202	P2002029-018	**92**	**100**	**96**	70-130	
SV09-266-202	P2002029-019	**93**	**98**	**95**	70-130	
SVTB-202-01	P2002029-020	**92**	**102**	**99**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200429-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	122	132	138	**108**	**113**	57-136	5	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	42.5	38.6	39.5	**91**	**93**	59-128	2	25	
74-87-3	Chloromethane	103	111	116	**108**	**113**	59-132	5	25	
75-01-4	Vinyl Chloride	83.0	81.7	84.7	**98**	**102**	64-127	4	25	
106-99-0	1,3-Butadiene	95.9	106	108	**111**	**113**	66-134	2	25	
75-00-3	Chloroethane	81.1	75.8	79.1	**93**	**98**	63-127	5	25	
64-17-5	Ethanol	563	517	537	**92**	**95**	59-125	3	25	
67-64-1	Acetone	450	425	438	**94**	**97**	58-128	3	25	
75-69-4	Trichlorofluoromethane	37.7	32.9	33.5	**87**	**89**	62-126	2	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	172	159	162	**92**	**94**	52-125	2	25	
75-09-2	Methylene Chloride	60.5	58.8	60.0	**97**	**99**	62-115	2	25	
76-13-1	Trichlorotrifluoroethane	28.2	25.6	26.1	**91**	**93**	66-126	2	25	
75-15-0	Carbon Disulfide	68.1	68.0	69.4	**100**	**102**	57-134	2	25	
75-34-3	1,1-Dichloroethane	52.4	48.7	49.8	**93**	**95**	68-126	2	25	
78-93-3	2-Butanone (MEK)	71.9	74.7	76.9	**104**	**107**	67-130	3	25	
141-78-6	Ethyl Acetate	120	126	129	**105**	**108**	65-128	3	25	
110-54-3	n-Hexane	61.3	60.8	62.5	**99**	**102**	63-120	3	25	
67-66-3	Chloroform	43.8	40.1	41.0	**92**	**94**	68-123	2	25	
109-99-9	Tetrahydrofuran (THF)	74.6	73.4	75.3	**98**	**101**	64-123	3	25	
107-06-2	1,2-Dichloroethane	52.9	48.3	49.1	**91**	**93**	65-128	2	25	
71-43-2	Benzene	65.8	62.4	63.8	**95**	**97**	69-119	2	25	
56-23-5	Carbon Tetrachloride	33.1	29.3	29.9	**89**	**90**	68-132	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200429-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	123	118	120	**96**	**98**	70-117	2	25	
75-27-4	Bromodichloromethane	32.6	29.2	29.9	**90**	**92**	72-128	2	25	
79-01-6	Trichloroethene	40.2	37.7	38.5	**94**	**96**	71-123	2	25	
123-91-1	1,4-Dioxane	60.0	61.5	62.6	**103**	**104**	71-122	1	25	
142-82-5	n-Heptane	52.2	51.5	52.3	**99**	**100**	69-123	1	25	
108-10-1	4-Methyl-2-pentanone	51.8	54.8	55.5	**106**	**107**	67-130	0.9	25	
108-88-3	Toluene	56.3	56.8	58.2	**101**	**103**	66-119	2	25	
591-78-6	2-Hexanone	52.7	62.4	63.6	**118**	**121**	62-128	3	25	
124-48-1	Dibromochloromethane	25.1	25.7	26.3	**102**	**105**	70-130	3	25	
106-93-4	1,2-Dibromoethane	27.9	29.4	29.8	**105**	**107**	74-122	2	25	
127-18-4	Tetrachloroethene	30.7	29.9	30.6	**97**	**100**	66-124	3	25	
100-41-4	Ethylbenzene	48.8	49.3	50.4	**101**	**103**	70-124	2	25	
179601-23-1	m,p-Xylenes	98.1	96.8	98.7	**99**	**101**	61-134	2	25	
75-25-2	Bromoform	20.7	21.8	22.1	**105**	**107**	66-139	2	25	
100-42-5	Styrene	49.8	53.1	54.2	**107**	**109**	73-127	2	25	
95-47-6	o-Xylene	49.3	48.5	49.5	**98**	**100**	67-125	2	25	
108-67-8	1,3,5-Trimethylbenzene	43.1	42.2	43.0	**98**	**100**	67-130	2	25	
95-63-6	1,2,4-Trimethylbenzene	43.1	42.9	43.8	**100**	**102**	66-132	2	25	
120-82-1	1,2,4-Trichlorobenzene	29.1	32.3	33.0	**111**	**113**	55-142	2	25	
91-20-3	Naphthalene	40.5	42.6	43.4	**105**	**107**	57-138	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200430-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 4/30/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	122	135	135	**111**	**111**	57-136	0	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	42.5	41.6	40.7	**98**	**96**	59-128	2	25	
74-87-3	Chloromethane	103	115	114	**112**	**111**	59-132	0.9	25	
75-01-4	Vinyl Chloride	83.0	89.1	87.9	**107**	**106**	64-127	0.9	25	
106-99-0	1,3-Butadiene	95.9	113	113	**118**	**118**	66-134	0	25	
75-00-3	Chloroethane	81.1	82.7	81.7	**102**	**101**	63-127	1	25	
64-17-5	Ethanol	563	591	581	**105**	**103**	59-125	2	25	
67-64-1	Acetone	450	459	453	**102**	**101**	58-128	1	25	
75-69-4	Trichlorofluoromethane	37.7	36.5	35.5	**97**	**94**	62-126	3	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	172	180	177	**105**	**103**	52-125	2	25	
75-09-2	Methylene Chloride	60.5	64.5	63.3	**107**	**105**	62-115	2	25	
76-13-1	Trichlorotrifluoroethane	28.2	28.0	27.6	**99**	**98**	66-126	1	25	
75-15-0	Carbon Disulfide	68.1	73.4	72.2	**108**	**106**	57-134	2	25	
75-34-3	1,1-Dichloroethane	52.4	52.8	52.1	**101**	**99**	68-126	2	25	
78-93-3	2-Butanone (MEK)	71.9	82.3	81.1	**114**	**113**	67-130	0.9	25	
141-78-6	Ethyl Acetate	120	134	134	**112**	**112**	65-128	0	25	
110-54-3	n-Hexane	61.3	65.6	64.9	**107**	**106**	63-120	0.9	25	
67-66-3	Chloroform	43.8	44.0	43.2	**100**	**99**	68-123	1	25	
109-99-9	Tetrahydrofuran (THF)	74.6	80.0	77.7	**107**	**104**	64-123	3	25	
107-06-2	1,2-Dichloroethane	52.9	52.6	51.7	**99**	**98**	65-128	1	25	
71-43-2	Benzene	65.8	67.7	66.0	**103**	**100**	69-119	3	25	
56-23-5	Carbon Tetrachloride	33.1	32.3	31.5	**98**	**95**	68-132	3	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200430-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 4/30/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	123	128	126	**104**	**102**	70-117	2	25	
75-27-4	Bromodichloromethane	32.6	31.6	31.1	**97**	**95**	72-128	2	25	
79-01-6	Trichloroethene	40.2	41.1	40.5	**102**	**101**	71-123	1	25	
123-91-1	1,4-Dioxane	60.0	66.6	66.1	**111**	**110**	71-122	0.9	25	
142-82-5	n-Heptane	52.2	55.3	54.8	**106**	**105**	69-123	0.9	25	
108-10-1	4-Methyl-2-pentanone	51.8	58.1	58.4	**112**	**113**	67-130	0.9	25	
108-88-3	Toluene	56.3	60.7	59.8	**108**	**106**	66-119	2	25	
591-78-6	2-Hexanone	52.7	65.8	65.9	**125**	**125**	62-128	0	25	
124-48-1	Dibromochloromethane	25.1	27.7	27.2	**110**	**108**	70-130	2	25	
106-93-4	1,2-Dibromoethane	27.9	31.5	31.0	**113**	**111**	74-122	2	25	
127-18-4	Tetrachloroethene	30.7	32.3	31.5	**105**	**103**	66-124	2	25	
100-41-4	Ethylbenzene	48.8	52.3	51.6	**107**	**106**	70-124	0.9	25	
179601-23-1	m,p-Xylenes	98.1	103	101	**105**	**103**	61-134	2	25	
75-25-2	Bromoform	20.7	23.5	23.0	**114**	**111**	66-139	3	25	
100-42-5	Styrene	49.8	56.9	55.9	**114**	**112**	73-127	2	25	
95-47-6	o-Xylene	49.3	51.0	50.8	**103**	**103**	67-125	0	25	
108-67-8	1,3,5-Trimethylbenzene	43.1	44.0	43.9	**102**	**102**	67-130	0	25	
95-63-6	1,2,4-Trimethylbenzene	43.1	44.5	44.4	**103**	**103**	66-132	0	25	
120-82-1	1,2,4-Trichlorobenzene	29.1	28.5	30.8	**98**	**106**	55-142	8	25	
91-20-3	Naphthalene	40.5	36.8	40.0	**91**	**99**	57-138	8	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV04-300-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-012DUP

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/30/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0010 Liter(s)
Test Notes:
Container ID: 1SC01186

Initial Pressure (psig): -3.21 Final Pressure (psig): 5.83

Container Dilution Factor: 1.79

Compound	Sample Result ppbV	Duplicate Sample Result ppbV	Average ppbV	% RPD	RPD Limit	Data Qualifier
Propene	480	560	520	**15**	25	
Dichlorodifluoromethane (CFC 12)	ND	ND	-	-	25	
Chloromethane	ND	ND	-	-	25	
Vinyl Chloride	ND	ND	-	-	25	
1,3-Butadiene	ND	ND	-	-	25	
Chloroethane	ND	ND	-	-	25	
Ethanol	ND	ND	-	-	25	
Acetone	ND	ND	-	-	25	
Trichlorofluoromethane	ND	ND	-	-	25	
2-Propanol (Isopropyl Alcohol)	ND	ND	-	-	25	
Methylene Chloride	200	210	205	**5**	25	**J**
Trichlorotrifluoroethane	260	270	265	**4**	25	
Carbon Disulfide	ND	ND	-	-	25	
1,1-Dichloroethane	ND	ND	-	-	25	
2-Butanone (MEK)	ND	ND	-	-	25	
Ethyl Acetate	ND	ND	-	-	25	
n-Hexane	48,000	47,000	47500	**2**	25	
Chloroform	ND	ND	-	-	25	
Tetrahydrofuran (THF)	ND	ND	-	-	25	
1,2-Dichloroethane	ND	ND	-	-	25	
Benzene	31,000	31,000	31000	**0**	25	
Carbon Tetrachloride	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV04-300-202** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002029-012DUP

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/30/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0010 Liter(s)
Test Notes:
Container ID: 1SC01186

Initial Pressure (psig): -3.21 Final Pressure (psig): 5.83

Container Dilution Factor: 1.79

Compound	Sample Result ppbV	Duplicate Sample Result ppbV	Average ppbV	% RPD	RPD Limit	Data Qualifier
Cyclohexane	57,000	56,000	56500	**2**	25	
Bromodichloromethane	ND	ND	-	-	25	
Trichloroethene	ND	26	-	-	25	**J**
1,4-Dioxane	ND	ND	-	-	25	
n-Heptane	41,000	40,000	40500	**2**	25	
4-Methyl-2-pentanone	ND	ND	-	-	25	
Toluene	1,500	1,400	1450	**7**	25	
2-Hexanone	ND	ND	-	-	25	
Dibromochloromethane	ND	ND	-	-	25	
1,2-Dibromoethane	ND	ND	-	-	25	
Tetrachloroethene	77	77	77	**0**	25	**J**
Ethylbenzene	68	68	68	**0**	25	**J**
m,p-Xylenes	1,300	1,200	1250	**8**	25	
Bromoform	ND	ND	-	-	25	
Styrene	ND	ND	-	-	25	
o-Xylene	410	370	390	**10**	25	
1,3,5-Trimethylbenzene	200	170	185	**16**	25	**J**
1,2,4-Trimethylbenzene	210	190	200	**10**	25	**J**
1,2,4-Trichlorobenzene	ND	ND	-	-	25	
Naphthalene	ND	ND	-	-	25	
Xylenes, Total	1,700	1,500	1600	**13**	25	

ND = Compound was analyzed for, but not detected.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: **EA Engineering, Science, and Technology, Inc.** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 04292003.D
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Silonite Summa Canister(s) Time Analyzed: 06:19
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	165863		9.16	693341		11.12		304929		15.46	
	Upper Limit	232208		9.49	970677		11.45		426901		15.79	
	Lower Limit	99518		8.83	416005		10.79		182957		15.13	
	Client Sample ID											
01	Method Blank	147560		9.13	622939		11.10		273854		15.46	
02	Lab Control Sample	159720		9.16	668762		11.12		290463		15.46	
03	Duplicate Lab Control Sample	157698		9.16	660725		11.12		286674		15.46	
04	SV03-100-202	160216		9.13	688099		11.11		309875		15.46	
05	SVE08-260-202	153457		9.13	655239		11.11		316512		15.46	
06	SVE09-460-202	155370		9.13	662898		11.11		306897		15.46	
07	SV03-050-202	152736		9.13	651214		11.11		292673		15.46	
08	SV03-250-202	160474		9.14	680983		11.11		331143		15.46	
09	SV03-250-202 (Dilution)	160110		9.13	673184		11.11		298811		15.46	
10	SV03-300-202 (Dilution)	161181		9.13	680245		11.11		303175		15.46	
11	SV03-300-202	168221		9.13	688467		11.11		329718		15.46	
12												
13												
14												
15												
16												
17												
18												
19												
20												

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: **EA Engineering, Science, and Technology, Inc.** ALS Project ID: P2002029
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 04302003.D
Analyst: Simon Cao Date Analyzed: 4/30/20
Sampling Media: 1.0 L Silonite Summa Canister(s) Time Analyzed: 04:10
Test Notes:

		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	24 Hour Standard	164204	9.16	685002	11.12	302763	15.46
	Upper Limit	229886	9.49	959003	11.45	423868	15.79
	Lower Limit	98522	8.83	411001	10.79	181658	15.13
	Client Sample ID						
01	Method Blank	145397	9.13	618438	11.11	271053	15.45
02	Lab Control Sample	150642	9.16	635307	11.12	280448	15.46
03	Duplicate Lab Control Sample	155176	9.16	653401	11.12	287841	15.46
04	SV04-050-202	150848	9.13	640108	11.11	277030	15.46
05	SV04-050-602	150082	9.13	633787	11.11	279585	15.46
06	SV04-300-202	151162	9.14	639396	11.11	288281	15.46
07	SV04-300-202 (Lab Duplicate)	153015	9.13	647165	11.11	293010	15.46
08	SV08-050-202	154477	9.13	651928	11.11	314218	15.46
09	SVE07-160-202	154805	9.13	652680	11.11	284313	15.45
10	SV08-050-202 (Dilution)	156069	9.13	660187	11.11	293797	15.46
11	SV08-100-202	151792	9.13	640628	11.11	283794	15.46
12	SV08-250-202	155715	9.14	663526	11.11	296020	15.46
13	SV09-050-202	155531	9.13	652443	11.11	287072	15.46
14	SV09-100-202	156692	9.14	663415	11.11	299834	15.46
15	SV09-250-202	157730	9.13	664417	11.11	301474	15.46
16	SV09-266-202 (Dilution)	158246	9.13	669502	11.11	290767	15.46
17	SV09-266-202	158433	9.14	669329	11.11	307949	15.46
18	SV04-100-202	158285	9.13	669234	11.11	306560	15.46
19	SVTB-202-01	149911	9.13	629905	11.10	279074	15.46
20	SV04-100-202 (Dilution)	159887	9.13	675992	11.11	305454	15.46
21	SV04-250-202	157038	9.13	661242	11.11	298559	15.46

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302014.D Vial: 1
Acq On : 30 Apr 2020 11:48 Operator: WA
Sample : P2002029-001 (0.02mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 13:28:01 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/30/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	154805	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	652680	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.45	82	284313	12.500	ng	-0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	233473	11.641	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.12%			
57) Toluene-d8 (SS2)	13.55	98	715682	13.037	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.32%			
73) Bromofluorobenzene (SS3)	17.05	174	270514	12.261	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.08%			
Target Compounds						Qvalue
2) Propene	3.90	42	2506	0.381	ng	92
3) Dichlorodifluoromethan...	3.99	85	272	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	4.59	54	225	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.45	45	41	N.D.		
11) Acetonitrile	0.00	41	0	N.D.		
12) Acrolein	0.00	56	0	N.D.	d	
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	6.03	101	315	N.D.		
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.	d	
16) Acrylonitrile	0.00	53	0	N.D.	d	
17) 1,1-Dichloroethene	6.72	96	1477	0.135	ng	99
18) 2-Methyl-2-Propanol (t...	6.93	59	39	N.D.		
19) Methylene Chloride	6.86	84	4061	0.387	ng	98
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d	
21) Trichlorotrifluoroethane	7.19	151	13680	1.058	ng	97
22) Carbon Disulfide	7.17	76	362	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	8.10	63	675	N.D.		
25) Methyl tert-Butyl Ether	8.31	73	827	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	8.53	72	10355	1.686	ng	99
28) cis-1,2-Dichloroethene	8.75	61	476	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	0.00	61	0	N.D.	d	
31) n-Hexane	9.23	57	1177583	88.759	ng	99
32) Chloroform	9.28	83	124	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d	
38) 1,1,1-Trichloroethane	10.30	97	16000	0.713	ng	98
39) Isopropyl Acetate	0.00	61	0	N.D.	d	
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	10.76	78	460972	10.834	ng	100
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	11.04	84	707882	42.468	ng	98
44) tert-Amyl Methyl Ether	11.47	73	146	N.D.		
45) 1,2-Dichloropropane	11.56	63	248	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	11.81	130	902	0.061	ng	92
48) 1,4-Dioxane	0.00	88	0	N.D.	d	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302014.D Vial: 1
Acq On : 30 Apr 2020 11:48 Operator: WA
Sample : P2002029-001 (0.02mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 13:28:01 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

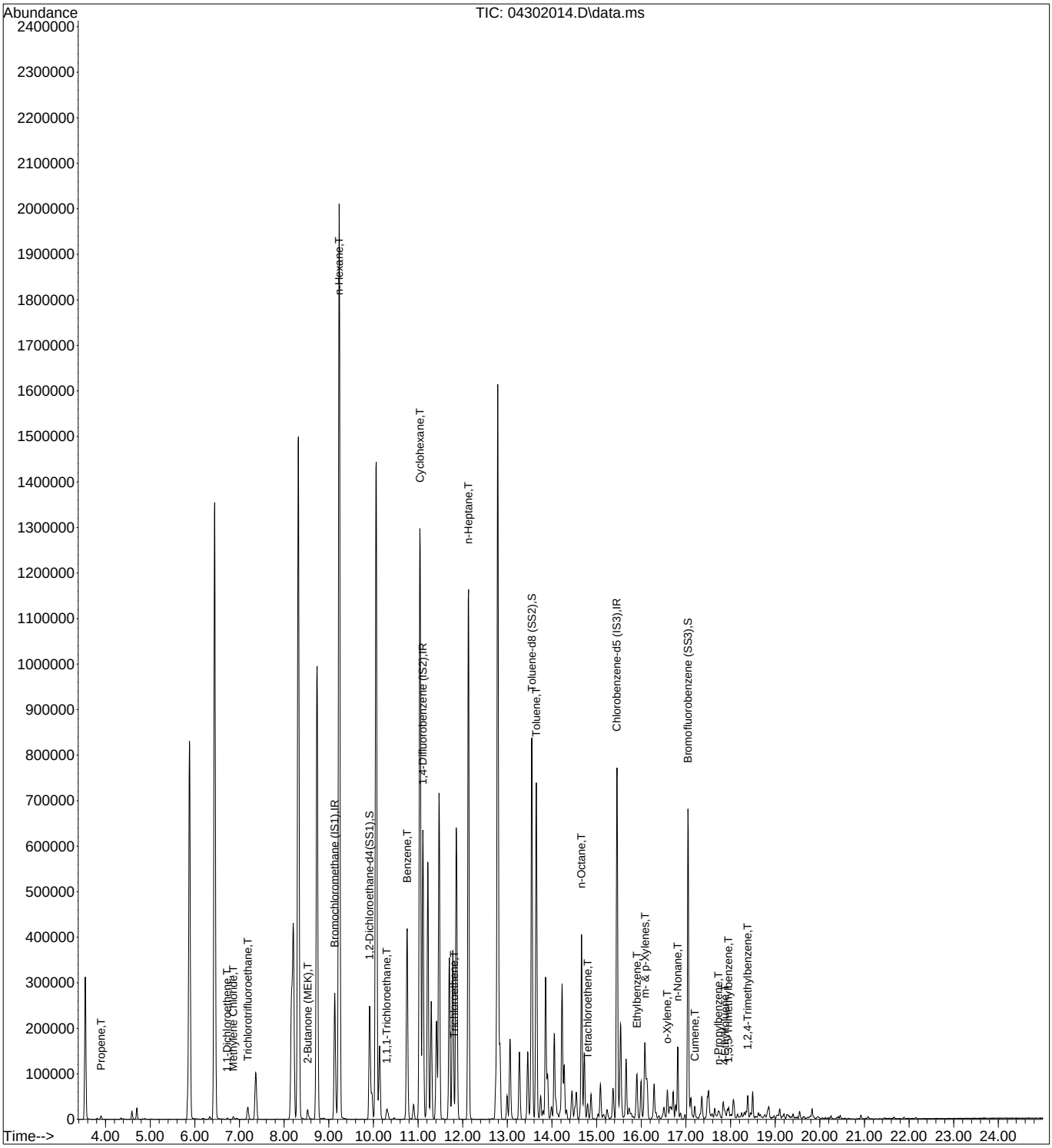
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.13	71	353214	35.730 ng	99
52) cis-1,3-Dichloropropene	12.79	75	432	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	13.65	91	661509	14.353 ng	99
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.66	57	78926	10.757 ng	99
64) Tetrachloroethene	14.80	166	5230	0.301 ng	98
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.90	91	77401	1.441 ng	100
67) m- & p-Xylenes	16.08	91	142887	3.154 ng	96
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.49	104	126	N.D.	
70) o-Xylene	16.58	91	44611	1.003 ng	100
71) n-Nonane	16.82	43	49968	3.481 ng	99
72) 1,1,2,2-Tetrachloroethane	16.58	83	106	N.D.	
74) Cumene	17.20	105	9243	0.159 ng	99
75) alpha-Pinene	17.60	93	634	N.D.	
76) n-Propylbenzene	17.73	91	13280	0.210 ng	95
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	7990	0.145 ng	100
79) 1,3,5-Trimethylbenzene	17.95	105	8490	0.167 ng	98
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	17942	0.364 ng	89
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.63	91	1596	N.D.	
85) 1,3-Dichlorobenzene	18.55	146	204	N.D.	
86) 1,4-Dichlorobenzene	18.62	146	204	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	18.97	146	817	N.D.	
91) d-Limonene	18.98	68	443	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.92	128	797	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302014.D Vial: 1
Acq On : 30 Apr 2020 11:48 Operator: WA
Sample : P2002029-001 (0.02mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 13:28:01 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302014.D Vial: 1
Acq On : 30 Apr 2020 11:48 Operator: WA
Sample : P2002029-001 (0.02mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 13:28:01 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/30/20

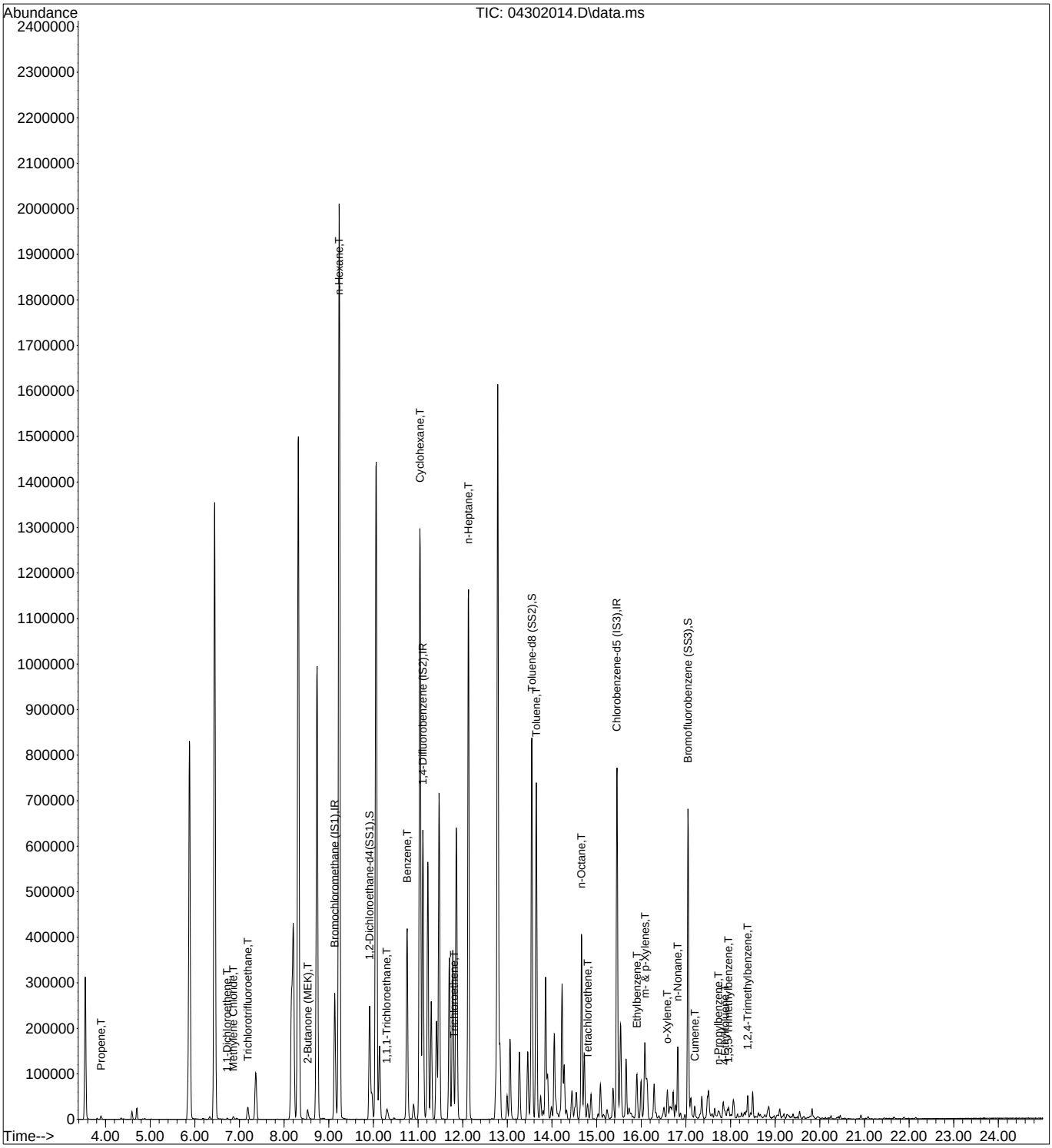
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	154805	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	652680	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.45	82	284313	12.500	ng	-0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	233473	11.641	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.12%			
57) Toluene-d8 (SS2)	13.55	98	715682	13.037	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.32%			
73) Bromofluorobenzene (SS3)	17.05	174	270514	12.261	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.08%			
Target Compounds						Qvalue
2) Propene	3.90	42	2506	0.381	ng	92
17) 1,1-Dichloroethene	6.72	96	1477	0.135	ng	99
19) Methylene Chloride	6.86	84	4061	0.387	ng	98
21) Trichlorotrifluoroethane	7.19	151	13680	1.058	ng	97
27) 2-Butanone (MEK)	8.53	72	10355	1.686	ng	99
31) n-Hexane	9.23	57	1177583	88.759	ng	99
38) 1,1,1-Trichloroethane	10.30	97	16000	0.713	ng	98
41) Benzene	10.76	78	460972	10.834	ng	100
43) Cyclohexane	11.04	84	707882	42.468	ng	98
47) Trichloroethene	11.81	130	902	0.061	ng	92
51) n-Heptane	12.13	71	353214	35.730	ng	99
58) Toluene	13.65	91	661509	14.353	ng	99
63) n-Octane	14.66	57	78926	10.757	ng	99
64) Tetrachloroethene	14.80	166	5230	0.301	ng	98
66) Ethylbenzene	15.90	91	77401	1.441	ng	100
67) m- & p-Xylenes	16.08	91	142887	3.154	ng	96
70) o-Xylene	16.58	91	44611	1.003	ng	100
71) n-Nonane	16.82	43	49968	3.481	ng	99
74) Cumene	17.20	105	9243	0.159	ng	99
76) n-Propylbenzene	17.73	91	13280	0.210	ng	95
78) 4-Ethyltoluene	17.88	105	7990	0.145	ng	100
79) 1,3,5-Trimethylbenzene	17.95	105	8490	0.167	ng	98
82) 1,2,4-Trimethylbenzene	18.38	105	17942	0.364	ng	89

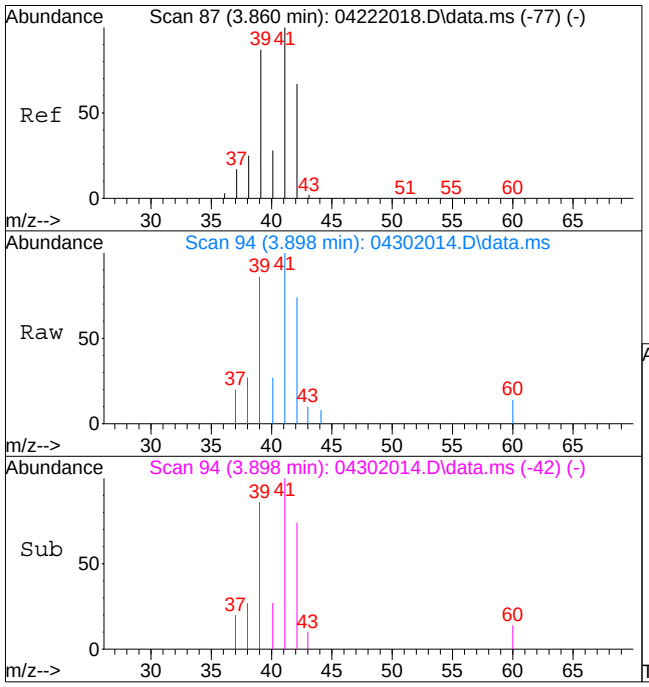
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302014.D Vial: 1
Acq On : 30 Apr 2020 11:48 Operator: WA
Sample : P2002029-001 (0.02mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 13:28:01 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

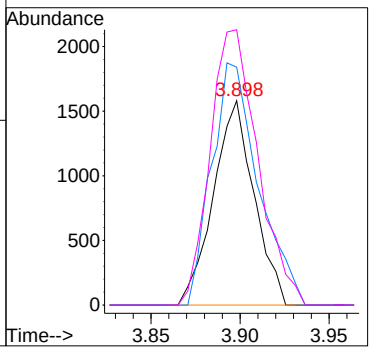


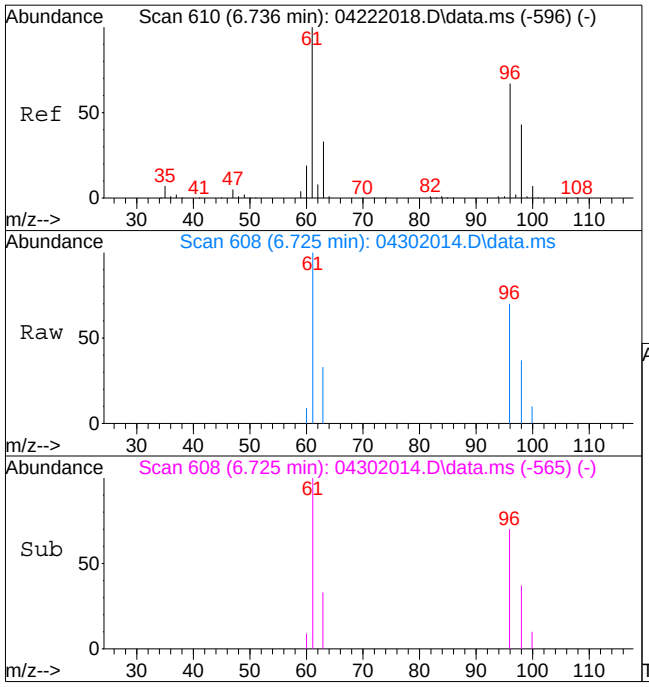


#2
Propene
Concen: 0.38 ng
RT: 3.90 min Scan# 94
Delta R.T. 0.038 min
Lab File: 04302014.D
Acq: 30 Apr 2020 11:48

Tgt Ion: 42 Resp: 2506

Ion	Ratio	Lower	Upper
42	100		
39	136.8	106.4	146.4
41	158.3	128.8	168.8

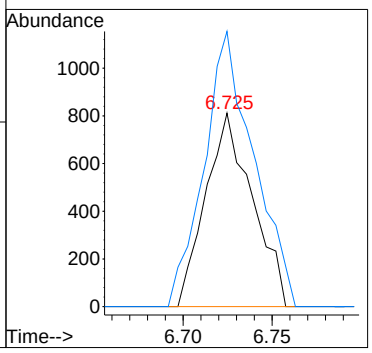


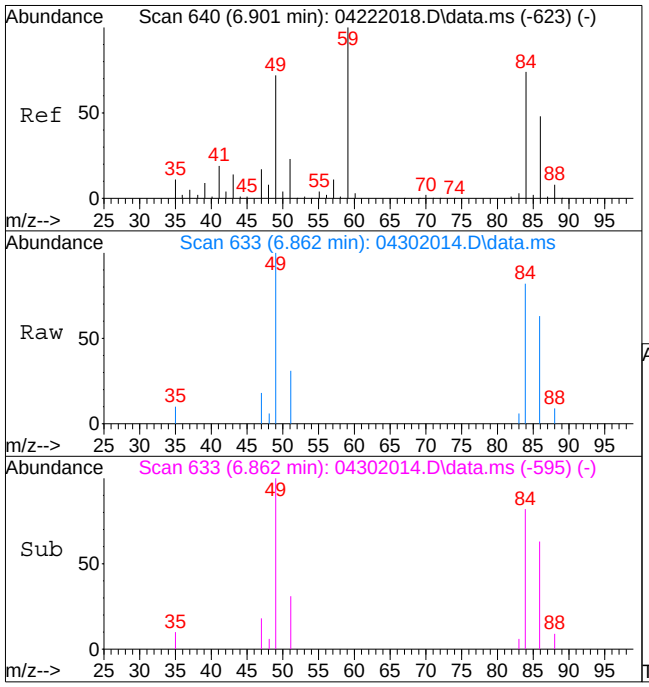


#17
1,1-Dichloroethene
Concen: 0.14 ng
RT: 6.72 min Scan# 608
Delta R.T. -0.011 min
Lab File: 04302014.D
Acq: 30 Apr 2020 11:48

Tgt Ion: 96 Resp: 1477

Ion	Ratio	Lower	Upper
96	100		
61	151.5	129.8	169.8

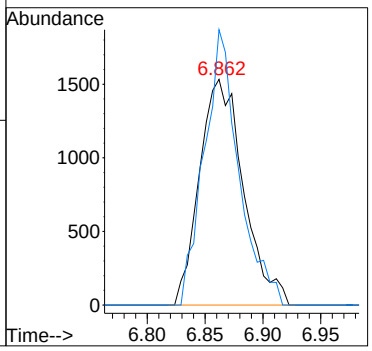


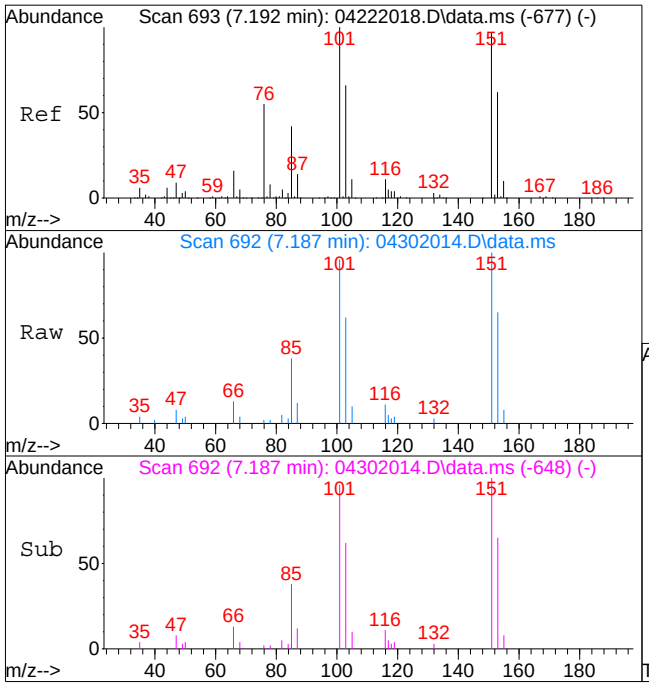


#19
Methylene Chloride
Concen: 0.39 ng
RT: 6.86 min Scan# 633
Delta R.T. -0.039 min
Lab File: 04302014.D
Acq: 30 Apr 2020 11:48

Tgt Ion: 84 Resp: 4061

Ion	Ratio	Lower	Upper
84	100		
49	96.4	73.0	123.0

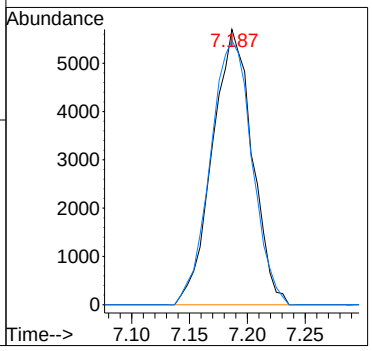


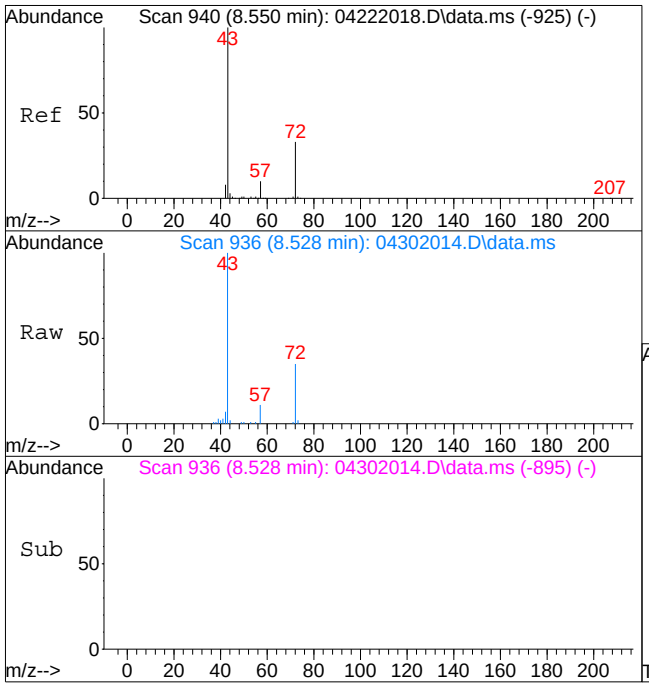


#21
Trichlorotrifluoroethane
Concen: 1.06 ng
RT: 7.19 min Scan# 692
Delta R.T. -0.006 min
Lab File: 04302014.D
Acq: 30 Apr 2020 11:48

Tgt Ion:151 Resp: 13680

Ion	Ratio	Lower	Upper
151	100		
101	100.2	82.9	122.9

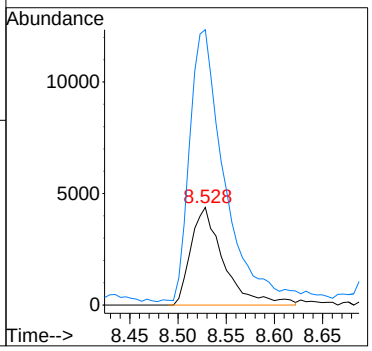


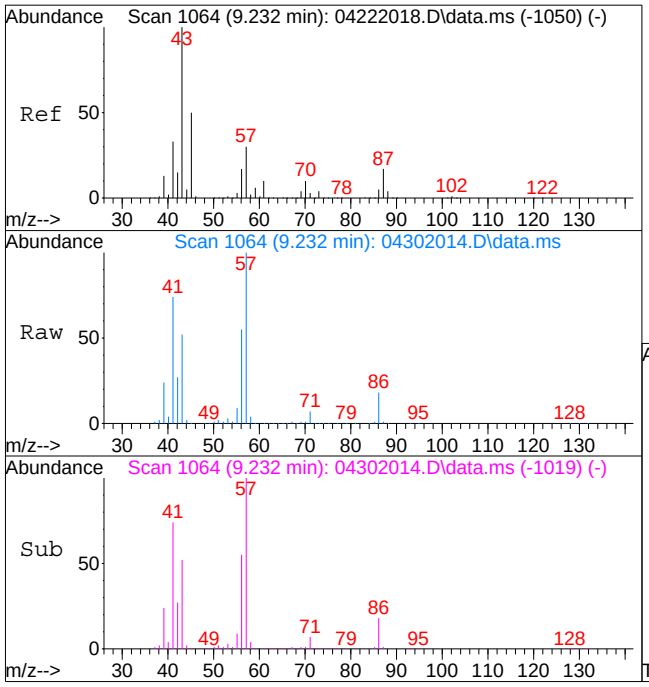


#27
2-Butanone (MEK)
Concen: 1.69 ng
RT: 8.53 min Scan# 936
Delta R.T. -0.022 min
Lab File: 04302014.D
Acq: 30 Apr 2020 11:48

Tgt Ion: 72 Resp: 10355

Ion	Ratio	Lower	Upper
72	100		
43	300.3	278.8	318.8

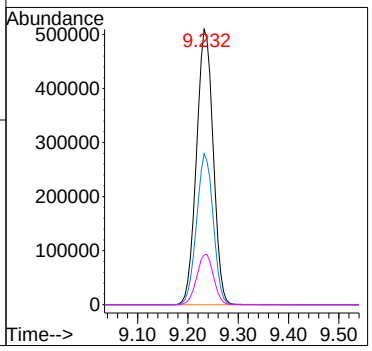


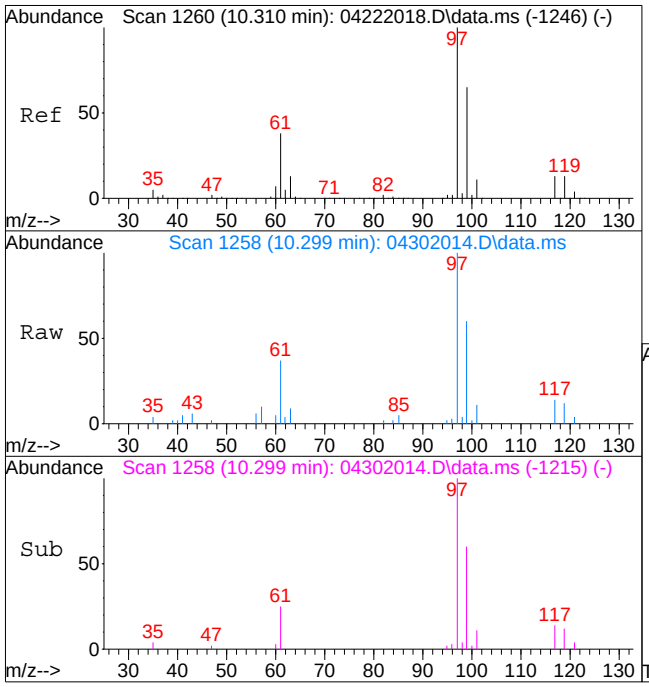


#31
n-Hexane
Concen: 88.76 ng
RT: 9.23 min Scan# 1064
Delta R.T. -0.000 min
Lab File: 04302014.D
Acq: 30 Apr 2020 11:48

Tgt Ion: 57 Resp: 1177583

Ion	Ratio	Lower	Upper
57	100		
56	54.5	44.0	66.0
86	18.4	15.0	22.4

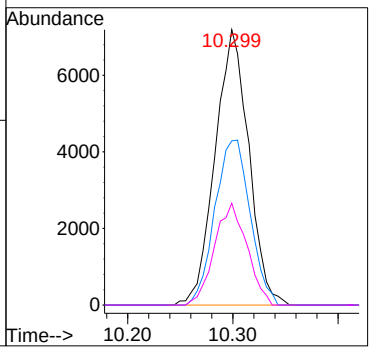


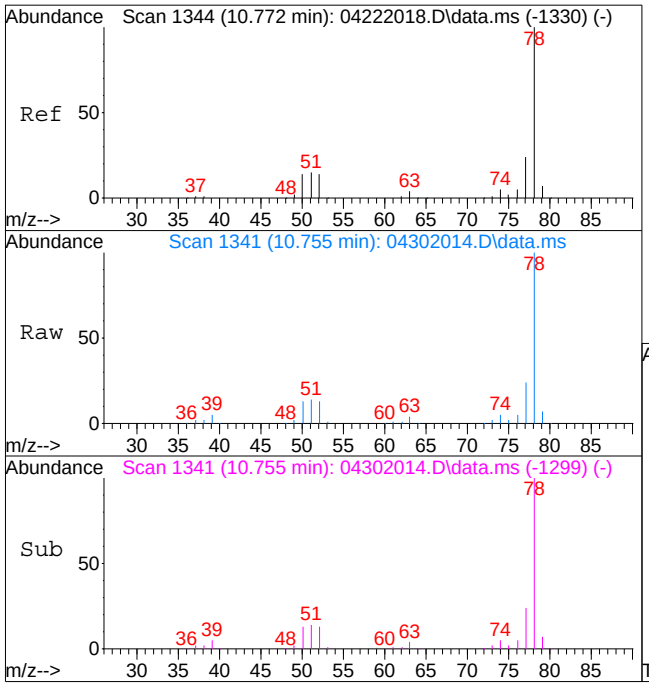


#38
1,1,1-Trichloroethane
Concen: 0.71 ng
RT: 10.30 min Scan# 1258
Delta R.T. -0.011 min
Lab File: 04302014.D
Acq: 30 Apr 2020 11:48

Tgt Ion: 97 Resp: 16000

Ion	Ratio	Lower	Upper
97	100		
99	62.8	44.7	84.7
61	35.7	17.2	57.2

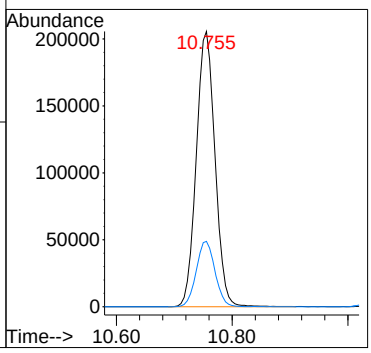


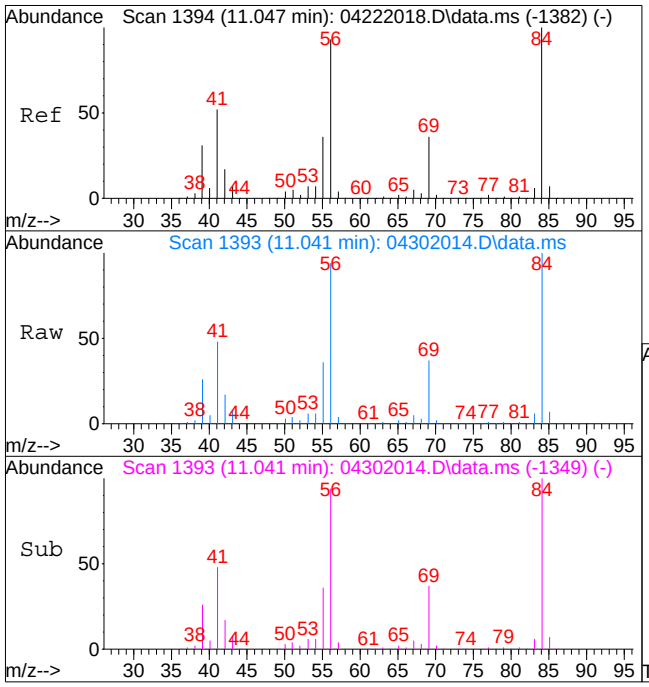


#41
Benzene
Concen: 10.83 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.017 min
Lab File: 04302014.D
Acq: 30 Apr 2020 11:48

Tgt Ion: 78 Resp: 460972

Ion	Ratio	Lower	Upper
78	100		
77	23.8	3.6	43.6

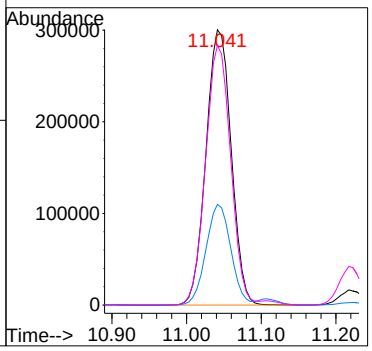


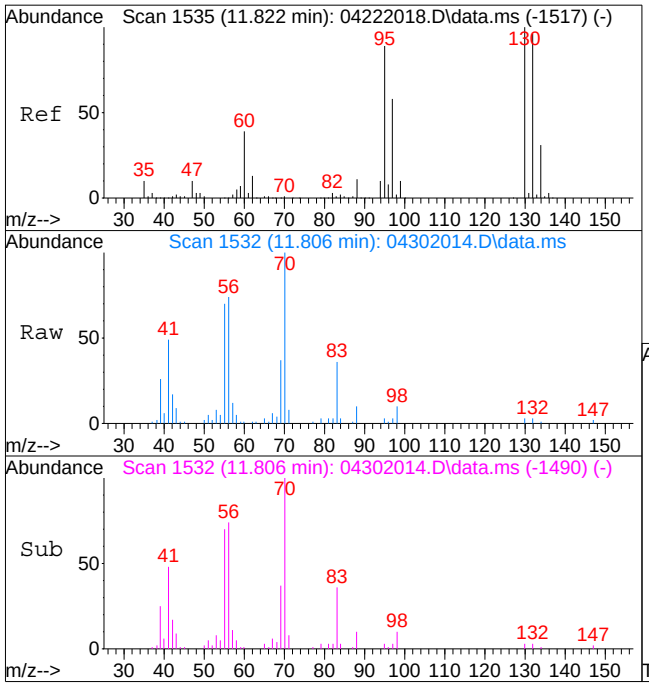


#43
Cyclohexane
Concen: 42.47 ng
RT: 11.04 min Scan# 1393
Delta R.T. -0.006 min
Lab File: 04302014.D
Acq: 30 Apr 2020 11:48

Tgt Ion: 84 Resp: 707882

Ion	Ratio	Lower	Upper
84	100		
69	36.0	15.8	55.8
56	94.8	72.0	112.0

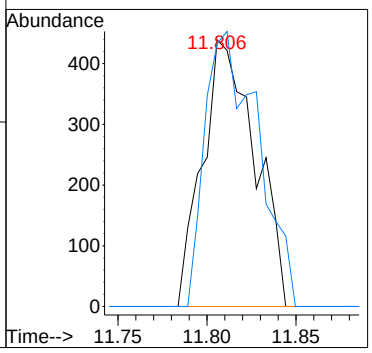


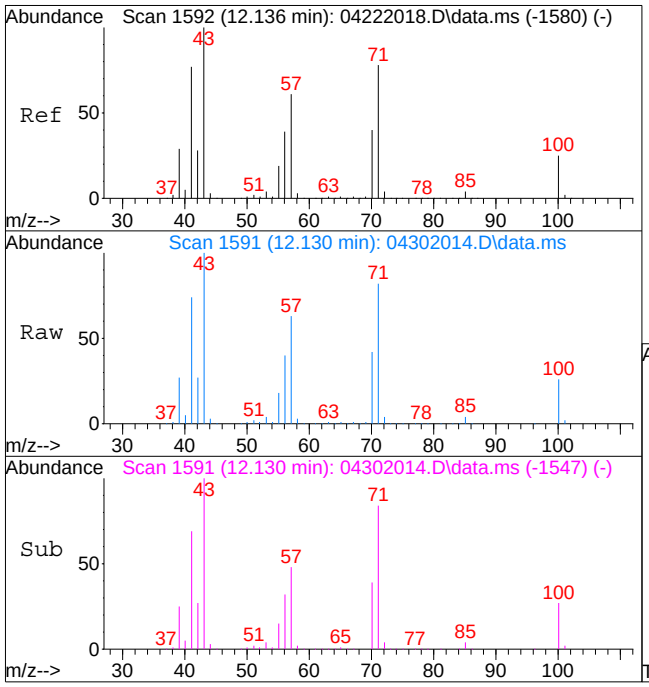


#47
Trichloroethene
Concen: 0.06 ng
RT: 11.81 min Scan# 1532
Delta R.T. -0.017 min
Lab File: 04302014.D
Acq: 30 Apr 2020 11:48

Tgt Ion:130 Resp: 902

Ion	Ratio	Lower	Upper
130	100		
132	103.8	76.4	116.4

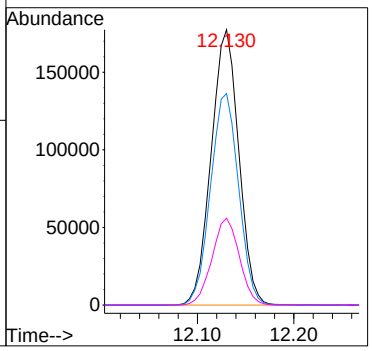


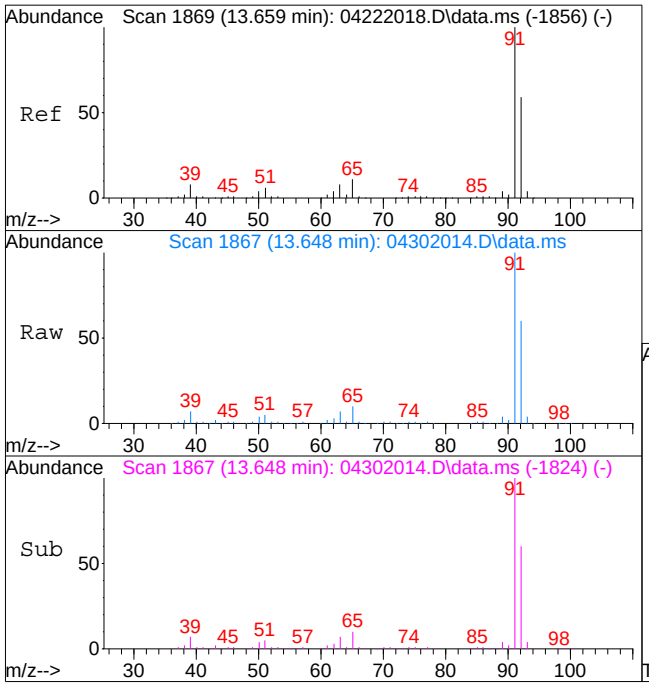


#51
n-Heptane
Concen: 35.73 ng
RT: 12.13 min Scan# 1591
Delta R.T. -0.006 min
Lab File: 04302014.D
Acq: 30 Apr 2020 11:48

Tgt Ion: 71 Resp: 353214

Ion	Ratio	Lower	Upper
71	100		
57	78.1	57.4	97.4
100	31.2	12.0	52.0

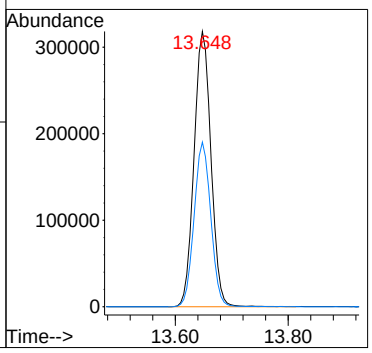


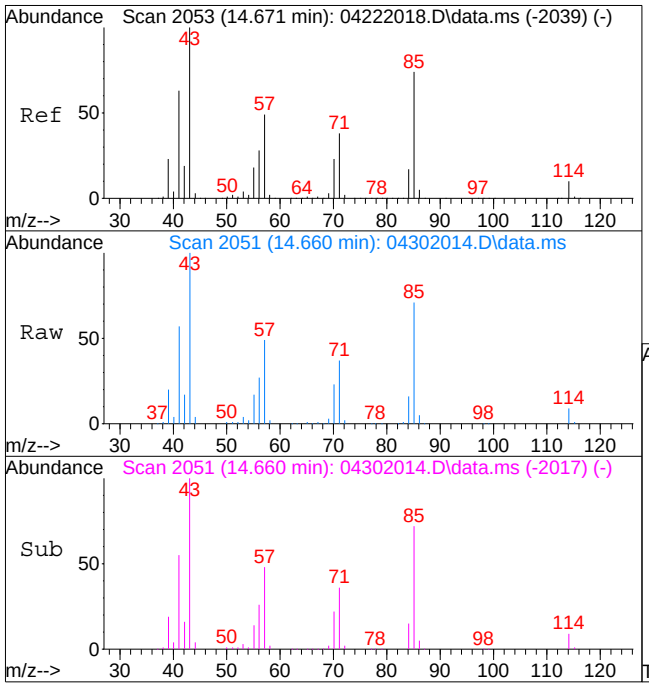


#58
Toluene
Concen: 14.35 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.011 min
Lab File: 04302014.D
Acq: 30 Apr 2020 11:48

Tgt Ion: 91 Resp: 661509

Ion	Ratio	Lower	Upper
91	100		
92	58.9	38.2	78.2

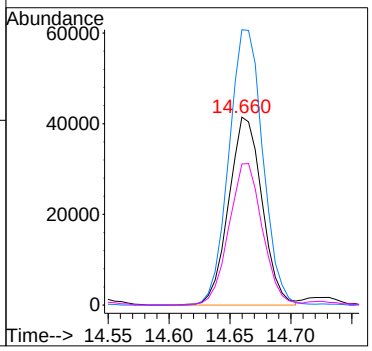


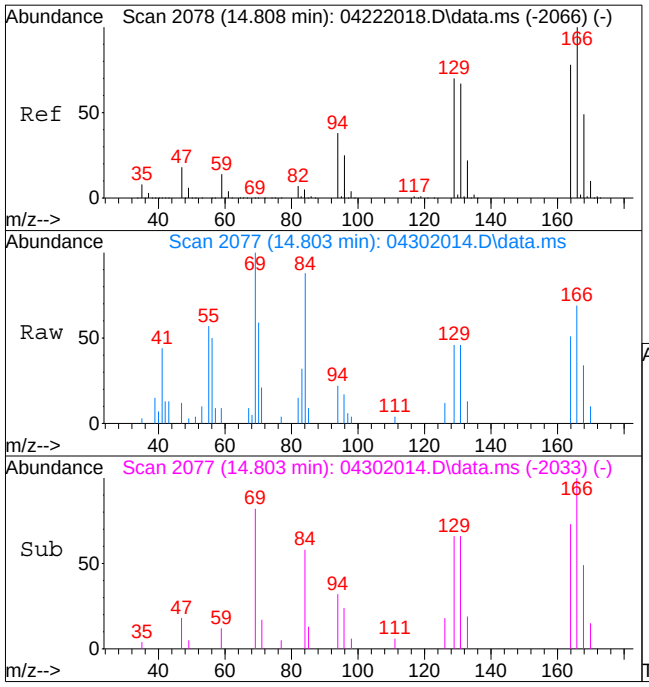


#63
n-Octane
Concen: 10.76 ng
RT: 14.66 min Scan# 2051
Delta R.T. -0.011 min
Lab File: 04302014.D
Acq: 30 Apr 2020 11:48

Tgt Ion: 57 Resp: 78926

Ion	Ratio	Lower	Upper
57	100		
85	149.3	120.7	181.1
71	75.7	61.1	91.7

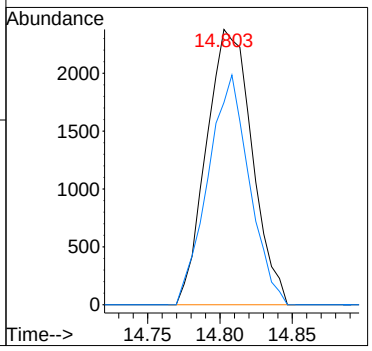


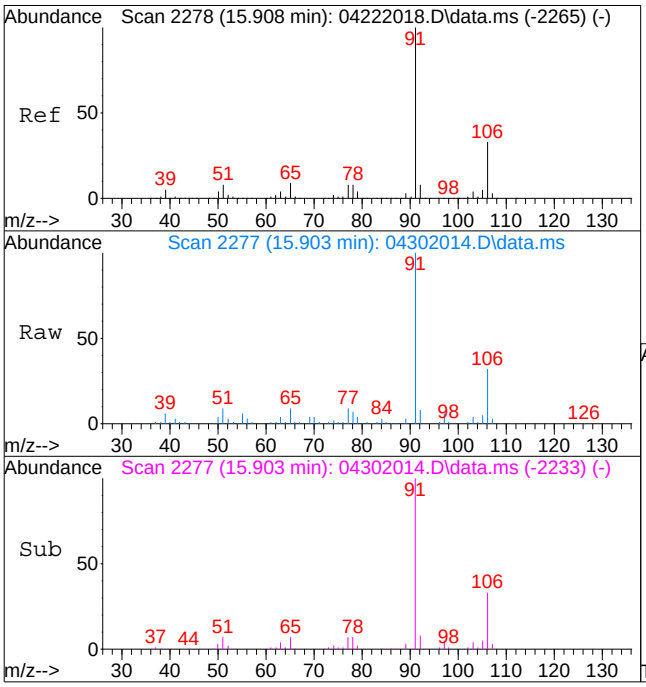


#64
Tetrachloroethene
Concen: 0.30 ng
RT: 14.80 min Scan# 2077
Delta R.T. -0.006 min
Lab File: 04302014.D
Acq: 30 Apr 2020 11:48

Tgt Ion:166 Resp: 5230

Ion	Ratio	Lower	Upper
166	100		
164	75.6	57.7	97.7

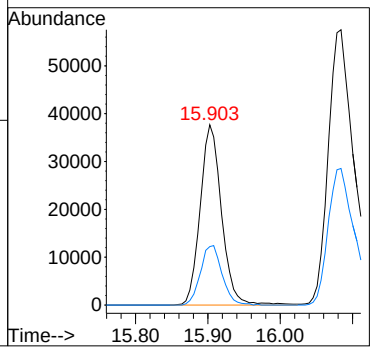


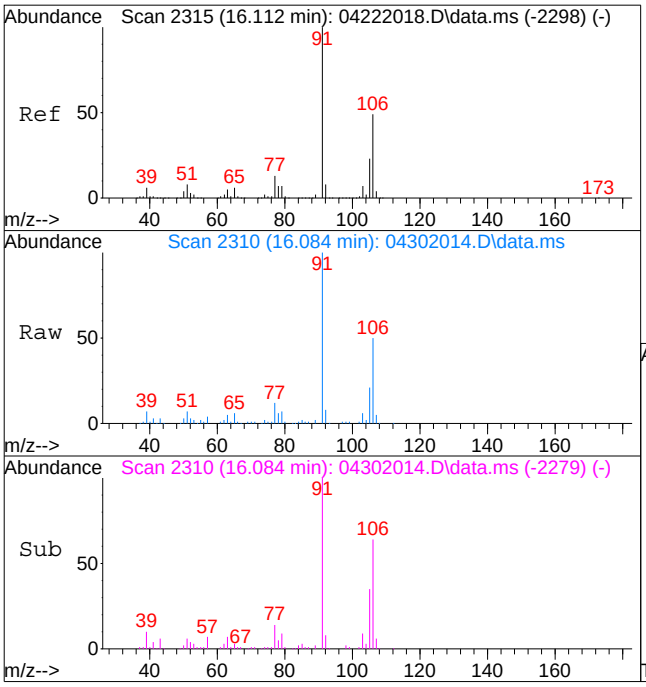


#66
Ethylbenzene
Concen: 1.44 ng
RT: 15.90 min Scan# 2277
Delta R.T. -0.006 min
Lab File: 04302014.D
Acq: 30 Apr 2020 11:48

Tgt Ion: 91 Resp: 77401

Ion	Ratio	Lower	Upper
91	100		
106	33.3	13.4	53.4

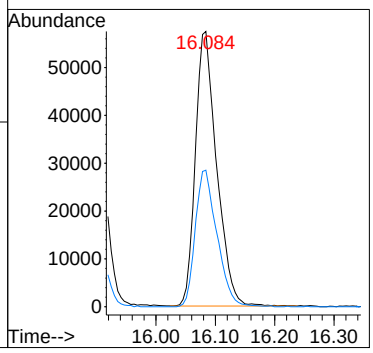


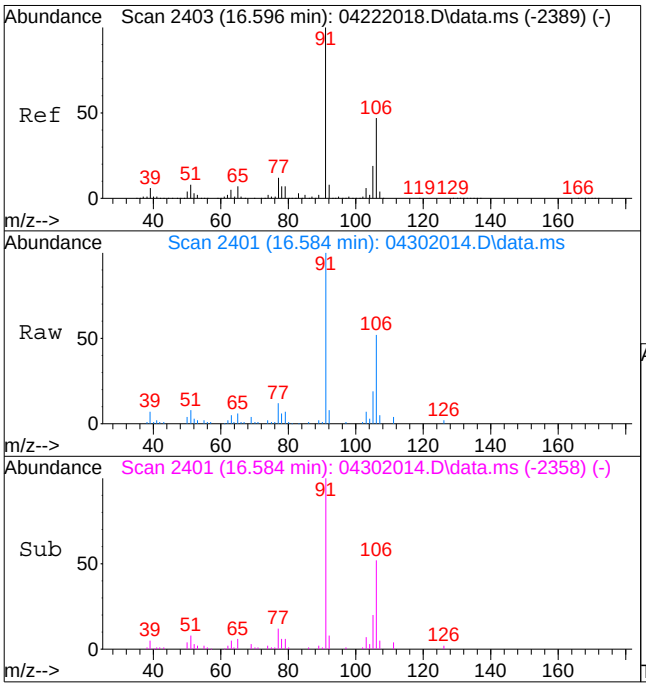


#67
m- & p-Xylenes
Concen: 3.15 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.028 min
Lab File: 04302014.D
Acq: 30 Apr 2020 11:48

Tgt Ion: 91 Resp: 142887

Ion	Ratio	Lower	Upper
91	100		
106	50.8	28.3	68.3

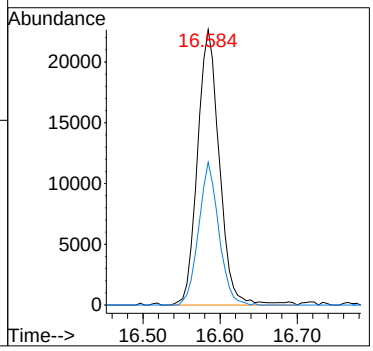


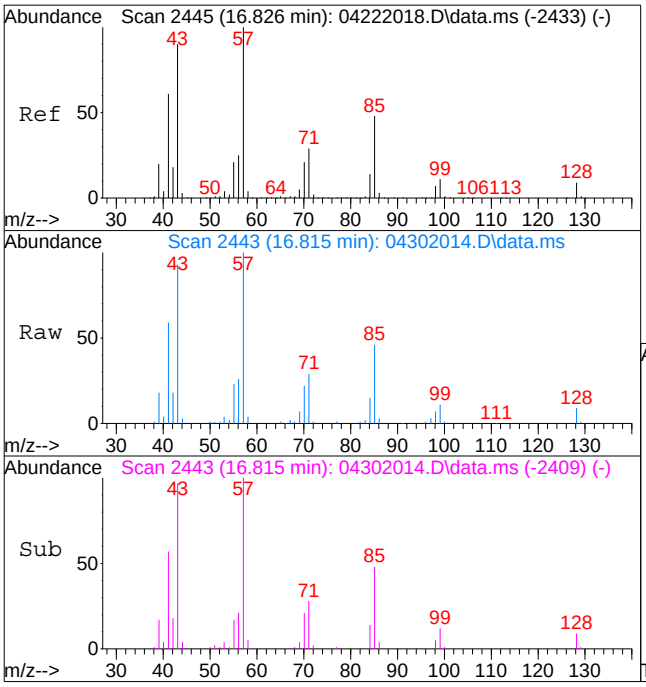


#70
o-Xylene
Concen: 1.00 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 04302014.D
Acq: 30 Apr 2020 11:48

Tgt Ion: 91 Resp: 44611

Ion	Ratio	Lower	Upper
91	100		
106	47.7	27.5	67.5

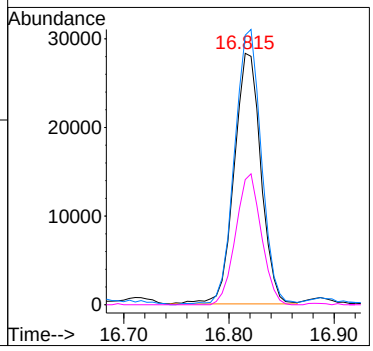


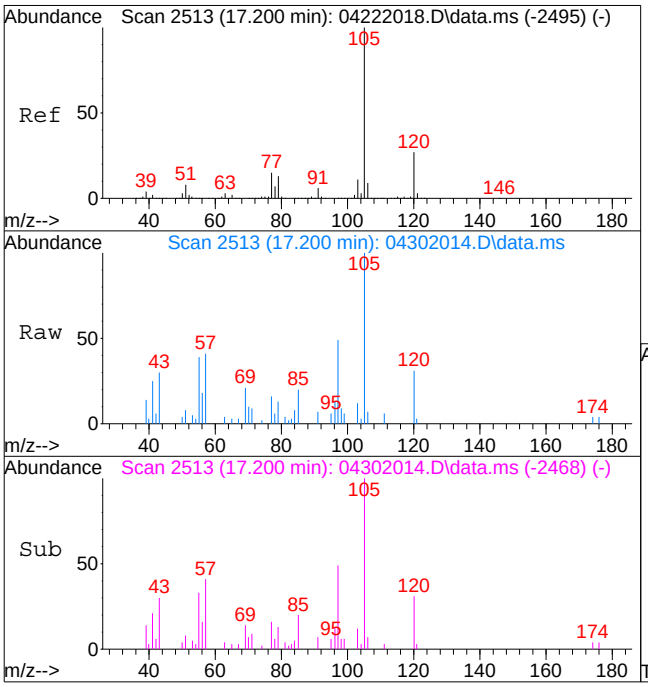


#71
n-Nonane
Concen: 3.48 ng
RT: 16.82 min Scan# 2443
Delta R.T. -0.011 min
Lab File: 04302014.D
Acq: 30 Apr 2020 11:48

Tgt Ion: 43 Resp: 49968

Ion	Ratio	Lower	Upper
43	100		
57	110.5	90.8	130.8
85	50.2	32.1	72.1

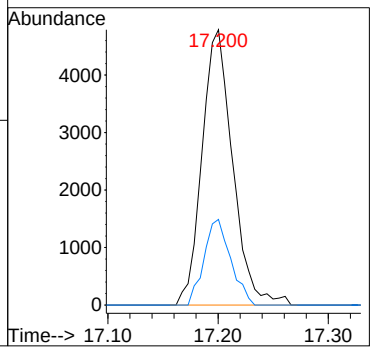


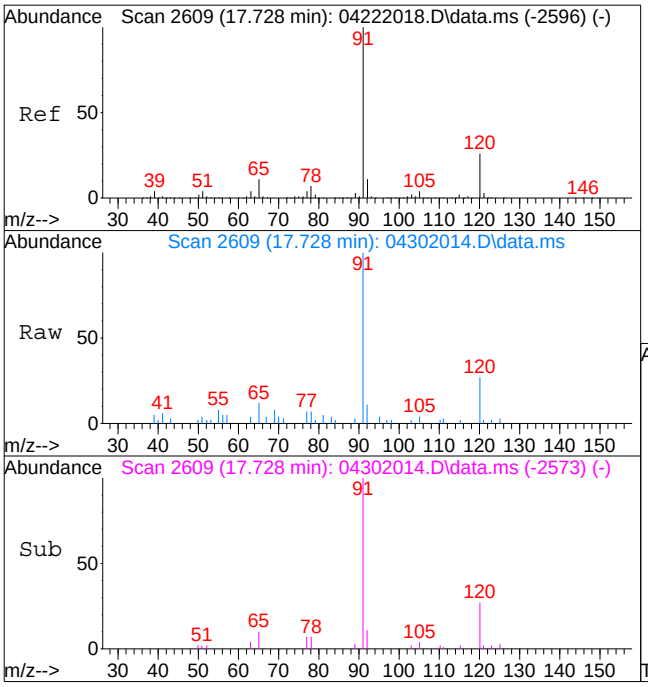


#74
Cumene
Concen: 0.16 ng
RT: 17.20 min Scan# 2513
Delta R.T. -0.000 min
Lab File: 04302014.D
Acq: 30 Apr 2020 11:48

Tgt Ion:105 Resp: 9243

Ion	Ratio	Lower	Upper
105	100		
120	27.0	7.3	47.3

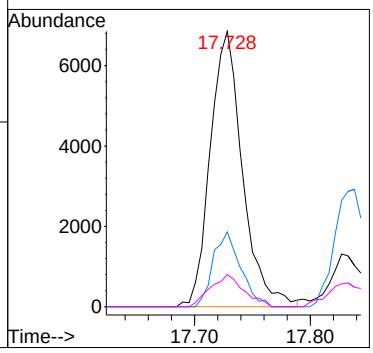


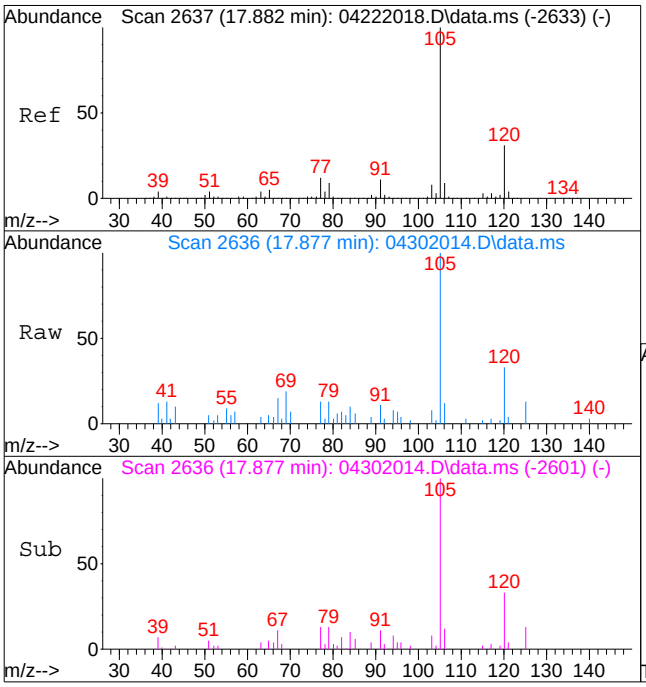


#76
n-Propylbenzene
Concen: 0.21 ng
RT: 17.73 min Scan# 2609
Delta R.T. -0.000 min
Lab File: 04302014.D
Acq: 30 Apr 2020 11:48

Tgt Ion: 91 Resp: 13280

Ion	Ratio	Lower	Upper
91	100		
120	23.2	6.1	46.1
65	12.1	0.0	30.7

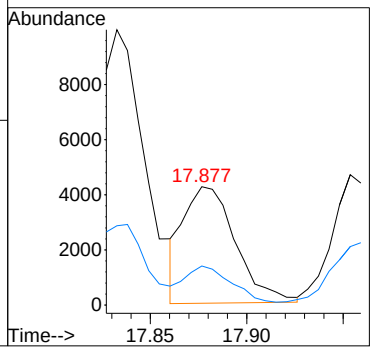


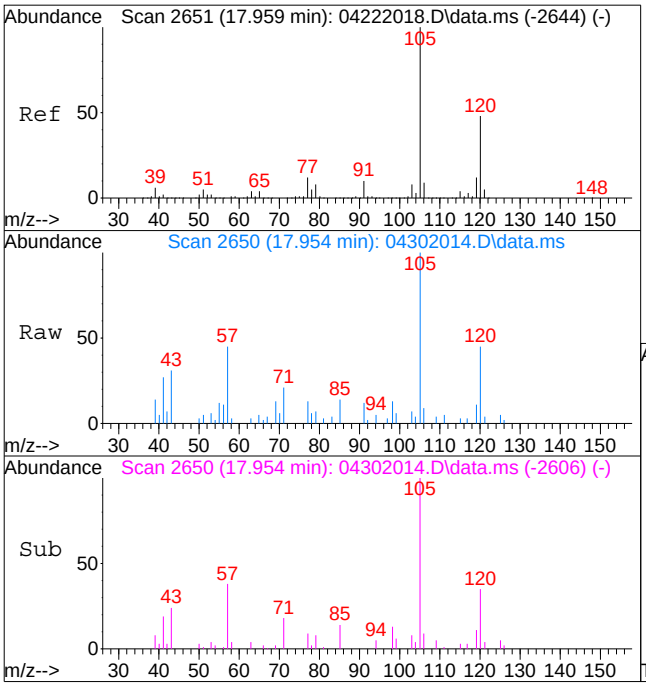


#78
4-Ethyltoluene
Concen: 0.14 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 04302014.D
Acq: 30 Apr 2020 11:48

Tgt Ion:105 Resp: 7990

Ion	Ratio	Lower	Upper
105	100		
120	31.5	11.4	51.4

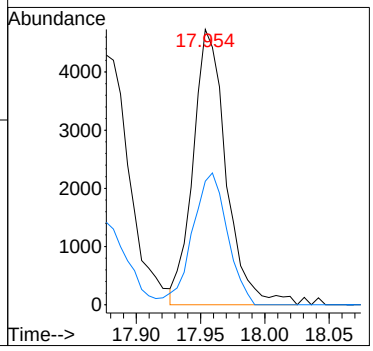


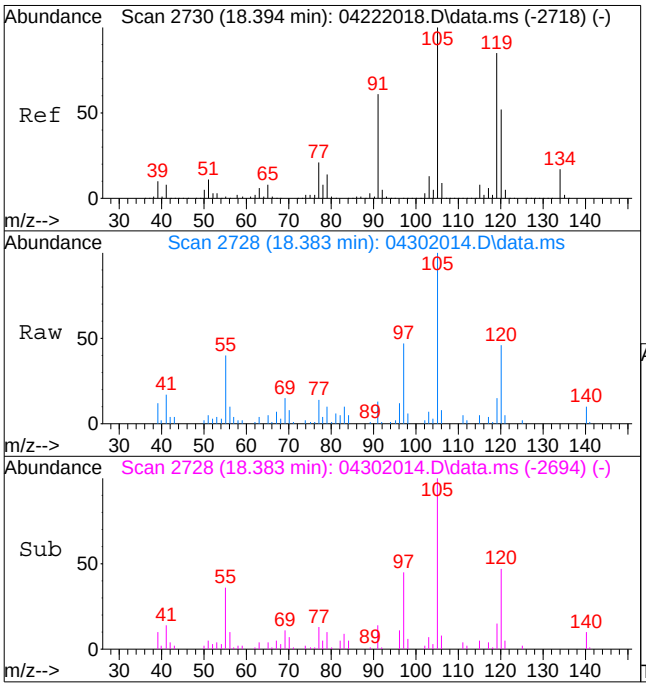


#79
1,3,5-Trimethylbenzene
Concen: 0.17 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 04302014.D
Acq: 30 Apr 2020 11:48

Tgt Ion:105 Resp: 8490

Ion	Ratio	Lower	Upper
105	100		
120	50.5	29.5	69.5

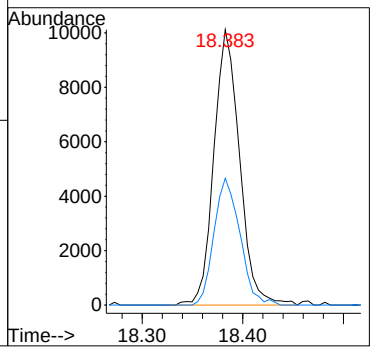




#82
1,2,4-Trimethylbenzene
Concen: 0.36 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 04302014.D
Acq: 30 Apr 2020 11:48

Tgt Ion:105 Resp: 17942

Ion	Ratio	Lower	Upper
105	100		
120	46.6	34.5	74.5



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292017.D Vial: 4
Acq On : 29 Apr 2020 15:05 Operator: SC
Sample : P2002029-002 (30mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 16:28:41 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/29/20

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	153457	12.500 ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	655239	12.500 ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	316512	12.500 ng		0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	235347	11.837 ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.72%			
57) Toluene-d8 (SS2)	13.55	98	702328	11.492 ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.92%			
73) Bromofluorobenzene (SS3)	17.05	174	272299	11.086 ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.72%			
Target Compounds						Qvalue
2) Propene	3.89	42	2206	0.338 ng		89
3) Dichlorodifluoromethan...	4.00	85	1012	N.D.		
4) Chloromethane	4.20	50	901	0.099 ng		82
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	4.94	94	242	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.39	45	690	0.140 ng	#	50
11) Acetonitrile	5.58	41	587	0.050 ng	#	1
12) Acrolein	5.72	56	797	0.177 ng	#	47
13) Acetone	5.84	58	25221	4.255 ng		90
14) Trichlorofluoromethane	6.03	101	1259	0.051 ng		96
15) 2-Propanol (Isopropanol)	6.23	45	2063	0.110 ng		94
16) Acrylonitrile	0.00	53	0	N.D. d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d		
19) Methylene Chloride	0.00	84	0	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D. d		
21) Trichlorotrifluoroethane	7.18	151	9625	0.751 ng		96
22) Carbon Disulfide	7.15	76	606	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D. d		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D. d		
27) 2-Butanone (MEK)	8.53	72	7065	1.160 ng		97
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D. d		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	9.23	57	108075	8.218 ng		98
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	10.06	62	489	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D. d		
40) 1-Butanol	0.00	56	0	N.D. d		
41) Benzene	10.76	78	1016775	23.804 ng		100
42) Carbon Tetrachloride	0.00	117	0	N.D. d		
43) Cyclohexane	11.04	84	303351	18.128 ng		99
44) tert-Amyl Methyl Ether	11.29	73	426	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D. d		
46) Bromodichloromethane	0.00	83	0	N.D. d		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d		
50) Methyl Methacrylate	0.00	100	0	N.D. d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292017.D Vial: 4
Acq On : 29 Apr 2020 15:05 Operator: SC
Sample : P2002029-002 (30mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 16:28:41 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

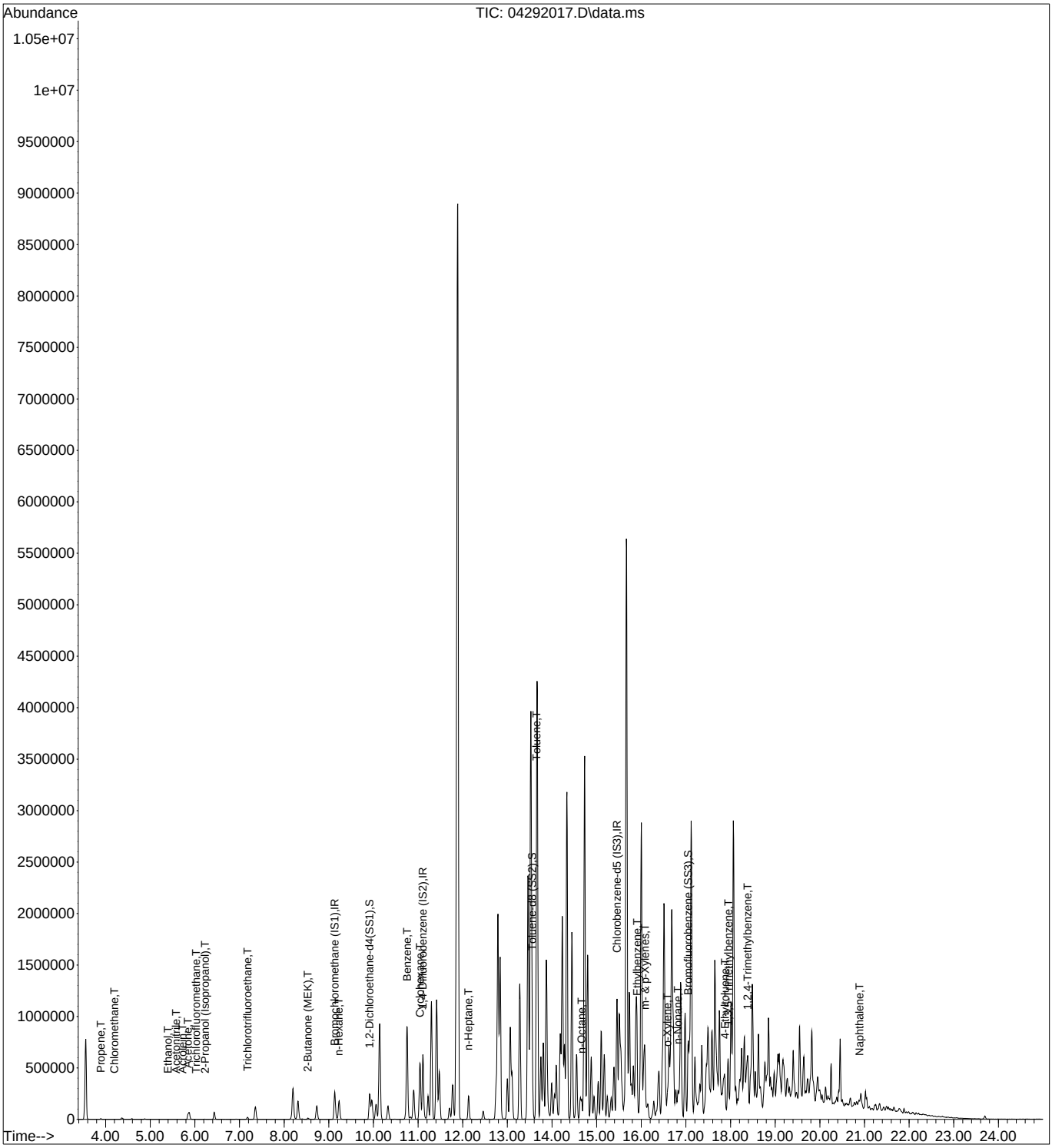
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.13	71	69066	6.959 ng	99
52) cis-1,3-Dichloropropene	12.79	75	625	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	13.27	75	149	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	13.65	91	318371	6.205 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.67	57	35954	4.402 ng	93
64) Tetrachloroethene	14.81	166	641	N.D.	
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.91	91	97260	1.627 ng	96
67) m- & p-Xylenes	16.08	91	197698	3.920 ng	97
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.58	104	1582	N.D.	
70) o-Xylene	16.58	91	75787	1.530 ng	98
71) n-Nonane	16.82	43	69702	4.362 ng	97
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	0.00	105	0	N.D. d	
75) alpha-Pinene	17.59	93	1339	N.D.	
76) n-Propylbenzene	0.00	91	0	N.D. d	
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	28028	0.456 ng	100
79) 1,3,5-Trimethylbenzene	17.95	105	44483	0.784 ng	99
80) alpha-Methylstyrene	18.12	118	310	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	97512	1.777 ng	91
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	0.00	91	0	N.D. d	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D. d	
95) Naphthalene	20.89	128	23677	0.335 ng	98
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292017.D Vial: 4
Acq On : 29 Apr 2020 15:05 Operator: SC
Sample : P2002029-002 (30mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 16:28:41 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292017.D Vial: 4
Acq On : 29 Apr 2020 15:05 Operator: SC
Sample : P2002029-002 (30mL) Inst : MS09
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Quant Time: Apr 29 16:28:41 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/29/20

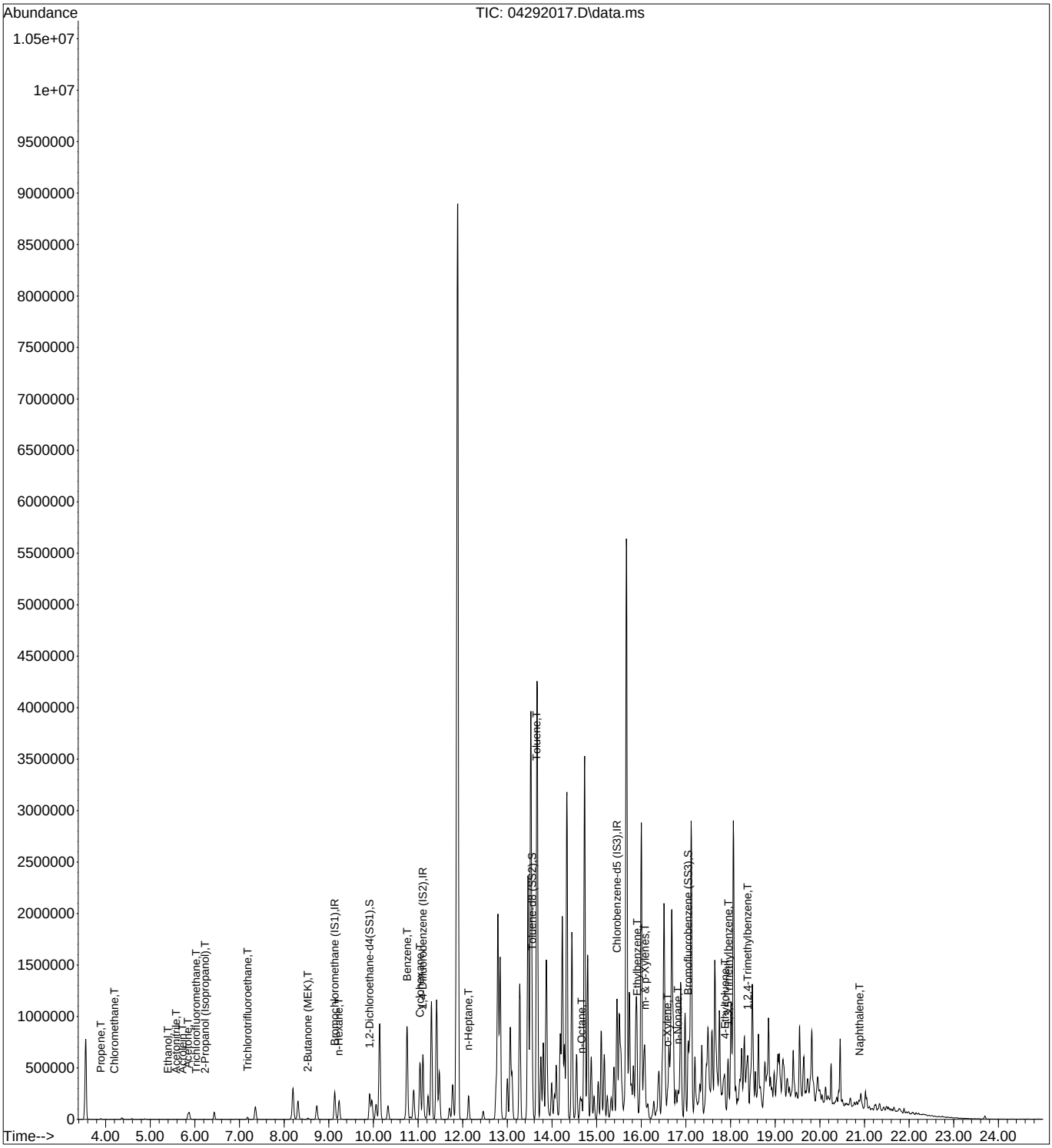
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	153457	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	655239	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	316512	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	235347	11.837	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.72%				
57) Toluene-d8 (SS2)	13.55	98	702328	11.492	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.92%				
73) Bromofluorobenzene (SS3)	17.05	174	272299	11.086	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.72%				
Target Compounds							Qvalue
2) Propene	3.89	42	2206	0.338	ng		89
4) Chloromethane	4.20	50	901	0.099	ng		82
10) Ethanol	5.39	45	690	0.140	ng	#	50
11) Acetonitrile	5.58	41	587	0.050	ng	#	1
12) Acrolein	5.72	56	797	0.177	ng	#	47
13) Acetone	5.84	58	25221	4.255	ng		90
14) Trichlorofluoromethane	6.03	101	1259	0.051	ng		96
15) 2-Propanol (Isopropanol)	6.23	45	2063	0.110	ng		94
21) Trichlorotrifluoroethane	7.18	151	9625	0.751	ng		96
27) 2-Butanone (MEK)	8.53	72	7065	1.160	ng		97
31) n-Hexane	9.23	57	108075	8.218	ng		98
41) Benzene	10.76	78	1016775	23.804	ng		100
43) Cyclohexane	11.04	84	303351	18.128	ng		99
51) n-Heptane	12.13	71	69066	6.959	ng		99
58) Toluene	13.65	91	318371	6.205	ng		100
63) n-Octane	14.67	57	35954	4.402	ng		93
66) Ethylbenzene	15.91	91	97260	1.627	ng		96
67) m- & p-Xylenes	16.08	91	197698	3.920	ng		97
70) o-Xylene	16.58	91	75787	1.530	ng		98
71) n-Nonane	16.82	43	69702	4.362	ng		97
78) 4-Ethyltoluene	17.88	105	28028	0.456	ng		100
79) 1,3,5-Trimethylbenzene	17.95	105	44483	0.784	ng		99
82) 1,2,4-Trimethylbenzene	18.38	105	97512	1.777	ng		91
95) Naphthalene	20.89	128	23677	0.335	ng		98

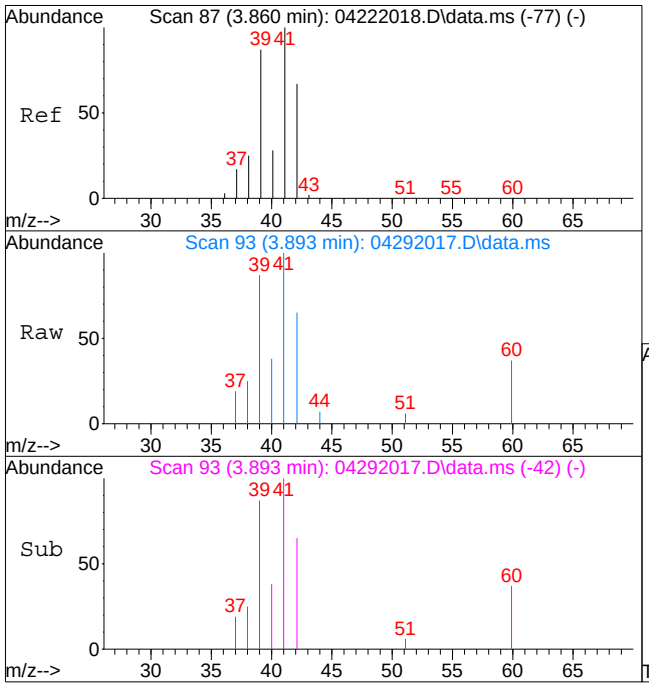
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292017.D Vial: 4
Acq On : 29 Apr 2020 15:05 Operator: SC
Sample : P2002029-002 (30mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 16:28:41 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

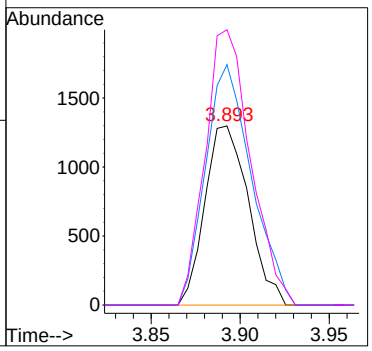


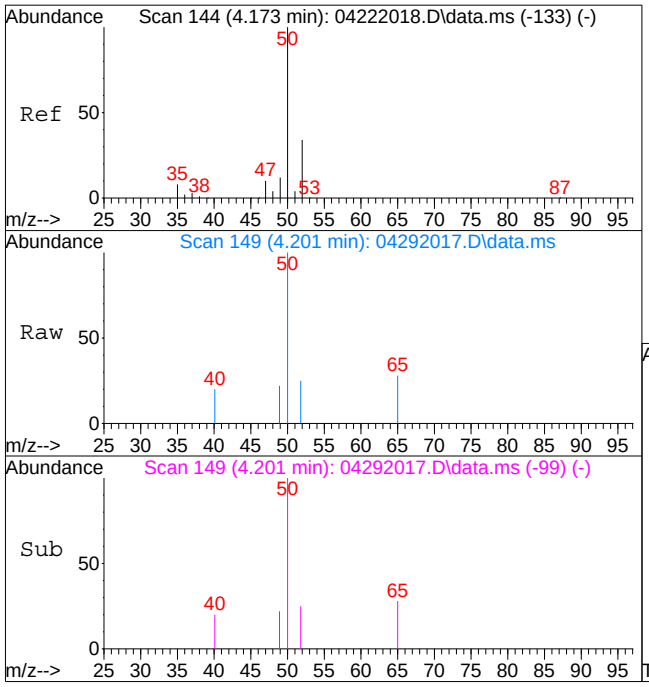


#2
Propene
Concen: 0.34 ng
RT: 3.89 min Scan# 93
Delta R.T. 0.033 min
Lab File: 04292017.D
Acq: 29 Apr 2020 15:05

Tgt Ion: 42 Resp: 2206

Ion	Ratio	Lower	Upper
42	100		
39	142.2	106.4	146.4
41	160.5	128.8	168.8

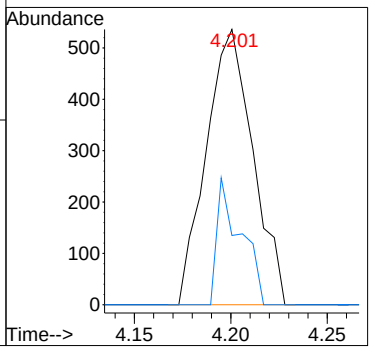


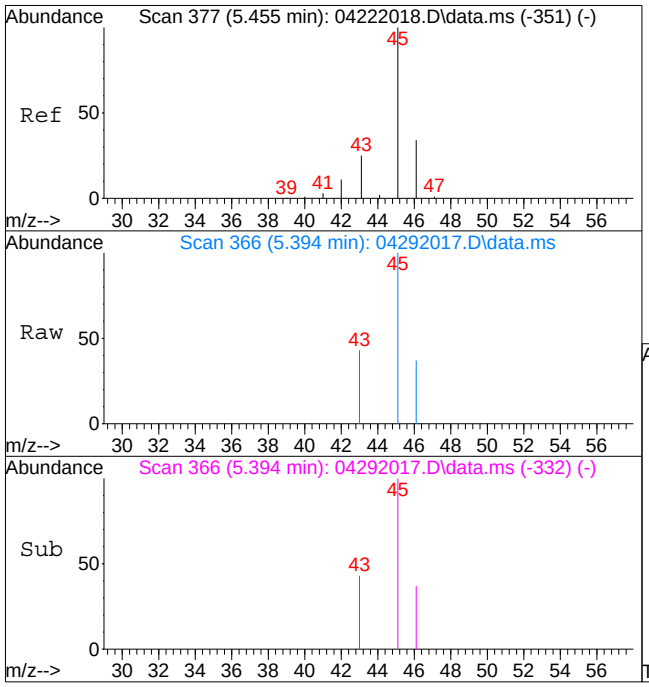


#4
Chloromethane
Concen: 0.10 ng
RT: 4.20 min Scan# 149
Delta R.T. 0.027 min
Lab File: 04292017.D
Acq: 29 Apr 2020 15:05

Tgt Ion: 50 Resp: 901

Ion	Ratio	Lower	Upper
50	100		
52	23.4	13.7	53.7

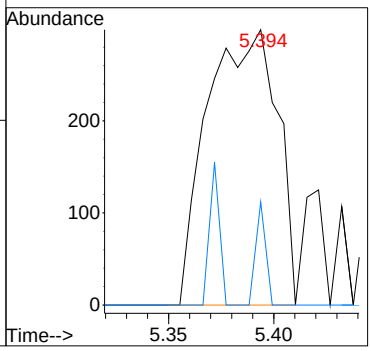


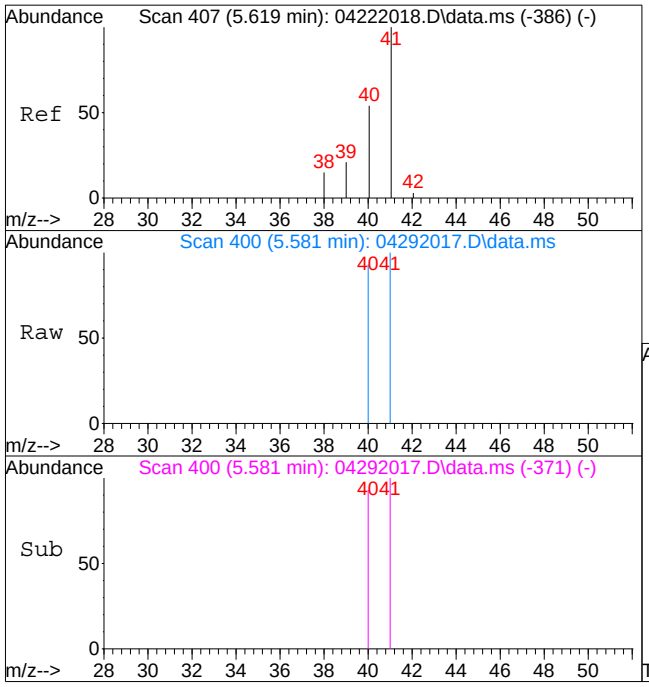


#10
Ethanol
Concen: 0.14 ng
RT: 5.39 min Scan# 366
Delta R.T. -0.061 min
Lab File: 04292017.D
Acq: 29 Apr 2020 15:05

Tgt Ion: 45 Resp: 690

Ion	Ratio	Lower	Upper
45	100		
46	5.4	14.0	54.0#

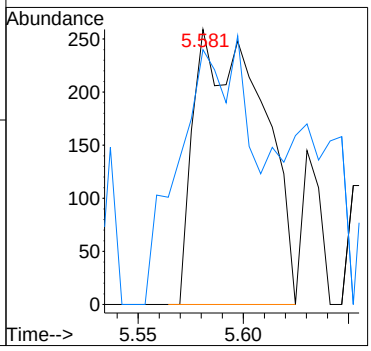


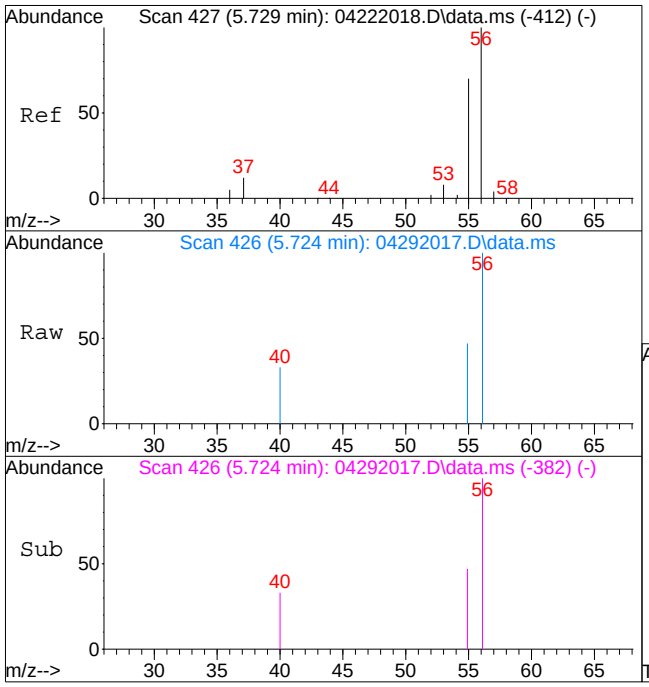


#11
Acetonitrile
Concen: 0.05 ng
RT: 5.58 min Scan# 400
Delta R.T. -0.039 min
Lab File: 04292017.D
Acq: 29 Apr 2020 15:05

Tgt Ion: 41 Resp: 587

Ion	Ratio	Lower	Upper
41	100		
40	154.7	34.8	74.8#

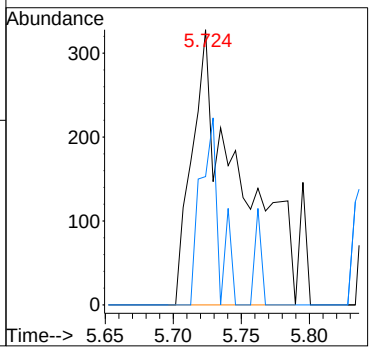


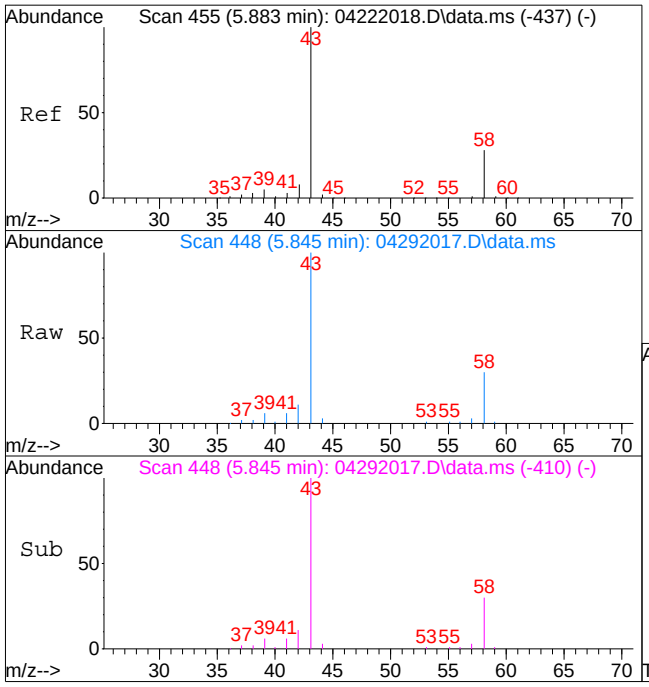


#12
Acrolein
Concen: 0.18 ng
RT: 5.72 min Scan# 426
Delta R.T. -0.006 min
Lab File: 04292017.D
Acq: 29 Apr 2020 15:05

Tgt Ion: 56 Resp: 797

Ion	Ratio	Lower	Upper
56	100		
55	26.5	50.4	90.4#

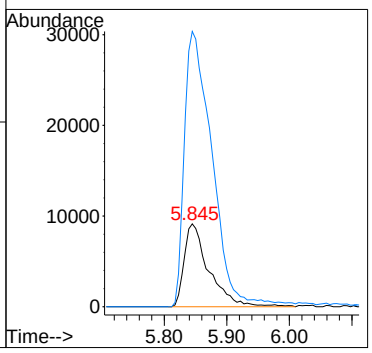


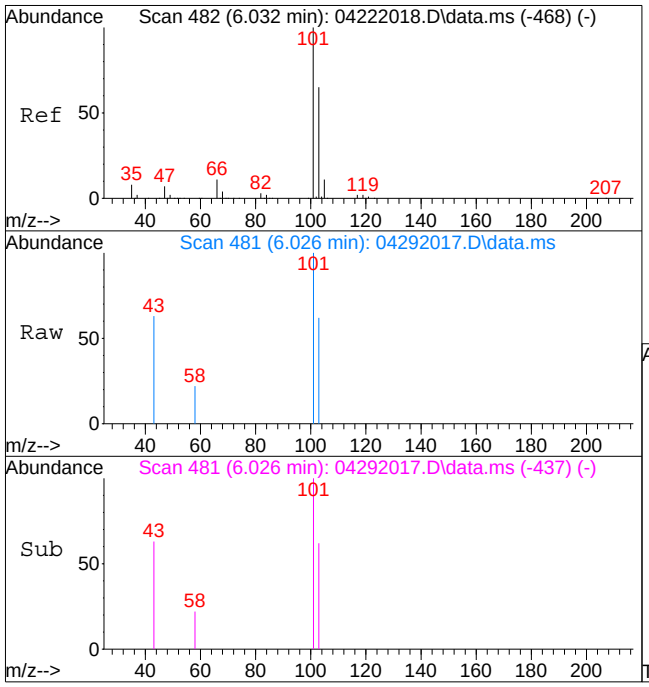


#13
Acetone
Concen: 4.26 ng
RT: 5.84 min Scan# 448
Delta R.T. -0.039 min
Lab File: 04292017.D
Acq: 29 Apr 2020 15:05

Tgt Ion: 58 Resp: 25221

Ion	Ratio	Lower	Upper
58	100		
43	371.1	319.3	379.3

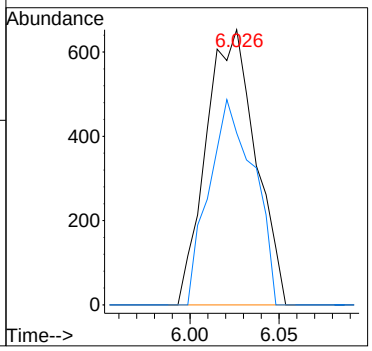


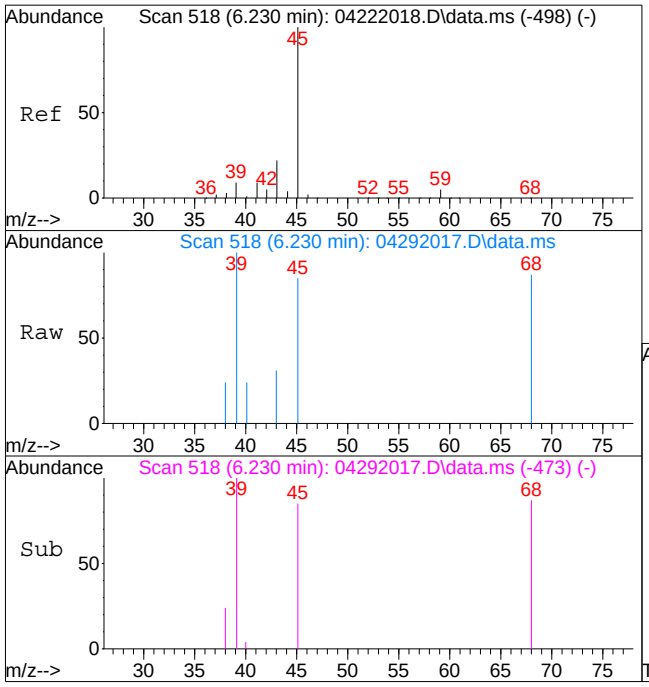


#14
Trichlorofluoromethane
Concen: 0.05 ng
RT: 6.03 min Scan# 481
Delta R.T. -0.006 min
Lab File: 04292017.D
Acq: 29 Apr 2020 15:05

Tgt Ion:101 Resp: 1259

Ion	Ratio	Lower	Upper
101	100		
103	67.8	44.7	84.7

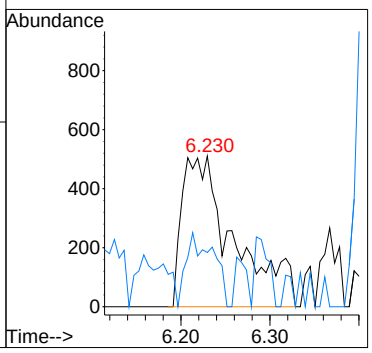


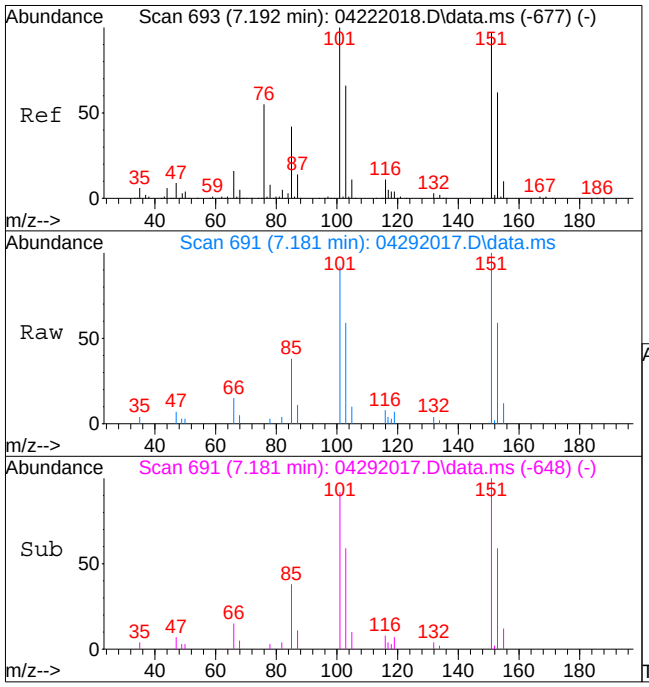


#15
2-Propanol (Isopropanol)
Concen: 0.11 ng
RT: 6.23 min Scan# 518
Delta R.T. -0.000 min
Lab File: 04292017.D
Acq: 29 Apr 2020 15:05

Tgt Ion: 45 Resp: 2063

Ion	Ratio	Lower	Upper
45	100		
43	25.4	2.6	42.6

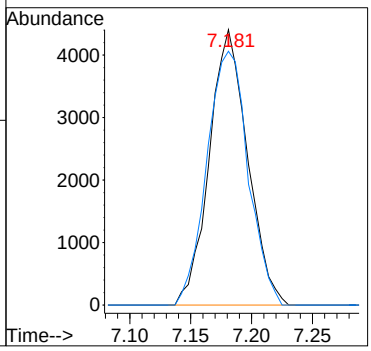


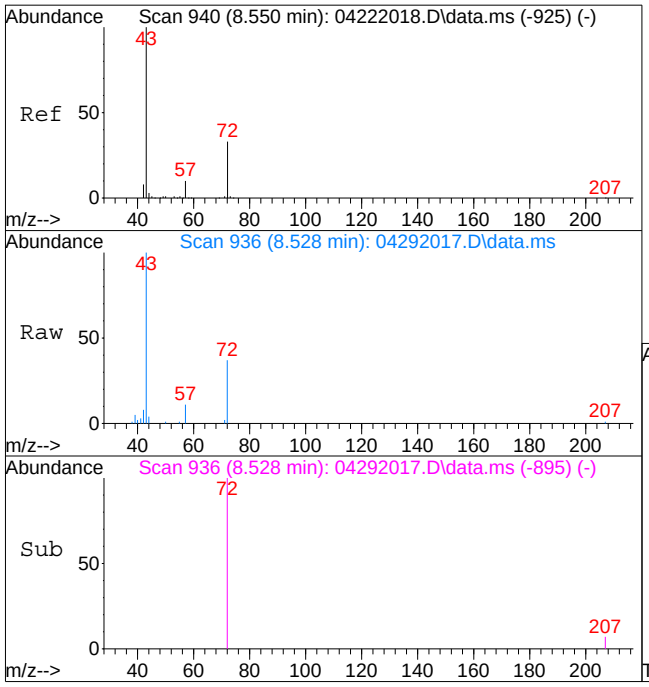


#21
Trichlorotrifluoroethane
Concen: 0.75 ng
RT: 7.18 min Scan# 691
Delta R.T. -0.011 min
Lab File: 04292017.D
Acq: 29 Apr 2020 15:05

Tgt Ion:151 Resp: 9625

Ion	Ratio	Lower	Upper
151	100		
101	99.3	82.9	122.9

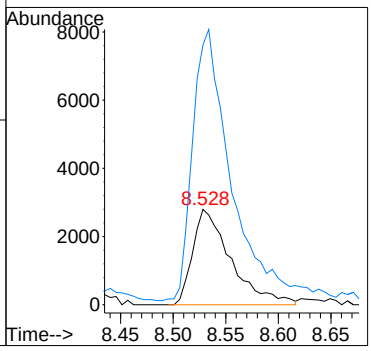


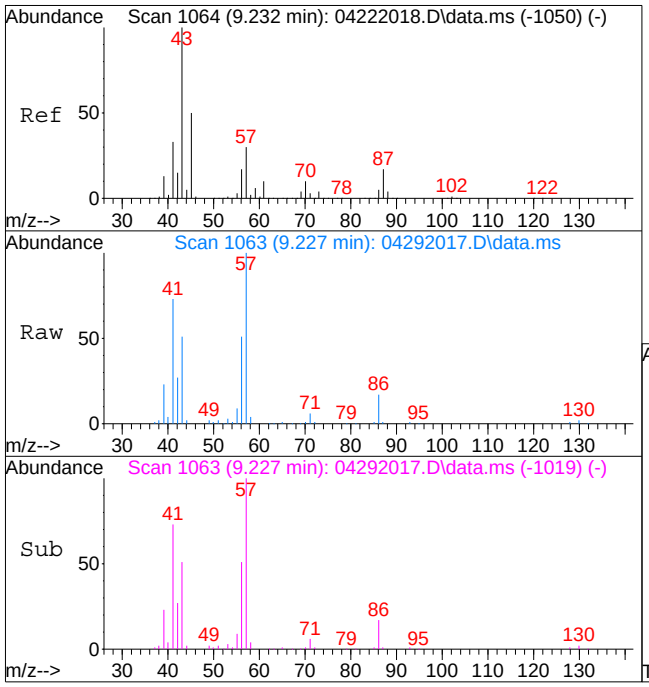


#27
2-Butanone (MEK)
Concen: 1.16 ng
RT: 8.53 min Scan# 936
Delta R.T. -0.022 min
Lab File: 04292017.D
Acq: 29 Apr 2020 15:05

Tgt Ion: 72 Resp: 7065

Ion	Ratio	Lower	Upper
72	100		
43	292.9	278.8	318.8

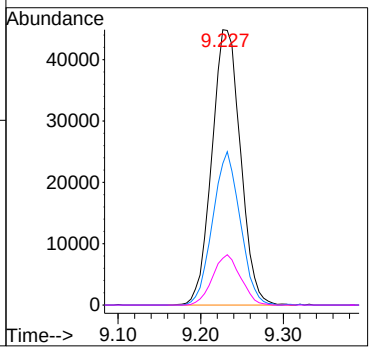


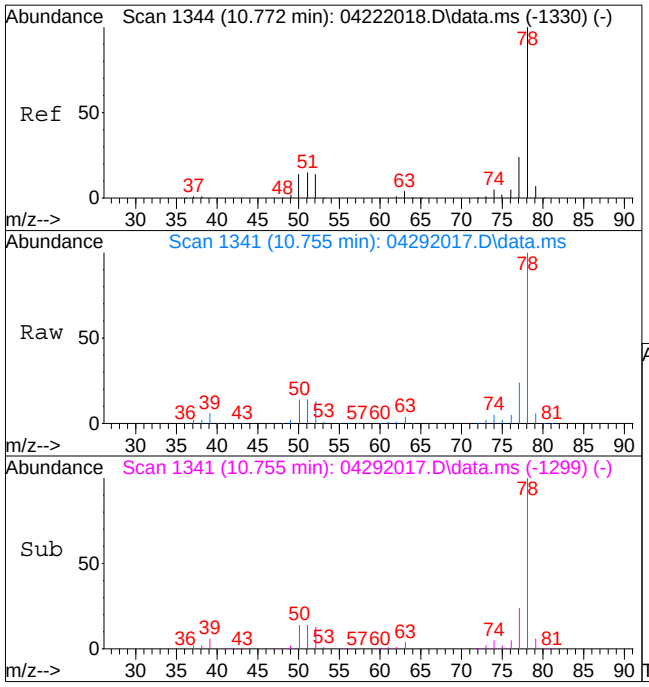


#31
n-Hexane
Concen: 8.22 ng
RT: 9.23 min Scan# 1063
Delta R.T. -0.006 min
Lab File: 04292017.D
Acq: 29 Apr 2020 15:05

Tgt Ion: 57 Resp: 108075

Ion	Ratio	Lower	Upper
57	100		
56	53.5	44.0	66.0
86	17.8	15.0	22.4

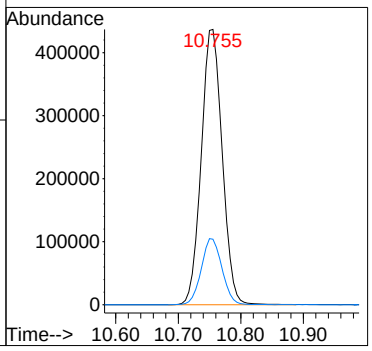


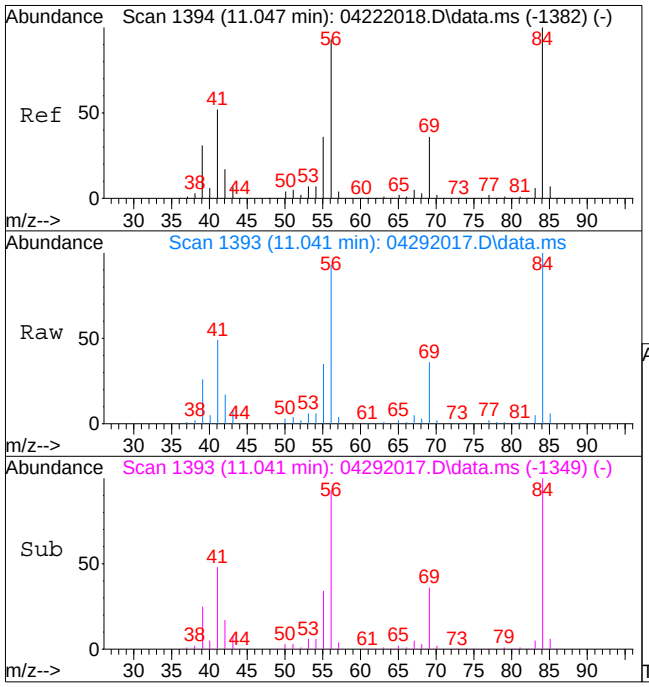


#41
Benzene
Concen: 23.80 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.017 min
Lab File: 04292017.D
Acq: 29 Apr 2020 15:05

Tgt Ion: 78 Resp: 1016775

Ion	Ratio	Lower	Upper
78	100		
77	23.8	3.6	43.6

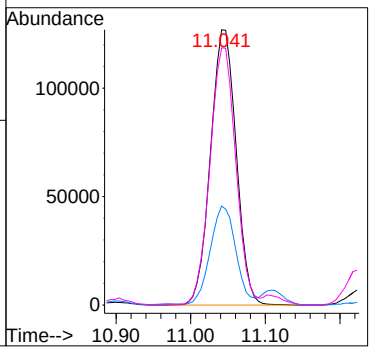


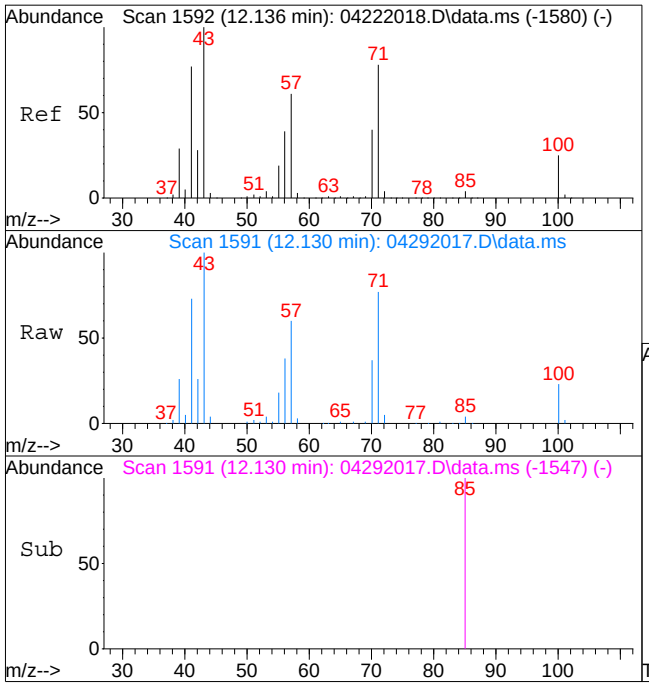


#43
Cyclohexane
Concen: 18.13 ng
RT: 11.04 min Scan# 1393
Delta R.T. -0.006 min
Lab File: 04292017.D
Acq: 29 Apr 2020 15:05

Tgt Ion: 84 Resp: 303351

Ion	Ratio	Lower	Upper
84	100		
69	35.5	15.8	55.8
56	93.5	72.0	112.0

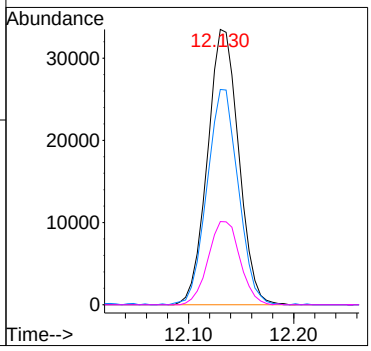


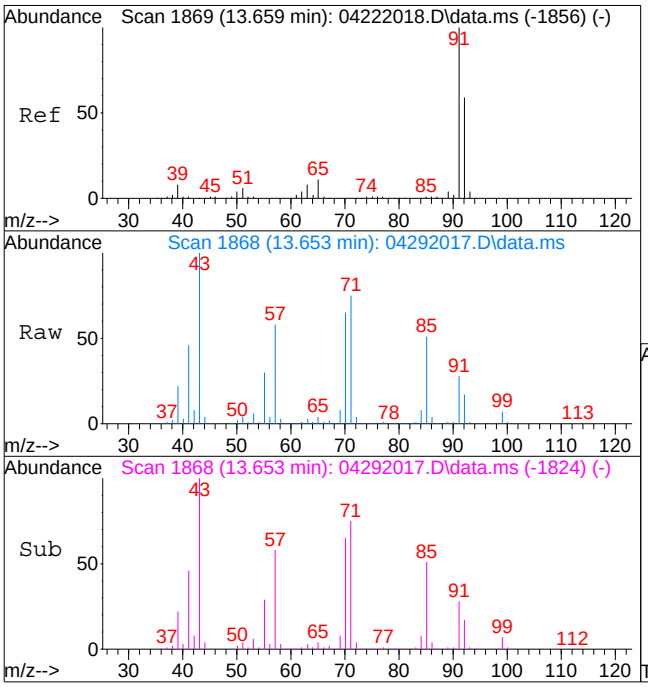


#51
n-Heptane
Concen: 6.96 ng
RT: 12.13 min Scan# 1591
Delta R.T. -0.006 min
Lab File: 04292017.D
Acq: 29 Apr 2020 15:05

Tgt Ion: 71 Resp: 69066

Ion	Ratio	Lower	Upper
71	100		
57	78.3	57.4	97.4
100	30.8	12.0	52.0

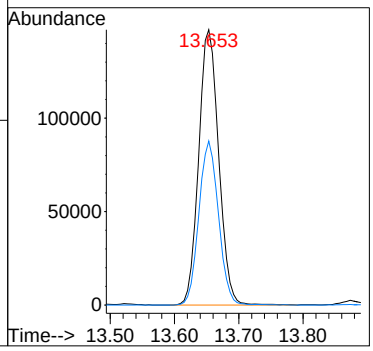


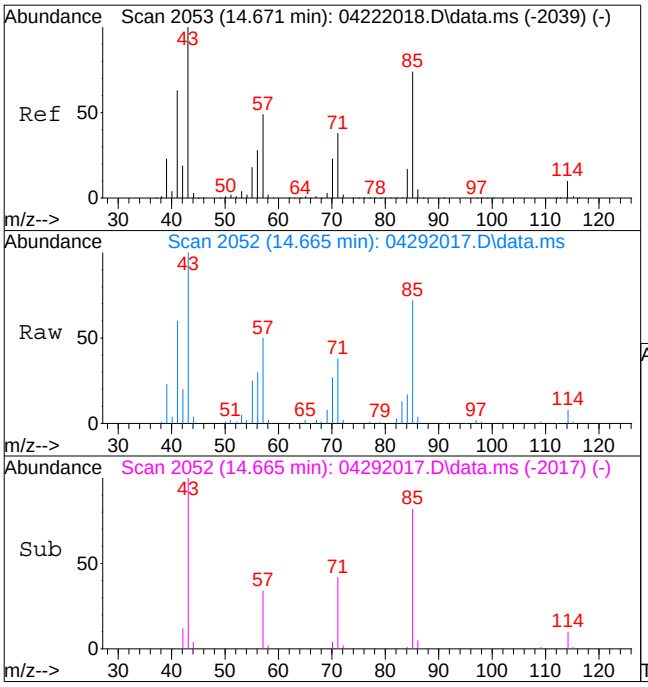


#58
Toluene
Concen: 6.20 ng
RT: 13.65 min Scan# 1868
Delta R.T. -0.006 min
Lab File: 04292017.D
Acq: 29 Apr 2020 15:05

Tgt Ion: 91 Resp: 318371

Ion	Ratio	Lower	Upper
91	100		
92	58.4	38.2	78.2

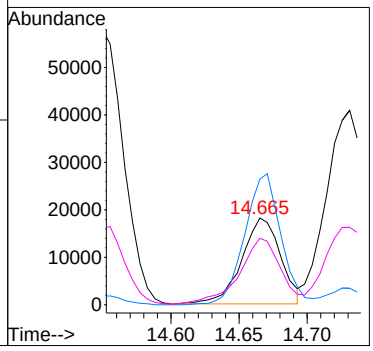


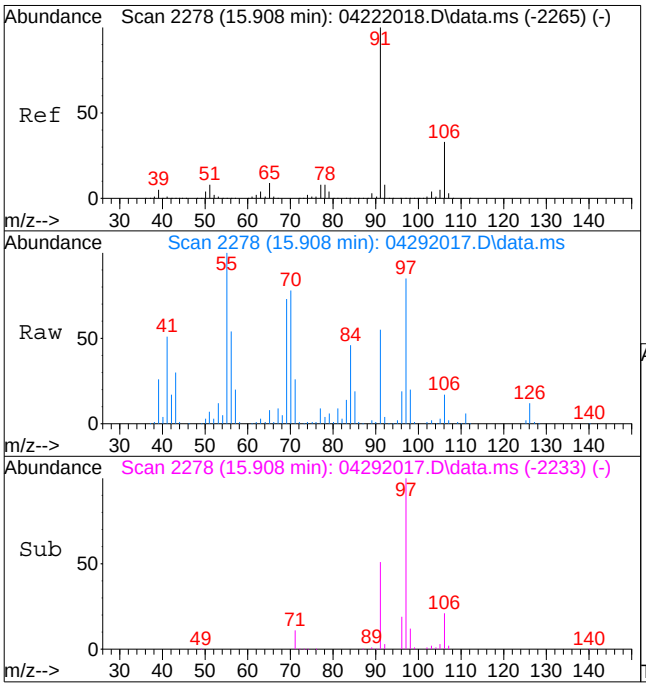


#63
n-Octane
Concen: 4.40 ng
RT: 14.67 min Scan# 2052
Delta R.T. -0.006 min
Lab File: 04292017.D
Acq: 29 Apr 2020 15:05

Tgt Ion: 57 Resp: 35954

Ion	Ratio	Lower	Upper
57	100		
85	142.0	120.7	181.1
71	81.5	61.1	91.7

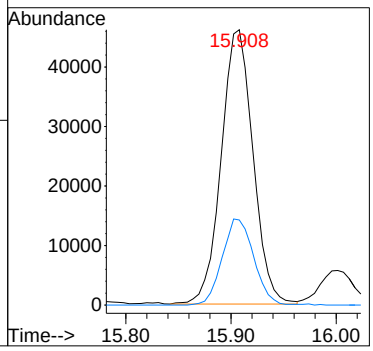


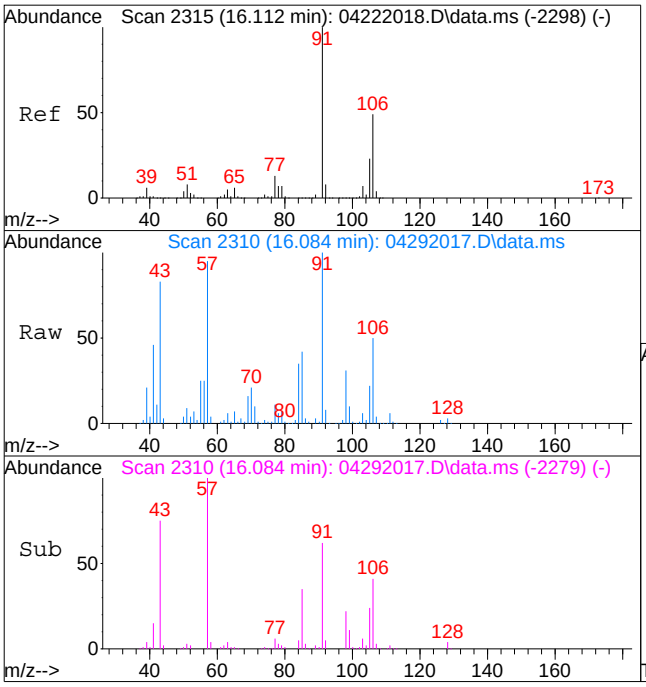


#66
Ethylbenzene
Concen: 1.63 ng
RT: 15.91 min Scan# 2278
Delta R.T. -0.000 min
Lab File: 04292017.D
Acq: 29 Apr 2020 15:05

Tgt Ion: 91 Resp: 97260

Ion	Ratio	Lower	Upper
91	100		
106	31.2	13.4	53.4

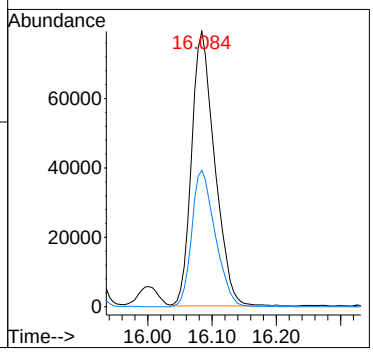


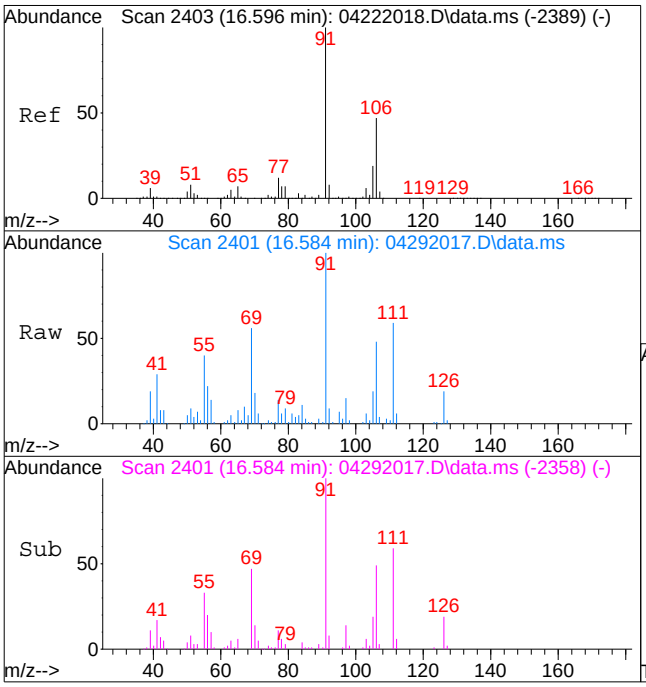


#67
m- & p-Xylenes
Concen: 3.92 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.028 min
Lab File: 04292017.D
Acq: 29 Apr 2020 15:05

Tgt Ion: 91 Resp: 197698

Ion	Ratio	Lower	Upper
91	100		
106	50.5	28.3	68.3

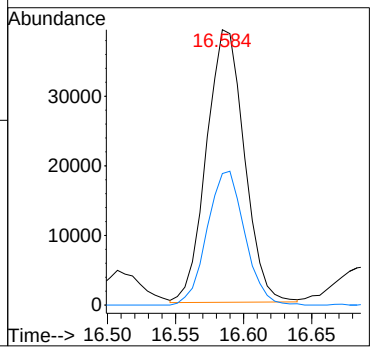


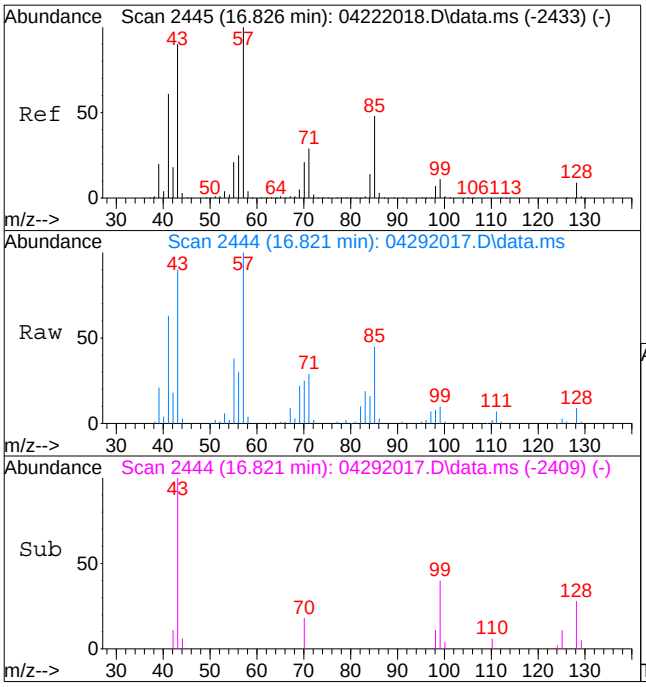


#70
o-Xylene
Concen: 1.53 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 04292017.D
Acq: 29 Apr 2020 15:05

Tgt Ion: 91 Resp: 75787

Ion	Ratio	Lower	Upper
91	100		
106	48.6	27.5	67.5

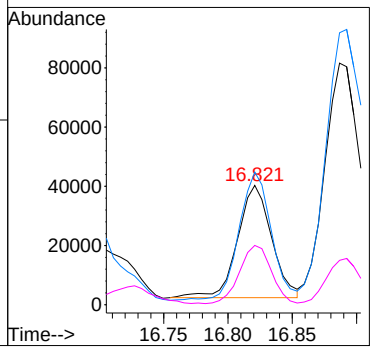


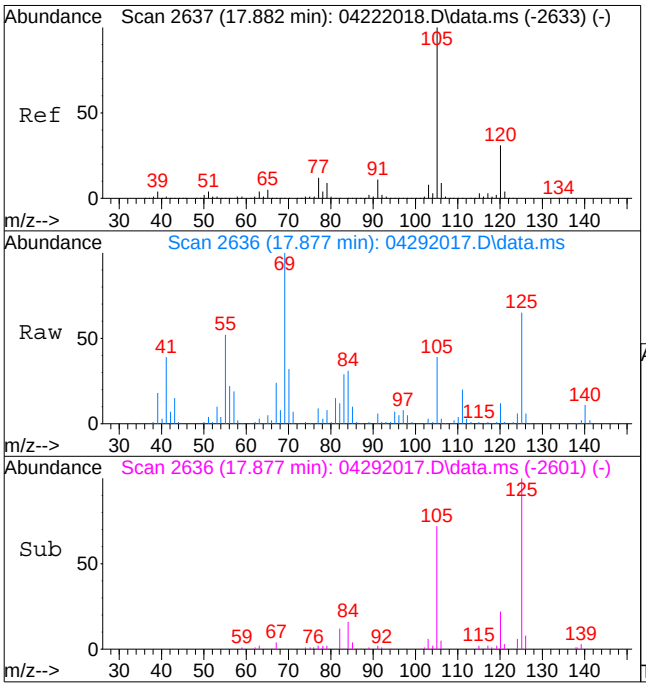


#71
n-Nonane
Concen: 4.36 ng
RT: 16.82 min Scan# 2444
Delta R.T. -0.006 min
Lab File: 04292017.D
Acq: 29 Apr 2020 15:05

Tgt Ion: 43 Resp: 69702

Ion	Ratio	Lower	Upper
43	100		
57	108.5	90.8	130.8
85	48.0	32.1	72.1

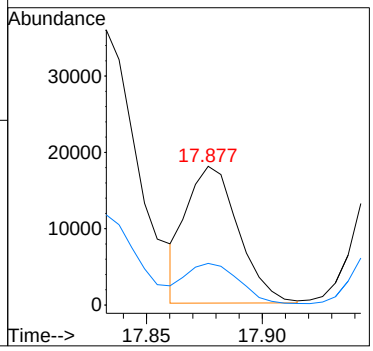


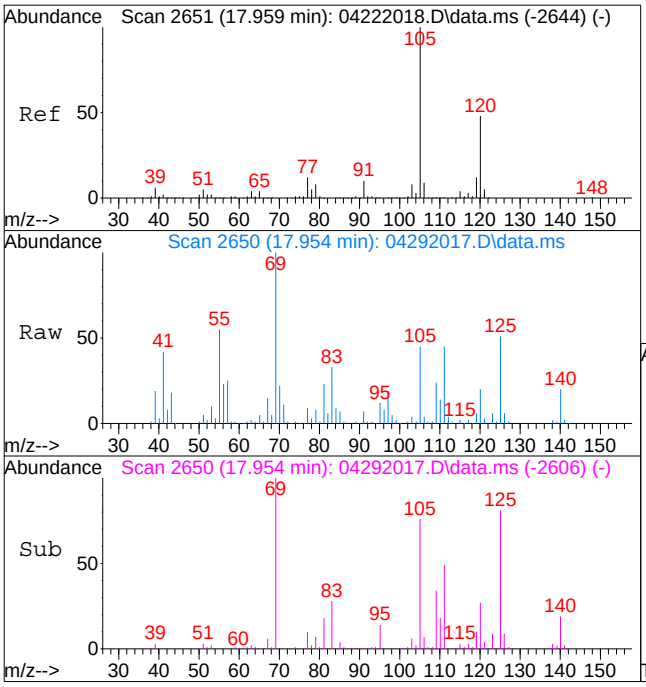


#78
4-Ethyltoluene
Concen: 0.46 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 04292017.D
Acq: 29 Apr 2020 15:05

Tgt Ion:105 Resp: 28028

Ion	Ratio	Lower	Upper
105	100		
120	31.5	11.4	51.4

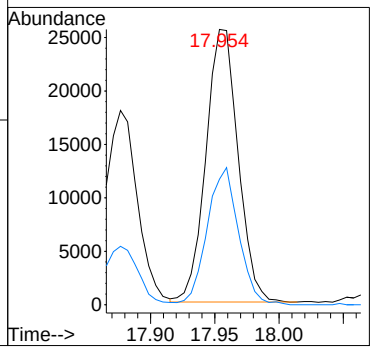


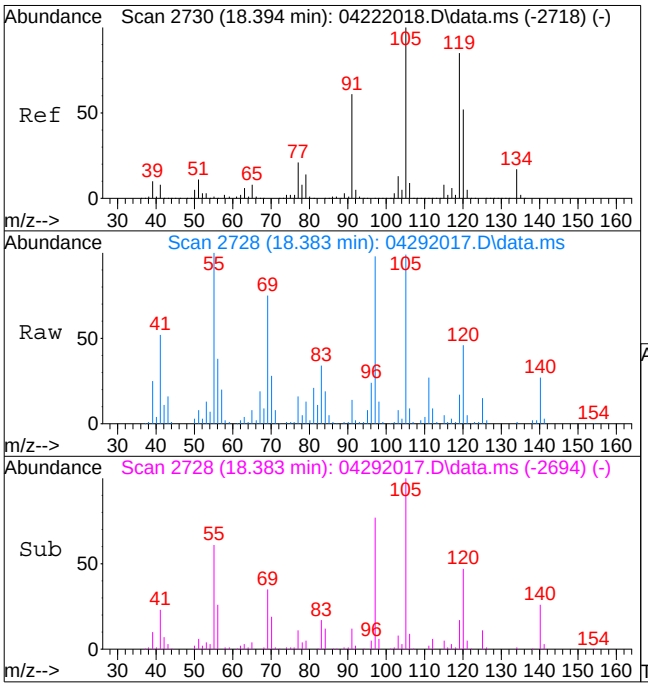


#79
1,3,5-Trimethylbenzene
Concen: 0.78 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 04292017.D
Acq: 29 Apr 2020 15:05

Tgt Ion:105 Resp: 44483

Ion	Ratio	Lower	Upper
105	100		
120	49.0	29.5	69.5

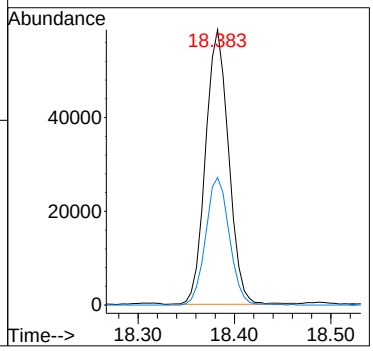


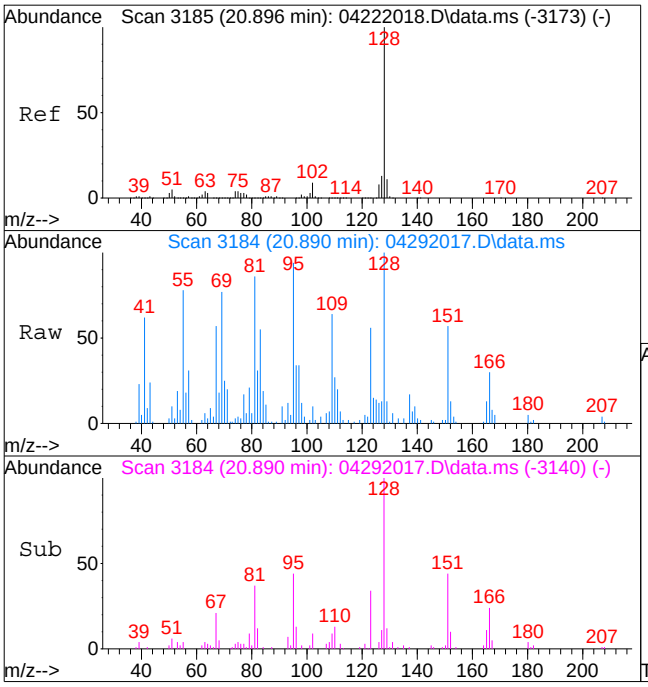


#82
1,2,4-Trimethylbenzene
Concen: 1.78 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 04292017.D
Acq: 29 Apr 2020 15:05

Tgt Ion:105 Resp: 97512

Ion	Ratio	Lower	Upper
105	100		
120	47.7	34.5	74.5

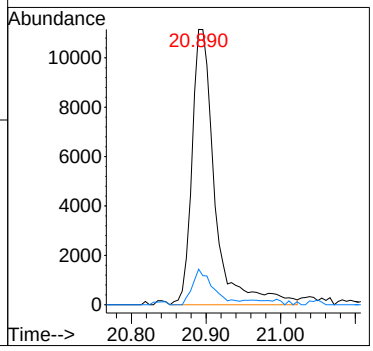




#95
Naphthalene
Concen: 0.33 ng
RT: 20.89 min Scan# 3184
Delta R.T. -0.006 min
Lab File: 04292017.D
Acq: 29 Apr 2020 15:05

Tgt Ion:128 Resp: 23677

Ion	Ratio	Lower	Upper
128	100		
129	11.8	0.0	30.9



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292018.D Vial: 5
Acq On : 29 Apr 2020 15:39 Operator: SC
Sample : P2002029-003 (30mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 16:24:00 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/29/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	155370	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	662898	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	306897	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	234647	11.657	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.28%				
57) Toluene-d8 (SS2)	13.55	98	695233	11.733	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.84%				
73) Bromofluorobenzene (SS3)	17.05	174	274775	11.538	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.32%				
Target Compounds							Qvalue
2) Propene	3.87	42	4411	0.668	ng	#	84
3) Dichlorodifluoromethan...	3.99	85	1387	0.055	ng	#	91
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	4.57	54	314	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	0.00	45	0	N.D.	d		
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	0.00	56	0	N.D.	d		
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	6.02	101	1871	0.075	ng		94
15) 2-Propanol (Isopropanol)	6.22	45	1420	0.074	ng	#	53
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	7.18	151	11633	0.896	ng		97
22) Carbon Disulfide	7.16	76	21365	0.611	ng		98
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.	d		
25) Methyl tert-Butyl Ether	8.20	73	118	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	8.54	72	3286	0.533	ng		95
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	9.23	57	110178	8.274	ng		98
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	10.76	56	352	N.D.			
41) Benzene	10.76	78	799425	18.499	ng		99
42) Carbon Tetrachloride	0.00	117	0	N.D.	d		
43) Cyclohexane	11.05	84	897579	53.019	ng		97
44) tert-Amyl Methyl Ether	11.31	73	471	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292018.D Vial: 5
Acq On : 29 Apr 2020 15:39 Operator: SC
Sample : P2002029-003 (30mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 16:24:00 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

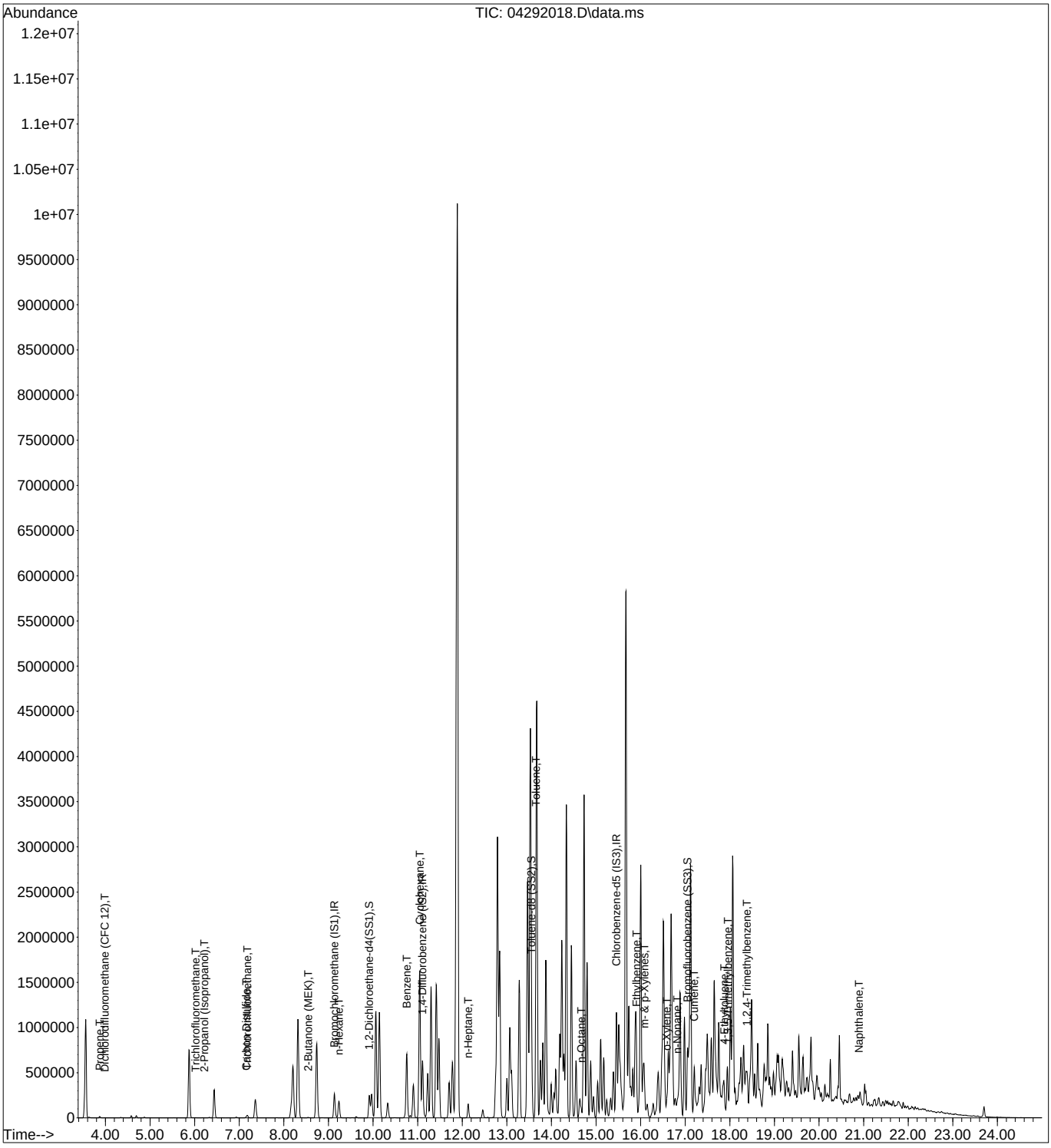
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.14	71	47075	4.689 ng	97
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	13.27	75	327	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	13.65	91	145098	2.916 ng	99
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.67	57	19911	2.514 ng	90
64) Tetrachloroethene	14.81	166	680	N.D.	
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.91	91	50343	0.868 ng	95
67) m- & p-Xylenes	16.08	91	94617	1.935 ng	96
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.60	104	777	N.D.	
70) o-Xylene	16.59	91	38136	0.794 ng	99
71) n-Nonane	16.82	43	45099	2.911 ng	96
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	17.20	105	10058	0.161 ng	99
75) alpha-Pinene	17.59	93	1176	N.D.	
76) n-Propylbenzene	0.00	91	0	N.D. d	
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	13582	0.228 ng	97
79) 1,3,5-Trimethylbenzene	17.96	105	18516	0.336 ng	97
80) alpha-Methylstyrene	18.13	118	232	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	41801	0.785 ng	93
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	0.00	91	0	N.D. d	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	20.78	180	771	N.D.	
95) Naphthalene	20.90	128	10256	0.150 ng	95
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292018.D Vial: 5
Acq On : 29 Apr 2020 15:39 Operator: SC
Sample : P2002029-003 (30mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 16:24:00 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292018.D Vial: 5
Acq On : 29 Apr 2020 15:39 Operator: SC
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QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/29/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	155370	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	662898	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	306897	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	234647	11.657	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.28%				
57) Toluene-d8 (SS2)	13.55	98	695233	11.733	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.84%				
73) Bromofluorobenzene (SS3)	17.05	174	274775	11.538	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.32%				
Target Compounds							Qvalue
2) Propene	3.87	42	4411	0.668	ng	#	84
3) Dichlorodifluoromethan...	3.99	85	1387	0.055	ng	#	91
14) Trichlorofluoromethane	6.02	101	1871	0.075	ng		94
15) 2-Propanol (Isopropanol)	6.22	45	1420	0.074	ng	#	53
21) Trichlorotrifluoroethane	7.18	151	11633	0.896	ng		97
22) Carbon Disulfide	7.16	76	21365	0.611	ng		98
27) 2-Butanone (MEK)	8.54	72	3286	0.533	ng		95
31) n-Hexane	9.23	57	110178	8.274	ng		98
41) Benzene	10.76	78	799425	18.499	ng		99
43) Cyclohexane	11.05	84	897579	53.019	ng		97
51) n-Heptane	12.14	71	47075	4.689	ng		97
58) Toluene	13.65	91	145098	2.916	ng		99
63) n-Octane	14.67	57	19911	2.514	ng		90
66) Ethylbenzene	15.91	91	50343	0.868	ng		95
67) m- & p-Xylenes	16.08	91	94617	1.935	ng		96
70) o-Xylene	16.59	91	38136	0.794	ng		99
71) n-Nonane	16.82	43	45099	2.911	ng		96
74) Cumene	17.20	105	10058	0.161	ng		99
78) 4-Ethyltoluene	17.88	105	13582	0.228	ng		97
79) 1,3,5-Trimethylbenzene	17.96	105	18516	0.336	ng		97
82) 1,2,4-Trimethylbenzene	18.38	105	41801	0.785	ng		93
95) Naphthalene	20.90	128	10256	0.150	ng		95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292018.D Vial: 5
Acq On : 29 Apr 2020 15:39 Operator: SC
Sample : P2002029-003 (30mL) Inst : MS09
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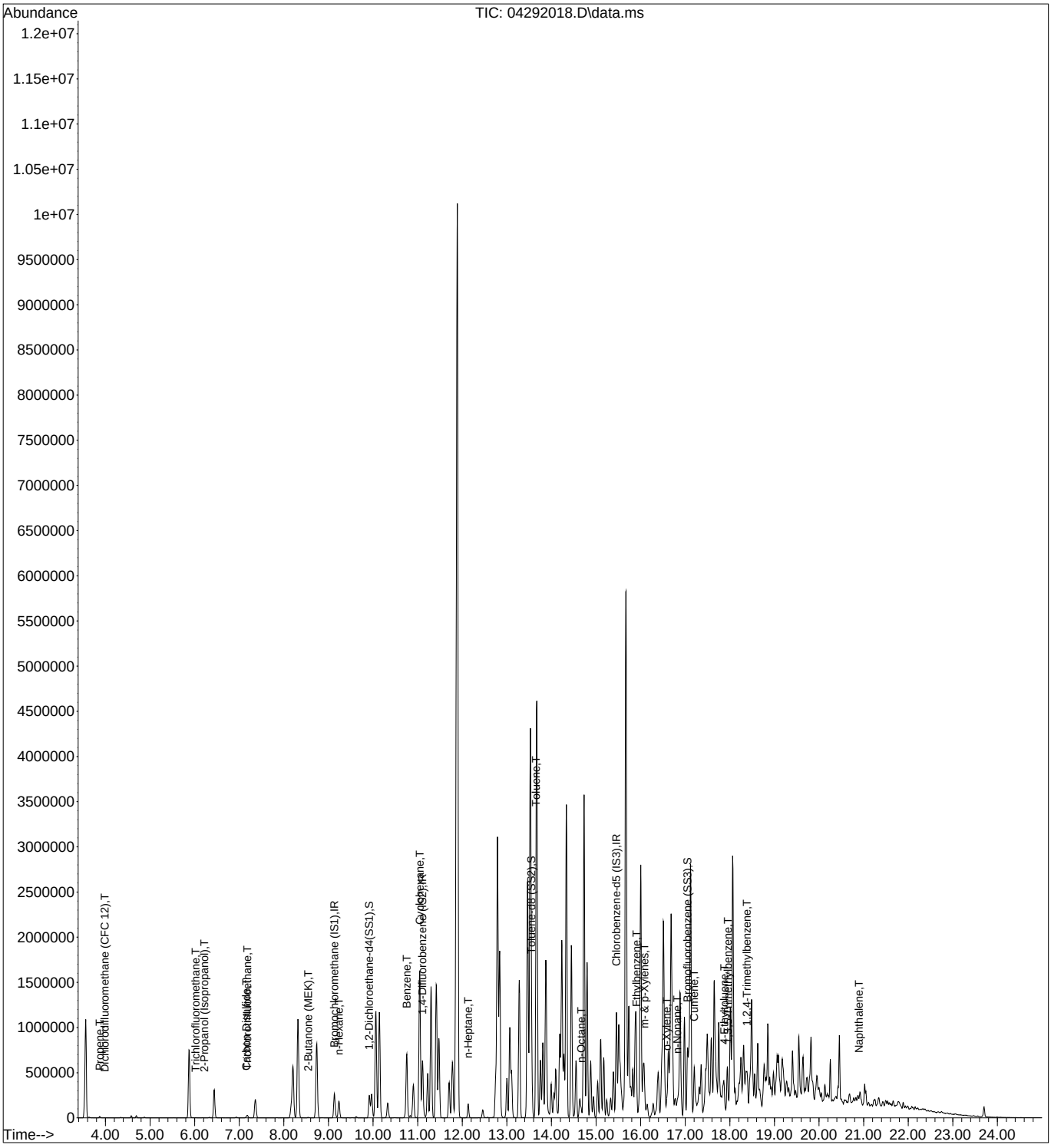
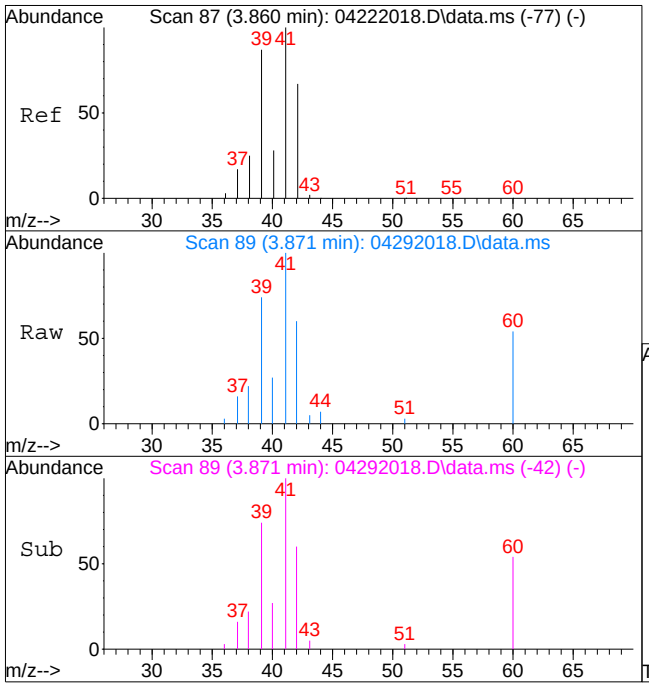
Response via : Initial Calibration
DataAcq Meth:TO15.M

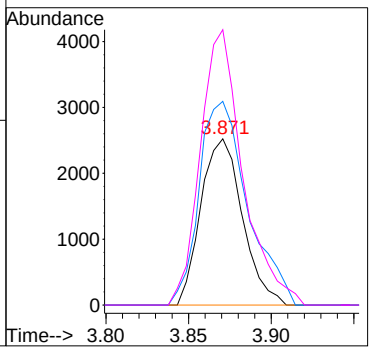


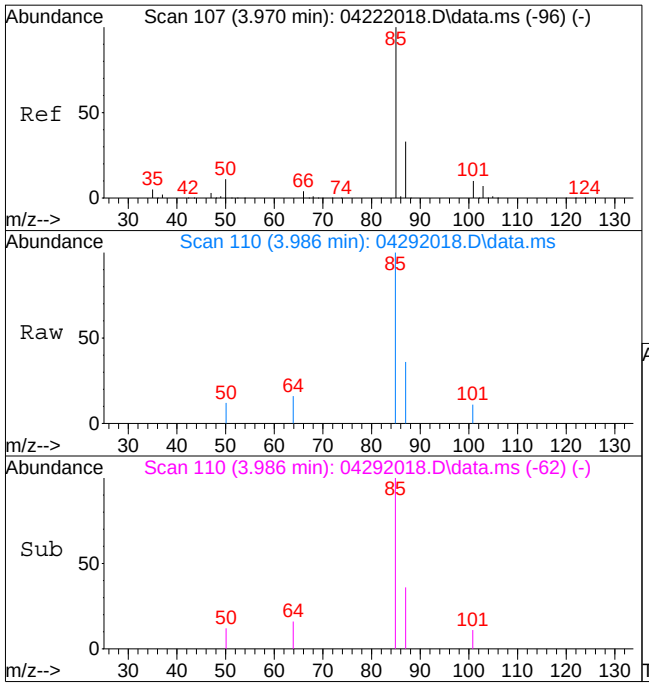


#2
Propene
Concen: 0.67 ng
RT: 3.87 min Scan# 89
Delta R.T. 0.011 min
Lab File: 04292018.D
Acq: 29 Apr 2020 15:39

Tgt Ion: 42 Resp: 4411

Ion	Ratio	Lower	Upper
42	100		
39	143.0	106.4	146.4
41	169.7	128.8	168.8#

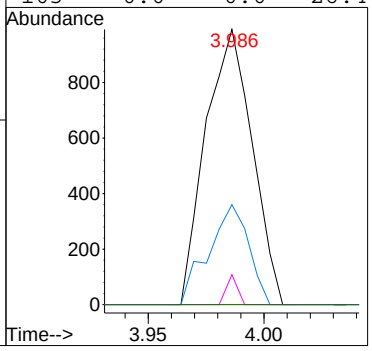


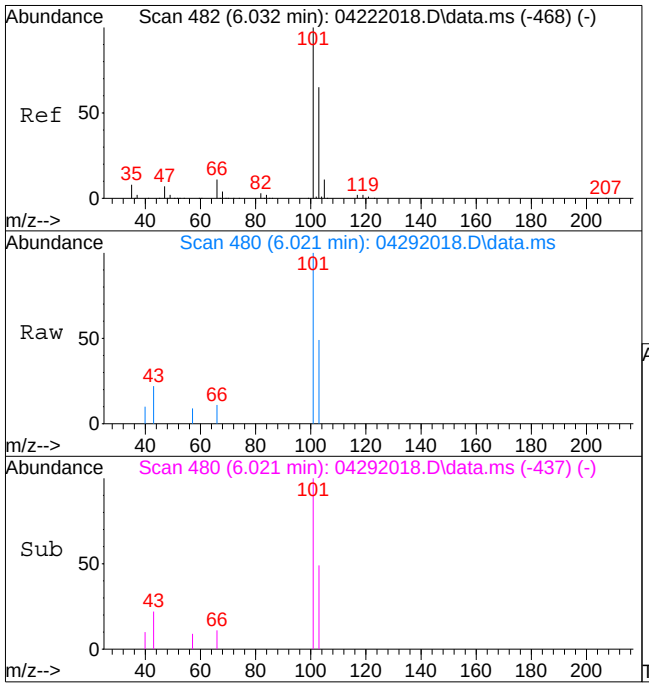


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.06 ng
RT: 3.99 min Scan# 110
Delta R.T. 0.016 min
Lab File: 04292018.D
Acq: 29 Apr 2020 15:39

Tgt Ion: 85 Resp: 1387

Ion	Ratio	Lower	Upper
85	100		
87	31.3	12.4	52.4
101	0.0	0.0	29.9
103	0.0	0.0	26.4

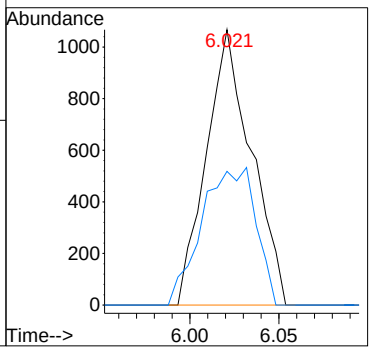


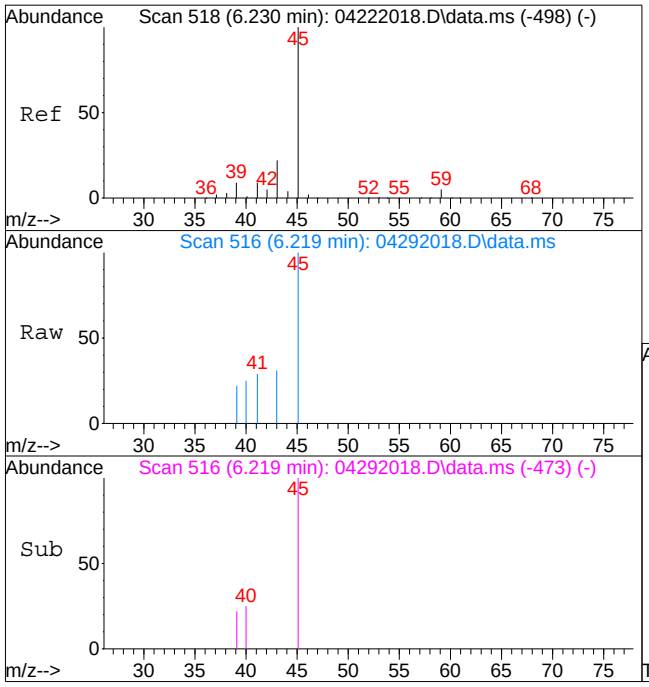


#14
Trichlorofluoromethane
Concen: 0.08 ng
RT: 6.02 min Scan# 480
Delta R.T. -0.011 min
Lab File: 04292018.D
Acq: 29 Apr 2020 15:39

Tgt Ion:101 Resp: 1871

Ion	Ratio	Lower	Upper
101	100		
103	60.1	44.7	84.7

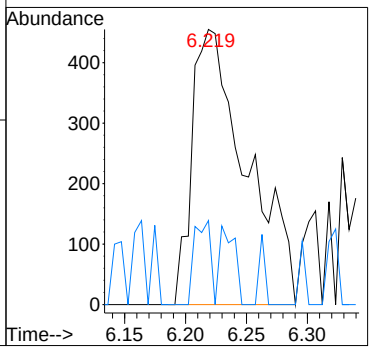


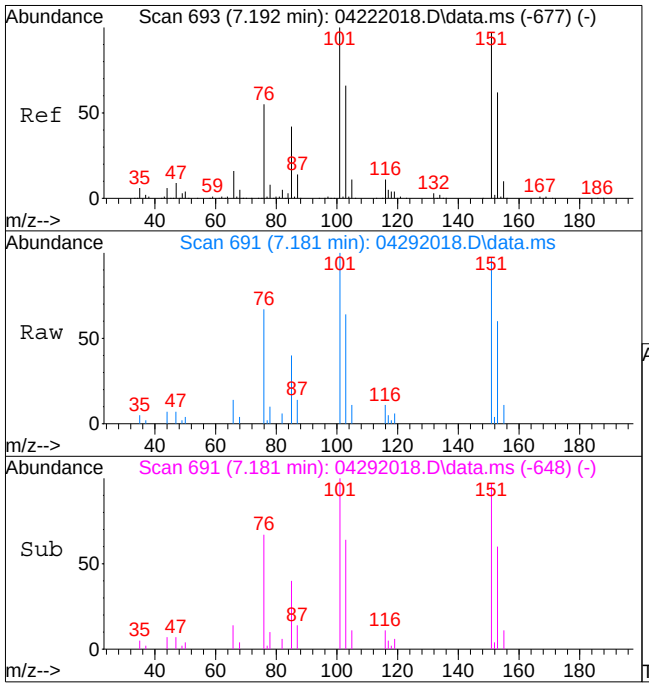


#15
2-Propanol (Isopropanol)
Concen: 0.07 ng
RT: 6.22 min Scan# 516
Delta R.T. -0.011 min
Lab File: 04292018.D
Acq: 29 Apr 2020 15:39

Tgt Ion: 45 Resp: 1420

Ion	Ratio	Lower	Upper
45	100		
43	0.0	2.6	42.6#

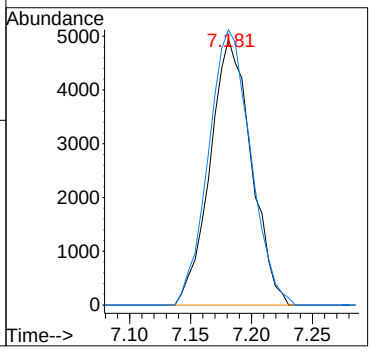


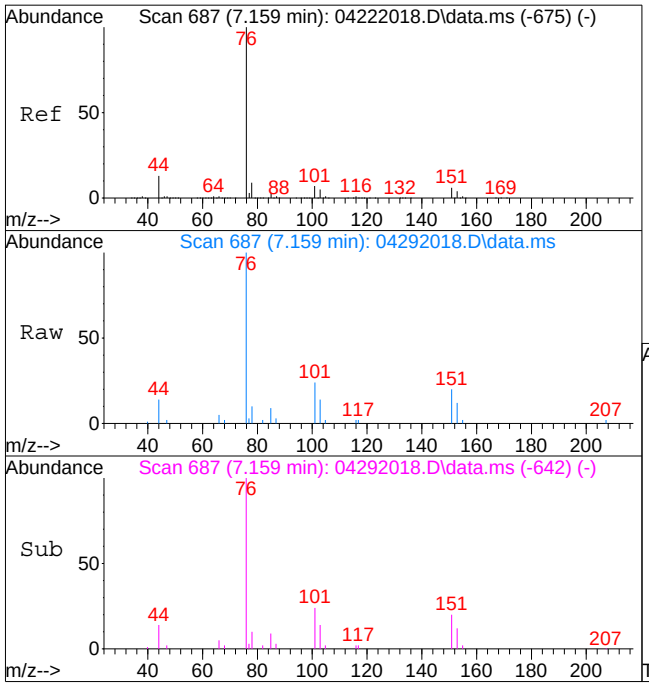


#21
Trichlorotrifluoroethane
Concen: 0.90 ng
RT: 7.18 min Scan# 691
Delta R.T. -0.011 min
Lab File: 04292018.D
Acq: 29 Apr 2020 15:39

Tgt Ion:151 Resp: 11633

Ion	Ratio	Lower	Upper
151	100		
101	106.2	82.9	122.9

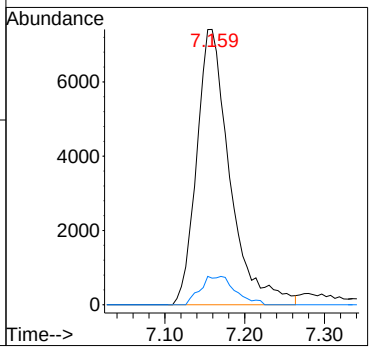


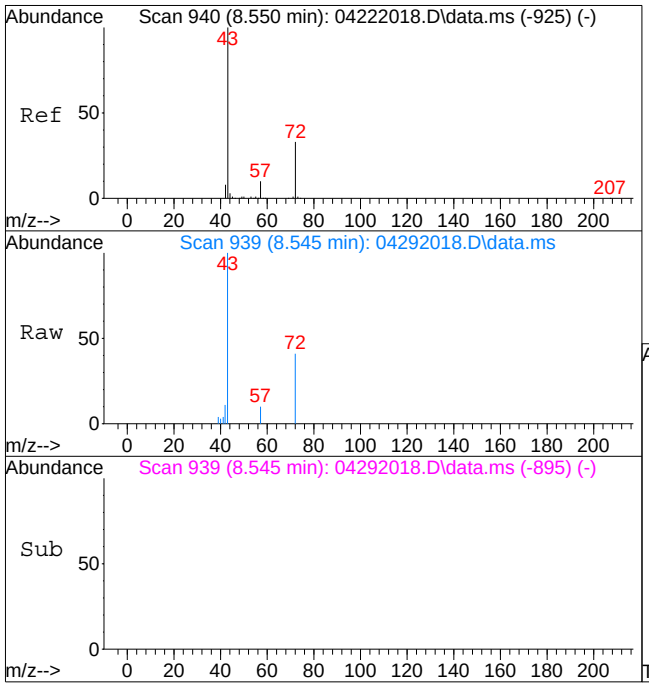


#22
Carbon Disulfide
Concen: 0.61 ng
RT: 7.16 min Scan# 687
Delta R.T. -0.000 min
Lab File: 04292018.D
Acq: 29 Apr 2020 15:39

Tgt Ion: 76 Resp: 21365

Ion	Ratio	Lower	Upper
76	100		
78	10.8	0.0	30.2

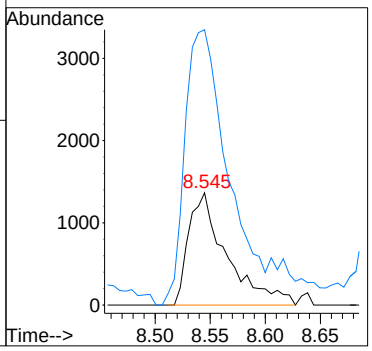


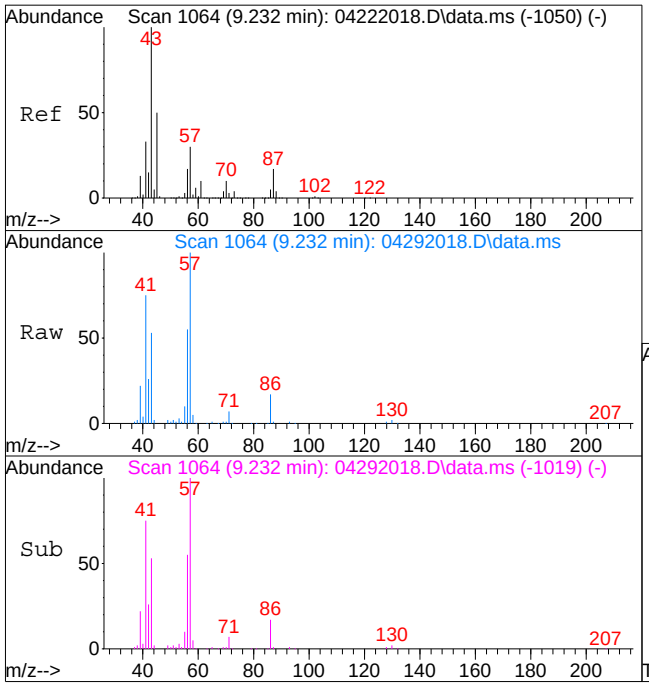


#27
2-Butanone (MEK)
Concen: 0.53 ng
RT: 8.54 min Scan# 939
Delta R.T. -0.006 min
Lab File: 04292018.D
Acq: 29 Apr 2020 15:39

Tgt Ion: 72 Resp: 3286

Ion	Ratio	Lower	Upper
72	100		
43	309.4	278.8	318.8

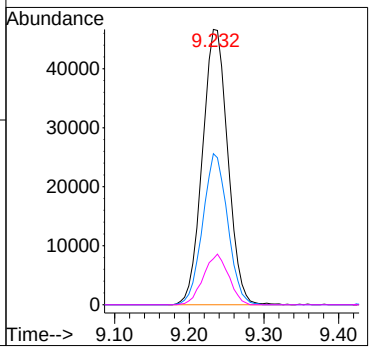


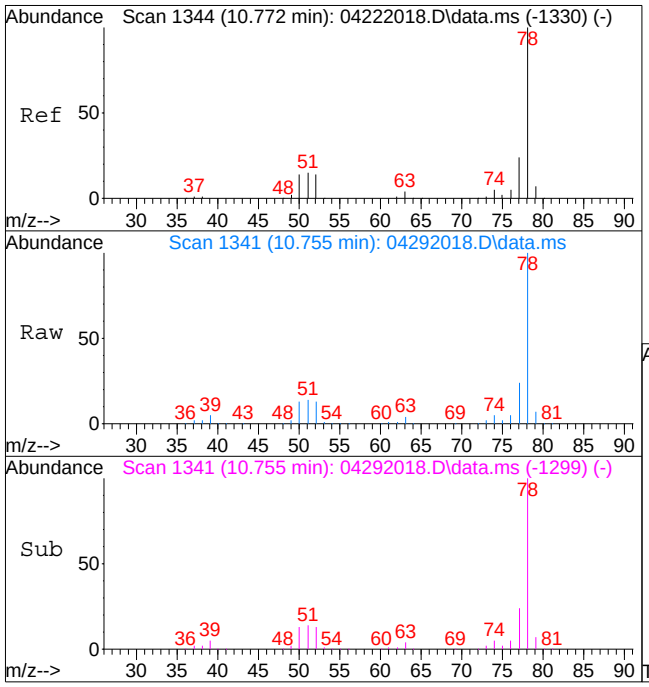


#31
n-Hexane
Concen: 8.27 ng
RT: 9.23 min Scan# 1064
Delta R.T. -0.000 min
Lab File: 04292018.D
Acq: 29 Apr 2020 15:39

Tgt Ion: 57 Resp: 110178

Ion	Ratio	Lower	Upper
57	100		
56	53.8	44.0	66.0
86	18.2	15.0	22.4

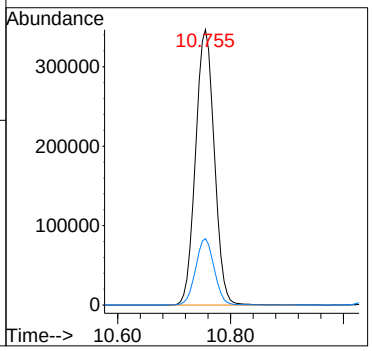


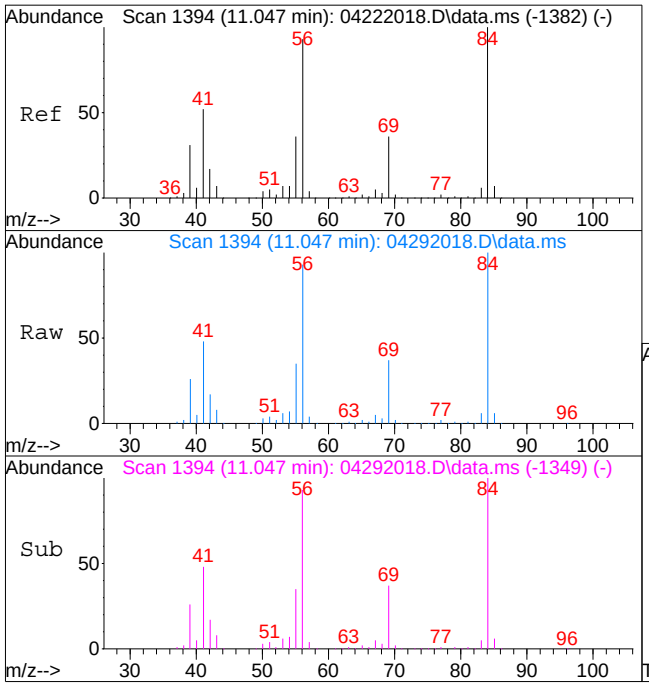


#41
Benzene
Concen: 18.50 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.017 min
Lab File: 04292018.D
Acq: 29 Apr 2020 15:39

Tgt Ion: 78 Resp: 799425

Ion	Ratio	Lower	Upper
78	100		
77	24.0	3.6	43.6

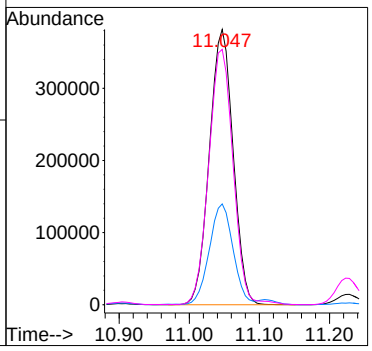


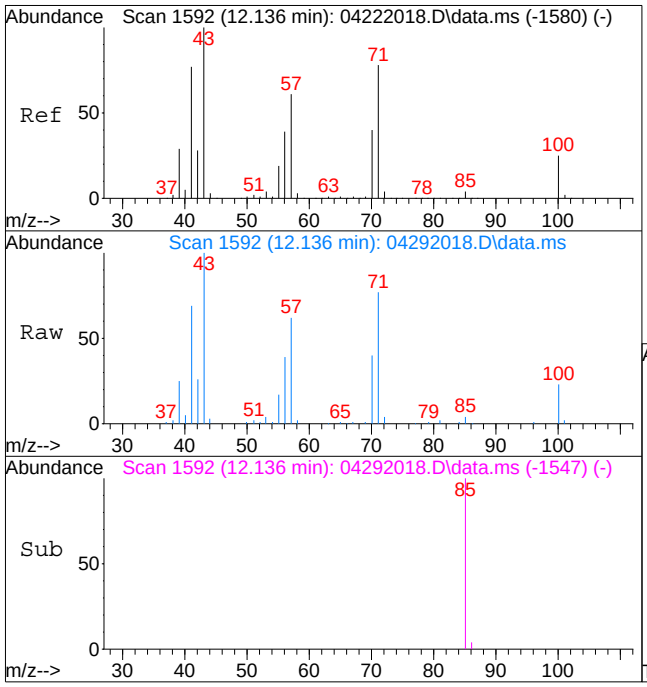


#43
Cyclohexane
Concen: 53.02 ng
RT: 11.05 min Scan# 1394
Delta R.T. -0.000 min
Lab File: 04292018.D
Acq: 29 Apr 2020 15:39

Tgt Ion: 84 Resp: 897579

Ion	Ratio	Lower	Upper
84	100		
69	36.6	15.8	55.8
56	95.3	72.0	112.0

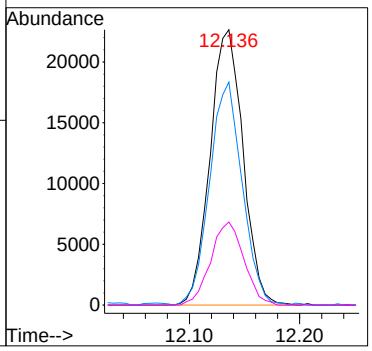


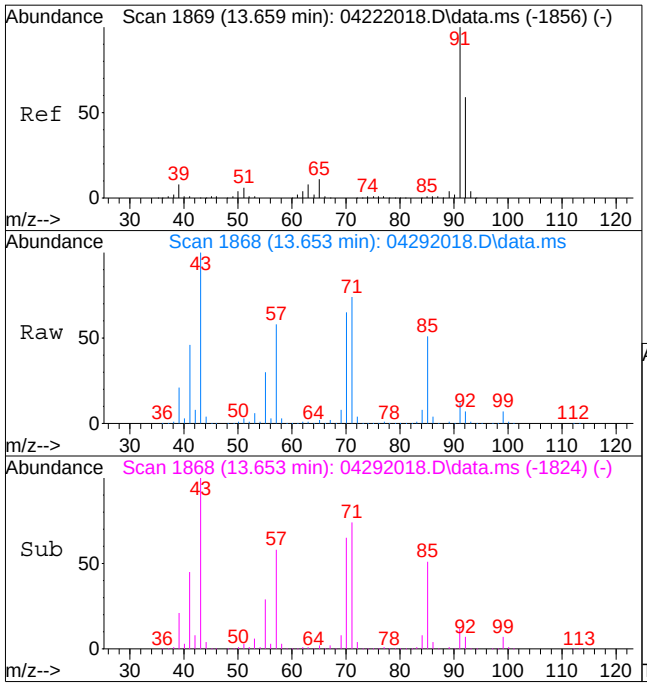


#51
n-Heptane
Concen: 4.69 ng
RT: 12.14 min Scan# 1592
Delta R.T. -0.000 min
Lab File: 04292018.D
Acq: 29 Apr 2020 15:39

Tgt Ion: 71 Resp: 47075

Ion	Ratio	Lower	Upper
71	100		
57	80.1	57.4	97.4
100	30.4	12.0	52.0

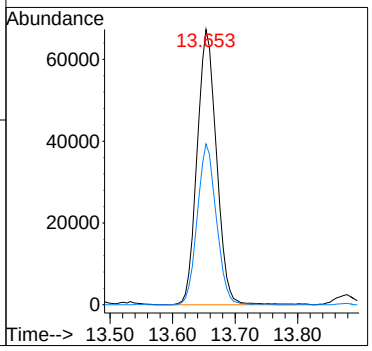


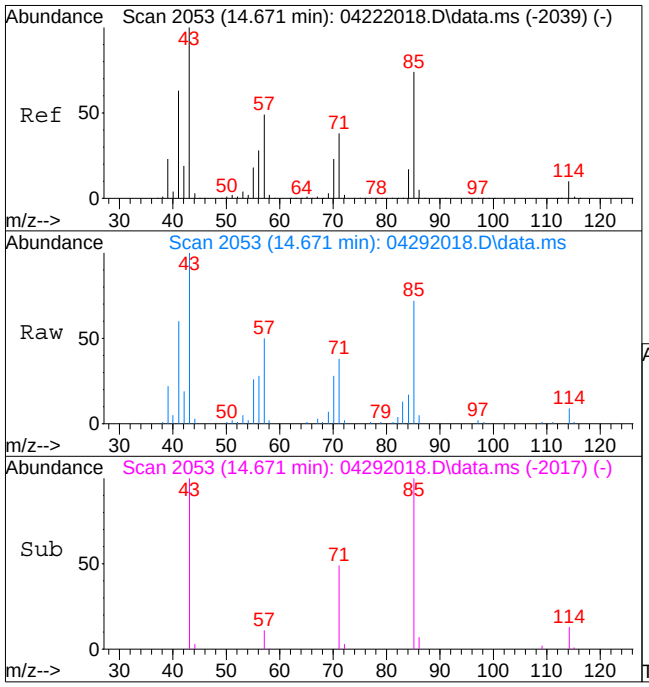


#58
Toluene
Concen: 2.92 ng
RT: 13.65 min Scan# 1868
Delta R.T. -0.006 min
Lab File: 04292018.D
Acq: 29 Apr 2020 15:39

Tgt Ion: 91 Resp: 145098

Ion	Ratio	Lower	Upper
91	100		
92	57.4	38.2	78.2

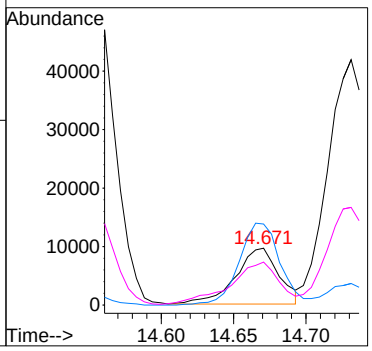


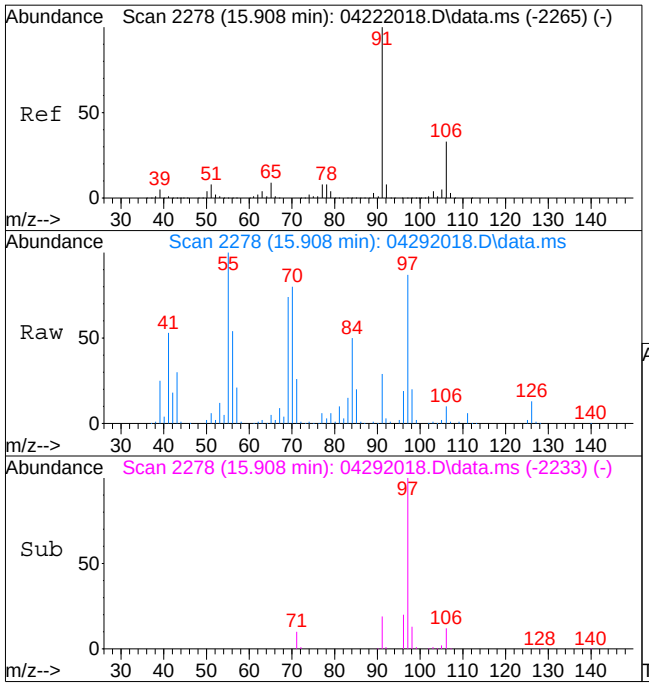


#63
n-Octane
Concen: 2.51 ng
RT: 14.67 min Scan# 2053
Delta R.T. -0.000 min
Lab File: 04292018.D
Acq: 29 Apr 2020 15:39

Tgt Ion: 57 Resp: 19911

Ion	Ratio	Lower	Upper
57	100		
85	138.9	120.7	181.1
71	84.9	61.1	91.7

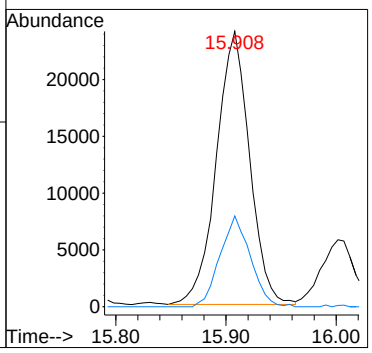


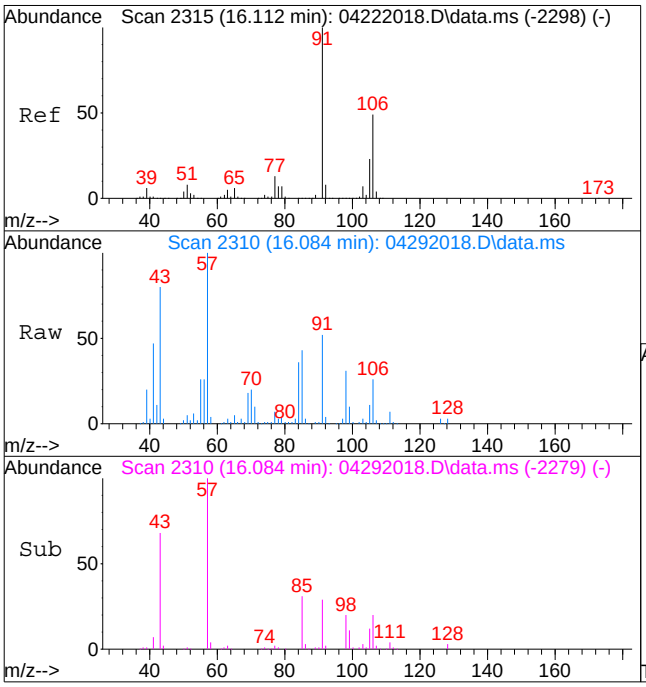


#66
Ethylbenzene
Concen: 0.87 ng
RT: 15.91 min Scan# 2278
Delta R.T. -0.000 min
Lab File: 04292018.D
Acq: 29 Apr 2020 15:39

Tgt Ion: 91 Resp: 50343

Ion	Ratio	Lower	Upper
91	100		
106	30.5	13.4	53.4

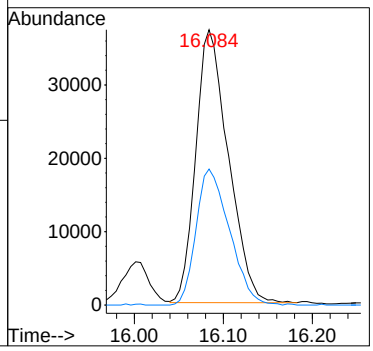


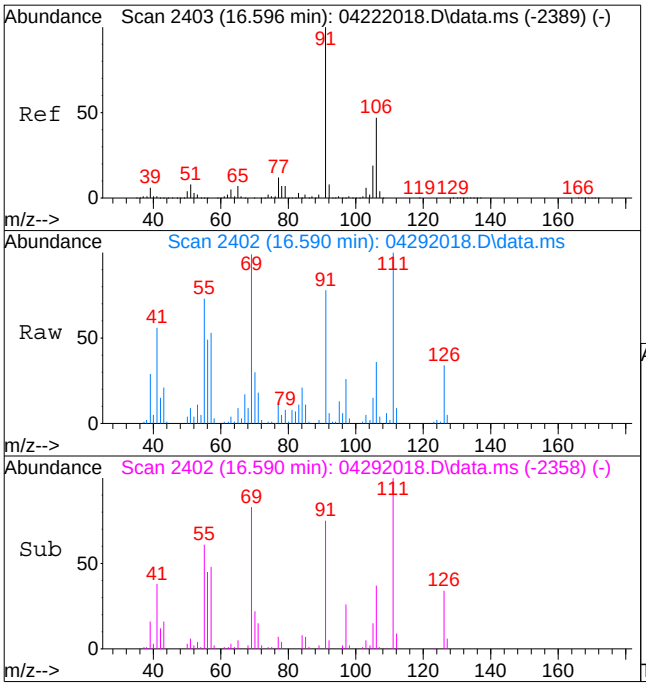


#67
m- & p-Xylenes
Concen: 1.93 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.028 min
Lab File: 04292018.D
Acq: 29 Apr 2020 15:39

Tgt Ion: 91 Resp: 94617

Ion	Ratio	Lower	Upper
91	100		
106	51.1	28.3	68.3

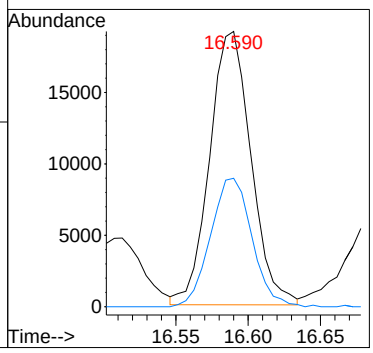


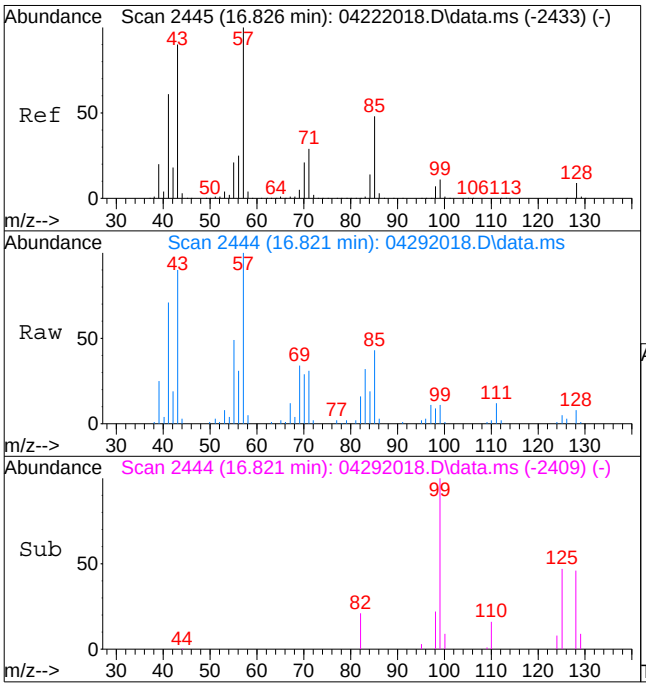


#70
o-Xylene
Concen: 0.79 ng
RT: 16.59 min Scan# 2402
Delta R.T. -0.006 min
Lab File: 04292018.D
Acq: 29 Apr 2020 15:39

Tgt Ion: 91 Resp: 38136

Ion	Ratio	Lower	Upper
91	100		
106	47.1	27.5	67.5

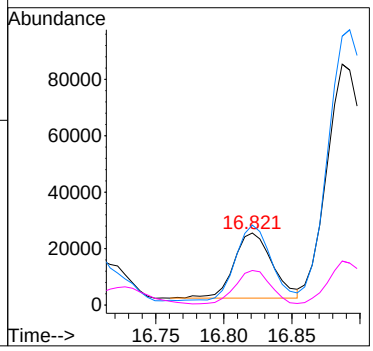


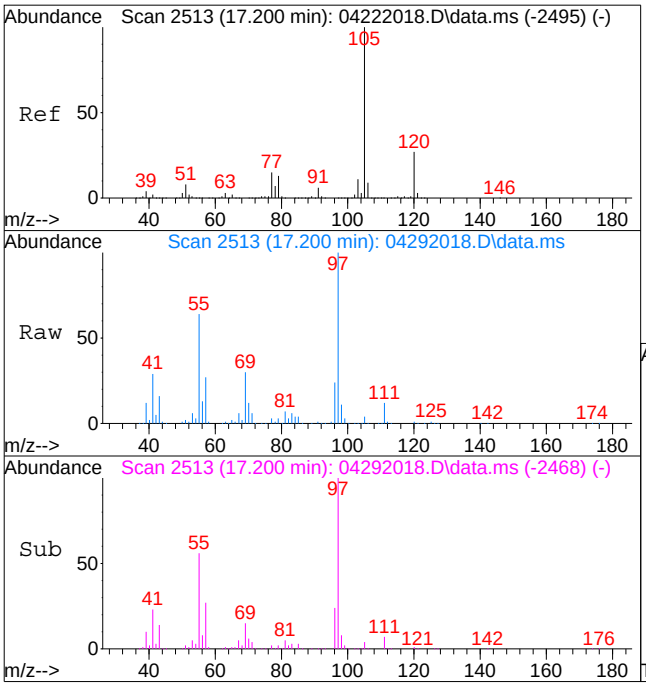


#71
n-Nonane
Concen: 2.91 ng
RT: 16.82 min Scan# 2444
Delta R.T. -0.006 min
Lab File: 04292018.D
Acq: 29 Apr 2020 15:39

Tgt Ion: 43 Resp: 45099

Ion	Ratio	Lower	Upper
43	100		
57	109.1	90.8	130.8
85	46.6	32.1	72.1

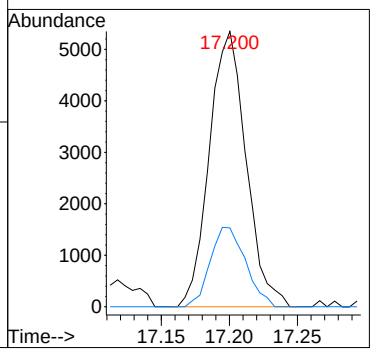


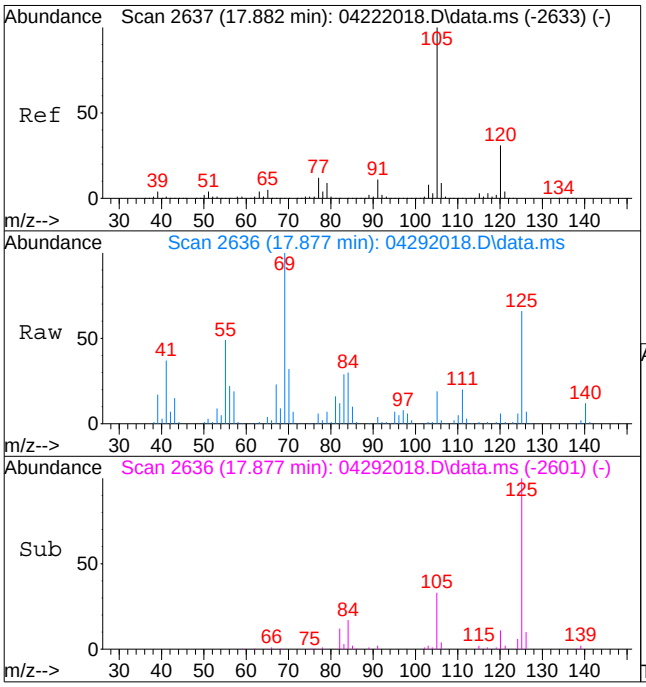


#74
Cumene
Concen: 0.16 ng
RT: 17.20 min Scan# 2513
Delta R.T. -0.000 min
Lab File: 04292018.D
Acq: 29 Apr 2020 15:39

Tgt Ion:105 Resp: 10058

Ion	Ratio	Lower	Upper
105	100		
120	27.7	7.3	47.3

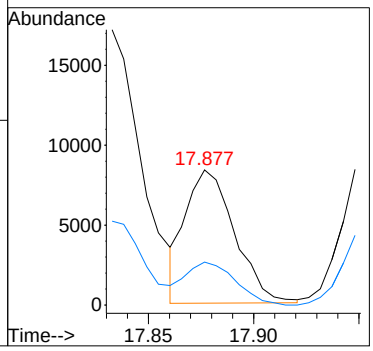


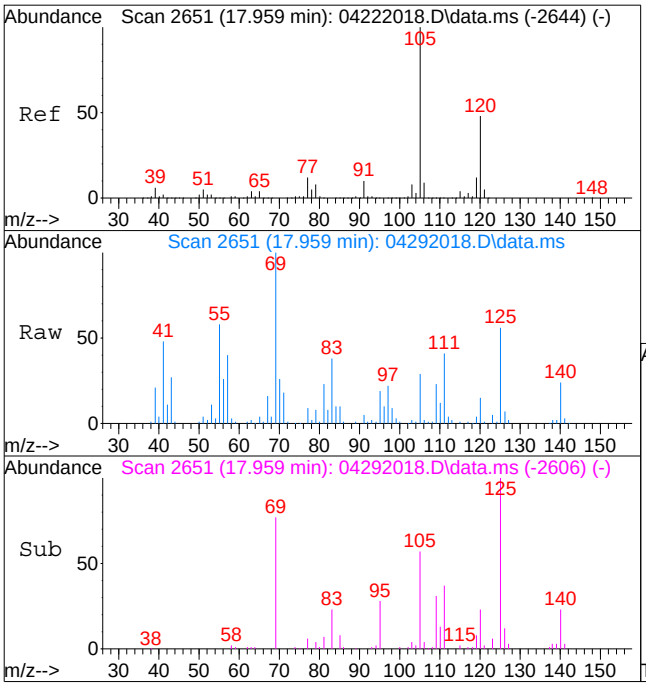


#78
4-Ethyltoluene
Concen: 0.23 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 04292018.D
Acq: 29 Apr 2020 15:39

Tgt Ion:105 Resp: 13582

Ion	Ratio	Lower	Upper
105	100		
120	32.9	11.4	51.4

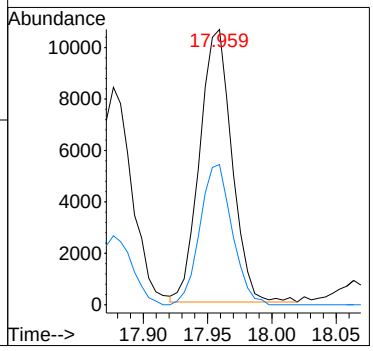


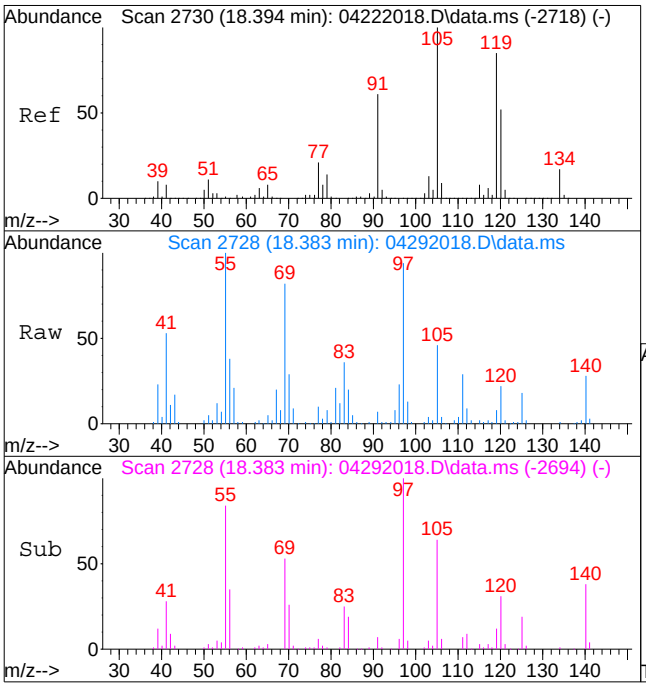


#79
1,3,5-Trimethylbenzene
Concen: 0.34 ng
RT: 17.96 min Scan# 2651
Delta R.T. -0.000 min
Lab File: 04292018.D
Acq: 29 Apr 2020 15:39

Tgt Ion:105 Resp: 18516

Ion	Ratio	Lower	Upper
105	100		
120	51.3	29.5	69.5

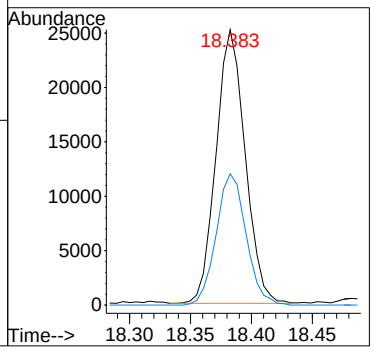


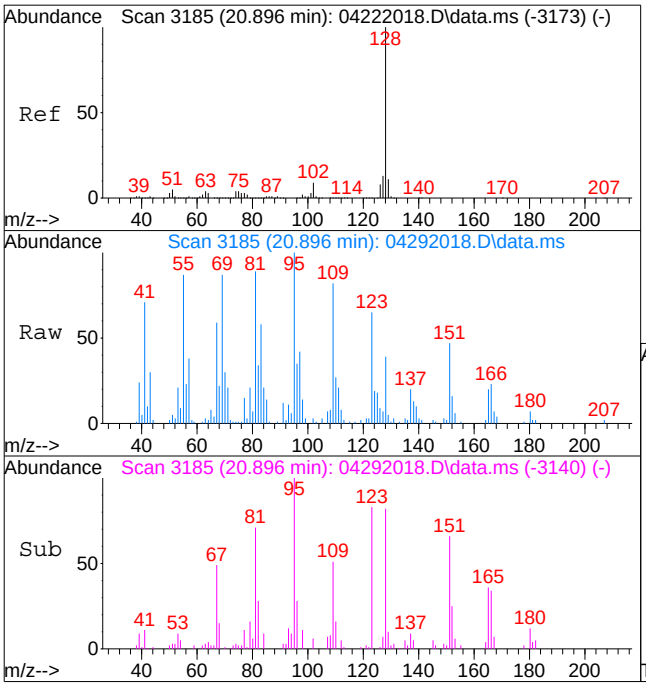


#82
1,2,4-Trimethylbenzene
Concen: 0.79 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 04292018.D
Acq: 29 Apr 2020 15:39

Tgt Ion:105 Resp: 41801

Ion	Ratio	Lower	Upper
105	100		
120	49.2	34.5	74.5

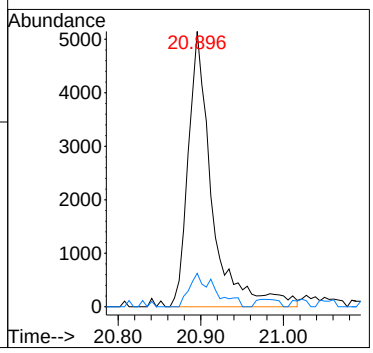




#95
Naphthalene
Concen: 0.15 ng
RT: 20.90 min Scan# 3185
Delta R.T. -0.000 min
Lab File: 04292018.D
Acq: 29 Apr 2020 15:39

Tgt Ion:128 Resp: 10256

Ion	Ratio	Lower	Upper
128	100		
129	12.9	0.0	30.9



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292019.D Vial: 6
Acq On : 29 Apr 2020 16:12 Operator: SC
Sample : P2002029-004 (150mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 16:58:48 2020 4/29/20
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	152736	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	651214	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	292673	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	233571	11.803	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.40%				
57) Toluene-d8 (SS2)	13.55	98	710572	12.574	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.56%				
73) Bromofluorobenzene (SS3)	17.05	174	269698	11.875	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.96%				
Target Compounds							Qvalue
2) Propene	3.88	42	3299	0.509	ng	#	84
3) Dichlorodifluoromethan...	3.99	85	5388	0.219	ng		96
4) Chloromethane	4.18	50	162	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	4.58	54	334	N.D.			
8) Bromomethane	4.95	94	157	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.41	45	93	N.D.			
11) Acetonitrile	5.62	41	114	N.D.			
12) Acrolein	5.73	56	98	N.D.			
13) Acetone	5.86	58	12770	2.165	ng		99
14) Trichlorofluoromethane	6.03	101	4482	0.183	ng		98
15) 2-Propanol (Isopropanol)	6.16	45	22734	1.213	ng		83
16) Acrylonitrile	6.34	53	90	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	0.00	84	0	N.D.	d		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	7.19	151	160381	12.567	ng		100
22) Carbon Disulfide	7.16	76	860	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	8.21	63	381	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	8.55	72	1501	0.248	ng	#	45
28) cis-1,2-Dichloroethene	8.97	61	15768	1.147	ng		96
29) Diisopropyl Ether	9.24	87	277	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	9.23	57	13299	1.016	ng		98
32) Chloroform	9.28	83	5939	0.284	ng		99
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	10.14	62	730	N.D.			
38) 1,1,1-Trichloroethane	10.30	97	1242	0.055	ng	#	1
39) Isopropyl Acetate	10.72	61	154	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.76	78	58456	1.377	ng		87
42) Carbon Tetrachloride	10.91	117	47937	2.184	ng		96
43) Cyclohexane	11.05	84	34571	2.079	ng		99
44) tert-Amyl Methyl Ether	11.42	73	170	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	11.81	130	6233	0.424	ng		97
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292019.D Vial: 6
Acq On : 29 Apr 2020 16:12 Operator: SC
Sample : P2002029-004 (150mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 16:58:48 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

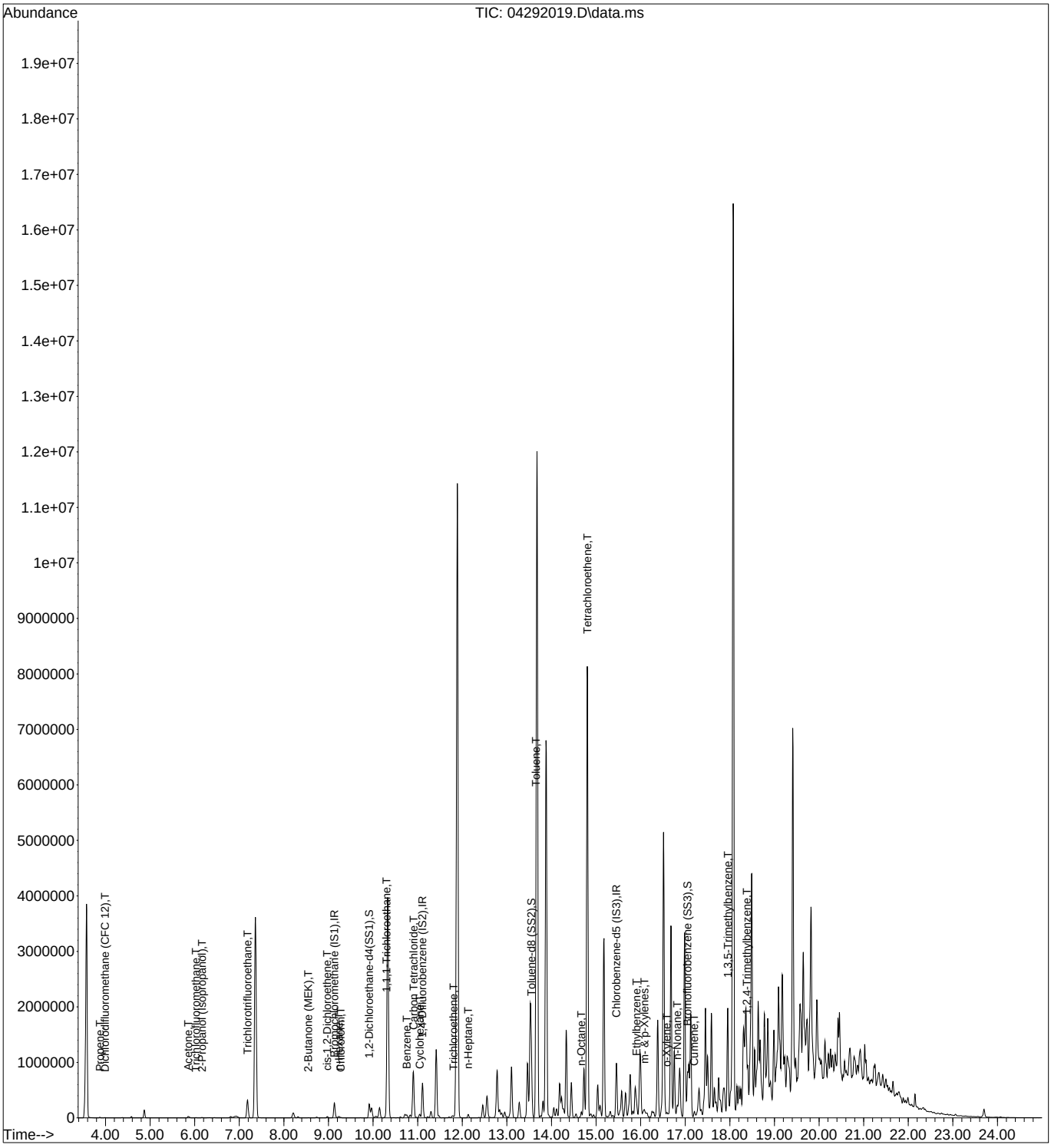
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.14	71	19165	1.943 ng	95
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D. d	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	13.65	91	155358	3.274 ng	99
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.67	57	20441	2.706 ng	96
64) Tetrachloroethene	14.81	166	113645	6.359 ng	100
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.91	91	25961	0.470 ng	93
67) m- & p-Xylenes	16.08	91	100191	2.148 ng	97
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.49	104	820	N.D.	
70) o-Xylene	16.59	91	34799	0.760 ng	97
71) n-Nonane	16.82	43	51687	3.498 ng	97
72) 1,1,2,2-Tetrachloroethane	16.58	83	569	N.D.	
74) Cumene	17.20	105	6068	0.102 ng	95
75) alpha-Pinene	0.00	93	0	N.D. d	
76) n-Propylbenzene	0.00	91	0	N.D. d	
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	0.00	105	0	N.D. d	
79) 1,3,5-Trimethylbenzene	17.96	105	21641	0.412 ng	97
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	33881	0.668 ng	89
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	0.00	91	0	N.D. d	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	18.83	119	3006	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D. d	
95) Naphthalene	0.00	128	0	N.D. d	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292019.D Vial: 6
Acq On : 29 Apr 2020 16:12 Operator: SC
Sample : P2002029-004 (150mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 16:58:48 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292019.D Vial: 6
Acq On : 29 Apr 2020 16:12 Operator: SC
Sample : P2002029-004 (150mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 16:58:48 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/29/20

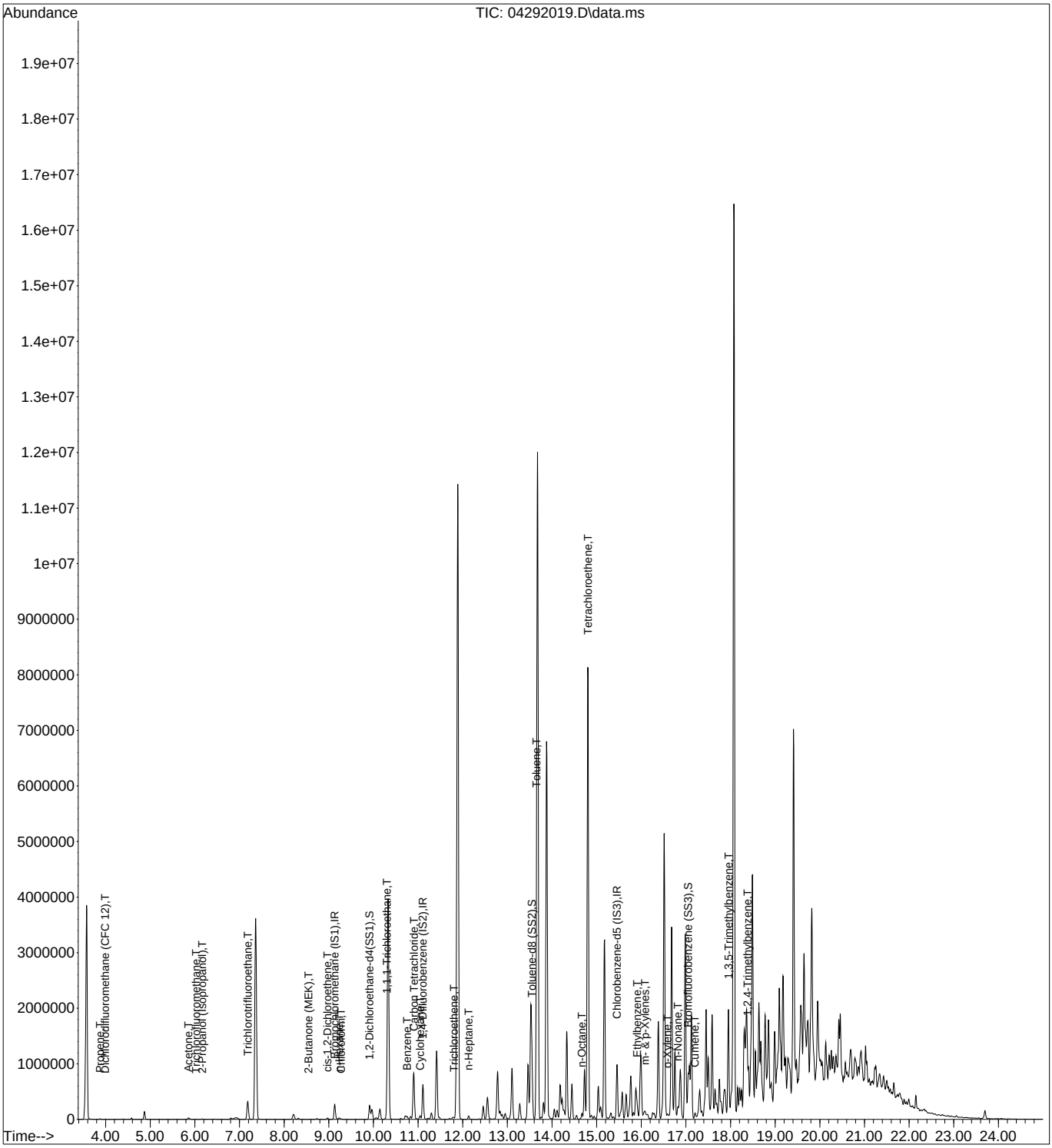
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	152736	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	651214	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	292673	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	233571	11.803	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.40%				
57) Toluene-d8 (SS2)	13.55	98	710572	12.574	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.56%				
73) Bromofluorobenzene (SS3)	17.05	174	269698	11.875	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.96%				
Target Compounds							Qvalue
2) Propene	3.88	42	3299	0.509	ng	#	84
3) Dichlorodifluoromethan...	3.99	85	5388	0.219	ng		96
13) Acetone	5.86	58	12770	2.165	ng		99
14) Trichlorofluoromethane	6.03	101	4482	0.183	ng		98
15) 2-Propanol (Isopropanol)	6.16	45	22734	1.213	ng		83
21) Trichlorotrifluoroethane	7.19	151	160381	12.567	ng		100
27) 2-Butanone (MEK)	8.55	72	1501	0.248	ng	#	45
28) cis-1,2-Dichloroethene	8.97	61	15768	1.147	ng		96
31) n-Hexane	9.23	57	13299	1.016	ng		98
32) Chloroform	9.28	83	5939	0.284	ng		99
38) 1,1,1-Trichloroethane	10.30	97	1242	0.055	ng	#	1
41) Benzene	10.76	78	58456	1.377	ng		87
42) Carbon Tetrachloride	10.91	117	47937	2.184	ng		96
43) Cyclohexane	11.05	84	34571	2.079	ng		99
47) Trichloroethene	11.81	130	6233	0.424	ng		97
51) n-Heptane	12.14	71	19165	1.943	ng		95
58) Toluene	13.65	91	155358	3.274	ng		99
63) n-Octane	14.67	57	20441	2.706	ng		96
64) Tetrachloroethene	14.81	166	113645	6.359	ng		100
66) Ethylbenzene	15.91	91	25961	0.470	ng		93
67) m- & p-Xylenes	16.08	91	100191	2.148	ng		97
70) o-Xylene	16.59	91	34799	0.760	ng		97
71) n-Nonane	16.82	43	51687	3.498	ng		97
74) Cumene	17.20	105	6068	0.102	ng		95
79) 1,3,5-Trimethylbenzene	17.96	105	21641	0.412	ng		97
82) 1,2,4-Trimethylbenzene	18.38	105	33881	0.668	ng		89

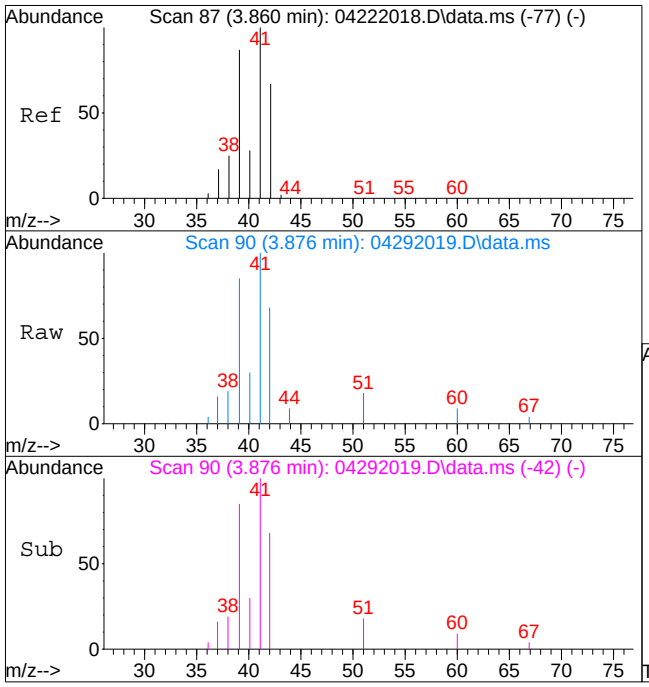
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292019.D Vial: 6
Acq On : 29 Apr 2020 16:12 Operator: SC
Sample : P2002029-004 (150mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 16:58:48 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

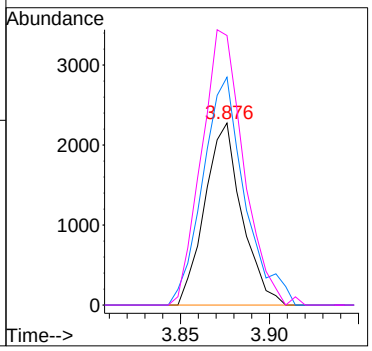


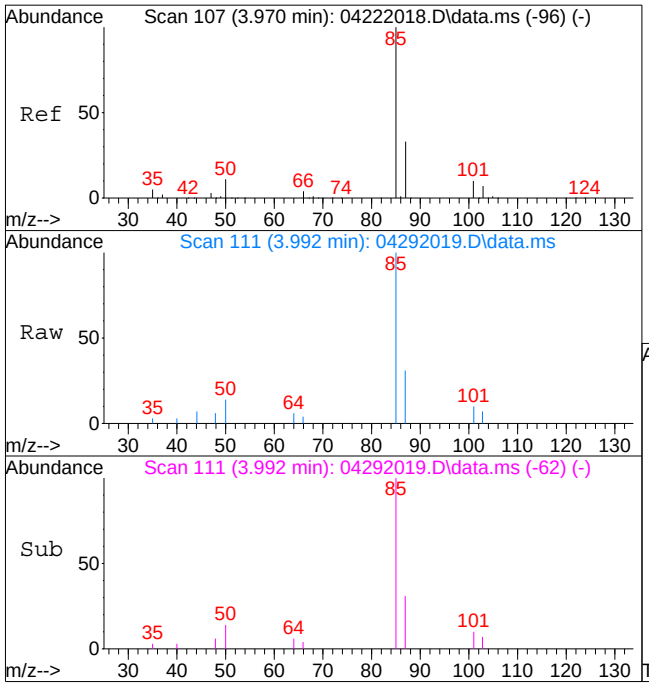


#2
Propene
Concen: 0.51 ng
RT: 3.88 min Scan# 90
Delta R.T. 0.016 min
Lab File: 04292019.D
Acq: 29 Apr 2020 16:12

Tgt Ion: 42 Resp: 3299

Ion	Ratio	Lower	Upper
42	100		
39	141.7	106.4	146.4
41	171.6	128.8	168.8#

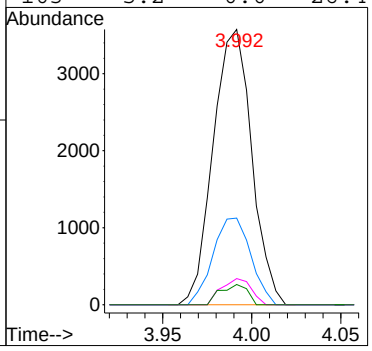


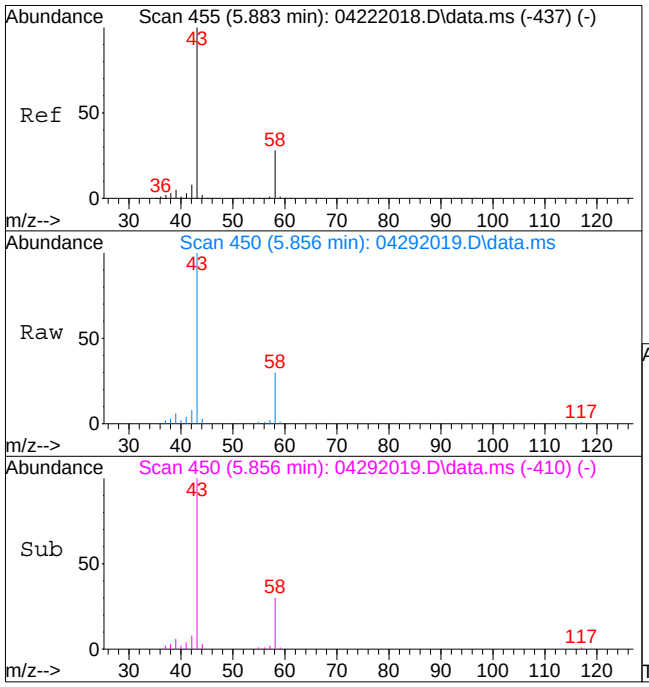


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.22 ng
RT: 3.99 min Scan# 111
Delta R.T. 0.022 min
Lab File: 04292019.D
Acq: 29 Apr 2020 16:12

Tgt Ion: 85 Resp: 5388

Ion	Ratio	Lower	Upper
85	100		
87	30.9	12.4	52.4
101	7.4	0.0	29.9
103	5.2	0.0	26.4

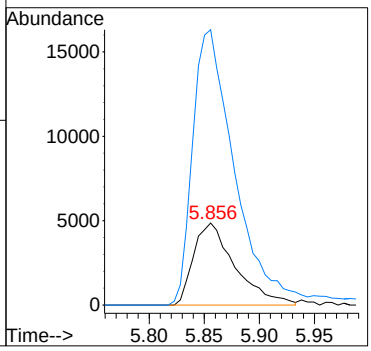


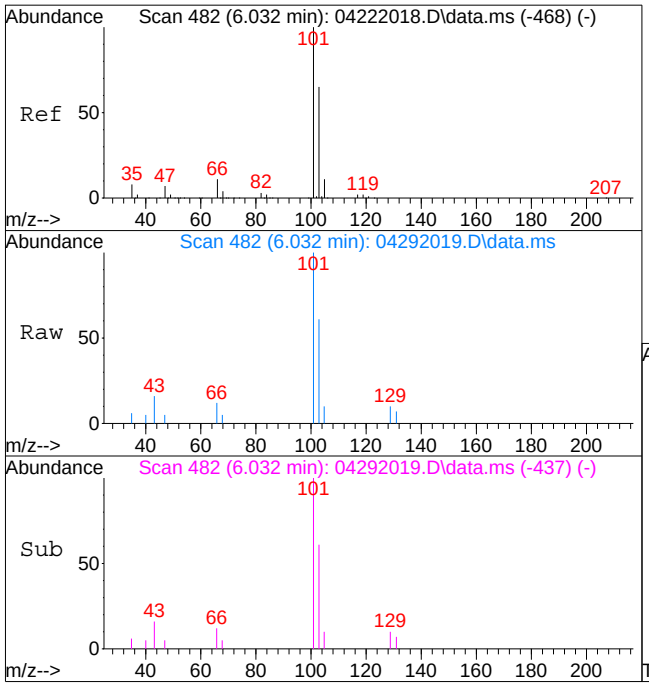


#13
Acetone
Concen: 2.16 ng
RT: 5.86 min Scan# 450
Delta R.T. -0.028 min
Lab File: 04292019.D
Acq: 29 Apr 2020 16:12

Tgt Ion: 58 Resp: 12770

Ion	Ratio	Lower	Upper
58	100		
43	350.8	319.3	379.3

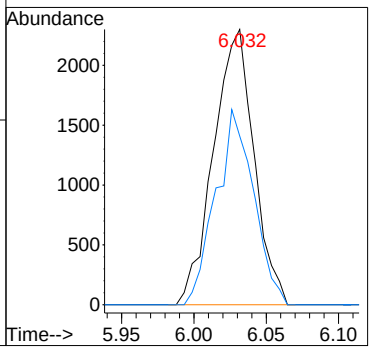


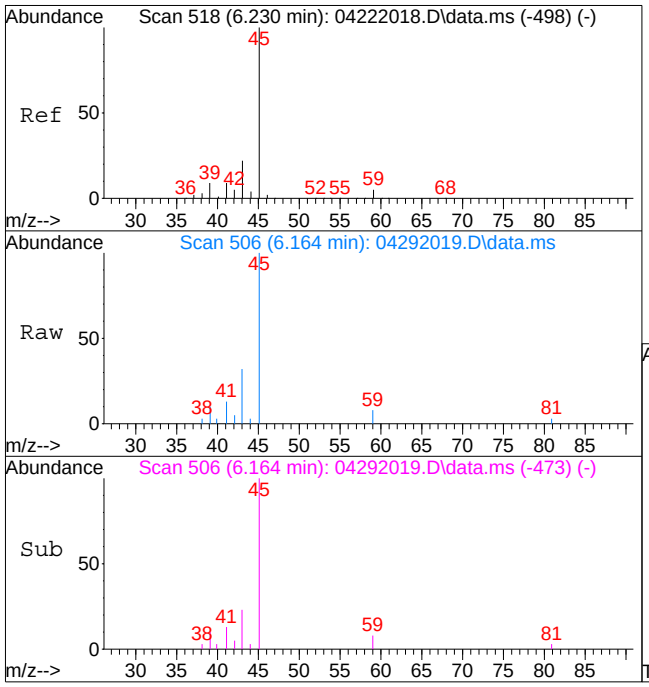


#14
Trichlorofluoromethane
Concen: 0.18 ng
RT: 6.03 min Scan# 482
Delta R.T. -0.000 min
Lab File: 04292019.D
Acq: 29 Apr 2020 16:12

Tgt Ion:101 Resp: 4482

Ion	Ratio	Lower	Upper
101	100		
103	66.2	44.7	84.7

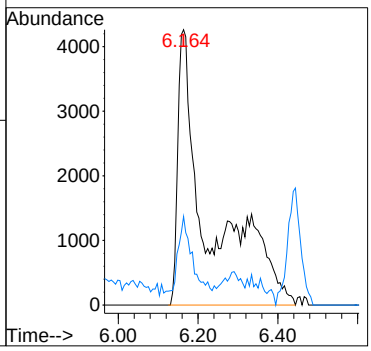


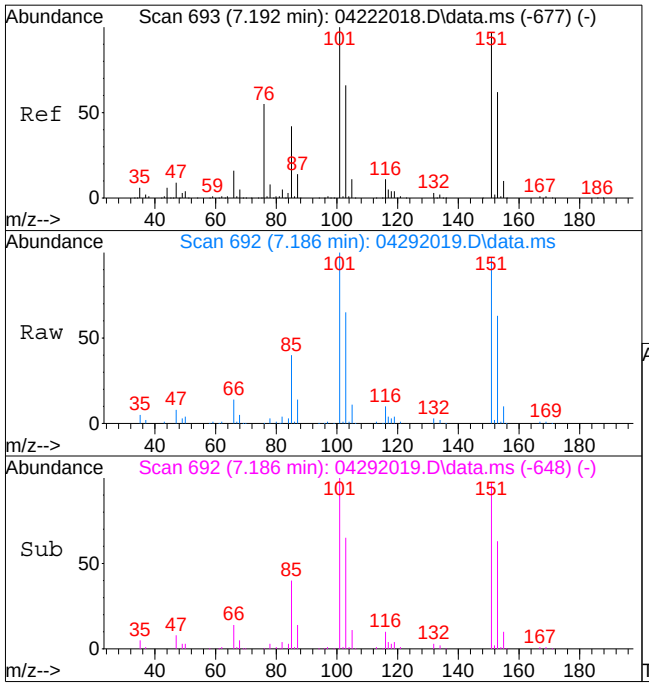


#15
2-Propanol (Isopropanol)
Concen: 1.21 ng
RT: 6.16 min Scan# 506
Delta R.T. -0.066 min
Lab File: 04292019.D
Acq: 29 Apr 2020 16:12

Tgt Ion: 45 Resp: 22734

Ion	Ratio	Lower	Upper
45	100		
43	30.7	2.6	42.6

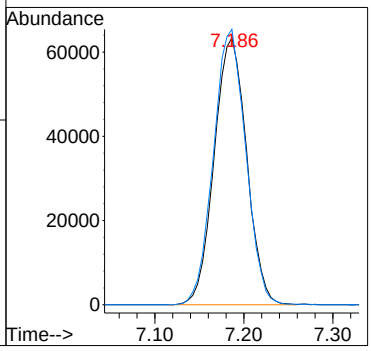


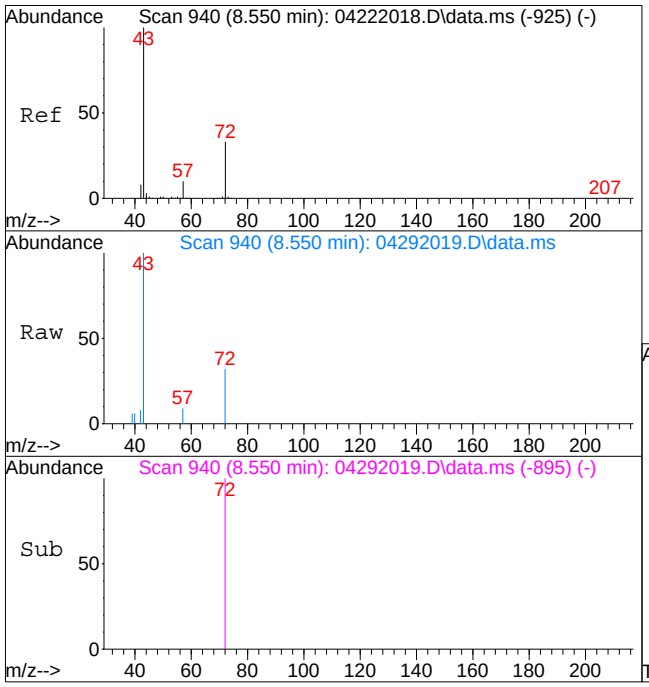


#21
Trichlorotrifluoroethane
Concen: 12.57 ng
RT: 7.19 min Scan# 692
Delta R.T. -0.006 min
Lab File: 04292019.D
Acq: 29 Apr 2020 16:12

Tgt Ion:151 Resp: 160381

Ion	Ratio	Lower	Upper
151	100		
101	102.9	82.9	122.9

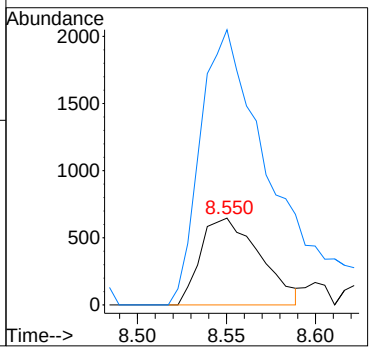


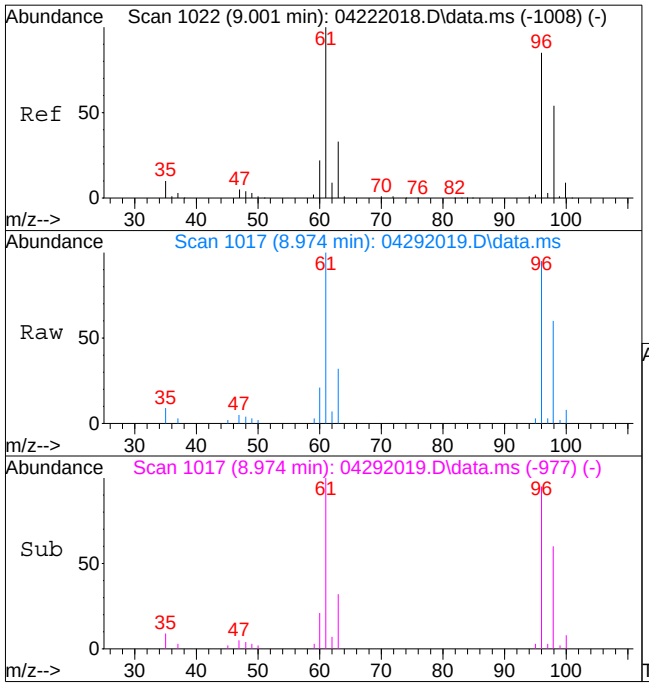


#27
2-Butanone (MEK)
Concen: 0.25 ng
RT: 8.55 min Scan# 940
Delta R.T. -0.000 min
Lab File: 04292019.D
Acq: 29 Apr 2020 16:12

Tgt Ion: 72 Resp: 1501

Ion	Ratio	Lower	Upper
72	100		
43	406.1	278.8	318.8#

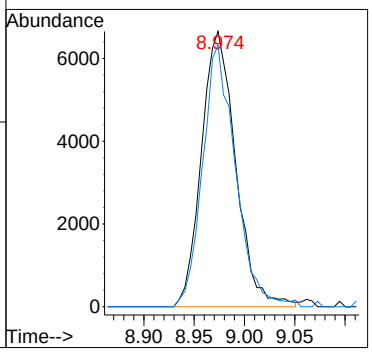


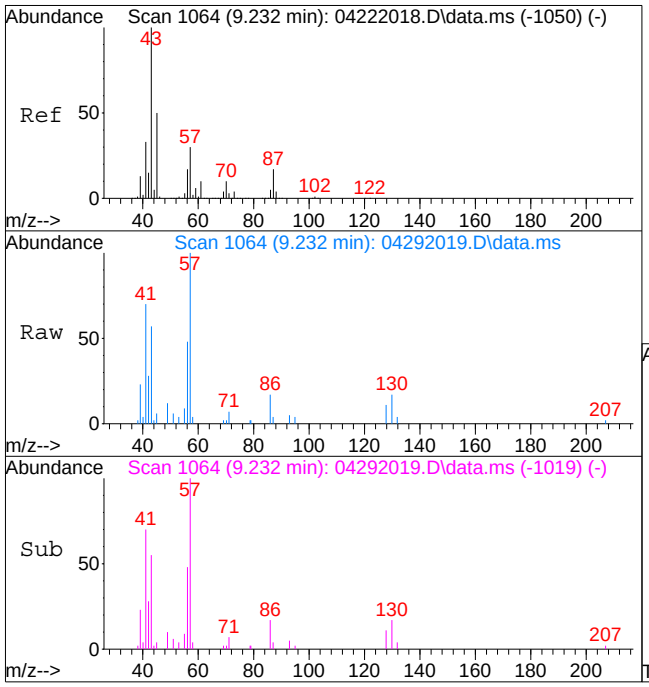


#28
cis-1,2-Dichloroethene
Concen: 1.15 ng
RT: 8.97 min Scan# 1017
Delta R.T. -0.028 min
Lab File: 04292019.D
Acq: 29 Apr 2020 16:12

Tgt Ion: 61 Resp: 15768

Ion	Ratio	Lower	Upper
61	100		
96	91.1	67.0	107.0

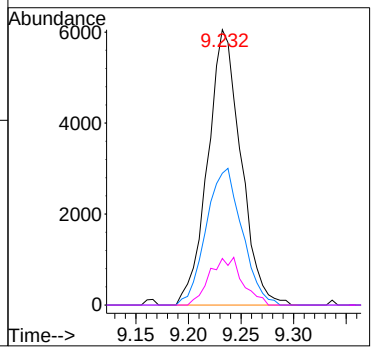


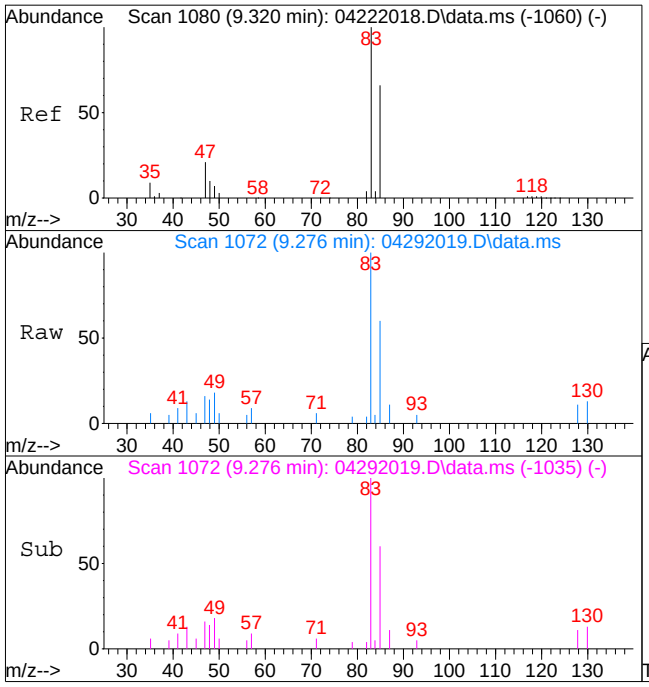


#31
n-Hexane
Concen: 1.02 ng
RT: 9.23 min Scan# 1064
Delta R.T. -0.000 min
Lab File: 04292019.D
Acq: 29 Apr 2020 16:12

Tgt Ion: 57 Resp: 13299

Ion	Ratio	Lower	Upper
57	100		
56	53.7	44.0	66.0
86	17.1	15.0	22.4

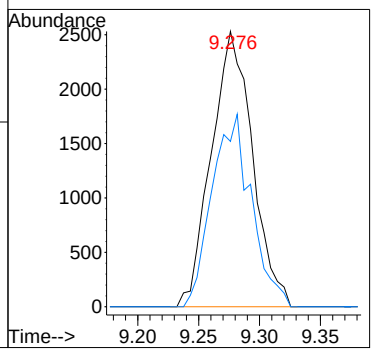


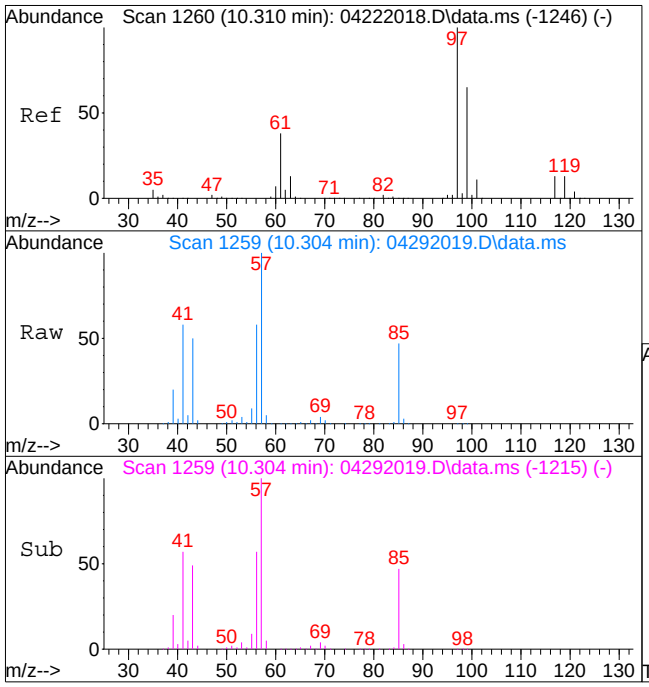


#32
Chloroform
Concen: 0.28 ng
RT: 9.28 min Scan# 1072
Delta R.T. -0.044 min
Lab File: 04292019.D
Acq: 29 Apr 2020 16:12

Tgt Ion: 83 Resp: 5939

Ion	Ratio	Lower	Upper
83	100		
85	66.8	45.8	85.8

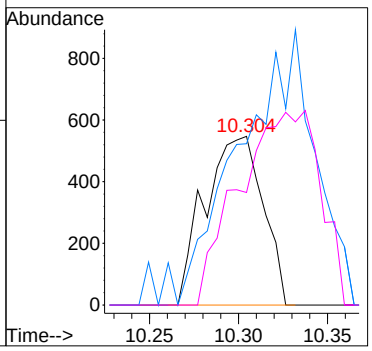


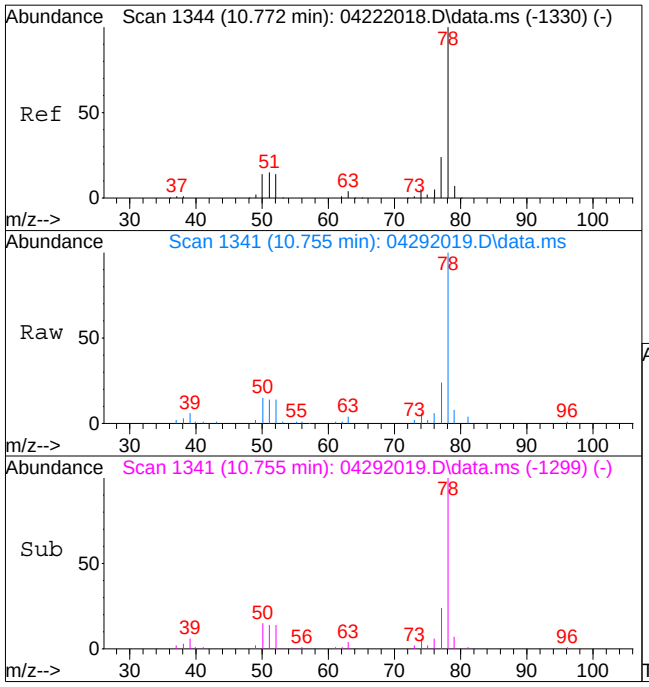


#38
1,1,1-Trichloroethane
Concen: 0.06 ng
RT: 10.30 min Scan# 1259
Delta R.T. -0.006 min
Lab File: 04292019.D
Acq: 29 Apr 2020 16:12

Tgt Ion: 97 Resp: 1242

Ion	Ratio	Lower	Upper
97	100		
99	210.0	44.7	84.7#
61	160.5	17.2	57.2#

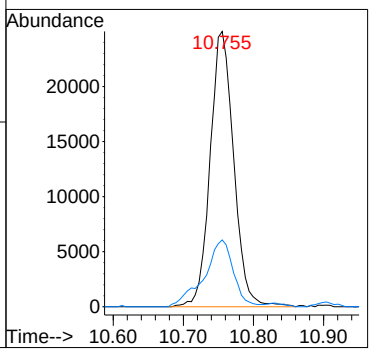


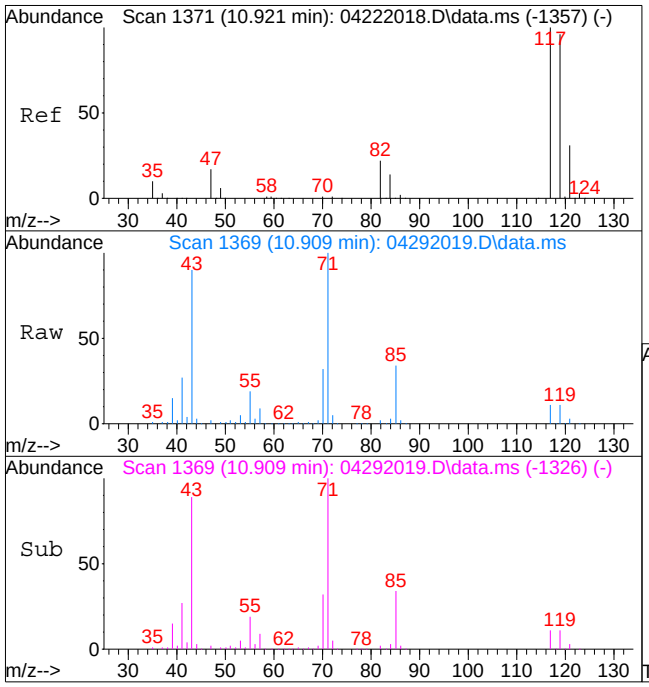


#41
Benzene
Concen: 1.38 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.017 min
Lab File: 04292019.D
Acq: 29 Apr 2020 16:12

Tgt Ion: 78 Resp: 58456

Ion	Ratio	Lower	Upper
78	100		
77	30.1	3.6	43.6

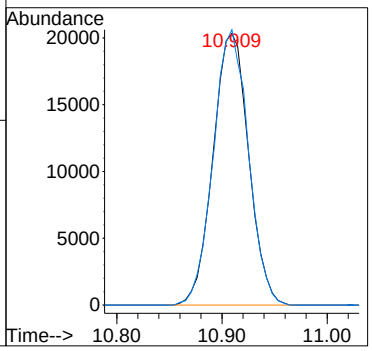


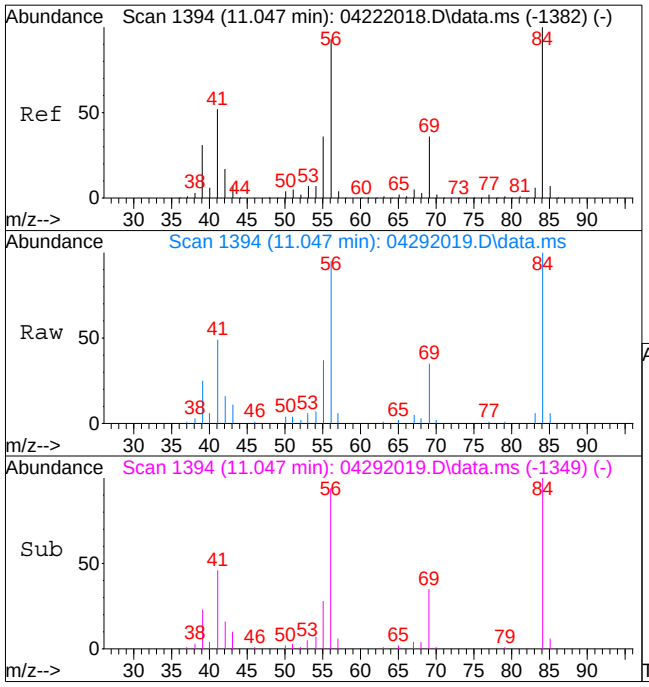


#42
Carbon Tetrachloride
Concen: 2.18 ng
RT: 10.91 min Scan# 1369
Delta R.T. -0.011 min
Lab File: 04292019.D
Acq: 29 Apr 2020 16:12

Tgt Ion:117 Resp: 47937

Ion	Ratio	Lower	Upper
117	100		
119	99.9	76.5	116.5

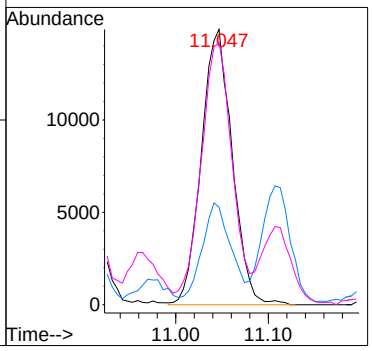


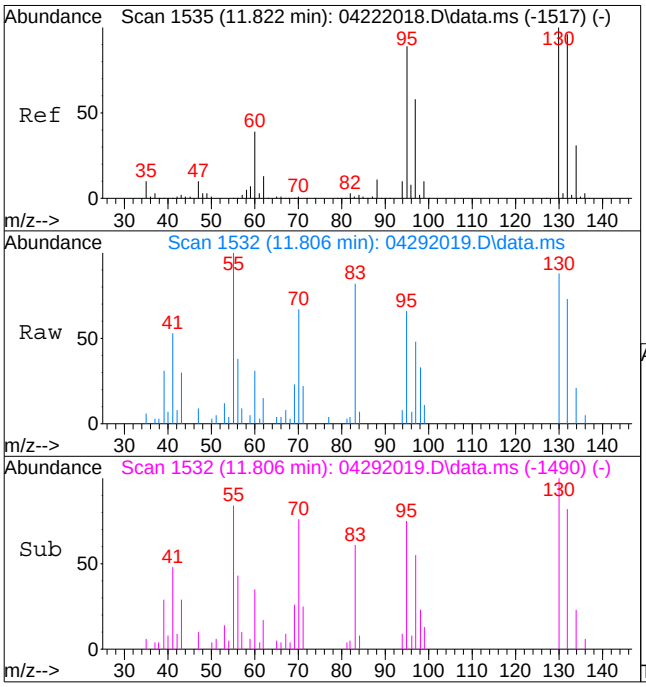


#43
Cyclohexane
Concen: 2.08 ng
RT: 11.05 min Scan# 1394
Delta R.T. -0.000 min
Lab File: 04292019.D
Acq: 29 Apr 2020 16:12

Tgt Ion: 84 Resp: 34571

Ion	Ratio	Lower	Upper
84	100		
69	35.4	15.8	55.8
56	90.8	72.0	112.0

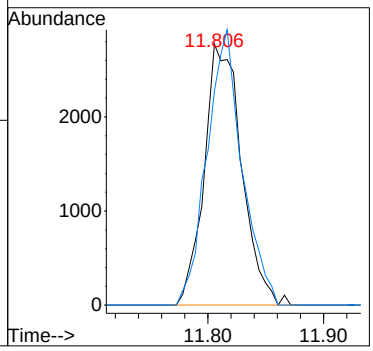


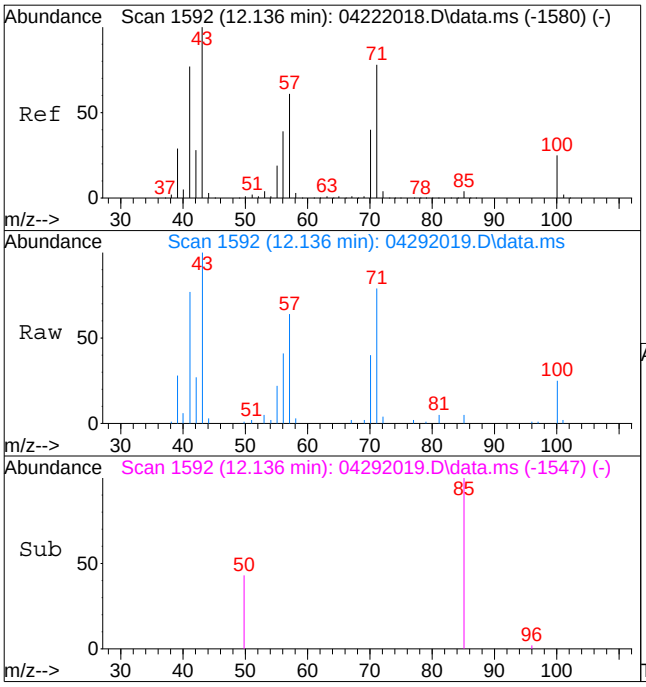


#47
Trichloroethene
Concen: 0.42 ng
RT: 11.81 min Scan# 1532
Delta R.T. -0.017 min
Lab File: 04292019.D
Acq: 29 Apr 2020 16:12

Tgt Ion:130 Resp: 6233

Ion	Ratio	Lower	Upper
130	100		
132	99.3	76.4	116.4

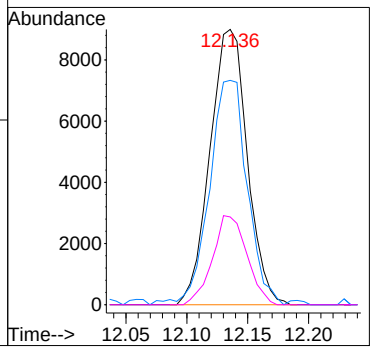


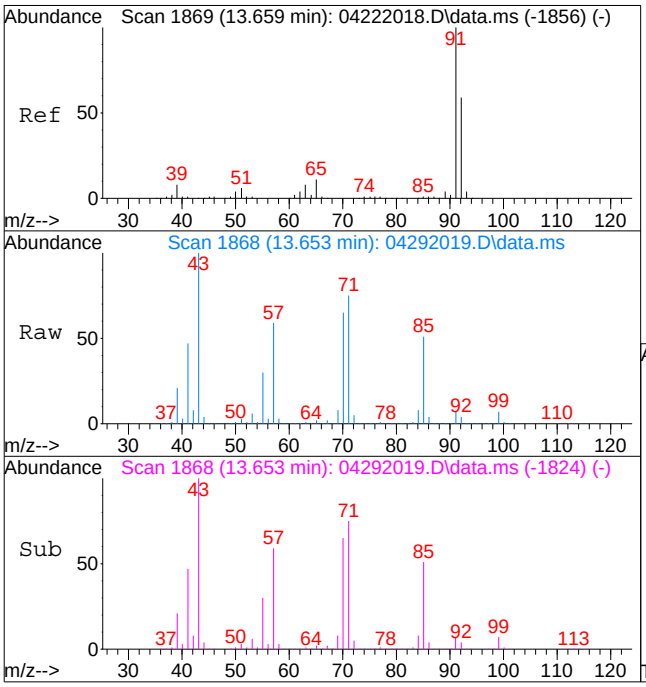


#51
n-Heptane
Concen: 1.94 ng
RT: 12.14 min Scan# 1592
Delta R.T. -0.000 min
Lab File: 04292019.D
Acq: 29 Apr 2020 16:12

Tgt Ion: 71 Resp: 19165

Ion	Ratio	Lower	Upper
71	100		
57	82.5	57.4	97.4
100	29.9	12.0	52.0

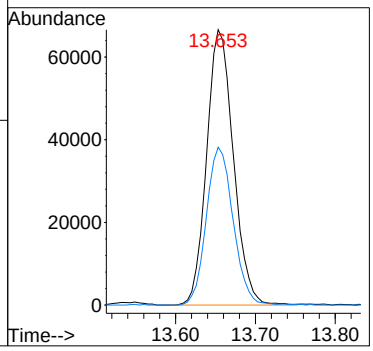


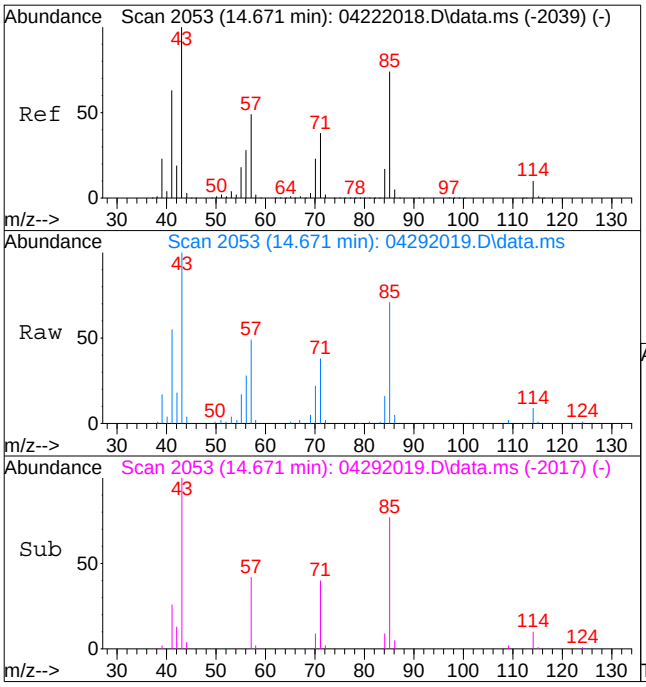


#58
Toluene
Concen: 3.27 ng
RT: 13.65 min Scan# 1868
Delta R.T. -0.006 min
Lab File: 04292019.D
Acq: 29 Apr 2020 16:12

Tgt Ion: 91 Resp: 155358

Ion	Ratio	Lower	Upper
91	100		
92	57.3	38.2	78.2

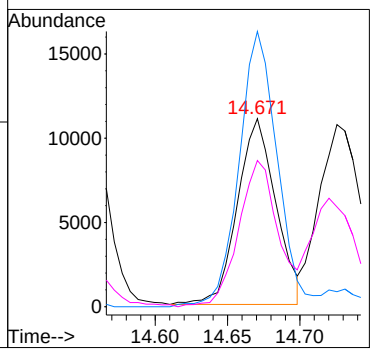


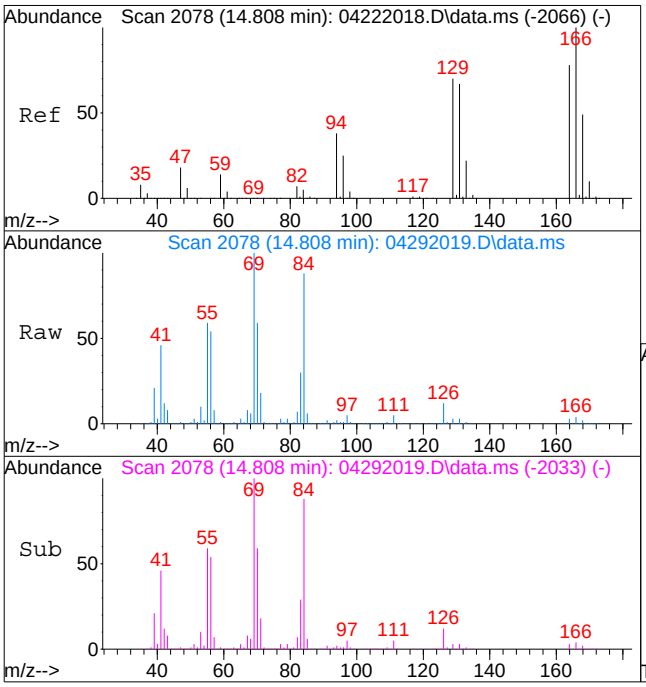


#63
n-Octane
Concen: 2.71 ng
RT: 14.67 min Scan# 2053
Delta R.T. -0.000 min
Lab File: 04292019.D
Acq: 29 Apr 2020 16:12

Tgt Ion: 57 Resp: 20441

Ion	Ratio	Lower	Upper
57	100		
85	146.4	120.7	181.1
71	81.0	61.1	91.7

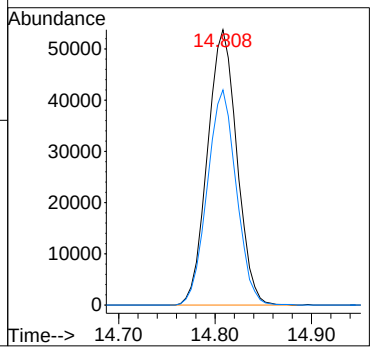


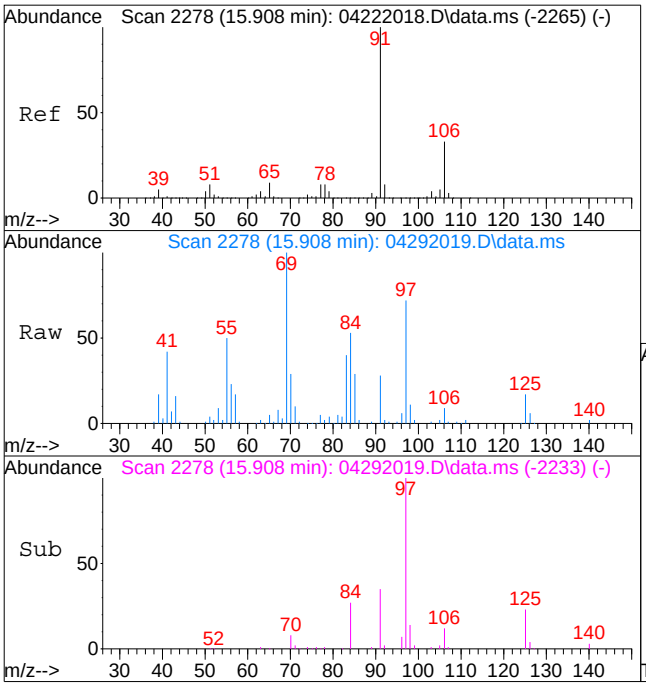


#64
Tetrachloroethene
Concen: 6.36 ng
RT: 14.81 min Scan# 2078
Delta R.T. -0.000 min
Lab File: 04292019.D
Acq: 29 Apr 2020 16:12

Tgt Ion:166 Resp: 113645

Ion	Ratio	Lower	Upper
166	100		
164	77.3	57.7	97.7

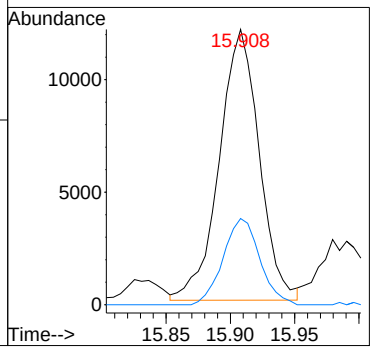


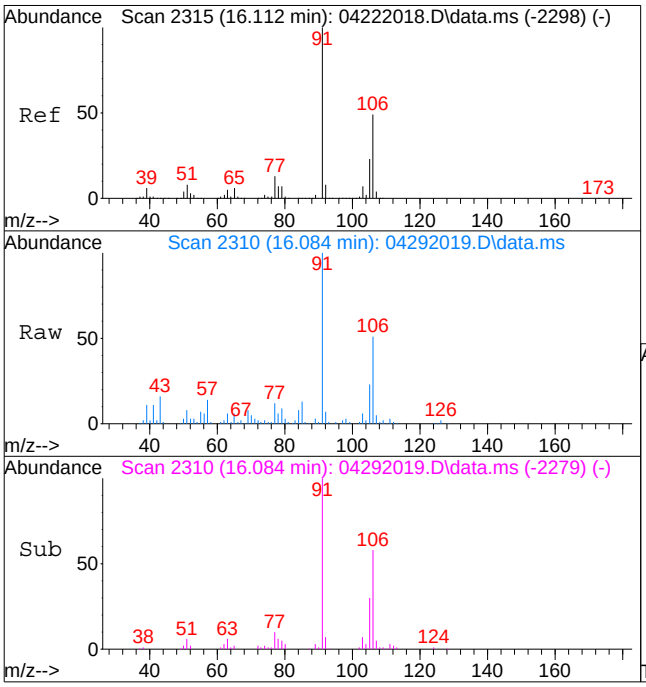


#66
Ethylbenzene
Concen: 0.47 ng
RT: 15.91 min Scan# 2278
Delta R.T. -0.000 min
Lab File: 04292019.D
Acq: 29 Apr 2020 16:12

Tgt Ion: 91 Resp: 25961

Ion	Ratio	Lower	Upper
91	100		
106	29.3	13.4	53.4

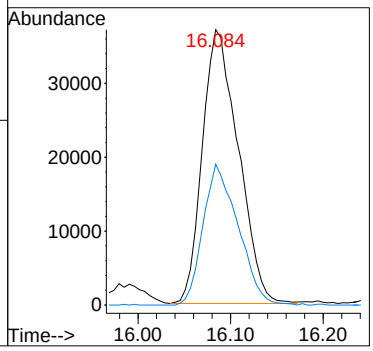


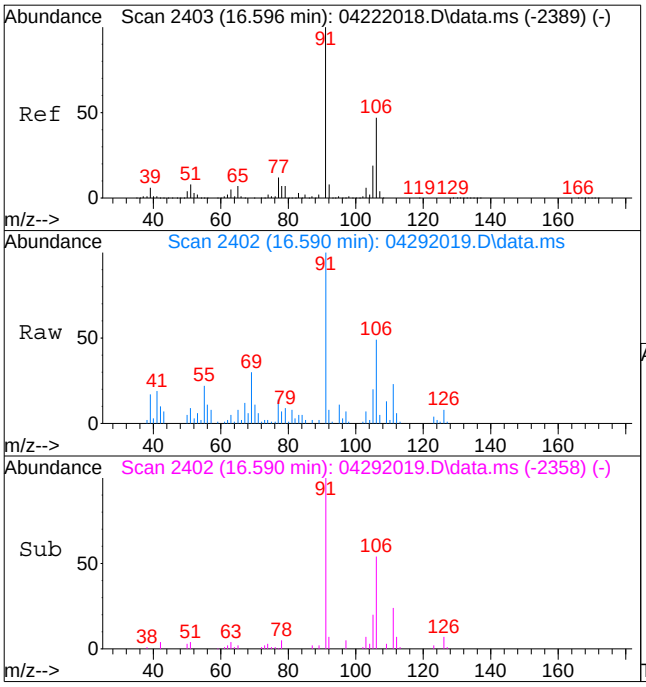


#67
m- & p-Xylenes
Concen: 2.15 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.028 min
Lab File: 04292019.D
Acq: 29 Apr 2020 16:12

Tgt Ion: 91 Resp: 100191

Ion	Ratio	Lower	Upper
91	100		
106	50.1	28.3	68.3

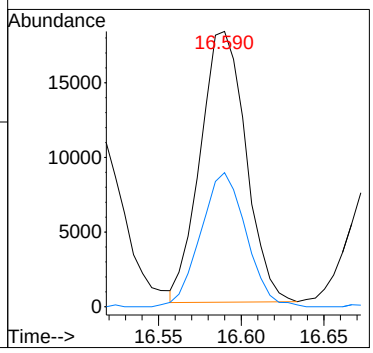


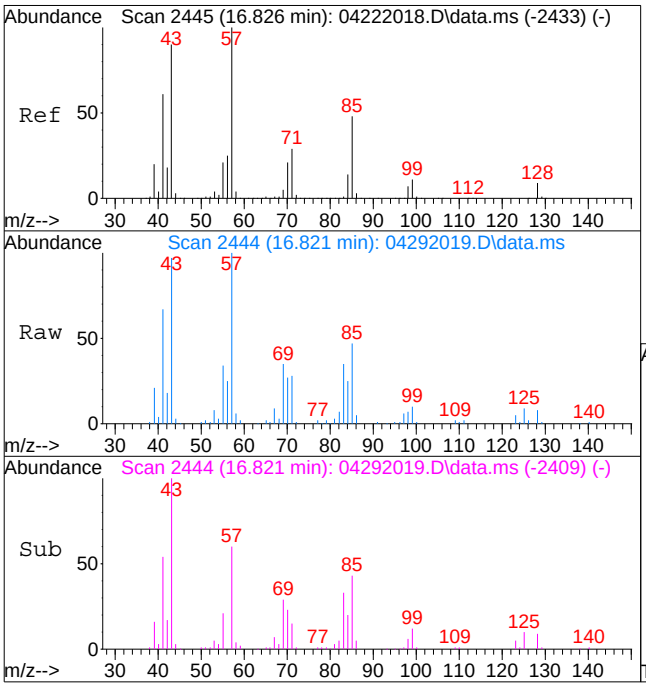


#70
o-Xylene
Concen: 0.76 ng
RT: 16.59 min Scan# 2402
Delta R.T. -0.006 min
Lab File: 04292019.D
Acq: 29 Apr 2020 16:12

Tgt Ion: 91 Resp: 34799

Ion	Ratio	Lower	Upper
91	100		
106	49.3	27.5	67.5

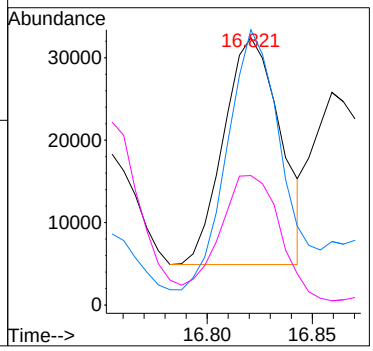


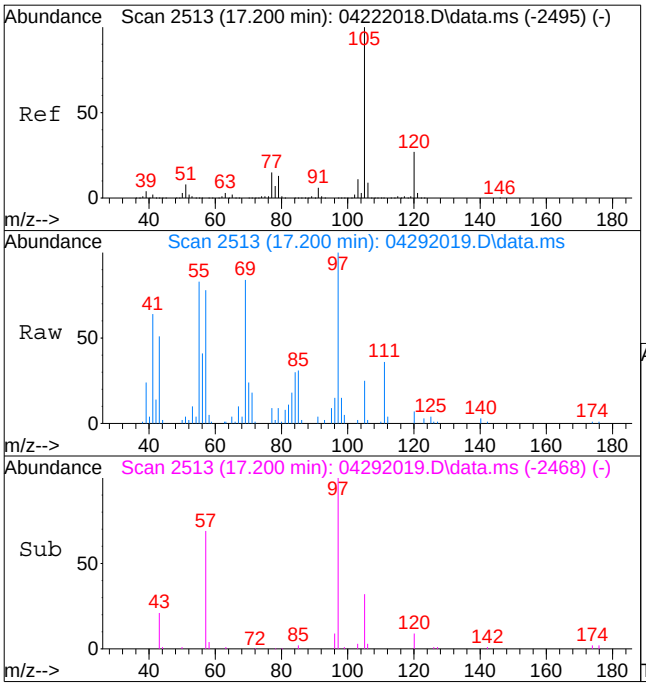


#71
n-Nonane
Concen: 3.50 ng
RT: 16.82 min Scan# 2444
Delta R.T. -0.006 min
Lab File: 04292019.D
Acq: 29 Apr 2020 16:12

Tgt Ion: 43 Resp: 51687

Ion	Ratio	Lower	Upper
43	100		
57	110.6	90.8	130.8
85	58.8	32.1	72.1

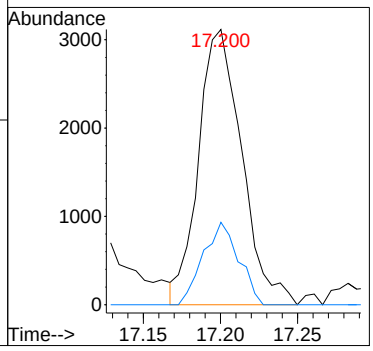


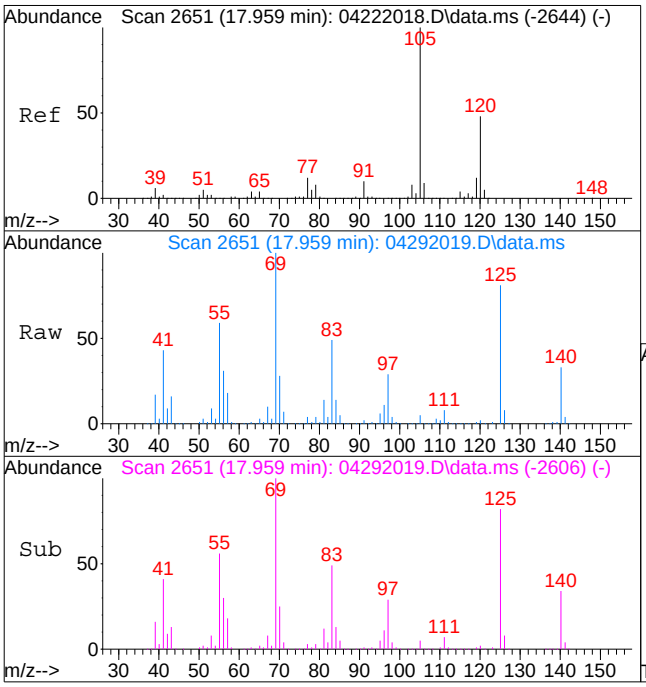


#74
Cumene
Concen: 0.10 ng
RT: 17.20 min Scan# 2513
Delta R.T. -0.000 min
Lab File: 04292019.D
Acq: 29 Apr 2020 16:12

Tgt Ion:105 Resp: 6068

Ion	Ratio	Lower	Upper
105	100		
120	24.7	7.3	47.3

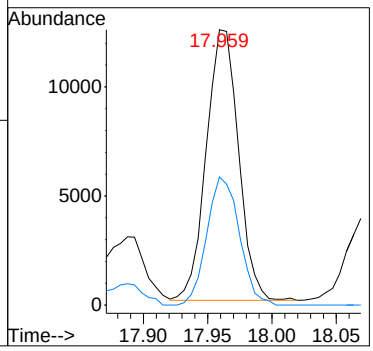


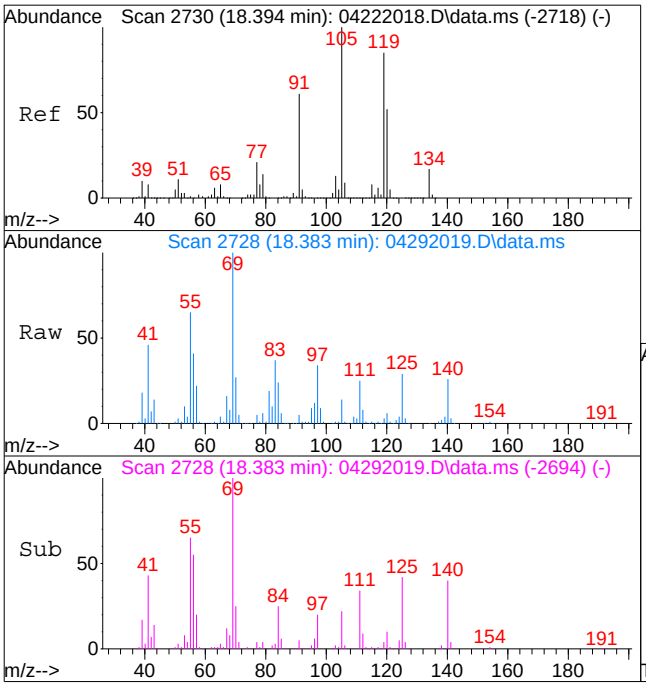


#79
1,3,5-Trimethylbenzene
Concen: 0.41 ng
RT: 17.96 min Scan# 2651
Delta R.T. -0.000 min
Lab File: 04292019.D
Acq: 29 Apr 2020 16:12

Tgt Ion:105 Resp: 21641

Ion	Ratio	Lower	Upper
105	100		
120	47.6	29.5	69.5

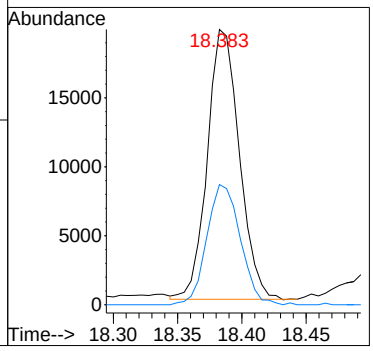




#82
1,2,4-Trimethylbenzene
Concen: 0.67 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 04292019.D
Acq: 29 Apr 2020 16:12

Tgt Ion:105 Resp: 33881

Ion	Ratio	Lower	Upper
105	100		
120	46.6	34.5	74.5



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292016.D Vial: 1
Acq On : 29 Apr 2020 14:32 Operator: SC
Sample : P2002029-005 (0.2mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 15:01:02 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	160216	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	688099	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	309875	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	239119	11.519	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.16%				
57) Toluene-d8 (SS2)	13.55	98	733298	12.256	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.08%				
73) Bromofluorobenzene (SS3)	17.05	174	281816	11.720	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.76%				
Target Compounds							Qvalue
2) Propene	3.89	42	1354	0.199	ng	#	84
3) Dichlorodifluoromethan...	3.99	85	141	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.43	45	35	N.D.			
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	0.00	56	0	N.D.	d		
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	6.03	101	317	N.D.			
15) 2-Propanol (Isopropanol)	6.25	45	142	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	6.72	96	2066	0.183	ng		97
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	6.86	84	6002	0.553	ng		93
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	7.18	151	19802	1.479	ng		99
22) Carbon Disulfide	0.00	76	0	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	8.09	63	778	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	d		
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	0.00	72	0	N.D.	d		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	9.24	57	255805	18.630	ng		98
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	9.97	62	171	N.D.			
38) 1,1,1-Trichloroethane	10.30	97	23087	0.976	ng		99
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.76	78	34866	0.777	ng		96
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	11.05	84	2532022	144.086	ng		97
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.	d		
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	0.00	130	0	N.D.	d		
48) 1,4-Dioxane	0.00	88	0	N.D.	d		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292016.D Vial: 1
Acq On : 29 Apr 2020 14:32 Operator: SC
Sample : P2002029-005 (0.2mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 15:01:02 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

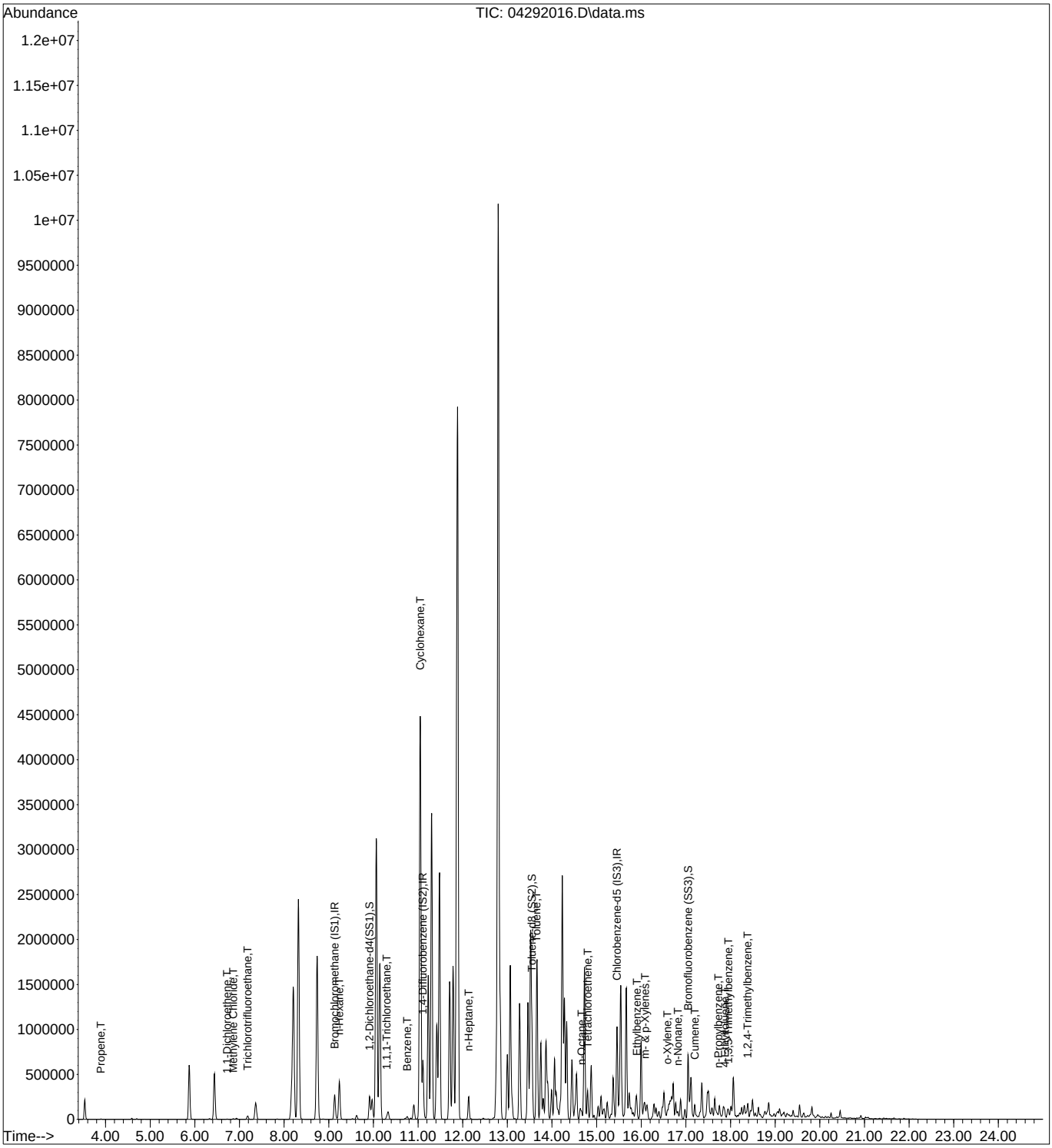
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	12.14	71	75352	7.230	ng		97
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	d		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	d		
54) trans-1,3-Dichloropropene	13.07	75	147	N.D.			
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	d		
58) Toluene	13.65	91	137017	2.728	ng		99
59) 2-Hexanone	0.00	43	0	N.D.	d		
60) Dibromochloromethane	0.00	129	0	N.D.			
61) 1,2-Dibromoethane	0.00	107	0	N.D.	d		
62) n-Butyl Acetate	0.00	43	0	N.D.	d		
63) n-Octane	14.67	57	17685	2.212	ng		89
64) Tetrachloroethene	14.80	166	7314	0.387	ng		98
65) Chlorobenzene	0.00	112	0	N.D.	d		
66) Ethylbenzene	15.90	91	29830	0.510	ng		98
67) m- & p-Xylenes	16.08	91	64850	1.313	ng		98
68) Bromoform	0.00	173	0	N.D.			
69) Styrene	16.59	104	799	N.D.			
70) o-Xylene	16.58	91	36773	0.758	ng		100
71) n-Nonane	16.82	43	20641	1.319	ng		98
72) 1,1,2,2-Tetrachloroethane	16.59	83	540	N.D.			
74) Cumene	17.20	105	6017	0.095	ng		96
75) alpha-Pinene	17.60	93	1433	N.D.			
76) n-Propylbenzene	17.73	91	7296	0.106	ng	#	71
77) 3-Ethyltoluene	0.00	105	0	N.D.	d		
78) 4-Ethyltoluene	17.88	105	6145	0.102	ng		96
79) 1,3,5-Trimethylbenzene	17.95	105	29124	0.524	ng		99
80) alpha-Methylstyrene	17.95	118	124	N.D.			
81) 2-Ethyltoluene	0.00	105	0	N.D.	d		
82) 1,2,4-Trimethylbenzene	18.38	105	20856	0.388	ng		91
83) n-Decane	0.00	57	0	N.D.	d		
84) Benzyl Chloride	18.48	91	1102	N.D.			
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.			
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.			
87) sec-Butylbenzene	0.00	105	0	N.D.	d		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.	d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d		
90) 1,2-Dichlorobenzene	18.98	146	777	N.D.			
91) d-Limonene	0.00	68	0	N.D.	d		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.			
93) n-Undecane	0.00	57	0	N.D.	d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.			
95) Naphthalene	20.93	128	574	N.D.			
96) n-Dodecane	0.00	57	0	N.D.	d		
97) Hexachlorobutadiene	0.00	225	0	N.D.			
98) Cyclohexanone	0.00	55	0	N.D.	d		
99) tert-Butylbenzene	0.00	119	0	N.D.	d		
100) n-Butylbenzene	0.00	91	0	N.D.	d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292016.D Vial: 1
Acq On : 29 Apr 2020 14:32 Operator: SC
Sample : P2002029-005 (0.2mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 15:01:02 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292016.D Vial: 1
Acq On : 29 Apr 2020 14:32 Operator: SC
Sample : P2002029-005 (0.2mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 15:01:02 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/29/20

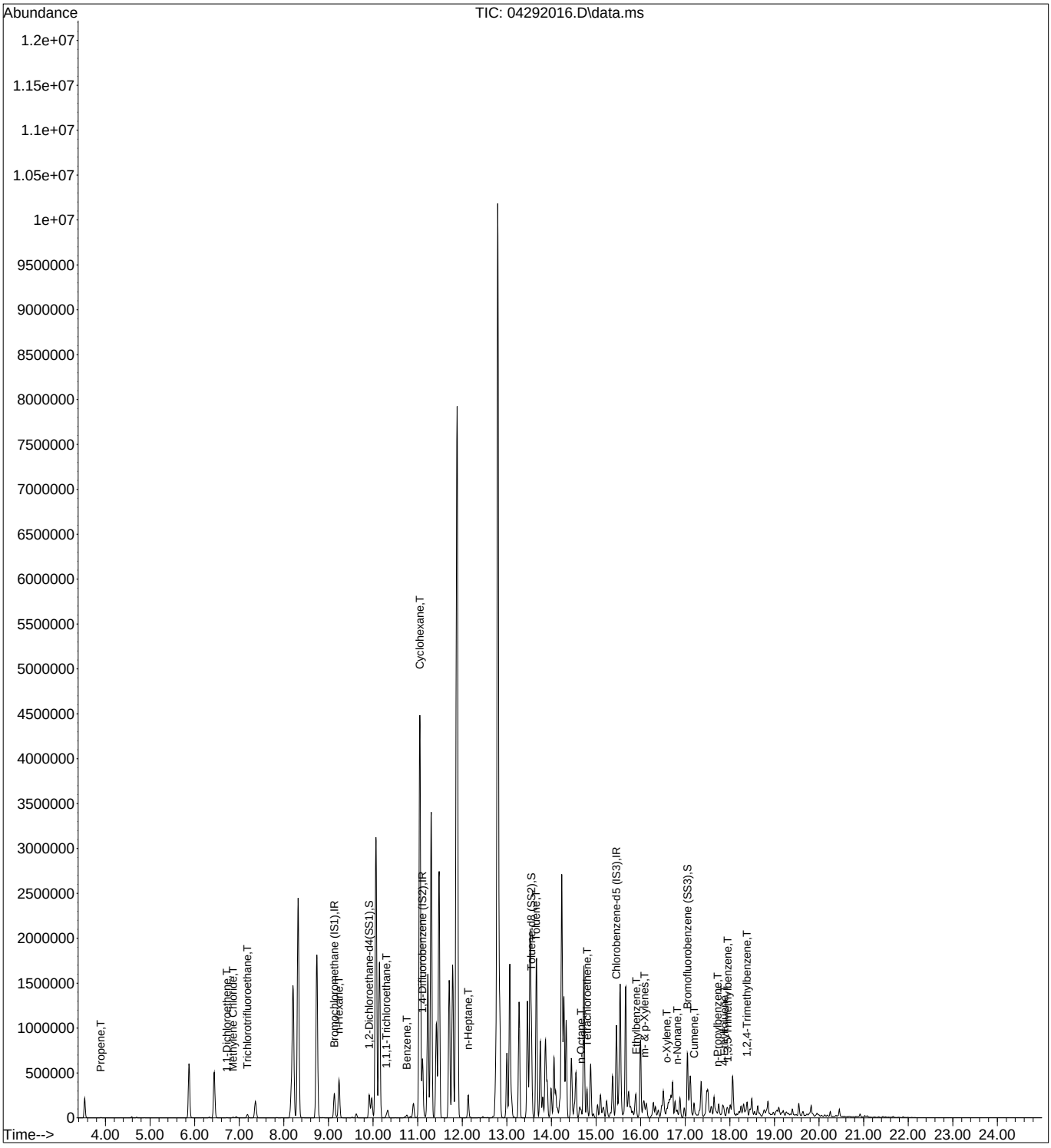
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	160216	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	688099	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	309875	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	239119	11.519	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.16%				
57) Toluene-d8 (SS2)	13.55	98	733298	12.256	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.08%				
73) Bromofluorobenzene (SS3)	17.05	174	281816	11.720	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.76%				
Target Compounds							Qvalue
2) Propene	3.89	42	1354	0.199	ng	#	84
17) 1,1-Dichloroethene	6.72	96	2066	0.183	ng		97
19) Methylene Chloride	6.86	84	6002	0.553	ng		93
21) Trichlorotrifluoroethane	7.18	151	19802	1.479	ng		99
31) n-Hexane	9.24	57	255805	18.630	ng		98
38) 1,1,1-Trichloroethane	10.30	97	23087	0.976	ng		99
41) Benzene	10.76	78	34866	0.777	ng		96
43) Cyclohexane	11.05	84	2532022	144.086	ng		97
51) n-Heptane	12.14	71	75352	7.230	ng		97
58) Toluene	13.65	91	137017	2.728	ng		99
63) n-Octane	14.67	57	17685	2.212	ng		89
64) Tetrachloroethene	14.80	166	7314	0.387	ng		98
66) Ethylbenzene	15.90	91	29830	0.510	ng		98
67) m- & p-Xylenes	16.08	91	64850	1.313	ng		98
70) o-Xylene	16.58	91	36773	0.758	ng		100
71) n-Nonane	16.82	43	20641	1.319	ng		98
74) Cumene	17.20	105	6017	0.095	ng		96
76) n-Propylbenzene	17.73	91	7296	0.106	ng	#	71
78) 4-Ethyltoluene	17.88	105	6145	0.102	ng		96
79) 1,3,5-Trimethylbenzene	17.95	105	29124	0.524	ng		99
82) 1,2,4-Trimethylbenzene	18.38	105	20856	0.388	ng		91

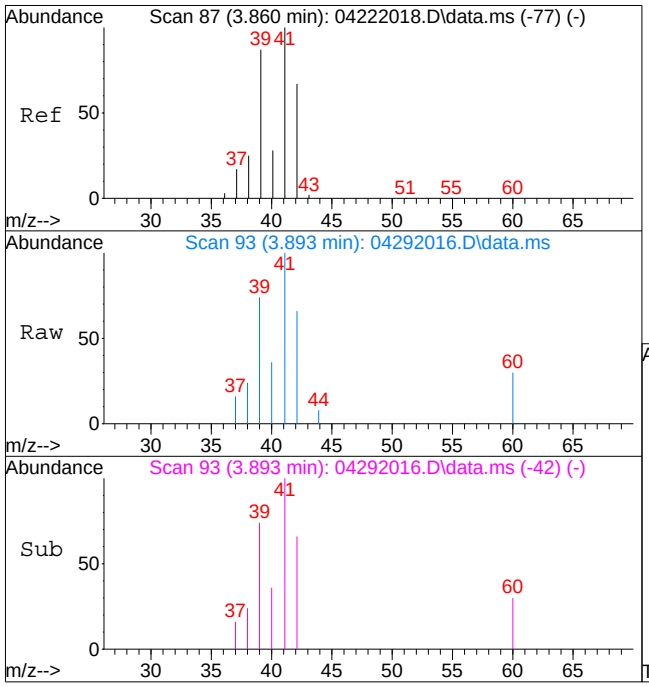
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292016.D Vial: 1
Acq On : 29 Apr 2020 14:32 Operator: SC
Sample : P2002029-005 (0.2mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 15:01:02 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

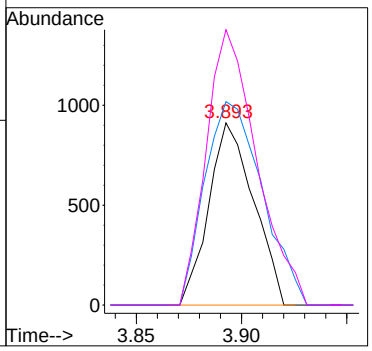


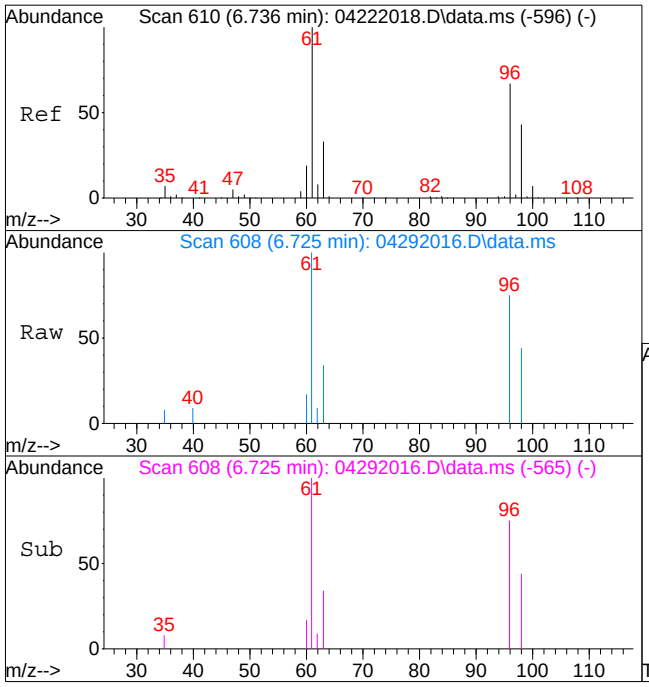


#2
Propene
Concen: 0.20 ng
RT: 3.89 min Scan# 93
Delta R.T. 0.033 min
Lab File: 04292016.D
Acq: 29 Apr 2020 14:32

Tgt Ion: 42 Resp: 1354

Ion	Ratio	Lower	Upper
42	100		
39	143.0	106.4	146.4
41	170.5	128.8	168.8#

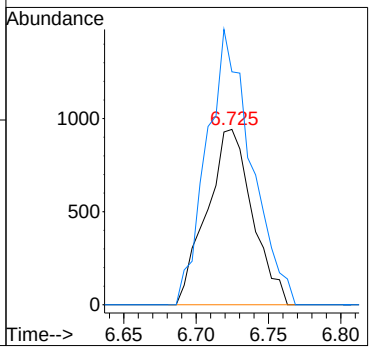


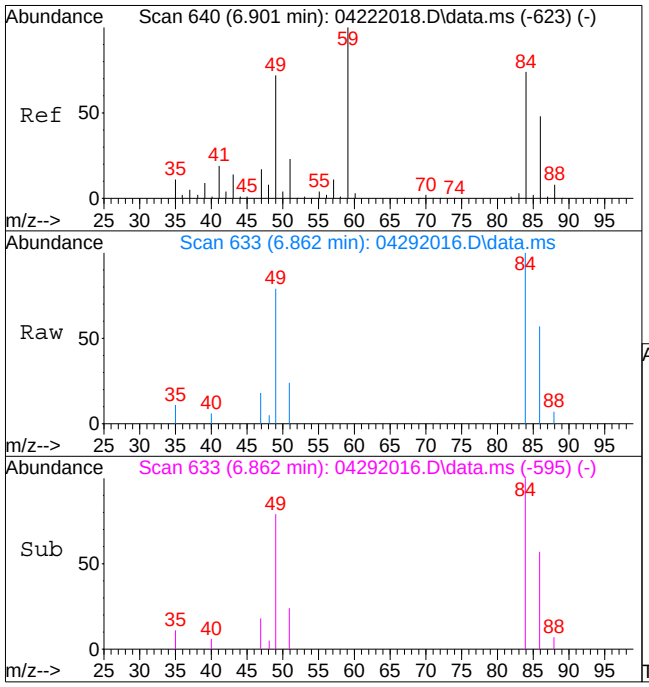


#17
1,1-Dichloroethene
Concen: 0.18 ng
RT: 6.72 min Scan# 608
Delta R.T. -0.011 min
Lab File: 04292016.D
Acq: 29 Apr 2020 14:32

Tgt Ion: 96 Resp: 2066

Ion	Ratio	Lower	Upper
96	100		
61	153.6	129.8	169.8

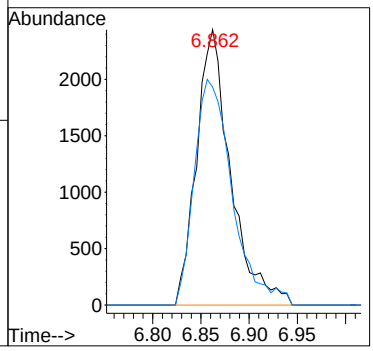


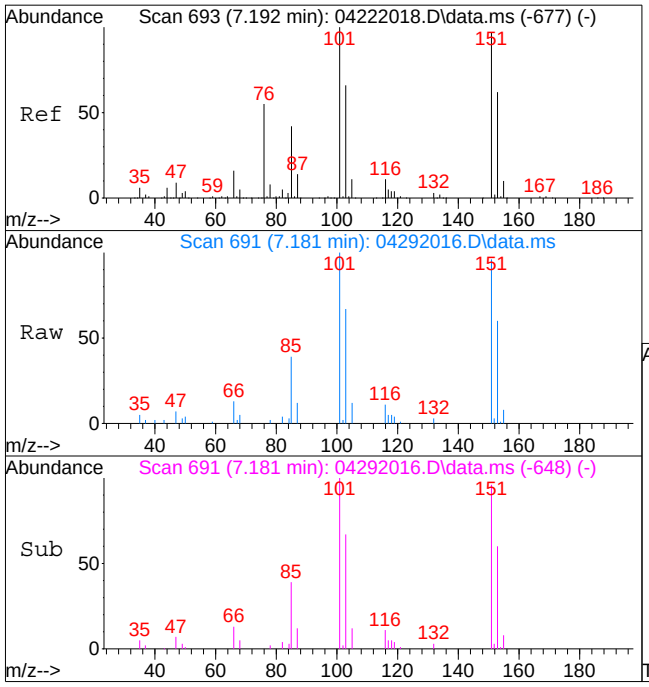


#19
Methylene Chloride
Concen: 0.55 ng
RT: 6.86 min Scan# 633
Delta R.T. -0.039 min
Lab File: 04292016.D
Acq: 29 Apr 2020 14:32

Tgt Ion: 84 Resp: 6002

Ion	Ratio	Lower	Upper
84	100		
49	91.5	73.0	123.0

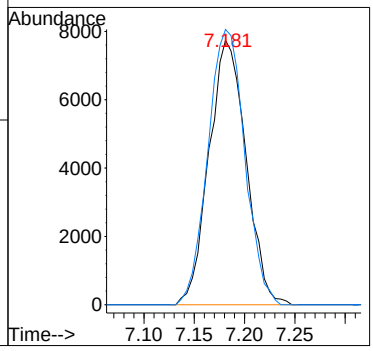


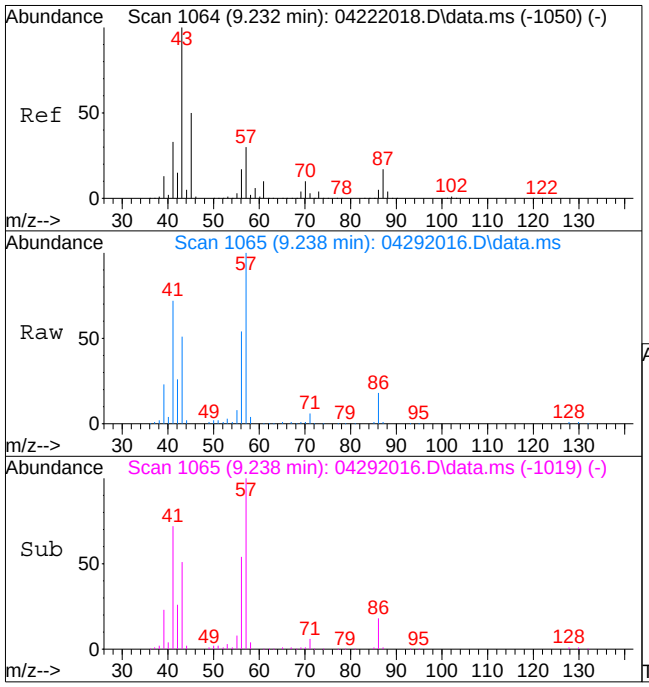


#21
Trichlorotrifluoroethane
Concen: 1.48 ng
RT: 7.18 min Scan# 691
Delta R.T. -0.011 min
Lab File: 04292016.D
Acq: 29 Apr 2020 14:32

Tgt Ion:151 Resp: 19802

Ion	Ratio	Lower	Upper
151	100		
101	103.6	82.9	122.9

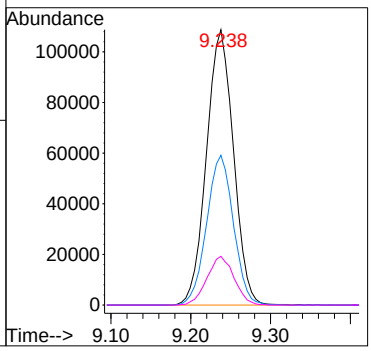


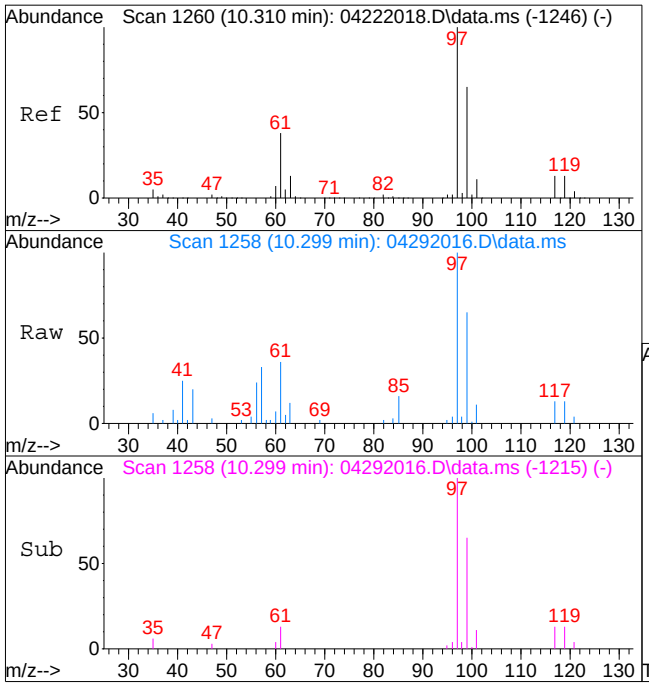


#31
n-Hexane
Concen: 18.63 ng
RT: 9.24 min Scan# 1065
Delta R.T. 0.005 min
Lab File: 04292016.D
Acq: 29 Apr 2020 14:32

Tgt Ion: 57 Resp: 255805

Ion	Ratio	Lower	Upper
57	100		
56	54.0	44.0	66.0
86	17.7	15.0	22.4

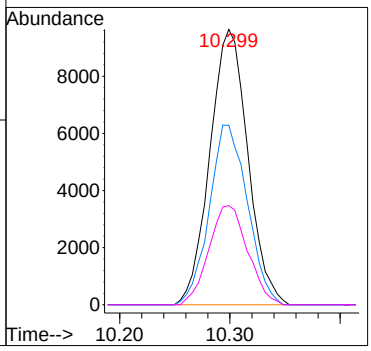


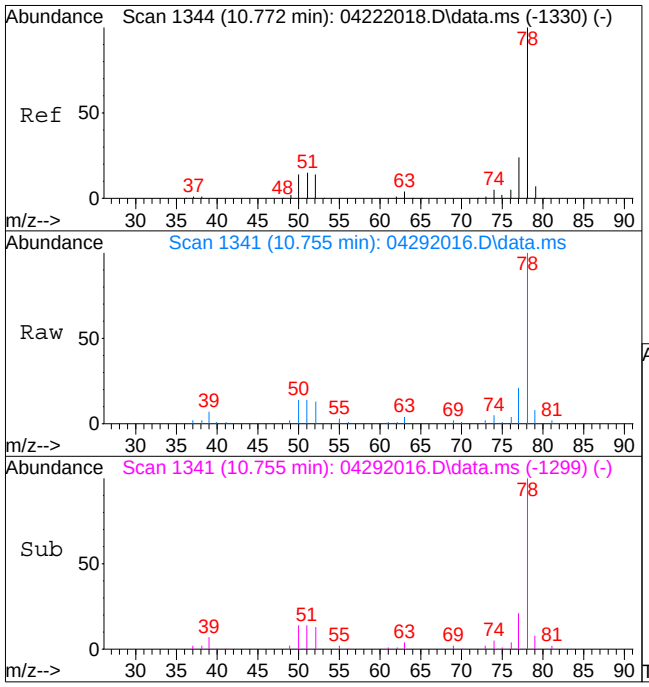


#38
1,1,1-Trichloroethane
Concen: 0.98 ng
RT: 10.30 min Scan# 1258
Delta R.T. -0.011 min
Lab File: 04292016.D
Acq: 29 Apr 2020 14:32

Tgt Ion: 97 Resp: 23087

Ion	Ratio	Lower	Upper
97	100		
99	65.5	44.7	84.7
61	36.8	17.2	57.2

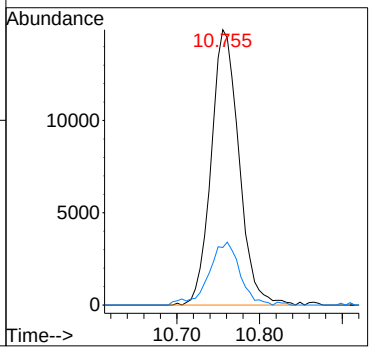


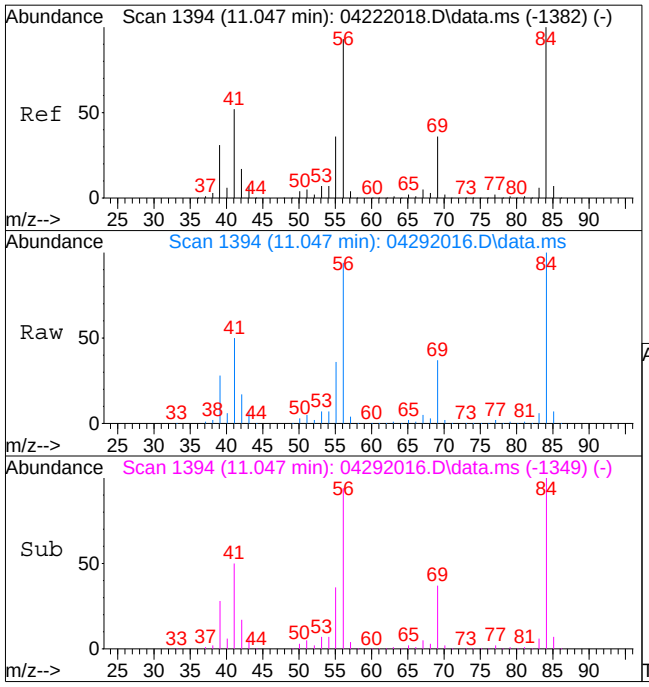


#41
Benzene
Concen: 0.78 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.017 min
Lab File: 04292016.D
Acq: 29 Apr 2020 14:32

Tgt Ion: 78 Resp: 34866

Ion	Ratio	Lower	Upper
78	100		
77	25.4	3.6	43.6

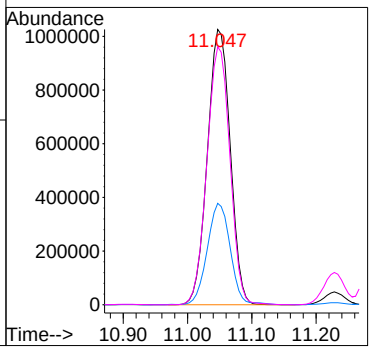


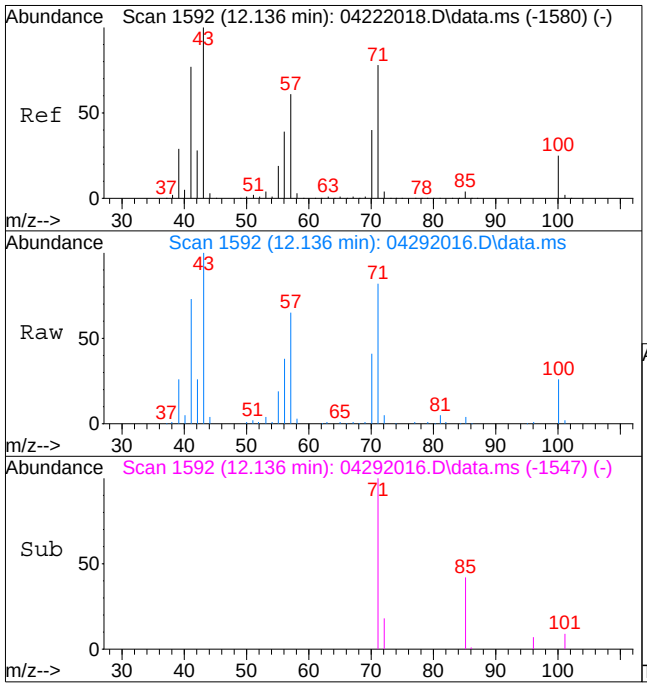


#43
Cyclohexane
Concen: 144.09 ng
RT: 11.05 min Scan# 1394
Delta R.T. -0.000 min
Lab File: 04292016.D
Acq: 29 Apr 2020 14:32

Tgt Ion: 84 Resp: 2532022

Ion	Ratio	Lower	Upper
84	100		
69	37.1	15.8	55.8
56	94.5	72.0	112.0

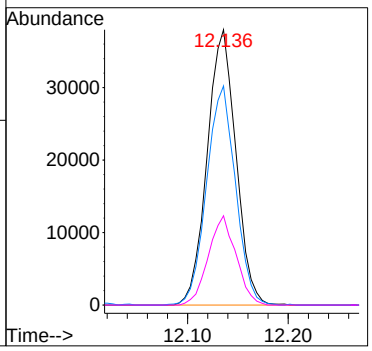


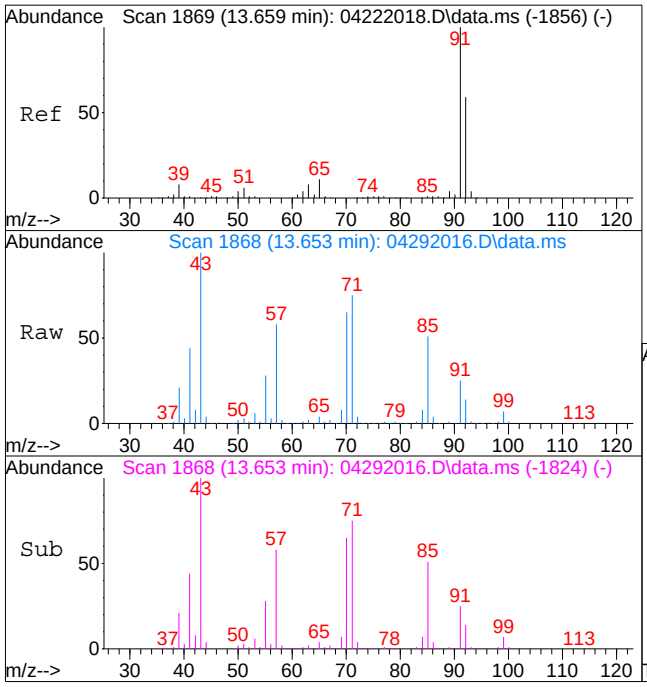


#51
n-Heptane
Concen: 7.23 ng
RT: 12.14 min Scan# 1592
Delta R.T. -0.000 min
Lab File: 04292016.D
Acq: 29 Apr 2020 14:32

Tgt Ion: 71 Resp: 75352

Ion	Ratio	Lower	Upper
71	100		
57	80.0	57.4	97.4
100	31.2	12.0	52.0

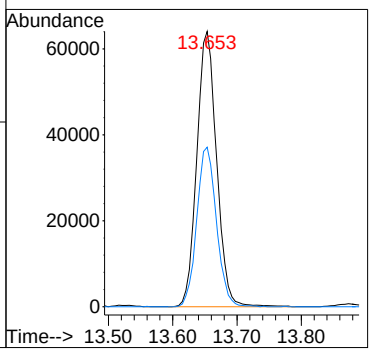


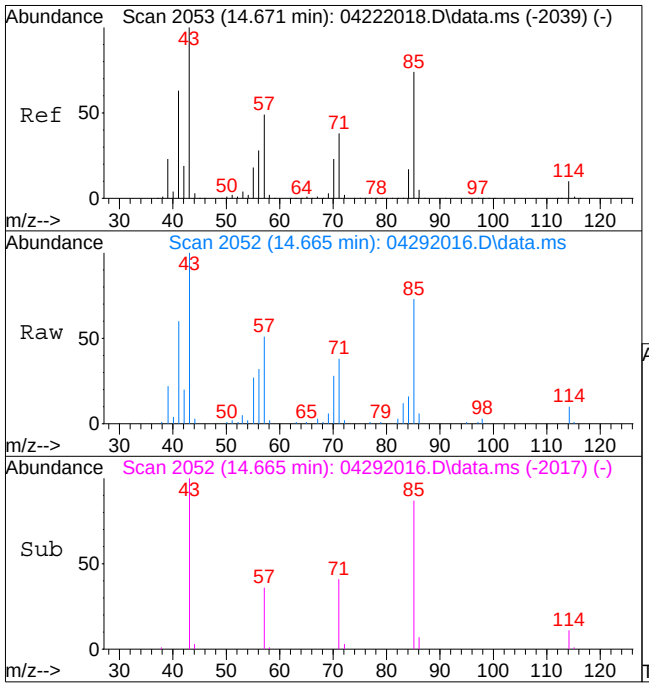


#58
Toluene
Concen: 2.73 ng
RT: 13.65 min Scan# 1868
Delta R.T. -0.006 min
Lab File: 04292016.D
Acq: 29 Apr 2020 14:32

Tgt Ion: 91 Resp: 137017

Ion	Ratio	Lower	Upper
91	100		
92	57.6	38.2	78.2

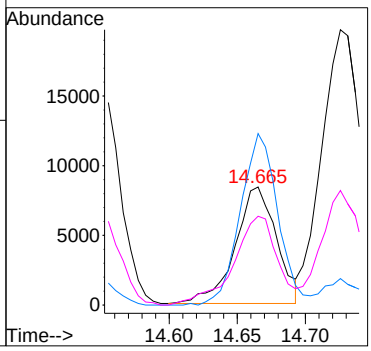


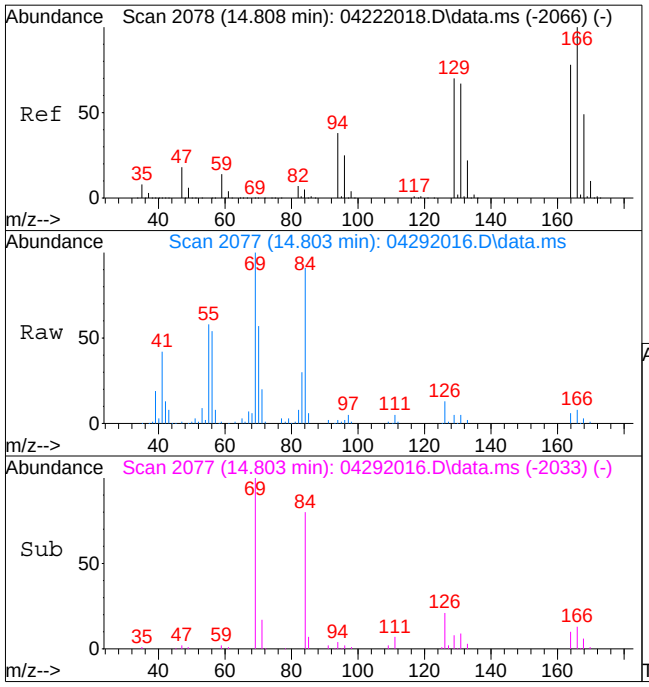


#63
n-Octane
Concen: 2.21 ng
RT: 14.67 min Scan# 2052
Delta R.T. -0.006 min
Lab File: 04292016.D
Acq: 29 Apr 2020 14:32

Tgt Ion: 57 Resp: 17685

Ion	Ratio	Lower	Upper
57	100		
85	133.1	120.7	181.1
71	80.3	61.1	91.7

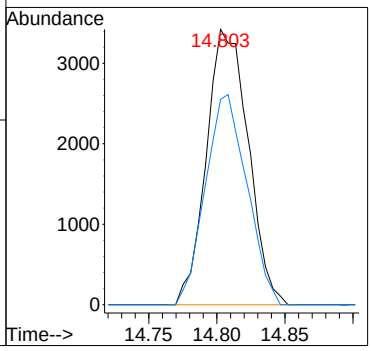


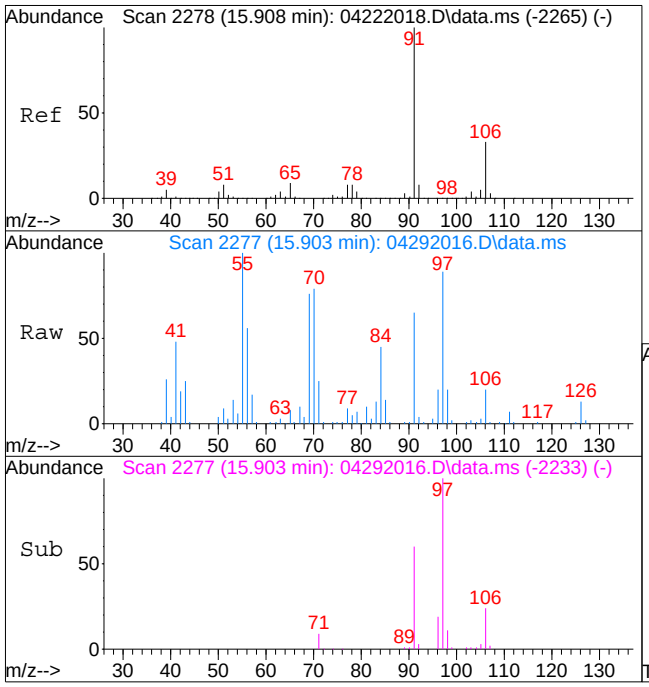


#64
Tetrachloroethene
Concen: 0.39 ng
RT: 14.80 min Scan# 2077
Delta R.T. -0.006 min
Lab File: 04292016.D
Acq: 29 Apr 2020 14:32

Tgt Ion:166 Resp: 7314

Ion	Ratio	Lower	Upper
166	100		
164	75.8	57.7	97.7

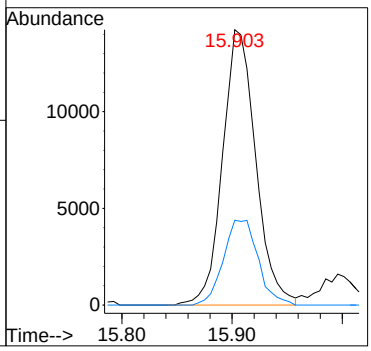


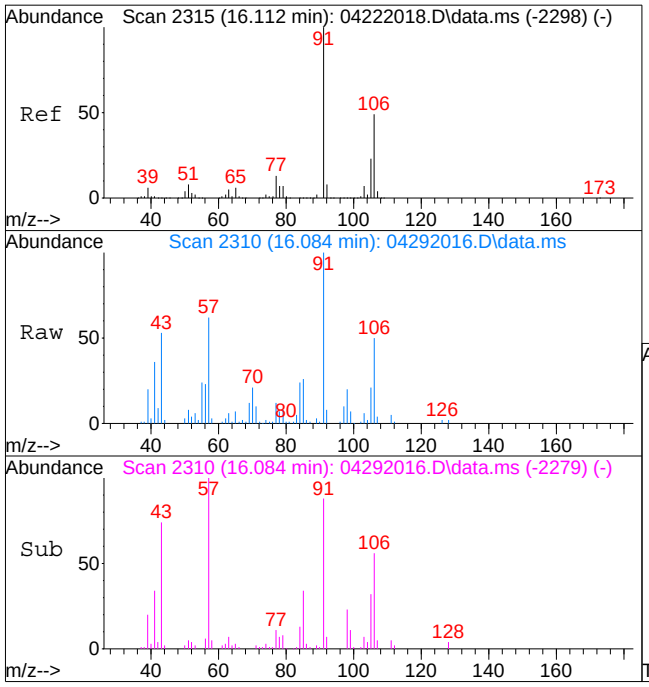


#66
Ethylbenzene
Concen: 0.51 ng
RT: 15.90 min Scan# 2277
Delta R.T. -0.006 min
Lab File: 04292016.D
Acq: 29 Apr 2020 14:32

Tgt Ion: 91 Resp: 29830

Ion	Ratio	Lower	Upper
91	100		
106	32.2	13.4	53.4

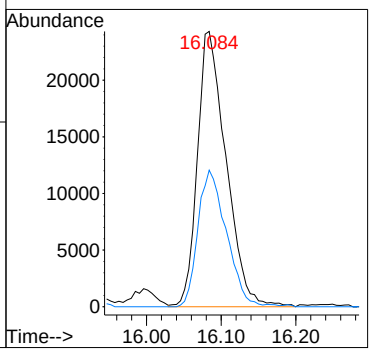


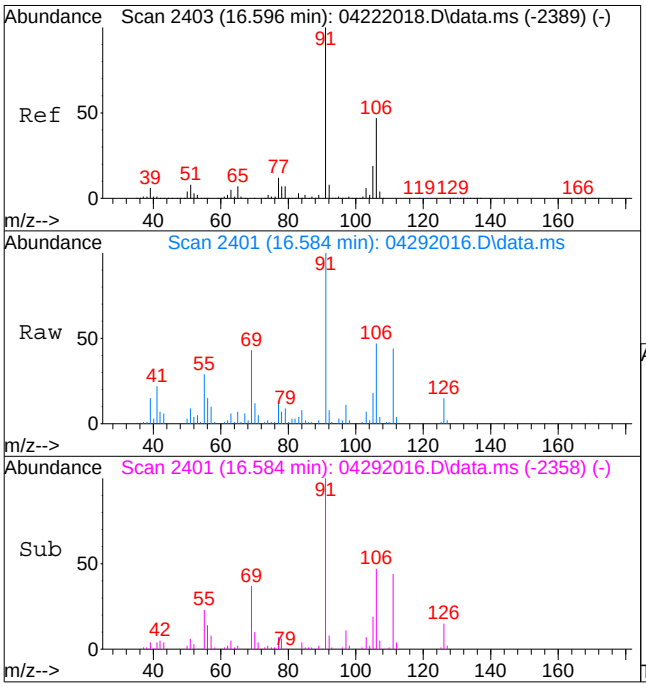


#67
m- & p-Xylenes
Concen: 1.31 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.028 min
Lab File: 04292016.D
Acq: 29 Apr 2020 14:32

Tgt Ion: 91 Resp: 64850

Ion	Ratio	Lower	Upper
91	100		
106	49.5	28.3	68.3

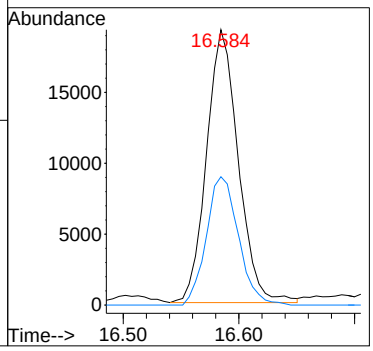


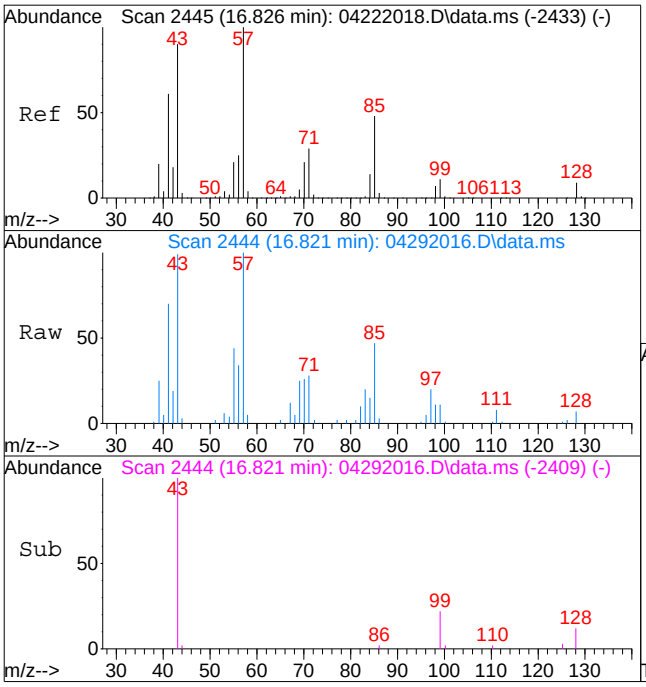


#70
o-Xylene
Concen: 0.76 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 04292016.D
Acq: 29 Apr 2020 14:32

Tgt Ion: 91 Resp: 36773

Ion	Ratio	Lower	Upper
91	100		
106	47.5	27.5	67.5

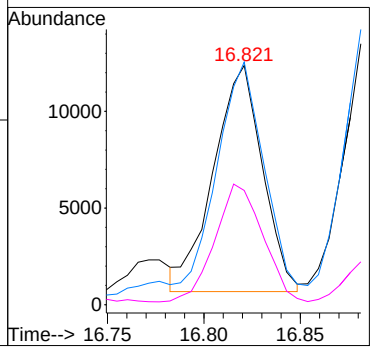


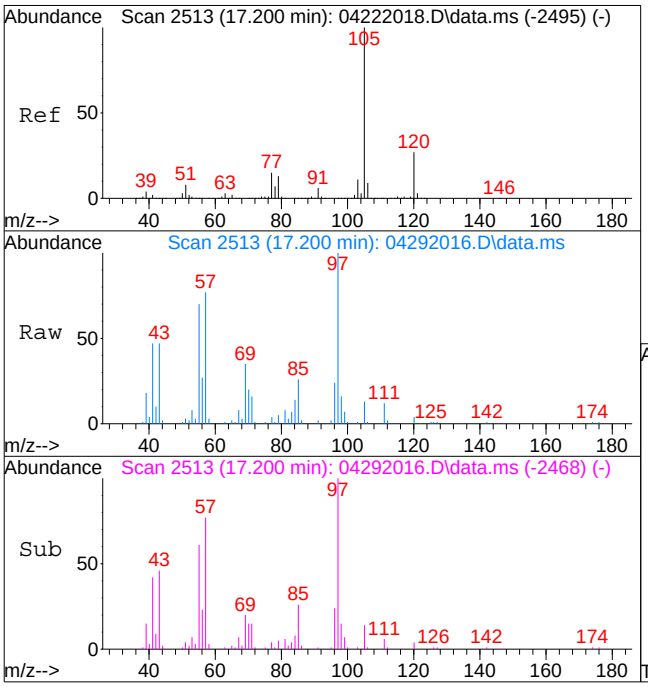


#71
n-Nonane
Concen: 1.32 ng
RT: 16.82 min Scan# 2444
Delta R.T. -0.006 min
Lab File: 04292016.D
Acq: 29 Apr 2020 14:32

Tgt Ion: 43 Resp: 20641

Ion	Ratio	Lower	Upper
43	100		
57	108.4	90.8	130.8
85	50.8	32.1	72.1

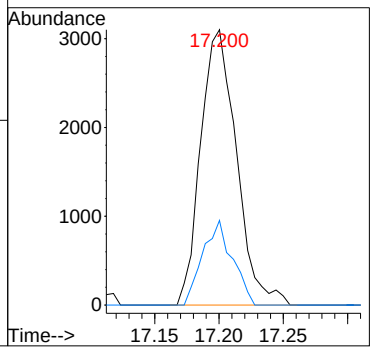


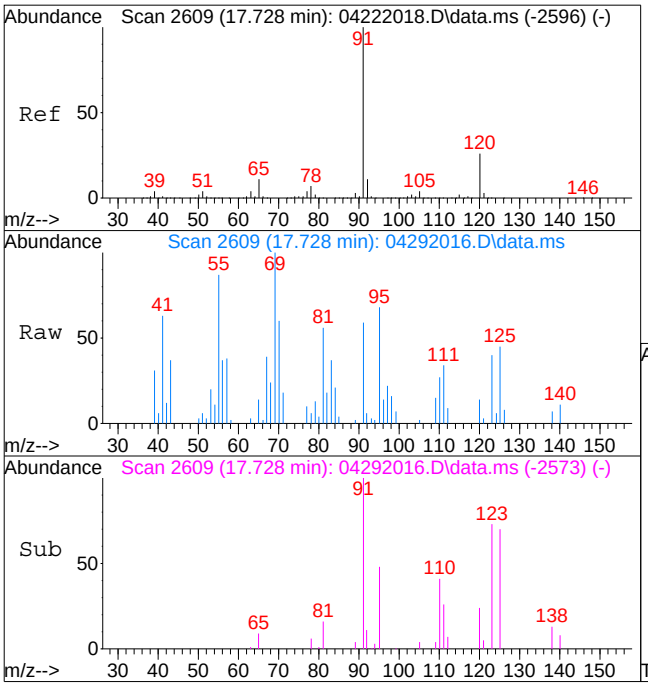


#74
Cumene
Concen: 0.10 ng
RT: 17.20 min Scan# 2513
Delta R.T. -0.000 min
Lab File: 04292016.D
Acq: 29 Apr 2020 14:32

Tgt Ion:105 Resp: 6017

Ion	Ratio	Lower	Upper
105	100		
120	25.4	7.3	47.3

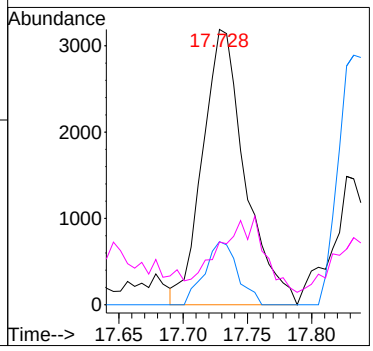


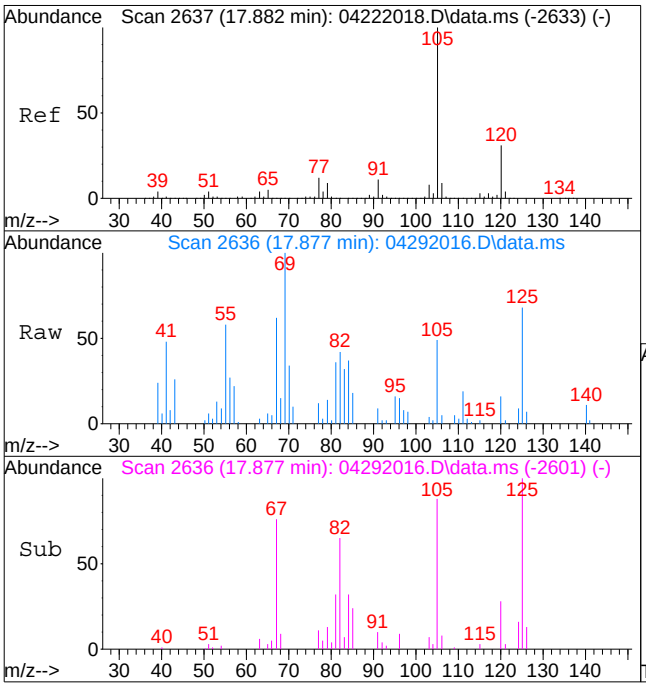


#76
n-Propylbenzene
Concen: 0.11 ng
RT: 17.73 min Scan# 2609
Delta R.T. -0.000 min
Lab File: 04292016.D
Acq: 29 Apr 2020 14:32

Tgt Ion: 91 Resp: 7296

Ion	Ratio	Lower	Upper
91	100		
120	17.9	6.1	46.1
65	33.8	0.0	30.7#

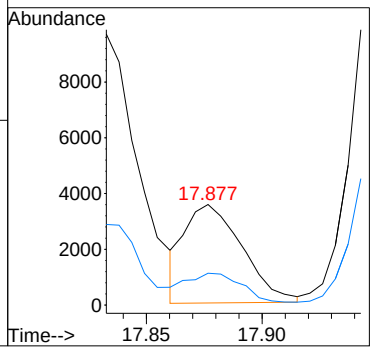


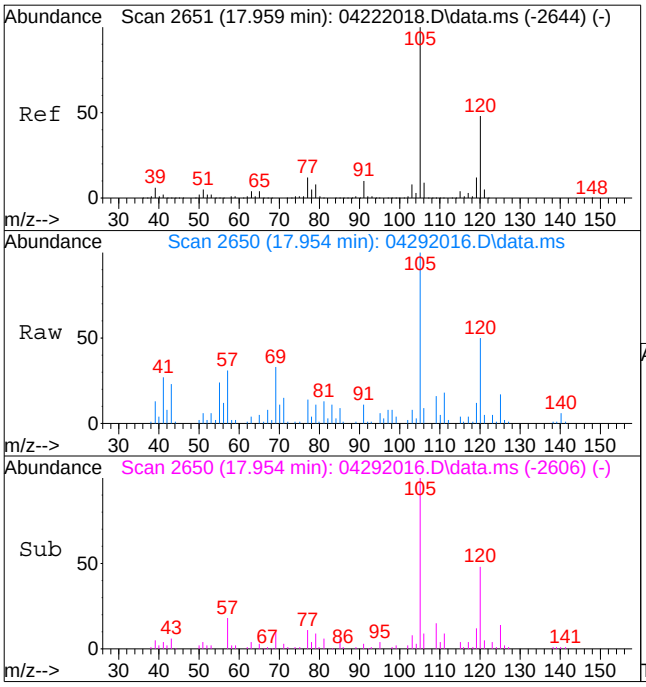


#78
4-Ethyltoluene
Concen: 0.10 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 04292016.D
Acq: 29 Apr 2020 14:32

Tgt Ion:105 Resp: 6145

Ion	Ratio	Lower	Upper
105	100		
120	33.4	11.4	51.4

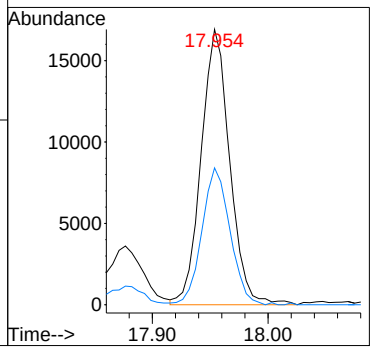


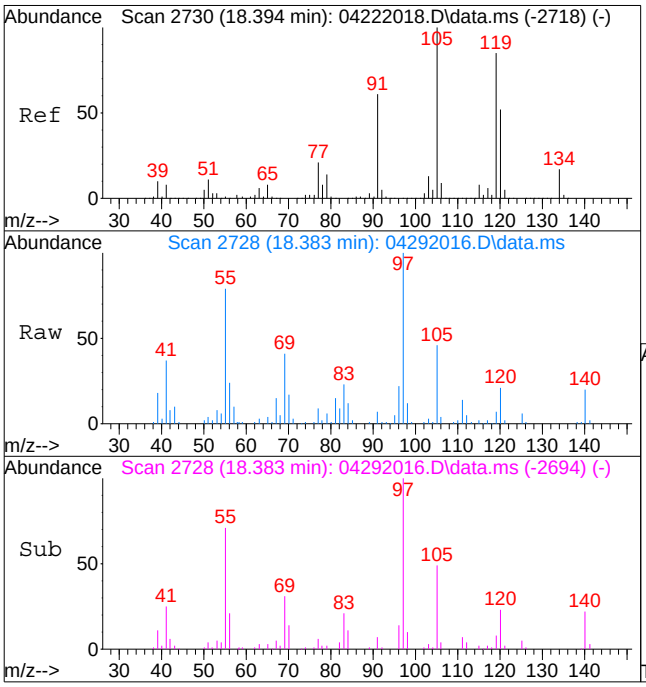


#79
1,3,5-Trimethylbenzene
Concen: 0.52 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 04292016.D
Acq: 29 Apr 2020 14:32

Tgt Ion:105 Resp: 29124

Ion	Ratio	Lower	Upper
105	100		
120	48.8	29.5	69.5

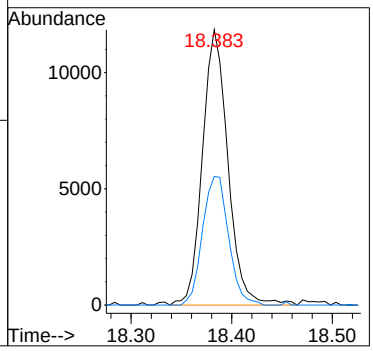




#82
1,2,4-Trimethylbenzene
Concen: 0.39 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 04292016.D
Acq: 29 Apr 2020 14:32

Tgt Ion:105 Resp: 20856

Ion	Ratio	Lower	Upper
105	100		
120	47.7	34.5	74.5



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292020.D Vial: 1
Acq On : 29 Apr 2020 16:46 Operator: SC
Sample : P2002029-006 (0.25mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 17:16:46 2020 4/29/20
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	9.14	130	160474	12.500 ng	-0.03
37) 1,4-Difluorobenzene (IS2)	11.11	114	680983	12.500 ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	331143	12.500 ng	0.00
System Monitoring Compounds					
33) 1,2-Dichloroethane-d4(...	9.92	65	243247	11.699 ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.60%		
57) Toluene-d8 (SS2)	13.55	98	756173	11.827 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.64%		
73) Bromofluorobenzene (SS3)	17.05	174	285458	11.109 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.88%		
Target Compounds					Qvalue
2) Propene	3.89	42	2582	0.379 ng	87
3) Dichlorodifluoromethan...	0.00	85	0	N.D.	
4) Chloromethane	0.00	50	0	N.D.	
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.	
6) Vinyl Chloride	0.00	62	0	N.D.	
7) 1,3-Butadiene	4.59	54	261	N.D.	
8) Bromomethane	0.00	94	0	N.D.	
9) Chloroethane	0.00	64	0	N.D.	
10) Ethanol	5.41	45	37	N.D.	
11) Acetonitrile	0.00	41	0	N.D.	
12) Acrolein	0.00	56	0	N.D. d	
13) Acetone	0.00	58	0	N.D. d	
14) Trichlorofluoromethane	6.02	101	278	N.D.	
15) 2-Propanol (Isopropanol)	6.22	45	824	N.D.	
16) Acrylonitrile	0.00	53	0	N.D. d	
17) 1,1-Dichloroethene	6.73	96	2150	0.190 ng	97
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d	
19) Methylene Chloride	6.86	84	5759	0.530 ng	99
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D. d	
21) Trichlorotrifluoroethane	7.20	151	20617	1.538 ng	98
22) Carbon Disulfide	7.18	76	171	N.D.	
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.	
24) 1,1-Dichloroethane	8.11	63	610	N.D.	
25) Methyl tert-Butyl Ether	0.00	73	0	N.D. d	
26) Vinyl Acetate	0.00	86	0	N.D. d	
27) 2-Butanone (MEK)	8.58	72	221	N.D.	
28) cis-1,2-Dichloroethene	0.00	61	0	N.D. d	
29) Diisopropyl Ether	0.00	87	0	N.D. d	
30) Ethyl Acetate	0.00	61	0	N.D. d	
31) n-Hexane	9.25	57	3493903	254.047 ng	100
32) Chloroform	0.00	83	0	N.D.	
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.	
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.	
36) 1,2-Dichloroethane	9.97	62	234	N.D.	
38) 1,1,1-Trichloroethane	10.30	97	22959	0.981 ng	99
39) Isopropyl Acetate	0.00	61	0	N.D. d	
40) 1-Butanol	0.00	56	0	N.D. d	
41) Benzene	10.76	78	3059392	68.917 ng	99
42) Carbon Tetrachloride	0.00	117	0	N.D.	
43) Cyclohexane	11.05	84	3528184	202.870 ng	98
44) tert-Amyl Methyl Ether	0.00	73	0	N.D. d	
45) 1,2-Dichloropropane	11.59	63	448	N.D.	
46) Bromodichloromethane	0.00	83	0	N.D. d	
47) Trichloroethene	11.82	130	1188	0.077 ng	96
48) 1,4-Dioxane	0.00	88	0	N.D. d	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d	
50) Methyl Methacrylate	0.00	100	0	N.D. d	

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292020.D Vial: 1
Acq On : 29 Apr 2020 16:46 Operator: SC
Sample : P2002029-006 (0.25mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 17:16:46 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

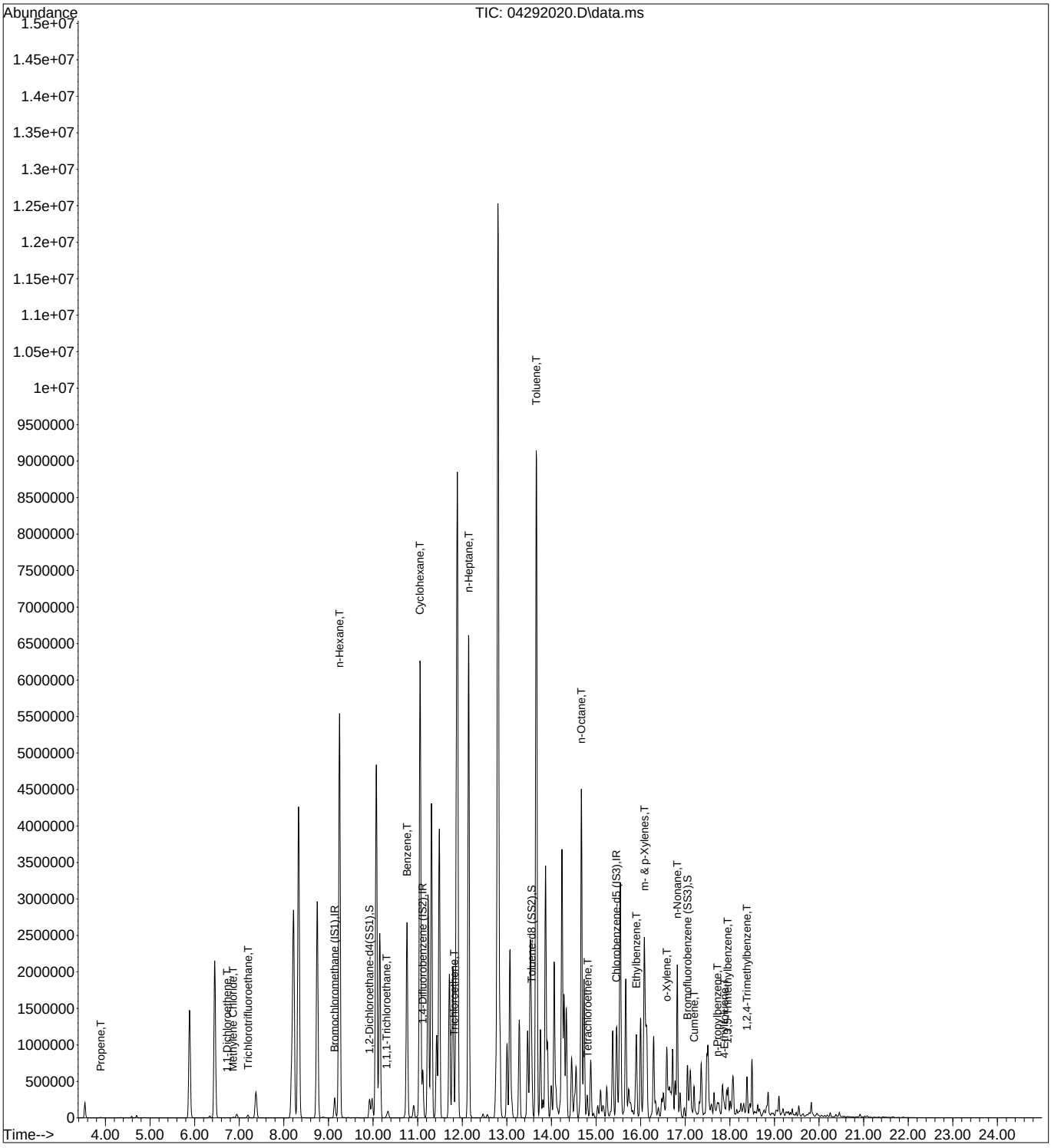
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.15	71	2128026	206.318 ng	98
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	13.07	75	272	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	13.66	91	7612473	141.808 ng	99
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D. d	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.67	57	897764	105.059 ng	99
64) Tetrachloroethene	14.81	166	7281	0.360 ng	100
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.90	91	815937	13.045 ng	100
67) m- & p-Xylenes	16.08	91	2114297	40.067 ng	97
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.47	104	126	N.D.	
70) o-Xylene	16.58	91	660689	12.749 ng	100
71) n-Nonane	16.82	43	649947	38.878 ng	99
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	17.20	105	83864	1.241 ng	99
75) alpha-Pinene	0.00	93	0	N.D. d	
76) n-Propylbenzene	17.72	91	121539	1.650 ng	98
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	48224	0.750 ng	99
79) 1,3,5-Trimethylbenzene	17.95	105	106263	1.789 ng	99
80) alpha-Methylstyrene	18.11	118	751	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	141828	2.470 ng	90
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.47	91	918	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	18.98	146	857	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.92	128	735	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292020.D Vial: 1
Acq On : 29 Apr 2020 16:46 Operator: SC
Sample : P2002029-006 (0.25mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 17:16:46 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292020.D Vial: 1
Acq On : 29 Apr 2020 16:46 Operator: SC
Sample : P2002029-006 (0.25mL) Inst : MS09
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Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/29/20

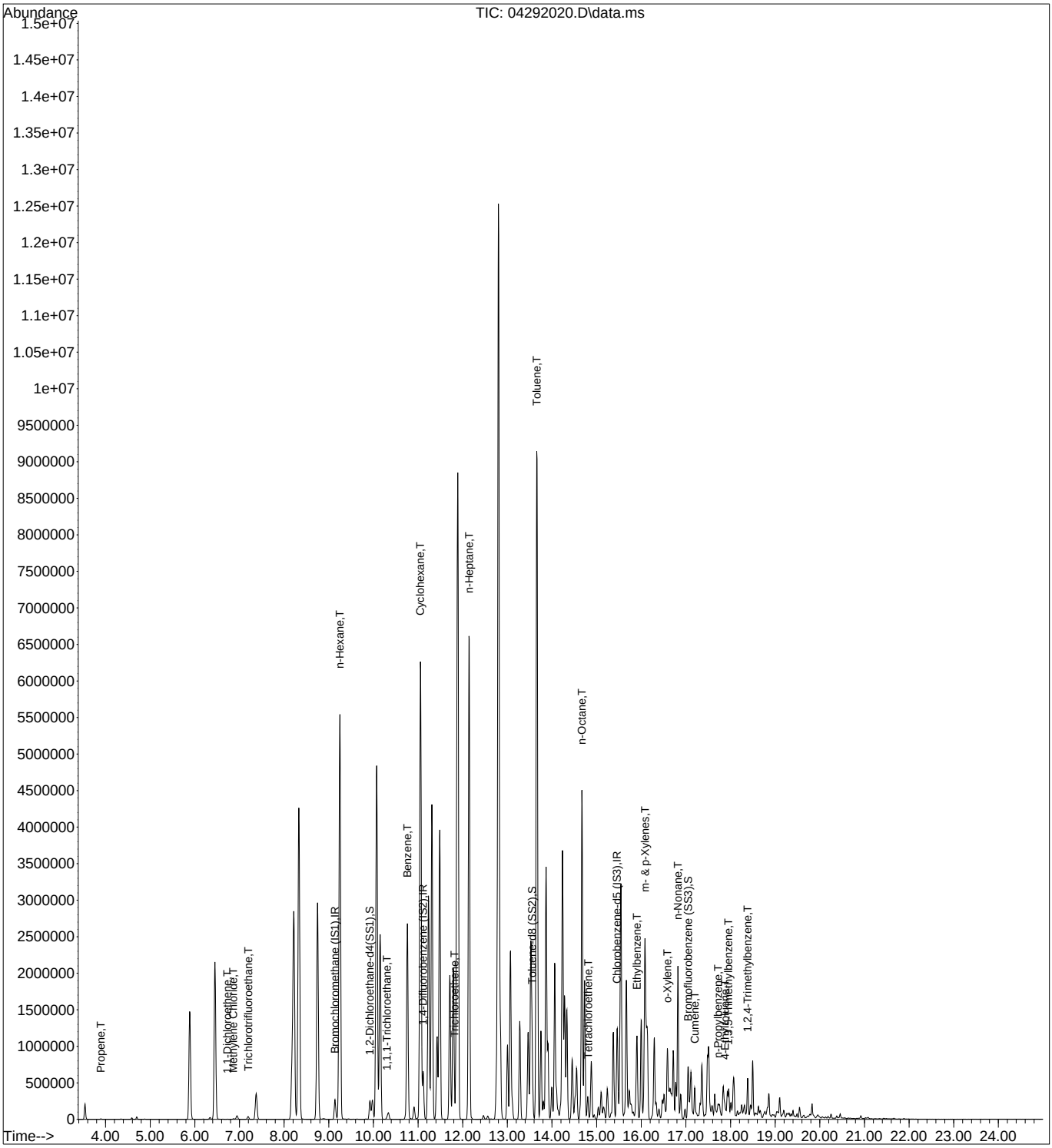
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.14	130	160474	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	11.11	114	680983	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	331143	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.92	65	243247	11.699	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.60%			
57) Toluene-d8 (SS2)	13.55	98	756173	11.827	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.64%			
73) Bromofluorobenzene (SS3)	17.05	174	285458	11.109	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.88%			
Target Compounds						Qvalue
2) Propene	3.89	42	2582	0.379	ng	87
17) 1,1-Dichloroethene	6.73	96	2150	0.190	ng	97
19) Methylene Chloride	6.86	84	5759	0.530	ng	99
21) Trichlorotrifluoroethane	7.20	151	20617	1.538	ng	98
31) n-Hexane	9.25	57	3493903	254.047	ng	100
38) 1,1,1-Trichloroethane	10.30	97	22959	0.981	ng	99
41) Benzene	10.76	78	3059392	68.917	ng	99
43) Cyclohexane	11.05	84	3528184	202.870	ng	98
47) Trichloroethene	11.82	130	1188	0.077	ng	96
51) n-Heptane	12.15	71	2128026	206.318	ng	98
58) Toluene	13.66	91	7612473	141.808	ng	99
63) n-Octane	14.67	57	897764	105.059	ng	99
64) Tetrachloroethene	14.81	166	7281	0.360	ng	100
66) Ethylbenzene	15.90	91	815937	13.045	ng	100
67) m- & p-Xylenes	16.08	91	2114297	40.067	ng	97
70) o-Xylene	16.58	91	660689	12.749	ng	100
71) n-Nonane	16.82	43	649947	38.878	ng	99
74) Cumene	17.20	105	83864	1.241	ng	99
76) n-Propylbenzene	17.72	91	121539	1.650	ng	98
78) 4-Ethyltoluene	17.88	105	48224	0.750	ng	99
79) 1,3,5-Trimethylbenzene	17.95	105	106263	1.789	ng	99
82) 1,2,4-Trimethylbenzene	18.38	105	141828	2.470	ng	90

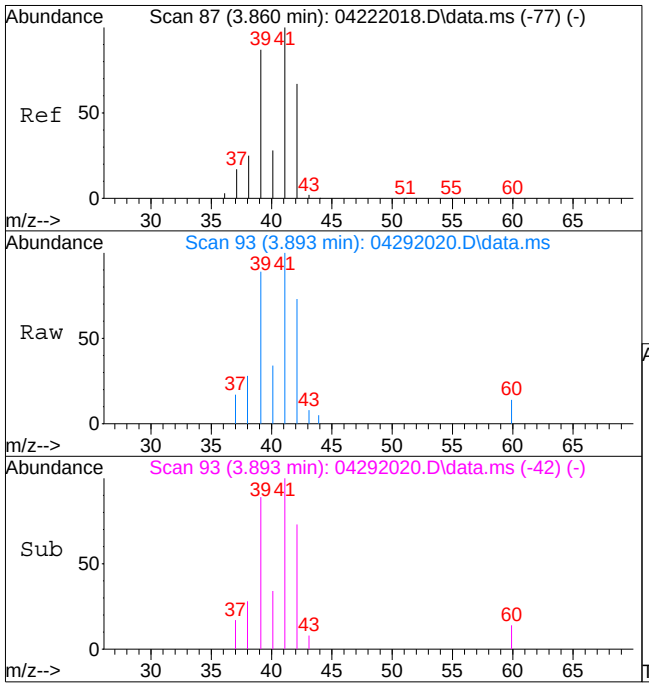
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292020.D Vial: 1
Acq On : 29 Apr 2020 16:46 Operator: SC
Sample : P2002029-006 (0.25mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 17:16:46 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

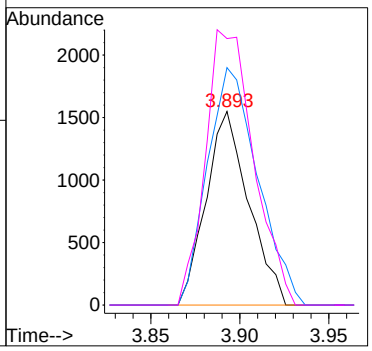


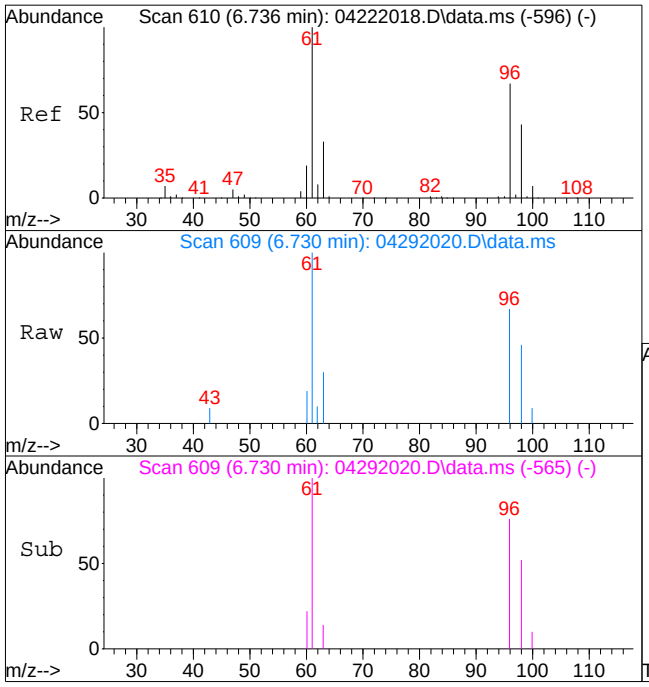


#2
Propene
Concen: 0.38 ng
RT: 3.89 min Scan# 93
Delta R.T. 0.033 min
Lab File: 04292020.D
Acq: 29 Apr 2020 16:46

Tgt Ion: 42 Resp: 2582

Ion	Ratio	Lower	Upper
42	100		
39	145.1	106.4	146.4
41	161.1	128.8	168.8

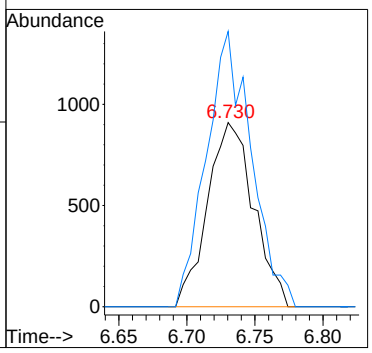


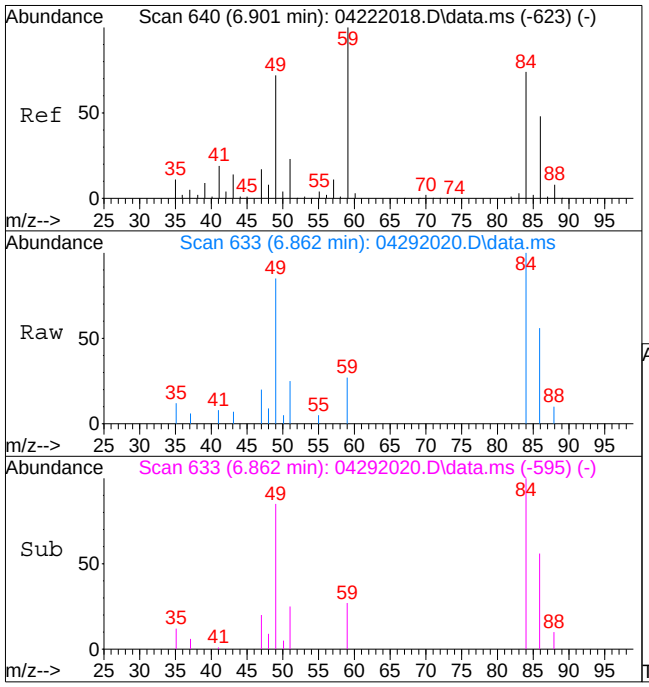


#17
1,1-Dichloroethene
Concen: 0.19 ng
RT: 6.73 min Scan# 609
Delta R.T. -0.006 min
Lab File: 04292020.D
Acq: 29 Apr 2020 16:46

Tgt Ion: 96 Resp: 2150

Ion	Ratio	Lower	Upper
96	100		
61	145.6	129.8	169.8

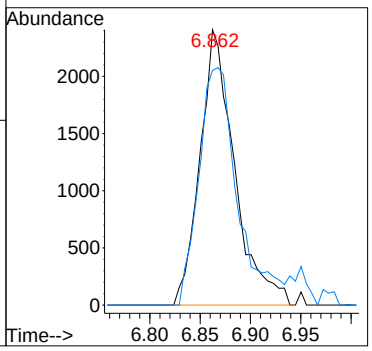


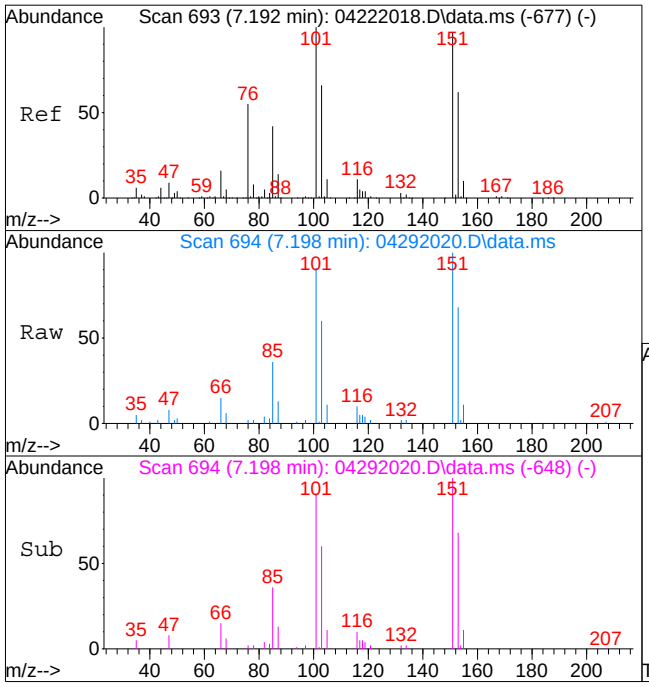


#19
Methylene Chloride
Concen: 0.53 ng
RT: 6.86 min Scan# 633
Delta R.T. -0.039 min
Lab File: 04292020.D
Acq: 29 Apr 2020 16:46

Tgt Ion: 84 Resp: 5759

Ion	Ratio	Lower	Upper
84	100		
49	96.8	73.0	123.0

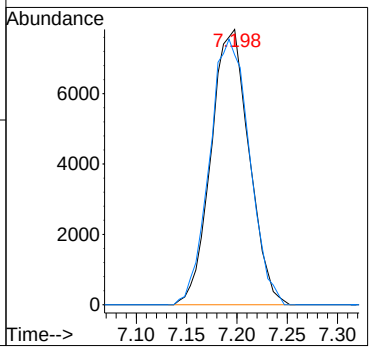


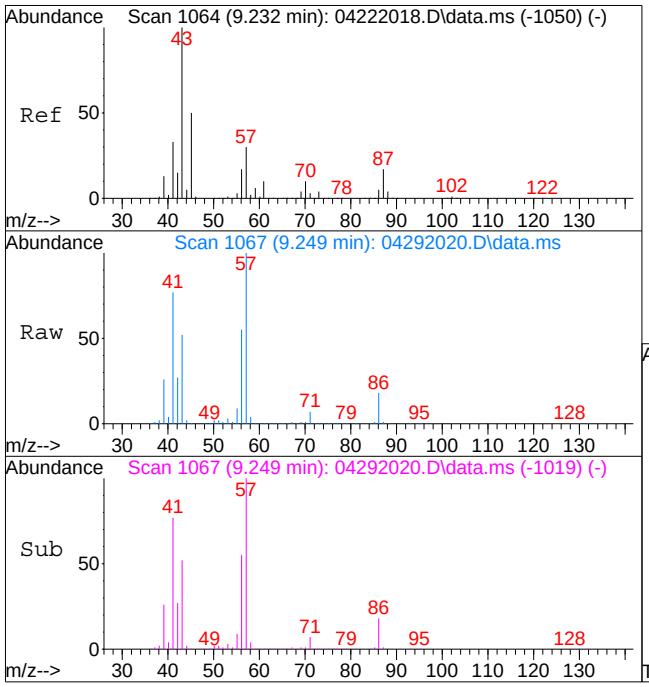


#21
Trichlorotrifluoroethane
Concen: 1.54 ng
RT: 7.20 min Scan# 694
Delta R.T. 0.005 min
Lab File: 04292020.D
Acq: 29 Apr 2020 16:46

Tgt Ion:151 Resp: 20617

Ion	Ratio	Lower	Upper
151	100		
101	101.2	82.9	122.9

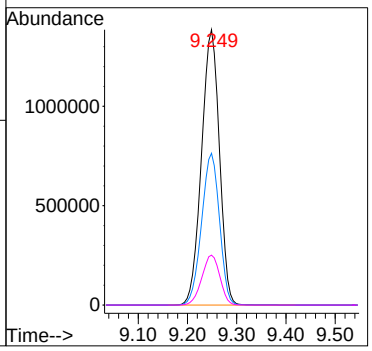


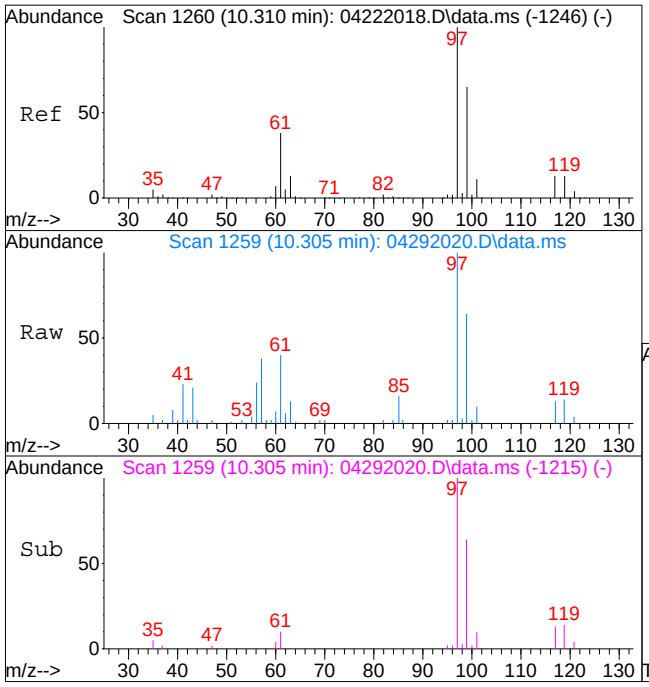


#31
n-Hexane
Concen: 254.05 ng
RT: 9.25 min Scan# 1067
Delta R.T. 0.016 min
Lab File: 04292020.D
Acq: 29 Apr 2020 16:46

Tgt Ion: 57 Resp: 3493903

Ion	Ratio	Lower	Upper
57	100		
56	55.0	44.0	66.0
86	18.3	15.0	22.4

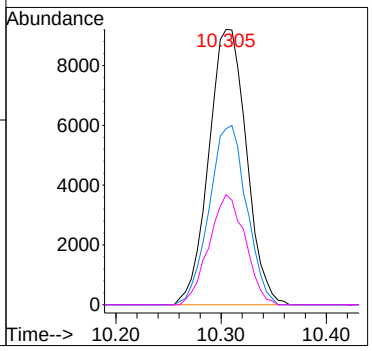


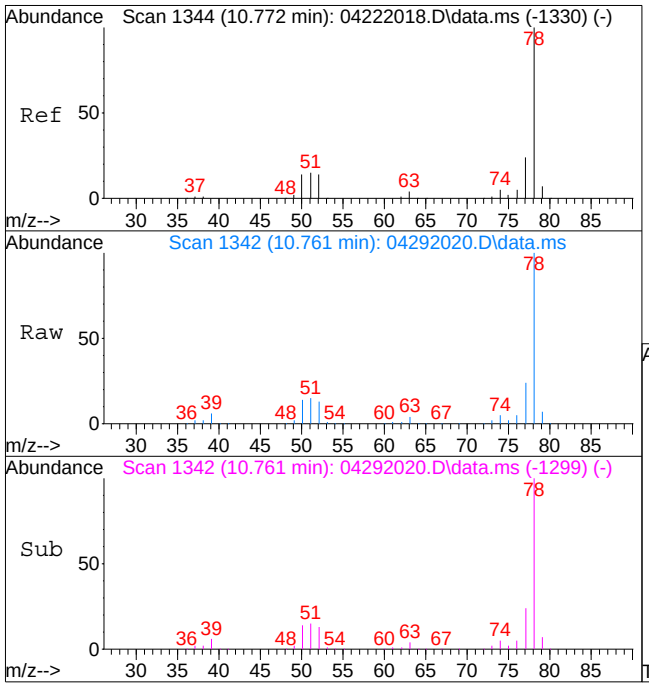


#38
1,1,1-Trichloroethane
Concen: 0.98 ng
RT: 10.30 min Scan# 1259
Delta R.T. -0.006 min
Lab File: 04292020.D
Acq: 29 Apr 2020 16:46

Tgt Ion: 97 Resp: 22959

Ion	Ratio	Lower	Upper
97	100		
99	64.4	44.7	84.7
61	38.5	17.2	57.2

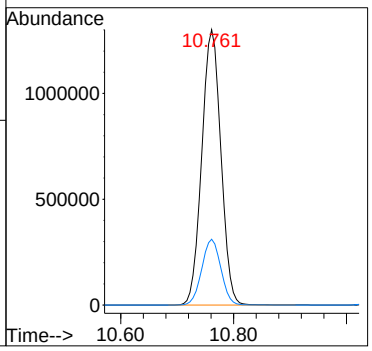


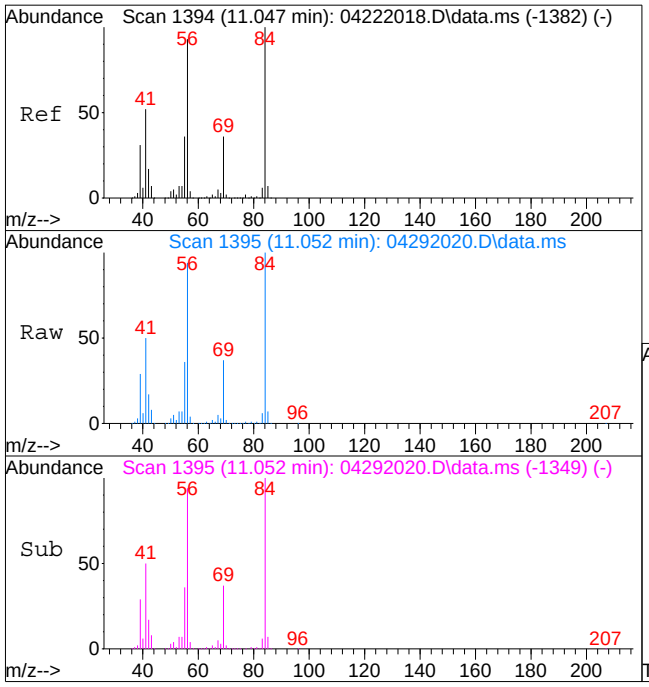


#41
Benzene
Concen: 68.92 ng
RT: 10.76 min Scan# 1342
Delta R.T. -0.011 min
Lab File: 04292020.D
Acq: 29 Apr 2020 16:46

Tgt Ion: 78 Resp: 3059392

Ion	Ratio	Lower	Upper
78	100		
77	23.9	3.6	43.6

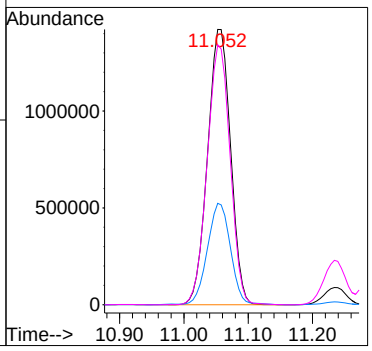


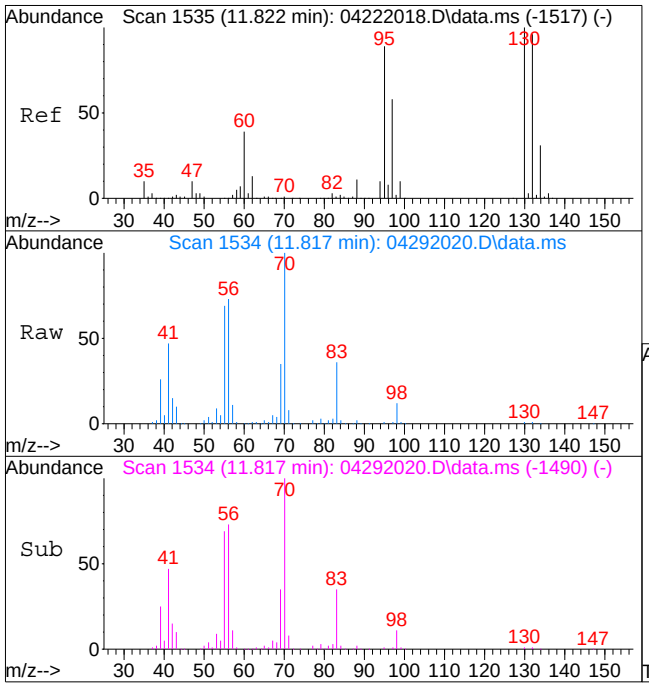


#43
Cyclohexane
Concen: 202.87 ng
RT: 11.05 min Scan# 1395
Delta R.T. 0.005 min
Lab File: 04292020.D
Acq: 29 Apr 2020 16:46

Tgt Ion: 84 Resp: 3528184

Ion	Ratio	Lower	Upper
84	100		
69	37.0	15.8	55.8
56	94.3	72.0	112.0

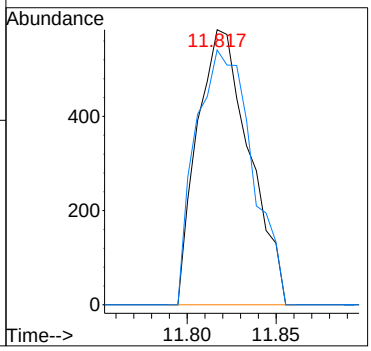


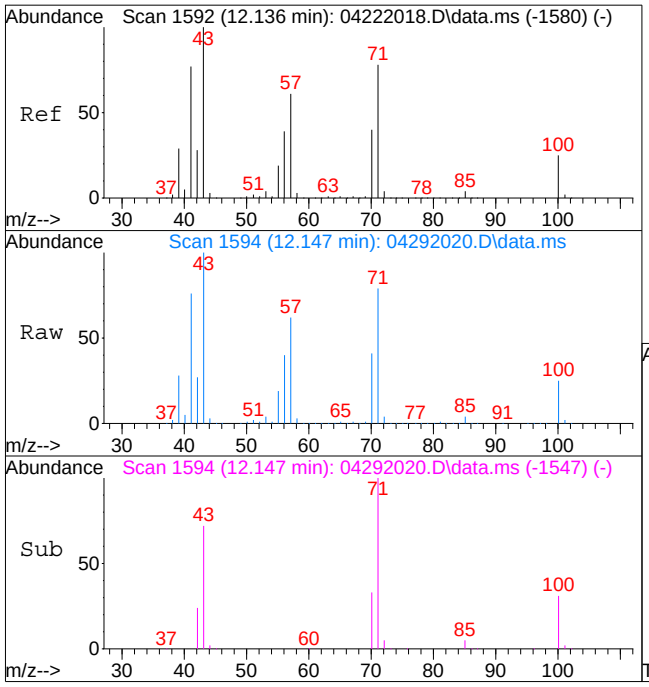


#47
Trichloroethene
Concen: 0.08 ng
RT: 11.82 min Scan# 1534
Delta R.T. -0.006 min
Lab File: 04292020.D
Acq: 29 Apr 2020 16:46

Tgt Ion:130 Resp: 1188

Ion	Ratio	Lower	Upper
130	100		
132	100.2	76.4	116.4

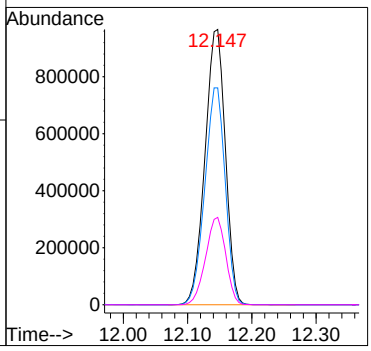


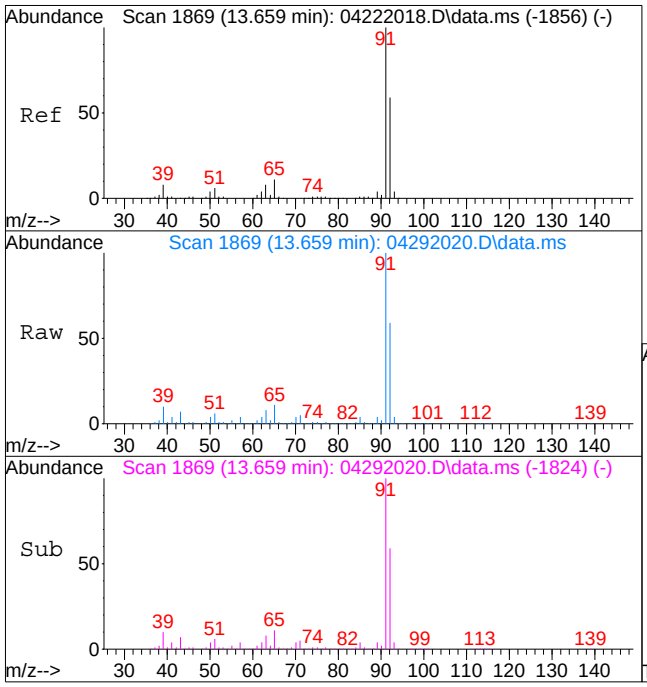


#51
n-Heptane
Concen: 206.32 ng
RT: 12.15 min Scan# 1594
Delta R.T. 0.011 min
Lab File: 04292020.D
Acq: 29 Apr 2020 16:46

Tgt Ion: 71 Resp: 2128026

Ion	Ratio	Lower	Upper
71	100		
57	78.9	57.4	97.4
100	31.4	12.0	52.0

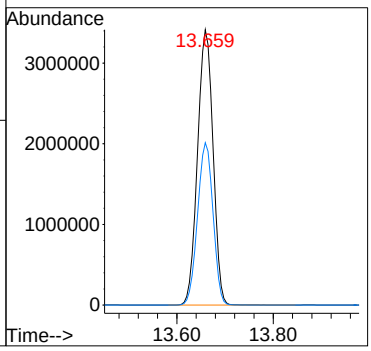


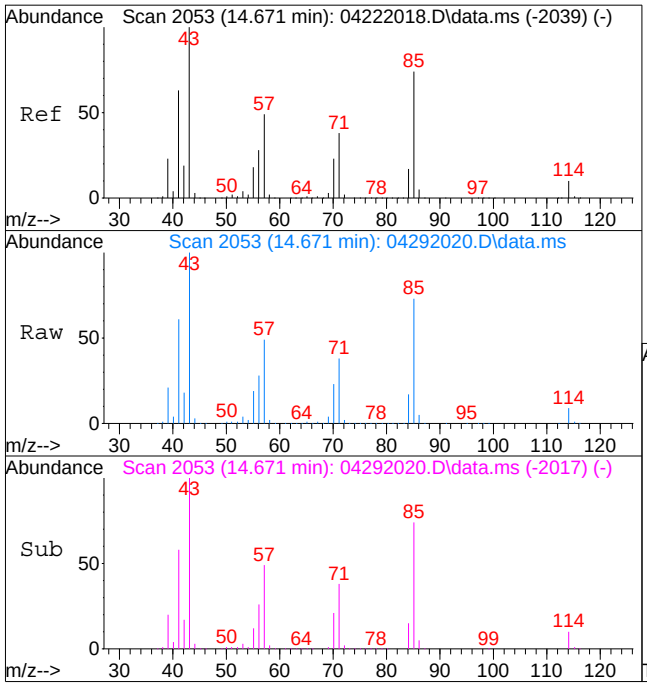


#58
Toluene
Concen: 141.81 ng
RT: 13.66 min Scan# 1869
Delta R.T. -0.000 min
Lab File: 04292020.D
Acq: 29 Apr 2020 16:46

Tgt Ion: 91 Resp: 7612473

Ion	Ratio	Lower	Upper
91	100		
92	58.8	38.2	78.2

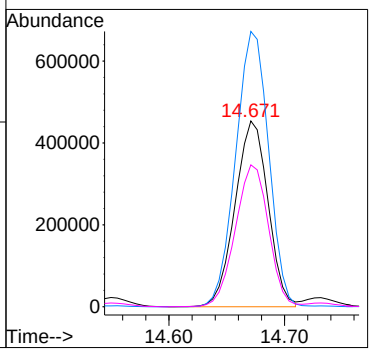


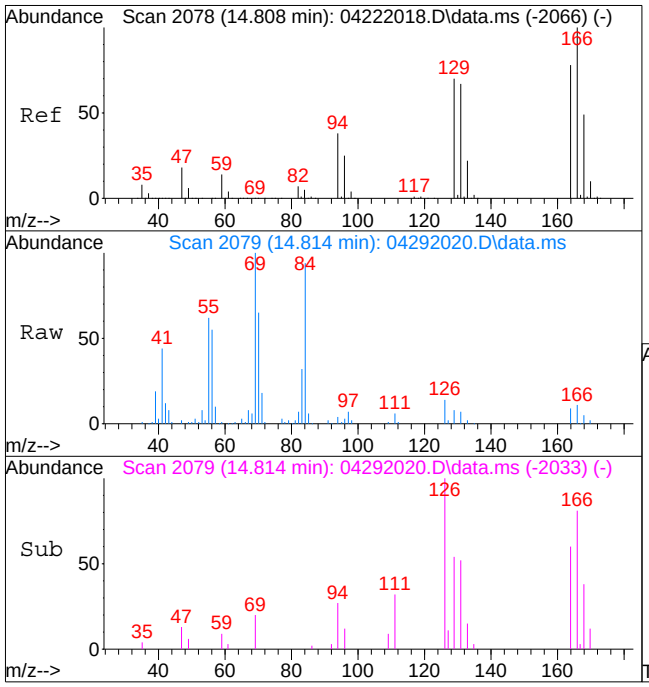


#63
n-Octane
Concen: 105.06 ng
RT: 14.67 min Scan# 2053
Delta R.T. -0.000 min
Lab File: 04292020.D
Acq: 29 Apr 2020 16:46

Tgt Ion: 57 Resp: 897764

Ion	Ratio	Lower	Upper
57	100		
85	148.6	120.7	181.1
71	76.8	61.1	91.7

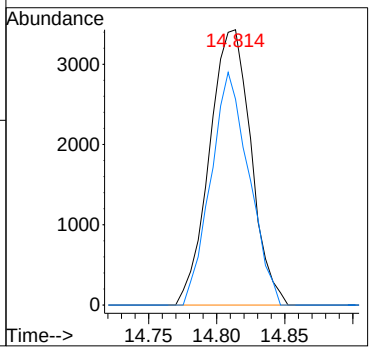


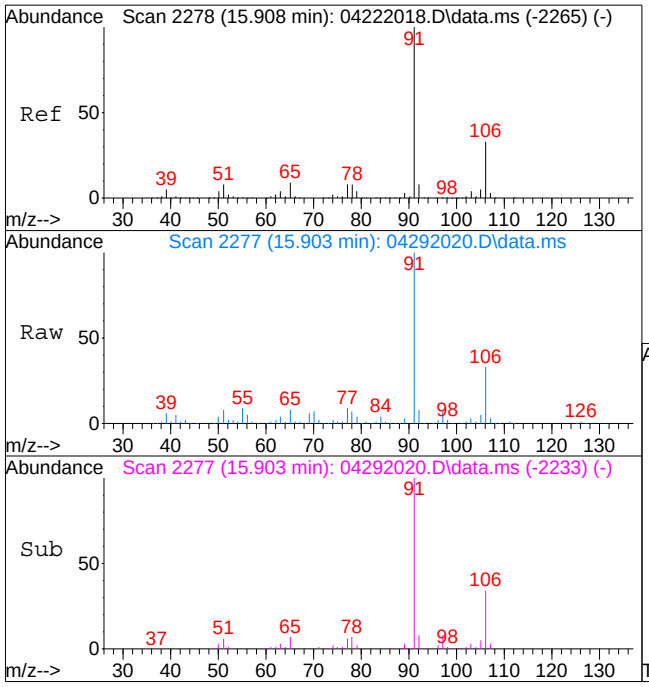


#64
Tetrachloroethene
Concen: 0.36 ng
RT: 14.81 min Scan# 2079
Delta R.T. 0.005 min
Lab File: 04292020.D
Acq: 29 Apr 2020 16:46

Tgt Ion:166 Resp: 7281

Ion	Ratio	Lower	Upper
166	100		
164	77.7	57.7	97.7

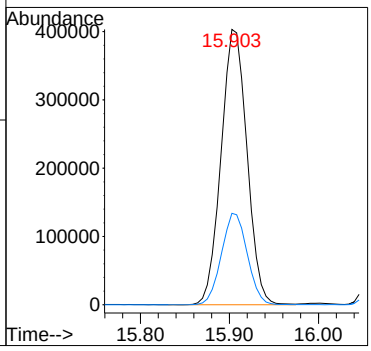


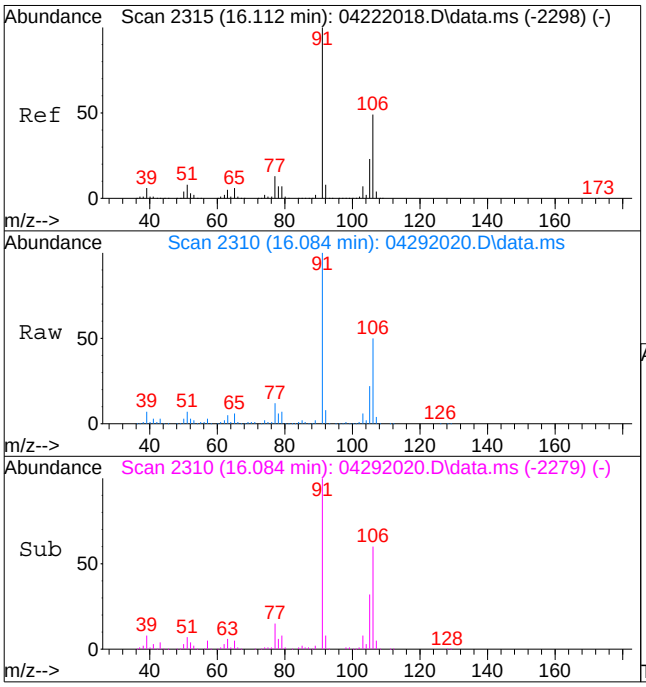


#66
Ethylbenzene
Concen: 13.04 ng
RT: 15.90 min Scan# 2277
Delta R.T. -0.006 min
Lab File: 04292020.D
Acq: 29 Apr 2020 16:46

Tgt Ion: 91 Resp: 815937

Ion	Ratio	Lower	Upper
91	100		
106	33.1	13.4	53.4

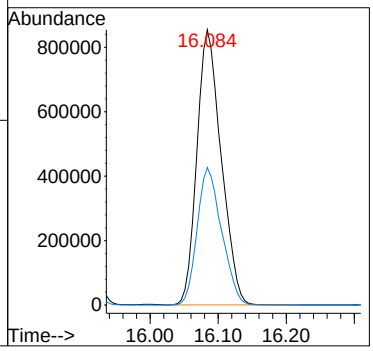


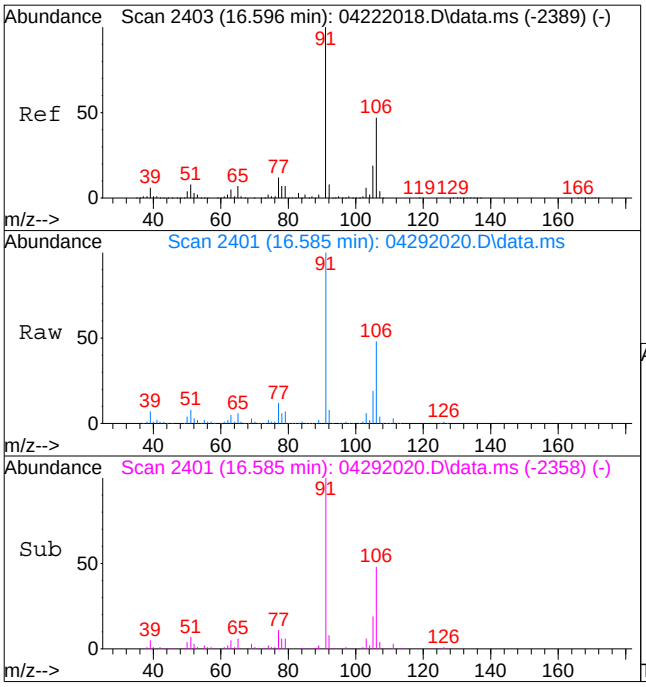


#67
m- & p-Xylenes
Concen: 40.07 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.028 min
Lab File: 04292020.D
Acq: 29 Apr 2020 16:46

Tgt Ion: 91 Resp: 2114297

Ion	Ratio	Lower	Upper
91	100		
106	50.3	28.3	68.3

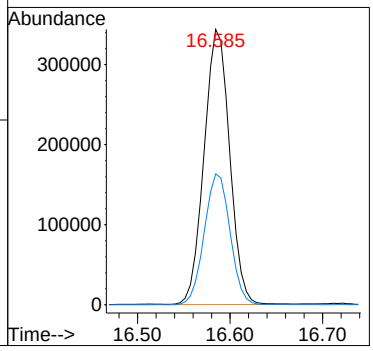


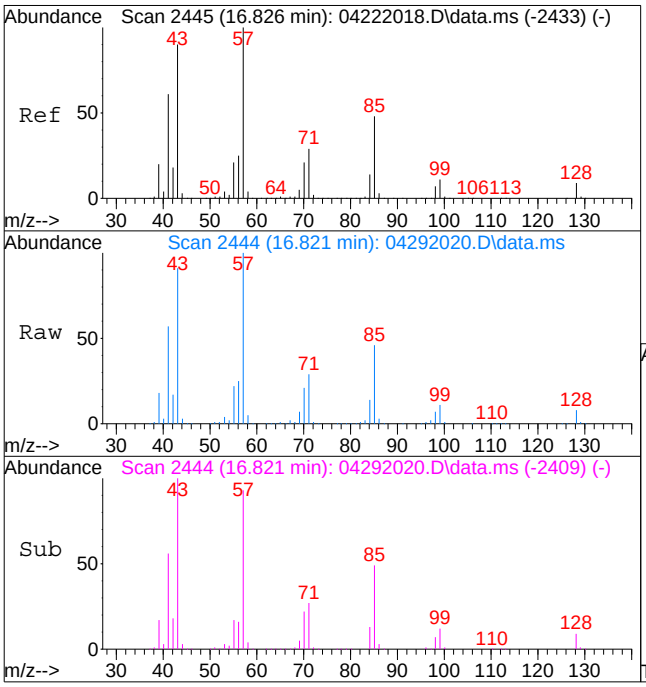


#70
o-Xylene
Concen: 12.75 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 04292020.D
Acq: 29 Apr 2020 16:46

Tgt Ion: 91 Resp: 660689

Ion	Ratio	Lower	Upper
91	100		
106	47.8	27.5	67.5

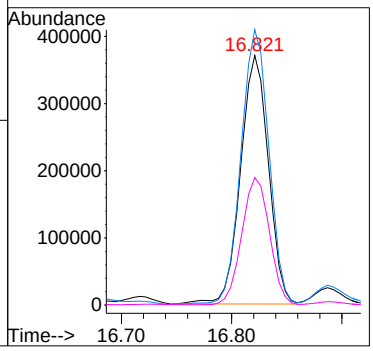


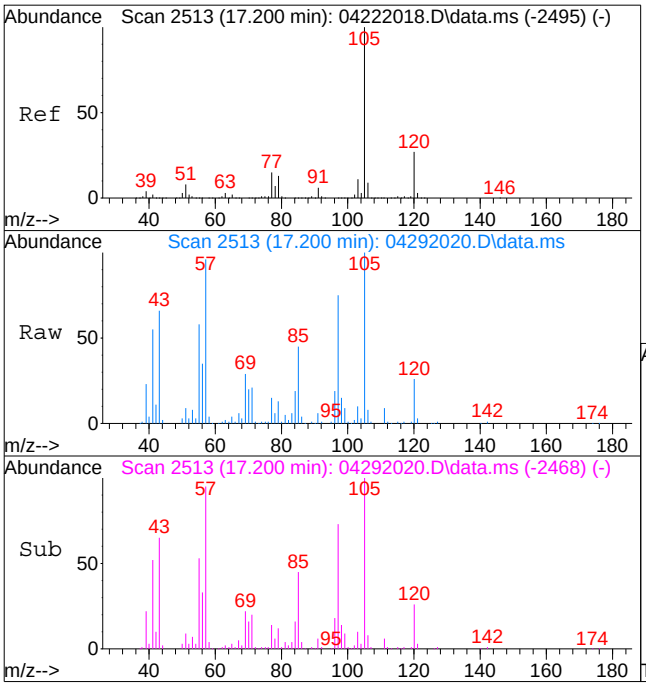


#71
n-Nonane
Concen: 38.88 ng
RT: 16.82 min Scan# 2444
Delta R.T. -0.006 min
Lab File: 04292020.D
Acq: 29 Apr 2020 16:46

Tgt Ion: 43 Resp: 649947

Ion	Ratio	Lower	Upper
43	100		
57	110.6	90.8	130.8
85	50.9	32.1	72.1

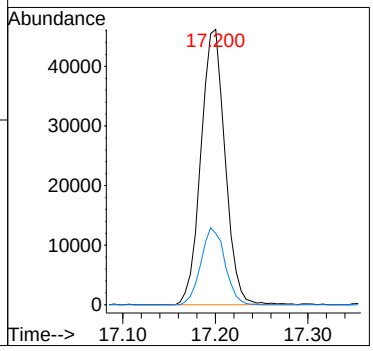


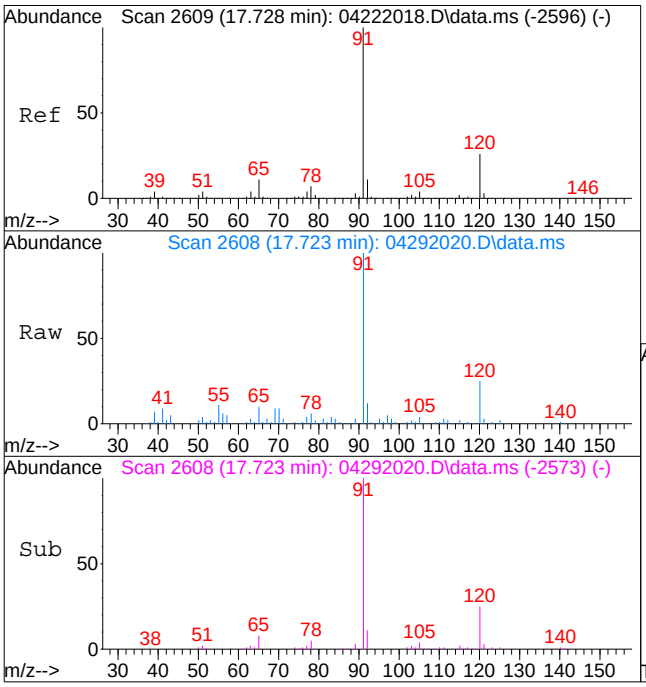


#74
Cumene
Concen: 1.24 ng
RT: 17.20 min Scan# 2513
Delta R.T. -0.000 min
Lab File: 04292020.D
Acq: 29 Apr 2020 16:46

Tgt Ion:105 Resp: 83864

Ion	Ratio	Lower	Upper
105	100		
120	27.7	7.3	47.3

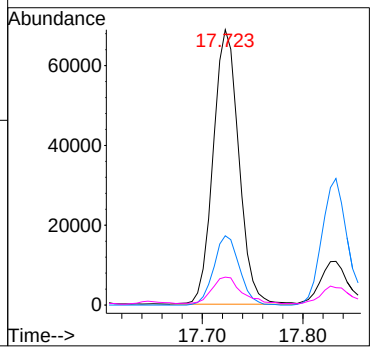


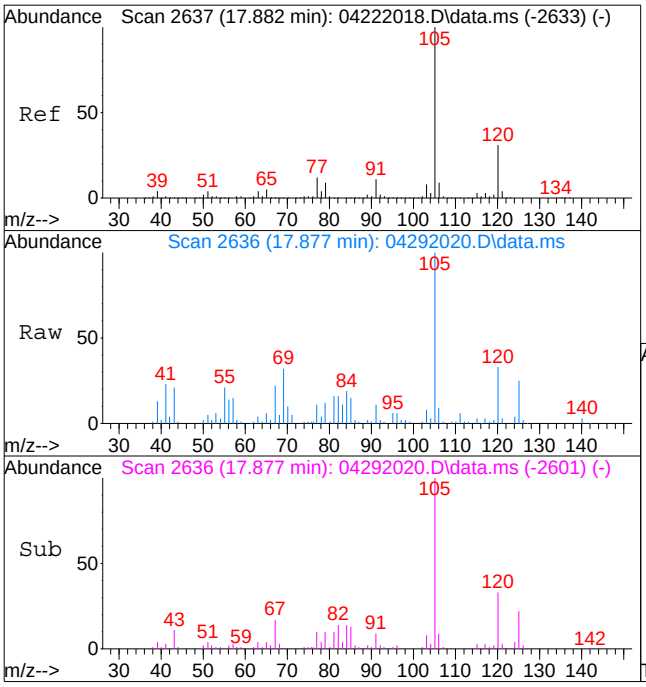


#76
n-Propylbenzene
Concen: 1.65 ng
RT: 17.72 min Scan# 2608
Delta R.T. -0.006 min
Lab File: 04292020.D
Acq: 29 Apr 2020 16:46

Tgt Ion: 91 Resp: 121539

Ion	Ratio	Lower	Upper
91	100		
120	25.2	6.1	46.1
65	11.3	0.0	30.7

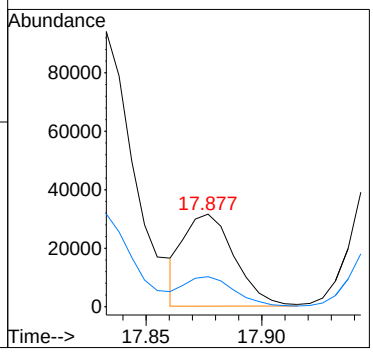


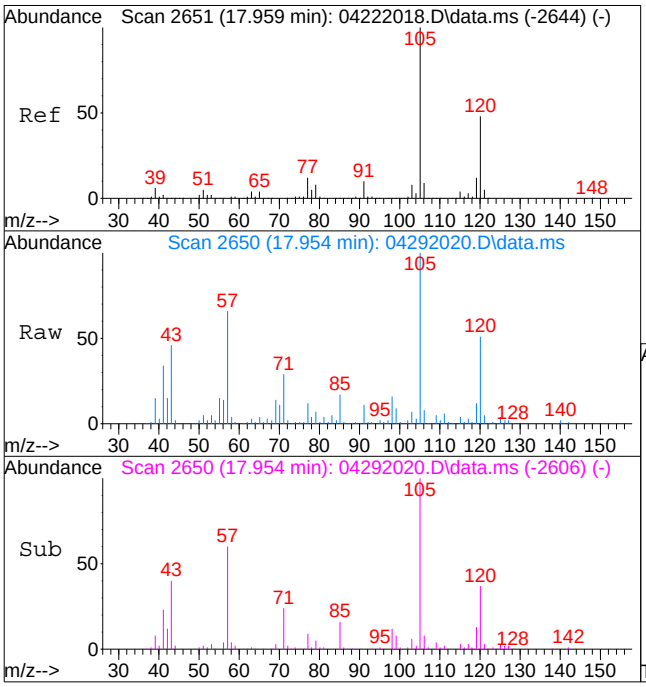


#78
4-Ethyltoluene
Concen: 0.75 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 04292020.D
Acq: 29 Apr 2020 16:46

Tgt Ion:105 Resp: 48224

Ion	Ratio	Lower	Upper
105	100		
120	32.2	11.4	51.4

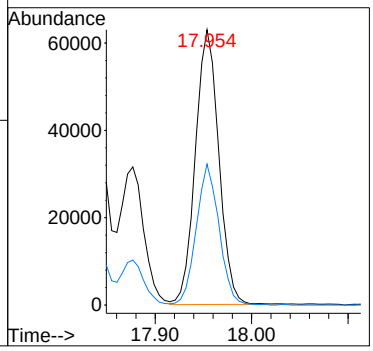


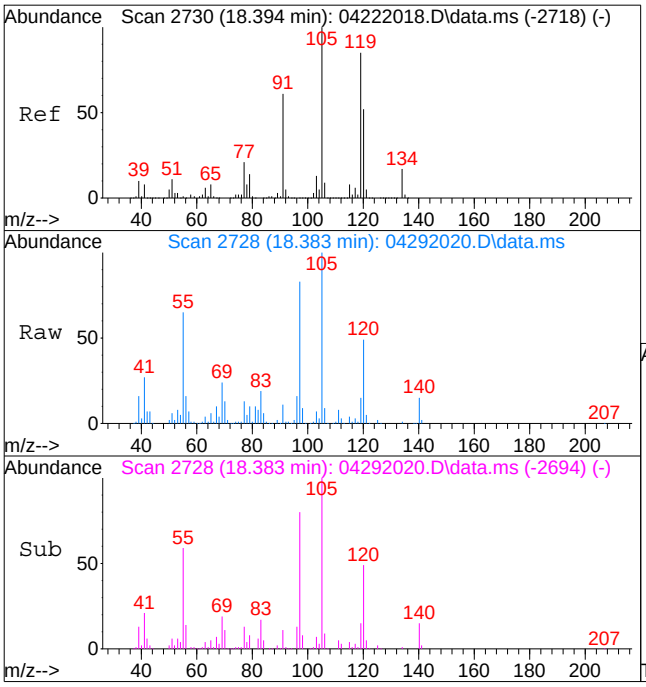


#79
1,3,5-Trimethylbenzene
Concen: 1.79 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 04292020.D
Acq: 29 Apr 2020 16:46

Tgt Ion:105 Resp: 106263

Ion	Ratio	Lower	Upper
105	100		
120	50.0	29.5	69.5

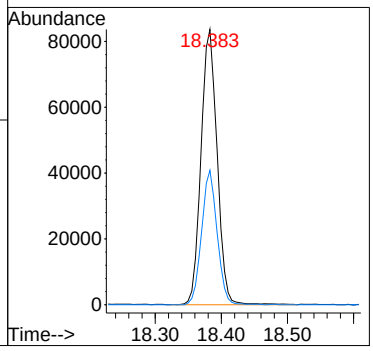




#82
1,2,4-Trimethylbenzene
Concen: 2.47 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 04292020.D
Acq: 29 Apr 2020 16:46

Tgt Ion:105 Resp: 141828

Ion	Ratio	Lower	Upper
105	100		
120	47.0	34.5	74.5



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292021.D Vial: 1
Acq On : 29 Apr 2020 17:19 Operator: SC
Sample : P2002029-006Dil (0.05mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 17:50:10 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/29/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	160110	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	673184	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	298811	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	238735	11.508	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.08%			
57) Toluene-d8 (SS2)	13.55	98	739377	12.815	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.56%			
73) Bromofluorobenzene (SS3)	17.05	174	278853	12.026	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.24%			
Target Compounds						Qvalue
2) Propene	3.90	42	1348	0.198	ng	86
3) Dichlorodifluoromethan...	0.00	85	0	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.41	45	87	N.D.		
11) Acetonitrile	0.00	41	0	N.D.		
12) Acrolein	0.00	56	0	N.D.	d	
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	6.03	101	322	N.D.		
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.	d	
17) 1,1-Dichloroethene	6.72	96	2189	0.194	ng	91
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d	
19) Methylene Chloride	6.87	84	5802	0.535	ng	98
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d	
21) Trichlorotrifluoroethane	7.19	151	19832	1.482	ng	100
22) Carbon Disulfide	0.00	76	0	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	8.10	63	811	N.D.		
25) Methyl tert-Butyl Ether	8.19	73	117	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	0.00	72	0	N.D.	d	
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	0.00	61	0	N.D.	d	
31) n-Hexane	9.23	57	644564	46.974	ng	99
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d	
38) 1,1,1-Trichloroethane	10.30	97	22388	0.967	ng	99
39) Isopropyl Acetate	0.00	61	0	N.D.	d	
40) 1-Butanol	10.61	56	152	N.D.		
41) Benzene	10.76	78	483848	11.026	ng	100
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	11.04	84	614964	35.770	ng	97
44) tert-Amyl Methyl Ether	11.29	73	124	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d	
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	11.81	130	1195	0.079	ng	96
48) 1,4-Dioxane	0.00	88	0	N.D.	d	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292021.D Vial: 1
Acq On : 29 Apr 2020 17:19 Operator: SC
Sample : P2002029-006Dil (0.05mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 17:50:10 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

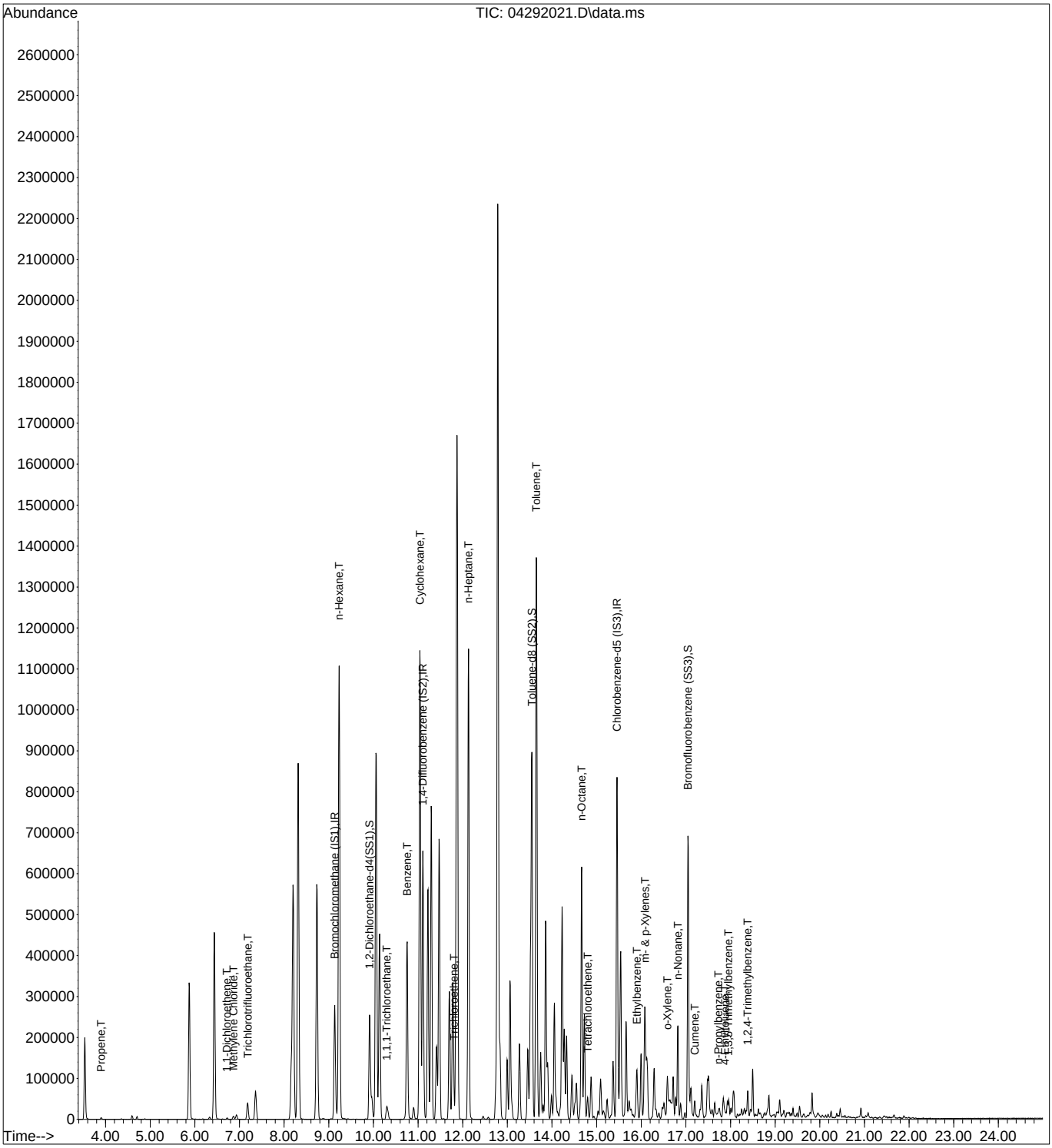
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.13	71	344775	33.814 ng	99
52) cis-1,3-Dichloropropene	12.79	75	773	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	13.65	91	1093432	22.573 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D. d	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.67	57	121202	15.718 ng	98
64) Tetrachloroethene	14.80	166	7302	0.400 ng	100
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.90	91	89582	1.587 ng	98
67) m- & p-Xylenes	16.08	91	240607	5.053 ng	97
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.58	104	1663	N.D.	
70) o-Xylene	16.58	91	71161	1.522 ng	99
71) n-Nonane	16.82	43	72025	4.775 ng	98
72) 1,1,2,2-Tetrachloroethane	16.58	83	207	N.D.	
74) Cumene	17.20	105	8653	0.142 ng	99
75) alpha-Pinene	17.60	93	928	N.D.	
76) n-Propylbenzene	17.73	91	12600	0.190 ng	95
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	5914	0.102 ng	94
79) 1,3,5-Trimethylbenzene	17.95	105	12709	0.237 ng	98
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	18961	0.366 ng	86
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.48	91	108	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	18.83	119	2498	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	18.98	146	790	N.D.	
91) d-Limonene	18.98	68	593	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.96	128	120	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	19.28	91	2406	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292021.D Vial: 1
Acq On : 29 Apr 2020 17:19 Operator: SC
Sample : P2002029-006Dil (0.05mL) Inst : MS09
Misc : S34-04212006

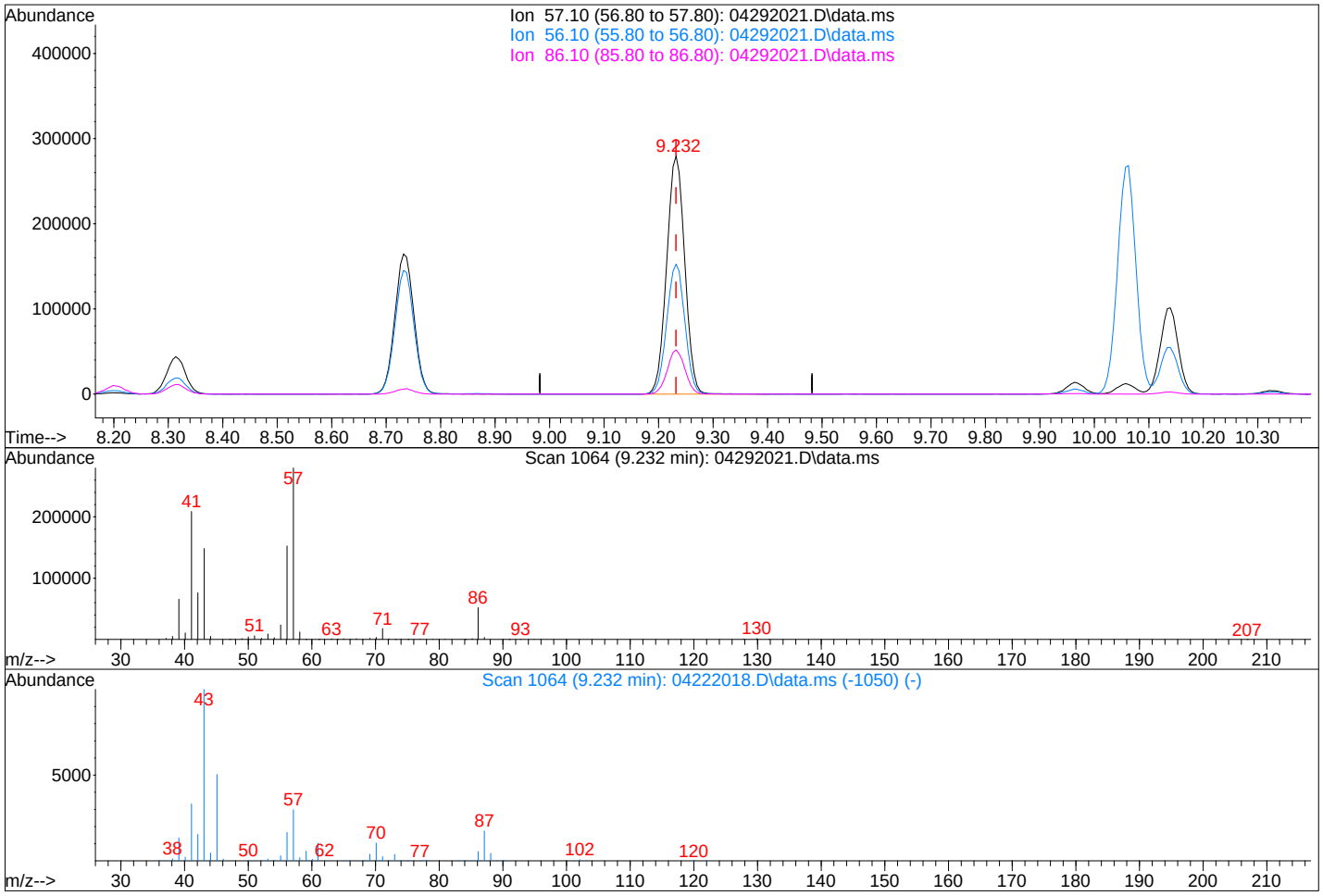
Quant Time: Apr 29 17:50:10 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\29\04292021.D Vial: 1
Acq On : 29 Apr 2020 17:19 Operator: SC
Sample : P2002029-006Dil (0.05mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 17:46:55 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04292021.D\data.ms

(31) n-Hexane (T)

9.232min (-0.000) 46.97ng

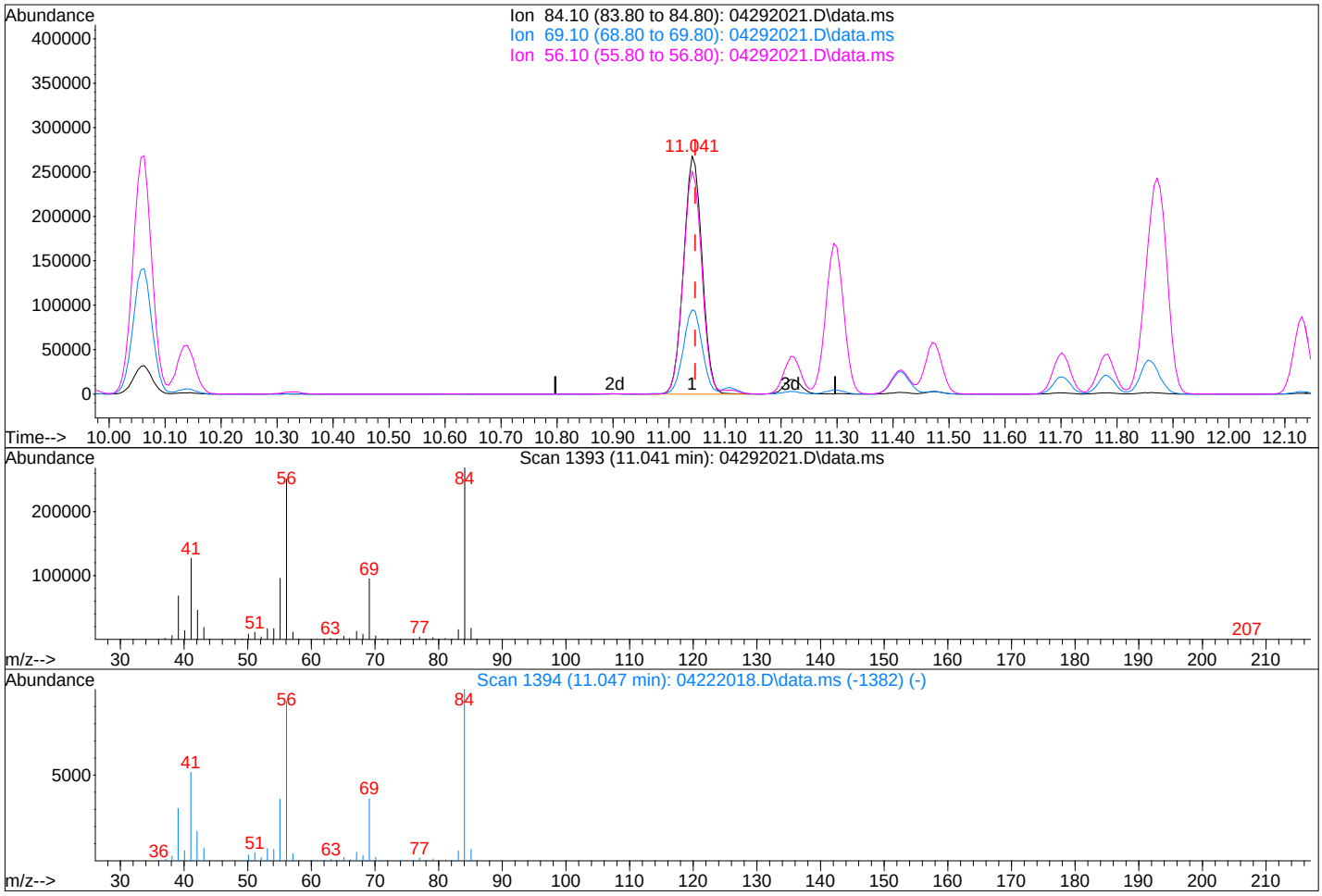
response 644564

Ion	Exp%	Act%
57.10	100	100
56.10	55.00	54.65
86.10	18.70	18.11
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\29\04292021.D Vial: 1
Acq On : 29 Apr 2020 17:19 Operator: SC
Sample : P2002029-006Dil (0.05mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 17:46:55 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04292021.D\data.ms

(43) Cyclohexane (T)

11.041min (-0.006) 35.77ng

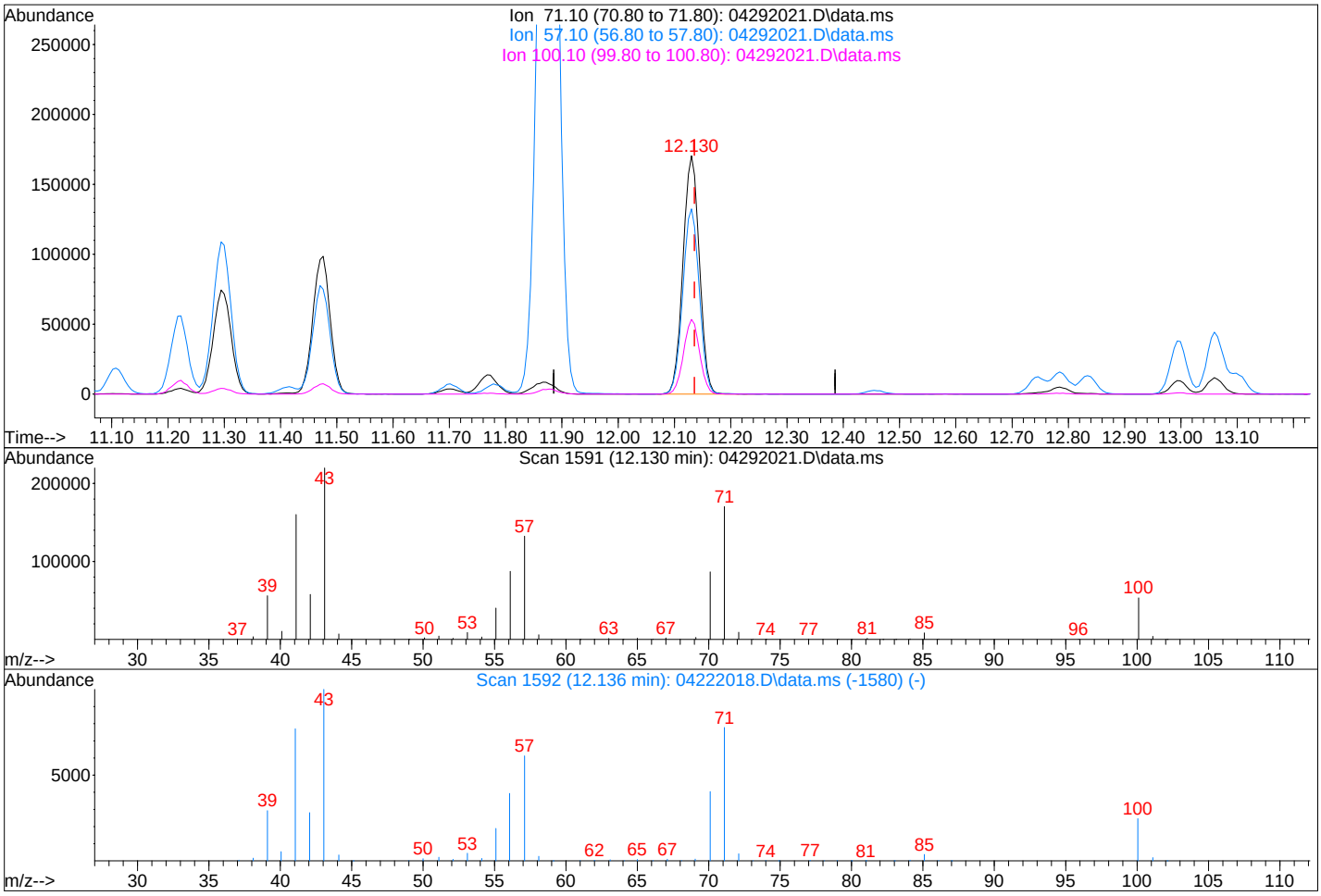
response 614964

Ion	Exp%	Act%
84.10	100	100
69.10	35.80	35.93
56.10	92.00	95.86
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\29\04292021.D Vial: 1
Acq On : 29 Apr 2020 17:19 Operator: SC
Sample : P2002029-006Dil (0.05mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 17:46:55 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04292021.D\data.ms

(51) n-Heptane (T)

12.130min (-0.006) 33.81ng

response 344775

Ion	Exp%	Act%
71.10	100	100
57.10	77.40	78.47
100.10	32.00	30.89
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\29\04292021.D Vial: 1
Acq On : 29 Apr 2020 17:19 Operator: SC
Sample : P2002029-006Dil (0.05mL) Inst : MS09
Misc : S34-04212006

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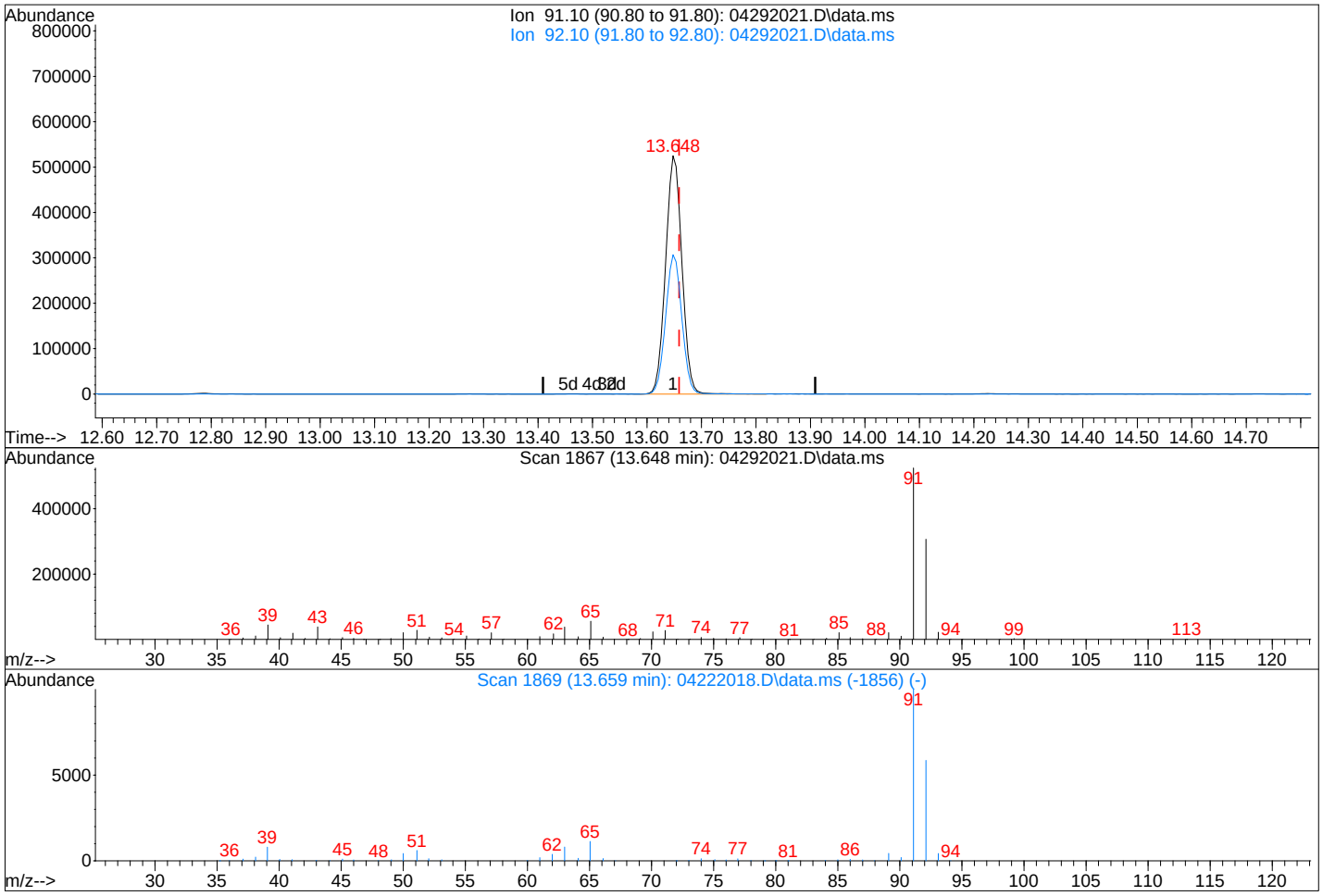

TIC: 04292021.D\data.ms

(58) Toluene (T)

13.648min (-0.011) 22.57ng

response 1093432

Ion	Exp%	Act%
91.10	100	100
92.10	58.20	58.27
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292024.D Vial: 1
Acq On : 29 Apr 2020 19:05 Operator: SC
Sample : P2002029-007 (0.30mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 19:47:59 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/29/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	168221	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	688467	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	329718	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.92	65	244757	11.230	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.84%			
57) Toluene-d8 (SS2)	13.55	98	757855	11.904	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.20%			
73) Bromofluorobenzene (SS3)	17.05	174	287965	11.255	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.00%			
Target Compounds						Qvalue
2) Propene	3.89	42	2327	0.326	ng	95
3) Dichlorodifluoromethan...	0.00	85	0	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	4.59	54	217	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	0.00	45	0	N.D.		
11) Acetonitrile	0.00	41	0	N.D.		
12) Acrolein	0.00	56	0	N.D.	d	
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	6.03	101	107	N.D.		
15) 2-Propanol (Isopropanol)	6.24	45	118	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.	d	
17) 1,1-Dichloroethene	6.72	96	1398	0.118	ng	98
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d	
19) Methylene Chloride	6.86	84	4089	0.359	ng	97
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d	
21) Trichlorotrifluoroethane	7.19	151	14023	0.998	ng	98
22) Carbon Disulfide	7.18	76	364	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	8.10	63	480	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	d	
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	0.00	72	0	N.D.	d	
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.	d	
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	0.00	61	0	N.D.	d	
31) n-Hexane	9.24	57	1546367	107.260	ng	99
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d	
38) 1,1,1-Trichloroethane	10.30	97	15320	0.647	ng	98
39) Isopropyl Acetate	0.00	61	0	N.D.	d	
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	10.76	78	1394278	31.067	ng	100
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	11.05	84	2417247	137.481	ng	98
44) tert-Amyl Methyl Ether	11.30	73	1071	N.D.		
45) 1,2-Dichloropropane	11.59	63	305	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	11.82	130	799	0.051	ng	90
48) 1,4-Dioxane	0.00	88	0	N.D.	d	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292024.D Vial: 1
Acq On : 29 Apr 2020 19:05 Operator: SC
Sample : P2002029-007 (0.30mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 19:47:59 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.14	71	1258507	120.689 ng	99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	13.07	75	384	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	13.66	91	7270608	136.025 ng	99
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D. d	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.67	57	644020	75.691 ng	98
64) Tetrachloroethene	14.81	166	4862	0.241 ng	100
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.90	91	1025711	16.469 ng	99
67) m- & p-Xylenes	16.08	91	2299605	43.767 ng	97
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.49	104	799	N.D.	
70) o-Xylene	16.58	91	731471	14.176 ng	99
71) n-Nonane	16.82	43	552858	33.213 ng	99
72) 1,1,2,2-Tetrachloroethane	16.58	83	679	N.D.	
74) Cumene	17.19	105	140156	2.082 ng	99
75) alpha-Pinene	17.61	93	792	N.D.	
76) n-Propylbenzene	17.72	91	188983	2.577 ng	99
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	107008	1.672 ng	94
79) 1,3,5-Trimethylbenzene	17.95	105	146381	2.476 ng	100
80) alpha-Methylstyrene	18.15	118	404	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	342942	5.998 ng	89
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.47	91	581	N.D.	
85) 1,3-Dichlorobenzene	18.62	146	115	N.D.	
86) 1,4-Dichlorobenzene	18.62	146	115	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	18.98	146	617	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.92	128	2138	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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Sample : P2002029-007 (0.30mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 19:47:59 2020
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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
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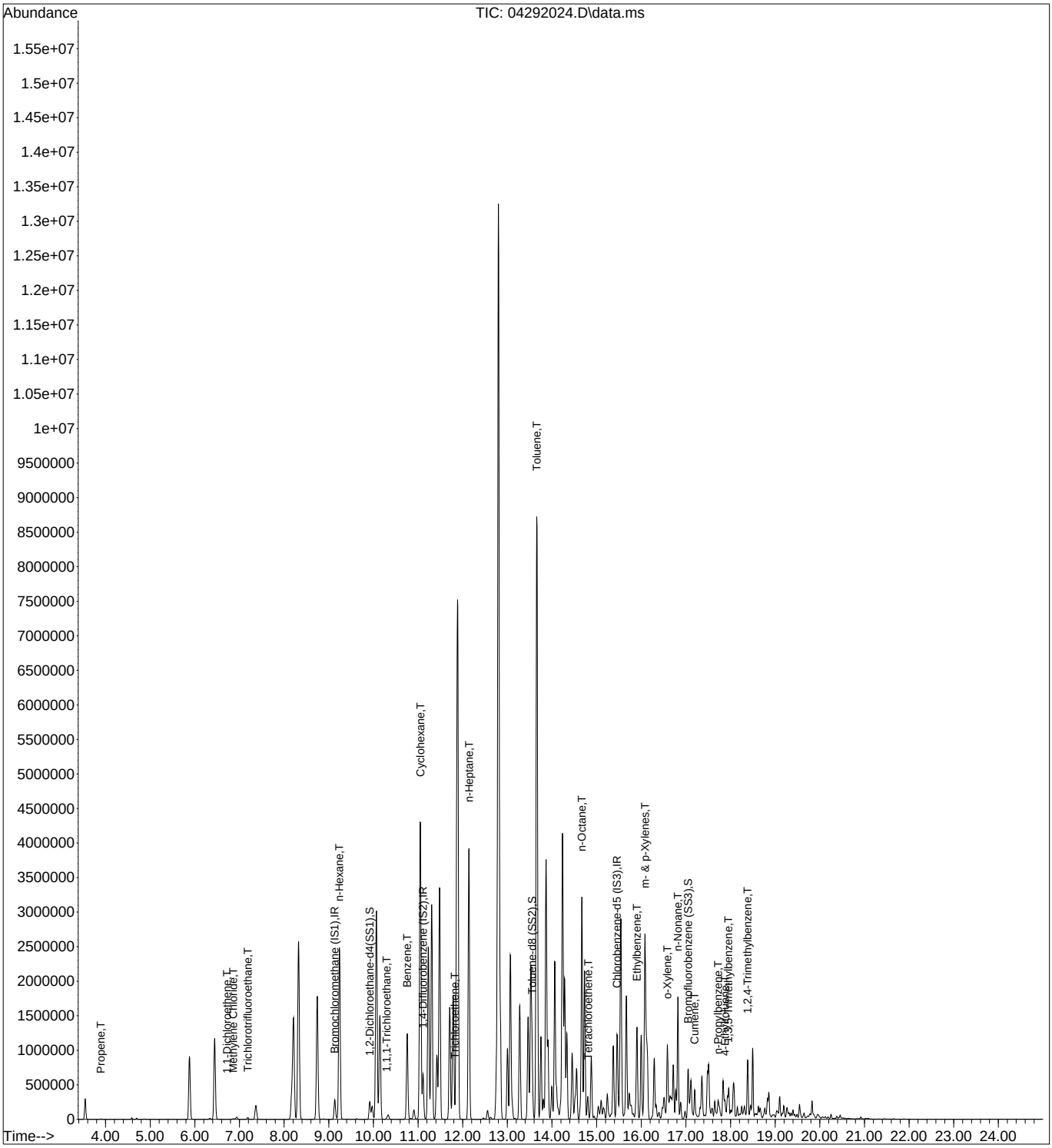

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DataAcq Meth:TO15.M

4/29/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	168221	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	688467	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	329718	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.92	65	244757	11.230	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.84%			
57) Toluene-d8 (SS2)	13.55	98	757855	11.904	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.20%			
73) Bromofluorobenzene (SS3)	17.05	174	287965	11.255	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.00%			
Target Compounds						Qvalue
2) Propene	3.89	42	2327	0.326	ng	95
17) 1,1-Dichloroethene	6.72	96	1398	0.118	ng	98
19) Methylene Chloride	6.86	84	4089	0.359	ng	97
21) Trichlorotrifluoroethane	7.19	151	14023	0.998	ng	98
31) n-Hexane	9.24	57	1546367	107.260	ng	99
38) 1,1,1-Trichloroethane	10.30	97	15320	0.647	ng	98
41) Benzene	10.76	78	1394278	31.067	ng	100
43) Cyclohexane	11.05	84	2417247	137.481	ng	98
47) Trichloroethene	11.82	130	799	0.051	ng	90
51) n-Heptane	12.14	71	1258507	120.689	ng	99
58) Toluene	13.66	91	7270608	136.025	ng	99
63) n-Octane	14.67	57	644020	75.691	ng	98
64) Tetrachloroethene	14.81	166	4862	0.241	ng	100
66) Ethylbenzene	15.90	91	1025711	16.469	ng	99
67) m- & p-Xylenes	16.08	91	2299605	43.767	ng	97
70) o-Xylene	16.58	91	731471	14.176	ng	99
71) n-Nonane	16.82	43	552858	33.213	ng	99
74) Cumene	17.19	105	140156	2.082	ng	99
76) n-Propylbenzene	17.72	91	188983	2.577	ng	99
78) 4-Ethyltoluene	17.88	105	107008	1.672	ng	94
79) 1,3,5-Trimethylbenzene	17.95	105	146381	2.476	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	342942	5.998	ng	89

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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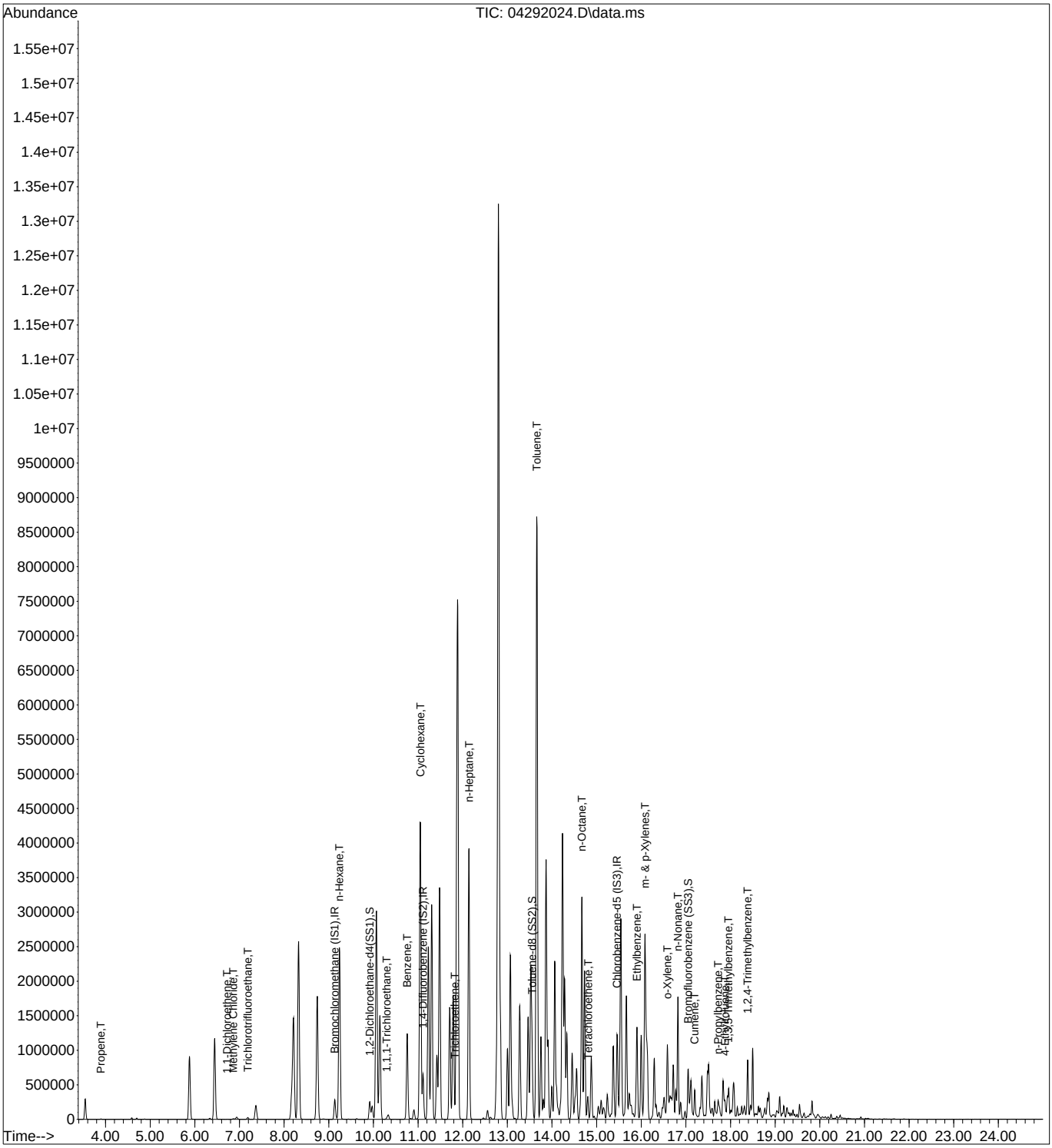
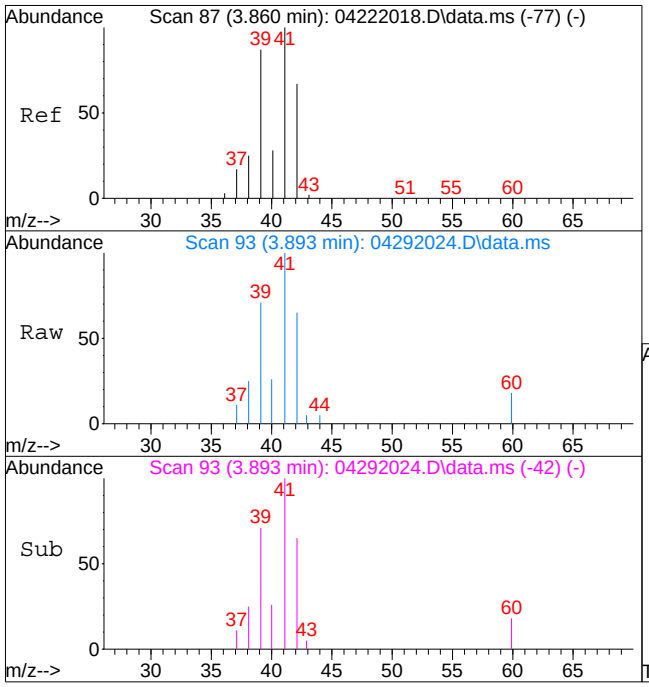
Acq On : 29 Apr 2020 19:05 Operator: SC
Sample : P2002029-007 (0.30mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 19:47:59 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

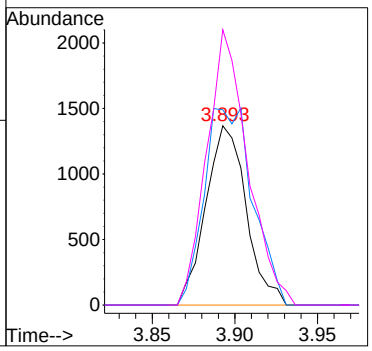


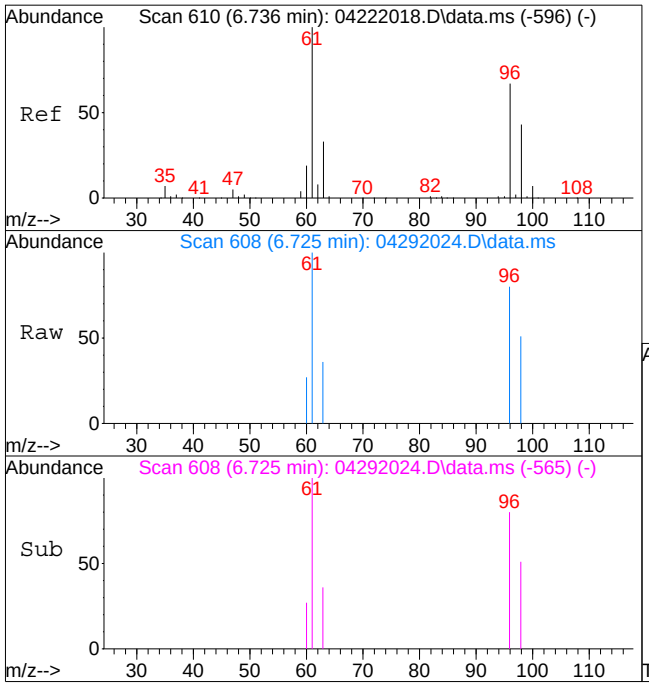


#2
Propene
Concen: 0.33 ng
RT: 3.89 min Scan# 93
Delta R.T. 0.033 min
Lab File: 04292024.D
Acq: 29 Apr 2020 19:05

Tgt Ion: 42 Resp: 2327

Ion	Ratio	Lower	Upper
42	100		
39	132.9	106.4	146.4
41	155.4	128.8	168.8

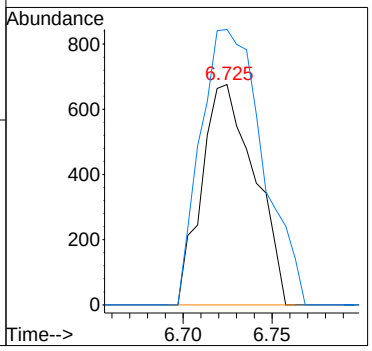


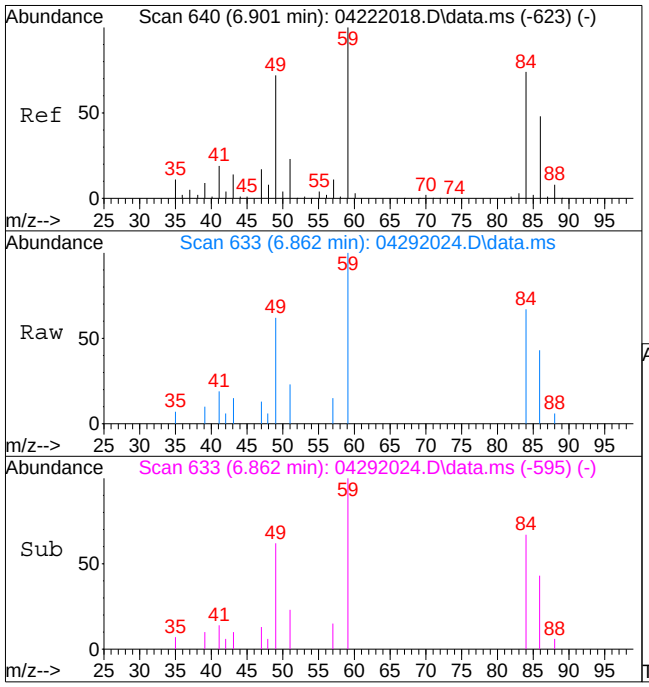


#17
1,1-Dichloroethene
Concen: 0.12 ng
RT: 6.72 min Scan# 608
Delta R.T. -0.011 min
Lab File: 04292024.D
Acq: 29 Apr 2020 19:05

Tgt Ion: 96 Resp: 1398

Ion	Ratio	Lower	Upper
96	100		
61	146.8	129.8	169.8

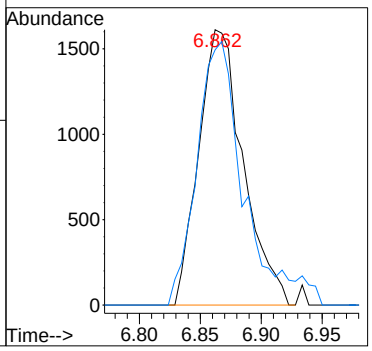


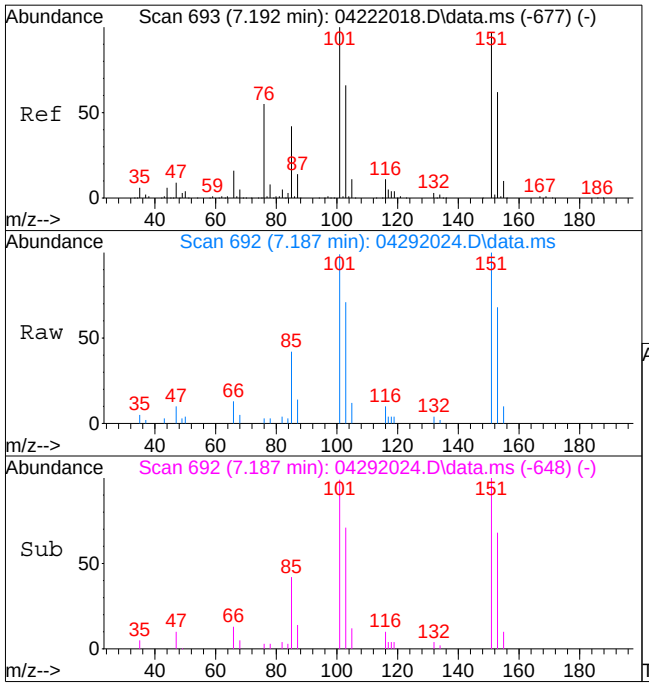


#19
Methylene Chloride
Concen: 0.36 ng
RT: 6.86 min Scan# 633
Delta R.T. -0.039 min
Lab File: 04292024.D
Acq: 29 Apr 2020 19:05

Tgt Ion: 84 Resp: 4089

Ion	Ratio	Lower	Upper
84	100		
49	101.2	73.0	123.0

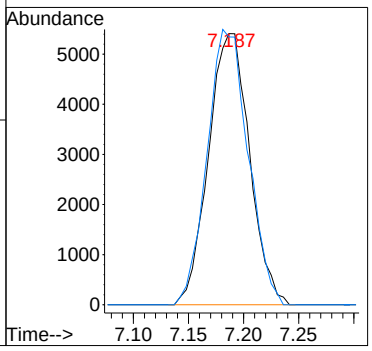


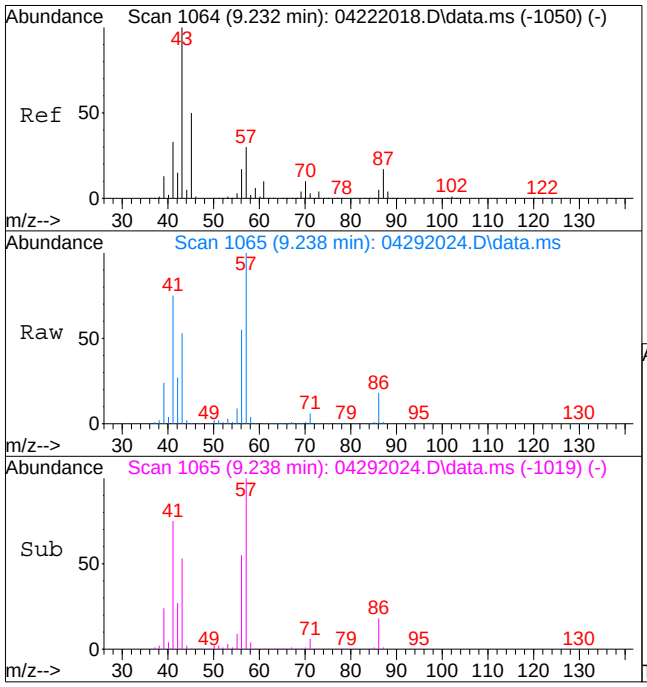


#21
Trichlorotrifluoroethane
Concen: 1.00 ng
RT: 7.19 min Scan# 692
Delta R.T. -0.006 min
Lab File: 04292024.D
Acq: 29 Apr 2020 19:05

Tgt Ion:151 Resp: 14023

Ion	Ratio	Lower	Upper
151	100		
101	101.2	82.9	122.9

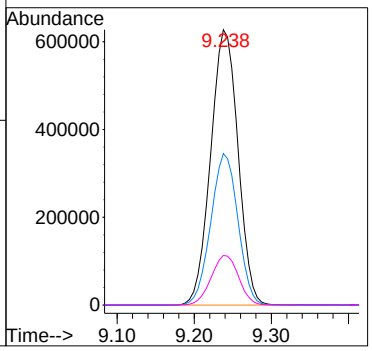


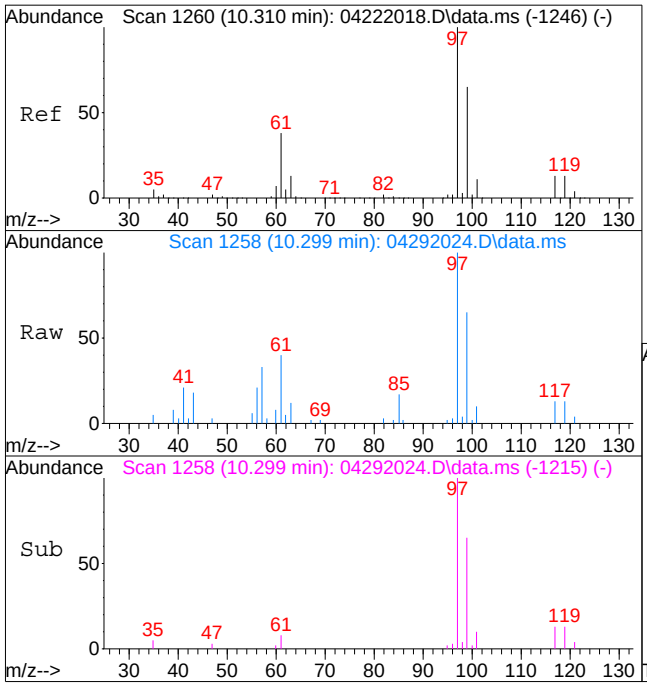


#31
n-Hexane
Concen: 107.26 ng
RT: 9.24 min Scan# 1065
Delta R.T. 0.005 min
Lab File: 04292024.D
Acq: 29 Apr 2020 19:05

Tgt Ion: 57 Resp: 1546367

Ion	Ratio	Lower	Upper
57	100		
56	54.6	44.0	66.0
86	18.1	15.0	22.4

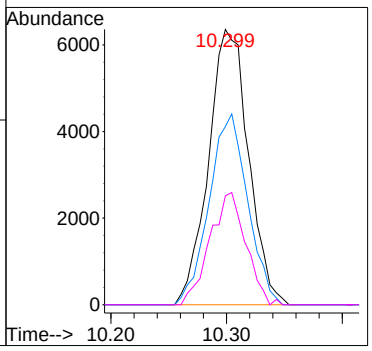


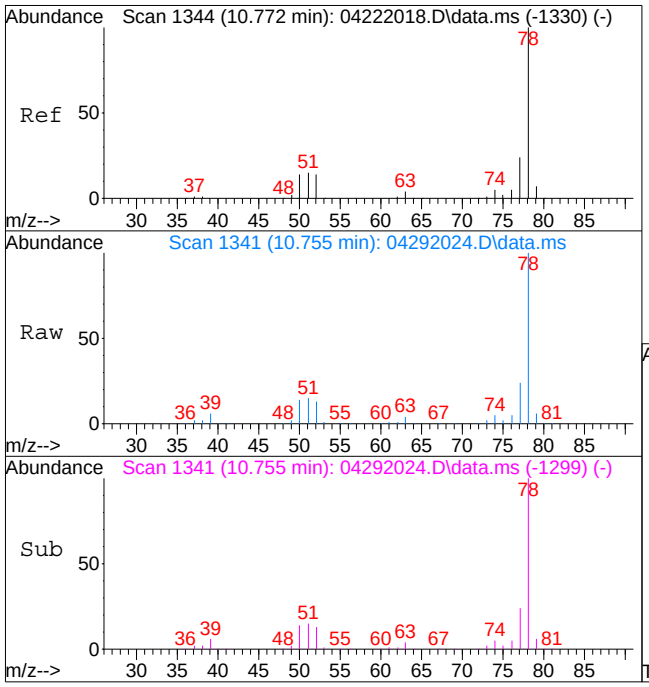


#38
1,1,1-Trichloroethane
Concen: 0.65 ng
RT: 10.30 min Scan# 1258
Delta R.T. -0.011 min
Lab File: 04292024.D
Acq: 29 Apr 2020 19:05

Tgt Ion: 97 Resp: 15320

Ion	Ratio	Lower	Upper
97	100		
99	66.7	44.7	84.7
61	36.7	17.2	57.2

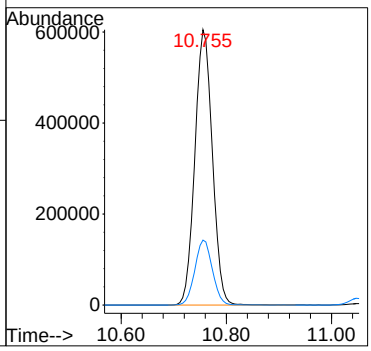


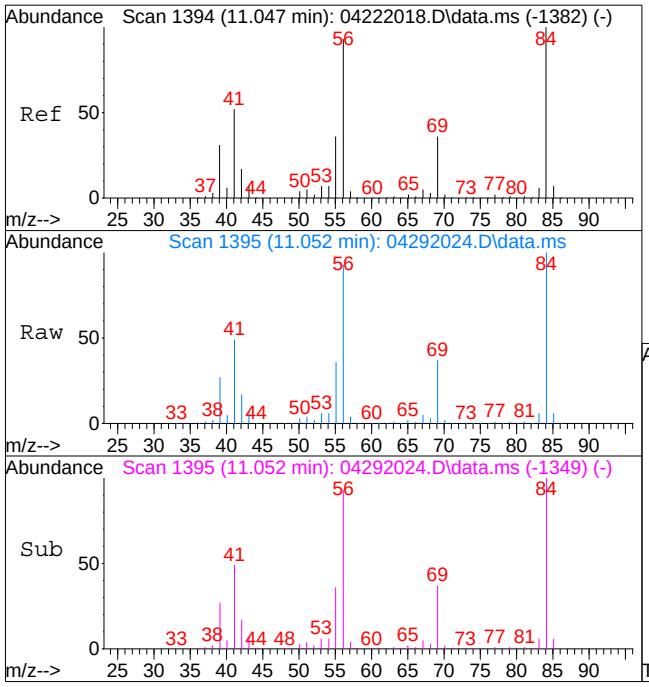


#41
Benzene
Concen: 31.07 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.017 min
Lab File: 04292024.D
Acq: 29 Apr 2020 19:05

Tgt Ion: 78 Resp: 1394278

Ion	Ratio	Lower	Upper
78	100		
77	23.7	3.6	43.6

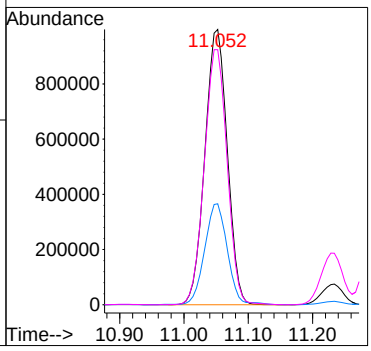


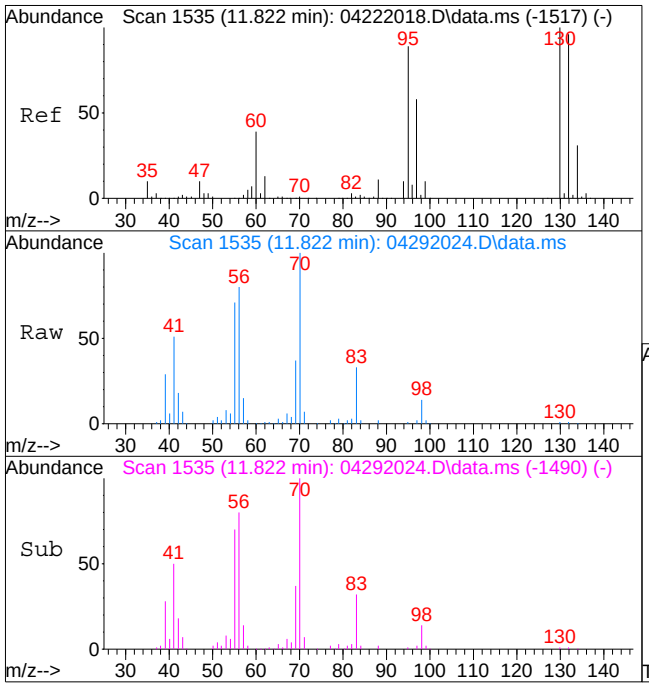


#43
Cyclohexane
Concen: 137.48 ng
RT: 11.05 min Scan# 1395
Delta R.T. 0.005 min
Lab File: 04292024.D
Acq: 29 Apr 2020 19:05

Tgt Ion: 84 Resp: 2417247

Ion	Ratio	Lower	Upper
84	100		
69	37.0	15.8	55.8
56	94.4	72.0	112.0

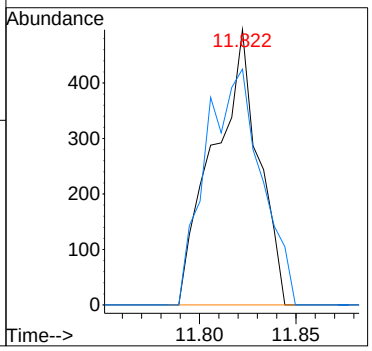


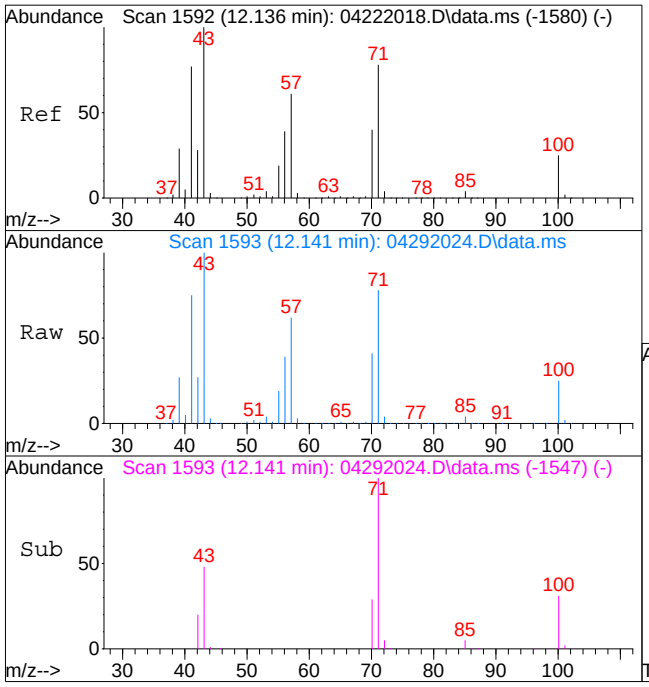


#47
Trichloroethene
Concen: 0.05 ng
RT: 11.82 min Scan# 1535
Delta R.T. -0.000 min
Lab File: 04292024.D
Acq: 29 Apr 2020 19:05

Tgt Ion:130 Resp: 799

Ion	Ratio	Lower	Upper
130	100		
132	106.5	76.4	116.4

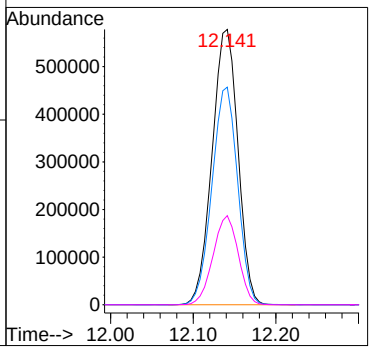


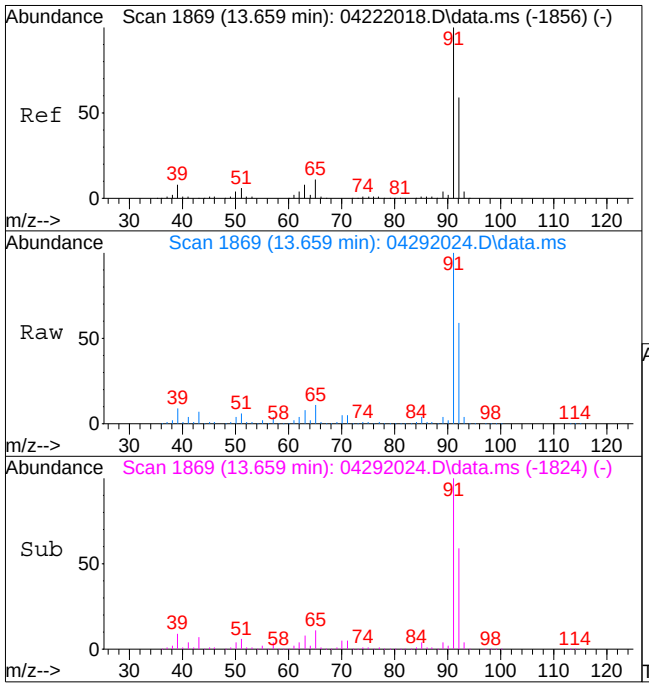


#51
n-Heptane
Concen: 120.69 ng
RT: 12.14 min Scan# 1593
Delta R.T. 0.005 min
Lab File: 04292024.D
Acq: 29 Apr 2020 19:05

Tgt Ion: 71 Resp: 1258507

Ion	Ratio	Lower	Upper
71	100		
57	78.2	57.4	97.4
100	31.5	12.0	52.0

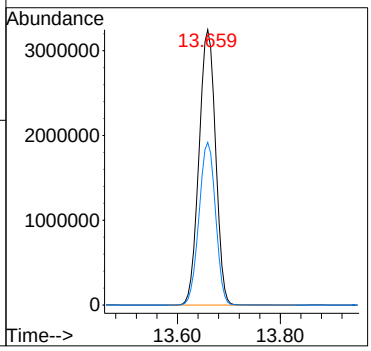


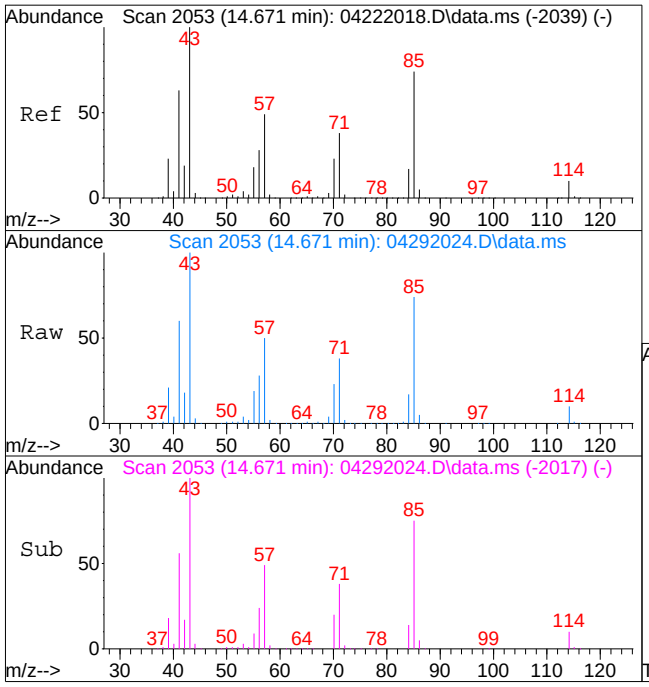


#58
Toluene
Concen: 136.03 ng
RT: 13.66 min Scan# 1869
Delta R.T. -0.000 min
Lab File: 04292024.D
Acq: 29 Apr 2020 19:05

Tgt Ion: 91 Resp: 7270608

Ion	Ratio	Lower	Upper
91	100		
92	58.9	38.2	78.2

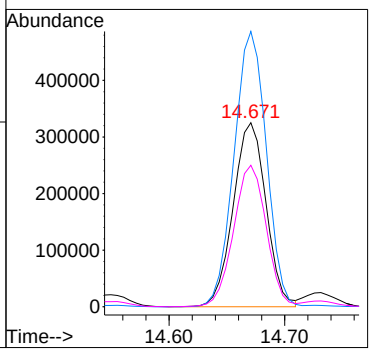


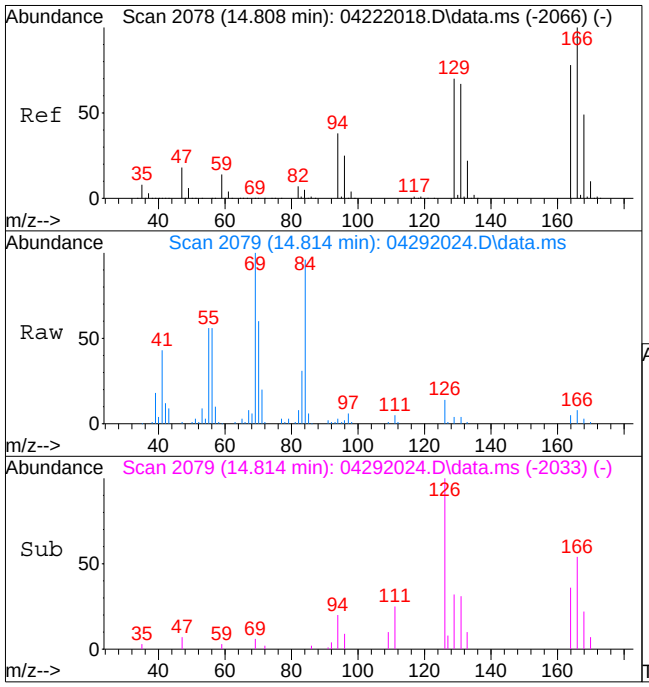


#63
n-Octane
Concen: 75.69 ng
RT: 14.67 min Scan# 2053
Delta R.T. -0.000 min
Lab File: 04292024.D
Acq: 29 Apr 2020 19:05

Tgt Ion: 57 Resp: 644020

Ion	Ratio	Lower	Upper
57	100		
85	147.7	120.7	181.1
71	76.4	61.1	91.7

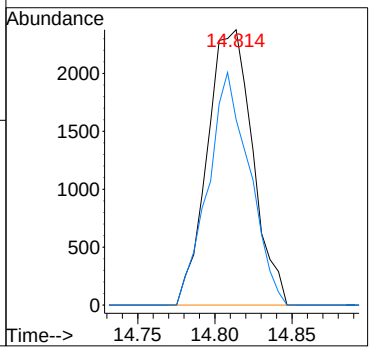


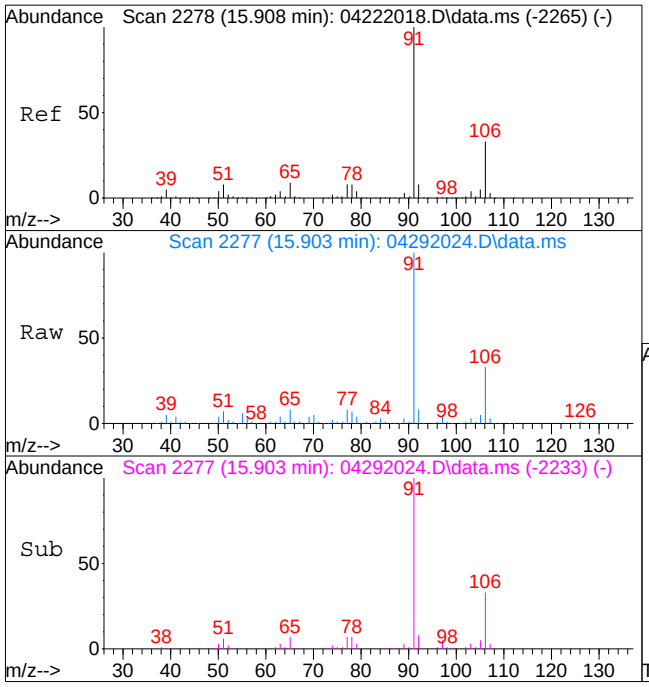


#64
Tetrachloroethene
Concen: 0.24 ng
RT: 14.81 min Scan# 2079
Delta R.T. 0.005 min
Lab File: 04292024.D
Acq: 29 Apr 2020 19:05

Tgt Ion:166 Resp: 4862

Ion	Ratio	Lower	Upper
166	100		
164	77.3	57.7	97.7

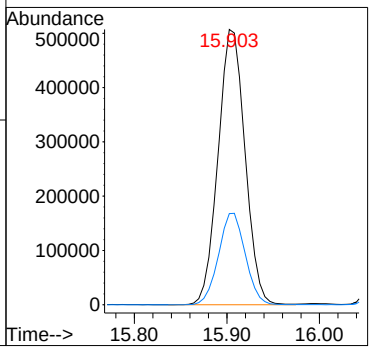


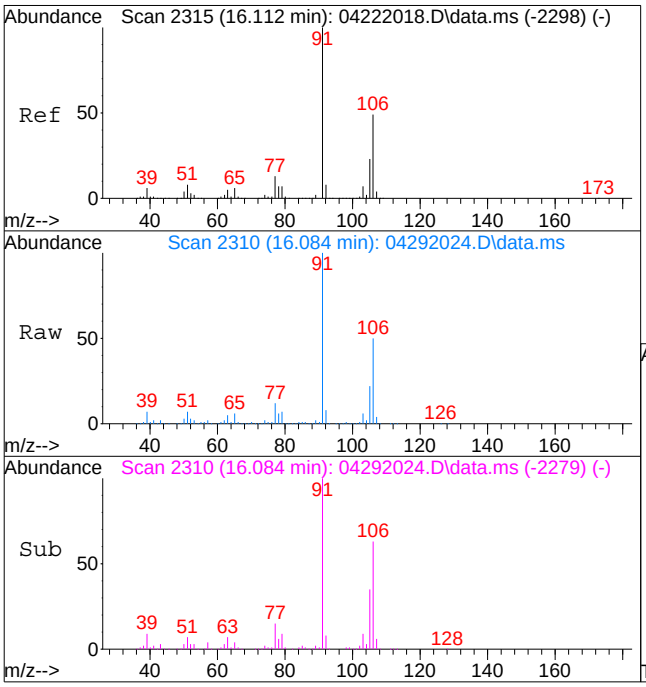


#66
Ethylbenzene
Concen: 16.47 ng
RT: 15.90 min Scan# 2277
Delta R.T. -0.006 min
Lab File: 04292024.D
Acq: 29 Apr 2020 19:05

Tgt Ion: 91 Resp: 1025711

Ion	Ratio	Lower	Upper
91	100		
106	33.0	13.4	53.4

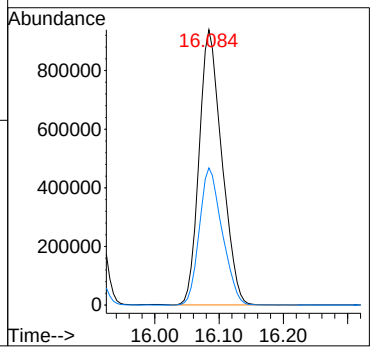


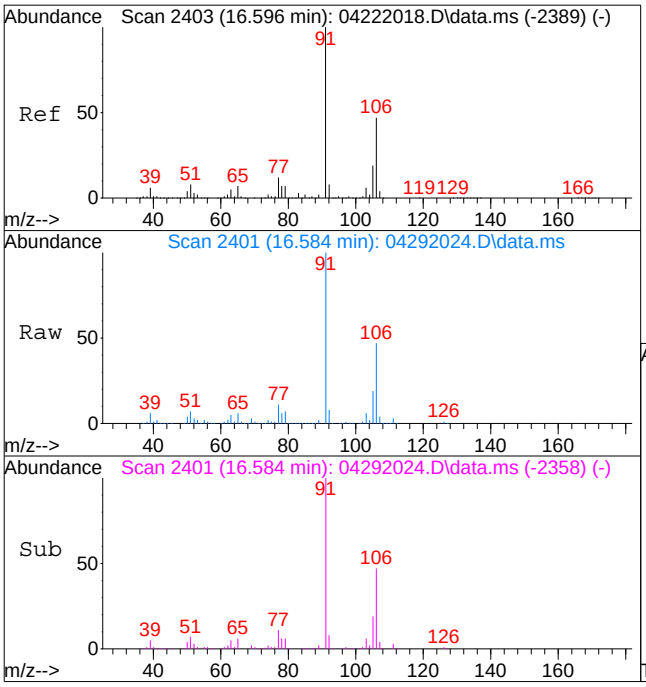


#67
m- & p-Xylenes
Concen: 43.77 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.028 min
Lab File: 04292024.D
Acq: 29 Apr 2020 19:05

Tgt Ion: 91 Resp: 2299605

Ion	Ratio	Lower	Upper
91	100		
106	50.1	28.3	68.3

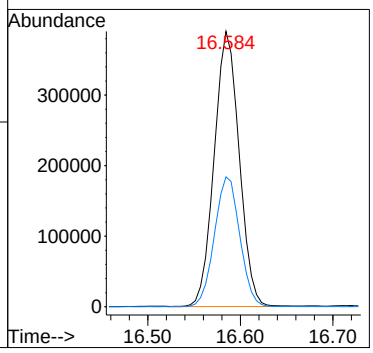


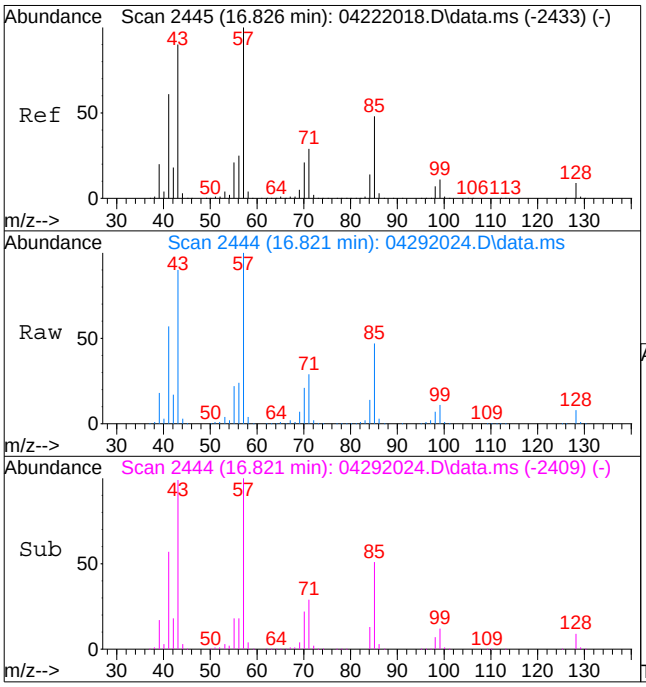


#70
o-Xylene
Concen: 14.18 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 04292024.D
Acq: 29 Apr 2020 19:05

Tgt Ion: 91 Resp: 731471

Ion	Ratio	Lower	Upper
91	100		
106	47.9	27.5	67.5

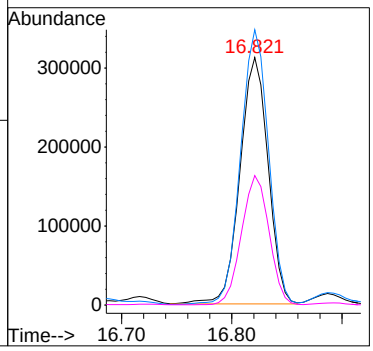


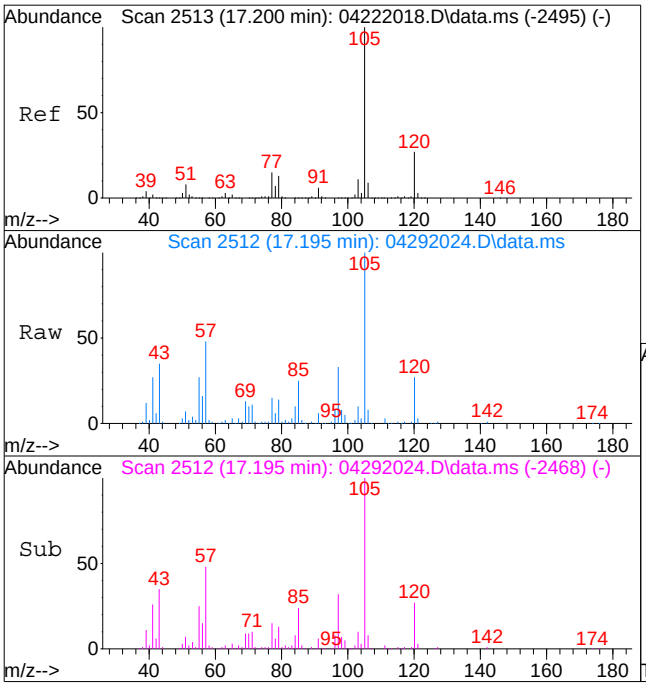


#71
n-Nonane
Concen: 33.21 ng
RT: 16.82 min Scan# 2444
Delta R.T. -0.006 min
Lab File: 04292024.D
Acq: 29 Apr 2020 19:05

Tgt Ion: 43 Resp: 552858

Ion	Ratio	Lower	Upper
43	100		
57	110.2	90.8	130.8
85	51.2	32.1	72.1

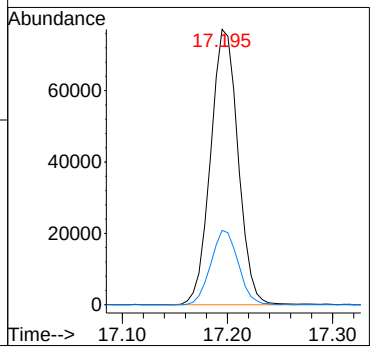


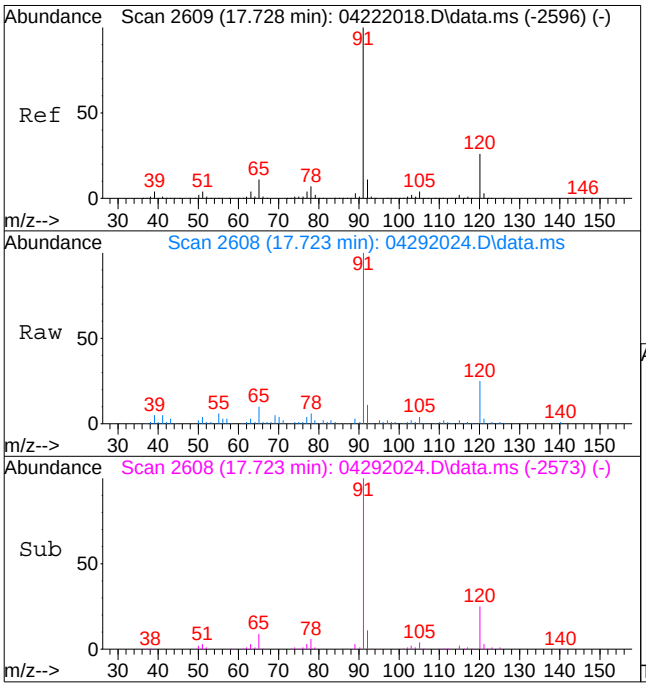


#74
Cumene
Concen: 2.08 ng
RT: 17.19 min Scan# 2512
Delta R.T. -0.006 min
Lab File: 04292024.D
Acq: 29 Apr 2020 19:05

Tgt Ion:105 Resp: 140156

Ion	Ratio	Lower	Upper
105	100		
120	27.0	7.3	47.3

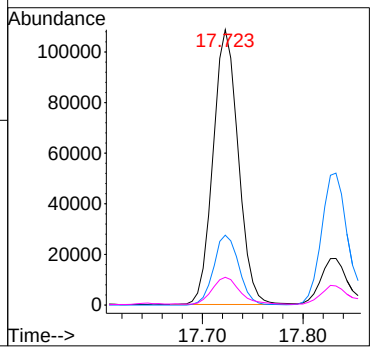


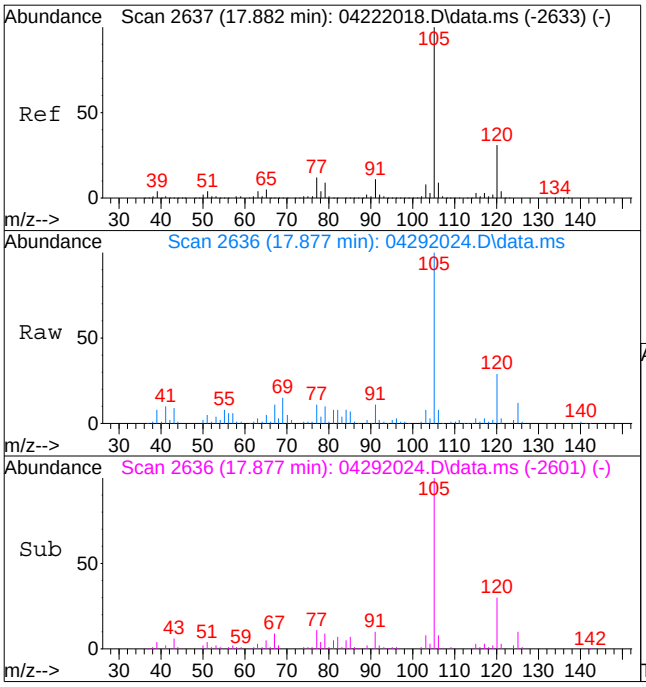


#76
n-Propylbenzene
Concen: 2.58 ng
RT: 17.72 min Scan# 2608
Delta R.T. -0.006 min
Lab File: 04292024.D
Acq: 29 Apr 2020 19:05

Tgt Ion: 91 Resp: 188983

Ion	Ratio	Lower	Upper
91	100		
120	25.4	6.1	46.1
65	10.8	0.0	30.7

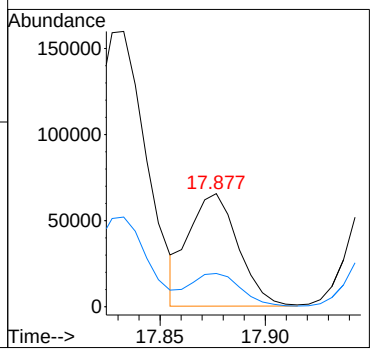


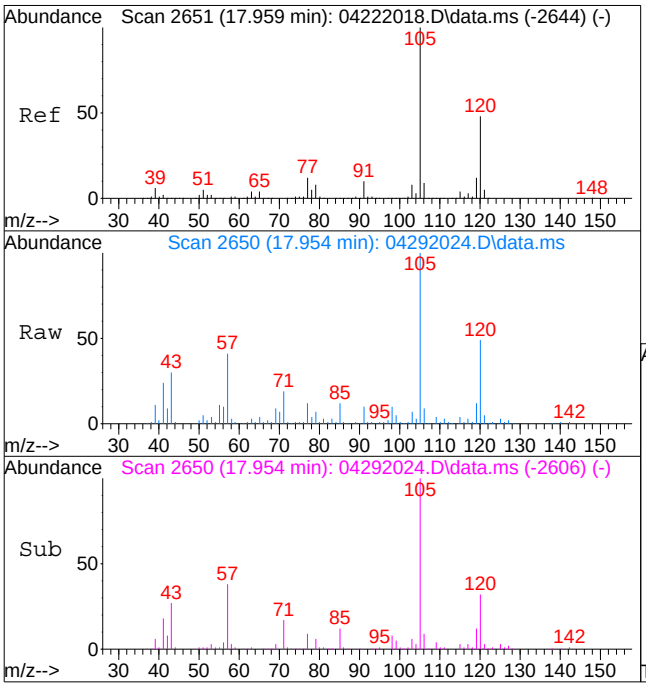


#78
4-Ethyltoluene
Concen: 1.67 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 04292024.D
Acq: 29 Apr 2020 19:05

Tgt Ion:105 Resp: 107008

Ion	Ratio	Lower	Upper
105	100		
120	28.1	11.4	51.4

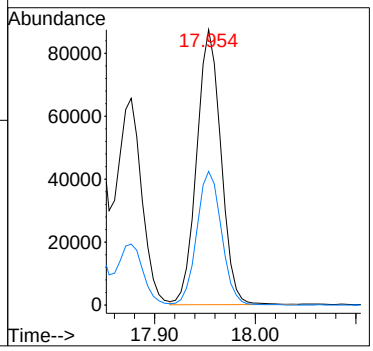


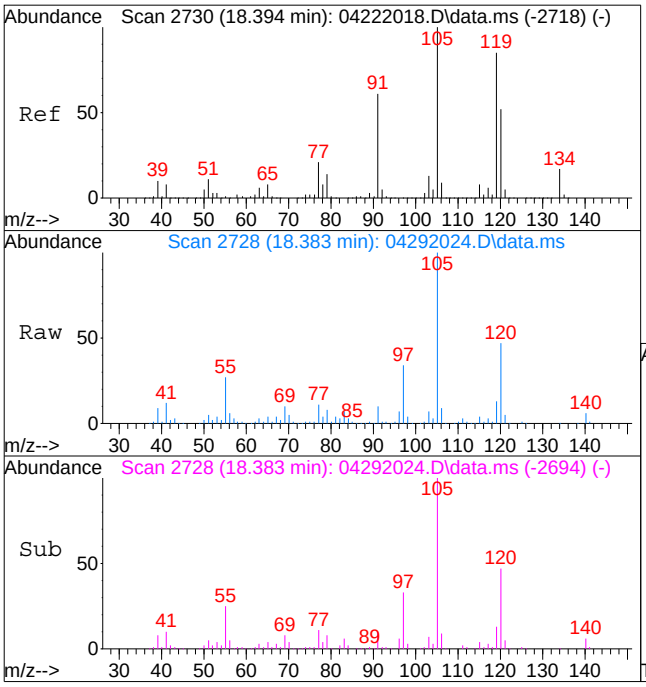


#79
1,3,5-Trimethylbenzene
Concen: 2.48 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 04292024.D
Acq: 29 Apr 2020 19:05

Tgt Ion:105 Resp: 146381

Ion	Ratio	Lower	Upper
105	100		
120	49.6	29.5	69.5

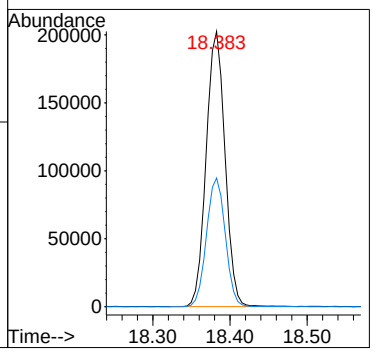




#82
1,2,4-Trimethylbenzene
Concen: 6.00 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 04292024.D
Acq: 29 Apr 2020 19:05

Tgt Ion:105 Resp: 342942

Ion	Ratio	Lower	Upper
105	100		
120	46.9	34.5	74.5



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292022.D Vial: 1
Acq On : 29 Apr 2020 17:53 Operator: SC
Sample : P2002029-007Dil (0.08mL) Inst : MS09
Misc : S34-04212006

4/29/20

Quant Time: Apr 29 19:44:49 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	161181	12.500 ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	680245	12.500 ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	303175	12.500 ng	0.00
System Monitoring Compounds					
33) 1,2-Dichloroethane-d4(...	9.91	65	239949	11.490 ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.92%		
57) Toluene-d8 (SS2)	13.55	98	759873	12.981 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.84%		
73) Bromofluorobenzene (SS3)	17.05	174	282682	12.016 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.16%		
Target Compounds					Qvalue
2) Propene	3.89	42	999	0.146 ng	95
3) Dichlorodifluoromethan...	0.00	85	0	N.D.	
4) Chloromethane	0.00	50	0	N.D.	
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.	
6) Vinyl Chloride	0.00	62	0	N.D.	
7) 1,3-Butadiene	0.00	54	0	N.D.	
8) Bromomethane	0.00	94	0	N.D.	
9) Chloroethane	0.00	64	0	N.D.	
10) Ethanol	0.00	45	0	N.D.	
11) Acetonitrile	0.00	41	0	N.D.	
12) Acrolein	0.00	56	0	N.D. d	
13) Acetone	0.00	58	0	N.D. d	
14) Trichlorofluoromethane	6.02	101	187	N.D.	
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.	
16) Acrylonitrile	0.00	53	0	N.D. d	
17) 1,1-Dichloroethene	6.72	96	1524	0.134 ng	87
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d	
19) Methylene Chloride	6.87	84	3944	0.361 ng	96
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D. d	
21) Trichlorotrifluoroethane	7.18	151	13691	1.017 ng	98
22) Carbon Disulfide	7.18	76	112	N.D.	
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.	
24) 1,1-Dichloroethane	8.10	63	559	N.D.	
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	
26) Vinyl Acetate	0.00	86	0	N.D. d	
27) 2-Butanone (MEK)	0.00	72	0	N.D. d	
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.	
29) Diisopropyl Ether	0.00	87	0	N.D. d	
30) Ethyl Acetate	0.00	61	0	N.D.	
31) n-Hexane	9.23	57	277805	20.111 ng	99
32) Chloroform	0.00	83	0	N.D.	
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.	
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.	
36) 1,2-Dichloroethane	0.00	62	0	N.D. d	
38) 1,1,1-Trichloroethane	10.29	97	15118	0.646 ng	99
39) Isopropyl Acetate	0.00	61	0	N.D. d	
40) 1-Butanol	0.00	56	0	N.D. d	
41) Benzene	10.76	78	224256	5.057 ng	100
42) Carbon Tetrachloride	0.00	117	0	N.D.	
43) Cyclohexane	11.04	84	444786	25.603 ng	98
44) tert-Amyl Methyl Ether	11.47	73	288	N.D.	
45) 1,2-Dichloropropane	11.57	63	349	N.D.	
46) Bromodichloromethane	0.00	83	0	N.D. d	
47) Trichloroethene	11.81	130	816	0.053 ng	97
48) 1,4-Dioxane	0.00	88	0	N.D. d	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d	
50) Methyl Methacrylate	0.00	100	0	N.D. d	

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292022.D Vial: 1
Acq On : 29 Apr 2020 17:53 Operator: SC
Sample : P2002029-007Dil (0.08mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 19:44:49 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

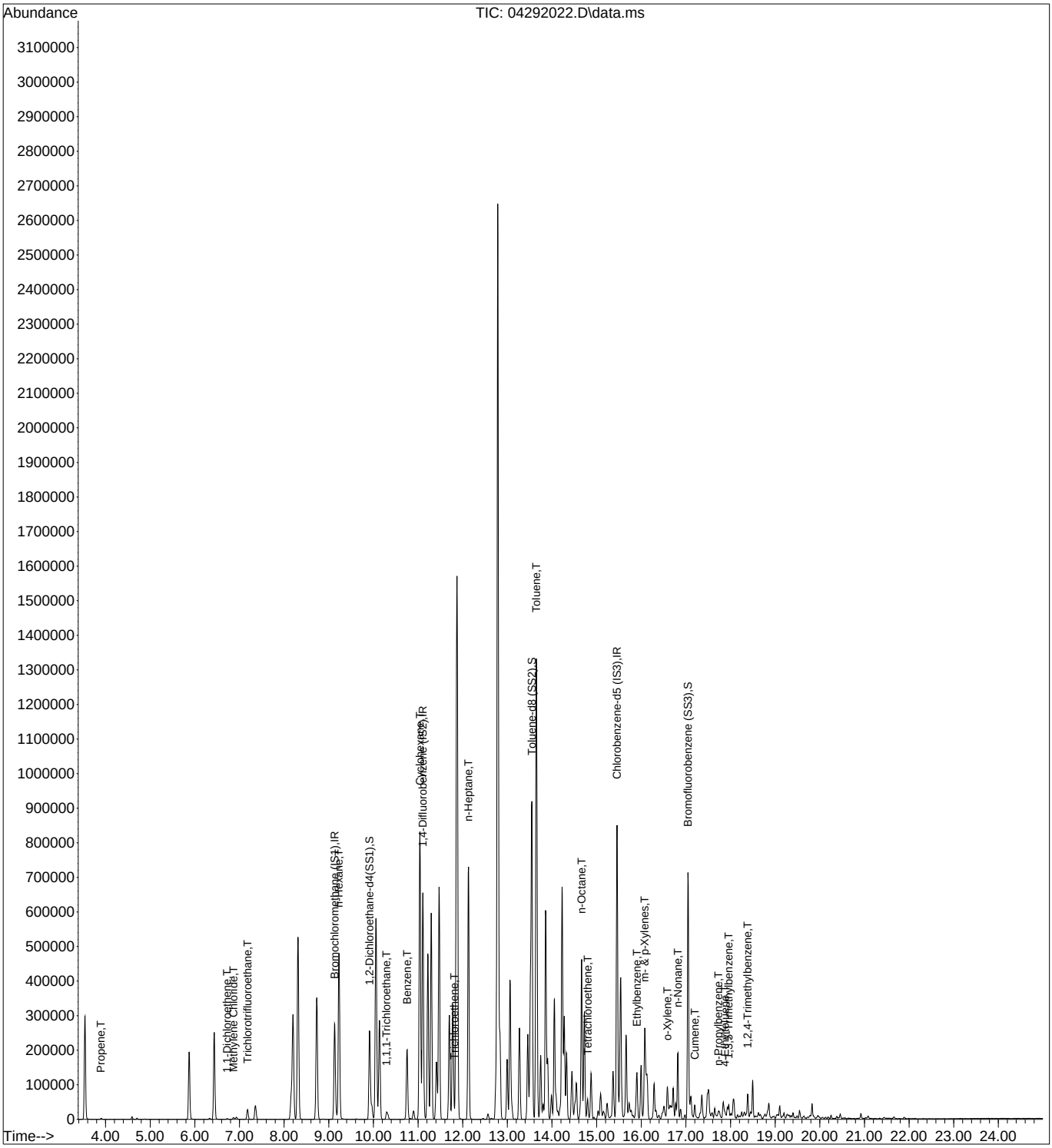
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.13	71	222558	21.601 ng	99
52) cis-1,3-Dichloropropene	12.79	75	930	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	13.65	91	1041137	21.184 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	14.32	107	559	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.67	57	90506	11.568 ng	98
64) Tetrachloroethene	14.80	166	4918	0.266 ng	99
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.90	91	101681	1.776 ng	98
67) m- & p-Xylenes	16.08	91	226140	4.681 ng	97
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.59	104	1392	N.D.	
70) o-Xylene	16.58	91	65419	1.379 ng	100
71) n-Nonane	16.82	43	59915	3.915 ng	100
72) 1,1,2,2-Tetrachloroethane	16.58	83	289	N.D.	
74) Cumene	17.20	105	11952	0.193 ng	99
75) alpha-Pinene	17.60	93	630	N.D.	
76) n-Propylbenzene	17.73	91	14250	0.211 ng	97
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	7643	0.130 ng	91
79) 1,3,5-Trimethylbenzene	17.96	105	12383	0.228 ng	98
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	24266	0.462 ng	90
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.62	91	1665	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	18.83	119	3167	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	18.98	146	407	N.D.	
91) d-Limonene	18.97	68	372	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	0.00	128	0	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292022.D Vial: 1
Acq On : 29 Apr 2020 17:53 Operator: SC
Sample : P2002029-007Dil (0.08mL) Inst : MS09
Misc : S34-04212006

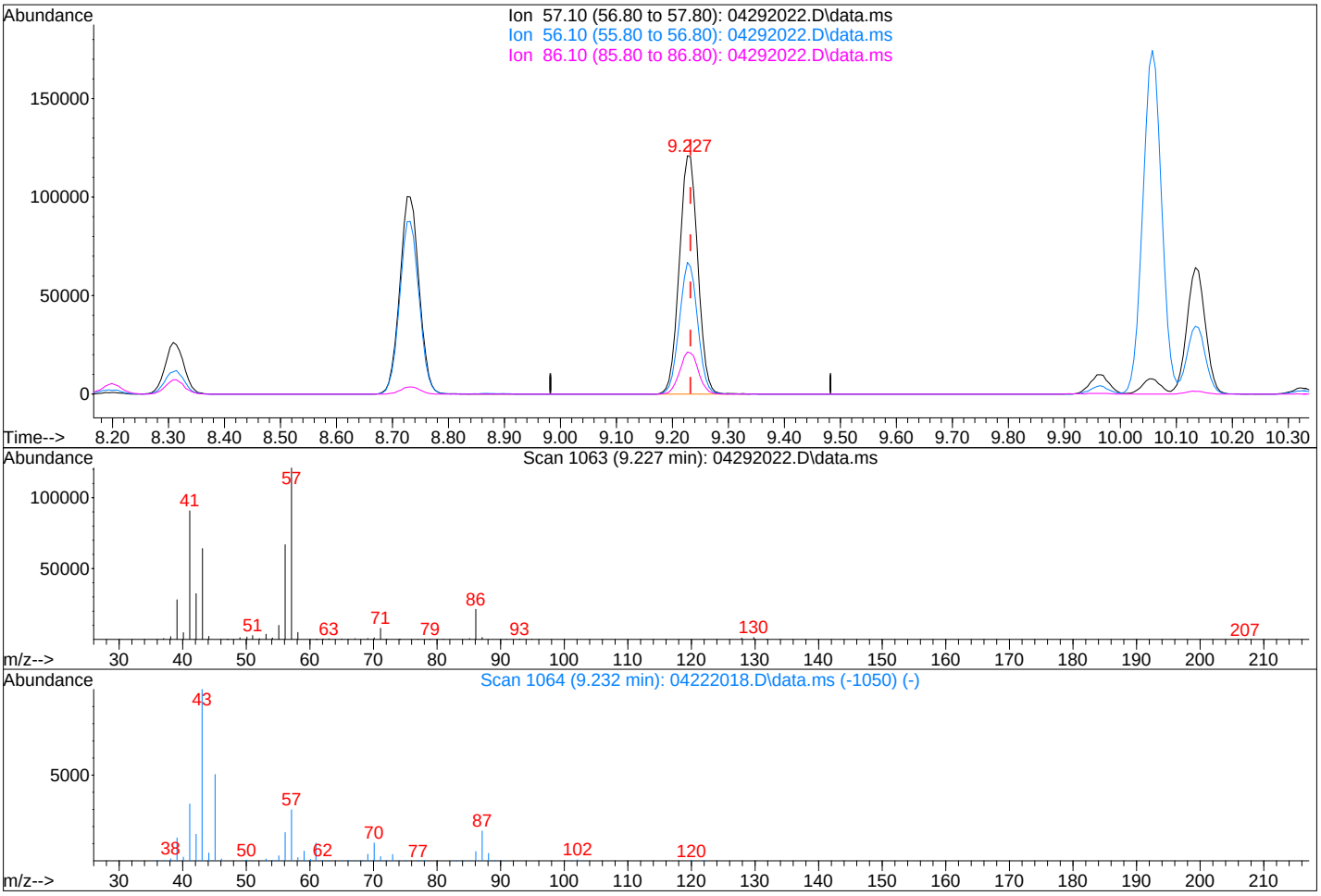
Quant Time: Apr 29 19:44:49 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\29\04292022.D Vial: 1
Acq On : 29 Apr 2020 17:53 Operator: SC
Sample : P2002029-007Dil (0.08mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 19:00:01 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04292022.D\data.ms

(31) n-Hexane (T)

9.227min (-0.006) 20.11ng

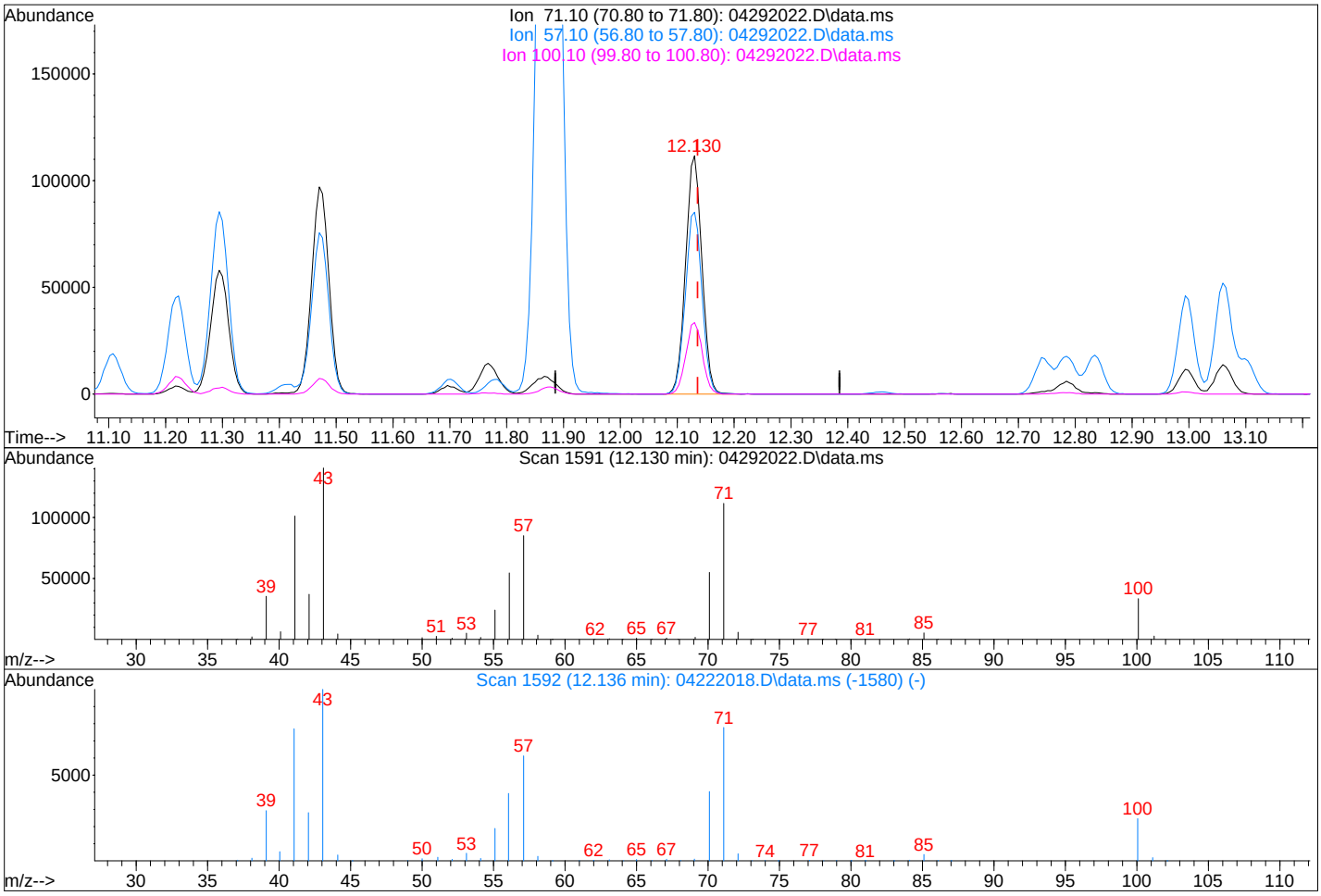
response 277805

Ion	Exp%	Act%
57.10	100	100
56.10	55.00	54.15
86.10	18.70	17.65
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\29\04292022.D Vial: 1
Acq On : 29 Apr 2020 17:53 Operator: SC
Sample : P2002029-007Dil (0.08mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 19:00:01 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04292022.D\data.ms

(51) n-Heptane (T)

12.130min (-0.006) 21.60ng

response 222558

Ion	Exp%	Act%
71.10	100	100
57.10	77.40	78.04
100.10	32.00	30.55
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302008.D Vial: 1
Acq On : 30 Apr 2020 8:03 Operator: WA
Sample : P2002029-008 (0.05mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 14:12:56 2020 4/30/20
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	150848	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	640108	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	277030	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	227644	11.648	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.20%				
57) Toluene-d8 (SS2)	13.55	98	686413	12.833	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.64%				
73) Bromofluorobenzene (SS3)	17.05	174	265357	12.344	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.72%				
Target Compounds							Qvalue
2) Propene	3.91	42	744	0.116	ng		95
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	0.00	45	0	N.D.	d		
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	0.00	56	0	N.D.	d		
13) Acetone	5.89	58	1790	0.307	ng	#	79
14) Trichlorofluoromethane	6.04	101	245	N.D.			
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	6.74	96	1527	0.143	ng		98
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	6.87	84	4293	0.420	ng		89
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	7.18	151	13958	1.107	ng		100
22) Carbon Disulfide	0.00	76	0	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	8.10	63	562	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	0.00	72	0	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	9.22	57	579	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	10.13	62	303	N.D.			
38) 1,1,1-Trichloroethane	10.29	97	16313	0.741	ng		98
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.75	78	265771	6.369	ng		100
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	11.04	84	2993	0.183	ng		95
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	11.58	63	340	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	11.81	130	711	N.D.			
48) 1,4-Dioxane	11.81	88	5163	0.615	ng	#	1
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302008.D Vial: 1
Acq On : 30 Apr 2020 8:03 Operator: WA
Sample : P2002029-008 (0.05mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 14:12:56 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

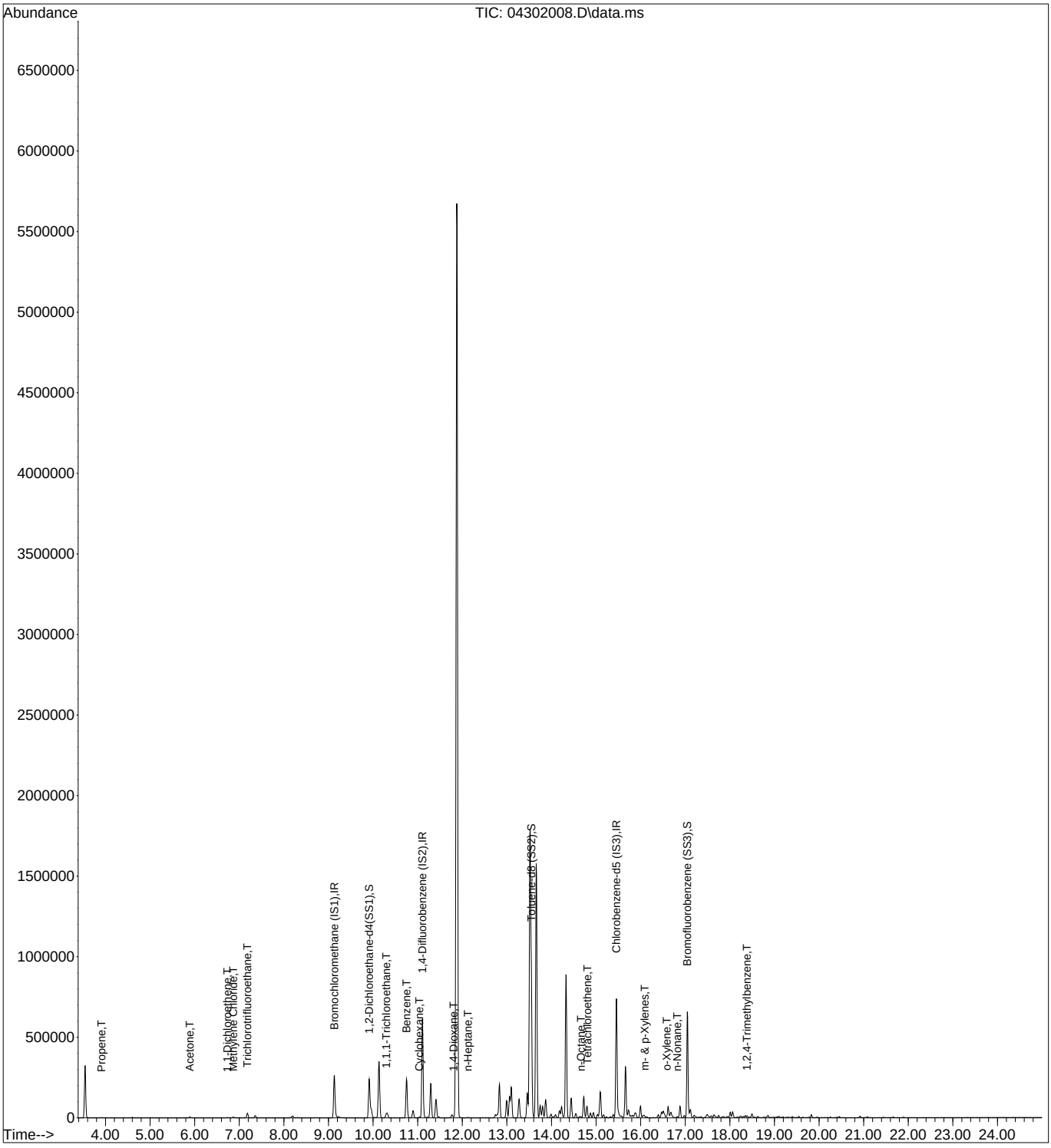
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	12.12	71	959	0.099 ng	#	69
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d		
54) trans-1,3-Dichloropropene	12.96	75	249	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d		
58) Toluene	0.00	91	0	N.D. d		
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D. d		
63) n-Octane	14.67	57	1247	0.174 ng		87
64) Tetrachloroethene	14.81	166	4993	0.295 ng		96
65) Chlorobenzene	15.50	112	1501	N.D.		
66) Ethylbenzene	15.91	91	2528	N.D.		
67) m- & p-Xylenes	16.09	91	7923	0.179 ng		95
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	16.58	91	3546	0.082 ng		81
71) n-Nonane	16.82	43	2439	0.174 ng		95
72) 1,1,2,2-Tetrachloroethane	16.58	83	123	N.D.		
74) Cumene	17.20	105	2186	N.D.		
75) alpha-Pinene	17.60	93	921	N.D.		
76) n-Propylbenzene	17.74	91	1390	N.D.		
77) 3-Ethyltoluene	17.84	105	2593	N.D.		
78) 4-Ethyltoluene	17.89	105	971	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	2278	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	18.16	105	1439	N.D.		
82) 1,2,4-Trimethylbenzene	18.38	105	3874	0.081 ng		84
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	18.61	91	123	N.D.		
85) 1,3-Dichlorobenzene	18.56	146	120	N.D.		
86) 1,4-Dichlorobenzene	18.65	146	300	N.D.		
87) sec-Butylbenzene	18.67	105	1218	N.D.		
88) 4-Isopropyltoluene (p-...	18.83	119	1660	N.D.		
89) 1,2,3-Trimethylbenzene	18.83	105	1923	N.D.		
90) 1,2-Dichlorobenzene	18.99	146	708	N.D.		
91) d-Limonene	18.98	68	296	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	20.81	180	142	N.D.		
95) Naphthalene	20.93	128	1705	N.D.		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	16.27	55	188	N.D.		
99) tert-Butylbenzene	18.38	119	853	N.D.		
100) n-Butylbenzene	19.28	91	1111	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302008.D Vial: 1
Acq On : 30 Apr 2020 8:03 Operator: WA
Sample : P2002029-008 (0.05mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 14:12:56 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302008.D Vial: 1
Acq On : 30 Apr 2020 8:03 Operator: WA
Sample : P2002029-008 (0.05mL) Inst : MS09
Misc : S34-04212006

4/30/20

Quant Time: Apr 30 14:12:56 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

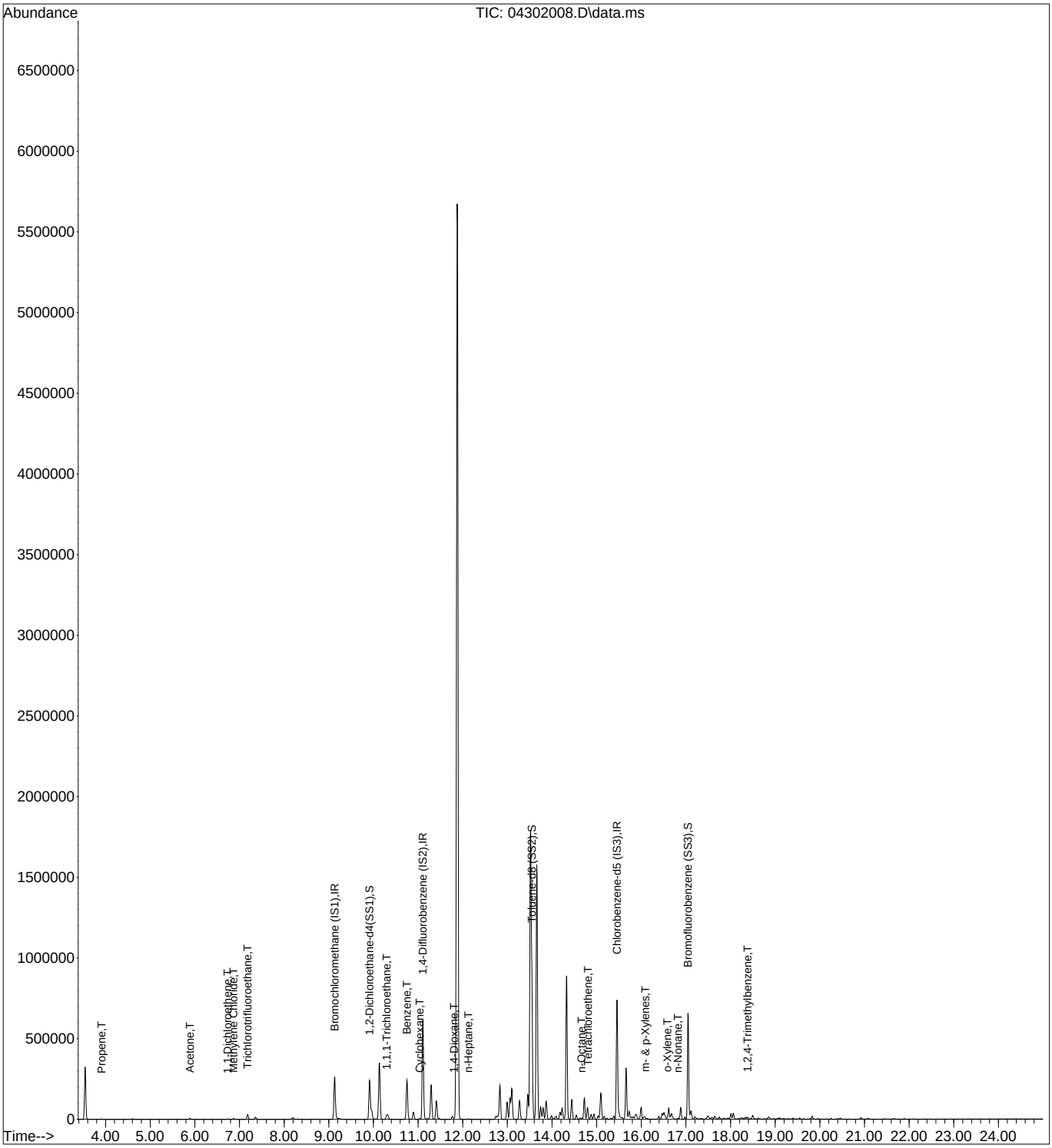
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	150848	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	640108	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	277030	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	227644	11.648	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.20%				
57) Toluene-d8 (SS2)	13.55	98	686413	12.833	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.64%				
73) Bromofluorobenzene (SS3)	17.05	174	265357	12.344	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.72%				
Target Compounds							Qvalue
2) Propene	3.91	42	744	0.116	ng		95
13) Acetone	5.89	58	1790	0.307	ng	#	79
17) 1,1-Dichloroethene	6.74	96	1527	0.143	ng		98
19) Methylene Chloride	6.87	84	4293	0.420	ng		89
21) Trichlorotrifluoroethane	7.18	151	13958	1.107	ng		100
38) 1,1,1-Trichloroethane	10.29	97	16313	0.741	ng		98
41) Benzene	10.75	78	265771	6.369	ng		100
43) Cyclohexane	11.04	84	2993	0.183	ng		95
48) 1,4-Dioxane	11.81	88	5163	0.615	ng	#	1
51) n-Heptane	12.12	71	959	0.099	ng	#	69
63) n-Octane	14.67	57	1247	0.174	ng		87
64) Tetrachloroethene	14.81	166	4993	0.295	ng		96
67) m- & p-Xylenes	16.09	91	7923	0.179	ng		95
70) o-Xylene	16.58	91	3546	0.082	ng		81
71) n-Nonane	16.82	43	2439	0.174	ng		95
82) 1,2,4-Trimethylbenzene	18.38	105	3874	0.081	ng		84

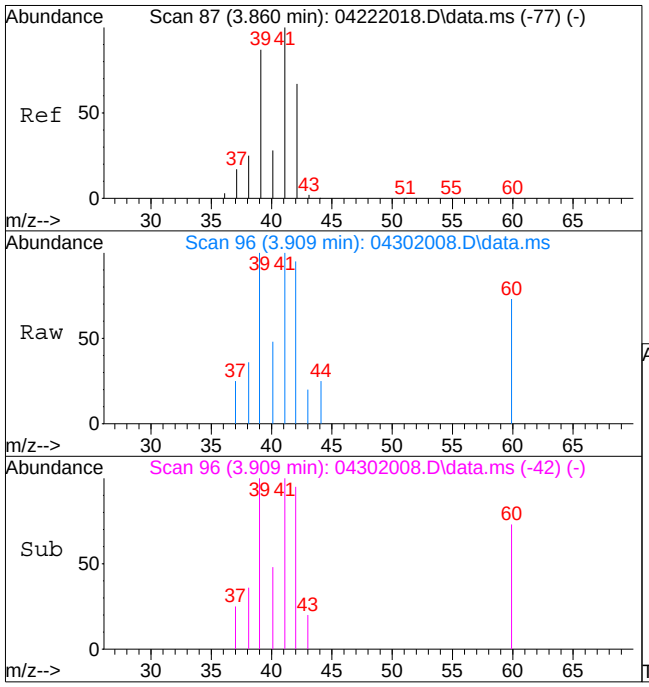
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302008.D Vial: 1
Acq On : 30 Apr 2020 8:03 Operator: WA
Sample : P2002029-008 (0.05mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 14:12:56 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

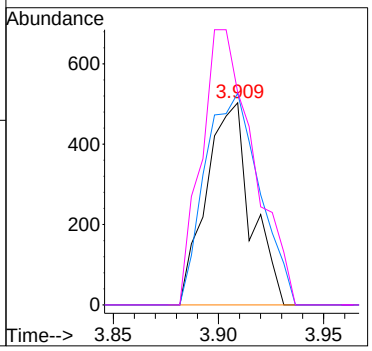


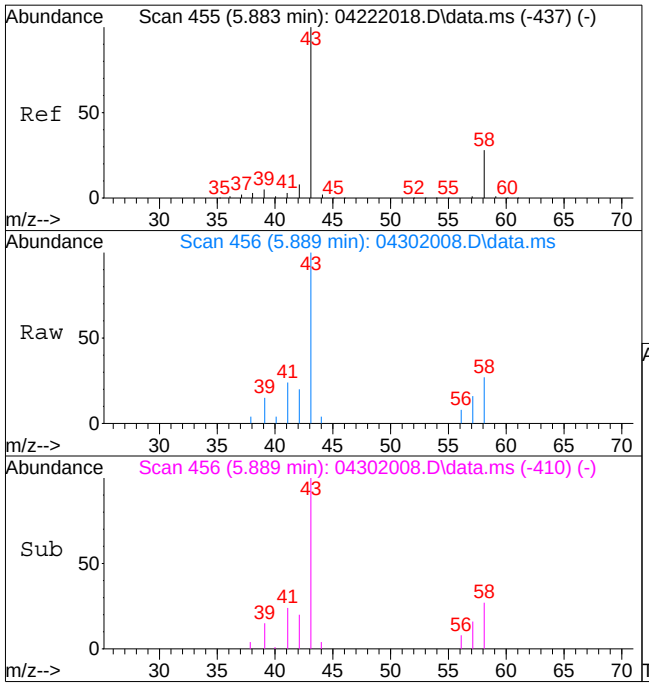


#2
Propene
Concen: 0.12 ng
RT: 3.91 min Scan# 96
Delta R.T. 0.049 min
Lab File: 04302008.D
Acq: 30 Apr 2020 8:03

Tgt Ion: 42 Resp: 744

Ion	Ratio	Lower	Upper
42	100		
39	128.0	106.4	146.4
41	158.9	128.8	168.8

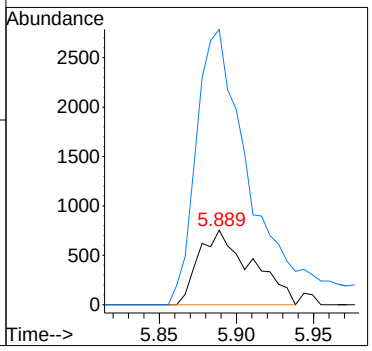


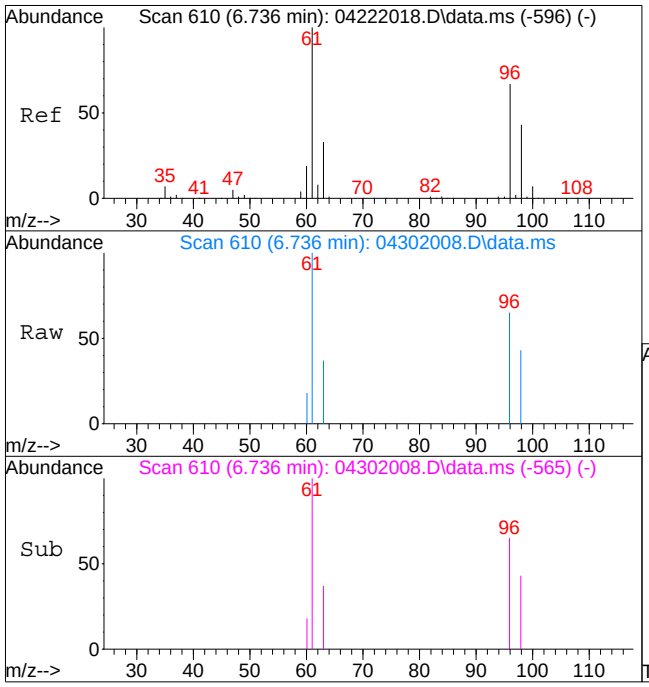


#13
Acetone
Concen: 0.31 ng
RT: 5.89 min Scan# 456
Delta R.T. 0.005 min
Lab File: 04302008.D
Acq: 30 Apr 2020 8:03

Tgt Ion: 58 Resp: 1790

Ion	Ratio	Lower	Upper
58	100		
43	394.4	319.3	379.3#

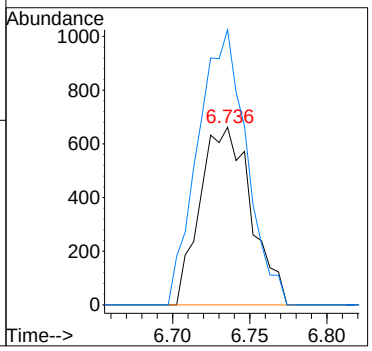


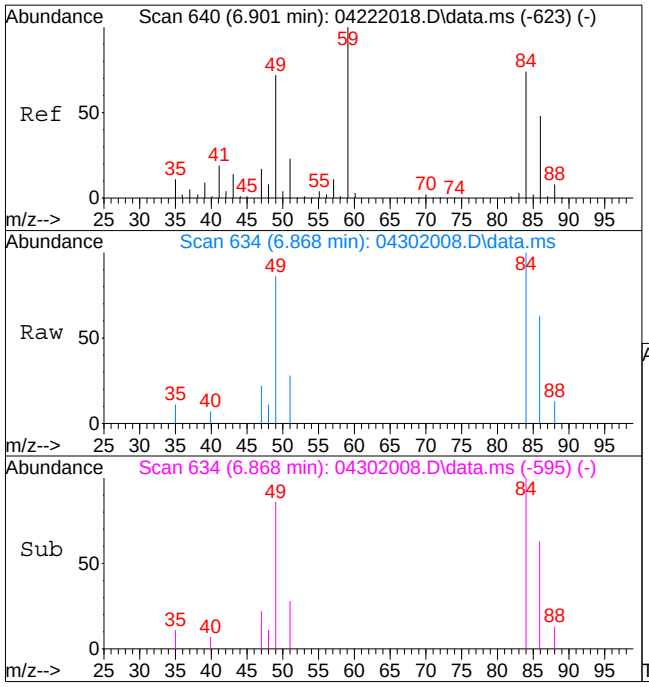


#17
1,1-Dichloroethene
Concen: 0.14 ng
RT: 6.74 min Scan# 610
Delta R.T. -0.000 min
Lab File: 04302008.D
Acq: 30 Apr 2020 8:03

Tgt Ion: 96 Resp: 1527

Ion	Ratio	Lower	Upper
96	100		
61	147.2	129.8	169.8

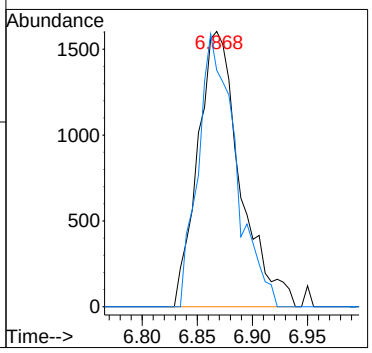


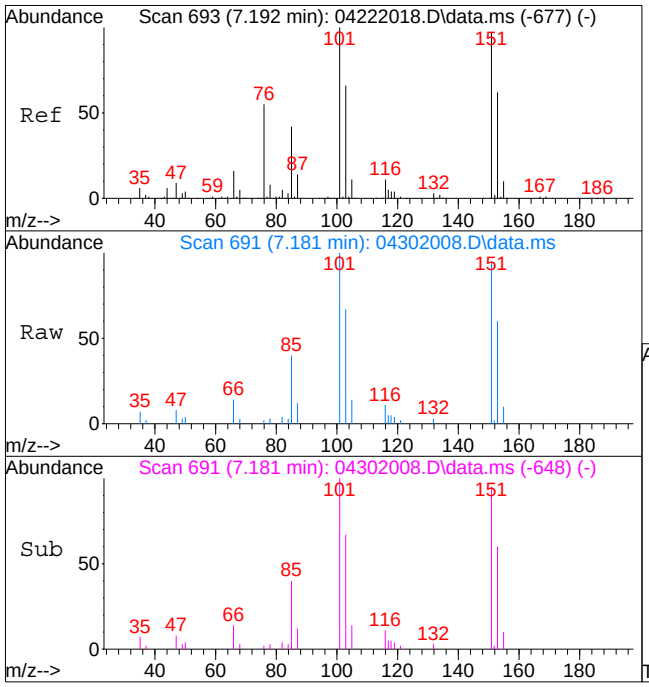


#19
Methylene Chloride
Concen: 0.42 ng
RT: 6.87 min Scan# 634
Delta R.T. -0.033 min
Lab File: 04302008.D
Acq: 30 Apr 2020 8:03

Tgt Ion: 84 Resp: 4293

Ion	Ratio	Lower	Upper
84	100		
49	87.2	73.0	123.0

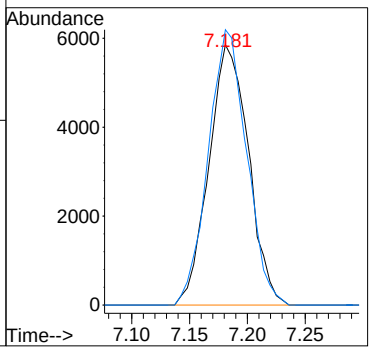


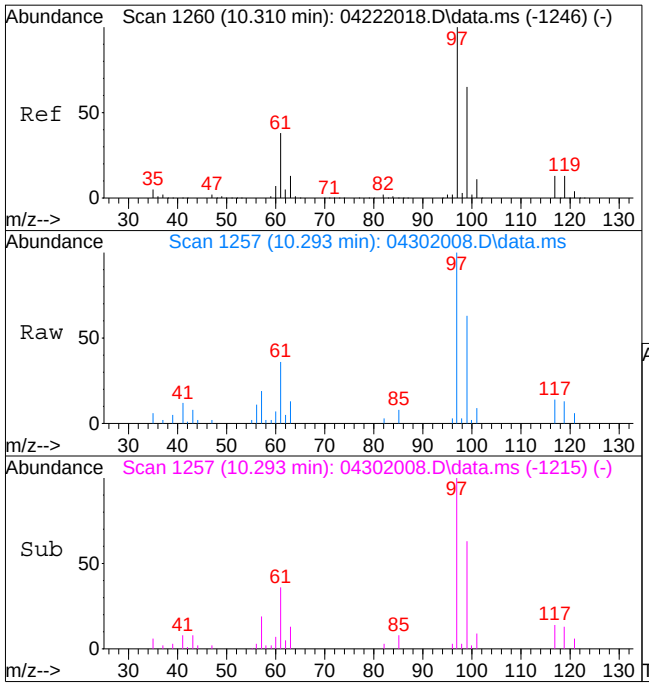


#21
Trichlorotrifluoroethane
Concen: 1.11 ng
RT: 7.18 min Scan# 691
Delta R.T. -0.011 min
Lab File: 04302008.D
Acq: 30 Apr 2020 8:03

Tgt Ion:151 Resp: 13958

Ion	Ratio	Lower	Upper
151	100		
101	102.5	82.9	122.9

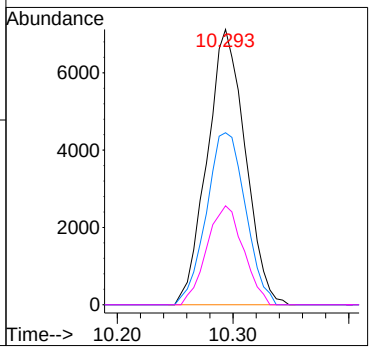


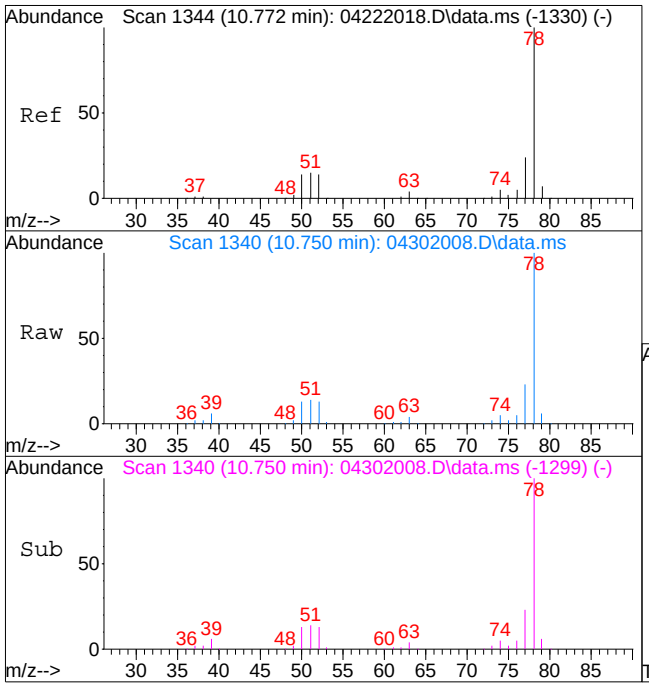


#38
1,1,1-Trichloroethane
Concen: 0.74 ng
RT: 10.29 min Scan# 1257
Delta R.T. -0.017 min
Lab File: 04302008.D
Acq: 30 Apr 2020 8:03

Tgt Ion: 97 Resp: 16313

Ion	Ratio	Lower	Upper
97	100		
99	64.1	44.7	84.7
61	34.6	17.2	57.2

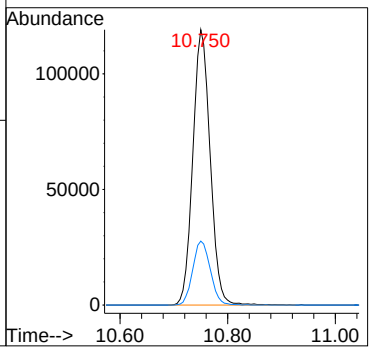


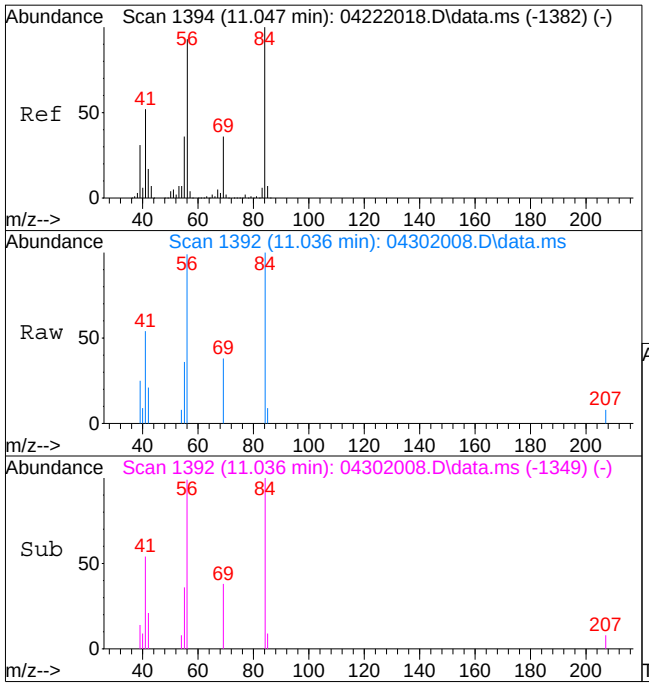


#41
Benzene
Concen: 6.37 ng
RT: 10.75 min Scan# 1340
Delta R.T. -0.022 min
Lab File: 04302008.D
Acq: 30 Apr 2020 8:03

Tgt Ion: 78 Resp: 265771

Ion	Ratio	Lower	Upper
78	100		
77	23.6	3.6	43.6

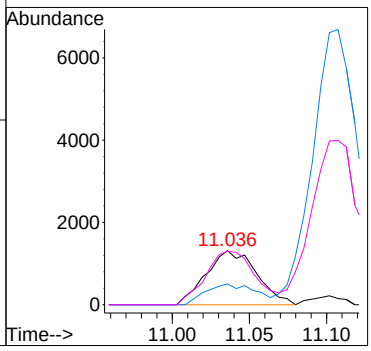


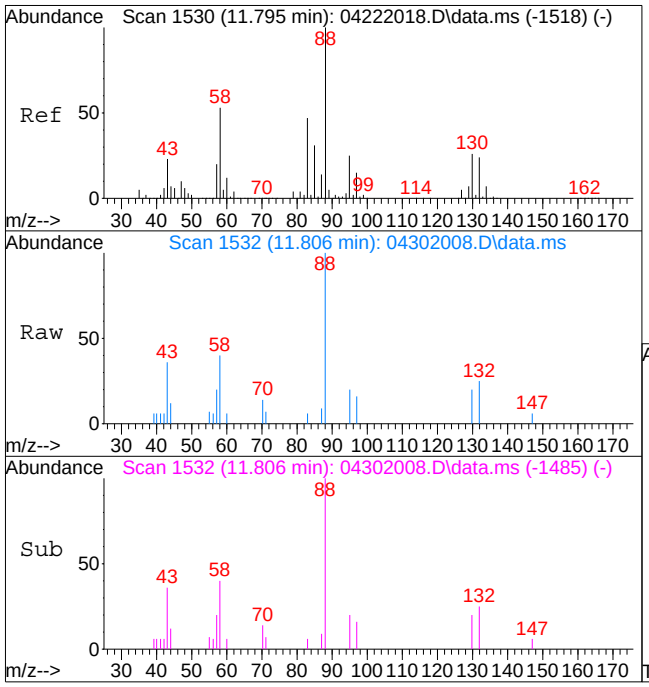


#43
Cyclohexane
Concen: 0.18 ng
RT: 11.04 min Scan# 1392
Delta R.T. -0.011 min
Lab File: 04302008.D
Acq: 30 Apr 2020 8:03

Tgt Ion: 84 Resp: 2993

Ion	Ratio	Lower	Upper
84	100		
69	37.9	15.8	55.8
56	97.4	72.0	112.0

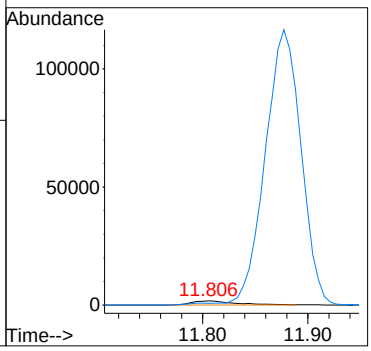


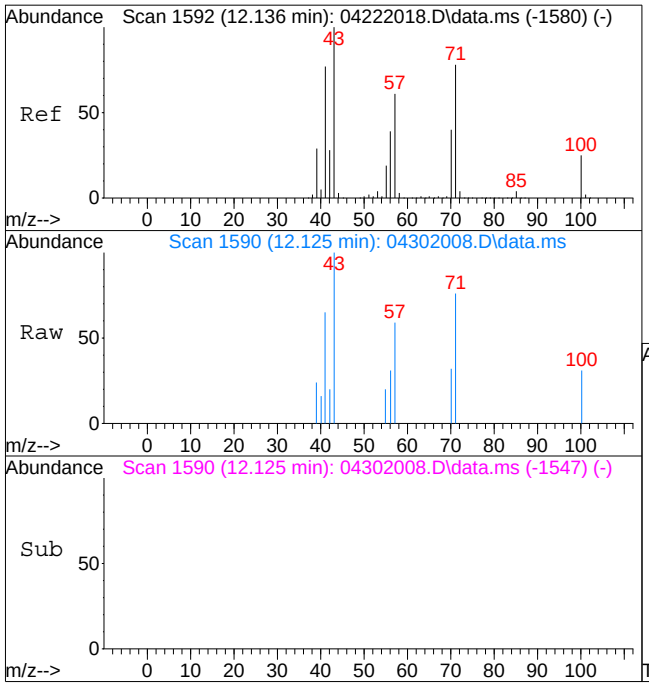


#48
1,4-Dioxane
Concen: 0.62 ng
RT: 11.81 min Scan# 1532
Delta R.T. 0.011 min
Lab File: 04302008.D
Acq: 30 Apr 2020 8:03

Tgt Ion: 88 Resp: 5163

Ion	Ratio	Lower	Upper
88	100		
58	5338.8	31.1	71.1#

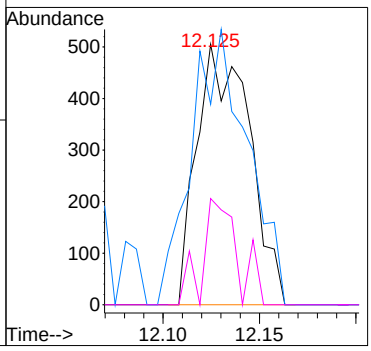


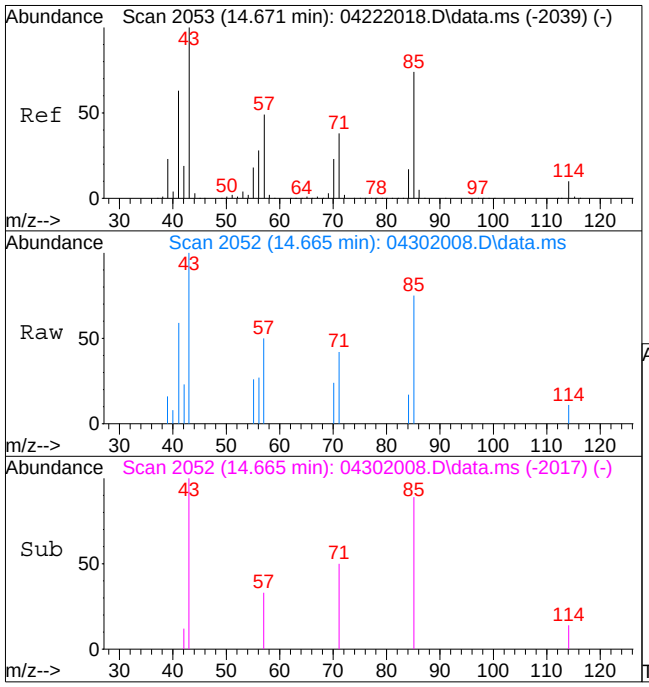


#51
n-Heptane
Concen: 0.10 ng
RT: 12.12 min Scan# 1590
Delta R.T. -0.011 min
Lab File: 04302008.D
Acq: 30 Apr 2020 8:03

Tgt Ion: 71 Resp: 959

Ion	Ratio	Lower	Upper
71	100		
57	112.1	57.4	97.4#
100	27.2	12.0	52.0

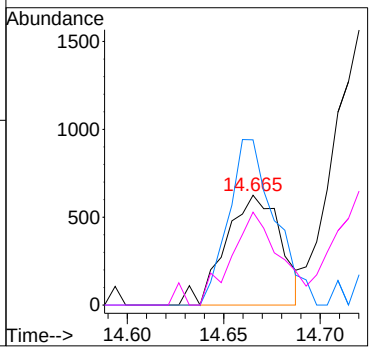


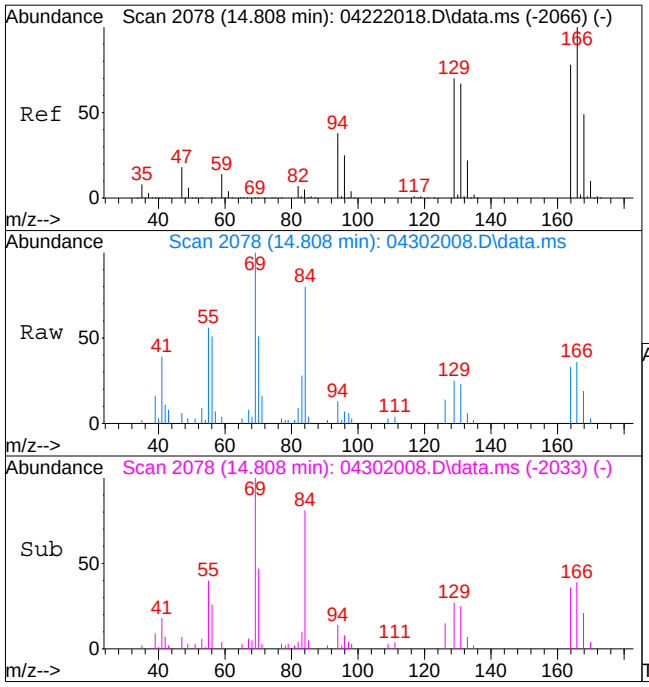


#63
n-Octane
Concen: 0.17 ng
RT: 14.67 min Scan# 2052
Delta R.T. -0.006 min
Lab File: 04302008.D
Acq: 30 Apr 2020 8:03

Tgt Ion: 57 Resp: 1247

Ion	Ratio	Lower	Upper
57	100		
85	127.0	120.7	181.1
71	74.5	61.1	91.7

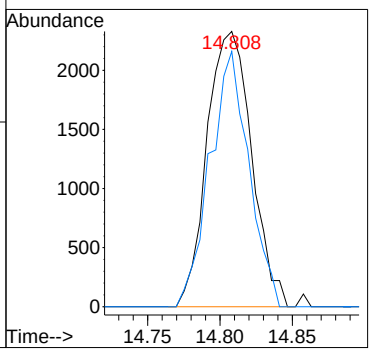


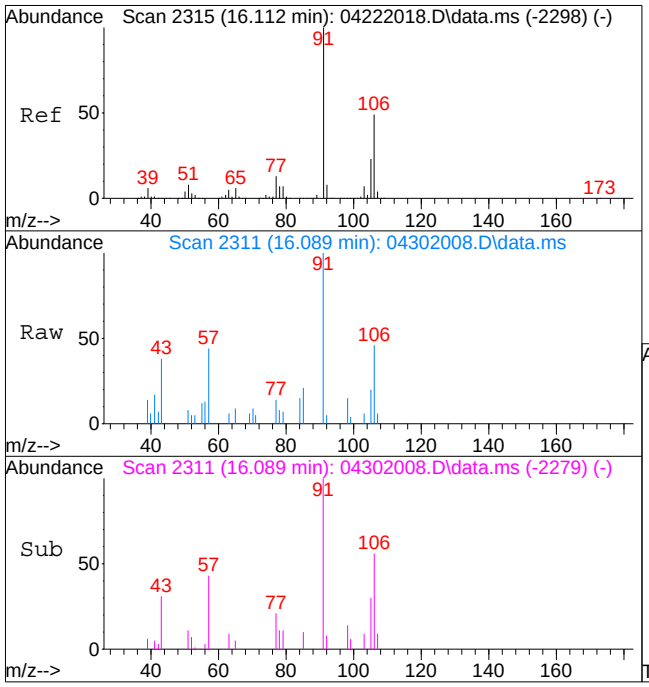


#64
Tetrachloroethene
Concen: 0.30 ng
RT: 14.81 min Scan# 2078
Delta R.T. -0.000 min
Lab File: 04302008.D
Acq: 30 Apr 2020 8:03

Tgt Ion:166 Resp: 4993

Ion	Ratio	Lower	Upper
166	100		
164	81.0	57.7	97.7

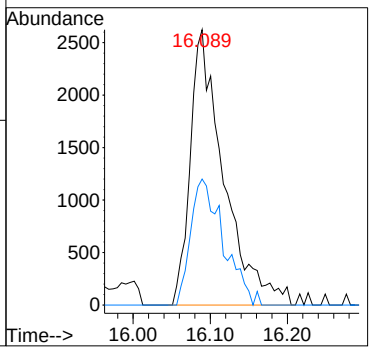


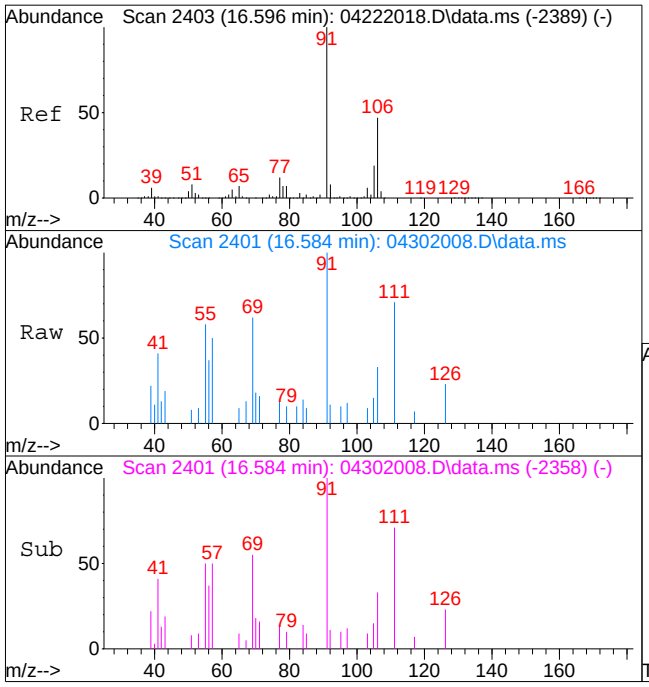


#67
m- & p-Xylenes
Concen: 0.18 ng
RT: 16.09 min Scan# 2311
Delta R.T. -0.022 min
Lab File: 04302008.D
Acq: 30 Apr 2020 8:03

Tgt Ion: 91 Resp: 7923

Ion	Ratio	Lower	Upper
91	100		
106	44.7	28.3	68.3

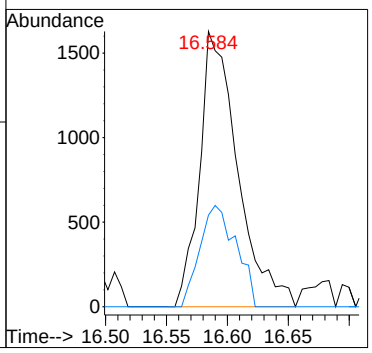


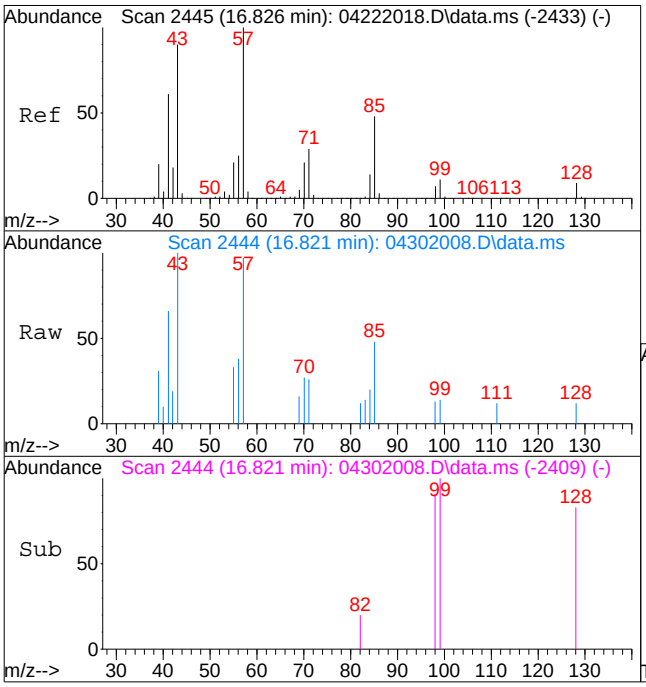


#70
o-Xylene
Concen: 0.08 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 04302008.D
Acq: 30 Apr 2020 8:03

Tgt Ion: 91 Resp: 3546

Ion	Ratio	Lower	Upper
91	100		
106	35.0	27.5	67.5

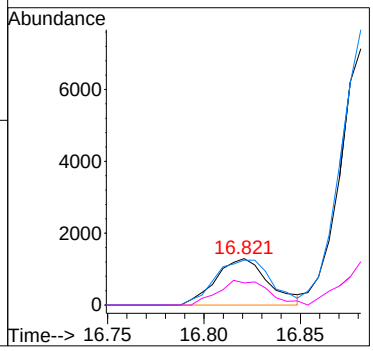


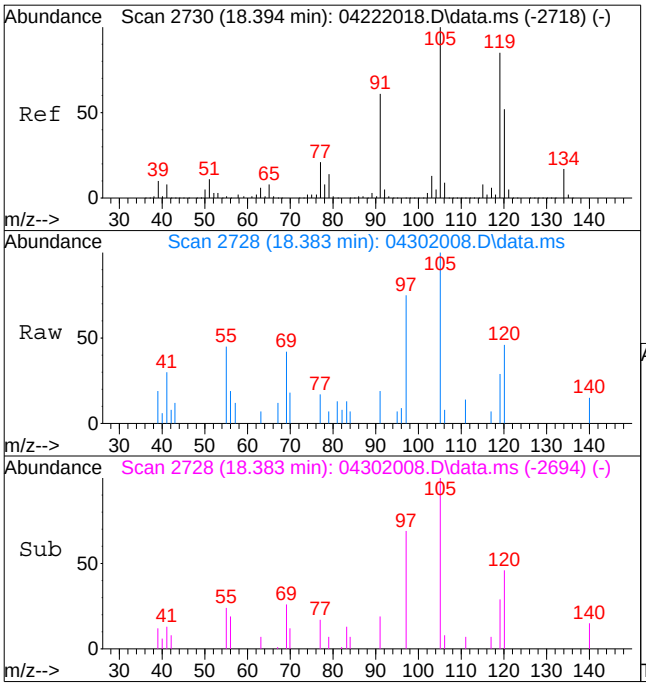


#71
n-Nonane
Concen: 0.17 ng
RT: 16.82 min Scan# 2444
Delta R.T. -0.006 min
Lab File: 04302008.D
Acq: 30 Apr 2020 8:03

Tgt Ion: 43 Resp: 2439

Ion	Ratio	Lower	Upper
43	100		
57	104.6	90.8	130.8
85	50.6	32.1	72.1

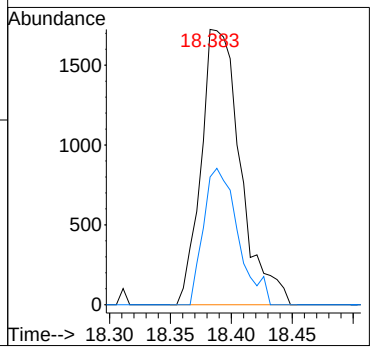




#82
1,2,4-Trimethylbenzene
Concen: 0.08 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 04302008.D
Acq: 30 Apr 2020 8:03

Tgt Ion:105 Resp: 3874

Ion	Ratio	Lower	Upper
105	100		
120	43.3	34.5	74.5



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302009.D Vial: 1
Acq On : 30 Apr 2020 8:37 Operator: WA
Sample : P2002029-009 (0.075mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 14:09:14 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/30/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	150082	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	633787	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	279585	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	226592	11.653	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.20%				
57) Toluene-d8 (SS2)	13.55	98	686193	12.711	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.68%				
73) Bromofluorobenzene (SS3)	17.05	174	265886	12.255	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.08%				
Target Compounds							Qvalue
2) Propene	3.90	42	737	0.116	ng	#	74
3) Dichlorodifluoromethan...	4.01	85	311	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.45	45	41	N.D.			
11) Acetonitrile	5.62	41	33	N.D.			
12) Acrolein	0.00	56	0	N.D.	d		
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	6.04	101	440	N.D.			
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	6.74	96	1614	0.152	ng	#	84
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	6.87	84	4011	0.395	ng		95
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	7.18	151	14180	1.131	ng		99
22) Carbon Disulfide	7.18	76	384	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	8.10	63	509	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	0.00	72	0	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	9.23	57	634	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	10.13	62	404	N.D.			
38) 1,1,1-Trichloroethane	10.30	97	16127	0.740	ng		99
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.75	78	292326	7.075	ng		100
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	11.04	84	2935	0.181	ng		96
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	11.59	63	253	N.D.			
46) Bromodichloromethane	11.70	83	114	N.D.			
47) Trichloroethene	11.82	130	1094	0.076	ng		90
48) 1,4-Dioxane	11.80	88	5066	0.610	ng	#	64
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

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Misc : S34-04212006

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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	12.13	71	800	0.083	ng	#	58
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	d		
54) trans-1,3-Dichloropropene	12.97	75	227	N.D.			
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	d		
58) Toluene	0.00	91	0	N.D.	d		
59) 2-Hexanone	0.00	43	0	N.D.	d		
60) Dibromochloromethane	0.00	129	0	N.D.			
61) 1,2-Dibromoethane	0.00	107	0	N.D.			
62) n-Butyl Acetate	0.00	43	0	N.D.	d		
63) n-Octane	14.66	57	903	0.125	ng		96
64) Tetrachloroethene	14.81	166	5192	0.304	ng		99
65) Chlorobenzene	0.00	112	0	N.D.	d		
66) Ethylbenzene	15.91	91	2086	N.D.			
67) m- & p-Xylenes	16.09	91	6360	0.143	ng		100
68) Bromoform	0.00	173	0	N.D.			
69) Styrene	0.00	104	0	N.D.			
70) o-Xylene	16.60	91	3066	0.070	ng		87
71) n-Nonane	16.82	43	1991	0.141	ng		89
72) 1,1,2,2-Tetrachloroethane	16.57	83	125	N.D.			
74) Cumene	17.21	105	2217	N.D.			
75) alpha-Pinene	17.60	93	741	N.D.			
76) n-Propylbenzene	17.74	91	963	N.D.			
77) 3-Ethyltoluene	17.85	105	1521	N.D.			
78) 4-Ethyltoluene	17.89	105	950	N.D.			
79) 1,3,5-Trimethylbenzene	17.96	105	1883	N.D.			
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	18.16	105	1178	N.D.			
82) 1,2,4-Trimethylbenzene	18.39	105	3237	0.067	ng		89
83) n-Decane	0.00	57	0	N.D.	d		
84) Benzyl Chloride	18.63	91	204	N.D.			
85) 1,3-Dichlorobenzene	18.56	146	123	N.D.			
86) 1,4-Dichlorobenzene	18.63	146	327	N.D.			
87) sec-Butylbenzene	18.67	105	885	N.D.			
88) 4-Isopropyltoluene (p-...	18.84	119	1458	N.D.			
89) 1,2,3-Trimethylbenzene	18.83	105	1564	N.D.			
90) 1,2-Dichlorobenzene	18.97	146	716	N.D.			
91) d-Limonene	18.98	68	296	N.D.			
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.			
93) n-Undecane	0.00	57	0	N.D.	d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.			
95) Naphthalene	20.97	128	829	N.D.			
96) n-Dodecane	0.00	57	0	N.D.	d		
97) Hexachlorobutadiene	0.00	225	0	N.D.			
98) Cyclohexanone	16.29	55	360	N.D.			
99) tert-Butylbenzene	18.39	119	768	N.D.			
100) n-Butylbenzene	19.28	91	842	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

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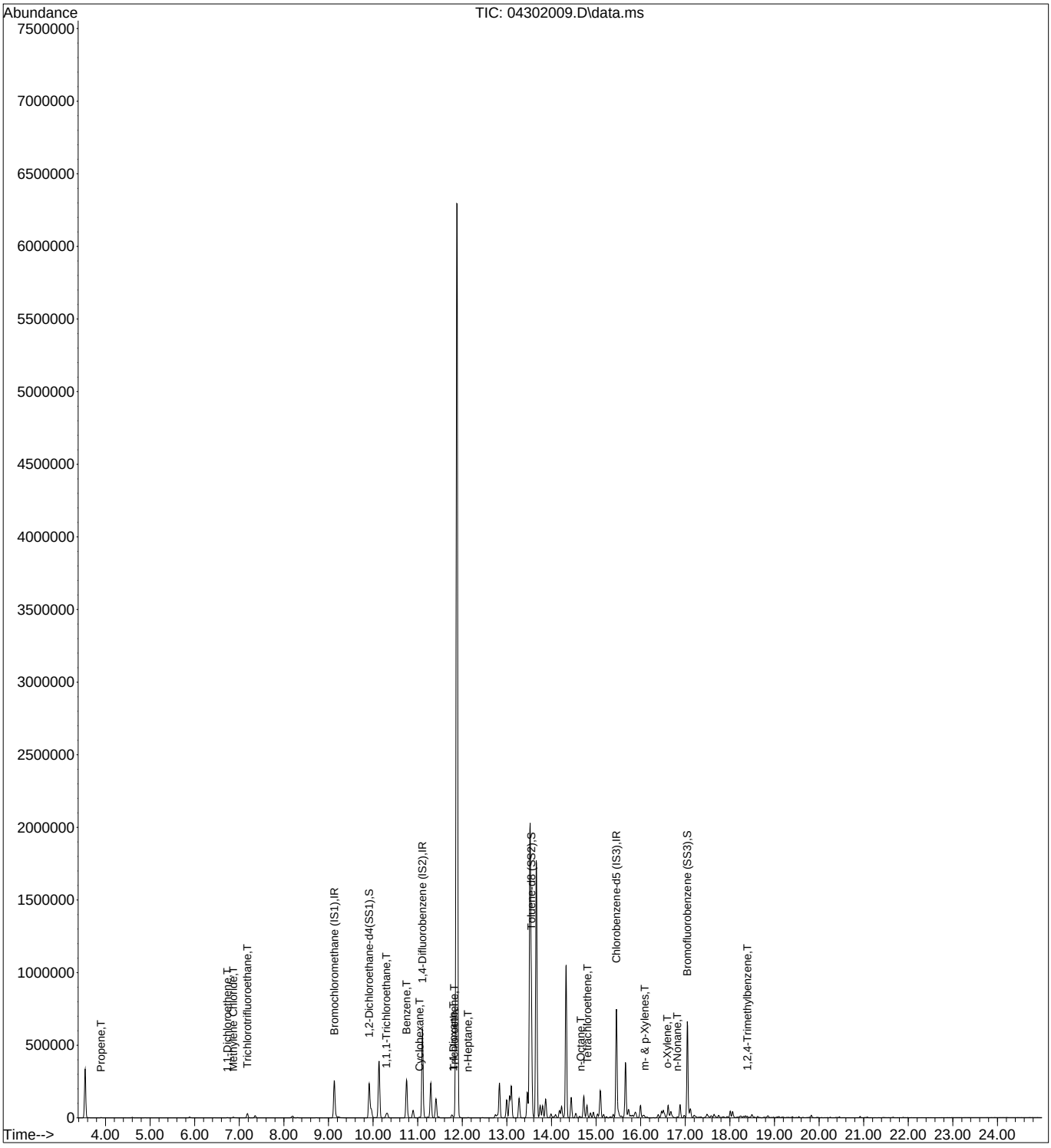

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56) Chlorobenzene-d5 (IS3)	15.46	82	279585	12.500	ng		0.00
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33) 1,2-Dichloroethane-d4(...	9.91	65	226592	11.653	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.20%				
57) Toluene-d8 (SS2)	13.55	98	686193	12.711	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.68%				
73) Bromofluorobenzene (SS3)	17.05	174	265886	12.255	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.08%				
Target Compounds							Qvalue
2) Propene	3.90	42	737	0.116	ng	#	74
17) 1,1-Dichloroethene	6.74	96	1614	0.152	ng	#	84
19) Methylene Chloride	6.87	84	4011	0.395	ng		95
21) Trichlorotrifluoroethane	7.18	151	14180	1.131	ng		99
38) 1,1,1-Trichloroethane	10.30	97	16127	0.740	ng		99
41) Benzene	10.75	78	292326	7.075	ng		100
43) Cyclohexane	11.04	84	2935	0.181	ng		96
47) Trichloroethene	11.82	130	1094	0.076	ng		90
48) 1,4-Dioxane	11.80	88	5066	0.610	ng	#	64
51) n-Heptane	12.13	71	800	0.083	ng	#	58
63) n-Octane	14.66	57	903	0.125	ng		96
64) Tetrachloroethene	14.81	166	5192	0.304	ng		99
67) m- & p-Xylenes	16.09	91	6360	0.143	ng		100
70) o-Xylene	16.60	91	3066	0.070	ng		87
71) n-Nonane	16.82	43	1991	0.141	ng		89
82) 1,2,4-Trimethylbenzene	18.39	105	3237	0.067	ng		89

(#) = qualifier out of range (m) = manual integration (+) = signals summed

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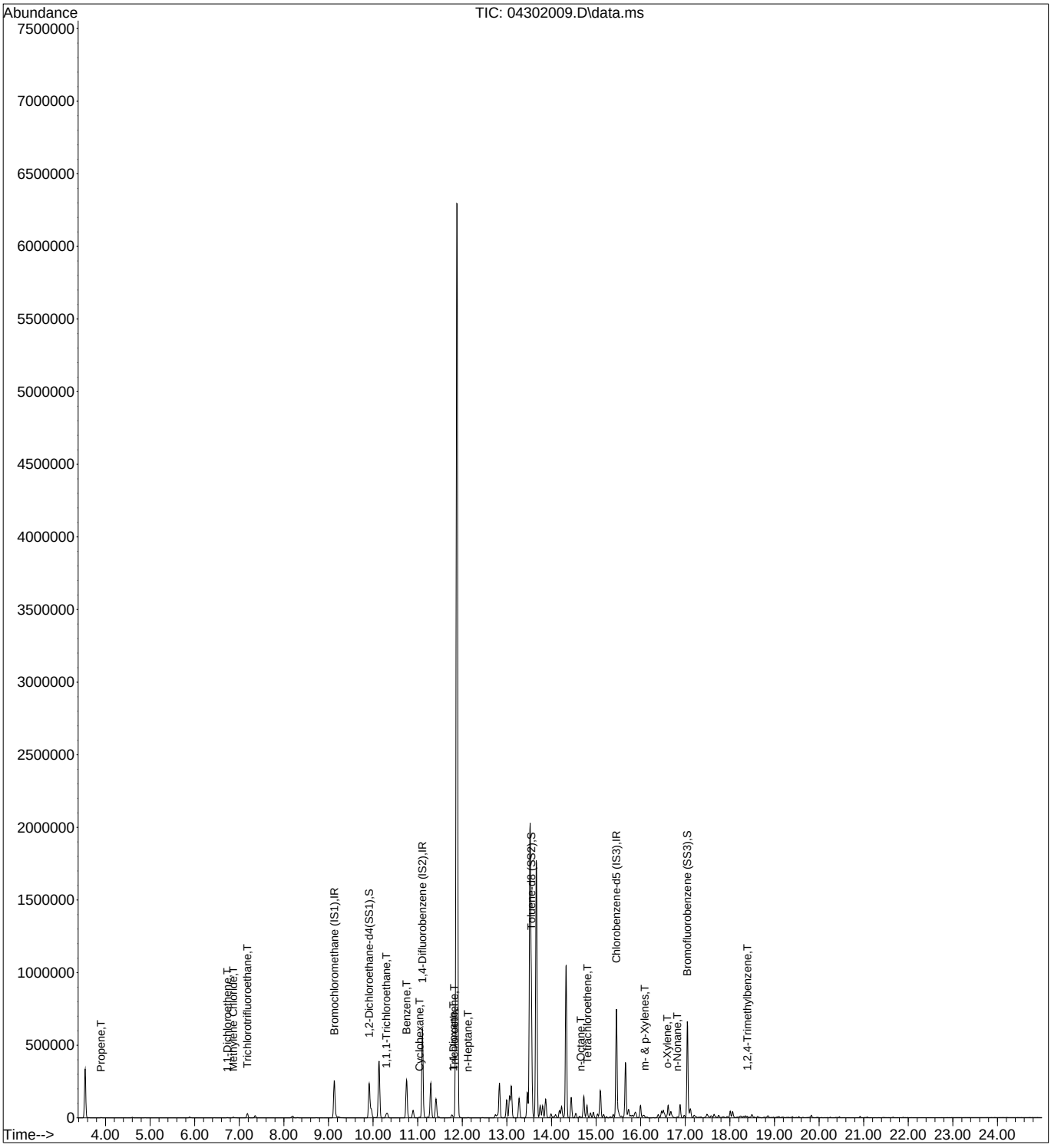
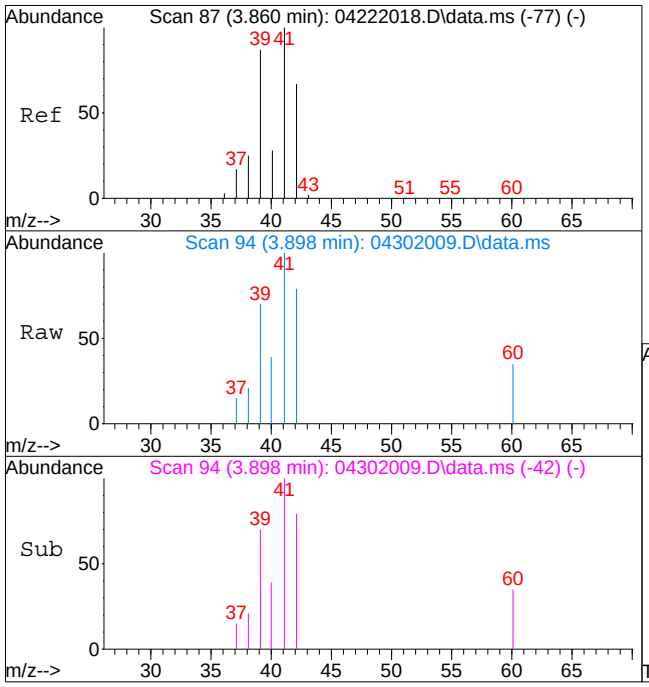
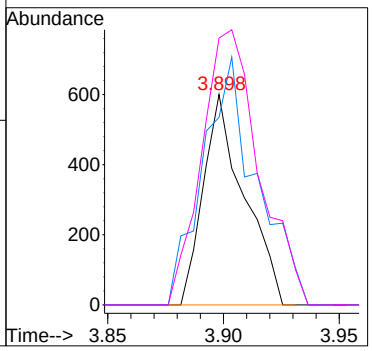


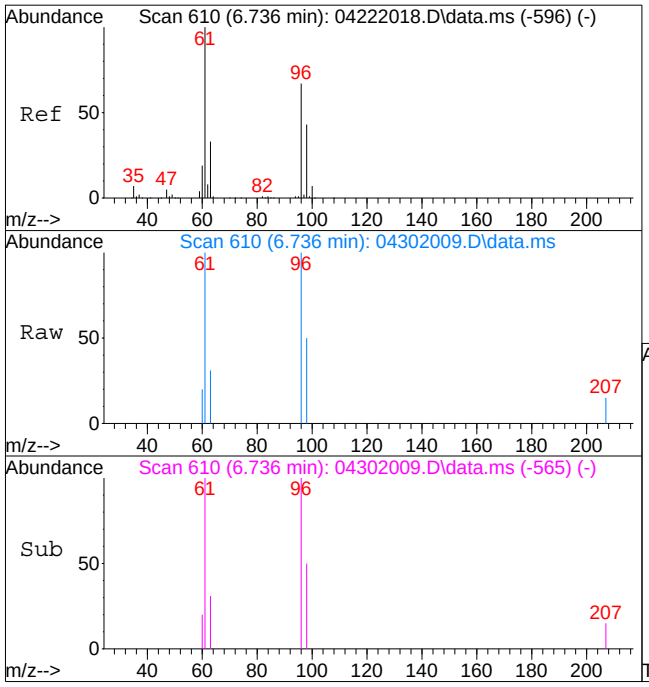


#2
Propene
Concen: 0.12 ng
RT: 3.90 min Scan# 94
Delta R.T. 0.038 min
Lab File: 04302009.D
Acq: 30 Apr 2020 8:37

Tgt Ion: 42 Resp: 737

Ion	Ratio	Lower	Upper
42	100		
39	154.7	106.4	146.4#
41	183.7	128.8	168.8#

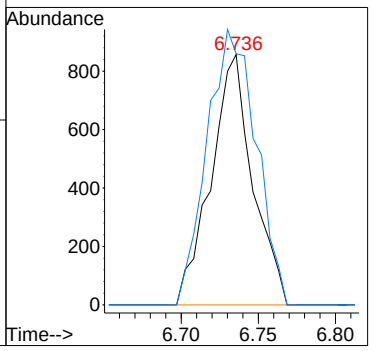


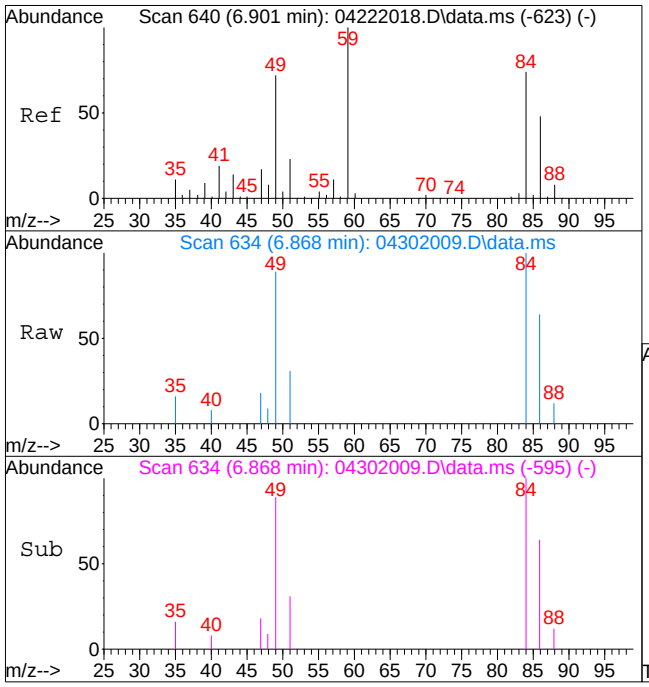


#17
1,1-Dichloroethene
Concen: 0.15 ng
RT: 6.74 min Scan# 610
Delta R.T. -0.000 min
Lab File: 04302009.D
Acq: 30 Apr 2020 8:37

Tgt Ion: 96 Resp: 1614

Ion	Ratio	Lower	Upper
96	100		
61	129.2	129.8	169.8#

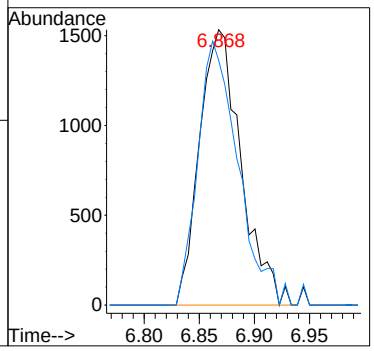


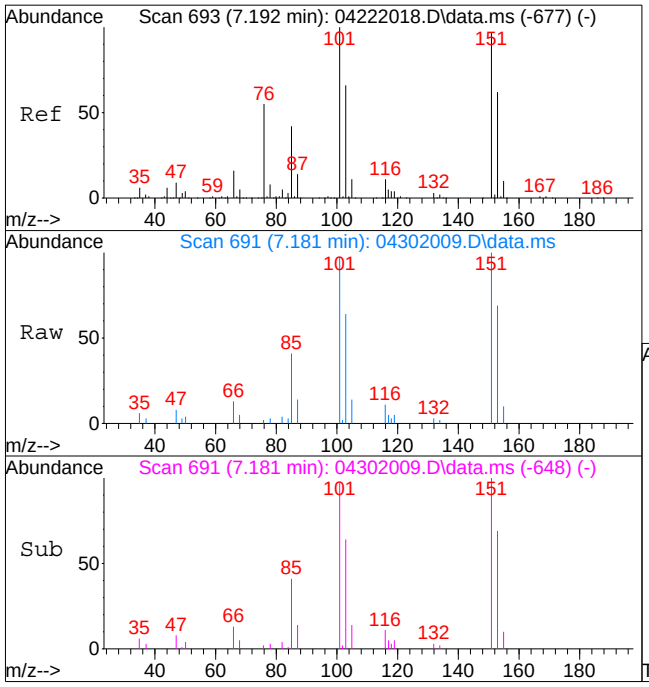


#19
Methylene Chloride
Concen: 0.39 ng
RT: 6.87 min Scan# 634
Delta R.T. -0.033 min
Lab File: 04302009.D
Acq: 30 Apr 2020 8:37

Tgt Ion: 84 Resp: 4011

Ion	Ratio	Lower	Upper
84	100		
49	93.4	73.0	123.0

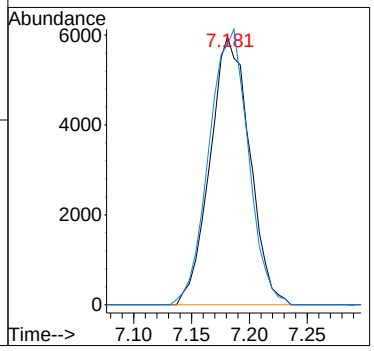


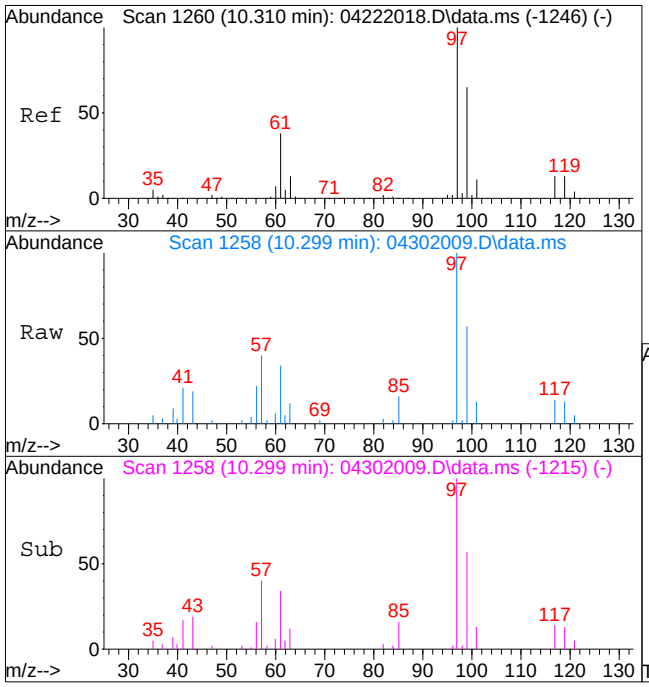


#21
Trichlorotrifluoroethane
Concen: 1.13 ng
RT: 7.18 min Scan# 691
Delta R.T. -0.011 min
Lab File: 04302009.D
Acq: 30 Apr 2020 8:37

Tgt Ion:151 Resp: 14180

Ion	Ratio	Lower	Upper
151	100		
101	101.9	82.9	122.9

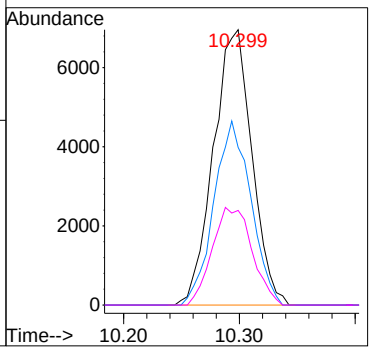


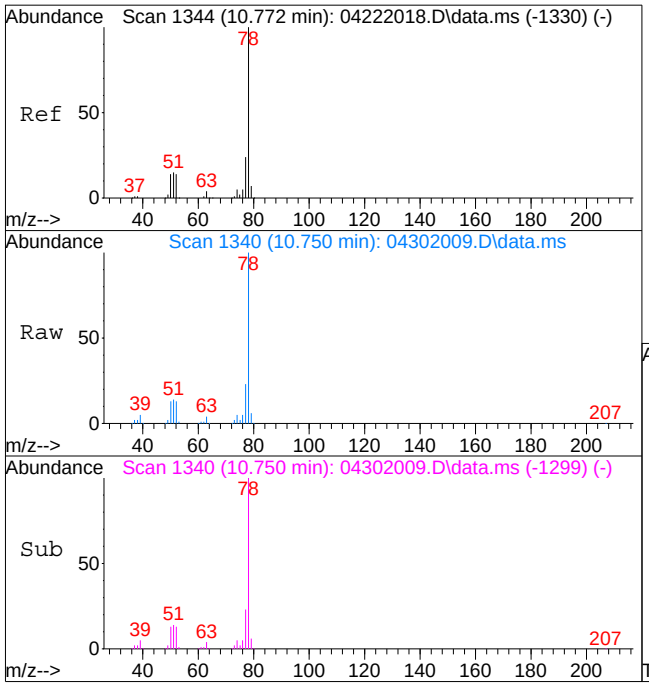


#38
1,1,1-Trichloroethane
Concen: 0.74 ng
RT: 10.30 min Scan# 1258
Delta R.T. -0.011 min
Lab File: 04302009.D
Acq: 30 Apr 2020 8:37

Tgt Ion: 97 Resp: 16127

Ion	Ratio	Lower	Upper
97	100		
99	64.2	44.7	84.7
61	36.6	17.2	57.2

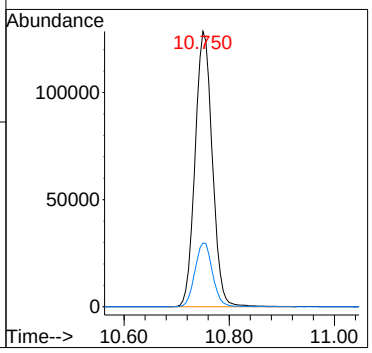


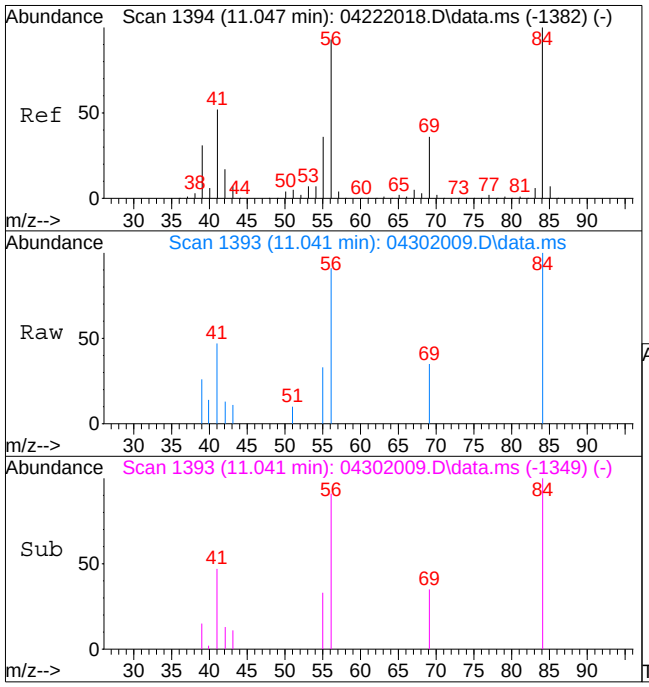


#41
Benzene
Concen: 7.08 ng
RT: 10.75 min Scan# 1340
Delta R.T. -0.022 min
Lab File: 04302009.D
Acq: 30 Apr 2020 8:37

Tgt Ion: 78 Resp: 292326

Ion	Ratio	Lower	Upper
78	100		
77	23.6	3.6	43.6

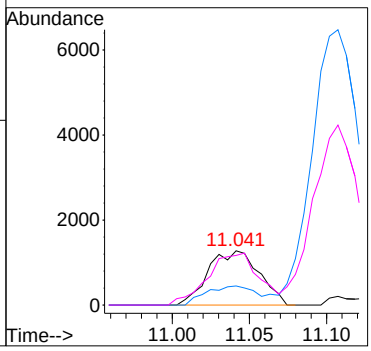


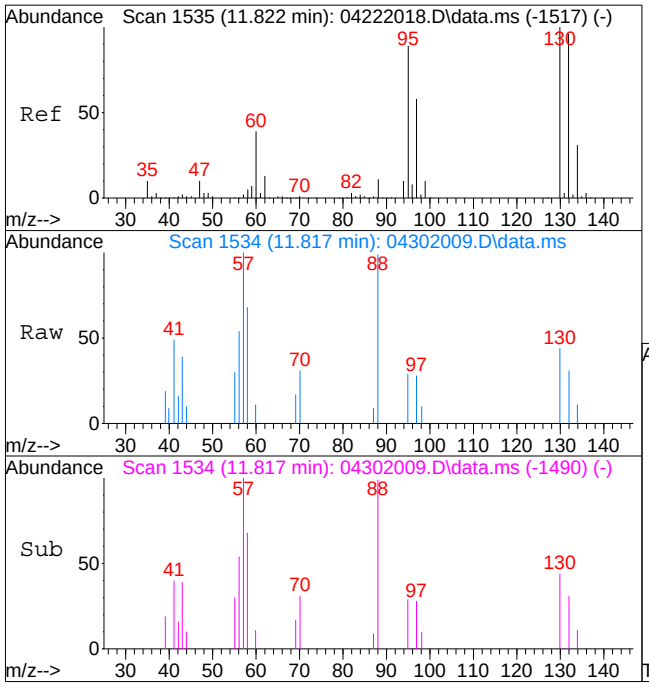


#43
Cyclohexane
Concen: 0.18 ng
RT: 11.04 min Scan# 1393
Delta R.T. -0.006 min
Lab File: 04302009.D
Acq: 30 Apr 2020 8:37

Tgt Ion: 84 Resp: 2935

Ion	Ratio	Lower	Upper
84	100		
69	33.3	15.8	55.8
56	96.0	72.0	112.0

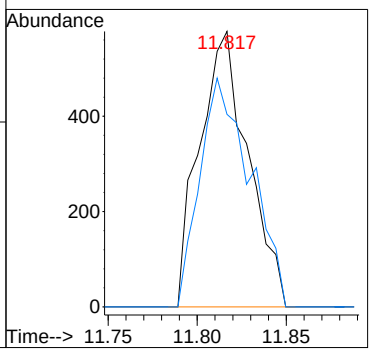


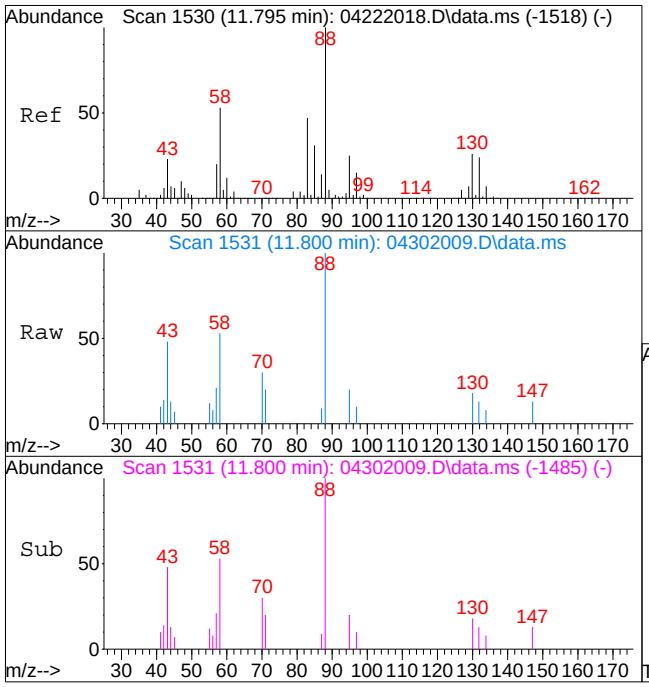


#47
Trichloroethene
Concen: 0.08 ng
RT: 11.82 min Scan# 1534
Delta R.T. -0.006 min
Lab File: 04302009.D
Acq: 30 Apr 2020 8:37

Tgt Ion:130 Resp: 1094

Ion	Ratio	Lower	Upper
130	100		
132	86.4	76.4	116.4

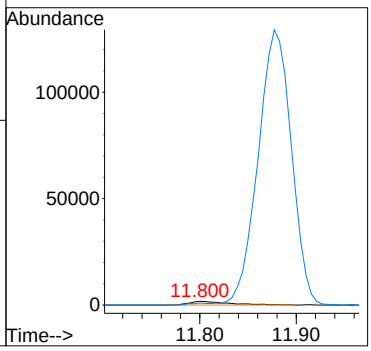


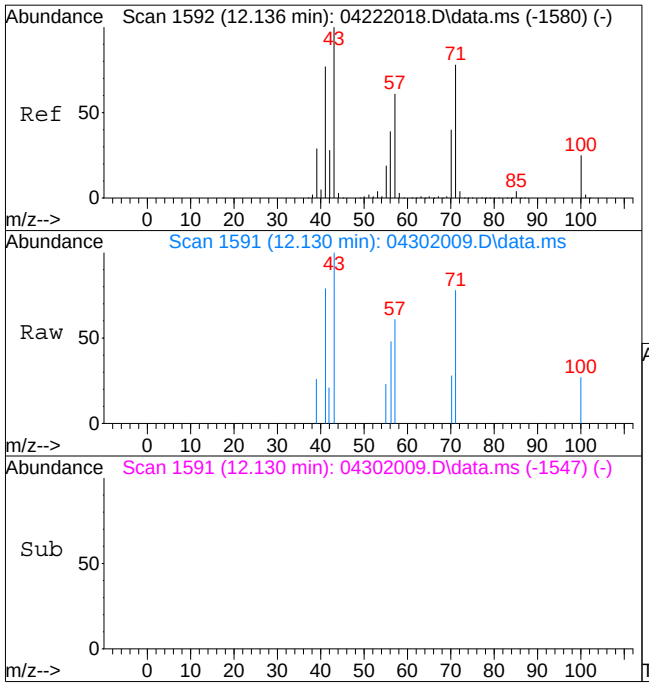


#48
1,4-Dioxane
Concen: 0.61 ng
RT: 11.80 min Scan# 1531
Delta R.T. 0.005 min
Lab File: 04302009.D
Acq: 30 Apr 2020 8:37

Tgt Ion: 88 Resp: 5066

Ion	Ratio	Lower	Upper
88	100		
58	26.3	31.1	71.1#

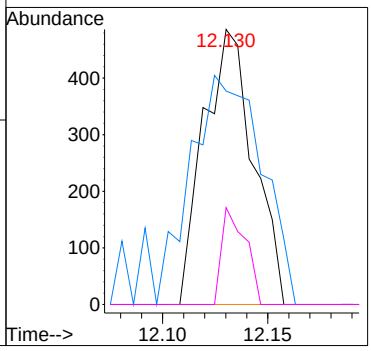


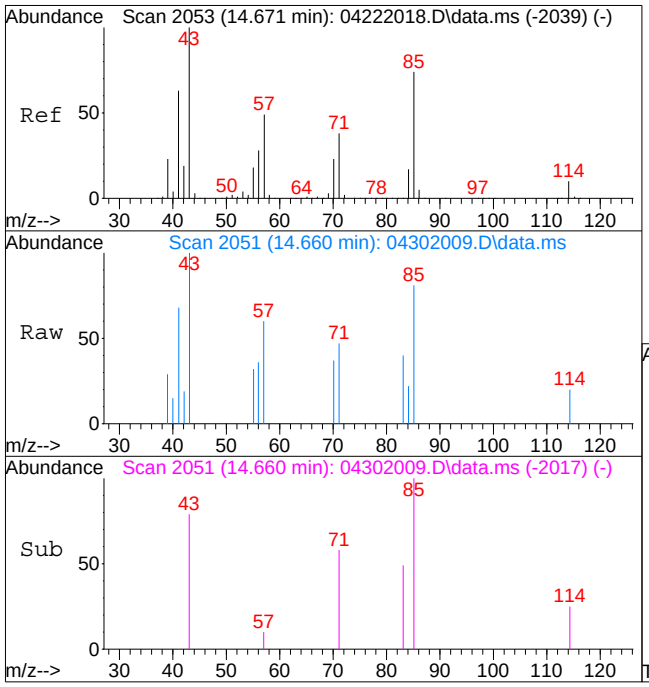


#51
n-Heptane
Concen: 0.08 ng
RT: 12.13 min Scan# 1591
Delta R.T. -0.006 min
Lab File: 04302009.D
Acq: 30 Apr 2020 8:37

Tgt Ion: 71 Resp: 800

Ion	Ratio	Lower	Upper
71	100		
57	119.1	57.4	97.4#
100	16.9	12.0	52.0

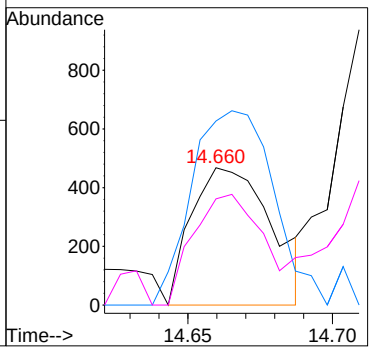


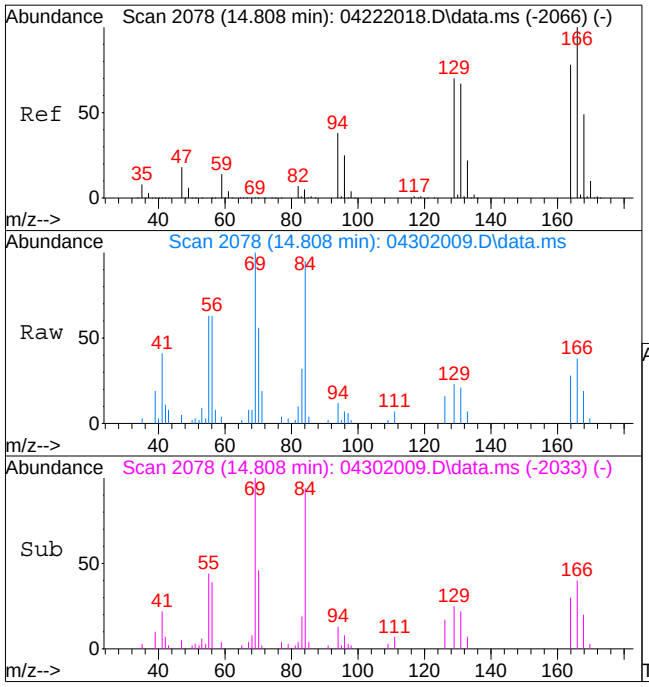


#63
n-Octane
Concen: 0.13 ng
RT: 14.66 min Scan# 2051
Delta R.T. -0.011 min
Lab File: 04302009.D
Acq: 30 Apr 2020 8:37

Tgt Ion: 57 Resp: 903

Ion	Ratio	Lower	Upper
57	100		
85	144.5	120.7	181.1
71	74.5	61.1	91.7

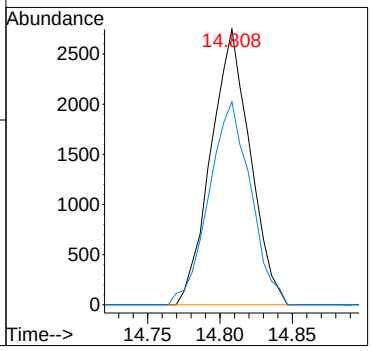


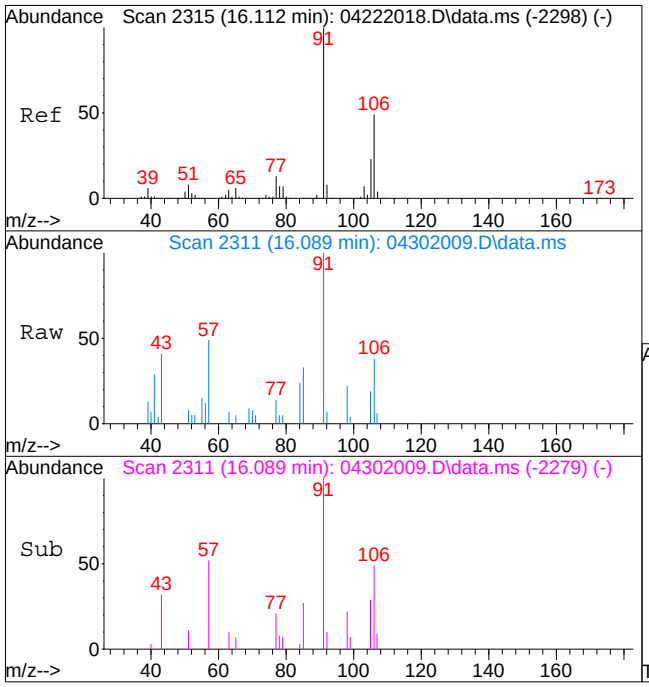


#64
Tetrachloroethene
Concen: 0.30 ng
RT: 14.81 min Scan# 2078
Delta R.T. -0.000 min
Lab File: 04302009.D
Acq: 30 Apr 2020 8:37

Tgt Ion:166 Resp: 5192

Ion	Ratio	Lower	Upper
166	100		
164	78.3	57.7	97.7

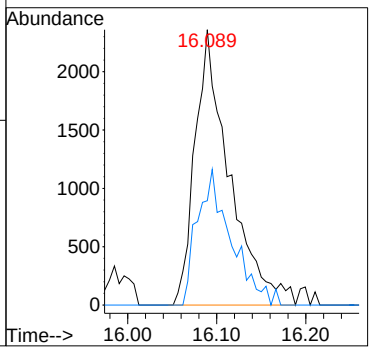


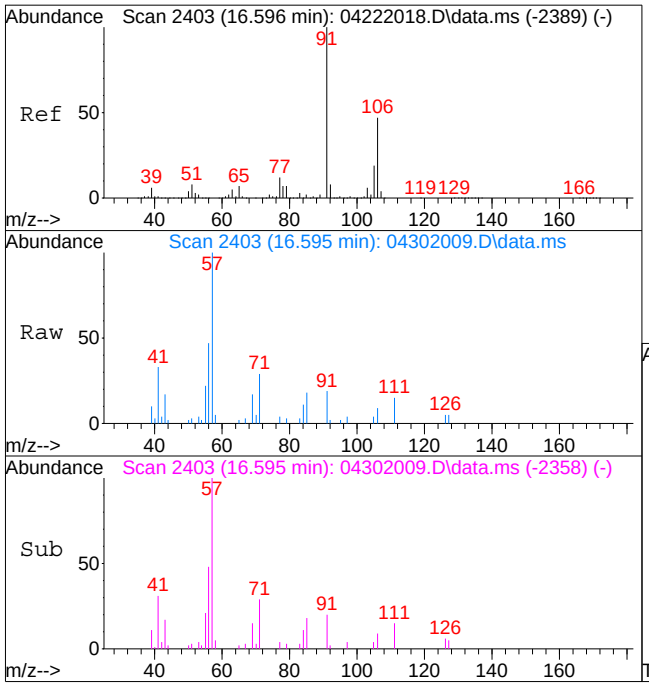


#67
m- & p-Xylenes
Concen: 0.14 ng
RT: 16.09 min Scan# 2311
Delta R.T. -0.022 min
Lab File: 04302009.D
Acq: 30 Apr 2020 8:37

Tgt Ion: 91 Resp: 6360

Ion	Ratio	Lower	Upper
91	100		
106	48.0	28.3	68.3

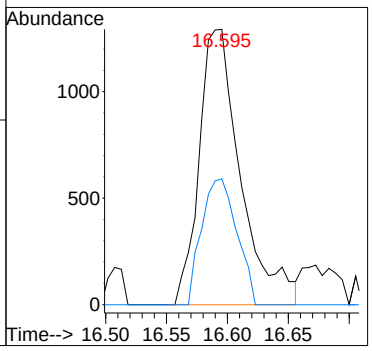


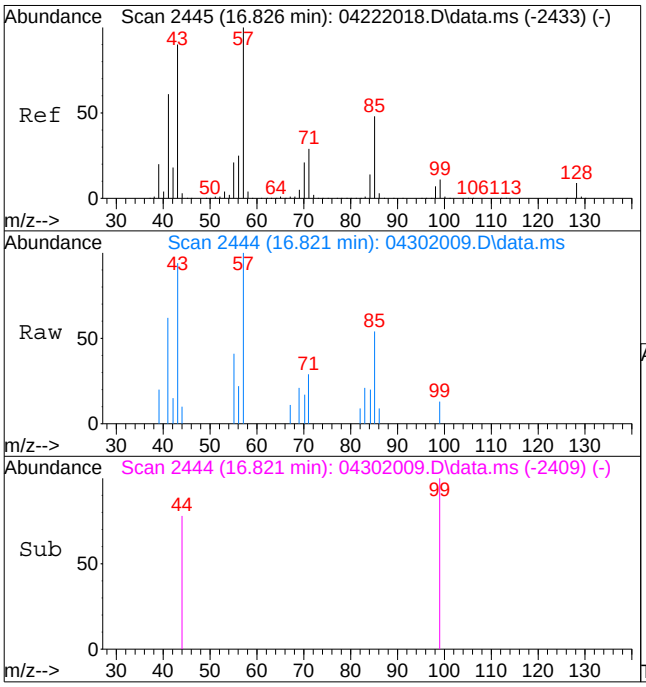


#70
o-Xylene
Concen: 0.07 ng
RT: 16.60 min Scan# 2403
Delta R.T. -0.000 min
Lab File: 04302009.D
Acq: 30 Apr 2020 8:37

Tgt Ion: 91 Resp: 3066

Ion	Ratio	Lower	Upper
91	100		
106	38.6	27.5	67.5

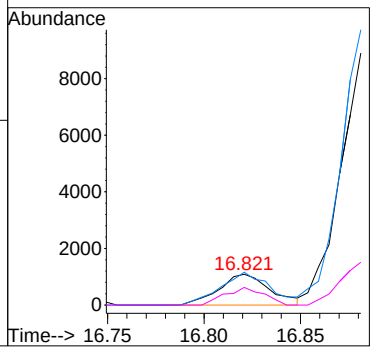


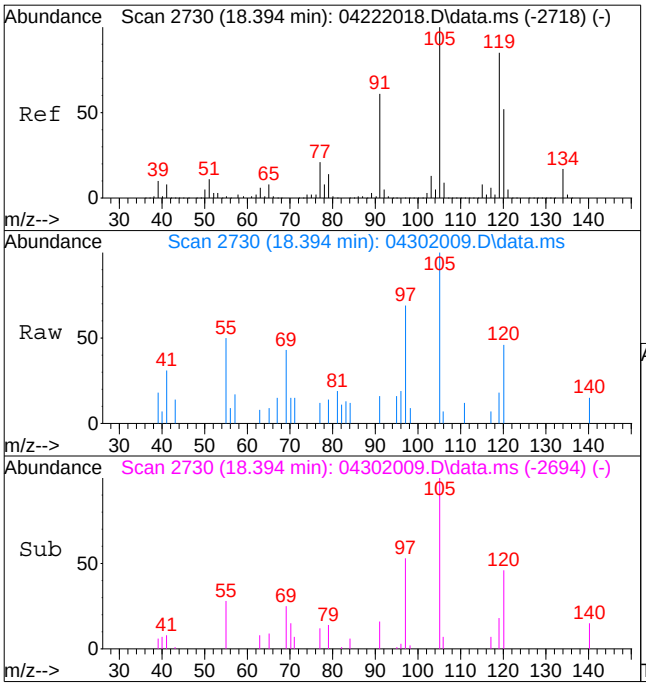


#71
n-Nonane
Concen: 0.14 ng
RT: 16.82 min Scan# 2444
Delta R.T. -0.006 min
Lab File: 04302009.D
Acq: 30 Apr 2020 8:37

Tgt Ion: 43 Resp: 1991

Ion	Ratio	Lower	Upper
43	100		
57	100.2	90.8	130.8
85	43.7	32.1	72.1

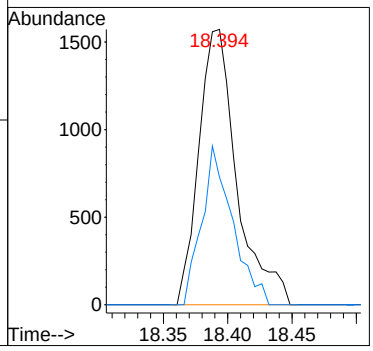




#82
1,2,4-Trimethylbenzene
Concen: 0.07 ng
RT: 18.39 min Scan# 2730
Delta R.T. -0.000 min
Lab File: 04302009.D
Acq: 30 Apr 2020 8:37

Tgt Ion:105 Resp: 3237

Ion	Ratio	Lower	Upper
105	100		
120	46.7	34.5	74.5



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302026.D Vial: 1
Acq On : 30 Apr 2020 18:51 Operator: SC
Sample : P2002029-010 (0.1mL) Inst : MS09
Misc : S34-04212006

4/30/20

Quant Time: Apr 30 19:26:34 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	158285	12.500 ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	669234	12.500 ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	306560	12.500 ng	0.00
System Monitoring Compounds					
33) 1,2-Dichloroethane-d4(...	9.91	65	236431	11.529 ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.24%		
57) Toluene-d8 (SS2)	13.55	98	719497	12.155 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.28%		
73) Bromofluorobenzene (SS3)	17.05	174	279648	11.755 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.08%		
Target Compounds					Qvalue
2) Propene	3.89	42	2331	0.347 ng	# 77
3) Dichlorodifluoromethan...	0.00	85	0	N.D.	
4) Chloromethane	0.00	50	0	N.D.	
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.	
6) Vinyl Chloride	0.00	62	0	N.D.	
7) 1,3-Butadiene	4.59	54	260	N.D.	
8) Bromomethane	0.00	94	0	N.D.	
9) Chloroethane	0.00	64	0	N.D.	
10) Ethanol	0.00	45	0	N.D.	
11) Acetonitrile	0.00	41	0	N.D.	
12) Acrolein	0.00	56	0	N.D. d	
13) Acetone	0.00	58	0	N.D. d	
14) Trichlorofluoromethane	6.03	101	225	N.D.	
15) 2-Propanol (Isopropanol)	6.44	45	38	N.D.	
16) Acrylonitrile	0.00	53	0	N.D. d	
17) 1,1-Dichloroethene	6.72	96	1114	0.100 ng	97
18) 2-Methyl-2-Propanol (t...	6.92	59	287	N.D.	
19) Methylene Chloride	6.87	84	2896	0.270 ng	95
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D. d	
21) Trichlorotrifluoroethane	7.18	151	9742	0.737 ng	95
22) Carbon Disulfide	0.00	76	0	N.D.	
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.	
24) 1,1-Dichloroethane	8.11	63	393	N.D.	
25) Methyl tert-Butyl Ether	8.23	73	215	N.D.	
26) Vinyl Acetate	0.00	86	0	N.D. d	
27) 2-Butanone (MEK)	0.00	72	0	N.D. d	
28) cis-1,2-Dichloroethene	8.74	61	666	N.D.	
29) Diisopropyl Ether	0.00	87	0	N.D. d	
30) Ethyl Acetate	0.00	61	0	N.D. d	
31) n-Hexane	9.24	57	1623922	119.711 ng	99
32) Chloroform	0.00	83	0	N.D.	
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.	
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.	
36) 1,2-Dichloroethane	0.00	62	0	N.D. d	
38) 1,1,1-Trichloroethane	10.30	97	11488	0.499 ng	99
39) Isopropyl Acetate	0.00	61	0	N.D. d	
40) 1-Butanol	10.62	56	349	N.D.	
41) Benzene	10.76	78	2025204	46.421 ng	100
42) Carbon Tetrachloride	0.00	117	0	N.D.	
43) Cyclohexane	11.05	84	2077521	121.555 ng	98
44) tert-Amyl Methyl Ether	0.00	73	0	N.D. d	
45) 1,2-Dichloropropane	11.58	63	229	N.D.	
46) Bromodichloromethane	0.00	83	0	N.D. d	
47) Trichloroethene	11.82	130	577	N.D.	
48) 1,4-Dioxane	0.00	88	0	N.D. d	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d	
50) Methyl Methacrylate	0.00	100	0	N.D. d	

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302026.D Vial: 1
Acq On : 30 Apr 2020 18:51 Operator: SC
Sample : P2002029-010 (0.1mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 19:26:34 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

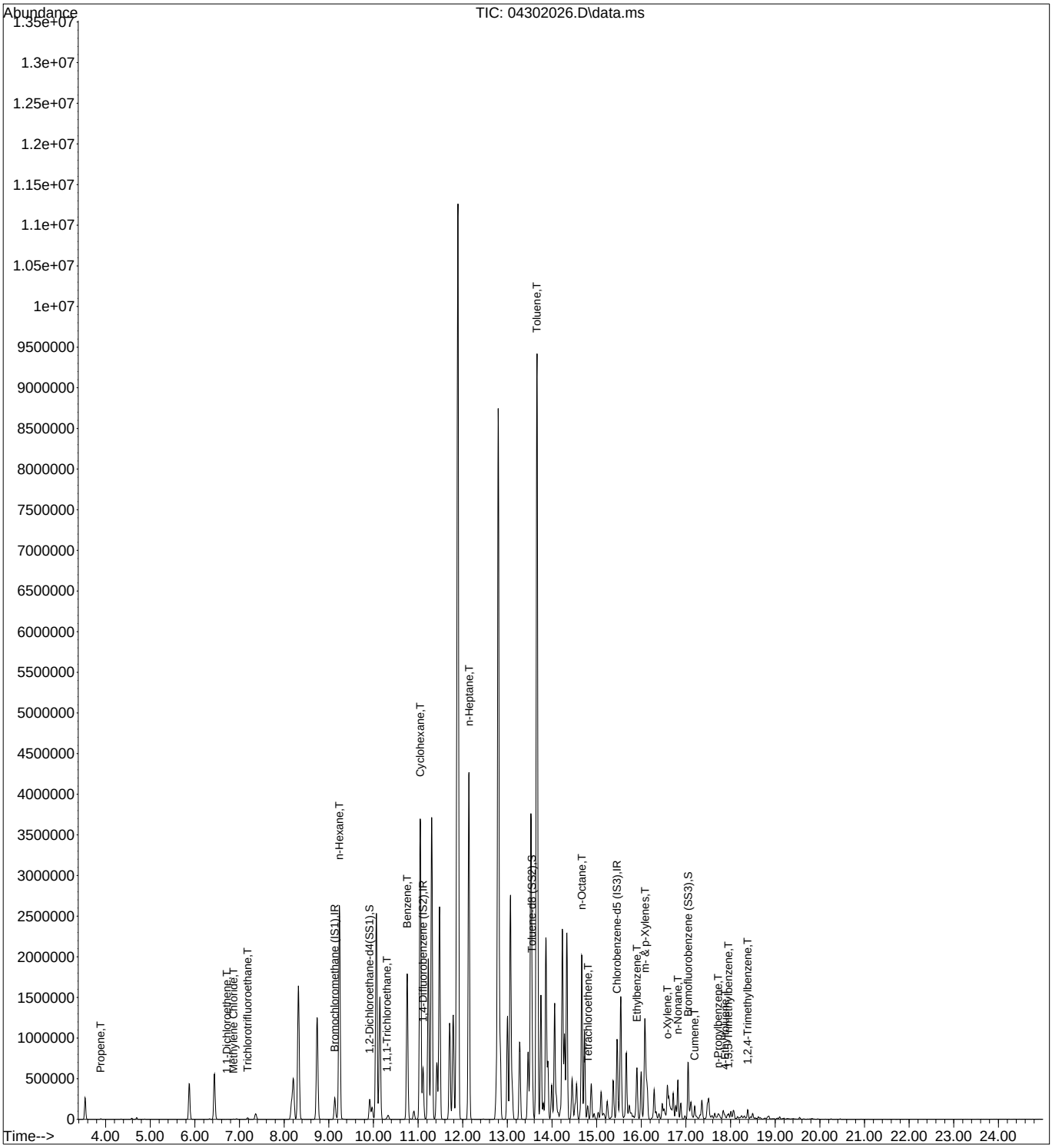
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.14	71	1356417	133.817 ng	99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	13.06	75	214	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	13.66	91	6901064	138.865 ng	99
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D. d	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.67	57	403859	51.051 ng	98
64) Tetrachloroethene	14.81	166	3723	0.199 ng	98
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.90	91	481869	8.322 ng	100
67) m- & p-Xylenes	16.08	91	1086342	22.237 ng	97
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.49	104	995	N.D.	
70) o-Xylene	16.58	91	286029	5.962 ng	99
71) n-Nonane	16.82	43	148344	9.585 ng	98
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	17.19	105	40819	0.652 ng	98
75) alpha-Pinene	17.60	93	297	N.D.	
76) n-Propylbenzene	17.72	91	47674	0.699 ng	99
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	14359	0.241 ng	99
79) 1,3,5-Trimethylbenzene	17.95	105	24250	0.441 ng	99
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	39282	0.739 ng	90
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.47	91	418	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	18.84	119	2808	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	18.98	146	403	N.D.	
91) d-Limonene	18.99	68	237	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.99	128	166	N.D.	
96) n-Dodecane	20.92	57	809	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302026.D Vial: 1
Acq On : 30 Apr 2020 18:51 Operator: SC
Sample : P2002029-010 (0.1mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 19:26:34 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302026.D Vial: 1
Acq On : 30 Apr 2020 18:51 Operator: SC
Sample : P2002029-010 (0.1mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 19:26:34 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/30/20

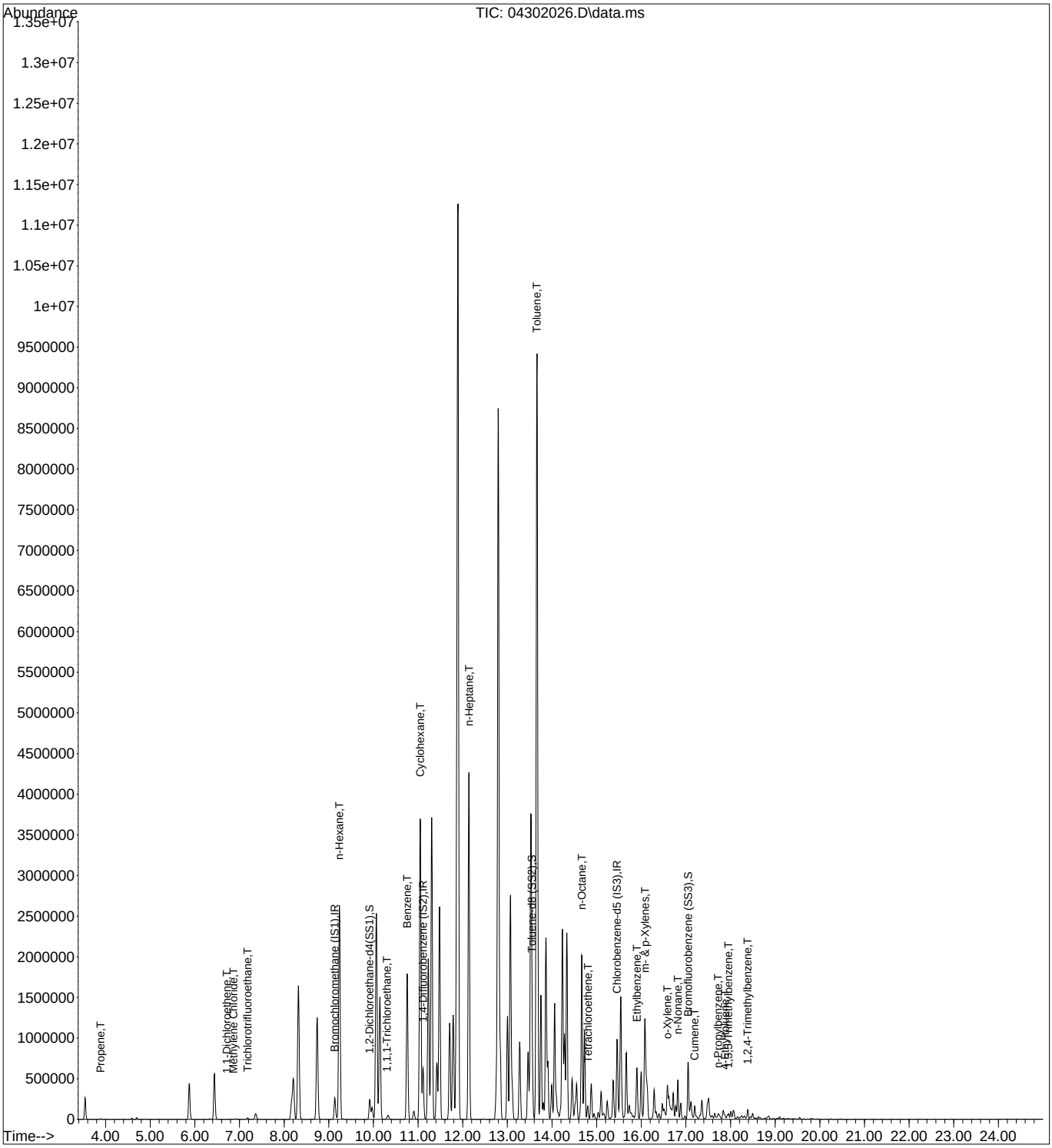
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	158285	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	669234	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	306560	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	236431	11.529	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.24%			
57) Toluene-d8 (SS2)	13.55	98	719497	12.155	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.28%			
73) Bromofluorobenzene (SS3)	17.05	174	279648	11.755	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.08%			
Target Compounds						Qvalue
2) Propene	3.89	42	2331	0.347	ng	# 77
17) 1,1-Dichloroethene	6.72	96	1114	0.100	ng	97
19) Methylene Chloride	6.87	84	2896	0.270	ng	95
21) Trichlorotrifluoroethane	7.18	151	9742	0.737	ng	95
31) n-Hexane	9.24	57	1623922	119.711	ng	99
38) 1,1,1-Trichloroethane	10.30	97	11488	0.499	ng	99
41) Benzene	10.76	78	2025204	46.421	ng	100
43) Cyclohexane	11.05	84	2077521	121.555	ng	98
51) n-Heptane	12.14	71	1356417	133.817	ng	99
58) Toluene	13.66	91	6901064	138.865	ng	99
63) n-Octane	14.67	57	403859	51.051	ng	98
64) Tetrachloroethene	14.81	166	3723	0.199	ng	98
66) Ethylbenzene	15.90	91	481869	8.322	ng	100
67) m- & p-Xylenes	16.08	91	1086342	22.237	ng	97
70) o-Xylene	16.58	91	286029	5.962	ng	99
71) n-Nonane	16.82	43	148344	9.585	ng	98
74) Cumene	17.19	105	40819	0.652	ng	98
76) n-Propylbenzene	17.72	91	47674	0.699	ng	99
78) 4-Ethyltoluene	17.88	105	14359	0.241	ng	99
79) 1,3,5-Trimethylbenzene	17.95	105	24250	0.441	ng	99
82) 1,2,4-Trimethylbenzene	18.38	105	39282	0.739	ng	90

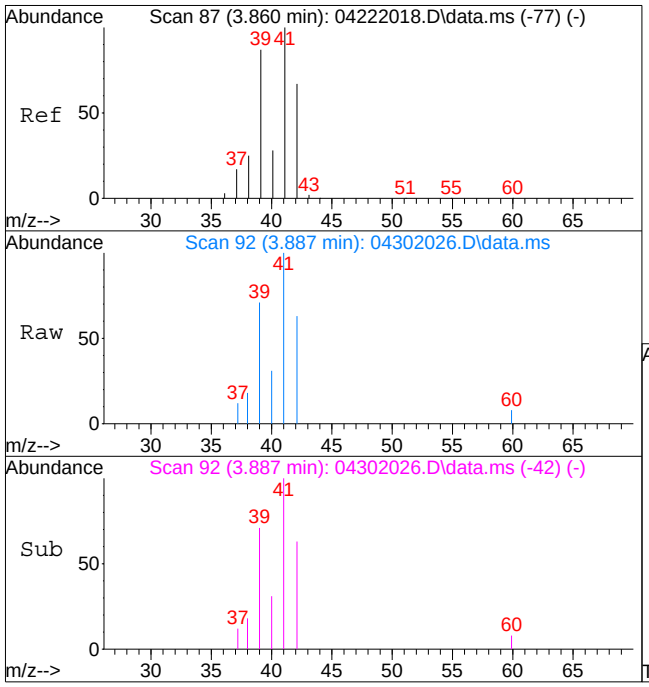
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302026.D Vial: 1
Acq On : 30 Apr 2020 18:51 Operator: SC
Sample : P2002029-010 (0.1mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 19:26:34 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

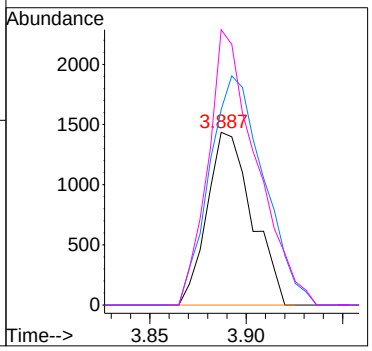


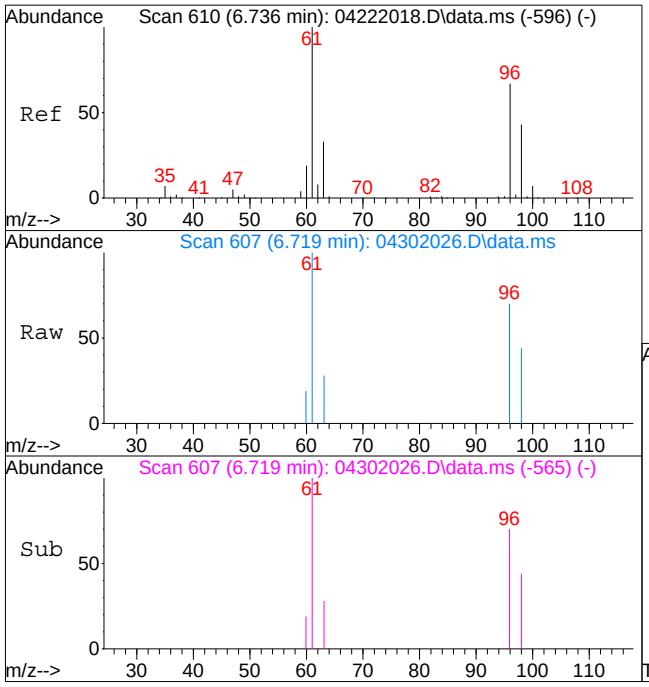


#2
Propene
Concen: 0.35 ng
RT: 3.89 min Scan# 92
Delta R.T. 0.027 min
Lab File: 04302026.D
Acq: 30 Apr 2020 18:51

Tgt Ion: 42 Resp: 2331

Ion	Ratio	Lower	Upper
42	100		
39	161.0	106.4	146.4#
41	170.8	128.8	168.8#

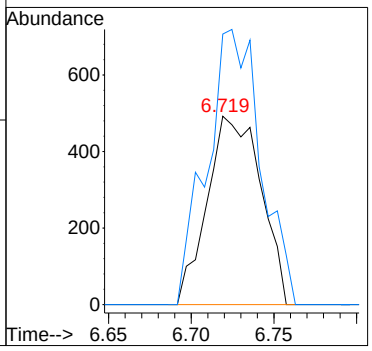


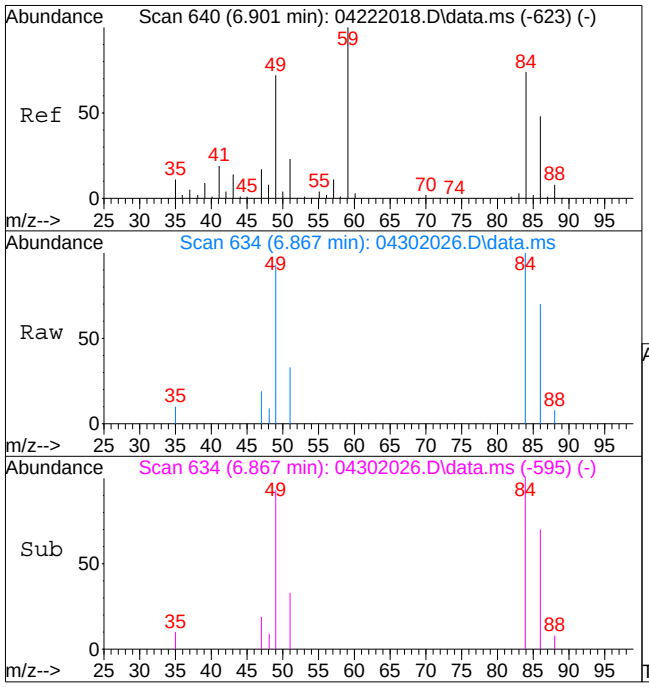


#17
1,1-Dichloroethene
Concen: 0.10 ng
RT: 6.72 min Scan# 607
Delta R.T. -0.017 min
Lab File: 04302026.D
Acq: 30 Apr 2020 18:51

Tgt Ion: 96 Resp: 1114

Ion	Ratio	Lower	Upper
96	100		
61	145.9	129.8	169.8

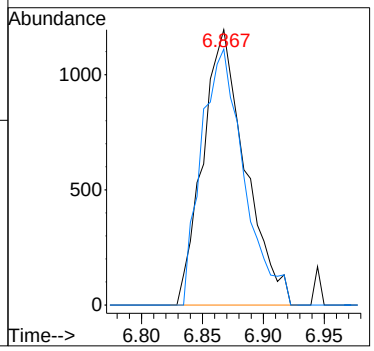


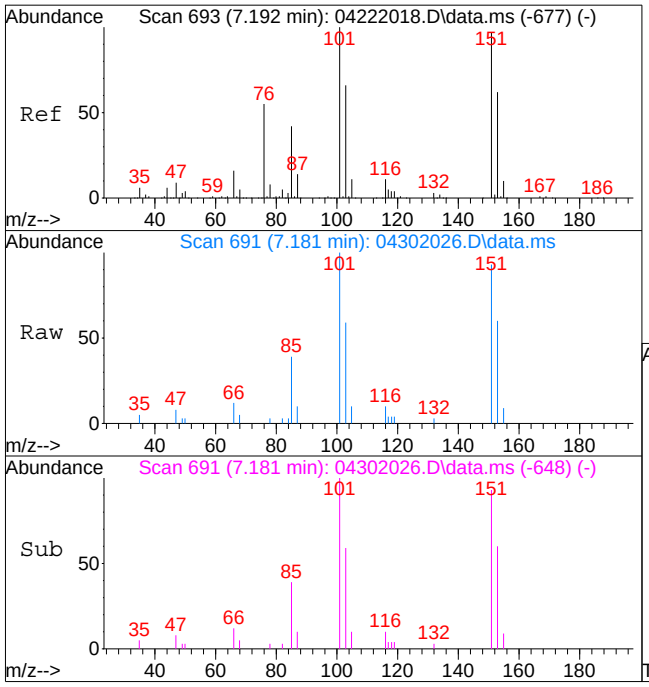


#19
Methylene Chloride
Concen: 0.27 ng
RT: 6.87 min Scan# 634
Delta R.T. -0.033 min
Lab File: 04302026.D
Acq: 30 Apr 2020 18:51

Tgt Ion: 84 Resp: 2896

Ion	Ratio	Lower	Upper
84	100		
49	93.5	73.0	123.0

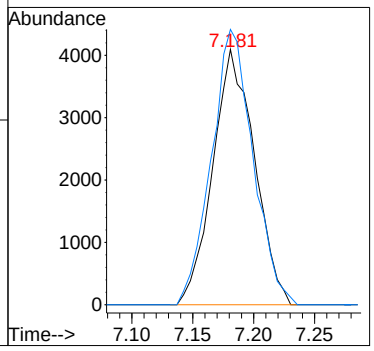


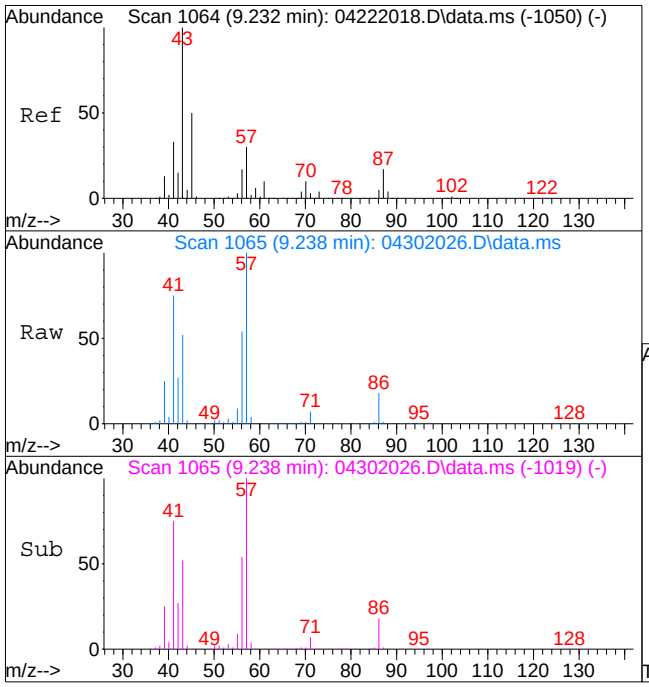


#21
Trichlorotrifluoroethane
Concen: 0.74 ng
RT: 7.18 min Scan# 691
Delta R.T. -0.011 min
Lab File: 04302026.D
Acq: 30 Apr 2020 18:51

Tgt Ion:151 Resp: 9742

Ion	Ratio	Lower	Upper
151	100		
101	107.8	82.9	122.9

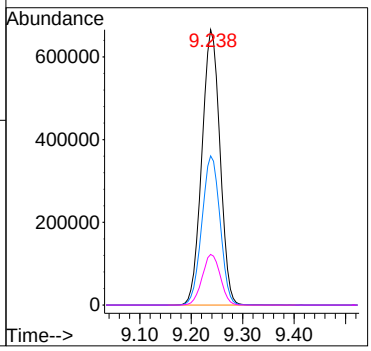


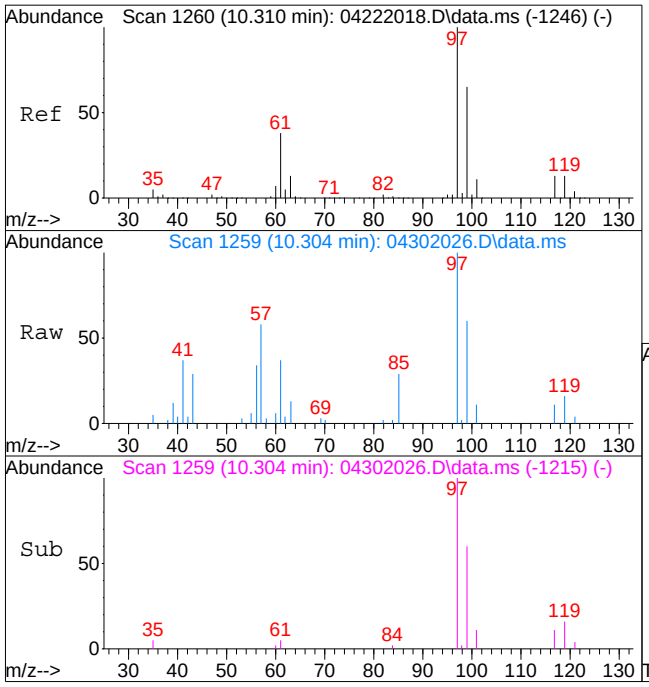


#31
n-Hexane
Concen: 119.71 ng
RT: 9.24 min Scan# 1065
Delta R.T. 0.005 min
Lab File: 04302026.D
Acq: 30 Apr 2020 18:51

Tgt Ion: 57 Resp: 1623922

Ion	Ratio	Lower	Upper
57	100		
56	54.5	44.0	66.0
86	18.4	15.0	22.4

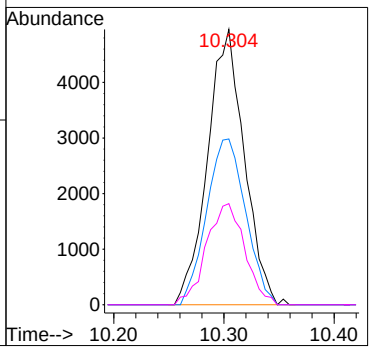


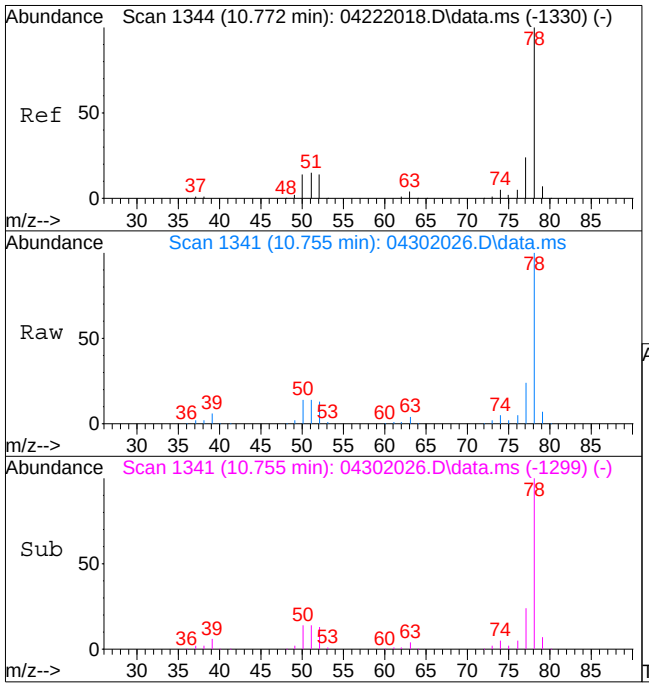


#38
1,1,1-Trichloroethane
Concen: 0.50 ng
RT: 10.30 min Scan# 1259
Delta R.T. -0.006 min
Lab File: 04302026.D
Acq: 30 Apr 2020 18:51

Tgt Ion: 97 Resp: 11488

Ion	Ratio	Lower	Upper
97	100		
99	64.0	44.7	84.7
61	38.2	17.2	57.2

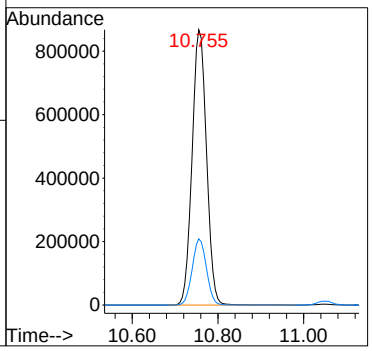


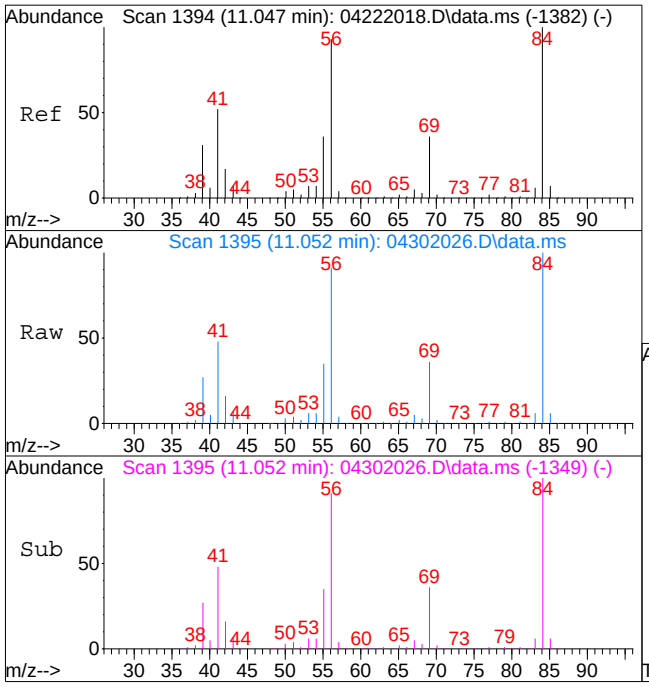


#41
Benzene
Concen: 46.42 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.017 min
Lab File: 04302026.D
Acq: 30 Apr 2020 18:51

Tgt Ion: 78 Resp: 2025204

Ion	Ratio	Lower	Upper
78	100		
77	23.7	3.6	43.6

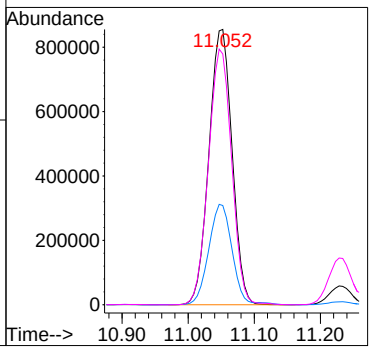


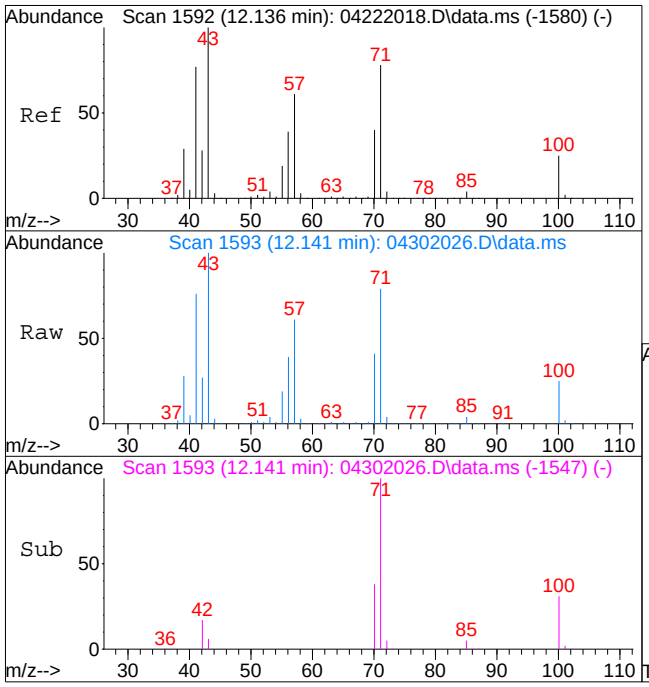


#43
Cyclohexane
Concen: 121.55 ng
RT: 11.05 min Scan# 1395
Delta R.T. 0.005 min
Lab File: 04302026.D
Acq: 30 Apr 2020 18:51

Tgt Ion: 84 Resp: 2077521

Ion	Ratio	Lower	Upper
84	100		
69	36.9	15.8	55.8
56	93.4	72.0	112.0

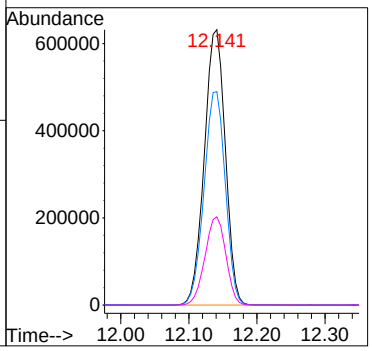


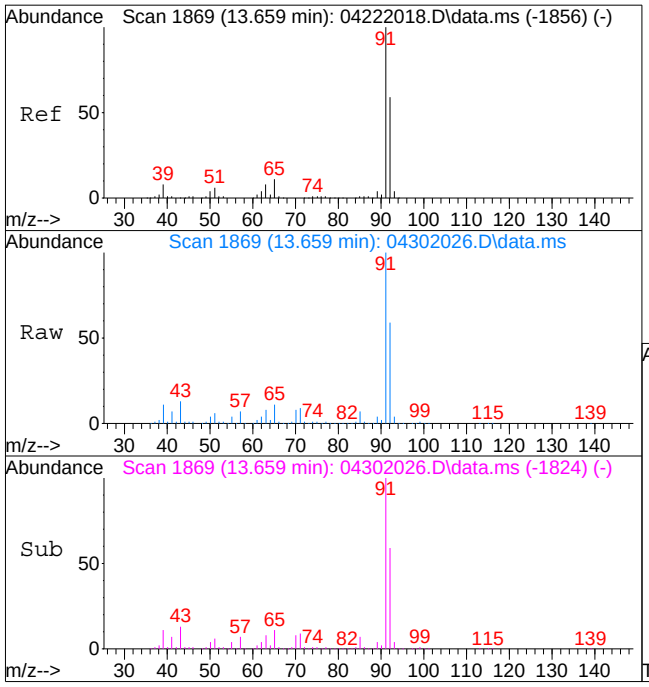


#51
n-Heptane
Concen: 133.82 ng
RT: 12.14 min Scan# 1593
Delta R.T. 0.005 min
Lab File: 04302026.D
Acq: 30 Apr 2020 18:51

Tgt Ion: 71 Resp: 1356417

Ion	Ratio	Lower	Upper
71	100		
57	78.4	57.4	97.4
100	31.8	12.0	52.0

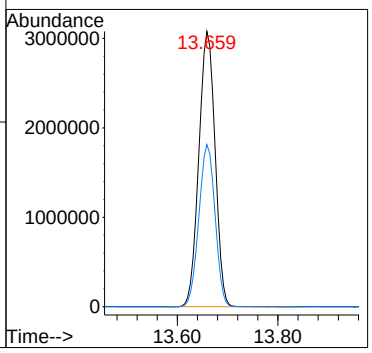


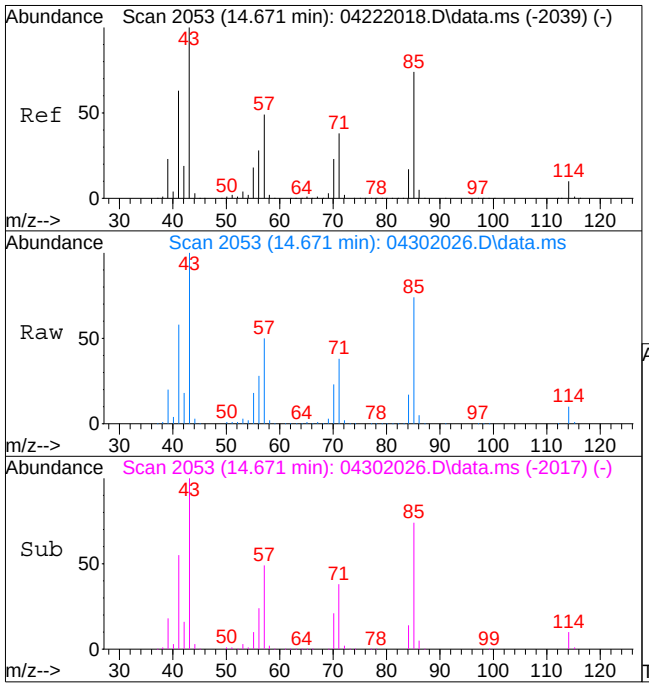


#58
Toluene
Concen: 138.86 ng
RT: 13.66 min Scan# 1869
Delta R.T. -0.000 min
Lab File: 04302026.D
Acq: 30 Apr 2020 18:51

Tgt Ion: 91 Resp: 6901064

Ion	Ratio	Lower	Upper
91	100		
92	58.7	38.2	78.2

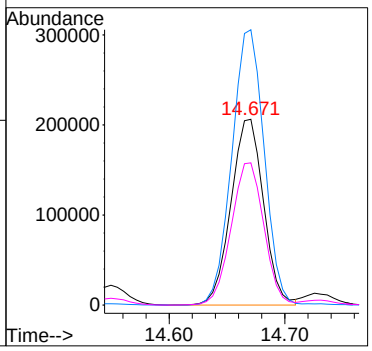


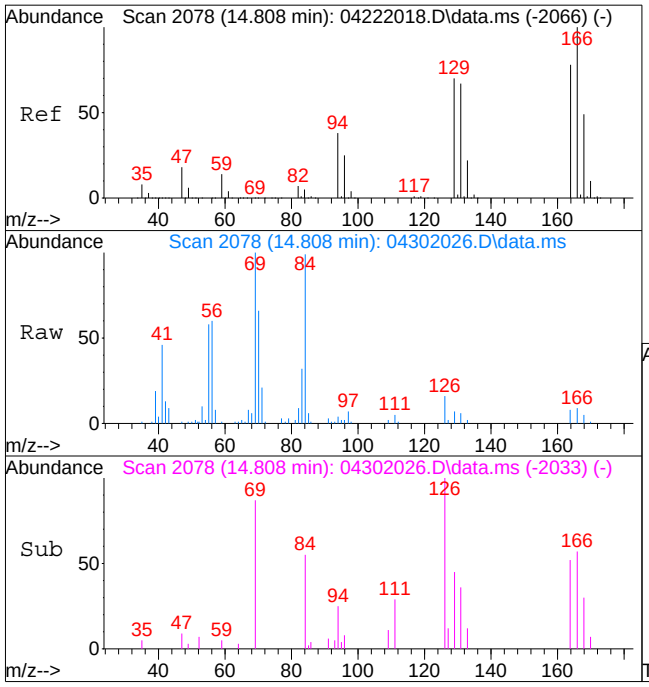


#63
n-Octane
Concen: 51.05 ng
RT: 14.67 min Scan# 2053
Delta R.T. -0.000 min
Lab File: 04302026.D
Acq: 30 Apr 2020 18:51

Tgt Ion: 57 Resp: 403859

Ion	Ratio	Lower	Upper
57	100		
85	147.3	120.7	181.1
71	76.7	61.1	91.7

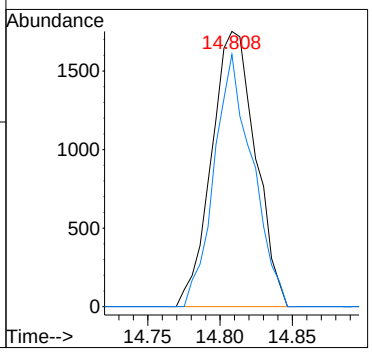


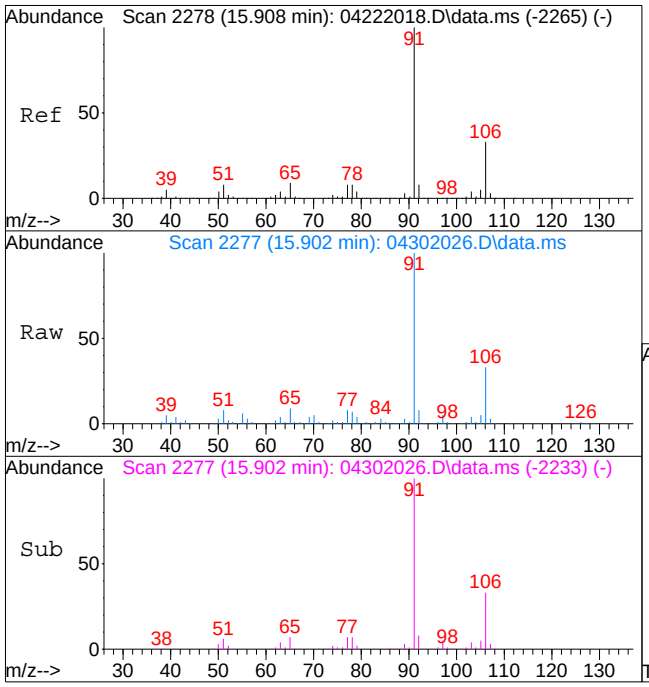


#64
Tetrachloroethene
Concen: 0.20 ng
RT: 14.81 min Scan# 2078
Delta R.T. -0.000 min
Lab File: 04302026.D
Acq: 30 Apr 2020 18:51

Tgt Ion:166 Resp: 3723

Ion	Ratio	Lower	Upper
166	100		
164	79.5	57.7	97.7

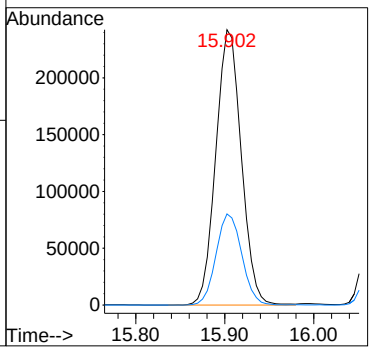


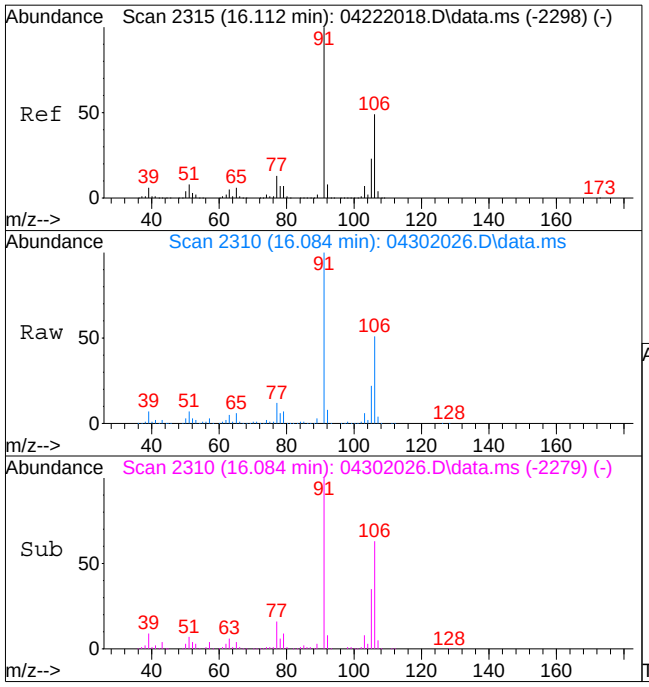


#66
Ethylbenzene
Concen: 8.32 ng
RT: 15.90 min Scan# 2277
Delta R.T. -0.006 min
Lab File: 04302026.D
Acq: 30 Apr 2020 18:51

Tgt Ion: 91 Resp: 481869

Ion	Ratio	Lower	Upper
91	100		
106	33.3	13.4	53.4

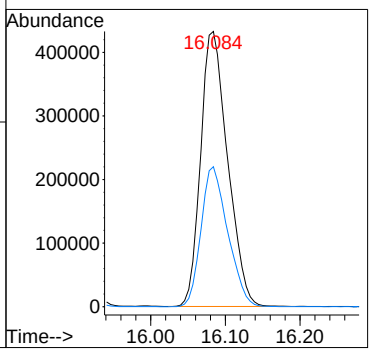


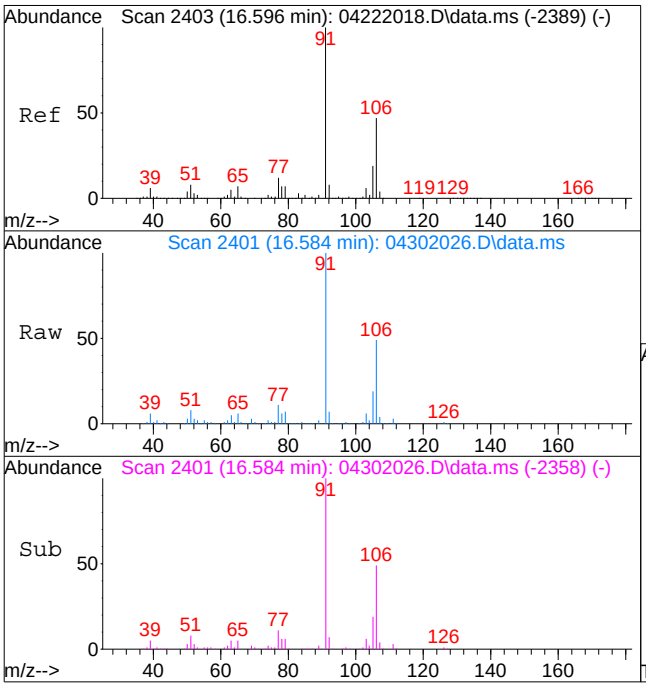


#67
m- & p-Xylenes
Concen: 22.24 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.028 min
Lab File: 04302026.D
Acq: 30 Apr 2020 18:51

Tgt Ion: 91 Resp: 1086342

Ion	Ratio	Lower	Upper
91	100		
106	50.4	28.3	68.3

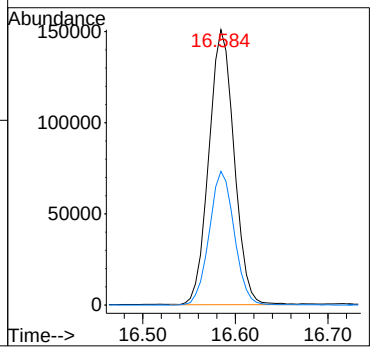


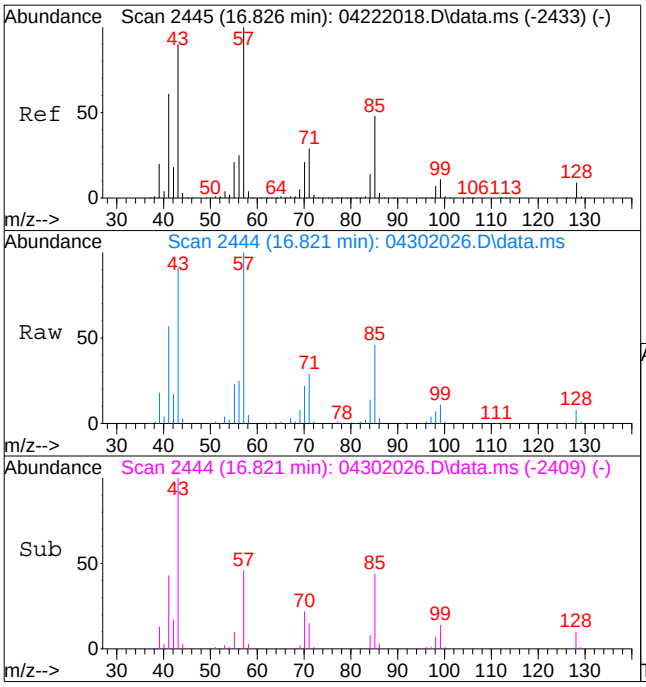


#70
o-Xylene
Concen: 5.96 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 04302026.D
Acq: 30 Apr 2020 18:51

Tgt Ion: 91 Resp: 286029

Ion	Ratio	Lower	Upper
91	100		
106	48.3	27.5	67.5

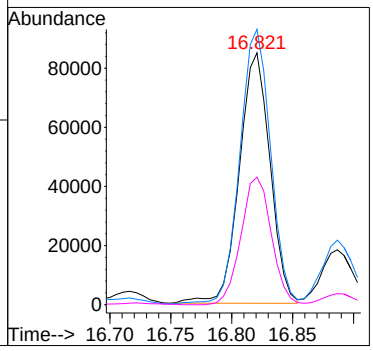


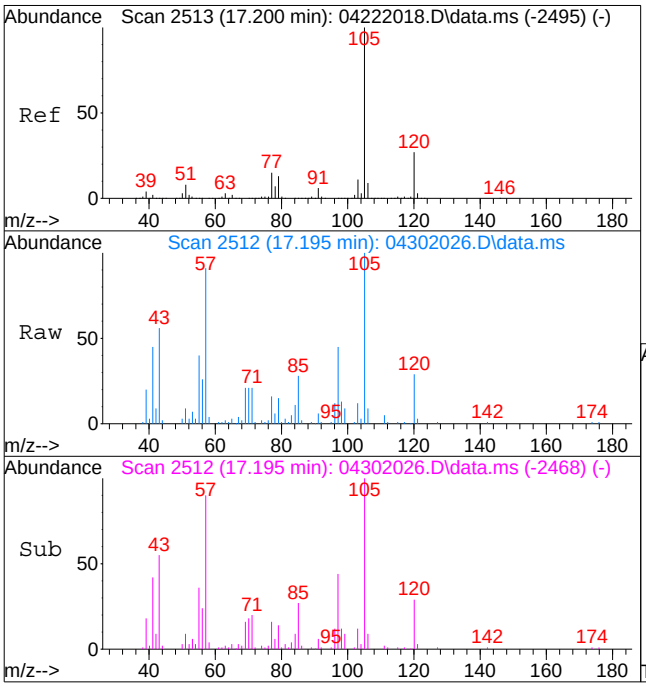


#71
n-Nonane
Concen: 9.59 ng
RT: 16.82 min Scan# 2444
Delta R.T. -0.006 min
Lab File: 04302026.D
Acq: 30 Apr 2020 18:51

Tgt Ion: 43 Resp: 148344

Ion	Ratio	Lower	Upper
43	100		
57	109.4	90.8	130.8
85	50.6	32.1	72.1

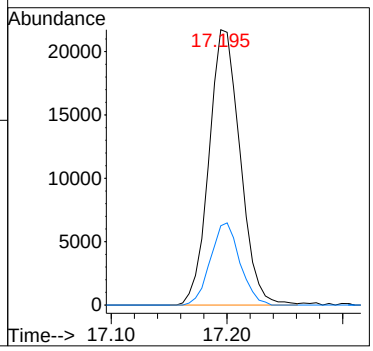


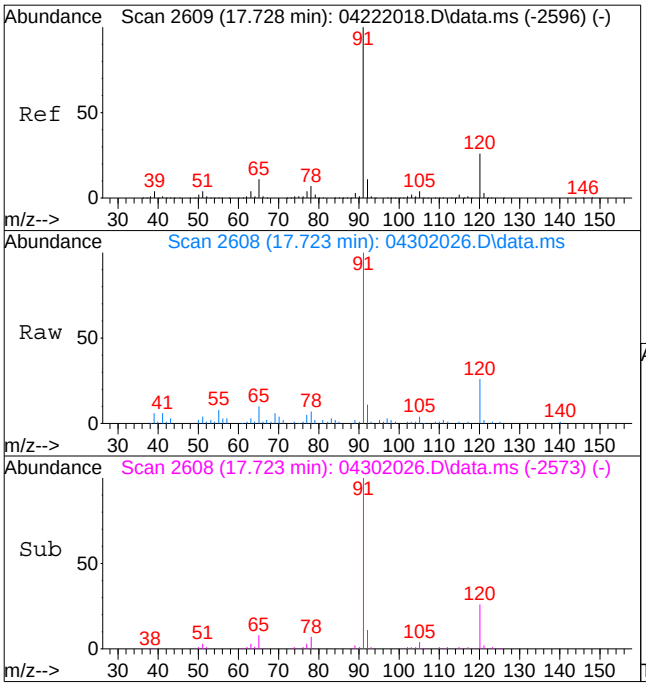


#74
Cumene
Concen: 0.65 ng
RT: 17.19 min Scan# 2512
Delta R.T. -0.006 min
Lab File: 04302026.D
Acq: 30 Apr 2020 18:51

Tgt Ion:105 Resp: 40819

Ion	Ratio	Lower	Upper
105	100		
120	28.2	7.3	47.3

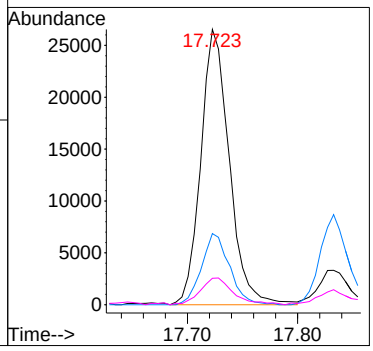


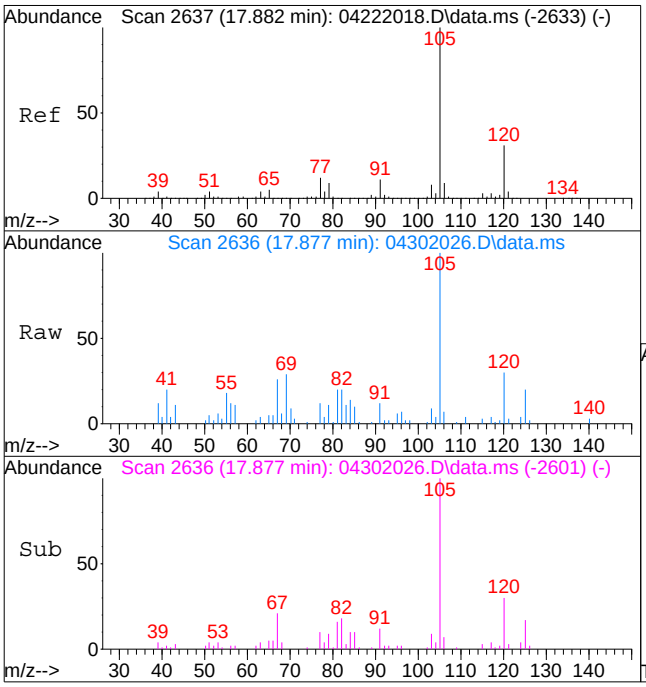


#76
n-Propylbenzene
Concen: 0.70 ng
RT: 17.72 min Scan# 2608
Delta R.T. -0.006 min
Lab File: 04302026.D
Acq: 30 Apr 2020 18:51

Tgt Ion: 91 Resp: 47674

Ion	Ratio	Lower	Upper
91	100		
120	25.4	6.1	46.1
65	11.2	0.0	30.7

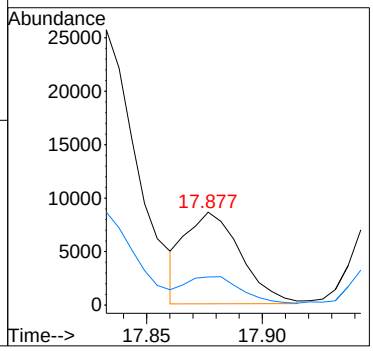


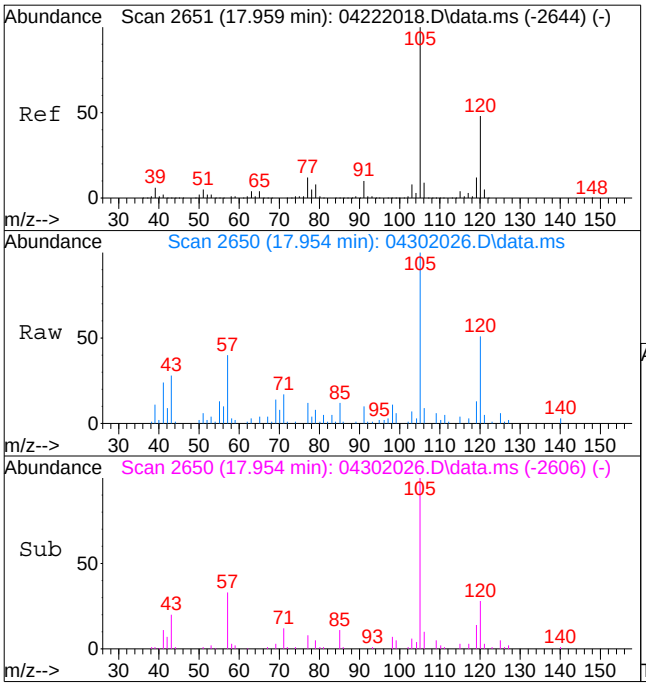


#78
4-Ethyltoluene
Concen: 0.24 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 04302026.D
Acq: 30 Apr 2020 18:51

Tgt Ion:105 Resp: 14359

Ion	Ratio	Lower	Upper
105	100		
120	31.0	11.4	51.4

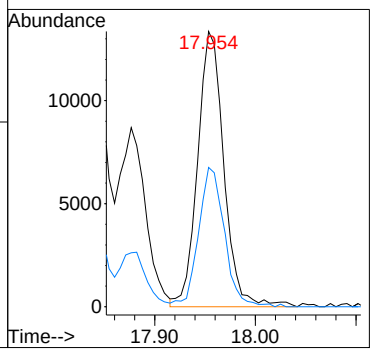


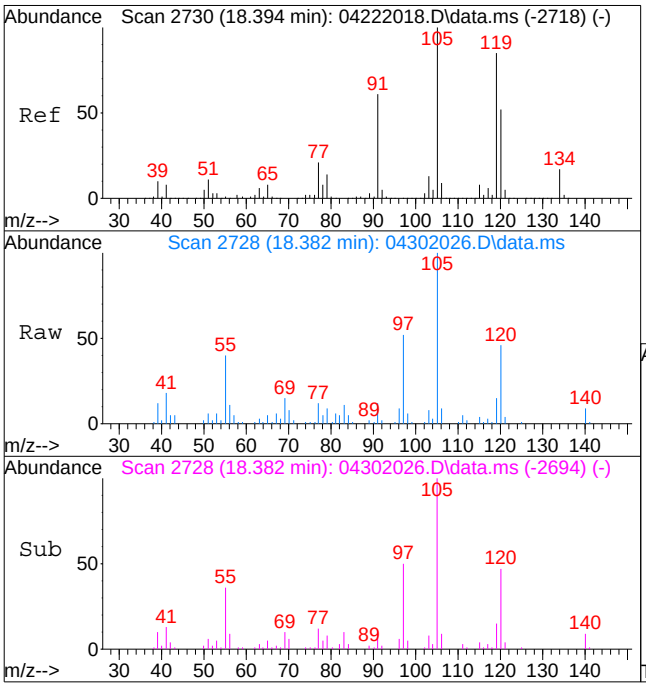


#79
1,3,5-Trimethylbenzene
Concen: 0.44 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 04302026.D
Acq: 30 Apr 2020 18:51

Tgt Ion:105 Resp: 24250

Ion	Ratio	Lower	Upper
105	100		
120	50.0	29.5	69.5

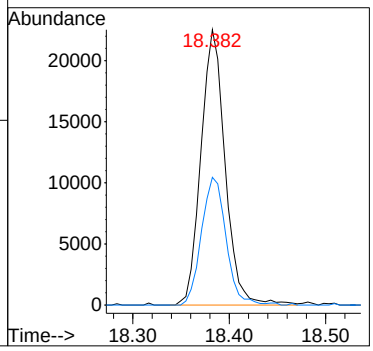




#82
1,2,4-Trimethylbenzene
Concen: 0.74 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 04302026.D
Acq: 30 Apr 2020 18:51

Tgt Ion:105 Resp: 39282

Ion	Ratio	Lower	Upper
105	100		
120	47.3	34.5	74.5



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302028.D Vial: 1
Acq On : 30 Apr 2020 20:00 Operator: SC
Sample : P2002029-010Dil (0.05mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 20:30:47 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/30/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	159887	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	675992	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	305454	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	241613	11.663	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.28%			
57) Toluene-d8 (SS2)	13.55	98	739425	12.537	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.32%			
73) Bromofluorobenzene (SS3)	17.05	174	293758	12.393	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.12%			
Target Compounds						Qvalue
2) Propene	3.90	42	1295	0.191	ng	# 82
3) Dichlorodifluoromethan...	4.00	85	104	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	0.00	45	0	N.D.		
11) Acetonitrile	0.00	41	0	N.D.		
12) Acrolein	0.00	56	0	N.D.	d	
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	6.03	101	170	N.D.		
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.		
16) Acrylonitrile	6.35	53	168	N.D.		
17) 1,1-Dichloroethene	6.72	96	1035	0.092	ng	90
18) 2-Methyl-2-Propanol (t...	7.02	59	34	N.D.		
19) Methylene Chloride	6.87	84	2999	0.277	ng	93
20) 3-Chloro-1-propene (Al...	6.94	41	607	N.D.		
21) Trichlorotrifluoroethane	7.18	151	10086	0.755	ng	98
22) Carbon Disulfide	0.00	76	0	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	8.10	63	303	N.D.		
25) Methyl tert-Butyl Ether	8.31	73	209	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	0.00	72	0	N.D.	d	
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	0.00	61	0	N.D.	d	
31) n-Hexane	9.23	57	595287	43.443	ng	99
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d	
38) 1,1,1-Trichloroethane	10.30	97	11491	0.494	ng	97
39) Isopropyl Acetate	0.00	61	0	N.D.	d	
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	10.76	78	694040	15.750	ng	100
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	11.04	84	720466	41.733	ng	97
44) tert-Amyl Methyl Ether	11.29	73	415	N.D.		
45) 1,2-Dichloropropane	11.59	63	173	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	11.82	130	641	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.	d	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302028.D Vial: 1
Acq On : 30 Apr 2020 20:00 Operator: SC
Sample : P2002029-010Dil (0.05mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 20:30:47 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

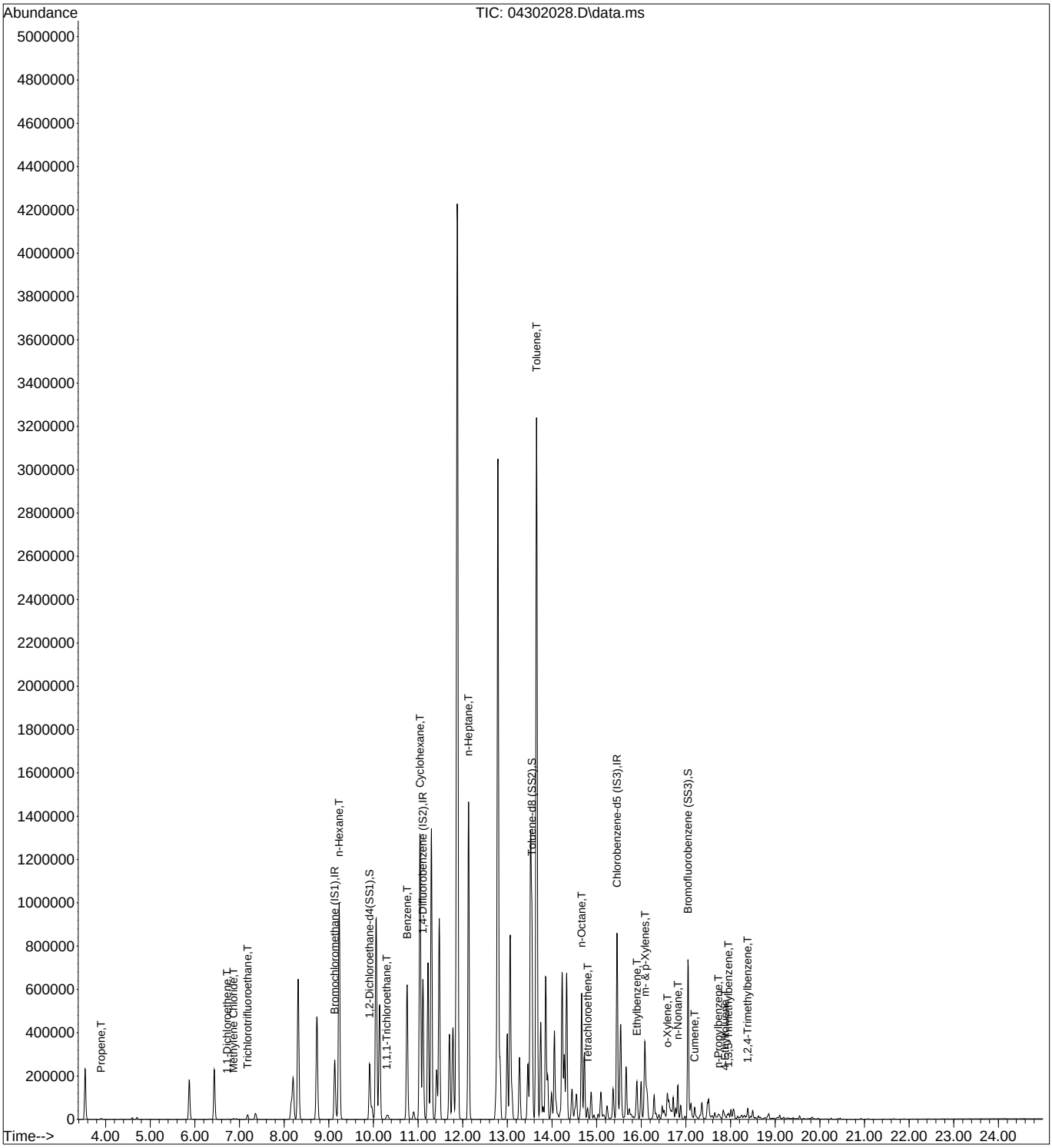
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.13	71	450223	43.973 ng	99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	12.97	75	166	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	13.65	91	2275439	45.953 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D. d	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.67	57	112321	14.250 ng	100
64) Tetrachloroethene	14.80	166	3629	0.195 ng	96
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.90	91	133715	2.318 ng	98
67) m- & p-Xylenes	16.08	91	309116	6.351 ng	97
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.50	104	223	N.D.	
70) o-Xylene	16.58	91	82094	1.717 ng	97
71) n-Nonane	16.82	43	47802	3.100 ng	99
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	17.19	105	13393	0.215 ng	97
75) alpha-Pinene	17.60	93	376	N.D.	
76) n-Propylbenzene	17.73	91	16676	0.245 ng	98
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	5005	0.084 ng	98
79) 1,3,5-Trimethylbenzene	17.95	105	9566	0.175 ng	99
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	16928	0.320 ng	89
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.62	91	1523	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	18.83	119	1919	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	18.98	146	439	N.D.	
91) d-Limonene	18.99	68	269	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.95	128	122	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	18.39	119	2324	N.D.	
100) n-Butylbenzene	19.28	91	1569	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302028.D Vial: 1
Acq On : 30 Apr 2020 20:00 Operator: SC
Sample : P2002029-010Dil (0.05mL) Inst : MS09
Misc : S34-04212006

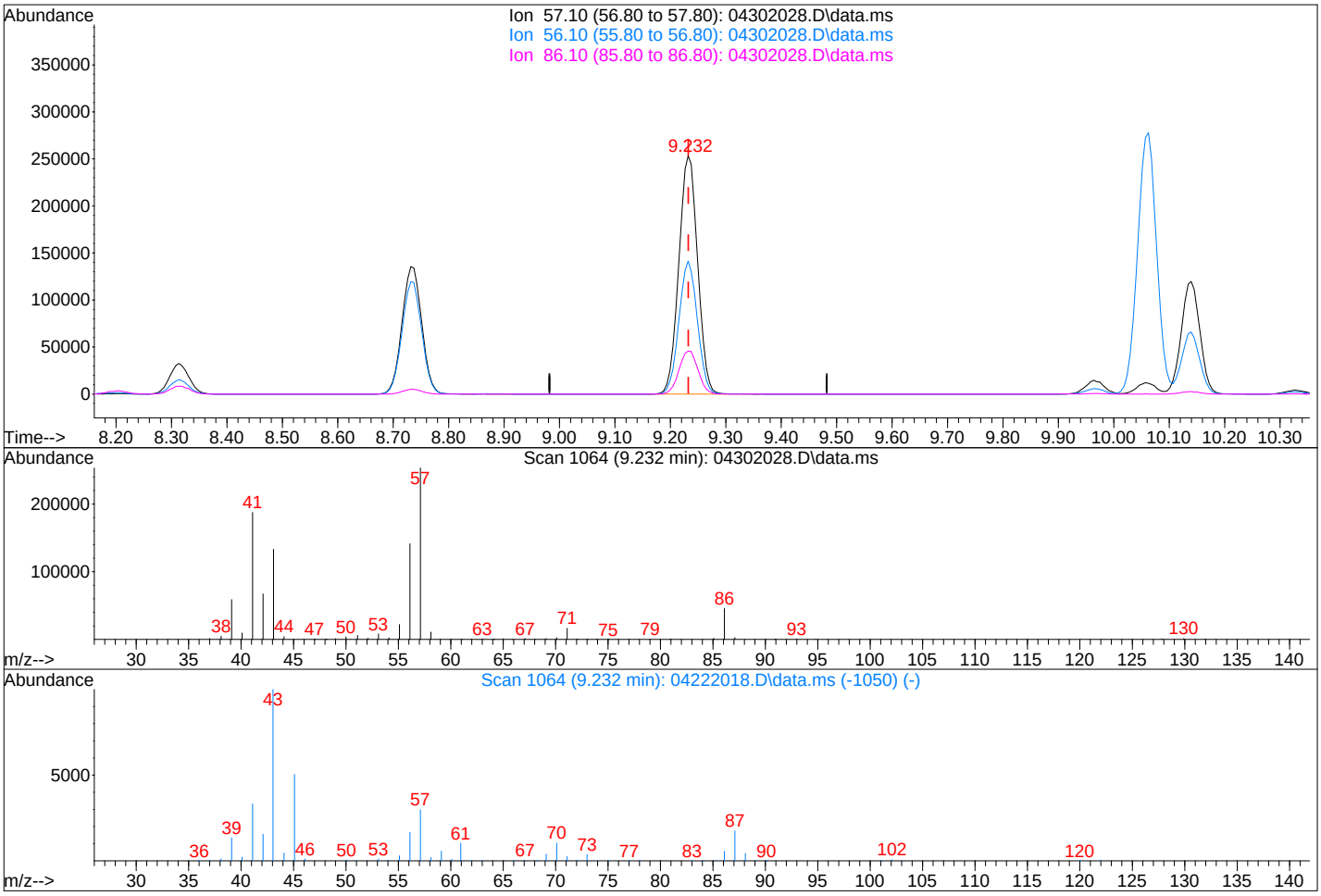
Quant Time: Apr 30 20:30:47 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\30\04302028.D Vial: 1
Acq On : 30 Apr 2020 20:00 Operator: SC
Sample : P2002029-010Dil (0.05mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 20:26:03 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04302028.D\data.ms

(31) n-Hexane (T)

9.232min (-0.000) 43.44ng

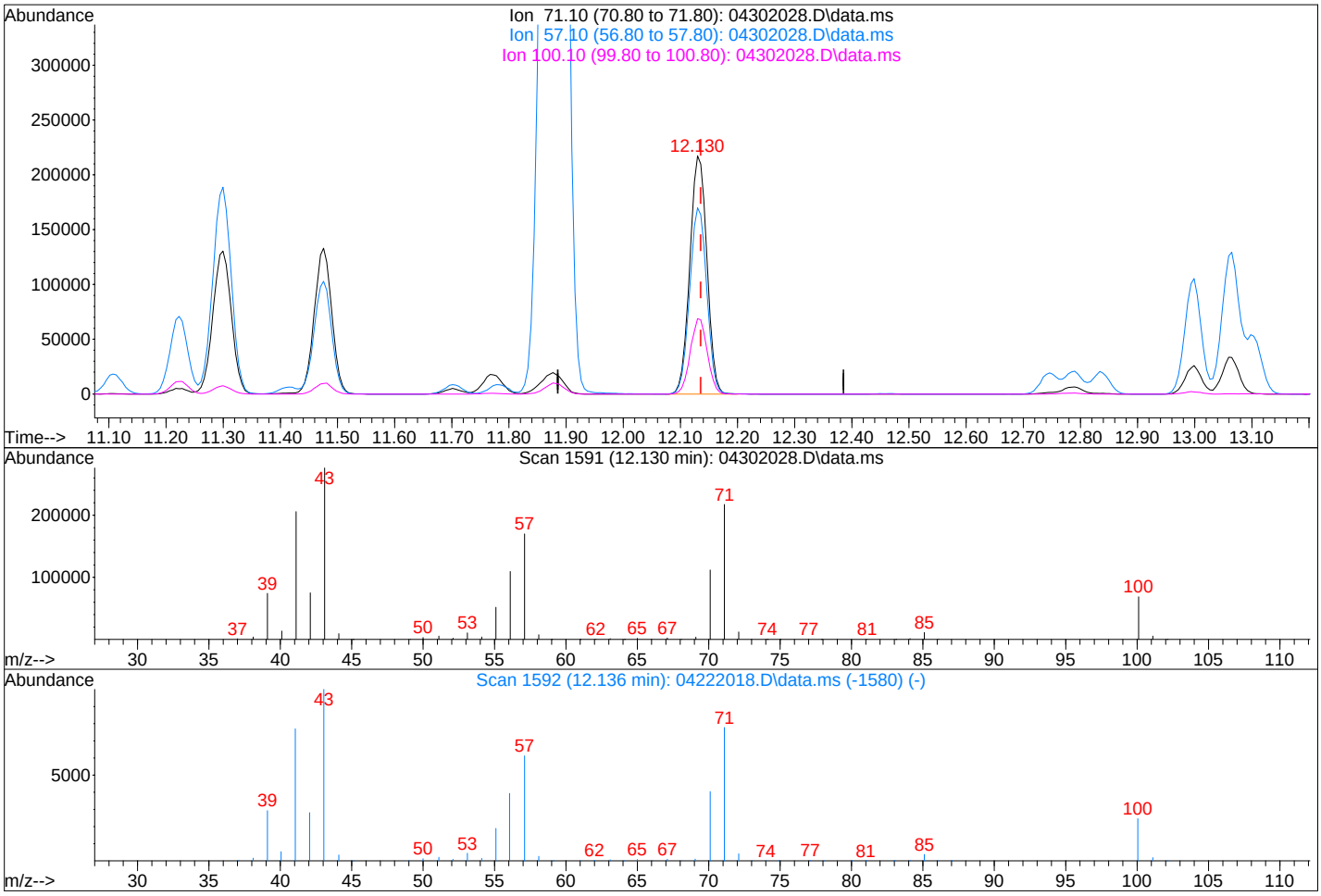
response 595287

Ion	Exp%	Act%
57.10	100	100
56.10	55.00	54.72
86.10	18.70	18.25
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\30\04302028.D Vial: 1
Acq On : 30 Apr 2020 20:00 Operator: SC
Sample : P2002029-010Dil (0.05mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 20:26:03 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04302028.D\data.ms

(51) n-Heptane (T)

12.130min (-0.006) 43.97ng

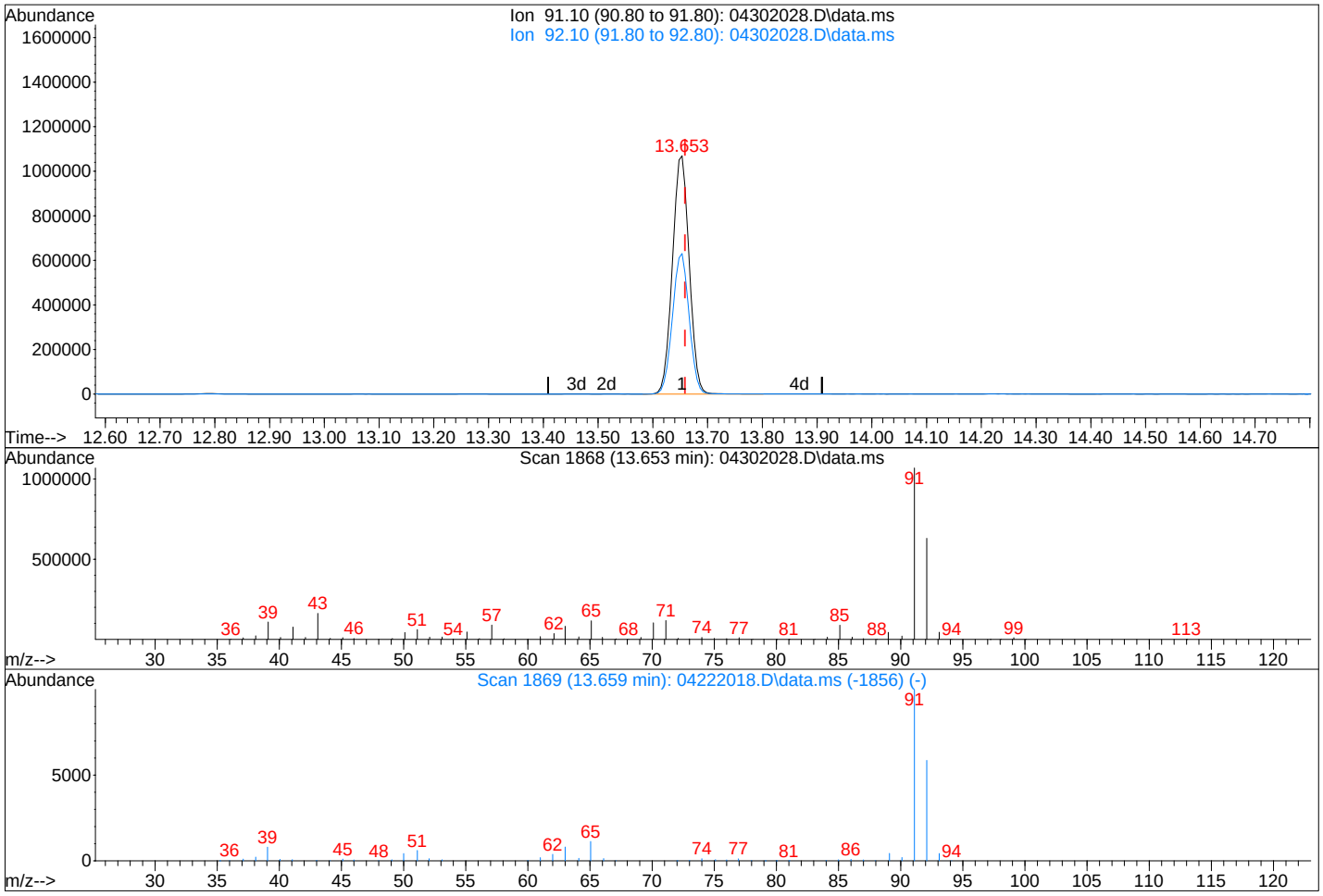
response 450223

Ion	Exp%	Act%
71.10	100	100
57.10	77.40	78.34
100.10	32.00	31.42
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\30\04302028.D Vial: 1
Acq On : 30 Apr 2020 20:00 Operator: SC
Sample : P2002029-010Dil (0.05mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 20:26:03 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04302028.D\data.ms

(58) Toluene (T)

13.653min (-0.006) 45.95ng

response 2275439

Ion	Exp%	Act%
91.10	100	100
92.10	58.20	58.52
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302029.D Vial: 1
Acq On : 30 Apr 2020 20:34 Operator: SC
Sample : P2002029-011 (0.075mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 21:13:49 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 4/30/20
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	157038	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	661242	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	298559	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	237494	11.673	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.36%				
57) Toluene-d8 (SS2)	13.55	98	730208	12.667	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.36%				
73) Bromofluorobenzene (SS3)	17.05	174	289410	12.492	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.92%				
Target Compounds							Qvalue
2) Propene	3.89	42	1459m	0.219	ng		
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.41	45	34	N.D.			
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	0.00	56	0	N.D.	d		
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	6.43	45	37	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	6.72	96	935	0.084	ng	#	82
18) 2-Methyl-2-Propanol (t...	6.93	59	92	N.D.			
19) Methylene Chloride	6.87	84	2857	0.269	ng		96
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	7.18	151	10199	0.777	ng		99
22) Carbon Disulfide	0.00	76	0	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	8.10	63	297	N.D.			
25) Methyl tert-Butyl Ether	8.31	73	379	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	0.00	72	0	N.D.	d		
28) cis-1,2-Dichloroethene	8.74	61	307	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	9.23	57	879279	65.333	ng		99
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d		
38) 1,1,1-Trichloroethane	10.30	97	11617	0.511	ng		99
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.76	78	611821	14.194	ng		100
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	11.04	84	753841	44.640	ng		98
44) tert-Amyl Methyl Ether	11.31	73	219	N.D.			
45) 1,2-Dichloropropane	11.57	63	204	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	11.82	130	581	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.	d		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302029.D Vial: 1
Acq On : 30 Apr 2020 20:34 Operator: SC
Sample : P2002029-011 (0.075mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 21:13:49 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

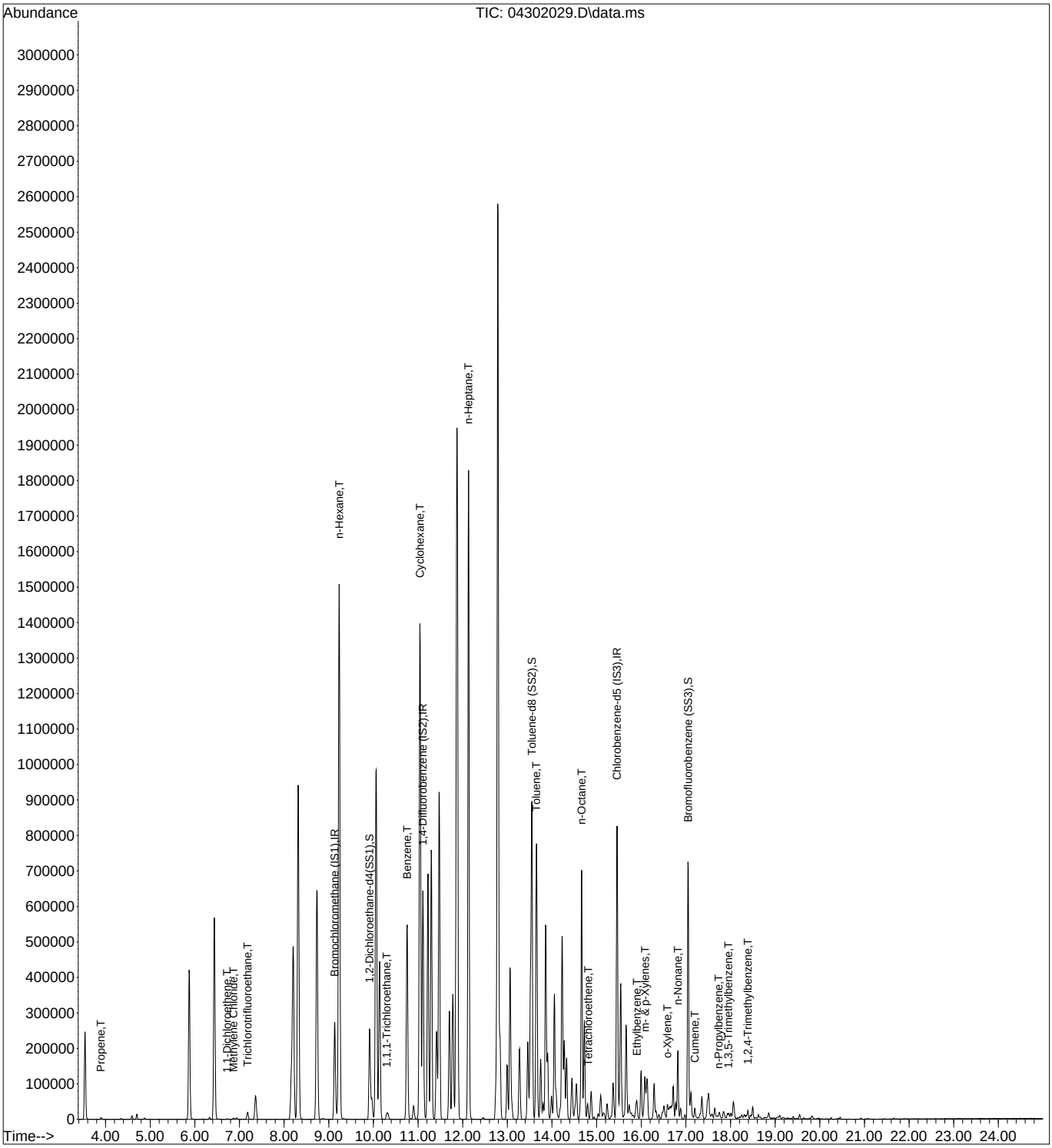
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.13	71	555539	55.469 ng	100
52) cis-1,3-Dichloropropene	12.78	75	848	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	13.65	91	495467	10.237 ng	99
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.67	57	138417	17.966 ng	99
64) Tetrachloroethene	14.81	166	3686	0.202 ng	99
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.90	91	23995	0.425 ng	99
67) m- & p-Xylenes	16.08	91	89435	1.880 ng	98
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.59	104	565	N.D.	
70) o-Xylene	16.58	91	28958	0.620 ng	99
71) n-Nonane	16.82	43	59149	3.924 ng	100
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	17.20	105	3172	0.052 ng	97
75) alpha-Pinene	17.60	93	259	N.D.	
76) n-Propylbenzene	17.73	91	4653	0.070 ng	90
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	1260	N.D.	
79) 1,3,5-Trimethylbenzene	17.95	105	3338	0.062 ng	97
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	18.16	105	1587	N.D.	
82) 1,2,4-Trimethylbenzene	18.39	105	4128	0.080 ng	84
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.63	91	763	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	18.67	105	2222	N.D.	
88) 4-Isopropyltoluene (p-...	18.84	119	820	N.D.	
89) 1,2,3-Trimethylbenzene	18.83	105	1758	N.D.	
90) 1,2-Dichlorobenzene	18.98	146	235	N.D.	
91) d-Limonene	18.98	68	160	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	0.00	128	0	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	18.39	119	881	N.D.	
100) n-Butylbenzene	19.29	91	493	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302029.D Vial: 1
Acq On : 30 Apr 2020 20:34 Operator: SC
Sample : P2002029-011 (0.075mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 21:13:49 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302029.D Vial: 1
Acq On : 30 Apr 2020 20:34 Operator: SC
Sample : P2002029-011 (0.075mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 21:13:49 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/30/20

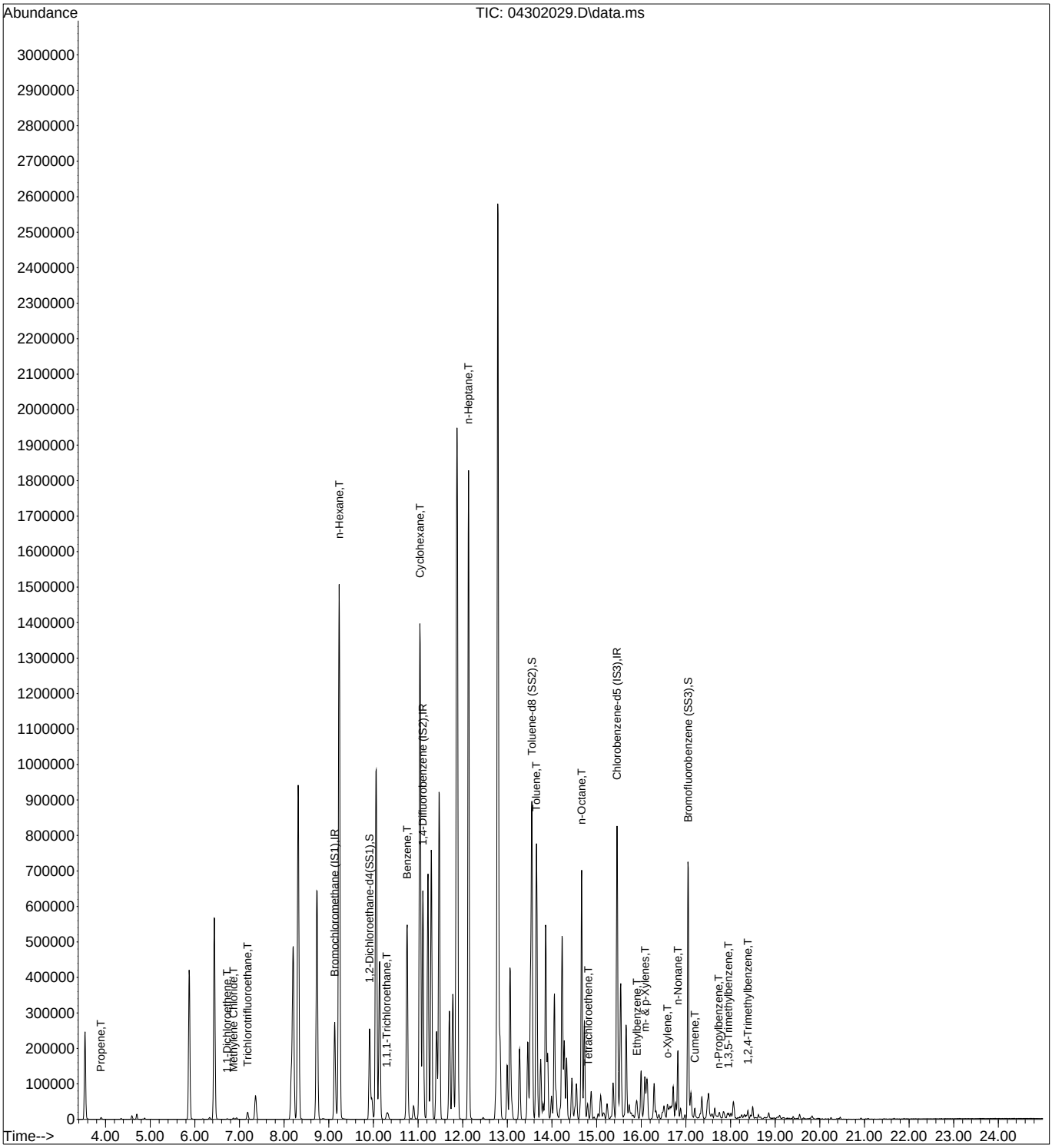
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	157038	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	661242	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	298559	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	237494	11.673	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.36%				
57) Toluene-d8 (SS2)	13.55	98	730208	12.667	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.36%				
73) Bromofluorobenzene (SS3)	17.05	174	289410	12.492	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.92%				
Target Compounds							Qvalue
2) Propene	3.89	42	1459m	0.219	ng		
17) 1,1-Dichloroethene	6.72	96	935	0.084	ng	#	82
19) Methylene Chloride	6.87	84	2857	0.269	ng		96
21) Trichlorotrifluoroethane	7.18	151	10199	0.777	ng		99
31) n-Hexane	9.23	57	879279	65.333	ng		99
38) 1,1,1-Trichloroethane	10.30	97	11617	0.511	ng		99
41) Benzene	10.76	78	611821	14.194	ng		100
43) Cyclohexane	11.04	84	753841	44.640	ng		98
51) n-Heptane	12.13	71	555539	55.469	ng		100
58) Toluene	13.65	91	495467	10.237	ng		99
63) n-Octane	14.67	57	138417	17.966	ng		99
64) Tetrachloroethene	14.81	166	3686	0.202	ng		99
66) Ethylbenzene	15.90	91	23995	0.425	ng		99
67) m- & p-Xylenes	16.08	91	89435	1.880	ng		98
70) o-Xylene	16.58	91	28958	0.620	ng		99
71) n-Nonane	16.82	43	59149	3.924	ng		100
74) Cumene	17.20	105	3172	0.052	ng		97
76) n-Propylbenzene	17.73	91	4653	0.070	ng		90
79) 1,3,5-Trimethylbenzene	17.95	105	3338	0.062	ng		97
82) 1,2,4-Trimethylbenzene	18.39	105	4128	0.080	ng		84

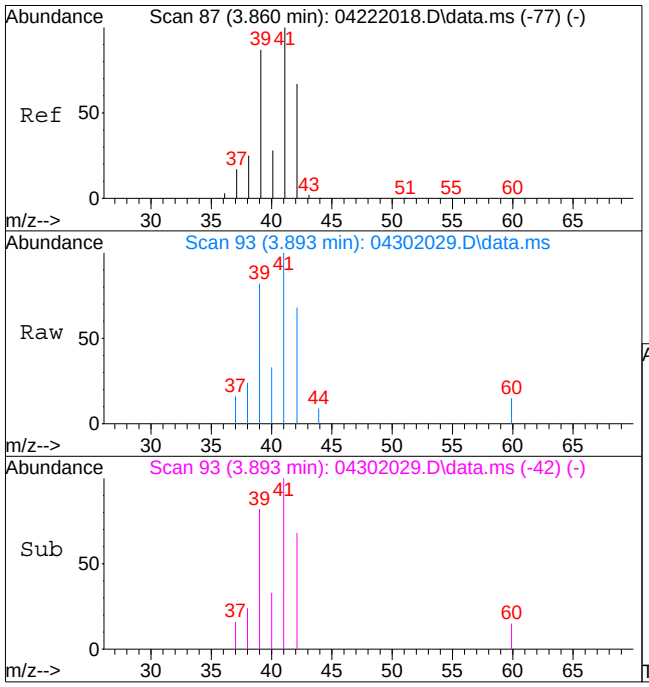
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302029.D Vial: 1
Acq On : 30 Apr 2020 20:34 Operator: SC
Sample : P2002029-011 (0.075mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 21:13:49 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

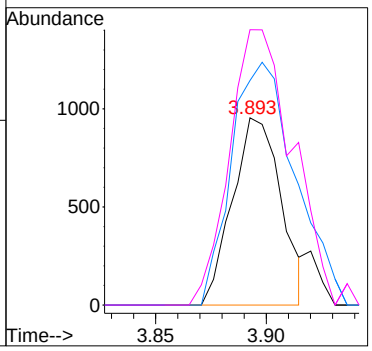


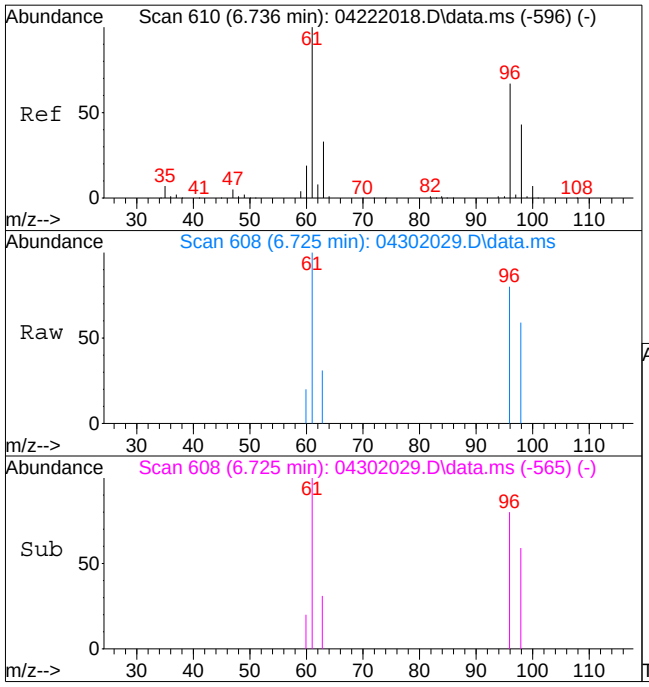


#2
Propene
Concen: 0.22 ng m
RT: 3.89 min Scan# 93
Delta R.T. 0.033 min
Lab File: 04302029.D
Acq: 30 Apr 2020 20:34

Tgt Ion: 42 Resp: 1459

Ion	Ratio	Lower	Upper
42	100		
39	171.1	106.4	146.4#
41	192.9	128.8	168.8#

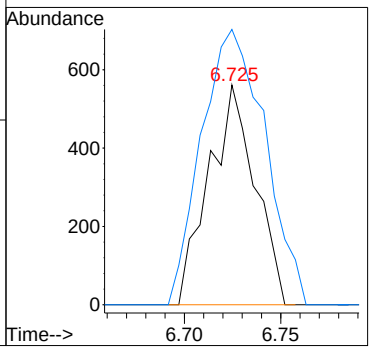


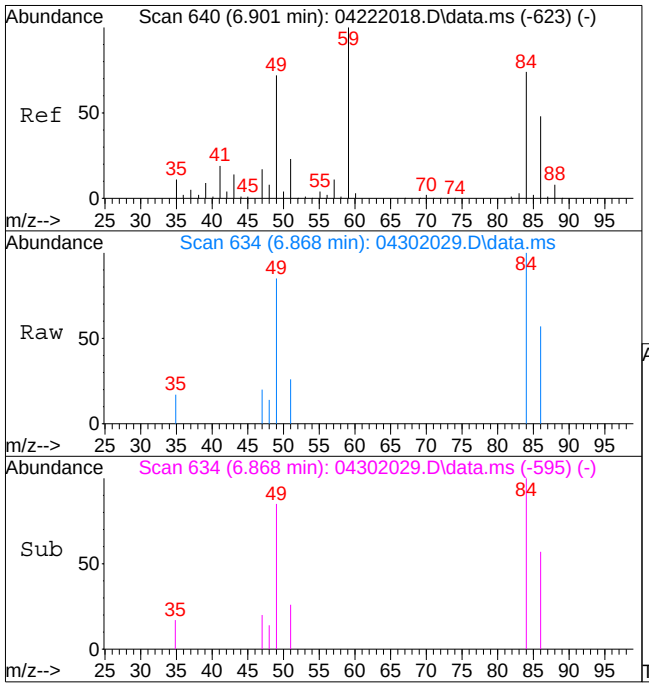


#17
1,1-Dichloroethene
Concen: 0.08 ng
RT: 6.72 min Scan# 608
Delta R.T. -0.011 min
Lab File: 04302029.D
Acq: 30 Apr 2020 20:34

Tgt Ion: 96 Resp: 935

Ion	Ratio	Lower	Upper
96	100		
61	172.2	129.8	169.8#

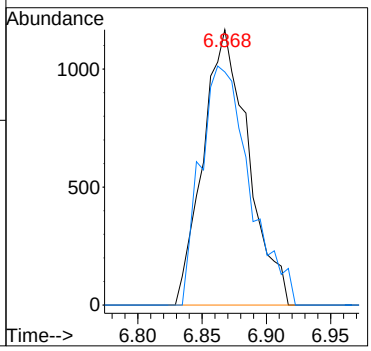


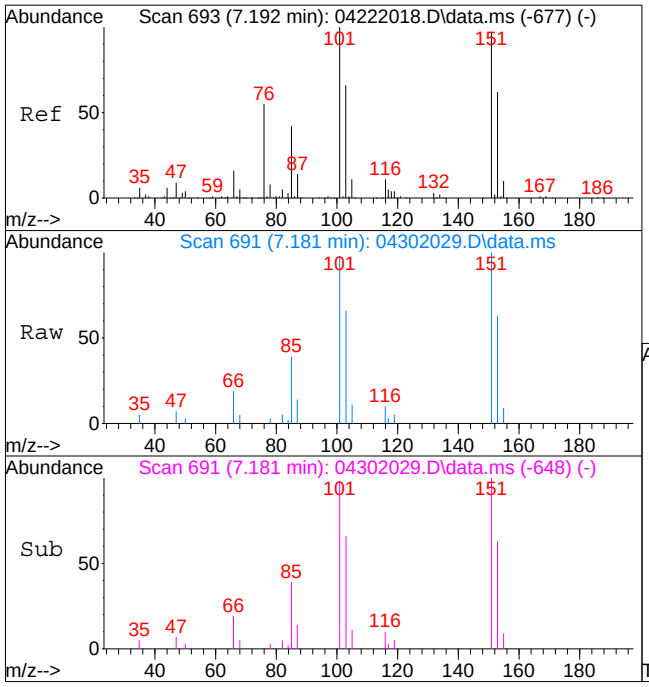


#19
Methylene Chloride
Concen: 0.27 ng
RT: 6.87 min Scan# 634
Delta R.T. -0.033 min
Lab File: 04302029.D
Acq: 30 Apr 2020 20:34

Tgt Ion: 84 Resp: 2857

Ion	Ratio	Lower	Upper
84	100		
49	94.1	73.0	123.0

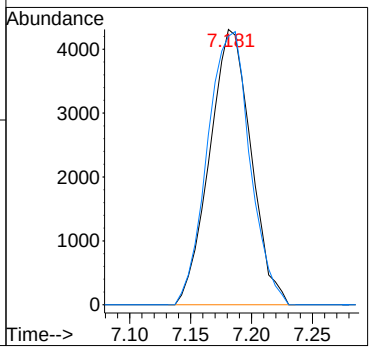


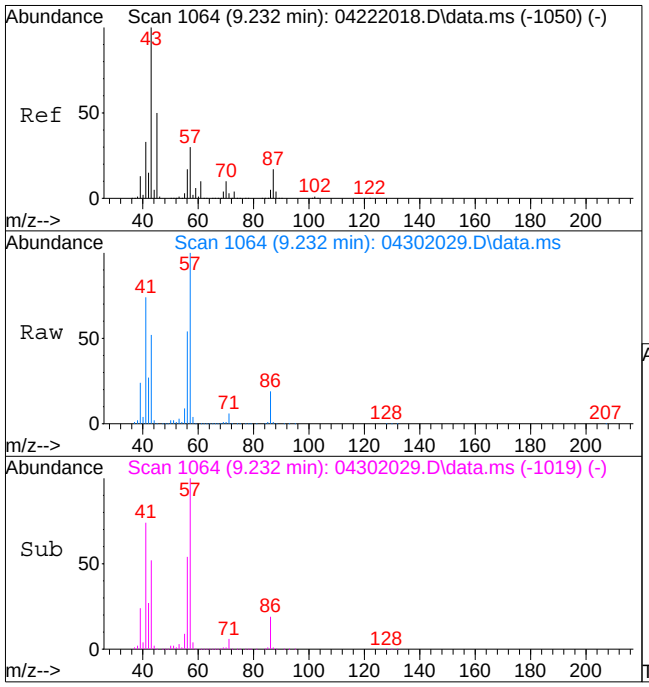


#21
Trichlorotrifluoroethane
Concen: 0.78 ng
RT: 7.18 min Scan# 691
Delta R.T. -0.011 min
Lab File: 04302029.D
Acq: 30 Apr 2020 20:34

Tgt Ion:151 Resp: 10199

Ion	Ratio	Lower	Upper
151	100		
101	101.8	82.9	122.9

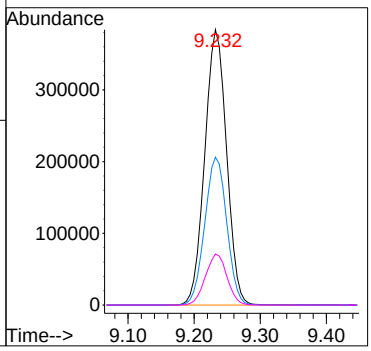


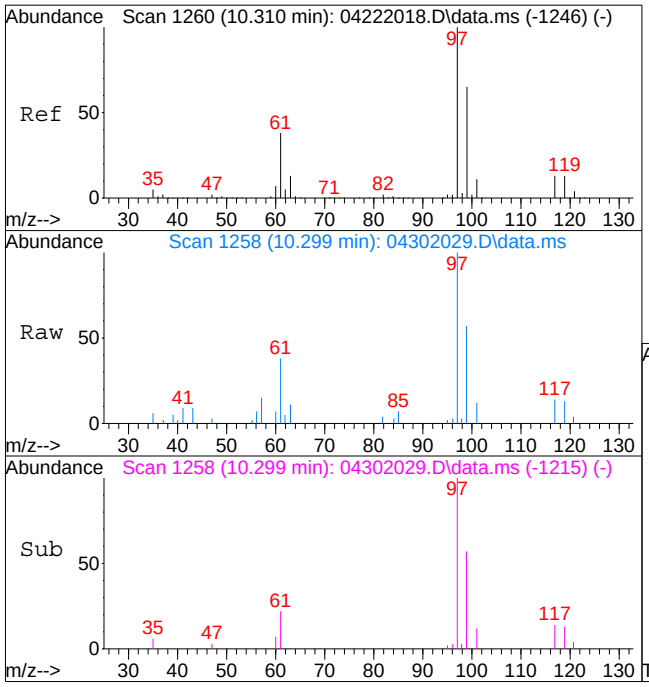


#31
n-Hexane
Concen: 65.33 ng
RT: 9.23 min Scan# 1064
Delta R.T. -0.000 min
Lab File: 04302029.D
Acq: 30 Apr 2020 20:34

Tgt Ion: 57 Resp: 879279

Ion	Ratio	Lower	Upper
57	100		
56	54.2	44.0	66.0
86	18.3	15.0	22.4

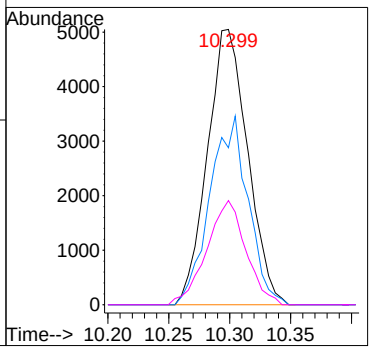


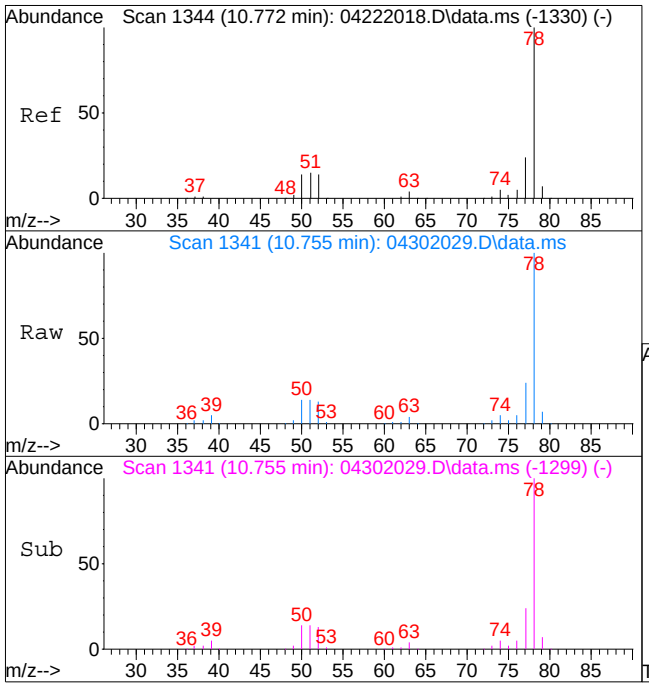


#38
1,1,1-Trichloroethane
Concen: 0.51 ng
RT: 10.30 min Scan# 1258
Delta R.T. -0.011 min
Lab File: 04302029.D
Acq: 30 Apr 2020 20:34

Tgt Ion: 97 Resp: 11617

Ion	Ratio	Lower	Upper
97	100		
99	65.1	44.7	84.7
61	36.7	17.2	57.2

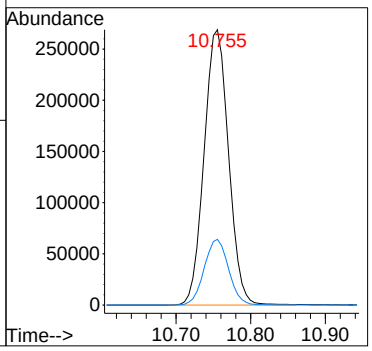


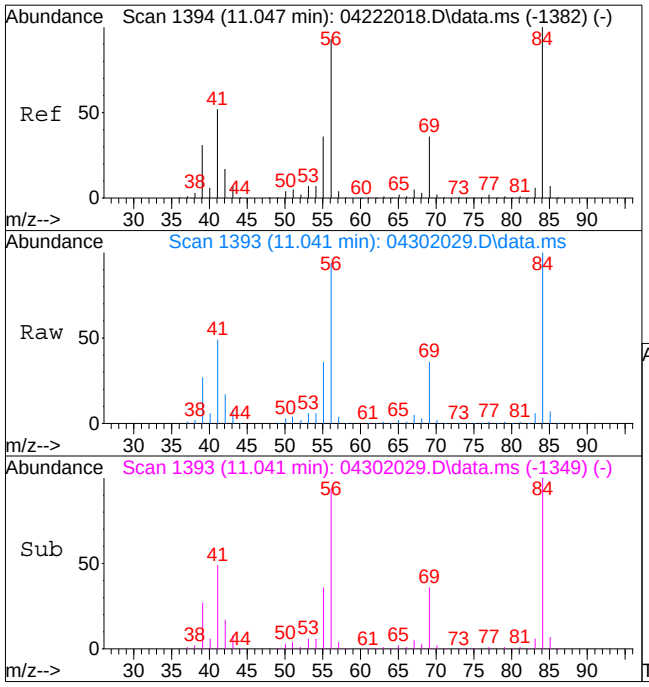


#41
Benzene
Concen: 14.19 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.017 min
Lab File: 04302029.D
Acq: 30 Apr 2020 20:34

Tgt Ion: 78 Resp: 611821

Ion	Ratio	Lower	Upper
78	100		
77	23.8	3.6	43.6

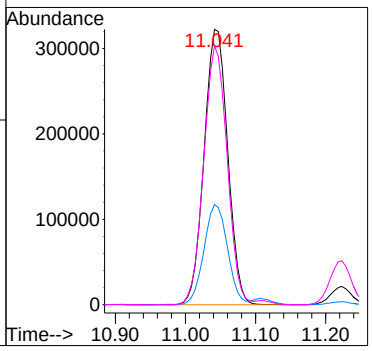


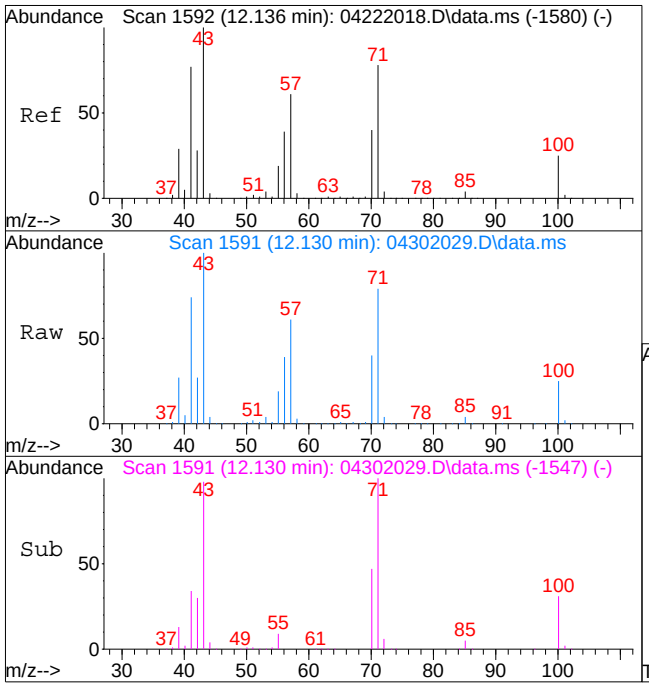


#43
Cyclohexane
Concen: 44.64 ng
RT: 11.04 min Scan# 1393
Delta R.T. -0.006 min
Lab File: 04302029.D
Acq: 30 Apr 2020 20:34

Tgt Ion: 84 Resp: 753841

Ion	Ratio	Lower	Upper
84	100		
69	36.6	15.8	55.8
56	94.5	72.0	112.0

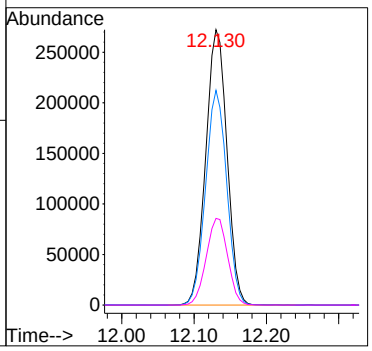


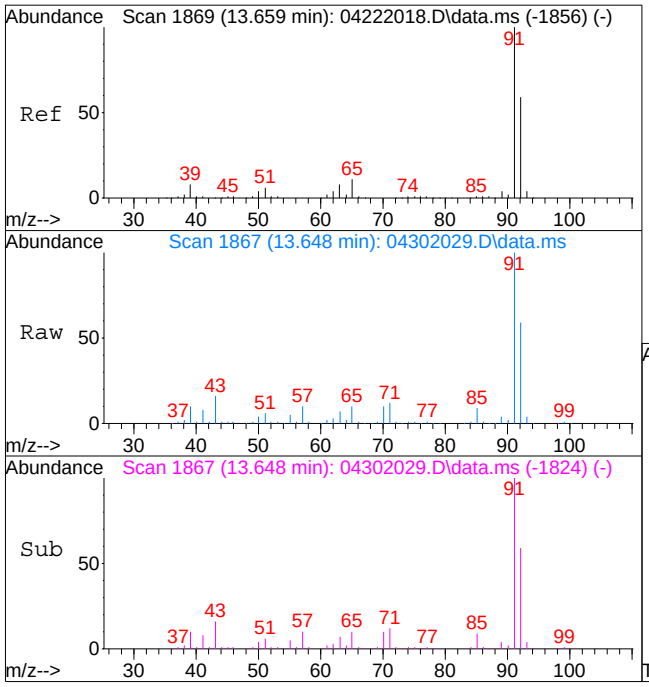


#51
n-Heptane
Concen: 55.47 ng
RT: 12.13 min Scan# 1591
Delta R.T. -0.006 min
Lab File: 04302029.D
Acq: 30 Apr 2020 20:34

Tgt Ion: 71 Resp: 555539

Ion	Ratio	Lower	Upper
71	100		
57	77.7	57.4	97.4
100	31.7	12.0	52.0

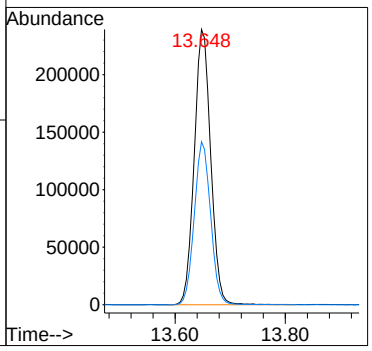


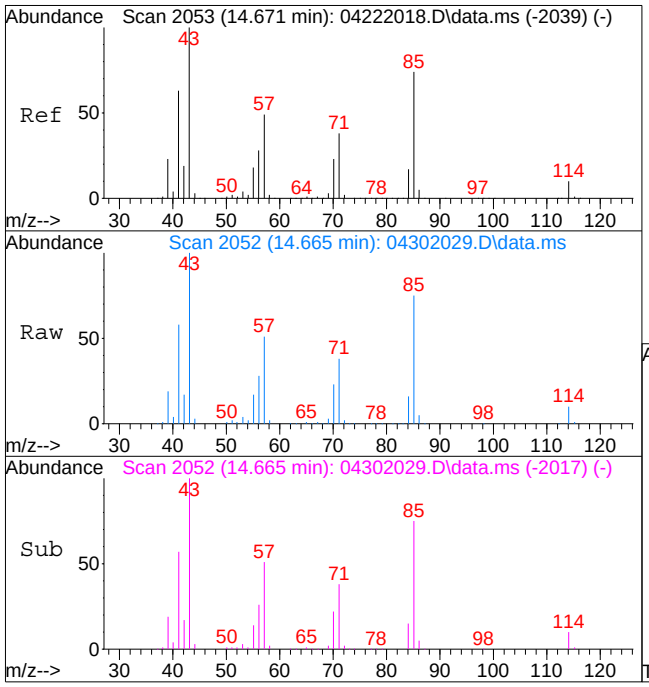


#58
Toluene
Concen: 10.24 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.011 min
Lab File: 04302029.D
Acq: 30 Apr 2020 20:34

Tgt Ion: 91 Resp: 495467

Ion	Ratio	Lower	Upper
91	100		
92	58.7	38.2	78.2

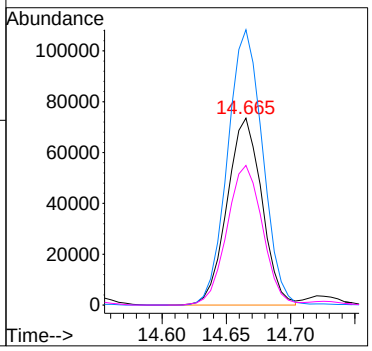


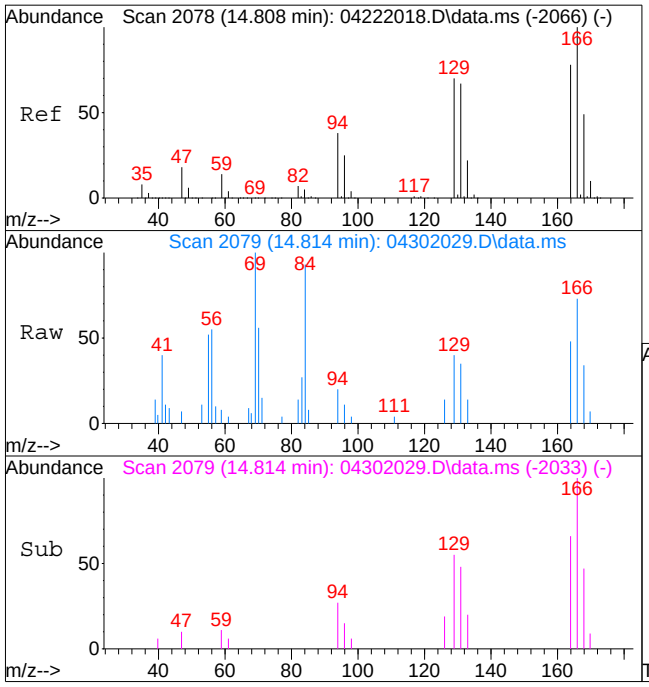


#63
n-Octane
Concen: 17.97 ng
RT: 14.67 min Scan# 2052
Delta R.T. -0.006 min
Lab File: 04302029.D
Acq: 30 Apr 2020 20:34

Tgt Ion: 57 Resp: 138417

Ion	Ratio	Lower	Upper
57	100		
85	148.5	120.7	181.1
71	76.3	61.1	91.7

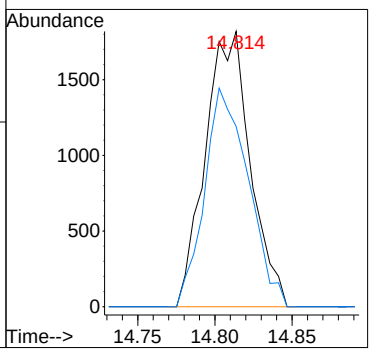


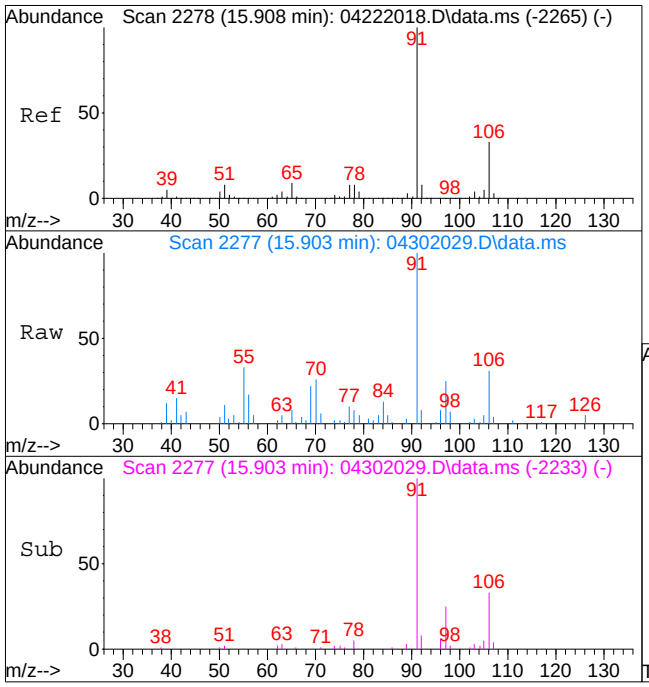


#64
Tetrachloroethene
Concen: 0.20 ng
RT: 14.81 min Scan# 2079
Delta R.T. 0.005 min
Lab File: 04302029.D
Acq: 30 Apr 2020 20:34

Tgt Ion:166 Resp: 3686

Ion	Ratio	Lower	Upper
166	100		
164	77.1	57.7	97.7

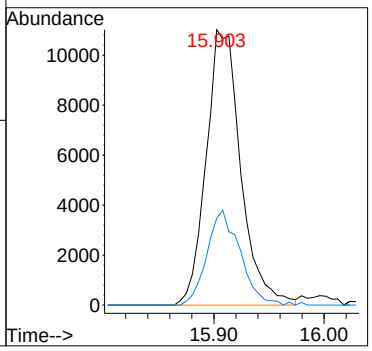


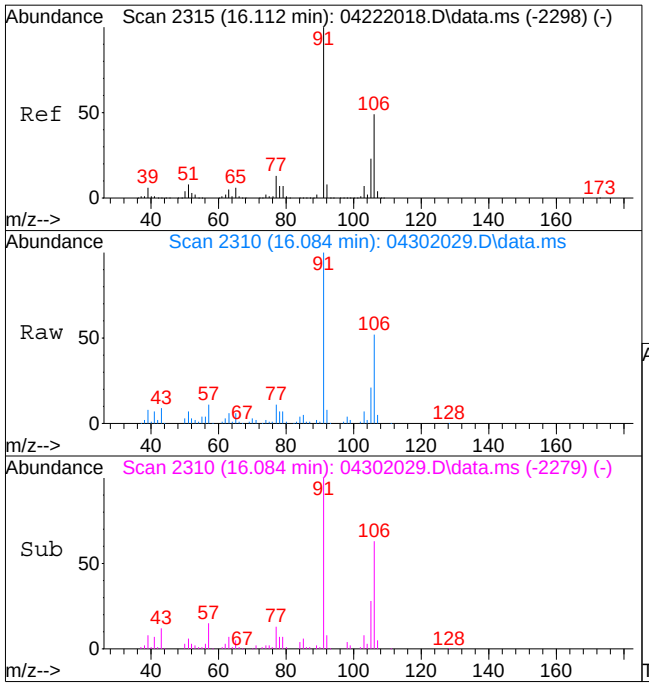


#66
Ethylbenzene
Concen: 0.43 ng
RT: 15.90 min Scan# 2277
Delta R.T. -0.006 min
Lab File: 04302029.D
Acq: 30 Apr 2020 20:34

Tgt Ion: 91 Resp: 23995

Ion	Ratio	Lower	Upper
91	100		
106	32.8	13.4	53.4

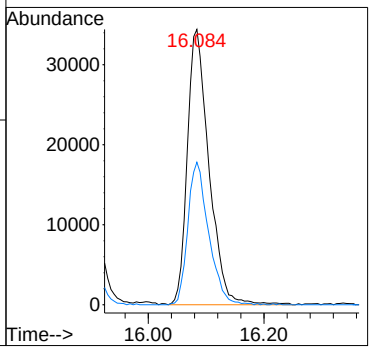


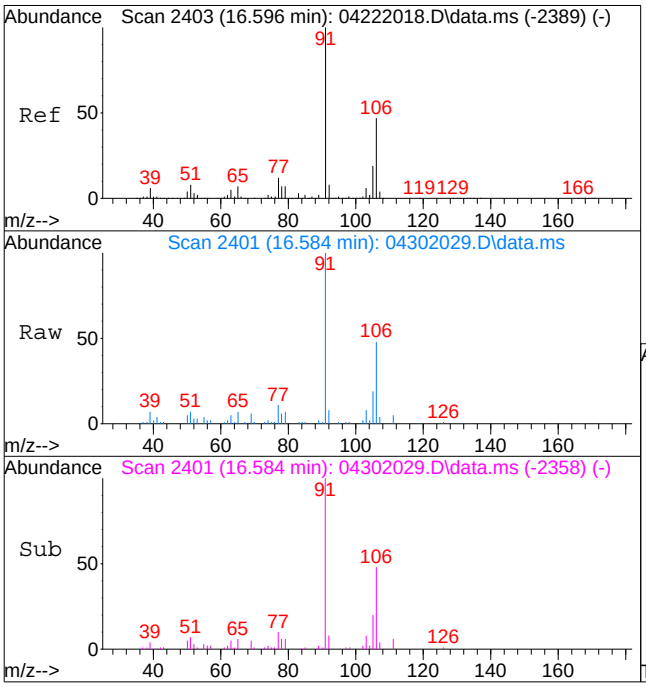


#67
m- & p-Xylenes
Concen: 1.88 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.028 min
Lab File: 04302029.D
Acq: 30 Apr 2020 20:34

Tgt Ion: 91 Resp: 89435

Ion	Ratio	Lower	Upper
91	100		
106	49.6	28.3	68.3

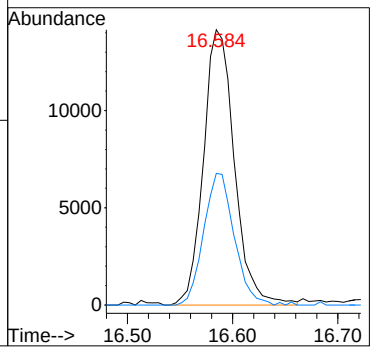


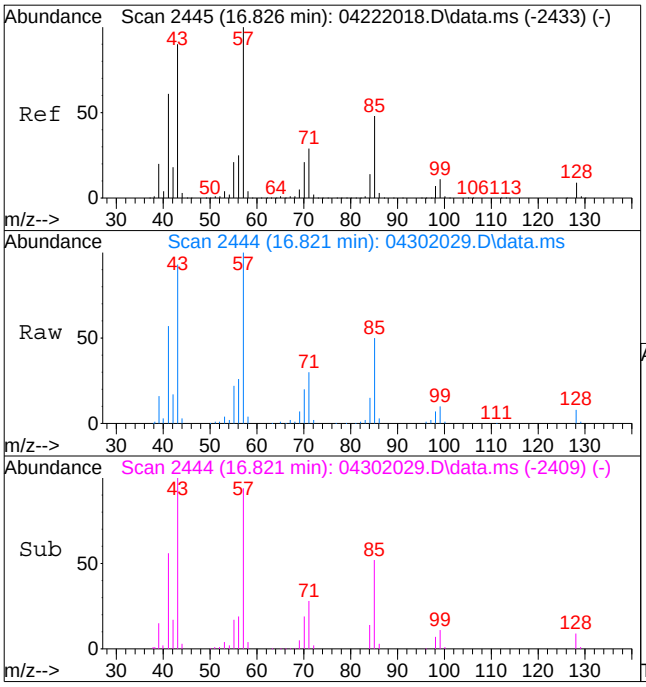


#70
o-Xylene
Concen: 0.62 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 04302029.D
Acq: 30 Apr 2020 20:34

Tgt Ion: 91 Resp: 28958

Ion	Ratio	Lower	Upper
91	100		
106	47.0	27.5	67.5

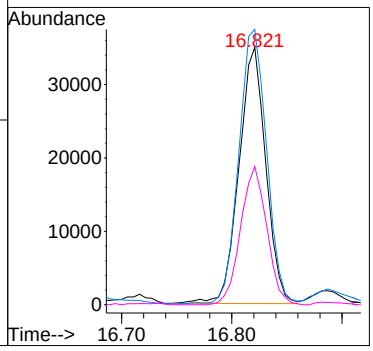


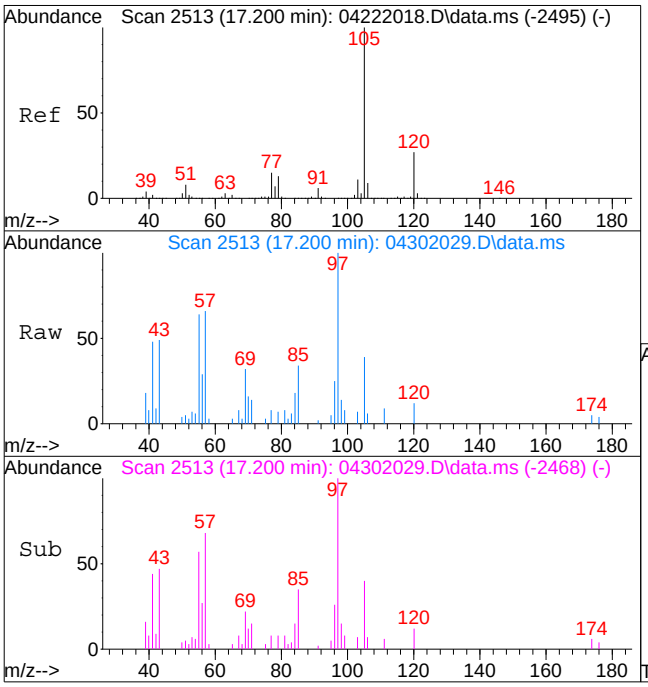


#71
n-Nonane
Concen: 3.92 ng
RT: 16.82 min Scan# 2444
Delta R.T. -0.006 min
Lab File: 04302029.D
Acq: 30 Apr 2020 20:34

Tgt Ion: 43 Resp: 59149

Ion	Ratio	Lower	Upper
43	100		
57	111.1	90.8	130.8
85	52.7	32.1	72.1

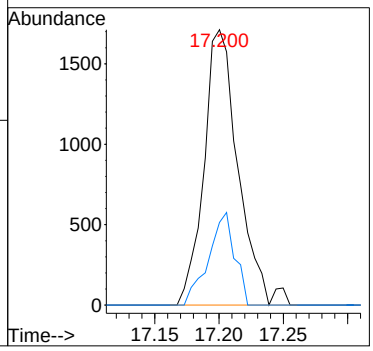


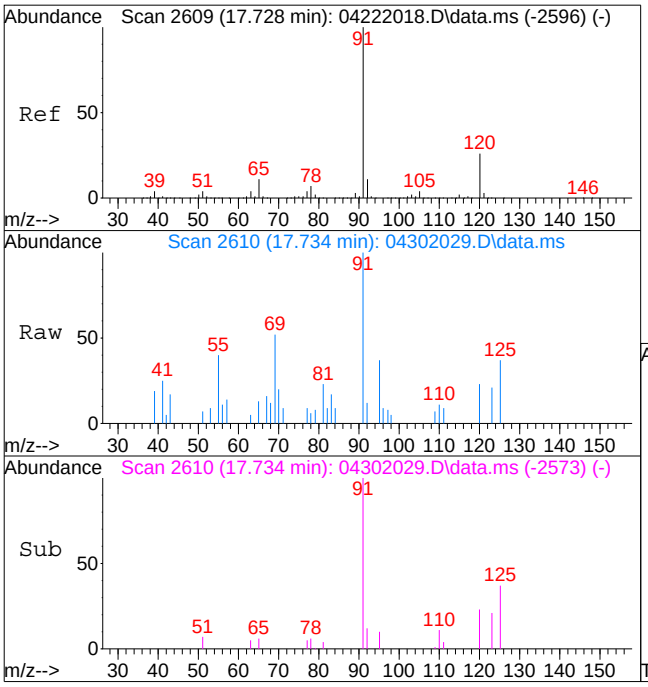


#74
Cumene
Concen: 0.05 ng
RT: 17.20 min Scan# 2513
Delta R.T. -0.000 min
Lab File: 04302029.D
Acq: 30 Apr 2020 20:34

Tgt Ion:105 Resp: 3172

Ion	Ratio	Lower	Upper
105	100		
120	25.8	7.3	47.3

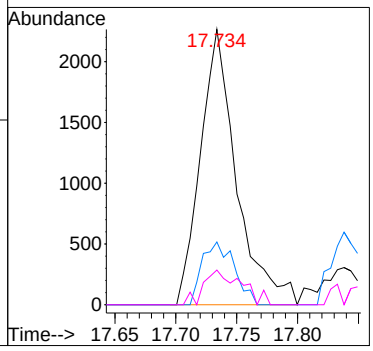


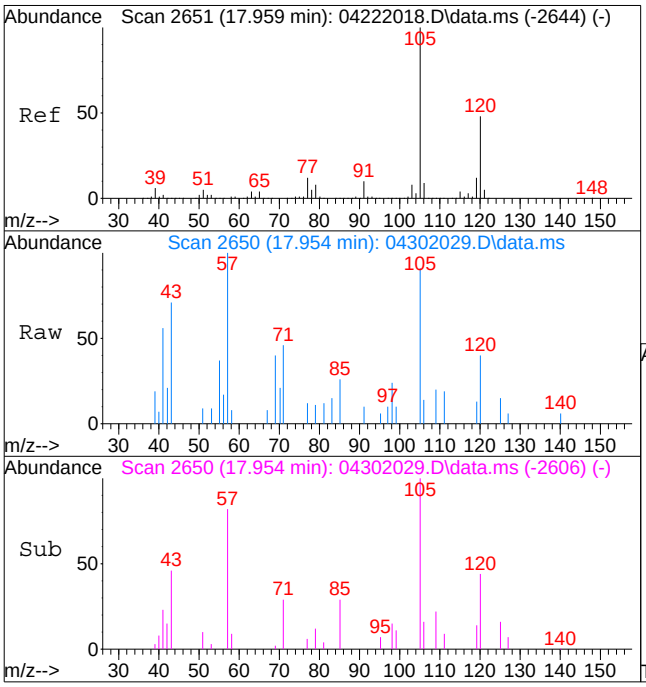


#76
n-Propylbenzene
Concen: 0.07 ng
RT: 17.73 min Scan# 2610
Delta R.T. 0.005 min
Lab File: 04302029.D
Acq: 30 Apr 2020 20:34

Tgt Ion: 91 Resp: 4653

Ion	Ratio	Lower	Upper
91	100		
120	20.4	6.1	46.1
65	13.3	0.0	30.7

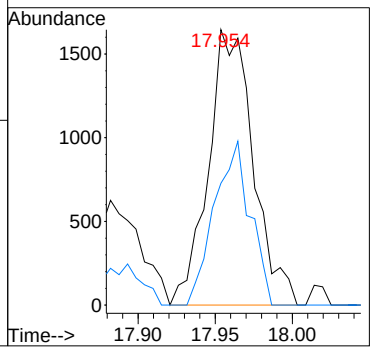


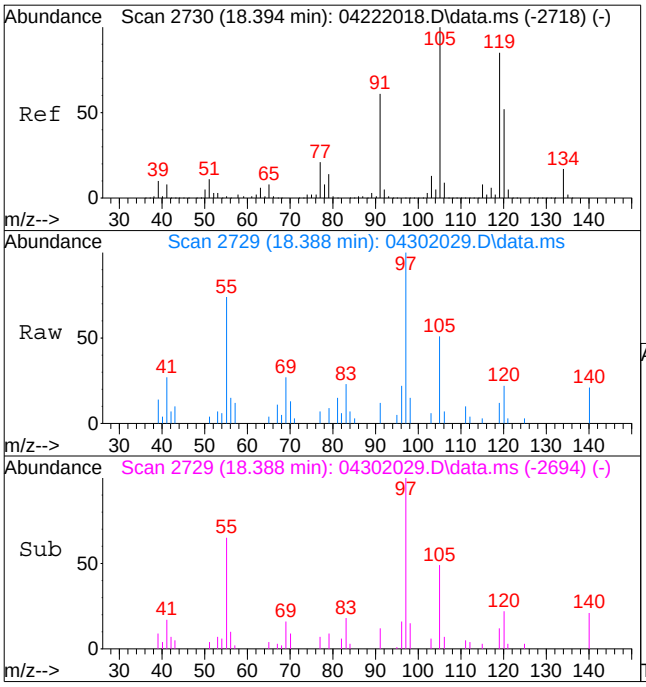


#79
1,3,5-Trimethylbenzene
Concen: 0.06 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 04302029.D
Acq: 30 Apr 2020 20:34

Tgt Ion:105 Resp: 3338

Ion	Ratio	Lower	Upper
105	100		
120	47.4	29.5	69.5

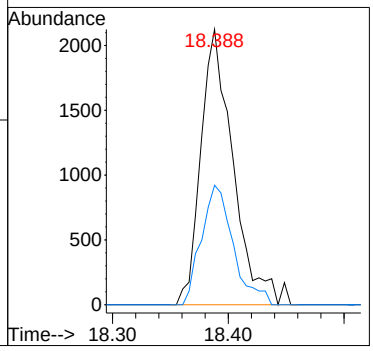




#82
1,2,4-Trimethylbenzene
Concen: 0.08 ng
RT: 18.39 min Scan# 2729
Delta R.T. -0.006 min
Lab File: 04302029.D
Acq: 30 Apr 2020 20:34

Tgt Ion:105 Resp: 4128

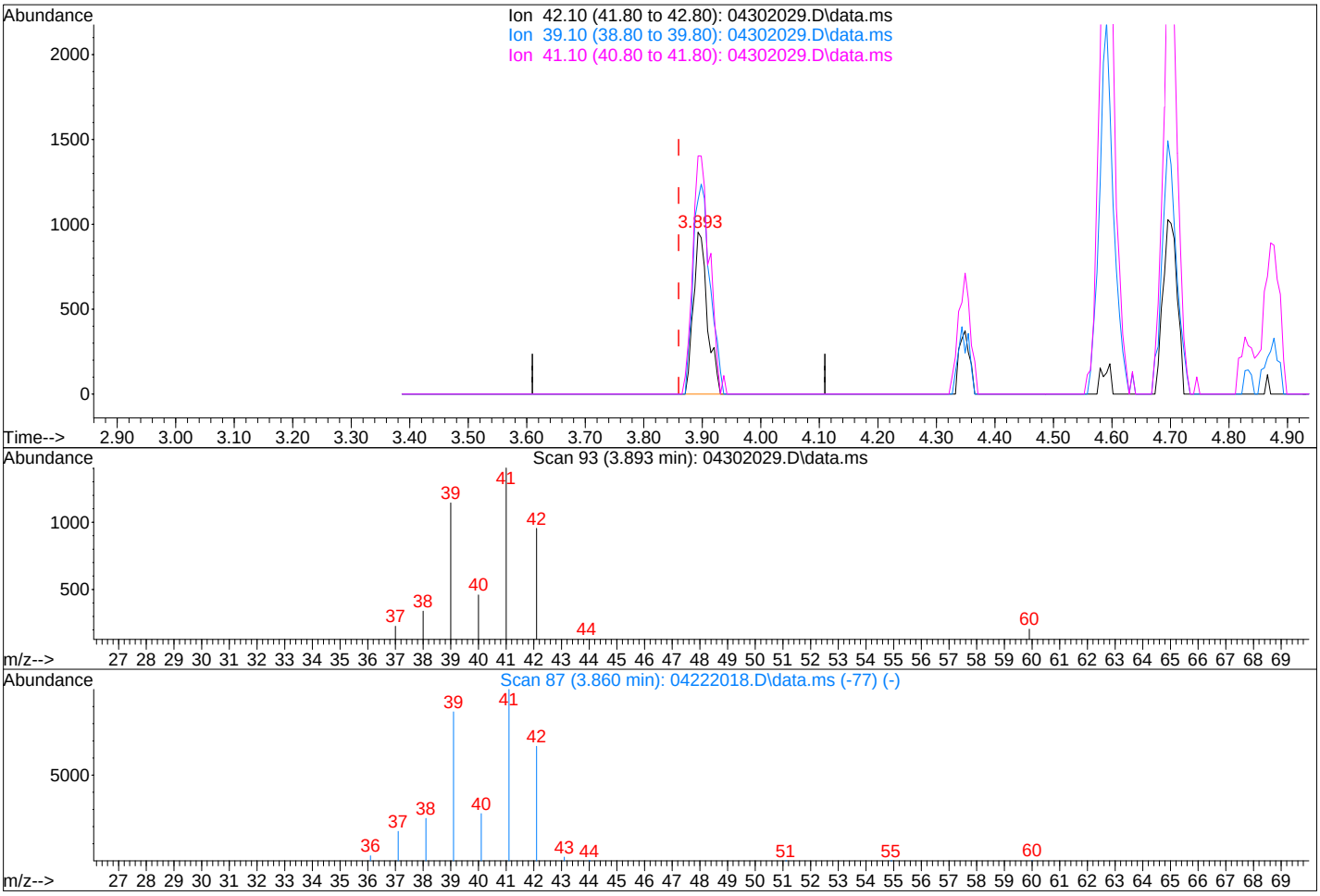
Ion	Ratio	Lower	Upper
105	100		
120	42.7	34.5	74.5



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\30\04302029.D Vial: 1
Acq On : 30 Apr 2020 20:34 Operator: SC
Sample : P2002029-011 (0.075mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 21:10:43 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04302029.D\data.ms

(2) Propene (T)

3.893min (+0.033) 0.24ng

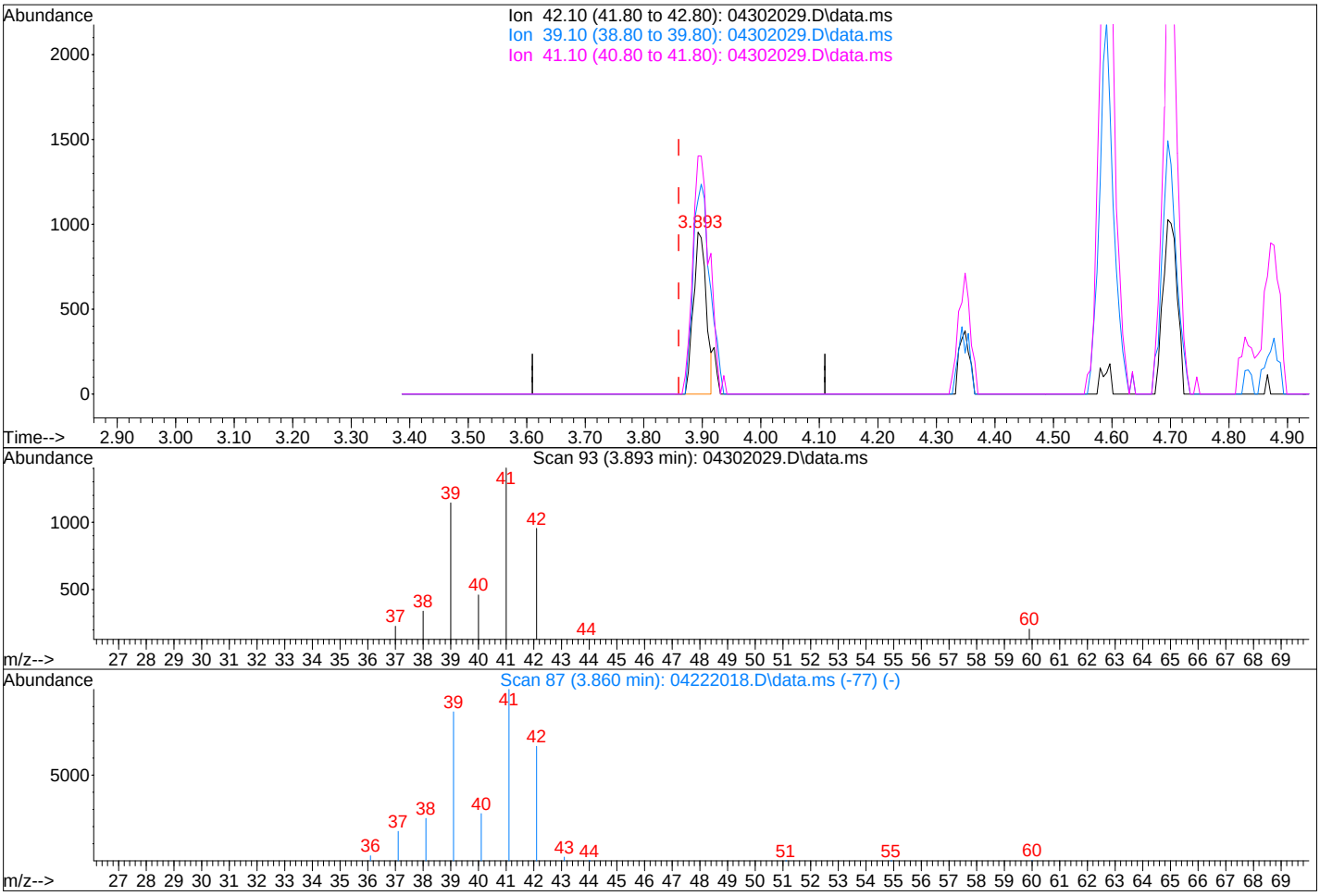
response 1588

Ion	Exp%	Act%
42.10	100	100
39.10	126.40	157.18#
41.10	148.80	177.20#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\30\04302029.D Vial: 1
Acq On : 30 Apr 2020 20:34 Operator: SC
Sample : P2002029-011 (0.075mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 21:10:43 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04302029.D\data.ms

(2) Propene (T)

3.893min (+0.033) 0.22ng m

response 1459

Ion	Exp%	Act%
42.10	100	100
39.10	126.40	171.08#
41.10	148.80	192.87#
0.00	0.00	0.00

IPC
4/30/20
TD 5/1/20

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302010.D Vial: 1
Acq On : 30 Apr 2020 9:10 Operator: WA
Sample : P2002029-012 (1.0mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 14:01:43 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/30/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.14	130	151162	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	11.11	114	639396	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	288281	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.92	65	227977	11.640	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.12%			
57) Toluene-d8 (SS2)	13.55	98	689105	12.380	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.04%			
73) Bromofluorobenzene (SS3)	17.05	174	266117	11.896	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.20%			
Target Compounds						Qvalue
2) Propene	3.89	42	2968	0.462	ng	# 69
3) Dichlorodifluoromethan...	3.98	85	290	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	4.59	54	248	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.41	45	37	N.D.		
11) Acetonitrile	0.00	41	0	N.D.		
12) Acrolein	0.00	56	0	N.D. d		
13) Acetone	0.00	58	0	N.D. d		
14) Trichlorofluoromethane	6.02	101	274	N.D.		
15) 2-Propanol (Isopropanol)	6.45	45	42	N.D.		
16) Acrylonitrile	0.00	53	0	N.D. d		
17) 1,1-Dichloroethene	6.72	96	1539	0.144	ng	88
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d		
19) Methylene Chloride	6.87	84	3891	0.380	ng	100
20) 3-Chloro-1-propene (Al...	7.00	41	143	N.D.		
21) Trichlorotrifluoroethane	7.19	151	14071	1.114	ng	100
22) Carbon Disulfide	0.00	76	0	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	8.11	63	548	N.D.		
25) Methyl tert-Butyl Ether	8.20	73	734	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D. d		
27) 2-Butanone (MEK)	0.00	72	0	N.D. d		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D. d		
30) Ethyl Acetate	0.00	61	0	N.D. d		
31) n-Hexane	9.24	57	1213000	93.632	ng	99
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D. d		
38) 1,1,1-Trichloroethane	10.30	97	16050	0.730	ng	100
39) Isopropyl Acetate	0.00	61	0	N.D. d		
40) 1-Butanol	0.00	56	0	N.D. d		
41) Benzene	10.76	78	2331541	55.937	ng	100
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	11.05	84	1783819	109.241	ng	99
44) tert-Amyl Methyl Ether	11.30	73	782	N.D.		
45) 1,2-Dichloropropane	11.56	63	395	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D. d		
47) Trichloroethene	11.82	130	930	0.064	ng	88
48) 1,4-Dioxane	0.00	88	0	N.D. d		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d		
50) Methyl Methacrylate	0.00	100	0	N.D. d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302010.D Vial: 1
Acq On : 30 Apr 2020 9:10 Operator: WA
Sample : P2002029-012 (1.0mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 14:01:43 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

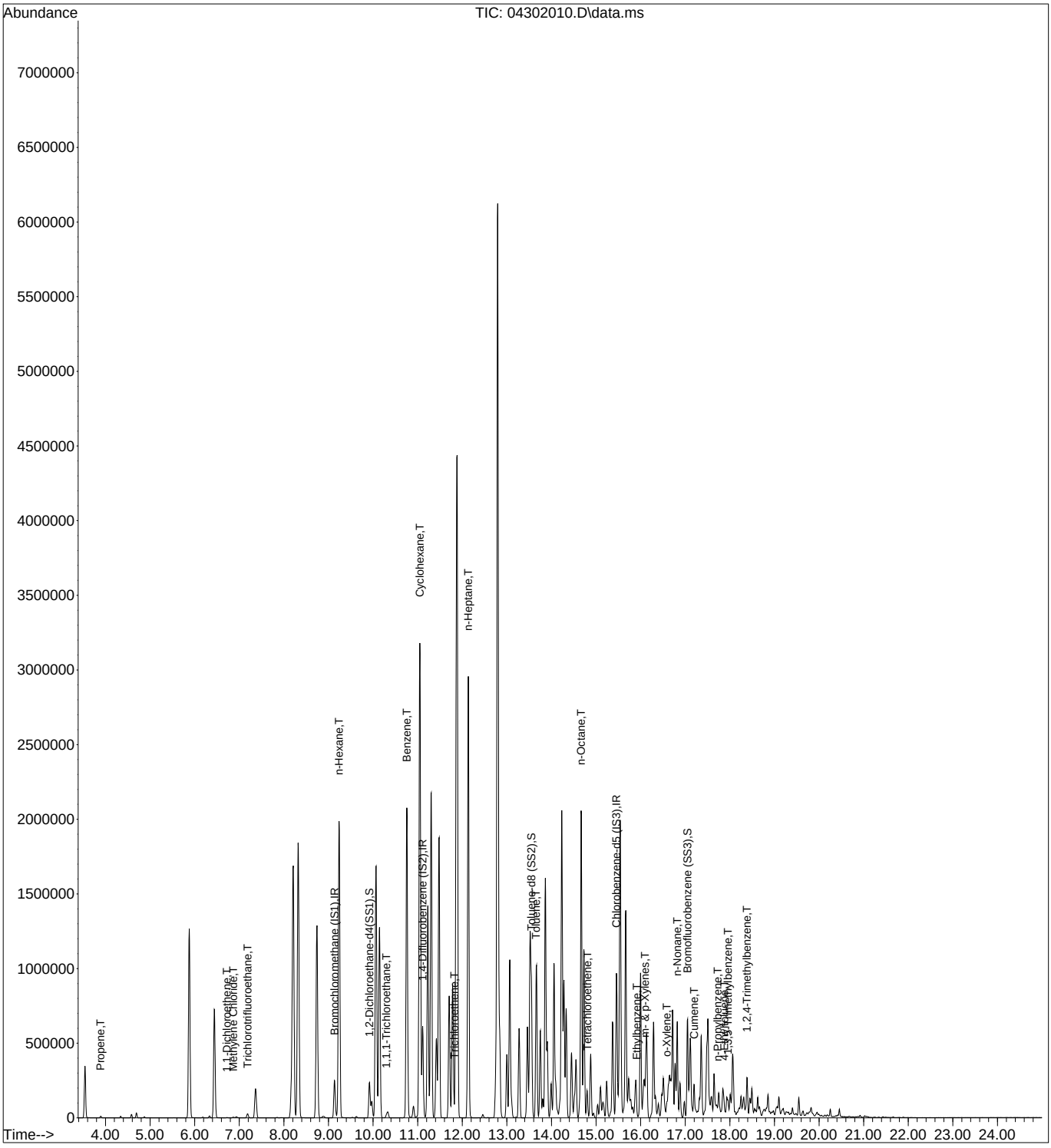
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.14	71	917493	94.739 ng	100
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	12.97	75	213	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	13.65	91	148319	3.174 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.67	57	411147	55.267 ng	99
64) Tetrachloroethene	14.81	166	5162	0.293 ng	97
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.91	91	9062	0.166 ng	89
67) m- & p-Xylenes	16.10	91	143936	3.133 ng	98
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.59	104	927	N.D.	
70) o-Xylene	16.58	91	44505	0.986 ng	99
71) n-Nonane	16.82	43	192333	13.215 ng	99
72) 1,1,2,2-Tetrachloroethane	16.58	83	447	N.D.	
74) Cumene	17.20	105	6643	0.113 ng	99
75) alpha-Pinene	17.60	93	942	N.D.	
76) n-Propylbenzene	17.73	91	9996	0.156 ng	83
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	5352	0.096 ng	99
79) 1,3,5-Trimethylbenzene	17.96	105	27950	0.541 ng	99
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	18.15	105	2025	N.D.	
82) 1,2,4-Trimethylbenzene	18.38	105	28532	0.571 ng	94
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.49	91	660	N.D.	
85) 1,3-Dichlorobenzene	18.62	146	121	N.D.	
86) 1,4-Dichlorobenzene	18.62	146	121	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	18.84	119	1946	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	18.98	146	685	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.94	128	377	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	19.27	91	2341	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302010.D Vial: 1
Acq On : 30 Apr 2020 9:10 Operator: WA
Sample : P2002029-012 (1.0mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 14:01:43 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302010.D Vial: 1
Acq On : 30 Apr 2020 9:10 Operator: WA
Sample : P2002029-012 (1.0mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 14:01:43 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/30/20

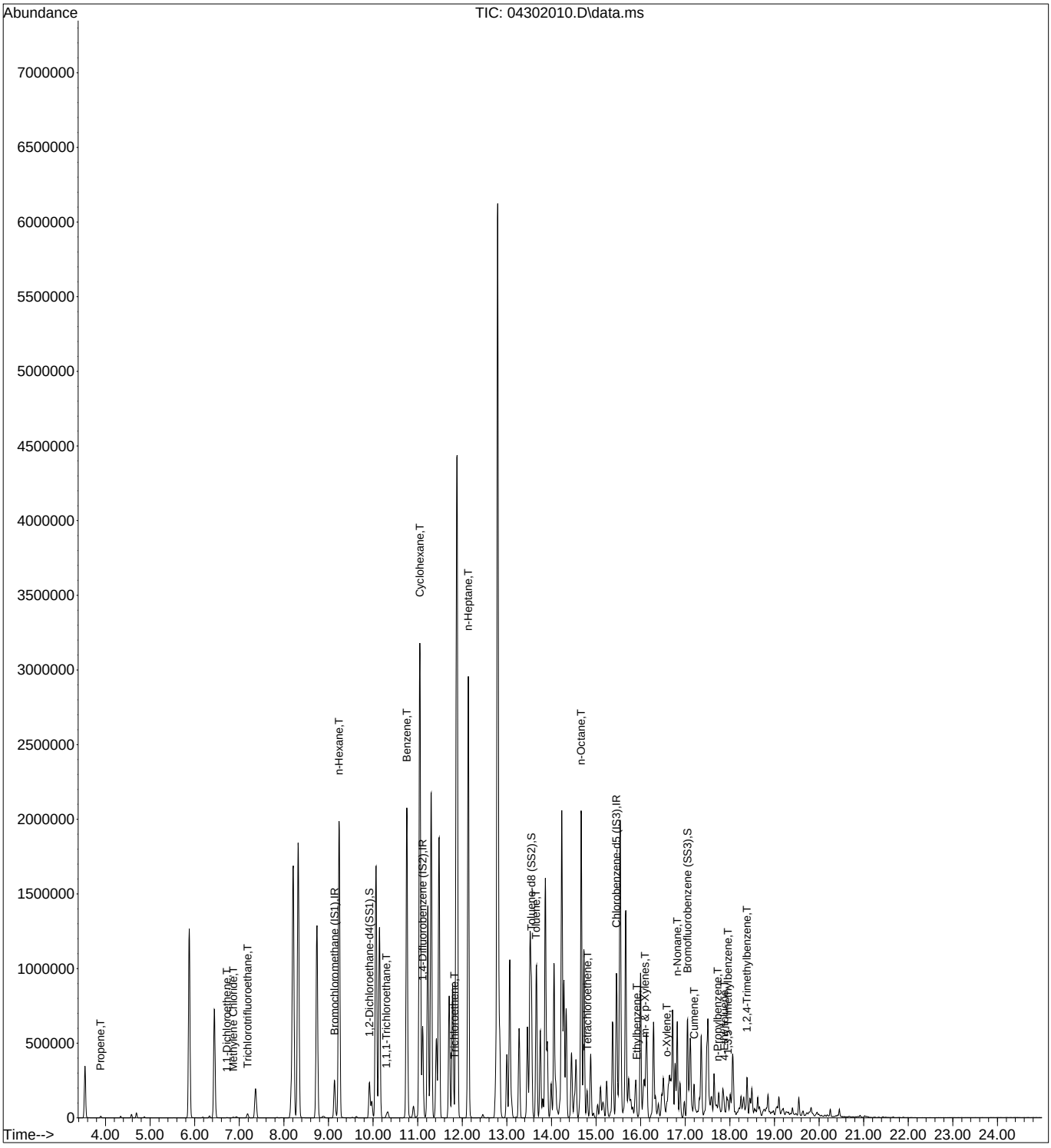
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.14	130	151162	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	11.11	114	639396	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	288281	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.92	65	227977	11.640	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.12%			
57) Toluene-d8 (SS2)	13.55	98	689105	12.380	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.04%			
73) Bromofluorobenzene (SS3)	17.05	174	266117	11.896	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.20%			
Target Compounds						Qvalue
2) Propene	3.89	42	2968	0.462	ng	# 69
17) 1,1-Dichloroethene	6.72	96	1539	0.144	ng	88
19) Methylene Chloride	6.87	84	3891	0.380	ng	100
21) Trichlorotrifluoroethane	7.19	151	14071	1.114	ng	100
31) n-Hexane	9.24	57	1213000	93.632	ng	99
38) 1,1,1-Trichloroethane	10.30	97	16050	0.730	ng	100
41) Benzene	10.76	78	2331541	55.937	ng	100
43) Cyclohexane	11.05	84	1783819	109.241	ng	99
47) Trichloroethene	11.82	130	930	0.064	ng	88
51) n-Heptane	12.14	71	917493	94.739	ng	100
58) Toluene	13.65	91	148319	3.174	ng	100
63) n-Octane	14.67	57	411147	55.267	ng	99
64) Tetrachloroethene	14.81	166	5162	0.293	ng	97
66) Ethylbenzene	15.91	91	9062	0.166	ng	89
67) m- & p-Xylenes	16.10	91	143936	3.133	ng	98
70) o-Xylene	16.58	91	44505	0.986	ng	99
71) n-Nonane	16.82	43	192333	13.215	ng	99
74) Cumene	17.20	105	6643	0.113	ng	99
76) n-Propylbenzene	17.73	91	9996	0.156	ng	83
78) 4-Ethyltoluene	17.88	105	5352	0.096	ng	99
79) 1,3,5-Trimethylbenzene	17.96	105	27950	0.541	ng	99
82) 1,2,4-Trimethylbenzene	18.38	105	28532	0.571	ng	94

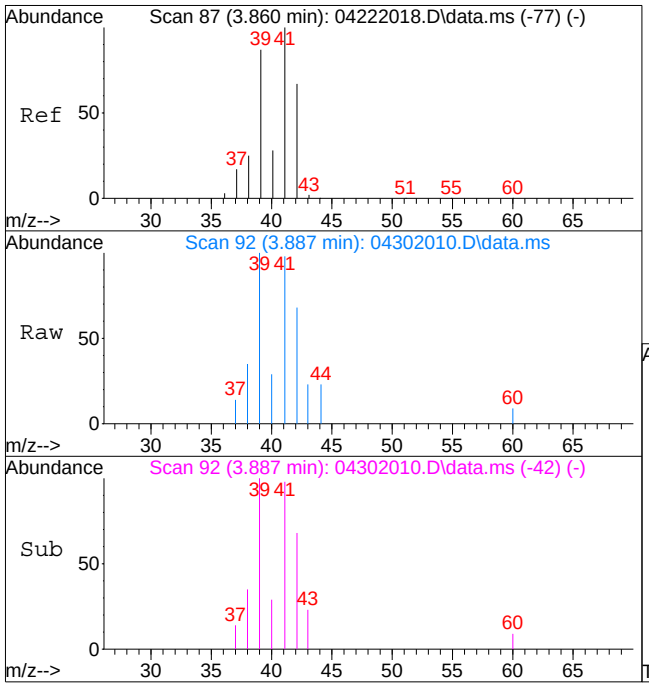
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302010.D Vial: 1
Acq On : 30 Apr 2020 9:10 Operator: WA
Sample : P2002029-012 (1.0mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 14:01:43 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

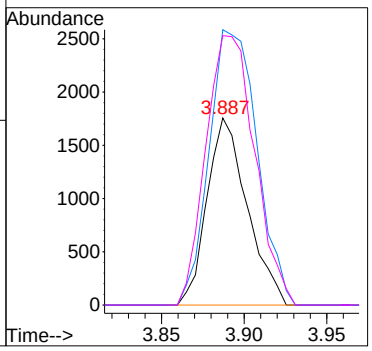


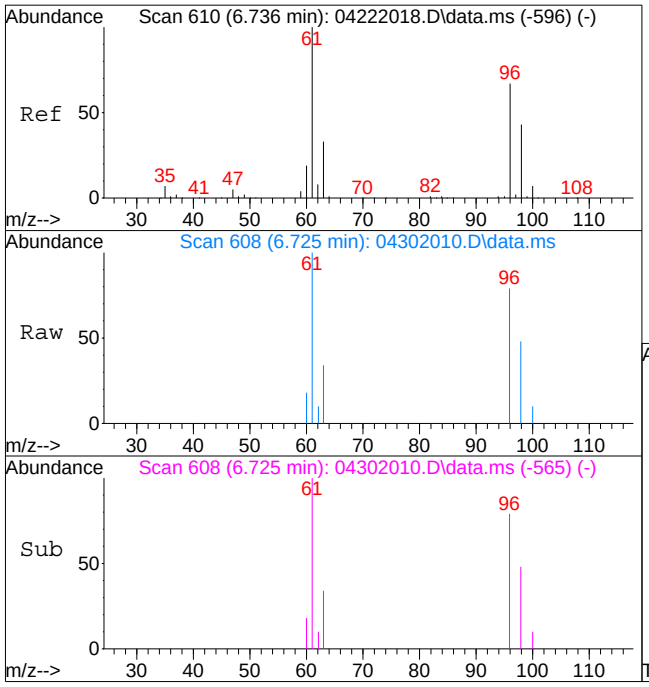


#2
Propene
Concen: 0.46 ng
RT: 3.89 min Scan# 92
Delta R.T. 0.027 min
Lab File: 04302010.D
Acq: 30 Apr 2020 9:10

Tgt Ion: 42 Resp: 2968

Ion	Ratio	Lower	Upper
42	100		
39	175.6	106.4	146.4#
41	175.5	128.8	168.8#

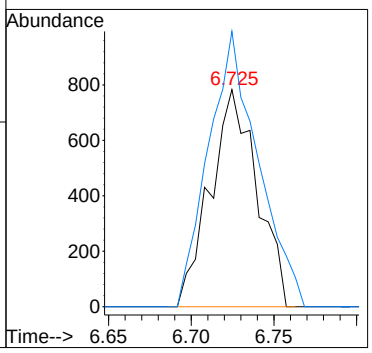


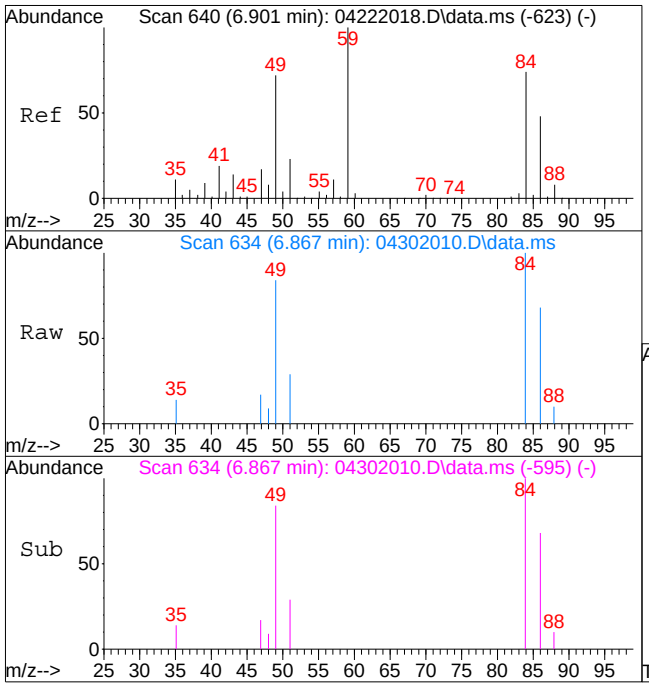


#17
1,1-Dichloroethene
Concen: 0.14 ng
RT: 6.72 min Scan# 608
Delta R.T. -0.011 min
Lab File: 04302010.D
Acq: 30 Apr 2020 9:10

Tgt Ion: 96 Resp: 1539

Ion	Ratio	Lower	Upper
96	100		
61	134.6	129.8	169.8

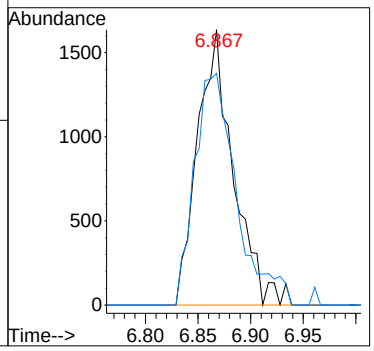


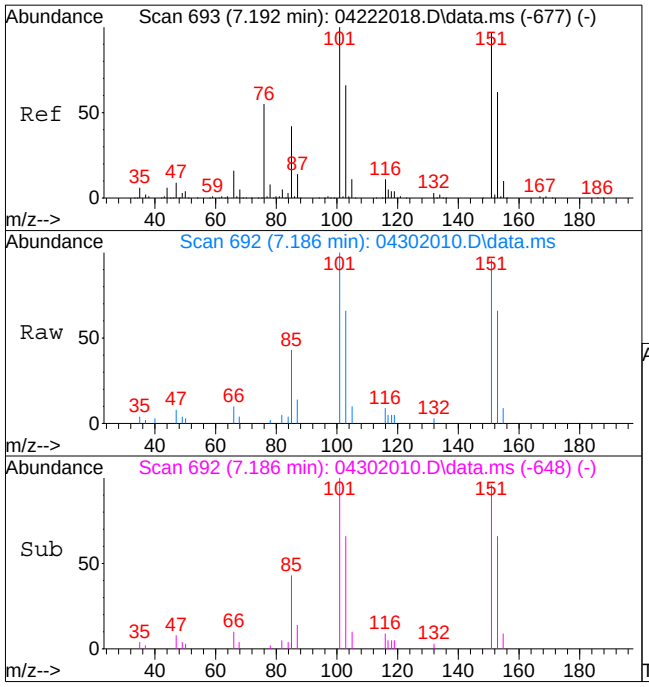


#19
Methylene Chloride
Concen: 0.38 ng
RT: 6.87 min Scan# 634
Delta R.T. -0.033 min
Lab File: 04302010.D
Acq: 30 Apr 2020 9:10

Tgt Ion: 84 Resp: 3891

Ion	Ratio	Lower	Upper
84	100		
49	97.9	73.0	123.0

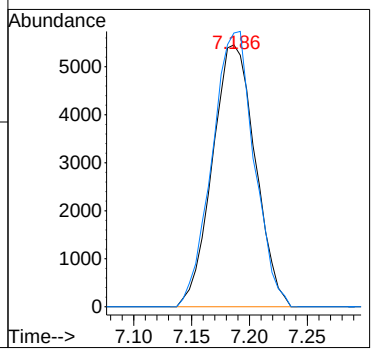


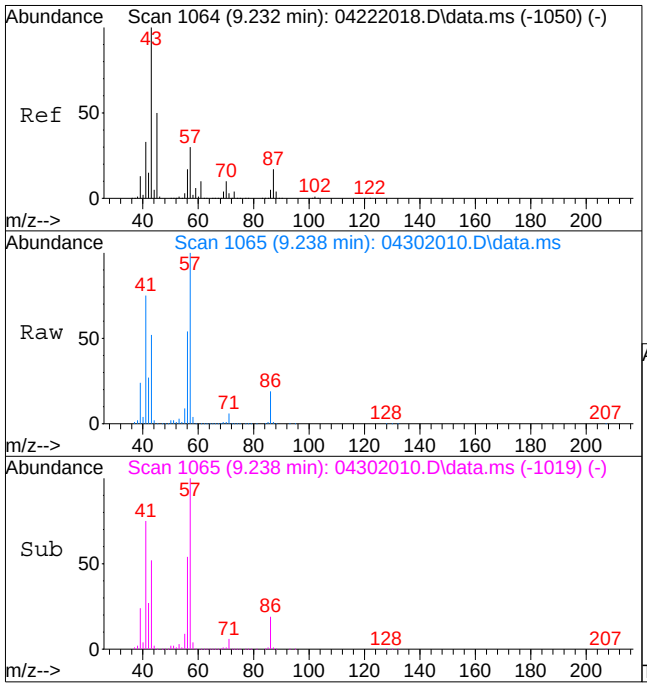


#21
Trichlorotrifluoroethane
Concen: 1.11 ng
RT: 7.19 min Scan# 692
Delta R.T. -0.006 min
Lab File: 04302010.D
Acq: 30 Apr 2020 9:10

Tgt Ion:151 Resp: 14071

Ion	Ratio	Lower	Upper
151	100		
101	103.2	82.9	122.9

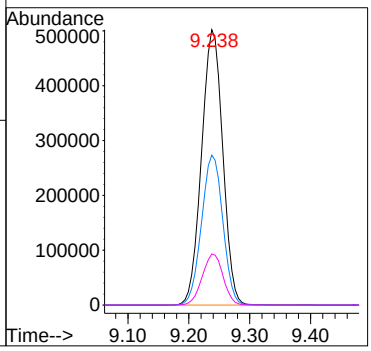


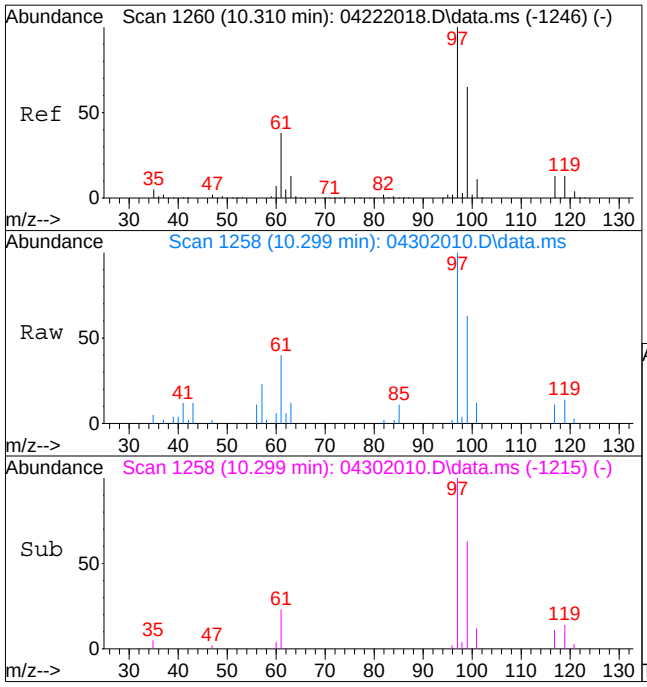


#31
n-Hexane
Concen: 93.63 ng
RT: 9.24 min Scan# 1065
Delta R.T. 0.005 min
Lab File: 04302010.D
Acq: 30 Apr 2020 9:10

Tgt Ion: 57 Resp: 1213000

Ion	Ratio	Lower	Upper
57	100		
56	54.7	44.0	66.0
86	18.3	15.0	22.4

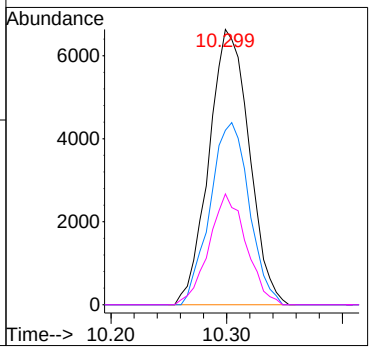


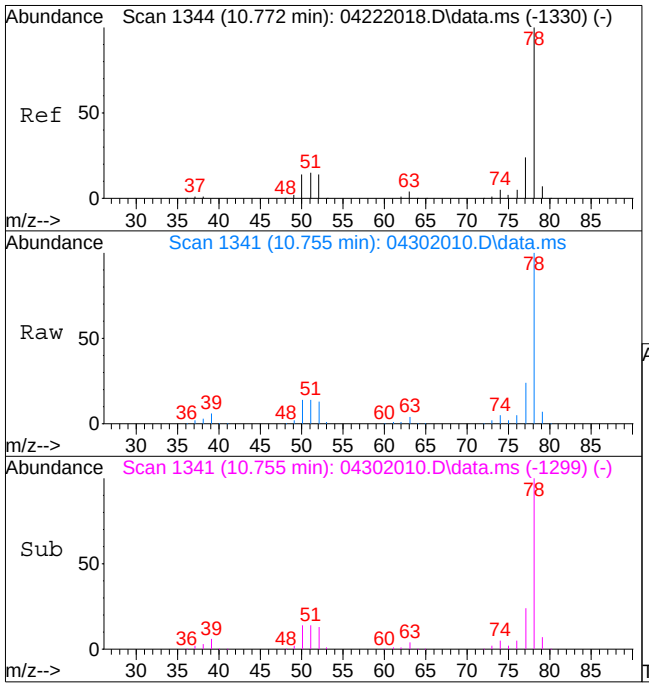


#38
1,1,1-Trichloroethane
Concen: 0.73 ng
RT: 10.30 min Scan# 1258
Delta R.T. -0.011 min
Lab File: 04302010.D
Acq: 30 Apr 2020 9:10

Tgt Ion: 97 Resp: 16050

Ion	Ratio	Lower	Upper
97	100		
99	64.4	44.7	84.7
61	37.3	17.2	57.2

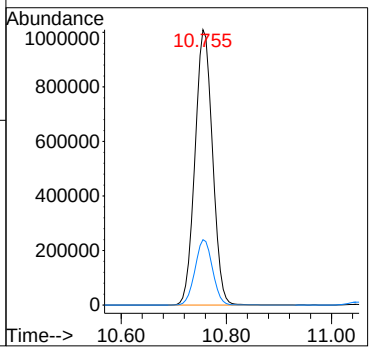


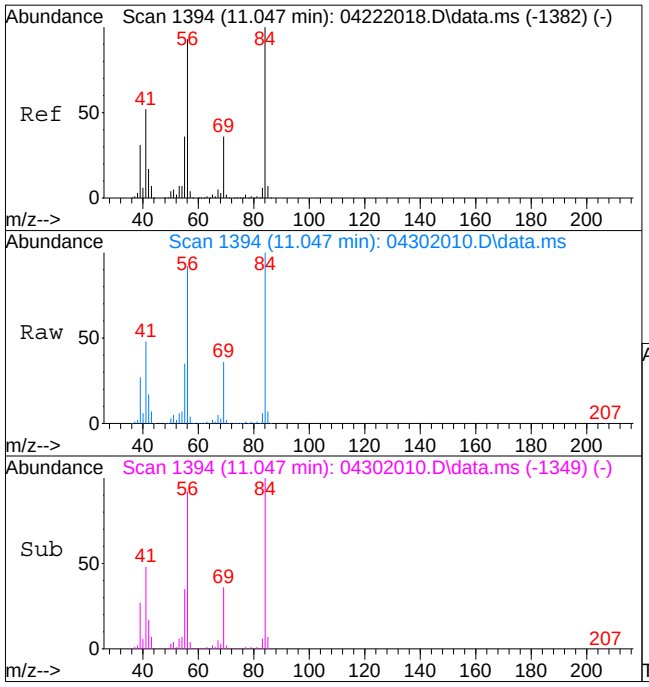


#41
Benzene
Concen: 55.94 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.017 min
Lab File: 04302010.D
Acq: 30 Apr 2020 9:10

Tgt Ion: 78 Resp: 2331541

Ion	Ratio	Lower	Upper
78	100		
77	23.7	3.6	43.6

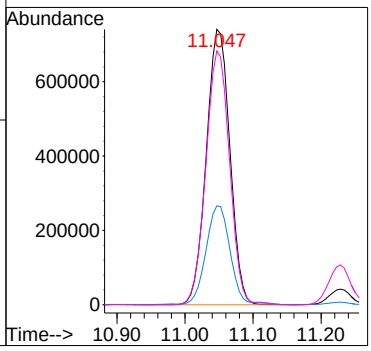


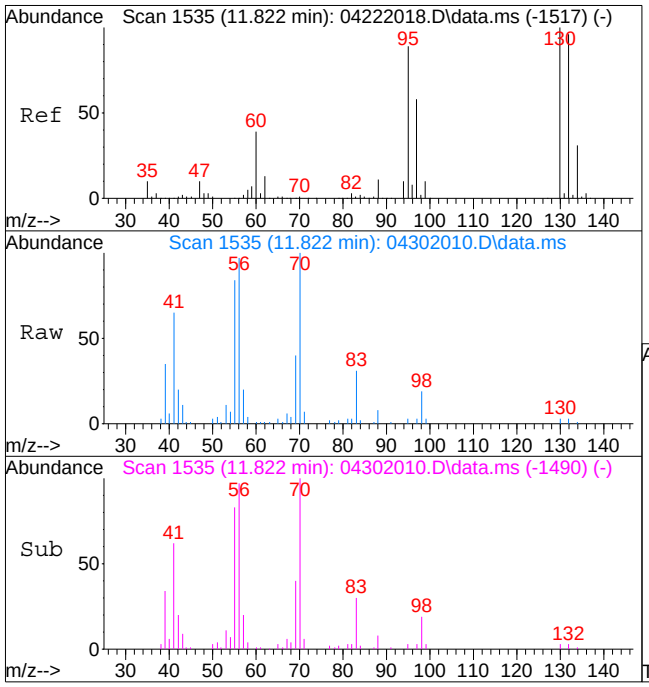


#43
Cyclohexane
Concen: 109.24 ng
RT: 11.05 min Scan# 1394
Delta R.T. -0.000 min
Lab File: 04302010.D
Acq: 30 Apr 2020 9:10

Tgt Ion: 84 Resp: 1783819

Ion	Ratio	Lower	Upper
84	100		
69	36.9	15.8	55.8
56	93.0	72.0	112.0

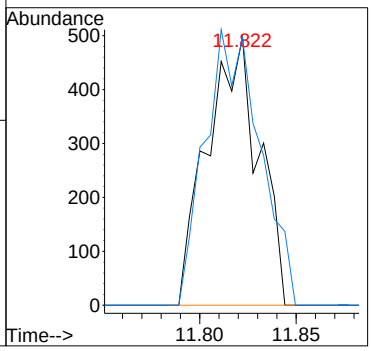


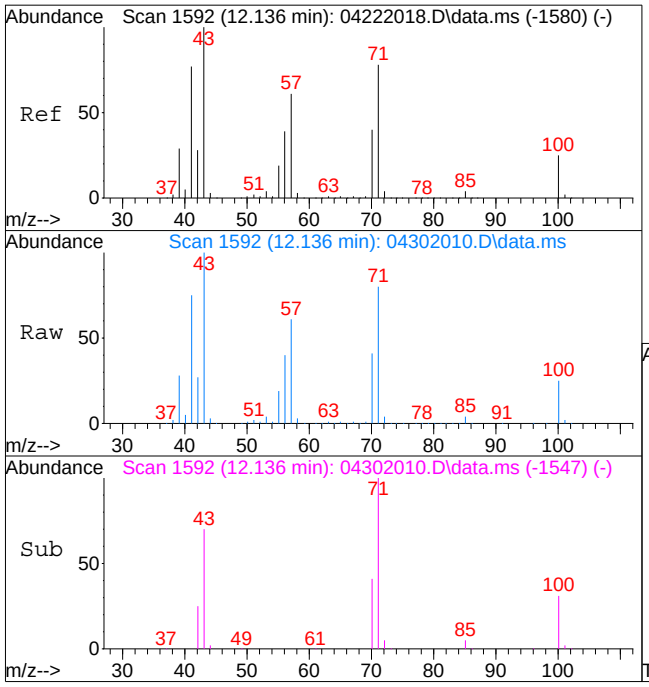


#47
Trichloroethene
Concen: 0.06 ng
RT: 11.82 min Scan# 1535
Delta R.T. -0.000 min
Lab File: 04302010.D
Acq: 30 Apr 2020 9:10

Tgt Ion:130 Resp: 930

Ion	Ratio	Lower	Upper
130	100		
132	108.6	76.4	116.4

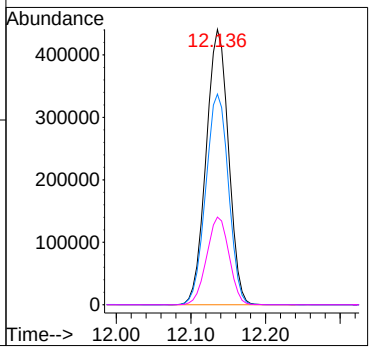


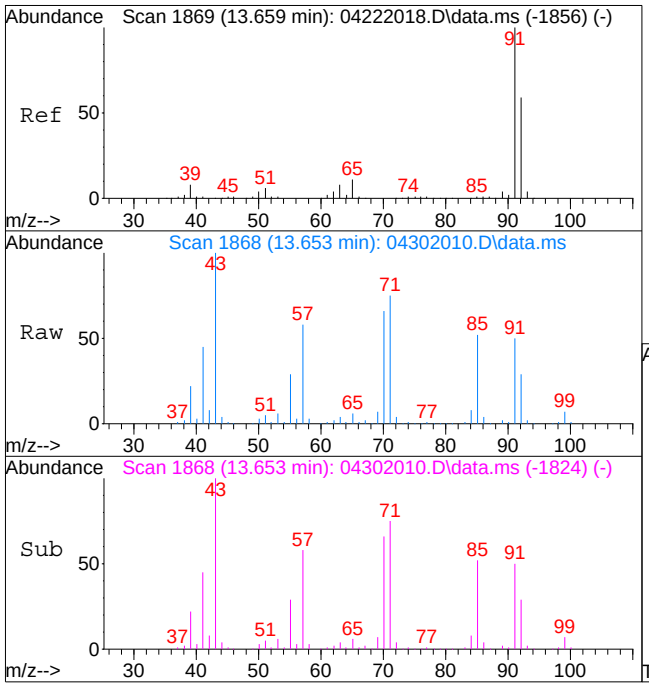


#51
n-Heptane
Concen: 94.74 ng
RT: 12.14 min Scan# 1592
Delta R.T. -0.000 min
Lab File: 04302010.D
Acq: 30 Apr 2020 9:10

Tgt Ion: 71 Resp: 917493

Ion	Ratio	Lower	Upper
71	100		
57	77.8	57.4	97.4
100	31.9	12.0	52.0

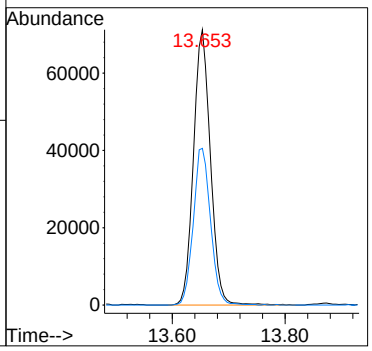


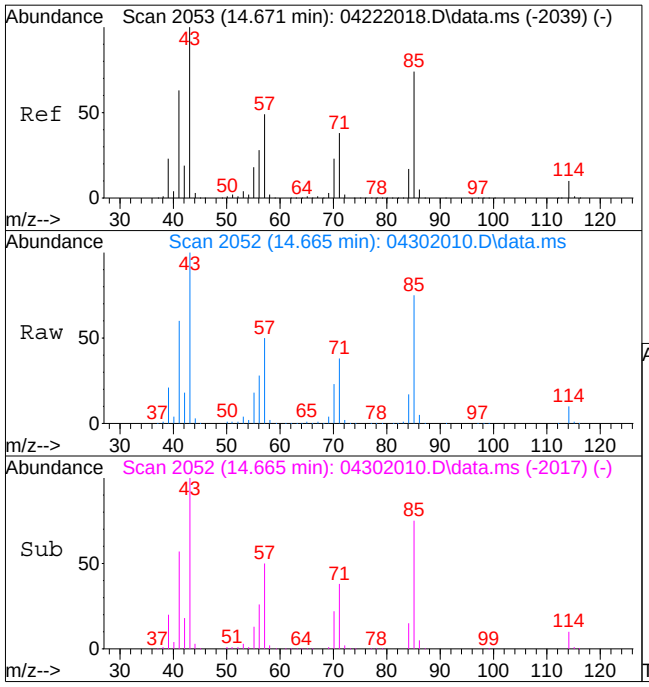


#58
Toluene
Concen: 3.17 ng
RT: 13.65 min Scan# 1868
Delta R.T. -0.006 min
Lab File: 04302010.D
Acq: 30 Apr 2020 9:10

Tgt Ion: 91 Resp: 148319

Ion	Ratio	Lower	Upper
91	100		
92	57.8	38.2	78.2

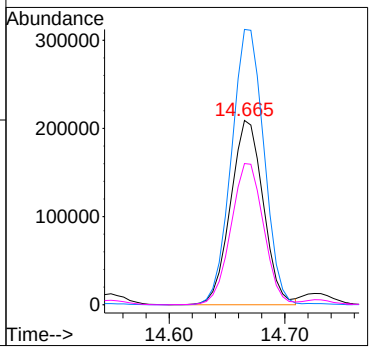


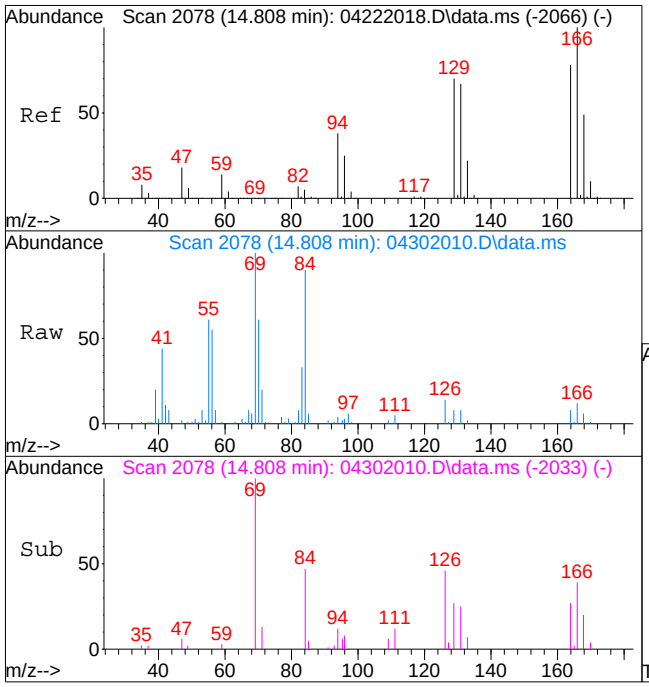


#63
n-Octane
Concen: 55.27 ng
RT: 14.67 min Scan# 2052
Delta R.T. -0.006 min
Lab File: 04302010.D
Acq: 30 Apr 2020 9:10

Tgt Ion: 57 Resp: 411147

Ion	Ratio	Lower	Upper
57	100		
85	148.7	120.7	181.1
71	76.5	61.1	91.7

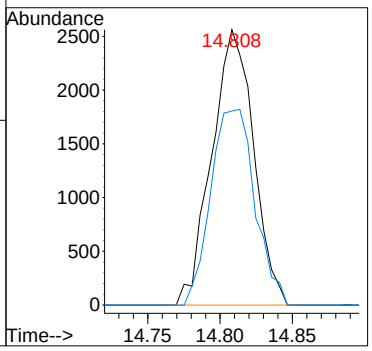


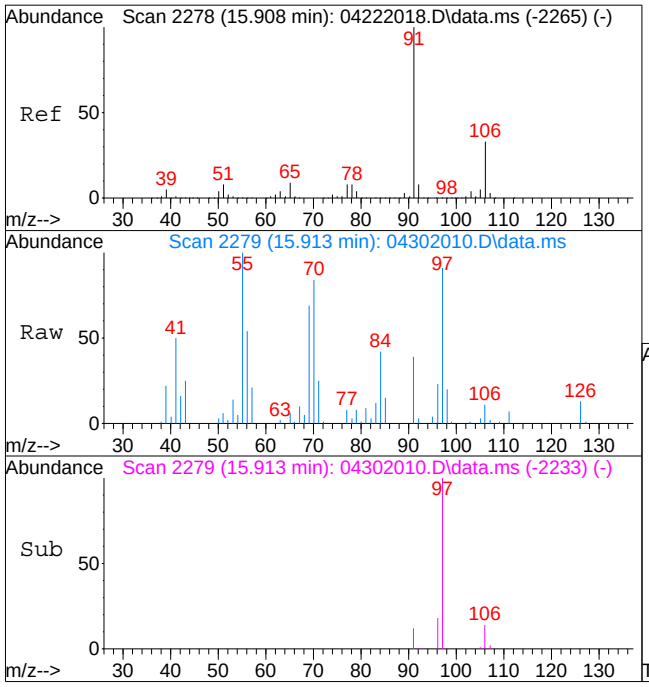


#64
Tetrachloroethene
Concen: 0.29 ng
RT: 14.81 min Scan# 2078
Delta R.T. -0.000 min
Lab File: 04302010.D
Acq: 30 Apr 2020 9:10

Tgt Ion:166 Resp: 5162

Ion	Ratio	Lower	Upper
166	100		
164	75.0	57.7	97.7

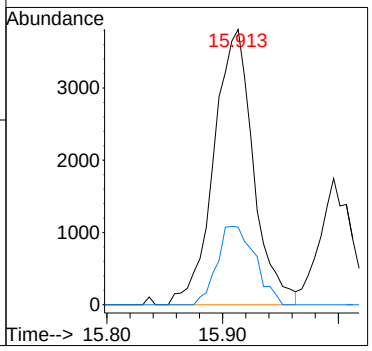


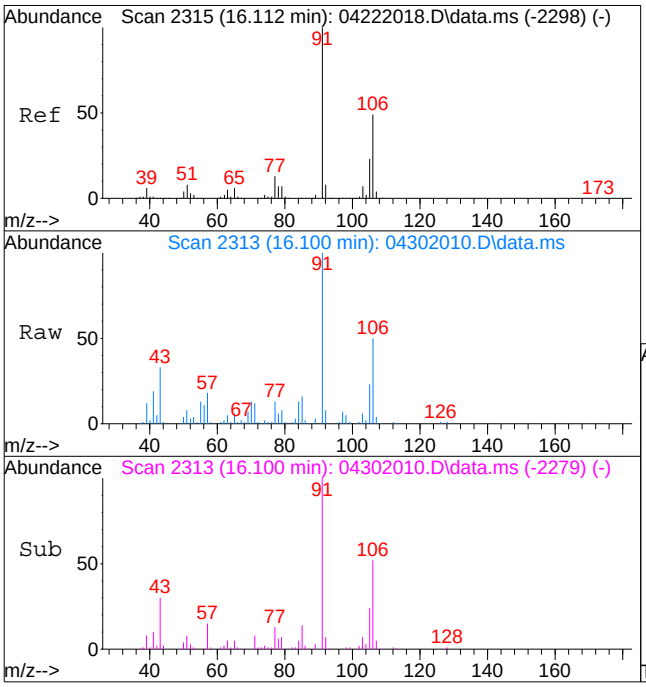


#66
Ethylbenzene
Concen: 0.17 ng
RT: 15.91 min Scan# 2279
Delta R.T. 0.005 min
Lab File: 04302010.D
Acq: 30 Apr 2020 9:10

Tgt Ion: 91 Resp: 9062

Ion	Ratio	Lower	Upper
91	100		
106	27.4	13.4	53.4

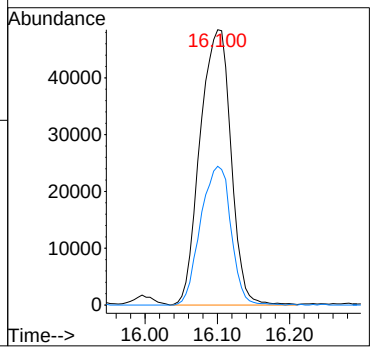


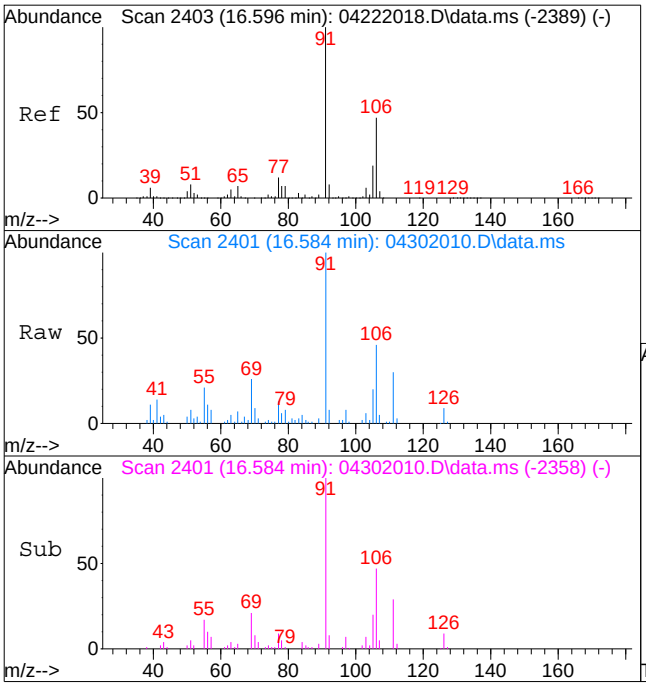


#67
m- & p-Xylenes
Concen: 3.13 ng
RT: 16.10 min Scan# 2313
Delta R.T. -0.011 min
Lab File: 04302010.D
Acq: 30 Apr 2020 9:10

Tgt Ion: 91 Resp: 143936

Ion	Ratio	Lower	Upper
91	100		
106	49.5	28.3	68.3

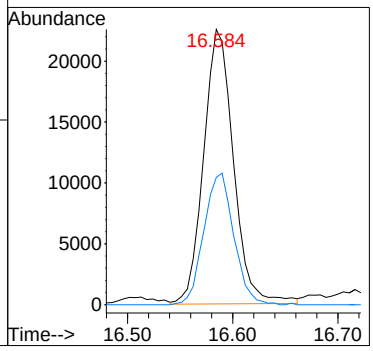


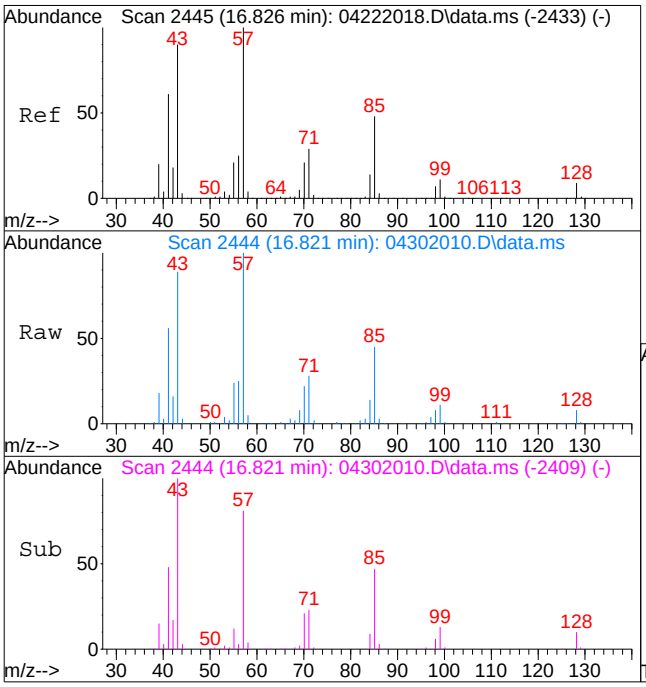


#70
o-Xylene
Concen: 0.99 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 04302010.D
Acq: 30 Apr 2020 9:10

Tgt Ion: 91 Resp: 44505

Ion	Ratio	Lower	Upper
91	100		
106	47.9	27.5	67.5

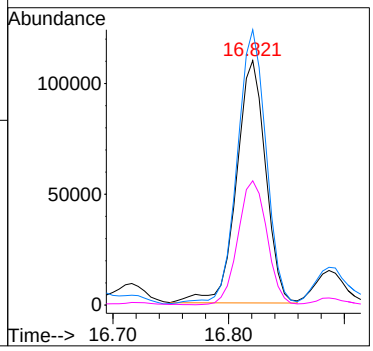


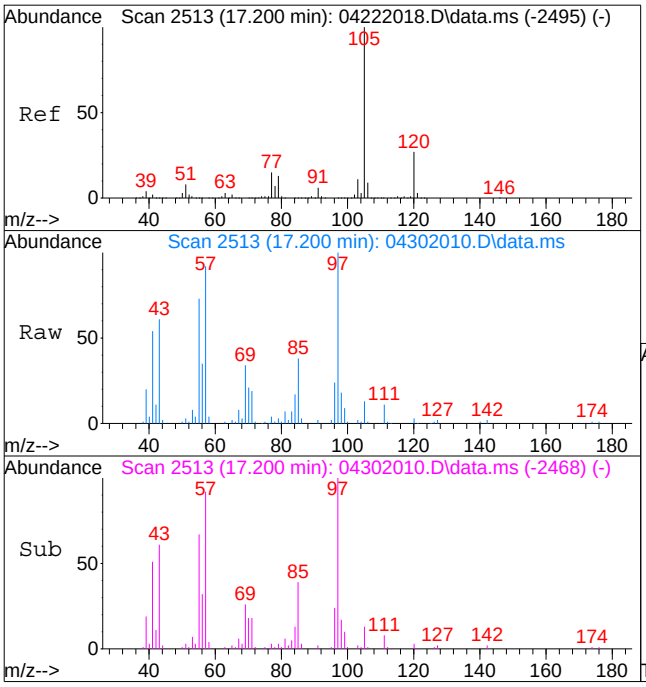


#71
n-Nonane
Concen: 13.22 ng
RT: 16.82 min Scan# 2444
Delta R.T. -0.006 min
Lab File: 04302010.D
Acq: 30 Apr 2020 9:10

Tgt Ion: 43 Resp: 192333

Ion	Ratio	Lower	Upper
43	100		
57	111.7	90.8	130.8
85	50.7	32.1	72.1

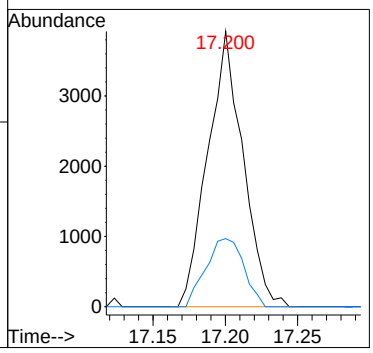


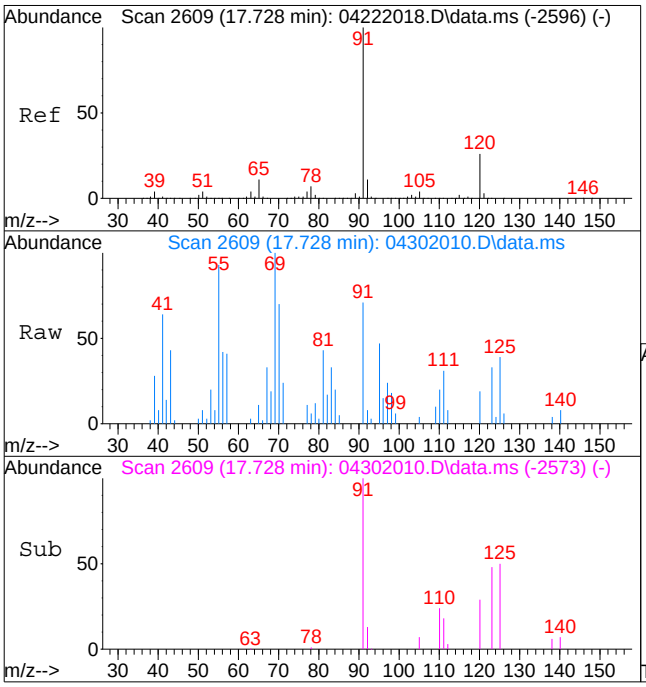


#74
Cumene
Concen: 0.11 ng
RT: 17.20 min Scan# 2513
Delta R.T. -0.000 min
Lab File: 04302010.D
Acq: 30 Apr 2020 9:10

Tgt Ion:105 Resp: 6643

Ion	Ratio	Lower	Upper
105	100		
120	26.6	7.3	47.3

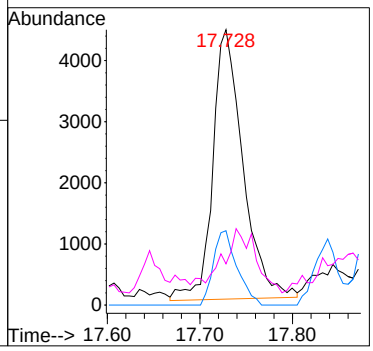


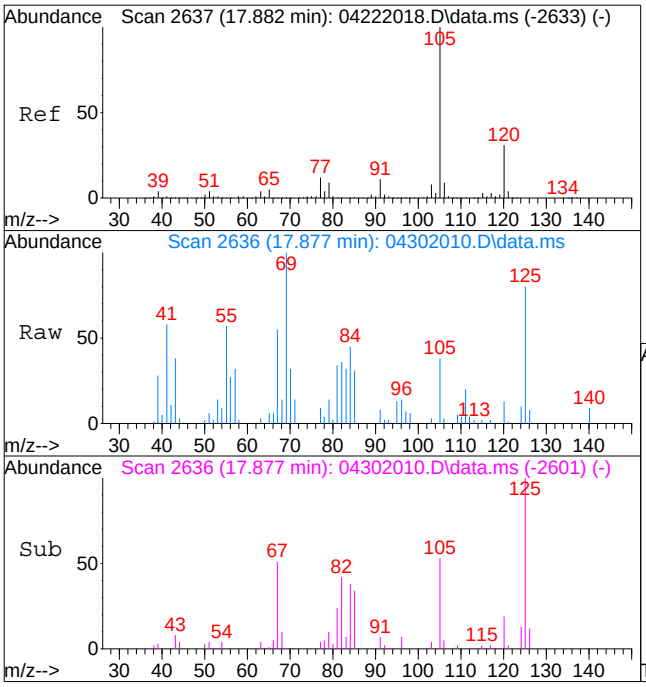


#76
n-Propylbenzene
Concen: 0.16 ng
RT: 17.73 min Scan# 2609
Delta R.T. -0.000 min
Lab File: 04302010.D
Acq: 30 Apr 2020 9:10

Tgt Ion: 91 Resp: 9996

Ion	Ratio	Lower	Upper
91	100		
120	21.5	6.1	46.1
65	24.8	0.0	30.7

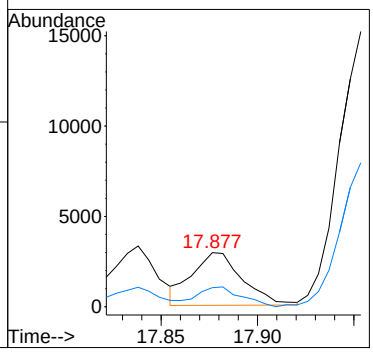


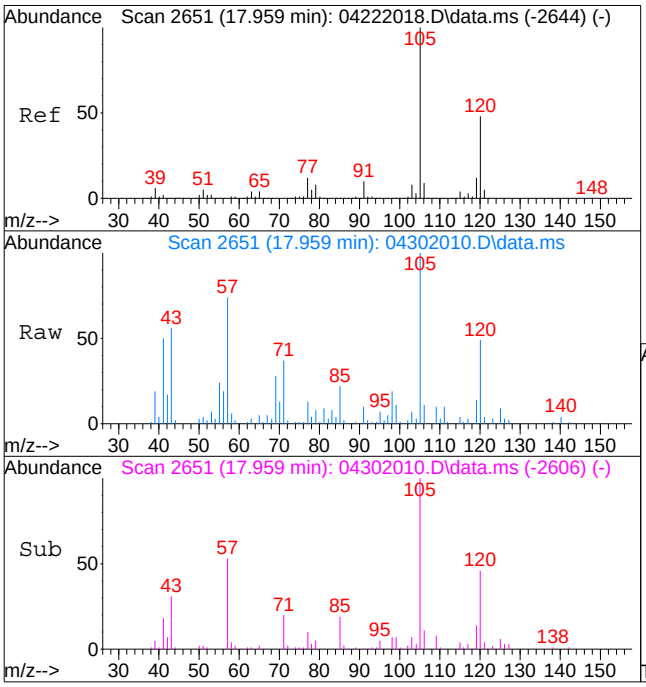


#78
4-Ethyltoluene
Concen: 0.10 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 04302010.D
Acq: 30 Apr 2020 9:10

Tgt Ion:105 Resp: 5352

Ion	Ratio	Lower	Upper
105	100		
120	31.8	11.4	51.4

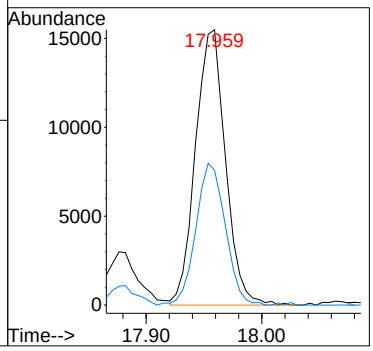


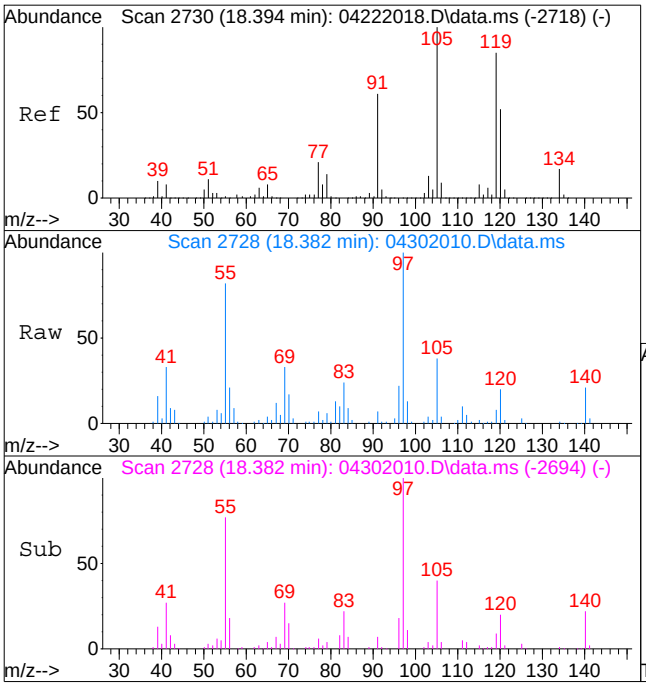


#79
1,3,5-Trimethylbenzene
Concen: 0.54 ng
RT: 17.96 min Scan# 2651
Delta R.T. -0.000 min
Lab File: 04302010.D
Acq: 30 Apr 2020 9:10

Tgt Ion:105 Resp: 27950

Ion	Ratio	Lower	Upper
105	100		
120	50.4	29.5	69.5

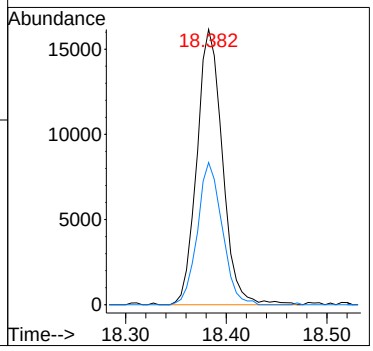




#82
1,2,4-Trimethylbenzene
Concen: 0.57 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 04302010.D
Acq: 30 Apr 2020 9:10

Tgt Ion:105 Resp: 28532

Ion	Ratio	Lower	Upper
105	100		
120	49.9	34.5	74.5



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302013.D Vial: 1
Acq On : 30 Apr 2020 11:03 Operator: WA
Sample : P2002029-013 (0.4mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 13:32:19 2020 4/30/20
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	154477	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	651928	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	314218	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.92	65	230035	11.493	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.92%			
57) Toluene-d8 (SS2)	13.55	98	704077	11.605	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.80%			
73) Bromofluorobenzene (SS3)	17.05	174	277969	11.400	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.20%			
Target Compounds						Qvalue
2) Propene	3.89	42	2684	0.409	ng	94
3) Dichlorodifluoromethan...	4.00	85	269	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	4.60	54	249	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.42	45	89	N.D.		
11) Acetonitrile	0.00	41	0	N.D.		
12) Acrolein	0.00	56	0	N.D.	d	
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	6.03	101	215	N.D.		
15) 2-Propanol (Isopropanol)	6.25	45	512	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.	d	
17) 1,1-Dichloroethene	6.72	96	1445	0.133	ng	99
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d	
19) Methylene Chloride	6.86	84	4112	0.393	ng	98
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d	
21) Trichlorotrifluoroethane	7.19	151	14178	1.098	ng	97
22) Carbon Disulfide	7.17	76	126	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	8.11	63	479	N.D.		
25) Methyl tert-Butyl Ether	8.32	73	509	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	0.00	72	0	N.D.	d	
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	0.00	61	0	N.D.	d	
31) n-Hexane	9.24	57	1238184	93.525	ng	100
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d	
38) 1,1,1-Trichloroethane	10.30	97	16396	0.731	ng	99
39) Isopropyl Acetate	0.00	61	0	N.D.	d	
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	10.76	78	2619155	61.630	ng	100
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	11.05	84	2002432	120.271	ng	98
44) tert-Amyl Methyl Ether	11.30	73	546	N.D.		
45) 1,2-Dichloropropane	11.57	63	355	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	11.83	130	874	0.059	ng	98
48) 1,4-Dioxane	0.00	88	0	N.D.	d	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302013.D Vial: 1
Acq On : 30 Apr 2020 11:03 Operator: WA
Sample : P2002029-013 (0.4mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 13:32:19 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

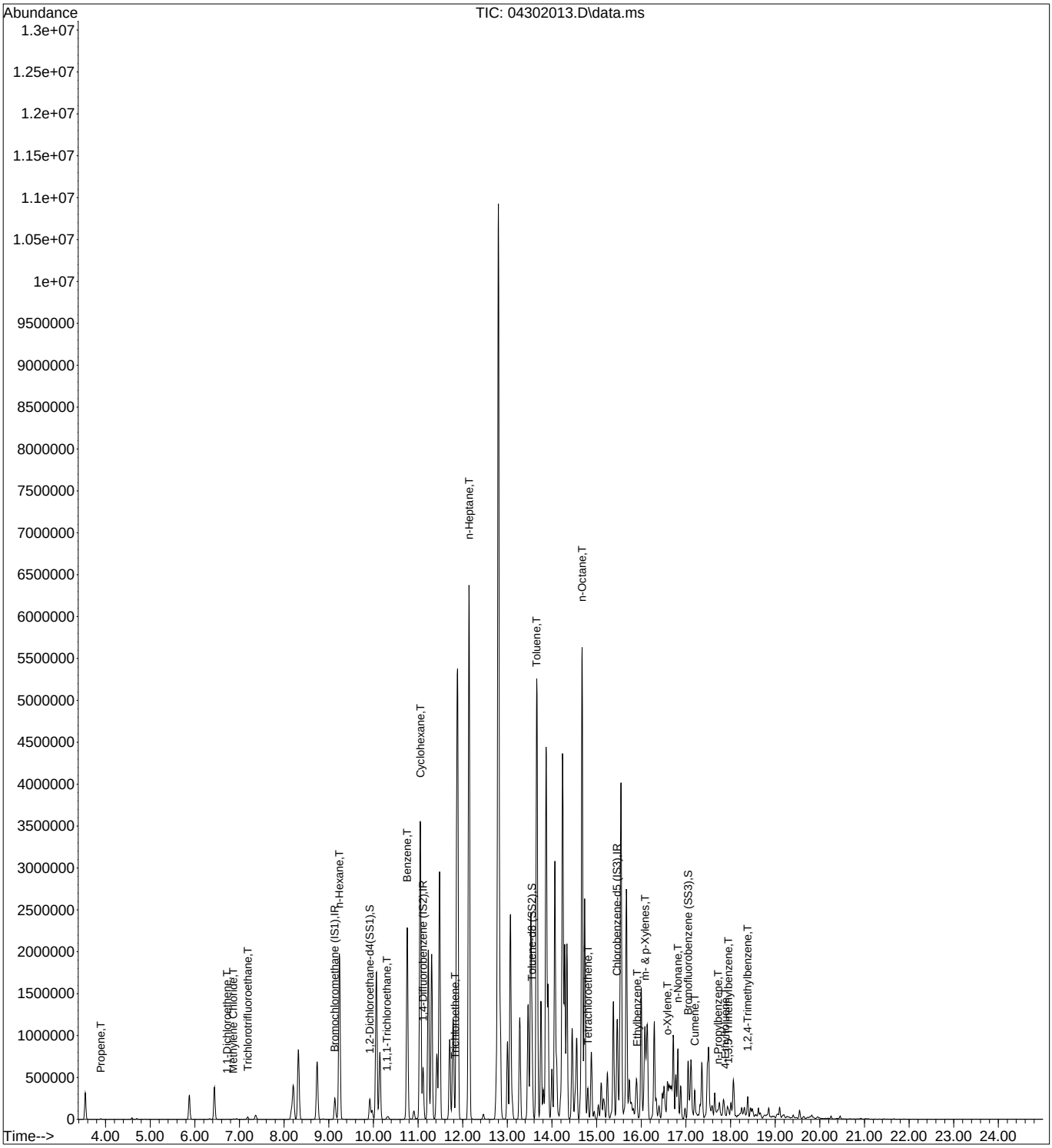
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.14	71	2081978	210.850 ng	99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	13.07	75	288	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	13.65	91	3567765	70.042 ng	99
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	14.34	107	328	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.68	57	1148138	141.595 ng	99
64) Tetrachloroethene	14.81	166	5163	0.269 ng	96
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.91	91	73595	1.240 ng	99
67) m- & p-Xylenes	16.08	91	830435	16.585 ng	97
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.49	104	374	N.D.	
70) o-Xylene	16.58	91	289096	5.879 ng	99
71) n-Nonane	16.82	43	256100	16.144 ng	98
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	17.20	105	26987	0.421 ng	100
75) alpha-Pinene	17.61	93	918	N.D.	
76) n-Propylbenzene	17.72	91	44287	0.634 ng	96
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	4135	0.068 ng	92
79) 1,3,5-Trimethylbenzene	17.95	105	26542	0.471 ng	100
80) alpha-Methylstyrene	18.12	118	343	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	22582	0.414 ng	92
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.49	91	696	N.D.	
85) 1,3-Dichlorobenzene	18.63	146	160	N.D.	
86) 1,4-Dichlorobenzene	18.63	146	160	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	18.83	119	2172	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	18.97	146	652	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.94	128	205	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	19.28	91	2403	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302013.D Vial: 1
Acq On : 30 Apr 2020 11:03 Operator: WA
Sample : P2002029-013 (0.4mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 13:32:19 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302013.D Vial: 1
Acq On : 30 Apr 2020 11:03 Operator: WA
Sample : P2002029-013 (0.4mL) Inst : MS09
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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/30/20

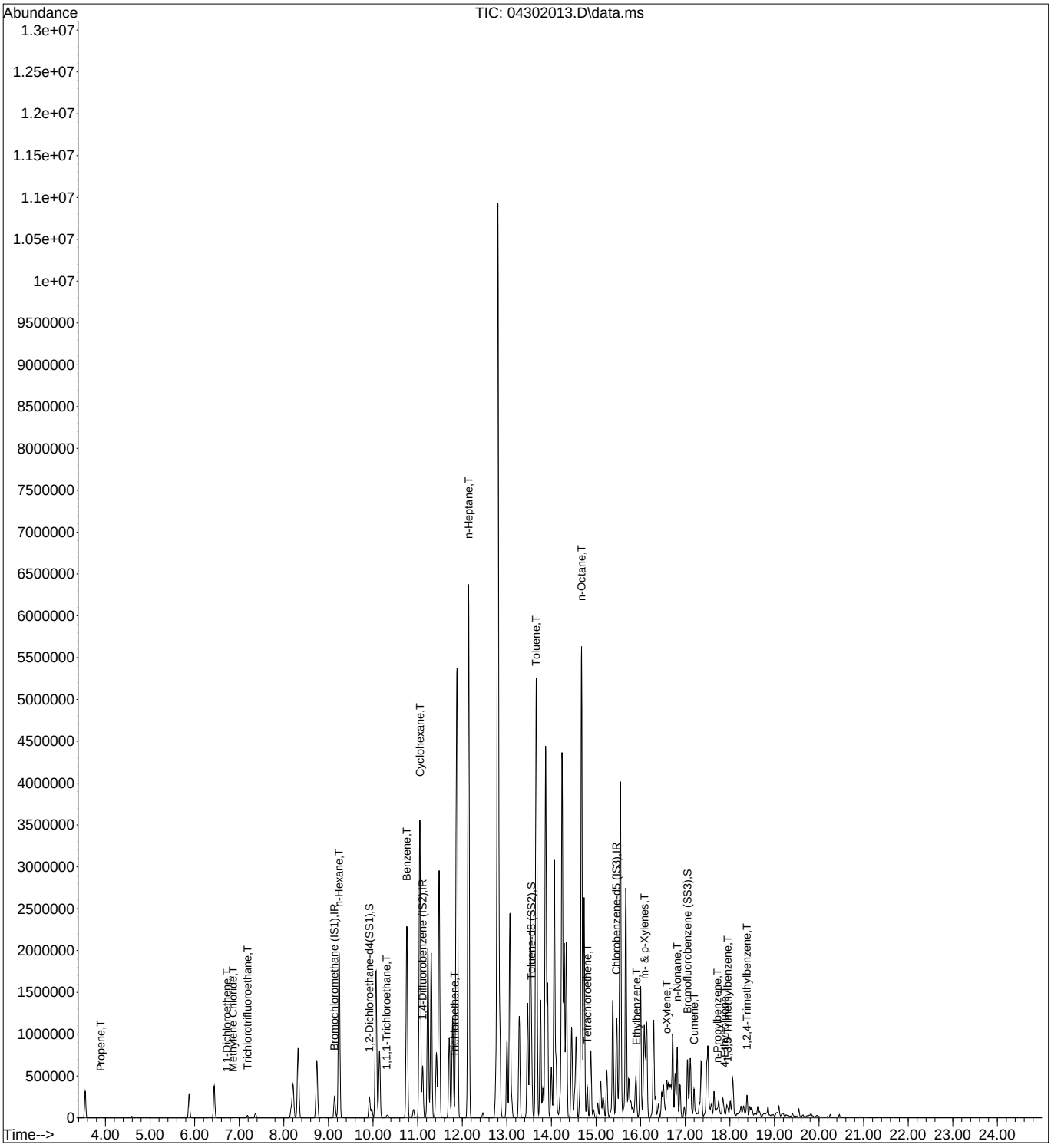
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	154477	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	651928	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	314218	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.92	65	230035	11.493	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.92%			
57) Toluene-d8 (SS2)	13.55	98	704077	11.605	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.80%			
73) Bromofluorobenzene (SS3)	17.05	174	277969	11.400	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.20%			
Target Compounds						Qvalue
2) Propene	3.89	42	2684	0.409	ng	94
17) 1,1-Dichloroethene	6.72	96	1445	0.133	ng	99
19) Methylene Chloride	6.86	84	4112	0.393	ng	98
21) Trichlorotrifluoroethane	7.19	151	14178	1.098	ng	97
31) n-Hexane	9.24	57	1238184	93.525	ng	100
38) 1,1,1-Trichloroethane	10.30	97	16396	0.731	ng	99
41) Benzene	10.76	78	2619155	61.630	ng	100
43) Cyclohexane	11.05	84	2002432	120.271	ng	98
47) Trichloroethene	11.83	130	874	0.059	ng	98
51) n-Heptane	12.14	71	2081978	210.850	ng	99
58) Toluene	13.65	91	3567765	70.042	ng	99
63) n-Octane	14.68	57	1148138	141.595	ng	99
64) Tetrachloroethene	14.81	166	5163	0.269	ng	96
66) Ethylbenzene	15.91	91	73595	1.240	ng	99
67) m- & p-Xylenes	16.08	91	830435	16.585	ng	97
70) o-Xylene	16.58	91	289096	5.879	ng	99
71) n-Nonane	16.82	43	256100	16.144	ng	98
74) Cumene	17.20	105	26987	0.421	ng	100
76) n-Propylbenzene	17.72	91	44287	0.634	ng	96
78) 4-Ethyltoluene	17.88	105	4135	0.068	ng	92
79) 1,3,5-Trimethylbenzene	17.95	105	26542	0.471	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	22582	0.414	ng	92

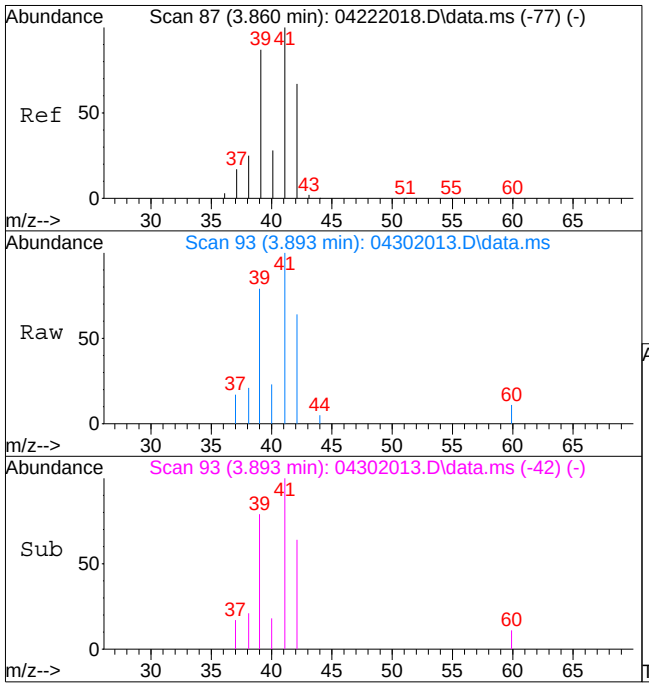
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302013.D Vial: 1
Acq On : 30 Apr 2020 11:03 Operator: WA
Sample : P2002029-013 (0.4mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 13:32:19 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

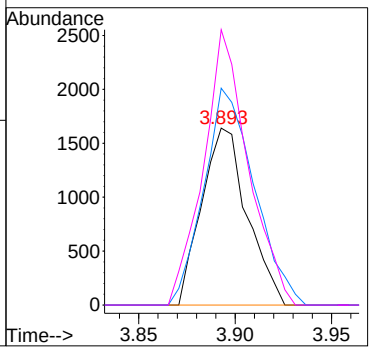


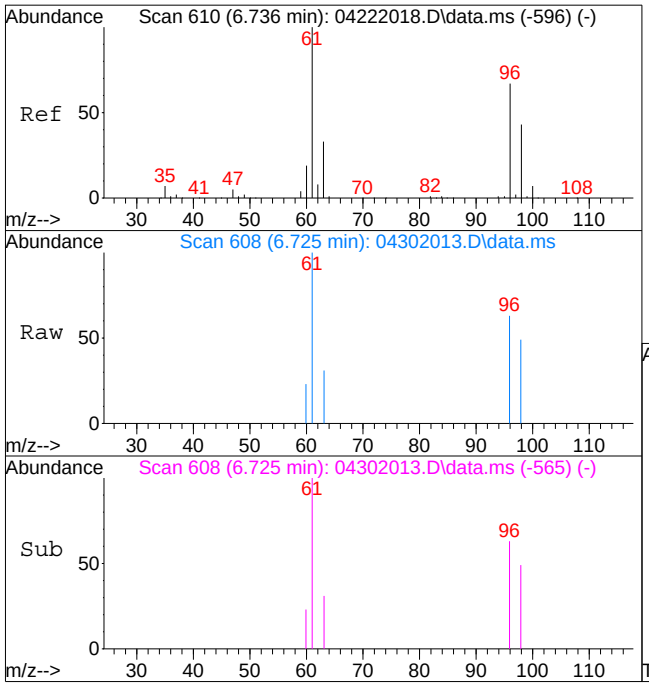


#2
Propene
Concen: 0.41 ng
RT: 3.89 min Scan# 93
Delta R.T. 0.033 min
Lab File: 04302013.D
Acq: 30 Apr 2020 11:03

Tgt Ion: 42 Resp: 2684

Ion	Ratio	Lower	Upper
42	100		
39	136.5	106.4	146.4
41	153.2	128.8	168.8

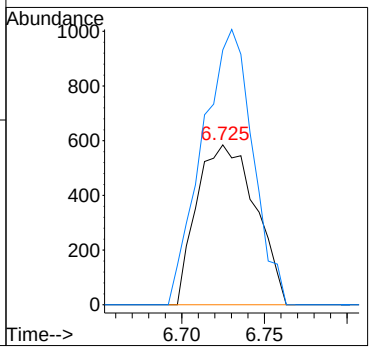


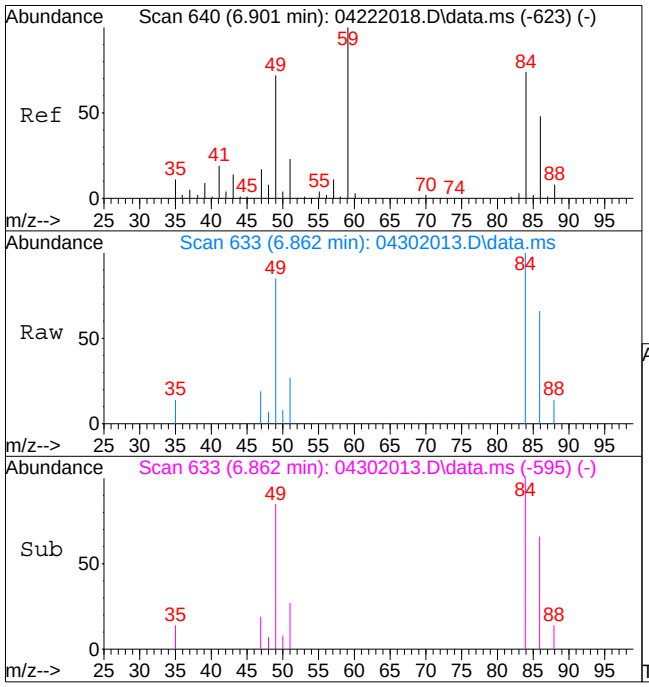


#17
1,1-Dichloroethene
Concen: 0.13 ng
RT: 6.72 min Scan# 608
Delta R.T. -0.011 min
Lab File: 04302013.D
Acq: 30 Apr 2020 11:03

Tgt Ion: 96 Resp: 1445

Ion	Ratio	Lower	Upper
96	100		
61	148.8	129.8	169.8

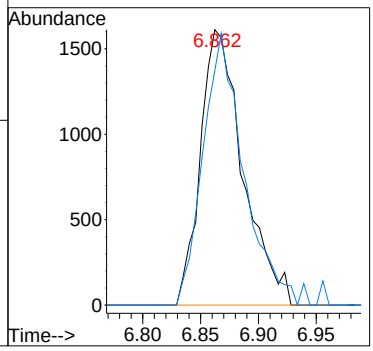


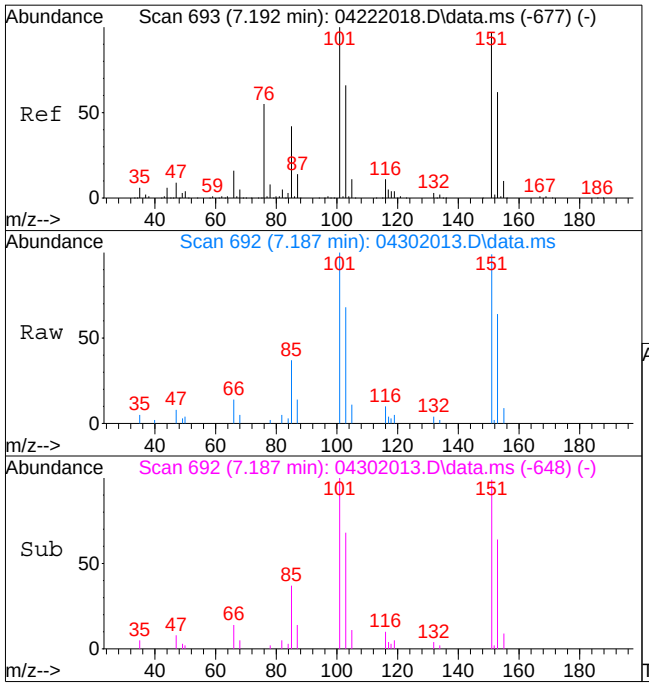


#19
Methylene Chloride
Concen: 0.39 ng
RT: 6.86 min Scan# 633
Delta R.T. -0.039 min
Lab File: 04302013.D
Acq: 30 Apr 2020 11:03

Tgt Ion: 84 Resp: 4112

Ion	Ratio	Lower	Upper
84	100		
49	95.6	73.0	123.0

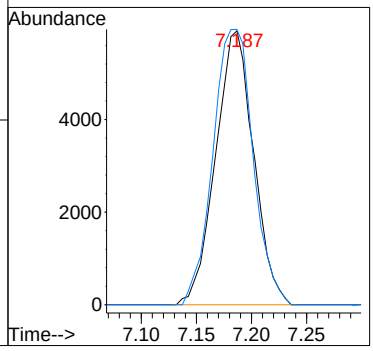


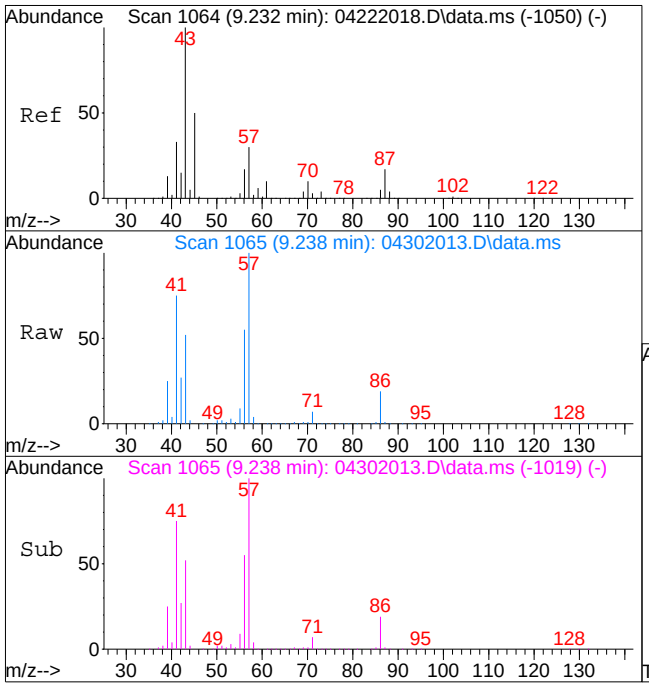


#21
Trichlorotrifluoroethane
Concen: 1.10 ng
RT: 7.19 min Scan# 692
Delta R.T. -0.006 min
Lab File: 04302013.D
Acq: 30 Apr 2020 11:03

Tgt Ion:151 Resp: 14178

Ion	Ratio	Lower	Upper
151	100		
101	106.4	82.9	122.9

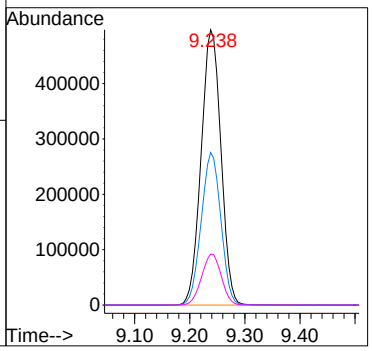


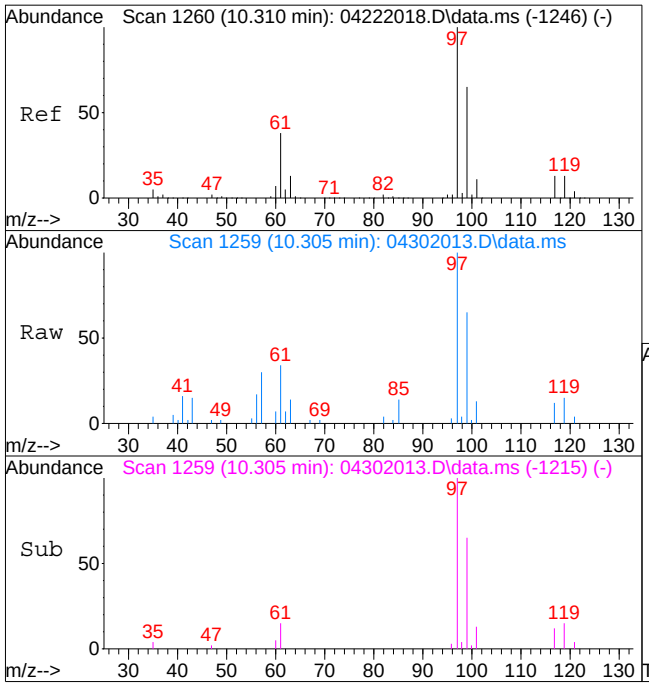


#31
n-Hexane
Concen: 93.53 ng
RT: 9.24 min Scan# 1065
Delta R.T. 0.005 min
Lab File: 04302013.D
Acq: 30 Apr 2020 11:03

Tgt Ion: 57 Resp: 1238184

Ion	Ratio	Lower	Upper
57	100		
56	54.8	44.0	66.0
86	18.4	15.0	22.4

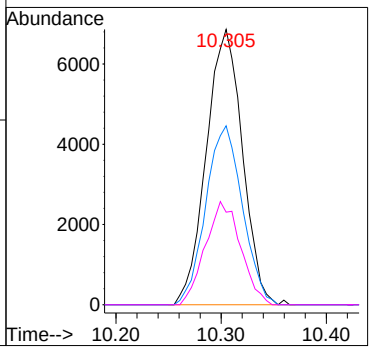


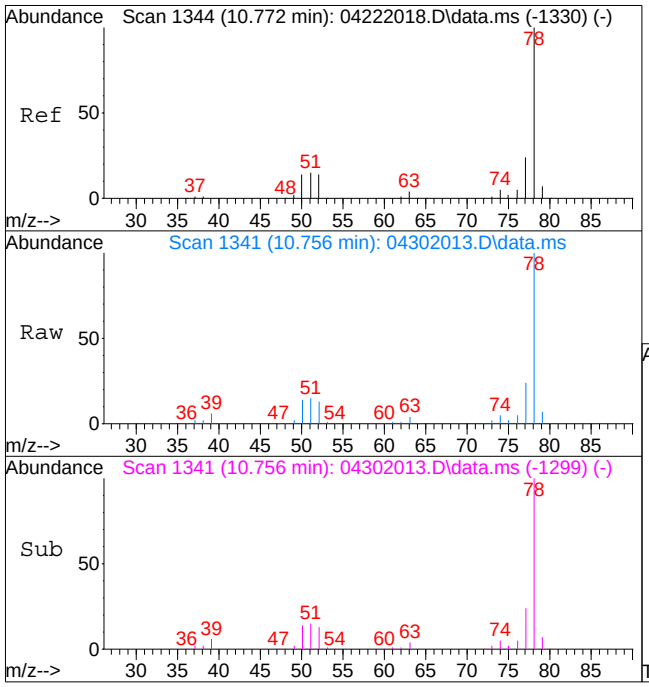


#38
1,1,1-Trichloroethane
Concen: 0.73 ng
RT: 10.30 min Scan# 1259
Delta R.T. -0.006 min
Lab File: 04302013.D
Acq: 30 Apr 2020 11:03

Tgt Ion: 97 Resp: 16396

Ion	Ratio	Lower	Upper
97	100		
99	65.9	44.7	84.7
61	36.6	17.2	57.2

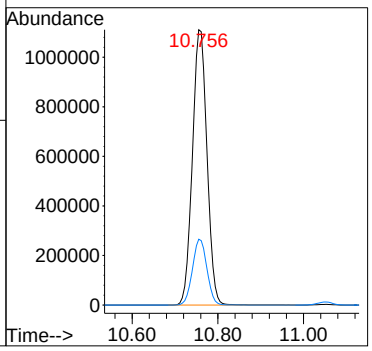


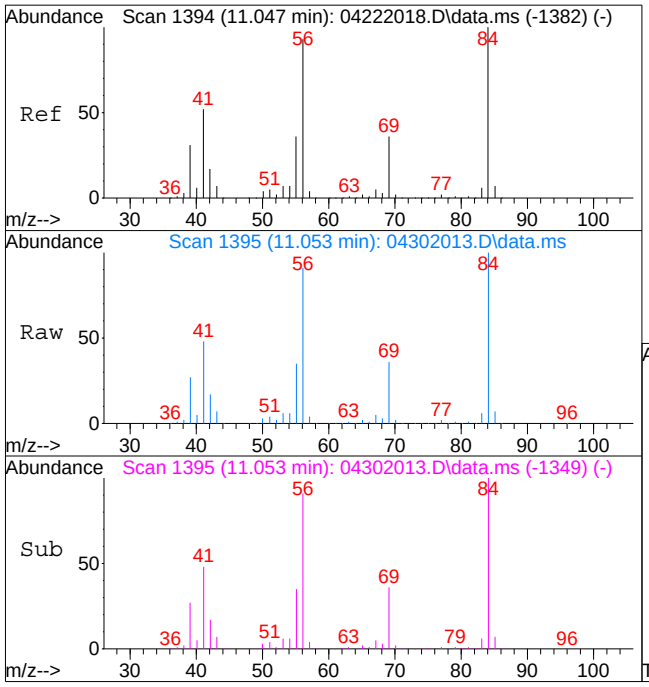


#41
Benzene
Concen: 61.63 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.017 min
Lab File: 04302013.D
Acq: 30 Apr 2020 11:03

Tgt Ion: 78 Resp: 2619155

Ion	Ratio	Lower	Upper
78	100		
77	23.7	3.6	43.6

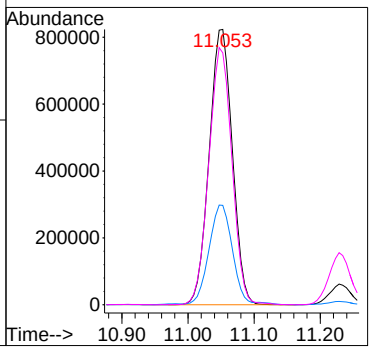


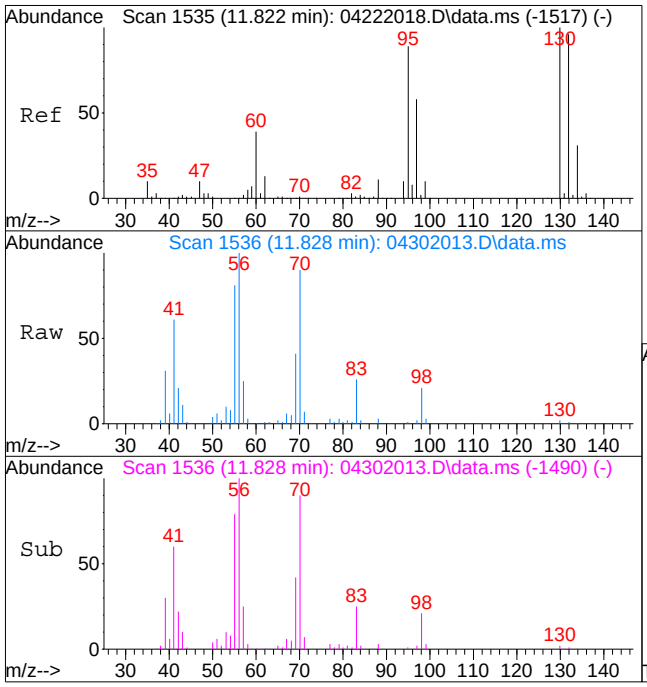


#43
Cyclohexane
Concen: 120.27 ng
RT: 11.05 min Scan# 1395
Delta R.T. 0.005 min
Lab File: 04302013.D
Acq: 30 Apr 2020 11:03

Tgt Ion: 84 Resp: 2002432

Ion	Ratio	Lower	Upper
84	100		
69	36.9	15.8	55.8
56	93.4	72.0	112.0

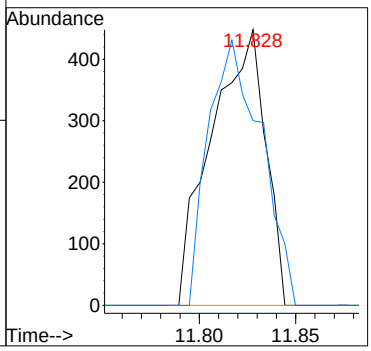


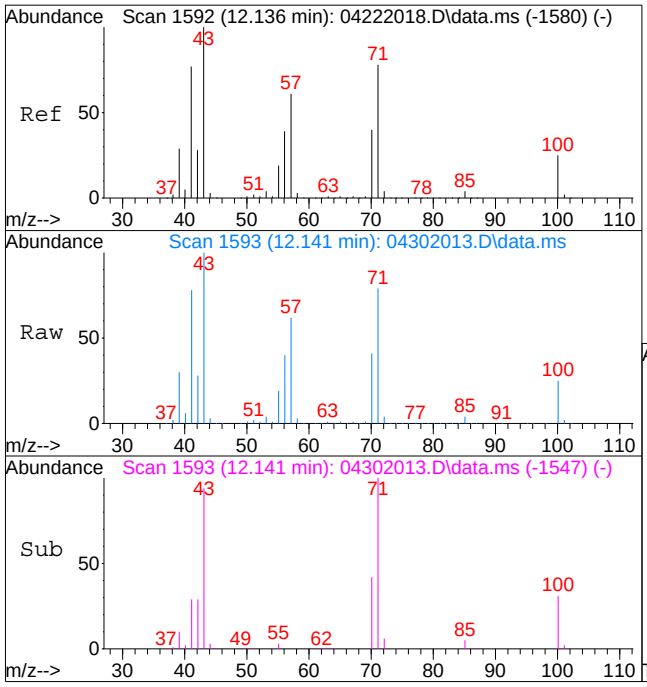


#47
Trichloroethene
Concen: 0.06 ng
RT: 11.83 min Scan# 1536
Delta R.T. 0.005 min
Lab File: 04302013.D
Acq: 30 Apr 2020 11:03

Tgt Ion:130 Resp: 874

Ion	Ratio	Lower	Upper
130	100		
132	94.3	76.4	116.4

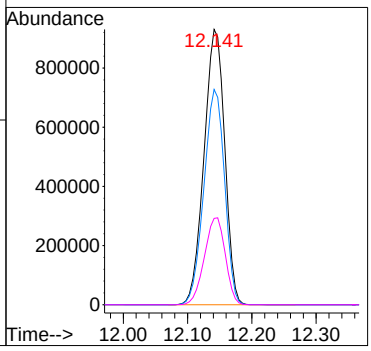


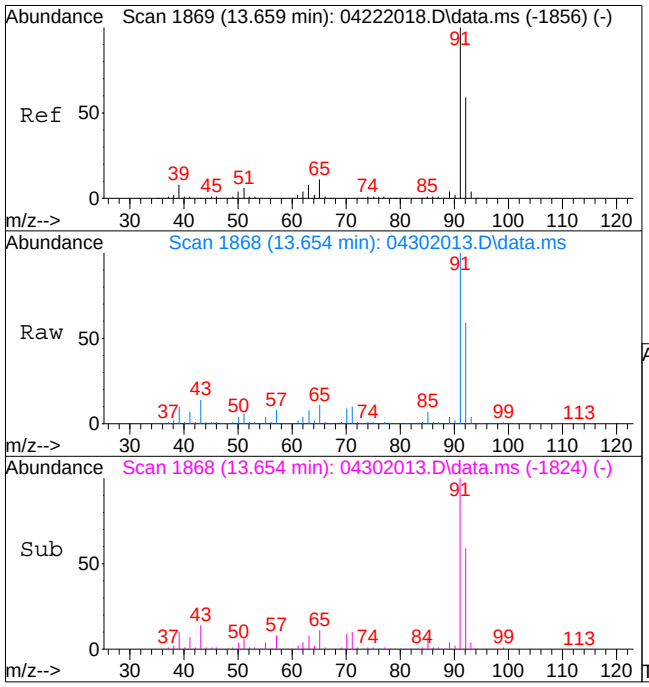


#51
n-Heptane
Concen: 210.85 ng
RT: 12.14 min Scan# 1593
Delta R.T. 0.005 min
Lab File: 04302013.D
Acq: 30 Apr 2020 11:03

Tgt Ion: 71 Resp: 2081978

Ion	Ratio	Lower	Upper
71	100		
57	78.1	57.4	97.4
100	31.9	12.0	52.0

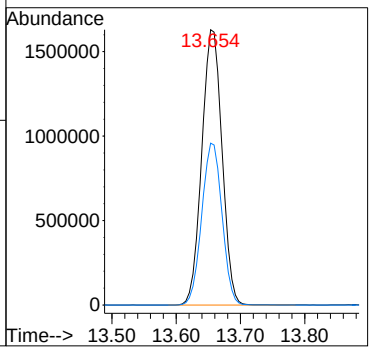


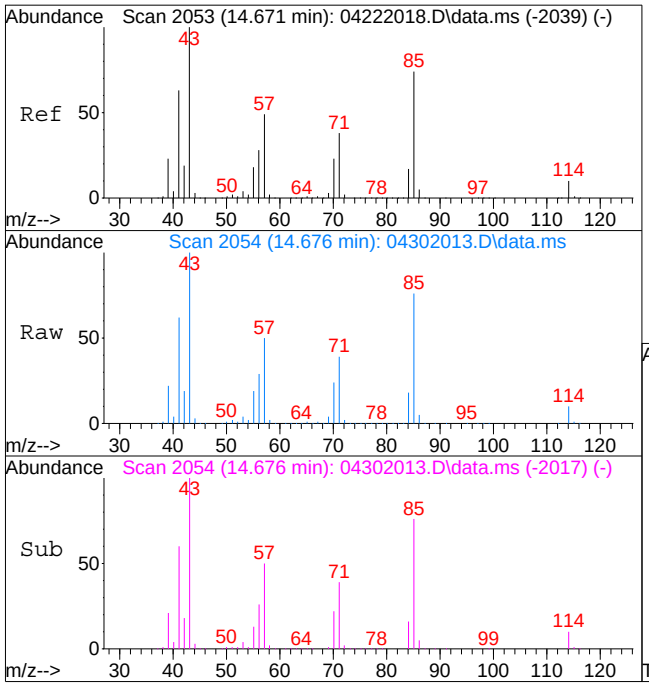


#58
Toluene
Concen: 70.04 ng
RT: 13.65 min Scan# 1868
Delta R.T. -0.006 min
Lab File: 04302013.D
Acq: 30 Apr 2020 11:03

Tgt Ion: 91 Resp: 3567765

Ion	Ratio	Lower	Upper
91	100		
92	58.8	38.2	78.2

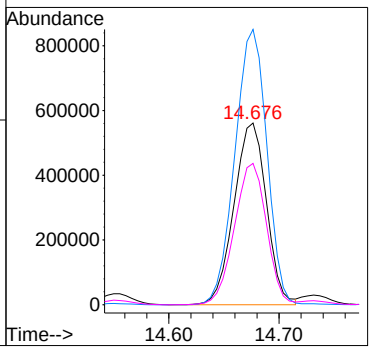


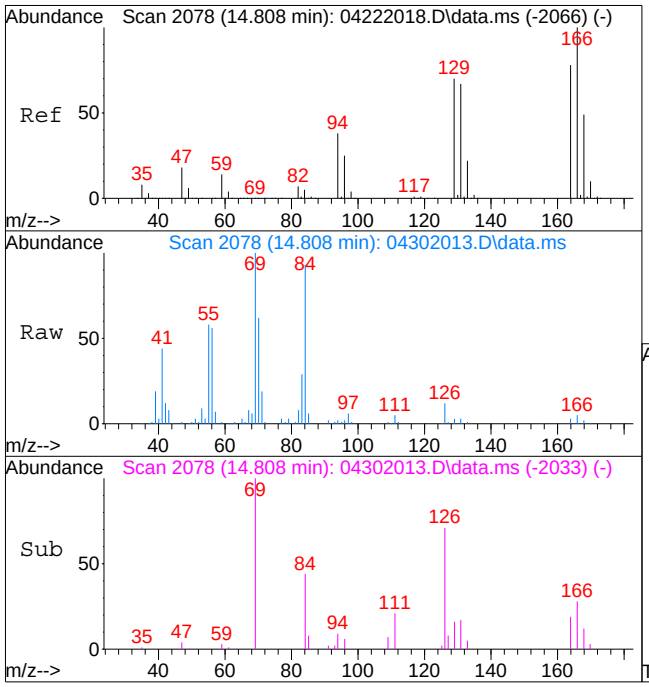


#63
n-Octane
Concen: 141.60 ng
RT: 14.68 min Scan# 2054
Delta R.T. 0.005 min
Lab File: 04302013.D
Acq: 30 Apr 2020 11:03

Tgt Ion: 57 Resp: 1148138

Ion	Ratio	Lower	Upper
57	100		
85	149.4	120.7	181.1
71	76.9	61.1	91.7

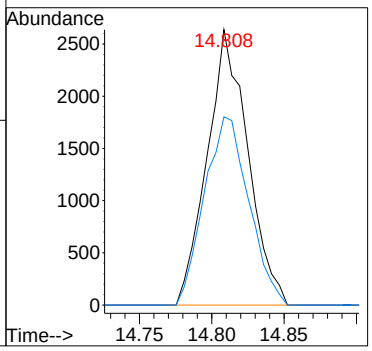


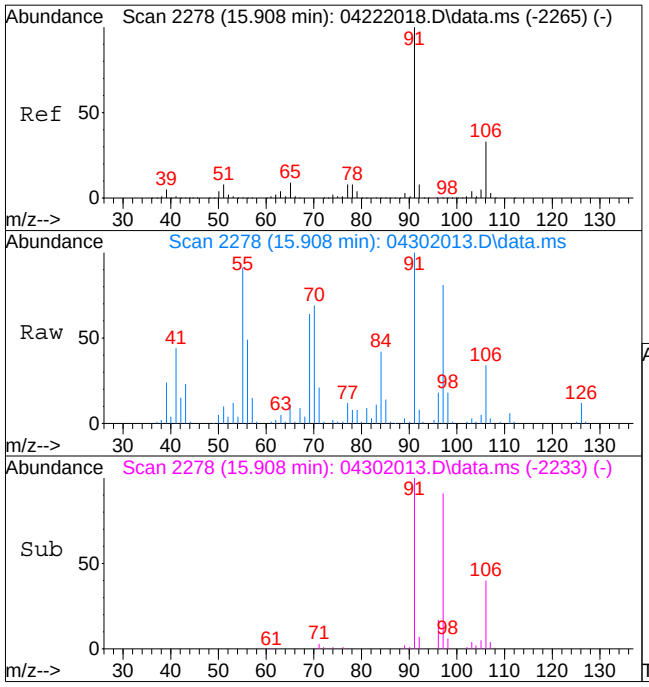


#64
Tetrachloroethene
Concen: 0.27 ng
RT: 14.81 min Scan# 2078
Delta R.T. -0.000 min
Lab File: 04302013.D
Acq: 30 Apr 2020 11:03

Tgt Ion:166 Resp: 5163

Ion	Ratio	Lower	Upper
166	100		
164	74.6	57.7	97.7

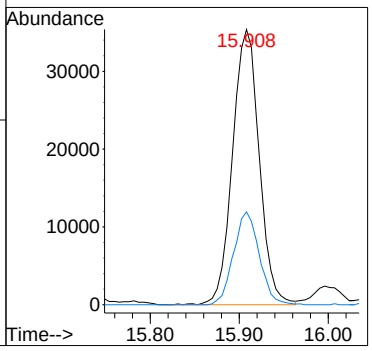


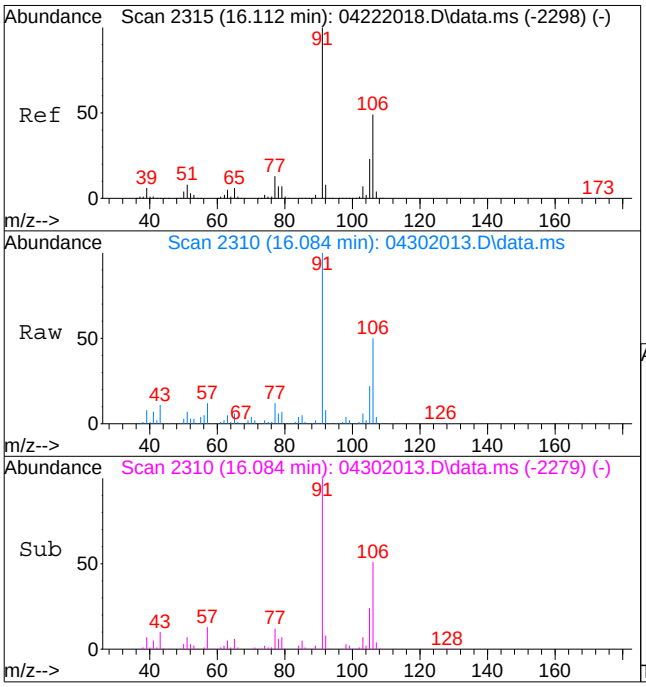


#66
Ethylbenzene
Concen: 1.24 ng
RT: 15.91 min Scan# 2278
Delta R.T. -0.000 min
Lab File: 04302013.D
Acq: 30 Apr 2020 11:03

Tgt Ion: 91 Resp: 73595

Ion	Ratio	Lower	Upper
91	100		
106	32.6	13.4	53.4

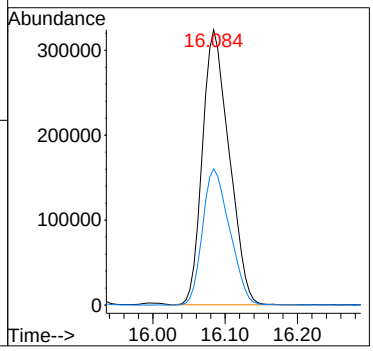


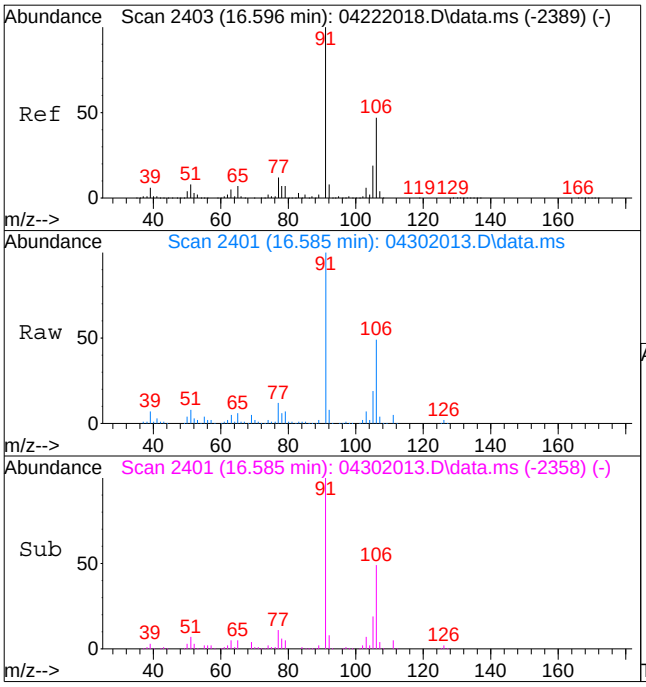


#67
m- & p-Xylenes
Concen: 16.58 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.028 min
Lab File: 04302013.D
Acq: 30 Apr 2020 11:03

Tgt Ion: 91 Resp: 830435

Ion	Ratio	Lower	Upper
91	100		
106	50.4	28.3	68.3

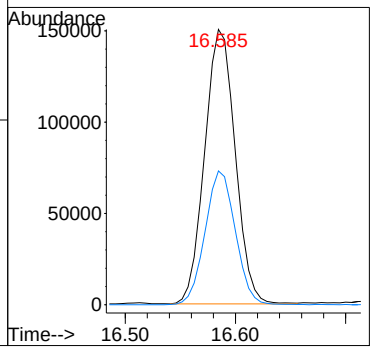


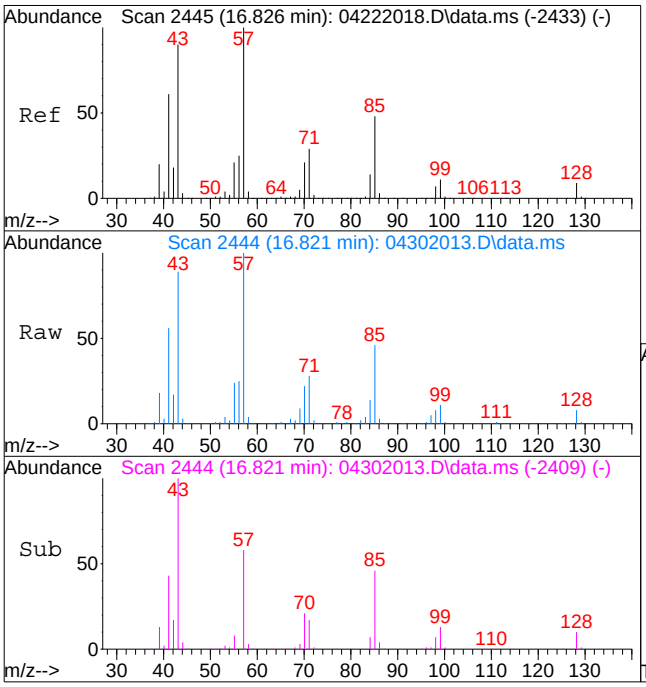


#70
o-Xylene
Concen: 5.88 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 04302013.D
Acq: 30 Apr 2020 11:03

Tgt Ion: 91 Resp: 289096

Ion	Ratio	Lower	Upper
91	100		
106	48.3	27.5	67.5

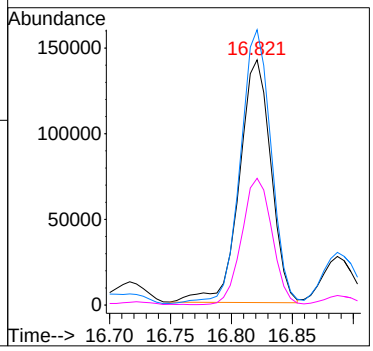


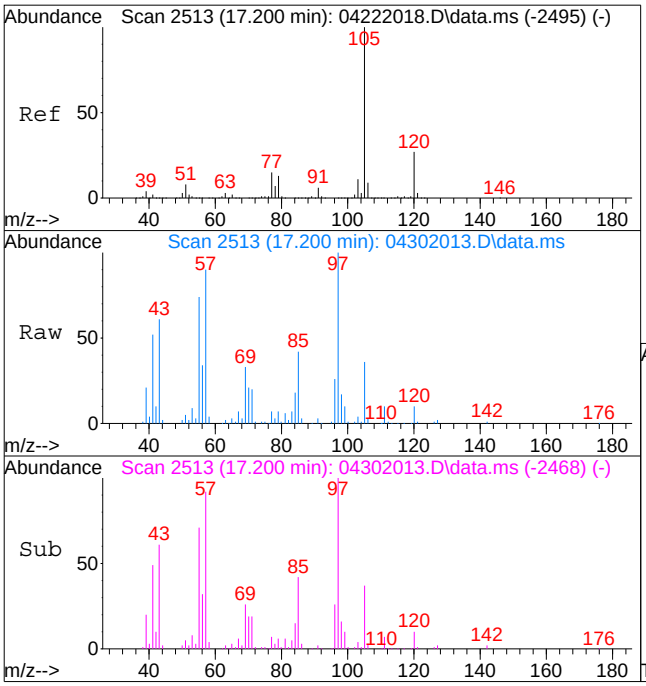


#71
n-Nonane
Concen: 16.14 ng
RT: 16.82 min Scan# 2444
Delta R.T. -0.006 min
Lab File: 04302013.D
Acq: 30 Apr 2020 11:03

Tgt Ion: 43 Resp: 256100

Ion	Ratio	Lower	Upper
43	100		
57	109.9	90.8	130.8
85	49.8	32.1	72.1

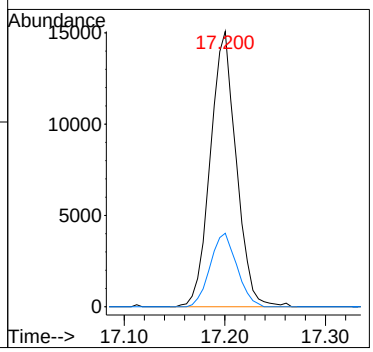


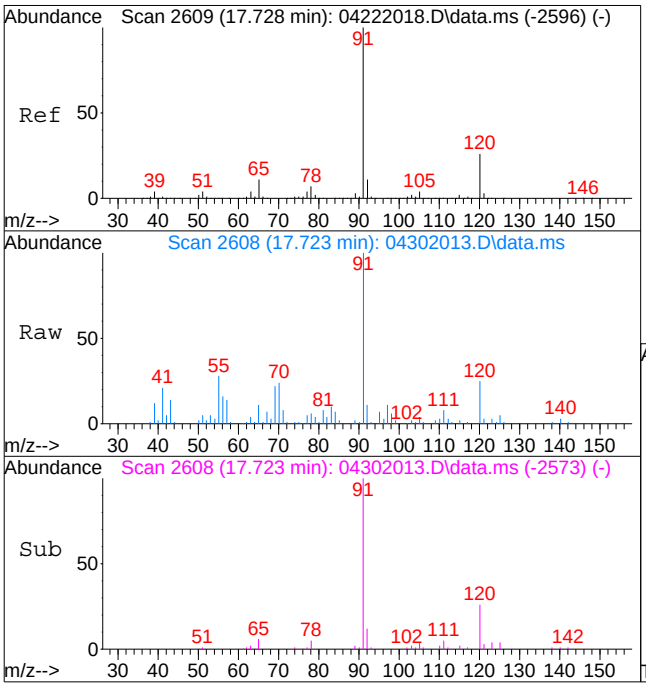


#74
Cumene
Concen: 0.42 ng
RT: 17.20 min Scan# 2513
Delta R.T. -0.000 min
Lab File: 04302013.D
Acq: 30 Apr 2020 11:03

Tgt Ion:105 Resp: 26987

Ion	Ratio	Lower	Upper
105	100		
120	27.5	7.3	47.3

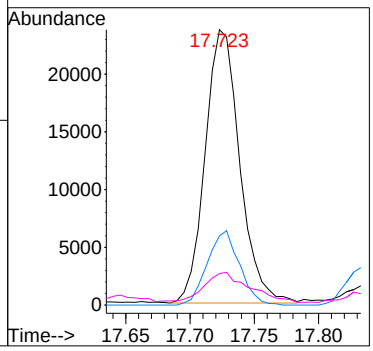


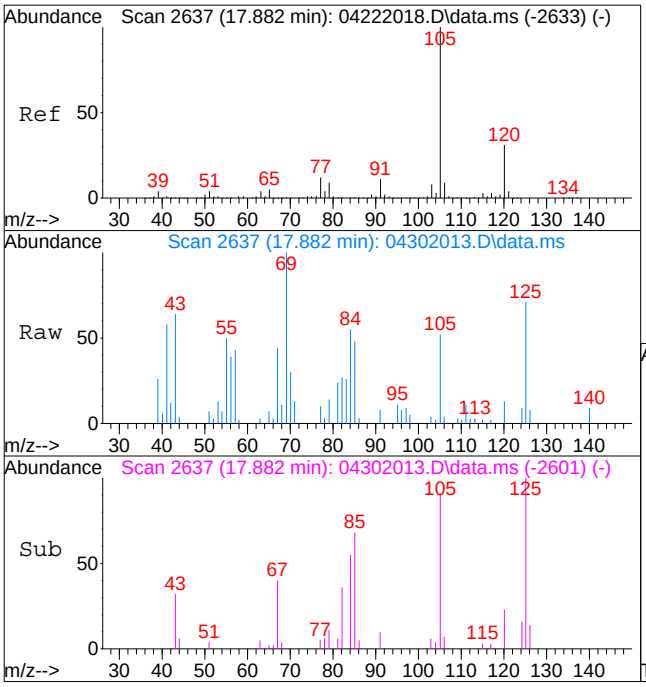


#76
n-Propylbenzene
Concen: 0.63 ng
RT: 17.72 min Scan# 2608
Delta R.T. -0.006 min
Lab File: 04302013.D
Acq: 30 Apr 2020 11:03

Tgt Ion: 91 Resp: 44287

Ion	Ratio	Lower	Upper
91	100		
120	25.3	6.1	46.1
65	15.0	0.0	30.7

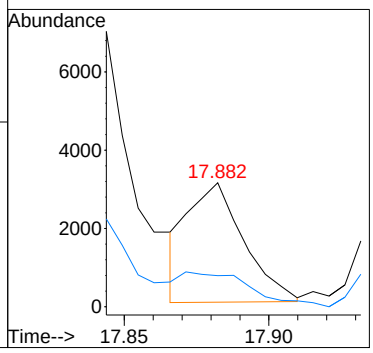


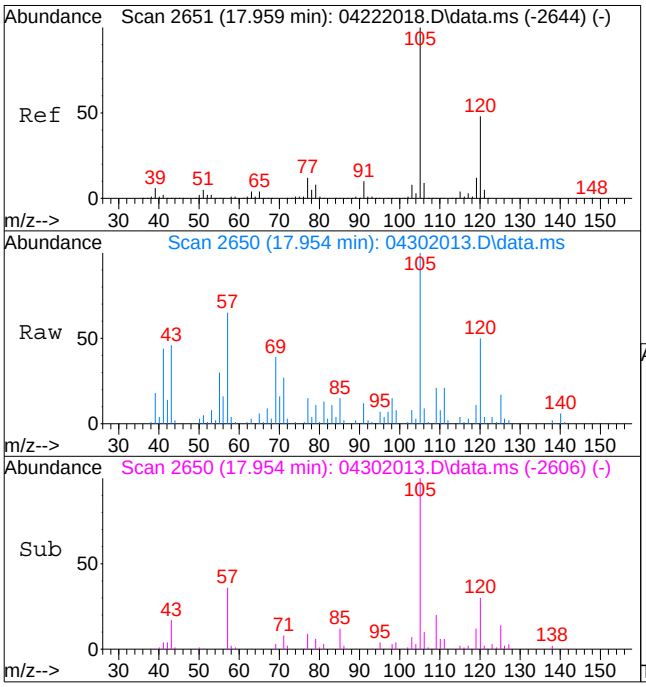


#78
4-Ethyltoluene
Concen: 0.07 ng
RT: 17.88 min Scan# 2637
Delta R.T. -0.000 min
Lab File: 04302013.D
Acq: 30 Apr 2020 11:03

Tgt Ion:105 Resp: 4135

Ion	Ratio	Lower	Upper
105	100		
120	36.0	11.4	51.4

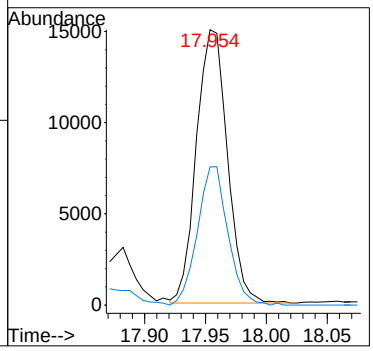


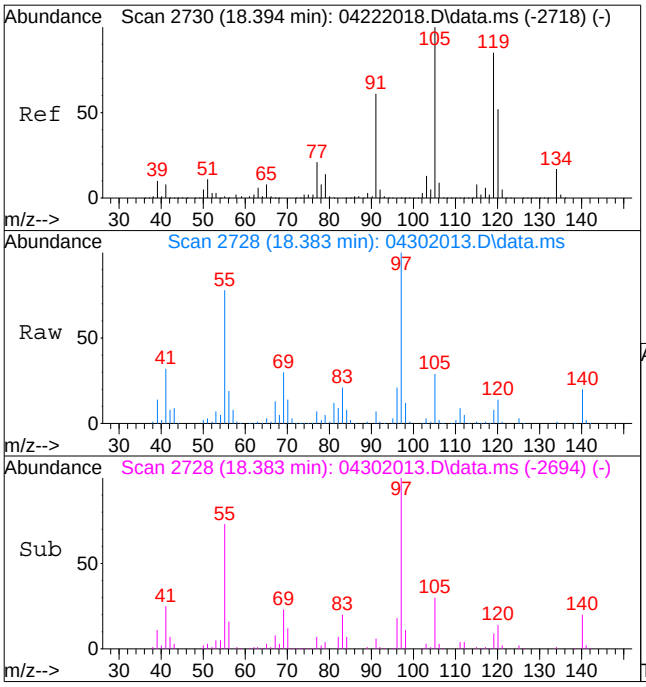


#79
1,3,5-Trimethylbenzene
Concen: 0.47 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 04302013.D
Acq: 30 Apr 2020 11:03

Tgt Ion:105 Resp: 26542

Ion	Ratio	Lower	Upper
105	100		
120	49.7	29.5	69.5

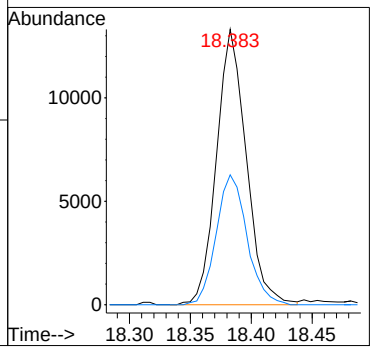




#82
1,2,4-Trimethylbenzene
Concen: 0.41 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 04302013.D
Acq: 30 Apr 2020 11:03

Tgt Ion:105 Resp: 22582

Ion	Ratio	Lower	Upper
105	100		
120	48.9	34.5	74.5



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302015.D Vial: 1
Acq On : 30 Apr 2020 12:22 Operator: WA
Sample : P2002029-013dil (0.1mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 13:24:45 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/30/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	156069	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	660187	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	293797	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	232751	11.511	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.08%			
57) Toluene-d8 (SS2)	13.55	98	720713	12.705	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.60%			
73) Bromofluorobenzene (SS3)	17.05	174	275780	12.096	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.80%			
Target Compounds						Qvalue
2) Propene	3.90	42	1212	0.183	ng	96
3) Dichlorodifluoromethan...	4.01	85	157	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.42	45	37	N.D.		
11) Acetonitrile	0.00	41	0	N.D.		
12) Acrolein	0.00	56	0	N.D.	d	
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	6.02	101	345	N.D.		
15) 2-Propanol (Isopropanol)	6.25	45	40	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.	d	
17) 1,1-Dichloroethene	6.72	96	1363	0.124	ng	99
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	6.86	84	4090	0.387	ng	92
20) 3-Chloro-1-propene (Al...	6.93	41	447	N.D.		
21) Trichlorotrifluoroethane	7.18	151	14170	1.087	ng	98
22) Carbon Disulfide	0.00	76	0	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	8.10	63	492	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	0.00	72	0	N.D.	d	
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	9.23	61	120	N.D.		
31) n-Hexane	9.23	57	281445	21.042	ng	99
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d	
38) 1,1,1-Trichloroethane	10.29	97	15729	0.693	ng	99
39) Isopropyl Acetate	0.00	61	0	N.D.	d	
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	10.76	78	547682	12.726	ng	100
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	11.04	84	448386	26.594	ng	98
44) tert-Amyl Methyl Ether	11.48	73	166	N.D.		
45) 1,2-Dichloropropane	11.57	63	269	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	11.81	130	881	0.059	ng	98
48) 1,4-Dioxane	0.00	88	0	N.D.	d	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302015.D Vial: 1
Acq On : 30 Apr 2020 12:22 Operator: WA
Sample : P2002029-013dil (0.1mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 13:24:45 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

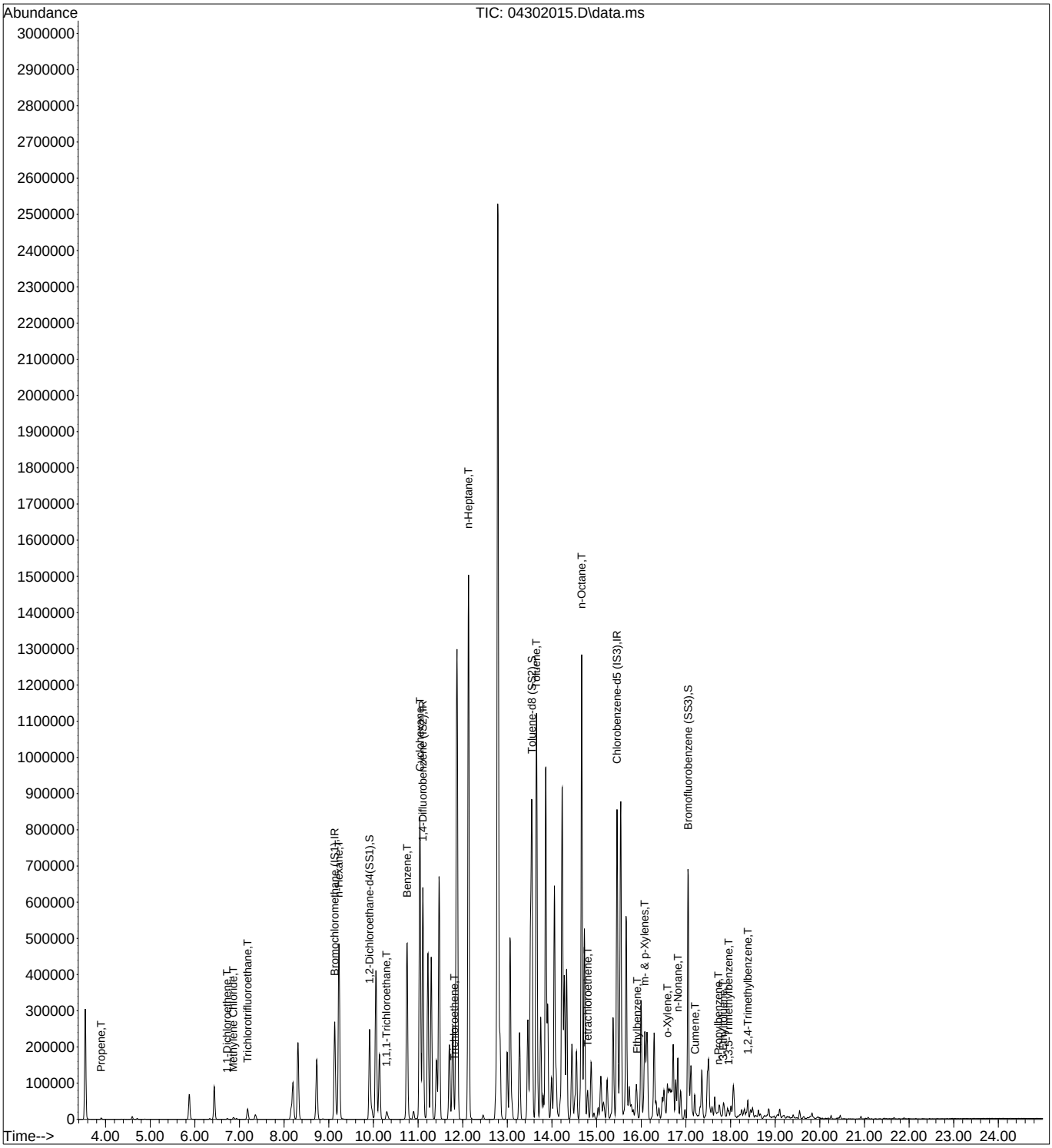
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.13	71	460558	46.059 ng	99
52) cis-1,3-Dichloropropene	12.78	75	774	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	13.65	91	732207	15.374 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.67	57	249299	32.882 ng	99
64) Tetrachloroethene	14.80	166	4980	0.278 ng	98
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.91	91	16696	0.301 ng	100
67) m- & p-Xylenes	16.08	91	183676	3.923 ng	97
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.58	104	1455	N.D.	
70) o-Xylene	16.58	91	63430	1.380 ng	99
71) n-Nonane	16.82	43	49746	3.354 ng	98
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	17.21	105	5579	0.093 ng	96
75) alpha-Pinene	17.60	93	500	N.D.	
76) n-Propylbenzene	17.73	91	8933	0.137 ng	92
77) 3-Ethyltoluene	17.83	105	4549	0.078 ng	99
78) 4-Ethyltoluene	17.88	105	1269	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	6186	0.117 ng	95
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	18.16	105	1574	N.D.	
82) 1,2,4-Trimethylbenzene	18.39	105	6062	0.119 ng	85
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.49	91	124	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	18.84	119	1209	N.D.	
89) 1,2,3-Trimethylbenzene	18.83	105	2439	N.D.	
90) 1,2-Dichlorobenzene	18.98	146	548	N.D.	
91) d-Limonene	18.97	68	341	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	0.00	128	0	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	18.38	119	1662	N.D.	
100) n-Butylbenzene	19.29	91	947	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302015.D Vial: 1
Acq On : 30 Apr 2020 12:22 Operator: WA
Sample : P2002029-013dil (0.1mL) Inst : MS09
Misc : S34-04212006

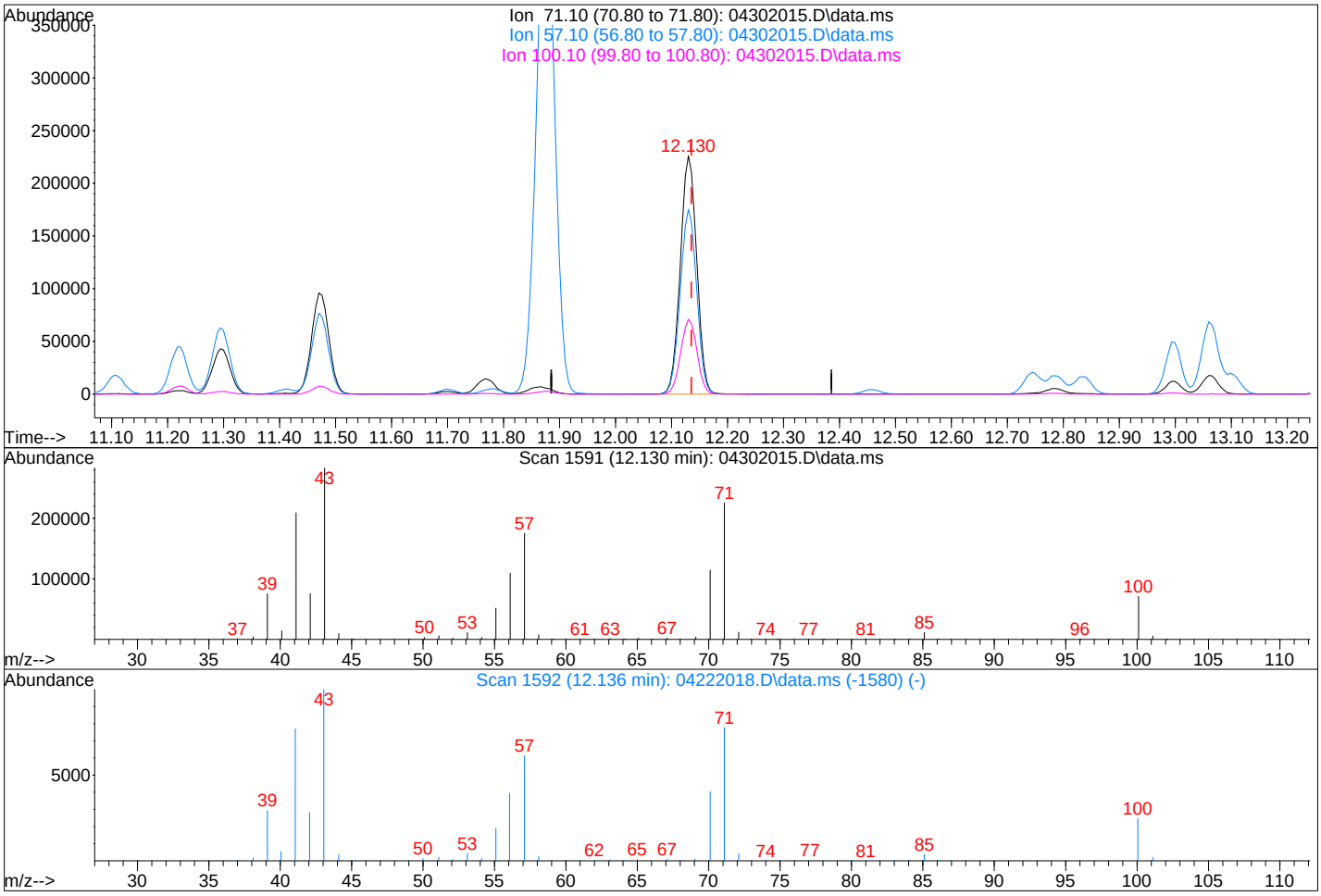
Quant Time: Apr 30 13:24:45 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\30\04302015.D Vial: 1
Acq On : 30 Apr 2020 12:22 Operator: WA
Sample : P2002029-013dil (0.1mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 13:21:33 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04302015.D\data.ms

(51) n-Heptane (T)

12.130min (-0.006) 46.06ng

response 460558

Ion	Exp%	Act%
71.10	100	100
57.10	77.40	78.14
100.10	32.00	31.34
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302017.D Vial: 1
Acq On : 30 Apr 2020 13:28 Operator: WA
Sample : P2002029-014 (1.5mL) Inst : MS09
Misc : S34-04212006

4/30/20

Quant Time: Apr 30 13:56:59 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	151792	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	640628	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	283794	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	230648	11.728	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.84%				
57) Toluene-d8 (SS2)	13.55	98	706392	12.891	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.12%				
73) Bromofluorobenzene (SS3)	17.05	174	272970	12.395	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.20%				
Target Compounds							Qvalue
2) Propene	3.89	42	851	0.132	ng		92
3) Dichlorodifluoromethan...	3.99	85	201	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	0.00	45	0	N.D.			
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	0.00	56	0	N.D.	d		
13) Acetone	5.89	58	1420	0.242	ng	#	62
14) Trichlorofluoromethane	6.02	101	211	N.D.			
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	6.72	96	1140	0.106	ng		86
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	6.86	84	3698	0.360	ng		90
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	7.18	151	12113	0.955	ng		96
22) Carbon Disulfide	0.00	76	0	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	8.09	63	416	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	0.00	72	0	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.	d		
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	10.29	97	14251	0.647	ng		99
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.76	78	2600	0.062	ng		94
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	11.04	84	2252	0.138	ng		95
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	11.58	63	171	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	11.81	130	734	0.051	ng		99
48) 1,4-Dioxane	11.81	88	4105	0.489	ng	#	68
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302017.D Vial: 1
Acq On : 30 Apr 2020 13:28 Operator: WA
Sample : P2002029-014 (1.5mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 13:56:59 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

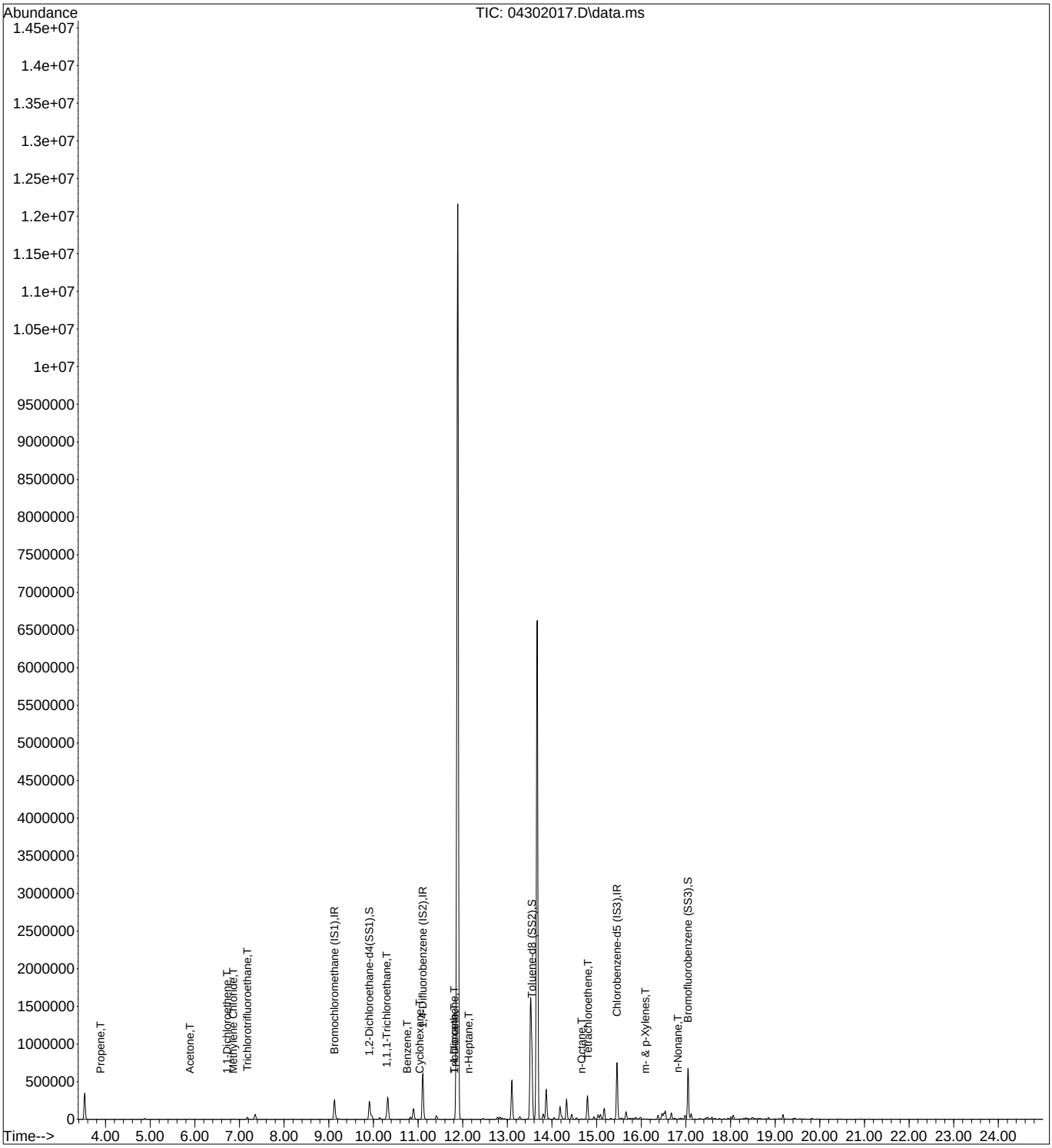
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	12.14	71	1246	0.128 ng	#	57
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d		
58) Toluene	0.00	91	0	N.D. d		
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D. d		
63) n-Octane	14.67	57	1358	0.185 ng		95
64) Tetrachloroethene	14.81	166	4525	0.261 ng		96
65) Chlorobenzene	15.55	112	617	N.D.		
66) Ethylbenzene	15.92	91	1625	N.D.		
67) m- & p-Xylenes	16.10	91	5749	0.127 ng		94
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	16.59	91	2039	N.D.		
71) n-Nonane	16.82	43	2177	0.152 ng		86
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d		
74) Cumene	17.21	105	304	N.D.		
75) alpha-Pinene	17.59	93	453	N.D.		
76) n-Propylbenzene	17.76	91	772	N.D.		
77) 3-Ethyltoluene	17.84	105	1141	N.D.		
78) 4-Ethyltoluene	17.89	105	476	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	1127	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	18.16	105	710	N.D.		
82) 1,2,4-Trimethylbenzene	18.39	105	1963	N.D.		
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	18.56	91	107	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	18.67	105	707	N.D.		
88) 4-Isopropyltoluene (p-...	18.84	119	613	N.D.		
89) 1,2,3-Trimethylbenzene	18.84	105	1131	N.D.		
90) 1,2-Dichlorobenzene	18.98	146	380	N.D.		
91) d-Limonene	18.99	68	386	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	0.00	128	0	N.D.		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	16.25	55	208	N.D.		
99) tert-Butylbenzene	18.38	119	390	N.D.		
100) n-Butylbenzene	19.29	91	406	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302017.D Vial: 1
Acq On : 30 Apr 2020 13:28 Operator: WA
Sample : P2002029-014 (1.5mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 13:56:59 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302017.D Vial: 1
Acq On : 30 Apr 2020 13:28 Operator: WA
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4/30/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	151792	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	640628	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	283794	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	230648	11.728	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.84%				
57) Toluene-d8 (SS2)	13.55	98	706392	12.891	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.12%				
73) Bromofluorobenzene (SS3)	17.05	174	272970	12.395	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.20%				
Target Compounds							Qvalue
2) Propene	3.89	42	851	0.132	ng		92
13) Acetone	5.89	58	1420	0.242	ng	#	62
17) 1,1-Dichloroethene	6.72	96	1140	0.106	ng		86
19) Methylene Chloride	6.86	84	3698	0.360	ng		90
21) Trichlorotrifluoroethane	7.18	151	12113	0.955	ng		96
38) 1,1,1-Trichloroethane	10.29	97	14251	0.647	ng		99
41) Benzene	10.76	78	2600	0.062	ng		94
43) Cyclohexane	11.04	84	2252	0.138	ng		95
47) Trichloroethene	11.81	130	734	0.051	ng		99
48) 1,4-Dioxane	11.81	88	4105	0.489	ng	#	68
51) n-Heptane	12.14	71	1246	0.128	ng	#	57
63) n-Octane	14.67	57	1358	0.185	ng		95
64) Tetrachloroethene	14.81	166	4525	0.261	ng		96
67) m- & p-Xylenes	16.10	91	5749	0.127	ng		94
71) n-Nonane	16.82	43	2177	0.152	ng		86

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302017.D Vial: 1
Acq On : 30 Apr 2020 13:28 Operator: WA
Sample : P2002029-014 (1.5mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 13:56:59 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
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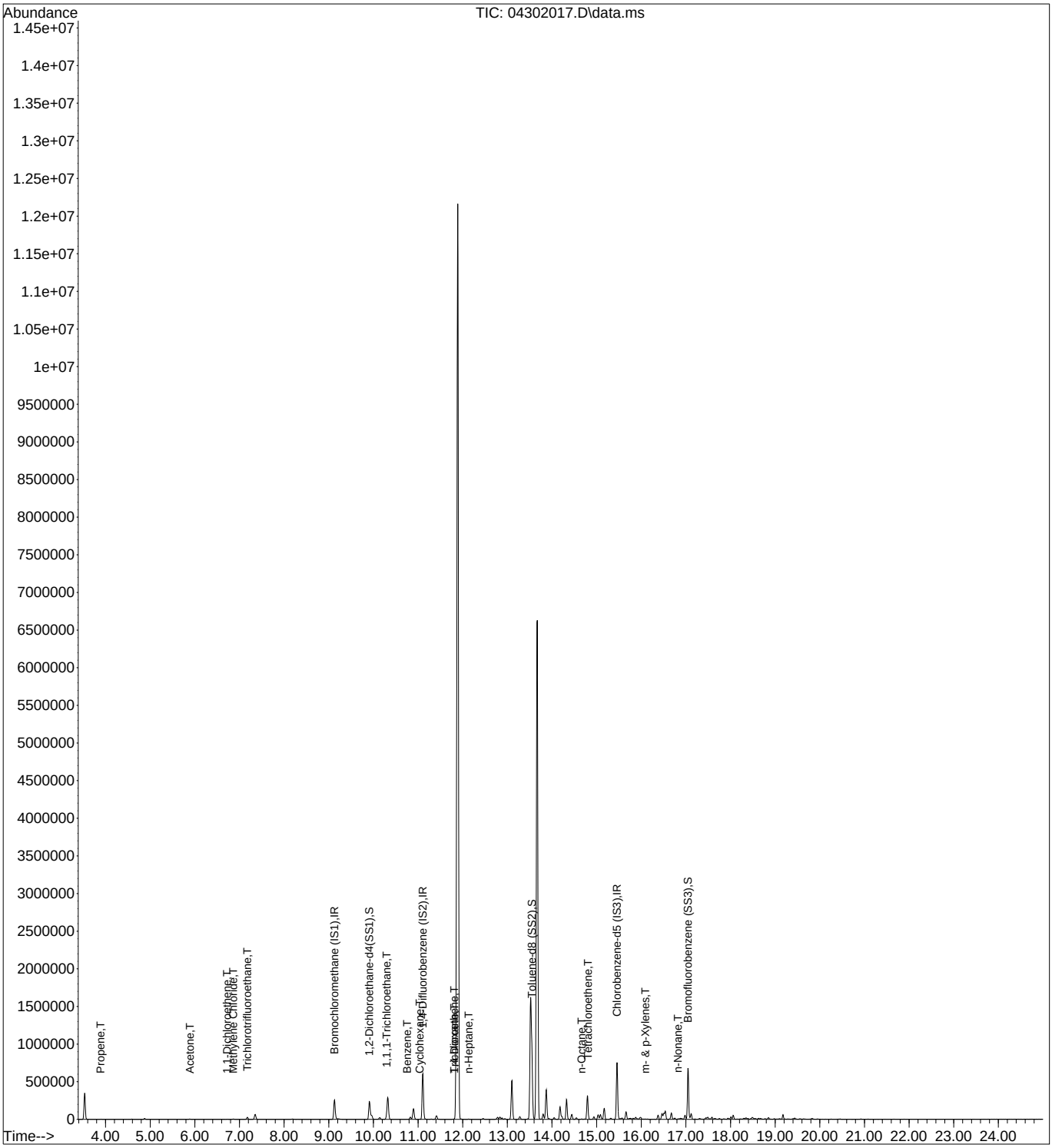
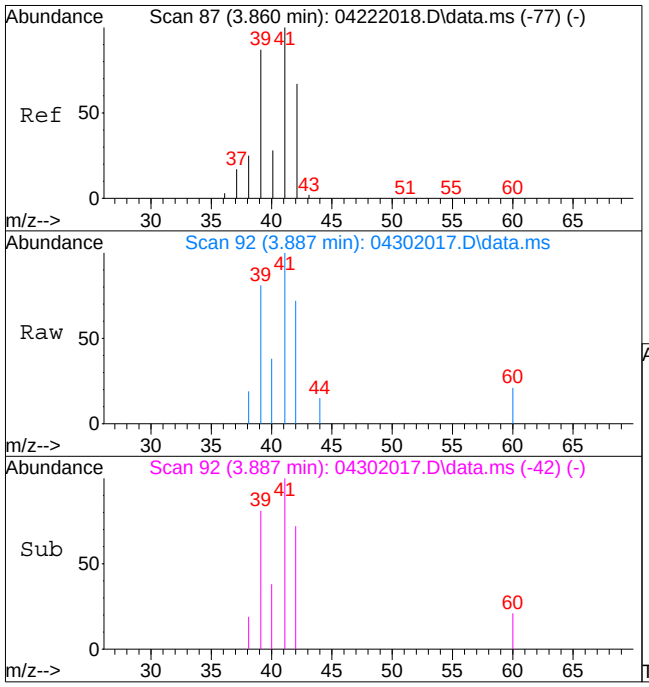
DataAcq Meth:TO15.M

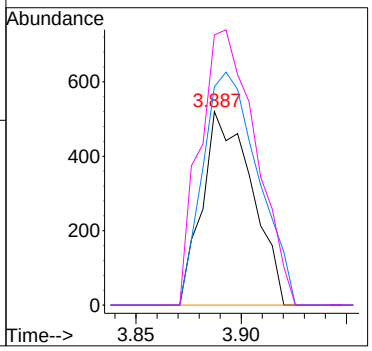


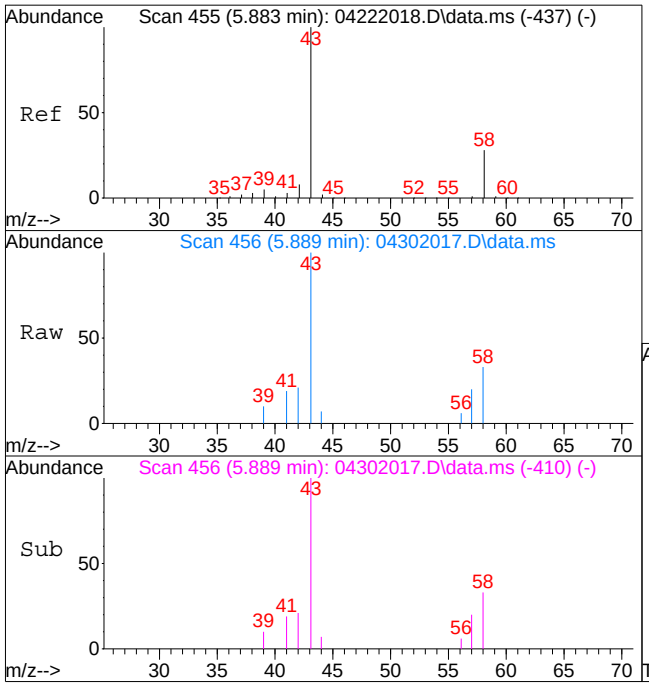


#2
Propene
Concen: 0.13 ng
RT: 3.89 min Scan# 92
Delta R.T. 0.027 min
Lab File: 04302017.D
Acq: 30 Apr 2020 13:28

Tgt Ion: 42 Resp: 851

Ion	Ratio	Lower	Upper
42	100		
39	134.7	106.4	146.4
41	160.6	128.8	168.8

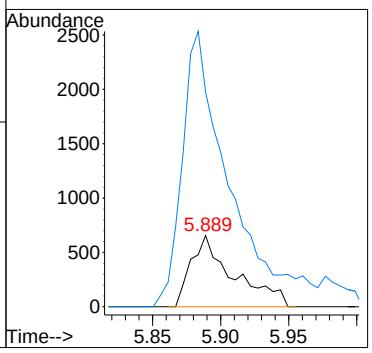


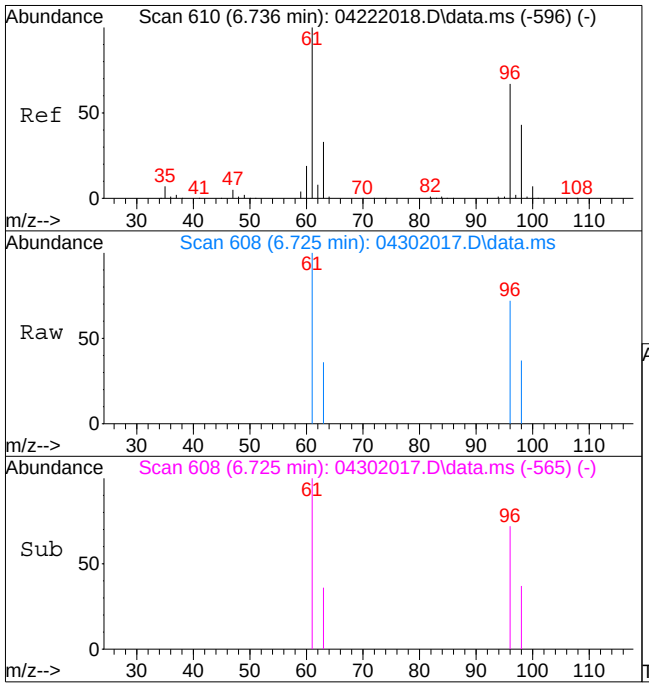


#13
Acetone
Concen: 0.24 ng
RT: 5.89 min Scan# 456
Delta R.T. 0.006 min
Lab File: 04302017.D
Acq: 30 Apr 2020 13:28

Tgt Ion: 58 Resp: 1420

Ion	Ratio	Lower	Upper
58	100		
43	431.4	319.3	379.3#

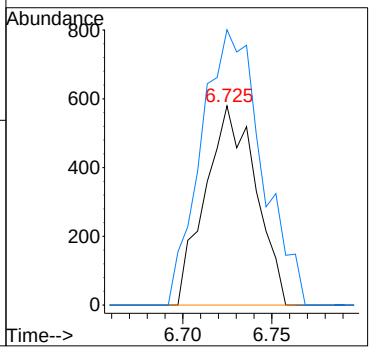


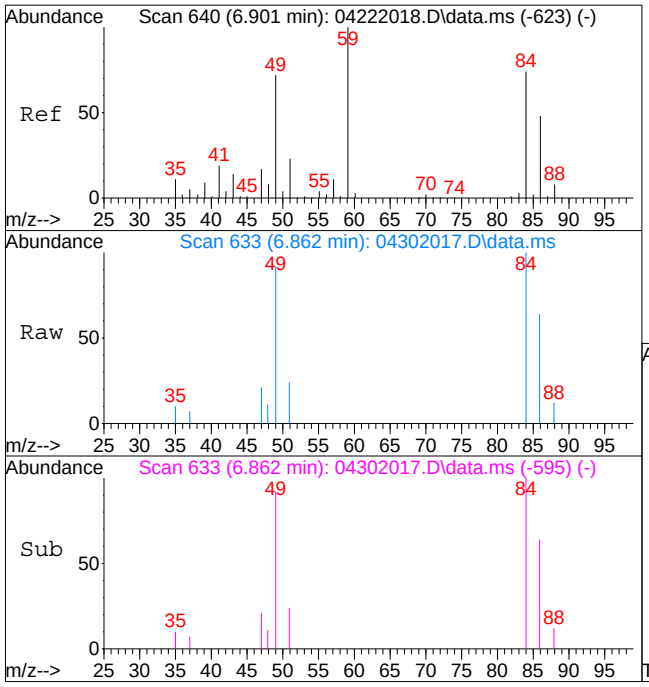


#17
1,1-Dichloroethene
Concen: 0.11 ng
RT: 6.72 min Scan# 608
Delta R.T. -0.011 min
Lab File: 04302017.D
Acq: 30 Apr 2020 13:28

Tgt Ion: 96 Resp: 1140

Ion	Ratio	Lower	Upper
96	100		
61	166.9	129.8	169.8

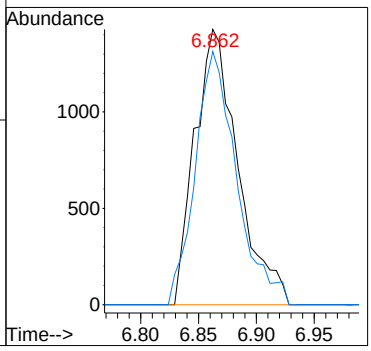


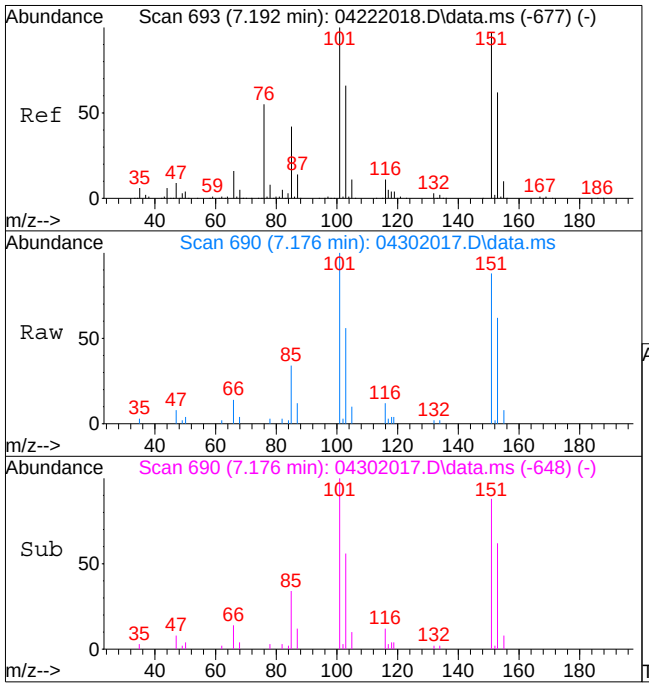


#19
Methylene Chloride
Concen: 0.36 ng
RT: 6.86 min Scan# 633
Delta R.T. -0.038 min
Lab File: 04302017.D
Acq: 30 Apr 2020 13:28

Tgt Ion: 84 Resp: 3698

Ion	Ratio	Lower	Upper
84	100		
49	88.3	73.0	123.0

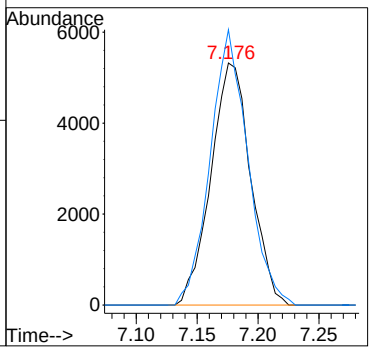


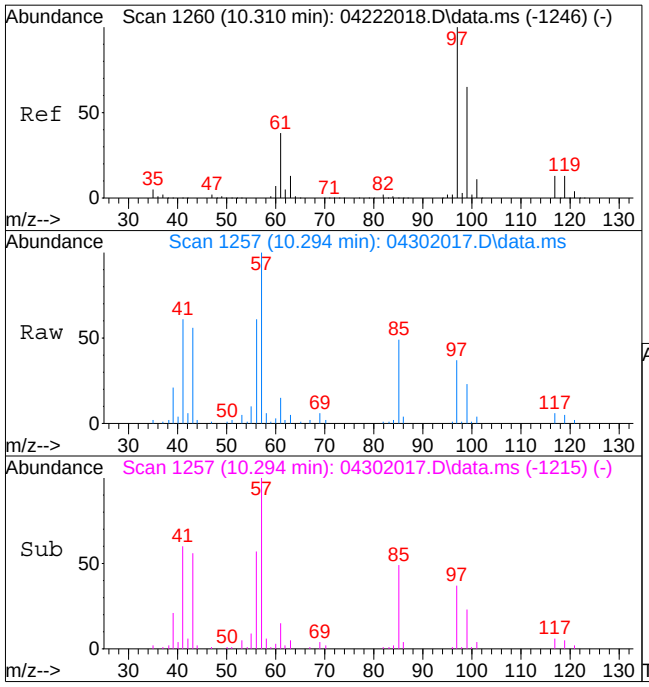


#21
Trichlorotrifluoroethane
Concen: 0.96 ng
RT: 7.18 min Scan# 690
Delta R.T. -0.016 min
Lab File: 04302017.D
Acq: 30 Apr 2020 13:28

Tgt Ion:151 Resp: 12113

Ion	Ratio	Lower	Upper
151	100		
101	106.9	82.9	122.9

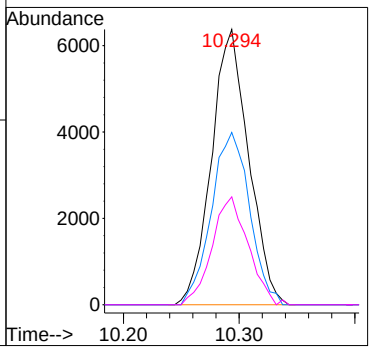


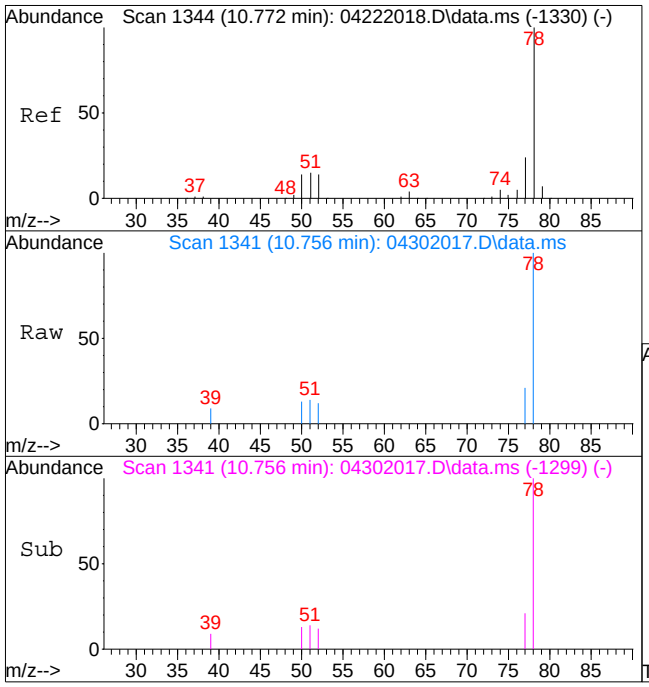


#38
1,1,1-Trichloroethane
Concen: 0.65 ng
RT: 10.29 min Scan# 1257
Delta R.T. -0.017 min
Lab File: 04302017.D
Acq: 30 Apr 2020 13:28

Tgt Ion: 97 Resp: 14251

Ion	Ratio	Lower	Upper
97	100		
99	64.4	44.7	84.7
61	38.2	17.2	57.2

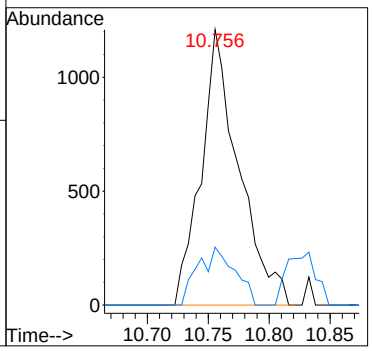


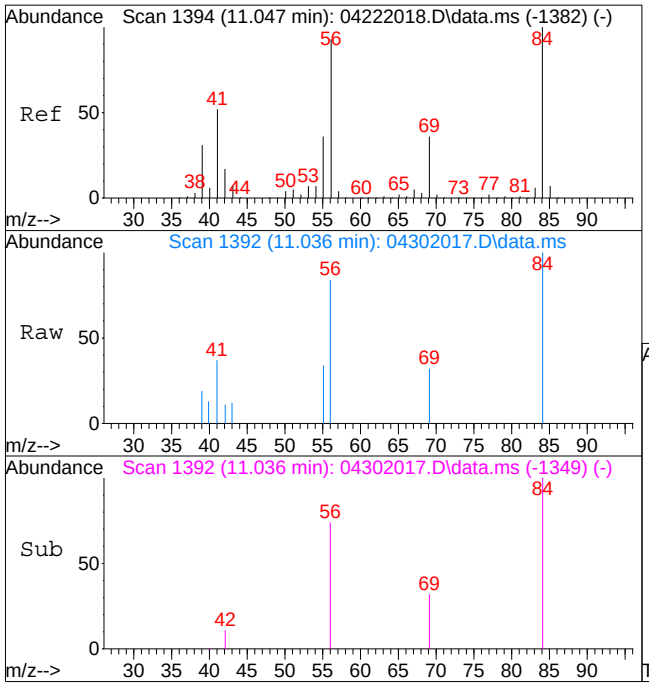


#41
Benzene
Concen: 0.06 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.017 min
Lab File: 04302017.D
Acq: 30 Apr 2020 13:28

Tgt Ion: 78 Resp: 2600

Ion	Ratio	Lower	Upper
78	100		
77	20.6	3.6	43.6

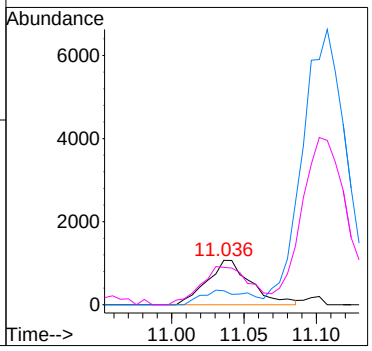


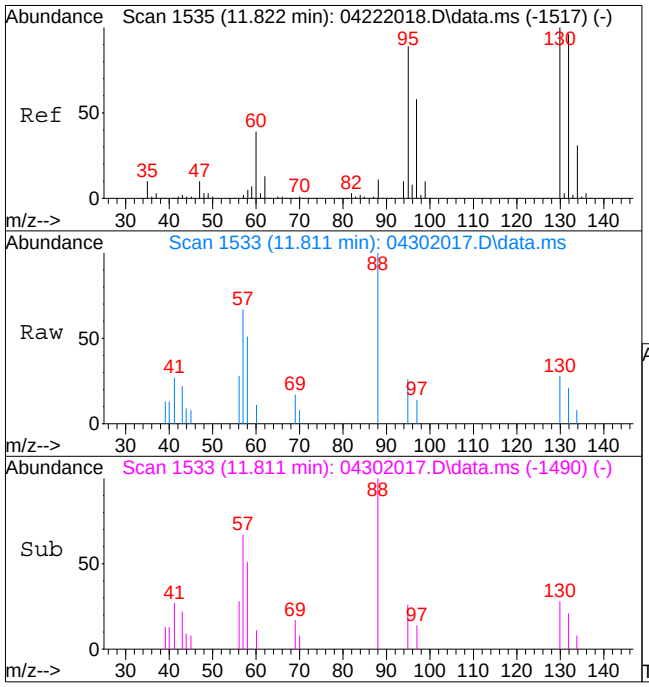


#43
Cyclohexane
Concen: 0.14 ng
RT: 11.04 min Scan# 1392
Delta R.T. -0.011 min
Lab File: 04302017.D
Acq: 30 Apr 2020 13:28

Tgt Ion: 84 Resp: 2252

Ion	Ratio	Lower	Upper
84	100		
69	35.1	15.8	55.8
56	97.6	72.0	112.0

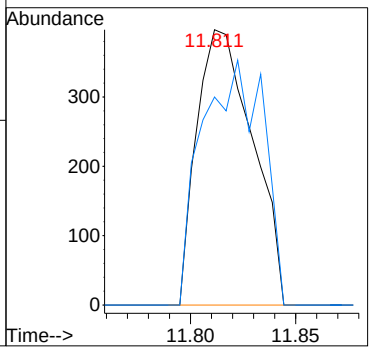


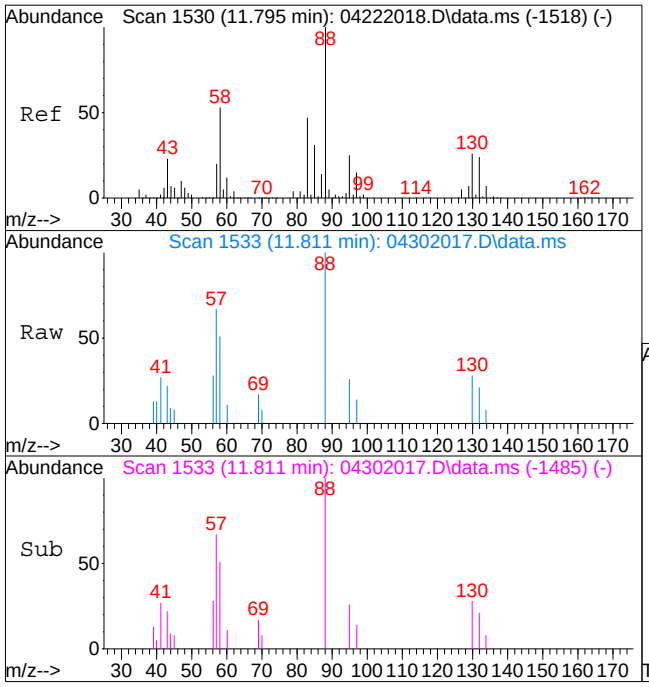


#47
Trichloroethene
Concen: 0.05 ng
RT: 11.81 min Scan# 1533
Delta R.T. -0.011 min
Lab File: 04302017.D
Acq: 30 Apr 2020 13:28

Tgt Ion:130 Resp: 734

Ion	Ratio	Lower	Upper
130	100		
132	97.0	76.4	116.4

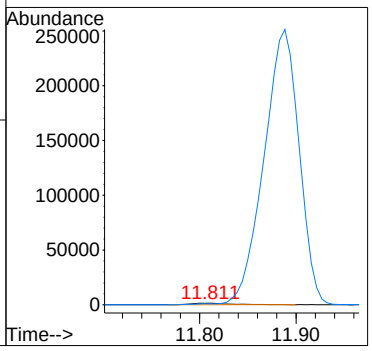


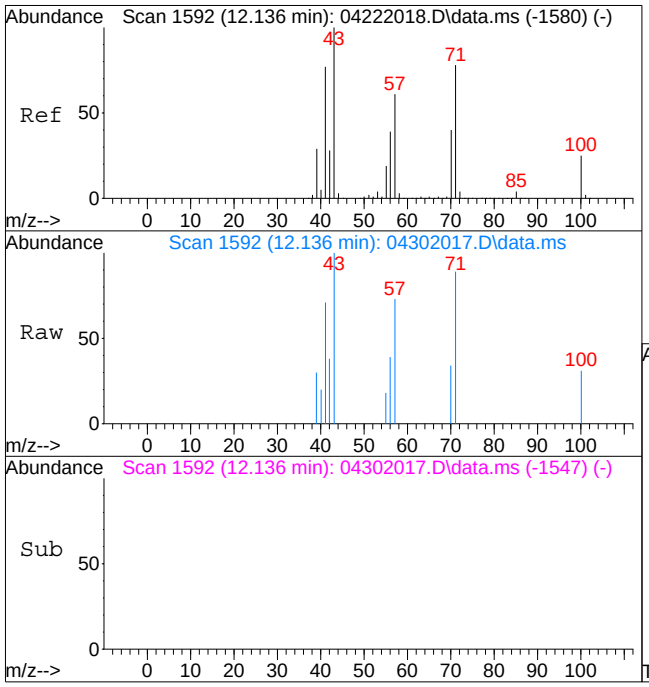


#48
1,4-Dioxane
Concen: 0.49 ng
RT: 11.81 min Scan# 1533
Delta R.T. 0.017 min
Lab File: 04302017.D
Acq: 30 Apr 2020 13:28

Tgt Ion: 88 Resp: 4105

Ion	Ratio	Lower	Upper
88	100		
58	28.6	31.1	71.1#

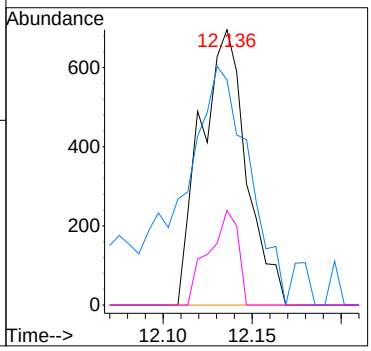


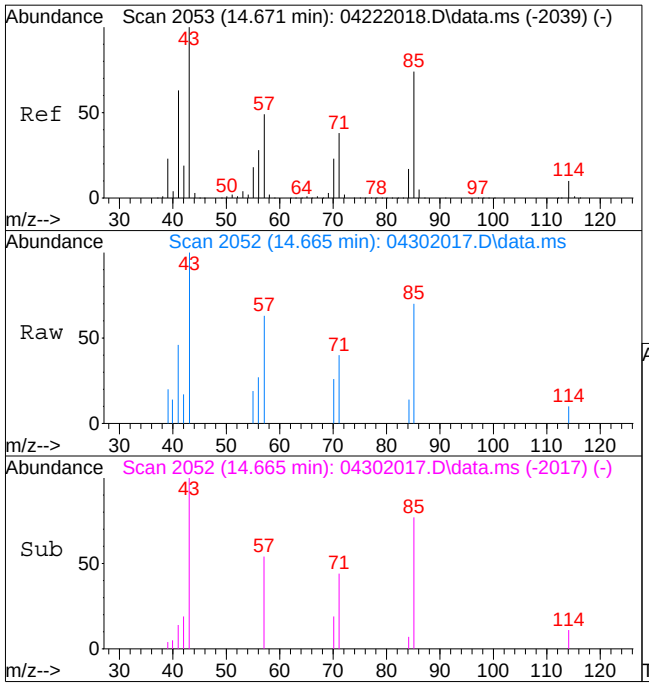


#51
n-Heptane
Concen: 0.13 ng
RT: 12.14 min Scan# 1592
Delta R.T. 0.000 min
Lab File: 04302017.D
Acq: 30 Apr 2020 13:28

Tgt Ion: 71 Resp: 1246

Ion	Ratio	Lower	Upper
71	100		
57	123.3	57.4	97.4#
100	22.2	12.0	52.0

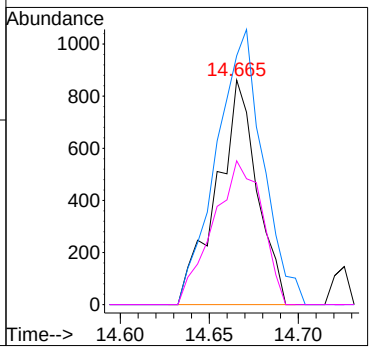


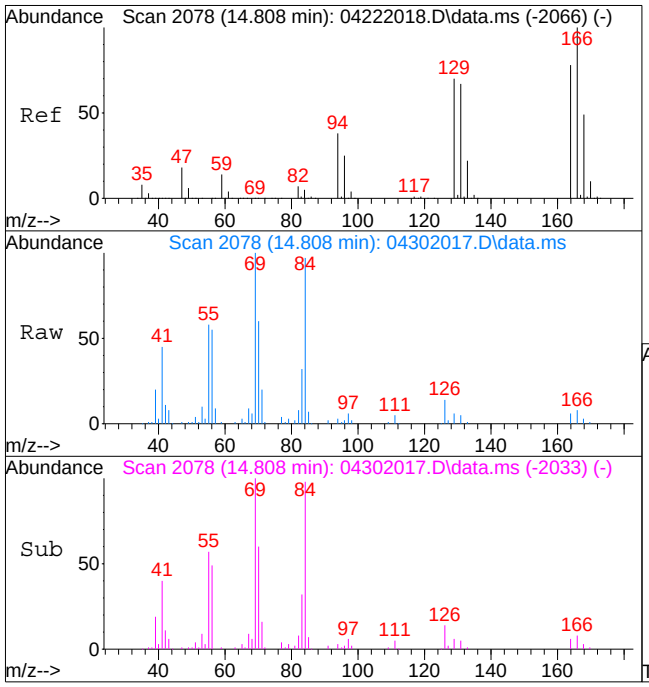


#63
n-Octane
Concen: 0.19 ng
RT: 14.67 min Scan# 2052
Delta R.T. -0.006 min
Lab File: 04302017.D
Acq: 30 Apr 2020 13:28

Tgt Ion: 57 Resp: 1358

Ion	Ratio	Lower	Upper
57	100		
85	141.6	120.7	181.1
71	77.4	61.1	91.7

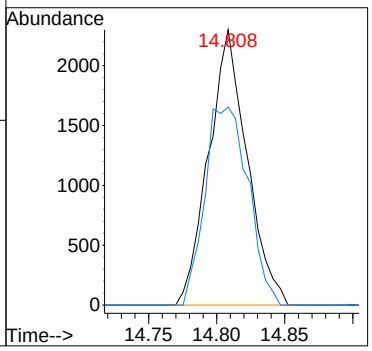


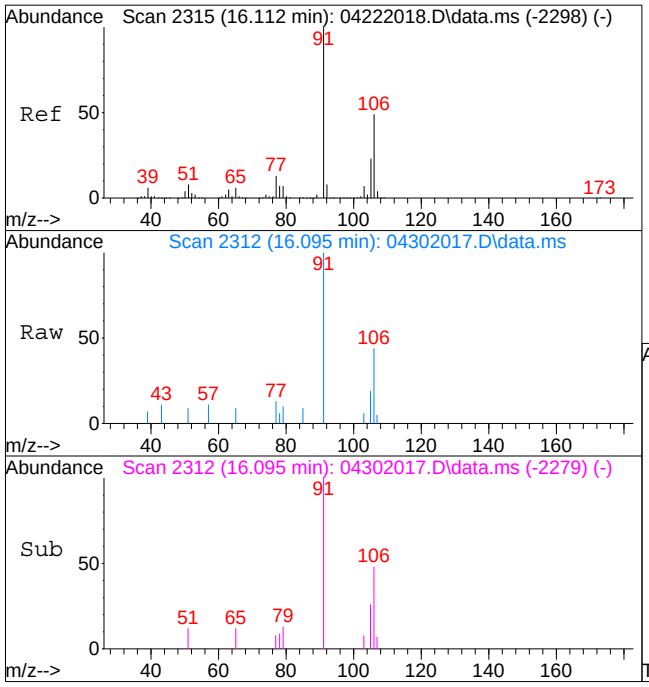


#64
Tetrachloroethene
Concen: 0.26 ng
RT: 14.81 min Scan# 2078
Delta R.T. 0.000 min
Lab File: 04302017.D
Acq: 30 Apr 2020 13:28

Tgt Ion:166 Resp: 4525

Ion	Ratio	Lower	Upper
166	100		
164	81.0	57.7	97.7

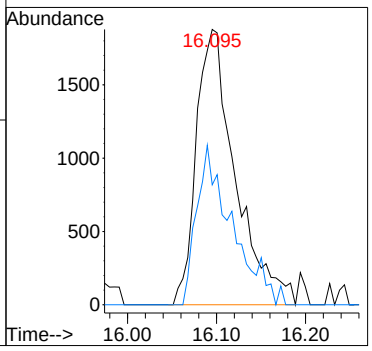


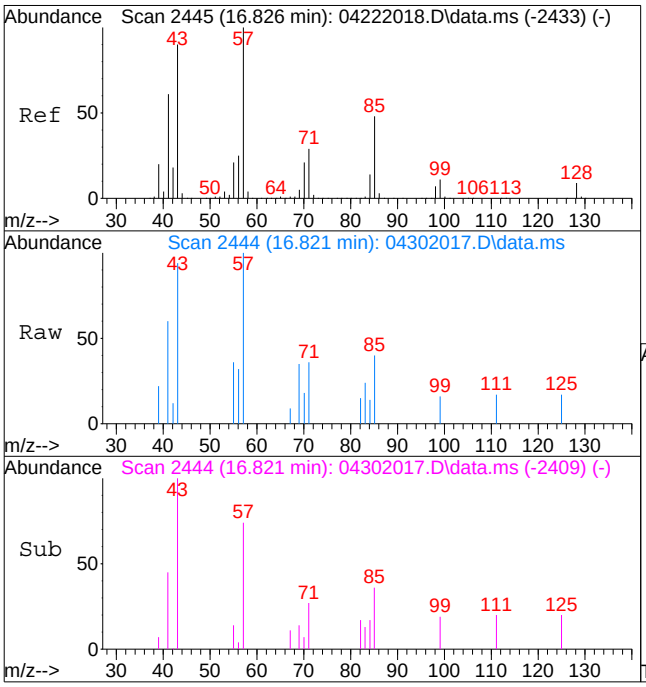


#67
m- & p-Xylenes
Concen: 0.13 ng
RT: 16.10 min Scan# 2312
Delta R.T. -0.017 min
Lab File: 04302017.D
Acq: 30 Apr 2020 13:28

Tgt Ion: 91 Resp: 5749

Ion	Ratio	Lower	Upper
91	100		
106	52.3	28.3	68.3

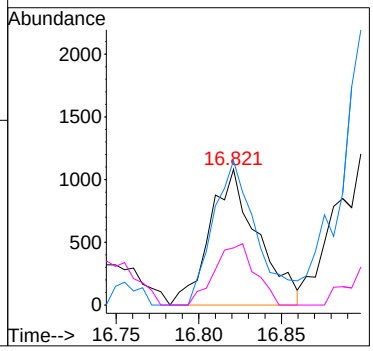




#71
n-Nonane
Concen: 0.15 ng
RT: 16.82 min Scan# 2444
Delta R.T. -0.005 min
Lab File: 04302017.D
Acq: 30 Apr 2020 13:28

Tgt Ion: 43 Resp: 2177

Ion	Ratio	Lower	Upper
43	100		
57	98.2	90.8	130.8
85	38.2	32.1	72.1



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302018.D Vial: 1
Acq On : 30 Apr 2020 14:02 Operator: WA
Sample : P2002029-015 (0.12mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 14:32:26 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/30/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.14	130	155715	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	11.11	114	663526	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	296020	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.92	65	234639	11.630	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.04%				
57) Toluene-d8 (SS2)	13.55	98	711452	12.447	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.60%				
73) Bromofluorobenzene (SS3)	17.05	174	278067	12.105	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.88%				
Target Compounds							Qvalue
2) Propene	3.89	42	2767	0.418	ng	#	78
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	4.59	54	145	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.40	45	36	N.D.			
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	0.00	56	0	N.D.	d		
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	6.03	101	133	N.D.			
15) 2-Propanol (Isopropanol)	6.24	45	38	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	6.72	96	1108	0.101	ng		98
18) 2-Methyl-2-Propanol (t...	6.91	59	168	N.D.			
19) Methylene Chloride	6.87	84	2864	0.272	ng		92
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	7.18	151	10303	0.792	ng		100
22) Carbon Disulfide	0.00	76	0	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	8.12	63	261	N.D.			
25) Methyl tert-Butyl Ether	8.20	73	227	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	0.00	72	0	N.D.	d		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.	d		
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	9.24	57	1121640	84.049	ng		99
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d		
38) 1,1,1-Trichloroethane	10.31	97	12235	0.536	ng		96
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.76	78	1885306	43.586	ng		100
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	11.05	84	2031944	119.911	ng		99
44) tert-Amyl Methyl Ether	11.29	73	995	N.D.			
45) 1,2-Dichloropropane	11.57	63	190	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	11.81	130	683	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.	d		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302018.D Vial: 1
Acq On : 30 Apr 2020 14:02 Operator: WA
Sample : P2002029-015 (0.12mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 14:32:26 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

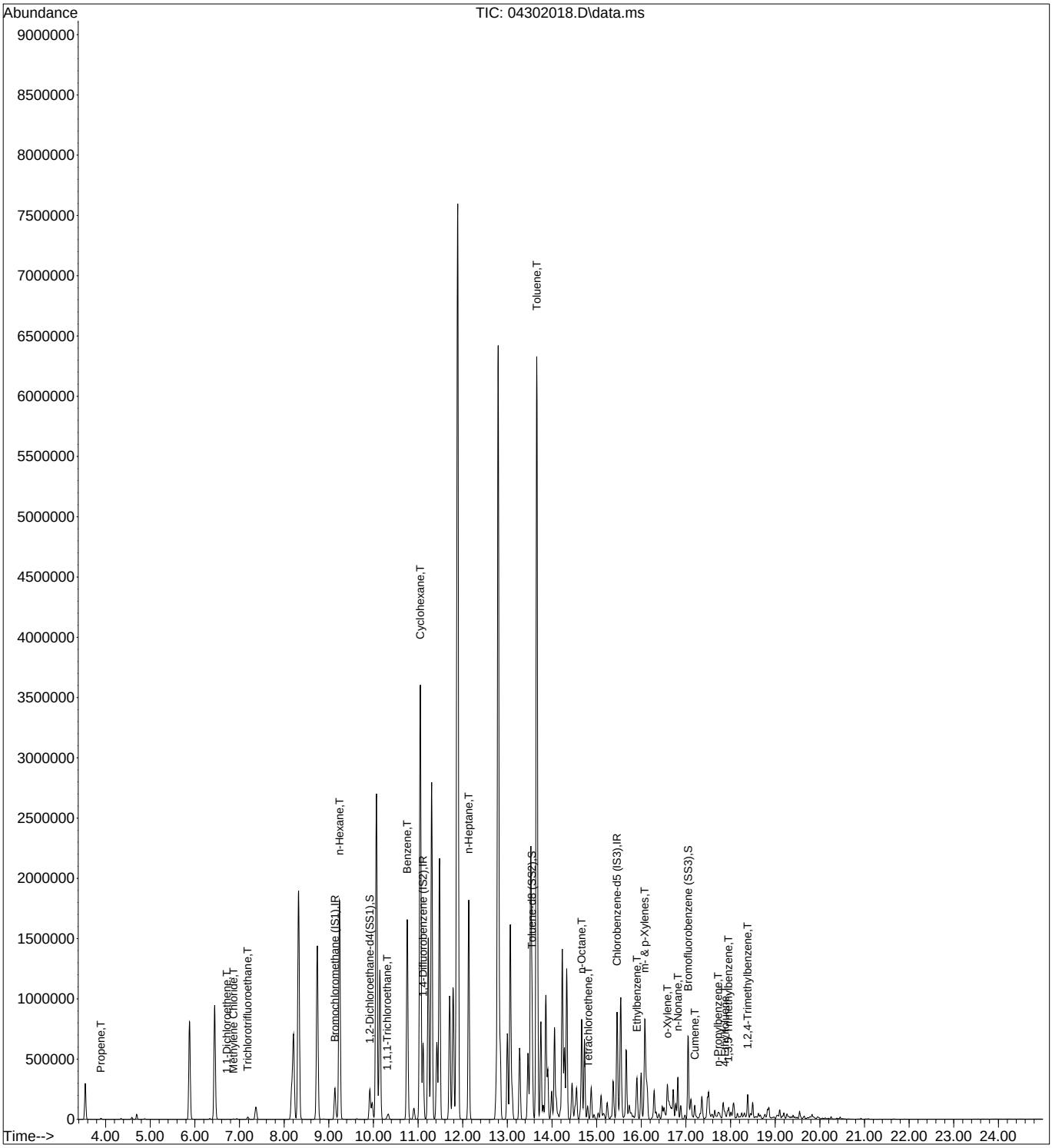
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.14	71	557687	55.492 ng	99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	12.97	75	410	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	13.66	91	4600233	95.863 ng	99
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D. d	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.67	57	161421	21.131 ng	99
64) Tetrachloroethene	14.81	166	3767	0.208 ng	98
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.90	91	250712	4.484 ng	99
67) m- & p-Xylenes	16.08	91	699494	14.828 ng	96
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.50	104	128	N.D.	
70) o-Xylene	16.58	91	201341	4.346 ng	99
71) n-Nonane	16.82	43	105367	7.051 ng	99
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	17.20	105	31109	0.515 ng	100
75) alpha-Pinene	17.60	93	386	N.D.	
76) n-Propylbenzene	17.72	91	38572	0.586 ng	98
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	20806	0.362 ng	99
79) 1,3,5-Trimethylbenzene	17.95	105	36608	0.690 ng	100
80) alpha-Methylstyrene	17.96	118	132	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	78844	1.536 ng	89
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.45	91	345	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	18.98	146	489	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.94	128	211	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302018.D Vial: 1
Acq On : 30 Apr 2020 14:02 Operator: WA
Sample : P2002029-015 (0.12mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 14:32:26 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302018.D Vial: 1
Acq On : 30 Apr 2020 14:02 Operator: WA
Sample : P2002029-015 (0.12mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 14:32:26 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/30/20

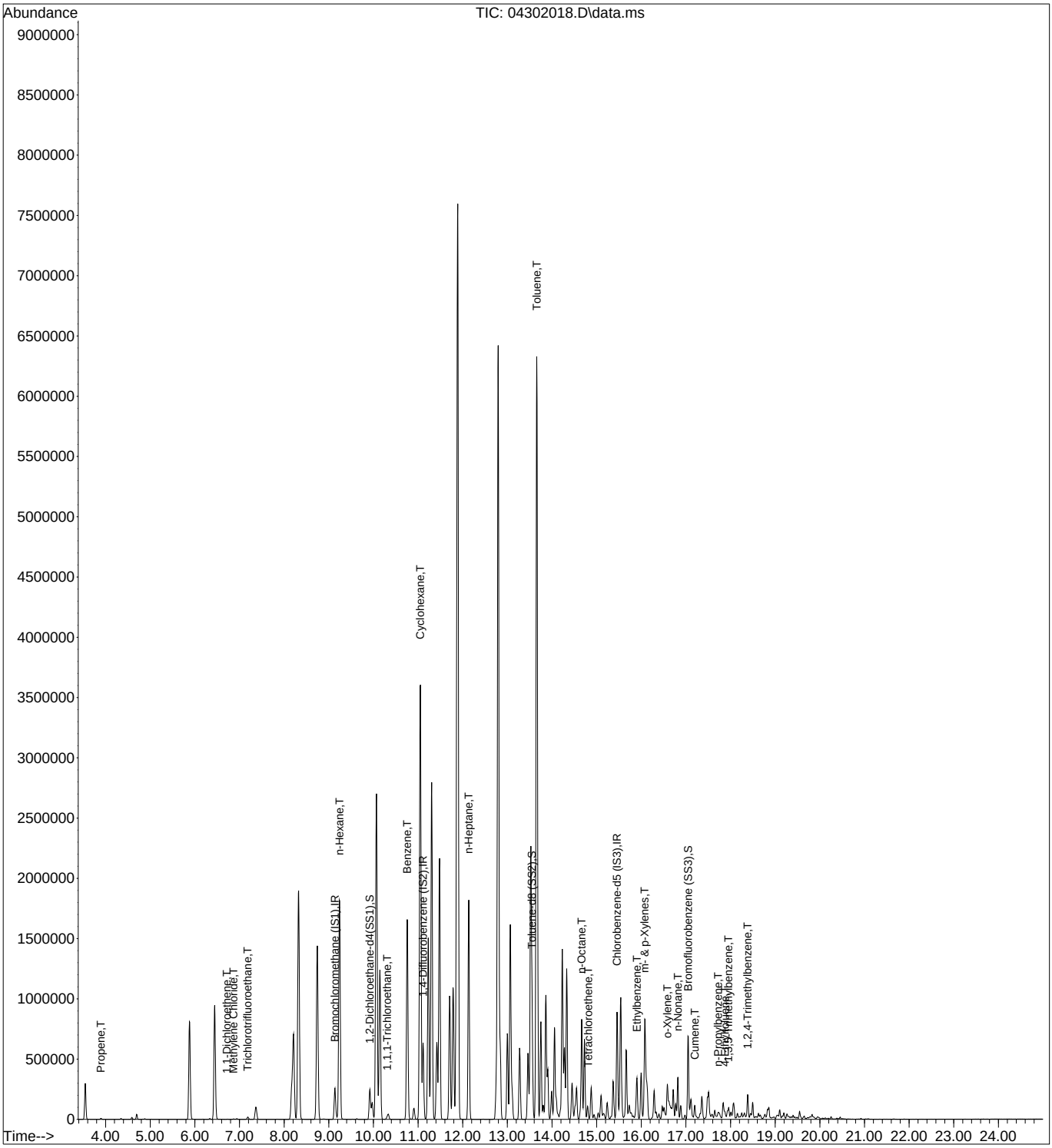
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.14	130	155715	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	11.11	114	663526	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	296020	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.92	65	234639	11.630	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.04%			
57) Toluene-d8 (SS2)	13.55	98	711452	12.447	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.60%			
73) Bromofluorobenzene (SS3)	17.05	174	278067	12.105	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.88%			
Target Compounds						Qvalue
2) Propene	3.89	42	2767	0.418	ng	# 78
17) 1,1-Dichloroethene	6.72	96	1108	0.101	ng	98
19) Methylene Chloride	6.87	84	2864	0.272	ng	92
21) Trichlorotrifluoroethane	7.18	151	10303	0.792	ng	100
31) n-Hexane	9.24	57	1121640	84.049	ng	99
38) 1,1,1-Trichloroethane	10.31	97	12235	0.536	ng	96
41) Benzene	10.76	78	1885306	43.586	ng	100
43) Cyclohexane	11.05	84	2031944	119.911	ng	99
51) n-Heptane	12.14	71	557687	55.492	ng	99
58) Toluene	13.66	91	4600233	95.863	ng	99
63) n-Octane	14.67	57	161421	21.131	ng	99
64) Tetrachloroethene	14.81	166	3767	0.208	ng	98
66) Ethylbenzene	15.90	91	250712	4.484	ng	99
67) m- & p-Xylenes	16.08	91	699494	14.828	ng	96
70) o-Xylene	16.58	91	201341	4.346	ng	99
71) n-Nonane	16.82	43	105367	7.051	ng	99
74) Cumene	17.20	105	31109	0.515	ng	100
76) n-Propylbenzene	17.72	91	38572	0.586	ng	98
78) 4-Ethyltoluene	17.88	105	20806	0.362	ng	99
79) 1,3,5-Trimethylbenzene	17.95	105	36608	0.690	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	78844	1.536	ng	89

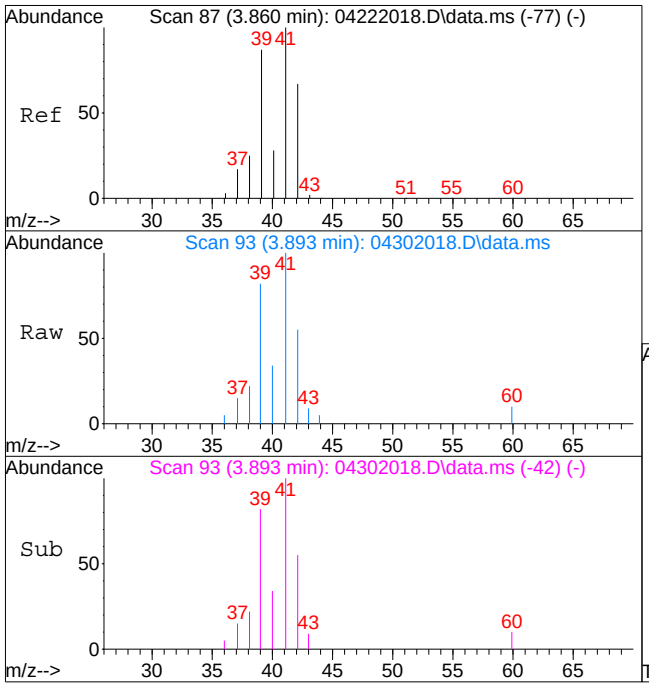
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302018.D Vial: 1
Acq On : 30 Apr 2020 14:02 Operator: WA
Sample : P2002029-015 (0.12mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 14:32:26 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

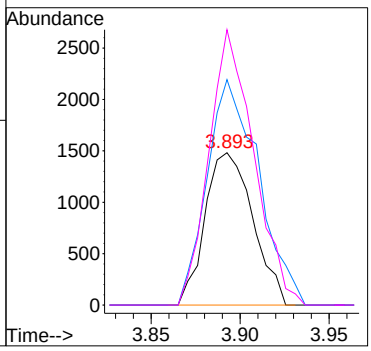


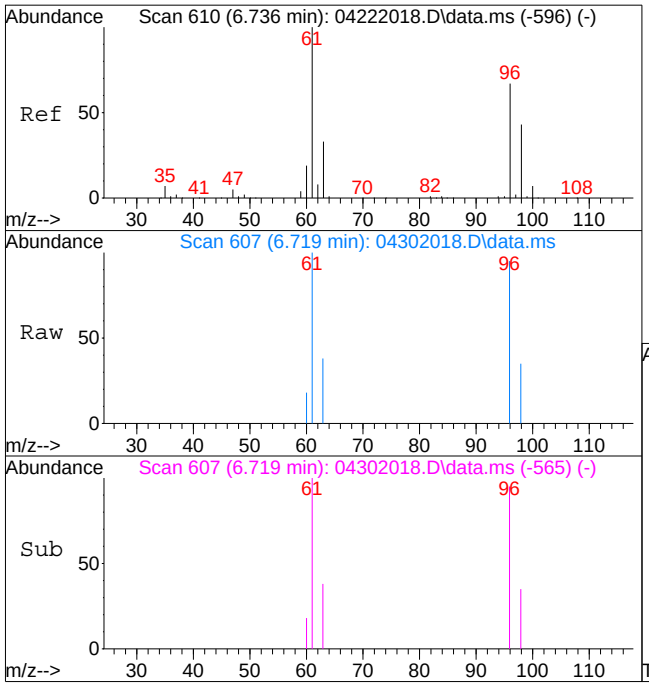


#2
Propene
Concen: 0.42 ng
RT: 3.89 min Scan# 93
Delta R.T. 0.033 min
Lab File: 04302018.D
Acq: 30 Apr 2020 14:02

Tgt Ion: 42 Resp: 2767

Ion	Ratio	Lower	Upper
42	100		
39	159.6	106.4	146.4#
41	169.8	128.8	168.8#

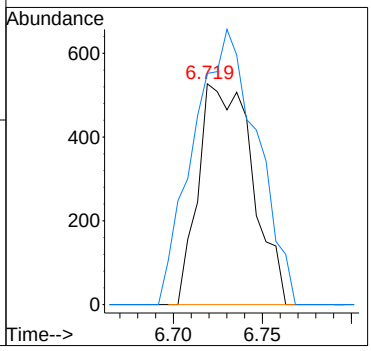


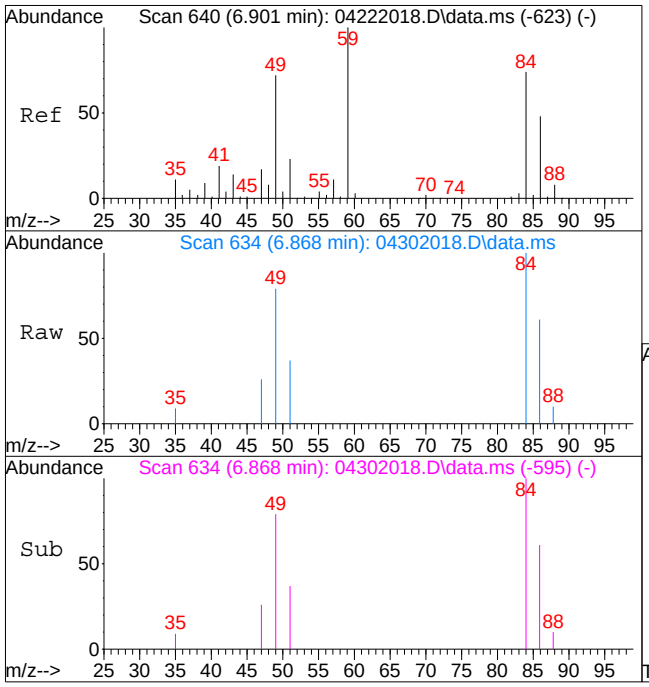


#17
1,1-Dichloroethene
Concen: 0.10 ng
RT: 6.72 min Scan# 607
Delta R.T. -0.017 min
Lab File: 04302018.D
Acq: 30 Apr 2020 14:02

Tgt Ion: 96 Resp: 1108

Ion	Ratio	Lower	Upper
96	100		
61	147.1	129.8	169.8

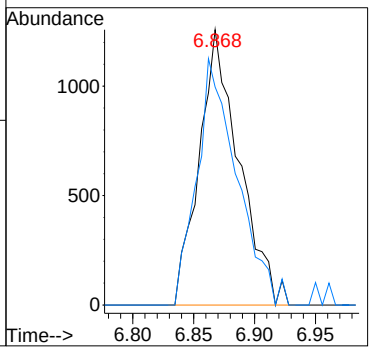


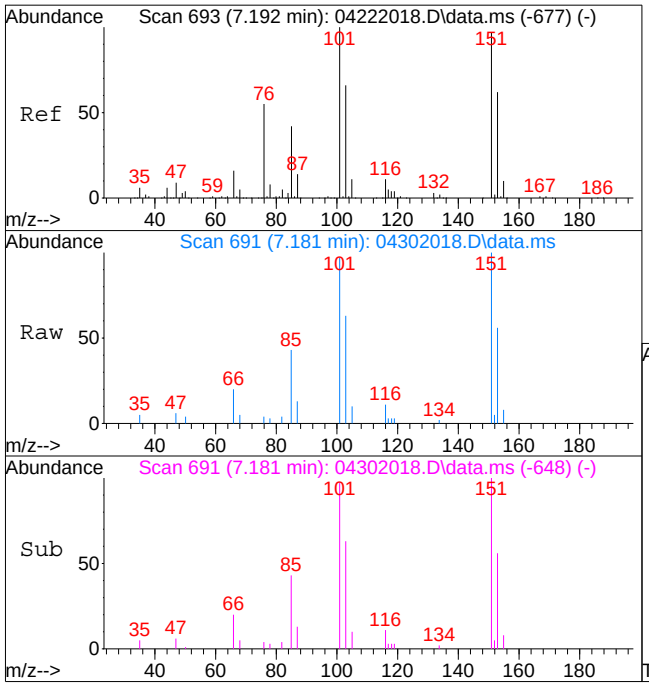


#19
Methylene Chloride
Concen: 0.27 ng
RT: 6.87 min Scan# 634
Delta R.T. -0.033 min
Lab File: 04302018.D
Acq: 30 Apr 2020 14:02

Tgt Ion: 84 Resp: 2864

Ion	Ratio	Lower	Upper
84	100		
49	90.4	73.0	123.0

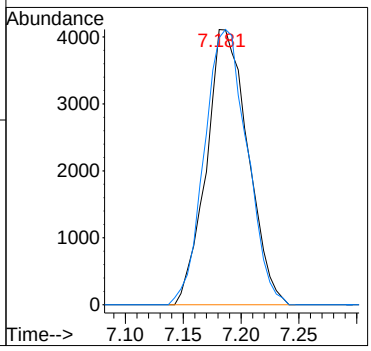


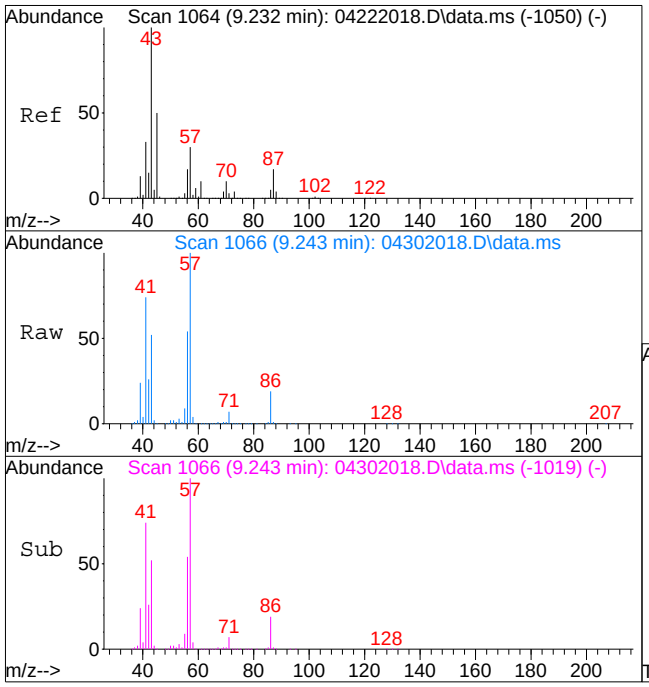


#21
Trichlorotrifluoroethane
Concen: 0.79 ng
RT: 7.18 min Scan# 691
Delta R.T. -0.011 min
Lab File: 04302018.D
Acq: 30 Apr 2020 14:02

Tgt Ion:151 Resp: 10303

Ion	Ratio	Lower	Upper
151	100		
101	102.5	82.9	122.9

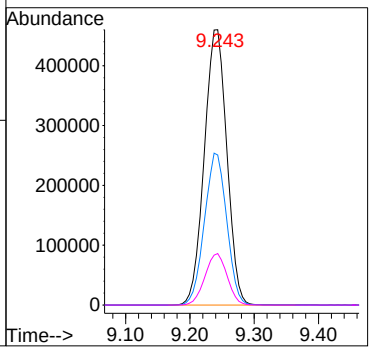


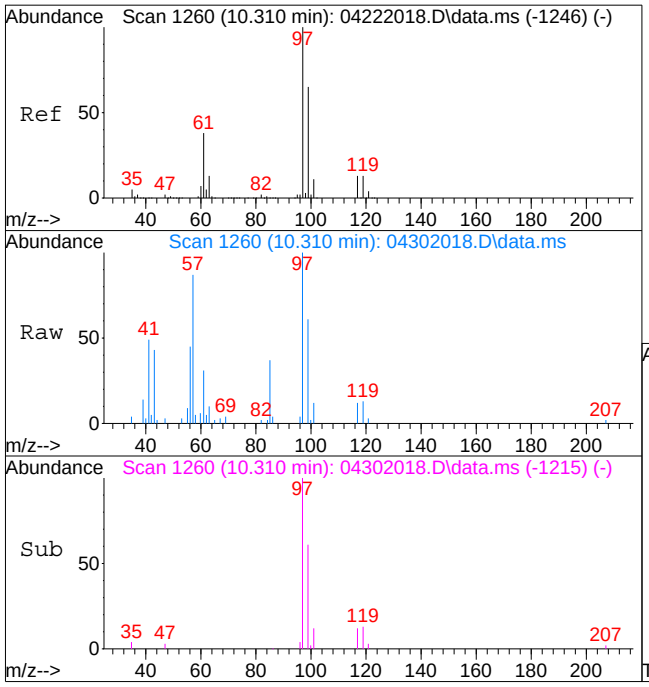


#31
n-Hexane
Concen: 84.05 ng
RT: 9.24 min Scan# 1066
Delta R.T. 0.011 min
Lab File: 04302018.D
Acq: 30 Apr 2020 14:02

Tgt Ion: 57 Resp: 1121640

Ion	Ratio	Lower	Upper
57	100		
56	54.4	44.0	66.0
86	18.4	15.0	22.4

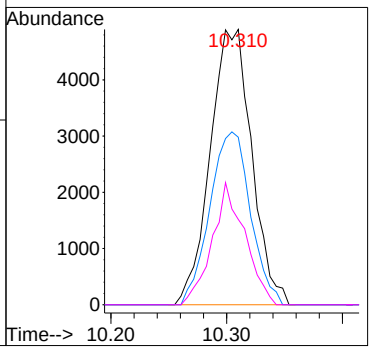


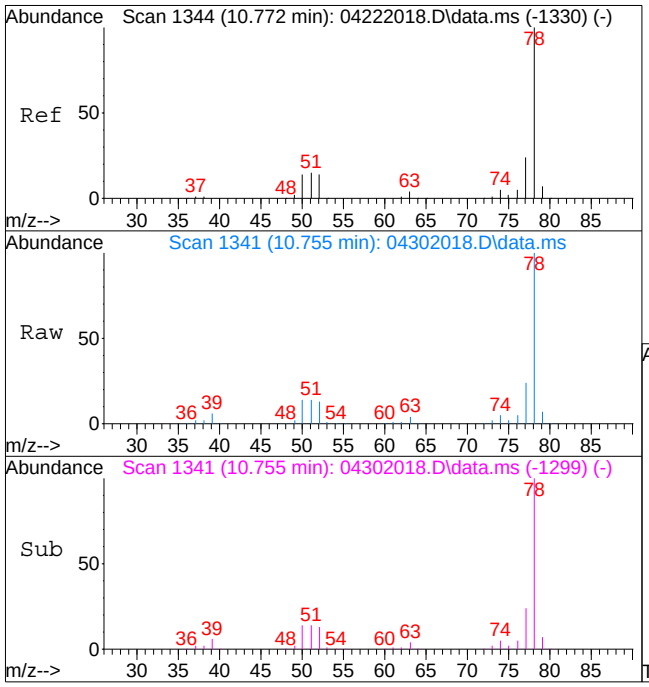


#38
1,1,1-Trichloroethane
Concen: 0.54 ng
RT: 10.31 min Scan# 1260
Delta R.T. -0.000 min
Lab File: 04302018.D
Acq: 30 Apr 2020 14:02

Tgt Ion: 97 Resp: 12235

Ion	Ratio	Lower	Upper
97	100		
99	61.5	44.7	84.7
61	34.9	17.2	57.2

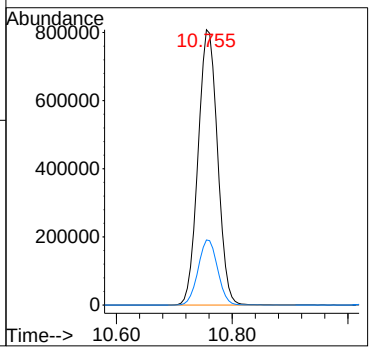


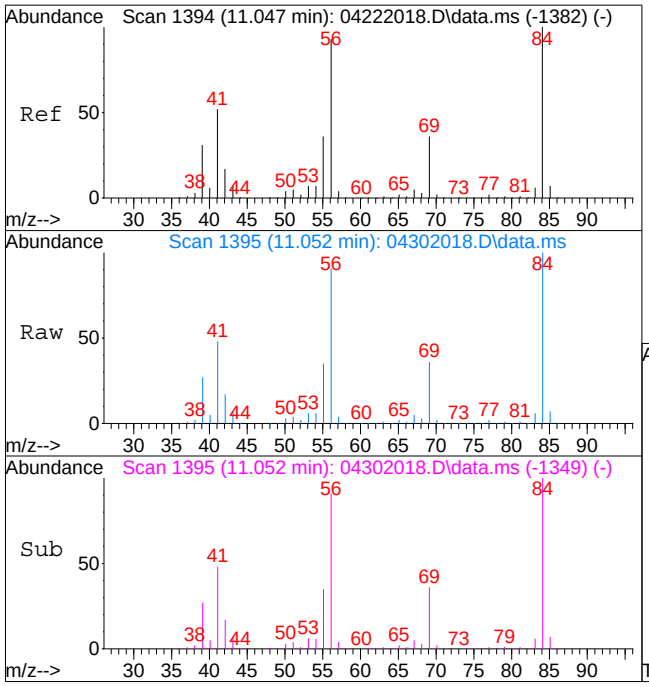


#41
Benzene
Concen: 43.59 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.017 min
Lab File: 04302018.D
Acq: 30 Apr 2020 14:02

Tgt Ion: 78 Resp: 1885306

Ion	Ratio	Lower	Upper
78	100		
77	23.7	3.6	43.6

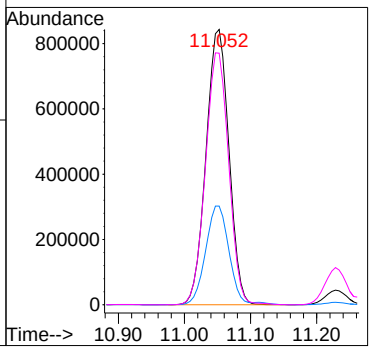


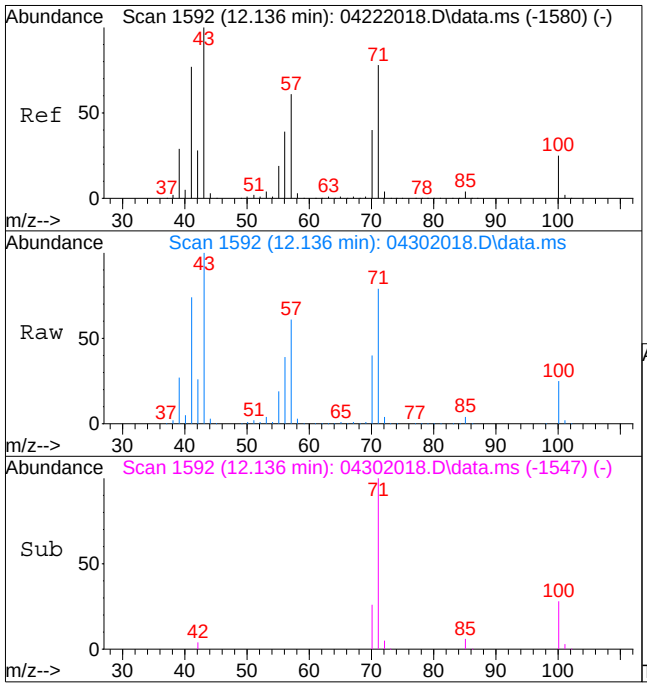


#43
Cyclohexane
Concen: 119.91 ng
RT: 11.05 min Scan# 1395
Delta R.T. 0.005 min
Lab File: 04302018.D
Acq: 30 Apr 2020 14:02

Tgt Ion: 84 Resp: 2031944

Ion	Ratio	Lower	Upper
84	100		
69	36.7	15.8	55.8
56	93.0	72.0	112.0

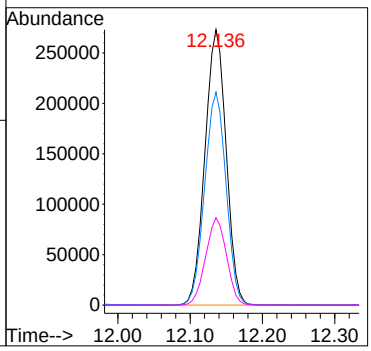


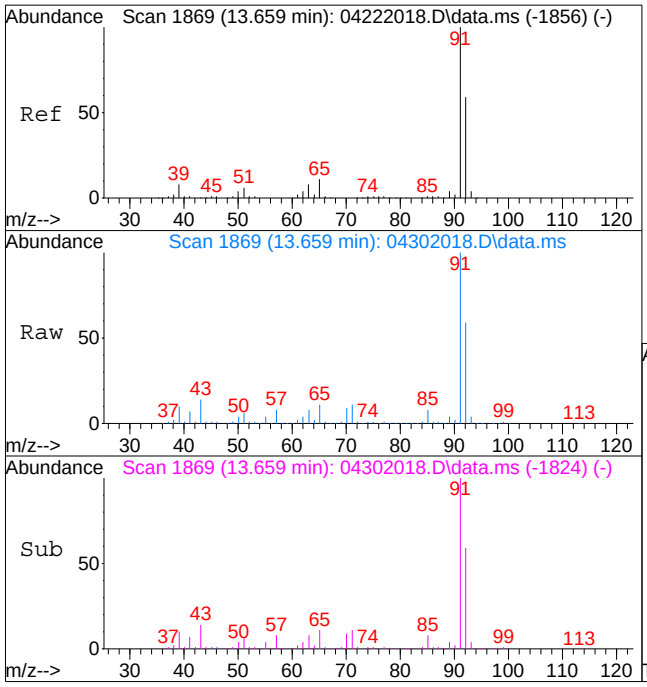


#51
n-Heptane
Concen: 55.49 ng
RT: 12.14 min Scan# 1592
Delta R.T. -0.000 min
Lab File: 04302018.D
Acq: 30 Apr 2020 14:02

Tgt Ion: 71 Resp: 557687

Ion	Ratio	Lower	Upper
71	100		
57	77.9	57.4	97.4
100	31.2	12.0	52.0

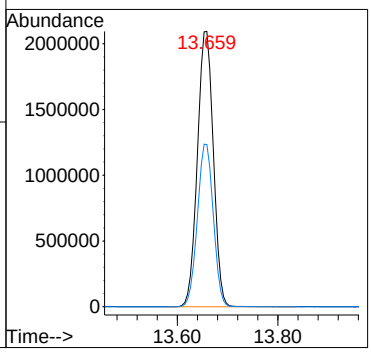


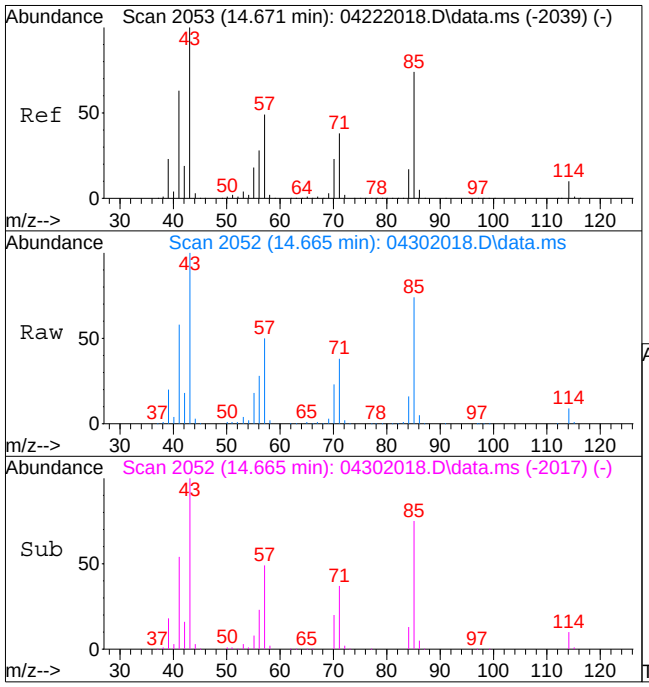


#58
Toluene
Concen: 95.86 ng
RT: 13.66 min Scan# 1869
Delta R.T. -0.000 min
Lab File: 04302018.D
Acq: 30 Apr 2020 14:02

Tgt Ion: 91 Resp: 4600233

Ion	Ratio	Lower	Upper
91	100		
92	59.0	38.2	78.2

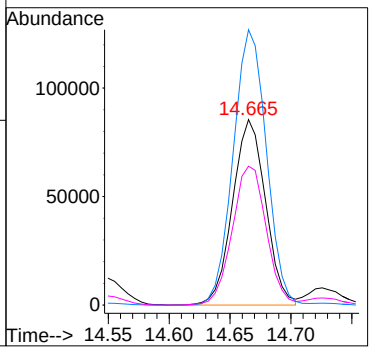


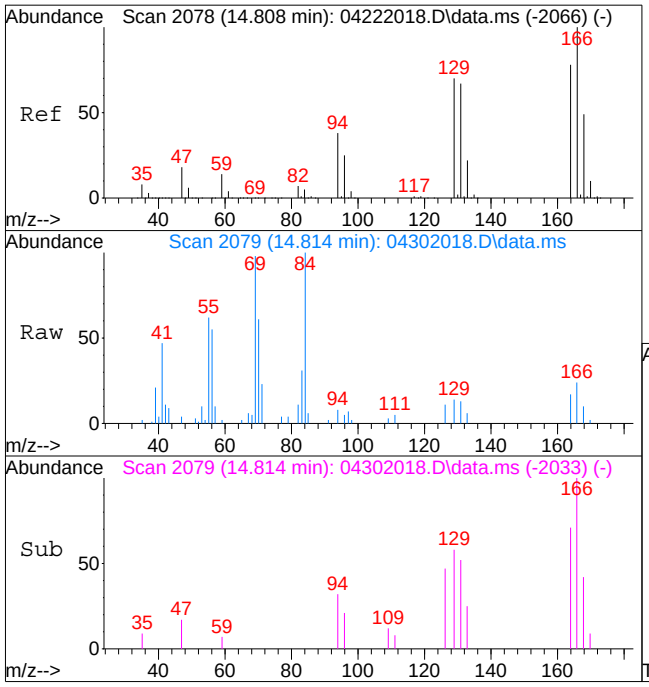


#63
n-Octane
Concen: 21.13 ng
RT: 14.67 min Scan# 2052
Delta R.T. -0.006 min
Lab File: 04302018.D
Acq: 30 Apr 2020 14:02

Tgt Ion: 57 Resp: 161421

Ion	Ratio	Lower	Upper
57	100		
85	149.7	120.7	181.1
71	76.9	61.1	91.7

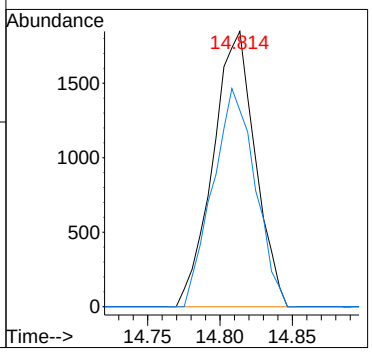


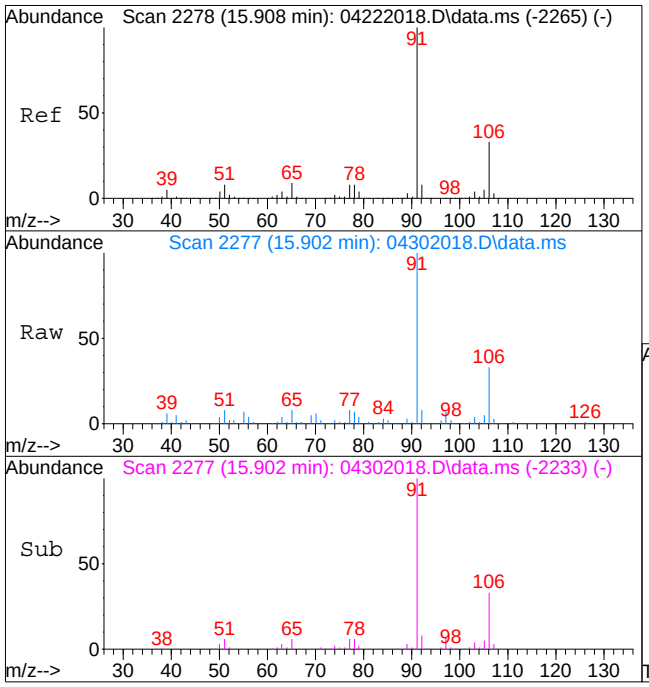


#64
Tetrachloroethene
Concen: 0.21 ng
RT: 14.81 min Scan# 2079
Delta R.T. 0.005 min
Lab File: 04302018.D
Acq: 30 Apr 2020 14:02

Tgt Ion:166 Resp: 3767

Ion	Ratio	Lower	Upper
166	100		
164	79.7	57.7	97.7

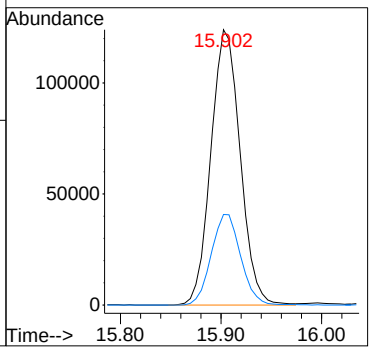


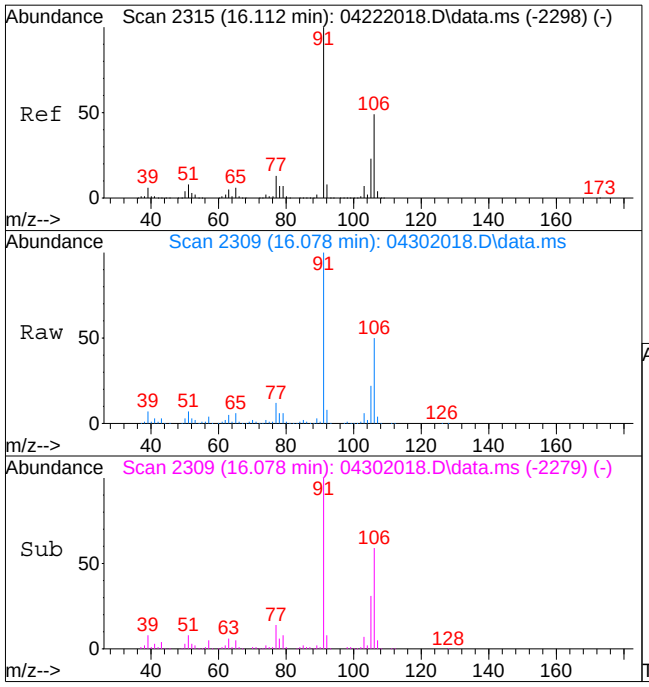


#66
Ethylbenzene
Concen: 4.48 ng
RT: 15.90 min Scan# 2277
Delta R.T. -0.006 min
Lab File: 04302018.D
Acq: 30 Apr 2020 14:02

Tgt Ion: 91 Resp: 250712

Ion	Ratio	Lower	Upper
91	100		
106	33.1	13.4	53.4

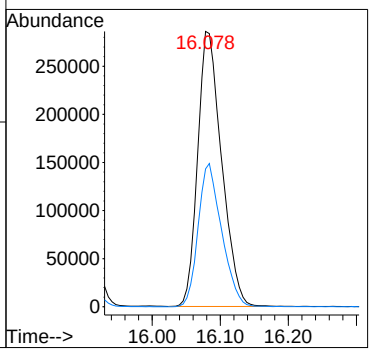


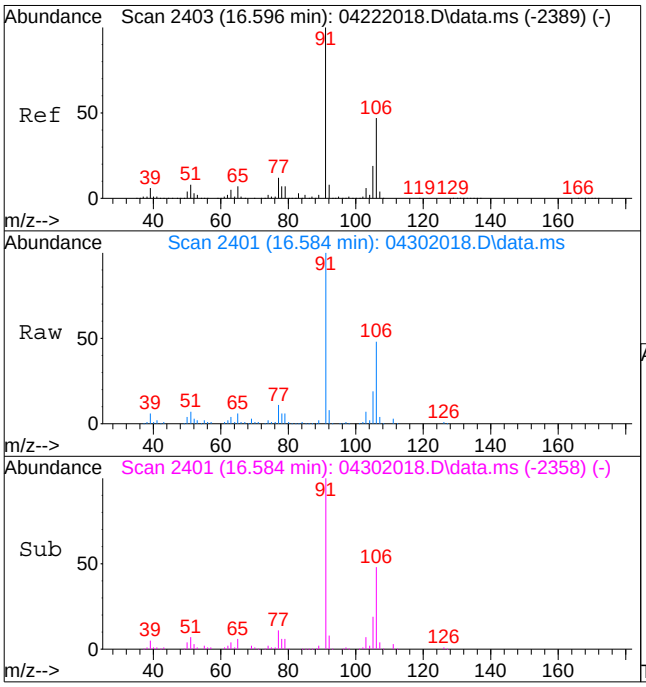


#67
m- & p-Xylenes
Concen: 14.83 ng
RT: 16.08 min Scan# 2309
Delta R.T. -0.033 min
Lab File: 04302018.D
Acq: 30 Apr 2020 14:02

Tgt Ion: 91 Resp: 699494

Ion	Ratio	Lower	Upper
91	100		
106	51.0	28.3	68.3

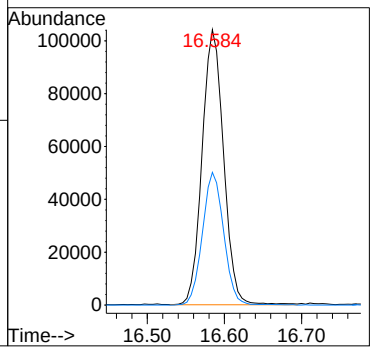


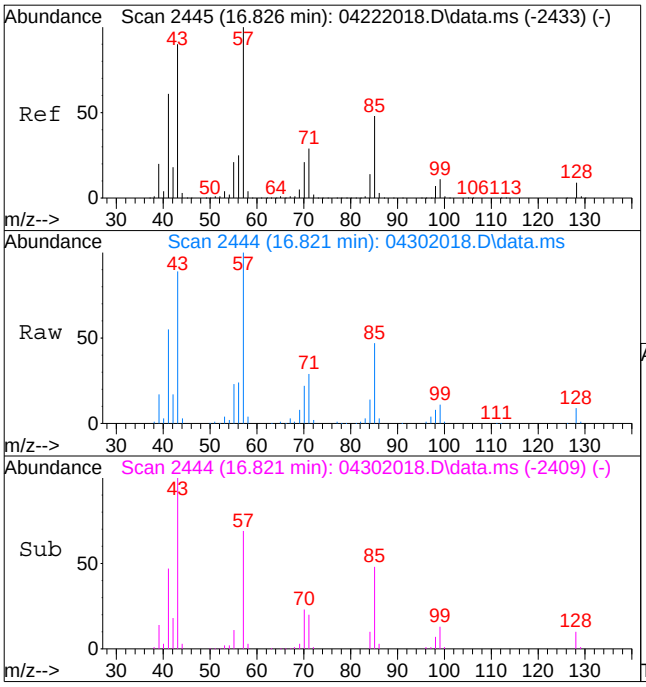


#70
o-Xylene
Concen: 4.35 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 04302018.D
Acq: 30 Apr 2020 14:02

Tgt Ion: 91 Resp: 201341

Ion	Ratio	Lower	Upper
91	100		
106	47.8	27.5	67.5

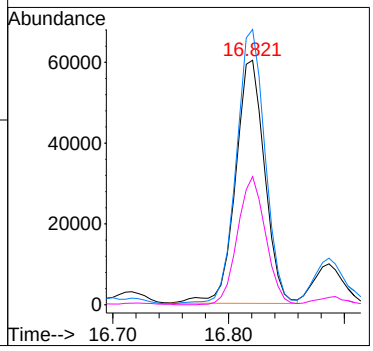


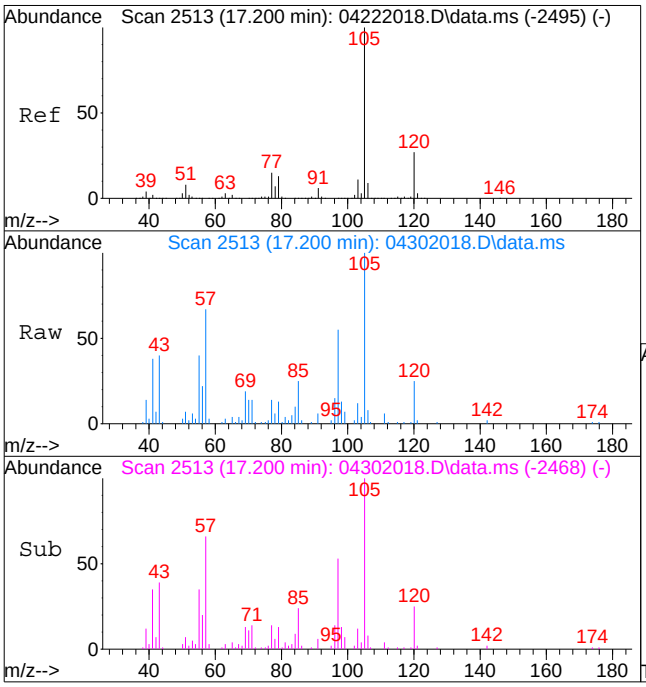


#71
n-Nonane
Concen: 7.05 ng
RT: 16.82 min Scan# 2444
Delta R.T. -0.006 min
Lab File: 04302018.D
Acq: 30 Apr 2020 14:02

Tgt Ion: 43 Resp: 105367

Ion	Ratio	Lower	Upper
43	100		
57	111.3	90.8	130.8
85	50.8	32.1	72.1

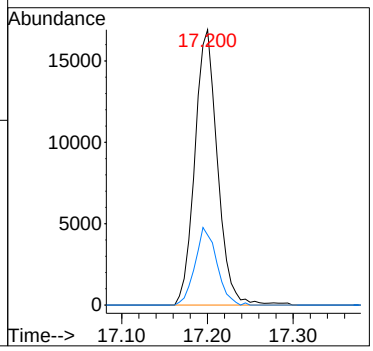


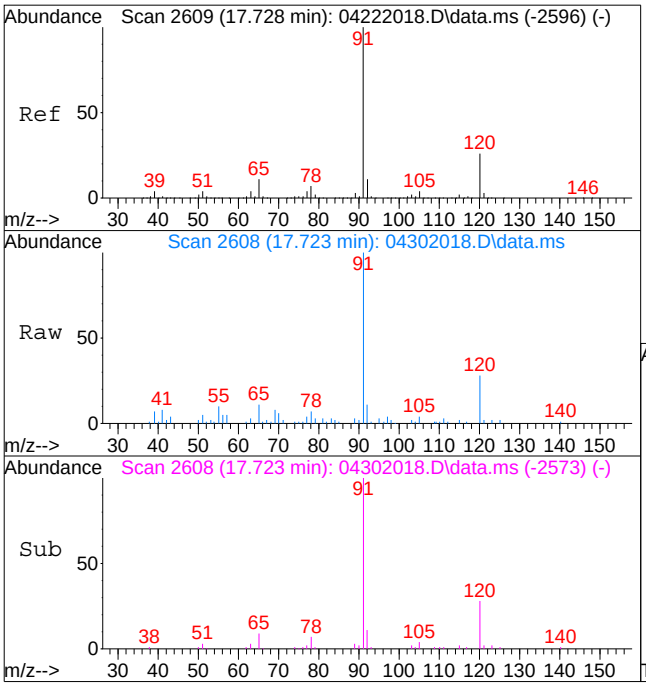


#74
Cumene
Concen: 0.51 ng
RT: 17.20 min Scan# 2513
Delta R.T. -0.000 min
Lab File: 04302018.D
Acq: 30 Apr 2020 14:02

Tgt Ion:105 Resp: 31109

Ion	Ratio	Lower	Upper
105	100		
120	27.1	7.3	47.3

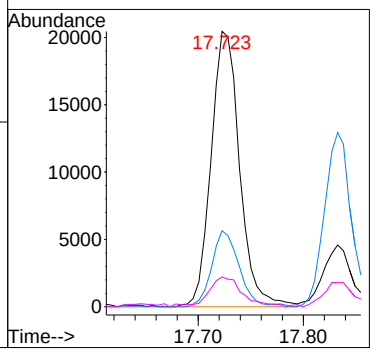


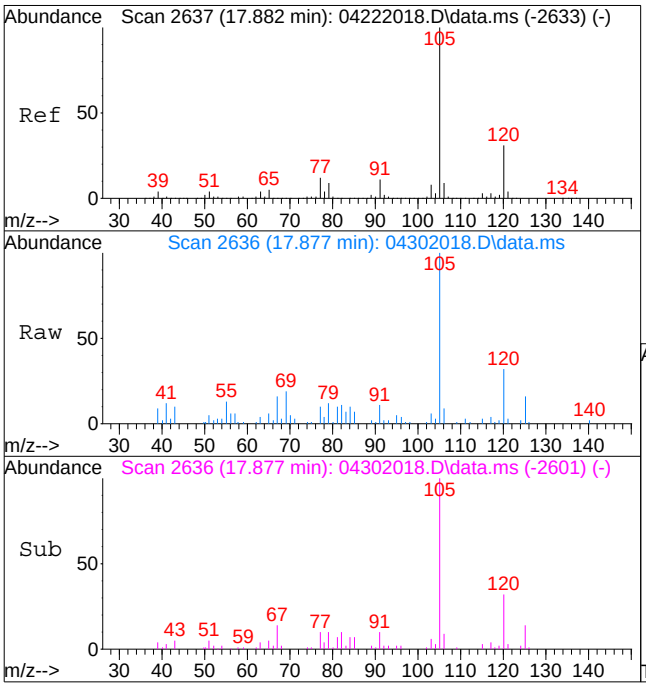


#76
n-Propylbenzene
Concen: 0.59 ng
RT: 17.72 min Scan# 2608
Delta R.T. -0.006 min
Lab File: 04302018.D
Acq: 30 Apr 2020 14:02

Tgt Ion: 91 Resp: 38572

Ion	Ratio	Lower	Upper
91	100		
120	26.4	6.1	46.1
65	12.8	0.0	30.7

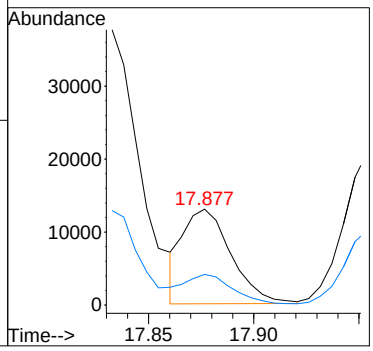


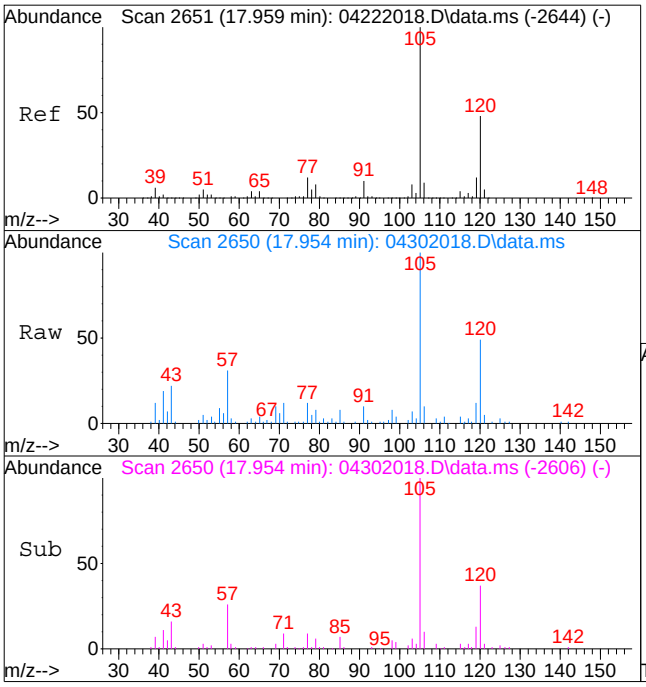


#78
4-Ethyltoluene
Concen: 0.36 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 04302018.D
Acq: 30 Apr 2020 14:02

Tgt Ion:105 Resp: 20806

Ion	Ratio	Lower	Upper
105	100		
120	32.0	11.4	51.4

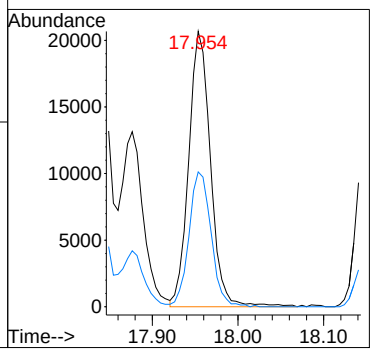


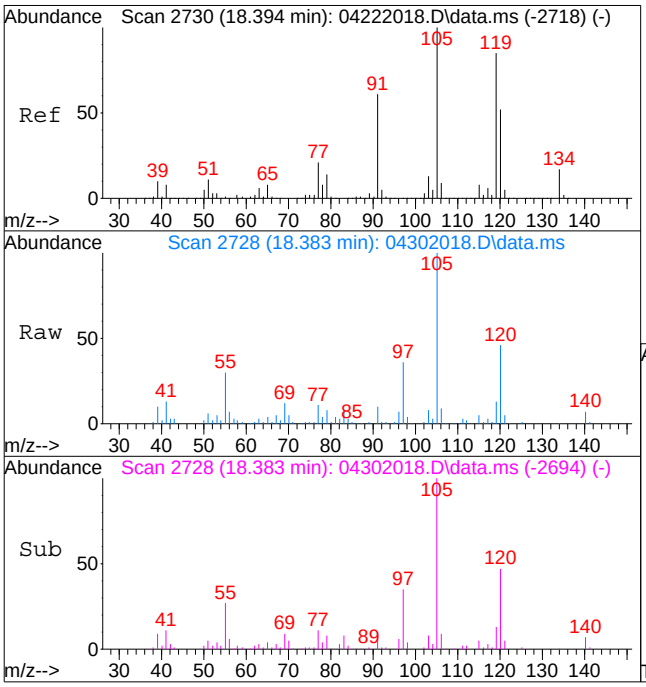


#79
1,3,5-Trimethylbenzene
Concen: 0.69 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 04302018.D
Acq: 30 Apr 2020 14:02

Tgt Ion:105 Resp: 36608

Ion	Ratio	Lower	Upper
105	100		
120	49.6	29.5	69.5

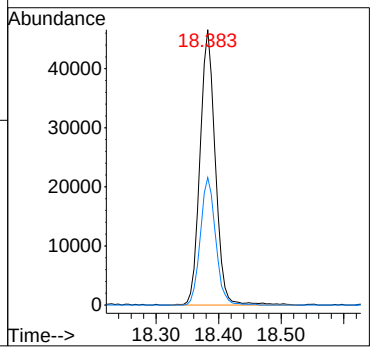




#82
1,2,4-Trimethylbenzene
Concen: 1.54 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 04302018.D
Acq: 30 Apr 2020 14:02

Tgt Ion:105 Resp: 78844

Ion	Ratio	Lower	Upper
105	100		
120	46.2	34.5	74.5



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302019.D Vial: 1
Acq On : 30 Apr 2020 14:36 Operator: WA
Sample : P2002029-016 (0.25mL) Inst : MS09
Misc : S34-04212006

TD 5/1/20

Quant Time: May 01 12:14:41 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	155531	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	652443	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	287072	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	234194	11.622	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.96%				
57) Toluene-d8 (SS2)	13.55	98	709217	12.795	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.40%				
73) Bromofluorobenzene (SS3)	17.05	174	276087	12.393	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.12%				
Target Compounds							Qvalue
2) Propene	3.91	42	480	0.073	ng	#	67
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.41	45	33	N.D.			
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	0.00	56	0	N.D.	d		
13) Acetone	5.87	58	2932	0.488	ng	#	77
14) Trichlorofluoromethane	6.03	101	172	N.D.			
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	6.73	96	989	0.090	ng		97
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	6.86	84	3019	0.287	ng		96
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	7.19	151	10215	0.786	ng		98
22) Carbon Disulfide	7.18	76	108	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	8.09	63	332	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	0.00	72	0	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	9.24	57	672	0.050	ng	#	85
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	10.13	62	130	N.D.			
38) 1,1,1-Trichloroethane	10.29	97	11566	0.516	ng		100
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.77	78	1499	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	11.04	84	2915	0.175	ng		96
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	11.40	63	325	N.D.			
46) Bromodichloromethane	11.78	83	137	N.D.			
47) Trichloroethene	11.82	130	568	N.D.			
48) 1,4-Dioxane	11.81	88	3497	0.409	ng	#	1
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302019.D Vial: 1
Acq On : 30 Apr 2020 14:36 Operator: WA
Sample : P2002029-016 (0.25mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 12:14:41 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

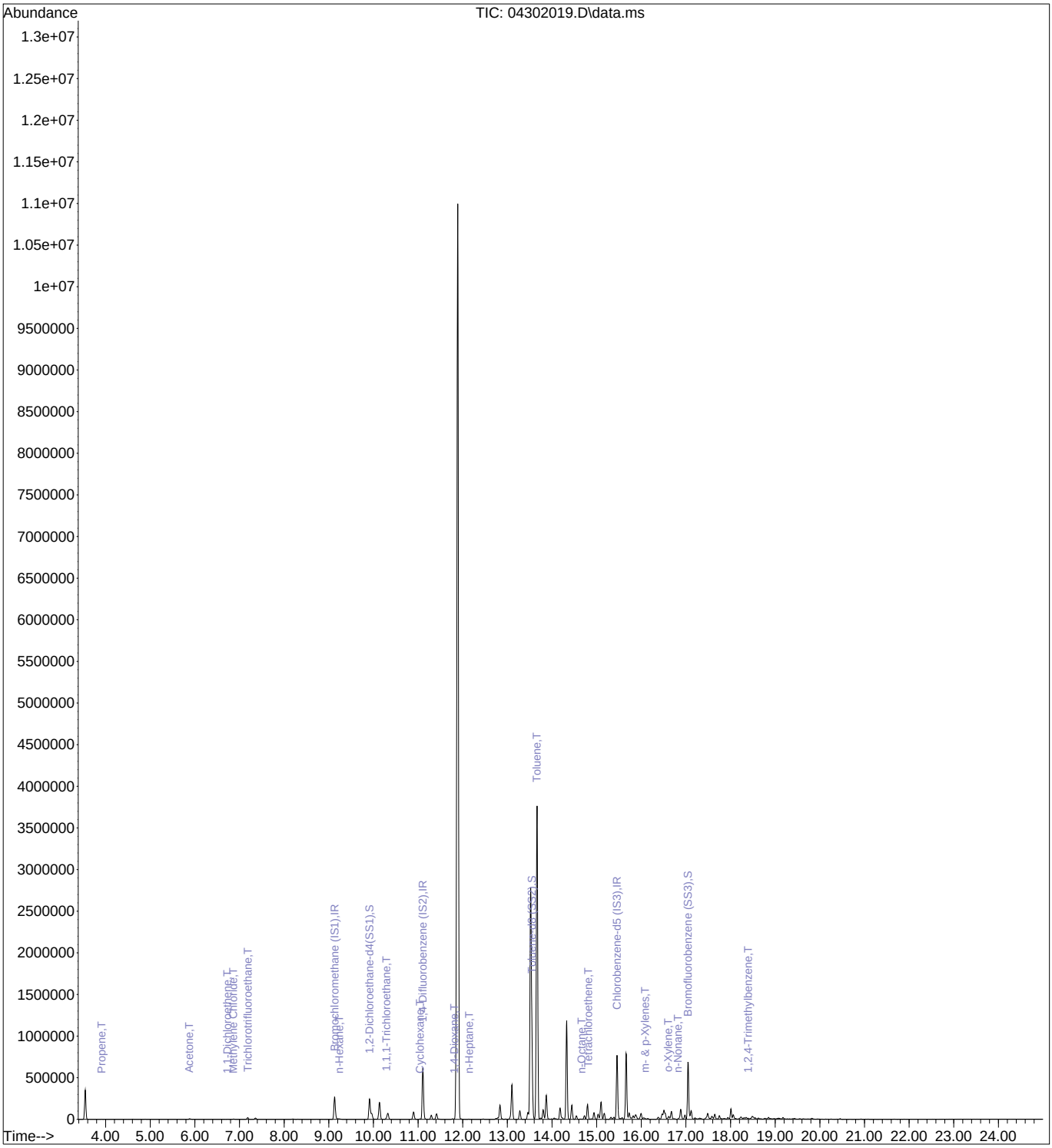
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	12.14	71	722	0.073 ng	#	65
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d		
54) trans-1,3-Dichloropropene	12.97	75	499	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d		
58) Toluene	13.66	91	9813	0.211 ng		99
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D. d		
63) n-Octane	14.67	57	842	0.114 ng		87
64) Tetrachloroethene	14.81	166	3730	0.213 ng		99
65) Chlorobenzene	15.51	112	314	N.D.		
66) Ethylbenzene	15.92	91	1928	N.D.		
67) m- & p-Xylenes	16.08	91	5544	0.121 ng		97
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	16.60	91	2262	0.050 ng		89
71) n-Nonane	16.82	43	2285	0.158 ng	#	76
72) 1,1,2,2-Tetrachloroethane	16.58	83	259	N.D.		
74) Cumene	17.21	105	387	N.D.		
75) alpha-Pinene	17.60	93	271	N.D.		
76) n-Propylbenzene	17.75	91	992	N.D.		
77) 3-Ethyltoluene	17.84	105	1342	N.D.		
78) 4-Ethyltoluene	17.89	105	668	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	1233	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	18.15	105	842	N.D.		
82) 1,2,4-Trimethylbenzene	18.39	105	2551	0.051 ng		82
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	18.48	91	217	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	18.67	105	662	N.D.		
88) 4-Isopropyltoluene (p-...	18.84	119	746	N.D.		
89) 1,2,3-Trimethylbenzene	18.84	105	1342	N.D.		
90) 1,2-Dichlorobenzene	19.00	146	340	N.D.		
91) d-Limonene	19.05	68	409	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	0.00	128	0	N.D.		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	16.28	55	145	N.D.		
99) tert-Butylbenzene	18.39	119	501	N.D.		
100) n-Butylbenzene	19.28	91	643	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302019.D Vial: 1
Acq On : 30 Apr 2020 14:36 Operator: WA
Sample : P2002029-016 (0.25mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 12:14:41 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

TD 5/1/20

Data File : I:\MS09\Data\2020_04\30\04302019.D Vial: 1
Acq On : 30 Apr 2020 14:36 Operator: WA
Sample : P2002029-016 (0.25mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 12:14:41 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

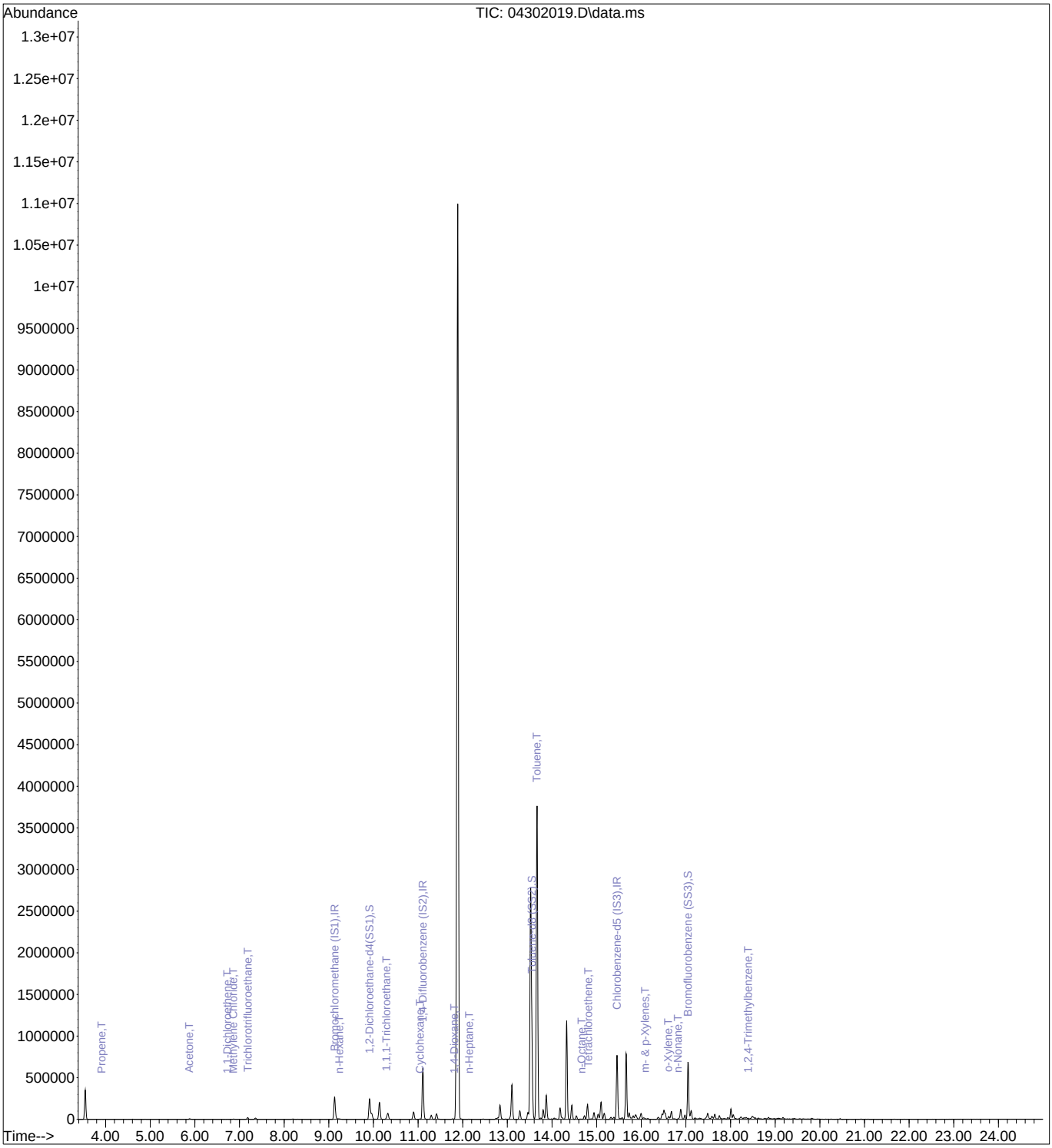
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	155531	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	652443	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	287072	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	234194	11.622	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.96%				
57) Toluene-d8 (SS2)	13.55	98	709217	12.795	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.40%				
73) Bromofluorobenzene (SS3)	17.05	174	276087	12.393	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.12%				
Target Compounds							Qvalue
2) Propene	3.91	42	480	0.073	ng	#	67
13) Acetone	5.87	58	2932	0.488	ng	#	77
17) 1,1-Dichloroethene	6.73	96	989	0.090	ng		97
19) Methylene Chloride	6.86	84	3019	0.287	ng		96
21) Trichlorotrifluoroethane	7.19	151	10215	0.786	ng		98
31) n-Hexane	9.24	57	672	0.050	ng	#	85
38) 1,1,1-Trichloroethane	10.29	97	11566	0.516	ng		100
43) Cyclohexane	11.04	84	2915	0.175	ng		96
48) 1,4-Dioxane	11.81	88	3497	0.409	ng	#	1
51) n-Heptane	12.14	71	722	0.073	ng	#	65
58) Toluene	13.66	91	9813	0.211	ng		99
63) n-Octane	14.67	57	842	0.114	ng		87
64) Tetrachloroethene	14.81	166	3730	0.213	ng		99
67) m- & p-Xylenes	16.08	91	5544	0.121	ng		97
70) o-Xylene	16.60	91	2262	0.050	ng		89
71) n-Nonane	16.82	43	2285	0.158	ng	#	76
82) 1,2,4-Trimethylbenzene	18.39	105	2551	0.051	ng		82

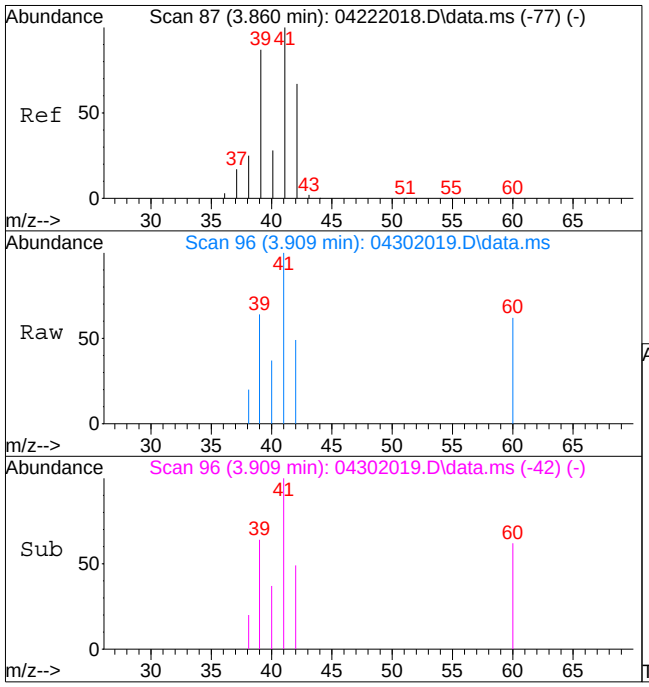
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302019.D Vial: 1
Acq On : 30 Apr 2020 14:36 Operator: WA
Sample : P2002029-016 (0.25mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 12:14:41 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

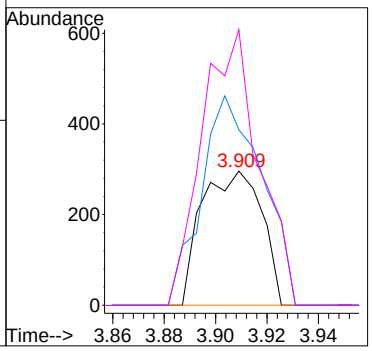


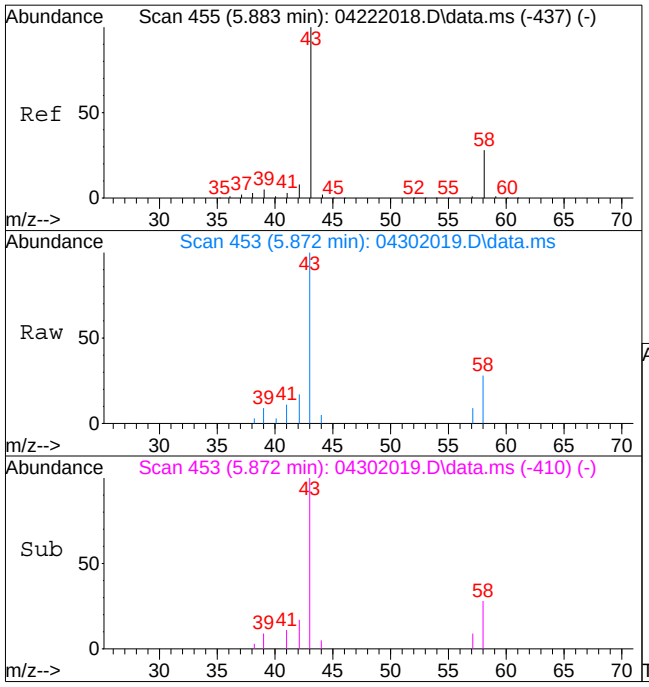


#2
Propene
Concen: 0.07 ng
RT: 3.91 min Scan# 96
Delta R.T. 0.049 min
Lab File: 04302019.D
Acq: 30 Apr 2020 14:36

Tgt Ion: 42 Resp: 480

Ion	Ratio	Lower	Upper
42	100		
39	158.3	106.4	146.4#
41	195.8	128.8	168.8#

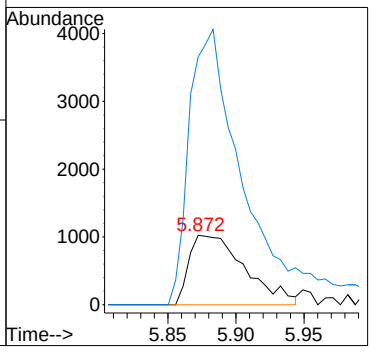


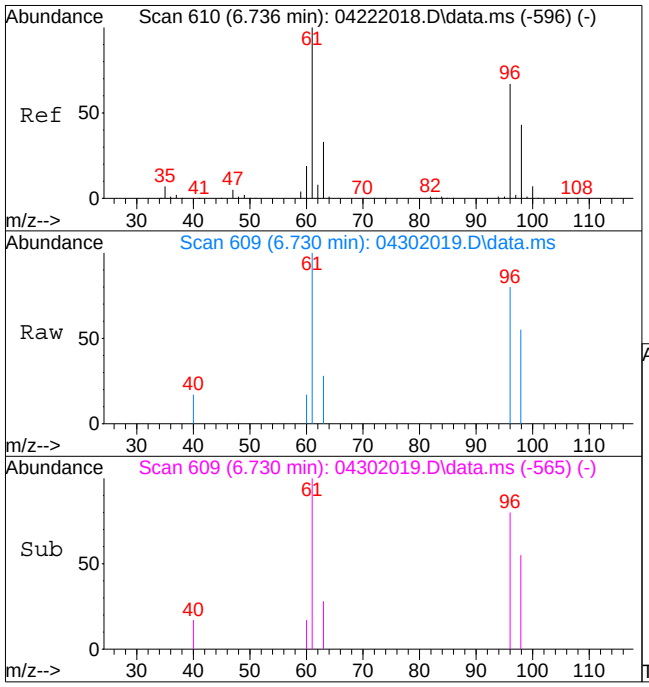


#13
Acetone
Concen: 0.49 ng
RT: 5.87 min Scan# 453
Delta R.T. -0.011 min
Lab File: 04302019.D
Acq: 30 Apr 2020 14:36

Tgt Ion: 58 Resp: 2932

Ion	Ratio	Lower	Upper
58	100		
43	399.0	319.3	379.3#

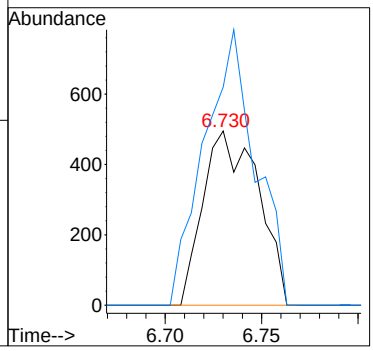


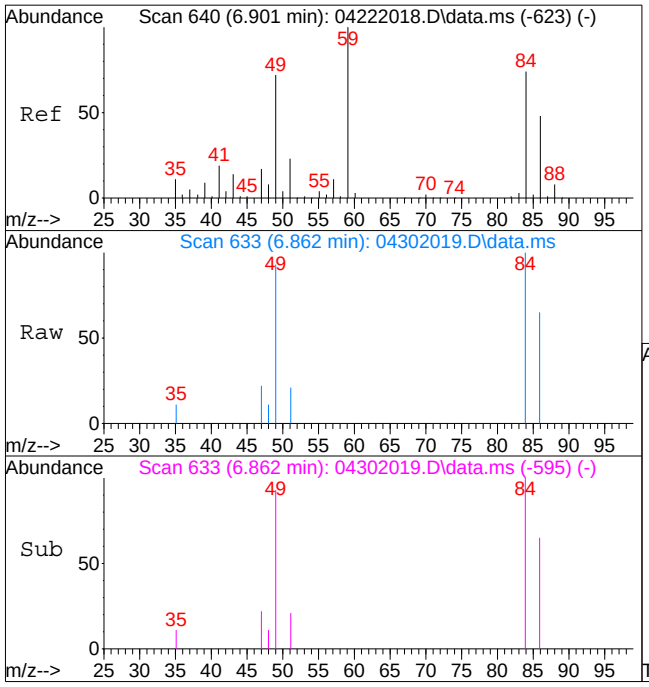


#17
1,1-Dichloroethene
Concen: 0.09 ng
RT: 6.73 min Scan# 609
Delta R.T. -0.006 min
Lab File: 04302019.D
Acq: 30 Apr 2020 14:36

Tgt Ion: 96 Resp: 989

Ion	Ratio	Lower	Upper
96	100		
61	146.4	129.8	169.8

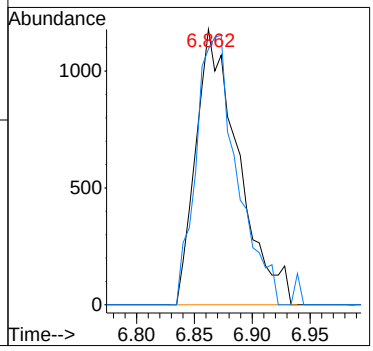


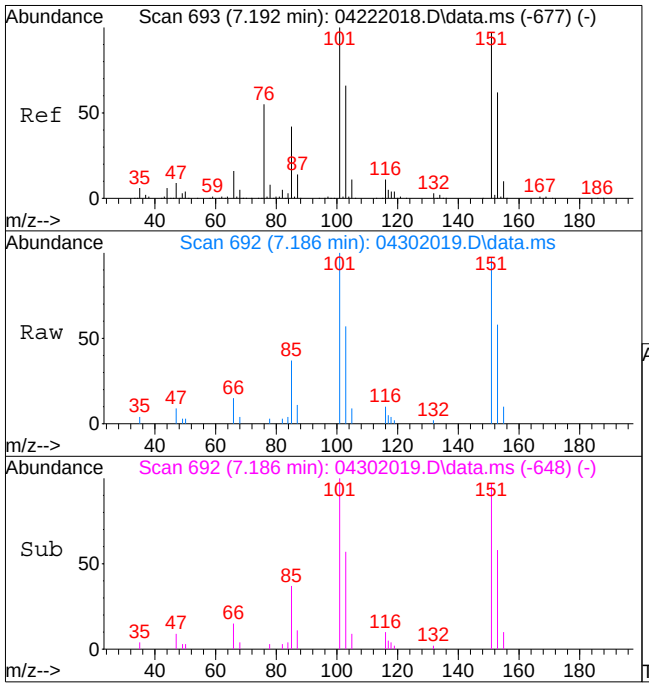


#19
Methylene Chloride
Concen: 0.29 ng
RT: 6.86 min Scan# 633
Delta R.T. -0.039 min
Lab File: 04302019.D
Acq: 30 Apr 2020 14:36

Tgt Ion: 84 Resp: 3019

Ion	Ratio	Lower	Upper
84	100		
49	94.1	73.0	123.0

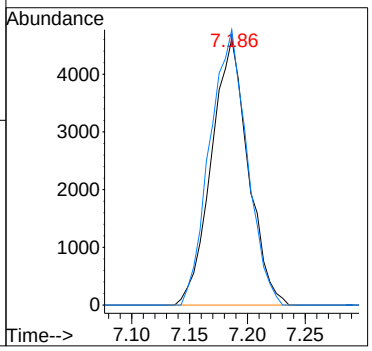


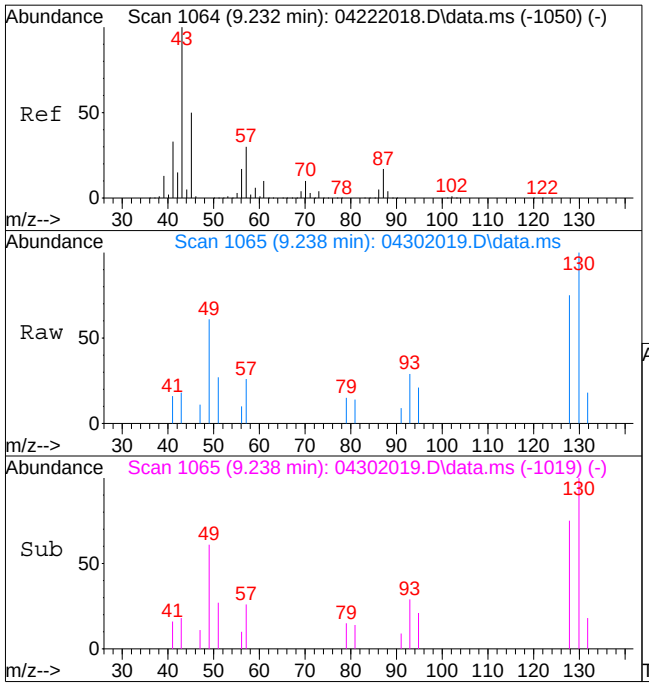


#21
Trichlorotrifluoroethane
Concen: 0.79 ng
RT: 7.19 min Scan# 692
Delta R.T. -0.006 min
Lab File: 04302019.D
Acq: 30 Apr 2020 14:36

Tgt Ion:151 Resp: 10215

Ion	Ratio	Lower	Upper
151	100		
101	104.8	82.9	122.9

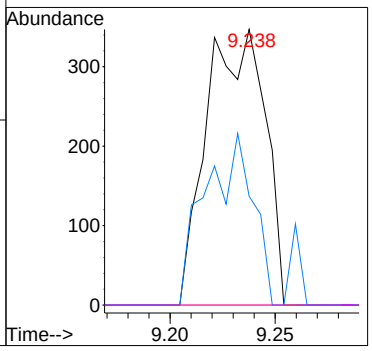


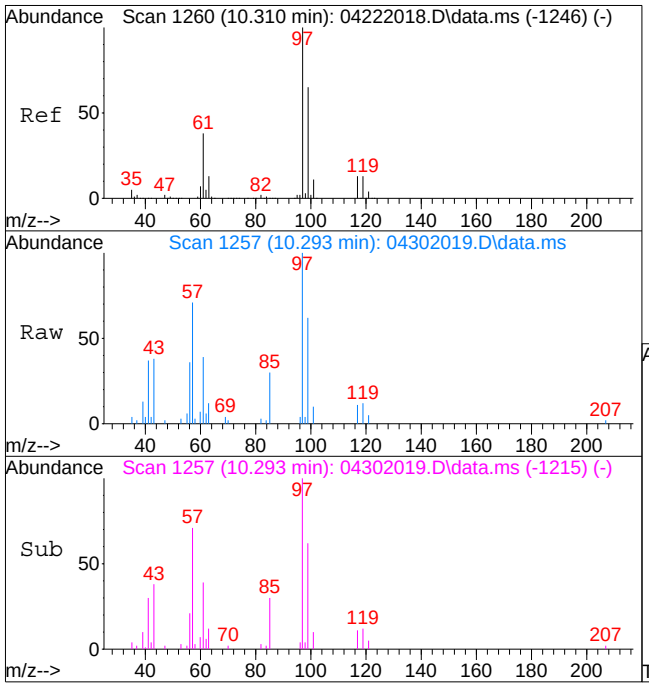


#31
n-Hexane
Concen: 0.05 ng
RT: 9.24 min Scan# 1065
Delta R.T. 0.005 min
Lab File: 04302019.D
Acq: 30 Apr 2020 14:36

Tgt Ion: 57 Resp: 672

Ion	Ratio	Lower	Upper
57	100		
56	50.6	44.0	66.0
86	0.0	15.0	22.4#

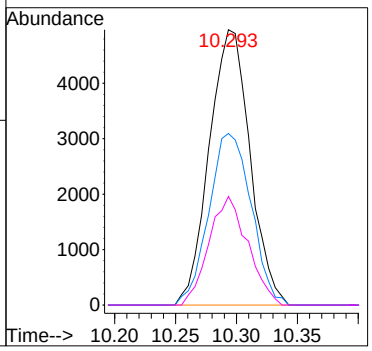


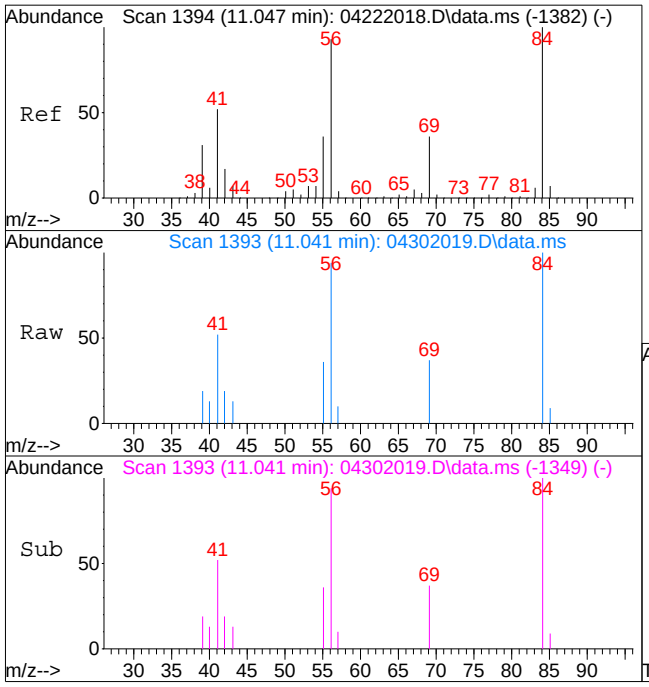


#38
1,1,1-Trichloroethane
Concen: 0.52 ng
RT: 10.29 min Scan# 1257
Delta R.T. -0.017 min
Lab File: 04302019.D
Acq: 30 Apr 2020 14:36

Tgt Ion: 97 Resp: 11566

Ion	Ratio	Lower	Upper
97	100		
99	64.6	44.7	84.7
61	37.6	17.2	57.2

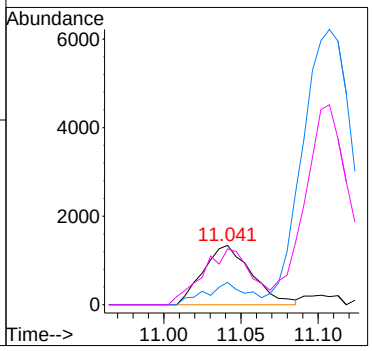


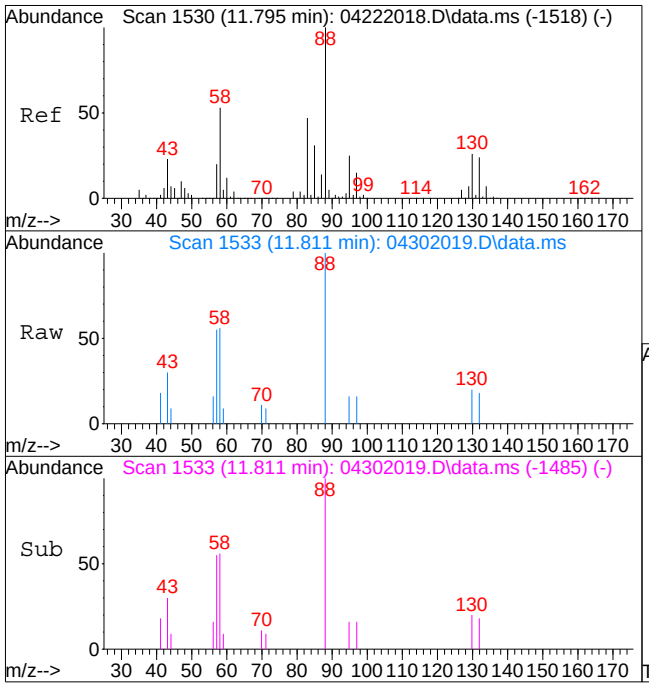


#43
Cyclohexane
Concen: 0.17 ng
RT: 11.04 min Scan# 1393
Delta R.T. -0.006 min
Lab File: 04302019.D
Acq: 30 Apr 2020 14:36

Tgt Ion: 84 Resp: 2915

Ion	Ratio	Lower	Upper
84	100		
69	31.6	15.8	55.8
56	95.3	72.0	112.0

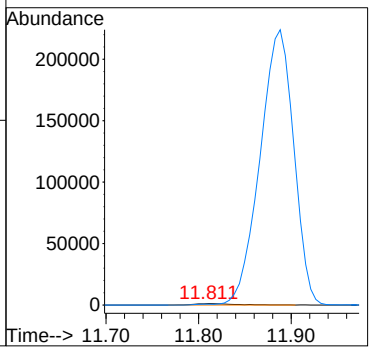


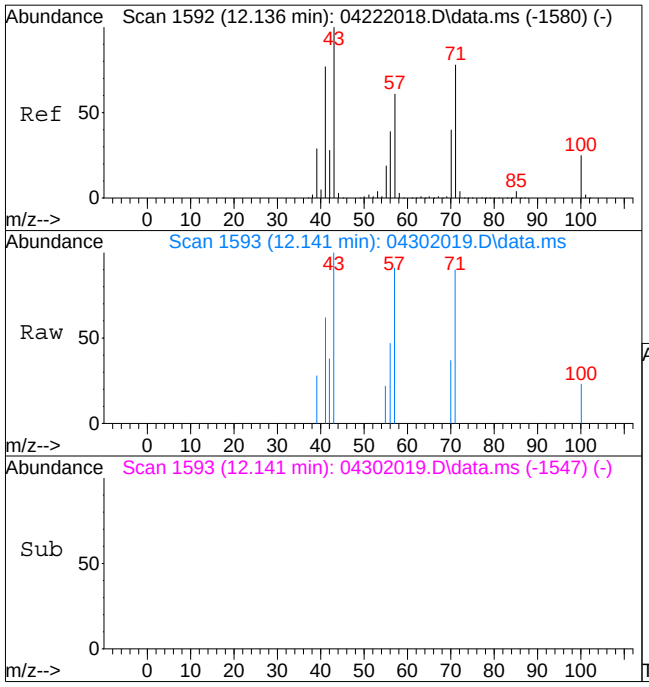


#48
1,4-Dioxane
Concen: 0.41 ng
RT: 11.81 min Scan# 1533
Delta R.T. 0.016 min
Lab File: 04302019.D
Acq: 30 Apr 2020 14:36

Tgt Ion: 88 Resp: 3497

Ion	Ratio	Lower	Upper
88	100		
58	16271.5	31.1	71.1#

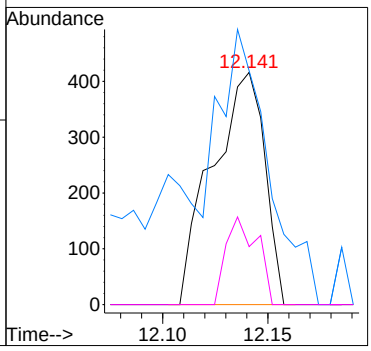


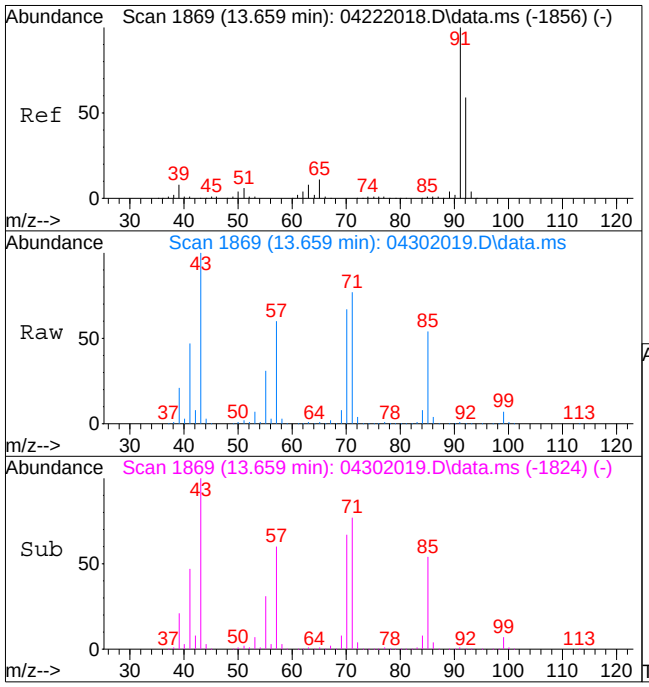


#51
n-Heptane
Concen: 0.07 ng
RT: 12.14 min Scan# 1593
Delta R.T. 0.005 min
Lab File: 04302019.D
Acq: 30 Apr 2020 14:36

Tgt Ion: 71 Resp: 722

Ion	Ratio	Lower	Upper
71	100		
57	114.3	57.4	97.4#
100	22.6	12.0	52.0

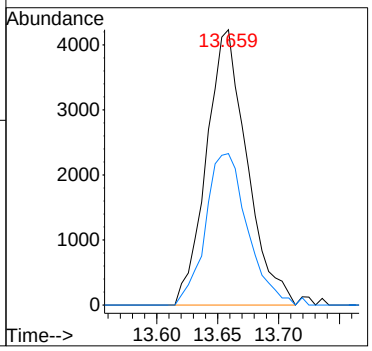


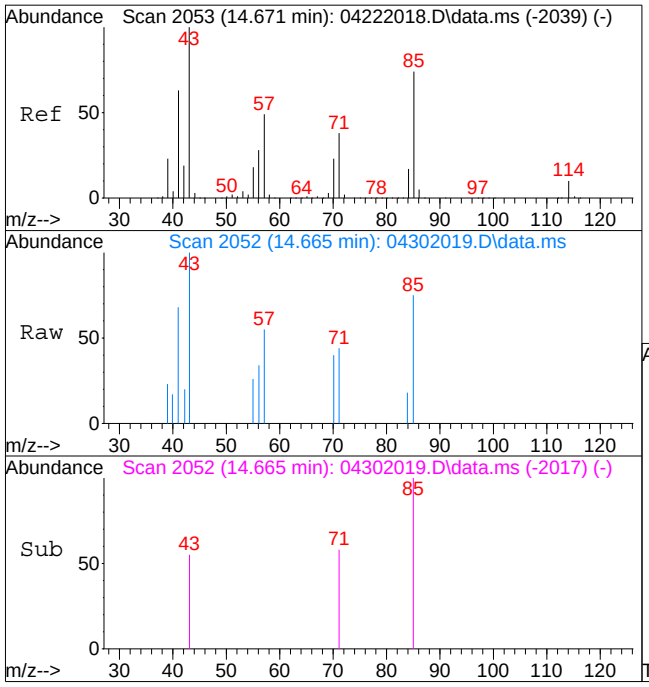


#58
Toluene
Concen: 0.21 ng
RT: 13.66 min Scan# 1869
Delta R.T. -0.000 min
Lab File: 04302019.D
Acq: 30 Apr 2020 14:36

Tgt Ion: 91 Resp: 9813

Ion	Ratio	Lower	Upper
91	100		
92	57.1	38.2	78.2

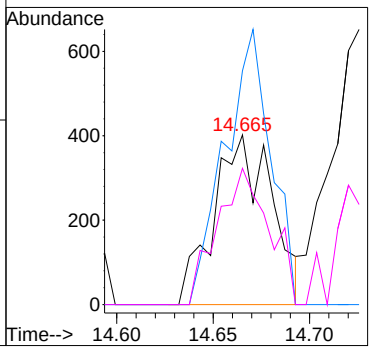


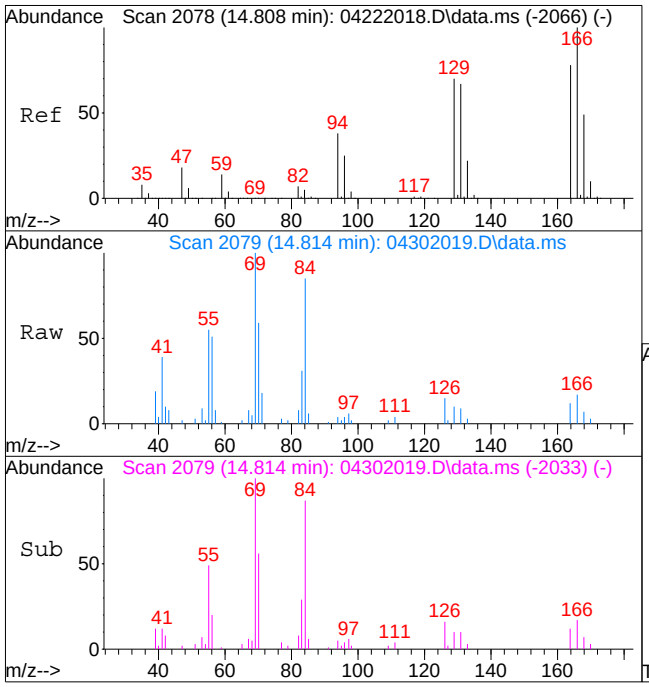


#63
n-Octane
Concen: 0.11 ng
RT: 14.67 min Scan# 2052
Delta R.T. -0.006 min
Lab File: 04302019.D
Acq: 30 Apr 2020 14:36

Tgt Ion: 57 Resp: 842

Ion	Ratio	Lower	Upper
57	100		
85	129.1	120.7	181.1
71	71.7	61.1	91.7

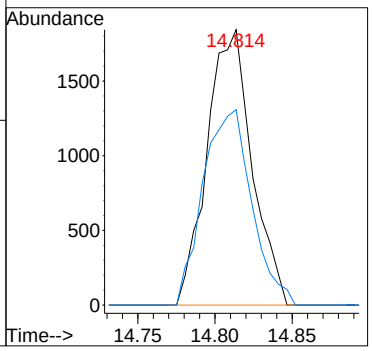


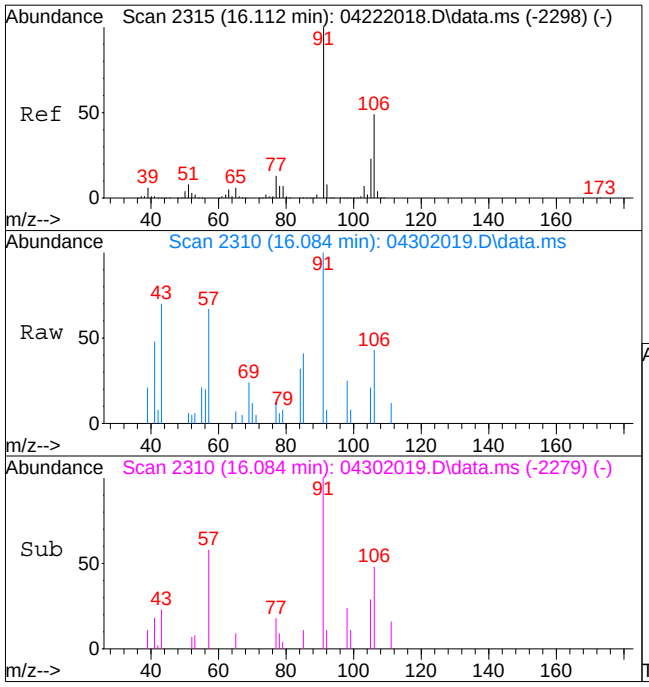


#64
Tetrachloroethene
Concen: 0.21 ng
RT: 14.81 min Scan# 2079
Delta R.T. 0.005 min
Lab File: 04302019.D
Acq: 30 Apr 2020 14:36

Tgt Ion:166 Resp: 3730

Ion	Ratio	Lower	Upper
166	100		
164	77.0	57.7	97.7

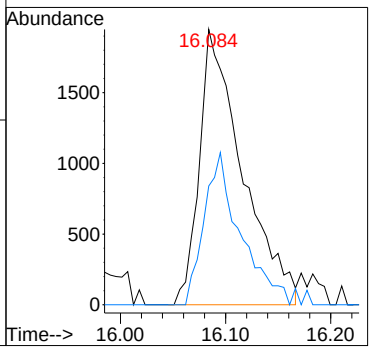


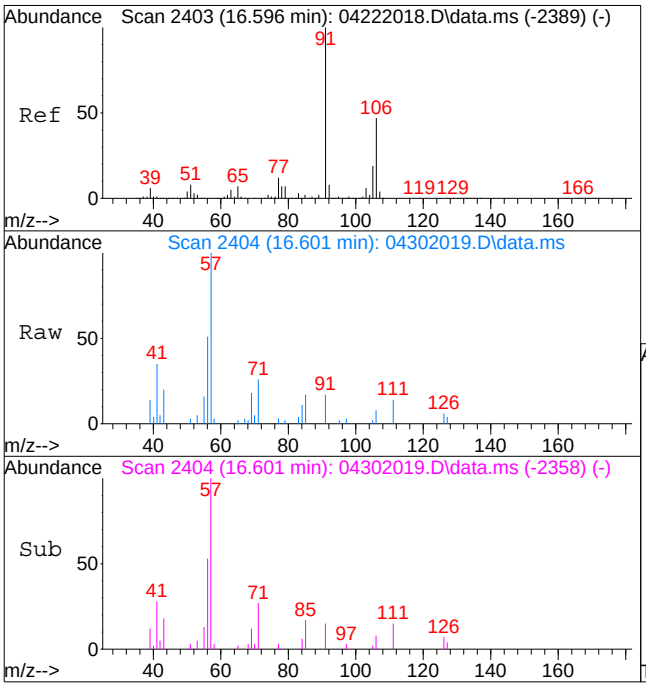


#67
m- & p-Xylenes
Concen: 0.12 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.028 min
Lab File: 04302019.D
Acq: 30 Apr 2020 14:36

Tgt Ion: 91 Resp: 5544

Ion	Ratio	Lower	Upper
91	100		
106	46.4	28.3	68.3

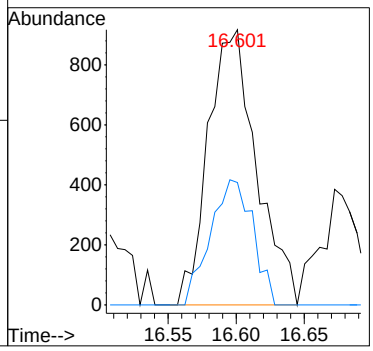


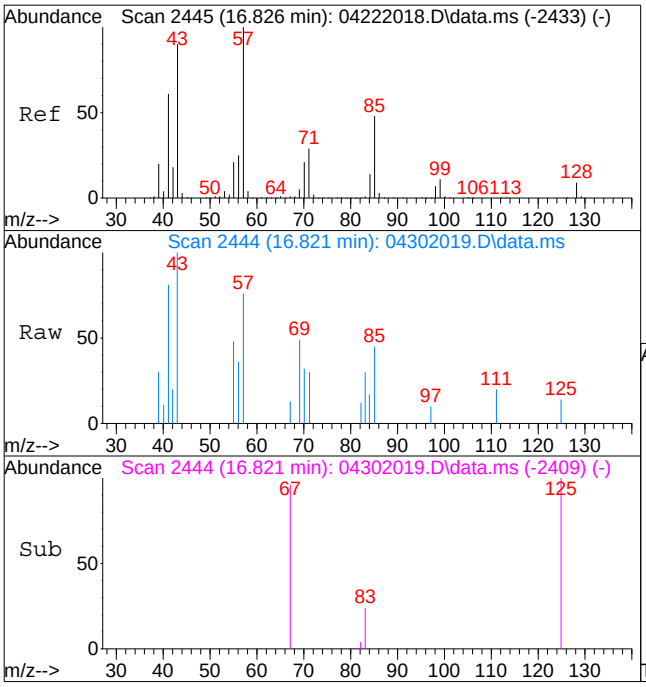


#70
o-Xylene
Concen: 0.05 ng
RT: 16.60 min Scan# 2404
Delta R.T. 0.005 min
Lab File: 04302019.D
Acq: 30 Apr 2020 14:36

Tgt Ion: 91 Resp: 2262

Ion	Ratio	Lower	Upper
91	100		
106	40.0	27.5	67.5

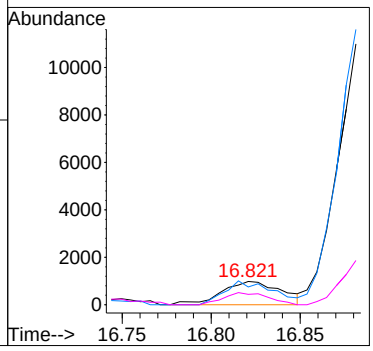


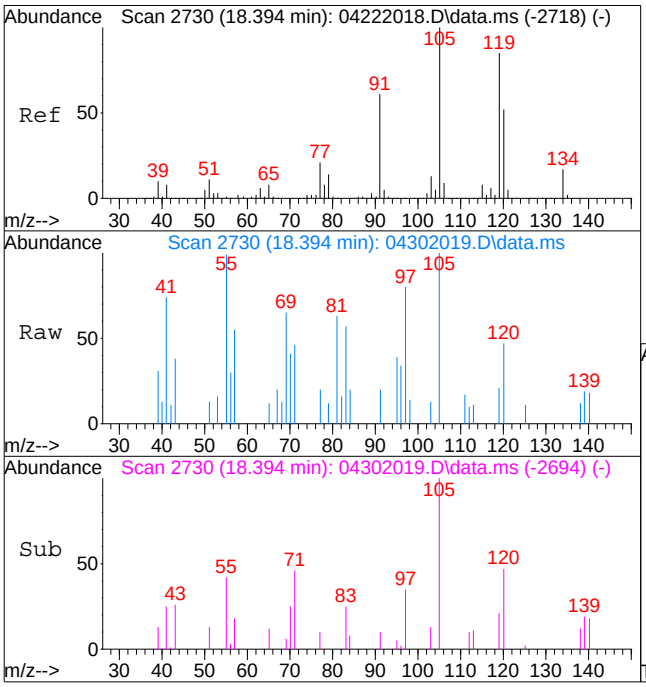


#71
n-Nonane
Concen: 0.16 ng
RT: 16.82 min Scan# 2444
Delta R.T. -0.006 min
Lab File: 04302019.D
Acq: 30 Apr 2020 14:36

Tgt Ion: 43 Resp: 2285

Ion	Ratio	Lower	Upper
43	100		
57	82.3	90.8	130.8#
85	39.1	32.1	72.1

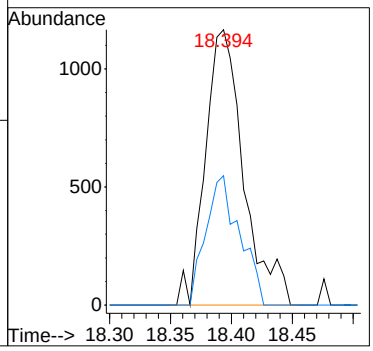




#82
1,2,4-Trimethylbenzene
Concen: 0.05 ng
RT: 18.39 min Scan# 2730
Delta R.T. -0.000 min
Lab File: 04302019.D
Acq: 30 Apr 2020 14:36

Tgt Ion:105 Resp: 2551

Ion	Ratio	Lower	Upper
105	100		
120	41.5	34.5	74.5



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302020.D Vial: 1
Acq On : 30 Apr 2020 15:09 Operator: WA
Sample : P2002029-017 (0.10mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 18:00:58 2020 4/30/20
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.14	130	156692	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	11.11	114	663415	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	299834	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.92	65	235875	11.619	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.96%			
57) Toluene-d8 (SS2)	13.55	98	715589	12.360	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.88%			
73) Bromofluorobenzene (SS3)	17.05	174	282373	12.136	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.12%			
Target Compounds						Qvalue
2) Propene	3.89	42	2505	0.376	ng	# 89
3) Dichlorodifluoromethan...	0.00	85	0	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	4.59	54	122	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	0.00	45	0	N.D.		
11) Acetonitrile	0.00	41	0	N.D.		
12) Acrolein	0.00	56	0	N.D.	d	
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	6.03	101	167	N.D.		
15) 2-Propanol (Isopropanol)	6.22	45	530	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.	d	
17) 1,1-Dichloroethene	6.72	96	1072	0.097	ng	94
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d	
19) Methylene Chloride	6.87	84	2764	0.260	ng	95
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d	
21) Trichlorotrifluoroethane	7.19	151	10149	0.775	ng	100
22) Carbon Disulfide	0.00	76	0	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	8.10	63	463	N.D.		
25) Methyl tert-Butyl Ether	8.20	73	289	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	0.00	72	0	N.D.	d	
28) cis-1,2-Dichloroethene	8.75	61	563	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	0.00	61	0	N.D.	d	
31) n-Hexane	9.24	57	1354644	100.876	ng	100
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d	
38) 1,1,1-Trichloroethane	10.30	97	11512	0.505	ng	99
39) Isopropyl Acetate	0.00	61	0	N.D.	d	
40) 1-Butanol	10.62	56	217	N.D.		
41) Benzene	10.76	78	2148114	49.671	ng	100
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	11.05	84	1605308	94.750	ng	98
44) tert-Amyl Methyl Ether	11.31	73	1132	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d	
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	11.82	130	611	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.	d	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302020.D Vial: 1
Acq On : 30 Apr 2020 15:09 Operator: WA
Sample : P2002029-017 (0.10mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 18:00:58 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

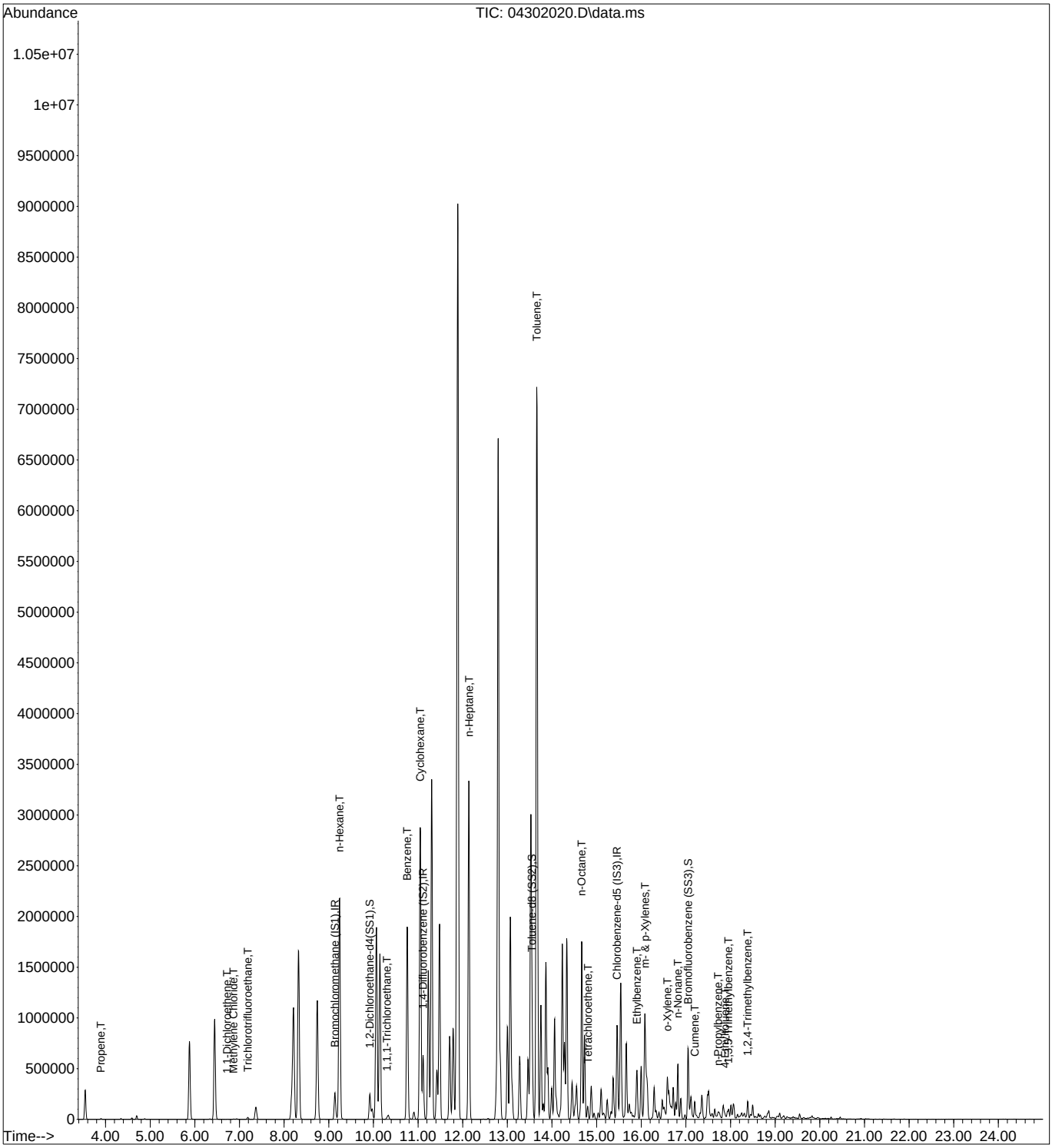
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.14	71	1066872	106.175 ng	99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	13.26	75	136	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	13.66	91	5178734	106.545 ng	99
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D. d	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.67	57	347146	44.866 ng	99
64) Tetrachloroethene	14.81	166	3620	0.198 ng	93
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.90	91	355660	6.280 ng	100
67) m- & p-Xylenes	16.08	91	895068	18.733 ng	97
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.48	104	711	N.D.	
70) o-Xylene	16.58	91	285966	6.094 ng	100
71) n-Nonane	16.82	43	168501	11.132 ng	99
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	17.20	105	43058	0.704 ng	99
75) alpha-Pinene	17.60	93	287	N.D.	
76) n-Propylbenzene	17.72	91	47372	0.710 ng	97
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	13461	0.231 ng	95
79) 1,3,5-Trimethylbenzene	17.95	105	36784	0.684 ng	100
80) alpha-Methylstyrene	17.95	118	208	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	58527	1.126 ng	89
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.55	91	349	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	18.98	146	284	N.D.	
91) d-Limonene	18.98	68	693	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.92	128	678	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302020.D Vial: 1
Acq On : 30 Apr 2020 15:09 Operator: WA
Sample : P2002029-017 (0.10mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 18:00:58 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302020.D Vial: 1
Acq On : 30 Apr 2020 15:09 Operator: WA
Sample : P2002029-017 (0.10mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 18:00:58 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/30/20

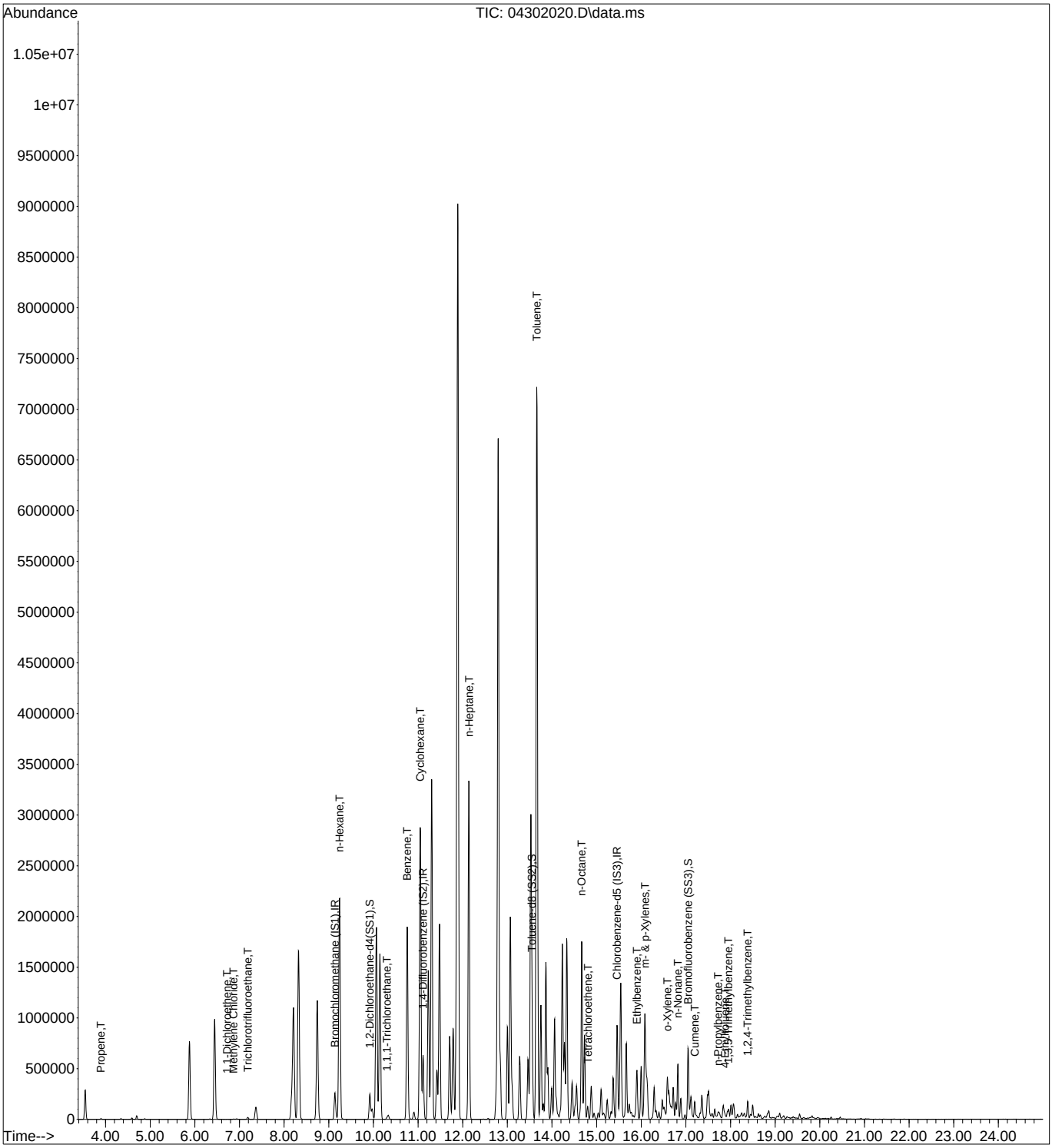
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.14	130	156692	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	11.11	114	663415	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	299834	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.92	65	235875	11.619	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.96%			
57) Toluene-d8 (SS2)	13.55	98	715589	12.360	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.88%			
73) Bromofluorobenzene (SS3)	17.05	174	282373	12.136	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.12%			
Target Compounds						Qvalue
2) Propene	3.89	42	2505	0.376	ng	# 89
17) 1,1-Dichloroethene	6.72	96	1072	0.097	ng	94
19) Methylene Chloride	6.87	84	2764	0.260	ng	95
21) Trichlorotrifluoroethane	7.19	151	10149	0.775	ng	100
31) n-Hexane	9.24	57	1354644	100.876	ng	100
38) 1,1,1-Trichloroethane	10.30	97	11512	0.505	ng	99
41) Benzene	10.76	78	2148114	49.671	ng	100
43) Cyclohexane	11.05	84	1605308	94.750	ng	98
51) n-Heptane	12.14	71	1066872	106.175	ng	99
58) Toluene	13.66	91	5178734	106.545	ng	99
63) n-Octane	14.67	57	347146	44.866	ng	99
64) Tetrachloroethene	14.81	166	3620	0.198	ng	93
66) Ethylbenzene	15.90	91	355660	6.280	ng	100
67) m- & p-Xylenes	16.08	91	895068	18.733	ng	97
70) o-Xylene	16.58	91	285966	6.094	ng	100
71) n-Nonane	16.82	43	168501	11.132	ng	99
74) Cumene	17.20	105	43058	0.704	ng	99
76) n-Propylbenzene	17.72	91	47372	0.710	ng	97
78) 4-Ethyltoluene	17.88	105	13461	0.231	ng	95
79) 1,3,5-Trimethylbenzene	17.95	105	36784	0.684	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	58527	1.126	ng	89

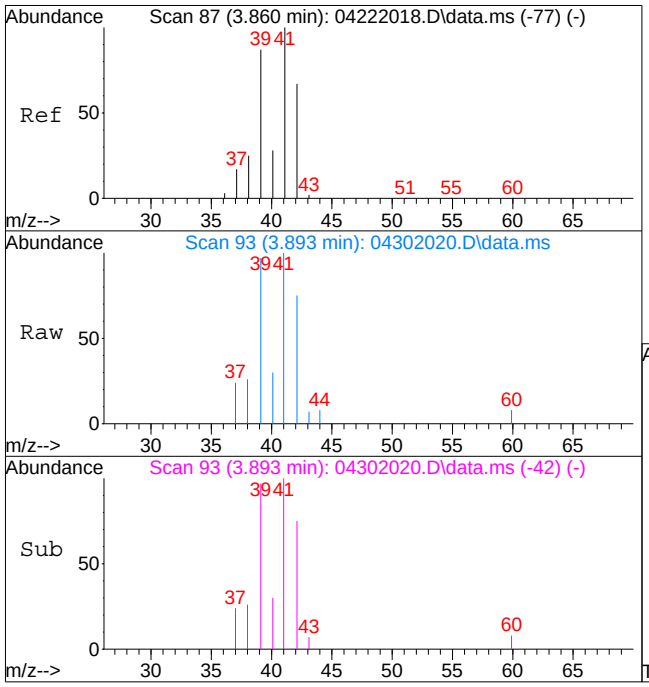
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302020.D Vial: 1
Acq On : 30 Apr 2020 15:09 Operator: WA
Sample : P2002029-017 (0.10mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 18:00:58 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

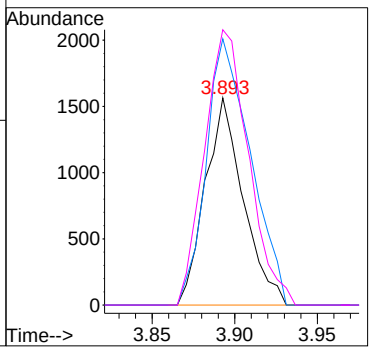


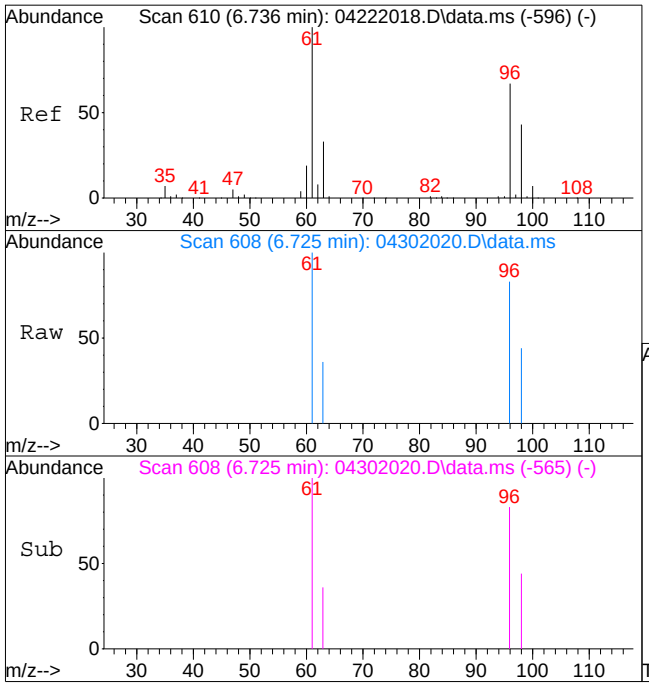


#2
Propene
Concen: 0.38 ng
RT: 3.89 min Scan# 93
Delta R.T. 0.033 min
Lab File: 04302020.D
Acq: 30 Apr 2020 15:09

Tgt Ion: 42 Resp: 2505

Ion	Ratio	Lower	Upper
42	100		
39	149.3	106.4	146.4#
41	153.9	128.8	168.8

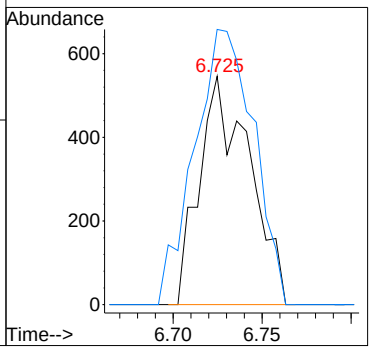


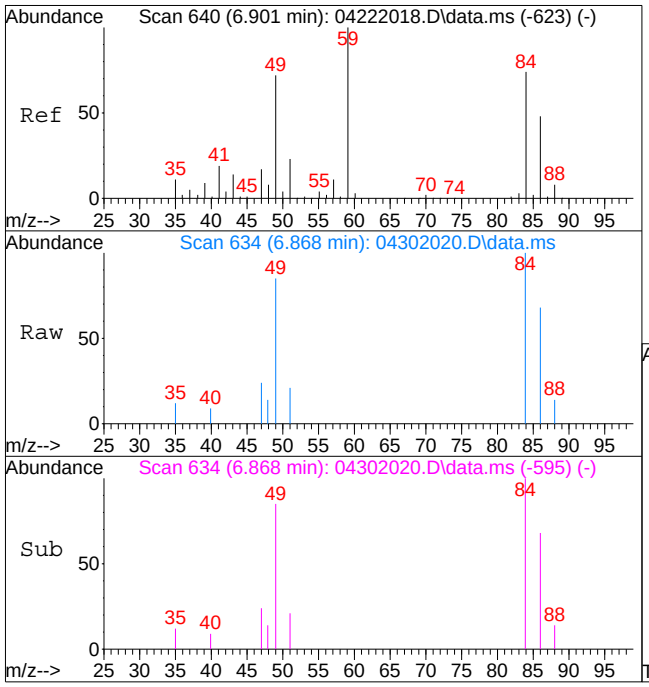


#17
1,1-Dichloroethene
Concen: 0.10 ng
RT: 6.72 min Scan# 608
Delta R.T. -0.011 min
Lab File: 04302020.D
Acq: 30 Apr 2020 15:09

Tgt Ion: 96 Resp: 1072

Ion	Ratio	Lower	Upper
96	100		
61	142.4	129.8	169.8

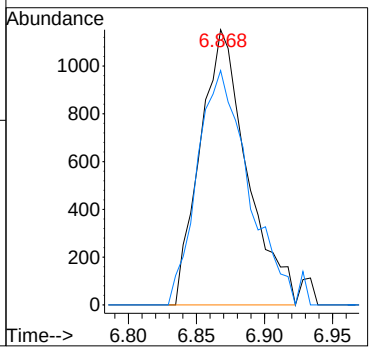


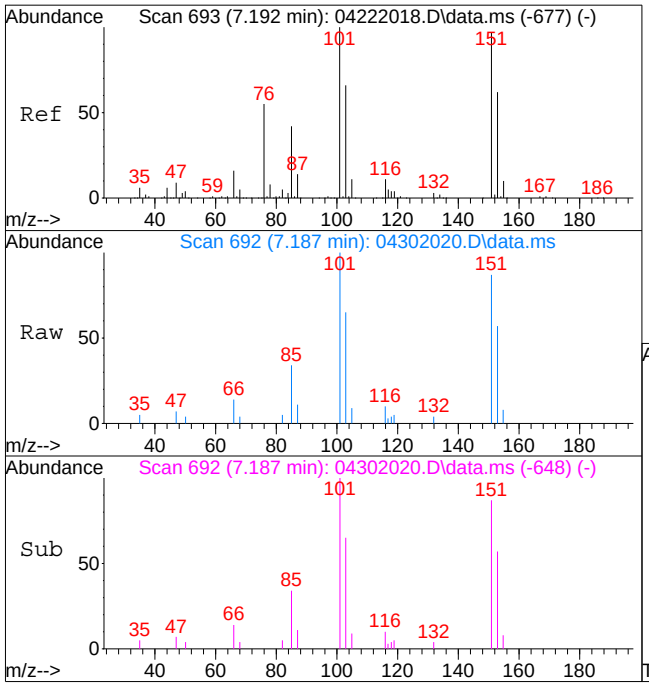


#19
Methylene Chloride
Concen: 0.26 ng
RT: 6.87 min Scan# 634
Delta R.T. -0.033 min
Lab File: 04302020.D
Acq: 30 Apr 2020 15:09

Tgt Ion: 84 Resp: 2764

Ion	Ratio	Lower	Upper
84	100		
49	92.6	73.0	123.0

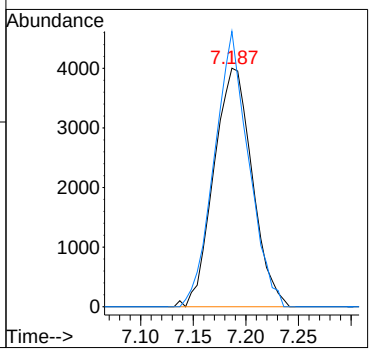


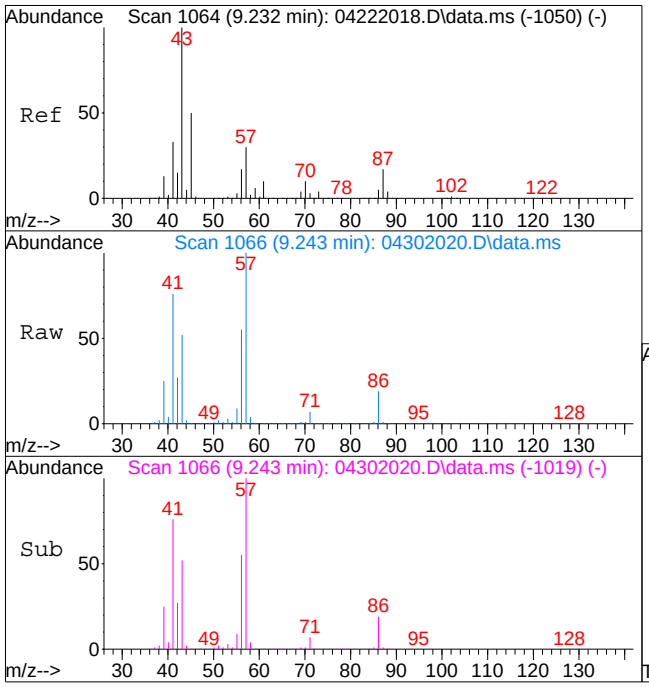


#21
Trichlorotrifluoroethane
Concen: 0.78 ng
RT: 7.19 min Scan# 692
Delta R.T. -0.006 min
Lab File: 04302020.D
Acq: 30 Apr 2020 15:09

Tgt Ion:151 Resp: 10149

Ion	Ratio	Lower	Upper
151	100		
101	103.3	82.9	122.9

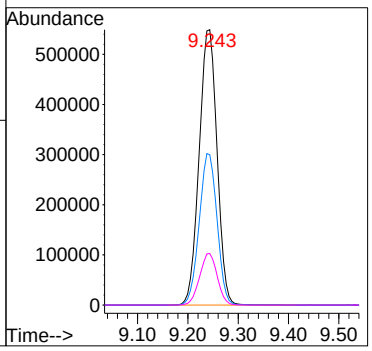


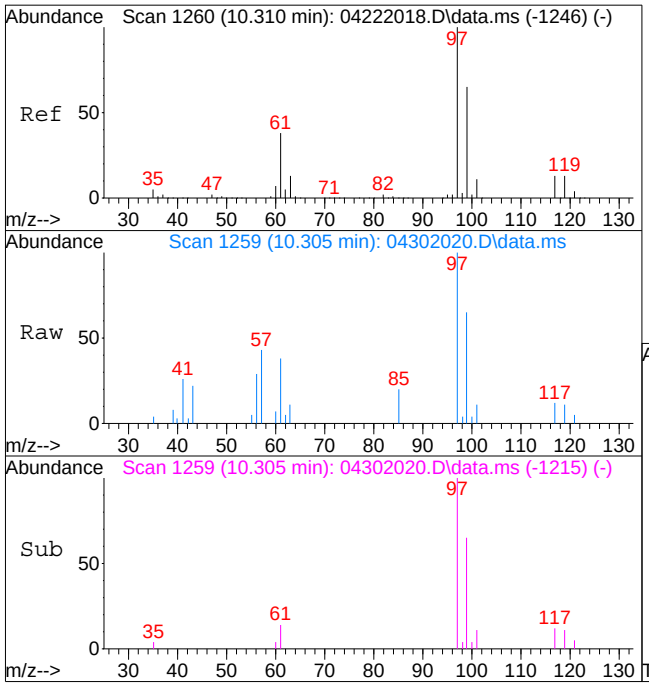


#31
n-Hexane
Concen: 100.88 ng
RT: 9.24 min Scan# 1066
Delta R.T. 0.011 min
Lab File: 04302020.D
Acq: 30 Apr 2020 15:09

Tgt Ion: 57 Resp: 1354644

Ion	Ratio	Lower	Upper
57	100		
56	54.7	44.0	66.0
86	18.4	15.0	22.4

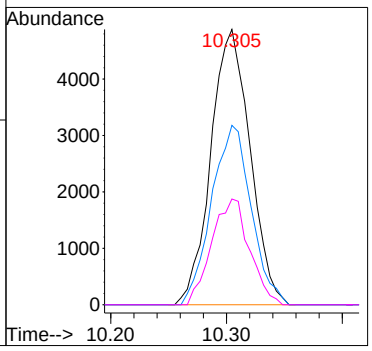


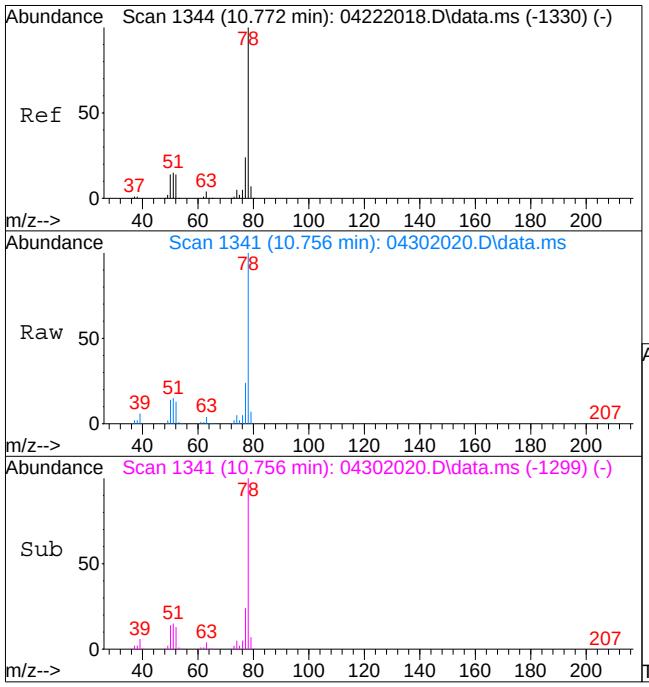


#38
1,1,1-Trichloroethane
Concen: 0.50 ng
RT: 10.30 min Scan# 1259
Delta R.T. -0.006 min
Lab File: 04302020.D
Acq: 30 Apr 2020 15:09

Tgt Ion: 97 Resp: 11512

Ion	Ratio	Lower	Upper
97	100		
99	65.9	44.7	84.7
61	37.0	17.2	57.2

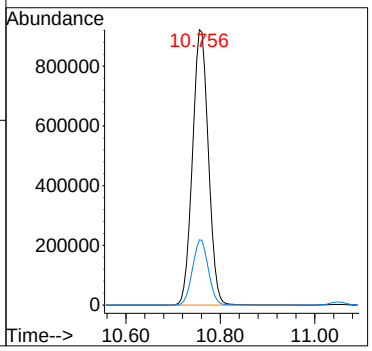


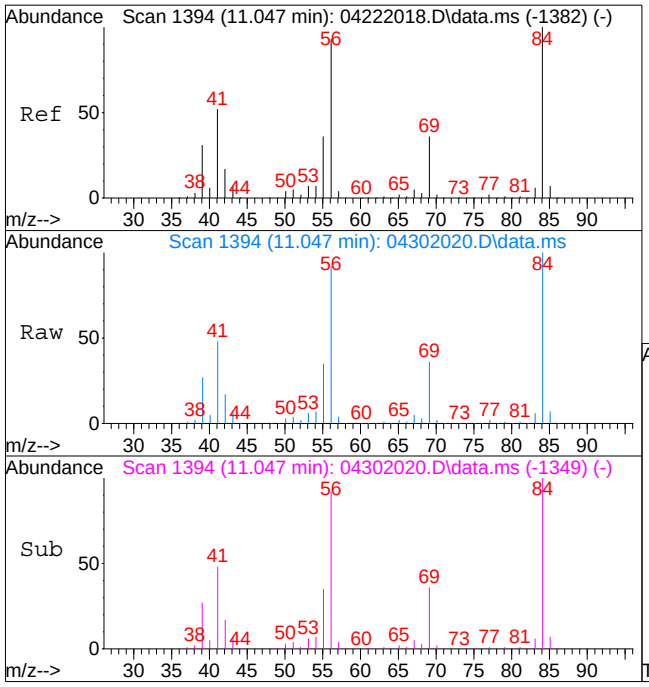


#41
Benzene
Concen: 49.67 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.017 min
Lab File: 04302020.D
Acq: 30 Apr 2020 15:09

Tgt Ion: 78 Resp: 2148114

Ion	Ratio	Lower	Upper
78	100		
77	23.6	3.6	43.6

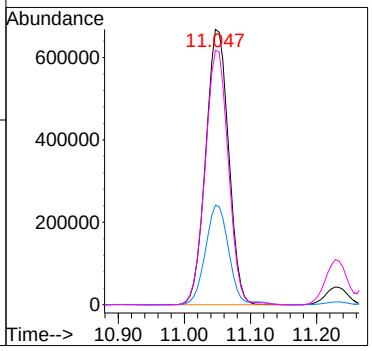


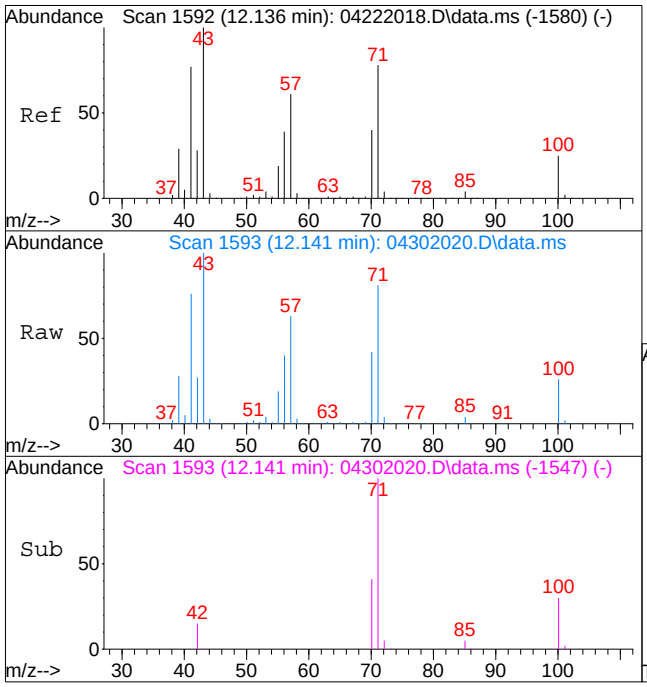


#43
Cyclohexane
Concen: 94.75 ng
RT: 11.05 min Scan# 1394
Delta R.T. -0.000 min
Lab File: 04302020.D
Acq: 30 Apr 2020 15:09

Tgt Ion: 84 Resp: 1605308

Ion	Ratio	Lower	Upper
84	100		
69	37.1	15.8	55.8
56	93.9	72.0	112.0

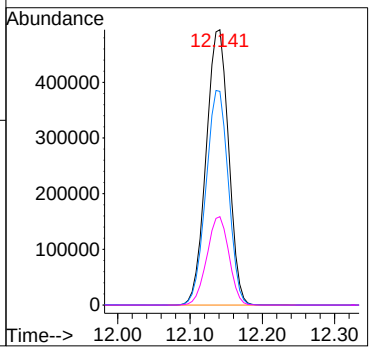


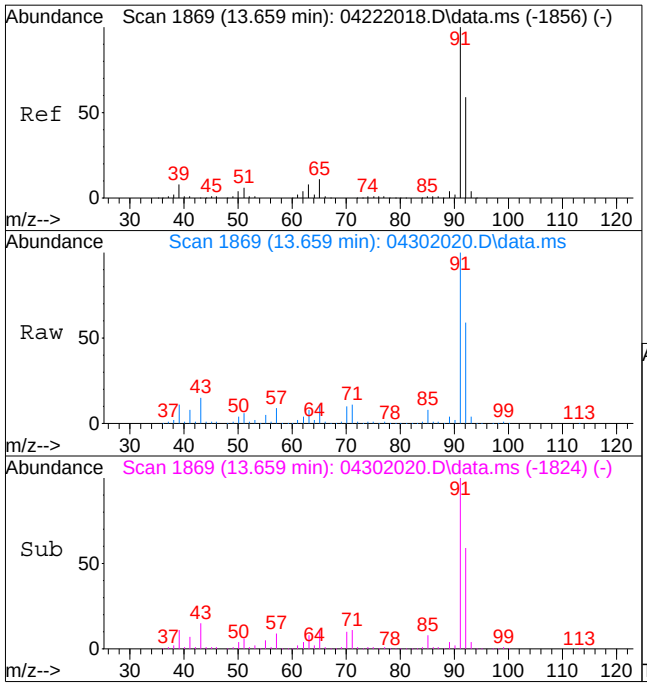


#51
n-Heptane
Concen: 106.18 ng
RT: 12.14 min Scan# 1593
Delta R.T. 0.005 min
Lab File: 04302020.D
Acq: 30 Apr 2020 15:09

Tgt Ion: 71 Resp: 1066872

Ion	Ratio	Lower	Upper
71	100		
57	77.8	57.4	97.4
100	31.6	12.0	52.0

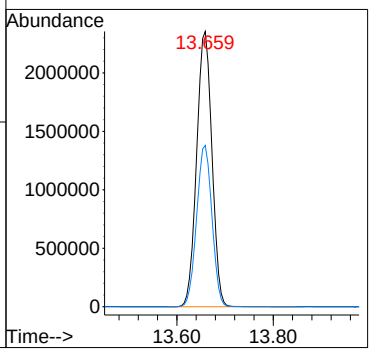


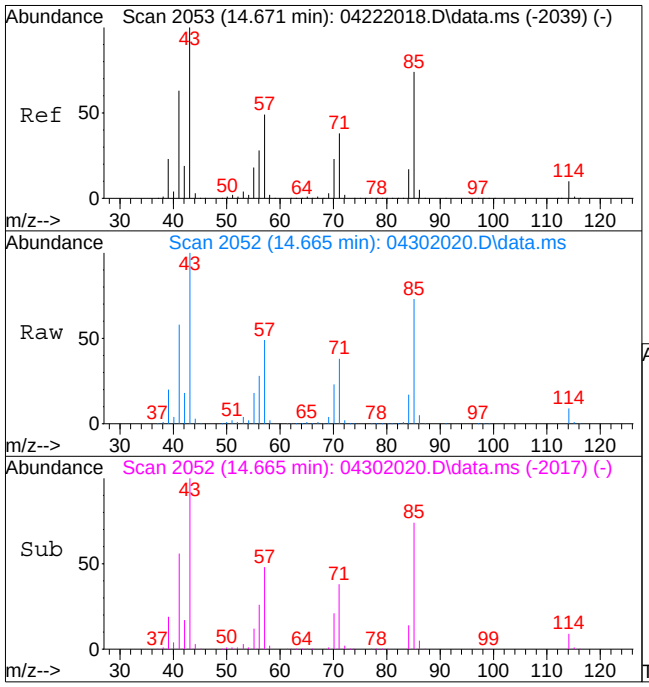


#58
Toluene
Concen: 106.55 ng
RT: 13.66 min Scan# 1869
Delta R.T. -0.000 min
Lab File: 04302020.D
Acq: 30 Apr 2020 15:09

Tgt Ion: 91 Resp: 5178734

Ion	Ratio	Lower	Upper
91	100		
92	58.7	38.2	78.2

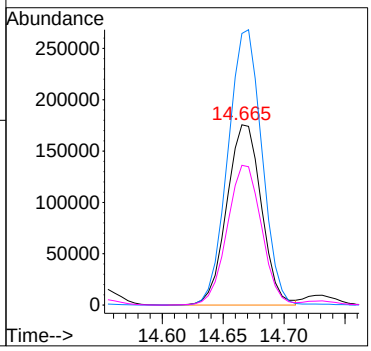


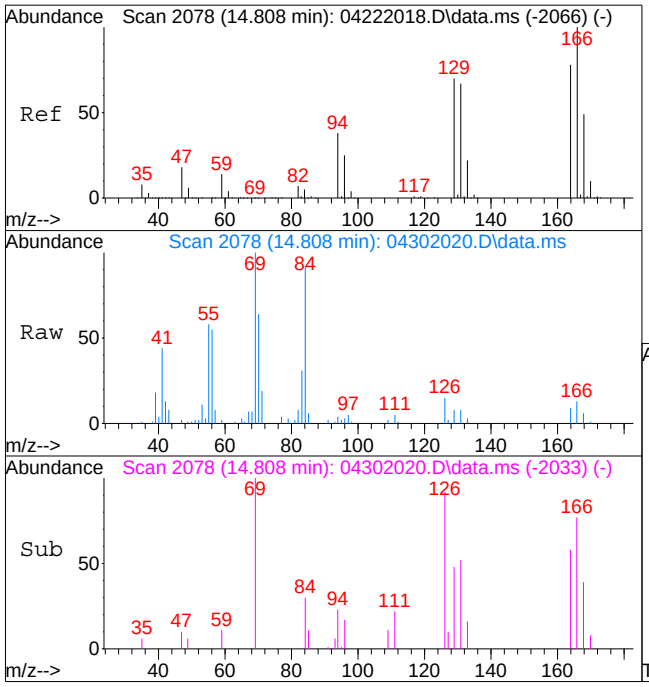


#63
n-Octane
Concen: 44.87 ng
RT: 14.67 min Scan# 2052
Delta R.T. -0.006 min
Lab File: 04302020.D
Acq: 30 Apr 2020 15:09

Tgt Ion: 57 Resp: 347146

Ion	Ratio	Lower	Upper
57	100		
85	150.2	120.7	181.1
71	76.9	61.1	91.7

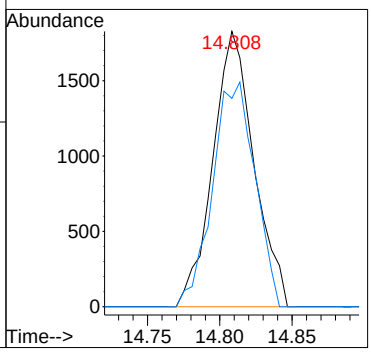


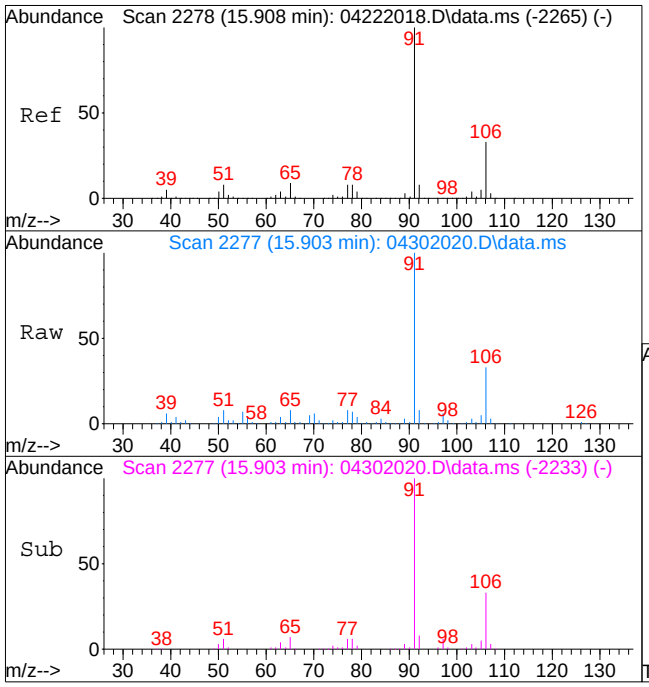


#64
Tetrachloroethene
Concen: 0.20 ng
RT: 14.81 min Scan# 2078
Delta R.T. -0.000 min
Lab File: 04302020.D
Acq: 30 Apr 2020 15:09

Tgt Ion:166 Resp: 3620

Ion	Ratio	Lower	Upper
166	100		
164	84.0	57.7	97.7

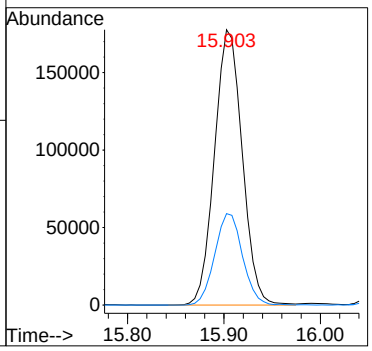


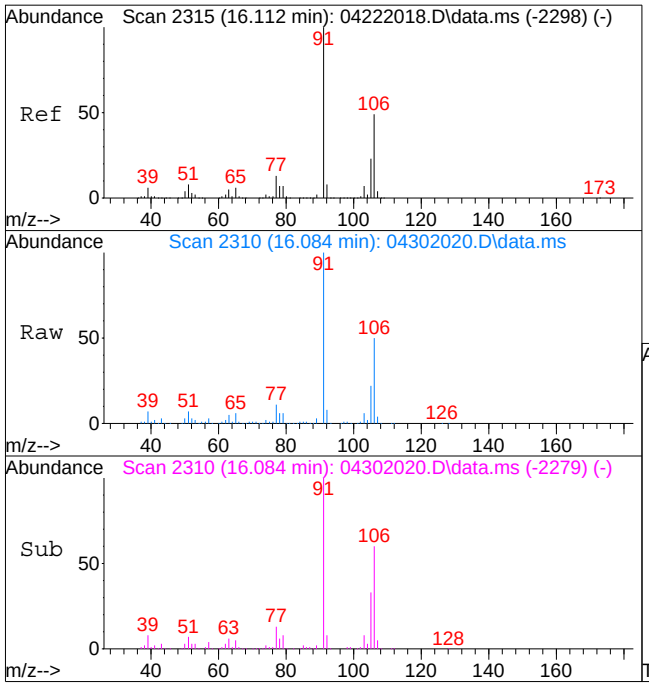


#66
Ethylbenzene
Concen: 6.28 ng
RT: 15.90 min Scan# 2277
Delta R.T. -0.006 min
Lab File: 04302020.D
Acq: 30 Apr 2020 15:09

Tgt Ion: 91 Resp: 355660

Ion	Ratio	Lower	Upper
91	100		
106	33.2	13.4	53.4

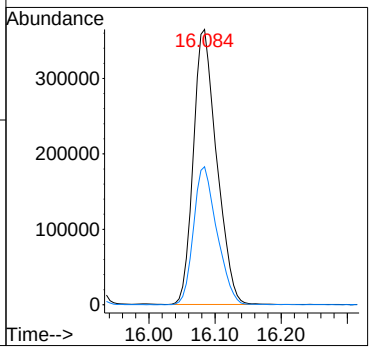


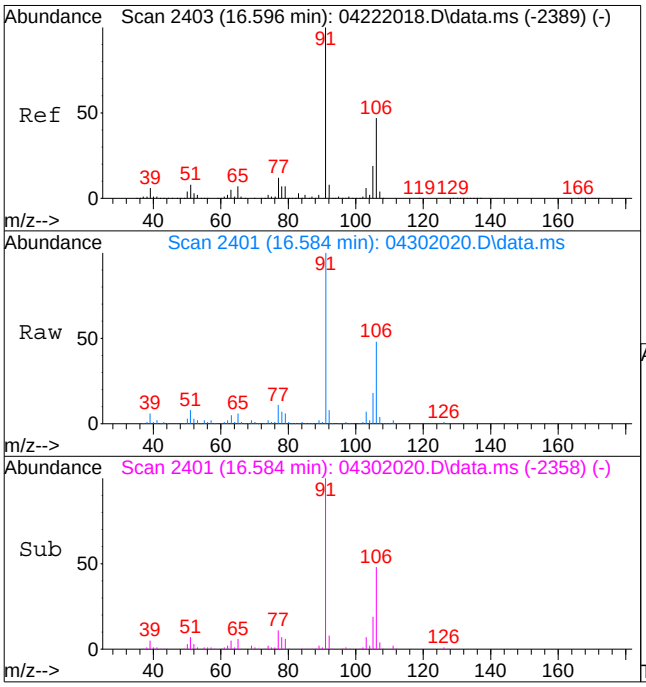


#67
m- & p-Xylenes
Concen: 18.73 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.028 min
Lab File: 04302020.D
Acq: 30 Apr 2020 15:09

Tgt Ion: 91 Resp: 895068

Ion	Ratio	Lower	Upper
91	100		
106	50.4	28.3	68.3

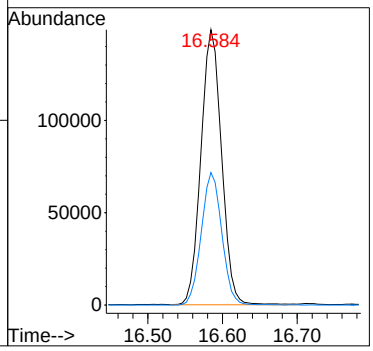


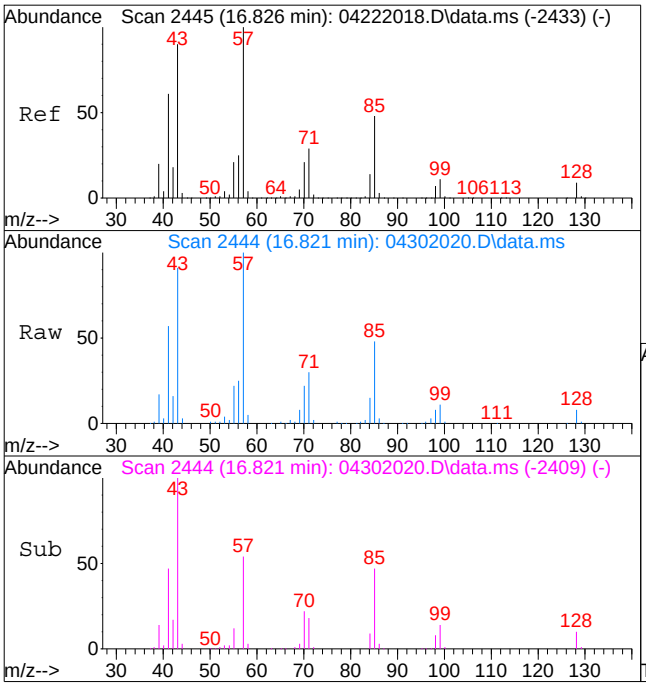


#70
o-Xylene
Concen: 6.09 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 04302020.D
Acq: 30 Apr 2020 15:09

Tgt Ion: 91 Resp: 285966

Ion	Ratio	Lower	Upper
91	100		
106	47.8	27.5	67.5

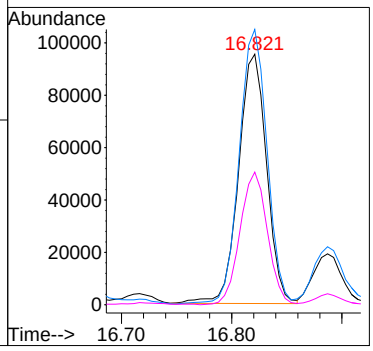


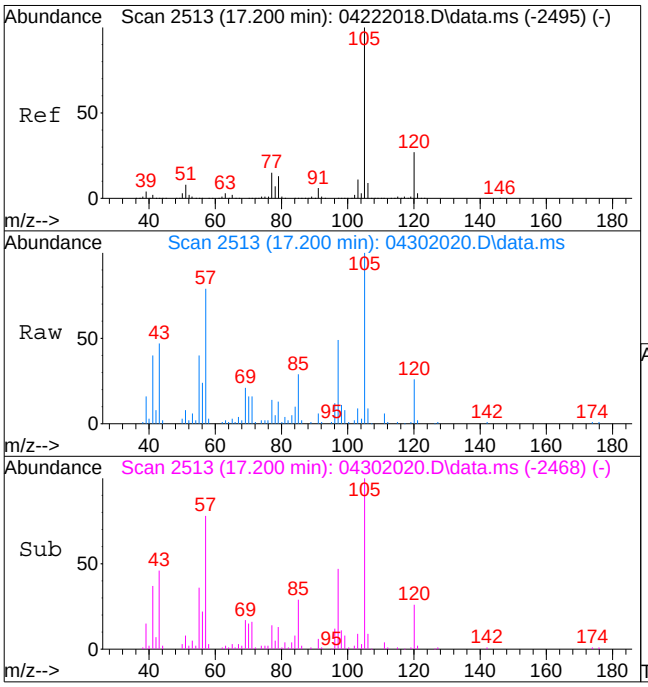


#71
n-Nonane
Concen: 11.13 ng
RT: 16.82 min Scan# 2444
Delta R.T. -0.006 min
Lab File: 04302020.D
Acq: 30 Apr 2020 15:09

Tgt Ion: 43 Resp: 168501

Ion	Ratio	Lower	Upper
43	100		
57	109.0	90.8	130.8
85	51.9	32.1	72.1

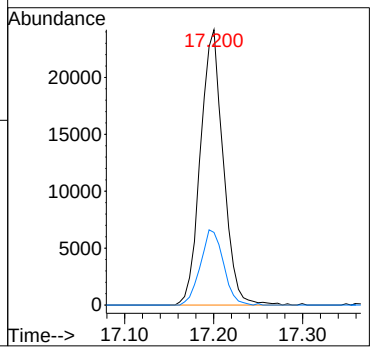


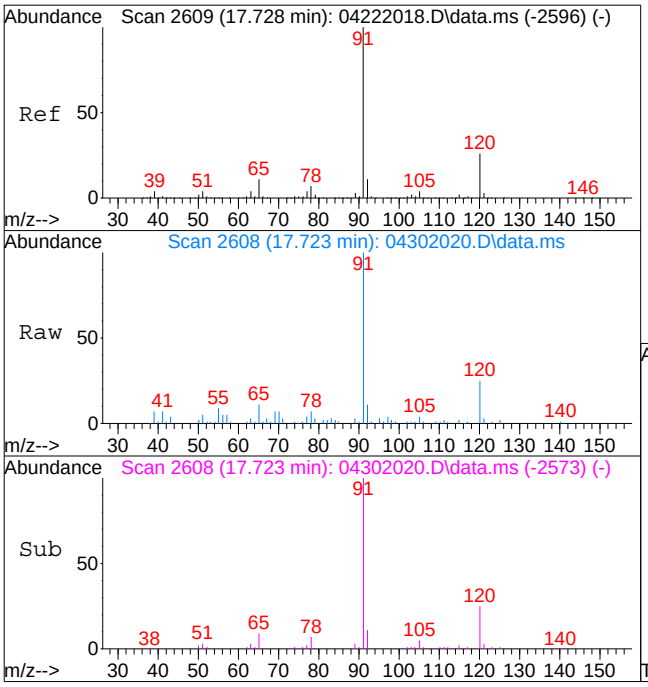


#74
Cumene
Concen: 0.70 ng
RT: 17.20 min Scan# 2513
Delta R.T. -0.000 min
Lab File: 04302020.D
Acq: 30 Apr 2020 15:09

Tgt Ion:105 Resp: 43058

Ion	Ratio	Lower	Upper
105	100		
120	27.6	7.3	47.3

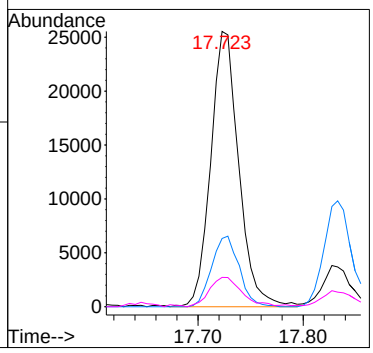


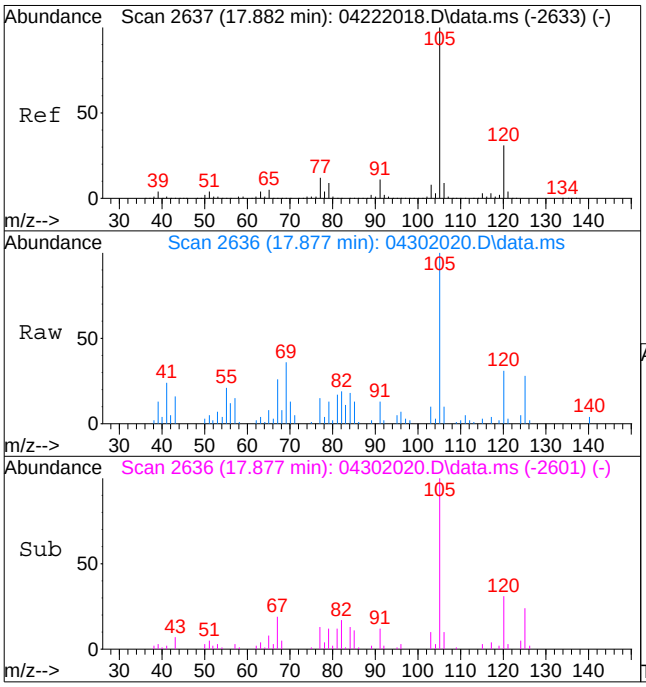


#76
n-Propylbenzene
Concen: 0.71 ng
RT: 17.72 min Scan# 2608
Delta R.T. -0.006 min
Lab File: 04302020.D
Acq: 30 Apr 2020 15:09

Tgt Ion: 91 Resp: 47372

Ion	Ratio	Lower	Upper
91	100		
120	25.1	6.1	46.1
65	12.7	0.0	30.7

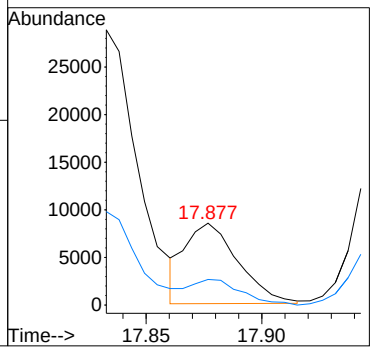


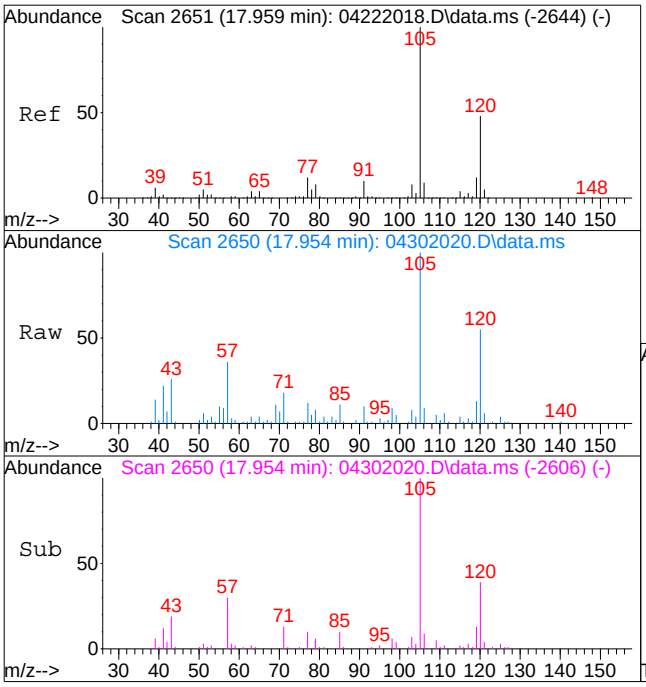


#78
4-Ethyltoluene
Concen: 0.23 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 04302020.D
Acq: 30 Apr 2020 15:09

Tgt Ion:105 Resp: 13461

Ion	Ratio	Lower	Upper
105	100		
120	28.6	11.4	51.4

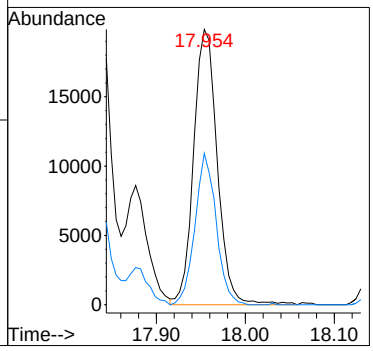


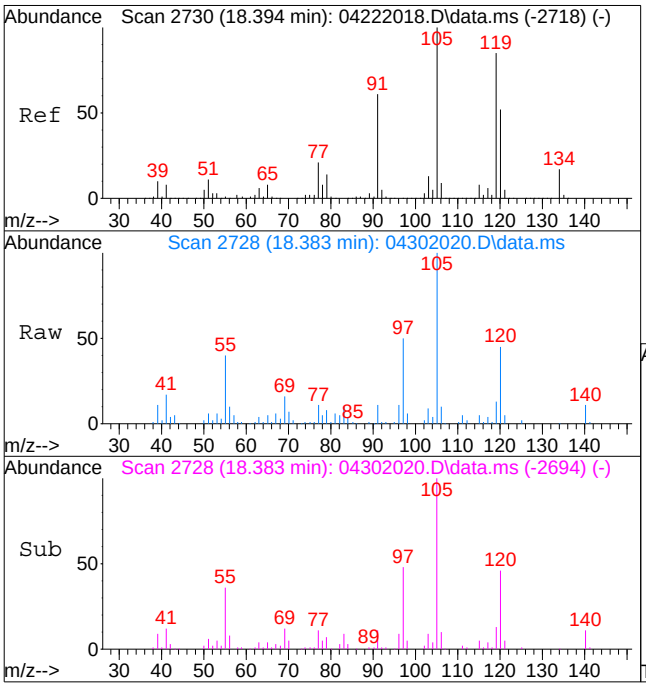


#79
1,3,5-Trimethylbenzene
Concen: 0.68 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 04302020.D
Acq: 30 Apr 2020 15:09

Tgt Ion:105 Resp: 36784

Ion	Ratio	Lower	Upper
105	100		
120	49.2	29.5	69.5

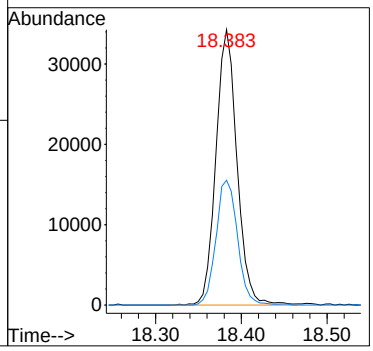




#82
1,2,4-Trimethylbenzene
Concen: 1.13 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 04302020.D
Acq: 30 Apr 2020 15:09

Tgt Ion:105 Resp: 58527

Ion	Ratio	Lower	Upper
105	100		
120	46.4	34.5	74.5



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302021.D Vial: 1
Acq On : 30 Apr 2020 15:43 Operator: WA
Sample : P2002029-018 (0.15mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 17:55:04 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/30/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	157730	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	664417	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	301474	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	237519	11.623	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.96%			
57) Toluene-d8 (SS2)	13.55	98	725092	12.457	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.68%			
73) Bromofluorobenzene (SS3)	17.05	174	282240	12.064	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.48%			
Target Compounds						Qvalue
2) Propene	3.90	42	1312	0.196	ng	99
3) Dichlorodifluoromethan...	4.00	85	123	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.41	45	68	N.D.		
11) Acetonitrile	0.00	41	0	N.D.		
12) Acrolein	0.00	56	0	N.D.	d	
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	6.02	101	121	N.D.		
15) 2-Propanol (Isopropanol)	6.23	45	385	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.	d	
17) 1,1-Dichloroethene	6.72	96	976	0.088	ng	97
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d	
19) Methylene Chloride	6.87	84	3047	0.285	ng	93
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d	
21) Trichlorotrifluoroethane	7.18	151	10135	0.769	ng	98
22) Carbon Disulfide	0.00	76	0	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	8.09	63	416	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	0.00	72	0	N.D.	d	
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	0.00	61	0	N.D.	d	
31) n-Hexane	9.23	57	333928	24.703	ng	99
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d	
38) 1,1,1-Trichloroethane	10.30	97	11681	0.511	ng	99
39) Isopropyl Acetate	0.00	61	0	N.D.	d	
40) 1-Butanol	10.60	56	222	N.D.		
41) Benzene	10.75	78	471447	10.885	ng	100
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	11.04	84	542865	31.993	ng	97
44) tert-Amyl Methyl Ether	11.48	73	316	N.D.		
45) 1,2-Dichloropropane	11.58	63	157	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	11.82	130	688	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.	d	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302021.D Vial: 1
Acq On : 30 Apr 2020 15:43 Operator: WA
Sample : P2002029-018 (0.15mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 17:55:04 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

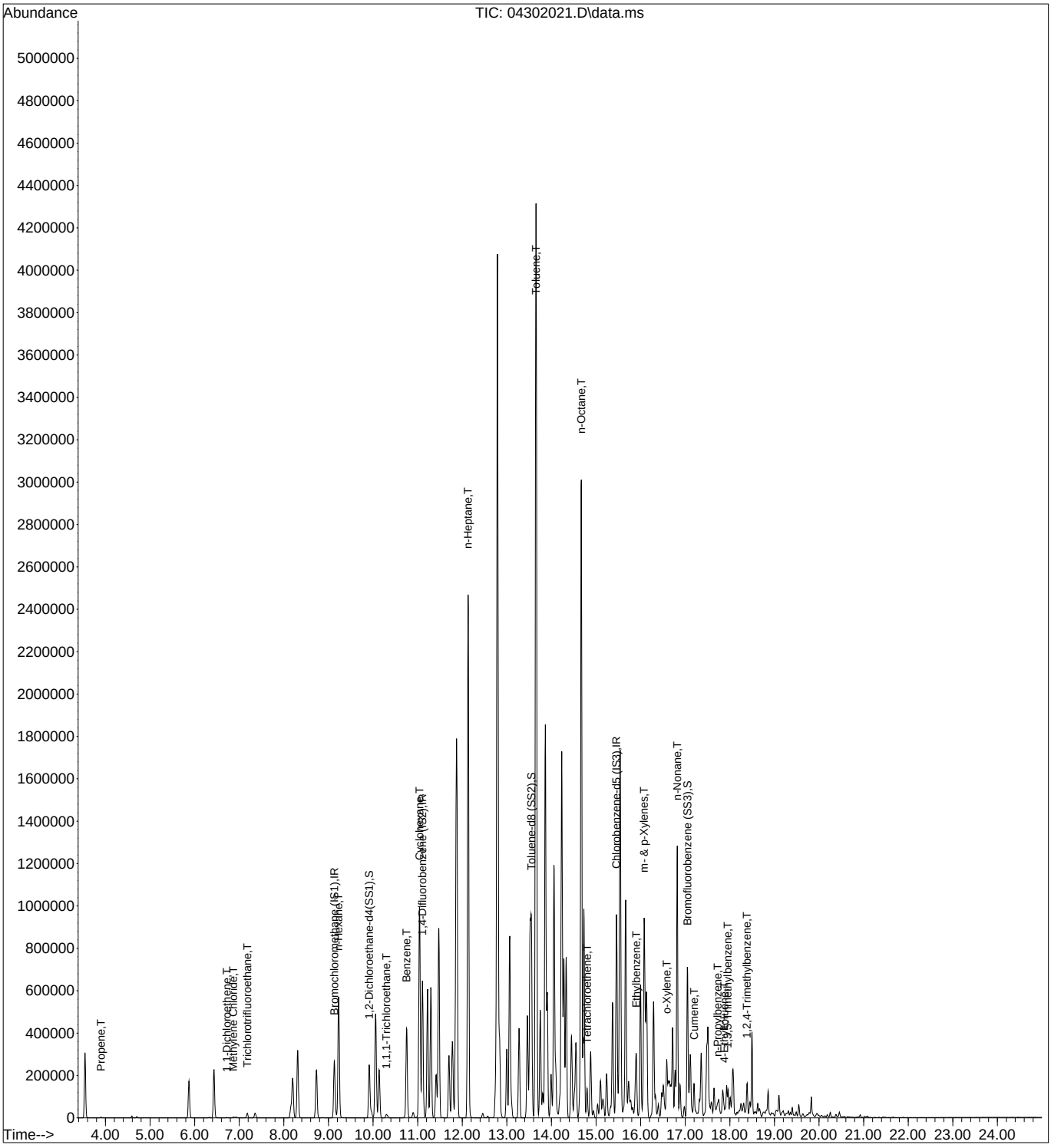
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.13	71	769599	76.475 ng	99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	13.65	91	3542825	72.492 ng	99
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D. d	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.67	57	609307	78.320 ng	99
64) Tetrachloroethene	14.80	166	3651	0.198 ng	99
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.90	91	173019	3.038 ng	99
67) m- & p-Xylenes	16.08	91	741638	15.437 ng	97
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D. d	
70) o-Xylene	16.58	91	183824	3.896 ng	99
71) n-Nonane	16.82	43	394860	25.944 ng	100
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	17.20	105	16764	0.272 ng	99
75) alpha-Pinene	17.61	93	431	N.D.	
76) n-Propylbenzene	17.73	91	37281	0.556 ng	98
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	4606	0.079 ng	96
79) 1,3,5-Trimethylbenzene	17.95	105	17256	0.319 ng	100
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	20346	0.389 ng	90
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.49	91	649	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	18.83	119	1740	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	18.98	146	356	N.D.	
91) d-Limonene	18.97	68	423	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.93	128	828	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302021.D Vial: 1
Acq On : 30 Apr 2020 15:43 Operator: WA
Sample : P2002029-018 (0.15mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 17:55:04 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302021.D Vial: 1
Acq On : 30 Apr 2020 15:43 Operator: WA
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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/30/20

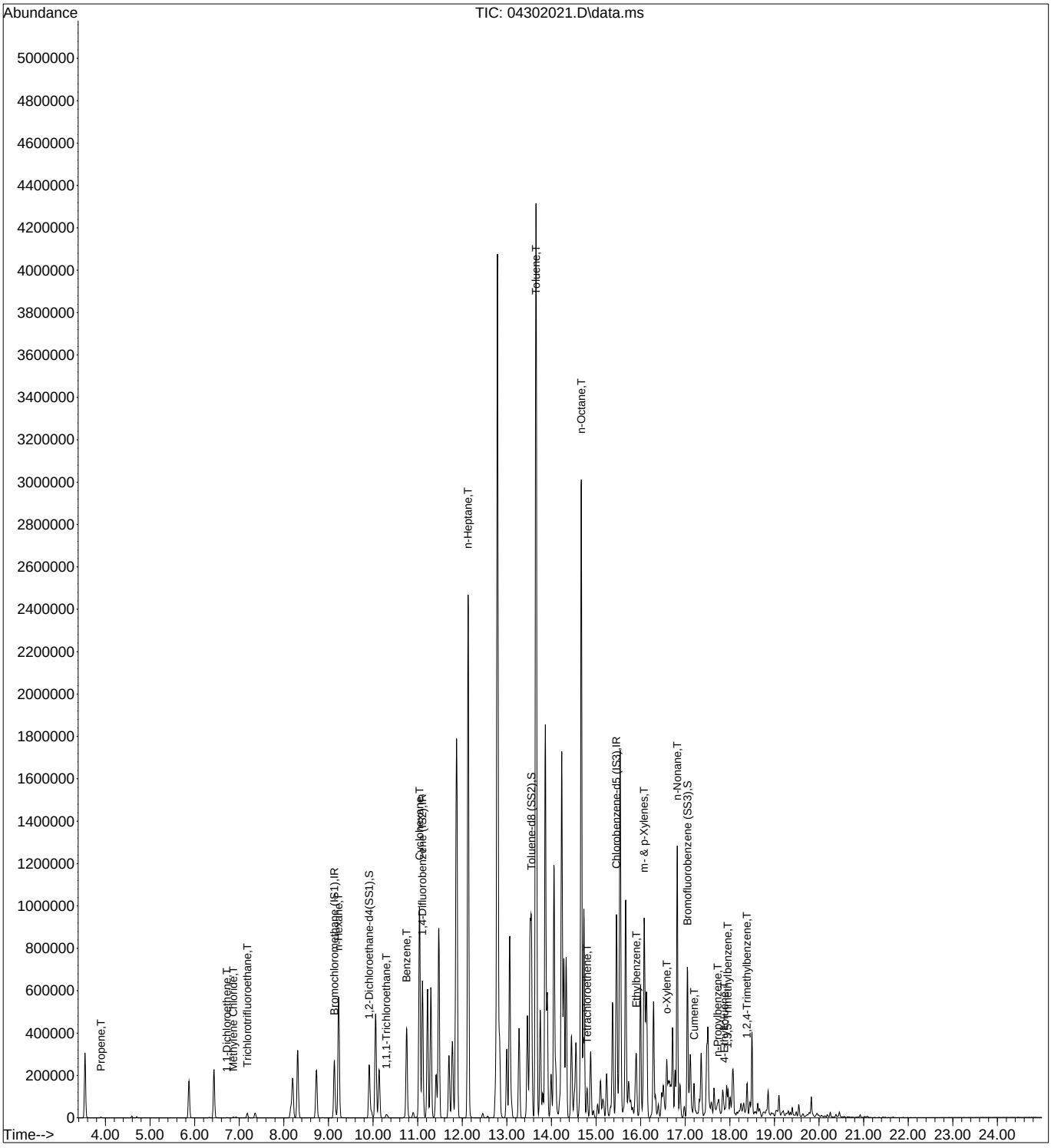
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	157730	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	664417	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	301474	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	237519	11.623	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.96%			
57) Toluene-d8 (SS2)	13.55	98	725092	12.457	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.68%			
73) Bromofluorobenzene (SS3)	17.05	174	282240	12.064	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.48%			
Target Compounds						Qvalue
2) Propene	3.90	42	1312	0.196	ng	99
17) 1,1-Dichloroethene	6.72	96	976	0.088	ng	97
19) Methylene Chloride	6.87	84	3047	0.285	ng	93
21) Trichlorotrifluoroethane	7.18	151	10135	0.769	ng	98
31) n-Hexane	9.23	57	333928	24.703	ng	99
38) 1,1,1-Trichloroethane	10.30	97	11681	0.511	ng	99
41) Benzene	10.75	78	471447	10.885	ng	100
43) Cyclohexane	11.04	84	542865	31.993	ng	97
51) n-Heptane	12.13	71	769599	76.475	ng	99
58) Toluene	13.65	91	3542825	72.492	ng	99
63) n-Octane	14.67	57	609307	78.320	ng	99
64) Tetrachloroethene	14.80	166	3651	0.198	ng	99
66) Ethylbenzene	15.90	91	173019	3.038	ng	99
67) m- & p-Xylenes	16.08	91	741638	15.437	ng	97
70) o-Xylene	16.58	91	183824	3.896	ng	99
71) n-Nonane	16.82	43	394860	25.944	ng	100
74) Cumene	17.20	105	16764	0.272	ng	99
76) n-Propylbenzene	17.73	91	37281	0.556	ng	98
78) 4-Ethyltoluene	17.88	105	4606	0.079	ng	96
79) 1,3,5-Trimethylbenzene	17.95	105	17256	0.319	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	20346	0.389	ng	90

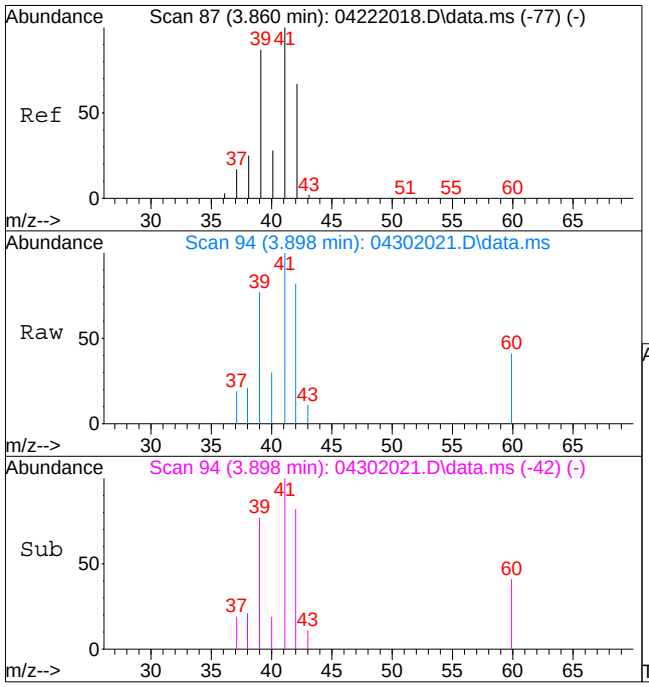
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302021.D Vial: 1
Acq On : 30 Apr 2020 15:43 Operator: WA
Sample : P2002029-018 (0.15mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 17:55:04 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

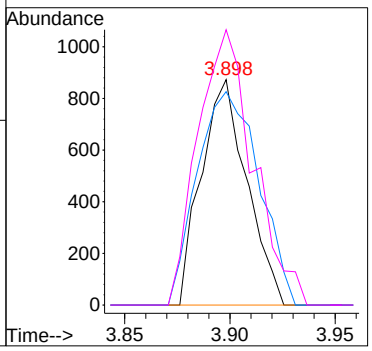


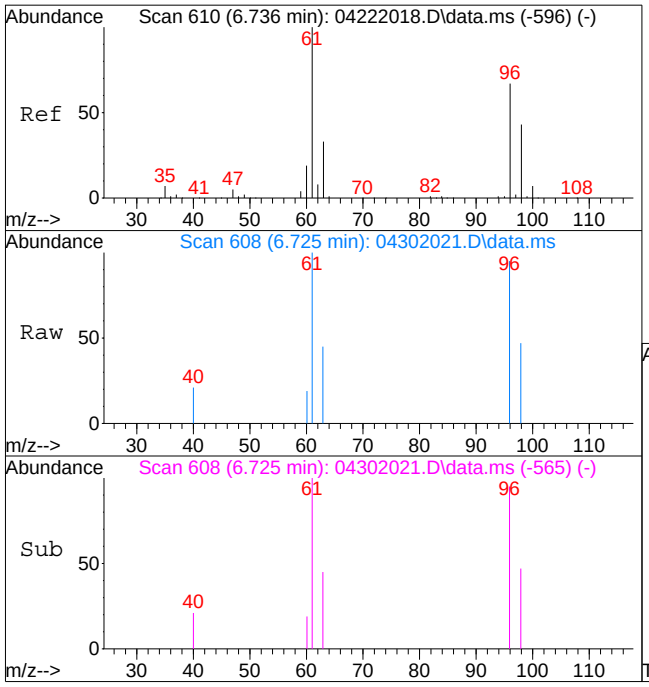


#2
Propene
Concen: 0.20 ng
RT: 3.90 min Scan# 94
Delta R.T. 0.038 min
Lab File: 04302021.D
Acq: 30 Apr 2020 15:43

Tgt Ion: 42 Resp: 1312

Ion	Ratio	Lower	Upper
42	100		
39	128.7	106.4	146.4
41	149.4	128.8	168.8

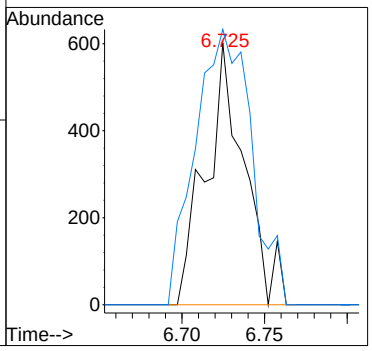


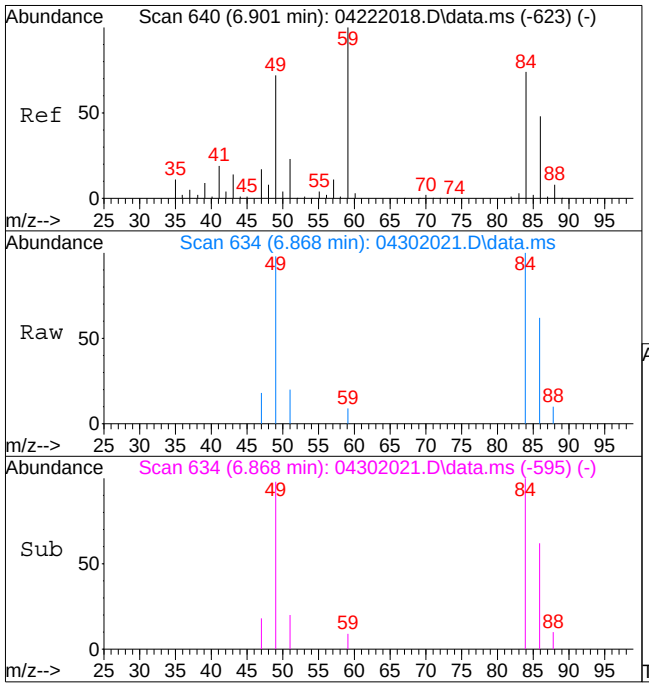


#17
1,1-Dichloroethene
Concen: 0.09 ng
RT: 6.72 min Scan# 608
Delta R.T. -0.011 min
Lab File: 04302021.D
Acq: 30 Apr 2020 15:43

Tgt Ion: 96 Resp: 976

Ion	Ratio	Lower	Upper
96	100		
61	153.4	129.8	169.8

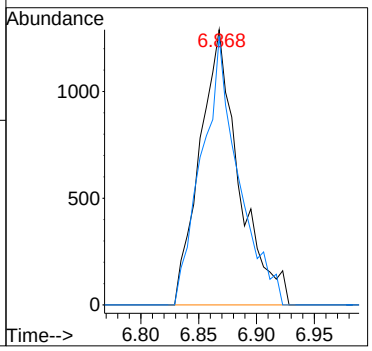


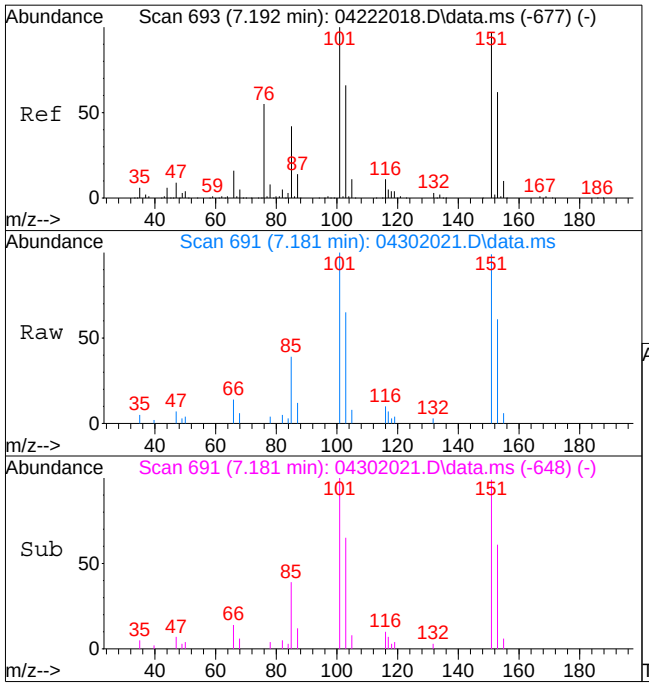


#19
Methylene Chloride
Concen: 0.29 ng
RT: 6.87 min Scan# 634
Delta R.T. -0.033 min
Lab File: 04302021.D
Acq: 30 Apr 2020 15:43

Tgt Ion: 84 Resp: 3047

Ion	Ratio	Lower	Upper
84	100		
49	91.0	73.0	123.0

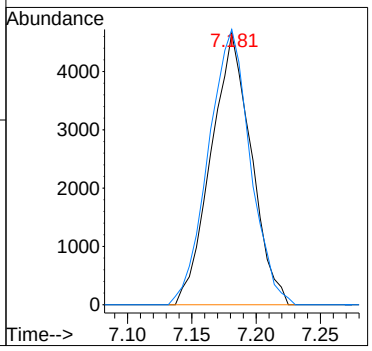


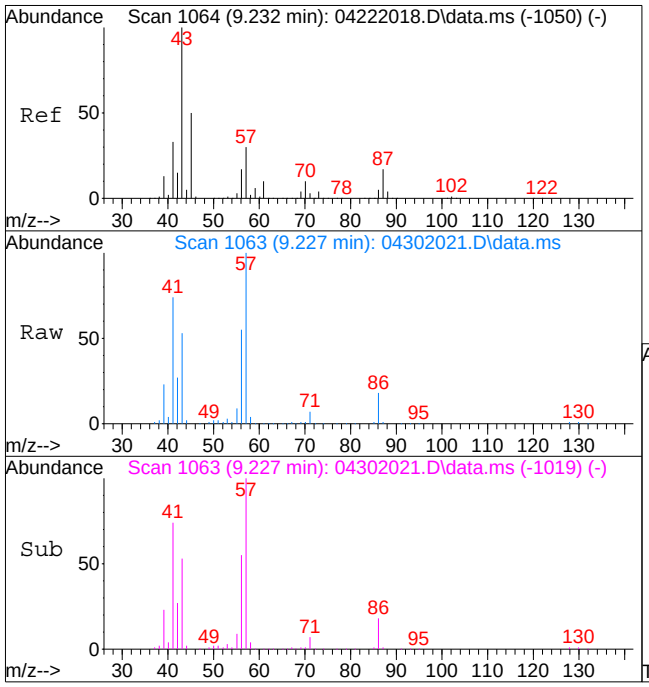


#21
Trichlorotrifluoroethane
Concen: 0.77 ng
RT: 7.18 min Scan# 691
Delta R.T. -0.011 min
Lab File: 04302021.D
Acq: 30 Apr 2020 15:43

Tgt Ion:151 Resp: 10135

Ion	Ratio	Lower	Upper
151	100		
101	105.4	82.9	122.9

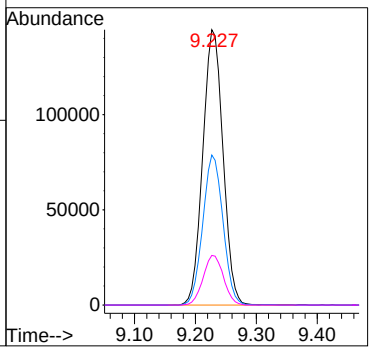


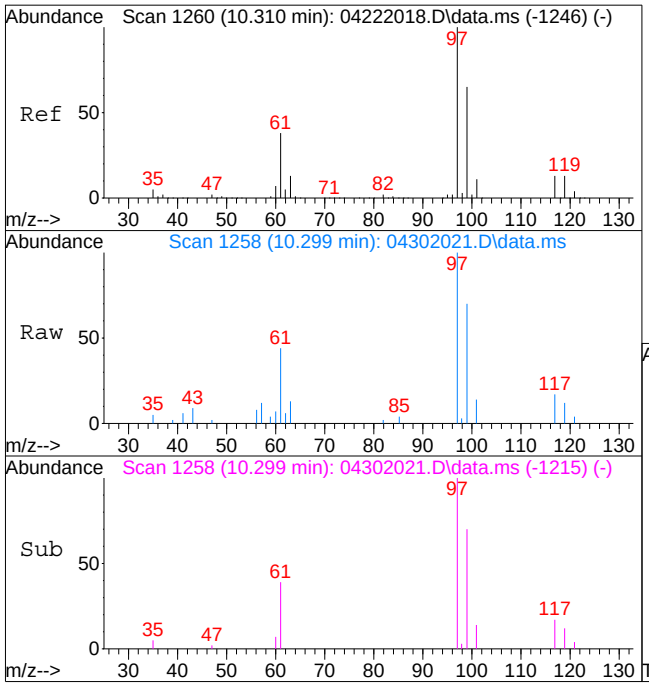


#31
n-Hexane
Concen: 24.70 ng
RT: 9.23 min Scan# 1063
Delta R.T. -0.006 min
Lab File: 04302021.D
Acq: 30 Apr 2020 15:43

Tgt Ion: 57 Resp: 333928

Ion	Ratio	Lower	Upper
57	100		
56	54.3	44.0	66.0
86	18.1	15.0	22.4

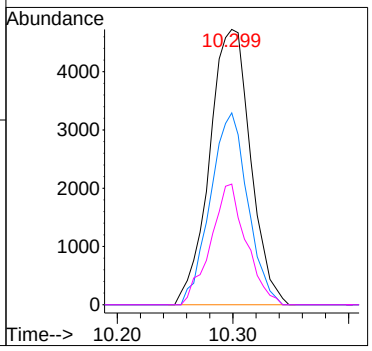


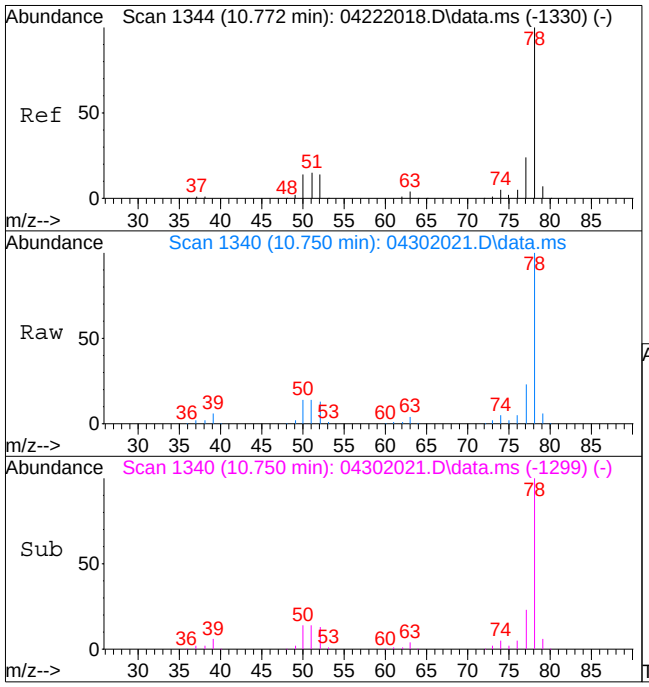


#38
1,1,1-Trichloroethane
Concen: 0.51 ng
RT: 10.30 min Scan# 1258
Delta R.T. -0.011 min
Lab File: 04302021.D
Acq: 30 Apr 2020 15:43

Tgt Ion: 97 Resp: 11681

Ion	Ratio	Lower	Upper
97	100		
99	63.5	44.7	84.7
61	38.0	17.2	57.2

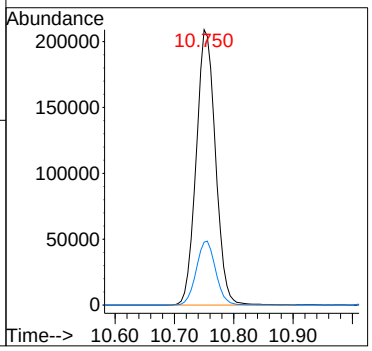


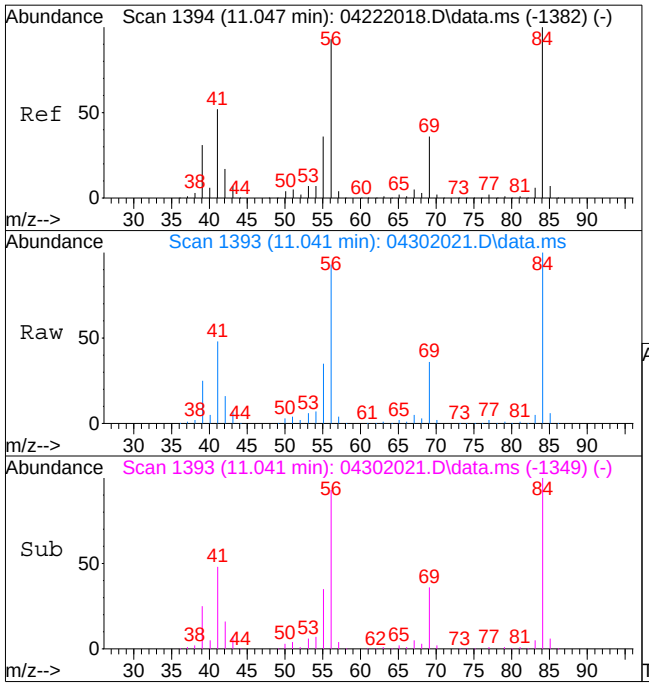


#41
Benzene
Concen: 10.88 ng
RT: 10.75 min Scan# 1340
Delta R.T. -0.022 min
Lab File: 04302021.D
Acq: 30 Apr 2020 15:43

Tgt Ion: 78 Resp: 471447

Ion	Ratio	Lower	Upper
78	100		
77	23.4	3.6	43.6

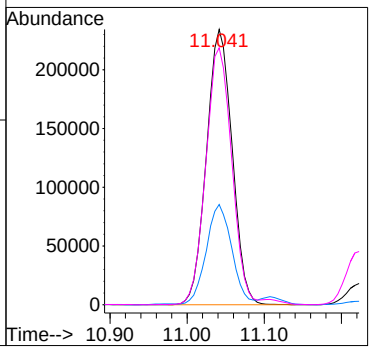


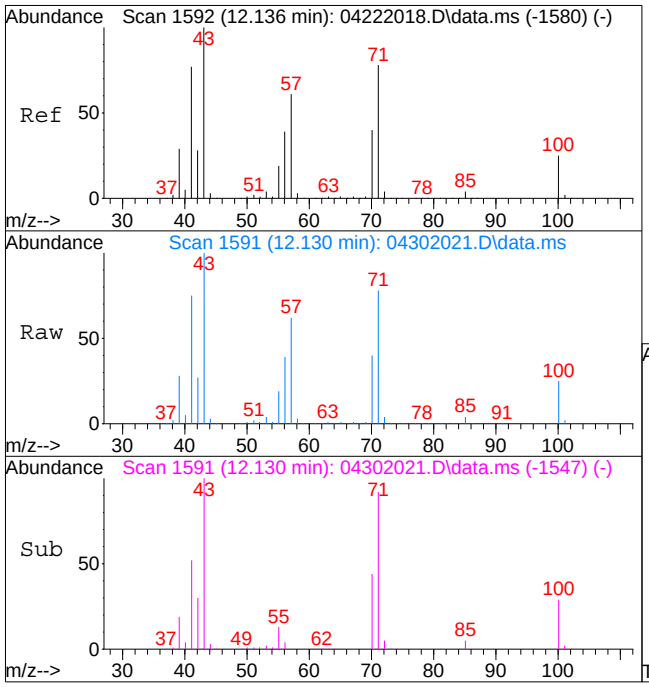


#43
Cyclohexane
Concen: 31.99 ng
RT: 11.04 min Scan# 1393
Delta R.T. -0.006 min
Lab File: 04302021.D
Acq: 30 Apr 2020 15:43

Tgt Ion: 84 Resp: 542865

Ion	Ratio	Lower	Upper
84	100		
69	36.2	15.8	55.8
56	95.7	72.0	112.0

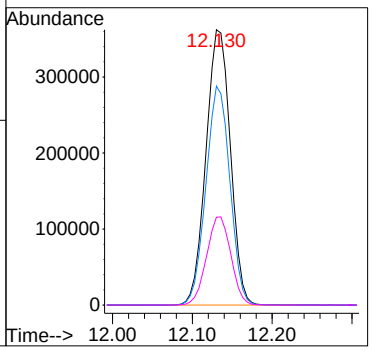


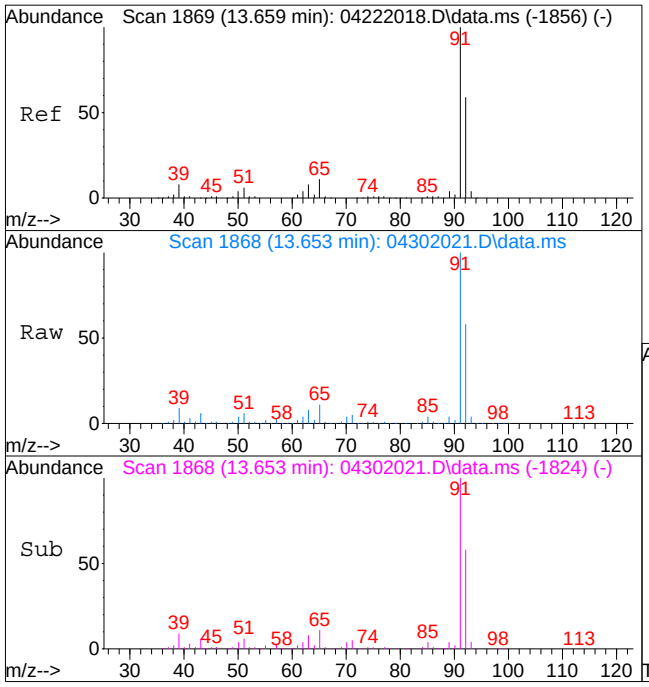


#51
n-Heptane
Concen: 76.48 ng
RT: 12.13 min Scan# 1591
Delta R.T. -0.006 min
Lab File: 04302021.D
Acq: 30 Apr 2020 15:43

Tgt Ion: 71 Resp: 769599

Ion	Ratio	Lower	Upper
71	100		
57	78.2	57.4	97.4
100	31.8	12.0	52.0

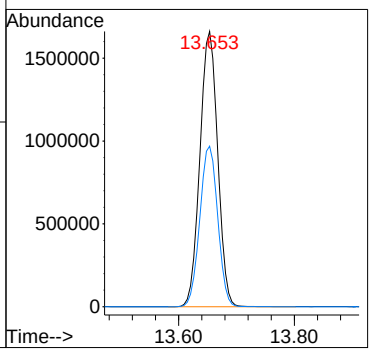


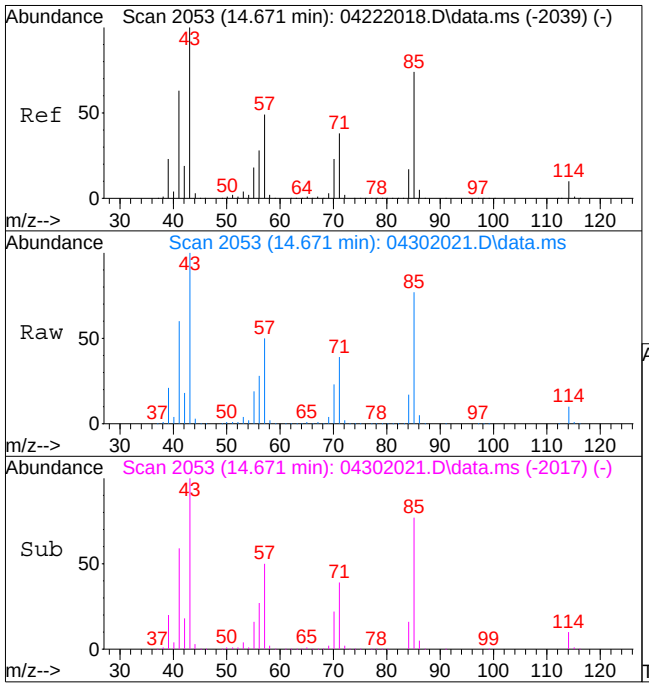


#58
Toluene
Concen: 72.49 ng
RT: 13.65 min Scan# 1868
Delta R.T. -0.006 min
Lab File: 04302021.D
Acq: 30 Apr 2020 15:43

Tgt Ion: 91 Resp: 3542825

Ion	Ratio	Lower	Upper
91	100		
92	58.8	38.2	78.2

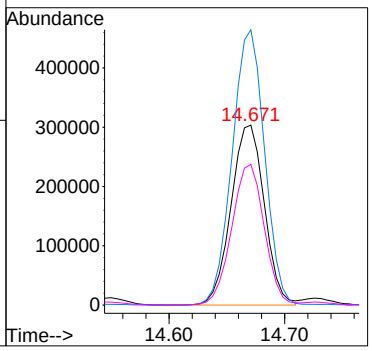


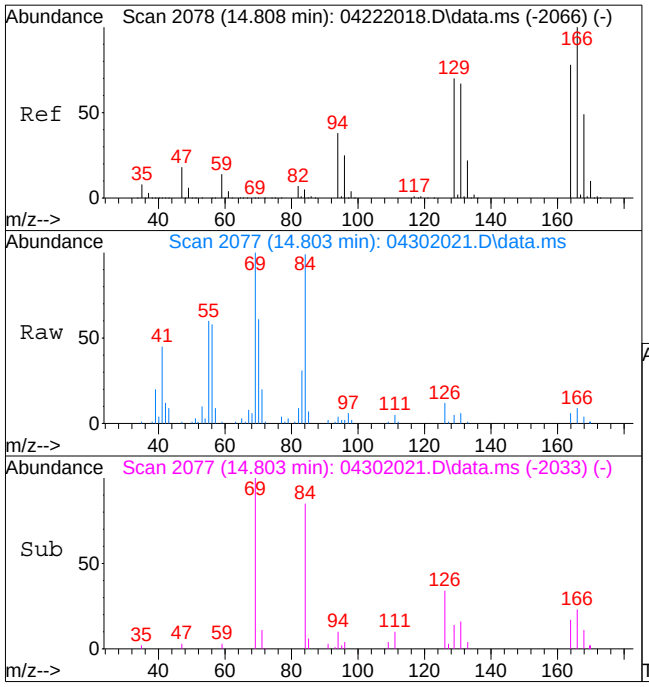


#63
n-Octane
Concen: 78.32 ng
RT: 14.67 min Scan# 2053
Delta R.T. -0.000 min
Lab File: 04302021.D
Acq: 30 Apr 2020 15:43

Tgt Ion: 57 Resp: 609307

Ion	Ratio	Lower	Upper
57	100		
85	149.0	120.7	181.1
71	76.5	61.1	91.7

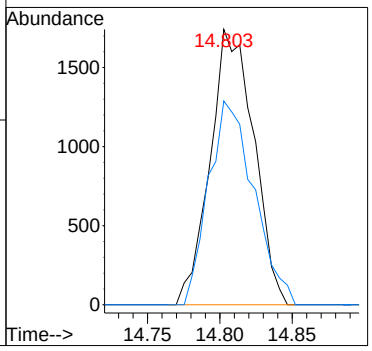


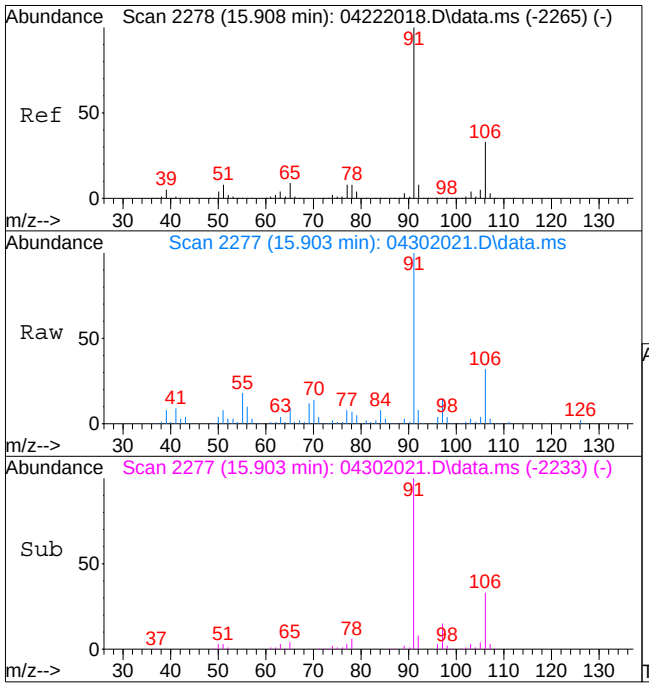


#64
Tetrachloroethene
Concen: 0.20 ng
RT: 14.80 min Scan# 2077
Delta R.T. -0.006 min
Lab File: 04302021.D
Acq: 30 Apr 2020 15:43

Tgt Ion:166 Resp: 3651

Ion	Ratio	Lower	Upper
166	100		
164	76.9	57.7	97.7

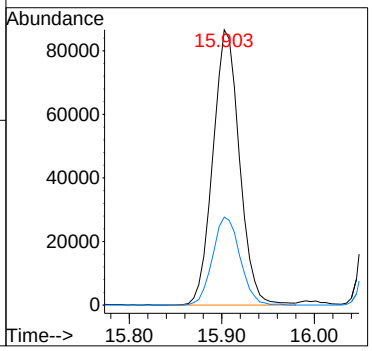


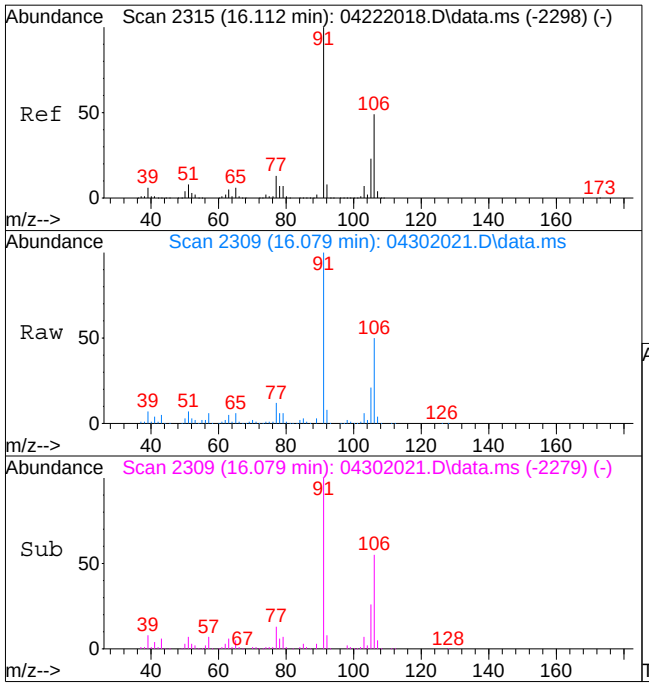


#66
Ethylbenzene
Concen: 3.04 ng
RT: 15.90 min Scan# 2277
Delta R.T. -0.006 min
Lab File: 04302021.D
Acq: 30 Apr 2020 15:43

Tgt Ion: 91 Resp: 173019

Ion	Ratio	Lower	Upper
91	100		
106	33.0	13.4	53.4

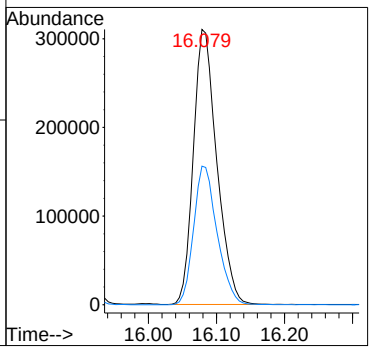


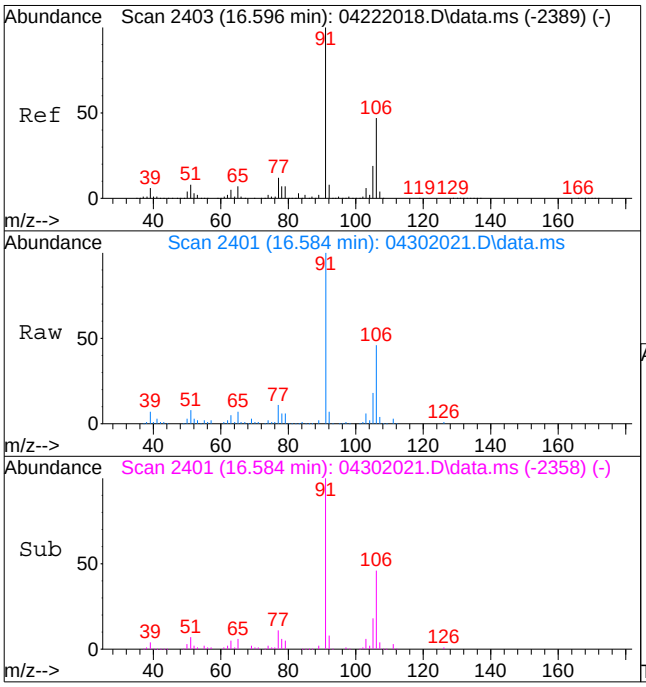


#67
m- & p-Xylenes
Concen: 15.44 ng
RT: 16.08 min Scan# 2309
Delta R.T. -0.033 min
Lab File: 04302021.D
Acq: 30 Apr 2020 15:43

Tgt Ion: 91 Resp: 741638

Ion	Ratio	Lower	Upper
91	100		
106	50.6	28.3	68.3

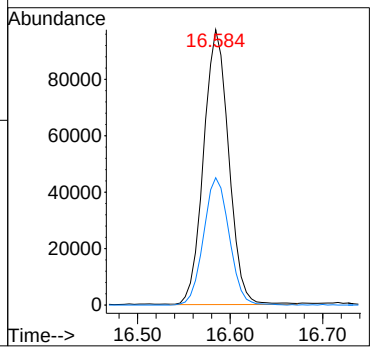


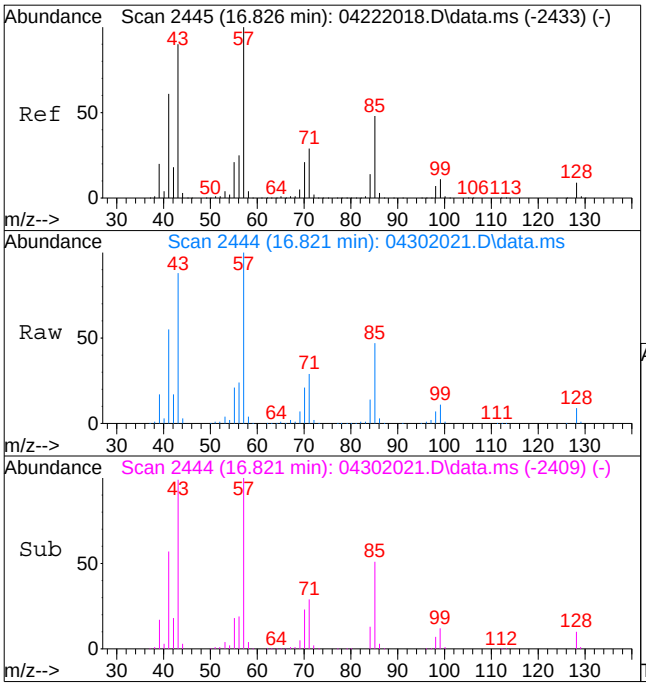


#70
o-Xylene
Concen: 3.90 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 04302021.D
Acq: 30 Apr 2020 15:43

Tgt Ion: 91 Resp: 183824

Ion	Ratio	Lower	Upper
91	100		
106	47.1	27.5	67.5

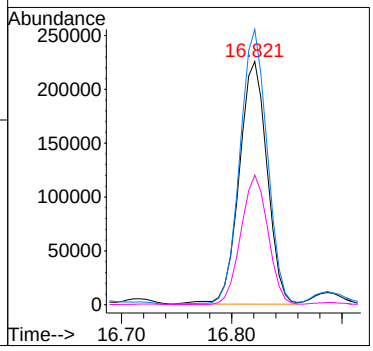


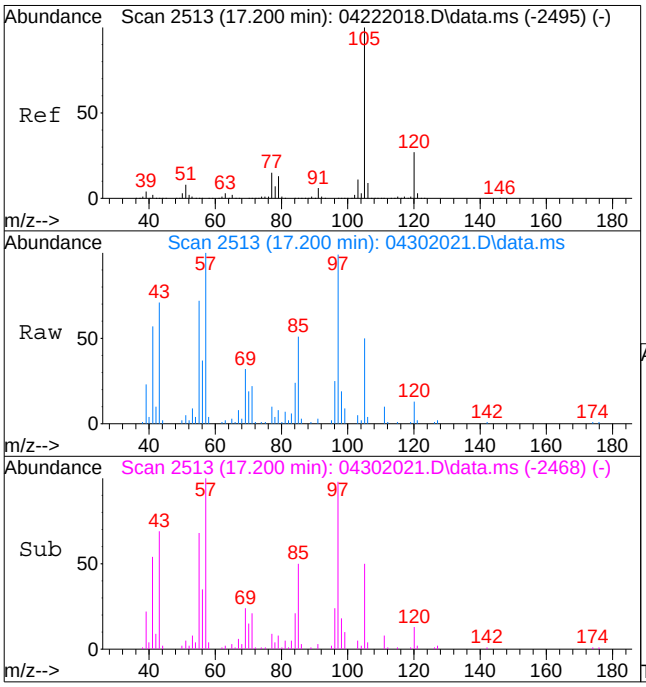


#71
n-Nonane
Concen: 25.94 ng
RT: 16.82 min Scan# 2444
Delta R.T. -0.006 min
Lab File: 04302021.D
Acq: 30 Apr 2020 15:43

Tgt Ion: 43 Resp: 394860

Ion	Ratio	Lower	Upper
43	100		
57	111.1	90.8	130.8
85	51.8	32.1	72.1

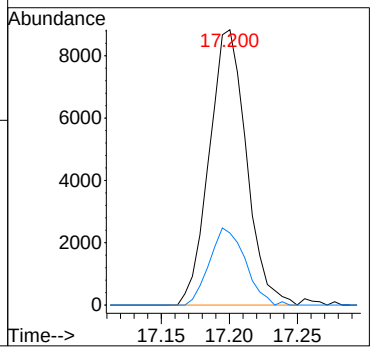


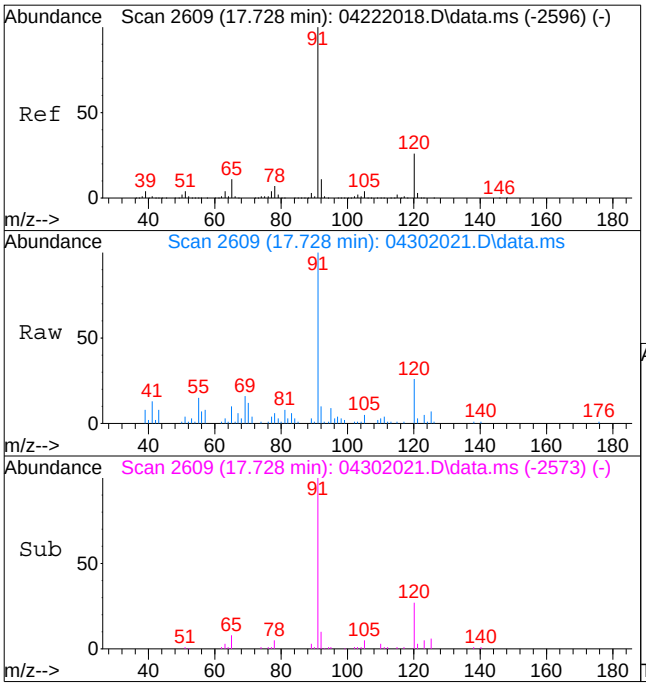


#74
Cumene
Concen: 0.27 ng
RT: 17.20 min Scan# 2513
Delta R.T. -0.000 min
Lab File: 04302021.D
Acq: 30 Apr 2020 15:43

Tgt Ion:105 Resp: 16764

Ion	Ratio	Lower	Upper
105	100		
120	27.0	7.3	47.3

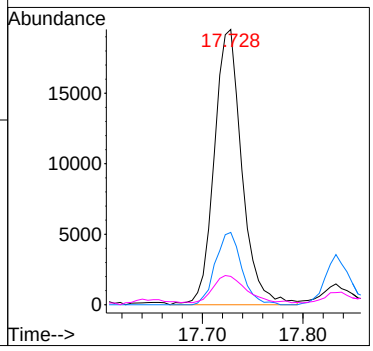


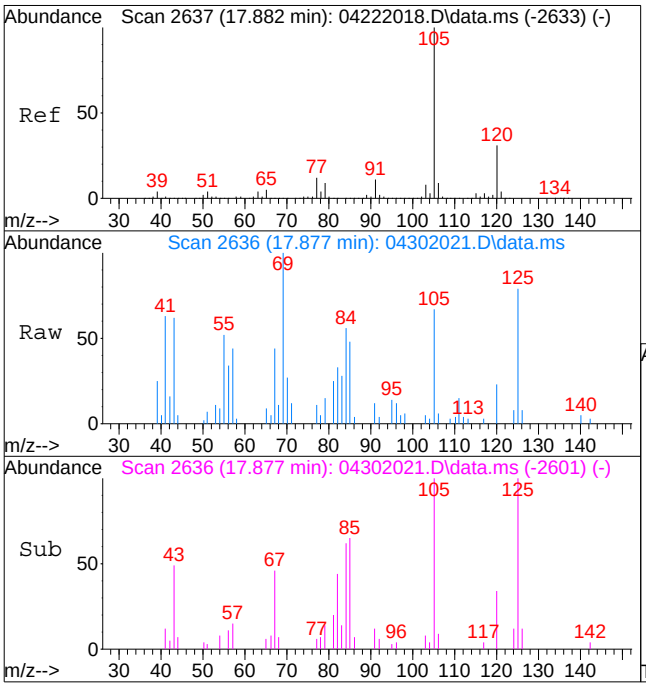


#76
n-Propylbenzene
Concen: 0.56 ng
RT: 17.73 min Scan# 2609
Delta R.T. -0.000 min
Lab File: 04302021.D
Acq: 30 Apr 2020 15:43

Tgt Ion: 91 Resp: 37281

Ion	Ratio	Lower	Upper
91	100		
120	25.0	6.1	46.1
65	11.9	0.0	30.7

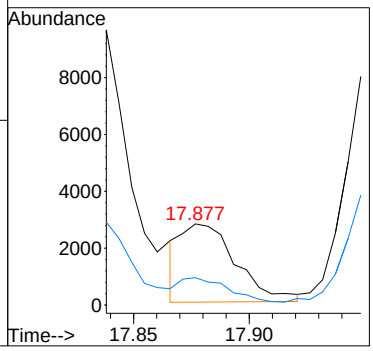


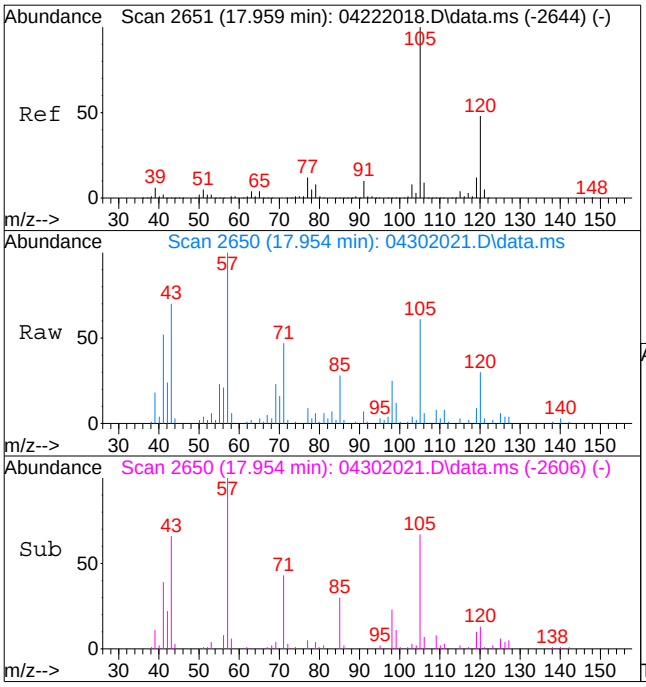


#78
4-Ethyltoluene
Concen: 0.08 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 04302021.D
Acq: 30 Apr 2020 15:43

Tgt Ion:105 Resp: 4606

Ion	Ratio	Lower	Upper
105	100		
120	33.4	11.4	51.4

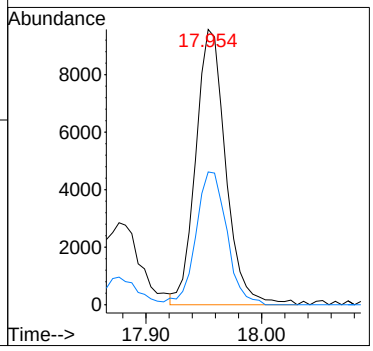


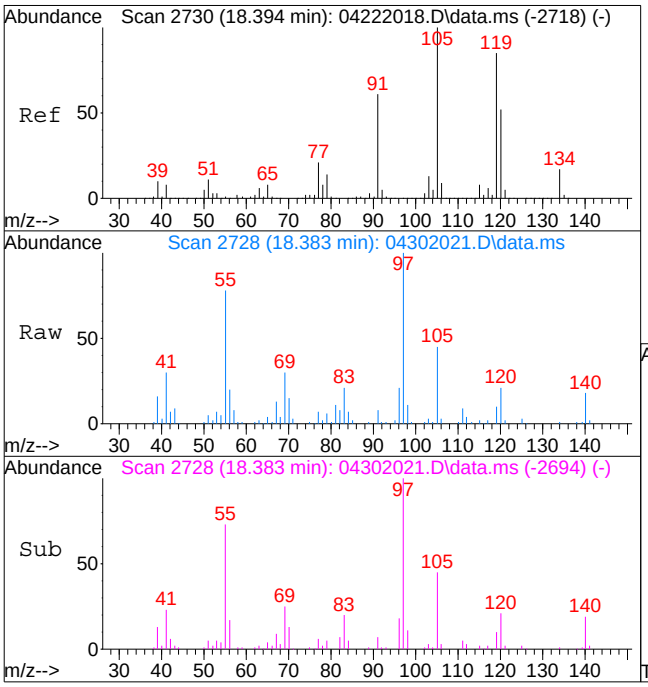


#79
1,3,5-Trimethylbenzene
Concen: 0.32 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 04302021.D
Acq: 30 Apr 2020 15:43

Tgt Ion:105 Resp: 17256

Ion	Ratio	Lower	Upper
105	100		
120	49.5	29.5	69.5

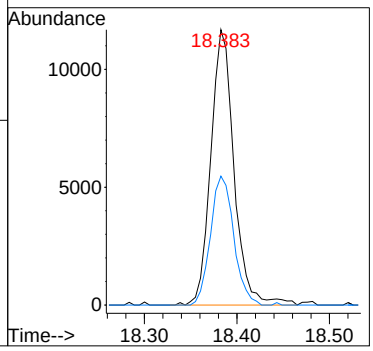




#82
1,2,4-Trimethylbenzene
Concen: 0.39 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 04302021.D
Acq: 30 Apr 2020 15:43

Tgt Ion:105 Resp: 20346

Ion	Ratio	Lower	Upper
105	100		
120	47.0	34.5	74.5



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302023.D Vial: 1
Acq On : 30 Apr 2020 17:05 Operator: SC
Sample : P2002029-019 (0.15mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 17:44:18 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/30/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.14	130	158433	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	11.11	114	669329	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	307949	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.92	65	239050	11.646	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.20%			
57) Toluene-d8 (SS2)	13.55	98	727784	12.240	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.92%			
73) Bromofluorobenzene (SS3)	17.05	174	284258	11.895	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.20%			
Target Compounds						Qvalue
2) Propene	3.89	42	4510	0.670	ng	# 84
3) Dichlorodifluoromethan...	0.00	85	0	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.	d	
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	0.00	45	0	N.D.		
11) Acetonitrile	0.00	41	0	N.D.		
12) Acrolein	0.00	56	0	N.D.	d	
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	6.23	45	34	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.	d	
17) 1,1-Dichloroethene	6.73	96	1094	0.098	ng	89
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d	
19) Methylene Chloride	6.87	84	3011	0.281	ng	95
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d	
21) Trichlorotrifluoroethane	7.19	151	10157	0.767	ng	97
22) Carbon Disulfide	0.00	76	0	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	8.10	63	430	N.D.		
25) Methyl tert-Butyl Ether	8.22	73	915	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	0.00	72	0	N.D.	d	
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.	d	
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	0.00	61	0	N.D.	d	
31) n-Hexane	9.24	57	2310342	170.152	ng	100
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d	
38) 1,1,1-Trichloroethane	10.30	97	11534	0.501	ng	99
39) Isopropyl Acetate	0.00	61	0	N.D.	d	
40) 1-Butanol	10.61	56	335	N.D.		
41) Benzene	10.76	78	2555980	58.579	ng	100
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	11.05	84	2336378	136.681	ng	98
44) tert-Amyl Methyl Ether	11.30	73	1120	N.D.		
45) 1,2-Dichloropropane	11.59	63	134	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	11.83	130	527	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.	d	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302023.D Vial: 1
Acq On : 30 Apr 2020 17:05 Operator: SC
Sample : P2002029-019 (0.15mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 17:44:18 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

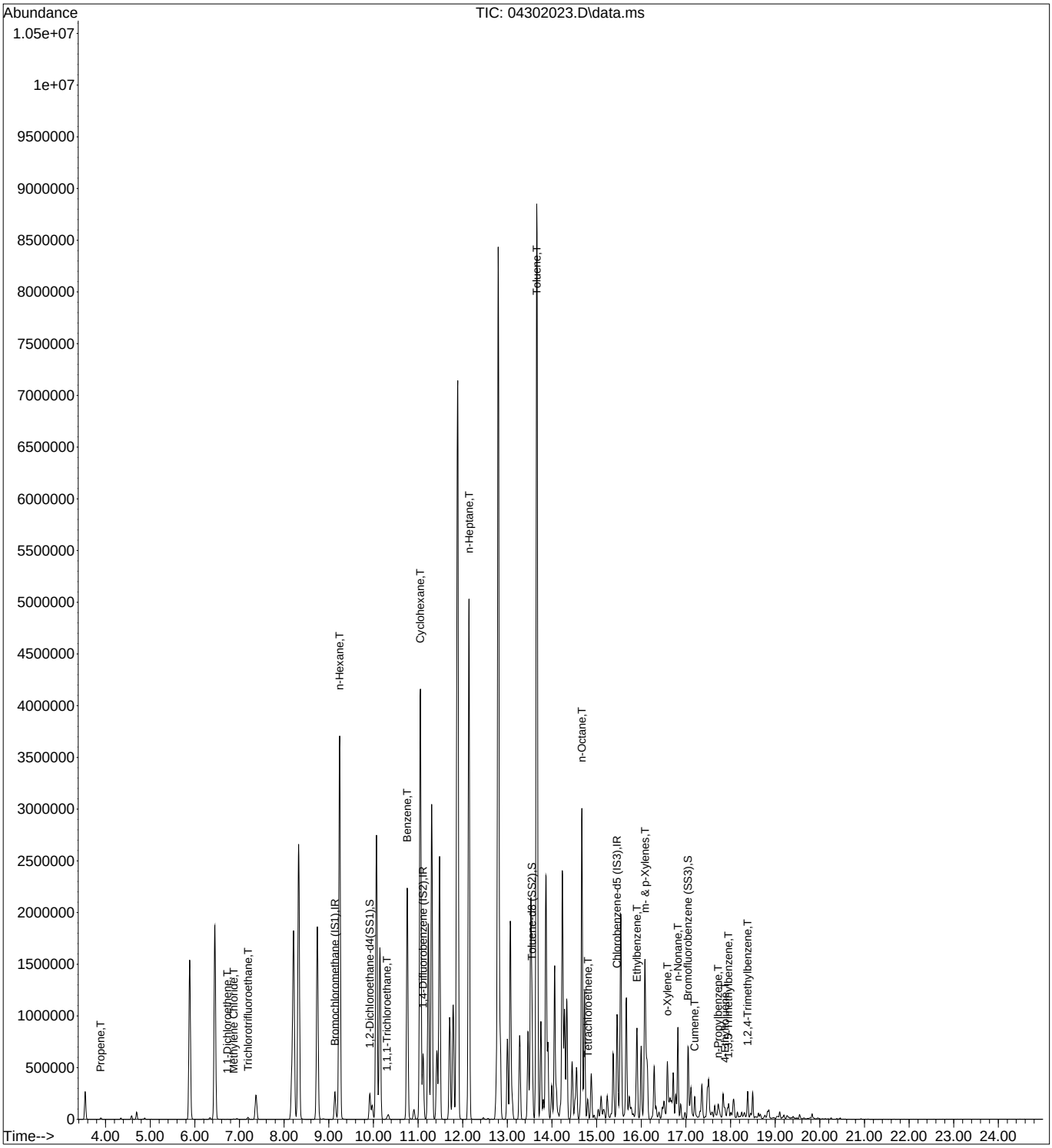
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.14	71	1598412	157.669 ng	99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	13.27	75	130	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	13.66	91	7395635	148.146 ng	99
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D. d	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.67	57	587848	73.973 ng	99
64) Tetrachloroethene	14.81	166	3733	0.199 ng	97
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.90	91	665982	11.449 ng	100
67) m- & p-Xylenes	16.08	91	1302621	26.544 ng	97
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.48	104	1517	N.D.	
70) o-Xylene	16.58	91	383170	7.951 ng	100
71) n-Nonane	16.82	43	270120	17.375 ng	100
72) 1,1,2,2-Tetrachloroethane	16.58	83	152	N.D.	
74) Cumene	17.19	105	73011	1.161 ng	99
75) alpha-Pinene	17.60	93	312	N.D.	
76) n-Propylbenzene	17.72	91	107273	1.566 ng	99
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	40969	0.686 ng	99
79) 1,3,5-Trimethylbenzene	17.95	105	53022	0.960 ng	98
80) alpha-Methylstyrene	17.95	118	355	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	107953	2.021 ng	88
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.47	91	923	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	18.98	146	483	N.D.	
91) d-Limonene	18.98	68	642	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	0.00	128	0	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302023.D Vial: 1
Acq On : 30 Apr 2020 17:05 Operator: SC
Sample : P2002029-019 (0.15mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 17:44:18 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302023.D Vial: 1
Acq On : 30 Apr 2020 17:05 Operator: SC
Sample : P2002029-019 (0.15mL) Inst : MS09
Misc : S34-04212006

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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/30/20

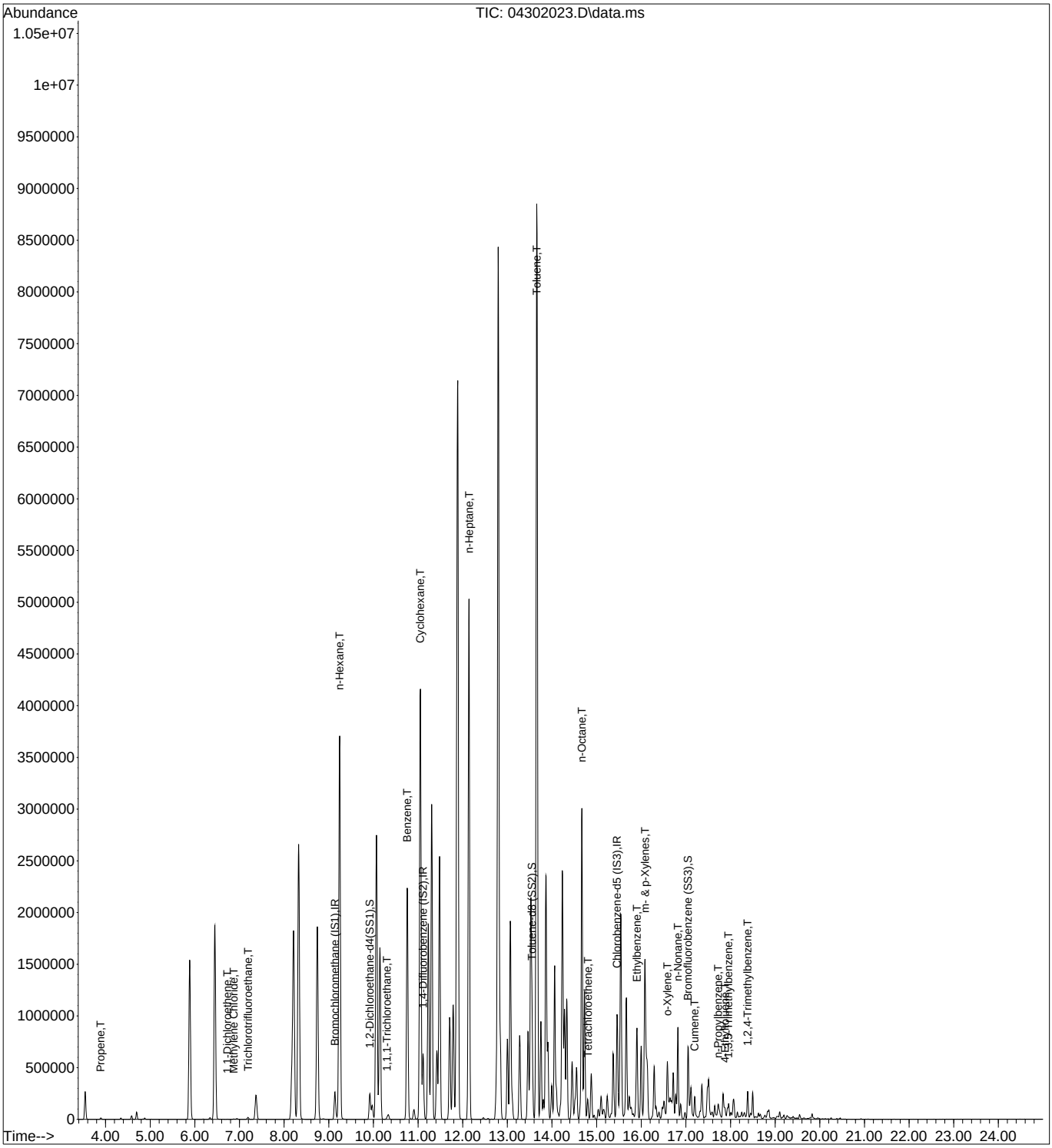
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.14	130	158433	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	11.11	114	669329	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	307949	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.92	65	239050	11.646	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.20%			
57) Toluene-d8 (SS2)	13.55	98	727784	12.240	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.92%			
73) Bromofluorobenzene (SS3)	17.05	174	284258	11.895	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.20%			
Target Compounds						Qvalue
2) Propene	3.89	42	4510	0.670	ng	# 84
17) 1,1-Dichloroethene	6.73	96	1094	0.098	ng	89
19) Methylene Chloride	6.87	84	3011	0.281	ng	95
21) Trichlorotrifluoroethane	7.19	151	10157	0.767	ng	97
31) n-Hexane	9.24	57	2310342	170.152	ng	100
38) 1,1,1-Trichloroethane	10.30	97	11534	0.501	ng	99
41) Benzene	10.76	78	2555980	58.579	ng	100
43) Cyclohexane	11.05	84	2336378	136.681	ng	98
51) n-Heptane	12.14	71	1598412	157.669	ng	99
58) Toluene	13.66	91	7395635	148.146	ng	99
63) n-Octane	14.67	57	587848	73.973	ng	99
64) Tetrachloroethene	14.81	166	3733	0.199	ng	97
66) Ethylbenzene	15.90	91	665982	11.449	ng	100
67) m- & p-Xylenes	16.08	91	1302621	26.544	ng	97
70) o-Xylene	16.58	91	383170	7.951	ng	100
71) n-Nonane	16.82	43	270120	17.375	ng	100
74) Cumene	17.19	105	73011	1.161	ng	99
76) n-Propylbenzene	17.72	91	107273	1.566	ng	99
78) 4-Ethyltoluene	17.88	105	40969	0.686	ng	99
79) 1,3,5-Trimethylbenzene	17.95	105	53022	0.960	ng	98
82) 1,2,4-Trimethylbenzene	18.38	105	107953	2.021	ng	88

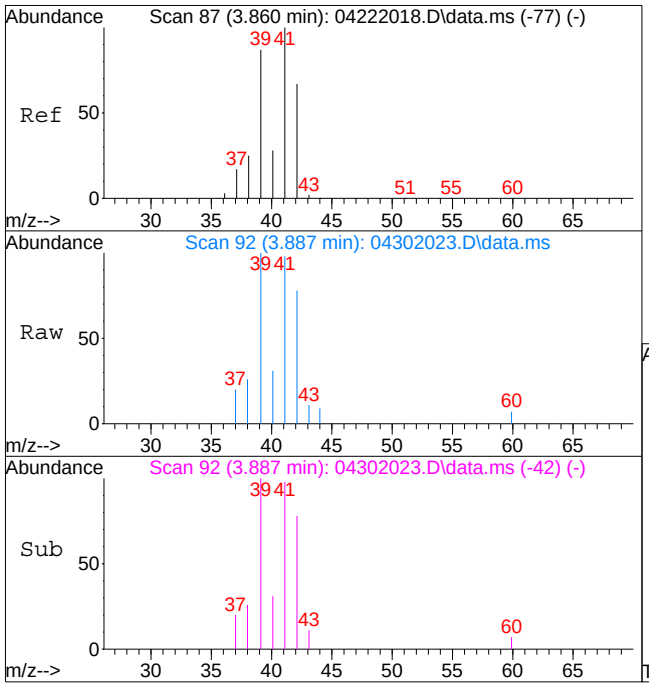
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302023.D Vial: 1
Acq On : 30 Apr 2020 17:05 Operator: SC
Sample : P2002029-019 (0.15mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 17:44:18 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

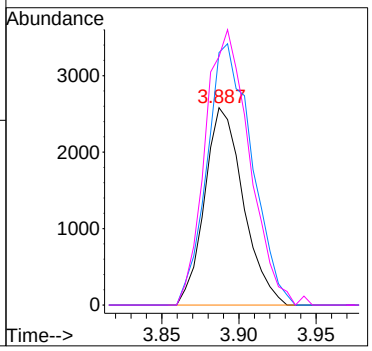


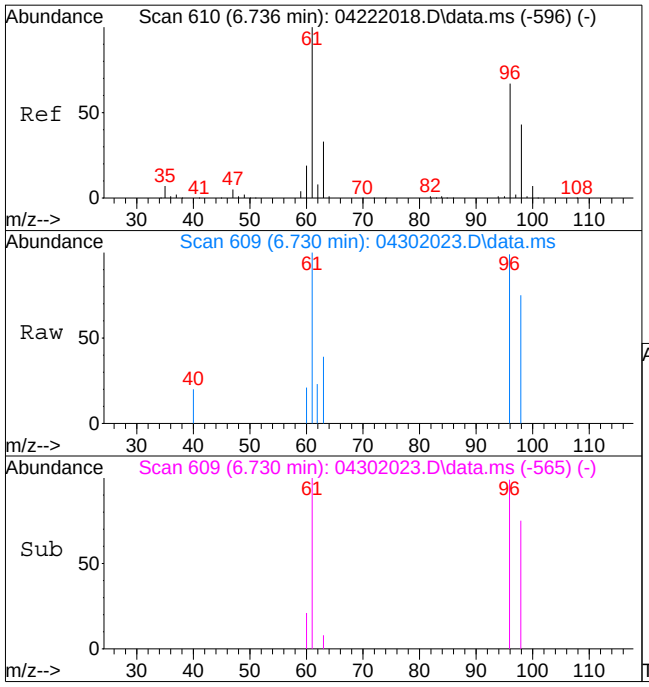


#2
Propene
Concen: 0.67 ng
RT: 3.89 min Scan# 92
Delta R.T. 0.027 min
Lab File: 04302023.D
Acq: 30 Apr 2020 17:05

Tgt Ion: 42 Resp: 4510

Ion	Ratio	Lower	Upper
42	100		
39	153.1	106.4	146.4#
41	160.2	128.8	168.8

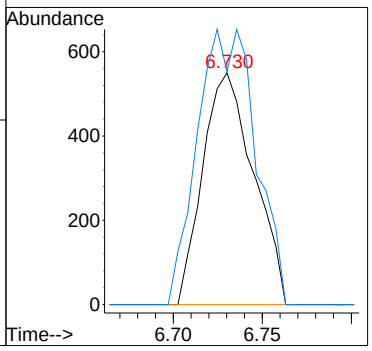


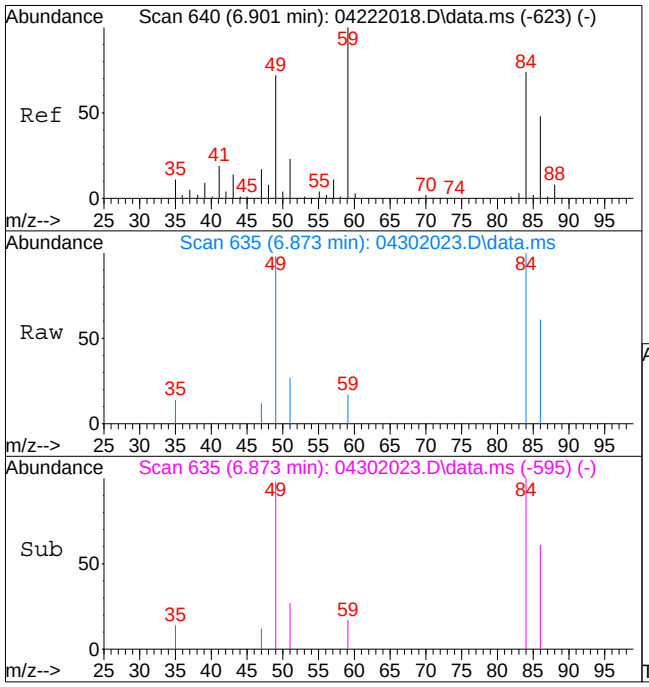


#17
1,1-Dichloroethene
Concen: 0.10 ng
RT: 6.73 min Scan# 609
Delta R.T. -0.006 min
Lab File: 04302023.D
Acq: 30 Apr 2020 17:05

Tgt Ion: 96 Resp: 1094

Ion	Ratio	Lower	Upper
96	100		
61	136.3	129.8	169.8

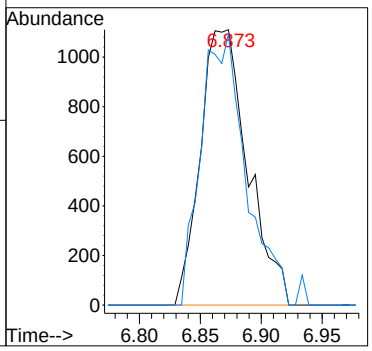


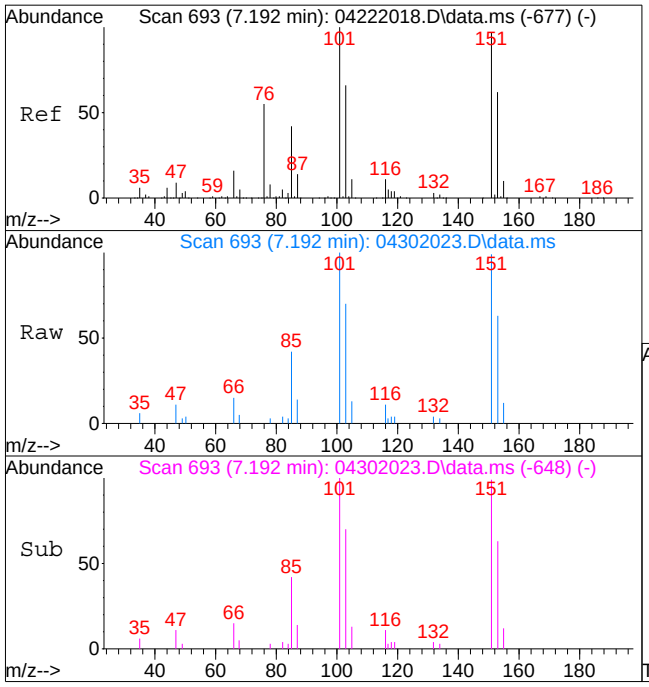


#19
Methylene Chloride
Concen: 0.28 ng
RT: 6.87 min Scan# 635
Delta R.T. -0.028 min
Lab File: 04302023.D
Acq: 30 Apr 2020 17:05

Tgt Ion: 84 Resp: 3011

Ion	Ratio	Lower	Upper
84	100		
49	93.3	73.0	123.0

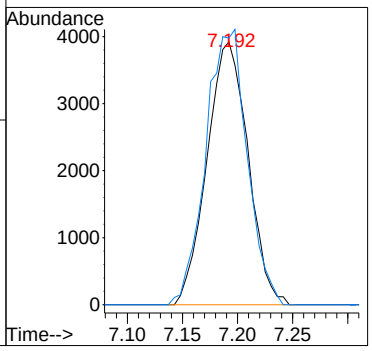


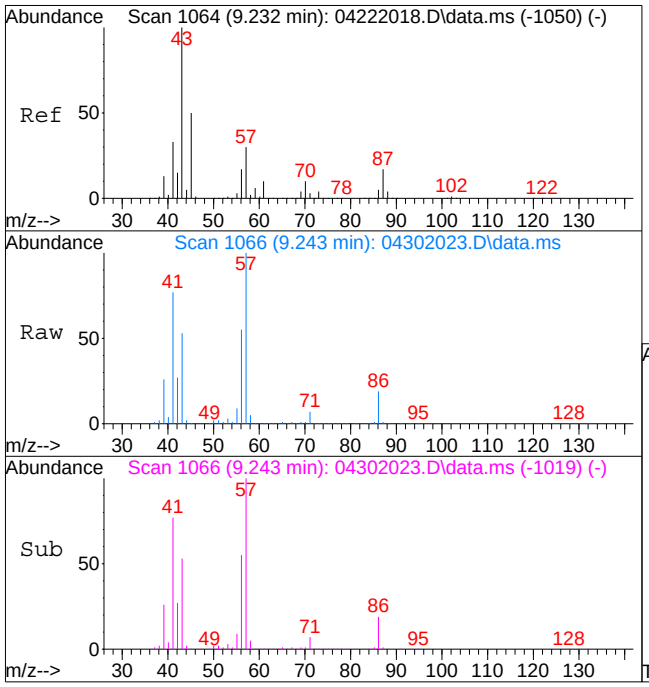


#21
Trichlorotrifluoroethane
Concen: 0.77 ng
RT: 7.19 min Scan# 693
Delta R.T. -0.000 min
Lab File: 04302023.D
Acq: 30 Apr 2020 17:05

Tgt Ion:151 Resp: 10157

Ion	Ratio	Lower	Upper
151	100		
101	105.5	82.9	122.9

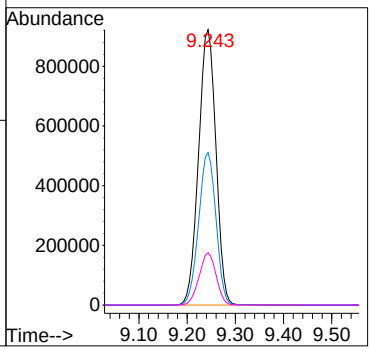


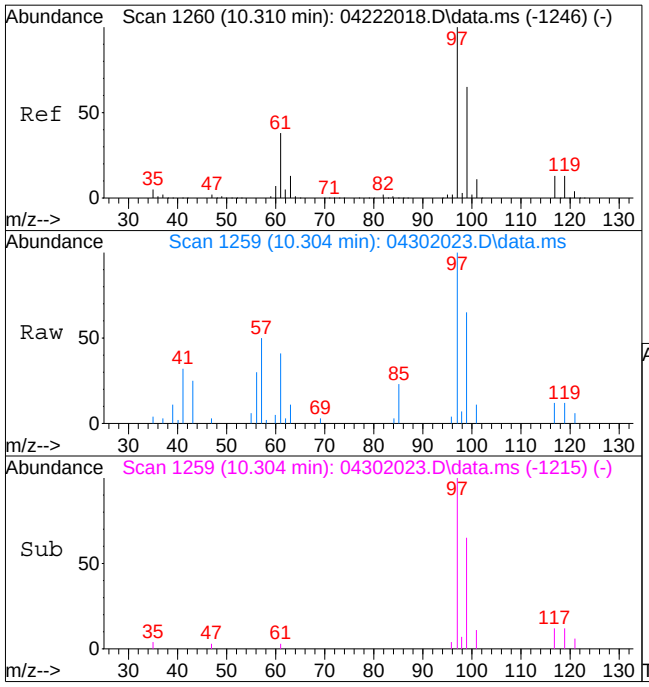


#31
n-Hexane
Concen: 170.15 ng
RT: 9.24 min Scan# 1066
Delta R.T. 0.011 min
Lab File: 04302023.D
Acq: 30 Apr 2020 17:05

Tgt Ion: 57 Resp: 2310342

Ion	Ratio	Lower	Upper
57	100		
56	55.2	44.0	66.0
86	18.6	15.0	22.4

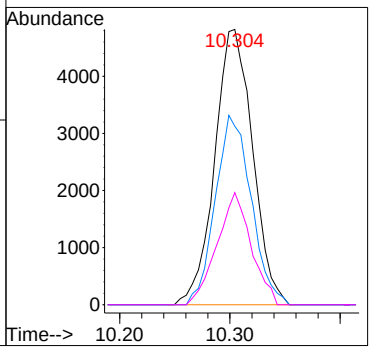


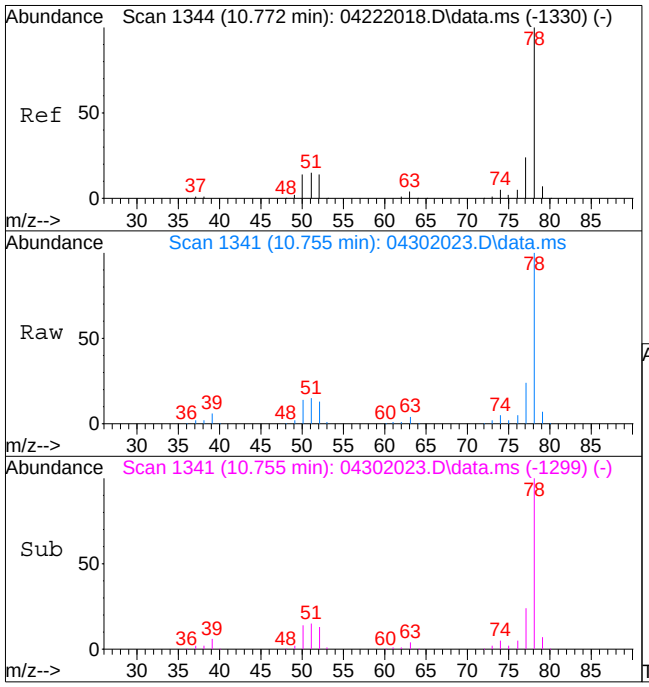


#38
1,1,1-Trichloroethane
Concen: 0.50 ng
RT: 10.30 min Scan# 1259
Delta R.T. -0.006 min
Lab File: 04302023.D
Acq: 30 Apr 2020 17:05

Tgt Ion: 97 Resp: 11534

Ion	Ratio	Lower	Upper
97	100		
99	65.1	44.7	84.7
61	36.6	17.2	57.2

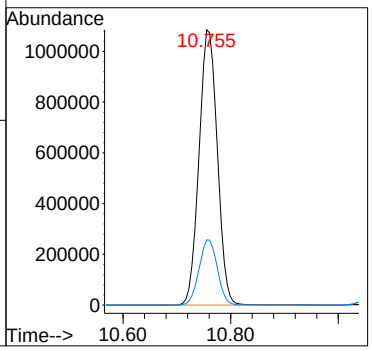


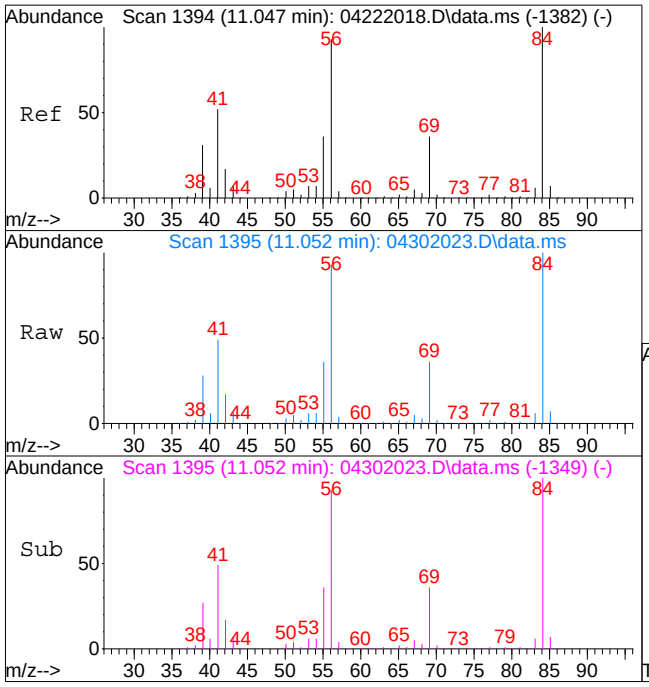


#41
Benzene
Concen: 58.58 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.017 min
Lab File: 04302023.D
Acq: 30 Apr 2020 17:05

Tgt Ion: 78 Resp: 2555980

Ion	Ratio	Lower	Upper
78	100		
77	23.7	3.6	43.6

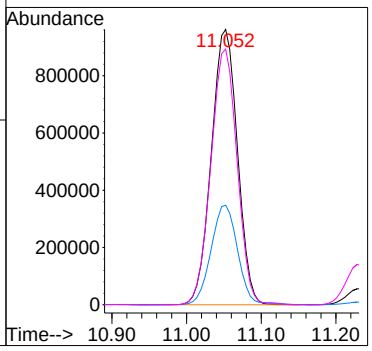


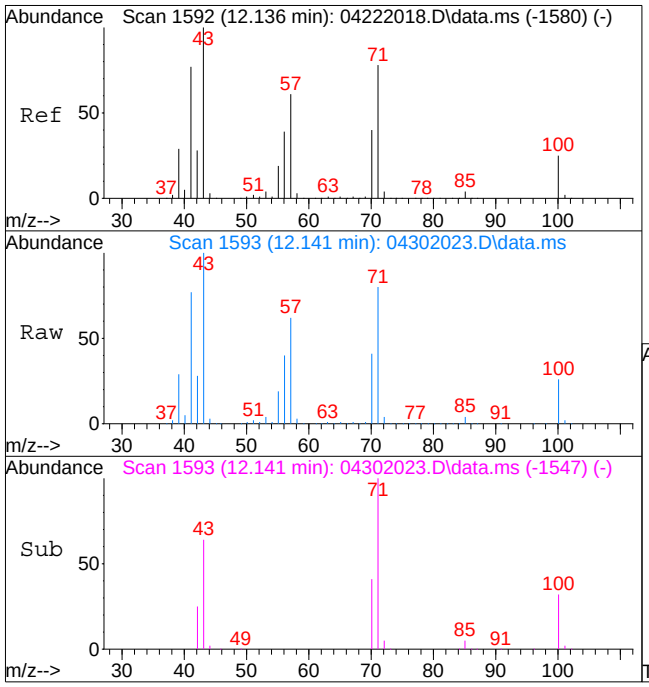


#43
Cyclohexane
Concen: 136.68 ng
RT: 11.05 min Scan# 1395
Delta R.T. 0.005 min
Lab File: 04302023.D
Acq: 30 Apr 2020 17:05

Tgt Ion: 84 Resp: 2336378

Ion	Ratio	Lower	Upper
84	100		
69	37.0	15.8	55.8
56	93.4	72.0	112.0

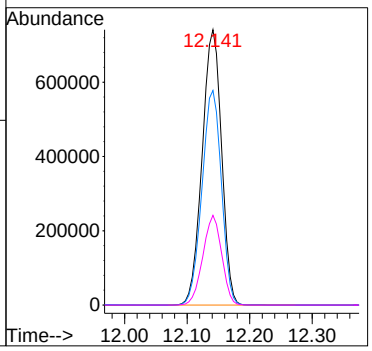


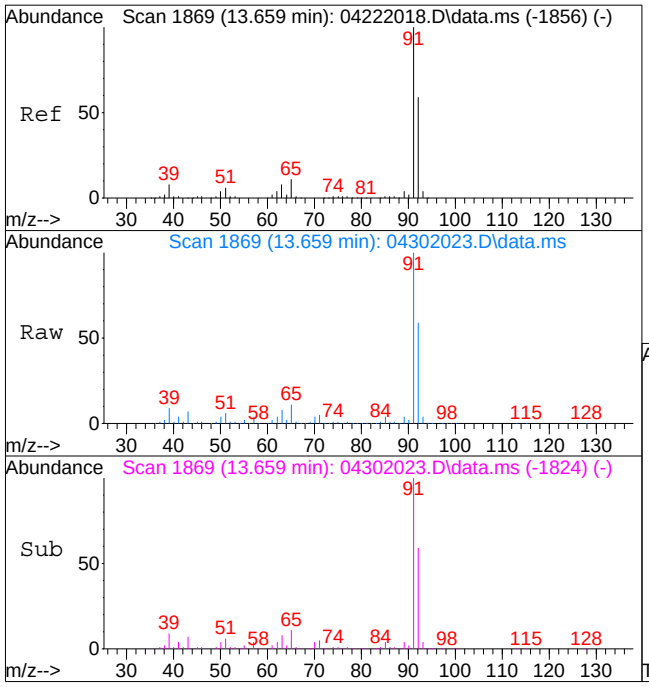


#51
n-Heptane
Concen: 157.67 ng
RT: 12.14 min Scan# 1593
Delta R.T. 0.005 min
Lab File: 04302023.D
Acq: 30 Apr 2020 17:05

Tgt Ion: 71 Resp: 1598412

Ion	Ratio	Lower	Upper
71	100		
57	78.0	57.4	97.4
100	31.7	12.0	52.0

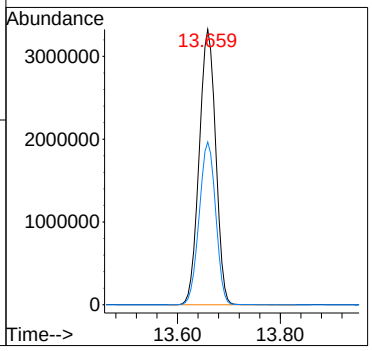


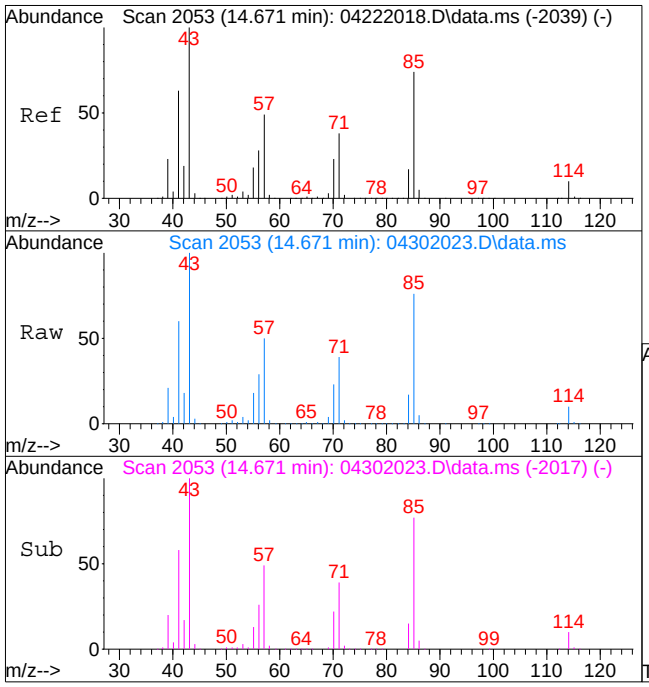


#58
Toluene
Concen: 148.15 ng
RT: 13.66 min Scan# 1869
Delta R.T. -0.000 min
Lab File: 04302023.D
Acq: 30 Apr 2020 17:05

Tgt Ion: 91 Resp: 7395635

Ion	Ratio	Lower	Upper
91	100		
92	59.0	38.2	78.2

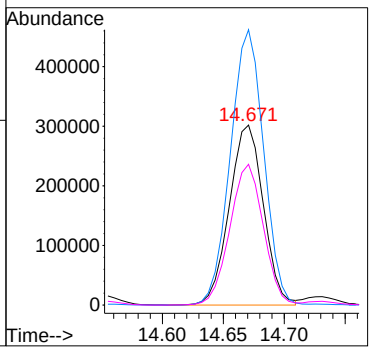


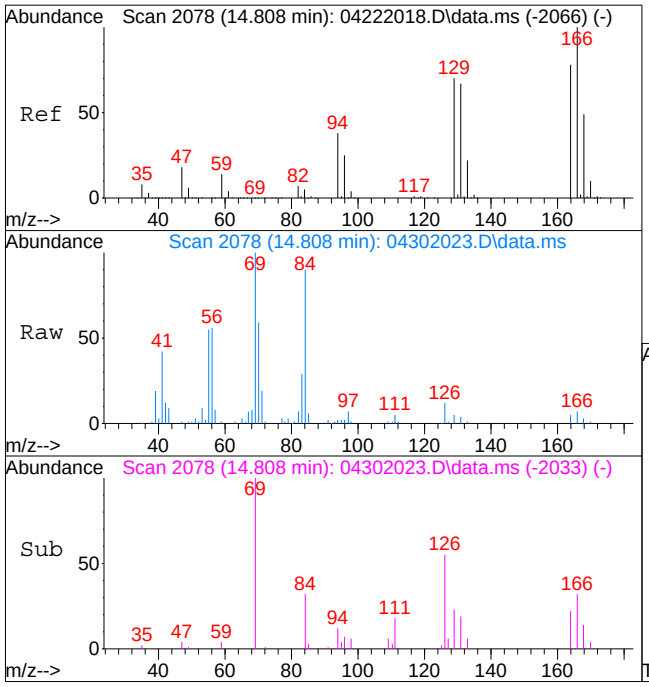


#63
n-Octane
Concen: 73.97 ng
RT: 14.67 min Scan# 2053
Delta R.T. -0.000 min
Lab File: 04302023.D
Acq: 30 Apr 2020 17:05

Tgt Ion: 57 Resp: 587848

Ion	Ratio	Lower	Upper
57	100		
85	149.9	120.7	181.1
71	77.2	61.1	91.7

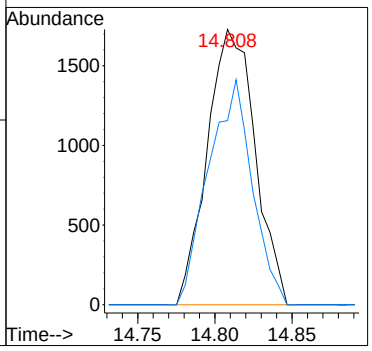


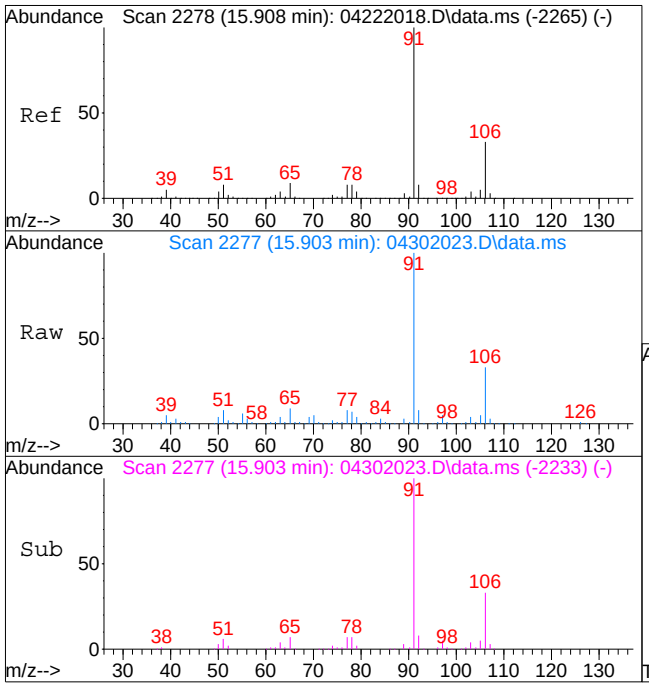


#64
Tetrachloroethene
Concen: 0.20 ng
RT: 14.81 min Scan# 2078
Delta R.T. -0.000 min
Lab File: 04302023.D
Acq: 30 Apr 2020 17:05

Tgt Ion:166 Resp: 3733

Ion	Ratio	Lower	Upper
166	100		
164	74.8	57.7	97.7

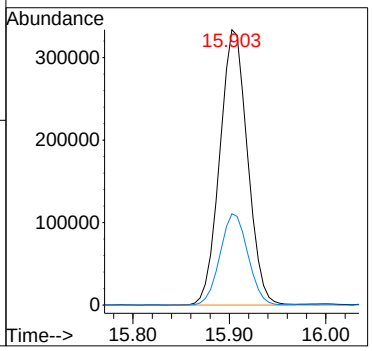


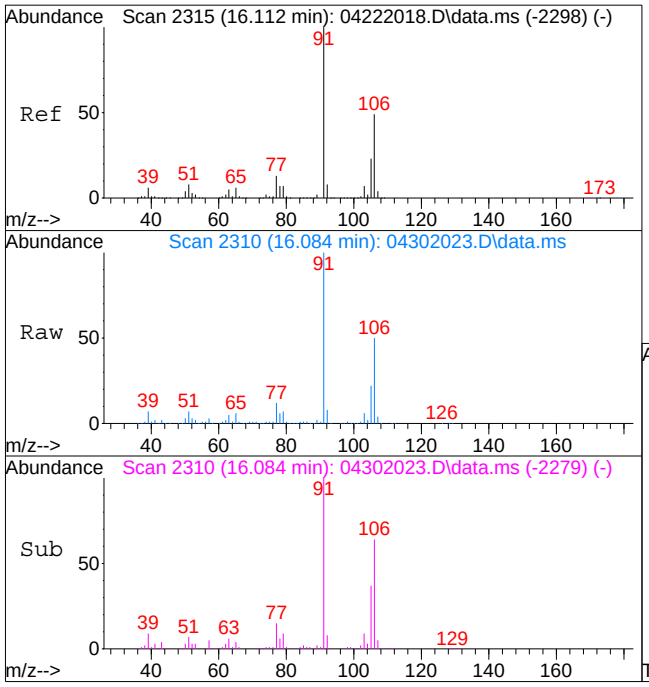


#66
Ethylbenzene
Concen: 11.45 ng
RT: 15.90 min Scan# 2277
Delta R.T. -0.006 min
Lab File: 04302023.D
Acq: 30 Apr 2020 17:05

Tgt Ion: 91 Resp: 665982

Ion	Ratio	Lower	Upper
91	100		
106	33.4	13.4	53.4

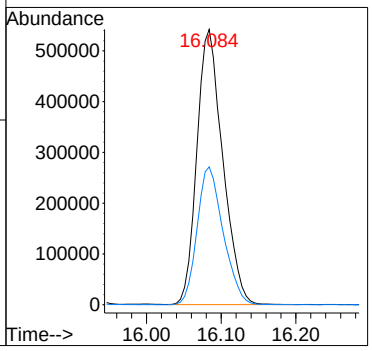


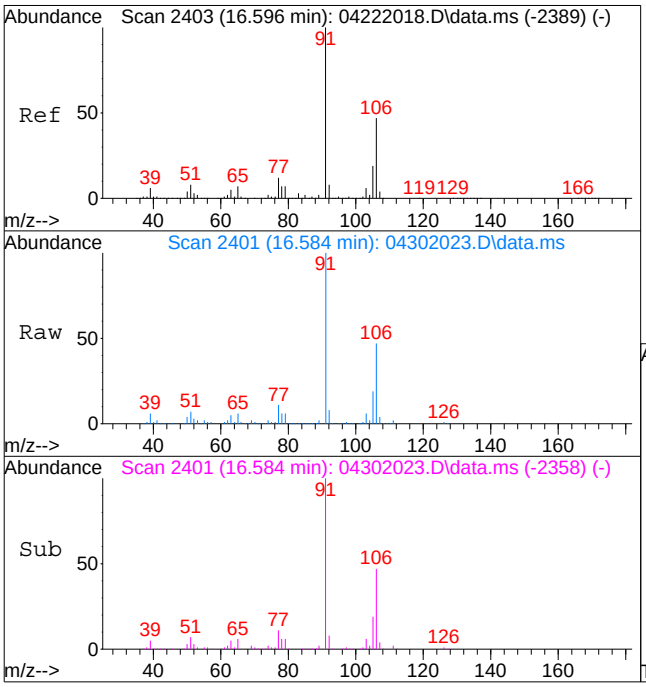


#67
m- & p-Xylenes
Concen: 26.54 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.028 min
Lab File: 04302023.D
Acq: 30 Apr 2020 17:05

Tgt Ion: 91 Resp: 1302621

Ion	Ratio	Lower	Upper
91	100		
106	50.5	28.3	68.3

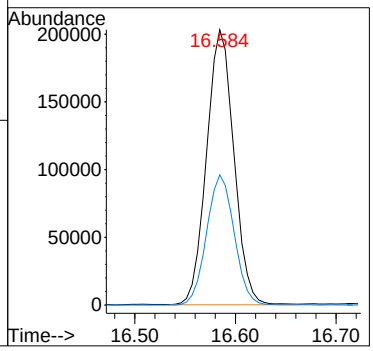


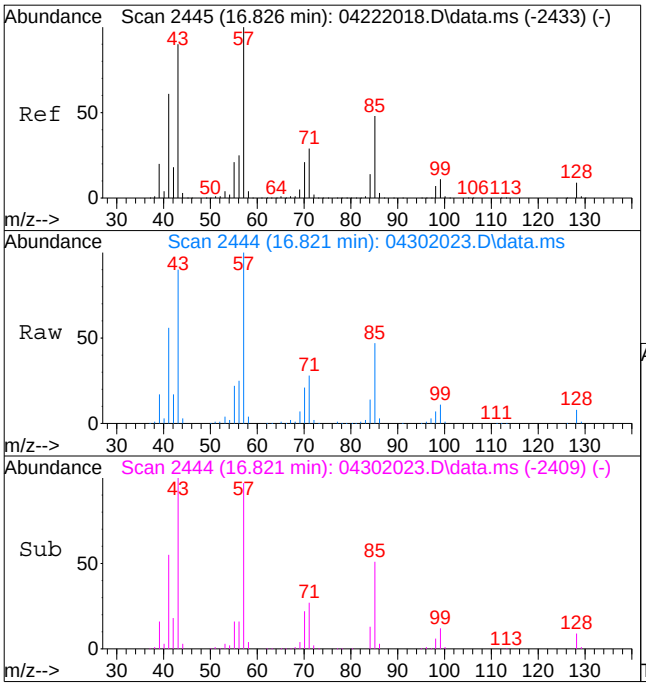


#70
o-Xylene
Concen: 7.95 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 04302023.D
Acq: 30 Apr 2020 17:05

Tgt Ion: 91 Resp: 383170

Ion	Ratio	Lower	Upper
91	100		
106	47.7	27.5	67.5

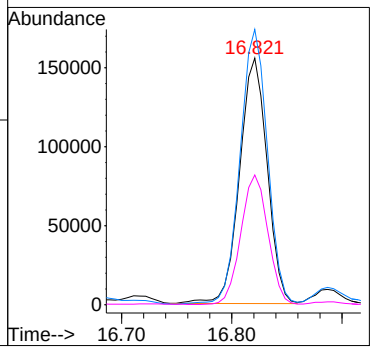


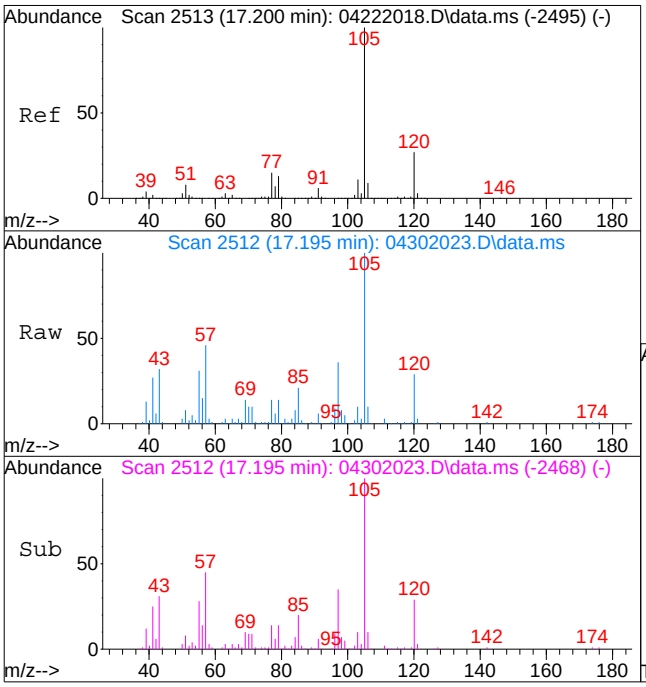


#71
n-Nonane
Concen: 17.37 ng
RT: 16.82 min Scan# 2444
Delta R.T. -0.006 min
Lab File: 04302023.D
Acq: 30 Apr 2020 17:05

Tgt Ion: 43 Resp: 270120

Ion	Ratio	Lower	Upper
43	100		
57	111.0	90.8	130.8
85	51.7	32.1	72.1

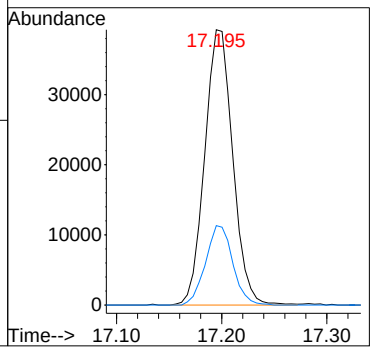


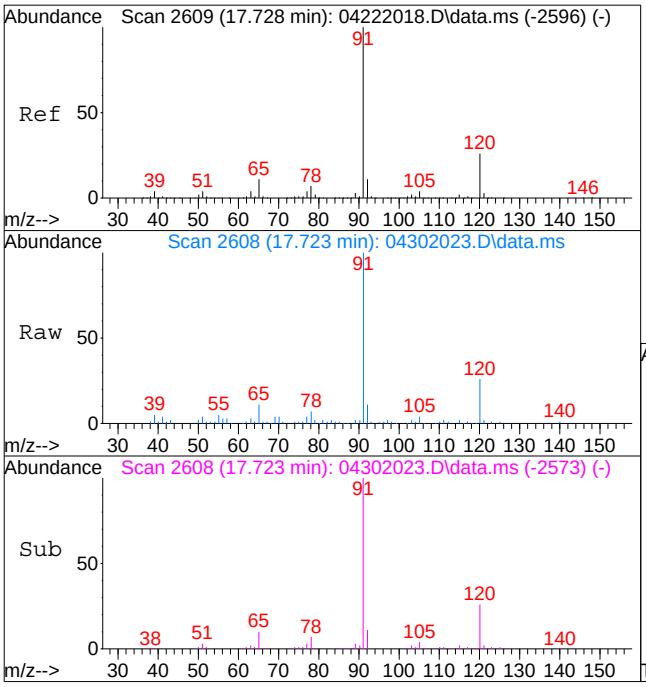


#74
Cumene
Concen: 1.16 ng
RT: 17.19 min Scan# 2512
Delta R.T. -0.006 min
Lab File: 04302023.D
Acq: 30 Apr 2020 17:05

Tgt Ion:105 Resp: 73011

Ion	Ratio	Lower	Upper
105	100		
120	27.9	7.3	47.3

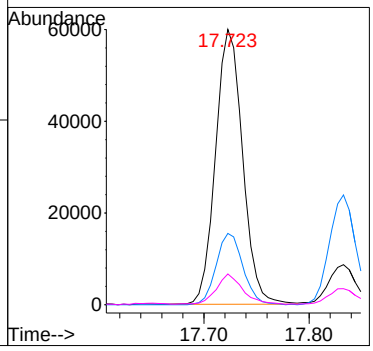


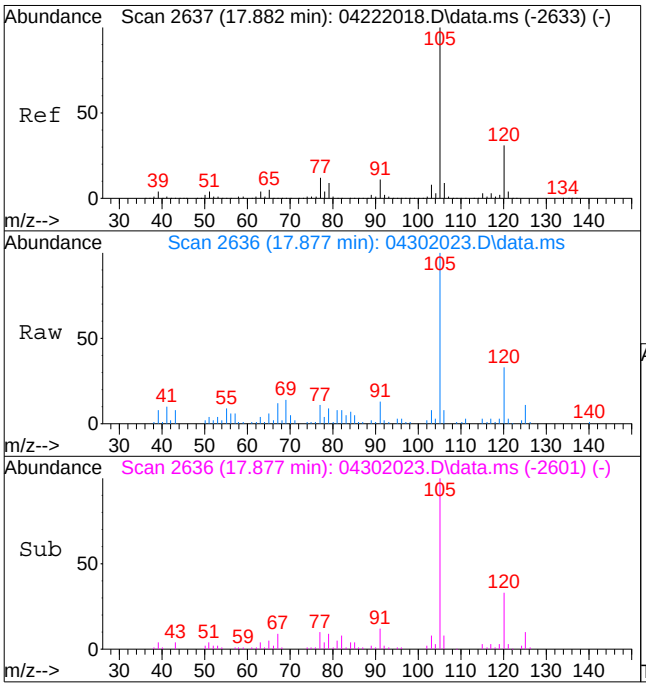


#76
n-Propylbenzene
Concen: 1.57 ng
RT: 17.72 min Scan# 2608
Delta R.T. -0.006 min
Lab File: 04302023.D
Acq: 30 Apr 2020 17:05

Tgt Ion: 91 Resp: 107273

Ion	Ratio	Lower	Upper
91	100		
120	25.7	6.1	46.1
65	10.7	0.0	30.7

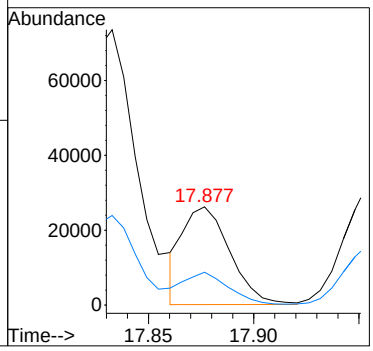


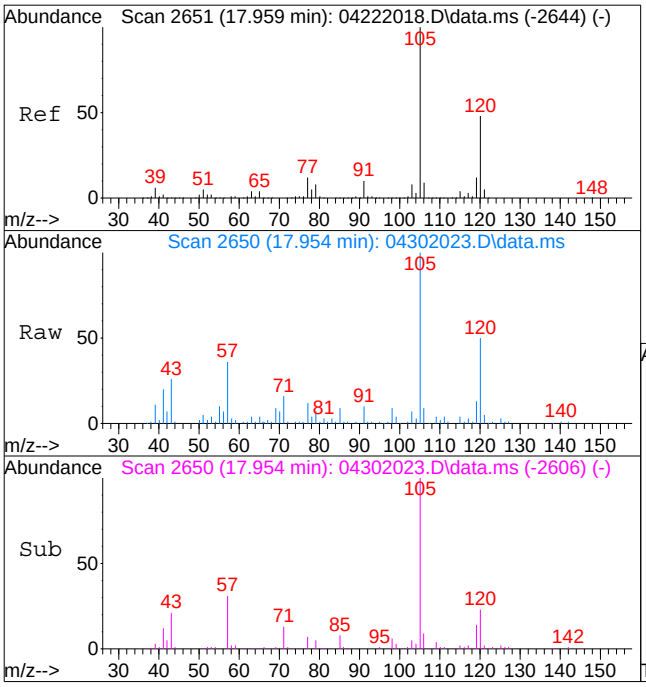


#78
4-Ethyltoluene
Concen: 0.69 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 04302023.D
Acq: 30 Apr 2020 17:05

Tgt Ion:105 Resp: 40969

Ion	Ratio	Lower	Upper
105	100		
120	31.7	11.4	51.4

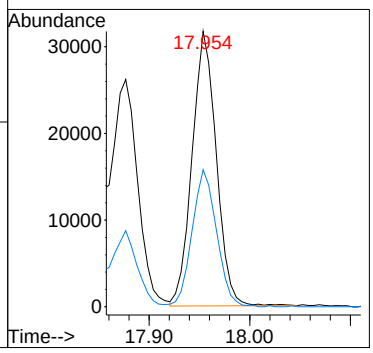


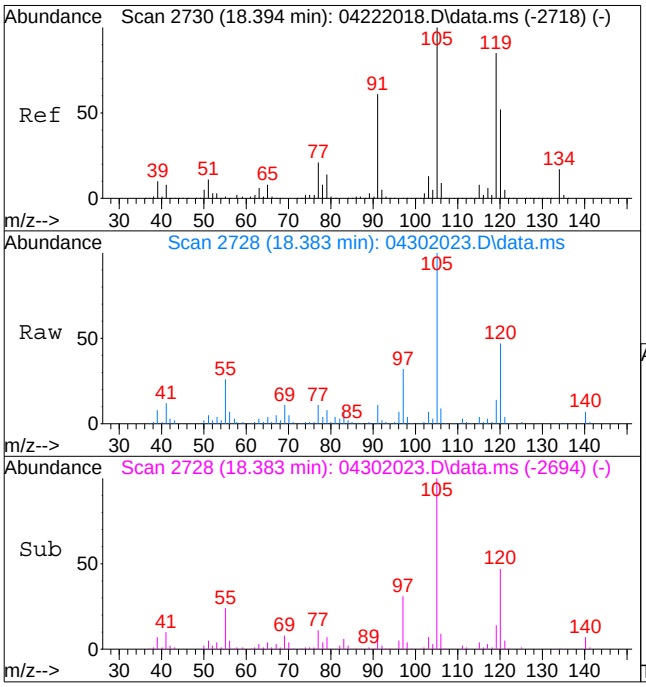


#79
1,3,5-Trimethylbenzene
Concen: 0.96 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 04302023.D
Acq: 30 Apr 2020 17:05

Tgt Ion:105 Resp: 53022

Ion	Ratio	Lower	Upper
105	100		
120	50.7	29.5	69.5

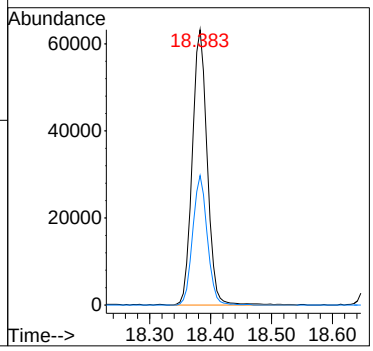




#82
1,2,4-Trimethylbenzene
Concen: 2.02 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 04302023.D
Acq: 30 Apr 2020 17:05

Tgt Ion:105 Resp: 107953

Ion	Ratio	Lower	Upper
105	100		
120	46.0	34.5	74.5



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302022.D Vial: 1
Acq On : 30 Apr 2020 16:26 Operator: SC
Sample : P2002029-019 Dil(0.025mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 17:21:41 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/30/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	158246	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	669502	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	290767	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	238609	11.638	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.12%			
57) Toluene-d8 (SS2)	13.55	98	733591	13.067	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.56%			
73) Bromofluorobenzene (SS3)	17.05	174	279909	12.405	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.28%			
Target Compounds						Qvalue
2) Propene	3.90	42	1164	0.173	ng	# 76
3) Dichlorodifluoromethan...	3.99	85	104	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.43	45	41	N.D.		
11) Acetonitrile	0.00	41	0	N.D.		
12) Acrolein	0.00	56	0	N.D.	d	
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	6.02	101	170	N.D.		
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.	d	
17) 1,1-Dichloroethene	6.73	96	1079	0.097	ng	91
18) 2-Methyl-2-Propanol (t...	6.92	59	33	N.D.		
19) Methylene Chloride	6.87	84	3091	0.288	ng	90
20) 3-Chloro-1-propene (Al...	6.93	41	376	N.D.		
21) Trichlorotrifluoroethane	7.18	151	10022	0.758	ng	98
22) Carbon Disulfide	0.00	76	0	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	8.09	63	150	N.D.		
25) Methyl tert-Butyl Ether	8.30	73	229	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	0.00	72	0	N.D.	d	
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	0.00	61	0	N.D.	d	
31) n-Hexane	9.23	57	374683	27.627	ng	99
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d	
38) 1,1,1-Trichloroethane	10.29	97	11664	0.507	ng	98
39) Isopropyl Acetate	0.00	61	0	N.D.	d	
40) 1-Butanol	10.90	56	285	N.D.		
41) Benzene	10.75	78	360583	8.262	ng	100
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	11.04	84	348797	20.400	ng	98
44) tert-Amyl Methyl Ether	11.46	73	109	N.D.		
45) 1,2-Dichloropropane	11.57	63	171	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	11.81	130	581	N.D.		
48) 1,4-Dioxane	11.81	88	3651	0.416	ng	82
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302022.D Vial: 1
Acq On : 30 Apr 2020 16:26 Operator: SC
Sample : P2002029-019 Dil(0.025mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 17:21:41 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

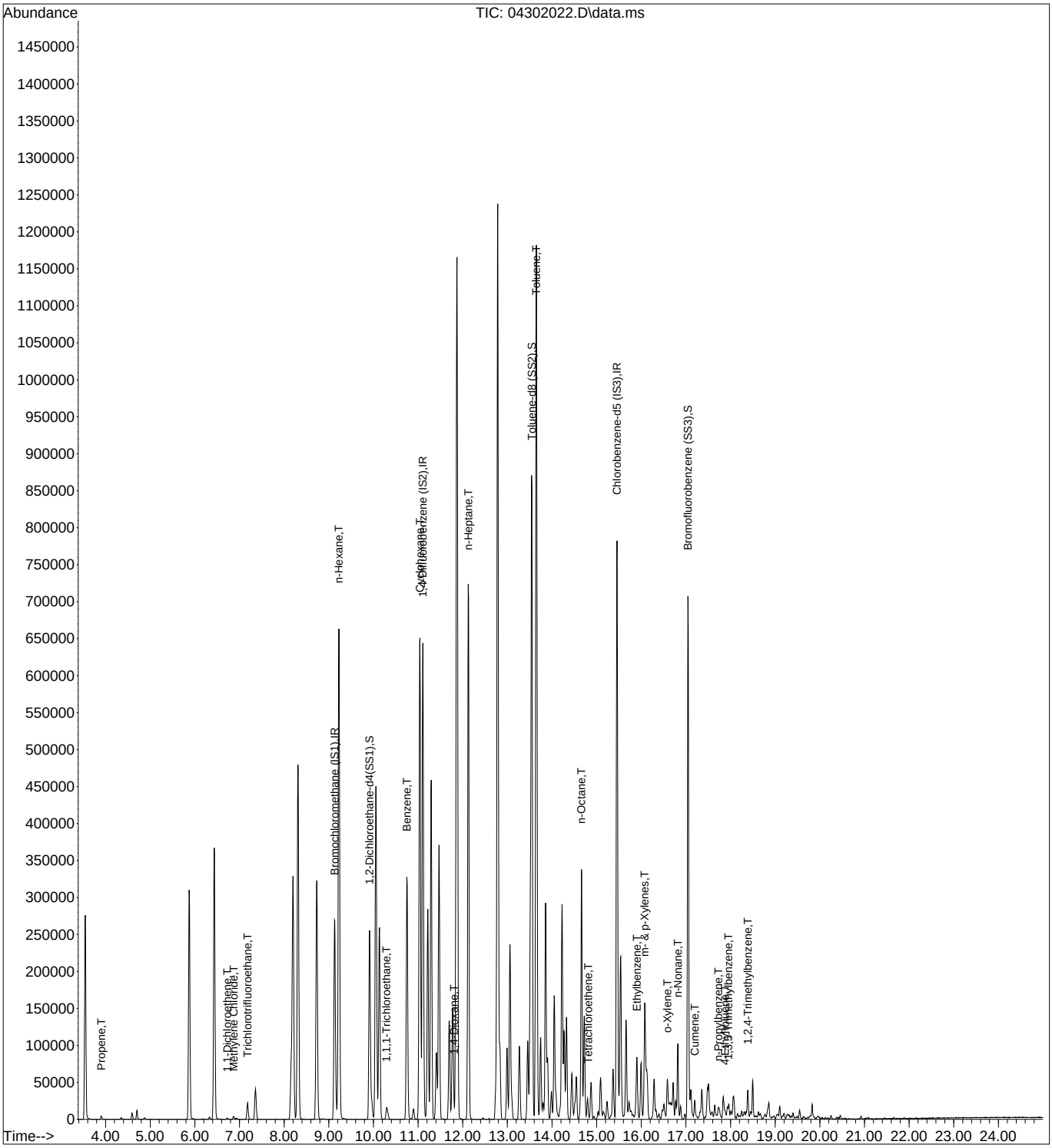
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.13	71	222344	21.927 ng	99
52) cis-1,3-Dichloropropene	12.78	75	351	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	13.65	91	950036	20.155 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	14.34	107	620	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.66	57	65851	8.776 ng	100
64) Tetrachloroethene	14.81	166	3655	0.206 ng	100
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.90	91	65366	1.190 ng	99
67) m- & p-Xylenes	16.08	91	132945	2.869 ng	98
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.58	104	885	N.D.	
70) o-Xylene	16.58	91	39286	0.863 ng	99
71) n-Nonane	16.82	43	31918	2.174 ng	99
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	17.20	105	7911	0.133 ng	95
75) alpha-Pinene	17.60	93	231	N.D.	
76) n-Propylbenzene	17.73	91	12172	0.188 ng	98
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	4508	0.080 ng	96
79) 1,3,5-Trimethylbenzene	17.95	105	7521	0.144 ng	97
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.39	105	15242	0.302 ng	86
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.63	91	1305	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	18.84	119	2237	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	18.98	146	407	N.D.	
91) d-Limonene	19.06	68	134	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	0.00	128	0	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	18.38	119	2204	N.D.	
100) n-Butylbenzene	19.28	91	2119	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302022.D Vial: 1
Acq On : 30 Apr 2020 16:26 Operator: SC
Sample : P2002029-019 Dil(0.025mL) Inst : MS09
Misc : S34-04212006

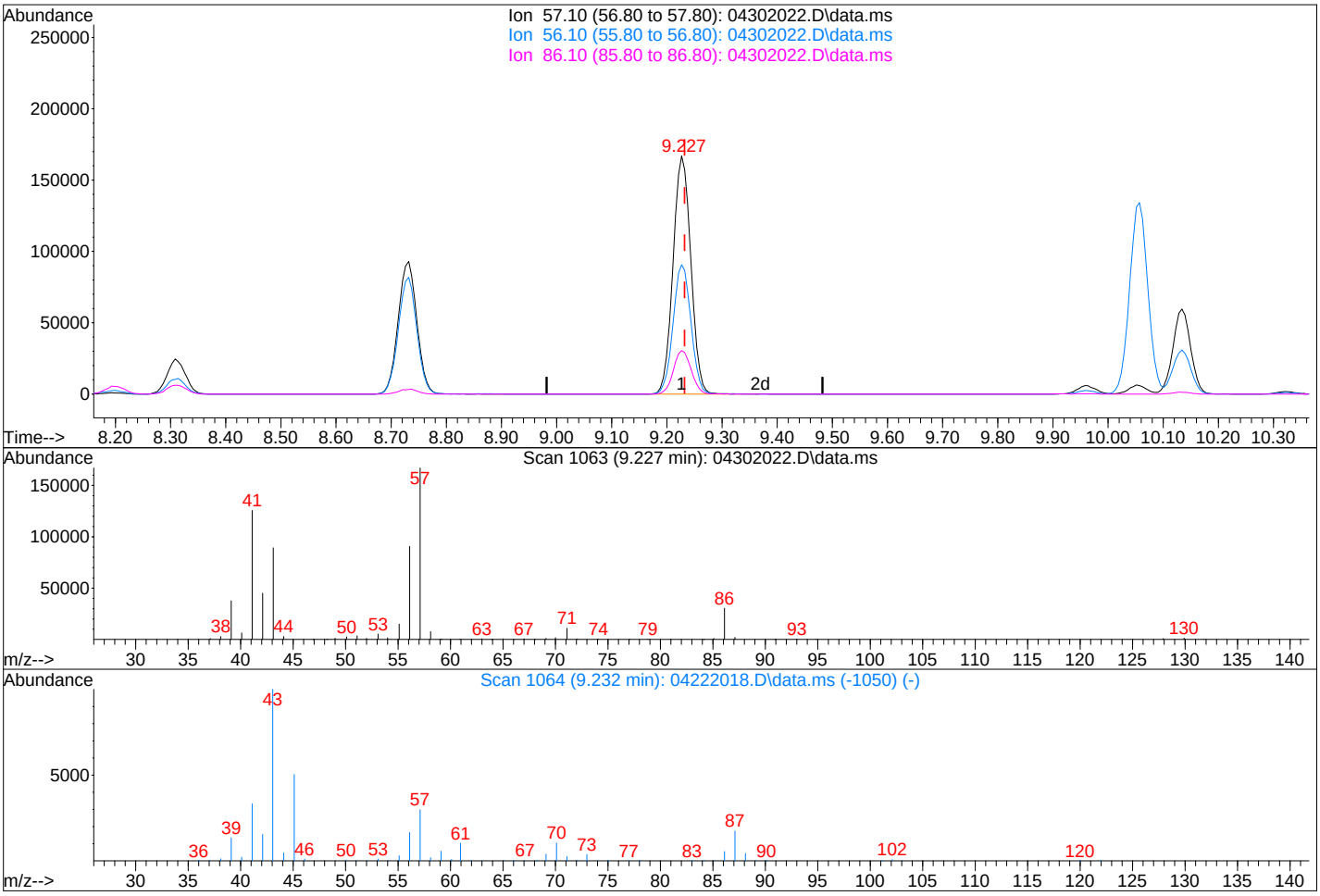
Quant Time: Apr 30 17:21:41 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\30\04302022.D Vial: 1
Acq On : 30 Apr 2020 16:26 Operator: SC
Sample : P2002029-019 Dil(0.025mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 17:18:51 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04302022.D\data.ms

(31) n-Hexane (T)

9.227min (-0.006) 27.63ng

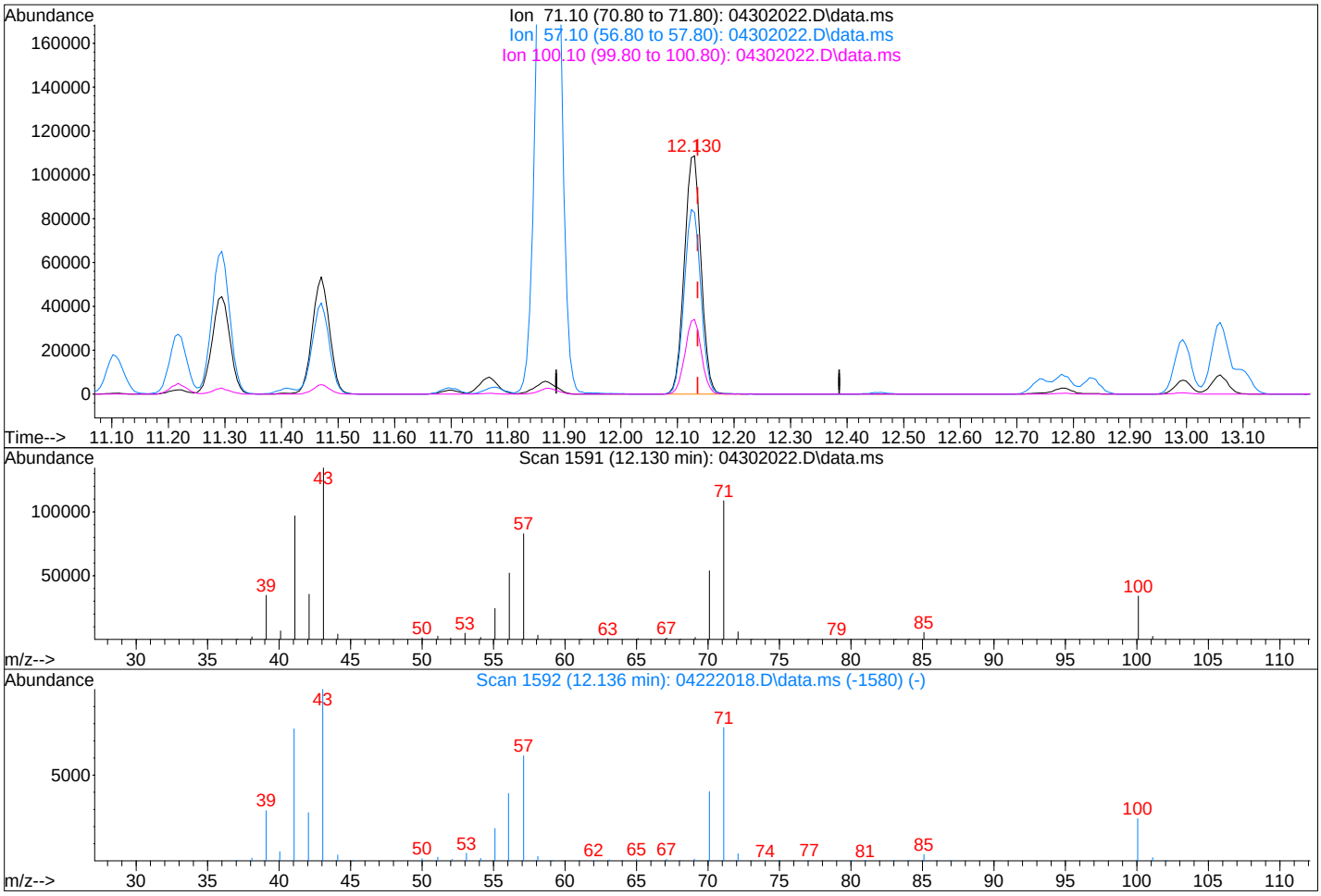
response 374683

Ion	Exp%	Act%
57.10	100	100
56.10	55.00	54.42
86.10	18.70	18.22
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\30\04302022.D Vial: 1
Acq On : 30 Apr 2020 16:26 Operator: SC
Sample : P2002029-019 Dil(0.025mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 17:21:41 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04302022.D\data.ms

(51) n-Heptane (T)

12.130min (-0.006) 21.93ng

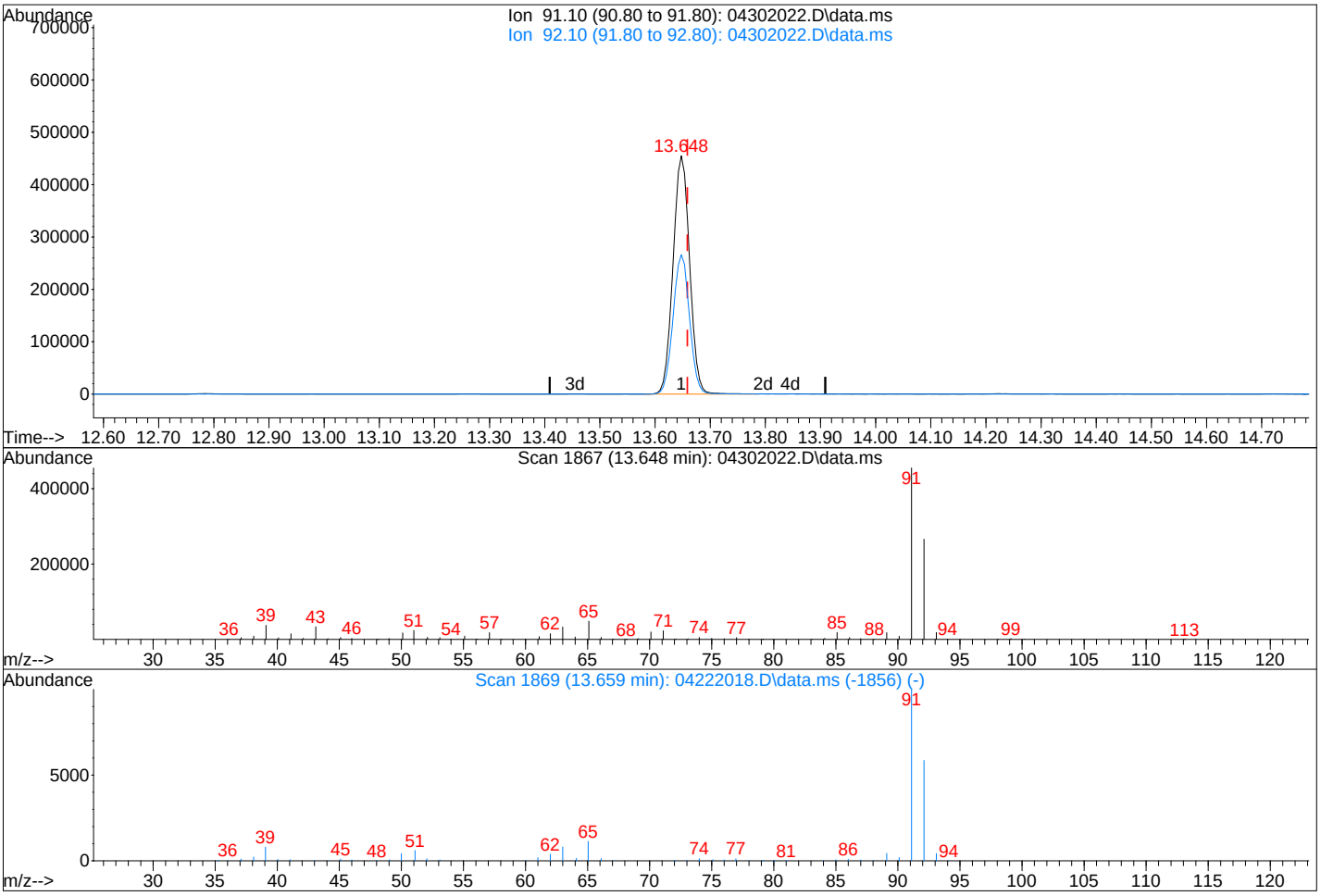
response 222344

Ion	Exp%	Act%
71.10	100	100
57.10	77.40	77.67
100.10	32.00	30.81
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\30\04302022.D Vial: 1
Acq On : 30 Apr 2020 16:26 Operator: SC
Sample : P2002029-019 Dil(0.025mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 17:18:51 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04302022.D\data.ms

(58) Toluene (T)

13.648min (-0.011) 20.16ng

response 950036

Ion	Exp%	Act%
91.10	100	100
92.10	58.20	58.09
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302027.D Vial: 4
Acq On : 30 Apr 2020 19:24 Operator: SC
Sample : P2002029-020 (400mL) Inst : MS09
Misc : S34-04212006

4/30/20

Quant Time: Apr 30 19:55:17 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	149911	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.10	114	629905	12.500	ng	-0.03
56) Chlorobenzene-d5 (IS3)	15.46	82	279074	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	223219	11.493	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.92%			
57) Toluene-d8 (SS2)	13.54	98	690663	12.817	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.56%			
73) Bromofluorobenzene (SS3)	17.05	174	268161	12.383	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.04%			
Target Compounds						Qvalue
2) Propene	3.91	42	516	0.081	ng	95
3) Dichlorodifluoromethan...	4.00	85	402	N.D.		
4) Chloromethane	4.21	50	332	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	4.95	94	227	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.45	45	133	N.D.		
11) Acetonitrile	5.59	41	182	N.D.		
12) Acrolein	0.00	56	0	N.D.	d	
13) Acetone	5.87	58	5302	0.916	ng	89
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	6.21	45	208	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	6.87	84	106	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	7.16	76	516	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	8.57	72	253	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	0.00	57	0	N.D.	d	
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	10.75	78	4233	0.103	ng	99
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	11.04	84	542	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	11.86	57	1158	N.D.		
50) Methyl Methacrylate	12.13	100	113	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302027.D Vial: 4
Acq On : 30 Apr 2020 19:24 Operator: SC
Sample : P2002029-020 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 19:55:17 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

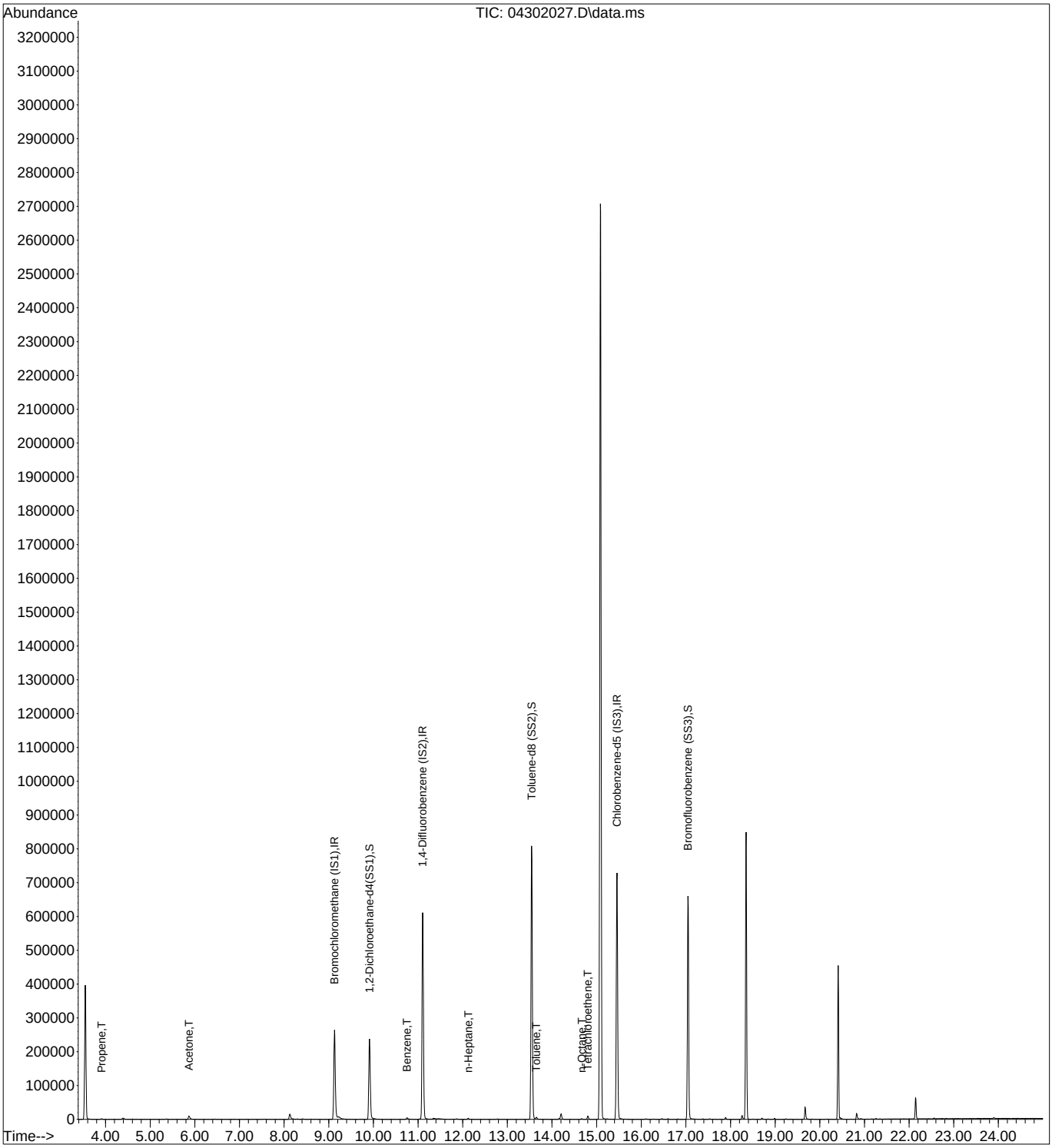
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	12.12	71	963	0.101 ng	#	81
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	13.65	91	5692	0.126 ng		100
59) 2-Hexanone	13.86	43	239	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D. d		
63) n-Octane	14.67	57	573	0.080 ng	#	77
64) Tetrachloroethene	14.80	166	3860	0.227 ng		93
65) Chlorobenzene	15.50	112	146	N.D.		
66) Ethylbenzene	15.92	91	667	N.D.		
67) m- & p-Xylenes	16.10	91	2101	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	16.59	91	926	N.D.		
71) n-Nonane	16.82	43	603	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	17.20	105	260	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	17.72	91	491	N.D.		
77) 3-Ethyltoluene	17.84	105	444	N.D.		
78) 4-Ethyltoluene	17.89	105	462	N.D.		
79) 1,3,5-Trimethylbenzene	17.97	105	274	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	18.16	105	350	N.D.		
82) 1,2,4-Trimethylbenzene	18.39	105	675	N.D.		
83) n-Decane	18.50	57	441	N.D.		
84) Benzyl Chloride	18.38	91	159	N.D.		
85) 1,3-Dichlorobenzene	18.63	146	199	N.D.		
86) 1,4-Dichlorobenzene	18.63	146	199	N.D.		
87) sec-Butylbenzene	18.66	105	171	N.D.		
88) 4-Isopropyltoluene (p-...	18.84	119	819	N.D.		
89) 1,2,3-Trimethylbenzene	18.84	105	328	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	18.99	68	424	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	19.82	57	364	N.D.		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	20.92	128	725	N.D.		
96) n-Dodecane	20.92	57	766	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	16.27	55	544	N.D.		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	19.26	91	133	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302027.D Vial: 4
Acq On : 30 Apr 2020 19:24 Operator: SC
Sample : P2002029-020 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 19:55:17 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302027.D Vial: 4
Acq On : 30 Apr 2020 19:24 Operator: SC
Sample : P2002029-020 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 19:55:17 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/30/20

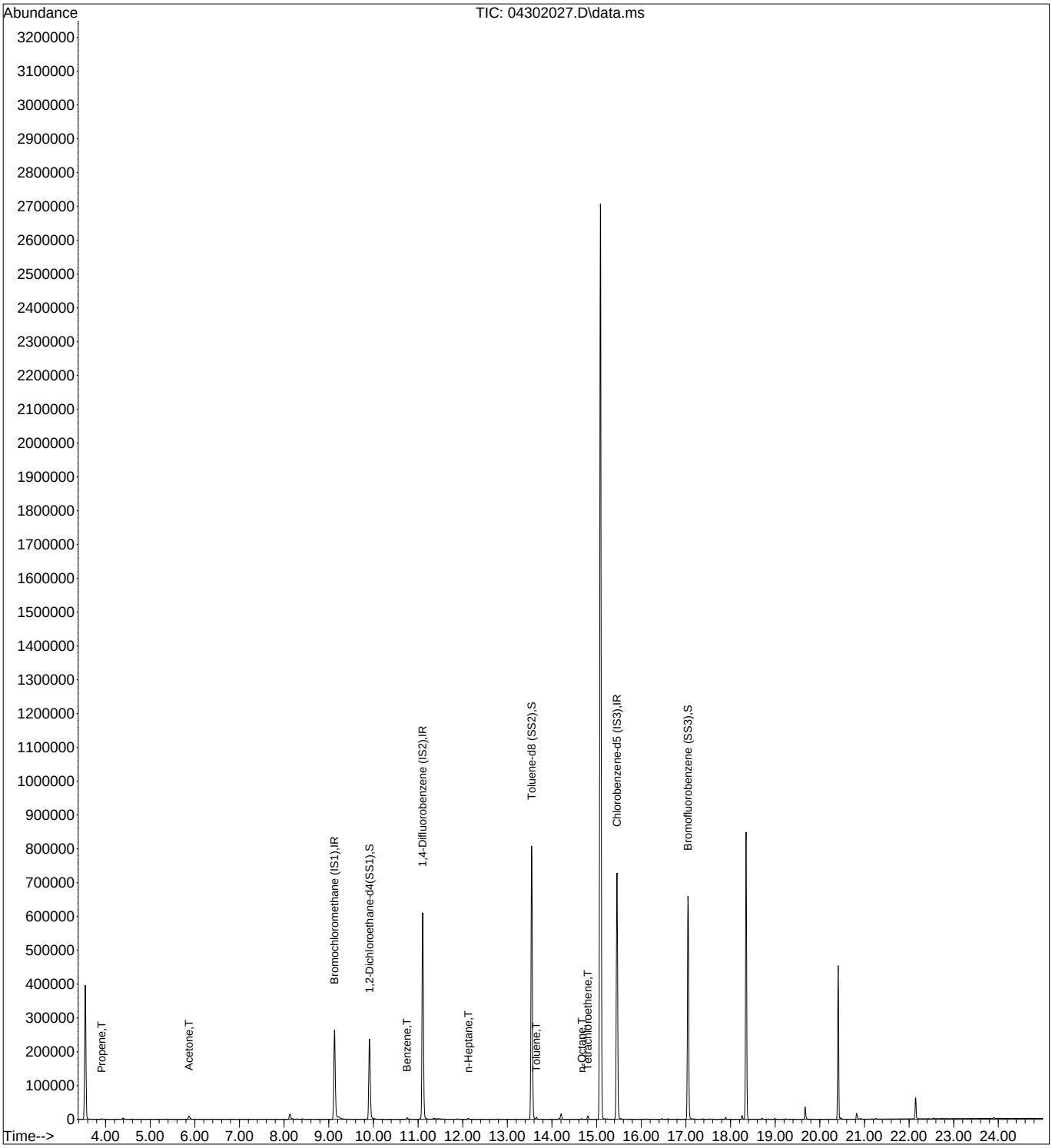
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	149911	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.10	114	629905	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	15.46	82	279074	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	223219	11.493	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.92%				
57) Toluene-d8 (SS2)	13.54	98	690663	12.817	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.56%				
73) Bromofluorobenzene (SS3)	17.05	174	268161	12.383	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.04%				
Target Compounds							Qvalue
2) Propene	3.91	42	516	0.081	ng		95
13) Acetone	5.87	58	5302	0.916	ng		89
41) Benzene	10.75	78	4233	0.103	ng		99
51) n-Heptane	12.12	71	963	0.101	ng	#	81
58) Toluene	13.65	91	5692	0.126	ng		100
63) n-Octane	14.67	57	573	0.080	ng	#	77
64) Tetrachloroethene	14.80	166	3860	0.227	ng		93

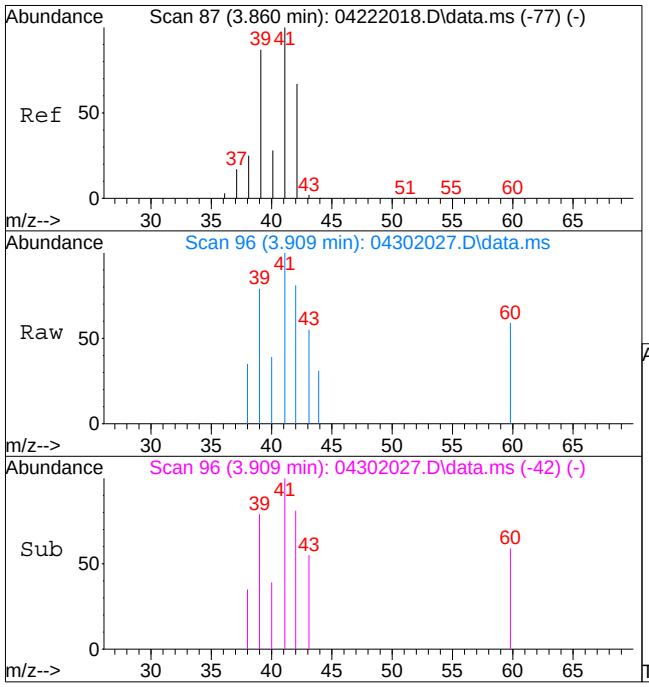
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302027.D Vial: 4
Acq On : 30 Apr 2020 19:24 Operator: SC
Sample : P2002029-020 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 19:55:17 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

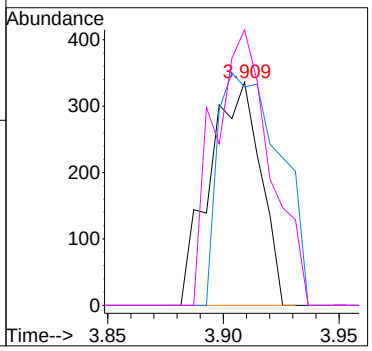


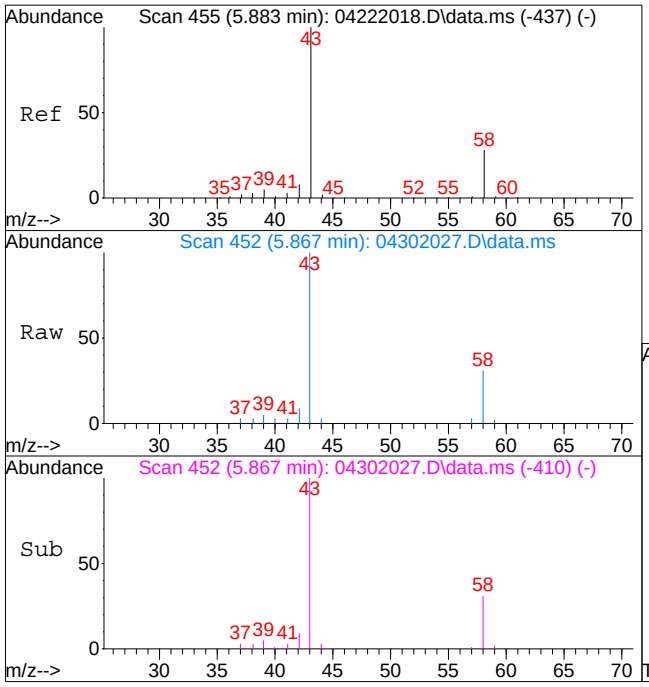


#2
Propene
Concen: 0.08 ng
RT: 3.91 min Scan# 96
Delta R.T. 0.049 min
Lab File: 04302027.D
Acq: 30 Apr 2020 19:24

Tgt Ion: 42 Resp: 516

Ion	Ratio	Lower	Upper
42	100		
39	126.2	106.4	146.4
41	136.2	128.8	168.8

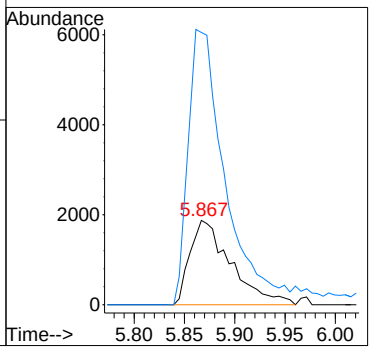


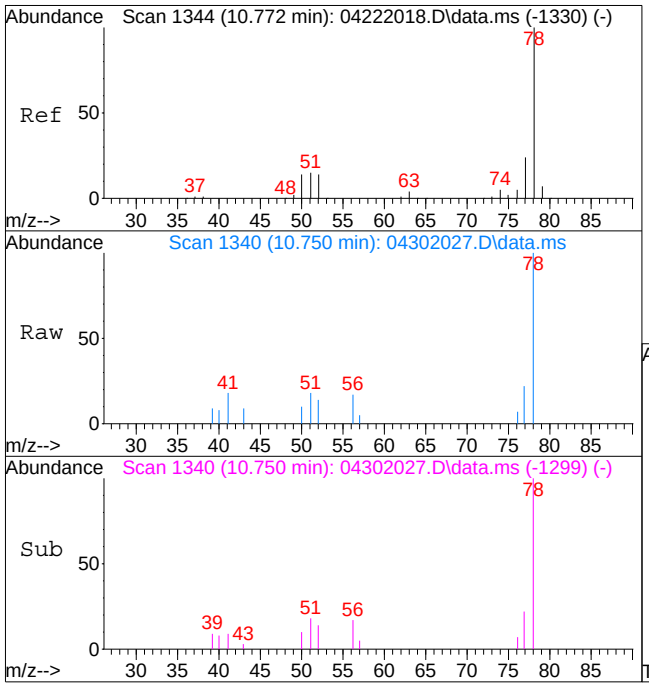


#13
Acetone
Concen: 0.92 ng
RT: 5.87 min Scan# 452
Delta R.T. -0.017 min
Lab File: 04302027.D
Acq: 30 Apr 2020 19:24

Tgt Ion: 58 Resp: 5302

Ion	Ratio	Lower	Upper
58	100		
43	324.6	319.3	379.3

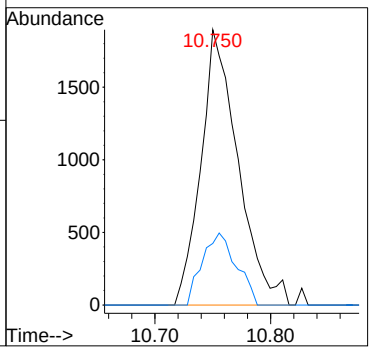


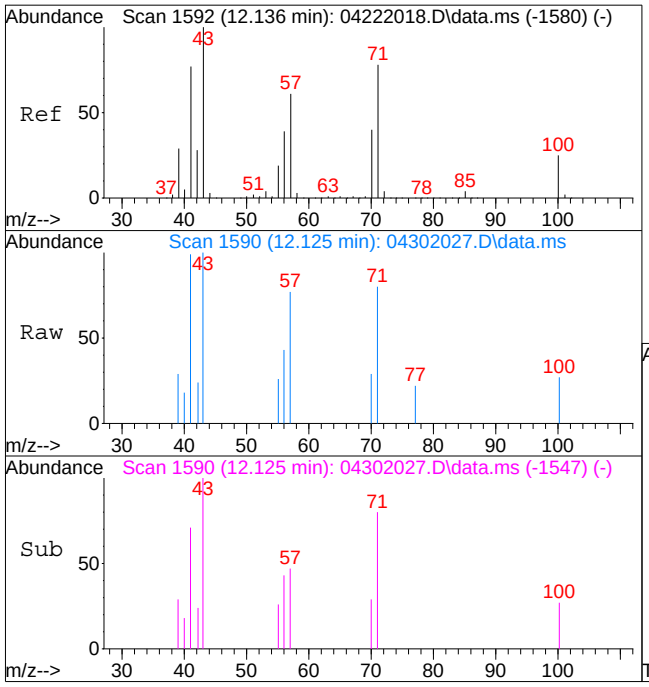


#41
Benzene
Concen: 0.10 ng
RT: 10.75 min Scan# 1340
Delta R.T. -0.022 min
Lab File: 04302027.D
Acq: 30 Apr 2020 19:24

Tgt Ion: 78 Resp: 4233

Ion	Ratio	Lower	Upper
78	100		
77	24.0	3.6	43.6

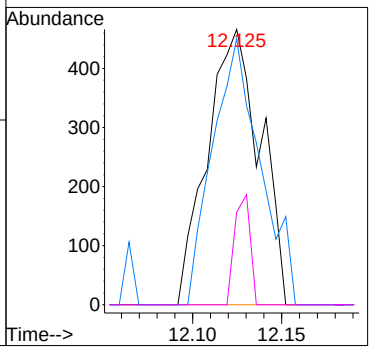


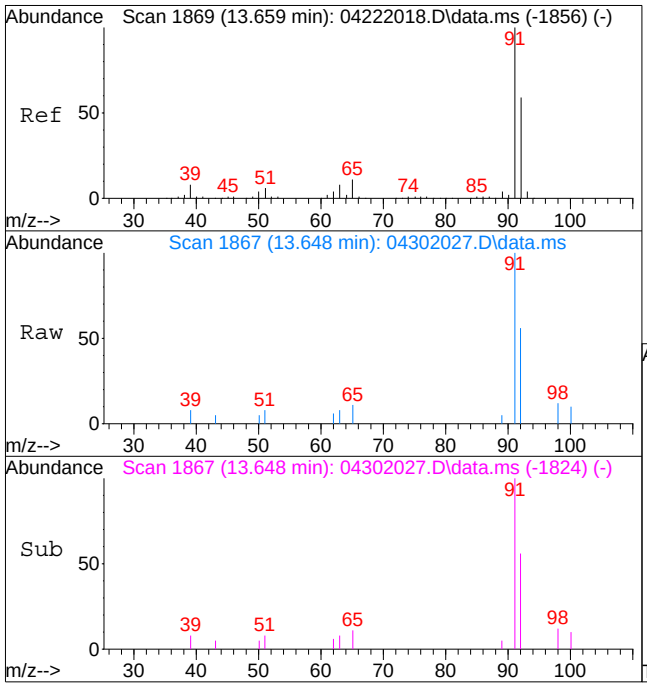


#51
n-Heptane
Concen: 0.10 ng
RT: 12.12 min Scan# 1590
Delta R.T. -0.011 min
Lab File: 04302027.D
Acq: 30 Apr 2020 19:24

Tgt Ion: 71 Resp: 963

Ion	Ratio	Lower	Upper
71	100		
57	87.2	57.4	97.4
100	11.7	12.0	52.0#

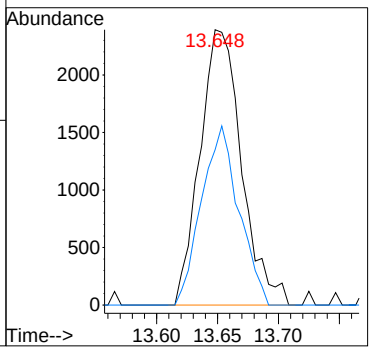


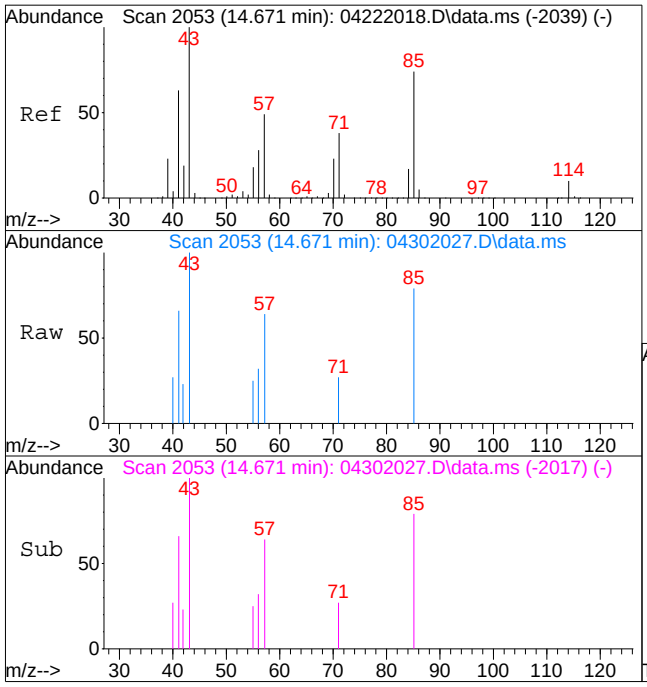


#58
Toluene
Concen: 0.13 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.011 min
Lab File: 04302027.D
Acq: 30 Apr 2020 19:24

Tgt Ion: 91 Resp: 5692

Ion	Ratio	Lower	Upper
91	100		
92	58.4	38.2	78.2

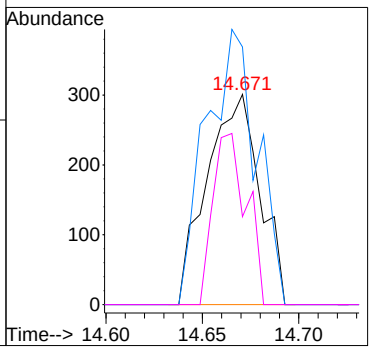


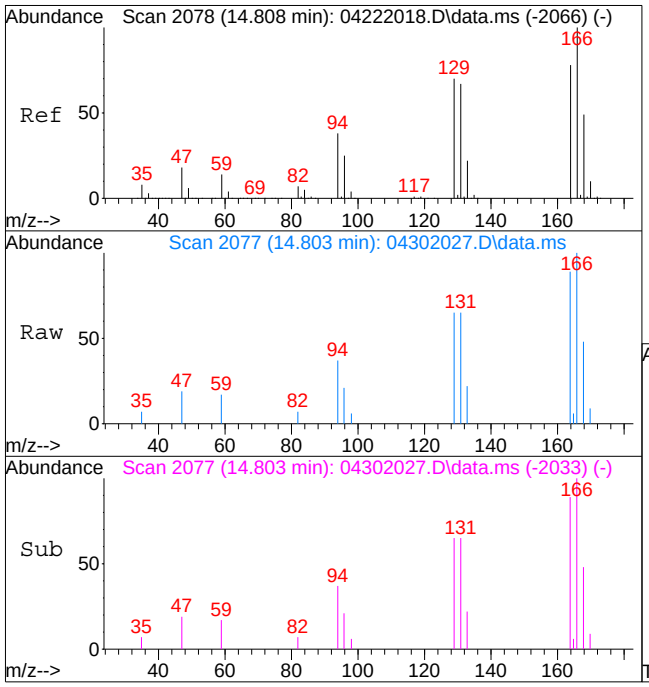


#63
n-Octane
Concen: 0.08 ng
RT: 14.67 min Scan# 2053
Delta R.T. -0.000 min
Lab File: 04302027.D
Acq: 30 Apr 2020 19:24

Tgt Ion: 57 Resp: 573

Ion	Ratio	Lower	Upper
57	100		
85	126.0	120.7	181.1
71	51.8	61.1	91.7#

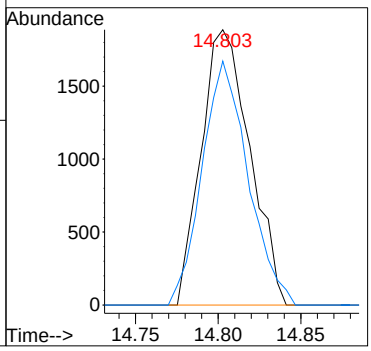




#64
Tetrachloroethene
Concen: 0.23 ng
RT: 14.80 min Scan# 2077
Delta R.T. -0.006 min
Lab File: 04302027.D
Acq: 30 Apr 2020 19:24

Tgt Ion:166 Resp: 3860

Ion	Ratio	Lower	Upper
166	100		
164	83.8	57.7	97.7



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292005.D Vial: 2
Acq On : 29 Apr 2020 7:37 Operator: SC
Sample : MB R9042920_1000mL Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 12:53:18 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/29/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	147560	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.10	114	622939	12.500	ng	-0.03
56) Chlorobenzene-d5 (IS3)	15.46	82	273854	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	219962	11.505	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.08%			
57) Toluene-d8 (SS2)	13.54	98	677400	12.811	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.48%			
73) Bromofluorobenzene (SS3)	17.05	174	262003	12.329	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.64%			
Target Compounds						Qvalue
2) Propene	0.00	42	0	N.D. d		
3) Dichlorodifluoromethan...	0.00	85	0	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.45	45	202	N.D.		
11) Acetonitrile	0.00	41	0	N.D. d		
12) Acrolein	0.00	56	0	N.D. d		
13) Acetone	5.87	58	2981m	0.523	ng	
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	6.26	45	274	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	0.00	84	0	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	7.19	151	115	N.D.		
22) Carbon Disulfide	0.00	76	0	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D. d		
27) 2-Butanone (MEK)	8.57	72	557	0.095	ng	# 1
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	9.22	57	119	N.D.		
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	10.81	56	110	N.D.		
41) Benzene	10.76	78	215	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	11.03	84	965	0.061	ng	84
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	11.87	57	4467	0.132	ng	96
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292005.D Vial: 2
Acq On : 29 Apr 2020 7:37 Operator: SC
Sample : MB R9042920_1000mL Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 12:53:18 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

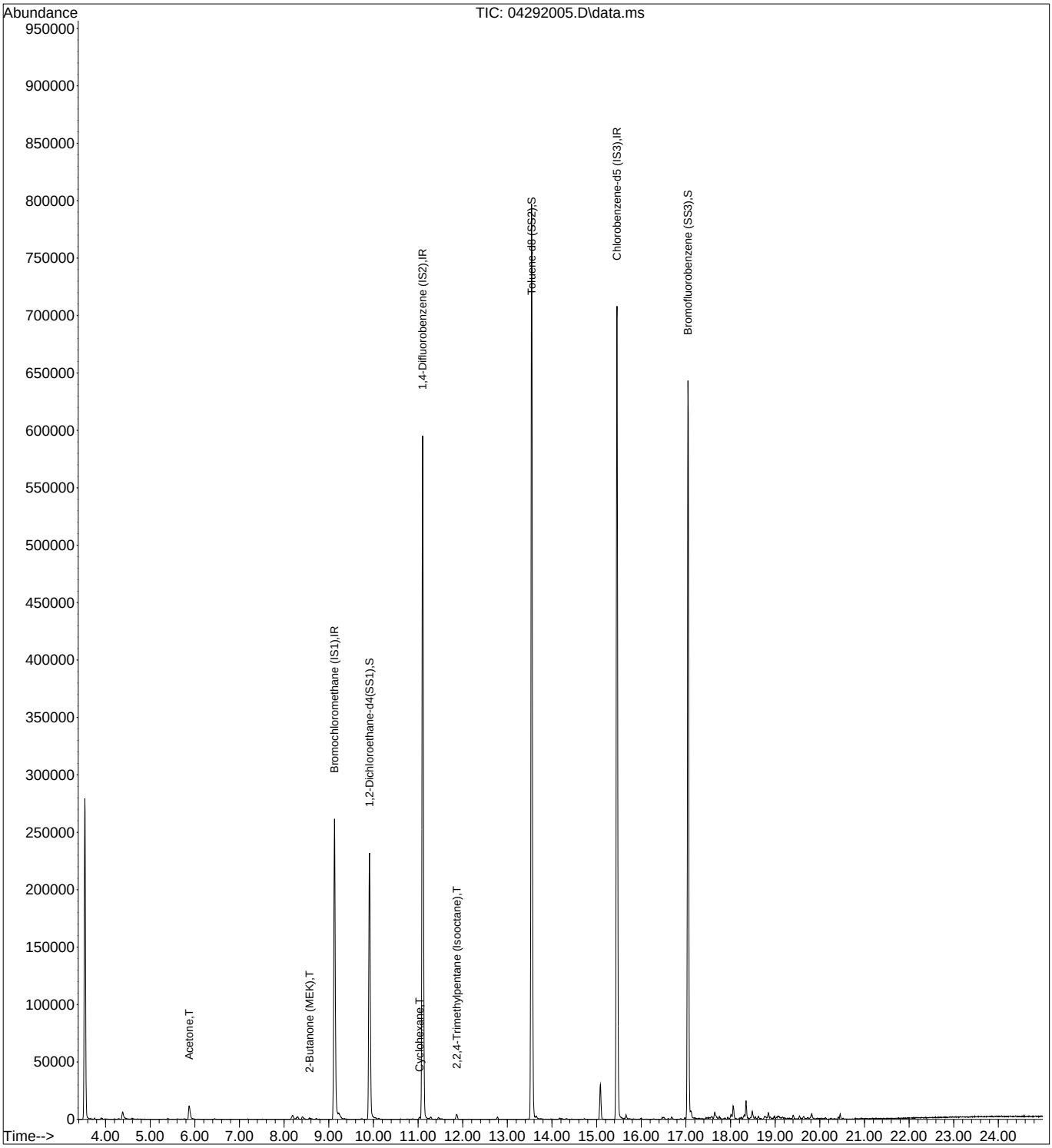
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	13.65	91	710	N.D.		
59) 2-Hexanone	14.03	43	148	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	15.66	112	109	N.D.		
66) Ethylbenzene	15.92	91	214	N.D.		
67) m- & p-Xylenes	16.12	91	288	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	16.60	91	220	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	16.51	83	107	N.D.		
74) Cumene	17.05	105	344	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	17.70	91	829	N.D.		
77) 3-Ethyltoluene	17.84	105	574	N.D.		
78) 4-Ethyltoluene	17.89	105	374	N.D.		
79) 1,3,5-Trimethylbenzene	17.98	105	371	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	18.16	105	440	N.D.		
82) 1,2,4-Trimethylbenzene	18.41	105	353	N.D.		
83) n-Decane	0.00	57	0	N.D.		d
84) Benzyl Chloride	18.55	91	265	N.D.		
85) 1,3-Dichlorobenzene	18.58	146	103	N.D.		
86) 1,4-Dichlorobenzene	18.58	146	103	N.D.		
87) sec-Butylbenzene	18.67	105	351	N.D.		
88) 4-Isopropyltoluene (p-...	18.84	119	887	N.D.		
89) 1,2,3-Trimethylbenzene	18.85	105	394	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	19.82	57	580	N.D.		
94) 1,2,4-Trichlorobenzene	20.80	180	502	N.D.		
95) Naphthalene	20.92	128	698	N.D.		
96) n-Dodecane	20.92	57	145	N.D.		
97) Hexachlorobutadiene	21.27	225	192	N.D.		
98) Cyclohexanone	16.29	55	129	N.D.		
99) tert-Butylbenzene	18.37	119	189	N.D.		
100) n-Butylbenzene	19.29	91	271	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292005.D Vial: 2
Acq On : 29 Apr 2020 7:37 Operator: SC
Sample : MB R9042920_1000mL Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 12:53:18 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302005.D Vial: 2
Acq On : 30 Apr 2020 5:17 Operator: SC
Sample : MB R9043020_1000mL Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 06:49:18 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020 4/30/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	145397	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	618438	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.45	82	271053	12.500	ng	-0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	218296	11.588	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.72%			
57) Toluene-d8 (SS2)	13.54	98	674854	12.895	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.12%			
73) Bromofluorobenzene (SS3)	17.05	174	266013	12.647	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.20%			
Target Compounds						Qvalue
2) Propene	3.90	42	269	N.D.		
3) Dichlorodifluoromethan...	0.00	85	0	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.44	45	124	N.D.		
11) Acetonitrile	5.61	41	275	N.D.		
12) Acrolein	5.74	56	36	N.D.		
13) Acetone	5.88	58	2433	0.433	ng	90
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	0.00	84	0	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	0.00	76	0	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	8.42	72	237	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.		
41) Benzene	10.76	78	498	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	11.03	84	538	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	11.87	57	3721	0.110	ng	99
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302005.D Vial: 2
Acq On : 30 Apr 2020 5:17 Operator: SC
Sample : MB R9043020_1000mL Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 06:49:18 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

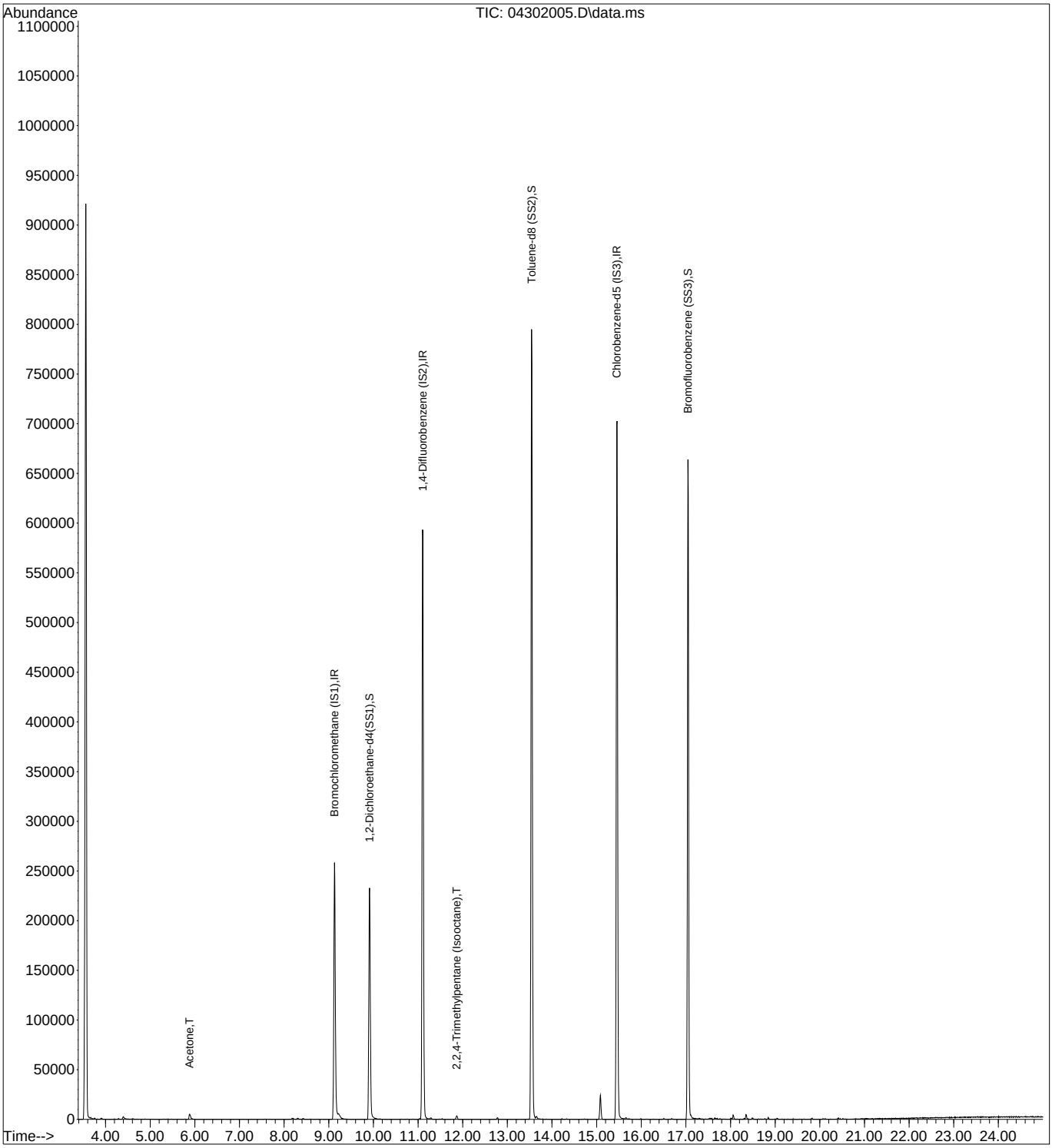
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	13.65	91	765	N.D.		
59) 2-Hexanone	0.00	43	0	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	15.92	91	151	N.D.		
67) m- & p-Xylenes	16.10	91	185	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	0.00	91	0	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	17.05	105	201	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	17.70	91	1100	N.D.		
77) 3-Ethyltoluene	17.85	105	461	N.D.		
78) 4-Ethyltoluene	17.85	105	461	N.D.		
79) 1,3,5-Trimethylbenzene	17.97	105	339	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	18.16	105	501	N.D.		
82) 1,2,4-Trimethylbenzene	18.40	105	282	N.D.		
83) n-Decane	18.49	57	327	N.D.		
84) Benzyl Chloride	18.37	91	287	N.D.		
85) 1,3-Dichlorobenzene	18.63	146	211	N.D.		
86) 1,4-Dichlorobenzene	18.63	146	211	N.D.		
87) sec-Butylbenzene	18.67	105	375	N.D.		
88) 4-Isopropyltoluene (p-...	18.84	119	645	N.D.		
89) 1,2,3-Trimethylbenzene	18.84	105	287	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	19.85	57	224	N.D.		
94) 1,2,4-Trichlorobenzene	20.80	180	331	N.D.		
95) Naphthalene	20.92	128	1136	N.D.		
96) n-Dodecane	0.00	57	0	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.38	119	287	N.D.		
100) n-Butylbenzene	19.30	91	140	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302005.D Vial: 2
Acq On : 30 Apr 2020 5:17 Operator: SC
Sample : MB R9043020_1000mL Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 06:49:18 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



R9042220.M Thu Apr 30 06:49:54 2020 Page: 3

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292006.D Vial: 2
Acq On : 29 Apr 2020 8:11 Operator: SC
Sample : LCS R9042920_25ng Inst : MS09
Misc : S34-04212006/S34-04102008 (5/9)

Quant Time: Apr 29 08:49:45 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/29/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	159720	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.12	114	668762	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	290463	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.93	65	240181	11.606	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.88%				
57) Toluene-d8 (SS2)	13.55	98	729483	13.007	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.08%				
73) Bromofluorobenzene (SS3)	17.05	174	280673	12.452	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.60%				
Target Compounds							Qvalue
2) Propene	3.84	42	192435	28.367	ng		98
3) Dichlorodifluoromethan...	3.96	85	614019	23.823	ng		100
4) Chloromethane	4.16	50	273343	28.743	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	324436	23.285	ng		100
6) Vinyl Chloride	4.44	62	325417	26.093	ng		100
7) 1,3-Butadiene	4.62	54	234277	29.412	ng		99
8) Bromomethane	4.93	94	249105	25.417	ng		99
9) Chloroethane	5.15	64	157723	25.000	ng		99
10) Ethanol	5.40	45	625363	121.703	ng		100
11) Acetonitrile	5.58	41	303205	24.927	ng		99
12) Acrolein	5.70	56	128861	27.443	ng		99
13) Acetone	5.85	58	778963	126.268	ng		92
14) Trichlorofluoromethane	6.02	101	591884	23.081	ng		99
15) 2-Propanol (Isopropanol)	6.19	45	957573	48.863	ng		98
16) Acrylonitrile	6.38	53	274510	28.049	ng		99
17) 1,1-Dichloroethene	6.72	96	288818	25.619	ng		96
18) 2-Methyl-2-Propanol (t...	6.83	59	1258268	70.268	ng		98
19) Methylene Chloride	6.88	84	276050	25.514	ng		98
20) 3-Chloro-1-propene (Al...	7.01	41	294271	23.440	ng		99
21) Trichlorotrifluoroethane	7.18	151	327616	24.548	ng		100
22) Carbon Disulfide	7.15	76	951694	26.455	ng		100
23) trans-1,2-Dichloroethene	7.90	61	385506	27.093	ng		99
24) 1,1-Dichloroethane	8.12	63	437909	24.630	ng		100
25) Methyl tert-Butyl Ether	8.17	73	844100	36.848	ng		99
26) Vinyl Acetate	8.29	86	310055	137.711	ng		98
27) 2-Butanone (MEK)	8.52	72	174560	27.542	ng		100
28) cis-1,2-Dichloroethene	8.99	61	364470	25.342	ng		99
29) Diisopropyl Ether	9.22	87	236226	25.733	ng	#	94
30) Ethyl Acetate	9.22	61	160604	56.952	ng		100
31) n-Hexane	9.22	57	366708	26.790	ng		99
32) Chloroform	9.30	83	536465	24.496	ng		100
34) Tetrahydrofuran (THF)	9.67	72	173532	27.032	ng		100
35) Ethyl tert-Butyl Ether	9.77	87	325990	33.218	ng		100
36) 1,2-Dichloroethane	10.04	62	439730	24.411	ng		100
38) 1,1,1-Trichloroethane	10.30	97	561728	24.430	ng		99
39) Isopropyl Acetate	10.67	61	282968	51.578	ng	#	89
40) 1-Butanol	10.68	56	338229	45.888	ng		92
41) Benzene	10.76	78	1086061	24.912	ng		99
42) Carbon Tetrachloride	10.91	117	519483	23.047	ng		100
43) Cyclohexane	11.04	84	867239	50.777	ng		99
44) tert-Amyl Methyl Ether	11.35	73	722556	31.565	ng		99
45) 1,2-Dichloropropane	11.57	63	234069	26.226	ng		100
46) Bromodichloromethane	11.76	83	438324	24.435	ng		100
47) Trichloroethene	11.81	130	382325	25.322	ng		99
48) 1,4-Dioxane	11.78	88	242687	27.686	ng		99
49) 2,2,4-Trimethylpentane...	11.87	57	948745	26.053	ng		98
50) Methyl Methacrylate	12.00	100	258595	55.367	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292006.D Vial: 2
Acq On : 29 Apr 2020 8:11 Operator: SC
Sample : LCS R9042920_25ng Inst : MS09
Misc : S34-04212006/S34-04102008 (5/9)

Quant Time: Apr 29 08:49:45 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

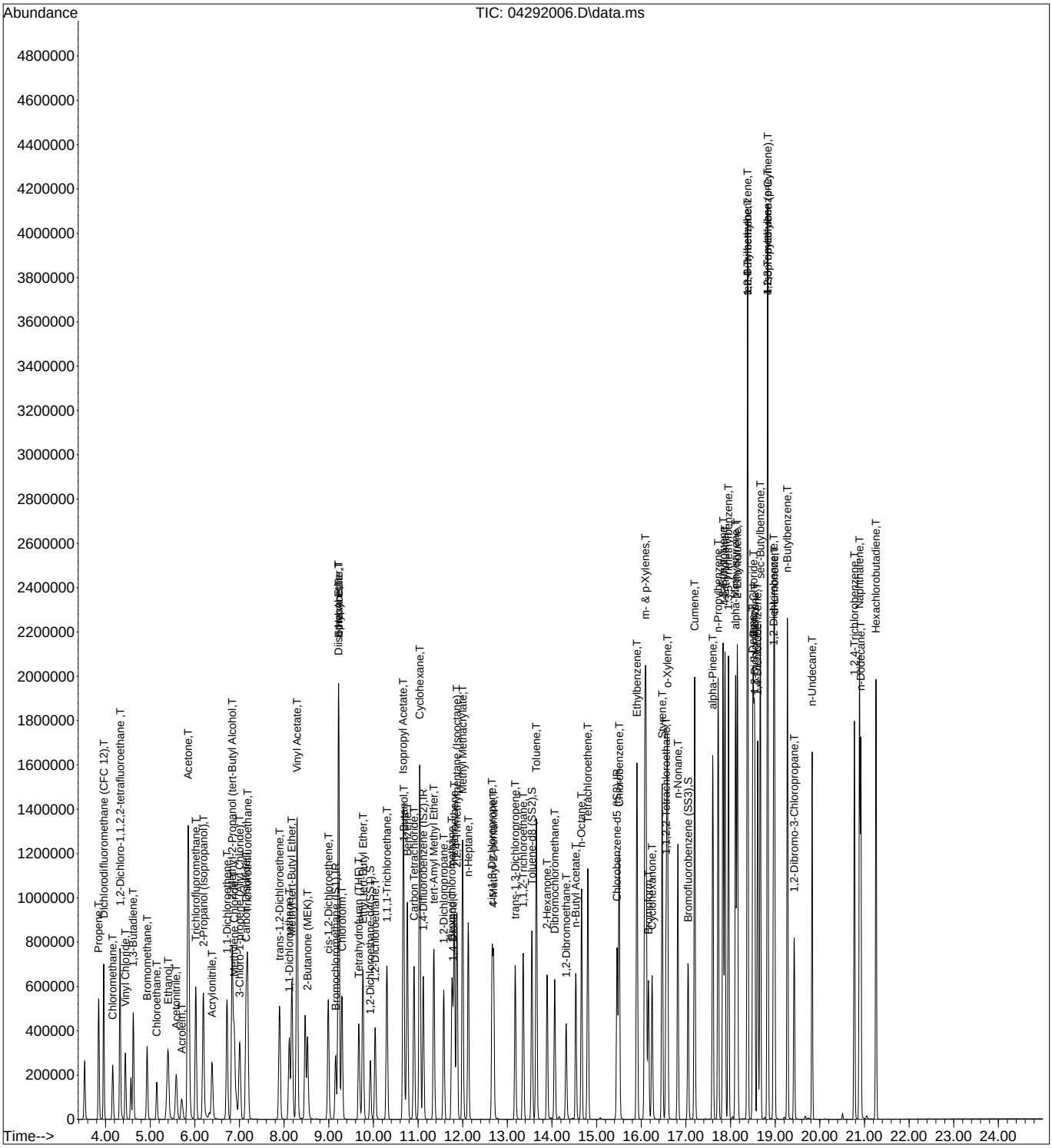
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	267093	26.369	ng	99
52) cis-1,3-Dichloropropene	12.66	75	507377	27.465	ng	100
53) 4-Methyl-2-pentanone	12.69	58	214254	28.084	ng	96
54) trans-1,3-Dichloropropene	13.18	75	479223	27.095	ng	99
55) 1,1,2-Trichloroethane	13.36	97	302059	25.348	ng	99
58) Toluene	13.65	91	1260051	26.760	ng	99
59) 2-Hexanone	13.89	43	448289	31.928	ng	98
60) Dibromochloromethane	14.06	129	437800	27.365	ng	100
61) 1,2-Dibromoethane	14.32	107	370489	28.231	ng	100
62) n-Butyl Acetate	14.53	43	495714	31.596	ng	99
63) n-Octane	14.66	57	204411	27.271	ng	99
64) Tetrachloroethene	14.80	166	449580	25.348	ng	100
65) Chlorobenzene	15.51	112	924379	26.815	ng	99
66) Ethylbenzene	15.90	91	1467812	26.753	ng	100
67) m- & p-Xylenes	16.10	91	2432101	52.544	ng	99
68) Bromoform	16.16	173	398902	28.158	ng	100
69) Styrene	16.47	104	951838	28.257	ng	99
70) o-Xylene	16.58	91	1196724	26.326	ng	100
71) n-Nonane	16.82	43	390344	26.620	ng	99
72) 1,1,2,2-Tetrachloroethane	16.56	83	473187	27.479	ng	100
74) Cumene	17.19	105	1558813	26.291	ng	100
75) alpha-Pinene	17.60	93	756274	28.010	ng	98
76) n-Propylbenzene	17.72	91	1741384	26.959	ng	99
77) 3-Ethyltoluene	17.83	105	1599807	27.636	ng	100
78) 4-Ethyltoluene	17.88	105	1453478	25.784	ng	100
79) 1,3,5-Trimethylbenzene	17.95	105	1349094	25.899	ng	100
80) alpha-Methylstyrene	18.11	118	721320	27.679	ng	99
81) 2-Ethyltoluene	18.15	105	1521893	26.421	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	1326840	26.342	ng	99
83) n-Decane	18.50	57	496094	27.955	ng	99
84) Benzyl Chloride	18.51	91	1103247	29.037	ng	100
85) 1,3-Dichlorobenzene	18.54	146	840711	27.685	ng	100
86) 1,4-Dichlorobenzene	18.61	146	863226	27.873	ng	100
87) sec-Butylbenzene	18.67	105	1694289	26.263	ng	100
88) 4-Isopropyltoluene (p-...	18.83	119	1635146	26.090	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	1298463	25.756	ng	99
90) 1,2-Dichlorobenzene	18.97	146	800205	27.124	ng	99
91) d-Limonene	18.99	68	377303	26.514	ng	99
92) 1,2-Dibromo-3-Chloropr...	19.43	157	301447	26.950	ng	96
93) n-Undecane	19.83	57	523076	27.932	ng	100
94) 1,2,4-Trichlorobenzene	20.77	180	651955	29.945	ng	100
95) Naphthalene	20.89	128	1808868	27.878	ng	100
96) n-Dodecane	20.92	57	483949	28.858	ng	99
97) Hexachlorobutadiene	21.26	225	444795	25.104	ng	100
98) Cyclohexanone	16.24	55	294169	25.634	ng	98
99) tert-Butylbenzene	18.38	119	1297113	25.642	ng	100
100) n-Butylbenzene	19.27	91	1303545	27.525	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292006.D Vial: 2
Acq On : 29 Apr 2020 8:11 Operator: SC
Sample : LCS R9042920_25ng Inst : MS09
Misc : S34-04212006/S34-04102008 (5/9)

Quant Time: Apr 29 08:49:45 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292007.D Vial: 2
Acq On : 29 Apr 2020 8:44 Operator: SC
Sample : LCSD R9042920_25ng Inst : MS09
Misc : S34-04212006/S34-04102008 (5/9)

Quant Time: Apr 29 09:55:31 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/29/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	157698	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.12	114	660725	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	286674	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.94	65	237289	11.614	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.88%				
57) Toluene-d8 (SS2)	13.55	98	718341	12.978	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.84%				
73) Bromofluorobenzene (SS3)	17.05	174	275722	12.394	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.12%				
Target Compounds							Qvalue
2) Propene	3.85	42	199410	29.772	ng		98
3) Dichlorodifluoromethan...	3.96	85	621494	24.423	ng		100
4) Chloromethane	4.17	50	281767	30.008	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	333261	24.226	ng		100
6) Vinyl Chloride	4.45	62	333299	27.068	ng		100
7) 1,3-Butadiene	4.63	54	235848	29.989	ng		99
8) Bromomethane	4.94	94	255806	26.435	ng		98
9) Chloroethane	5.15	64	162394	26.071	ng		99
10) Ethanol	5.40	45	641498	126.444	ng		99
11) Acetonitrile	5.59	41	310146	25.825	ng		99
12) Acrolein	5.71	56	130678	28.186	ng		100
13) Acetone	5.86	58	791075	129.876	ng		92
14) Trichlorofluoromethane	6.03	101	596002	23.539	ng		99
15) 2-Propanol (Isopropanol)	6.19	45	961309	49.683	ng		98
16) Acrylonitrile	6.39	53	278776	28.851	ng		99
17) 1,1-Dichloroethene	6.72	96	292199	26.251	ng		96
18) 2-Methyl-2-Propanol (t...	6.84	59	1279409	72.365	ng		98
19) Methylene Chloride	6.88	84	278123	26.035	ng		97
20) 3-Chloro-1-propene (Al...	7.01	41	297178	23.975	ng		99
21) Trichlorotrifluoroethane	7.19	151	329398	24.998	ng		99
22) Carbon Disulfide	7.15	76	958489	26.986	ng		99
23) trans-1,2-Dichloroethene	7.90	61	388228	27.634	ng		99
24) 1,1-Dichloroethane	8.12	63	441801	25.168	ng		100
25) Methyl tert-Butyl Ether	8.18	73	853659	37.743	ng		99
26) Vinyl Acetate	8.29	86	312011	140.357	ng		100
27) 2-Butanone (MEK)	8.53	72	177313	28.335	ng		99
28) cis-1,2-Dichloroethene	8.99	61	369015	25.988	ng		99
29) Diisopropyl Ether	9.22	87	238242	26.286	ng	#	95
30) Ethyl Acetate	9.23	61	161737	58.089	ng		97
31) n-Hexane	9.23	57	372065	27.530	ng		99
32) Chloroform	9.30	83	541098	25.025	ng		100
34) Tetrahydrofuran (THF)	9.68	72	175904	27.753	ng		100
35) Ethyl tert-Butyl Ether	9.77	87	330216	34.081	ng		100
36) 1,2-Dichloroethane	10.04	62	441625	24.830	ng		99
38) 1,1,1-Trichloroethane	10.30	97	564000	24.827	ng		100
39) Isopropyl Acetate	10.67	61	286198	52.802	ng	#	89
40) 1-Butanol	10.68	56	342921	47.091	ng		92
41) Benzene	10.76	78	1097785	25.487	ng		100
42) Carbon Tetrachloride	10.91	117	523100	23.489	ng		100
43) Cyclohexane	11.04	84	873066	51.740	ng		99
44) tert-Amyl Methyl Ether	11.35	73	732152	32.373	ng		99
45) 1,2-Dichloropropane	11.57	63	236579	26.830	ng		100
46) Bromodichloromethane	11.76	83	443328	25.015	ng		99
47) Trichloroethene	11.81	130	385687	25.856	ng		100
48) 1,4-Dioxane	11.78	88	243973	28.171	ng		99
49) 2,2,4-Trimethylpentane...	11.87	57	960287	26.691	ng		97
50) Methyl Methacrylate	12.00	100	260999	56.561	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292007.D Vial: 2
Acq On : 29 Apr 2020 8:44 Operator: SC
Sample : LCSD R9042920_25ng Inst : MS09
Misc : S34-04212006/S34-04102008 (5/9)

Quant Time: Apr 29 09:55:31 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

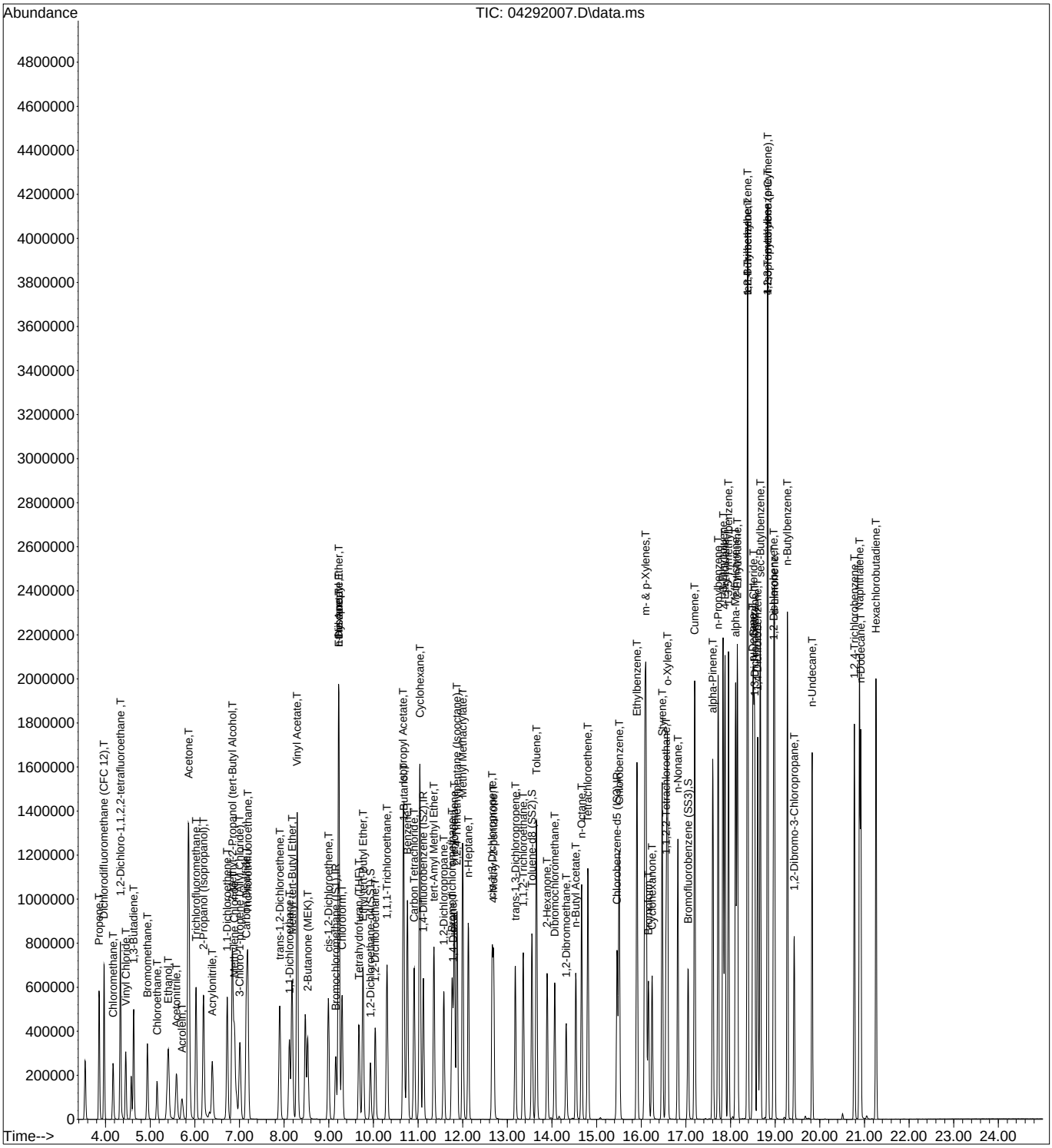
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	267924	26.772	ng	99
52) cis-1,3-Dichloropropene	12.66	75	512654	28.089	ng	100
53) 4-Methyl-2-pentanone	12.69	58	214362	28.439	ng	98
54) trans-1,3-Dichloropropene	13.18	75	482495	27.612	ng	99
55) 1,1,2-Trichloroethane	13.36	97	305568	25.954	ng	100
58) Toluene	13.65	91	1273414	27.401	ng	100
59) 2-Hexanone	13.89	43	451402	32.575	ng	97
60) Dibromochloromethane	14.06	129	441521	27.963	ng	100
61) 1,2-Dibromoethane	14.32	107	370840	28.631	ng	100
62) n-Butyl Acetate	14.53	43	499618	32.266	ng	99
63) n-Octane	14.67	57	205461	27.773	ng	99
64) Tetrachloroethene	14.80	166	453745	25.921	ng	100
65) Chlorobenzene	15.51	112	926736	27.238	ng	100
66) Ethylbenzene	15.90	91	1482228	27.373	ng	100
67) m- & p-Xylenes	16.10	91	2446484	53.553	ng	99
68) Bromoform	16.16	173	399811	28.596	ng	99
69) Styrene	16.47	104	958330	28.826	ng	99
70) o-Xylene	16.58	91	1206007	26.881	ng	100
71) n-Nonane	16.82	43	397398	27.459	ng	99
72) 1,1,2,2-Tetrachloroethane	16.56	83	477878	28.118	ng	100
74) Cumene	17.19	105	1572479	26.872	ng	99
75) alpha-Pinene	17.60	93	758619	28.468	ng	98
76) n-Propylbenzene	17.72	91	1751610	27.476	ng	100
77) 3-Ethyltoluene	17.83	105	1609207	28.166	ng	100
78) 4-Ethyltoluene	17.88	105	1462263	26.283	ng	100
79) 1,3,5-Trimethylbenzene	17.95	105	1359141	26.436	ng	100
80) alpha-Methylstyrene	18.11	118	728203	28.312	ng	99
81) 2-Ethyltoluene	18.15	105	1540177	27.092	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	1337267	26.899	ng	99
83) n-Decane	18.50	57	500266	28.562	ng	99
84) Benzyl Chloride	18.51	91	1113835	29.703	ng	100
85) 1,3-Dichlorobenzene	18.54	146	848999	28.327	ng	100
86) 1,4-Dichlorobenzene	18.61	146	865581	28.319	ng	99
87) sec-Butylbenzene	18.67	105	1702268	26.736	ng	100
88) 4-Isopropyltoluene (p-...	18.83	119	1653109	26.726	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	1313609	26.401	ng	99
90) 1,2-Dichlorobenzene	18.97	146	810100	27.823	ng	100
91) d-Limonene	18.99	68	382933	27.265	ng	98
92) 1,2-Dibromo-3-Chloropr...	19.43	157	303395	27.483	ng	96
93) n-Undecane	19.83	57	528457	28.593	ng	100
94) 1,2,4-Trichlorobenzene	20.77	180	657813	30.613	ng	100
95) Naphthalene	20.89	128	1821636	28.446	ng	100
96) n-Dodecane	20.92	57	493342	29.807	ng	99
97) Hexachlorobutadiene	21.26	225	449282	25.692	ng	100
98) Cyclohexanone	16.24	55	298707	26.374	ng	98
99) tert-Butylbenzene	18.38	119	1307479	26.189	ng	100
100) n-Butylbenzene	19.27	91	1316554	28.167	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292007.D Vial: 2
Acq On : 29 Apr 2020 8:44 Operator: SC
Sample : LCSD R9042920_25ng Inst : MS09
Misc : S34-04212006/S34-04102008 (5/9)

Quant Time: Apr 29 09:55:31 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302006.D Vial: 2
Acq On : 30 Apr 2020 5:51 Operator: SC
Sample : LCS R9043020_25ng Inst : MS09
Misc : S34-04212006/S34-04272008 (5/26)

Quant Time: Apr 30 06:50:07 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/30/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	150642	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.12	114	635307	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	280448	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.94	65	227720	11.667	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.36%				
57) Toluene-d8 (SS2)	13.55	98	691452	12.769	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.16%				
73) Bromofluorobenzene (SS3)	17.05	174	274309	12.605	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.80%				
Target Compounds							Qvalue
2) Propene	3.85	42	185250	28.953	ng		99
3) Dichlorodifluoromethan...	3.96	85	624896	25.706	ng		100
4) Chloromethane	4.17	50	266021	29.658	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	336227	25.586	ng		100
6) Vinyl Chloride	4.45	62	334904	28.472	ng		100
7) 1,3-Butadiene	4.63	54	235285	31.318	ng		98
8) Bromomethane	4.94	94	258105	27.922	ng		99
9) Chloroethane	5.15	64	162337	27.282	ng		99
10) Ethanol	5.40	45	674170	139.108	ng		99
11) Acetonitrile	5.59	41	313976	27.368	ng		100
12) Acrolein	5.71	56	133292	30.097	ng		99
13) Acetone	5.86	58	792451	136.196	ng		92
14) Trichlorofluoromethane	6.03	101	619037	25.594	ng		99
15) 2-Propanol (Isopropanol)	6.19	45	1023099	55.353	ng		98
16) Acrylonitrile	6.39	53	287114	31.105	ng		99
17) 1,1-Dichloroethene	6.72	96	298337	28.058	ng		96
18) 2-Methyl-2-Propanol (t...	6.84	59	1305950	77.326	ng		98
19) Methylene Chloride	6.88	84	285796	28.007	ng		97
20) 3-Chloro-1-propene (Al...	7.01	41	300715	25.397	ng		100
21) Trichlorotrifluoroethane	7.19	151	337825	26.839	ng		100
22) Carbon Disulfide	7.15	76	969057	28.561	ng		100
23) trans-1,2-Dichloroethene	7.90	61	393408	29.314	ng		98
24) 1,1-Dichloroethane	8.12	63	448179	26.727	ng		100
25) Methyl tert-Butyl Ether	8.18	73	862054	39.899	ng		99
26) Vinyl Acetate	8.29	86	327660	154.301	ng		95
27) 2-Butanone (MEK)	8.53	72	181284	30.326	ng		98
28) cis-1,2-Dichloroethene	8.99	61	373370	27.526	ng		98
29) Diisopropyl Ether	9.22	87	242595	28.020	ng	#	91
30) Ethyl Acetate	9.23	61	160943	60.511	ng		99
31) n-Hexane	9.23	57	372930	28.886	ng		99
32) Chloroform	9.30	83	555003	26.870	ng		99
34) Tetrahydrofuran (THF)	9.68	72	178441	29.472	ng		100
35) Ethyl tert-Butyl Ether	9.77	87	337968	36.514	ng		99
36) 1,2-Dichloroethane	10.04	62	451865	26.596	ng		100
38) 1,1,1-Trichloroethane	10.30	97	578310	26.475	ng		99
39) Isopropyl Acetate	10.67	61	290701	55.778	ng	#	93
40) 1-Butanol	10.68	56	438019	62.556	ng		98
41) Benzene	10.76	78	1118479	27.007	ng		100
42) Carbon Tetrachloride	10.91	117	542790	25.349	ng		100
43) Cyclohexane	11.04	84	890026	54.856	ng		100
44) tert-Amyl Methyl Ether	11.35	73	745766	34.294	ng		99
45) 1,2-Dichloropropane	11.57	63	240136	28.323	ng		100
46) Bromodichloromethane	11.76	83	450866	26.458	ng		100
47) Trichloroethene	11.81	130	396323	27.632	ng		100
48) 1,4-Dioxane	11.78	88	249739	29.991	ng		100
49) 2,2,4-Trimethylpentane...	11.87	57	967882	27.978	ng		97
50) Methyl Methacrylate	12.00	100	265008	59.728	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302006.D Vial: 2
Acq On : 30 Apr 2020 5:51 Operator: SC
Sample : LCS R9043020_25ng Inst : MS09
Misc : S34-04212006/S34-04272008 (5/26)

Quant Time: Apr 30 06:50:07 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

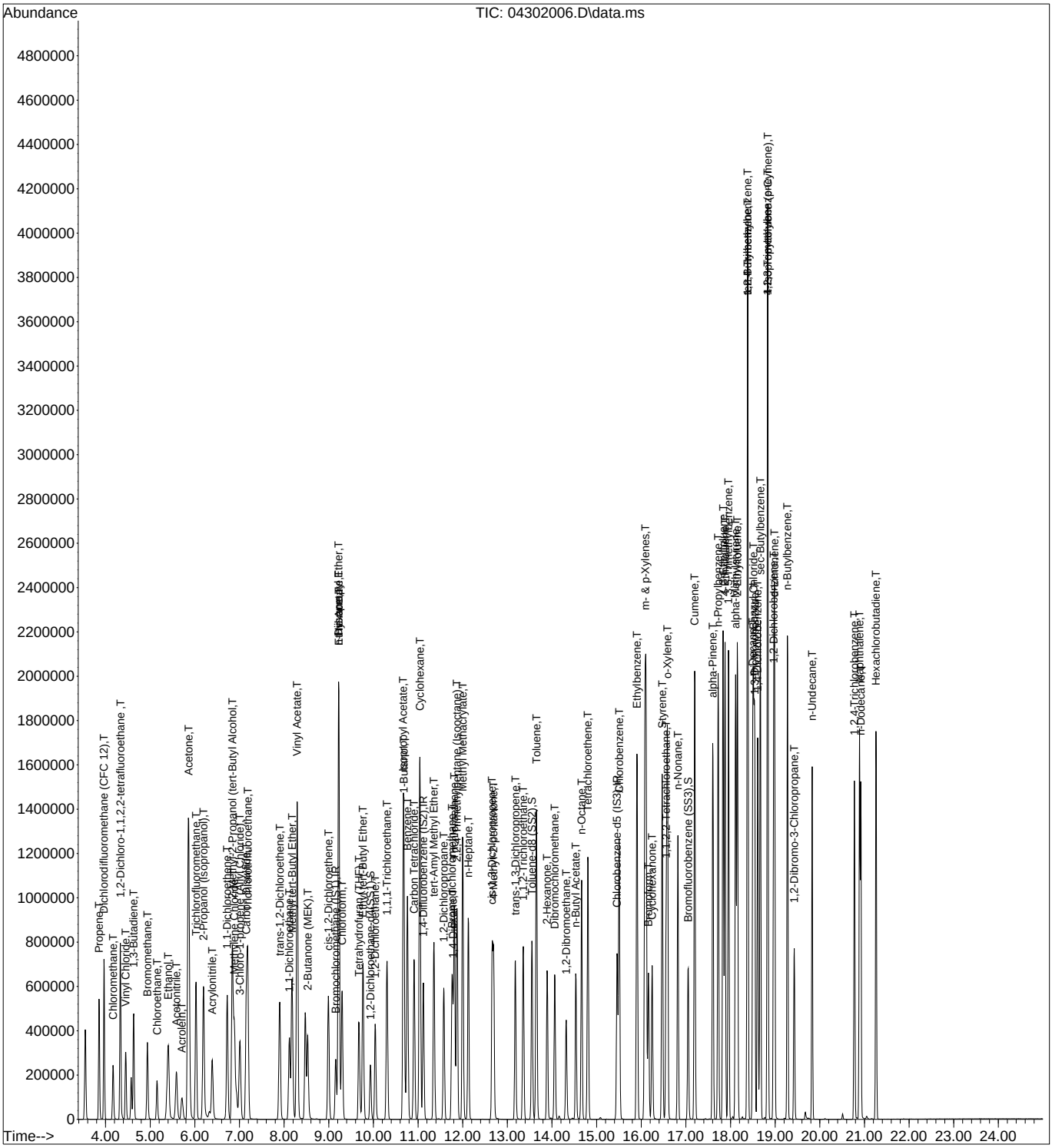
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.13	71	272270	28.295	ng	99
52) cis-1,3-Dichloropropene	12.66	75	522186	29.756	ng	100
53) 4-Methyl-2-pentanone	12.69	58	215654	29.756	ng	98
54) trans-1,3-Dichloropropene	13.18	75	493148	29.351	ng	99
55) 1,1,2-Trichloroethane	13.36	97	312902	27.641	ng	100
58) Toluene	13.65	91	1298924	28.571	ng	99
59) 2-Hexanone	13.89	43	456889	33.702	ng	97
60) Dibromochloromethane	14.06	129	455398	29.482	ng	100
61) 1,2-Dibromoethane	14.32	107	382757	30.208	ng	100
62) n-Butyl Acetate	14.53	43	496255	32.760	ng	99
63) n-Octane	14.67	57	207675	28.696	ng	100
64) Tetrachloroethene	14.80	166	468653	27.367	ng	100
65) Chlorobenzene	15.51	112	956230	28.729	ng	100
66) Ethylbenzene	15.90	91	1502627	28.366	ng	100
67) m- & p-Xylenes	16.10	91	2491157	55.742	ng	99
68) Bromoform	16.16	173	415622	30.386	ng	100
69) Styrene	16.47	104	984989	30.286	ng	99
70) o-Xylene	16.58	91	1215650	27.698	ng	99
71) n-Nonane	16.82	43	398132	28.120	ng	99
72) 1,1,2,2-Tetrachloroethane	16.56	83	476331	28.650	ng	99
74) Cumene	17.19	105	1592351	27.816	ng	99
75) alpha-Pinene	17.60	93	777866	29.839	ng	98
76) n-Propylbenzene	17.72	91	1753583	28.117	ng	99
77) 3-Ethyltoluene	17.83	105	1606170	28.737	ng	99
78) 4-Ethyltoluene	17.88	105	1469597	27.001	ng	99
79) 1,3,5-Trimethylbenzene	17.95	105	1358247	27.005	ng	99
80) alpha-Methylstyrene	18.11	118	737075	29.293	ng	99
81) 2-Ethyltoluene	18.15	105	1528858	27.490	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	1330194	27.351	ng	99
83) n-Decane	18.50	57	493572	28.806	ng	99
84) Benzyl Chloride	18.51	91	1103079	30.070	ng	99
85) 1,3-Dichlorobenzene	18.54	146	832149	28.381	ng	100
86) 1,4-Dichlorobenzene	18.61	146	854251	28.569	ng	100
87) sec-Butylbenzene	18.67	105	1687984	27.100	ng	99
88) 4-Isopropyltoluene (p-...	18.83	119	1621404	26.795	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	1280579	26.308	ng	98
90) 1,2-Dichlorobenzene	18.97	146	780266	27.393	ng	99
91) d-Limonene	18.99	68	379761	27.640	ng	100
92) 1,2-Dibromo-3-Chloropr...	19.43	157	278690	25.805	ng	95
93) n-Undecane	19.83	57	499784	27.642	ng	100
94) 1,2,4-Trichlorobenzene	20.77	180	555826	26.441	ng	100
95) Naphthalene	20.89	128	1510564	24.112	ng	100
96) n-Dodecane	20.92	57	422776	26.111	ng	100
97) Hexachlorobutadiene	21.26	225	394241	23.045	ng	99
98) Cyclohexanone	16.24	55	311319	28.097	ng	98
99) tert-Butylbenzene	18.38	119	1312493	26.873	ng	100
100) n-Butylbenzene	19.27	91	1256218	27.473	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302006.D Vial: 2
Acq On : 30 Apr 2020 5:51 Operator: SC
Sample : LCS R9043020_25ng Inst : MS09
Misc : S34-04212006/S34-04272008 (5/26)

Quant Time: Apr 30 06:50:07 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302007.D Vial: 2
Acq On : 30 Apr 2020 6:24 Operator: SC
Sample : LCSD R9043020_25ng Inst : MS09
Misc : S34-04212006/S34-04272008 (5/26)

Quant Time: Apr 30 07:40:56 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020 4/30/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	155176	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.12	114	653401	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	287841	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.93	65	234009	11.639	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.12%				
57) Toluene-d8 (SS2)	13.55	98	710566	12.785	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.32%				
73) Bromofluorobenzene (SS3)	17.05	174	282373	12.642	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.12%				
Target Compounds							Qvalue
2) Propene	3.85	42	190983	28.977	ng		99
3) Dichlorodifluoromethan...	3.96	85	629146	25.125	ng		100
4) Chloromethane	4.17	50	271977	29.436	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	342198	25.279	ng		100
6) Vinyl Chloride	4.45	62	340210	28.078	ng		99
7) 1,3-Butadiene	4.62	54	240884	31.127	ng		98
8) Bromomethane	4.93	94	260642	27.373	ng		99
9) Chloroethane	5.15	64	165098	26.936	ng		99
10) Ethanol	5.40	45	683292	136.870	ng		99
11) Acetonitrile	5.59	41	319204	27.011	ng		99
12) Acrolein	5.71	56	137220	30.079	ng		100
13) Acetone	5.86	58	805893	134.459	ng		92
14) Trichlorofluoromethane	6.02	101	621196	24.933	ng		99
15) 2-Propanol (Isopropanol)	6.19	45	1036034	54.415	ng		99
16) Acrylonitrile	6.39	53	288385	30.330	ng		100
17) 1,1-Dichloroethene	6.72	96	302267	27.597	ng		96
18) 2-Methyl-2-Propanol (t...	6.83	59	1336818	76.841	ng		98
19) Methylene Chloride	6.88	84	288913	27.485	ng		97
20) 3-Chloro-1-propene (Al...	7.01	41	302747	24.822	ng		98
21) Trichlorotrifluoroethane	7.18	151	342231	26.394	ng		100
22) Carbon Disulfide	7.15	76	981259	28.076	ng		100
23) trans-1,2-Dichloroethene	7.90	61	401058	29.011	ng		99
24) 1,1-Dichloroethane	8.12	63	454690	26.323	ng		100
25) Methyl tert-Butyl Ether	8.18	73	878436	39.469	ng		99
26) Vinyl Acetate	8.29	86	334681	153.002	ng		95
27) 2-Butanone (MEK)	8.52	72	184047	29.889	ng		97
28) cis-1,2-Dichloroethene	8.99	61	379514	27.161	ng		98
29) Diisopropyl Ether	9.22	87	246905	27.684	ng	#	92
30) Ethyl Acetate	9.22	61	165862	60.539	ng		100
31) n-Hexane	9.23	57	380375	28.602	ng		99
32) Chloroform	9.30	83	560875	26.361	ng		99
34) Tetrahydrofuran (THF)	9.67	72	178501	28.620	ng		98
35) Ethyl tert-Butyl Ether	9.77	87	344919	36.177	ng		100
36) 1,2-Dichloroethane	10.04	62	457157	26.121	ng		100
38) 1,1,1-Trichloroethane	10.30	97	585770	26.074	ng		99
39) Isopropyl Acetate	10.67	61	295344	55.100	ng	#	93
40) 1-Butanol	10.68	56	454964	63.177	ng		97
41) Benzene	10.76	78	1122201	26.346	ng		100
42) Carbon Tetrachloride	10.91	117	545334	24.762	ng		100
43) Cyclohexane	11.04	84	902187	54.066	ng		99
44) tert-Amyl Methyl Ether	11.35	73	760770	34.015	ng		99
45) 1,2-Dichloropropane	11.57	63	242595	27.821	ng		100
46) Bromodichloromethane	11.76	83	456475	26.045	ng		99
47) Trichloroethene	11.81	130	400793	27.170	ng		100
48) 1,4-Dioxane	11.78	88	254841	29.756	ng		99
49) 2,2,4-Trimethylpentane...	11.87	57	984750	27.678	ng		97
50) Methyl Methacrylate	12.00	100	268757	58.896	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302007.D Vial: 2
Acq On : 30 Apr 2020 6:24 Operator: SC
Sample : LCSD R9043020_25ng Inst : MS09
Misc : S34-04212006/S34-04272008 (5/26)

Quant Time: Apr 30 07:40:56 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

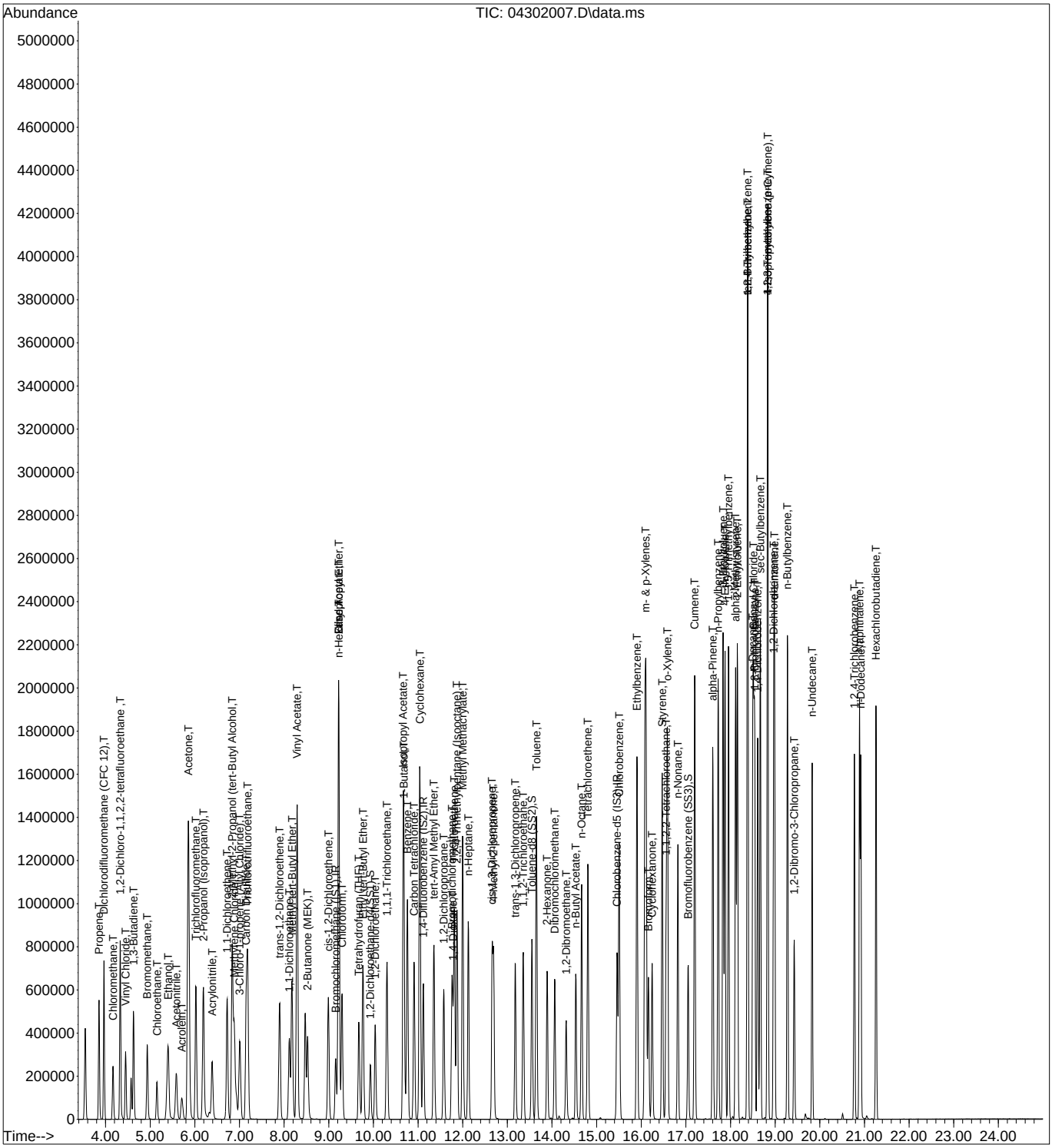
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	277745	28.065	ng	100
52) cis-1,3-Dichloropropene	12.66	75	528745	29.295	ng	100
53) 4-Methyl-2-pentanone	12.69	58	222720	29.880	ng	96
54) trans-1,3-Dichloropropene	13.18	75	495806	28.692	ng	100
55) 1,1,2-Trichloroethane	13.36	97	315513	27.099	ng	99
58) Toluene	13.65	91	1313293	28.145	ng	99
59) 2-Hexanone	13.89	43	469302	33.729	ng	97
60) Dibromochloromethane	14.06	129	459582	28.988	ng	100
61) 1,2-Dibromoethane	14.32	107	387257	29.778	ng	100
62) n-Butyl Acetate	14.53	43	509579	32.776	ng	99
63) n-Octane	14.67	57	212813	28.650	ng	99
64) Tetrachloroethene	14.80	166	468977	26.683	ng	100
65) Chlorobenzene	15.51	112	960089	28.104	ng	100
66) Ethylbenzene	15.90	91	1523892	28.028	ng	100
67) m- & p-Xylenes	16.10	91	2521802	54.978	ng	99
68) Bromoform	16.16	173	416897	29.697	ng	99
69) Styrene	16.47	104	993435	29.761	ng	99
70) o-Xylene	16.58	91	1241791	27.567	ng	100
71) n-Nonane	16.82	43	401830	27.652	ng	99
72) 1,1,2,2-Tetrachloroethane	16.56	83	488271	28.613	ng	100
74) Cumene	17.19	105	1618709	27.550	ng	99
75) alpha-Pinene	17.60	93	791258	29.573	ng	98
76) n-Propylbenzene	17.72	91	1795854	28.056	ng	99
77) 3-Ethyltoluene	17.83	105	1637458	28.544	ng	99
78) 4-Ethyltoluene	17.88	105	1500220	26.856	ng	99
79) 1,3,5-Trimethylbenzene	17.95	105	1391482	26.956	ng	99
80) alpha-Methylstyrene	18.11	118	756764	29.303	ng	99
81) 2-Ethyltoluene	18.15	105	1566736	27.448	ng	99
82) 1,2,4-Trimethylbenzene	18.38	105	1362821	27.302	ng	99
83) n-Decane	18.50	57	504644	28.695	ng	100
84) Benzyl Chloride	18.51	91	1157669	30.747	ng	99
85) 1,3-Dichlorobenzene	18.54	146	862158	28.649	ng	100
86) 1,4-Dichlorobenzene	18.61	146	884146	28.809	ng	100
87) sec-Butylbenzene	18.67	105	1735870	27.153	ng	99
88) 4-Isopropyltoluene (p-...	18.83	119	1672562	26.931	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	1324894	26.520	ng	99
90) 1,2-Dichlorobenzene	18.97	146	818719	28.005	ng	100
91) d-Limonene	18.99	68	394668	27.987	ng	99
92) 1,2-Dibromo-3-Chloropr...	19.43	157	300820	27.139	ng	96
93) n-Undecane	19.83	57	524244	28.250	ng	100
94) 1,2,4-Trichlorobenzene	20.77	180	616887	28.592	ng	100
95) Naphthalene	20.89	128	1682828	26.172	ng	100
96) n-Dodecane	20.92	57	467961	28.159	ng	100
97) Hexachlorobutadiene	21.26	225	431088	24.552	ng	99
98) Cyclohexanone	16.24	55	324914	28.571	ng	98
99) tert-Butylbenzene	18.38	119	1331915	26.570	ng	99
100) n-Butylbenzene	19.27	91	1315850	28.038	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302007.D Vial: 2
Acq On : 30 Apr 2020 6:24 Operator: SC
Sample : LCSD R9043020_25ng Inst : MS09
Misc : S34-04212006/S34-04272008 (5/26)

Quant Time: Apr 30 07:40:56 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302012.D Vial: 1
Acq On : 30 Apr 2020 10:29 Operator: WA
Sample : P2002029-012dup (1.0mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 13:53:42 2020 4/30/20
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	153015	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	647165	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	293010	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	228908	11.546	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.40%			
57) Toluene-d8 (SS2)	13.55	98	700574	12.383	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.04%			
73) Bromofluorobenzene (SS3)	17.05	174	269981	11.874	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.96%			
Target Compounds						Qvalue
2) Propene	3.89	42	3521	0.542	ng	# 79
3) Dichlorodifluoromethan...	3.99	85	240	N.D.		
4) Chloromethane	4.20	50	113	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.	d	
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.44	45	49	N.D.		
11) Acetonitrile	0.00	41	0	N.D.		
12) Acrolein	0.00	56	0	N.D.	d	
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	6.01	101	390	N.D.		
15) 2-Propanol (Isopropanol)	6.24	45	37	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.	d	
17) 1,1-Dichloroethene	6.73	96	1503	0.139	ng	100
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d	
19) Methylene Chloride	6.87	84	4273	0.412	ng	92
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d	
21) Trichlorotrifluoroethane	7.19	151	14613	1.143	ng	100
22) Carbon Disulfide	7.18	76	275	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	8.09	63	545	N.D.		
25) Methyl tert-Butyl Ether	8.19	73	666	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	0.00	72	0	N.D.	d	
28) cis-1,2-Dichloroethene	8.74	61	533	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	0.00	61	0	N.D.	d	
31) n-Hexane	9.24	57	1208673	92.168	ng	100
32) Chloroform	9.27	83	209	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d	
38) 1,1,1-Trichloroethane	10.30	97	15881	0.714	ng	99
39) Isopropyl Acetate	0.00	61	0	N.D.	d	
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	10.76	78	2299644	54.510	ng	100
42) Carbon Tetrachloride	10.90	117	129	N.D.		
43) Cyclohexane	11.05	84	1763341	106.690	ng	98
44) tert-Amyl Methyl Ether	11.30	73	735	N.D.		
45) 1,2-Dichloropropane	11.57	63	322	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	11.82	130	1123	0.077	ng	89
48) 1,4-Dioxane	0.00	88	0	N.D.	d	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302012.D Vial: 1
Acq On : 30 Apr 2020 10:29 Operator: WA
Sample : P2002029-012dup (1.0mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 13:53:42 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

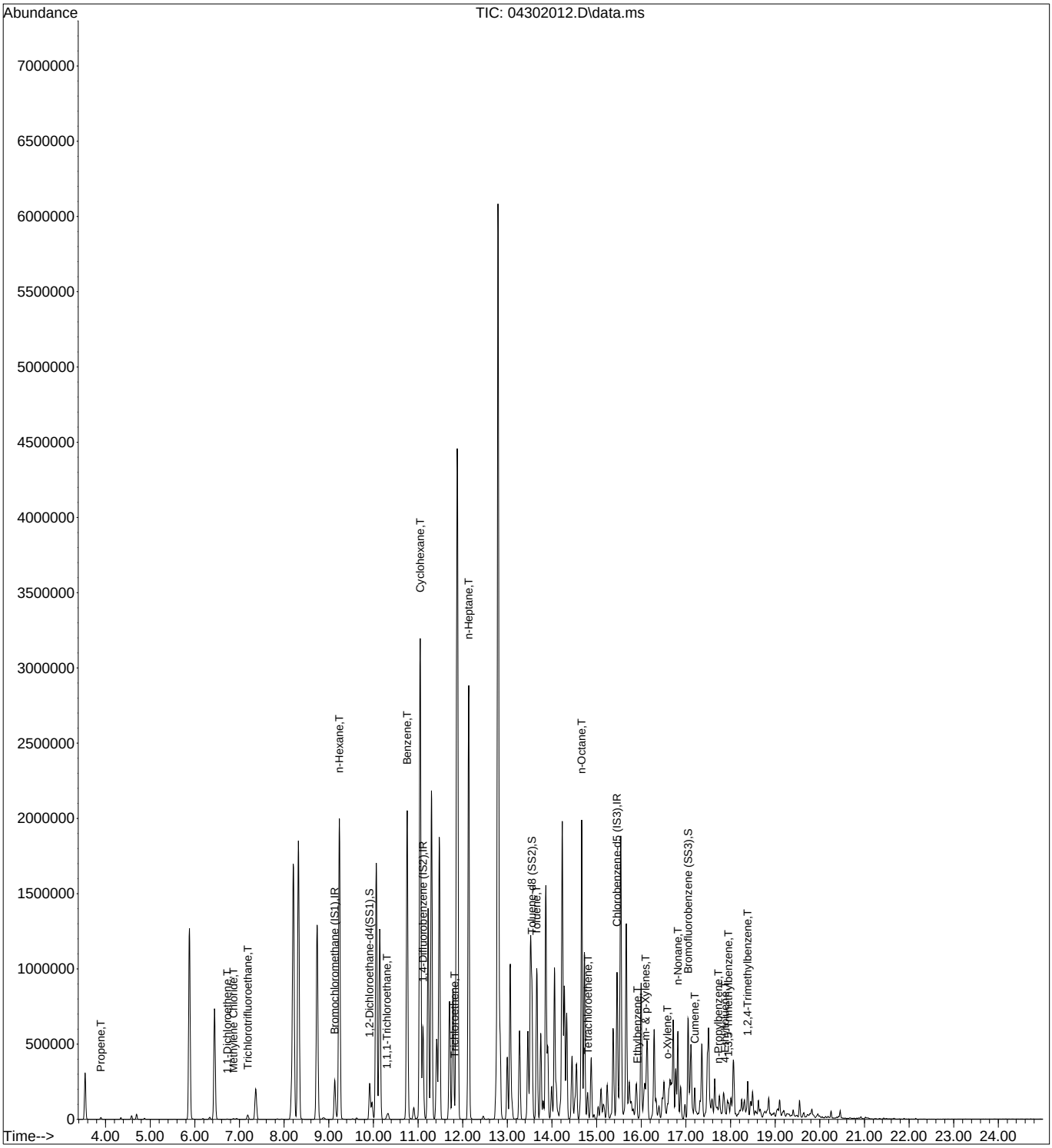
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.14	71	903710	92.196 ng	100
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	12.96	75	218	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	13.65	91	144805	3.049 ng	99
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.67	57	389156	51.467 ng	99
64) Tetrachloroethene	14.81	166	5250	0.293 ng	95
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.91	91	9085	0.164 ng	88
67) m- & p-Xylenes	16.10	91	134016	2.870 ng	96
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.50	104	108	N.D.	
70) o-Xylene	16.58	91	40692	0.887 ng	99
71) n-Nonane	16.82	43	172318	11.649 ng	98
72) 1,1,2,2-Tetrachloroethane	16.58	83	380	N.D.	
74) Cumene	17.20	105	5990	0.100 ng	100
75) alpha-Pinene	17.60	93	1088	N.D.	
76) n-Propylbenzene	17.73	91	9023	0.138 ng	77
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	5095	0.090 ng	94
79) 1,3,5-Trimethylbenzene	17.95	105	25245	0.480 ng	100
80) alpha-Methylstyrene	18.12	118	153	N.D.	
81) 2-Ethyltoluene	18.15	105	1909	N.D.	
82) 1,2,4-Trimethylbenzene	18.38	105	27065	0.533 ng	89
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.55	91	615	N.D.	
85) 1,3-Dichlorobenzene	18.55	146	195	N.D.	
86) 1,4-Dichlorobenzene	18.63	146	318	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	18.83	119	2209	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	18.98	146	881	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	20.79	180	286	N.D.	
95) Naphthalene	20.93	128	890	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	21.26	225	108	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302012.D Vial: 1
Acq On : 30 Apr 2020 10:29 Operator: WA
Sample : P2002029-012dup (1.0mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 13:53:42 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



R9042220.M Thu Apr 30 13:54:53 2020

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302012.D Vial: 1
Acq On : 30 Apr 2020 10:29 Operator: WA
Sample : P2002029-012dup (1.0mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 13:53:42 2020 4/30/20
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

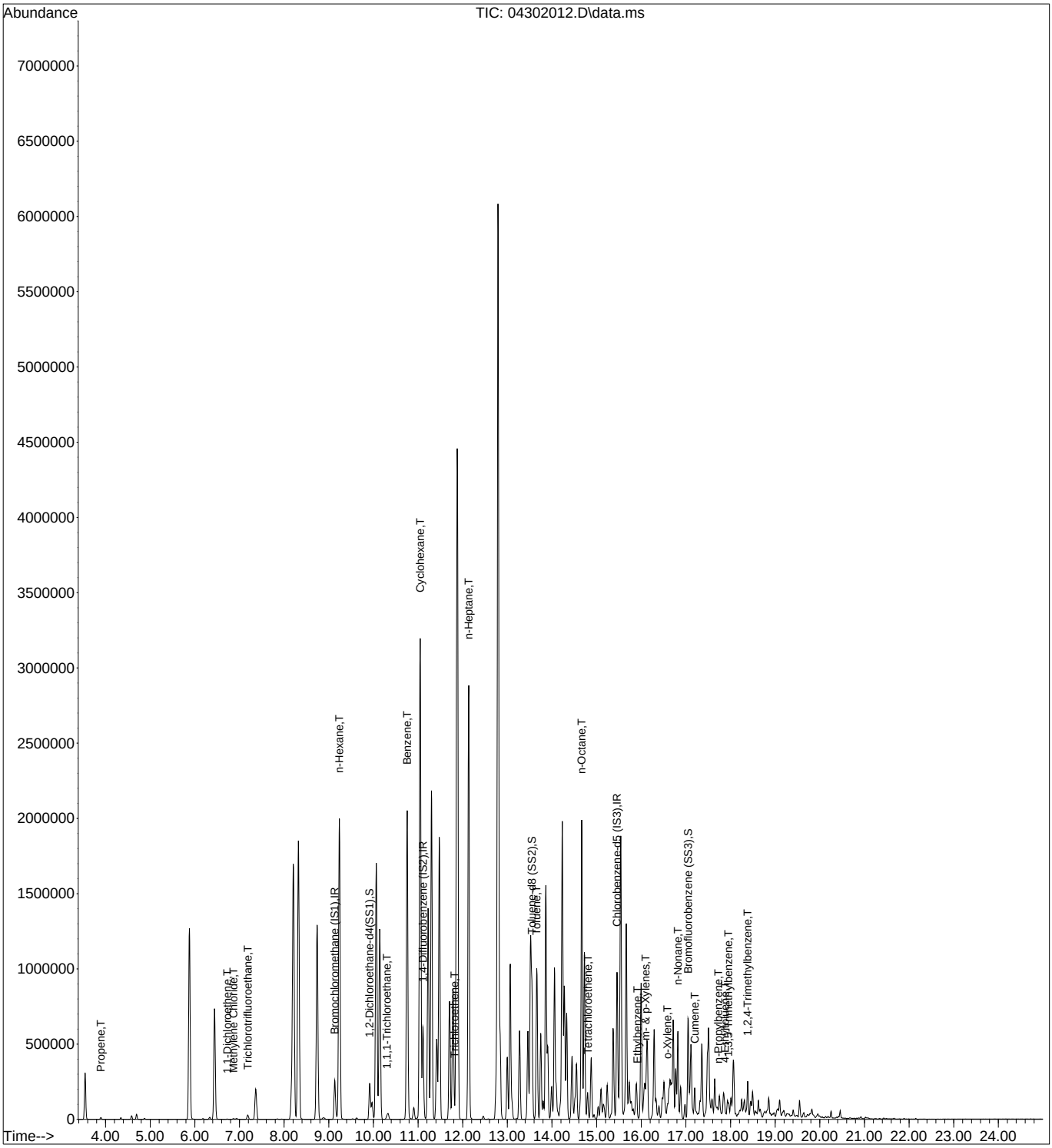
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	153015	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	647165	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	293010	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	228908	11.546	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.40%			
57) Toluene-d8 (SS2)	13.55	98	700574	12.383	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.04%			
73) Bromofluorobenzene (SS3)	17.05	174	269981	11.874	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.96%			
Target Compounds						Qvalue
2) Propene	3.89	42	3521	0.542	ng	# 79
17) 1,1-Dichloroethene	6.73	96	1503	0.139	ng	100
19) Methylene Chloride	6.87	84	4273	0.412	ng	92
21) Trichlorotrifluoroethane	7.19	151	14613	1.143	ng	100
31) n-Hexane	9.24	57	1208673	92.168	ng	100
38) 1,1,1-Trichloroethane	10.30	97	15881	0.714	ng	99
41) Benzene	10.76	78	2299644	54.510	ng	100
43) Cyclohexane	11.05	84	1763341	106.690	ng	98
47) Trichloroethene	11.82	130	1123	0.077	ng	89
51) n-Heptane	12.14	71	903710	92.196	ng	100
58) Toluene	13.65	91	144805	3.049	ng	99
63) n-Octane	14.67	57	389156	51.467	ng	99
64) Tetrachloroethene	14.81	166	5250	0.293	ng	95
66) Ethylbenzene	15.91	91	9085	0.164	ng	88
67) m- & p-Xylenes	16.10	91	134016	2.870	ng	96
70) o-Xylene	16.58	91	40692	0.887	ng	99
71) n-Nonane	16.82	43	172318	11.649	ng	98
74) Cumene	17.20	105	5990	0.100	ng	100
76) n-Propylbenzene	17.73	91	9023	0.138	ng	77
78) 4-Ethyltoluene	17.88	105	5095	0.090	ng	94
79) 1,3,5-Trimethylbenzene	17.95	105	25245	0.480	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	27065	0.533	ng	89

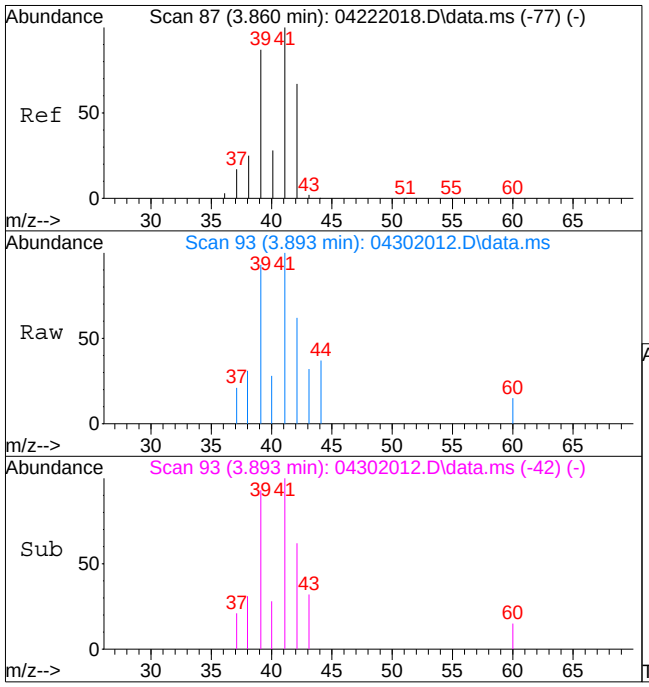
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302012.D Vial: 1
Acq On : 30 Apr 2020 10:29 Operator: WA
Sample : P2002029-012dup (1.0mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 30 13:53:42 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

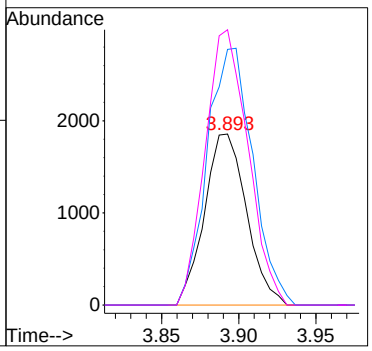


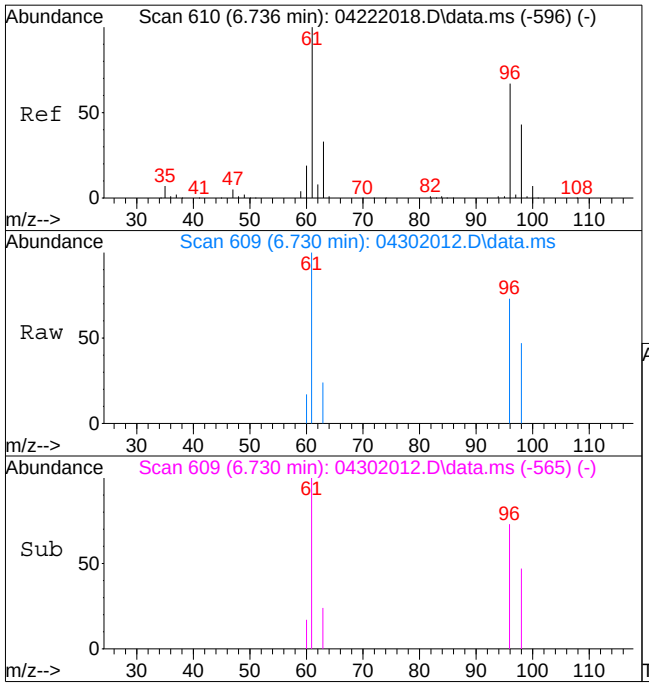


#2
Propene
Concen: 0.54 ng
RT: 3.89 min Scan# 93
Delta R.T. 0.033 min
Lab File: 04302012.D
Acq: 30 Apr 2020 10:29

Tgt Ion: 42 Resp: 3521

Ion	Ratio	Lower	Upper
42	100		
39	162.9	106.4	146.4#
41	163.9	128.8	168.8

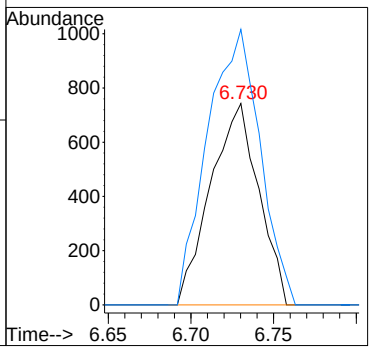


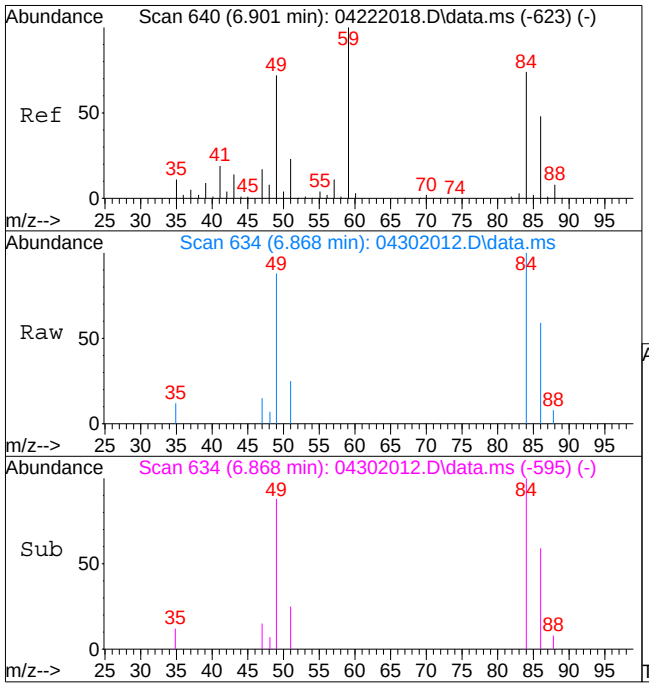


#17
1,1-Dichloroethene
Concen: 0.14 ng
RT: 6.73 min Scan# 609
Delta R.T. -0.006 min
Lab File: 04302012.D
Acq: 30 Apr 2020 10:29

Tgt Ion: 96 Resp: 1503

Ion	Ratio	Lower	Upper
96	100		
61	149.4	129.8	169.8

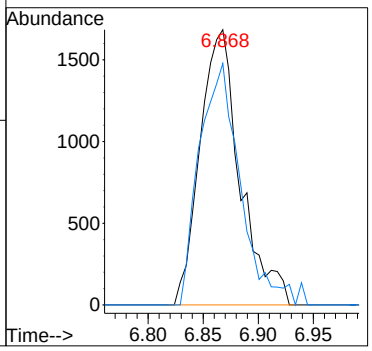


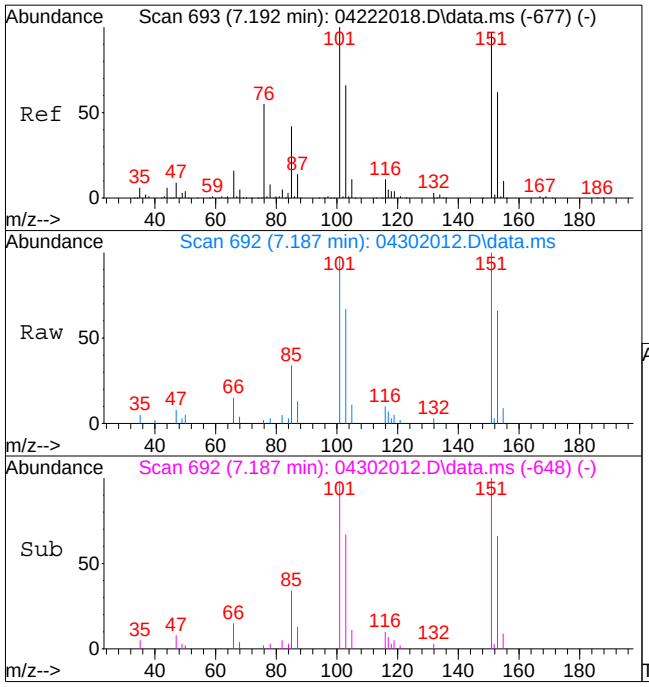


#19
Methylene Chloride
Concen: 0.41 ng
RT: 6.87 min Scan# 634
Delta R.T. -0.033 min
Lab File: 04302012.D
Acq: 30 Apr 2020 10:29

Tgt Ion: 84 Resp: 4273

Ion	Ratio	Lower	Upper
84	100		
49	90.0	73.0	123.0

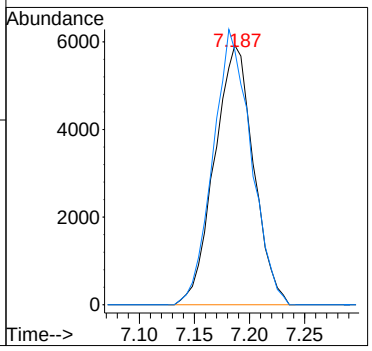


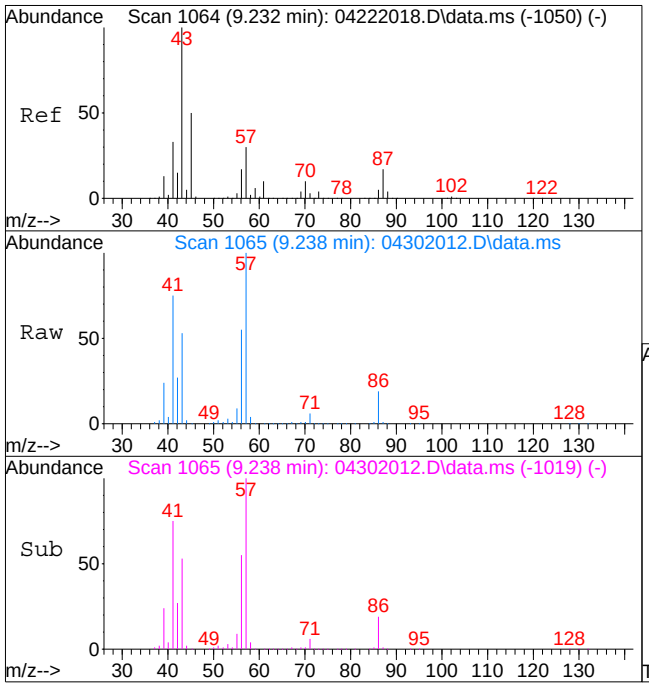


#21
Trichlorotrifluoroethane
Concen: 1.14 ng
RT: 7.19 min Scan# 692
Delta R.T. -0.006 min
Lab File: 04302012.D
Acq: 30 Apr 2020 10:29

Tgt Ion:151 Resp: 14613

Ion	Ratio	Lower	Upper
151	100		
101	103.3	82.9	122.9

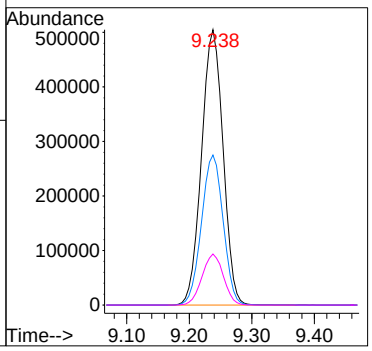


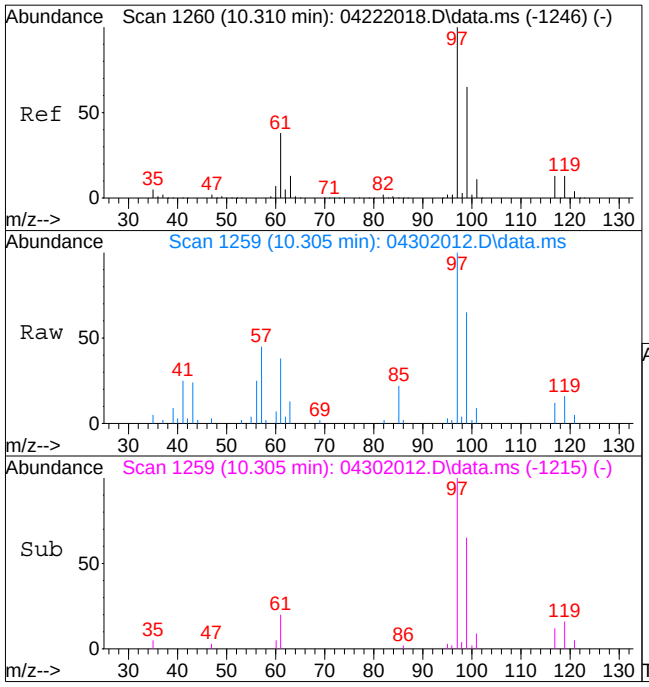


#31
n-Hexane
Concen: 92.17 ng
RT: 9.24 min Scan# 1065
Delta R.T. 0.005 min
Lab File: 04302012.D
Acq: 30 Apr 2020 10:29

Tgt Ion: 57 Resp: 1208673

Ion	Ratio	Lower	Upper
57	100		
56	54.7	44.0	66.0
86	18.4	15.0	22.4

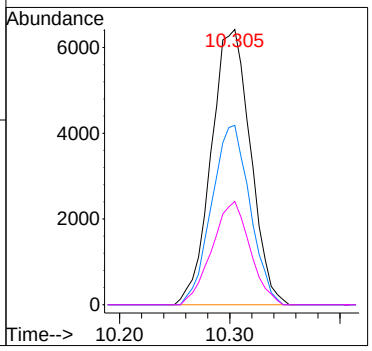


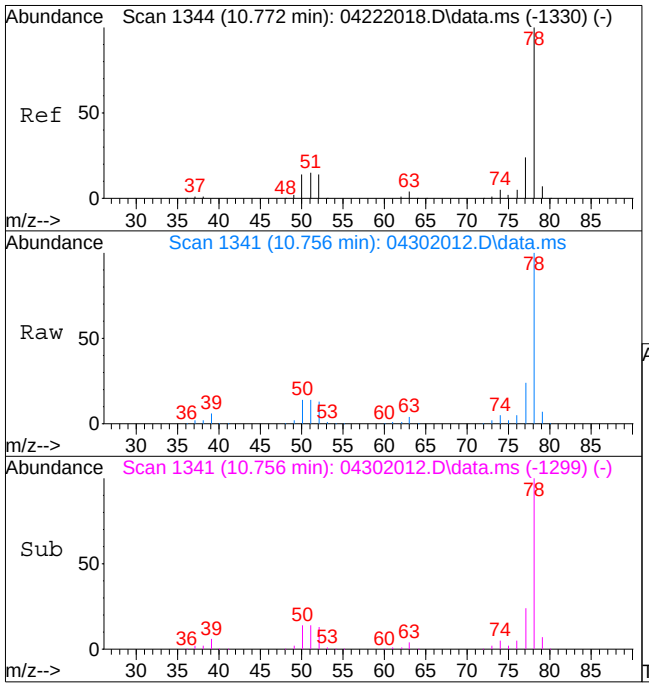


#38
1,1,1-Trichloroethane
Concen: 0.71 ng
RT: 10.30 min Scan# 1259
Delta R.T. -0.006 min
Lab File: 04302012.D
Acq: 30 Apr 2020 10:29

Tgt Ion: 97 Resp: 15881

Ion	Ratio	Lower	Upper
97	100		
99	63.6	44.7	84.7
61	36.4	17.2	57.2

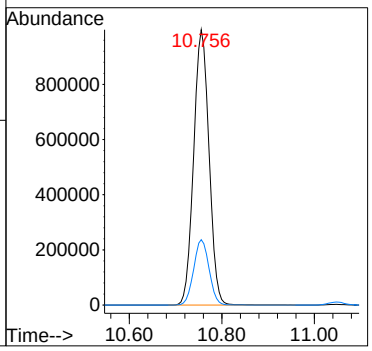


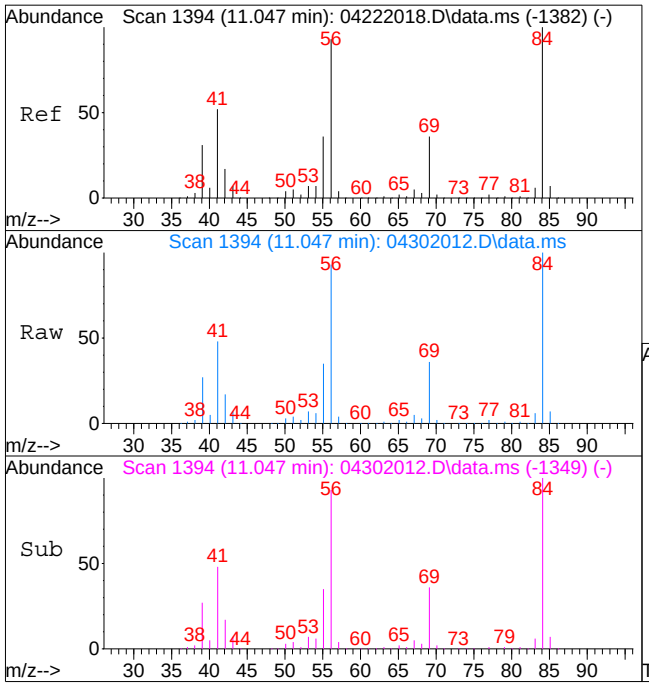


#41
Benzene
Concen: 54.51 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.017 min
Lab File: 04302012.D
Acq: 30 Apr 2020 10:29

Tgt Ion: 78 Resp: 2299644

Ion	Ratio	Lower	Upper
78	100		
77	23.8	3.6	43.6

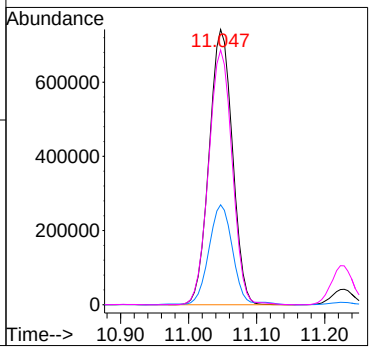


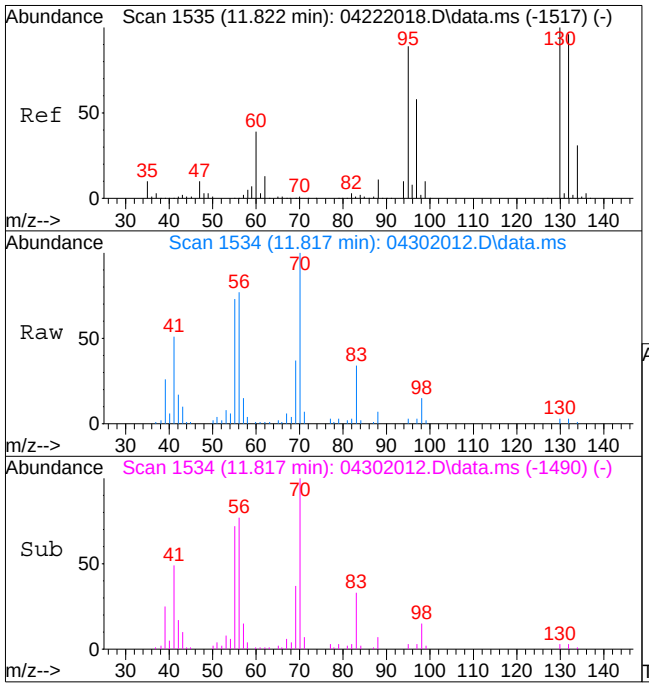


#43
Cyclohexane
Concen: 106.69 ng
RT: 11.05 min Scan# 1394
Delta R.T. -0.000 min
Lab File: 04302012.D
Acq: 30 Apr 2020 10:29

Tgt Ion: 84 Resp: 1763341

Ion	Ratio	Lower	Upper
84	100		
69	37.0	15.8	55.8
56	93.7	72.0	112.0

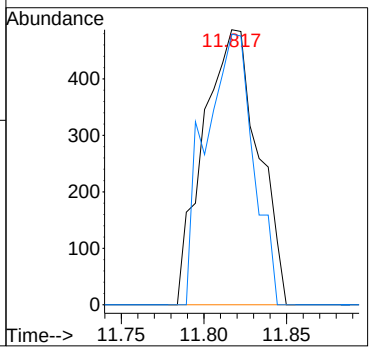


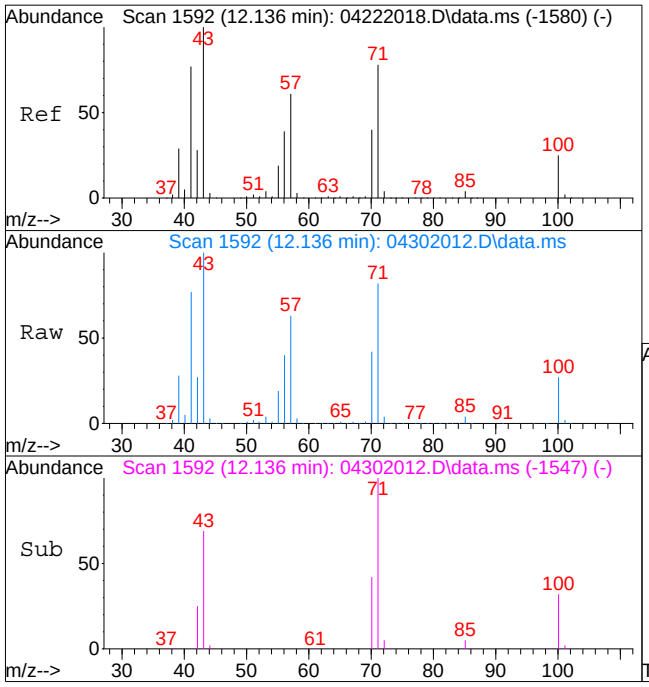


#47
Trichloroethene
Concen: 0.08 ng
RT: 11.82 min Scan# 1534
Delta R.T. -0.006 min
Lab File: 04302012.D
Acq: 30 Apr 2020 10:29

Tgt Ion:130 Resp: 1123

Ion	Ratio	Lower	Upper
130	100		
132	85.8	76.4	116.4

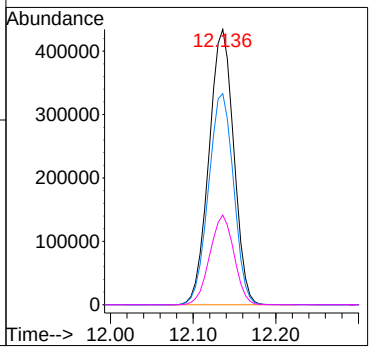


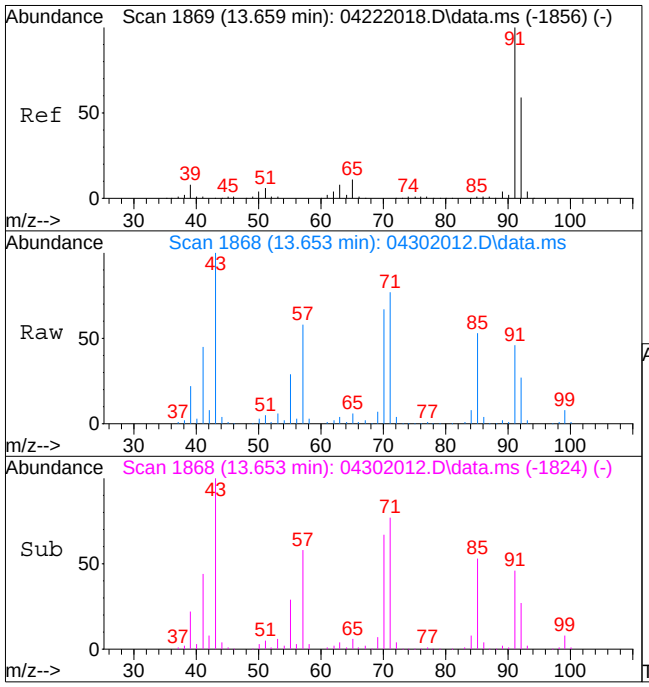


#51
n-Heptane
Concen: 92.20 ng
RT: 12.14 min Scan# 1592
Delta R.T. -0.000 min
Lab File: 04302012.D
Acq: 30 Apr 2020 10:29

Tgt Ion: 71 Resp: 903710

Ion	Ratio	Lower	Upper
71	100		
57	77.7	57.4	97.4
100	31.8	12.0	52.0

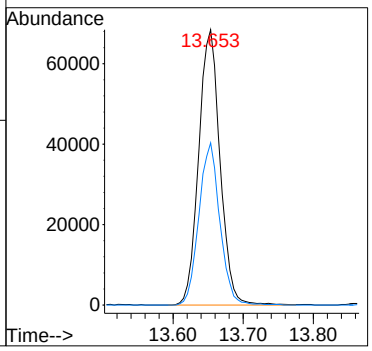


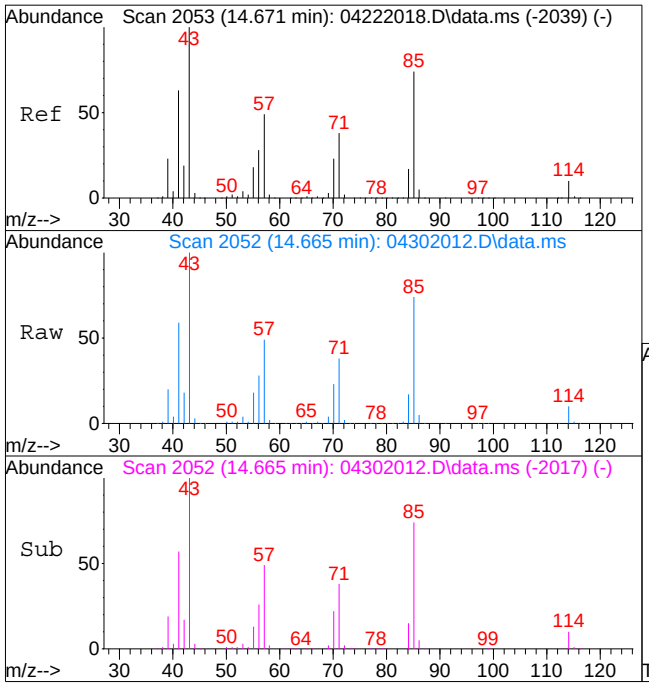


#58
Toluene
Concen: 3.05 ng
RT: 13.65 min Scan# 1868
Delta R.T. -0.006 min
Lab File: 04302012.D
Acq: 30 Apr 2020 10:29

Tgt Ion: 91 Resp: 144805

Ion	Ratio	Lower	Upper
91	100		
92	57.7	38.2	78.2

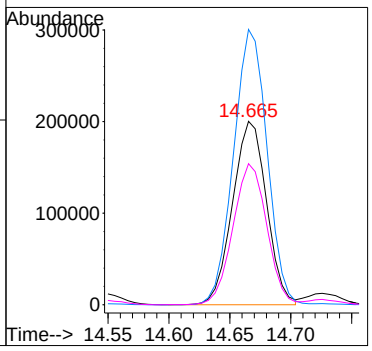


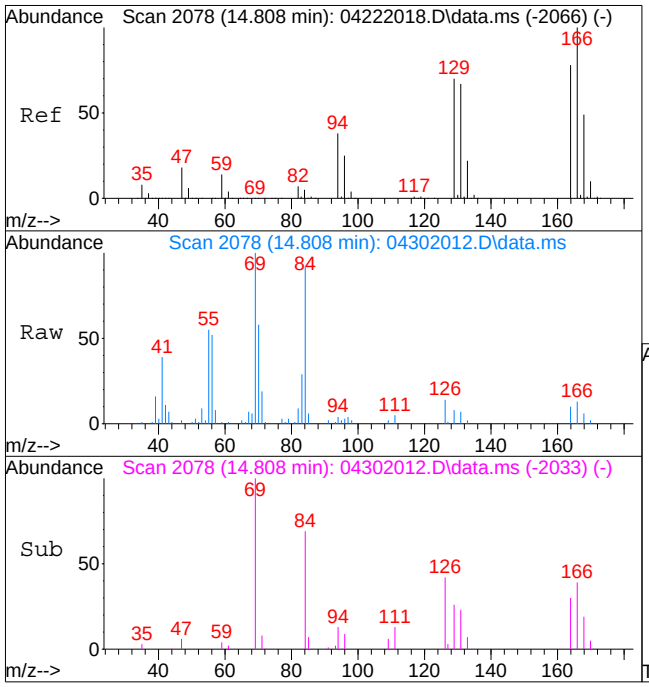


#63
n-Octane
Concen: 51.47 ng
RT: 14.67 min Scan# 2052
Delta R.T. -0.006 min
Lab File: 04302012.D
Acq: 30 Apr 2020 10:29

Tgt Ion: 57 Resp: 389156

Ion	Ratio	Lower	Upper
57	100		
85	148.6	120.7	181.1
71	76.7	61.1	91.7

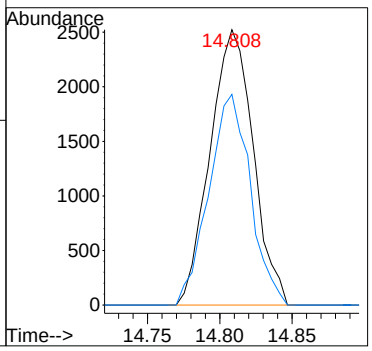


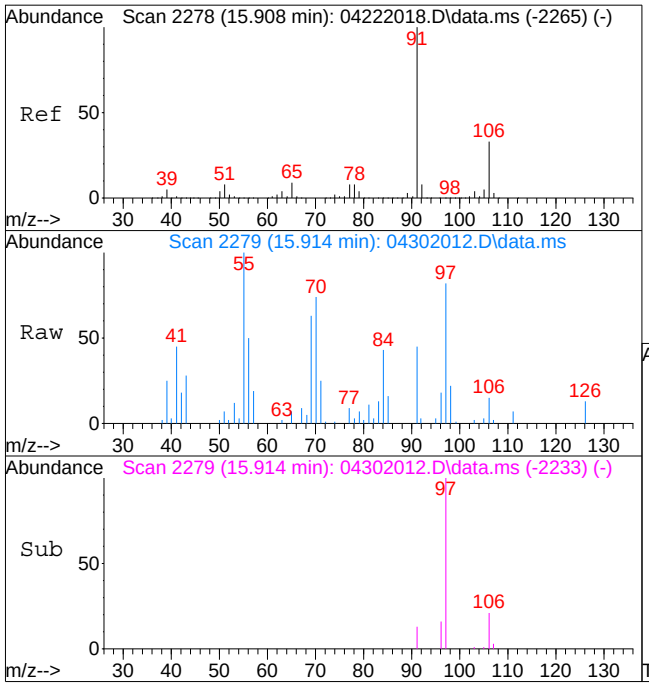


#64
Tetrachloroethene
Concen: 0.29 ng
RT: 14.81 min Scan# 2078
Delta R.T. -0.000 min
Lab File: 04302012.D
Acq: 30 Apr 2020 10:29

Tgt Ion:166 Resp: 5250

Ion	Ratio	Lower	Upper
166	100		
164	73.5	57.7	97.7

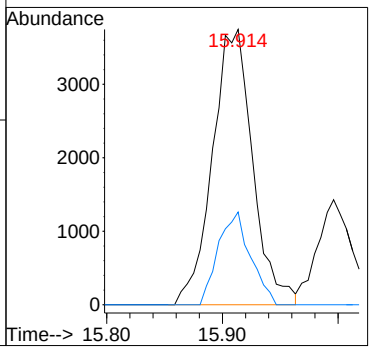


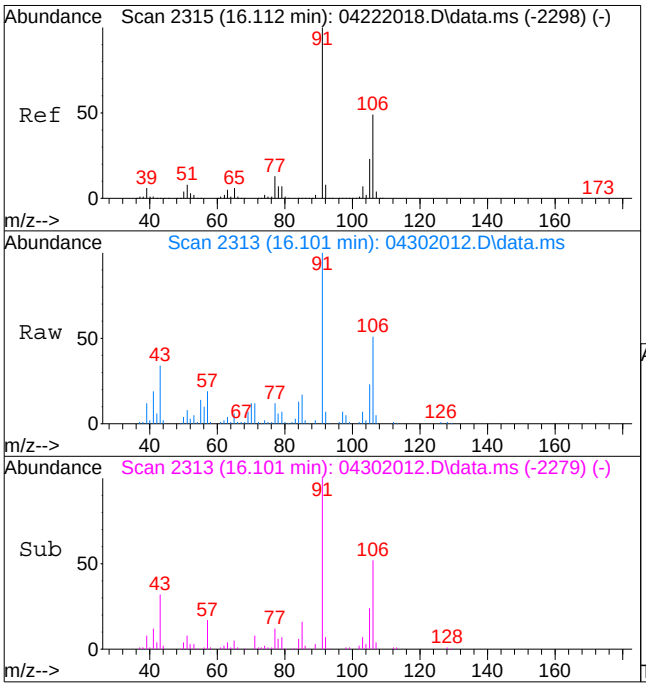


#66
Ethylbenzene
Concen: 0.16 ng
RT: 15.91 min Scan# 2279
Delta R.T. 0.005 min
Lab File: 04302012.D
Acq: 30 Apr 2020 10:29

Tgt Ion: 91 Resp: 9085

Ion	Ratio	Lower	Upper
91	100		
106	26.8	13.4	53.4

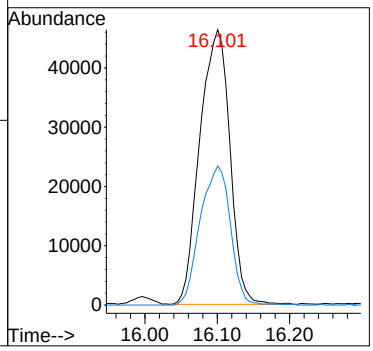


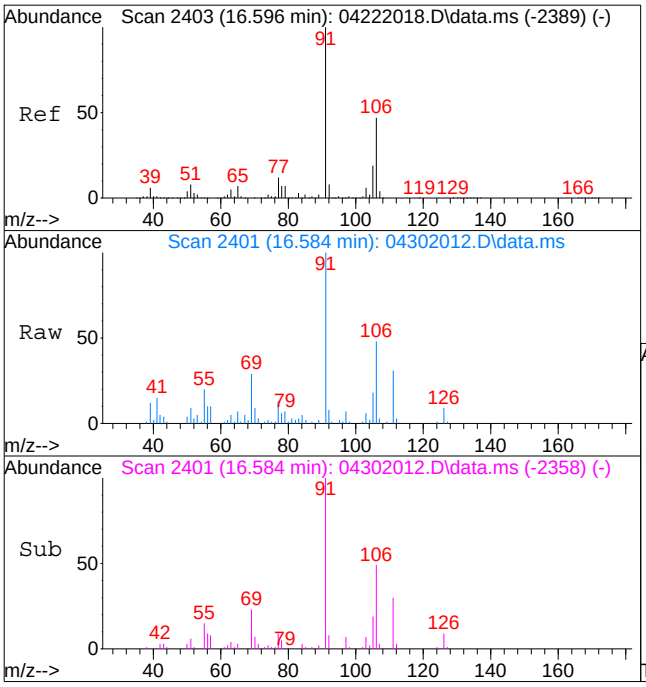


#67
m- & p-Xylenes
Concen: 2.87 ng
RT: 16.10 min Scan# 2313
Delta R.T. -0.011 min
Lab File: 04302012.D
Acq: 30 Apr 2020 10:29

Tgt Ion: 91 Resp: 134016

Ion	Ratio	Lower	Upper
91	100		
106	50.8	28.3	68.3

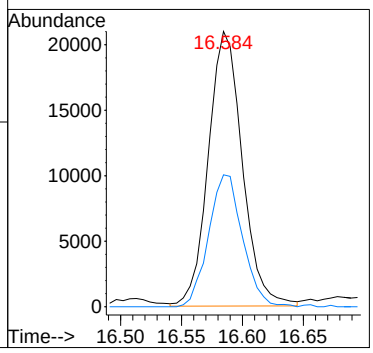


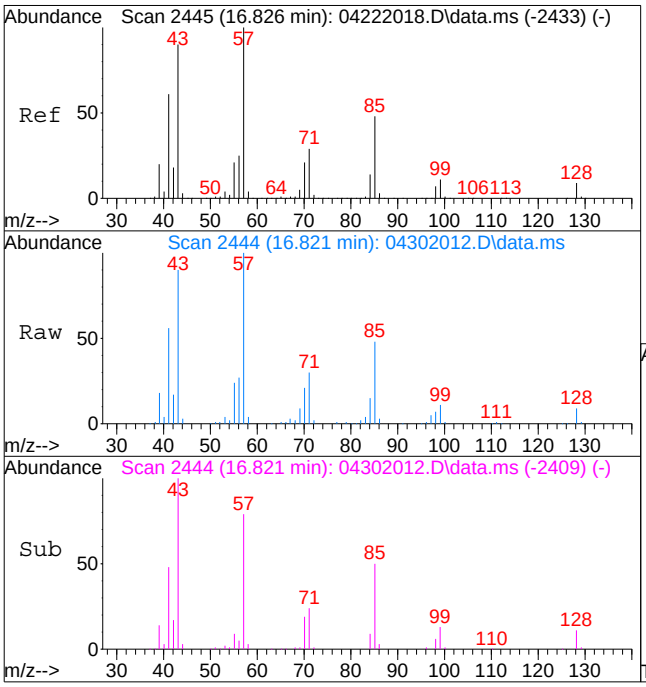


#70
o-Xylene
Concen: 0.89 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 04302012.D
Acq: 30 Apr 2020 10:29

Tgt Ion: 91 Resp: 40692

Ion	Ratio	Lower	Upper
91	100		
106	47.9	27.5	67.5

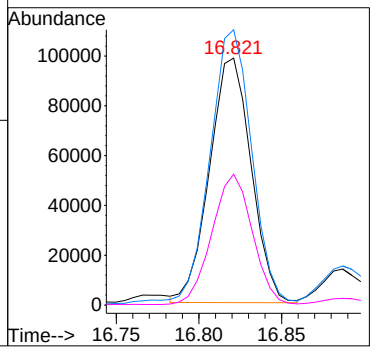


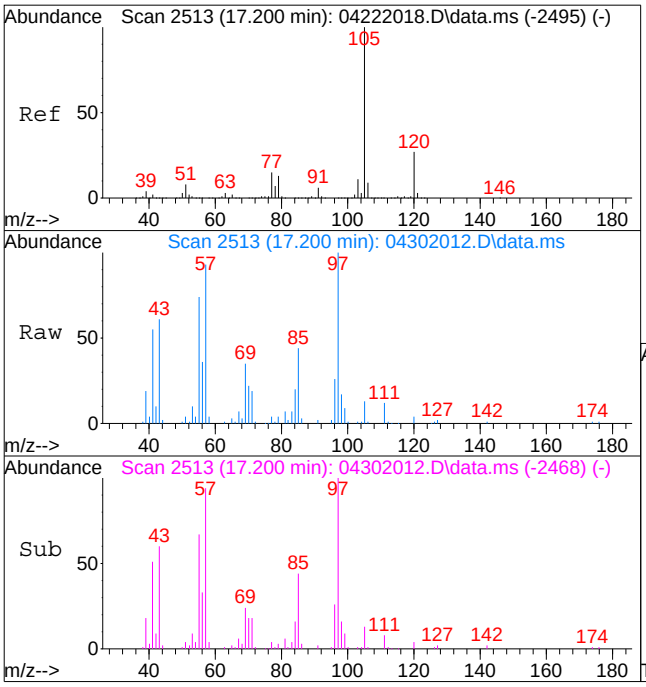


#71
n-Nonane
Concen: 11.65 ng
RT: 16.82 min Scan# 2444
Delta R.T. -0.006 min
Lab File: 04302012.D
Acq: 30 Apr 2020 10:29

Tgt Ion: 43 Resp: 172318

Ion	Ratio	Lower	Upper
43	100		
57	113.2	90.8	130.8
85	51.5	32.1	72.1

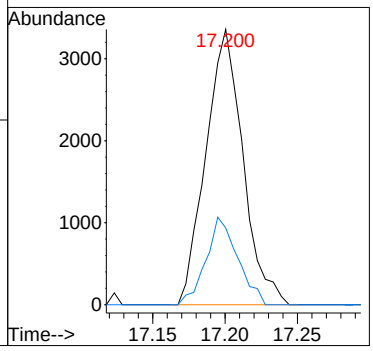


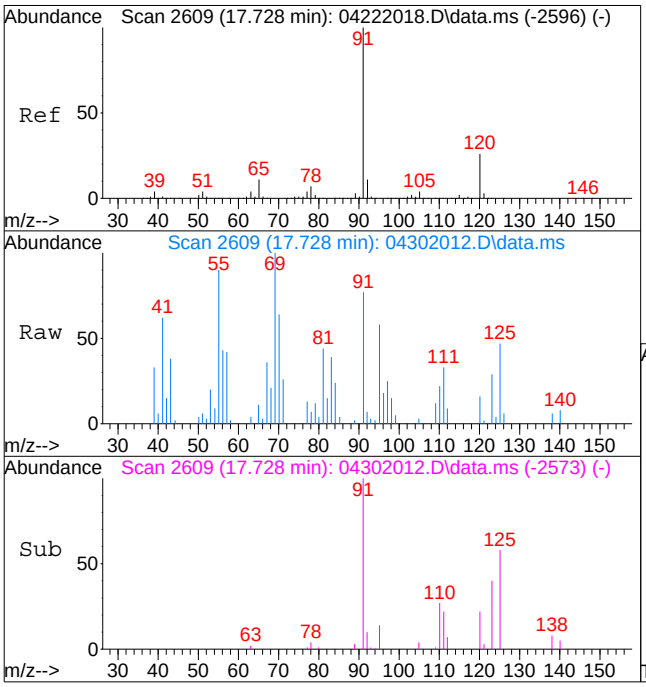


#74
Cumene
Concen: 0.10 ng
RT: 17.20 min Scan# 2513
Delta R.T. -0.000 min
Lab File: 04302012.D
Acq: 30 Apr 2020 10:29

Tgt Ion:105 Resp: 5990

Ion	Ratio	Lower	Upper
105	100		
120	27.1	7.3	47.3

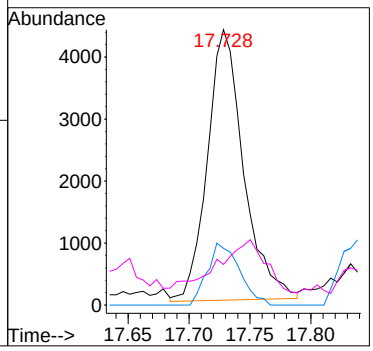


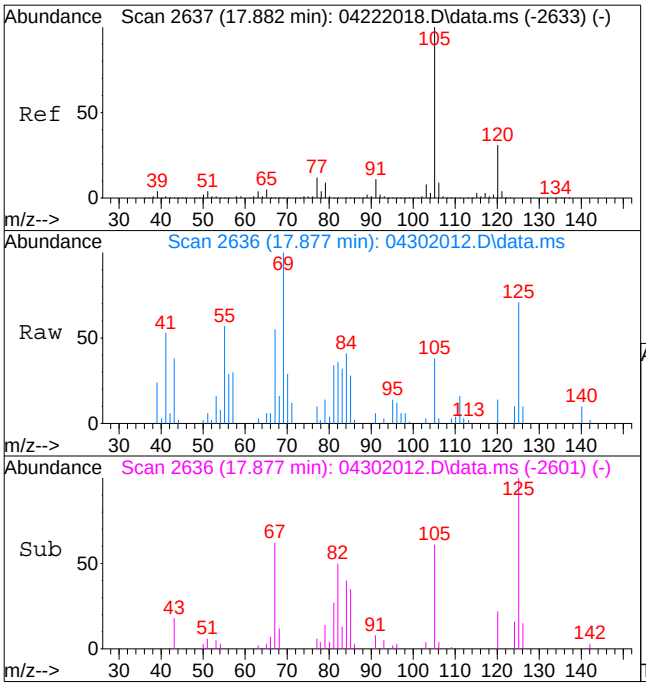


#76
n-Propylbenzene
Concen: 0.14 ng
RT: 17.73 min Scan# 2609
Delta R.T. -0.000 min
Lab File: 04302012.D
Acq: 30 Apr 2020 10:29

Tgt Ion: 91 Resp: 9023

Ion	Ratio	Lower	Upper
91	100		
120	20.3	6.1	46.1
65	30.0	0.0	30.7

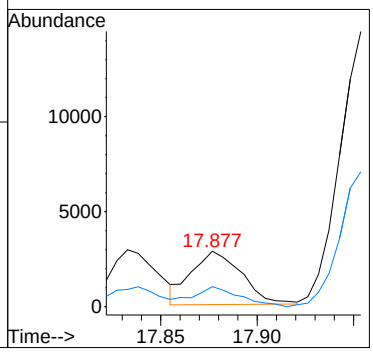


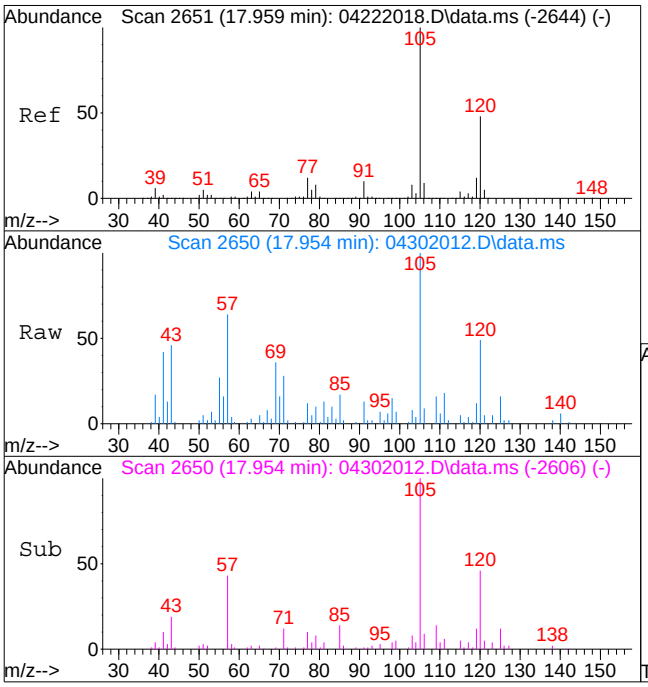


#78
4-Ethyltoluene
Concen: 0.09 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 04302012.D
Acq: 30 Apr 2020 10:29

Tgt Ion:105 Resp: 5095

Ion	Ratio	Lower	Upper
105	100		
120	34.9	11.4	51.4

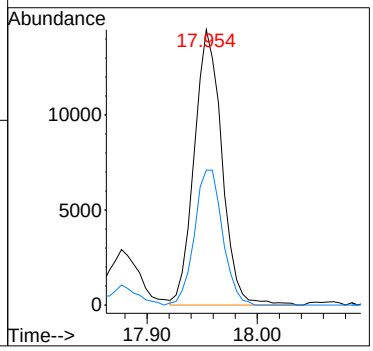


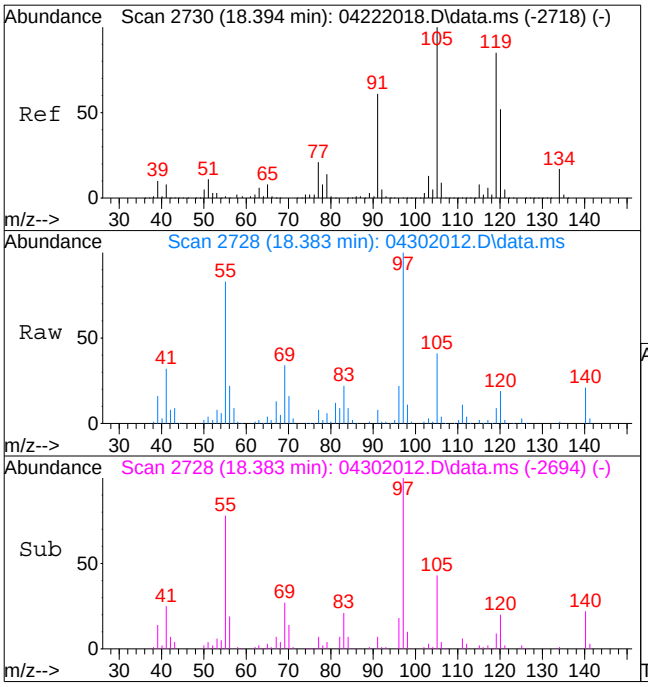


#79
1,3,5-Trimethylbenzene
Concen: 0.48 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 04302012.D
Acq: 30 Apr 2020 10:29

Tgt Ion:105 Resp: 25245

Ion	Ratio	Lower	Upper
105	100		
120	49.7	29.5	69.5

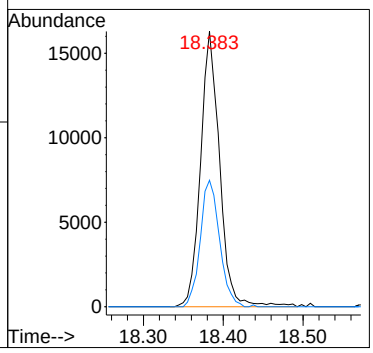




#82
1,2,4-Trimethylbenzene
Concen: 0.53 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 04302012.D
Acq: 30 Apr 2020 10:29

Tgt Ion:105 Resp: 27065

Ion	Ratio	Lower	Upper
105	100		
120	46.4	34.5	74.5



Response Factor Report MS09

Method Path : I:\MS09\Methods\
Method File : R9042220.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Apr 23 14:12:50 2020
Response Via : Initial Calibration

4/23/20

Calibration Files
0.2 =04222023.D 0.5 =04222013.D 1.0 =04222014.D 5.0 =04222015.D 25 =04222016.D 50 =04222

		Compound	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------	ISTD	----------						
2)	T	Propene	0.558	0.530	0.468	0.498	0.500	0.537	0.625	0.531	9.61
3)	T	Dichlorodifluo...	2.167	2.392	2.121	1.989	1.939	1.797	1.715	2.017	11.45
4)	T	Chloromethane	0.859	0.912	0.802	0.679	0.788	0.662	0.508	0.744	18.49
5)	T	1,2-Dichloro-1...	1.205	1.262	1.169	1.046	1.051	0.980	0.919	1.090	11.47
6)	T	Vinyl Chloride	1.031	1.068	0.997	0.957	0.971	0.925	0.883	0.976	6.42
7)	T	1,3-Butadiene	0.625	0.663	0.609	0.614	0.661	0.601	0.590	0.623	4.56
8)	T	Bromomethane	0.810	0.873	0.801	0.727	0.749	0.718	0.691	0.767	8.32
9)	T	Chloroethane	0.532	0.560	0.535	0.457	0.474	0.455	0.442	0.494	9.62
10)	T	Ethanol	0.505	0.494	0.430	0.344	0.361	0.345	0.336	0.402	18.28
11)	T	Acetonitrile	1.105	1.061	0.977	0.888	0.896	0.875	0.862	0.952	10.27
12)	T	Acrolein	0.340	0.348	0.389	0.364	0.385	0.375	0.371	0.367	4.94
13)	T	Acetone	0.567	0.562	0.524	0.464	0.450	0.420	0.394	0.483	14.21
14)	T	Trichlorofluor...	2.131	2.315	2.163	1.969	1.940	1.812	1.719	2.007	10.41
15)	T	2-Propanol (Is...	1.808	1.766	1.670	1.473	1.616	1.364	1.039	1.534	17.48
16)	T	Acrylonitrile	0.611	0.776	0.763	0.793	0.826	0.803	0.790	0.766	9.28
17)	T	1,1-Dichloroet...	0.937	1.006	0.918	0.857	0.858	0.817	0.784	0.882	8.63
18)	T	2-Methyl-2-Pro...	1.310	1.502	1.376	1.338	1.411	1.428	1.445	1.401	4.69
19)	T	Methylene Chlo...	0.909	0.949	0.875	0.826	0.831	0.792	0.746	0.847	8.21
20)	T	3-Chloro-1-pro...	1.049	1.180	1.051	0.934	0.927	0.892	0.844	0.983	11.82
21)	T	Trichlorotrifl...	1.117	1.242	1.128	1.020	0.994	0.930	0.881	1.044	12.00
22)	T	Carbon Disulfide	2.907	3.151	2.883	2.739	2.804	2.672	2.552	2.815	6.83
23)	T	trans-1,2-Dich...	0.991	1.205	1.144	1.128	1.153	1.106	1.068	1.114	6.16
24)	T	1,1-Dichloroet...	1.476	1.555	1.490	1.341	1.353	1.284	1.239	1.391	8.42
25)	T	Methyl tert-Bu...	1.735	1.922	1.763	1.717	1.775	1.794	1.845	1.793	3.93
26)	T	Vinyl Acetate	0.143	0.183	0.179	0.186	0.192	0.180	0.170	0.176	9.11
27)	T	2-Butanone (MEK)	0.420	0.488	0.521	0.505	0.532	0.513	0.493	0.496	7.41
28)	T	cis-1,2-Dichlo...	1.106	1.268	1.184	1.109	1.113	1.068	1.030	1.126	6.97
29)	T	Diisopropyl Ether	0.905	0.842	0.744	0.679	0.660	0.616	0.584	0.718	16.53
30)	T	Ethyl Acetate	0.187	0.248	0.235	0.225	0.230	0.216	0.205	0.221	9.28
31)	T	n-Hexane	1.190	1.283	1.164	1.029	1.015	0.940	0.878	1.071	13.59
32)	T	Chloroform	1.823	1.972	1.802	1.671	1.658	1.564	1.508	1.714	9.41
33)	S	1,2-Dichloroet...	1.605	1.626	1.667	1.619	1.604	1.606	1.610	1.620	1.38
34)	T	Tetrahydrofura...	0.496	0.553	0.516	0.493	0.506	0.485	0.468	0.502	5.39
35)	T	Ethyl tert-But...	0.830	0.913	0.819	0.743	0.736	0.685	0.650	0.768	11.90
36)	T	1,2-Dichloroet...	1.392	1.582	1.491	1.397	1.395	1.328	1.283	1.410	7.08
37)	IR	1,4-Difluorobenzen...	----------	ISTD	----------						
38)	T	1,1,1-Trichlor...	0.423	0.509	0.440	0.425	0.424	0.402	0.387	0.430	9.06
39)	T	Isopropyl Acetate	0.101	0.119	0.107	0.102	0.102	0.096	0.092	0.103	8.43
40)	T	1-Butanol	0.116	0.121	0.118	0.138	0.164	0.156	0.151	0.138	14.38
41)	T	Benzene	0.888	0.924	0.845	0.799	0.789	0.744	0.714	0.815	9.27
42)	T	Carbon Tetrach...	0.416	0.487	0.432	0.421	0.420	0.394	0.378	0.421	8.15
43)	T	Cyclohexane	0.343	0.365	0.333	0.318	0.311	0.291	0.274	0.319	9.69
44)	T	tert-Amyl Meth...	0.443	0.499	0.459	0.420	0.421	0.390	0.362	0.428	10.51
45)	T	1,2-Dichloropr...	0.167	0.188	0.173	0.164	0.165	0.157	0.153	0.167	6.90
46)	T	Bromodichlorom...	0.347	0.383	0.344	0.328	0.331	0.311	0.302	0.335	7.98
47)	T	Trichloroethene	0.283	0.325	0.291	0.284	0.281	0.263	0.248	0.282	8.51
48)	T	1,4-Dioxane	0.143	0.177	0.168	0.161	0.175	0.165	0.157	0.164	7.12
49)	T	2,2,4-Trimethy...	0.771	0.780	0.691	0.663	0.650	0.617	0.593	0.681	10.61
50)	T	Methyl Methacr...	0.076	0.089	0.092	0.089	0.094	0.087	0.084	0.087	6.71
51)	T	n-Heptane	0.201	0.214	0.195	0.186	0.188	0.175	0.167	0.189	8.32
52)	T	cis-1,3-Dichlo...	0.300	0.376	0.346	0.350	0.365	0.346	0.334	0.345	7.05
53)	T	4-Methyl-2-pen...	0.110	0.154	0.140	0.149	0.155	0.147	0.143	0.143	10.90
54)	T	trans-1,3-Dich...	0.278	0.327	0.316	0.334	0.366	0.348	0.338	0.331	8.48
55)	T	1,1,2-Trichlor...	0.226	0.247	0.236	0.217	0.222	0.209	0.202	0.223	6.89

56)	IR	Chlorobenzene-d5 (...	----------ISTD----------								
57)	S	Toluene-d8 (SS2)	2.506	2.421	2.410	2.390	2.396	2.394	2.377	2.414	1.79
58)	T	Toluene	2.331	2.268	2.104	1.966	1.962	1.837	1.717	2.026	10.98
59)	T	2-Hexanone	0.404	0.541	0.577	0.636	0.724	0.691	0.657	0.604	17.94
60)	T	Dibromochlorom...	0.661	0.764	0.704	0.684	0.710	0.667	0.629	0.688	6.26
61)	T	1,2-Dibromoethane	0.574	0.600	0.559	0.563	0.586	0.549	0.523	0.565	4.50
62)	T	n-Butyl Acetate	0.561	0.644	0.653	0.670	0.763	0.733	0.703	0.675	9.83
63)	T	n-Octane	0.354	0.377	0.337	0.312	0.311	0.293	0.274	0.323	11.10
64)	T	Tetrachloroethene	0.909	0.871	0.796	0.733	0.730	0.676	0.628	0.763	13.32
65)	T	Chlorobenzene	1.613	1.741	1.521	1.444	1.448	1.352	1.265	1.484	10.76
66)	T	Ethylbenzene	2.577	2.658	2.418	2.342	2.324	2.174	2.035	2.361	9.17
67)	T	m- & p-Xylenes	2.268	2.282	2.049	1.963	1.930	1.790	1.662	1.992	11.55
68)	T	Bromoform	0.584	0.624	0.619	0.624	0.645	0.605	0.567	0.610	4.39
69)	T	Styrene	1.358	1.563	1.488	1.486	1.519	1.419	1.315	1.450	6.18
70)	T	o-Xylene	2.106	2.285	2.026	1.959	1.907	1.770	1.641	1.956	10.87
71)	T	n-Nonane	0.673	0.729	0.657	0.627	0.617	0.578	0.536	0.631	10.05
72)	T	1,1,2,2-Tetrac...	0.769	0.856	0.747	0.744	0.742	0.688	0.641	0.741	9.02
73)	S	Bromofluoroben...	0.930	0.971	0.976	0.993	0.983	0.975	0.962	0.970	2.08
74)	T	Cumene	2.871	2.932	2.616	2.546	2.496	2.289	2.111	2.552	11.51
75)	T	alpha-Pinene	1.252	1.324	1.198	1.185	1.168	1.060	0.946	1.162	10.73
76)	T	n-Propylbenzene	2.961	3.122	2.855	2.815	2.780	2.559	2.367	2.780	9.00
77)	T	3-Ethyltoluene	2.558	2.873	2.591	2.482	2.531	2.267	2.137	2.491	9.52
78)	T	4-Ethyltoluene	2.466	2.754	2.501	2.536	2.414	2.275	2.037	2.426	9.24
79)	T	1,3,5-Trimethy...	2.377	2.617	2.372	2.252	2.198	2.016	1.860	2.242	11.15
80)	T	alpha-Methylst...	0.989	1.229	1.174	1.172	1.192	1.093	1.001	1.122	8.51
81)	T	2-Ethyltoluene	2.638	2.896	2.603	2.500	2.438	2.229	2.048	2.479	11.22
82)	T	1,2,4-Trimethy...	2.216	2.548	2.314	2.223	2.149	1.949	1.775	2.168	11.51
83)	T	n-Decane	0.652	0.907	0.813	0.803	0.785	0.719	0.667	0.764	11.81
84)	T	Benzyl Chloride	1.268	1.648	1.581	1.714	1.881	1.738	1.616	1.635	11.59
85)	T	1,3-Dichlorobe...	1.192	1.516	1.386	1.357	1.351	1.228	1.118	1.307	10.34
86)	T	1,4-Dichlorobe...	1.228	1.514	1.411	1.363	1.389	1.262	1.162	1.333	9.10
87)	T	sec-Butylbenzene	2.940	3.223	2.948	2.821	2.732	2.490	2.279	2.776	11.28
88)	T	4-Isopropyltol...	2.823	3.202	2.913	2.789	2.661	2.365	2.126	2.697	13.23
89)	T	1,2,3-Trimethy...	2.115	2.642	2.298	2.248	2.160	1.952	1.772	2.170	12.67
90)	T	1,2-Dichlorobe...	1.246	1.426	1.364	1.323	1.301	1.170	1.056	1.270	9.83
91)	T	d-Limonene	0.615	0.689	0.625	0.625	0.624	0.573	0.534	0.612	7.90
92)	T	1,2-Dibromo-3-...	0.413	0.503	0.477	0.498	0.528	0.490	0.459	0.481	7.67
93)	T	n-Undecane		0.890	0.829	0.817	0.832	0.761	0.706	0.806	7.92
94)	T	1,2,4-Trichlor...	0.482	0.990	1.003	1.029	1.115	1.011	0.929	0.937	22.19
95)	T	Naphthalene		2.617	2.620	2.847	3.167	2.882	2.622	2.792	7.86
96)	T	n-Dodecane		0.706	0.699	0.715	0.802	0.730	0.677	0.722	6.00
97)	T	Hexachlorobuta...	0.809	0.879	0.811	0.766	0.759	0.688	0.626	0.762	11.00
98)	T	Cyclohexanone	0.446	0.503	0.482	0.487	0.538	0.511	0.490	0.494	5.71
99)	T	tert-Butylbenzene	2.425	2.553	2.321	2.232	2.109	1.895	1.702	2.177	13.74
100)	T	n-Butylbenzene	1.831	2.315	2.155	2.108	2.128	1.939	1.791	2.038	9.33

(#) = Out of Range

R9042220.M Thu Apr 23 14:19:49 2020

Primary Source Standards Concentrations (Working & Initial Calibration)

5/1/20

1ng/L Std. ID:
4ng/L Std. ID: S34-04162006
20ng/L Std. ID: S34-04222004
200ng/L Std. ID: S34-04202004

Dilution Factors:		5	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	20	200	200	200
	Source Std.	Primary Working Standards				Injection (L):	0.025	0.050	0.025	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m^3	200ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
Propene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Dichlorodifluoromethane	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Chloromethane	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Freon-114	1.05	210	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Vinyl Chloride	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3-Butadiene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Bromomethane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Chloroethane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Ethanol	5.21	1042	104.2	20.84	5.21		0.521	1.042	2.605	5.21	26.05	130.25	260.5	521
Acetonitrile	1.05	210	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Acrolein	1.03	206	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Acetone	5.33	1066	106.6	21.32	5.33		0.533	1.066	2.665	5.33	26.65	133.25	266.5	533
Trichlorofluoromethane	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Isopropanol	2.10	420	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
Acrylonitrile	1.05	210	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,1-Dichloroethene	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
tert-Butanol	2.16	432	43.2	8.64	2.16		0.216	0.432	1.080	2.16	10.80	54.00	108.0	216
Methylene Chloride	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Allyl Chloride	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Trichlorotrifluoroethane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Carbon Disulfide	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
trans-1,2-Dichloroethene	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1-Dichloroethane	1.09	218	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
Methyl tert-Butyl Ether	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Vinyl Acetate	5.35	1070	107.0	21.40	5.35		0.535	1.070	2.675	5.35	26.75	133.75	267.5	535
2-Butanone	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
cis-1,2-Dichloroethene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Diisopropyl Ether	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Ethyl Acetate	2.17	434	43.4	8.68	2.17		0.217	0.434	1.085	2.17	10.85	54.25	108.5	217
n-Hexane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Chloroform	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Tetrahydrofuran	1.09	218	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
Ethyl tert-Butyl Ether	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dichloroethane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1,1-Trichloroethane	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Isopropyl Acetate	2.11	422	42.2	8.44	2.11		0.211	0.422	1.055	2.11	10.55	52.75	105.5	211
1-Butanol	2.08	416	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
Benzene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Carbon Tetrachloride	1.05	210	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Cyclohexane	2.12	424	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
tert-Amyl Methyl Ether	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dichloropropane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Bromodichloromethane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Trichloroethene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,4-Dioxane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Isooctane	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Methyl Methacrylate	2.15	430	43.0	8.60	2.15		0.215	0.430	1.075	2.15	10.75	53.75	107.5	215
n-Heptane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID:
4ng/L Std. ID: S34-04162006
20ng/L Std. ID: S34-04222004
200ng/L Std. ID: S34-04202004

Dilution Factors:		5	50	250	1000	**Working STD Conc.(ng/L):**	4	4	20	20	20	200	200	200
	Source Std.	Primary Working Standards				**Injection (L):**	0.025	0.050	0.025	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m^3	200ng/L	20ng/L	4ng/L	1ng/L	**ICAL Points:**	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
cis-1,3-Dichloropropene	1.04	208	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
4-Methyl-2-pentanone	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
trans-1,3-Dichloropropene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1,2-Trichloroethane	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Toluene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
2-Hexanone	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Dibromochloromethane	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,2-Dibromoethane	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Butyl Acetate	1.09	218	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
n-Octane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Tetrachloroethene	1.04	208	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Chlorobenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Ethylbenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
m-&p-Xylene	2.14	428	42.8	8.56	2.14		0.214	0.428	1.070	2.14	10.70	53.50	107.0	214
Bromoform	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Styrene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
o-Xylene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Nonane	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,1,2,2-Tetrachloroethane	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Cumene	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
alpha-Pinene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Propylbenzene	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
3-Ethyltoluene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
4-Ethyltoluene	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3,5-Trimethylbenzene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
alpha-Methylstyrene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
2-Ethyltoluene	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2,4-Trimethylbenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Decane	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Benzyl Chloride	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3-Dichlorobenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,4-Dichlorobenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
sec-Butylbenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
p-Isopropyltoluene	1.09	218	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
1,2,3-Trimethylbenzene	1.09	218	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
1,2-Dichlorobenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
d-Limonene	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dibromo-3-chloropropane	1.05	210	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
n-Undecane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2,4-Trichlorobenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Naphthalene	1.03	206	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
n-Dodecane	1.04	208	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Hexachloro-1,3-butadiene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Methacrylonitrile	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Cyclohexanone	1.00	200	20.0	4.00	1.00		0.100	0.200	0.500	1.00	5.00	25.00	50.0	100
tert-Butylbenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Butylbenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107

Calibration Status Report MS09

Method : I:\MS09\Methods\R9042220.M (RTE Integrator)
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration

5/4/20

#	ID	Conc	ISTD Conc	Path\File
2	0.2	13	13	I:\MS09\Data\2020_04\22\04222023.D
3	0.5	13	13	I:\MS09\Data\2020_04\22\04222013.D
4	1.0	13	13	I:\MS09\Data\2020_04\22\04222014.D
5	5.0	13	13	I:\MS09\Data\2020_04\22\04222015.D
6	25	13	13	I:\MS09\Data\2020_04\22\04222016.D
7	50	13	13	I:\MS09\Data\2020_04\22\04222017.D
8	100	13	13	I:\MS09\Data\2020_04\22\04222018.D

#	ID	Update Time	Quant Time	Acquisition Time
2	0.2	Apr 23 14:12 2020	Apr 23 14:10 2020	23 Apr 2020 13:44
3	0.5	Apr 23 11:55 2020	Apr 23 11:49 2020	22 Apr 2020 20:31
4	1.0	Apr 23 11:55 2020	Apr 23 11:49 2020	22 Apr 2020 21:05
5	5.0	Apr 23 11:55 2020	Apr 23 11:49 2020	22 Apr 2020 21:39
6	25	Apr 23 11:55 2020	Apr 23 11:49 2020	22 Apr 2020 22:12
7	50	Apr 23 11:56 2020	Apr 23 11:49 2020	22 Apr 2020 22:46
8	100	Apr 23 11:56 2020	Apr 23 11:49 2020	22 Apr 2020 23:19

R9042220.M Mon May 04 16:31:55 2020

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222023.D Vial: 4
Acq On : 23 Apr 2020 13:44 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04162006 (5/15)

Quant Time: Apr 23 14:10:30 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:56:23 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/23/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	134664	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	566655	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	249724	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	216176	12.364	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.88%				
57) Toluene-d8 (SS2)	13.54	98	625888	12.967	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.76%				
73) Bromofluorobenzene (SS3)	17.05	174	232144	11.970	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.76%				
Target Compounds							Qvalue
2) Propene	3.90	42	1275	0.203	ng		93
3) Dichlorodifluoromethan...	4.00	85	4950	0.195	ng		98
4) Chloromethane	4.20	50	1961	0.214	ng		89
5) 1,2-Dichloro-1,1,2,2-t...	4.36	135	2727	0.199	ng		97
6) Vinyl Chloride	4.48	62	2399	0.199	ng		90
7) 1,3-Butadiene	4.66	54	1428	0.196	ng		87
8) Bromomethane	4.95	94	1884	0.196	ng		94
9) Chloroethane	5.17	64	1239	0.209	ng		79
10) Ethanol	5.36	45	5666	1.175	ng		86
11) Acetonitrile	5.59	41	2501	0.223	ng	#	48
12) Acrolein	5.72	56	755	0.184	ng		87
13) Acetone	5.86	58	6508	1.062	ng		98
14) Trichlorofluoromethane	6.04	101	4867	0.192	ng		98
15) 2-Propanol (Isopropanol)	6.19	45	8179	0.436	ng		84
16) Acrylonitrile	6.41	53	1383	0.159	ng		90
17) 1,1-Dichloroethene	6.74	96	2180	0.201	ng		98
18) 2-Methyl-2-Propanol (t...	6.90	59	6097	0.358	ng		87
19) Methylene Chloride	6.87	84	2077	0.197	ng		100
20) 3-Chloro-1-propene (Al...	7.00	41	2442	0.201	ng		90
21) Trichlorotrifluoroethane	7.19	151	2599	0.200	ng		99
22) Carbon Disulfide	7.17	76	6702	0.194	ng		97
23) trans-1,2-Dichloroethene	7.90	61	2306	0.170	ng		96
24) 1,1-Dichloroethane	8.09	63	3466	0.203	ng		93
25) Methyl tert-Butyl Ether	8.21	73	4037	0.185	ng		100
26) Vinyl Acetate	8.29	86	1651	0.810	ng	#	78
27) 2-Butanone (MEK)	8.56	72	960	0.161	ng	#	35
28) cis-1,2-Dichloroethene	8.97	61	2527	0.181	ng		90
29) Diisopropyl Ether	9.23	87	2107	0.231	ng	#	58
30) Ethyl Acetate	9.23	61	872	0.343	ng		89
31) n-Hexane	9.22	57	2770	0.206	ng		99
32) Chloroform	9.28	83	4202	0.197	ng		95
34) Tetrahydrofuran (THF)	9.72	72	1164	0.187	ng		89
35) Ethyl tert-Butyl Ether	9.78	87	1932	0.203	ng		98
36) 1,2-Dichloroethane	10.02	62	3240	0.181	ng		98
38) 1,1,1-Trichloroethane	10.29	97	4101	0.178	ng		99
39) Isopropyl Acetate	10.68	61	1932	0.368	ng	#	92
40) 1-Butanol	10.73	56	2192	0.363	ng	#	74
41) Benzene	10.75	78	8534	0.199	ng		98
42) Carbon Tetrachloride	10.90	117	3964	0.179	ng		96
43) Cyclohexane	11.04	84	6587	0.389	ng		96
44) tert-Amyl Methyl Ether	11.37	73	4336	0.195	ng		96
45) 1,2-Dichloropropane	11.57	63	1635	0.190	ng		97
46) Bromodichloromethane	11.76	83	3400	0.197	ng		97
47) Trichloroethene	11.81	130	2747	0.188	ng		95
48) 1,4-Dioxane	11.81	88	1399	0.167	ng		82
49) 2,2,4-Trimethylpentane...	11.87	57	7481	0.209	ng		96
50) Methyl Methacrylate	12.02	100	1483	0.345	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222023.D Vial: 4
Acq On : 23 Apr 2020 13:44 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04162006 (5/15)

Quant Time: Apr 23 14:10:30 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:56:23 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

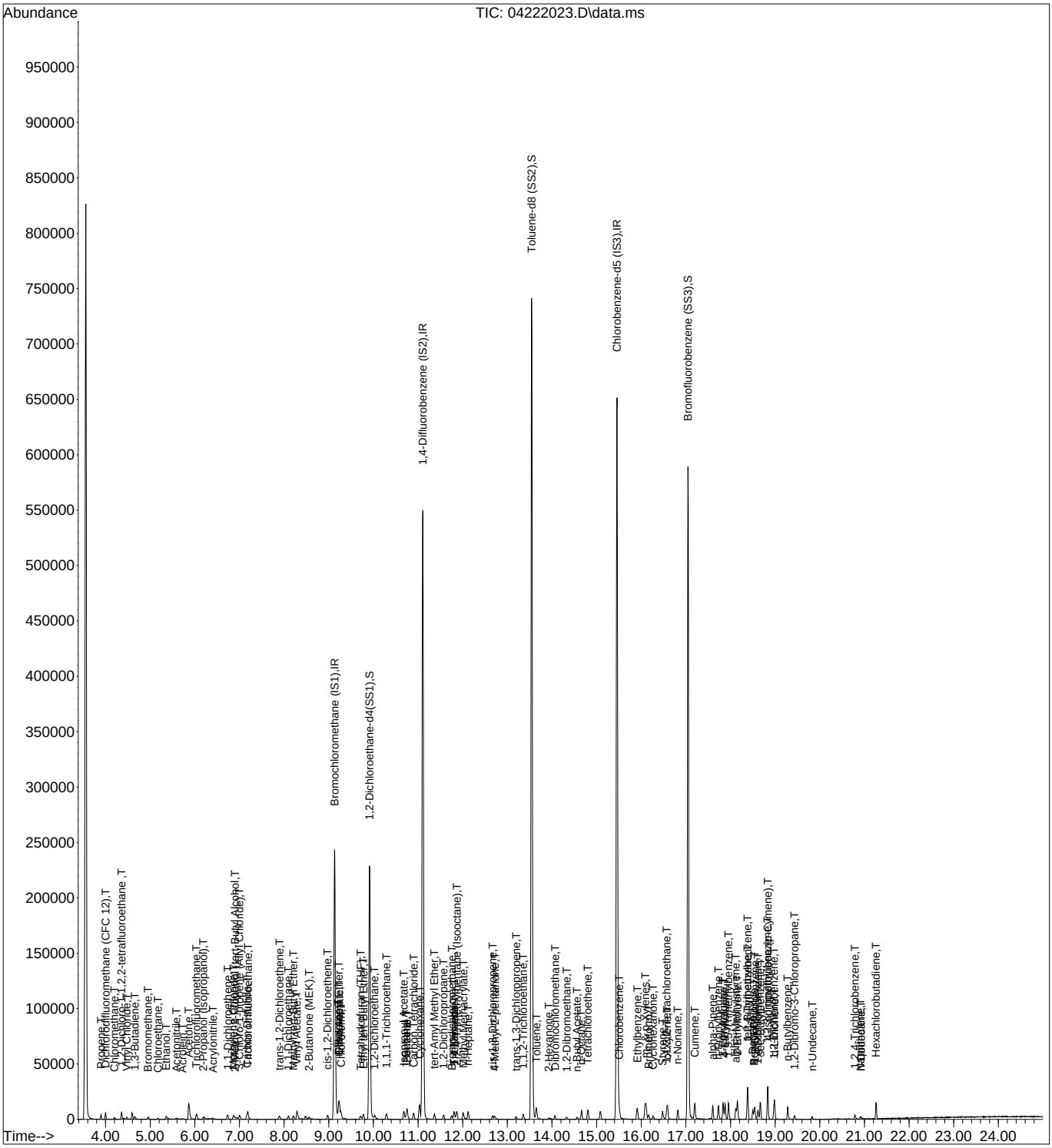
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	12.12	71	1964	0.198	ng		96
52) cis-1,3-Dichloropropene	12.67	75	2827	0.160	ng		99
53) 4-Methyl-2-pentanone	12.72	58	1053	0.152	ng	#	72
54) trans-1,3-Dichloropropene	13.20	75	2670	0.165	ng		80
55) 1,1,2-Trichloroethane	13.36	97	2197	0.190	ng		97
58) Toluene	13.65	91	9967	0.212	ng		99
59) 2-Hexanone	13.93	43	1727	0.135	ng	#	68
60) Dibromochloromethane	14.07	129	2828	0.179	ng		92
61) 1,2-Dibromoethane	14.33	107	2452	0.193	ng		96
62) n-Butyl Acetate	14.56	43	2442	0.166	ng		86
63) n-Octane	14.66	57	1529	0.203	ng		90
64) Tetrachloroethene	14.80	166	3778	0.213	ng		97
65) Chlorobenzene	15.51	112	6898	0.200	ng		99
66) Ethylbenzene	15.91	91	11017	0.202	ng		97
67) m- & p-Xylenes	16.09	91	19390	0.421	ng		93
68) Bromoform	16.17	173	2495	0.177	ng		91
69) Styrene	16.47	104	5750	0.172	ng		96
70) o-Xylene	16.58	91	9004	0.198	ng		97
71) n-Nonane	16.82	43	2878	0.196	ng		90
72) 1,1,2,2-Tetrachloroethane	16.57	83	3286	0.191	ng		94
74) Cumene	17.20	105	12390	0.210	ng		95
75) alpha-Pinene	17.60	93	5352	0.199	ng		97
76) n-Propylbenzene	17.73	91	12776	0.198	ng		98
77) 3-Ethyltoluene	17.83	105	10834	0.186	ng		98
78) 4-Ethyltoluene	17.88	105	10641	0.189	ng		98
79) 1,3,5-Trimethylbenzene	17.95	105	10069	0.190	ng		98
80) alpha-Methylstyrene	18.12	118	4228	0.161	ng		89
81) 2-Ethyltoluene	18.15	105	11382	0.193	ng		100
82) 1,2,4-Trimethylbenzene	18.38	105	9473	0.181	ng		96
83) n-Decane	18.50	57	2789	0.150	ng		91
84) Benzyl Chloride	18.53	91	5471	0.145	ng		92
85) 1,3-Dichlorobenzene	18.55	146	5096	0.162	ng		95
86) 1,4-Dichlorobenzene	18.61	146	5249	0.159	ng		100
87) sec-Butylbenzene	18.67	105	12570	0.192	ng		95
88) 4-Isopropyltoluene (p-...	18.83	119	12296	0.193	ng		99
89) 1,2,3-Trimethylbenzene	18.83	105	9210	0.177	ng		99
90) 1,2-Dichlorobenzene	18.97	146	5329	0.173	ng		98
91) d-Limonene	18.99	68	2655	0.186	ng		99
92) 1,2-Dibromo-3-Chloropr...	19.43	157	1734	0.159	ng		98
93) n-Undecane	19.83	57	1056	0.056	ng		92
94) 1,2,4-Trichlorobenzene	20.79	180	2062	0.088	ng		95
95) Naphthalene	20.91	128	3989	0.063	ng		85
96) n-Dodecane	20.92	57	109	0.007	ng	#	30
97) Hexachlorobutadiene	21.26	225	3425	0.185	ng		99
98) Cyclohexanone	16.27	55	1783	0.159	ng		96
99) tert-Butylbenzene	18.38	119	10369	0.201	ng		100
100) n-Butylbenzene	19.28	91	7829	0.161	ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222023.D Vial: 4
Acq On : 23 Apr 2020 13:44 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04162006 (5/15)

Quant Time: Apr 23 14:10:30 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:56:23 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222013.D Vial: 5
Acq On : 22 Apr 2020 20:31 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04222004 (5/21)

Quant Time: Apr 23 11:49:48 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/23/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	129332	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	11.11	114	538679	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	247239	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	210239	14.368	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.96%				
57) Toluene-d8 (SS2)	13.54	98	598520	12.172	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.36%				
73) Bromofluorobenzene (SS3)	17.05	174	240179	14.681	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 117.44%				
Target Compounds							Qvalue
2) Propene	3.88	42	2906	0.367	ng		97
3) Dichlorodifluoromethan...	3.98	85	13115	0.711	ng		98
4) Chloromethane	4.18	50	5003	0.450	ng		96
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	6856	0.796	ng		98
6) Vinyl Chloride	4.46	62	5965	0.623	ng		99
7) 1,3-Butadiene	4.64	54	3634	0.545	ng		98
8) Bromomethane	4.94	94	4880	0.578	ng		94
9) Chloroethane	5.16	64	3130	0.499	ng		95
10) Ethanol	5.34	45	13315	2.149	ng		88
11) Acetonitrile	5.56	41	5762	0.408	ng		86
12) Acrolein	5.71	56	1856	0.349	ng		98
13) Acetone	5.84	58	15493	2.436	ng		95
14) Trichlorofluoromethane	6.03	101	12695	0.760	ng		96
15) 2-Propanol (Isopropanol)	6.16	45	19185	0.951	ng		92
16) Acrylonitrile	6.37	53	4213	0.381	ng		99
17) 1,1-Dichloroethene	6.73	96	5620	0.596	ng		99
18) 2-Methyl-2-Propanol (t...	6.84	59	16787	0.786	ng		94
19) Methylene Chloride	6.86	84	5202	0.535	ng		97
20) 3-Chloro-1-propene (Al...	6.99	41	6592	0.536	ng		84
21) Trichlorotrifluoroethane	7.18	151	6939	0.745	ng		98
22) Carbon Disulfide	7.15	76	17442	0.517	ng		96
23) trans-1,2-Dichloroethene	7.88	61	6733	0.553	ng		96
24) 1,1-Dichloroethane	8.09	63	8771	0.548	ng		100
25) Methyl tert-Butyl Ether	8.19	73	10739	0.387	ng		99
26) Vinyl Acetate	8.28	86	5073	2.387	ng	#	92
27) 2-Butanone (MEK)	8.53	72	2674	0.428	ng	#	86
28) cis-1,2-Dichloroethene	8.97	61	6954	0.568	ng		98
29) Diisopropyl Ether	9.23	87	4705	0.607	ng	#	85
30) Ethyl Acetate	9.23	61	2784	0.974	ng		99
31) n-Hexane	9.22	57	7168	0.518	ng		96
32) Chloroform	9.27	83	10918	0.662	ng		97
34) Tetrahydrofuran (THF)	9.70	72	3120	0.517	ng		98
35) Ethyl tert-Butyl Ether	9.77	87	5103	0.453	ng		95
36) 1,2-Dichloroethane	10.02	62	8840	0.711	ng		98
38) 1,1,1-Trichloroethane	10.29	97	11727	0.804	ng		98
39) Isopropyl Acetate	10.67	61	5394	1.071	ng	#	86
40) 1-Butanol	10.72	56	5423	0.664	ng	#	56
41) Benzene	10.75	78	21115	0.550	ng		99
42) Carbon Tetrachloride	10.90	117	11021	0.806	ng		97
43) Cyclohexane	11.03	84	16672	1.144	ng		95
44) tert-Amyl Methyl Ether	11.36	73	11616	0.460	ng		98
45) 1,2-Dichloropropane	11.57	63	4380	0.512	ng		97
46) Bromodichloromethane	11.75	83	8920	0.705	ng		98
47) Trichloroethene	11.81	130	7497	0.678	ng		94
48) 1,4-Dioxane	11.81	88	4120	0.550	ng		88
49) 2,2,4-Trimethylpentane...	11.87	57	17992	0.499	ng		99
50) Methyl Methacrylate	12.00	100	4141	1.101	ng		94

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222013.D Vial: 5
Acq On : 22 Apr 2020 20:31 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04222004 (5/21)

Quant Time: Apr 23 11:49:48 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

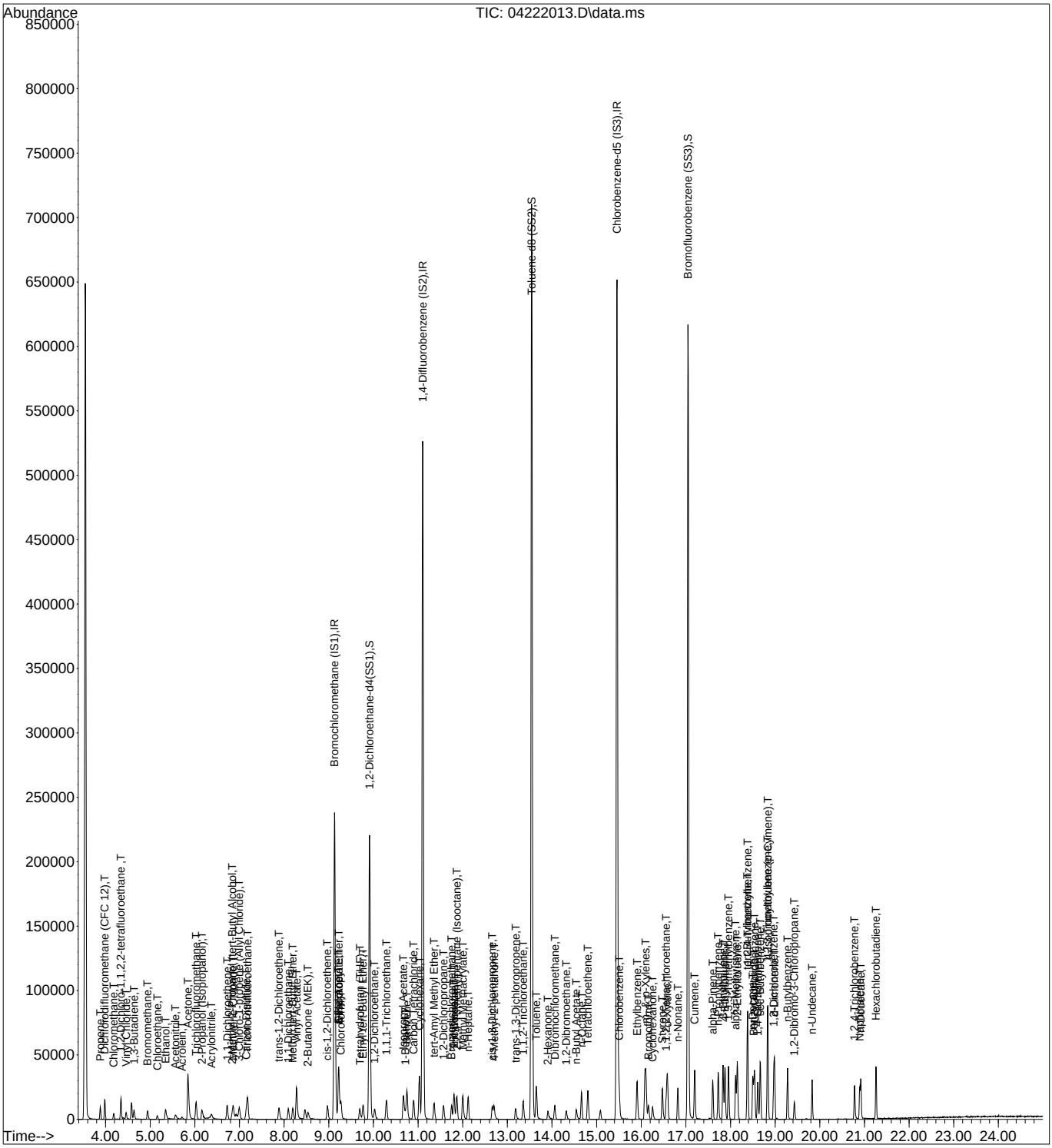
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	4984	0.544	ng	96
52) cis-1,3-Dichloropropene	12.66	75	8429	0.591	ng	94
53) 4-Methyl-2-pentanone	12.71	58	3522	0.465	ng	96
54) trans-1,3-Dichloropropene	13.19	75	7467	0.559	ng	96
55) 1,1,2-Trichloroethane	13.36	97	5686	0.605	ng	100
58) Toluene	13.65	91	23995	0.575	ng	98
59) 2-Hexanone	13.91	43	5723	0.346	ng	98
60) Dibromochloromethane	14.07	129	8081	0.694	ng	100
61) 1,2-Dibromoethane	14.32	107	6351	0.602	ng	95
62) n-Butyl Acetate	14.54	43	6937	0.393	ng	95
63) n-Octane	14.67	57	4029	0.535	ng	97
64) Tetrachloroethene	14.80	166	8957	0.690	ng	99
65) Chlorobenzene	15.51	112	18426	0.633	ng	99
66) Ethylbenzene	15.91	91	28127	0.628	ng	99
67) m- & p-Xylenes	16.10	91	48290	1.346	ng	99
68) Bromoform	16.16	173	6603	0.687	ng	94
69) Styrene	16.47	104	16387	0.630	ng	98
70) o-Xylene	16.58	91	24176	0.674	ng	98
71) n-Nonane	16.82	43	7718	0.498	ng	97
72) 1,1,2,2-Tetrachloroethane	16.56	83	9061	0.560	ng	100
74) Cumene	17.19	105	31313	0.669	ng	97
75) alpha-Pinene	17.60	93	14014	0.595	ng	100
76) n-Propylbenzene	17.72	91	33340	0.624	ng	100
77) 3-Ethyltoluene	17.83	105	30114	0.672	ng	99
78) 4-Ethyltoluene	17.87	105	29410	0.685	ng	99
79) 1,3,5-Trimethylbenzene	17.95	105	27430	0.695	ng	99
80) alpha-Methylstyrene	18.11	118	13008	0.673	ng	86
81) 2-Ethyltoluene	18.15	105	30928	0.691	ng	98
82) 1,2,4-Trimethylbenzene	18.38	105	26963	0.735	ng	98
83) n-Decane	18.50	57	9598	0.538	ng	98
84) Benzyl Chloride	18.52	91	17607	0.614	ng	97
85) 1,3-Dichlorobenzene	18.54	146	16047	0.758	ng	97
86) 1,4-Dichlorobenzene	18.61	146	16026	0.741	ng	98
87) sec-Butylbenzene	18.66	105	34100	0.661	ng	99
88) 4-Isopropyltoluene (p-...	18.83	119	34516	0.756	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	28477	0.761	ng	98
90) 1,2-Dichlorobenzene	18.97	146	15092	0.716	ng	98
91) d-Limonene	18.99	68	7364	0.578	ng	96
92) 1,2-Dibromo-3-Chloropr...	19.43	157	5228	0.623	ng	98
93) n-Undecane	19.83	57	9503	0.501	ng	99
94) 1,2,4-Trichlorobenzene	20.77	180	10478	0.645	ng	97
95) Naphthalene	20.90	128	26653	0.528	ng	97
96) n-Dodecane	20.92	57	7261	0.387	ng	95
97) Hexachlorobutadiene	21.26	225	9210	0.818	ng	98
98) Cyclohexanone	16.25	55	4973	0.423	ng	99
99) tert-Butylbenzene	18.38	119	27019	0.714	ng	98
100) n-Butylbenzene	19.28	91	24494	0.666	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222013.D Vial: 5
Acq On : 22 Apr 2020 20:31 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04222004 (5/21)

Quant Time: Apr 23 11:49:48 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222014.D Vial: 5
Acq On : 22 Apr 2020 21:05 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04222004 (5/21)

Quant Time: Apr 23 11:49:50 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/23/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	126276	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.11	114	536769	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	247388	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.92	65	210491	14.733	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 117.84%				
57) Toluene-d8 (SS2)	13.55	98	596176	12.117	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.96%				
73) Bromofluorobenzene (SS3)	17.05	174	241378	14.745	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 118.00%				
Target Compounds							Qvalue
2) Propene	3.88	42	5015	0.648	ng		91
3) Dichlorodifluoromethan...	3.99	85	22709	1.260	ng		99
4) Chloromethane	4.18	50	8593	0.792	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	12398	1.475	ng		98
6) Vinyl Chloride	4.46	62	10882	1.165	ng		100
7) 1,3-Butadiene	4.63	54	6520	1.001	ng		96
8) Bromomethane	4.94	94	8741	1.061	ng		98
9) Chloroethane	5.16	64	5840	0.953	ng		94
10) Ethanol	5.35	45	22628	3.740	ng		90
11) Acetonitrile	5.57	41	10365	0.751	ng		83
12) Acrolein	5.71	56	4051	0.781	ng		91
13) Acetone	5.84	58	28197	4.541	ng		93
14) Trichlorofluoromethane	6.03	101	23166	1.420	ng		100
15) 2-Propanol (Isopropanol)	6.16	45	35435	1.798	ng		95
16) Acrylonitrile	6.37	53	8090	0.750	ng		99
17) 1,1-Dichloroethene	6.72	96	10014	1.088	ng		100
18) 2-Methyl-2-Propanol (t...	6.82	59	30034	1.440	ng		98
19) Methylene Chloride	6.86	84	9369	0.987	ng		99
20) 3-Chloro-1-propene (Al...	7.00	41	11468	0.954	ng		94
21) Trichlorotrifluoroethane	7.19	151	12306	1.353	ng		99
22) Carbon Disulfide	7.15	76	31163	0.946	ng		99
23) trans-1,2-Dichloroethene	7.88	61	12484	1.051	ng		100
24) 1,1-Dichloroethane	8.09	63	16412	1.050	ng		100
25) Methyl tert-Butyl Ether	8.19	73	19238	0.710	ng		98
26) Vinyl Acetate	8.28	86	9679	4.664	ng	#	95
27) 2-Butanone (MEK)	8.53	72	5583	0.916	ng		90
28) cis-1,2-Dichloroethene	8.98	61	12681	1.060	ng		97
29) Diisopropyl Ether	9.22	87	8113	1.073	ng	#	95
30) Ethyl Acetate	9.22	61	5156	1.848	ng		95
31) n-Hexane	9.22	57	12702	0.939	ng		98
32) Chloroform	9.28	83	19474	1.210	ng		100
34) Tetrahydrofuran (THF)	9.69	72	5685	0.965	ng		94
35) Ethyl tert-Butyl Ether	9.77	87	8937	0.812	ng		99
36) 1,2-Dichloroethane	10.03	62	16265	1.340	ng		99
38) 1,1,1-Trichloroethane	10.29	97	20230	1.392	ng		99
39) Isopropyl Acetate	10.67	61	9686	1.930	ng	#	93
40) 1-Butanol	10.71	56	10515	1.291	ng	#	76
41) Benzene	10.76	78	38449	1.005	ng		99
42) Carbon Tetrachloride	10.90	117	19465	1.428	ng		98
43) Cyclohexane	11.03	84	30305	2.087	ng		99
44) tert-Amyl Methyl Ether	11.36	73	21307	0.847	ng		97
45) 1,2-Dichloropropane	11.57	63	8021	0.940	ng		99
46) Bromodichloromethane	11.76	83	15975	1.266	ng		99
47) Trichloroethene	11.81	130	13388	1.215	ng		98
48) 1,4-Dioxane	11.79	88	7806	1.046	ng		84
49) 2,2,4-Trimethylpentane...	11.87	57	31730	0.883	ng		99
50) Methyl Methacrylate	12.00	100	8462	2.259	ng		96

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222014.D Vial: 5
Acq On : 22 Apr 2020 21:05 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04222004 (5/21)

Quant Time: Apr 23 11:49:50 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

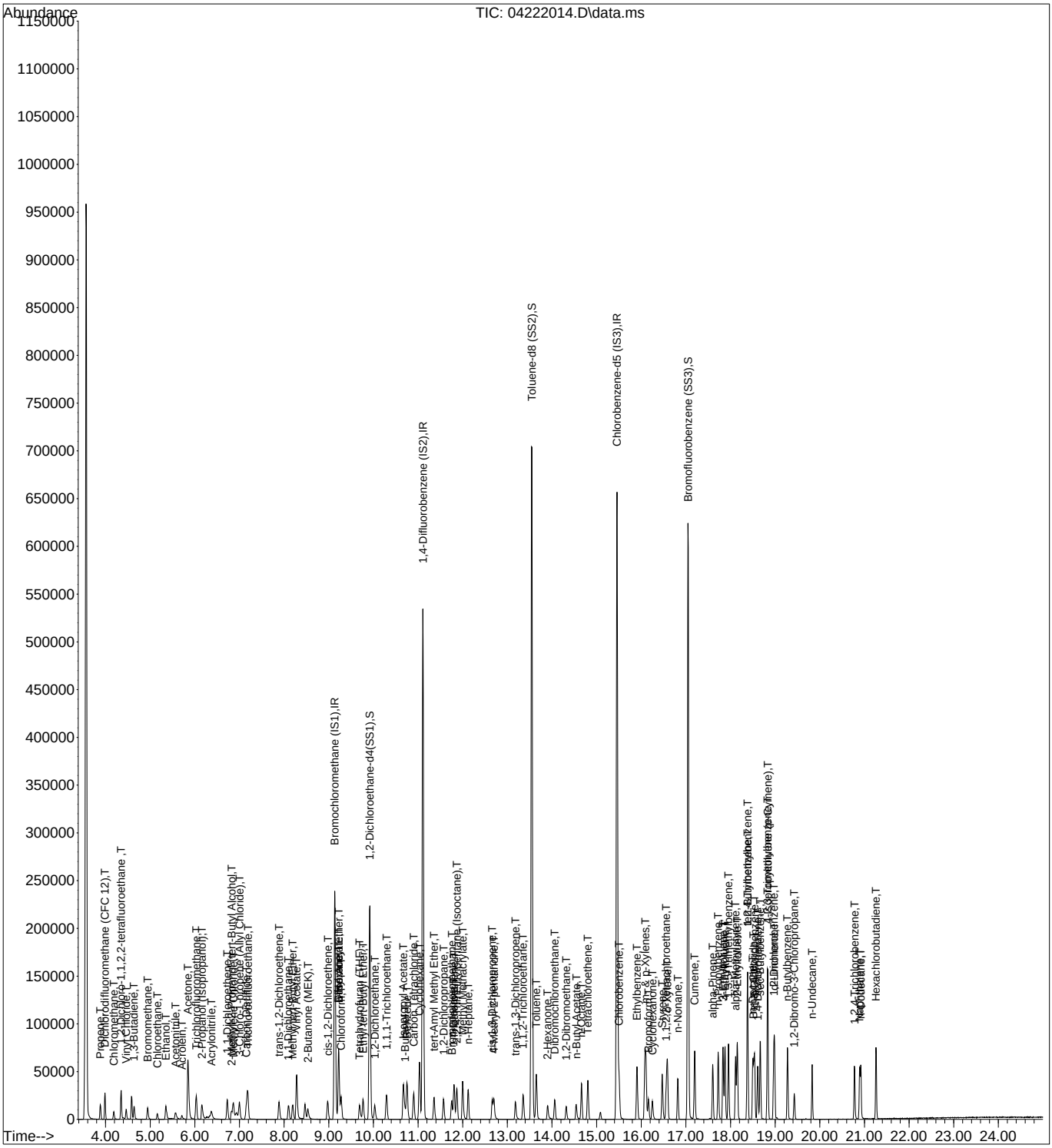
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	9029	0.989	ng	98
52) cis-1,3-Dichloropropene	12.66	75	15472	1.088	ng	98
53) 4-Methyl-2-pentanone	12.70	58	6392	0.848	ng	93
54) trans-1,3-Dichloropropene	13.18	75	14379	1.080	ng	99
55) 1,1,2-Trichloroethane	13.35	97	10838	1.158	ng	96
58) Toluene	13.65	91	44562	1.067	ng	100
59) 2-Hexanone	13.90	43	12222	0.739	ng	100
60) Dibromochloromethane	14.06	129	14909	1.280	ng	99
61) 1,2-Dibromoethane	14.32	107	11842	1.121	ng	99
62) n-Butyl Acetate	14.54	43	14091	0.798	ng	96
63) n-Octane	14.66	57	7199	0.956	ng	97
64) Tetrachloroethene	14.80	166	16393	1.263	ng	98
65) Chlorobenzene	15.50	112	32219	1.107	ng	99
66) Ethylbenzene	15.90	91	51213	1.142	ng	98
67) m- & p-Xylenes	16.09	91	86782	2.418	ng	99
68) Bromoform	16.16	173	13117	1.363	ng	100
69) Styrene	16.47	104	31213	1.199	ng	99
70) o-Xylene	16.58	91	42905	1.196	ng	100
71) n-Nonane	16.82	43	13906	0.898	ng	100
72) 1,1,2,2-Tetrachloroethane	16.56	83	15812	0.977	ng	98
74) Cumene	17.19	105	55907	1.195	ng	100
75) alpha-Pinene	17.60	93	25373	1.076	ng	100
76) n-Propylbenzene	17.72	91	61029	1.142	ng	100
77) 3-Ethyltoluene	17.83	105	54359	1.212	ng	97
78) 4-Ethyltoluene	17.88	105	53458	1.244	ng	98
79) 1,3,5-Trimethylbenzene	17.95	105	49762	1.260	ng	99
80) alpha-Methylstyrene	18.11	118	24852	1.285	ng	90
81) 2-Ethyltoluene	18.15	105	55645	1.242	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	48997	1.335	ng	100
83) n-Decane	18.50	57	17215	0.964	ng	97
84) Benzyl Chloride	18.51	91	33788	1.177	ng	100
85) 1,3-Dichlorobenzene	18.54	146	29341	1.385	ng	100
86) 1,4-Dichlorobenzene	18.61	146	29880	1.380	ng	99
87) sec-Butylbenzene	18.66	105	62433	1.210	ng	99
88) 4-Isopropyltoluene (p-...	18.83	119	62845	1.375	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	49569	1.324	ng	98
90) 1,2-Dichlorobenzene	18.97	146	28891	1.371	ng	99
91) d-Limonene	18.98	68	13364	1.049	ng	99
92) 1,2-Dibromo-3-Chloropr...	19.43	157	9913	1.180	ng	99
93) n-Undecane	19.83	57	17723	0.933	ng	99
94) 1,2,4-Trichlorobenzene	20.78	180	21234	1.305	ng	99
95) Naphthalene	20.89	128	53400	1.057	ng	100
96) n-Dodecane	20.92	57	14385	0.767	ng	98
97) Hexachlorobutadiene	21.26	225	17024	1.511	ng	100
98) Cyclohexanone	16.25	55	9545	0.812	ng	99
99) tert-Butylbenzene	18.38	119	49158	1.298	ng	100
100) n-Butylbenzene	19.27	91	45630	1.241	ng	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222014.D Vial: 5
Acq On : 22 Apr 2020 21:05 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04222004 (5/21)

Quant Time: Apr 23 11:49:50 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222015.D Vial: 5
Acq On : 22 Apr 2020 21:39 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04222004 (5/21)

Quant Time: Apr 23 11:49:52 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/23/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.14	130	127032	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	11.11	114	522643	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	242847	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.92	65	205612	14.306	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.48%			
57) Toluene-d8 (SS2)	13.55	98	580496	12.019	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.16%			
73) Bromofluorobenzene (SS3)	17.05	174	241052	15.001	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 120.00%			
Target Compounds						Qvalue
2) Propene	3.86	42	26825	3.448	ng	98
3) Dichlorodifluoromethan...	3.97	85	107121	5.909	ng	99
4) Chloromethane	4.16	50	36557	3.351	ng	99
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	55821	6.601	ng	98
6) Vinyl Chloride	4.45	62	52544	5.590	ng	99
7) 1,3-Butadiene	4.62	54	33096	5.050	ng	99
8) Bromomethane	4.93	94	39874	4.812	ng	100
9) Chloroethane	5.15	64	25067	4.065	ng	98
10) Ethanol	5.36	45	91042	14.958	ng	100
11) Acetonitrile	5.56	41	47363	3.413	ng	97
12) Acrolein	5.70	56	19034	3.648	ng	98
13) Acetone	5.83	58	125622	20.108	ng	100
14) Trichlorofluoromethane	6.02	101	106048	6.461	ng	99
15) 2-Propanol (Isopropanol)	6.16	45	157161	7.928	ng	97
16) Acrylonitrile	6.37	53	42320	3.900	ng	99
17) 1,1-Dichloroethene	6.72	96	47038	5.081	ng	98
18) 2-Methyl-2-Propanol (t...	6.81	59	146832	6.998	ng	99
19) Methylene Chloride	6.86	84	44481	4.659	ng	99
20) 3-Chloro-1-propene (Al...	6.99	41	51245	4.239	ng	98
21) Trichlorotrifluoroethane	7.18	151	55953	6.116	ng	100
22) Carbon Disulfide	7.14	76	148912	4.494	ng	99
23) trans-1,2-Dichloroethene	7.89	61	61901	5.180	ng	100
24) 1,1-Dichloroethane	8.10	63	74292	4.725	ng	99
25) Methyl tert-Butyl Ether	8.18	73	94198	3.454	ng	100
26) Vinyl Acetate	8.28	86	50438	24.161	ng	96
27) 2-Butanone (MEK)	8.52	72	27190	4.434	ng	99
28) cis-1,2-Dichloroethene	8.98	61	59734	4.964	ng	99
29) Diisopropyl Ether	9.22	87	37252	4.896	ng	98
30) Ethyl Acetate	9.22	61	24814	8.841	ng	93
31) n-Hexane	9.22	57	56462	4.151	ng	98
32) Chloroform	9.28	83	90848	5.611	ng	100
34) Tetrahydrofuran (THF)	9.68	72	27288	4.605	ng	99
35) Ethyl tert-Butyl Ether	9.76	87	40755	3.683	ng	99
36) 1,2-Dichloroethane	10.03	62	76687	6.280	ng	99
38) 1,1,1-Trichloroethane	10.29	97	94993	6.714	ng	100
39) Isopropyl Acetate	10.67	61	45123	9.235	ng	97
40) 1-Butanol	10.68	56	60020	7.571	ng	95
41) Benzene	10.75	78	177125	4.756	ng	100
42) Carbon Tetrachloride	10.90	117	92497	6.968	ng	100
43) Cyclohexane	11.03	84	141066	9.979	ng	99
44) tert-Amyl Methyl Ether	11.35	73	94835	3.871	ng	99
45) 1,2-Dichloropropane	11.57	63	37103	4.466	ng	99
46) Bromodichloromethane	11.75	83	74064	6.030	ng	98
47) Trichloroethene	11.81	130	63453	5.913	ng	100
48) 1,4-Dioxane	11.78	88	36438	5.016	ng	97
49) 2,2,4-Trimethylpentane...	11.87	57	148256	4.239	ng	100
50) Methyl Methacrylate	11.99	100	40050	10.980	ng	97

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222015.D Vial: 5
Acq On : 22 Apr 2020 21:39 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04222004 (5/21)

Quant Time: Apr 23 11:49:52 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

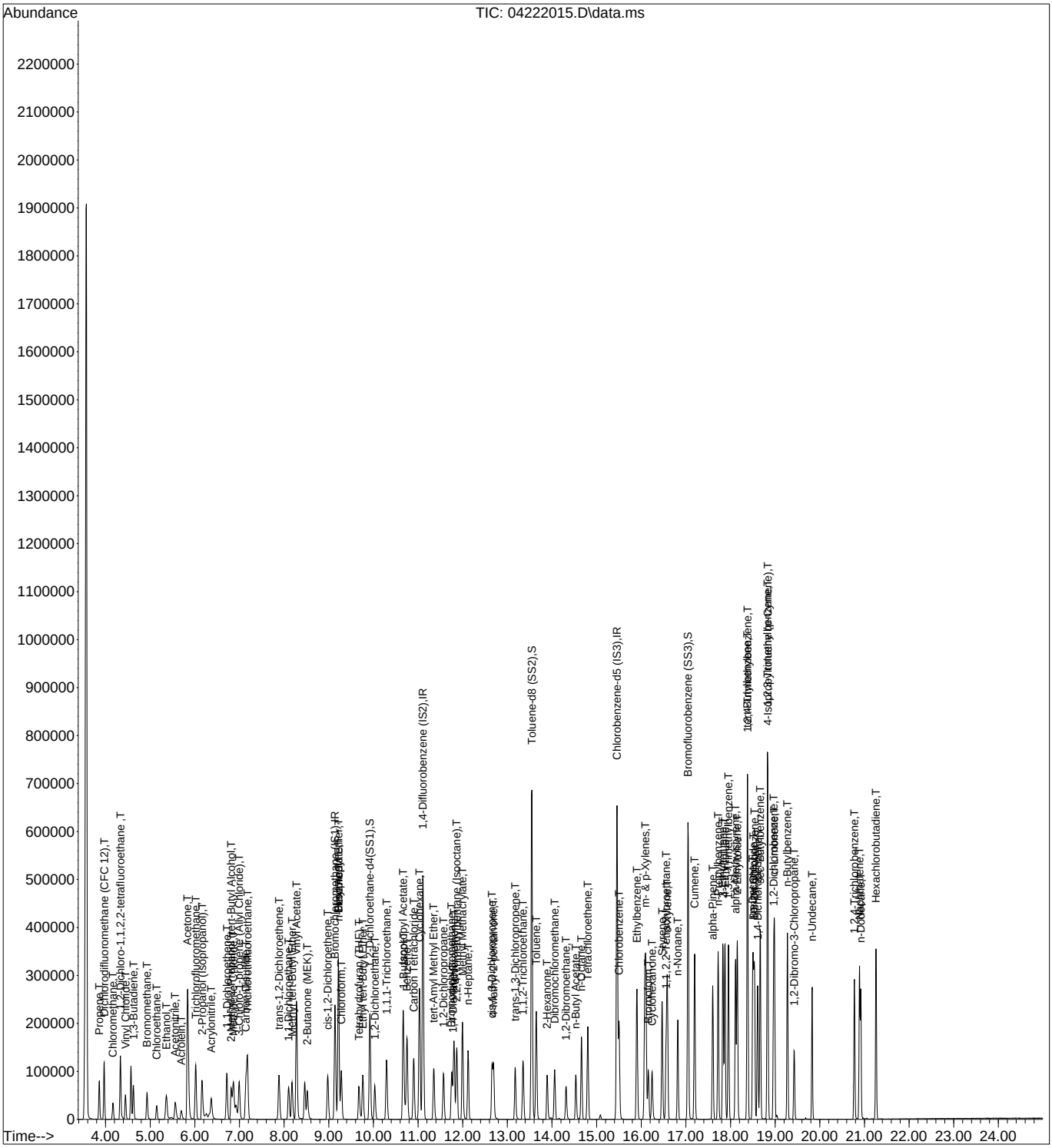
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	41995	4.724	ng	99
52) cis-1,3-Dichloropropene	12.66	75	76063	5.494	ng	100
53) 4-Methyl-2-pentanone	12.69	58	32970	4.490	ng	99
54) trans-1,3-Dichloropropene	13.18	75	75652	5.838	ng	97
55) 1,1,2-Trichloroethane	13.35	97	48516	5.325	ng	99
58) Toluene	13.65	91	204359	4.986	ng	99
59) 2-Hexanone	13.89	43	66070	4.071	ng	99
60) Dibromochloromethane	14.06	129	71135	6.219	ng	99
61) 1,2-Dibromoethane	14.31	107	58489	5.640	ng	98
62) n-Butyl Acetate	14.53	43	70906	4.093	ng	99
63) n-Octane	14.66	57	32746	4.428	ng	99
64) Tetrachloroethene	14.80	166	74010	5.808	ng	100
65) Chlorobenzene	15.50	112	150097	5.253	ng	100
66) Ethylbenzene	15.90	91	243383	5.529	ng	99
67) m- & p-Xylenes	16.10	91	408114	11.584	ng	100
68) Bromoform	16.16	173	64880	6.870	ng	100
69) Styrene	16.47	104	152968	5.987	ng	99
70) o-Xylene	16.58	91	203581	5.782	ng	99
71) n-Nonane	16.82	43	65193	4.287	ng	99
72) 1,1,2,2-Tetrachloroethane	16.56	83	77299	4.863	ng	100
74) Cumene	17.19	105	267150	5.815	ng	100
75) alpha-Pinene	17.60	93	123139	5.321	ng	99
76) n-Propylbenzene	17.72	91	295275	5.628	ng	100
77) 3-Ethyltoluene	17.83	105	255544	5.803	ng	97
78) 4-Ethyltoluene	17.88	105	266013	6.306	ng	97
79) 1,3,5-Trimethylbenzene	17.95	105	231920	5.981	ng	100
80) alpha-Methylstyrene	18.11	118	121821	6.418	ng	97
81) 2-Ethyltoluene	18.15	105	262291	5.963	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	231050	6.412	ng	100
83) n-Decane	18.50	57	83453	4.761	ng	100
84) Benzyl Chloride	18.51	91	179796	6.381	ng	99
85) 1,3-Dichlorobenzene	18.54	146	141029	6.780	ng	99
86) 1,4-Dichlorobenzene	18.61	146	141651	6.666	ng	100
87) sec-Butylbenzene	18.66	105	293214	5.788	ng	100
88) 4-Isopropyltoluene (p-...	18.83	119	295331	6.582	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	238024	6.474	ng	99
90) 1,2-Dichlorobenzene	18.97	146	137496	6.645	ng	99
91) d-Limonene	18.98	68	65560	5.240	ng	99
92) 1,2-Dibromo-3-Chloropr...	19.43	157	50779	6.158	ng	99
93) n-Undecane	19.83	57	85715	4.597	ng	99
94) 1,2,4-Trichlorobenzene	20.77	180	106907	6.695	ng	99
95) Naphthalene	20.89	128	284865	5.744	ng	100
96) n-Dodecane	20.92	57	72247	3.924	ng	99
97) Hexachlorobutadiene	21.26	225	78877	7.130	ng	100
98) Cyclohexanone	16.24	55	47265	4.094	ng	99
99) tert-Butylbenzene	18.38	119	231949	6.238	ng	99
100) n-Butylbenzene	19.27	91	219078	6.067	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222015.D Vial: 5
Acq On : 22 Apr 2020 21:39 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04222004 (5/21)

Quant Time: Apr 23 11:49:52 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222016.D Vial: 2
Acq On : 22 Apr 2020 22:12 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 23 11:49:54 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/23/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	139959	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	11.12	114	576914	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	15.46	82	270547	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.94	65	224495	14.177	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.44%			
57) Toluene-d8 (SS2)	13.55	98	648304	12.049	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.40%			
73) Bromofluorobenzene (SS3)	17.05	174	266005	14.858	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 118.88%			
Target Compounds						Qvalue
2) Propene	3.86	42	148349	17.306	ng	100
3) Dichlorodifluoromethan...	3.97	85	575420	28.811	ng	100
4) Chloromethane	4.17	50	233786	19.451	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	309011	33.168	ng	100
6) Vinyl Chloride	4.45	62	293615	28.354	ng	100
7) 1,3-Butadiene	4.63	54	196130	27.165	ng	100
8) Bromomethane	4.94	94	226533	24.815	ng	100
9) Chloroethane	5.16	64	143289	21.088	ng	100
10) Ethanol	5.40	45	526687	78.538	ng	100
11) Acetonitrile	5.59	41	263390	17.229	ng	100
12) Acrolein	5.71	56	110967	19.303	ng	100
13) Acetone	5.86	58	670690	97.441	ng	100
14) Trichlorofluoromethane	6.03	101	575484	31.821	ng	100
15) 2-Propanol (Isopropanol)	6.20	45	949734	43.486	ng	100
16) Acrylonitrile	6.39	53	242821	20.311	ng	100
17) 1,1-Dichloroethene	6.72	96	259353	25.426	ng	100
18) 2-Methyl-2-Propanol (t...	6.84	59	852826	36.894	ng	100
19) Methylene Chloride	6.88	84	246568	23.439	ng	100
20) 3-Chloro-1-propene (Al...	7.01	41	280359	21.047	ng	100
21) Trichlorotrifluoroethane	7.19	151	300508	29.813	ng	100
22) Carbon Disulfide	7.15	76	839811	23.003	ng	100
23) trans-1,2-Dichloroethene	7.90	61	348501	26.469	ng	100
24) 1,1-Dichloroethane	8.12	63	412914	23.836	ng	100
25) Methyl tert-Butyl Ether	8.18	73	536453	17.852	ng	100
26) Vinyl Acetate	8.30	86	288061	125.244	ng	100
27) 2-Butanone (MEK)	8.53	72	157863	23.366	ng	100
28) cis-1,2-Dichloroethene	8.99	61	330184	24.905	ng	100
29) Diisopropyl Ether	9.22	87	199384	23.785	ng	100
30) Ethyl Acetate	9.23	61	139703	45.176	ng	100
31) n-Hexane	9.23	57	306748	20.468	ng	100
32) Chloroform	9.30	83	496525	27.834	ng	100
34) Tetrahydrofuran (THF)	9.68	72	154237	23.625	ng	100
35) Ethyl tert-Butyl Ether	9.77	87	222400	18.241	ng	100
36) 1,2-Dichloroethane	10.04	62	421595	31.337	ng	100
38) 1,1,1-Trichloroethane	10.30	97	523386	33.514	ng	100
39) Isopropyl Acetate	10.67	61	247371	45.864	ng	100
40) 1-Butanol	10.69	56	393624	44.979	ng	100
41) Benzene	10.76	78	965159	23.478	ng	100
42) Carbon Tetrachloride	10.92	117	509202	34.750	ng	100
43) Cyclohexane	11.04	84	760478	48.737	ng	100
44) tert-Amyl Methyl Ether	11.35	73	525196	19.420	ng	100
45) 1,2-Dichloropropane	11.57	63	205952	22.460	ng	100
46) Bromodichloromethane	11.76	83	412304	30.413	ng	100
47) Trichloroethene	11.81	130	346686	29.267	ng	100
48) 1,4-Dioxane	11.78	88	218205	27.210	ng	100
49) 2,2,4-Trimethylpentane...	11.87	57	802639	20.790	ng	100
50) Methyl Methacrylate	12.00	100	232380	57.715	ng	100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222016.D Vial: 2
Acq On : 22 Apr 2020 22:12 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 23 11:49:54 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

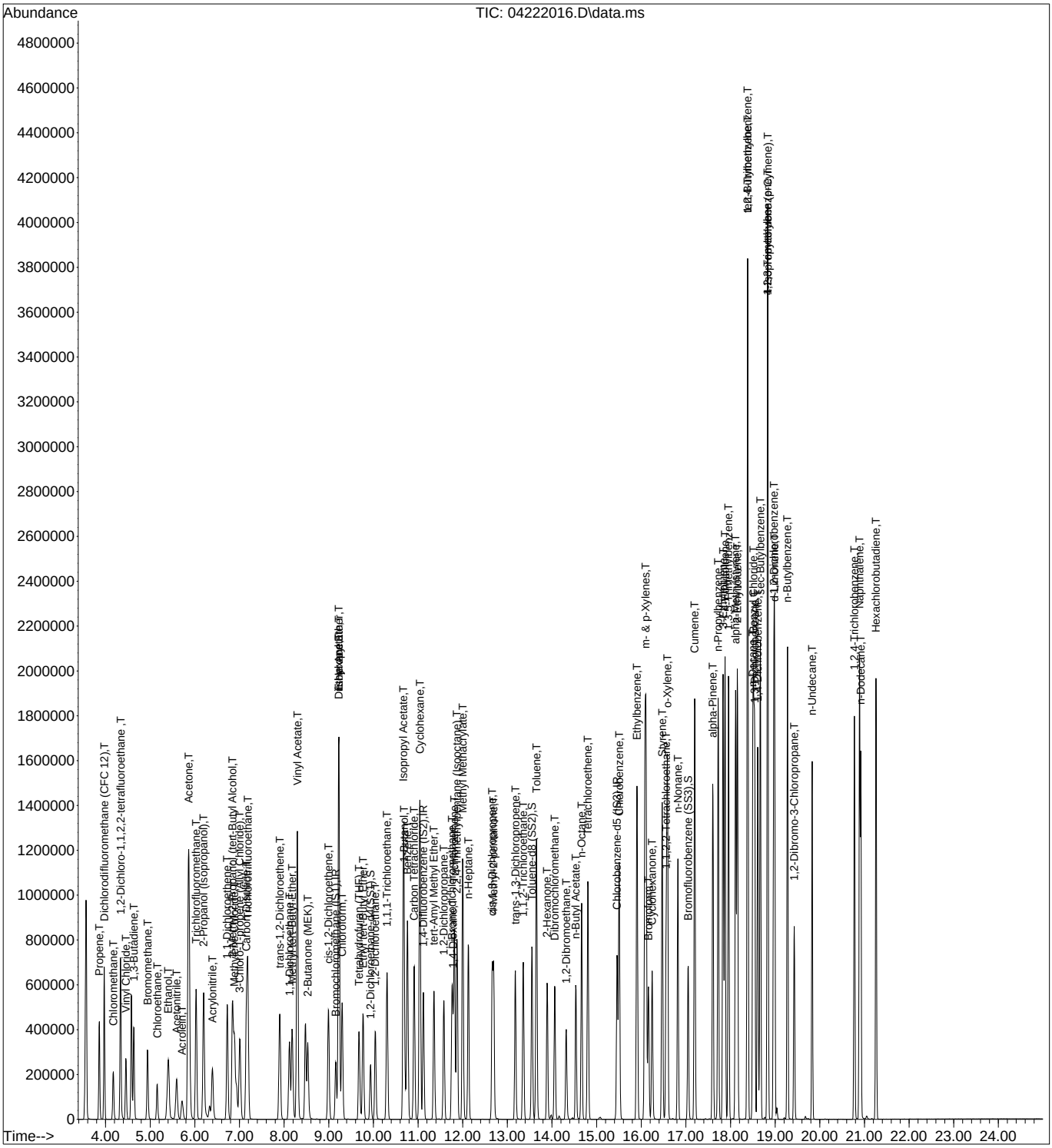
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	233894	23.835	ng	100
52) cis-1,3-Dichloropropene	12.66	75	437947	28.658	ng	100
53) 4-Methyl-2-pentanone	12.69	58	190105	23.453	ng	100
54) trans-1,3-Dichloropropene	13.18	75	447102	31.257	ng	100
55) 1,1,2-Trichloroethane	13.36	97	274331	27.275	ng	100
58) Toluene	13.65	91	1135814	24.873	ng	100
59) 2-Hexanone	13.89	43	418957	23.174	ng	100
60) Dibromochloromethane	14.06	129	411137	32.265	ng	100
61) 1,2-Dibromoethane	14.32	107	339459	29.385	ng	100
62) n-Butyl Acetate	14.53	43	449879	23.309	ng	100
63) n-Octane	14.67	57	181686	22.051	ng	100
64) Tetrachloroethene	14.80	166	410786	28.938	ng	100
65) Chlorobenzene	15.51	112	838490	26.340	ng	100
66) Ethylbenzene	15.90	91	1345406	27.437	ng	100
67) m- & p-Xylenes	16.10	91	2234588	56.932	ng	100
68) Bromoform	16.16	173	373311	35.482	ng	100
69) Styrene	16.47	104	871452	30.616	ng	100
70) o-Xylene	16.58	91	1104137	28.150	ng	100
71) n-Nonane	16.82	43	357159	21.080	ng	100
72) 1,1,2,2-Tetrachloroethane	16.56	83	429814	24.273	ng	100
74) Cumene	17.19	105	1458637	28.499	ng	100
75) alpha-Pinene	17.60	93	676336	26.231	ng	100
76) n-Propylbenzene	17.72	91	1624715	27.795	ng	100
77) 3-Ethyltoluene	17.83	105	1451425	29.587	ng	100
78) 4-Ethyltoluene	17.88	105	1410591	30.017	ng	100
79) 1,3,5-Trimethylbenzene	17.95	105	1260494	29.178	ng	100
80) alpha-Methylstyrene	18.11	118	690235	32.639	ng	100
81) 2-Ethyltoluene	18.15	105	1424607	29.071	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	1244204	30.995	ng	100
83) n-Decane	18.50	57	454506	23.277	ng	100
84) Benzyl Chloride	18.51	91	1099043	35.014	ng	100
85) 1,3-Dichlorobenzene	18.54	146	781993	33.746	ng	100
86) 1,4-Dichlorobenzene	18.61	146	804142	33.965	ng	100
87) sec-Butylbenzene	18.67	105	1581990	28.029	ng	100
88) 4-Isopropyltoluene (p-...	18.83	119	1569378	31.394	ng	100
89) 1,2,3-Trimethylbenzene	18.83	105	1273990	31.104	ng	100
90) 1,2-Dichlorobenzene	18.97	146	753213	32.673	ng	100
91) d-Limonene	18.99	68	364906	26.181	ng	100
92) 1,2-Dibromo-3-Chloropr...	19.43	157	300160	32.674	ng	100
93) n-Undecane	19.83	57	486425	23.417	ng	100
94) 1,2,4-Trichlorobenzene	20.77	180	645472	36.284	ng	100
95) Naphthalene	20.89	128	1764943	31.942	ng	100
96) n-Dodecane	20.92	57	451510	22.010	ng	100
97) Hexachlorobutadiene	21.26	225	435056	35.299	ng	100
98) Cyclohexanone	16.24	55	290938	22.618	ng	100
99) tert-Butylbenzene	18.38	119	1221323	29.482	ng	100
100) n-Butylbenzene	19.27	91	1232000	30.627	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222016.D Vial: 2
Acq On : 22 Apr 2020 22:12 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 23 11:49:54 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222017.D Vial: 2
Acq On : 22 Apr 2020 22:46 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 23 11:49:56 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/23/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.17	130	145152	12.500	ng	0.01
37) 1,4-Difluorobenzene (IS2)	11.12	114	598248	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	15.46	82	279965	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.94	65	233121	14.195	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.60%			
57) Toluene-d8 (SS2)	13.55	98	670205	12.037	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.32%			
73) Bromofluorobenzene (SS3)	17.05	174	273089	14.741	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 117.92%			
Target Compounds						Qvalue
2) Propene	3.86	42	330392	37.165	ng	98
3) Dichlorodifluoromethan...	3.97	85	1105663	53.380	ng	100
4) Chloromethane	4.17	50	407411	32.683	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	597211	61.810	ng	99
6) Vinyl Chloride	4.46	62	580007	54.007	ng	100
7) 1,3-Butadiene	4.63	54	370058	49.421	ng	99
8) Bromomethane	4.94	94	450081	47.539	ng	99
9) Chloroethane	5.16	64	285429	40.505	ng	100
10) Ethanol	5.43	45	1044298	150.152	ng	100
11) Acetonitrile	5.60	41	533240	33.633	ng	100
12) Acrolein	5.72	56	224287	37.620	ng	99
13) Acetone	5.87	58	1299615	182.060	ng	98
14) Trichlorofluoromethane	6.03	101	1115252	59.460	ng	99
15) 2-Propanol (Isopropanol)	6.21	45	1663213	73.429	ng	100
16) Acrylonitrile	6.41	53	489337	39.466	ng	99
17) 1,1-Dichloroethene	6.73	96	512268	48.425	ng	100
18) 2-Methyl-2-Propanol (t...	6.86	59	1790353	74.681	ng	99
19) Methylene Chloride	6.90	84	487136	44.650	ng	100
20) 3-Chloro-1-propene (Al...	7.02	41	559510	40.501	ng	100
21) Trichlorotrifluoroethane	7.19	151	583089	55.778	ng	99
22) Carbon Disulfide	7.16	76	1660071	43.844	ng	100
23) trans-1,2-Dichloroethene	7.91	61	693359	50.778	ng	100
24) 1,1-Dichloroethane	8.13	63	812821	45.242	ng	99
25) Methyl tert-Butyl Ether	8.18	73	1124703	36.088	ng	100
26) Vinyl Acetate	8.30	86	558650	234.201	ng	98
27) 2-Butanone (MEK)	8.54	72	315514	45.030	ng	99
28) cis-1,2-Dichloroethene	9.00	61	657246	47.801	ng	99
29) Diisopropyl Ether	9.23	87	386021	44.402	ng	100
30) Ethyl Acetate	9.23	61	271619	84.692	ng	99
31) n-Hexane	9.23	57	589143	37.904	ng	100
32) Chloroform	9.31	83	971469	52.510	ng	100
34) Tetrahydrofuran (THF)	9.68	72	307036	45.347	ng	99
35) Ethyl tert-Butyl Ether	9.77	87	429471	33.965	ng	99
36) 1,2-Dichloroethane	10.05	62	832849	59.690	ng	100
38) 1,1,1-Trichloroethane	10.31	97	1028523	63.512	ng	100
39) Isopropyl Acetate	10.68	61	483997	86.535	ng	100
40) 1-Butanol	10.70	56	776710	85.589	ng	100
41) Benzene	10.77	78	1887102	44.267	ng	99
42) Carbon Tetrachloride	10.91	117	990936	65.214	ng	100
43) Cyclohexane	11.05	84	1474213	91.109	ng	100
44) tert-Amyl Methyl Ether	11.36	73	1007186	35.914	ng	100
45) 1,2-Dichloropropane	11.58	63	406679	42.768	ng	99
46) Bromodichloromethane	11.77	83	804293	57.212	ng	100
47) Trichloroethene	11.82	130	674075	54.877	ng	100
48) 1,4-Dioxane	11.79	88	426867	51.332	ng	99
49) 2,2,4-Trimethylpentane...	11.88	57	1579497	39.452	ng	99
50) Methyl Methacrylate	12.00	100	449956	107.769	ng	99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222017.D Vial: 2
Acq On : 22 Apr 2020 22:46 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 23 11:49:56 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

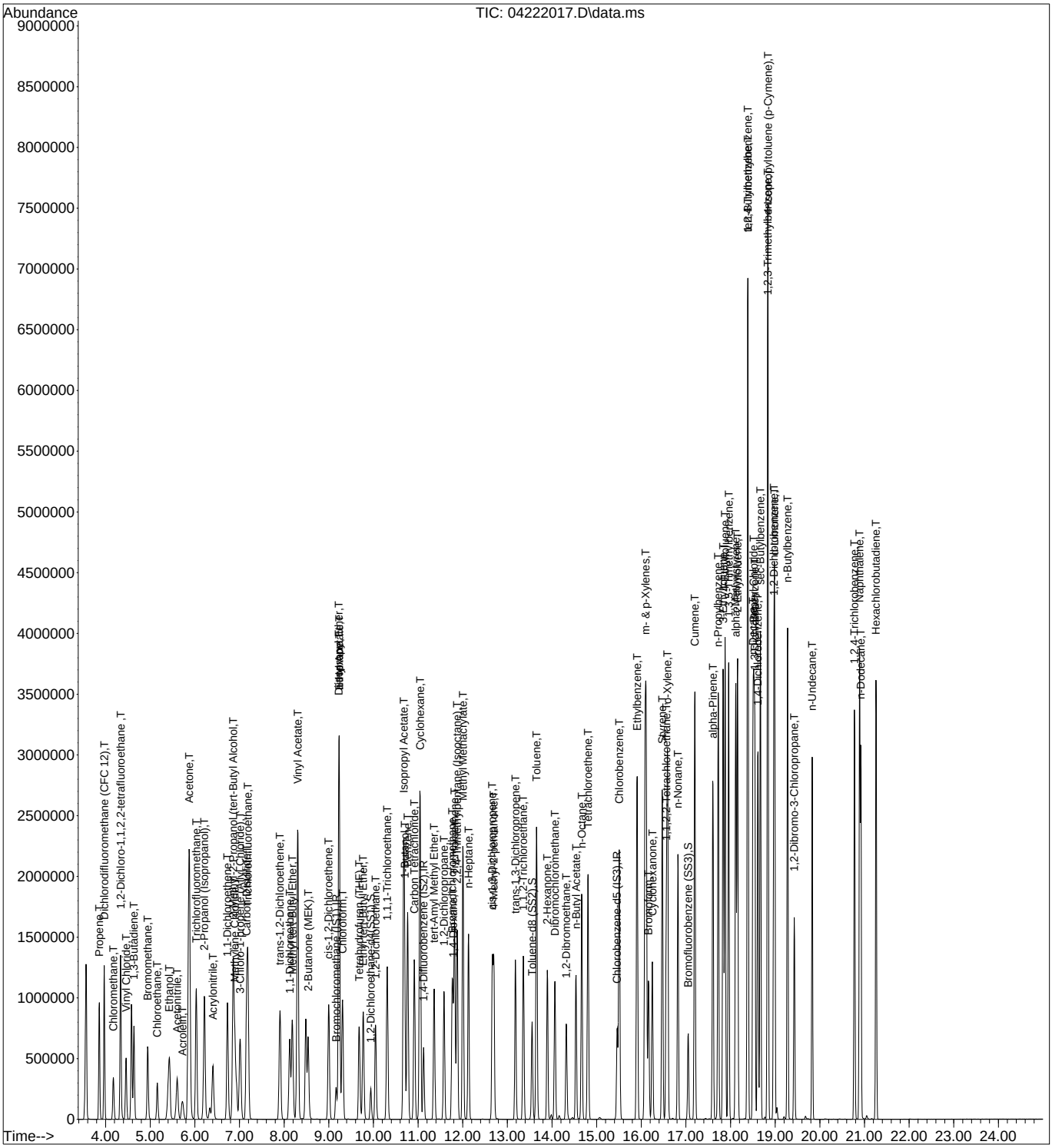
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.13	71	453213	44.537	ng	99
52) cis-1,3-Dichloropropene	12.66	75	860297	54.289	ng	100
53) 4-Methyl-2-pentanone	12.70	58	372186	44.279	ng	99
54) trans-1,3-Dichloropropene	13.18	75	882932	59.524	ng	99
55) 1,1,2-Trichloroethane	13.36	97	535895	51.381	ng	100
58) Toluene	13.65	91	2200796	46.574	ng	100
59) 2-Hexanone	13.90	43	828054	44.262	ng	100
60) Dibromochloromethane	14.07	129	799199	60.609	ng	100
61) 1,2-Dibromoethane	14.32	107	657662	55.014	ng	100
62) n-Butyl Acetate	14.54	43	895005	44.812	ng	99
63) n-Octane	14.67	57	353789	41.494	ng	100
64) Tetrachloroethene	14.81	166	787530	53.612	ng	100
65) Chlorobenzene	15.51	112	1619494	49.163	ng	100
66) Ethylbenzene	15.91	91	2605564	51.348	ng	99
67) m- & p-Xylenes	16.10	91	4289093	105.600	ng	100
68) Bromoform	16.16	173	724639	66.557	ng	99
69) Styrene	16.47	104	1684196	57.179	ng	100
70) o-Xylene	16.59	91	2120519	52.245	ng	99
71) n-Nonane	16.82	43	692402	39.492	ng	100
72) 1,1,2,2-Tetrachloroethane	16.56	83	824924	45.020	ng	100
74) Cumene	17.20	105	2768290	52.267	ng	100
75) alpha-Pinene	17.61	93	1270363	47.612	ng	100
76) n-Propylbenzene	17.72	91	3094989	51.167	ng	100
77) 3-Ethyltoluene	17.83	105	2691483	53.020	ng	100
78) 4-Ethyltoluene	17.88	105	2750937	56.570	ng	100
79) 1,3,5-Trimethylbenzene	17.96	105	2393266	53.535	ng	99
80) alpha-Methylstyrene	18.12	118	1310045	59.864	ng	99
81) 2-Ethyltoluene	18.16	105	2695906	53.164	ng	100
82) 1,2,4-Trimethylbenzene	18.39	105	2335635	56.228	ng	99
83) n-Decane	18.50	57	861713	42.646	ng	100
84) Benzyl Chloride	18.52	91	2102138	64.718	ng	100
85) 1,3-Dichlorobenzene	18.54	146	1471826	61.378	ng	100
86) 1,4-Dichlorobenzene	18.61	146	1512394	61.732	ng	99
87) sec-Butylbenzene	18.67	105	2983928	51.090	ng	100
88) 4-Isopropyltoluene (p-...	18.84	119	2886890	55.807	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	2382967	56.223	ng	99
90) 1,2-Dichlorobenzene	18.97	146	1402445	58.789	ng	99
91) d-Limonene	18.99	68	693005	48.049	ng	100
92) 1,2-Dibromo-3-Chloropr...	19.43	157	576367	60.630	ng	99
93) n-Undecane	19.83	57	920386	42.817	ng	100
94) 1,2,4-Trichlorobenzene	20.77	180	1211612	65.818	ng	99
95) Naphthalene	20.89	128	3323979	58.135	ng	100
96) n-Dodecane	20.92	57	850719	40.075	ng	100
97) Hexachlorobutadiene	21.26	225	816834	64.046	ng	100
98) Cyclohexanone	16.25	55	572657	43.022	ng	99
99) tert-Butylbenzene	18.39	119	2270698	52.970	ng	100
100) n-Butylbenzene	19.28	91	2323808	55.826	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222017.D Vial: 2
Acq On : 22 Apr 2020 22:46 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 23 11:49:56 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222018.D Vial: 2
Acq On : 22 Apr 2020 23:19 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 23 11:49:58 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/23/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.17	130	148278	12.500	ng	0.02
37) 1,4-Difluorobenzene (IS2)	11.13	114	604904	12.500	ng	0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	288609	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.95	65	238771	14.233	ng	0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.84%			
57) Toluene-d8 (SS2)	13.55	98	686115	11.953	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.60%			
73) Bromofluorobenzene (SS3)	17.05	174	277637	14.538	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 116.32%			
Target Compounds						Qvalue
2) Propene	3.86	42	785958	86.546	ng	98
3) Dichlorodifluoromethan...	3.97	85	2156956	101.939	ng	100
4) Chloromethane	4.17	50	638588	50.149	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	1145081	116.014	ng	99
6) Vinyl Chloride	4.46	62	1130766	103.071	ng	100
7) 1,3-Butadiene	4.64	54	742038	97.009	ng	98
8) Bromomethane	4.94	94	885568	91.565	ng	99
9) Chloroethane	5.16	64	566662	78.719	ng	99
10) Ethanol	5.45	45	2076910	292.329	ng	100
11) Acetonitrile	5.62	41	1073293	66.269	ng	100
12) Acrolein	5.73	56	453266	74.424	ng	99
13) Acetone	5.88	58	2491481	341.667	ng	96
14) Trichlorofluoromethane	6.03	101	2161200	112.797	ng	99
15) 2-Propanol (Isopropanol)	6.23	45	2589369	111.908	ng	100
16) Acrylonitrile	6.42	53	983771	77.671	ng	99
17) 1,1-Dichloroethene	6.74	96	1003826	92.891	ng	100
18) 2-Methyl-2-Propanol (t...	6.88	59	3702880	151.202	ng	99
19) Methylene Chloride	6.90	84	937914	84.155	ng	100
20) 3-Chloro-1-propene (Al...	7.02	41	1080840	76.590	ng	99
21) Trichlorotrifluoroethane	7.19	151	1128627	105.687	ng	99
22) Carbon Disulfide	7.16	76	3238906	83.740	ng	100
23) trans-1,2-Dichloroethene	7.91	61	1368694	98.122	ng	99
24) 1,1-Dichloroethane	8.13	63	1602393	87.310	ng	99
25) Methyl tert-Butyl Ether	8.19	73	2363460	74.237	ng	99
26) Vinyl Acetate	8.32	86	1079473	443.004	ng	97
27) 2-Butanone (MEK)	8.55	72	620311	86.665	ng	99
28) cis-1,2-Dichloroethene	9.00	61	1295452	92.230	ng	99
29) Diisopropyl Ether	9.23	87	747987	84.224	ng	99
30) Ethyl Acetate	9.24	61	526581	160.729	ng	100
31) n-Hexane	9.23	57	1125241	70.869	ng	100
32) Chloroform	9.32	83	1914415	101.297	ng	99
34) Tetrahydrofuran (THF)	9.68	72	605437	87.534	ng	99
35) Ethyl tert-Butyl Ether	9.78	87	833016	64.491	ng	100
36) 1,2-Dichloroethane	10.05	62	1643759	115.324	ng	100
38) 1,1,1-Trichloroethane	10.31	97	2001463	122.231	ng	100
39) Isopropyl Acetate	10.68	61	934426	165.230	ng	99
40) 1-Butanol	10.72	56	1523226	166.005	ng	100
41) Benzene	10.77	78	3664850	85.023	ng	99
42) Carbon Tetrachloride	10.92	117	1920120	124.974	ng	100
43) Cyclohexane	11.05	84	2813954	171.994	ng	99
44) tert-Amyl Methyl Ether	11.36	73	1894309	66.804	ng	99
45) 1,2-Dichloropropane	11.59	63	797643	82.960	ng	100
46) Bromodichloromethane	11.77	83	1577887	111.004	ng	100
47) Trichloroethene	11.82	130	1284130	103.391	ng	100
48) 1,4-Dioxane	11.79	88	820475	97.578	ng	97
49) 2,2,4-Trimethylpentane...	11.88	57	3069164	75.817	ng	98
50) Methyl Methacrylate	12.01	100	871200	206.364	ng	99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222018.D Vial: 2
Acq On : 22 Apr 2020 23:19 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 23 11:49:58 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

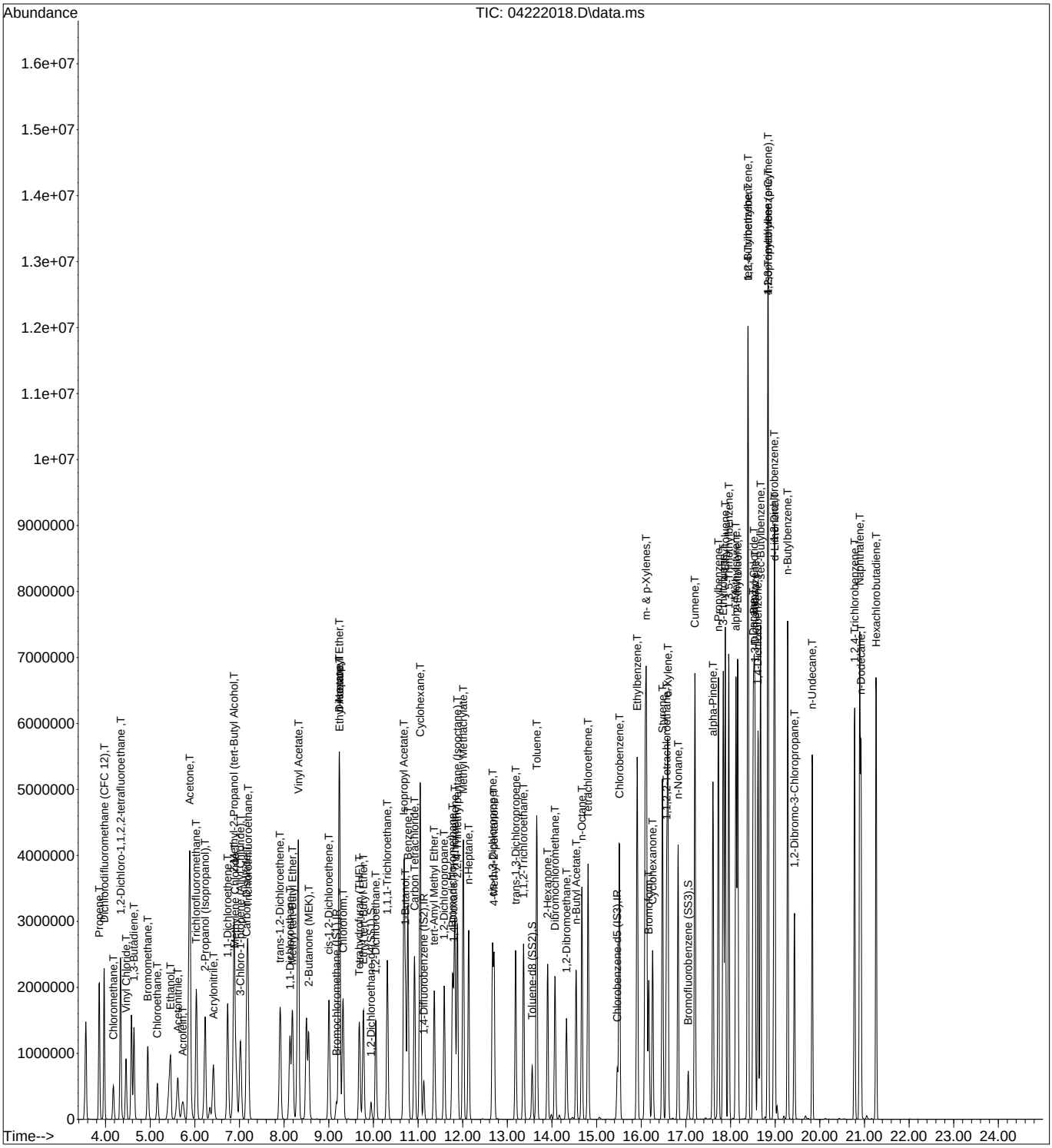
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.14	71	871756	84.724	ng	99
52) cis-1,3-Dichloropropene	12.67	75	1681640	104.951	ng	100
53) 4-Methyl-2-pentanone	12.70	58	733775	86.338	ng	99
54) trans-1,3-Dichloropropene	13.19	75	1735907	115.742	ng	100
55) 1,1,2-Trichloroethane	13.36	97	1044877	99.080	ng	100
58) Toluene	13.66	91	4241230	87.067	ng	100
59) 2-Hexanone	13.90	43	1624051	84.210	ng	100
60) Dibromochloromethane	14.07	129	1553333	114.272	ng	100
61) 1,2-Dibromoethane	14.32	107	1290897	104.751	ng	100
62) n-Butyl Acetate	14.54	43	1769562	85.947	ng	100
63) n-Octane	14.67	57	683435	77.756	ng	99
64) Tetrachloroethene	14.81	166	1507018	99.518	ng	100
65) Chlorobenzene	15.51	112	3124408	92.006	ng	100
66) Ethylbenzene	15.91	91	5026395	96.088	ng	99
67) m- & p-Xylenes	16.11	91	8213758	196.171	ng	99
68) Bromoform	16.17	173	1400185	124.753	ng	99
69) Styrene	16.47	104	3217941	105.977	ng	98
70) o-Xylene	16.60	91	4055077	96.915	ng	99
71) n-Nonane	16.83	43	1324701	73.294	ng	100
72) 1,1,2,2-Tetrachloroethane	16.57	83	1584301	83.872	ng	100
74) Cumene	17.20	105	5263540	96.402	ng	100
75) alpha-Pinene	17.61	93	2337427	84.981	ng	99
76) n-Propylbenzene	17.73	91	5902660	94.661	ng	100
77) 3-Ethyltoluene	17.84	105	5229819	99.937	ng	100
78) 4-Ethyltoluene	17.88	105	5078609	101.309	ng	100
79) 1,3,5-Trimethylbenzene	17.96	105	4552050	98.775	ng	99
80) alpha-Methylstyrene	18.12	118	2473575	109.648	ng	99
81) 2-Ethyltoluene	18.16	105	5107465	97.704	ng	99
82) 1,2,4-Trimethylbenzene	18.39	105	4385377	102.411	ng	98
83) n-Decane	18.51	57	1646824	79.061	ng	100
84) Benzyl Chloride	18.53	91	4029132	120.328	ng	99
85) 1,3-Dichlorobenzene	18.55	146	2762488	111.751	ng	100
86) 1,4-Dichlorobenzene	18.61	146	2871235	113.686	ng	99
87) sec-Butylbenzene	18.67	105	5630899	93.523	ng	99
88) 4-Isopropyltoluene (p-...	18.84	119	5350008	100.325	ng	99
89) 1,2,3-Trimethylbenzene	18.84	105	4460508	102.087	ng	99
90) 1,2-Dichlorobenzene	18.98	146	2608515	106.072	ng	99
91) d-Limonene	18.99	68	1332709	89.635	ng	99
92) 1,2-Dibromo-3-Chloropr...	19.43	157	1113665	113.641	ng	98
93) n-Undecane	19.83	57	1760518	79.448	ng	100
94) 1,2,4-Trichlorobenzene	20.78	180	2294871	120.930	ng	100
95) Naphthalene	20.90	128	6235400	105.787	ng	99
96) n-Dodecane	20.92	57	1626329	74.317	ng	100
97) Hexachlorobutadiene	21.26	225	1532118	116.531	ng	100
98) Cyclohexanone	16.25	55	1131243	82.442	ng	99
99) tert-Butylbenzene	18.39	119	4205655	95.169	ng	100
100) n-Butylbenzene	19.28	91	4424060	103.098	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222018.D Vial: 2
Acq On : 22 Apr 2020 23:19 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 23 11:49:58 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222025.D Vial: 2
Acq On : 23 Apr 2020 14:51 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S34-04212006/S34-04102008 (5/9)

Quant Time: Apr 23 15:16:38 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:40:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/23/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	138305	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	11.12	114	577705	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	257902	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.94	65	219688	12.260	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.08%				
57) Toluene-d8 (SS2)	13.55	98	636981	12.792	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.32%				
73) Bromofluorobenzene (SS3)	17.05	174	245958	12.290	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.32%				
Target Compounds							Qvalue
2) Propene	3.86	42	154699	26.335	ng		98
3) Dichlorodifluoromethan...	3.97	85	589140	26.397	ng		100
4) Chloromethane	4.17	50	237620	28.855	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	308509	25.571	ng		100
6) Vinyl Chloride	4.45	62	303367	28.091	ng		100
7) 1,3-Butadiene	4.63	54	212030	30.741	ng		99
8) Bromomethane	4.94	94	224805	26.489	ng		99
9) Chloroethane	5.16	64	148572	27.196	ng		99
10) Ethanol	5.41	45	551345	123.912	ng		99
11) Acetonitrile	5.59	41	281664	26.742	ng		99
12) Acrolein	5.72	56	115673	28.448	ng		100
13) Acetone	5.86	58	716495	134.126	ng		100
14) Trichlorofluoromethane	6.03	101	587112	26.439	ng		99
15) 2-Propanol (Isopropanol)	6.20	45	991945	58.454	ng		100
16) Acrylonitrile	6.39	53	257853	30.427	ng		99
17) 1,1-Dichloroethene	6.73	96	273599	28.027	ng		100
18) 2-Methyl-2-Propanol (t...	6.85	59	878560	56.660	ng		100
19) Methylene Chloride	6.89	84	259159	27.662	ng		99
20) 3-Chloro-1-propene (Al...	7.01	41	288466	26.536	ng		99
21) Trichlorotrifluoroethane	7.19	151	309497	26.781	ng		99
22) Carbon Disulfide	7.15	76	893442	28.681	ng		99
23) trans-1,2-Dichloroethene	7.90	61	369099	29.956	ng		99
24) 1,1-Dichloroethane	8.12	63	417588	27.124	ng		100
25) Methyl tert-Butyl Ether	8.18	73	561667	28.315	ng		100
26) Vinyl Acetate	8.30	86	288845	148.155	ng	#	95
27) 2-Butanone (MEK)	8.53	72	164286	29.934	ng		97
28) cis-1,2-Dichloroethene	8.99	61	351423	28.219	ng		100
29) Diisopropyl Ether	9.22	87	210546	26.487	ng		96
30) Ethyl Acetate	9.23	61	149636	61.279	ng		96
31) n-Hexane	9.23	57	331607	27.976	ng		100
32) Chloroform	9.30	83	520394	27.442	ng		100
34) Tetrahydrofuran (THF)	9.68	72	161914	29.128	ng		98
35) Ethyl tert-Butyl Ether	9.77	87	231641	27.259	ng		98
36) 1,2-Dichloroethane	10.04	62	437532	28.049	ng		100
38) 1,1,1-Trichloroethane	10.30	97	551673	27.774	ng		100
39) Isopropyl Acetate	10.67	61	263481	55.596	ng		95
40) 1-Butanol	10.68	56	321068	50.426	ng		89
41) Benzene	10.76	78	1014361	26.935	ng		100
42) Carbon Tetrachloride	10.91	117	514147	26.405	ng		99
43) Cyclohexane	11.04	84	804221	54.510	ng		98
44) tert-Amyl Methyl Ether	11.35	73	547671	27.696	ng		99
45) 1,2-Dichloropropane	11.58	63	220258	28.569	ng		99
46) Bromodichloromethane	11.76	83	426060	27.495	ng		99
47) Trichloroethene	11.82	130	357343	27.398	ng		99
48) 1,4-Dioxane	11.78	88	226346	29.892	ng		99
49) 2,2,4-Trimethylpentane...	11.87	57	871344	27.699	ng		100
50) Methyl Methacrylate	12.00	100	242680	60.149	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222025.D Vial: 2
Acq On : 23 Apr 2020 14:51 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S34-04212006/S34-04102008 (5/9)

Quant Time: Apr 23 15:16:38 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:40:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

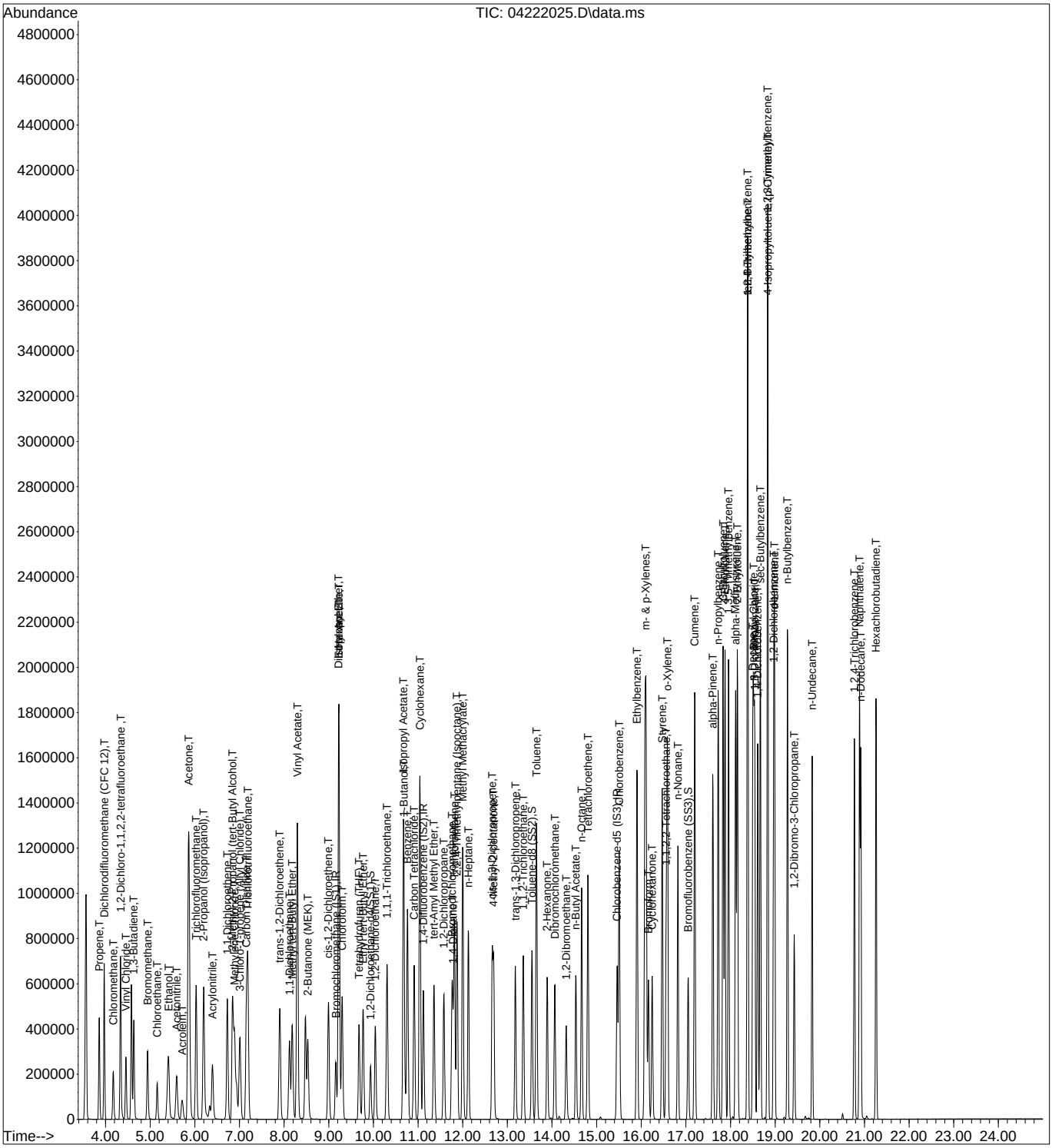
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.13	71	247582	28.295	ng	99
52) cis-1,3-Dichloropropene	12.66	75	483185	30.278	ng	100
53) 4-Methyl-2-pentanone	12.69	58	198322	30.093	ng	99
54) trans-1,3-Dichloropropene	13.18	75	459905	30.102	ng	100
55) 1,1,2-Trichloroethane	13.36	97	287117	27.892	ng	100
58) Toluene	13.65	91	1194763	28.577	ng	100
59) 2-Hexanone	13.89	43	432500	34.692	ng	100
60) Dibromochloromethane	14.07	129	421019	29.639	ng	100
61) 1,2-Dibromoethane	14.32	107	348360	29.896	ng	100
62) n-Butyl Acetate	14.53	43	481394	34.557	ng	99
63) n-Octane	14.67	57	193866	29.129	ng	99
64) Tetrachloroethene	14.81	166	424518	26.957	ng	100
65) Chlorobenzene	15.51	112	868669	28.380	ng	100
66) Ethylbenzene	15.90	91	1404245	28.826	ng	99
67) m- & p-Xylenes	16.10	91	2337527	56.877	ng	100
68) Bromoform	16.16	173	380352	30.239	ng	100
69) Styrene	16.47	104	903435	30.206	ng	100
70) o-Xylene	16.58	91	1145984	28.393	ng	99
71) n-Nonane	16.82	43	376132	28.889	ng	100
72) 1,1,2,2-Tetrachloroethane	16.56	83	446288	29.189	ng	100
74) Cumene	17.19	105	1491842	28.338	ng	100
75) alpha-Pinene	17.60	93	697167	29.081	ng	100
76) n-Propylbenzene	17.72	91	1664929	29.030	ng	100
77) 3-Ethyltoluene	17.83	105	1514987	29.475	ng	100
78) 4-Ethyltoluene	17.88	105	1406441	28.100	ng	100
79) 1,3,5-Trimethylbenzene	17.95	105	1297760	28.058	ng	100
80) alpha-Methylstyrene	18.11	118	687537	29.713	ng	99
81) 2-Ethyltoluene	18.15	105	1460305	28.553	ng	99
82) 1,2,4-Trimethylbenzene	18.38	105	1280190	28.624	ng	99
83) n-Decane	18.50	57	468311	29.721	ng	100
84) Benzyl Chloride	18.52	91	1071774	31.770	ng	100
85) 1,3-Dichlorobenzene	18.54	146	794118	29.452	ng	100
86) 1,4-Dichlorobenzene	18.61	146	815611	29.661	ng	99
87) sec-Butylbenzene	18.67	105	1616035	28.213	ng	100
88) 4-Isopropyltoluene (p-...	18.83	119	1571253	28.236	ng	100
89) 1,2,3-Trimethylbenzene	18.83	105	1253558	28.004	ng	100
90) 1,2-Dichlorobenzene	18.97	146	762623	29.114	ng	100
91) d-Limonene	18.99	68	360217	28.509	ng	99
92) 1,2-Dibromo-3-Chloropr...	19.43	157	285122	28.709	ng	100
93) n-Undecane	19.83	57	497789	29.938	ng	99
94) 1,2,4-Trichlorobenzene	20.77	180	604458	31.268	ng	100
95) Naphthalene	20.89	128	1670947	29.004	ng	100
96) n-Dodecane	20.92	57	456255	30.642	ng	99
97) Hexachlorobutadiene	21.26	225	423905	26.946	ng	99
98) Cyclohexanone	16.24	55	281643	27.641	ng	100
99) tert-Butylbenzene	18.38	119	1232641	27.444	ng	100
100) n-Butylbenzene	19.27	91	1251920	29.772	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222025.D Vial: 2
Acq On : 23 Apr 2020 14:51 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S34-04212006/S34-04102008 (5/9)

Quant Time: Apr 23 15:16:38 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:40:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **04222025.D** Acq. Method File: **TO15.M** *4/23/20*
Data File Path: **I:\MS09\Data\2020_04\22** Sample Name: **25ng TO-15 ICV STD**
Operator: **SC** Misc Info: **S34-04212006/S34-04102008 (**
Date Acquired: **4/23/2020 14:51** Instrument Name: **MS09**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
2)	**Propene**	**3.86**	**26.3**	26.25	100	**51**	**133**	*	*
3)	**Dichlorodifluoromethane (CFC 1**	**3.97**	**26.4**	**26.25**	101	**64**	**115**	*	*
4)	**Chloromethane**	**4.17**	**28.9**	**26.50**	109	**49**	**127**	*	*
5)	**1,2-Dichloro-1,1,2,2-tetrafluoroetl**	**4.34**	**25.6**	**25.75**	99	**65**	**114**	*	*
6)	**Vinyl Chloride**	**4.45**	**28.1**	**26.50**	106	**61**	**129**	*	*
7)	**1,3-Butadiene**	**4.63**	**30.7**	**26.50**	116	**54**	**140**	*	*
8)	**Bromomethane**	**4.94**	**26.5**	**26.50**	100	**68**	**120**	*	*
9)	**Chloroethane**	**5.16**	**27.2**	**26.75**	102	**63**	**123**	*	*
10)	**Ethanol**	**5.41**	**124**	**132.50**	94	**49**	**134**	*	*
11)	**Acetonitrile**	**5.59**	**26.7**	**26.75**	100	**50**	**137**	*	*
12)	**Acrolein**	**5.72**	**28.4**	**25.75**	110	**62**	**128**	*	*
13)	**Acetone**	**5.86**	**134**	**133.50**	100	**56**	**125**	*	*
14)	**Trichlorofluoromethane**	**6.03**	**26.4**	**26.50**	100	**64**	**115**	*	*
15)	**2-Propanol (Isopropanol)**	**6.20**	**58.5**	**52.75**	111	**57**	**133**	*	*
16)	**Acrylonitrile**	**6.39**	**30.4**	**26.50**	115	**64**	**136**	*	*
17)	**1,1-Dichloroethene**	**6.73**	**28.0**	**26.75**	105	**68**	**115**	*	*
18)	2-Methyl-2-Propanol (tert-Butyl Alc	6.85	56.7	53.75	105	56	132	*	*
19)	**Methylene Chloride**	**6.89**	**27.7**	**26.25**	106	**68**	**114**	*	*
20)	**3-Chloro-1-propene (Allyl Chloric**	**7.01**	**26.5**	**26.75**	99	**55**	**139**	*	*
21)	**Trichlorotrifluoroethane**	**7.19**	**26.8**	**27.00**	99	**65**	**115**	*	*
22)	**Carbon Disulfide**	**7.15**	**28.7**	**26.50**	108	**68**	**113**	*	*
23)	**trans-1,2-Dichloroethene**	**7.90**	**30.0**	**26.75**	112	**65**	**122**	*	*
24)	**1,1-Dichloroethane**	**8.12**	**27.1**	**26.50**	102	**63**	**118**	*	*
25)	**Methyl tert-Butyl Ether**	**8.18**	**28.3**	**26.75**	106	**57**	**131**	*	*
26)	**Vinyl Acetate**	**8.30**	**148**	**133.25**	111	**71**	**128**	*	*
27)	**2-Butanone (MEK)**	**8.53**	**29.9**	**26.50**	113	**67**	**123**	*	*
28)	**cis-1,2-Dichloroethene**	**8.99**	**28.2**	**26.50**	106	**64**	**120**	*	*
29)	Diisopropyl Ether	9.22	26.5	27.00	98	62	121	*	*
30)	**Ethyl Acetate**	**9.23**	**61.3**	**54.00**	114	**64**	**131**	*	*
31)	**n-Hexane**	**9.23**	**28.0**	**27.00**	104	**58**	**125**	*	*
32)	**Chloroform**	**9.30**	**27.4**	**26.75**	102	**65**	**114**	*	*
34)	**Tetrahydrofuran (THF)**	**9.68**	**29.1**	**27.50**	106	**65**	**115**	*	*
35)	Ethyl tert-Butyl Ether	9.77	27.3	26.75	102	61	130	*	*
36)	**1,2-Dichloroethane**	**10.04**	**28.0**	**26.75**	105	**59**	**120**	*	*
38)	**1,1,1-Trichloroethane**	**10.30**	**27.8**	**26.75**	104	**66**	**115**	*	*
39)	Isopropyl Acetate	10.67	55.6	52.50	106	65	129	*	*
40)	1-Butanol	10.68	50.4	53.25	95	58	140	*	*
41)	**Benzene**	**10.76**	**26.9**	**26.25**	102	**66**	**109**	*	*
42)	**Carbon Tetrachloride**	**10.91**	**26.4**	**26.00**	102	**66**	**119**	*	*
43)	**Cyclohexane**	**11.04**	**54.5**	**52.75**	103	**67**	**117**	*	*
44)	tert-Amyl Methyl Ether	11.35	27.7	**26.75**	104	62	133	*	*
45)	**1,2-Dichloropropane**	**11.58**	**28.6**	**26.75**	107	**66**	**119**	*	*
46)	**Bromodichloromethane**	**11.76**	**27.5**	**27.25**	101	**71**	**119**	*	*
47)	**Trichloroethene**	**11.82**	**27.4**	**27.00**	101	**70**	**114**	*	*
48)	**1,4-Dioxane**	**11.78**	**29.9**	**27.00**	111	**71**	**117**	*	*
49)	2,2,4-Trimethylpentane (Isooctane)	11.87	27.7	26.75	104	61	122	*	*

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **04222025.D** **TO15.M**
Data File Path: **I:\MS09\Data\2020_04\22** Sample Name: **25ng TO-15 ICV STD**
Operator: **SC** Misc Info: **S34-04212006/S34-04102008 (**
Date Acquired: **4/23/2020** **14:51** Instrument Name: **MS09**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
50)	**Methyl Methacrylate**	**12.00**	**60.1**	**53.75**	112	**76**	**121**	*	*
51)	**n-Heptane**	**12.13**	**28.3**	**26.75**	106	**66**	**119**	*	*
52)	**cis-1,3-Dichloropropene**	**12.66**	**30.3**	**26.75**	113	**72**	**125**	*	*
53)	**4-Methyl-2-pentanone**	**12.69**	**30.1**	**26.50**	114	**68**	**130**	*	*
54)	**trans-1,3-Dichloropropene**	**13.18**	**30.1**	**26.50**	114	**71**	**132**	*	*
55)	**1,1,2-Trichloroethane**	**13.36**	**27.9**	**26.75**	104	**70**	**117**	*	*
58)	**Toluene**	**13.65**	**28.6**	**26.50**	108	**67**	**113**	*	*
59)	**2-Hexanone**	**13.89**	**34.7**	**27.00**	129	**62**	**135**	*	*
60)	**Dibromochloromethane**	**14.07**	**29.6**	**26.75**	111	**73**	**126**	*	*
61)	**1,2-Dibromoethane**	**14.32**	**29.9**	**26.75**	112	**71**	**122**	*	*
62)	**n-Butyl Acetate**	**14.53**	**34.6**	**27.25**	127	**65**	**134**	*	*
63)	**n-Octane**	**14.67**	**29.1**	**27.00**	108	**63**	**120**	*	*
64)	**Tetrachloroethene**	**14.81**	**27.0**	**26.00**	104	**64**	**120**	*	*
65)	**Chlorobenzene**	**15.51**	**28.4**	**26.75**	106	**65**	**116**	*	*
66)	**Ethylbenzene**	**15.90**	**28.8**	**26.50**	109	**65**	**117**	*	*
67)	**m- & p-Xylenes**	**16.10**	**56.9**	**53.25**	107	**64**	**121**	*	*
68)	**Bromoform**	**16.16**	**30.2**	**26.75**	113	**72**	**130**	*	*
69)	**Styrene**	**16.47**	**30.2**	**26.50**	114	**72**	**126**	*	*
70)	**o-Xylene**	**16.58**	**28.4**	**26.75**	106	**64**	**120**	*	*
71)	**n-Nonane**	**16.82**	**28.9**	**26.75**	108	**56**	**132**	*	*
72)	**1,1,2,2-Tetrachloroethane**	**16.56**	**29.2**	**26.75**	109	**66**	**122**	*	*
74)	**Cumene**	**17.19**	**28.3**	**26.75**	106	**64**	**121**	*	*
75)	**alpha-Pinene**	**17.60**	**29.1**	**26.50**	110	**62**	**136**	*	*
76)	**n-Propylbenzene**	**17.72**	**29.0**	**26.75**	108	**65**	**123**	*	*
77)	3-Ethyltoluene	17.83	29.5	26.75	110	62	123	*	*
78)	**4-Ethyltoluene**	**17.88**	**28.1**	**26.25**	**107**	**71**	**126**	*	*
79)	**1,3,5-Trimethylbenzene**	**17.95**	**28.1**	**26.50**	**106**	**65**	**120**	*	*
80)	alpha-Methylstyrene	18.11	29.7	26.50	**112**	70	132	*	*
81)	2-Ethyltoluene	18.15	28.6	26.75	**107**	66	121	*	*
82)	**1,2,4-Trimethylbenzene**	**18.38**	**28.6**	**26.50**	**108**	**63**	**129**	*	*
83)	n-Decane	18.50	29.7	26.75	**111**	61	131	*	*
84)	**Benzyl Chloride**	**18.52**	**31.8**	**26.75**	**119**	**66**	**138**	*	*
85)	**1,3-Dichlorobenzene**	**18.54**	**29.5**	**26.75**	**110**	**65**	**127**	*	*
86)	**1,4-Dichlorobenzene**	**18.61**	**29.7**	**26.75**	**111**	**66**	**125**	*	*
87)	sec-Butylbenzene	18.67	28.2	26.50	**106**	68	123	*	*
88)	4-Isopropyltoluene (p-Cymene)	18.83	28.2	27.25	**103**	61	129	*	*
89)	1,2,3-Trimethylbenzene	18.83	28.0	27.00	**104**	60	134	*	*
90)	**1,2-Dichlorobenzene**	**18.97**	**29.1**	**26.75**	**109**	**67**	**128**	*	*
91)	**d-Limonene**	**18.99**	**28.5**	**26.50**	**108**	**65**	**136**	*	*
92)	**1,2-Dibromo-3-Chloropropane**	**19.43**	**28.7**	**26.75**	**107**	**73**	**133**	*	*
93)	n-Undecane	19.83	29.9	27.00	**111**	64	131	*	*
94)	**1,2,4-Trichlorobenzene**	**20.77**	**31.3**	**27.00**	**116**	**62**	**140**	*	*
95)	**Naphthalene**	**20.89**	**29.0**	**26.50**	**109**	**57**	**149**	*	*
96)	n-Dodecane	20.92	30.6	26.50	**115**	41	181	*	*
97)	**Hexachlorobutadiene**	**21.26**	**26.9**	**26.75**	**101**	57	129	*	*
98)	Cyclohexanone	16.24	27.6	25.25	109	61	131	*	*
99)	tert-Butylbenzene	18.38	27.4	26.50	103	62	130	*	*
100)	n-Butylbenzene	19.27	29.8	26.75	111	67	124	*	*

Bold = 75 Compound List

Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2020_04\29\04292003.D Vial: 2
Acq On : 29 Apr 2020 6:19 Operator: SC
Sample : CCV R9042920_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 29 06:55:12 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/29/20

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	119	-0.02
2	T	Propene	0.531	0.578	-8.9	137	0.00
3	T	Dichlorodifluoromethane (CF	2.017	1.717	14.9	105	0.00
4	T	Chloromethane	0.744	0.792	-6.5	119	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.090	0.948	13.0	107	0.00
6	T	Vinyl Chloride	0.976	0.927	5.0	113	-0.01
7	T	1,3-Butadiene	0.623	0.662	-6.3	119	0.00
8	T	Bromomethane	0.767	0.735	4.2	116	0.00
9	T	Chloroethane	0.494	0.456	7.7	114	0.00
10	T	Ethanol	0.402	0.376	6.5	123	-0.06
11	T	Acetonitrile	0.952	0.876	8.0	116	-0.04
12	T	Acrolein	0.367	0.385	-4.9	118	-0.02
13	T	Acetone	0.483	0.437	9.5	115	-0.03
14	T	Trichlorofluoromethane	2.007	1.667	16.9	102	0.00
15	T	2-Propanol (Isopropanol)	1.534	1.316	14.2	96	-0.04
16	T	Acrylonitrile	0.766	0.792	-3.4	114	-0.03
17	T	1,1-Dichloroethene	0.882	0.799	9.4	110	-0.01
18	T	2-Methyl-2-Propanol (tert-B	1.401	1.740	-24.2	146	-0.04
19	T	Methylene Chloride	0.847	0.784	7.4	112	-0.02
20	T	3-Chloro-1-propene (Allyl C	0.983	0.840	14.5	107	-0.02
21	T	Trichlorotrifluoroethane	1.044	0.905	13.3	108	0.00
22	T	Carbon Disulfide	2.815	2.650	5.9	112	-0.01
23	T	trans-1,2-Dichloroethene	1.114	1.059	4.9	109	-0.01
24	T	1,1-Dichloroethane	1.391	1.245	10.5	109	-0.02
25	T	Methyl tert-Butyl Ether	1.793	2.349	-31.0#	157	-0.01
26	T	Vinyl Acetate	0.176	0.178	-1.1	110	-0.03
27	T	2-Butanone (MEK)	0.496	0.501	-1.0	112	-0.03
28	T	cis-1,2-Dichloroethene	1.126	1.026	8.9	109	-0.01
29	T	Diisopropyl Ether	0.718	0.658	8.4	118	-0.02
30	T	Ethyl Acetate	0.221	0.220	0.5	113	-0.02
31	T	n-Hexane	1.071	1.008	5.9	118	0.00
32	T	Chloroform	1.714	1.490	13.1	107	-0.02
33	S	1,2-Dichloroethane-d4(SS1)	1.620	1.500	7.4	111	-0.02
34	T	Tetrahydrofuran (THF)	0.502	0.479	4.6	112	0.00
35	T	Ethyl tert-Butyl Ether	0.768	0.912	-18.8	147	-0.01
36	T	1,2-Dichloroethane	1.410	1.211	14.1	103	-0.01
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	120	-0.01
38	T	1,1,1-Trichloroethane	0.430	0.365	15.1	104	0.00
39	T	Isopropyl Acetate	0.103	0.096	6.8	114	-0.02
40	T	1-Butanol	0.138	0.151	-9.4	110	-0.03
41	T	Benzene	0.815	0.738	9.4	112	-0.01
42	T	Carbon Tetrachloride	0.421	0.356	15.4	102	-0.01
43	T	Cyclohexane	0.319	0.290	9.1	112	0.00
44	T	tert-Amyl Methyl Ether	0.428	0.482	-12.6	138	0.00
45	T	1,2-Dichloropropane	0.167	0.155	7.2	113	-0.01
46	T	Bromodichloromethane	0.335	0.291	13.1	106	-0.02
47	T	Trichloroethene	0.282	0.258	8.5	110	-0.01
48	T	1,4-Dioxane	0.164	0.161	1.8	110	-0.01
49	T	2,2,4-Trimethylpentane (Iso	0.681	0.637	6.5	118	-0.01
50	T	Methyl Methacrylate	0.087	0.087	0.0	111	-0.02
51	T	n-Heptane	0.189	0.177	6.3	113	-0.01
52	T	cis-1,3-Dichloropropene	0.345	0.330	4.3	109	0.00
53	T	4-Methyl-2-pentanone	0.143	0.143	0.0	111	-0.01
54	T	trans-1,3-Dichloropropene	0.331	0.321	3.0	106	0.00
55	T	1,1,2-Trichloroethane	0.223	0.201	9.9	109	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2020_04\29\04292003.D Vial: 2
Acq On : 29 Apr 2020 6:19 Operator: SC
Sample : CCV R9042920_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 29 06:55:12 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	113	0.00
57	S	Toluene-d8 (SS2)	2.414	2.482	-2.8	117	0.00
58	T	Toluene	2.026	1.907	5.9	110	0.00
59	T	2-Hexanone	0.604	0.683	-13.1	106	-0.01
60	T	Dibromochloromethane	0.688	0.666	3.2	106	0.00
61	T	1,2-Dibromoethane	0.565	0.560	0.9	108	0.00
62	T	n-Butyl Acetate	0.675	0.729	-8.0	108	0.00
63	T	n-Octane	0.323	0.304	5.9	110	0.00
64	T	Tetrachloroethene	0.763	0.701	8.1	108	0.00
65	T	Chlorobenzene	1.484	1.393	6.1	108	0.00
66	T	Ethylbenzene	2.361	2.228	5.6	108	0.00
67	T	m- & p-Xylenes	1.992	1.834	7.9	107	-0.01
68	T	Bromoform	0.610	0.600	1.6	105	0.00
69	T	Styrene	1.450	1.454	-0.3	108	0.00
70	T	o-Xylene	1.956	1.812	7.4	107	-0.01
71	T	n-Nonane	0.631	0.593	6.0	108	0.00
72	T	1,1,2,2-Tetrachloroethane	0.741	0.719	3.0	109	-0.01
73	S	Bromofluorobenzene (SS3)	0.970	0.974	-0.4	112	0.00
74	T	Cumene	2.552	2.370	7.1	107	0.00
75	T	alpha-Pinene	1.162	1.168	-0.5	113	0.00
76	T	n-Propylbenzene	2.780	2.632	5.3	107	0.00
77	T	3-Ethyltoluene	2.491	2.412	3.2	107	0.00
78	T	4-Ethyltoluene	2.426	2.274	6.3	106	0.00
79	T	1,3,5-Trimethylbenzene	2.242	2.072	7.6	106	0.00
80	T	alpha-Methylstyrene	1.122	1.110	1.1	105	0.00
81	T	2-Ethyltoluene	2.479	2.296	7.4	106	0.00
82	T	1,2,4-Trimethylbenzene	2.168	2.027	6.5	106	-0.01
83	T	n-Decane	0.764	0.759	0.7	109	-0.01
84	T	Benzyl Chloride	1.635	1.735	-6.1	104	-0.01
85	T	1,3-Dichlorobenzene	1.307	1.283	1.8	107	-0.01
86	T	1,4-Dichlorobenzene	1.333	1.309	1.8	106	0.00
87	T	sec-Butylbenzene	2.776	2.596	6.5	107	0.00
88	T	4-Isopropyltoluene (p-Cymen	2.697	2.506	7.1	106	0.00
89	T	1,2,3-Trimethylbenzene	2.170	2.029	6.5	106	-0.01
90	T	1,2-Dichlorobenzene	1.270	1.231	3.1	107	-0.01
91	T	d-Limonene	0.612	0.594	2.9	107	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.481	0.496	-3.1	106	0.00
93	T	n-Undecane	0.806	0.796	1.2	108	0.00
94	T	1,2,4-Trichlorobenzene	0.937	1.043	-11.3	105	0.00
95	T	Naphthalene	2.792	2.967	-6.3	106	0.00
96	T	n-Dodecane	0.722	0.769	-6.5	108	0.00
97	T	Hexachlorobutadiene	0.762	0.706	7.3	105	0.00
98	T	Cyclohexanone	0.494	0.513	-3.8	108	-0.01
99	T	tert-Butylbenzene	2.177	1.995	8.4	107	0.00
100	T	n-Butylbenzene	2.038	1.995	2.1	106	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292003.D Vial: 2
Acq On : 29 Apr 2020 6:19 Operator: SC
Sample : CCV R9042920_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 29 06:55:12 2020 4/29/20
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	165863	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.12	114	693341	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	304929	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.93	65	248840	11.580	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.64%				
57) Toluene-d8 (SS2)	13.55	98	756716	12.852	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.80%				
73) Bromofluorobenzene (SS3)	17.05	174	296884	12.547	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.40%				
Target Compounds							Qvalue
2) Propene	3.85	42	203250	28.851	ng		98
3) Dichlorodifluoromethan...	3.96	85	603736	22.557	ng		100
4) Chloromethane	4.17	50	278400	28.190	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	330227	22.823	ng		99
6) Vinyl Chloride	4.45	62	332158	25.647	ng		100
7) 1,3-Butadiene	4.63	54	232799	28.144	ng		99
8) Bromomethane	4.94	94	263484	25.888	ng		99
9) Chloroethane	5.15	64	163245	24.917	ng		99
10) Ethanol	5.40	45	649381	121.696	ng		99
11) Acetonitrile	5.58	41	304995	24.146	ng		99
12) Acrolein	5.71	56	131388	26.945	ng		100
13) Acetone	5.86	58	772933	120.651	ng		93
14) Trichlorofluoromethane	6.03	101	586270	22.015	ng		99
15) 2-Propanol (Isopropanol)	6.19	45	916463	45.033	ng		98
16) Acrylonitrile	6.38	53	275807	27.138	ng		99
17) 1,1-Dichloroethene	6.72	96	286099	24.438	ng		97
18) 2-Methyl-2-Propanol (t...	6.83	59	1246840	67.051	ng		98
19) Methylene Chloride	6.88	84	275818	24.549	ng		97
20) 3-Chloro-1-propene (Al...	7.00	41	301113	23.097	ng		99
21) Trichlorotrifluoroethane	7.19	151	324328	23.402	ng		99
22) Carbon Disulfide	7.15	76	940529	25.176	ng		100
23) trans-1,2-Dichloroethene	7.90	61	379436	25.679	ng		99
24) 1,1-Dichloroethane	8.12	63	450227	24.385	ng		100
25) Methyl tert-Butyl Ether	8.18	73	841448	35.371	ng		99
26) Vinyl Acetate	8.29	86	315989	135.149	ng		97
27) 2-Butanone (MEK)	8.52	72	176115	26.758	ng		99
28) cis-1,2-Dichloroethene	8.99	61	360846	24.161	ng		100
29) Diisopropyl Ether	9.22	87	235847	24.740	ng	#	92
30) Ethyl Acetate	9.22	61	158195	54.020	ng		100
31) n-Hexane	9.23	57	360955	25.393	ng		99
32) Chloroform	9.30	83	528930	23.258	ng		100
34) Tetrahydrofuran (THF)	9.68	72	173271	25.992	ng		99
35) Ethyl tert-Butyl Ether	9.77	87	326831	32.071	ng		100
36) 1,2-Dichloroethane	10.04	62	433873	23.193	ng		100
38) 1,1,1-Trichloroethane	10.30	97	541990	22.736	ng		100
39) Isopropyl Acetate	10.67	61	281219	49.442	ng		94
40) 1-Butanol	10.68	56	434272	56.830	ng		96
41) Benzene	10.76	78	1084650	23.998	ng		100
42) Carbon Tetrachloride	10.91	117	518221	22.176	ng		100
43) Cyclohexane	11.04	84	853631	48.209	ng		99
44) tert-Amyl Methyl Ether	11.35	73	722392	30.439	ng		99
45) 1,2-Dichloropropane	11.57	63	232279	25.103	ng		100
46) Bromodichloromethane	11.76	83	436554	23.474	ng		100
47) Trichloroethene	11.81	130	382221	24.418	ng		98
48) 1,4-Dioxane	11.78	88	240787	26.496	ng		99
49) 2,2,4-Trimethylpentane...	11.87	57	944587	25.019	ng		97
50) Methyl Methacrylate	12.00	100	257920	53.265	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292003.D Vial: 2
Acq On : 29 Apr 2020 6:19 Operator: SC
Sample : CCV R9042920_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 29 06:55:12 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

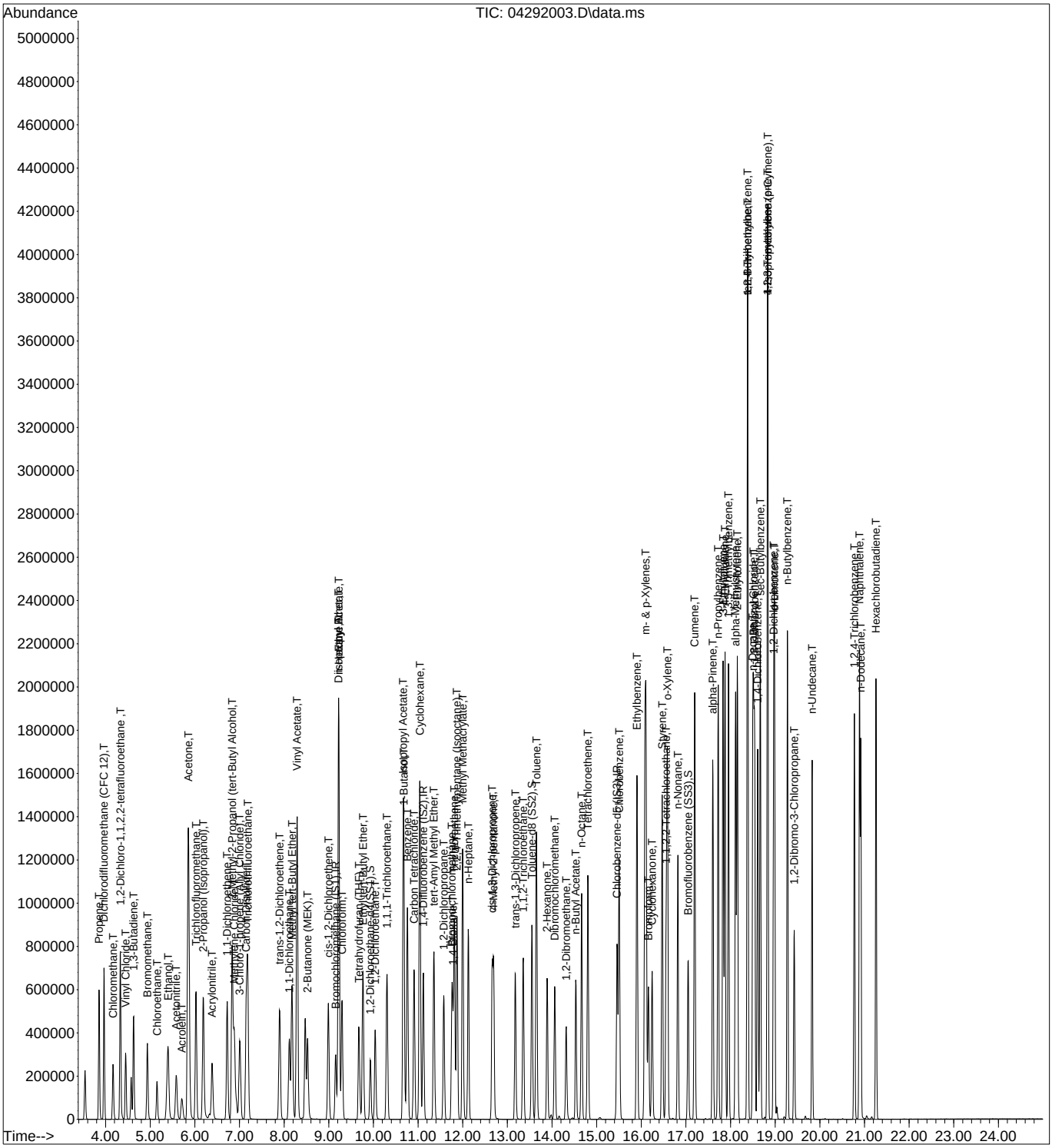
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	264357	25.173	ng	99
52) cis-1,3-Dichloropropene	12.66	75	475872	24.847	ng	100
53) 4-Methyl-2-pentanone	12.69	58	210458	26.608	ng	98
54) trans-1,3-Dichloropropene	13.18	75	472564	25.772	ng	100
55) 1,1,2-Trichloroethane	13.36	97	298711	24.178	ng	99
58) Toluene	13.65	91	1244317	25.172	ng	100
59) 2-Hexanone	13.89	43	445700	30.238	ng	97
60) Dibromochloromethane	14.06	129	434306	25.859	ng	100
61) 1,2-Dibromoethane	14.32	107	365517	26.531	ng	100
62) n-Butyl Acetate	14.53	43	484923	29.442	ng	99
63) n-Octane	14.67	57	199910	25.405	ng	100
64) Tetrachloroethene	14.80	166	444641	23.881	ng	100
65) Chlorobenzene	15.51	112	908805	25.112	ng	100
66) Ethylbenzene	15.90	91	1453962	25.243	ng	100
67) m- & p-Xylenes	16.10	91	2392934	49.245	ng	99
68) Bromoform	16.16	173	391441	26.321	ng	99
69) Styrene	16.47	104	940096	26.585	ng	99
70) o-Xylene	16.58	91	1182651	24.783	ng	100
71) n-Nonane	16.82	43	387260	25.156	ng	99
72) 1,1,2,2-Tetrachloroethane	16.56	83	468874	25.937	ng	100
74) Cumene	17.19	105	1560684	25.074	ng	100
75) alpha-Pinene	17.60	93	762301	26.894	ng	98
76) n-Propylbenzene	17.72	91	1733812	25.568	ng	100
77) 3-Ethyltoluene	17.83	105	1559054	25.654	ng	100
78) 4-Ethyltoluene	17.88	105	1497470	25.305	ng	100
79) 1,3,5-Trimethylbenzene	17.95	105	1339759	24.499	ng	100
80) alpha-Methylstyrene	18.11	118	724213	26.471	ng	100
81) 2-Ethyltoluene	18.15	105	1512504	25.013	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	1322781	25.015	ng	100
83) n-Decane	18.50	57	495604	26.602	ng	99
84) Benzyl Chloride	18.51	91	1142780	28.651	ng	99
85) 1,3-Dichlorobenzene	18.54	146	837383	26.267	ng	100
86) 1,4-Dichlorobenzene	18.61	146	853953	26.266	ng	99
87) sec-Butylbenzene	18.67	105	1693897	25.011	ng	99
88) 4-Isopropyltoluene (p-...	18.83	119	1666115	25.323	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	1348961	25.488	ng	99
90) 1,2-Dichlorobenzene	18.97	146	803399	25.941	ng	100
91) d-Limonene	18.99	68	391351	26.197	ng	99
92) 1,2-Dibromo-3-Chloropr...	19.43	157	317594	27.047	ng	96
93) n-Undecane	19.83	57	524521	26.681	ng	100
94) 1,2,4-Trichlorobenzene	20.77	180	680517	29.774	ng	100
95) Naphthalene	20.89	128	1863752	27.361	ng	100
96) n-Dodecane	20.92	57	487848	27.711	ng	100
97) Hexachlorobutadiene	21.26	225	456493	24.542	ng	100
98) Cyclohexanone	16.24	55	312823	25.967	ng	98
99) tert-Butylbenzene	18.38	119	1302123	24.520	ng	100
100) n-Butylbenzene	19.27	91	1301697	26.182	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292003.D Vial: 2
Acq On : 29 Apr 2020 6:19 Operator: SC
Sample : CCV R9042920_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 29 06:55:12 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2020_04\29\04292037.D Vial: 2
Acq On : 30 Apr 2020 2:29 Operator: SC
Sample : CCV END R9042920_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 30 03:56:08 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/30/20

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	117	-0.02
2	T	Propene	0.531	0.564	-6.2	132	-0.02
3	T	Dichlorodifluoromethane (CF	2.017	1.677	16.9	102	-0.01
4	T	Chloromethane	0.744	0.757	-1.7	113	-0.01
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.090	0.946	13.2	106	-0.02
6	T	Vinyl Chloride	0.976	0.903	7.5	109	-0.02
7	T	1,3-Butadiene	0.623	0.626	-0.5	111	-0.02
8	T	Bromomethane	0.767	0.726	5.3	114	-0.01
9	T	Chloroethane	0.494	0.444	10.1	110	-0.01
10	T	Ethanol	0.402	0.367	8.7	119	-0.06
11	T	Acetonitrile	0.952	0.853	10.4	112	-0.04
12	T	Acrolein	0.367	0.381	-3.8	116	-0.03
13	T	Acetone	0.483	0.429	11.2	112	-0.03
14	T	Trichlorofluoromethane	2.007	1.664	17.1	101	-0.01
15	T	2-Propanol (Isopropanol)	1.534	1.280	16.6	93	-0.04
16	T	Acrylonitrile	0.766	0.775	-1.2	110	-0.03
17	T	1,1-Dichloroethene	0.882	0.796	9.8	109	-0.02
18	T	2-Methyl-2-Propanol (tert-B	1.401	1.737	-24.0	145	-0.04
19	T	Methylene Chloride	0.847	0.773	8.7	109	-0.02
20	T	3-Chloro-1-propene (Allyl C	0.983	0.827	15.9	105	-0.02
21	T	Trichlorotrifluoroethane	1.044	0.903	13.5	107	-0.01
22	T	Carbon Disulfide	2.815	2.636	6.4	110	-0.01
23	T	trans-1,2-Dichloroethene	1.114	1.045	6.2	106	-0.01
24	T	1,1-Dichloroethane	1.391	1.222	12.1	106	-0.02
25	T	Methyl tert-Butyl Ether	1.793	2.320	-29.4	153	-0.02
26	T	Vinyl Acetate	0.176	0.176	0.0	108	-0.03
27	T	2-Butanone (MEK)	0.496	0.492	0.8	108	-0.03
28	T	cis-1,2-Dichloroethene	1.126	1.006	10.7	106	-0.02
29	T	Diisopropyl Ether	0.718	0.648	9.7	115	-0.02
30	T	Ethyl Acetate	0.221	0.215	2.7	110	-0.02
31	T	n-Hexane	1.071	0.985	8.0	114	-0.01
32	T	Chloroform	1.714	1.471	14.2	104	-0.03
33	S	1,2-Dichloroethane-d4(SS1)	1.620	1.504	7.2	110	-0.02
34	T	Tetrahydrofuran (THF)	0.502	0.464	7.6	108	-0.01
35	T	Ethyl tert-Butyl Ether	0.768	0.910	-18.5	145	-0.01
36	T	1,2-Dichloroethane	1.410	1.194	15.3	101	-0.01
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	119	-0.01
38	T	1,1,1-Trichloroethane	0.430	0.364	15.3	102	0.00
39	T	Isopropyl Acetate	0.103	0.094	8.7	110	-0.02
40	T	1-Butanol	0.138	0.146	-5.8	106	-0.03
41	T	Benzene	0.815	0.729	10.6	110	-0.01
42	T	Carbon Tetrachloride	0.421	0.353	16.2	100	-0.01
43	T	Cyclohexane	0.319	0.289	9.4	110	-0.01
44	T	tert-Amyl Methyl Ether	0.428	0.479	-11.9	135	0.00
45	T	1,2-Dichloropropane	0.167	0.153	8.4	110	-0.01
46	T	Bromodichloromethane	0.335	0.290	13.4	104	-0.02
47	T	Trichloroethene	0.282	0.253	10.3	107	-0.01
48	T	1,4-Dioxane	0.164	0.159	3.0	108	-0.01
49	T	2,2,4-Trimethylpentane (Iso	0.681	0.624	8.4	114	-0.01
50	T	Methyl Methacrylate	0.087	0.085	2.3	108	-0.02
51	T	n-Heptane	0.189	0.174	7.9	110	-0.01
52	T	cis-1,3-Dichloropropene	0.345	0.325	5.8	106	-0.01
53	T	4-Methyl-2-pentanone	0.143	0.142	0.7	109	-0.01
54	T	trans-1,3-Dichloropropene	0.331	0.318	3.9	103	0.00
55	T	1,1,2-Trichloroethane	0.223	0.200	10.3	107	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2020_04\29\04292037.D Vial: 2
Acq On : 30 Apr 2020 2:29 Operator: SC
Sample : CCV END R9042920_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 30 03:56:08 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	113	0.00
57	S	Toluene-d8 (SS2)	2.414	2.470	-2.3	116	0.00
58	T	Toluene	2.026	1.869	7.7	108	0.00
59	T	2-Hexanone	0.604	0.666	-10.3	104	-0.01
60	T	Dibromochloromethane	0.688	0.652	5.2	104	0.00
61	T	1,2-Dibromoethane	0.565	0.550	2.7	106	0.00
62	T	n-Butyl Acetate	0.675	0.706	-4.6	104	0.00
63	T	n-Octane	0.323	0.298	7.7	108	0.00
64	T	Tetrachloroethene	0.763	0.692	9.3	107	0.00
65	T	Chlorobenzene	1.484	1.370	7.7	107	0.00
66	T	Ethylbenzene	2.361	2.176	7.8	106	0.00
67	T	m- & p-Xylenes	1.992	1.792	10.0	105	-0.01
68	T	Bromoform	0.610	0.593	2.8	104	0.00
69	T	Styrene	1.450	1.424	1.8	106	0.00
70	T	o-Xylene	1.956	1.772	9.4	105	-0.01
71	T	n-Nonane	0.631	0.577	8.6	106	0.00
72	T	1,1,2,2-Tetrachloroethane	0.741	0.702	5.3	107	-0.01
73	S	Bromofluorobenzene (SS3)	0.970	0.991	-2.2	114	0.00
74	T	Cumene	2.552	2.316	9.2	105	0.00
75	T	alpha-Pinene	1.162	1.145	1.5	111	0.00
76	T	n-Propylbenzene	2.780	2.571	7.5	104	0.00
77	T	3-Ethyltoluene	2.491	2.343	5.9	104	0.00
78	T	4-Ethyltoluene	2.426	2.235	7.9	104	0.00
79	T	1,3,5-Trimethylbenzene	2.242	2.032	9.4	104	0.00
80	T	alpha-Methylstyrene	1.122	1.088	3.0	103	0.00
81	T	2-Ethyltoluene	2.479	2.251	9.2	104	0.00
82	T	1,2,4-Trimethylbenzene	2.168	1.987	8.3	104	-0.01
83	T	n-Decane	0.764	0.741	3.0	107	-0.01
84	T	Benzyl Chloride	1.635	1.695	-3.7	102	-0.01
85	T	1,3-Dichlorobenzene	1.307	1.260	3.6	105	0.00
86	T	1,4-Dichlorobenzene	1.333	1.286	3.5	104	0.00
87	T	sec-Butylbenzene	2.776	2.533	8.8	105	0.00
88	T	4-Isopropyltoluene (p-Cymen	2.697	2.463	8.7	104	0.00
89	T	1,2,3-Trimethylbenzene	2.170	1.988	8.4	104	-0.01
90	T	1,2-Dichlorobenzene	1.270	1.208	4.9	105	-0.01
91	T	d-Limonene	0.612	0.576	5.9	104	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.481	0.491	-2.1	105	0.00
93	T	n-Undecane	0.806	0.779	3.3	106	0.00
94	T	1,2,4-Trichlorobenzene	0.937	1.029	-9.8	104	0.00
95	T	Naphthalene	2.792	2.890	-3.5	103	0.00
96	T	n-Dodecane	0.722	0.756	-4.7	106	0.00
97	T	Hexachlorobutadiene	0.762	0.694	8.9	103	0.00
98	T	Cyclohexanone	0.494	0.491	0.6	103	-0.01
99	T	tert-Butylbenzene	2.177	1.958	10.1	105	0.00
100	T	n-Butylbenzene	2.038	1.959	3.9	104	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292037.D Vial: 2
Acq On : 30 Apr 2020 2:29 Operator: SC
Sample : CCV END R9042920_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 30 03:56:08 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020 4/30/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.15	130	164316	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.12	114	686519	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	305234	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.93	65	247182	11.611	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.88%				
57) Toluene-d8 (SS2)	13.55	98	753985	12.793	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.32%				
73) Bromofluorobenzene (SS3)	17.05	174	302625	12.776	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.24%				
Target Compounds							Qvalue
2) Propene	3.84	42	196307	28.128	ng		98
3) Dichlorodifluoromethan...	3.96	85	584171	22.031	ng		100
4) Chloromethane	4.16	50	263607	26.944	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.32	135	326389	22.770	ng		100
6) Vinyl Chloride	4.44	62	320621	24.989	ng		100
7) 1,3-Butadiene	4.62	54	218011	26.604	ng		98
8) Bromomethane	4.93	94	257749	25.563	ng		99
9) Chloroethane	5.15	64	157623	24.286	ng		100
10) Ethanol	5.39	45	628829	118.954	ng		100
11) Acetonitrile	5.58	41	294209	23.511	ng		99
12) Acrolein	5.70	56	128919	26.687	ng		100
13) Acetone	5.85	58	751486	118.407	ng		92
14) Trichlorofluoromethane	6.02	101	579520	21.966	ng		99
15) 2-Propanol (Isopropanol)	6.19	45	883170	43.806	ng		99
16) Acrylonitrile	6.38	53	267413	26.560	ng		100
17) 1,1-Dichloroethene	6.72	96	282687	24.374	ng		95
18) 2-Methyl-2-Propanol (t...	6.83	59	1232994	66.931	ng		98
19) Methylene Chloride	6.88	84	269164	24.182	ng		97
20) 3-Chloro-1-propene (Al...	7.01	41	293524	22.727	ng		98
21) Trichlorotrifluoroethane	7.18	151	320559	23.348	ng		100
22) Carbon Disulfide	7.15	76	926782	25.042	ng		100
23) trans-1,2-Dichloroethene	7.90	61	370902	25.337	ng		99
24) 1,1-Dichloroethane	8.12	63	437710	23.931	ng		100
25) Methyl tert-Butyl Ether	8.17	73	823394	34.938	ng		99
26) Vinyl Acetate	8.29	86	310193	133.919	ng		96
27) 2-Butanone (MEK)	8.52	72	171259	26.265	ng		99
28) cis-1,2-Dichloroethene	8.98	61	350421	23.684	ng		98
29) Diisopropyl Ether	9.22	87	229904	24.344	ng	#	91
30) Ethyl Acetate	9.22	61	153407	52.878	ng		100
31) n-Hexane	9.22	57	349658	24.830	ng		100
32) Chloroform	9.29	83	517335	22.962	ng		100
34) Tetrahydrofuran (THF)	9.67	72	166062	25.145	ng		98
35) Ethyl tert-Butyl Ether	9.77	87	322819	31.975	ng		99
36) 1,2-Dichloroethane	10.04	62	423869	22.872	ng		100
38) 1,1,1-Trichloroethane	10.30	97	534151	22.629	ng		100
39) Isopropyl Acetate	10.67	61	272965	48.468	ng	#	93
40) 1-Butanol	10.68	56	417807	55.218	ng		97
41) Benzene	10.76	78	1060527	23.697	ng		100
42) Carbon Tetrachloride	10.91	117	508603	21.980	ng		99
43) Cyclohexane	11.04	84	839810	47.900	ng		99
44) tert-Amyl Methyl Ether	11.35	73	709785	30.205	ng		99
45) 1,2-Dichloropropane	11.57	63	227350	24.815	ng		100
46) Bromodichloromethane	11.76	83	429345	23.316	ng		100
47) Trichloroethene	11.81	130	371382	23.961	ng		100
48) 1,4-Dioxane	11.78	88	236311	26.262	ng		99
49) 2,2,4-Trimethylpentane...	11.87	57	916892	24.527	ng		97
50) Methyl Methacrylate	12.00	100	250131	52.170	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292037.D Vial: 2
Acq On : 30 Apr 2020 2:29 Operator: SC
Sample : CCV END R9042920_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 30 03:56:08 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

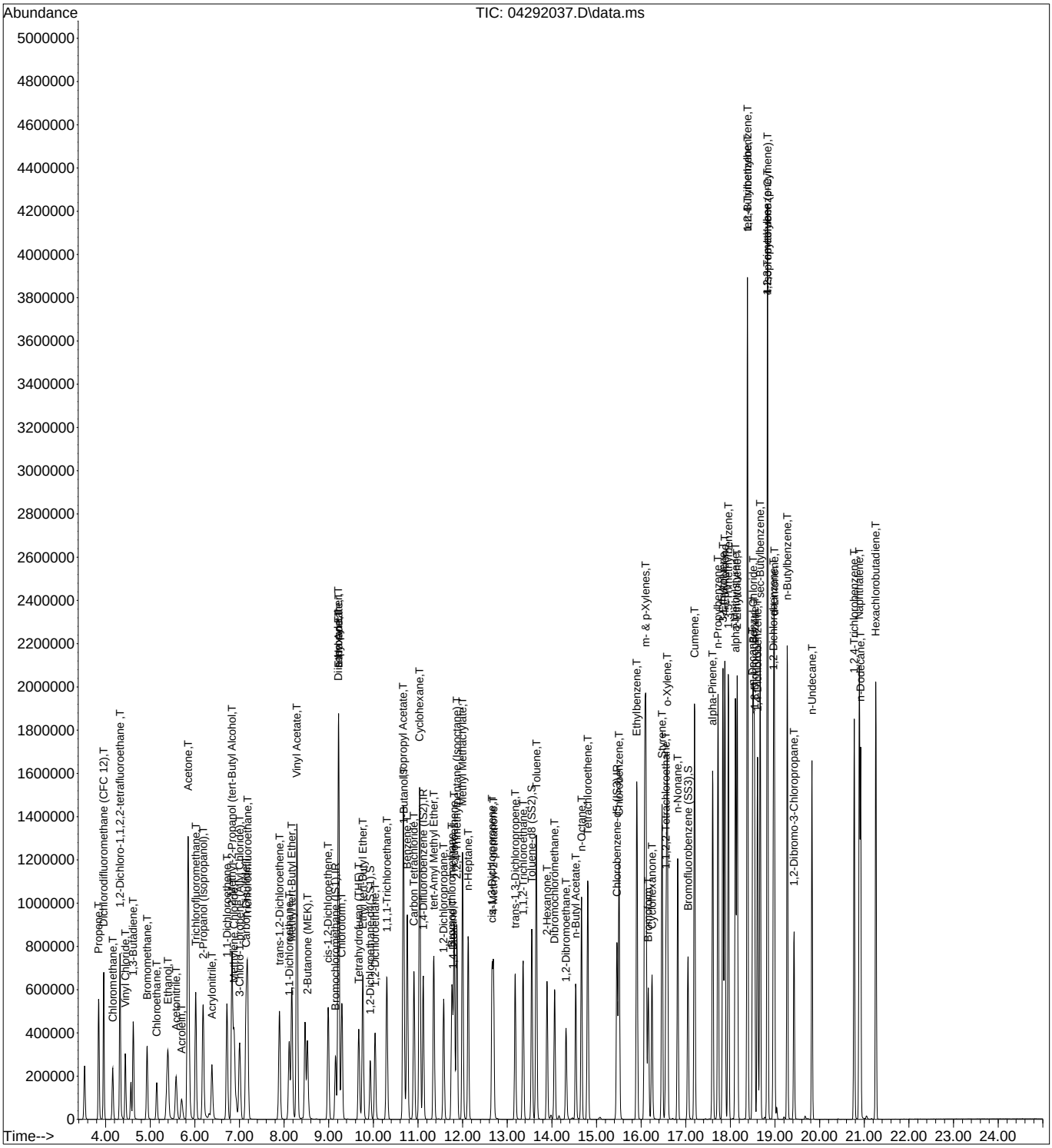
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	258177	24.829	ng	100
52) cis-1,3-Dichloropropene	12.66	75	463727	24.453	ng	99
53) 4-Methyl-2-pentanone	12.69	58	207000	26.431	ng	96
54) trans-1,3-Dichloropropene	13.18	75	462507	25.474	ng	100
55) 1,1,2-Trichloroethane	13.36	97	293950	24.029	ng	99
58) Toluene	13.65	91	1221016	24.676	ng	100
59) 2-Hexanone	13.89	43	435104	29.489	ng	97
60) Dibromochloromethane	14.06	129	426155	25.348	ng	100
61) 1,2-Dibromoethane	14.32	107	358979	26.030	ng	100
62) n-Butyl Acetate	14.53	43	470043	28.510	ng	99
63) n-Octane	14.67	57	196389	24.933	ng	100
64) Tetrachloroethene	14.80	166	439284	23.569	ng	100
65) Chlorobenzene	15.51	112	894879	24.703	ng	100
66) Ethylbenzene	15.90	91	1421494	24.655	ng	100
67) m- & p-Xylenes	16.10	91	2341084	48.130	ng	98
68) Bromoform	16.16	173	387064	26.001	ng	100
69) Styrene	16.47	104	921703	26.038	ng	99
70) o-Xylene	16.58	91	1157248	24.226	ng	99
71) n-Nonane	16.82	43	376937	24.461	ng	99
72) 1,1,2,2-Tetrachloroethane	16.56	83	458707	25.349	ng	99
74) Cumene	17.19	105	1526670	24.503	ng	99
75) alpha-Pinene	17.60	93	747792	26.356	ng	98
76) n-Propylbenzene	17.72	91	1695192	24.974	ng	99
77) 3-Ethyltoluene	17.83	105	1515833	24.918	ng	99
78) 4-Ethyltoluene	17.88	105	1473551	24.876	ng	99
79) 1,3,5-Trimethylbenzene	17.95	105	1314760	24.018	ng	100
80) alpha-Methylstyrene	18.11	118	710922	25.960	ng	99
81) 2-Ethyltoluene	18.15	105	1484317	24.522	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	1298144	24.525	ng	99
83) n-Decane	18.50	57	484167	25.962	ng	99
84) Benzyl Chloride	18.51	91	1117538	27.990	ng	99
85) 1,3-Dichlorobenzene	18.54	146	822870	25.786	ng	100
86) 1,4-Dichlorobenzene	18.61	146	840103	25.814	ng	100
87) sec-Butylbenzene	18.67	105	1654550	24.406	ng	99
88) 4-Isopropyltoluene (p-...	18.83	119	1638859	24.884	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	1322721	24.967	ng	99
90) 1,2-Dichlorobenzene	18.97	146	789101	25.454	ng	100
91) d-Limonene	18.99	68	379469	25.376	ng	100
92) 1,2-Dibromo-3-Chloropr...	19.43	157	314907	26.791	ng	95
93) n-Undecane	19.83	57	513379	26.088	ng	100
94) 1,2,4-Trichlorobenzene	20.77	180	672128	29.377	ng	100
95) Naphthalene	20.89	128	1817163	26.651	ng	100
96) n-Dodecane	20.92	57	480240	27.251	ng	100
97) Hexachlorobutadiene	21.26	225	449244	24.128	ng	100
98) Cyclohexanone	16.24	55	299664	24.849	ng	98
99) tert-Butylbenzene	18.38	119	1279146	24.063	ng	99
100) n-Butylbenzene	19.27	91	1279464	25.709	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292037.D Vial: 2
Acq On : 30 Apr 2020 2:29 Operator: SC
Sample : CCV END R9042920_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 30 03:56:08 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2020_04\30\04302003.D Vial: 2
Acq On : 30 Apr 2020 4:10 Operator: SC
Sample : CCV R9043020_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 30 05:31:22 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

WJA 4/30/20

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	117	-0.02
2	T	Propene	0.531	0.557	-4.9	131	-0.02
3	T	Dichlorodifluoromethane (CF	2.017	1.667	17.4	101	-0.01
4	T	Chloromethane	0.744	0.747	-0.4	111	-0.01
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.090	0.926	15.0	103	-0.01
6	T	Vinyl Chloride	0.976	0.899	7.9	109	-0.02
7	T	1,3-Butadiene	0.623	0.626	-0.5	111	-0.02
8	T	Bromomethane	0.767	0.720	6.1	113	-0.01
9	T	Chloroethane	0.494	0.440	10.9	109	-0.01
10	T	Ethanol	0.402	0.362	10.0	118	-0.06
11	T	Acetonitrile	0.952	0.835	12.3	109	-0.04
12	T	Acrolein	0.367	0.369	-0.5	113	-0.03
13	T	Acetone	0.483	0.422	12.6	110	-0.03
14	T	Trichlorofluoromethane	2.007	1.650	17.8	100	-0.01
15	T	2-Propanol (Isopropanol)	1.534	1.256	18.1	91	-0.04
16	T	Acrylonitrile	0.766	0.760	0.8	108	-0.03
17	T	1,1-Dichloroethene	0.882	0.782	11.3	107	-0.02
18	T	2-Methyl-2-Propanol (tert-B	1.401	1.712	-22.2	142	-0.04
19	T	Methylene Chloride	0.847	0.761	10.2	107	-0.02
20	T	3-Chloro-1-propene (Allyl C	0.983	0.814	17.2	103	-0.02
21	T	Trichlorotrifluoroethane	1.044	0.894	14.4	106	-0.01
22	T	Carbon Disulfide	2.815	2.590	8.0	108	-0.01
23	T	trans-1,2-Dichloroethene	1.114	1.036	7.0	105	-0.01
24	T	1,1-Dichloroethane	1.391	1.207	13.2	105	-0.02
25	T	Methyl tert-Butyl Ether	1.793	2.297	-28.1	152	-0.02
26	T	Vinyl Acetate	0.176	0.175	0.6	107	-0.03
27	T	2-Butanone (MEK)	0.496	0.484	2.4	107	-0.03
28	T	cis-1,2-Dichloroethene	1.126	0.991	12.0	105	-0.01
29	T	Diisopropyl Ether	0.718	0.642	10.6	114	-0.02
30	T	Ethyl Acetate	0.221	0.214	3.2	109	-0.02
31	T	n-Hexane	1.071	0.982	8.3	114	-0.01
32	T	Chloroform	1.714	1.457	15.0	103	-0.03
33	S	1,2-Dichloroethane-d4(SS1)	1.620	1.493	7.8	109	-0.02
34	T	Tetrahydrofuran (THF)	0.502	0.465	7.4	108	-0.01
35	T	Ethyl tert-Butyl Ether	0.768	0.903	-17.6	144	-0.01
36	T	1,2-Dichloroethane	1.410	1.184	16.0	100	-0.01
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	119	-0.01
38	T	1,1,1-Trichloroethane	0.430	0.363	15.6	102	-0.01
39	T	Isopropyl Acetate	0.103	0.093	9.7	109	-0.02
40	T	1-Butanol	0.138	0.146	-5.8	106	-0.03
41	T	Benzene	0.815	0.721	11.5	108	-0.01
42	T	Carbon Tetrachloride	0.421	0.355	15.7	100	-0.01
43	T	Cyclohexane	0.319	0.284	11.0	108	0.00
44	T	tert-Amyl Methyl Ether	0.428	0.472	-10.3	133	0.00
45	T	1,2-Dichloropropane	0.167	0.151	9.6	108	-0.01
46	T	Bromodichloromethane	0.335	0.286	14.6	103	-0.02
47	T	Trichloroethene	0.282	0.252	10.6	107	-0.01
48	T	1,4-Dioxane	0.164	0.157	4.3	106	-0.01
49	T	2,2,4-Trimethylpentane (Iso	0.681	0.616	9.5	113	-0.01
50	T	Methyl Methacrylate	0.087	0.084	3.4	107	-0.02
51	T	n-Heptane	0.189	0.173	8.5	109	-0.01
52	T	cis-1,3-Dichloropropene	0.345	0.321	7.0	104	-0.01
53	T	4-Methyl-2-pentanone	0.143	0.139	2.8	106	-0.01
54	T	trans-1,3-Dichloropropene	0.331	0.317	4.2	103	-0.01
55	T	1,1,2-Trichloroethane	0.223	0.199	10.8	106	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2020_04\30\04302003.D Vial: 2
Acq On : 30 Apr 2020 4:10 Operator: SC
Sample : CCV R9043020_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 30 05:31:22 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	112	0.00
57	S	Toluene-d8 (SS2)	2.414	2.461	-1.9	115	0.00
58	T	Toluene	2.026	1.853	8.5	106	0.00
59	T	2-Hexanone	0.604	0.666	-10.3	103	-0.01
60	T	Dibromochloromethane	0.688	0.655	4.8	103	0.00
61	T	1,2-Dibromoethane	0.565	0.549	2.8	105	0.00
62	T	n-Butyl Acetate	0.675	0.704	-4.3	103	0.00
63	T	n-Octane	0.323	0.295	8.7	106	0.00
64	T	Tetrachloroethene	0.763	0.689	9.7	106	0.00
65	T	Chlorobenzene	1.484	1.363	8.2	105	0.00
66	T	Ethylbenzene	2.361	2.168	8.2	104	0.00
67	T	m- & p-Xylenes	1.992	1.789	10.2	104	-0.01
68	T	Bromoform	0.610	0.589	3.4	102	0.00
69	T	Styrene	1.450	1.420	2.1	105	0.00
70	T	o-Xylene	1.956	1.766	9.7	104	-0.01
71	T	n-Nonane	0.631	0.575	8.9	104	0.00
72	T	1,1,2,2-Tetrachloroethane	0.741	0.699	5.7	105	-0.01
73	S	Bromofluorobenzene (SS3)	0.970	0.986	-1.6	112	0.00
74	T	Cumene	2.552	2.309	9.5	104	0.00
75	T	alpha-Pinene	1.162	1.138	2.1	109	0.00
76	T	n-Propylbenzene	2.780	2.578	7.3	104	0.00
77	T	3-Ethyltoluene	2.491	2.341	6.0	104	0.00
78	T	4-Ethyltoluene	2.426	2.229	8.1	103	0.00
79	T	1,3,5-Trimethylbenzene	2.242	2.021	9.9	103	0.00
80	T	alpha-Methylstyrene	1.122	1.090	2.9	102	0.00
81	T	2-Ethyltoluene	2.479	2.239	9.7	103	0.00
82	T	1,2,4-Trimethylbenzene	2.168	1.976	8.9	103	-0.01
83	T	n-Decane	0.764	0.736	3.7	105	-0.01
84	T	Benzyl Chloride	1.635	1.695	-3.7	101	-0.01
85	T	1,3-Dichlorobenzene	1.307	1.256	3.9	104	0.00
86	T	1,4-Dichlorobenzene	1.333	1.288	3.4	104	0.00
87	T	sec-Butylbenzene	2.776	2.544	8.4	104	0.00
88	T	4-Isopropyltoluene (p-Cymen	2.697	2.468	8.5	104	0.00
89	T	1,2,3-Trimethylbenzene	2.170	1.999	7.9	104	-0.01
90	T	1,2-Dichlorobenzene	1.270	1.210	4.7	104	0.00
91	T	d-Limonene	0.612	0.577	5.7	103	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.481	0.487	-1.2	103	0.00
93	T	n-Undecane	0.806	0.775	3.8	104	0.00
94	T	1,2,4-Trichlorobenzene	0.937	1.025	-9.4	103	0.00
95	T	Naphthalene	2.792	2.896	-3.7	102	0.00
96	T	n-Dodecane	0.722	0.751	-4.0	105	0.00
97	T	Hexachlorobutadiene	0.762	0.692	9.2	102	0.00
98	T	Cyclohexanone	0.494	0.492	0.4	102	-0.01
99	T	tert-Butylbenzene	2.177	1.959	10.0	104	0.00
100	T	n-Butylbenzene	2.038	1.952	4.2	103	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302003.D Vial: 2
Acq On : 30 Apr 2020 4:10 Operator: SC
Sample : CCV R9043020_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 30 05:31:22 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/30/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	164204	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.12	114	685002	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	302763	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.93	65	245193	11.525	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.24%				
57) Toluene-d8 (SS2)	13.55	98	745139	12.746	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.00%				
73) Bromofluorobenzene (SS3)	17.05	174	298638	12.711	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.68%				
Target Compounds							Qvalue
2) Propene	3.84	42	193970	27.812	ng		99
3) Dichlorodifluoromethan...	3.96	85	580443	21.906	ng		100
4) Chloromethane	4.16	50	259953	26.588	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	319348	22.294	ng		100
6) Vinyl Chloride	4.44	62	318764	24.861	ng		100
7) 1,3-Butadiene	4.62	54	217930	26.612	ng		96
8) Bromomethane	4.93	94	255254	25.333	ng		98
9) Chloroethane	5.15	64	155975	24.048	ng		99
10) Ethanol	5.39	45	619306	117.233	ng		99
11) Acetonitrile	5.58	41	287861	23.019	ng		100
12) Acrolein	5.70	56	124861	25.865	ng		100
13) Acetone	5.85	58	739115	116.538	ng		93
14) Trichlorofluoromethane	6.02	101	574507	21.791	ng		100
15) 2-Propanol (Isopropanol)	6.19	45	865880	42.978	ng		99
16) Acrylonitrile	6.38	53	262180	26.058	ng		99
17) 1,1-Dichloroethene	6.72	96	277474	23.940	ng		96
18) 2-Methyl-2-Propanol (t...	6.83	59	1214243	65.958	ng		98
19) Methylene Chloride	6.88	84	264987	23.823	ng		98
20) 3-Chloro-1-propene (Al...	7.00	41	288757	22.373	ng		98
21) Trichlorotrifluoroethane	7.18	151	317225	23.121	ng		100
22) Carbon Disulfide	7.15	76	910261	24.612	ng		100
23) trans-1,2-Dichloroethene	7.90	61	367554	25.126	ng		99
24) 1,1-Dichloroethane	8.12	63	431947	23.632	ng		100
25) Methyl tert-Butyl Ether	8.17	73	814791	34.597	ng		99
26) Vinyl Acetate	8.29	86	306818	132.552	ng		95
27) 2-Butanone (MEK)	8.52	72	168627	25.879	ng		99
28) cis-1,2-Dichloroethene	8.99	61	345045	23.337	ng		99
29) Diisopropyl Ether	9.22	87	227699	24.127	ng	#	91
30) Ethyl Acetate	9.22	61	152548	52.618	ng		100
31) n-Hexane	9.22	57	348390	24.757	ng		99
32) Chloroform	9.29	83	511857	22.735	ng		100
34) Tetrahydrofuran (THF)	9.67	72	166489	25.227	ng		100
35) Ethyl tert-Butyl Ether	9.77	87	320115	31.729	ng		98
36) 1,2-Dichloroethane	10.04	62	419806	22.668	ng		100
38) 1,1,1-Trichloroethane	10.30	97	531566	22.570	ng		99
39) Isopropyl Acetate	10.67	61	268546	47.789	ng		94
40) 1-Butanol	10.68	56	416361	55.149	ng		96
41) Benzene	10.76	78	1047167	23.450	ng		100
42) Carbon Tetrachloride	10.91	117	511139	22.139	ng		99
43) Cyclohexane	11.04	84	824280	47.118	ng		99
44) tert-Amyl Methyl Ether	11.35	73	697899	29.765	ng		99
45) 1,2-Dichloropropane	11.57	63	222987	24.392	ng		100
46) Bromodichloromethane	11.76	83	423513	23.050	ng		100
47) Trichloroethene	11.81	130	370058	23.929	ng		100
48) 1,4-Dioxane	11.78	88	231812	25.819	ng		99
49) 2,2,4-Trimethylpentane...	11.87	57	903375	24.219	ng		97
50) Methyl Methacrylate	12.00	100	248882	52.024	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302003.D Vial: 2
Acq On : 30 Apr 2020 4:10 Operator: SC
Sample : CCV R9043020_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 30 05:31:22 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

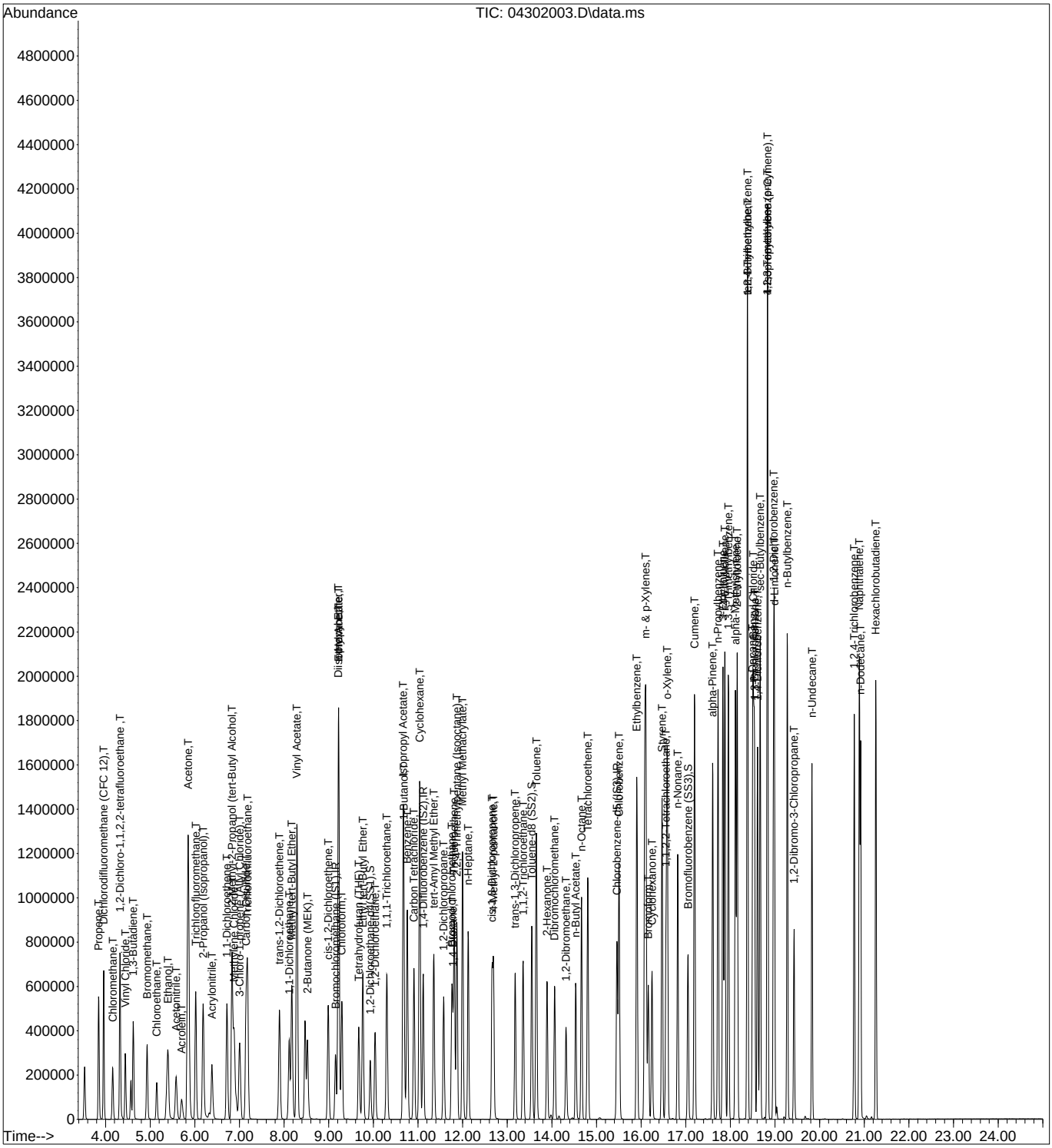
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	255757	24.651	ng	100
52) cis-1,3-Dichloropropene	12.66	75	456777	24.140	ng	100
53) 4-Methyl-2-pentanone	12.69	58	201155	25.741	ng	99
54) trans-1,3-Dichloropropene	13.17	75	459692	25.375	ng	100
55) 1,1,2-Trichloroethane	13.36	97	291045	23.845	ng	100
58) Toluene	13.65	91	1200867	24.467	ng	100
59) 2-Hexanone	13.89	43	431825	29.506	ng	98
60) Dibromochloromethane	14.06	129	424699	25.468	ng	99
61) 1,2-Dibromoethane	14.32	107	355490	25.988	ng	100
62) n-Butyl Acetate	14.53	43	464339	28.394	ng	99
63) n-Octane	14.67	57	192721	24.667	ng	99
64) Tetrachloroethene	14.80	166	433816	23.466	ng	100
65) Chlorobenzene	15.51	112	883348	24.583	ng	100
66) Ethylbenzene	15.90	91	1404678	24.562	ng	100
67) m- & p-Xylenes	16.10	91	2318252	48.050	ng	99
68) Bromoform	16.16	173	381712	25.850	ng	99
69) Styrene	16.47	104	911706	25.966	ng	99
70) o-Xylene	16.58	91	1143973	24.144	ng	99
71) n-Nonane	16.82	43	372705	24.384	ng	99
72) 1,1,2,2-Tetrachloroethane	16.56	83	452905	25.233	ng	99
74) Cumene	17.19	105	1510236	24.437	ng	99
75) alpha-Pinene	17.60	93	737084	26.190	ng	98
76) n-Propylbenzene	17.72	91	1686126	25.043	ng	99
77) 3-Ethyltoluene	17.83	105	1502461	24.900	ng	99
78) 4-Ethyltoluene	17.88	105	1457889	24.812	ng	99
79) 1,3,5-Trimethylbenzene	17.95	105	1297085	23.889	ng	99
80) alpha-Methylstyrene	18.11	118	706090	25.993	ng	99
81) 2-Ethyltoluene	18.15	105	1464349	24.389	ng	99
82) 1,2,4-Trimethylbenzene	18.38	105	1280140	24.382	ng	99
83) n-Decane	18.50	57	476990	25.786	ng	99
84) Benzyl Chloride	18.51	91	1108173	27.982	ng	99
85) 1,3-Dichlorobenzene	18.54	146	813485	25.700	ng	100
86) 1,4-Dichlorobenzene	18.61	146	834294	25.845	ng	99
87) sec-Butylbenzene	18.67	105	1648492	24.515	ng	99
88) 4-Isopropyltoluene (p-...	18.83	119	1629008	24.937	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	1319110	25.102	ng	99
90) 1,2-Dichlorobenzene	18.97	146	784143	25.500	ng	100
91) d-Limonene	18.99	68	377407	25.444	ng	100
92) 1,2-Dibromo-3-Chloropr...	19.43	157	309365	26.534	ng	95
93) n-Undecane	19.83	57	506895	25.969	ng	99
94) 1,2,4-Trichlorobenzene	20.77	180	664217	29.268	ng	100
95) Naphthalene	20.89	128	1806188	26.706	ng	100
96) n-Dodecane	20.92	57	473144	27.068	ng	100
97) Hexachlorobutadiene	21.26	225	444048	24.044	ng	100
98) Cyclohexanone	16.24	55	298032	24.916	ng	98
99) tert-Butylbenzene	18.38	119	1269052	24.068	ng	99
100) n-Butylbenzene	19.27	91	1264825	25.622	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302003.D Vial: 2
Acq On : 30 Apr 2020 4:10 Operator: SC
Sample : CCV R9043020_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 30 05:31:22 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2020_04\30\04302033.D Vial: 2
Acq On : 30 Apr 2020 23:04 Operator: SC
Sample : CCV END R9043020_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

TD 5/1/20

Quant Time: May 01 06:23:47 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	114	-0.02
2	T	Propene	0.531	0.577	-8.7	131	0.00
3	T	Dichlorodifluoromethane (CF	2.017	1.696	15.9	100	0.00
4	T	Chloromethane	0.744	0.774	-4.0	112	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.090	0.945	13.3	102	0.00
6	T	Vinyl Chloride	0.976	0.923	5.4	108	-0.01
7	T	1,3-Butadiene	0.623	0.616	1.1	106	0.00
8	T	Bromomethane	0.767	0.722	5.9	110	0.00
9	T	Chloroethane	0.494	0.446	9.7	107	0.00
10	T	Ethanol	0.402	0.369	8.2	116	-0.06
11	T	Acetonitrile	0.952	0.852	10.5	108	-0.04
12	T	Acrolein	0.367	0.374	-1.9	111	-0.03
13	T	Acetone	0.483	0.425	12.0	108	-0.03
14	T	Trichlorofluoromethane	2.007	1.670	16.8	98	0.00
15	T	2-Propanol (Isopropanol)	1.534	1.249	18.6	88	-0.04
16	T	Acrylonitrile	0.766	0.774	-1.0	107	-0.03
17	T	1,1-Dichloroethene	0.882	0.794	10.0	105	-0.01
18	T	2-Methyl-2-Propanol (tert-B	1.401	1.741	-24.3	141	-0.04
19	T	Methylene Chloride	0.847	0.776	8.4	106	-0.02
20	T	3-Chloro-1-propene (Allyl C	0.983	0.830	15.6	102	-0.02
21	T	Trichlorotrifluoroethane	1.044	0.907	13.1	104	-0.01
22	T	Carbon Disulfide	2.815	2.622	6.9	107	-0.01
23	T	trans-1,2-Dichloroethene	1.114	1.051	5.7	104	-0.01
24	T	1,1-Dichloroethane	1.391	1.218	12.4	103	-0.02
25	T	Methyl tert-Butyl Ether	1.793	2.328	-29.8	150	-0.02
26	T	Vinyl Acetate	0.176	0.177	-0.6	105	-0.03
27	T	2-Butanone (MEK)	0.496	0.493	0.6	106	-0.03
28	T	cis-1,2-Dichloroethene	1.126	1.007	10.6	103	-0.01
29	T	Diisopropyl Ether	0.718	0.647	9.9	112	-0.01
30	T	Ethyl Acetate	0.221	0.216	2.3	107	-0.02
31	T	n-Hexane	1.071	0.998	6.8	112	0.00
32	T	Chloroform	1.714	1.475	13.9	101	-0.02
33	S	1,2-Dichloroethane-d4(SS1)	1.620	1.511	6.7	107	-0.02
34	T	Tetrahydrofuran (THF)	0.502	0.471	6.2	106	0.00
35	T	Ethyl tert-Butyl Ether	0.768	0.932	-21.4	144	-0.01
36	T	1,2-Dichloroethane	1.410	1.211	14.1	99	-0.01
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	116	-0.01
38	T	1,1,1-Trichloroethane	0.430	0.364	15.3	100	0.00
39	T	Isopropyl Acetate	0.103	0.094	8.7	107	-0.02
40	T	1-Butanol	0.138	0.146	-5.8	103	-0.03
41	T	Benzene	0.815	0.724	11.2	107	-0.01
42	T	Carbon Tetrachloride	0.421	0.355	15.7	98	-0.01
43	T	Cyclohexane	0.319	0.286	10.3	107	0.00
44	T	tert-Amyl Methyl Ether	0.428	0.484	-13.1	134	0.00
45	T	1,2-Dichloropropane	0.167	0.151	9.6	106	-0.01
46	T	Bromodichloromethane	0.335	0.289	13.7	102	-0.01
47	T	Trichloroethene	0.282	0.254	9.9	105	-0.01
48	T	1,4-Dioxane	0.164	0.158	3.7	105	-0.01
49	T	2,2,4-Trimethylpentane (Iso	0.681	0.621	8.8	111	-0.01
50	T	Methyl Methacrylate	0.087	0.084	3.4	105	-0.02
51	T	n-Heptane	0.189	0.174	7.9	108	-0.01
52	T	cis-1,3-Dichloropropene	0.345	0.323	6.4	103	0.00
53	T	4-Methyl-2-pentanone	0.143	0.140	2.1	105	-0.01
54	T	trans-1,3-Dichloropropene	0.331	0.316	4.5	101	0.00
55	T	1,1,2-Trichloroethane	0.223	0.200	10.3	105	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2020_04\30\04302033.D Vial: 2
Acq On : 30 Apr 2020 23:04 Operator: SC
Sample : CCV END R9043020_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: May 01 06:23:47 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	111	0.00
57	S	Toluene-d8 (SS2)	2.414	2.434	-0.8	113	0.00
58	T	Toluene	2.026	1.831	9.6	104	0.00
59	T	2-Hexanone	0.604	0.657	-8.8	101	-0.01
60	T	Dibromochloromethane	0.688	0.645	6.2	101	0.00
61	T	1,2-Dibromoethane	0.565	0.541	4.2	103	0.00
62	T	n-Butyl Acetate	0.675	0.694	-2.8	101	0.00
63	T	n-Octane	0.323	0.294	9.0	105	0.00
64	T	Tetrachloroethene	0.763	0.679	11.0	104	0.00
65	T	Chlorobenzene	1.484	1.353	8.8	104	0.00
66	T	Ethylbenzene	2.361	2.143	9.2	103	0.00
67	T	m- & p-Xylenes	1.992	1.763	11.5	102	-0.02
68	T	Bromoform	0.610	0.585	4.1	101	0.00
69	T	Styrene	1.450	1.411	2.7	103	0.00
70	T	o-Xylene	1.956	1.747	10.7	102	-0.01
71	T	n-Nonane	0.631	0.571	9.5	103	0.00
72	T	1,1,2,2-Tetrachloroethane	0.741	0.694	6.3	104	-0.01
73	S	Bromofluorobenzene (SS3)	0.970	0.994	-2.5	113	0.00
74	T	Cumene	2.552	2.287	10.4	102	0.00
75	T	alpha-Pinene	1.162	1.137	2.2	108	0.00
76	T	n-Propylbenzene	2.780	2.547	8.4	102	0.00
77	T	3-Ethyltoluene	2.491	2.308	7.3	102	0.00
78	T	4-Ethyltoluene	2.426	2.213	8.8	102	0.00
79	T	1,3,5-Trimethylbenzene	2.242	1.998	10.9	101	0.00
80	T	alpha-Methylstyrene	1.122	1.075	4.2	100	0.00
81	T	2-Ethyltoluene	2.479	2.218	10.5	101	0.00
82	T	1,2,4-Trimethylbenzene	2.168	1.958	9.7	101	-0.01
83	T	n-Decane	0.764	0.728	4.7	103	-0.01
84	T	Benzyl Chloride	1.635	1.671	-2.2	99	-0.01
85	T	1,3-Dichlorobenzene	1.307	1.246	4.7	103	0.00
86	T	1,4-Dichlorobenzene	1.333	1.273	4.5	102	0.00
87	T	sec-Butylbenzene	2.776	2.512	9.5	102	0.00
88	T	4-Isopropyltoluene (p-Cymen	2.697	2.428	10.0	102	0.00
89	T	1,2,3-Trimethylbenzene	2.170	1.967	9.4	101	-0.01
90	T	1,2-Dichlorobenzene	1.270	1.200	5.5	103	-0.01
91	T	d-Limonene	0.612	0.571	6.7	102	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.481	0.485	-0.8	102	0.00
93	T	n-Undecane	0.806	0.771	4.3	103	0.00
94	T	1,2,4-Trichlorobenzene	0.937	1.026	-9.5	102	0.00
95	T	Naphthalene	2.792	2.910	-4.2	102	0.00
96	T	n-Dodecane	0.722	0.755	-4.6	105	0.00
97	T	Hexachlorobutadiene	0.762	0.694	8.9	102	0.00
98	T	Cyclohexanone	0.494	0.485	1.8	100	-0.01
99	T	tert-Butylbenzene	2.177	1.934	11.2	102	0.00
100	T	n-Butylbenzene	2.038	1.926	5.5	101	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302033.D Vial: 2
Acq On : 30 Apr 2020 23:04 Operator: SC
Sample : CCV END R9043020_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

TD 5/1/20

Quant Time: May 01 06:23:47 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	159507	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.12	114	671519	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	301253	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.93	65	240951	11.659	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.28%				
57) Toluene-d8 (SS2)	13.55	98	733363	12.608	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.88%				
73) Bromofluorobenzene (SS3)	17.05	174	299415	12.808	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.48%				
Target Compounds							Qvalue
2) Propene	3.85	42	195000	28.783	ng		98
3) Dichlorodifluoromethan...	3.96	85	573439	22.279	ng		100
4) Chloromethane	4.17	50	261826	27.568	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	316378	22.737	ng		99
6) Vinyl Chloride	4.45	62	318105	25.541	ng		100
7) 1,3-Butadiene	4.63	54	208353	26.192	ng		98
8) Bromomethane	4.94	94	248906	25.431	ng		99
9) Chloroethane	5.15	64	153704	24.396	ng		99
10) Ethanol	5.40	45	612775	119.412	ng		99
11) Acetonitrile	5.58	41	285520	23.504	ng		99
12) Acrolein	5.70	56	122816	26.190	ng		100
13) Acetone	5.86	58	722837	117.327	ng		92
14) Trichlorofluoromethane	6.03	101	564854	22.056	ng		100
15) 2-Propanol (Isopropanol)	6.19	45	836902	42.762	ng		98
16) Acrylonitrile	6.38	53	259152	26.515	ng		99
17) 1,1-Dichloroethene	6.72	96	273555	24.297	ng		95
18) 2-Methyl-2-Propanol (t...	6.83	59	1199485	67.075	ng		98
19) Methylene Chloride	6.88	84	262538	24.298	ng		98
20) 3-Chloro-1-propene (Al...	7.01	41	286118	22.821	ng		99
21) Trichlorotrifluoroethane	7.18	151	312593	23.454	ng		100
22) Carbon Disulfide	7.15	76	895084	24.915	ng		99
23) trans-1,2-Dichloroethene	7.90	61	362176	25.487	ng		99
24) 1,1-Dichloroethane	8.12	63	423491	23.851	ng		100
25) Methyl tert-Butyl Ether	8.17	73	802063	35.059	ng		99
26) Vinyl Acetate	8.29	86	302768	134.654	ng		95
27) 2-Butanone (MEK)	8.52	72	166580	26.318	ng		98
28) cis-1,2-Dichloroethene	8.99	61	340439	23.703	ng		98
29) Diisopropyl Ether	9.22	87	222977	24.322	ng	#	92
30) Ethyl Acetate	9.22	61	149728	53.166	ng		96
31) n-Hexane	9.23	57	343676	25.141	ng		99
32) Chloroform	9.30	83	503643	23.028	ng		100
34) Tetrahydrofuran (THF)	9.68	72	163923	25.569	ng		100
35) Ethyl tert-Butyl Ether	9.77	87	321173	32.771	ng		99
36) 1,2-Dichloroethane	10.04	62	417169	23.189	ng		99
38) 1,1,1-Trichloroethane	10.30	97	523577	22.677	ng		99
39) Isopropyl Acetate	10.67	61	265409	48.179	ng	#	93
40) 1-Butanol	10.68	56	407393	55.045	ng		97
41) Benzene	10.76	78	1031047	23.553	ng		100
42) Carbon Tetrachloride	10.91	117	500823	22.128	ng		100
43) Cyclohexane	11.04	84	814151	47.473	ng		99
44) tert-Amyl Methyl Ether	11.35	73	702077	30.544	ng		99
45) 1,2-Dichloropropane	11.57	63	219190	24.458	ng		99
46) Bromodichloromethane	11.76	83	418848	23.254	ng		100
47) Trichloroethene	11.81	130	365023	24.077	ng		100
48) 1,4-Dioxane	11.78	88	229733	26.101	ng		100
49) 2,2,4-Trimethylpentane...	11.87	57	892929	24.420	ng		97
50) Methyl Methacrylate	12.00	100	243581	51.938	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302033.D Vial: 2
Acq On : 30 Apr 2020 23:04 Operator: SC
Sample : CCV END R9043020_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: May 01 06:23:47 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

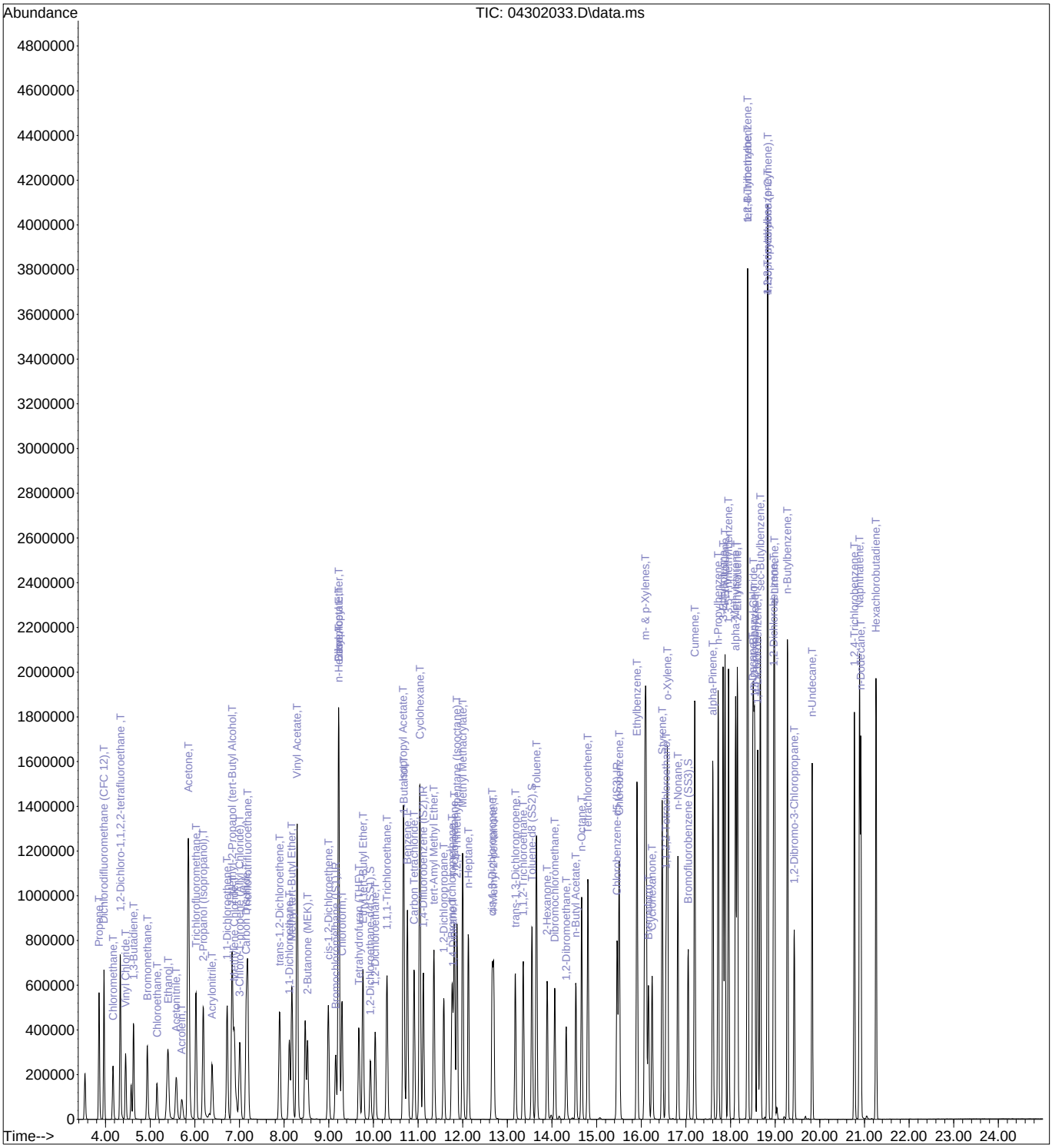
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	251943	24.771	ng	100
52) cis-1,3-Dichloropropene	12.66	75	451610	24.346	ng	100
53) 4-Methyl-2-pentanone	12.69	58	199793	26.081	ng	98
54) trans-1,3-Dichloropropene	13.18	75	450114	25.345	ng	99
55) 1,1,2-Trichloroethane	13.36	97	287119	23.995	ng	100
58) Toluene	13.65	91	1180725	24.177	ng	99
59) 2-Hexanone	13.89	43	423300	29.068	ng	97
60) Dibromochloromethane	14.06	129	415508	25.042	ng	100
61) 1,2-Dibromoethane	14.32	107	348765	25.624	ng	100
62) n-Butyl Acetate	14.53	43	455543	27.996	ng	98
63) n-Octane	14.67	57	191553	24.640	ng	100
64) Tetrachloroethene	14.80	166	425683	23.141	ng	100
65) Chlorobenzene	15.51	112	871992	24.389	ng	99
66) Ethylbenzene	15.90	91	1381237	24.273	ng	100
67) m- & p-Xylenes	16.10	91	2272716	47.342	ng	98
68) Bromoform	16.16	173	376933	25.655	ng	100
69) Styrene	16.47	104	900964	25.789	ng	99
70) o-Xylene	16.58	91	1126424	23.892	ng	99
71) n-Nonane	16.82	43	368061	24.201	ng	99
72) 1,1,2,2-Tetrachloroethane	16.56	83	447609	25.063	ng	100
74) Cumene	17.20	105	1488164	24.201	ng	99
75) alpha-Pinene	17.60	93	733069	26.178	ng	98
76) n-Propylbenzene	17.72	91	1657344	24.739	ng	99
77) 3-Ethyltoluene	17.83	105	1473861	24.548	ng	99
78) 4-Ethyltoluene	17.88	105	1440213	24.634	ng	99
79) 1,3,5-Trimethylbenzene	17.95	105	1276339	23.624	ng	99
80) alpha-Methylstyrene	18.11	118	693119	25.644	ng	99
81) 2-Ethyltoluene	18.15	105	1443035	24.155	ng	99
82) 1,2,4-Trimethylbenzene	18.38	105	1262441	24.165	ng	99
83) n-Decane	18.50	57	469557	25.512	ng	100
84) Benzyl Chloride	18.51	91	1087553	27.599	ng	99
85) 1,3-Dichlorobenzene	18.54	146	802995	25.495	ng	100
86) 1,4-Dichlorobenzene	18.61	146	820988	25.560	ng	100
87) sec-Butylbenzene	18.67	105	1619598	24.206	ng	99
88) 4-Isopropyltoluene (p-...	18.83	119	1594555	24.532	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	1291697	24.704	ng	99
90) 1,2-Dichlorobenzene	18.97	146	773908	25.293	ng	100
91) d-Limonene	18.99	68	371258	25.155	ng	99
92) 1,2-Dibromo-3-Chloropr...	19.43	157	306940	26.458	ng	95
93) n-Undecane	19.83	57	501371	25.814	ng	100
94) 1,2,4-Trichlorobenzene	20.77	180	661322	29.287	ng	100
95) Naphthalene	20.89	128	1805597	26.831	ng	100
96) n-Dodecane	20.92	57	472836	27.186	ng	99
97) Hexachlorobutadiene	21.26	225	442931	24.103	ng	100
98) Cyclohexanone	16.24	55	292069	24.540	ng	98
99) tert-Butylbenzene	18.38	119	1246977	23.768	ng	100
100) n-Butylbenzene	19.27	91	1241971	25.285	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302033.D Vial: 2
Acq On : 30 Apr 2020 23:04 Operator: SC
Sample : CCV END R9043020_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: May 01 06:23:47 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



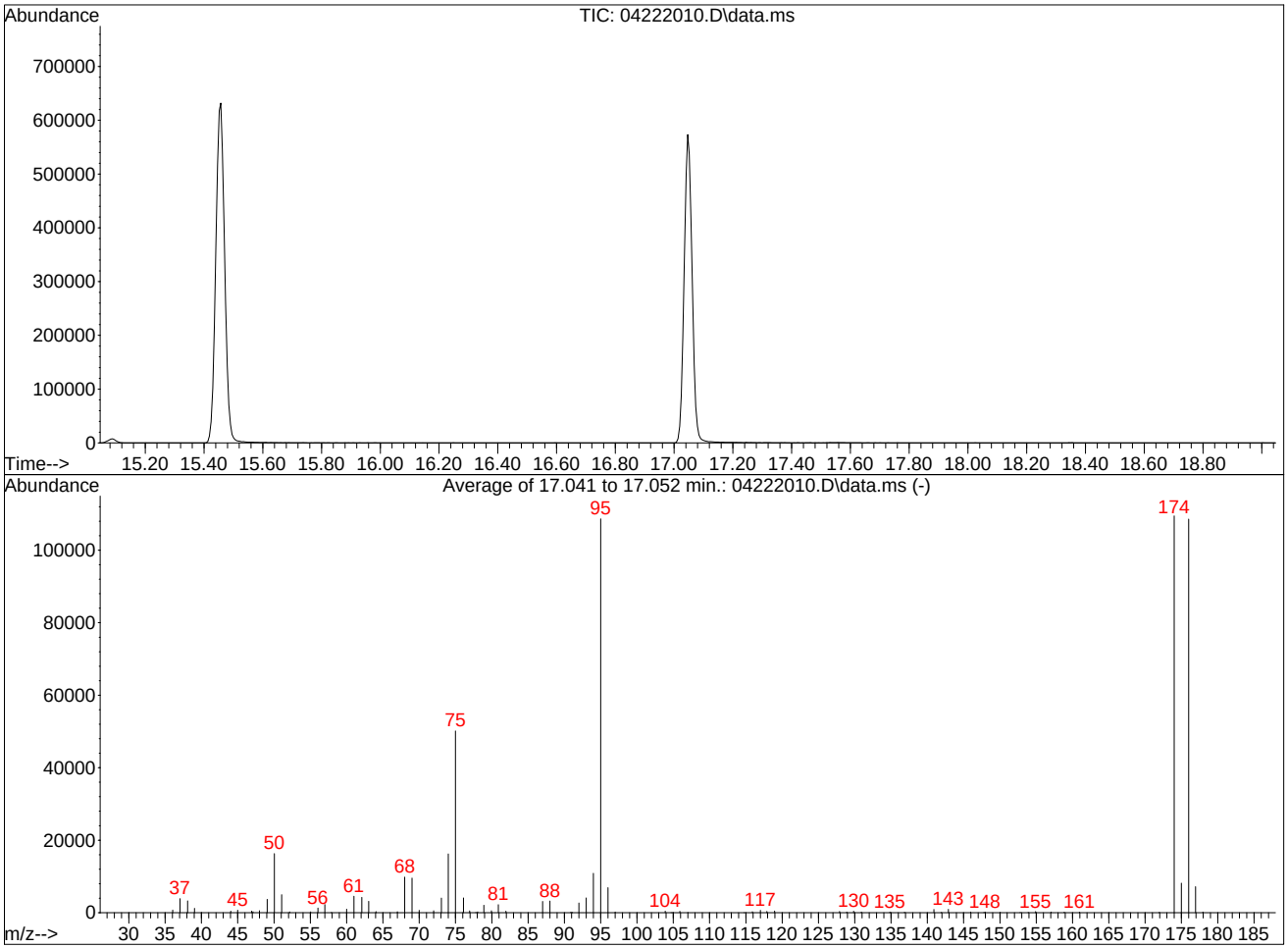
BFB

Data Path : I:\MS09\Data\2020_04\22\
Data File : 04222010.D
Acq On : 22 Apr 2020 18:51
Operator : SC
Sample : 12.5ng TO-15 BFB STD
Misc : S34-04212006
ALS Vial : 2 Sample Multiplier: 1

4/23/20

Integration File: LSCINT.P

Method : I:\MS09\Methods\R9042220.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Apr 23 11:56:23 2020



AutoFind: Scans 2484, 2485, 2486; Background Corrected with Scan 2476

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	15.0	16304	PASS
75	95	30	66	46.1	50136	PASS
95	95	100	100	100.0	108672	PASS
96	95	5	9	6.4	6913	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	100.7	109467	PASS
175	174	4	9	7.4	8135	PASS
176	174	93	101	99.2	108563	PASS
177	176	5	9	6.6	7191	PASS

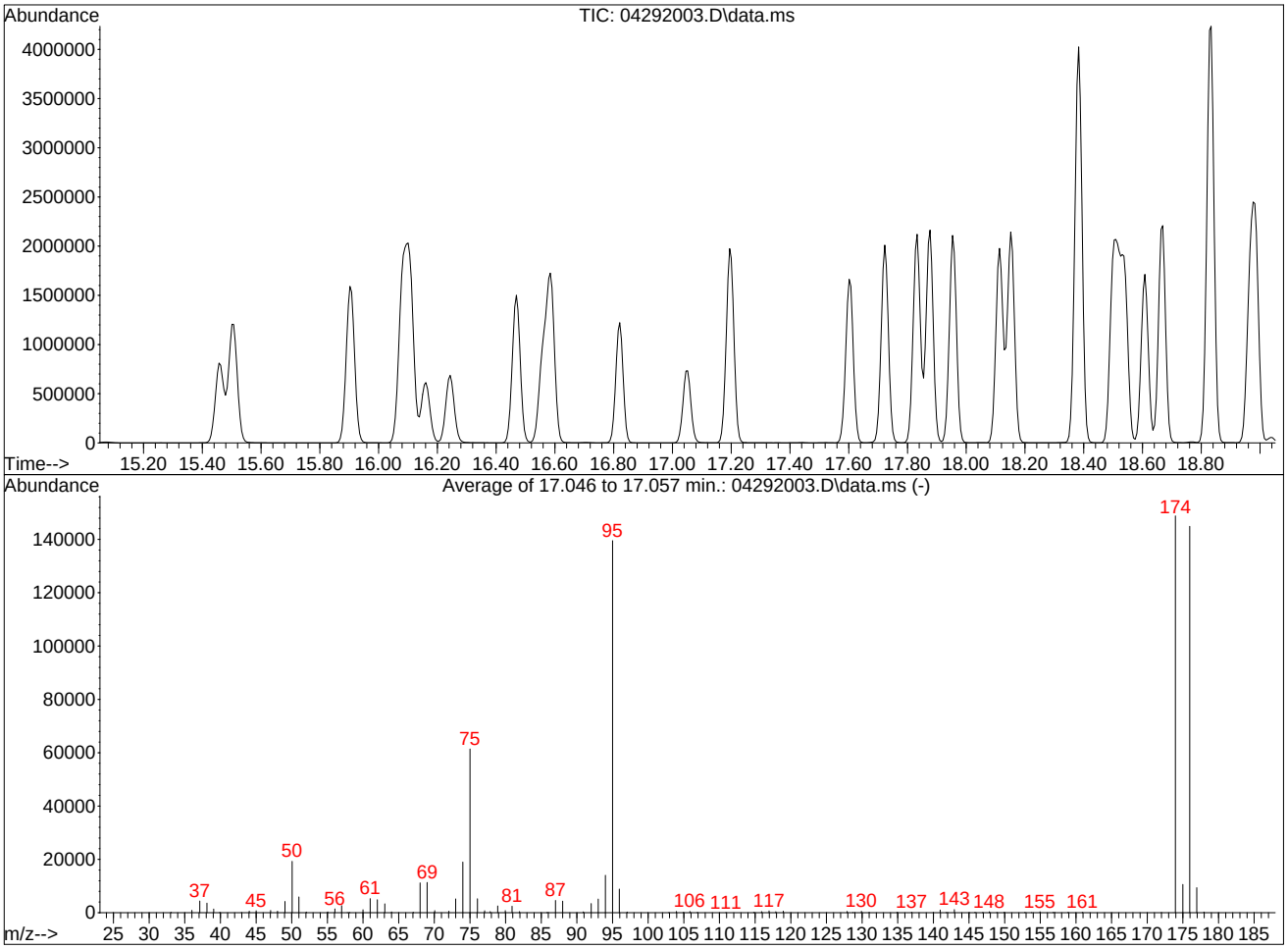
BFB

Data Path : I:\MS09\Data\2020_04\29\
Data File : 04292003.D
Acq On : 29 Apr 2020 6:19
Operator : SC
Sample : CCV R9042920_25ng
Misc : S34-04212006/S34-04202004 (5/19)
ALS Vial : 2 Sample Multiplier: 1

4/29/20

Integration File: LSCINT.P

Method : I:\MS09\Methods\R9042220.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Apr 23 14:12:50 2020



AutoFind: Scans 2485, 2486, 2487; Background Corrected with Scan 2476

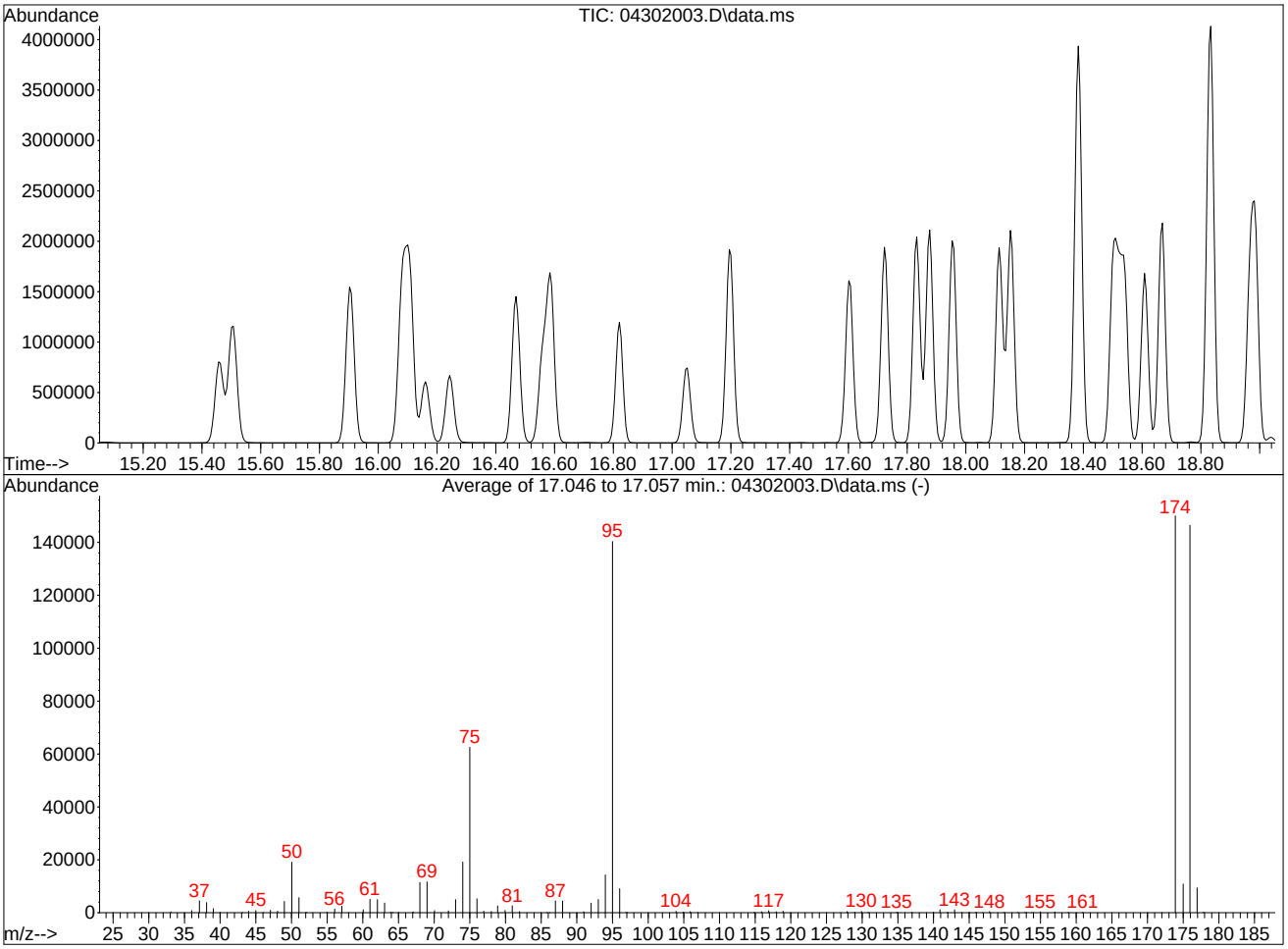
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	13.8	19260	PASS
75	95	30	66	44.0	61389	PASS
95	95	100	100	100.0	139531	PASS
96	95	5	9	6.3	8844	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	106.7	148821	PASS
175	174	4	9	7.1	10609	PASS
176	174	93	101	97.4	144939	PASS
177	176	5	9	6.5	9373	PASS

BFB

Data Path : I:\MS09\Data\2020_04\30\
Data File : 04302003.D
Acq On : 30 Apr 2020 4:10
Operator : SC
Sample : CCV R9043020_25ng
Misc : S34-04212006/S34-04202004 (5/19)
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS09\Methods\R9042220.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Apr 23 14:12:50 2020



AutoFind: Scans 2485, 2486, 2487; Background Corrected with Scan 2476

4/30/20

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	13.6	19099	PASS
75	95	30	66	44.6	62557	PASS
95	95	100	100	100.0	140323	PASS
96	95	5	9	6.5	9111	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	106.9	150016	PASS
175	174	4	9	7.2	10831	PASS
176	174	93	101	97.6	146453	PASS
177	176	5	9	6.4	9420	PASS

Injection Log

Directory: I:\MS09\Data\2020_04\22\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	4/22/20 13:32	04222001.D	Blank (100mL)	S34-04212006	SC	2	
2	4/22/20 14:06	04222002.D	CCV R9042220_25ng	S34-04212006/S34-04202004 (5/19)	SC	2	
3	4/22/20 14:59	04222003.D	Blank (100mL)	S34-04212006	SC	2	
4	4/22/20 15:32	04222004.D	MB R9042220_1000mL	S34-04212006	SC	2	
5	4/22/20 16:05	04222005.D	LCS R9042220_25ng	S34-04212006/S34-03252004 (4/23)	SC	2	
6	4/22/20 16:38	04222006.D	LCSD R9042220_25ng	S34-04212006/S34-03252004 (4/23)	SC	2	
7	4/22/20 17:12	04222007.D	RL R9042220_ 0.5ng	S34-04212006/S34-04102009 (5/9)	SC	4	
8	4/22/20 17:45	04222008.D	Chamber QC_AC00323	S34-04212006	SC	16	
9	4/22/20 18:18	04222009.D	Blank (100mL)	S34-04212006	SC	2	
10	4/22/20 18:51	04222010.D	12.5ng TO-15 BFB STD	S34-04212006	SC	2	passed
11	4/22/20 19:25	04222011.D	0.1ng TO-15 ICAL STD	S34-04212006/S34-04072004 (5/6)	SC	4	not used
12	4/22/20 19:58	04222012.D	0.2ng TO-15 ICAL STD	S34-04212006/S34-04072004 (5/6)	SC	4	
13	4/22/20 20:31	04222013.D	0.5ng TO-15 ICAL STD	S34-04212006/S34-04222004 (5/21)	SC	5	
14	4/22/20 21:05	04222014.D	1.0ng TO-15 ICAL STD	S34-04212006/S34-04222004 (5/21)	SC	5	
15	4/22/20 21:39	04222015.D	5.0ng TO-15 ICAL STD	S34-04212006/S34-04222004 (5/21)	SC	5	
16	4/22/20 22:12	04222016.D	25ng TO-15 ICAL STD	S34-04212006/S34-04202004 (5/19)	SC	2	
17	4/22/20 22:46	04222017.D	50ng TO-15 ICAL STD	S34-04212006/S34-04202004 (5/19)	SC	2	
18	4/22/20 23:19	04222018.D	100ng TO-15 ICAL STD	S34-04212006/S34-04202004 (5/19)	SC	2	
19	4/22/20 23:53	04222019.D	Blank (100mL)	S34-04212006	SC	2	
20	4/23/20 0:27	04222020.D	25ng TO-15 ICV STD	S34-04212006/S34-04102008 (5/9)	SC	2	not used
21	4/23/20 1:01	04222021.D	25ng TO-15 ICV STD	S34-04212006/S34-04102008 (5/9)	SC	2	
22	4/23/20 13:11	04222022.D	Blank (100mL)	S34-04212006	SC	2	
23	4/23/20 13:44	04222023.D	0.2ng TO-15 ICAL STD	S34-04212006/S34-04162003 (5/15)	SC	4	
24	4/23/20 14:17	04222024.D	Blank (100mL)	S34-04212006	SC	2	
25	4/23/20 14:51	04222025.D	25ng TO-15 ICV STD	S34-04212006/S34-04102008 (5/9)	SC	2	passed

Injection Log

Directory: I:\MS09\Data\2020_04\29\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	4/29/20 5:12	04292001.D	Blank (100mL)	S34-04212006	SC	2	
2	4/29/20 5:45	04292002.D	CCV C9042920_25ng	S34-04212006/S34-03312002 (4/29)	SC	3	Passed
3	4/29/20 6:19	04292003.D	CCV R9042920_25ng	S34-04212006/S34-04202004 (5/19)	SC	2	Passed
4	4/29/20 6:52	04292004.D	Blank (100mL)	S34-04212006	SC	2	
5	4/29/20 7:37	04292005.D	MB R9042920_1000mL	S34-04212006	SC	2	Passed
6	4/29/20 8:11	04292006.D	LCS R9042920_25ng	S34-04212006/S34-04102008 (5/9)	SC	2	Passed
7	4/29/20 8:44	04292007.D	LCSD R9042920_25ng	S34-04212006/S34-04102008 (5/9)	SC	2	Passed
8	4/29/20 9:17	04292008.D	Blank (100mL)	S34-04212006	SC	2	
9	4/29/20 9:50	04292009.D	P2002030-015 (3.5mL)	S34-04212006	TD	1	
10	4/29/20 10:24	04292010.D	P2002030-016 (3.0mL)	S34-04212006	TD	1	
11	4/29/20 10:59	04292011.D	P2002030-017 (2.5mL)	S34-04212006	TD	1	IS-3 failed
12	4/29/20 11:33	04292012.D	P2002030-019dil (40mL)	S34-04212006	TD	14	
13	4/29/20 12:06	04292013.D	P2002030-018 (400mL)	S34-04212006	TD	13	
14	4/29/20 12:39	04292014.D	P2002030-017 (0.25mL)	S34-04212006	TD	1	
15	4/29/20 13:36	04292015.D	P2002029-002 (5.0mL)	S34-04212006	SC	1	over diluted
16	4/29/20 14:32	04292016.D	P2002029-005 (0.2mL)	S34-04212006	SC	1	
17	4/29/20 15:05	04292017.D	P2002029-002 (30mL)	S34-04212006	SC	4	
18	4/29/20 15:39	04292018.D	P2002029-003 (30mL)	S34-04212006	SC	5	
19	4/29/20 16:12	04292019.D	P2002029-004 (150mL)	S34-04212006	SC	6	
20	4/29/20 16:46	04292020.D	P2002029-006 (0.25mL)	S34-04212006	SC	1	
21	4/29/20 17:19	04292021.D	P2002029-006Dil (0.05mL)	S34-04212006	SC	1	
22	4/29/20 17:53	04292022.D	P2002029-007Dil (0.08mL)	S34-04212006	SC	1	
23	4/29/20 18:27	04292023.D	P2002029-002 dup(30mL)	S34-04212006	SC	4	Passed
24	4/29/20 19:05	04292024.D	P2002029-007 (0.30mL)	S34-04212006	SC	1	
25	4/29/20 19:45	04292025.D	P2002029-001 (0.0005mL)	S34-04212006(0.1--500 /2.5ml)	SC	1	over diluted
26	4/29/20 20:19	04292026.D	P2002132-001 (400mL)	S34-04212006	SC	7	
27	4/29/20 20:53	04292027.D	P2002132-002 (400mL)	S34-04212006	SC	8	
28	4/29/20 21:26	04292028.D	P2002132-003 (400mL)	S34-04212006	SC	9	
29	4/29/20 22:00	04292029.D	P2002132-004 (400mL)	S34-04212006	SC	10	
30	4/29/20 22:34	04292030.D	P2002132-005 (400mL)	S34-04212006	SC	11	
31	4/29/20 23:07	04292031.D	P2002132-006 (400mL)	S34-04212006	SC	12	
32	4/29/20 23:41	04292032.D	P2002132-007 (400mL)	S34-04212006	SC	13	
33	4/30/20 0:15	04292033.D	P2002132-008 (400mL)	S34-04212006	SC	14	
34	4/30/20 0:48	04292034.D	P2002132-009 (400mL)	S34-04212006	SC	15	
35	4/30/20 1:22	04292035.D	P2002132-010 (400mL)	S34-04212006	SC	16	
36	4/30/20 1:55	04292036.D	Blank (100mL)	S34-04212006	SC	2	
37	4/30/20 2:29	04292037.D	CCV END R9042920_25ng	S34-04212006/S34-04202004 (5/19)	SC	2	Passed
	CCV, LCS/LCSD : MTBE out high						
							4/30/20

Injection Log

TD 5/1/20

Directory: I:\MS09\Data\2020_04\30\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	4/30/20 3:03	04302001.D	Blank (100mL)	S34-04212006	SC	2	
2	4/30/20 3:36	04302002.D	CCV C9043020_25ng	S34-04212006/S34-03312002 (4/29)	SC	3	not using
3	4/30/20 4:10	04302003.D	CCV R9043020_25ng	S34-04212006/S34-04202004 (5/19)	SC	2	passed
4	4/30/20 4:44	04302004.D	Blank (100mL)	S34-04212006	SC	2	
5	4/30/20 5:17	04302005.D	MB R9043020_1000mL	S34-04212006	SC	2	passed
6	4/30/20 5:51	04302006.D	LCS R9043020_25ng	S34-04212006/S34-04272008 (5/26)	SC	2	passed
7	4/30/20 6:24	04302007.D	LCSD R9043020_25ng	S34-04212006/S34-04272008 (5/26)	SC	2	passed
8	4/30/20 8:03	04302008.D	P2002029-008 (0.05mL)	S34-04212006	WA	1	
9	4/30/20 8:37	04302009.D	P2002029-009 (0.075mL)	S34-04212006	WA	1	
10	4/30/20 9:10	04302010.D	P2002029-012 (1.0mL)	S34-04212006	WA	1	
11	4/30/20 9:44	04302011.D	P2002029-001dil (0.004mL)	S34-04212006(0.1mL->500; 20mL)	WA	5	
12	4/30/20 10:29	04302012.D	P2002029-012dup (1.0mL)	S34-04212006	WA	1	passed
13	4/30/20 11:03	04302013.D	P2002029-013 (0.4mL)	S34-04212006	WA	1	
14	4/30/20 11:48	04302014.D	P2002029-001 (0.02mL)	S34-04212006	WA	1	
15	4/30/20 12:22	04302015.D	P2002029-013dil (0.1mL)	S34-04212006	WA	1	
16	4/30/20 12:55	04302016.D	P2002029-014 (0.75mL)	S34-04212006	WA	1	over diluted
17	4/30/20 13:28	04302017.D	P2002029-014 (1.5mL)	S34-04212006	WA	1	
18	4/30/20 14:02	04302018.D	P2002029-015 (0.12mL)	S34-04212006	WA	1	
19	4/30/20 14:36	04302019.D	P2002029-016 (0.25mL)	S34-04212006	WA	1	
20	4/30/20 15:09	04302020.D	P2002029-017 (0.10mL)	S34-04212006	WA	1	
21	4/30/20 15:43	04302021.D	P2002029-018 (0.15mL)	S34-04212006	WA	1	
22	4/30/20 16:26	04302022.D	P2002029-019 Dil(0.025mL)	S34-04212006	SC	1	
23	4/30/20 17:05	04302023.D	P2002029-019 (0.15mL)	S34-04212006	SC	1	
24	4/30/20 17:44	04302024.D	P2002029-010 Dil(0.05mL)	S34-04212006	SC	1	not reporting
25	4/30/20 18:17	04302025.D	P2002029-010 (0.2mL)	S34-04212006	SC	1	not reporting
26	4/30/20 18:51	04302026.D	P2002029-010 (0.1mL)	S34-04212006	SC	1	
27	4/30/20 19:24	04302027.D	P2002029-020 (400mL)	S34-04212006	SC	4	
28	4/30/20 20:00	04302028.D	P2002029-010Dil (0.05mL)	S34-04212006	SC	1	
29	4/30/20 20:34	04302029.D	P2002029-011 (0.075mL)	S34-04212006	SC	1	
30	4/30/20 21:24	04302030.D	P2002131-001 (400mL)	S34-04212006	SC	5	
31	4/30/20 21:57	04302031.D	P2002131-002 (400mL)	S34-04212006	SC	6	
32	4/30/20 22:31	04302032.D	Blank (100mL)	S34-04212006	SC	2	
33	4/30/20 23:04	04302033.D	CCV END R9043020_25ng	S34-04212006/S34-04202004 (5/19)	SC	2	passed
34	4/30/20 23:38	04302034.D	Blank (100mL)	S34-04212006	SC	2	

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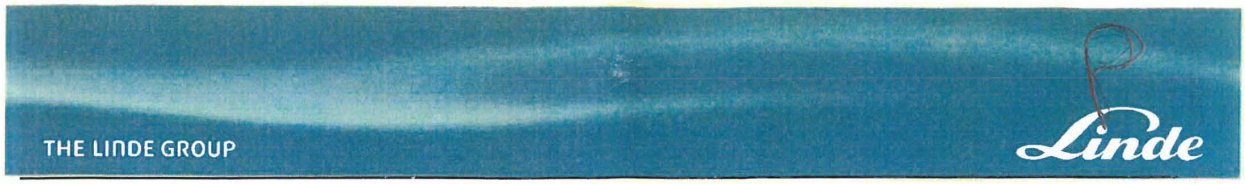
S31-1011901



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PAGE: 1 of 4

Primary

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Propylene	115-07-1	1.00 mg/m3	1.06 mg/m3
Freon-12	75-71-8	1.00 mg/m3	1.06 mg/m3
Chloromethane	74-87-3	1.00 mg/m3	1.06 mg/m3
Freon-114	76-14-2	1.00 mg/m3	1.05 mg/m3
Vinyl Chloride	75-01-4	1.00 mg/m3	1.08 mg/m3
1,3-Butadiene	106-99-0	1.00 mg/m3	1.06 mg/m3
Bromomethane	74-83-9	1.00 mg/m3	1.08 mg/m3
Chloroethane	75-00-3	1.00 mg/m3	1.08 mg/m3
Ethanol	64-17-5	5.00 mg/m3	5.21 mg/m3
Acetonitrile	75-05-8	1.00 mg/m3	1.05 mg/m3
Acrolein	107-02-8	1.00 mg/m3	1.03 mg/m3
Acetone	67-64-1	5.00 mg/m3	5.33 mg/m3
Freon-11	75-69-4	1.00 mg/m3	1.06 mg/m3
Isopropyl Alcohol	67-63-0	2.00 mg/m3	2.10 mg/m3
Acrylonitrile	107-13-1	1.00 mg/m3	1.05 mg/m3
1,1-Dichloroethene	75-35-4	1.00 mg/m3	1.08 mg/m3
Carbon Disulfide	75-15-0	1.00 mg/m3	1.07 mg/m3
Methylene Chloride	75-09-2	1.00 mg/m3	1.06 mg/m3
Tert-Butanol	75-65-0	2.00 mg/m3	2.16 mg/m3
Allyl Chloride	107-05-1	1.00 mg/m3	1.08 mg/m3
Freon-113	76-13-1	1.00 mg/m3	1.08 mg/m3
Trans-1,2-Dichloroethene	156-60-5	1.00 mg/m3	1.08 mg/m3
1,1-Dichloroethane	75-34-3	1.00 mg/m3	1.09 mg/m3
Methyl Tert Butyl Ether	1634-04-4	1.00 mg/m3	1.08 mg/m3
Vinyl Acetate	108-05-4	5.00 mg/m3	5.35 mg/m3
Methacrylonitrile	126-98-7	1.00 mg/m3	1.06 mg/m3
Methyl Ethyl Ketone	78-93-3	1.00 mg/m3	1.06 mg/m3
Cis-1,2-Dichloroethene	156-59-2	1.00 mg/m3	1.06 mg/m3
Hexane	110-54-3	1.00 mg/m3	1.08 mg/m3
Di-isopropyl Ether	108-20-3	1.00 mg/m3	1.08 mg/m3

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PAGE: 2 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chloroform	67-66-3	1.00 mg/m3	1.07 mg/m3
Ethyl Acetate	141-78-6	2.00 mg/m3	2.17 mg/m3
Tetrahydrofuran	109-99-9	1.00 mg/m3	1.09 mg/m3
Ethyl Tert-Butyl Ether	637-92-3	1.00 mg/m3	1.08 mg/m3
1,2-Dichloroethane	107-06-2	1.00 mg/m3	1.08 mg/m3
1,1,1-Trichloroethane	71-55-6	1.00 mg/m3	1.07 mg/m3
Benzene	71-43-2	1.00 mg/m3	1.06 mg/m3
Isopropyl Acetate	108-21-4	2.00 mg/m3	2.11 mg/m3
1-Butanol	71-36-3	2.00 mg/m3	2.08 mg/m3
Carbon Tetrachloride	56-23-5	1.00 mg/m3	1.05 mg/m3
Cyclohexane	110-82-7	2.00 mg/m3	2.12 mg/m3
Tert Amyl Methyl Ether	994-05-8	1.00 mg/m3	1.08 mg/m3
1,2-Dichloropropane	78-87-5	1.00 mg/m3	1.08 mg/m3
Trichloroethylene	79-01-6	1.00 mg/m3	1.07 mg/m3
Bromodichloromethane	75-27-4	1.00 mg/m3	1.08 mg/m3
1,4-Dioxane	123-91-1	1.00 mg/m3	1.08 mg/m3
Isooctane	540-84-1	1.00 mg/m3	1.07 mg/m3
Methyl Methacrylate	80-62-6	2.00 mg/m3	2.15 mg/m3
Heptane	142-82-5	1.00 mg/m3	1.08 mg/m3
Cis-1,3-Dichloropropene	10061-01-5	1.00 mg/m3	1.04 mg/m3
Methyl Isobutyl Ketone	108-10-1	1.00 mg/m3	1.06 mg/m3
Trans-1,3-Dichloropropene	10061-02-6	1.00 mg/m3	1.06 mg/m3
1,1,2-Trichloroethane	79-00-5	1.00 mg/m3	1.07 mg/m3
Toluene	108-88-3	1.00 mg/m3	1.07 mg/m3
Methyl Butyl Ketone	591-78-6	1.00 mg/m3	1.07 mg/m3
Dibromochloromethane	124-48-1	1.00 mg/m3	1.07 mg/m3
1,2-Dibromoethane	106-93-4	1.00 mg/m3	1.07 mg/m3
n-Butyl Acetate	123-86-4	1.00 mg/m3	1.09 mg/m3
n-Octane	111-65-9	1.00 mg/m3	1.08 mg/m3
Tetrachloroethylene	127-18-4	1.00 mg/m3	1.04 mg/m3

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PAGE: **3 of 4**

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chlorobenzene	108-90-7	1.00 mg/m3	1.07 mg/m3
Ethylbenzene	100-41-4	1.00 mg/m3	1.07 mg/m3
p-xylene	106-42-3	1.00 mg/m3	1.07 mg/m3
m-xylene	108-38-3	1.00 mg/m3	1.07 mg/m3
Bromoform	75-25-2	1.00 mg/m3	1.07 mg/m3
Cyclohexanone	108-94-1	1.00 mg/m3	1.00 mg/m3
Styrene	100-42-5	1.00 mg/m3	1.06 mg/m3
o-xylene	95-47-6	1.00 mg/m3	1.07 mg/m3
1,1,2,2-Tetrachloroethane	79-34-5	1.00 mg/m3	1.07 mg/m3
Nonane	111-84-2	1.00 mg/m3	1.07 mg/m3
Isopropylbenzene	98-82-8	1.00 mg/m3	1.08 mg/m3
alpha-Pinene	80-56-8	1.00 mg/m3	1.07 mg/m3
n-Propylbenzene	103-65-1	1.00 mg/m3	1.08 mg/m3
3-Ethyltoluene	620-14-4	1.00 mg/m3	1.06 mg/m3
4-Ethyltoluene	622-96-8	1.00 mg/m3	1.08 mg/m3
2-Ethyltoluene	611-14-3	1.00 mg/m3	1.08 mg/m3
1,3,5-Trimethylbenzene	108-67-8	1.00 mg/m3	1.06 mg/m3
alpha-Methylstyrene	98-83-9	1.00 mg/m3	1.07 mg/m3
Tert-Butyl Benzene	98-06-6	1.00 mg/m3	1.07 mg/m3
1,2,4-Trimethylbenzene	95-63-6	1.00 mg/m3	1.07 mg/m3
1,3-Dichlorobenzene	541-73-1	1.00 mg/m3	1.07 mg/m3
Benzyl Chloride	100-44-7	1.00 mg/m3	1.08 mg/m3
n-Decane	124-18-5	1.00 mg/m3	1.07 mg/m3
1,4-Dichlorobenzene	106-46-7	1.00 mg/m3	1.07 mg/m3
Sec-Butyl Benzene	135-98-8	1.00 mg/m3	1.07 mg/m3
p-Isopropyltoluene	99-87-6	1.00 mg/m3	1.09 mg/m3
1,2,3-Trimethylbenzene	526-73-8	1.00 mg/m3	1.09 mg/m3
1,2-Dichlorobenzene	95-50-1	1.00 mg/m3	1.07 mg/m3

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ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
d-Limonene	5989-27-5	1.00 mg/m3	1.08 mg/m3
n-Butyl Benzene	104-51-8	1.00 mg/m3	1.07 mg/m3
1,2-Dibromo-3-Chloropropane	96-12-8	1.00 mg/m3	1.05 mg/m3
n-Undecane	1120-21-4	1.00 mg/m3	1.08 mg/m3
1,2,4-Trichlorobenzene	120-82-1	1.00 mg/m3	1.07 mg/m3
Naphthalene	91-20-3	1.00 mg/m3	1.03 mg/m3
n-Dodecane	112-40-3	1.00 mg/m3	1.04 mg/m3
Hexachloro-1,3-Butadiene	87-68-3	1.00 mg/m3	1.06 mg/m3
Nitrogen	7727-37-9	Balance	Balance

ANALYST: Lou Lorenzetti **DATE:** Sep-24-2019

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PAGE: 1 of 4

Secondary

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Propylene	115-07-1	1.00 mg/m3	1.05 mg/m3
Freon-12	75-71-8	1.00 mg/m3	1.05 mg/m3
Chloromethane	74-87-3	1.00 mg/m3	1.06 mg/m3
Freon-114	76-14-2	1.00 mg/m3	1.03 mg/m3
Vinyl Chloride	75-01-4	1.00 mg/m3	1.06 mg/m3
1,3-Butadiene	106-99-0	1.00 mg/m3	1.06 mg/m3
Bromomethane	74-83-9	1.00 mg/m3	1.06 mg/m3
Chloroethane	75-00-3	1.00 mg/m3	1.07 mg/m3
Ethanol	64-17-5	5.00 mg/m3	5.30 mg/m3
Acetonitrile	75-05-8	1.00 mg/m3	1.07 mg/m3
Acrolein	107-02-8	1.00 mg/m3	1.03 mg/m3
Acetone	67-64-1	5.00 mg/m3	5.34 mg/m3
Freon-11	75-69-4	1.00 mg/m3	1.06 mg/m3
Isopropyl Alcohol	67-63-0	2.00 mg/m3	2.11 mg/m3
Acrylonitrile	107-13-1	1.00 mg/m3	1.06 mg/m3
1,1-Dichloroethene	75-35-4	1.00 mg/m3	1.07 mg/m3
Carbon Disulfide	75-15-0	1.00 mg/m3	1.06 mg/m3
Methylene Chloride	75-09-2	1.00 mg/m3	1.05 mg/m3
Tert-Butanol	75-65-0	2.00 mg/m3	2.15 mg/m3
Allyl Chloride	107-05-1	1.00 mg/m3	1.07 mg/m3
Freon-113	76-13-1	1.00 mg/m3	1.08 mg/m3
Trans-1,2-Dichloroethene	156-60-5	1.00 mg/m3	1.07 mg/m3
1,1-Dichloroethane	75-34-3	1.00 mg/m3	1.06 mg/m3
Methyl Tert Butyl Ether	1634-04-4	1.00 mg/m3	1.07 mg/m3
Vinyl Acetate	108-05-4	5.00 mg/m3	5.33 mg/m3
Methacrylonitrile	126-98-7	1.00 mg/m3	1.06 mg/m3
Methyl Ethyl Ketone	78-93-3	1.00 mg/m3	1.06 mg/m3
Cis-1,2-Dichloroethene	156-59-2	1.00 mg/m3	1.06 mg/m3
Hexane	110-54-3	1.00 mg/m3	1.08 mg/m3
Di-isopropyl Ether	108-20-3	1.00 mg/m3	1.08 mg/m3

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PAGE: 2 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chloroform	67-66-3	1.00 mg/m3	1.07 mg/m3
Ethyl Acetate	141-78-6	2.00 mg/m3	2.16 mg/m3
Tetrahydrofuran	109-99-9	1.00 mg/m3	1.10 mg/m3
Ethyl Tert-Butyl Ether	637-92-3	1.00 mg/m3	1.07 mg/m3
1,2-Dichloroethane	107-06-2	1.00 mg/m3	1.07 mg/m3
1,1,1-Trichloroethane	71-55-6	1.00 mg/m3	1.07 mg/m3
Benzene	71-43-2	1.00 mg/m3	1.05 mg/m3
Isopropyl Acetate	108-21-4	2.00 mg/m3	2.10 mg/m3
1-Butanol	71-36-3	2.00 mg/m3	2.13 mg/m3
Carbon Tetrachloride	56-23-5	1.00 mg/m3	1.04 mg/m3
Cyclohexane	110-82-7	2.00 mg/m3	2.11 mg/m3
Tert Amyl Methyl Ether	994-05-8	1.00 mg/m3	1.07 mg/m3
1,2-Dichloropropane	78-87-5	1.00 mg/m3	1.07 mg/m3
Trichloroethylene	79-01-6	1.00 mg/m3	1.08 mg/m3
Bromodichloromethane	75-27-4	1.00 mg/m3	1.09 mg/m3
1,4-Dioxane	123-91-1	1.00 mg/m3	1.08 mg/m3
Isooctane	540-84-1	1.00 mg/m3	1.07 mg/m3
Methyl Methacrylate	80-62-6	2.00 mg/m3	2.15 mg/m3
Heptane	142-82-5	1.00 mg/m3	1.07 mg/m3
Cis-1,3-Dichloropropene	10061-01-5	1.00 mg/m3	1.07 mg/m3
Methyl Isobutyl Ketone	108-10-1	1.00 mg/m3	1.06 mg/m3
Trans-1,3-Dichloropropene	10061-02-6	1.00 mg/m3	1.06 mg/m3
1,1,2-Trichloroethane	79-00-5	1.00 mg/m3	1.07 mg/m3
Toluene	108-88-3	1.00 mg/m3	1.06 mg/m3
Methyl Butyl Ketone	591-78-6	1.00 mg/m3	1.08 mg/m3
Dibromochloromethane	124-48-1	1.00 mg/m3	1.07 mg/m3
1,2-Dibromoethane	106-93-4	1.00 mg/m3	1.07 mg/m3
n-Butyl Acetate	123-86-4	1.00 mg/m3	1.09 mg/m3
n-Octane	111-65-9	1.00 mg/m3	1.08 mg/m3
Tetrachloroethylene	127-18-4	1.00 mg/m3	1.04 mg/m3

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PAGE: 3 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chlorobenzene	108-90-7	1.00 mg/m3	1.07 mg/m3
Ethylbenzene	100-41-4	1.00 mg/m3	1.06 mg/m3
p-xylene	106-42-3	1.00 mg/m3	1.07 mg/m3
m-xylene	108-38-3	1.00 mg/m3	1.06 mg/m3
Bromoform	75-25-2	1.00 mg/m3	1.07 mg/m3
Cyclohexanone	108-94-1	1.00 mg/m3	1.01 mg/m3
Styrene	100-42-5	1.00 mg/m3	1.06 mg/m3
o-xylene	95-47-6	1.00 mg/m3	1.07 mg/m3
1,1,2,2-Tetrachloroethane	79-34-5	1.00 mg/m3	1.07 mg/m3
Nonane	111-84-2	1.00 mg/m3	1.07 mg/m3
Isopropylbenzene	98-82-8	1.00 mg/m3	1.07 mg/m3
alpha-Pinene	80-56-8	1.00 mg/m3	1.06 mg/m3
n-Propylbenzene	103-65-1	1.00 mg/m3	1.07 mg/m3
3-Ethyltoluene	620-14-4	1.00 mg/m3	1.07 mg/m3
4-Ethyltoluene	622-96-8	1.00 mg/m3	1.05 mg/m3
2-Ethyltoluene	611-14-3	1.00 mg/m3	1.07 mg/m3
1,3,5-Trimethylbenzene	108-67-8	1.00 mg/m3	1.06 mg/m3
alpha-Methylstyrene	98-83-9	1.00 mg/m3	1.06 mg/m3
Tert-Butyl Benzene	98-06-6	1.00 mg/m3	1.06 mg/m3
1,2,4-Trimethylbenzene	95-63-6	1.00 mg/m3	1.06 mg/m3
1,3-Dichlorobenzene	541-73-1	1.00 mg/m3	1.07 mg/m3
Benzyl Chloride	100-44-7	1.00 mg/m3	1.07 mg/m3
n-Decane	124-18-5	1.00 mg/m3	1.07 mg/m3
1,4-Dichlorobenzene	106-46-7	1.00 mg/m3	1.07 mg/m3
Sec-Butyl Benzene	135-98-8	1.00 mg/m3	1.06 mg/m3
p-Isopropyltoluene	99-87-6	1.00 mg/m3	1.09 mg/m3
1,2,3-Trimethylbenzene	526-73-8	1.00 mg/m3	1.08 mg/m3
1,2-Dichlorobenzene	95-50-1	1.00 mg/m3	1.07 mg/m3

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PAGE: **4 of 4**

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
d-Limonene	5989-27-5	1.00 mg/m3	1.06 mg/m3
n-Butyl Benzene	104-51-8	1.00 mg/m3	1.07 mg/m3
1,2-Dibromo-3-Chloropropane	96-12-8	1.00 mg/m3	1.07 mg/m3
n-Undecane	1120-21-4	1.00 mg/m3	1.08 mg/m3
1,2,4-Trichlorobenzene	120-82-1	1.00 mg/m3	1.08 mg/m3
Naphthalene	91-20-3	1.00 mg/m3	1.06 mg/m3
n-Dodecane	112-40-3	1.00 mg/m3	1.06 mg/m3
Hexachloro-1,3-Butadiene	87-68-3	1.00 mg/m3	1.07 mg/m3
Nitrogen	7727-37-9	Balance	Balance

ANALYST: _____
Lou Lorenzetti

DATE: Sep-24-2019

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1/6/20 VH

TO-15 MAPH STD				20ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of S31-11061903 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-01062006	20 ng/L	STD00164	1/6/20	3/4/20	LH

1/6/20 S31-01062007 TO-15 IS/SURR STD ~0.5 mg/m³

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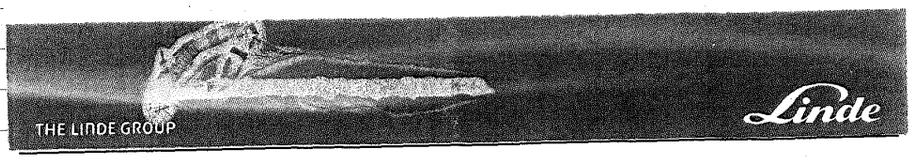

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PAGE: 1 of 1

S31-01062007 **ANALYSIS REPORT** IS/SURR STD.

Sales#:	117350975	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1502527	**Cylinder # :**	CC-430401
Report Date:	Dec-23-2019	**Cylinder Pressure:**	2000 psig
P.O.# :	SM003000	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24086333	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	4000 Liters
Expiration Date:	Dec-23-~~2020~~ 2021	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	10% Relative

VH 1/7/20

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Bromochloromethane	74-97-5	0.50 mg/m3	0.55 mg/m3
1,2-Dichloroethane-d4	17060-07-0	0.50 mg/m3	0.55 mg/m3
1,4-Difluorobenzene	540-36-3	0.50 mg/m3	0.55 mg/m3
Toluene-d8	2037-26-5	0.50 mg/m3	0.55 mg/m3
Chlorobenzene-d5	3114-55-4	0.50 mg/m3	0.55 mg/m3
4-Bromofluorobenzene	460-00-4	0.50 mg/m3	0.53 mg/m3
Nitrogen	7727-37-9	Balance	Balance

1/7/20 VH

EPA 325B STD	BTEX 1° Working Standard	200 µg/mL
S31-01072001	Expires:	1/21/2020
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 2000µg/mL BTEX stock standard S31-11271903 (expires 1/27/20).		

VH

EPA 325B STD	BTEX 2° Working Standard	200 µg/mL
S31-01072002	Expires:	1/21/2020
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 2000µg/mL BTEX stock standard S31-11271904 (expires 1/27/20).		

S34-03192001	TO-15 IS & Surr. STD	500 ng/L
Filled 6L CAN STD00154 with	S31-01062007 to ~80 psig.	Exp. 5/19/20 TD

TD 3/23/20

S34-03202001	TO-15 SIM IS/SURR	40 ng/L
Filled can STD00226	to (-7.46) psig with S31-01062007 then pressurized to 75.4 psig	
with HZA Lot #70086833701		
	Exp: 6/18/2020	RVT
DF = 14.7+ 61.80= 12.5X		
14.7+ (-8.58)		

3/20/20 RVT

TO-17 STD S34-03202002	PAH 1° Working Standard	2 µg/ml 5/20/2020
Into 1mL mininert vial with 9900µL B&J P&T methanol, Lot #DL535, added 10µL 200µg/mL PAH 1° stock standard S31-01222001 (Exp. 7/21/20)		

MA

TO-17 STD S34-03232001	RAD VOC 1° Stock Standard	2000ng/µL 5/23/2020
Transferred stock standard S31-09061901B (exp. 3/13/27) into glass vial with mininert valve cap.		

3/23/20 CV

TO-17 STD S34-03232002	RAD VOC 1° Working Standard	200ng/µL 5/23/2020
Into 1mL mininert vial with 900uL B&J P&T methanol, Lot # DL535, added 100uL 2000ng/µL Stock Standard S34-03232001 (expires 3/13/20)		

CV

TO-15 ICV/LCS STD	200 ng/L
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111902** with HZA Lot # 70086915004 using 4700 diluter	

3/25/20

RVT

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34 ~~S31~~-03252001	200 ng/L	STD00033	3/25/20	4/23/20	RVT
RVT S34 ~~S31~~-03252002	200 ng/L	STD00182	3/25/20	4/23/20	RVT
4/3/20 S34 ~~S31~~-03252003	200 ng/L	STD00132	3/25/20	4/23/20	RVT
S34 ~~S31~~-03252004	200 ng/L	STD00139	3/25/20	4/23/20	RVT

S34-03262001	TO-15 IS & Surr. STD	500 ng/L
Filled 15L CAN STD00219 with	S31-10111901 to ~80 psig.	Exp. 6/26/20 WA

3/26/20 WA

3/27/20 RVT

TO-15 ICV/LCS STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111902** with HZA Lot # 70086915004 using 4700 diluter

TD 4/7/20

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04022001	200 ng/L	STD00173	4/2/20	**5/1/20**	TD

TO-17 STD **PAH 1° Stock Standard** **200 µg/ml**
S34-04022002 **10/2/2020**
Into 1mL mininert vial, directly transfered entire contents 200µg/mL PAH 1° stock standard S31-01181908D (expires 1/17/22).

TO-17 STD **PAH 2° Stock Standard** **100 µg/ml**
S34-04022003 **10/2/2020**
Into 1mL mininert vial, directly transfered entire contents of 100µg/mL PAH 1° stock standard S31-03221901B (expires 4/11/22).

TO-17 STD **PAH 1° Working Standard** **20 µg/mL**
S34-04022004 **10/2/2020**
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 200µg/mL PAH 1° stock standard S34-4022002 (Exp. 10/2/20)

TO-17 STD **PAH 1° Working Standard** **2 µg/ml**
S34-04022005 **10/2/2020**
Into 1mL mininert vial with 990µL B&J P&T methanol, Lot #DL535, added 10µL 200µg/mL PAH 1° stock standard S34-04022002 (Exp. 10/2/20)

TO-17 STD **PAH 2° Working Standard** **20 µg/ml**
S34-04022006 **10/2/2020**
Into 1mL mininert vial with 800µL B&J P&T methanol, Lot #DL535, added 200µL 100µg/mL PAH 2° stock standard S34-04022003 (Exp. 10/2/20)

EPA 325B STD **BTEX 1° Working Standard** **20 µg/mL**
S34-04022007 **Expires: 4/22/2020**
Into 1mL mininert vial with 990µL B&J P&T methanol, Lot #DL535, added 10µL 2000µg/mL BTEX Stock standard S34-03312005 (expires 5/31/20).

4/7/20 RVT

TO-15 STD 1000 ng/L
S34-04072001
Filled Can: STD00056 w/S31-10111901 To ~ 10.23 PSIG
Expires: 9/24/20 RVT

TO-15 STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S34-04072001** using 4700 diluter HZA Lot #70086915004

TD 4/7/20

Standard ID	Standard conc.	CAN I.D.	Prep. Date	**Exp. Date**	Initial
S34-04072002	200 ng/L	STD00134	4/7/20	**5/6/20**	TD

12

		TO-15 STD		20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04072002**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
TD S34-04072003	20 ng/L	STD00007	4/7/20	**5/6/20**	TD

		TO-15 STD		4 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S34-04072003**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
TD S34-04072004	4 ng/L	STD00211	4/7/20	**5/6/20**	TD

RVT TO-15 ICV/LCS STD 1000ng/L
S34-04072005
Filled Can: STD00136 w/S31-10111902 To ~ 10.52 PSIG
Exp 9/24/20 RVT

		TO-15 ICV/LCS STD		200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S34-04072005** with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
TD S34-04072006	200 ng/L	STD00194	4/7/20	**5/6/20**	TD

S31-04072007 **TO-17 IS/Surr Neat Mix** **75,000** µg each compd.
34
@ 4/7/20 **Exp** **1/31/21**

CM

Compound	Std ID	d(µg/µl)	amt spiked (µl)	exp. date
Bromochloromethane	S31-11281802	1934.4	39	6/30/2021
1,4-Difluorobenzene	S31-11281803	1170.1	64	2/1/2021
Chlorobenzene-d5	S31-05131901	1157	65	5/31/2024
1,2-Dichloroethane-d4	S31-11281804	1307	57	11/28/2023
Toluene-d8	S29-04281602	943	80	4/28/2021
4-Bromofluorobenzene	S31-05131903	1593	47	1/31/2021
		total µl:	352	

neat compound density: **213.3 µg/µl**

RVT TO-15 ICV/LCS STD 1000ng/L
S34-04082001
Filled Can: STD00136 w/S31-10111902 To ~ 11.93 PSIG
Exp: 9/24/20
RVT

4/8/20 S34-~~03~~04082002 TO-17 IS/surr 50ng/ml
Spiked 23.5 µl S34-04072007 into can STDcc215 and
pressurized to 83.3 psig w/ HZA (Lot 7008600403).
Exp. 10/8/20

4/10/20
RVT

TO-15 STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111901**					
using 4700 diluter	HZA Lot #70086915004				
Standard ID	Standard conc.	CAN I.D.	Prep. Date	**Exp. Date**	Initial
S34-04102001	200 ng/L	STD00096	4/10/20	**5/9/20**	RVT
S34-04102002	200 ng/L	STD00111	4/10/20	**5/9/20**	RVT
S34-04102003	200 ng/L	STD00013	4/10/20	**5/9/20**	RVT
S34-04102004	200 ng/L	STD00018	4/10/20	**5/9/20**	RVT

RVT S34-04102005 TO-15 STD 1000 ng/L
Pressurized Can: STD00056 w/S31-10111901 To. 16.61 psig
Exp. 9/24/20
RVT

RVT

TO-15 STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S34-04102005**					
using 4700 diluter	HZA Lot #70086915004				
Standard ID	Standard conc.	CAN I.D.	Prep. Date	**Exp. Date**	Initial
S34-04102006	200 ng/L	STD00003	4/10/20	**5/9/20**	RVT

RVT S34-04102007 TO-15 STD 1000 ng/L
ICV/LCS
Pressurized Can: STD00136 w/S31-10111902 To ≈ 17 psig
Exp. 9/24/20
RVT

RVT

TO-15 ICV/LCS STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S34-04102007** with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04102008	200 ng/L	STD00158	4/10/20	**5/9/20**	RVT

RVT

TO-15 STD				20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04102004**					
using 4700 diluter	HZA Lot #70086915004				
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04102009	20 ng/L	STD00145	4/10/20	**5/9/20**	RVT

4/15/20
RVT

TO-15 STD **4 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S34-04102010**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04152001	4 ng/L	STD00161	4/15/20	**5/14/20**	RVT

TO-15 Custom STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with
HZA Lot # 70086915004 using 4700 diluter

TD 4/16/20

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04162001	200 ng/L	STD00009	4/16/2020	**5/15/2020**	TD
S34-04162002	200 ng/L	STD00124	4/16/2020	**5/15/2020**	TD

4/16/20
RVT

TO-15 STD **4 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of **S34-04102003**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04162003	4 ng/L	STD00227	4/16/20	**5/15/20**	RVT

4/20/20
RVT

TO-15 STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111901**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04202001	200 ng/L	STD00128	4/20/20	**5/19/20**	RVT
S34-04202002	200 ng/L	STD00112	4/20/20	**5/19/20**	RVT
S34-04202003	200 ng/L	STD00105	4/20/20	**5/19/20**	RVT
S34-04202004	200 ng/L	STD00047	4/20/20	**5/19/20**	RVT

TO-15 Custom STD **20 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of S31-06251901 with
HZA Lot # 70086915004 using 4700 diluter

TD 4/21/20

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04212001	20 ng/L	STD00049	4/21/2020	**5/20/2020**	TD

TD 4/2/20

16

		TO-15 Custom STD		200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04212002	200 ng/L	STD00208	4/21/2020	**5/20/2020**	TD
S34-04212003	200 ng/L	STD00140	4/21/2020	**5/20/2020**	TD

TD

		TO-15 Custom STD		20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of S34-04212003 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04212004	20 ng/L	STD00065	4/21/2020	**5/20/2020**	TD

TD

		TO-15 Custom ICV/LCS		200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251902 with HZA Lot #70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-0421~~2006~~ 2007 NN 5-5-20	200 ng/L	STD00181	4/21/2020	**5/20/2020**	TD

TD

		TO-15 Custom ICV/ LCS STD		20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of S31-06251902 with HZA Lot #70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04212005	20 ng/L	STD00080	4/21/2020	**5/20/2020**	TD

TD

4/21/20 S34-0421~~2006~~ 2006 NN 5-5-20 TO-15 IS/Surr 500 ng/L
Fillel Can # STD00075 with S31-01062007 to psig 84
Exp 06/29/20

S34-04222001	**TO-15 IS & Surr. STD**	**500 ng/L**
Filled 15L CAN STD00228 with S31-01062007 to ~80 psig.		Exp. 7/22/20 TD

TD 4/22/20

4/22/20 RVT

4/22/20 RVT

S34-04222002 **TO-15 SIM IS/SURR** **40 ng/L**

Filled can STD00226 to (-6.74) psig with S31-01062007 then pressurized to 84.34 psig with HZA Lot #70086004903

Exp: 7/21/20 RVT

DF = 14.7+ 61.80= 12.5X
14.7+ (-8.58)

RVT

		TO-15 STD		20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04202002**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04222003	20 ng/L	STD00043	4/22/20	**5/21/20**	RVT

RVT

		TO-15 STD		20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04202003**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04222004	20 ng/L	STD00197	4/22/20	**5/21/20**	RVT

4/23/20 RVT

S34-04232001 TO-15 STD 1000 ng/L
Pressurized Can: ~~STD~~ 15C0109 w/ S31-10111901 To ~ 11.5 psig
RVT
Exp: 9/24/20

RVT

S34-04242001 TO-15 STD 1000 ng/L
Pressurized Can: STD00134 w/ S31-10111901 To ~ 11.01 psig
RVT
Exp 9/24/20

4/27/20 RVT

		TO-15 Custom STD		200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272001	200 ng/L	STD00153	4/27/2020	**5/26/2020**	RVT
S34-04272002	200 ng/L	STD00116	4/27/2020	**5/26/2020**	RVT
S34-04272003	200 ng/L	STD00157	4/27/2020	**5/26/2020**	RVT
S34-04272004	200 ng/L	STD00125	4/27/2020	**5/26/2020**	RVT

4/27/20
RVT

18
4/22/20
RVT
4/27/20
RVT

TO-15 Custom STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272005	200 ng/L	STD00024	4/27/2020	**5/26/2020**	RVT
S34-04272006	200 ng/L	STD00066	4/27/2020	**5/26/2020**	RVT

RVT

TO-15 ICV/LCS STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111902** with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272007	200 ng/L	STD00063	4/27/20	**5/26/20**	RVT
S34-04272008	200 ng/L	STD00072	4/27/20	**5/26/20**	RVT

RVT

TO-15 ICV/ LCS STD				20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04272007** with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272009	20 ng/L	STD00015	4/27/20	**5/26/20**	RVT

RVT

TO-15 STD				20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04202001** using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272010	20 ng/L	STD00026	4/27/20	**5/26/20**	RVT

LH
4/27/20

TO-15 STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-10111901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272011	200 ng/L	STD00028	4/27/2020	**5/26/2020**	LH

LH

TO-15 STD				20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of S34-04272011 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272012	20 ng/L	STD00061	4/27/2020	**5/26/2020**	LH

557 of 557

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
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www.alsglobal.com

LABORATORY REPORT

May 5, 2020

Pamela Moss
EA Engineering, Science, and Technology, Inc.
7995 E. Prentice Ave, Suite 206E
Greenwood Village, CO 80111

RE: Kirtland AFB Bulk Fuels Facility / 62735DM02

Dear Pamela:

Enclosed are the results of the samples submitted to our laboratory on April 14, 2020. For your reference, these analyses have been assigned our service request number P2002030.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

Kate Kaneko
May 05, 2020, 12:50 pm

Kate Kaneko
Project Manager

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

Client: EA Engineering, Science, and Technology, Inc. Service Request No: P2002030
Project: Kirtland AFB Bulk Fuels Facility / 62735DM02

CASE NARRATIVE

The samples were received intact under chain of custody on April 14, 2020 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

Manual integrations were performed on the following samples and analytes. Refer to the raw data for additional information.

Sample Identifications	Analytes
P2002030-006,007,012	Ethanol
P2002030-014	Acetone
P2002030-017	Propene
P2002030-011	4-Methyl-2-pentatnone

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.1 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1776326
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-007
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272019-10
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: EA Engineering, Science, and Technology, Inc. Service Request: P2002030

Project ID: Kirtland AFB Bulk Fuels Facility / 62735DM02

Date Received: 4/14/2020

Time Received: 10:45

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	TO-15 - VOC Cans
SV028-150-202	P2002030-001	Air	4/8/2020	11:42	1SS00962	-3.67	6.37	X
SV028-250-202	P2002030-002	Air	4/8/2020	11:47	1SS00892	-3.54	5.97	X
SV028-350-202	P2002030-003	Air	4/8/2020	11:54	1SS00745	-3.24	7.14	X
SV028-450-202	P2002030-004	Air	4/8/2020	11:57	1SC01113	-3.09	5.57	X
SV111-025-202	P2002030-005	Air	4/7/2020	14:54	1SS00774	-4.52	5.95	X
SV111-050-602	P2002030-006	Air	4/7/2020	14:56	1SC00780	-3.90	5.26	X
SV111-050-202	P2002030-007	Air	4/7/2020	14:56	1SC01013	-3.13	5.83	X
SV111-150-202	P2002030-008	Air	4/7/2020	15:01	1SC00711	-3.78	5.47	X
SV111-250-202	P2002030-009	Air	4/7/2020	15:05	1SS00583	-4.87	5.94	X
SV111-350-202	P2002030-010	Air	4/7/2020	15:09	1SS00155	-3.17	5.82	X
SV111-450-202	P2002030-011	Air	4/7/2020	15:19	1SC01172	-2.71	5.51	X
SV117-025-202	P2002030-012	Air	4/7/2020	13:58	1SC01211	-3.79	5.36	X
SV117-050-202	P2002030-013	Air	4/7/2020	14:01	1SS00863	0.14	5.35	X
SV117-150-202	P2002030-014	Air	4/7/2020	14:04	1SC00485	-2.98	6.05	X
SV117-250-202	P2002030-015	Air	4/7/2020	14:09	1SC01238	-4.88	5.39	X
SV117-350-202	P2002030-016	Air	4/7/2020	14:12	1SS00748	-4.59	5.76	X
SV117-450-202	P2002030-017	Air	4/7/2020	14:23	1SS00751	-5.05	5.04	X
SV124-025-202	P2002030-018	Air	4/7/2020	12:00	1SS00240	-4.13	5.45	X
SV124-050-202	P2002030-019	Air	4/7/2020	12:03	1SC00669	-4.55	5.89	X

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

COC #: **COC-SV202-04**

Requested Turnaround Time in Business Days
10 Day-Standard

ALS Project No. P2002030

Company Name & Address (Reporting Information)	Project Name	ALS Contact: Kate Kaneko 1 (805) 577-2089
EA Engineering, Science, and Technology, Inc., PBC 225 Schilling Circle Suite 400, Hunt Valley, MD (410) 584-7000	Kirtland AFB Bulk Fuels Facility	**Analysis Method**
	Project Number: 62735DM02	
Project Manager / Project Chemist: Bernie Bockish (505) 234-1105 / Pam Moss (303) 590-9143	P.O. # / Billing Information: 17682	
Email Address for Result Reporting Tara Lamond: tlamond@eaest.com Amanda Smith: asmith@eaest.com Pam Moss: pmoss@eaest.com	Sampler (Print & Sign): Ryan Wortman	

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg	Sample Volume	TO-15 Project Specific List	Comments e.g. Actual Preservative or specific instructions
SV028-150-202		4/8/2020	1142	1SS00962	NA	-26.5	-2.0	1L	X	None
SV028-250-202		4/8/2020	1147	1SS00892	NA	-26.0	-2.0	1L	X	None
SV028-350-202		4/8/2020	1154	1SS00745	NA	-25.0	0.0	1L	X	None
SV028-450-202		4/8/2020	1157	1SC01113	AVG04878	-27.0	0.0	1L	X	None
SV111-025-202		4/7/2020	1454	1SS00774	NA	-26.0	-5.0	1L	X	None
SV111-050-602		4/7/2020	1456	1SC00780	AVG04811	-25.0	-3.0	1L	X	None
SV111-050-202		4/7/2020	1456	1SC01013	NA	-24.0	-1.5	1L	X	None
SV111-150-202		4/7/2020	1501	1SC00711	NA	-24.0	-3.5	1L	X	None
SV111-250-202		4/7/2020	1505	1SS00583	NA	-25.0	-5.0	1L	X	None
SV111-350-202		4/7/2020	1509	1SS00155	AVG05007	-25.0	-1.5	1L	X	None

FedEX Tracking Number: 1028 3396 5170

Associated with Trip blank: SVTB-202-01

Shipping information: Box number 1 of 3

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____ Tier III (Results + QC & Calibration Summaries) ____
Tier II (Results + QC Summaries) ____ Tier IV (Data Validation Package) X

EDD required: Yes
Type: ERPIMS / EQuIS

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements: QAPP

Relinquished by: (Signature)	Date: 4/9/20	Time: 1700	Received by: (Signature)	Date: 4/14/20	Time: 1045
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Cooler / Blank Temperature NA °C

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

COC #: COC-SV202-04

Requested Turnaround Time in Business Days: 10 Day-Standard

ALS Project No.: P2002030

Company Name & Address (Reporting Information)	Project Name	ALS Contact: Kate Kaneko 1 (805) 577-2089
EA Engineering, Science, and Technology, Inc., PBC 225 Schilling Circle Suite 400, Hunt Valley, MD (410) 584-7000	Kirtland AFB Bulk Fuels Facility	**Analysis Method**
	Project Number: 62735DM02	
Project Manager / Project Chemist: Bernie Bockish (505) 234-1105 / Pam Moss (303) 590-9143	P.O. # / Billing Information: 17682	
Email Address for Result Reporting Tara Lamond: tlamond@eaest.com Amanda Smith: asmith@eaest.com Pam Moss: pmoss@eaest.com	Sampler (Print & Sign): Ryan Wertman	

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg	Sample Volume	TO-15 Project Specific List	Comments e.g. Actual Preservative or specific instructions
SV111-450-202		4/7/2020	1519	1SC01172	NA	-26.0	-2.0	1L	X	None
SV117-025-202		4/7/2020	1358	1SC01211	AVG05075	-25.0	-3.5	1L	X	None
SV117-050-202		4/7/2020	1401	1SS00863	AVG05123	-24.0	-2.0	1L	X	None
SV117-150-202		4/7/2020	1404	ISC00485	NA	-26.0	-1.5	1L	X	None
SV117-250-202		4/7/2020	1409	ISC01238	NA	-25.5	-5.0	1L	X	None
SV117-350-202		4/7/2020	1412	1SS00748	AVG0483#	-24.0	-4.0	1L	X	None
SV117-450-202		4/7/2020	1423	1SS00751	NA	-24.5	-4.0	1L	X	None
SV124-025-202		4/7/2020	1200	1SS00240	AVG04576	-23.5	-3.0	1L	X	None
SV124-050-202		4/7/2020	1203	1SC00669	NA	-25.0	-5.0	1L	X	None

FedEX Tracking Number: 1028 3396 5170

Associated with Trip blank: SVTB-202-01

Shipping information: Box number 1 of 3

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____ Tier III (Results + QC & Calibration Summaries) ____
Tier II (Results + QC Summaries) ____ Tier IV (Data Validation Package) X

EDD required: Yes
Type: ERPIMS / EQuIS

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements: QAPP

Relinquished by: (Signature)	Date: 4/9/20	Time: 1300	Received by: (Signature)	Date: 4/14/20	Time: 1045
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Cooler / Blank Temperature NA °C

ALS Environmental

Sample Acceptance Check Form

Client: EA Engineering, Science, and Technology, Inc. Work order: P2002030

Project: Kirtland AFB Bulk Fuels Facility / 62735DM02

Sample(s) received on: 04/14/20 Date opened: 04/14/20 by: DENISE.POSADA

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☒	☐	☐
	Location of seal(s)? _____ Sealing Lid?	☒	☐	☐
	Were signature and date included?	☒	☐	☐
	Were seals intact?	☒	☐	☐
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2002030-001.01	1.0 L Source Silonite Canister					
P2002030-002.01	1.0 L Source Silonite Canister					
P2002030-003.01	1.0 L Source Silonite Canister					
P2002030-004.01	1.0 L Source Can					
P2002030-005.01	1.0 L Source Silonite Canister					
P2002030-006.01	1.0 L Source Can					
P2002030-007.01	1.0 L Source Can					
P2002030-008.01	1.0 L Source Can					
P2002030-009.01	1.0 L Source Silonite Canister					
P2002030-010.01	1.0 L Source Silonite Canister					
P2002030-011.01	1.0 L Source Can					
P2002030-012.01	1.0 L Source Can					
P2002030-013.01	1.0 L Source Silonite Canister					
P2002030-014.01	1.0 L Source Can					
P2002030-015.01	1.0 L Source Can					

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS Environmental

Sample Acceptance Check Form

Client: EA Engineering, Science, and Technology, Inc. Work order: P2002030

Project: Kirtland AFB Bulk Fuels Facility / 62735DM02

Sample(s) received on: 04/14/20 Date opened: 04/14/20 by: DENISE.POSADA

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2002030-016.01	1.0 L Source Silonite Canister					
P2002030-017.01	1.0 L Source Silonite Canister					
P2002030-018.01	1.0 L Source Silonite Canister					
P2002030-019.01	1.0 L Source Can					

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV028-150-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-001

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/28/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00962

Initial Pressure (psig): -3.67 Final Pressure (psig): 6.37

Container Dilution Factor: 1.91

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	1.5	2.5	1.5	0.62	U
75-71-8	Dichlorodifluoromethane (CFC 12)	**5.7**	2.5	1.5	0.42	
74-87-3	Chloromethane	1.5	2.5	1.5	0.41	U
75-01-4	Vinyl Chloride	0.81	2.6	0.81	0.27	U
106-99-0	1,3-Butadiene	1.5	2.5	1.5	0.42	U
75-00-3	Chloroethane	1.5	2.6	1.5	0.32	U
64-17-5	Ethanol	**11**	25	4.0	1.8	J
67-64-1	Acetone	**6.0**	25	13	5.7	J
75-69-4	Trichlorofluoromethane	**1.9**	2.5	1.5	0.39	J
67-63-0	2-Propanol (Isopropyl Alcohol)	3.0	10	3.0	1.1	U
75-09-2	Methylene Chloride	1.5	2.5	1.5	0.72	U
76-13-1	Trichlorotrifluoroethane	**0.45**	2.6	0.81	0.36	J
75-15-0	Carbon Disulfide	**3.3**	5.3	2.6	0.76	J
75-34-3	1,1-Dichloroethane	1.6	2.6	1.6	0.37	U
78-93-3	2-Butanone (MEK)	1.5	5.3	1.5	0.53	U
141-78-6	Ethyl Acetate	3.1	5.3	3.1	1.3	U
110-54-3	n-Hexane	1.5	2.6	1.5	0.53	U
67-66-3	Chloroform	0.81	2.6	0.81	0.34	U
109-99-9	Tetrahydrofuran (THF)	**42**	2.6	0.81	0.32	
107-06-2	1,2-Dichloroethane	0.81	2.6	0.81	0.28	U
71-43-2	Benzene	0.81	2.5	0.81	0.37	U
56-23-5	Carbon Tetrachloride	0.81	2.5	0.81	0.35	U

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV028-150-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-001

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/28/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00962

Initial Pressure (psig): -3.67 Final Pressure (psig): 6.37

Container Dilution Factor: 1.91

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.6	5.3	1.6	0.72	**U**
75-27-4	Bromodichloromethane	0.81	2.6	0.81	0.37	**U**
79-01-6	Trichloroethene	0.81	2.6	0.81	0.34	**U**
123-91-1	1,4-Dioxane	0.81	2.6	0.81	0.30	**U**
142-82-5	n-Heptane	1.5	2.6	1.5	0.41	**U**
108-10-1	4-Methyl-2-pentanone	0.81	2.5	0.81	0.35	**U**
108-88-3	Toluene	**0.69**	2.6	0.81	0.31	**J**
591-78-6	2-Hexanone	0.81	2.6	0.81	0.32	**U**
124-48-1	Dibromochloromethane	0.81	2.6	0.81	0.33	**U**
106-93-4	1,2-Dibromoethane	0.81	2.6	0.81	0.30	**U**
127-18-4	Tetrachloroethene	**0.80**	2.5	0.81	0.33	**J**
100-41-4	Ethylbenzene	0.81	2.6	0.81	0.36	**U**
179601-23-1	m,p-Xylenes	1.6	5.3	1.6	0.67	**U**
75-25-2	Bromoform	1.5	2.6	1.5	0.53	**U**
100-42-5	Styrene	1.5	2.5	1.5	0.41	**U**
95-47-6	o-Xylene	0.81	2.6	0.81	0.37	**U**
108-67-8	1,3,5-Trimethylbenzene	0.81	2.5	0.81	0.37	**U**
95-63-6	1,2,4-Trimethylbenzene	0.81	2.6	0.81	0.35	**U**
120-82-1	1,2,4-Trichlorobenzene	1.5	2.6	1.5	0.62	**U**
91-20-3	Naphthalene	1.5	2.5	1.5	0.62	**U**
1330-20-7	Xylenes, Total	1.6	5.3	1.6	0.67	**U**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV028-250-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-002

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/28/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00892

Initial Pressure (psig): -3.54 Final Pressure (psig): 5.97

Container Dilution Factor: 1.85

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	1.5	2.5	1.5	0.60	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**9.0**	2.5	1.5	0.40	
74-87-3	Chloromethane	1.5	2.5	1.5	0.40	**U**
75-01-4	Vinyl Chloride	0.79	2.5	0.79	0.26	**U**
106-99-0	1,3-Butadiene	1.5	2.5	1.5	0.41	**U**
75-00-3	Chloroethane	1.5	2.5	1.5	0.31	**U**
64-17-5	Ethanol	**11**	24	3.8	1.7	**J**
67-64-1	Acetone	**5.6**	25	12	5.6	**J**
75-69-4	Trichlorofluoromethane	**3.1**	2.5	1.5	0.37	
67-63-0	2-Propanol (Isopropyl Alcohol)	2.9	9.7	2.9	1.0	**U**
75-09-2	Methylene Chloride	1.5	2.5	1.5	0.69	**U**
76-13-1	Trichlorotrifluoroethane	0.79	2.5	0.79	0.35	**U**
75-15-0	Carbon Disulfide	**0.93**	5.1	2.5	0.74	**J**
75-34-3	1,1-Dichloroethane	1.5	2.5	1.5	0.36	**U**
78-93-3	2-Butanone (MEK)	1.5	5.1	1.5	0.51	**U**
141-78-6	Ethyl Acetate	3.0	5.1	3.0	1.3	**U**
110-54-3	n-Hexane	1.5	2.5	1.5	0.51	**U**
67-66-3	Chloroform	**0.37**	2.5	0.79	0.33	**J**
109-99-9	Tetrahydrofuran (THF)	**120**	2.5	0.79	0.31	
107-06-2	1,2-Dichloroethane	0.79	2.5	0.79	0.27	**U**
71-43-2	Benzene	**0.50**	2.5	0.79	0.36	**J**
56-23-5	Carbon Tetrachloride	0.79	2.5	0.79	0.34	**U**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV028-250-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-002

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/28/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00892

Initial Pressure (psig): -3.54 Final Pressure (psig): 5.97

Container Dilution Factor: 1.85

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.6	5.1	1.6	0.69	**U**
75-27-4	Bromodichloromethane	0.79	2.5	0.79	0.36	**U**
79-01-6	Trichloroethene	0.79	2.5	0.79	0.33	**U**
123-91-1	1,4-Dioxane	0.79	2.5	0.79	0.29	**U**
142-82-5	n-Heptane	1.5	2.5	1.5	0.39	**U**
108-10-1	4-Methyl-2-pentanone	0.79	2.5	0.79	0.34	**U**
108-88-3	Toluene	**0.62**	2.5	0.79	0.30	**J**
591-78-6	2-Hexanone	0.79	2.5	0.79	0.31	**U**
124-48-1	Dibromochloromethane	0.79	2.5	0.79	0.32	**U**
106-93-4	1,2-Dibromoethane	0.79	2.5	0.79	0.29	**U**
127-18-4	Tetrachloroethene	**0.39**	2.4	0.79	0.32	**J**
100-41-4	Ethylbenzene	0.79	2.5	0.79	0.35	**U**
179601-23-1	m,p-Xylenes	1.6	5.1	1.6	0.65	**U**
75-25-2	Bromoform	1.5	2.5	1.5	0.51	**U**
100-42-5	Styrene	1.5	2.5	1.5	0.40	**U**
95-47-6	o-Xylene	0.79	2.5	0.79	0.36	**U**
108-67-8	1,3,5-Trimethylbenzene	0.79	2.5	0.79	0.36	**U**
95-63-6	1,2,4-Trimethylbenzene	0.79	2.5	0.79	0.34	**U**
120-82-1	1,2,4-Trichlorobenzene	1.5	2.5	1.5	0.60	**U**
91-20-3	Naphthalene	1.4	2.4	1.4	0.60	**U**
1330-20-7	Xylenes, Total	1.6	5.1	1.6	0.65	**U**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV028-350-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-003

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/28/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00745

Initial Pressure (psig): -3.24 Final Pressure (psig): 7.14

Container Dilution Factor: 1.91

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**2.4**	2.5	1.5	0.62	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**5.0**	2.5	1.5	0.42	
74-87-3	Chloromethane	**2.3**	2.5	1.5	0.41	**J**
75-01-4	Vinyl Chloride	**3.1**	2.6	0.81	0.27	
106-99-0	1,3-Butadiene	1.5	2.5	1.5	0.42	**U**
75-00-3	Chloroethane	**8.0**	2.6	1.5	0.32	
64-17-5	Ethanol	**15**	25	4.0	1.8	**J**
67-64-1	Acetone	13	25	13	5.7	**U**
75-69-4	Trichlorofluoromethane	**4.0**	2.5	1.5	0.39	
67-63-0	2-Propanol (Isopropyl Alcohol)	3.0	10	3.0	1.1	**U**
75-09-2	Methylene Chloride	1.5	2.5	1.5	0.72	**U**
76-13-1	Trichlorotrifluoroethane	**0.39**	2.6	0.81	0.36	**J**
75-15-0	Carbon Disulfide	**1.6**	5.3	2.6	0.76	**J**
75-34-3	1,1-Dichloroethane	**4.5**	2.6	1.6	0.37	
78-93-3	2-Butanone (MEK)	1.5	5.3	1.5	0.53	**U**
141-78-6	Ethyl Acetate	**55**	5.3	3.1	1.3	
110-54-3	n-Hexane	**4.1**	2.6	1.5	0.53	
67-66-3	Chloroform	**0.64**	2.6	0.81	0.34	**J**
109-99-9	Tetrahydrofuran (THF)	**3.7**	2.6	0.81	0.32	
107-06-2	1,2-Dichloroethane	**0.82**	2.6	0.81	0.28	**J**
71-43-2	Benzene	**1.4**	2.5	0.81	0.37	**J**
56-23-5	Carbon Tetrachloride	**0.97**	2.5	0.81	0.35	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV028-350-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-003

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/28/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00745

Initial Pressure (psig): -3.24 Final Pressure (psig): 7.14

Container Dilution Factor: 1.91

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**4.1**	5.3	1.6	0.72	**J**
75-27-4	Bromodichloromethane	0.81	2.6	0.81	0.37	**U**
79-01-6	Trichloroethene	0.81	2.6	0.81	0.34	**U**
123-91-1	1,4-Dioxane	0.81	2.6	0.81	0.30	**U**
142-82-5	n-Heptane	**0.69**	2.6	1.5	0.41	**J**
108-10-1	4-Methyl-2-pentanone	0.81	2.5	0.81	0.35	**U**
108-88-3	Toluene	**2.8**	2.6	0.81	0.31	
591-78-6	2-Hexanone	0.81	2.6	0.81	0.32	**U**
124-48-1	Dibromochloromethane	0.81	2.6	0.81	0.33	**U**
106-93-4	1,2-Dibromoethane	0.81	2.6	0.81	0.30	**U**
127-18-4	Tetrachloroethene	**0.99**	2.5	0.81	0.33	**J**
100-41-4	Ethylbenzene	0.81	2.6	0.81	0.36	**U**
179601-23-1	m,p-Xylenes	1.6	5.3	1.6	0.67	**U**
75-25-2	Bromoform	1.5	2.6	1.5	0.53	**U**
100-42-5	Styrene	1.5	2.5	1.5	0.41	**U**
95-47-6	o-Xylene	**0.59**	2.6	0.81	0.37	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.45**	2.5	0.81	0.37	**J**
95-63-6	1,2,4-Trimethylbenzene	0.81	2.6	0.81	0.35	**U**
120-82-1	1,2,4-Trichlorobenzene	1.5	2.6	1.5	0.62	**U**
91-20-3	Naphthalene	1.5	2.5	1.5	0.62	**U**
1330-20-7	Xylenes, Total	1.6	5.3	1.6	0.67	**U**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV028-450-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-004

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/28/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.025 Liter(s)
Test Notes:
Container ID: 1SC01113

Initial Pressure (psig): -3.09 Final Pressure (psig): 5.57

Container Dilution Factor: 1.75

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**270**	37	22	9.1	
75-71-8	Dichlorodifluoromethane (CFC 12)	22	37	22	6.1	**U**
74-87-3	Chloromethane	**8.4**	37	22	6.0	**J**
75-01-4	Vinyl Chloride	12	38	12	4.0	**U**
106-99-0	1,3-Butadiene	22	37	22	6.2	**U**
75-00-3	Chloroethane	22	38	22	4.6	**U**
64-17-5	Ethanol	58	360	58	26	**U**
67-64-1	Acetone	190	370	190	84	**U**
75-69-4	Trichlorofluoromethane	22	37	22	5.7	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	**200**	150	44	15	
75-09-2	Methylene Chloride	22	37	22	11	**U**
76-13-1	Trichlorotrifluoroethane	12	38	12	5.3	**U**
75-15-0	Carbon Disulfide	38	77	38	11	**U**
75-34-3	1,1-Dichloroethane	23	39	23	5.5	**U**
78-93-3	2-Butanone (MEK)	**52**	77	22	7.7	**J**
141-78-6	Ethyl Acetate	46	77	46	20	**U**
110-54-3	n-Hexane	**860**	38	22	7.7	
67-66-3	Chloroform	12	38	12	5.0	**U**
109-99-9	Tetrahydrofuran (THF)	12	39	12	4.7	**U**
107-06-2	1,2-Dichloroethane	12	38	12	4.1	**U**
71-43-2	Benzene	**35**	37	12	5.4	**J**
56-23-5	Carbon Tetrachloride	12	37	12	5.2	**U**

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV028-450-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-004

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/28/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.025 Liter(s)
Test Notes:
Container ID: 1SC01113

Initial Pressure (psig): -3.09 Final Pressure (psig): 5.57

Container Dilution Factor: 1.75

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**7,600**	77	24	11	
75-27-4	Bromodichloromethane	12	38	12	5.4	**U**
79-01-6	Trichloroethene	12	38	12	5.0	**U**
123-91-1	1,4-Dioxane	12	38	12	4.4	**U**
142-82-5	n-Heptane	**60**	38	22	6.0	
108-10-1	4-Methyl-2-pentanone	12	37	12	5.1	**U**
108-88-3	Toluene	12	38	12	4.6	**U**
591-78-6	2-Hexanone	12	38	12	4.6	**U**
124-48-1	Dibromochloromethane	12	38	12	4.9	**U**
106-93-4	1,2-Dibromoethane	12	38	12	4.3	**U**
127-18-4	Tetrachloroethene	12	36	12	4.8	**U**
100-41-4	Ethylbenzene	12	38	12	5.3	**U**
179601-23-1	m,p-Xylenes	**16**	77	24	9.8	**J**
75-25-2	Bromoform	22	38	22	7.7	**U**
100-42-5	Styrene	22	37	22	6.0	**U**
95-47-6	o-Xylene	**73**	38	12	5.4	
108-67-8	1,3,5-Trimethylbenzene	**89**	37	12	5.4	
95-63-6	1,2,4-Trimethylbenzene	12	38	12	5.2	**U**
120-82-1	1,2,4-Trichlorobenzene	22	38	22	9.1	**U**
91-20-3	Naphthalene	22	36	22	9.1	**U**
1330-20-7	Xylenes, Total	**89**	77	24	9.8	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV111-025-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-005

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/28/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00774

Initial Pressure (psig): -4.52 Final Pressure (psig): 5.95

Container Dilution Factor: 2.03

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	1.6	2.7	1.6	0.66	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**45**	2.7	1.6	0.44	
74-87-3	Chloromethane	1.6	2.7	1.6	0.44	**U**
75-01-4	Vinyl Chloride	0.86	2.7	0.86	0.29	**U**
106-99-0	1,3-Butadiene	1.6	2.7	1.6	0.45	**U**
75-00-3	Chloroethane	1.6	2.7	1.6	0.33	**U**
64-17-5	Ethanol	**7.0**	26	4.2	1.9	**J**
67-64-1	Acetone	**21**	27	14	6.1	**J**
75-69-4	Trichlorofluoromethane	**5.0**	2.7	1.6	0.41	
67-63-0	2-Propanol (Isopropyl Alcohol)	3.2	11	3.2	1.1	**U**
75-09-2	Methylene Chloride	1.6	2.7	1.6	0.76	**U**
76-13-1	Trichlorotrifluoroethane	**84**	2.7	0.86	0.39	
75-15-0	Carbon Disulfide	**7.0**	5.6	2.7	0.81	
75-34-3	1,1-Dichloroethane	1.7	2.8	1.7	0.40	**U**
78-93-3	2-Butanone (MEK)	**1.9**	5.6	1.6	0.56	**J**
141-78-6	Ethyl Acetate	**26**	5.6	3.3	1.4	
110-54-3	n-Hexane	**2.7**	2.7	1.6	0.56	**J**
67-66-3	Chloroform	0.86	2.7	0.86	0.36	**U**
109-99-9	Tetrahydrofuran (THF)	0.86	2.8	0.86	0.34	**U**
107-06-2	1,2-Dichloroethane	0.86	2.7	0.86	0.30	**U**
71-43-2	Benzene	**0.74**	2.7	0.86	0.39	**J**
56-23-5	Carbon Tetrachloride	**68**	2.7	0.86	0.38	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV111-025-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-005

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/28/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00774

Initial Pressure (psig): -4.52 Final Pressure (psig): 5.95

Container Dilution Factor: 2.03

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**5.4**	5.6	1.7	0.76	**J**
75-27-4	Bromodichloromethane	0.86	2.7	0.86	0.39	**U**
79-01-6	Trichloroethene	0.86	2.7	0.86	0.37	**U**
123-91-1	1,4-Dioxane	0.86	2.7	0.86	0.32	**U**
142-82-5	n-Heptane	**7.8**	2.7	1.6	0.43	
108-10-1	4-Methyl-2-pentanone	**0.93**	2.7	0.86	0.37	**J**
108-88-3	Toluene	**11**	2.7	0.86	0.33	
591-78-6	2-Hexanone	0.86	2.7	0.86	0.33	**U**
124-48-1	Dibromochloromethane	0.86	2.7	0.86	0.36	**U**
106-93-4	1,2-Dibromoethane	0.86	2.7	0.86	0.31	**U**
127-18-4	Tetrachloroethene	**5.8**	2.6	0.86	0.35	
100-41-4	Ethylbenzene	**4.0**	2.7	0.86	0.38	
179601-23-1	m,p-Xylenes	**44**	5.6	1.7	0.71	
75-25-2	Bromoform	1.6	2.7	1.6	0.56	**U**
100-42-5	Styrene	1.6	2.7	1.6	0.44	**U**
95-47-6	o-Xylene	**17**	2.7	0.86	0.39	
108-67-8	1,3,5-Trimethylbenzene	**5.8**	2.7	0.86	0.39	
95-63-6	1,2,4-Trimethylbenzene	**20**	2.7	0.86	0.38	
120-82-1	1,2,4-Trichlorobenzene	1.6	2.7	1.6	0.66	**U**
91-20-3	Naphthalene	**1.6**	2.6	1.6	0.66	**J**
1330-20-7	Xylenes, Total	**61**	5.6	1.7	0.71	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV111-050-602** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-006

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/28/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.25 Liter(s)
Test Notes:
Container ID: 1SC00780

Initial Pressure (psig): -3.90 Final Pressure (psig): 5.26

Container Dilution Factor: 1.85

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**4.1**	3.9	2.4	0.96	
75-71-8	Dichlorodifluoromethane (CFC 12)	**60**	3.9	2.4	0.64	
74-87-3	Chloromethane	**0.87**	3.9	2.4	0.64	**J**
75-01-4	Vinyl Chloride	1.3	4.0	1.3	0.42	**U**
106-99-0	1,3-Butadiene	2.4	3.9	2.4	0.65	**U**
75-00-3	Chloroethane	2.4	4.0	2.4	0.49	**U**
64-17-5	Ethanol	**8.0**	38	6.1	2.7	**J**
67-64-1	Acetone	**37**	39	20	8.9	**J**
75-69-4	Trichlorofluoromethane	**6.2**	3.9	2.4	0.60	
67-63-0	2-Propanol (Isopropyl Alcohol)	**3.0**	16	4.7	1.6	**J**
75-09-2	Methylene Chloride	2.4	3.9	2.4	1.1	**U**
76-13-1	Trichlorotrifluoroethane	**140**	4.0	1.3	0.56	
75-15-0	Carbon Disulfide	**6.8**	8.1	4.0	1.2	**J**
75-34-3	1,1-Dichloroethane	2.4	4.1	2.4	0.58	**U**
78-93-3	2-Butanone (MEK)	**6.9**	8.1	2.4	0.81	**J**
141-78-6	Ethyl Acetate	**2.1**	8.1	4.8	2.1	**J**
110-54-3	n-Hexane	**13**	4.0	2.4	0.81	
67-66-3	Chloroform	1.3	4.0	1.3	0.53	**U**
109-99-9	Tetrahydrofuran (THF)	**3.3**	4.1	1.3	0.50	**J**
107-06-2	1,2-Dichloroethane	1.3	4.0	1.3	0.44	**U**
71-43-2	Benzene	**3.1**	3.9	1.3	0.57	**J**
56-23-5	Carbon Tetrachloride	**93**	3.9	1.3	0.55	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV111-050-602** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-006

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/28/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.25 Liter(s)
Test Notes:
Container ID: 1SC00780

Initial Pressure (psig): -3.90 Final Pressure (psig): 5.26

Container Dilution Factor: 1.85

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**22**	8.1	2.5	1.1	
75-27-4	Bromodichloromethane	1.3	4.0	1.3	0.57	**U**
79-01-6	Trichloroethene	1.3	4.0	1.3	0.53	**U**
123-91-1	1,4-Dioxane	1.3	4.0	1.3	0.47	**U**
142-82-5	n-Heptane	**36**	4.0	2.4	0.63	
108-10-1	4-Methyl-2-pentanone	**1.6**	3.9	1.3	0.54	**J**
108-88-3	Toluene	**34**	4.0	1.3	0.48	
591-78-6	2-Hexanone	1.3	4.0	1.3	0.49	**U**
124-48-1	Dibromochloromethane	1.3	4.0	1.3	0.52	**U**
106-93-4	1,2-Dibromoethane	**0.78**	4.0	1.3	0.46	**J**
127-18-4	Tetrachloroethene	**8.2**	3.8	1.3	0.51	
100-41-4	Ethylbenzene	**14**	4.0	1.3	0.56	
179601-23-1	m,p-Xylenes	**150**	8.1	2.5	1.0	
75-25-2	Bromoform	2.4	4.0	2.4	0.81	**U**
100-42-5	Styrene	2.4	3.9	2.4	0.64	**U**
95-47-6	o-Xylene	**56**	4.0	1.3	0.57	
108-67-8	1,3,5-Trimethylbenzene	**33**	3.9	1.3	0.57	
95-63-6	1,2,4-Trimethylbenzene	**120**	4.0	1.3	0.55	
120-82-1	1,2,4-Trichlorobenzene	2.4	4.0	2.4	0.96	**U**
91-20-3	Naphthalene	**14**	3.8	2.3	0.96	
1330-20-7	Xylenes, Total	**200**	8.1	2.5	1.0	

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV111-050-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-007

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01013

Initial Pressure (psig): -3.13 Final Pressure (psig): 5.83

Container Dilution Factor: 1.77

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**2.1**	2.3	1.4	0.58	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**60**	2.3	1.4	0.38	
74-87-3	Chloromethane	**0.81**	2.3	1.4	0.38	**J**
75-01-4	Vinyl Chloride	0.75	2.4	0.75	0.25	**U**
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.39	**U**
75-00-3	Chloroethane	1.4	2.4	1.4	0.29	**U**
64-17-5	Ethanol	**2.0**	23	3.7	1.6	**J**
67-64-1	Acetone	**46**	23	12	5.3	
75-69-4	Trichlorofluoromethane	**6.3**	2.3	1.4	0.36	
67-63-0	2-Propanol (Isopropyl Alcohol)	2.8	9.3	2.8	0.97	**U**
75-09-2	Methylene Chloride	1.4	2.3	1.4	0.66	**U**
76-13-1	Trichlorotrifluoroethane	**130**	2.4	0.75	0.34	
75-15-0	Carbon Disulfide	**7.6**	4.9	2.4	0.71	
75-34-3	1,1-Dichloroethane	1.5	2.4	1.5	0.35	**U**
78-93-3	2-Butanone (MEK)	**2.8**	4.9	1.4	0.49	**J**
141-78-6	Ethyl Acetate	2.9	4.9	2.9	1.2	**U**
110-54-3	n-Hexane	**2.2**	2.4	1.4	0.49	**J**
67-66-3	Chloroform	0.75	2.4	0.75	0.31	**U**
109-99-9	Tetrahydrofuran (THF)	**1.2**	2.4	0.75	0.30	**J**
107-06-2	1,2-Dichloroethane	0.75	2.4	0.75	0.26	**U**
71-43-2	Benzene	**1.5**	2.3	0.75	0.34	**J**
56-23-5	Carbon Tetrachloride	**92**	2.3	0.75	0.33	

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV111-050-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-007

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01013

Initial Pressure (psig): -3.13 Final Pressure (psig): 5.83

Container Dilution Factor: 1.77

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**6.7**	4.9	1.5	0.66	
75-27-4	Bromodichloromethane	0.75	2.4	0.75	0.34	**U**
79-01-6	Trichloroethene	0.75	2.4	0.75	0.32	**U**
123-91-1	1,4-Dioxane	**0.67**	2.4	0.75	0.28	**J**
142-82-5	n-Heptane	**3.7**	2.4	1.4	0.38	
108-10-1	4-Methyl-2-pentanone	0.75	2.3	0.75	0.32	**U**
108-88-3	Toluene	**4.2**	2.4	0.75	0.29	
591-78-6	2-Hexanone	0.75	2.4	0.75	0.29	**U**
124-48-1	Dibromochloromethane	0.75	2.4	0.75	0.31	**U**
106-93-4	1,2-Dibromoethane	0.75	2.4	0.75	0.27	**U**
127-18-4	Tetrachloroethene	**8.0**	2.3	0.75	0.31	
100-41-4	Ethylbenzene	**1.5**	2.4	0.75	0.33	**J**
179601-23-1	m,p-Xylenes	**15**	4.9	1.5	0.62	
75-25-2	Bromoform	1.4	2.4	1.4	0.49	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.38	**U**
95-47-6	o-Xylene	**6.0**	2.4	0.75	0.34	
108-67-8	1,3,5-Trimethylbenzene	**3.5**	2.3	0.75	0.34	
95-63-6	1,2,4-Trimethylbenzene	**12**	2.4	0.75	0.33	
120-82-1	1,2,4-Trichlorobenzene	1.4	2.4	1.4	0.58	**U**
91-20-3	Naphthalene	**1.7**	2.3	1.4	0.58	**J**
1330-20-7	Xylenes, Total	**21**	4.9	1.5	0.62	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV111-150-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-008

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/28/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0010 Liter(s)
Test Notes:
Container ID: 1SC00711

Initial Pressure (psig): -3.78 Final Pressure (psig): 5.47

Container Dilution Factor: 1.85

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**370**	980	590	240	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	590	980	590	160	**U**
74-87-3	Chloromethane	590	980	590	160	**U**
75-01-4	Vinyl Chloride	310	1,000	310	110	**U**
106-99-0	1,3-Butadiene	590	980	590	160	**U**
75-00-3	Chloroethane	590	1,000	590	120	**U**
64-17-5	Ethanol	1,500	9,600	1,500	680	**U**
67-64-1	Acetone	5,000	9,800	5,000	2,200	**U**
75-69-4	Trichlorofluoromethane	590	980	590	150	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	1,200	3,900	1,200	410	**U**
75-09-2	Methylene Chloride	**1,000**	980	590	280	
76-13-1	Trichlorotrifluoroethane	**2,900**	1,000	310	140	
75-15-0	Carbon Disulfide	1,000	2,000	1,000	300	**U**
75-34-3	1,1-Dichloroethane	610	1,000	610	140	**U**
78-93-3	2-Butanone (MEK)	590	2,000	590	200	**U**
141-78-6	Ethyl Acetate	1,200	2,000	1,200	520	**U**
110-54-3	n-Hexane	**8,500**	1,000	590	200	
67-66-3	Chloroform	310	1,000	310	130	**U**
109-99-9	Tetrahydrofuran (THF)	310	1,000	310	120	**U**
107-06-2	1,2-Dichloroethane	310	1,000	310	110	**U**
71-43-2	Benzene	**180**	980	310	140	**J**
56-23-5	Carbon Tetrachloride	310	980	310	140	**U**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV111-150-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-008

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/28/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0010 Liter(s)
Test Notes:
Container ID: 1SC00711

Initial Pressure (psig): -3.78 Final Pressure (psig): 5.47

Container Dilution Factor: 1.85

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**16,000**	2,000	630	280	
75-27-4	Bromodichloromethane	310	1,000	310	140	**U**
79-01-6	Trichloroethene	**190**	1,000	310	130	**J**
123-91-1	1,4-Dioxane	**1,700**	1,000	310	120	
142-82-5	n-Heptane	**1,100**	1,000	590	160	
108-10-1	4-Methyl-2-pentanone	310	980	310	140	**U**
108-88-3	Toluene	310	1,000	310	120	**U**
591-78-6	2-Hexanone	310	1,000	310	120	**U**
124-48-1	Dibromochloromethane	310	1,000	310	130	**U**
106-93-4	1,2-Dibromoethane	310	1,000	310	110	**U**
127-18-4	Tetrachloroethene	**750**	960	310	130	**J**
100-41-4	Ethylbenzene	310	1,000	310	140	**U**
179601-23-1	m,p-Xylenes	630	2,000	630	260	**U**
75-25-2	Bromoform	590	1,000	590	200	**U**
100-42-5	Styrene	590	980	590	160	**U**
95-47-6	o-Xylene	310	1,000	310	140	**U**
108-67-8	1,3,5-Trimethylbenzene	310	980	310	140	**U**
95-63-6	1,2,4-Trimethylbenzene	310	1,000	310	140	**U**
120-82-1	1,2,4-Trichlorobenzene	590	1,000	590	240	**U**
91-20-3	Naphthalene	570	960	570	240	**U**
1330-20-7	Xylenes, Total	630	2,000	630	260	**U**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV111-250-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-009

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/28/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00030 Liter(s)
Test Notes:
Container ID: 1SS00583

Initial Pressure (psig): -4.87 Final Pressure (psig): 5.94

Container Dilution Factor: 2.10

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**7,100**	3,700	2,200	910	
75-71-8	Dichlorodifluoromethane (CFC 12)	2,200	3,700	2,200	610	**U**
74-87-3	Chloromethane	2,200	3,700	2,200	600	**U**
75-01-4	Vinyl Chloride	1,200	3,800	1,200	400	**U**
106-99-0	1,3-Butadiene	2,200	3,700	2,200	620	**U**
75-00-3	Chloroethane	2,200	3,800	2,200	460	**U**
64-17-5	Ethanol	5,800	36,000	5,800	2,600	**U**
67-64-1	Acetone	19,000	37,000	19,000	8,400	**U**
75-69-4	Trichlorofluoromethane	2,200	3,700	2,200	570	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	4,400	15,000	4,400	1,500	**U**
75-09-2	Methylene Chloride	**3,800**	3,700	2,200	1,100	
76-13-1	Trichlorotrifluoroethane	**11,000**	3,800	1,200	530	
75-15-0	Carbon Disulfide	3,800	7,700	3,800	1,100	**U**
75-34-3	1,1-Dichloroethane	2,300	3,900	2,300	550	**U**
78-93-3	2-Butanone (MEK)	2,200	7,700	2,200	770	**U**
141-78-6	Ethyl Acetate	4,600	7,700	4,600	2,000	**U**
110-54-3	n-Hexane	**730,000**	3,800	2,200	770	
67-66-3	Chloroform	1,200	3,800	1,200	500	**U**
109-99-9	Tetrahydrofuran (THF)	1,200	3,900	1,200	470	**U**
107-06-2	1,2-Dichloroethane	1,200	3,800	1,200	410	**U**
71-43-2	Benzene	**170,000**	3,700	1,200	540	
56-23-5	Carbon Tetrachloride	1,200	3,700	1,200	520	**U**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV111-250-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-009

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/28/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00030 Liter(s)
Test Notes:
Container ID: 1SS00583

Initial Pressure (psig): -4.87 Final Pressure (psig): 5.94

Container Dilution Factor: 2.10

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**700,000**	7,700	2,400	1,100	
75-27-4	Bromodichloromethane	1,200	3,800	1,200	540	**U**
79-01-6	Trichloroethene	**590**	3,800	1,200	500	**J**
123-91-1	1,4-Dioxane	1,200	3,800	1,200	440	**U**
142-82-5	n-Heptane	**390,000**	3,800	2,200	600	
108-10-1	4-Methyl-2-pentanone	1,200	3,700	1,200	510	**U**
108-88-3	Toluene	**41,000**	3,800	1,200	460	
591-78-6	2-Hexanone	1,200	3,800	1,200	460	**U**
124-48-1	Dibromochloromethane	1,200	3,800	1,200	490	**U**
106-93-4	1,2-Dibromoethane	1,200	3,800	1,200	430	**U**
127-18-4	Tetrachloroethene	**2,700**	3,600	1,200	480	**J**
100-41-4	Ethylbenzene	**3,900**	3,800	1,200	530	
179601-23-1	m,p-Xylenes	**13,000**	7,700	2,400	980	
75-25-2	Bromoform	2,200	3,800	2,200	770	**U**
100-42-5	Styrene	2,200	3,700	2,200	600	**U**
95-47-6	o-Xylene	**16,000**	3,800	1,200	540	
108-67-8	1,3,5-Trimethylbenzene	**3,100**	3,700	1,200	540	**J**
95-63-6	1,2,4-Trimethylbenzene	**1,400**	3,800	1,200	520	**J**
120-82-1	1,2,4-Trichlorobenzene	2,200	3,800	2,200	910	**U**
91-20-3	Naphthalene	2,200	3,600	2,200	910	**U**
1330-20-7	Xylenes, Total	**28,000**	7,700	2,400	980	

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV111-350-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-010

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/28/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00060 Liter(s)
Test Notes:
Container ID: 1SS00155

Initial Pressure (psig): -3.17 Final Pressure (psig): 5.82

Container Dilution Factor: 1.78

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**6,400**	1,600	950	390	
75-71-8	Dichlorodifluoromethane (CFC 12)	**510**	1,600	950	260	**J**
74-87-3	Chloromethane	950	1,600	950	260	**U**
75-01-4	Vinyl Chloride	500	1,600	500	170	**U**
106-99-0	1,3-Butadiene	950	1,600	950	260	**U**
75-00-3	Chloroethane	950	1,600	950	200	**U**
64-17-5	Ethanol	2,500	15,000	2,500	1,100	**U**
67-64-1	Acetone	8,000	16,000	8,000	3,600	**U**
75-69-4	Trichlorofluoromethane	950	1,600	950	240	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	1,900	6,200	1,900	650	**U**
75-09-2	Methylene Chloride	**1,600**	1,600	950	450	
76-13-1	Trichlorotrifluoroethane	**4,800**	1,600	500	230	
75-15-0	Carbon Disulfide	1,600	3,300	1,600	470	**U**
75-34-3	1,1-Dichloroethane	980	1,600	980	230	**U**
78-93-3	2-Butanone (MEK)	950	3,300	950	330	**U**
141-78-6	Ethyl Acetate	1,900	3,300	1,900	830	**U**
110-54-3	n-Hexane	**170,000**	1,600	950	330	
67-66-3	Chloroform	500	1,600	500	210	**U**
109-99-9	Tetrahydrofuran (THF)	500	1,600	500	200	**U**
107-06-2	1,2-Dichloroethane	500	1,600	500	180	**U**
71-43-2	Benzene	**20,000**	1,600	500	230	
56-23-5	Carbon Tetrachloride	500	1,600	500	220	**U**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV111-350-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-010

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/28/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00060 Liter(s)
Test Notes:
Container ID: 1SS00155

Initial Pressure (psig): -3.17 Final Pressure (psig): 5.82

Container Dilution Factor: 1.78

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**250,000**	3,300	1,000	450	
75-27-4	Bromodichloromethane	500	1,600	500	230	**U**
79-01-6	Trichloroethene	**320**	1,600	500	210	**J**
123-91-1	1,4-Dioxane	500	1,600	500	190	**U**
142-82-5	n-Heptane	**66,000**	1,600	950	250	
108-10-1	4-Methyl-2-pentanone	500	1,600	500	220	**U**
108-88-3	Toluene	500	1,600	500	190	**U**
591-78-6	2-Hexanone	500	1,600	500	200	**U**
124-48-1	Dibromochloromethane	500	1,600	500	210	**U**
106-93-4	1,2-Dibromoethane	500	1,600	500	180	**U**
127-18-4	Tetrachloroethene	**1,200**	1,500	500	200	**J**
100-41-4	Ethylbenzene	**270**	1,600	500	220	**J**
179601-23-1	m,p-Xylenes	**1,200**	3,300	1,000	420	**J**
75-25-2	Bromoform	950	1,600	950	330	**U**
100-42-5	Styrene	950	1,600	950	260	**U**
95-47-6	o-Xylene	**2,300**	1,600	500	230	
108-67-8	1,3,5-Trimethylbenzene	**550**	1,600	500	230	**J**
95-63-6	1,2,4-Trimethylbenzene	500	1,600	500	220	**U**
120-82-1	1,2,4-Trichlorobenzene	950	1,600	950	390	**U**
91-20-3	Naphthalene	920	1,500	920	390	**U**
1330-20-7	Xylenes, Total	**3,500**	3,300	1,000	420	

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV111-450-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-011

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.060 Liter(s)
Test Notes:
Container ID: 1SC01172

Initial Pressure (psig): -2.71 Final Pressure (psig): 5.51

Container Dilution Factor: 1.69

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**40**	15	9.0	3.7	
75-71-8	Dichlorodifluoromethane (CFC 12)	**190**	15	9.0	2.5	
74-87-3	Chloromethane	**45**	15	9.0	2.4	
75-01-4	Vinyl Chloride	**8.7**	15	4.8	1.6	**J**
106-99-0	1,3-Butadiene	9.0	15	9.0	2.5	**U**
75-00-3	Chloroethane	9.0	15	9.0	1.9	**U**
64-17-5	Ethanol	**62**	150	23	10	**J**
67-64-1	Acetone	76	150	76	34	**U**
75-69-4	Trichlorofluoromethane	**17**	15	9.0	2.3	
67-63-0	2-Propanol (Isopropyl Alcohol)	18	59	18	6.2	**U**
75-09-2	Methylene Chloride	9.0	15	9.0	4.2	**U**
76-13-1	Trichlorotrifluoroethane	**120**	15	4.8	2.1	
75-15-0	Carbon Disulfide	**180**	31	15	4.5	
75-34-3	1,1-Dichloroethane	**6.0**	15	9.3	2.2	**J**
78-93-3	2-Butanone (MEK)	**31**	31	9.0	3.1	**J**
141-78-6	Ethyl Acetate	18	31	18	7.9	**U**
110-54-3	n-Hexane	**810**	15	9.0	3.1	
67-66-3	Chloroform	**2.4**	15	4.8	2.0	**J**
109-99-9	Tetrahydrofuran (THF)	**50**	15	4.8	1.9	
107-06-2	1,2-Dichloroethane	4.8	15	4.8	1.7	**U**
71-43-2	Benzene	**1,100**	15	4.8	2.2	
56-23-5	Carbon Tetrachloride	**11**	15	4.8	2.1	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV111-450-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-011

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.060 Liter(s)
Test Notes:
Container ID: 1SC01172

Initial Pressure (psig): -2.71 Final Pressure (psig): 5.51

Container Dilution Factor: 1.69

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**1,100**	31	9.6	4.2	
75-27-4	Bromodichloromethane	4.8	15	4.8	2.2	**U**
79-01-6	Trichloroethene	4.8	15	4.8	2.0	**U**
123-91-1	1,4-Dioxane	4.8	15	4.8	1.8	**U**
142-82-5	n-Heptane	**920**	15	9.0	2.4	
108-10-1	4-Methyl-2-pentanone	**13**	15	4.8	2.1	**J**
108-88-3	Toluene	**2,700**	15	4.8	1.8	
591-78-6	2-Hexanone	4.8	15	4.8	1.9	**U**
124-48-1	Dibromochloromethane	4.8	15	4.8	2.0	**U**
106-93-4	1,2-Dibromoethane	4.8	15	4.8	1.7	**U**
127-18-4	Tetrachloroethene	**2.5**	15	4.8	1.9	**J**
100-41-4	Ethylbenzene	**89**	15	4.8	2.1	
179601-23-1	m,p-Xylenes	**250**	31	9.6	3.9	
75-25-2	Bromoform	9.0	15	9.0	3.1	**U**
100-42-5	Styrene	9.0	15	9.0	2.4	**U**
95-47-6	o-Xylene	**73**	15	4.8	2.2	
108-67-8	1,3,5-Trimethylbenzene	**8.4**	15	4.8	2.2	**J**
95-63-6	1,2,4-Trimethylbenzene	**14**	15	4.8	2.1	**J**
120-82-1	1,2,4-Trichlorobenzene	9.0	15	9.0	3.7	**U**
91-20-3	Naphthalene	8.7	15	8.7	3.7	**U**
1330-20-7	Xylenes, Total	**330**	31	9.6	3.9	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV117-025-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-012

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01211

Initial Pressure (psig): -3.79 Final Pressure (psig): 5.36

Container Dilution Factor: 1.84

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**2.2**	2.4	1.5	0.60	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**89**	2.4	1.5	0.40	
74-87-3	Chloromethane	1.5	2.4	1.5	0.40	**U**
75-01-4	Vinyl Chloride	0.78	2.5	0.78	0.26	**U**
106-99-0	1,3-Butadiene	1.5	2.4	1.5	0.40	**U**
75-00-3	Chloroethane	1.5	2.5	1.5	0.30	**U**
64-17-5	Ethanol	**4.3**	24	3.8	1.7	**J**
67-64-1	Acetone	**18**	24	12	5.5	**J**
75-69-4	Trichlorofluoromethane	**12**	2.4	1.5	0.37	
67-63-0	2-Propanol (Isopropyl Alcohol)	2.9	9.7	2.9	1.0	**U**
75-09-2	Methylene Chloride	1.5	2.4	1.5	0.69	**U**
76-13-1	Trichlorotrifluoroethane	**75**	2.5	0.78	0.35	
75-15-0	Carbon Disulfide	2.5	5.1	2.5	0.74	**U**
75-34-3	1,1-Dichloroethane	1.5	2.5	1.5	0.36	**U**
78-93-3	2-Butanone (MEK)	**3.9**	5.1	1.5	0.51	**J**
141-78-6	Ethyl Acetate	3.0	5.1	3.0	1.3	**U**
110-54-3	n-Hexane	**0.57**	2.5	1.5	0.51	**J**
67-66-3	Chloroform	**0.45**	2.5	0.78	0.33	**J**
109-99-9	Tetrahydrofuran (THF)	**1.3**	2.5	0.78	0.31	**J**
107-06-2	1,2-Dichloroethane	0.78	2.5	0.78	0.27	**U**
71-43-2	Benzene	**1.8**	2.4	0.78	0.35	**J**
56-23-5	Carbon Tetrachloride	**22**	2.4	0.78	0.34	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV117-025-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-012

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01211

Initial Pressure (psig): -3.79 Final Pressure (psig): 5.36

Container Dilution Factor: 1.84

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**1.4**	5.1	1.6	0.69	**J**
75-27-4	Bromodichloromethane	0.78	2.5	0.78	0.35	**U**
79-01-6	Trichloroethene	0.78	2.5	0.78	0.33	**U**
123-91-1	1,4-Dioxane	**1.4**	2.5	0.78	0.29	**J**
142-82-5	n-Heptane	**1.6**	2.5	1.5	0.39	**J**
108-10-1	4-Methyl-2-pentanone	0.78	2.4	0.78	0.34	**U**
108-88-3	Toluene	**28**	2.5	0.78	0.30	
591-78-6	2-Hexanone	0.78	2.5	0.78	0.30	**U**
124-48-1	Dibromochloromethane	0.78	2.5	0.78	0.32	**U**
106-93-4	1,2-Dibromoethane	0.78	2.5	0.78	0.29	**U**
127-18-4	Tetrachloroethene	**1.5**	2.4	0.78	0.32	**J**
100-41-4	Ethylbenzene	**4.2**	2.5	0.78	0.35	
179601-23-1	m,p-Xylenes	**22**	5.1	1.6	0.64	
75-25-2	Bromoform	1.5	2.5	1.5	0.51	**U**
100-42-5	Styrene	1.5	2.4	1.5	0.40	**U**
95-47-6	o-Xylene	**11**	2.5	0.78	0.35	
108-67-8	1,3,5-Trimethylbenzene	**5.7**	2.4	0.78	0.35	
95-63-6	1,2,4-Trimethylbenzene	**19**	2.5	0.78	0.34	
120-82-1	1,2,4-Trichlorobenzene	1.5	2.5	1.5	0.60	**U**
91-20-3	Naphthalene	**11**	2.4	1.4	0.60	
1330-20-7	Xylenes, Total	**33**	5.1	1.6	0.64	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV117-050-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-013

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00863

Initial Pressure (psig): 0.14 Final Pressure (psig): 5.35

Container Dilution Factor: 1.35

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**39**	1.8	1.1	0.44	
75-71-8	Dichlorodifluoromethane (CFC 12)	**72**	1.8	1.1	0.29	
74-87-3	Chloromethane	**0.86**	1.8	1.1	0.29	**J**
75-01-4	Vinyl Chloride	0.57	1.8	0.57	0.19	**U**
106-99-0	1,3-Butadiene	1.1	1.8	1.1	0.30	**U**
75-00-3	Chloroethane	1.1	1.8	1.1	0.22	**U**
64-17-5	Ethanol	**330**	18	2.8	1.2	
67-64-1	Acetone	**110**	18	9.1	4.1	
75-69-4	Trichlorofluoromethane	**10**	1.8	1.1	0.27	
67-63-0	2-Propanol (Isopropyl Alcohol)	**89**	7.1	2.1	0.74	
75-09-2	Methylene Chloride	**14**	1.8	1.1	0.51	
76-13-1	Trichlorotrifluoroethane	**74**	1.8	0.57	0.26	
75-15-0	Carbon Disulfide	**3.4**	3.7	1.8	0.54	**J**
75-34-3	1,1-Dichloroethane	1.1	1.9	1.1	0.26	**U**
78-93-3	2-Butanone (MEK)	**53**	3.7	1.1	0.37	
141-78-6	Ethyl Acetate	**280**	3.7	2.2	0.95	
110-54-3	n-Hexane	**5.7**	1.8	1.1	0.37	
67-66-3	Chloroform	**0.70**	1.8	0.57	0.24	**J**
109-99-9	Tetrahydrofuran (THF)	**48**	1.9	0.57	0.23	
107-06-2	1,2-Dichloroethane	0.57	1.8	0.57	0.20	**U**
71-43-2	Benzene	**2.8**	1.8	0.57	0.26	
56-23-5	Carbon Tetrachloride	**22**	1.8	0.57	0.25	

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV117-050-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-013

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00863

Initial Pressure (psig): 0.14 Final Pressure (psig): 5.35

Container Dilution Factor: 1.35

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**9.5**	3.7	1.1	0.51	
75-27-4	Bromodichloromethane	0.57	1.8	0.57	0.26	**U**
79-01-6	Trichloroethene	**0.35**	1.8	0.57	0.24	**J**
123-91-1	1,4-Dioxane	0.57	1.8	0.57	0.21	**U**
142-82-5	n-Heptane	**34**	1.8	1.1	0.29	
108-10-1	4-Methyl-2-pentanone	**10**	1.8	0.57	0.25	
108-88-3	Toluene	**68**	1.8	0.57	0.22	
591-78-6	2-Hexanone	0.57	1.8	0.57	0.22	**U**
124-48-1	Dibromochloromethane	0.57	1.8	0.57	0.24	**U**
106-93-4	1,2-Dibromoethane	0.57	1.8	0.57	0.21	**U**
127-18-4	Tetrachloroethene	**2.3**	1.8	0.57	0.23	
100-41-4	Ethylbenzene	**5.1**	1.8	0.57	0.25	
179601-23-1	m,p-Xylenes	**18**	3.7	1.1	0.47	
75-25-2	Bromoform	1.1	1.8	1.1	0.37	**U**
100-42-5	Styrene	**2.5**	1.8	1.1	0.29	
95-47-6	o-Xylene	**7.4**	1.8	0.57	0.26	
108-67-8	1,3,5-Trimethylbenzene	**5.8**	1.8	0.57	0.26	
95-63-6	1,2,4-Trimethylbenzene	**27**	1.8	0.57	0.25	
120-82-1	1,2,4-Trichlorobenzene	1.1	1.8	1.1	0.44	**U**
91-20-3	Naphthalene	**9.8**	1.8	1.0	0.44	
1330-20-7	Xylenes, Total	**25**	3.7	1.1	0.47	

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV117-150-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-014

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00485

Initial Pressure (psig): -2.98 Final Pressure (psig): 6.05

Container Dilution Factor: 1.77

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**7.1**	2.3	1.4	0.58	
75-71-8	Dichlorodifluoromethane (CFC 12)	**130**	2.3	1.4	0.38	
74-87-3	Chloromethane	**0.53**	2.3	1.4	0.38	**J**
75-01-4	Vinyl Chloride	0.75	2.4	0.75	0.25	**U**
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.39	**U**
75-00-3	Chloroethane	1.4	2.4	1.4	0.29	**U**
64-17-5	Ethanol	**25**	23	3.7	1.6	
67-64-1	Acetone	**31**	23	12	5.3	
75-69-4	Trichlorofluoromethane	**17**	2.3	1.4	0.36	
67-63-0	2-Propanol (Isopropyl Alcohol)	**3.0**	9.3	2.8	0.97	**J**
75-09-2	Methylene Chloride	1.4	2.3	1.4	0.66	**U**
76-13-1	Trichlorotrifluoroethane	**140**	2.4	0.75	0.34	
75-15-0	Carbon Disulfide	**10**	4.9	2.4	0.71	
75-34-3	1,1-Dichloroethane	1.5	2.4	1.5	0.35	**U**
78-93-3	2-Butanone (MEK)	**7.4**	4.9	1.4	0.49	
141-78-6	Ethyl Acetate	**140**	4.9	2.9	1.2	
110-54-3	n-Hexane	**0.65**	2.4	1.4	0.49	**J**
67-66-3	Chloroform	**10**	2.4	0.75	0.31	
109-99-9	Tetrahydrofuran (THF)	**2.7**	2.4	0.75	0.30	
107-06-2	1,2-Dichloroethane	0.75	2.4	0.75	0.26	**U**
71-43-2	Benzene	**1.0**	2.3	0.75	0.34	**J**
56-23-5	Carbon Tetrachloride	**46**	2.3	0.75	0.33	

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV117-150-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-014

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00485

Initial Pressure (psig): -2.98 Final Pressure (psig): 6.05

Container Dilution Factor: 1.77

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**0.94**	4.9	1.5	0.66	**J**
75-27-4	Bromodichloromethane	0.75	2.4	0.75	0.34	**U**
79-01-6	Trichloroethene	**3.1**	2.4	0.75	0.32	
123-91-1	1,4-Dioxane	0.75	2.4	0.75	0.28	**U**
142-82-5	n-Heptane	**0.89**	2.4	1.4	0.38	**J**
108-10-1	4-Methyl-2-pentanone	0.75	2.3	0.75	0.32	**U**
108-88-3	Toluene	**6.8**	2.4	0.75	0.29	
591-78-6	2-Hexanone	**1.8**	2.4	0.75	0.29	**J**
124-48-1	Dibromochloromethane	0.75	2.4	0.75	0.31	**U**
106-93-4	1,2-Dibromoethane	0.75	2.4	0.75	0.27	**U**
127-18-4	Tetrachloroethene	**2.0**	2.3	0.75	0.31	**J**
100-41-4	Ethylbenzene	**0.73**	2.4	0.75	0.33	**J**
179601-23-1	m,p-Xylenes	**3.2**	4.9	1.5	0.62	**J**
75-25-2	Bromoform	1.4	2.4	1.4	0.49	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.38	**U**
95-47-6	o-Xylene	**1.8**	2.4	0.75	0.34	**J**
108-67-8	1,3,5-Trimethylbenzene	**2.9**	2.3	0.75	0.34	
95-63-6	1,2,4-Trimethylbenzene	**11**	2.4	0.75	0.33	
120-82-1	1,2,4-Trichlorobenzene	1.4	2.4	1.4	0.58	**U**
91-20-3	Naphthalene	**4.3**	2.3	1.4	0.58	
1330-20-7	Xylenes, Total	**5.0**	4.9	1.5	0.62	

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV117-250-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-015

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0035 Liter(s)
Test Notes:
Container ID: 1SC01238

Initial Pressure (psig): -4.88 Final Pressure (psig): 5.39

Container Dilution Factor: 2.05

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**130**	310	190	76	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**110**	310	190	51	**J**
74-87-3	Chloromethane	190	310	190	50	**U**
75-01-4	Vinyl Chloride	100	320	100	33	**U**
106-99-0	1,3-Butadiene	190	310	190	52	**U**
75-00-3	Chloroethane	190	320	190	39	**U**
64-17-5	Ethanol	490	3,000	490	220	**U**
67-64-1	Acetone	1,600	3,100	1,600	700	**U**
75-69-4	Trichlorofluoromethane	190	310	190	47	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	370	1,200	370	130	**U**
75-09-2	Methylene Chloride	**370**	310	190	88	
76-13-1	Trichlorotrifluoroethane	**1,200**	320	100	45	
75-15-0	Carbon Disulfide	320	640	320	94	**U**
75-34-3	1,1-Dichloroethane	190	320	190	46	**U**
78-93-3	2-Butanone (MEK)	190	640	190	64	**U**
141-78-6	Ethyl Acetate	380	640	380	160	**U**
110-54-3	n-Hexane	190	320	190	64	**U**
67-66-3	Chloroform	100	320	100	42	**U**
109-99-9	Tetrahydrofuran (THF)	100	320	100	39	**U**
107-06-2	1,2-Dichloroethane	100	320	100	35	**U**
71-43-2	Benzene	**46**	310	100	45	**J**
56-23-5	Carbon Tetrachloride	100	310	100	43	**U**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV117-250-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-015

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0035 Liter(s)
Test Notes:
Container ID: 1SC01238

Initial Pressure (psig): -4.88 Final Pressure (psig): 5.39

Container Dilution Factor: 2.05

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**120**	640	200	88	**J**
75-27-4	Bromodichloromethane	100	320	100	45	**U**
79-01-6	Trichloroethene	**56**	320	100	42	**J**
123-91-1	1,4-Dioxane	**630**	320	100	37	
142-82-5	n-Heptane	190	320	190	50	**U**
108-10-1	4-Methyl-2-pentanone	100	310	100	43	**U**
108-88-3	Toluene	100	320	100	38	**U**
591-78-6	2-Hexanone	100	320	100	39	**U**
124-48-1	Dibromochloromethane	100	320	100	41	**U**
106-93-4	1,2-Dibromoethane	100	320	100	36	**U**
127-18-4	Tetrachloroethene	**290**	300	100	40	**J**
100-41-4	Ethylbenzene	100	320	100	44	**U**
179601-23-1	m,p-Xylenes	**100**	640	200	82	**J**
75-25-2	Bromoform	190	320	190	64	**U**
100-42-5	Styrene	190	310	190	50	**U**
95-47-6	o-Xylene	**49**	320	100	45	**J**
108-67-8	1,3,5-Trimethylbenzene	**140**	310	100	45	**J**
95-63-6	1,2,4-Trimethylbenzene	**60**	320	100	43	**J**
120-82-1	1,2,4-Trichlorobenzene	190	320	190	76	**U**
91-20-3	Naphthalene	180	300	180	76	**U**
1330-20-7	Xylenes, Total	**150**	640	200	82	**J**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV117-350-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-016

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/29/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0030 Liter(s)
Test Notes:
Container ID: 1SS00748

Initial Pressure (psig): -4.59 Final Pressure (psig): 5.76

Container Dilution Factor: 2.02

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	220	360	220	88	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**240**	360	220	59	**J**
74-87-3	Chloromethane	220	360	220	58	**U**
75-01-4	Vinyl Chloride	110	360	110	38	**U**
106-99-0	1,3-Butadiene	220	360	220	59	**U**
75-00-3	Chloroethane	220	360	220	44	**U**
64-17-5	Ethanol	560	3,500	560	250	**U**
67-64-1	Acetone	1,800	3,600	1,800	810	**U**
75-69-4	Trichlorofluoromethane	220	360	220	55	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	420	1,400	420	150	**U**
75-09-2	Methylene Chloride	**450**	360	220	100	
76-13-1	Trichlorotrifluoroethane	**1,400**	360	110	51	
75-15-0	Carbon Disulfide	360	740	360	110	**U**
75-34-3	1,1-Dichloroethane	220	370	220	53	**U**
78-93-3	2-Butanone (MEK)	220	740	220	74	**U**
141-78-6	Ethyl Acetate	440	740	440	190	**U**
110-54-3	n-Hexane	**11,000**	360	220	74	
67-66-3	Chloroform	110	360	110	48	**U**
109-99-9	Tetrahydrofuran (THF)	110	370	110	45	**U**
107-06-2	1,2-Dichloroethane	110	360	110	40	**U**
71-43-2	Benzene	**270**	360	110	52	**J**
56-23-5	Carbon Tetrachloride	110	360	110	50	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV117-350-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-016

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/29/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0030 Liter(s)
Test Notes:
Container ID: 1SS00748

Initial Pressure (psig): -4.59 Final Pressure (psig): 5.76

Container Dilution Factor: 2.02

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**26,000**	740	230	100	
75-27-4	Bromodichloromethane	110	360	110	52	**U**
79-01-6	Trichloroethene	110	360	110	48	**U**
123-91-1	1,4-Dioxane	110	360	110	42	**U**
142-82-5	n-Heptane	**16,000**	360	220	57	
108-10-1	4-Methyl-2-pentanone	110	360	110	49	**U**
108-88-3	Toluene	110	360	110	44	**U**
591-78-6	2-Hexanone	110	360	110	44	**U**
124-48-1	Dibromochloromethane	110	360	110	47	**U**
106-93-4	1,2-Dibromoethane	110	360	110	42	**U**
127-18-4	Tetrachloroethene	110	350	110	46	**U**
100-41-4	Ethylbenzene	110	360	110	51	**U**
179601-23-1	m,p-Xylenes	**160**	740	230	94	**J**
75-25-2	Bromoform	220	360	220	74	**U**
100-42-5	Styrene	220	360	220	58	**U**
95-47-6	o-Xylene	**160**	360	110	52	**J**
108-67-8	1,3,5-Trimethylbenzene	**150**	360	110	52	**J**
95-63-6	1,2,4-Trimethylbenzene	**190**	360	110	50	**J**
120-82-1	1,2,4-Trichlorobenzene	220	360	220	88	**U**
91-20-3	Naphthalene	210	350	210	88	**U**
1330-20-7	Xylenes, Total	**330**	740	230	94	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV117-450-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-017

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/29/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00025 Liter(s)
Test Notes:
Container ID: 1SS00751

Initial Pressure (psig): -5.05 Final Pressure (psig): 5.04

Container Dilution Factor: 2.05

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**11,000**	4,300	2,600	1,100	
75-71-8	Dichlorodifluoromethane (CFC 12)	2,600	4,300	2,600	710	**U**
74-87-3	Chloromethane	2,600	4,300	2,600	710	**U**
75-01-4	Vinyl Chloride	1,400	4,400	1,400	470	**U**
106-99-0	1,3-Butadiene	2,600	4,300	2,600	720	**U**
75-00-3	Chloroethane	2,600	4,400	2,600	540	**U**
64-17-5	Ethanol	6,800	43,000	6,800	3,000	**U**
67-64-1	Acetone	22,000	43,000	22,000	9,800	**U**
75-69-4	Trichlorofluoromethane	2,600	4,300	2,600	660	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	5,200	17,000	5,200	1,800	**U**
75-09-2	Methylene Chloride	**4,300**	4,300	2,600	1,200	**J**
76-13-1	Trichlorotrifluoroethane	**12,000**	4,400	1,400	620	
75-15-0	Carbon Disulfide	4,400	9,000	4,400	1,300	**U**
75-34-3	1,1-Dichloroethane	2,700	4,500	2,700	640	**U**
78-93-3	2-Butanone (MEK)	2,600	9,000	2,600	900	**U**
141-78-6	Ethyl Acetate	5,300	9,000	5,300	2,300	**U**
110-54-3	n-Hexane	**320,000**	4,400	2,600	900	
67-66-3	Chloroform	1,400	4,400	1,400	580	**U**
109-99-9	Tetrahydrofuran (THF)	1,400	4,500	1,400	550	**U**
107-06-2	1,2-Dichloroethane	1,400	4,400	1,400	480	**U**
71-43-2	Benzene	**12,000**	4,300	1,400	630	
56-23-5	Carbon Tetrachloride	1,400	4,300	1,400	610	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV117-450-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-017

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/29/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00025 Liter(s)
Test Notes:
Container ID: 1SS00751

Initial Pressure (psig): -5.05 Final Pressure (psig): 5.04

Container Dilution Factor: 2.05

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**460,000**	9,000	2,800	1,200	
75-27-4	Bromodichloromethane	1,400	4,400	1,400	630	**U**
79-01-6	Trichloroethene	1,400	4,400	1,400	590	**U**
123-91-1	1,4-Dioxane	1,400	4,400	1,400	520	**U**
142-82-5	n-Heptane	**570,000**	4,400	2,600	700	
108-10-1	4-Methyl-2-pentanone	1,400	4,300	1,400	600	**U**
108-88-3	Toluene	**96,000**	4,400	1,400	530	
591-78-6	2-Hexanone	1,400	4,400	1,400	540	**U**
124-48-1	Dibromochloromethane	1,400	4,400	1,400	570	**U**
106-93-4	1,2-Dibromoethane	1,400	4,400	1,400	510	**U**
127-18-4	Tetrachloroethene	**3,100**	4,300	1,400	570	**J**
100-41-4	Ethylbenzene	**21,000**	4,400	1,400	620	
179601-23-1	m,p-Xylenes	**200,000**	9,000	2,800	1,100	
75-25-2	Bromoform	2,600	4,400	2,600	900	**U**
100-42-5	Styrene	2,600	4,300	2,600	710	**U**
95-47-6	o-Xylene	**70,000**	4,400	1,400	630	
108-67-8	1,3,5-Trimethylbenzene	**15,000**	4,300	1,400	630	
95-63-6	1,2,4-Trimethylbenzene	**32,000**	4,400	1,400	610	
120-82-1	1,2,4-Trichlorobenzene	2,600	4,400	2,600	1,100	**U**
91-20-3	Naphthalene	2,500	4,300	2,500	1,100	**U**
1330-20-7	Xylenes, Total	**270,000**	9,000	2,800	1,100	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV124-025-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-018

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/29/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00240

Initial Pressure (psig): -4.13 Final Pressure (psig): 5.45

Container Dilution Factor: 1.91

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**4.5**	2.5	1.5	0.62	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.1**	2.5	1.5	0.42	**J**
74-87-3	Chloromethane	1.5	2.5	1.5	0.41	**U**
75-01-4	Vinyl Chloride	0.81	2.6	0.81	0.27	**U**
106-99-0	1,3-Butadiene	1.5	2.5	1.5	0.42	**U**
75-00-3	Chloroethane	1.5	2.6	1.5	0.32	**U**
64-17-5	Ethanol	**29**	25	4.0	1.8	
67-64-1	Acetone	**16**	25	13	5.7	**J**
75-69-4	Trichlorofluoromethane	**1.1**	2.5	1.5	0.39	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**6.5**	10	3.0	1.1	**J**
75-09-2	Methylene Chloride	**0.82**	2.5	1.5	0.72	**J**
76-13-1	Trichlorotrifluoroethane	**0.47**	2.6	0.81	0.36	**J**
75-15-0	Carbon Disulfide	2.6	5.3	2.6	0.76	**U**
75-34-3	1,1-Dichloroethane	1.6	2.6	1.6	0.37	**U**
78-93-3	2-Butanone (MEK)	**2.3**	5.3	1.5	0.53	**J**
141-78-6	Ethyl Acetate	**110**	5.3	3.1	1.3	
110-54-3	n-Hexane	1.5	2.6	1.5	0.53	**U**
67-66-3	Chloroform	**180**	2.6	0.81	0.34	
109-99-9	Tetrahydrofuran (THF)	**3.0**	2.6	0.81	0.32	
107-06-2	1,2-Dichloroethane	0.81	2.6	0.81	0.28	**U**
71-43-2	Benzene	**0.52**	2.5	0.81	0.37	**J**
56-23-5	Carbon Tetrachloride	**0.72**	2.5	0.81	0.35	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV124-025-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-018

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/29/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00240

Initial Pressure (psig): -4.13 Final Pressure (psig): 5.45

Container Dilution Factor: 1.91

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.6	5.3	1.6	0.72	**U**
75-27-4	Bromodichloromethane	**16**	2.6	0.81	0.37	
79-01-6	Trichloroethene	0.81	2.6	0.81	0.34	**U**
123-91-1	1,4-Dioxane	0.81	2.6	0.81	0.30	**U**
142-82-5	n-Heptane	**1.0**	2.6	1.5	0.41	**J**
108-10-1	4-Methyl-2-pentanone	0.81	2.5	0.81	0.35	**U**
108-88-3	Toluene	**8.0**	2.6	0.81	0.31	
591-78-6	2-Hexanone	0.81	2.6	0.81	0.32	**U**
124-48-1	Dibromochloromethane	**0.34**	2.6	0.81	0.33	**J**
106-93-4	1,2-Dibromoethane	0.81	2.6	0.81	0.30	**U**
127-18-4	Tetrachloroethene	**0.77**	2.5	0.81	0.33	**J**
100-41-4	Ethylbenzene	**0.89**	2.6	0.81	0.36	**J**
179601-23-1	m,p-Xylenes	**4.1**	5.3	1.6	0.67	**J**
75-25-2	Bromoform	1.5	2.6	1.5	0.53	**U**
100-42-5	Styrene	1.5	2.5	1.5	0.41	**U**
95-47-6	o-Xylene	**1.4**	2.6	0.81	0.37	**J**
108-67-8	1,3,5-Trimethylbenzene	**2.7**	2.5	0.81	0.37	
95-63-6	1,2,4-Trimethylbenzene	**15**	2.6	0.81	0.35	
120-82-1	1,2,4-Trichlorobenzene	1.5	2.6	1.5	0.62	**U**
91-20-3	Naphthalene	**3.6**	2.5	1.5	0.62	
1330-20-7	Xylenes, Total	**5.5**	5.3	1.6	0.67	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV124-050-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-019

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao/Topacio De Leon Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00669

Initial Pressure (psig): -4.55 Final Pressure (psig): 5.89

Container Dilution Factor: 2.03

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	1.6	2.7	1.6	0.66	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.1**	2.7	1.6	0.44	**J**
74-87-3	Chloromethane	**0.99**	2.7	1.6	0.44	**J**
75-01-4	Vinyl Chloride	0.86	2.7	0.86	0.29	**U**
106-99-0	1,3-Butadiene	1.6	2.7	1.6	0.45	**U**
75-00-3	Chloroethane	1.6	2.7	1.6	0.33	**U**
64-17-5	Ethanol	4.2	26	4.2	1.9	**U**
67-64-1	Acetone	**47**	27	14	6.1	
75-69-4	Trichlorofluoromethane	**1.1**	2.7	1.6	0.41	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	3.2	11	3.2	1.1	**U**
75-09-2	Methylene Chloride	**2.1**	2.7	1.6	0.76	**J**
76-13-1	Trichlorotrifluoroethane	**0.48**	2.7	0.86	0.39	**J**
75-15-0	Carbon Disulfide	**4.1**	5.6	2.7	0.81	**J**
75-34-3	1,1-Dichloroethane	1.7	2.8	1.7	0.40	**U**
78-93-3	2-Butanone (MEK)	**8.8**	5.6	1.6	0.56	
141-78-6	Ethyl Acetate	3.3	5.6	3.3	1.4	**U**
110-54-3	n-Hexane	1.6	2.7	1.6	0.56	**U**
67-66-3	Chloroform	**1,800**	27	8.6	3.6	**D**
109-99-9	Tetrahydrofuran (THF)	**190**	2.8	0.86	0.34	
107-06-2	1,2-Dichloroethane	0.86	2.7	0.86	0.30	**U**
71-43-2	Benzene	0.86	2.7	0.86	0.39	**U**
56-23-5	Carbon Tetrachloride	**17**	2.7	0.86	0.38	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV124-050-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-019

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao/Topacio De Leon Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00669

Initial Pressure (psig): -4.55 Final Pressure (psig): 5.89

Container Dilution Factor: 2.03

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.7	5.6	1.7	0.76	**U**
75-27-4	Bromodichloromethane	**230**	2.7	0.86	0.39	
79-01-6	Trichloroethene	**4.7**	2.7	0.86	0.37	
123-91-1	1,4-Dioxane	0.86	2.7	0.86	0.32	**U**
142-82-5	n-Heptane	1.6	2.7	1.6	0.43	**U**
108-10-1	4-Methyl-2-pentanone	**0.58**	2.7	0.86	0.37	**J**
108-88-3	Toluene	**2.2**	2.7	0.86	0.33	**J**
591-78-6	2-Hexanone	**1.5**	2.7	0.86	0.33	**J**
124-48-1	Dibromochloromethane	**54**	2.7	0.86	0.36	
106-93-4	1,2-Dibromoethane	0.86	2.7	0.86	0.31	**U**
127-18-4	Tetrachloroethene	**11**	2.6	0.86	0.35	
100-41-4	Ethylbenzene	**0.52**	2.7	0.86	0.38	**J**
179601-23-1	m,p-Xylenes	**2.9**	5.6	1.7	0.71	**J**
75-25-2	Bromoform	**14**	2.7	1.6	0.56	
100-42-5	Styrene	1.6	2.7	1.6	0.44	**U**
95-47-6	o-Xylene	**0.92**	2.7	0.86	0.39	**J**
108-67-8	1,3,5-Trimethylbenzene	**2.2**	2.7	0.86	0.39	**J**
95-63-6	1,2,4-Trimethylbenzene	**11**	2.7	0.86	0.38	
120-82-1	1,2,4-Trichlorobenzene	1.6	2.7	1.6	0.66	**U**
91-20-3	Naphthalene	**1.7**	2.6	1.6	0.66	**J**
1330-20-7	Xylenes, Total	**3.8**	5.6	1.7	0.71	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200428-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 4/28/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	0.32	0.53	0.32	0.13	U
75-71-8	Dichlorodifluoromethane (CFC 12)	0.32	0.53	0.32	0.087	U
74-87-3	Chloromethane	0.32	0.53	0.32	0.086	U
75-01-4	Vinyl Chloride	0.17	0.54	0.17	0.057	U
106-99-0	1,3-Butadiene	0.32	0.53	0.32	0.088	U
75-00-3	Chloroethane	0.32	0.54	0.32	0.066	U
64-17-5	Ethanol	0.83	5.2	0.83	0.37	U
67-64-1	Acetone	2.7	5.3	2.7	1.2	U
75-69-4	Trichlorofluoromethane	0.32	0.53	0.32	0.081	U
67-63-0	2-Propanol (Isopropyl Alcohol)	0.63	2.1	0.63	0.22	U
75-09-2	Methylene Chloride	0.32	0.53	0.32	0.15	U
76-13-1	Trichlorotrifluoroethane	0.17	0.54	0.17	0.076	U
75-15-0	Carbon Disulfide	0.54	1.1	0.54	0.16	U
75-34-3	1,1-Dichloroethane	0.33	0.55	0.33	0.078	U
78-93-3	2-Butanone (MEK)	0.32	1.1	0.32	0.11	U
141-78-6	Ethyl Acetate	0.65	1.1	0.65	0.28	U
110-54-3	n-Hexane	0.32	0.54	0.32	0.11	U
67-66-3	Chloroform	0.17	0.54	0.17	0.071	U
109-99-9	Tetrahydrofuran (THF)	0.17	0.55	0.17	0.067	U
107-06-2	1,2-Dichloroethane	0.17	0.54	0.17	0.059	U
71-43-2	Benzene	0.17	0.53	0.17	0.077	U
56-23-5	Carbon Tetrachloride	0.17	0.53	0.17	0.074	U

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200428-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 4/28/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	0.34	1.1	0.34	0.15	**U**
75-27-4	Bromodichloromethane	0.17	0.54	0.17	0.077	**U**
79-01-6	Trichloroethene	0.17	0.54	0.17	0.072	**U**
123-91-1	1,4-Dioxane	0.17	0.54	0.17	0.063	**U**
142-82-5	n-Heptane	0.32	0.54	0.32	0.085	**U**
108-10-1	4-Methyl-2-pentanone	0.17	0.53	0.17	0.073	**U**
108-88-3	Toluene	0.17	0.54	0.17	0.065	**U**
591-78-6	2-Hexanone	0.17	0.54	0.17	0.066	**U**
124-48-1	Dibromochloromethane	0.17	0.54	0.17	0.070	**U**
106-93-4	1,2-Dibromoethane	0.17	0.54	0.17	0.062	**U**
127-18-4	Tetrachloroethene	0.17	0.52	0.17	0.069	**U**
100-41-4	Ethylbenzene	0.17	0.54	0.17	0.075	**U**
179601-23-1	m,p-Xylenes	0.34	1.1	0.34	0.14	**U**
75-25-2	Bromoform	0.32	0.54	0.32	0.11	**U**
100-42-5	Styrene	0.32	0.53	0.32	0.086	**U**
95-47-6	o-Xylene	0.17	0.54	0.17	0.077	**U**
108-67-8	1,3,5-Trimethylbenzene	0.17	0.53	0.17	0.077	**U**
95-63-6	1,2,4-Trimethylbenzene	0.17	0.54	0.17	0.074	**U**
120-82-1	1,2,4-Trichlorobenzene	0.32	0.54	0.32	0.13	**U**
91-20-3	Naphthalene	0.31	0.52	0.31	0.13	**U**
1330-20-7	Xylenes, Total	0.34	1.1	0.34	0.14	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200429-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	0.32	0.53	0.32	0.13	U
75-71-8	Dichlorodifluoromethane (CFC 12)	0.32	0.53	0.32	0.087	U
74-87-3	Chloromethane	0.32	0.53	0.32	0.086	U
75-01-4	Vinyl Chloride	0.17	0.54	0.17	0.057	U
106-99-0	1,3-Butadiene	0.32	0.53	0.32	0.088	U
75-00-3	Chloroethane	0.32	0.54	0.32	0.066	U
64-17-5	Ethanol	0.83	5.2	0.83	0.37	U
67-64-1	Acetone	2.7	5.3	2.7	1.2	U
75-69-4	Trichlorofluoromethane	0.32	0.53	0.32	0.081	U
67-63-0	2-Propanol (Isopropyl Alcohol)	0.63	2.1	0.63	0.22	U
75-09-2	Methylene Chloride	0.32	0.53	0.32	0.15	U
76-13-1	Trichlorotrifluoroethane	0.17	0.54	0.17	0.076	U
75-15-0	Carbon Disulfide	0.54	1.1	0.54	0.16	U
75-34-3	1,1-Dichloroethane	0.33	0.55	0.33	0.078	U
78-93-3	2-Butanone (MEK)	0.32	1.1	0.32	0.11	U
141-78-6	Ethyl Acetate	0.65	1.1	0.65	0.28	U
110-54-3	n-Hexane	0.32	0.54	0.32	0.11	U
67-66-3	Chloroform	0.17	0.54	0.17	0.071	U
109-99-9	Tetrahydrofuran (THF)	0.17	0.55	0.17	0.067	U
107-06-2	1,2-Dichloroethane	0.17	0.54	0.17	0.059	U
71-43-2	Benzene	0.17	0.53	0.17	0.077	U
56-23-5	Carbon Tetrachloride	0.17	0.53	0.17	0.074	U

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200429-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	0.34	1.1	0.34	0.15	U
75-27-4	Bromodichloromethane	0.17	0.54	0.17	0.077	U
79-01-6	Trichloroethene	0.17	0.54	0.17	0.072	U
123-91-1	1,4-Dioxane	0.17	0.54	0.17	0.063	U
142-82-5	n-Heptane	0.32	0.54	0.32	0.085	U
108-10-1	4-Methyl-2-pentanone	0.17	0.53	0.17	0.073	U
108-88-3	Toluene	0.17	0.54	0.17	0.065	U
591-78-6	2-Hexanone	0.17	0.54	0.17	0.066	U
124-48-1	Dibromochloromethane	0.17	0.54	0.17	0.070	U
106-93-4	1,2-Dibromoethane	0.17	0.54	0.17	0.062	U
127-18-4	Tetrachloroethene	0.17	0.52	0.17	0.069	U
100-41-4	Ethylbenzene	0.17	0.54	0.17	0.075	U
179601-23-1	m,p-Xylenes	0.34	1.1	0.34	0.14	U
75-25-2	Bromoform	0.32	0.54	0.32	0.11	U
100-42-5	Styrene	0.32	0.53	0.32	0.086	U
95-47-6	o-Xylene	0.17	0.54	0.17	0.077	U
108-67-8	1,3,5-Trimethylbenzene	0.17	0.53	0.17	0.077	U
95-63-6	1,2,4-Trimethylbenzene	0.17	0.54	0.17	0.074	U
120-82-1	1,2,4-Trichlorobenzene	0.32	0.54	0.32	0.13	U
91-20-3	Naphthalene	0.31	0.52	0.31	0.13	U
1330-20-7	Xylenes, Total	0.34	1.1	0.34	0.14	U

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Project ID: P2002030

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date(s) Collected: 4/7 - 4/8/20
Analyst: Simon Cao/Topacio De Leon Date(s) Received: 4/14/20
Sampling Media: 1.0 L Silonite Summa Canister(s) / 1.0 L Summa Canister(s) Date(s) Analyzed: 4/28 - 4/29/20
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P200428-MB	**92**	**104**	**100**	70-130	
Method Blank	P200429-MB	**92**	**102**	**99**	70-130	
Lab Control Sample	P200428-LCS	**94**	**103**	**102**	70-130	
Lab Control Sample	P200429-LCS	**93**	**104**	**100**	70-130	
Duplicate Lab Control Sample	P200428-DLCS	**92**	**103**	**100**	70-130	
Duplicate Lab Control Sample	P200429-DLCS	**93**	**104**	**99**	70-130	
SV028-150-202	P2002030-001	**94**	**100**	**101**	70-130	
SV028-250-202	P2002030-002	**95**	**101**	**103**	70-130	
SV028-350-202	P2002030-003	**93**	**101**	**102**	70-130	
SV028-450-202	P2002030-004	**92**	**99**	**93**	70-130	
SV028-450-202	P2002030-004DUP	**89**	**98**	**95**	70-130	
SV111-025-202	P2002030-005	**93**	**101**	**102**	70-130	
SV111-050-602	P2002030-006	**93**	**100**	**100**	70-130	
SV111-050-202	P2002030-007	**94**	**100**	**101**	70-130	
SV111-150-202	P2002030-008	**93**	**102**	**97**	70-130	
SV111-250-202	P2002030-009	**93**	**99**	**93**	70-130	
SV111-350-202	P2002030-010	**93**	**98**	**94**	70-130	
SV111-450-202	P2002030-011	**92**	**100**	**97**	70-130	
SV117-025-202	P2002030-012	**93**	**102**	**102**	70-130	
SV117-050-202	P2002030-013	**92**	**103**	**102**	70-130	
SV117-150-202	P2002030-014	**92**	**102**	**102**	70-130	
SV117-250-202	P2002030-015	**93**	**100**	**96**	70-130	
SV117-350-202	P2002030-016	**93**	**94**	**91**	70-130	
SV117-450-202	P2002030-017	**95**	**97**	**92**	70-130	
SV124-025-202	P2002030-018	**93**	**103**	**98**	70-130	
SV124-050-202	P2002030-019	**95**	**102**	**100**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200428-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 4/28/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	210	218	219	**104**	**104**	57-136	0	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	192	191	**91**	**91**	59-128	0	25	
74-87-3	Chloromethane	212	232	233	**109**	**110**	59-132	0.9	25	
75-01-4	Vinyl Chloride	212	216	214	**102**	**101**	64-127	1	25	
106-99-0	1,3-Butadiene	212	237	236	**112**	**111**	66-134	0.9	25	
75-00-3	Chloroethane	214	201	201	**94**	**94**	63-127	0	25	
64-17-5	Ethanol	1,060	968	973	**91**	**92**	59-125	1	25	
67-64-1	Acetone	1,070	1000	1000	**93**	**93**	58-128	0	25	
75-69-4	Trichlorofluoromethane	212	190	186	**90**	**88**	62-126	2	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	422	397	396	**94**	**94**	52-125	0	25	
75-09-2	Methylene Chloride	210	206	204	**98**	**97**	62-115	1	25	
76-13-1	Trichlorotrifluoroethane	216	200	197	**93**	**91**	66-126	2	25	
75-15-0	Carbon Disulfide	212	213	211	**100**	**100**	57-134	0	25	
75-34-3	1,1-Dichloroethane	212	200	198	**94**	**93**	68-126	1	25	
78-93-3	2-Butanone (MEK)	212	224	221	**106**	**104**	67-130	2	25	
141-78-6	Ethyl Acetate	432	456	454	**106**	**105**	65-128	0.9	25	
110-54-3	n-Hexane	216	216	214	**100**	**99**	63-120	1	25	
67-66-3	Chloroform	214	200	198	**93**	**93**	68-123	0	25	
109-99-9	Tetrahydrofuran (THF)	220	214	216	**97**	**98**	64-123	1	25	
107-06-2	1,2-Dichloroethane	214	199	195	**93**	**91**	65-128	2	25	
71-43-2	Benzene	210	200	201	**95**	**96**	69-119	1	25	
56-23-5	Carbon Tetrachloride	208	190	187	**91**	**90**	68-132	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200428-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 4/28/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	422	410	410	**97**	**97**	70-117	0	25	
75-27-4	Bromodichloromethane	218	199	198	**91**	**91**	72-128	0	25	
79-01-6	Trichloroethene	216	207	205	**96**	**95**	71-123	1	25	
123-91-1	1,4-Dioxane	216	223	223	**103**	**103**	71-122	0	25	
142-82-5	n-Heptane	214	214	213	**100**	**100**	69-123	0	25	
108-10-1	4-Methyl-2-pentanone	212	223	224	**105**	**106**	67-130	0.9	25	
108-88-3	Toluene	212	217	216	**102**	**102**	66-119	0	25	
591-78-6	2-Hexanone	216	255	256	**118**	**119**	62-128	0.8	25	
124-48-1	Dibromochloromethane	214	225	221	**105**	**103**	70-130	2	25	
106-93-4	1,2-Dibromoethane	214	229	227	**107**	**106**	74-122	0.9	25	
127-18-4	Tetrachloroethene	208	208	206	**100**	**99**	66-124	1	25	
100-41-4	Ethylbenzene	212	217	215	**102**	**101**	70-124	1	25	
179601-23-1	m,p-Xylenes	426	426	422	**100**	**99**	61-134	1	25	
75-25-2	Bromoform	214	230	227	**107**	**106**	66-139	0.9	25	
100-42-5	Styrene	212	230	228	**108**	**108**	73-127	0	25	
95-47-6	o-Xylene	214	213	211	**100**	**99**	67-125	1	25	
108-67-8	1,3,5-Trimethylbenzene	212	211	209	**100**	**99**	67-130	1	25	
95-63-6	1,2,4-Trimethylbenzene	212	216	214	**102**	**101**	66-132	1	25	
120-82-1	1,2,4-Trichlorobenzene	216	245	242	**113**	**112**	55-142	0.9	25	
91-20-3	Naphthalene	212	225	225	**106**	**106**	57-138	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200429-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	210	227	238	**108**	**113**	57-136	5	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	191	195	**91**	**93**	59-128	2	25	
74-87-3	Chloromethane	212	230	240	**108**	**113**	59-132	5	25	
75-01-4	Vinyl Chloride	212	209	217	**99**	**102**	64-127	3	25	
106-99-0	1,3-Butadiene	212	235	240	**111**	**113**	66-134	2	25	
75-00-3	Chloroethane	214	200	209	**93**	**98**	63-127	5	25	
64-17-5	Ethanol	1,060	974	1010	**92**	**95**	59-125	3	25	
67-64-1	Acetone	1,070	1010	1040	**94**	**97**	58-128	3	25	
75-69-4	Trichlorofluoromethane	212	185	188	**87**	**89**	62-126	2	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	422	391	397	**93**	**94**	52-125	1	25	
75-09-2	Methylene Chloride	210	204	208	**97**	**99**	62-115	2	25	
76-13-1	Trichlorotrifluoroethane	216	196	200	**91**	**93**	66-126	2	25	
75-15-0	Carbon Disulfide	212	212	216	**100**	**102**	57-134	2	25	
75-34-3	1,1-Dichloroethane	212	197	201	**93**	**95**	68-126	2	25	
78-93-3	2-Butanone (MEK)	212	220	227	**104**	**107**	67-130	3	25	
141-78-6	Ethyl Acetate	432	456	465	**106**	**108**	65-128	2	25	
110-54-3	n-Hexane	216	214	220	**99**	**102**	63-120	3	25	
67-66-3	Chloroform	214	196	200	**92**	**93**	68-123	1	25	
109-99-9	Tetrahydrofuran (THF)	220	216	222	**98**	**101**	64-123	3	25	
107-06-2	1,2-Dichloroethane	214	195	199	**91**	**93**	65-128	2	25	
71-43-2	Benzene	210	199	204	**95**	**97**	69-119	2	25	
56-23-5	Carbon Tetrachloride	208	184	188	**88**	**90**	68-132	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200429-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	422	406	414	**96**	**98**	70-117	2	25	
75-27-4	Bromodichloromethane	218	195	200	**89**	**92**	72-128	3	25	
79-01-6	Trichloroethene	216	203	207	**94**	**96**	71-123	2	25	
123-91-1	1,4-Dioxane	216	221	225	**102**	**104**	71-122	2	25	
142-82-5	n-Heptane	214	211	214	**99**	**100**	69-123	1	25	
108-10-1	4-Methyl-2-pentanone	212	225	228	**106**	**108**	67-130	2	25	
108-88-3	Toluene	212	214	219	**101**	**103**	66-119	2	25	
591-78-6	2-Hexanone	216	255	261	**118**	**121**	62-128	3	25	
124-48-1	Dibromochloromethane	214	219	224	**102**	**105**	70-130	3	25	
106-93-4	1,2-Dibromoethane	214	226	229	**106**	**107**	74-122	0.9	25	
127-18-4	Tetrachloroethene	208	203	207	**98**	**100**	66-124	2	25	
100-41-4	Ethylbenzene	212	214	219	**101**	**103**	70-124	2	25	
179601-23-1	m,p-Xylenes	426	420	428	**99**	**100**	61-134	1	25	
75-25-2	Bromoform	214	225	229	**105**	**107**	66-139	2	25	
100-42-5	Styrene	212	226	231	**107**	**109**	73-127	2	25	
95-47-6	o-Xylene	214	211	215	**99**	**100**	67-125	1	25	
108-67-8	1,3,5-Trimethylbenzene	212	207	211	**98**	**100**	67-130	2	25	
95-63-6	1,2,4-Trimethylbenzene	212	211	215	**100**	**101**	66-132	1	25	
120-82-1	1,2,4-Trichlorobenzene	216	240	245	**111**	**113**	55-142	2	25	
91-20-3	Naphthalene	212	223	228	**105**	**108**	57-138	3	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV028-450-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-004DUP

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/28/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.025 Liter(s)
Test Notes:
Container ID: 1SC01113

Initial Pressure (psig): -3.09 Final Pressure (psig): 5.57

Container Dilution Factor: 1.75

Compound	Sample Result µg/m³	Duplicate Sample Result µg/m³	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Propene	270	250	260	**8**	25	
Dichlorodifluoromethane (CFC 12)	ND	ND	-	-	25	
Chloromethane	8.4	8.1	8.25	**4**	25	**J**
Vinyl Chloride	ND	ND	-	-	25	
1,3-Butadiene	ND	ND	-	-	25	
Chloroethane	ND	ND	-	-	25	
Ethanol	ND	ND	-	-	25	
Acetone	ND	ND	-	-	25	
Trichlorofluoromethane	ND	ND	-	-	25	
2-Propanol (Isopropyl Alcohol)	200	200	200	**0**	25	
Methylene Chloride	ND	ND	-	-	25	
Trichlorotrifluoroethane	ND	ND	-	-	25	
Carbon Disulfide	ND	ND	-	-	25	
1,1-Dichloroethane	ND	ND	-	-	25	
2-Butanone (MEK)	52	49	50.5	**6**	25	**J**
Ethyl Acetate	ND	ND	-	-	25	
n-Hexane	860	870	865	**1**	25	
Chloroform	ND	ND	-	-	25	
Tetrahydrofuran (THF)	ND	ND	-	-	25	
1,2-Dichloroethane	ND	ND	-	-	25	
Benzene	35	34	34.5	**3**	25	**J**
Carbon Tetrachloride	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV028-450-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-004DUP

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/28/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.025 Liter(s)
Test Notes:
Container ID: 1SC01113

Initial Pressure (psig): -3.09 Final Pressure (psig): 5.57

Container Dilution Factor: 1.75

Compound	Sample Result µg/m³	Duplicate Sample Result µg/m³	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Cyclohexane	7,600	7,500	7550	**1**	25	
Bromodichloromethane	ND	ND	-	-	25	
Trichloroethene	ND	ND	-	-	25	
1,4-Dioxane	ND	ND	-	-	25	
n-Heptane	60	62	61	**3**	25	
4-Methyl-2-pentanone	ND	ND	-	-	25	
Toluene	ND	ND	-	-	25	
2-Hexanone	ND	ND	-	-	25	
Dibromochloromethane	ND	ND	-	-	25	
1,2-Dibromoethane	ND	ND	-	-	25	
Tetrachloroethene	ND	ND	-	-	25	
Ethylbenzene	ND	ND	-	-	25	
m,p-Xylenes	16	13	14.5	**21**	25	**J**
Bromoform	ND	ND	-	-	25	
Styrene	ND	ND	-	-	25	
o-Xylene	73	72	72.5	**1**	25	
1,3,5-Trimethylbenzene	89	91	90	**2**	25	
1,2,4-Trimethylbenzene	ND	ND	-	-	25	
1,2,4-Trichlorobenzene	ND	ND	-	-	25	
Naphthalene	ND	ND	-	-	25	
Xylenes, Total	89	85	87	**5**	25	

ND = Compound was analyzed for, but not detected.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 04282002.D
Analyst: Topacio De Leon Date Analyzed: 4/28/20
Sampling Media: 1.0 L Silonite Summa Canister(s) Time Analyzed: 12:33
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	160080		9.16	667990		11.12		291354		15.46	
	Upper Limit	224112		9.49	935186		11.45		407896		15.79	
	Lower Limit	96048		8.83	400794		10.79		174812		15.13	
	Client Sample ID											
01	Method Blank	144321		9.13	608971		11.11		264087		15.46	
02	Lab Control Sample	153238		9.16	642430		11.12		279357		15.46	
03	Duplicate Lab Control Sample	158024		9.16	655936		11.12		285393		15.46	
04	SV028-450-202	153043		9.13	639965		11.11		287828		15.46	
05	SV028-450-202 (Lab Duplicate)	159720		9.13	645274		11.11		293069		15.46	
06	SV111-150-202	159906		9.13	670498		11.11		295539		15.46	
07	SV111-250-202	157422		9.13	666947		11.11		302543		15.46	
08	SV111-350-202	158756		9.13	685789		11.11		306805		15.46	
09	SV028-150-202	149530		9.13	631867		11.10		287955		15.46	
10	SV028-250-202	148817		9.13	630683		11.11		286245		15.46	
11	SV028-350-202	150871		9.13	634945		11.11		288400		15.46	
12	SV111-025-202	151130		9.13	640172		11.11		291030		15.46	
13	SV111-050-602	153950		9.13	650159		11.11		298586		15.46	
14	SV111-050-202	152982		9.13	654607		11.11		297755		15.46	
15	SV117-025-202	153333		9.13	648295		11.11		293805		15.46	
16	SV117-050-202	153303		9.14	646882		11.11		288604		15.46	
17	SV117-150-202	153289		9.13	641333		11.11		288548		15.46	
18	SV124-050-202	150195		9.14	642381		11.11		284854		15.46	
19	SV111-450-202	153386		9.13	650732		11.11		293626		15.46	
20												

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: **EA Engineering, Science, and Technology, Inc.** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 04292003.D
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister(s) Time Analyzed: 06:19
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	165863		9.16	693341		11.12		304929		15.46	
	Upper Limit	232208		9.49	970677		11.45		426901		15.79	
	Lower Limit	99518		8.83	416005		10.79		182957		15.13	
	Client Sample ID											
01	Method Blank	147560		9.13	622939		11.10		273854		15.46	
02	Lab Control Sample	159720		9.16	668762		11.12		290463		15.46	
03	Duplicate Lab Control Sample	157698		9.16	660725		11.12		286674		15.46	
04	SV117-250-202	158030		9.13	662592		11.11		298633		15.46	
05	SV117-350-202	153926		9.13	657226		11.11		311938		15.46	
06	SV124-050-202 (Dilution)	158597		9.13	672685		11.11		293882		15.45	
07	SV124-025-202	153480		9.13	645873		11.11		285815		15.45	
08	SV117-450-202	160431		9.13	682346		11.11		319485		15.46	
09												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV028-150-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-001

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/28/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00962

Initial Pressure (psig): -3.67 Final Pressure (psig): 6.37

Container Dilution Factor: 1.91

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.89	1.5	0.89	0.36	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.2**	0.51	0.31	0.084	
74-87-3	Chloromethane	0.74	1.2	0.74	0.20	**U**
75-01-4	Vinyl Chloride	0.32	1.0	0.32	0.11	**U**
106-99-0	1,3-Butadiene	0.69	1.1	0.69	0.19	**U**
75-00-3	Chloroethane	0.58	0.98	0.58	0.12	**U**
64-17-5	Ethanol	**5.8**	13	2.1	0.94	**J**
67-64-1	Acetone	**2.5**	11	5.4	2.4	**J**
75-69-4	Trichlorofluoromethane	**0.34**	0.45	0.27	0.069	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.2	4.1	1.2	0.43	**U**
75-09-2	Methylene Chloride	0.44	0.73	0.44	0.21	**U**
76-13-1	Trichlorotrifluoroethane	**0.059**	0.34	0.11	0.047	**J**
75-15-0	Carbon Disulfide	**1.1**	1.7	0.83	0.25	**J**
75-34-3	1,1-Dichloroethane	0.39	0.65	0.39	0.092	**U**
78-93-3	2-Butanone (MEK)	0.52	1.8	0.52	0.18	**U**
141-78-6	Ethyl Acetate	0.86	1.5	0.86	0.37	**U**
110-54-3	n-Hexane	0.43	0.73	0.43	0.15	**U**
67-66-3	Chloroform	0.17	0.53	0.17	0.069	**U**
109-99-9	Tetrahydrofuran (THF)	**14**	0.89	0.28	0.11	
107-06-2	1,2-Dichloroethane	0.20	0.64	0.20	0.070	**U**
71-43-2	Benzene	0.25	0.79	0.25	0.12	**U**
56-23-5	Carbon Tetrachloride	0.13	0.40	0.13	0.056	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV028-150-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-001

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/28/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00962

Initial Pressure (psig): -3.67 Final Pressure (psig): 6.37

Container Dilution Factor: 1.91

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.47	1.5	0.47	0.21	**U**
75-27-4	Bromodichloromethane	0.12	0.39	0.12	0.055	**U**
79-01-6	Trichloroethene	0.15	0.48	0.15	0.064	**U**
123-91-1	1,4-Dioxane	0.23	0.72	0.23	0.084	**U**
142-82-5	n-Heptane	0.37	0.63	0.37	0.099	**U**
108-10-1	4-Methyl-2-pentanone	0.20	0.62	0.20	0.085	**U**
108-88-3	Toluene	**0.18**	0.68	0.22	0.082	**J**
591-78-6	2-Hexanone	0.20	0.63	0.20	0.077	**U**
124-48-1	Dibromochloromethane	0.095	0.30	0.095	0.039	**U**
106-93-4	1,2-Dibromoethane	0.11	0.34	0.11	0.039	**U**
127-18-4	Tetrachloroethene	**0.12**	0.37	0.12	0.049	**J**
100-41-4	Ethylbenzene	0.19	0.59	0.19	0.082	**U**
179601-23-1	m,p-Xylenes	0.37	1.2	0.37	0.15	**U**
75-25-2	Bromoform	0.15	0.25	0.15	0.051	**U**
100-42-5	Styrene	0.36	0.59	0.36	0.096	**U**
95-47-6	o-Xylene	0.19	0.59	0.19	0.085	**U**
108-67-8	1,3,5-Trimethylbenzene	0.17	0.51	0.17	0.075	**U**
95-63-6	1,2,4-Trimethylbenzene	0.17	0.52	0.17	0.072	**U**
120-82-1	1,2,4-Trichlorobenzene	0.21	0.35	0.21	0.084	**U**
91-20-3	Naphthalene	0.28	0.47	0.28	0.12	**U**
1330-20-7	Xylenes, Total	0.37	1.2	0.37	0.15	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV028-250-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-002

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/28/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00892

Initial Pressure (psig): -3.54 Final Pressure (psig): 5.97

Container Dilution Factor: 1.85

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.86	1.4	0.86	0.35	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.8**	0.50	0.30	0.081	
74-87-3	Chloromethane	0.72	1.2	0.72	0.19	**U**
75-01-4	Vinyl Chloride	0.31	0.98	0.31	0.10	**U**
106-99-0	1,3-Butadiene	0.67	1.1	0.67	0.18	**U**
75-00-3	Chloroethane	0.56	0.95	0.56	0.12	**U**
64-17-5	Ethanol	**5.8**	13	2.0	0.91	**J**
67-64-1	Acetone	**2.4**	10	5.3	2.3	**J**
75-69-4	Trichlorofluoromethane	**0.56**	0.44	0.26	0.067	
67-63-0	2-Propanol (Isopropyl Alcohol)	1.2	4.0	1.2	0.41	**U**
75-09-2	Methylene Chloride	0.43	0.71	0.43	0.20	**U**
76-13-1	Trichlorotrifluoroethane	0.10	0.33	0.10	0.046	**U**
75-15-0	Carbon Disulfide	**0.30**	1.6	0.80	0.24	**J**
75-34-3	1,1-Dichloroethane	0.38	0.63	0.38	0.089	**U**
78-93-3	2-Butanone (MEK)	0.50	1.7	0.50	0.17	**U**
141-78-6	Ethyl Acetate	0.83	1.4	0.83	0.36	**U**
110-54-3	n-Hexane	0.42	0.71	0.42	0.14	**U**
67-66-3	Chloroform	**0.076**	0.51	0.16	0.067	**J**
109-99-9	Tetrahydrofuran (THF)	**41**	0.86	0.27	0.11	
107-06-2	1,2-Dichloroethane	0.19	0.62	0.19	0.067	**U**
71-43-2	Benzene	**0.16**	0.77	0.25	0.11	**J**
56-23-5	Carbon Tetrachloride	0.13	0.39	0.13	0.054	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV028-250-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-002

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/28/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00892

Initial Pressure (psig): -3.54 Final Pressure (psig): 5.97

Container Dilution Factor: 1.85

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.46	1.5	0.46	0.20	**U**
75-27-4	Bromodichloromethane	0.12	0.37	0.12	0.053	**U**
79-01-6	Trichloroethene	0.15	0.46	0.15	0.062	**U**
123-91-1	1,4-Dioxane	0.22	0.69	0.22	0.081	**U**
142-82-5	n-Heptane	0.36	0.61	0.36	0.096	**U**
108-10-1	4-Methyl-2-pentanone	0.19	0.60	0.19	0.082	**U**
108-88-3	Toluene	**0.16**	0.66	0.21	0.080	**J**
591-78-6	2-Hexanone	0.19	0.61	0.19	0.075	**U**
124-48-1	Dibromochloromethane	0.092	0.29	0.092	0.038	**U**
106-93-4	1,2-Dibromoethane	0.10	0.33	0.10	0.037	**U**
127-18-4	Tetrachloroethene	**0.057**	0.35	0.12	0.047	**J**
100-41-4	Ethylbenzene	0.18	0.58	0.18	0.080	**U**
179601-23-1	m,p-Xylenes	0.36	1.2	0.36	0.15	**U**
75-25-2	Bromoform	0.14	0.24	0.14	0.049	**U**
100-42-5	Styrene	0.35	0.58	0.35	0.093	**U**
95-47-6	o-Xylene	0.18	0.58	0.18	0.082	**U**
108-67-8	1,3,5-Trimethylbenzene	0.16	0.50	0.16	0.072	**U**
95-63-6	1,2,4-Trimethylbenzene	0.16	0.51	0.16	0.070	**U**
120-82-1	1,2,4-Trichlorobenzene	0.20	0.34	0.20	0.081	**U**
91-20-3	Naphthalene	0.27	0.46	0.27	0.11	**U**
1330-20-7	Xylenes, Total	0.36	1.2	0.36	0.15	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV028-350-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-003

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/28/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00745

Initial Pressure (psig): -3.24 Final Pressure (psig): 7.14

Container Dilution Factor: 1.91

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**1.4**	1.5	0.89	0.36	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.0**	0.51	0.31	0.084	
74-87-3	Chloromethane	**1.1**	1.2	0.74	0.20	**J**
75-01-4	Vinyl Chloride	**1.2**	1.0	0.32	0.11	
106-99-0	1,3-Butadiene	0.69	1.1	0.69	0.19	**U**
75-00-3	Chloroethane	**3.0**	0.98	0.58	0.12	
64-17-5	Ethanol	**7.8**	13	2.1	0.94	**J**
67-64-1	Acetone	5.4	11	5.4	2.4	**U**
75-69-4	Trichlorofluoromethane	**0.71**	0.45	0.27	0.069	
67-63-0	2-Propanol (Isopropyl Alcohol)	1.2	4.1	1.2	0.43	**U**
75-09-2	Methylene Chloride	0.44	0.73	0.44	0.21	**U**
76-13-1	Trichlorotrifluoroethane	**0.050**	0.34	0.11	0.047	**J**
75-15-0	Carbon Disulfide	**0.51**	1.7	0.83	0.25	**J**
75-34-3	1,1-Dichloroethane	**1.1**	0.65	0.39	0.092	
78-93-3	2-Butanone (MEK)	0.52	1.8	0.52	0.18	**U**
141-78-6	Ethyl Acetate	**15**	1.5	0.86	0.37	
110-54-3	n-Hexane	**1.2**	0.73	0.43	0.15	
67-66-3	Chloroform	**0.13**	0.53	0.17	0.069	**J**
109-99-9	Tetrahydrofuran (THF)	**1.3**	0.89	0.28	0.11	
107-06-2	1,2-Dichloroethane	**0.20**	0.64	0.20	0.070	**J**
71-43-2	Benzene	**0.45**	0.79	0.25	0.12	**J**
56-23-5	Carbon Tetrachloride	**0.15**	0.40	0.13	0.056	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV028-350-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-003

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/28/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00745

Initial Pressure (psig): -3.24 Final Pressure (psig): 7.14

Container Dilution Factor: 1.91

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**1.2**	1.5	0.47	0.21	**J**
75-27-4	Bromodichloromethane	0.12	0.39	0.12	0.055	**U**
79-01-6	Trichloroethene	0.15	0.48	0.15	0.064	**U**
123-91-1	1,4-Dioxane	0.23	0.72	0.23	0.084	**U**
142-82-5	n-Heptane	**0.17**	0.63	0.37	0.099	**J**
108-10-1	4-Methyl-2-pentanone	0.20	0.62	0.20	0.085	**U**
108-88-3	Toluene	**0.74**	0.68	0.22	0.082	
591-78-6	2-Hexanone	0.20	0.63	0.20	0.077	**U**
124-48-1	Dibromochloromethane	0.095	0.30	0.095	0.039	**U**
106-93-4	1,2-Dibromoethane	0.11	0.34	0.11	0.039	**U**
127-18-4	Tetrachloroethene	**0.15**	0.37	0.12	0.049	**J**
100-41-4	Ethylbenzene	0.19	0.59	0.19	0.082	**U**
179601-23-1	m,p-Xylenes	0.37	1.2	0.37	0.15	**U**
75-25-2	Bromoform	0.15	0.25	0.15	0.051	**U**
100-42-5	Styrene	0.36	0.59	0.36	0.096	**U**
95-47-6	o-Xylene	**0.14**	0.59	0.19	0.085	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.091**	0.51	0.17	0.075	**J**
95-63-6	1,2,4-Trimethylbenzene	0.17	0.52	0.17	0.072	**U**
120-82-1	1,2,4-Trichlorobenzene	0.21	0.35	0.21	0.084	**U**
91-20-3	Naphthalene	0.28	0.47	0.28	0.12	**U**
1330-20-7	Xylenes, Total	0.37	1.2	0.37	0.15	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV028-450-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-004

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/28/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.025 Liter(s)
Test Notes:
Container ID: 1SC01113

Initial Pressure (psig): -3.09 Final Pressure (psig): 5.57

Container Dilution Factor: 1.75

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**160**	22	13	5.3	
75-71-8	Dichlorodifluoromethane (CFC 12)	4.5	7.5	4.5	1.2	**U**
74-87-3	Chloromethane	**4.1**	18	11	2.9	**J**
75-01-4	Vinyl Chloride	4.7	15	4.7	1.6	**U**
106-99-0	1,3-Butadiene	10	17	10	2.8	**U**
75-00-3	Chloroethane	8.5	14	8.5	1.8	**U**
64-17-5	Ethanol	31	190	31	14	**U**
67-64-1	Acetone	80	160	80	35	**U**
75-69-4	Trichlorofluoromethane	4.0	6.6	4.0	1.0	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	**81**	60	18	6.3	
75-09-2	Methylene Chloride	6.5	11	6.5	3.0	**U**
76-13-1	Trichlorotrifluoroethane	1.6	4.9	1.6	0.69	**U**
75-15-0	Carbon Disulfide	12	25	12	3.6	**U**
75-34-3	1,1-Dichloroethane	5.7	9.5	5.7	1.3	**U**
78-93-3	2-Butanone (MEK)	**18**	26	7.6	2.6	**J**
141-78-6	Ethyl Acetate	13	21	13	5.4	**U**
110-54-3	n-Hexane	**250**	11	6.4	2.2	
67-66-3	Chloroform	2.4	7.7	2.4	1.0	**U**
109-99-9	Tetrahydrofuran (THF)	4.0	13	4.0	1.6	**U**
107-06-2	1,2-Dichloroethane	2.9	9.3	2.9	1.0	**U**
71-43-2	Benzene	**11**	12	3.7	1.7	**J**
56-23-5	Carbon Tetrachloride	1.9	5.9	1.9	0.82	**U**

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV028-450-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-004

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/28/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.025 Liter(s)
Test Notes:
Container ID: 1SC01113

Initial Pressure (psig): -3.09 Final Pressure (psig): 5.57

Container Dilution Factor: 1.75

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**2,200**	22	6.9	3.1	
75-27-4	Bromodichloromethane	1.8	5.6	1.8	0.80	**U**
79-01-6	Trichloroethene	2.2	7.0	2.2	0.94	**U**
123-91-1	1,4-Dioxane	3.3	10	3.3	1.2	**U**
142-82-5	n-Heptane	**15**	9.2	5.5	1.5	
108-10-1	4-Methyl-2-pentanone	2.9	9.1	2.9	1.2	**U**
108-88-3	Toluene	3.2	10	3.2	1.2	**U**
591-78-6	2-Hexanone	2.9	9.2	2.9	1.1	**U**
124-48-1	Dibromochloromethane	1.4	4.4	1.4	0.58	**U**
106-93-4	1,2-Dibromoethane	1.5	4.9	1.5	0.56	**U**
127-18-4	Tetrachloroethene	1.8	5.4	1.8	0.71	**U**
100-41-4	Ethylbenzene	2.7	8.7	2.7	1.2	**U**
179601-23-1	m,p-Xylenes	**3.8**	18	5.5	2.3	**J**
75-25-2	Bromoform	2.2	3.7	2.2	0.75	**U**
100-42-5	Styrene	5.3	8.7	5.3	1.4	**U**
95-47-6	o-Xylene	**17**	8.7	2.7	1.2	
108-67-8	1,3,5-Trimethylbenzene	**18**	7.5	2.4	1.1	
95-63-6	1,2,4-Trimethylbenzene	2.4	7.7	2.4	1.1	**U**
120-82-1	1,2,4-Trichlorobenzene	3.0	5.1	3.0	1.2	**U**
91-20-3	Naphthalene	4.1	6.9	4.1	1.7	**U**
1330-20-7	Xylenes, Total	**21**	18	5.5	2.3	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV111-025-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-005

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/28/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00774

Initial Pressure (psig): -4.52 Final Pressure (psig): 5.95

Container Dilution Factor: 2.03

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.94	1.6	0.94	0.38	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**9.2**	0.54	0.33	0.089	
74-87-3	Chloromethane	0.79	1.3	0.79	0.21	**U**
75-01-4	Vinyl Chloride	0.34	1.1	0.34	0.11	**U**
106-99-0	1,3-Butadiene	0.73	1.2	0.73	0.20	**U**
75-00-3	Chloroethane	0.62	1.0	0.62	0.13	**U**
64-17-5	Ethanol	**3.7**	14	2.2	1.0	**J**
67-64-1	Acetone	**8.9**	11	5.8	2.6	**J**
75-69-4	Trichlorofluoromethane	**0.89**	0.48	0.29	0.073	
67-63-0	2-Propanol (Isopropyl Alcohol)	1.3	4.3	1.3	0.45	**U**
75-09-2	Methylene Chloride	0.47	0.77	0.47	0.22	**U**
76-13-1	Trichlorotrifluoroethane	**11**	0.36	0.11	0.050	
75-15-0	Carbon Disulfide	**2.2**	1.8	0.88	0.26	
75-34-3	1,1-Dichloroethane	0.41	0.69	0.41	0.098	**U**
78-93-3	2-Butanone (MEK)	**0.66**	1.9	0.55	0.19	**J**
141-78-6	Ethyl Acetate	**7.3**	1.5	0.92	0.39	
110-54-3	n-Hexane	**0.76**	0.78	0.46	0.16	**J**
67-66-3	Chloroform	0.18	0.56	0.18	0.074	**U**
109-99-9	Tetrahydrofuran (THF)	0.29	0.95	0.29	0.12	**U**
107-06-2	1,2-Dichloroethane	0.21	0.68	0.21	0.074	**U**
71-43-2	Benzene	**0.23**	0.84	0.27	0.12	**J**
56-23-5	Carbon Tetrachloride	**11**	0.43	0.14	0.060	

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV111-025-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-005

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/28/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00774

Initial Pressure (psig): -4.52 Final Pressure (psig): 5.95

Container Dilution Factor: 2.03

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**1.6**	1.6	0.50	0.22	**J**
75-27-4	Bromodichloromethane	0.13	0.41	0.13	0.058	**U**
79-01-6	Trichloroethene	0.16	0.51	0.16	0.068	**U**
123-91-1	1,4-Dioxane	0.24	0.76	0.24	0.089	**U**
142-82-5	n-Heptane	**1.9**	0.67	0.40	0.11	
108-10-1	4-Methyl-2-pentanone	**0.23**	0.66	0.21	0.090	**J**
108-88-3	Toluene	**3.0**	0.73	0.23	0.088	
591-78-6	2-Hexanone	0.21	0.67	0.21	0.082	**U**
124-48-1	Dibromochloromethane	0.10	0.32	0.10	0.042	**U**
106-93-4	1,2-Dibromoethane	0.11	0.36	0.11	0.041	**U**
127-18-4	Tetrachloroethene	**0.85**	0.39	0.13	0.052	
100-41-4	Ethylbenzene	**0.92**	0.63	0.20	0.088	
179601-23-1	m,p-Xylenes	**10**	1.3	0.40	0.16	
75-25-2	Bromoform	0.16	0.27	0.16	0.054	**U**
100-42-5	Styrene	0.38	0.63	0.38	0.10	**U**
95-47-6	o-Xylene	**4.0**	0.63	0.20	0.090	
108-67-8	1,3,5-Trimethylbenzene	**1.2**	0.55	0.18	0.080	
95-63-6	1,2,4-Trimethylbenzene	**4.1**	0.56	0.18	0.076	
120-82-1	1,2,4-Trichlorobenzene	0.22	0.37	0.22	0.089	**U**
91-20-3	Naphthalene	**0.31**	0.50	0.30	0.13	**J**
1330-20-7	Xylenes, Total	**14**	1.3	0.40	0.16	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV111-050-602** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-006

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/28/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.25 Liter(s)
Test Notes:
Container ID: 1SC00780

Initial Pressure (psig): -3.90 Final Pressure (psig): 5.26

Container Dilution Factor: 1.85

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**2.4**	2.3	1.4	0.56	
75-71-8	Dichlorodifluoromethane (CFC 12)	**12**	0.79	0.48	0.13	
74-87-3	Chloromethane	**0.42**	1.9	1.1	0.31	**J**
75-01-4	Vinyl Chloride	0.49	1.6	0.49	0.17	**U**
106-99-0	1,3-Butadiene	1.1	1.8	1.1	0.29	**U**
75-00-3	Chloroethane	0.90	1.5	0.90	0.19	**U**
64-17-5	Ethanol	**4.3**	20	3.3	1.5	**J**
67-64-1	Acetone	**16**	17	8.4	3.7	**J**
75-69-4	Trichlorofluoromethane	**1.1**	0.70	0.42	0.11	
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.2**	6.3	1.9	0.66	**J**
75-09-2	Methylene Chloride	0.68	1.1	0.68	0.32	**U**
76-13-1	Trichlorotrifluoroethane	**18**	0.52	0.16	0.073	
75-15-0	Carbon Disulfide	**2.2**	2.6	1.3	0.38	**J**
75-34-3	1,1-Dichloroethane	0.60	1.0	0.60	0.14	**U**
78-93-3	2-Butanone (MEK)	**2.3**	2.8	0.80	0.28	**J**
141-78-6	Ethyl Acetate	**0.59**	2.3	1.3	0.58	**J**
110-54-3	n-Hexane	**3.7**	1.1	0.67	0.23	
67-66-3	Chloroform	0.26	0.82	0.26	0.11	**U**
109-99-9	Tetrahydrofuran (THF)	**1.1**	1.4	0.43	0.17	**J**
107-06-2	1,2-Dichloroethane	0.31	0.99	0.31	0.11	**U**
71-43-2	Benzene	**0.98**	1.2	0.39	0.18	**J**
56-23-5	Carbon Tetrachloride	**15**	0.62	0.20	0.087	

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV111-050-602** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-006

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/28/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.25 Liter(s)
Test Notes:
Container ID: 1SC00780

Initial Pressure (psig): -3.90 Final Pressure (psig): 5.26

Container Dilution Factor: 1.85

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**6.3**	2.4	0.73	0.32	
75-27-4	Bromodichloromethane	0.19	0.60	0.19	0.085	**U**
79-01-6	Trichloroethene	0.23	0.74	0.23	0.099	**U**
123-91-1	1,4-Dioxane	0.35	1.1	0.35	0.13	**U**
142-82-5	n-Heptane	**8.9**	0.98	0.58	0.15	
108-10-1	4-Methyl-2-pentanone	**0.38**	0.96	0.31	0.13	**J**
108-88-3	Toluene	**8.9**	1.1	0.33	0.13	
591-78-6	2-Hexanone	0.31	0.98	0.31	0.12	**U**
124-48-1	Dibromochloromethane	0.15	0.47	0.15	0.061	**U**
106-93-4	1,2-Dibromoethane	**0.10**	0.52	0.16	0.060	**J**
127-18-4	Tetrachloroethene	**1.2**	0.57	0.19	0.075	
100-41-4	Ethylbenzene	**3.2**	0.92	0.29	0.13	
179601-23-1	m,p-Xylenes	**33**	1.9	0.58	0.24	
75-25-2	Bromoform	0.23	0.39	0.23	0.079	**U**
100-42-5	Styrene	0.56	0.92	0.56	0.15	**U**
95-47-6	o-Xylene	**13**	0.92	0.29	0.13	
108-67-8	1,3,5-Trimethylbenzene	**6.7**	0.80	0.26	0.12	
95-63-6	1,2,4-Trimethylbenzene	**24**	0.81	0.26	0.11	
120-82-1	1,2,4-Trichlorobenzene	0.32	0.54	0.32	0.13	**U**
91-20-3	Naphthalene	**2.7**	0.73	0.44	0.18	
1330-20-7	Xylenes, Total	**46**	1.9	0.58	0.24	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV111-050-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-007

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01013

Initial Pressure (psig): -3.13 Final Pressure (psig): 5.83

Container Dilution Factor: 1.77

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**1.2**	1.4	0.82	0.33	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**12**	0.47	0.29	0.078	
74-87-3	Chloromethane	**0.39**	1.1	0.69	0.18	**J**
75-01-4	Vinyl Chloride	0.29	0.94	0.29	0.099	**U**
106-99-0	1,3-Butadiene	0.64	1.1	0.64	0.18	**U**
75-00-3	Chloroethane	0.54	0.91	0.54	0.11	**U**
64-17-5	Ethanol	**1.1**	12	1.9	0.87	**J**
67-64-1	Acetone	**19**	9.9	5.0	2.2	
75-69-4	Trichlorofluoromethane	**1.1**	0.42	0.25	0.064	
67-63-0	2-Propanol (Isopropyl Alcohol)	1.1	3.8	1.1	0.40	**U**
75-09-2	Methylene Chloride	0.41	0.68	0.41	0.19	**U**
76-13-1	Trichlorotrifluoroethane	**17**	0.31	0.098	0.044	
75-15-0	Carbon Disulfide	**2.4**	1.6	0.77	0.23	
75-34-3	1,1-Dichloroethane	0.36	0.60	0.36	0.085	**U**
78-93-3	2-Butanone (MEK)	**0.95**	1.7	0.48	0.17	**J**
141-78-6	Ethyl Acetate	0.80	1.4	0.80	0.34	**U**
110-54-3	n-Hexane	**0.63**	0.68	0.40	0.14	**J**
67-66-3	Chloroform	0.15	0.49	0.15	0.064	**U**
109-99-9	Tetrahydrofuran (THF)	**0.40**	0.83	0.26	0.10	**J**
107-06-2	1,2-Dichloroethane	0.19	0.59	0.19	0.065	**U**
71-43-2	Benzene	**0.45**	0.73	0.24	0.11	**J**
56-23-5	Carbon Tetrachloride	**15**	0.37	0.12	0.052	

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV111-050-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-007

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01013

Initial Pressure (psig): -3.13 Final Pressure (psig): 5.83

Container Dilution Factor: 1.77

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**2.0**		1.4	0.44	0.19	
75-27-4	Bromodichloromethane		0.11	0.36	0.11	0.051	**U**
79-01-6	Trichloroethene		0.14	0.44	0.14	0.059	**U**
123-91-1	1,4-Dioxane	**0.19**		0.66	0.21	0.077	**J**
142-82-5	n-Heptane	**0.91**		0.58	0.35	0.092	
108-10-1	4-Methyl-2-pentanone		0.18	0.57	0.18	0.079	**U**
108-88-3	Toluene	**1.1**		0.63	0.20	0.076	
591-78-6	2-Hexanone		0.18	0.58	0.18	0.071	**U**
124-48-1	Dibromochloromethane		0.088	0.28	0.088	0.036	**U**
106-93-4	1,2-Dibromoethane		0.098	0.31	0.098	0.036	**U**
127-18-4	Tetrachloroethene	**1.2**		0.34	0.11	0.045	
100-41-4	Ethylbenzene	**0.35**		0.55	0.17	0.076	**J**
179601-23-1	m,p-Xylenes	**3.6**		1.1	0.35	0.14	
75-25-2	Bromoform		0.14	0.23	0.14	0.047	**U**
100-42-5	Styrene		0.33	0.55	0.33	0.089	**U**
95-47-6	o-Xylene	**1.4**		0.55	0.17	0.078	
108-67-8	1,3,5-Trimethylbenzene	**0.71**		0.48	0.15	0.069	
95-63-6	1,2,4-Trimethylbenzene	**2.5**		0.49	0.15	0.067	
120-82-1	1,2,4-Trichlorobenzene		0.19	0.32	0.19	0.078	**U**
91-20-3	Naphthalene	**0.32**		0.44	0.26	0.11	**J**
1330-20-7	Xylenes, Total	**4.9**		1.1	0.35	0.14	

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV111-150-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-008

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/28/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0010 Liter(s)
Test Notes:
Container ID: 1SC00711

Initial Pressure (psig): -3.78 Final Pressure (psig): 5.47

Container Dilution Factor: 1.85

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**220**	570	340	140	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	120	200	120	33	**U**
74-87-3	Chloromethane	290	480	290	77	**U**
75-01-4	Vinyl Chloride	120	390	120	41	**U**
106-99-0	1,3-Butadiene	270	440	270	74	**U**
75-00-3	Chloroethane	220	380	220	46	**U**
64-17-5	Ethanol	820	5,100	820	360	**U**
67-64-1	Acetone	2,100	4,100	2,100	930	**U**
75-69-4	Trichlorofluoromethane	110	170	110	27	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	470	1,600	470	170	**U**
75-09-2	Methylene Chloride	**300**	280	170	80	
76-13-1	Trichlorotrifluoroethane	**380**	130	41	18	
75-15-0	Carbon Disulfide	320	650	320	95	**U**
75-34-3	1,1-Dichloroethane	150	250	150	36	**U**
78-93-3	2-Butanone (MEK)	200	690	200	69	**U**
141-78-6	Ethyl Acetate	330	560	330	140	**U**
110-54-3	n-Hexane	**2,400**	280	170	58	
67-66-3	Chloroform	64	200	64	27	**U**
109-99-9	Tetrahydrofuran (THF)	110	350	110	42	**U**
107-06-2	1,2-Dichloroethane	78	250	78	27	**U**
71-43-2	Benzene	**57**	310	98	45	**J**
56-23-5	Carbon Tetrachloride	50	160	50	22	**U**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV111-150-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-008

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/28/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0010 Liter(s)
Test Notes:
Container ID: 1SC00711

Initial Pressure (psig): -3.78 Final Pressure (psig): 5.47

Container Dilution Factor: 1.85

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**4,700**	590	180	81	
75-27-4	Bromodichloromethane	47	150	47	21	**U**
79-01-6	Trichloroethene	**35**	190	59	25	**J**
123-91-1	1,4-Dioxane	**470**	280	87	32	
142-82-5	n-Heptane	**260**	240	140	38	
108-10-1	4-Methyl-2-pentanone	77	240	77	33	**U**
108-88-3	Toluene	83	270	83	32	**U**
591-78-6	2-Hexanone	77	240	77	30	**U**
124-48-1	Dibromochloromethane	37	120	37	15	**U**
106-93-4	1,2-Dibromoethane	41	130	41	15	**U**
127-18-4	Tetrachloroethene	**110**	140	46	19	**J**
100-41-4	Ethylbenzene	72	230	72	32	**U**
179601-23-1	m,p-Xylenes	140	470	140	60	**U**
75-25-2	Bromoform	57	97	57	20	**U**
100-42-5	Styrene	140	230	140	37	**U**
95-47-6	o-Xylene	72	230	72	33	**U**
108-67-8	1,3,5-Trimethylbenzene	64	200	64	29	**U**
95-63-6	1,2,4-Trimethylbenzene	64	200	64	28	**U**
120-82-1	1,2,4-Trichlorobenzene	80	130	80	32	**U**
91-20-3	Naphthalene	110	180	110	46	**U**
1330-20-7	Xylenes, Total	140	470	140	60	**U**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV111-250-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-009

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/28/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00030 Liter(s)
Test Notes:
Container ID: 1SS00583

Initial Pressure (psig): -4.87 Final Pressure (psig): 5.94

Container Dilution Factor: 2.10

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**4,100**		2,200	1,300	530	
75-71-8	Dichlorodifluoromethane (CFC 12)		450	750	450	120	**U**
74-87-3	Chloromethane		1,100	1,800	1,100	290	**U**
75-01-4	Vinyl Chloride		470	1,500	470	160	**U**
106-99-0	1,3-Butadiene		1,000	1,700	1,000	280	**U**
75-00-3	Chloroethane		850	1,400	850	180	**U**
64-17-5	Ethanol		3,100	19,000	3,100	1,400	**U**
67-64-1	Acetone		8,000	16,000	8,000	3,500	**U**
75-69-4	Trichlorofluoromethane		400	660	400	100	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)		1,800	6,000	1,800	630	**U**
75-09-2	Methylene Chloride	**1,100**		1,100	650	300	
76-13-1	Trichlorotrifluoroethane	**1,400**		490	160	69	
75-15-0	Carbon Disulfide		1,200	2,500	1,200	360	**U**
75-34-3	1,1-Dichloroethane		570	950	570	130	**U**
78-93-3	2-Butanone (MEK)		760	2,600	760	260	**U**
141-78-6	Ethyl Acetate		1,300	2,100	1,300	540	**U**
110-54-3	n-Hexane	**210,000**		1,100	640	220	
67-66-3	Chloroform		240	770	240	100	**U**
109-99-9	Tetrahydrofuran (THF)		400	1,300	400	160	**U**
107-06-2	1,2-Dichloroethane		290	930	290	100	**U**
71-43-2	Benzene	**54,000**		1,200	370	170	
56-23-5	Carbon Tetrachloride		190	590	190	82	**U**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV111-250-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-009

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/28/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00030 Liter(s)
Test Notes:
Container ID: 1SS00583

Initial Pressure (psig): -4.87 Final Pressure (psig): 5.94

Container Dilution Factor: 2.10

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**200,000**		2,200	690	310	
75-27-4	Bromodichloromethane		180	560	180	80	**U**
79-01-6	Trichloroethene	**110**		700	220	94	**J**
123-91-1	1,4-Dioxane		330	1,000	330	120	**U**
142-82-5	n-Heptane	**96,000**		920	550	150	
108-10-1	4-Methyl-2-pentanone		290	910	290	120	**U**
108-88-3	Toluene	**11,000**		1,000	320	120	
591-78-6	2-Hexanone		290	920	290	110	**U**
124-48-1	Dibromochloromethane		140	440	140	58	**U**
106-93-4	1,2-Dibromoethane		150	490	150	56	**U**
127-18-4	Tetrachloroethene	**390**		540	180	71	**J**
100-41-4	Ethylbenzene	**890**		870	270	120	
179601-23-1	m,p-Xylenes	**3,000**		1,800	550	230	
75-25-2	Bromoform		220	370	220	75	**U**
100-42-5	Styrene		530	870	530	140	**U**
95-47-6	o-Xylene	**3,600**		870	270	120	
108-67-8	1,3,5-Trimethylbenzene	**640**		750	240	110	**J**
95-63-6	1,2,4-Trimethylbenzene	**270**		770	240	110	**J**
120-82-1	1,2,4-Trichlorobenzene		300	510	300	120	**U**
91-20-3	Naphthalene		410	690	410	170	**U**
1330-20-7	Xylenes, Total	**6,600**		1,800	550	230	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV111-350-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-010

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/28/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00060 Liter(s)
Test Notes:
Container ID: 1SS00155

Initial Pressure (psig): -3.17 Final Pressure (psig): 5.82

Container Dilution Factor: 1.78

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**3,700**		910	550	220	
75-71-8	Dichlorodifluoromethane (CFC 12)	**100**		320	190	52	**J**
74-87-3	Chloromethane		460	760	460	120	**U**
75-01-4	Vinyl Chloride		200	630	200	66	**U**
106-99-0	1,3-Butadiene		430	710	430	120	**U**
75-00-3	Chloroethane		360	610	360	74	**U**
64-17-5	Ethanol		1,300	8,200	1,300	580	**U**
67-64-1	Acetone		3,400	6,600	3,400	1,500	**U**
75-69-4	Trichlorofluoromethane		170	280	170	43	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)		760	2,500	760	270	**U**
75-09-2	Methylene Chloride	**470**		450	270	130	
76-13-1	Trichlorotrifluoroethane	**620**		210	66	29	
75-15-0	Carbon Disulfide		510	1,000	510	150	**U**
75-34-3	1,1-Dichloroethane		240	400	240	57	**U**
78-93-3	2-Butanone (MEK)		320	1,100	320	110	**U**
141-78-6	Ethyl Acetate		540	910	540	230	**U**
110-54-3	n-Hexane	**49,000**		450	270	93	
67-66-3	Chloroform		100	330	100	43	**U**
109-99-9	Tetrahydrofuran (THF)		170	550	170	67	**U**
107-06-2	1,2-Dichloroethane		120	400	120	43	**U**
71-43-2	Benzene	**6,300**		490	160	72	
56-23-5	Carbon Tetrachloride		80	250	80	35	**U**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV111-350-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-010

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/28/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00060 Liter(s)
Test Notes:
Container ID: 1SS00155

Initial Pressure (psig): -3.17 Final Pressure (psig): 5.82

Container Dilution Factor: 1.78

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**73,000**	950	290	130	
75-27-4	Bromodichloromethane	75	240	75	34	**U**
79-01-6	Trichloroethene	**60**	300	94	40	**J**
123-91-1	1,4-Dioxane	140	440	140	52	**U**
142-82-5	n-Heptane	**16,000**	390	230	62	
108-10-1	4-Methyl-2-pentanone	120	380	120	53	**U**
108-88-3	Toluene	130	430	130	51	**U**
591-78-6	2-Hexanone	120	390	120	48	**U**
124-48-1	Dibromochloromethane	59	190	59	24	**U**
106-93-4	1,2-Dibromoethane	66	210	66	24	**U**
127-18-4	Tetrachloroethene	**170**	230	74	30	**J**
100-41-4	Ethylbenzene	**63**	370	120	51	**J**
179601-23-1	m,p-Xylenes	**280**	750	230	96	**J**
75-25-2	Bromoform	92	160	92	32	**U**
100-42-5	Styrene	220	370	220	60	**U**
95-47-6	o-Xylene	**520**	370	120	53	
108-67-8	1,3,5-Trimethylbenzene	**110**	320	100	46	**J**
95-63-6	1,2,4-Trimethylbenzene	100	330	100	45	**U**
120-82-1	1,2,4-Trichlorobenzene	130	220	130	52	**U**
91-20-3	Naphthalene	180	290	180	74	**U**
1330-20-7	Xylenes, Total	**800**	750	230	96	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV111-450-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-011

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.060 Liter(s)
Test Notes:
Container ID: 1SC01172

Initial Pressure (psig): -2.71 Final Pressure (psig): 5.51

Container Dilution Factor: 1.69

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**23**	8.7	5.2	2.1	
75-71-8	Dichlorodifluoromethane (CFC 12)	**39**	3.0	1.8	0.50	
74-87-3	Chloromethane	**22**	7.2	4.4	1.2	
75-01-4	Vinyl Chloride	**3.4**	6.0	1.9	0.63	**J**
106-99-0	1,3-Butadiene	4.1	6.8	4.1	1.1	**U**
75-00-3	Chloroethane	3.4	5.8	3.4	0.70	**U**
64-17-5	Ethanol	**33**	78	12	5.5	**J**
67-64-1	Acetone	32	63	32	14	**U**
75-69-4	Trichlorofluoromethane	**3.1**	2.7	1.6	0.41	
67-63-0	2-Propanol (Isopropyl Alcohol)	7.2	24	7.2	2.5	**U**
75-09-2	Methylene Chloride	2.6	4.3	2.6	1.2	**U**
76-13-1	Trichlorotrifluoroethane	**15**	2.0	0.63	0.28	
75-15-0	Carbon Disulfide	**57**	10	4.9	1.4	
75-34-3	1,1-Dichloroethane	**1.5**	3.8	2.3	0.54	**J**
78-93-3	2-Butanone (MEK)	**10**	11	3.1	1.1	**J**
141-78-6	Ethyl Acetate	5.1	8.6	5.1	2.2	**U**
110-54-3	n-Hexane	**230**	4.3	2.6	0.88	
67-66-3	Chloroform	**0.49**	3.1	0.98	0.41	**J**
109-99-9	Tetrahydrofuran (THF)	**17**	5.3	1.6	0.64	
107-06-2	1,2-Dichloroethane	1.2	3.8	1.2	0.41	**U**
71-43-2	Benzene	**350**	4.7	1.5	0.68	
56-23-5	Carbon Tetrachloride	**1.7**	2.4	0.76	0.33	**J**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV111-450-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-011

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.060 Liter(s)
Test Notes:
Container ID: 1SC01172

Initial Pressure (psig): -2.71 Final Pressure (psig): 5.51

Container Dilution Factor: 1.69

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**320**	9.0	2.8	1.2	
75-27-4	Bromodichloromethane	0.72	2.3	0.72	0.32	**U**
79-01-6	Trichloroethene	0.89	2.8	0.89	0.38	**U**
123-91-1	1,4-Dioxane	1.3	4.2	1.3	0.49	**U**
142-82-5	n-Heptane	**220**	3.7	2.2	0.58	
108-10-1	4-Methyl-2-pentanone	**3.1**	3.6	1.2	0.50	**J**
108-88-3	Toluene	**730**	4.0	1.3	0.49	
591-78-6	2-Hexanone	1.2	3.7	1.2	0.45	**U**
124-48-1	Dibromochloromethane	0.56	1.8	0.56	0.23	**U**
106-93-4	1,2-Dibromoethane	0.62	2.0	0.62	0.23	**U**
127-18-4	Tetrachloroethene	**0.37**	2.2	0.71	0.29	**J**
100-41-4	Ethylbenzene	**21**	3.5	1.1	0.49	
179601-23-1	m,p-Xylenes	**59**	7.1	2.2	0.91	
75-25-2	Bromoform	0.87	1.5	0.87	0.30	**U**
100-42-5	Styrene	2.1	3.5	2.1	0.57	**U**
95-47-6	o-Xylene	**17**	3.5	1.1	0.50	
108-67-8	1,3,5-Trimethylbenzene	**1.7**	3.0	0.97	0.44	**J**
95-63-6	1,2,4-Trimethylbenzene	**2.8**	3.1	0.97	0.42	**J**
120-82-1	1,2,4-Trichlorobenzene	1.2	2.0	1.2	0.49	**U**
91-20-3	Naphthalene	1.7	2.8	1.7	0.70	**U**
1330-20-7	Xylenes, Total	**75**	7.1	2.2	0.91	

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV117-025-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-012

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01211

Initial Pressure (psig): -3.79 Final Pressure (psig): 5.36

Container Dilution Factor: 1.84

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**1.3**	1.4	0.86	0.35	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**18**	0.49	0.30	0.081	
74-87-3	Chloromethane	0.71	1.2	0.71	0.19	**U**
75-01-4	Vinyl Chloride	0.31	0.97	0.31	0.10	**U**
106-99-0	1,3-Butadiene	0.67	1.1	0.67	0.18	**U**
75-00-3	Chloroethane	0.56	0.94	0.56	0.12	**U**
64-17-5	Ethanol	**2.3**	13	2.0	0.90	**J**
67-64-1	Acetone	**7.5**	10	5.2	2.3	**J**
75-69-4	Trichlorofluoromethane	**2.2**	0.43	0.26	0.066	
67-63-0	2-Propanol (Isopropyl Alcohol)	1.2	3.9	1.2	0.41	**U**
75-09-2	Methylene Chloride	0.42	0.70	0.42	0.20	**U**
76-13-1	Trichlorotrifluoroethane	**9.8**	0.32	0.10	0.046	
75-15-0	Carbon Disulfide	0.80	1.6	0.80	0.24	**U**
75-34-3	1,1-Dichloroethane	0.38	0.63	0.38	0.089	**U**
78-93-3	2-Butanone (MEK)	**1.3**	1.7	0.50	0.17	**J**
141-78-6	Ethyl Acetate	0.83	1.4	0.83	0.36	**U**
110-54-3	n-Hexane	**0.16**	0.71	0.42	0.14	**J**
67-66-3	Chloroform	**0.091**	0.51	0.16	0.067	**J**
109-99-9	Tetrahydrofuran (THF)	**0.43**	0.86	0.27	0.10	**J**
107-06-2	1,2-Dichloroethane	0.19	0.61	0.19	0.067	**U**
71-43-2	Benzene	**0.56**	0.76	0.24	0.11	**J**
56-23-5	Carbon Tetrachloride	**3.5**	0.39	0.12	0.054	

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV117-025-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-012

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01211

Initial Pressure (psig): -3.79 Final Pressure (psig): 5.36

Container Dilution Factor: 1.84

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**0.40**	1.5	0.45	0.20	**J**
75-27-4	Bromodichloromethane	0.12	0.37	0.12	0.053	**U**
79-01-6	Trichloroethene	0.15	0.46	0.15	0.062	**U**
123-91-1	1,4-Dioxane	**0.39**	0.69	0.22	0.080	**J**
142-82-5	n-Heptane	**0.38**	0.61	0.36	0.095	**J**
108-10-1	4-Methyl-2-pentanone	0.19	0.60	0.19	0.082	**U**
108-88-3	Toluene	**7.4**	0.66	0.21	0.079	
591-78-6	2-Hexanone	0.19	0.61	0.19	0.074	**U**
124-48-1	Dibromochloromethane	0.092	0.29	0.092	0.038	**U**
106-93-4	1,2-Dibromoethane	0.10	0.32	0.10	0.037	**U**
127-18-4	Tetrachloroethene	**0.22**	0.35	0.12	0.047	**J**
100-41-4	Ethylbenzene	**0.98**	0.57	0.18	0.079	
179601-23-1	m,p-Xylenes	**5.1**	1.2	0.36	0.15	
75-25-2	Bromoform	0.14	0.24	0.14	0.049	**U**
100-42-5	Styrene	0.35	0.57	0.35	0.093	**U**
95-47-6	o-Xylene	**2.4**	0.57	0.18	0.082	
108-67-8	1,3,5-Trimethylbenzene	**1.2**	0.50	0.16	0.072	
95-63-6	1,2,4-Trimethylbenzene	**3.9**	0.51	0.16	0.069	
120-82-1	1,2,4-Trichlorobenzene	0.20	0.33	0.20	0.081	**U**
91-20-3	Naphthalene	**2.1**	0.46	0.27	0.11	
1330-20-7	Xylenes, Total	**7.6**	1.2	0.36	0.15	

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV117-050-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-013

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00863

Initial Pressure (psig): 0.14 Final Pressure (psig): 5.35

Container Dilution Factor: 1.35

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**22**	1.0	0.63	0.26	
75-71-8	Dichlorodifluoromethane (CFC 12)	**15**	0.36	0.22	0.059	
74-87-3	Chloromethane	**0.42**	0.87	0.52	0.14	**J**
75-01-4	Vinyl Chloride	0.22	0.71	0.22	0.075	**U**
106-99-0	1,3-Butadiene	0.49	0.81	0.49	0.13	**U**
75-00-3	Chloroethane	0.41	0.69	0.41	0.084	**U**
64-17-5	Ethanol	**180**	9.3	1.5	0.66	
67-64-1	Acetone	**44**	7.5	3.8	1.7	
75-69-4	Trichlorofluoromethane	**1.8**	0.32	0.19	0.049	
67-63-0	2-Propanol (Isopropyl Alcohol)	**36**	2.9	0.87	0.30	
75-09-2	Methylene Chloride	**4.0**	0.52	0.31	0.15	
76-13-1	Trichlorotrifluoroethane	**9.6**	0.24	0.075	0.033	
75-15-0	Carbon Disulfide	**1.1**	1.2	0.59	0.17	**J**
75-34-3	1,1-Dichloroethane	0.28	0.46	0.28	0.065	**U**
78-93-3	2-Butanone (MEK)	**18**	1.3	0.37	0.13	
141-78-6	Ethyl Acetate	**77**	1.0	0.61	0.26	
110-54-3	n-Hexane	**1.6**	0.52	0.31	0.11	
67-66-3	Chloroform	**0.14**	0.37	0.12	0.049	**J**
109-99-9	Tetrahydrofuran (THF)	**16**	0.63	0.19	0.077	
107-06-2	1,2-Dichloroethane	0.14	0.45	0.14	0.049	**U**
71-43-2	Benzene	**0.88**	0.56	0.18	0.081	
56-23-5	Carbon Tetrachloride	**3.5**	0.28	0.091	0.040	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV117-050-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-013

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00863

Initial Pressure (psig): 0.14 Final Pressure (psig): 5.35

Container Dilution Factor: 1.35

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**2.8**		1.1	0.33	0.15	
75-27-4	Bromodichloromethane		0.086	0.27	0.086	0.039	**U**
79-01-6	Trichloroethene	**0.065**		0.34	0.11	0.045	**J**
123-91-1	1,4-Dioxane		0.16	0.51	0.16	0.059	**U**
142-82-5	n-Heptane	**8.3**		0.44	0.26	0.070	
108-10-1	4-Methyl-2-pentanone	**2.5**		0.44	0.14	0.060	
108-88-3	Toluene	**18**		0.48	0.15	0.058	
591-78-6	2-Hexanone		0.14	0.45	0.14	0.054	**U**
124-48-1	Dibromochloromethane		0.067	0.21	0.067	0.028	**U**
106-93-4	1,2-Dibromoethane		0.075	0.24	0.075	0.027	**U**
127-18-4	Tetrachloroethene	**0.34**		0.26	0.085	0.034	
100-41-4	Ethylbenzene	**1.2**		0.42	0.13	0.058	
179601-23-1	m,p-Xylenes	**4.1**		0.86	0.26	0.11	
75-25-2	Bromoform		0.10	0.18	0.10	0.036	**U**
100-42-5	Styrene	**0.58**		0.42	0.25	0.068	
95-47-6	o-Xylene	**1.7**		0.42	0.13	0.060	
108-67-8	1,3,5-Trimethylbenzene	**1.2**		0.36	0.12	0.053	
95-63-6	1,2,4-Trimethylbenzene	**5.5**		0.37	0.12	0.051	
120-82-1	1,2,4-Trichlorobenzene		0.15	0.25	0.15	0.059	**U**
91-20-3	Naphthalene	**1.9**		0.33	0.20	0.084	
1330-20-7	Xylenes, Total	**5.8**		0.86	0.26	0.11	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV117-150-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-014

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00485

Initial Pressure (psig): -2.98 Final Pressure (psig): 6.05

Container Dilution Factor: 1.77

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**4.2**	1.4	0.82	0.33	
75-71-8	Dichlorodifluoromethane (CFC 12)	**27**	0.47	0.29	0.078	
74-87-3	Chloromethane	**0.26**	1.1	0.69	0.18	**J**
75-01-4	Vinyl Chloride	0.29	0.94	0.29	0.099	**U**
106-99-0	1,3-Butadiene	0.64	1.1	0.64	0.18	**U**
75-00-3	Chloroethane	0.54	0.91	0.54	0.11	**U**
64-17-5	Ethanol	**13**	12	1.9	0.87	
67-64-1	Acetone	**13**	9.9	5.0	2.2	
75-69-4	Trichlorofluoromethane	**3.1**	0.42	0.25	0.064	
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.2**	3.8	1.1	0.40	**J**
75-09-2	Methylene Chloride	0.41	0.68	0.41	0.19	**U**
76-13-1	Trichlorotrifluoroethane	**18**	0.31	0.098	0.044	
75-15-0	Carbon Disulfide	**3.3**	1.6	0.77	0.23	
75-34-3	1,1-Dichloroethane	0.36	0.60	0.36	0.085	**U**
78-93-3	2-Butanone (MEK)	**2.5**	1.7	0.48	0.17	
141-78-6	Ethyl Acetate	**38**	1.4	0.80	0.34	
110-54-3	n-Hexane	**0.18**	0.68	0.40	0.14	**J**
67-66-3	Chloroform	**2.1**	0.49	0.15	0.064	
109-99-9	Tetrahydrofuran (THF)	**0.92**	0.83	0.26	0.10	
107-06-2	1,2-Dichloroethane	0.19	0.59	0.19	0.065	**U**
71-43-2	Benzene	**0.32**	0.73	0.24	0.11	**J**
56-23-5	Carbon Tetrachloride	**7.4**	0.37	0.12	0.052	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV117-150-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-014

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00485

Initial Pressure (psig): -2.98 Final Pressure (psig): 6.05

Container Dilution Factor: 1.77

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**0.27**		1.4	0.44	0.19	**J**
75-27-4	Bromodichloromethane		0.11	0.36	0.11	0.051	**U**
79-01-6	Trichloroethene	**0.57**		0.44	0.14	0.059	
123-91-1	1,4-Dioxane		0.21	0.66	0.21	0.077	**U**
142-82-5	n-Heptane	**0.22**		0.58	0.35	0.092	**J**
108-10-1	4-Methyl-2-pentanone		0.18	0.57	0.18	0.079	**U**
108-88-3	Toluene	**1.8**		0.63	0.20	0.076	
591-78-6	2-Hexanone	**0.45**		0.58	0.18	0.071	**J**
124-48-1	Dibromochloromethane		0.088	0.28	0.088	0.036	**U**
106-93-4	1,2-Dibromoethane		0.098	0.31	0.098	0.036	**U**
127-18-4	Tetrachloroethene	**0.29**		0.34	0.11	0.045	**J**
100-41-4	Ethylbenzene	**0.17**		0.55	0.17	0.076	**J**
179601-23-1	m,p-Xylenes	**0.75**		1.1	0.35	0.14	**J**
75-25-2	Bromoform		0.14	0.23	0.14	0.047	**U**
100-42-5	Styrene		0.33	0.55	0.33	0.089	**U**
95-47-6	o-Xylene	**0.41**		0.55	0.17	0.078	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.60**		0.48	0.15	0.069	
95-63-6	1,2,4-Trimethylbenzene	**2.2**		0.49	0.15	0.067	
120-82-1	1,2,4-Trichlorobenzene		0.19	0.32	0.19	0.078	**U**
91-20-3	Naphthalene	**0.82**		0.44	0.26	0.11	
1330-20-7	Xylenes, Total	**1.2**		1.1	0.35	0.14	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV117-250-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-015

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0035 Liter(s)
Test Notes:
Container ID: 1SC01238

Initial Pressure (psig): -4.88 Final Pressure (psig): 5.39

Container Dilution Factor: 2.05

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**74**	180	110	44	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**22**	63	38	10	**J**
74-87-3	Chloromethane	91	150	91	24	**U**
75-01-4	Vinyl Chloride	39	120	39	13	**U**
106-99-0	1,3-Butadiene	85	140	85	23	**U**
75-00-3	Chloroethane	71	120	71	15	**U**
64-17-5	Ethanol	260	1,600	260	120	**U**
67-64-1	Acetone	670	1,300	670	300	**U**
75-69-4	Trichlorofluoromethane	33	55	33	8.4	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	150	500	150	52	**U**
75-09-2	Methylene Chloride	**110**	89	54	25	
76-13-1	Trichlorotrifluoroethane	**160**	41	13	5.8	
75-15-0	Carbon Disulfide	100	210	100	30	**U**
75-34-3	1,1-Dichloroethane	48	80	48	11	**U**
78-93-3	2-Butanone (MEK)	64	220	64	22	**U**
141-78-6	Ethyl Acetate	110	180	110	46	**U**
110-54-3	n-Hexane	53	90	53	18	**U**
67-66-3	Chloroform	20	65	20	8.5	**U**
109-99-9	Tetrahydrofuran (THF)	34	110	34	13	**U**
107-06-2	1,2-Dichloroethane	25	78	25	8.5	**U**
71-43-2	Benzene	**14**	97	31	14	**J**
56-23-5	Carbon Tetrachloride	16	49	16	6.9	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV117-250-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-015

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0035 Liter(s)
Test Notes:
Container ID: 1SC01238

Initial Pressure (psig): -4.88 Final Pressure (psig): 5.39

Container Dilution Factor: 2.05

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**36**	190	58	26	**J**
75-27-4	Bromodichloromethane	15	47	15	6.7	**U**
79-01-6	Trichloroethene	**10**	59	19	7.9	**J**
123-91-1	1,4-Dioxane	**170**	88	28	10	
142-82-5	n-Heptane	46	77	46	12	**U**
108-10-1	4-Methyl-2-pentanone	24	76	24	10	**U**
108-88-3	Toluene	26	84	26	10	**U**
591-78-6	2-Hexanone	24	77	24	9.4	**U**
124-48-1	Dibromochloromethane	12	37	12	4.8	**U**
106-93-4	1,2-Dibromoethane	13	41	13	4.7	**U**
127-18-4	Tetrachloroethene	**43**	45	15	6.0	**J**
100-41-4	Ethylbenzene	23	73	23	10	**U**
179601-23-1	m,p-Xylenes	**24**	150	46	19	**J**
75-25-2	Bromoform	18	31	18	6.2	**U**
100-42-5	Styrene	44	73	44	12	**U**
95-47-6	o-Xylene	**11**	73	23	10	**J**
108-67-8	1,3,5-Trimethylbenzene	**28**	63	20	9.2	**J**
95-63-6	1,2,4-Trimethylbenzene	**12**	64	20	8.8	**J**
120-82-1	1,2,4-Trichlorobenzene	25	43	25	10	**U**
91-20-3	Naphthalene	35	58	35	15	**U**
1330-20-7	Xylenes, Total	**35**	150	46	19	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV117-350-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-016

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/29/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0030 Liter(s)
Test Notes:
Container ID: 1SS00748

Initial Pressure (psig): -4.59 Final Pressure (psig): 5.76

Container Dilution Factor: 2.02

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	130	210	130	51	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**48**	72	44	12	**J**
74-87-3	Chloromethane	100	170	100	28	**U**
75-01-4	Vinyl Chloride	45	140	45	15	**U**
106-99-0	1,3-Butadiene	97	160	97	27	**U**
75-00-3	Chloroethane	82	140	82	17	**U**
64-17-5	Ethanol	300	1,900	300	130	**U**
67-64-1	Acetone	770	1,500	770	340	**U**
75-69-4	Trichlorofluoromethane	38	64	38	9.7	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	170	580	170	60	**U**
75-09-2	Methylene Chloride	**130**	100	62	29	
76-13-1	Trichlorotrifluoroethane	**180**	47	15	6.7	
75-15-0	Carbon Disulfide	120	240	120	35	**U**
75-34-3	1,1-Dichloroethane	55	92	55	13	**U**
78-93-3	2-Butanone (MEK)	73	250	73	25	**U**
141-78-6	Ethyl Acetate	120	210	120	52	**U**
110-54-3	n-Hexane	**3,000**	100	61	21	
67-66-3	Chloroform	23	74	23	9.8	**U**
109-99-9	Tetrahydrofuran (THF)	39	130	39	15	**U**
107-06-2	1,2-Dichloroethane	28	90	28	9.8	**U**
71-43-2	Benzene	**83**	110	36	16	**J**
56-23-5	Carbon Tetrachloride	18	57	18	7.9	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV117-350-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-016

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/29/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0030 Liter(s)
Test Notes:
Container ID: 1SS00748

Initial Pressure (psig): -4.59 Final Pressure (psig): 5.76

Container Dilution Factor: 2.02

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**7,600**	220	67	29	
75-27-4	Bromodichloromethane	17	54	17	7.7	**U**
79-01-6	Trichloroethene	21	68	21	9.0	**U**
123-91-1	1,4-Dioxane	32	100	32	12	**U**
142-82-5	n-Heptane	**3,900**	89	53	14	
108-10-1	4-Methyl-2-pentanone	28	87	28	12	**U**
108-88-3	Toluene	30	97	30	12	**U**
591-78-6	2-Hexanone	28	89	28	11	**U**
124-48-1	Dibromochloromethane	13	43	13	5.5	**U**
106-93-4	1,2-Dibromoethane	15	47	15	5.4	**U**
127-18-4	Tetrachloroethene	17	52	17	6.9	**U**
100-41-4	Ethylbenzene	26	84	26	12	**U**
179601-23-1	m,p-Xylenes	**38**	170	53	22	**J**
75-25-2	Bromoform	21	35	21	7.2	**U**
100-42-5	Styrene	51	84	51	14	**U**
95-47-6	o-Xylene	**37**	84	26	12	**J**
108-67-8	1,3,5-Trimethylbenzene	**30**	73	23	11	**J**
95-63-6	1,2,4-Trimethylbenzene	**39**	74	23	10	**J**
120-82-1	1,2,4-Trichlorobenzene	29	49	29	12	**U**
91-20-3	Naphthalene	40	67	40	17	**U**
1330-20-7	Xylenes, Total	**75**	170	53	22	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV117-450-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-017

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/29/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00025 Liter(s)
Test Notes:
Container ID: 1SS00751

Initial Pressure (psig): -5.05 Final Pressure (psig): 5.04

Container Dilution Factor: 2.05

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**6,600**		2,500	1,500	620	
75-71-8	Dichlorodifluoromethane (CFC 12)		530	880	530	140	**U**
74-87-3	Chloromethane		1,300	2,100	1,300	340	**U**
75-01-4	Vinyl Chloride		550	1,700	550	180	**U**
106-99-0	1,3-Butadiene		1,200	2,000	1,200	330	**U**
75-00-3	Chloroethane		990	1,700	990	210	**U**
64-17-5	Ethanol		3,600	23,000	3,600	1,600	**U**
67-64-1	Acetone		9,300	18,000	9,300	4,100	**U**
75-69-4	Trichlorofluoromethane		470	770	470	120	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)		2,100	7,000	2,100	730	**U**
75-09-2	Methylene Chloride	**1,200**		1,300	760	350	**J**
76-13-1	Trichlorotrifluoroethane	**1,600**		580	180	81	
75-15-0	Carbon Disulfide		1,400	2,900	1,400	420	**U**
75-34-3	1,1-Dichloroethane		670	1,100	670	160	**U**
78-93-3	2-Butanone (MEK)		890	3,100	890	310	**U**
141-78-6	Ethyl Acetate		1,500	2,500	1,500	640	**U**
110-54-3	n-Hexane	**91,000**		1,300	740	260	
67-66-3	Chloroform		290	910	290	120	**U**
109-99-9	Tetrahydrofuran (THF)		470	1,500	470	190	**U**
107-06-2	1,2-Dichloroethane		340	1,100	340	120	**U**
71-43-2	Benzene	**3,600**		1,400	440	200	
56-23-5	Carbon Tetrachloride		220	690	220	97	**U**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV117-450-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-017

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/29/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00025 Liter(s)
Test Notes:
Container ID: 1SS00751

Initial Pressure (psig): -5.05 Final Pressure (psig): 5.04

Container Dilution Factor: 2.05

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**130,000**		2,600	810	360	
75-27-4	Bromodichloromethane		210	660	210	94	**U**
79-01-6	Trichloroethene		260	820	260	110	**U**
123-91-1	1,4-Dioxane		390	1,200	390	140	**U**
142-82-5	n-Heptane	**140,000**		1,100	640	170	
108-10-1	4-Methyl-2-pentanone		340	1,100	340	150	**U**
108-88-3	Toluene	**26,000**		1,200	370	140	
591-78-6	2-Hexanone		340	1,100	340	130	**U**
124-48-1	Dibromochloromethane		160	520	160	67	**U**
106-93-4	1,2-Dibromoethane		180	580	180	66	**U**
127-18-4	Tetrachloroethene	**460**		630	210	83	**J**
100-41-4	Ethylbenzene	**4,700**		1,000	320	140	
179601-23-1	m,p-Xylenes	**45,000**		2,100	640	260	
75-25-2	Bromoform		250	430	250	87	**U**
100-42-5	Styrene		620	1,000	620	170	**U**
95-47-6	o-Xylene	**16,000**		1,000	320	150	
108-67-8	1,3,5-Trimethylbenzene	**3,100**		880	280	130	
95-63-6	1,2,4-Trimethylbenzene	**6,500**		900	280	120	
120-82-1	1,2,4-Trichlorobenzene		350	600	350	140	**U**
91-20-3	Naphthalene		490	810	490	200	**U**
1330-20-7	Xylenes, Total	**62,000**		2,100	640	260	

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV124-025-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-018

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/29/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00240

Initial Pressure (psig): -4.13 Final Pressure (psig): 5.45

Container Dilution Factor: 1.91

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**2.6**	1.5	0.89	0.36	
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.42**	0.51	0.31	0.084	**J**
74-87-3	Chloromethane	0.74	1.2	0.74	0.20	**U**
75-01-4	Vinyl Chloride	0.32	1.0	0.32	0.11	**U**
106-99-0	1,3-Butadiene	0.69	1.1	0.69	0.19	**U**
75-00-3	Chloroethane	0.58	0.98	0.58	0.12	**U**
64-17-5	Ethanol	**15**	13	2.1	0.94	
67-64-1	Acetone	**6.7**	11	5.4	2.4	**J**
75-69-4	Trichlorofluoromethane	**0.19**	0.45	0.27	0.069	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**2.6**	4.1	1.2	0.43	**J**
75-09-2	Methylene Chloride	**0.24**	0.73	0.44	0.21	**J**
76-13-1	Trichlorotrifluoroethane	**0.061**	0.34	0.11	0.047	**J**
75-15-0	Carbon Disulfide	0.83	1.7	0.83	0.25	**U**
75-34-3	1,1-Dichloroethane	0.39	0.65	0.39	0.092	**U**
78-93-3	2-Butanone (MEK)	**0.77**	1.8	0.52	0.18	**J**
141-78-6	Ethyl Acetate	**30**	1.5	0.86	0.37	
110-54-3	n-Hexane	0.43	0.73	0.43	0.15	**U**
67-66-3	Chloroform	**37**	0.53	0.17	0.069	
109-99-9	Tetrahydrofuran (THF)	**1.0**	0.89	0.28	0.11	
107-06-2	1,2-Dichloroethane	0.20	0.64	0.20	0.070	**U**
71-43-2	Benzene	**0.16**	0.79	0.25	0.12	**J**
56-23-5	Carbon Tetrachloride	**0.11**	0.40	0.13	0.056	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV124-025-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-018

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Topacio De Leon Date Analyzed: 4/29/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00240

Initial Pressure (psig): -4.13 Final Pressure (psig): 5.45

Container Dilution Factor: 1.91

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane		0.47	1.5	0.47	0.21	**U**
75-27-4	Bromodichloromethane	**2.3**		0.39	0.12	0.055	
79-01-6	Trichloroethene		0.15	0.48	0.15	0.064	**U**
123-91-1	1,4-Dioxane		0.23	0.72	0.23	0.084	**U**
142-82-5	n-Heptane	**0.25**		0.63	0.37	0.099	**J**
108-10-1	4-Methyl-2-pentanone		0.20	0.62	0.20	0.085	**U**
108-88-3	Toluene	**2.1**		0.68	0.22	0.082	
591-78-6	2-Hexanone		0.20	0.63	0.20	0.077	**U**
124-48-1	Dibromochloromethane	**0.040**		0.30	0.095	0.039	**J**
106-93-4	1,2-Dibromoethane		0.11	0.34	0.11	0.039	**U**
127-18-4	Tetrachloroethene	**0.11**		0.37	0.12	0.049	**J**
100-41-4	Ethylbenzene	**0.21**		0.59	0.19	0.082	**J**
179601-23-1	m,p-Xylenes	**0.95**		1.2	0.37	0.15	**J**
75-25-2	Bromoform		0.15	0.25	0.15	0.051	**U**
100-42-5	Styrene		0.36	0.59	0.36	0.096	**U**
95-47-6	o-Xylene	**0.32**		0.59	0.19	0.085	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.54**		0.51	0.17	0.075	
95-63-6	1,2,4-Trimethylbenzene	**3.1**		0.52	0.17	0.072	
120-82-1	1,2,4-Trichlorobenzene		0.21	0.35	0.21	0.084	**U**
91-20-3	Naphthalene	**0.68**		0.47	0.28	0.12	
1330-20-7	Xylenes, Total	**1.3**		1.2	0.37	0.15	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV124-050-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-019

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao/Topacio De Leon Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00669

Initial Pressure (psig): -4.55 Final Pressure (psig): 5.89

Container Dilution Factor: 2.03

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.94	1.6	0.94	0.38	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.43**	0.54	0.33	0.089	**J**
74-87-3	Chloromethane	**0.48**	1.3	0.79	0.21	**J**
75-01-4	Vinyl Chloride	0.34	1.1	0.34	0.11	**U**
106-99-0	1,3-Butadiene	0.73	1.2	0.73	0.20	**U**
75-00-3	Chloroethane	0.62	1.0	0.62	0.13	**U**
64-17-5	Ethanol	2.2	14	2.2	1.0	**U**
67-64-1	Acetone	**20**	11	5.8	2.6	
75-69-4	Trichlorofluoromethane	**0.19**	0.48	0.29	0.073	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.3	4.3	1.3	0.45	**U**
75-09-2	Methylene Chloride	**0.62**	0.77	0.47	0.22	**J**
76-13-1	Trichlorotrifluoroethane	**0.063**	0.36	0.11	0.050	**J**
75-15-0	Carbon Disulfide	**1.3**	1.8	0.88	0.26	**J**
75-34-3	1,1-Dichloroethane	0.41	0.69	0.41	0.098	**U**
78-93-3	2-Butanone (MEK)	**3.0**	1.9	0.55	0.19	
141-78-6	Ethyl Acetate	0.92	1.5	0.92	0.39	**U**
110-54-3	n-Hexane	0.46	0.78	0.46	0.16	**U**
67-66-3	Chloroform	**370**	5.6	1.8	0.74	**D**
109-99-9	Tetrahydrofuran (THF)	**65**	0.95	0.29	0.12	
107-06-2	1,2-Dichloroethane	0.21	0.68	0.21	0.074	**U**
71-43-2	Benzene	0.27	0.84	0.27	0.12	**U**
56-23-5	Carbon Tetrachloride	**2.7**	0.43	0.14	0.060	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV124-050-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-019

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao/Topacio De Leon Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00669

Initial Pressure (psig): -4.55 Final Pressure (psig): 5.89

Container Dilution Factor: 2.03

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.50	1.6	0.50	0.22	**U**
75-27-4	Bromodichloromethane	**35**	0.41	0.13	0.058	
79-01-6	Trichloroethene	**0.88**	0.51	0.16	0.068	
123-91-1	1,4-Dioxane	0.24	0.76	0.24	0.089	**U**
142-82-5	n-Heptane	0.40	0.67	0.40	0.11	**U**
108-10-1	4-Methyl-2-pentanone	**0.14**	0.66	0.21	0.090	**J**
108-88-3	Toluene	**0.58**	0.73	0.23	0.088	**J**
591-78-6	2-Hexanone	**0.35**	0.67	0.21	0.082	**J**
124-48-1	Dibromochloromethane	**6.4**	0.32	0.10	0.042	
106-93-4	1,2-Dibromoethane	0.11	0.36	0.11	0.041	**U**
127-18-4	Tetrachloroethene	**1.7**	0.39	0.13	0.052	
100-41-4	Ethylbenzene	**0.12**	0.63	0.20	0.088	**J**
179601-23-1	m,p-Xylenes	**0.67**	1.3	0.40	0.16	**J**
75-25-2	Bromoform	**1.4**	0.27	0.16	0.054	
100-42-5	Styrene	0.38	0.63	0.38	0.10	**U**
95-47-6	o-Xylene	**0.21**	0.63	0.20	0.090	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.44**	0.55	0.18	0.080	**J**
95-63-6	1,2,4-Trimethylbenzene	**2.3**	0.56	0.18	0.076	
120-82-1	1,2,4-Trichlorobenzene	0.22	0.37	0.22	0.089	**U**
91-20-3	Naphthalene	**0.32**	0.50	0.30	0.13	**J**
1330-20-7	Xylenes, Total	**0.88**	1.3	0.40	0.16	**J**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200428-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 4/28/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.19	0.31	0.19	0.076	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.065	0.11	0.065	0.018	**U**
74-87-3	Chloromethane	0.16	0.26	0.16	0.042	**U**
75-01-4	Vinyl Chloride	0.067	0.21	0.067	0.022	**U**
106-99-0	1,3-Butadiene	0.14	0.24	0.14	0.040	**U**
75-00-3	Chloroethane	0.12	0.20	0.12	0.025	**U**
64-17-5	Ethanol	0.44	2.8	0.44	0.20	**U**
67-64-1	Acetone	1.1	2.2	1.1	0.51	**U**
75-69-4	Trichlorofluoromethane	0.057	0.094	0.057	0.014	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.26	0.85	0.26	0.090	**U**
75-09-2	Methylene Chloride	0.092	0.15	0.092	0.043	**U**
76-13-1	Trichlorotrifluoroethane	0.022	0.070	0.022	0.0099	**U**
75-15-0	Carbon Disulfide	0.17	0.35	0.17	0.051	**U**
75-34-3	1,1-Dichloroethane	0.082	0.14	0.082	0.019	**U**
78-93-3	2-Butanone (MEK)	0.11	0.37	0.11	0.037	**U**
141-78-6	Ethyl Acetate	0.18	0.31	0.18	0.078	**U**
110-54-3	n-Hexane	0.091	0.15	0.091	0.031	**U**
67-66-3	Chloroform	0.035	0.11	0.035	0.015	**U**
109-99-9	Tetrahydrofuran (THF)	0.058	0.19	0.058	0.023	**U**
107-06-2	1,2-Dichloroethane	0.042	0.13	0.042	0.015	**U**
71-43-2	Benzene	0.053	0.17	0.053	0.024	**U**
56-23-5	Carbon Tetrachloride	0.027	0.084	0.027	0.012	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200428-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 4/28/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.099	0.32	0.099	0.044	**U**
75-27-4	Bromodichloromethane	0.025	0.081	0.025	0.011	**U**
79-01-6	Trichloroethene	0.032	0.10	0.032	0.013	**U**
123-91-1	1,4-Dioxane	0.047	0.15	0.047	0.017	**U**
142-82-5	n-Heptane	0.078	0.13	0.078	0.021	**U**
108-10-1	4-Methyl-2-pentanone	0.041	0.13	0.041	0.018	**U**
108-88-3	Toluene	0.045	0.14	0.045	0.017	**U**
591-78-6	2-Hexanone	0.042	0.13	0.042	0.016	**U**
124-48-1	Dibromochloromethane	0.020	0.063	0.020	0.0082	**U**
106-93-4	1,2-Dibromoethane	0.022	0.070	0.022	0.0081	**U**
127-18-4	Tetrachloroethene	0.025	0.077	0.025	0.010	**U**
100-41-4	Ethylbenzene	0.039	0.12	0.039	0.017	**U**
179601-23-1	m,p-Xylenes	0.078	0.25	0.078	0.032	**U**
75-25-2	Bromoform	0.031	0.052	0.031	0.011	**U**
100-42-5	Styrene	0.075	0.12	0.075	0.020	**U**
95-47-6	o-Xylene	0.039	0.12	0.039	0.018	**U**
108-67-8	1,3,5-Trimethylbenzene	0.035	0.11	0.035	0.016	**U**
95-63-6	1,2,4-Trimethylbenzene	0.035	0.11	0.035	0.015	**U**
120-82-1	1,2,4-Trichlorobenzene	0.043	0.073	0.043	0.018	**U**
91-20-3	Naphthalene	0.059	0.099	0.059	0.025	**U**
1330-20-7	Xylenes, Total	0.078	0.25	0.078	0.032	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200429-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.19	0.31	0.19	0.076	U
75-71-8	Dichlorodifluoromethane (CFC 12)	0.065	0.11	0.065	0.018	U
74-87-3	Chloromethane	0.16	0.26	0.16	0.042	U
75-01-4	Vinyl Chloride	0.067	0.21	0.067	0.022	U
106-99-0	1,3-Butadiene	0.14	0.24	0.14	0.040	U
75-00-3	Chloroethane	0.12	0.20	0.12	0.025	U
64-17-5	Ethanol	0.44	2.8	0.44	0.20	U
67-64-1	Acetone	1.1	2.2	1.1	0.51	U
75-69-4	Trichlorofluoromethane	0.057	0.094	0.057	0.014	U
67-63-0	2-Propanol (Isopropyl Alcohol)	0.26	0.85	0.26	0.090	U
75-09-2	Methylene Chloride	0.092	0.15	0.092	0.043	U
76-13-1	Trichlorotrifluoroethane	0.022	0.070	0.022	0.0099	U
75-15-0	Carbon Disulfide	0.17	0.35	0.17	0.051	U
75-34-3	1,1-Dichloroethane	0.082	0.14	0.082	0.019	U
78-93-3	2-Butanone (MEK)	0.11	0.37	0.11	0.037	U
141-78-6	Ethyl Acetate	0.18	0.31	0.18	0.078	U
110-54-3	n-Hexane	0.091	0.15	0.091	0.031	U
67-66-3	Chloroform	0.035	0.11	0.035	0.015	U
109-99-9	Tetrahydrofuran (THF)	0.058	0.19	0.058	0.023	U
107-06-2	1,2-Dichloroethane	0.042	0.13	0.042	0.015	U
71-43-2	Benzene	0.053	0.17	0.053	0.024	U
56-23-5	Carbon Tetrachloride	0.027	0.084	0.027	0.012	U

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200429-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.099	0.32	0.099	0.044	**U**
75-27-4	Bromodichloromethane	0.025	0.081	0.025	0.011	**U**
79-01-6	Trichloroethene	0.032	0.10	0.032	0.013	**U**
123-91-1	1,4-Dioxane	0.047	0.15	0.047	0.017	**U**
142-82-5	n-Heptane	0.078	0.13	0.078	0.021	**U**
108-10-1	4-Methyl-2-pentanone	0.041	0.13	0.041	0.018	**U**
108-88-3	Toluene	0.045	0.14	0.045	0.017	**U**
591-78-6	2-Hexanone	0.042	0.13	0.042	0.016	**U**
124-48-1	Dibromochloromethane	0.020	0.063	0.020	0.0082	**U**
106-93-4	1,2-Dibromoethane	0.022	0.070	0.022	0.0081	**U**
127-18-4	Tetrachloroethene	0.025	0.077	0.025	0.010	**U**
100-41-4	Ethylbenzene	0.039	0.12	0.039	0.017	**U**
179601-23-1	m,p-Xylenes	0.078	0.25	0.078	0.032	**U**
75-25-2	Bromoform	0.031	0.052	0.031	0.011	**U**
100-42-5	Styrene	0.075	0.12	0.075	0.020	**U**
95-47-6	o-Xylene	0.039	0.12	0.039	0.018	**U**
108-67-8	1,3,5-Trimethylbenzene	0.035	0.11	0.035	0.016	**U**
95-63-6	1,2,4-Trimethylbenzene	0.035	0.11	0.035	0.015	**U**
120-82-1	1,2,4-Trichlorobenzene	0.043	0.073	0.043	0.018	**U**
91-20-3	Naphthalene	0.059	0.099	0.059	0.025	**U**
1330-20-7	Xylenes, Total	0.078	0.25	0.078	0.032	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Project ID: P2002030

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date(s) Collected: 4/7 - 4/8/20
Analyst: Simon Cao/Topacio De Leon Date(s) Received: 4/14/20
Sampling Media: 1.0 L Silonite Summa Canister(s) / 1.0 L Summa Canister(s) Date(s) Analyzed: 4/28 - 4/29/20
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P200428-MB	**92**	**104**	**100**	70-130	
Method Blank	P200429-MB	**92**	**102**	**99**	70-130	
Lab Control Sample	P200428-LCS	**93**	**103**	**102**	70-130	
Lab Control Sample	P200429-LCS	**92**	**104**	**100**	70-130	
Duplicate Lab Control Sample	P200428-DLCS	**92**	**103**	**100**	70-130	
Duplicate Lab Control Sample	P200429-DLCS	**92**	**104**	**99**	70-130	
SV028-150-202	P2002030-001	**94**	**100**	**101**	70-130	
SV028-250-202	P2002030-002	**94**	**101**	**103**	70-130	
SV028-350-202	P2002030-003	**93**	**101**	**102**	70-130	
SV028-450-202	P2002030-004	**92**	**99**	**93**	70-130	
SV028-450-202	P2002030-004DUP	**88**	**98**	**95**	70-130	
SV111-025-202	P2002030-005	**93**	**101**	**102**	70-130	
SV111-050-602	P2002030-006	**93**	**100**	**100**	70-130	
SV111-050-202	P2002030-007	**94**	**100**	**101**	70-130	
SV111-150-202	P2002030-008	**92**	**102**	**97**	70-130	
SV111-250-202	P2002030-009	**93**	**98**	**93**	70-130	
SV111-350-202	P2002030-010	**93**	**98**	**94**	70-130	
SV111-450-202	P2002030-011	**92**	**100**	**97**	70-130	
SV117-025-202	P2002030-012	**92**	**102**	**102**	70-130	
SV117-050-202	P2002030-013	**92**	**102**	**102**	70-130	
SV117-150-202	P2002030-014	**92**	**102**	**102**	70-130	
SV117-250-202	P2002030-015	**92**	**100**	**96**	70-130	
SV117-350-202	P2002030-016	**93**	**93**	**91**	70-130	
SV117-450-202	P2002030-017	**94**	**97**	**92**	70-130	
SV124-025-202	P2002030-018	**92**	**103**	**98**	70-130	
SV124-050-202	P2002030-019	**95**	**102**	**100**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200428-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 4/28/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	122	127	127	**104**	**104**	57-136	0	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	42.5	38.9	38.6	**92**	**91**	59-128	1	25	
74-87-3	Chloromethane	103	112	113	**109**	**110**	59-132	0.9	25	
75-01-4	Vinyl Chloride	83.0	84.5	83.9	**102**	**101**	64-127	1	25	
106-99-0	1,3-Butadiene	95.9	107	107	**112**	**112**	66-134	0	25	
75-00-3	Chloroethane	81.1	76.3	76.1	**94**	**94**	63-127	0	25	
64-17-5	Ethanol	563	514	517	**91**	**92**	59-125	1	25	
67-64-1	Acetone	450	423	422	**94**	**94**	58-128	0	25	
75-69-4	Trichlorofluoromethane	37.7	33.8	33.1	**90**	**88**	62-126	2	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	172	162	161	**94**	**94**	52-125	0	25	
75-09-2	Methylene Chloride	60.5	59.3	58.6	**98**	**97**	62-115	1	25	
76-13-1	Trichlorotrifluoroethane	28.2	26.1	25.7	**93**	**91**	66-126	2	25	
75-15-0	Carbon Disulfide	68.1	68.5	67.7	**101**	**99**	57-134	2	25	
75-34-3	1,1-Dichloroethane	52.4	49.3	48.9	**94**	**93**	68-126	1	25	
78-93-3	2-Butanone (MEK)	71.9	76.1	75.1	**106**	**104**	67-130	2	25	
141-78-6	Ethyl Acetate	120	126	126	**105**	**105**	65-128	0	25	
110-54-3	n-Hexane	61.3	61.2	60.7	**100**	**99**	63-120	1	25	
67-66-3	Chloroform	43.8	41.0	40.5	**94**	**92**	68-123	2	25	
109-99-9	Tetrahydrofuran (THF)	74.6	72.4	73.2	**97**	**98**	64-123	1	25	
107-06-2	1,2-Dichloroethane	52.9	49.1	48.2	**93**	**91**	65-128	2	25	
71-43-2	Benzene	65.8	62.6	63.0	**95**	**96**	69-119	1	25	
56-23-5	Carbon Tetrachloride	33.1	30.3	29.7	**92**	**90**	68-132	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200428-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 4/28/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	123	119	119	**97**	**97**	70-117	0	25	
75-27-4	Bromodichloromethane	32.6	29.8	29.6	**91**	**91**	72-128	0	25	
79-01-6	Trichloroethene	40.2	38.6	38.1	**96**	**95**	71-123	1	25	
123-91-1	1,4-Dioxane	60.0	61.9	61.8	**103**	**103**	71-122	0	25	
142-82-5	n-Heptane	52.2	52.3	52.0	**100**	**100**	69-123	0	25	
108-10-1	4-Methyl-2-pentanone	51.8	54.6	54.7	**105**	**106**	67-130	0.9	25	
108-88-3	Toluene	56.3	57.6	57.3	**102**	**102**	66-119	0	25	
591-78-6	2-Hexanone	52.7	62.4	62.4	**118**	**118**	62-128	0	25	
124-48-1	Dibromochloromethane	25.1	26.4	26.0	**105**	**104**	70-130	1	25	
106-93-4	1,2-Dibromoethane	27.9	29.8	29.6	**107**	**106**	74-122	0.9	25	
127-18-4	Tetrachloroethene	30.7	30.6	30.4	**100**	**99**	66-124	1	25	
100-41-4	Ethylbenzene	48.8	50.1	49.5	**103**	**101**	70-124	2	25	
179601-23-1	m,p-Xylenes	98.1	98.1	97.2	**100**	**99**	61-134	1	25	
75-25-2	Bromoform	20.7	22.3	22.0	**108**	**106**	66-139	2	25	
100-42-5	Styrene	49.8	54.0	53.5	**108**	**107**	73-127	0.9	25	
95-47-6	o-Xylene	49.3	49.1	48.6	**100**	**99**	67-125	1	25	
108-67-8	1,3,5-Trimethylbenzene	43.1	42.8	42.6	**99**	**99**	67-130	0	25	
95-63-6	1,2,4-Trimethylbenzene	43.1	43.9	43.5	**102**	**101**	66-132	1	25	
120-82-1	1,2,4-Trichlorobenzene	29.1	33.0	32.7	**113**	**112**	55-142	0.9	25	
91-20-3	Naphthalene	40.5	42.9	42.9	**106**	**106**	57-138	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200429-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	122	132	138	**108**	**113**	57-136	5	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	42.5	38.6	39.5	**91**	**93**	59-128	2	25	
74-87-3	Chloromethane	103	111	116	**108**	**113**	59-132	5	25	
75-01-4	Vinyl Chloride	83.0	81.7	84.7	**98**	**102**	64-127	4	25	
106-99-0	1,3-Butadiene	95.9	106	108	**111**	**113**	66-134	2	25	
75-00-3	Chloroethane	81.1	75.8	79.1	**93**	**98**	63-127	5	25	
64-17-5	Ethanol	563	517	537	**92**	**95**	59-125	3	25	
67-64-1	Acetone	450	425	438	**94**	**97**	58-128	3	25	
75-69-4	Trichlorofluoromethane	37.7	32.9	33.5	**87**	**89**	62-126	2	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	172	159	162	**92**	**94**	52-125	2	25	
75-09-2	Methylene Chloride	60.5	58.8	60.0	**97**	**99**	62-115	2	25	
76-13-1	Trichlorotrifluoroethane	28.2	25.6	26.1	**91**	**93**	66-126	2	25	
75-15-0	Carbon Disulfide	68.1	68.0	69.4	**100**	**102**	57-134	2	25	
75-34-3	1,1-Dichloroethane	52.4	48.7	49.8	**93**	**95**	68-126	2	25	
78-93-3	2-Butanone (MEK)	71.9	74.7	76.9	**104**	**107**	67-130	3	25	
141-78-6	Ethyl Acetate	120	126	129	**105**	**108**	65-128	3	25	
110-54-3	n-Hexane	61.3	60.8	62.5	**99**	**102**	63-120	3	25	
67-66-3	Chloroform	43.8	40.1	41.0	**92**	**94**	68-123	2	25	
109-99-9	Tetrahydrofuran (THF)	74.6	73.4	75.3	**98**	**101**	64-123	3	25	
107-06-2	1,2-Dichloroethane	52.9	48.3	49.1	**91**	**93**	65-128	2	25	
71-43-2	Benzene	65.8	62.4	63.8	**95**	**97**	69-119	2	25	
56-23-5	Carbon Tetrachloride	33.1	29.3	29.9	**89**	**90**	68-132	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200429-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	123	118	120	**96**	**98**	70-117	2	25	
75-27-4	Bromodichloromethane	32.6	29.2	29.9	**90**	**92**	72-128	2	25	
79-01-6	Trichloroethene	40.2	37.7	38.5	**94**	**96**	71-123	2	25	
123-91-1	1,4-Dioxane	60.0	61.5	62.6	**103**	**104**	71-122	1	25	
142-82-5	n-Heptane	52.2	51.5	52.3	**99**	**100**	69-123	1	25	
108-10-1	4-Methyl-2-pentanone	51.8	54.8	55.5	**106**	**107**	67-130	0.9	25	
108-88-3	Toluene	56.3	56.8	58.2	**101**	**103**	66-119	2	25	
591-78-6	2-Hexanone	52.7	62.4	63.6	**118**	**121**	62-128	3	25	
124-48-1	Dibromochloromethane	25.1	25.7	26.3	**102**	**105**	70-130	3	25	
106-93-4	1,2-Dibromoethane	27.9	29.4	29.8	**105**	**107**	74-122	2	25	
127-18-4	Tetrachloroethene	30.7	29.9	30.6	**97**	**100**	66-124	3	25	
100-41-4	Ethylbenzene	48.8	49.3	50.4	**101**	**103**	70-124	2	25	
179601-23-1	m,p-Xylenes	98.1	96.8	98.7	**99**	**101**	61-134	2	25	
75-25-2	Bromoform	20.7	21.8	22.1	**105**	**107**	66-139	2	25	
100-42-5	Styrene	49.8	53.1	54.2	**107**	**109**	73-127	2	25	
95-47-6	o-Xylene	49.3	48.5	49.5	**98**	**100**	67-125	2	25	
108-67-8	1,3,5-Trimethylbenzene	43.1	42.2	43.0	**98**	**100**	67-130	2	25	
95-63-6	1,2,4-Trimethylbenzene	43.1	42.9	43.8	**100**	**102**	66-132	2	25	
120-82-1	1,2,4-Trichlorobenzene	29.1	32.3	33.0	**111**	**113**	55-142	2	25	
91-20-3	Naphthalene	40.5	42.6	43.4	**105**	**107**	57-138	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV028-450-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-004DUP

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/28/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.025 Liter(s)
Test Notes:
Container ID: 1SC01113

Initial Pressure (psig): -3.09 Final Pressure (psig): 5.57

Container Dilution Factor: 1.75

Compound	Sample Result ppbV	Duplicate Sample Result ppbV	Average ppbV	% RPD	RPD Limit	Data Qualifier
Propene	160	150	155	**6**	25	
Dichlorodifluoromethane (CFC 12)	ND	ND	-	-	25	
Chloromethane	4.1	3.9	4	**5**	25	**J**
Vinyl Chloride	ND	ND	-	-	25	
1,3-Butadiene	ND	ND	-	-	25	
Chloroethane	ND	ND	-	-	25	
Ethanol	ND	ND	-	-	25	
Acetone	ND	ND	-	-	25	
Trichlorofluoromethane	ND	ND	-	-	25	
2-Propanol (Isopropyl Alcohol)	81	80	80.5	**1**	25	
Methylene Chloride	ND	ND	-	-	25	
Trichlorotrifluoroethane	ND	ND	-	-	25	
Carbon Disulfide	ND	ND	-	-	25	
1,1-Dichloroethane	ND	ND	-	-	25	
2-Butanone (MEK)	18	17	17.5	**6**	25	**J**
Ethyl Acetate	ND	ND	-	-	25	
n-Hexane	250	250	250	**0**	25	
Chloroform	ND	ND	-	-	25	
Tetrahydrofuran (THF)	ND	ND	-	-	25	
1,2-Dichloroethane	ND	ND	-	-	25	
Benzene	11	11	11	**0**	25	**J**
Carbon Tetrachloride	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV028-450-202** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002030-004DUP

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/14/20
Analyst: Simon Cao Date Analyzed: 4/28/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.025 Liter(s)
Test Notes:
Container ID: 1SC01113

Initial Pressure (psig): -3.09 Final Pressure (psig): 5.57

Container Dilution Factor: 1.75

Compound	Sample Result ppbV	Duplicate Sample Result ppbV	Average ppbV	% RPD	RPD Limit	Data Qualifier
Cyclohexane	2,200	2,200	2200	**0**	25	
Bromodichloromethane	ND	ND	-	-	25	
Trichloroethene	ND	ND	-	-	25	
1,4-Dioxane	ND	ND	-	-	25	
n-Heptane	15	15	15	**0**	25	
4-Methyl-2-pentanone	ND	ND	-	-	25	
Toluene	ND	ND	-	-	25	
2-Hexanone	ND	ND	-	-	25	
Dibromochloromethane	ND	ND	-	-	25	
1,2-Dibromoethane	ND	ND	-	-	25	
Tetrachloroethene	ND	ND	-	-	25	
Ethylbenzene	ND	ND	-	-	25	
m,p-Xylenes	3.8	3.0	3.4	**24**	25	**J**
Bromoform	ND	ND	-	-	25	
Styrene	ND	ND	-	-	25	
o-Xylene	17	16	16.5	**6**	25	
1,3,5-Trimethylbenzene	18	19	18.5	**5**	25	
1,2,4-Trimethylbenzene	ND	ND	-	-	25	
1,2,4-Trichlorobenzene	ND	ND	-	-	25	
Naphthalene	ND	ND	-	-	25	
Xylenes, Total	21	19	20	**10**	25	

ND = Compound was analyzed for, but not detected.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: **EA Engineering, Science, and Technology, Inc.** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 04282002.D
Analyst: Topacio De Leon Date Analyzed: 4/28/20
Sampling Media: 1.0 L Silonite Summa Canister(s) Time Analyzed: 12:33
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	160080		9.16	667990		11.12		291354		15.46	
	Upper Limit	224112		9.49	935186		11.45		407896		15.79	
	Lower Limit	96048		8.83	400794		10.79		174812		15.13	
	Client Sample ID											
01	Method Blank	144321		9.13	608971		11.11		264087		15.46	
02	Lab Control Sample	153238		9.16	642430		11.12		279357		15.46	
03	Duplicate Lab Control Sample	158024		9.16	655936		11.12		285393		15.46	
04	SV028-450-202	153043		9.13	639965		11.11		287828		15.46	
05	SV028-450-202 (Lab Duplicate)	159720		9.13	645274		11.11		293069		15.46	
06	SV111-150-202	159906		9.13	670498		11.11		295539		15.46	
07	SV111-250-202	157422		9.13	666947		11.11		302543		15.46	
08	SV111-350-202	158756		9.13	685789		11.11		306805		15.46	
09	SV028-150-202	149530		9.13	631867		11.10		287955		15.46	
10	SV028-250-202	148817		9.13	630683		11.11		286245		15.46	
11	SV028-350-202	150871		9.13	634945		11.11		288400		15.46	
12	SV111-025-202	151130		9.13	640172		11.11		291030		15.46	
13	SV111-050-602	153950		9.13	650159		11.11		298586		15.46	
14	SV111-050-202	152982		9.13	654607		11.11		297755		15.46	
15	SV117-025-202	153333		9.13	648295		11.11		293805		15.46	
16	SV117-050-202	153303		9.14	646882		11.11		288604		15.46	
17	SV117-150-202	153289		9.13	641333		11.11		288548		15.46	
18	SV124-050-202	150195		9.14	642381		11.11		284854		15.46	
19	SV111-450-202	153386		9.13	650732		11.11		293626		15.46	
20												

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: **EA Engineering, Science, and Technology, Inc.** ALS Project ID: P2002030
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 04292003.D
Analyst: Simon Cao Date Analyzed: 4/29/20
Sampling Media: 1.0 L Summa Canister(s) Time Analyzed: 06:19
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	165863		9.16	693341		11.12		304929		15.46	
	Upper Limit	232208		9.49	970677		11.45		426901		15.79	
	Lower Limit	99518		8.83	416005		10.79		182957		15.13	
	Client Sample ID											
01	Method Blank	147560		9.13	622939		11.10		273854		15.46	
02	Lab Control Sample	159720		9.16	668762		11.12		290463		15.46	
03	Duplicate Lab Control Sample	157698		9.16	660725		11.12		286674		15.46	
04	SV117-250-202	158030		9.13	662592		11.11		298633		15.46	
05	SV117-350-202	153926		9.13	657226		11.11		311938		15.46	
06	SV124-050-202 (Dilution)	158597		9.13	672685		11.11		293882		15.45	
07	SV124-025-202	153480		9.13	645873		11.11		285815		15.45	
08	SV117-450-202	160431		9.13	682346		11.11		319485		15.46	
09												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282017.D Vial: 4
Acq On : 28 Apr 2020 21:20 Operator: SC
Sample : P2002030-001 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 09:42:10 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 4/29/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	149530	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.10	114	631867	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	15.46	82	287955	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	228442	11.791	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.32%				
57) Toluene-d8 (SS2)	13.54	98	696738	12.531	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.24%				
73) Bromofluorobenzene (SS3)	17.05	174	282460	12.641	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.12%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	3.98	85	28868	1.196	ng		100
4) Chloromethane	4.18	50	376	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.36	45	11089	2.305	ng		87
11) Acetonitrile	5.57	41	531	N.D.			
12) Acrolein	5.72	56	452	0.103	ng		81
13) Acetone	5.84	58	7207	1.248	ng	#	78
14) Trichlorofluoromethane	6.02	101	9680	0.403	ng		99
15) 2-Propanol (Isopropanol)	6.20	45	234	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	6.86	59	85	N.D.			
19) Methylene Chloride	6.86	84	150	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	7.18	151	1189	0.095	ng		100
22) Carbon Disulfide	7.15	76	23114	0.686	ng		97
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	0.00	72	0	N.D.	d		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	9.22	57	485	N.D.			
32) Chloroform	9.28	83	289	N.D.			
34) Tetrahydrofuran (THF)	9.67	72	52831	8.791	ng		97
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.75	78	2115	0.051	ng		84
42) Carbon Tetrachloride	10.90	117	312	N.D.			
43) Cyclohexane	0.00	84	0	N.D.	d		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282017.D Vial: 4
Acq On : 28 Apr 2020 21:20 Operator: SC
Sample : P2002030-001 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 09:42:10 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.12	71	189	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.65	91	6732	0.144 ng	97
59) 2-Hexanone	0.00	43	0	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.66	57	396	0.053 ng	96
64) Tetrachloroethene	14.80	166	2953	0.168 ng	91
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.91	91	541	N.D.	
67) m- & p-Xylenes	16.09	91	1627	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.60	91	508	N.D.	
71) n-Nonane	16.82	43	518	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.70	83	467	N.D.	
74) Cumene	17.04	105	281	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.68	91	1608	N.D.	
77) 3-Ethyltoluene	17.83	105	202	N.D.	
78) 4-Ethyltoluene	17.86	105	211	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	216	N.D.	
80) alpha-Methylstyrene	18.12	118	814	N.D.	
81) 2-Ethyltoluene	18.16	105	218	N.D.	
82) 1,2,4-Trimethylbenzene	18.39	105	561	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	18.84	105	300	N.D.	
88) 4-Isopropyltoluene (p-...	18.83	119	348	N.D.	
89) 1,2,3-Trimethylbenzene	18.84	105	300	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	18.98	68	528	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.92	128	751	N.D.	
96) n-Dodecane	20.92	57	651	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	18.35	119	159	N.D.	
100) n-Butylbenzene	19.26	91	462	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

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Misc : S34-04212006

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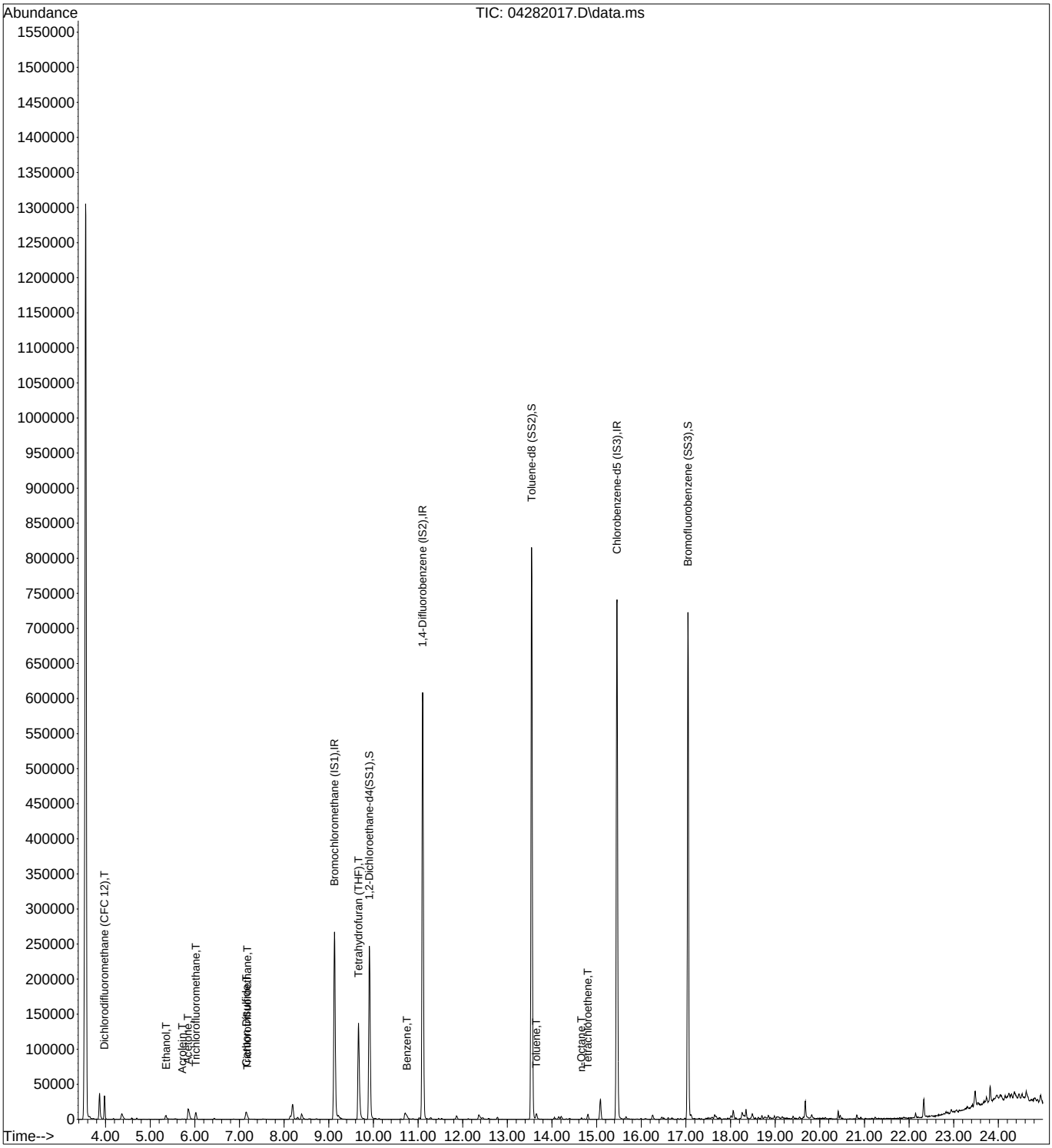

Quantitation Report (QT Reviewed)

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4/29/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	149530	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.10	114	631867	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	15.46	82	287955	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	228442	11.791	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.32%				
57) Toluene-d8 (SS2)	13.54	98	696738	12.531	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.24%				
73) Bromofluorobenzene (SS3)	17.05	174	282460	12.641	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.12%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.98	85	28868	1.196	ng		100
10) Ethanol	5.36	45	11089	2.305	ng		87
12) Acrolein	5.72	56	452	0.103	ng		81
13) Acetone	5.84	58	7207	1.248	ng	#	78
14) Trichlorofluoromethane	6.02	101	9680	0.403	ng		99
21) Trichlorotrifluoroethane	7.18	151	1189	0.095	ng		100
22) Carbon Disulfide	7.15	76	23114	0.686	ng		97
34) Tetrahydrofuran (THF)	9.67	72	52831	8.791	ng		97
41) Benzene	10.75	78	2115	0.051	ng		84
58) Toluene	13.65	91	6732	0.144	ng		97
63) n-Octane	14.66	57	396	0.053	ng		96
64) Tetrachloroethene	14.80	166	2953	0.168	ng		91

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282017.D Vial: 4
Acq On : 28 Apr 2020 21:20 Operator: SC
Sample : P2002030-001 (400mL) Inst : MS09
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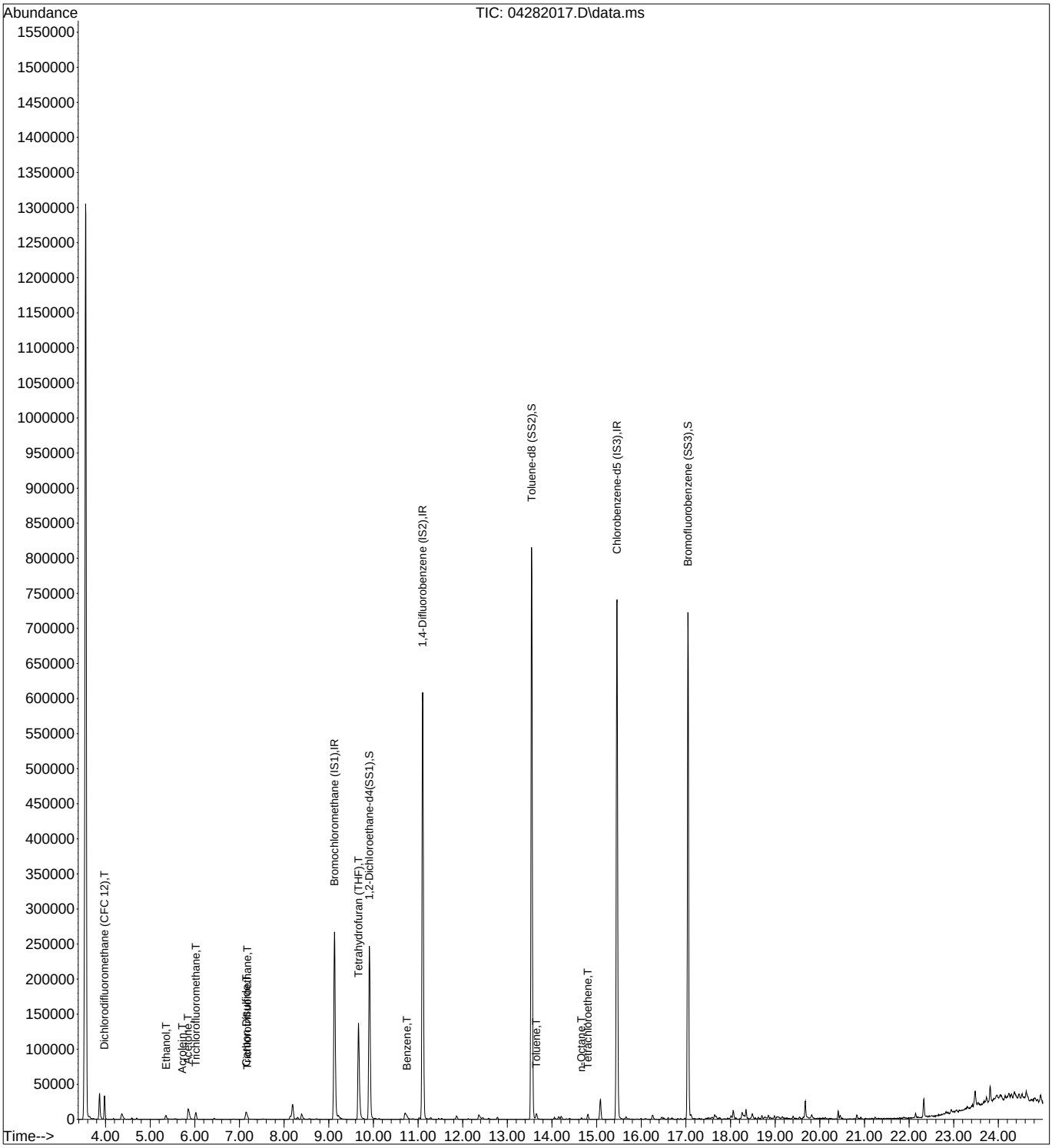
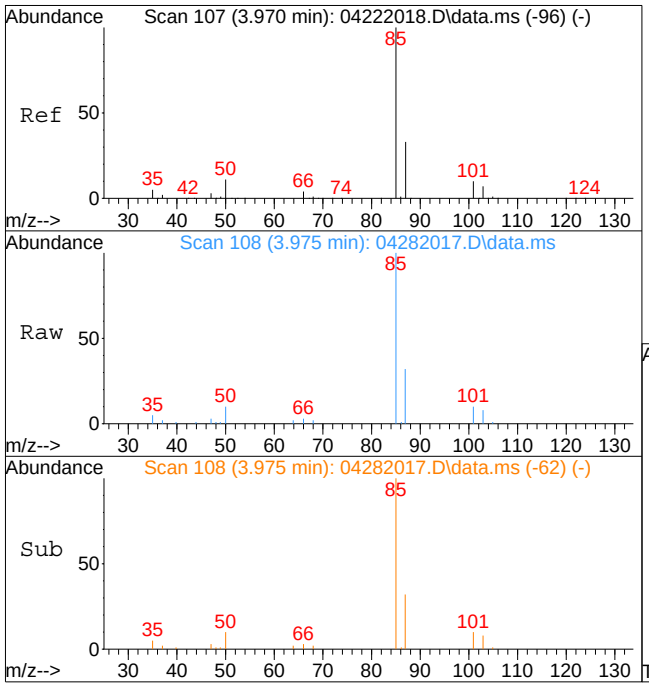
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

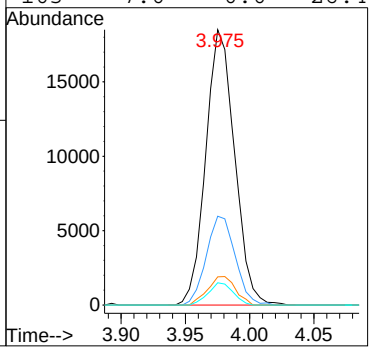


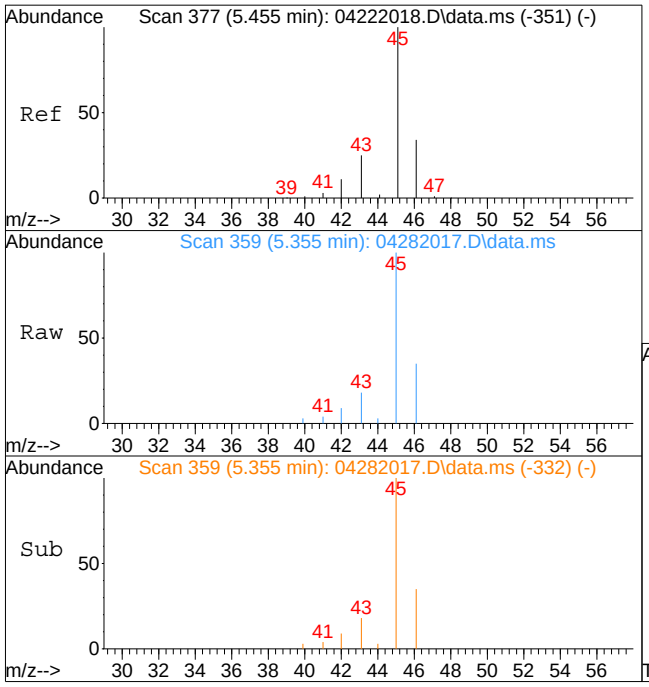


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.20 ng
RT: 3.98 min Scan# 108
Delta R.T. 0.005 min
Lab File: 04282017.D
Acq: 28 Apr 2020 21:20

Tgt Ion: 85 Resp: 28868

Ion	Ratio	Lower	Upper
85	100		
87	32.3	12.4	52.4
101	10.0	0.0	29.9
103	7.0	0.0	26.4

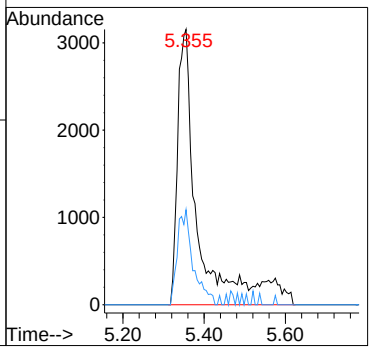


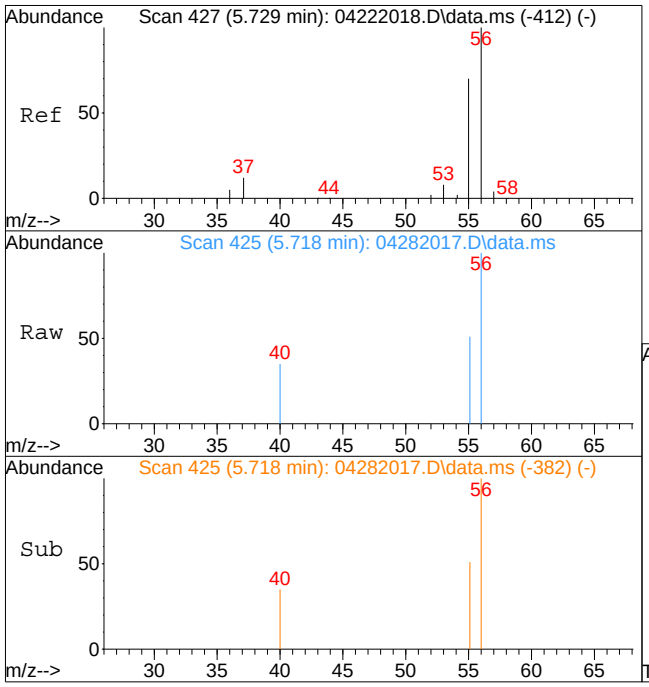


#10
Ethanol
Concen: 2.31 ng
RT: 5.36 min Scan# 359
Delta R.T. -0.099 min
Lab File: 04282017.D
Acq: 28 Apr 2020 21:20

Tgt Ion: 45 Resp: 11089

Ion	Ratio	Lower	Upper
45	100		
46	26.3	14.0	54.0

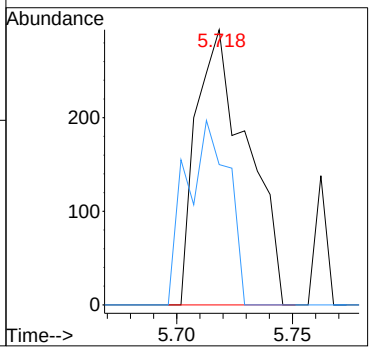


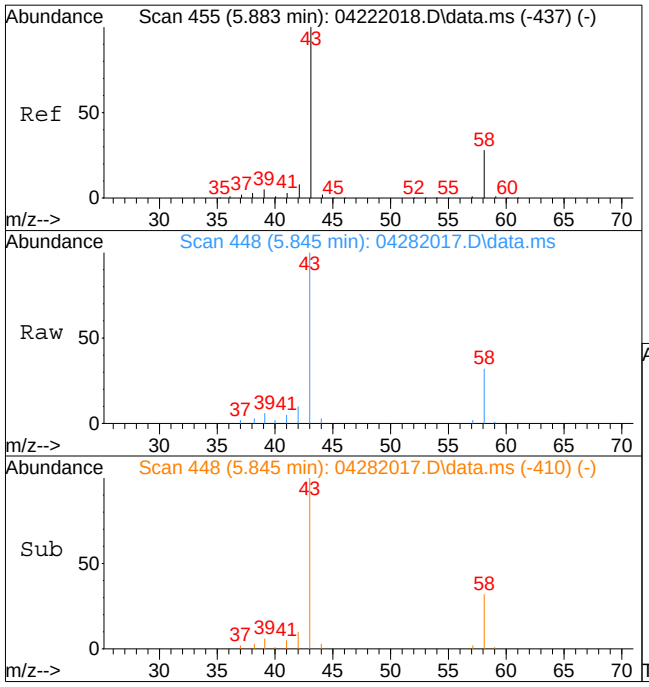


#12
Acrolein
Concen: 0.10 ng
RT: 5.72 min Scan# 425
Delta R.T. -0.011 min
Lab File: 04282017.D
Acq: 28 Apr 2020 21:20

Tgt Ion: 56 Resp: 452

Ion	Ratio	Lower	Upper
56	100		
55	55.1	50.4	90.4

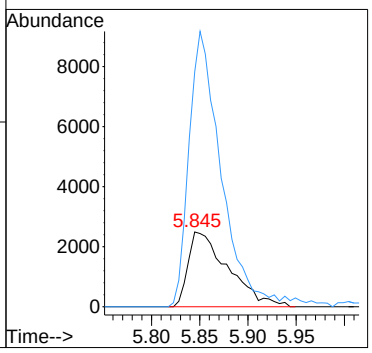


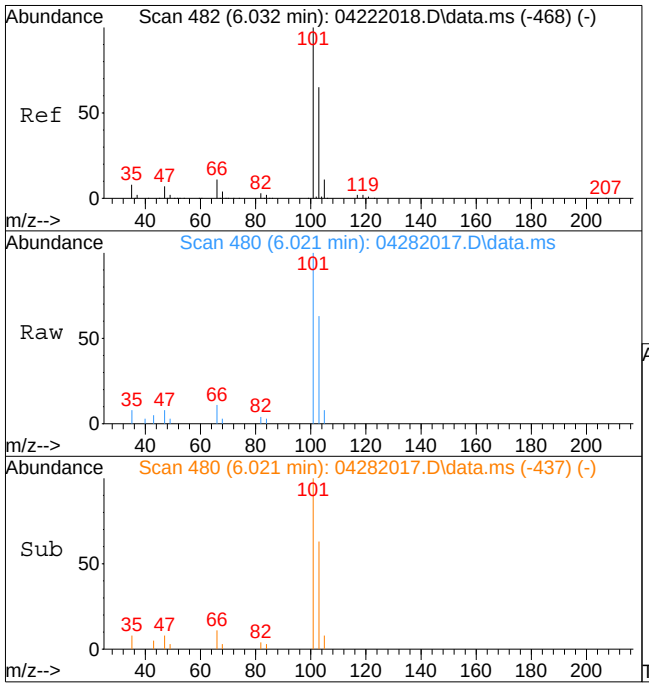


#13
Acetone
Concen: 1.25 ng
RT: 5.84 min Scan# 448
Delta R.T. -0.039 min
Lab File: 04282017.D
Acq: 28 Apr 2020 21:20

Tgt Ion: 58 Resp: 7207

Ion	Ratio	Lower	Upper
58	100		
43	301.1	319.3	379.3#

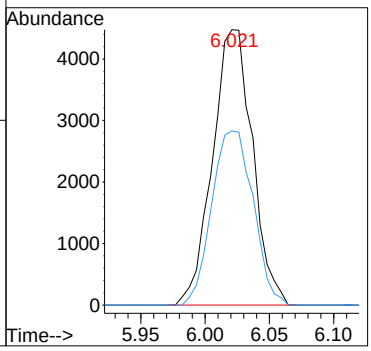


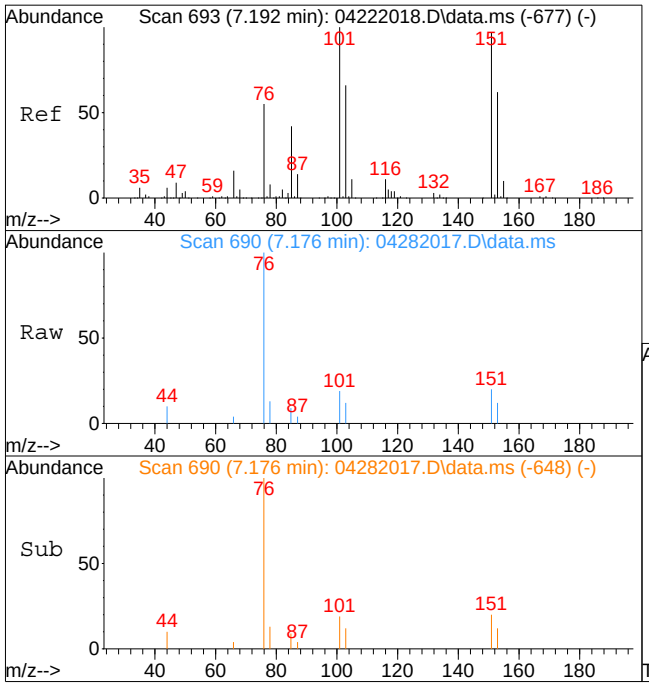


#14
Trichlorofluoromethane
Concen: 0.40 ng
RT: 6.02 min Scan# 480
Delta R.T. -0.011 min
Lab File: 04282017.D
Acq: 28 Apr 2020 21:20

Tgt Ion:101 Resp: 9680

Ion	Ratio	Lower	Upper
101	100		
103	65.4	44.7	84.7

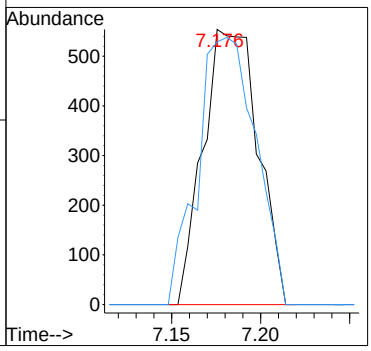


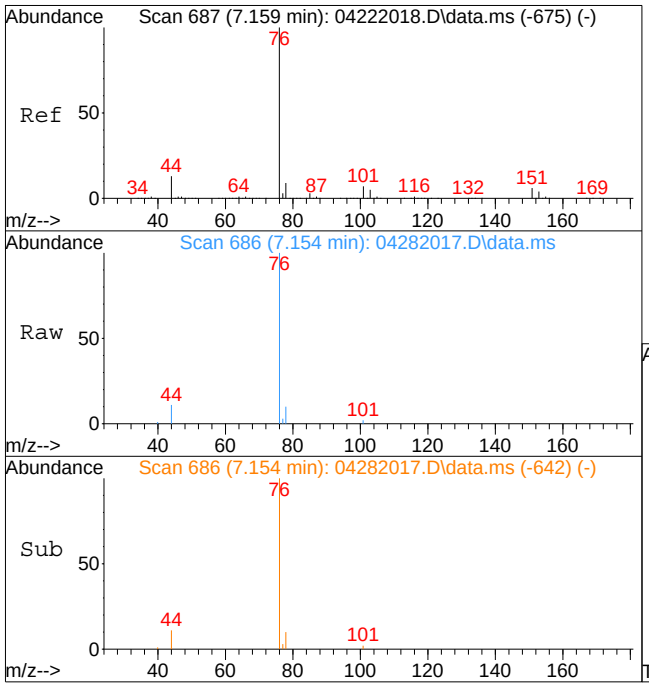


#21
Trichlorotrifluoroethane
Concen: 0.10 ng
RT: 7.18 min Scan# 690
Delta R.T. -0.017 min
Lab File: 04282017.D
Acq: 28 Apr 2020 21:20

Tgt Ion:151 Resp: 1189

Ion	Ratio	Lower	Upper
151	100		
101	103.2	82.9	122.9

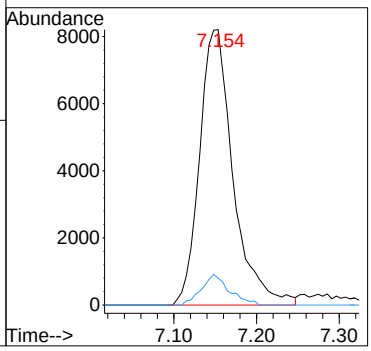


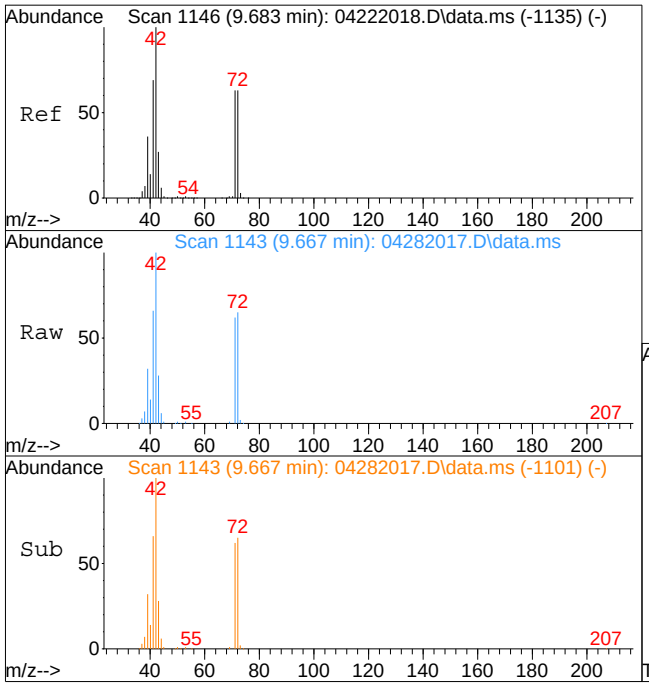


#22
Carbon Disulfide
Concen: 0.69 ng
RT: 7.15 min Scan# 686
Delta R.T. -0.006 min
Lab File: 04282017.D
Acq: 28 Apr 2020 21:20

Tgt Ion: 76 Resp: 23114

Ion	Ratio	Lower	Upper
76	100		
78	9.2	0.0	30.2

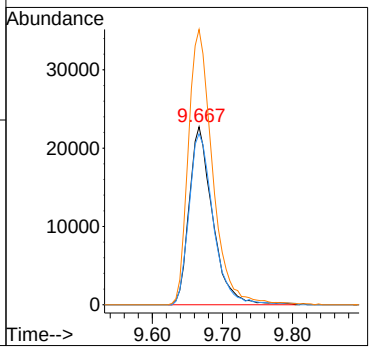


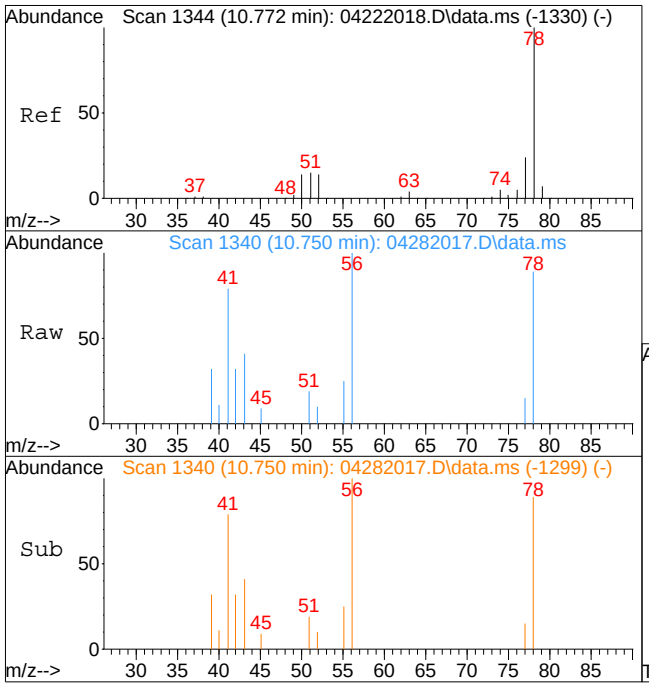


#34
Tetrahydrofuran (THF)
Concen: 8.79 ng
RT: 9.67 min Scan# 1143
Delta R.T. -0.017 min
Lab File: 04282017.D
Acq: 28 Apr 2020 21:20

Tgt Ion: 72 Resp: 52831

Ion	Ratio	Lower	Upper
72	100		
71	99.3	77.9	117.9
42	160.1	133.9	173.9

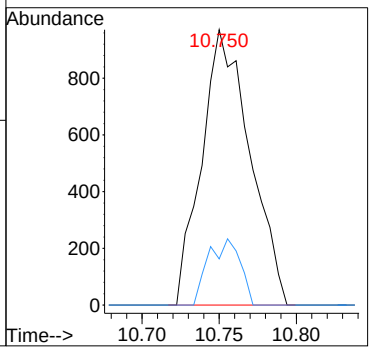


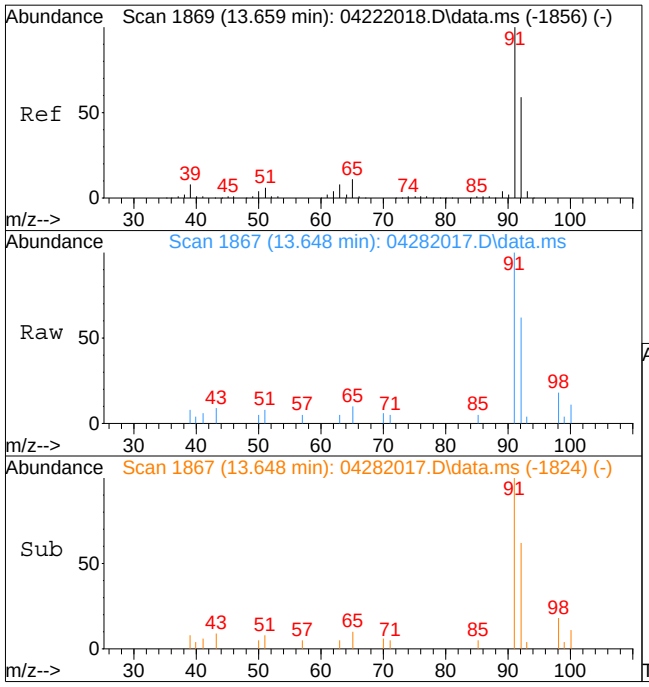


#41
Benzene
Concen: 0.05 ng
RT: 10.75 min Scan# 1340
Delta R.T. -0.022 min
Lab File: 04282017.D
Acq: 28 Apr 2020 21:20

Tgt Ion: 78 Resp: 2115

Ion	Ratio	Lower	Upper
78	100		
77	15.8	3.6	43.6

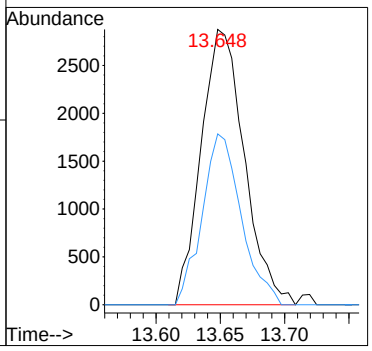


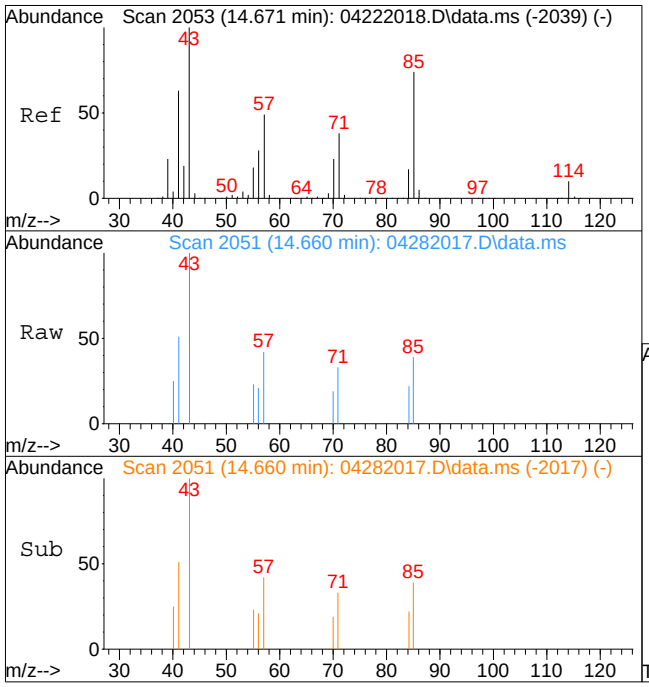


#58
Toluene
Concen: 0.14 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.011 min
Lab File: 04282017.D
Acq: 28 Apr 2020 21:20

Tgt Ion: 91 Resp: 6732

Ion	Ratio	Lower	Upper
91	100		
92	56.0	38.2	78.2

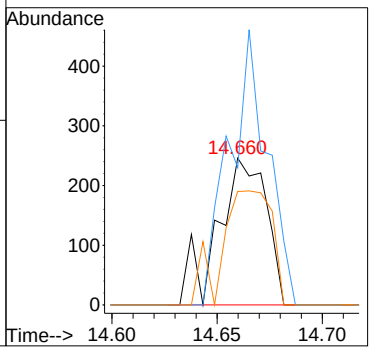


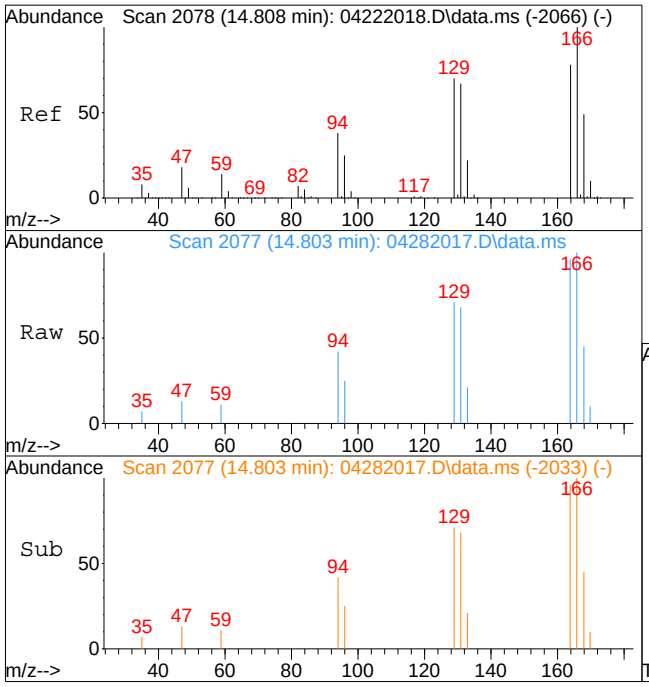


#63
n-Octane
Concen: 0.05 ng
RT: 14.66 min Scan# 2051
Delta R.T. -0.011 min
Lab File: 04282017.D
Acq: 28 Apr 2020 21:20

Tgt Ion: 57 Resp: 396

Ion	Ratio	Lower	Upper
57	100		
85	146.0	120.7	181.1
71	80.1	61.1	91.7

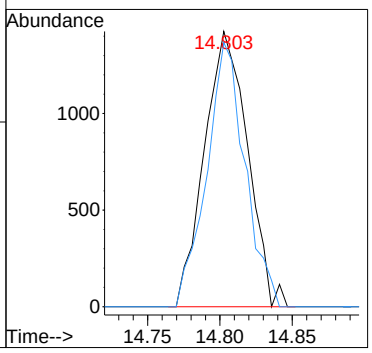




#64
Tetrachloroethene
Concen: 0.17 ng
RT: 14.80 min Scan# 2077
Delta R.T. -0.006 min
Lab File: 04282017.D
Acq: 28 Apr 2020 21:20

Tgt Ion:166 Resp: 2953

Ion	Ratio	Lower	Upper
166	100		
164	85.4	57.7	97.7



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282018.D Vial: 5
Acq On : 28 Apr 2020 21:54 Operator: SC
Sample : P2002030-002 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 09:43:40 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020 4/29/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	148817	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	630683	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	286245	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	228053	11.828	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.64%				
57) Toluene-d8 (SS2)	13.54	98	698815	12.644	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.12%				
73) Bromofluorobenzene (SS3)	17.05	174	285540	12.855	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.80%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.98	85	46821	1.950	ng		99
4) Chloromethane	4.18	50	407	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	109	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.15	64	104	N.D.			
10) Ethanol	5.34	45	11357	2.372	ng		81
11) Acetonitrile	5.58	41	394	N.D.			
12) Acrolein	0.00	56	0	N.D. d			
13) Acetone	5.85	58	6977	1.214	ng	#	75
14) Trichlorofluoromethane	6.02	101	16139	0.675	ng		99
15) 2-Propanol (Isopropanol)	6.19	45	762	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	6.87	59	88	N.D.			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	7.18	151	910	0.073	ng		89
22) Carbon Disulfide	7.15	76	6734	0.201	ng		89
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	0.00	72	0	N.D. d			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	9.22	57	698	0.055	ng	#	80
32) Chloroform	9.28	83	1635	0.080	ng		94
34) Tetrahydrofuran (THF)	9.66	72	157825	26.386	ng		98
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	10.04	62	144	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D. d			
41) Benzene	10.76	78	4420	0.108	ng		97
42) Carbon Tetrachloride	10.90	117	1272	0.060	ng		95
43) Cyclohexane	11.02	84	1544	0.096	ng	#	81
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	11.76	83	552	N.D.			
47) Trichloroethene	11.82	130	175	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282018.D Vial: 5
Acq On : 28 Apr 2020 21:54 Operator: SC
Sample : P2002030-002 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 09:43:40 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

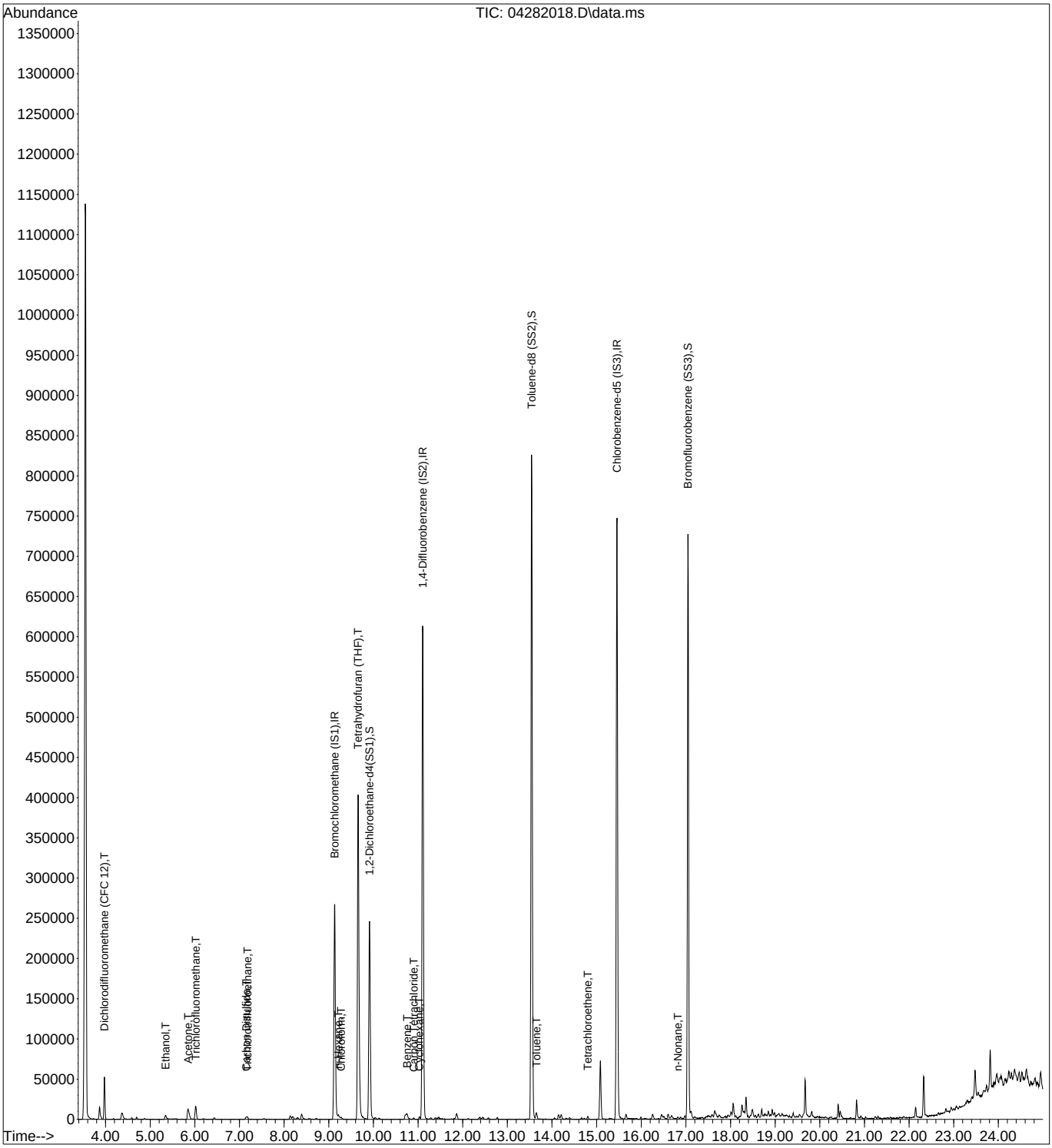
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.12	71	191	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.65	91	6220	0.134 ng	97
59) 2-Hexanone	0.00	43	0	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.67	57	354	N.D.	
64) Tetrachloroethene	14.80	166	1460	0.084 ng	94
65) Chlorobenzene	15.66	112	188	N.D.	
66) Ethylbenzene	15.92	91	637	N.D.	
67) m- & p-Xylenes	16.10	91	1307	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.60	91	707	N.D.	
71) n-Nonane	16.82	43	985	0.068 ng	94
72) 1,1,2,2-Tetrachloroethane	16.60	83	623	N.D.	
74) Cumene	17.21	105	524	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.70	91	551	N.D.	
77) 3-Ethyltoluene	17.84	105	181	N.D.	
78) 4-Ethyltoluene	17.90	105	374	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	362	N.D.	
80) alpha-Methylstyrene	18.12	118	755	N.D.	
81) 2-Ethyltoluene	18.15	105	207	N.D.	
82) 1,2,4-Trimethylbenzene	18.39	105	603	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.39	91	145	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	18.84	105	282	N.D.	
88) 4-Isopropyltoluene (p-...	18.83	119	398	N.D.	
89) 1,2,3-Trimethylbenzene	18.84	105	282	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	19.83	57	841	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.92	128	466	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	18.34	119	637	N.D.	
100) n-Butylbenzene	19.25	91	818	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282018.D Vial: 5
Acq On : 28 Apr 2020 21:54 Operator: SC
Sample : P2002030-002 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 09:43:40 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282018.D Vial: 5
Acq On : 28 Apr 2020 21:54 Operator: SC
Sample : P2002030-002 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 09:43:40 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 4/29/20
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

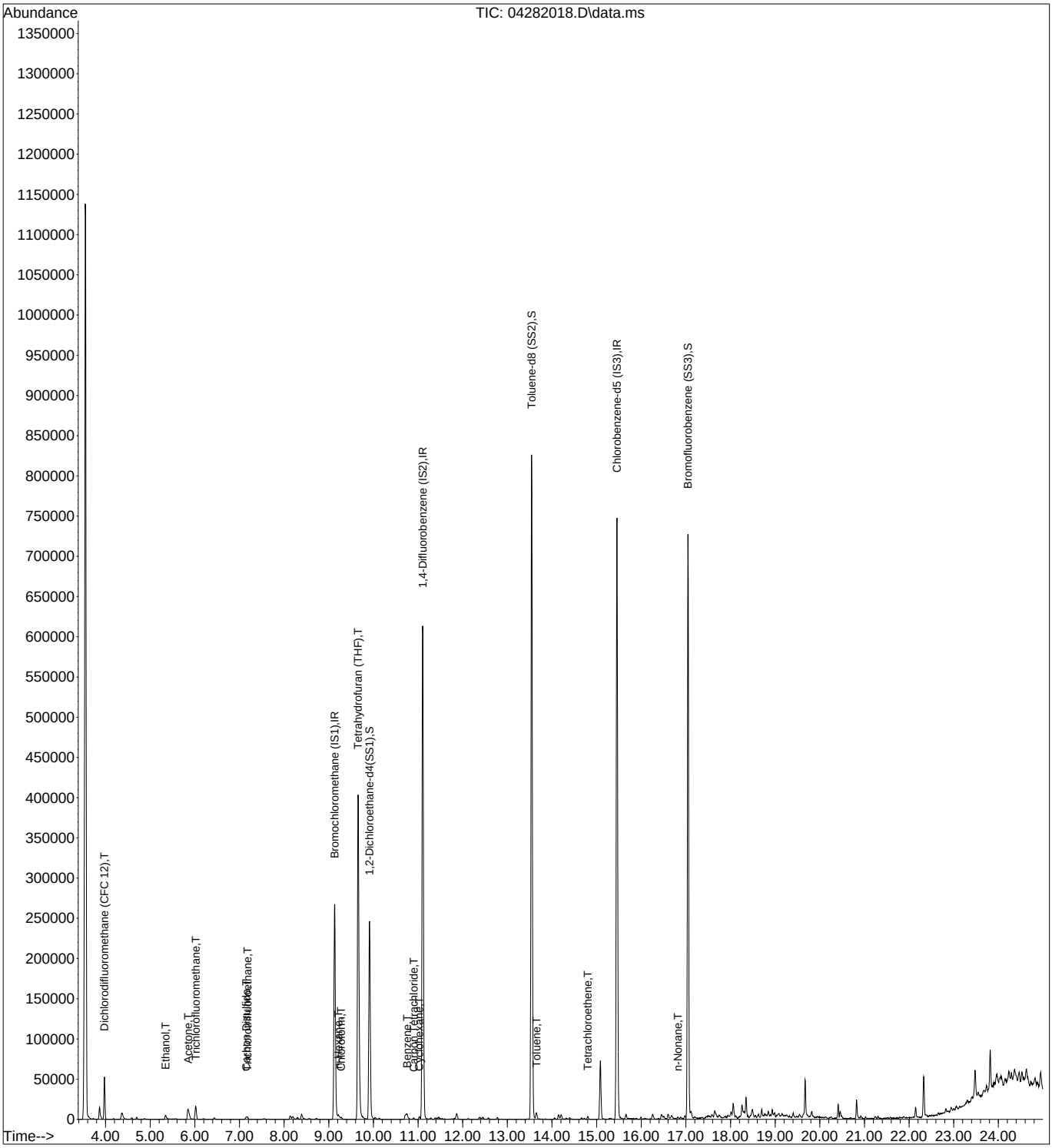
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	148817	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	630683	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	286245	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	228053	11.828	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.64%				
57) Toluene-d8 (SS2)	13.54	98	698815	12.644	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.12%				
73) Bromofluorobenzene (SS3)	17.05	174	285540	12.855	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.80%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.98	85	46821	1.950	ng		99
10) Ethanol	5.34	45	11357	2.372	ng		81
13) Acetone	5.85	58	6977	1.214	ng	#	75
14) Trichlorofluoromethane	6.02	101	16139	0.675	ng		99
21) Trichlorotrifluoroethane	7.18	151	910	0.073	ng		89
22) Carbon Disulfide	7.15	76	6734	0.201	ng		89
31) n-Hexane	9.22	57	698	0.055	ng	#	80
32) Chloroform	9.28	83	1635	0.080	ng		94
34) Tetrahydrofuran (THF)	9.66	72	157825	26.386	ng		98
41) Benzene	10.76	78	4420	0.108	ng		97
42) Carbon Tetrachloride	10.90	117	1272	0.060	ng		95
43) Cyclohexane	11.02	84	1544	0.096	ng	#	81
58) Toluene	13.65	91	6220	0.134	ng		97
64) Tetrachloroethene	14.80	166	1460	0.084	ng		94
71) n-Nonane	16.82	43	985	0.068	ng		94

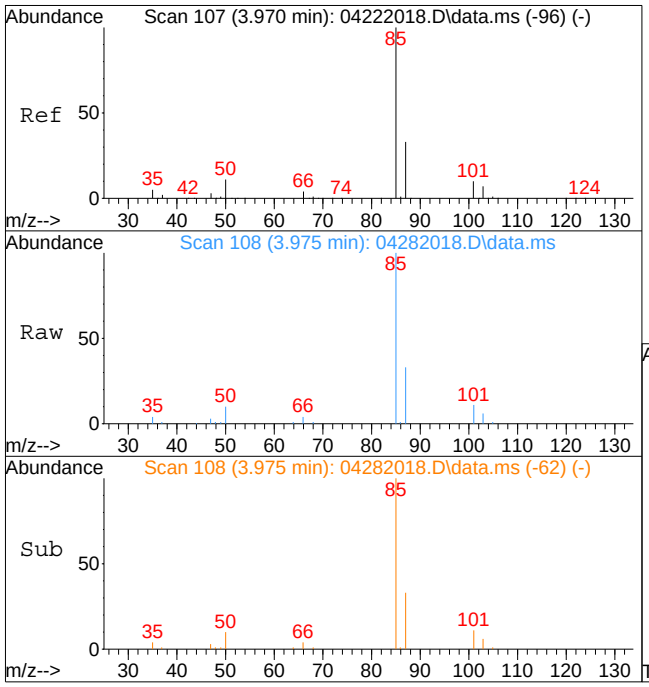
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282018.D Vial: 5
Acq On : 28 Apr 2020 21:54 Operator: SC
Sample : P2002030-002 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 09:43:40 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

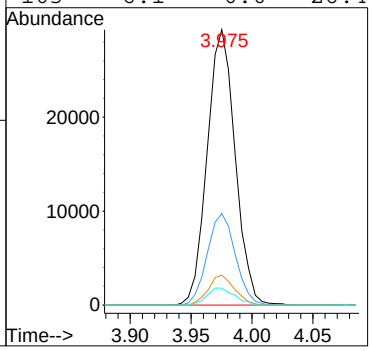


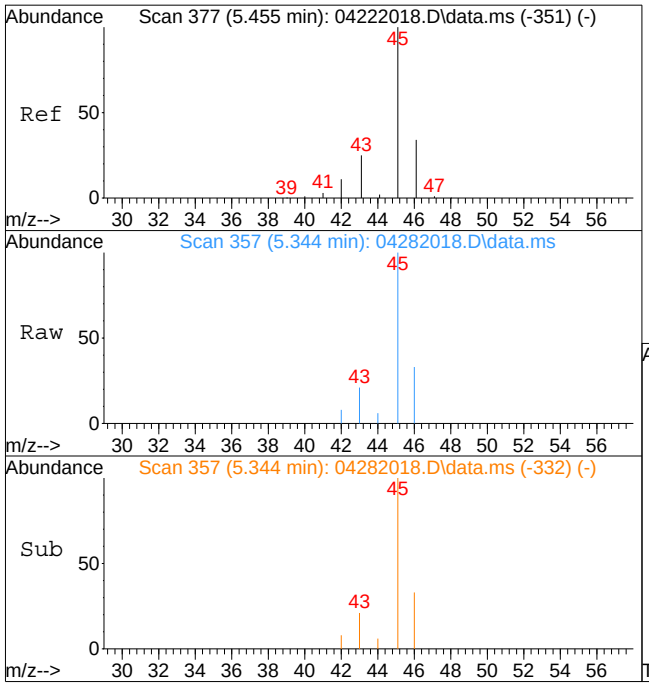


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.95 ng
RT: 3.98 min Scan# 108
Delta R.T. 0.005 min
Lab File: 04282018.D
Acq: 28 Apr 2020 21:54

Tgt Ion: 85 Resp: 46821

Ion	Ratio	Lower	Upper
85	100		
87	33.3	12.4	52.4
101	10.2	0.0	29.9
103	6.1	0.0	26.4

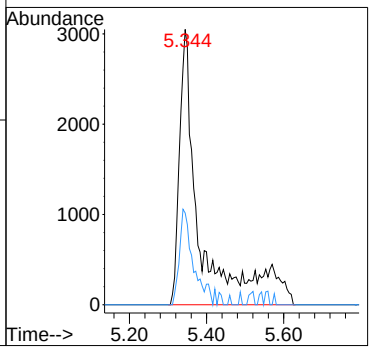


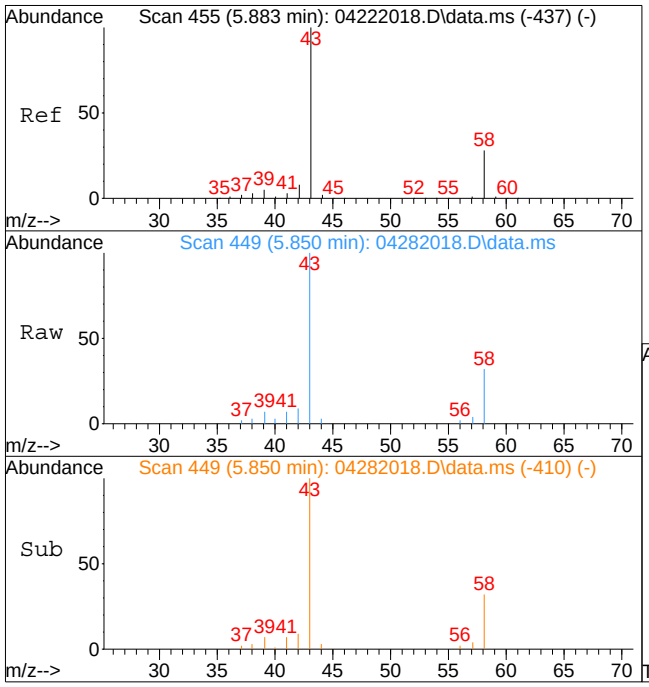


#10
Ethanol
Concen: 2.37 ng
RT: 5.34 min Scan# 357
Delta R.T. -0.110 min
Lab File: 04282018.D
Acq: 28 Apr 2020 21:54

Tgt Ion: 45 Resp: 11357

Ion	Ratio	Lower	Upper
45	100		
46	23.1	14.0	54.0

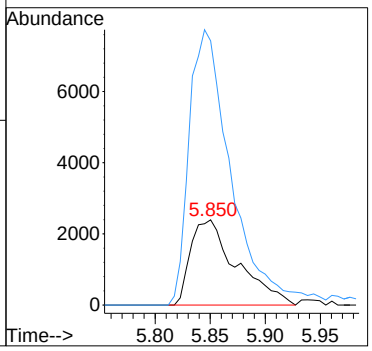


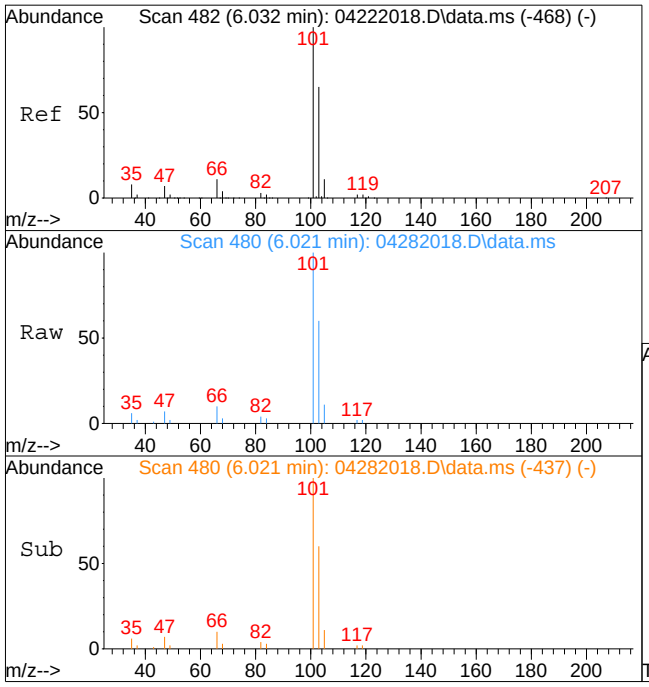


#13
Acetone
Concen: 1.21 ng
RT: 5.85 min Scan# 449
Delta R.T. -0.033 min
Lab File: 04282018.D
Acq: 28 Apr 2020 21:54

Tgt Ion: 58 Resp: 6977

Ion	Ratio	Lower	Upper
58	100		
43	295.6	319.3	379.3#

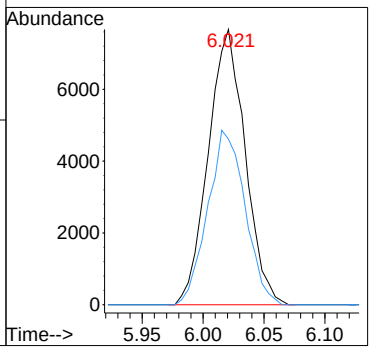


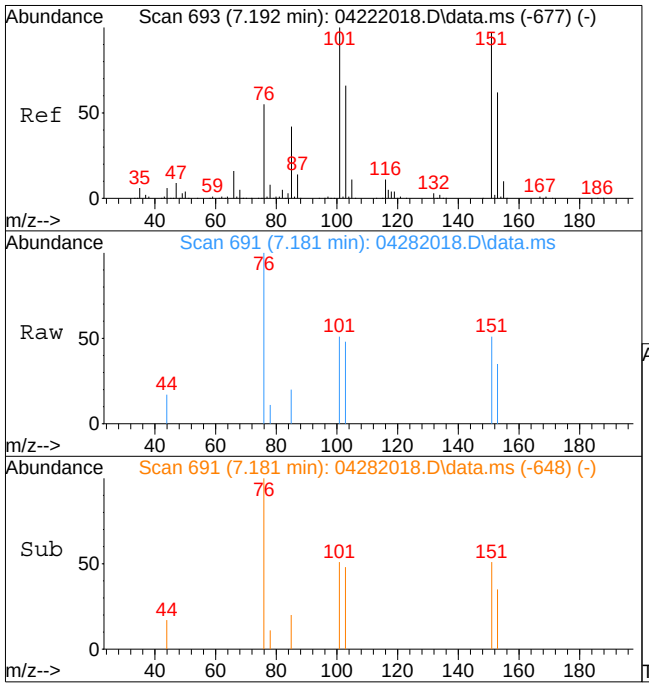


#14
Trichlorofluoromethane
Concen: 0.68 ng
RT: 6.02 min Scan# 480
Delta R.T. -0.011 min
Lab File: 04282018.D
Acq: 28 Apr 2020 21:54

Tgt Ion:101 Resp: 16139

Ion	Ratio	Lower	Upper
101	100		
103	64.1	44.7	84.7

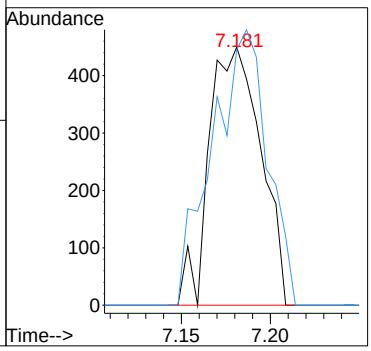


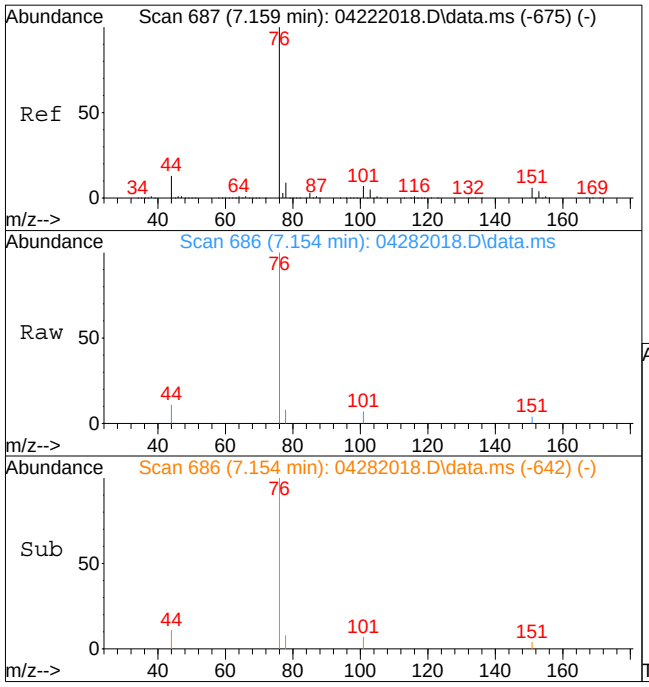


#21
Trichlorotrifluoroethane
Concen: 0.07 ng
RT: 7.18 min Scan# 691
Delta R.T. -0.011 min
Lab File: 04282018.D
Acq: 28 Apr 2020 21:54

Tgt Ion:151 Resp: 910

Ion	Ratio	Lower	Upper
151	100		
101	113.6	82.9	122.9

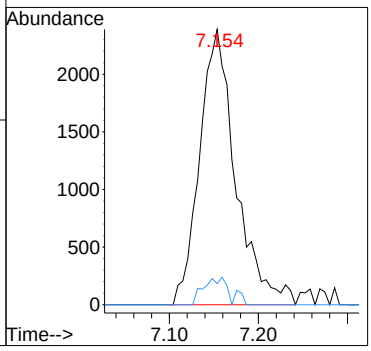


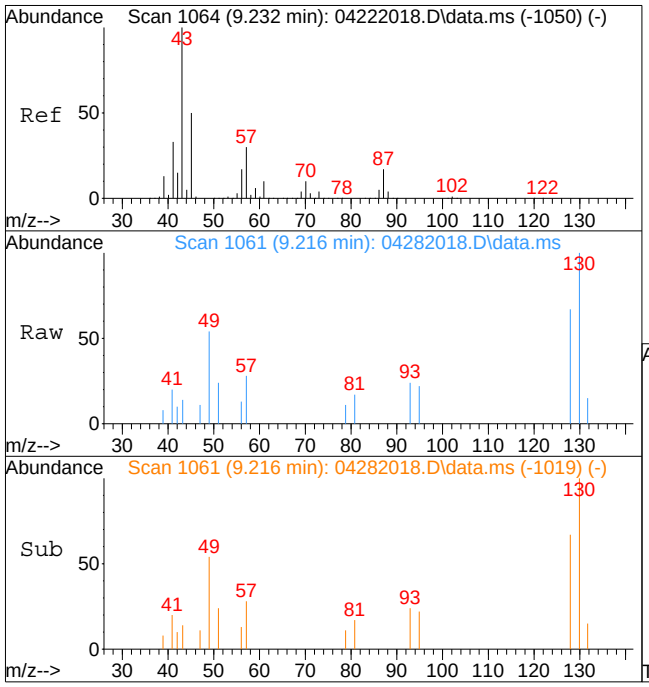


#22
Carbon Disulfide
Concen: 0.20 ng
RT: 7.15 min Scan# 686
Delta R.T. -0.006 min
Lab File: 04282018.D
Acq: 28 Apr 2020 21:54

Tgt Ion: 76 Resp: 6734

Ion	Ratio	Lower	Upper
76	100		
78	6.2	0.0	30.2

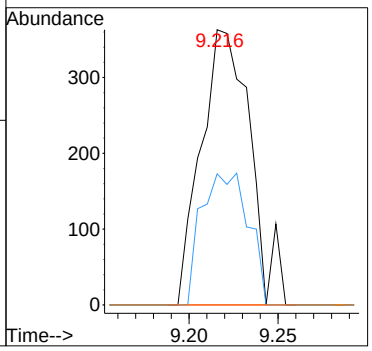


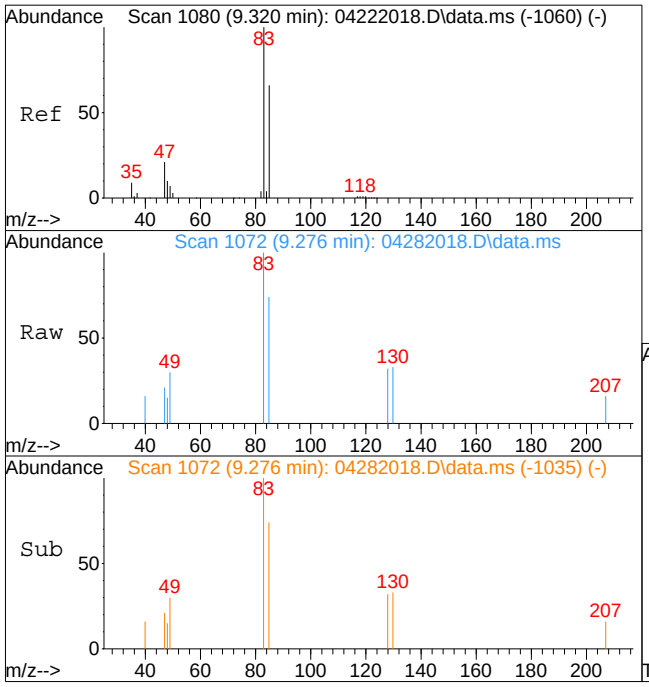


#31
n-Hexane
Concen: 0.05 ng
RT: 9.22 min Scan# 1061
Delta R.T. -0.017 min
Lab File: 04282018.D
Acq: 28 Apr 2020 21:54

Tgt Ion: 57 Resp: 698

Ion	Ratio	Lower	Upper
57	100		
56	45.8	44.0	66.0
86	0.0	15.0	22.4#

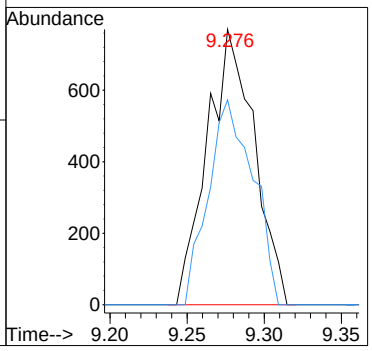


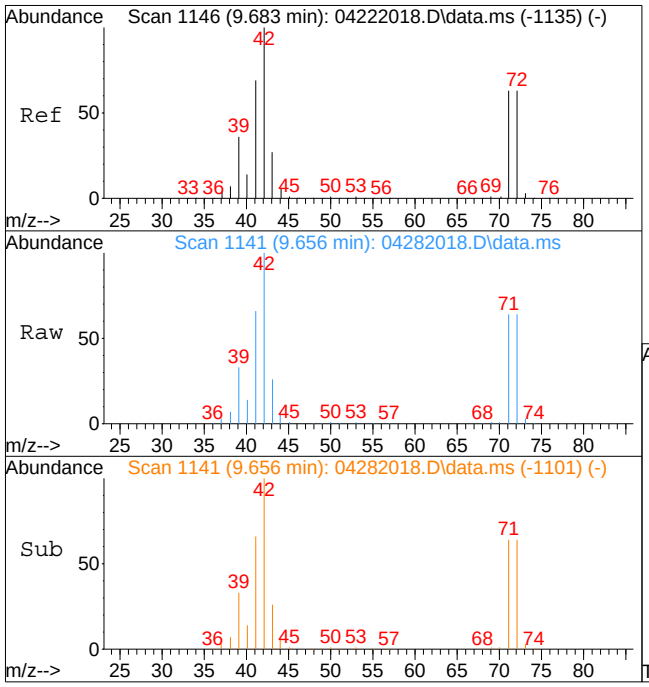


#32
Chloroform
Concen: 0.08 ng
RT: 9.28 min Scan# 1072
Delta R.T. -0.044 min
Lab File: 04282018.D
Acq: 28 Apr 2020 21:54

Tgt Ion: 83 Resp: 1635

Ion	Ratio	Lower	Upper
83	100		
85	70.9	45.8	85.8

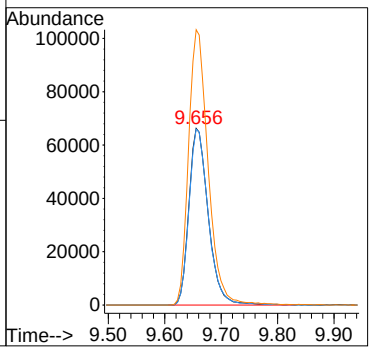


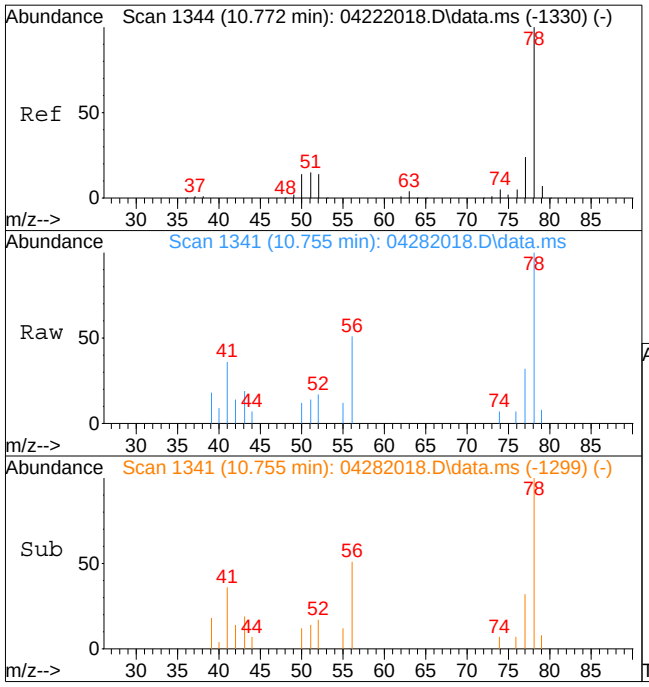


#34
Tetrahydrofuran (THF)
Concen: 26.39 ng
RT: 9.66 min Scan# 1141
Delta R.T. -0.028 min
Lab File: 04282018.D
Acq: 28 Apr 2020 21:54

Tgt Ion: 72 Resp: 157825

Ion	Ratio	Lower	Upper
72	100		
71	99.1	77.9	117.9
42	157.3	133.9	173.9

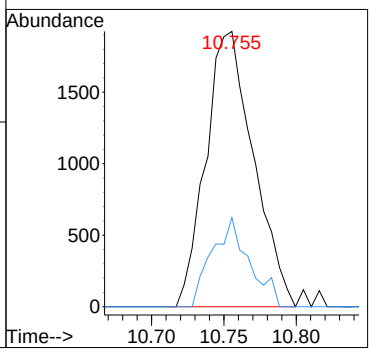


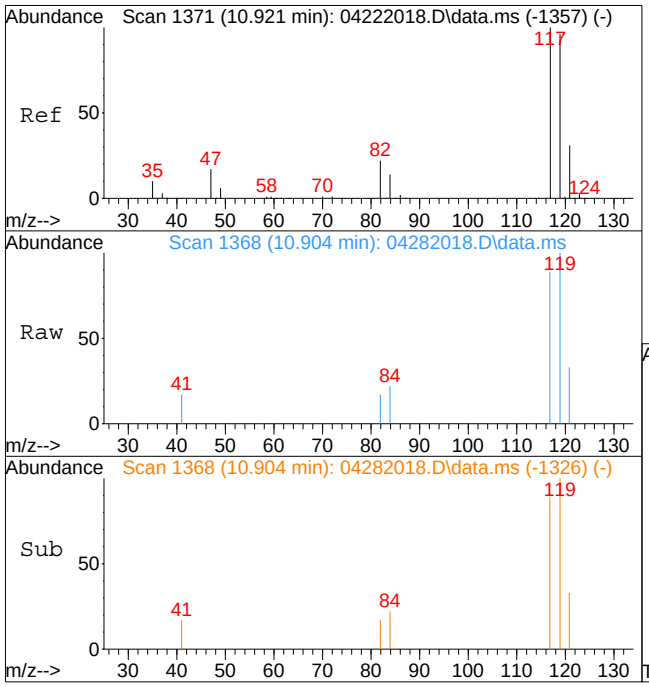


#41
Benzene
Concen: 0.11 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.017 min
Lab File: 04282018.D
Acq: 28 Apr 2020 21:54

Tgt Ion: 78 Resp: 4420

Ion	Ratio	Lower	Upper
78	100		
77	25.1	3.6	43.6

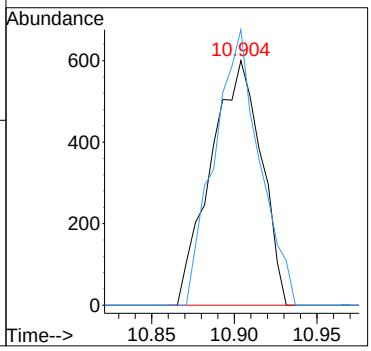


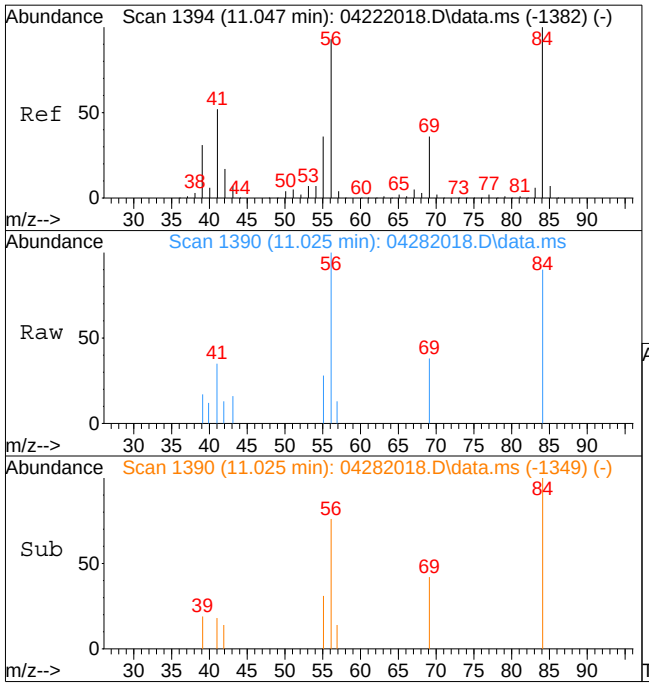


#42
Carbon Tetrachloride
Concen: 0.06 ng
RT: 10.90 min Scan# 1368
Delta R.T. -0.017 min
Lab File: 04282018.D
Acq: 28 Apr 2020 21:54

Tgt Ion:117 Resp: 1272

Ion	Ratio	Lower	Upper
117	100		
119	101.3	76.5	116.5

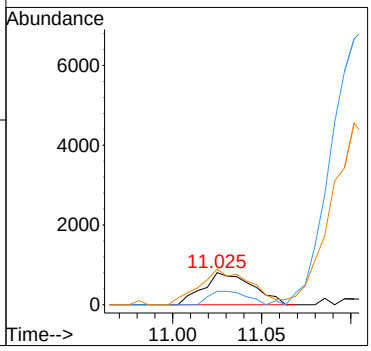


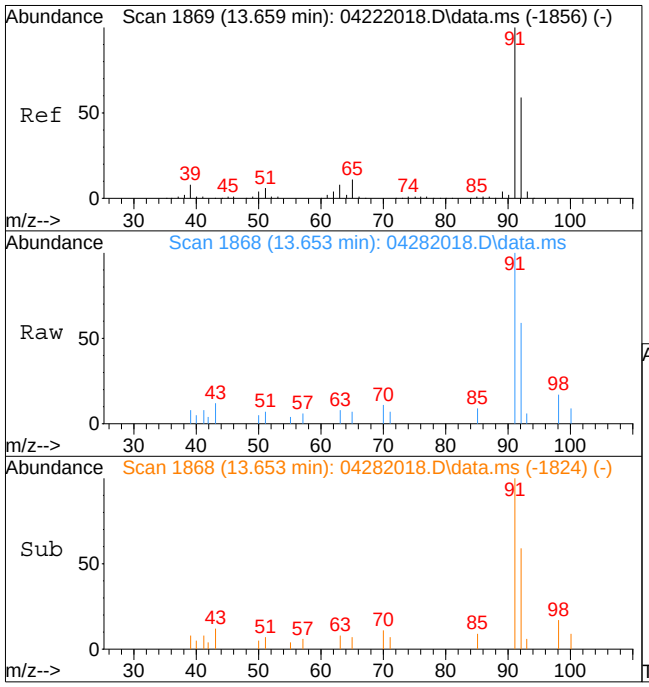


#43
Cyclohexane
Concen: 0.10 ng
RT: 11.02 min Scan# 1390
Delta R.T. -0.022 min
Lab File: 04282018.D
Acq: 28 Apr 2020 21:54

Tgt Ion: 84 Resp: 1544

Ion	Ratio	Lower	Upper
84	100		
69	32.4	15.8	55.8
56	114.9	72.0	112.0#

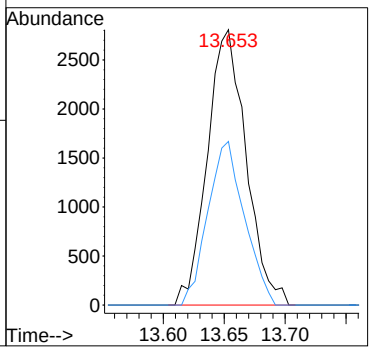


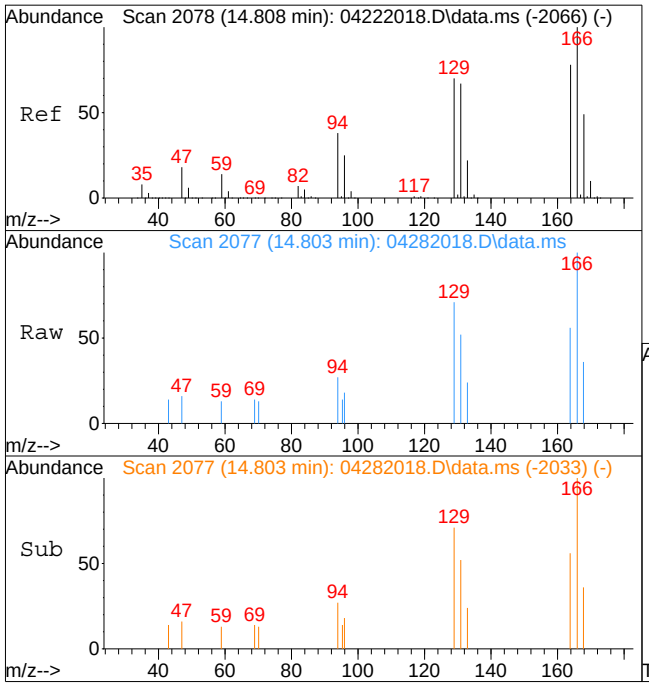


#58
Toluene
Concen: 0.13 ng
RT: 13.65 min Scan# 1868
Delta R.T. -0.006 min
Lab File: 04282018.D
Acq: 28 Apr 2020 21:54

Tgt Ion: 91 Resp: 6220

Ion	Ratio	Lower	Upper
91	100		
92	56.0	38.2	78.2

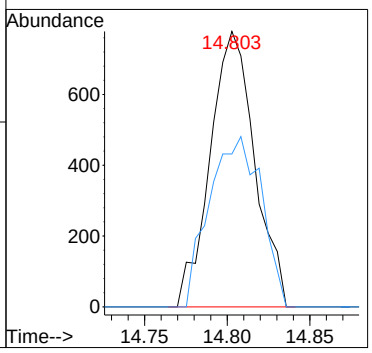


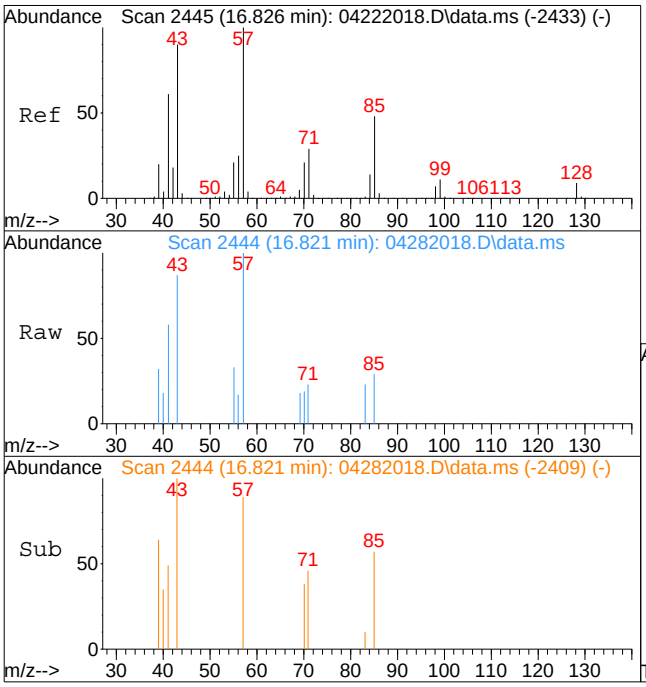


#64
Tetrachloroethene
Concen: 0.08 ng
RT: 14.80 min Scan# 2077
Delta R.T. -0.006 min
Lab File: 04282018.D
Acq: 28 Apr 2020 21:54

Tgt Ion:166 Resp: 1460

Ion	Ratio	Lower	Upper
166	100		
164	72.2	57.7	97.7

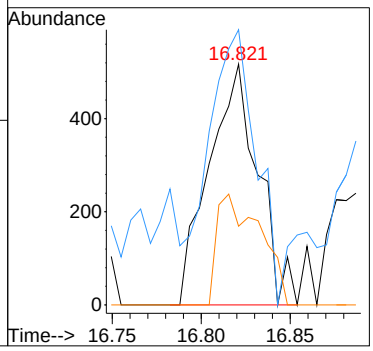




#71
n-Nonane
Concen: 0.07 ng
RT: 16.82 min Scan# 2444
Delta R.T. -0.006 min
Lab File: 04282018.D
Acq: 28 Apr 2020 21:54

Tgt Ion: 43 Resp: 985

Ion	Ratio	Lower	Upper
43	100		
57	111.8	90.8	130.8
85	40.9	32.1	72.1



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282019.D Vial: 6
Acq On : 28 Apr 2020 22:27 Operator: SC
Sample : P2002030-003 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 09:46:09 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/29/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	150871	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	634945	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	288400	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	228038	11.666	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.36%			
57) Toluene-d8 (SS2)	13.54	98	704185	12.646	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.20%			
73) Bromofluorobenzene (SS3)	17.05	174	285763	12.769	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.16%			
Target Compounds						Qvalue
2) Propene	3.88	42	3201	0.500	ng	# 57
3) Dichlorodifluoromethan...	3.98	85	25439	1.045	ng	99
4) Chloromethane	4.17	50	4334	0.482	ng	93
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	4.45	62	7758	0.659	ng	99
7) 1,3-Butadiene	0.00	54	0	N.D.	d	
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	5.15	64	9966	1.672	ng	99
10) Ethanol	5.34	45	14895	3.069	ng	86
11) Acetonitrile	5.58	41	304	N.D.		
12) Acrolein	5.71	56	125	N.D.		
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	6.02	101	20158	0.832	ng	98
15) 2-Propanol (Isopropanol)	6.18	45	2394	0.129	ng	91
16) Acrylonitrile	0.00	53	0	N.D.	d	
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d	
19) Methylene Chloride	6.86	84	581	0.057	ng	80
20) 3-Chloro-1-propene (Al...	6.94	41	238	N.D.		
21) Trichlorotrifluoroethane	7.18	151	1017	0.081	ng	89
22) Carbon Disulfide	7.15	76	11368	0.335	ng	95
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	8.09	63	15820	0.942	ng	100
25) Methyl tert-Butyl Ether	8.12	73	352	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	0.00	72	0	N.D.	d	
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	9.21	61	30723	11.534	ng	95
31) n-Hexane	9.22	57	11236	0.869	ng	99
32) Chloroform	9.28	83	2794	0.135	ng	95
34) Tetrahydrofuran (THF)	9.69	72	4702	0.775	ng	97
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	10.04	62	2906	0.171	ng	97
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	10.76	78	12428	0.300	ng	99
42) Carbon Tetrachloride	10.90	117	4369	0.204	ng	98
43) Cyclohexane	11.04	84	14070	0.868	ng	97
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	11.76	83	769	N.D.		
47) Trichloroethene	11.81	130	785	0.055	ng	97
48) 1,4-Dioxane	0.00	88	0	N.D.	d	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282019.D Vial: 6
Acq On : 28 Apr 2020 22:27 Operator: SC
Sample : P2002030-003 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 09:46:09 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

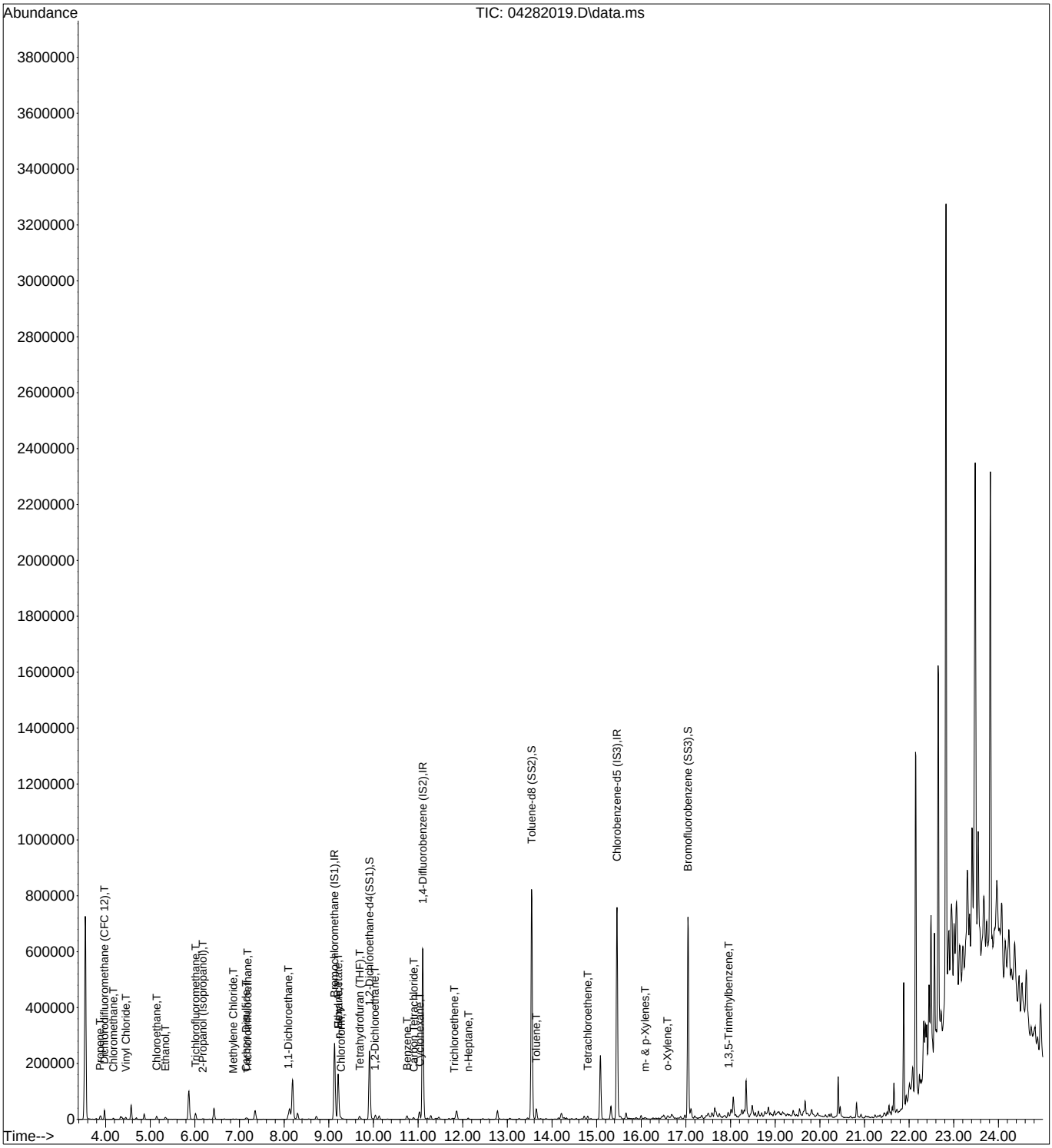
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.12	71	1394	0.145 ng	90
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	13.25	75	153	N.D.	
55) 1,1,2-Trichloroethane	13.27	97	135	N.D.	
58) Toluene	13.65	91	27398	0.586 ng	99
59) 2-Hexanone	13.90	43	434	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	14.37	43	208	N.D.	
63) n-Octane	0.00	57	0	N.D. d	
64) Tetrachloroethene	14.80	166	3638	0.207 ng	93
65) Chlorobenzene	15.55	112	1096	N.D.	
66) Ethylbenzene	15.91	91	2352	N.D.	
67) m- & p-Xylenes	16.08	91	5710	0.124 ng	95
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.50	104	640	N.D.	
70) o-Xylene	16.58	91	5570	0.123 ng	99
71) n-Nonane	0.00	43	0	N.D. d	
72) 1,1,2,2-Tetrachloroethane	16.61	83	439	N.D.	
74) Cumene	17.20	105	2535	N.D.	
75) alpha-Pinene	17.61	93	1191	N.D.	
76) n-Propylbenzene	17.73	91	1848	N.D.	
77) 3-Ethyltoluene	17.84	105	1019	N.D.	
78) 4-Ethyltoluene	17.88	105	1257	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	4847	0.094 ng	92
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	18.16	105	1348	N.D.	
82) 1,2,4-Trimethylbenzene	18.39	105	1438	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.55	91	598	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	18.67	105	545	N.D.	
88) 4-Isopropyltoluene (p-...	18.84	119	1757	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.91	128	790	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	19.26	91	909	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282019.D Vial: 6
Acq On : 28 Apr 2020 22:27 Operator: SC
Sample : P2002030-003 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 09:46:09 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282019.D Vial: 6
Acq On : 28 Apr 2020 22:27 Operator: SC
Sample : P2002030-003 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 09:46:09 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/29/20

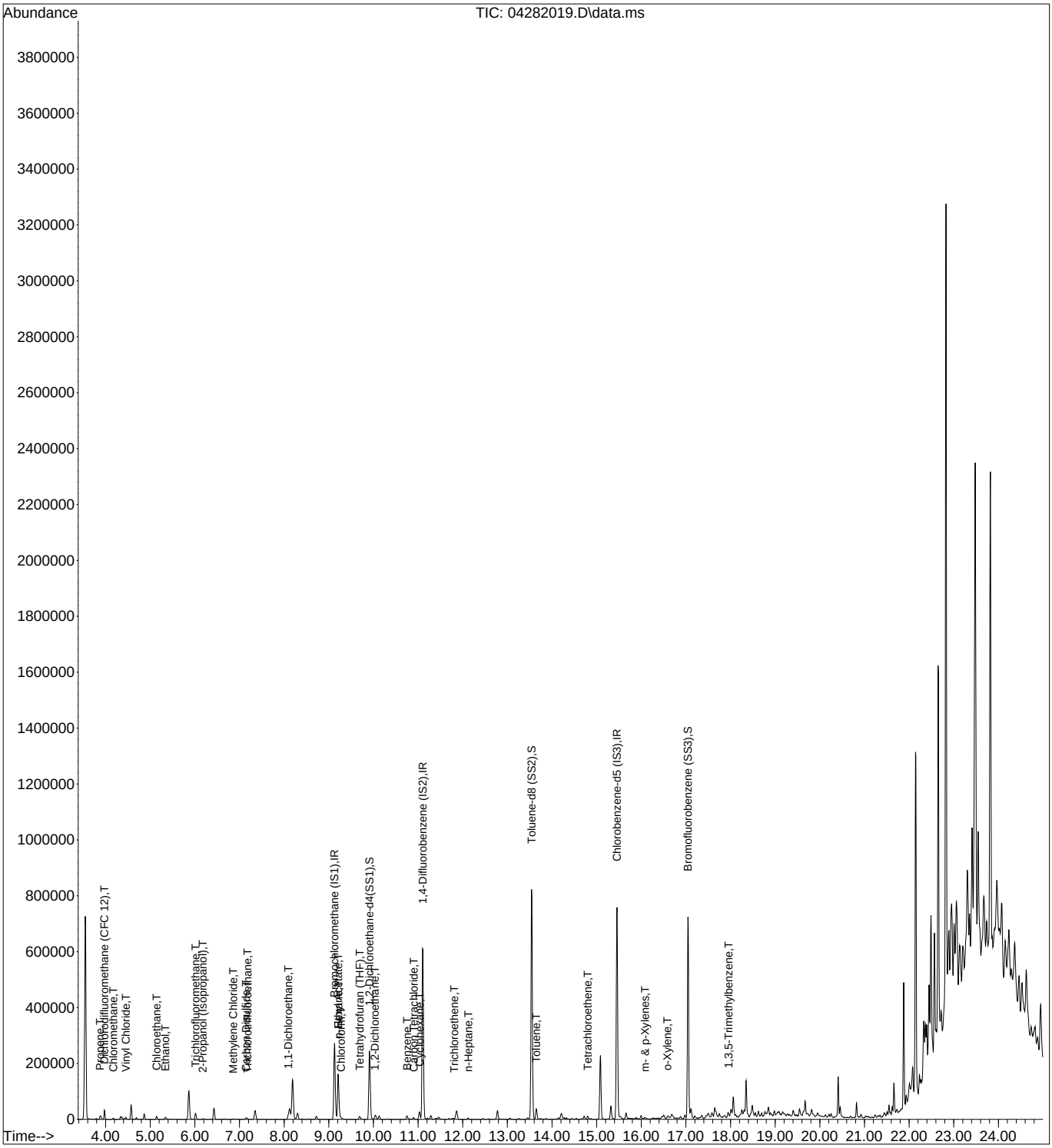
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	150871	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	634945	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	288400	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	228038	11.666	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.36%			
57) Toluene-d8 (SS2)	13.54	98	704185	12.646	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.20%			
73) Bromofluorobenzene (SS3)	17.05	174	285763	12.769	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.16%			
Target Compounds						Qvalue
2) Propene	3.88	42	3201	0.500	ng	# 57
3) Dichlorodifluoromethan...	3.98	85	25439	1.045	ng	99
4) Chloromethane	4.17	50	4334	0.482	ng	93
6) Vinyl Chloride	4.45	62	7758	0.659	ng	99
9) Chloroethane	5.15	64	9966	1.672	ng	99
10) Ethanol	5.34	45	14895	3.069	ng	86
14) Trichlorofluoromethane	6.02	101	20158	0.832	ng	98
15) 2-Propanol (Isopropanol)	6.18	45	2394	0.129	ng	91
19) Methylene Chloride	6.86	84	581	0.057	ng	80
21) Trichlorotrifluoroethane	7.18	151	1017	0.081	ng	89
22) Carbon Disulfide	7.15	76	11368	0.335	ng	95
24) 1,1-Dichloroethane	8.09	63	15820	0.942	ng	100
30) Ethyl Acetate	9.21	61	30723	11.534	ng	95
31) n-Hexane	9.22	57	11236	0.869	ng	99
32) Chloroform	9.28	83	2794	0.135	ng	95
34) Tetrahydrofuran (THF)	9.69	72	4702	0.775	ng	97
36) 1,2-Dichloroethane	10.04	62	2906	0.171	ng	97
41) Benzene	10.76	78	12428	0.300	ng	99
42) Carbon Tetrachloride	10.90	117	4369	0.204	ng	98
43) Cyclohexane	11.04	84	14070	0.868	ng	97
47) Trichloroethene	11.81	130	785	0.055	ng	97
51) n-Heptane	12.12	71	1394	0.145	ng	90
58) Toluene	13.65	91	27398	0.586	ng	99
64) Tetrachloroethene	14.80	166	3638	0.207	ng	93
67) m- & p-Xylenes	16.08	91	5710	0.124	ng	95
70) o-Xylene	16.58	91	5570	0.123	ng	99
79) 1,3,5-Trimethylbenzene	17.96	105	4847	0.094	ng	92

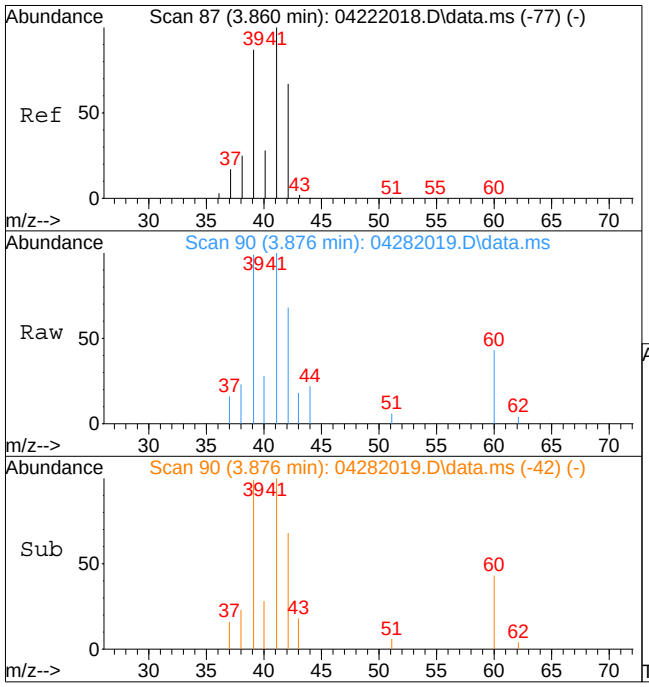
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282019.D Vial: 6
Acq On : 28 Apr 2020 22:27 Operator: SC
Sample : P2002030-003 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 09:46:09 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

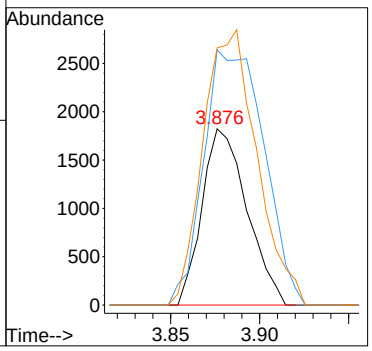


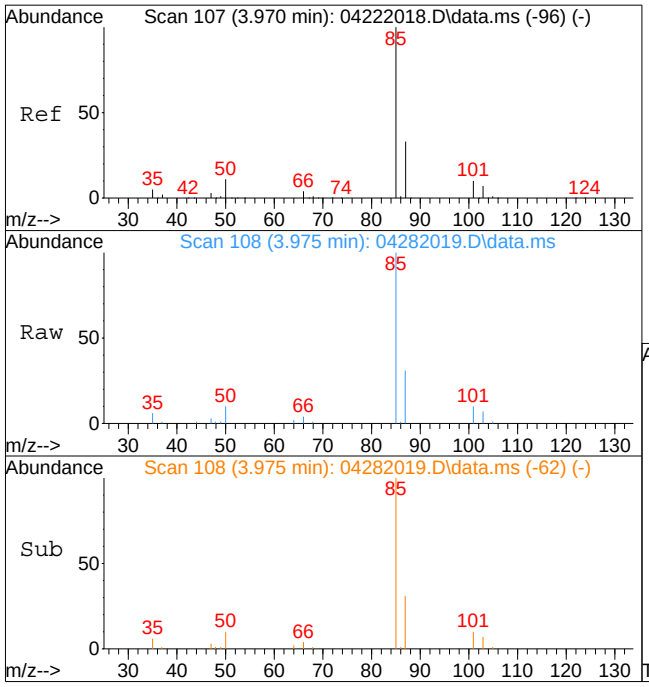


#2
Propene
Concen: 0.50 ng
RT: 3.88 min Scan# 90
Delta R.T. 0.016 min
Lab File: 04282019.D
Acq: 28 Apr 2020 22:27

Tgt Ion: 42 Resp: 3201

Ion	Ratio	Lower	Upper
42	100		
39	194.4	106.4	146.4#
41	186.3	128.8	168.8#

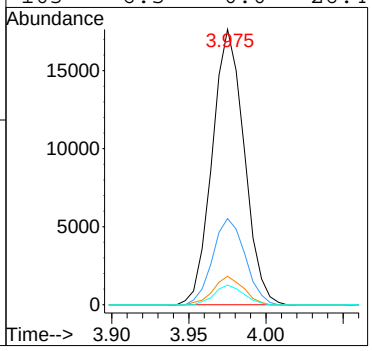


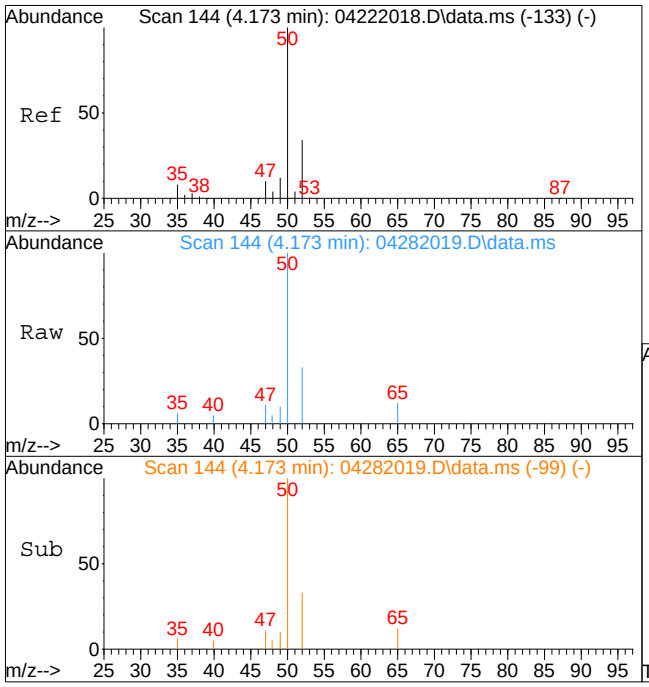


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.04 ng
RT: 3.98 min Scan# 108
Delta R.T. 0.005 min
Lab File: 04282019.D
Acq: 28 Apr 2020 22:27

Tgt Ion: 85 Resp: 25439

Ion	Ratio	Lower	Upper
85	100		
87	31.7	12.4	52.4
101	9.7	0.0	29.9
103	6.5	0.0	26.4

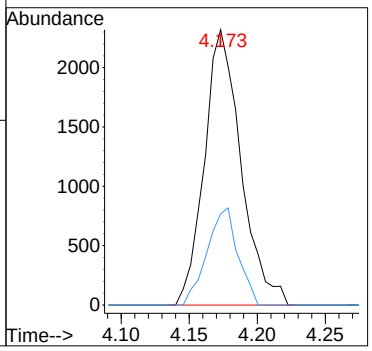


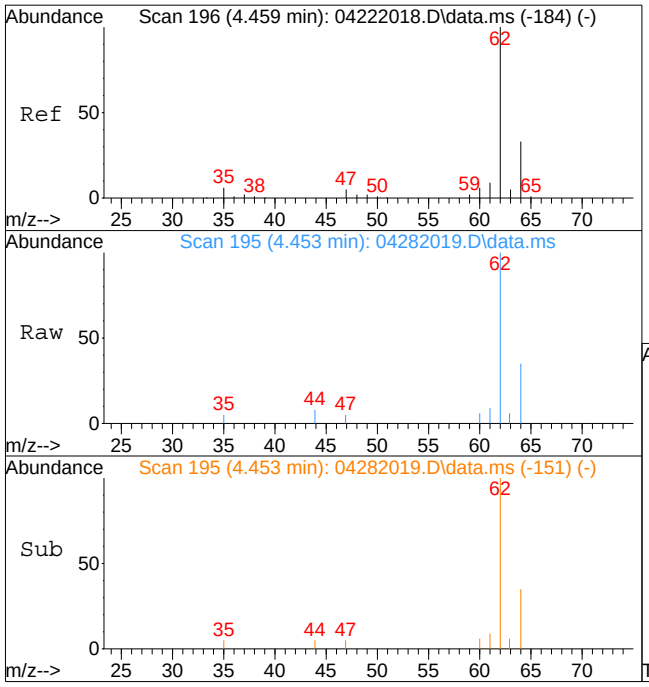


#4
Chloromethane
Concen: 0.48 ng
RT: 4.17 min Scan# 144
Delta R.T. -0.000 min
Lab File: 04282019.D
Acq: 28 Apr 2020 22:27

Tgt Ion: 50 Resp: 4334

Ion	Ratio	Lower	Upper
50	100		
52	29.7	13.7	53.7

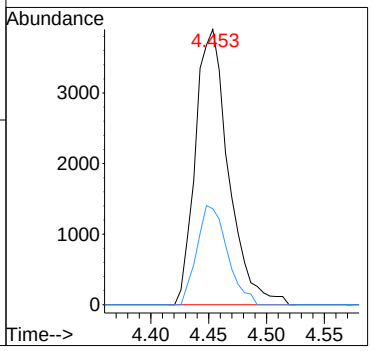


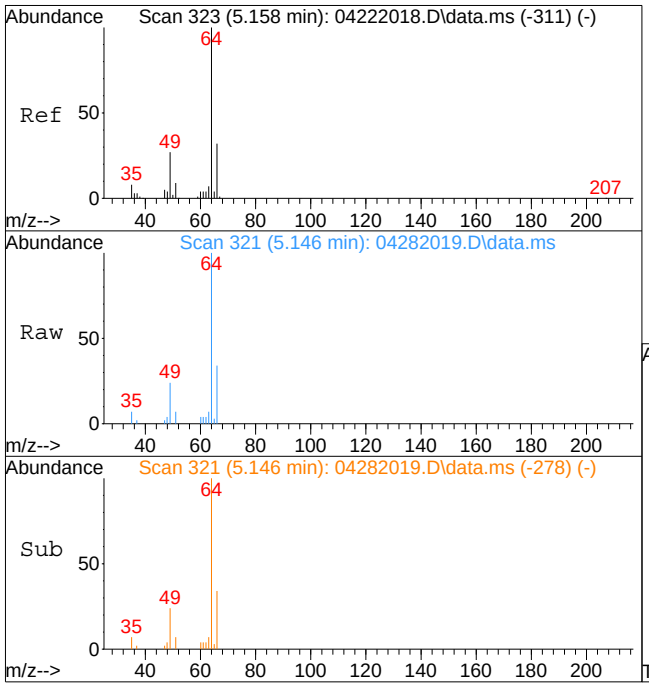


#6
Vinyl Chloride
Concen: 0.66 ng
RT: 4.45 min Scan# 195
Delta R.T. -0.006 min
Lab File: 04282019.D
Acq: 28 Apr 2020 22:27

Tgt Ion: 62 Resp: 7758

Ion	Ratio	Lower	Upper
62	100		
64	33.1	12.7	52.7

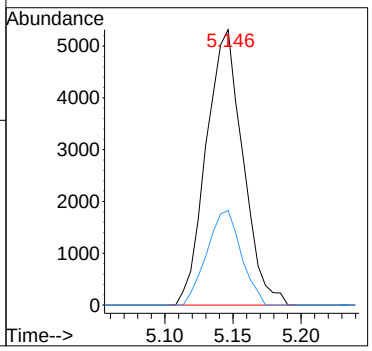


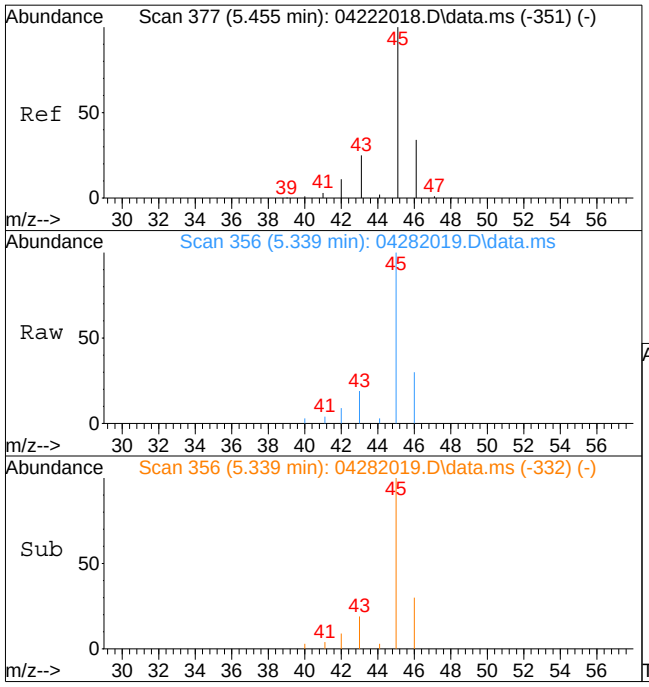


#9
Chloroethane
Concen: 1.67 ng
RT: 5.15 min Scan# 321
Delta R.T. -0.011 min
Lab File: 04282019.D
Acq: 28 Apr 2020 22:27

Tgt Ion: 64 Resp: 9966

Ion	Ratio	Lower	Upper
64	100		
66	32.2	12.7	52.7

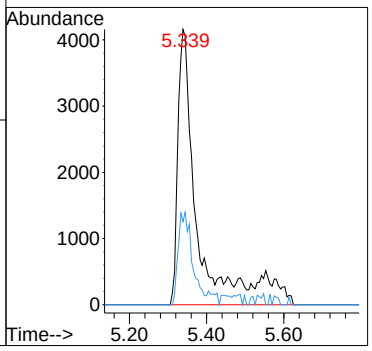


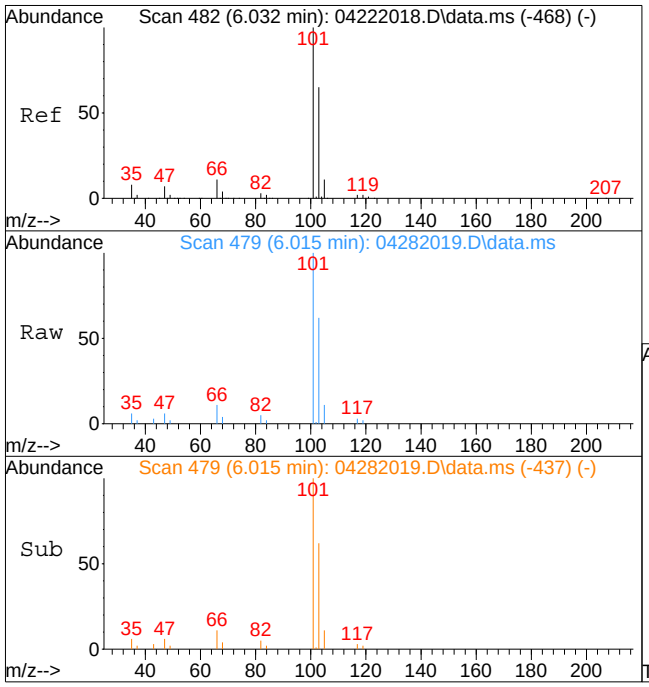


#10
Ethanol
Concen: 3.07 ng
RT: 5.34 min Scan# 356
Delta R.T. -0.116 min
Lab File: 04282019.D
Acq: 28 Apr 2020 22:27

Tgt Ion: 45 Resp: 14895

Ion	Ratio	Lower	Upper
45	100		
46	25.7	14.0	54.0

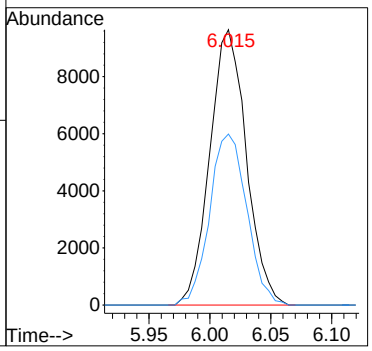


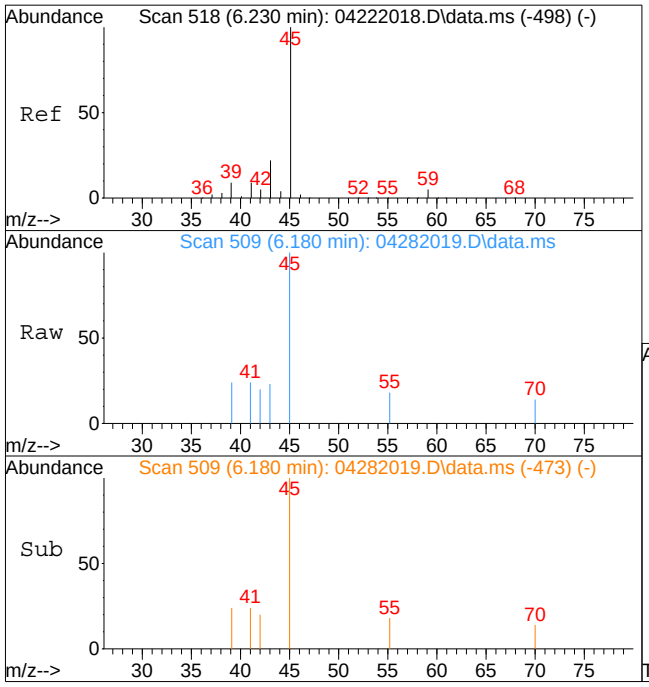


#14
Trichlorofluoromethane
Concen: 0.83 ng
RT: 6.02 min Scan# 479
Delta R.T. -0.017 min
Lab File: 04282019.D
Acq: 28 Apr 2020 22:27

Tgt Ion:101 Resp: 20158

Ion	Ratio	Lower	Upper
101	100		
103	63.1	44.7	84.7

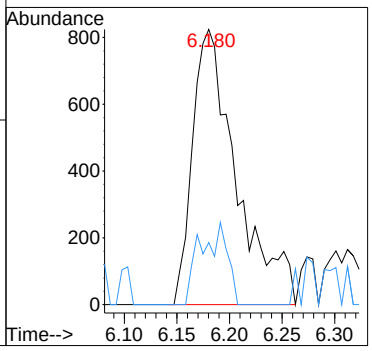


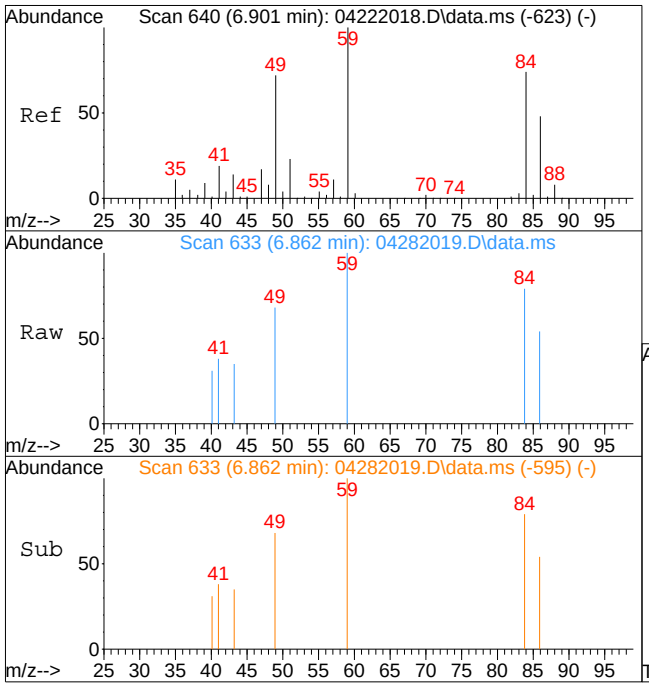


#15
2-Propanol (Isopropanol)
Concen: 0.13 ng
RT: 6.18 min Scan# 509
Delta R.T. -0.050 min
Lab File: 04282019.D
Acq: 28 Apr 2020 22:27

Tgt Ion: 45 Resp: 2394

Ion	Ratio	Lower	Upper
45	100		
43	18.3	2.6	42.6

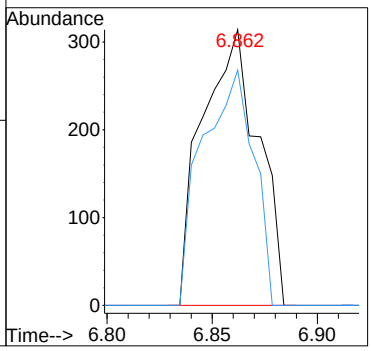


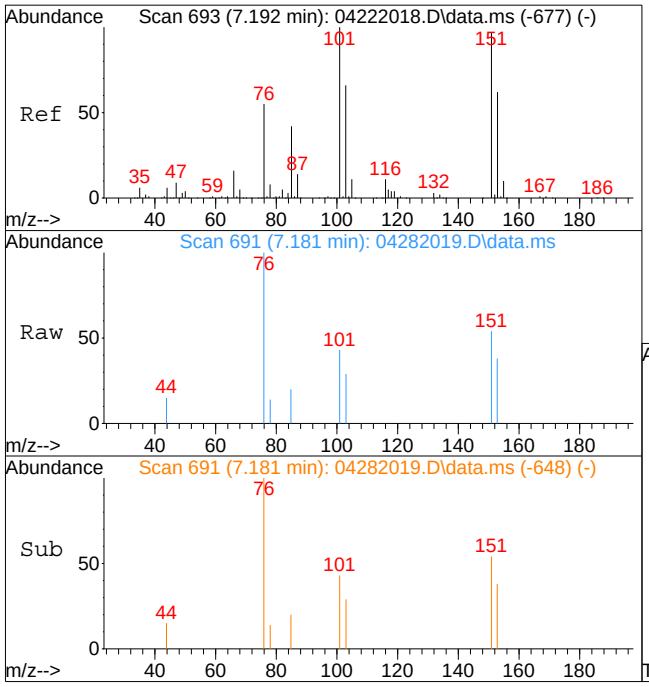


#19
Methylene Chloride
Concen: 0.06 ng
RT: 6.86 min Scan# 633
Delta R.T. -0.039 min
Lab File: 04282019.D
Acq: 28 Apr 2020 22:27

Tgt Ion: 84 Resp: 581

Ion	Ratio	Lower	Upper
84	100		
49	78.7	73.0	123.0

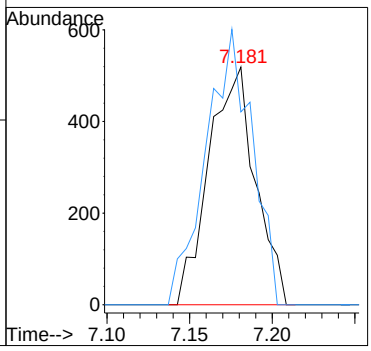


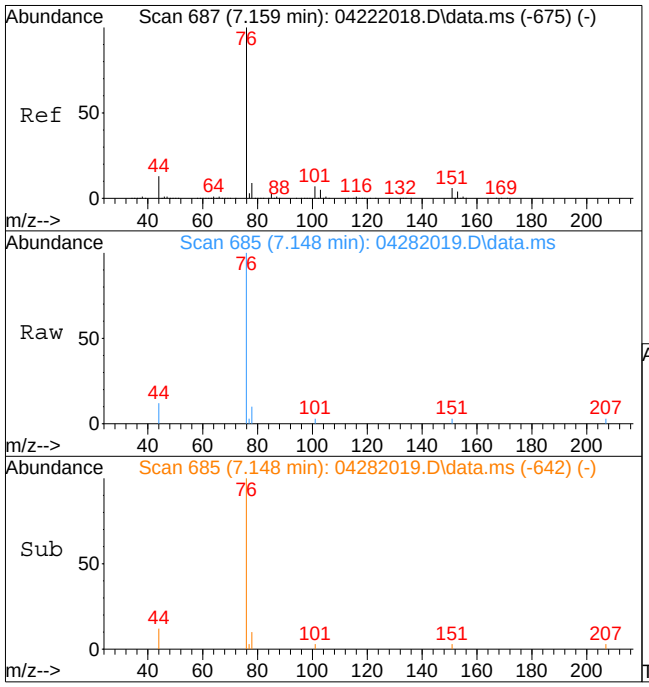


#21
Trichlorotrifluoroethane
Concen: 0.08 ng
RT: 7.18 min Scan# 691
Delta R.T. -0.011 min
Lab File: 04282019.D
Acq: 28 Apr 2020 22:27

Tgt Ion:151 Resp: 1017

Ion	Ratio	Lower	Upper
151	100		
101	114.4	82.9	122.9

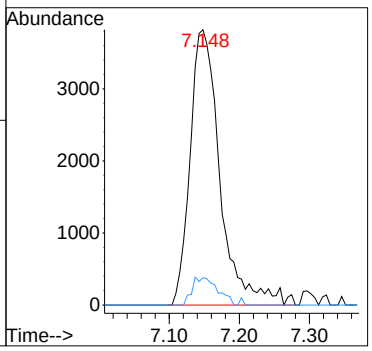


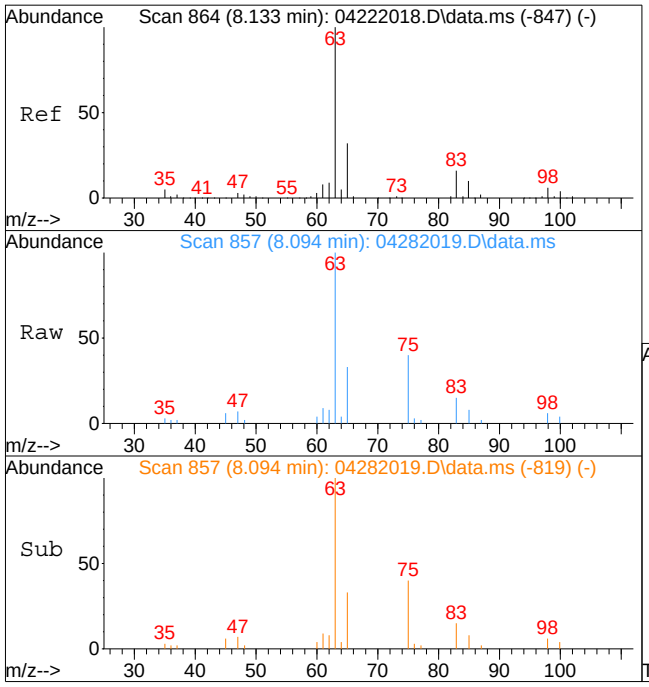


#22
Carbon Disulfide
Concen: 0.33 ng
RT: 7.15 min Scan# 685
Delta R.T. -0.011 min
Lab File: 04282019.D
Acq: 28 Apr 2020 22:27

Tgt Ion: 76 Resp: 11368

Ion	Ratio	Lower	Upper
76	100		
78	8.5	0.0	30.2

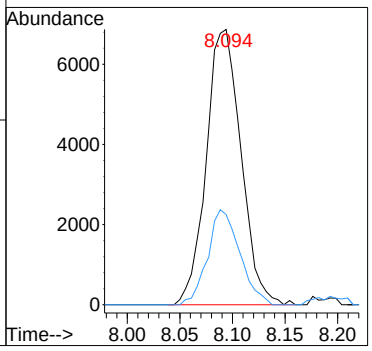


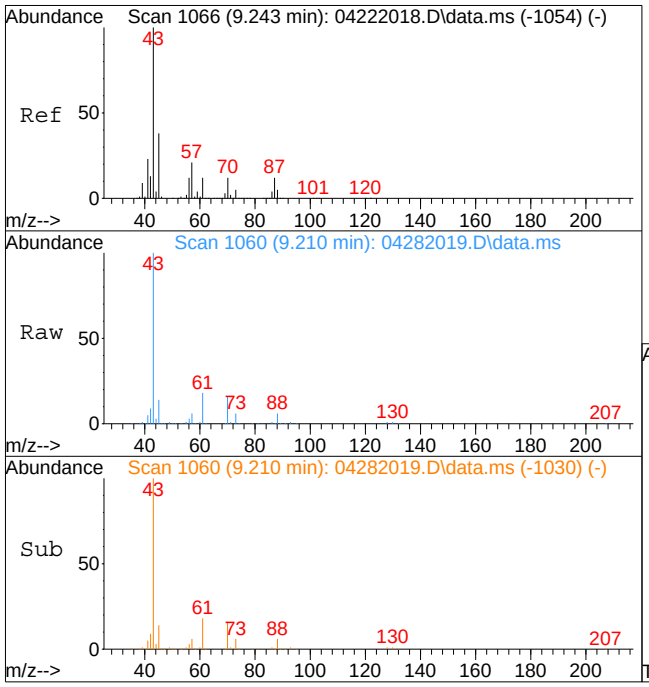


#24
1,1-Dichloroethane
Concen: 0.94 ng
RT: 8.09 min Scan# 857
Delta R.T. -0.039 min
Lab File: 04282019.D
Acq: 28 Apr 2020 22:27

Tgt Ion: 63 Resp: 15820

Ion	Ratio	Lower	Upper
63	100		
65	31.9	12.1	52.1

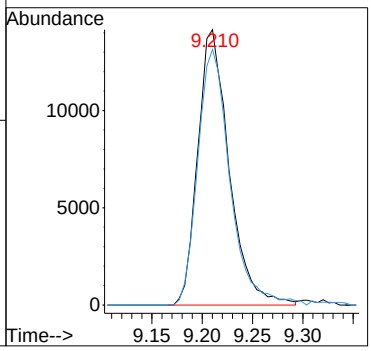


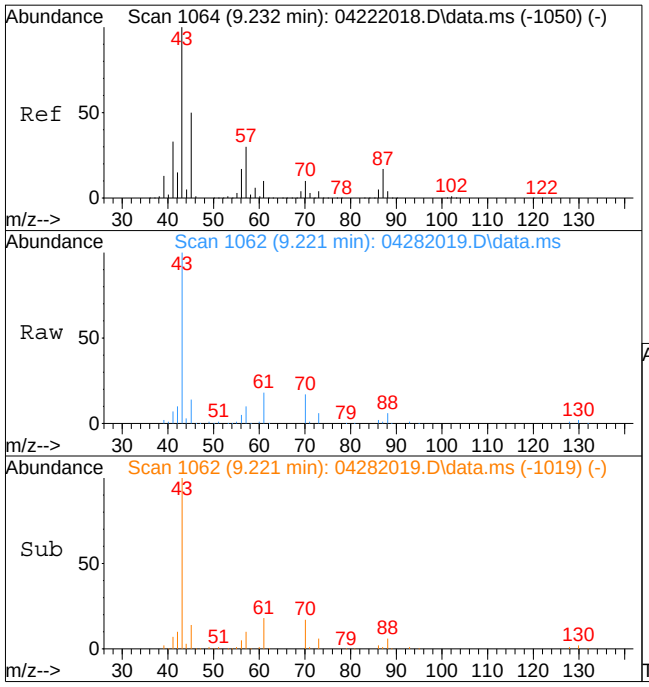


#30
Ethyl Acetate
Concen: 11.53 ng
RT: 9.21 min Scan# 1060
Delta R.T. -0.033 min
Lab File: 04282019.D
Acq: 28 Apr 2020 22:27

Tgt Ion: 61 Resp: 30723

Ion	Ratio	Lower	Upper
61	100		
70	95.1	80.6	120.6

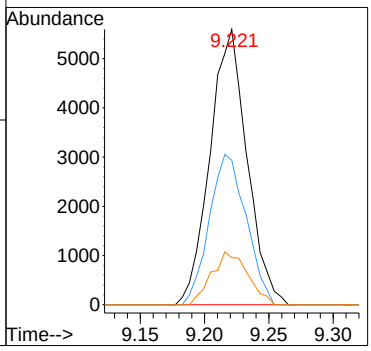


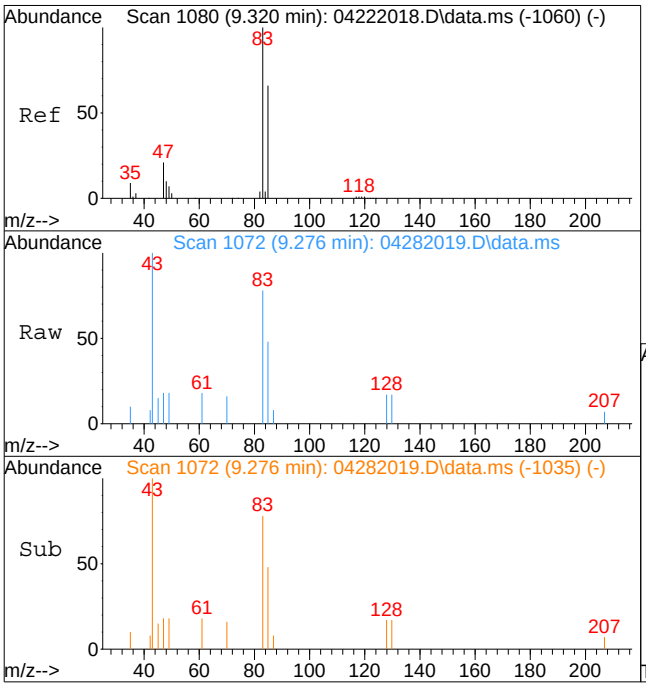


#31
n-Hexane
Concen: 0.87 ng
RT: 9.22 min Scan# 1062
Delta R.T. -0.011 min
Lab File: 04282019.D
Acq: 28 Apr 2020 22:27

Tgt Ion: 57 Resp: 11236

Ion	Ratio	Lower	Upper
57	100		
56	54.3	44.0	66.0
86	18.7	15.0	22.4

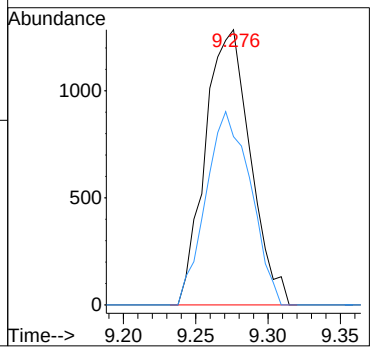


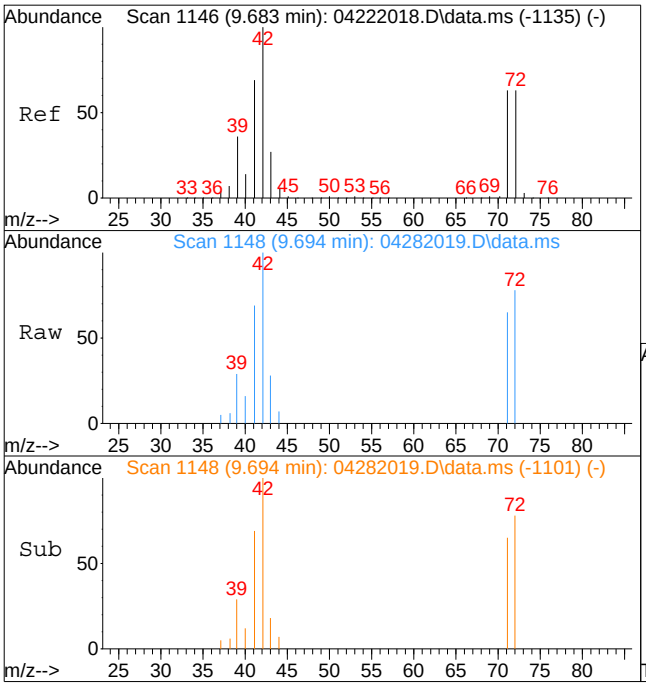


#32
Chloroform
Concen: 0.14 ng
RT: 9.28 min Scan# 1072
Delta R.T. -0.044 min
Lab File: 04282019.D
Acq: 28 Apr 2020 22:27

Tgt Ion: 83 Resp: 2794

Ion	Ratio	Lower	Upper
83	100		
85	69.6	45.8	85.8

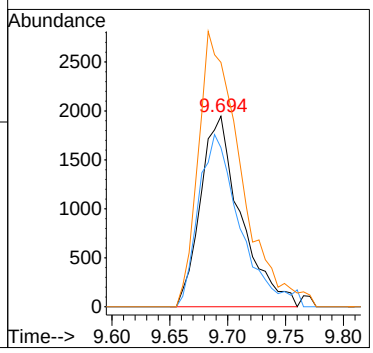


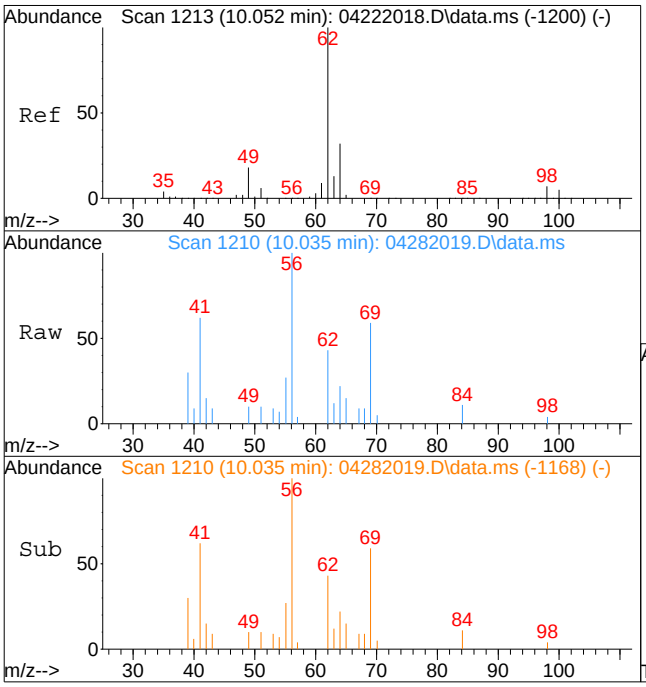


#34
Tetrahydrofuran (THF)
Concen: 0.78 ng
RT: 9.69 min Scan# 1148
Delta R.T. 0.011 min
Lab File: 04282019.D
Acq: 28 Apr 2020 22:27

Tgt Ion: 72 Resp: 4702

Ion	Ratio	Lower	Upper
72	100		
71	93.2	77.9	117.9
42	152.4	133.9	173.9

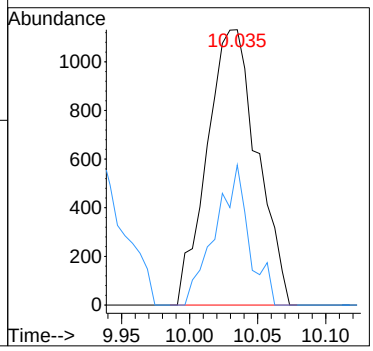


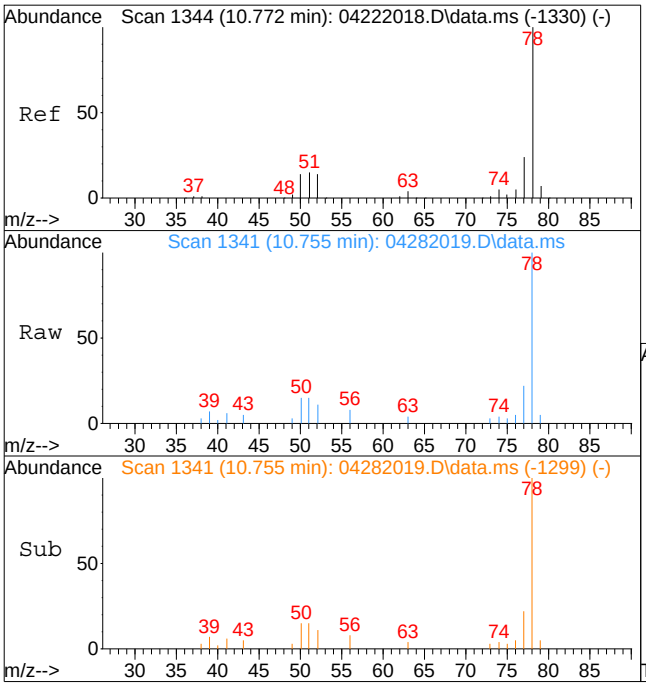


#36
1,2-Dichloroethane
Concen: 0.17 ng
RT: 10.04 min Scan# 1210
Delta R.T. -0.017 min
Lab File: 04282019.D
Acq: 28 Apr 2020 22:27

Tgt Ion: 62 Resp: 2906

Ion	Ratio	Lower	Upper
62	100		
64	34.2	12.7	52.7

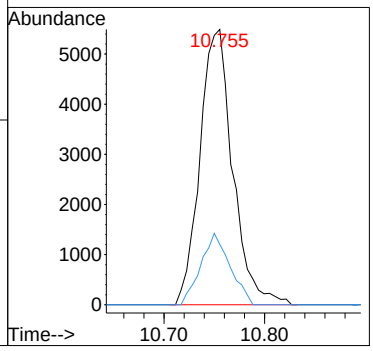


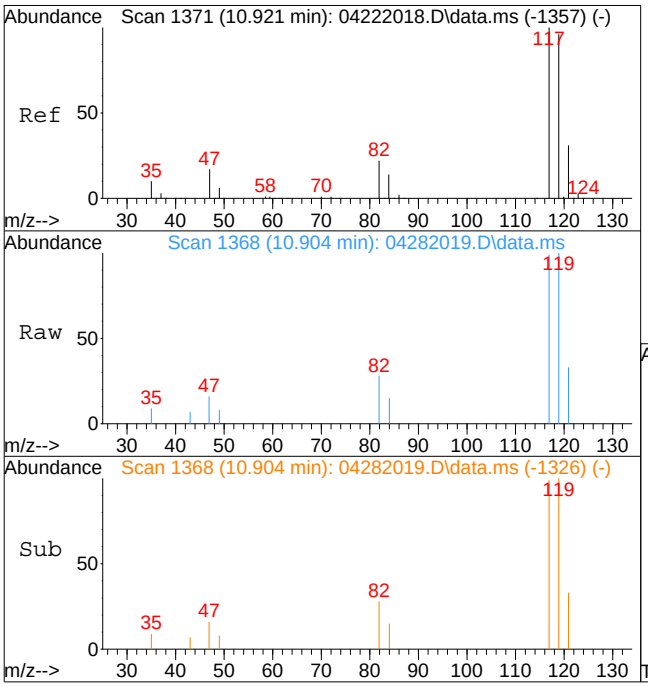


#41
Benzene
Concen: 0.30 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.017 min
Lab File: 04282019.D
Acq: 28 Apr 2020 22:27

Tgt Ion: 78 Resp: 12428

Ion	Ratio	Lower	Upper
78	100		
77	23.1	3.6	43.6

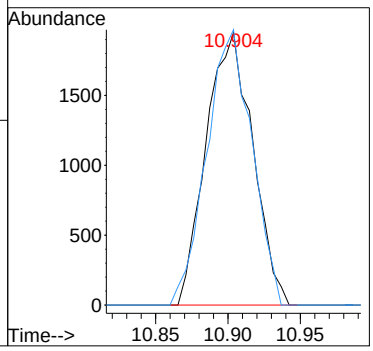


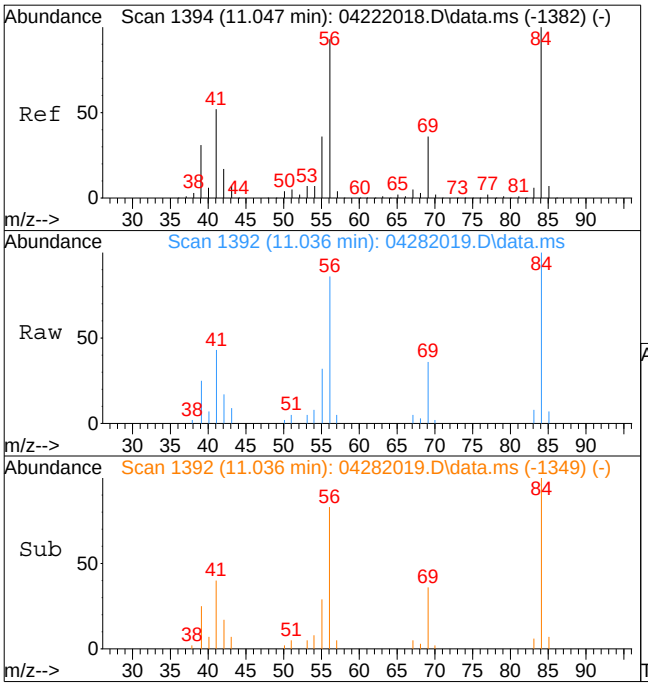


#42
Carbon Tetrachloride
Concen: 0.20 ng
RT: 10.90 min Scan# 1368
Delta R.T. -0.017 min
Lab File: 04282019.D
Acq: 28 Apr 2020 22:27

Tgt Ion:117 Resp: 4369

Ion	Ratio	Lower	Upper
117	100		
119	98.2	76.5	116.5

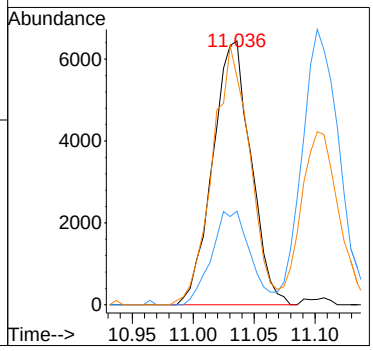


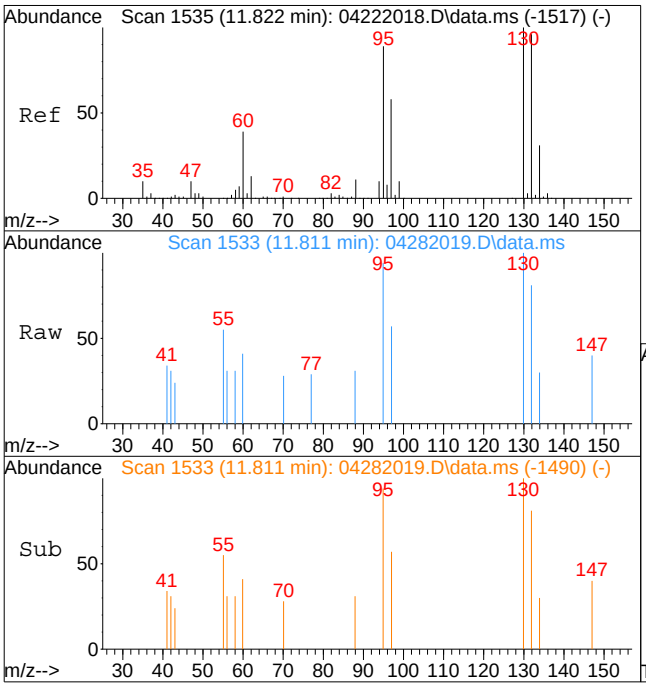


#43
Cyclohexane
Concen: 0.87 ng
RT: 11.04 min Scan# 1392
Delta R.T. -0.011 min
Lab File: 04282019.D
Acq: 28 Apr 2020 22:27

Tgt Ion: 84 Resp: 14070

Ion	Ratio	Lower	Upper
84	100		
69	36.3	15.8	55.8
56	95.8	72.0	112.0

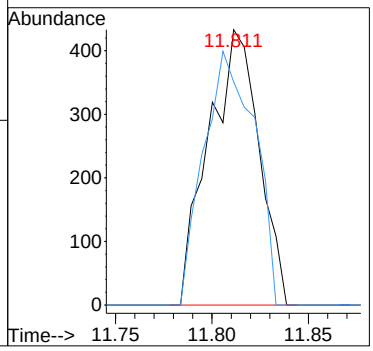


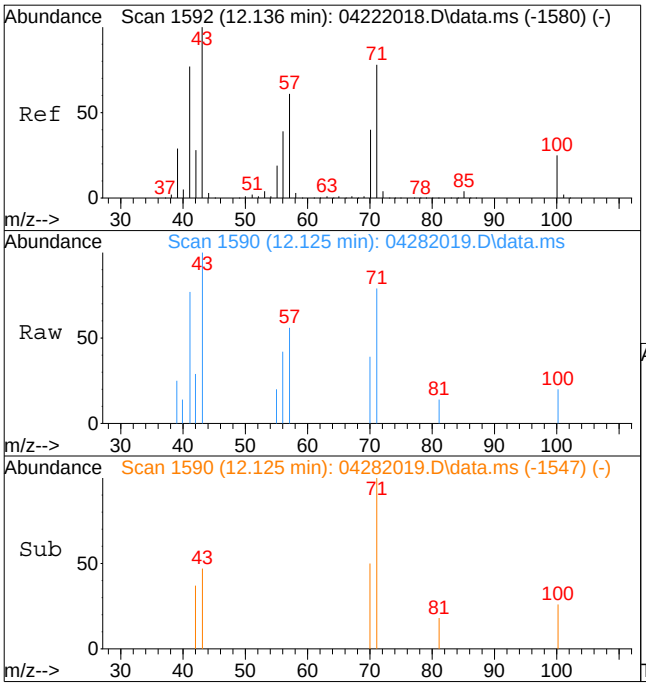


#47
Trichloroethene
Concen: 0.05 ng
RT: 11.81 min Scan# 1533
Delta R.T. -0.011 min
Lab File: 04282019.D
Acq: 28 Apr 2020 22:27

Tgt Ion:130 Resp: 785

Ion	Ratio	Lower	Upper
130	100		
132	93.2	76.4	116.4

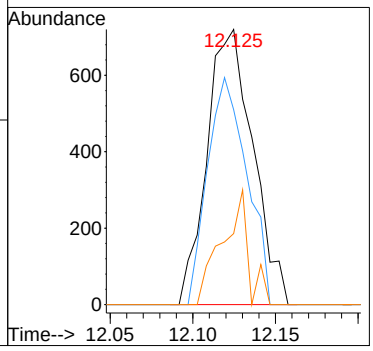


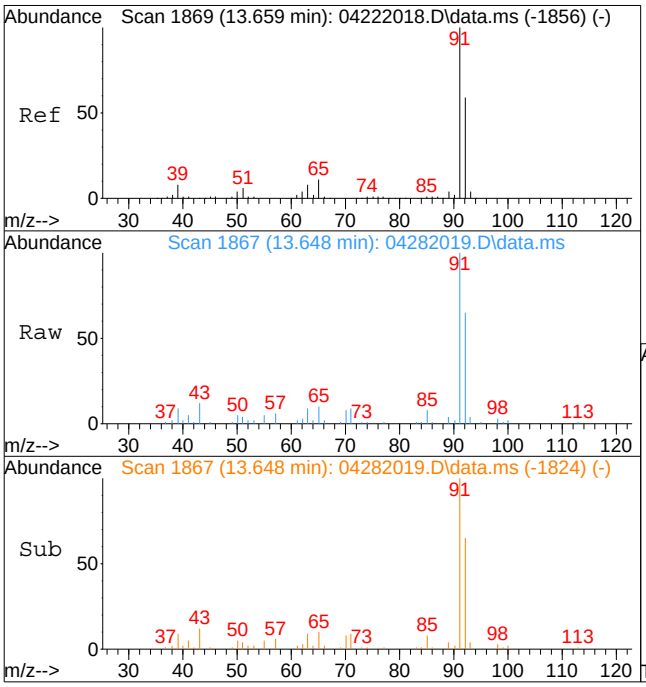


#51
n-Heptane
Concen: 0.14 ng
RT: 12.12 min Scan# 1590
Delta R.T. -0.011 min
Lab File: 04282019.D
Acq: 28 Apr 2020 22:27

Tgt Ion: 71 Resp: 1394

Ion	Ratio	Lower	Upper
71	100		
57	70.9	57.4	97.4
100	23.9	12.0	52.0

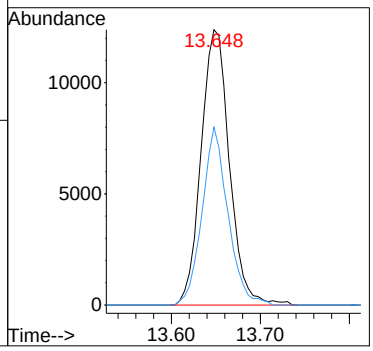


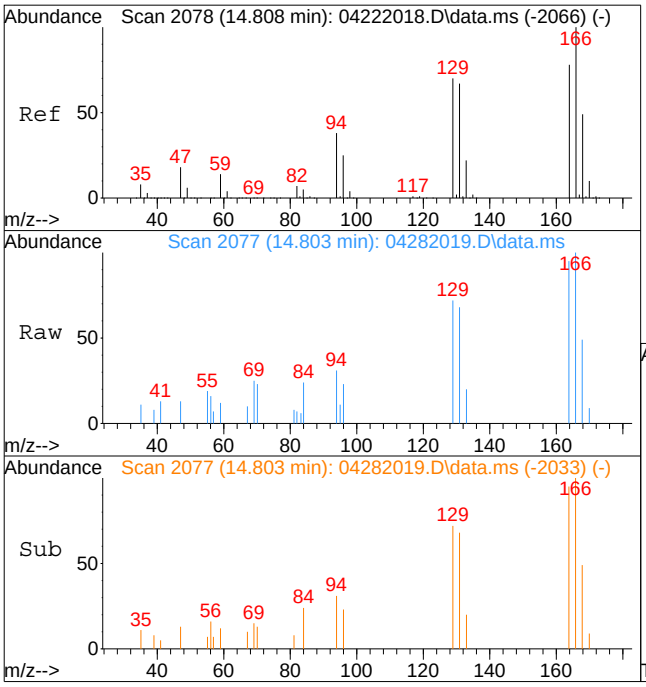


#58
Toluene
Concen: 0.59 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.011 min
Lab File: 04282019.D
Acq: 28 Apr 2020 22:27

Tgt Ion: 91 Resp: 27398

Ion	Ratio	Lower	Upper
91	100		
92	59.0	38.2	78.2

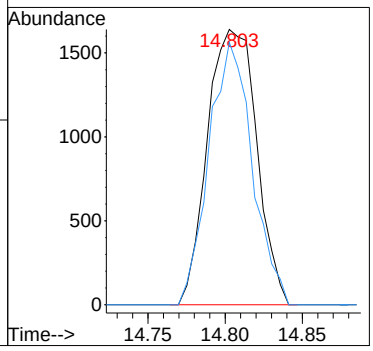


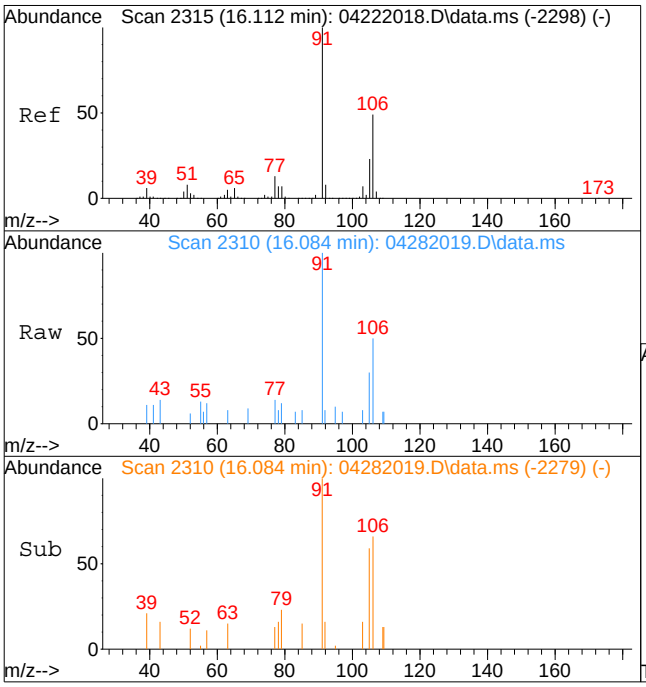


#64
Tetrachloroethene
Concen: 0.21 ng
RT: 14.80 min Scan# 2077
Delta R.T. -0.006 min
Lab File: 04282019.D
Acq: 28 Apr 2020 22:27

Tgt Ion:166 Resp: 3638

Ion	Ratio	Lower	Upper
166	100		
164	83.9	57.7	97.7

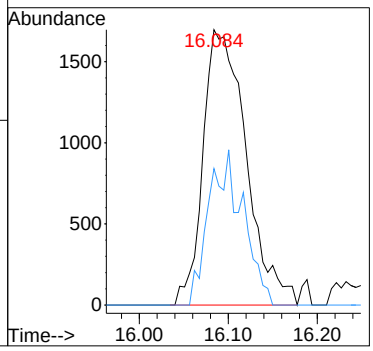


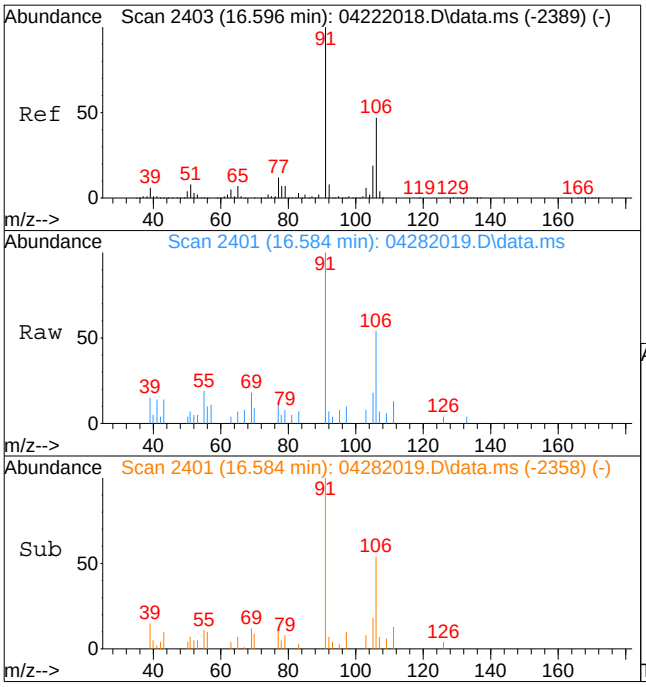


#67
m- & p-Xylenes
Concen: 0.12 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.028 min
Lab File: 04282019.D
Acq: 28 Apr 2020 22:27

Tgt Ion: 91 Resp: 5710

Ion	Ratio	Lower	Upper
91	100		
106	44.8	28.3	68.3

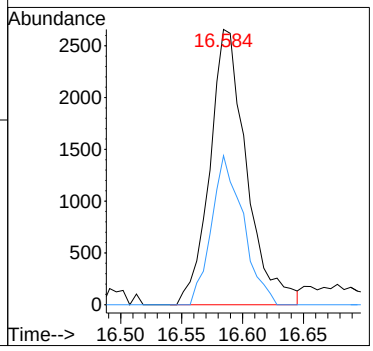


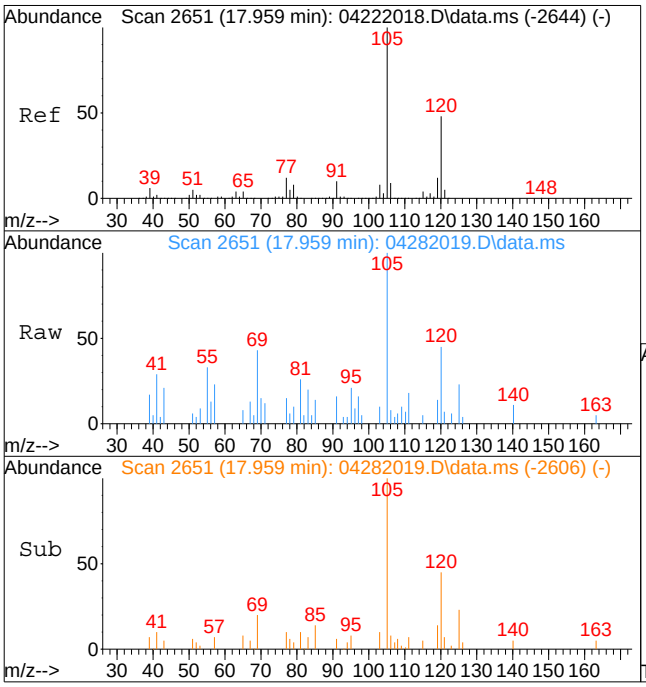


#70
o-Xylene
Concen: 0.12 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 04282019.D
Acq: 28 Apr 2020 22:27

Tgt Ion: 91 Resp: 5570

Ion	Ratio	Lower	Upper
91	100		
106	46.6	27.5	67.5

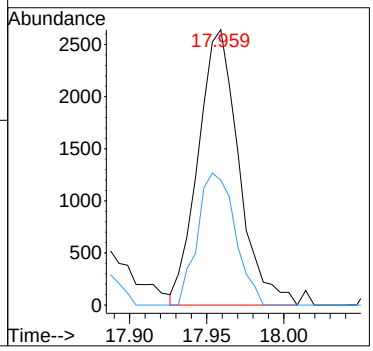




#79
1,3,5-Trimethylbenzene
Concen: 0.09 ng
RT: 17.96 min Scan# 2651
Delta R.T. -0.000 min
Lab File: 04282019.D
Acq: 28 Apr 2020 22:27

Tgt Ion:105 Resp: 4847

Ion	Ratio	Lower	Upper
105	100		
120	44.3	29.5	69.5



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282010.D Vial: 15
Acq On : 28 Apr 2020 17:23 Operator: SC
Sample : P2002030-004 (25mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 09:39:45 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/29/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	153043	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	639965	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	287828	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	228228	11.510	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.08%			
57) Toluene-d8 (SS2)	13.55	98	688733	12.393	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.12%			
73) Bromofluorobenzene (SS3)	17.05	174	260831	11.678	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.44%			
Target Compounds						Qvalue
2) Propene	3.86	42	25441	3.914	ng	# 80
3) Dichlorodifluoromethan...	3.99	85	1451	0.059	ng	# 89
4) Chloromethane	4.18	50	1098	0.120	ng	87
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	4.46	62	507	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.	d	
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.	d	
10) Ethanol	5.49	45	79	N.D.		
11) Acetonitrile	0.00	41	0	N.D.	d	
12) Acrolein	0.00	56	0	N.D.	d	
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	6.03	101	999	N.D.		
15) 2-Propanol (Isopropanol)	6.15	45	53461	2.847	ng	78
16) Acrylonitrile	0.00	53	0	N.D.	d	
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	6.87	59	295	N.D.		
19) Methylene Chloride	6.79	84	330	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d	
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	7.16	76	1363	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	8.11	63	282	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	d	
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	8.53	72	4537	0.747	ng	91
28) cis-1,2-Dichloroethene	8.74	61	453	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	9.24	61	131	N.D.		
31) n-Hexane	9.24	57	161810	12.337	ng	99
32) Chloroform	9.29	83	409	N.D.		
34) Tetrahydrofuran (THF)	9.73	72	161	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d	
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	10.76	78	21162	0.507	ng	87
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	11.05	84	1767458	108.143	ng	98
44) tert-Amyl Methyl Ether	11.31	73	363	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d	
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282010.D Vial: 15
Acq On : 28 Apr 2020 17:23 Operator: SC
Sample : P2002030-004 (25mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 09:39:45 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

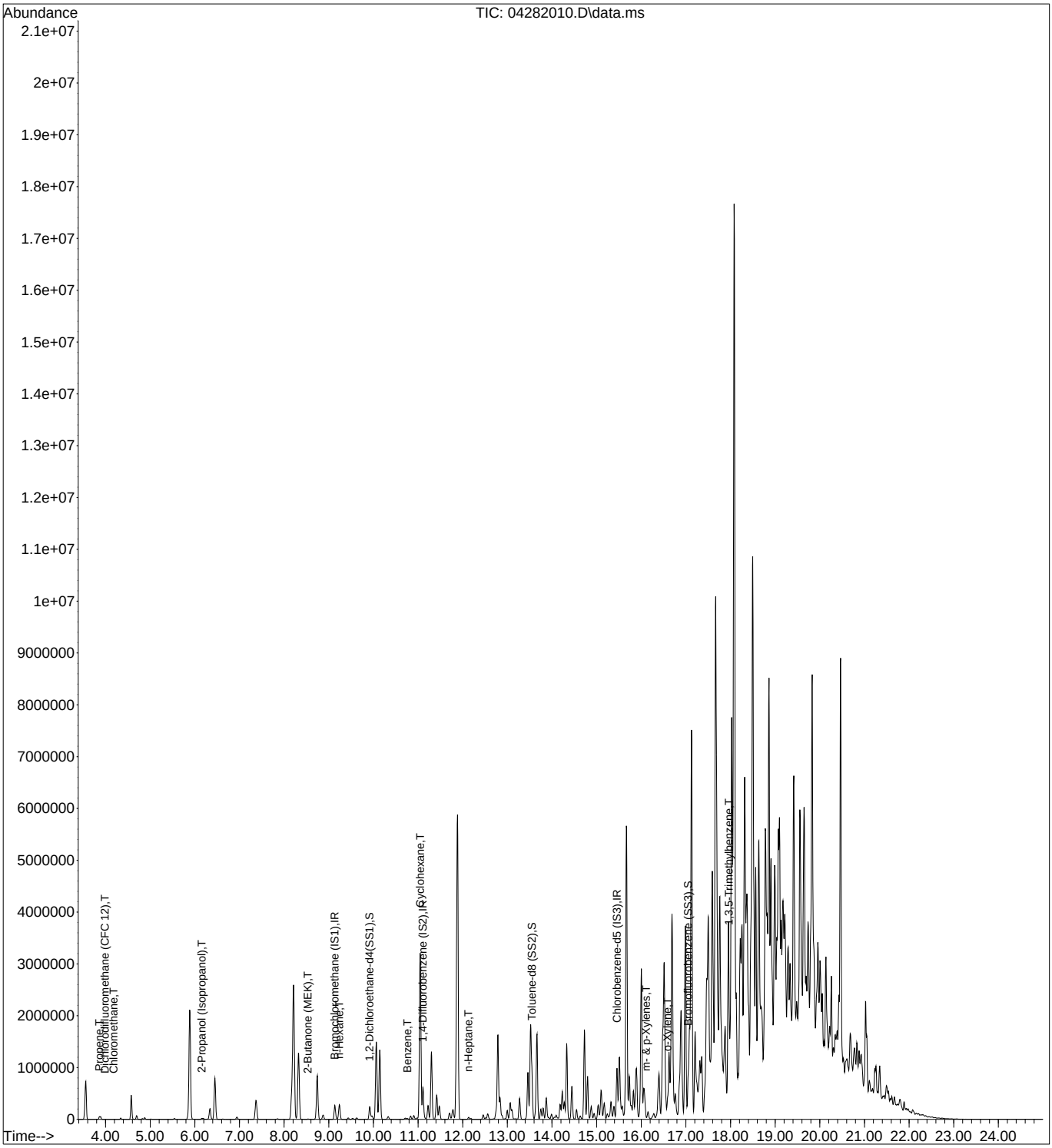
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.13	71	8354	0.862 ng	97
52) cis-1,3-Dichloropropene	12.78	75	369	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D. d	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	0.00	91	0	N.D. d	
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D. d	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.67	57	235	N.D.	
64) Tetrachloroethene	14.81	166	859	N.D.	
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	0.00	91	0	N.D. d	
67) m- & p-Xylenes	16.11	91	10792	0.235 ng	91
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.51	104	139	N.D.	
70) o-Xylene	16.59	91	46982	1.043 ng	98
71) n-Nonane	0.00	43	0	N.D. d	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	0.00	105	0	N.D. d	
75) alpha-Pinene	0.00	93	0	N.D. d	
76) n-Propylbenzene	0.00	91	0	N.D. d	
77) 3-Ethyltoluene	17.82	105	461	N.D.	
78) 4-Ethyltoluene	17.89	105	1636	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	65686	1.273 ng	97
80) alpha-Methylstyrene	18.12	118	155	N.D.	
81) 2-Ethyltoluene	18.16	105	2799	N.D.	
82) 1,2,4-Trimethylbenzene	18.41	105	1474	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	0.00	91	0	N.D. d	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	18.67	105	3166	N.D.	
88) 4-Isopropyltoluene (p-...	18.84	119	2031	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D. d	
95) Naphthalene	20.88	128	329	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282010.D Vial: 15
Acq On : 28 Apr 2020 17:23 Operator: SC
Sample : P2002030-004 (25mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 09:39:45 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282010.D Vial: 15
Acq On : 28 Apr 2020 17:23 Operator: SC
Sample : P2002030-004 (25mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 09:39:45 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

VOA 4/29/20

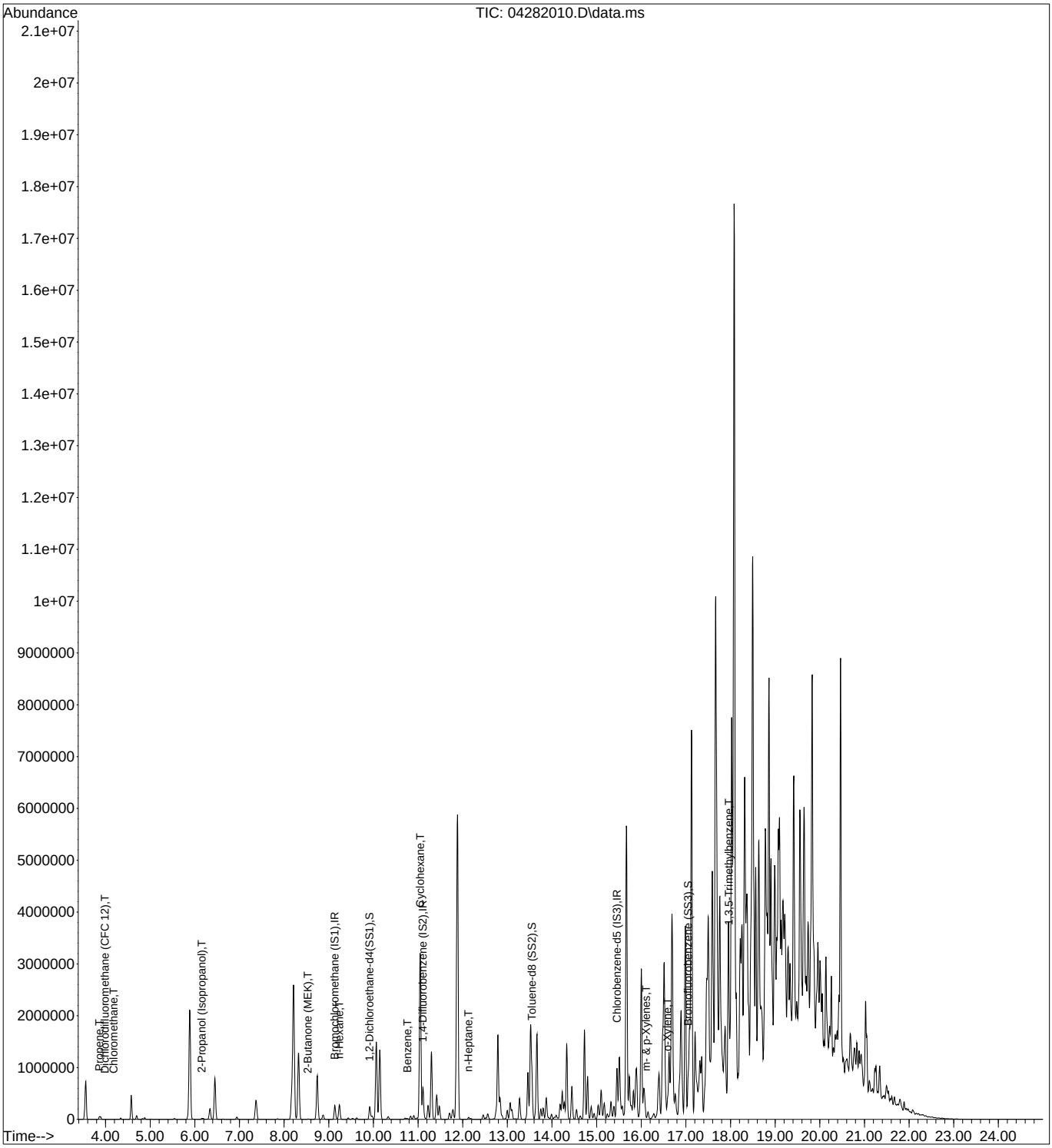
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	153043	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	639965	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	287828	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	228228	11.510	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.08%			
57) Toluene-d8 (SS2)	13.55	98	688733	12.393	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.12%			
73) Bromofluorobenzene (SS3)	17.05	174	260831	11.678	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.44%			
Target Compounds						Qvalue
2) Propene	3.86	42	25441	3.914	ng	# 80
3) Dichlorodifluoromethan...	3.99	85	1451	0.059	ng	# 89
4) Chloromethane	4.18	50	1098	0.120	ng	87
15) 2-Propanol (Isopropanol)	6.15	45	53461	2.847	ng	78
27) 2-Butanone (MEK)	8.53	72	4537	0.747	ng	91
31) n-Hexane	9.24	57	161810	12.337	ng	99
41) Benzene	10.76	78	21162	0.507	ng	87
43) Cyclohexane	11.05	84	1767458	108.143	ng	98
51) n-Heptane	12.13	71	8354	0.862	ng	97
67) m- & p-Xylenes	16.11	91	10792	0.235	ng	91
70) o-Xylene	16.59	91	46982	1.043	ng	98
79) 1,3,5-Trimethylbenzene	17.96	105	65686	1.273	ng	97

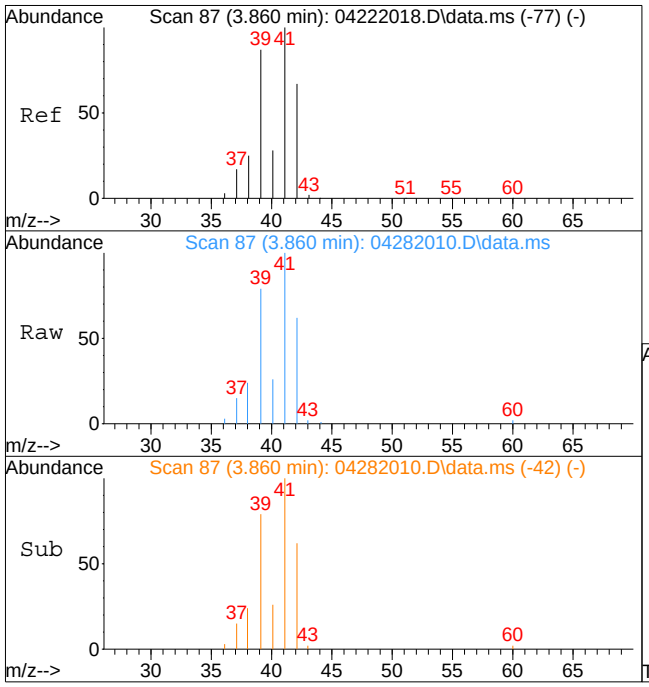
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282010.D Vial: 15
Acq On : 28 Apr 2020 17:23 Operator: SC
Sample : P2002030-004 (25mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 09:39:45 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

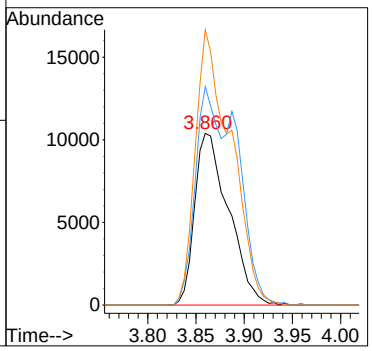


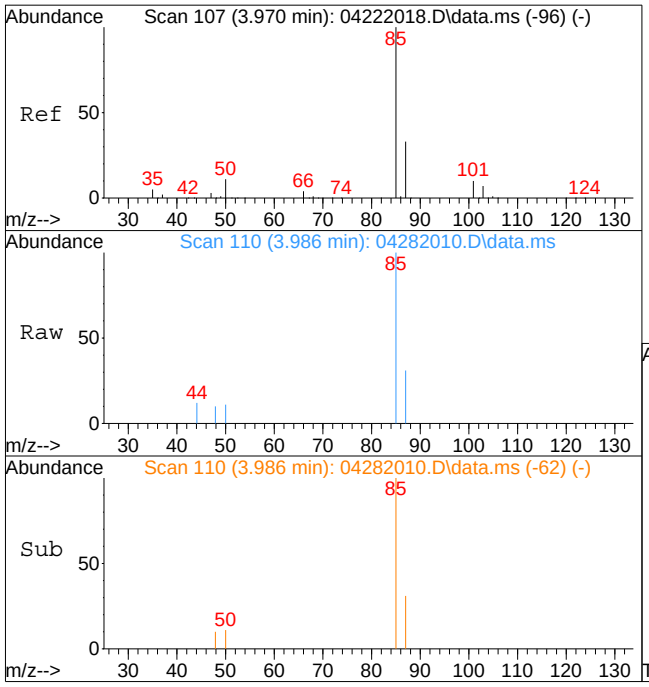


#2
Propene
Concen: 3.91 ng
RT: 3.86 min Scan# 87
Delta R.T. -0.000 min
Lab File: 04282010.D
Acq: 28 Apr 2020 17:23

Tgt Ion: 42 Resp: 25441

Ion	Ratio	Lower	Upper
42	100		
39	155.6	106.4	146.4#
41	167.1	128.8	168.8

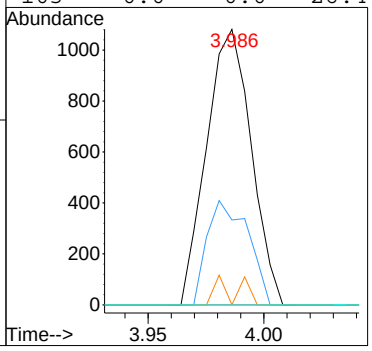


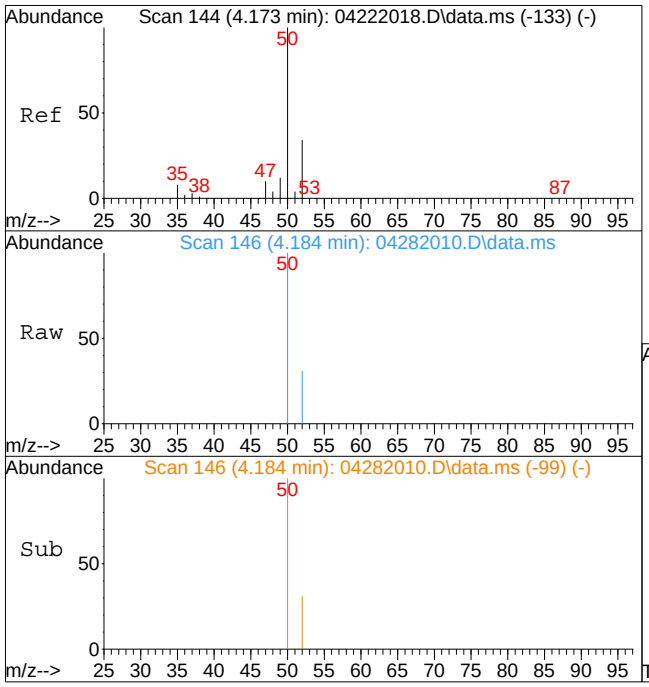


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.06 ng
RT: 3.99 min Scan# 110
Delta R.T. 0.016 min
Lab File: 04282010.D
Acq: 28 Apr 2020 17:23

Tgt Ion: 85 Resp: 1451

Ion	Ratio	Lower	Upper
85	100		
87	34.7	12.4	52.4
101	0.0	0.0	29.9
103	0.0	0.0	26.4

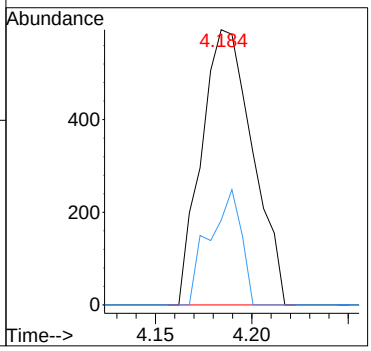


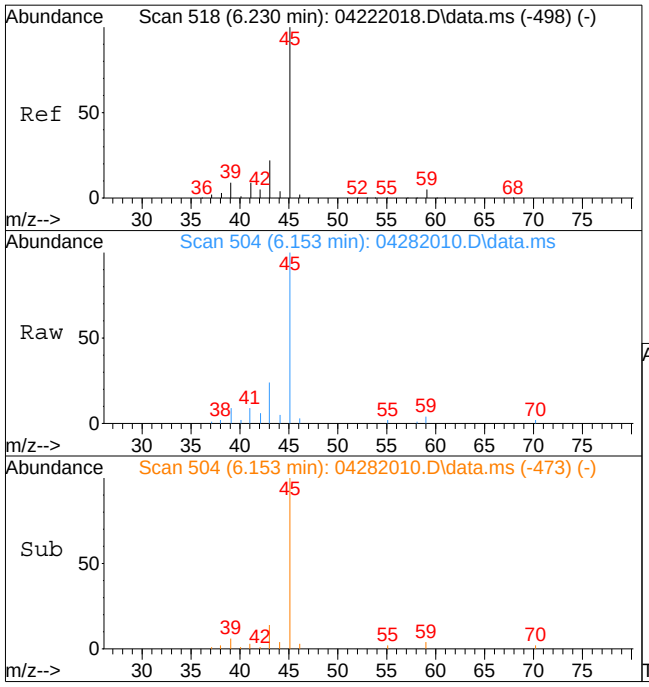


#4
Chloromethane
Concen: 0.12 ng
RT: 4.18 min Scan# 146
Delta R.T. 0.011 min
Lab File: 04282010.D
Acq: 28 Apr 2020 17:23

Tgt Ion: 50 Resp: 1098

Ion	Ratio	Lower	Upper
50	100		
52	26.1	13.7	53.7

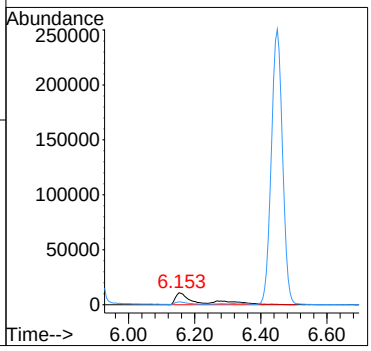


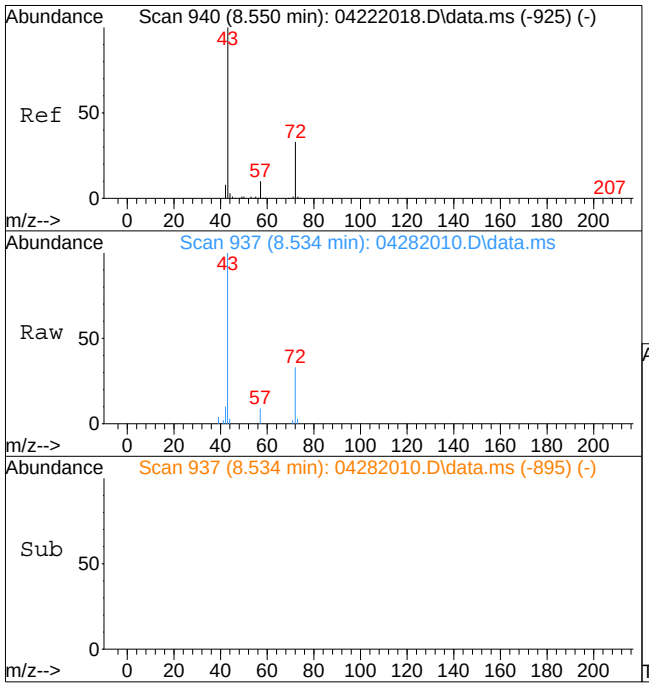


#15
2-Propanol (Isopropanol)
Concen: 2.85 ng
RT: 6.15 min Scan# 504
Delta R.T. -0.077 min
Lab File: 04282010.D
Acq: 28 Apr 2020 17:23

Tgt Ion: 45 Resp: 53461

Ion	Ratio	Lower	Upper
45	100		
43	12.1	2.6	42.6

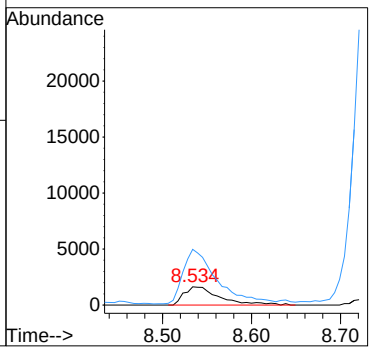


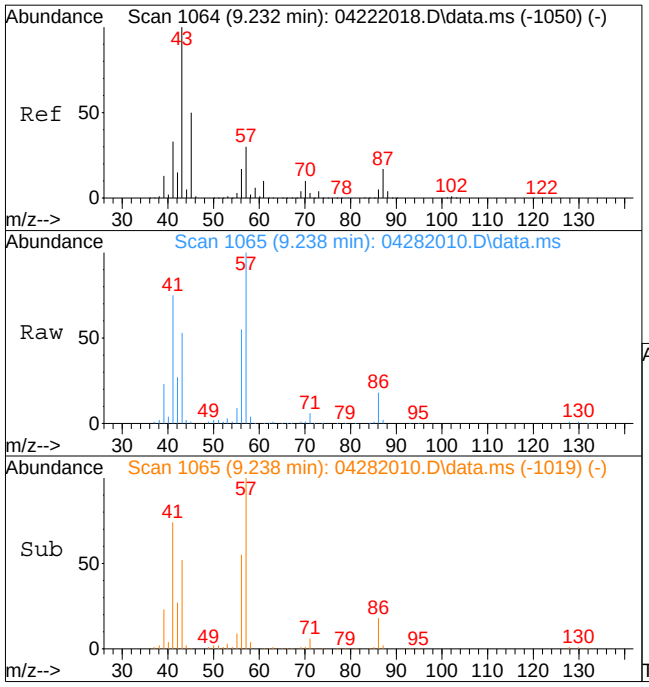


#27
2-Butanone (MEK)
Concen: 0.75 ng
RT: 8.53 min Scan# 937
Delta R.T. -0.017 min
Lab File: 04282010.D
Acq: 28 Apr 2020 17:23

Tgt Ion: 72 Resp: 4537

Ion	Ratio	Lower	Upper
72	100		
43	282.0	278.8	318.8

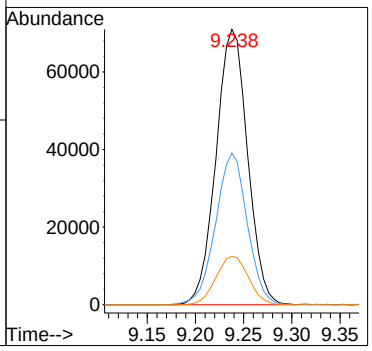


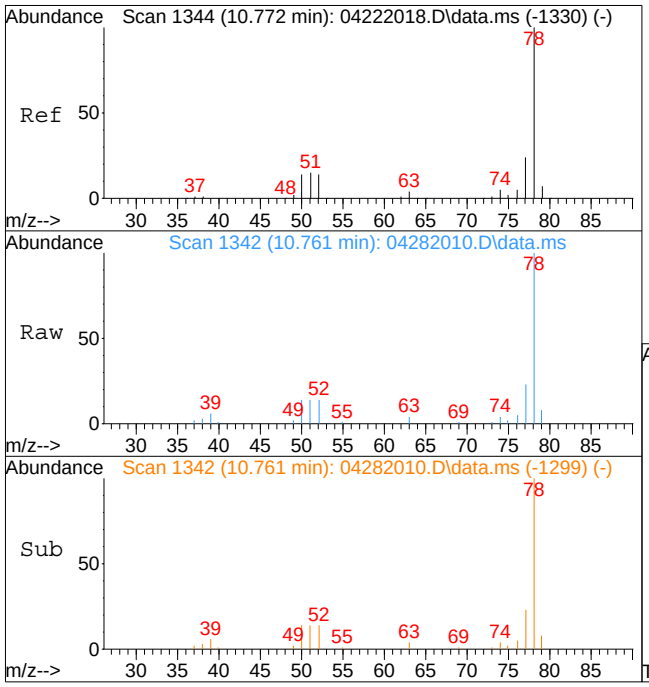


#31
n-Hexane
Concen: 12.34 ng
RT: 9.24 min Scan# 1065
Delta R.T. 0.005 min
Lab File: 04282010.D
Acq: 28 Apr 2020 17:23

Tgt Ion: 57 Resp: 161810

Ion	Ratio	Lower	Upper
57	100		
56	55.3	44.0	66.0
86	18.1	15.0	22.4

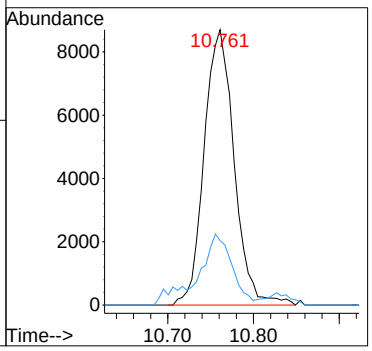


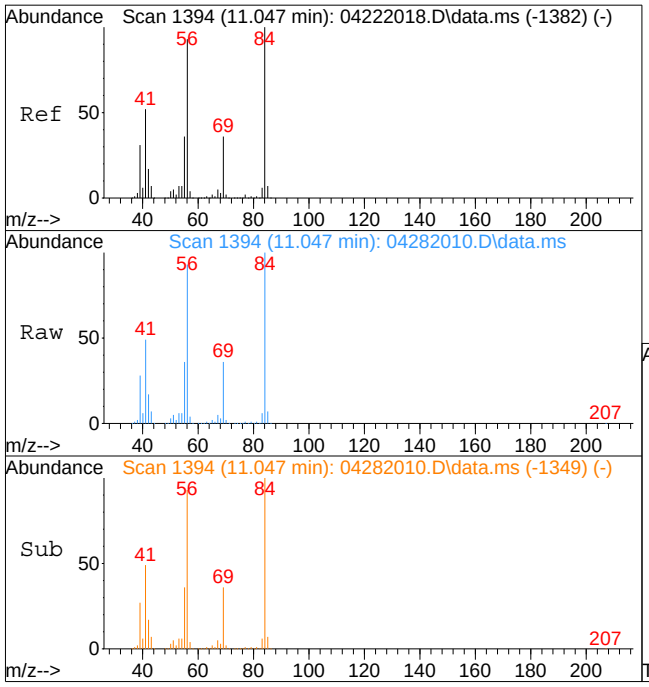


#41
Benzene
Concen: 0.51 ng
RT: 10.76 min Scan# 1342
Delta R.T. -0.011 min
Lab File: 04282010.D
Acq: 28 Apr 2020 17:23

Tgt Ion: 78 Resp: 21162

Ion	Ratio	Lower	Upper
78	100		
77	29.8	3.6	43.6

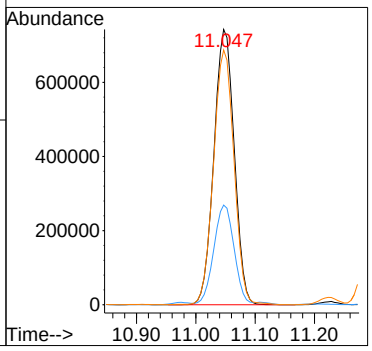


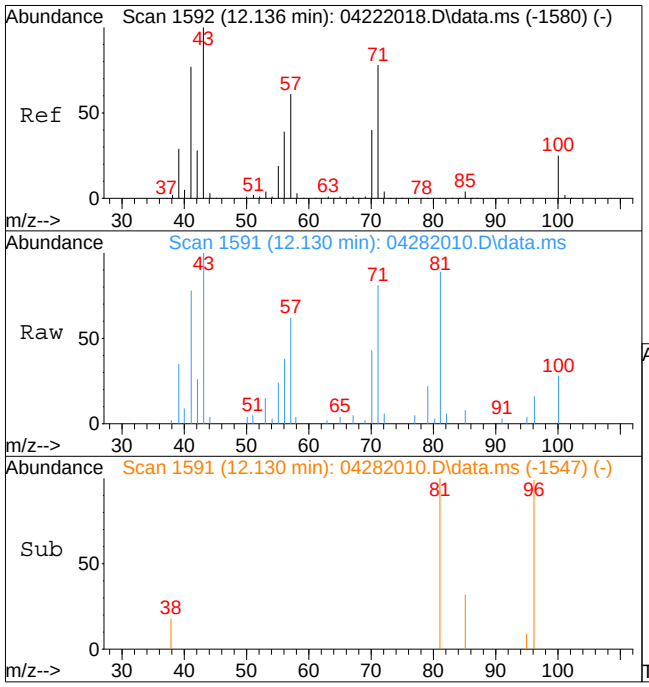


#43
Cyclohexane
Concen: 108.14 ng
RT: 11.05 min Scan# 1394
Delta R.T. -0.000 min
Lab File: 04282010.D
Acq: 28 Apr 2020 17:23

Tgt Ion: 84 Resp: 1767458

Ion	Ratio	Lower	Upper
84	100		
69	36.9	15.8	55.8
56	93.7	72.0	112.0

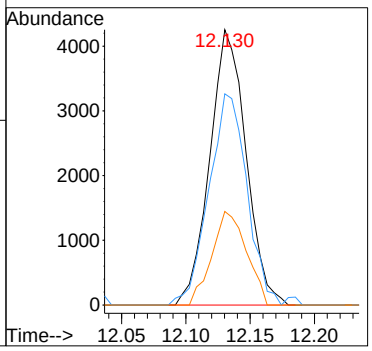


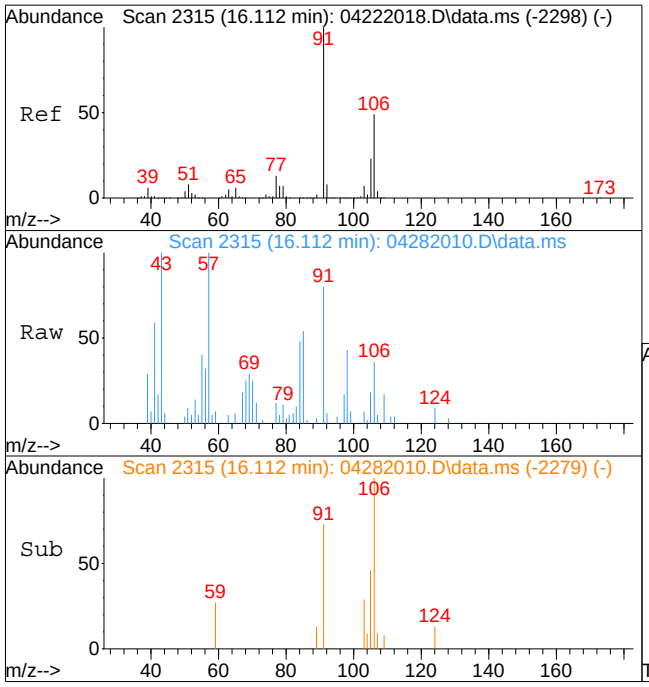


#51
n-Heptane
Concen: 0.86 ng
RT: 12.13 min Scan# 1591
Delta R.T. -0.006 min
Lab File: 04282010.D
Acq: 28 Apr 2020 17:23

Tgt Ion: 71 Resp: 8354

Ion	Ratio	Lower	Upper
71	100		
57	80.3	57.4	97.4
100	32.4	12.0	52.0

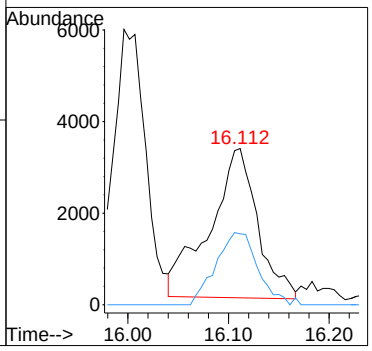


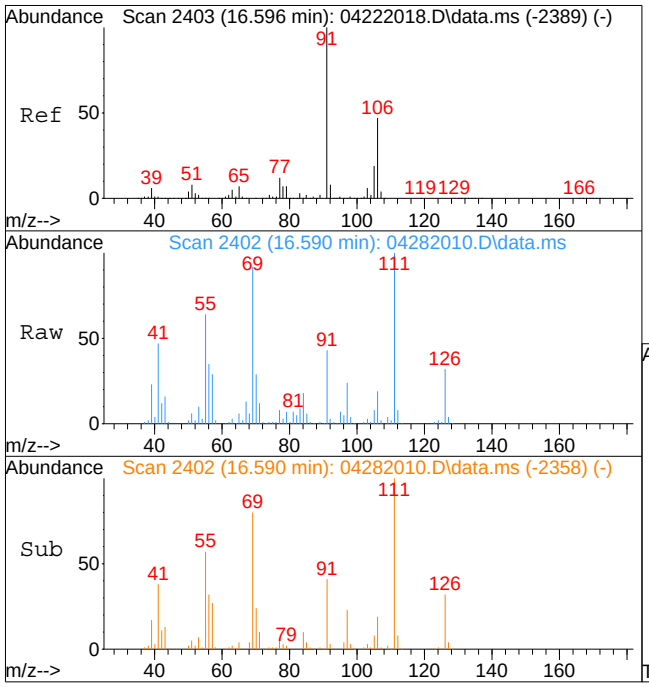


#67
m- & p-Xylenes
Concen: 0.24 ng
RT: 16.11 min Scan# 2315
Delta R.T. -0.000 min
Lab File: 04282010.D
Acq: 28 Apr 2020 17:23

Tgt Ion: 91 Resp: 10792

Ion	Ratio	Lower	Upper
91	100		
106	42.4	28.3	68.3

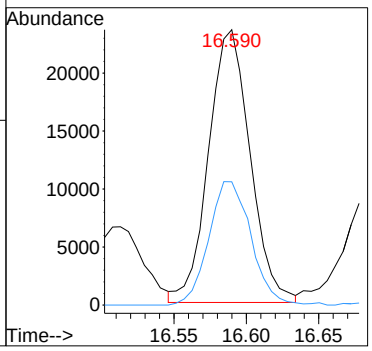


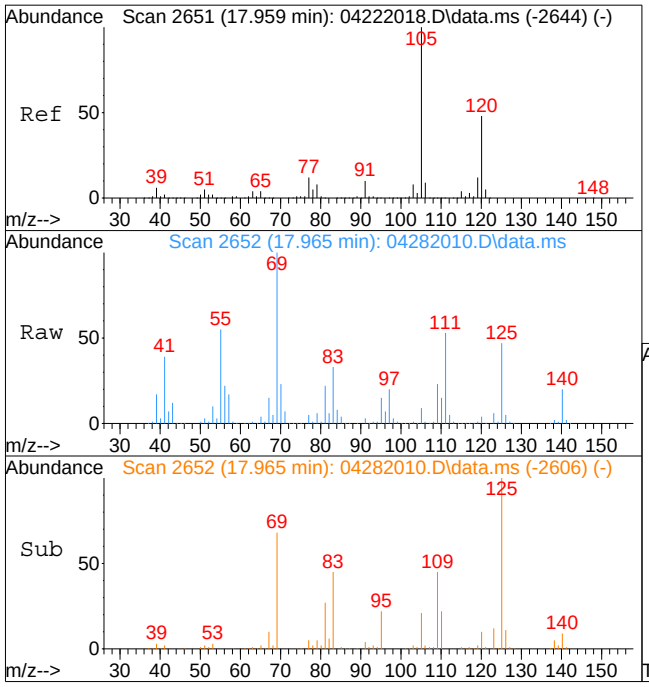


#70
o-Xylene
Concen: 1.04 ng
RT: 16.59 min Scan# 2402
Delta R.T. -0.006 min
Lab File: 04282010.D
Acq: 28 Apr 2020 17:23

Tgt Ion: 91 Resp: 46982

Ion	Ratio	Lower	Upper
91	100		
106	46.1	27.5	67.5

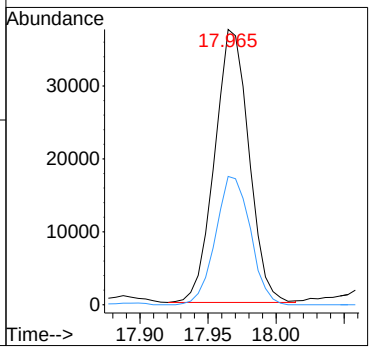




#79
1,3,5-Trimethylbenzene
Concen: 1.27 ng
RT: 17.96 min Scan# 2652
Delta R.T. 0.005 min
Lab File: 04282010.D
Acq: 28 Apr 2020 17:23

Tgt Ion:105 Resp: 65686

Ion	Ratio	Lower	Upper
105	100		
120	47.5	29.5	69.5



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282020.D Vial: 7
Acq On : 28 Apr 2020 23:01 Operator: SC
Sample : P2002030-005 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 09:48:33 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020 4/29/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	151130	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	640172	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	291030	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	228369	11.663	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.28%				
57) Toluene-d8 (SS2)	13.54	98	707087	12.583	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.64%				
73) Bromofluorobenzene (SS3)	17.05	174	287370	12.725	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.76%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	3.96	85	217763	8.929	ng		100
4) Chloromethane	0.00	50	0	N.D.	d		
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	4887	0.371	ng		99
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.34	45	6685	1.375	ng		77
11) Acetonitrile	5.61	41	130	N.D.			
12) Acrolein	5.72	56	619	0.139	ng		96
13) Acetone	5.84	58	24293	4.162	ng	#	82
14) Trichlorofluoromethane	6.02	101	23854	0.983	ng		99
15) 2-Propanol (Isopropanol)	6.18	45	759	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	6.96	41	309	N.D.			
21) Trichlorotrifluoroethane	7.18	151	209207	16.567	ng		100
22) Carbon Disulfide	7.15	76	46869	1.377	ng		75
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	8.26	86	864	0.406	ng	#	1
27) 2-Butanone (MEK)	8.54	72	2293	0.382	ng	#	53
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	9.22	87	207	N.D.			
30) Ethyl Acetate	9.22	61	13797	5.171	ng		100
31) n-Hexane	9.22	57	6839	0.528	ng		98
32) Chloroform	9.27	83	194	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.	d		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.75	78	6098	0.146	ng		98
42) Carbon Tetrachloride	10.90	117	290242	13.452	ng		99
43) Cyclohexane	11.03	84	17449	1.067	ng		99
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	11.35	63	178	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	11.81	130	530	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.	d		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282020.D Vial: 7
Acq On : 28 Apr 2020 23:01 Operator: SC
Sample : P2002030-005 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 09:48:33 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

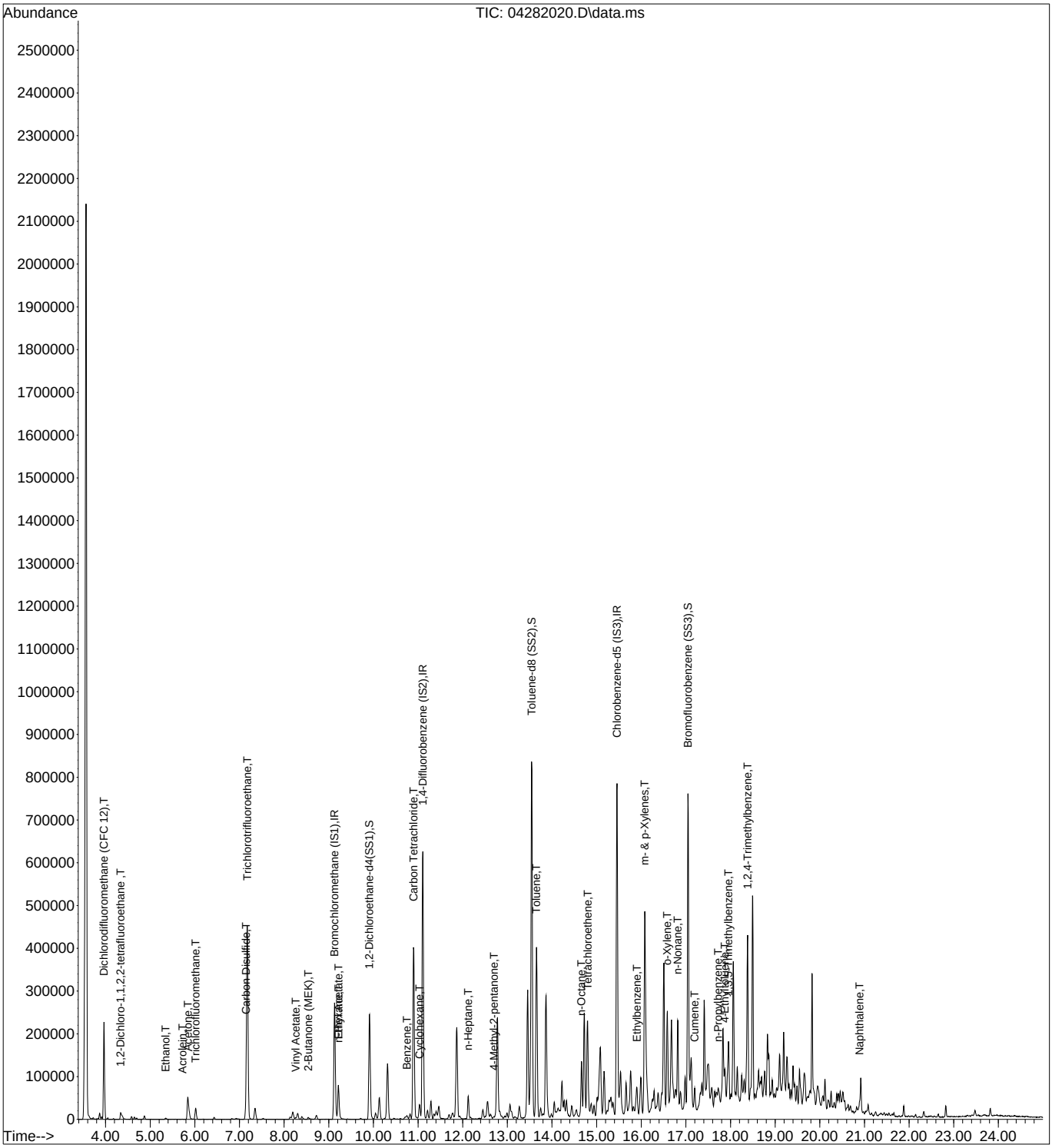
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.12	71	14982	1.545 ng	96
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	12.70	58	1336	0.183 ng	81
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	13.65	91	105399	2.234 ng	99
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D. d	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.66	57	25870	3.445 ng	96
64) Tetrachloroethene	14.80	166	20251	1.140 ng	100
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.90	91	43031	0.783 ng	98
67) m- & p-Xylenes	16.08	91	400728	8.641 ng	97
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.47	104	718	N.D.	
70) o-Xylene	16.58	91	154788	3.399 ng	98
71) n-Nonane	16.82	43	77604	5.282 ng	93
72) 1,1,2,2-Tetrachloroethane	16.57	83	276	N.D.	
74) Cumene	17.19	105	21435	0.361 ng	98
75) alpha-Pinene	17.60	93	386	N.D.	
76) n-Propylbenzene	17.72	91	35432	0.547 ng	99
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.87	105	44221	0.783 ng	98
79) 1,3,5-Trimethylbenzene	17.95	105	59356	1.137 ng	98
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	201022	3.983 ng	89
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	0.00	91	0	N.D. d	
85) 1,3-Dichlorobenzene	18.62	146	153	N.D.	
86) 1,4-Dichlorobenzene	18.62	146	153	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.89	128	21012	0.323 ng	100
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282020.D Vial: 7
Acq On : 28 Apr 2020 23:01 Operator: SC
Sample : P2002030-005 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 09:48:33 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

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Acq On : 28 Apr 2020 23:01 Operator: SC
Sample : P2002030-005 (400mL) Inst : MS09
Misc : S34-04212006

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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

WH 4/29/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	151130	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	640172	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	291030	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	228369	11.663	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.28%				
57) Toluene-d8 (SS2)	13.54	98	707087	12.583	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.64%				
73) Bromofluorobenzene (SS3)	17.05	174	287370	12.725	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.76%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.96	85	217763	8.929	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	4887	0.371	ng		99
10) Ethanol	5.34	45	6685	1.375	ng		77
12) Acrolein	5.72	56	619	0.139	ng		96
13) Acetone	5.84	58	24293	4.162	ng	#	82
14) Trichlorofluoromethane	6.02	101	23854	0.983	ng		99
21) Trichlorotrifluoroethane	7.18	151	209207	16.567	ng		100
22) Carbon Disulfide	7.15	76	46869	1.377	ng		75
26) Vinyl Acetate	8.26	86	864	0.406	ng	#	1
27) 2-Butanone (MEK)	8.54	72	2293	0.382	ng	#	53
30) Ethyl Acetate	9.22	61	13797	5.171	ng		100
31) n-Hexane	9.22	57	6839	0.528	ng		98
41) Benzene	10.75	78	6098	0.146	ng		98
42) Carbon Tetrachloride	10.90	117	290242	13.452	ng		99
43) Cyclohexane	11.03	84	17449	1.067	ng		99
51) n-Heptane	12.12	71	14982	1.545	ng		96
53) 4-Methyl-2-pentanone	12.70	58	1336	0.183	ng		81
58) Toluene	13.65	91	105399	2.234	ng		99
63) n-Octane	14.66	57	25870	3.445	ng		96
64) Tetrachloroethene	14.80	166	20251	1.140	ng		100
66) Ethylbenzene	15.90	91	43031	0.783	ng		98
67) m- & p-Xylenes	16.08	91	400728	8.641	ng		97
70) o-Xylene	16.58	91	154788	3.399	ng		98
71) n-Nonane	16.82	43	77604	5.282	ng		93
74) Cumene	17.19	105	21435	0.361	ng		98
76) n-Propylbenzene	17.72	91	35432	0.547	ng		99
78) 4-Ethyltoluene	17.87	105	44221	0.783	ng		98
79) 1,3,5-Trimethylbenzene	17.95	105	59356	1.137	ng		98
82) 1,2,4-Trimethylbenzene	18.38	105	201022	3.983	ng		89
95) Naphthalene	20.89	128	21012	0.323	ng		100

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Quantitation Report (QT Reviewed)

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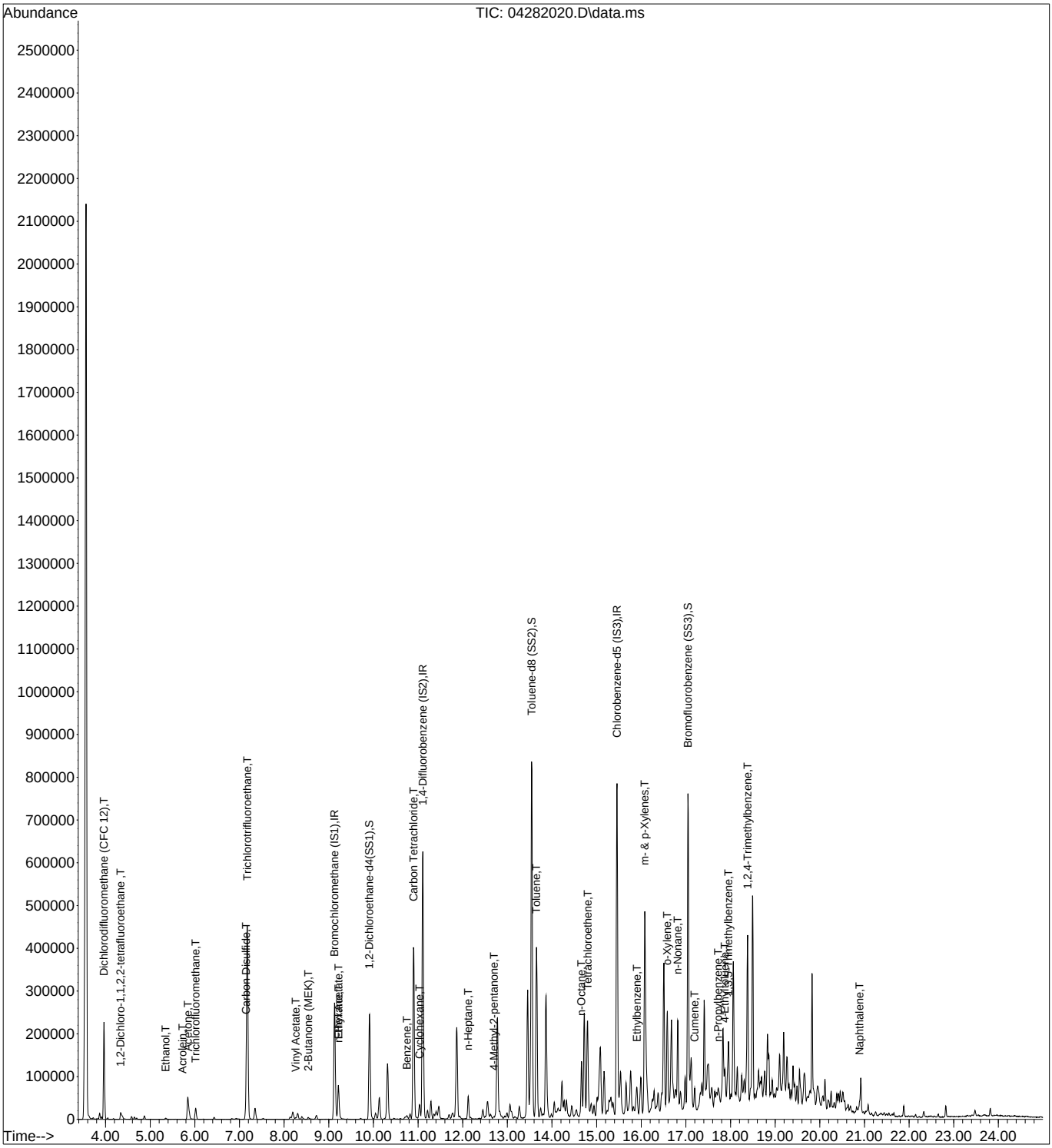
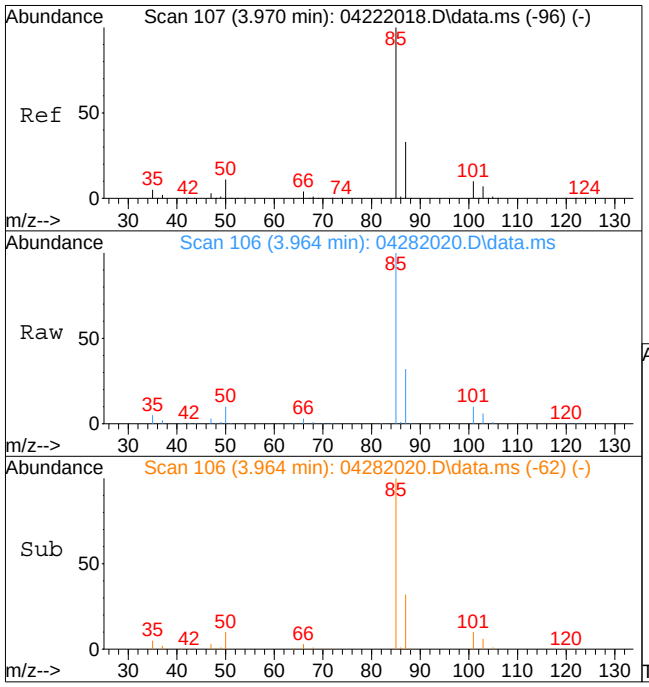
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

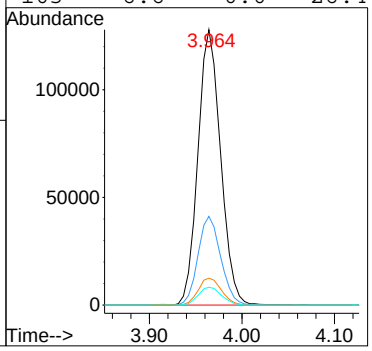


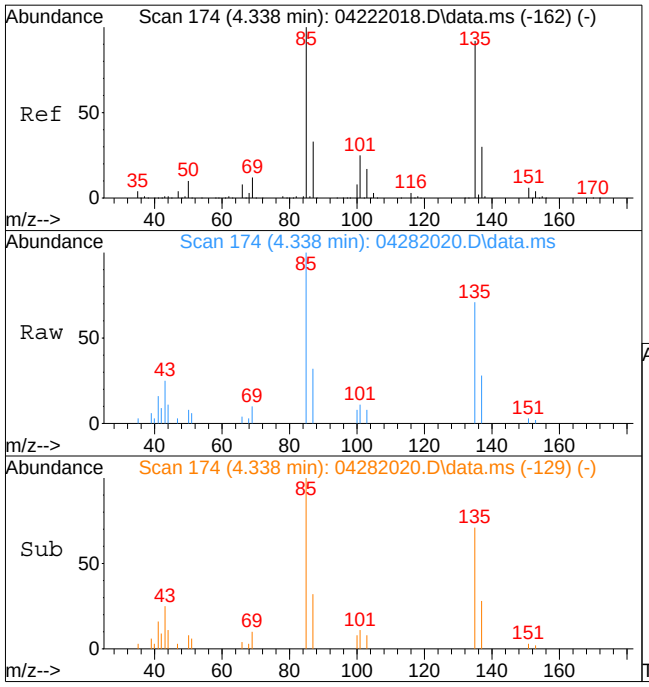


#3
Dichlorodifluoromethane (CFC 12)
Concen: 8.93 ng
RT: 3.96 min Scan# 106
Delta R.T. -0.005 min
Lab File: 04282020.D
Acq: 28 Apr 2020 23:01

Tgt Ion: 85 Resp: 217763

Ion	Ratio	Lower	Upper
85	100		
87	32.3	12.4	52.4
101	10.0	0.0	29.9
103	6.6	0.0	26.4

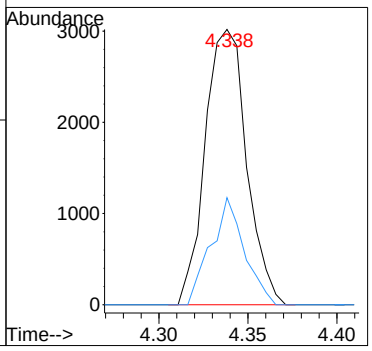


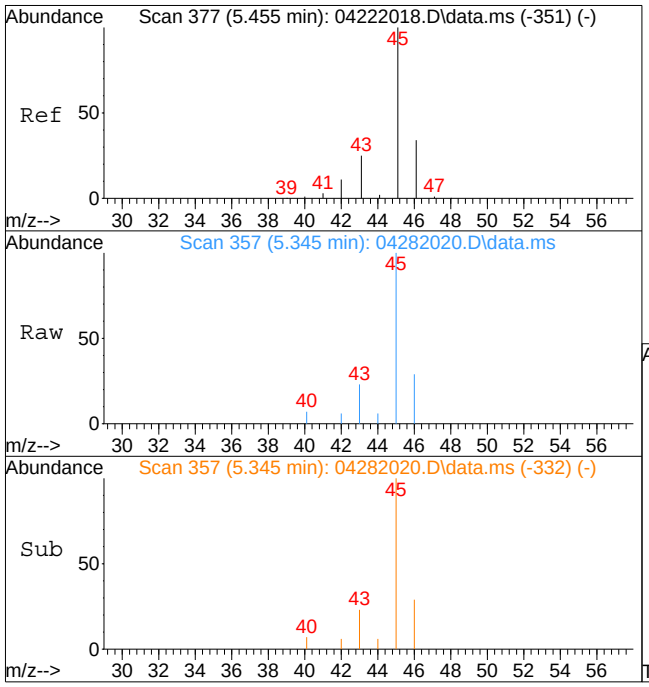


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 0.37 ng
RT: 4.34 min Scan# 174
Delta R.T. 0.000 min
Lab File: 04282020.D
Acq: 28 Apr 2020 23:01

Tgt Ion:135 Resp: 4887

Ion	Ratio	Lower	Upper
135	100		
137	31.3	11.9	51.9

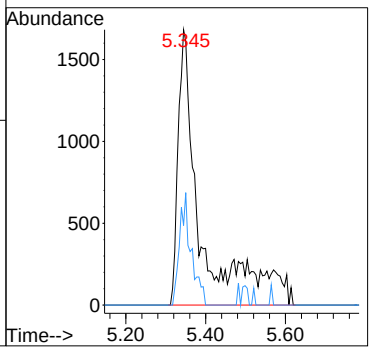


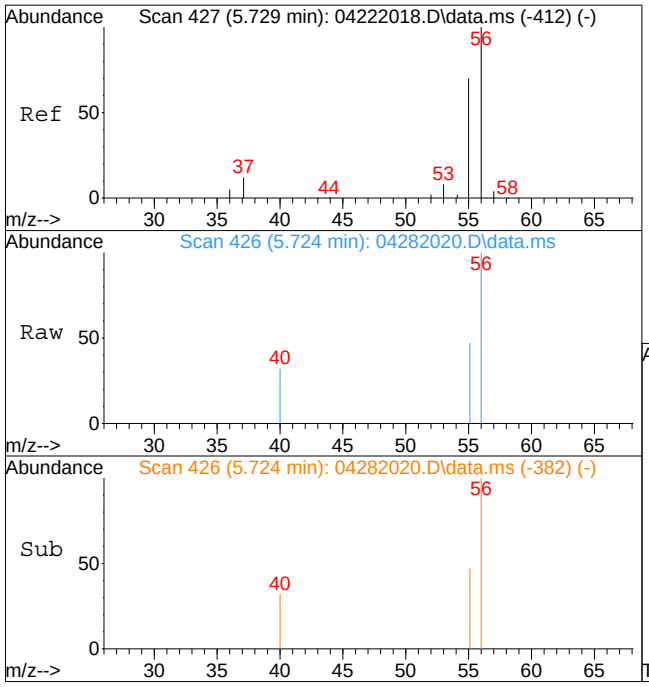


#10
Ethanol
Concen: 1.37 ng
RT: 5.34 min Scan# 357
Delta R.T. -0.110 min
Lab File: 04282020.D
Acq: 28 Apr 2020 23:01

Tgt Ion: 45 Resp: 6685

Ion	Ratio	Lower	Upper
45	100		
46	20.7	14.0	54.0

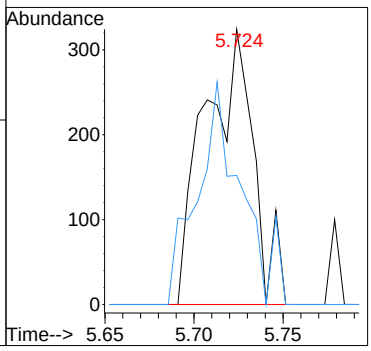


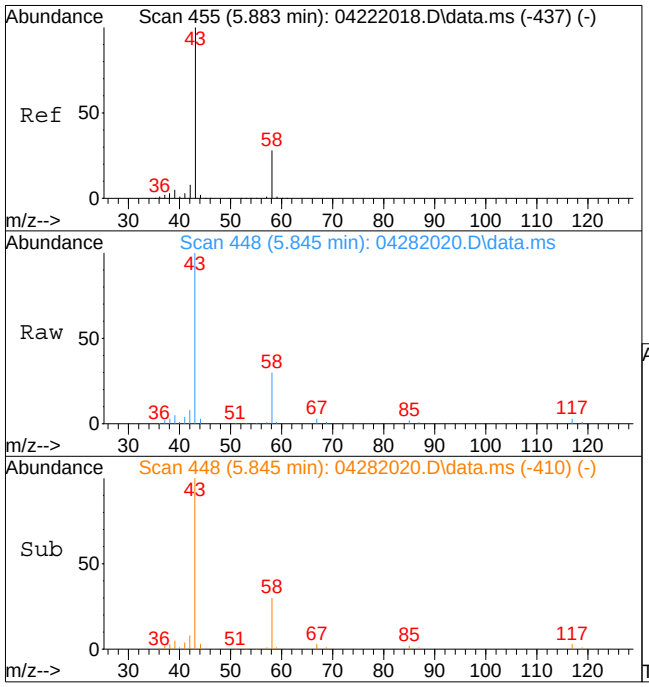


#12
Acrolein
Concen: 0.14 ng
RT: 5.72 min Scan# 426
Delta R.T. -0.005 min
Lab File: 04282020.D
Acq: 28 Apr 2020 23:01

Tgt Ion: 56 Resp: 619

Ion	Ratio	Lower	Upper
56	100		
55	73.3	50.4	90.4

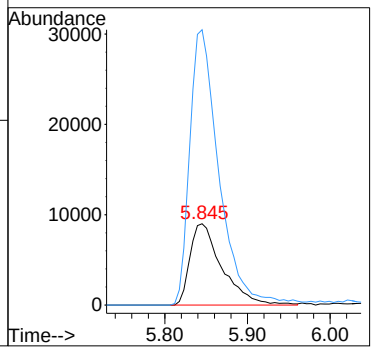


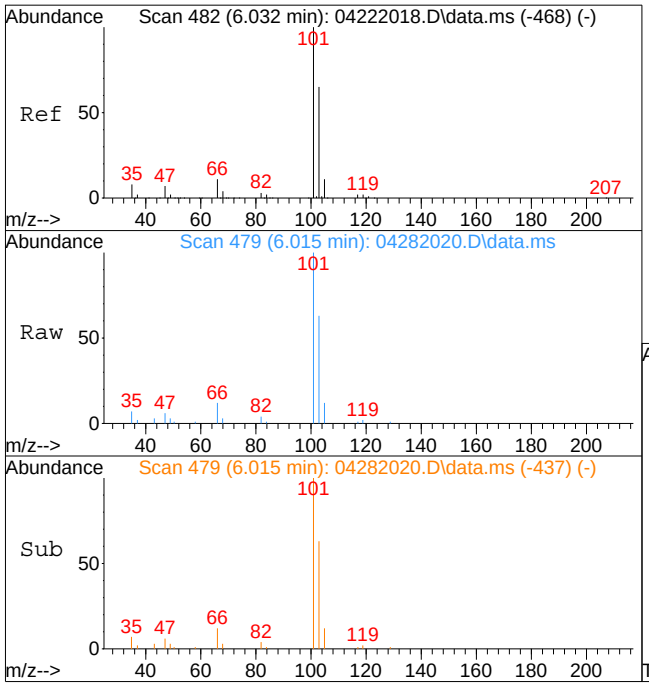


#13
Acetone
Concen: 4.16 ng
RT: 5.84 min Scan# 448
Delta R.T. -0.038 min
Lab File: 04282020.D
Acq: 28 Apr 2020 23:01

Tgt Ion: 58 Resp: 24293

Ion	Ratio	Lower	Upper
58	100		
43	309.3	319.3	379.3#

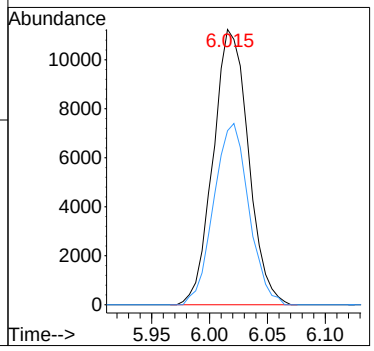


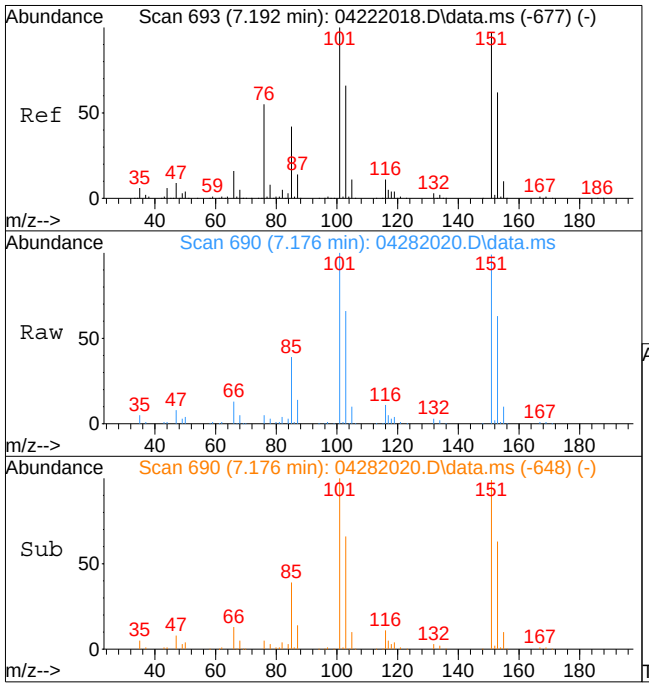


#14
Trichlorofluoromethane
Concen: 0.98 ng
RT: 6.02 min Scan# 479
Delta R.T. -0.016 min
Lab File: 04282020.D
Acq: 28 Apr 2020 23:01

Tgt Ion:101 Resp: 23854

Ion	Ratio	Lower	Upper
101	100		
103	65.5	44.7	84.7

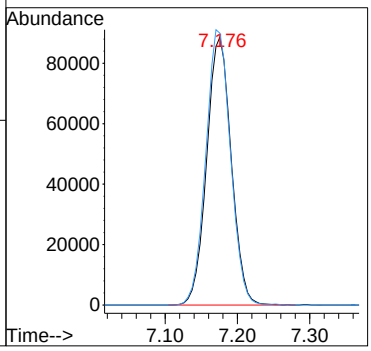


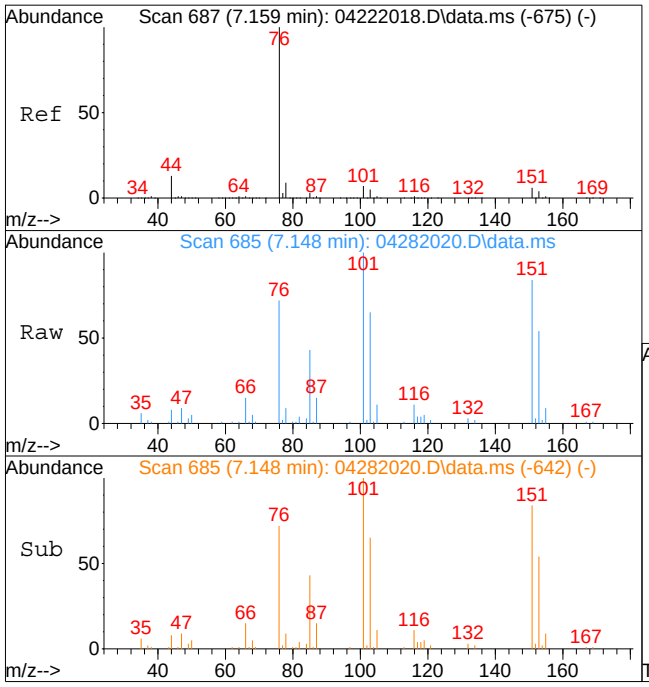


#21
Trichlorotrifluoroethane
Concen: 16.57 ng
RT: 7.18 min Scan# 690
Delta R.T. -0.016 min
Lab File: 04282020.D
Acq: 28 Apr 2020 23:01

Tgt Ion:151 Resp: 209207

Ion	Ratio	Lower	Upper
151	100		
101	103.4	82.9	122.9

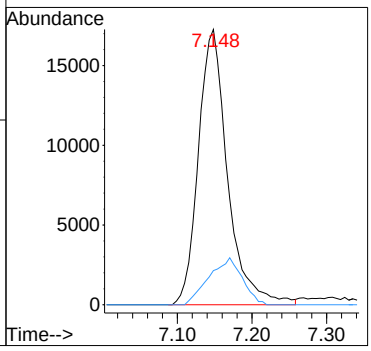


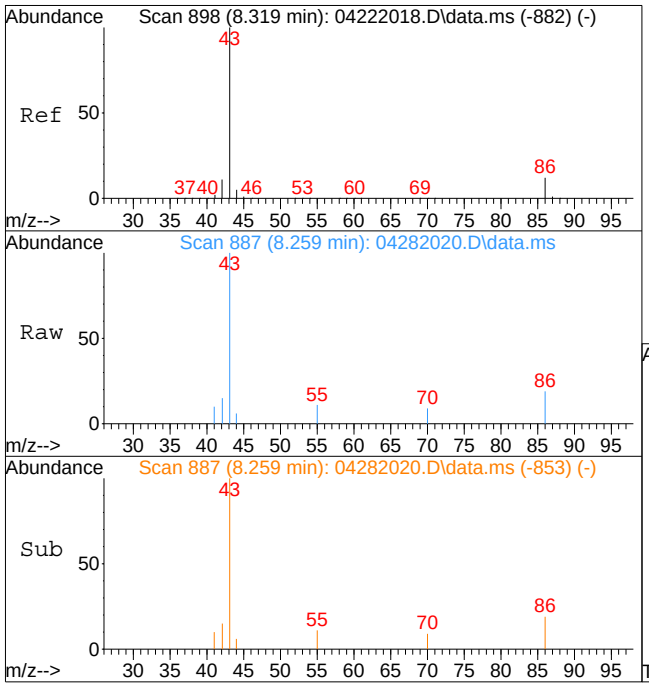


#22
Carbon Disulfide
Concen: 1.38 ng
RT: 7.15 min Scan# 685
Delta R.T. -0.011 min
Lab File: 04282020.D
Acq: 28 Apr 2020 23:01

Tgt Ion: 76 Resp: 46869

Ion	Ratio	Lower	Upper
76	100		
78	19.4	0.0	30.2

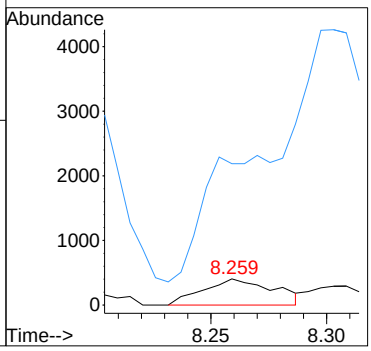


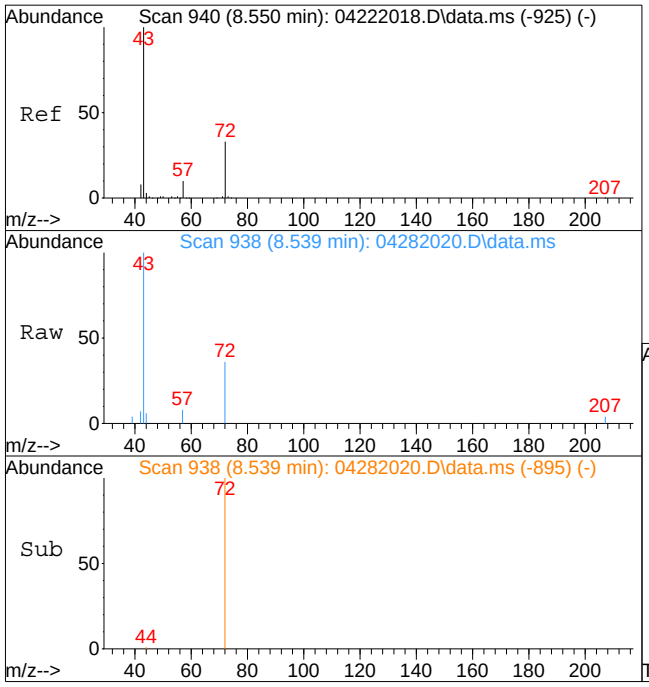


#26
Vinyl Acetate
Concen: 0.41 ng
RT: 8.26 min Scan# 887
Delta R.T. -0.060 min
Lab File: 04282020.D
Acq: 28 Apr 2020 23:01

Tgt Ion: 86 Resp: 864

Ion	Ratio	Lower	Upper
86	100		
43	0.0	803.0	843.0#

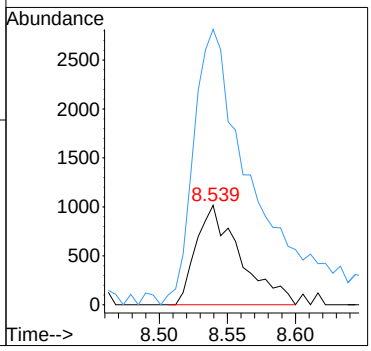


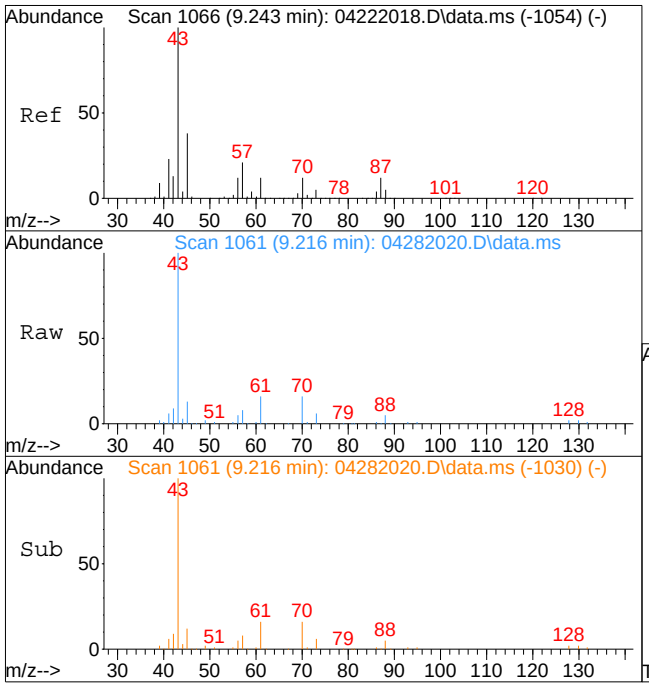


#27
2-Butanone (MEK)
Concen: 0.38 ng
RT: 8.54 min Scan# 938
Delta R.T. -0.011 min
Lab File: 04282020.D
Acq: 28 Apr 2020 23:01

Tgt Ion: 72 Resp: 2293

Ion	Ratio	Lower	Upper
72	100		
43	391.4	278.8	318.8#

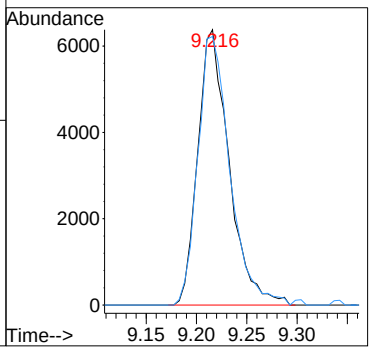


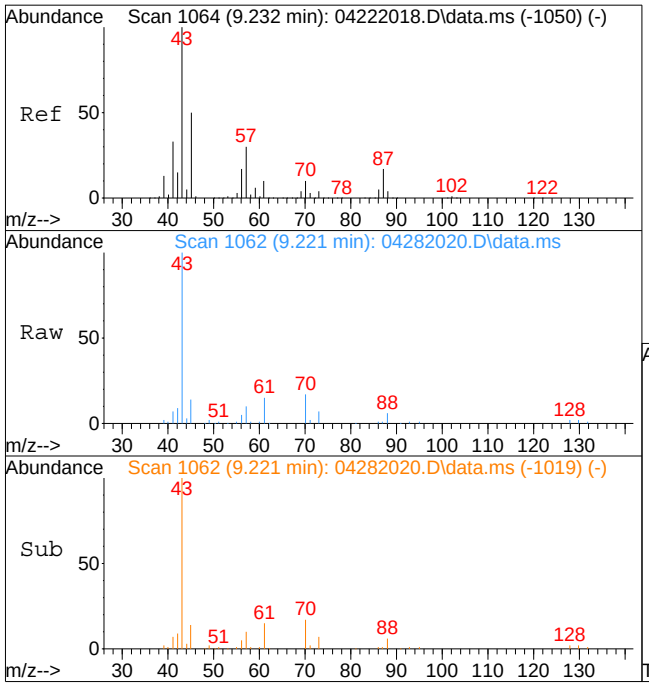


#30
Ethyl Acetate
Concen: 5.17 ng
RT: 9.22 min Scan# 1061
Delta R.T. -0.027 min
Lab File: 04282020.D
Acq: 28 Apr 2020 23:01

Tgt Ion: 61 Resp: 13797

Ion	Ratio	Lower	Upper
61	100		
70	100.4	80.6	120.6

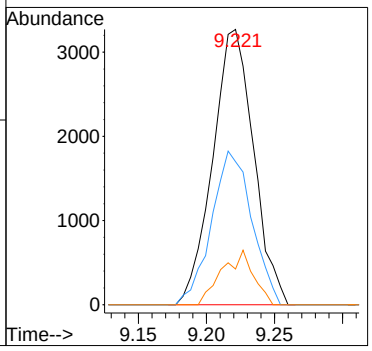


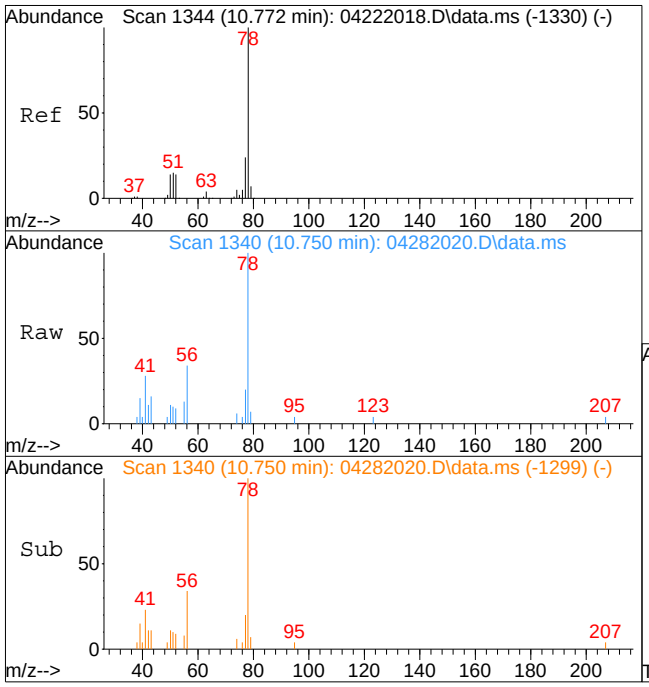


#31
n-Hexane
Concen: 0.53 ng
RT: 9.22 min Scan# 1062
Delta R.T. -0.011 min
Lab File: 04282020.D
Acq: 28 Apr 2020 23:01

Tgt Ion: 57 Resp: 6839

Ion	Ratio	Lower	Upper
57	100		
56	55.0	44.0	66.0
86	15.3	15.0	22.4

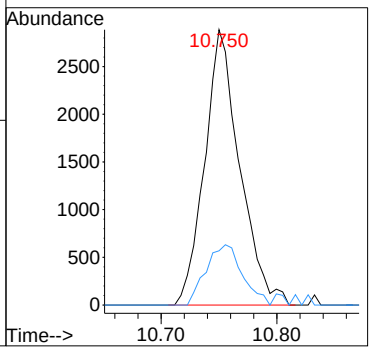


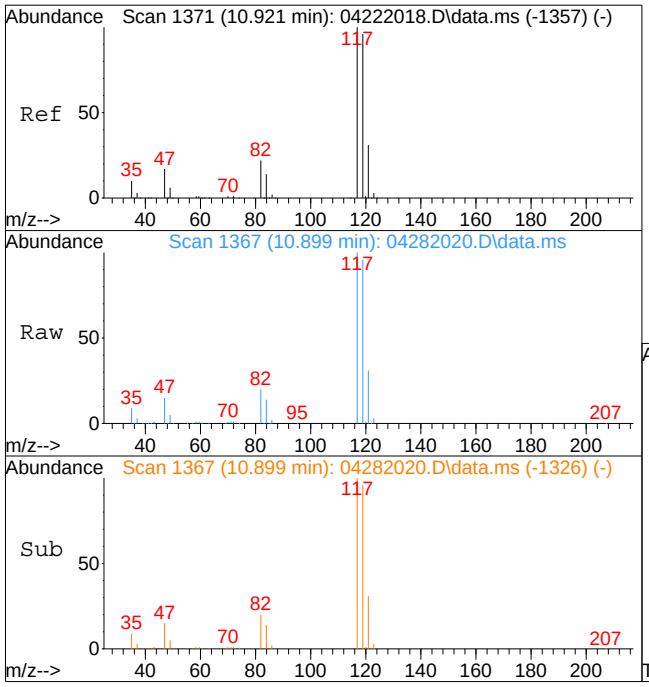


#41
Benzene
Concen: 0.15 ng
RT: 10.75 min Scan# 1340
Delta R.T. -0.022 min
Lab File: 04282020.D
Acq: 28 Apr 2020 23:01

Tgt Ion: 78 Resp: 6098

Ion	Ratio	Lower	Upper
78	100		
77	22.6	3.6	43.6

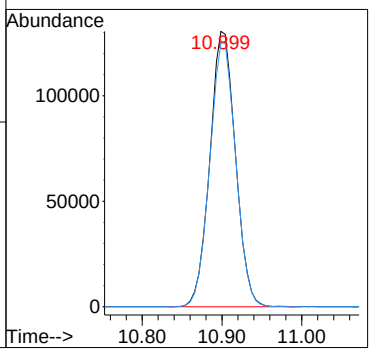


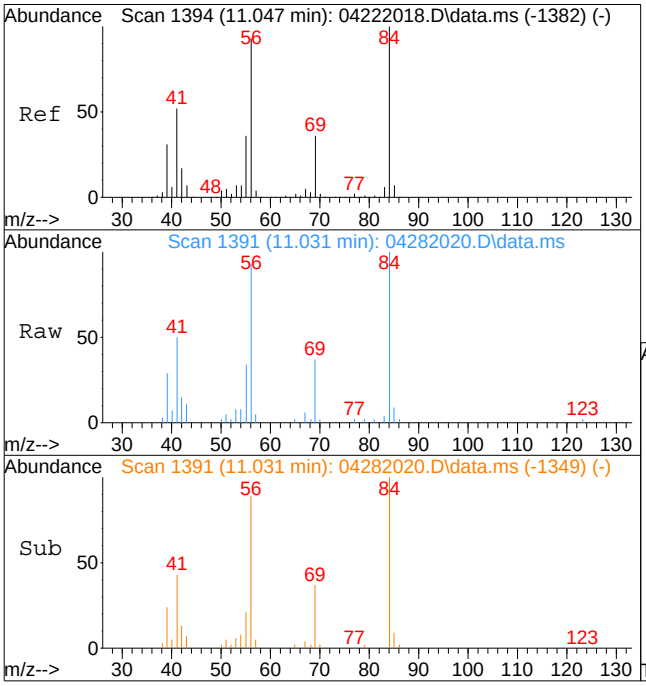


#42
Carbon Tetrachloride
Concen: 13.45 ng
RT: 10.90 min Scan# 1367
Delta R.T. -0.022 min
Lab File: 04282020.D
Acq: 28 Apr 2020 23:01

Tgt Ion:117 Resp: 290242

Ion	Ratio	Lower	Upper
117	100		
119	97.2	76.5	116.5

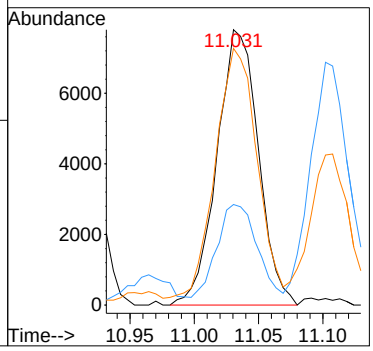


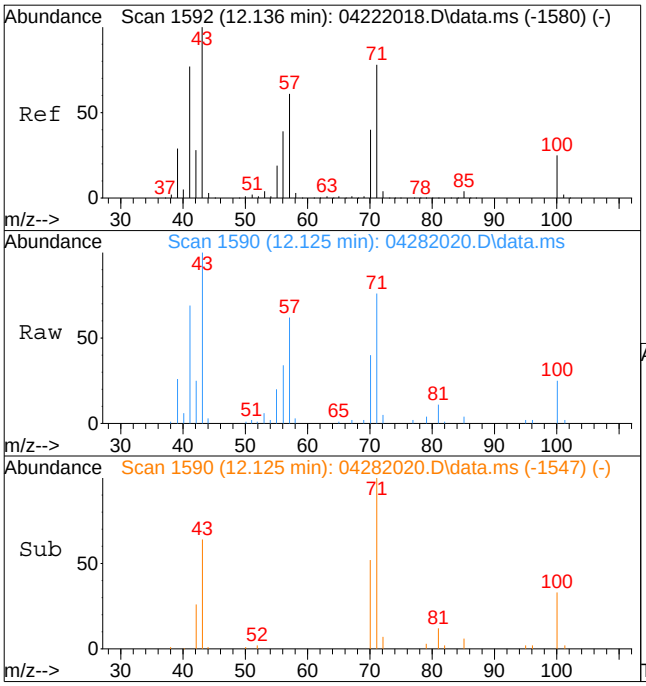


#43
Cyclohexane
Concen: 1.07 ng
RT: 11.03 min Scan# 1391
Delta R.T. -0.016 min
Lab File: 04282020.D
Acq: 28 Apr 2020 23:01

Tgt Ion: 84 Resp: 17449

Ion	Ratio	Lower	Upper
84	100		
69	35.6	15.8	55.8
56	92.6	72.0	112.0

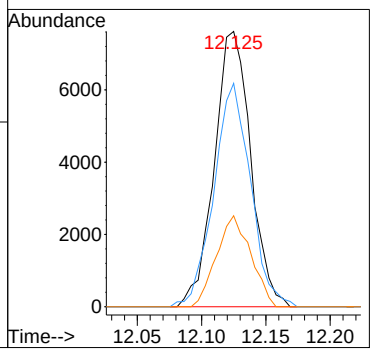


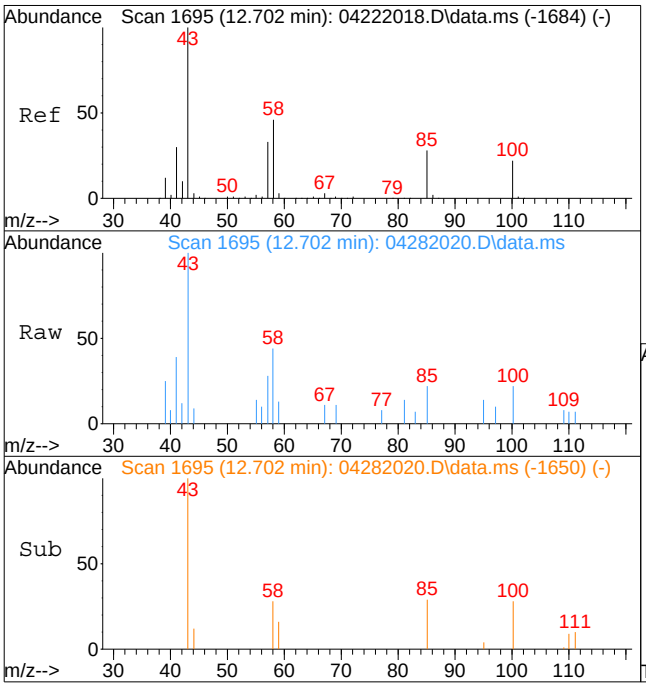


#51
n-Heptane
Concen: 1.55 ng
RT: 12.12 min Scan# 1590
Delta R.T. -0.011 min
Lab File: 04282020.D
Acq: 28 Apr 2020 23:01

Tgt Ion: 71 Resp: 14982

Ion	Ratio	Lower	Upper
71	100		
57	81.9	57.4	97.4
100	31.2	12.0	52.0

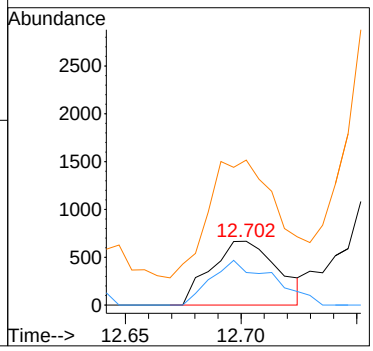


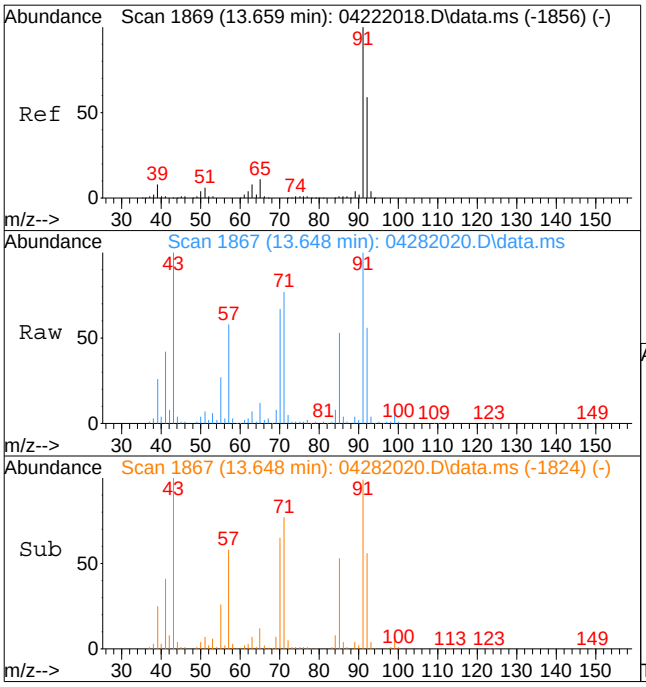


#53
4-Methyl-2-pentanone
Concen: 0.18 ng
RT: 12.70 min Scan# 1695
Delta R.T. 0.000 min
Lab File: 04282020.D
Acq: 28 Apr 2020 23:01

Tgt Ion: 58 Resp: 1336

Ion	Ratio	Lower	Upper
58	100		
85	65.2	52.2	78.2
43	259.5	176.2	264.4

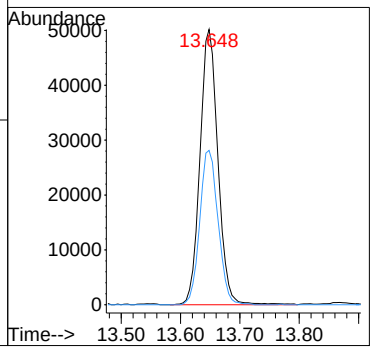


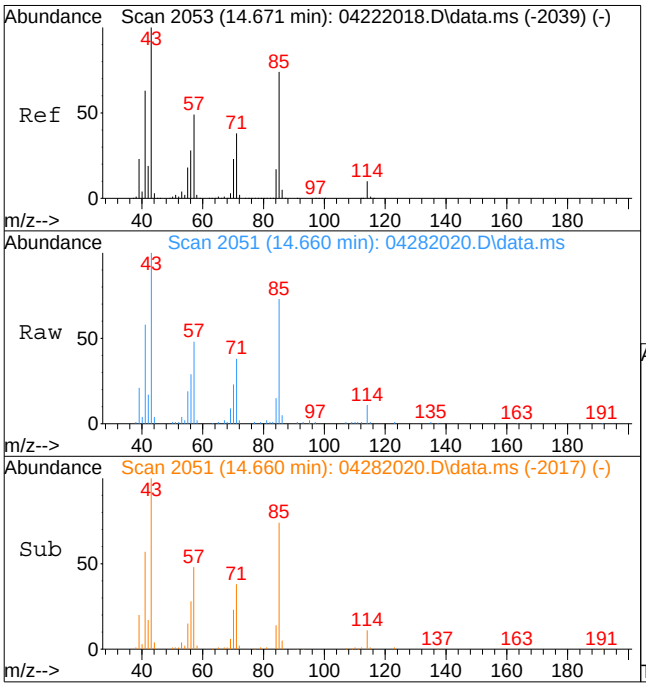


#58
Toluene
Concen: 2.23 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.011 min
Lab File: 04282020.D
Acq: 28 Apr 2020 23:01

Tgt Ion: 91 Resp: 105399

Ion	Ratio	Lower	Upper
91	100		
92	57.2	38.2	78.2

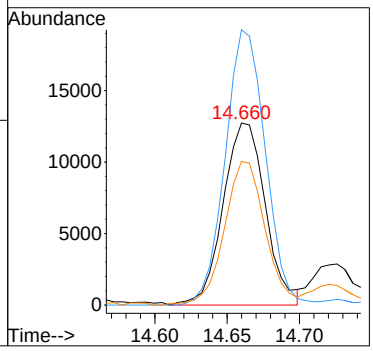


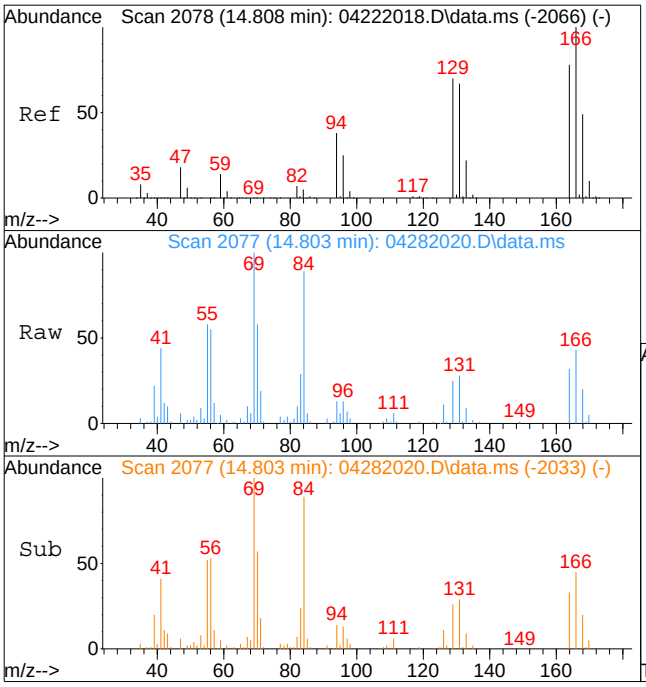


#63
n-Octane
Concen: 3.44 ng
RT: 14.66 min Scan# 2051
Delta R.T. -0.011 min
Lab File: 04282020.D
Acq: 28 Apr 2020 23:01

Tgt Ion: 57 Resp: 25870

Ion	Ratio	Lower	Upper
57	100		
85	143.6	120.7	181.1
71	75.9	61.1	91.7

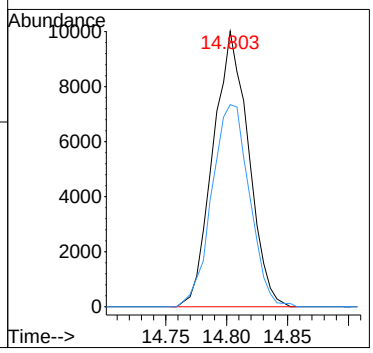


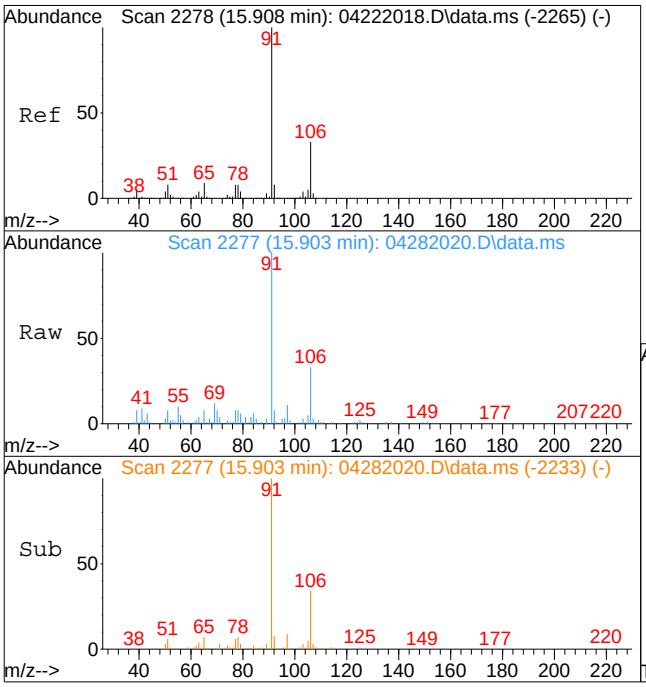


#64
Tetrachloroethene
Concen: 1.14 ng
RT: 14.80 min Scan# 2077
Delta R.T. -0.005 min
Lab File: 04282020.D
Acq: 28 Apr 2020 23:01

Tgt Ion:166 Resp: 20251

Ion	Ratio	Lower	Upper
166	100		
164	77.8	57.7	97.7

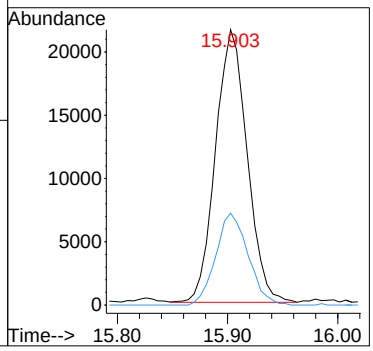


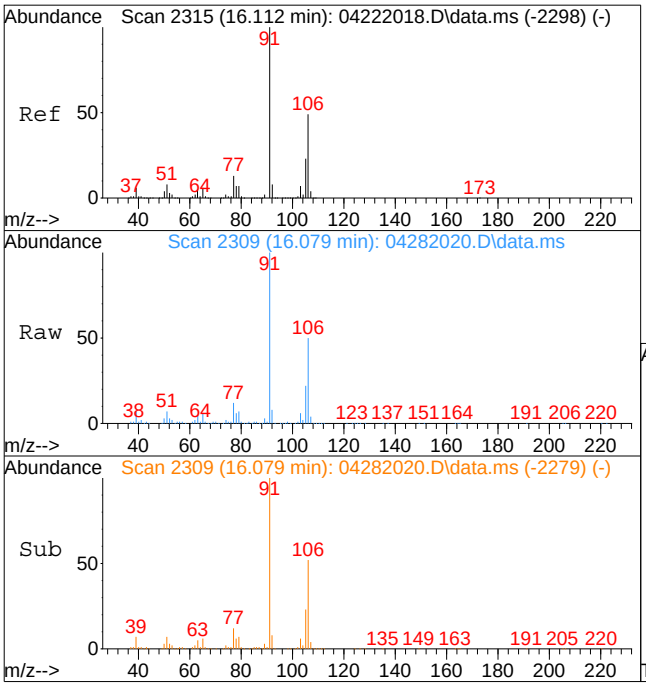


#66
Ethylbenzene
Concen: 0.78 ng
RT: 15.90 min Scan# 2277
Delta R.T. -0.005 min
Lab File: 04282020.D
Acq: 28 Apr 2020 23:01

Tgt Ion: 91 Resp: 43031

Ion	Ratio	Lower	Upper
91	100		
106	34.4	13.4	53.4

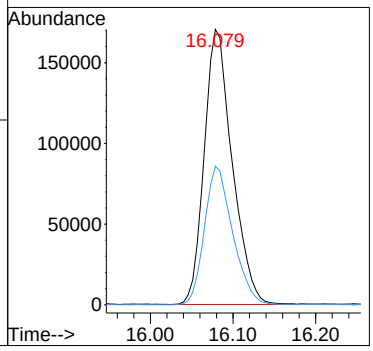


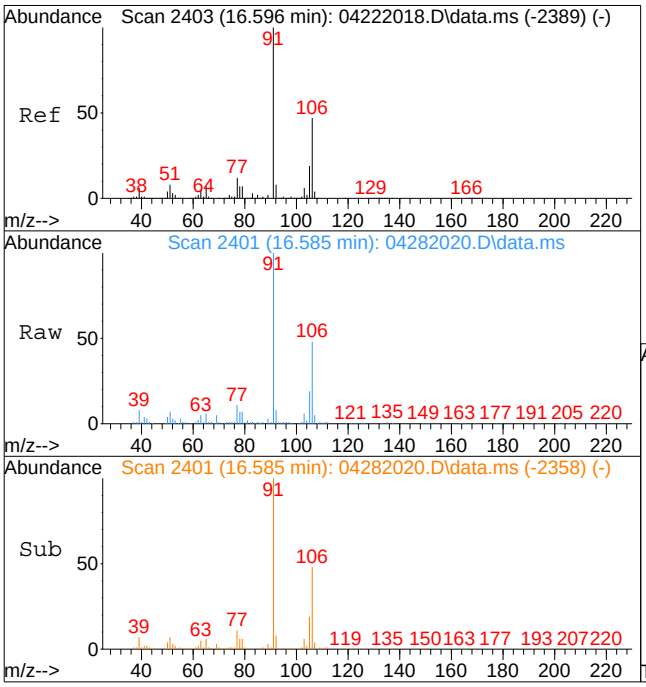


#67
m- & p-Xylenes
Concen: 8.64 ng
RT: 16.08 min Scan# 2309
Delta R.T. -0.033 min
Lab File: 04282020.D
Acq: 28 Apr 2020 23:01

Tgt Ion: 91 Resp: 400728

Ion	Ratio	Lower	Upper
91	100		
106	50.7	28.3	68.3

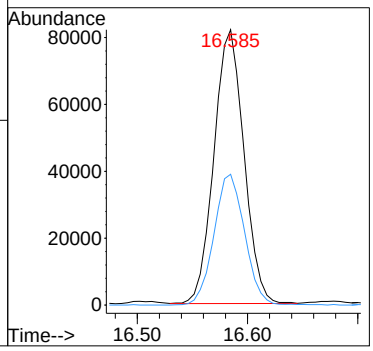


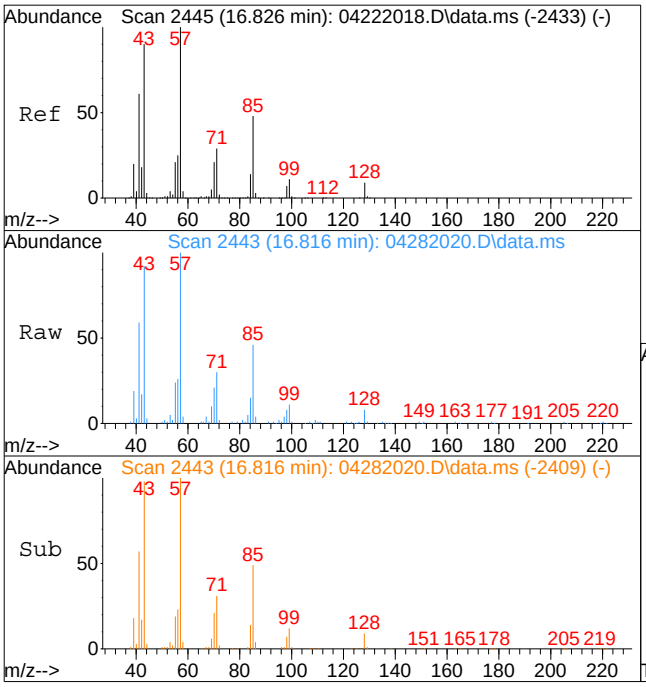


#70
o-Xylene
Concen: 3.40 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 04282020.D
Acq: 28 Apr 2020 23:01

Tgt Ion: 91 Resp: 154788

Ion	Ratio	Lower	Upper
91	100		
106	48.9	27.5	67.5

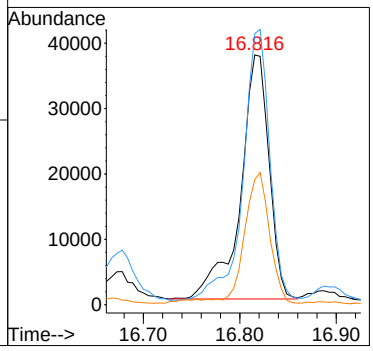


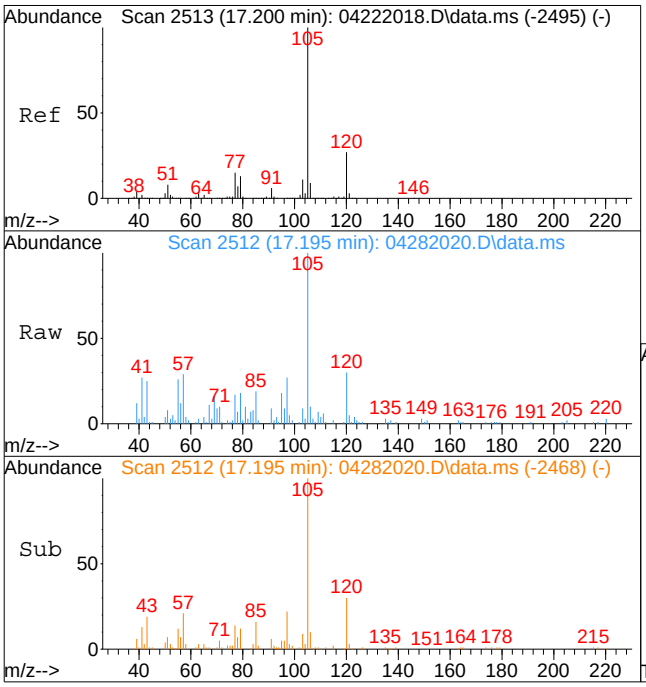


#71
n-Nonane
Concen: 5.28 ng
RT: 16.82 min Scan# 2443
Delta R.T. -0.011 min
Lab File: 04282020.D
Acq: 28 Apr 2020 23:01

Tgt Ion: 43 Resp: 77604

Ion	Ratio	Lower	Upper
43	100		
57	102.5	90.8	130.8
85	47.7	32.1	72.1

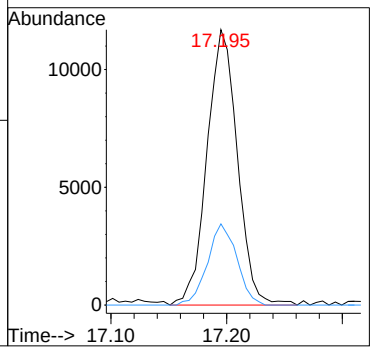


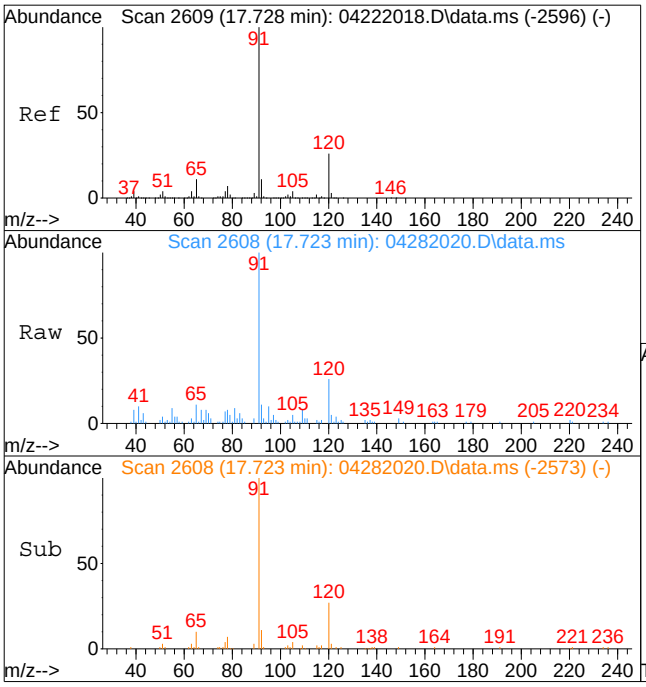


#74
Cumene
Concen: 0.36 ng
RT: 17.19 min Scan# 2512
Delta R.T. -0.005 min
Lab File: 04282020.D
Acq: 28 Apr 2020 23:01

Tgt Ion:105 Resp: 21435

Ion	Ratio	Lower	Upper
105	100		
120	28.4	7.3	47.3

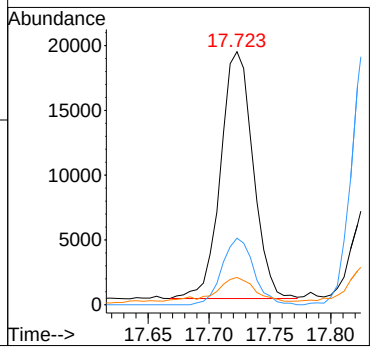


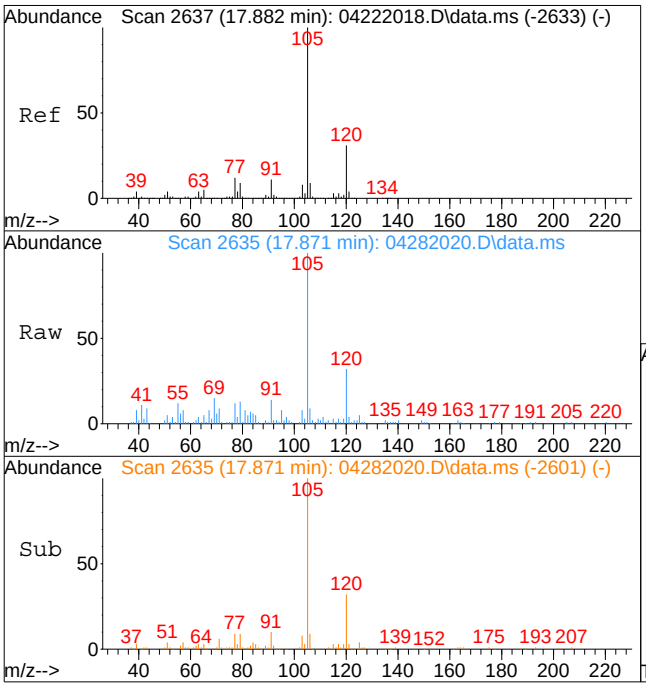


#76
n-Propylbenzene
Concen: 0.55 ng
RT: 17.72 min Scan# 2608
Delta R.T. -0.005 min
Lab File: 04282020.D
Acq: 28 Apr 2020 23:01

Tgt Ion: 91 Resp: 35432

Ion	Ratio	Lower	Upper
91	100		
120	26.2	6.1	46.1
65	12.0	0.0	30.7

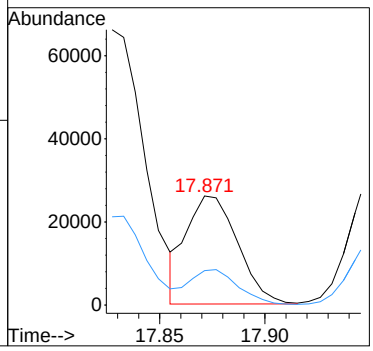


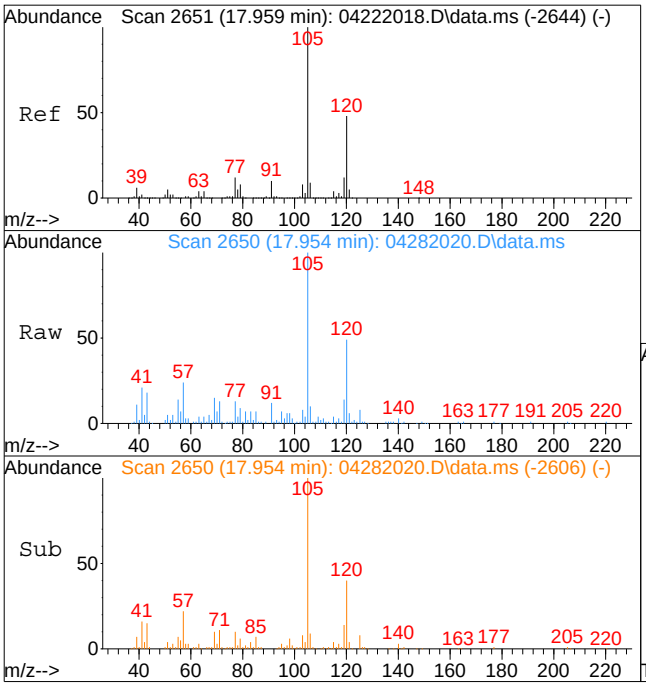


#78
4-Ethyltoluene
Concen: 0.78 ng
RT: 17.87 min Scan# 2635
Delta R.T. -0.011 min
Lab File: 04282020.D
Acq: 28 Apr 2020 23:01

Tgt Ion:105 Resp: 44221

Ion	Ratio	Lower	Upper
105	100		
120	32.3	11.4	51.4

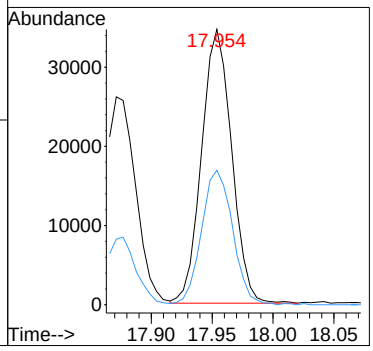


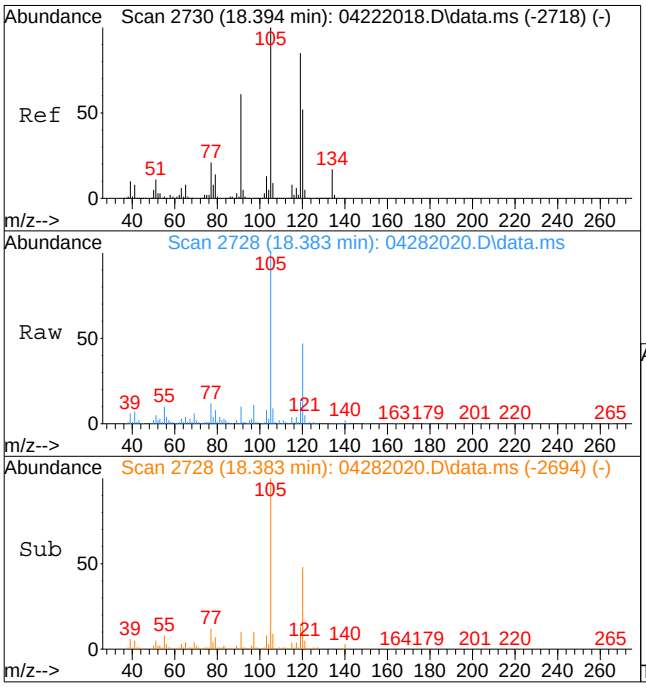


#79
1,3,5-Trimethylbenzene
Concen: 1.14 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.005 min
Lab File: 04282020.D
Acq: 28 Apr 2020 23:01

Tgt Ion:105 Resp: 59356

Ion	Ratio	Lower	Upper
105	100		
120	50.8	29.5	69.5

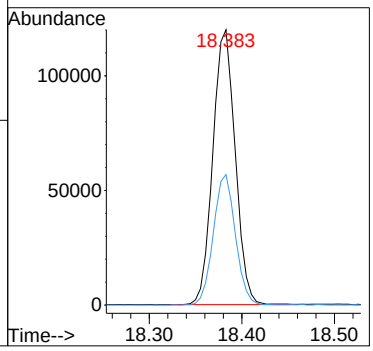


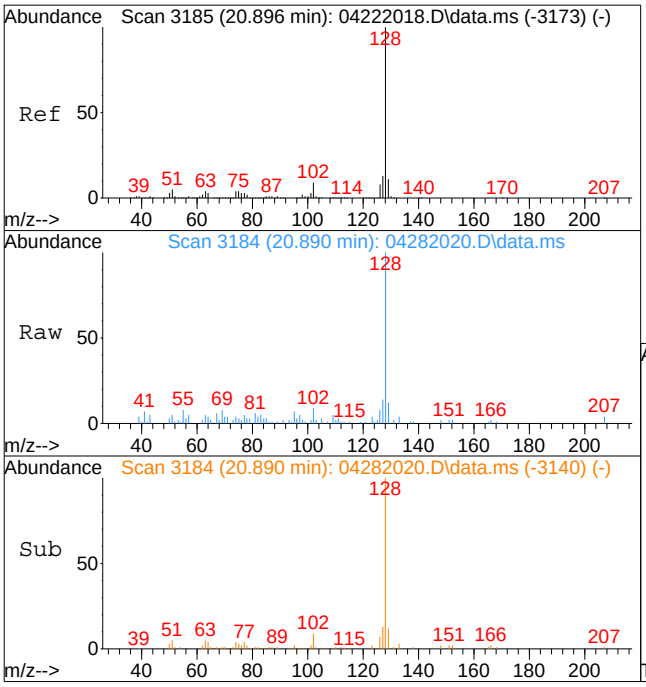


#82
1,2,4-Trimethylbenzene
Concen: 3.98 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 04282020.D
Acq: 28 Apr 2020 23:01

Tgt Ion:105 Resp: 201022

Ion	Ratio	Lower	Upper
105	100		
120	46.9	34.5	74.5

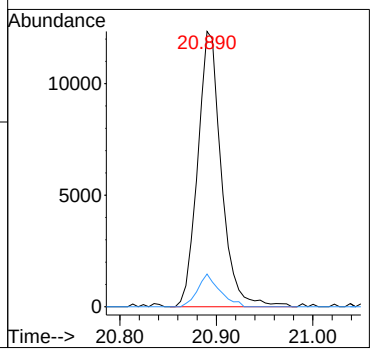




#95
Naphthalene
Concen: 0.32 ng
RT: 20.89 min Scan# 3184
Delta R.T. -0.006 min
Lab File: 04282020.D
Acq: 28 Apr 2020 23:01

Tgt Ion:128 Resp: 21012

Ion	Ratio	Lower	Upper
128	100		
129	11.0	0.0	30.9



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282021.D Vial: 8
Acq On : 28 Apr 2020 23:35 Operator: SC
Sample : P2002030-006 (250mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 09:52:26 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020 4/29/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	153950	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	650159	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	298586	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	232465	11.655	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.20%				
57) Toluene-d8 (SS2)	13.55	98	719320	12.477	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.84%				
73) Bromofluorobenzene (SS3)	17.05	174	290798	12.550	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.40%				
Target Compounds							Qvalue
2) Propene	3.87	42	3641	0.557	ng	#	77
3) Dichlorodifluoromethan...	3.96	85	200930	8.088	ng		99
4) Chloromethane	4.16	50	1082	0.118	ng		85
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	4403	0.328	ng		93
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.34	45	5379m	1.086	ng		
11) Acetonitrile	5.56	41	1743	0.149	ng	#	57
12) Acrolein	5.71	56	1100	0.243	ng		95
13) Acetone	5.84	58	30063	5.056	ng	#	80
14) Trichlorofluoromethane	6.02	101	20647	0.835	ng		100
15) 2-Propanol (Isopropanol)	6.17	45	7739	0.410	ng		89
16) Acrylonitrile	6.43	53	94	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	7.18	151	235695	18.323	ng		100
22) Carbon Disulfide	7.15	76	31954	0.922	ng		54
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	8.12	73	468	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	8.53	72	5702	0.933	ng	#	59
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	9.23	87	222	N.D.			
30) Ethyl Acetate	9.23	61	778	0.286	ng	#	68
31) n-Hexane	9.22	57	23266	1.763	ng		97
32) Chloroform	9.27	83	318	N.D.			
34) Tetrahydrofuran (THF)	9.69	72	2745	0.444	ng	#	85
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	10.13	62	384	N.D.			
38) 1,1,1-Trichloroethane	10.30	97	124	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.76	78	17957	0.424	ng		99
42) Carbon Tetrachloride	10.90	117	274331	12.519	ng		99
43) Cyclohexane	11.04	84	48472	2.919	ng		99
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	11.81	130	952	0.065	ng		85
48) 1,4-Dioxane	11.82	88	308	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282021.D Vial: 8
Acq On : 28 Apr 2020 23:35 Operator: SC
Sample : P2002030-006 (250mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 09:52:26 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

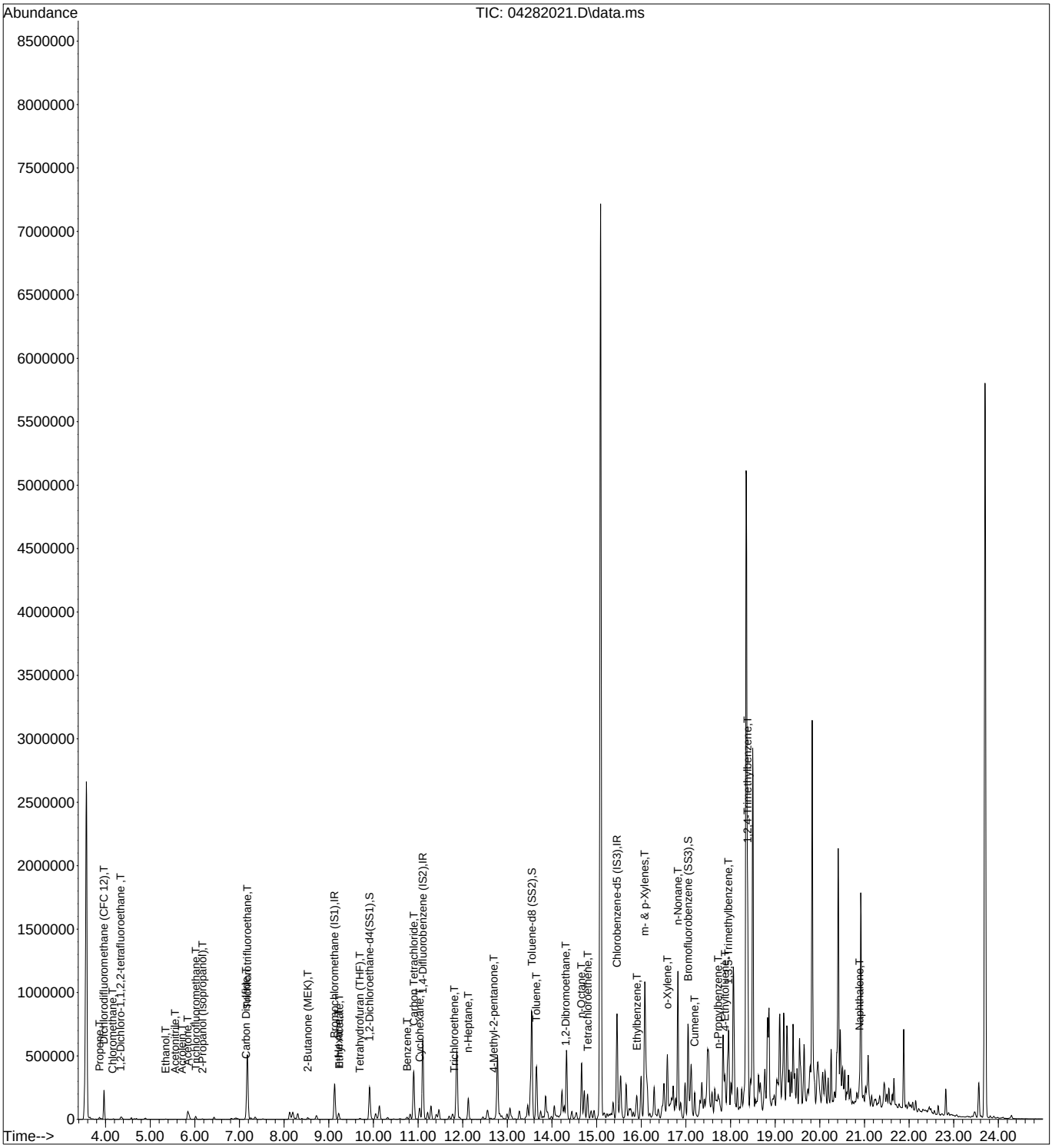
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.12	71	48494	4.925 ng	100
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	12.70	58	1565	0.211 ng	95
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	13.33	97	163	N.D.	
58) Toluene	13.65	91	219301	4.531 ng	99
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	14.31	107	1433	0.106 ng	94
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.66	57	87720	11.385 ng	98
64) Tetrachloroethene	14.80	166	20223	1.109 ng	98
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.90	91	104518	1.853 ng	100
67) m- & p-Xylenes	16.08	91	932359	19.595 ng	97
68) Bromoform	16.16	173	213	N.D.	
69) Styrene	16.48	104	409	N.D.	
70) o-Xylene	16.58	91	351242	7.517 ng	100
71) n-Nonane	16.82	43	369964	24.543 ng	99
72) 1,1,2,2-Tetrachloroethane	16.58	83	152	N.D.	
74) Cumene	17.19	105	59068	0.969 ng	100
75) alpha-Pinene	17.59	93	638	N.D.	
76) n-Propylbenzene	17.72	91	122049	1.838 ng	98
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	158491	2.735 ng	100
79) 1,3,5-Trimethylbenzene	17.95	105	237280	4.431 ng	99
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	817202	15.782 ng	89
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	0.00	91	0	N.D. d	
85) 1,3-Dichlorobenzene	18.62	146	304	N.D.	
86) 1,4-Dichlorobenzene	18.62	146	304	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	19.37	157	151	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D. d	
95) Naphthalene	20.89	128	128284	1.923 ng	96
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282021.D Vial: 8
Acq On : 28 Apr 2020 23:35 Operator: SC
Sample : P2002030-006 (250mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 09:52:26 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282021.D Vial: 8
Acq On : 28 Apr 2020 23:35 Operator: SC
Sample : P2002030-006 (250mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 09:52:26 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/29/20

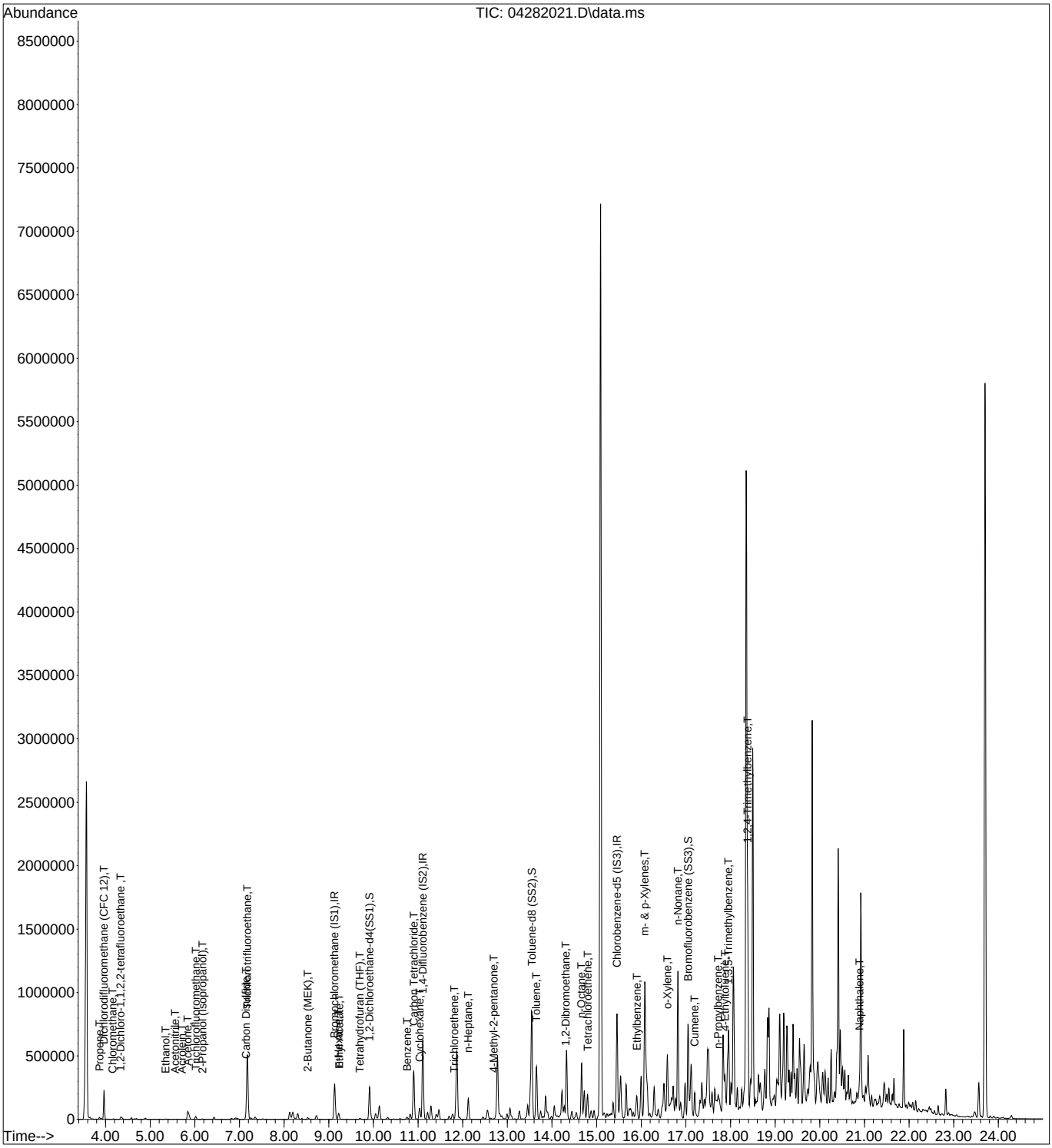
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	153950	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	650159	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	298586	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	232465	11.655	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.20%				
57) Toluene-d8 (SS2)	13.55	98	719320	12.477	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.84%				
73) Bromofluorobenzene (SS3)	17.05	174	290798	12.550	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.40%				
Target Compounds							Qvalue
2) Propene	3.87	42	3641	0.557	ng	#	77
3) Dichlorodifluoromethan...	3.96	85	200930	8.088	ng		99
4) Chloromethane	4.16	50	1082	0.118	ng		85
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	4403	0.328	ng		93
10) Ethanol	5.34	45	5379m	1.086	ng		
11) Acetonitrile	5.56	41	1743	0.149	ng	#	57
12) Acrolein	5.71	56	1100	0.243	ng		95
13) Acetone	5.84	58	30063	5.056	ng	#	80
14) Trichlorofluoromethane	6.02	101	20647	0.835	ng		100
15) 2-Propanol (Isopropanol)	6.17	45	7739	0.410	ng		89
21) Trichlorotrifluoroethane	7.18	151	235695	18.323	ng		100
22) Carbon Disulfide	7.15	76	31954	0.922	ng		54
27) 2-Butanone (MEK)	8.53	72	5702	0.933	ng	#	59
30) Ethyl Acetate	9.23	61	778	0.286	ng	#	68
31) n-Hexane	9.22	57	23266	1.763	ng		97
34) Tetrahydrofuran (THF)	9.69	72	2745	0.444	ng	#	85
41) Benzene	10.76	78	17957	0.424	ng		99
42) Carbon Tetrachloride	10.90	117	274331	12.519	ng		99
43) Cyclohexane	11.04	84	48472	2.919	ng		99
47) Trichloroethene	11.81	130	952	0.065	ng		85
51) n-Heptane	12.12	71	48494	4.925	ng		100
53) 4-Methyl-2-pentanone	12.70	58	1565	0.211	ng		95
58) Toluene	13.65	91	219301	4.531	ng		99
61) 1,2-Dibromoethane	14.31	107	1433	0.106	ng		94
63) n-Octane	14.66	57	87720	11.385	ng		98
64) Tetrachloroethene	14.80	166	20223	1.109	ng		98
66) Ethylbenzene	15.90	91	104518	1.853	ng		100
67) m- & p-Xylenes	16.08	91	932359	19.595	ng		97
70) o-Xylene	16.58	91	351242	7.517	ng		100
71) n-Nonane	16.82	43	369964	24.543	ng		99
74) Cumene	17.19	105	59068	0.969	ng		100
76) n-Propylbenzene	17.72	91	122049	1.838	ng		98
78) 4-Ethyltoluene	17.88	105	158491	2.735	ng		100
79) 1,3,5-Trimethylbenzene	17.95	105	237280	4.431	ng		99
82) 1,2,4-Trimethylbenzene	18.38	105	817202	15.782	ng		89
95) Naphthalene	20.89	128	128284	1.923	ng		96

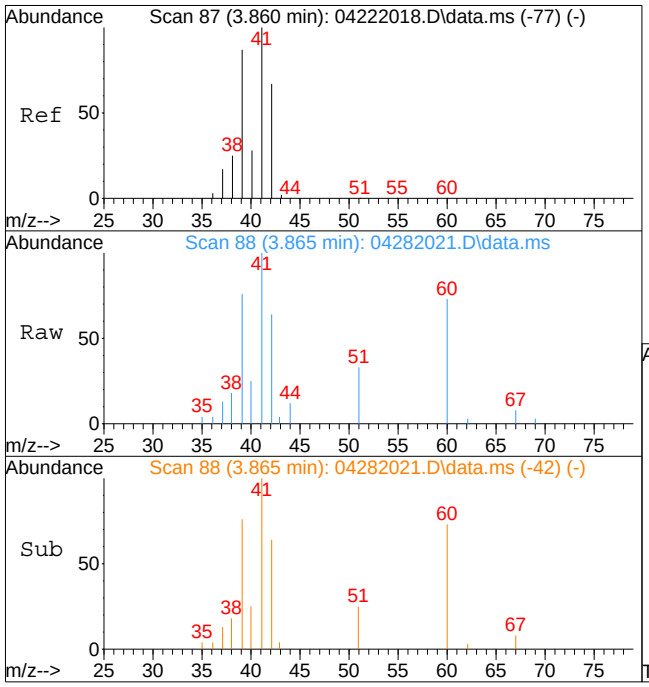
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282021.D Vial: 8
Acq On : 28 Apr 2020 23:35 Operator: SC
Sample : P2002030-006 (250mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 09:52:26 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

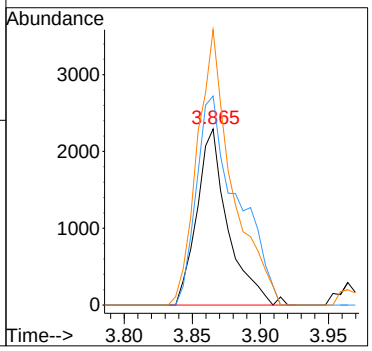


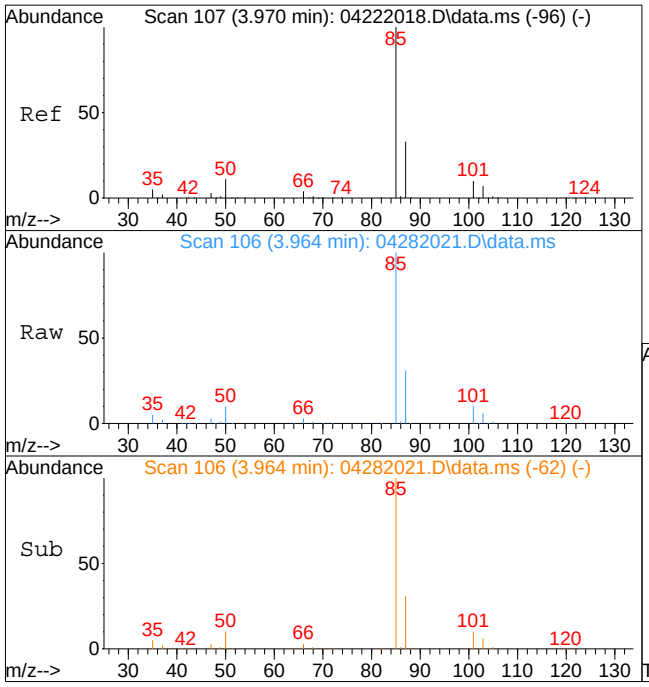


#2
Propene
Concen: 0.56 ng
RT: 3.87 min Scan# 88
Delta R.T. 0.005 min
Lab File: 04282021.D
Acq: 28 Apr 2020 23:35

Tgt Ion: 42 Resp: 3641

Ion	Ratio	Lower	Upper
42	100		
39	156.6	106.4	146.4#
41	174.3	128.8	168.8#

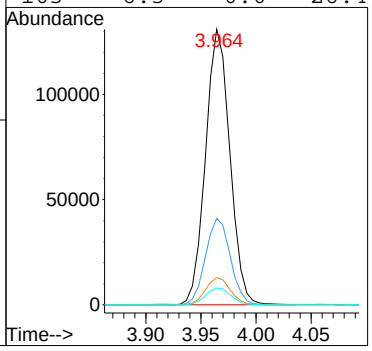


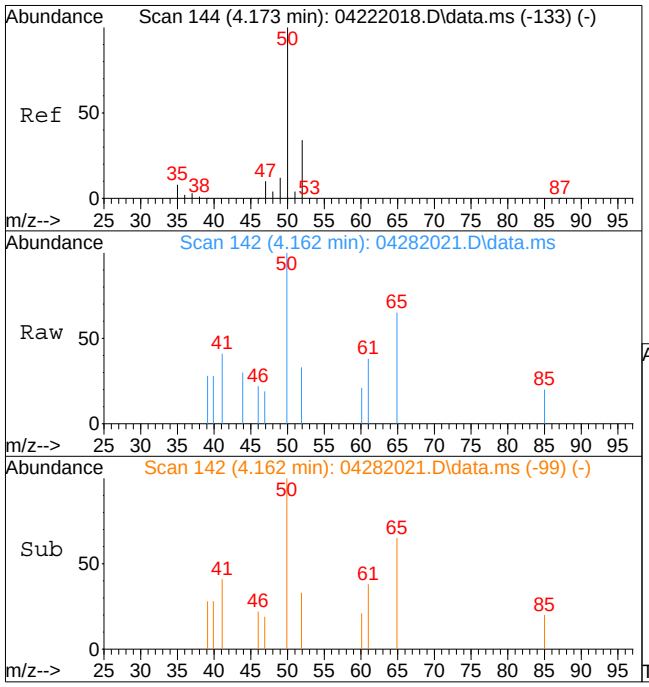


#3
Dichlorodifluoromethane (CFC 12)
Concen: 8.09 ng
RT: 3.96 min Scan# 106
Delta R.T. -0.006 min
Lab File: 04282021.D
Acq: 28 Apr 2020 23:35

Tgt Ion: 85 Resp: 200930

Ion	Ratio	Lower	Upper
85	100		
87	31.9	12.4	52.4
101	9.9	0.0	29.9
103	6.3	0.0	26.4

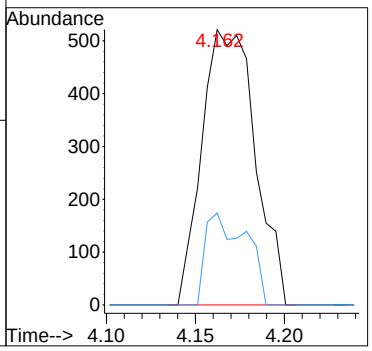


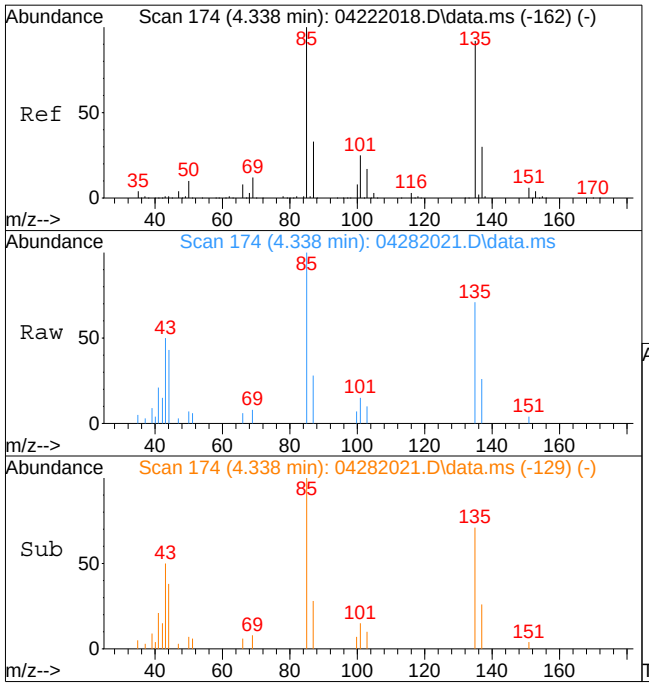


#4
Chloromethane
Concen: 0.12 ng
RT: 4.16 min Scan# 142
Delta R.T. -0.011 min
Lab File: 04282021.D
Acq: 28 Apr 2020 23:35

Tgt Ion: 50 Resp: 1082

Ion	Ratio	Lower	Upper
50	100		
52	25.3	13.7	53.7

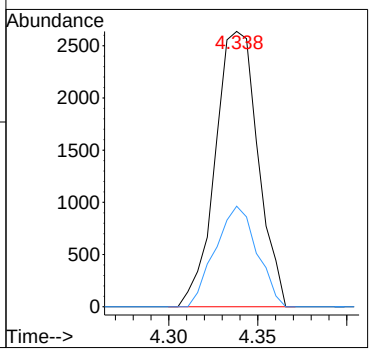


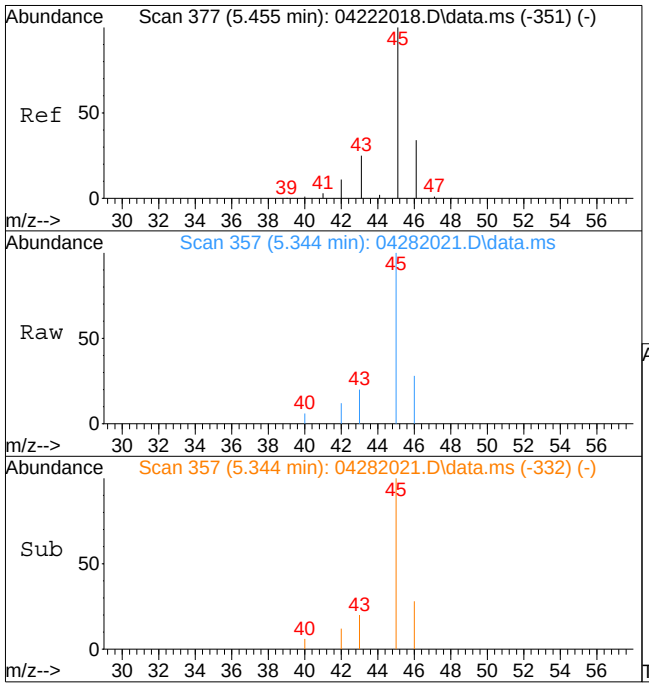


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 0.33 ng
RT: 4.34 min Scan# 174
Delta R.T. -0.000 min
Lab File: 04282021.D
Acq: 28 Apr 2020 23:35

Tgt Ion:135 Resp: 4403

Ion	Ratio	Lower	Upper
135	100		
137	35.7	11.9	51.9

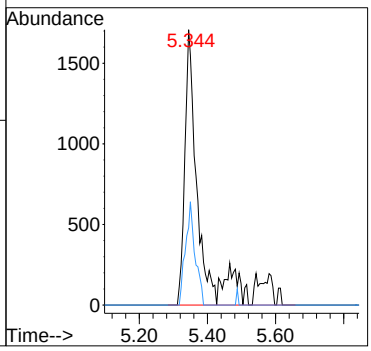


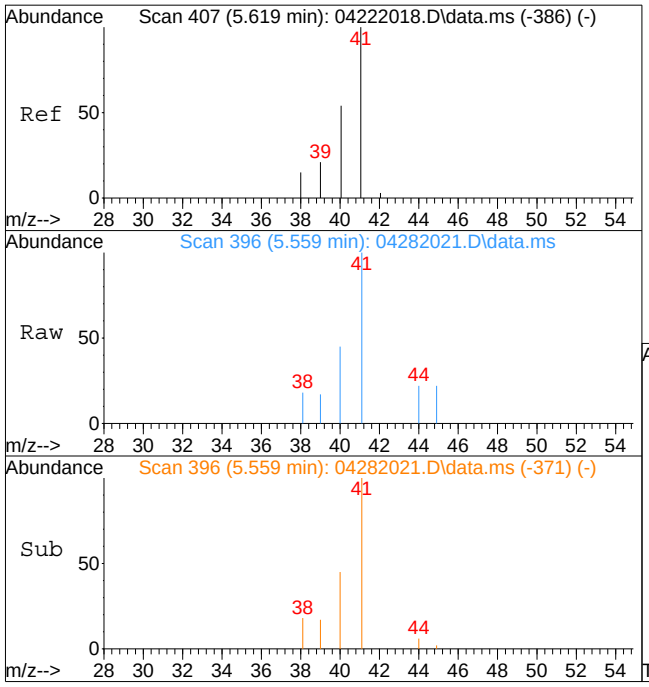


#10
Ethanol
Concen: 1.09 ng m
RT: 5.34 min Scan# 357
Delta R.T. -0.110 min
Lab File: 04282021.D
Acq: 28 Apr 2020 23:35

Tgt Ion: 45 Resp: 5379

Ion	Ratio	Lower	Upper
45	100		
46	23.6	14.0	54.0

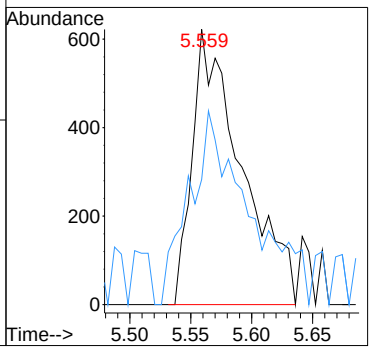


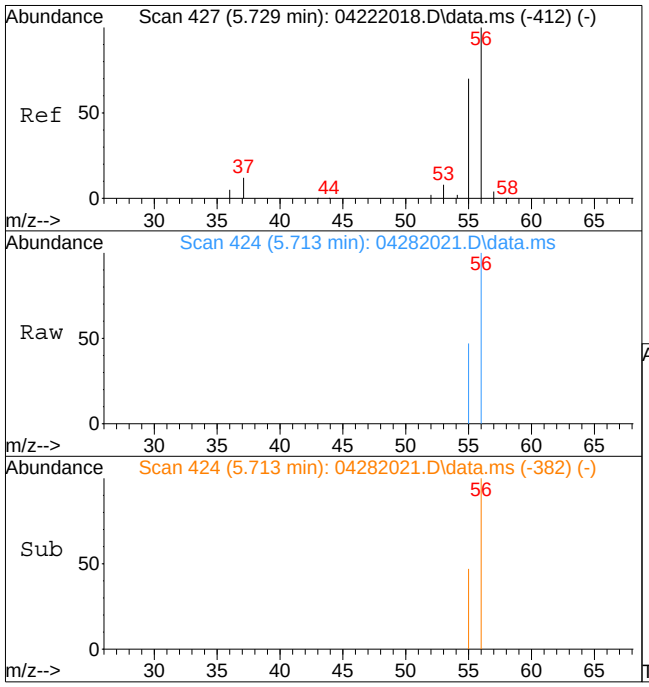


#11
Acetonitrile
Concen: 0.15 ng
RT: 5.56 min Scan# 396
Delta R.T. -0.061 min
Lab File: 04282021.D
Acq: 28 Apr 2020 23:35

Tgt Ion: 41 Resp: 1743

Ion	Ratio	Lower	Upper
41	100		
40	85.9	34.8	74.8#

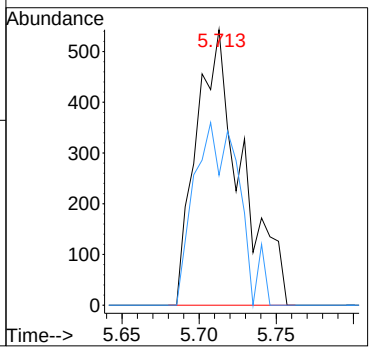


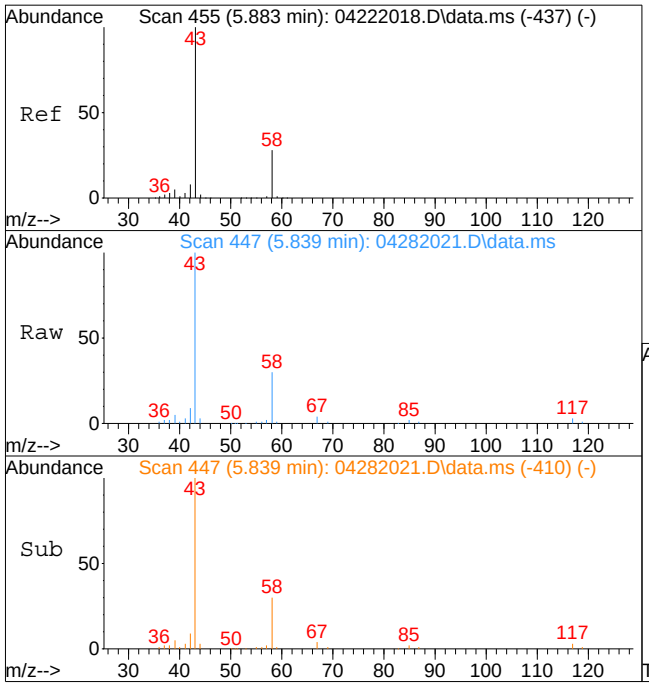


#12
Acrolein
Concen: 0.24 ng
RT: 5.71 min Scan# 424
Delta R.T. -0.017 min
Lab File: 04282021.D
Acq: 28 Apr 2020 23:35

Tgt Ion: 56 Resp: 1100

Ion	Ratio	Lower	Upper
56	100		
55	66.5	50.4	90.4

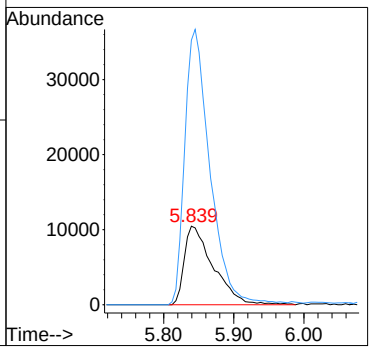


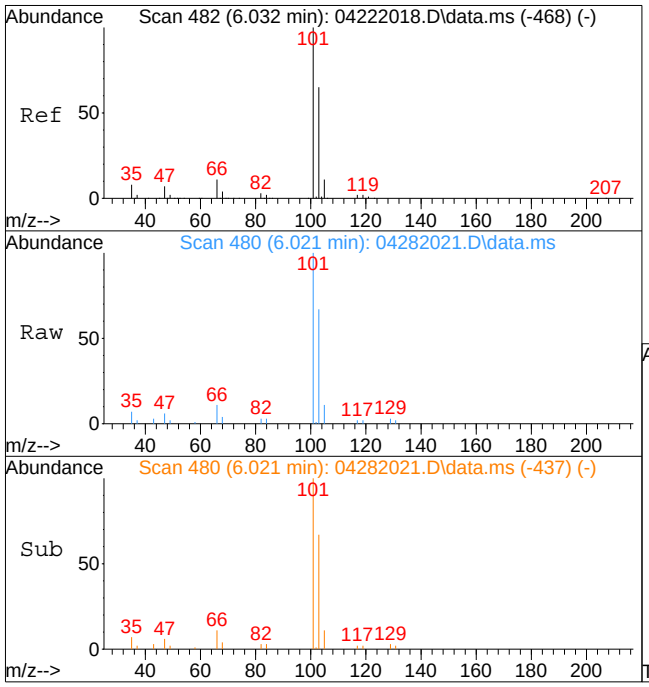


#13
Acetone
Concen: 5.06 ng
RT: 5.84 min Scan# 447
Delta R.T. -0.044 min
Lab File: 04282021.D
Acq: 28 Apr 2020 23:35

Tgt Ion: 58 Resp: 30063

Ion	Ratio	Lower	Upper
58	100		
43	305.6	319.3	379.3#

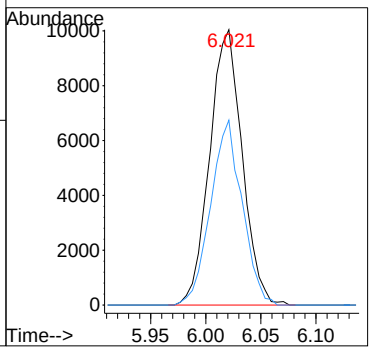


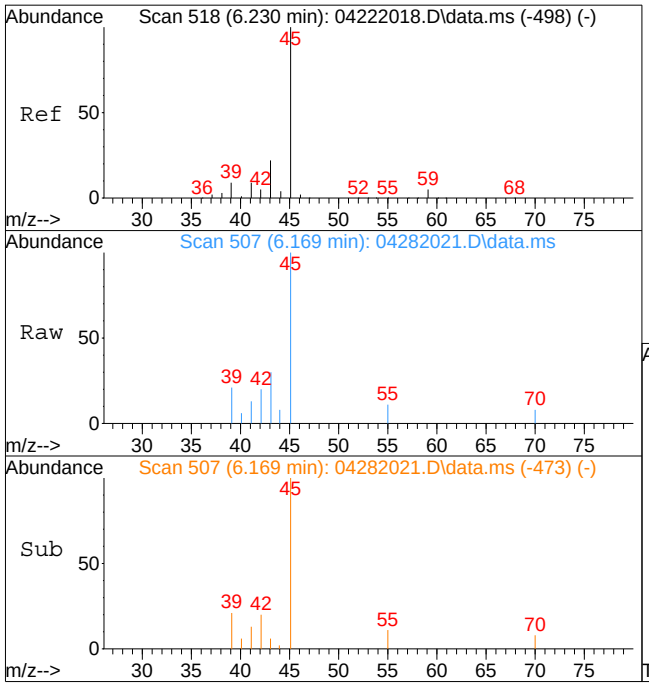


#14
Trichlorofluoromethane
Concen: 0.84 ng
RT: 6.02 min Scan# 480
Delta R.T. -0.011 min
Lab File: 04282021.D
Acq: 28 Apr 2020 23:35

Tgt Ion:101 Resp: 20647

Ion	Ratio	Lower	Upper
101	100		
103	65.0	44.7	84.7

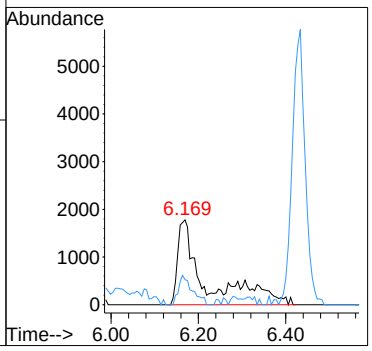


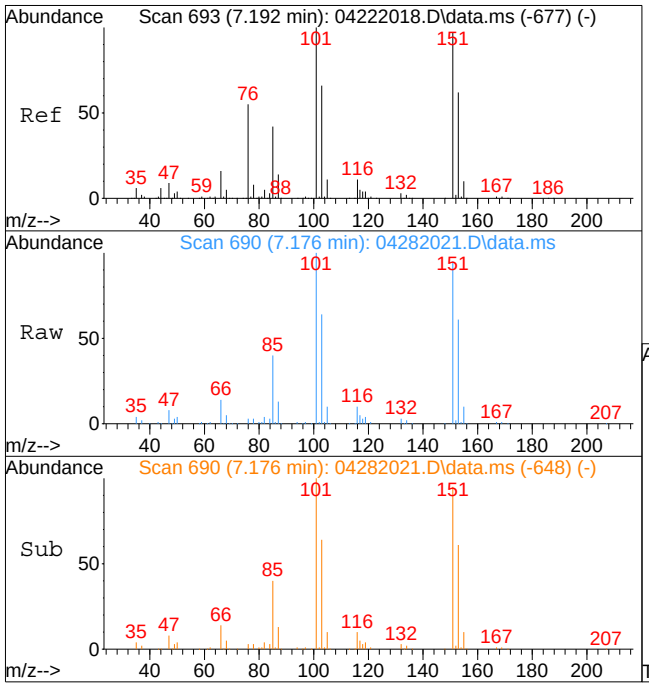


#15
2-Propanol (Isopropanol)
Concen: 0.41 ng
RT: 6.17 min Scan# 507
Delta R.T. -0.061 min
Lab File: 04282021.D
Acq: 28 Apr 2020 23:35

Tgt Ion: 45 Resp: 7739

Ion	Ratio	Lower	Upper
45	100		
43	17.5	2.6	42.6

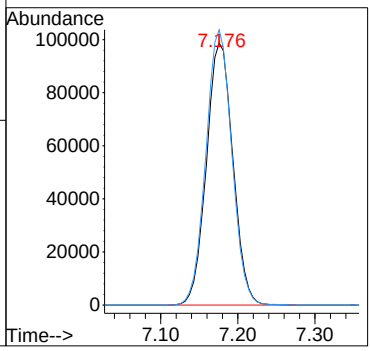


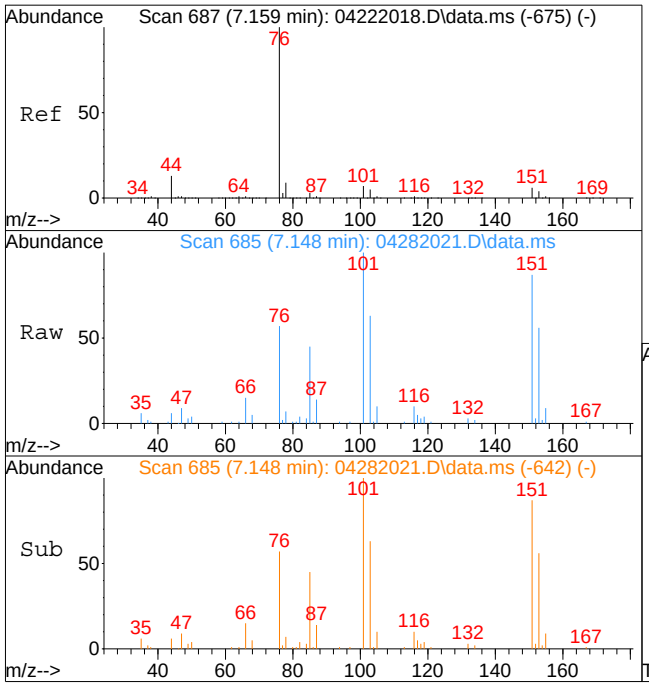


#21
Trichlorotrifluoroethane
Concen: 18.32 ng
RT: 7.18 min Scan# 690
Delta R.T. -0.017 min
Lab File: 04282021.D
Acq: 28 Apr 2020 23:35

Tgt Ion:151 Resp: 235695

Ion	Ratio	Lower	Upper
151	100		
101	103.3	82.9	122.9

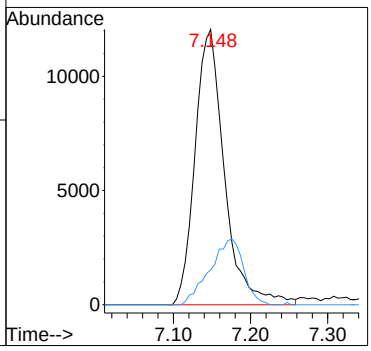


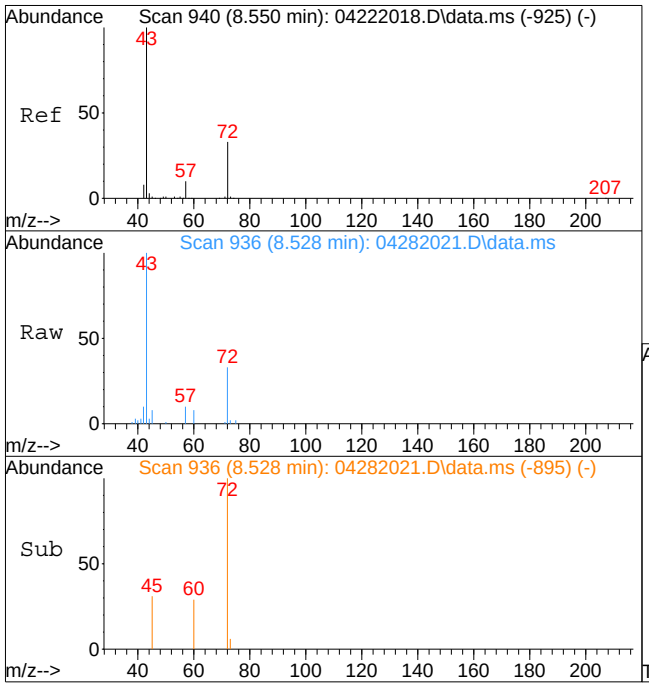


#22
Carbon Disulfide
Concen: 0.92 ng
RT: 7.15 min Scan# 685
Delta R.T. -0.011 min
Lab File: 04282021.D
Acq: 28 Apr 2020 23:35

Tgt Ion: 76 Resp: 31954

Ion	Ratio	Lower	Upper
76	100		
78	27.2	0.0	30.2

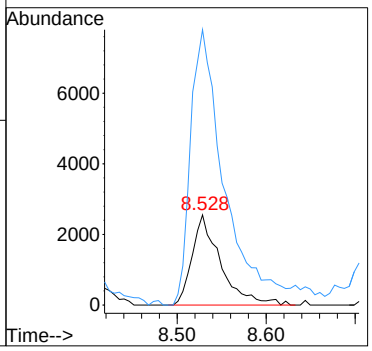


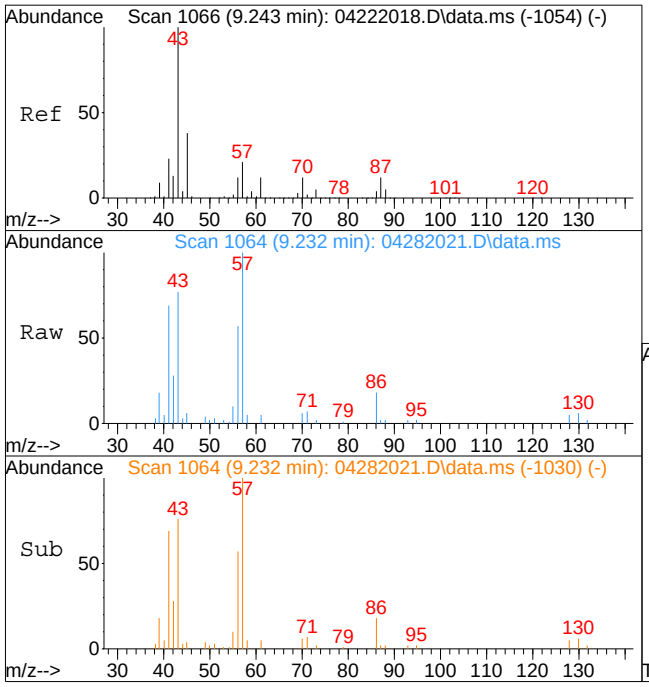


#27
2-Butanone (MEK)
Concen: 0.93 ng
RT: 8.53 min Scan# 936
Delta R.T. -0.022 min
Lab File: 04282021.D
Acq: 28 Apr 2020 23:35

Tgt Ion: 72 Resp: 5702

Ion	Ratio	Lower	Upper
72	100		
43	379.8	278.8	318.8#

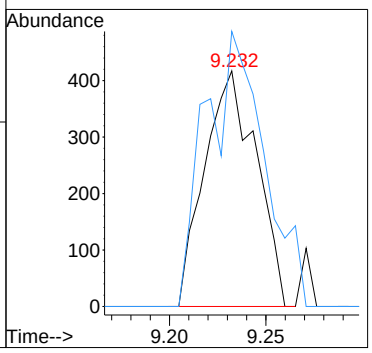


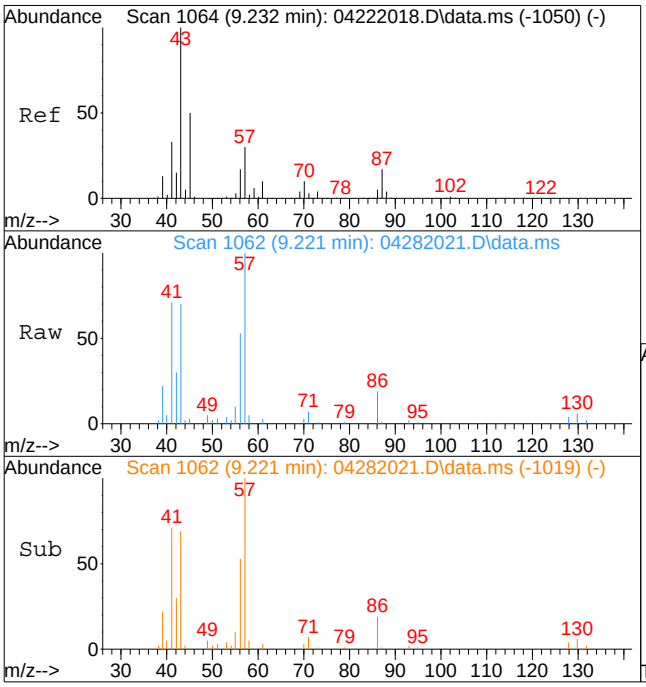


#30
Ethyl Acetate
Concen: 0.29 ng
RT: 9.23 min Scan# 1064
Delta R.T. -0.011 min
Lab File: 04282021.D
Acq: 28 Apr 2020 23:35

Tgt Ion: 61 Resp: 778

Ion	Ratio	Lower	Upper
61	100		
70	132.6	80.6	120.6#

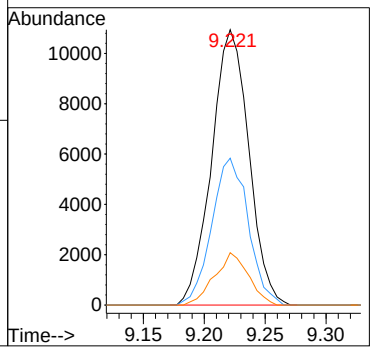


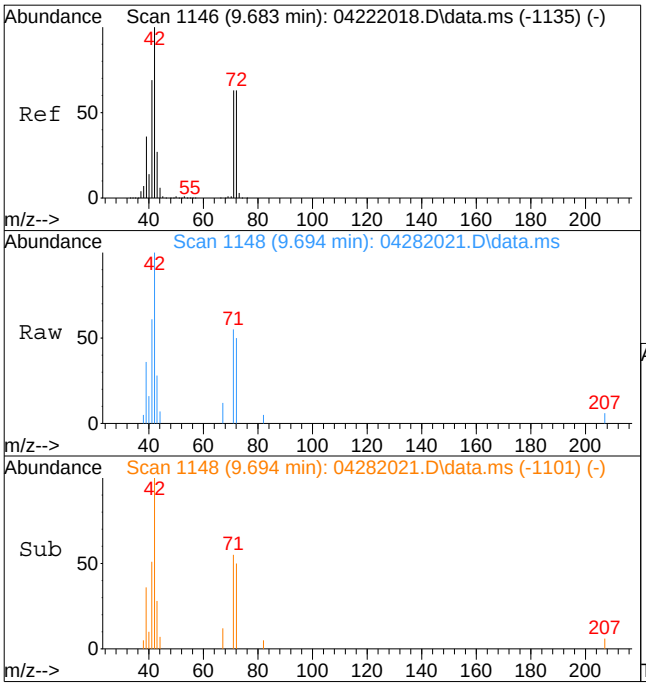


#31
n-Hexane
Concen: 1.76 ng
RT: 9.22 min Scan# 1062
Delta R.T. -0.011 min
Lab File: 04282021.D
Acq: 28 Apr 2020 23:35

Tgt Ion: 57 Resp: 23266

Ion	Ratio	Lower	Upper
57	100		
56	52.5	44.0	66.0
86	17.3	15.0	22.4

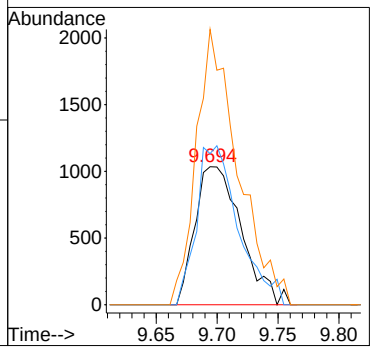


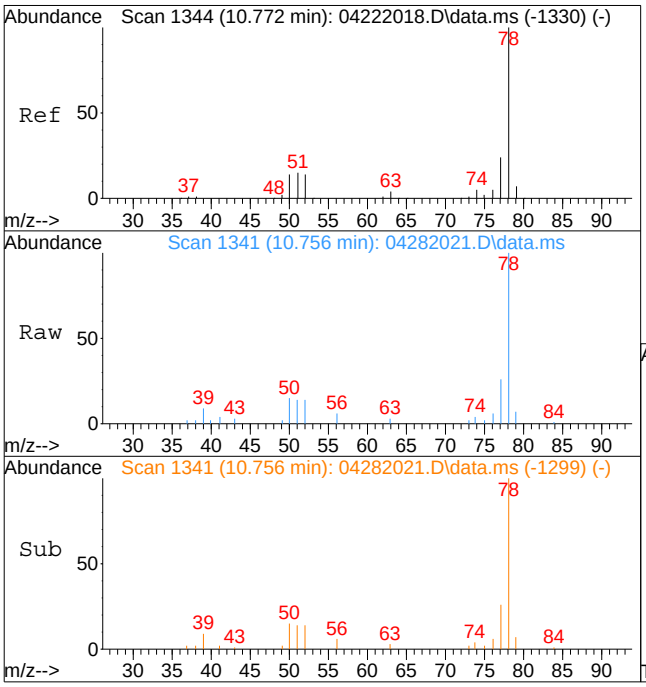


#34
Tetrahydrofuran (THF)
Concen: 0.44 ng
RT: 9.69 min Scan# 1148
Delta R.T. 0.011 min
Lab File: 04282021.D
Acq: 28 Apr 2020 23:35

Tgt Ion: 72 Resp: 2745

Ion	Ratio	Lower	Upper
72	100		
71	104.3	77.9	117.9
42	179.9	133.9	173.9#

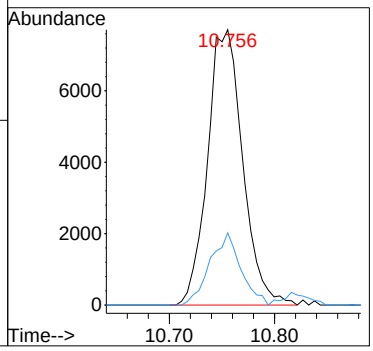


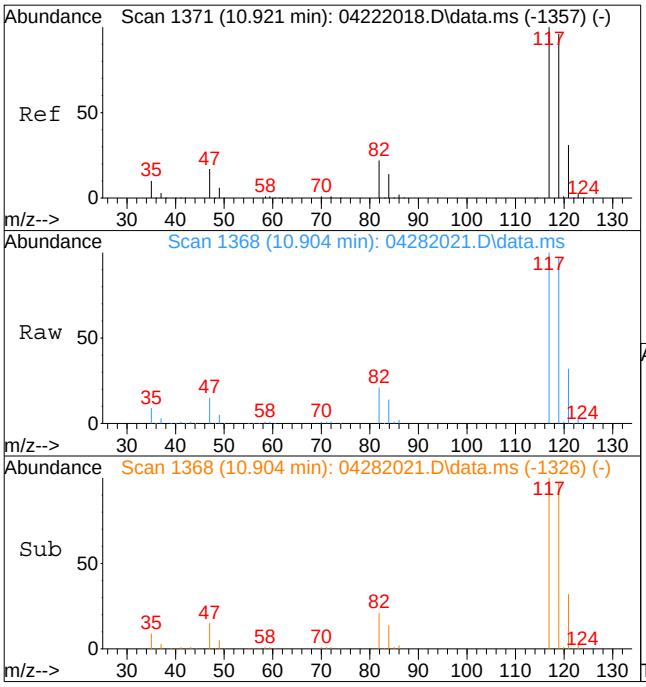


#41
Benzene
Concen: 0.42 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.017 min
Lab File: 04282021.D
Acq: 28 Apr 2020 23:35

Tgt Ion: 78 Resp: 17957

Ion	Ratio	Lower	Upper
78	100		
77	23.0	3.6	43.6

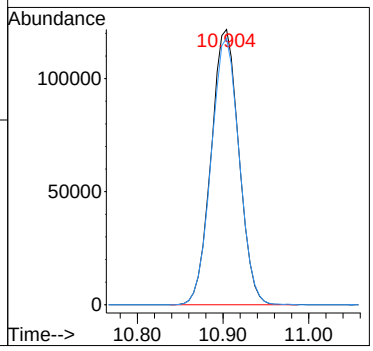


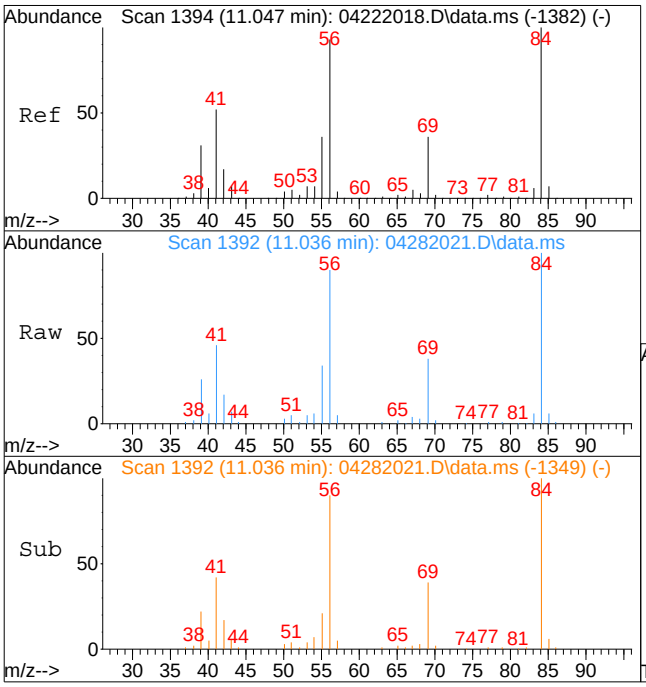


#42
Carbon Tetrachloride
Concen: 12.52 ng
RT: 10.90 min Scan# 1368
Delta R.T. -0.017 min
Lab File: 04282021.D
Acq: 28 Apr 2020 23:35

Tgt Ion:117 Resp: 274331

Ion	Ratio	Lower	Upper
117	100		
119	97.6	76.5	116.5

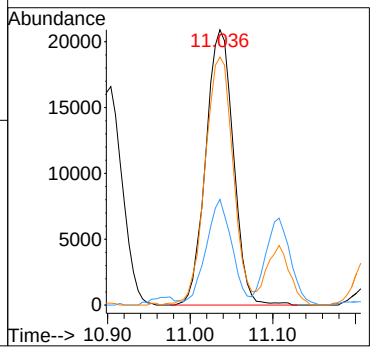


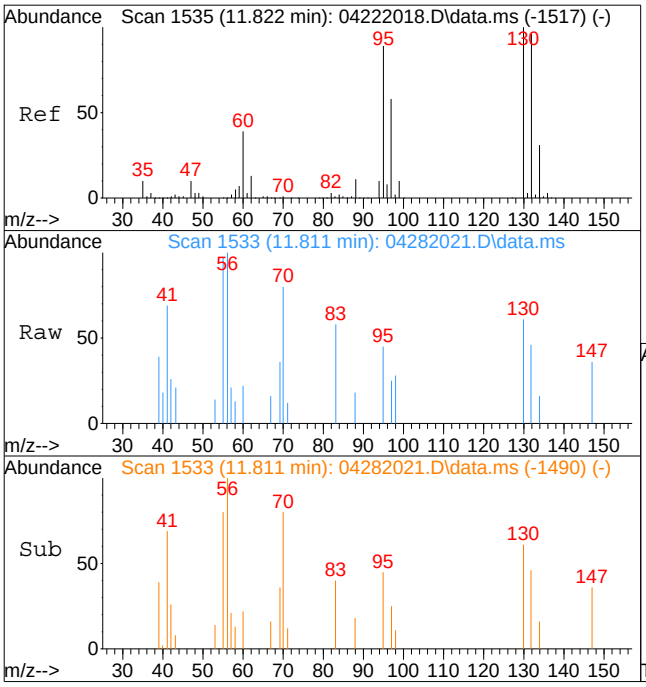


#43
Cyclohexane
Concen: 2.92 ng
RT: 11.04 min Scan# 1392
Delta R.T. -0.011 min
Lab File: 04282021.D
Acq: 28 Apr 2020 23:35

Tgt Ion: 84 Resp: 48472

Ion	Ratio	Lower	Upper
84	100		
69	36.3	15.8	55.8
56	91.5	72.0	112.0

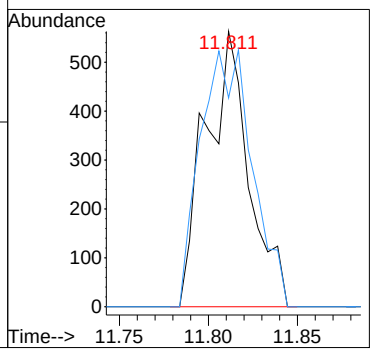


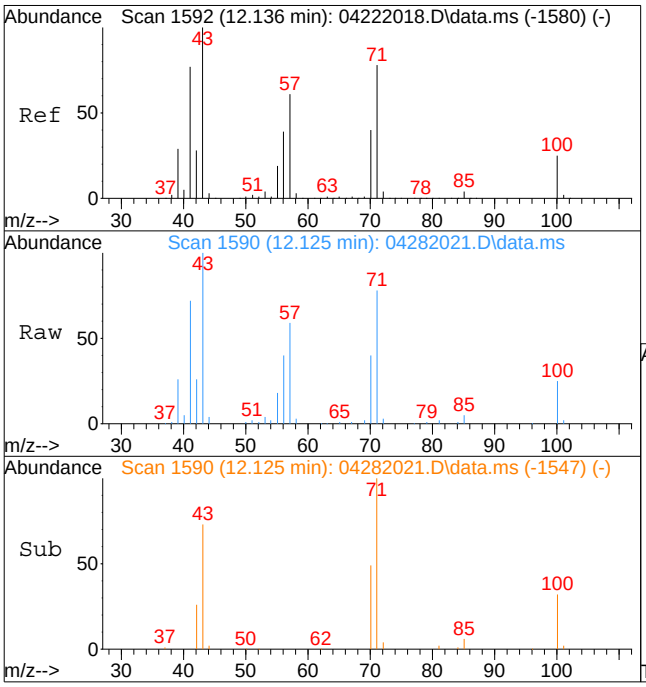


#47
Trichloroethene
Concen: 0.06 ng
RT: 11.81 min Scan# 1533
Delta R.T. -0.011 min
Lab File: 04282021.D
Acq: 28 Apr 2020 23:35

Tgt Ion:130 Resp: 952

Ion	Ratio	Lower	Upper
130	100		
132	111.4	76.4	116.4

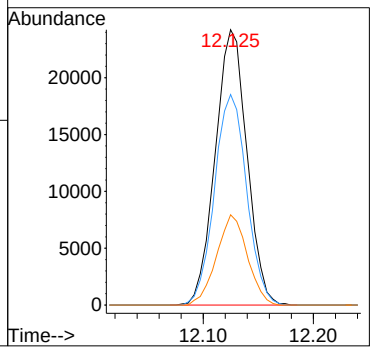


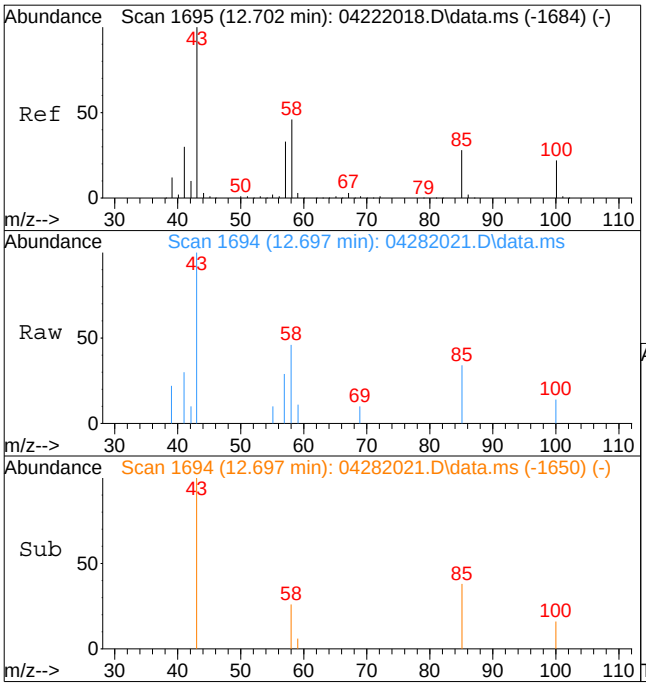


#51
n-Heptane
Concen: 4.92 ng
RT: 12.12 min Scan# 1590
Delta R.T. -0.011 min
Lab File: 04282021.D
Acq: 28 Apr 2020 23:35

Tgt Ion: 71 Resp: 48494

Ion	Ratio	Lower	Upper
71	100		
57	77.5	57.4	97.4
100	31.8	12.0	52.0

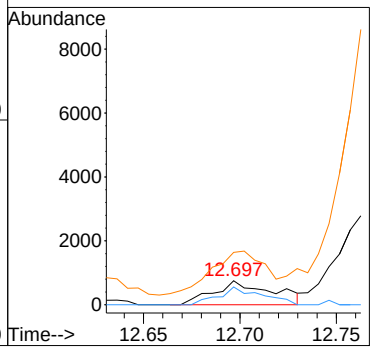


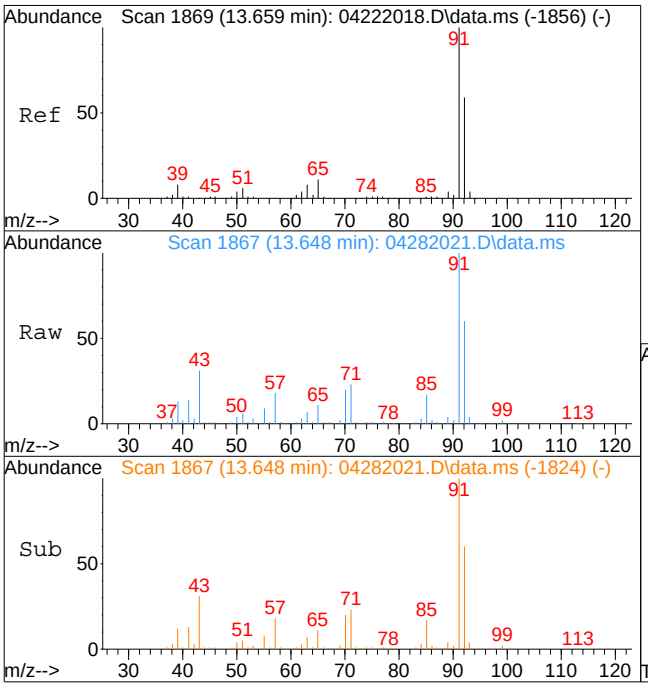


#53
4-Methyl-2-pentanone
Concen: 0.21 ng
RT: 12.70 min Scan# 1694
Delta R.T. -0.006 min
Lab File: 04282021.D
Acq: 28 Apr 2020 23:35

Tgt Ion: 58 Resp: 1565

Ion	Ratio	Lower	Upper
58	100		
85	55.0	52.2	78.2
43	224.3	176.2	264.4

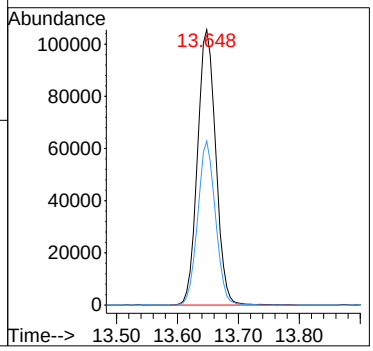


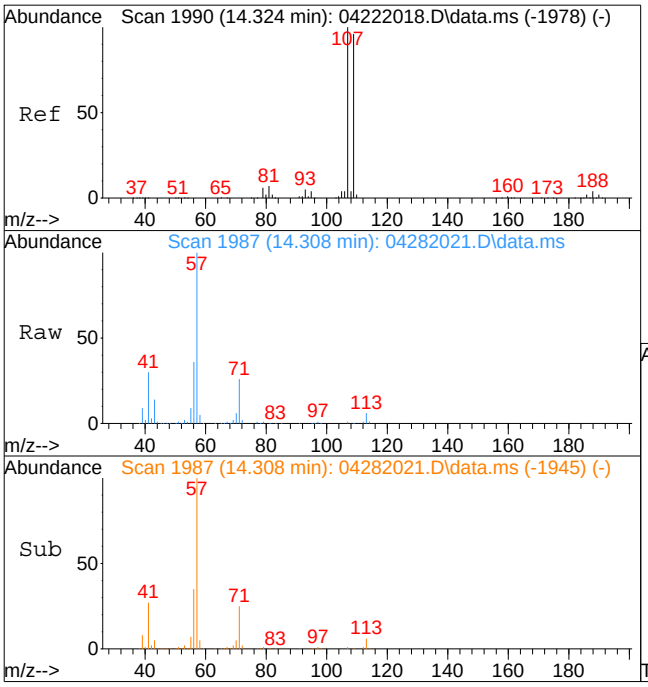


#58
Toluene
Concen: 4.53 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.011 min
Lab File: 04282021.D
Acq: 28 Apr 2020 23:35

Tgt Ion: 91 Resp: 219301

Ion	Ratio	Lower	Upper
91	100		
92	57.8	38.2	78.2

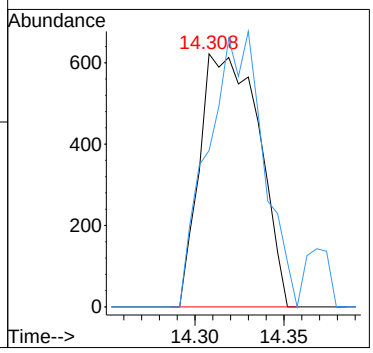


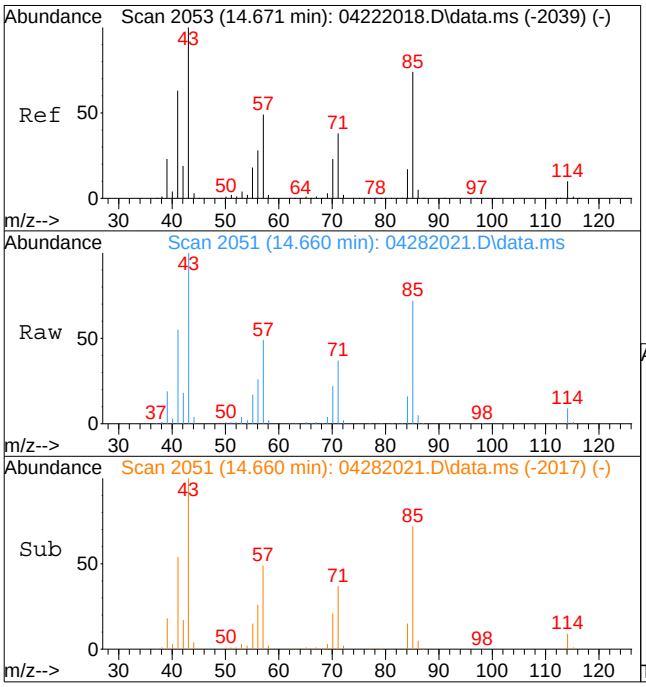


#61
1,2-Dibromoethane
Concen: 0.11 ng
RT: 14.31 min Scan# 1987
Delta R.T. -0.017 min
Lab File: 04282021.D
Acq: 28 Apr 2020 23:35

Tgt Ion:107 Resp: 1433

Ion	Ratio	Lower	Upper
107	100		
109	101.3	75.5	115.5

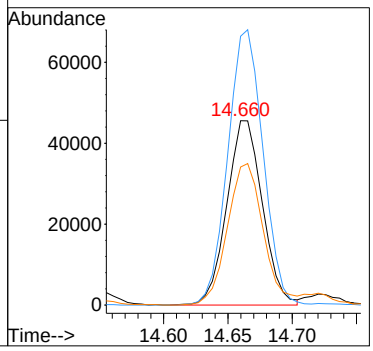


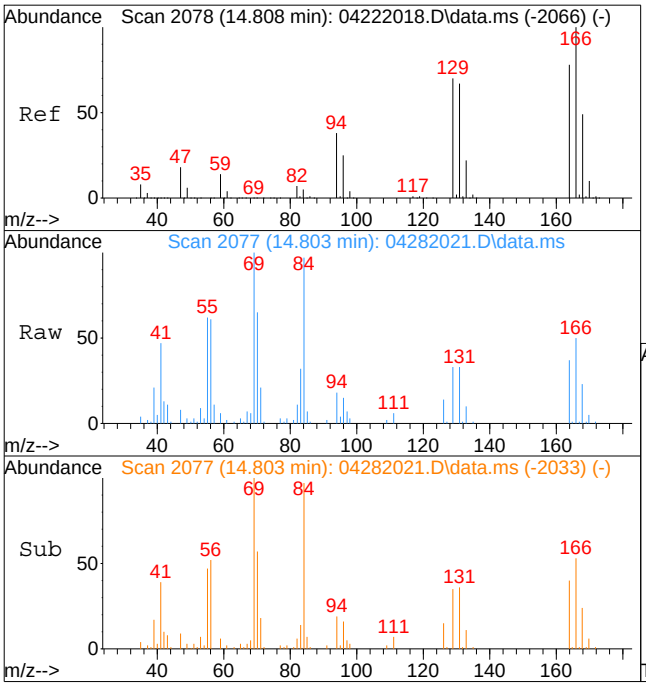


#63
n-Octane
Concen: 11.38 ng
RT: 14.66 min Scan# 2051
Delta R.T. -0.011 min
Lab File: 04282021.D
Acq: 28 Apr 2020 23:35

Tgt Ion: 57 Resp: 87720

Ion	Ratio	Lower	Upper
57	100		
85	148.0	120.7	181.1
71	77.6	61.1	91.7

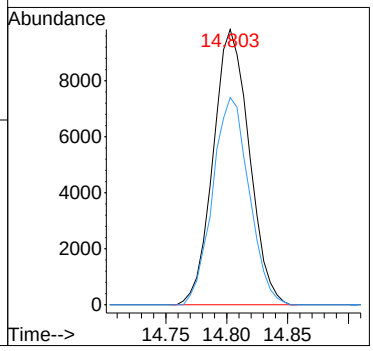


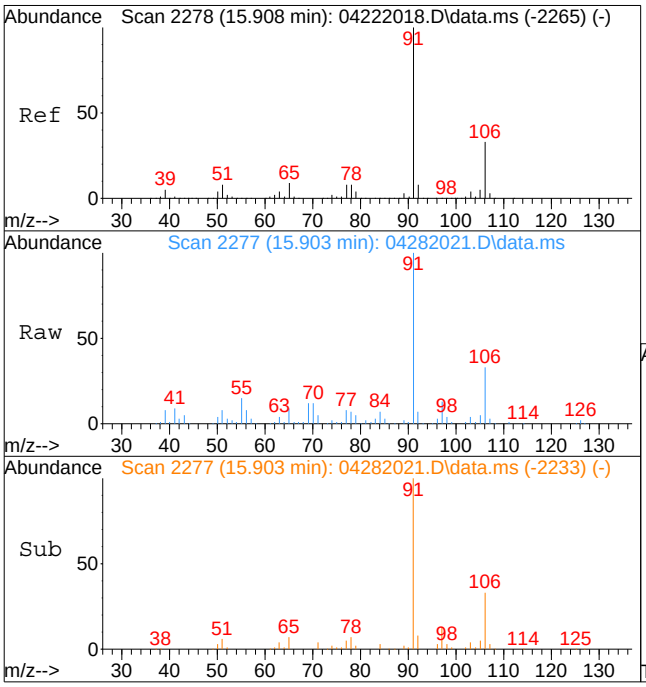


#64
Tetrachloroethene
Concen: 1.11 ng
RT: 14.80 min Scan# 2077
Delta R.T. -0.006 min
Lab File: 04282021.D
Acq: 28 Apr 2020 23:35

Tgt Ion:166 Resp: 20223

Ion	Ratio	Lower	Upper
166	100		
164	76.0	57.7	97.7

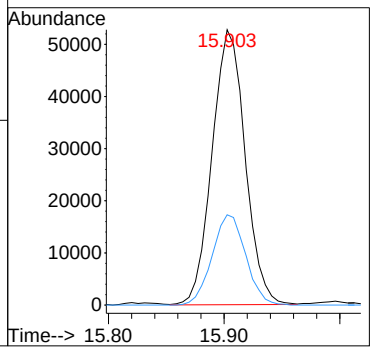


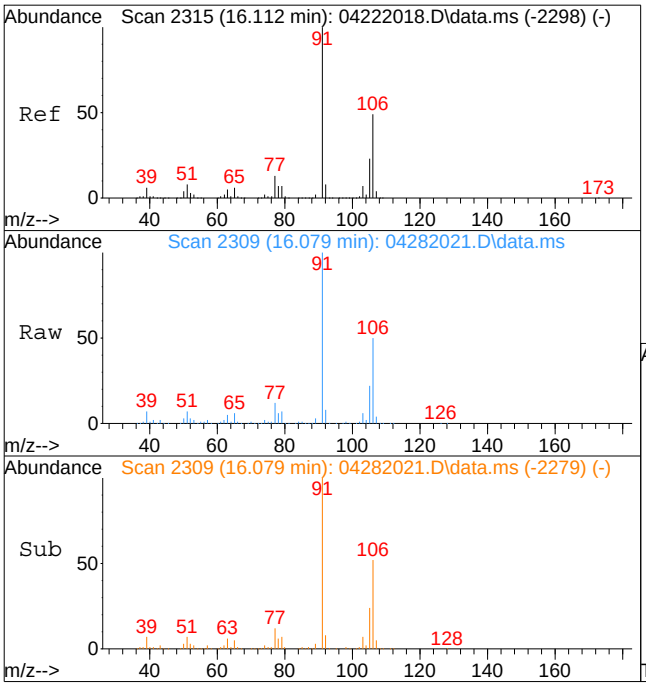


#66
Ethylbenzene
Concen: 1.85 ng
RT: 15.90 min Scan# 2277
Delta R.T. -0.006 min
Lab File: 04282021.D
Acq: 28 Apr 2020 23:35

Tgt Ion: 91 Resp: 104518

Ion	Ratio	Lower	Upper
91	100		
106	33.3	13.4	53.4

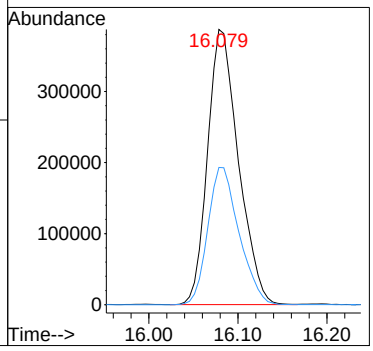


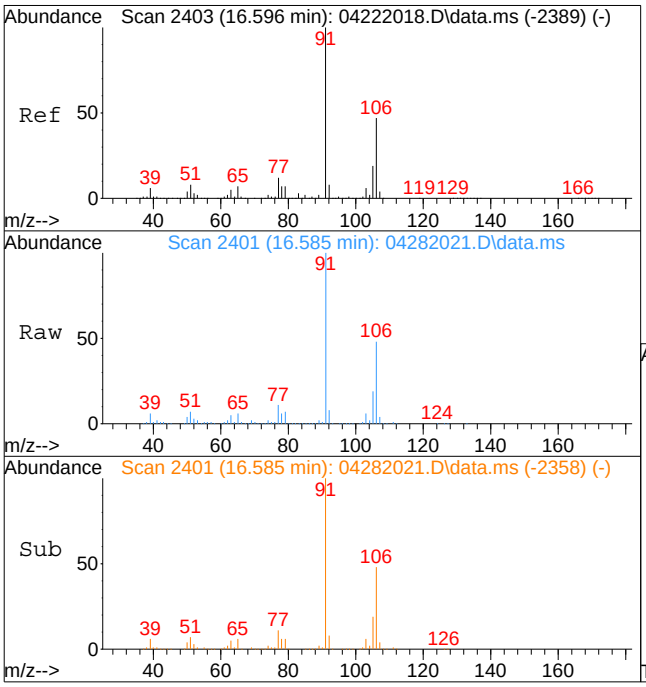


#67
m- & p-Xylenes
Concen: 19.60 ng
RT: 16.08 min Scan# 2309
Delta R.T. -0.033 min
Lab File: 04282021.D
Acq: 28 Apr 2020 23:35

Tgt Ion: 91 Resp: 932359

Ion	Ratio	Lower	Upper
91	100		
106	50.5	28.3	68.3

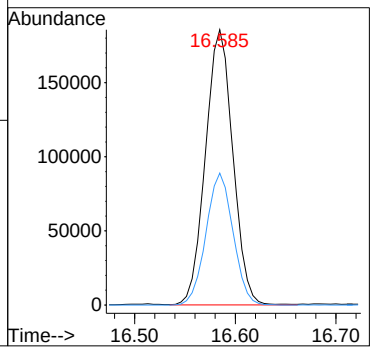


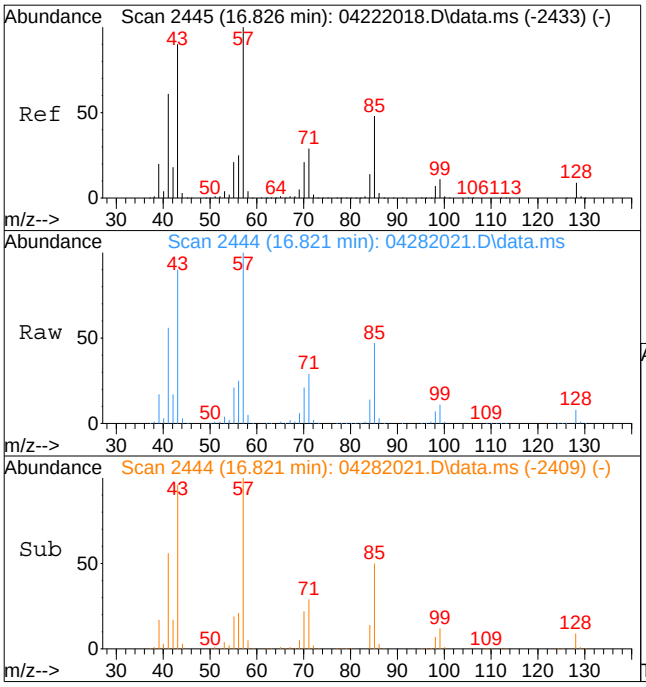


#70
o-Xylene
Concen: 7.52 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 04282021.D
Acq: 28 Apr 2020 23:35

Tgt Ion: 91 Resp: 351242

Ion	Ratio	Lower	Upper
91	100		
106	47.2	27.5	67.5

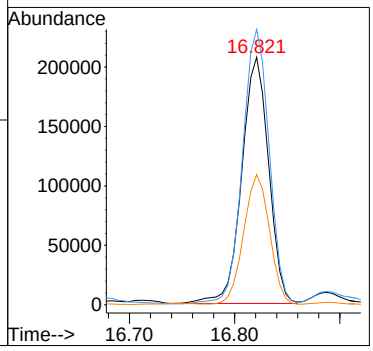


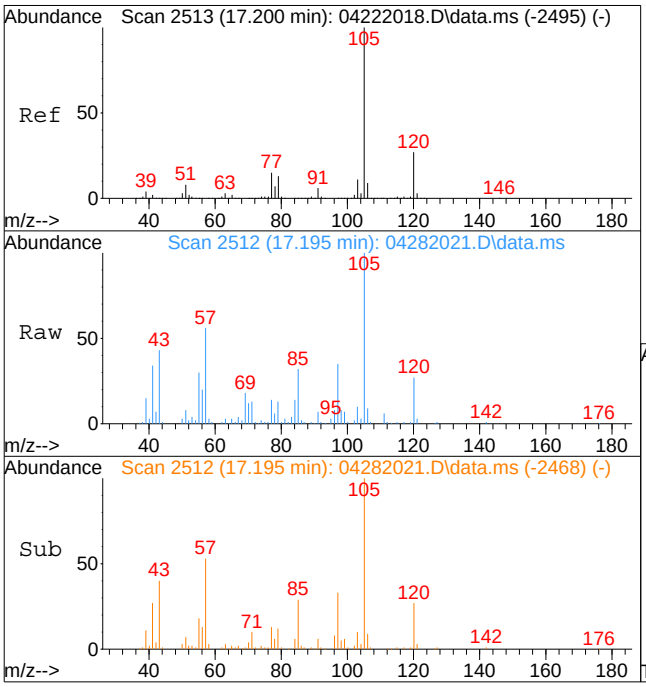


#71
n-Nonane
Concen: 24.54 ng
RT: 16.82 min Scan# 2444
Delta R.T. -0.006 min
Lab File: 04282021.D
Acq: 28 Apr 2020 23:35

Tgt Ion: 43 Resp: 369964

Ion	Ratio	Lower	Upper
43	100		
57	110.0	90.8	130.8
85	50.3	32.1	72.1

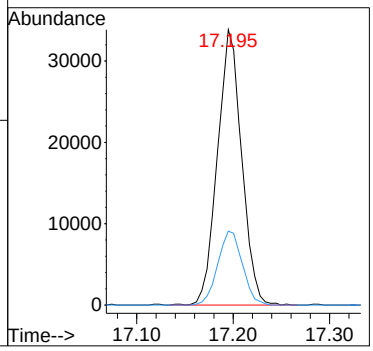


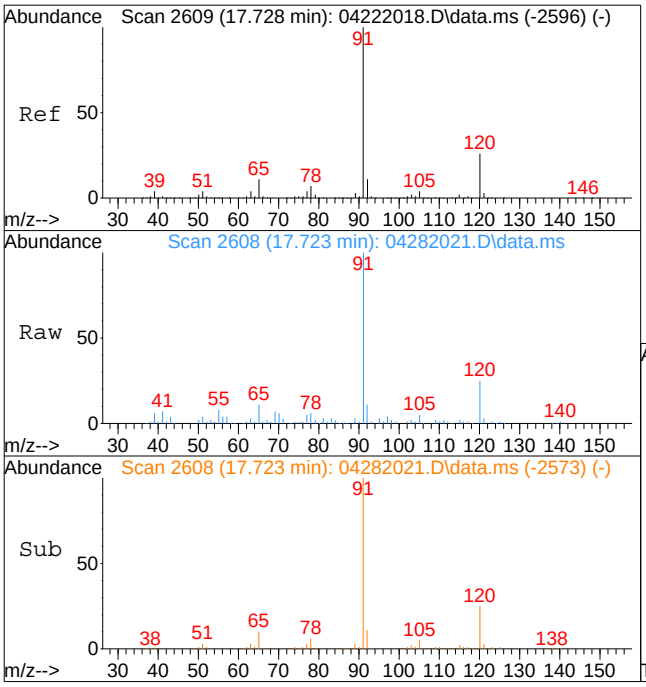


#74
Cumene
Concen: 0.97 ng
RT: 17.19 min Scan# 2512
Delta R.T. -0.006 min
Lab File: 04282021.D
Acq: 28 Apr 2020 23:35

Tgt Ion:105 Resp: 59068

Ion	Ratio	Lower	Upper
105	100		
120	27.2	7.3	47.3

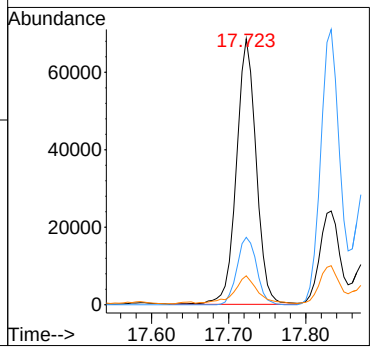


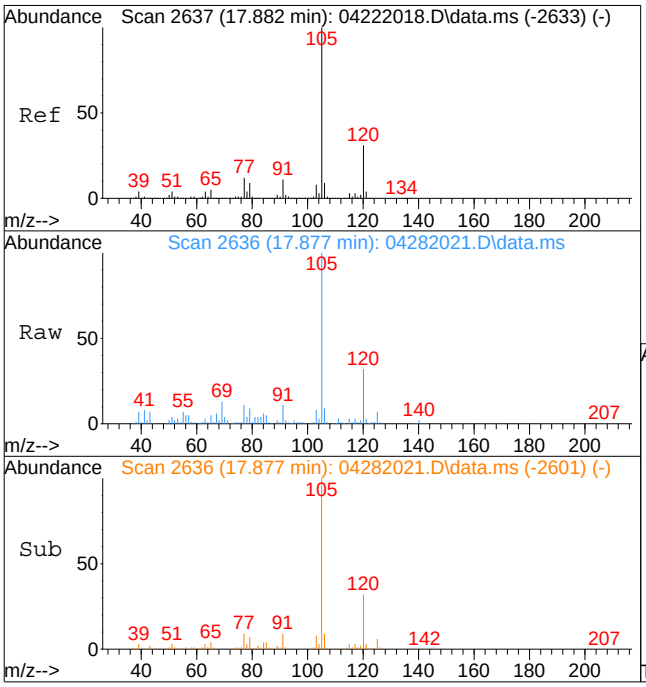


#76
n-Propylbenzene
Concen: 1.84 ng
RT: 17.72 min Scan# 2608
Delta R.T. -0.006 min
Lab File: 04282021.D
Acq: 28 Apr 2020 23:35

Tgt Ion: 91 Resp: 122049

Ion	Ratio	Lower	Upper
91	100		
120	25.3	6.1	46.1
65	11.8	0.0	30.7

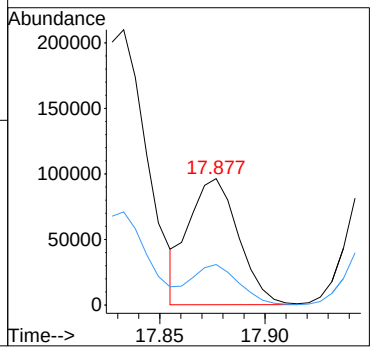


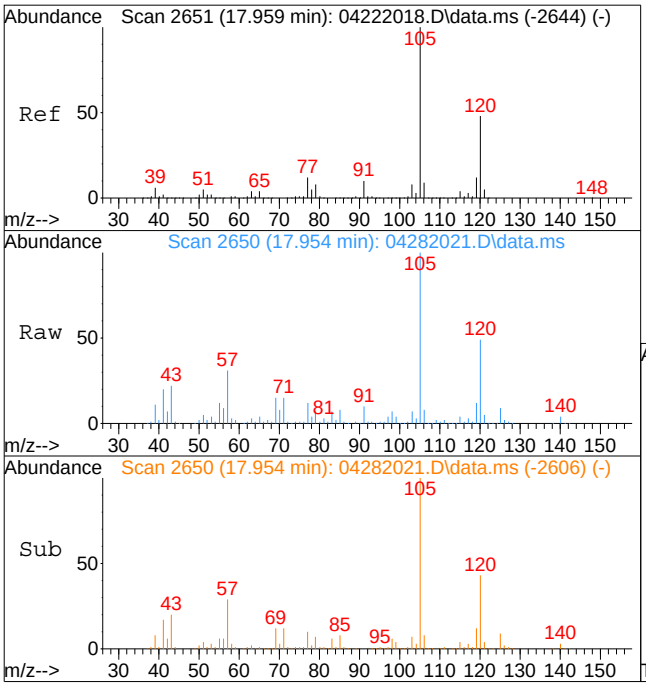


#78
4-Ethyltoluene
Concen: 2.74 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 04282021.D
Acq: 28 Apr 2020 23:35

Tgt Ion:105 Resp: 158491

Ion	Ratio	Lower	Upper
105	100		
120	31.5	11.4	51.4

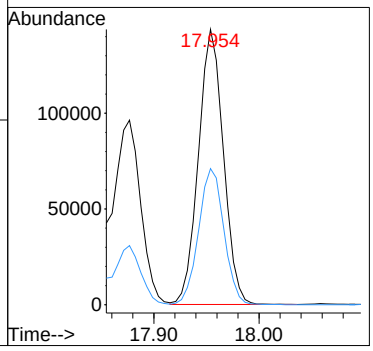


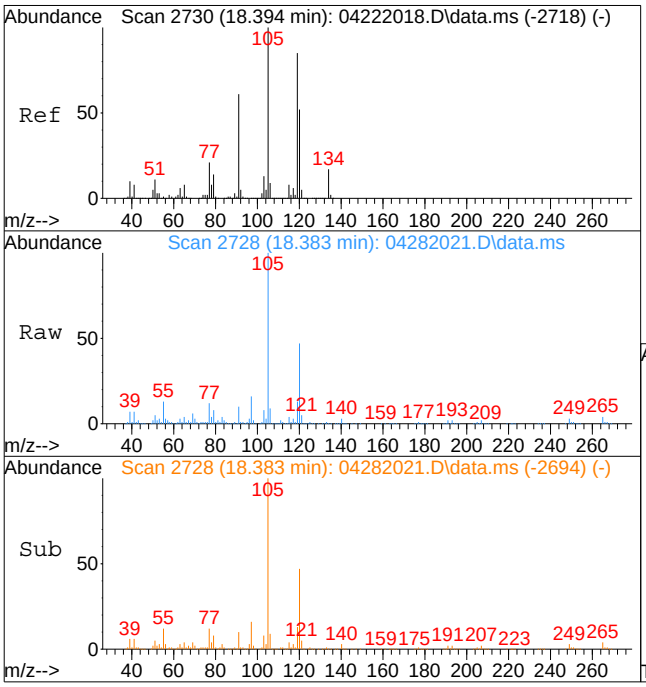


#79
1,3,5-Trimethylbenzene
Concen: 4.43 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 04282021.D
Acq: 28 Apr 2020 23:35

Tgt Ion:105 Resp: 237280

Ion	Ratio	Lower	Upper
105	100		
120	50.4	29.5	69.5

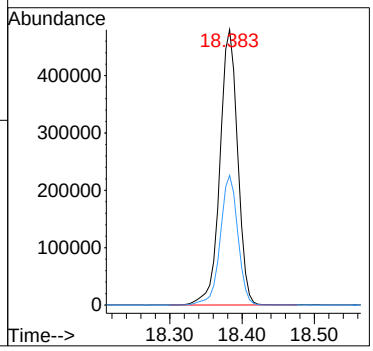


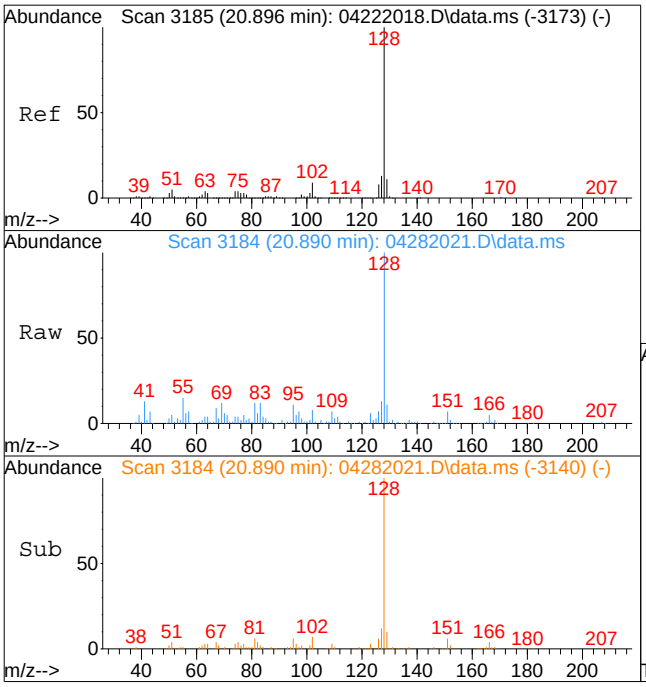


#82
1,2,4-Trimethylbenzene
Concen: 15.78 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 04282021.D
Acq: 28 Apr 2020 23:35

Tgt Ion:105 Resp: 817202

Ion	Ratio	Lower	Upper
105	100		
120	46.8	34.5	74.5

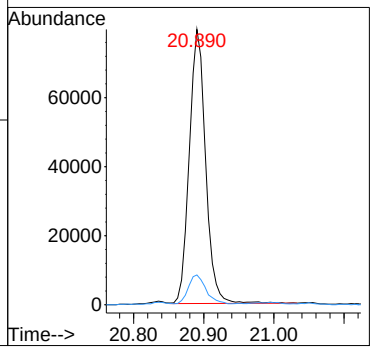




#95
Naphthalene
Concen: 1.92 ng
RT: 20.89 min Scan# 3184
Delta R.T. -0.006 min
Lab File: 04282021.D
Acq: 28 Apr 2020 23:35

Tgt Ion:128 Resp: 128284

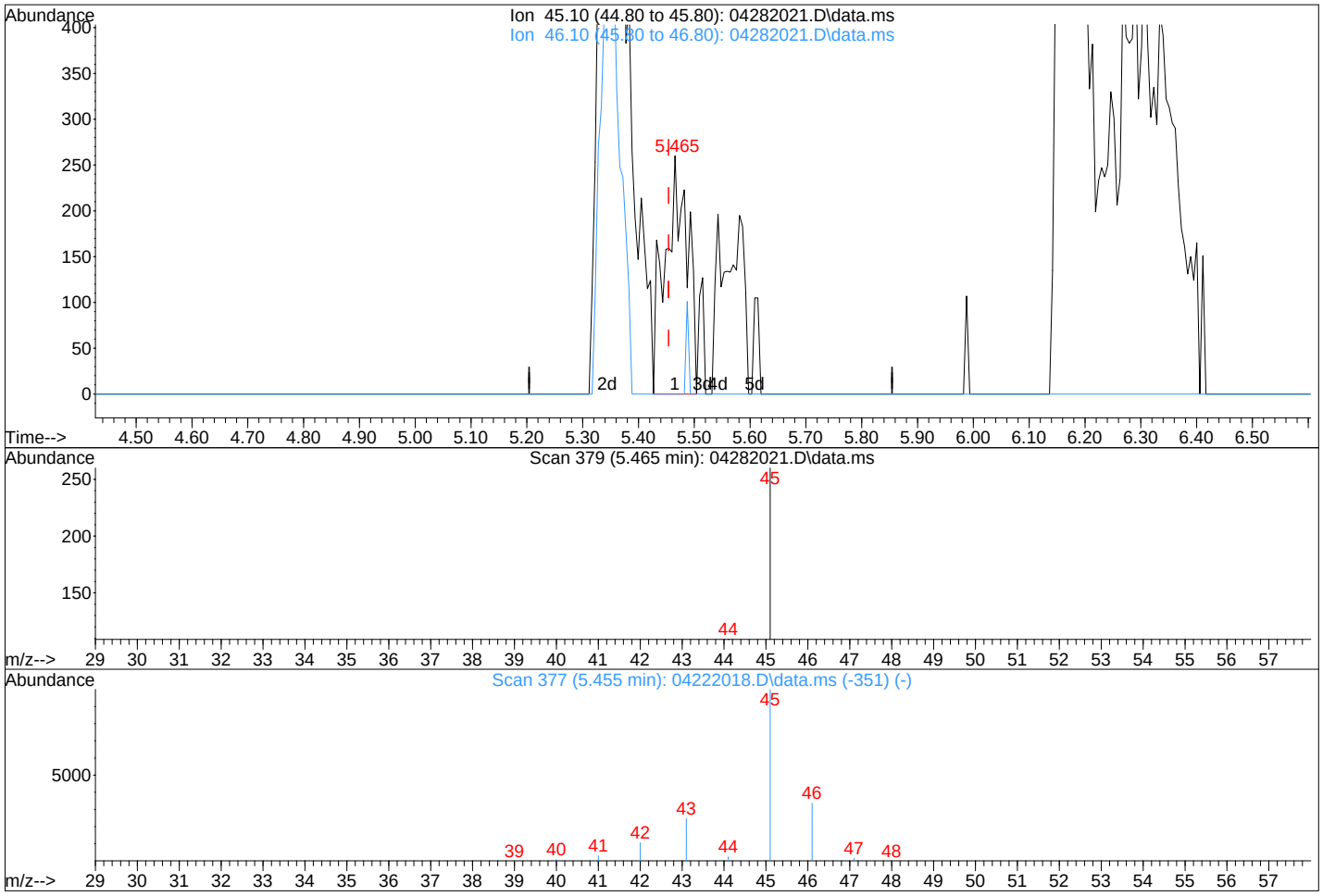
Ion	Ratio	Lower	Upper
128	100		
129	12.3	0.0	30.9



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\28\04282021.D Vial: 8
Acq On : 28 Apr 2020 23:35 Operator: SC
Sample : P2002030-006 (250mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 05:53:31 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04282021.D\data.ms

(10) Ethanol (T)

5.465min (+0.011) 0.15ng

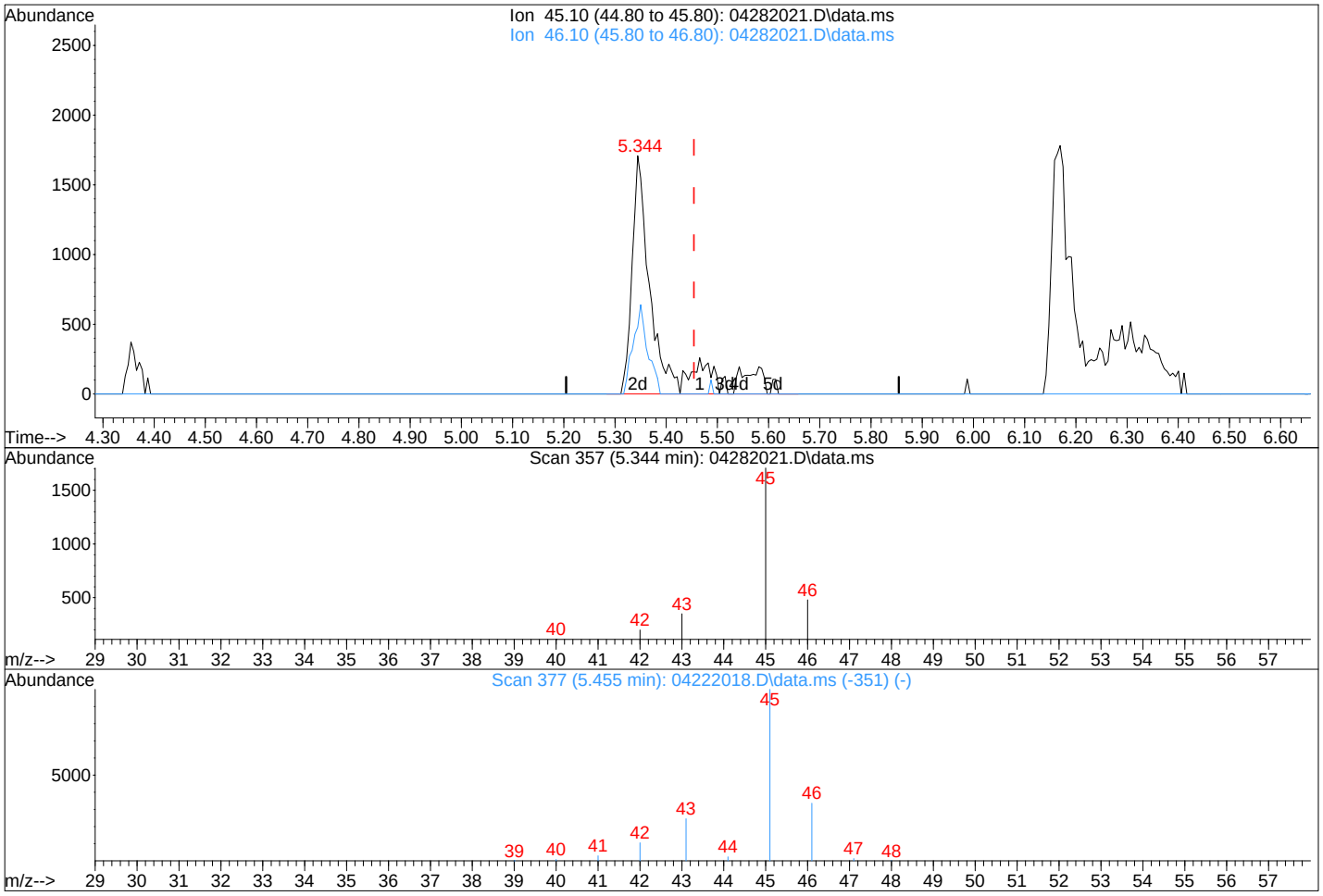
response 721

Ion	Exp%	Act%
45.10	100	100
46.10	34.00	4.58#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\28\04282021.D Vial: 8
Acq On : 28 Apr 2020 23:35 Operator: SC
Sample : P2002030-006 (250mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 05:53:31 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04282021.D\data.ms

(10) Ethanol (T)

5.344min (-0.110) 1.09ng m

response 5379

Ion	Exp%	Act%
45.10	100	100
46.10	34.00	23.55
0.00	0.00	0.00
0.00	0.00	0.00

MP

4/29/20

LH 4/29/20

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282022.D Vial: 9
Acq On : 29 Apr 2020 00:09 Operator: SC
Sample : P2002030-007 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 09:56:05 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration 4/29/20
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	152982	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	654607	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	297755	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	233097	11.760	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.08%				
57) Toluene-d8 (SS2)	13.55	98	720064	12.525	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.16%				
73) Bromofluorobenzene (SS3)	17.05	174	290940	12.592	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.72%				
Target Compounds							Qvalue
2) Propene	3.87	42	3051	0.470	ng		88
3) Dichlorodifluoromethan...	3.96	85	333263	13.500	ng		100
4) Chloromethane	4.16	50	1666	0.183	ng		96
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	7619	0.571	ng		98
6) Vinyl Chloride	4.45	62	152	N.D.			
7) 1,3-Butadiene	4.58	54	241	N.D.			
8) Bromomethane	4.93	94	509	0.054	ng		94
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.36	45	2216m	0.450	ng		
11) Acetonitrile	5.56	41	2899	0.249	ng		78
12) Acrolein	5.70	56	1413	0.314	ng		91
13) Acetone	5.84	58	61370	10.386	ng		90
14) Trichlorofluoromethane	6.02	101	34838	1.418	ng		99
15) 2-Propanol (Isopropanol)	6.19	45	865	N.D.			
16) Acrylonitrile	6.32	53	40	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	7.18	151	386297	30.220	ng		100
22) Carbon Disulfide	7.14	76	59327	1.722	ng		61
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	8.54	72	3852	0.635	ng	#	1
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	9.22	57	6622	0.505	ng		94
32) Chloroform	9.28	83	541	N.D.			
34) Tetrahydrofuran (THF)	9.70	72	1636	0.266	ng	#	81
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	10.13	62	387	N.D.			
38) 1,1,1-Trichloroethane	10.30	97	213	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.75	78	13999	0.328	ng		100
42) Carbon Tetrachloride	10.90	117	459668	20.834	ng		99
43) Cyclohexane	11.04	84	25381	1.518	ng		98
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	11.81	130	651	N.D.			
48) 1,4-Dioxane	11.80	88	1303	0.152	ng		93
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282022.D Vial: 9
Acq On : 29 Apr 2020 00:09 Operator: SC
Sample : P2002030-007 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 09:56:05 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

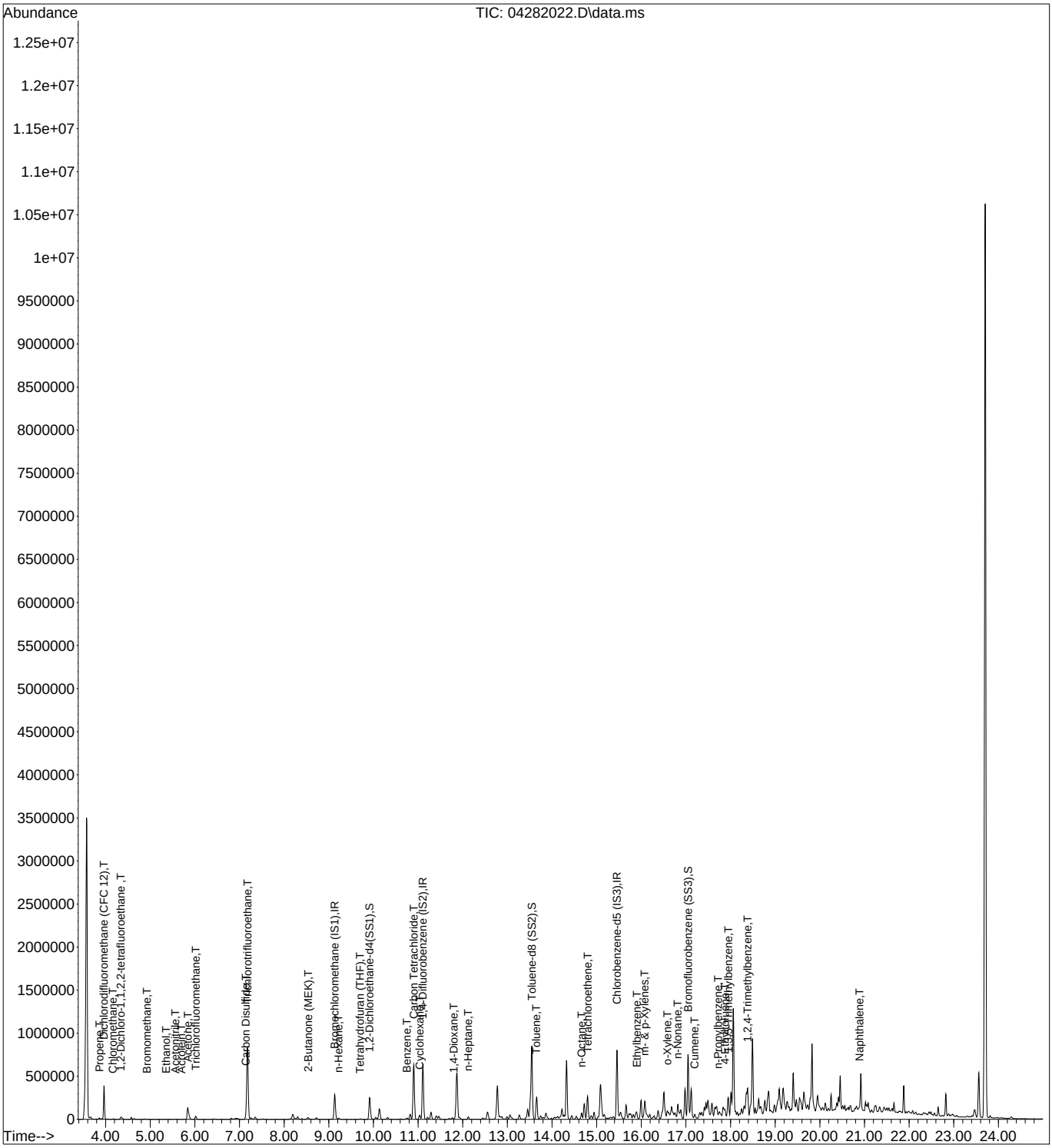
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.12	71	8346	0.842 ng	97
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	13.33	97	252	N.D.	
58) Toluene	13.65	91	46103	0.955 ng	98
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	14.32	107	232	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.67	57	15092	1.964 ng	95
64) Tetrachloroethene	14.80	166	33059	1.818 ng	99
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.90	91	19343	0.344 ng	98
67) m- & p-Xylenes	16.08	91	165314	3.484 ng	99
68) Bromoform	16.16	173	562	N.D.	
69) Styrene	16.48	104	249	N.D.	
70) o-Xylene	16.58	91	63320	1.359 ng	98
71) n-Nonane	16.82	43	54686	3.638 ng	95
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	17.19	105	10640	0.175 ng	97
75) alpha-Pinene	17.58	93	437	N.D.	
76) n-Propylbenzene	17.72	91	24376	0.368 ng	92
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	26029	0.450 ng	97
79) 1,3,5-Trimethylbenzene	17.95	105	41947	0.786 ng	99
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	144597	2.800 ng	89
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.55	91	1128	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	20.75	180	623	N.D.	
95) Naphthalene	20.89	128	24972	0.375 ng	94
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282022.D Vial: 9
Acq On : 29 Apr 2020 00:09 Operator: SC
Sample : P2002030-007 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 09:56:05 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282022.D Vial: 9
Acq On : 29 Apr 2020 00:09 Operator: SC
Sample : P2002030-007 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 09:56:05 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

VOA 4/29/20

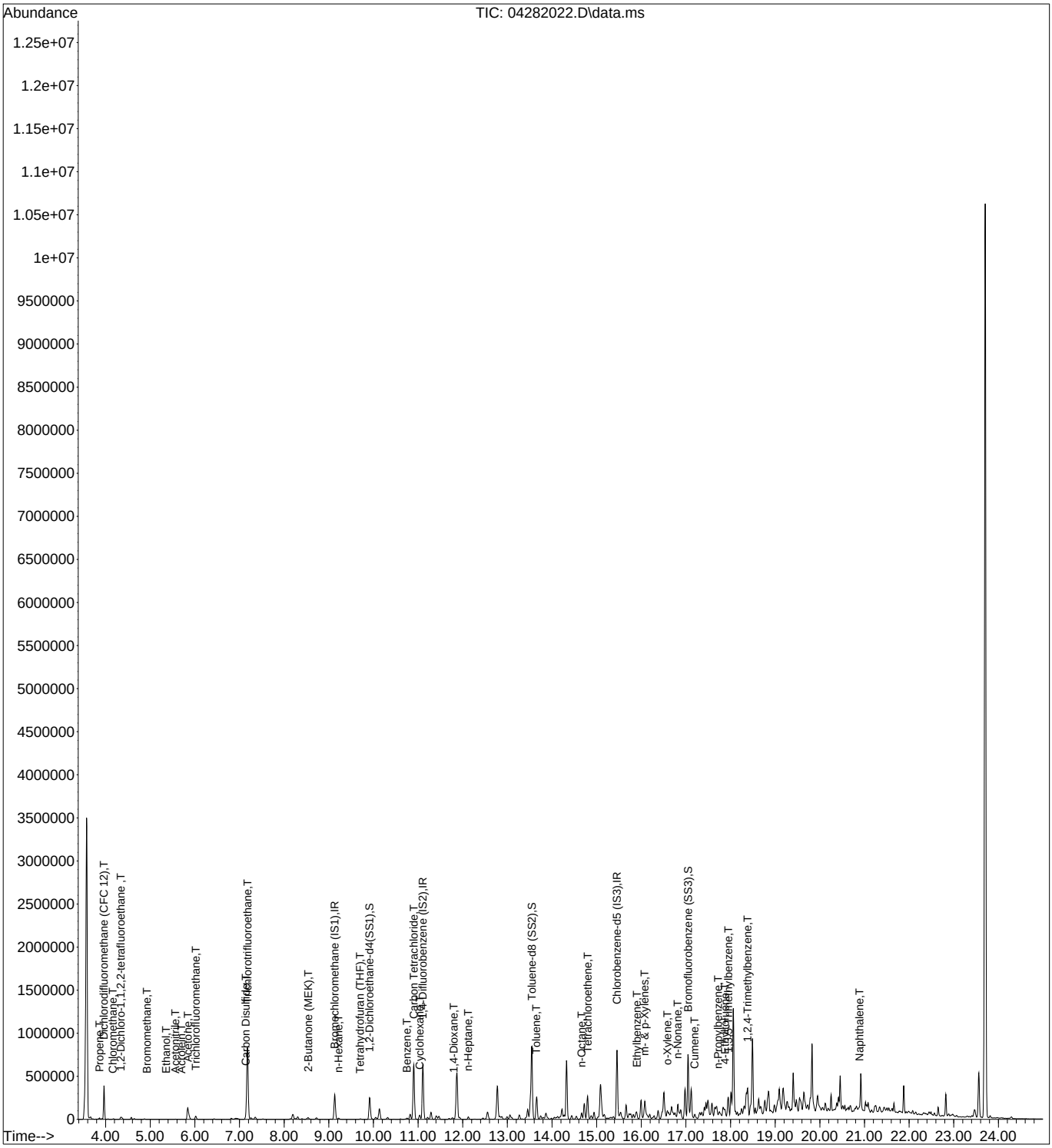
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	152982	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	654607	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	297755	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	233097	11.760	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.08%				
57) Toluene-d8 (SS2)	13.55	98	720064	12.525	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.16%				
73) Bromofluorobenzene (SS3)	17.05	174	290940	12.592	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.72%				
Target Compounds							Qvalue
2) Propene	3.87	42	3051	0.470	ng		88
3) Dichlorodifluoromethan...	3.96	85	333263	13.500	ng		100
4) Chloromethane	4.16	50	1666	0.183	ng		96
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	7619	0.571	ng		98
8) Bromomethane	4.93	94	509	0.054	ng		94
10) Ethanol	5.36	45	2216m	0.450	ng		
11) Acetonitrile	5.56	41	2899	0.249	ng		78
12) Acrolein	5.70	56	1413	0.314	ng		91
13) Acetone	5.84	58	61370	10.386	ng		90
14) Trichlorofluoromethane	6.02	101	34838	1.418	ng		99
21) Trichlorotrifluoroethane	7.18	151	386297	30.220	ng		100
22) Carbon Disulfide	7.14	76	59327	1.722	ng		61
27) 2-Butanone (MEK)	8.54	72	3852	0.635	ng	#	1
31) n-Hexane	9.22	57	6622	0.505	ng		94
34) Tetrahydrofuran (THF)	9.70	72	1636	0.266	ng	#	81
41) Benzene	10.75	78	13999	0.328	ng		100
42) Carbon Tetrachloride	10.90	117	459668	20.834	ng		99
43) Cyclohexane	11.04	84	25381	1.518	ng		98
48) 1,4-Dioxane	11.80	88	1303	0.152	ng		93
51) n-Heptane	12.12	71	8346	0.842	ng		97
58) Toluene	13.65	91	46103	0.955	ng		98
63) n-Octane	14.67	57	15092	1.964	ng		95
64) Tetrachloroethene	14.80	166	33059	1.818	ng		99
66) Ethylbenzene	15.90	91	19343	0.344	ng		98
67) m- & p-Xylenes	16.08	91	165314	3.484	ng		99
70) o-Xylene	16.58	91	63320	1.359	ng		98
71) n-Nonane	16.82	43	54686	3.638	ng		95
74) Cumene	17.19	105	10640	0.175	ng		97
76) n-Propylbenzene	17.72	91	24376	0.368	ng		92
78) 4-Ethyltoluene	17.88	105	26029	0.450	ng		97
79) 1,3,5-Trimethylbenzene	17.95	105	41947	0.786	ng		99
82) 1,2,4-Trimethylbenzene	18.38	105	144597	2.800	ng		89
95) Naphthalene	20.89	128	24972	0.375	ng		94

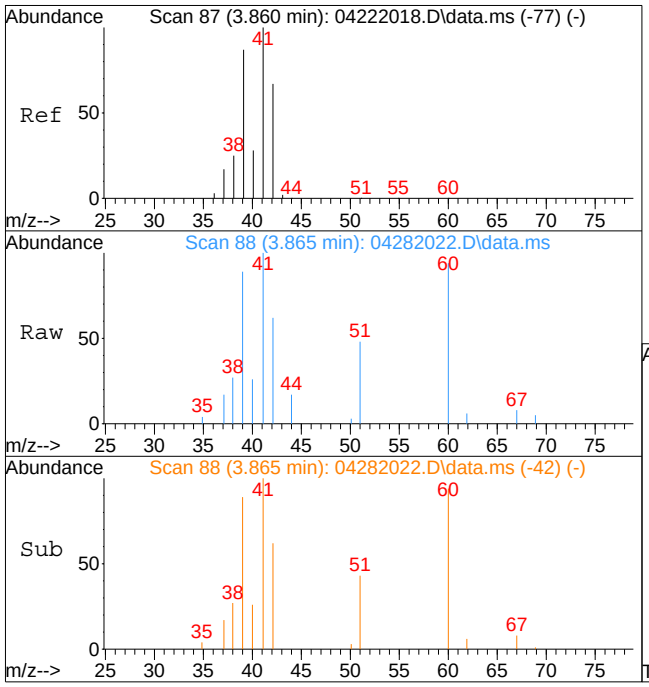
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282022.D Vial: 9
Acq On : 29 Apr 2020 00:09 Operator: SC
Sample : P2002030-007 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 09:56:05 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

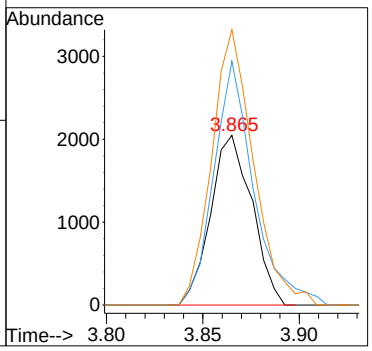


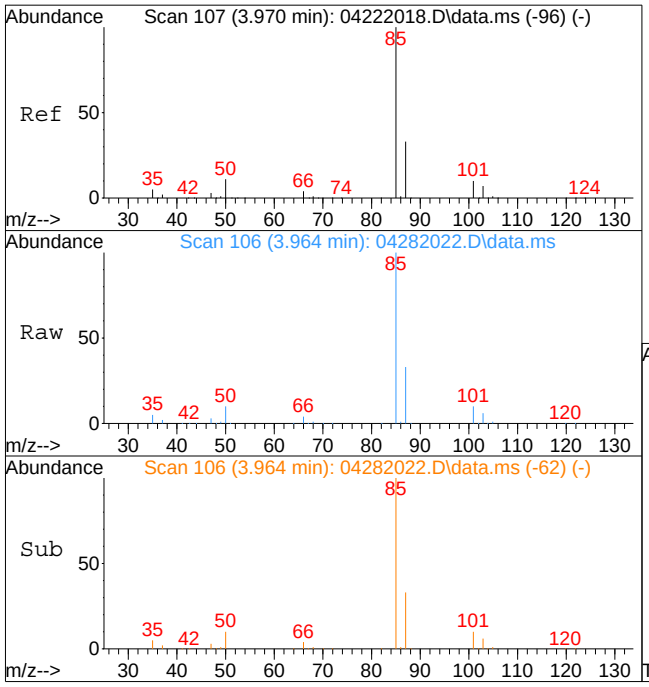


#2
Propene
Concen: 0.47 ng
RT: 3.87 min Scan# 88
Delta R.T. 0.005 min
Lab File: 04282022.D
Acq: 29 Apr 2020 00:09

Tgt Ion: 42 Resp: 3051

Ion	Ratio	Lower	Upper
42	100		
39	139.1	106.4	146.4
41	164.6	128.8	168.8

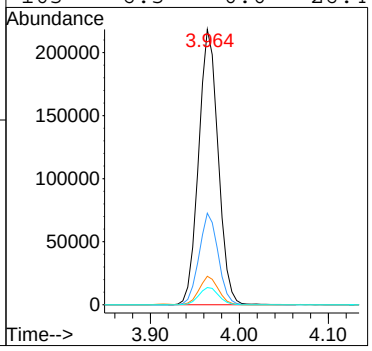


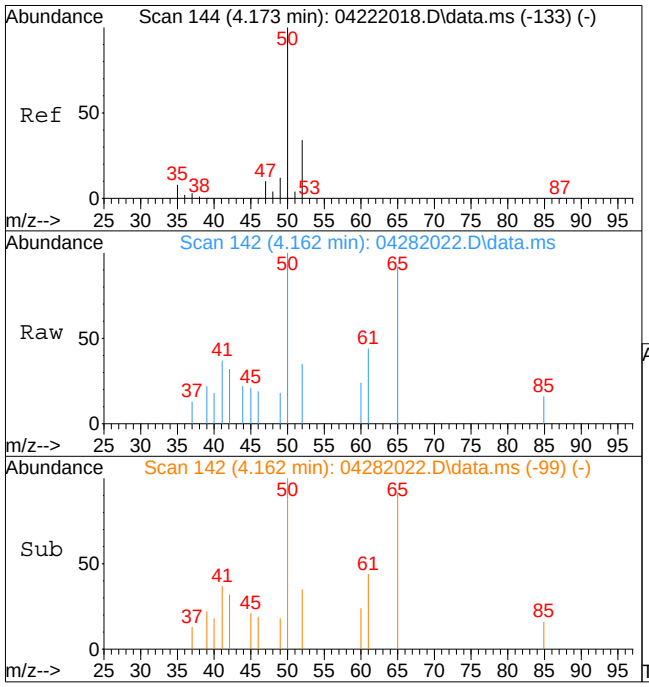


#3
Dichlorodifluoromethane (CFC 12)
Concen: 13.50 ng
RT: 3.96 min Scan# 106
Delta R.T. -0.006 min
Lab File: 04282022.D
Acq: 29 Apr 2020 00:09

Tgt Ion: 85 Resp: 333263

Ion	Ratio	Lower	Upper
85	100		
87	32.5	12.4	52.4
101	10.1	0.0	29.9
103	6.3	0.0	26.4

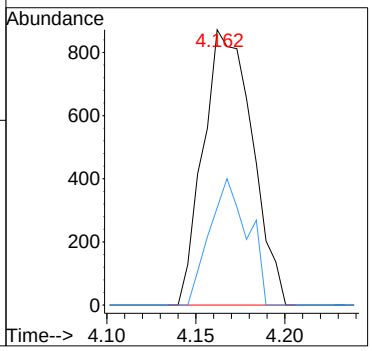


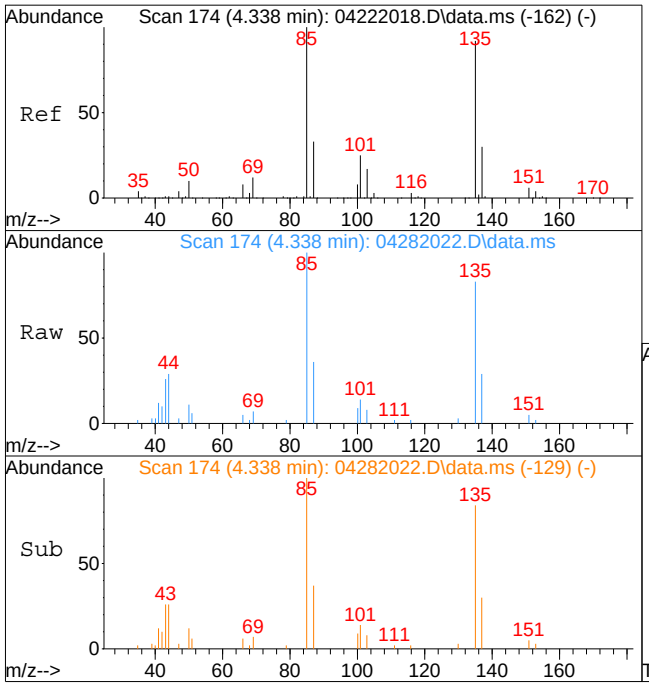


#4
Chloromethane
Concen: 0.18 ng
RT: 4.16 min Scan# 142
Delta R.T. -0.011 min
Lab File: 04282022.D
Acq: 29 Apr 2020 00:09

Tgt Ion: 50 Resp: 1666

Ion	Ratio	Lower	Upper
50	100		
52	36.0	13.7	53.7

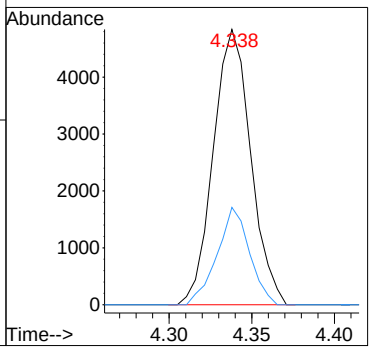


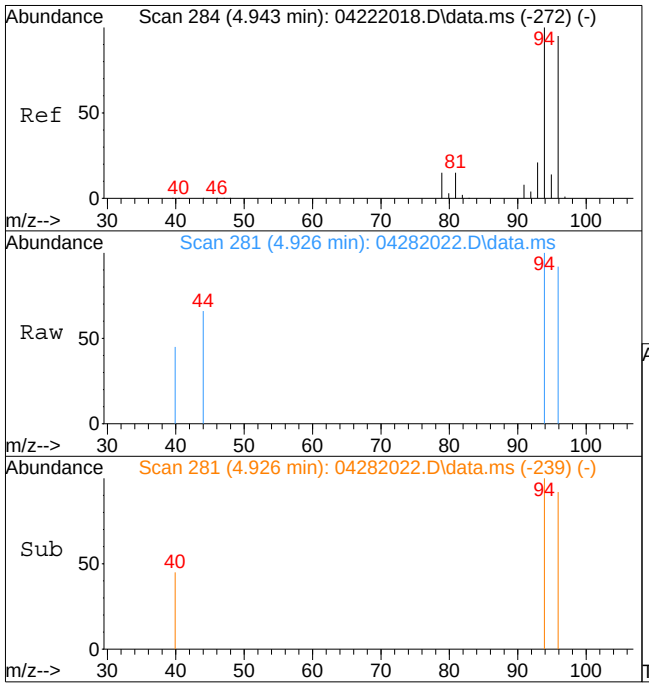


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 0.57 ng
RT: 4.34 min Scan# 174
Delta R.T. -0.000 min
Lab File: 04282022.D
Acq: 29 Apr 2020 00:09

Tgt Ion:135 Resp: 7619

Ion	Ratio	Lower	Upper
135	100		
137	30.6	11.9	51.9

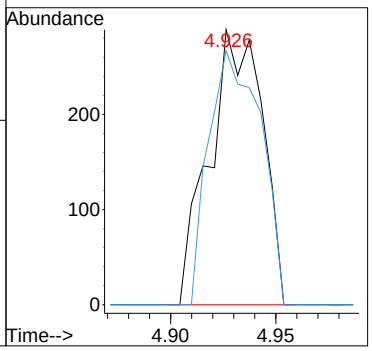


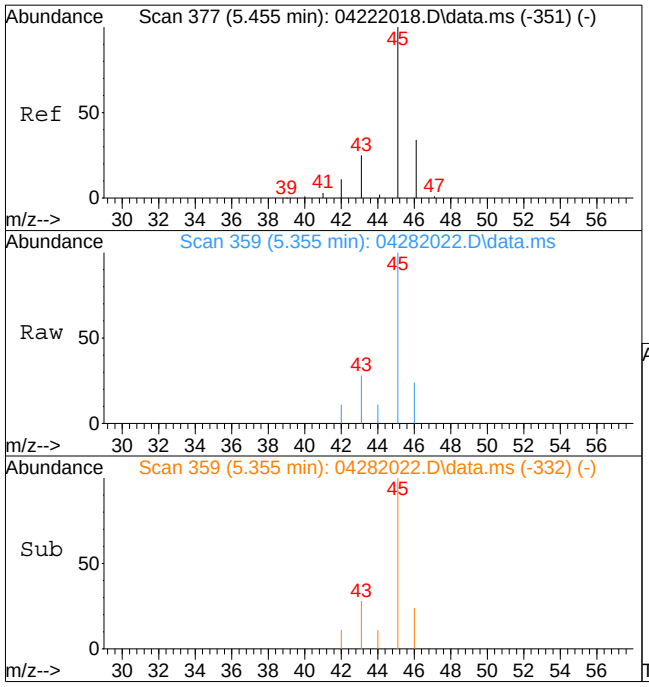


#8
Bromomethane
Concen: 0.05 ng
RT: 4.93 min Scan# 281
Delta R.T. -0.017 min
Lab File: 04282022.D
Acq: 29 Apr 2020 00:09

Tgt Ion: 94 Resp: 509

Ion	Ratio	Lower	Upper
94	100		
96	90.6	76.3	116.3

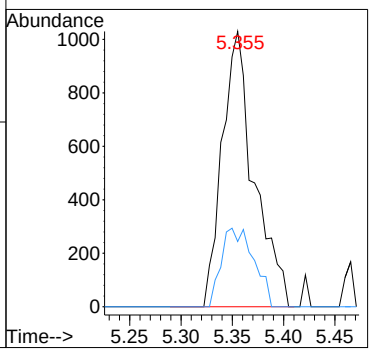


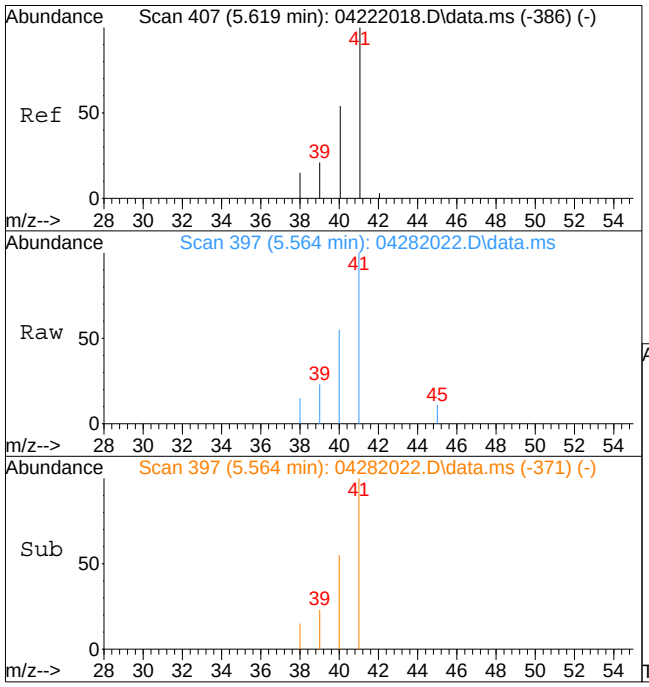


#10
Ethanol
Concen: 0.45 ng m
RT: 5.36 min Scan# 359
Delta R.T. -0.099 min
Lab File: 04282022.D
Acq: 29 Apr 2020 00:09

Tgt Ion: 45 Resp: 2216

Ion	Ratio	Lower	Upper
45	100		
46	29.2	14.0	54.0

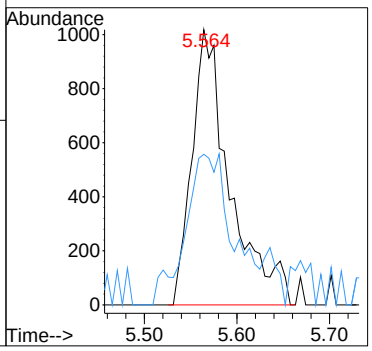


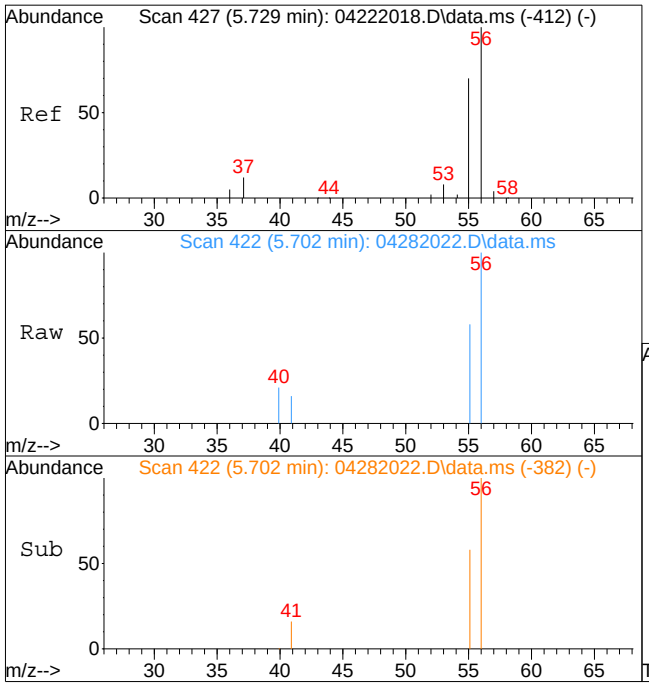


#11
Acetonitrile
Concen: 0.25 ng
RT: 5.56 min Scan# 397
Delta R.T. -0.055 min
Lab File: 04282022.D
Acq: 29 Apr 2020 00:09

Tgt Ion: 41 Resp: 2899

Ion	Ratio	Lower	Upper
41	100		
40	70.4	34.8	74.8

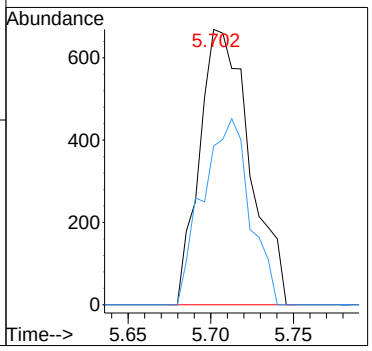


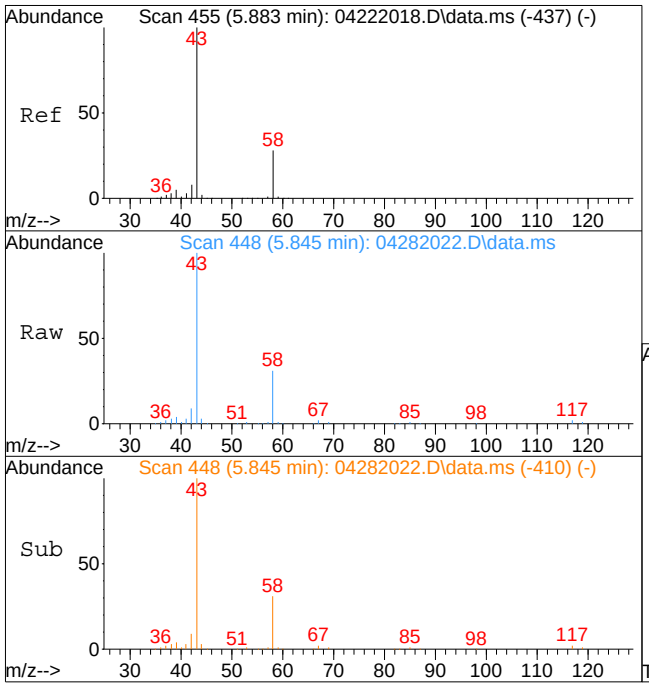


#12
Acrolein
Concen: 0.31 ng
RT: 5.70 min Scan# 422
Delta R.T. -0.028 min
Lab File: 04282022.D
Acq: 29 Apr 2020 00:09

Tgt Ion: 56 Resp: 1413

Ion	Ratio	Lower	Upper
56	100		
55	63.3	50.4	90.4

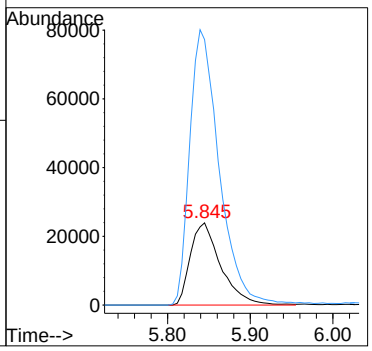


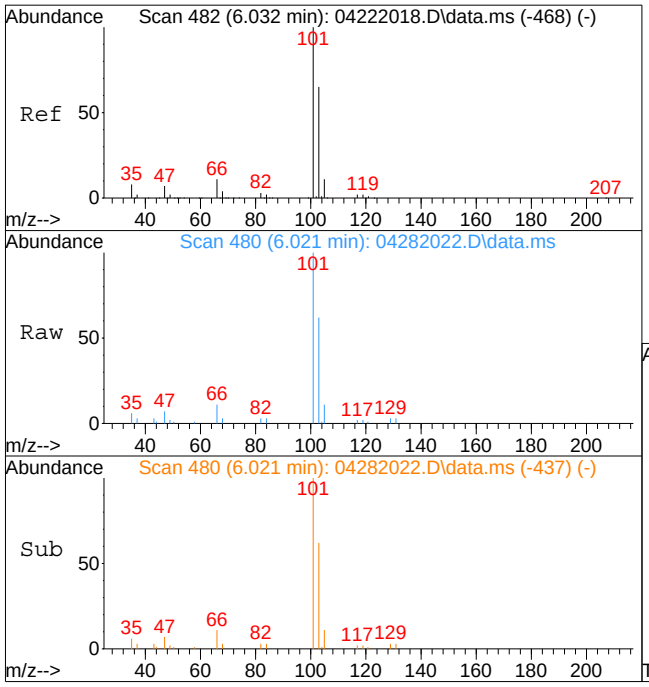


#13
Acetone
Concen: 10.39 ng
RT: 5.84 min Scan# 448
Delta R.T. -0.039 min
Lab File: 04282022.D
Acq: 29 Apr 2020 00:09

Tgt Ion: 58 Resp: 61370

Ion	Ratio	Lower	Upper
58	100		
43	327.3	319.3	379.3

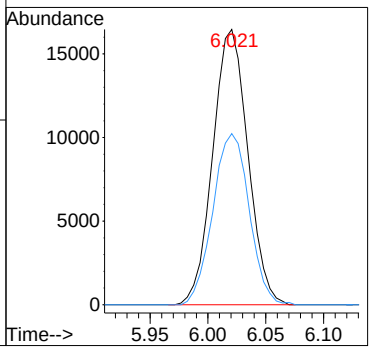


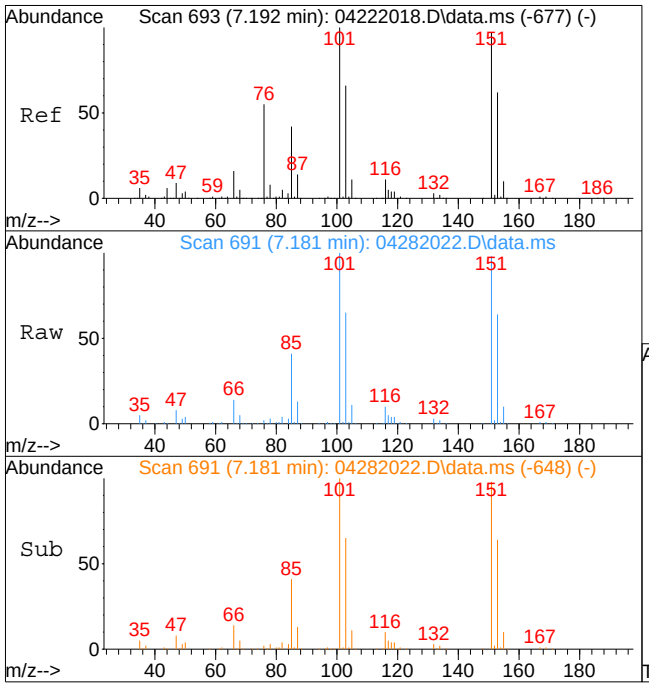


#14
Trichlorofluoromethane
Concen: 1.42 ng
RT: 6.02 min Scan# 480
Delta R.T. -0.011 min
Lab File: 04282022.D
Acq: 29 Apr 2020 00:09

Tgt Ion:101 Resp: 34838

Ion	Ratio	Lower	Upper
101	100		
103	64.3	44.7	84.7

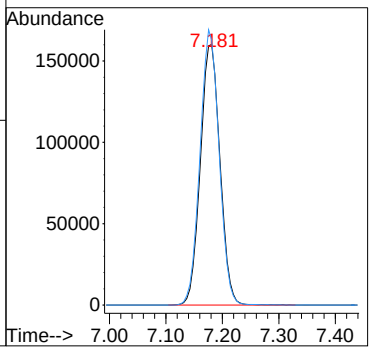


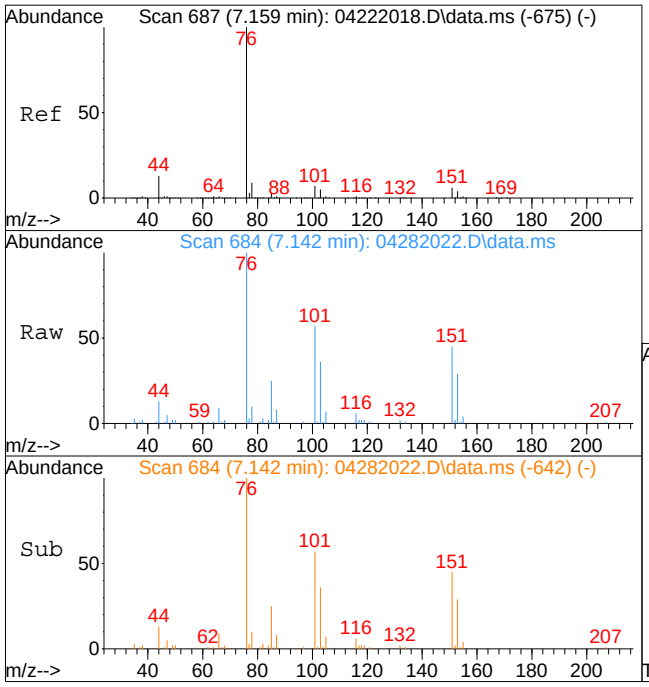


#21
Trichlorotrifluoroethane
Concen: 30.22 ng
RT: 7.18 min Scan# 691
Delta R.T. -0.011 min
Lab File: 04282022.D
Acq: 29 Apr 2020 00:09

Tgt Ion:151 Resp: 386297

Ion	Ratio	Lower	Upper
151	100		
101	103.1	82.9	122.9

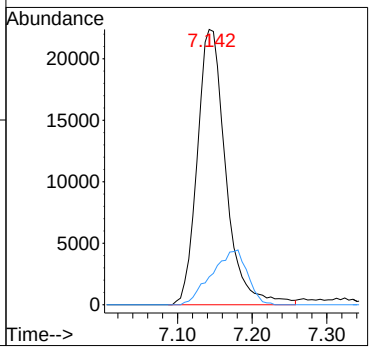


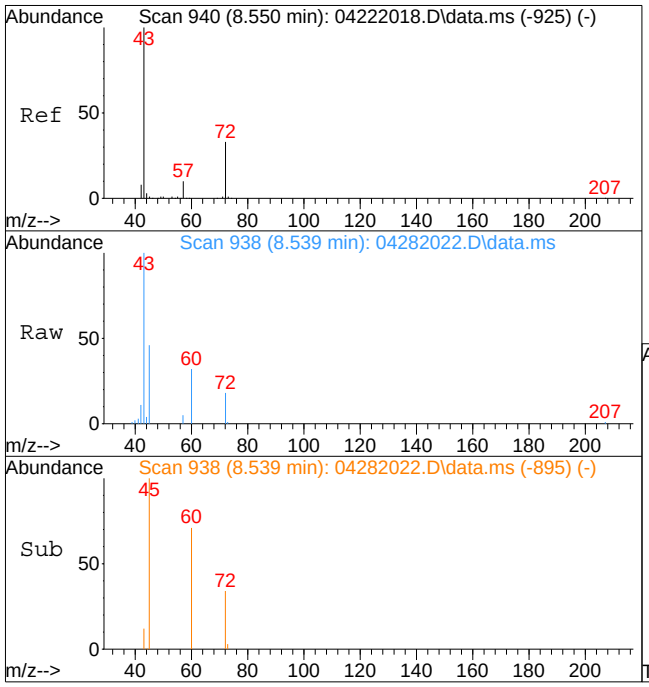


#22
Carbon Disulfide
Concen: 1.72 ng
RT: 7.14 min Scan# 684
Delta R.T. -0.017 min
Lab File: 04282022.D
Acq: 29 Apr 2020 00:09

Tgt Ion: 76 Resp: 59327

Ion	Ratio	Lower	Upper
76	100		
78	24.8	0.0	30.2

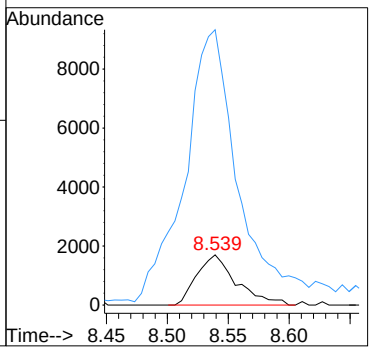


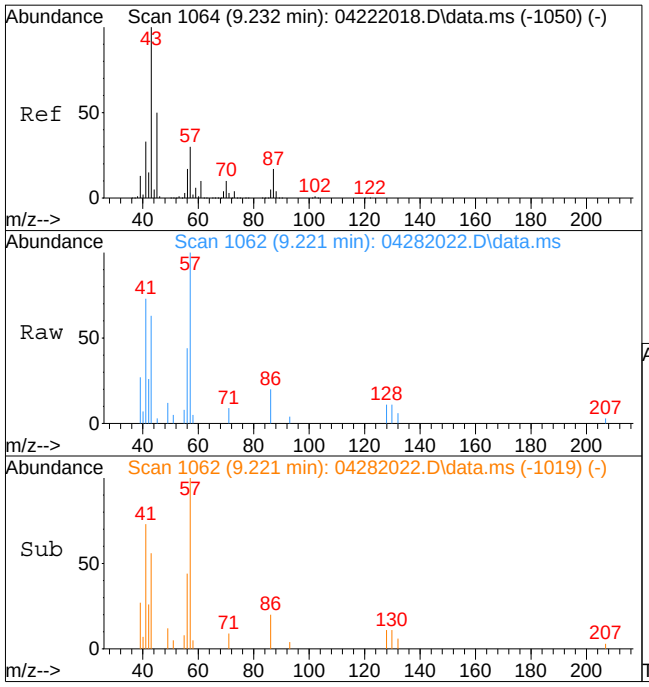


#27
2-Butanone (MEK)
Concen: 0.63 ng
RT: 8.54 min Scan# 938
Delta R.T. -0.011 min
Lab File: 04282022.D
Acq: 29 Apr 2020 00:09

Tgt Ion: 72 Resp: 3852

Ion	Ratio	Lower	Upper
72	100		
43	730.1	278.8	318.8#

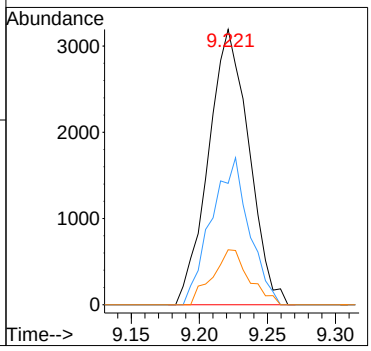


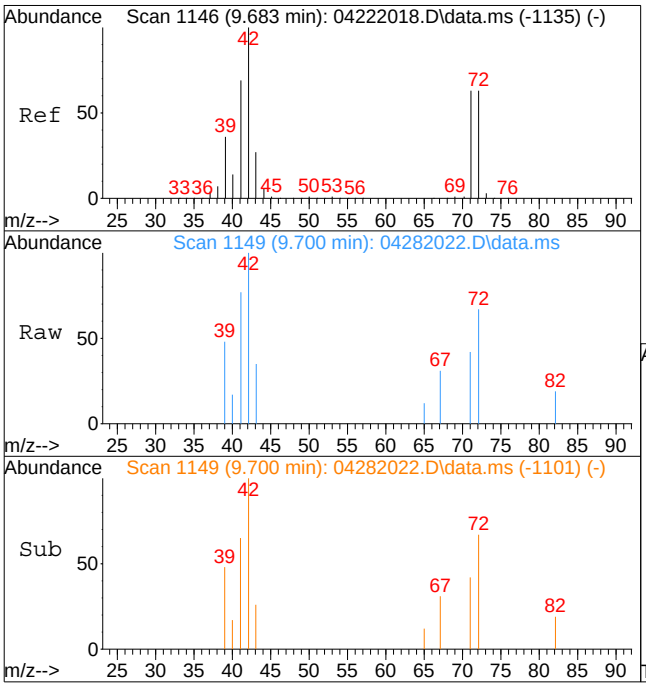


#31
n-Hexane
Concen: 0.51 ng
RT: 9.22 min Scan# 1062
Delta R.T. -0.011 min
Lab File: 04282022.D
Acq: 29 Apr 2020 00:09

Tgt Ion: 57 Resp: 6622

Ion	Ratio	Lower	Upper
57	100		
56	50.0	44.0	66.0
86	18.0	15.0	22.4

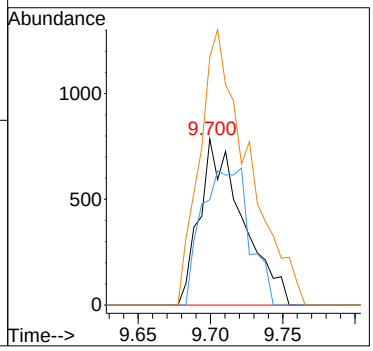


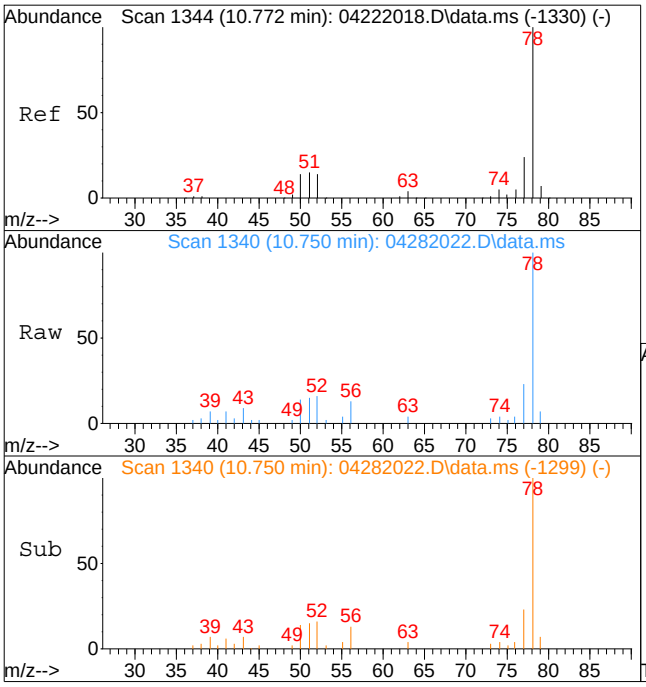


#34
Tetrahydrofuran (THF)
Concen: 0.27 ng
RT: 9.70 min Scan# 1149
Delta R.T. 0.016 min
Lab File: 04282022.D
Acq: 29 Apr 2020 00:09

Tgt Ion: 72 Resp: 1636

Ion	Ratio	Lower	Upper
72	100		
71	90.3	77.9	117.9
42	186.9	133.9	173.9#

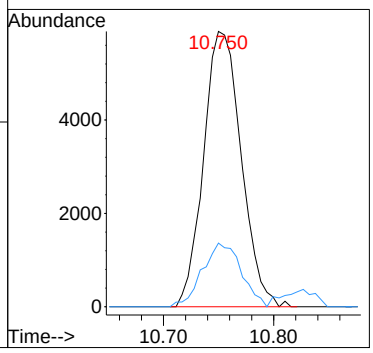


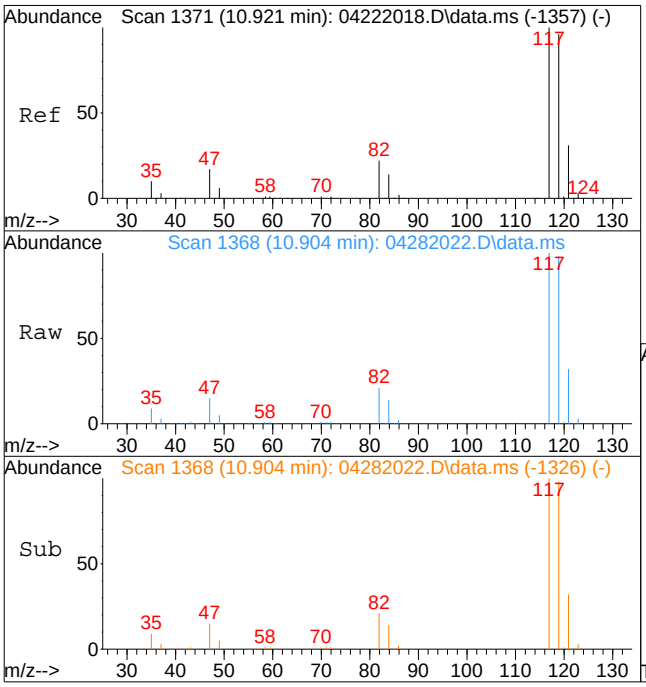


#41
Benzene
Concen: 0.33 ng
RT: 10.75 min Scan# 1340
Delta R.T. -0.022 min
Lab File: 04282022.D
Acq: 29 Apr 2020 00:09

Tgt Ion: 78 Resp: 13999

Ion	Ratio	Lower	Upper
78	100		
77	23.8	3.6	43.6

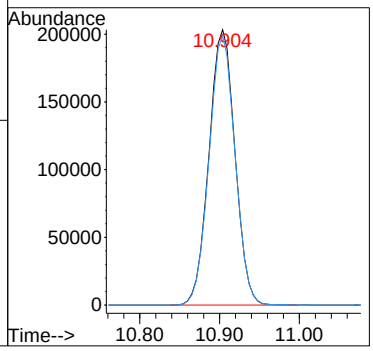


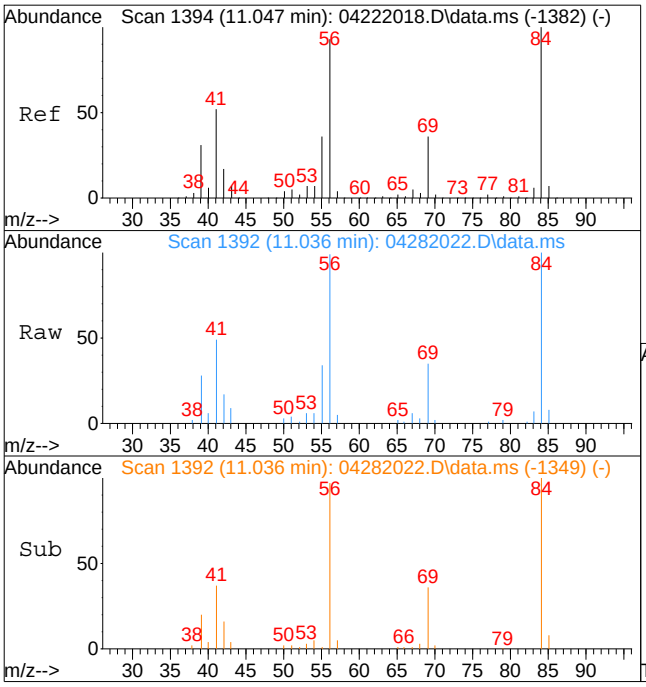


#42
Carbon Tetrachloride
Concen: 20.83 ng
RT: 10.90 min Scan# 1368
Delta R.T. -0.017 min
Lab File: 04282022.D
Acq: 29 Apr 2020 00:09

Tgt Ion:117 Resp: 459668

Ion	Ratio	Lower	Upper
117	100		
119	97.7	76.5	116.5

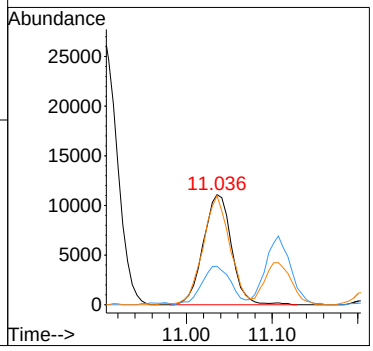


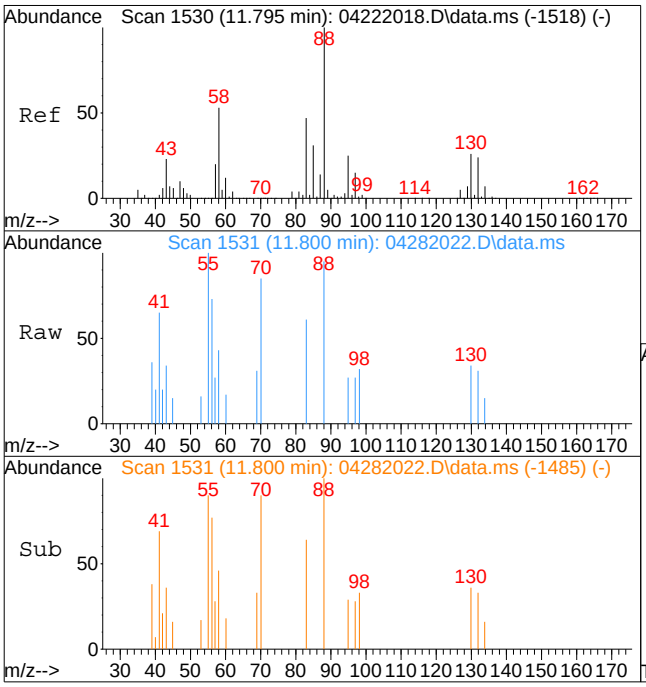


#43
Cyclohexane
Concen: 1.52 ng
RT: 11.04 min Scan# 1392
Delta R.T. -0.011 min
Lab File: 04282022.D
Acq: 29 Apr 2020 00:09

Tgt Ion: 84 Resp: 25381

Ion	Ratio	Lower	Upper
84	100		
69	35.9	15.8	55.8
56	94.7	72.0	112.0

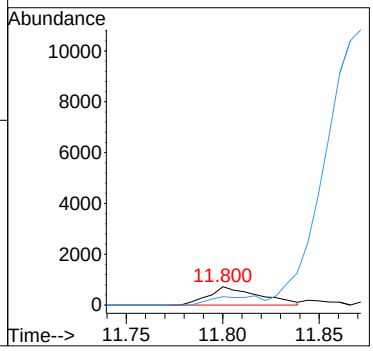


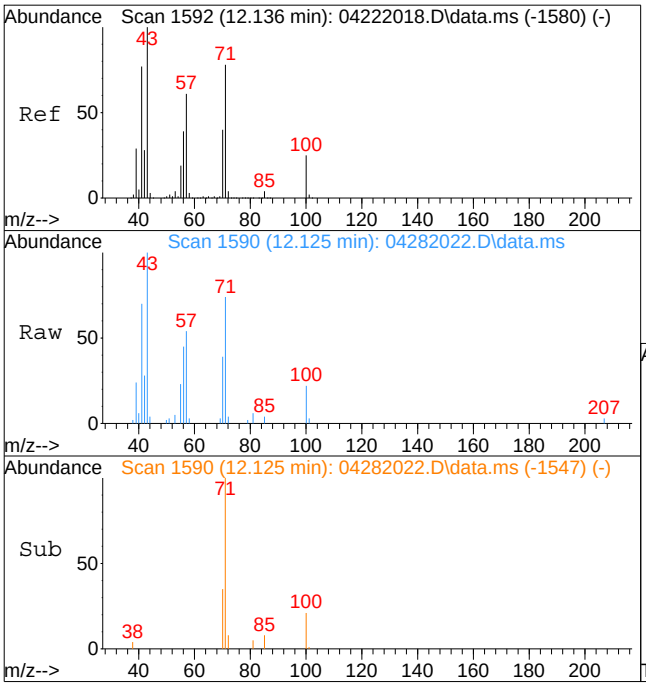


#48
1,4-Dioxane
Concen: 0.15 ng
RT: 11.80 min Scan# 1531
Delta R.T. 0.005 min
Lab File: 04282022.D
Acq: 29 Apr 2020 00:09

Tgt Ion: 88 Resp: 1303

Ion	Ratio	Lower	Upper
88	100		
58	46.0	31.1	71.1

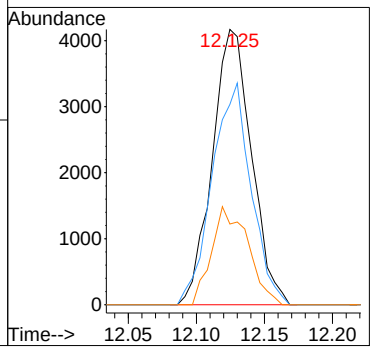


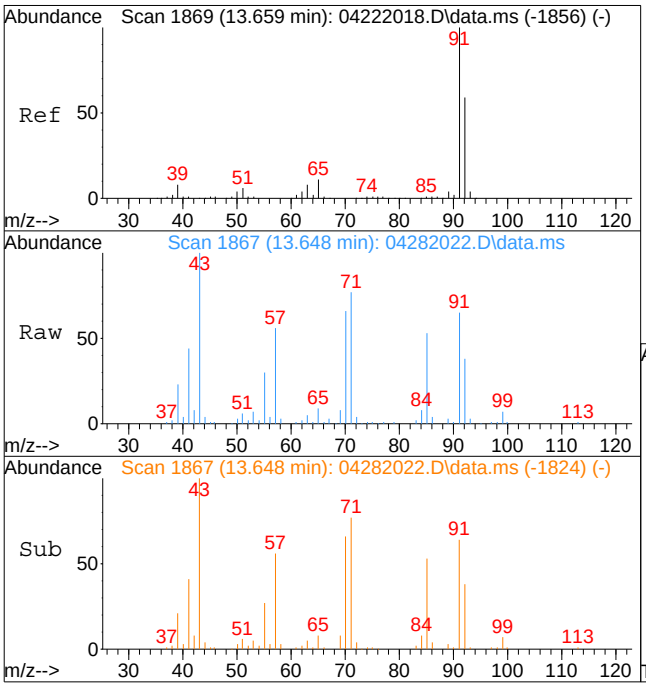


#51
n-Heptane
Concen: 0.84 ng
RT: 12.12 min Scan# 1590
Delta R.T. -0.011 min
Lab File: 04282022.D
Acq: 29 Apr 2020 00:09

Tgt Ion: 71 Resp: 8346

Ion	Ratio	Lower	Upper
71	100		
57	80.2	57.4	97.4
100	33.1	12.0	52.0

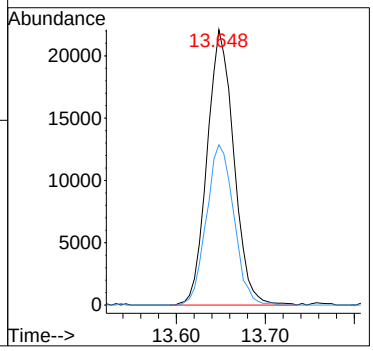


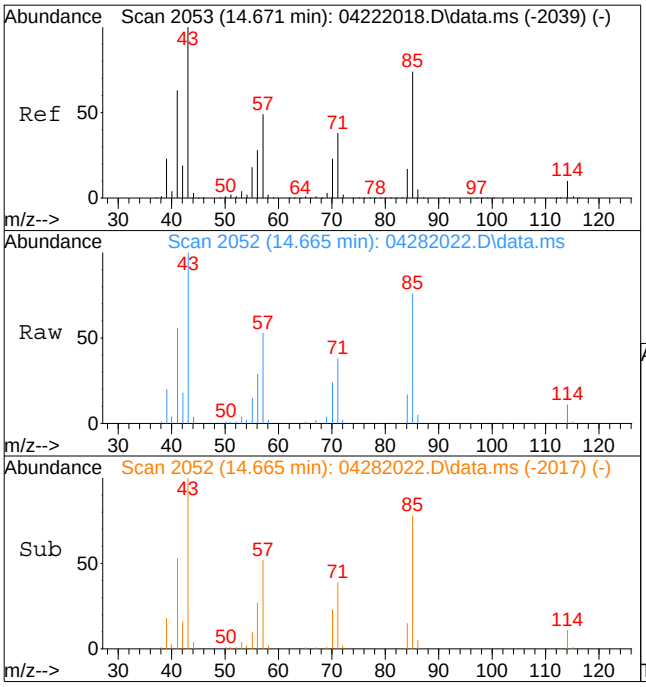


#58
Toluene
Concen: 0.96 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.011 min
Lab File: 04282022.D
Acq: 29 Apr 2020 00:09

Tgt Ion: 91 Resp: 46103

Ion	Ratio	Lower	Upper
91	100		
92	59.6	38.2	78.2

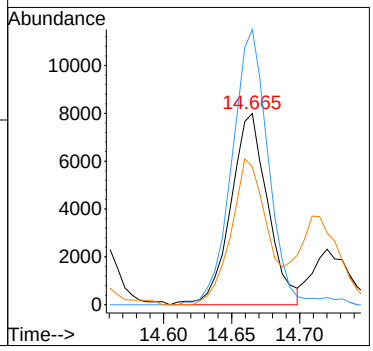


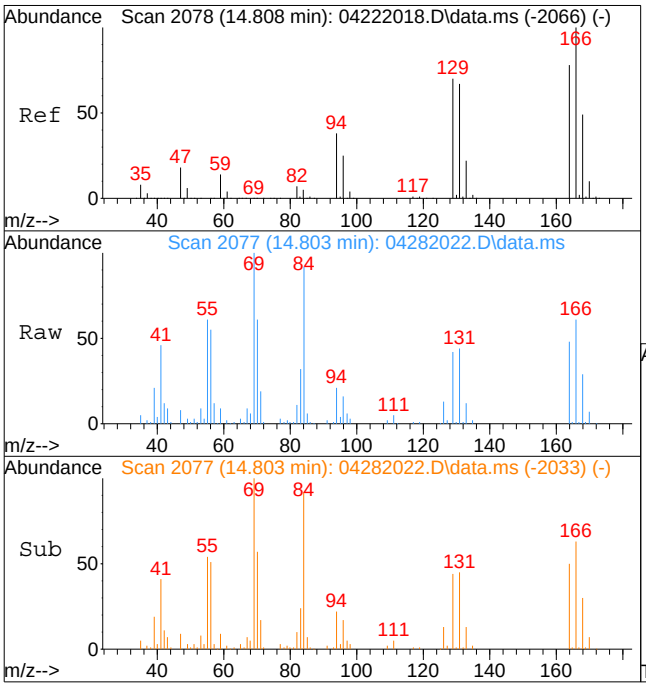


#63
n-Octane
Concen: 1.96 ng
RT: 14.67 min Scan# 2052
Delta R.T. -0.006 min
Lab File: 04282022.D
Acq: 29 Apr 2020 00:09

Tgt Ion: 57 Resp: 15092

Ion	Ratio	Lower	Upper
57	100		
85	142.8	120.7	181.1
71	73.3	61.1	91.7

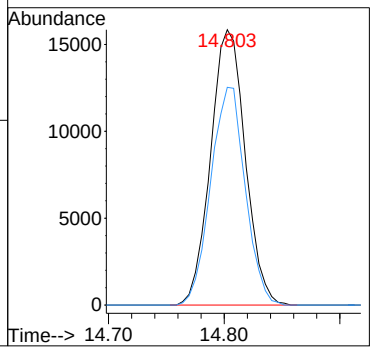


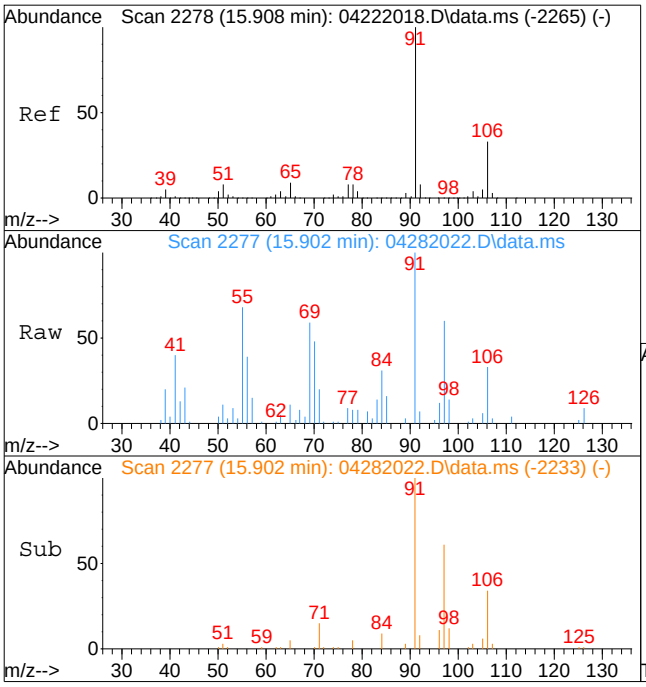


#64
Tetrachloroethene
Concen: 1.82 ng
RT: 14.80 min Scan# 2077
Delta R.T. -0.006 min
Lab File: 04282022.D
Acq: 29 Apr 2020 00:09

Tgt Ion:166 Resp: 33059

Ion	Ratio	Lower	Upper
166	100		
164	78.6	57.7	97.7

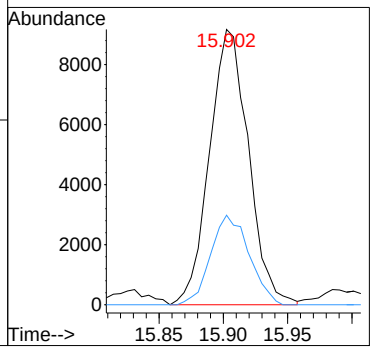


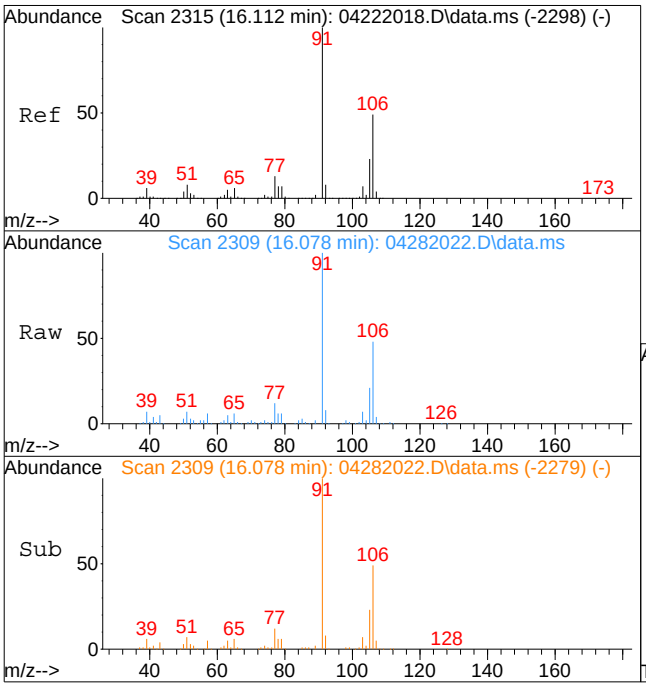


#66
Ethylbenzene
Concen: 0.34 ng
RT: 15.90 min Scan# 2277
Delta R.T. -0.006 min
Lab File: 04282022.D
Acq: 29 Apr 2020 00:09

Tgt Ion: 91 Resp: 19343

Ion	Ratio	Lower	Upper
91	100		
106	32.1	13.4	53.4

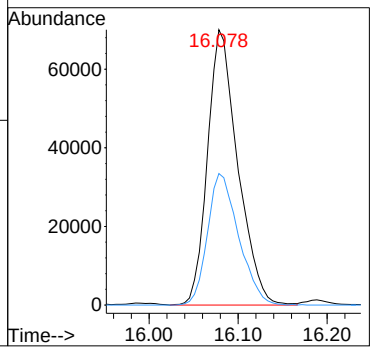


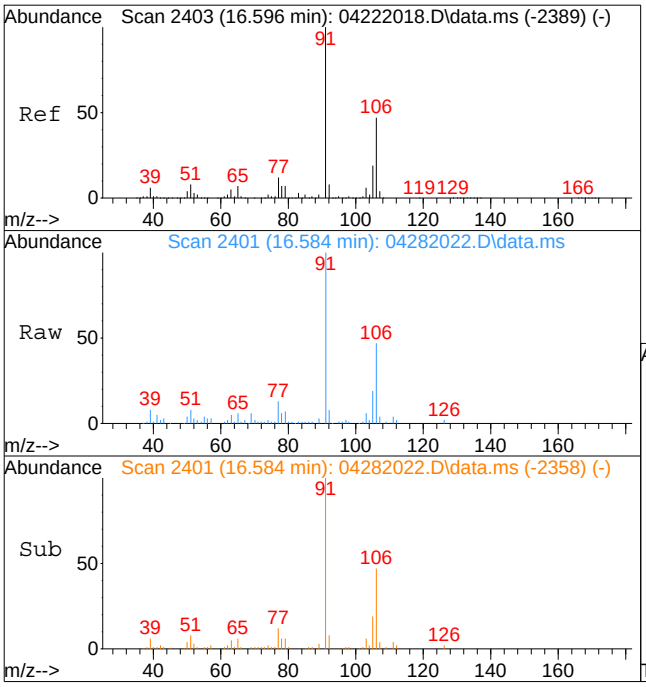


#67
m- & p-Xylenes
Concen: 3.48 ng
RT: 16.08 min Scan# 2309
Delta R.T. -0.033 min
Lab File: 04282022.D
Acq: 29 Apr 2020 00:09

Tgt Ion: 91 Resp: 165314

Ion	Ratio	Lower	Upper
91	100		
106	49.1	28.3	68.3

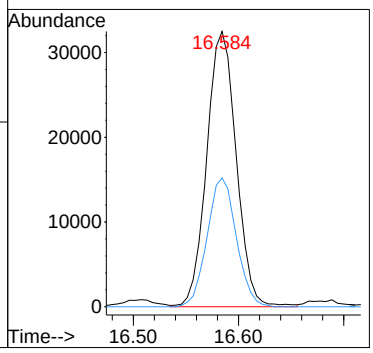


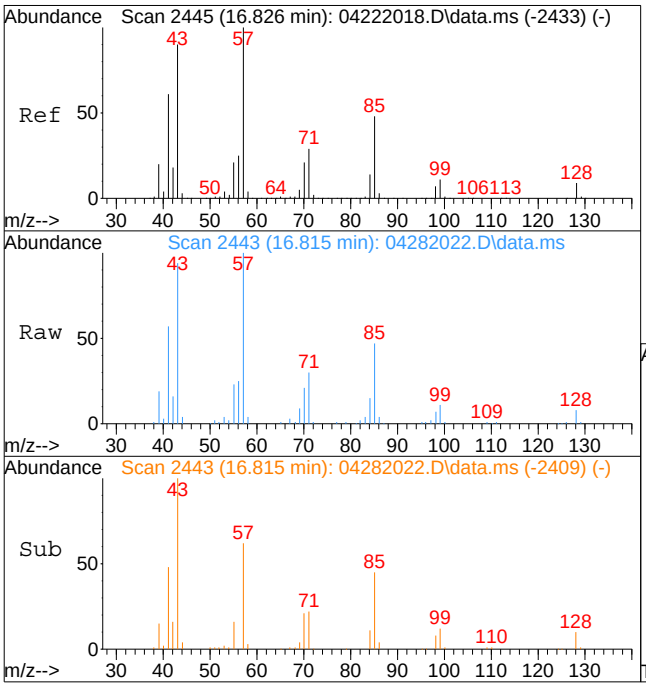


#70
o-Xylene
Concen: 1.36 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 04282022.D
Acq: 29 Apr 2020 00:09

Tgt Ion: 91 Resp: 63320

Ion	Ratio	Lower	Upper
91	100		
106	46.3	27.5	67.5

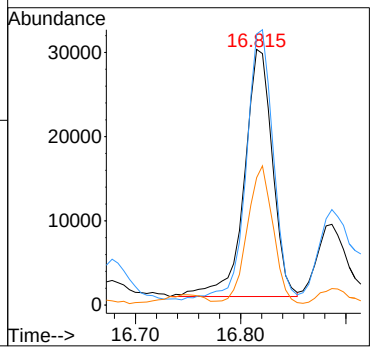


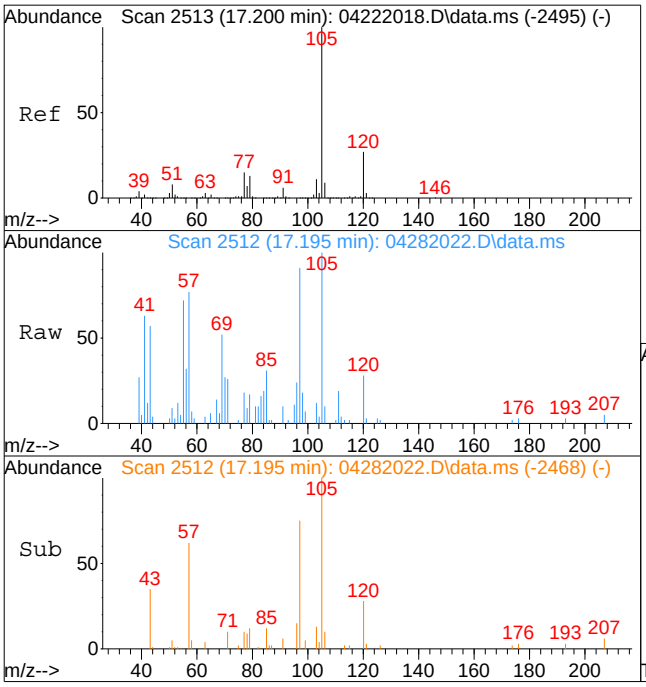


#71
n-Nonane
Concen: 3.64 ng
RT: 16.82 min Scan# 2443
Delta R.T. -0.011 min
Lab File: 04282022.D
Acq: 29 Apr 2020 00:09

Tgt Ion: 43 Resp: 54686

Ion	Ratio	Lower	Upper
43	100		
57	104.5	90.8	130.8
85	50.7	32.1	72.1

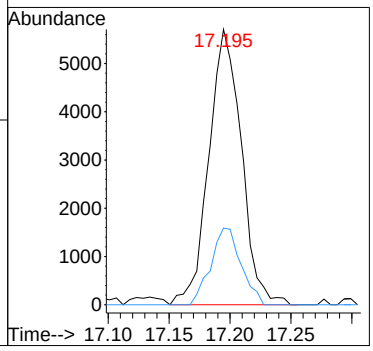


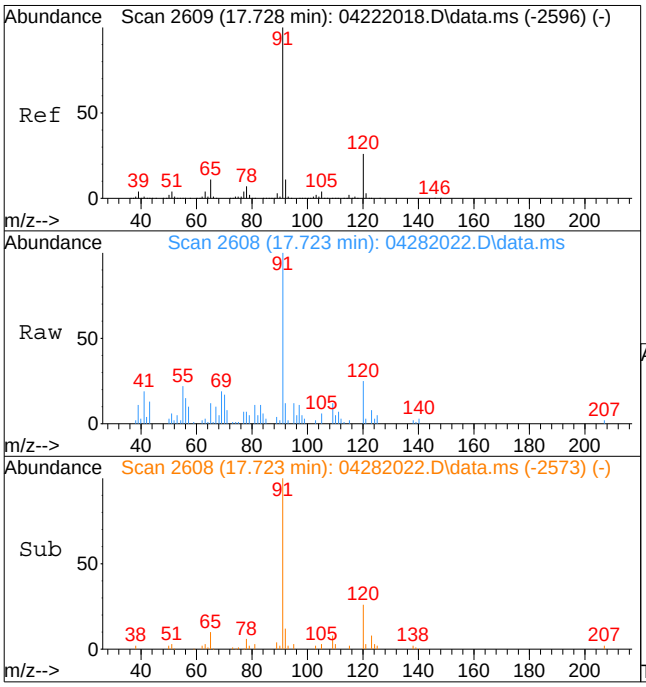


#74
Cumene
Concen: 0.18 ng
RT: 17.19 min Scan# 2512
Delta R.T. -0.006 min
Lab File: 04282022.D
Acq: 29 Apr 2020 00:09

Tgt Ion:105 Resp: 10640

Ion	Ratio	Lower	Upper
105	100		
120	25.8	7.3	47.3

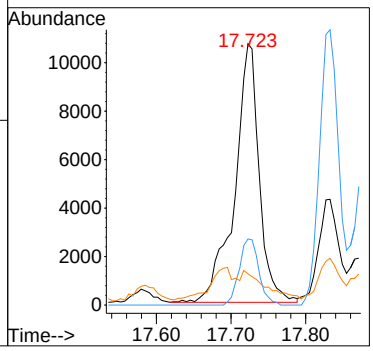


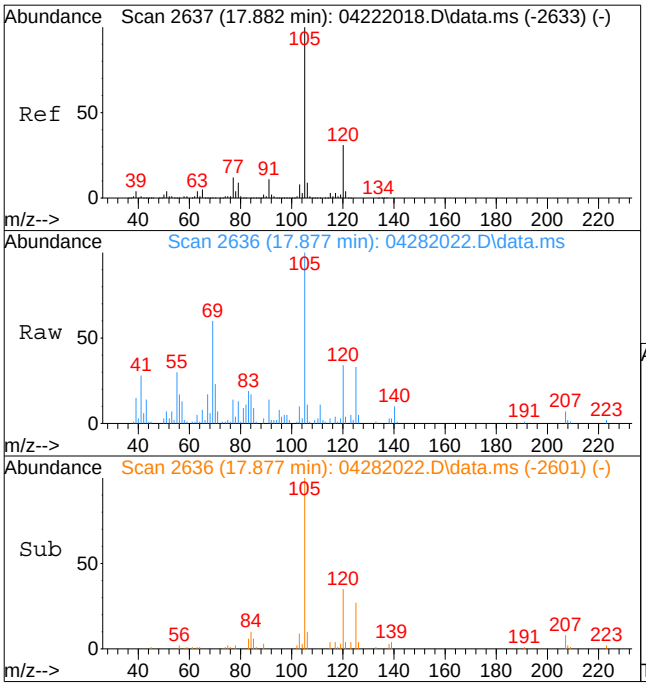


#76
n-Propylbenzene
Concen: 0.37 ng
RT: 17.72 min Scan# 2608
Delta R.T. -0.006 min
Lab File: 04282022.D
Acq: 29 Apr 2020 00:09

Tgt Ion: 91 Resp: 24376

Ion	Ratio	Lower	Upper
91	100		
120	20.4	6.1	46.1
65	10.1	0.0	30.7

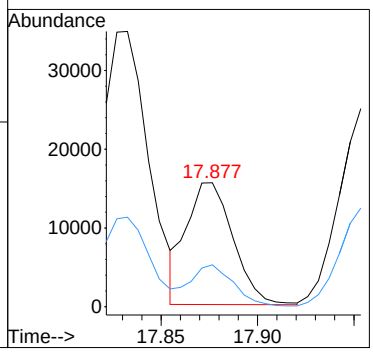


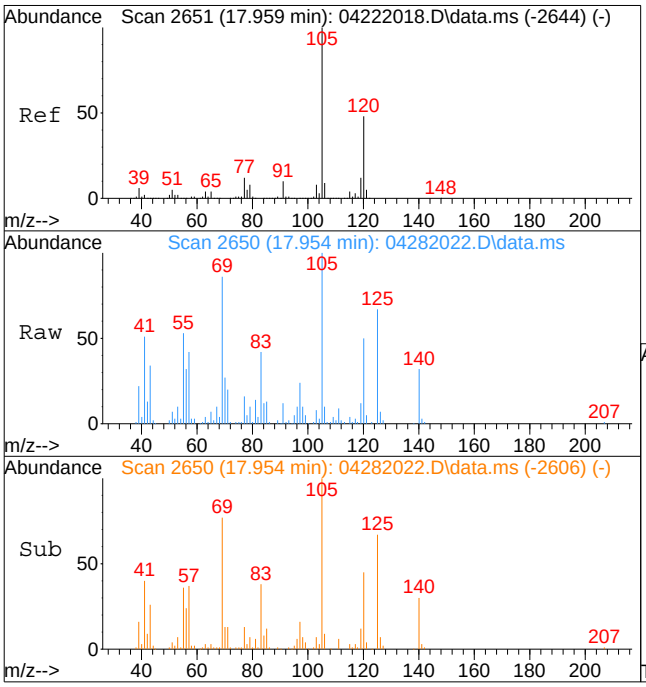


#78
4-Ethyltoluene
Concen: 0.45 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 04282022.D
Acq: 29 Apr 2020 00:09

Tgt Ion:105 Resp: 26029

Ion	Ratio	Lower	Upper
105	100		
120	33.1	11.4	51.4

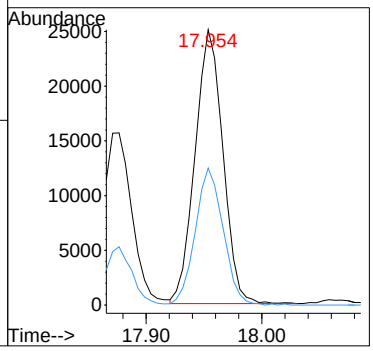


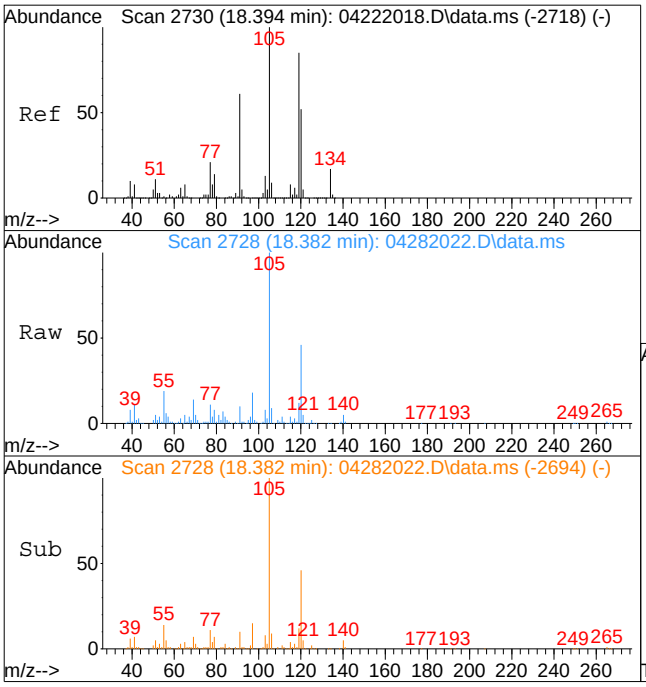


#79
1,3,5-Trimethylbenzene
Concen: 0.79 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 04282022.D
Acq: 29 Apr 2020 00:09

Tgt Ion:105 Resp: 41947

Ion	Ratio	Lower	Upper
105	100		
120	50.1	29.5	69.5

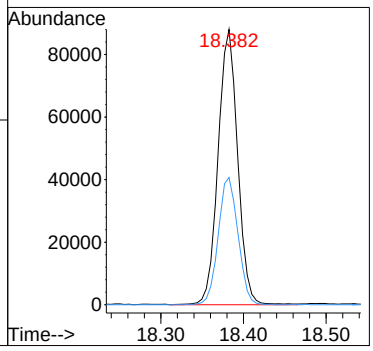


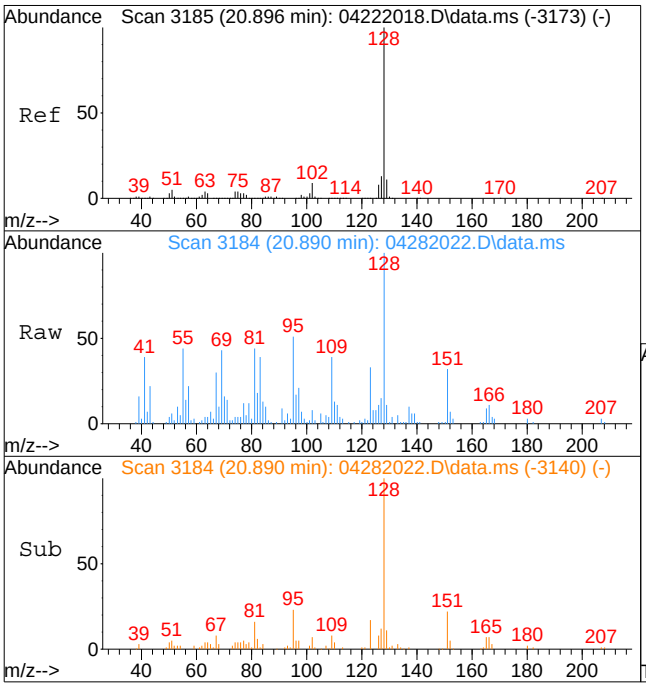


#82
1,2,4-Trimethylbenzene
Concen: 2.80 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 04282022.D
Acq: 29 Apr 2020 00:09

Tgt Ion:105 Resp: 144597

Ion	Ratio	Lower	Upper
105	100		
120	46.8	34.5	74.5

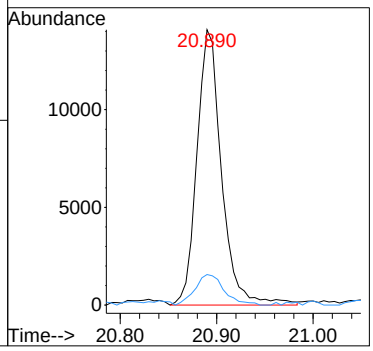




#95
Naphthalene
Concen: 0.38 ng
RT: 20.89 min Scan# 3184
Delta R.T. -0.006 min
Lab File: 04282022.D
Acq: 29 Apr 2020 00:09

Tgt Ion:128 Resp: 24972

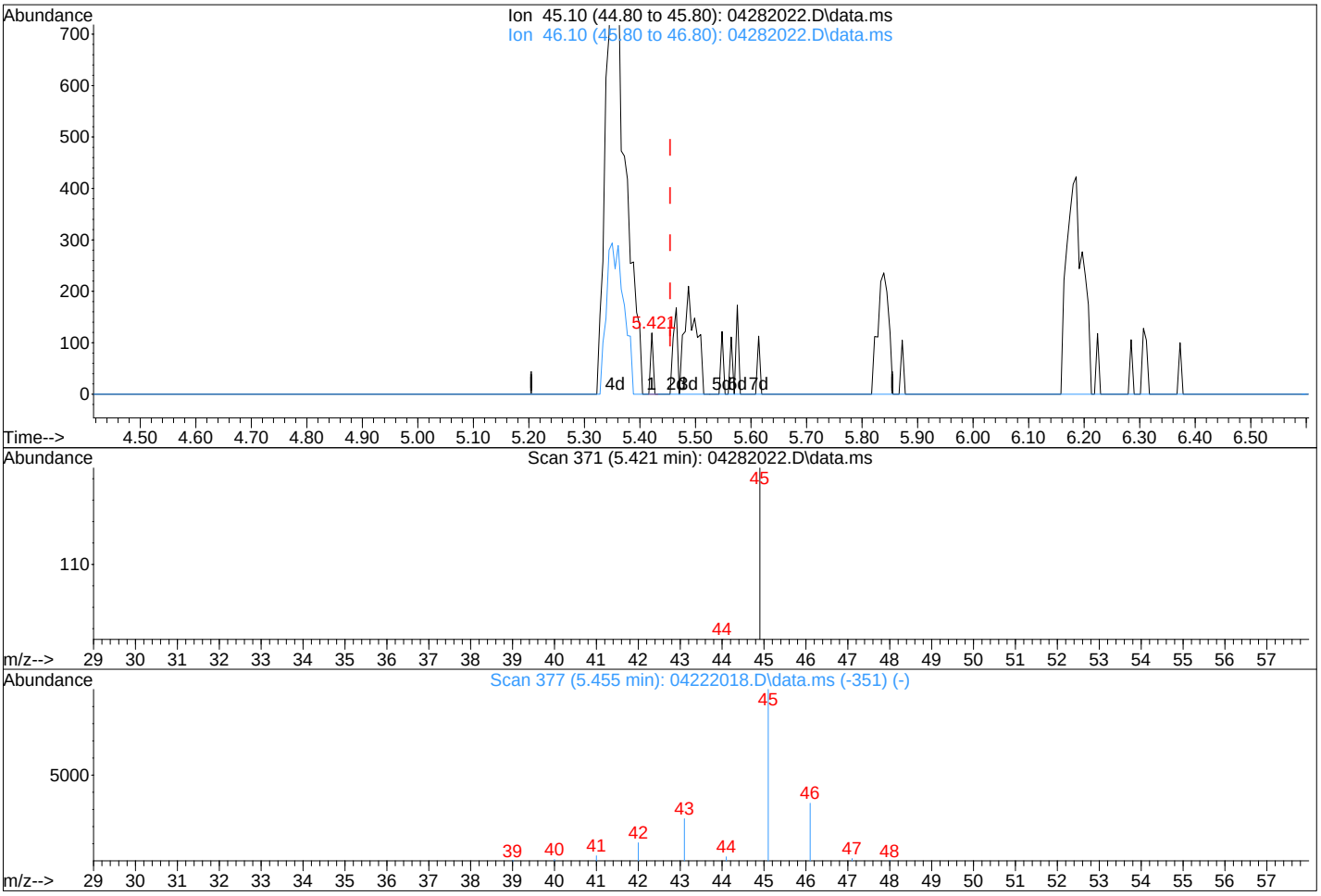
Ion	Ratio	Lower	Upper
128	100		
129	13.1	0.0	30.9



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\28\04282022.D Vial: 9
Acq On : 29 Apr 2020 00:09 Operator: SC
Sample : P2002030-007 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 05:53:33 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04282022.D\data.ms

(10) Ethanol (T)

5.421min (-0.033) 0.01ng

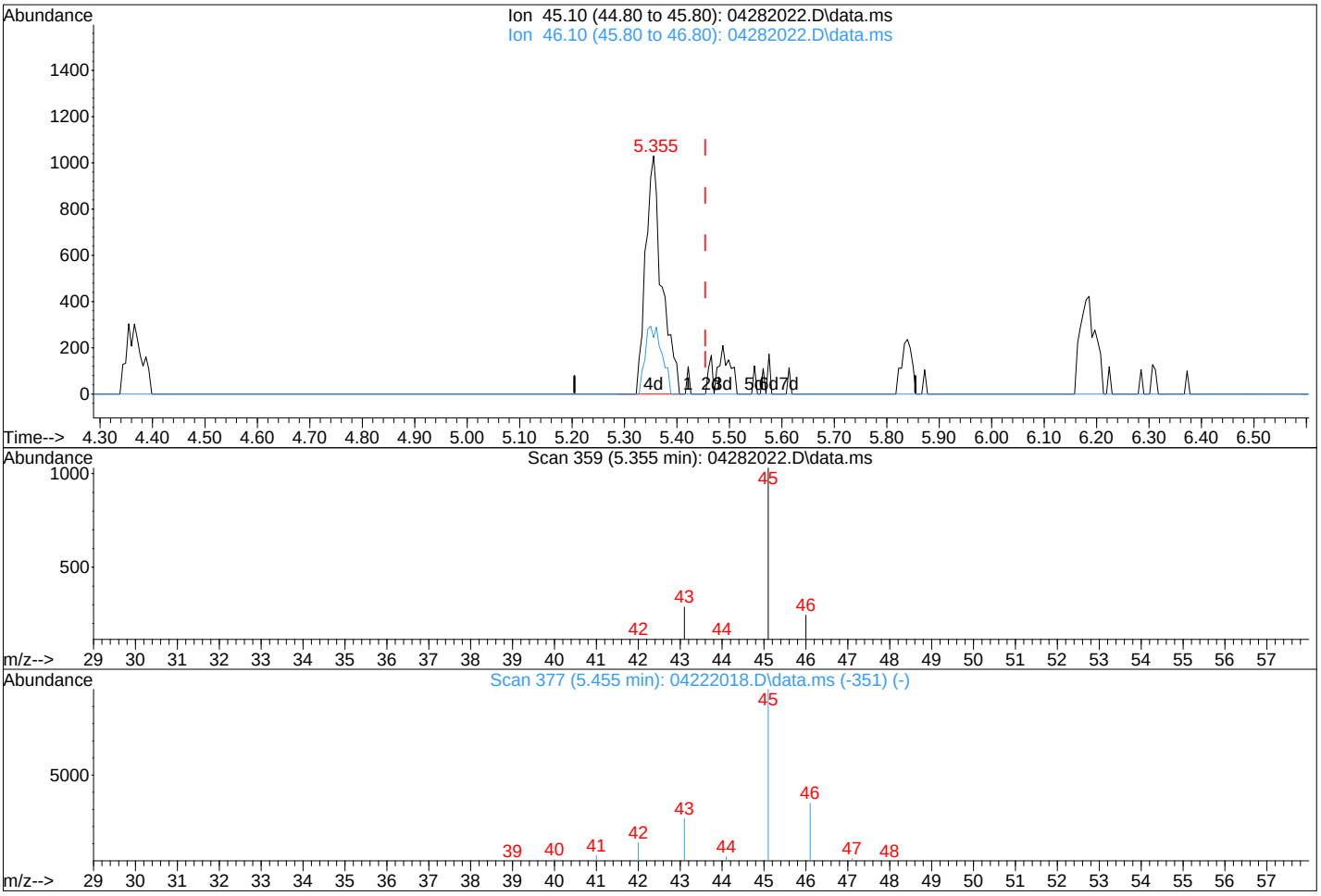
response 39

Ion	Exp%	Act%
45.10	100	100
46.10	34.00	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\28\04282022.D Vial: 9
Acq On : 29 Apr 2020 00:09 Operator: SC
Sample : P2002030-007 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 05:53:33 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04282022.D\data.ms

(10) Ethanol (T)

5.355min (-0.099) 0.45ng m

response 2216

Ion	Exp%	Act%
45.10	100	100
46.10	34.00	29.15
0.00	0.00	0.00
0.00	0.00	0.00

MP

4/29/20

LH 4/29/20

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282012.D Vial: 1
Acq On : 28 Apr 2020 18:30 Operator: SC
Sample : P2002030-008 (1.0mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 28 19:06:18 2020 4/28/20
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	159906	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	670498	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	295539	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	239838	11.576	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.64%			
57) Toluene-d8 (SS2)	13.55	98	730055	12.794	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.32%			
73) Bromofluorobenzene (SS3)	17.05	174	277813	12.114	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.88%			
Target Compounds						Qvalue
2) Propene	3.89	42	1359	0.200	ng	# 68
3) Dichlorodifluoromethan...	3.99	85	1206	N.D.		
4) Chloromethane	4.20	50	105	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.40	45	101	N.D.		
11) Acetonitrile	0.00	41	0	N.D.		
12) Acrolein	0.00	56	0	N.D.	d	
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	6.01	101	422	N.D.		
15) 2-Propanol (Isopropanol)	6.22	45	214	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.	d	
17) 1,1-Dichloroethene	6.72	96	2304	0.204	ng	86
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	6.86	84	6086	0.562	ng	98
20) 3-Chloro-1-propene (Al...	6.93	41	206	N.D.		
21) Trichlorotrifluoroethane	7.18	151	20807	1.557	ng	96
22) Carbon Disulfide	7.16	76	117	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	8.09	63	701	N.D.		
25) Methyl tert-Butyl Ether	8.21	73	462	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	0.00	72	0	N.D.	d	
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	9.23	57	62798	4.582	ng	100
32) Chloroform	9.27	83	284	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	10.05	62	195	N.D.		
38) 1,1,1-Trichloroethane	10.29	97	23050	1.000	ng	98
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	10.76	78	4290	0.098	ng	98
42) Carbon Tetrachloride	10.91	117	1360	0.060	ng	91
43) Cyclohexane	11.04	84	150407	8.784	ng	97
44) tert-Amyl Methyl Ether	11.29	73	594	N.D.		
45) 1,2-Dichloropropane	11.57	63	489	0.055	ng	85
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	11.81	130	1539	0.102	ng	93
48) 1,4-Dioxane	11.80	88	8100	0.922	ng	85
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282012.D Vial: 1
Acq On : 28 Apr 2020 18:30 Operator: SC
Sample : P2002030-008 (1.0mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 28 19:06:18 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

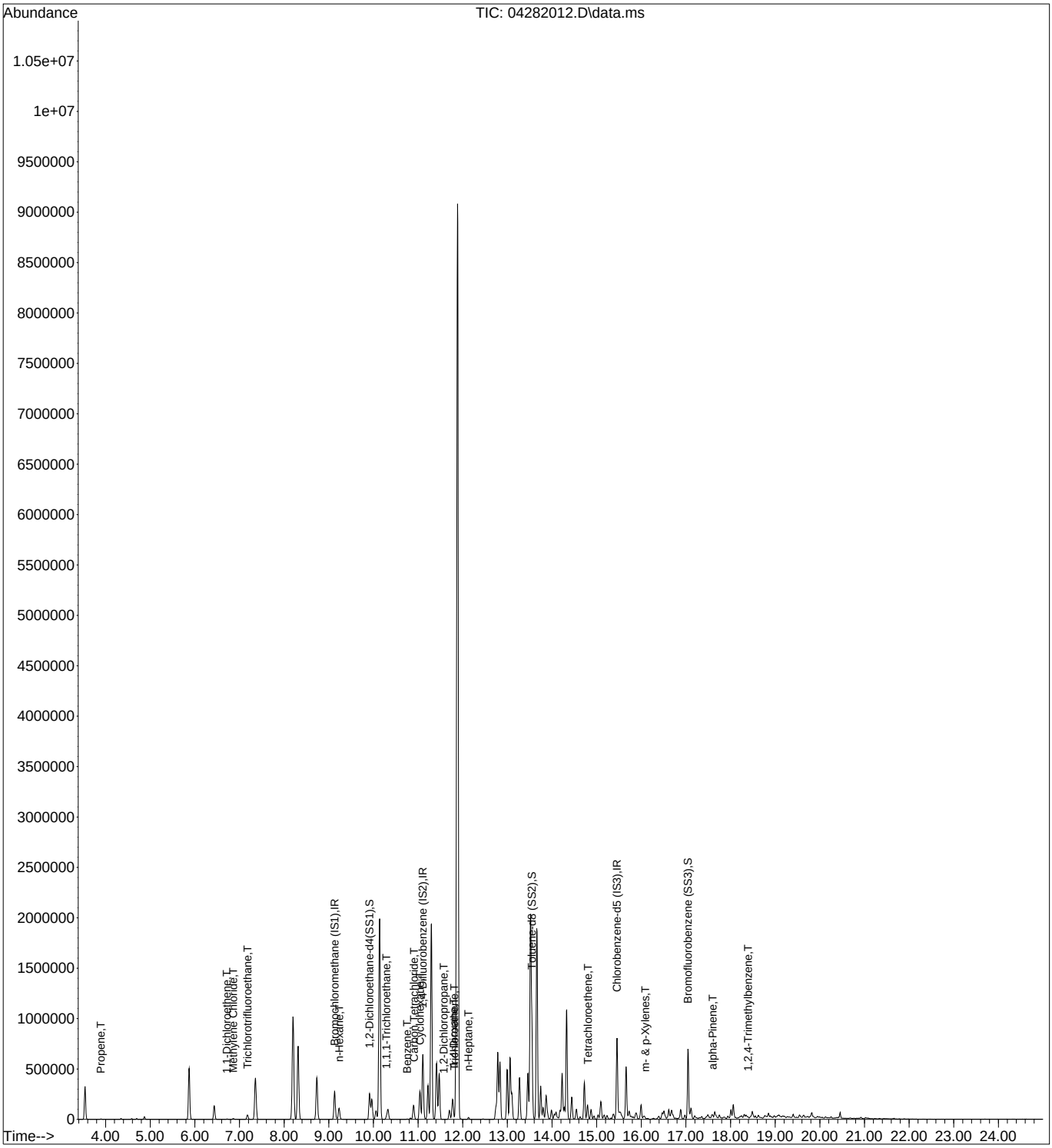
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.13	71	5895	0.580 ng	92
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	12.97	75	332	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	0.00	91	0	N.D. d	
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.63	57	366	N.D.	
64) Tetrachloroethene	14.81	166	7305	0.405 ng	99
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.91	91	1527	N.D.	
67) m- & p-Xylenes	16.09	91	4691	0.100 ng	96
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.60	91	2005	N.D.	
71) n-Nonane	0.00	43	0	N.D. d	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	17.21	105	446	N.D.	
75) alpha-Pinene	17.60	93	8133	0.296 ng	90
76) n-Propylbenzene	17.74	91	1035	N.D.	
77) 3-Ethyltoluene	17.84	105	1542	N.D.	
78) 4-Ethyltoluene	17.89	105	622	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	1577	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	18.16	105	650	N.D.	
82) 1,2,4-Trimethylbenzene	18.39	105	2805	0.055 ng	90
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.48	91	666	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	18.67	105	555	N.D.	
88) 4-Isopropyltoluene (p-...	18.84	119	1244	N.D.	
89) 1,2,3-Trimethylbenzene	18.83	105	1467	N.D.	
90) 1,2-Dichlorobenzene	18.97	146	760	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.93	128	1133	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	18.38	119	531	N.D.	
100) n-Butylbenzene	19.28	91	756	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282012.D Vial: 1
Acq On : 28 Apr 2020 18:30 Operator: SC
Sample : P2002030-008 (1.0mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 28 19:06:18 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282012.D Vial: 1
Acq On : 28 Apr 2020 18:30 Operator: SC
Sample : P2002030-008 (1.0mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 28 19:06:18 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/28/20

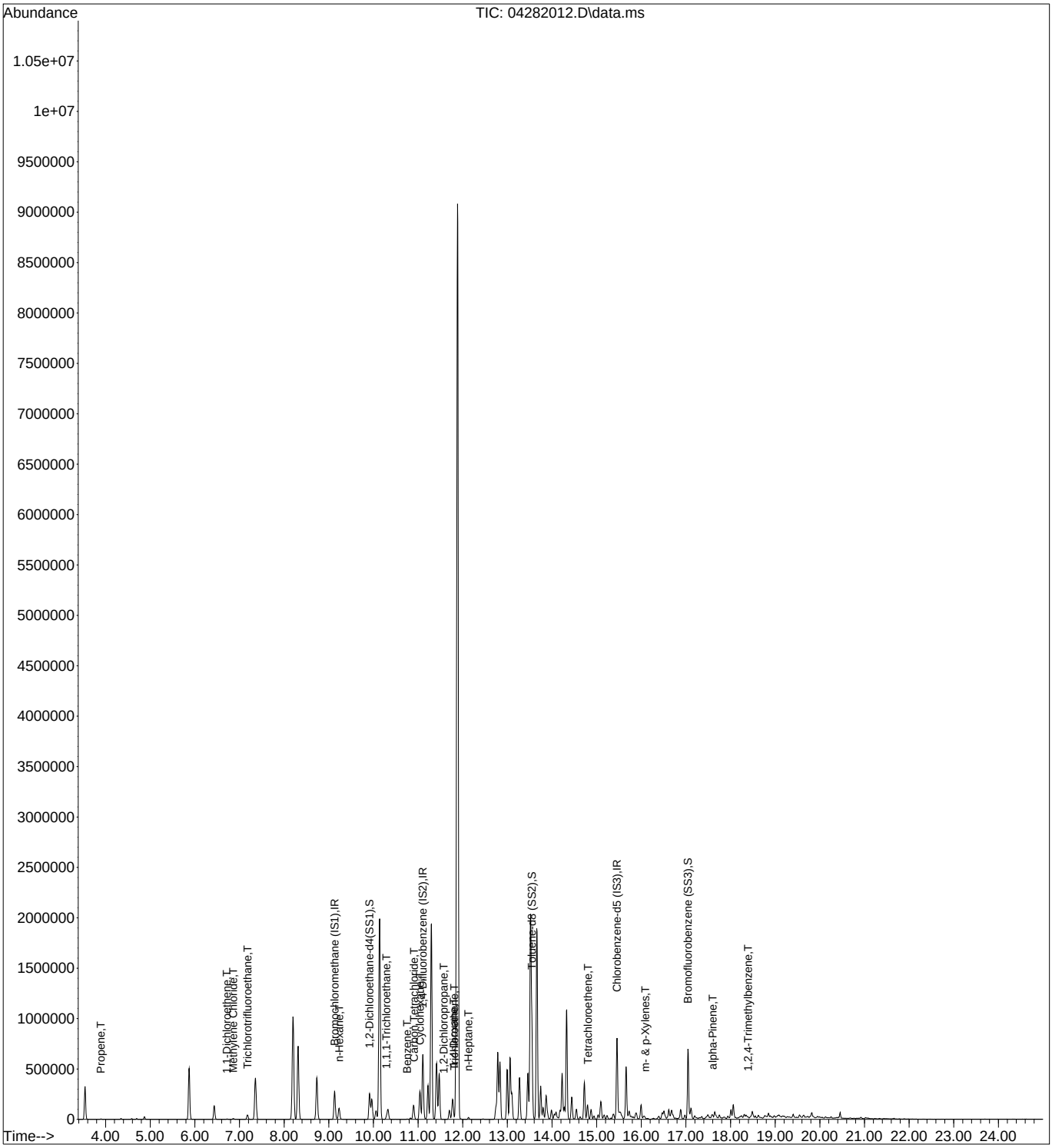
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	159906	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	670498	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	295539	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	239838	11.576	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.64%			
57) Toluene-d8 (SS2)	13.55	98	730055	12.794	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.32%			
73) Bromofluorobenzene (SS3)	17.05	174	277813	12.114	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.88%			
Target Compounds						Qvalue
2) Propene	3.89	42	1359	0.200	ng	# 68
17) 1,1-Dichloroethene	6.72	96	2304	0.204	ng	86
19) Methylene Chloride	6.86	84	6086	0.562	ng	98
21) Trichlorotrifluoroethane	7.18	151	20807	1.557	ng	96
31) n-Hexane	9.23	57	62798	4.582	ng	100
38) 1,1,1-Trichloroethane	10.29	97	23050	1.000	ng	98
41) Benzene	10.76	78	4290	0.098	ng	98
42) Carbon Tetrachloride	10.91	117	1360	0.060	ng	91
43) Cyclohexane	11.04	84	150407	8.784	ng	97
45) 1,2-Dichloropropane	11.57	63	489	0.055	ng	85
47) Trichloroethene	11.81	130	1539	0.102	ng	93
48) 1,4-Dioxane	11.80	88	8100	0.922	ng	85
51) n-Heptane	12.13	71	5895	0.580	ng	92
64) Tetrachloroethene	14.81	166	7305	0.405	ng	99
67) m- & p-Xylenes	16.09	91	4691	0.100	ng	96
75) alpha-Pinene	17.60	93	8133	0.296	ng	90
82) 1,2,4-Trimethylbenzene	18.39	105	2805	0.055	ng	90

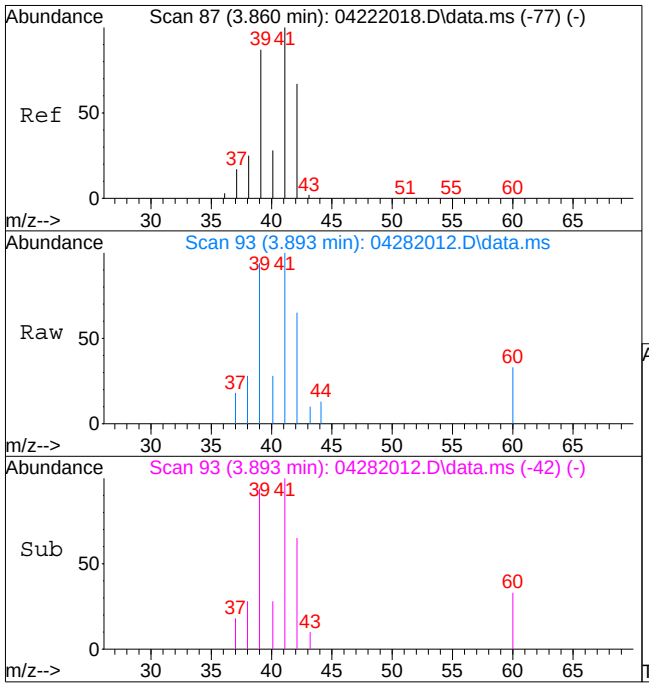
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282012.D Vial: 1
Acq On : 28 Apr 2020 18:30 Operator: SC
Sample : P2002030-008 (1.0mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 28 19:06:18 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

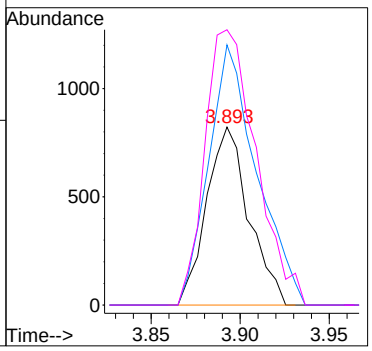


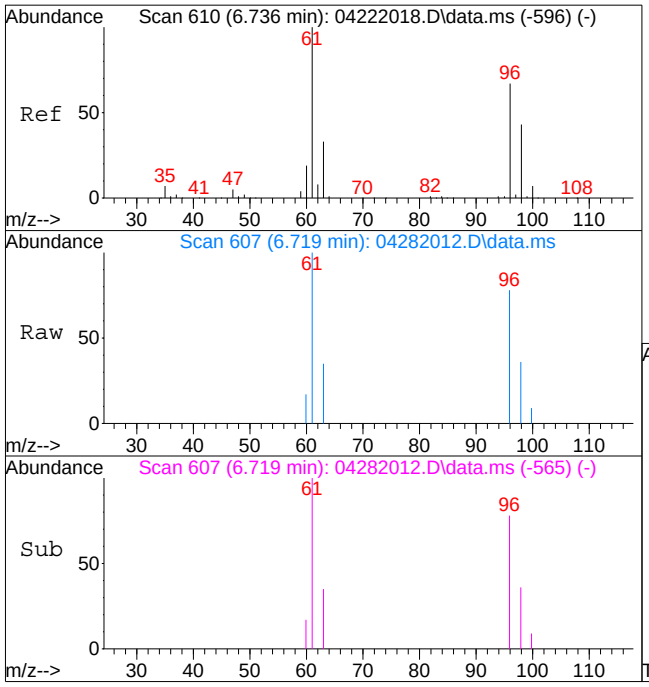


#2
Propene
Concen: 0.20 ng
RT: 3.89 min Scan# 93
Delta R.T. 0.033 min
Lab File: 04282012.D
Acq: 28 Apr 2020 18:30

Tgt Ion: 42 Resp: 1359

Ion	Ratio	Lower	Upper
42	100		
39	166.4	106.4	146.4#
41	187.0	128.8	168.8#

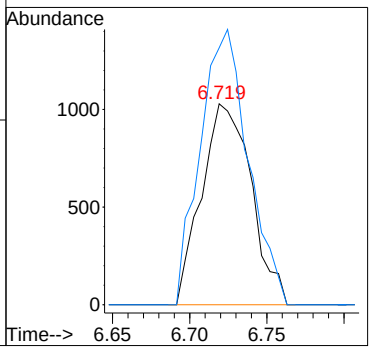


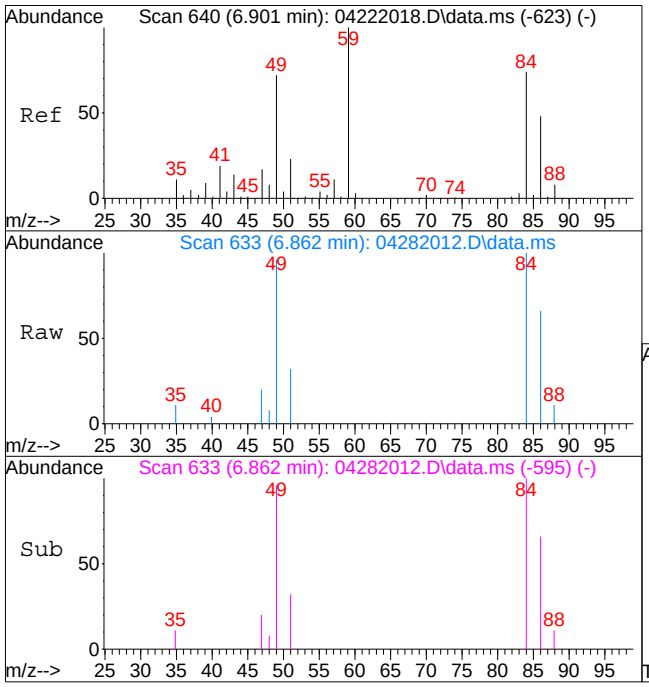


#17
1,1-Dichloroethene
Concen: 0.20 ng
RT: 6.72 min Scan# 607
Delta R.T. -0.017 min
Lab File: 04282012.D
Acq: 28 Apr 2020 18:30

Tgt Ion: 96 Resp: 2304

Ion	Ratio	Lower	Upper
96	100		
61	132.4	129.8	169.8

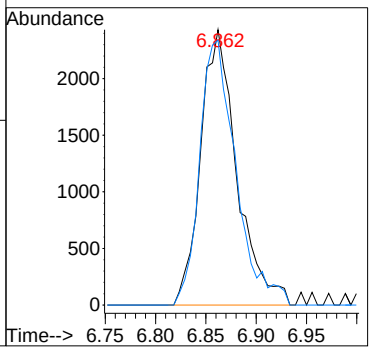


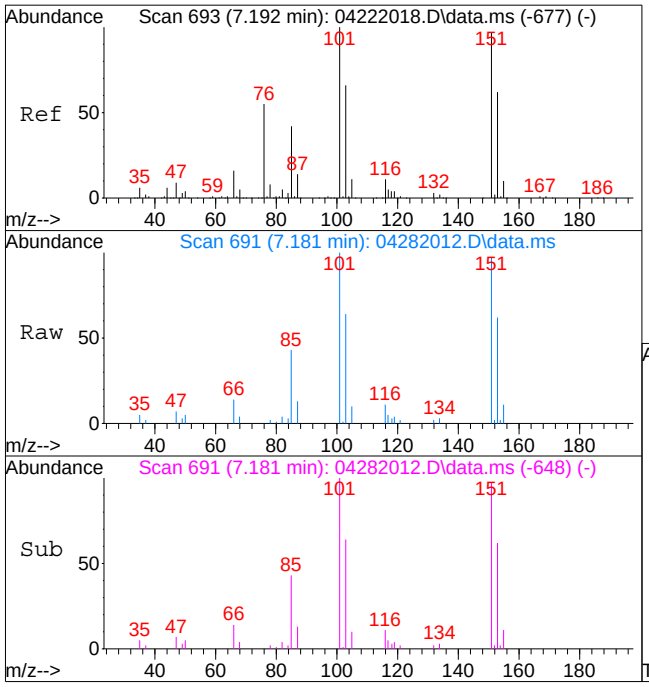


#19
Methylene Chloride
Concen: 0.56 ng
RT: 6.86 min Scan# 633
Delta R.T. -0.039 min
Lab File: 04282012.D
Acq: 28 Apr 2020 18:30

Tgt Ion: 84 Resp: 6086

Ion	Ratio	Lower	Upper
84	100		
49	96.2	73.0	123.0

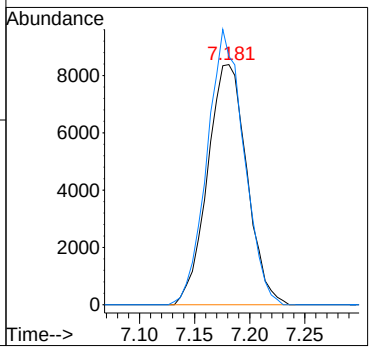


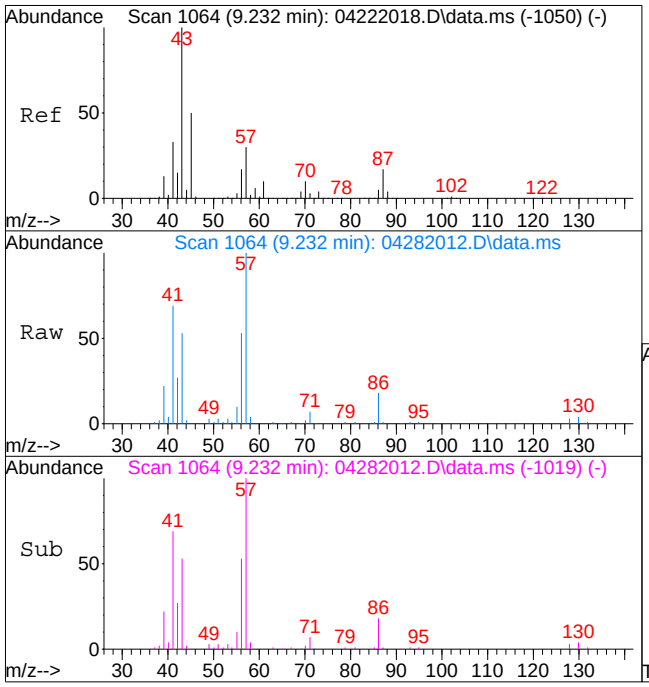


#21
Trichlorotrifluoroethane
Concen: 1.56 ng
RT: 7.18 min Scan# 691
Delta R.T. -0.011 min
Lab File: 04282012.D
Acq: 28 Apr 2020 18:30

Tgt Ion:151 Resp: 20807

Ion	Ratio	Lower	Upper
151	100		
101	107.1	82.9	122.9

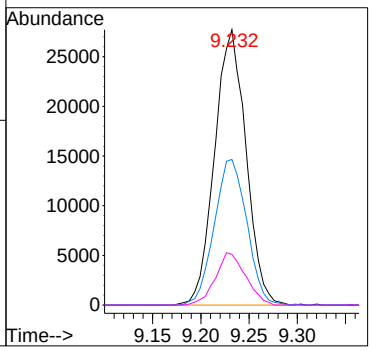


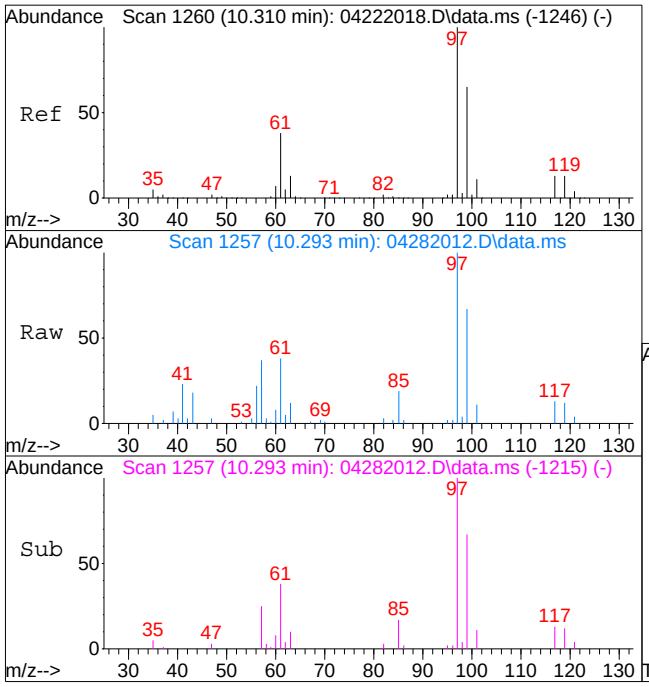


#31
n-Hexane
Concen: 4.58 ng
RT: 9.23 min Scan# 1064
Delta R.T. -0.000 min
Lab File: 04282012.D
Acq: 28 Apr 2020 18:30

Tgt Ion: 57 Resp: 62798

Ion	Ratio	Lower	Upper
57	100		
56	54.8	44.0	66.0
86	18.3	15.0	22.4

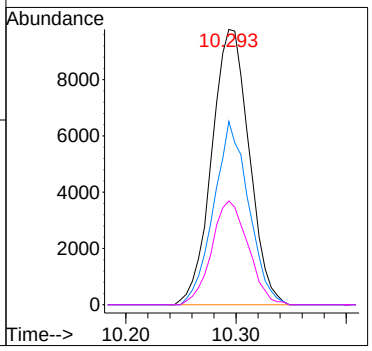


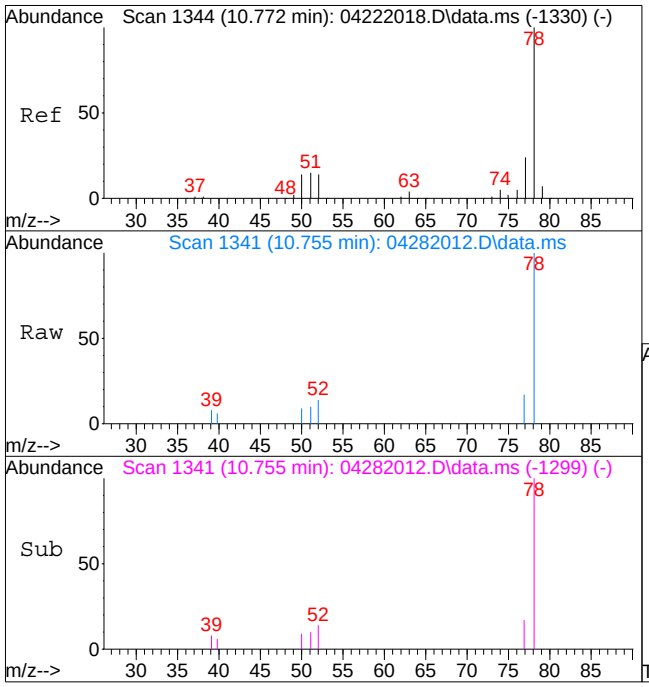


#38
1,1,1-Trichloroethane
Concen: 1.00 ng
RT: 10.29 min Scan# 1257
Delta R.T. -0.017 min
Lab File: 04282012.D
Acq: 28 Apr 2020 18:30

Tgt Ion: 97 Resp: 23050

Ion	Ratio	Lower	Upper
97	100		
99	62.3	44.7	84.7
61	36.8	17.2	57.2

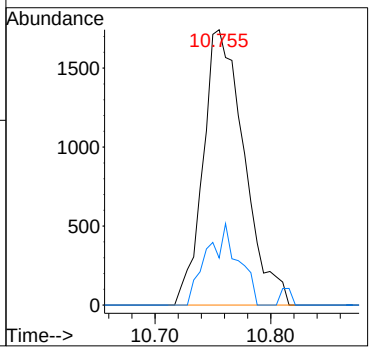


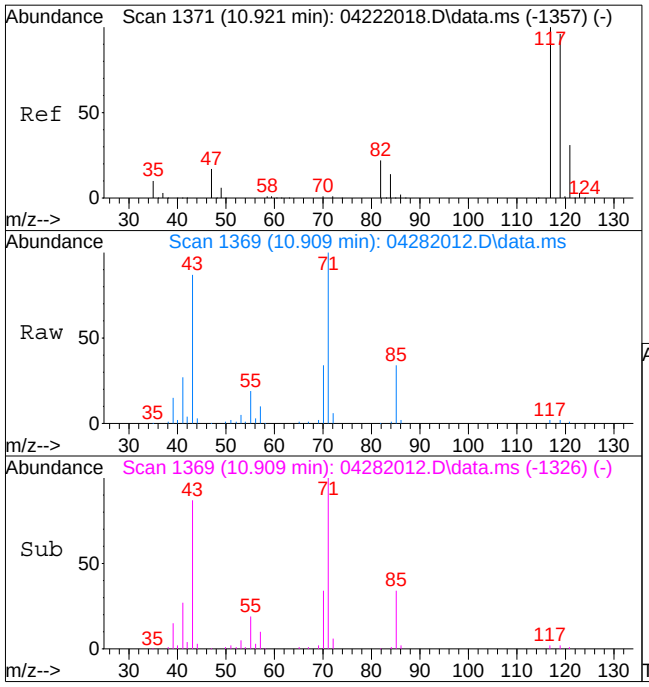


#41
Benzene
Concen: 0.10 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.017 min
Lab File: 04282012.D
Acq: 28 Apr 2020 18:30

Tgt Ion: 78 Resp: 4290

Ion	Ratio	Lower	Upper
78	100		
77	22.8	3.6	43.6

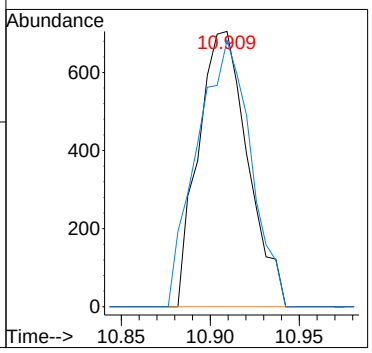


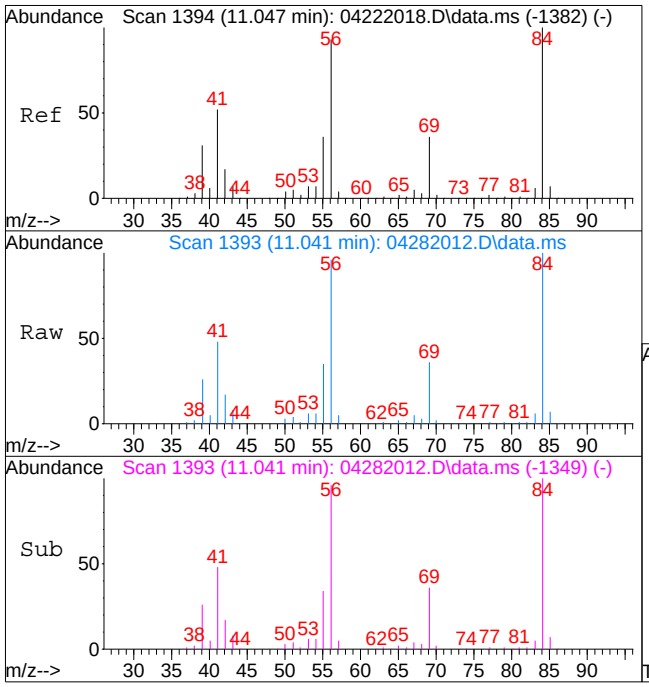


#42
Carbon Tetrachloride
Concen: 0.06 ng
RT: 10.91 min Scan# 1369
Delta R.T. -0.011 min
Lab File: 04282012.D
Acq: 28 Apr 2020 18:30

Tgt Ion:117 Resp: 1360

Ion	Ratio	Lower	Upper
117	100		
119	105.5	76.5	116.5

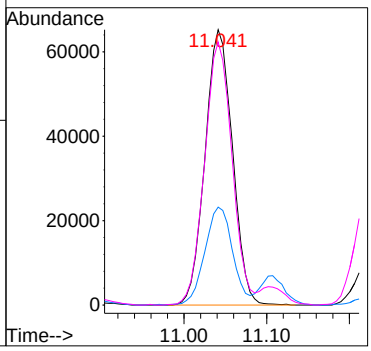


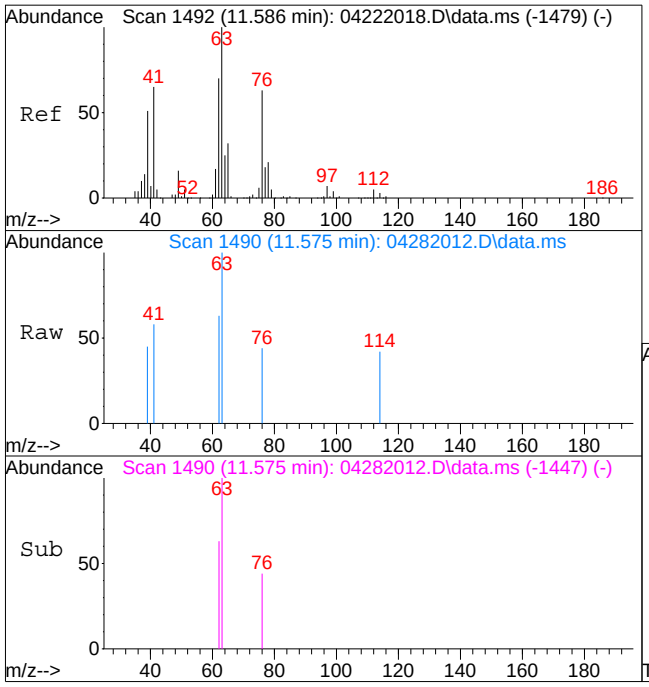


#43
Cyclohexane
Concen: 8.78 ng
RT: 11.04 min Scan# 1393
Delta R.T. -0.006 min
Lab File: 04282012.D
Acq: 28 Apr 2020 18:30

Tgt Ion: 84 Resp: 150407

Ion	Ratio	Lower	Upper
84	100		
69	36.1	15.8	55.8
56	95.9	72.0	112.0

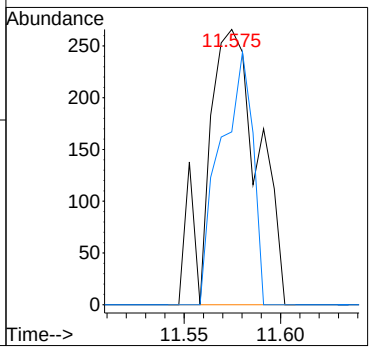


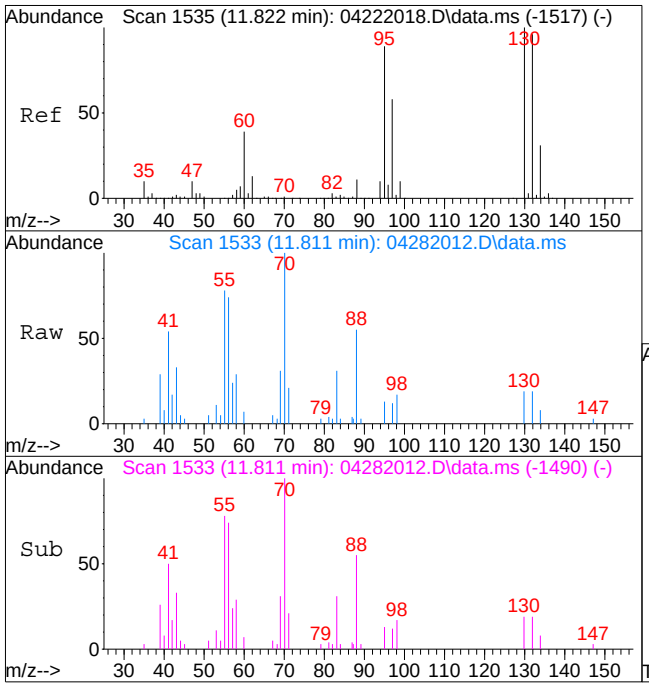


#45
1,2-Dichloropropane
Concen: 0.05 ng
RT: 11.57 min Scan# 1490
Delta R.T. -0.011 min
Lab File: 04282012.D
Acq: 28 Apr 2020 18:30

Tgt Ion: 63 Resp: 489

Ion	Ratio	Lower	Upper
63	100		
62	58.1	50.2	90.2

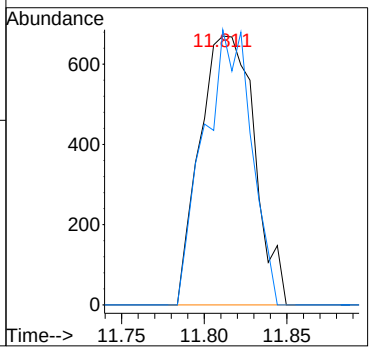


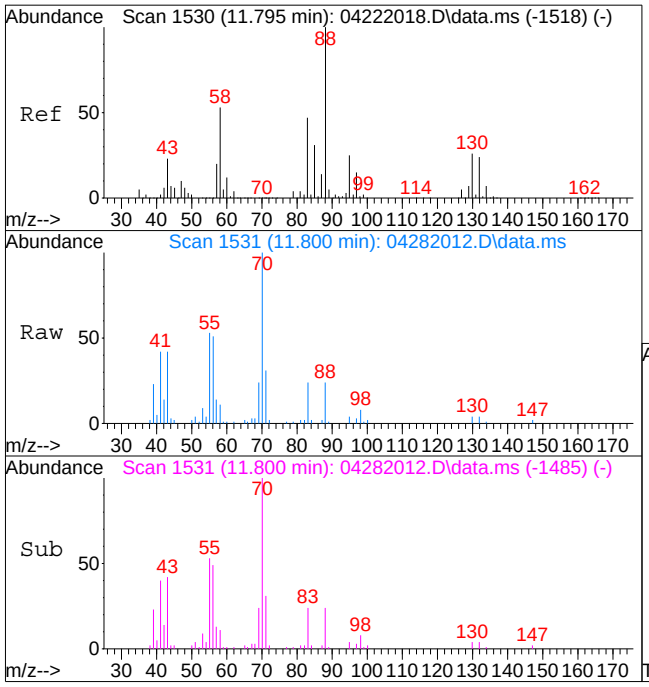


#47
Trichloroethene
Concen: 0.10 ng
RT: 11.81 min Scan# 1533
Delta R.T. -0.011 min
Lab File: 04282012.D
Acq: 28 Apr 2020 18:30

Tgt Ion:130 Resp: 1539

Ion	Ratio	Lower	Upper
130	100		
132	89.5	76.4	116.4

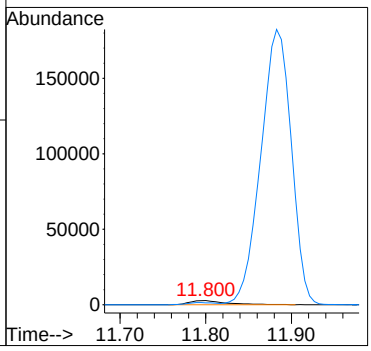


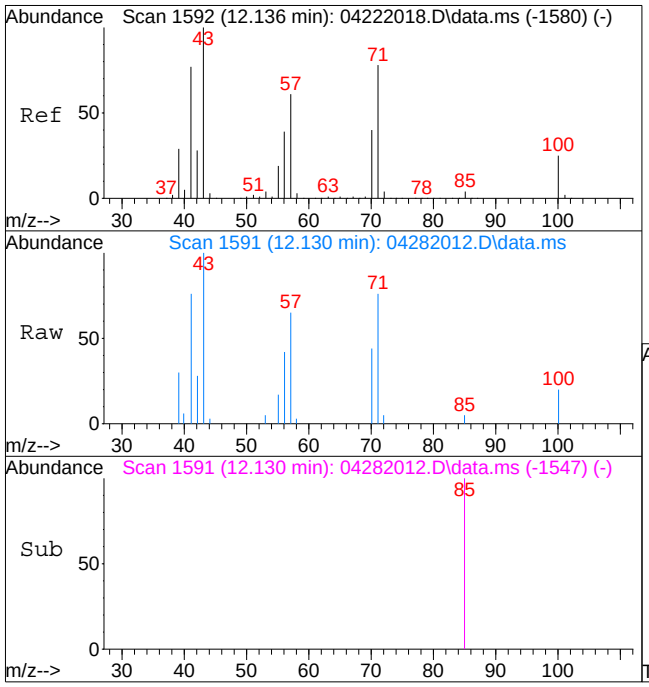


#48
1,4-Dioxane
Concen: 0.92 ng
RT: 11.80 min Scan# 1531
Delta R.T. 0.005 min
Lab File: 04282012.D
Acq: 28 Apr 2020 18:30

Tgt Ion: 88 Resp: 8100

Ion	Ratio	Lower	Upper
88	100		
58	40.6	31.1	71.1

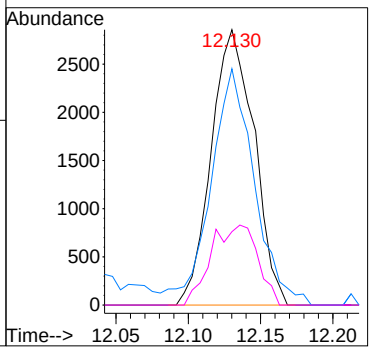


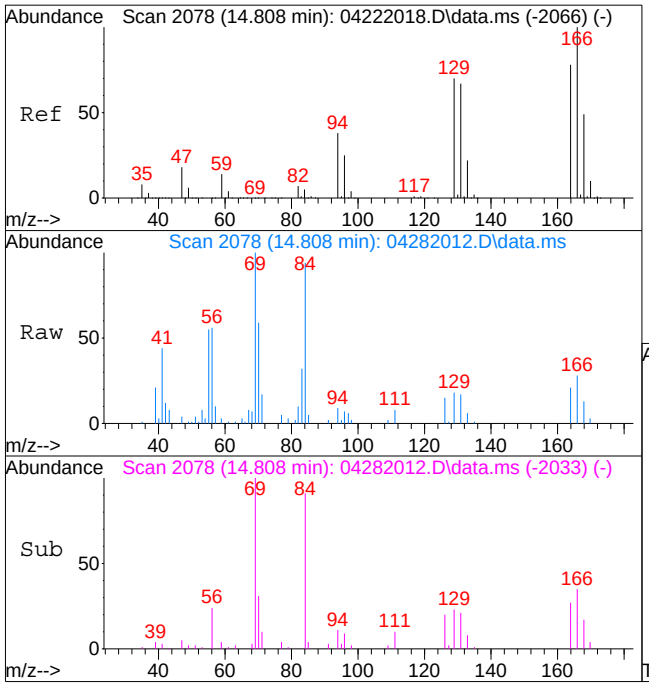


#51
n-Heptane
Concen: 0.58 ng
RT: 12.13 min Scan# 1591
Delta R.T. -0.006 min
Lab File: 04282012.D
Acq: 28 Apr 2020 18:30

Tgt Ion: 71 Resp: 5895

Ion	Ratio	Lower	Upper
71	100		
57	87.3	57.4	97.4
100	31.7	12.0	52.0

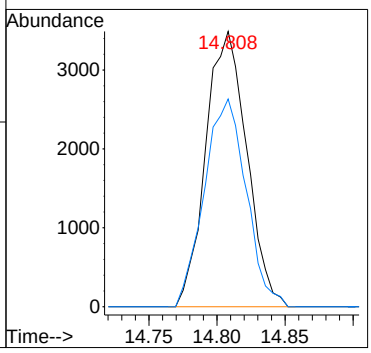


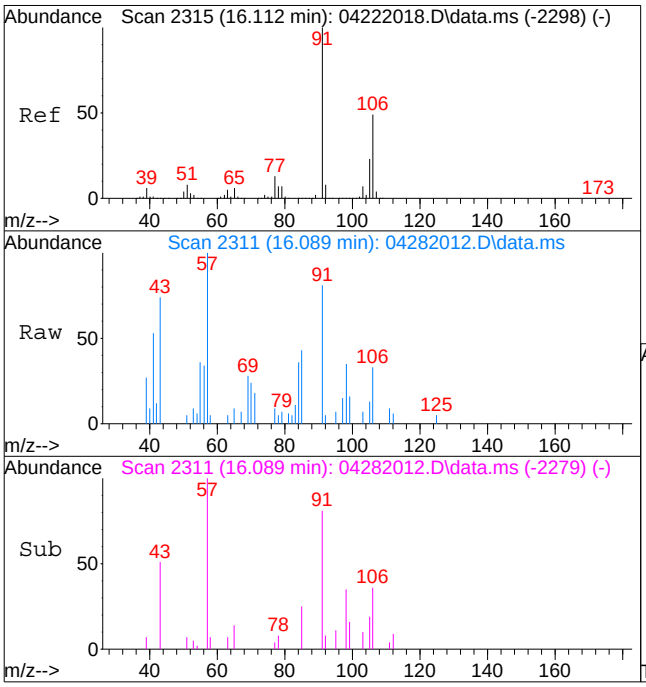


#64
Tetrachloroethene
Concen: 0.40 ng
RT: 14.81 min Scan# 2078
Delta R.T. -0.000 min
Lab File: 04282012.D
Acq: 28 Apr 2020 18:30

Tgt Ion:166 Resp: 7305

Ion	Ratio	Lower	Upper
166	100		
164	77.1	57.7	97.7

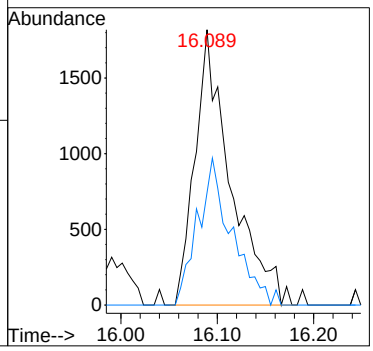


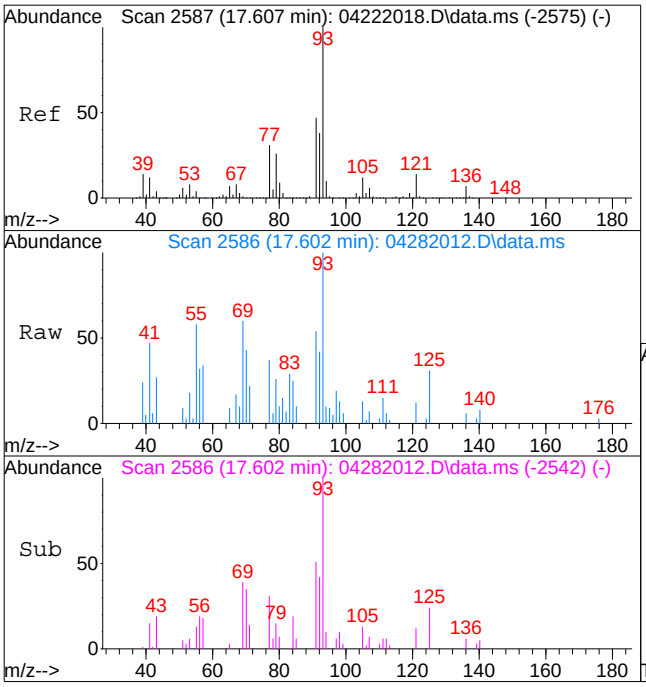


#67
m- & p-Xylenes
Concen: 0.10 ng
RT: 16.09 min Scan# 2311
Delta R.T. -0.022 min
Lab File: 04282012.D
Acq: 28 Apr 2020 18:30

Tgt Ion: 91 Resp: 4691

Ion	Ratio	Lower	Upper
91	100		
106	50.7	28.3	68.3

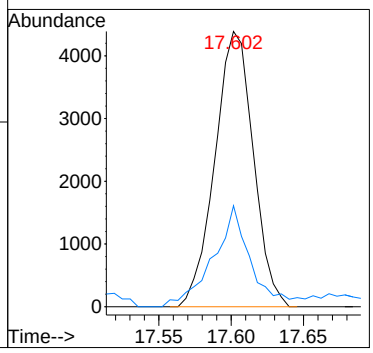


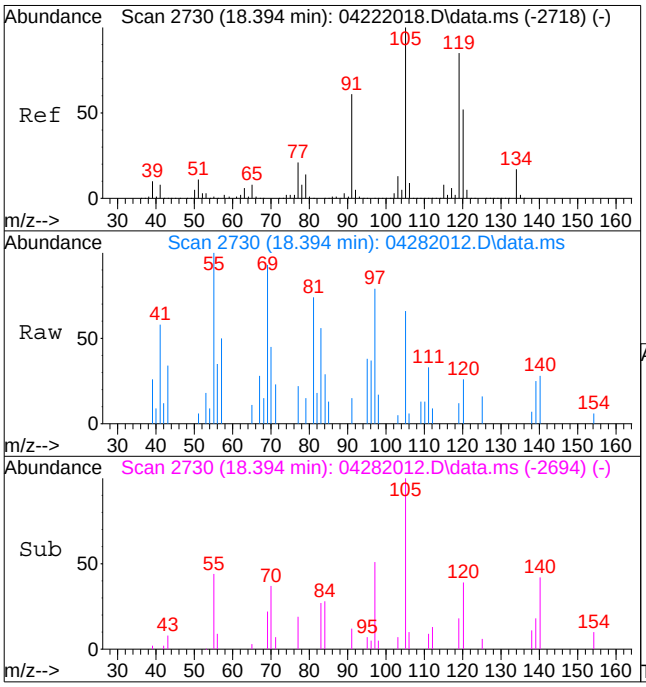


#75
alpha-Pinene
Concen: 0.30 ng
RT: 17.60 min Scan# 2586
Delta R.T. -0.006 min
Lab File: 04282012.D
Acq: 28 Apr 2020 18:30

Tgt Ion: 93 Resp: 8133

Ion	Ratio	Lower	Upper
93	100		
77	36.1	10.6	50.6

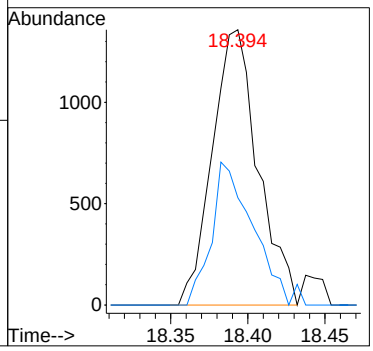




#82
1,2,4-Trimethylbenzene
Concen: 0.05 ng
RT: 18.39 min Scan# 2730
Delta R.T. -0.000 min
Lab File: 04282012.D
Acq: 28 Apr 2020 18:30

Tgt Ion:105 Resp: 2805

Ion	Ratio	Lower	Upper
105	100		
120	47.3	34.5	74.5



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282013.D Vial: 1
Acq On : 28 Apr 2020 19:03 Operator: SC
Sample : P2002030-009 (0.3mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 28 19:41:46 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/28/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	157422	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	666947	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	302543	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	237846	11.661	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.28%			
57) Toluene-d8 (SS2)	13.55	98	720728	12.338	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.72%			
73) Bromofluorobenzene (SS3)	17.05	174	273803	11.662	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.28%			
Target Compounds						Qvalue
2) Propene	3.88	42	6788	1.015	ng	# 72
3) Dichlorodifluoromethan...	3.99	85	203	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.	d	
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.39	45	39	N.D.		
11) Acetonitrile	0.00	41	0	N.D.		
12) Acrolein	0.00	56	0	N.D.	d	
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	6.03	101	275	N.D.		
15) 2-Propanol (Isopropanol)	6.23	45	76	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.	d	
17) 1,1-Dichloroethene	6.72	96	2076	0.187	ng	99
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	6.86	84	5851	0.549	ng	98
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d	
21) Trichlorotrifluoroethane	7.19	151	20445	1.554	ng	98
22) Carbon Disulfide	0.00	76	0	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	8.11	63	651	N.D.		
25) Methyl tert-Butyl Ether	8.20	73	501	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	0.00	72	0	N.D.	d	
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.	d	
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	0.00	61	0	N.D.	d	
31) n-Hexane	9.24	57	1409701	104.489	ng	99
32) Chloroform	9.28	83	134	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d	
38) 1,1,1-Trichloroethane	10.30	97	23009	1.003	ng	99
39) Isopropyl Acetate	0.00	61	0	N.D.	d	
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	10.76	78	1077241	24.777	ng	99
42) Carbon Tetrachloride	10.91	117	501	N.D.		
43) Cyclohexane	11.05	84	1715210	100.700	ng	98
44) tert-Amyl Methyl Ether	11.29	73	307	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d	
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	11.82	130	1272	0.084	ng	98
48) 1,4-Dioxane	0.00	88	0	N.D.	d	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282013.D Vial: 1
Acq On : 28 Apr 2020 19:03 Operator: SC
Sample : P2002030-009 (0.3mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 28 19:41:46 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.14	71	564638	55.895 ng	99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	12.96	75	445	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	13.65	91	287413	5.860 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.67	57	84019	10.762 ng	95
64) Tetrachloroethene	14.81	166	7006	0.379 ng	98
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.90	91	31451	0.550 ng	98
67) m- & p-Xylenes	16.08	91	88220	1.830 ng	96
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D. d	
70) o-Xylene	16.58	91	105887	2.236 ng	99
71) n-Nonane	16.82	43	21391	1.401 ng	95
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	17.20	105	8470	0.137 ng	98
75) alpha-Pinene	17.61	93	4776	0.170 ng	88
76) n-Propylbenzene	17.74	91	2242	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	1314	N.D.	
79) 1,3,5-Trimethylbenzene	17.95	105	24296	0.448 ng	99
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.39	105	10118	0.193 ng	86
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.49	91	1060	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	18.67	105	2480	N.D.	
88) 4-Isopropyltoluene (p-...	18.83	119	1448	N.D.	
89) 1,2,3-Trimethylbenzene	18.83	105	6231	0.119 ng	87
90) 1,2-Dichlorobenzene	18.98	146	815	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.93	128	604	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	18.38	119	2508	N.D.	
100) n-Butylbenzene	19.28	91	1195	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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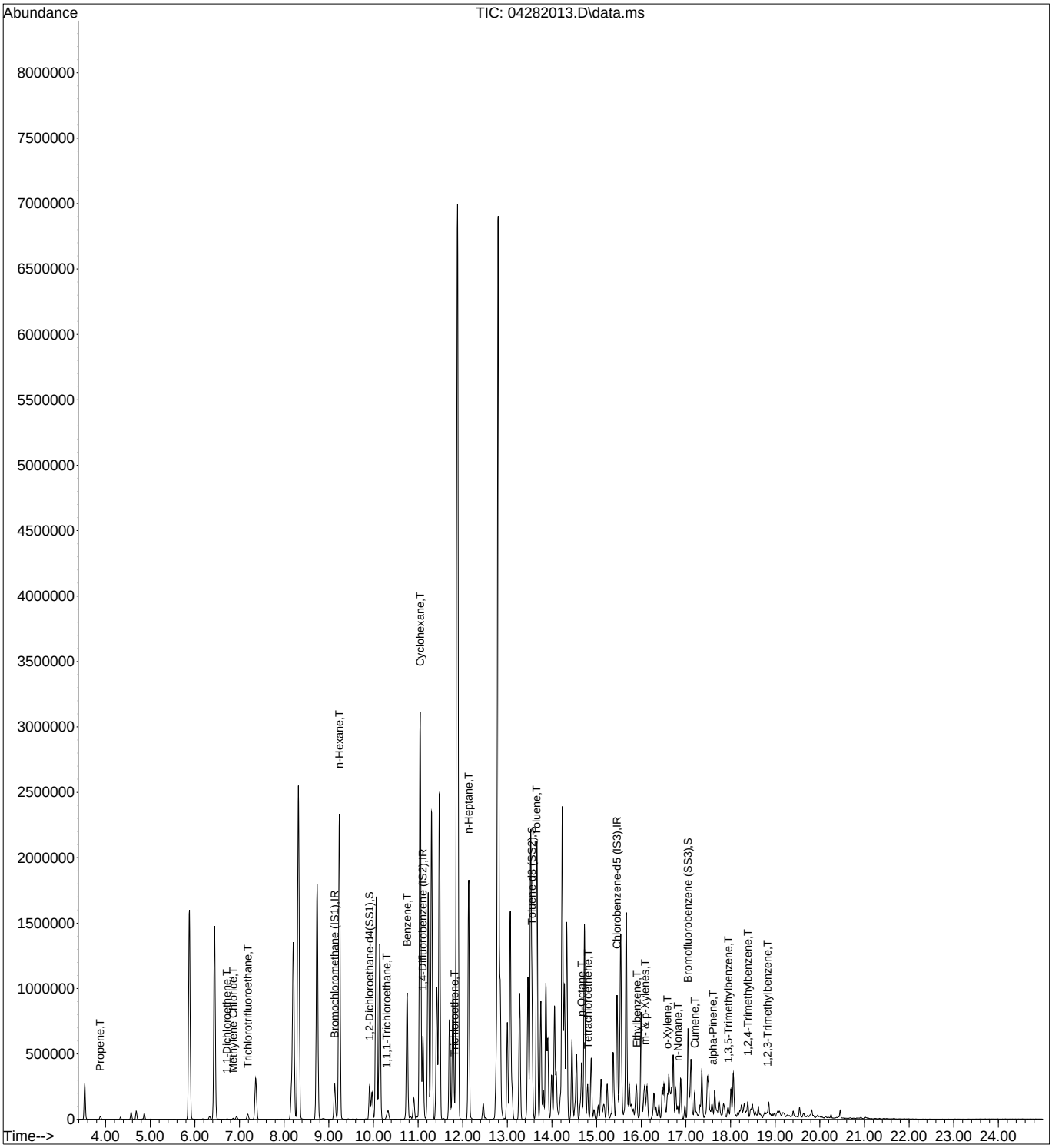
Acq On : 28 Apr 2020 19:03 Operator: SC
Sample : P2002030-009 (0.3mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 28 19:41:46 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

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DataAcq Meth:TO15.M

4/28/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	157422	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	666947	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	302543	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	237846	11.661	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.28%			
57) Toluene-d8 (SS2)	13.55	98	720728	12.338	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.72%			
73) Bromofluorobenzene (SS3)	17.05	174	273803	11.662	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.28%			
Target Compounds						Qvalue
2) Propene	3.88	42	6788	1.015	ng	# 72
17) 1,1-Dichloroethene	6.72	96	2076	0.187	ng	99
19) Methylene Chloride	6.86	84	5851	0.549	ng	98
21) Trichlorotrifluoroethane	7.19	151	20445	1.554	ng	98
31) n-Hexane	9.24	57	1409701	104.489	ng	99
38) 1,1,1-Trichloroethane	10.30	97	23009	1.003	ng	99
41) Benzene	10.76	78	1077241	24.777	ng	99
43) Cyclohexane	11.05	84	1715210	100.700	ng	98
47) Trichloroethene	11.82	130	1272	0.084	ng	98
51) n-Heptane	12.14	71	564638	55.895	ng	99
58) Toluene	13.65	91	287413	5.860	ng	100
63) n-Octane	14.67	57	84019	10.762	ng	95
64) Tetrachloroethene	14.81	166	7006	0.379	ng	98
66) Ethylbenzene	15.90	91	31451	0.550	ng	98
67) m- & p-Xylenes	16.08	91	88220	1.830	ng	96
70) o-Xylene	16.58	91	105887	2.236	ng	99
71) n-Nonane	16.82	43	21391	1.401	ng	95
74) Cumene	17.20	105	8470	0.137	ng	98
75) alpha-Pinene	17.61	93	4776	0.170	ng	88
79) 1,3,5-Trimethylbenzene	17.95	105	24296	0.448	ng	99
82) 1,2,4-Trimethylbenzene	18.39	105	10118	0.193	ng	86
89) 1,2,3-Trimethylbenzene	18.83	105	6231	0.119	ng	87

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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Acq On : 28 Apr 2020 19:03 Operator: SC
Sample : P2002030-009 (0.3mL) Inst : MS09
Misc : S34-04212006

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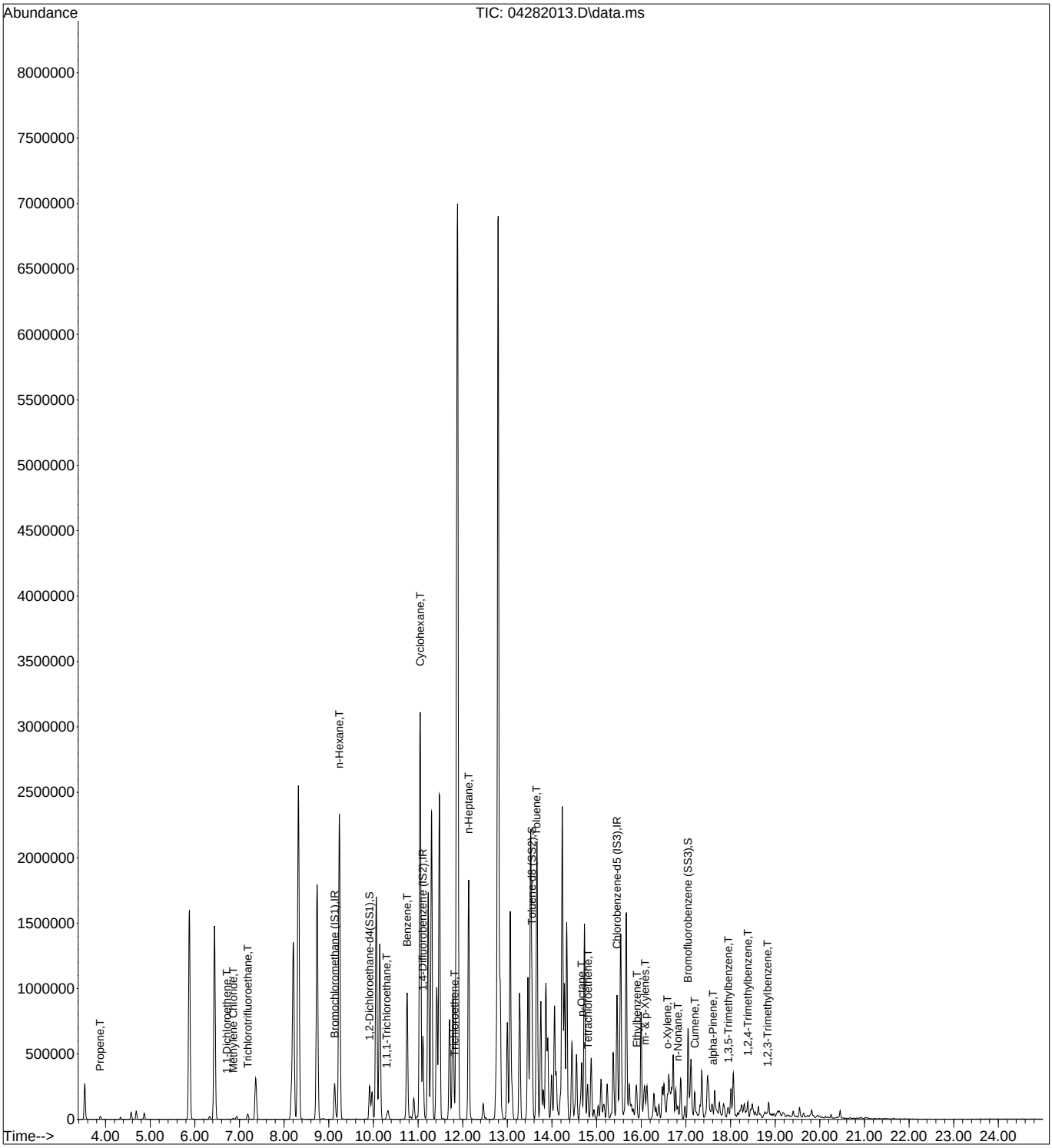
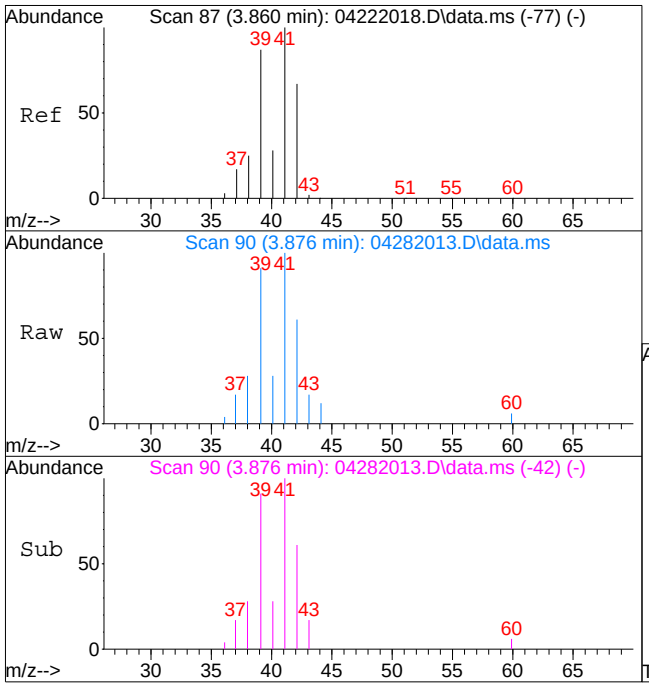
DataAcq Meth:TO15.M

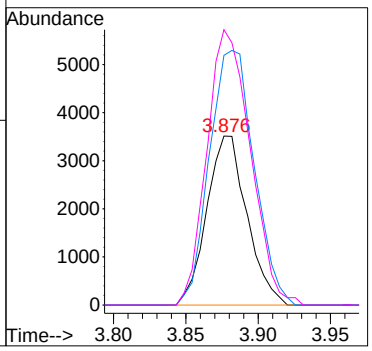


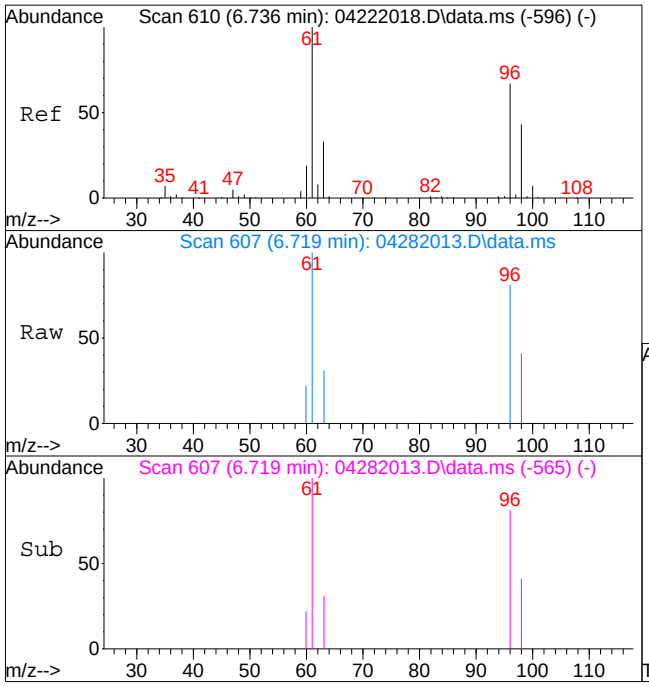


#2
Propene
Concen: 1.02 ng
RT: 3.88 min Scan# 90
Delta R.T. 0.017 min
Lab File: 04282013.D
Acq: 28 Apr 2020 19:03

Tgt Ion: 42 Resp: 6788

Ion	Ratio	Lower	Upper
42	100		
39	168.0	106.4	146.4#
41	176.5	128.8	168.8#

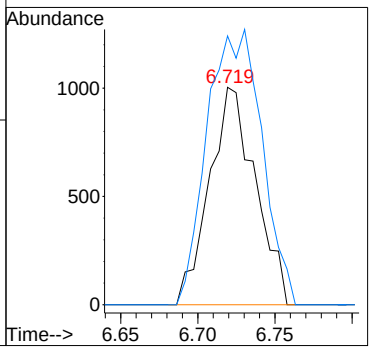


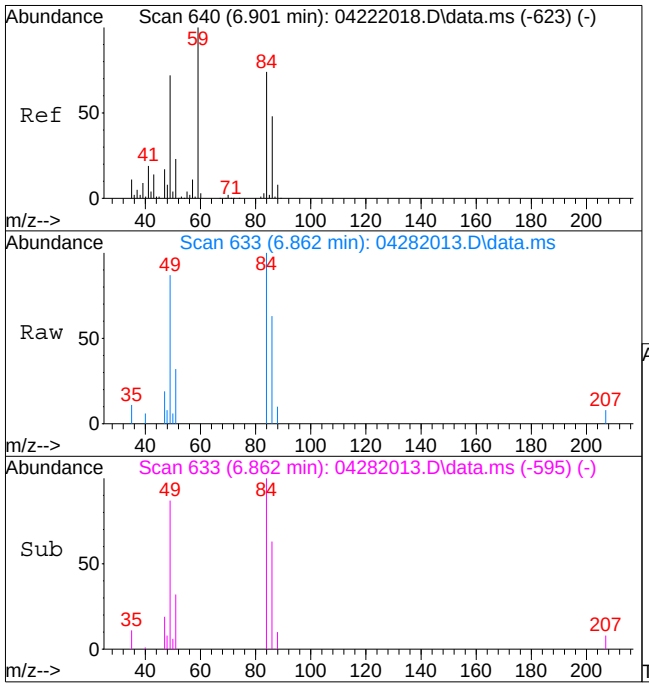


#17
1,1-Dichloroethene
Concen: 0.19 ng
RT: 6.72 min Scan# 607
Delta R.T. -0.016 min
Lab File: 04282013.D
Acq: 28 Apr 2020 19:03

Tgt Ion: 96 Resp: 2076

Ion	Ratio	Lower	Upper
96	100		
61	151.2	129.8	169.8

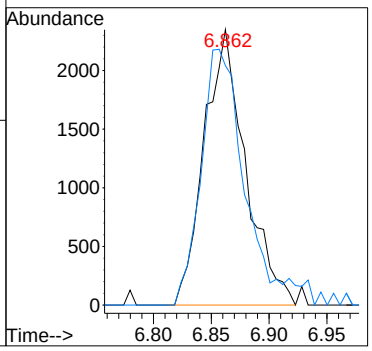


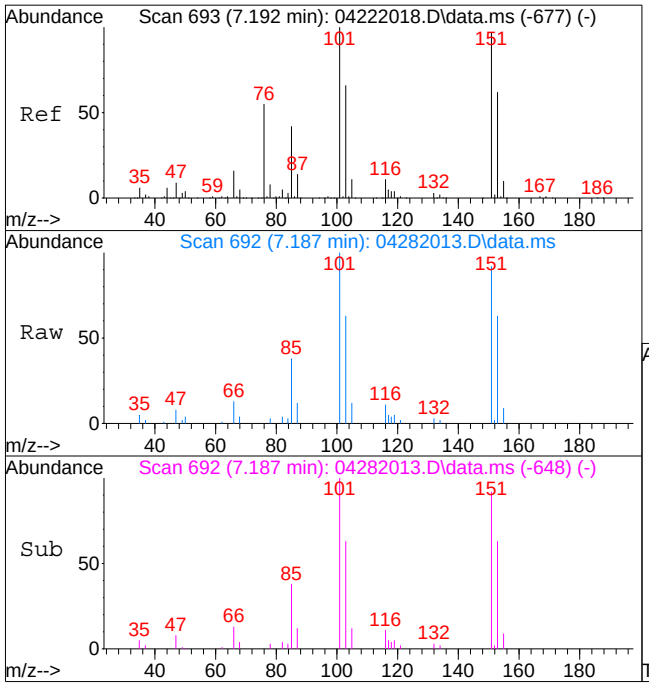


#19
Methylene Chloride
Concen: 0.55 ng
RT: 6.86 min Scan# 633
Delta R.T. -0.038 min
Lab File: 04282013.D
Acq: 28 Apr 2020 19:03

Tgt Ion: 84 Resp: 5851

Ion	Ratio	Lower	Upper
84	100		
49	99.7	73.0	123.0

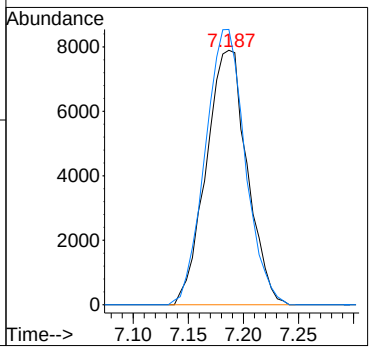


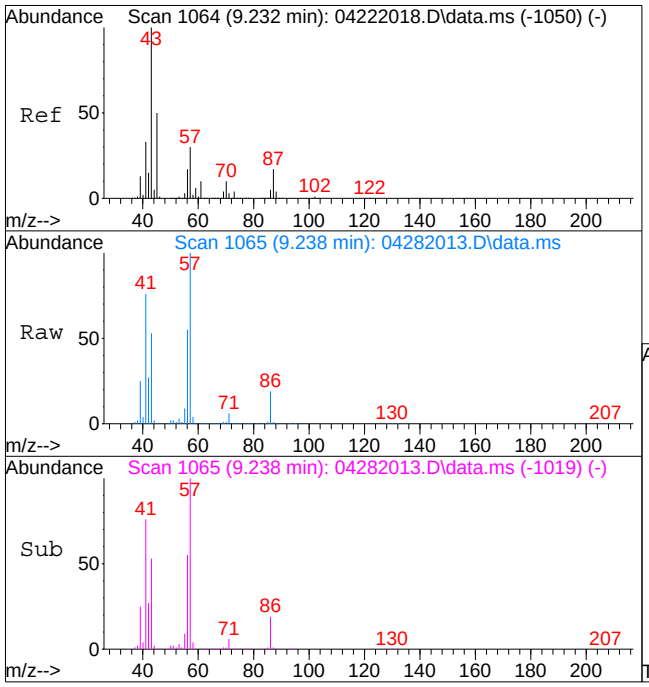


#21
Trichlorotrifluoroethane
Concen: 1.55 ng
RT: 7.19 min Scan# 692
Delta R.T. -0.005 min
Lab File: 04282013.D
Acq: 28 Apr 2020 19:03

Tgt Ion:151 Resp: 20445

Ion	Ratio	Lower	Upper
151	100		
101	105.3	82.9	122.9

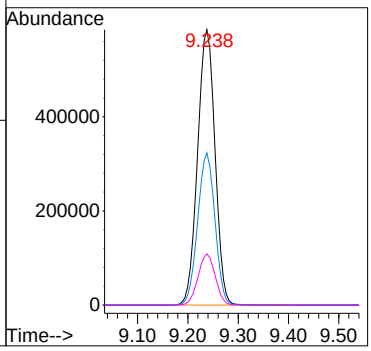


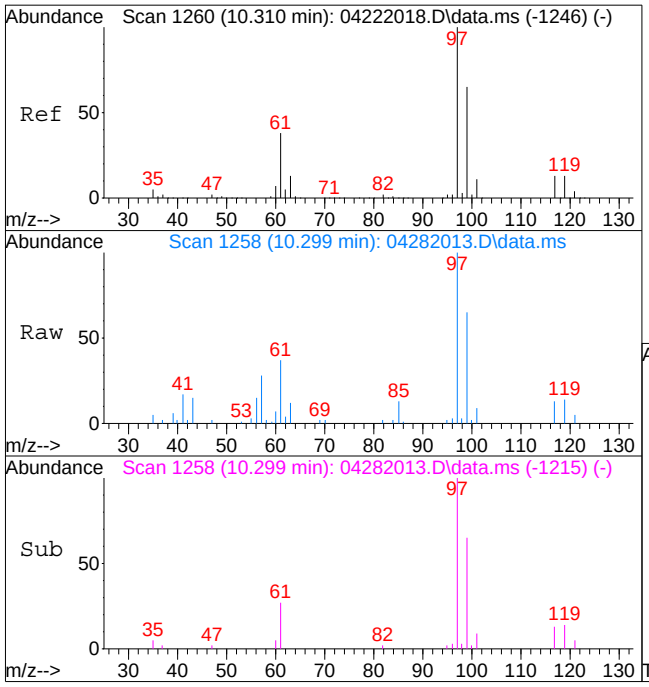


#31
n-Hexane
Concen: 104.49 ng
RT: 9.24 min Scan# 1065
Delta R.T. 0.005 min
Lab File: 04282013.D
Acq: 28 Apr 2020 19:03

Tgt Ion: 57 Resp: 1409701

Ion	Ratio	Lower	Upper
57	100		
56	54.6	44.0	66.0
86	18.3	15.0	22.4

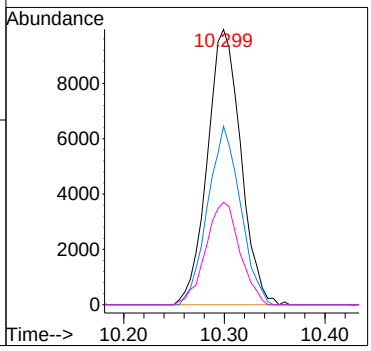


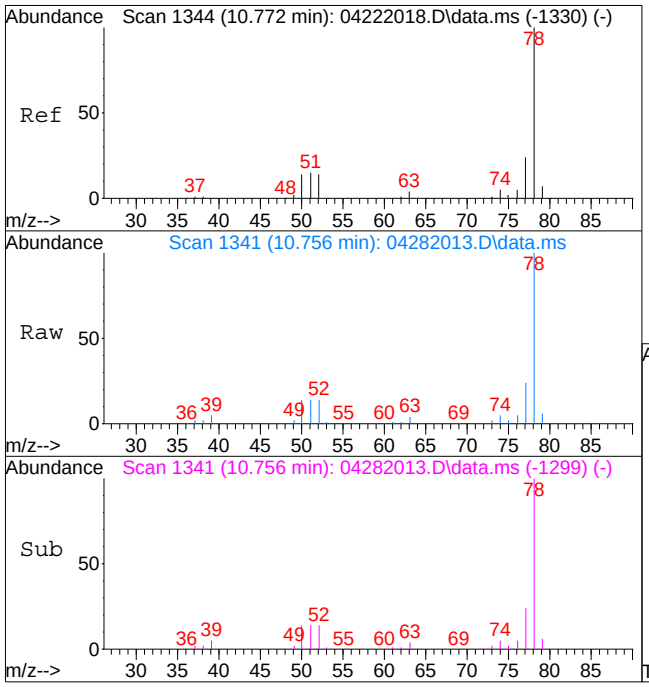


#38
1,1,1-Trichloroethane
Concen: 1.00 ng
RT: 10.30 min Scan# 1258
Delta R.T. -0.011 min
Lab File: 04282013.D
Acq: 28 Apr 2020 19:03

Tgt Ion: 97 Resp: 23009

Ion	Ratio	Lower	Upper
97	100		
99	63.4	44.7	84.7
61	37.8	17.2	57.2

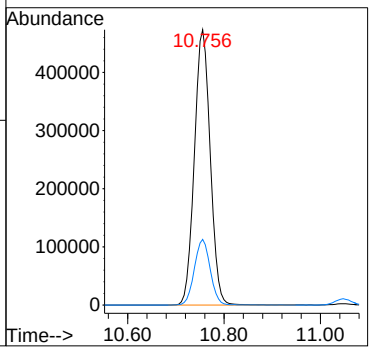


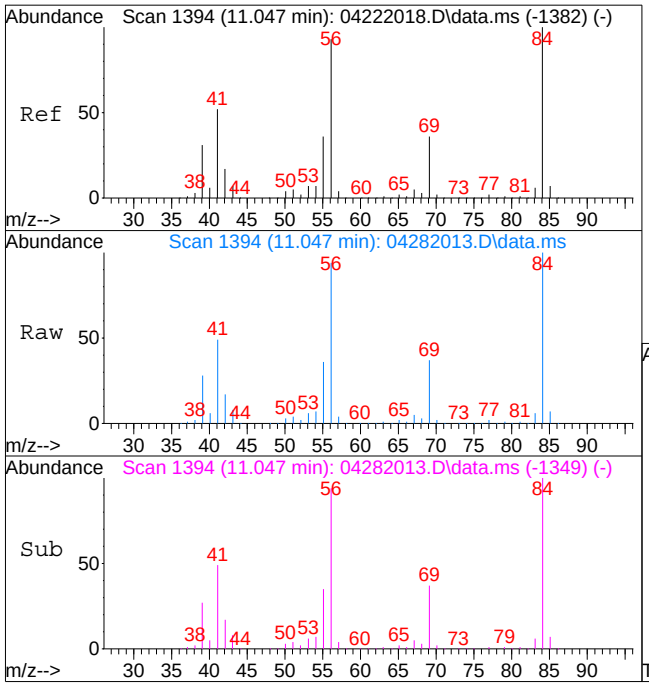


#41
Benzene
Concen: 24.78 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.017 min
Lab File: 04282013.D
Acq: 28 Apr 2020 19:03

Tgt Ion: 78 Resp: 1077241

Ion	Ratio	Lower	Upper
78	100		
77	23.9	3.6	43.6

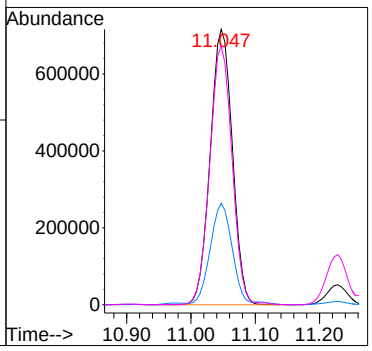


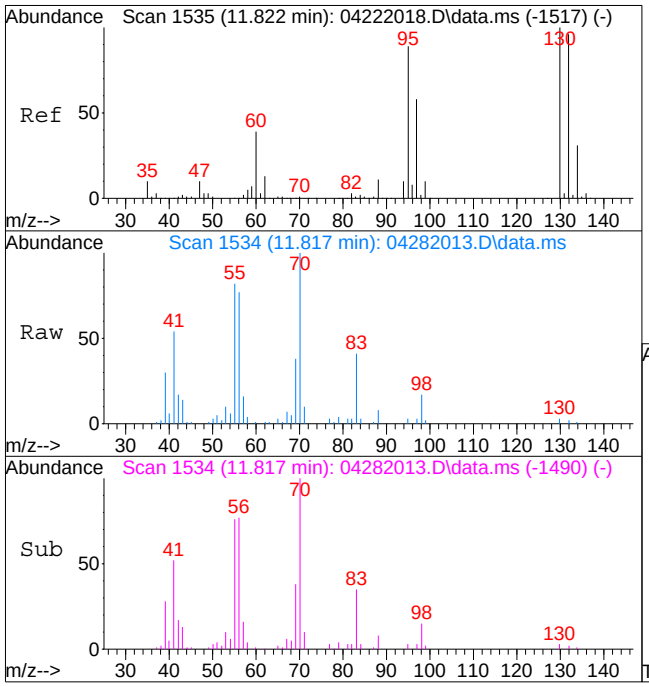


#43
Cyclohexane
Concen: 100.70 ng
RT: 11.05 min Scan# 1394
Delta R.T. 0.000 min
Lab File: 04282013.D
Acq: 28 Apr 2020 19:03

Tgt Ion: 84 Resp: 1715210

Ion	Ratio	Lower	Upper
84	100		
69	37.1	15.8	55.8
56	94.5	72.0	112.0

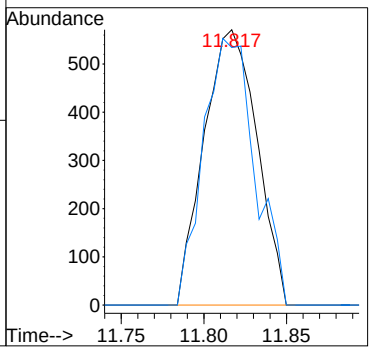


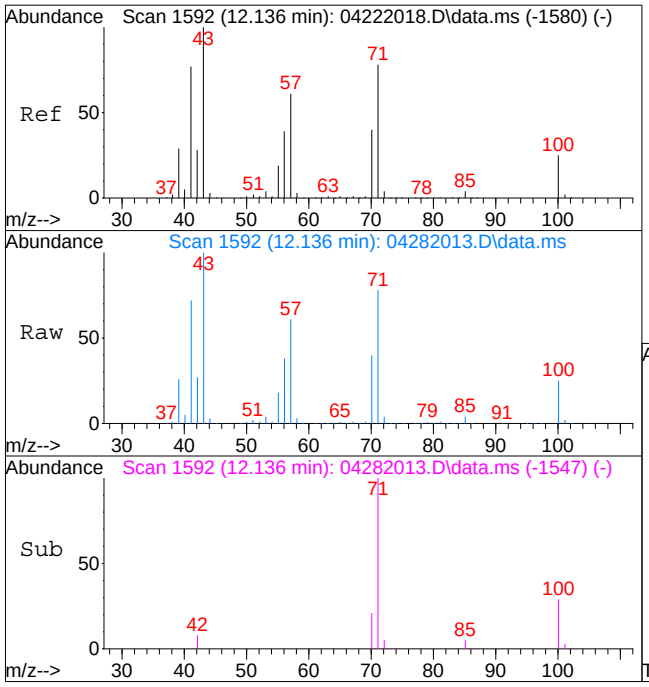


#47
Trichloroethene
Concen: 0.08 ng
RT: 11.82 min Scan# 1534
Delta R.T. -0.005 min
Lab File: 04282013.D
Acq: 28 Apr 2020 19:03

Tgt Ion:130 Resp: 1272

Ion	Ratio	Lower	Upper
130	100		
132	94.3	76.4	116.4

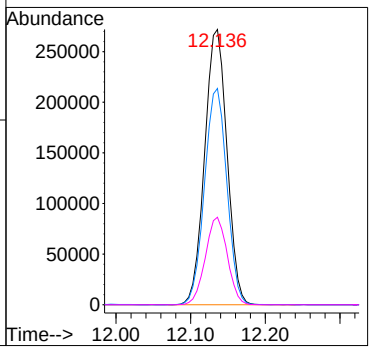


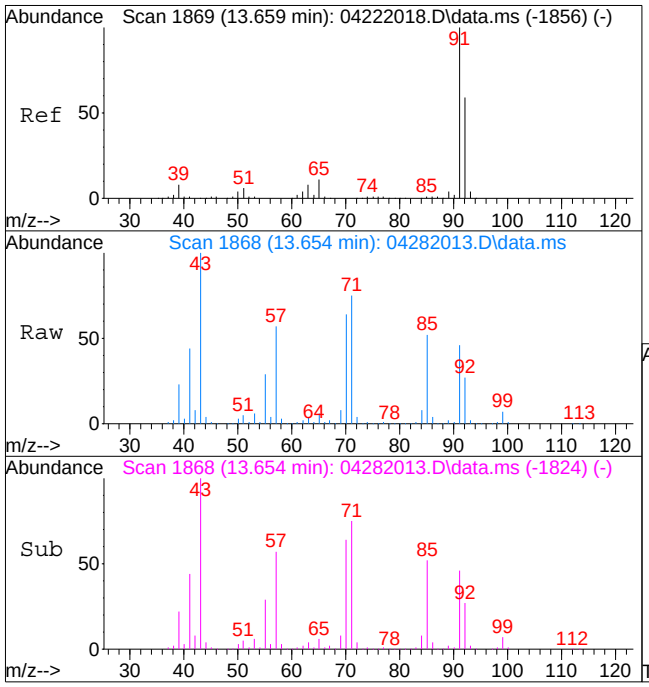


#51
n-Heptane
Concen: 55.90 ng
RT: 12.14 min Scan# 1592
Delta R.T. 0.000 min
Lab File: 04282013.D
Acq: 28 Apr 2020 19:03

Tgt Ion: 71 Resp: 564638

Ion	Ratio	Lower	Upper
71	100		
57	78.7	57.4	97.4
100	31.3	12.0	52.0

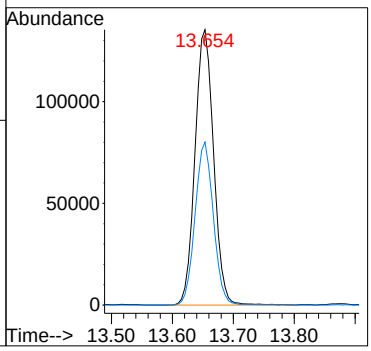


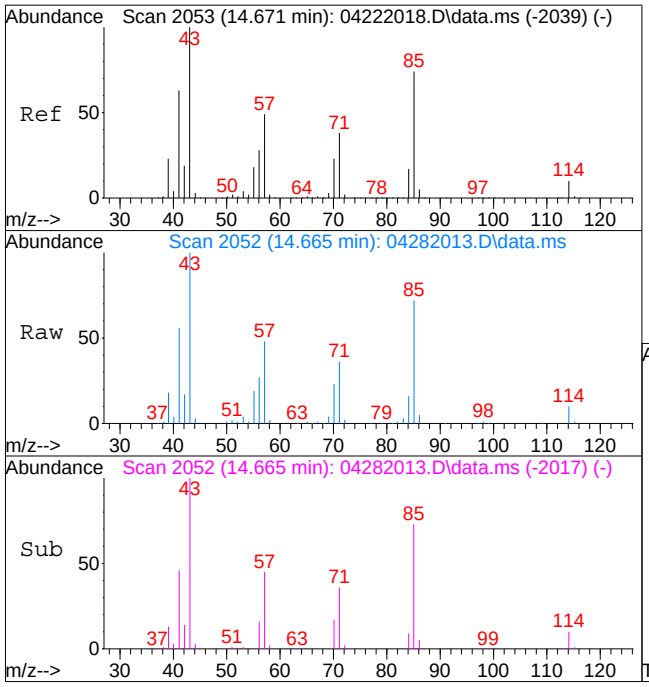


#58
Toluene
Concen: 5.86 ng
RT: 13.65 min Scan# 1868
Delta R.T. -0.005 min
Lab File: 04282013.D
Acq: 28 Apr 2020 19:03

Tgt Ion: 91 Resp: 287413

Ion	Ratio	Lower	Upper
91	100		
92	58.1	38.2	78.2

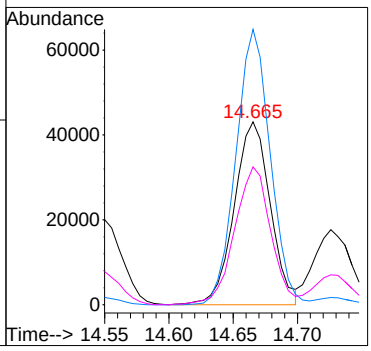


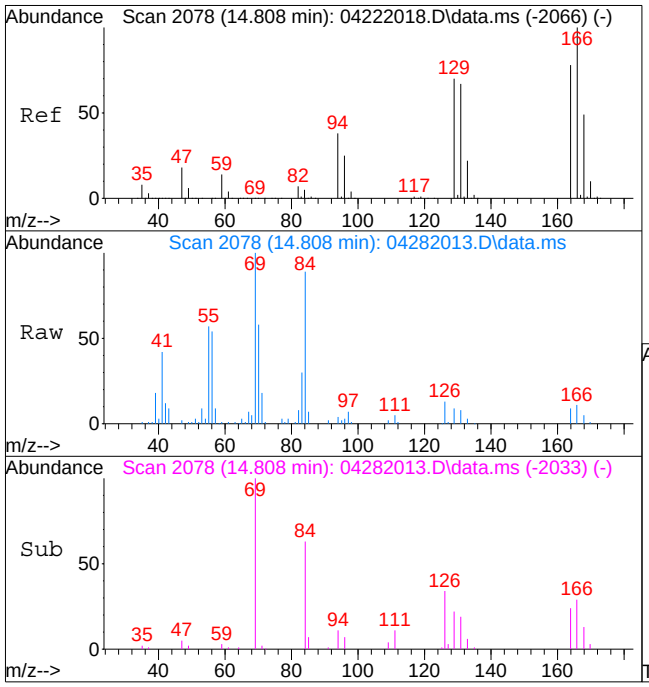


#63
n-Octane
Concen: 10.76 ng
RT: 14.67 min Scan# 2052
Delta R.T. -0.006 min
Lab File: 04282013.D
Acq: 28 Apr 2020 19:03

Tgt Ion: 57 Resp: 84019

Ion	Ratio	Lower	Upper
57	100		
85	142.9	120.7	181.1
71	75.1	61.1	91.7

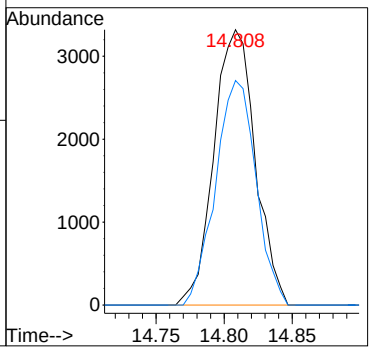


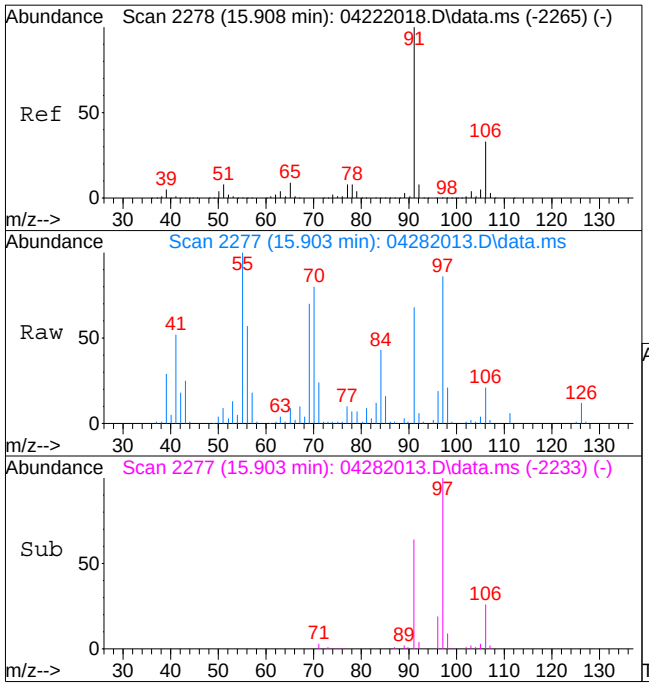


#64
Tetrachloroethene
Concen: 0.38 ng
RT: 14.81 min Scan# 2078
Delta R.T. 0.000 min
Lab File: 04282013.D
Acq: 28 Apr 2020 19:03

Tgt Ion:166 Resp: 7006

Ion	Ratio	Lower	Upper
166	100		
164	79.8	57.7	97.7

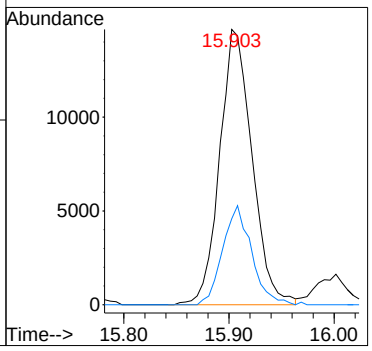


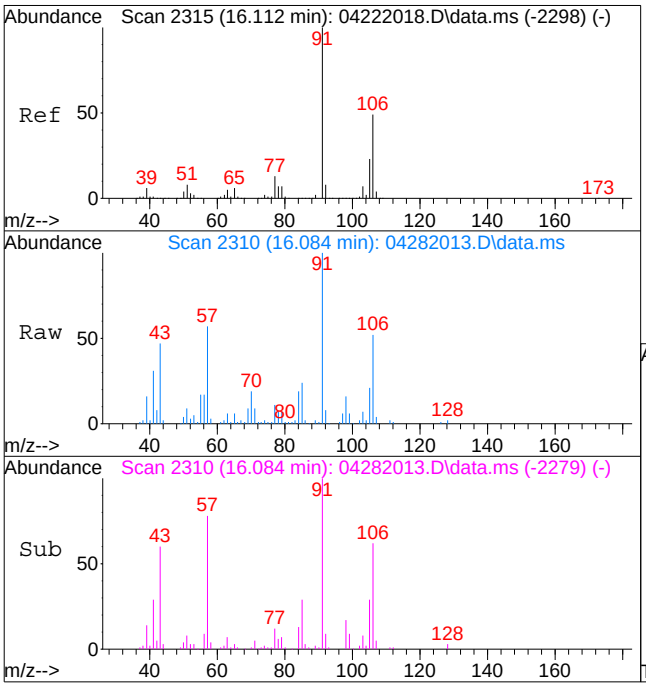


#66
Ethylbenzene
Concen: 0.55 ng
RT: 15.90 min Scan# 2277
Delta R.T. -0.005 min
Lab File: 04282013.D
Acq: 28 Apr 2020 19:03

Tgt Ion: 91 Resp: 31451

Ion	Ratio	Lower	Upper
91	100		
106	32.1	13.4	53.4

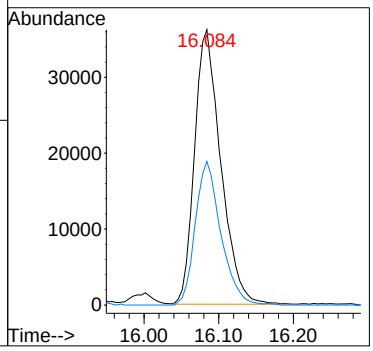


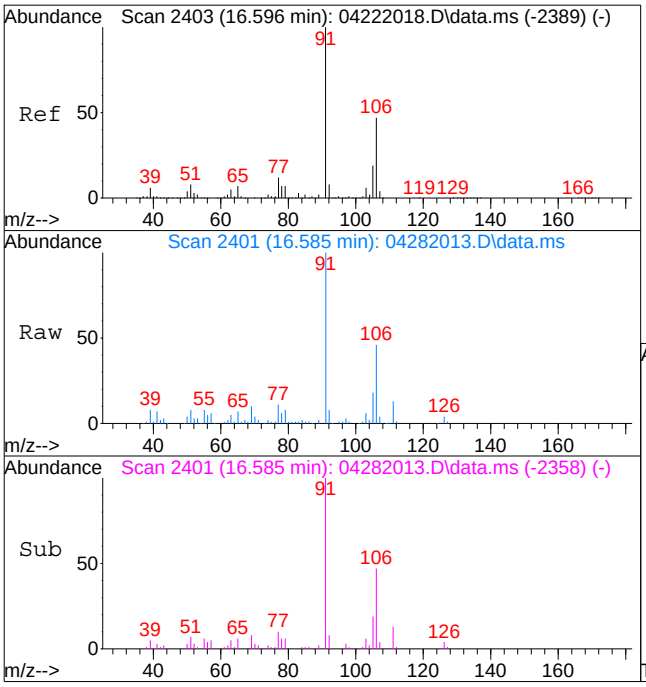


#67
m- & p-Xylenes
Concen: 1.83 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.027 min
Lab File: 04282013.D
Acq: 28 Apr 2020 19:03

Tgt Ion: 91 Resp: 88220

Ion	Ratio	Lower	Upper
91	100		
106	51.1	28.3	68.3

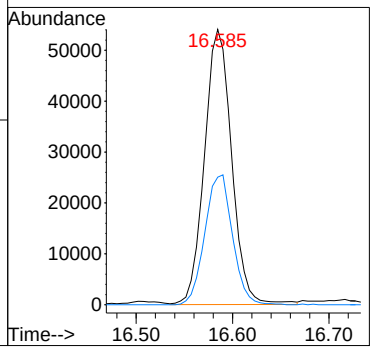


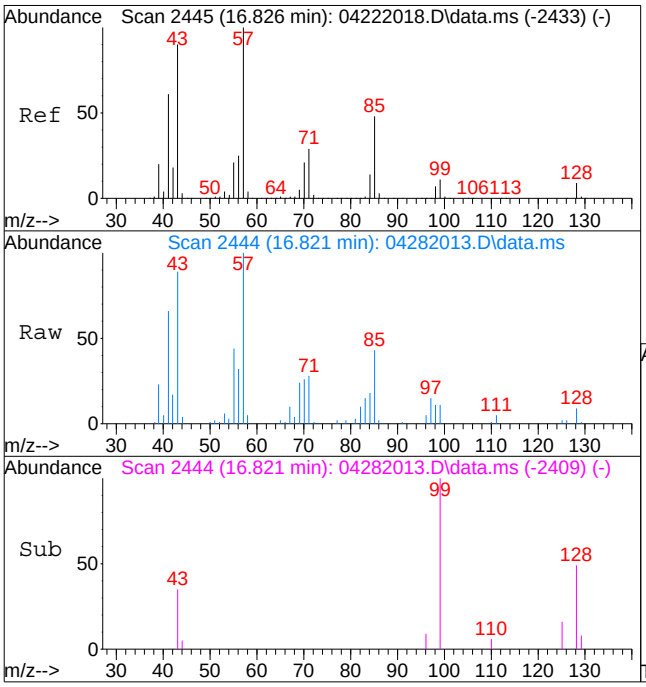


#70
o-Xylene
Concen: 2.24 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 04282013.D
Acq: 28 Apr 2020 19:03

Tgt Ion: 91 Resp: 105887

Ion	Ratio	Lower	Upper
91	100		
106	48.0	27.5	67.5

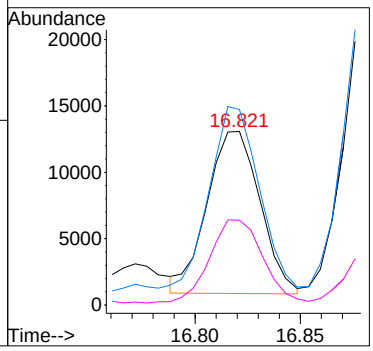


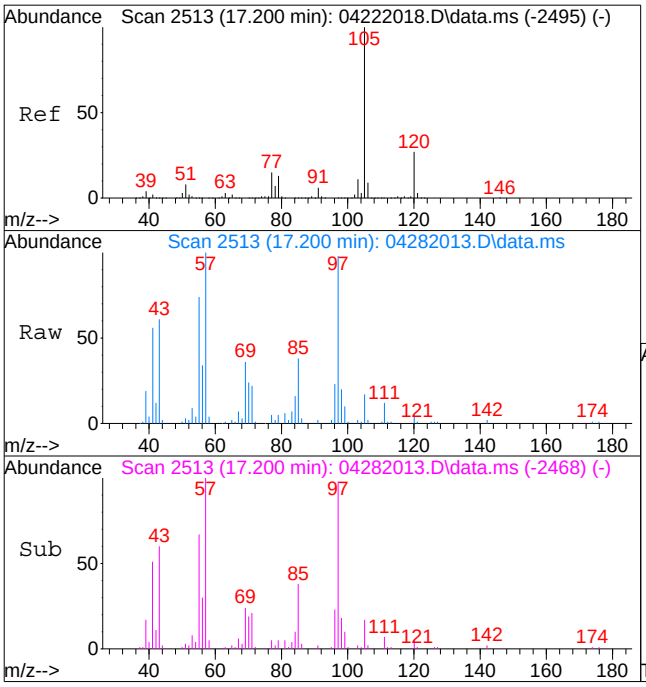


#71
n-Nonane
Concen: 1.40 ng
RT: 16.82 min Scan# 2444
Delta R.T. -0.005 min
Lab File: 04282013.D
Acq: 28 Apr 2020 19:03

Tgt Ion: 43 Resp: 21391

Ion	Ratio	Lower	Upper
43	100		
57	117.6	90.8	130.8
85	51.4	32.1	72.1

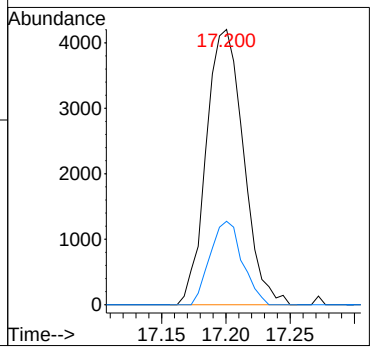


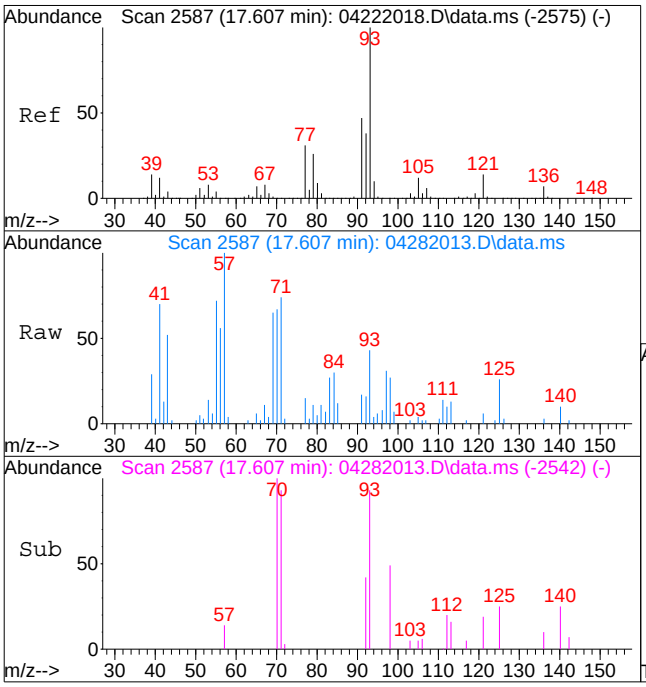


#74
Cumene
Concen: 0.14 ng
RT: 17.20 min Scan# 2513
Delta R.T. 0.000 min
Lab File: 04282013.D
Acq: 28 Apr 2020 19:03

Tgt Ion:105 Resp: 8470

Ion	Ratio	Lower	Upper
105	100		
120	26.3	7.3	47.3

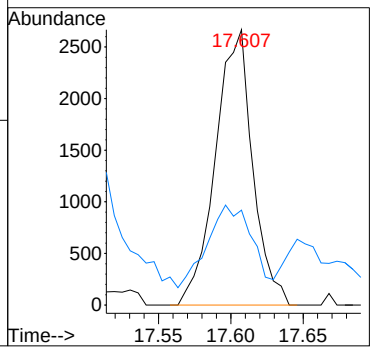


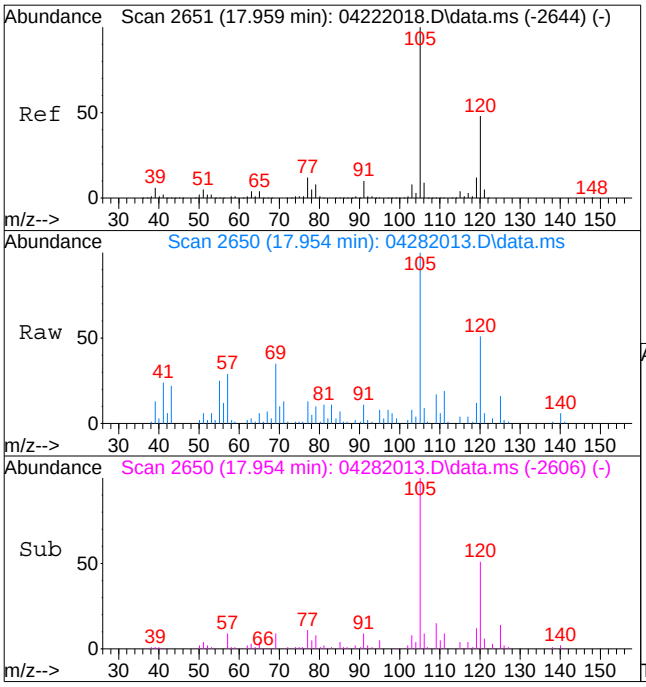


#75
alpha-Pinene
Concen: 0.17 ng
RT: 17.61 min Scan# 2587
Delta R.T. 0.000 min
Lab File: 04282013.D
Acq: 28 Apr 2020 19:03

Tgt Ion: 93 Resp: 4776

Ion	Ratio	Lower	Upper
93	100		
77	37.4	10.6	50.6

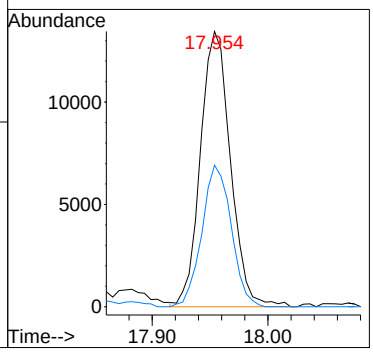


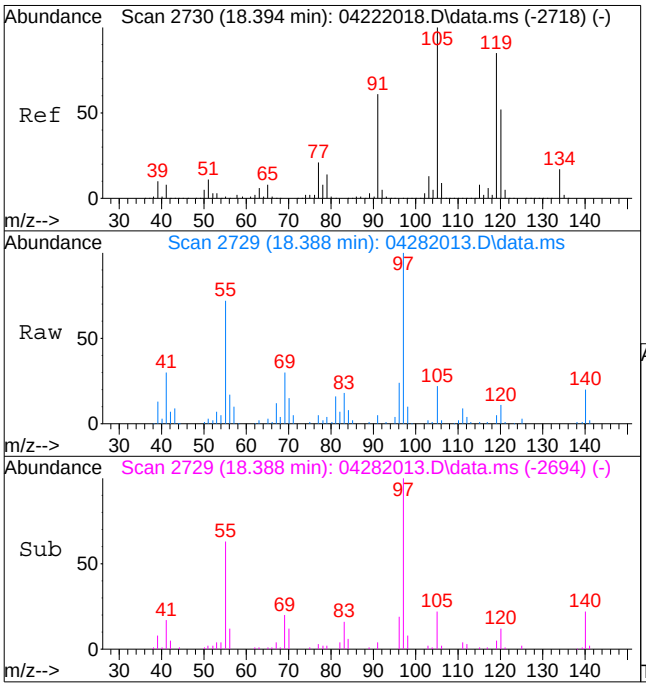


#79
1,3,5-Trimethylbenzene
Concen: 0.45 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.005 min
Lab File: 04282013.D
Acq: 28 Apr 2020 19:03

Tgt Ion:105 Resp: 24296

Ion	Ratio	Lower	Upper
105	100		
120	50.2	29.5	69.5

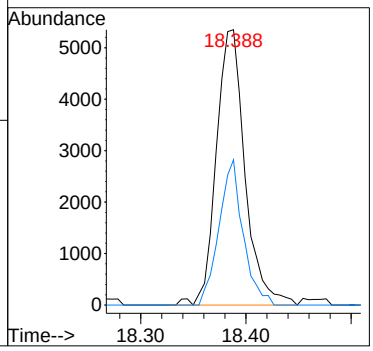


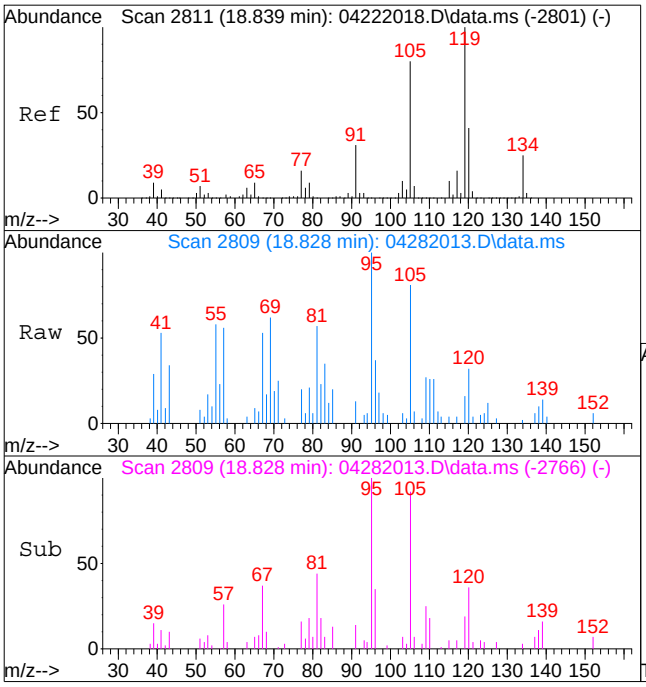


#82
1,2,4-Trimethylbenzene
Concen: 0.19 ng
RT: 18.39 min Scan# 2729
Delta R.T. -0.006 min
Lab File: 04282013.D
Acq: 28 Apr 2020 19:03

Tgt Ion:105 Resp: 10118

Ion	Ratio	Lower	Upper
105	100		
120	44.3	34.5	74.5

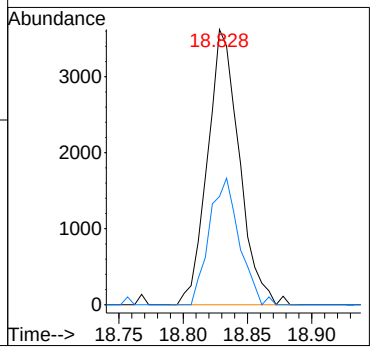




#89
1,2,3-Trimethylbenzene
Concen: 0.12 ng
RT: 18.83 min Scan# 2809
Delta R.T. -0.011 min
Lab File: 04282013.D
Acq: 28 Apr 2020 19:03

Tgt Ion:105 Resp: 6231

Ion	Ratio	Lower	Upper
105	100		
120	43.4	32.5	72.5



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282014.D Vial: 1
Acq On : 28 Apr 2020 19:37 Operator: SC
Sample : P2002030-010 (0.6mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 28 20:07:00 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/28/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	158756	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	685789	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	306805	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	239905	11.664	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.28%			
57) Toluene-d8 (SS2)	13.55	98	725719	12.251	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.00%			
73) Bromofluorobenzene (SS3)	17.05	174	279647	11.746	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.00%			
Target Compounds						Qvalue
2) Propene	3.87	42	14632	2.170	ng	# 79
3) Dichlorodifluoromethan...	3.98	85	4397	0.172	ng	98
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.	d	
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	0.00	45	0	N.D.		
11) Acetonitrile	0.00	41	0	N.D.		
12) Acrolein	0.00	56	0	N.D.	d	
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	6.03	101	780	N.D.		
15) 2-Propanol (Isopropanol)	6.24	45	36	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.	d	
17) 1,1-Dichloroethene	6.73	96	2228	0.199	ng	96
18) 2-Methyl-2-Propanol (t...	6.91	59	55	N.D.		
19) Methylene Chloride	6.86	84	5900	0.549	ng	98
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d	
21) Trichlorotrifluoroethane	7.19	151	21329	1.608	ng	98
22) Carbon Disulfide	0.00	76	0	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	8.12	63	703	N.D.		
25) Methyl tert-Butyl Ether	8.21	73	836	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	0.00	72	0	N.D.	d	
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.	d	
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	0.00	61	0	N.D.	d	
31) n-Hexane	9.24	57	791687	58.188	ng	99
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d	
38) 1,1,1-Trichloroethane	10.30	97	22968	0.974	ng	99
39) Isopropyl Acetate	0.00	61	0	N.D.	d	
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	10.76	78	304669	6.815	ng	99
42) Carbon Tetrachloride	10.91	117	469	N.D.		
43) Cyclohexane	11.05	84	1480351	84.524	ng	97
44) tert-Amyl Methyl Ether	11.30	73	869	N.D.		
45) 1,2-Dichloropropane	11.57	63	514	0.056	ng	95
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	11.82	130	1693	0.109	ng	94
48) 1,4-Dioxane	0.00	88	0	N.D.	d	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282014.D Vial: 1
Acq On : 28 Apr 2020 19:37 Operator: SC
Sample : P2002030-010 (0.6mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 28 20:07:00 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

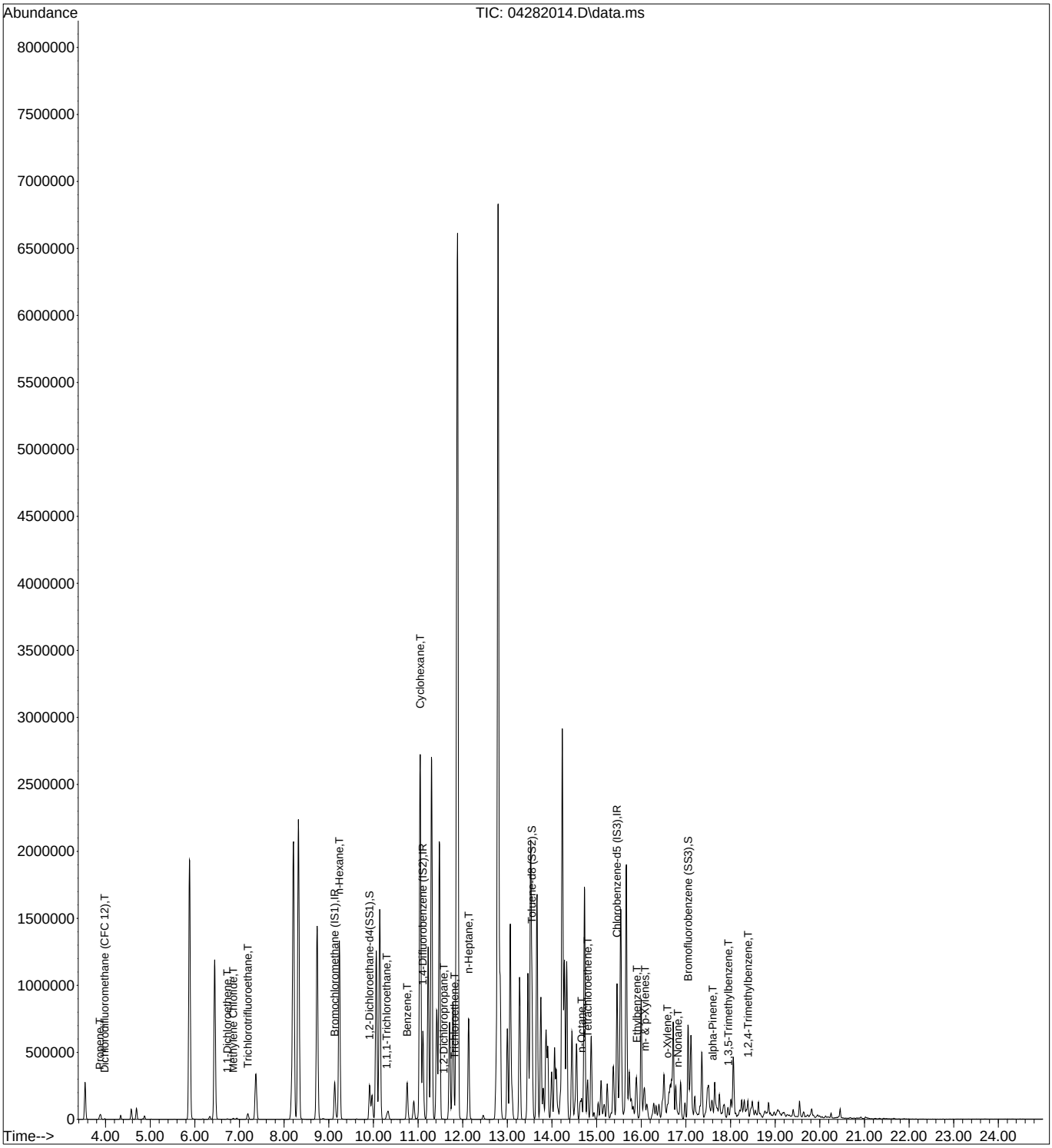
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.14	71	230140	22.156 ng	99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	13.06	75	182	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	0.00	91	0	N.D. d	
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.67	57	28872	3.647 ng	95
64) Tetrachloroethene	14.80	166	7457	0.398 ng	95
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.90	91	5342	0.092 ng	82
67) m- & p-Xylenes	16.08	91	19746	0.404 ng	100
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.58	104	851	N.D.	
70) o-Xylene	16.58	91	36540	0.761 ng	97
71) n-Nonane	16.82	43	5249	0.339 ng	89
72) 1,1,2,2-Tetrachloroethane	16.59	83	392	N.D.	
74) Cumene	17.20	105	1082	N.D.	
75) alpha-Pinene	17.60	93	3779	0.133 ng	69
76) n-Propylbenzene	17.74	91	1953	N.D.	
77) 3-Ethyltoluene	17.84	105	1963	N.D.	
78) 4-Ethyltoluene	17.88	105	723	N.D.	
79) 1,3,5-Trimethylbenzene	17.95	105	10314	0.187 ng	100
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	18.16	105	2841	N.D.	
82) 1,2,4-Trimethylbenzene	18.39	105	3365	0.063 ng	82
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.54	91	585	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	18.66	105	735	N.D.	
88) 4-Isopropyltoluene (p-...	18.83	119	986	N.D.	
89) 1,2,3-Trimethylbenzene	18.83	105	2525	N.D.	
90) 1,2-Dichlorobenzene	18.98	146	765	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.92	128	876	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	18.38	119	980	N.D.	
100) n-Butylbenzene	19.28	91	1508	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282014.D Vial: 1
Acq On : 28 Apr 2020 19:37 Operator: SC
Sample : P2002030-010 (0.6mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 28 20:07:00 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282014.D Vial: 1
Acq On : 28 Apr 2020 19:37 Operator: SC
Sample : P2002030-010 (0.6mL) Inst : MS09
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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/28/20

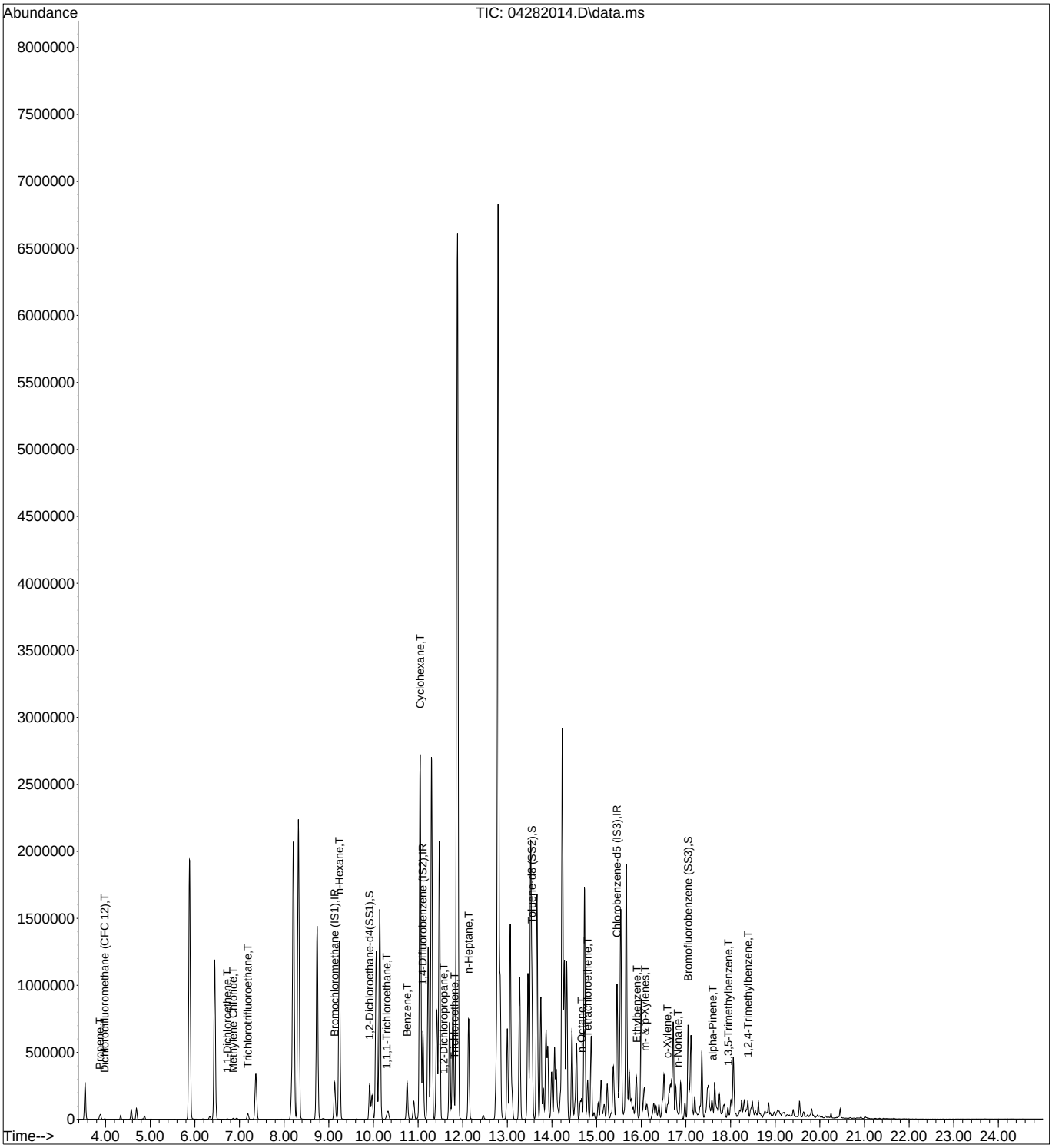
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	158756	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	685789	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	306805	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	239905	11.664	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.28%			
57) Toluene-d8 (SS2)	13.55	98	725719	12.251	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.00%			
73) Bromofluorobenzene (SS3)	17.05	174	279647	11.746	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.00%			
Target Compounds						Qvalue
2) Propene	3.87	42	14632	2.170	ng	# 79
3) Dichlorodifluoromethan...	3.98	85	4397	0.172	ng	98
17) 1,1-Dichloroethene	6.73	96	2228	0.199	ng	96
19) Methylene Chloride	6.86	84	5900	0.549	ng	98
21) Trichlorotrifluoroethane	7.19	151	21329	1.608	ng	98
31) n-Hexane	9.24	57	791687	58.188	ng	99
38) 1,1,1-Trichloroethane	10.30	97	22968	0.974	ng	99
41) Benzene	10.76	78	304669	6.815	ng	99
43) Cyclohexane	11.05	84	1480351	84.524	ng	97
45) 1,2-Dichloropropane	11.57	63	514	0.056	ng	95
47) Trichloroethene	11.82	130	1693	0.109	ng	94
51) n-Heptane	12.14	71	230140	22.156	ng	99
63) n-Octane	14.67	57	28872	3.647	ng	95
64) Tetrachloroethene	14.80	166	7457	0.398	ng	95
66) Ethylbenzene	15.90	91	5342	0.092	ng	82
67) m- & p-Xylenes	16.08	91	19746	0.404	ng	100
70) o-Xylene	16.58	91	36540	0.761	ng	97
71) n-Nonane	16.82	43	5249	0.339	ng	89
75) alpha-Pinene	17.60	93	3779	0.133	ng	69
79) 1,3,5-Trimethylbenzene	17.95	105	10314	0.187	ng	100
82) 1,2,4-Trimethylbenzene	18.39	105	3365	0.063	ng	82

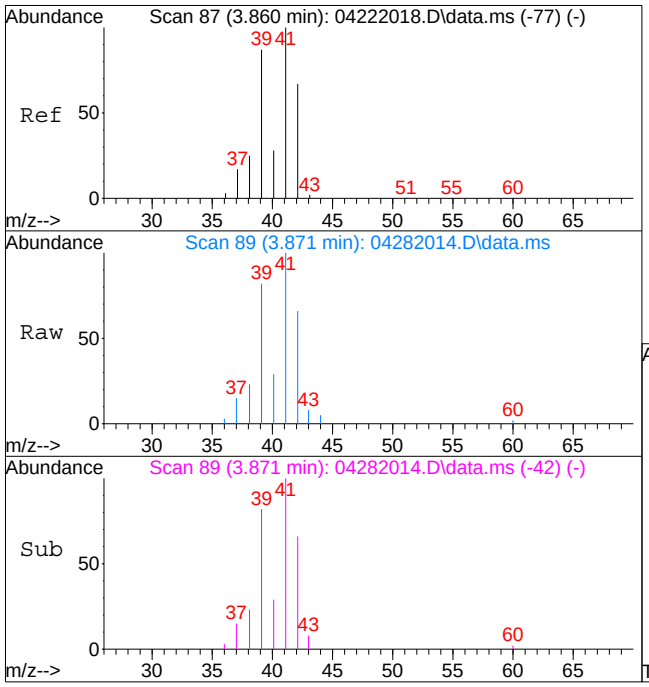
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282014.D Vial: 1
Acq On : 28 Apr 2020 19:37 Operator: SC
Sample : P2002030-010 (0.6mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 28 20:07:00 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

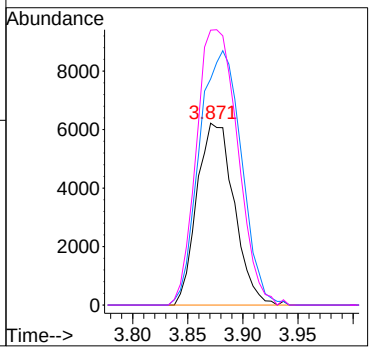


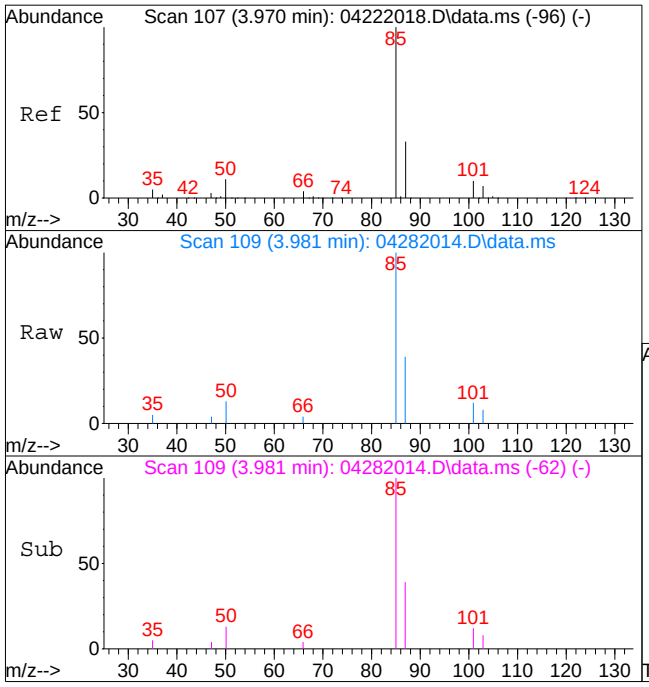


#2
Propene
Concen: 2.17 ng
RT: 3.87 min Scan# 89
Delta R.T. 0.011 min
Lab File: 04282014.D
Acq: 28 Apr 2020 19:37

Tgt Ion: 42 Resp: 14632

Ion	Ratio	Lower	Upper
42	100		
39	158.7	106.4	146.4#
41	168.1	128.8	168.8

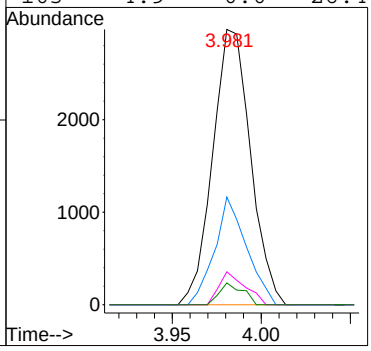


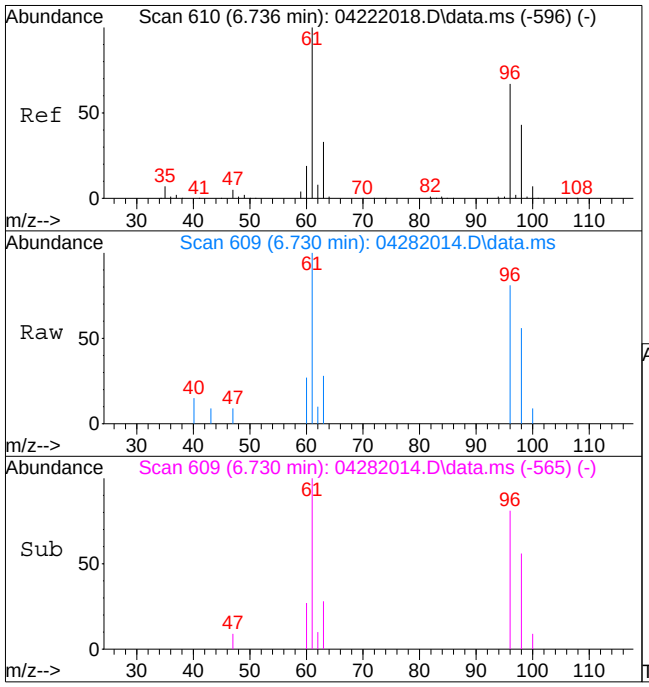


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.17 ng
RT: 3.98 min Scan# 109
Delta R.T. 0.011 min
Lab File: 04282014.D
Acq: 28 Apr 2020 19:37

Tgt Ion: 85 Resp: 4397

Ion	Ratio	Lower	Upper
85	100		
87	33.0	12.4	52.4
101	8.2	0.0	29.9
103	4.9	0.0	26.4

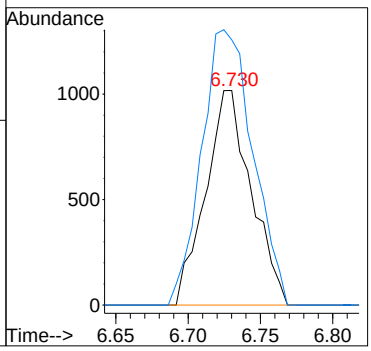


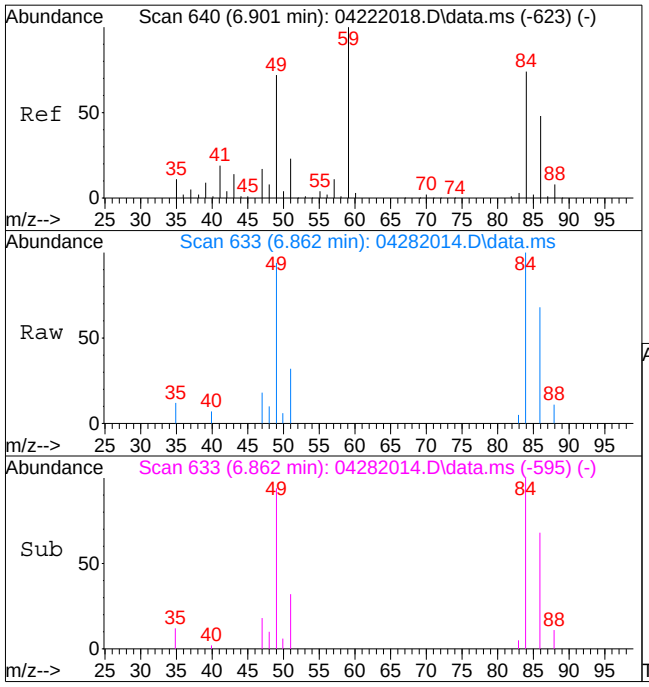


#17
1,1-Dichloroethene
Concen: 0.20 ng
RT: 6.73 min Scan# 609
Delta R.T. -0.006 min
Lab File: 04282014.D
Acq: 28 Apr 2020 19:37

Tgt Ion: 96 Resp: 2228

Ion	Ratio	Lower	Upper
96	100		
61	144.9	129.8	169.8

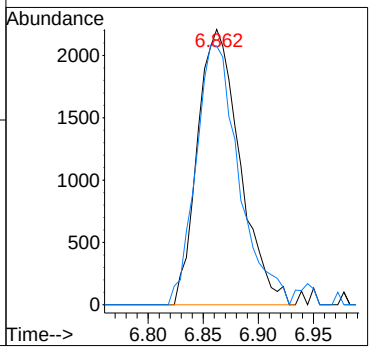


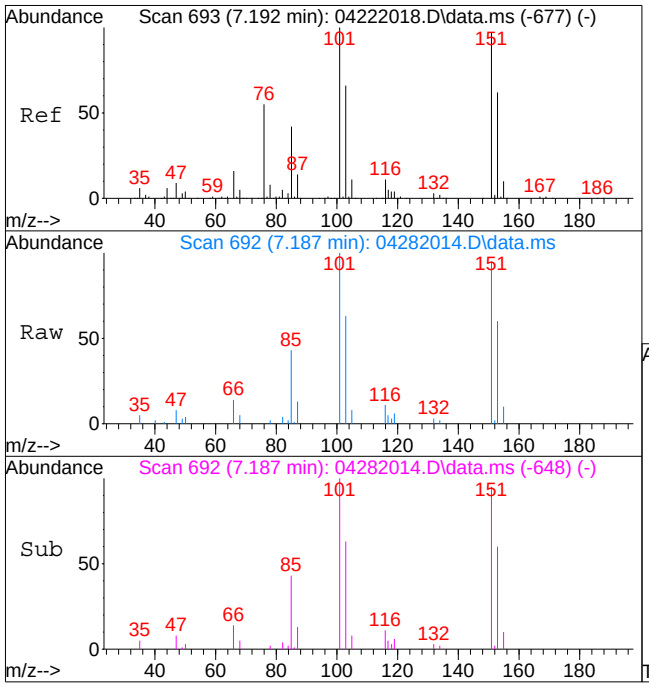


#19
Methylene Chloride
Concen: 0.55 ng
RT: 6.86 min Scan# 633
Delta R.T. -0.039 min
Lab File: 04282014.D
Acq: 28 Apr 2020 19:37

Tgt Ion: 84 Resp: 5900

Ion	Ratio	Lower	Upper
84	100		
49	95.7	73.0	123.0

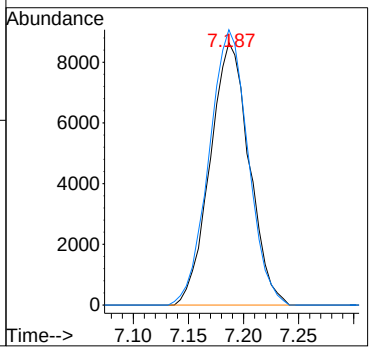


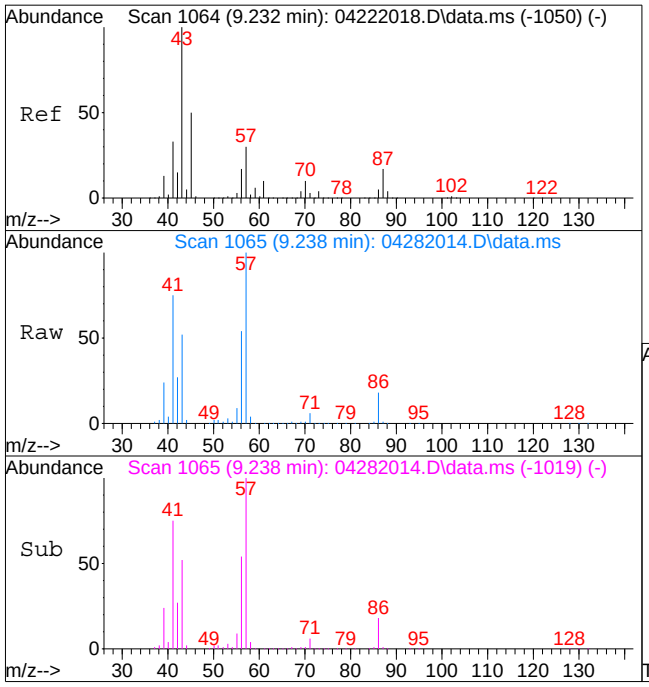


#21
Trichlorotrifluoroethane
Concen: 1.61 ng
RT: 7.19 min Scan# 692
Delta R.T. -0.006 min
Lab File: 04282014.D
Acq: 28 Apr 2020 19:37

Tgt Ion:151 Resp: 21329

Ion	Ratio	Lower	Upper
151	100		
101	104.7	82.9	122.9

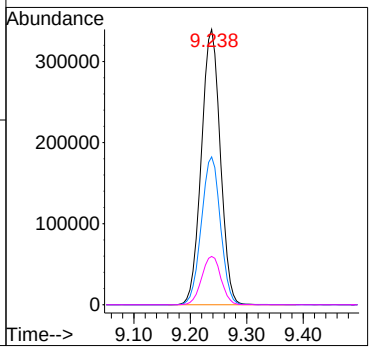


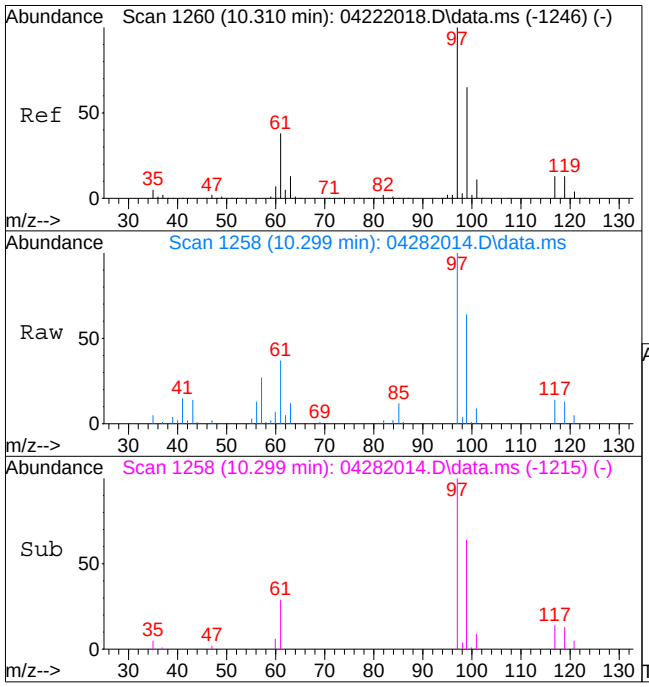


#31
n-Hexane
Concen: 58.19 ng
RT: 9.24 min Scan# 1065
Delta R.T. 0.005 min
Lab File: 04282014.D
Acq: 28 Apr 2020 19:37

Tgt Ion: 57 Resp: 791687

Ion	Ratio	Lower	Upper
57	100		
56	54.0	44.0	66.0
86	17.9	15.0	22.4

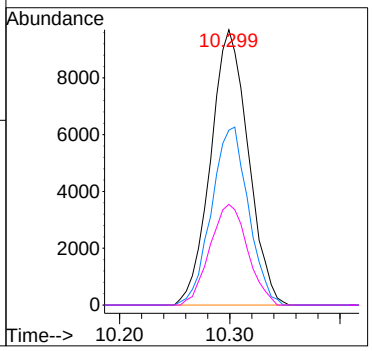


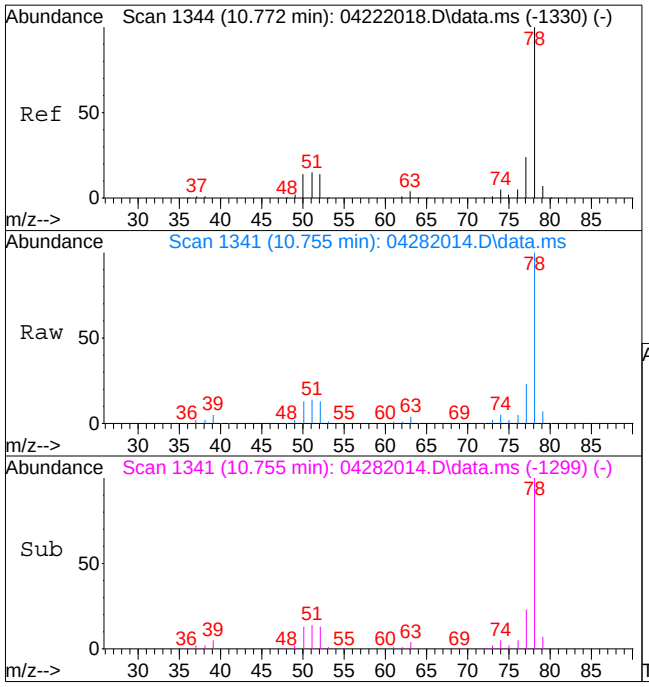


#38
1,1,1-Trichloroethane
Concen: 0.97 ng
RT: 10.30 min Scan# 1258
Delta R.T. -0.011 min
Lab File: 04282014.D
Acq: 28 Apr 2020 19:37

Tgt Ion: 97 Resp: 22968

Ion	Ratio	Lower	Upper
97	100		
99	63.4	44.7	84.7
61	36.7	17.2	57.2

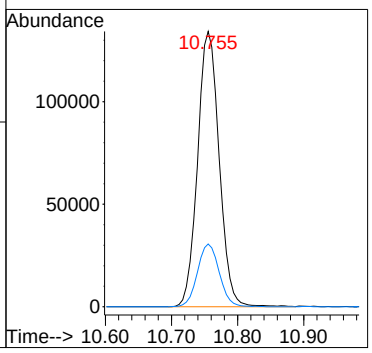


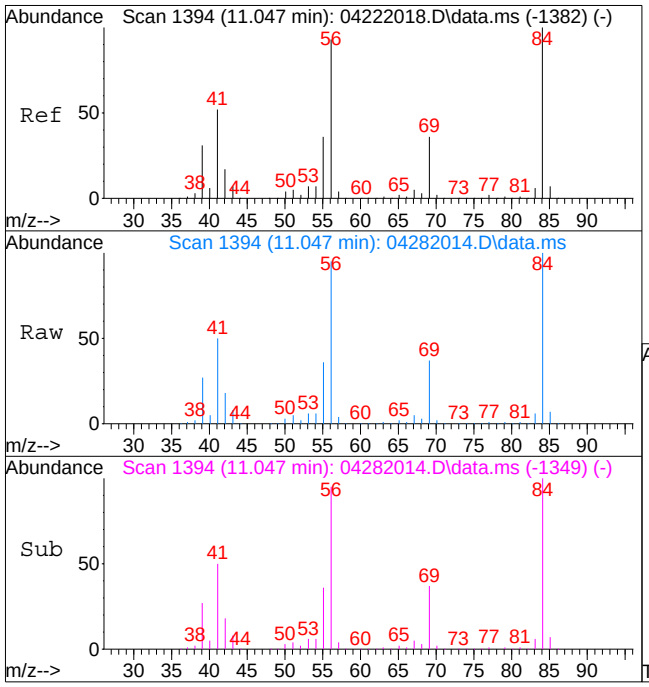


#41
Benzene
Concen: 6.81 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.017 min
Lab File: 04282014.D
Acq: 28 Apr 2020 19:37

Tgt Ion: 78 Resp: 304669

Ion	Ratio	Lower	Upper
78	100		
77	23.0	3.6	43.6

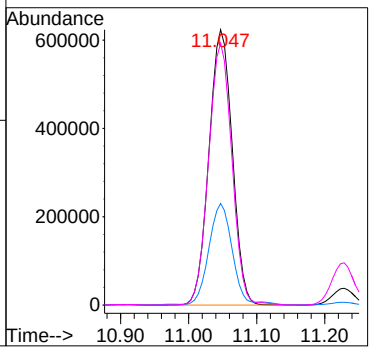


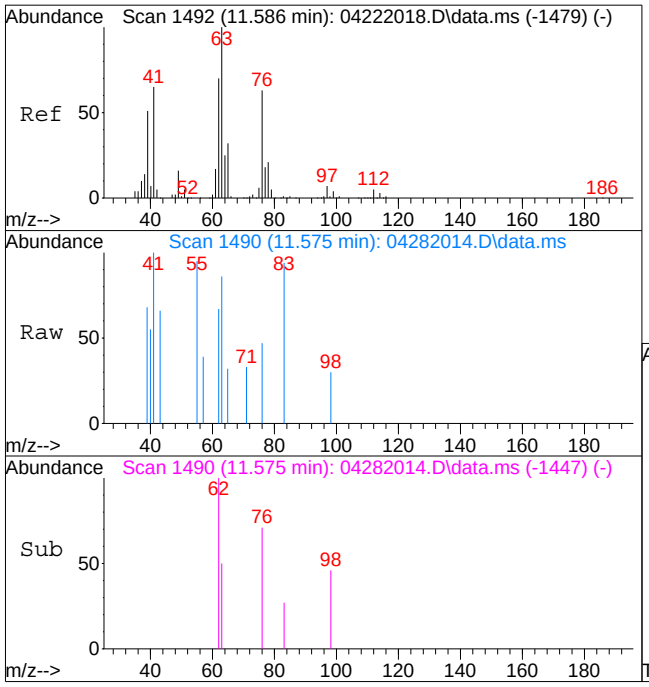


#43
Cyclohexane
Concen: 84.52 ng
RT: 11.05 min Scan# 1394
Delta R.T. -0.000 min
Lab File: 04282014.D
Acq: 28 Apr 2020 19:37

Tgt Ion: 84 Resp: 1480351

Ion	Ratio	Lower	Upper
84	100		
69	37.2	15.8	55.8
56	95.2	72.0	112.0

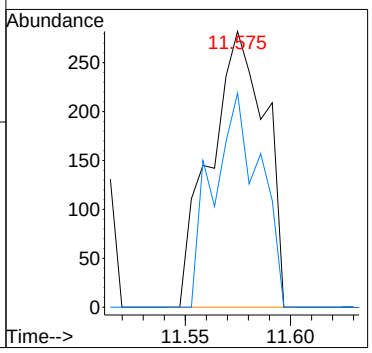


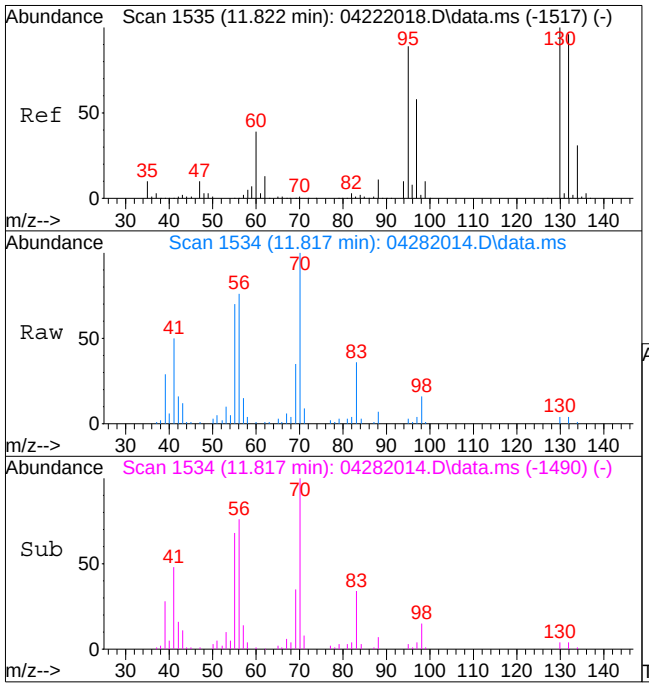


#45
1,2-Dichloropropane
Concen: 0.06 ng
RT: 11.57 min Scan# 1490
Delta R.T. -0.011 min
Lab File: 04282014.D
Acq: 28 Apr 2020 19:37

Tgt Ion: 63 Resp: 514

Ion	Ratio	Lower	Upper
63	100		
62	66.3	50.2	90.2

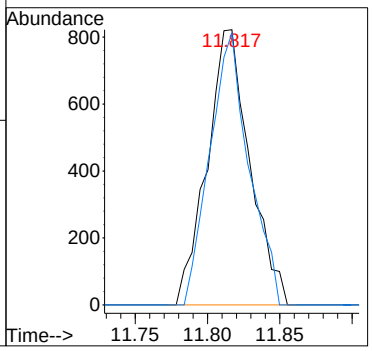


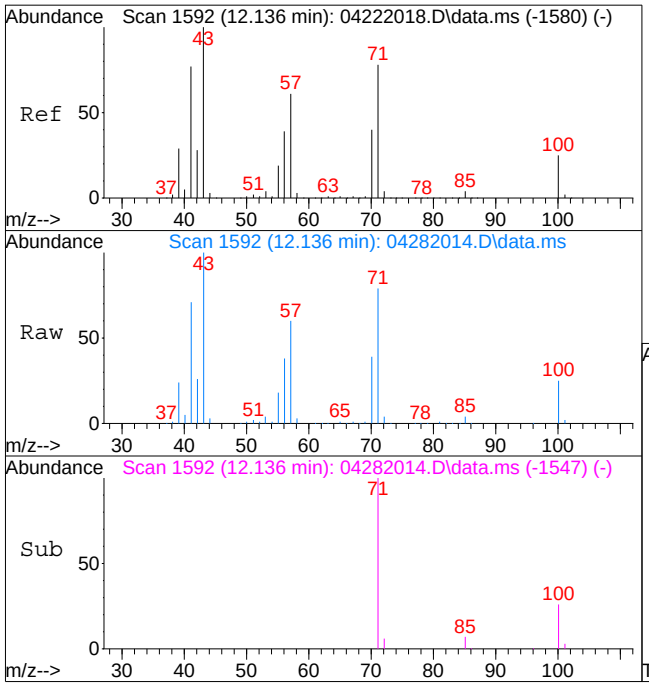


#47
Trichloroethene
Concen: 0.11 ng
RT: 11.82 min Scan# 1534
Delta R.T. -0.006 min
Lab File: 04282014.D
Acq: 28 Apr 2020 19:37

Tgt Ion:130 Resp: 1693

Ion	Ratio	Lower	Upper
130	100		
132	90.4	76.4	116.4

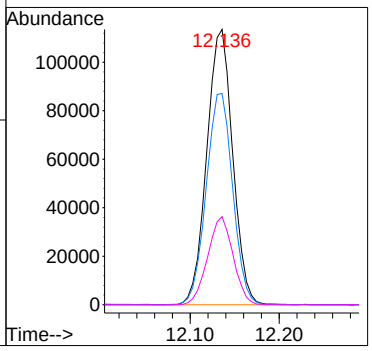


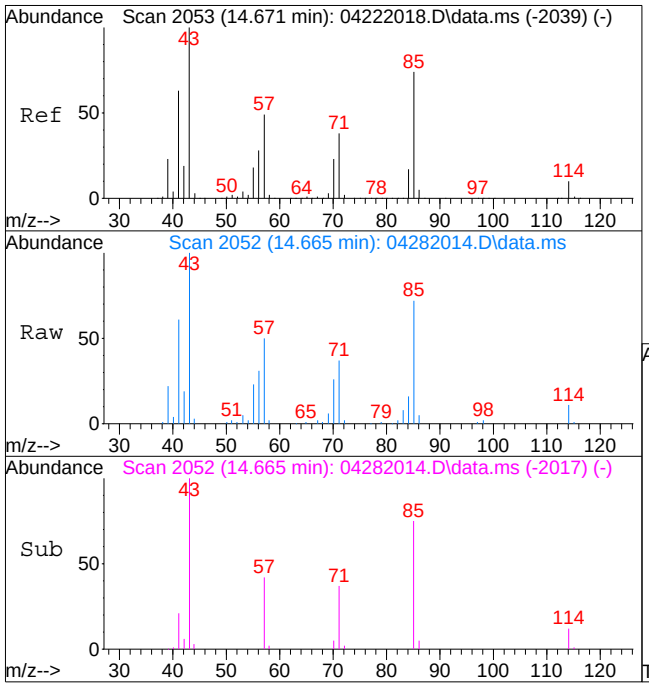


#51
n-Heptane
Concen: 22.16 ng
RT: 12.14 min Scan# 1592
Delta R.T. -0.000 min
Lab File: 04282014.D
Acq: 28 Apr 2020 19:37

Tgt Ion: 71 Resp: 230140

Ion	Ratio	Lower	Upper
71	100		
57	78.3	57.4	97.4
100	31.3	12.0	52.0

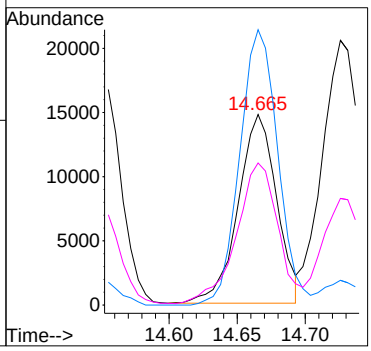


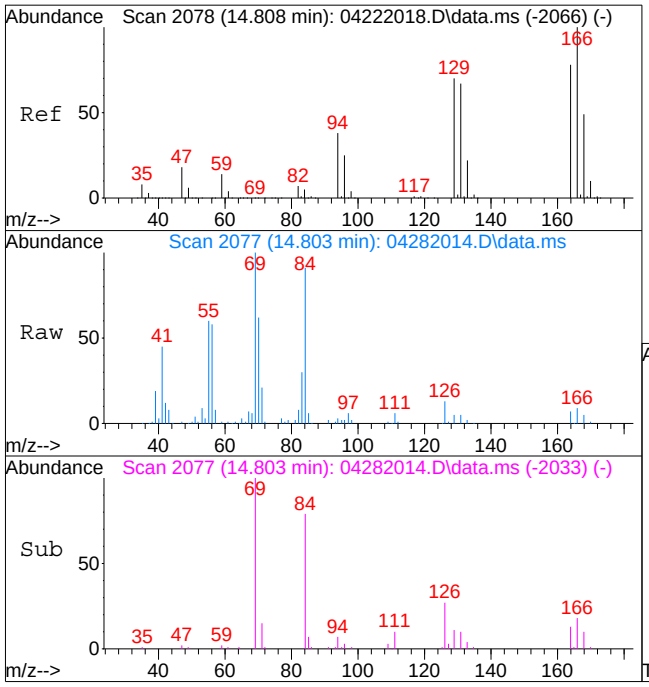


#63
n-Octane
Concen: 3.65 ng
RT: 14.67 min Scan# 2052
Delta R.T. -0.006 min
Lab File: 04282014.D
Acq: 28 Apr 2020 19:37

Tgt Ion: 57 Resp: 28872

Ion	Ratio	Lower	Upper
57	100		
85	144.4	120.7	181.1
71	80.4	61.1	91.7

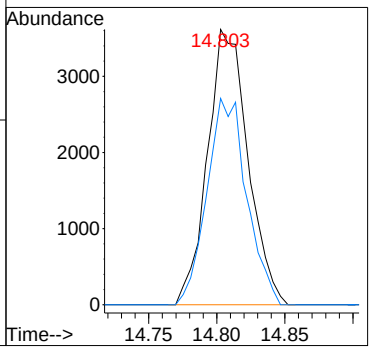


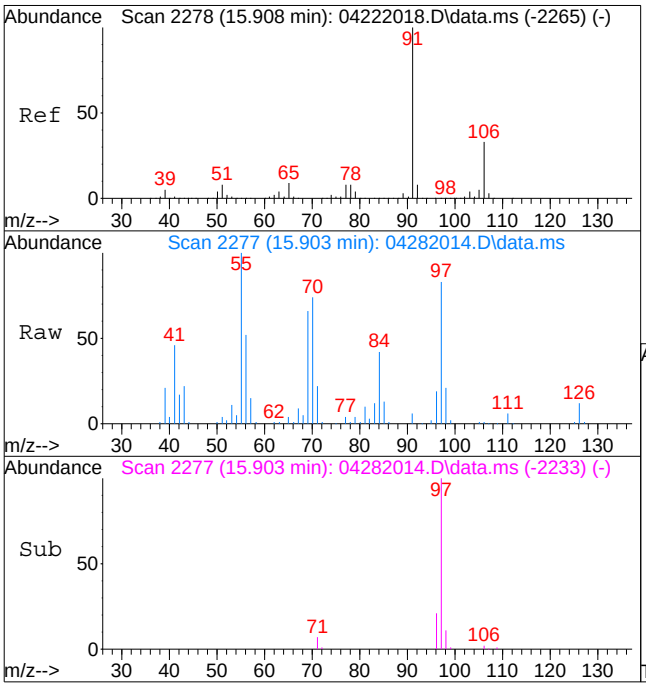


#64
Tetrachloroethene
Concen: 0.40 ng
RT: 14.80 min Scan# 2077
Delta R.T. -0.006 min
Lab File: 04282014.D
Acq: 28 Apr 2020 19:37

Tgt Ion:166 Resp: 7457

Ion	Ratio	Lower	Upper
166	100		
164	73.8	57.7	97.7

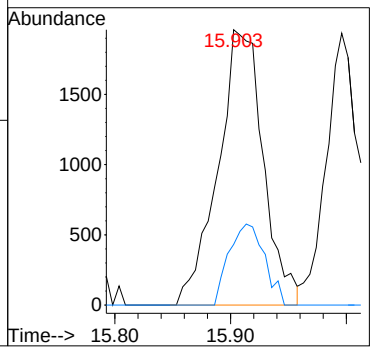


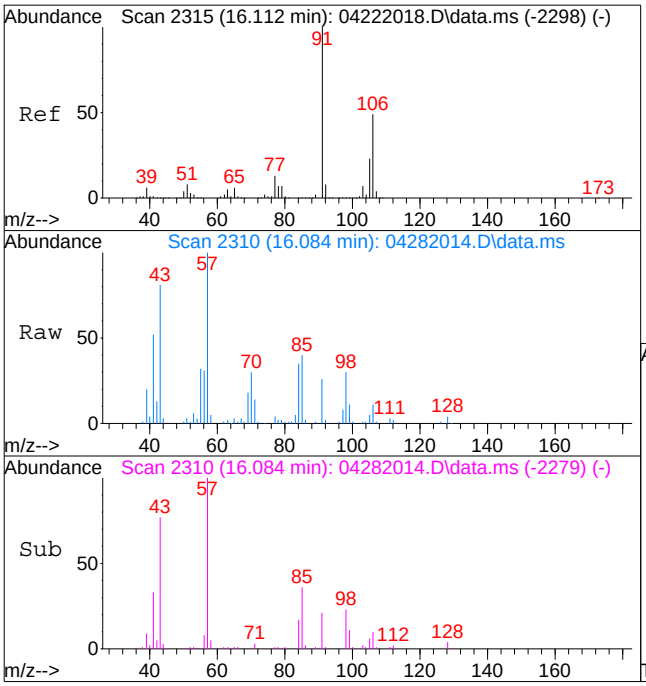


#66
Ethylbenzene
Concen: 0.09 ng
RT: 15.90 min Scan# 2277
Delta R.T. -0.006 min
Lab File: 04282014.D
Acq: 28 Apr 2020 19:37

Tgt Ion: 91 Resp: 5342

Ion	Ratio	Lower	Upper
91	100		
106	23.1	13.4	53.4

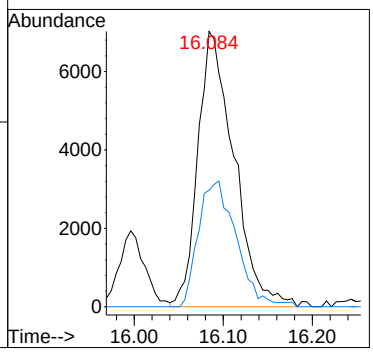


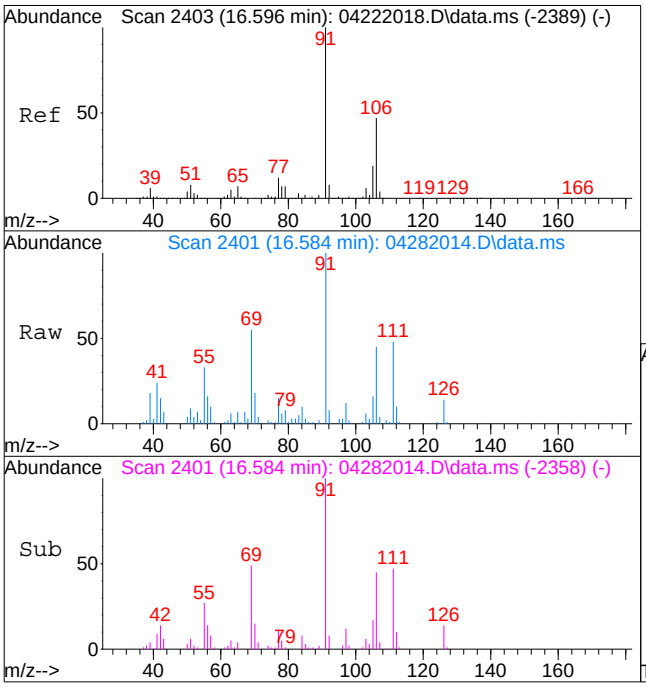


#67
m- & p-Xylenes
Concen: 0.40 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.028 min
Lab File: 04282014.D
Acq: 28 Apr 2020 19:37

Tgt Ion: 91 Resp: 19746

Ion	Ratio	Lower	Upper
91	100		
106	48.1	28.3	68.3

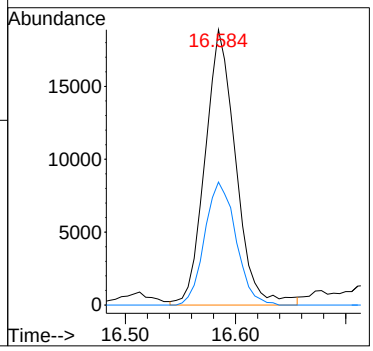


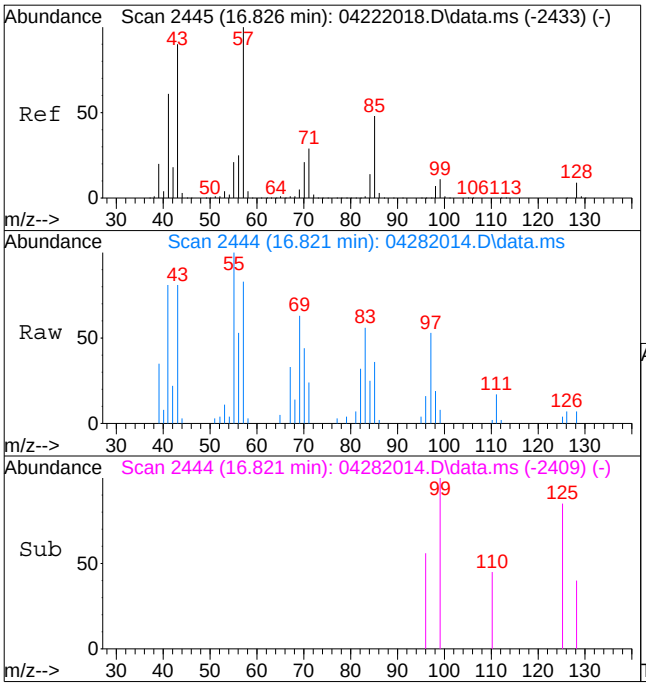


#70
o-Xylene
Concen: 0.76 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 04282014.D
Acq: 28 Apr 2020 19:37

Tgt Ion: 91 Resp: 36540

Ion	Ratio	Lower	Upper
91	100		
106	45.4	27.5	67.5

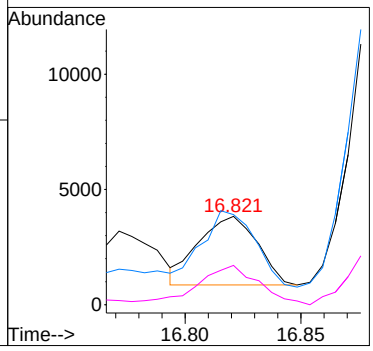


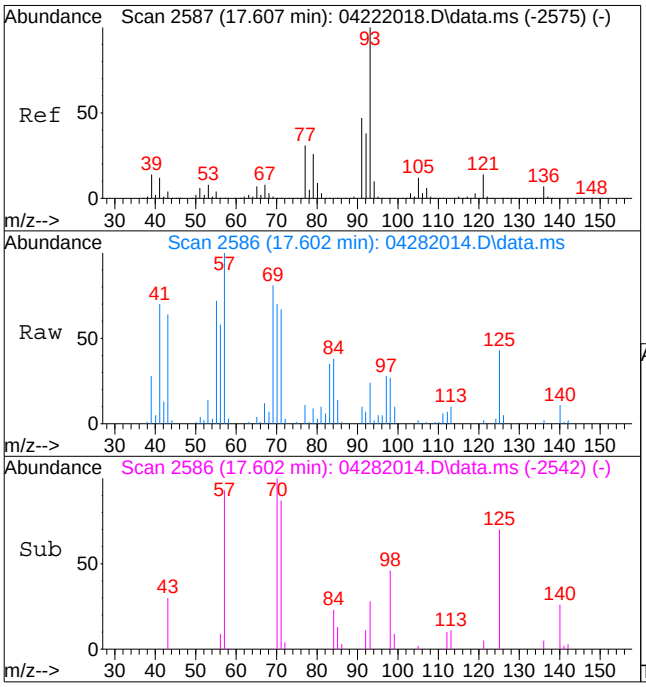


#71
n-Nonane
Concen: 0.34 ng
RT: 16.82 min Scan# 2444
Delta R.T. -0.006 min
Lab File: 04282014.D
Acq: 28 Apr 2020 19:37

Tgt Ion: 43 Resp: 5249

Ion	Ratio	Lower	Upper
43	100		
57	122.5	90.8	130.8
85	60.2	32.1	72.1

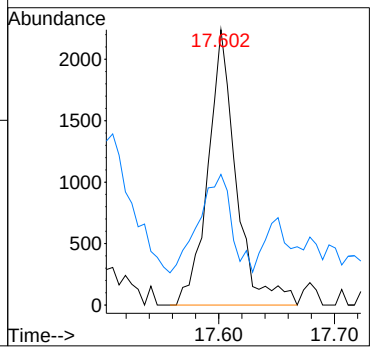


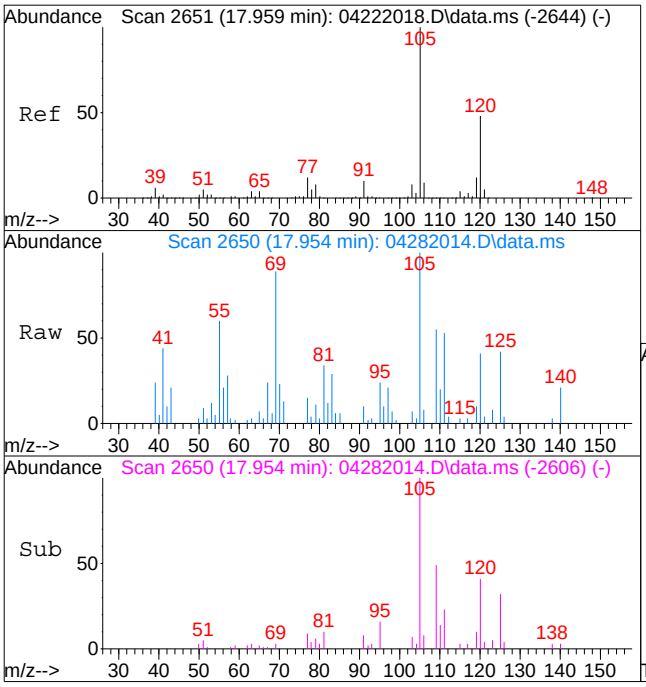


#75
alpha-Pinene
Concen: 0.13 ng
RT: 17.60 min Scan# 2586
Delta R.T. -0.006 min
Lab File: 04282014.D
Acq: 28 Apr 2020 19:37

Tgt Ion: 93 Resp: 3779

Ion	Ratio	Lower	Upper
93	100		
77	47.4	10.6	50.6

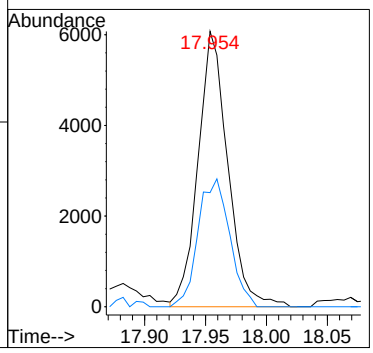


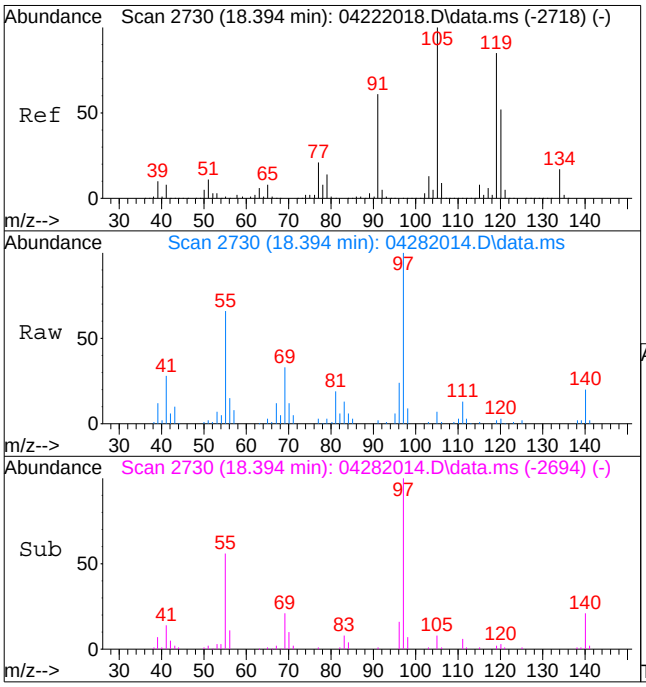


#79
1,3,5-Trimethylbenzene
Concen: 0.19 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 04282014.D
Acq: 28 Apr 2020 19:37

Tgt Ion:105 Resp: 10314

Ion	Ratio	Lower	Upper
105	100		
120	49.3	29.5	69.5

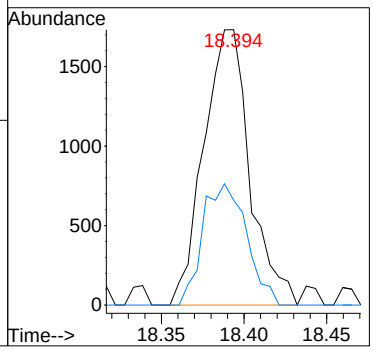




#82
1,2,4-Trimethylbenzene
Concen: 0.06 ng
RT: 18.39 min Scan# 2730
Delta R.T. -0.000 min
Lab File: 04282014.D
Acq: 28 Apr 2020 19:37

Tgt Ion:105 Resp: 3365

Ion	Ratio	Lower	Upper
105	100		
120	41.8	34.5	74.5



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282028.D Vial: 16
Acq On : 29 Apr 2020 3:31 Operator: SC
Sample : P2002030-011 (60mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 10:14:43 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 4/29/20
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	153386	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	650732	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	293626	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	228915	11.519	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.16%			
57) Toluene-d8 (SS2)	13.55	98	707533	12.480	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.84%			
73) Bromofluorobenzene (SS3)	17.05	174	277606	12.184	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.44%			
Target Compounds						Qvalue
2) Propene	3.86	42	9307	1.429	ng	# 84
3) Dichlorodifluoromethan...	3.96	85	168420	6.804	ng	100
4) Chloromethane	4.16	50	14435	1.581	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	3728	0.279	ng	95
6) Vinyl Chloride	4.45	62	3717	0.310	ng	99
7) 1,3-Butadiene	0.00	54	0	N.D.	d	
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.	d	
10) Ethanol	5.35	45	10873	2.203	ng	87
11) Acetonitrile	0.00	41	0	N.D.		
12) Acrolein	0.00	56	0	N.D.	d	
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	6.02	101	15152	0.615	ng	99
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.	d	
16) Acrylonitrile	6.37	53	33	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d	
19) Methylene Chloride	6.86	84	484	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d	
21) Trichlorotrifluoroethane	7.18	151	53371	4.164	ng	99
22) Carbon Disulfide	7.15	76	216478	6.266	ng	98
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	8.10	63	3647	0.214	ng	99
25) Methyl tert-Butyl Ether	8.20	73	230	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	8.53	72	6604	1.085	ng	94
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	0.00	61	0	N.D.	d	
31) n-Hexane	9.23	57	376384	28.632	ng	99
32) Chloroform	9.28	83	1795	0.085	ng	78
34) Tetrahydrofuran (THF)	9.69	72	11050	1.792	ng	89
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d	
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.	d	
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	10.76	78	1676815	39.529	ng	100
42) Carbon Tetrachloride	10.91	117	8342	0.380	ng	98
43) Cyclohexane	11.04	84	648093	38.998	ng	99
44) tert-Amyl Methyl Ether	11.30	73	361	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d	
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	11.82	130	1001	0.068	ng	99
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282028.D Vial: 16
Acq On : 29 Apr 2020 3:31 Operator: SC
Sample : P2002030-011 (60mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 10:14:43 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

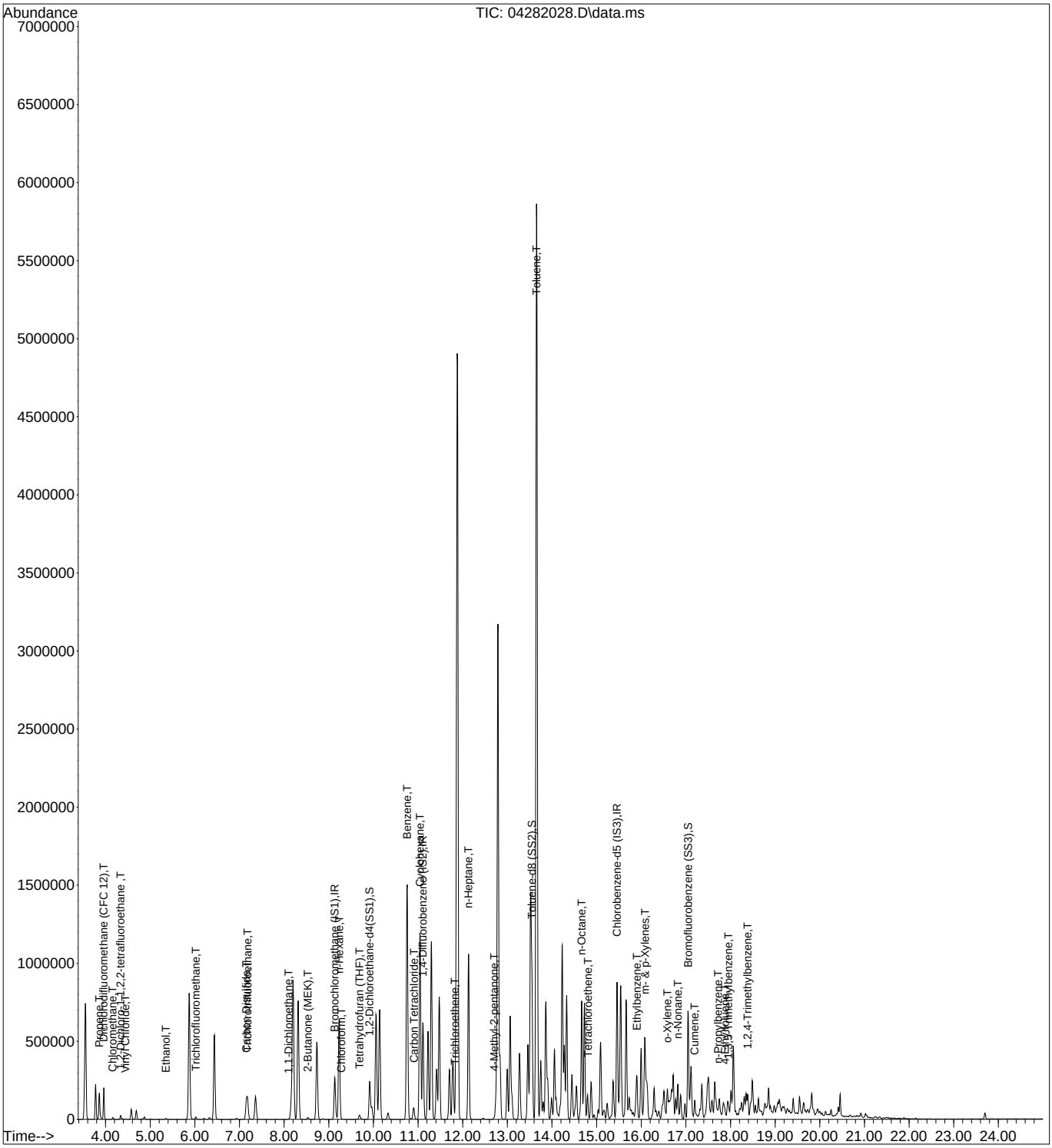
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.13	71	321957	32.666 ng	99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d	
53) 4-Methyl-2-pentanone	12.71	58	3306m	0.445 ng	
54) trans-1,3-Dichloropropene	12.96	75	306	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	13.65	91	4640332	97.487 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.67	57	147004	19.401 ng	99
64) Tetrachloroethene	14.81	166	1613	0.090 ng	98
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.90	91	175642	3.167 ng	98
67) m- & p-Xylenes	16.08	91	422898	9.038 ng	97
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.48	104	309	N.D.	
70) o-Xylene	16.58	91	118859	2.587 ng	100
71) n-Nonane	16.82	43	67453	4.550 ng	99
72) 1,1,2,2-Tetrachloroethane	16.60	83	280	N.D.	
74) Cumene	17.19	105	13061	0.218 ng	95
75) alpha-Pinene	17.60	93	287	N.D.	
76) n-Propylbenzene	17.72	91	23158	0.355 ng	95
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	7899	0.139 ng	100
79) 1,3,5-Trimethylbenzene	17.95	105	15657	0.297 ng	99
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	24954	0.490 ng	92
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.48	91	1686	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	18.83	119	2308	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.91	128	1094	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282028.D Vial: 16
Acq On : 29 Apr 2020 3:31 Operator: SC
Sample : P2002030-011 (60mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 10:14:43 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282028.D Vial: 16
Acq On : 29 Apr 2020 3:31 Operator: SC
Sample : P2002030-011 (60mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 10:14:43 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/29/20

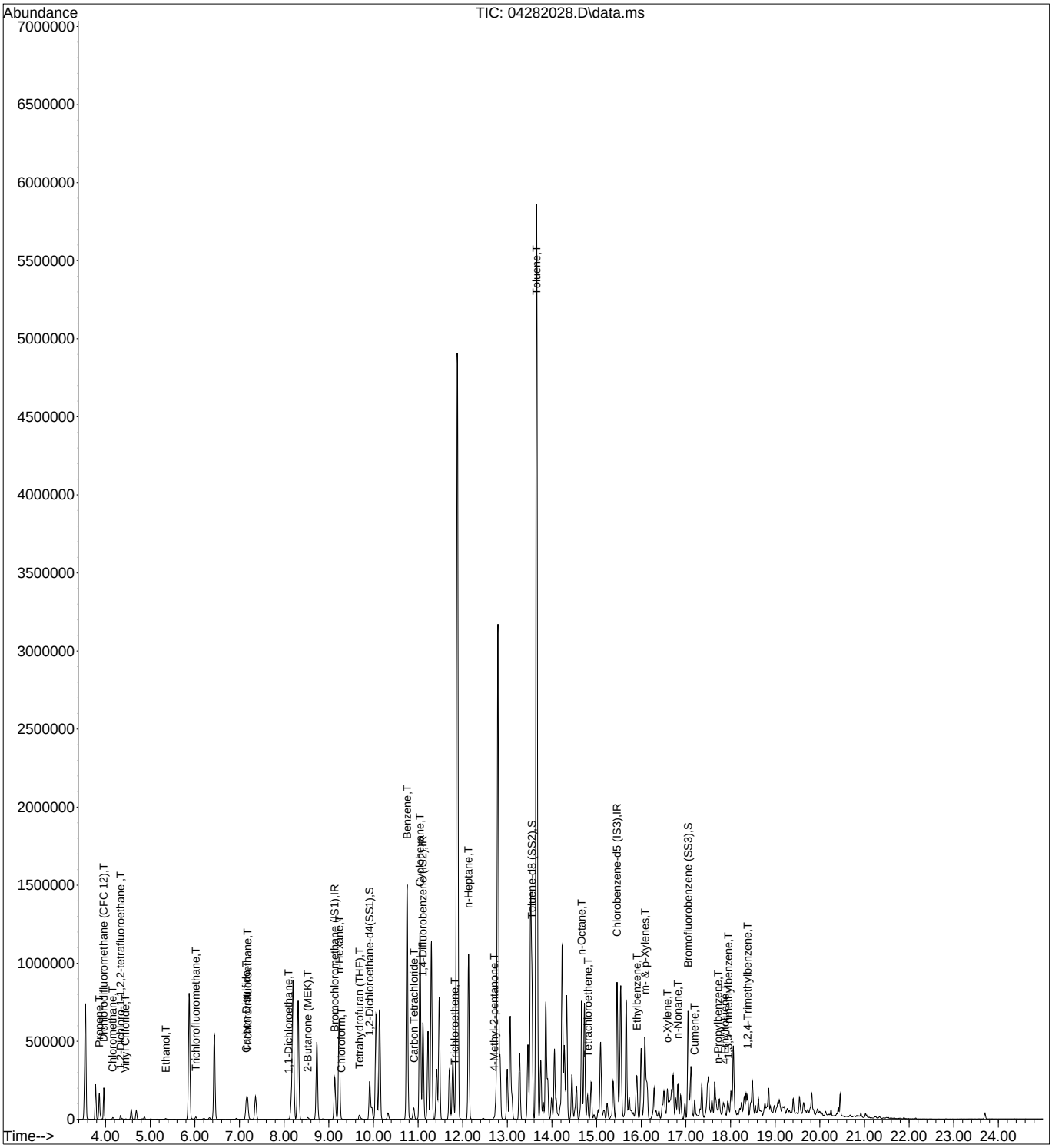
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	153386	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	650732	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	293626	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	228915	11.519	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.16%			
57) Toluene-d8 (SS2)	13.55	98	707533	12.480	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.84%			
73) Bromofluorobenzene (SS3)	17.05	174	277606	12.184	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.44%			
Target Compounds						Qvalue
2) Propene	3.86	42	9307	1.429	ng	# 84
3) Dichlorodifluoromethan...	3.96	85	168420	6.804	ng	100
4) Chloromethane	4.16	50	14435	1.581	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	3728	0.279	ng	95
6) Vinyl Chloride	4.45	62	3717	0.310	ng	99
10) Ethanol	5.35	45	10873	2.203	ng	87
14) Trichlorofluoromethane	6.02	101	15152	0.615	ng	99
21) Trichlorotrifluoroethane	7.18	151	53371	4.164	ng	99
22) Carbon Disulfide	7.15	76	216478	6.266	ng	98
24) 1,1-Dichloroethane	8.10	63	3647	0.214	ng	99
27) 2-Butanone (MEK)	8.53	72	6604	1.085	ng	94
31) n-Hexane	9.23	57	376384	28.632	ng	99
32) Chloroform	9.28	83	1795	0.085	ng	78
34) Tetrahydrofuran (THF)	9.69	72	11050	1.792	ng	89
41) Benzene	10.76	78	1676815	39.529	ng	100
42) Carbon Tetrachloride	10.91	117	8342	0.380	ng	98
43) Cyclohexane	11.04	84	648093	38.998	ng	99
47) Trichloroethene	11.82	130	1001	0.068	ng	99
51) n-Heptane	12.13	71	321957	32.666	ng	99
53) 4-Methyl-2-pentanone	12.71	58	3306m	0.445	ng	
58) Toluene	13.65	91	4640332	97.487	ng	100
63) n-Octane	14.67	57	147004	19.401	ng	99
64) Tetrachloroethene	14.81	166	1613	0.090	ng	98
66) Ethylbenzene	15.90	91	175642	3.167	ng	98
67) m- & p-Xylenes	16.08	91	422898	9.038	ng	97
70) o-Xylene	16.58	91	118859	2.587	ng	100
71) n-Nonane	16.82	43	67453	4.550	ng	99
74) Cumene	17.19	105	13061	0.218	ng	95
76) n-Propylbenzene	17.72	91	23158	0.355	ng	95
78) 4-Ethyltoluene	17.88	105	7899	0.139	ng	100
79) 1,3,5-Trimethylbenzene	17.95	105	15657	0.297	ng	99
82) 1,2,4-Trimethylbenzene	18.38	105	24954	0.490	ng	92

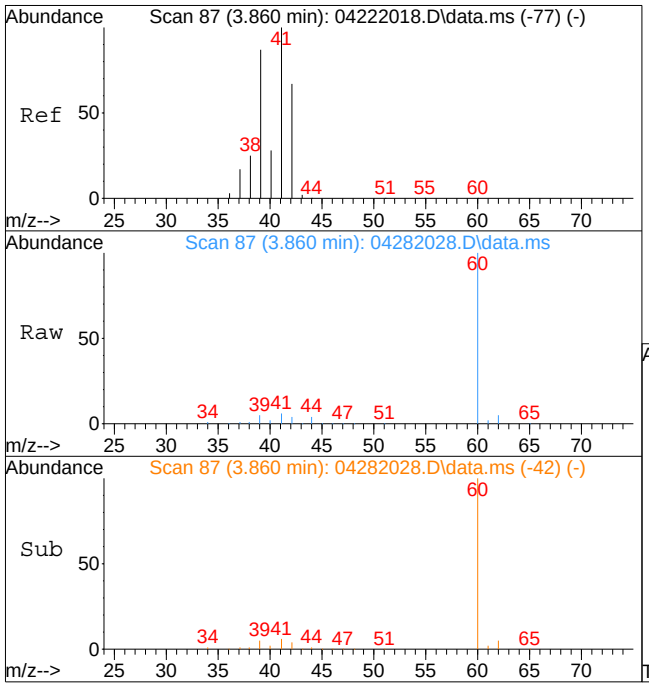
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282028.D Vial: 16
Acq On : 29 Apr 2020 3:31 Operator: SC
Sample : P2002030-011 (60mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 10:14:43 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

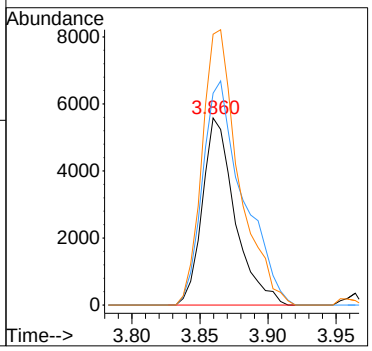


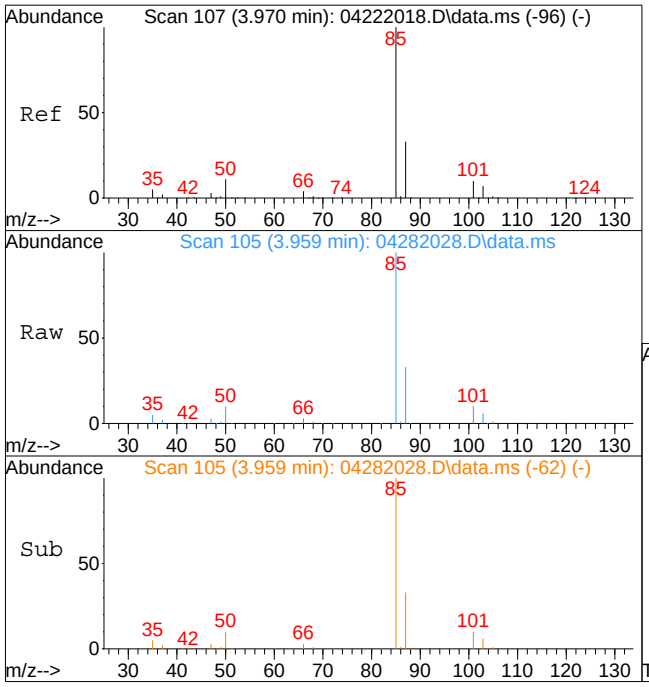


#2
Propene
Concen: 1.43 ng
RT: 3.86 min Scan# 87
Delta R.T. -0.000 min
Lab File: 04282028.D
Acq: 29 Apr 2020 3:31

Tgt Ion: 42 Resp: 9307

Ion	Ratio	Lower	Upper
42	100		
39	148.7	106.4	146.4#
41	165.3	128.8	168.8

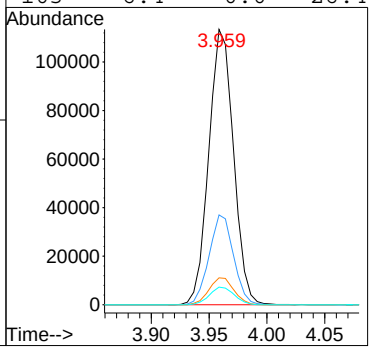


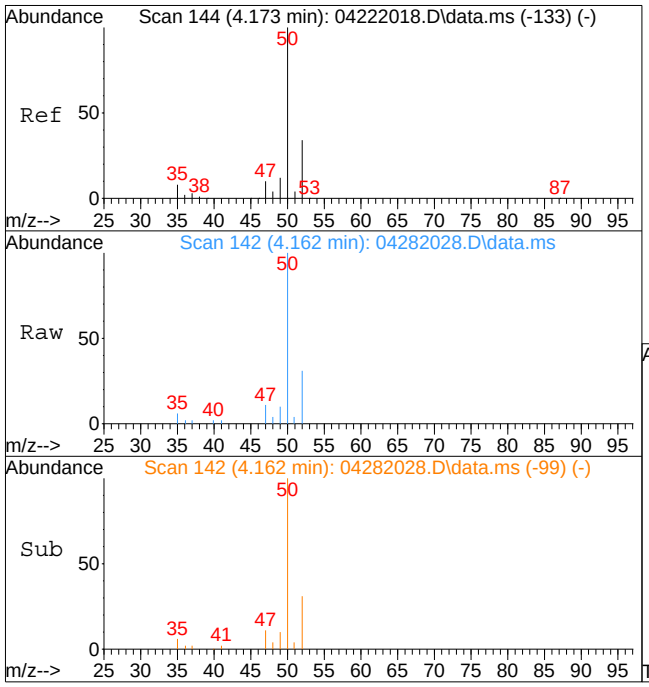


#3
Dichlorodifluoromethane (CFC 12)
Concen: 6.80 ng
RT: 3.96 min Scan# 105
Delta R.T. -0.011 min
Lab File: 04282028.D
Acq: 29 Apr 2020 3:31

Tgt Ion: 85 Resp: 168420

Ion	Ratio	Lower	Upper
85	100		
87	32.3	12.4	52.4
101	9.9	0.0	29.9
103	6.4	0.0	26.4

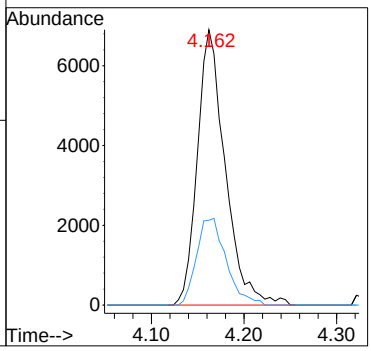


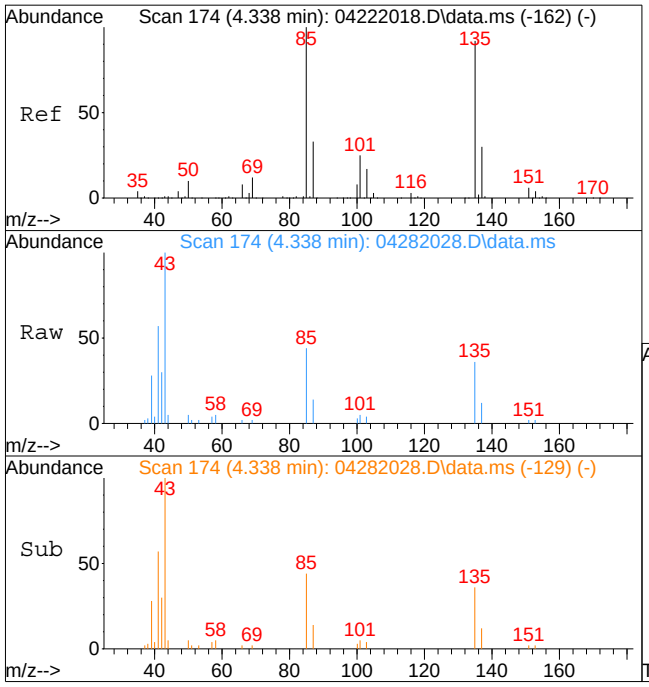


#4
Chloromethane
Concen: 1.58 ng
RT: 4.16 min Scan# 142
Delta R.T. -0.011 min
Lab File: 04282028.D
Acq: 29 Apr 2020 3:31

Tgt Ion: 50 Resp: 14435

Ion	Ratio	Lower	Upper
50	100		
52	33.4	13.7	53.7

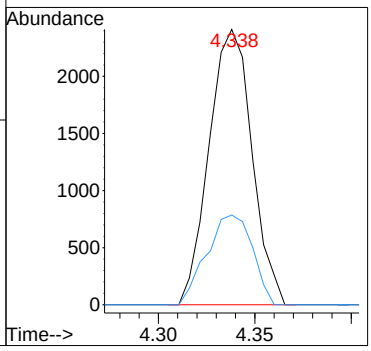


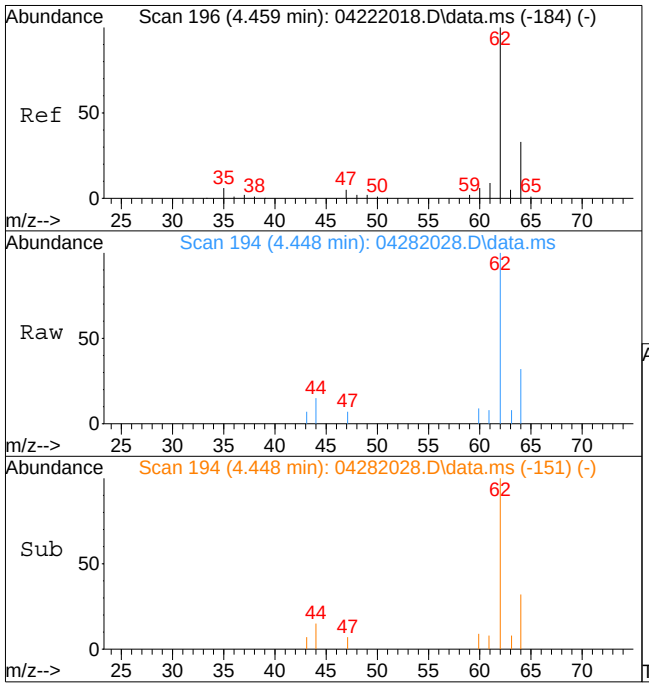


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 0.28 ng
RT: 4.34 min Scan# 174
Delta R.T. -0.000 min
Lab File: 04282028.D
Acq: 29 Apr 2020 3:31

Tgt Ion:135 Resp: 3728

Ion	Ratio	Lower	Upper
135	100		
137	34.8	11.9	51.9

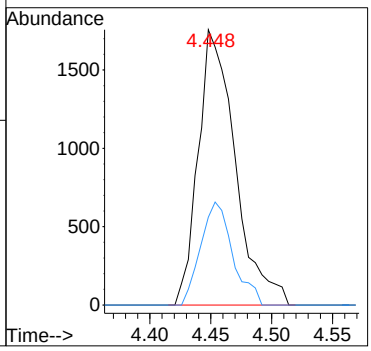


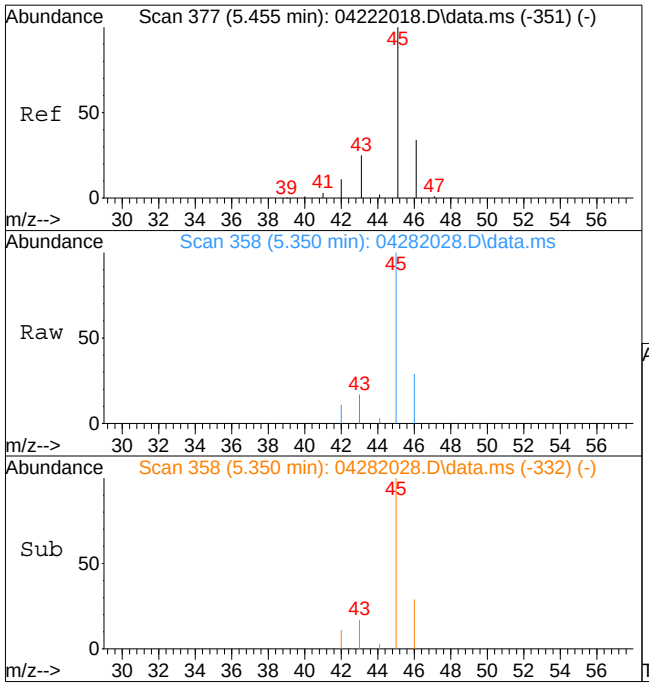


#6
Vinyl Chloride
Concen: 0.31 ng
RT: 4.45 min Scan# 194
Delta R.T. -0.011 min
Lab File: 04282028.D
Acq: 29 Apr 2020 3:31

Tgt Ion: 62 Resp: 3717

Ion	Ratio	Lower	Upper
62	100		
64	32.3	12.7	52.7

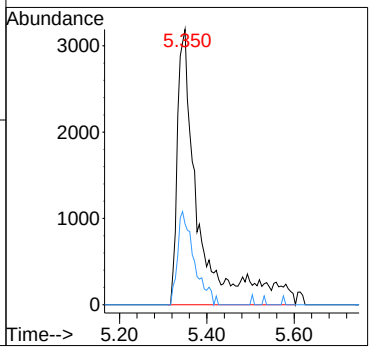


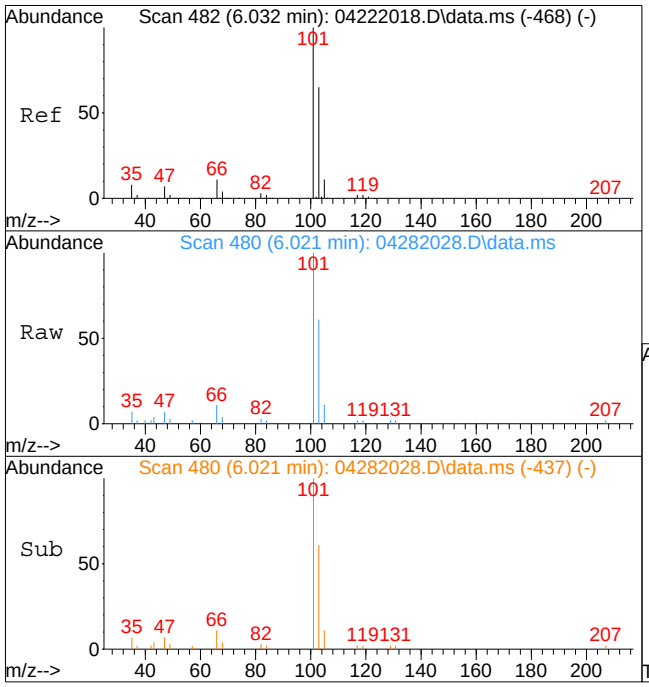


#10
Ethanol
Concen: 2.20 ng
RT: 5.35 min Scan# 358
Delta R.T. -0.105 min
Lab File: 04282028.D
Acq: 29 Apr 2020 3:31

Tgt Ion: 45 Resp: 10873

Ion	Ratio	Lower	Upper
45	100		
46	26.3	14.0	54.0

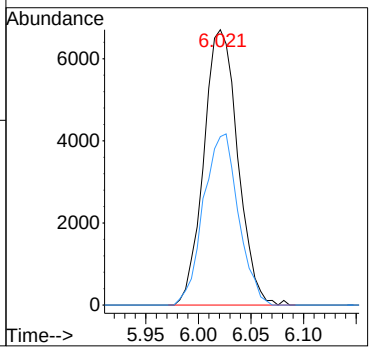


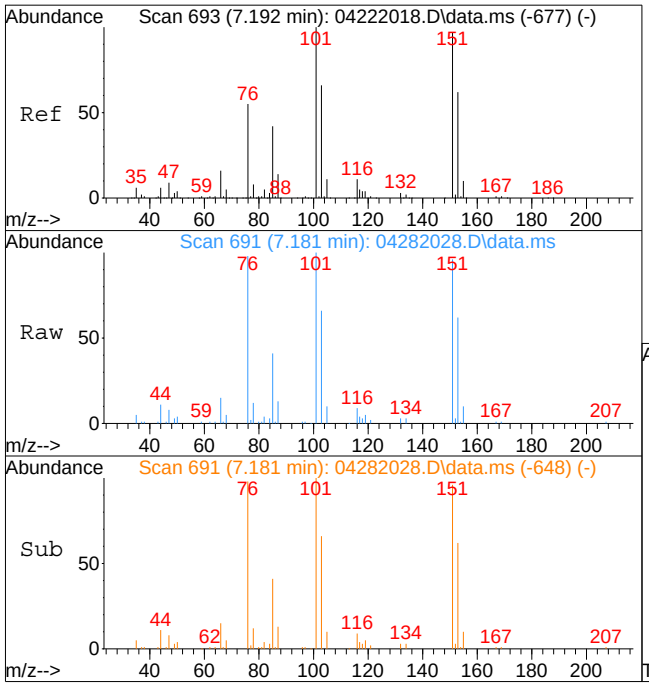


#14
Trichlorofluoromethane
Concen: 0.62 ng
RT: 6.02 min Scan# 480
Delta R.T. -0.011 min
Lab File: 04282028.D
Acq: 29 Apr 2020 3:31

Tgt Ion:101 Resp: 15152

Ion	Ratio	Lower	Upper
101	100		
103	63.7	44.7	84.7

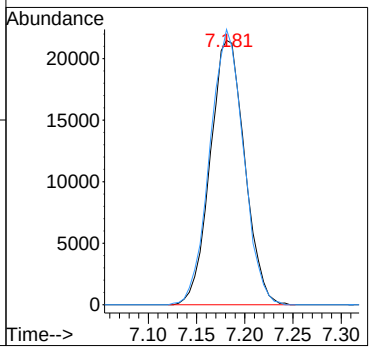


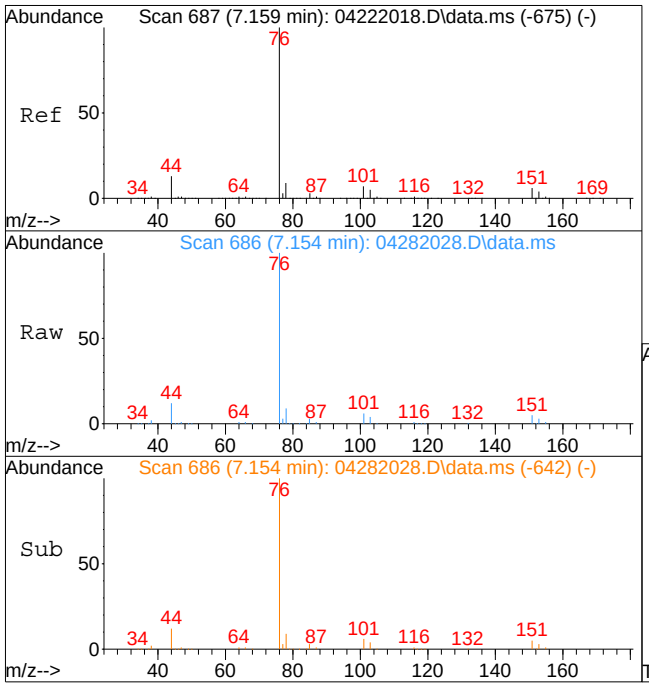


#21
Trichlorotrifluoroethane
Concen: 4.16 ng
RT: 7.18 min Scan# 691
Delta R.T. -0.011 min
Lab File: 04282028.D
Acq: 29 Apr 2020 3:31

Tgt Ion:151 Resp: 53371

Ion	Ratio	Lower	Upper
151	100		
101	101.9	82.9	122.9

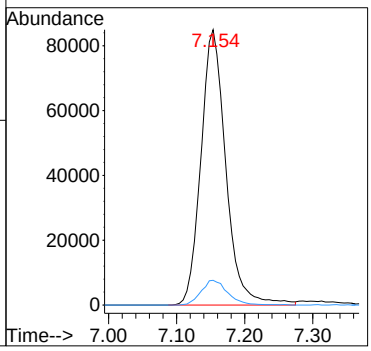


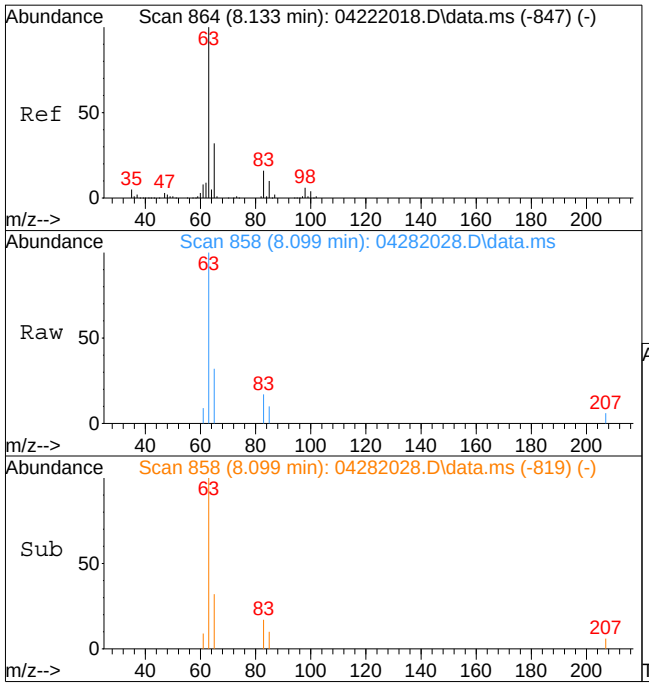


#22
Carbon Disulfide
Concen: 6.27 ng
RT: 7.15 min Scan# 686
Delta R.T. -0.006 min
Lab File: 04282028.D
Acq: 29 Apr 2020 3:31

Tgt Ion: 76 Resp: 216478

Ion	Ratio	Lower	Upper
76	100		
78	9.6	0.0	30.2

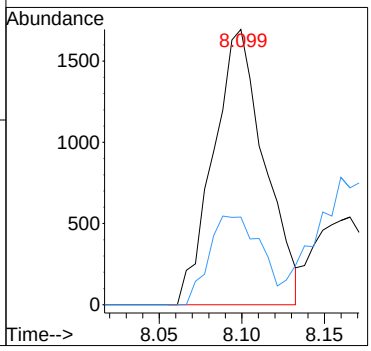


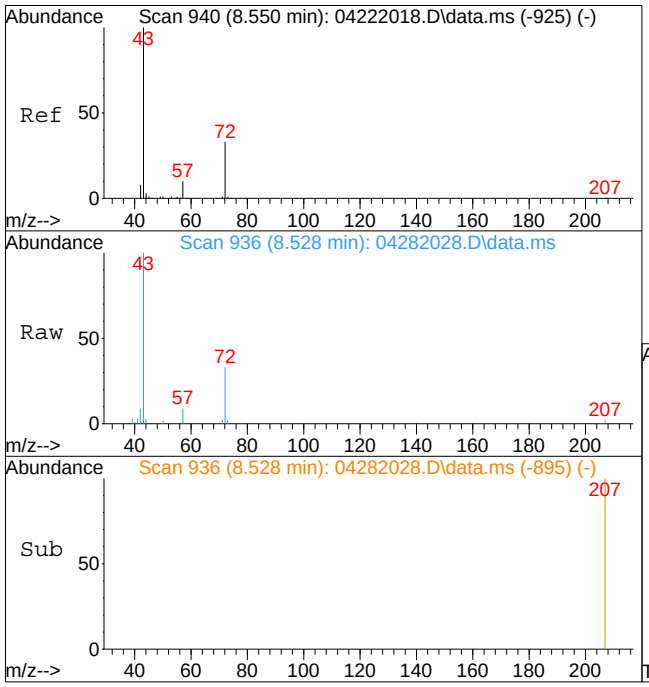


#24
1,1-Dichloroethane
Concen: 0.21 ng
RT: 8.10 min Scan# 858
Delta R.T. -0.033 min
Lab File: 04282028.D
Acq: 29 Apr 2020 3:31

Tgt Ion: 63 Resp: 3647

Ion	Ratio	Lower	Upper
63	100		
65	32.6	12.1	52.1

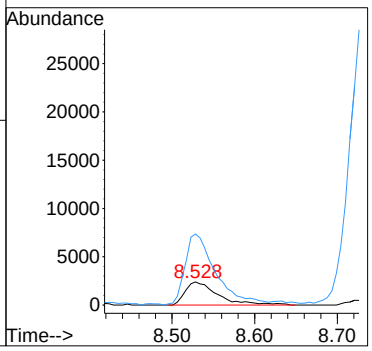


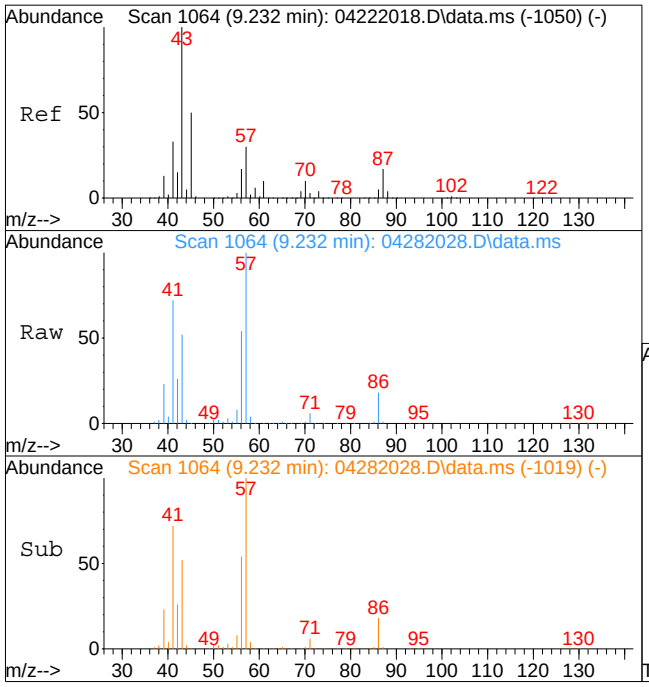


#27
2-Butanone (MEK)
Concen: 1.08 ng
RT: 8.53 min Scan# 936
Delta R.T. -0.022 min
Lab File: 04282028.D
Acq: 29 Apr 2020 3:31

Tgt Ion: 72 Resp: 6604

Ion	Ratio	Lower	Upper
72	100		
43	287.5	278.8	318.8

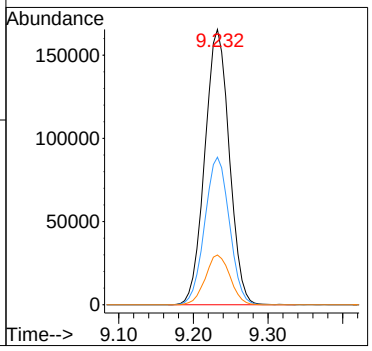


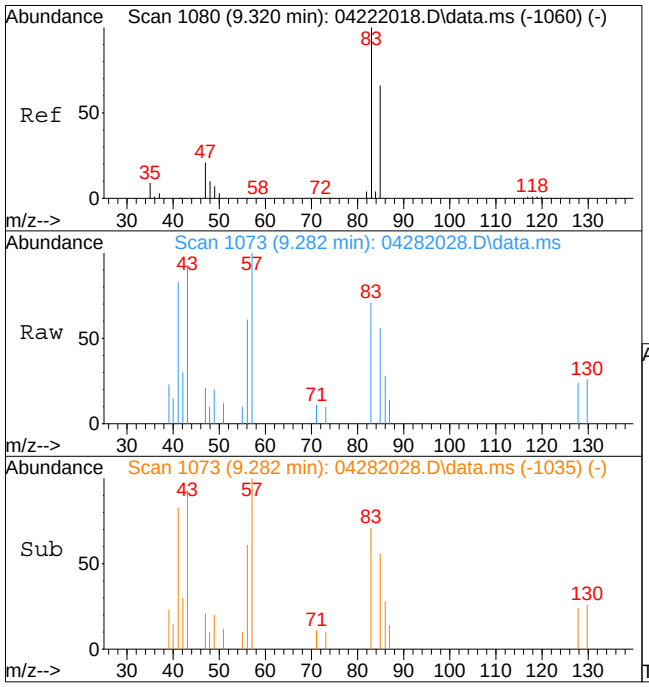


#31
n-Hexane
Concen: 28.63 ng
RT: 9.23 min Scan# 1064
Delta R.T. -0.000 min
Lab File: 04282028.D
Acq: 29 Apr 2020 3:31

Tgt Ion: 57 Resp: 376384

Ion	Ratio	Lower	Upper
57	100		
56	54.1	44.0	66.0
86	18.3	15.0	22.4

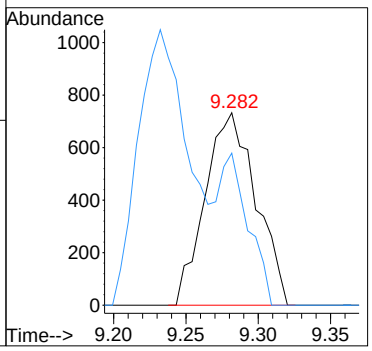


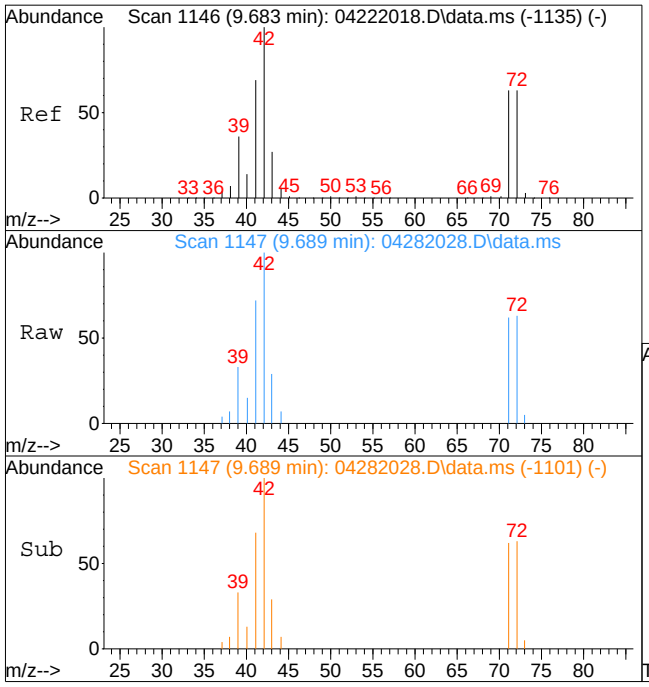


#32
Chloroform
Concen: 0.09 ng
RT: 9.28 min Scan# 1073
Delta R.T. -0.039 min
Lab File: 04282028.D
Acq: 29 Apr 2020 3:31

Tgt Ion: 83 Resp: 1795

Ion	Ratio	Lower	Upper
83	100		
85	48.5	45.8	85.8

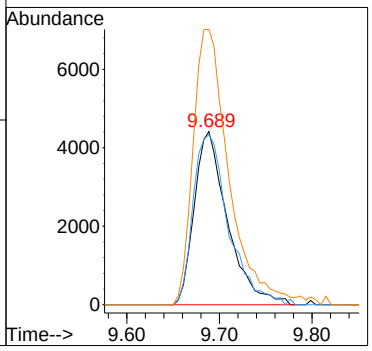


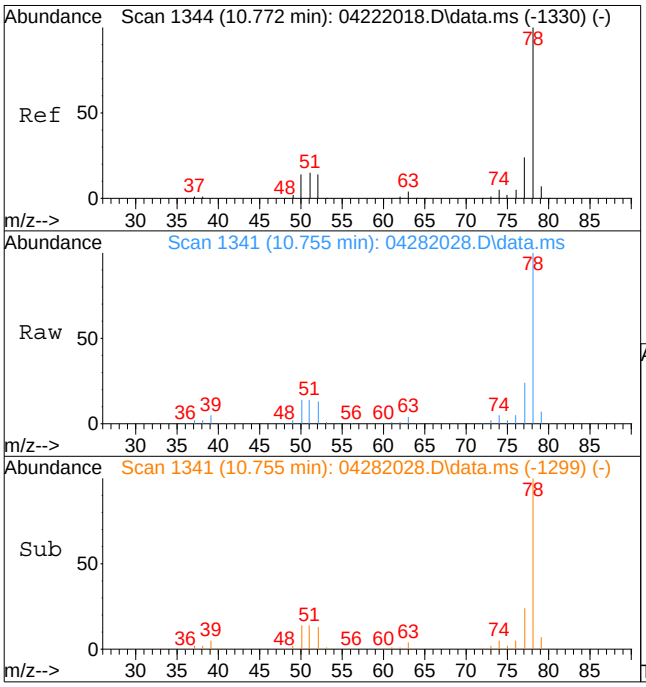


#34
Tetrahydrofuran (THF)
Concen: 1.79 ng
RT: 9.69 min Scan# 1147
Delta R.T. 0.005 min
Lab File: 04282028.D
Acq: 29 Apr 2020 3:31

Tgt Ion: 72 Resp: 11050

Ion	Ratio	Lower	Upper
72	100		
71	104.5	77.9	117.9
42	172.6	133.9	173.9

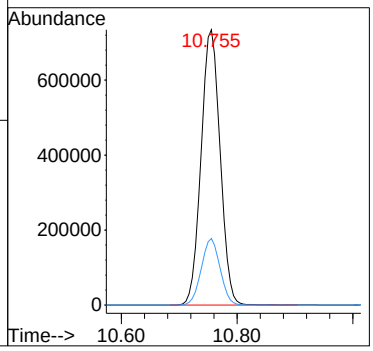


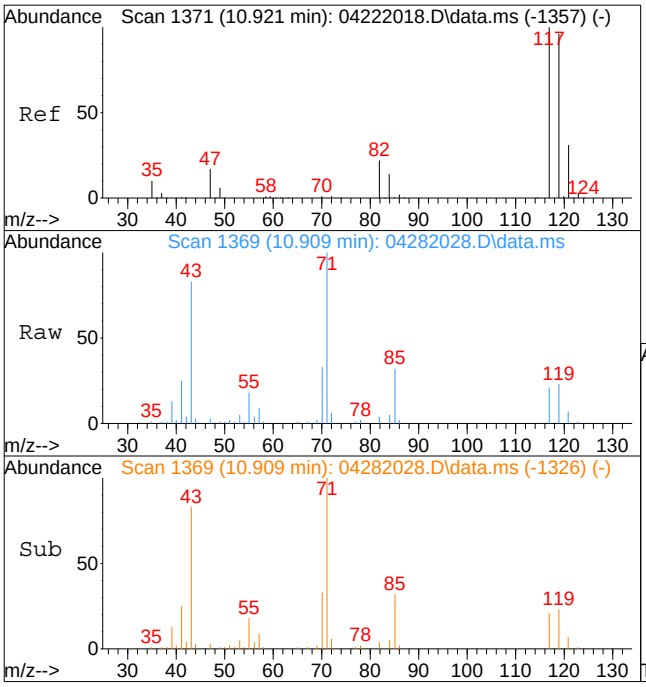


#41
Benzene
Concen: 39.53 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.017 min
Lab File: 04282028.D
Acq: 29 Apr 2020 3:31

Tgt Ion: 78 Resp: 1676815

Ion	Ratio	Lower	Upper
78	100		
77	23.8	3.6	43.6

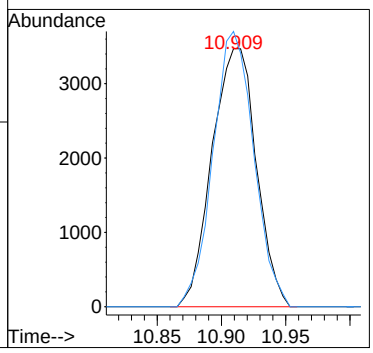


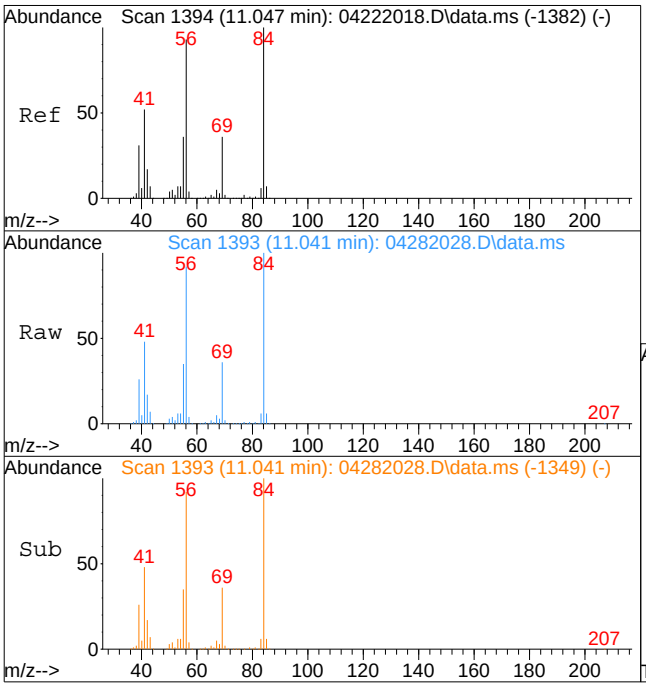


#42
Carbon Tetrachloride
Concen: 0.38 ng
RT: 10.91 min Scan# 1369
Delta R.T. -0.011 min
Lab File: 04282028.D
Acq: 29 Apr 2020 3:31

Tgt Ion:117 Resp: 8342

Ion	Ratio	Lower	Upper
117	100		
119	98.2	76.5	116.5

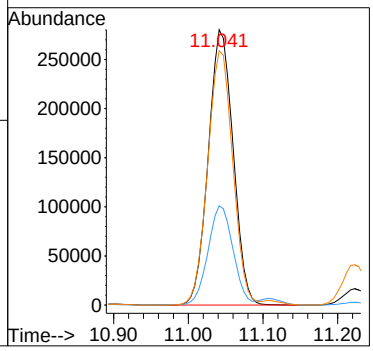


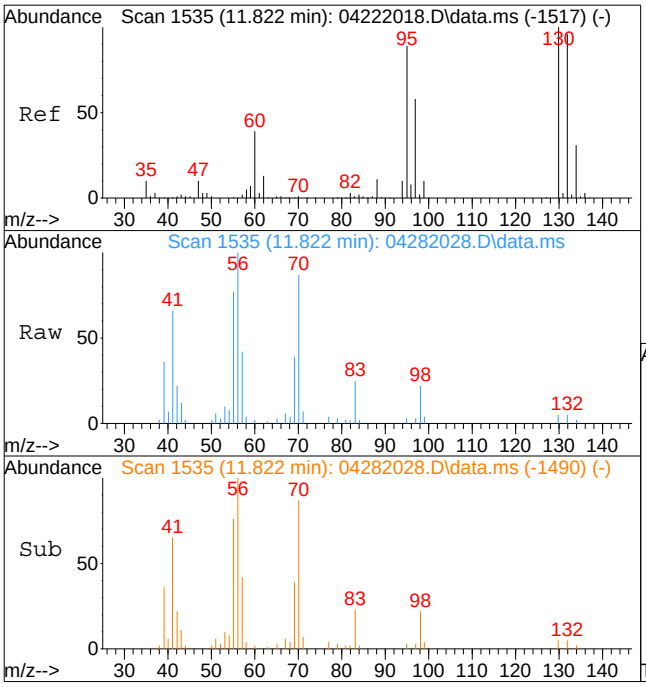


#43
Cyclohexane
Concen: 39.00 ng
RT: 11.04 min Scan# 1393
Delta R.T. -0.006 min
Lab File: 04282028.D
Acq: 29 Apr 2020 3:31

Tgt Ion: 84 Resp: 648093

Ion	Ratio	Lower	Upper
84	100		
69	36.2	15.8	55.8
56	93.6	72.0	112.0

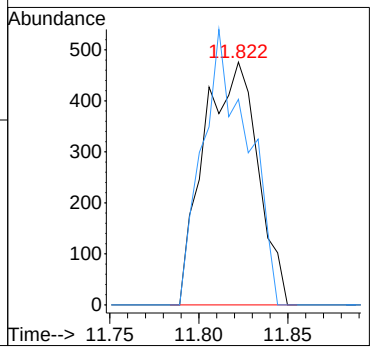


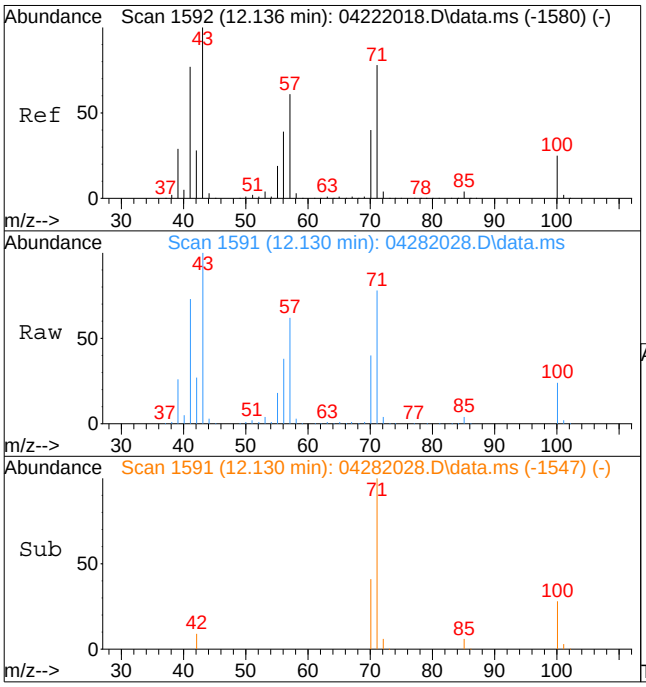


#47
Trichloroethene
Concen: 0.07 ng
RT: 11.82 min Scan# 1535
Delta R.T. -0.000 min
Lab File: 04282028.D
Acq: 29 Apr 2020 3:31

Tgt Ion:130 Resp: 1001

Ion	Ratio	Lower	Upper
130	100		
132	95.5	76.4	116.4

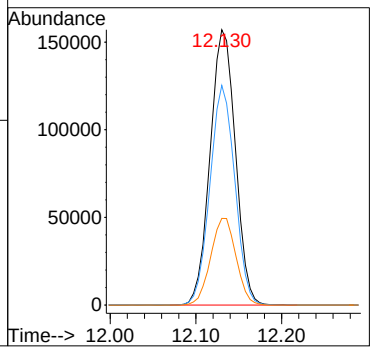


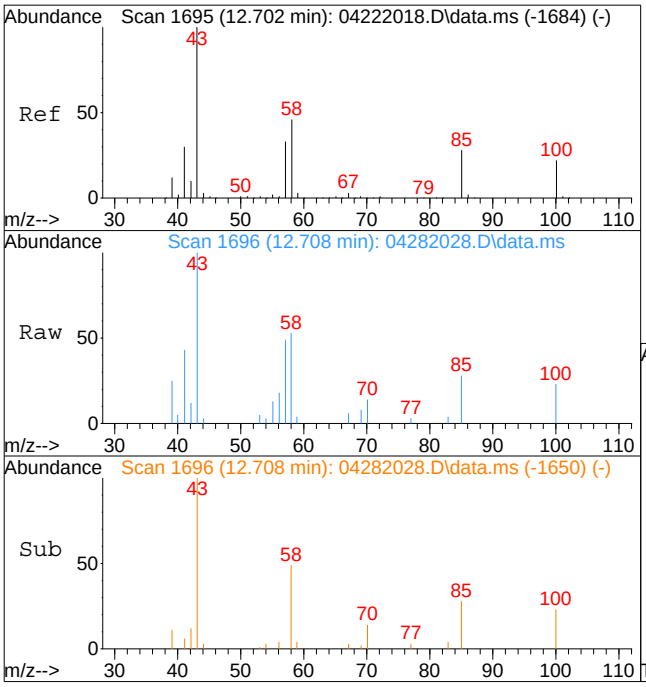


#51
n-Heptane
Concen: 32.67 ng
RT: 12.13 min Scan# 1591
Delta R.T. -0.006 min
Lab File: 04282028.D
Acq: 29 Apr 2020 3:31

Tgt Ion: 71 Resp: 321957

Ion	Ratio	Lower	Upper
71	100		
57	78.5	57.4	97.4
100	31.6	12.0	52.0

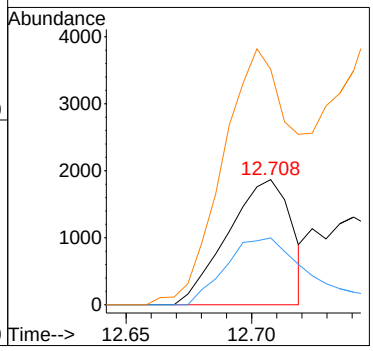


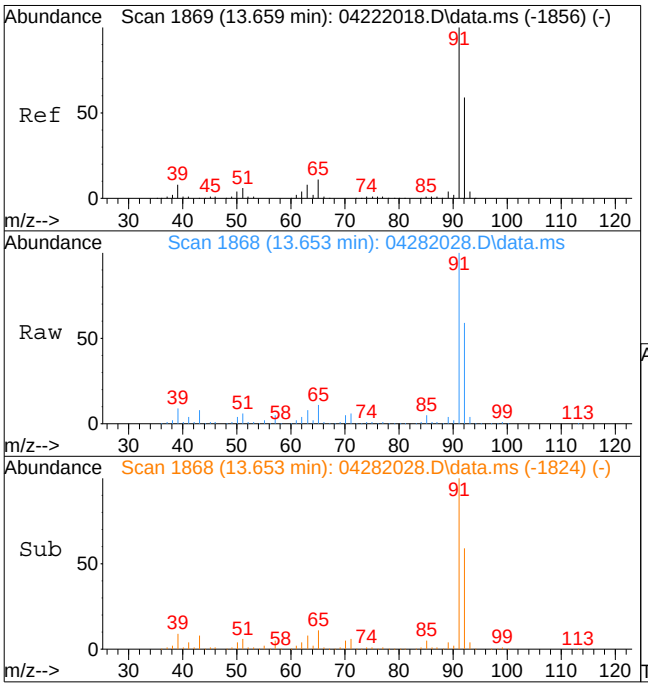


#53
4-Methyl-2-pentanone
Concen: 0.45 ng m
RT: 12.71 min Scan# 1696
Delta R.T. 0.005 min
Lab File: 04282028.D
Acq: 29 Apr 2020 3:31

Tgt Ion: 58 Resp: 3306

Ion	Ratio	Lower	Upper
58	100		
85	68.4	52.2	78.2
43	242.1	176.2	264.4

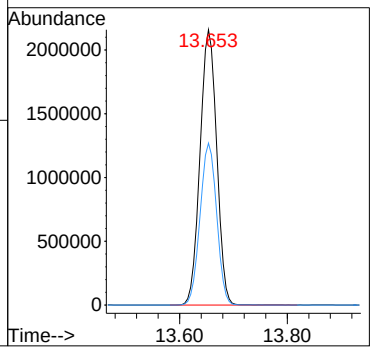


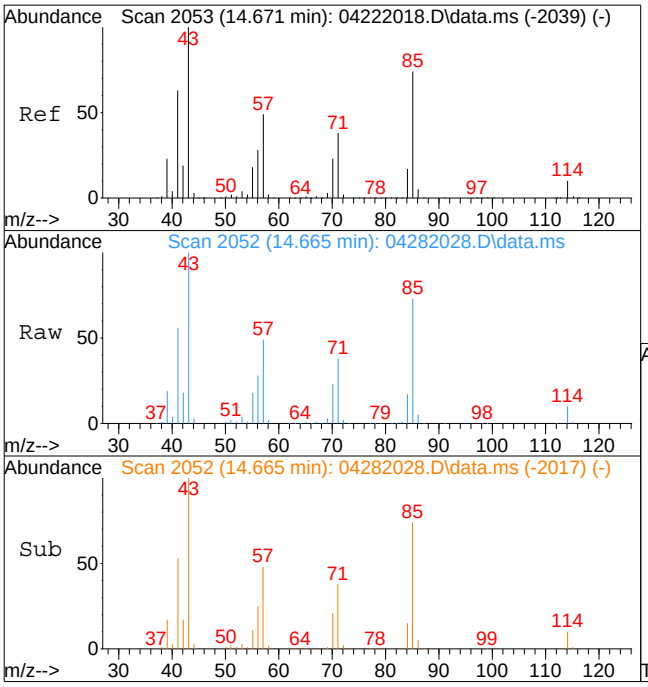


#58
Toluene
Concen: 97.49 ng
RT: 13.65 min Scan# 1868
Delta R.T. -0.006 min
Lab File: 04282028.D
Acq: 29 Apr 2020 3:31

Tgt Ion: 91 Resp: 4640332

Ion	Ratio	Lower	Upper
91	100		
92	58.5	38.2	78.2

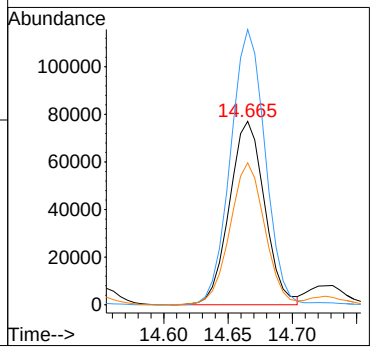


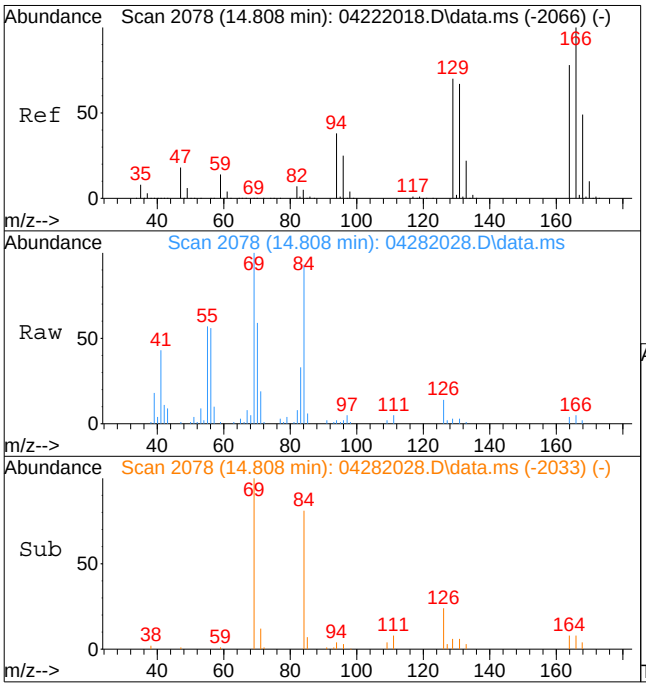


#63
n-Octane
Concen: 19.40 ng
RT: 14.67 min Scan# 2052
Delta R.T. -0.006 min
Lab File: 04282028.D
Acq: 29 Apr 2020 3:31

Tgt Ion: 57 Resp: 147004

Ion	Ratio	Lower	Upper
57	100		
85	148.1	120.7	181.1
71	76.3	61.1	91.7

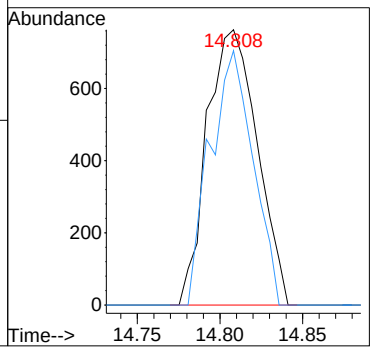


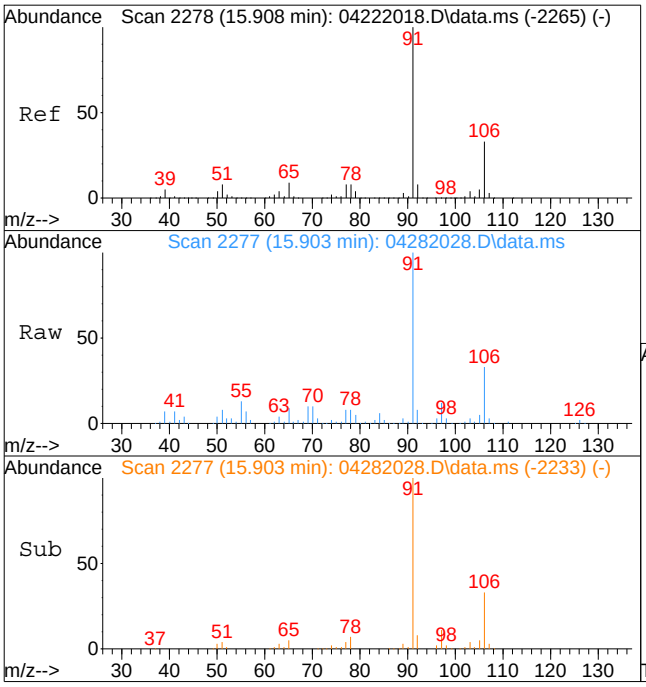


#64
Tetrachloroethene
Concen: 0.09 ng
RT: 14.81 min Scan# 2078
Delta R.T. -0.000 min
Lab File: 04282028.D
Acq: 29 Apr 2020 3:31

Tgt Ion:166 Resp: 1613

Ion	Ratio	Lower	Upper
166	100		
164	79.1	57.7	97.7

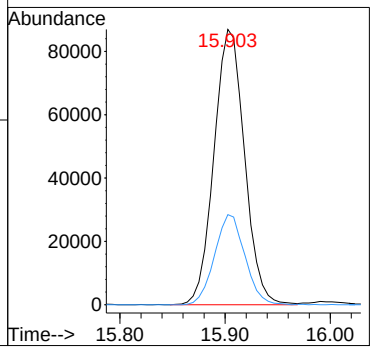


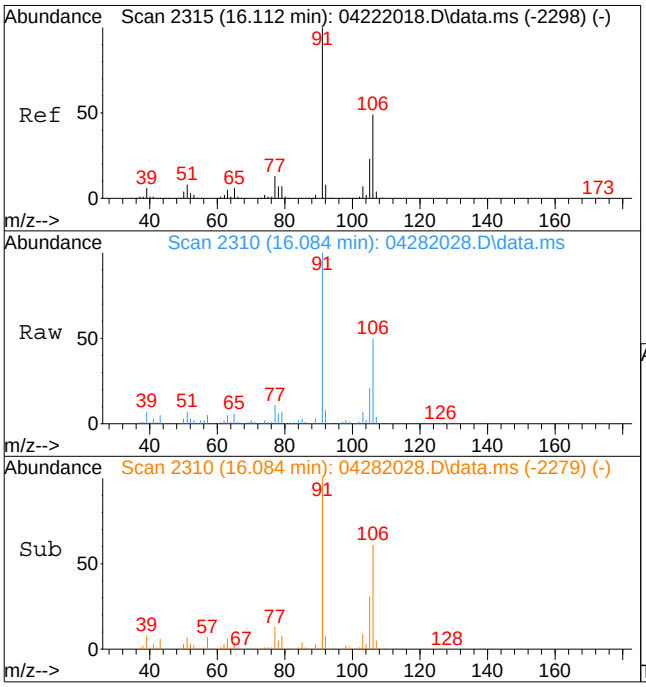


#66
Ethylbenzene
Concen: 3.17 ng
RT: 15.90 min Scan# 2277
Delta R.T. -0.006 min
Lab File: 04282028.D
Acq: 29 Apr 2020 3:31

Tgt Ion: 91 Resp: 175642

Ion	Ratio	Lower	Upper
91	100		
106	32.5	13.4	53.4

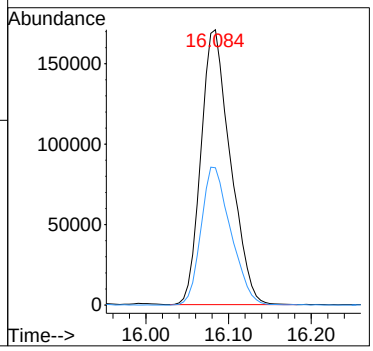


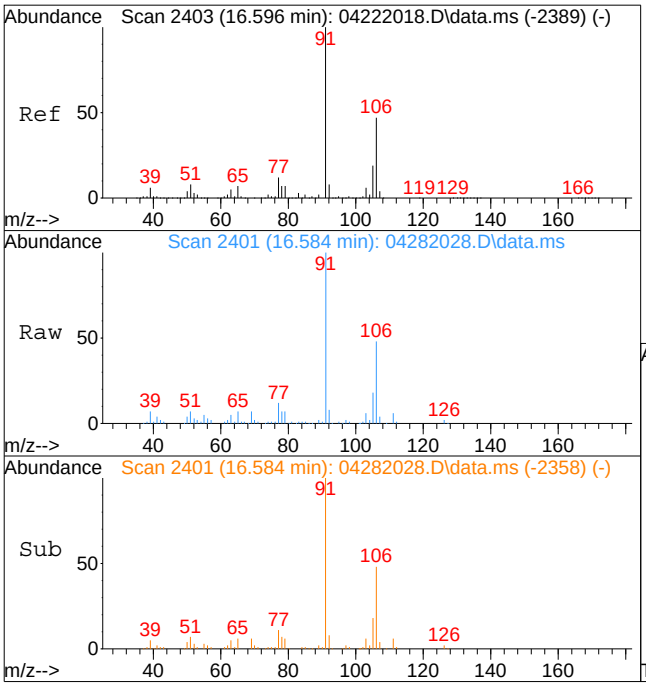


#67
m- & p-Xylenes
Concen: 9.04 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.028 min
Lab File: 04282028.D
Acq: 29 Apr 2020 3:31

Tgt Ion: 91 Resp: 422898

Ion	Ratio	Lower	Upper
91	100		
106	50.6	28.3	68.3

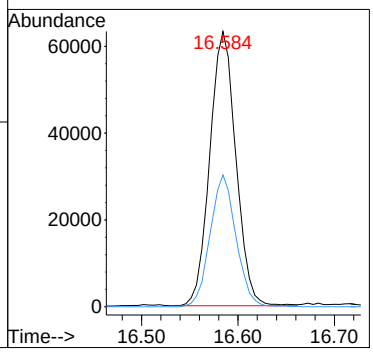


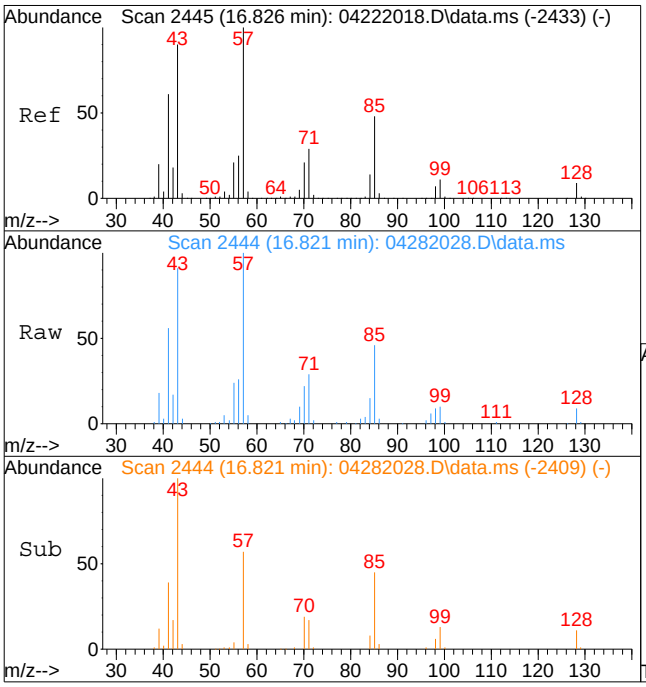


#70
o-Xylene
Concen: 2.59 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 04282028.D
Acq: 29 Apr 2020 3:31

Tgt Ion: 91 Resp: 118859

Ion	Ratio	Lower	Upper
91	100		
106	47.6	27.5	67.5

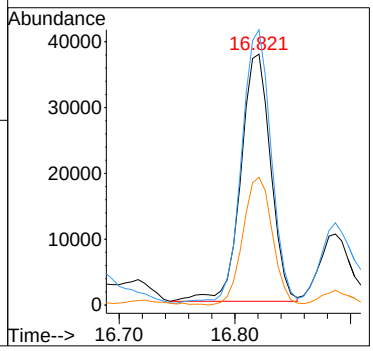


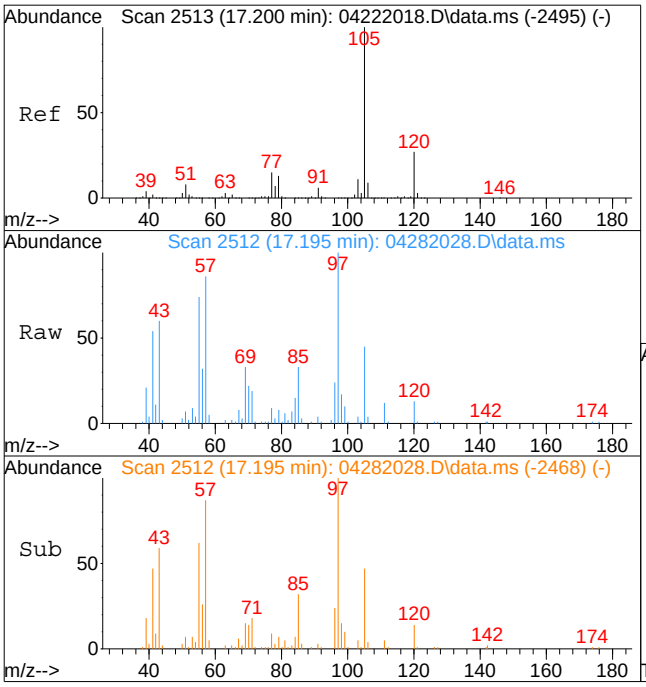


#71
n-Nonane
Concen: 4.55 ng
RT: 16.82 min Scan# 2444
Delta R.T. -0.006 min
Lab File: 04282028.D
Acq: 29 Apr 2020 3:31

Tgt Ion: 43 Resp: 67453

Ion	Ratio	Lower	Upper
43	100		
57	109.6	90.8	130.8
85	51.0	32.1	72.1

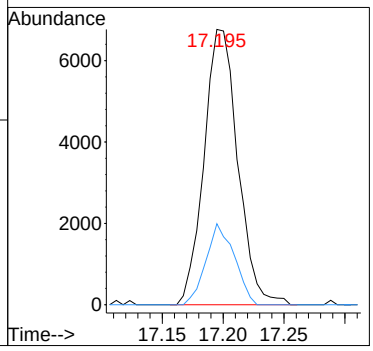


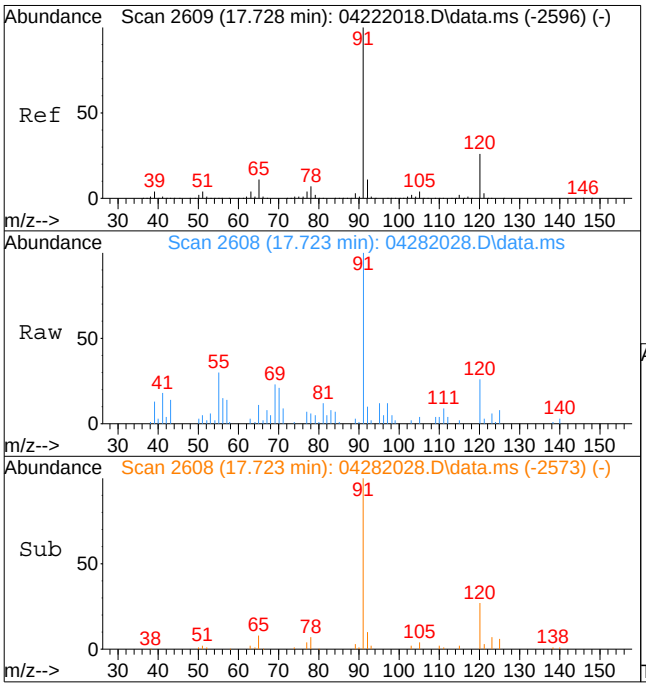


#74
Cumene
Concen: 0.22 ng
RT: 17.19 min Scan# 2512
Delta R.T. -0.006 min
Lab File: 04282028.D
Acq: 29 Apr 2020 3:31

Tgt Ion:105 Resp: 13061

Ion	Ratio	Lower	Upper
105	100		
120	24.7	7.3	47.3

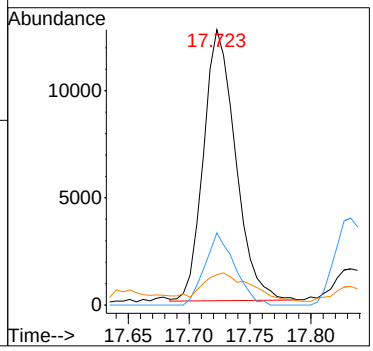


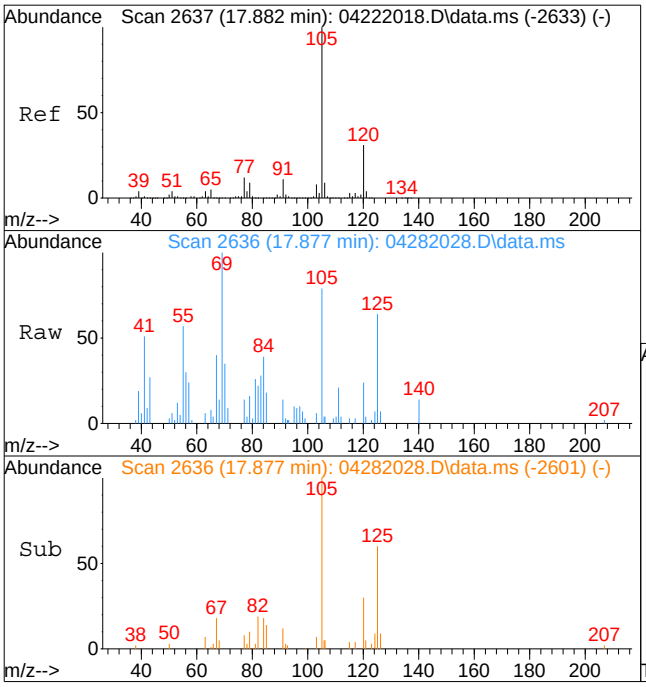


#76
n-Propylbenzene
Concen: 0.35 ng
RT: 17.72 min Scan# 2608
Delta R.T. -0.006 min
Lab File: 04282028.D
Acq: 29 Apr 2020 3:31

Tgt Ion: 91 Resp: 23158

Ion	Ratio	Lower	Upper
91	100		
120	24.8	6.1	46.1
65	15.1	0.0	30.7

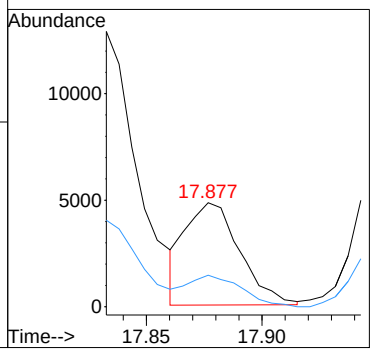


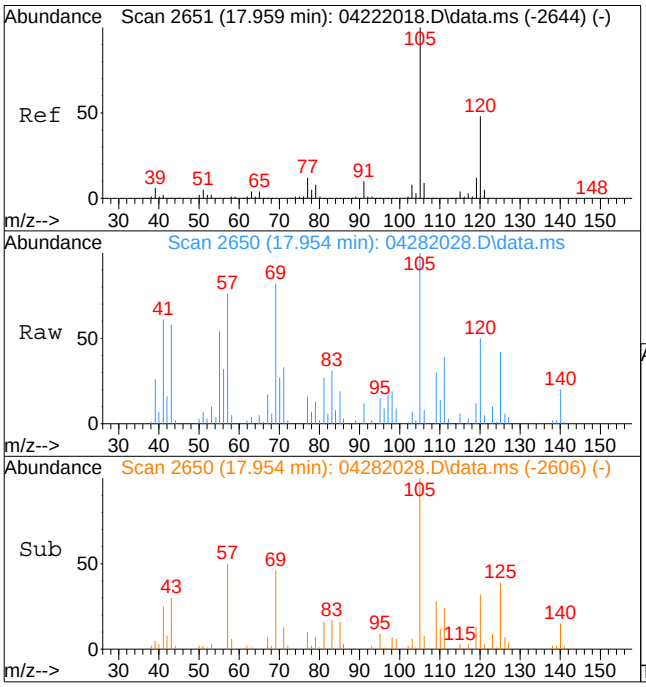


#78
4-Ethyltoluene
Concen: 0.14 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 04282028.D
Acq: 29 Apr 2020 3:31

Tgt Ion:105 Resp: 7899

Ion	Ratio	Lower	Upper
105	100		
120	31.3	11.4	51.4

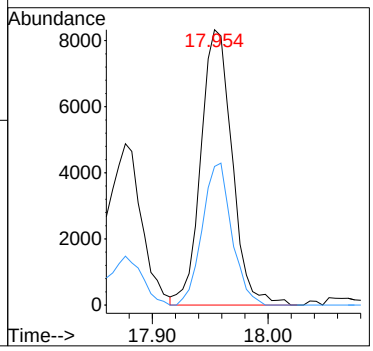


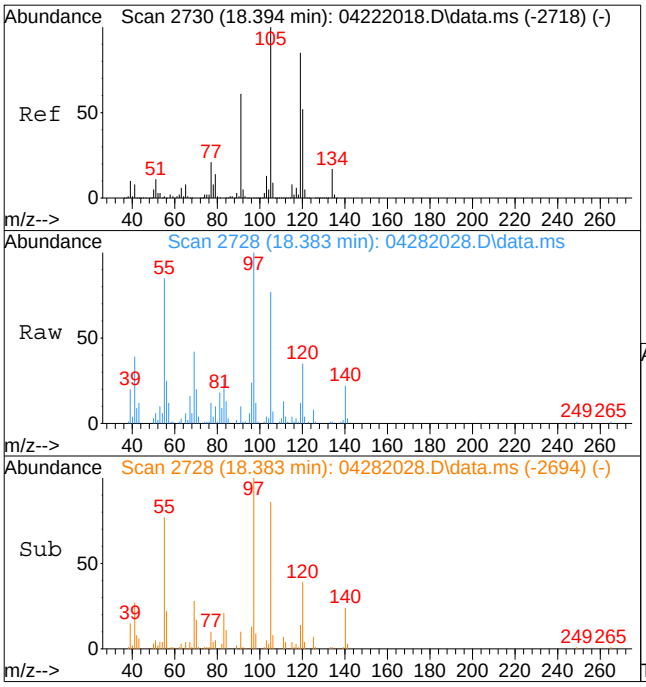


#79
1,3,5-Trimethylbenzene
Concen: 0.30 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 04282028.D
Acq: 29 Apr 2020 3:31

Tgt Ion:105 Resp: 15657

Ion	Ratio	Lower	Upper
105	100		
120	48.5	29.5	69.5

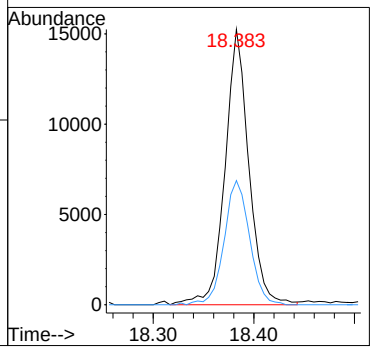




#82
1,2,4-Trimethylbenzene
Concen: 0.49 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 04282028.D
Acq: 29 Apr 2020 3:31

Tgt Ion:105 Resp: 24954

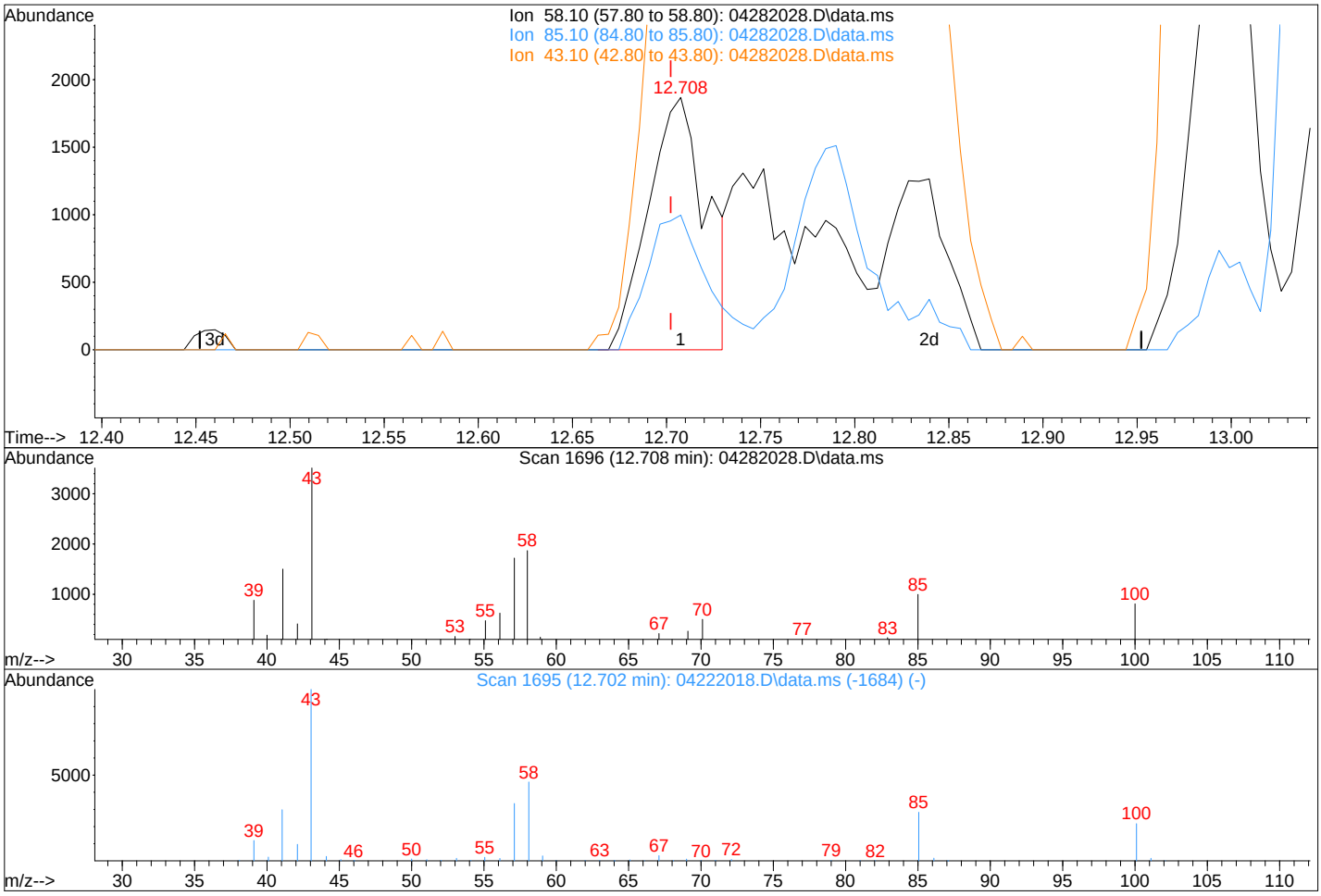
Ion	Ratio	Lower	Upper
105	100		
120	48.4	34.5	74.5



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\28\04282028.D Vial: 16
Acq On : 29 Apr 2020 3:31 Operator: SC
Sample : P2002030-011 (60mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 05:53:45 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04282028.D\data.ms

(53) 4-Methyl-2-pentanone (T)

12.708min (+0.005) 0.54ng

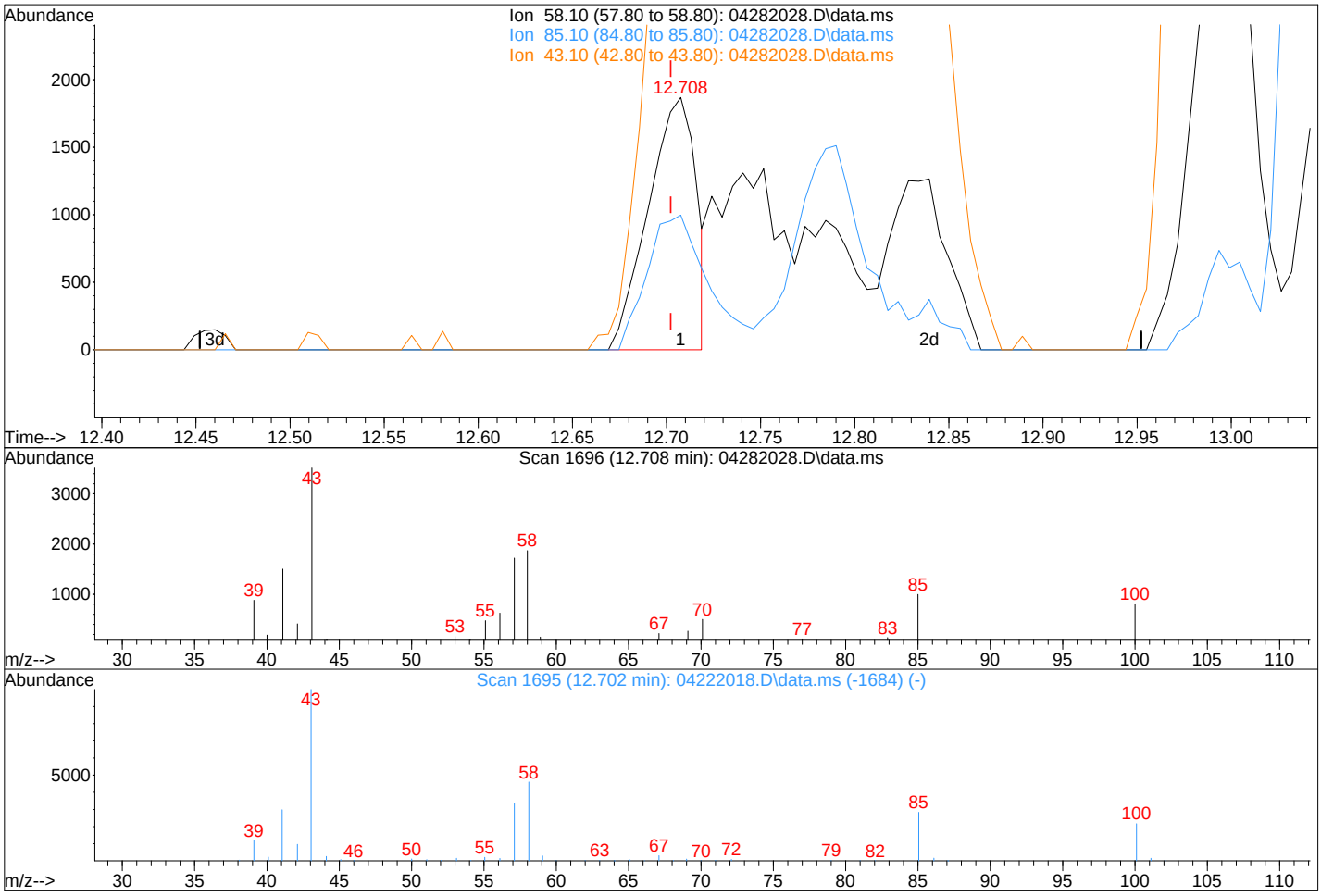
response 4006

Ion	Exp%	Act%
58.10	100	100
85.10	65.20	56.47
43.10	220.30	199.83
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\28\04282028.D Vial: 16
Acq On : 29 Apr 2020 3:31 Operator: SC
Sample : P2002030-011 (60mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 05:53:45 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04282028.D\data.ms

(53) 4-Methyl-2-pentanone (T)

12.708min (+0.005) 0.45ng m

response 3306

Ion	Exp%	Act%
58.10	100	100
85.10	65.20	68.42
43.10	220.30	242.14
0.00	0.00	0.00

IPC

4/29/20

LH 4/29/20

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282023.D Vial: 10
Acq On : 29 Apr 2020 00:42 Operator: SC
Sample : P2002030-012 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 09:59:22 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

VOA 4/29/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	153333	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	648295	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	293805	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	230587	11.607	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.88%				
57) Toluene-d8 (SS2)	13.54	98	719975	12.691	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.52%				
73) Bromofluorobenzene (SS3)	17.05	174	289828	12.712	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.68%				
Target Compounds							Qvalue
2) Propene	3.85	42	3151	0.484	ng		98
3) Dichlorodifluoromethan...	3.96	85	480344	19.413	ng		100
4) Chloromethane	0.00	50	0	N.D.	d		
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	12291	0.919	ng		99
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	4.63	54	168	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.36	45	4645m	0.942	ng		
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	5.71	56	1222	0.271	ng		95
13) Acetone	5.85	58	22796	3.849	ng	#	76
14) Trichlorofluoromethane	6.02	101	65113	2.645	ng		99
15) 2-Propanol (Isopropanol)	6.17	45	2184	0.116	ng		97
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	6.93	41	356	N.D.			
21) Trichlorotrifluoroethane	7.18	151	209106	16.321	ng		99
22) Carbon Disulfide	7.14	76	4324	0.125	ng	#	1
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	8.25	86	1953	0.904	ng	#	65
27) 2-Butanone (MEK)	8.53	72	5095	0.837	ng	#	88
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	9.27	87	129	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	9.22	57	1628	0.124	ng	#	92
32) Chloroform	9.27	83	2033	0.097	ng		99
34) Tetrahydrofuran (THF)	9.71	72	1714	0.278	ng		92
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.75	78	16484	0.390	ng		99
42) Carbon Tetrachloride	10.90	117	103511	4.737	ng		98
43) Cyclohexane	11.04	84	4933	0.298	ng		93
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	11.77	83	461	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	11.80	88	2563	0.302	ng		89
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282023.D Vial: 10
Acq On : 29 Apr 2020 00:42 Operator: SC
Sample : P2002030-012 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 09:59:22 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

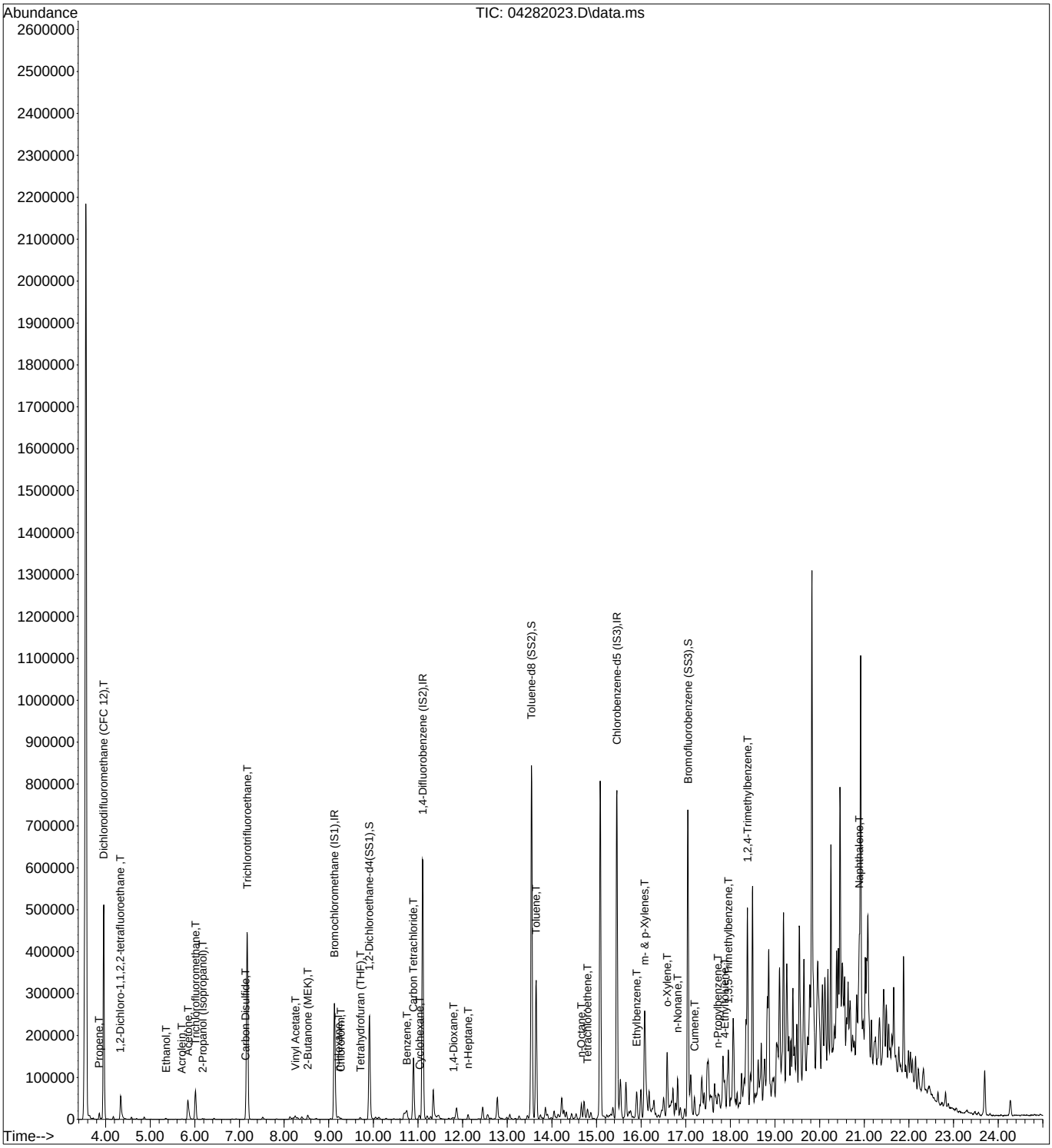
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.12	71	3316	0.338 ng	96
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	12.70	58	170	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	13.26	97	311	N.D.	
58) Toluene	13.65	91	288018	6.047 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.66	57	7231	0.954 ng	99
64) Tetrachloroethene	14.80	166	5893	0.328 ng	97
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.90	91	51176	0.922 ng	99
67) m- & p-Xylenes	16.08	91	225987	4.827 ng	97
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.48	104	1342	N.D.	
70) o-Xylene	16.58	91	106179	2.309 ng	100
71) n-Nonane	16.82	43	30822	2.078 ng	97
72) 1,1,2,2-Tetrachloroethane	16.56	83	139	N.D.	
74) Cumene	17.19	105	10644	0.177 ng	100
75) alpha-Pinene	17.51	93	338	N.D.	
76) n-Propylbenzene	17.72	91	36145	0.553 ng	97
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	33239	0.583 ng	99
79) 1,3,5-Trimethylbenzene	17.95	105	65122	1.236 ng	99
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	213668	4.194 ng	89
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.53	91	781	N.D.	
85) 1,3-Dichlorobenzene	18.61	146	123	N.D.	
86) 1,4-Dichlorobenzene	18.61	146	123	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	20.79	180	476	N.D.	
95) Naphthalene	20.89	128	160588	2.447 ng	97
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282023.D Vial: 10
Acq On : 29 Apr 2020 00:42 Operator: SC
Sample : P2002030-012 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 09:59:22 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282023.D Vial: 10
Acq On : 29 Apr 2020 00:42 Operator: SC
Sample : P2002030-012 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 09:59:22 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/29/20

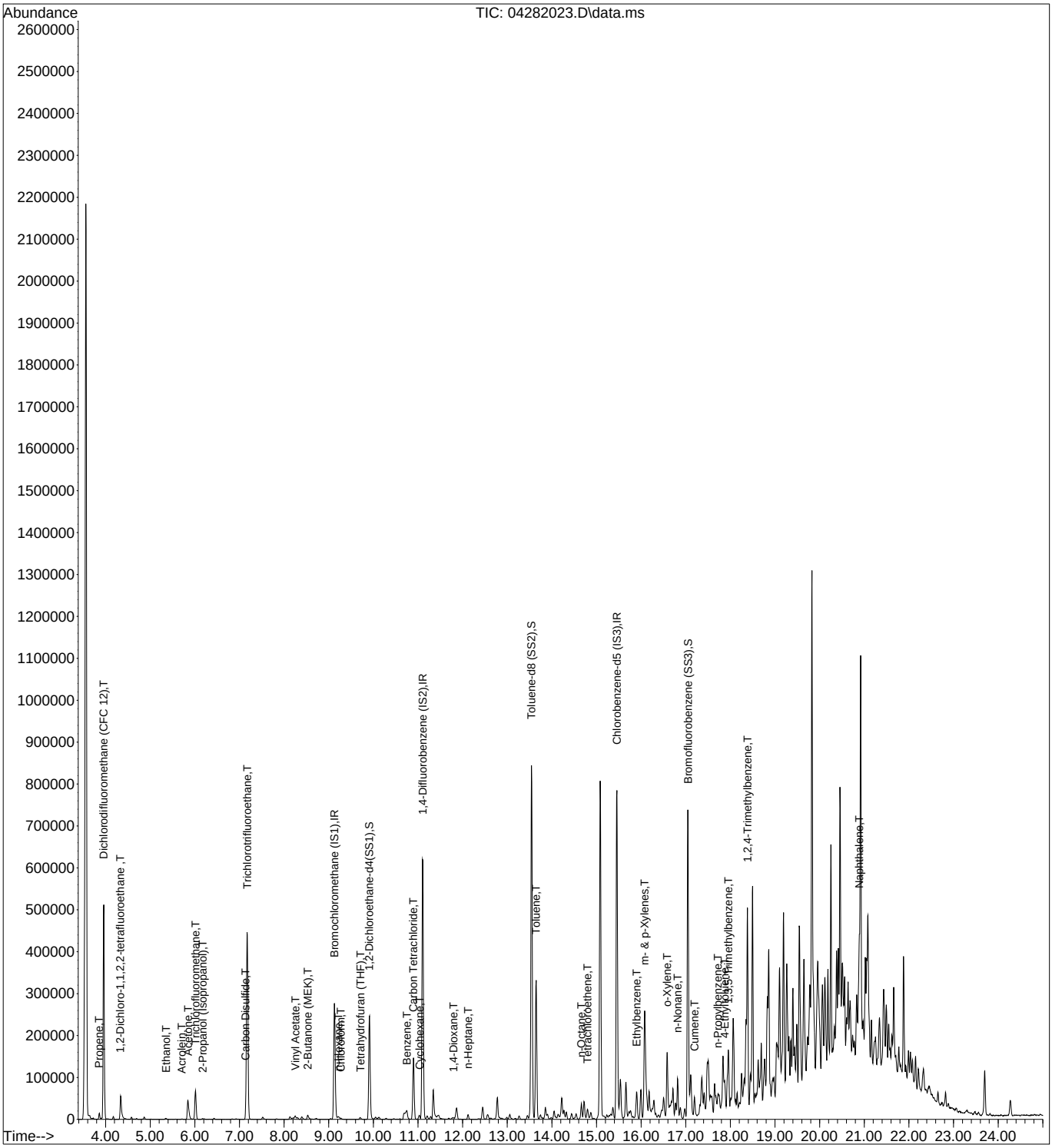
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	153333	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	648295	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	293805	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	230587	11.607	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.88%				
57) Toluene-d8 (SS2)	13.54	98	719975	12.691	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.52%				
73) Bromofluorobenzene (SS3)	17.05	174	289828	12.712	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.68%				
Target Compounds							Qvalue
2) Propene	3.85	42	3151	0.484	ng		98
3) Dichlorodifluoromethan...	3.96	85	480344	19.413	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	12291	0.919	ng		99
10) Ethanol	5.36	45	4645m	0.942	ng		
12) Acrolein	5.71	56	1222	0.271	ng		95
13) Acetone	5.85	58	22796	3.849	ng	#	76
14) Trichlorofluoromethane	6.02	101	65113	2.645	ng		99
15) 2-Propanol (Isopropanol)	6.17	45	2184	0.116	ng		97
21) Trichlorotrifluoroethane	7.18	151	209106	16.321	ng		99
22) Carbon Disulfide	7.14	76	4324	0.125	ng	#	1
26) Vinyl Acetate	8.25	86	1953	0.904	ng	#	65
27) 2-Butanone (MEK)	8.53	72	5095	0.837	ng	#	88
31) n-Hexane	9.22	57	1628	0.124	ng	#	92
32) Chloroform	9.27	83	2033	0.097	ng		99
34) Tetrahydrofuran (THF)	9.71	72	1714	0.278	ng		92
41) Benzene	10.75	78	16484	0.390	ng		99
42) Carbon Tetrachloride	10.90	117	103511	4.737	ng		98
43) Cyclohexane	11.04	84	4933	0.298	ng		93
48) 1,4-Dioxane	11.80	88	2563	0.302	ng		89
51) n-Heptane	12.12	71	3316	0.338	ng		96
58) Toluene	13.65	91	288018	6.047	ng		100
63) n-Octane	14.66	57	7231	0.954	ng		99
64) Tetrachloroethene	14.80	166	5893	0.328	ng		97
66) Ethylbenzene	15.90	91	51176	0.922	ng		99
67) m- & p-Xylenes	16.08	91	225987	4.827	ng		97
70) o-Xylene	16.58	91	106179	2.309	ng		100
71) n-Nonane	16.82	43	30822	2.078	ng		97
74) Cumene	17.19	105	10644	0.177	ng		100
76) n-Propylbenzene	17.72	91	36145	0.553	ng		97
78) 4-Ethyltoluene	17.88	105	33239	0.583	ng		99
79) 1,3,5-Trimethylbenzene	17.95	105	65122	1.236	ng		99
82) 1,2,4-Trimethylbenzene	18.38	105	213668	4.194	ng		89
95) Naphthalene	20.89	128	160588	2.447	ng		97

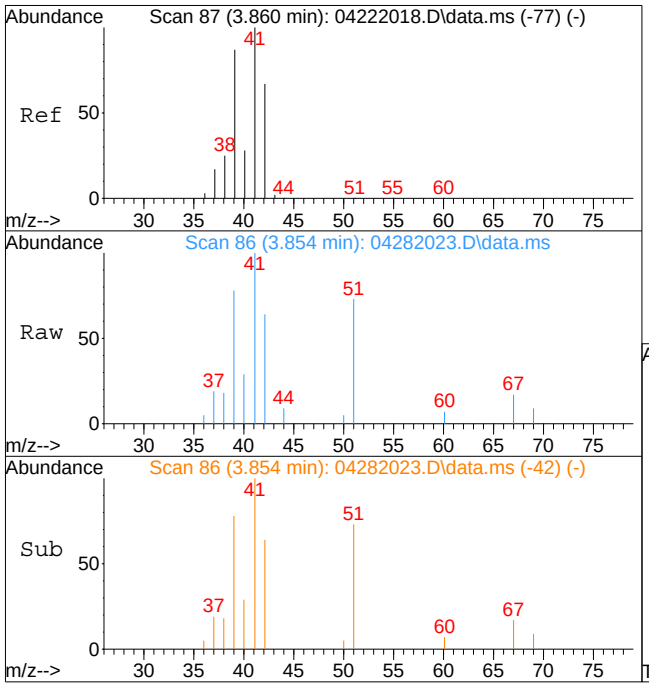
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282023.D Vial: 10
Acq On : 29 Apr 2020 00:42 Operator: SC
Sample : P2002030-012 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 09:59:22 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

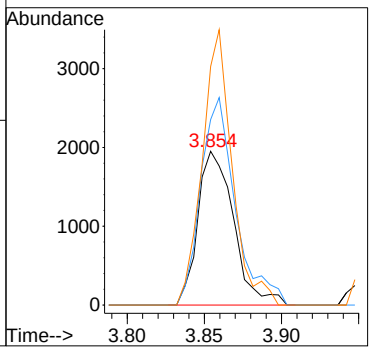


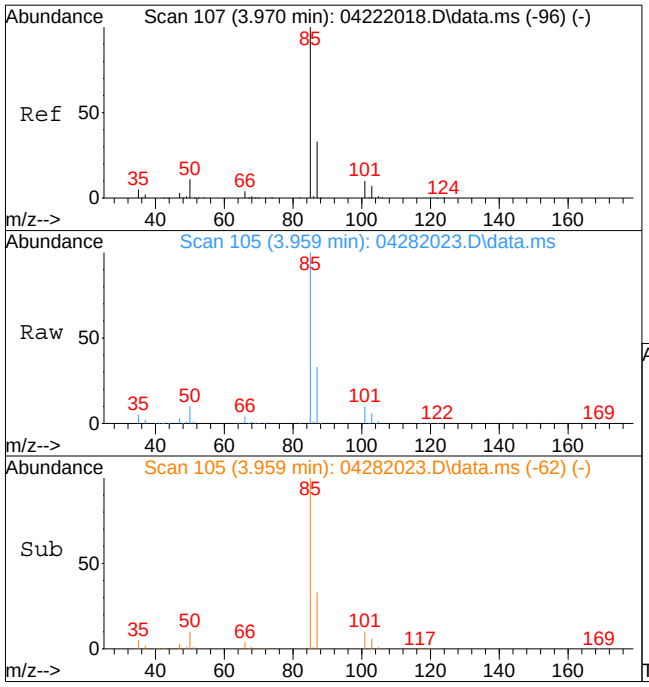


#2
Propene
Concen: 0.48 ng
RT: 3.85 min Scan# 86
Delta R.T. -0.006 min
Lab File: 04282023.D
Acq: 29 Apr 2020 00:42

Tgt Ion: 42 Resp: 3151

Ion	Ratio	Lower	Upper
42	100		
39	131.6	106.4	146.4
41	149.7	128.8	168.8

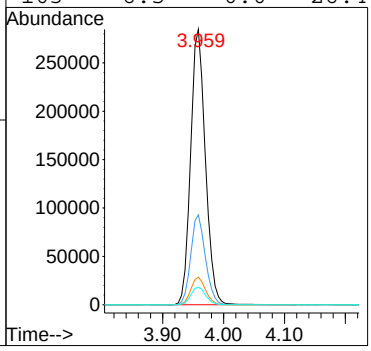


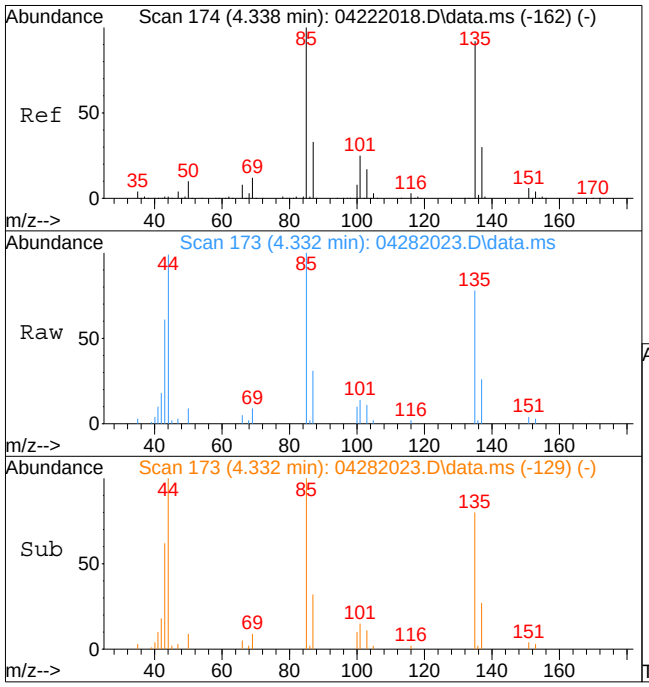


#3
Dichlorodifluoromethane (CFC 12)
Concen: 19.41 ng
RT: 3.96 min Scan# 105
Delta R.T. -0.011 min
Lab File: 04282023.D
Acq: 29 Apr 2020 00:42

Tgt Ion: 85 Resp: 480344

Ion	Ratio	Lower	Upper
85	100		
87	32.4	12.4	52.4
101	10.0	0.0	29.9
103	6.5	0.0	26.4

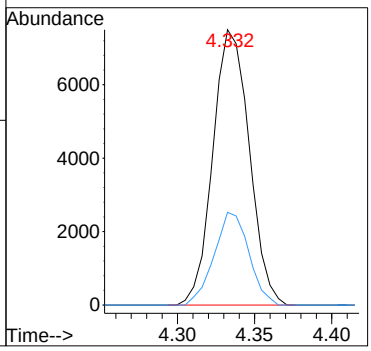


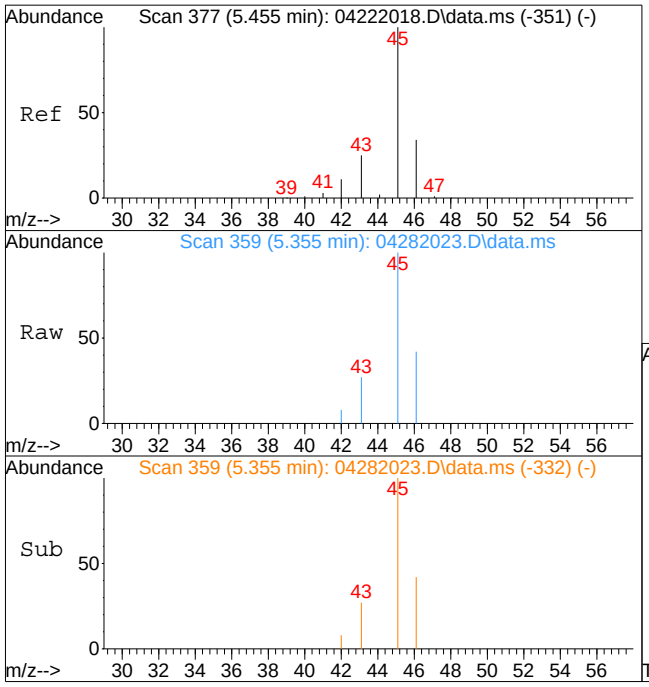


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 0.92 ng
RT: 4.33 min Scan# 173
Delta R.T. -0.006 min
Lab File: 04282023.D
Acq: 29 Apr 2020 00:42

Tgt Ion:135 Resp: 12291

Ion	Ratio	Lower	Upper
135	100		
137	32.2	11.9	51.9

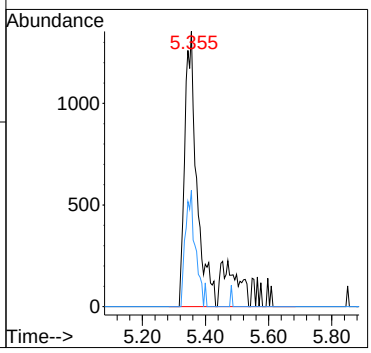


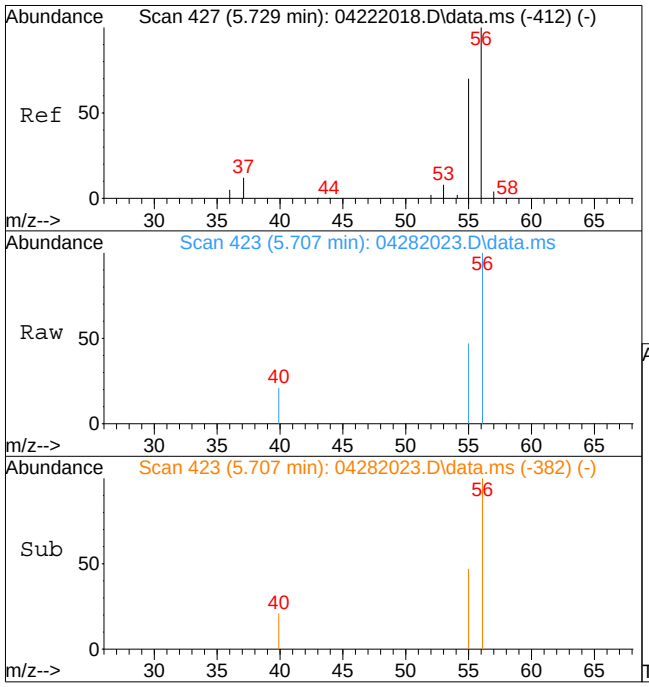


#10
Ethanol
Concen: 0.94 ng m
RT: 5.36 min Scan# 359
Delta R.T. -0.099 min
Lab File: 04282023.D
Acq: 29 Apr 2020 00:42

Tgt Ion: 45 Resp: 4645

Ion	Ratio	Lower	Upper
45	100		
46	27.6	14.0	54.0

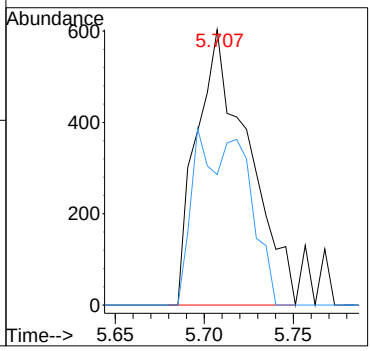


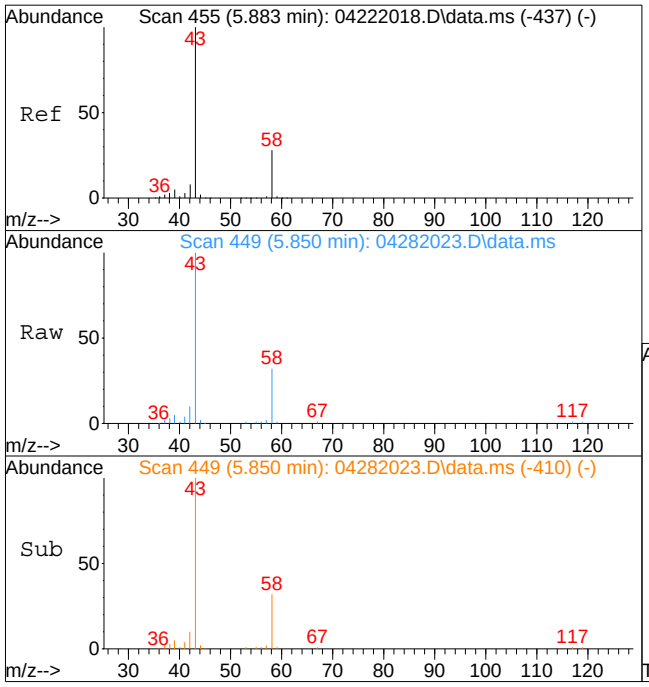


#12
Acrolein
Concen: 0.27 ng
RT: 5.71 min Scan# 423
Delta R.T. -0.022 min
Lab File: 04282023.D
Acq: 29 Apr 2020 00:42

Tgt Ion: 56 Resp: 1222

Ion	Ratio	Lower	Upper
56	100		
55	66.2	50.4	90.4

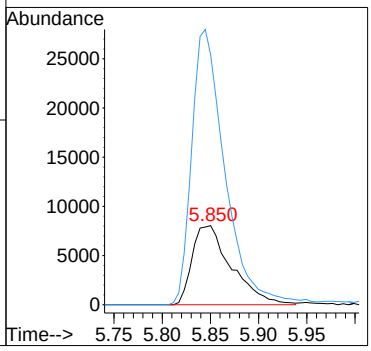


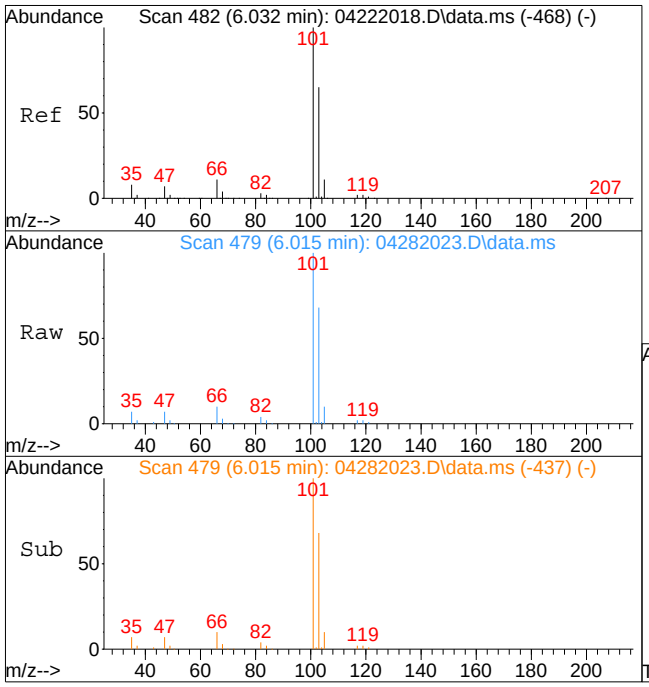


#13
Acetone
Concen: 3.85 ng
RT: 5.85 min Scan# 449
Delta R.T. -0.033 min
Lab File: 04282023.D
Acq: 29 Apr 2020 00:42

Tgt Ion: 58 Resp: 22796

Ion	Ratio	Lower	Upper
58	100		
43	298.3	319.3	379.3#

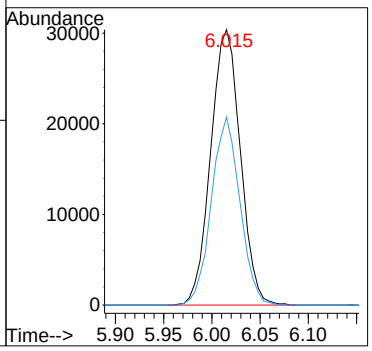


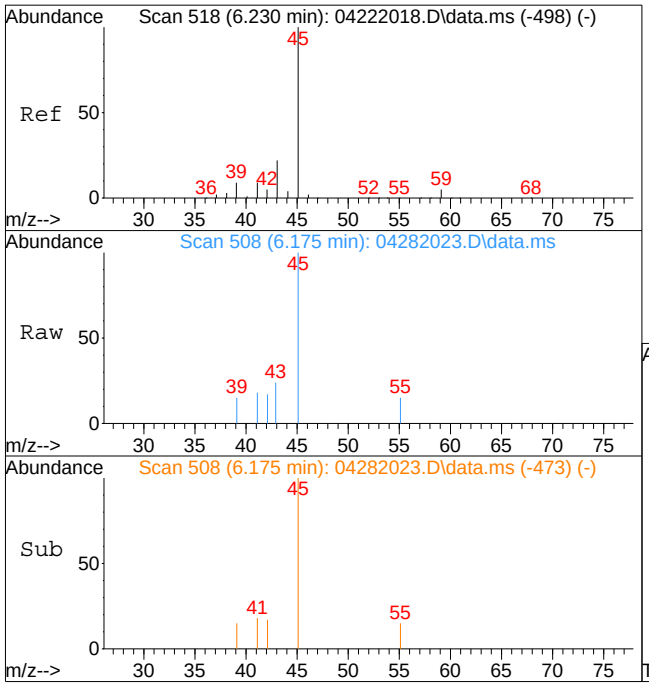


#14
Trichlorofluoromethane
Concen: 2.64 ng
RT: 6.02 min Scan# 479
Delta R.T. -0.017 min
Lab File: 04282023.D
Acq: 29 Apr 2020 00:42

Tgt Ion:101 Resp: 65113

Ion	Ratio	Lower	Upper
101	100		
103	65.5	44.7	84.7

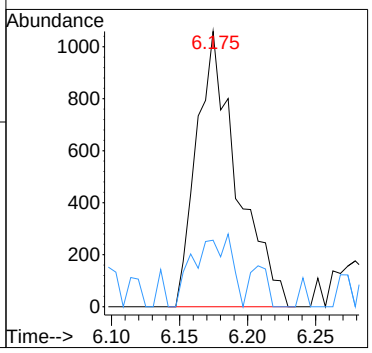


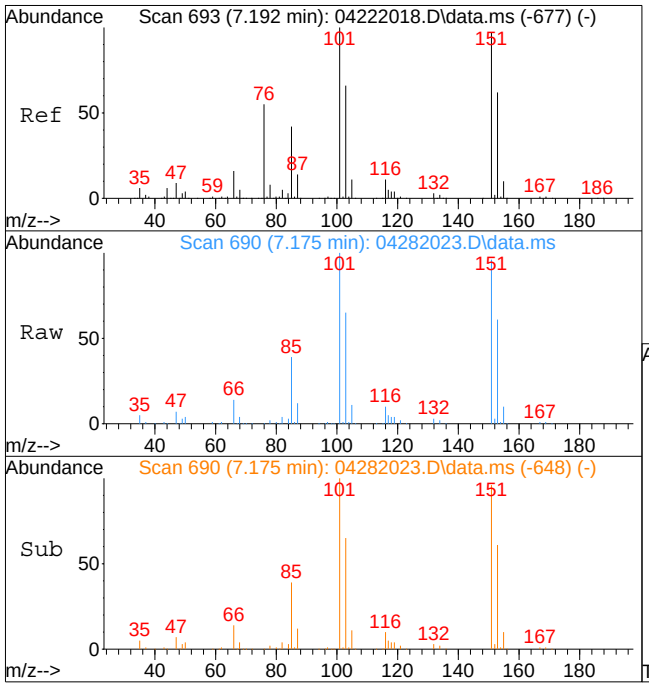


#15
2-Propanol (Isopropanol)
Concen: 0.12 ng
RT: 6.17 min Scan# 508
Delta R.T. -0.055 min
Lab File: 04282023.D
Acq: 29 Apr 2020 00:42

Tgt Ion: 45 Resp: 2184

Ion	Ratio	Lower	Upper
45	100		
43	24.1	2.6	42.6

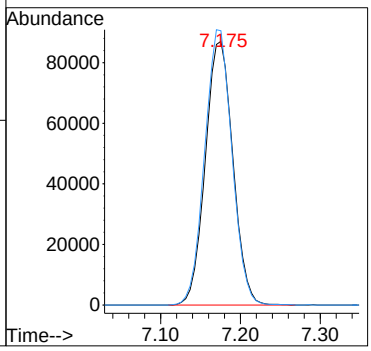


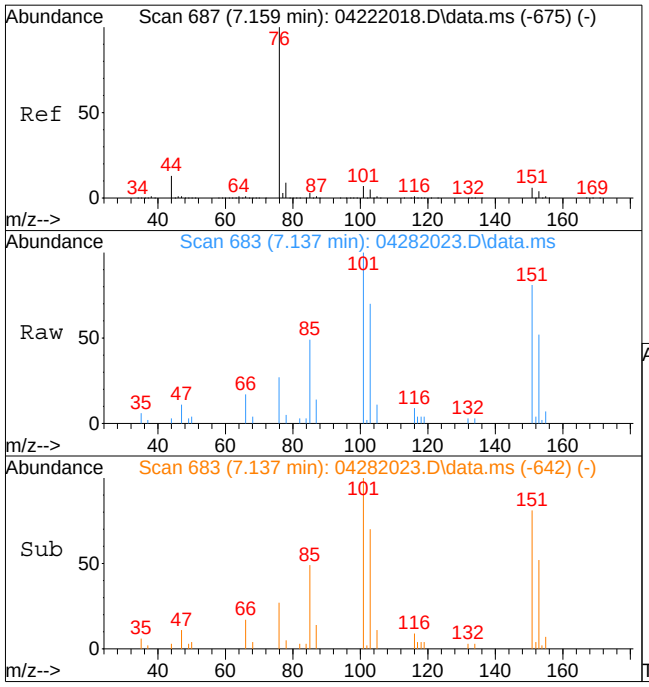


#21
Trichlorotrifluoroethane
Concen: 16.32 ng
RT: 7.18 min Scan# 690
Delta R.T. -0.017 min
Lab File: 04282023.D
Acq: 29 Apr 2020 00:42

Tgt Ion:151 Resp: 209106

Ion	Ratio	Lower	Upper
151	100		
101	103.4	82.9	122.9

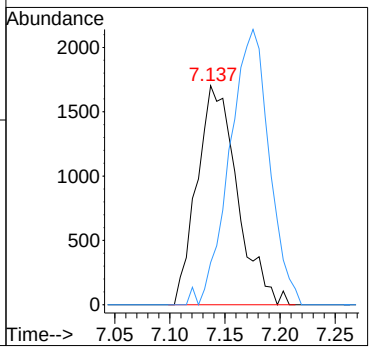


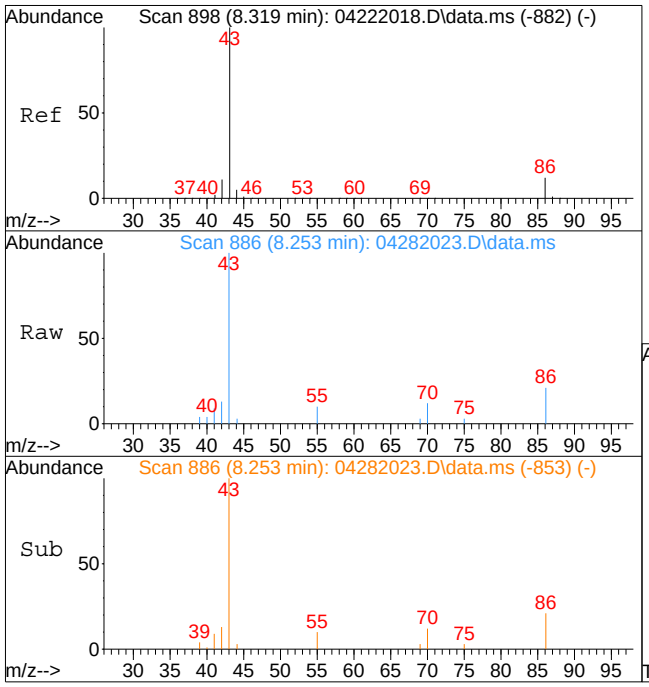


#22
Carbon Disulfide
Concen: 0.13 ng
RT: 7.14 min Scan# 683
Delta R.T. -0.022 min
Lab File: 04282023.D
Acq: 29 Apr 2020 00:42

Tgt Ion: 76 Resp: 4324

Ion	Ratio	Lower	Upper
76	100		
78	123.6	0.0	30.2#

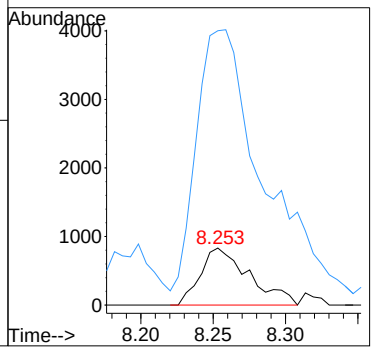


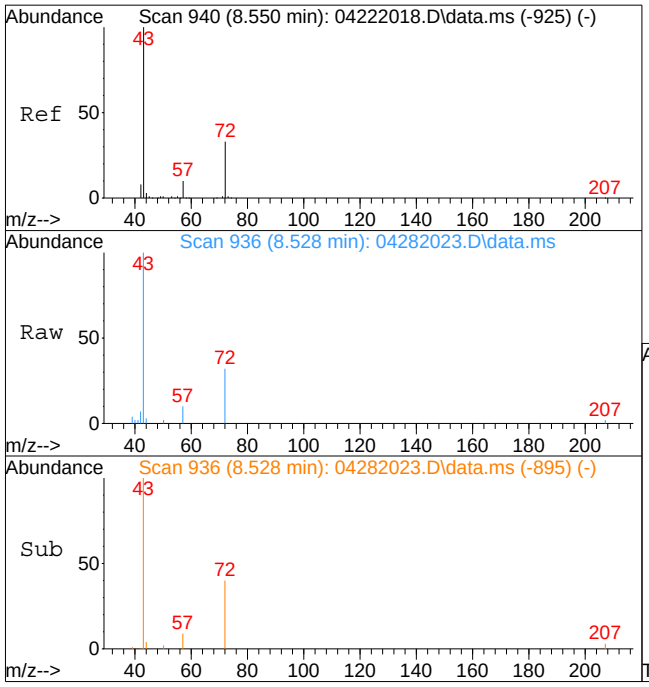


#26
Vinyl Acetate
Concen: 0.90 ng
RT: 8.25 min Scan# 886
Delta R.T. -0.066 min
Lab File: 04282023.D
Acq: 29 Apr 2020 00:42

Tgt Ion: 86 Resp: 1953

Ion	Ratio	Lower	Upper
86	100		
43	686.6	803.0	843.0#

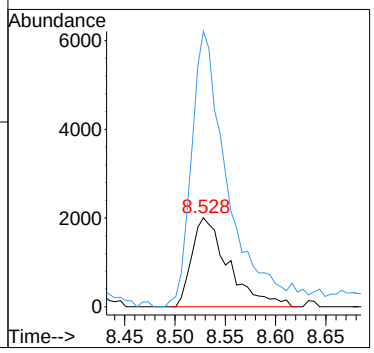


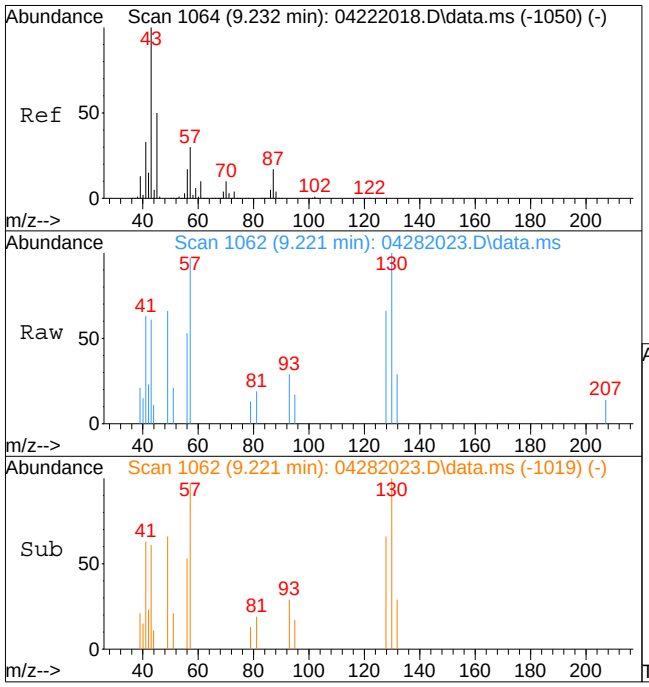


#27
2-Butanone (MEK)
Concen: 0.84 ng
RT: 8.53 min Scan# 936
Delta R.T. -0.022 min
Lab File: 04282023.D
Acq: 29 Apr 2020 00:42

Tgt Ion: 72 Resp: 5095

Ion	Ratio	Lower	Upper
72	100		
43	321.8	278.8	318.8#

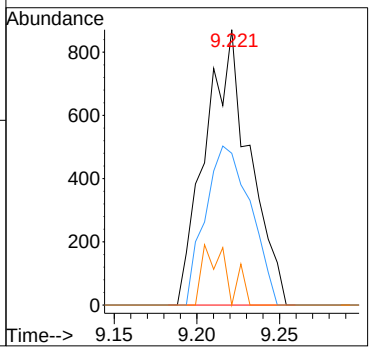


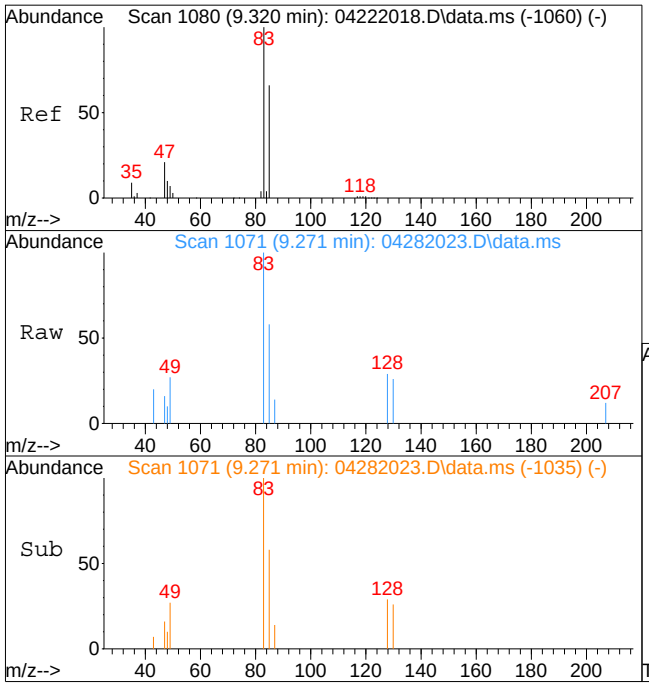


#31
n-Hexane
Concen: 0.12 ng
RT: 9.22 min Scan# 1062
Delta R.T. -0.011 min
Lab File: 04282023.D
Acq: 29 Apr 2020 00:42

Tgt Ion: 57 Resp: 1628

Ion	Ratio	Lower	Upper
57	100		
56	59.0	44.0	66.0
86	12.5	15.0	22.4#

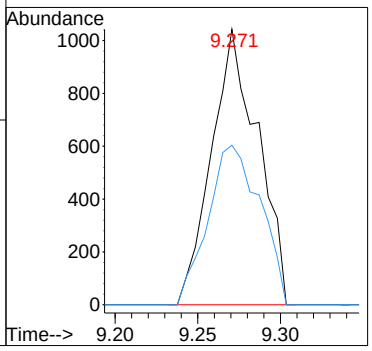


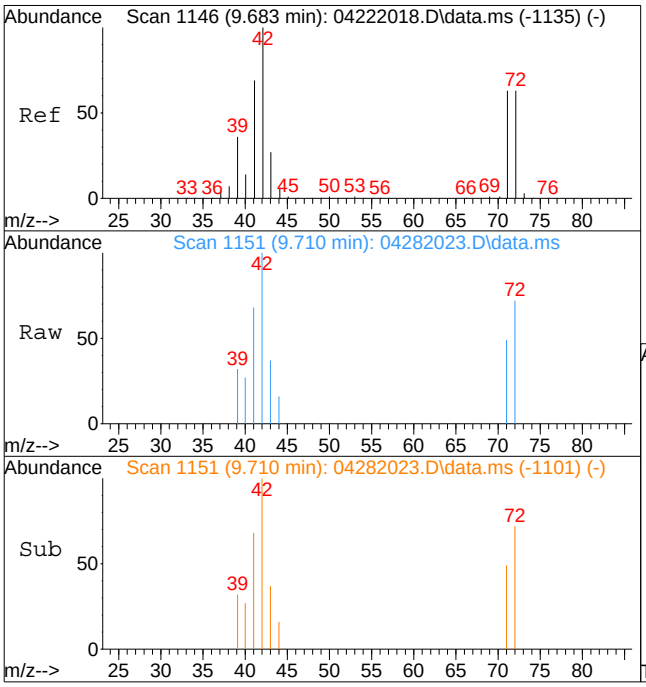


#32
Chloroform
Concen: 0.10 ng
RT: 9.27 min Scan# 1071
Delta R.T. -0.050 min
Lab File: 04282023.D
Acq: 29 Apr 2020 00:42

Tgt Ion: 83 Resp: 2033

Ion	Ratio	Lower	Upper
83	100		
85	65.3	45.8	85.8

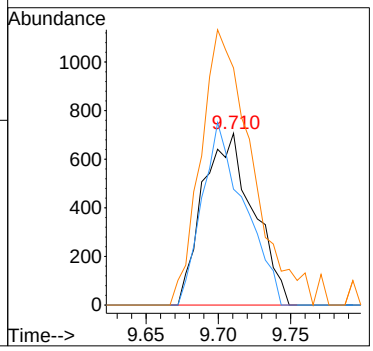


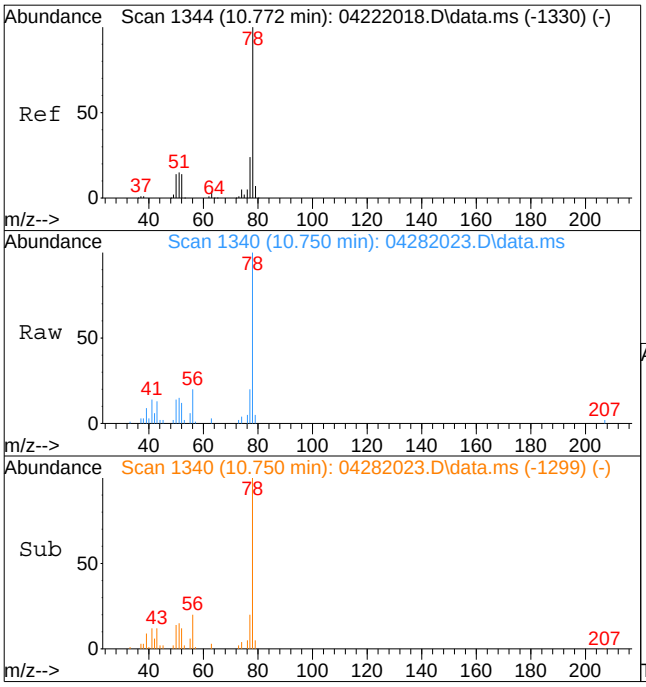


#34
Tetrahydrofuran (THF)
Concen: 0.28 ng
RT: 9.71 min Scan# 1151
Delta R.T. 0.027 min
Lab File: 04282023.D
Acq: 29 Apr 2020 00:42

Tgt Ion: 72 Resp: 1714

Ion	Ratio	Lower	Upper
72	100		
71	89.4	77.9	117.9
42	164.6	133.9	173.9

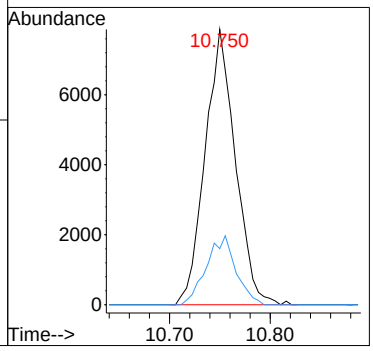


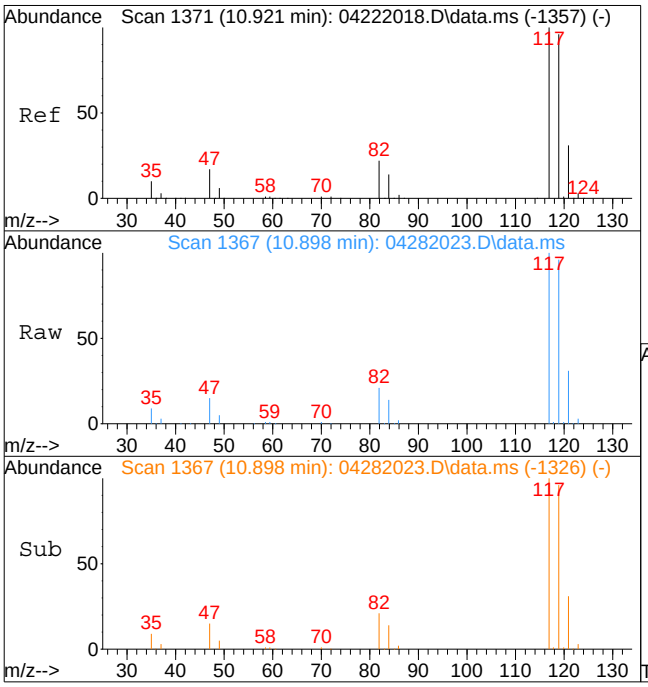


#41
Benzene
Concen: 0.39 ng
RT: 10.75 min Scan# 1340
Delta R.T. -0.022 min
Lab File: 04282023.D
Acq: 29 Apr 2020 00:42

Tgt Ion: 78 Resp: 16484

Ion	Ratio	Lower	Upper
78	100		
77	24.3	3.6	43.6

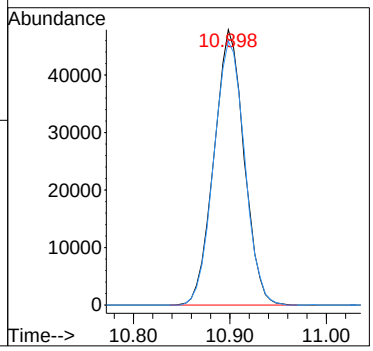


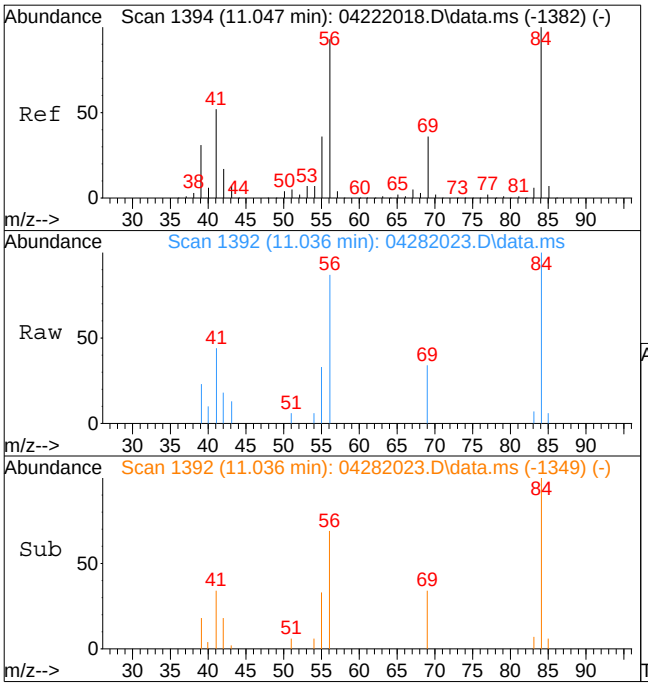


#42
Carbon Tetrachloride
Concen: 4.74 ng
RT: 10.90 min Scan# 1367
Delta R.T. -0.022 min
Lab File: 04282023.D
Acq: 29 Apr 2020 00:42

Tgt Ion:117 Resp: 103511

Ion	Ratio	Lower	Upper
117	100		
119	98.4	76.5	116.5

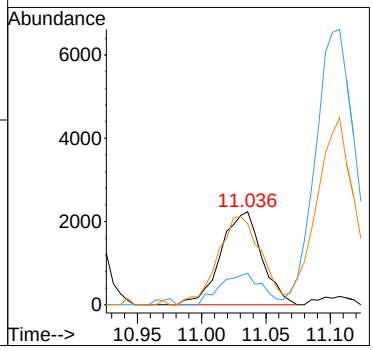


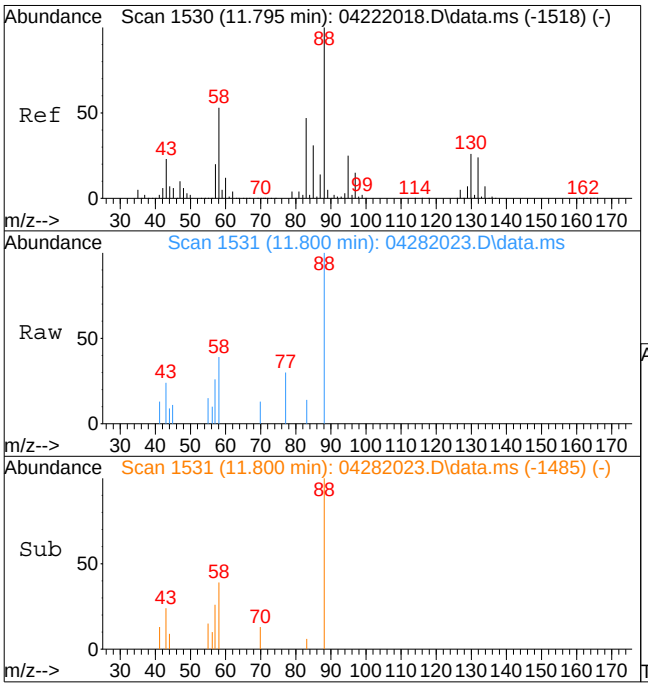


#43
Cyclohexane
Concen: 0.30 ng
RT: 11.04 min Scan# 1392
Delta R.T. -0.011 min
Lab File: 04282023.D
Acq: 29 Apr 2020 00:42

Tgt Ion: 84 Resp: 4933

Ion	Ratio	Lower	Upper
84	100		
69	34.9	15.8	55.8
56	101.0	72.0	112.0

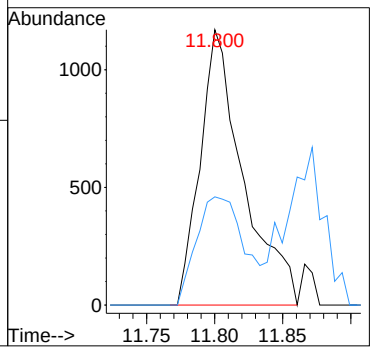


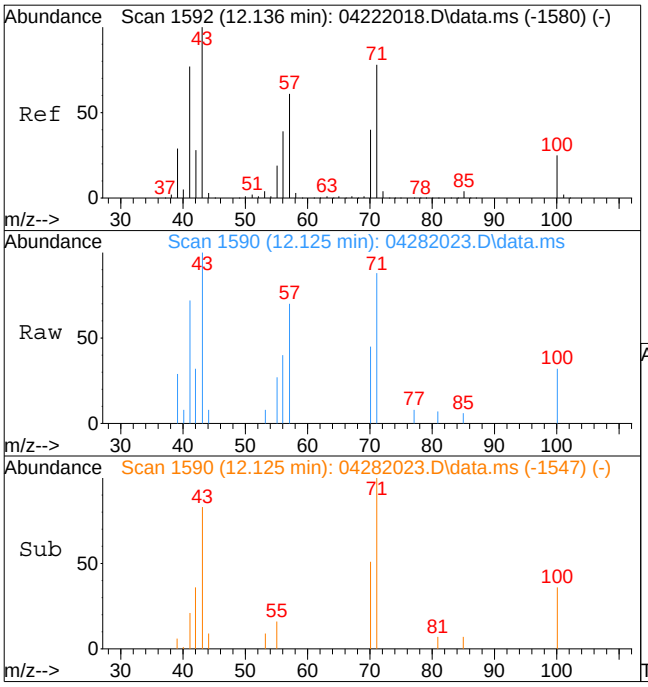


#48
1,4-Dioxane
Concen: 0.30 ng
RT: 11.80 min Scan# 1531
Delta R.T. 0.005 min
Lab File: 04282023.D
Acq: 29 Apr 2020 00:42

Tgt Ion: 88 Resp: 2563

Ion	Ratio	Lower	Upper
88	100		
58	43.6	31.1	71.1

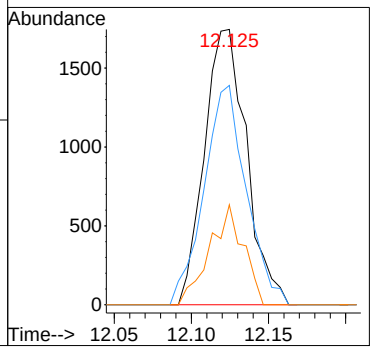


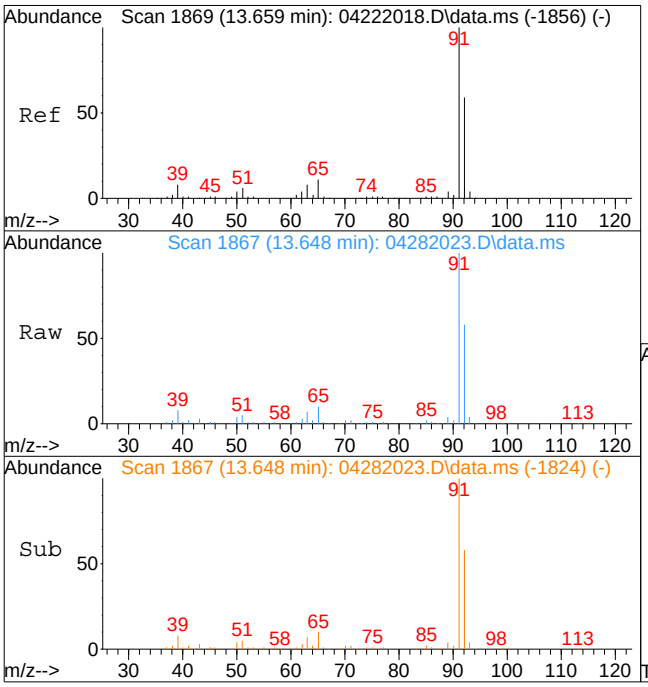


#51
n-Heptane
Concen: 0.34 ng
RT: 12.12 min Scan# 1590
Delta R.T. -0.011 min
Lab File: 04282023.D
Acq: 29 Apr 2020 00:42

Tgt Ion: 71 Resp: 3316

Ion	Ratio	Lower	Upper
71	100		
57	80.0	57.4	97.4
100	29.0	12.0	52.0

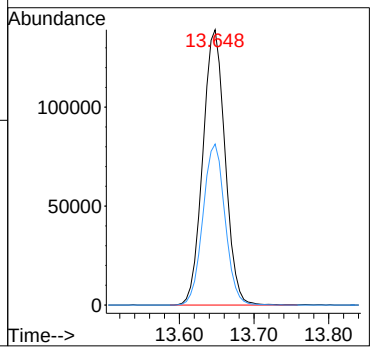


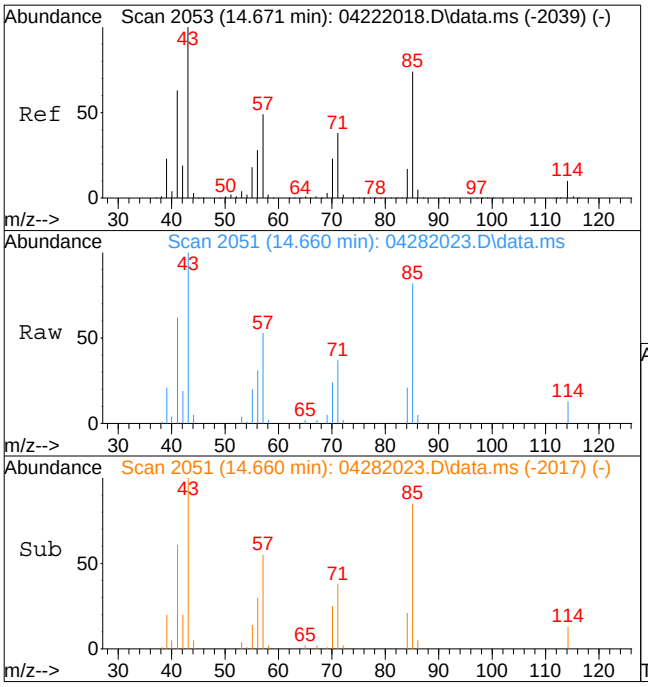


#58
Toluene
Concen: 6.05 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.011 min
Lab File: 04282023.D
Acq: 29 Apr 2020 00:42

Tgt Ion: 91 Resp: 288018

Ion	Ratio	Lower	Upper
91	100		
92	58.1	38.2	78.2

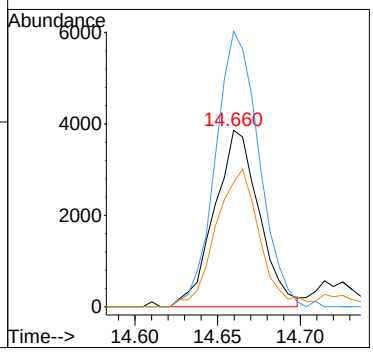


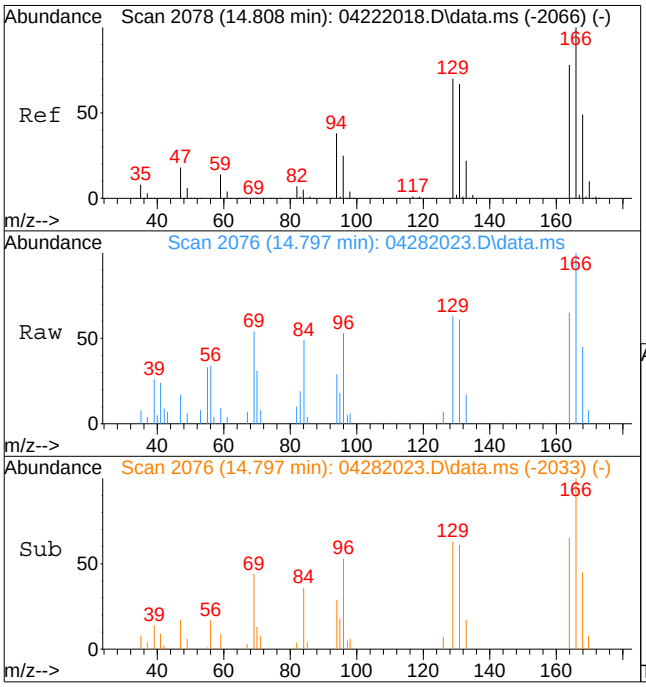


#63
n-Octane
Concen: 0.95 ng
RT: 14.66 min Scan# 2051
Delta R.T. -0.011 min
Lab File: 04282023.D
Acq: 29 Apr 2020 00:42

Tgt Ion: 57 Resp: 7231

Ion	Ratio	Lower	Upper
57	100		
85	152.9	120.7	181.1
71	76.2	61.1	91.7

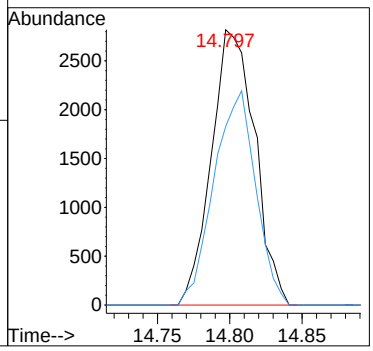


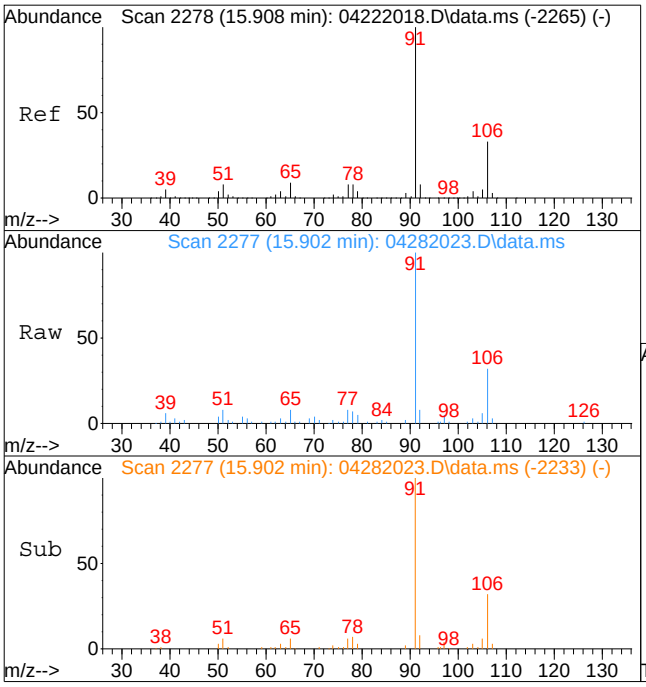


#64
Tetrachloroethene
Concen: 0.33 ng
RT: 14.80 min Scan# 2076
Delta R.T. -0.011 min
Lab File: 04282023.D
Acq: 29 Apr 2020 00:42

Tgt Ion:166 Resp: 5893

Ion	Ratio	Lower	Upper
166	100		
164	75.0	57.7	97.7

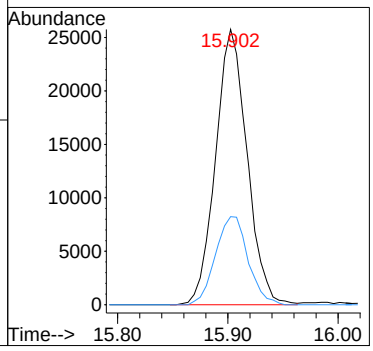


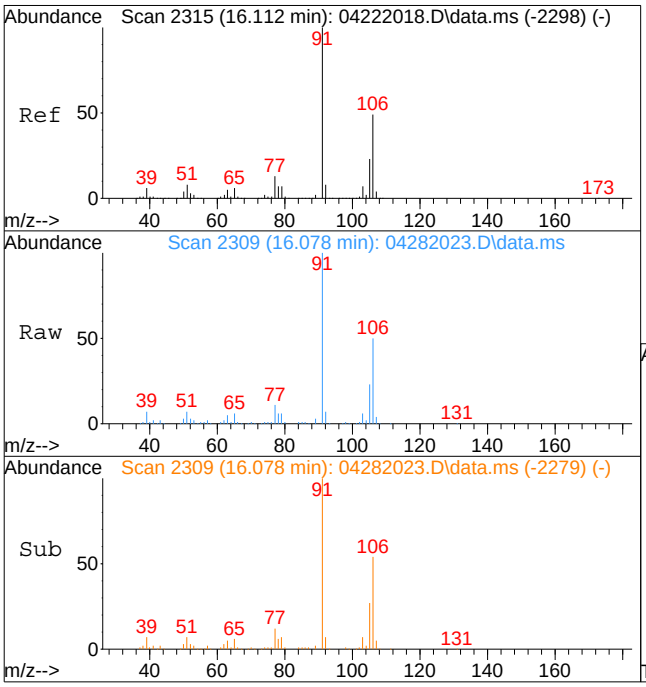


#66
Ethylbenzene
Concen: 0.92 ng
RT: 15.90 min Scan# 2277
Delta R.T. -0.006 min
Lab File: 04282023.D
Acq: 29 Apr 2020 00:42

Tgt Ion: 91 Resp: 51176

Ion	Ratio	Lower	Upper
91	100		
106	33.0	13.4	53.4

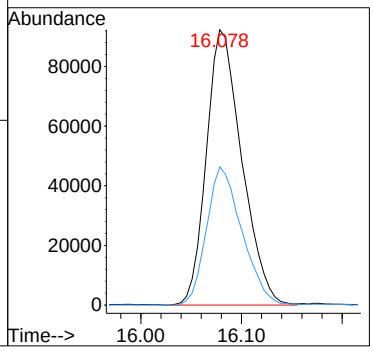


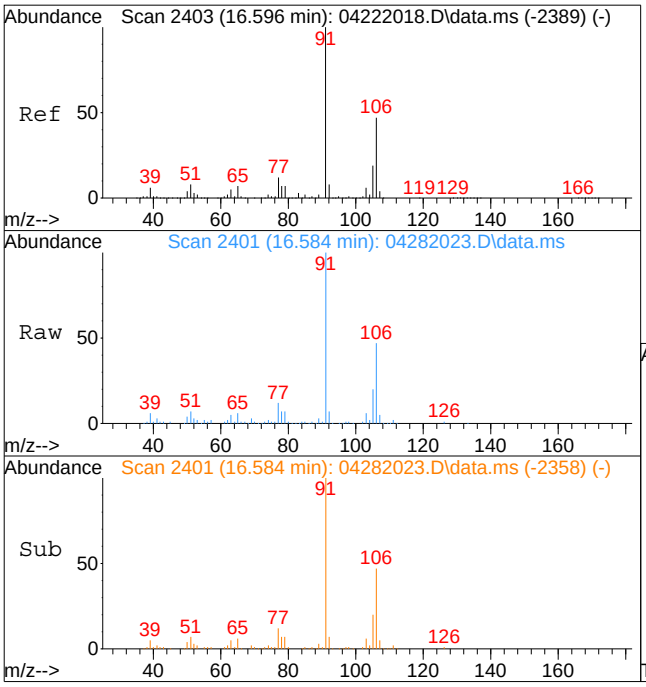


#67
m- & p-Xylenes
Concen: 4.83 ng
RT: 16.08 min Scan# 2309
Delta R.T. -0.033 min
Lab File: 04282023.D
Acq: 29 Apr 2020 00:42

Tgt Ion: 91 Resp: 225987

Ion	Ratio	Lower	Upper
91	100		
106	50.2	28.3	68.3

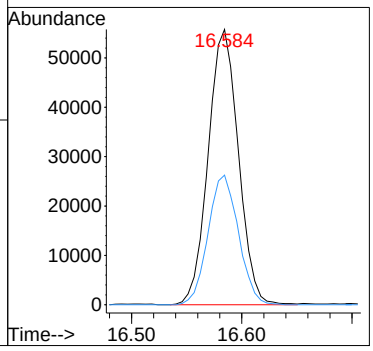


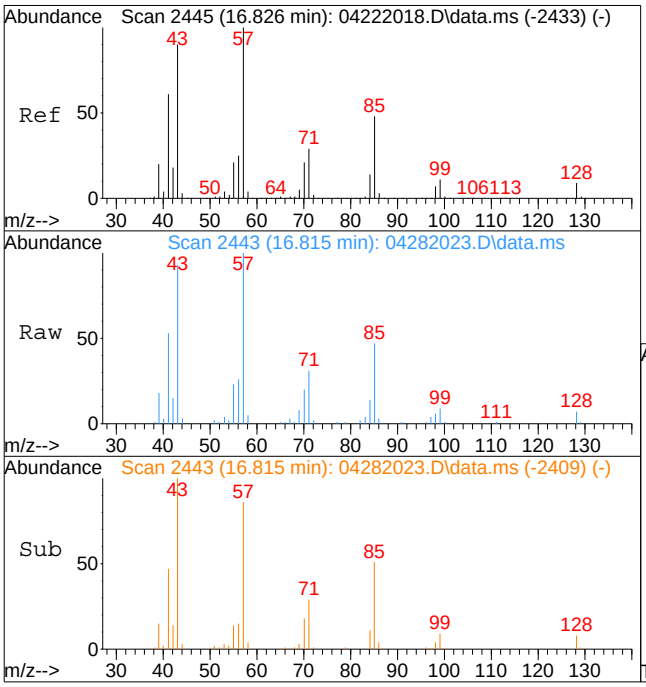


#70
o-Xylene
Concen: 2.31 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 04282023.D
Acq: 29 Apr 2020 00:42

Tgt Ion: 91 Resp: 106179

Ion	Ratio	Lower	Upper
91	100		
106	47.3	27.5	67.5

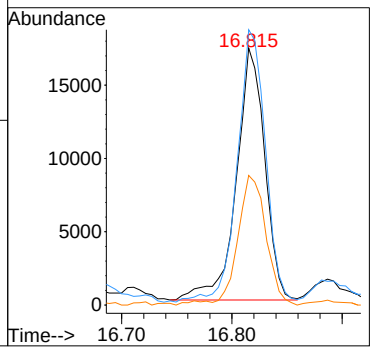


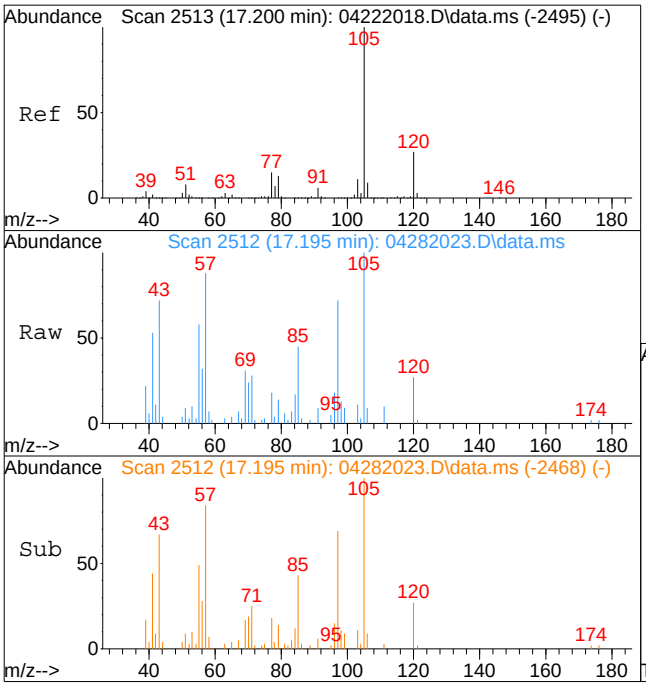


#71
n-Nonane
Concen: 2.08 ng
RT: 16.82 min Scan# 2443
Delta R.T. -0.011 min
Lab File: 04282023.D
Acq: 29 Apr 2020 00:42

Tgt Ion: 43 Resp: 30822

Ion	Ratio	Lower	Upper
43	100		
57	107.6	90.8	130.8
85	50.1	32.1	72.1

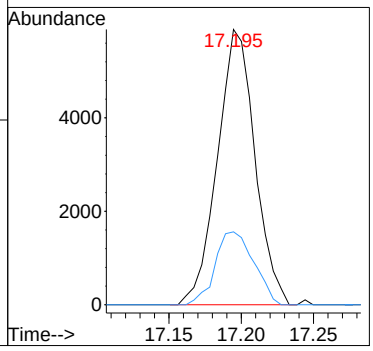


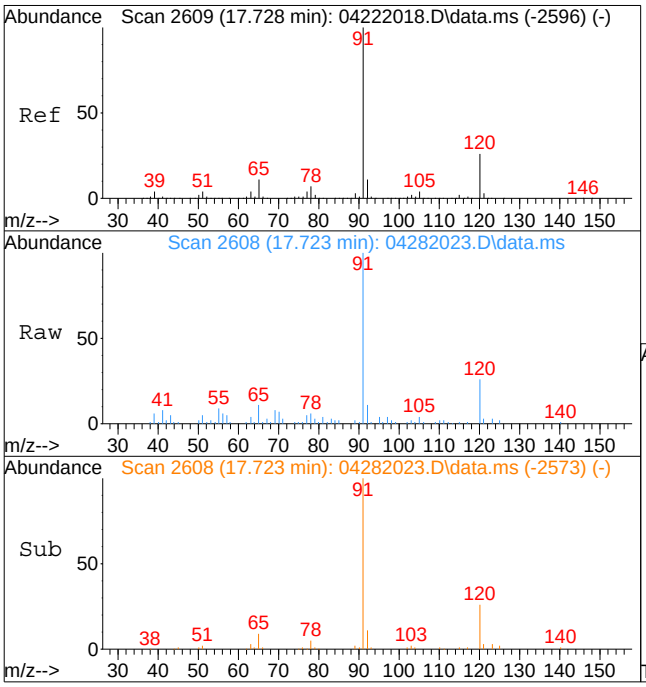


#74
Cumene
Concen: 0.18 ng
RT: 17.19 min Scan# 2512
Delta R.T. -0.006 min
Lab File: 04282023.D
Acq: 29 Apr 2020 00:42

Tgt Ion:105 Resp: 10644

Ion	Ratio	Lower	Upper
105	100		
120	27.3	7.3	47.3

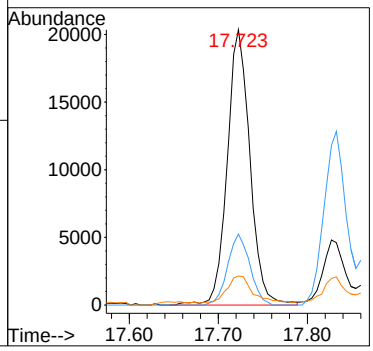


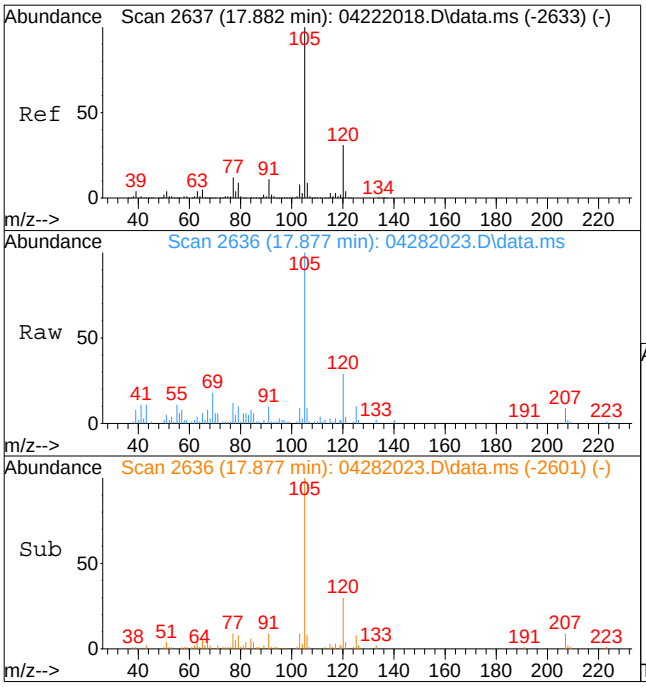


#76
n-Propylbenzene
Concen: 0.55 ng
RT: 17.72 min Scan# 2608
Delta R.T. -0.006 min
Lab File: 04282023.D
Acq: 29 Apr 2020 00:42

Tgt Ion: 91 Resp: 36145

Ion	Ratio	Lower	Upper
91	100		
120	25.2	6.1	46.1
65	12.4	0.0	30.7

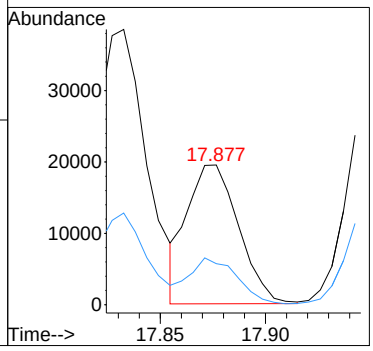


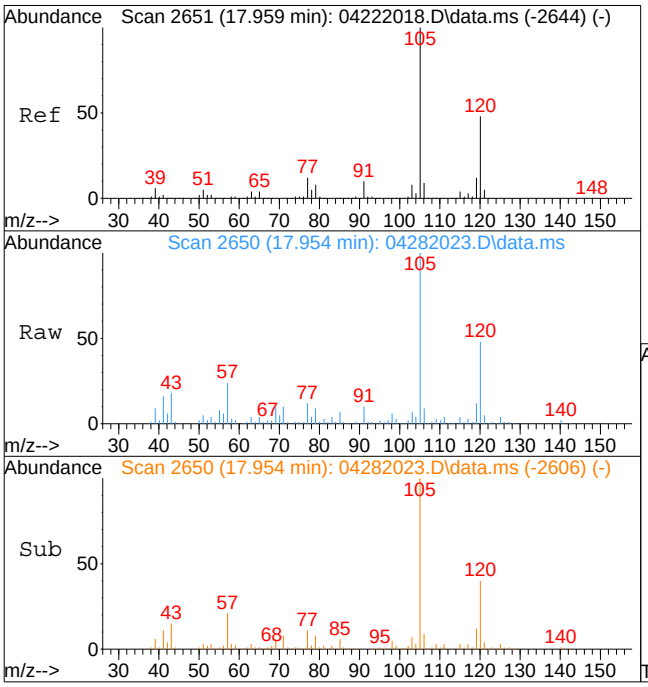


#78
4-Ethyltoluene
Concen: 0.58 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 04282023.D
Acq: 29 Apr 2020 00:42

Tgt Ion:105 Resp: 33239

Ion	Ratio	Lower	Upper
105	100		
120	32.0	11.4	51.4

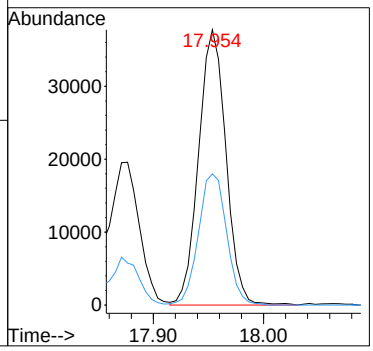


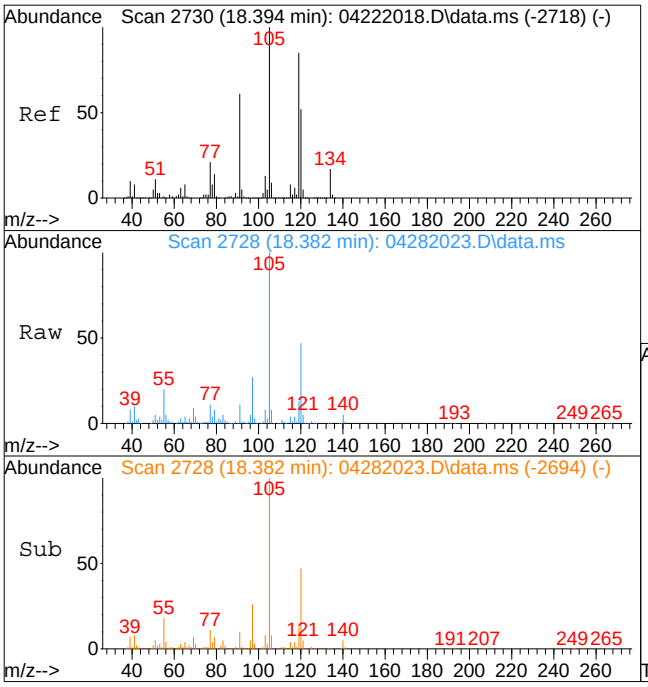


#79
1,3,5-Trimethylbenzene
Concen: 1.24 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 04282023.D
Acq: 29 Apr 2020 00:42

Tgt Ion:105 Resp: 65122

Ion	Ratio	Lower	Upper
105	100		
120	49.2	29.5	69.5

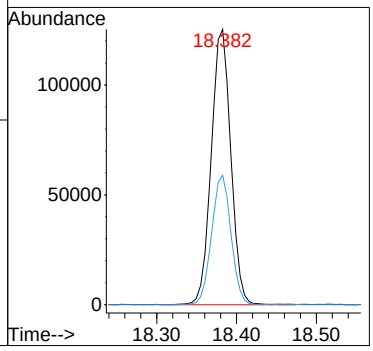


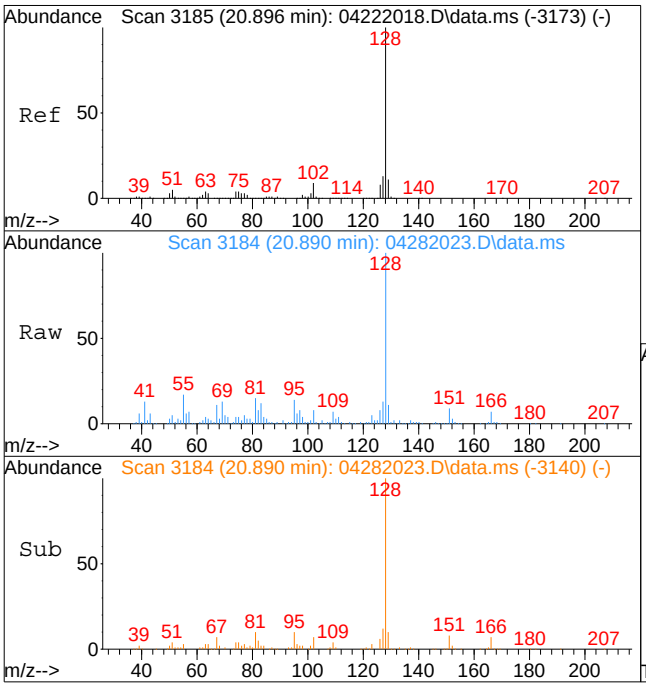


#82
1,2,4-Trimethylbenzene
Concen: 4.19 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 04282023.D
Acq: 29 Apr 2020 00:42

Tgt Ion:105 Resp: 213668

Ion	Ratio	Lower	Upper
105	100		
120	46.5	34.5	74.5

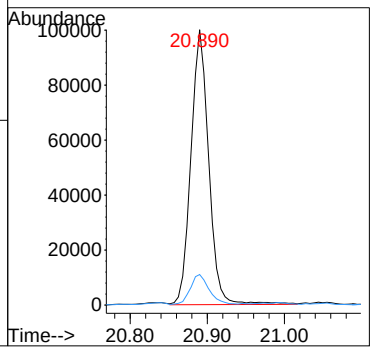




#95
Naphthalene
Concen: 2.45 ng
RT: 20.89 min Scan# 3184
Delta R.T. -0.006 min
Lab File: 04282023.D
Acq: 29 Apr 2020 00:42

Tgt Ion:128 Resp: 160588

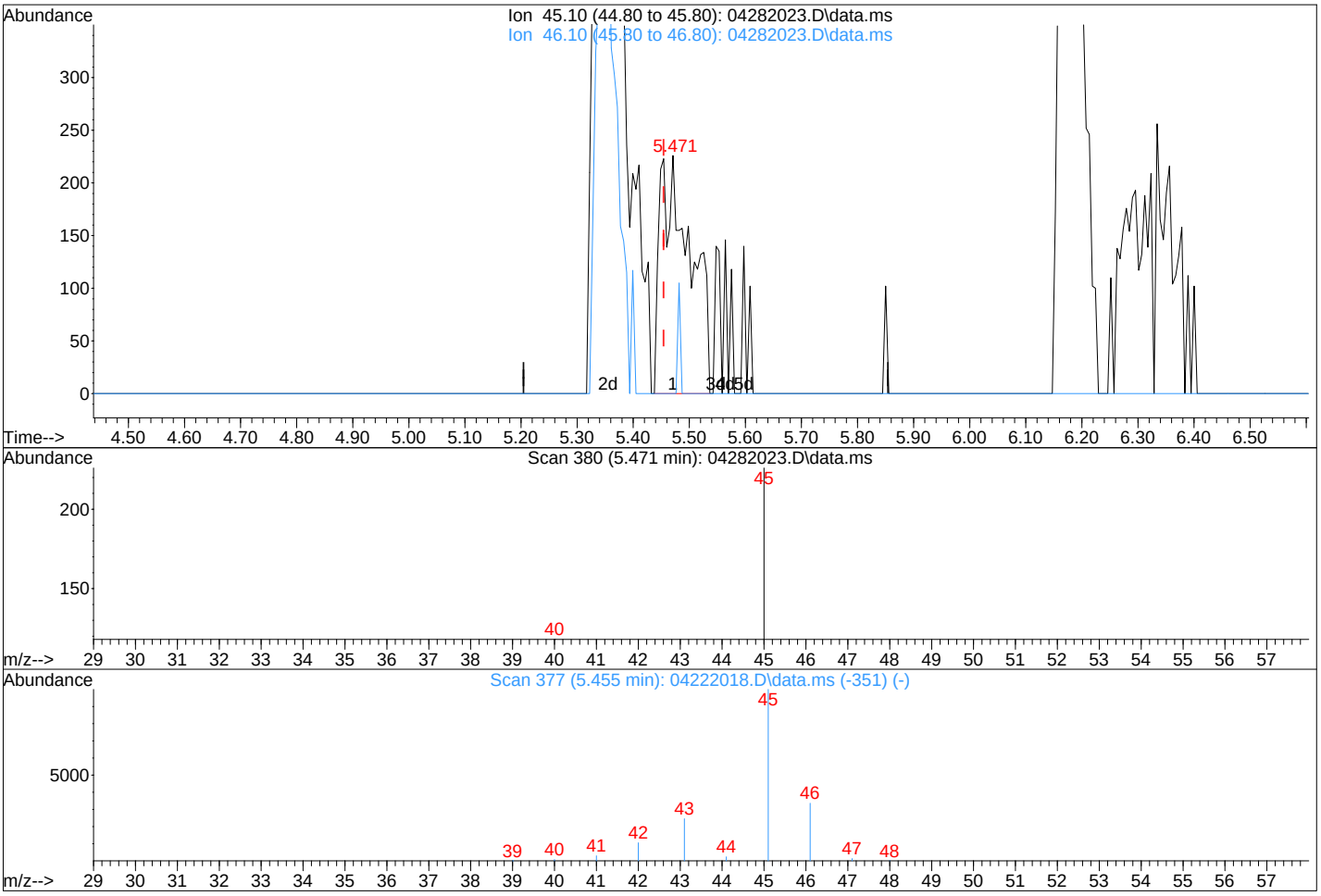
Ion	Ratio	Lower	Upper
128	100		
129	11.9	0.0	30.9



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\28\04282023.D Vial: 10
Acq On : 29 Apr 2020 00:42 Operator: SC
Sample : P2002030-012 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 05:53:35 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04282023.D\data.ms

(10) Ethanol (T)

5.471min (+0.016) 0.17ng

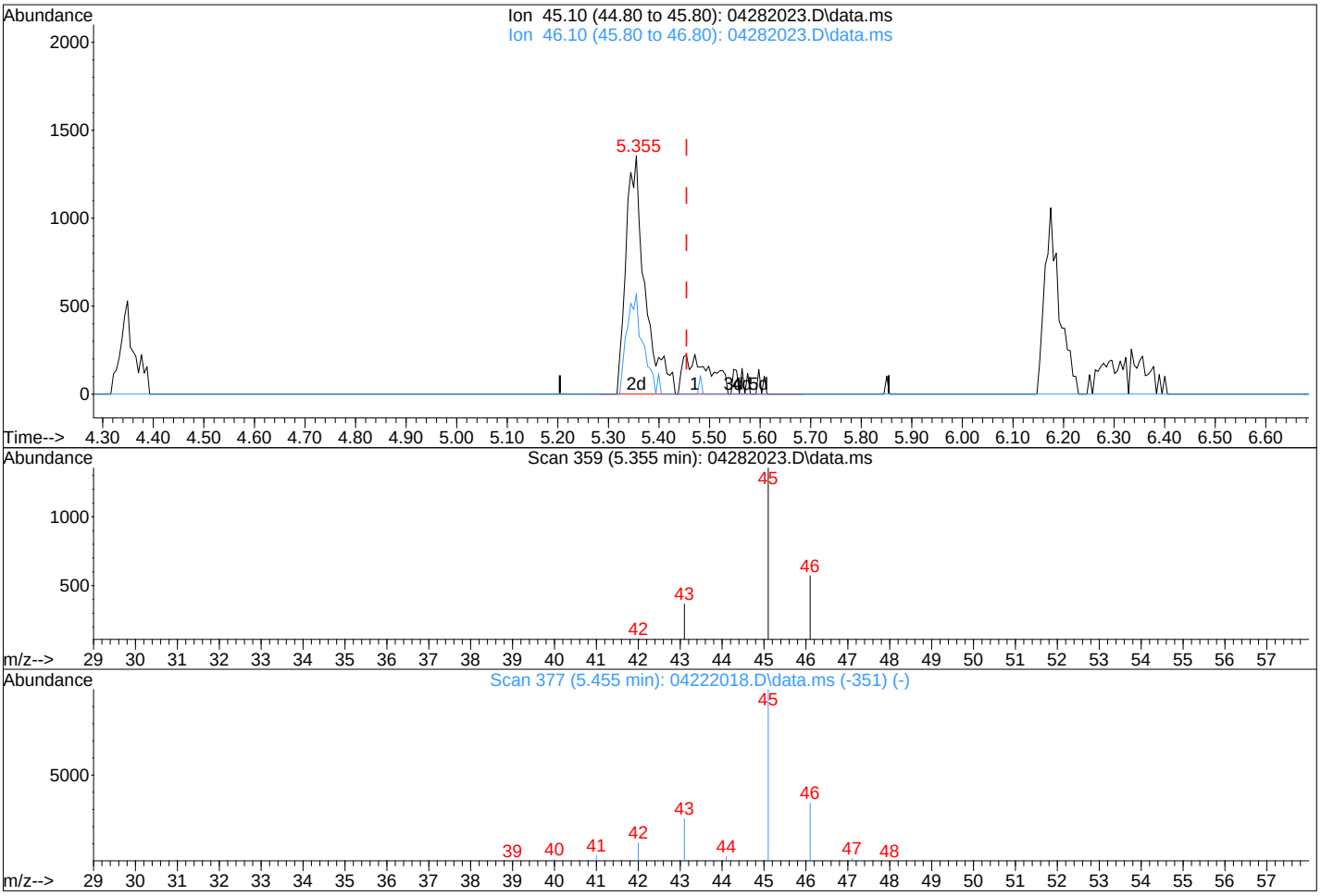
response 845

Ion	Exp%	Act%
45.10	100	100
46.10	34.00	4.14#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\28\04282023.D Vial: 10
Acq On : 29 Apr 2020 00:42 Operator: SC
Sample : P2002030-012 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 05:53:35 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04282023.D\data.ms

(10) Ethanol (T)

5.355min (-0.099) 0.94ng m

response 4645

Ion	Exp%	Act%
45.10	100	100
46.10	34.00	27.56
0.00	0.00	0.00
0.00	0.00	0.00

MP

4/29/20

LH 4/29/20

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282024.D Vial: 11
Acq On : 29 Apr 2020 1:16 Operator: SC
Sample : P2002030-013 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 10:01:58 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/29/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.14	130	153303	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	11.11	114	646882	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	288604	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.92	65	228883	11.523	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.16%				
57) Toluene-d8 (SS2)	13.55	98	715621	12.842	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.72%				
73) Bromofluorobenzene (SS3)	17.05	174	285262	12.737	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.92%				
Target Compounds							Qvalue
2) Propene	3.85	42	74424	11.430	ng		88
3) Dichlorodifluoromethan...	3.96	85	527838	21.337	ng		100
4) Chloromethane	4.17	50	2326	0.255	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	12519	0.936	ng		97
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.	d		
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.14	64	123	N.D.			
10) Ethanol	5.38	45	481742	97.677	ng		99
11) Acetonitrile	5.57	41	2078	0.178	ng	#	72
12) Acrolein	5.70	56	2725	0.605	ng		98
13) Acetone	5.83	58	185053	31.252	ng	#	64
14) Trichlorofluoromethane	6.02	101	75364	3.062	ng		99
15) 2-Propanol (Isopropanol)	6.17	45	498693	26.512	ng		95
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	6.87	84	42224	4.066	ng		95
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	7.18	151	279787	21.842	ng		99
22) Carbon Disulfide	7.15	76	34881	1.010	ng		48
23) trans-1,2-Dichloroethene	7.89	61	432	N.D.			
24) 1,1-Dichloroethane	8.15	63	604	N.D.			
25) Methyl tert-Butyl Ether	8.14	73	318	N.D.			
26) Vinyl Acetate	8.28	86	5840	2.702	ng		100
27) 2-Butanone (MEK)	8.51	72	95430	15.687	ng		99
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	9.21	61	222151	82.075	ng		96
31) n-Hexane	9.22	57	22197	1.689	ng		96
32) Chloroform	9.28	83	4381	0.208	ng		100
34) Tetrahydrofuran (THF)	9.66	72	87083	14.133	ng		95
35) Ethyl tert-Butyl Ether	9.77	87	342	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d		
38) 1,1,1-Trichloroethane	10.30	97	247	N.D.			
39) Isopropyl Acetate	10.69	61	179	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.76	78	35196	0.835	ng		100
42) Carbon Tetrachloride	10.90	117	141533	6.491	ng		99
43) Cyclohexane	11.03	84	46682	2.826	ng		99
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	11.57	63	152	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	11.81	130	1524	0.104	ng		98
48) 1,4-Dioxane	11.81	88	405	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	12.00	100	2868	0.635	ng		96

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282024.D Vial: 11
Acq On : 29 Apr 2020 1:16 Operator: SC
Sample : P2002030-013 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 10:01:58 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

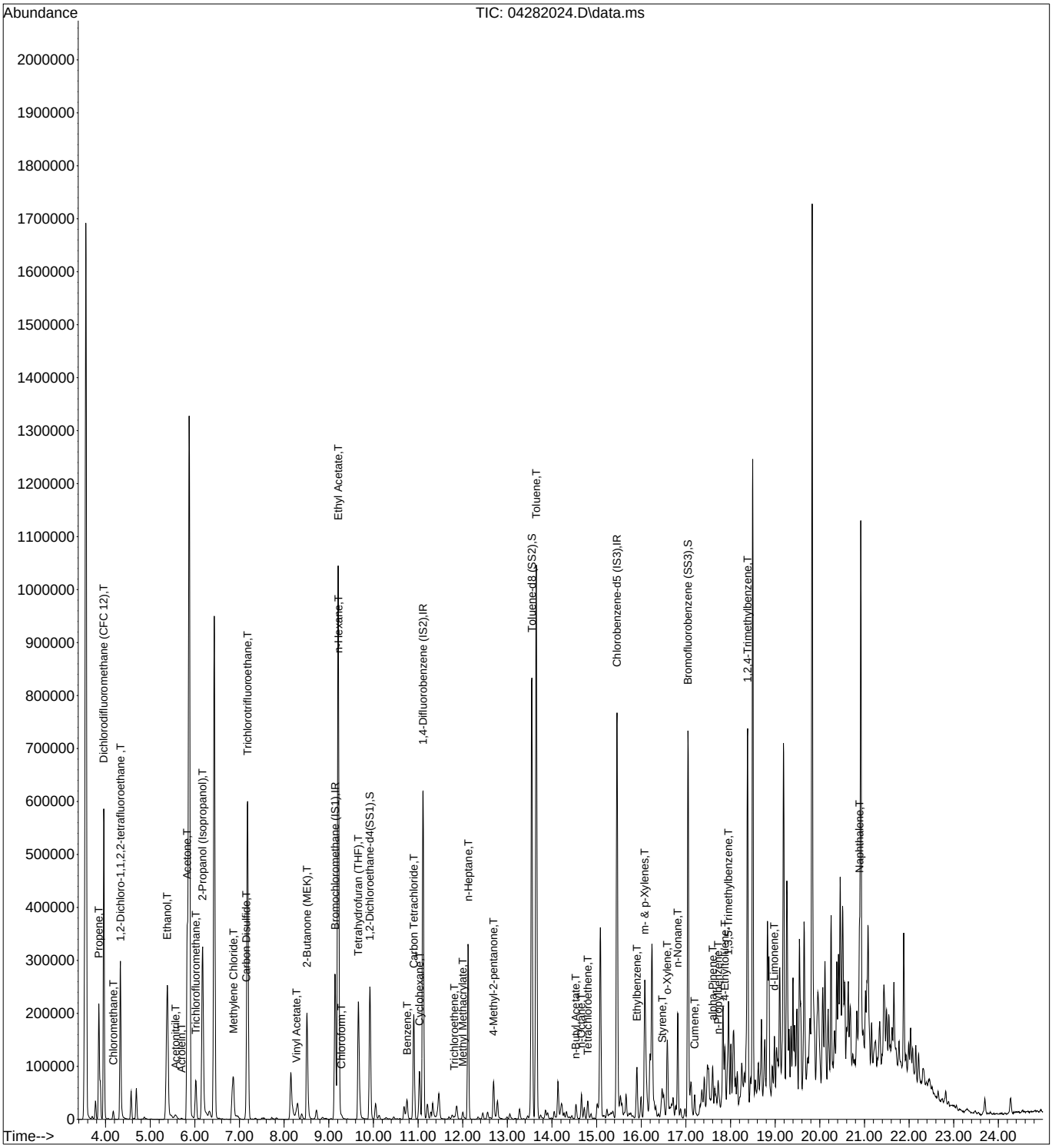
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.12	71	98249	10.028 ng	99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	12.69	58	22376	3.032 ng	98
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.65	91	940640	20.105 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	14.32	107	478	N.D.	
62) n-Butyl Acetate	14.53	43	18995	1.219 ng	93
63) n-Octane	14.66	57	9290	1.247 ng	95
64) Tetrachloroethene	14.80	166	11896	0.675 ng	99
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.90	91	82382	1.511 ng	98
67) m- & p-Xylenes	16.08	91	242099	5.264 ng	98
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.47	104	24452	0.731 ng	98
70) o-Xylene	16.58	91	98761	2.187 ng	98
71) n-Nonane	16.82	43	63609	4.366 ng	100
72) 1,1,2,2-Tetrachloroethane	16.58	83	402	N.D.	
74) Cumene	17.19	105	12193	0.207 ng	99
75) alpha-Pinene	17.60	93	33920	1.264 ng	98
76) n-Propylbenzene	17.72	91	49723	0.775 ng	100
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.87	105	67668	1.208 ng	99
79) 1,3,5-Trimethylbenzene	17.95	105	89370	1.727 ng	99
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	402853	8.049 ng	89
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.49	91	931	N.D.	
85) 1,3-Dichlorobenzene	18.61	146	404	N.D.	
86) 1,4-Dichlorobenzene	18.61	146	404	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	18.98	68	21621	1.529 ng	99
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	20.78	180	220	N.D.	
95) Naphthalene	20.89	128	187570	2.909 ng	98
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282024.D Vial: 11
Acq On : 29 Apr 2020 1:16 Operator: SC
Sample : P2002030-013 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 10:01:58 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282024.D Vial: 11
Acq On : 29 Apr 2020 1:16 Operator: SC
Sample : P2002030-013 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 10:01:58 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020 4/29/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

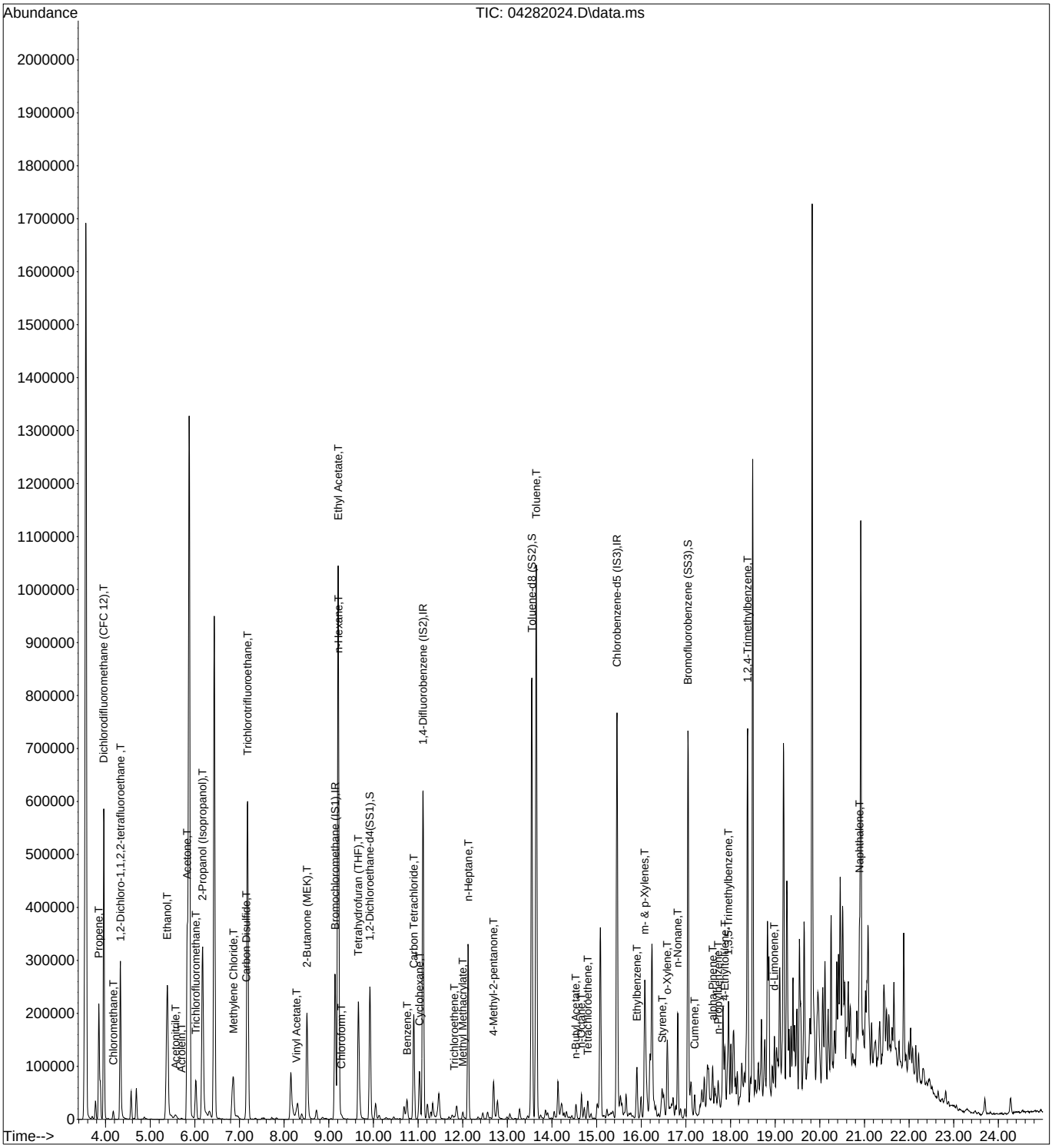
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.14	130	153303	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	11.11	114	646882	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	288604	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.92	65	228883	11.523	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.16%				
57) Toluene-d8 (SS2)	13.55	98	715621	12.842	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.72%				
73) Bromofluorobenzene (SS3)	17.05	174	285262	12.737	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.92%				
Target Compounds							Qvalue
2) Propene	3.85	42	74424	11.430	ng		88
3) Dichlorodifluoromethan...	3.96	85	527838	21.337	ng		100
4) Chloromethane	4.17	50	2326	0.255	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	12519	0.936	ng		97
10) Ethanol	5.38	45	481742	97.677	ng		99
11) Acetonitrile	5.57	41	2078	0.178	ng	#	72
12) Acrolein	5.70	56	2725	0.605	ng		98
13) Acetone	5.83	58	185053	31.252	ng	#	64
14) Trichlorofluoromethane	6.02	101	75364	3.062	ng		99
15) 2-Propanol (Isopropanol)	6.17	45	498693	26.512	ng		95
19) Methylene Chloride	6.87	84	42224	4.066	ng		95
21) Trichlorotrifluoroethane	7.18	151	279787	21.842	ng		99
22) Carbon Disulfide	7.15	76	34881	1.010	ng		48
26) Vinyl Acetate	8.28	86	5840	2.702	ng		100
27) 2-Butanone (MEK)	8.51	72	95430	15.687	ng		99
30) Ethyl Acetate	9.21	61	222151	82.075	ng		96
31) n-Hexane	9.22	57	22197	1.689	ng		96
32) Chloroform	9.28	83	4381	0.208	ng		100
34) Tetrahydrofuran (THF)	9.66	72	87083	14.133	ng		95
41) Benzene	10.76	78	35196	0.835	ng		100
42) Carbon Tetrachloride	10.90	117	141533	6.491	ng		99
43) Cyclohexane	11.03	84	46682	2.826	ng		99
47) Trichloroethene	11.81	130	1524	0.104	ng		98
50) Methyl Methacrylate	12.00	100	2868	0.635	ng		96
51) n-Heptane	12.12	71	98249	10.028	ng		99
53) 4-Methyl-2-pentanone	12.69	58	22376	3.032	ng		98
58) Toluene	13.65	91	940640	20.105	ng		100
62) n-Butyl Acetate	14.53	43	18995	1.219	ng		93
63) n-Octane	14.66	57	9290	1.247	ng		95
64) Tetrachloroethene	14.80	166	11896	0.675	ng		99
66) Ethylbenzene	15.90	91	82382	1.511	ng		98
67) m- & p-Xylenes	16.08	91	242099	5.264	ng		98
69) Styrene	16.47	104	24452	0.731	ng		98
70) o-Xylene	16.58	91	98761	2.187	ng		98
71) n-Nonane	16.82	43	63609	4.366	ng		100
74) Cumene	17.19	105	12193	0.207	ng		99
75) alpha-Pinene	17.60	93	33920	1.264	ng		98
76) n-Propylbenzene	17.72	91	49723	0.775	ng		100
78) 4-Ethyltoluene	17.87	105	67668	1.208	ng		99
79) 1,3,5-Trimethylbenzene	17.95	105	89370	1.727	ng		99
82) 1,2,4-Trimethylbenzene	18.38	105	402853	8.049	ng		89
91) d-Limonene	18.98	68	21621	1.529	ng		99
95) Naphthalene	20.89	128	187570	2.909	ng		98

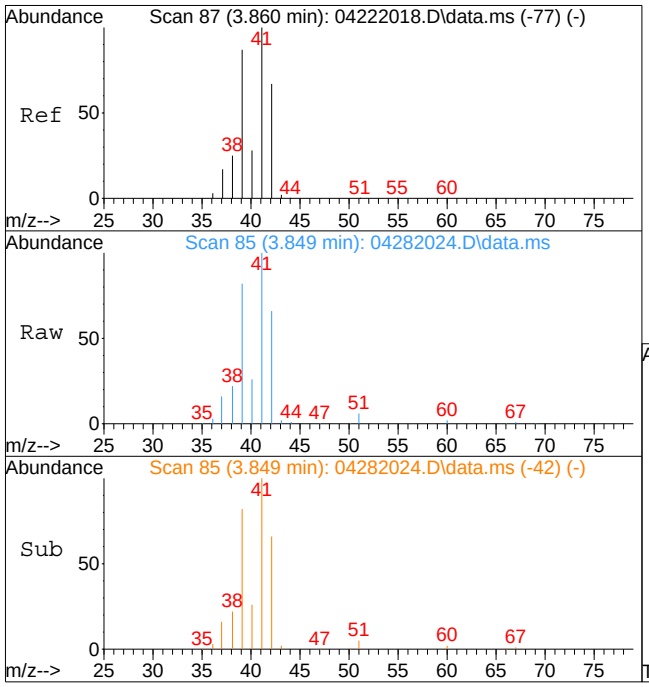
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282024.D Vial: 11
Acq On : 29 Apr 2020 1:16 Operator: SC
Sample : P2002030-013 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 10:01:58 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

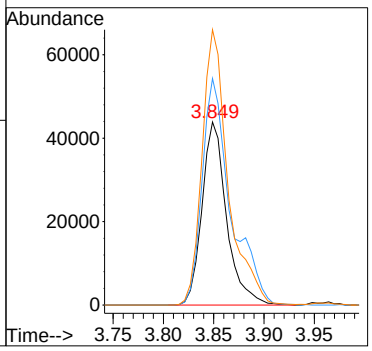


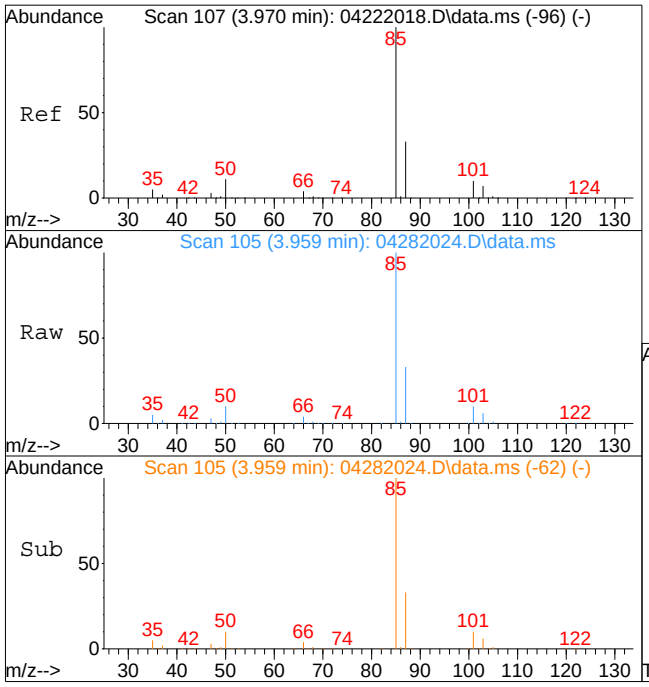


#2
Propene
Concen: 11.43 ng
RT: 3.85 min Scan# 85
Delta R.T. -0.011 min
Lab File: 04282024.D
Acq: 29 Apr 2020 1:16

Tgt Ion: 42 Resp: 74424

Ion	Ratio	Lower	Upper
42	100		
39	144.4	106.4	146.4
41	159.8	128.8	168.8

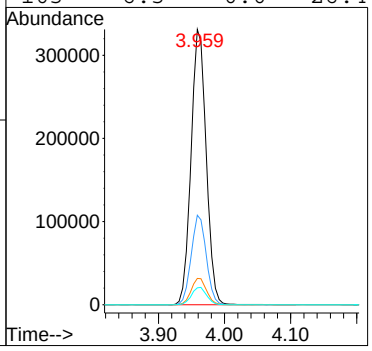


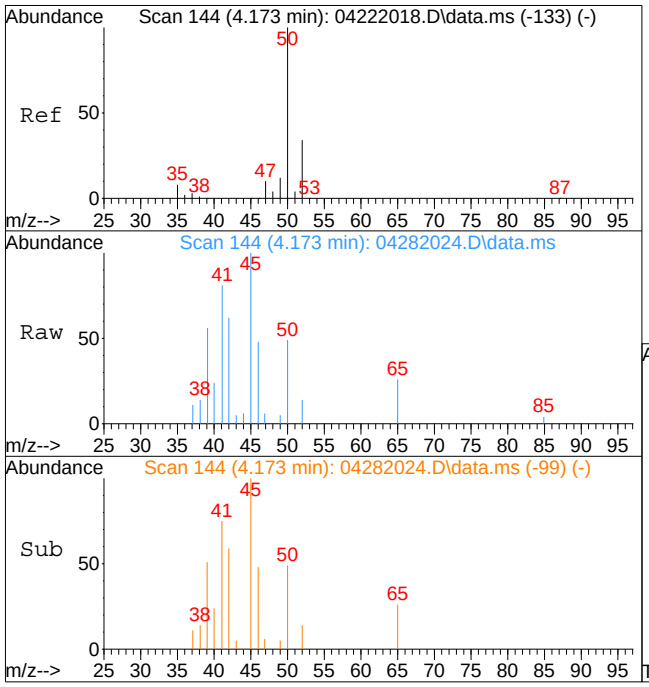


#3
Dichlorodifluoromethane (CFC 12)
Concen: 21.34 ng
RT: 3.96 min Scan# 105
Delta R.T. -0.011 min
Lab File: 04282024.D
Acq: 29 Apr 2020 1:16

Tgt Ion: 85 Resp: 527838

Ion	Ratio	Lower	Upper
85	100		
87	32.3	12.4	52.4
101	9.7	0.0	29.9
103	6.3	0.0	26.4

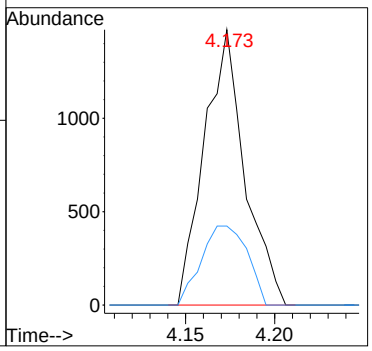


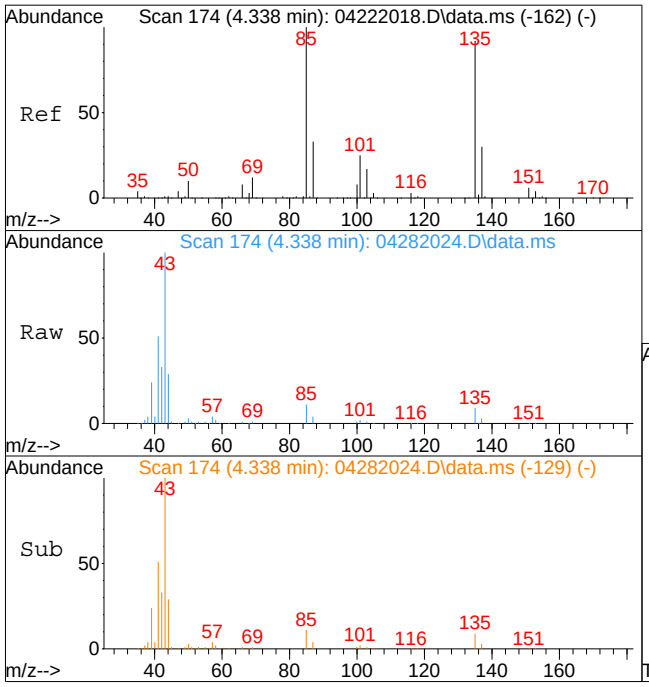


#4
Chloromethane
Concen: 0.25 ng
RT: 4.17 min Scan# 144
Delta R.T. -0.000 min
Lab File: 04282024.D
Acq: 29 Apr 2020 1:16

Tgt Ion: 50 Resp: 2326

Ion	Ratio	Lower	Upper
50	100		
52	32.7	13.7	53.7

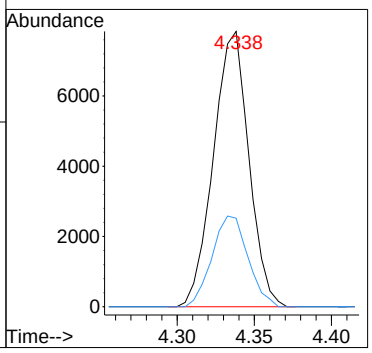


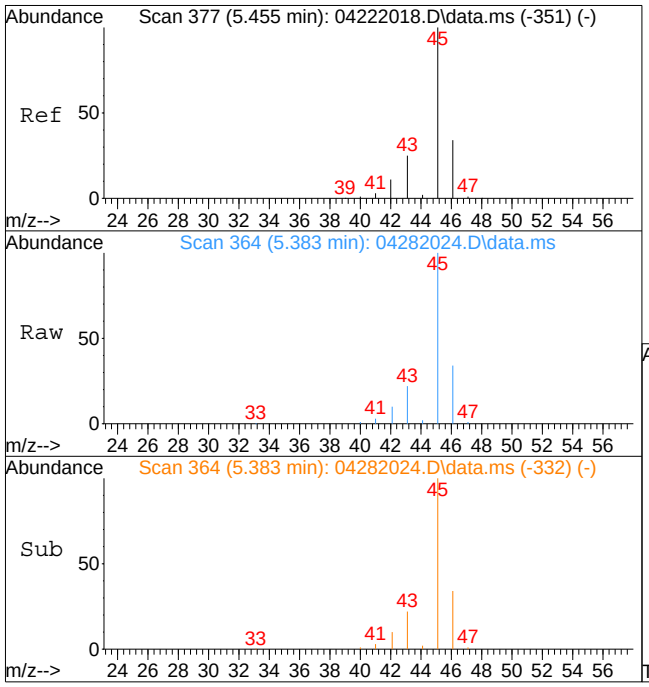


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 0.94 ng
RT: 4.34 min Scan# 174
Delta R.T. -0.000 min
Lab File: 04282024.D
Acq: 29 Apr 2020 1:16

Tgt Ion:135 Resp: 12519

Ion	Ratio	Lower	Upper
135	100		
137	33.4	11.9	51.9

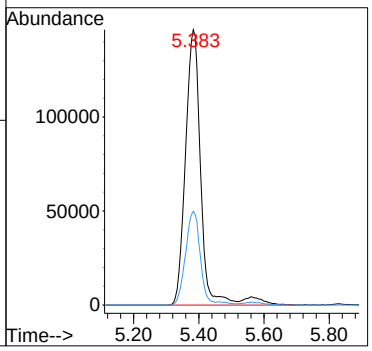


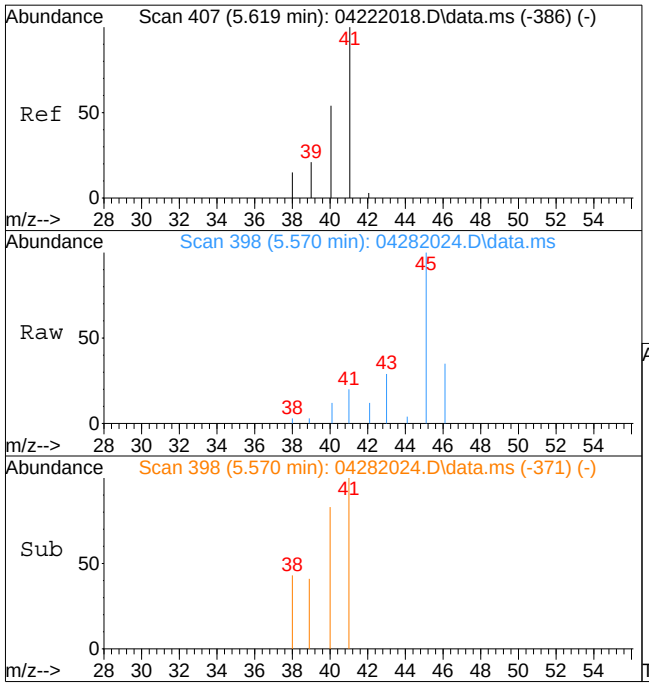


#10
Ethanol
Concen: 97.68 ng
RT: 5.38 min Scan# 364
Delta R.T. -0.072 min
Lab File: 04282024.D
Acq: 29 Apr 2020 1:16

Tgt Ion: 45 Resp: 481742

Ion	Ratio	Lower	Upper
45	100		
46	34.3	14.0	54.0

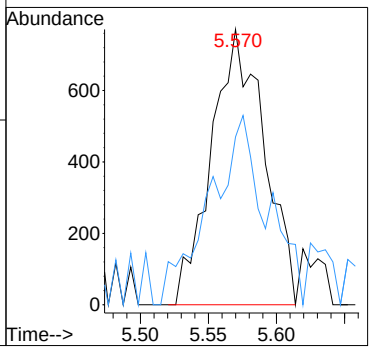


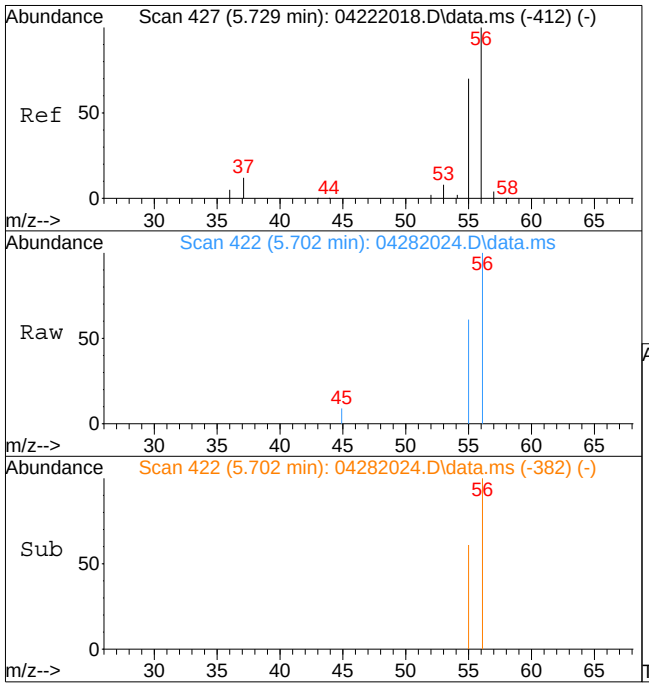


#11
Acetonitrile
Concen: 0.18 ng
RT: 5.57 min Scan# 398
Delta R.T. -0.050 min
Lab File: 04282024.D
Acq: 29 Apr 2020 1:16

Tgt Ion: 41 Resp: 2078

Ion	Ratio	Lower	Upper
41	100		
40	75.1	34.8	74.8#

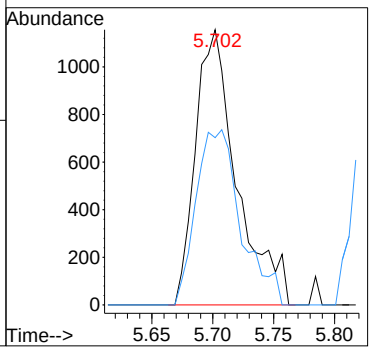


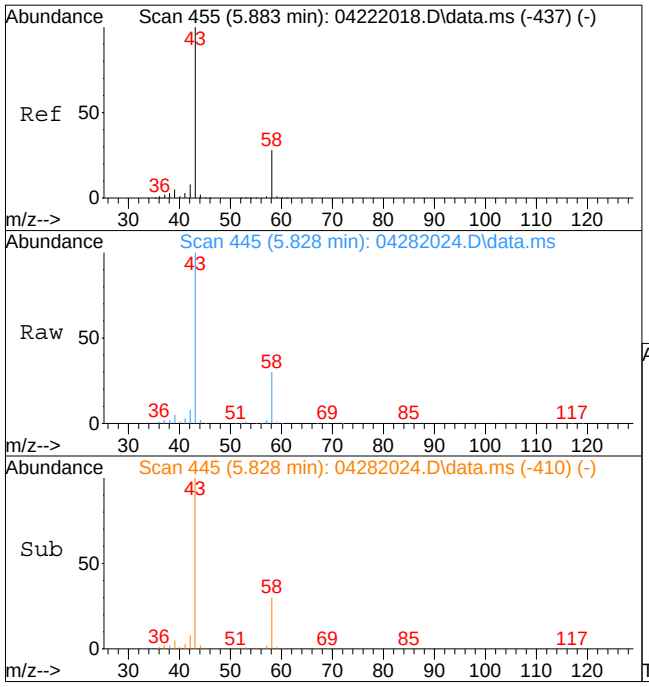


#12
Acrolein
Concen: 0.60 ng
RT: 5.70 min Scan# 422
Delta R.T. -0.028 min
Lab File: 04282024.D
Acq: 29 Apr 2020 1:16

Tgt Ion: 56 Resp: 2725

Ion	Ratio	Lower	Upper
56	100		
55	68.9	50.4	90.4

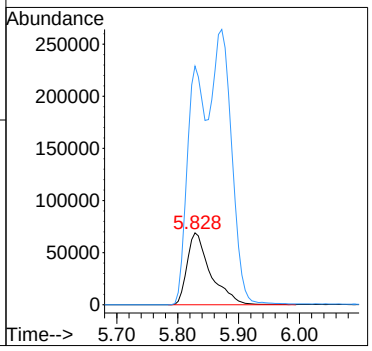


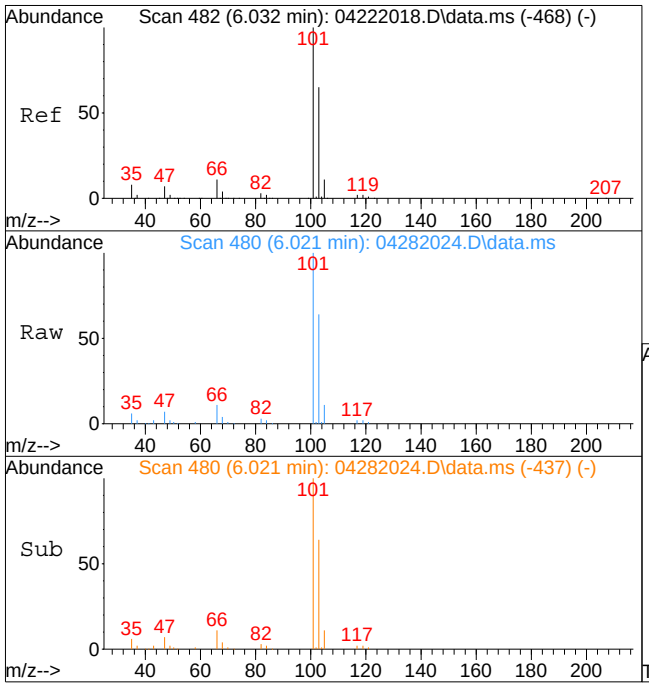


#13
Acetone
Concen: 31.25 ng
RT: 5.83 min Scan# 445
Delta R.T. -0.055 min
Lab File: 04282024.D
Acq: 29 Apr 2020 1:16

Tgt Ion: 58 Resp: 185053

Ion	Ratio	Lower	Upper
58	100		
43	271.4	319.3	379.3#

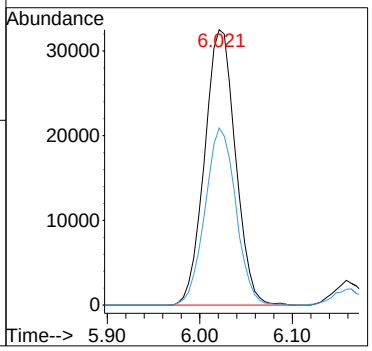


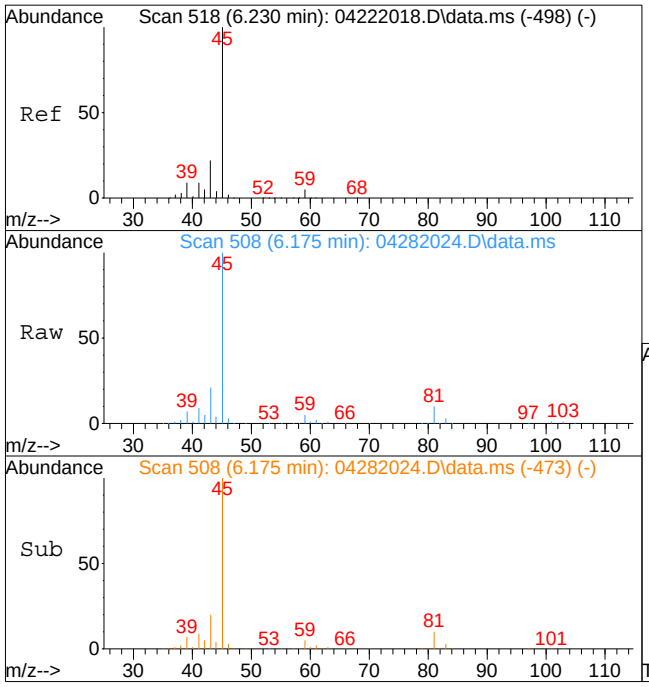


#14
Trichlorofluoromethane
Concen: 3.06 ng
RT: 6.02 min Scan# 480
Delta R.T. -0.011 min
Lab File: 04282024.D
Acq: 29 Apr 2020 1:16

Tgt Ion:101 Resp: 75364

Ion	Ratio	Lower	Upper
101	100		
103	64.2	44.7	84.7

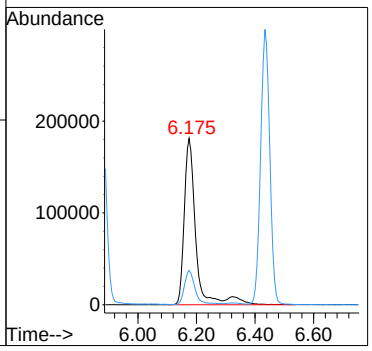


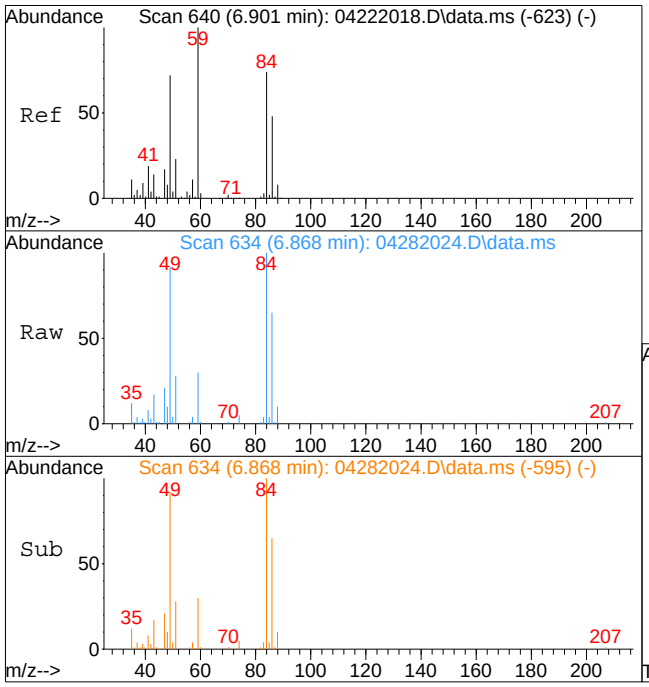


#15
2-Propanol (Isopropanol)
Concen: 26.51 ng
RT: 6.17 min Scan# 508
Delta R.T. -0.055 min
Lab File: 04282024.D
Acq: 29 Apr 2020 1:16

Tgt Ion: 45 Resp: 498693

Ion	Ratio	Lower	Upper
45	100		
43	20.0	2.6	42.6

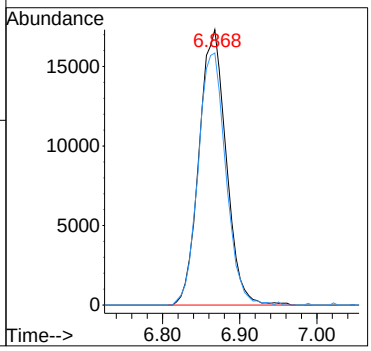


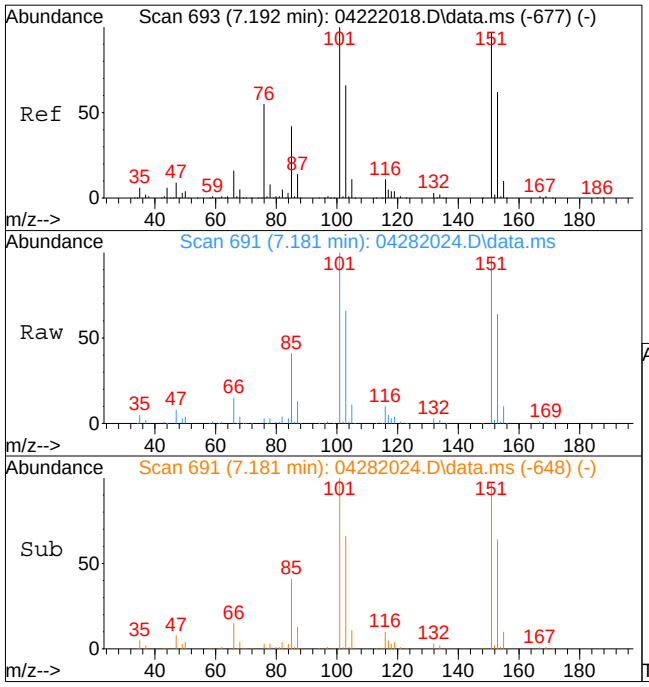


#19
Methylene Chloride
Concen: 4.07 ng
RT: 6.87 min Scan# 634
Delta R.T. -0.033 min
Lab File: 04282024.D
Acq: 29 Apr 2020 1:16

Tgt Ion: 84 Resp: 42224

Ion	Ratio	Lower	Upper
84	100		
49	93.3	73.0	123.0

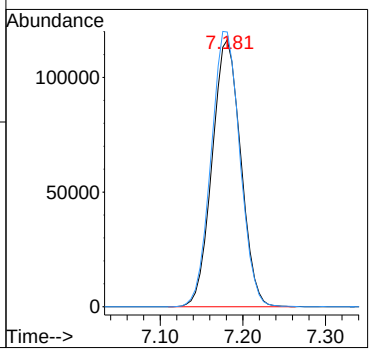


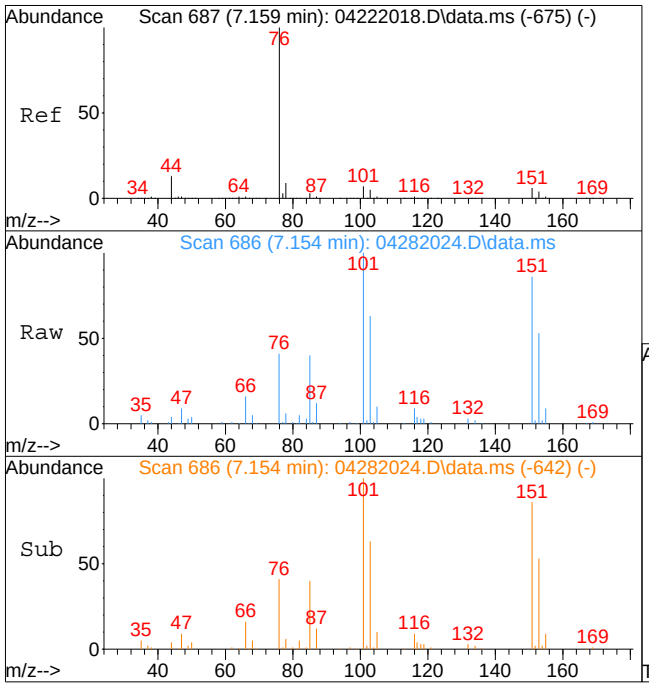


#21
Trichlorotrifluoroethane
Concen: 21.84 ng
RT: 7.18 min Scan# 691
Delta R.T. -0.011 min
Lab File: 04282024.D
Acq: 29 Apr 2020 1:16

Tgt Ion:151 Resp: 279787

Ion	Ratio	Lower	Upper
151	100		
101	104.0	82.9	122.9

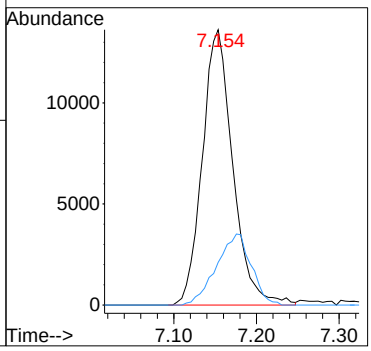


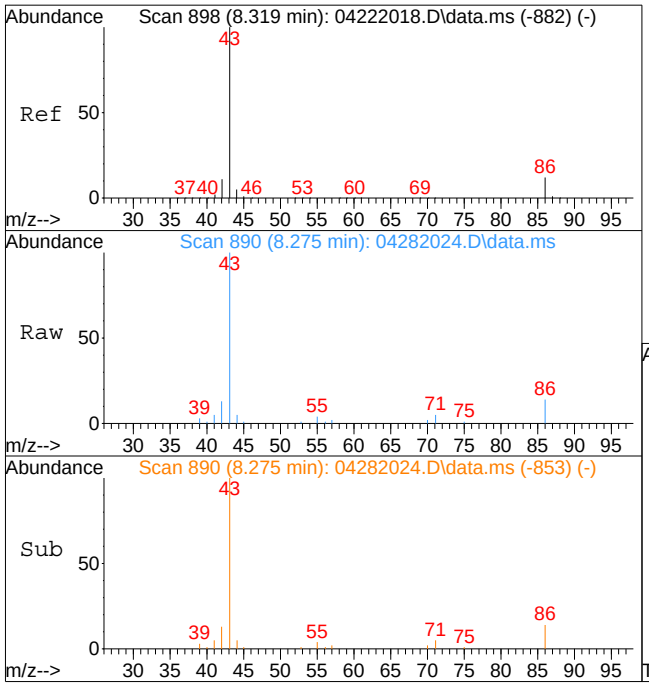


#22
Carbon Disulfide
Concen: 1.01 ng
RT: 7.15 min Scan# 686
Delta R.T. -0.006 min
Lab File: 04282024.D
Acq: 29 Apr 2020 1:16

Tgt Ion: 76 Resp: 34881

Ion	Ratio	Lower	Upper
76	100		
78	29.4	0.0	30.2

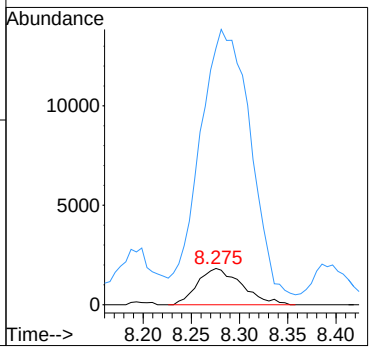


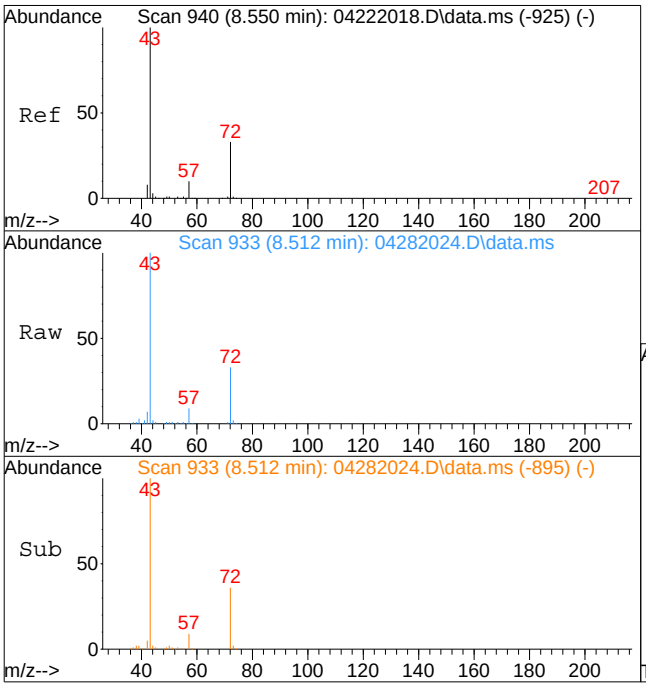


#26
Vinyl Acetate
Concen: 2.70 ng
RT: 8.28 min Scan# 890
Delta R.T. -0.044 min
Lab File: 04282024.D
Acq: 29 Apr 2020 1:16

Tgt Ion: 86 Resp: 5840

Ion	Ratio	Lower	Upper
86	100		
43	822.3	803.0	843.0

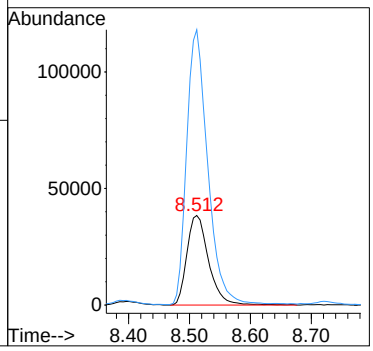


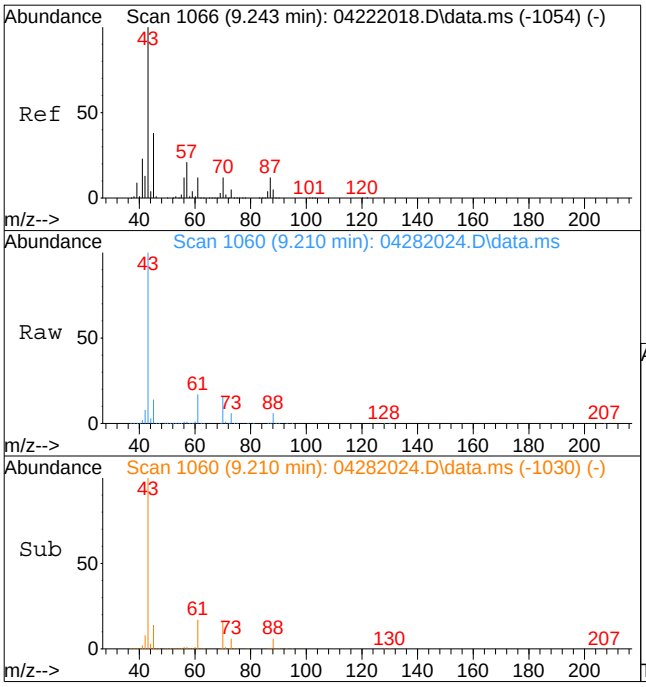


#27
2-Butanone (MEK)
Concen: 15.69 ng
RT: 8.51 min Scan# 933
Delta R.T. -0.039 min
Lab File: 04282024.D
Acq: 29 Apr 2020 1:16

Tgt Ion: 72 Resp: 95430

Ion	Ratio	Lower	Upper
72	100		
43	297.3	278.8	318.8

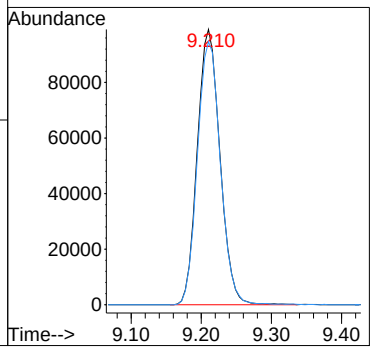


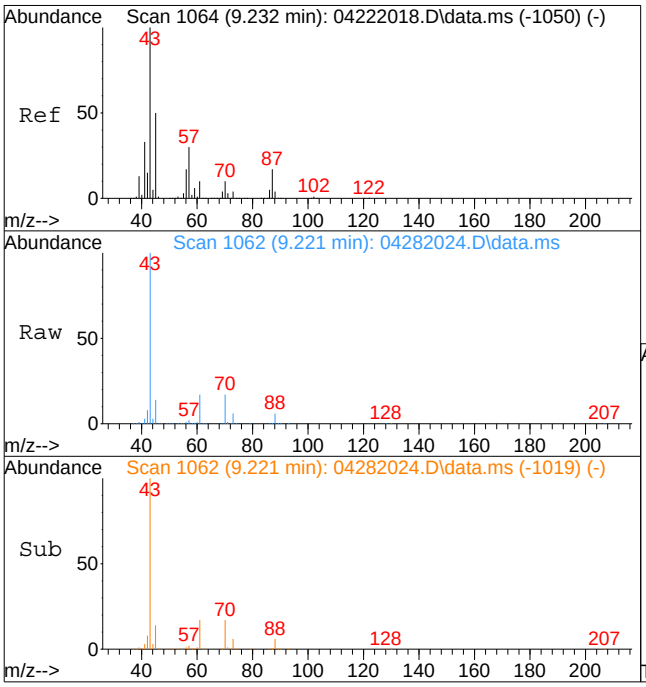


#30
Ethyl Acetate
Concen: 82.07 ng
RT: 9.21 min Scan# 1060
Delta R.T. -0.033 min
Lab File: 04282024.D
Acq: 29 Apr 2020 1:16

Tgt Ion: 61 Resp: 222151

Ion	Ratio	Lower	Upper
61	100		
70	96.9	80.6	120.6

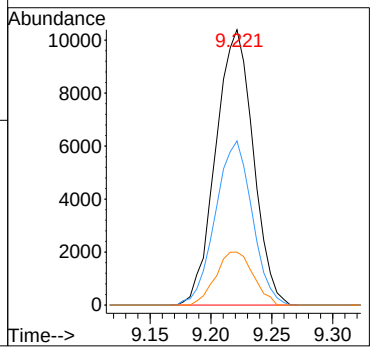


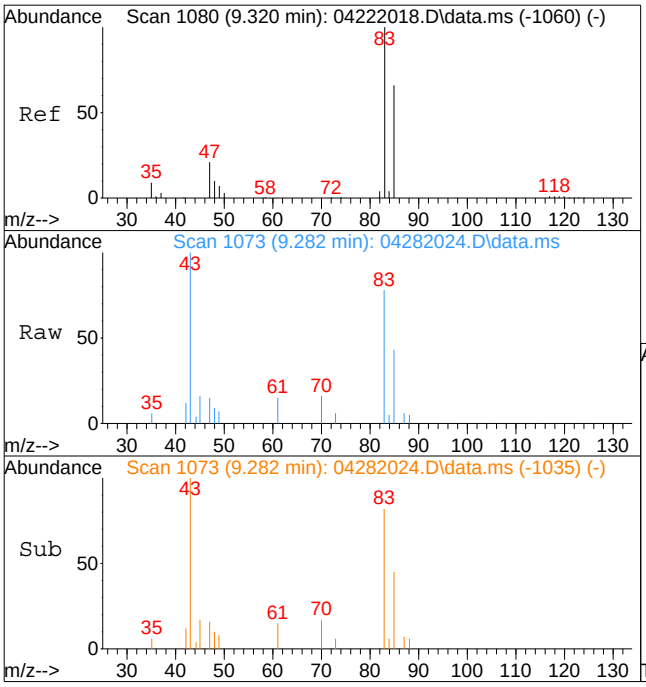


#31
n-Hexane
Concen: 1.69 ng
RT: 9.22 min Scan# 1062
Delta R.T. -0.011 min
Lab File: 04282024.D
Acq: 29 Apr 2020 1:16

Tgt Ion: 57 Resp: 22197

Ion	Ratio	Lower	Upper
57	100		
56	58.5	44.0	66.0
86	19.2	15.0	22.4

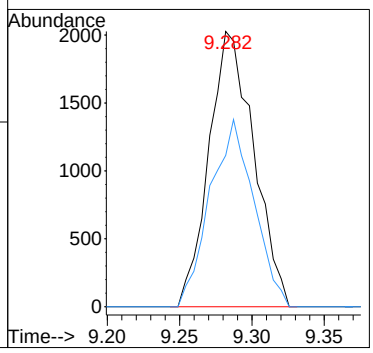


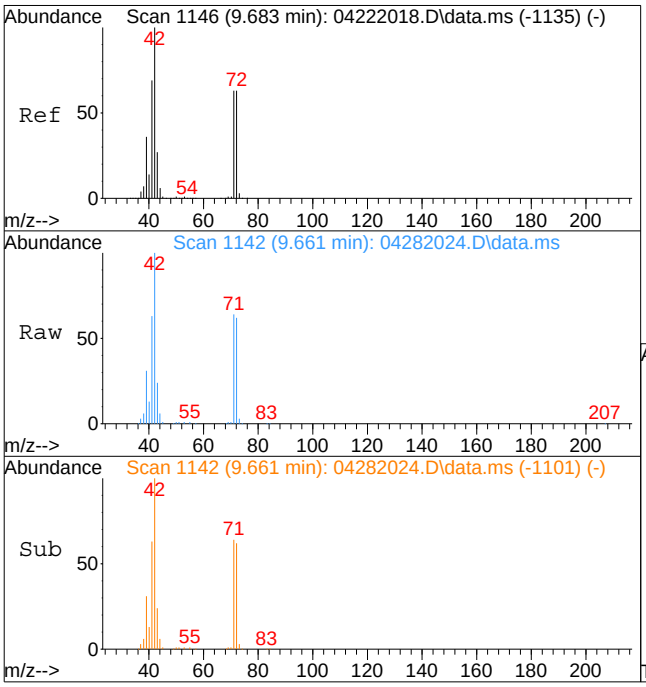


#32
Chloroform
Concen: 0.21 ng
RT: 9.28 min Scan# 1073
Delta R.T. -0.039 min
Lab File: 04282024.D
Acq: 29 Apr 2020 1:16

Tgt Ion: 83 Resp: 4381

Ion	Ratio	Lower	Upper
83	100		
85	66.2	45.8	85.8

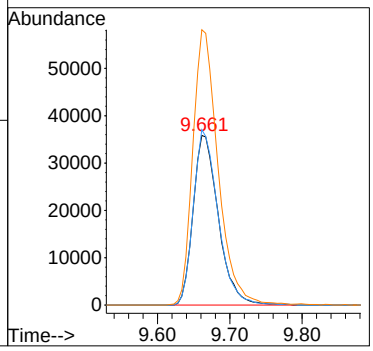


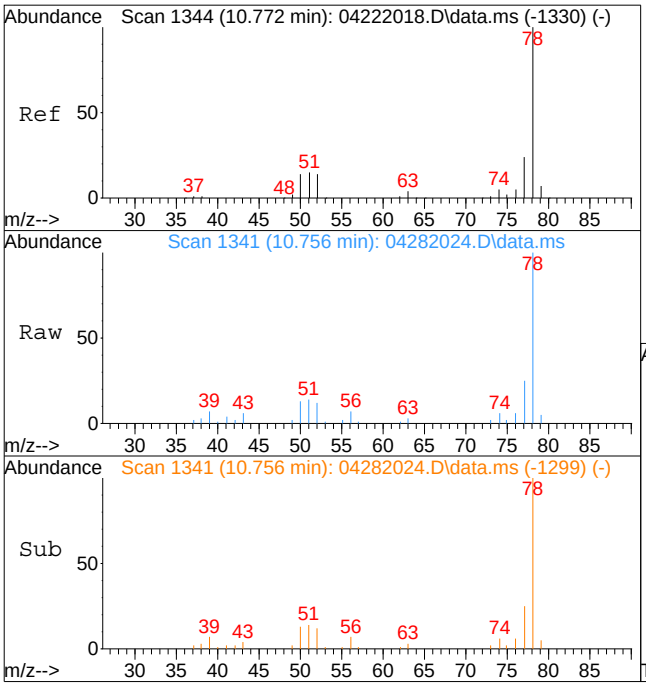


#34
Tetrahydrofuran (THF)
Concen: 14.13 ng
RT: 9.66 min Scan# 1142
Delta R.T. -0.022 min
Lab File: 04282024.D
Acq: 29 Apr 2020 1:16

Tgt Ion: 72 Resp: 87083

Ion	Ratio	Lower	Upper
72	100		
71	100.8	77.9	117.9
42	162.2	133.9	173.9

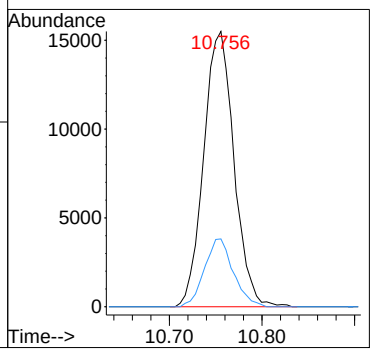


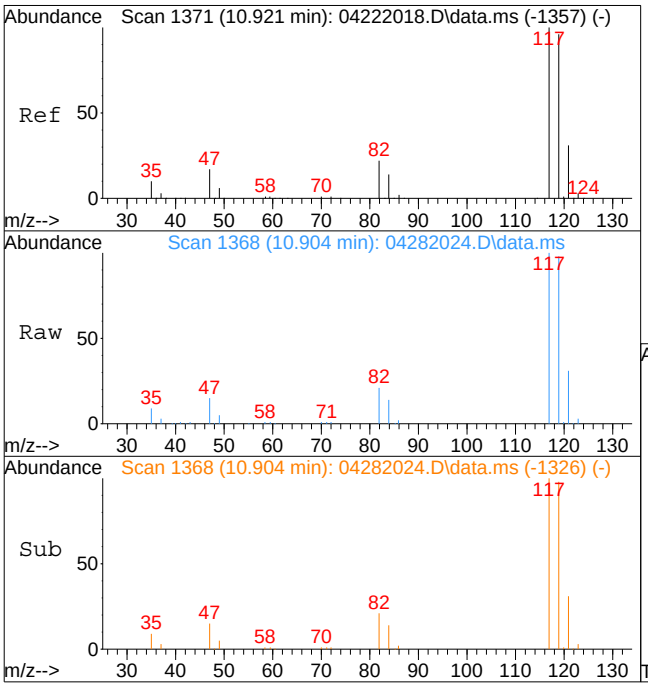


#41
Benzene
Concen: 0.83 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.017 min
Lab File: 04282024.D
Acq: 29 Apr 2020 1:16

Tgt Ion: 78 Resp: 35196

Ion	Ratio	Lower	Upper
78	100		
77	23.5	3.6	43.6

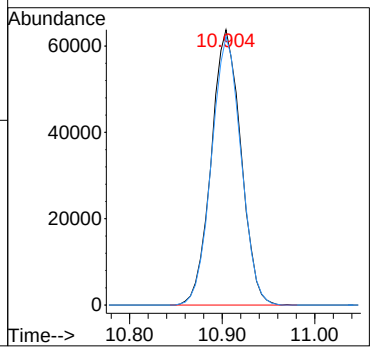


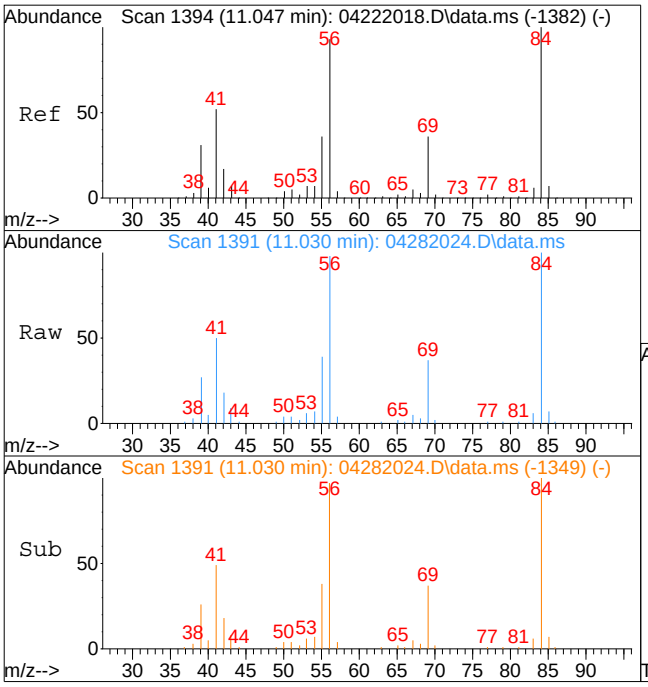


#42
Carbon Tetrachloride
Concen: 6.49 ng
RT: 10.90 min Scan# 1368
Delta R.T. -0.017 min
Lab File: 04282024.D
Acq: 29 Apr 2020 1:16

Tgt Ion:117 Resp: 141533

Ion	Ratio	Lower	Upper
117	100		
119	97.2	76.5	116.5

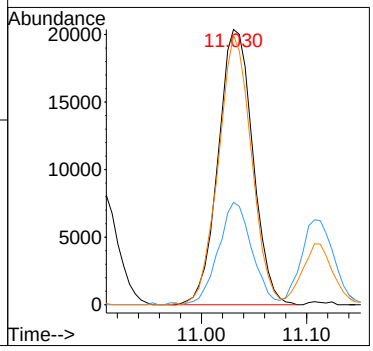


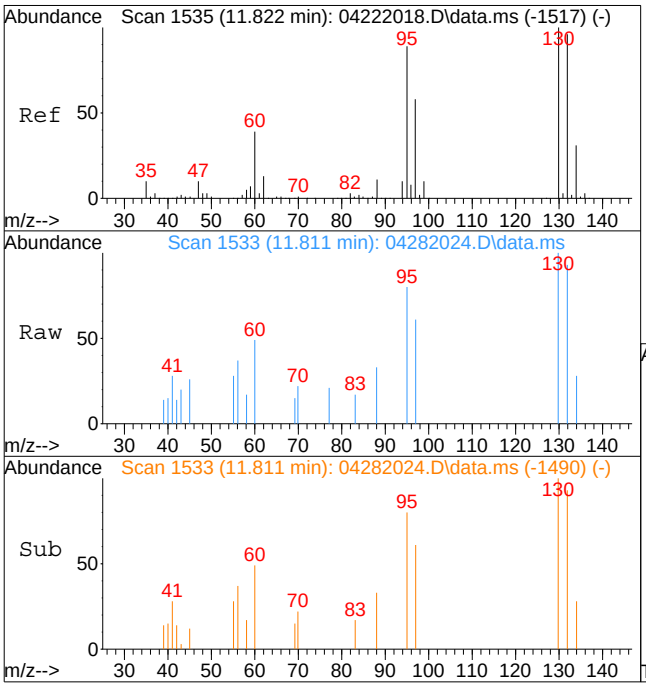


#43
Cyclohexane
Concen: 2.83 ng
RT: 11.03 min Scan# 1391
Delta R.T. -0.017 min
Lab File: 04282024.D
Acq: 29 Apr 2020 1:16

Tgt Ion: 84 Resp: 46682

Ion	Ratio	Lower	Upper
84	100		
69	36.2	15.8	55.8
56	93.4	72.0	112.0

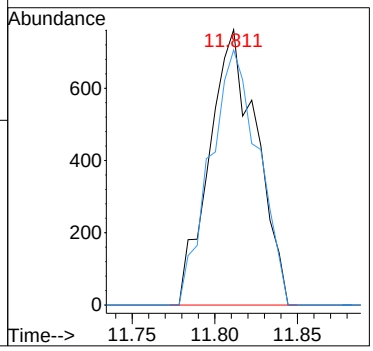


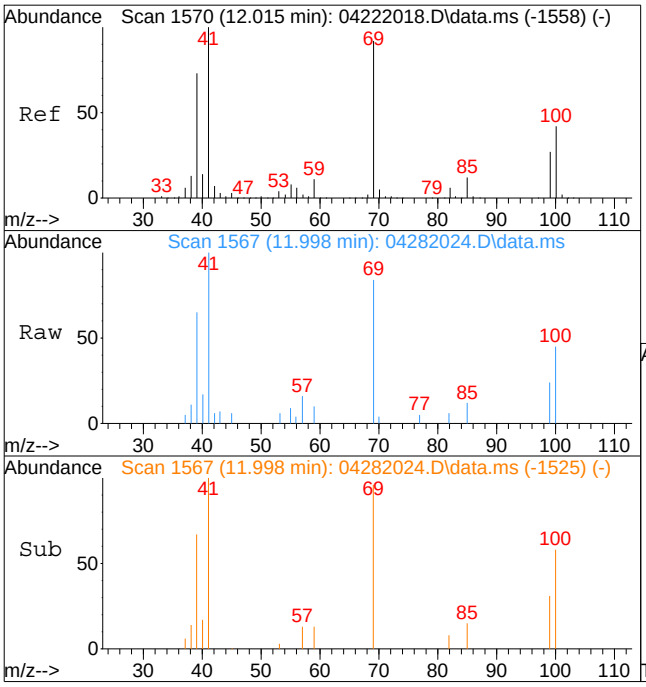


#47
Trichloroethene
Concen: 0.10 ng
RT: 11.81 min Scan# 1533
Delta R.T. -0.011 min
Lab File: 04282024.D
Acq: 29 Apr 2020 1:16

Tgt Ion:130 Resp: 1524

Ion	Ratio	Lower	Upper
130	100		
132	94.4	76.4	116.4

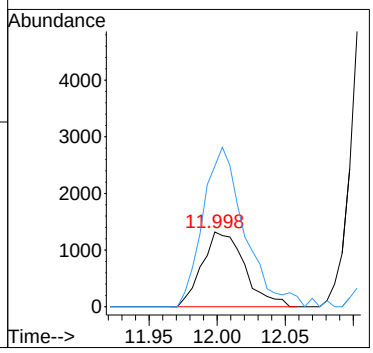


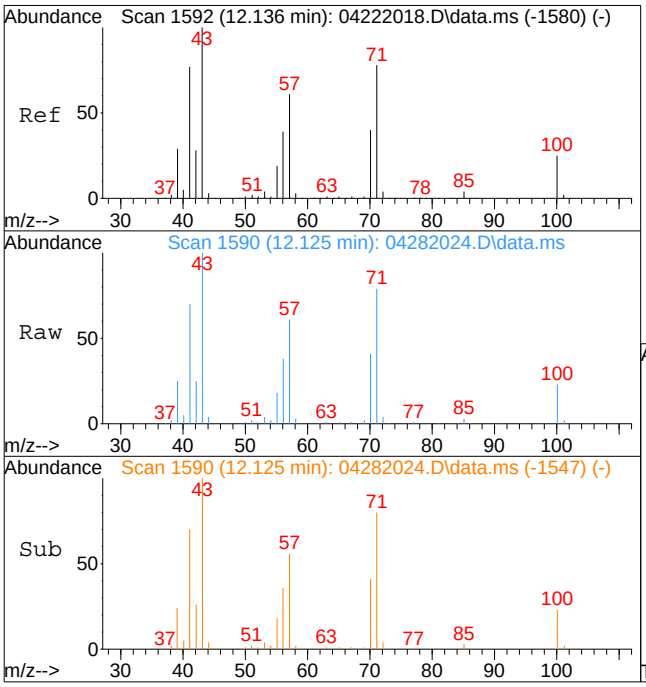


#50
Methyl Methacrylate
Concen: 0.63 ng
RT: 12.00 min Scan# 1567
Delta R.T. -0.017 min
Lab File: 04282024.D
Acq: 29 Apr 2020 1:16

Tgt Ion:100 Resp: 2868

Ion	Ratio	Lower	Upper
100	100		
69	208.9	195.8	235.8

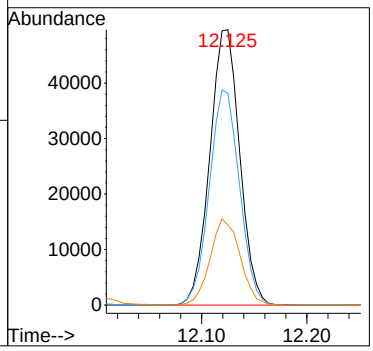


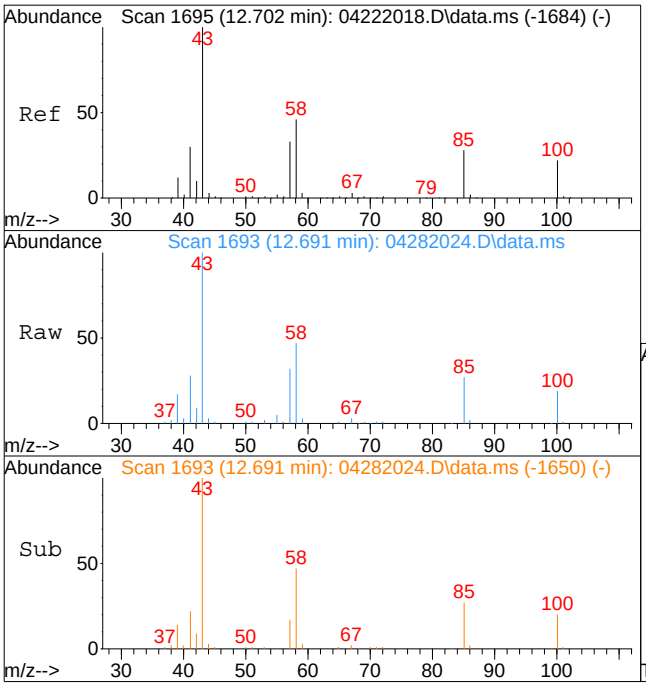


#51
n-Heptane
Concen: 10.03 ng
RT: 12.12 min Scan# 1590
Delta R.T. -0.011 min
Lab File: 04282024.D
Acq: 29 Apr 2020 1:16

Tgt Ion: 71 Resp: 98249

Ion	Ratio	Lower	Upper
71	100		
57	78.7	57.4	97.4
100	31.4	12.0	52.0

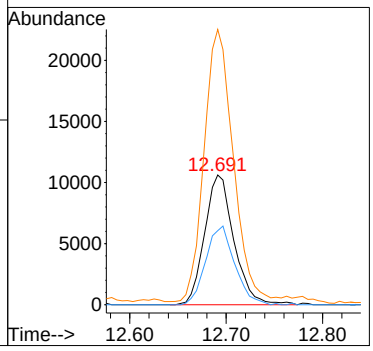


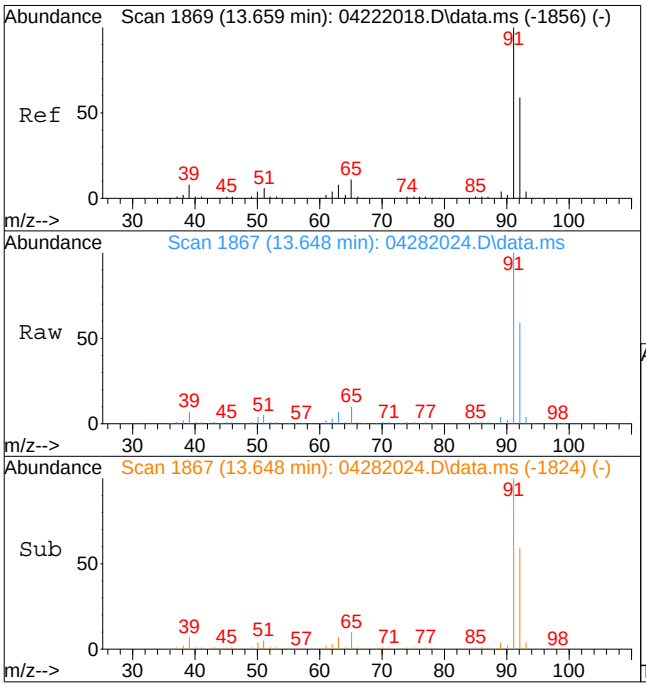


#53
4-Methyl-2-pentanone
Concen: 3.03 ng
RT: 12.69 min Scan# 1693
Delta R.T. -0.011 min
Lab File: 04282024.D
Acq: 29 Apr 2020 1:16

Tgt Ion: 58 Resp: 22376

Ion	Ratio	Lower	Upper
58	100		
85	60.0	52.2	78.2
43	219.2	176.2	264.4

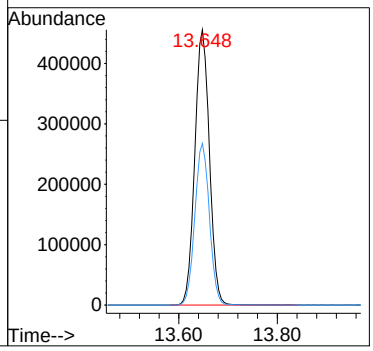


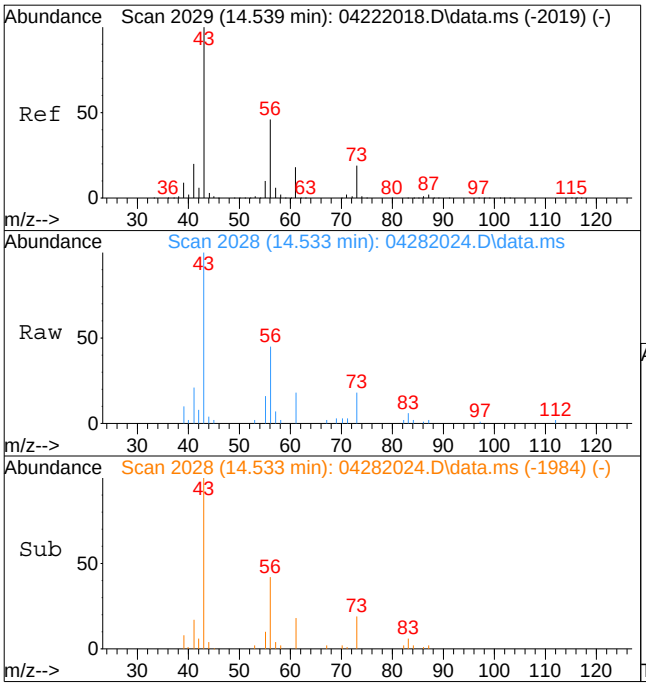


#58
Toluene
Concen: 20.11 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.011 min
Lab File: 04282024.D
Acq: 29 Apr 2020 1:16

Tgt Ion: 91 Resp: 940640

Ion	Ratio	Lower	Upper
91	100		
92	58.6	38.2	78.2

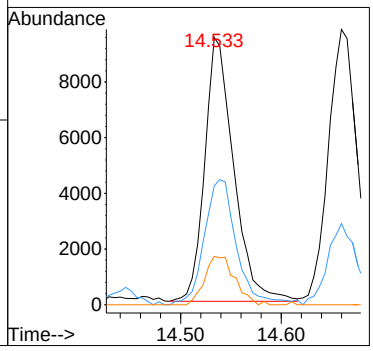


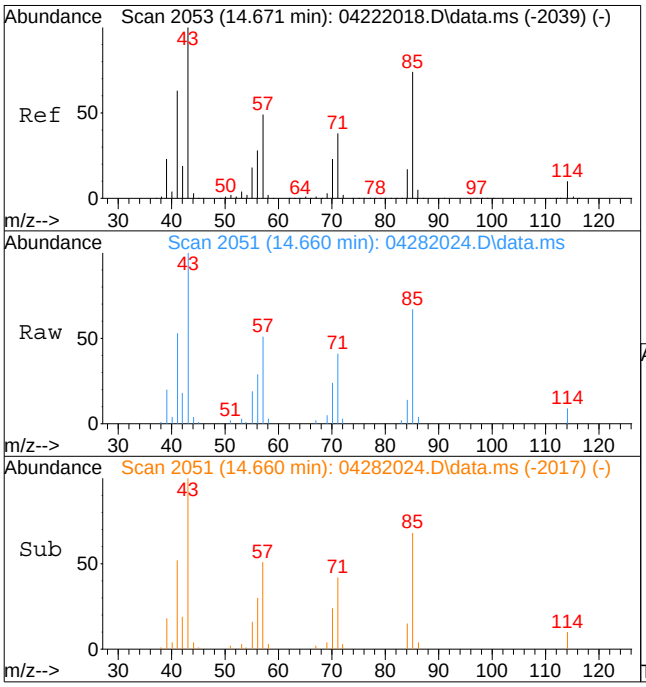


#62
n-Butyl Acetate
Concen: 1.22 ng
RT: 14.53 min Scan# 2028
Delta R.T. -0.006 min
Lab File: 04282024.D
Acq: 29 Apr 2020 1:16

Tgt Ion: 43 Resp: 18995

Ion	Ratio	Lower	Upper
43	100		
56	52.5	26.6	66.6
73	19.0	0.0	39.3

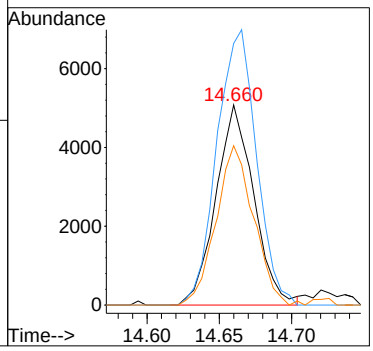


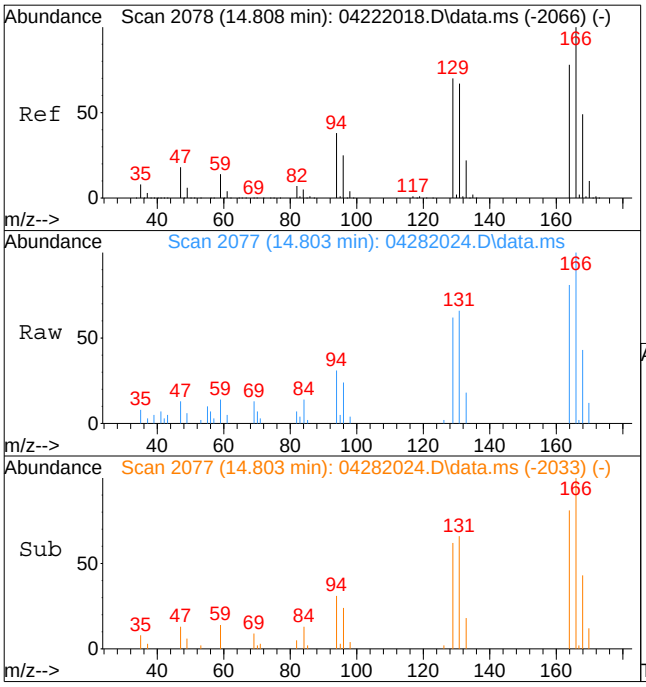


#63
n-Octane
Concen: 1.25 ng
RT: 14.66 min Scan# 2051
Delta R.T. -0.011 min
Lab File: 04282024.D
Acq: 29 Apr 2020 1:16

Tgt Ion: 57 Resp: 9290

Ion	Ratio	Lower	Upper
57	100		
85	143.5	120.7	181.1
71	79.0	61.1	91.7

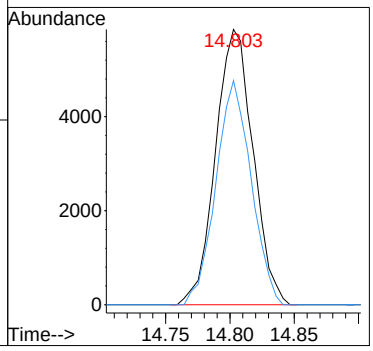


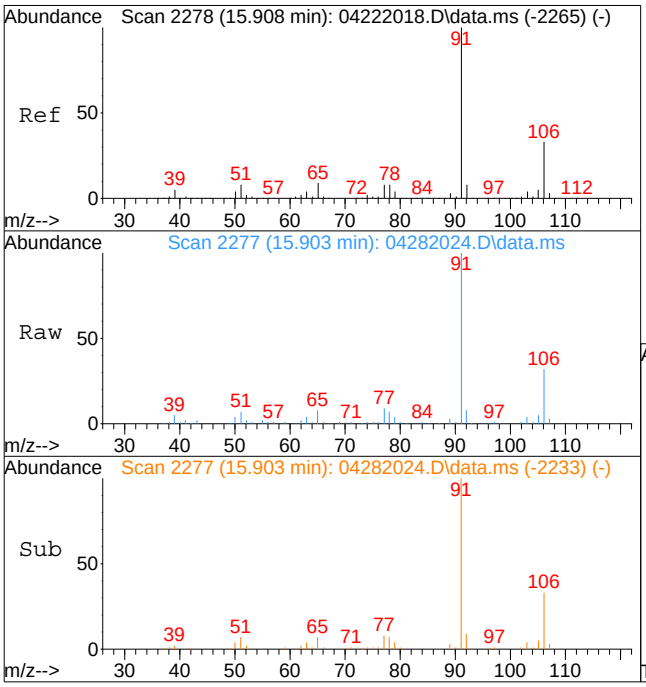


#64
Tetrachloroethene
Concen: 0.68 ng
RT: 14.80 min Scan# 2077
Delta R.T. -0.006 min
Lab File: 04282024.D
Acq: 29 Apr 2020 1:16

Tgt Ion:166 Resp: 11896

Ion	Ratio	Lower	Upper
166	100		
164	76.4	57.7	97.7

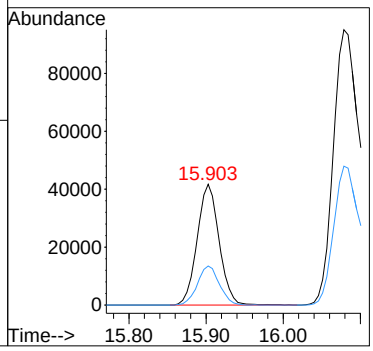


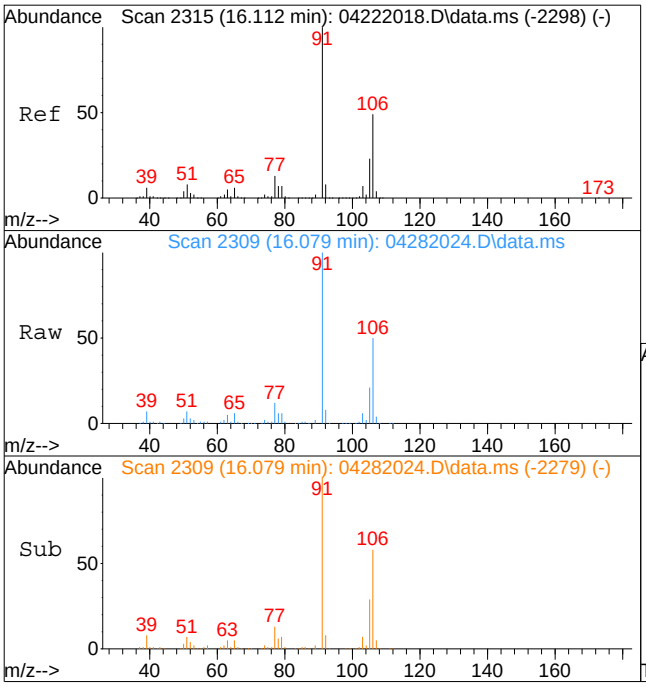


#66
Ethylbenzene
Concen: 1.51 ng
RT: 15.90 min Scan# 2277
Delta R.T. -0.006 min
Lab File: 04282024.D
Acq: 29 Apr 2020 1:16

Tgt Ion: 91 Resp: 82382

Ion	Ratio	Lower	Upper
91	100		
106	32.3	13.4	53.4

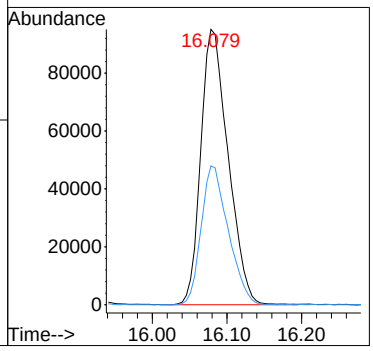


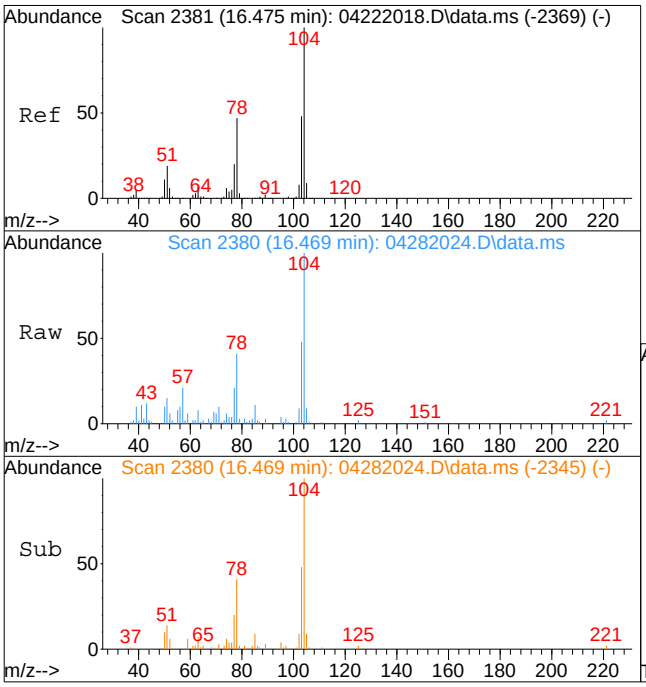


#67
m- & p-Xylenes
Concen: 5.26 ng
RT: 16.08 min Scan# 2309
Delta R.T. -0.033 min
Lab File: 04282024.D
Acq: 29 Apr 2020 1:16

Tgt Ion: 91 Resp: 242099

Ion	Ratio	Lower	Upper
91	100		
106	49.8	28.3	68.3

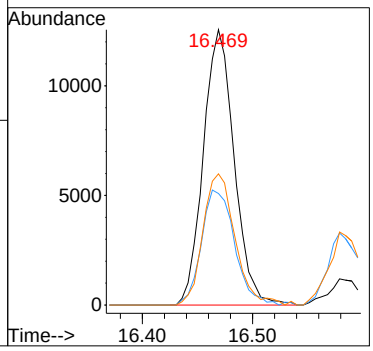


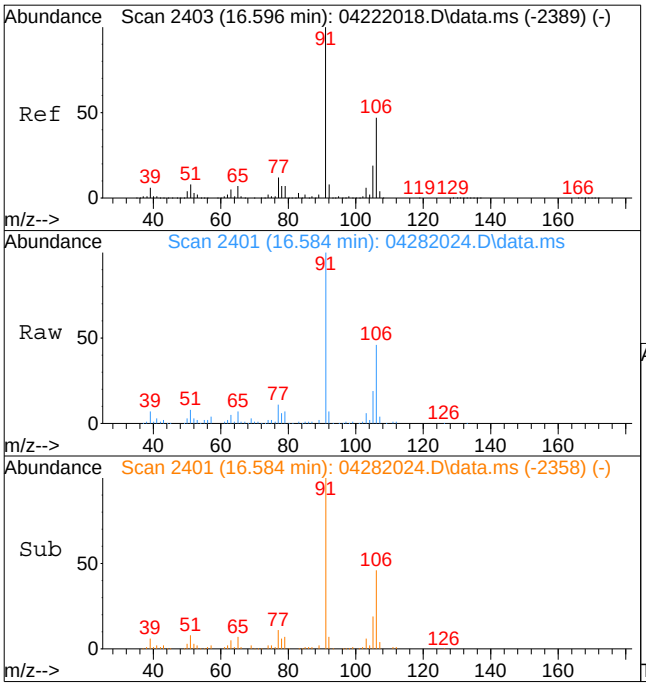


#69
Styrene
Concen: 0.73 ng
RT: 16.47 min Scan# 2380
Delta R.T. -0.006 min
Lab File: 04282024.D
Acq: 29 Apr 2020 1:16

Tgt Ion:104 Resp: 24452

Ion	Ratio	Lower	Upper
104	100		
78	44.7	24.8	64.8
103	49.5	27.3	67.3

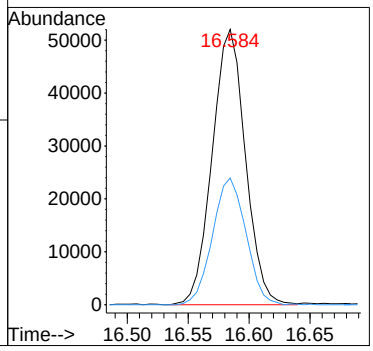


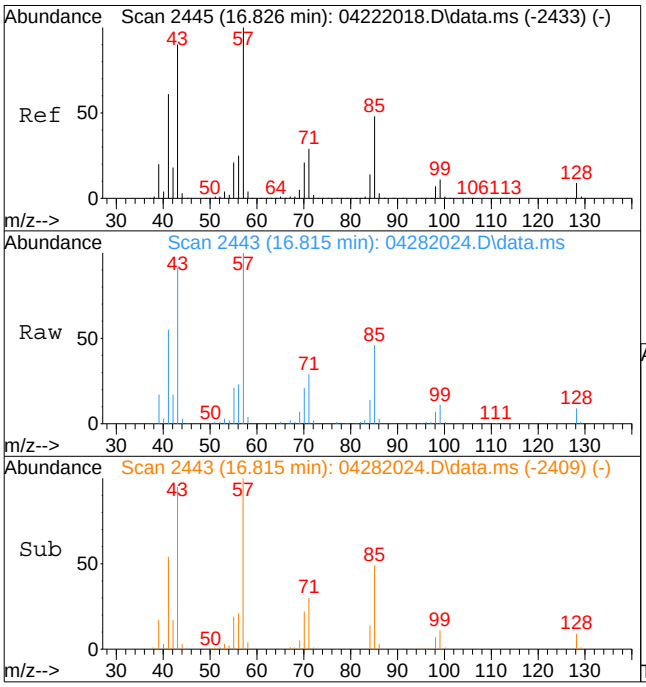


#70
o-Xylene
Concen: 2.19 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 04282024.D
Acq: 29 Apr 2020 1:16

Tgt Ion: 91 Resp: 98761

Ion	Ratio	Lower	Upper
91	100		
106	46.3	27.5	67.5

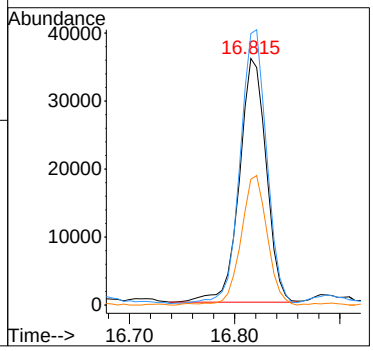


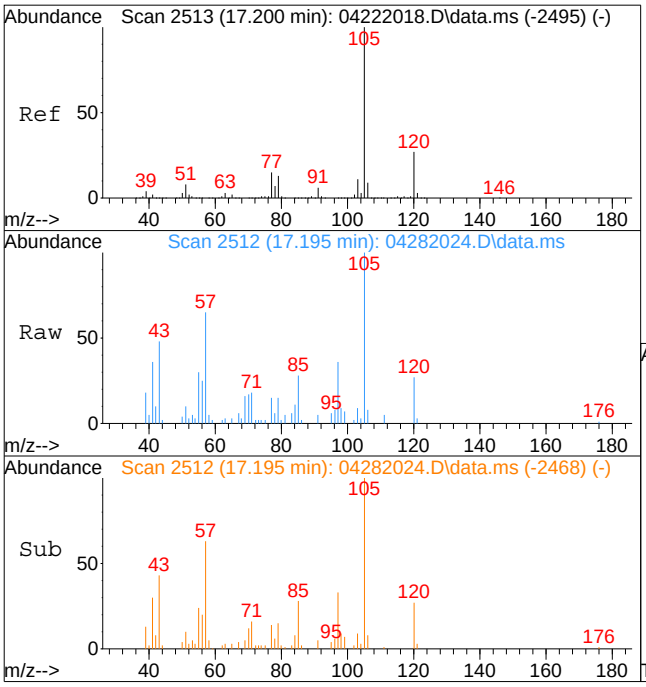


#71
n-Nonane
Concen: 4.37 ng
RT: 16.82 min Scan# 2443
Delta R.T. -0.011 min
Lab File: 04282024.D
Acq: 29 Apr 2020 1:16

Tgt Ion: 43 Resp: 63609

Ion	Ratio	Lower	Upper
43	100		
57	110.4	90.8	130.8
85	51.9	32.1	72.1

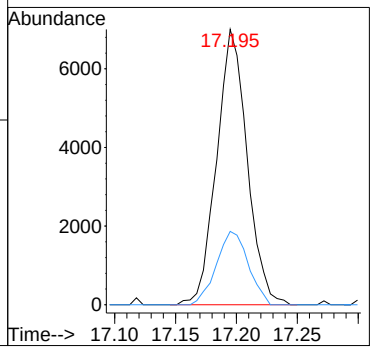


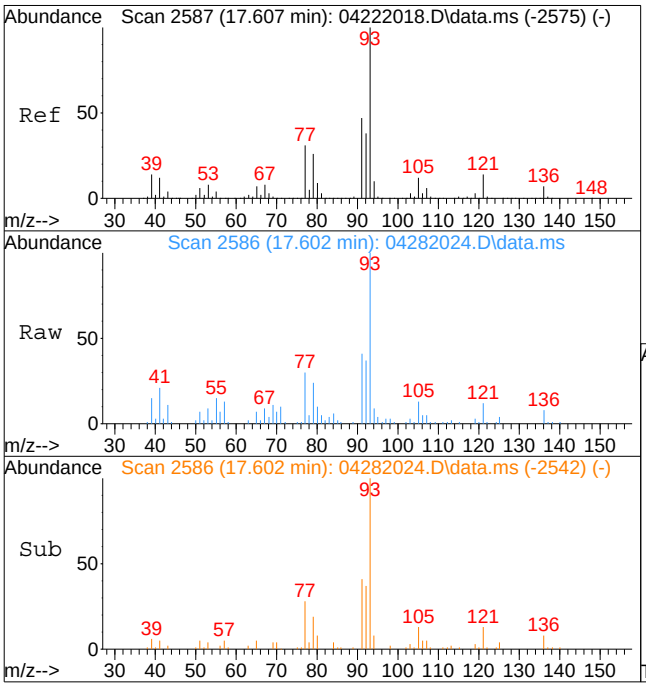


#74
Cumene
Concen: 0.21 ng
RT: 17.19 min Scan# 2512
Delta R.T. -0.006 min
Lab File: 04282024.D
Acq: 29 Apr 2020 1:16

Tgt Ion:105 Resp: 12193

Ion	Ratio	Lower	Upper
105	100		
120	27.8	7.3	47.3

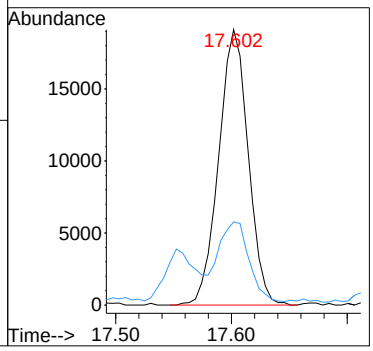


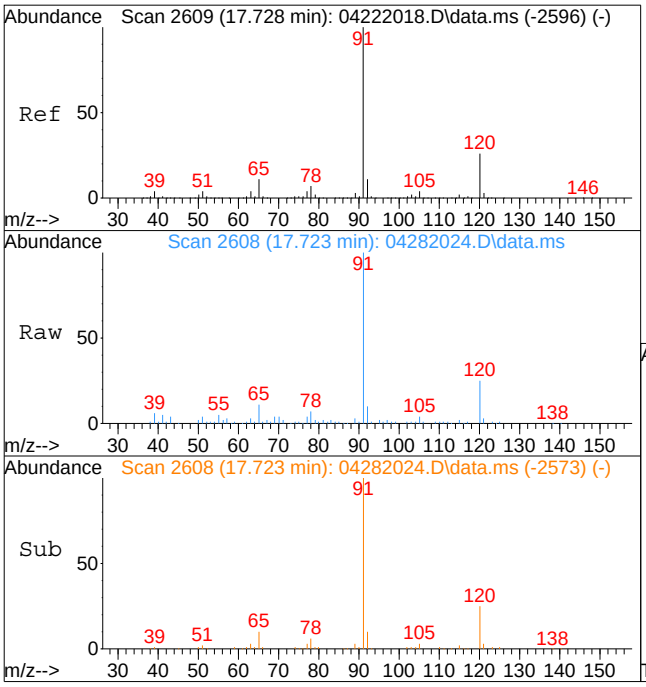


#75
alpha-Pinene
Concen: 1.26 ng
RT: 17.60 min Scan# 2586
Delta R.T. -0.006 min
Lab File: 04282024.D
Acq: 29 Apr 2020 1:16

Tgt Ion: 93 Resp: 33920

Ion	Ratio	Lower	Upper
93	100		
77	29.3	10.6	50.6

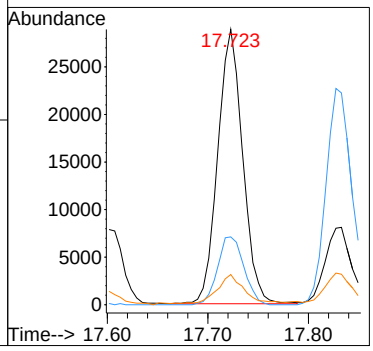


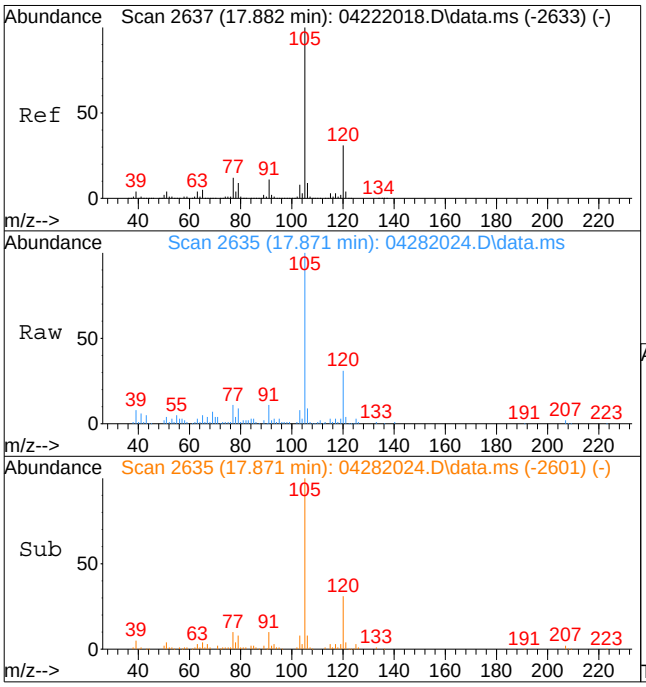


#76
n-Propylbenzene
Concen: 0.77 ng
RT: 17.72 min Scan# 2608
Delta R.T. -0.006 min
Lab File: 04282024.D
Acq: 29 Apr 2020 1:16

Tgt Ion: 91 Resp: 49723

Ion	Ratio	Lower	Upper
91	100		
120	26.1	6.1	46.1
65	11.2	0.0	30.7

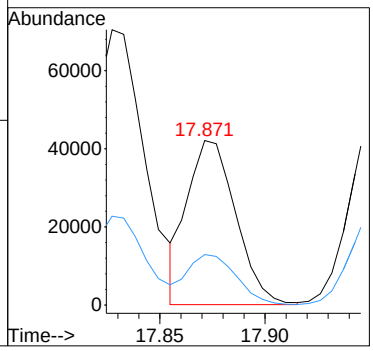


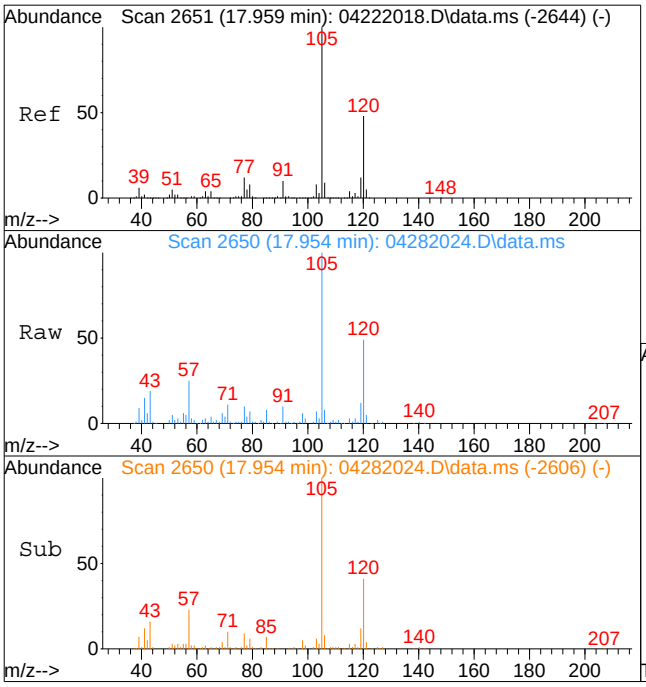


#78
4-Ethyltoluene
Concen: 1.21 ng
RT: 17.87 min Scan# 2635
Delta R.T. -0.011 min
Lab File: 04282024.D
Acq: 29 Apr 2020 1:16

Tgt Ion:105 Resp: 67668

Ion	Ratio	Lower	Upper
105	100		
120	31.0	11.4	51.4

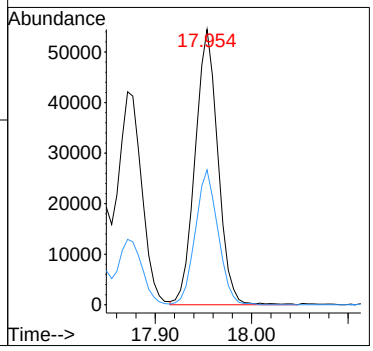


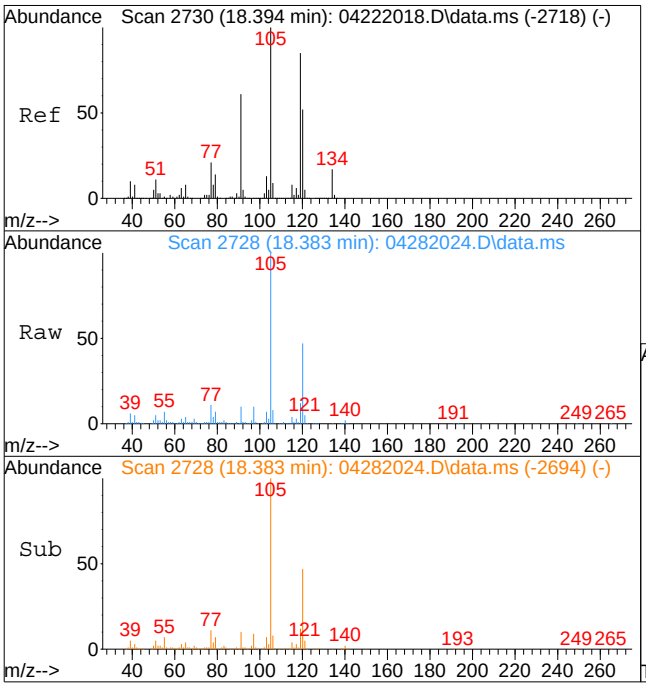


#79
1,3,5-Trimethylbenzene
Concen: 1.73 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 04282024.D
Acq: 29 Apr 2020 1:16

Tgt Ion:105 Resp: 89370

Ion	Ratio	Lower	Upper
105	100		
120	48.8	29.5	69.5

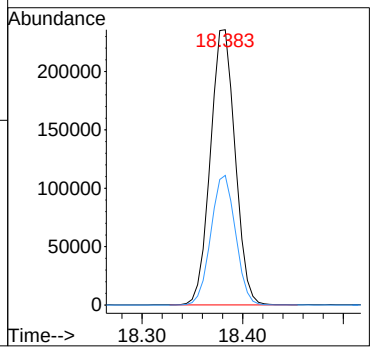


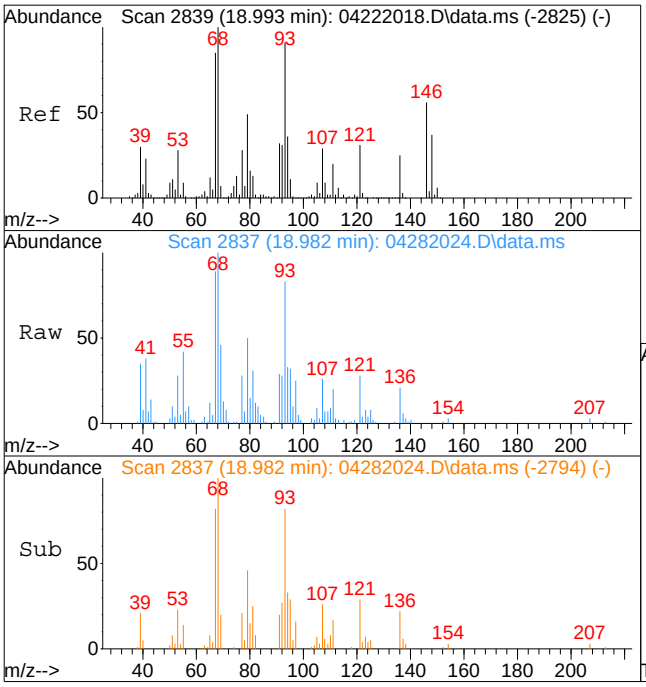


#82
1,2,4-Trimethylbenzene
Concen: 8.05 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 04282024.D
Acq: 29 Apr 2020 1:16

Tgt Ion:105 Resp: 402853

Ion	Ratio	Lower	Upper
105	100		
120	46.9	34.5	74.5

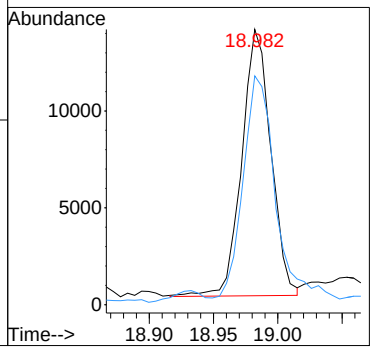


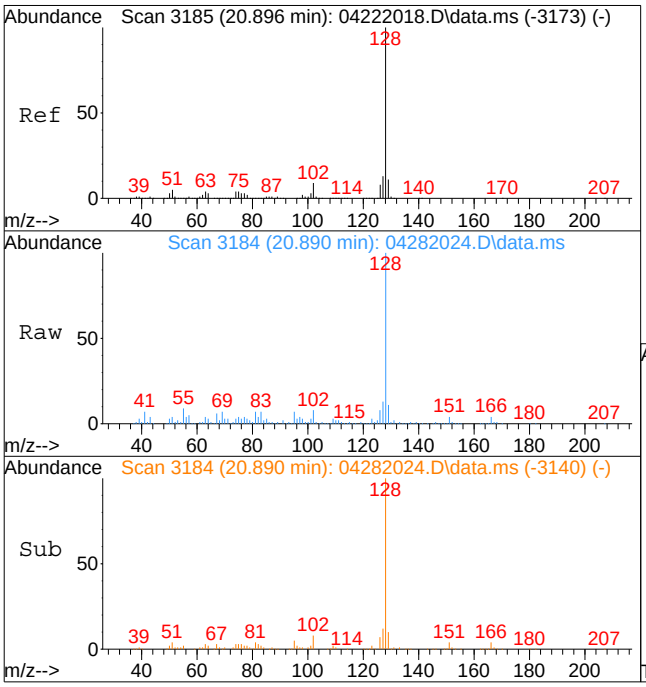


#91
d-Limonene
Concen: 1.53 ng
RT: 18.98 min Scan# 2837
Delta R.T. -0.011 min
Lab File: 04282024.D
Acq: 29 Apr 2020 1:16

Tgt Ion: 68 Resp: 21621

Ion	Ratio	Lower	Upper
68	100		
93	92.2	71.6	111.6

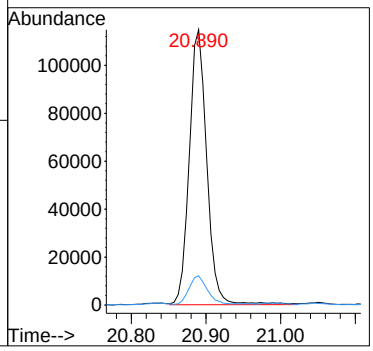




#95
Naphthalene
Concen: 2.91 ng
RT: 20.89 min Scan# 3184
Delta R.T. -0.006 min
Lab File: 04282024.D
Acq: 29 Apr 2020 1:16

Tgt Ion:128 Resp: 187570

Ion	Ratio	Lower	Upper
128	100		
129	11.7	0.0	30.9



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282025.D Vial: 12
Acq On : 29 Apr 2020 1:50 Operator: SC
Sample : P2002030-014 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 10:05:33 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020 4/29/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	153289	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	641333	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	288548	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.92	65	228054	11.483	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.84%				
57) Toluene-d8 (SS2)	13.54	98	710408	12.751	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.00%				
73) Bromofluorobenzene (SS3)	17.05	174	285061	12.731	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.84%				
Target Compounds							Qvalue
2) Propene	3.87	42	10513	1.615	ng		91
3) Dichlorodifluoromethan...	3.96	85	750208	30.329	ng		100
4) Chloromethane	4.17	50	1096	0.120	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	19628	1.468	ng		98
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	4.94	94	187	N.D.			
9) Chloroethane	5.15	64	278	N.D.			
10) Ethanol	5.35	45	27718	5.621	ng		95
11) Acetonitrile	5.56	41	1671	0.143	ng	#	35
12) Acrolein	5.70	56	3193	0.709	ng		94
13) Acetone	5.84	58	41973m	7.089	ng		
14) Trichlorofluoromethane	6.02	101	96843	3.935	ng		98
15) 2-Propanol (Isopropanol)	6.16	45	12579	0.669	ng		94
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	6.87	84	497	N.D.			
20) 3-Chloro-1-propene (Al...	6.95	41	119	N.D.			
21) Trichlorotrifluoroethane	7.18	151	395735	30.897	ng		99
22) Carbon Disulfide	7.14	76	79636	2.307	ng		69
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	8.14	73	367	N.D.			
26) Vinyl Acetate	8.25	86	6281	2.907	ng	#	39
27) 2-Butanone (MEK)	8.53	72	10163	1.671	ng	#	1
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	9.21	61	84259	31.133	ng		94
31) n-Hexane	9.22	57	1914	0.146	ng	#	88
32) Chloroform	9.28	83	48101	2.289	ng		99
34) Tetrahydrofuran (THF)	9.69	72	3780	0.614	ng	#	89
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	10.29	97	673	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.75	78	9725	0.233	ng		98
42) Carbon Tetrachloride	10.90	117	225913	10.451	ng		99
43) Cyclohexane	11.03	84	3474	0.212	ng		98
44) tert-Amyl Methyl Ether	11.34	73	719	N.D.			
45) 1,2-Dichloropropane	11.34	63	410	N.D.			
46) Bromodichloromethane	11.76	83	593	N.D.			
47) Trichloroethene	11.81	130	10012	0.691	ng		100
48) 1,4-Dioxane	11.82	88	139	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282025.D Vial: 12
Acq On : 29 Apr 2020 1:50 Operator: SC
Sample : P2002030-014 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 10:05:33 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

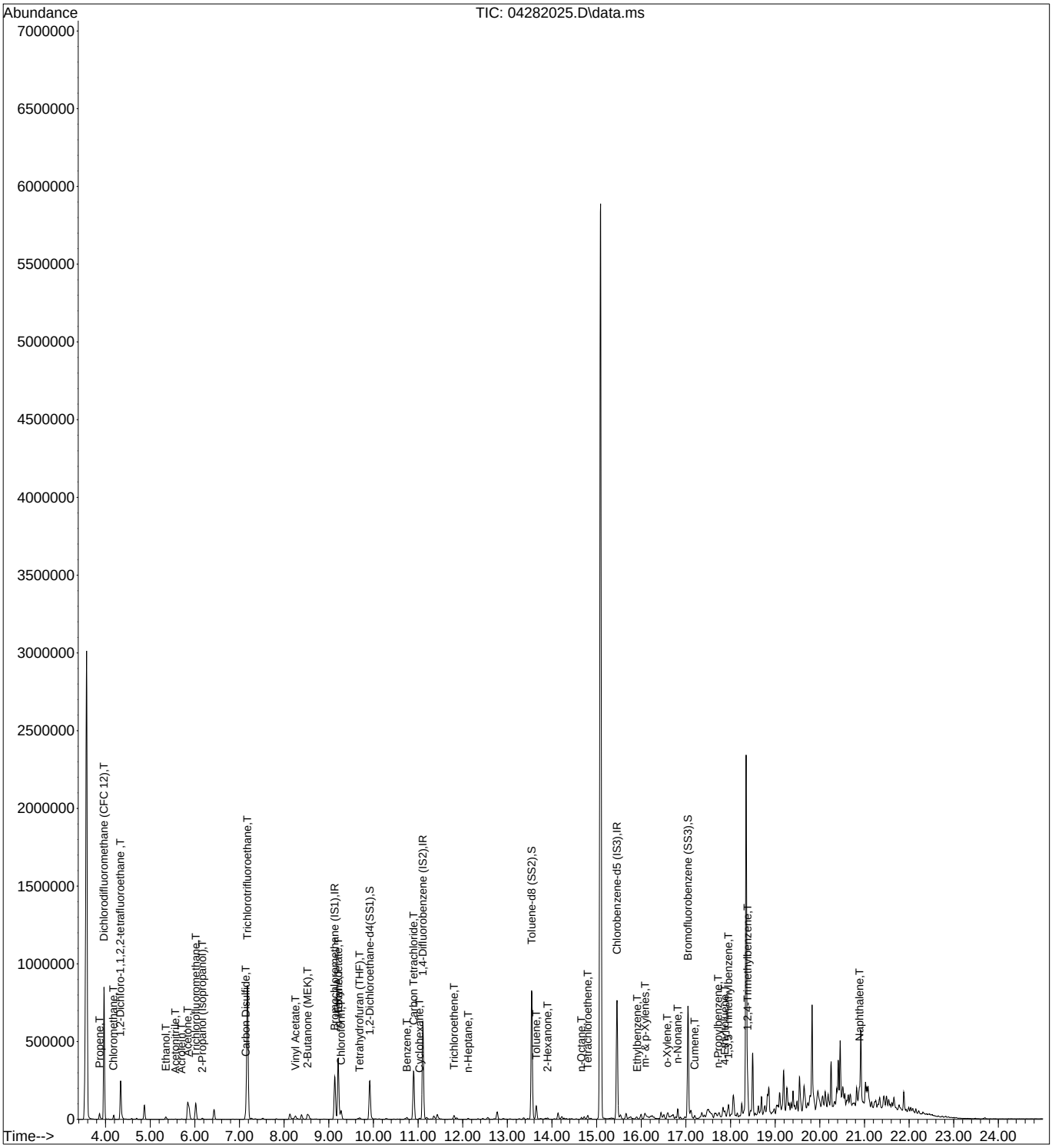
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.12	71	1964	0.202 ng	90
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.65	91	71628	1.531 ng	98
59) 2-Hexanone	13.90	43	5829	0.418 ng	98
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	14.32	107	267	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.66	57	2386	0.320 ng	96
64) Tetrachloroethene	14.80	166	7763	0.441 ng	100
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.91	91	8935	0.164 ng	99
67) m- & p-Xylenes	16.08	91	33742	0.734 ng	99
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.47	104	1225	N.D.	
70) o-Xylene	16.58	91	17956	0.398 ng	99
71) n-Nonane	16.82	43	20069	1.378 ng	99
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	17.19	105	3587	0.061 ng	97
75) alpha-Pinene	17.60	93	824	N.D.	
76) n-Propylbenzene	17.72	91	13940	0.217 ng	83
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.87	105	19433	0.347 ng	98
79) 1,3,5-Trimethylbenzene	17.95	105	34190	0.661 ng	97
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	122494	2.448 ng	88
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.51	91	1433	N.D.	
85) 1,3-Dichlorobenzene	18.62	146	114	N.D.	
86) 1,4-Dichlorobenzene	18.62	146	114	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	20.77	180	488	N.D.	
95) Naphthalene	20.89	128	62294	0.966 ng	98
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282025.D Vial: 12
Acq On : 29 Apr 2020 1:50 Operator: SC
Sample : P2002030-014 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 10:05:33 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282025.D Vial: 12
Acq On : 29 Apr 2020 1:50 Operator: SC
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QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

VOA 4/29/20

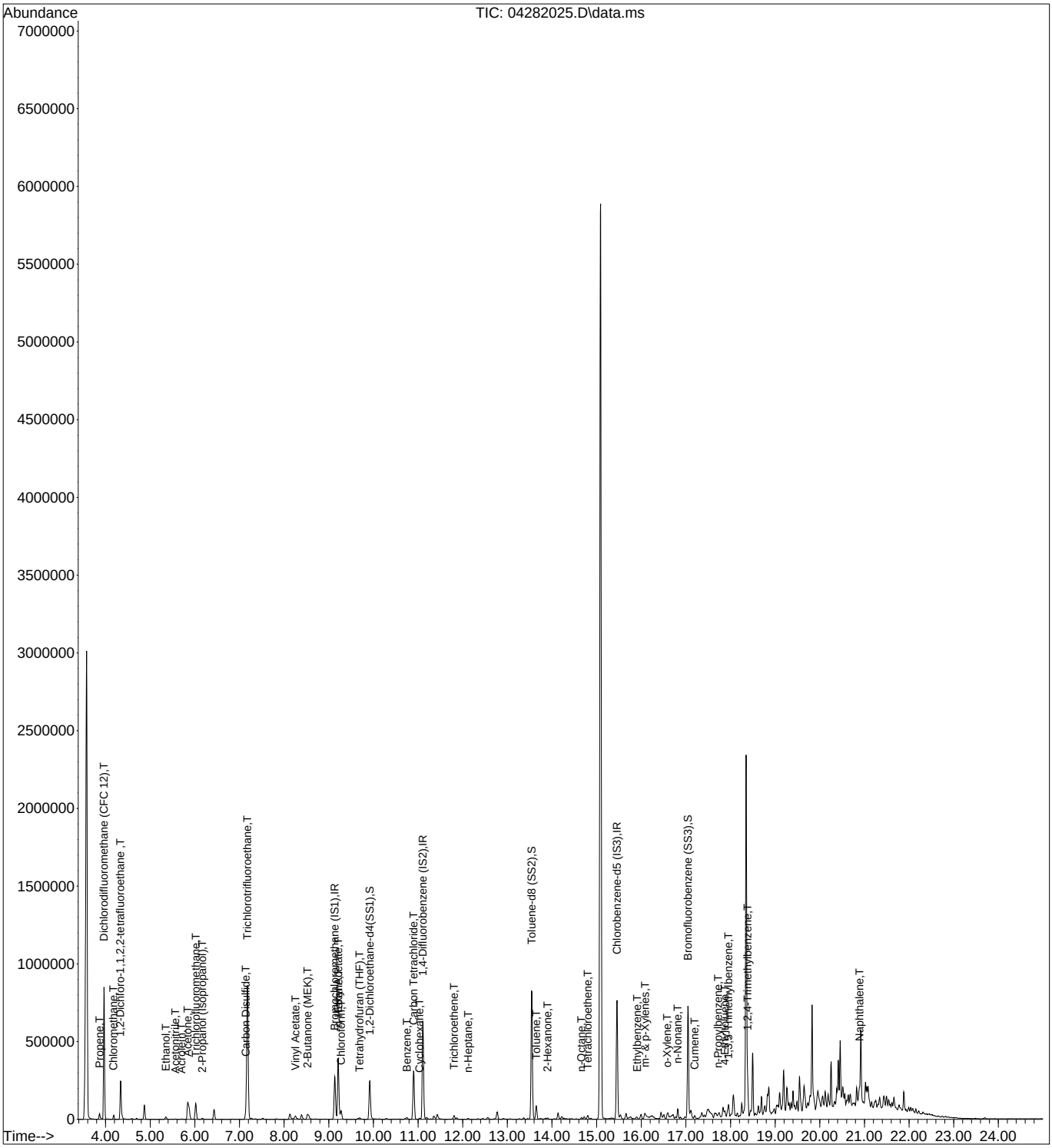
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	153289	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	641333	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	288548	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.92	65	228054	11.483	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.84%				
57) Toluene-d8 (SS2)	13.54	98	710408	12.751	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.00%				
73) Bromofluorobenzene (SS3)	17.05	174	285061	12.731	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.84%				
Target Compounds							Qvalue
2) Propene	3.87	42	10513	1.615	ng		91
3) Dichlorodifluoromethan...	3.96	85	750208	30.329	ng		100
4) Chloromethane	4.17	50	1096	0.120	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	19628	1.468	ng		98
10) Ethanol	5.35	45	27718	5.621	ng		95
11) Acetonitrile	5.56	41	1671	0.143	ng	#	35
12) Acrolein	5.70	56	3193	0.709	ng		94
13) Acetone	5.84	58	41973m	7.089	ng		
14) Trichlorofluoromethane	6.02	101	96843	3.935	ng		98
15) 2-Propanol (Isopropanol)	6.16	45	12579	0.669	ng		94
21) Trichlorotrifluoroethane	7.18	151	395735	30.897	ng		99
22) Carbon Disulfide	7.14	76	79636	2.307	ng		69
26) Vinyl Acetate	8.25	86	6281	2.907	ng	#	39
27) 2-Butanone (MEK)	8.53	72	10163	1.671	ng	#	1
30) Ethyl Acetate	9.21	61	84259	31.133	ng		94
31) n-Hexane	9.22	57	1914	0.146	ng	#	88
32) Chloroform	9.28	83	48101	2.289	ng		99
34) Tetrahydrofuran (THF)	9.69	72	3780	0.614	ng	#	89
41) Benzene	10.75	78	9725	0.233	ng		98
42) Carbon Tetrachloride	10.90	117	225913	10.451	ng		99
43) Cyclohexane	11.03	84	3474	0.212	ng		98
47) Trichloroethene	11.81	130	10012	0.691	ng		100
51) n-Heptane	12.12	71	1964	0.202	ng		90
58) Toluene	13.65	91	71628	1.531	ng		98
59) 2-Hexanone	13.90	43	5829	0.418	ng		98
63) n-Octane	14.66	57	2386	0.320	ng		96
64) Tetrachloroethene	14.80	166	7763	0.441	ng		100
66) Ethylbenzene	15.91	91	8935	0.164	ng		99
67) m- & p-Xylenes	16.08	91	33742	0.734	ng		99
70) o-Xylene	16.58	91	17956	0.398	ng		99
71) n-Nonane	16.82	43	20069	1.378	ng		99
74) Cumene	17.19	105	3587	0.061	ng		97
76) n-Propylbenzene	17.72	91	13940	0.217	ng		83
78) 4-Ethyltoluene	17.87	105	19433	0.347	ng		98
79) 1,3,5-Trimethylbenzene	17.95	105	34190	0.661	ng		97
82) 1,2,4-Trimethylbenzene	18.38	105	122494	2.448	ng		88
95) Naphthalene	20.89	128	62294	0.966	ng		98

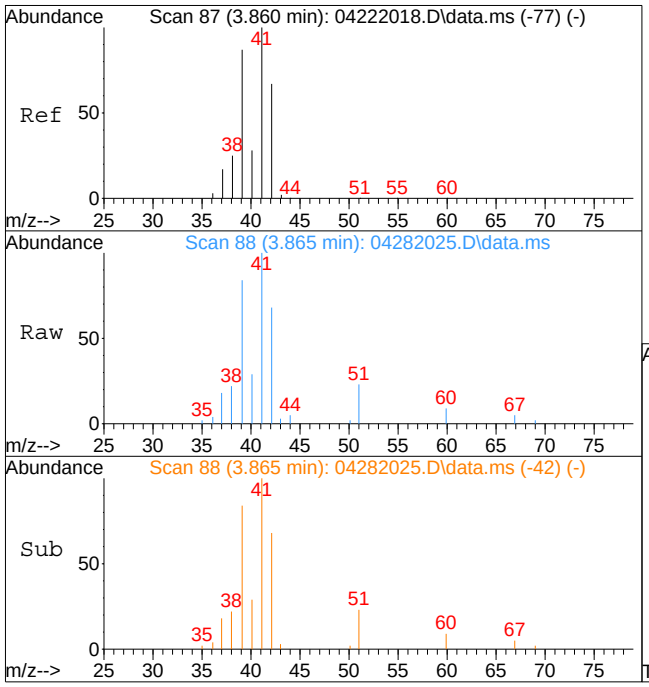
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282025.D Vial: 12
Acq On : 29 Apr 2020 1:50 Operator: SC
Sample : P2002030-014 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 10:05:33 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

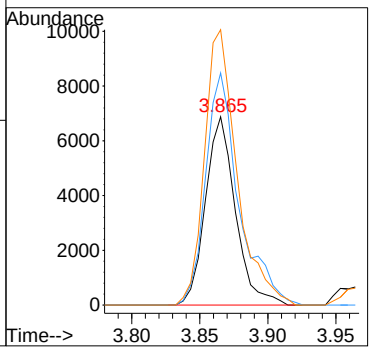


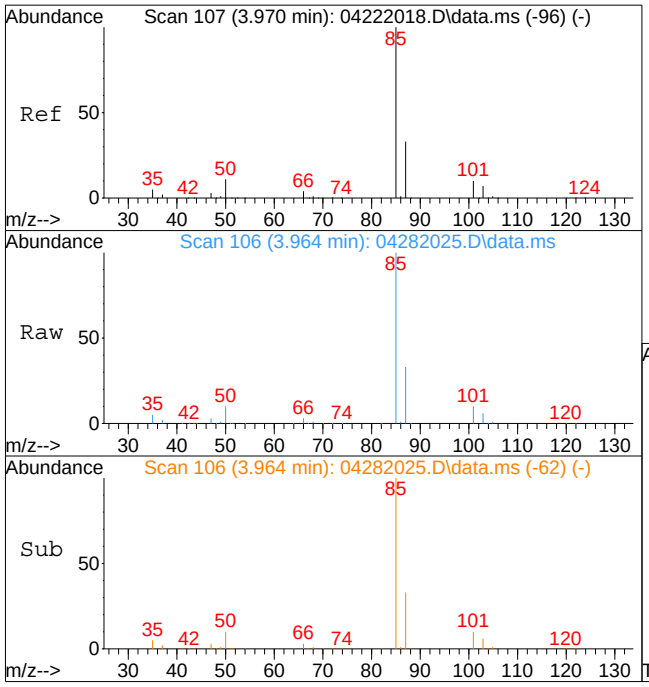


#2
Propene
Concen: 1.61 ng
RT: 3.87 min Scan# 88
Delta R.T. 0.005 min
Lab File: 04282025.D
Acq: 29 Apr 2020 1:50

Tgt Ion: 42 Resp: 10513

Ion	Ratio	Lower	Upper
42	100		
39	137.2	106.4	146.4
41	159.1	128.8	168.8

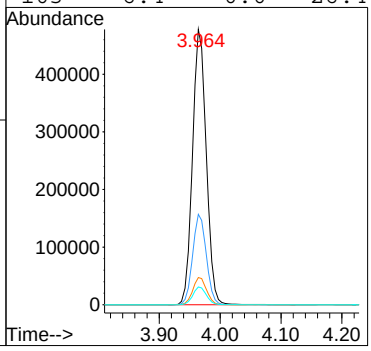


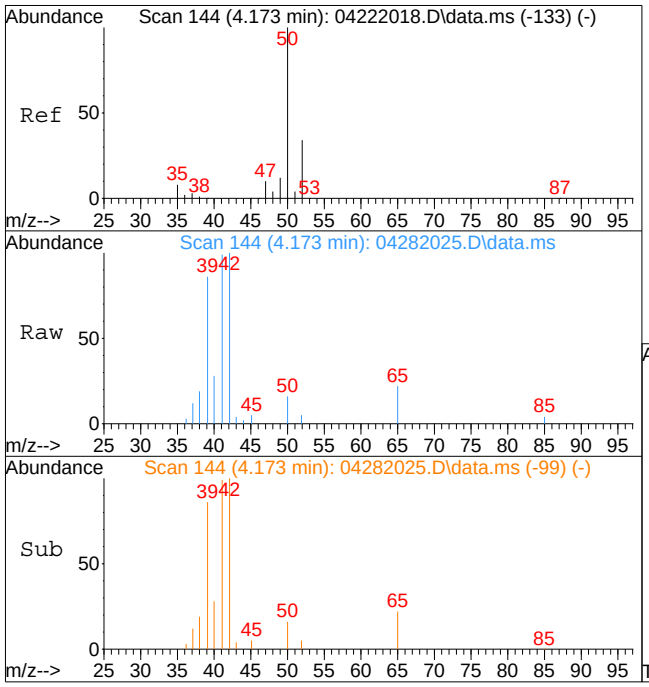


#3
Dichlorodifluoromethane (CFC 12)
Concen: 30.33 ng
RT: 3.96 min Scan# 106
Delta R.T. -0.006 min
Lab File: 04282025.D
Acq: 29 Apr 2020 1:50

Tgt Ion: 85 Resp: 750208

Ion	Ratio	Lower	Upper
85	100		
87	32.6	12.4	52.4
101	9.9	0.0	29.9
103	6.4	0.0	26.4

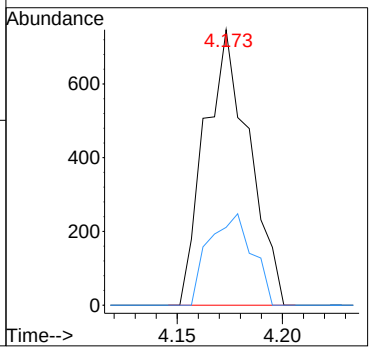


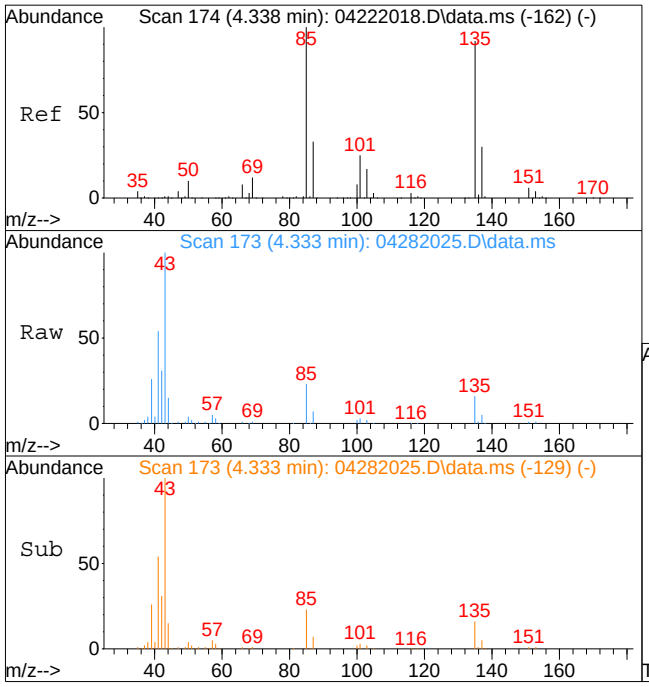


#4
Chloromethane
Concen: 0.12 ng
RT: 4.17 min Scan# 144
Delta R.T. -0.000 min
Lab File: 04282025.D
Acq: 29 Apr 2020 1:50

Tgt Ion: 50 Resp: 1096

Ion	Ratio	Lower	Upper
50	100		
52	32.5	13.7	53.7

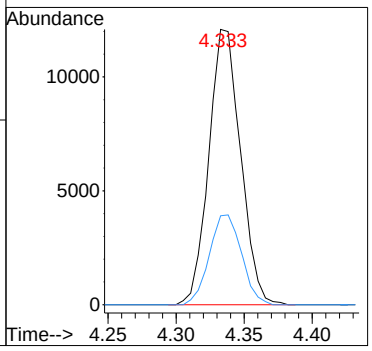


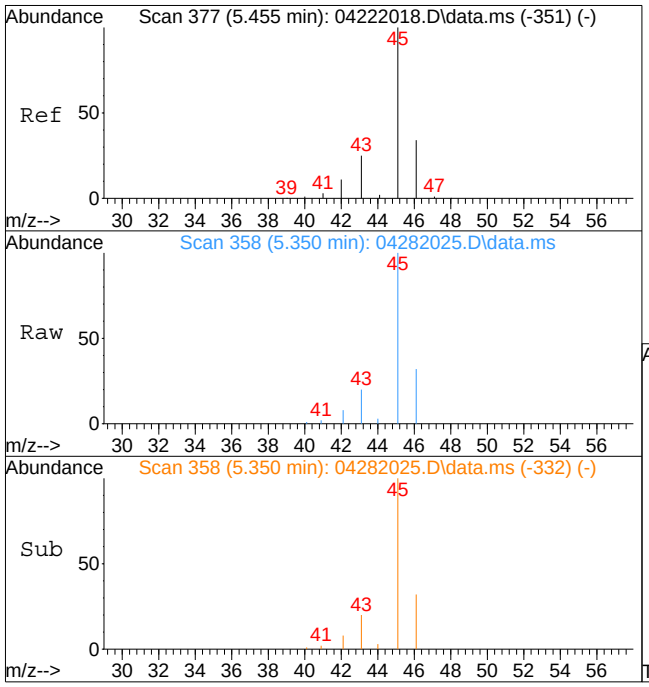


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 1.47 ng
RT: 4.33 min Scan# 173
Delta R.T. -0.006 min
Lab File: 04282025.D
Acq: 29 Apr 2020 1:50

Tgt Ion:135 Resp: 19628

Ion	Ratio	Lower	Upper
135	100		
137	33.0	11.9	51.9

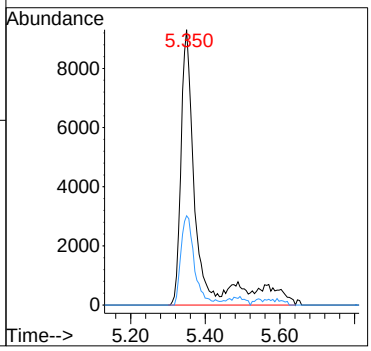


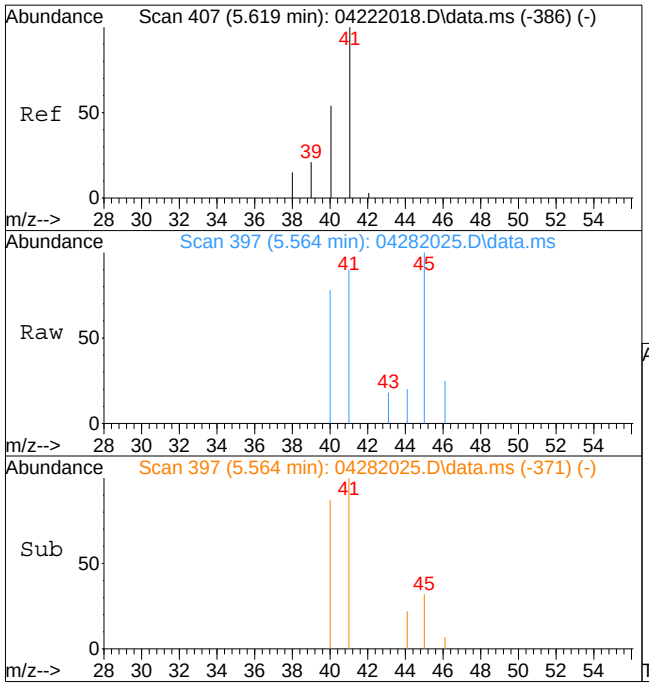


#10
Ethanol
Concen: 5.62 ng
RT: 5.35 min Scan# 358
Delta R.T. -0.105 min
Lab File: 04282025.D
Acq: 29 Apr 2020 1:50

Tgt Ion: 45 Resp: 27718

Ion	Ratio	Lower	Upper
45	100		
46	30.9	14.0	54.0

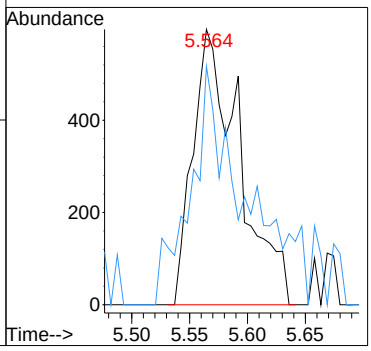


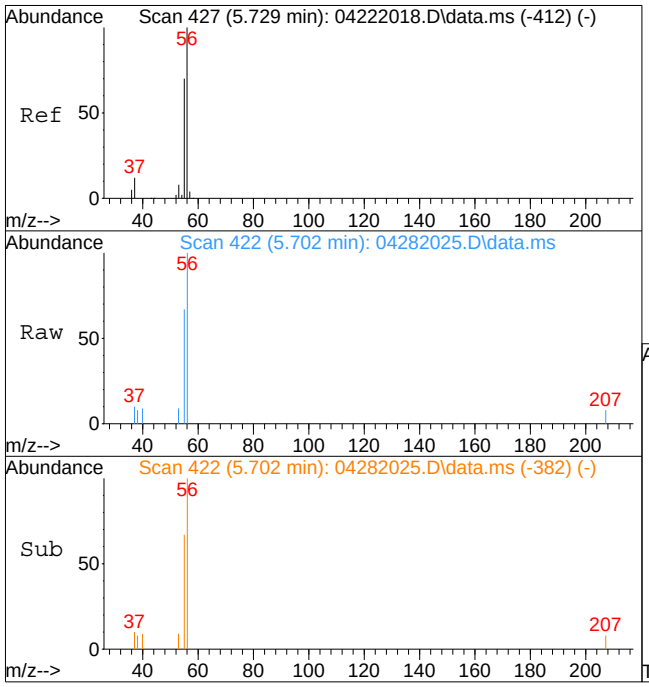


#11
Acetonitrile
Concen: 0.14 ng
RT: 5.56 min Scan# 397
Delta R.T. -0.055 min
Lab File: 04282025.D
Acq: 29 Apr 2020 1:50

Tgt Ion: 41 Resp: 1671

Ion	Ratio	Lower	Upper
41	100		
40	101.8	34.8	74.8#

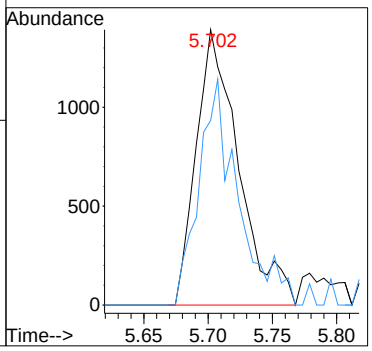


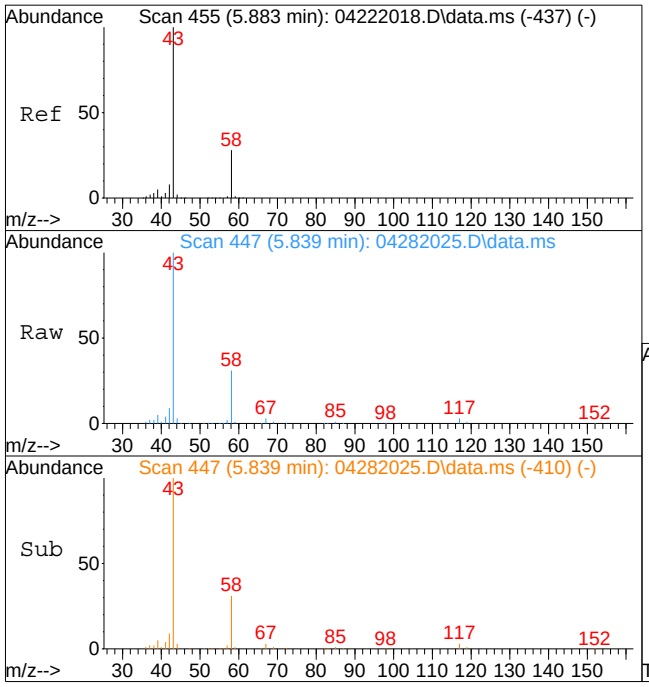


#12
Acrolein
Concen: 0.71 ng
RT: 5.70 min Scan# 422
Delta R.T. -0.028 min
Lab File: 04282025.D
Acq: 29 Apr 2020 1:50

Tgt Ion: 56 Resp: 3193

Ion	Ratio	Lower	Upper
56	100		
55	75.4	50.4	90.4

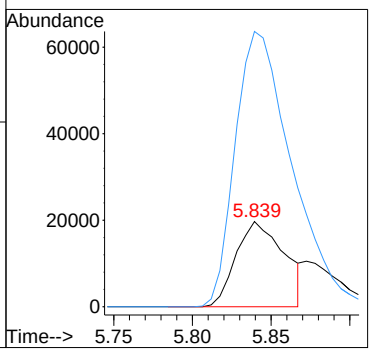


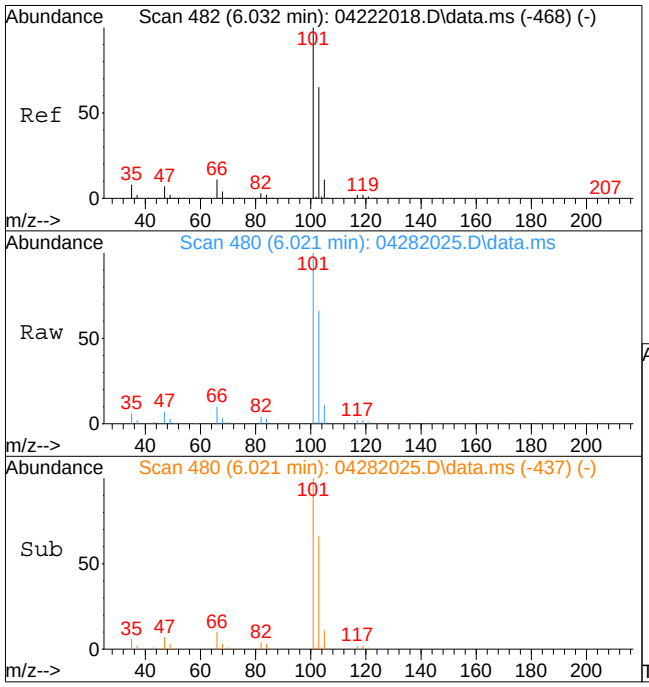


#13
Acetone
Concen: 7.09 ng m
RT: 5.84 min Scan# 447
Delta R.T. -0.044 min
Lab File: 04282025.D
Acq: 29 Apr 2020 1:50

Tgt Ion: 58 Resp: 41973

Ion	Ratio	Lower	Upper
58	100		
43	393.1	319.3	379.3#

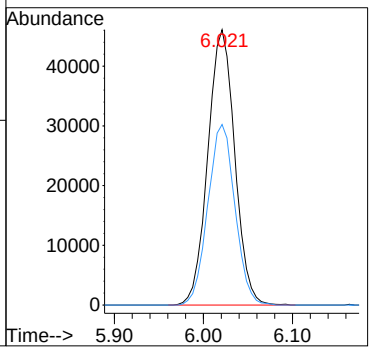


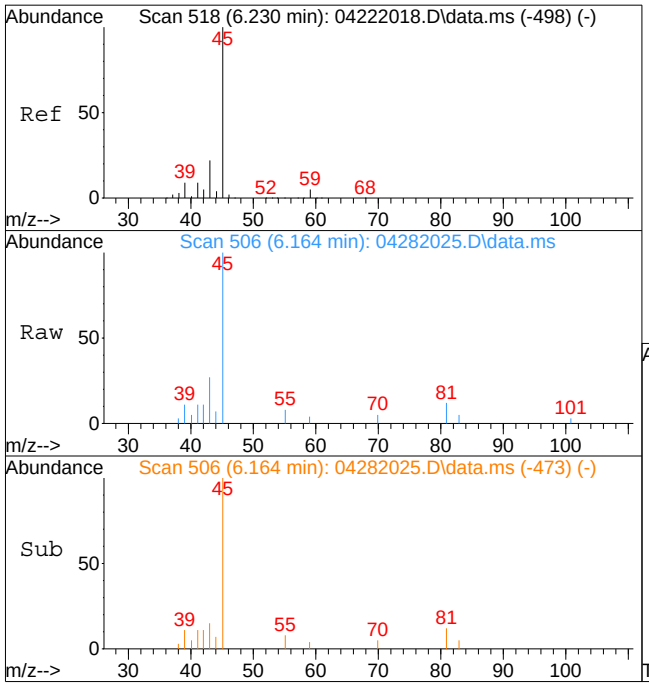


#14
Trichlorofluoromethane
Concen: 3.93 ng
RT: 6.02 min Scan# 480
Delta R.T. -0.011 min
Lab File: 04282025.D
Acq: 29 Apr 2020 1:50

Tgt Ion:101 Resp: 96843

Ion	Ratio	Lower	Upper
101	100		
103	66.0	44.7	84.7

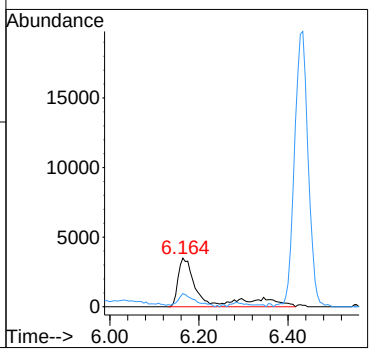


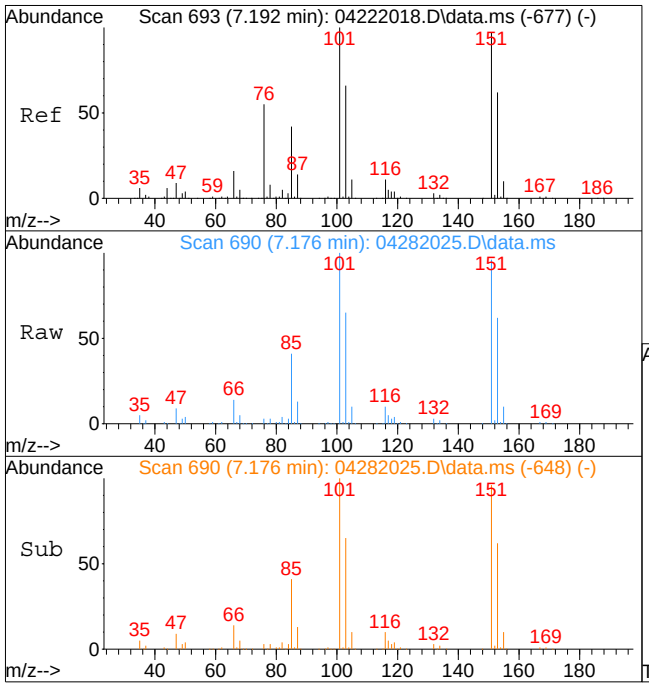


#15
2-Propanol (Isopropanol)
Concen: 0.67 ng
RT: 6.16 min Scan# 506
Delta R.T. -0.066 min
Lab File: 04282025.D
Acq: 29 Apr 2020 1:50

Tgt Ion: 45 Resp: 12579

Ion	Ratio	Lower	Upper
45	100		
43	19.6	2.6	42.6

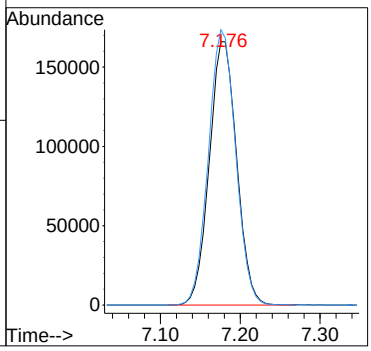


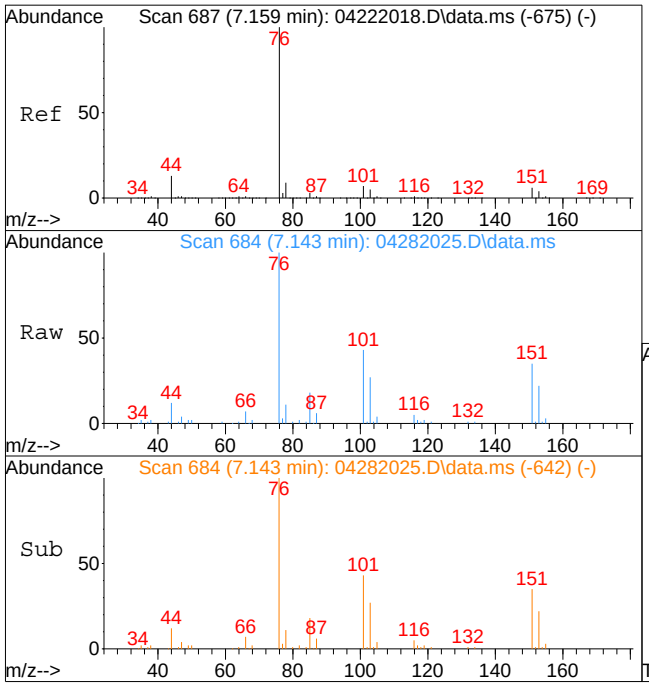


#21
Trichlorotrifluoroethane
Concen: 30.90 ng
RT: 7.18 min Scan# 690
Delta R.T. -0.017 min
Lab File: 04282025.D
Acq: 29 Apr 2020 1:50

Tgt Ion:151 Resp: 395735

Ion	Ratio	Lower	Upper
151	100		
101	104.1	82.9	122.9

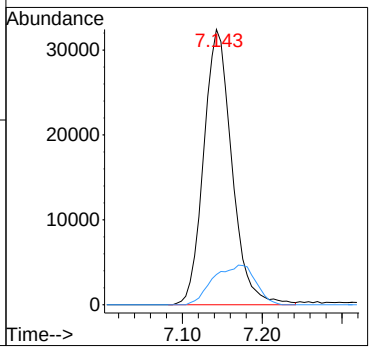


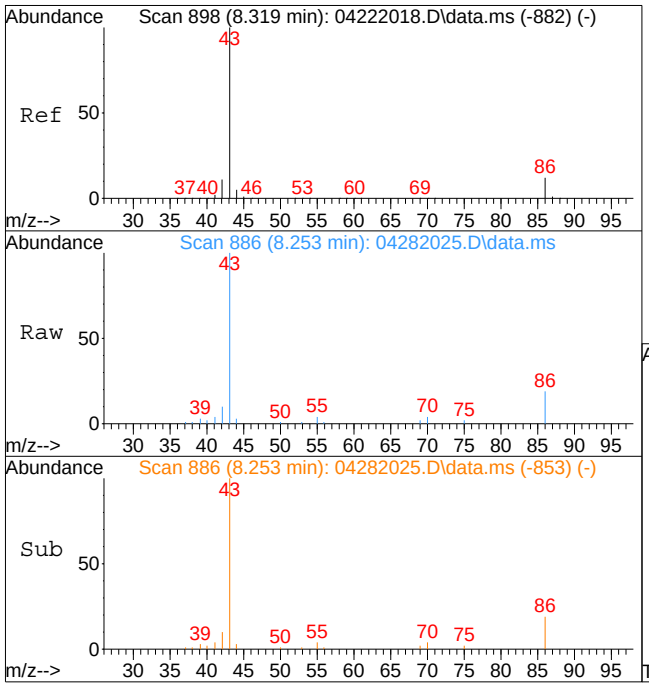


#22
Carbon Disulfide
Concen: 2.31 ng
RT: 7.14 min Scan# 684
Delta R.T. -0.017 min
Lab File: 04282025.D
Acq: 29 Apr 2020 1:50

Tgt Ion: 76 Resp: 79636

Ion	Ratio	Lower	Upper
76	100		
78	21.6	0.0	30.2

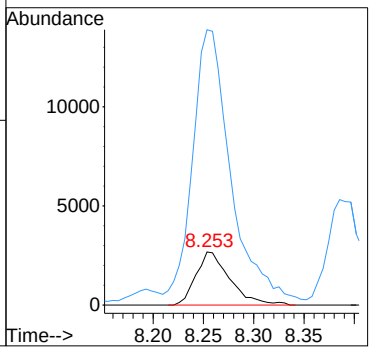


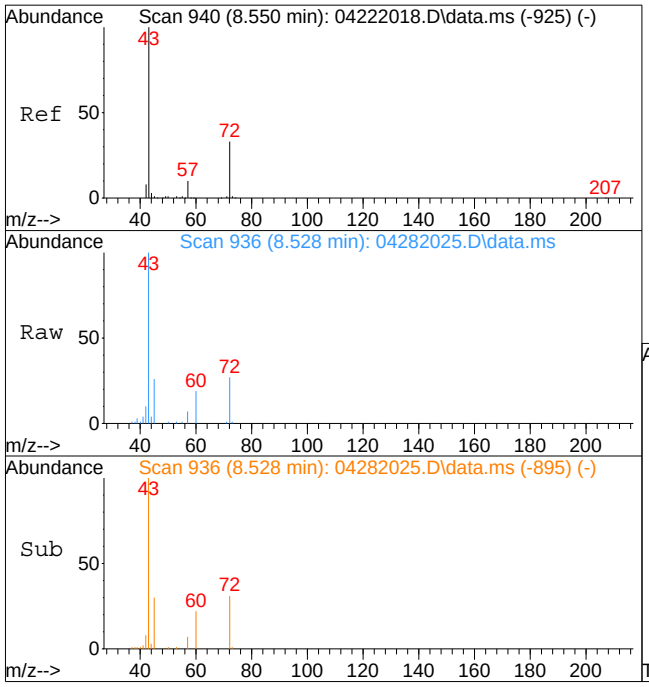


#26
Vinyl Acetate
Concen: 2.91 ng
RT: 8.25 min Scan# 886
Delta R.T. -0.066 min
Lab File: 04282025.D
Acq: 29 Apr 2020 1:50

Tgt Ion: 86 Resp: 6281

Ion	Ratio	Lower	Upper
86	100		
43	586.4	803.0	843.0#

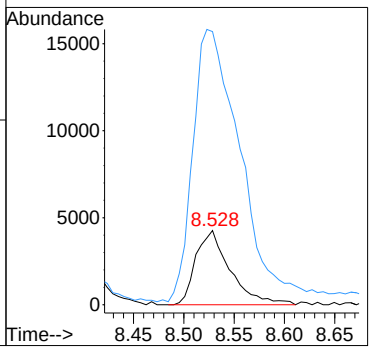


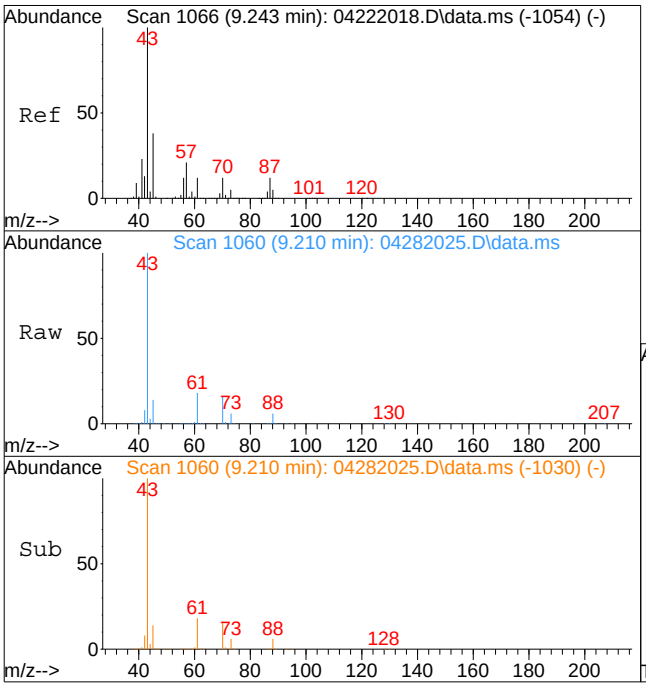


#27
2-Butanone (MEK)
Concen: 1.67 ng
RT: 8.53 min Scan# 936
Delta R.T. -0.022 min
Lab File: 04282025.D
Acq: 29 Apr 2020 1:50

Tgt Ion: 72 Resp: 10163

Ion	Ratio	Lower	Upper
72	100		
43	521.9	278.8	318.8#

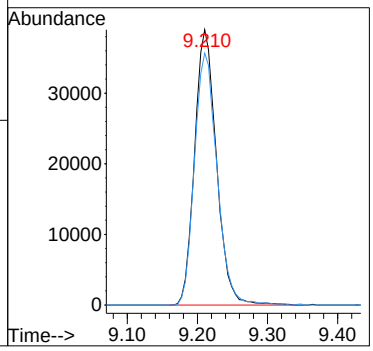


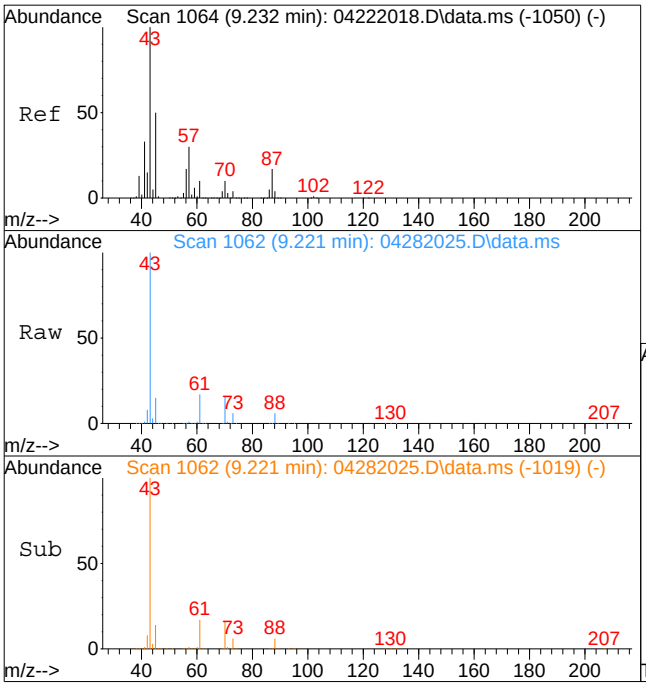


#30
Ethyl Acetate
Concen: 31.13 ng
RT: 9.21 min Scan# 1060
Delta R.T. -0.033 min
Lab File: 04282025.D
Acq: 29 Apr 2020 1:50

Tgt Ion: 61 Resp: 84259

Ion	Ratio	Lower	Upper
61	100		
70	95.1	80.6	120.6

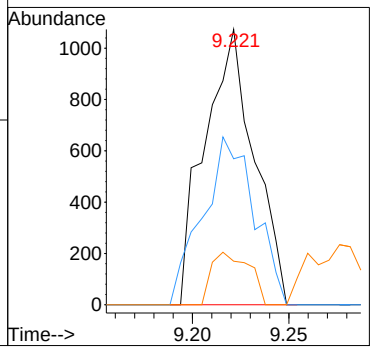


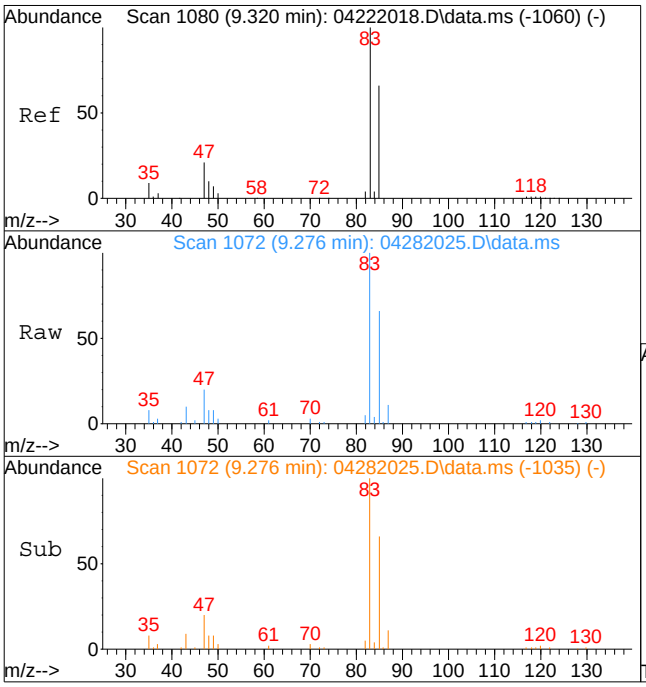


#31
n-Hexane
Concen: 0.15 ng
RT: 9.22 min Scan# 1062
Delta R.T. -0.011 min
Lab File: 04282025.D
Acq: 29 Apr 2020 1:50

Tgt Ion: 57 Resp: 1914

Ion	Ratio	Lower	Upper
57	100		
56	64.1	44.0	66.0
86	14.6	15.0	22.4#

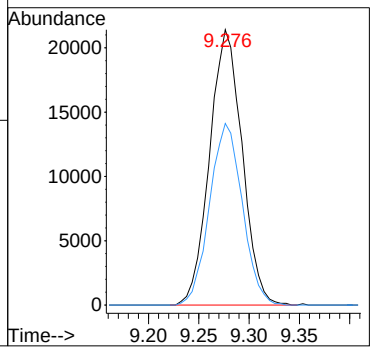


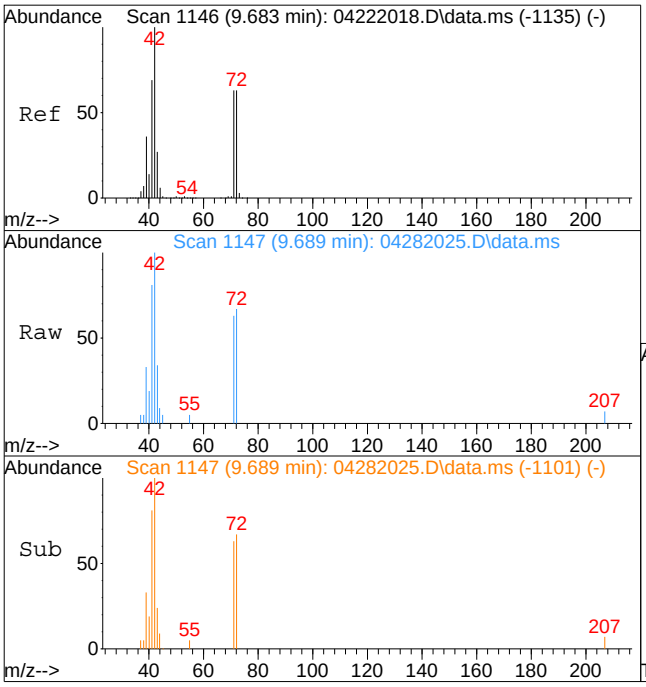


#32
Chloroform
Concen: 2.29 ng
RT: 9.28 min Scan# 1072
Delta R.T. -0.044 min
Lab File: 04282025.D
Acq: 29 Apr 2020 1:50

Tgt Ion: 83 Resp: 48101

Ion	Ratio	Lower	Upper
83	100		
85	66.4	45.8	85.8

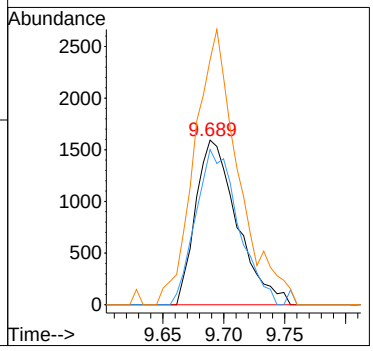


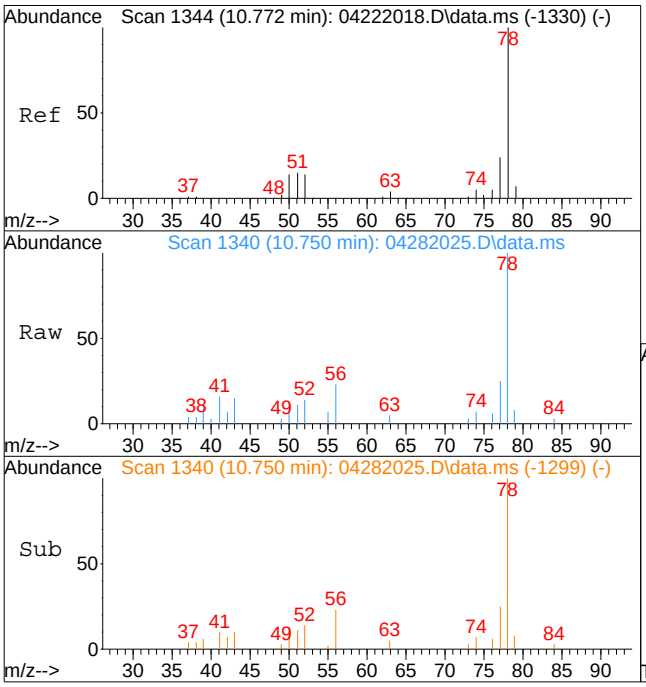


#34
Tetrahydrofuran (THF)
Concen: 0.61 ng
RT: 9.69 min Scan# 1147
Delta R.T. 0.005 min
Lab File: 04282025.D
Acq: 29 Apr 2020 1:50

Tgt Ion: 72 Resp: 3780

Ion	Ratio	Lower	Upper
72	100		
71	96.7	77.9	117.9
42	176.7	133.9	173.9#

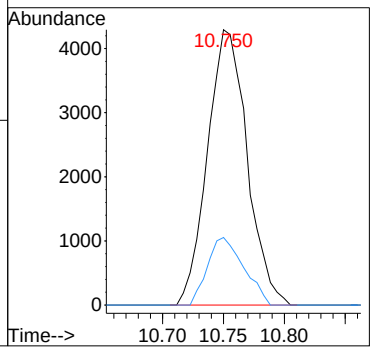


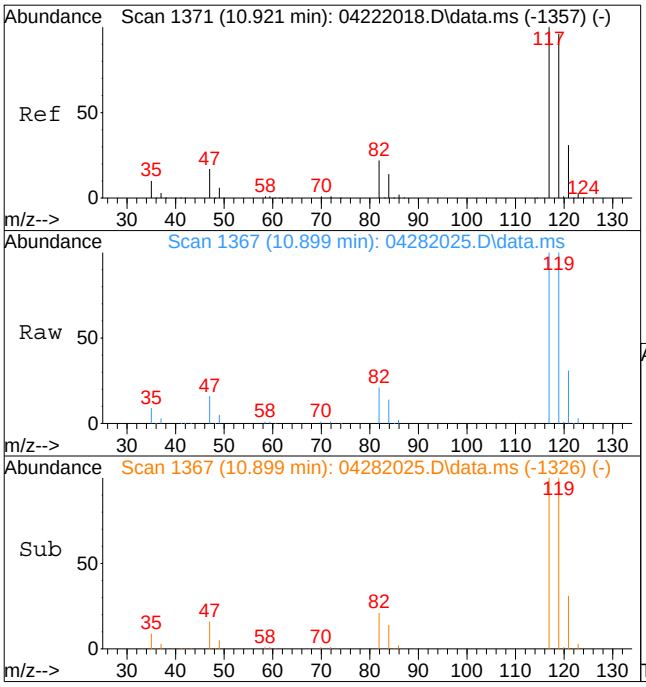


#41
Benzene
Concen: 0.23 ng
RT: 10.75 min Scan# 1340
Delta R.T. -0.022 min
Lab File: 04282025.D
Acq: 29 Apr 2020 1:50

Tgt Ion: 78 Resp: 9725

Ion	Ratio	Lower	Upper
78	100		
77	22.4	3.6	43.6

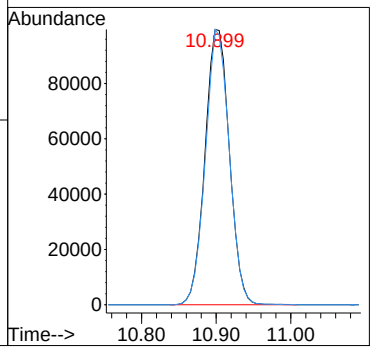


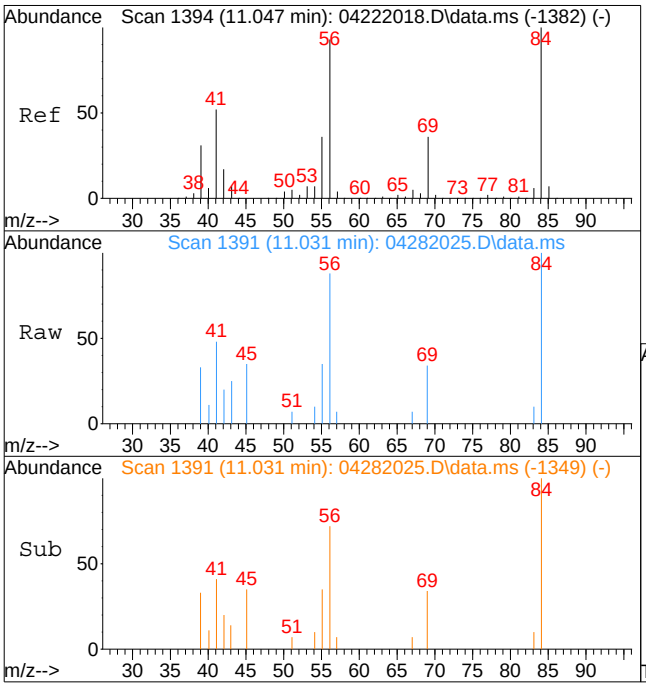


#42
Carbon Tetrachloride
Concen: 10.45 ng
RT: 10.90 min Scan# 1367
Delta R.T. -0.022 min
Lab File: 04282025.D
Acq: 29 Apr 2020 1:50

Tgt Ion:117 Resp: 225913

Ion	Ratio	Lower	Upper
117	100		
119	97.5	76.5	116.5

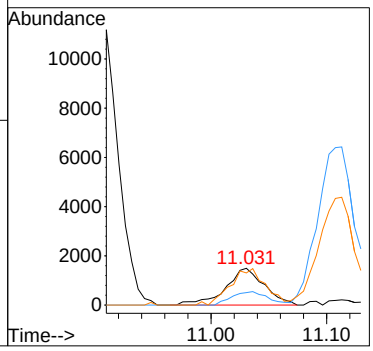


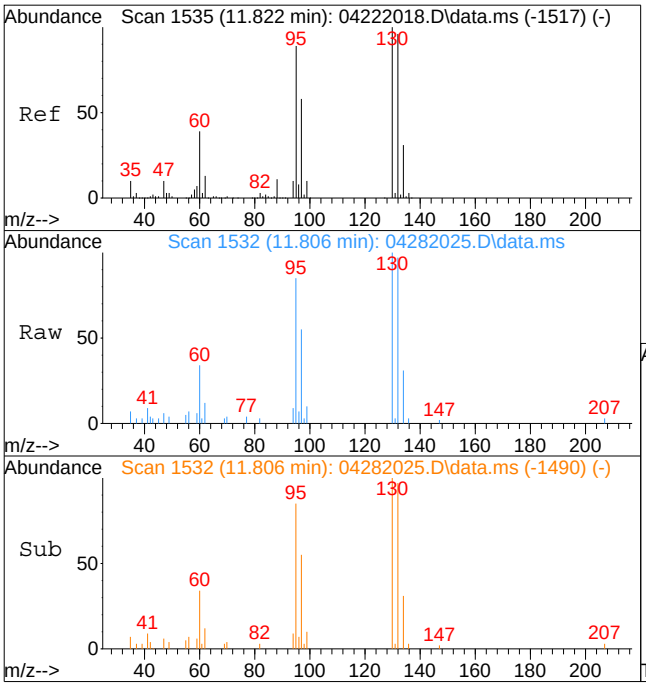


#43
Cyclohexane
Concen: 0.21 ng
RT: 11.03 min Scan# 1391
Delta R.T. -0.017 min
Lab File: 04282025.D
Acq: 29 Apr 2020 1:50

Tgt Ion: 84 Resp: 3474

Ion	Ratio	Lower	Upper
84	100		
69	34.7	15.8	55.8
56	89.9	72.0	112.0

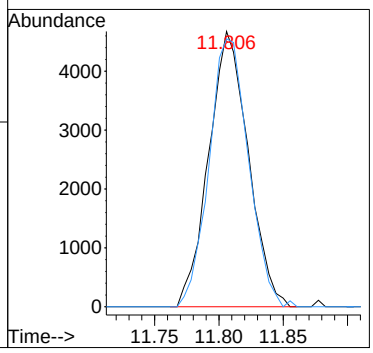


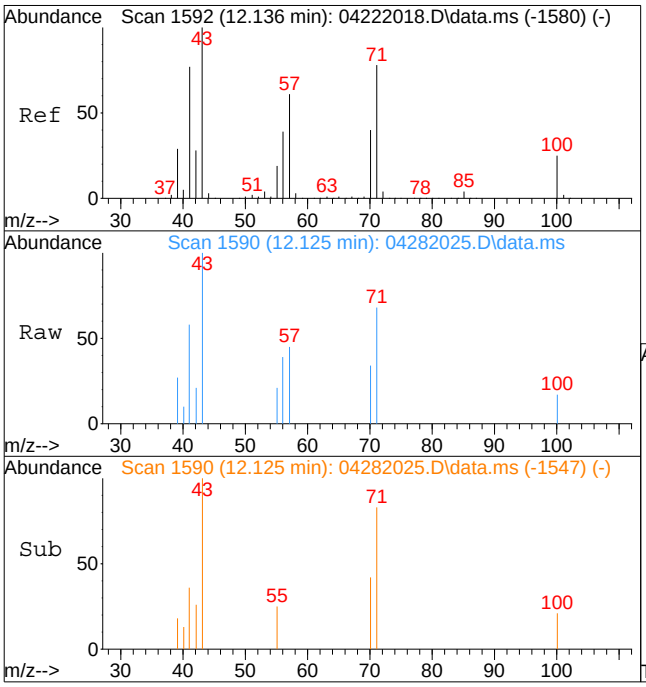


#47
Trichloroethene
Concen: 0.69 ng
RT: 11.81 min Scan# 1532
Delta R.T. -0.017 min
Lab File: 04282025.D
Acq: 29 Apr 2020 1:50

Tgt Ion:130 Resp: 10012

Ion	Ratio	Lower	Upper
130	100		
132	96.9	76.4	116.4

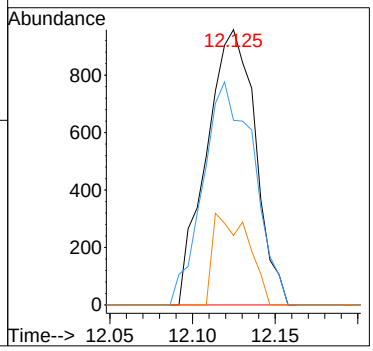


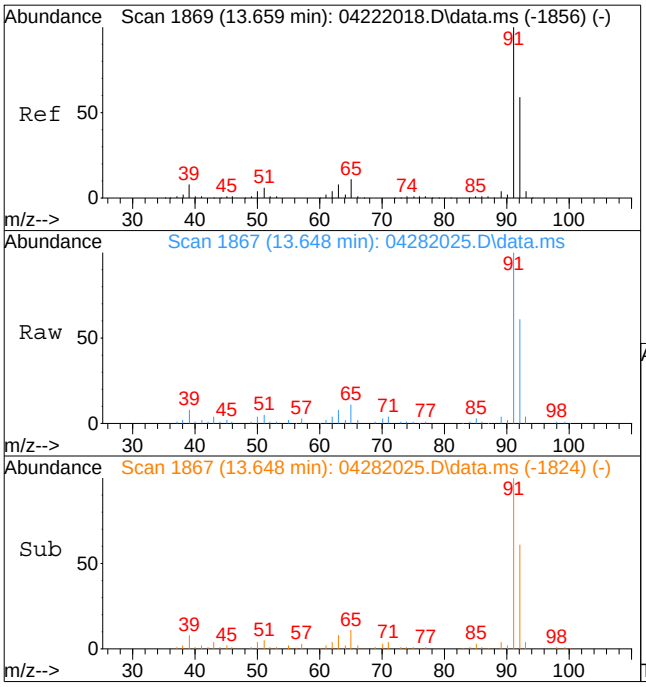


#51
n-Heptane
Concen: 0.20 ng
RT: 12.12 min Scan# 1590
Delta R.T. -0.011 min
Lab File: 04282025.D
Acq: 29 Apr 2020 1:50

Tgt Ion: 71 Resp: 1964

Ion	Ratio	Lower	Upper
71	100		
57	84.4	57.4	97.4
100	24.0	12.0	52.0

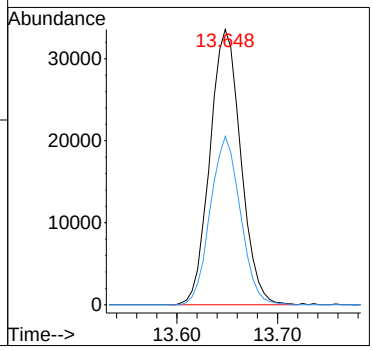


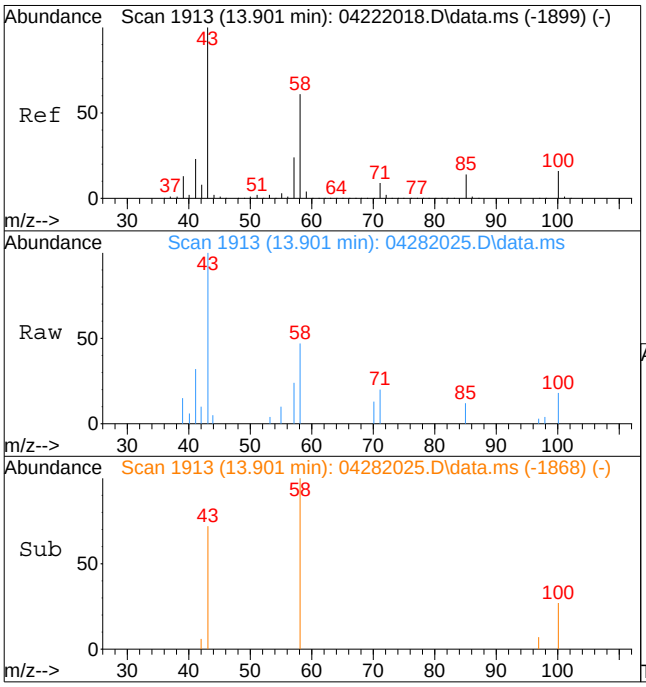


#58
Toluene
Concen: 1.53 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.011 min
Lab File: 04282025.D
Acq: 29 Apr 2020 1:50

Tgt Ion: 91 Resp: 71628

Ion	Ratio	Lower	Upper
91	100		
92	59.5	38.2	78.2

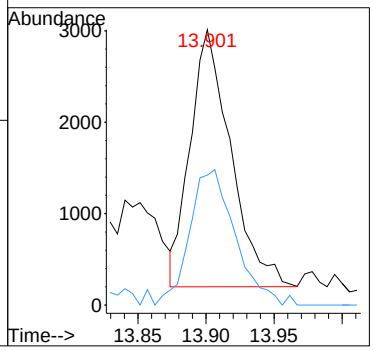


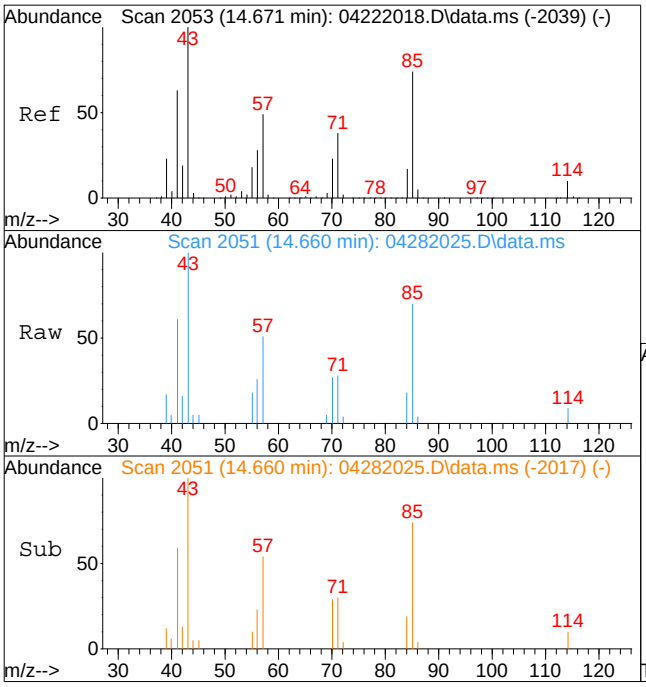


#59
2-Hexanone
Concen: 0.42 ng
RT: 13.90 min Scan# 1913
Delta R.T. -0.000 min
Lab File: 04282025.D
Acq: 29 Apr 2020 1:50

Tgt Ion: 43 Resp: 5829

Ion	Ratio	Lower	Upper
43	100		
58	59.2	41.1	81.1

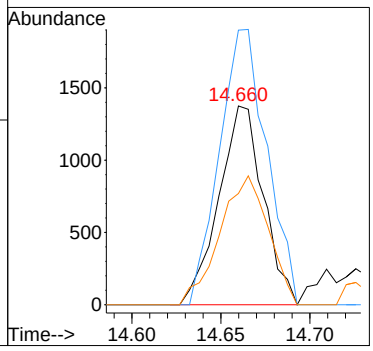


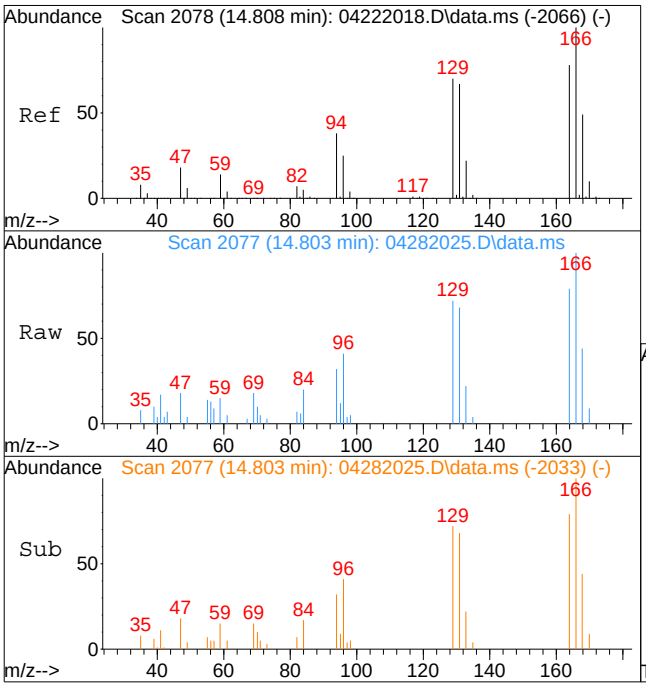


#63
n-Octane
Concen: 0.32 ng
RT: 14.66 min Scan# 2051
Delta R.T. -0.011 min
Lab File: 04282025.D
Acq: 29 Apr 2020 1:50

Tgt Ion: 57 Resp: 2386

Ion	Ratio	Lower	Upper
57	100		
85	147.7	120.7	181.1
71	71.0	61.1	91.7

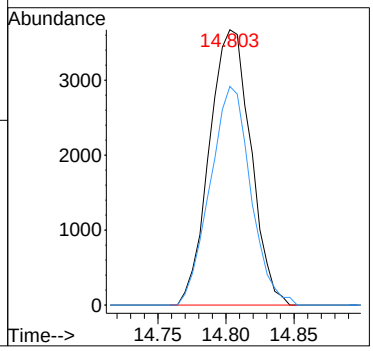


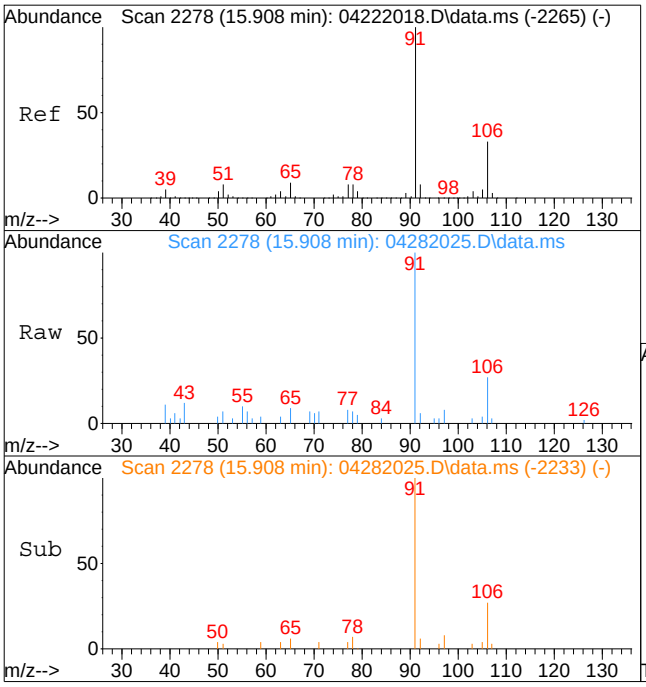


#64
Tetrachloroethene
Concen: 0.44 ng
RT: 14.80 min Scan# 2077
Delta R.T. -0.006 min
Lab File: 04282025.D
Acq: 29 Apr 2020 1:50

Tgt Ion:166 Resp: 7763

Ion	Ratio	Lower	Upper
166	100		
164	77.9	57.7	97.7

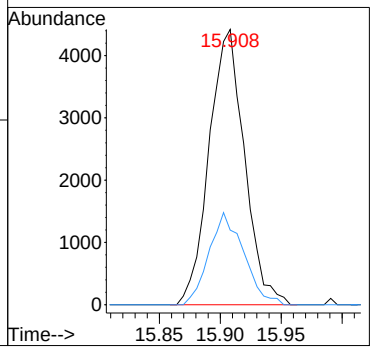


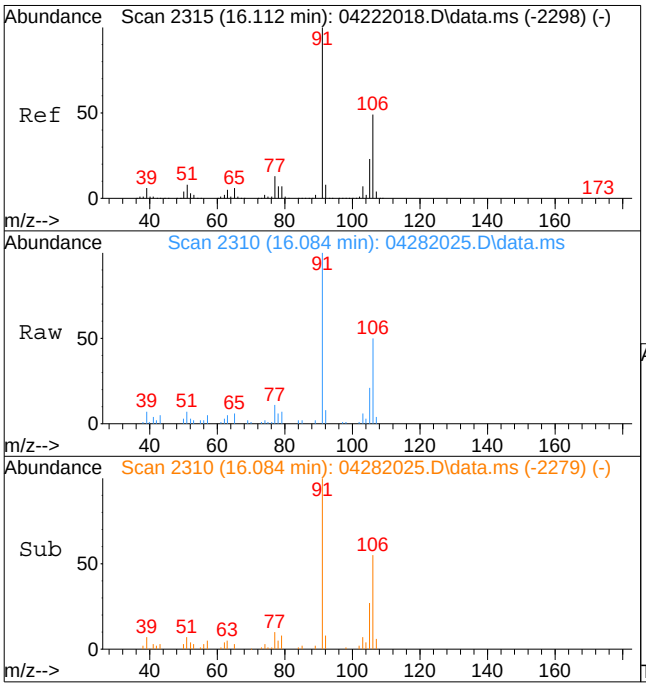


#66
Ethylbenzene
Concen: 0.16 ng
RT: 15.91 min Scan# 2278
Delta R.T. -0.000 min
Lab File: 04282025.D
Acq: 29 Apr 2020 1:50

Tgt Ion: 91 Resp: 8935

Ion	Ratio	Lower	Upper
91	100		
106	32.8	13.4	53.4

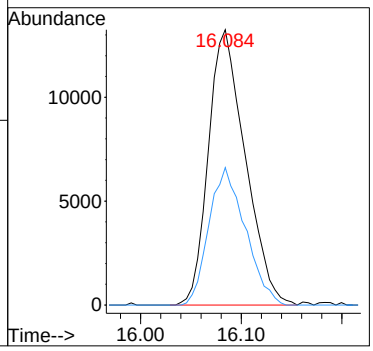


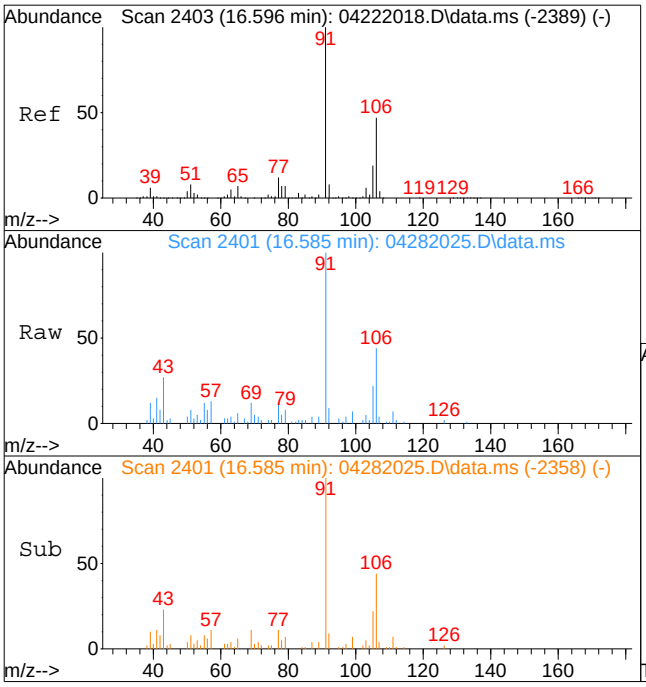


#67
m- & p-Xylenes
Concen: 0.73 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.028 min
Lab File: 04282025.D
Acq: 29 Apr 2020 1:50

Tgt Ion: 91 Resp: 33742

Ion	Ratio	Lower	Upper
91	100		
106	49.2	28.3	68.3

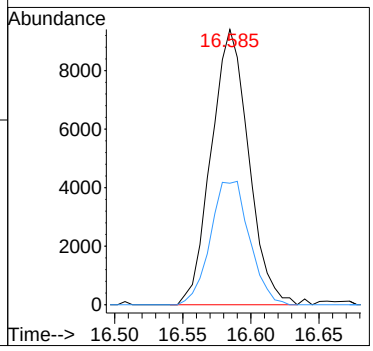


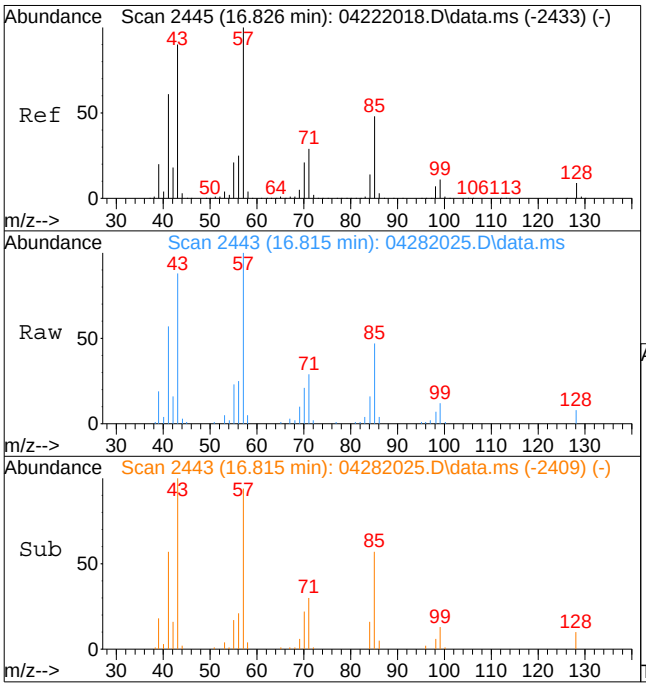


#70
o-Xylene
Concen: 0.40 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 04282025.D
Acq: 29 Apr 2020 1:50

Tgt Ion: 91 Resp: 17956

Ion	Ratio	Lower	Upper
91	100		
106	46.8	27.5	67.5

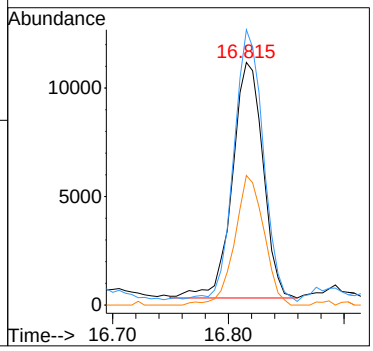


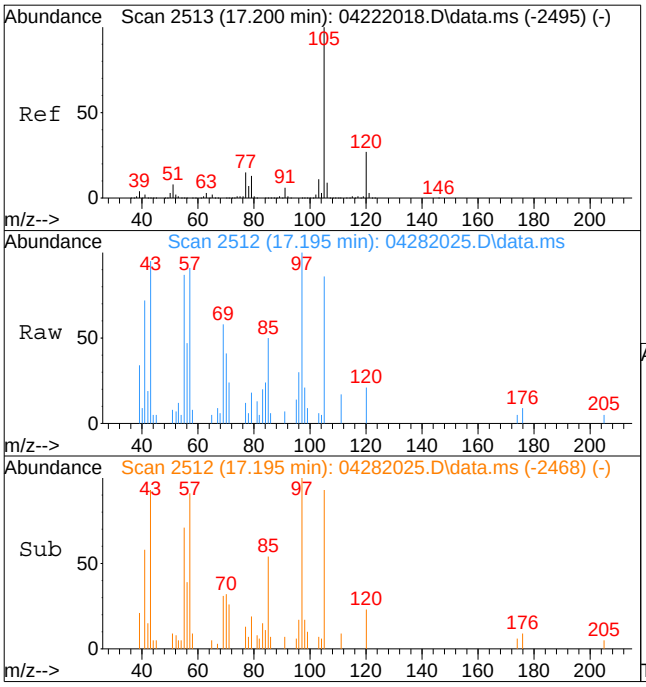


#71
n-Nonane
Concen: 1.38 ng
RT: 16.82 min Scan# 2443
Delta R.T. -0.011 min
Lab File: 04282025.D
Acq: 29 Apr 2020 1:50

Tgt Ion: 43 Resp: 20069

Ion	Ratio	Lower	Upper
43	100		
57	112.3	90.8	130.8
85	52.3	32.1	72.1

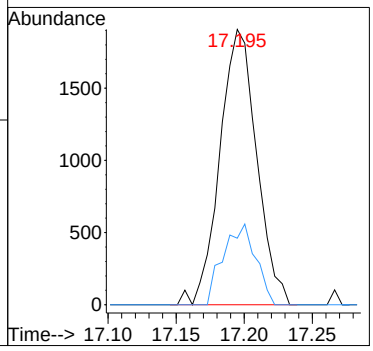


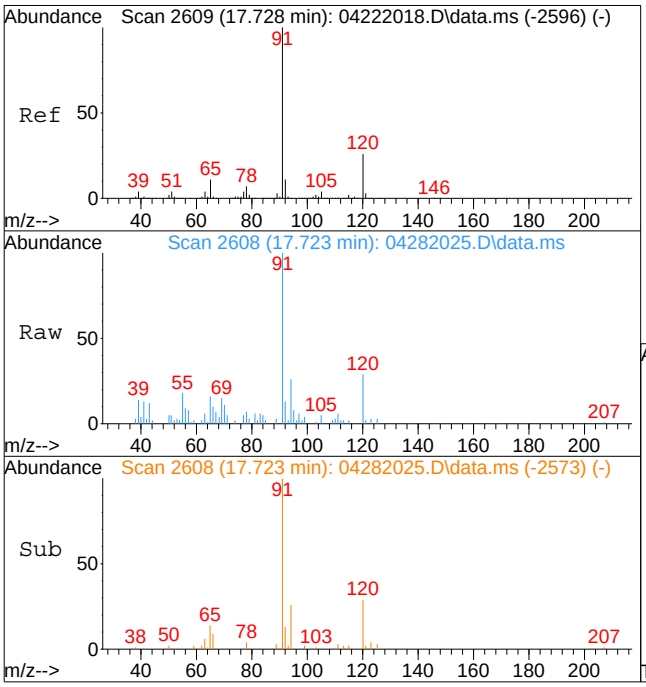


#74
Cumene
Concen: 0.06 ng
RT: 17.19 min Scan# 2512
Delta R.T. -0.006 min
Lab File: 04282025.D
Acq: 29 Apr 2020 1:50

Tgt Ion:105 Resp: 3587

Ion	Ratio	Lower	Upper
105	100		
120	25.9	7.3	47.3

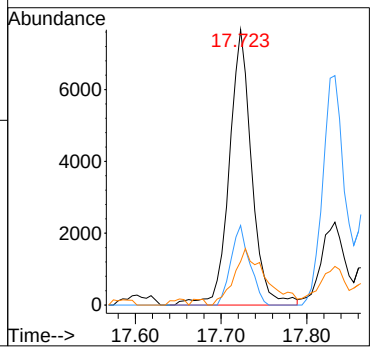


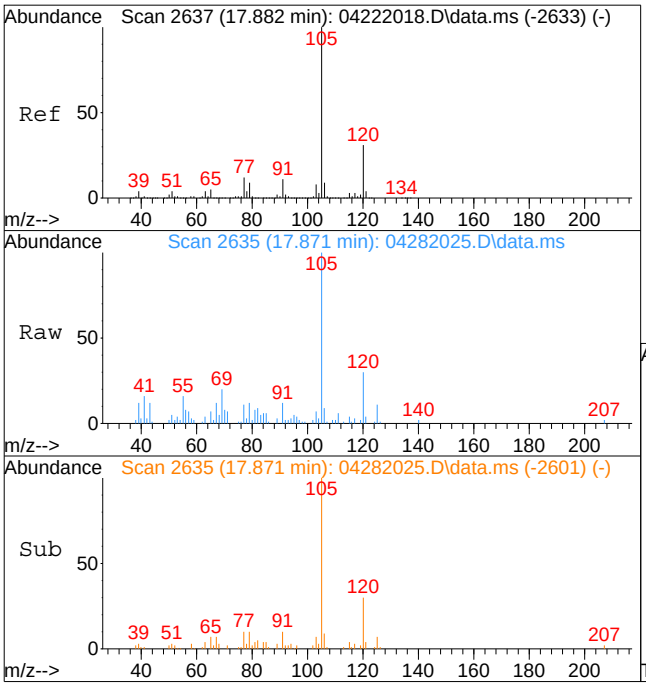


#76
n-Propylbenzene
Concen: 0.22 ng
RT: 17.72 min Scan# 2608
Delta R.T. -0.006 min
Lab File: 04282025.D
Acq: 29 Apr 2020 1:50

Tgt Ion: 91 Resp: 13940

Ion	Ratio	Lower	Upper
91	100		
120	24.2	6.1	46.1
65	29.0	0.0	30.7

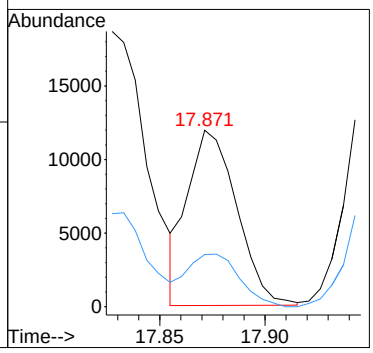


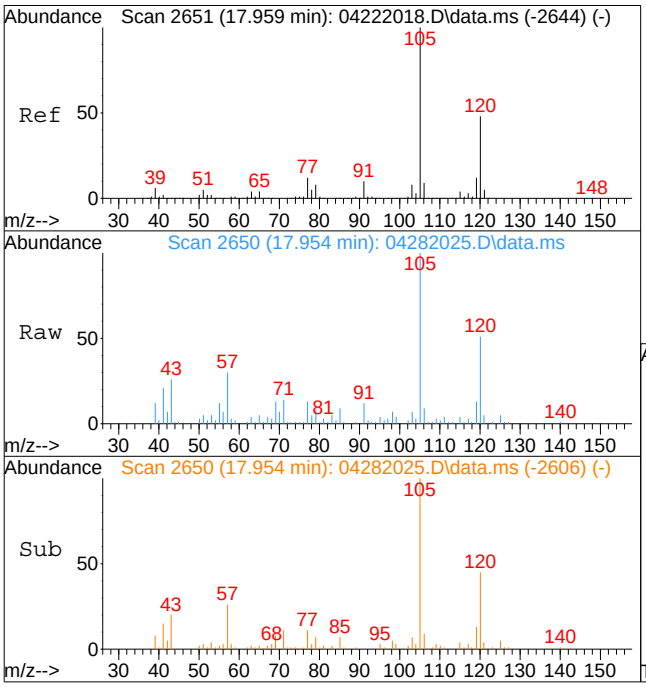


#78
4-Ethyltoluene
Concen: 0.35 ng
RT: 17.87 min Scan# 2635
Delta R.T. -0.011 min
Lab File: 04282025.D
Acq: 29 Apr 2020 1:50

Tgt Ion:105 Resp: 19433

Ion	Ratio	Lower	Upper
105	100		
120	32.3	11.4	51.4

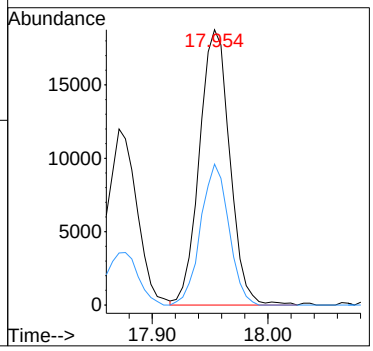


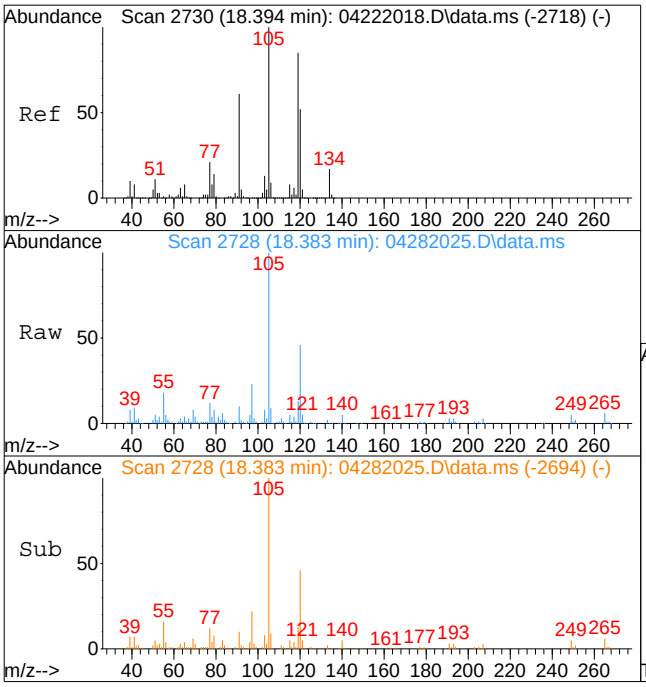


#79
1,3,5-Trimethylbenzene
Concen: 0.66 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 04282025.D
Acq: 29 Apr 2020 1:50

Tgt Ion:105 Resp: 34190

Ion	Ratio	Lower	Upper
105	100		
120	47.5	29.5	69.5

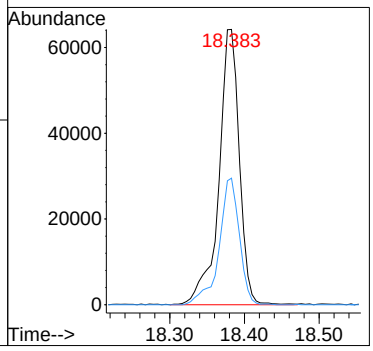


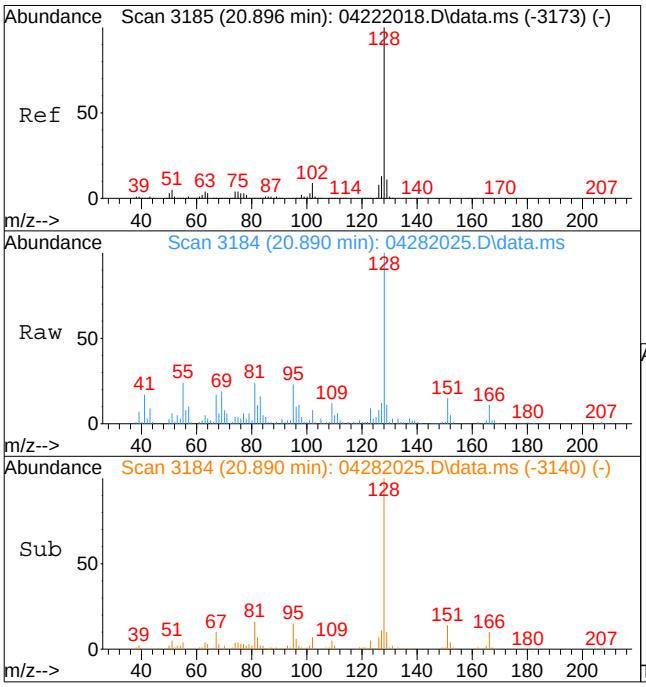


#82
1,2,4-Trimethylbenzene
Concen: 2.45 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 04282025.D
Acq: 29 Apr 2020 1:50

Tgt Ion:105 Resp: 122494

Ion	Ratio	Lower	Upper
105	100		
120	45.6	34.5	74.5

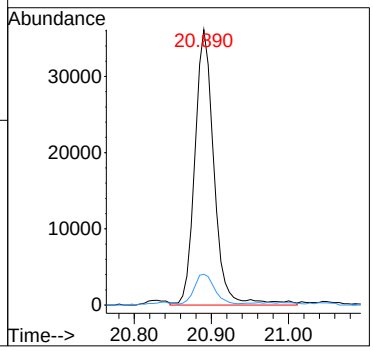




#95
Naphthalene
Concen: 0.97 ng
RT: 20.89 min Scan# 3184
Delta R.T. -0.006 min
Lab File: 04282025.D
Acq: 29 Apr 2020 1:50

Tgt Ion:128 Resp: 62294

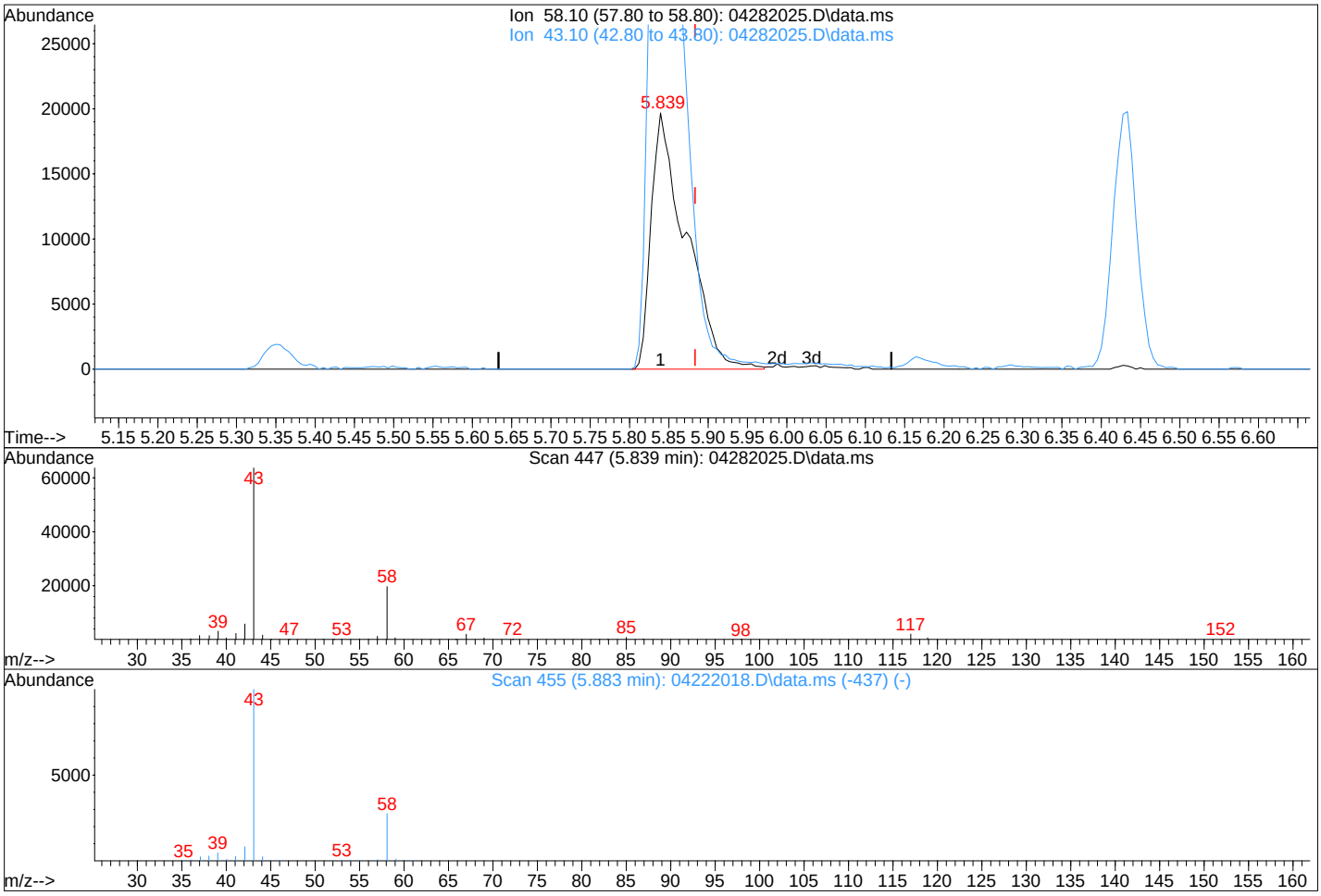
Ion	Ratio	Lower	Upper
128	100		
129	11.5	0.0	30.9



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\28\04282025.D Vial: 12
Acq On : 29 Apr 2020 1:50 Operator: SC
Sample : P2002030-014 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 05:53:39 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04282025.D\data.ms

(13) Acetone (T)

5.839min (-0.044) 10.19ng

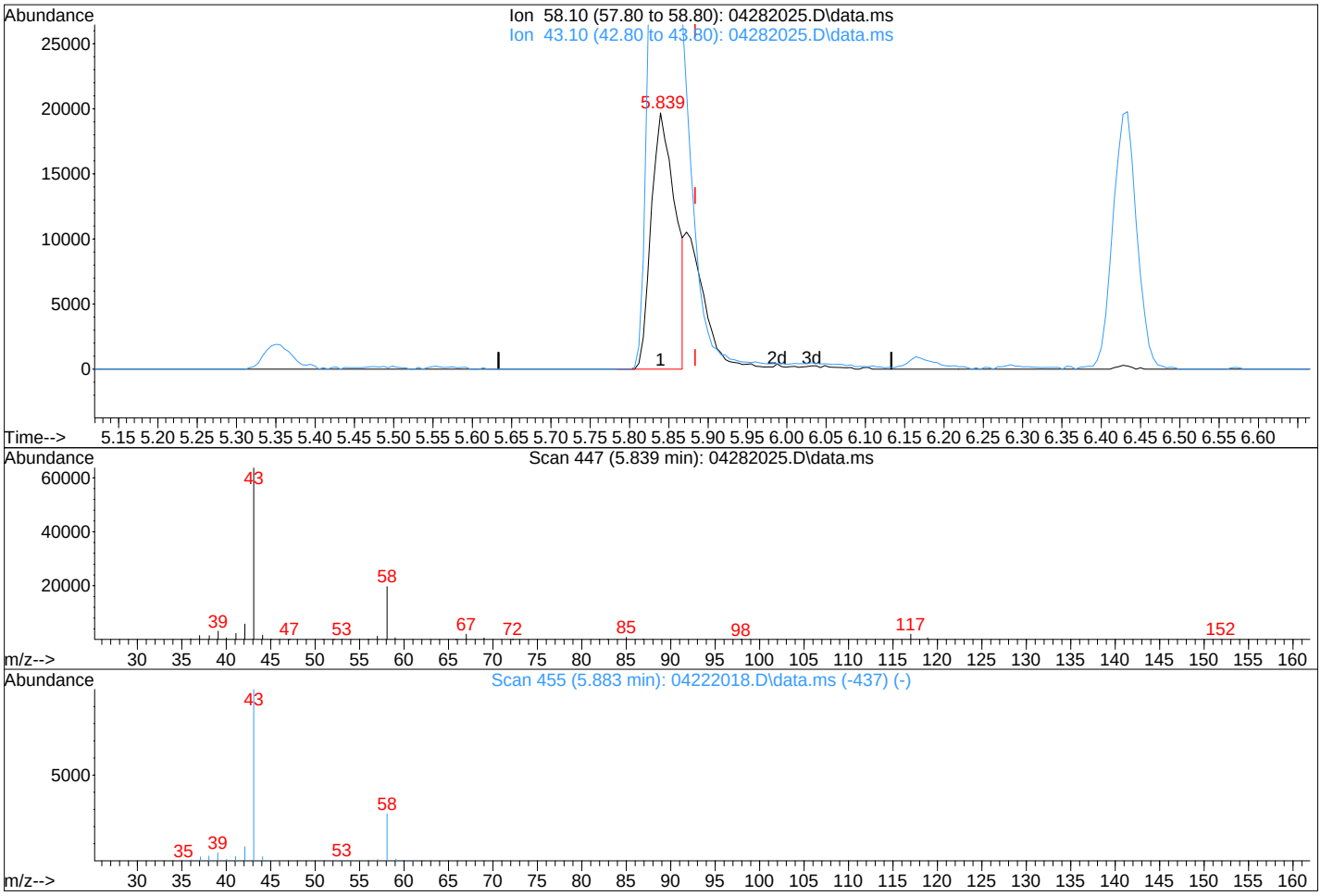
response 60325

Ion	Exp%	Act%
58.10	100	100
43.10	349.30	273.53#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\28\04282025.D Vial: 12
Acq On : 29 Apr 2020 1:50 Operator: SC
Sample : P2002030-014 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 05:53:39 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04282025.D\data.ms

(13) Acetone (T)

5.839min (-0.044) 7.09ng m

response 41973

Ion	Exp%	Act%
58.10	100	100
43.10	349.30	393.12#
0.00	0.00	0.00
0.00	0.00	0.00

IPC

4/29/20

4/29/20

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292009.D Vial: 1
Acq On : 29 Apr 2020 9:50 Operator: TD
Sample : P2002030-015 (3.5mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 13:47:56 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/29/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	158030	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	662592	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	298633	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	236955	11.573	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.56%			
57) Toluene-d8 (SS2)	13.55	98	720022	12.487	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.92%			
73) Bromofluorobenzene (SS3)	17.05	174	278141	12.002	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.00%			
Target Compounds						Qvalue
2) Propene	3.89	42	1450	0.216	ng	# 83
3) Dichlorodifluoromethan...	4.00	85	4660	0.183	ng	99
4) Chloromethane	0.00	50	0	N.D.	d	
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	0.00	45	0	N.D.	d	
11) Acetonitrile	5.62	41	112	N.D.		
12) Acrolein	0.00	56	0	N.D.	d	
13) Acetone	5.87	58	4007	0.656	ng	93
14) Trichlorofluoromethane	6.03	101	1119	N.D.		
15) 2-Propanol (Isopropanol)	6.21	45	1394	0.072	ng	74
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	6.73	96	2814	0.252	ng	96
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d	
19) Methylene Chloride	6.86	84	6846	0.640	ng	96
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d	
21) Trichlorotrifluoroethane	7.18	151	27736	2.100	ng	98
22) Carbon Disulfide	7.18	76	724	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	8.09	63	873	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	0.00	72	0	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	9.22	57	584	N.D.		
32) Chloroform	9.28	83	209	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	10.13	62	823	N.D.		
38) 1,1,1-Trichloroethane	10.29	97	26522	1.164	ng	99
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	10.76	78	3383	0.078	ng	100
42) Carbon Tetrachloride	0.00	117	0	N.D.	d	
43) Cyclohexane	11.04	84	3562	0.210	ng	90
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	11.58	63	639	0.072	ng	77
46) Bromodichloromethane	11.77	83	119	N.D.		
47) Trichloroethene	11.81	130	1436	0.096	ng	93
48) 1,4-Dioxane	11.80	88	9302	1.071	ng	85
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292009.D Vial: 1
Acq On : 29 Apr 2020 9:50 Operator: TD
Sample : P2002030-015 (3.5mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 13:47:56 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

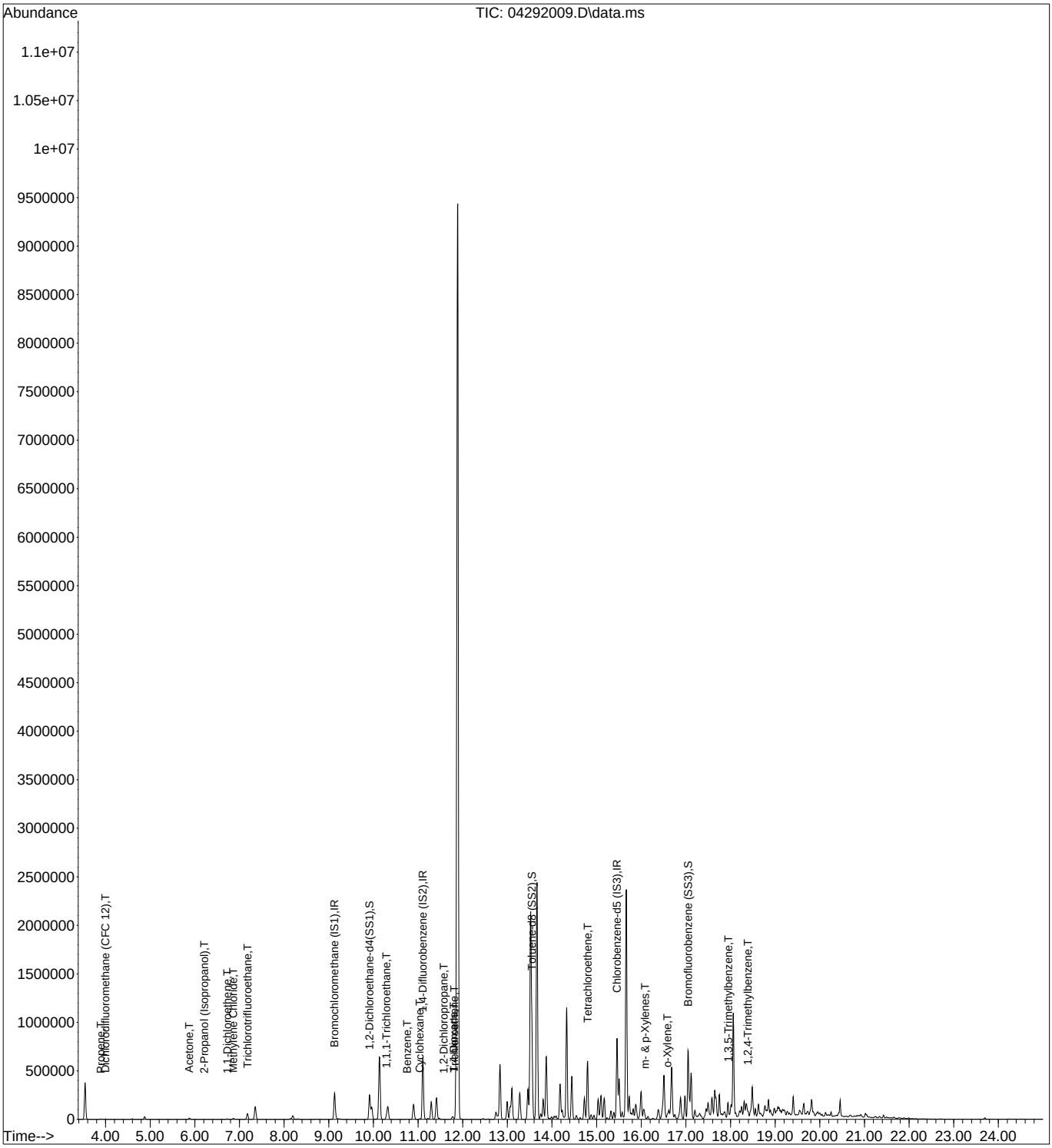
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.13	71	332	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	12.96	75	828	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	0.00	91	0	N.D. d	
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.67	57	172	N.D.	
64) Tetrachloroethene	14.80	166	9150	0.502 ng	97
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	0.00	91	0	N.D. d	
67) m- & p-Xylenes	16.08	91	8361	0.176 ng	93
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.59	91	3927	0.084 ng	94
71) n-Nonane	0.00	43	0	N.D. d	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	17.21	105	665	N.D.	
75) alpha-Pinene	0.00	93	0	N.D. d	
76) n-Propylbenzene	17.75	91	2982	N.D.	
77) 3-Ethyltoluene	17.84	105	2496	N.D.	
78) 4-Ethyltoluene	17.88	105	1023	N.D.	
79) 1,3,5-Trimethylbenzene	17.95	105	12813	0.239 ng	98
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	18.16	105	1767	N.D.	
82) 1,2,4-Trimethylbenzene	18.39	105	5306	0.102 ng	89
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	0.00	91	0	N.D. d	
85) 1,3-Dichlorobenzene	18.56	146	198	N.D.	
86) 1,4-Dichlorobenzene	18.62	146	465	N.D.	
87) sec-Butylbenzene	18.66	105	1144	N.D.	
88) 4-Isopropyltoluene (p-...	18.83	119	1839	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	18.98	146	1266	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	20.79	180	717	N.D.	
95) Naphthalene	0.00	128	0	N.D. d	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	21.26	225	101	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	19.45	91	453	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292009.D Vial: 1
Acq On : 29 Apr 2020 9:50 Operator: TD
Sample : P2002030-015 (3.5mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 13:47:56 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292009.D Vial: 1
Acq On : 29 Apr 2020 9:50 Operator: TD
Sample : P2002030-015 (3.5mL) Inst : MS09
Misc : S34-04212006

4/29/20

Quant Time: Apr 29 13:47:56 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

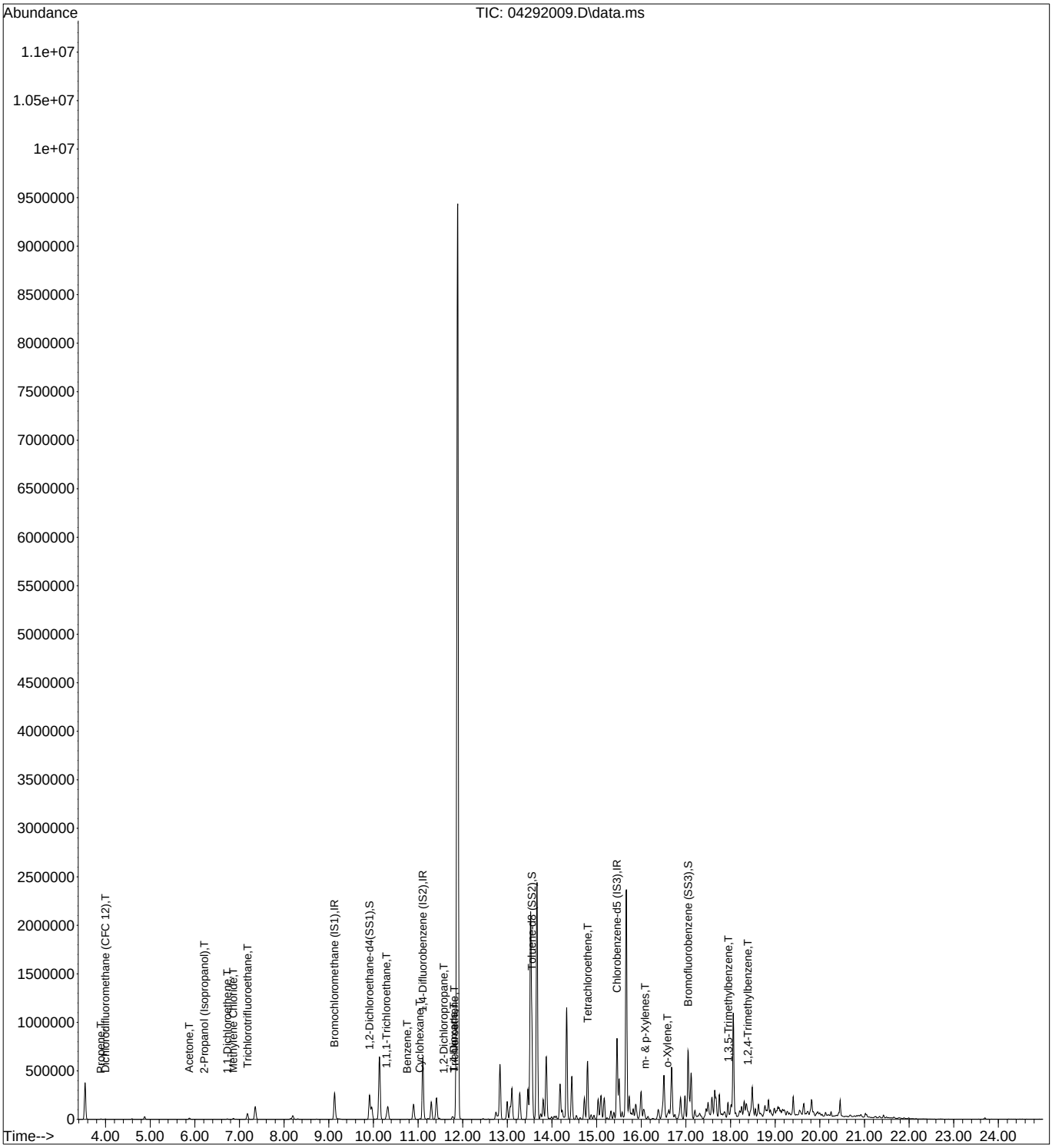
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	158030	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	662592	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	298633	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	236955	11.573	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.56%			
57) Toluene-d8 (SS2)	13.55	98	720022	12.487	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.92%			
73) Bromofluorobenzene (SS3)	17.05	174	278141	12.002	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.00%			
Target Compounds						Qvalue
2) Propene	3.89	42	1450	0.216	ng	# 83
3) Dichlorodifluoromethan...	4.00	85	4660	0.183	ng	99
13) Acetone	5.87	58	4007	0.656	ng	93
15) 2-Propanol (Isopropanol)	6.21	45	1394	0.072	ng	74
17) 1,1-Dichloroethene	6.73	96	2814	0.252	ng	96
19) Methylene Chloride	6.86	84	6846	0.640	ng	96
21) Trichlorotrifluoroethane	7.18	151	27736	2.100	ng	98
38) 1,1,1-Trichloroethane	10.29	97	26522	1.164	ng	99
41) Benzene	10.76	78	3383	0.078	ng	100
43) Cyclohexane	11.04	84	3562	0.210	ng	90
45) 1,2-Dichloropropane	11.58	63	639	0.072	ng	77
47) Trichloroethene	11.81	130	1436	0.096	ng	93
48) 1,4-Dioxane	11.80	88	9302	1.071	ng	85
64) Tetrachloroethene	14.80	166	9150	0.502	ng	97
67) m- & p-Xylenes	16.08	91	8361	0.176	ng	93
70) o-Xylene	16.59	91	3927	0.084	ng	94
79) 1,3,5-Trimethylbenzene	17.95	105	12813	0.239	ng	98
82) 1,2,4-Trimethylbenzene	18.39	105	5306	0.102	ng	89

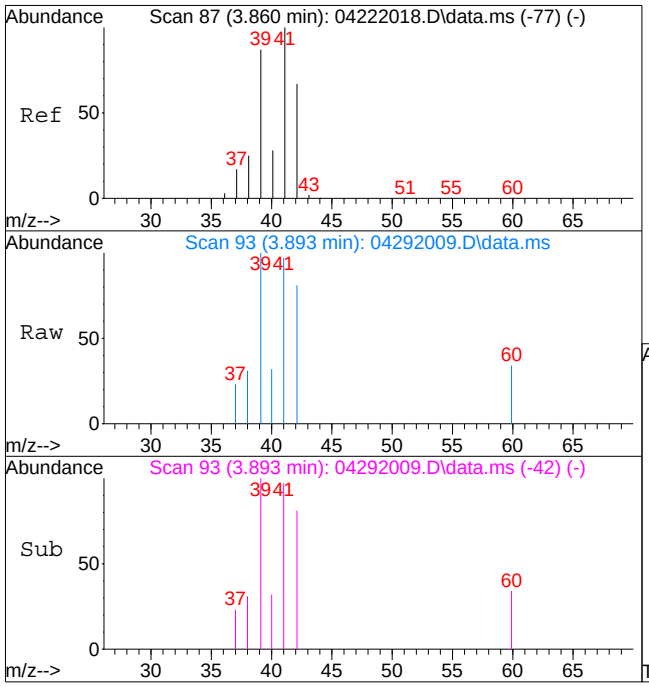
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292009.D Vial: 1
Acq On : 29 Apr 2020 9:50 Operator: TD
Sample : P2002030-015 (3.5mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 13:47:56 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

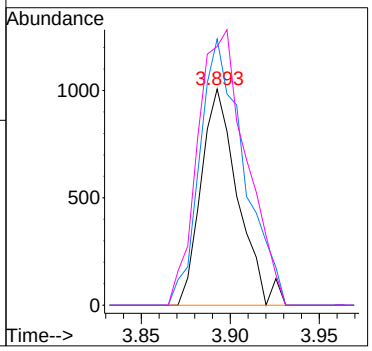


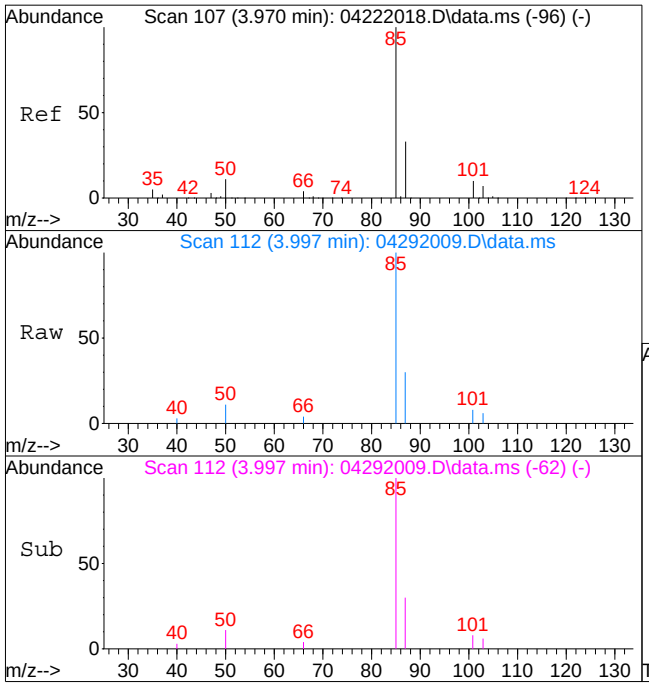


#2
Propene
Concen: 0.22 ng
RT: 3.89 min Scan# 93
Delta R.T. 0.033 min
Lab File: 04292009.D
Acq: 29 Apr 2020 9:50

Tgt Ion: 42 Resp: 1450

Ion	Ratio	Lower	Upper
42	100		
39	148.1	106.4	146.4#
41	168.2	128.8	168.8

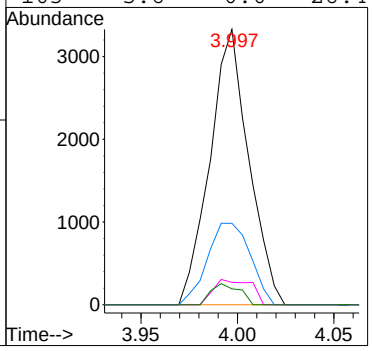


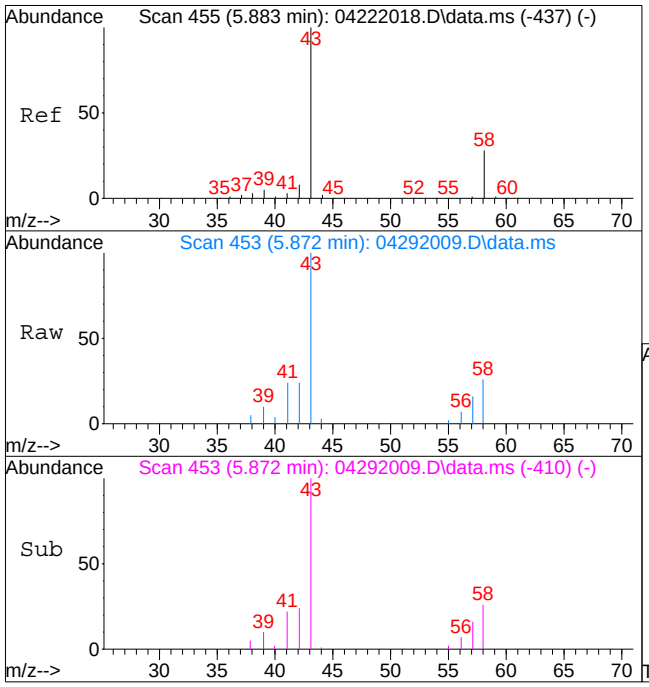


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.18 ng
RT: 4.00 min Scan# 112
Delta R.T. 0.027 min
Lab File: 04292009.D
Acq: 29 Apr 2020 9:50

Tgt Ion: 85 Resp: 4660

Ion	Ratio	Lower	Upper
85	100		
87	32.8	12.4	52.4
101	8.9	0.0	29.9
103	5.6	0.0	26.4

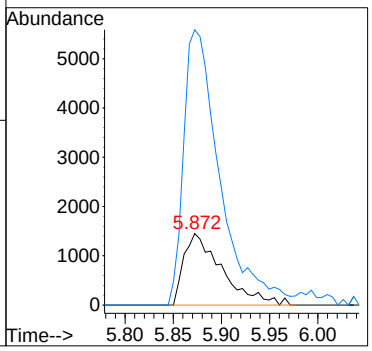


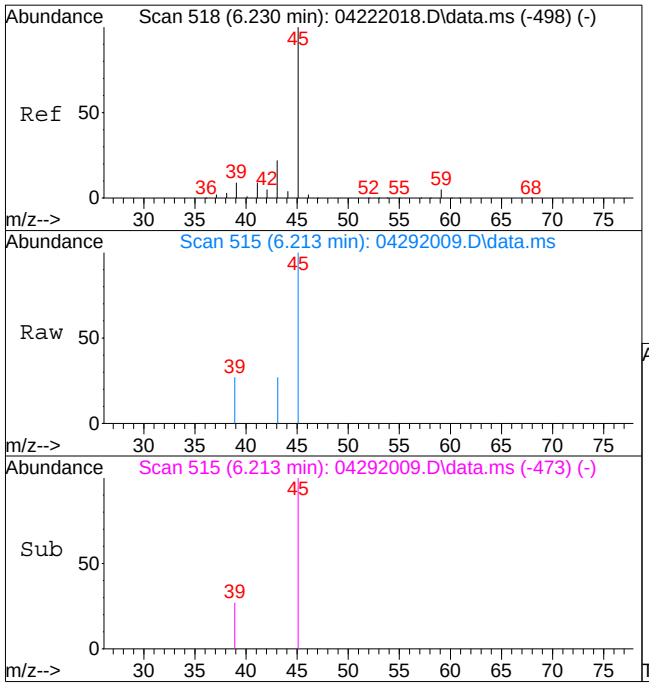


#13
Acetone
Concen: 0.66 ng
RT: 5.87 min Scan# 453
Delta R.T. -0.011 min
Lab File: 04292009.D
Acq: 29 Apr 2020 9:50

Tgt Ion: 58 Resp: 4007

Ion	Ratio	Lower	Upper
58	100		
43	363.7	319.3	379.3

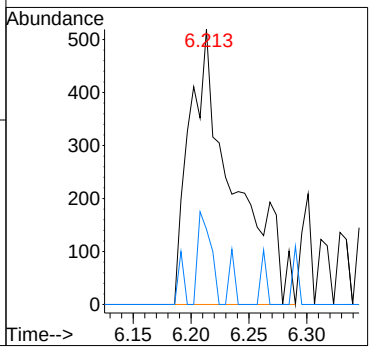


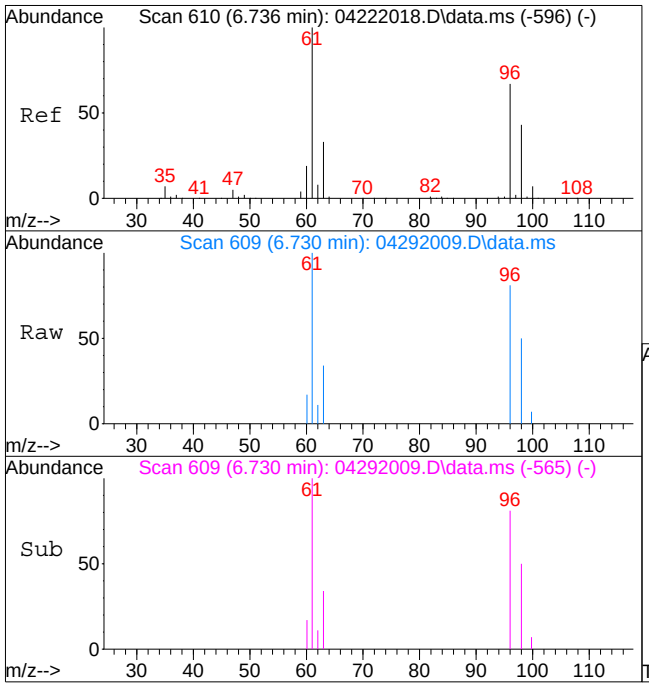


#15
2-Propanol (Isopropanol)
Concen: 0.07 ng
RT: 6.21 min Scan# 515
Delta R.T. -0.017 min
Lab File: 04292009.D
Acq: 29 Apr 2020 9:50

Tgt Ion: 45 Resp: 1394

Ion	Ratio	Lower	Upper
45	100		
43	9.9	2.6	42.6

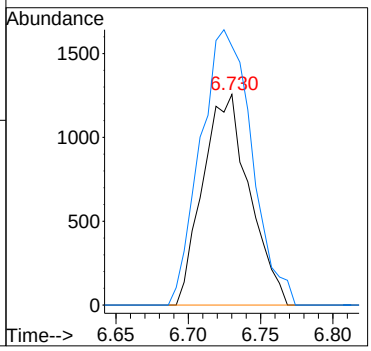


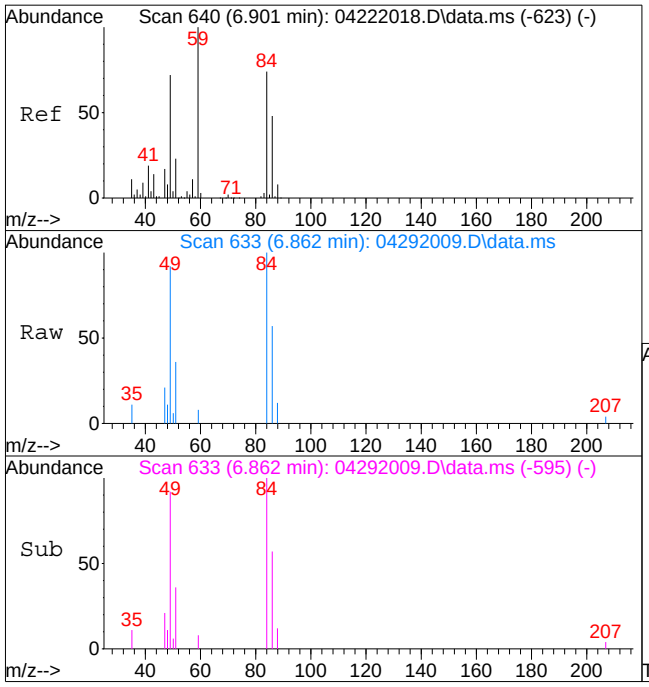


#17
1,1-Dichloroethene
Concen: 0.25 ng
RT: 6.73 min Scan# 609
Delta R.T. -0.006 min
Lab File: 04292009.D
Acq: 29 Apr 2020 9:50

Tgt Ion: 96 Resp: 2814

Ion	Ratio	Lower	Upper
96	100		
61	144.2	129.8	169.8

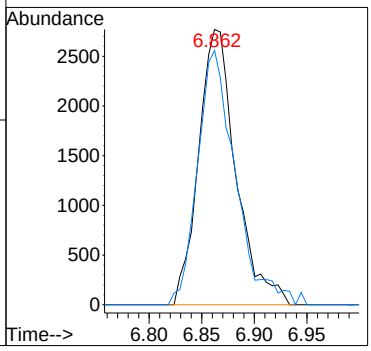


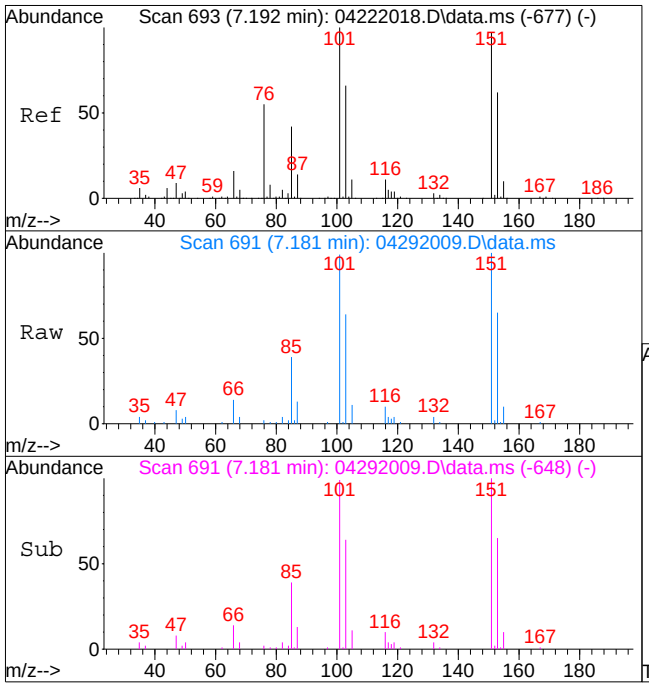


#19
Methylene Chloride
Concen: 0.64 ng
RT: 6.86 min Scan# 633
Delta R.T. -0.039 min
Lab File: 04292009.D
Acq: 29 Apr 2020 9:50

Tgt Ion: 84 Resp: 6846

Ion	Ratio	Lower	Upper
84	100		
49	94.1	73.0	123.0

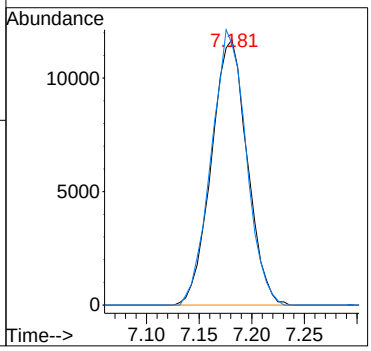


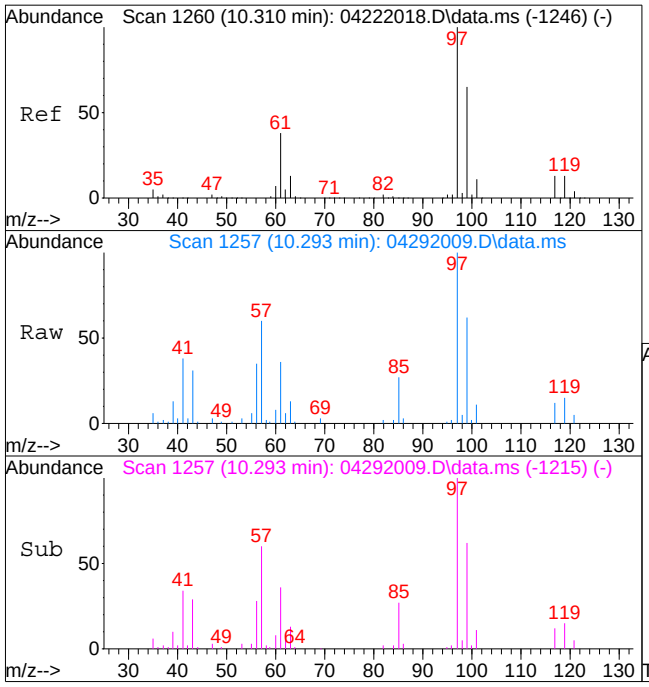


#21
Trichlorotrifluoroethane
Concen: 2.10 ng
RT: 7.18 min Scan# 691
Delta R.T. -0.011 min
Lab File: 04292009.D
Acq: 29 Apr 2020 9:50

Tgt Ion:151 Resp: 27736

Ion	Ratio	Lower	Upper
151	100		
101	101.1	82.9	122.9

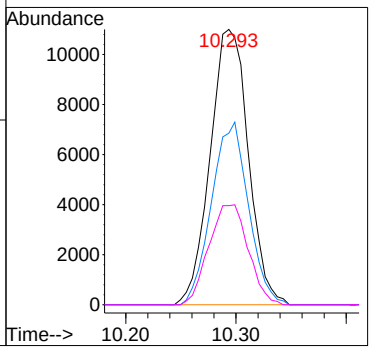


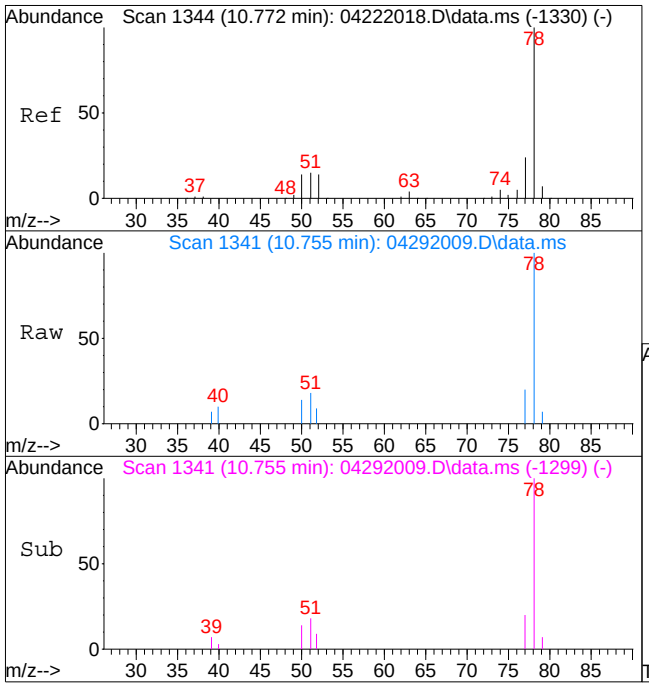


#38
1,1,1-Trichloroethane
Concen: 1.16 ng
RT: 10.29 min Scan# 1257
Delta R.T. -0.017 min
Lab File: 04292009.D
Acq: 29 Apr 2020 9:50

Tgt Ion: 97 Resp: 26522

Ion	Ratio	Lower	Upper
97	100		
99	64.0	44.7	84.7
61	37.4	17.2	57.2

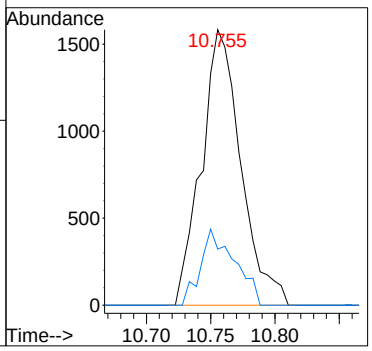


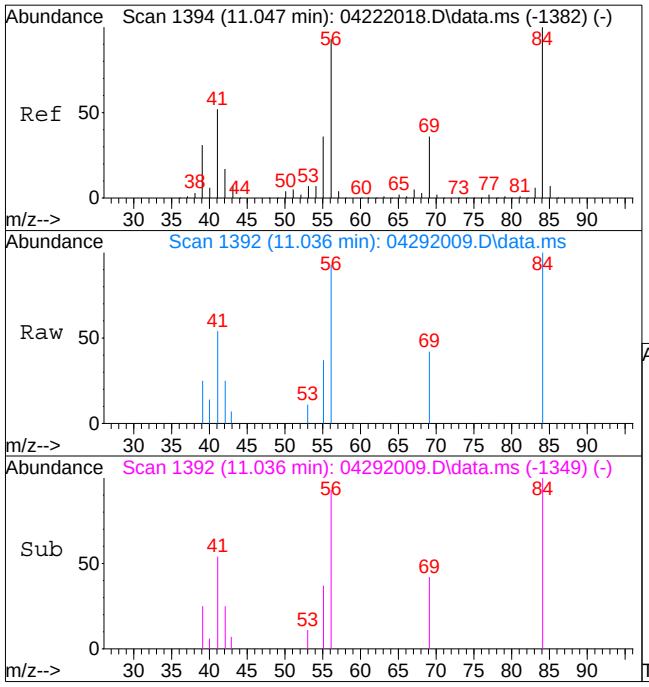


#41
Benzene
Concen: 0.08 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.017 min
Lab File: 04292009.D
Acq: 29 Apr 2020 9:50

Tgt Ion: 78 Resp: 3383

Ion	Ratio	Lower	Upper
78	100		
77	23.7	3.6	43.6

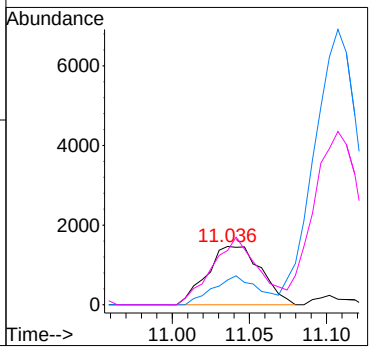


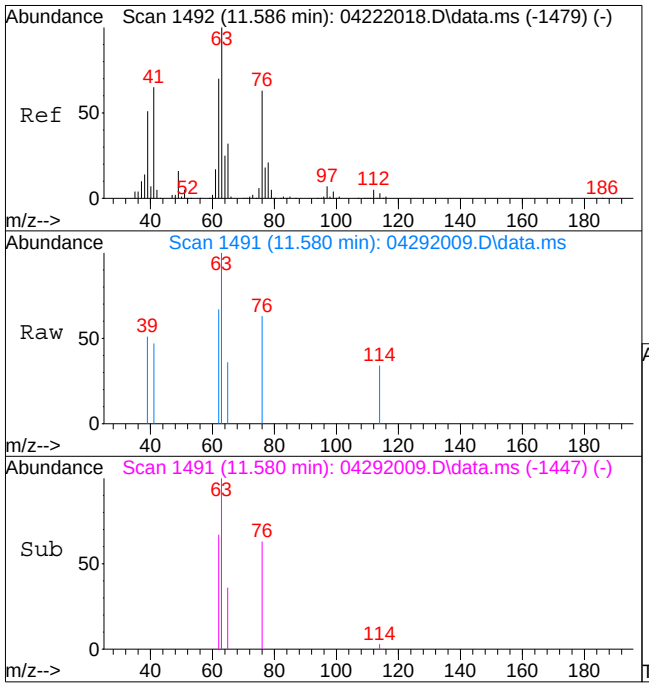


#43
Cyclohexane
Concen: 0.21 ng
RT: 11.04 min Scan# 1392
Delta R.T. -0.011 min
Lab File: 04292009.D
Acq: 29 Apr 2020 9:50

Tgt Ion: 84 Resp: 3562

Ion	Ratio	Lower	Upper
84	100		
69	42.2	15.8	55.8
56	101.4	72.0	112.0

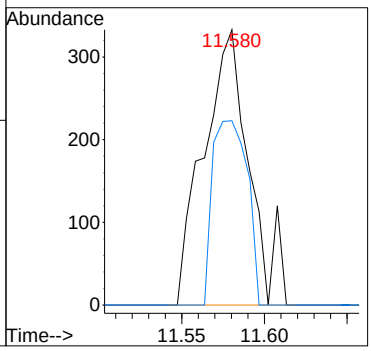


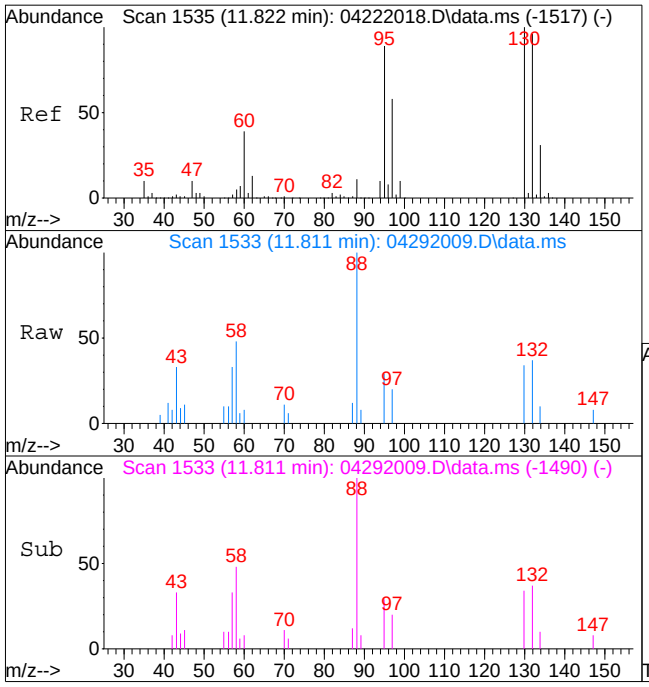


#45
1,2-Dichloropropane
Concen: 0.07 ng
RT: 11.58 min Scan# 1491
Delta R.T. -0.006 min
Lab File: 04292009.D
Acq: 29 Apr 2020 9:50

Tgt Ion: 63 Resp: 639

Ion	Ratio	Lower	Upper
63	100		
62	51.2	50.2	90.2

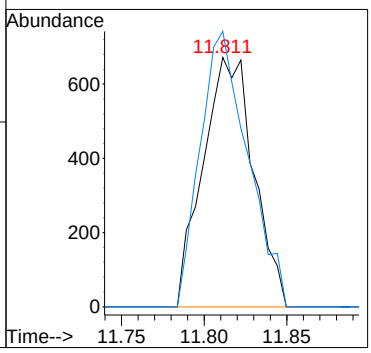


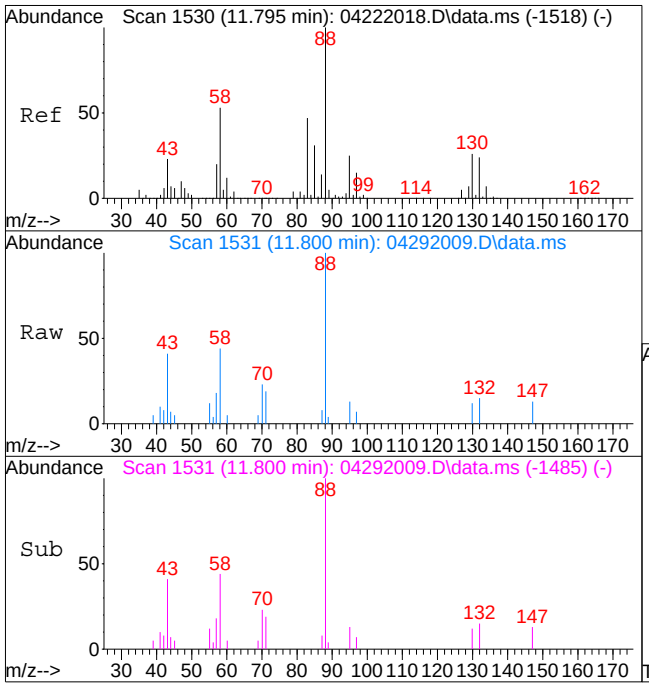


#47
Trichloroethene
Concen: 0.10 ng
RT: 11.81 min Scan# 1533
Delta R.T. -0.011 min
Lab File: 04292009.D
Acq: 29 Apr 2020 9:50

Tgt Ion:130 Resp: 1436

Ion	Ratio	Lower	Upper
130	100		
132	103.7	76.4	116.4

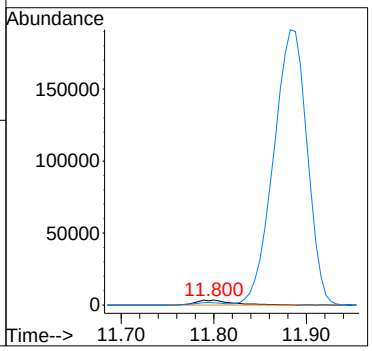


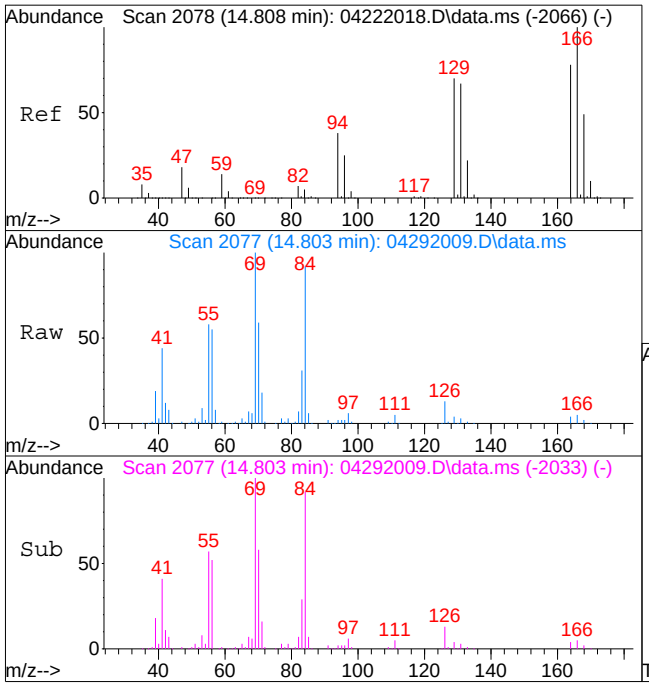


#48
1,4-Dioxane
Concen: 1.07 ng
RT: 11.80 min Scan# 1531
Delta R.T. 0.005 min
Lab File: 04292009.D
Acq: 29 Apr 2020 9:50

Tgt Ion: 88 Resp: 9302

Ion	Ratio	Lower	Upper
88	100		
58	40.4	31.1	71.1

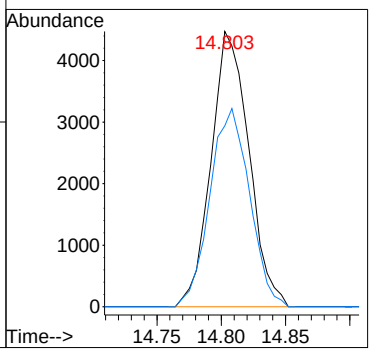


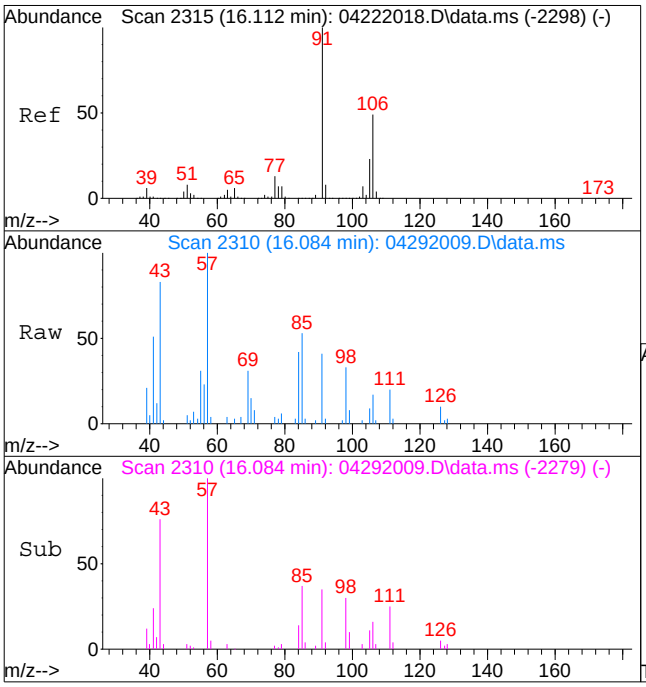


#64
Tetrachloroethene
Concen: 0.50 ng
RT: 14.80 min Scan# 2077
Delta R.T. -0.006 min
Lab File: 04292009.D
Acq: 29 Apr 2020 9:50

Tgt Ion:166 Resp: 9150

Ion	Ratio	Lower	Upper
166	100		
164	75.5	57.7	97.7

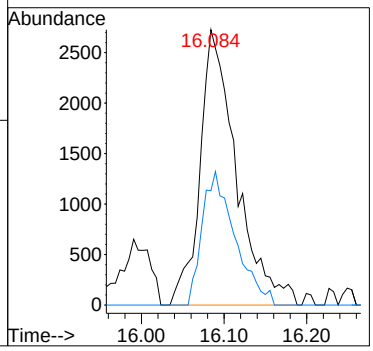


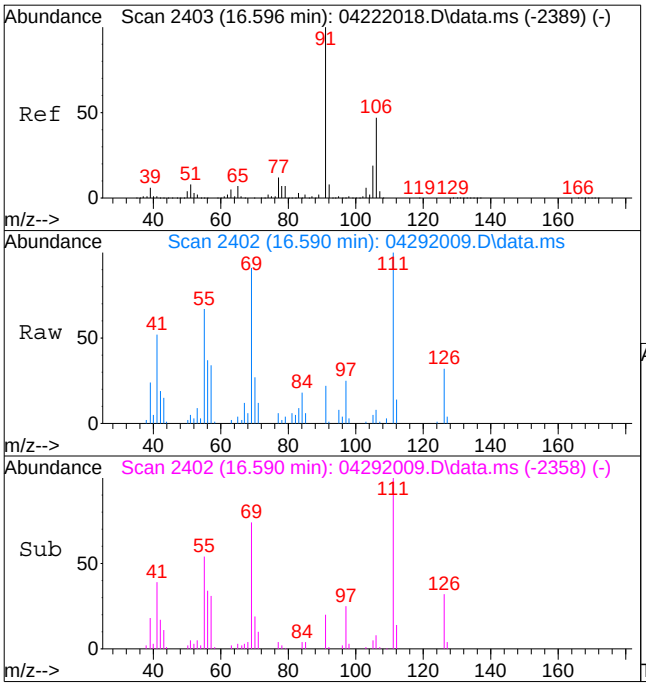


#67
m- & p-Xylenes
Concen: 0.18 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.028 min
Lab File: 04292009.D
Acq: 29 Apr 2020 9:50

Tgt Ion: 91 Resp: 8361

Ion	Ratio	Lower	Upper
91	100		
106	43.6	28.3	68.3

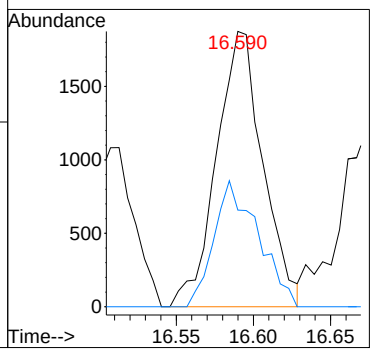


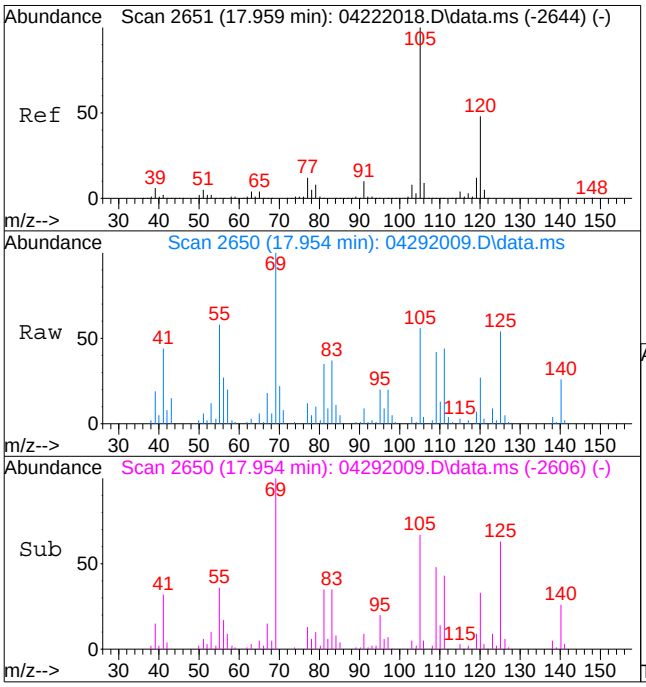


#70
o-Xylene
Concen: 0.08 ng
RT: 16.59 min Scan# 2402
Delta R.T. -0.006 min
Lab File: 04292009.D
Acq: 29 Apr 2020 9:50

Tgt Ion: 91 Resp: 3927

Ion	Ratio	Lower	Upper
91	100		
106	43.5	27.5	67.5

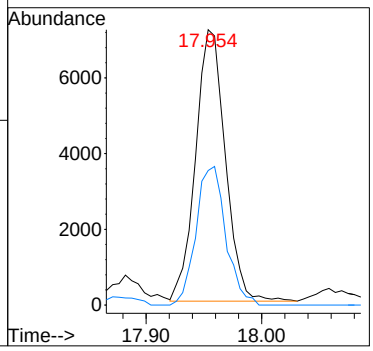


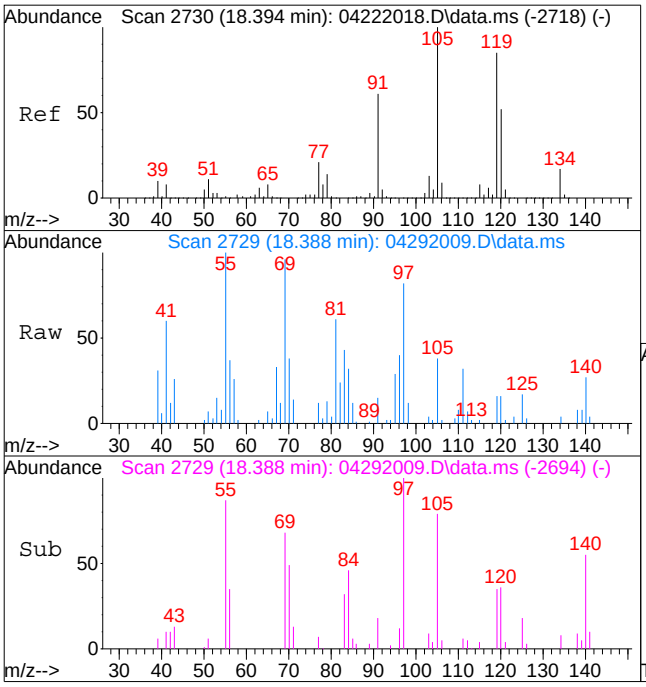


#79
1,3,5-Trimethylbenzene
Concen: 0.24 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 04292009.D
Acq: 29 Apr 2020 9:50

Tgt Ion:105 Resp: 12813

Ion	Ratio	Lower	Upper
105	100		
120	51.0	29.5	69.5

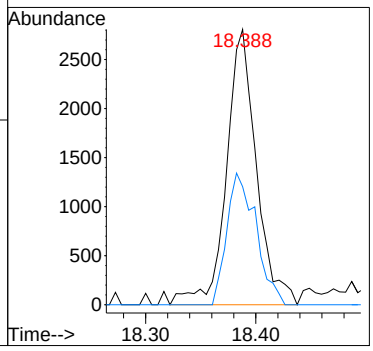




#82
1,2,4-Trimethylbenzene
Concen: 0.10 ng
RT: 18.39 min Scan# 2729
Delta R.T. -0.006 min
Lab File: 04292009.D
Acq: 29 Apr 2020 9:50

Tgt Ion:105 Resp: 5306

Ion	Ratio	Lower	Upper
105	100		
120	46.6	34.5	74.5



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292010.D Vial: 1
Acq On : 29 Apr 2020 10:24 Operator: TD
Sample : P2002030-016 (3.0mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 14:07:05 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/29/20

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	153926	12.500 ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	657226	12.500 ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	311938	12.500 ng	0.00
System Monitoring Compounds					
33) 1,2-Dichloroethane-d4(...	9.91	65	232603	11.663 ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.28%		
57) Toluene-d8 (SS2)	13.55	98	705816	11.719 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.76%		
73) Bromofluorobenzene (SS3)	17.05	174	276570	11.426 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.44%		
Target Compounds					Qvalue
2) Propene	0.00	42	0	N.D. d	
3) Dichlorodifluoromethan...	3.99	85	8695	0.350 ng	99
4) Chloromethane	4.21	50	172	N.D.	
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.	
6) Vinyl Chloride	0.00	62	0	N.D.	
7) 1,3-Butadiene	0.00	54	0	N.D. d	
8) Bromomethane	0.00	94	0	N.D.	
9) Chloroethane	0.00	64	0	N.D.	
10) Ethanol	5.43	45	139	N.D.	
11) Acetonitrile	0.00	41	0	N.D.	
12) Acrolein	0.00	56	0	N.D. d	
13) Acetone	0.00	58	0	N.D. d	
14) Trichlorofluoromethane	6.02	101	1331	0.054 ng	100
15) 2-Propanol (Isopropanol)	6.22	45	251	N.D.	
16) Acrylonitrile	0.00	53	0	N.D. d	
17) 1,1-Dichloroethene	6.72	96	2455	0.226 ng	99
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d	
19) Methylene Chloride	6.87	84	6960	0.668 ng	91
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D. d	
21) Trichlorotrifluoroethane	7.18	151	26421	2.054 ng	99
22) Carbon Disulfide	7.18	76	595	N.D.	
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.	
24) 1,1-Dichloroethane	8.10	63	840	N.D.	
25) Methyl tert-Butyl Ether	8.31	73	179	N.D.	
26) Vinyl Acetate	0.00	86	0	N.D. d	
27) 2-Butanone (MEK)	0.00	72	0	N.D. d	
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.	
29) Diisopropyl Ether	0.00	87	0	N.D. d	
30) Ethyl Acetate	0.00	61	0	N.D.	
31) n-Hexane	9.23	57	210437	15.952 ng	99
32) Chloroform	9.27	83	876	N.D.	
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.	
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.	
36) 1,2-Dichloroethane	0.00	62	0	N.D. d	
38) 1,1,1-Trichloroethane	10.30	97	27503	1.217 ng	99
39) Isopropyl Acetate	0.00	61	0	N.D.	
40) 1-Butanol	0.00	56	0	N.D. d	
41) Benzene	10.76	78	16902	0.395 ng	94
42) Carbon Tetrachloride	10.90	117	603	N.D.	
43) Cyclohexane	11.04	84	648457	38.634 ng	98
44) tert-Amyl Methyl Ether	11.29	73	447	N.D.	
45) 1,2-Dichloropropane	11.57	63	547	0.062 ng	90
46) Bromodichloromethane	0.00	83	0	N.D. d	
47) Trichloroethene	0.00	130	0	N.D. d	
48) 1,4-Dioxane	0.00	88	0	N.D. d	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d	
50) Methyl Methacrylate	0.00	100	0	N.D. d	

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292010.D Vial: 1
Acq On : 29 Apr 2020 10:24 Operator: TD
Sample : P2002030-016 (3.0mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 14:07:05 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

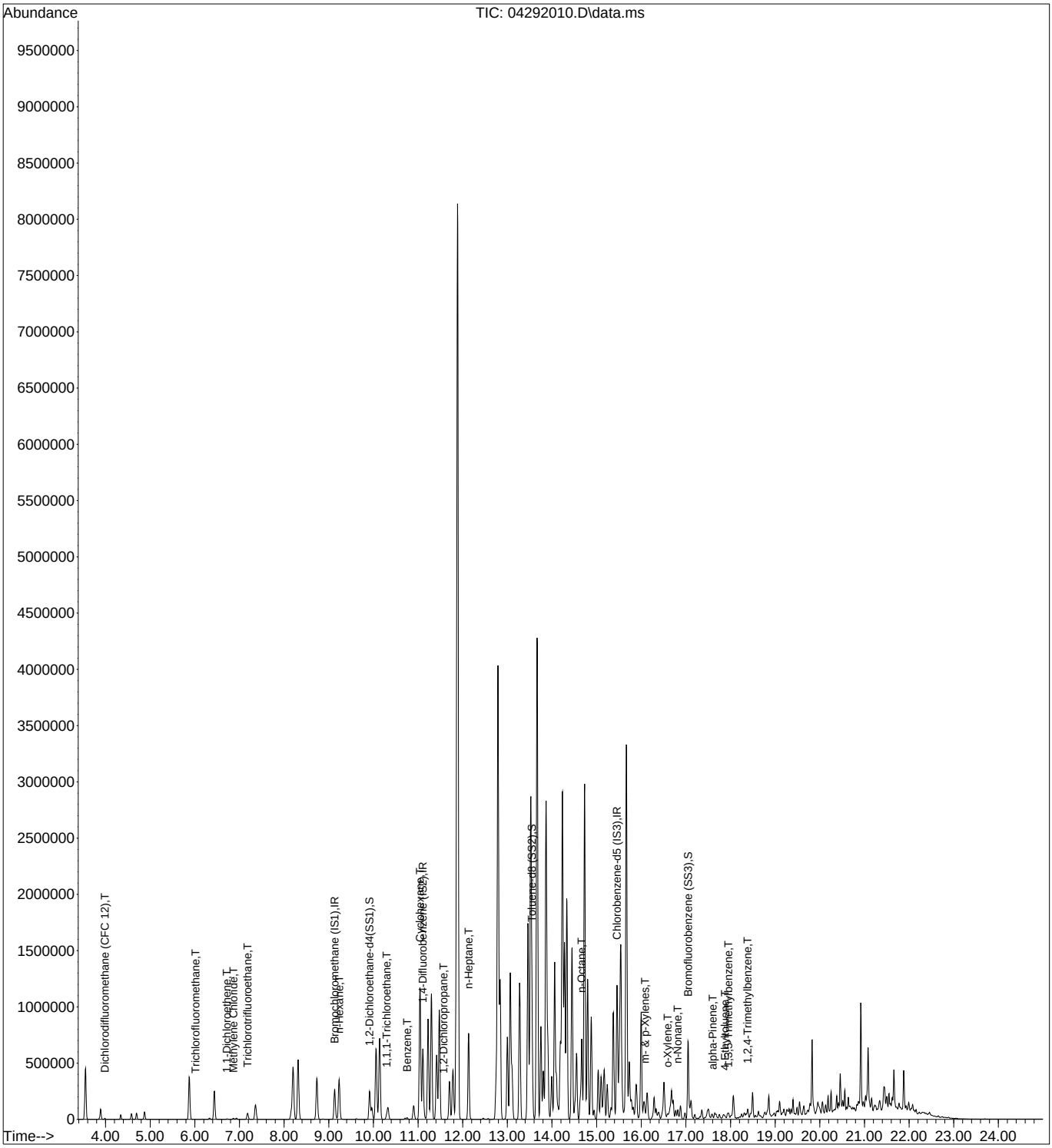
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.14	71	235869	23.695 ng	99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	13.27	75	137	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	0.00	91	0	N.D. d	
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D. d	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.67	57	136326	16.935 ng	98
64) Tetrachloroethene	0.00	166	0	N.D. d	
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	0.00	91	0	N.D. d	
67) m- & p-Xylenes	16.08	91	12171	0.245 ng	95
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.59	104	248	N.D.	
70) o-Xylene	16.59	91	11772	0.241 ng	99
71) n-Nonane	16.82	43	22609	1.436 ng	97
72) 1,1,2,2-Tetrachloroethane	16.58	83	366	N.D.	
74) Cumene	17.19	105	1292	N.D.	
75) alpha-Pinene	17.60	93	2845	0.098 ng	68
76) n-Propylbenzene	17.73	91	2763	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	5406	0.089 ng	99
79) 1,3,5-Trimethylbenzene	17.95	105	12125	0.217 ng	95
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	15184	0.281 ng	86
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.49	91	784	N.D.	
85) 1,3-Dichlorobenzene	18.62	146	316	N.D.	
86) 1,4-Dichlorobenzene	18.62	146	316	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	18.98	146	1185	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	20.78	180	622	N.D.	
95) Naphthalene	0.00	128	0	N.D. d	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	18.38	119	2257	N.D.	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292010.D Vial: 1
Acq On : 29 Apr 2020 10:24 Operator: TD
Sample : P2002030-016 (3.0mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 14:07:05 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292010.D Vial: 1
Acq On : 29 Apr 2020 10:24 Operator: TD
Sample : P2002030-016 (3.0mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 14:07:05 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/29/20

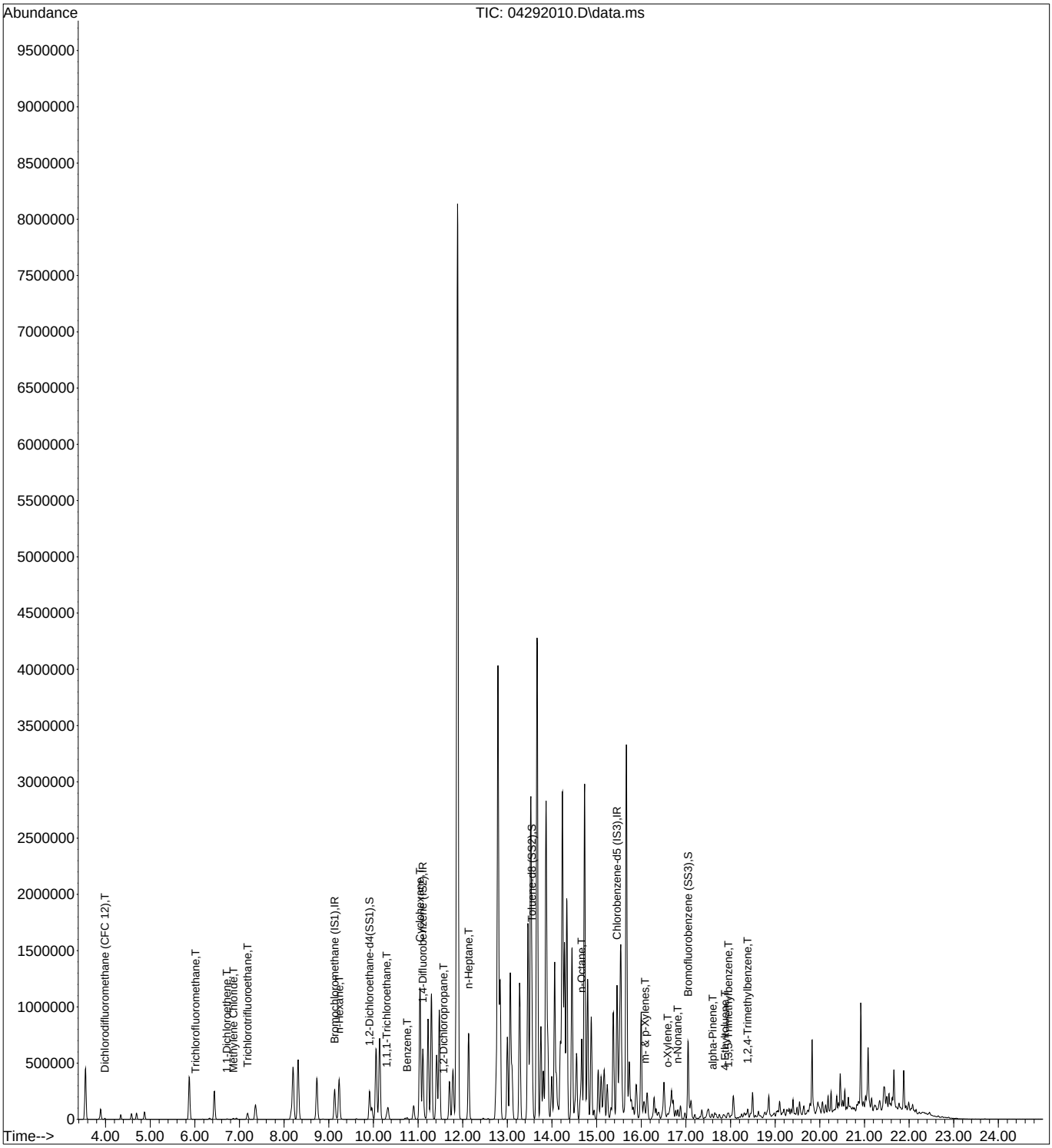
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	153926	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	657226	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	311938	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	232603	11.663	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.28%			
57) Toluene-d8 (SS2)	13.55	98	705816	11.719	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.76%			
73) Bromofluorobenzene (SS3)	17.05	174	276570	11.426	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.44%			
Target Compounds						Qvalue
3) Dichlorodifluoromethan...	3.99	85	8695	0.350	ng	99
14) Trichlorofluoromethane	6.02	101	1331	0.054	ng	100
17) 1,1-Dichloroethene	6.72	96	2455	0.226	ng	99
19) Methylene Chloride	6.87	84	6960	0.668	ng	91
21) Trichlorotrifluoroethane	7.18	151	26421	2.054	ng	99
31) n-Hexane	9.23	57	210437	15.952	ng	99
38) 1,1,1-Trichloroethane	10.30	97	27503	1.217	ng	99
41) Benzene	10.76	78	16902	0.395	ng	94
43) Cyclohexane	11.04	84	648457	38.634	ng	98
45) 1,2-Dichloropropane	11.57	63	547	0.062	ng	90
51) n-Heptane	12.14	71	235869	23.695	ng	99
63) n-Octane	14.67	57	136326	16.935	ng	98
67) m- & p-Xylenes	16.08	91	12171	0.245	ng	95
70) o-Xylene	16.59	91	11772	0.241	ng	99
71) n-Nonane	16.82	43	22609	1.436	ng	97
75) alpha-Pinene	17.60	93	2845	0.098	ng	68
78) 4-Ethyltoluene	17.88	105	5406	0.089	ng	99
79) 1,3,5-Trimethylbenzene	17.95	105	12125	0.217	ng	95
82) 1,2,4-Trimethylbenzene	18.38	105	15184	0.281	ng	86

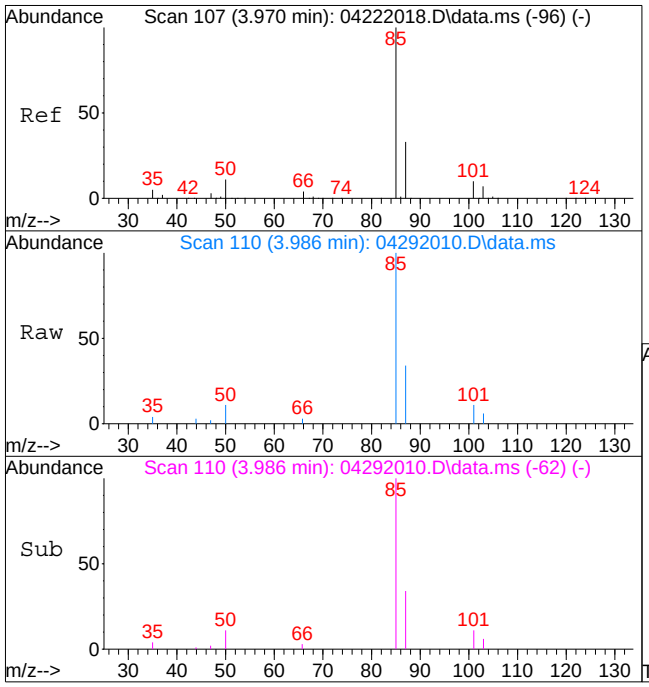
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292010.D Vial: 1
Acq On : 29 Apr 2020 10:24 Operator: TD
Sample : P2002030-016 (3.0mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 14:07:05 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

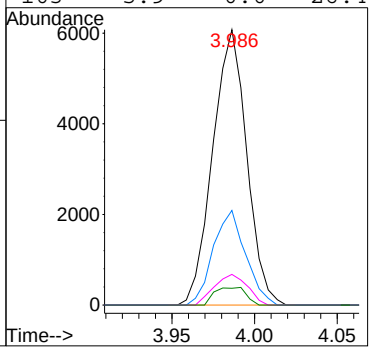


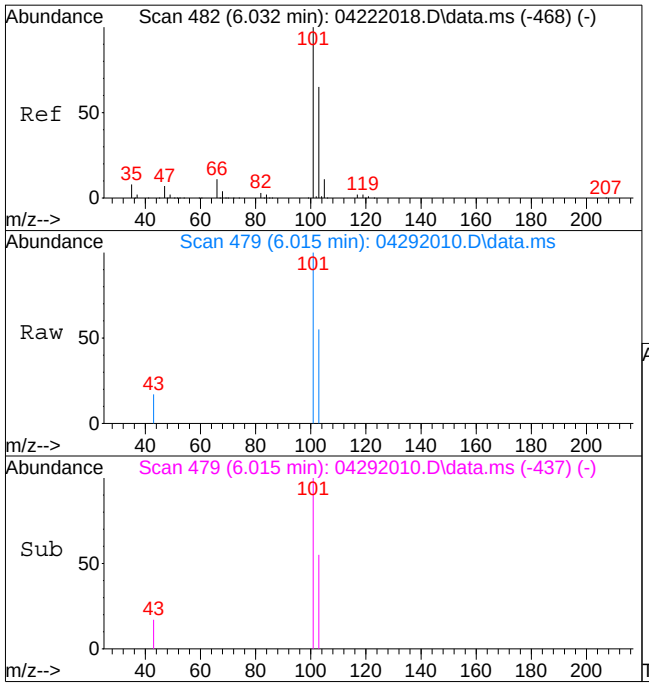


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.35 ng
RT: 3.99 min Scan# 110
Delta R.T. 0.016 min
Lab File: 04292010.D
Acq: 29 Apr 2020 10:24

Tgt Ion: 85 Resp: 8695

Ion	Ratio	Lower	Upper
85	100		
87	32.8	12.4	52.4
101	10.8	0.0	29.9
103	5.9	0.0	26.4

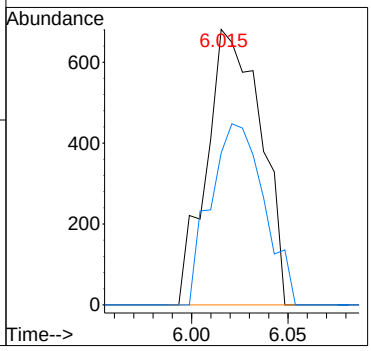


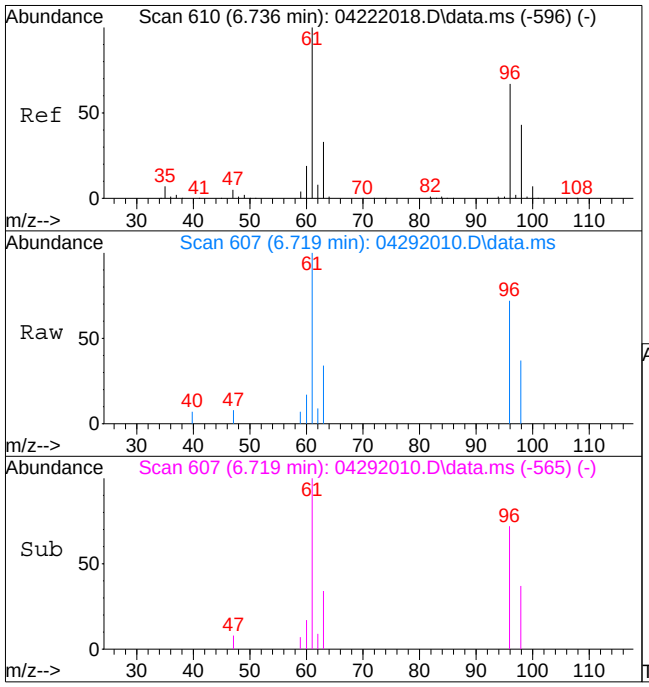


#14
Trichlorofluoromethane
Concen: 0.05 ng
RT: 6.02 min Scan# 479
Delta R.T. -0.017 min
Lab File: 04292010.D
Acq: 29 Apr 2020 10:24

Tgt Ion:101 Resp: 1331

Ion	Ratio	Lower	Upper
101	100		
103	65.1	44.7	84.7

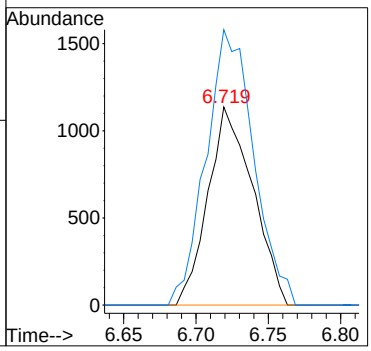


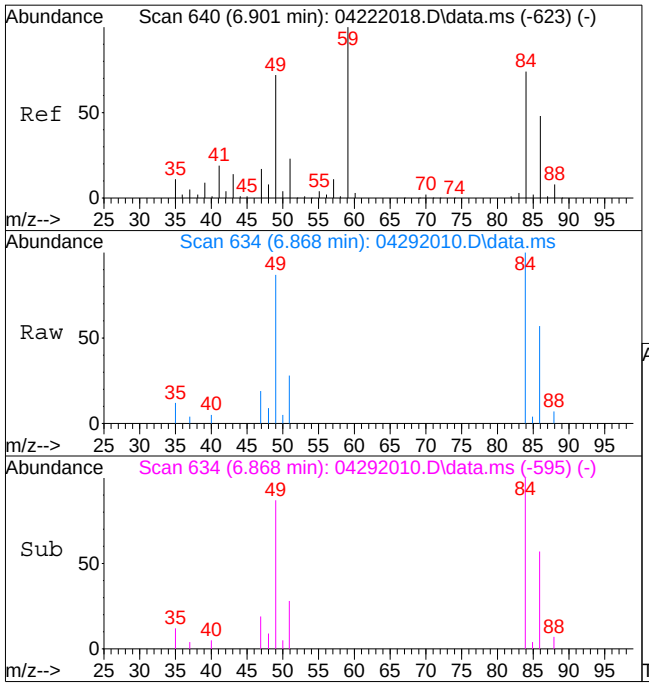


#17
1,1-Dichloroethene
Concen: 0.23 ng
RT: 6.72 min Scan# 607
Delta R.T. -0.017 min
Lab File: 04292010.D
Acq: 29 Apr 2020 10:24

Tgt Ion: 96 Resp: 2455

Ion	Ratio	Lower	Upper
96	100		
61	147.9	129.8	169.8

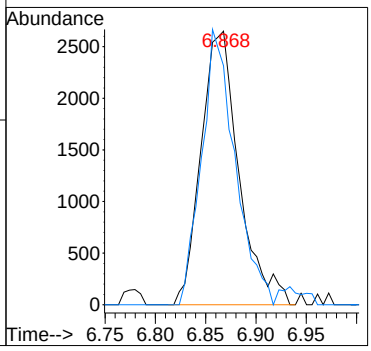


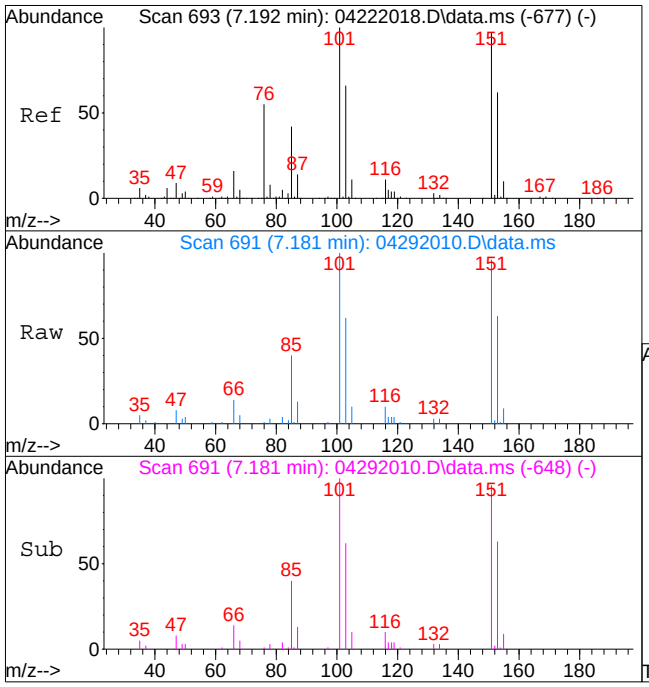


#19
Methylene Chloride
Concen: 0.67 ng
RT: 6.87 min Scan# 634
Delta R.T. -0.033 min
Lab File: 04292010.D
Acq: 29 Apr 2020 10:24

Tgt Ion: 84 Resp: 6960

Ion	Ratio	Lower	Upper
84	100		
49	88.7	73.0	123.0

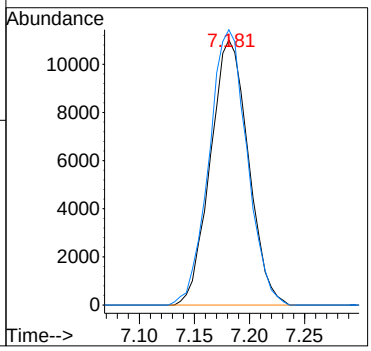


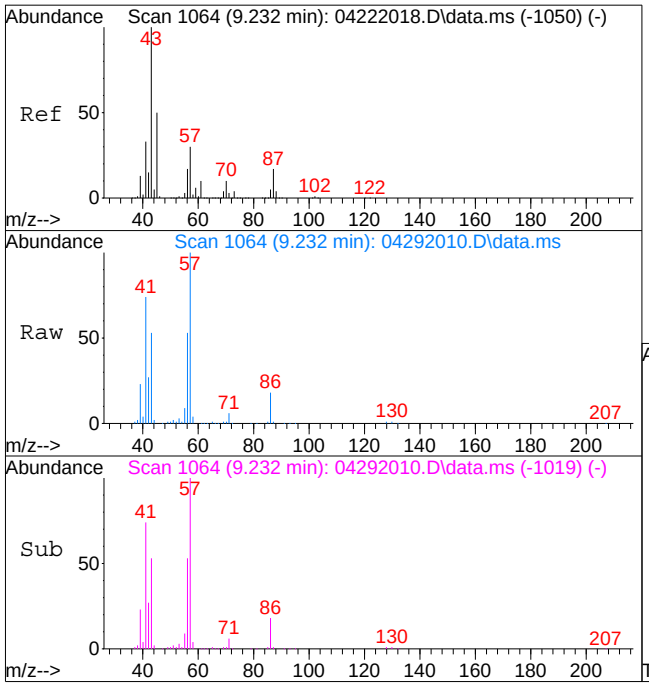


#21
Trichlorotrifluoroethane
Concen: 2.05 ng
RT: 7.18 min Scan# 691
Delta R.T. -0.011 min
Lab File: 04292010.D
Acq: 29 Apr 2020 10:24

Tgt Ion:151 Resp: 26421

Ion	Ratio	Lower	Upper
151	100		
101	103.9	82.9	122.9

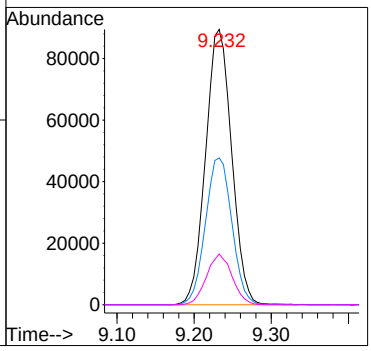


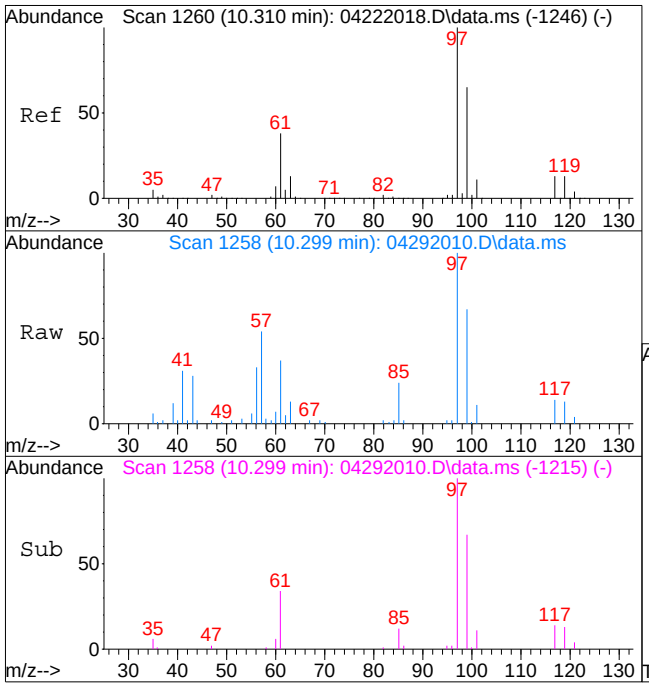


#31
n-Hexane
Concen: 15.95 ng
RT: 9.23 min Scan# 1064
Delta R.T. -0.000 min
Lab File: 04292010.D
Acq: 29 Apr 2020 10:24

Tgt Ion: 57 Resp: 210437

Ion	Ratio	Lower	Upper
57	100		
56	54.1	44.0	66.0
86	18.0	15.0	22.4

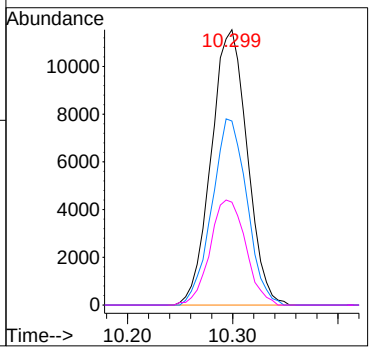


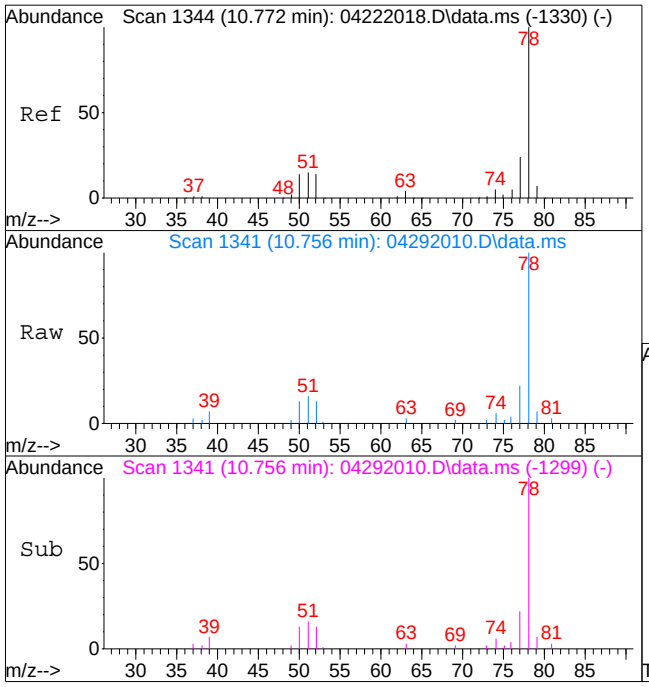


#38
1,1,1-Trichloroethane
Concen: 1.22 ng
RT: 10.30 min Scan# 1258
Delta R.T. -0.011 min
Lab File: 04292010.D
Acq: 29 Apr 2020 10:24

Tgt Ion: 97 Resp: 27503

Ion	Ratio	Lower	Upper
97	100		
99	65.4	44.7	84.7
61	37.8	17.2	57.2

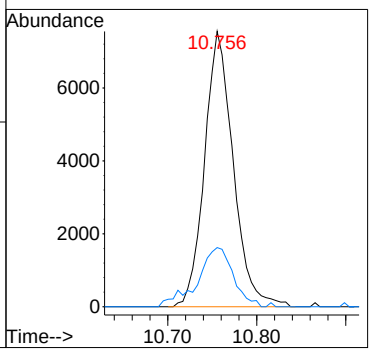


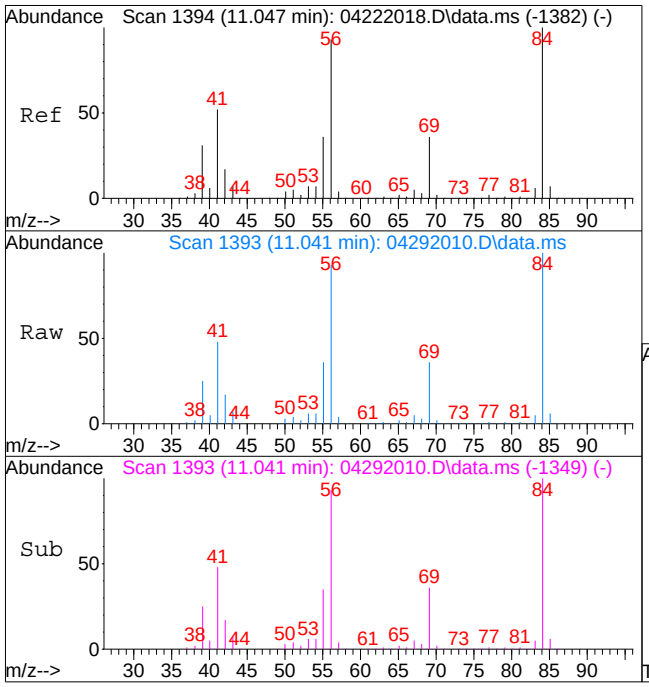


#41
Benzene
Concen: 0.39 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.017 min
Lab File: 04292010.D
Acq: 29 Apr 2020 10:24

Tgt Ion: 78 Resp: 16902

Ion	Ratio	Lower	Upper
78	100		
77	26.7	3.6	43.6

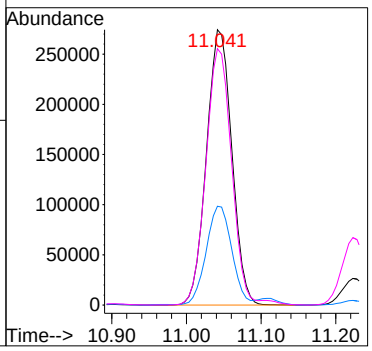


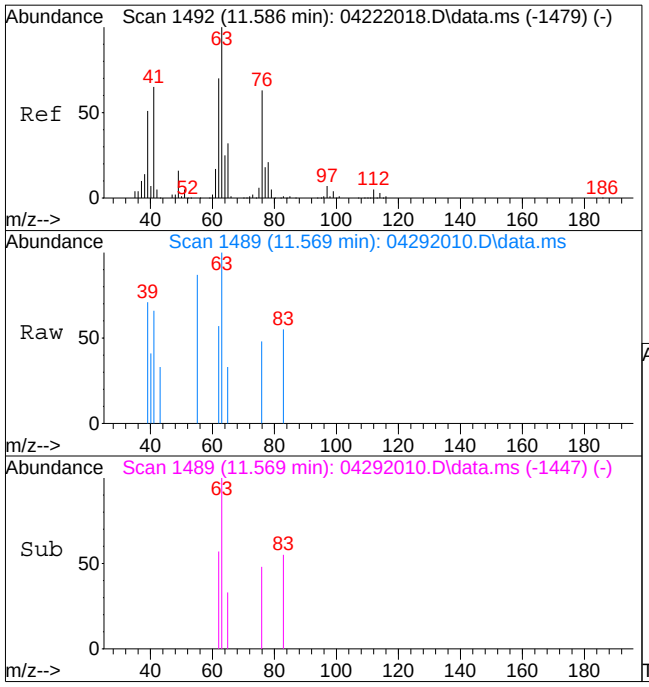


#43
Cyclohexane
Concen: 38.63 ng
RT: 11.04 min Scan# 1393
Delta R.T. -0.006 min
Lab File: 04292010.D
Acq: 29 Apr 2020 10:24

Tgt Ion: 84 Resp: 648457

Ion	Ratio	Lower	Upper
84	100		
69	36.0	15.8	55.8
56	95.1	72.0	112.0

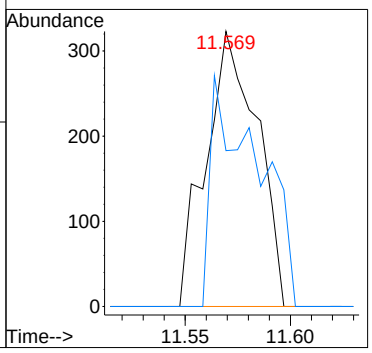


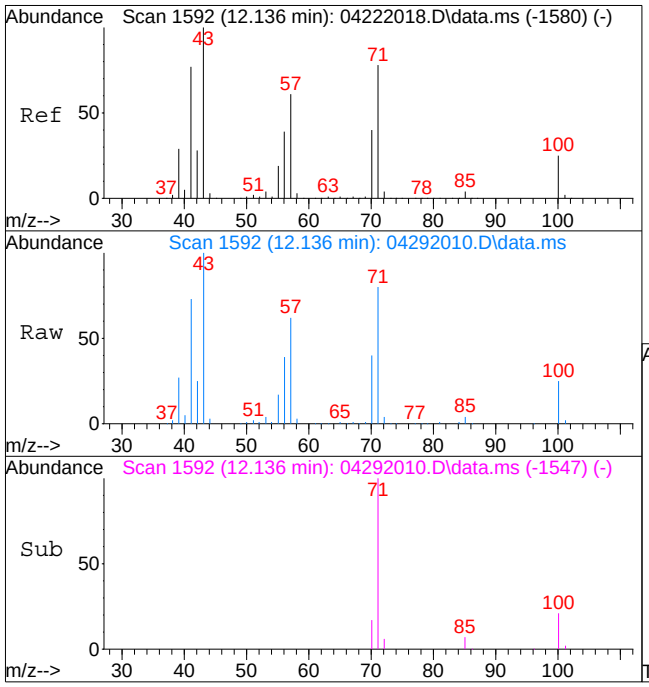


#45
1,2-Dichloropropane
Concen: 0.06 ng
RT: 11.57 min Scan# 1489
Delta R.T. -0.017 min
Lab File: 04292010.D
Acq: 29 Apr 2020 10:24

Tgt Ion: 63 Resp: 547

Ion	Ratio	Lower	Upper
63	100		
62	78.2	50.2	90.2

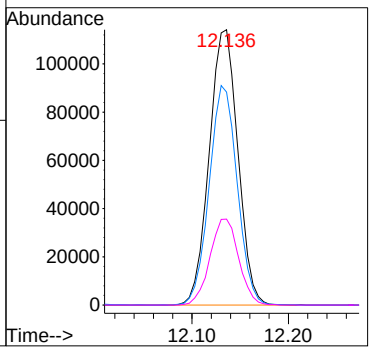


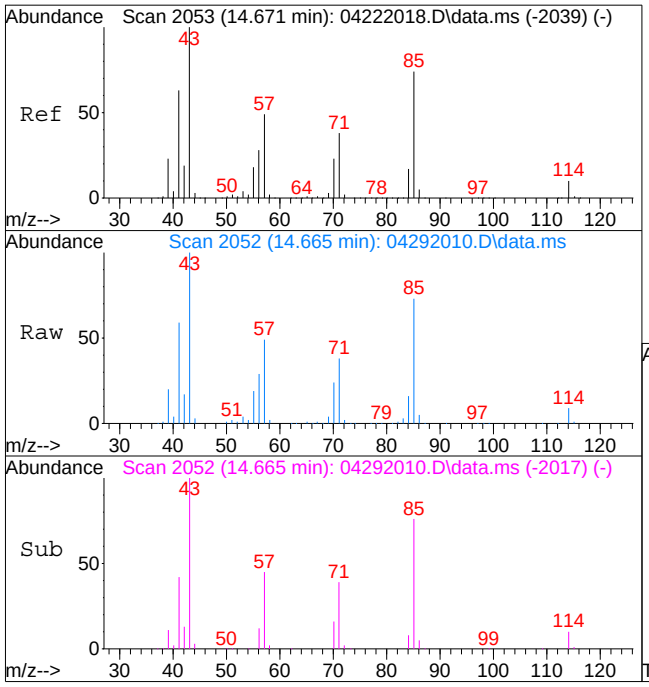


#51
n-Heptane
Concen: 23.69 ng
RT: 12.14 min Scan# 1592
Delta R.T. -0.000 min
Lab File: 04292010.D
Acq: 29 Apr 2020 10:24

Tgt Ion: 71 Resp: 235869

Ion	Ratio	Lower	Upper
71	100		
57	78.0	57.4	97.4
100	31.3	12.0	52.0

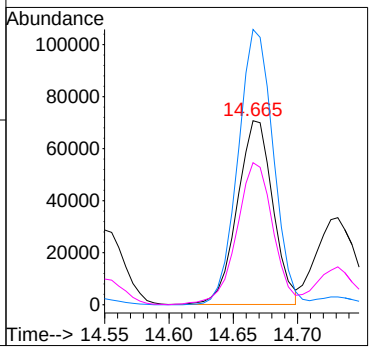


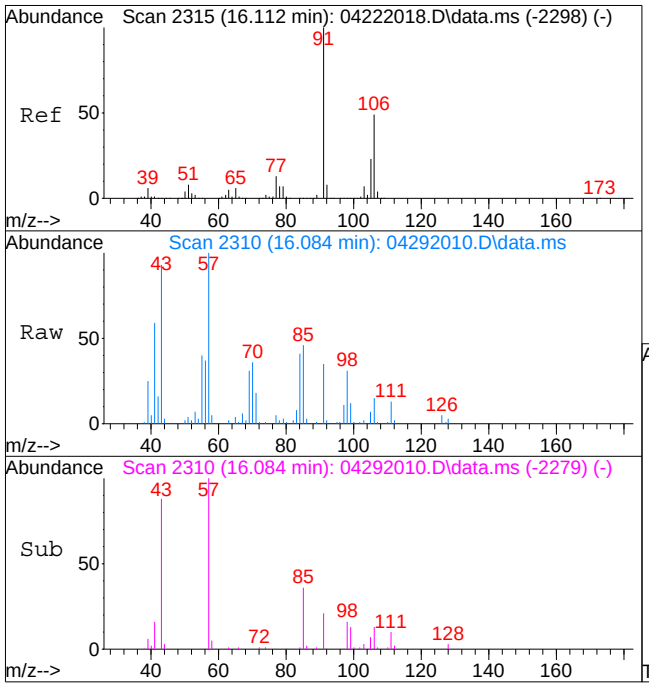


#63
n-Octane
Concen: 16.94 ng
RT: 14.67 min Scan# 2052
Delta R.T. -0.006 min
Lab File: 04292010.D
Acq: 29 Apr 2020 10:24

Tgt Ion: 57 Resp: 136326

Ion	Ratio	Lower	Upper
57	100		
85	147.9	120.7	181.1
71	78.0	61.1	91.7

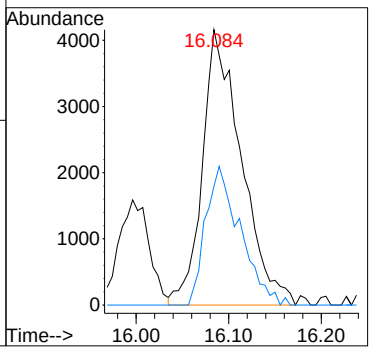


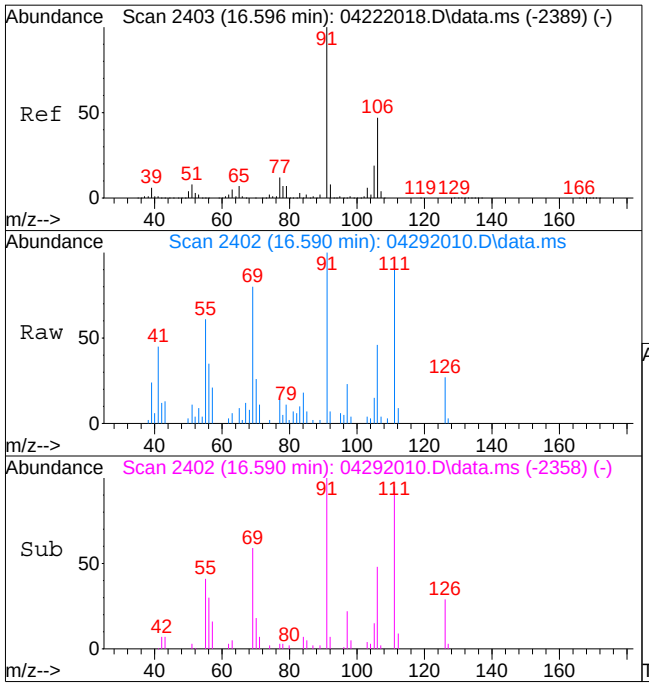


#67
m- & p-Xylenes
Concen: 0.24 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.028 min
Lab File: 04292010.D
Acq: 29 Apr 2020 10:24

Tgt Ion: 91 Resp: 12171

Ion	Ratio	Lower	Upper
91	100		
106	44.8	28.3	68.3

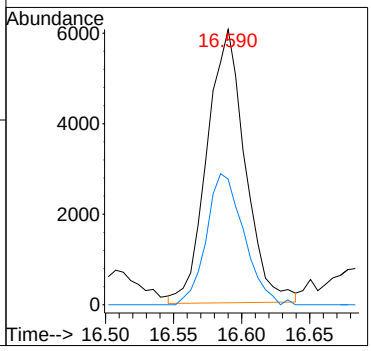


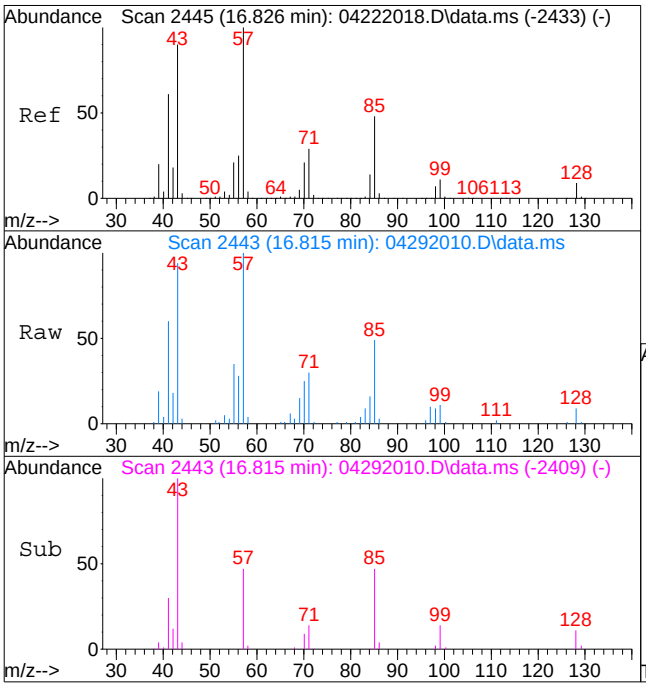


#70
o-Xylene
Concen: 0.24 ng
RT: 16.59 min Scan# 2402
Delta R.T. -0.006 min
Lab File: 04292010.D
Acq: 29 Apr 2020 10:24

Tgt Ion: 91 Resp: 11772

Ion	Ratio	Lower	Upper
91	100		
106	47.1	27.5	67.5

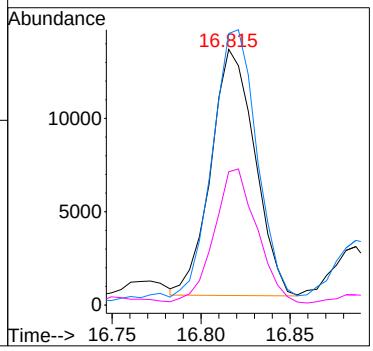


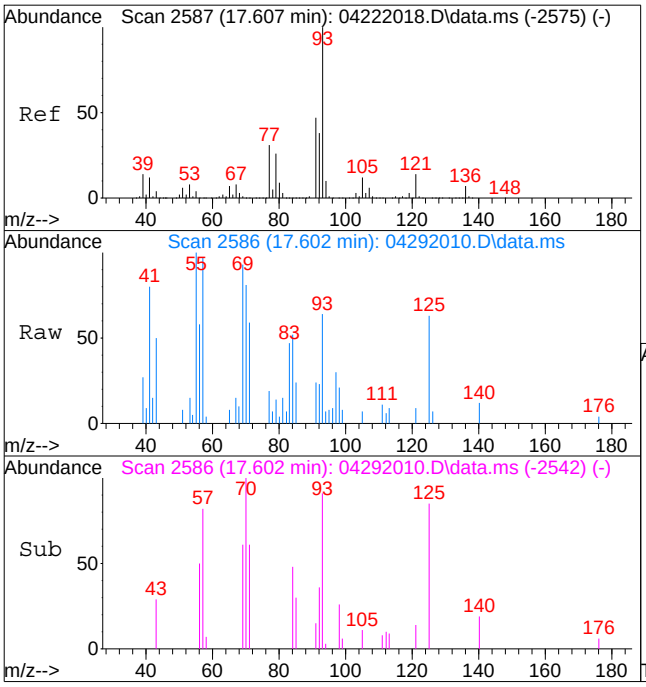


#71
n-Nonane
Concen: 1.44 ng
RT: 16.82 min Scan# 2443
Delta R.T. -0.011 min
Lab File: 04292010.D
Acq: 29 Apr 2020 10:24

Tgt Ion: 43 Resp: 22609

Ion	Ratio	Lower	Upper
43	100		
57	114.6	90.8	130.8
85	53.0	32.1	72.1

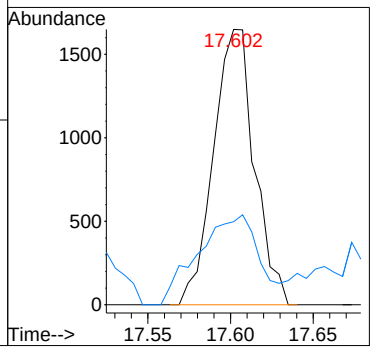


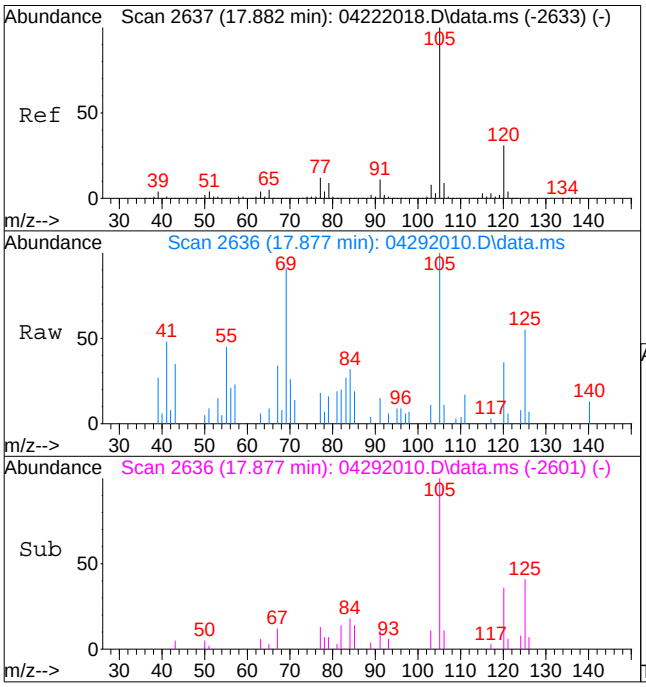


#75
alpha-Pinene
Concen: 0.10 ng
RT: 17.60 min Scan# 2586
Delta R.T. -0.006 min
Lab File: 04292010.D
Acq: 29 Apr 2020 10:24

Tgt Ion: 93 Resp: 2845

Ion	Ratio	Lower	Upper
93	100		
77	48.3	10.6	50.6

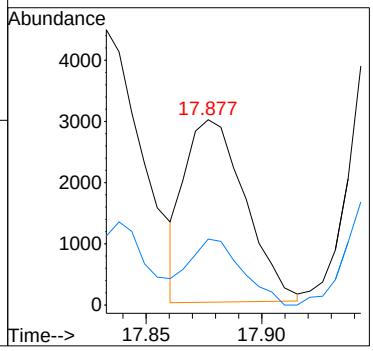


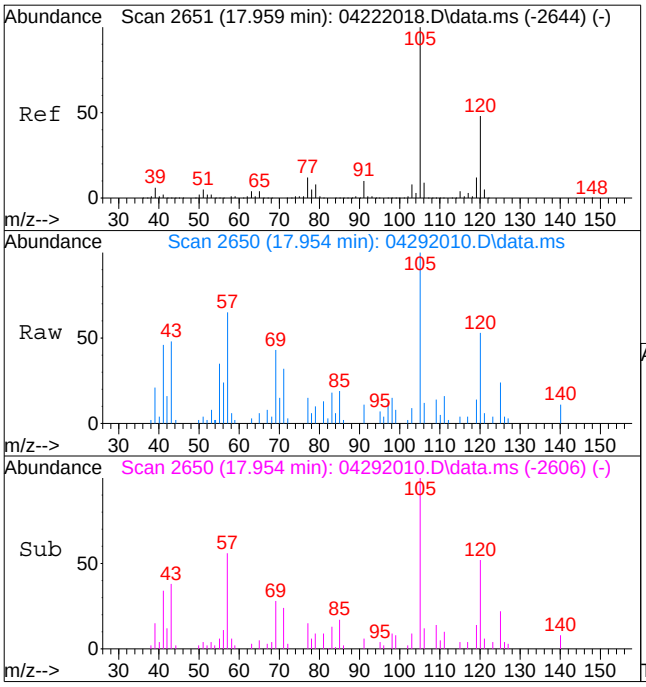


#78
4-Ethyltoluene
Concen: 0.09 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 04292010.D
Acq: 29 Apr 2020 10:24

Tgt Ion:105 Resp: 5406

Ion	Ratio	Lower	Upper
105	100		
120	32.1	11.4	51.4

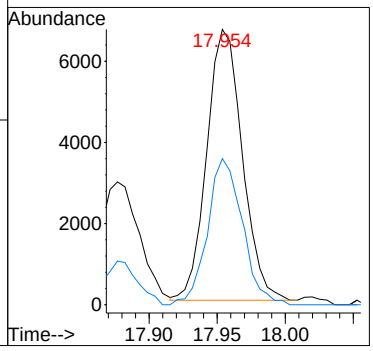


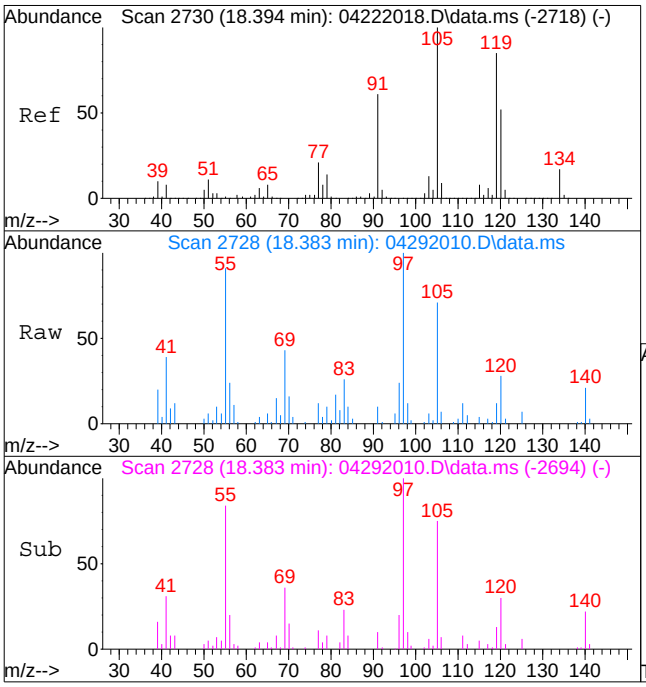


#79
1,3,5-Trimethylbenzene
Concen: 0.22 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 04292010.D
Acq: 29 Apr 2020 10:24

Tgt Ion:105 Resp: 12125

Ion	Ratio	Lower	Upper
105	100		
120	53.0	29.5	69.5

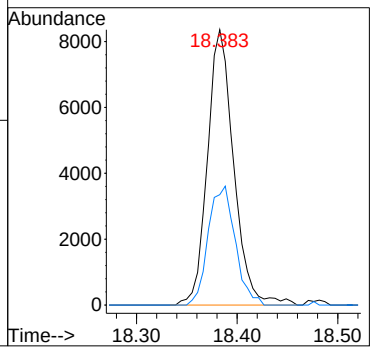




#82
1,2,4-Trimethylbenzene
Concen: 0.28 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 04292010.D
Acq: 29 Apr 2020 10:24

Tgt Ion:105 Resp: 15184

Ion	Ratio	Lower	Upper
105	100		
120	44.1	34.5	74.5



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292014.D Vial: 1
Acq On : 29 Apr 2020 12:39 Operator: TD
Sample : P2002030-017 (0.25mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 13:14:56 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/29/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	160431	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	682346	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	319485	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	245743	11.823	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.56%			
57) Toluene-d8 (SS2)	13.55	98	746285	12.098	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.80%			
73) Bromofluorobenzene (SS3)	17.05	174	285126	11.501	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.00%			
Target Compounds						Qvalue
2) Propene	3.87	42	9470m	1.390	ng	
3) Dichlorodifluoromethan...	3.99	85	1697	0.066	ng	# 91
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.	d	
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.43	45	38	N.D.		
11) Acetonitrile	0.00	41	0	N.D.		
12) Acrolein	0.00	56	0	N.D.	d	
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	6.03	101	375	N.D.		
15) 2-Propanol (Isopropanol)	6.22	45	38	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.	d	
17) 1,1-Dichloroethene	6.73	96	2220	0.196	ng	89
18) 2-Methyl-2-Propanol (t...	6.93	59	292	N.D.		
19) Methylene Chloride	6.86	84	5719	0.526	ng	97
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d	
21) Trichlorotrifluoroethane	7.19	151	20239	1.510	ng	97
22) Carbon Disulfide	0.00	76	0	N.D.	d	
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	8.09	63	702	N.D.		
25) Methyl tert-Butyl Ether	8.31	73	571	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	8.59	72	150	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	0.00	61	0	N.D.	d	
31) n-Hexane	9.24	57	536403	39.013	ng	99
32) Chloroform	9.28	83	618	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d	
38) 1,1,1-Trichloroethane	10.30	97	22616	0.964	ng	99
39) Isopropyl Acetate	10.76	61	182	N.D.		
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	10.76	78	62605	1.407	ng	99
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	11.05	84	984369	56.488	ng	97
44) tert-Amyl Methyl Ether	11.30	73	509	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d	
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	0.00	130	0	N.D.	d	
48) 1,4-Dioxane	0.00	88	0	N.D.	d	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292014.D Vial: 1
Acq On : 29 Apr 2020 12:39 Operator: TD
Sample : P2002030-017 (0.25mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 13:14:56 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

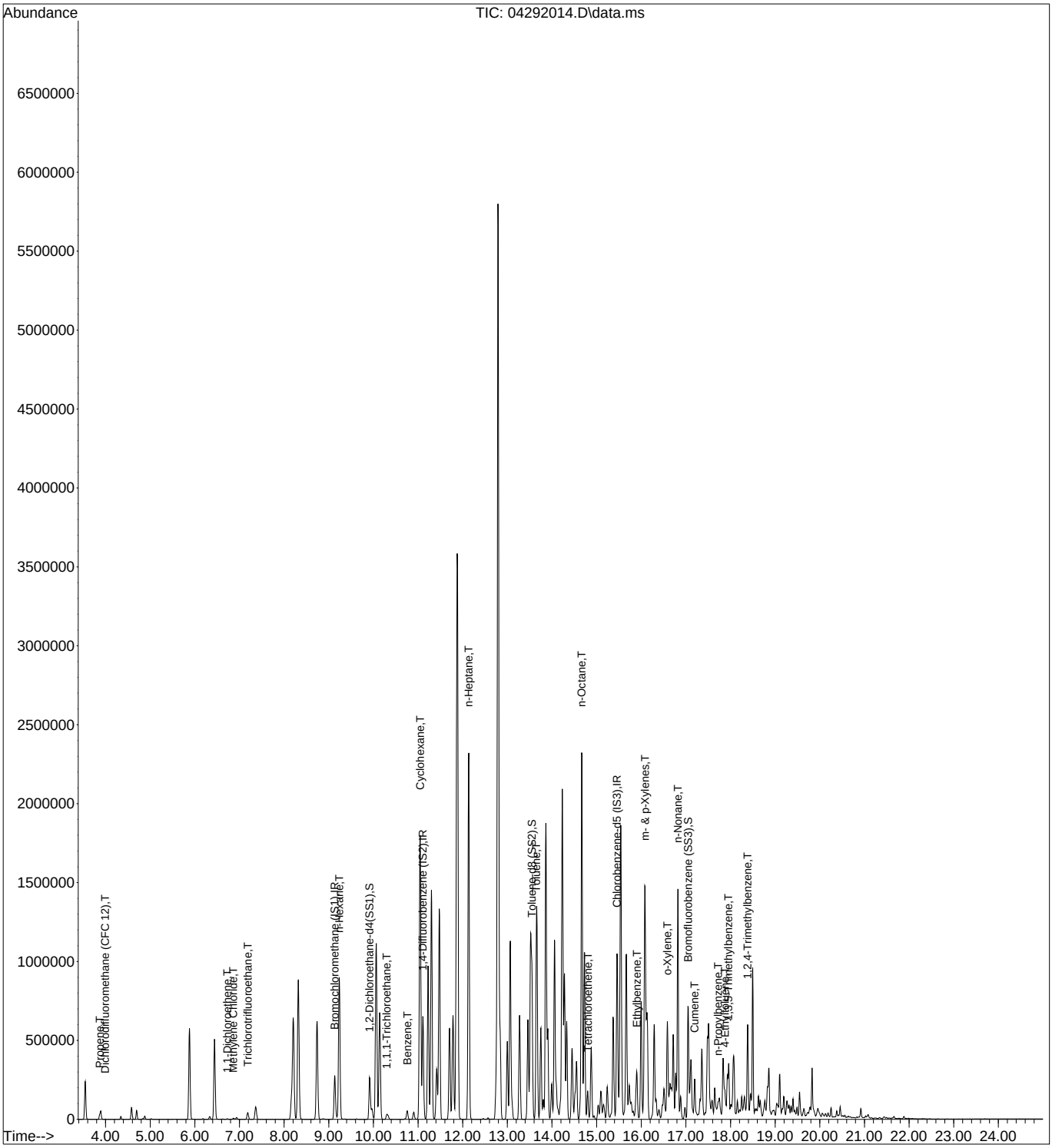
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.14	71	718072	69.480 ng	99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	13.06	75	106	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	13.65	91	607306	11.726 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D. d	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.67	57	460492	55.854 ng	99
64) Tetrachloroethene	14.81	166	7401	0.379 ng	97
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.90	91	151086	2.504 ng	99
67) m- & p-Xylenes	16.08	91	1225332	24.068 ng	97
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D. d	
70) o-Xylene	16.58	91	428847	8.577 ng	99
71) n-Nonane	16.82	43	450462	27.929 ng	100
72) 1,1,2,2-Tetrachloroethane	16.58	83	509	N.D.	
74) Cumene	17.19	105	62542	0.959 ng	99
75) alpha-Pinene	0.00	93	0	N.D. d	
76) n-Propylbenzene	17.72	91	58731	0.827 ng	99
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	58004	0.936 ng	100
79) 1,3,5-Trimethylbenzene	17.95	105	107709	1.880 ng	100
80) alpha-Methylstyrene	18.15	118	162	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	217228	3.921 ng	89
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.47	91	914	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	18.97	146	912	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.91	128	1996	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292014.D Vial: 1
Acq On : 29 Apr 2020 12:39 Operator: TD
Sample : P2002030-017 (0.25mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 13:14:56 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292014.D Vial: 1
Acq On : 29 Apr 2020 12:39 Operator: TD
Sample : P2002030-017 (0.25mL) Inst : MS09
Misc : S34-04212006

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Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/29/20

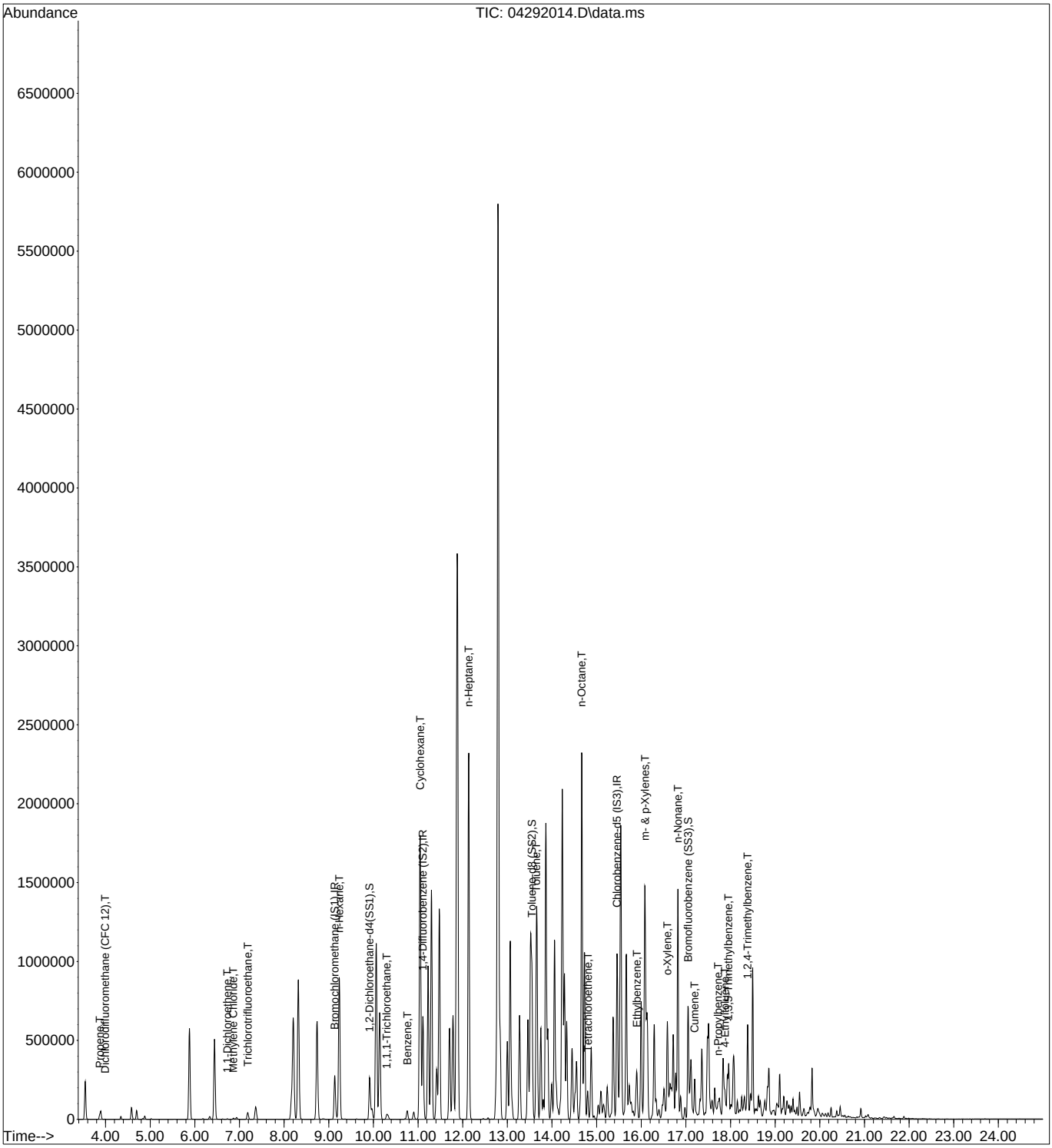
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	160431	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	682346	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	319485	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	245743	11.823	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.56%				
57) Toluene-d8 (SS2)	13.55	98	746285	12.098	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.80%				
73) Bromofluorobenzene (SS3)	17.05	174	285126	11.501	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.00%				
Target Compounds							Qvalue
2) Propene	3.87	42	9470m	1.390	ng		
3) Dichlorodifluoromethan...	3.99	85	1697	0.066	ng	#	91
17) 1,1-Dichloroethene	6.73	96	2220	0.196	ng		89
19) Methylene Chloride	6.86	84	5719	0.526	ng		97
21) Trichlorotrifluoroethane	7.19	151	20239	1.510	ng		97
31) n-Hexane	9.24	57	536403	39.013	ng		99
38) 1,1,1-Trichloroethane	10.30	97	22616	0.964	ng		99
41) Benzene	10.76	78	62605	1.407	ng		99
43) Cyclohexane	11.05	84	984369	56.488	ng		97
51) n-Heptane	12.14	71	718072	69.480	ng		99
58) Toluene	13.65	91	607306	11.726	ng		100
63) n-Octane	14.67	57	460492	55.854	ng		99
64) Tetrachloroethene	14.81	166	7401	0.379	ng		97
66) Ethylbenzene	15.90	91	151086	2.504	ng		99
67) m- & p-Xylenes	16.08	91	1225332	24.068	ng		97
70) o-Xylene	16.58	91	428847	8.577	ng		99
71) n-Nonane	16.82	43	450462	27.929	ng		100
74) Cumene	17.19	105	62542	0.959	ng		99
76) n-Propylbenzene	17.72	91	58731	0.827	ng		99
78) 4-Ethyltoluene	17.88	105	58004	0.936	ng		100
79) 1,3,5-Trimethylbenzene	17.95	105	107709	1.880	ng		100
82) 1,2,4-Trimethylbenzene	18.38	105	217228	3.921	ng		89

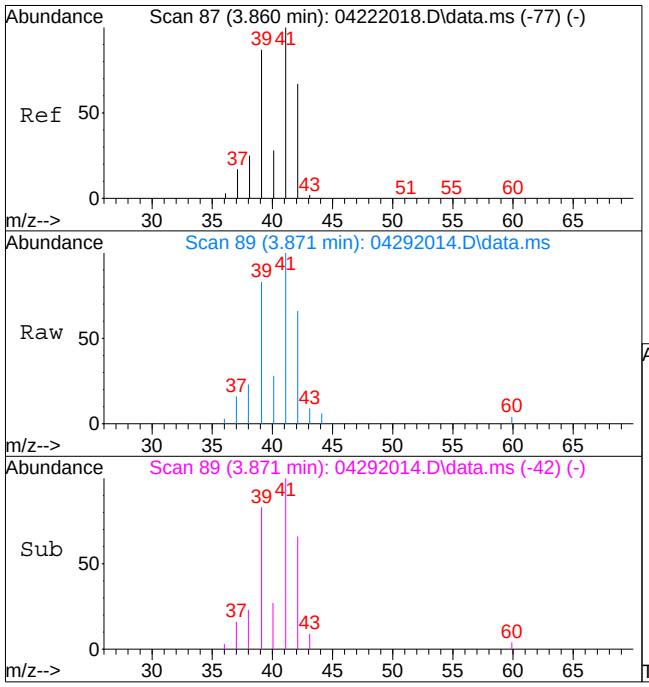
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292014.D Vial: 1
Acq On : 29 Apr 2020 12:39 Operator: TD
Sample : P2002030-017 (0.25mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 13:14:56 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

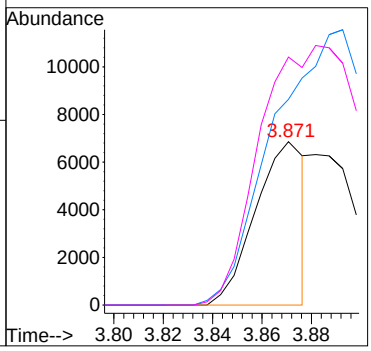


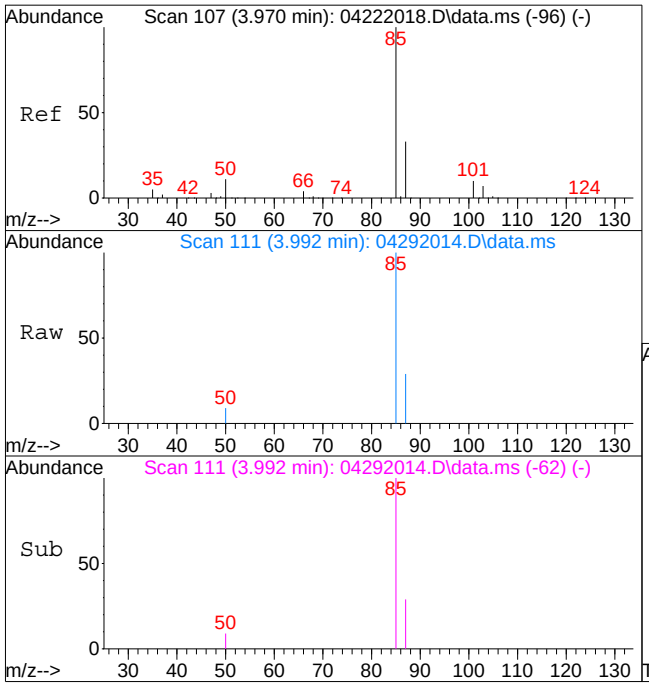


#2
Propene
Concen: 1.39 ng m
RT: 3.87 min Scan# 89
Delta R.T. 0.011 min
Lab File: 04292014.D
Acq: 29 Apr 2020 12:39

Tgt Ion: 42 Resp: 9470

Ion	Ratio	Lower	Upper
42	100		
39	332.8	106.4	146.4#
41	337.7	128.8	168.8#

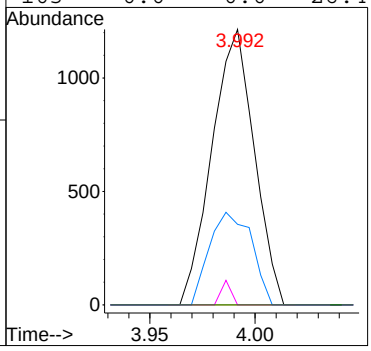


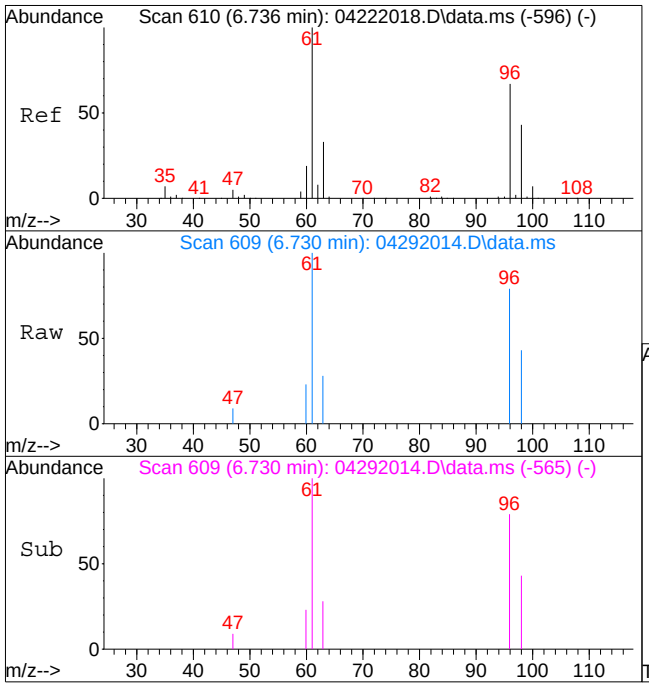


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.07 ng
RT: 3.99 min Scan# 111
Delta R.T. 0.022 min
Lab File: 04292014.D
Acq: 29 Apr 2020 12:39

Tgt Ion: 85 Resp: 1697

Ion	Ratio	Lower	Upper
85	100		
87	33.6	12.4	52.4
101	0.0	0.0	29.9
103	0.0	0.0	26.4

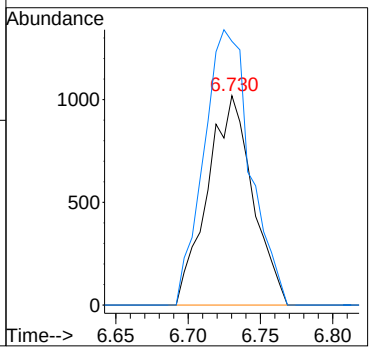


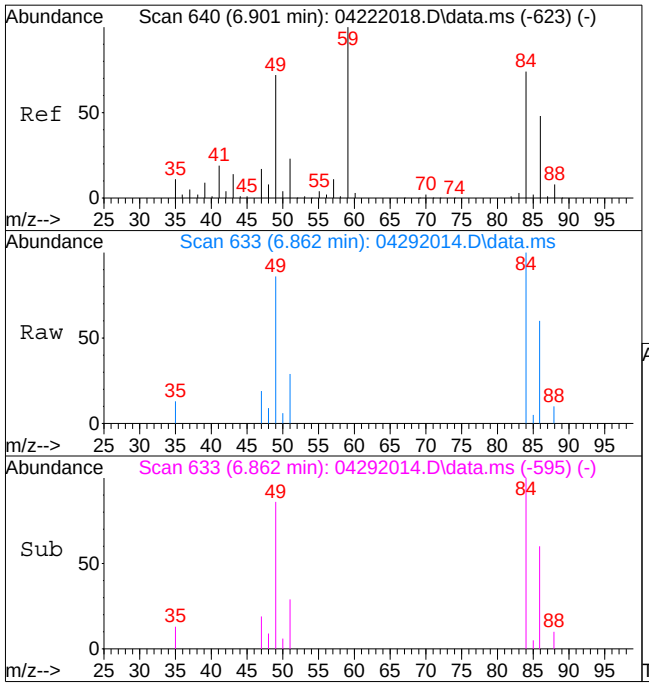


#17
1,1-Dichloroethene
Concen: 0.20 ng
RT: 6.73 min Scan# 609
Delta R.T. -0.006 min
Lab File: 04292014.D
Acq: 29 Apr 2020 12:39

Tgt Ion: 96 Resp: 2220

Ion	Ratio	Lower	Upper
96	100		
61	135.8	129.8	169.8

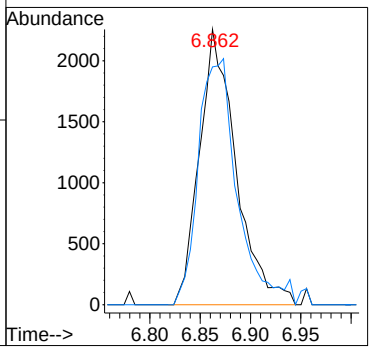


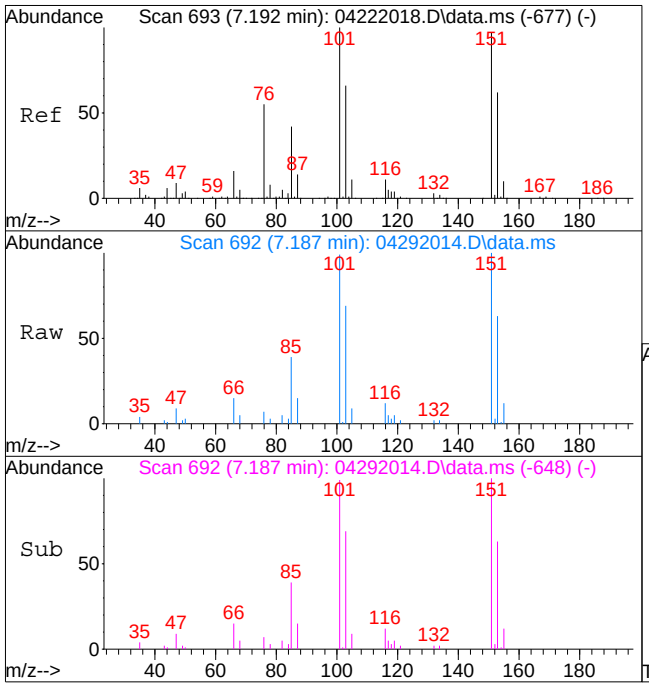


#19
Methylene Chloride
Concen: 0.53 ng
RT: 6.86 min Scan# 633
Delta R.T. -0.039 min
Lab File: 04292014.D
Acq: 29 Apr 2020 12:39

Tgt Ion: 84 Resp: 5719

Ion	Ratio	Lower	Upper
84	100		
49	94.7	73.0	123.0

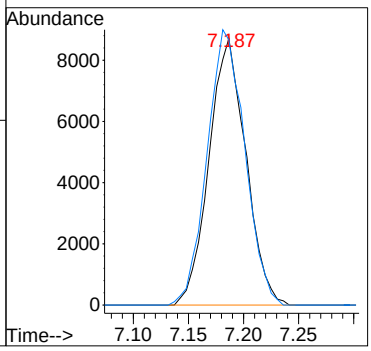


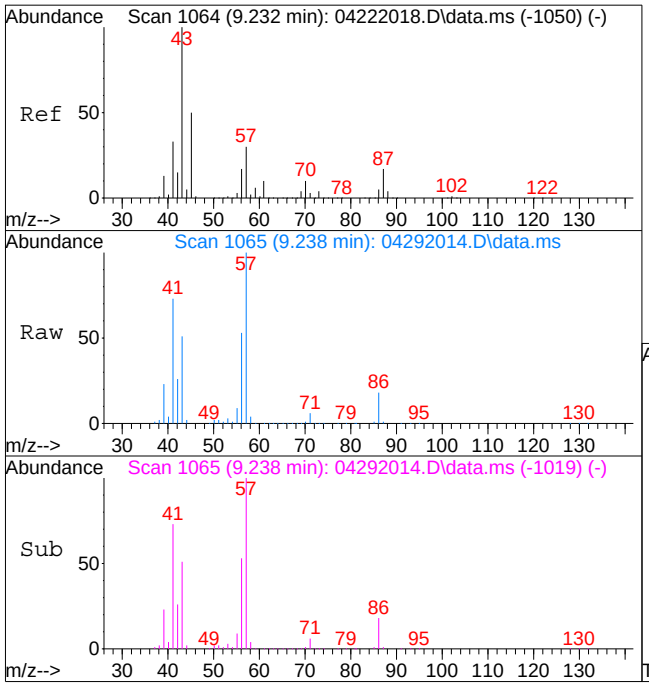


#21
Trichlorotrifluoroethane
Concen: 1.51 ng
RT: 7.19 min Scan# 692
Delta R.T. -0.006 min
Lab File: 04292014.D
Acq: 29 Apr 2020 12:39

Tgt Ion:151 Resp: 20239

Ion	Ratio	Lower	Upper
151	100		
101	105.7	82.9	122.9

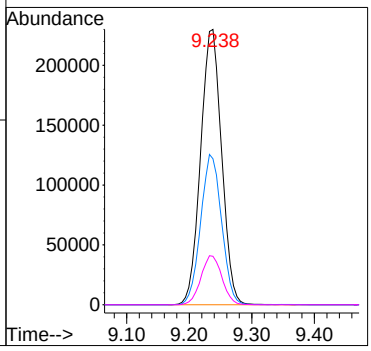


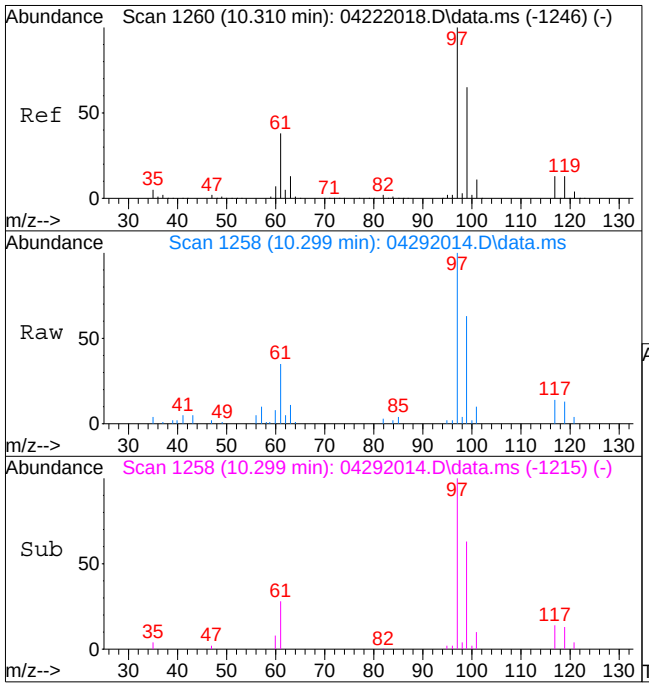


#31
n-Hexane
Concen: 39.01 ng
RT: 9.24 min Scan# 1065
Delta R.T. 0.005 min
Lab File: 04292014.D
Acq: 29 Apr 2020 12:39

Tgt Ion: 57 Resp: 536403

Ion	Ratio	Lower	Upper
57	100		
56	54.3	44.0	66.0
86	17.8	15.0	22.4

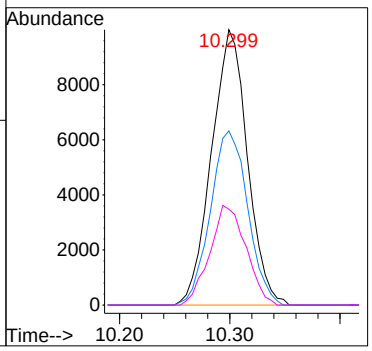


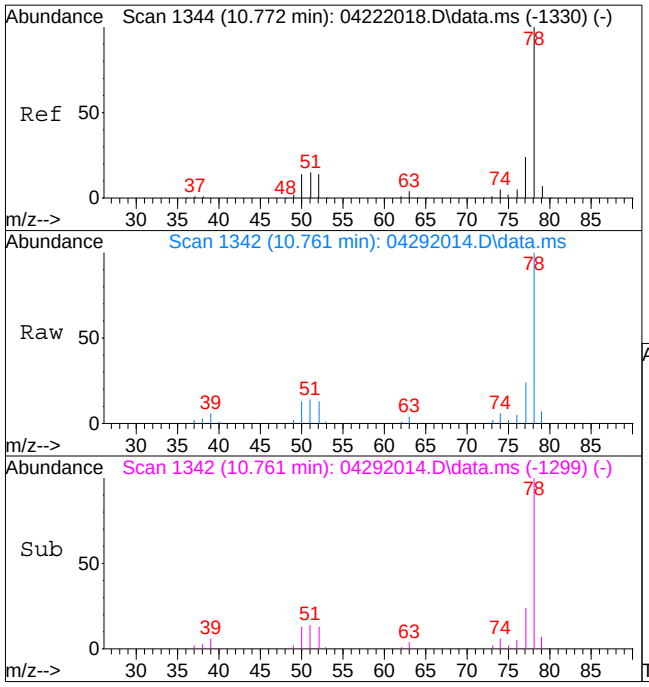


#38
1,1,1-Trichloroethane
Concen: 0.96 ng
RT: 10.30 min Scan# 1258
Delta R.T. -0.011 min
Lab File: 04292014.D
Acq: 29 Apr 2020 12:39

Tgt Ion: 97 Resp: 22616

Ion	Ratio	Lower	Upper
97	100		
99	65.8	44.7	84.7
61	36.5	17.2	57.2

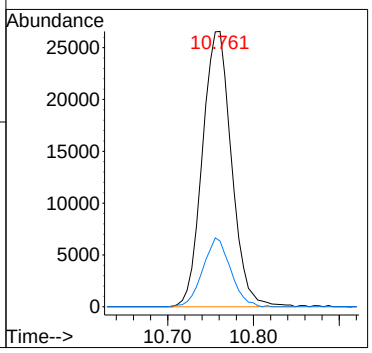


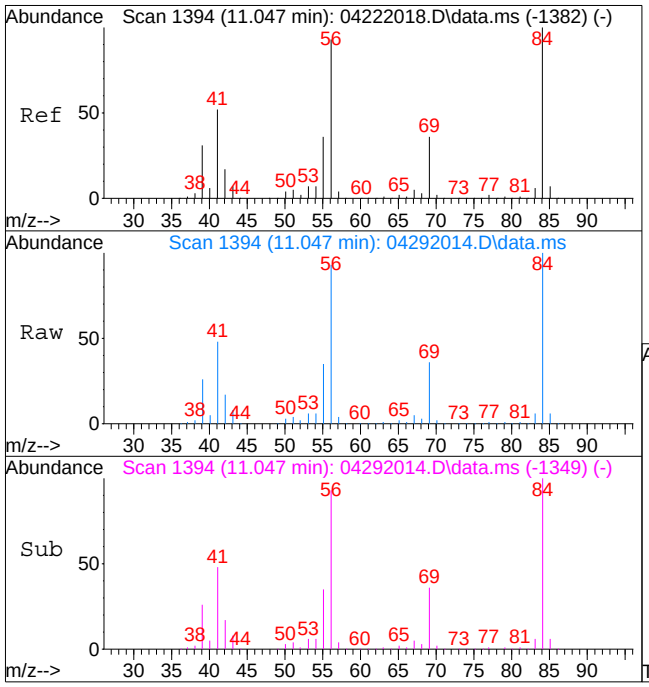


#41
Benzene
Concen: 1.41 ng
RT: 10.76 min Scan# 1342
Delta R.T. -0.011 min
Lab File: 04292014.D
Acq: 29 Apr 2020 12:39

Tgt Ion: 78 Resp: 62605

Ion	Ratio	Lower	Upper
78	100		
77	23.9	3.6	43.6

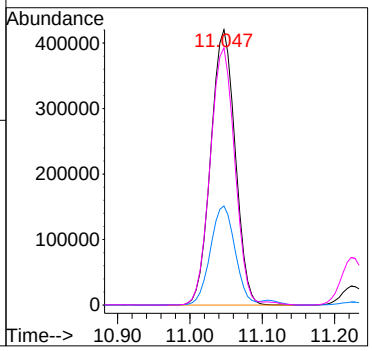


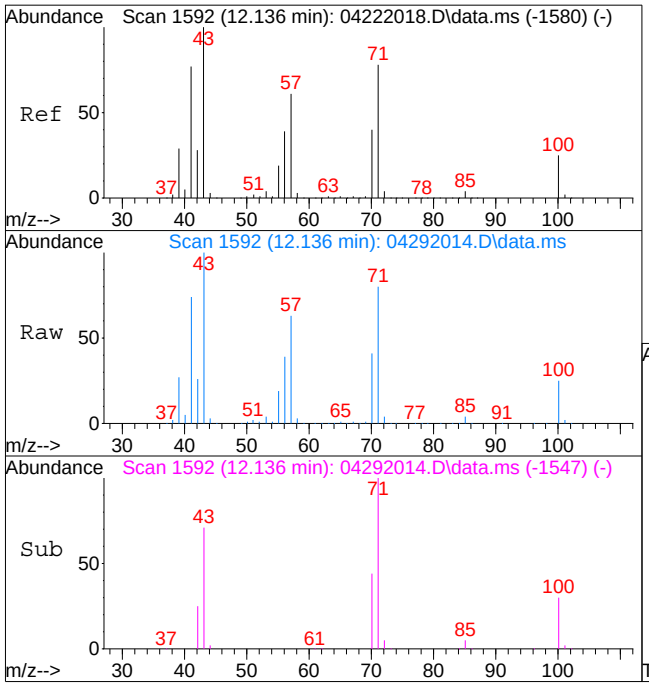


#43
Cyclohexane
Concen: 56.49 ng
RT: 11.05 min Scan# 1394
Delta R.T. -0.000 min
Lab File: 04292014.D
Acq: 29 Apr 2020 12:39

Tgt Ion: 84 Resp: 984369

Ion	Ratio	Lower	Upper
84	100		
69	36.7	15.8	55.8
56	95.2	72.0	112.0

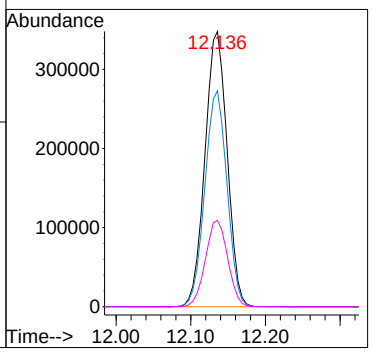


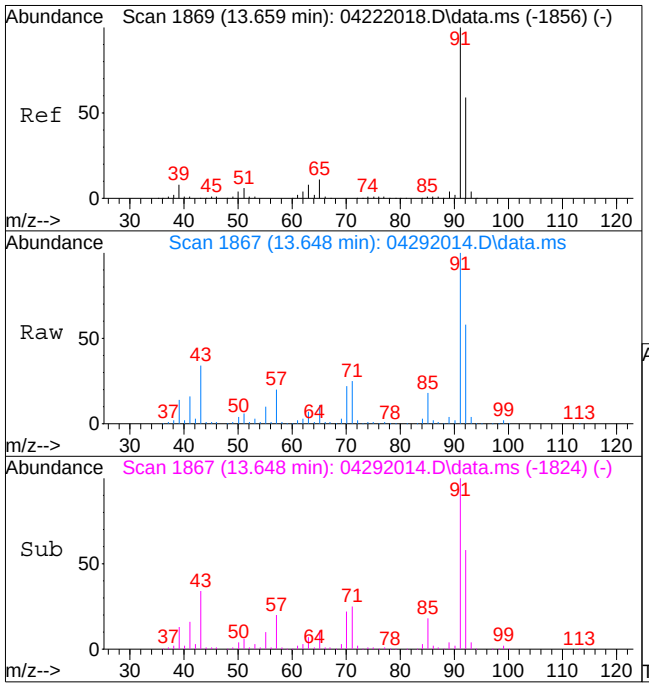


#51
n-Heptane
Concen: 69.48 ng
RT: 12.14 min Scan# 1592
Delta R.T. -0.000 min
Lab File: 04292014.D
Acq: 29 Apr 2020 12:39

Tgt Ion: 71 Resp: 718072

Ion	Ratio	Lower	Upper
71	100		
57	78.4	57.4	97.4
100	31.5	12.0	52.0

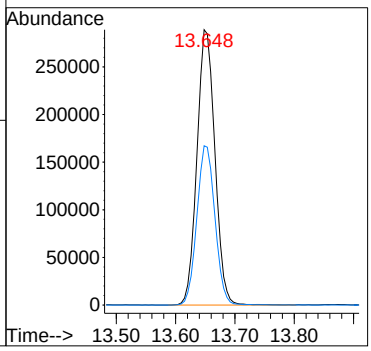


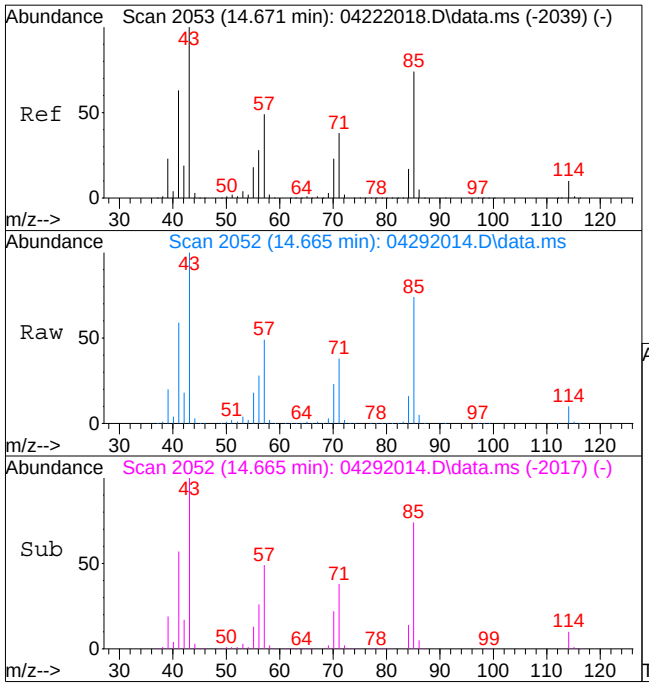


#58
Toluene
Concen: 11.73 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.011 min
Lab File: 04292014.D
Acq: 29 Apr 2020 12:39

Tgt Ion: 91 Resp: 607306

Ion	Ratio	Lower	Upper
91	100		
92	58.3	38.2	78.2

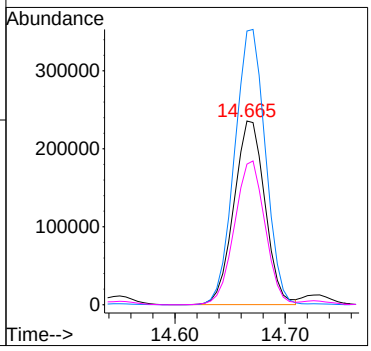


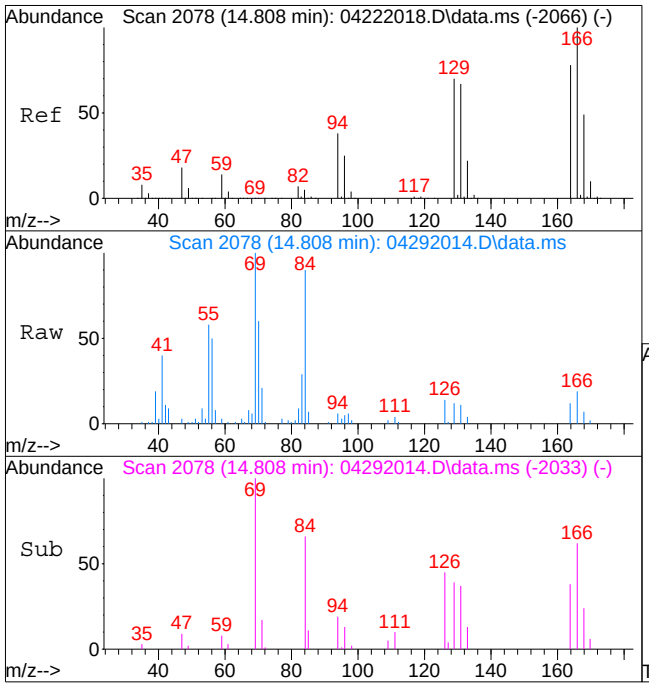


#63
n-Octane
Concen: 55.85 ng
RT: 14.67 min Scan# 2052
Delta R.T. -0.006 min
Lab File: 04292014.D
Acq: 29 Apr 2020 12:39

Tgt Ion: 57 Resp: 460492

Ion	Ratio	Lower	Upper
57	100		
85	149.0	120.7	181.1
71	77.2	61.1	91.7

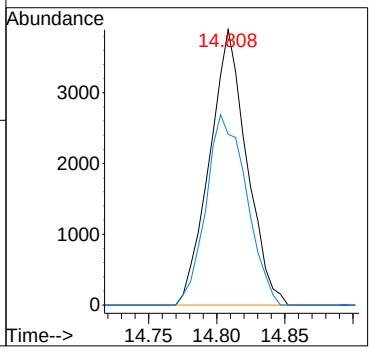


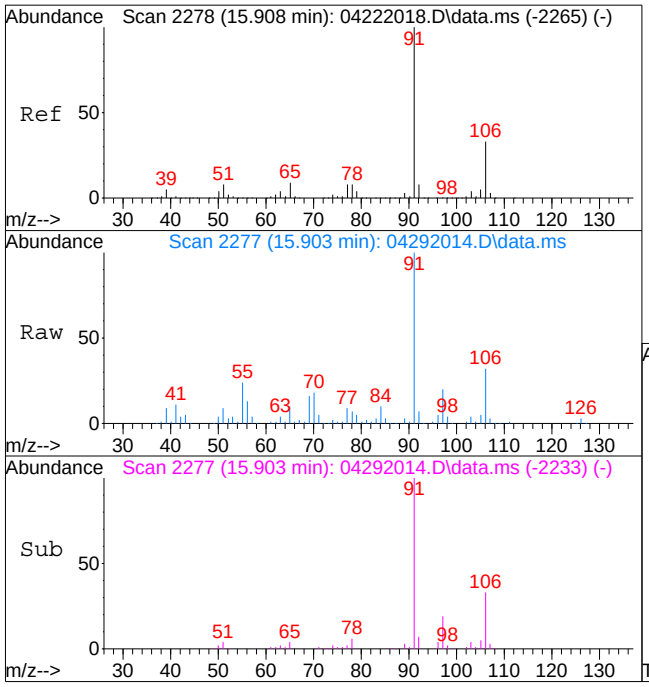


#64
Tetrachloroethene
Concen: 0.38 ng
RT: 14.81 min Scan# 2078
Delta R.T. -0.000 min
Lab File: 04292014.D
Acq: 29 Apr 2020 12:39

Tgt Ion:166 Resp: 7401

Ion	Ratio	Lower	Upper
166	100		
164	74.9	57.7	97.7

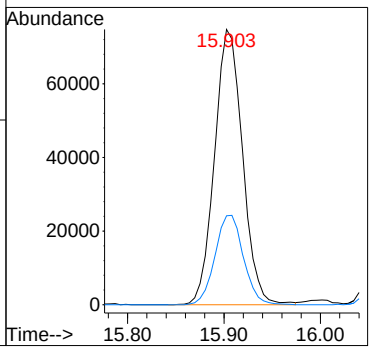


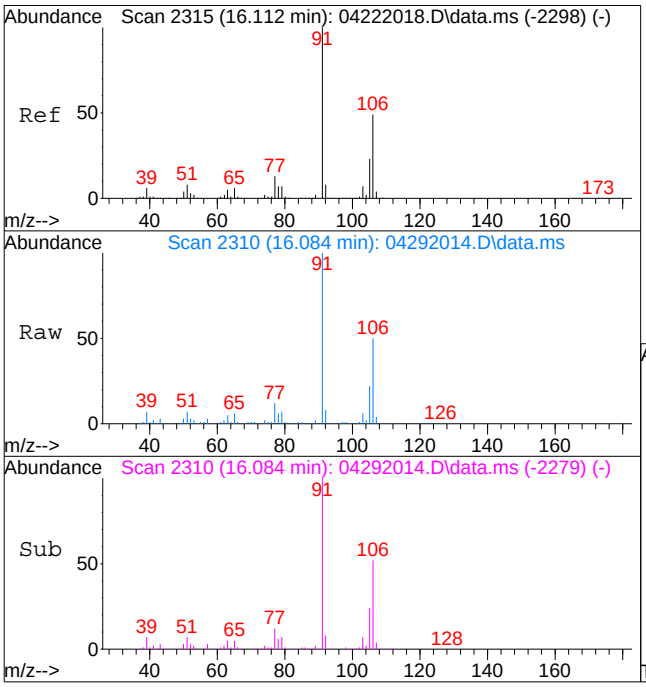


#66
Ethylbenzene
Concen: 2.50 ng
RT: 15.90 min Scan# 2277
Delta R.T. -0.006 min
Lab File: 04292014.D
Acq: 29 Apr 2020 12:39

Tgt Ion: 91 Resp: 151086

Ion	Ratio	Lower	Upper
91	100		
106	32.9	13.4	53.4

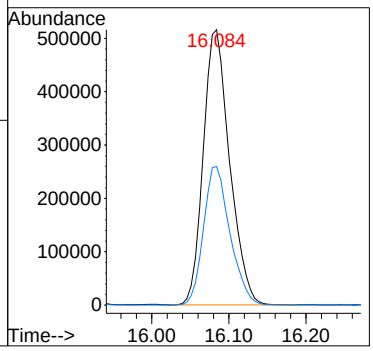


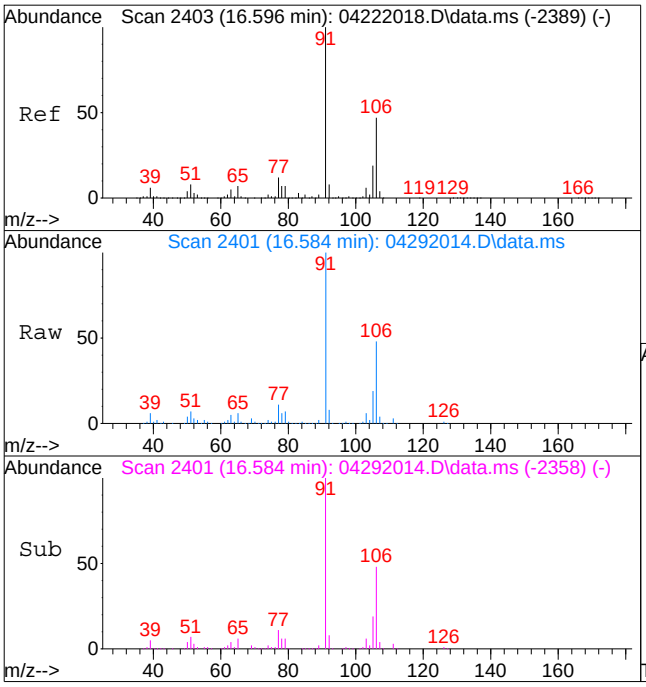


#67
m- & p-Xylenes
Concen: 24.07 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.028 min
Lab File: 04292014.D
Acq: 29 Apr 2020 12:39

Tgt Ion: 91 Resp: 1225332

Ion	Ratio	Lower	Upper
91	100		
106	50.6	28.3	68.3

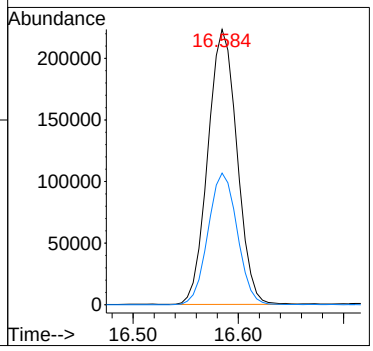


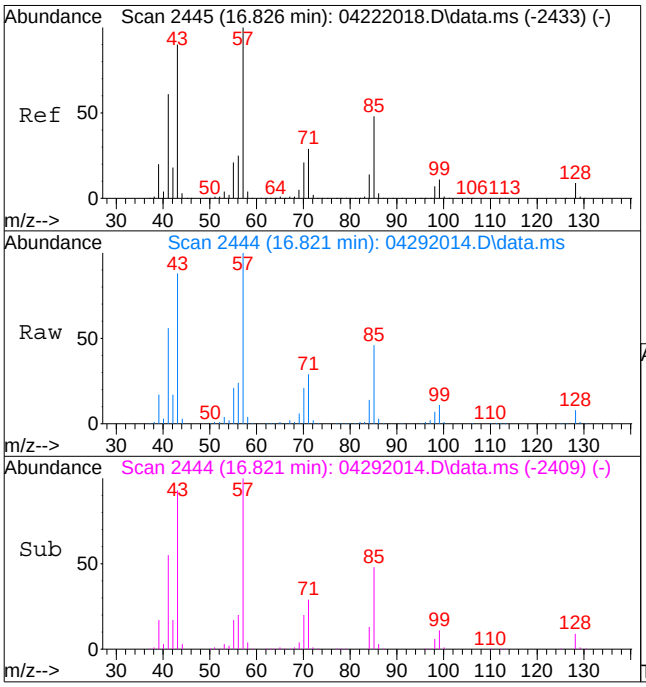


#70
o-Xylene
Concen: 8.58 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 04292014.D
Acq: 29 Apr 2020 12:39

Tgt Ion: 91 Resp: 428847

Ion	Ratio	Lower	Upper
91	100		
106	48.2	27.5	67.5

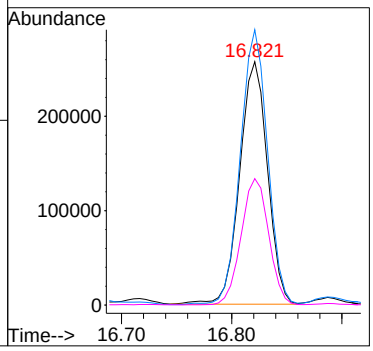


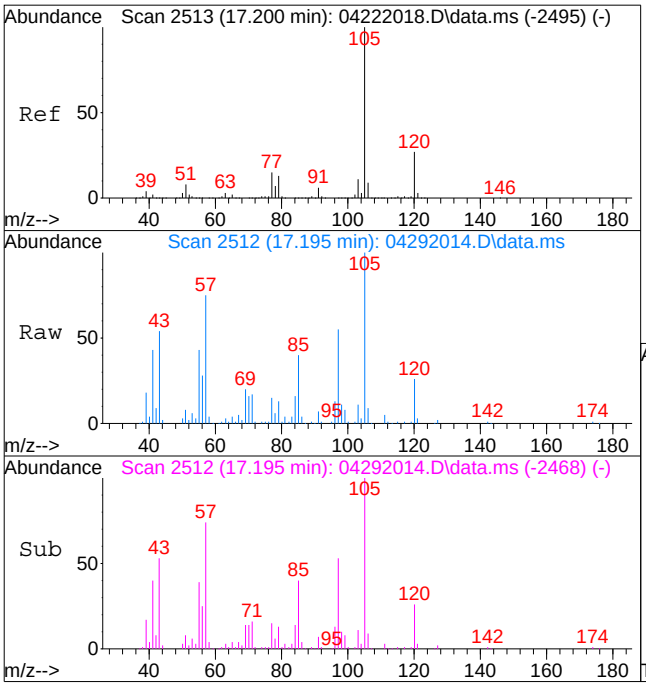


#71
n-Nonane
Concen: 27.93 ng
RT: 16.82 min Scan# 2444
Delta R.T. -0.006 min
Lab File: 04292014.D
Acq: 29 Apr 2020 12:39

Tgt Ion: 43 Resp: 450462

Ion	Ratio	Lower	Upper
43	100		
57	111.1	90.8	130.8
85	51.5	32.1	72.1

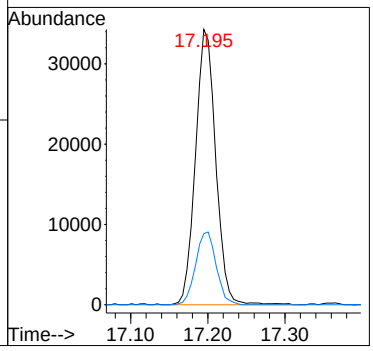


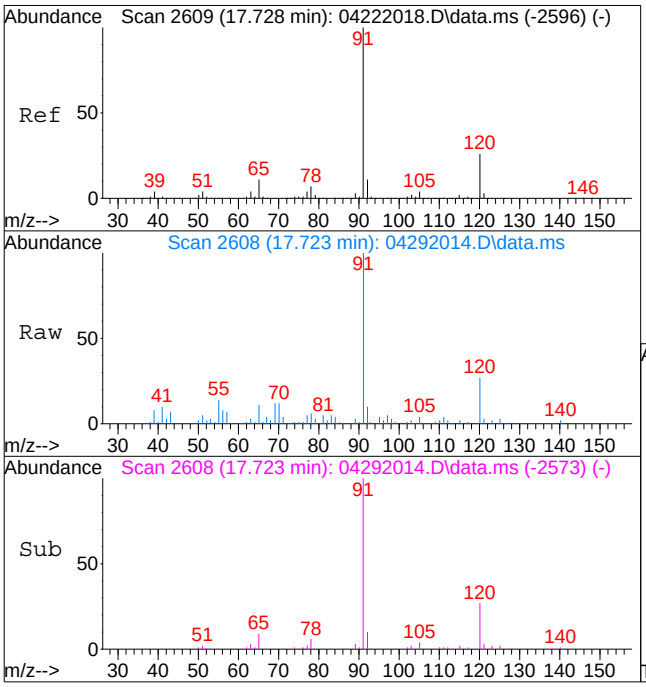


#74
Cumene
Concen: 0.96 ng
RT: 17.19 min Scan# 2512
Delta R.T. -0.006 min
Lab File: 04292014.D
Acq: 29 Apr 2020 12:39

Tgt Ion:105 Resp: 62542

Ion	Ratio	Lower	Upper
105	100		
120	26.8	7.3	47.3

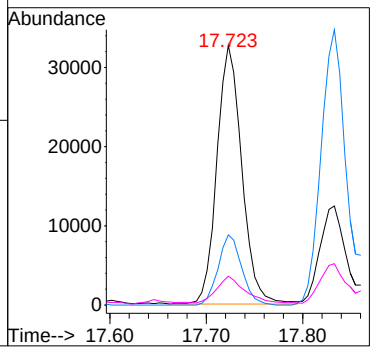


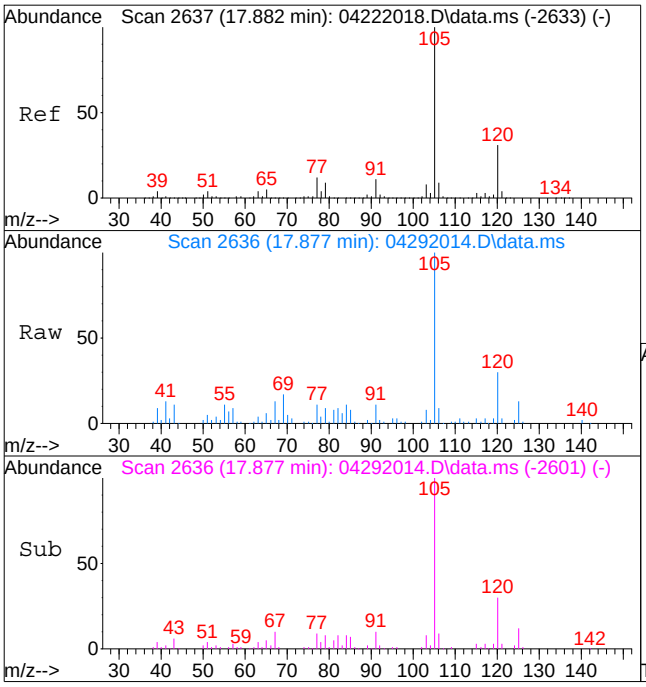


#76
n-Propylbenzene
Concen: 0.83 ng
RT: 17.72 min Scan# 2608
Delta R.T. -0.006 min
Lab File: 04292014.D
Acq: 29 Apr 2020 12:39

Tgt Ion: 91 Resp: 58731

Ion	Ratio	Lower	Upper
91	100		
120	25.5	6.1	46.1
65	11.6	0.0	30.7

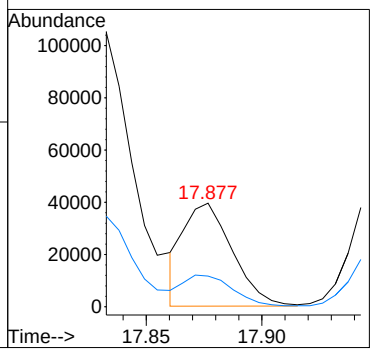


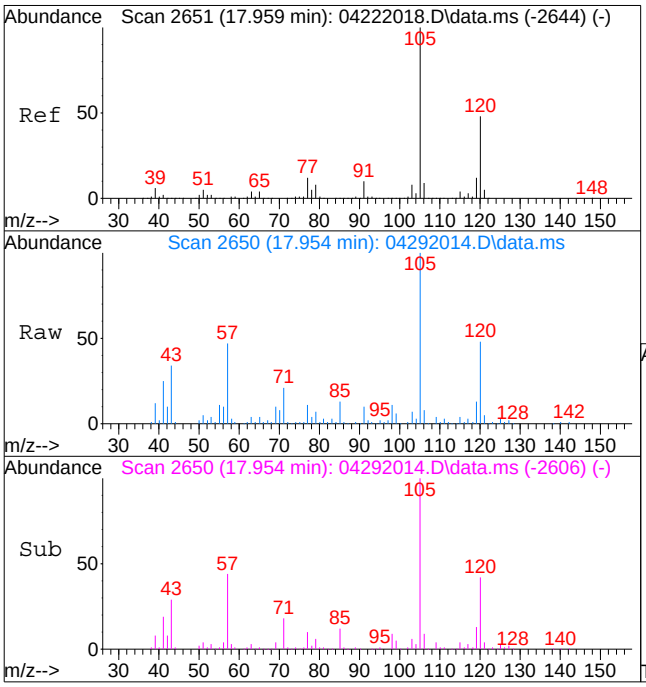


#78
4-Ethyltoluene
Concen: 0.94 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 04292014.D
Acq: 29 Apr 2020 12:39

Tgt Ion:105 Resp: 58004

Ion	Ratio	Lower	Upper
105	100		
120	31.5	11.4	51.4

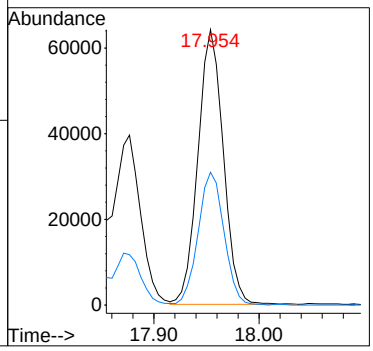


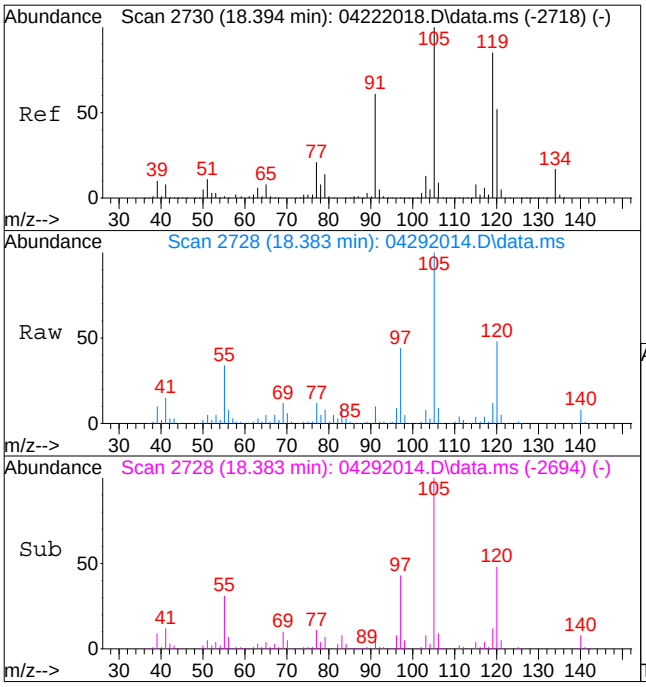


#79
1,3,5-Trimethylbenzene
Concen: 1.88 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 04292014.D
Acq: 29 Apr 2020 12:39

Tgt Ion:105 Resp: 107709

Ion	Ratio	Lower	Upper
105	100		
120	49.3	29.5	69.5

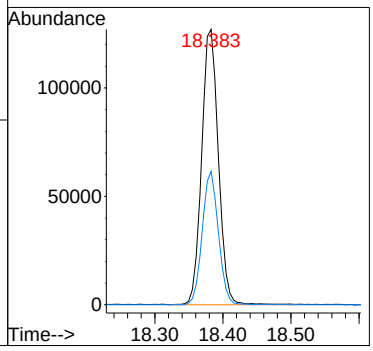




#82
1,2,4-Trimethylbenzene
Concen: 3.92 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 04292014.D
Acq: 29 Apr 2020 12:39

Tgt Ion:105 Resp: 217228

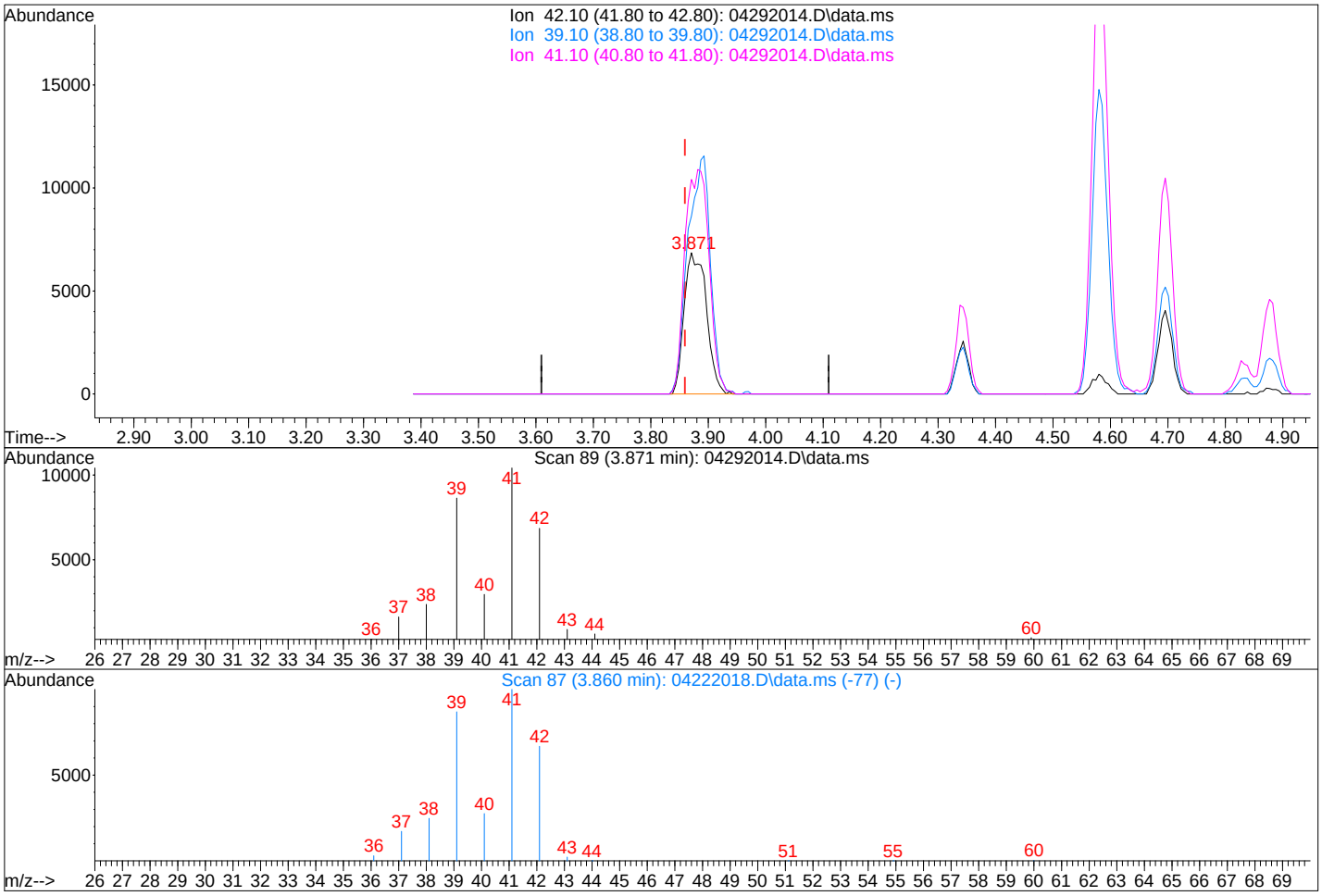
Ion	Ratio	Lower	Upper
105	100		
120	46.7	34.5	74.5



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\29\04292014.D Vial: 1
Acq On : 29 Apr 2020 12:39 Operator: TD
Sample : P2002030-017 (0.25mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 13:11:25 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04292014.D\data.ms

(2) Propene (T)

3.871min (+0.011) 2.71ng

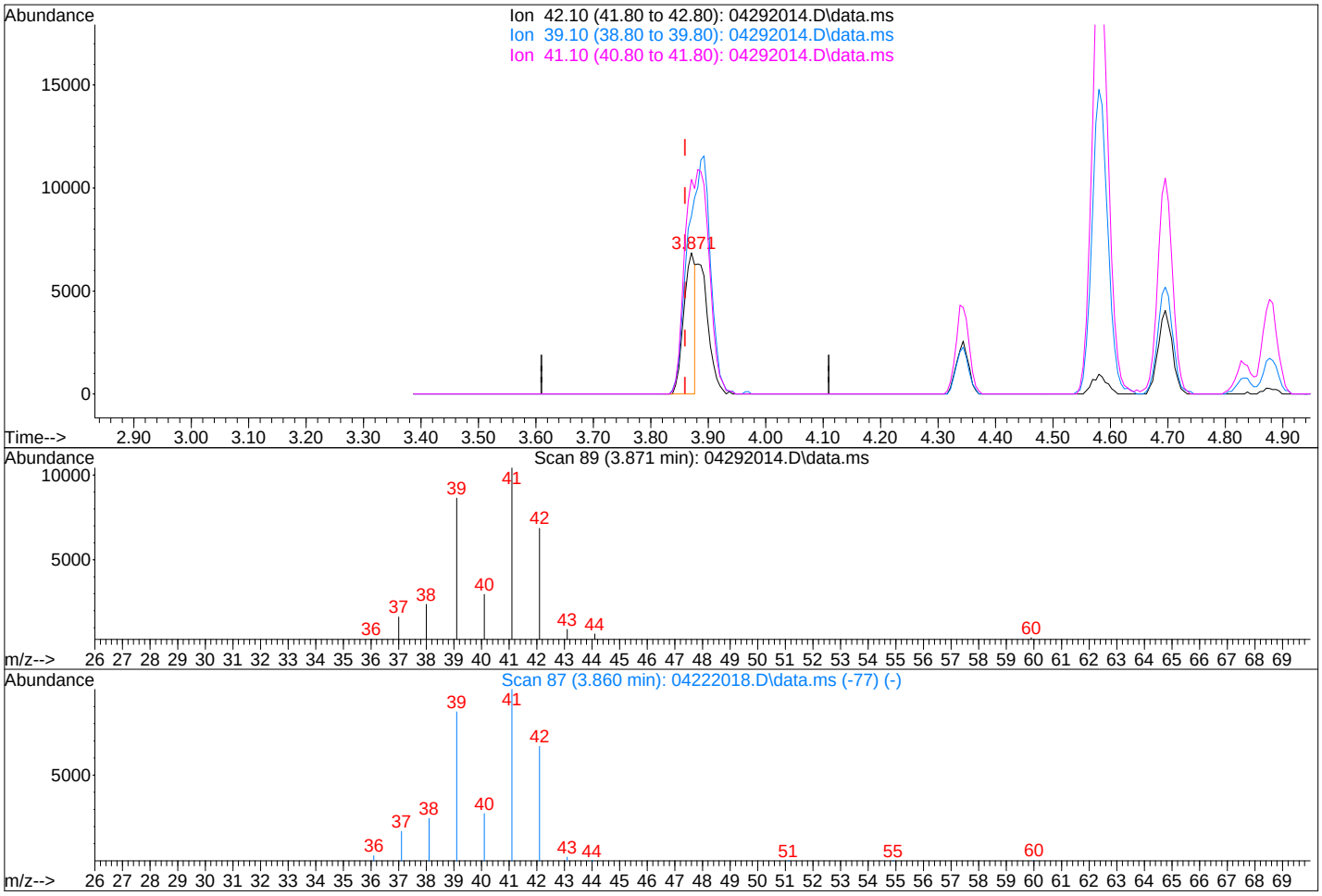
response 18487

Ion	Exp%	Act%
42.10	100	100
39.10	126.40	170.50#
41.10	148.80	173.01#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\29\04292014.D Vial: 1
Acq On : 29 Apr 2020 12:39 Operator: TD
Sample : P2002030-017 (0.25mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 13:11:25 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04292014.D\data.ms

(2) Propene (T)

3.871min (+0.011) 1.39ng m

response 9470

Ion	Exp%	Act%
42.10	100	100
39.10	126.40	332.84#
41.10	148.80	337.74#
0.00	0.00	0.00

IPC

4/29/20

LH 4/29/20

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292013.D Vial: 13
Acq On : 29 Apr 2020 12:06 Operator: TD
Sample : P2002030-018 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 12:48:40 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/29/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	153480	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	645873	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.45	82	285815	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	230359	11.584	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.64%				
57) Toluene-d8 (SS2)	13.54	98	710231	12.870	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.96%				
73) Bromofluorobenzene (SS3)	17.05	174	270601	12.201	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.60%				
Target Compounds							Qvalue
2) Propene	3.88	42	6108	0.937	ng	#	62
3) Dichlorodifluoromethan...	3.99	85	10835	0.437	ng		98
4) Chloromethane	4.20	50	342	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	202	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.35	45	29987	6.073	ng		99
11) Acetonitrile	5.60	41	796	0.068	ng	#	24
12) Acrolein	5.72	56	984	0.218	ng		89
13) Acetone	5.86	58	19841	3.347	ng	#	68
14) Trichlorofluoromethane	6.02	101	5594	0.227	ng		96
15) 2-Propanol (Isopropanol)	6.16	45	25635	1.361	ng		91
16) Acrylonitrile	0.00	53	0	N.D. d			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	6.85	59	588	N.D.			
19) Methylene Chloride	6.86	84	1781	0.171	ng		92
20) 3-Chloro-1-propene (Al...	6.86	41	113	N.D.			
21) Trichlorotrifluoroethane	7.19	151	1263	0.098	ng		95
22) Carbon Disulfide	7.15	76	5367	0.155	ng		87
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D. d			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	8.54	72	2895	0.475	ng		92
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D. d			
30) Ethyl Acetate	9.21	61	60397	22.288	ng		96
31) n-Hexane	0.00	57	0	N.D. d			
32) Chloroform	9.27	83	795192	37.787	ng		99
34) Tetrahydrofuran (THF)	9.69	72	3896	0.632	ng		96
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D. d			
41) Benzene	10.76	78	4593	0.109	ng		99
42) Carbon Tetrachloride	10.90	117	3263	0.150	ng		93
43) Cyclohexane	0.00	84	0	N.D. d			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	11.75	83	57074	3.294	ng		99
47) Trichloroethene	11.81	130	824	0.057	ng		98
48) 1,4-Dioxane	11.82	88	232	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d			
50) Methyl Methacrylate	0.00	100	0	N.D. d			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292013.D Vial: 13
Acq On : 29 Apr 2020 12:06 Operator: TD
Sample : P2002030-018 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 12:48:40 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

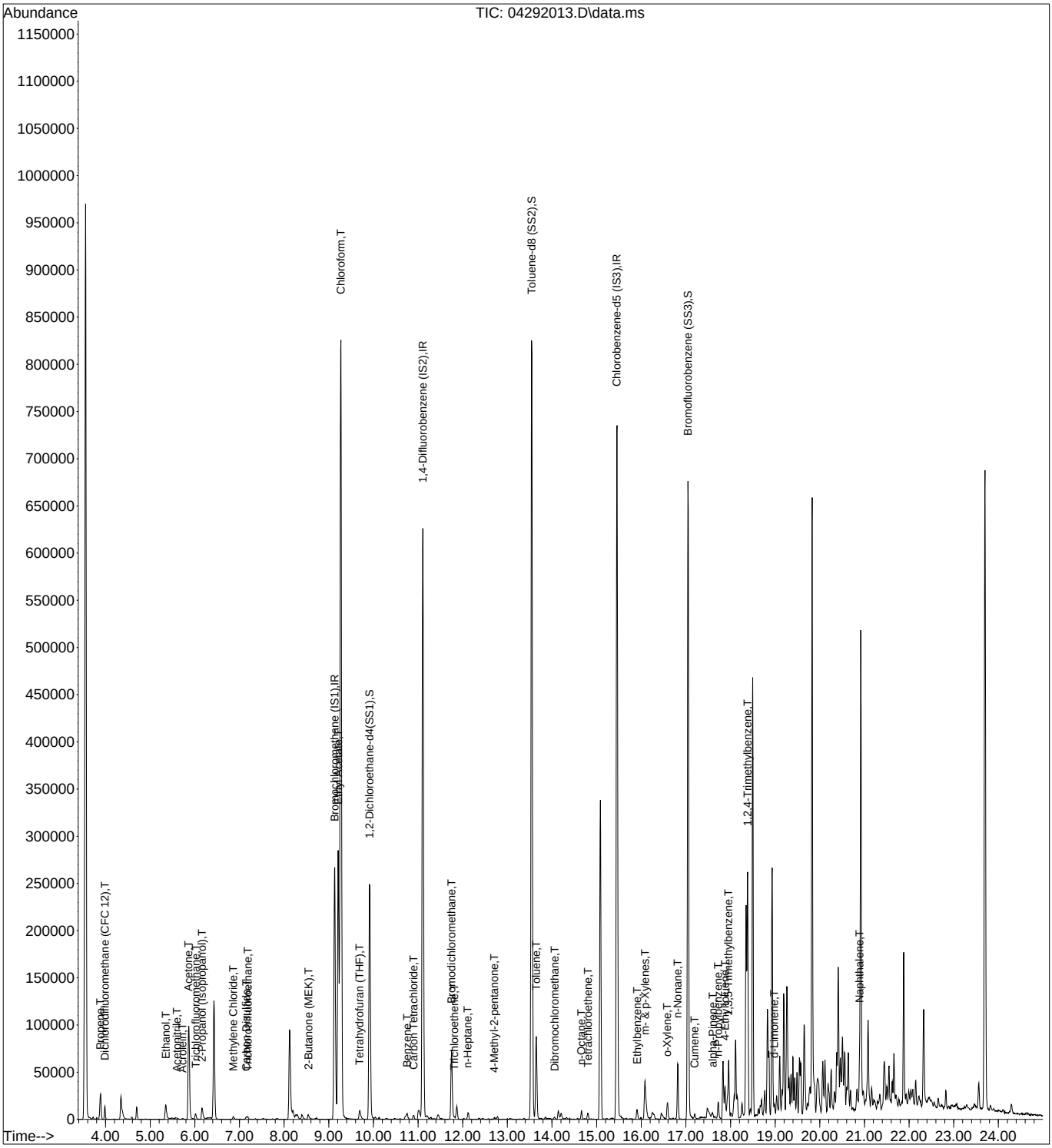
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	12.11	71	2128	0.218	ng		88
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
53) 4-Methyl-2-pentanone	12.71	58	522	0.071	ng	#	3
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.			
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.			
58) Toluene	13.65	91	77844	1.680	ng		100
59) 2-Hexanone	13.89	43	223	N.D.			
60) Dibromochloromethane	14.06	129	1110	0.071	ng		92
61) 1,2-Dibromoethane	0.00	107	0	N.D.			
62) n-Butyl Acetate	0.00	43	0	N.D.	d		
63) n-Octane	14.66	57	1773	0.240	ng		87
64) Tetrachloroethene	14.81	166	2817	0.161	ng		98
65) Chlorobenzene	0.00	112	0	N.D.			
66) Ethylbenzene	15.91	91	10069	0.187	ng		98
67) m- & p-Xylenes	16.08	91	39479	0.867	ng		97
68) Bromoform	0.00	173	0	N.D.			
69) Styrene	16.49	104	1515	N.D.			
70) o-Xylene	16.58	91	13128	0.293	ng		98
71) n-Nonane	16.82	43	19242	1.334	ng		96
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.			
74) Cumene	17.19	105	3058	0.052	ng		97
75) alpha-Pinene	17.60	93	1559	0.059	ng	#	1
76) n-Propylbenzene	17.72	91	17307	0.272	ng		97
77) 3-Ethyltoluene	0.00	105	0	N.D.	d		
78) 4-Ethyltoluene	17.88	105	23002	0.415	ng		100
79) 1,3,5-Trimethylbenzene	17.95	105	28555	0.557	ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D.	d		
81) 2-Ethyltoluene	0.00	105	0	N.D.	d		
82) 1,2,4-Trimethylbenzene	18.38	105	157217	3.172	ng		89
83) n-Decane	0.00	57	0	N.D.	d		
84) Benzyl Chloride	18.53	91	438	N.D.			
85) 1,3-Dichlorobenzene	18.35	146	136	N.D.			
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.			
87) sec-Butylbenzene	0.00	105	0	N.D.	d		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.	d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.			
91) d-Limonene	18.98	68	2443	0.174	ng		100
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.			
93) n-Undecane	0.00	57	0	N.D.	d		
94) 1,2,4-Trichlorobenzene	20.78	180	116	N.D.			
95) Naphthalene	20.89	128	47940	0.751	ng		96
96) n-Dodecane	0.00	57	0	N.D.	d		
97) Hexachlorobutadiene	0.00	225	0	N.D.			
98) Cyclohexanone	0.00	55	0	N.D.	d		
99) tert-Butylbenzene	0.00	119	0	N.D.	d		
100) n-Butylbenzene	0.00	91	0	N.D.	d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292013.D Vial: 13
Acq On : 29 Apr 2020 12:06 Operator: TD
Sample : P2002030-018 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 12:48:40 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292013.D Vial: 13
Acq On : 29 Apr 2020 12:06 Operator: TD
Sample : P2002030-018 (400mL) Inst : MS09
Misc : S34-04212006

4/29/20

Quant Time: Apr 29 12:48:40 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

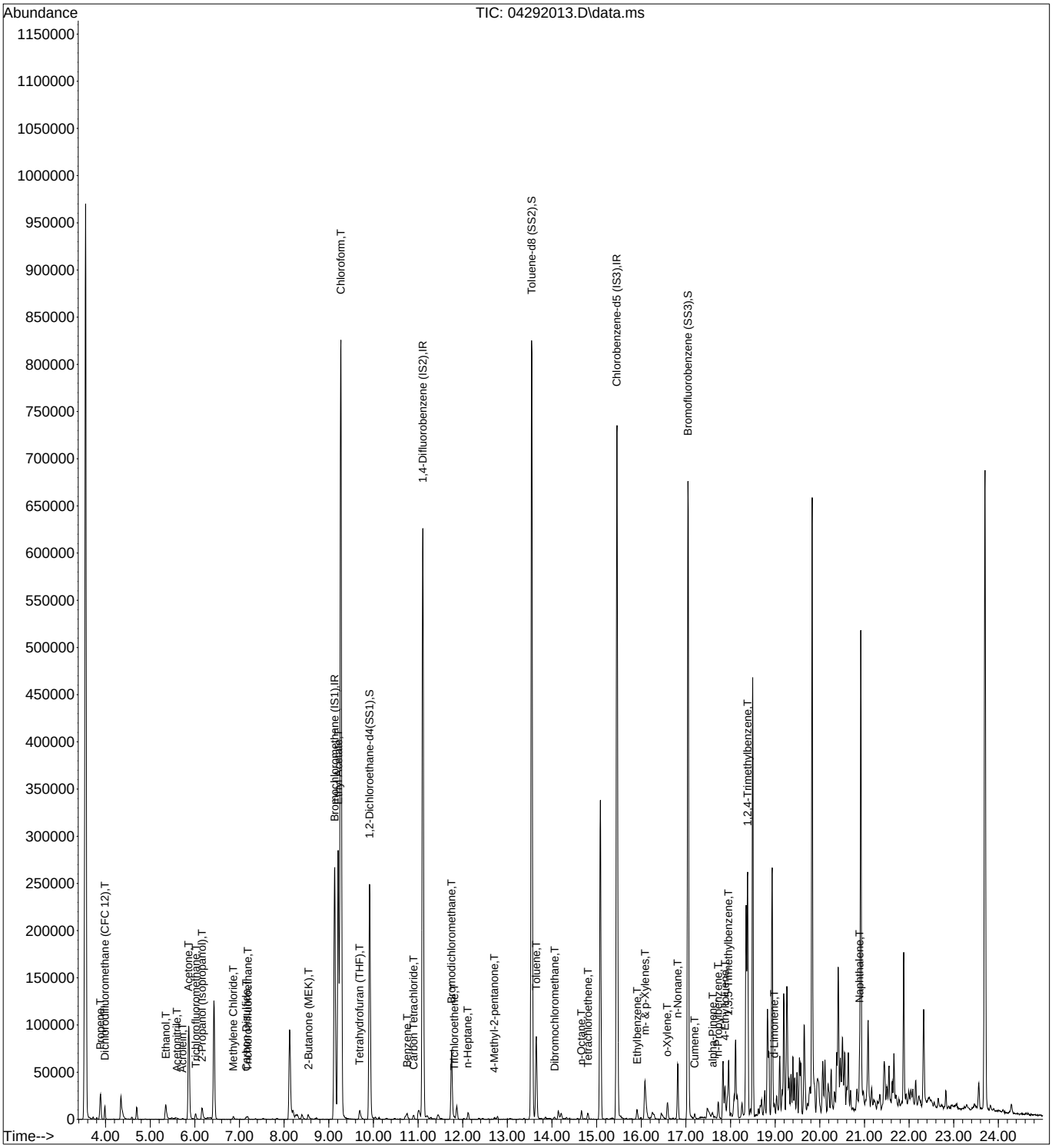
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	153480	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	645873	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.45	82	285815	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	230359	11.584	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.64%				
57) Toluene-d8 (SS2)	13.54	98	710231	12.870	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.96%				
73) Bromofluorobenzene (SS3)	17.05	174	270601	12.201	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.60%				
Target Compounds							Qvalue
2) Propene	3.88	42	6108	0.937	ng	#	62
3) Dichlorodifluoromethan...	3.99	85	10835	0.437	ng		98
10) Ethanol	5.35	45	29987	6.073	ng		99
11) Acetonitrile	5.60	41	796	0.068	ng	#	24
12) Acrolein	5.72	56	984	0.218	ng		89
13) Acetone	5.86	58	19841	3.347	ng	#	68
14) Trichlorofluoromethane	6.02	101	5594	0.227	ng		96
15) 2-Propanol (Isopropanol)	6.16	45	25635	1.361	ng		91
19) Methylene Chloride	6.86	84	1781	0.171	ng		92
21) Trichlorotrifluoroethane	7.19	151	1263	0.098	ng		95
22) Carbon Disulfide	7.15	76	5367	0.155	ng		87
27) 2-Butanone (MEK)	8.54	72	2895	0.475	ng		92
30) Ethyl Acetate	9.21	61	60397	22.288	ng		96
32) Chloroform	9.27	83	795192	37.787	ng		99
34) Tetrahydrofuran (THF)	9.69	72	3896	0.632	ng		96
41) Benzene	10.76	78	4593	0.109	ng		99
42) Carbon Tetrachloride	10.90	117	3263	0.150	ng		93
46) Bromodichloromethane	11.75	83	57074	3.294	ng		99
47) Trichloroethene	11.81	130	824	0.057	ng		98
51) n-Heptane	12.11	71	2128	0.218	ng		88
53) 4-Methyl-2-pentanone	12.71	58	522	0.071	ng	#	3
58) Toluene	13.65	91	77844	1.680	ng		100
60) Dibromochloromethane	14.06	129	1110	0.071	ng		92
63) n-Octane	14.66	57	1773	0.240	ng		87
64) Tetrachloroethene	14.81	166	2817	0.161	ng		98
66) Ethylbenzene	15.91	91	10069	0.187	ng		98
67) m- & p-Xylenes	16.08	91	39479	0.867	ng		97
70) o-Xylene	16.58	91	13128	0.293	ng		98
71) n-Nonane	16.82	43	19242	1.334	ng		96
74) Cumene	17.19	105	3058	0.052	ng		97
75) alpha-Pinene	17.60	93	1559	0.059	ng	#	1
76) n-Propylbenzene	17.72	91	17307	0.272	ng		97
78) 4-Ethyltoluene	17.88	105	23002	0.415	ng		100
79) 1,3,5-Trimethylbenzene	17.95	105	28555	0.557	ng		99
82) 1,2,4-Trimethylbenzene	18.38	105	157217	3.172	ng		89
91) d-Limonene	18.98	68	2443	0.174	ng		100
95) Naphthalene	20.89	128	47940	0.751	ng		96

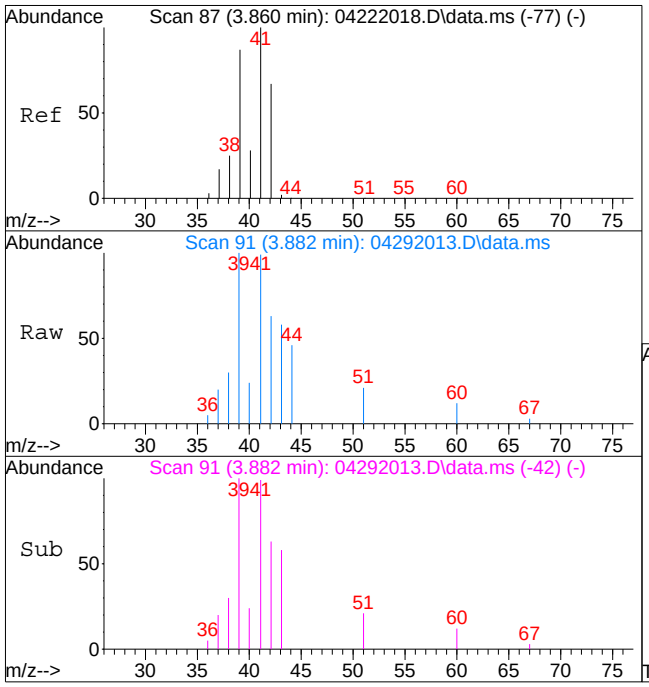
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292013.D Vial: 13
Acq On : 29 Apr 2020 12:06 Operator: TD
Sample : P2002030-018 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 12:48:40 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

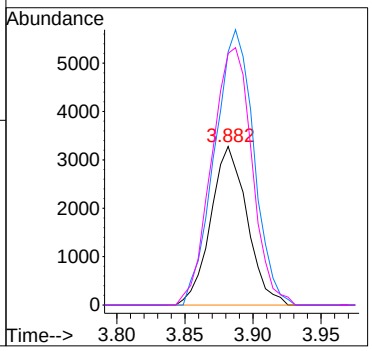


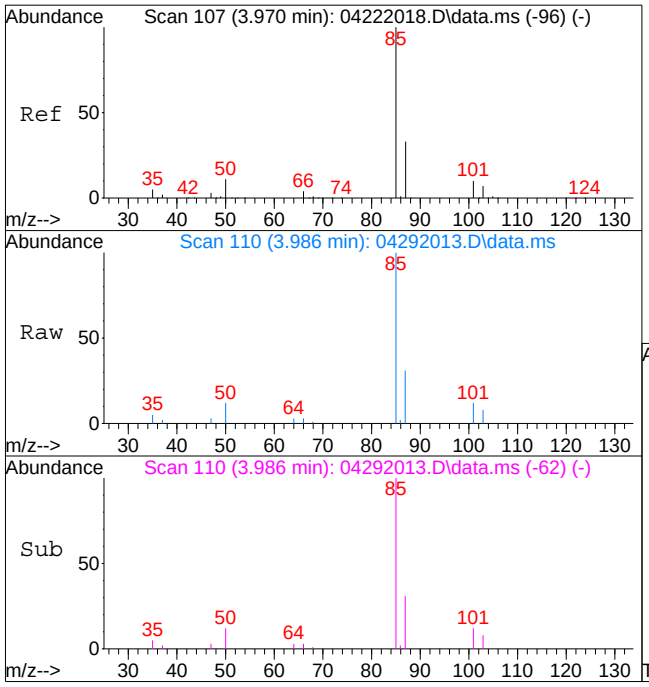


#2
Propene
Concen: 0.94 ng
RT: 3.88 min Scan# 91
Delta R.T. 0.022 min
Lab File: 04292013.D
Acq: 29 Apr 2020 12:06

Tgt Ion: 42 Resp: 6108

Ion	Ratio	Lower	Upper
42	100		
39	187.3	106.4	146.4#
41	179.7	128.8	168.8#

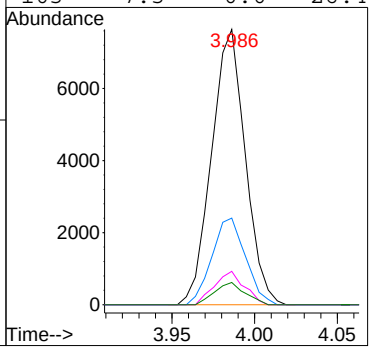


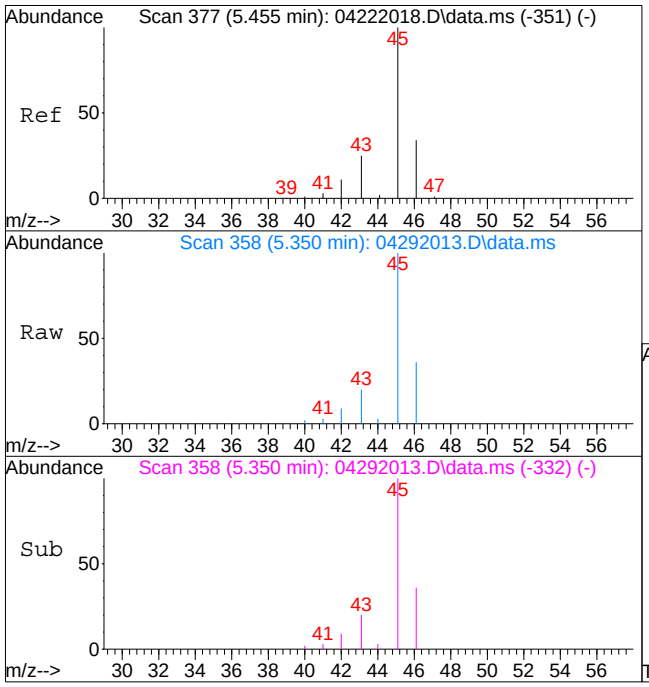


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.44 ng
RT: 3.99 min Scan# 110
Delta R.T. 0.016 min
Lab File: 04292013.D
Acq: 29 Apr 2020 12:06

Tgt Ion: 85 Resp: 10835

Ion	Ratio	Lower	Upper
85	100		
87	31.5	12.4	52.4
101	10.8	0.0	29.9
103	7.3	0.0	26.4

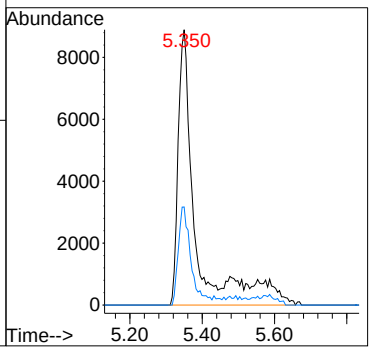


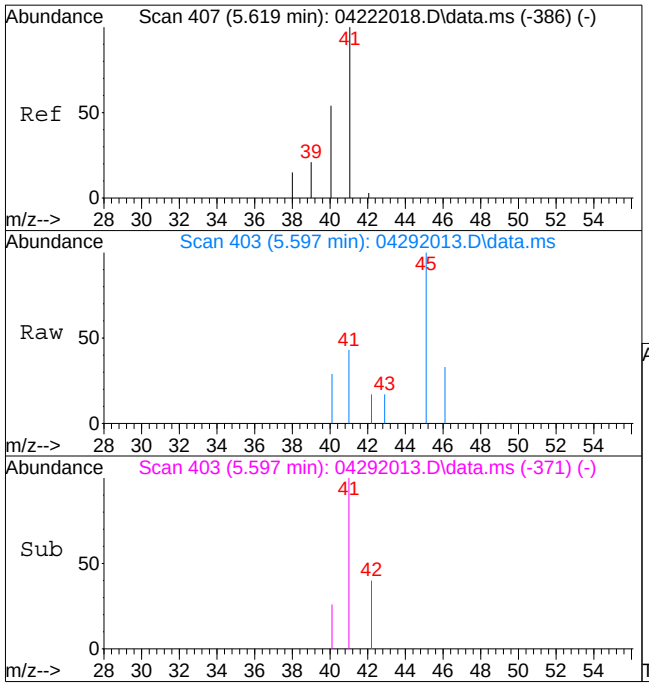


#10
Ethanol
Concen: 6.07 ng
RT: 5.35 min Scan# 358
Delta R.T. -0.105 min
Lab File: 04292013.D
Acq: 29 Apr 2020 12:06

Tgt Ion: 45 Resp: 29987

Ion	Ratio	Lower	Upper
45	100		
46	34.7	14.0	54.0

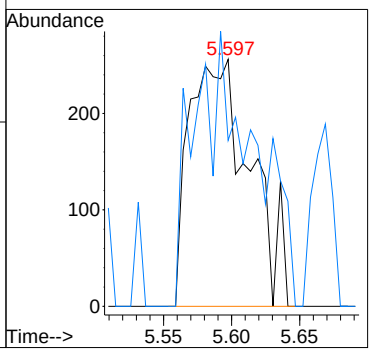


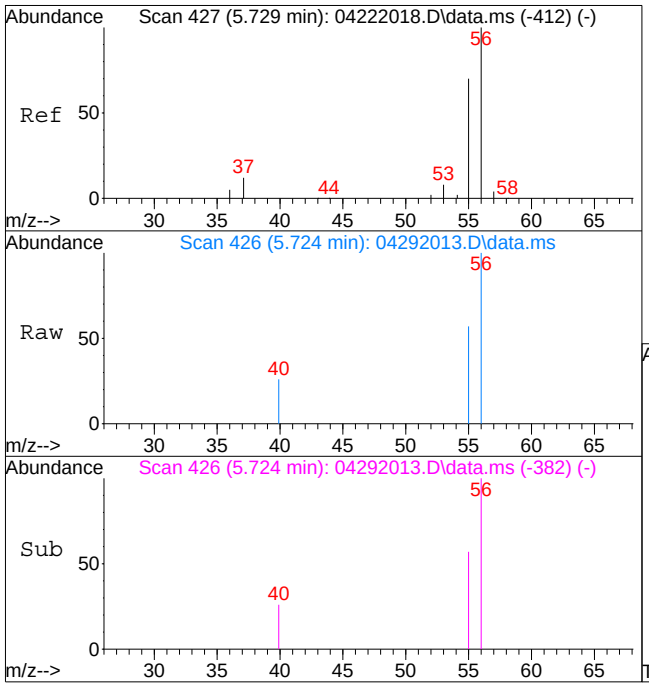


#11
Acetonitrile
Concen: 0.07 ng
RT: 5.60 min Scan# 403
Delta R.T. -0.022 min
Lab File: 04292013.D
Acq: 29 Apr 2020 12:06

Tgt Ion: 41 Resp: 796

Ion	Ratio	Lower	Upper
41	100		
40	109.7	34.8	74.8#

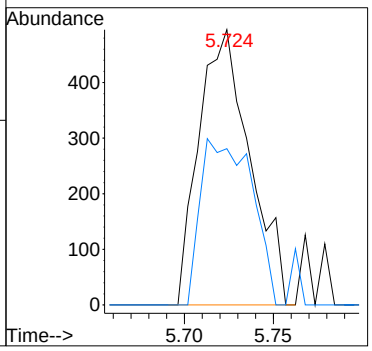


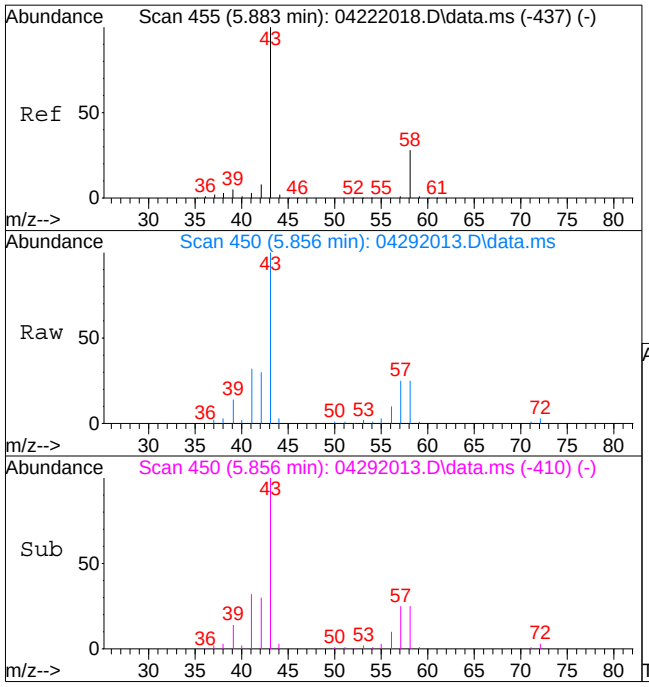


#12
Acrolein
Concen: 0.22 ng
RT: 5.72 min Scan# 426
Delta R.T. -0.006 min
Lab File: 04292013.D
Acq: 29 Apr 2020 12:06

Tgt Ion: 56 Resp: 984

Ion	Ratio	Lower	Upper
56	100		
55	61.0	50.4	90.4

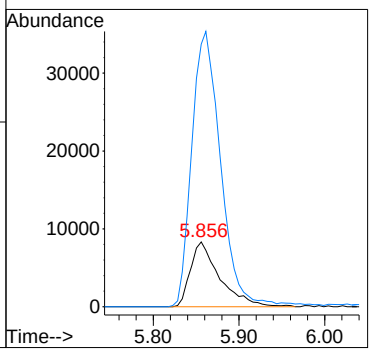


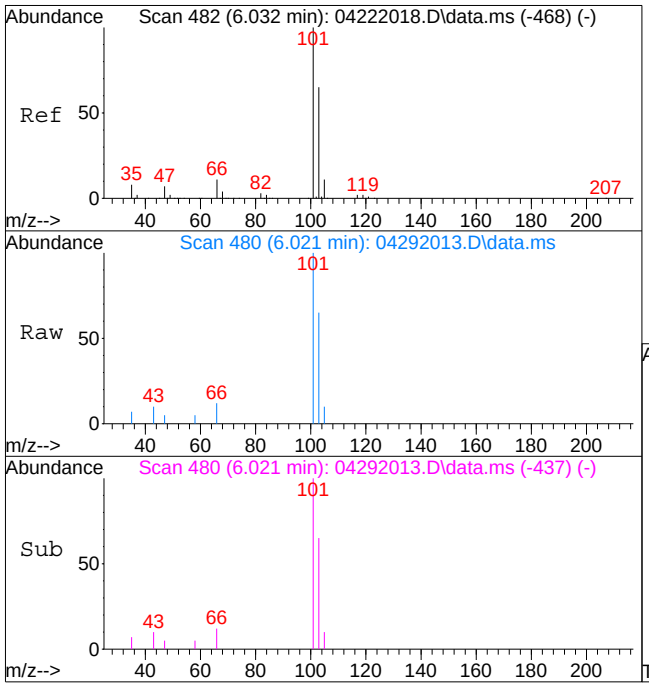


#13
Acetone
Concen: 3.35 ng
RT: 5.86 min Scan# 450
Delta R.T. -0.028 min
Lab File: 04292013.D
Acq: 29 Apr 2020 12:06

Tgt Ion: 58 Resp: 19841

Ion	Ratio	Lower	Upper
58	100		
43	419.7	319.3	379.3#

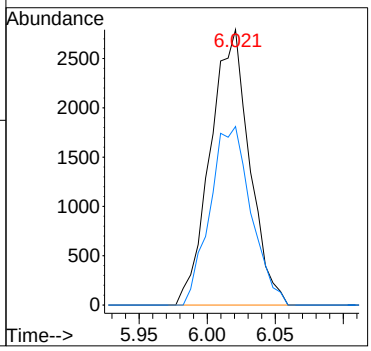


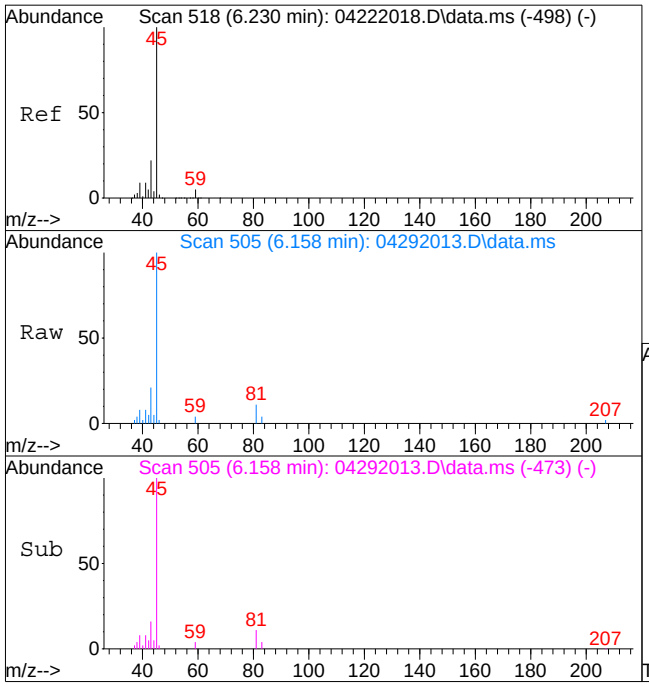


#14
Trichlorofluoromethane
Concen: 0.23 ng
RT: 6.02 min Scan# 480
Delta R.T. -0.011 min
Lab File: 04292013.D
Acq: 29 Apr 2020 12:06

Tgt Ion:101 Resp: 5594

Ion	Ratio	Lower	Upper
101	100		
103	67.9	44.7	84.7

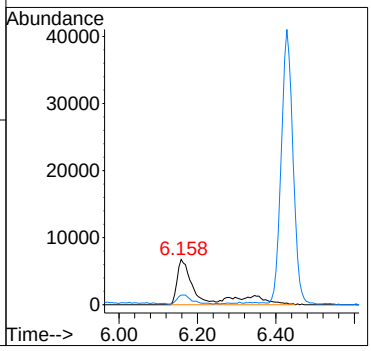


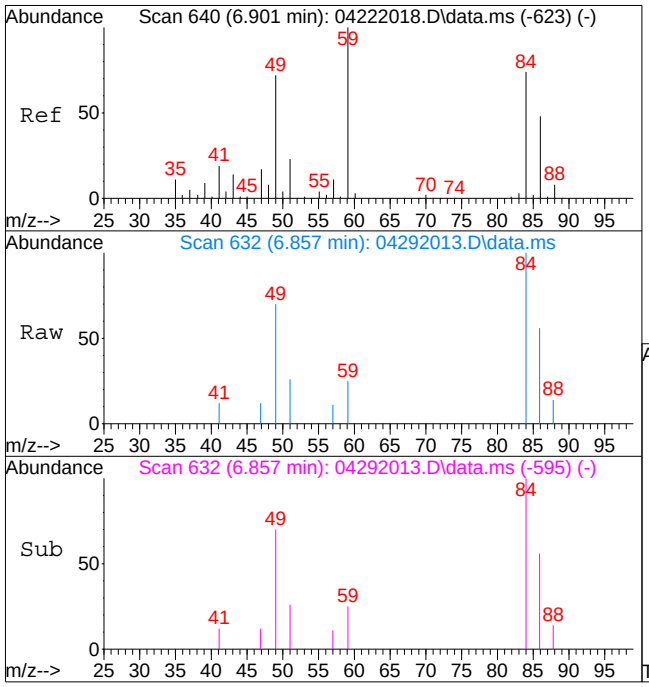


#15
2-Propanol (Isopropanol)
Concen: 1.36 ng
RT: 6.16 min Scan# 505
Delta R.T. -0.072 min
Lab File: 04292013.D
Acq: 29 Apr 2020 12:06

Tgt Ion: 45 Resp: 25635

Ion	Ratio	Lower	Upper
45	100		
43	18.5	2.6	42.6

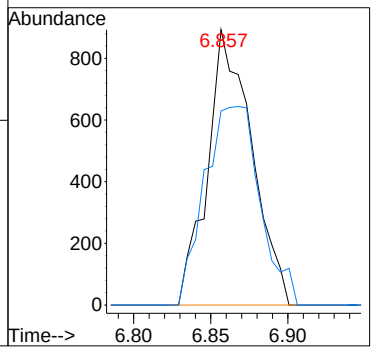


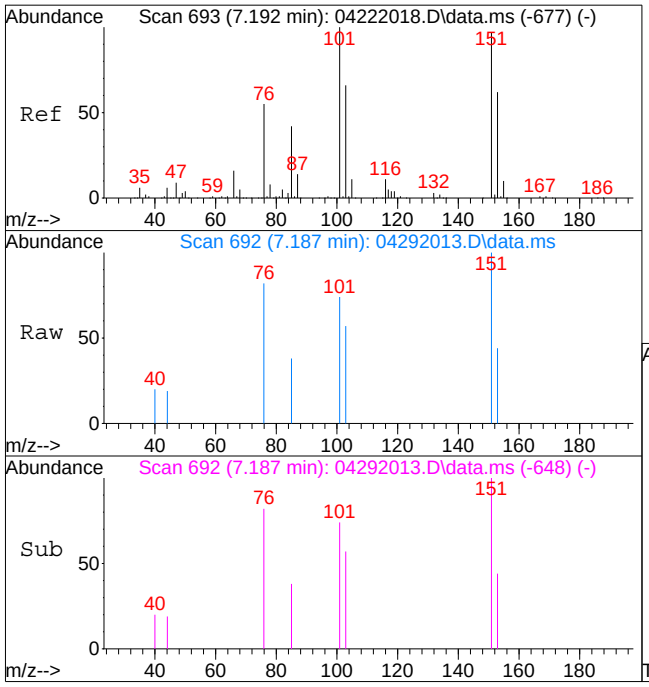


#19
Methylene Chloride
Concen: 0.17 ng
RT: 6.86 min Scan# 632
Delta R.T. -0.044 min
Lab File: 04292013.D
Acq: 29 Apr 2020 12:06

Tgt Ion: 84 Resp: 1781

Ion	Ratio	Lower	Upper
84	100		
49	90.2	73.0	123.0

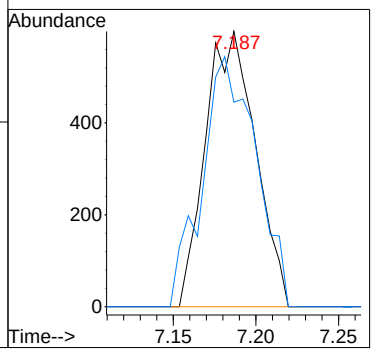


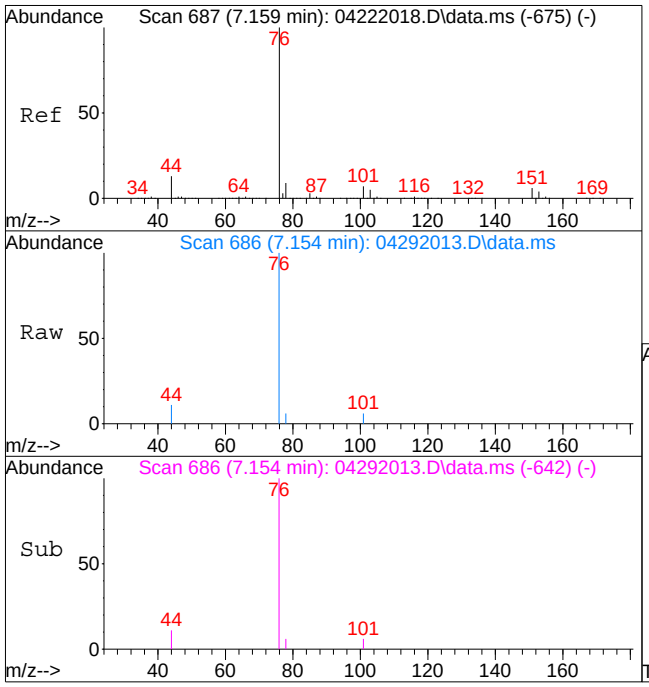


#21
Trichlorotrifluoroethane
Concen: 0.10 ng
RT: 7.19 min Scan# 692
Delta R.T. -0.006 min
Lab File: 04292013.D
Acq: 29 Apr 2020 12:06

Tgt Ion:151 Resp: 1263

Ion	Ratio	Lower	Upper
151	100		
101	97.5	82.9	122.9

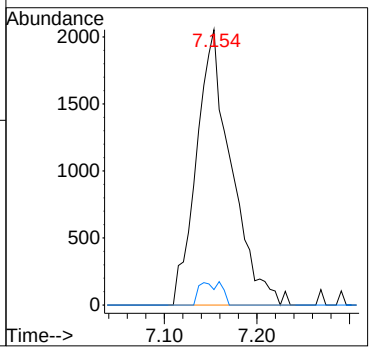


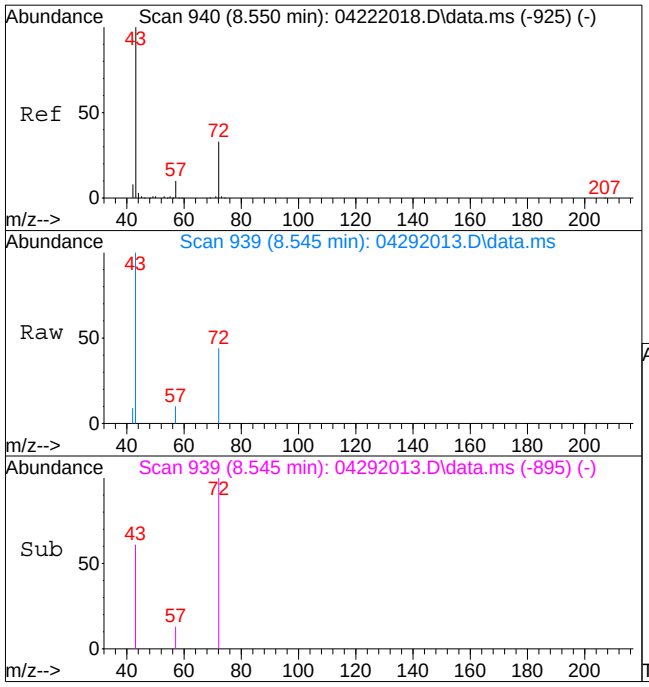


#22
Carbon Disulfide
Concen: 0.16 ng
RT: 7.15 min Scan# 686
Delta R.T. -0.006 min
Lab File: 04292013.D
Acq: 29 Apr 2020 12:06

Tgt Ion: 76 Resp: 5367

Ion	Ratio	Lower	Upper
76	100		
78	5.3	0.0	30.2

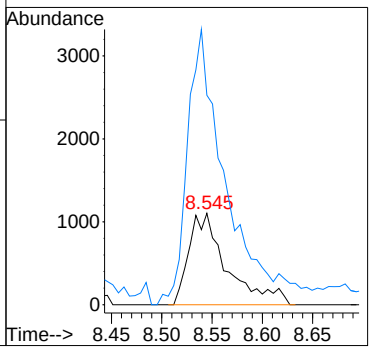


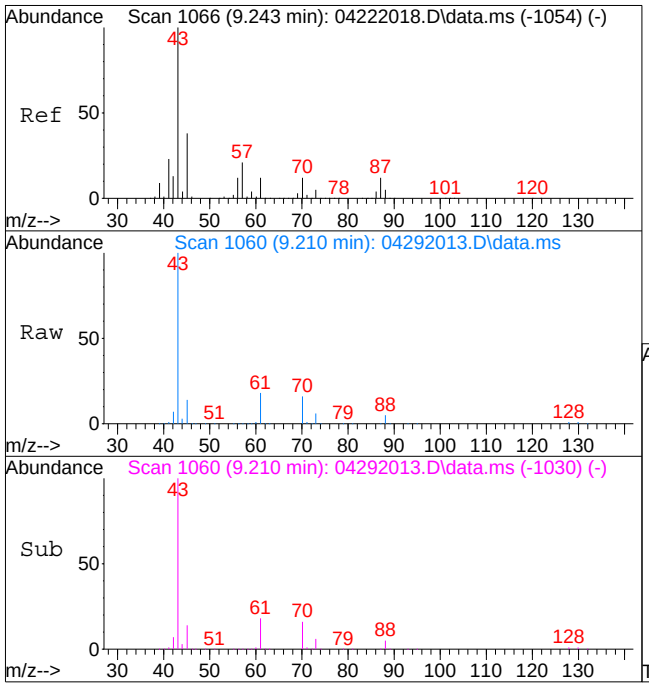


#27
2-Butanone (MEK)
Concen: 0.48 ng
RT: 8.54 min Scan# 939
Delta R.T. -0.006 min
Lab File: 04292013.D
Acq: 29 Apr 2020 12:06

Tgt Ion: 72 Resp: 2895

Ion	Ratio	Lower	Upper
72	100		
43	315.1	278.8	318.8

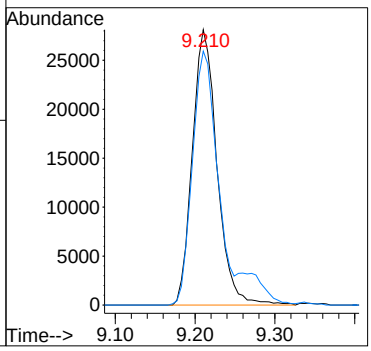


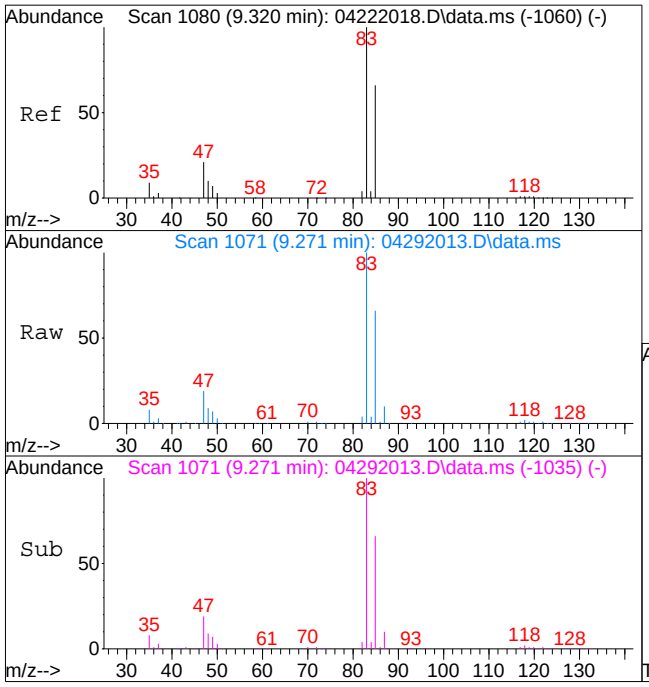


#30
Ethyl Acetate
Concen: 22.29 ng
RT: 9.21 min Scan# 1060
Delta R.T. -0.033 min
Lab File: 04292013.D
Acq: 29 Apr 2020 12:06

Tgt Ion: 61 Resp: 60397

Ion	Ratio	Lower	Upper
61	100		
70	105.0	80.6	120.6

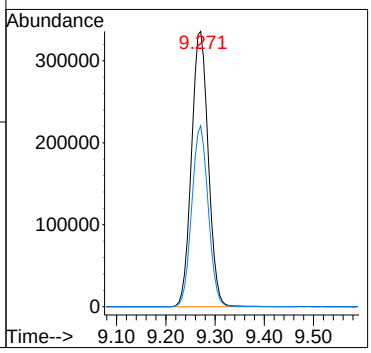


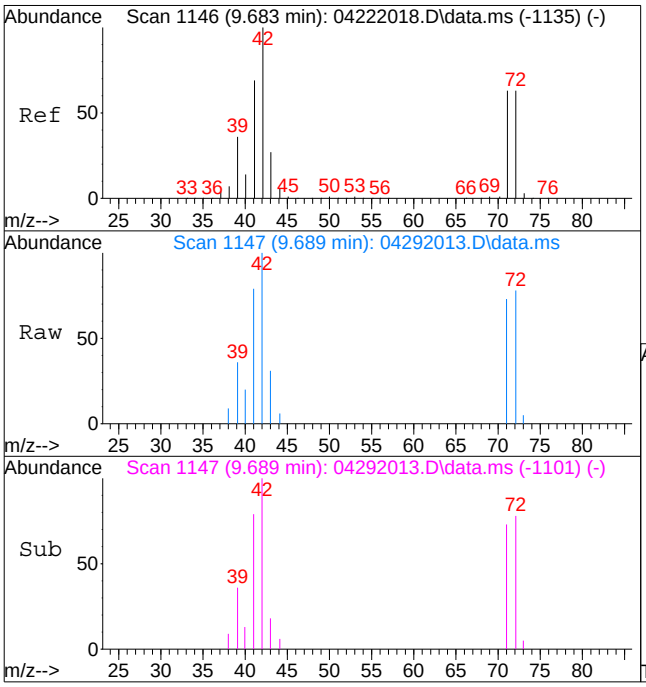


#32
Chloroform
Concen: 37.79 ng
RT: 9.27 min Scan# 1071
Delta R.T. -0.050 min
Lab File: 04292013.D
Acq: 29 Apr 2020 12:06

Tgt Ion: 83 Resp: 795192

Ion	Ratio	Lower	Upper
83	100		
85	64.6	45.8	85.8

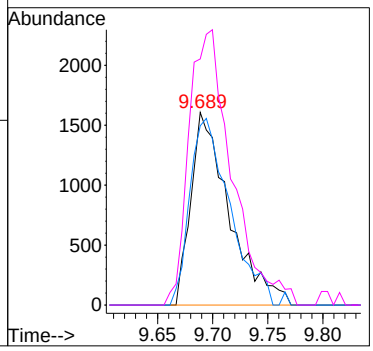


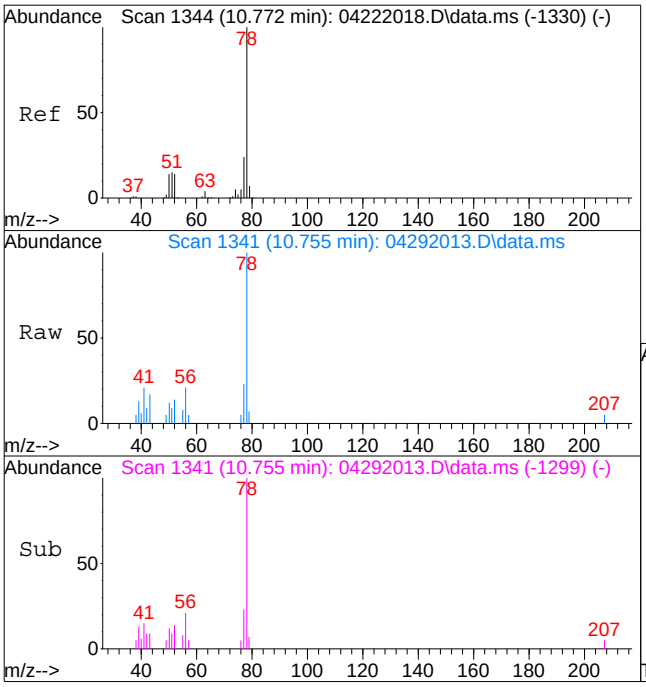


#34
Tetrahydrofuran (THF)
Concen: 0.63 ng
RT: 9.69 min Scan# 1147
Delta R.T. 0.005 min
Lab File: 04292013.D
Acq: 29 Apr 2020 12:06

Tgt Ion: 72 Resp: 3896

Ion	Ratio	Lower	Upper
72	100		
71	101.1	77.9	117.9
42	159.8	133.9	173.9

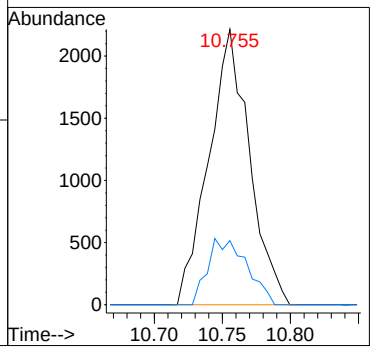


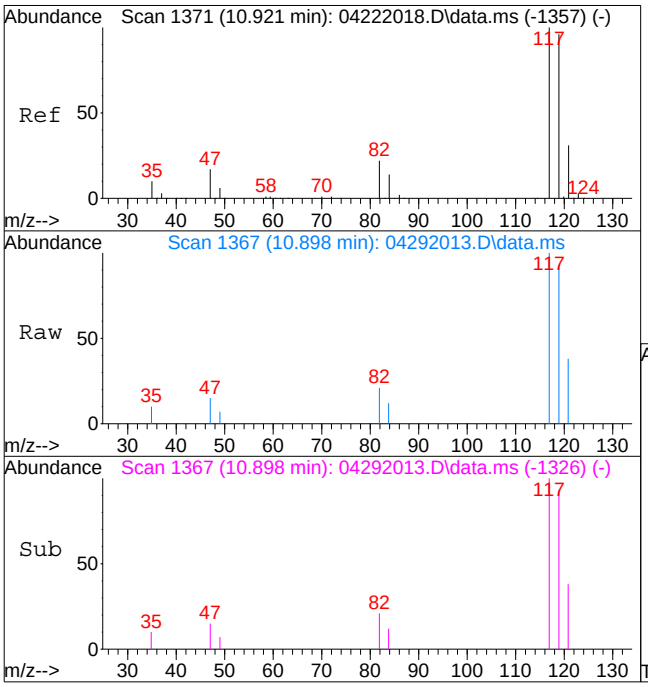


#41
Benzene
Concen: 0.11 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.017 min
Lab File: 04292013.D
Acq: 29 Apr 2020 12:06

Tgt Ion: 78 Resp: 4593

Ion	Ratio	Lower	Upper
78	100		
77	23.1	3.6	43.6

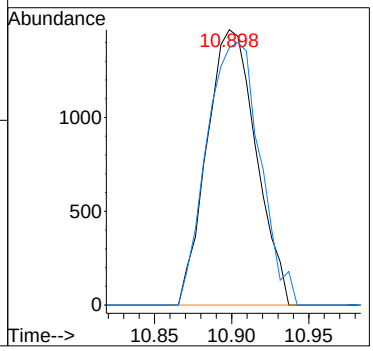


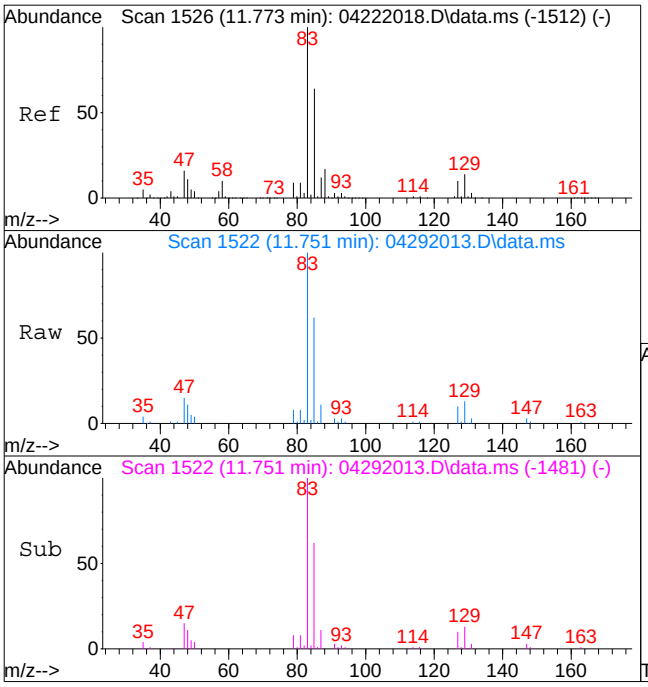


#42
Carbon Tetrachloride
Concen: 0.15 ng
RT: 10.90 min Scan# 1367
Delta R.T. -0.022 min
Lab File: 04292013.D
Acq: 29 Apr 2020 12:06

Tgt Ion:117 Resp: 3263

Ion	Ratio	Lower	Upper
117	100		
119	103.0	76.5	116.5

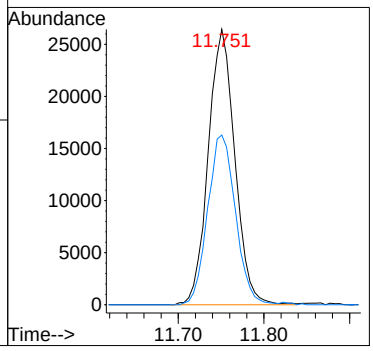


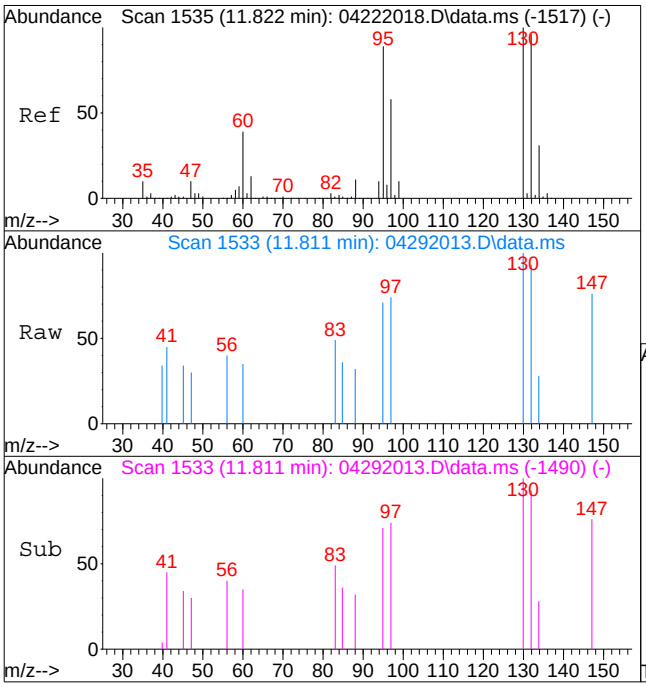


#46
Bromodichloromethane
Concen: 3.29 ng
RT: 11.75 min Scan# 1522
Delta R.T. -0.022 min
Lab File: 04292013.D
Acq: 29 Apr 2020 12:06

Tgt Ion: 83 Resp: 57074

Ion	Ratio	Lower	Upper
83	100		
85	64.3	44.9	84.9

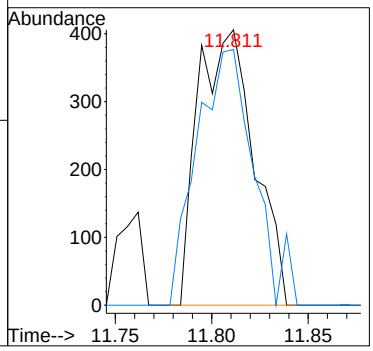


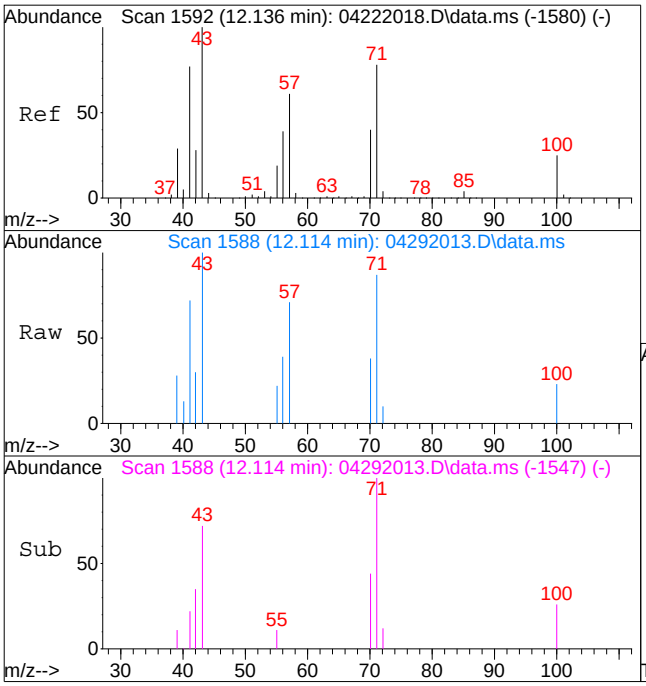


#47
Trichloroethene
Concen: 0.06 ng
RT: 11.81 min Scan# 1533
Delta R.T. -0.011 min
Lab File: 04292013.D
Acq: 29 Apr 2020 12:06

Tgt Ion:130 Resp: 824

Ion	Ratio	Lower	Upper
130	100		
132	94.5	76.4	116.4

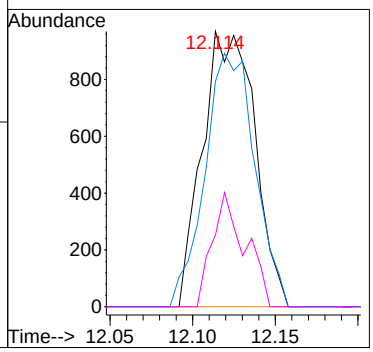


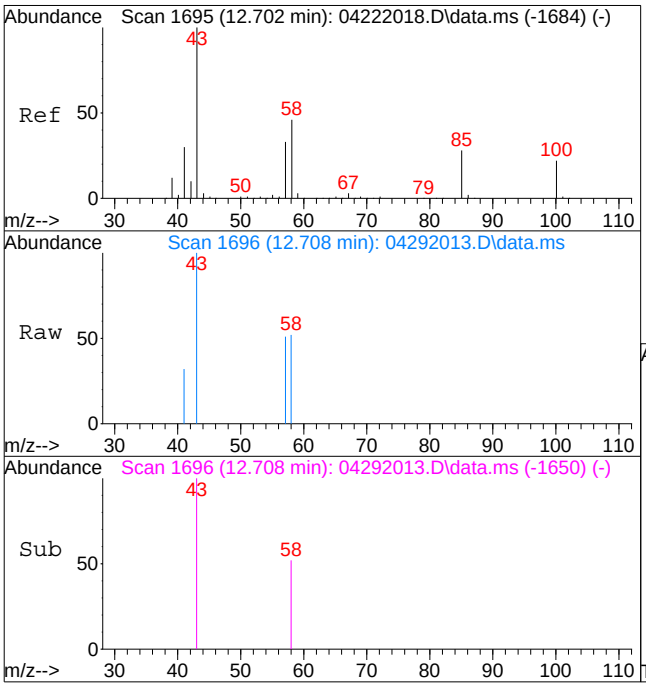


#51
n-Heptane
Concen: 0.22 ng
RT: 12.11 min Scan# 1588
Delta R.T. -0.022 min
Lab File: 04292013.D
Acq: 29 Apr 2020 12:06

Tgt Ion: 71 Resp: 2128

Ion	Ratio	Lower	Upper
71	100		
57	88.1	57.4	97.4
100	26.0	12.0	52.0

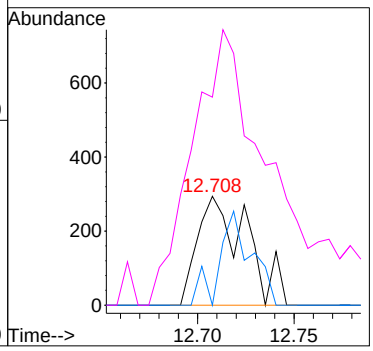


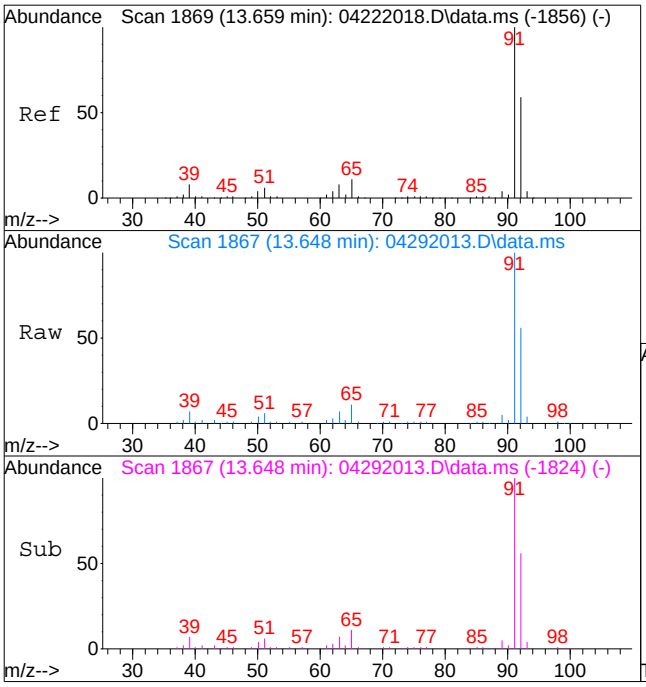


#53
4-Methyl-2-pentanone
Concen: 0.07 ng
RT: 12.71 min Scan# 1696
Delta R.T. 0.005 min
Lab File: 04292013.D
Acq: 29 Apr 2020 12:06

Tgt Ion: 58 Resp: 522

Ion	Ratio	Lower	Upper
58	100		
85	56.5	52.2	78.2
43	417.4	176.2	264.4#

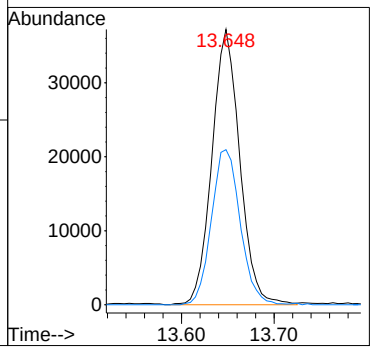


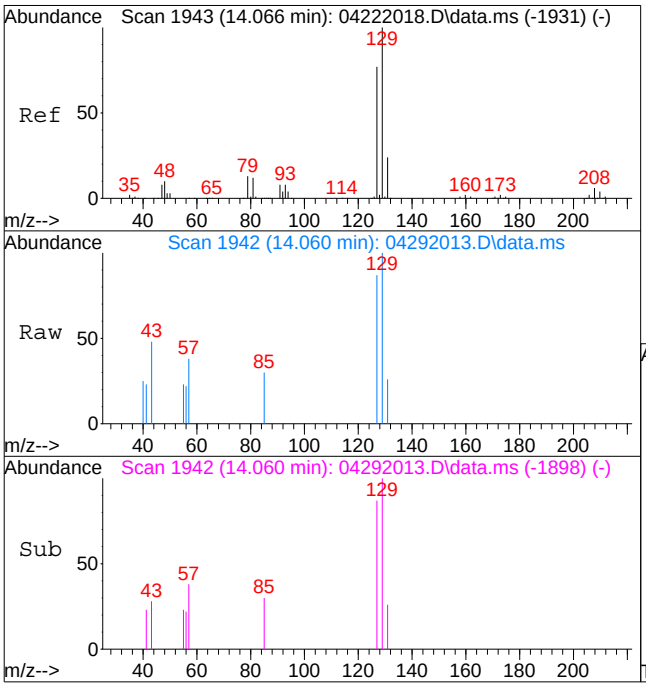


#58
Toluene
Concen: 1.68 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.011 min
Lab File: 04292013.D
Acq: 29 Apr 2020 12:06

Tgt Ion: 91 Resp: 77844

Ion	Ratio	Lower	Upper
91	100		
92	58.4	38.2	78.2

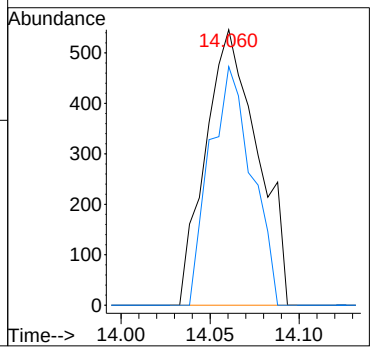


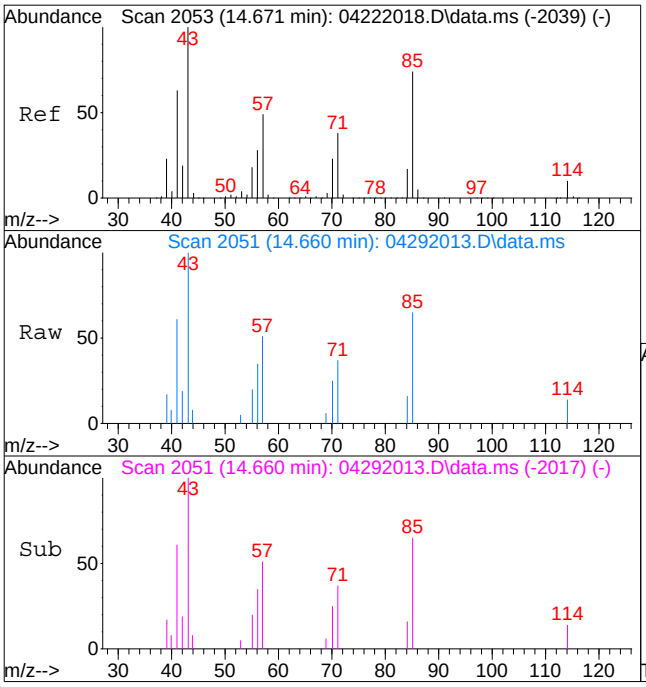


#60
Dibromochloromethane
Concen: 0.07 ng
RT: 14.06 min Scan# 1942
Delta R.T. -0.006 min
Lab File: 04292013.D
Acq: 29 Apr 2020 12:06

Tgt Ion:129 Resp: 1110

Ion	Ratio	Lower	Upper
129	100		
127	70.1	56.9	96.9

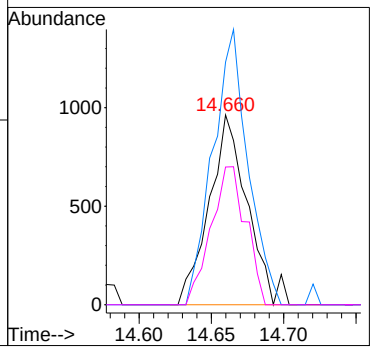


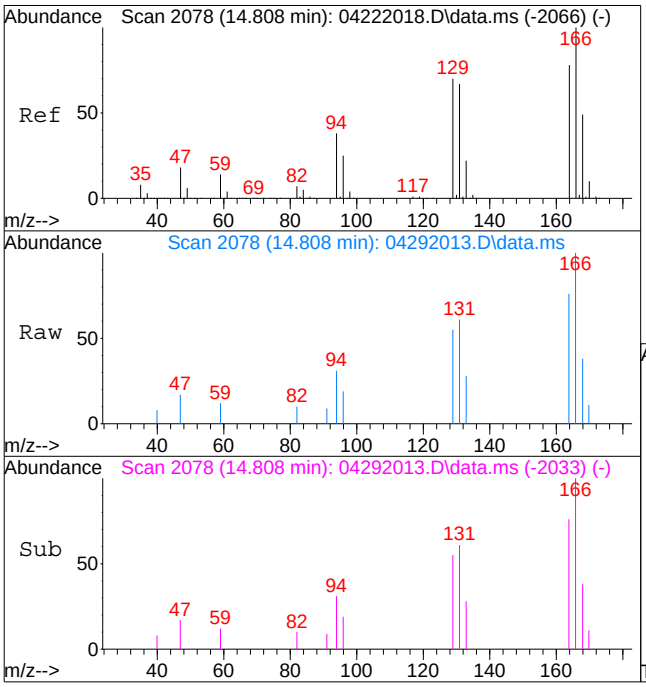


#63
n-Octane
Concen: 0.24 ng
RT: 14.66 min Scan# 2051
Delta R.T. -0.011 min
Lab File: 04292013.D
Acq: 29 Apr 2020 12:06

Tgt Ion: 57 Resp: 1773

Ion	Ratio	Lower	Upper
57	100		
85	133.3	120.7	181.1
71	66.4	61.1	91.7

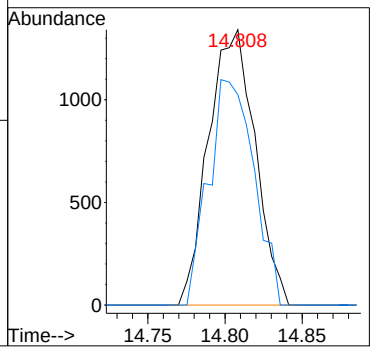


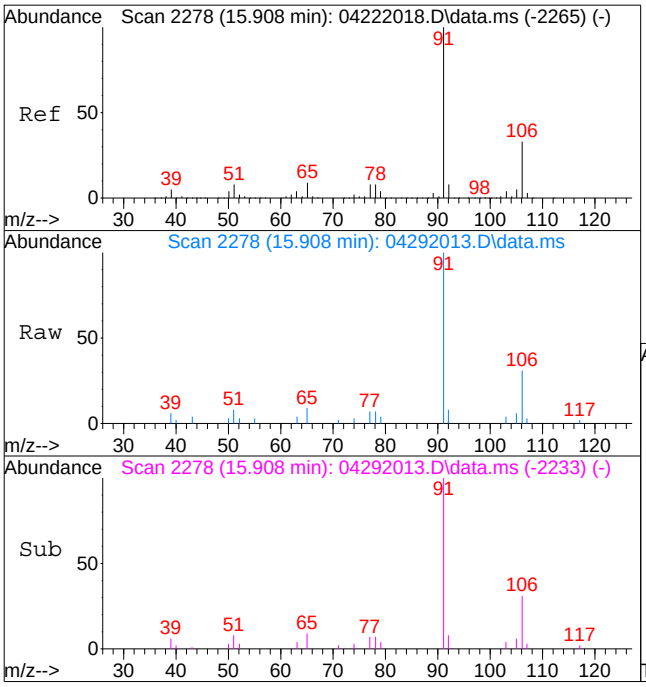


#64
Tetrachloroethene
Concen: 0.16 ng
RT: 14.81 min Scan# 2078
Delta R.T. -0.000 min
Lab File: 04292013.D
Acq: 29 Apr 2020 12:06

Tgt Ion:166 Resp: 2817

Ion	Ratio	Lower	Upper
166	100		
164	79.8	57.7	97.7

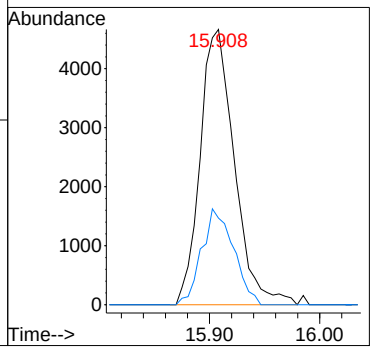


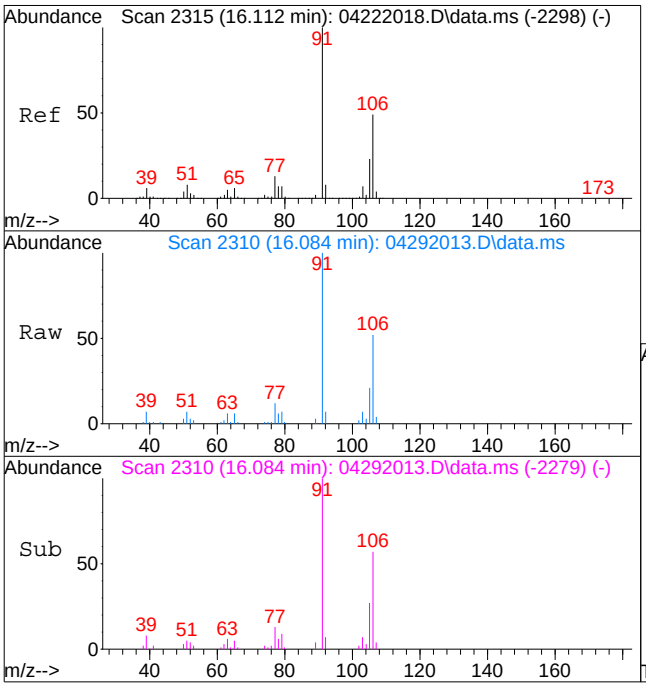


#66
Ethylbenzene
Concen: 0.19 ng
RT: 15.91 min Scan# 2278
Delta R.T. -0.000 min
Lab File: 04292013.D
Acq: 29 Apr 2020 12:06

Tgt Ion: 91 Resp: 10069

Ion	Ratio	Lower	Upper
91	100		
106	32.4	13.4	53.4

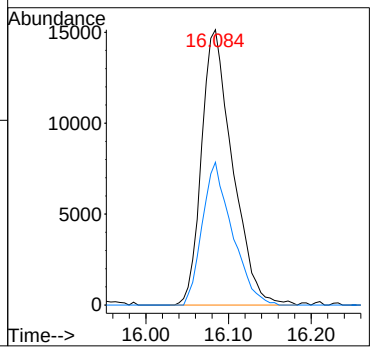


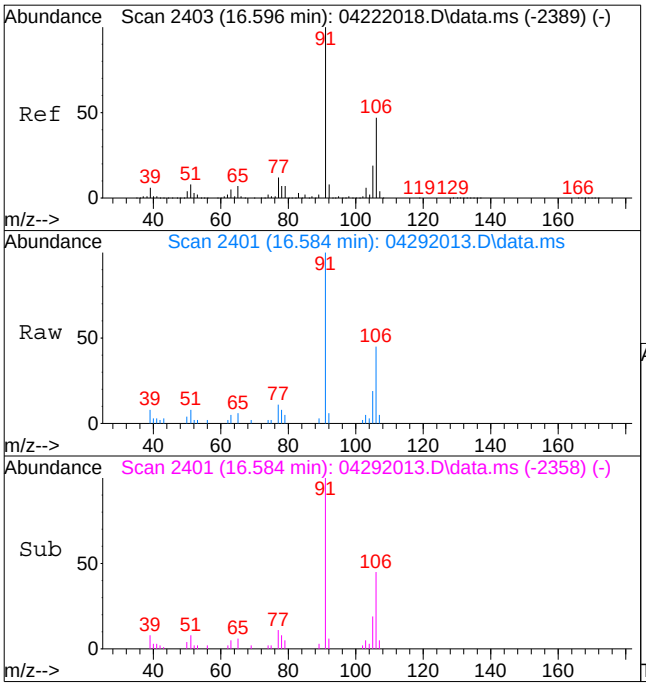


#67
m- & p-Xylenes
Concen: 0.87 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.028 min
Lab File: 04292013.D
Acq: 29 Apr 2020 12:06

Tgt Ion: 91 Resp: 39479

Ion	Ratio	Lower	Upper
91	100		
106	50.1	28.3	68.3

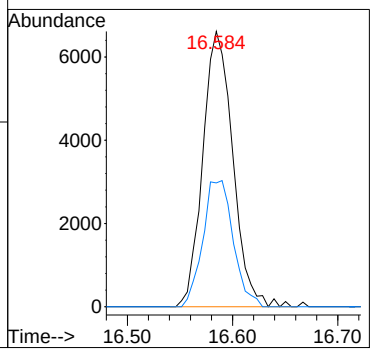


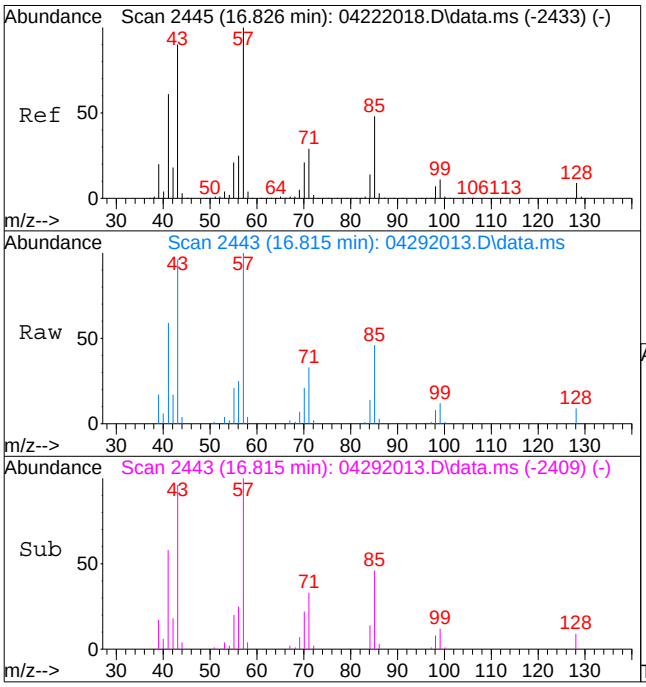


#70
o-Xylene
Concen: 0.29 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 04292013.D
Acq: 29 Apr 2020 12:06

Tgt Ion: 91 Resp: 13128

Ion	Ratio	Lower	Upper
91	100		
106	46.3	27.5	67.5

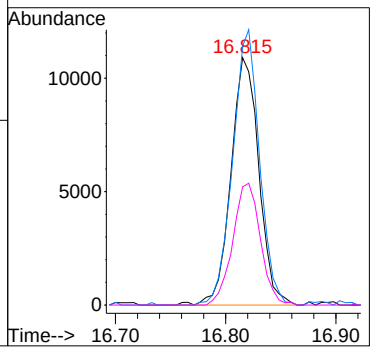


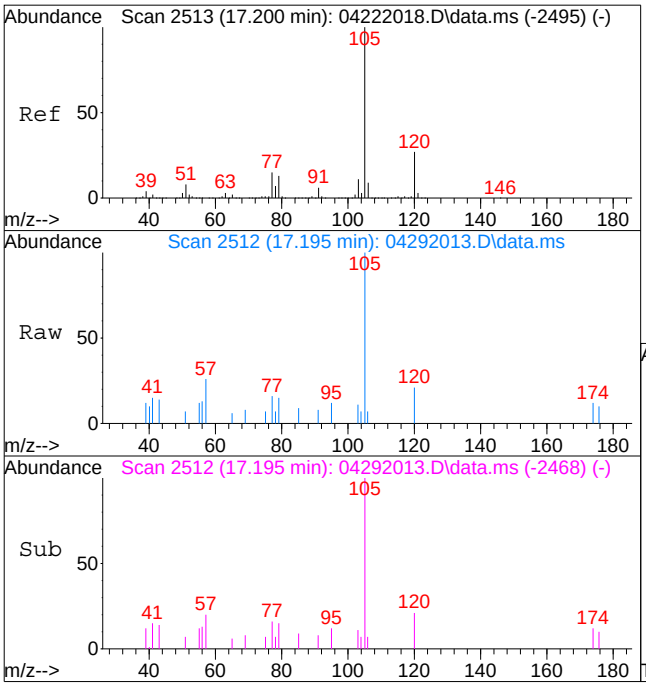


#71
n-Nonane
Concen: 1.33 ng
RT: 16.82 min Scan# 2443
Delta R.T. -0.011 min
Lab File: 04292013.D
Acq: 29 Apr 2020 12:06

Tgt Ion: 43 Resp: 19242

Ion	Ratio	Lower	Upper
43	100		
57	106.8	90.8	130.8
85	48.7	32.1	72.1

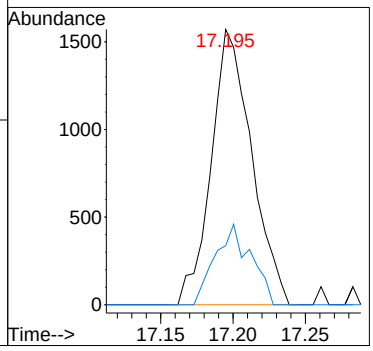


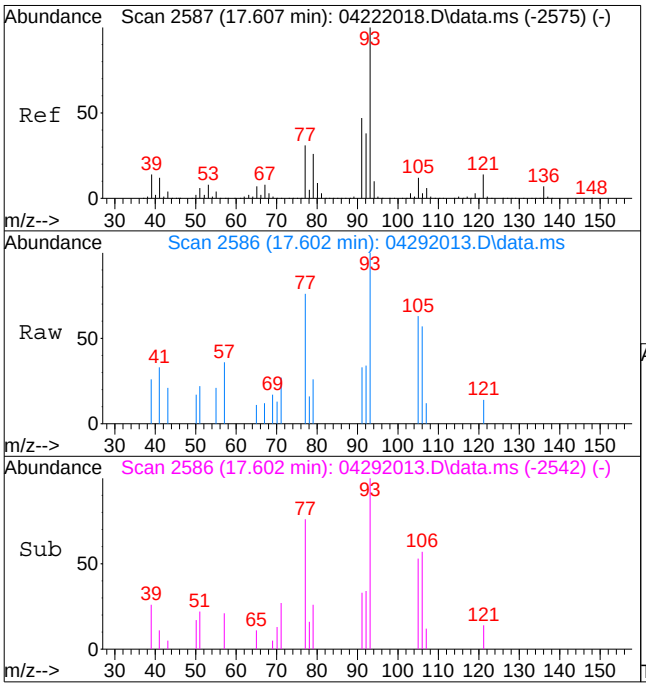


#74
Cumene
Concen: 0.05 ng
RT: 17.19 min Scan# 2512
Delta R.T. -0.006 min
Lab File: 04292013.D
Acq: 29 Apr 2020 12:06

Tgt Ion:105 Resp: 3058

Ion	Ratio	Lower	Upper
105	100		
120	25.8	7.3	47.3

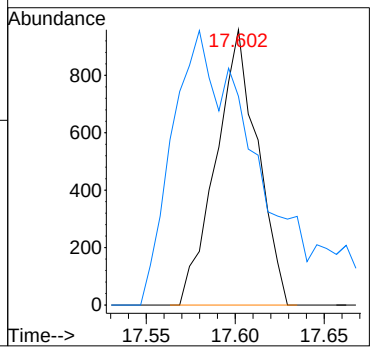


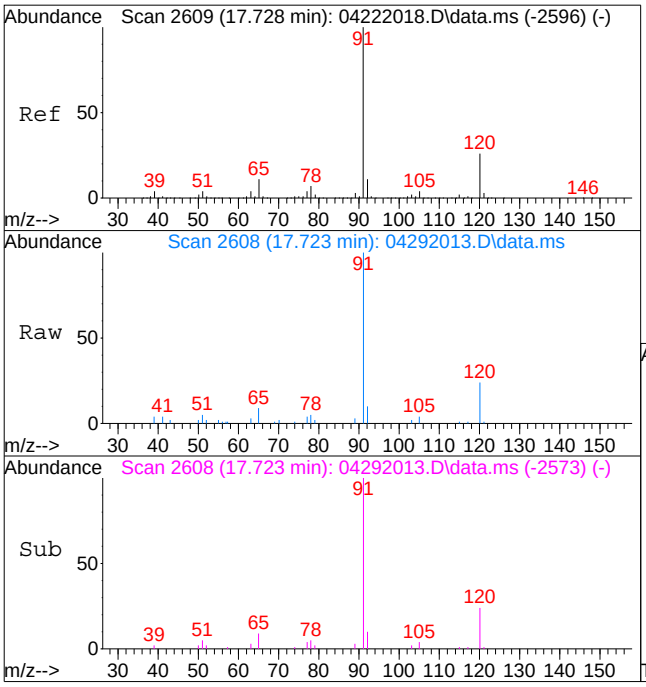


#75
alpha-Pinene
Concen: 0.06 ng
RT: 17.60 min Scan# 2586
Delta R.T. -0.006 min
Lab File: 04292013.D
Acq: 29 Apr 2020 12:06

Tgt Ion: 93 Resp: 1559

Ion	Ratio	Lower	Upper
93	100		
77	223.2	10.6	50.6#

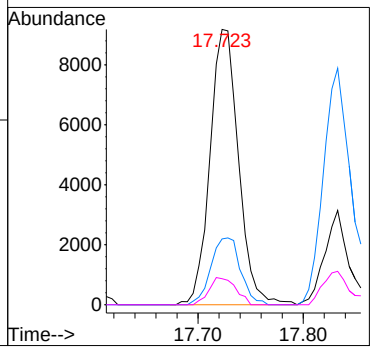


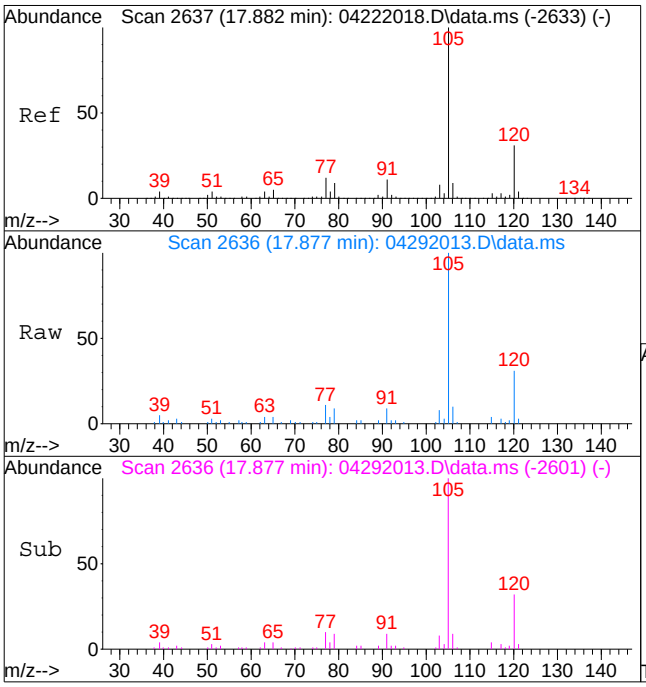


#76
n-Propylbenzene
Concen: 0.27 ng
RT: 17.72 min Scan# 2608
Delta R.T. -0.006 min
Lab File: 04292013.D
Acq: 29 Apr 2020 12:06

Tgt Ion: 91 Resp: 17307

Ion	Ratio	Lower	Upper
91	100		
120	25.1	6.1	46.1
65	9.2	0.0	30.7

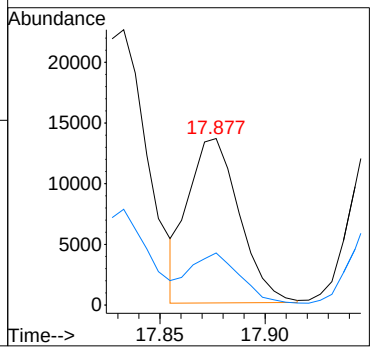


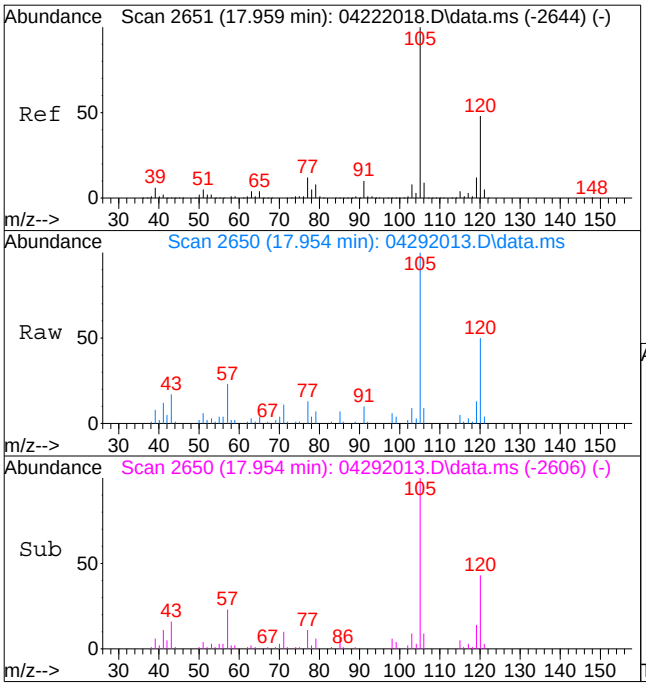


#78
4-Ethyltoluene
Concen: 0.41 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 04292013.D
Acq: 29 Apr 2020 12:06

Tgt Ion:105 Resp: 23002

Ion	Ratio	Lower	Upper
105	100		
120	31.4	11.4	51.4

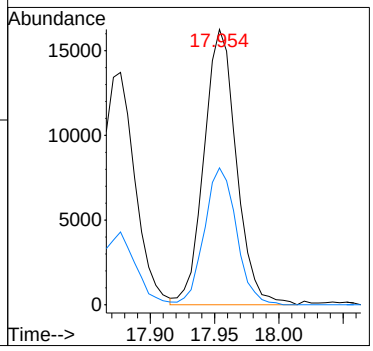


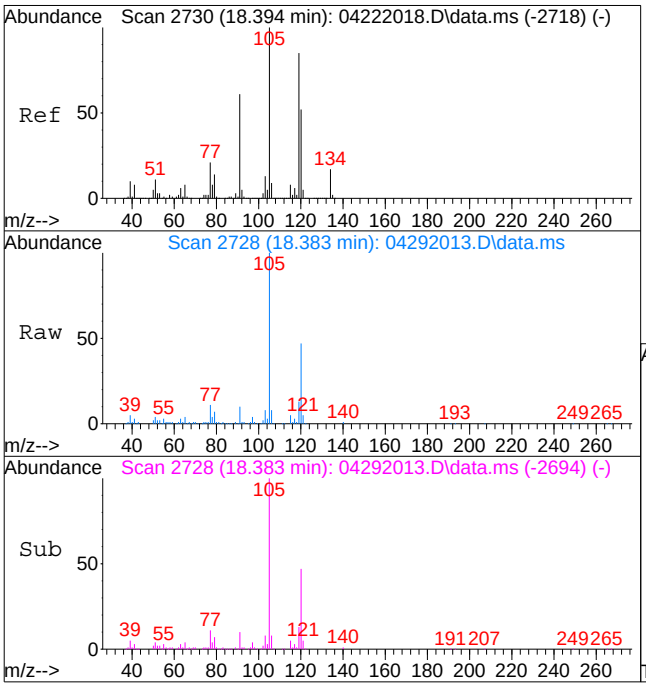


#79
1,3,5-Trimethylbenzene
Concen: 0.56 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 04292013.D
Acq: 29 Apr 2020 12:06

Tgt Ion:105 Resp: 28555

Ion	Ratio	Lower	Upper
105	100		
120	48.9	29.5	69.5

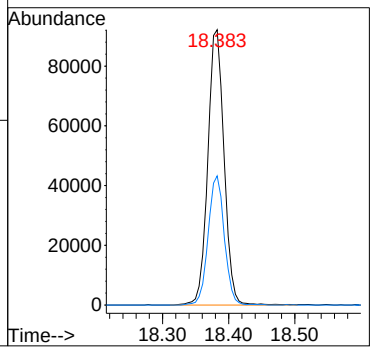


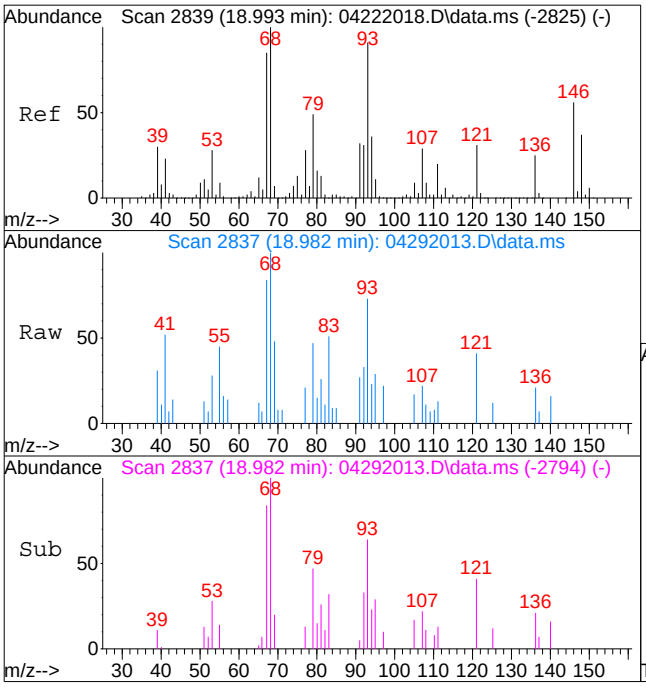


#82
1,2,4-Trimethylbenzene
Concen: 3.17 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 04292013.D
Acq: 29 Apr 2020 12:06

Tgt Ion:105 Resp: 157217

Ion	Ratio	Lower	Upper
105	100		
120	46.7	34.5	74.5

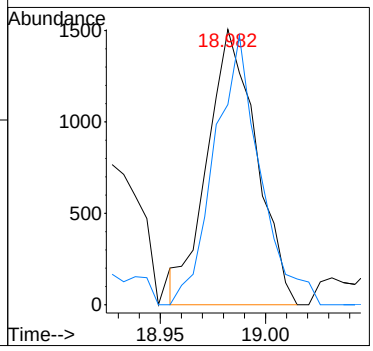


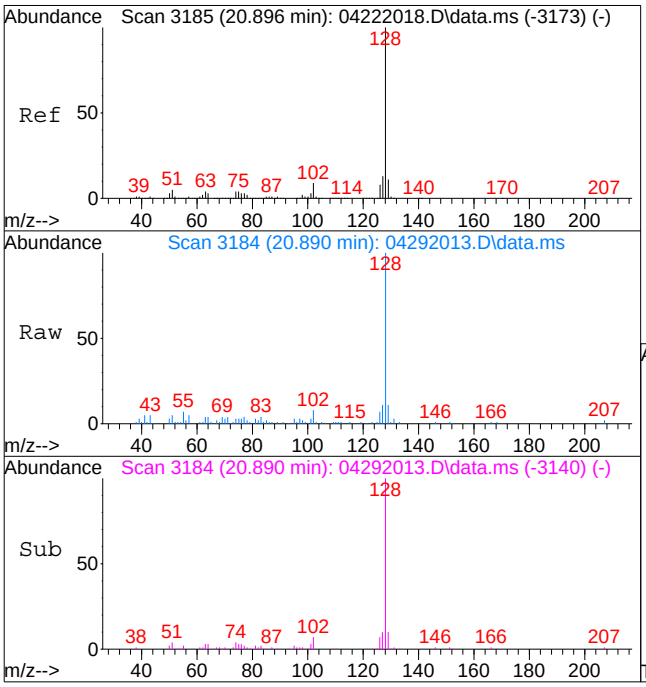


#91
d-Limonene
Concen: 0.17 ng
RT: 18.98 min Scan# 2837
Delta R.T. -0.011 min
Lab File: 04292013.D
Acq: 29 Apr 2020 12:06

Tgt Ion: 68 Resp: 2443

Ion	Ratio	Lower	Upper
68	100		
93	91.3	71.6	111.6

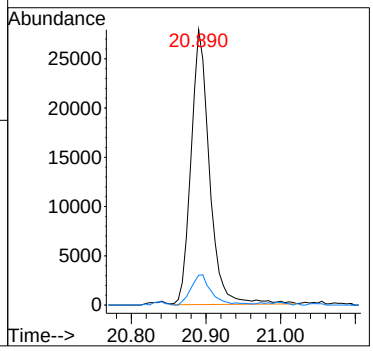




#95
Naphthalene
Concen: 0.75 ng
RT: 20.89 min Scan# 3184
Delta R.T. -0.006 min
Lab File: 04292013.D
Acq: 29 Apr 2020 12:06

Tgt Ion:128 Resp: 47940

Ion	Ratio	Lower	Upper
128	100		
129	12.3	0.0	30.9



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282027.D Vial: 14
Acq On : 29 Apr 2020 2:57 Operator: SC
Sample : P2002030-019 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 10:08:03 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020 4/29/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.14	130	150195	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	11.11	114	642381	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	284854	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.92	65	231774	11.910	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.28%				
57) Toluene-d8 (SS2)	13.54	98	703999	12.800	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.40%				
73) Bromofluorobenzene (SS3)	17.05	174	277419	12.550	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.40%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	3.99	85	10167	0.419	ng		99
4) Chloromethane	4.18	50	1741	0.195	ng		94
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	161	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.45	45	51	N.D.			
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	5.73	56	2265	0.513	ng		97
13) Acetone	5.87	58	53893	9.290	ng	#	74
14) Trichlorofluoromethane	6.02	101	5130	0.213	ng		98
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.	d		
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	6.86	84	4296	0.422	ng		97
20) 3-Chloro-1-propene (Al...	6.86	41	125	N.D.			
21) Trichlorotrifluoroethane	7.18	151	1187	0.095	ng		94
22) Carbon Disulfide	7.14	76	27463	0.812	ng		96
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	8.13	73	270	N.D.			
26) Vinyl Acetate	8.27	86	1707	0.806	ng	#	69
27) 2-Butanone (MEK)	8.53	72	10296	1.728	ng		99
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	9.22	57	594	N.D.			
32) Chloroform	9.27	83	7170053	348.168	ng		99
34) Tetrahydrofuran (THF)	9.67	72	226780	37.567	ng		99
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.76	78	2400	0.057	ng		90
42) Carbon Tetrachloride	10.90	117	72106	3.330	ng		99
43) Cyclohexane	11.04	84	446	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.	d		
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	11.75	83	785444	45.584	ng		100
47) Trichloroethene	11.81	130	13516	0.932	ng		98
48) 1,4-Dioxane	0.00	88	0	N.D.	d		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	11.94	100	204	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282027.D Vial: 14
Acq On : 29 Apr 2020 2:57 Operator: SC
Sample : P2002030-019 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 10:08:03 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

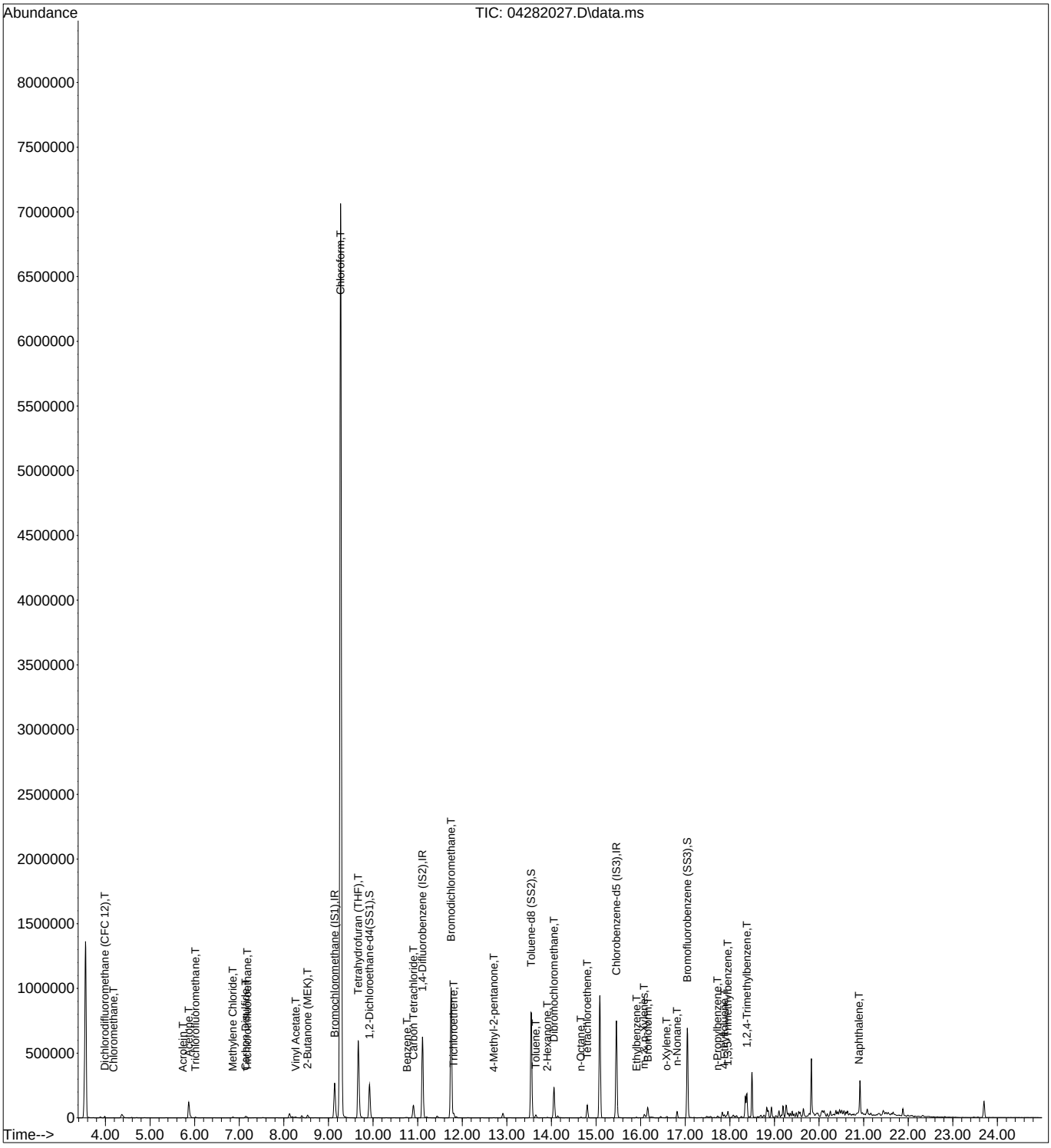
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	0.00	71	0	N.D. d		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	12.71	58	841	0.115 ng	#	52
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	13.65	91	19711	0.427 ng		99
59) 2-Hexanone	13.91	43	3944	0.286 ng		92
60) Dibromochloromethane	14.05	129	167926	10.703 ng		98
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	14.47	43	268	N.D.		
63) n-Octane	14.66	57	1205	0.164 ng		89
64) Tetrachloroethene	14.80	166	39002	2.242 ng		99
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	15.91	91	5511	0.102 ng		98
67) m- & p-Xylenes	16.08	91	25928	0.571 ng		100
68) Bromoform	16.16	173	39259	2.826 ng		98
69) Styrene	16.49	104	364	N.D.		
70) o-Xylene	16.58	91	8127	0.182 ng		96
71) n-Nonane	16.82	43	15675	1.090 ng		99
72) 1,1,2,2-Tetrachloroethane	16.61	83	144	N.D.		
74) Cumene	17.20	105	2045	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	17.72	91	12070	0.191 ng		94
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	17.88	105	16193	0.293 ng		92
79) 1,3,5-Trimethylbenzene	17.95	105	21645	0.424 ng		98
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	18.38	105	108540	2.197 ng		89
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	18.52	91	196	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D. d		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	18.99	68	371	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	20.90	128	21058	0.331 ng		98
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282027.D Vial: 14
Acq On : 29 Apr 2020 2:57 Operator: SC
Sample : P2002030-019 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 10:08:03 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282027.D Vial: 14
Acq On : 29 Apr 2020 2:57 Operator: SC
Sample : P2002030-019 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 10:08:03 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/29/20

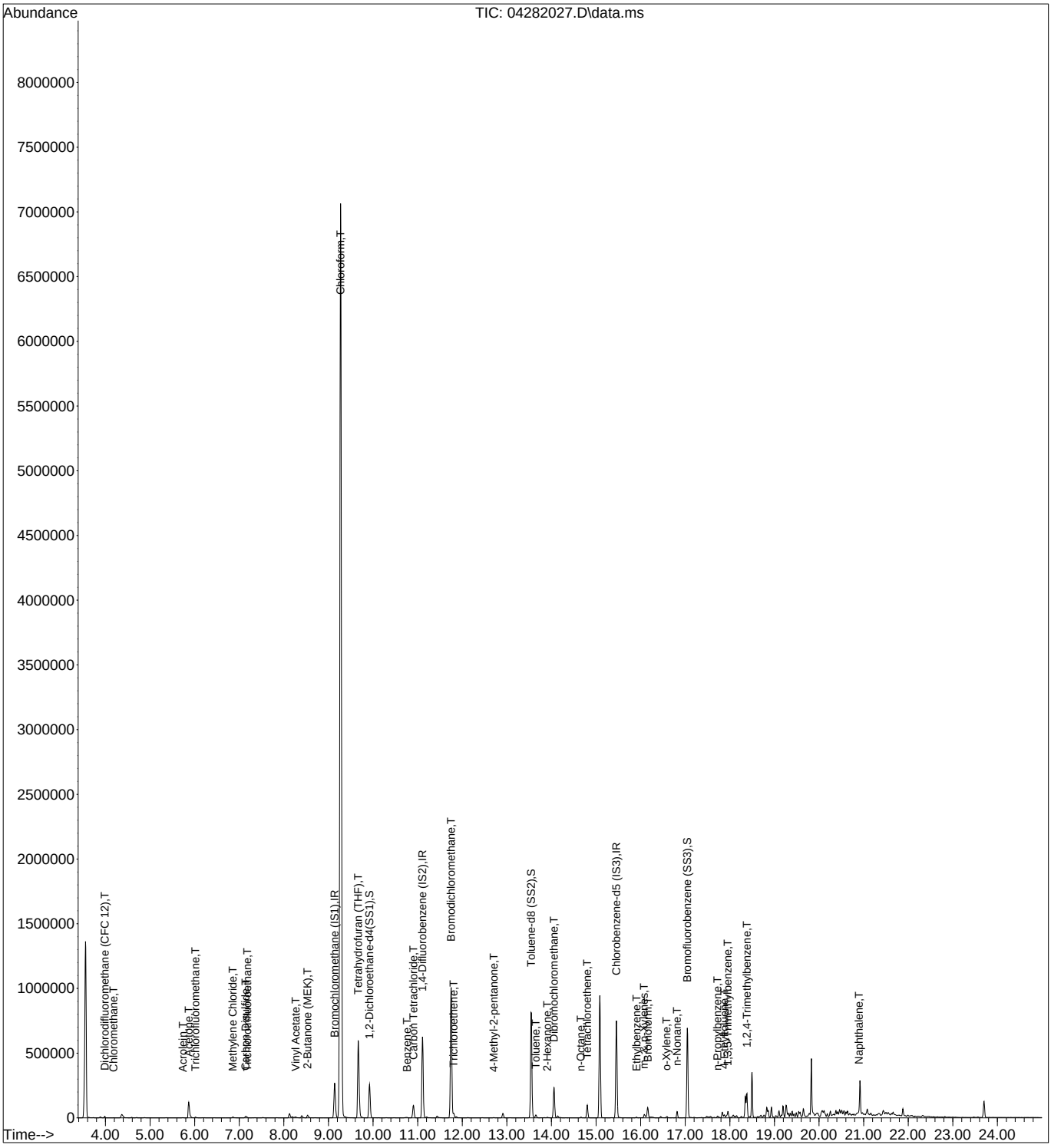
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.14	130	150195	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	11.11	114	642381	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	284854	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.92	65	231774	11.910	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.28%				
57) Toluene-d8 (SS2)	13.54	98	703999	12.800	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.40%				
73) Bromofluorobenzene (SS3)	17.05	174	277419	12.550	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.40%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.99	85	10167	0.419	ng		99
4) Chloromethane	4.18	50	1741	0.195	ng		94
12) Acrolein	5.73	56	2265	0.513	ng		97
13) Acetone	5.87	58	53893	9.290	ng	#	74
14) Trichlorofluoromethane	6.02	101	5130	0.213	ng		98
19) Methylene Chloride	6.86	84	4296	0.422	ng		97
21) Trichlorotrifluoroethane	7.18	151	1187	0.095	ng		94
22) Carbon Disulfide	7.14	76	27463	0.812	ng		96
26) Vinyl Acetate	8.27	86	1707	0.806	ng	#	69
27) 2-Butanone (MEK)	8.53	72	10296	1.728	ng		99
32) Chloroform	9.27	83	7170053	348.168	ng		99
34) Tetrahydrofuran (THF)	9.67	72	226780	37.567	ng		99
41) Benzene	10.76	78	2400	0.057	ng		90
42) Carbon Tetrachloride	10.90	117	72106	3.330	ng		99
46) Bromodichloromethane	11.75	83	785444	45.584	ng		100
47) Trichloroethene	11.81	130	13516	0.932	ng		98
53) 4-Methyl-2-pentanone	12.71	58	841	0.115	ng	#	52
58) Toluene	13.65	91	19711	0.427	ng		99
59) 2-Hexanone	13.91	43	3944	0.286	ng		92
60) Dibromochloromethane	14.05	129	167926	10.703	ng		98
63) n-Octane	14.66	57	1205	0.164	ng		89
64) Tetrachloroethene	14.80	166	39002	2.242	ng		99
66) Ethylbenzene	15.91	91	5511	0.102	ng		98
67) m- & p-Xylenes	16.08	91	25928	0.571	ng		100
68) Bromoform	16.16	173	39259	2.826	ng		98
70) o-Xylene	16.58	91	8127	0.182	ng		96
71) n-Nonane	16.82	43	15675	1.090	ng		99
76) n-Propylbenzene	17.72	91	12070	0.191	ng		94
78) 4-Ethyltoluene	17.88	105	16193	0.293	ng		92
79) 1,3,5-Trimethylbenzene	17.95	105	21645	0.424	ng		98
82) 1,2,4-Trimethylbenzene	18.38	105	108540	2.197	ng		89
95) Naphthalene	20.90	128	21058	0.331	ng		98

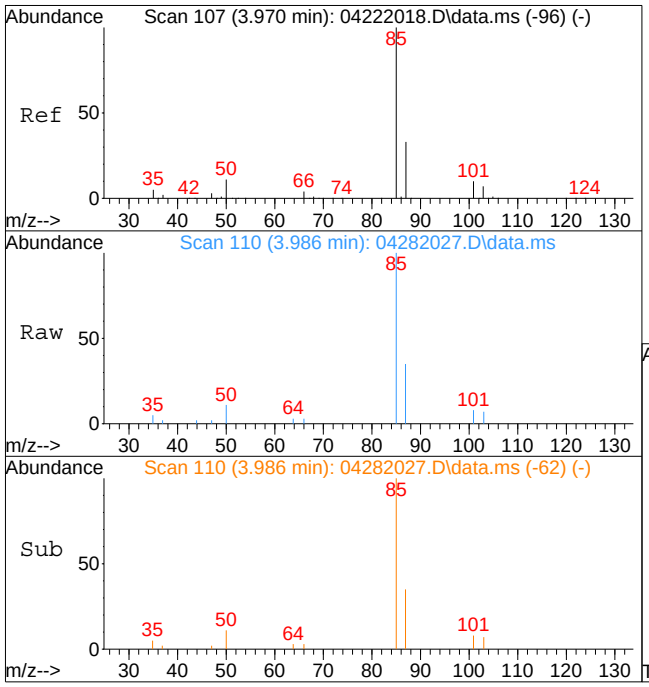
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282027.D Vial: 14
Acq On : 29 Apr 2020 2:57 Operator: SC
Sample : P2002030-019 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 10:08:03 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

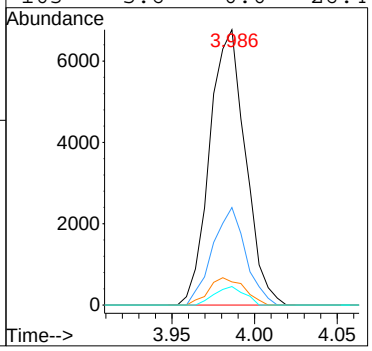


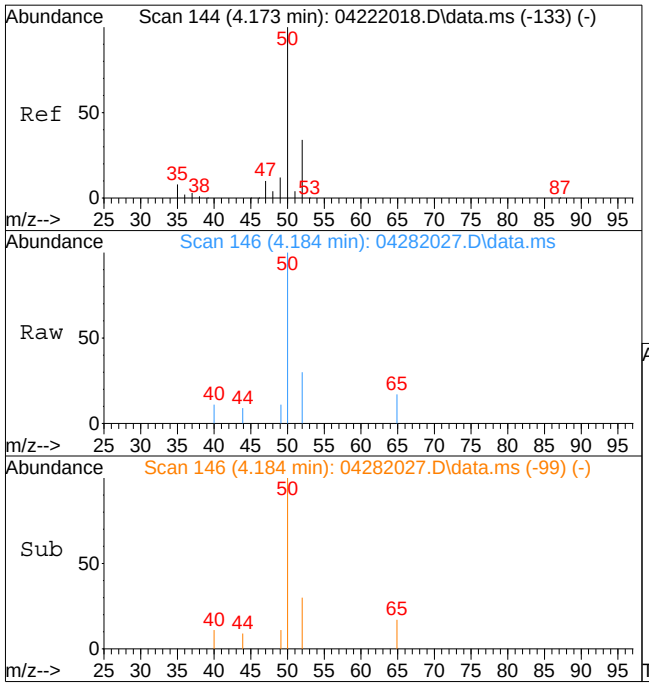


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.42 ng
RT: 3.99 min Scan# 110
Delta R.T. 0.016 min
Lab File: 04282027.D
Acq: 29 Apr 2020 2:57

Tgt Ion: 85 Resp: 10167

Ion	Ratio	Lower	Upper
85	100		
87	33.1	12.4	52.4
101	9.9	0.0	29.9
103	5.6	0.0	26.4

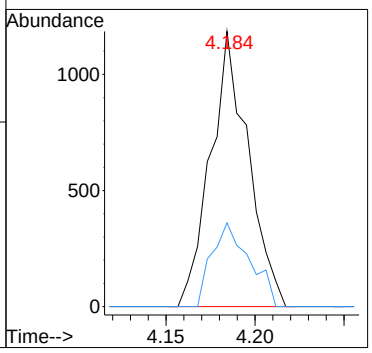


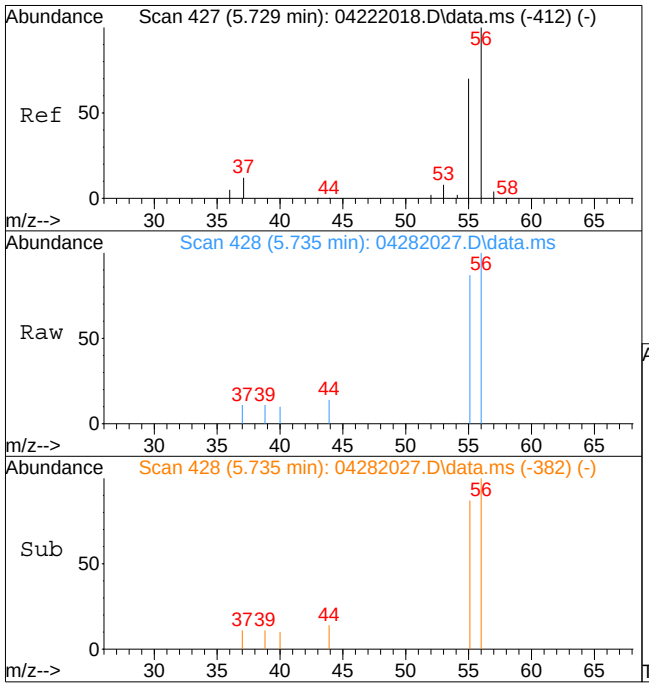


#4
Chloromethane
Concen: 0.19 ng
RT: 4.18 min Scan# 146
Delta R.T. 0.011 min
Lab File: 04282027.D
Acq: 29 Apr 2020 2:57

Tgt Ion: 50 Resp: 1741

Ion	Ratio	Lower	Upper
50	100		
52	30.6	13.7	53.7

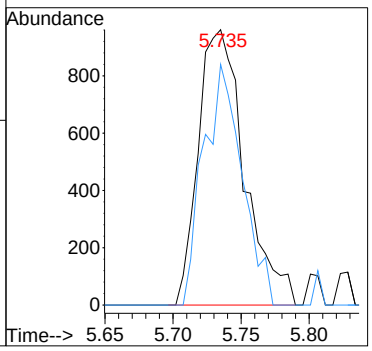


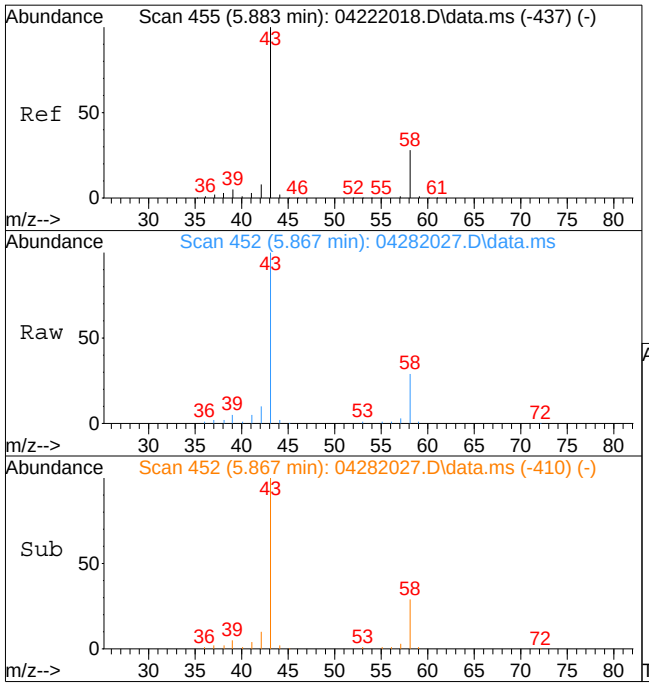


#12
Acrolein
Concen: 0.51 ng
RT: 5.73 min Scan# 428
Delta R.T. 0.005 min
Lab File: 04282027.D
Acq: 29 Apr 2020 2:57

Tgt Ion: 56 Resp: 2265

Ion	Ratio	Lower	Upper
56	100		
55	73.2	50.4	90.4

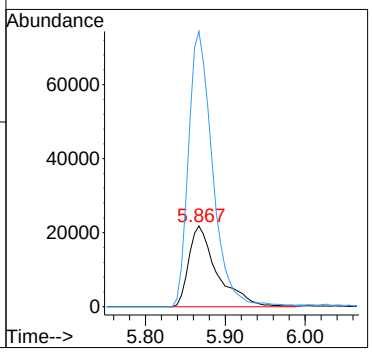


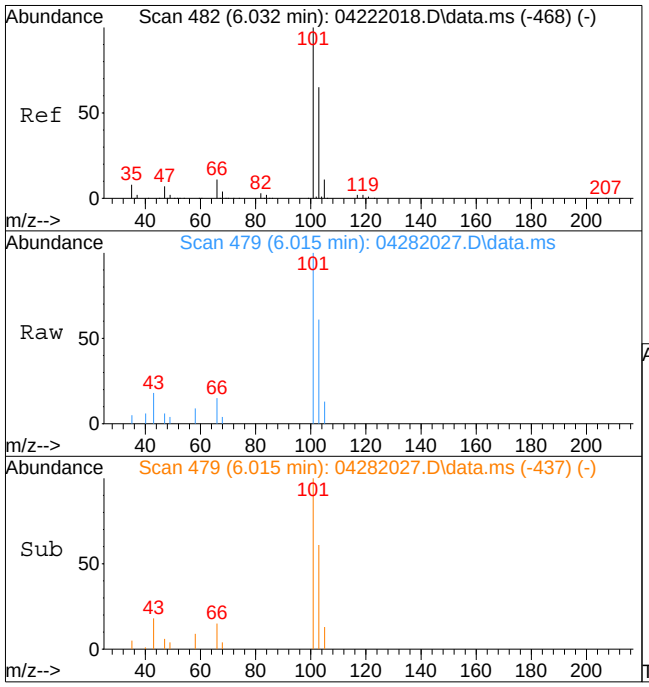


#13
Acetone
Concen: 9.29 ng
RT: 5.87 min Scan# 452
Delta R.T. -0.017 min
Lab File: 04282027.D
Acq: 29 Apr 2020 2:57

Tgt Ion: 58 Resp: 53893

Ion	Ratio	Lower	Upper
58	100		
43	292.0	319.3	379.3#

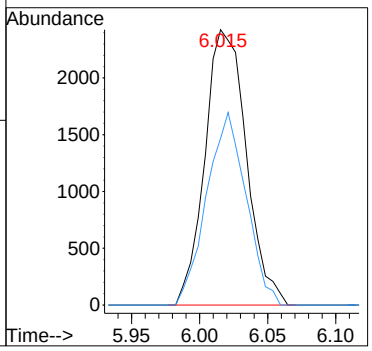


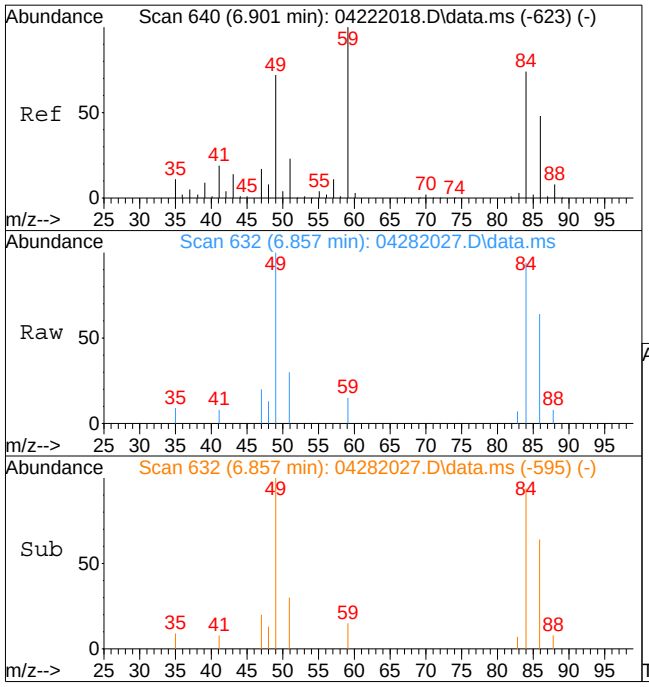


#14
Trichlorofluoromethane
Concen: 0.21 ng
RT: 6.02 min Scan# 479
Delta R.T. -0.017 min
Lab File: 04282027.D
Acq: 29 Apr 2020 2:57

Tgt Ion:101 Resp: 5130

Ion	Ratio	Lower	Upper
101	100		
103	66.6	44.7	84.7

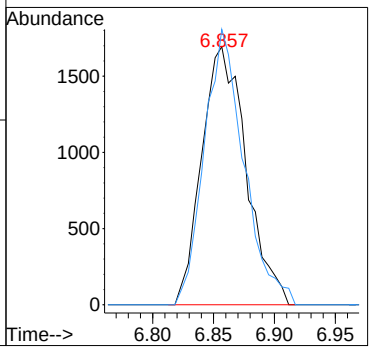


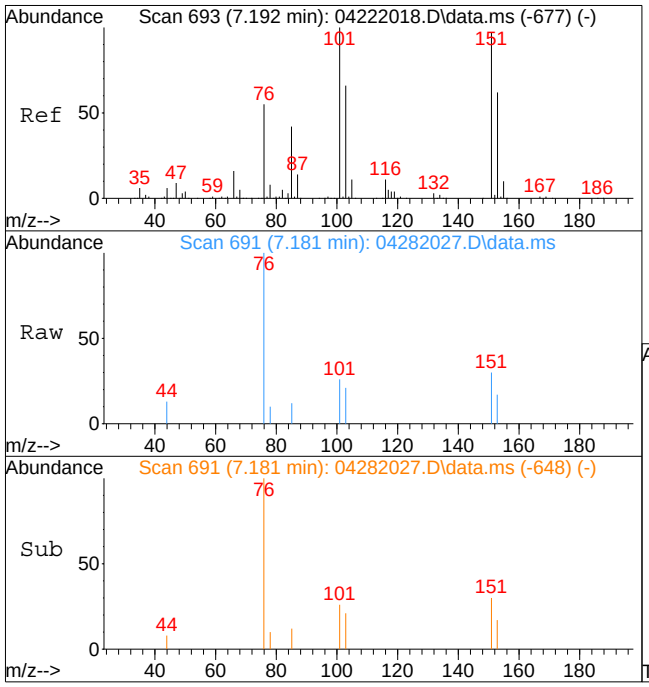


#19
Methylene Chloride
Concen: 0.42 ng
RT: 6.86 min Scan# 632
Delta R.T. -0.044 min
Lab File: 04282027.D
Acq: 29 Apr 2020 2:57

Tgt Ion: 84 Resp: 4296

Ion	Ratio	Lower	Upper
84	100		
49	95.3	73.0	123.0

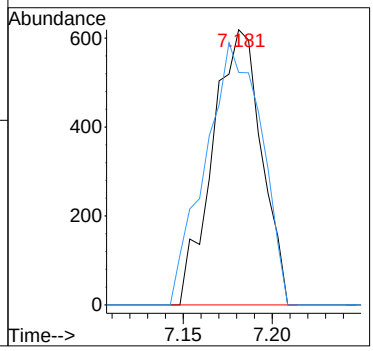


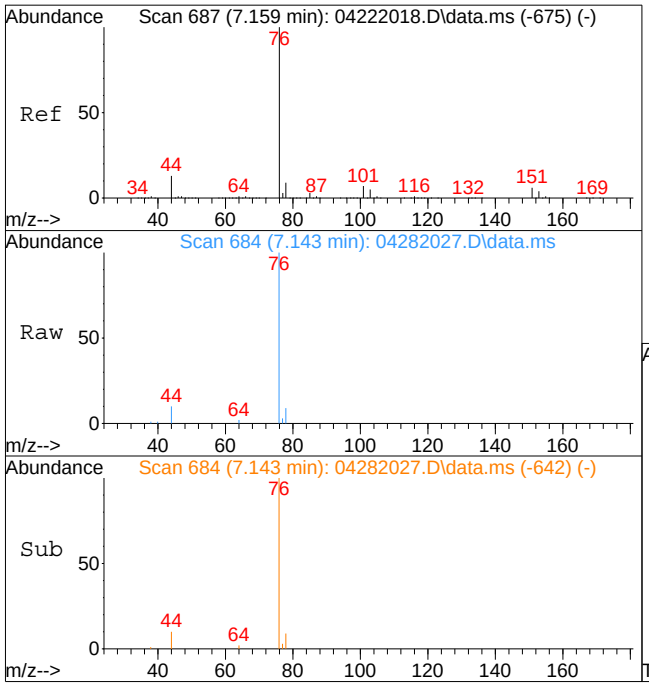


#21
Trichlorotrifluoroethane
Concen: 0.09 ng
RT: 7.18 min Scan# 691
Delta R.T. -0.011 min
Lab File: 04282027.D
Acq: 29 Apr 2020 2:57

Tgt Ion:151 Resp: 1187

Ion	Ratio	Lower	Upper
151	100		
101	108.8	82.9	122.9

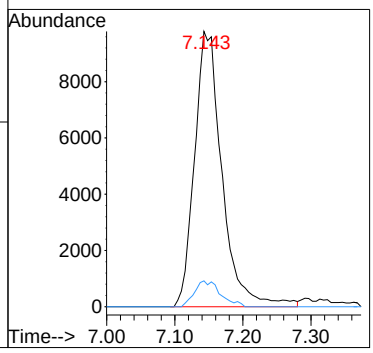


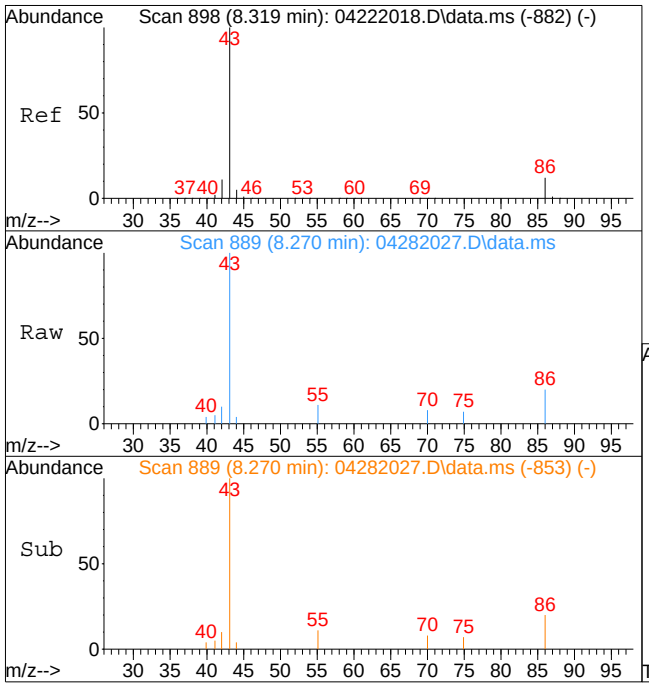


#22
Carbon Disulfide
Concen: 0.81 ng
RT: 7.14 min Scan# 684
Delta R.T. -0.017 min
Lab File: 04282027.D
Acq: 29 Apr 2020 2:57

Tgt Ion: 76 Resp: 27463

Ion	Ratio	Lower	Upper
76	100		
78	8.9	0.0	30.2

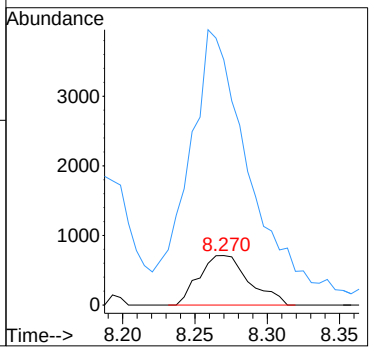


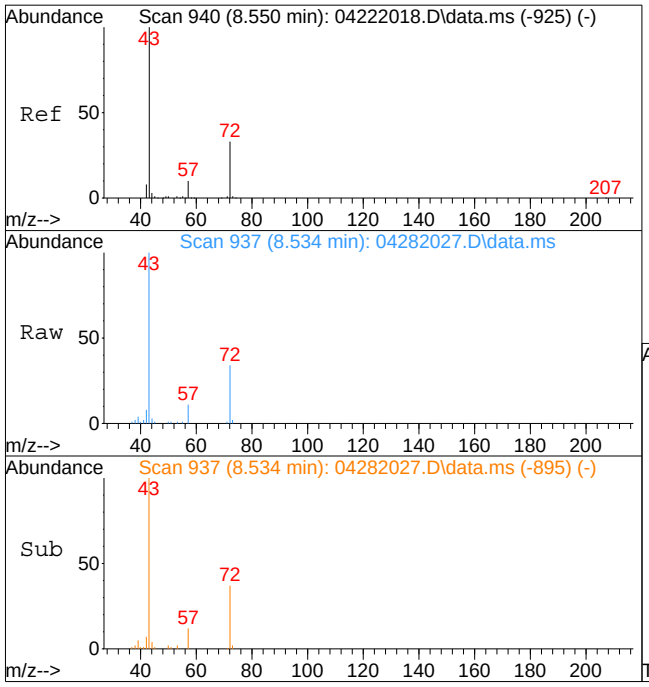


#26
Vinyl Acetate
Concen: 0.81 ng
RT: 8.27 min Scan# 889
Delta R.T. -0.050 min
Lab File: 04282027.D
Acq: 29 Apr 2020 2:57

Tgt Ion: 86 Resp: 1707

Ion	Ratio	Lower	Upper
86	100		
43	700.9	803.0	843.0#

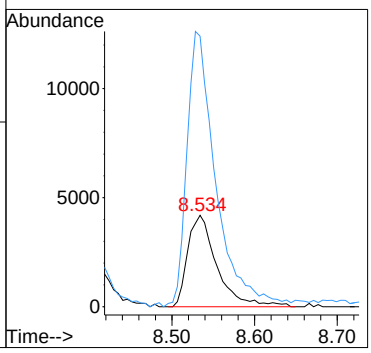


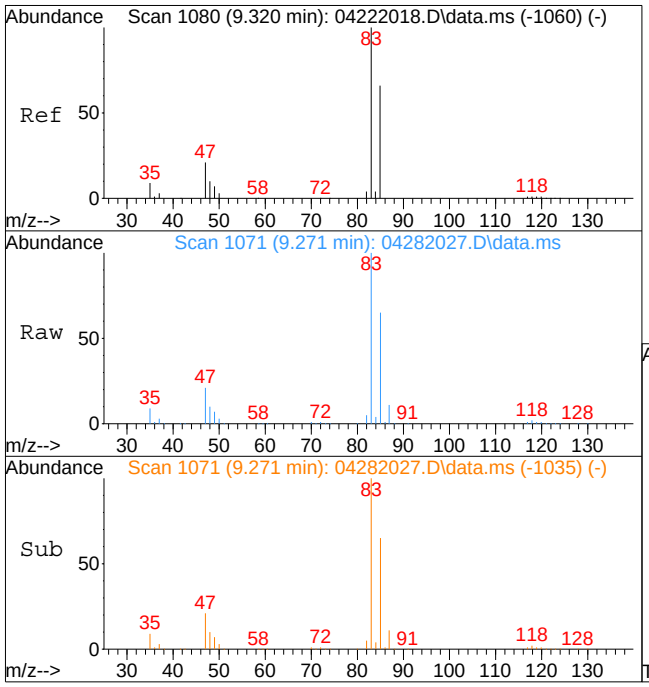


#27
2-Butanone (MEK)
Concen: 1.73 ng
RT: 8.53 min Scan# 937
Delta R.T. -0.017 min
Lab File: 04282027.D
Acq: 29 Apr 2020 2:57

Tgt Ion: 72 Resp: 10296

Ion	Ratio	Lower	Upper
72	100		
43	297.2	278.8	318.8

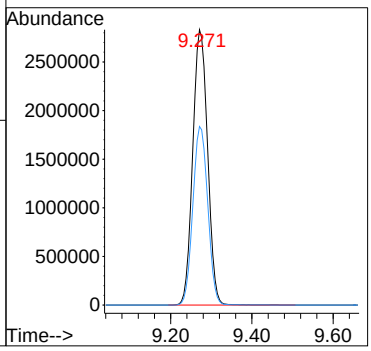


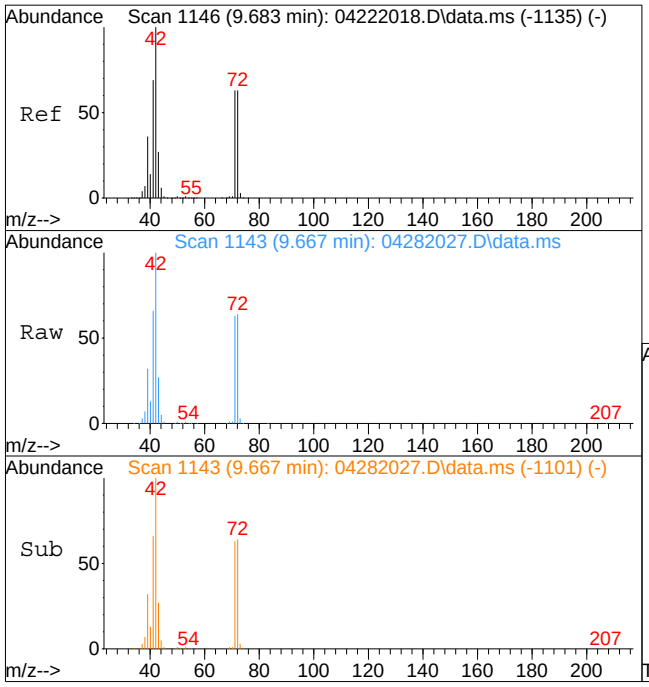


#32
Chloroform
Concen: 348.17 ng
RT: 9.27 min Scan# 1071
Delta R.T. -0.050 min
Lab File: 04282027.D
Acq: 29 Apr 2020 2:57

Tgt Ion: 83 Resp: 7170053

Ion	Ratio	Lower	Upper
83	100		
85	65.1	45.8	85.8

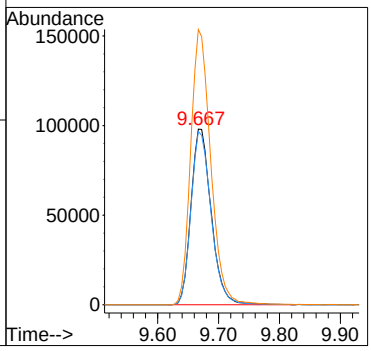


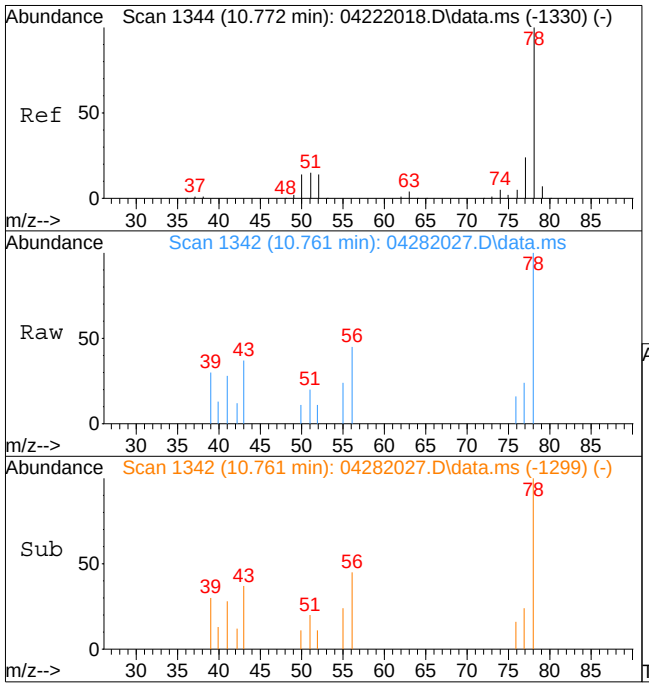


#34
Tetrahydrofuran (THF)
Concen: 37.57 ng
RT: 9.67 min Scan# 1143
Delta R.T. -0.017 min
Lab File: 04282027.D
Acq: 29 Apr 2020 2:57

Tgt Ion: 72 Resp: 226780

Ion	Ratio	Lower	Upper
72	100		
71	97.9	77.9	117.9
42	155.3	133.9	173.9

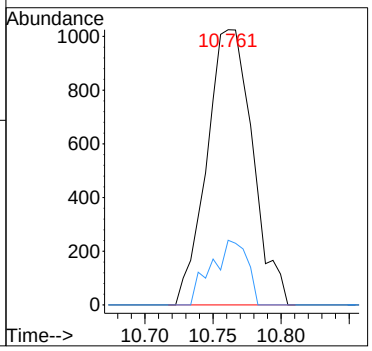


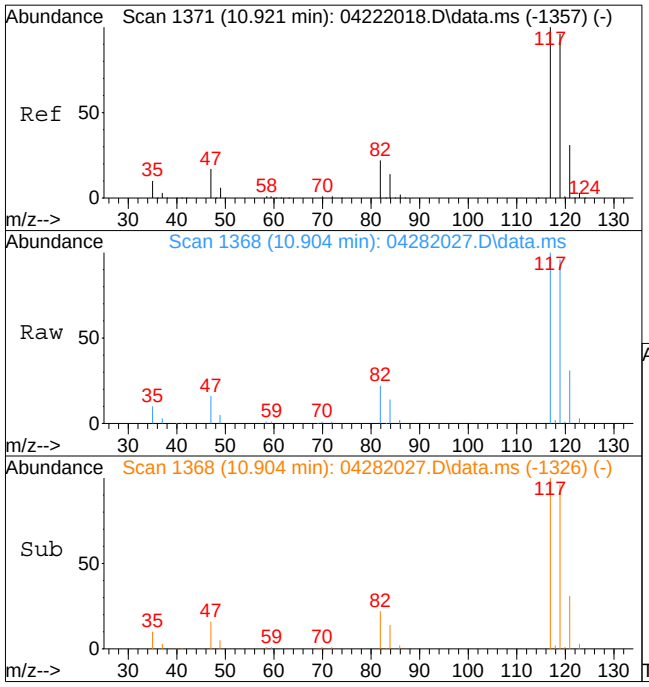


#41
Benzene
Concen: 0.06 ng
RT: 10.76 min Scan# 1342
Delta R.T. -0.011 min
Lab File: 04282027.D
Acq: 29 Apr 2020 2:57

Tgt Ion: 78 Resp: 2400

Ion	Ratio	Lower	Upper
78	100		
77	18.5	3.6	43.6

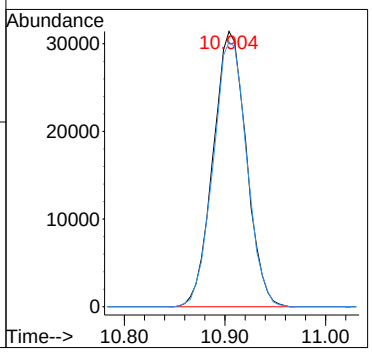


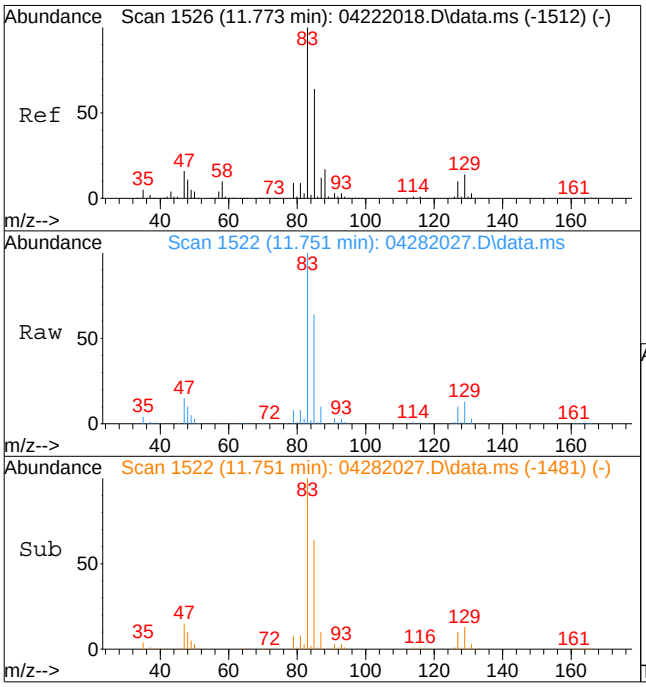


#42
Carbon Tetrachloride
Concen: 3.33 ng
RT: 10.90 min Scan# 1368
Delta R.T. -0.017 min
Lab File: 04282027.D
Acq: 29 Apr 2020 2:57

Tgt Ion:117 Resp: 72106

Ion	Ratio	Lower	Upper
117	100		
119	97.5	76.5	116.5

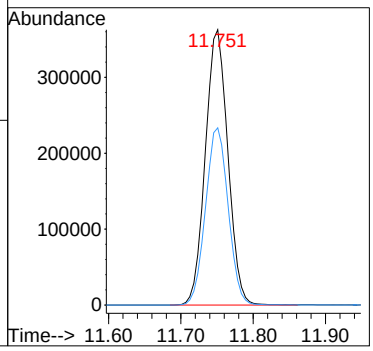


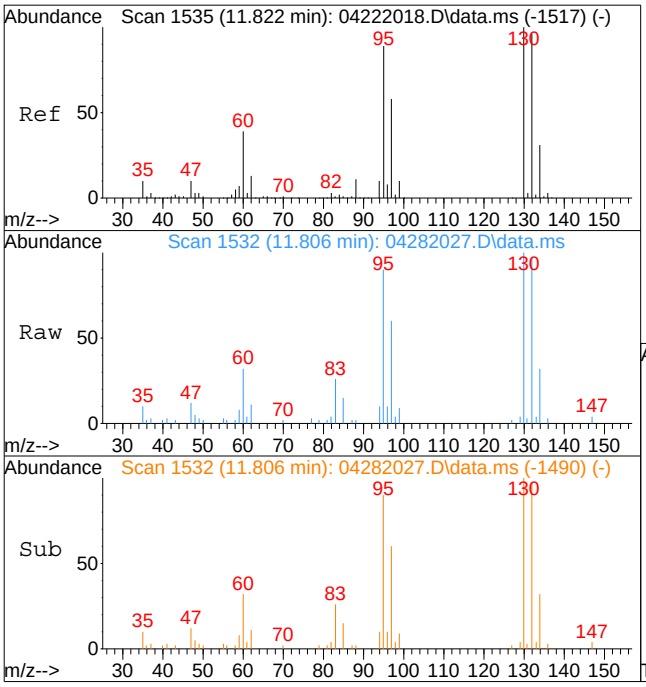


#46
Bromodichloromethane
Concen: 45.58 ng
RT: 11.75 min Scan# 1522
Delta R.T. -0.022 min
Lab File: 04282027.D
Acq: 29 Apr 2020 2:57

Tgt Ion: 83 Resp: 785444

Ion	Ratio	Lower	Upper
83	100		
85	64.8	44.9	84.9

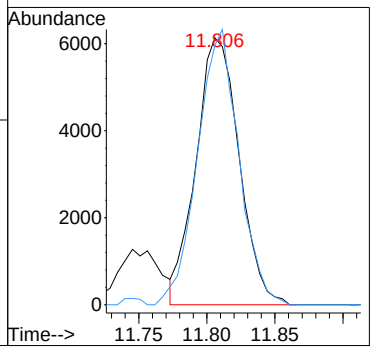


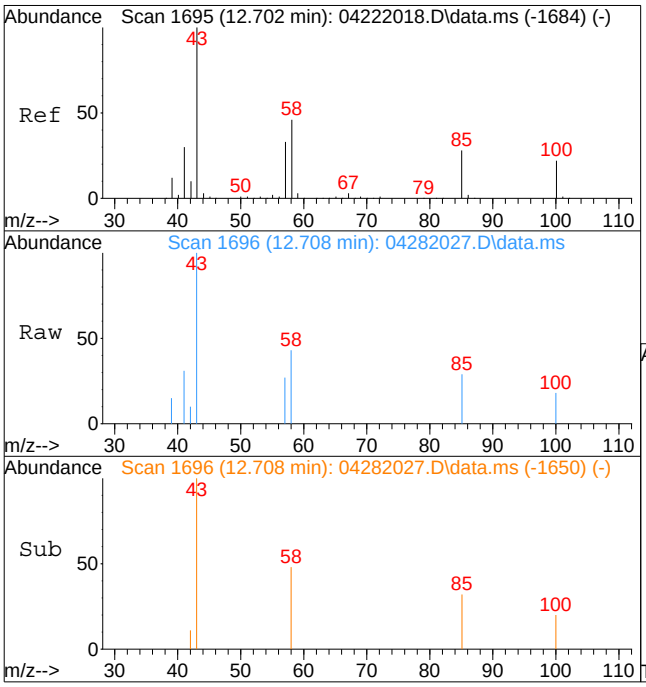


#47
Trichloroethene
Concen: 0.93 ng
RT: 11.81 min Scan# 1532
Delta R.T. -0.017 min
Lab File: 04282027.D
Acq: 29 Apr 2020 2:57

Tgt Ion:130 Resp: 13516

Ion	Ratio	Lower	Upper
130	100		
132	98.7	76.4	116.4

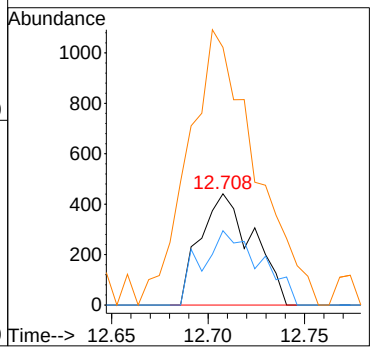


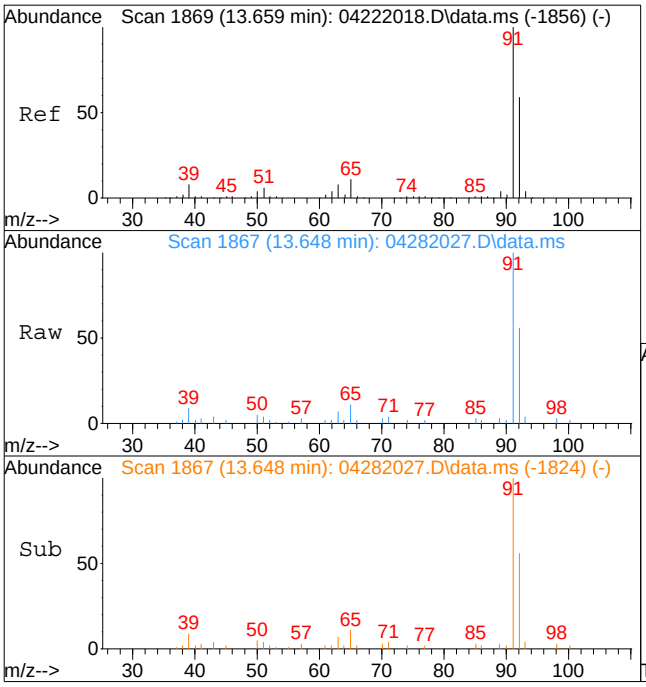


#53
4-Methyl-2-pentanone
Concen: 0.11 ng
RT: 12.71 min Scan# 1696
Delta R.T. 0.005 min
Lab File: 04282027.D
Acq: 29 Apr 2020 2:57

Tgt Ion: 58 Resp: 841

Ion	Ratio	Lower	Upper
58	100		
85	74.4	52.2	78.2
43	314.7	176.2	264.4#

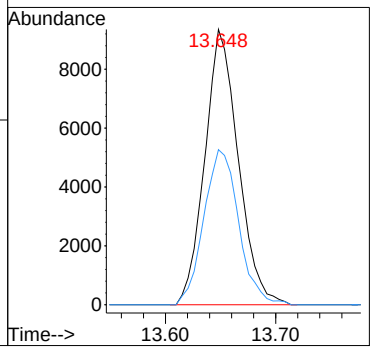


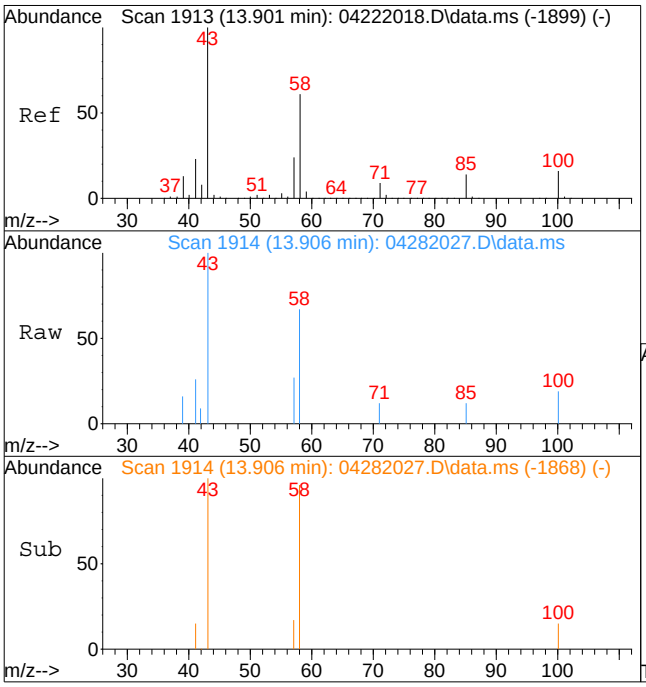


#58
Toluene
Concen: 0.43 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.011 min
Lab File: 04282027.D
Acq: 29 Apr 2020 2:57

Tgt Ion: 91 Resp: 19711

Ion	Ratio	Lower	Upper
91	100		
92	58.7	38.2	78.2

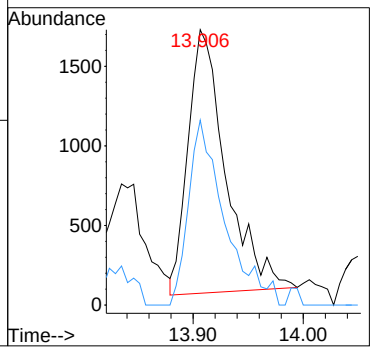


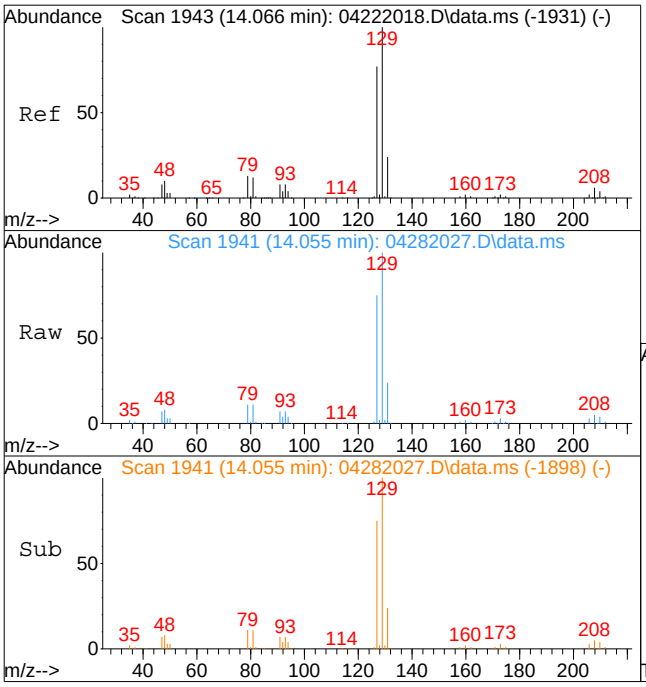


#59
2-Hexanone
Concen: 0.29 ng
RT: 13.91 min Scan# 1914
Delta R.T. 0.005 min
Lab File: 04282027.D
Acq: 29 Apr 2020 2:57

Tgt Ion: 43 Resp: 3944

Ion	Ratio	Lower	Upper
43	100		
58	67.1	41.1	81.1

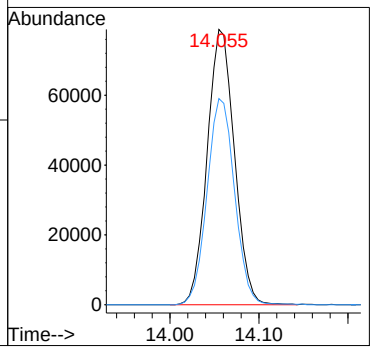


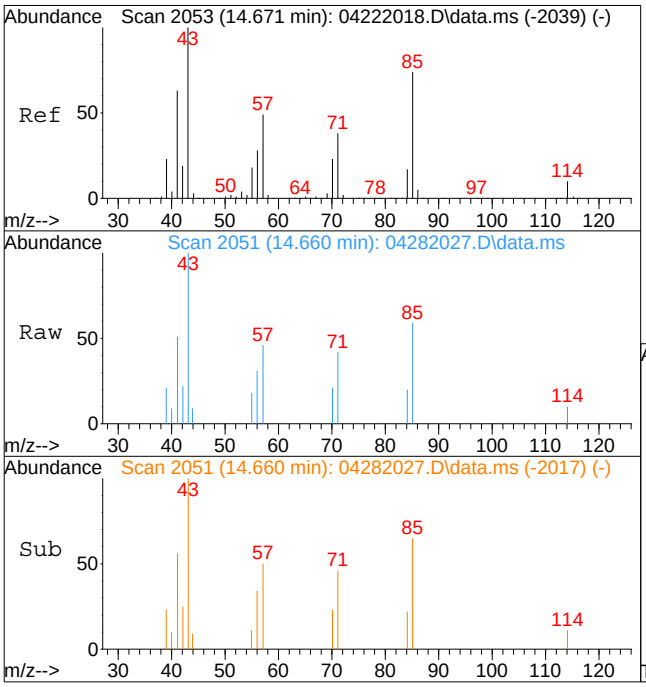


#60
Dibromochloromethane
Concen: 10.70 ng
RT: 14.05 min Scan# 1941
Delta R.T. -0.011 min
Lab File: 04282027.D
Acq: 29 Apr 2020 2:57

Tgt Ion:129 Resp: 167926

Ion	Ratio	Lower	Upper
129	100		
127	75.6	56.9	96.9

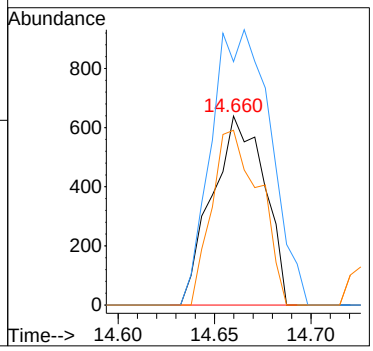


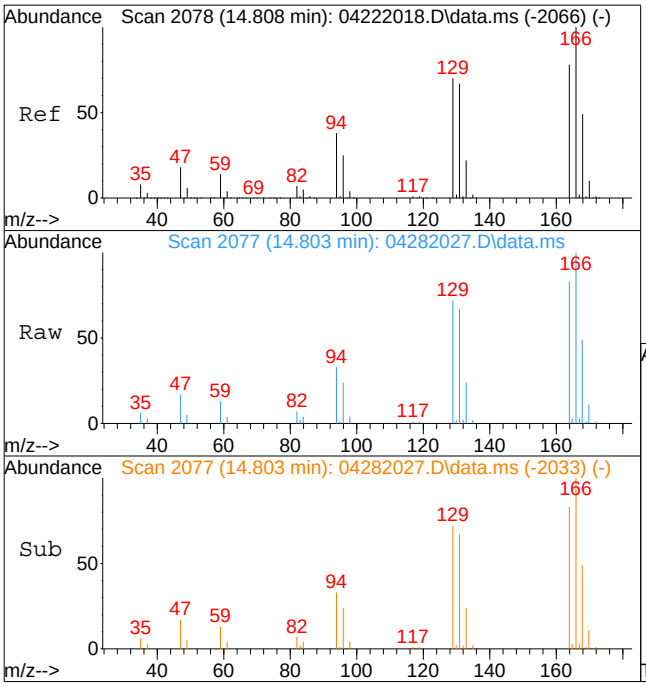


#63
n-Octane
Concen: 0.16 ng
RT: 14.66 min Scan# 2051
Delta R.T. -0.011 min
Lab File: 04282027.D
Acq: 29 Apr 2020 2:57

Tgt Ion: 57 Resp: 1205

Ion	Ratio	Lower	Upper
57	100		
85	165.5	120.7	181.1
71	84.6	61.1	91.7

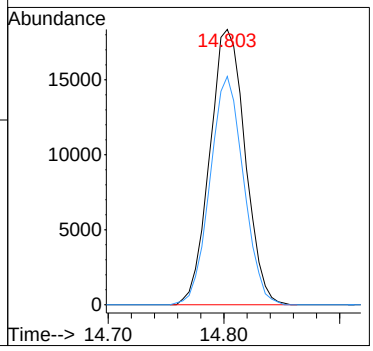


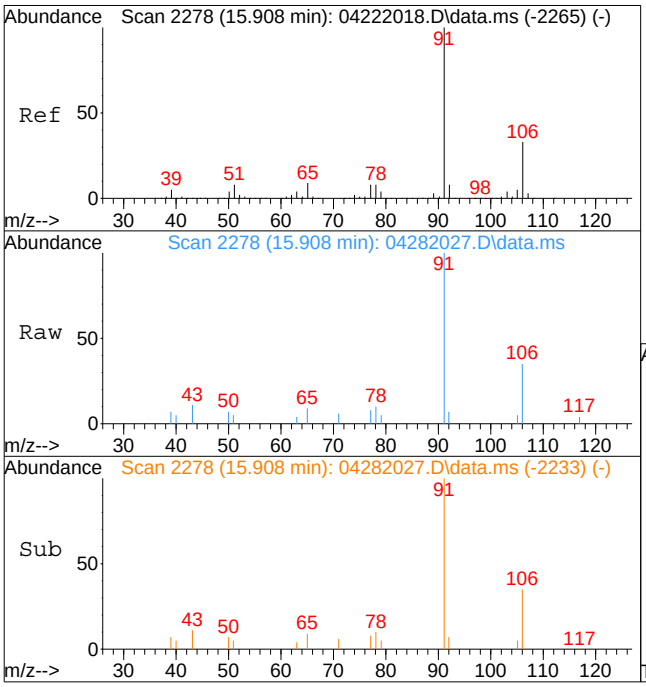


#64
Tetrachloroethene
Concen: 2.24 ng
RT: 14.80 min Scan# 2077
Delta R.T. -0.006 min
Lab File: 04282027.D
Acq: 29 Apr 2020 2:57

Tgt Ion:166 Resp: 39002

Ion	Ratio	Lower	Upper
166	100		
164	78.4	57.7	97.7

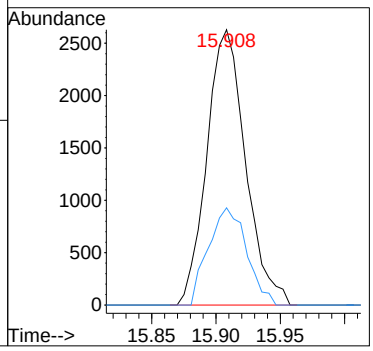


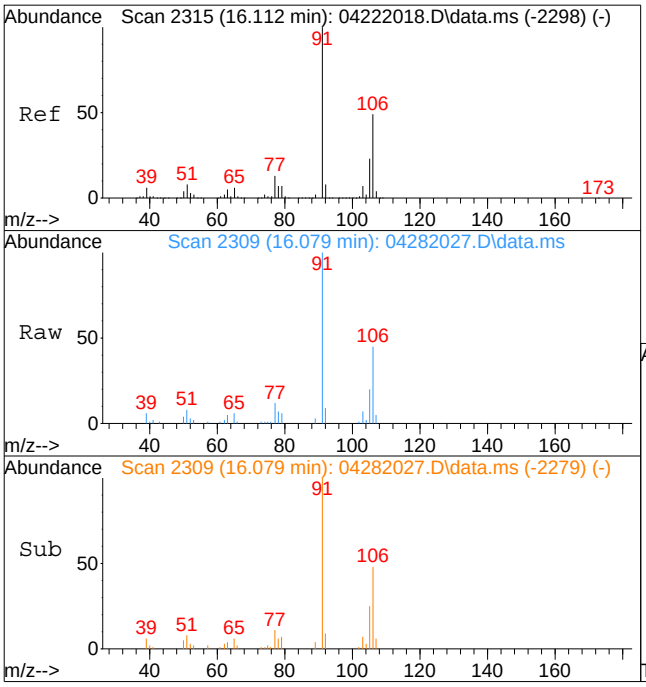


#66
Ethylbenzene
Concen: 0.10 ng
RT: 15.91 min Scan# 2278
Delta R.T. -0.000 min
Lab File: 04282027.D
Acq: 29 Apr 2020 2:57

Tgt Ion: 91 Resp: 5511

Ion	Ratio	Lower	Upper
91	100		
106	34.8	13.4	53.4

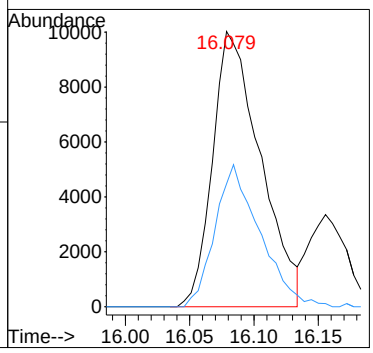


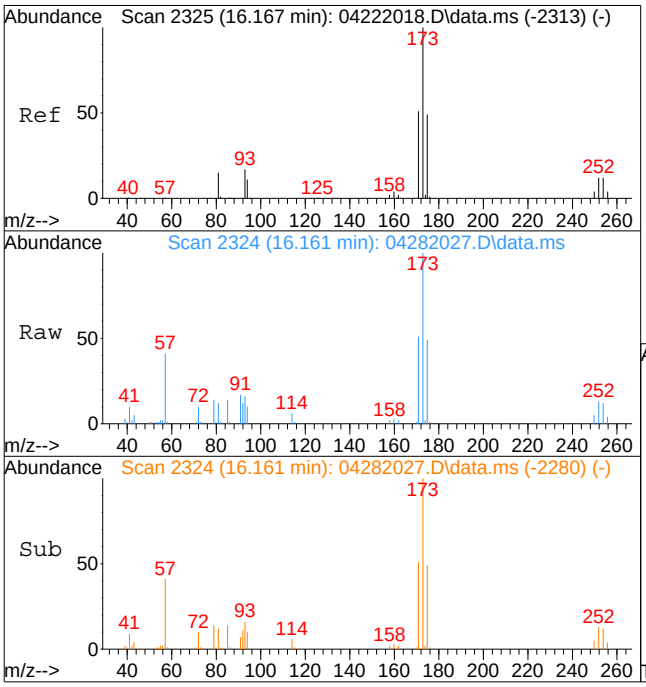


#67
m- & p-Xylenes
Concen: 0.57 ng
RT: 16.08 min Scan# 2309
Delta R.T. -0.033 min
Lab File: 04282027.D
Acq: 29 Apr 2020 2:57

Tgt Ion: 91 Resp: 25928

Ion	Ratio	Lower	Upper
91	100		
106	48.4	28.3	68.3

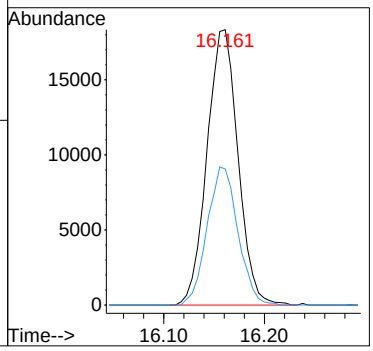


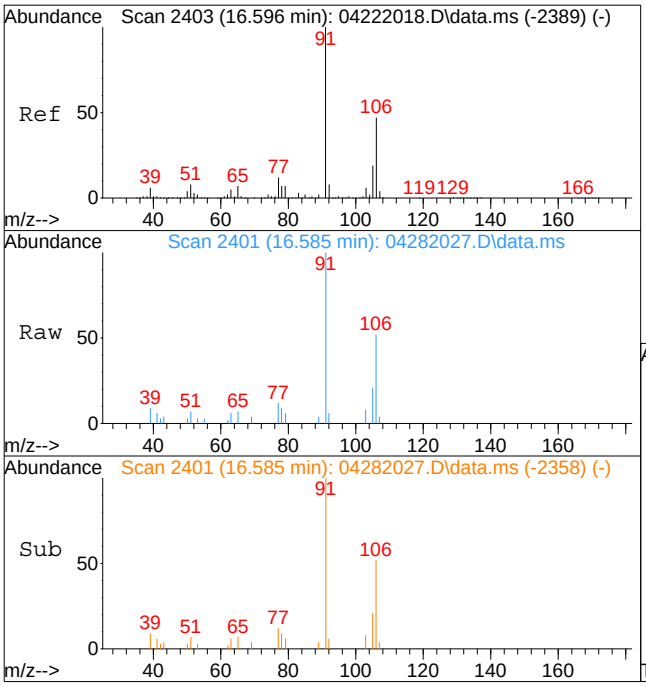


#68
Bromoform
Concen: 2.83 ng
RT: 16.16 min Scan# 2324
Delta R.T. -0.006 min
Lab File: 04282027.D
Acq: 29 Apr 2020 2:57

Tgt Ion:173 Resp: 39259

Ion	Ratio	Lower	Upper
173	100		
175	49.7	28.6	68.6

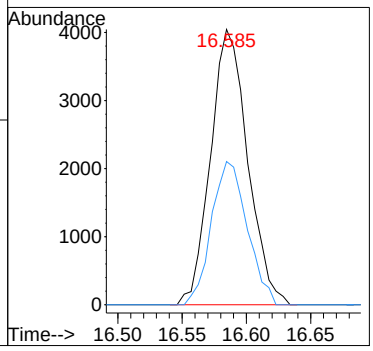


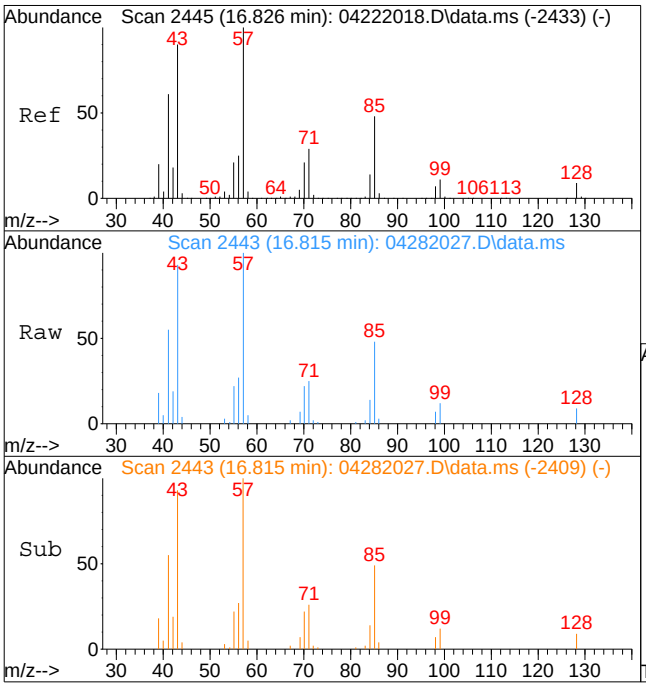


#70
o-Xylene
Concen: 0.18 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 04282027.D
Acq: 29 Apr 2020 2:57

Tgt Ion: 91 Resp: 8127

Ion	Ratio	Lower	Upper
91	100		
106	50.0	27.5	67.5

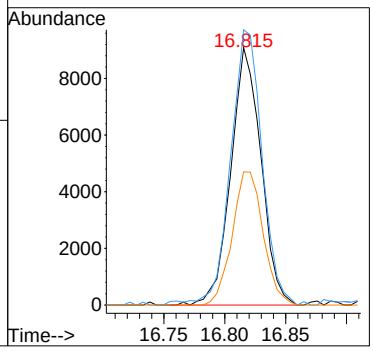


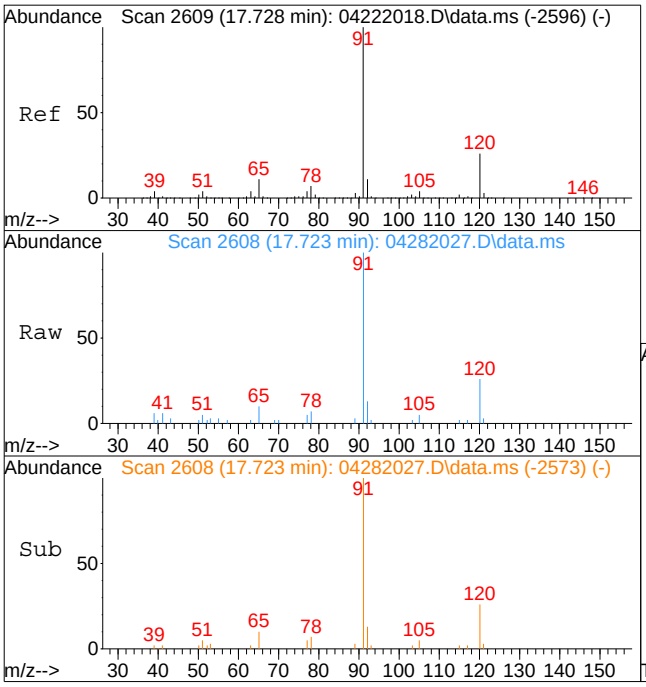


#71
n-Nonane
Concen: 1.09 ng
RT: 16.82 min Scan# 2443
Delta R.T. -0.011 min
Lab File: 04282027.D
Acq: 29 Apr 2020 2:57

Tgt Ion: 43 Resp: 15675

Ion	Ratio	Lower	Upper
43	100		
57	111.1	90.8	130.8
85	53.0	32.1	72.1

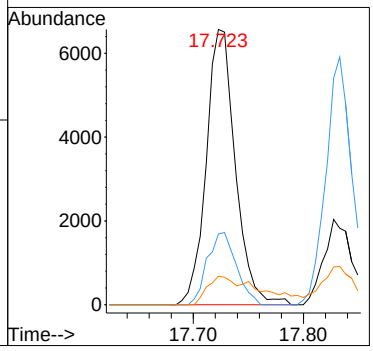


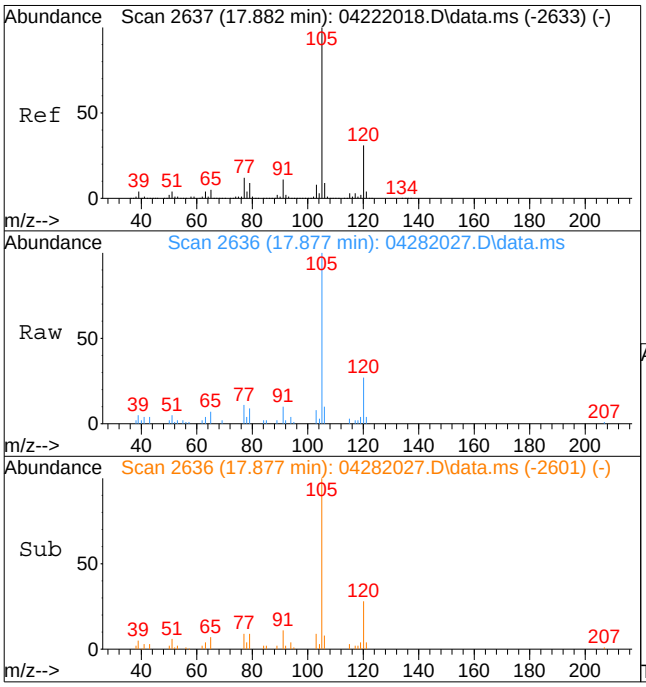


#76
n-Propylbenzene
Concen: 0.19 ng
RT: 17.72 min Scan# 2608
Delta R.T. -0.006 min
Lab File: 04282027.D
Acq: 29 Apr 2020 2:57

Tgt Ion: 91 Resp: 12070

Ion	Ratio	Lower	Upper
91	100		
120	26.1	6.1	46.1
65	19.0	0.0	30.7

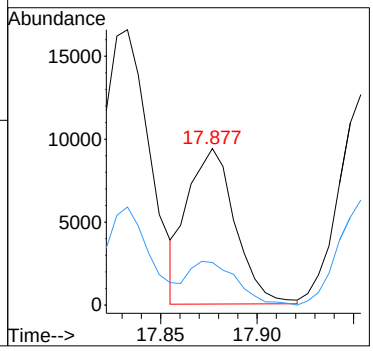


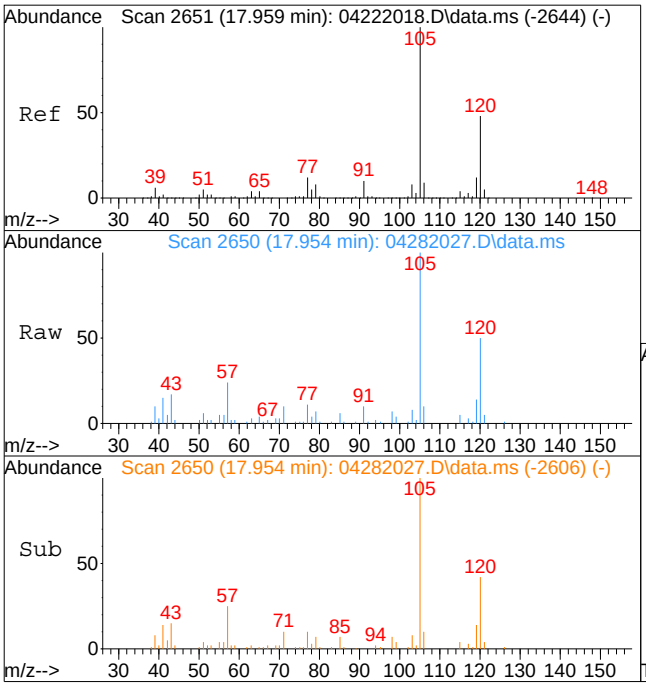


#78
4-Ethyltoluene
Concen: 0.29 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 04282027.D
Acq: 29 Apr 2020 2:57

Tgt Ion:105 Resp: 16193

Ion	Ratio	Lower	Upper
105	100		
120	27.2	11.4	51.4

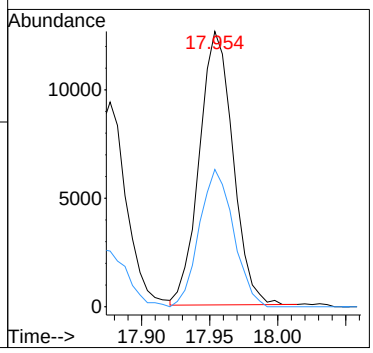


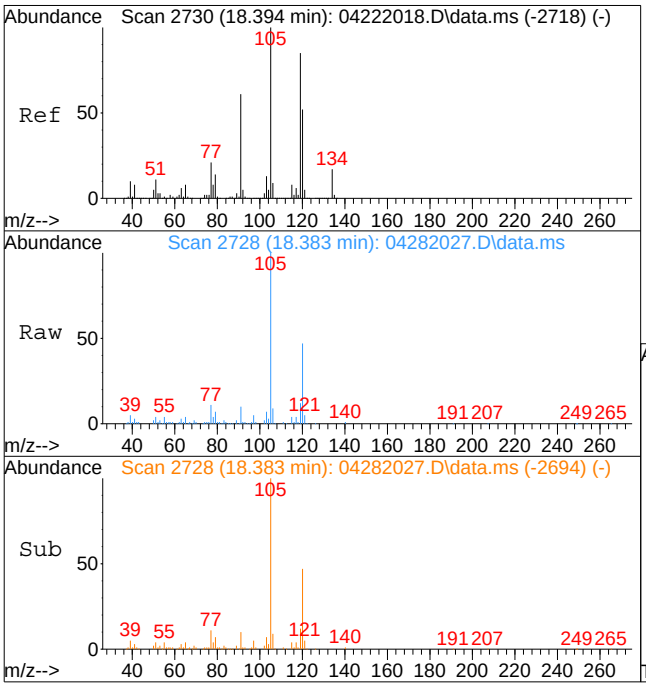


#79
1,3,5-Trimethylbenzene
Concen: 0.42 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 04282027.D
Acq: 29 Apr 2020 2:57

Tgt Ion:105 Resp: 21645

Ion	Ratio	Lower	Upper
105	100		
120	51.1	29.5	69.5

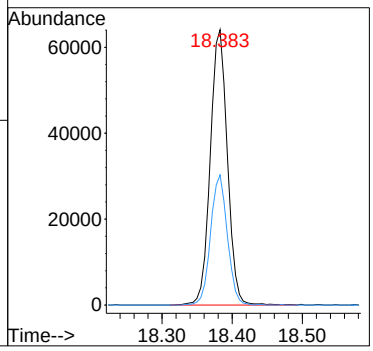


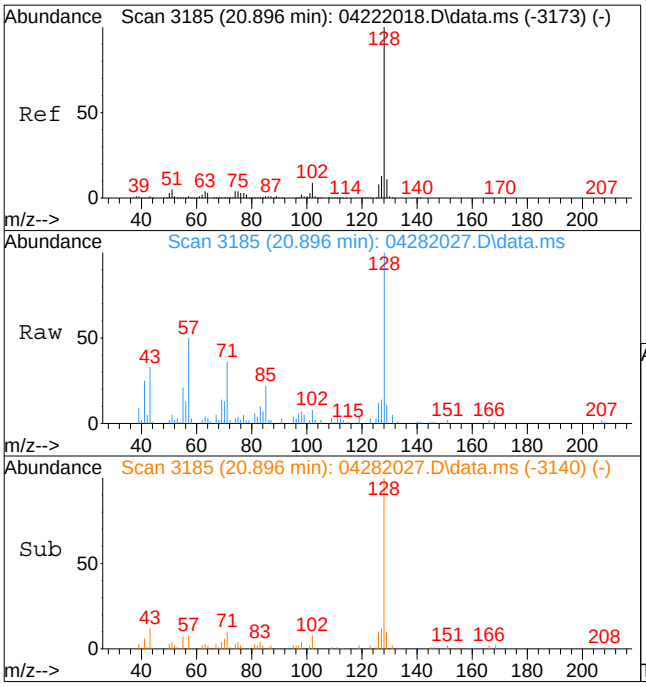


#82
1,2,4-Trimethylbenzene
Concen: 2.20 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 04282027.D
Acq: 29 Apr 2020 2:57

Tgt Ion:105 Resp: 108540

Ion	Ratio	Lower	Upper
105	100		
120	46.3	34.5	74.5

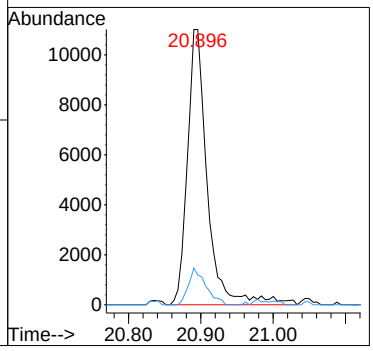




#95
Naphthalene
Concen: 0.33 ng
RT: 20.90 min Scan# 3185
Delta R.T. -0.000 min
Lab File: 04282027.D
Acq: 29 Apr 2020 2:57

Tgt Ion:128 Resp: 21058

Ion	Ratio	Lower	Upper
128	100		
129	11.6	0.0	30.9



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292012.D Vial: 14
Acq On : 29 Apr 2020 11:33 Operator: TD
Sample : P2002030-019dil (40mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 12:09:58 2020 4/29/20
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	158597	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	672685	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.45	82	293882	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	241410	11.748	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.00%				
57) Toluene-d8 (SS2)	13.54	98	732566	12.910	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.28%				
73) Bromofluorobenzene (SS3)	17.05	174	275513	12.081	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.64%				
Target Compounds							Qvalue
2) Propene	3.91	42	193	N.D.			
3) Dichlorodifluoromethan...	4.00	85	960	N.D.			
4) Chloromethane	4.22	50	106	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.44	45	33	N.D.			
11) Acetonitrile	5.57	41	143	N.D.			
12) Acrolein	0.00	56	0	N.D.	d		
13) Acetone	5.87	58	5956	0.972	ng	#	64
14) Trichlorofluoromethane	6.04	101	375	N.D.			
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	6.98	59	38	N.D.			
19) Methylene Chloride	6.87	84	219	N.D.			
20) 3-Chloro-1-propene (Al...	6.94	41	204	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	0.00	76	0	N.D.	d		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	0.00	72	0	N.D.	d		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	9.21	57	459	N.D.			
32) Chloroform	9.27	83	766503	35.249	ng		99
34) Tetrahydrofuran (THF)	9.68	72	20836	3.269	ng		95
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	10.31	97	253	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.76	78	292	N.D.			
42) Carbon Tetrachloride	10.90	117	6474	0.286	ng		100
43) Cyclohexane	11.03	84	2168	0.126	ng	#	60
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	11.75	83	73691	4.084	ng		99
47) Trichloroethene	11.81	130	1245	0.082	ng		99
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292012.D Vial: 14
Acq On : 29 Apr 2020 11:33 Operator: TD
Sample : P2002030-019dil (40mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 12:09:58 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

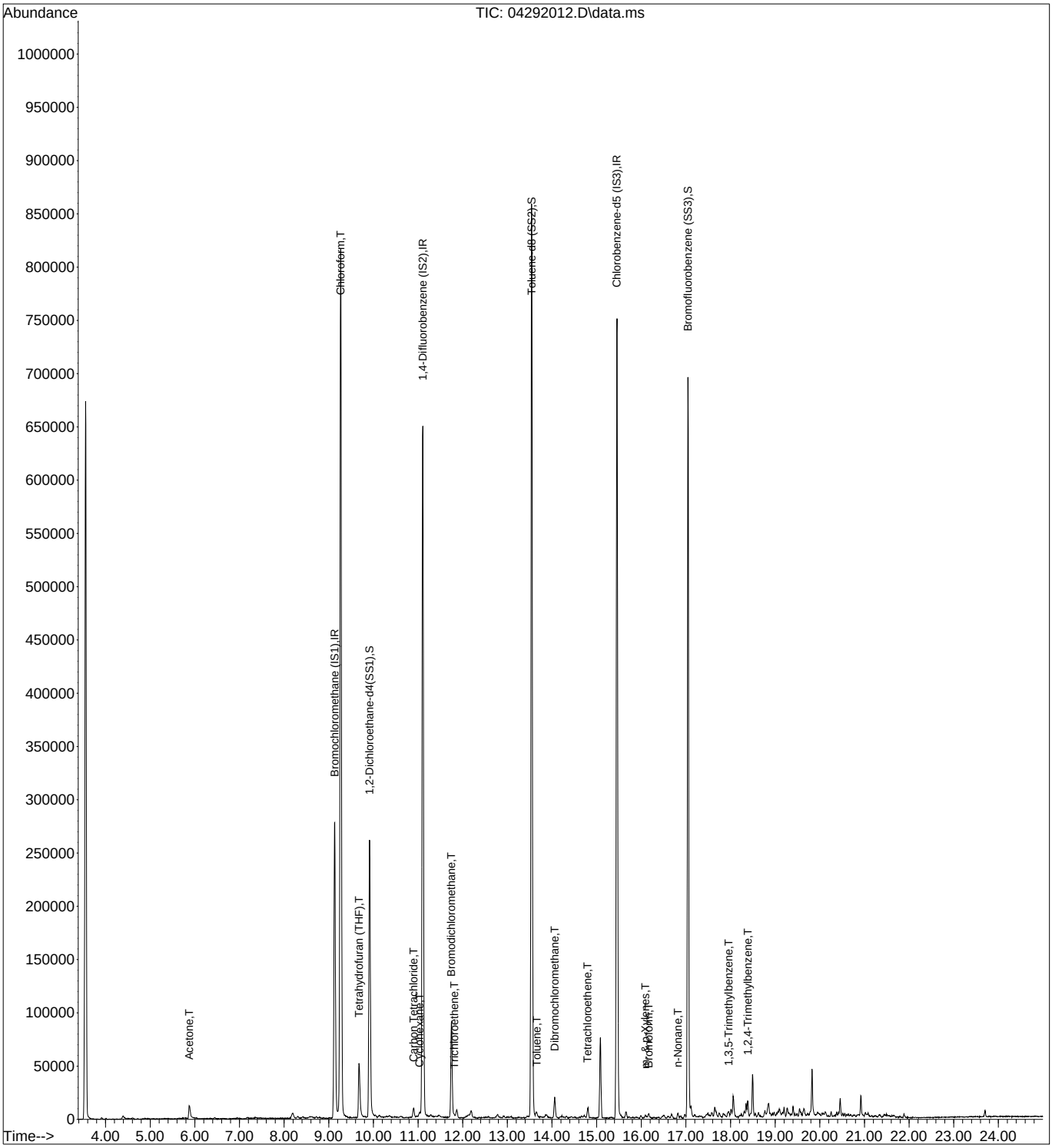
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D. d	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	13.32	97	345	N.D.	
58) Toluene	13.66	91	3258	0.068 ng	81
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	14.06	129	13876	0.857 ng	100
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	0.00	57	0	N.D. d	
64) Tetrachloroethene	14.80	166	3846	0.214 ng	93
65) Chlorobenzene	15.67	112	382	N.D.	
66) Ethylbenzene	15.93	91	912	N.D.	
67) m- & p-Xylenes	16.09	91	4204	0.090 ng	99
68) Bromoform	16.17	173	3158	0.220 ng	94
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.60	91	1460	N.D.	
71) n-Nonane	16.82	43	2205	0.149 ng	81
72) 1,1,2,2-Tetrachloroethane	16.50	83	486	N.D.	
74) Cumene	17.21	105	494	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.73	91	1339	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	1275	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	3557	0.067 ng	83
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	18.16	105	1214	N.D.	
82) 1,2,4-Trimethylbenzene	18.39	105	11112	0.218 ng	81
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.62	91	118	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	18.66	105	814	N.D.	
88) 4-Isopropyltoluene (p-...	18.83	119	1613	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	18.97	68	168	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.92	128	1729	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	18.38	119	1320	N.D.	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292012.D Vial: 14
Acq On : 29 Apr 2020 11:33 Operator: TD
Sample : P2002030-019dil (40mL) Inst : MS09
Misc : S34-04212006

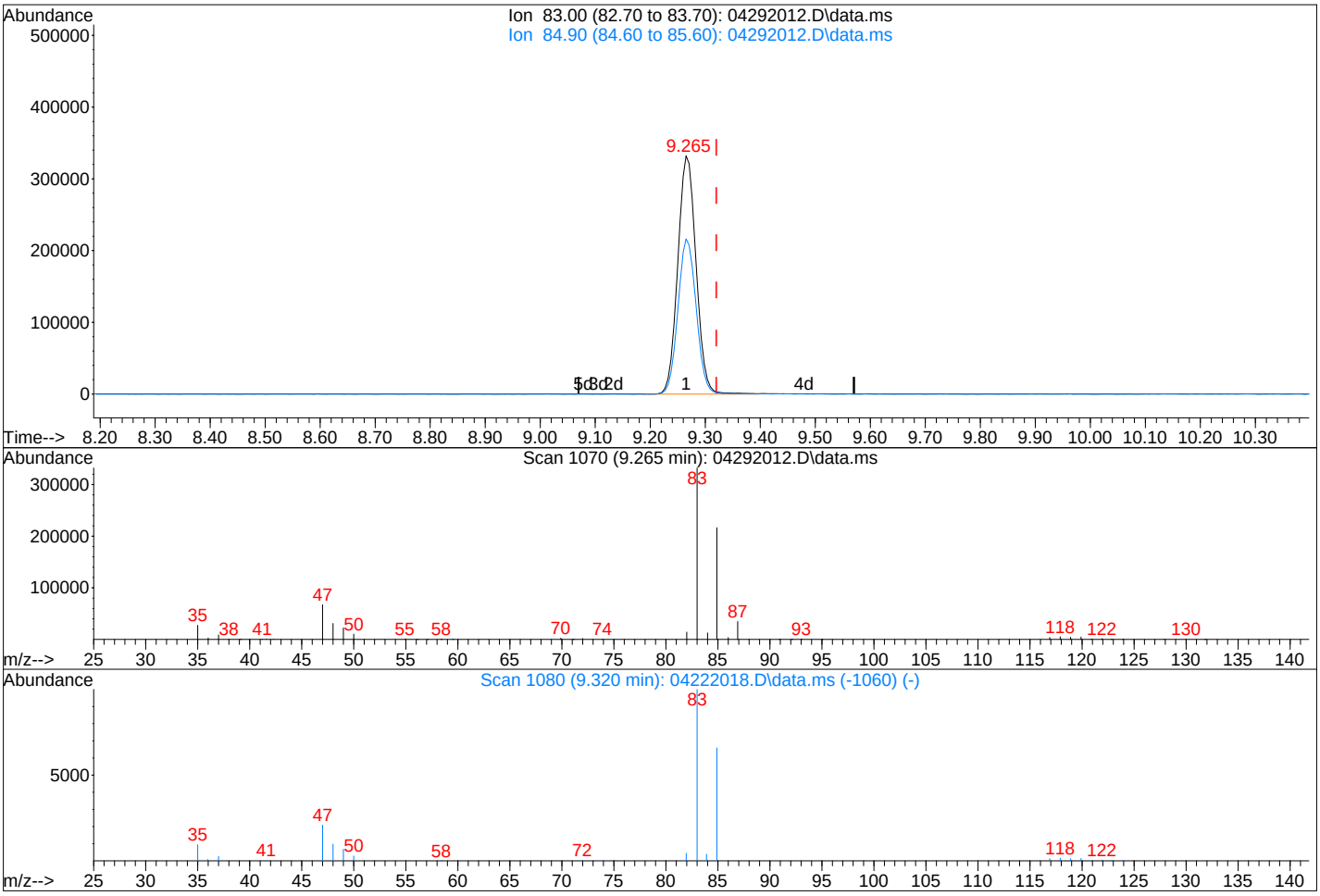
Quant Time: Apr 29 12:09:58 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\29\04292012.D Vial: 14
Acq On : 29 Apr 2020 11:33 Operator: TD
Sample : P2002030-019dil (40mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 12:02:11 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04292012.D\data.ms

(32) Chloroform (T)

9.265min (-0.055) 35.25ng

response 766503

Ion	Exp%	Act%
83.00	100	100
84.90	65.80	65.11
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282004.D Vial: 2
Acq On : 28 Apr 2020 13:41 Operator: TD
Sample : MB R9042820_1000mL Inst : MS09
Misc : S34-04212006

Quant Time: Apr 28 14:43:04 2020 4/28/20
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	144321	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	608971	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	264087	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	214831	11.489	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.92%			
57) Toluene-d8 (SS2)	13.54	98	662476	12.992	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.92%			
73) Bromofluorobenzene (SS3)	17.05	174	254983	12.442	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.52%			
Target Compounds						Qvalue
2) Propene	3.91	42	227	N.D.		
3) Dichlorodifluoromethan...	0.00	85	0	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	0.00	45	0	N.D. d		
11) Acetonitrile	5.60	41	123	N.D.		
12) Acrolein	5.74	56	186	N.D.		
13) Acetone	5.88	58	4910	0.881	ng	# 66
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	6.23	45	39	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	0.00	84	0	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	0.00	76	0	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D. d		
27) 2-Butanone (MEK)	8.57	72	581	0.101	ng	# 63
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.		
41) Benzene	0.00	78	0	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	11.10	84	461	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	11.87	57	377	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282004.D Vial: 2
Acq On : 28 Apr 2020 13:41 Operator: TD
Sample : MB R9042820_1000mL Inst : MS09
Misc : S34-04212006

Quant Time: Apr 28 14:43:04 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

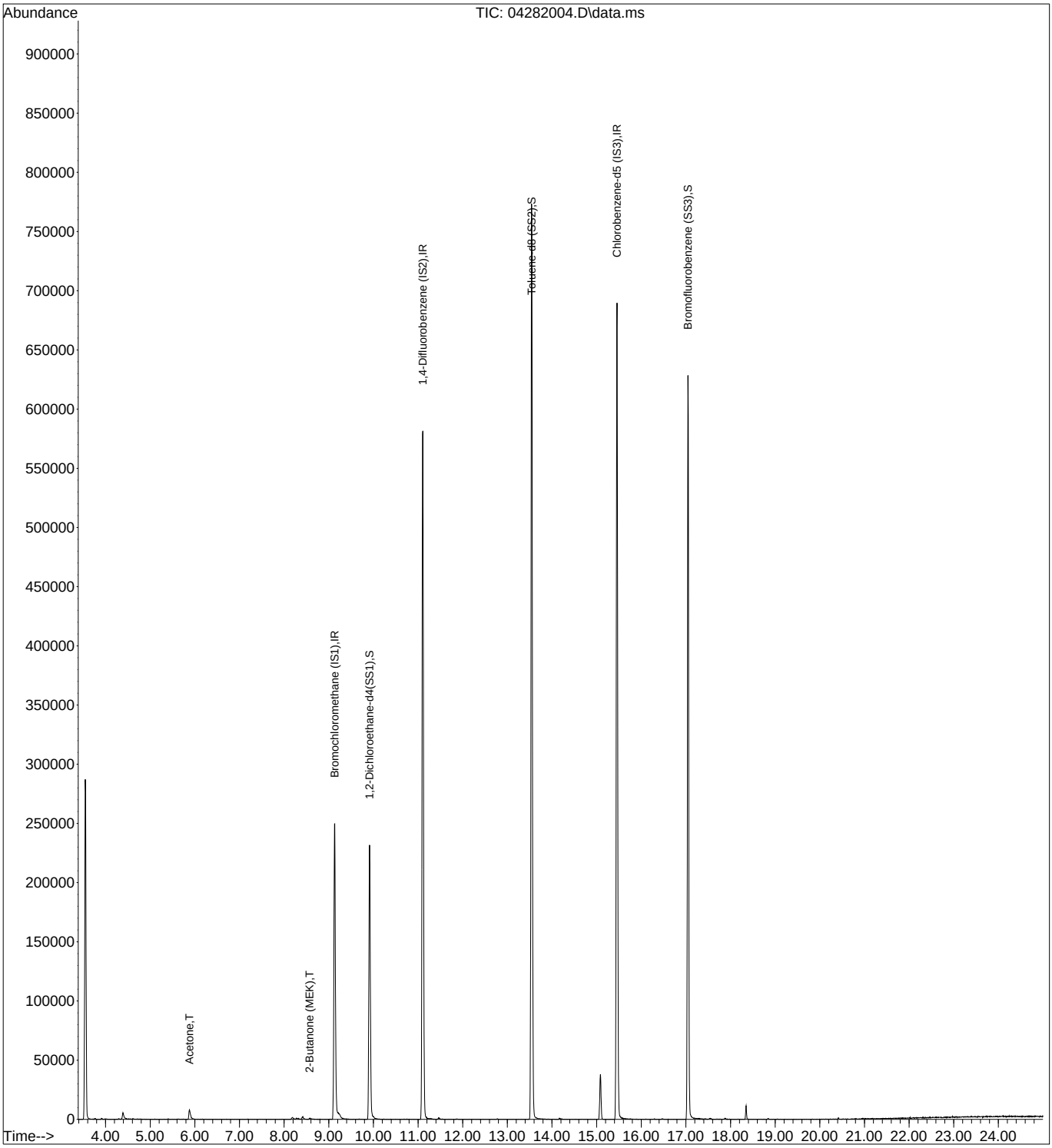
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	13.66	91	454	N.D.		
59) 2-Hexanone	0.00	43	0	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	0.00	91	0	N.D.		
67) m- & p-Xylenes	0.00	91	0	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	16.60	91	127	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	17.05	105	235	N.D.		
75) alpha-Pinene	17.44	93	142	N.D.		
76) n-Propylbenzene	17.70	91	277	N.D.		
77) 3-Ethyltoluene	17.86	105	426	N.D.		
78) 4-Ethyltoluene	17.86	105	426	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	237	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	18.17	105	253	N.D.		
82) 1,2,4-Trimethylbenzene	18.40	105	275	N.D.		
83) n-Decane	0.00	57	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	18.67	105	239	N.D.		
88) 4-Isopropyltoluene (p-...	18.84	119	853	N.D.		
89) 1,2,3-Trimethylbenzene	18.67	105	239	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.81	180	174	N.D.		
95) Naphthalene	20.93	128	556	N.D.		
96) n-Dodecane	0.00	57	0	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.38	119	128	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282004.D Vial: 2
Acq On : 28 Apr 2020 13:41 Operator: TD
Sample : MB R9042820_1000mL Inst : MS09
Misc : S34-04212006

Quant Time: Apr 28 14:43:04 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292005.D Vial: 2
Acq On : 29 Apr 2020 7:37 Operator: SC
Sample : MB R9042920_1000mL Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 12:53:18 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/29/20

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	147560	12.500 ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.10	114	622939	12.500 ng	-0.03
56) Chlorobenzene-d5 (IS3)	15.46	82	273854	12.500 ng	0.00
System Monitoring Compounds					
33) 1,2-Dichloroethane-d4(...	9.91	65	219962	11.505 ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.08%		
57) Toluene-d8 (SS2)	13.54	98	677400	12.811 ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.48%		
73) Bromofluorobenzene (SS3)	17.05	174	262003	12.329 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.64%		
Target Compounds					Qvalue
2) Propene	0.00	42	0	N.D. d	
3) Dichlorodifluoromethan...	0.00	85	0	N.D.	
4) Chloromethane	0.00	50	0	N.D.	
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.	
6) Vinyl Chloride	0.00	62	0	N.D.	
7) 1,3-Butadiene	0.00	54	0	N.D.	
8) Bromomethane	0.00	94	0	N.D.	
9) Chloroethane	0.00	64	0	N.D.	
10) Ethanol	5.45	45	202	N.D.	
11) Acetonitrile	0.00	41	0	N.D. d	
12) Acrolein	0.00	56	0	N.D. d	
13) Acetone	5.87	58	2981m	0.523 ng	
14) Trichlorofluoromethane	0.00	101	0	N.D.	
15) 2-Propanol (Isopropanol)	6.26	45	274	N.D.	
16) Acrylonitrile	0.00	53	0	N.D.	
17) 1,1-Dichloroethene	0.00	96	0	N.D.	
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	
19) Methylene Chloride	0.00	84	0	N.D.	
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	
21) Trichlorotrifluoroethane	7.19	151	115	N.D.	
22) Carbon Disulfide	0.00	76	0	N.D.	
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.	
24) 1,1-Dichloroethane	0.00	63	0	N.D.	
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	
26) Vinyl Acetate	0.00	86	0	N.D. d	
27) 2-Butanone (MEK)	8.57	72	557	0.095 ng	# 1
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.	
29) Diisopropyl Ether	0.00	87	0	N.D.	
30) Ethyl Acetate	0.00	61	0	N.D.	
31) n-Hexane	9.22	57	119	N.D.	
32) Chloroform	0.00	83	0	N.D.	
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.	
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.	
36) 1,2-Dichloroethane	0.00	62	0	N.D.	
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.	
39) Isopropyl Acetate	0.00	61	0	N.D.	
40) 1-Butanol	10.81	56	110	N.D.	
41) Benzene	10.76	78	215	N.D.	
42) Carbon Tetrachloride	0.00	117	0	N.D.	
43) Cyclohexane	11.03	84	965	0.061 ng	84
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.	
45) 1,2-Dichloropropane	0.00	63	0	N.D.	
46) Bromodichloromethane	0.00	83	0	N.D.	
47) Trichloroethene	0.00	130	0	N.D.	
48) 1,4-Dioxane	0.00	88	0	N.D.	
49) 2,2,4-Trimethylpentane...	11.87	57	4467	0.132 ng	96
50) Methyl Methacrylate	0.00	100	0	N.D.	

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292005.D Vial: 2
Acq On : 29 Apr 2020 7:37 Operator: SC
Sample : MB R9042920_1000mL Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 12:53:18 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

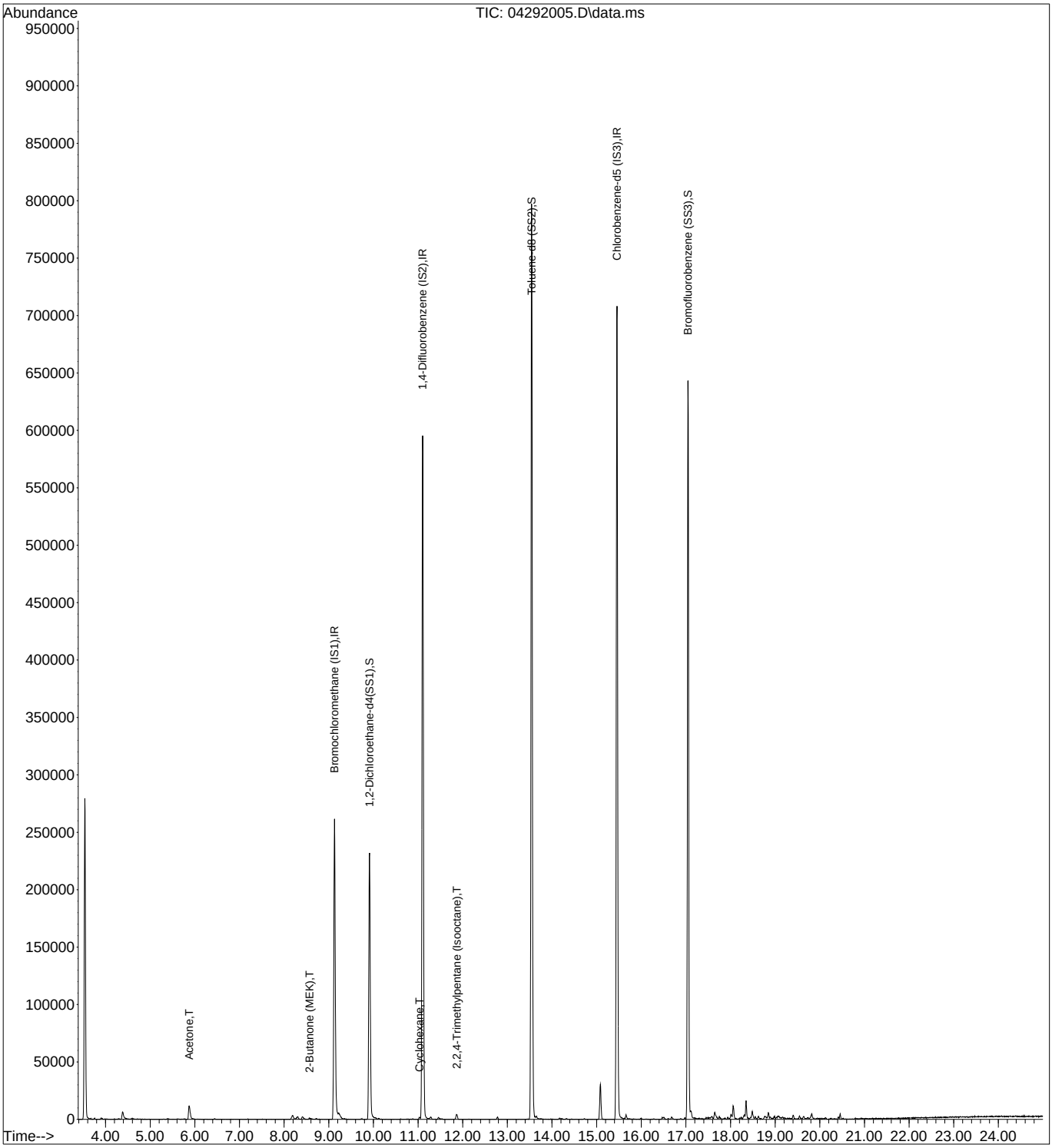
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	13.65	91	710	N.D.		
59) 2-Hexanone	14.03	43	148	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	15.66	112	109	N.D.		
66) Ethylbenzene	15.92	91	214	N.D.		
67) m- & p-Xylenes	16.12	91	288	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	16.60	91	220	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	16.51	83	107	N.D.		
74) Cumene	17.05	105	344	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	17.70	91	829	N.D.		
77) 3-Ethyltoluene	17.84	105	574	N.D.		
78) 4-Ethyltoluene	17.89	105	374	N.D.		
79) 1,3,5-Trimethylbenzene	17.98	105	371	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	18.16	105	440	N.D.		
82) 1,2,4-Trimethylbenzene	18.41	105	353	N.D.		
83) n-Decane	0.00	57	0	N.D.	d	
84) Benzyl Chloride	18.55	91	265	N.D.		
85) 1,3-Dichlorobenzene	18.58	146	103	N.D.		
86) 1,4-Dichlorobenzene	18.58	146	103	N.D.		
87) sec-Butylbenzene	18.67	105	351	N.D.		
88) 4-Isopropyltoluene (p-...	18.84	119	887	N.D.		
89) 1,2,3-Trimethylbenzene	18.85	105	394	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	19.82	57	580	N.D.		
94) 1,2,4-Trichlorobenzene	20.80	180	502	N.D.		
95) Naphthalene	20.92	128	698	N.D.		
96) n-Dodecane	20.92	57	145	N.D.		
97) Hexachlorobutadiene	21.27	225	192	N.D.		
98) Cyclohexanone	16.29	55	129	N.D.		
99) tert-Butylbenzene	18.37	119	189	N.D.		
100) n-Butylbenzene	19.29	91	271	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292005.D Vial: 2
Acq On : 29 Apr 2020 7:37 Operator: SC
Sample : MB R9042920_1000mL Inst : MS09
Misc : S34-04212006

Quant Time: Apr 29 12:53:18 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282005.D Vial: 2
Acq On : 28 Apr 2020 14:14 Operator: TD
Sample : LCS R9042820_25ng Inst : MS09
Misc : S34-04212006/S34-04102008 (5/9)

Quant Time: Apr 28 14:43:34 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/28/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	153238	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.12	114	642430	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	279357	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.93	65	232340	11.702	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.60%				
57) Toluene-d8 (SS2)	13.55	98	696998	12.922	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.36%				
73) Bromofluorobenzene (SS3)	17.05	174	275178	12.694	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.52%				
Target Compounds							Qvalue
2) Propene	3.85	42	177082	27.208	ng		98
3) Dichlorodifluoromethan...	3.96	85	594647	24.048	ng		100
4) Chloromethane	4.16	50	264345	28.972	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	322244	24.106	ng		99
6) Vinyl Chloride	4.45	62	322980	26.993	ng		100
7) 1,3-Butadiene	4.62	54	226423	29.628	ng		99
8) Bromomethane	4.93	94	241798	25.715	ng		99
9) Chloroethane	5.15	64	152312	25.164	ng		99
10) Ethanol	5.41	45	596691	121.035	ng		100
11) Acetonitrile	5.59	41	289749	24.828	ng		99
12) Acrolein	5.71	56	124032	27.532	ng		100
13) Acetone	5.86	58	743227	125.572	ng		93
14) Trichlorofluoromethane	6.02	101	584686	23.764	ng		99
15) 2-Propanol (Isopropanol)	6.19	45	933532	49.651	ng		99
16) Acrylonitrile	6.39	53	265580	28.285	ng		100
17) 1,1-Dichloroethene	6.72	96	283556	26.216	ng		95
18) 2-Methyl-2-Propanol (t...	6.84	59	1228423	71.504	ng		98
19) Methylene Chloride	6.88	84	267297	25.750	ng		98
20) 3-Chloro-1-propene (Al...	7.01	41	284738	23.640	ng		99
21) Trichlorotrifluoroethane	7.18	151	320464	25.028	ng		100
22) Carbon Disulfide	7.15	76	920391	26.667	ng		99
23) trans-1,2-Dichloroethene	7.90	61	372222	27.266	ng		98
24) 1,1-Dichloroethane	8.12	63	425638	24.953	ng		100
25) Methyl tert-Butyl Ether	8.18	73	822509	37.424	ng		99
26) Vinyl Acetate	8.29	86	301460	139.558	ng		95
27) 2-Butanone (MEK)	8.52	72	170628	28.060	ng		98
28) cis-1,2-Dichloroethene	8.99	61	355734	25.781	ng		99
29) Diisopropyl Ether	9.22	87	230500	26.172	ng	#	92
30) Ethyl Acetate	9.23	61	154051	56.939	ng		99
31) n-Hexane	9.23	57	353802	26.940	ng		99
32) Chloroform	9.30	83	526025	25.036	ng		99
34) Tetrahydrofuran (THF)	9.67	72	164424	26.697	ng		98
35) Ethyl tert-Butyl Ether	9.77	87	314145	33.366	ng		99
36) 1,2-Dichloroethane	10.04	62	429356	24.843	ng		100
38) 1,1,1-Trichloroethane	10.30	97	550648	24.929	ng		99
39) Isopropyl Acetate	10.67	61	274087	52.007	ng	#	88
40) 1-Butanol	10.68	56	326154	46.064	ng		92
41) Benzene	10.76	78	1047019	25.001	ng		100
42) Carbon Tetrachloride	10.92	117	515197	23.793	ng		100
43) Cyclohexane	11.04	84	841169	51.270	ng		99
44) tert-Amyl Methyl Ether	11.35	73	690965	31.422	ng		99
45) 1,2-Dichloropropane	11.57	63	225938	26.353	ng		99
46) Bromodichloromethane	11.76	83	429434	24.921	ng		100
47) Trichloroethene	11.81	130	376163	25.935	ng		100
48) 1,4-Dioxane	11.78	88	234658	27.868	ng		99
49) 2,2,4-Trimethylpentane...	11.87	57	919445	26.283	ng		97
50) Methyl Methacrylate	12.00	100	251785	56.119	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282005.D Vial: 2
Acq On : 28 Apr 2020 14:14 Operator: TD
Sample : LCS R9042820_25ng Inst : MS09
Misc : S34-04212006/S34-04102008 (5/9)

Quant Time: Apr 28 14:43:34 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

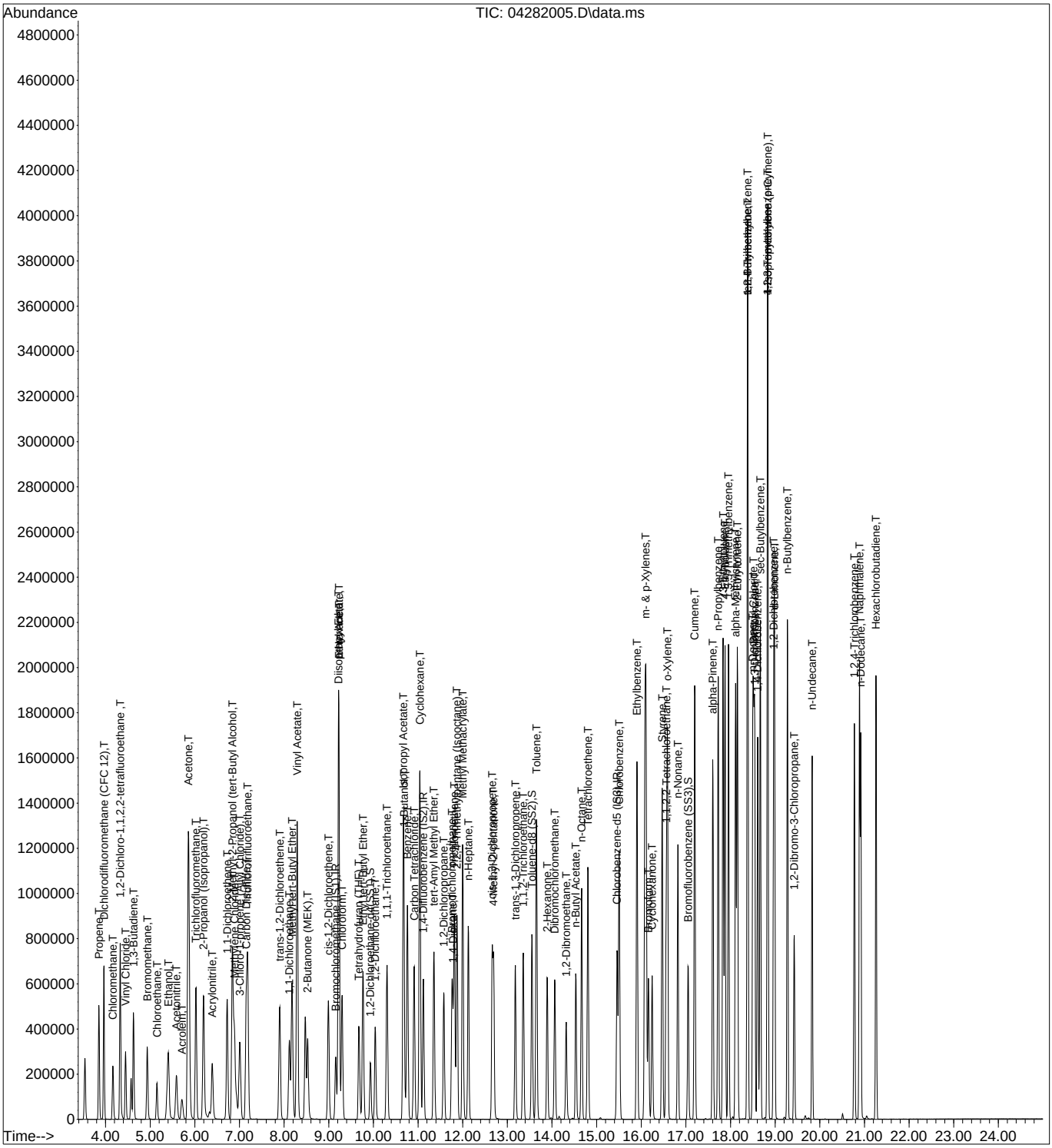
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	260497	26.772	ng	100
52) cis-1,3-Dichloropropene	12.66	75	492673	27.763	ng	100
53) 4-Methyl-2-pentanone	12.69	58	204730	27.935	ng	97
54) trans-1,3-Dichloropropene	13.18	75	465093	27.374	ng	99
55) 1,1,2-Trichloroethane	13.36	97	296207	25.876	ng	100
58) Toluene	13.65	91	1229137	27.141	ng	99
59) 2-Hexanone	13.90	43	430996	31.917	ng	98
60) Dibromochloromethane	14.06	129	433040	28.144	ng	99
61) 1,2-Dibromoethane	14.32	107	360889	28.593	ng	100
62) n-Butyl Acetate	14.53	43	480738	31.860	ng	99
63) n-Octane	14.67	57	197117	27.343	ng	99
64) Tetrachloroethene	14.81	166	442625	25.948	ng	99
65) Chlorobenzene	15.51	112	896033	27.026	ng	100
66) Ethylbenzene	15.90	91	1434590	27.187	ng	100
67) m- & p-Xylenes	16.10	91	2369984	53.238	ng	99
68) Bromoform	16.16	173	391646	28.745	ng	99
69) Styrene	16.47	104	930228	28.714	ng	99
70) o-Xylene	16.58	91	1164252	26.630	ng	99
71) n-Nonane	16.82	43	379361	26.899	ng	99
72) 1,1,2,2-Tetrachloroethane	16.56	83	459435	27.741	ng	100
74) Cumene	17.19	105	1525252	26.748	ng	99
75) alpha-Pinene	17.60	93	728072	28.038	ng	98
76) n-Propylbenzene	17.72	91	1699703	27.360	ng	99
77) 3-Ethyltoluene	17.83	105	1560745	28.033	ng	99
78) 4-Ethyltoluene	17.88	105	1424490	26.275	ng	99
79) 1,3,5-Trimethylbenzene	17.95	105	1318357	26.315	ng	99
80) alpha-Methylstyrene	18.11	118	707830	28.241	ng	99
81) 2-Ethyltoluene	18.15	105	1487399	26.849	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	1305893	26.956	ng	100
83) n-Decane	18.50	57	480304	28.141	ng	99
84) Benzyl Chloride	18.51	91	1069986	29.281	ng	99
85) 1,3-Dichlorobenzene	18.54	146	825872	28.277	ng	100
86) 1,4-Dichlorobenzene	18.61	146	844340	28.347	ng	100
87) sec-Butylbenzene	18.67	105	1656338	26.696	ng	99
88) 4-Isopropyltoluene (p-...	18.83	119	1609484	26.702	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	1275996	26.316	ng	99
90) 1,2-Dichlorobenzene	18.97	146	788224	27.780	ng	99
91) d-Limonene	18.99	68	364056	26.600	ng	100
92) 1,2-Dibromo-3-Chloropr...	19.43	157	296892	27.598	ng	96
93) n-Undecane	19.83	57	508737	28.247	ng	100
94) 1,2,4-Trichlorobenzene	20.77	180	640691	30.597	ng	99
95) Naphthalene	20.89	128	1755163	28.126	ng	100
96) n-Dodecane	20.92	57	471622	29.241	ng	100
97) Hexachlorobutadiene	21.26	225	440738	25.864	ng	100
98) Cyclohexanone	16.24	55	284902	25.814	ng	99
99) tert-Butylbenzene	18.38	119	1268583	26.075	ng	100
100) n-Butylbenzene	19.27	91	1274971	27.992	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282005.D Vial: 2
Acq On : 28 Apr 2020 14:14 Operator: TD
Sample : LCS R9042820_25ng Inst : MS09
Misc : S34-04212006/S34-04102008 (5/9)

Quant Time: Apr 28 14:43:34 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282006.D Vial: 2
Acq On : 28 Apr 2020 14:48 Operator: TD
Sample : LCSD R9042820_25ng Inst : MS09
Misc : S34-04212006/S34-04102008 (5/9)

Quant Time: Apr 28 16:10:13 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/28/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	158024	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.12	114	655936	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	285393	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.93	65	236283	11.541	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.32%				
57) Toluene-d8 (SS2)	13.55	98	710847	12.900	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.20%				
73) Bromofluorobenzene (SS3)	17.05	174	275591	12.444	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.52%				
Target Compounds							Qvalue
2) Propene	3.85	42	183741	27.376	ng		98
3) Dichlorodifluoromethan...	3.96	85	608853	23.876	ng		100
4) Chloromethane	4.16	50	274244	29.147	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	329398	23.895	ng		99
6) Vinyl Chloride	4.45	62	330641	26.796	ng		99
7) 1,3-Butadiene	4.62	54	232101	29.451	ng		99
8) Bromomethane	4.93	94	248941	25.673	ng		99
9) Chloroethane	5.15	64	156653	25.097	ng		99
10) Ethanol	5.40	45	618342	121.628	ng		100
11) Acetonitrile	5.59	41	300918	25.005	ng		99
12) Acrolein	5.71	56	126337	27.194	ng		99
13) Acetone	5.86	58	764056	125.181	ng		93
14) Trichlorofluoromethane	6.02	101	589201	23.223	ng		99
15) 2-Propanol (Isopropanol)	6.19	45	959339	49.478	ng		99
16) Acrylonitrile	6.39	53	271833	28.074	ng		99
17) 1,1-Dichloroethene	6.72	96	285311	25.579	ng		96
18) 2-Methyl-2-Propanol (t...	6.84	59	1250753	70.598	ng		98
19) Methylene Chloride	6.88	84	272367	25.444	ng		98
20) 3-Chloro-1-propene (Al...	7.01	41	291818	23.494	ng		99
21) Trichlorotrifluoroethane	7.18	151	324941	24.609	ng		100
22) Carbon Disulfide	7.15	76	936876	26.323	ng		100
23) trans-1,2-Dichloroethene	7.90	61	381315	27.086	ng		99
24) 1,1-Dichloroethane	8.12	63	434844	24.720	ng		100
25) Methyl tert-Butyl Ether	8.18	73	840227	37.072	ng		99
26) Vinyl Acetate	8.29	86	305080	136.956	ng		98
27) 2-Butanone (MEK)	8.52	72	173455	27.661	ng		98
28) cis-1,2-Dichloroethene	8.99	61	363900	25.574	ng		99
29) Diisopropyl Ether	9.22	87	235938	25.978	ng	#	92
30) Ethyl Acetate	9.22	61	158256	56.722	ng		99
31) n-Hexane	9.22	57	361992	26.729	ng		99
32) Chloroform	9.30	83	535918	24.734	ng		99
34) Tetrahydrofuran (THF)	9.67	72	171429	26.991	ng		100
35) Ethyl tert-Butyl Ether	9.77	87	320754	33.036	ng		99
36) 1,2-Dichloroethane	10.04	62	434095	24.356	ng		100
38) 1,1,1-Trichloroethane	10.30	97	556798	24.689	ng		99
39) Isopropyl Acetate	10.67	61	278710	51.795	ng	#	90
40) 1-Butanol	10.68	56	337620	46.701	ng		93
41) Benzene	10.76	78	1075342	25.149	ng		100
42) Carbon Tetrachloride	10.91	117	516710	23.372	ng		100
43) Cyclohexane	11.04	84	858430	51.245	ng		99
44) tert-Amyl Methyl Ether	11.35	73	707502	31.511	ng		99
45) 1,2-Dichloropropane	11.57	63	231295	26.422	ng		100
46) Bromodichloromethane	11.76	83	435409	24.747	ng		100
47) Trichloroethene	11.81	130	378771	25.578	ng		100
48) 1,4-Dioxane	11.78	88	239402	27.845	ng		99
49) 2,2,4-Trimethylpentane...	11.87	57	934078	26.152	ng		97
50) Methyl Methacrylate	12.00	100	257348	56.177	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282006.D Vial: 2
Acq On : 28 Apr 2020 14:48 Operator: TD
Sample : LCSD R9042820_25ng Inst : MS09
Misc : S34-04212006/S34-04102008 (5/9)

Quant Time: Apr 28 16:10:13 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

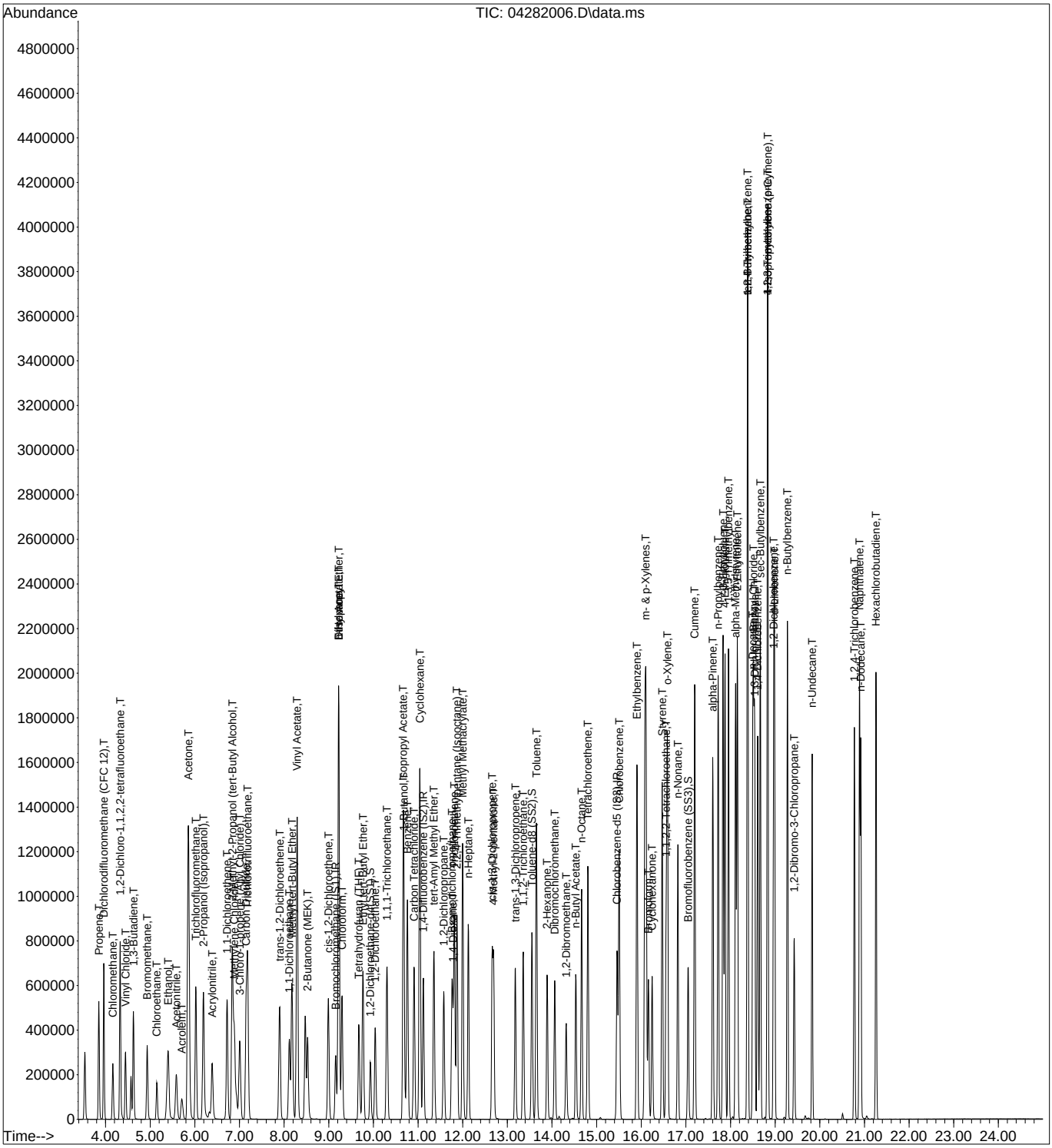
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	264392	26.612	ng	99
52) cis-1,3-Dichloropropene	12.66	75	499269	27.555	ng	99
53) 4-Methyl-2-pentanone	12.69	58	209639	28.016	ng	97
54) trans-1,3-Dichloropropene	13.18	75	471629	27.187	ng	99
55) 1,1,2-Trichloroethane	13.36	97	300199	25.684	ng	100
58) Toluene	13.65	91	1247449	26.963	ng	99
59) 2-Hexanone	13.89	43	440618	31.939	ng	98
60) Dibromochloromethane	14.06	129	435172	27.684	ng	100
61) 1,2-Dibromoethane	14.32	107	365913	28.378	ng	100
62) n-Butyl Acetate	14.53	43	491775	31.902	ng	99
63) n-Octane	14.67	57	200753	27.259	ng	100
64) Tetrachloroethene	14.80	166	448976	25.764	ng	99
65) Chlorobenzene	15.51	112	909805	26.861	ng	100
66) Ethylbenzene	15.90	91	1448623	26.872	ng	100
67) m- & p-Xylenes	16.10	91	2398979	52.749	ng	99
68) Bromoform	16.16	173	394855	28.368	ng	100
69) Styrene	16.47	104	941437	28.445	ng	99
70) o-Xylene	16.58	91	1177710	26.368	ng	100
71) n-Nonane	16.82	43	386932	26.856	ng	100
72) 1,1,2,2-Tetrachloroethane	16.56	83	467125	27.609	ng	100
74) Cumene	17.19	105	1540187	26.439	ng	99
75) alpha-Pinene	17.60	93	740450	27.911	ng	98
76) n-Propylbenzene	17.72	91	1720199	27.104	ng	99
77) 3-Ethyltoluene	17.83	105	1584401	27.856	ng	100
78) 4-Ethyltoluene	17.88	105	1435194	25.912	ng	99
79) 1,3,5-Trimethylbenzene	17.95	105	1338910	26.160	ng	100
80) alpha-Methylstyrene	18.11	118	716091	27.966	ng	99
81) 2-Ethyltoluene	18.15	105	1506265	26.615	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	1322300	26.718	ng	100
83) n-Decane	18.50	57	486683	27.911	ng	99
84) Benzyl Chloride	18.51	91	1095046	29.333	ng	100
85) 1,3-Dichlorobenzene	18.54	146	833680	27.941	ng	100
86) 1,4-Dichlorobenzene	18.61	146	855002	28.098	ng	99
87) sec-Butylbenzene	18.67	105	1676319	26.446	ng	100
88) 4-Isopropyltoluene (p-...	18.83	119	1623905	26.371	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	1286855	25.979	ng	99
90) 1,2-Dichlorobenzene	18.97	146	794810	27.420	ng	100
91) d-Limonene	18.99	68	370818	26.521	ng	100
92) 1,2-Dibromo-3-Chloropr...	19.43	157	301731	27.455	ng	96
93) n-Undecane	19.83	57	516767	28.086	ng	100
94) 1,2,4-Trichlorobenzene	20.77	180	648104	30.296	ng	100
95) Naphthalene	20.89	128	1790811	28.090	ng	100
96) n-Dodecane	20.92	57	479466	29.099	ng	99
97) Hexachlorobutadiene	21.26	225	441751	25.375	ng	100
98) Cyclohexanone	16.24	55	293539	26.034	ng	97
99) tert-Butylbenzene	18.38	119	1283215	25.818	ng	100
100) n-Butylbenzene	19.27	91	1290030	27.723	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282006.D Vial: 2
Acq On : 28 Apr 2020 14:48 Operator: TD
Sample : LCSD R9042820_25ng Inst : MS09
Misc : S34-04212006/S34-04102008 (5/9)

Quant Time: Apr 28 16:10:13 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292006.D Vial: 2
Acq On : 29 Apr 2020 8:11 Operator: SC
Sample : LCS R9042920_25ng Inst : MS09
Misc : S34-04212006/S34-04102008 (5/9)

Quant Time: Apr 29 08:49:45 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/29/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	159720	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.12	114	668762	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	290463	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.93	65	240181	11.606	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.88%				
57) Toluene-d8 (SS2)	13.55	98	729483	13.007	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.08%				
73) Bromofluorobenzene (SS3)	17.05	174	280673	12.452	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.60%				
Target Compounds							Qvalue
2) Propene	3.84	42	192435	28.367	ng		98
3) Dichlorodifluoromethan...	3.96	85	614019	23.823	ng		100
4) Chloromethane	4.16	50	273343	28.743	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	324436	23.285	ng		100
6) Vinyl Chloride	4.44	62	325417	26.093	ng		100
7) 1,3-Butadiene	4.62	54	234277	29.412	ng		99
8) Bromomethane	4.93	94	249105	25.417	ng		99
9) Chloroethane	5.15	64	157723	25.000	ng		99
10) Ethanol	5.40	45	625363	121.703	ng		100
11) Acetonitrile	5.58	41	303205	24.927	ng		99
12) Acrolein	5.70	56	128861	27.443	ng		99
13) Acetone	5.85	58	778963	126.268	ng		92
14) Trichlorofluoromethane	6.02	101	591884	23.081	ng		99
15) 2-Propanol (Isopropanol)	6.19	45	957573	48.863	ng		98
16) Acrylonitrile	6.38	53	274510	28.049	ng		99
17) 1,1-Dichloroethene	6.72	96	288818	25.619	ng		96
18) 2-Methyl-2-Propanol (t...	6.83	59	1258268	70.268	ng		98
19) Methylene Chloride	6.88	84	276050	25.514	ng		98
20) 3-Chloro-1-propene (Al...	7.01	41	294271	23.440	ng		99
21) Trichlorotrifluoroethane	7.18	151	327616	24.548	ng		100
22) Carbon Disulfide	7.15	76	951694	26.455	ng		100
23) trans-1,2-Dichloroethene	7.90	61	385506	27.093	ng		99
24) 1,1-Dichloroethane	8.12	63	437909	24.630	ng		100
25) Methyl tert-Butyl Ether	8.17	73	844100	36.848	ng		99
26) Vinyl Acetate	8.29	86	310055	137.711	ng		98
27) 2-Butanone (MEK)	8.52	72	174560	27.542	ng		100
28) cis-1,2-Dichloroethene	8.99	61	364470	25.342	ng		99
29) Diisopropyl Ether	9.22	87	236226	25.733	ng	#	94
30) Ethyl Acetate	9.22	61	160604	56.952	ng		100
31) n-Hexane	9.22	57	366708	26.790	ng		99
32) Chloroform	9.30	83	536465	24.496	ng		100
34) Tetrahydrofuran (THF)	9.67	72	173532	27.032	ng		100
35) Ethyl tert-Butyl Ether	9.77	87	325990	33.218	ng		100
36) 1,2-Dichloroethane	10.04	62	439730	24.411	ng		100
38) 1,1,1-Trichloroethane	10.30	97	561728	24.430	ng		99
39) Isopropyl Acetate	10.67	61	282968	51.578	ng	#	89
40) 1-Butanol	10.68	56	338229	45.888	ng		92
41) Benzene	10.76	78	1086061	24.912	ng		99
42) Carbon Tetrachloride	10.91	117	519483	23.047	ng		100
43) Cyclohexane	11.04	84	867239	50.777	ng		99
44) tert-Amyl Methyl Ether	11.35	73	722556	31.565	ng		99
45) 1,2-Dichloropropane	11.57	63	234069	26.226	ng		100
46) Bromodichloromethane	11.76	83	438324	24.435	ng		100
47) Trichloroethene	11.81	130	382325	25.322	ng		99
48) 1,4-Dioxane	11.78	88	242687	27.686	ng		99
49) 2,2,4-Trimethylpentane...	11.87	57	948745	26.053	ng		98
50) Methyl Methacrylate	12.00	100	258595	55.367	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292006.D Vial: 2
Acq On : 29 Apr 2020 8:11 Operator: SC
Sample : LCS R9042920_25ng Inst : MS09
Misc : S34-04212006/S34-04102008 (5/9)

Quant Time: Apr 29 08:49:45 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

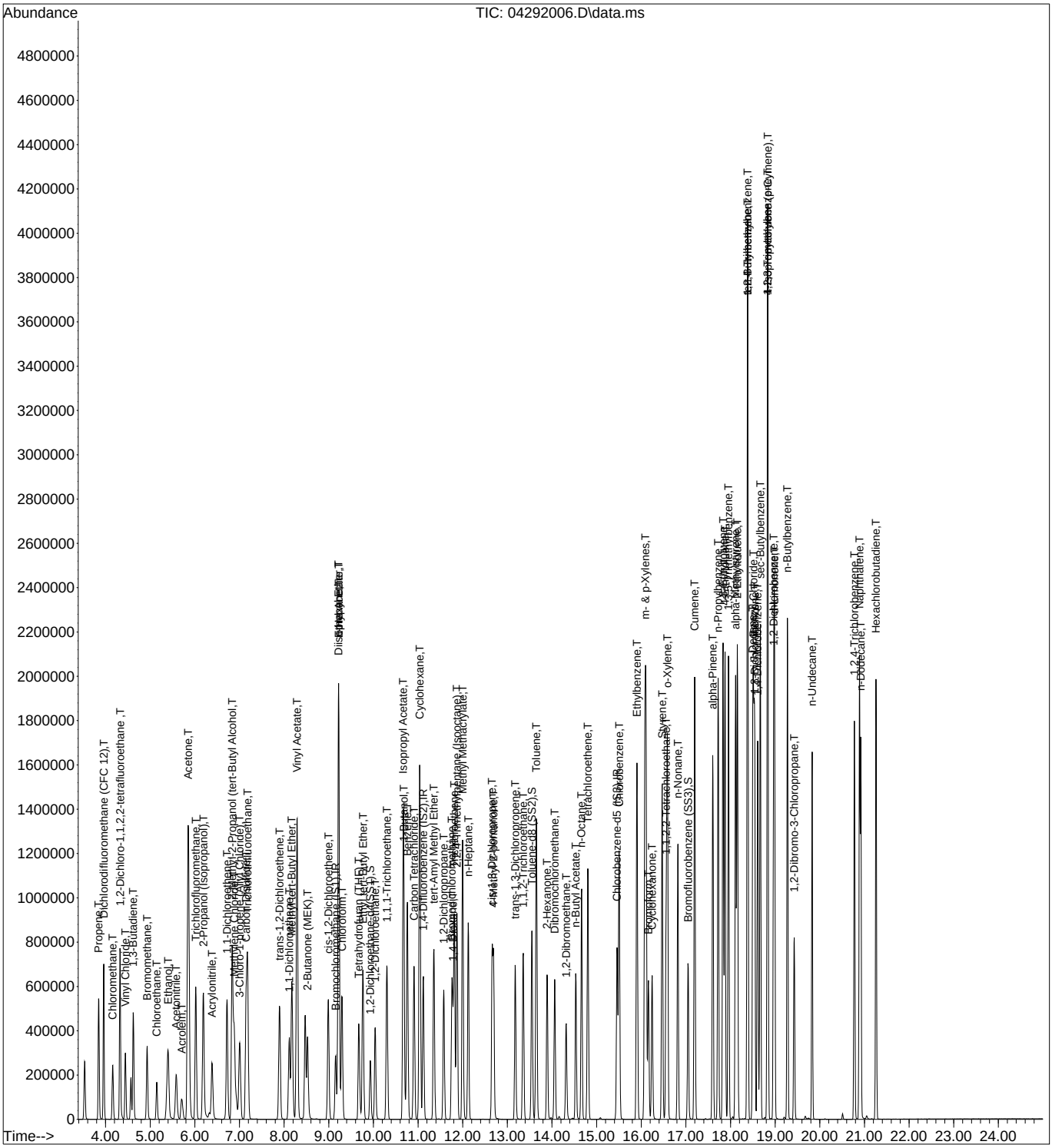
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	267093	26.369	ng	99
52) cis-1,3-Dichloropropene	12.66	75	507377	27.465	ng	100
53) 4-Methyl-2-pentanone	12.69	58	214254	28.084	ng	96
54) trans-1,3-Dichloropropene	13.18	75	479223	27.095	ng	99
55) 1,1,2-Trichloroethane	13.36	97	302059	25.348	ng	99
58) Toluene	13.65	91	1260051	26.760	ng	99
59) 2-Hexanone	13.89	43	448289	31.928	ng	98
60) Dibromochloromethane	14.06	129	437800	27.365	ng	100
61) 1,2-Dibromoethane	14.32	107	370489	28.231	ng	100
62) n-Butyl Acetate	14.53	43	495714	31.596	ng	99
63) n-Octane	14.66	57	204411	27.271	ng	99
64) Tetrachloroethene	14.80	166	449580	25.348	ng	100
65) Chlorobenzene	15.51	112	924379	26.815	ng	99
66) Ethylbenzene	15.90	91	1467812	26.753	ng	100
67) m- & p-Xylenes	16.10	91	2432101	52.544	ng	99
68) Bromoform	16.16	173	398902	28.158	ng	100
69) Styrene	16.47	104	951838	28.257	ng	99
70) o-Xylene	16.58	91	1196724	26.326	ng	100
71) n-Nonane	16.82	43	390344	26.620	ng	99
72) 1,1,2,2-Tetrachloroethane	16.56	83	473187	27.479	ng	100
74) Cumene	17.19	105	1558813	26.291	ng	100
75) alpha-Pinene	17.60	93	756274	28.010	ng	98
76) n-Propylbenzene	17.72	91	1741384	26.959	ng	99
77) 3-Ethyltoluene	17.83	105	1599807	27.636	ng	100
78) 4-Ethyltoluene	17.88	105	1453478	25.784	ng	100
79) 1,3,5-Trimethylbenzene	17.95	105	1349094	25.899	ng	100
80) alpha-Methylstyrene	18.11	118	721320	27.679	ng	99
81) 2-Ethyltoluene	18.15	105	1521893	26.421	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	1326840	26.342	ng	99
83) n-Decane	18.50	57	496094	27.955	ng	99
84) Benzyl Chloride	18.51	91	1103247	29.037	ng	100
85) 1,3-Dichlorobenzene	18.54	146	840711	27.685	ng	100
86) 1,4-Dichlorobenzene	18.61	146	863226	27.873	ng	100
87) sec-Butylbenzene	18.67	105	1694289	26.263	ng	100
88) 4-Isopropyltoluene (p-...	18.83	119	1635146	26.090	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	1298463	25.756	ng	99
90) 1,2-Dichlorobenzene	18.97	146	800205	27.124	ng	99
91) d-Limonene	18.99	68	377303	26.514	ng	99
92) 1,2-Dibromo-3-Chloropr...	19.43	157	301447	26.950	ng	96
93) n-Undecane	19.83	57	523076	27.932	ng	100
94) 1,2,4-Trichlorobenzene	20.77	180	651955	29.945	ng	100
95) Naphthalene	20.89	128	1808868	27.878	ng	100
96) n-Dodecane	20.92	57	483949	28.858	ng	99
97) Hexachlorobutadiene	21.26	225	444795	25.104	ng	100
98) Cyclohexanone	16.24	55	294169	25.634	ng	98
99) tert-Butylbenzene	18.38	119	1297113	25.642	ng	100
100) n-Butylbenzene	19.27	91	1303545	27.525	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292006.D Vial: 2
Acq On : 29 Apr 2020 8:11 Operator: SC
Sample : LCS R9042920_25ng Inst : MS09
Misc : S34-04212006/S34-04102008 (5/9)

Quant Time: Apr 29 08:49:45 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292007.D Vial: 2
Acq On : 29 Apr 2020 8:44 Operator: SC
Sample : LCSD R9042920_25ng Inst : MS09
Misc : S34-04212006/S34-04102008 (5/9)

Quant Time: Apr 29 09:55:31 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/29/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	157698	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.12	114	660725	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	286674	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.94	65	237289	11.614	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.88%				
57) Toluene-d8 (SS2)	13.55	98	718341	12.978	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.84%				
73) Bromofluorobenzene (SS3)	17.05	174	275722	12.394	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.12%				
Target Compounds							Qvalue
2) Propene	3.85	42	199410	29.772	ng		98
3) Dichlorodifluoromethan...	3.96	85	621494	24.423	ng		100
4) Chloromethane	4.17	50	281767	30.008	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	333261	24.226	ng		100
6) Vinyl Chloride	4.45	62	333299	27.068	ng		100
7) 1,3-Butadiene	4.63	54	235848	29.989	ng		99
8) Bromomethane	4.94	94	255806	26.435	ng		98
9) Chloroethane	5.15	64	162394	26.071	ng		99
10) Ethanol	5.40	45	641498	126.444	ng		99
11) Acetonitrile	5.59	41	310146	25.825	ng		99
12) Acrolein	5.71	56	130678	28.186	ng		100
13) Acetone	5.86	58	791075	129.876	ng		92
14) Trichlorofluoromethane	6.03	101	596002	23.539	ng		99
15) 2-Propanol (Isopropanol)	6.19	45	961309	49.683	ng		98
16) Acrylonitrile	6.39	53	278776	28.851	ng		99
17) 1,1-Dichloroethene	6.72	96	292199	26.251	ng		96
18) 2-Methyl-2-Propanol (t...	6.84	59	1279409	72.365	ng		98
19) Methylene Chloride	6.88	84	278123	26.035	ng		97
20) 3-Chloro-1-propene (Al...	7.01	41	297178	23.975	ng		99
21) Trichlorotrifluoroethane	7.19	151	329398	24.998	ng		99
22) Carbon Disulfide	7.15	76	958489	26.986	ng		99
23) trans-1,2-Dichloroethene	7.90	61	388228	27.634	ng		99
24) 1,1-Dichloroethane	8.12	63	441801	25.168	ng		100
25) Methyl tert-Butyl Ether	8.18	73	853659	37.743	ng		99
26) Vinyl Acetate	8.29	86	312011	140.357	ng		100
27) 2-Butanone (MEK)	8.53	72	177313	28.335	ng		99
28) cis-1,2-Dichloroethene	8.99	61	369015	25.988	ng		99
29) Diisopropyl Ether	9.22	87	238242	26.286	ng	#	95
30) Ethyl Acetate	9.23	61	161737	58.089	ng		97
31) n-Hexane	9.23	57	372065	27.530	ng		99
32) Chloroform	9.30	83	541098	25.025	ng		100
34) Tetrahydrofuran (THF)	9.68	72	175904	27.753	ng		100
35) Ethyl tert-Butyl Ether	9.77	87	330216	34.081	ng		100
36) 1,2-Dichloroethane	10.04	62	441625	24.830	ng		99
38) 1,1,1-Trichloroethane	10.30	97	564000	24.827	ng		100
39) Isopropyl Acetate	10.67	61	286198	52.802	ng	#	89
40) 1-Butanol	10.68	56	342921	47.091	ng		92
41) Benzene	10.76	78	1097785	25.487	ng		100
42) Carbon Tetrachloride	10.91	117	523100	23.489	ng		100
43) Cyclohexane	11.04	84	873066	51.740	ng		99
44) tert-Amyl Methyl Ether	11.35	73	732152	32.373	ng		99
45) 1,2-Dichloropropane	11.57	63	236579	26.830	ng		100
46) Bromodichloromethane	11.76	83	443328	25.015	ng		99
47) Trichloroethene	11.81	130	385687	25.856	ng		100
48) 1,4-Dioxane	11.78	88	243973	28.171	ng		99
49) 2,2,4-Trimethylpentane...	11.87	57	960287	26.691	ng		97
50) Methyl Methacrylate	12.00	100	260999	56.561	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292007.D Vial: 2
Acq On : 29 Apr 2020 8:44 Operator: SC
Sample : LCSD R9042920_25ng Inst : MS09
Misc : S34-04212006/S34-04102008 (5/9)

Quant Time: Apr 29 09:55:31 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

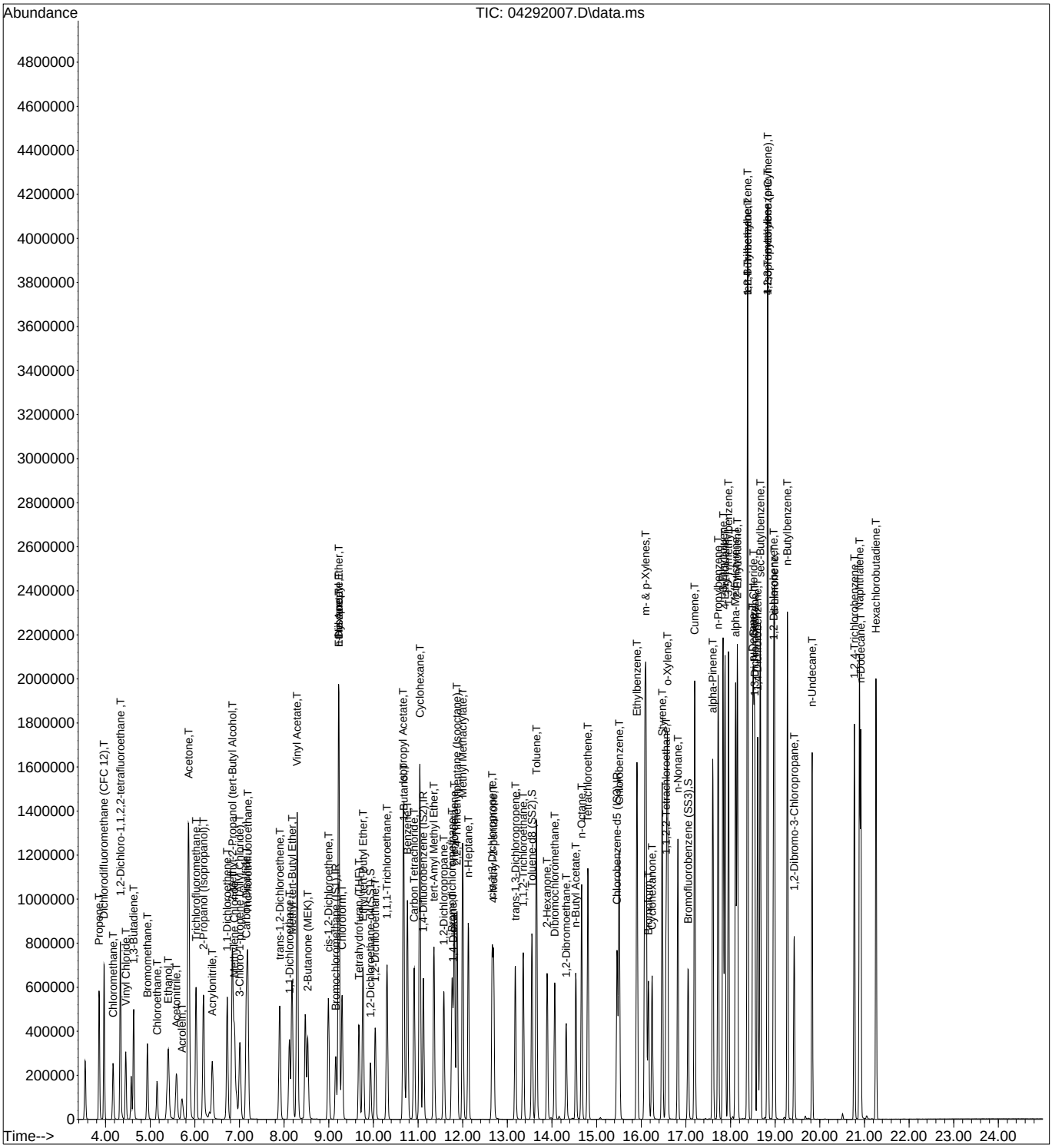
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	267924	26.772	ng	99
52) cis-1,3-Dichloropropene	12.66	75	512654	28.089	ng	100
53) 4-Methyl-2-pentanone	12.69	58	214362	28.439	ng	98
54) trans-1,3-Dichloropropene	13.18	75	482495	27.612	ng	99
55) 1,1,2-Trichloroethane	13.36	97	305568	25.954	ng	100
58) Toluene	13.65	91	1273414	27.401	ng	100
59) 2-Hexanone	13.89	43	451402	32.575	ng	97
60) Dibromochloromethane	14.06	129	441521	27.963	ng	100
61) 1,2-Dibromoethane	14.32	107	370840	28.631	ng	100
62) n-Butyl Acetate	14.53	43	499618	32.266	ng	99
63) n-Octane	14.67	57	205461	27.773	ng	99
64) Tetrachloroethene	14.80	166	453745	25.921	ng	100
65) Chlorobenzene	15.51	112	926736	27.238	ng	100
66) Ethylbenzene	15.90	91	1482228	27.373	ng	100
67) m- & p-Xylenes	16.10	91	2446484	53.553	ng	99
68) Bromoform	16.16	173	399811	28.596	ng	99
69) Styrene	16.47	104	958330	28.826	ng	99
70) o-Xylene	16.58	91	1206007	26.881	ng	100
71) n-Nonane	16.82	43	397398	27.459	ng	99
72) 1,1,2,2-Tetrachloroethane	16.56	83	477878	28.118	ng	100
74) Cumene	17.19	105	1572479	26.872	ng	99
75) alpha-Pinene	17.60	93	758619	28.468	ng	98
76) n-Propylbenzene	17.72	91	1751610	27.476	ng	100
77) 3-Ethyltoluene	17.83	105	1609207	28.166	ng	100
78) 4-Ethyltoluene	17.88	105	1462263	26.283	ng	100
79) 1,3,5-Trimethylbenzene	17.95	105	1359141	26.436	ng	100
80) alpha-Methylstyrene	18.11	118	728203	28.312	ng	99
81) 2-Ethyltoluene	18.15	105	1540177	27.092	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	1337267	26.899	ng	99
83) n-Decane	18.50	57	500266	28.562	ng	99
84) Benzyl Chloride	18.51	91	1113835	29.703	ng	100
85) 1,3-Dichlorobenzene	18.54	146	848999	28.327	ng	100
86) 1,4-Dichlorobenzene	18.61	146	865581	28.319	ng	99
87) sec-Butylbenzene	18.67	105	1702268	26.736	ng	100
88) 4-Isopropyltoluene (p-...	18.83	119	1653109	26.726	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	1313609	26.401	ng	99
90) 1,2-Dichlorobenzene	18.97	146	810100	27.823	ng	100
91) d-Limonene	18.99	68	382933	27.265	ng	98
92) 1,2-Dibromo-3-Chloropr...	19.43	157	303395	27.483	ng	96
93) n-Undecane	19.83	57	528457	28.593	ng	100
94) 1,2,4-Trichlorobenzene	20.77	180	657813	30.613	ng	100
95) Naphthalene	20.89	128	1821636	28.446	ng	100
96) n-Dodecane	20.92	57	493342	29.807	ng	99
97) Hexachlorobutadiene	21.26	225	449282	25.692	ng	100
98) Cyclohexanone	16.24	55	298707	26.374	ng	98
99) tert-Butylbenzene	18.38	119	1307479	26.189	ng	100
100) n-Butylbenzene	19.27	91	1316554	28.167	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292007.D Vial: 2
Acq On : 29 Apr 2020 8:44 Operator: SC
Sample : LCSD R9042920_25ng Inst : MS09
Misc : S34-04212006/S34-04102008 (5/9)

Quant Time: Apr 29 09:55:31 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282011.D Vial: 15
Acq On : 28 Apr 2020 17:56 Operator: SC
Sample : P2002030-004dup (25mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 28 19:00:33 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/28/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	159720	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	645274	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	293069	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	229524	11.091	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.72%			
57) Toluene-d8 (SS2)	13.55	98	695956	12.299	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.40%			
73) Bromofluorobenzene (SS3)	17.05	174	271117	11.921	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.36%			
Target Compounds						Qvalue
2) Propene	3.85	42	24670	3.637	ng	# 78
3) Dichlorodifluoromethan...	3.98	85	1499	0.058	ng	# 84
4) Chloromethane	4.18	50	1096	0.115	ng	92
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	4.45	62	483	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.	d	
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.	d	
10) Ethanol	5.41	45	109	N.D.		
11) Acetonitrile	0.00	41	0	N.D.	d	
12) Acrolein	0.00	56	0	N.D.	d	
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	6.03	101	970	N.D.		
15) 2-Propanol (Isopropanol)	6.15	45	54791	2.796	ng	78
16) Acrylonitrile	0.00	53	0	N.D.	d	
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	6.86	59	129	N.D.		
19) Methylene Chloride	6.79	84	183	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d	
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	7.17	76	1218	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	8.09	63	332	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	d	
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	8.53	72	4444	0.701	ng	98
28) cis-1,2-Dichloroethene	8.73	61	353	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	9.24	57	170425	12.450	ng	99
32) Chloroform	9.28	83	426	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d	
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	10.73	56	159	N.D.		
41) Benzene	10.76	78	20498	0.487	ng	85
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	11.05	84	1756658	106.597	ng	98
44) tert-Amyl Methyl Ether	11.30	73	440	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d	
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282011.D Vial: 15
Acq On : 28 Apr 2020 17:56 Operator: SC
Sample : P2002030-004dup (25mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 28 19:00:33 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

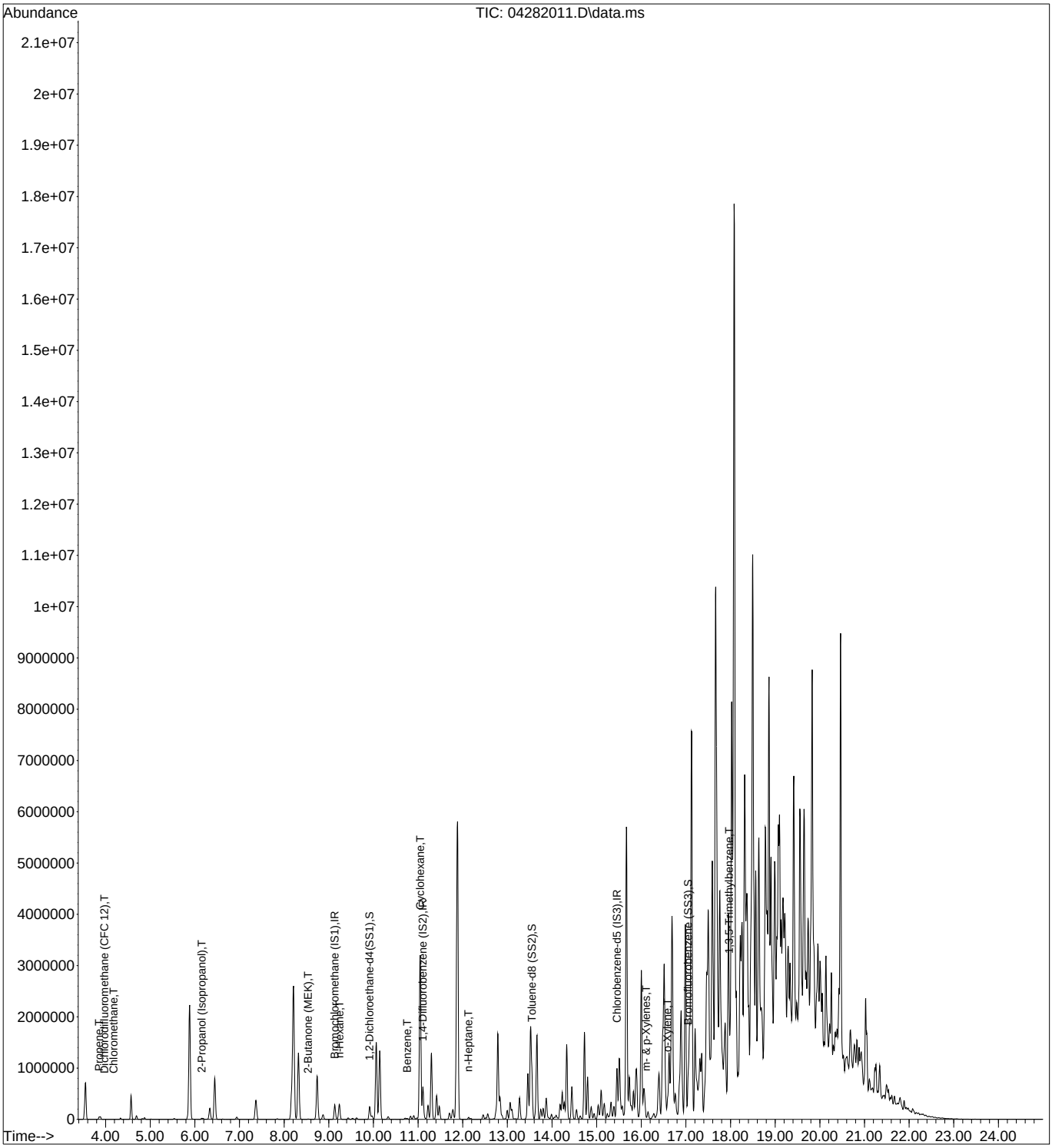
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.13	71	8691	0.889 ng	95
52) cis-1,3-Dichloropropene	12.80	75	428	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D. d	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	0.00	91	0	N.D. d	
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D. d	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.66	57	177	N.D.	
64) Tetrachloroethene	14.81	166	782	N.D.	
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	0.00	91	0	N.D. d	
67) m- & p-Xylenes	16.11	91	8745	0.187 ng	93
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.60	104	947	N.D.	
70) o-Xylene	16.59	91	46862	1.022 ng	98
71) n-Nonane	0.00	43	0	N.D. d	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	0.00	105	0	N.D. d	
75) alpha-Pinene	0.00	93	0	N.D. d	
76) n-Propylbenzene	0.00	91	0	N.D. d	
77) 3-Ethyltoluene	17.84	105	260	N.D.	
78) 4-Ethyltoluene	17.89	105	1860	N.D.	
79) 1,3,5-Trimethylbenzene	17.97	105	68561	1.304 ng	96
80) alpha-Methylstyrene	18.13	118	132	N.D.	
81) 2-Ethyltoluene	18.16	105	2754	N.D.	
82) 1,2,4-Trimethylbenzene	0.00	105	0	N.D. d	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	0.00	91	0	N.D. d	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	18.84	119	2733	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D. d	
95) Naphthalene	20.87	128	573	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282011.D Vial: 15
Acq On : 28 Apr 2020 17:56 Operator: SC
Sample : P2002030-004dup (25mL) Inst : MS09
Misc : S34-04212006

Quant Time: Apr 28 19:00:33 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282011.D Vial: 15
Acq On : 28 Apr 2020 17:56 Operator: SC
Sample : P2002030-004dup (25mL) Inst : MS09
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Quant Time: Apr 28 19:00:33 2020
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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/28/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	159720	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	645274	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	293069	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	229524	11.091	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.72%			
57) Toluene-d8 (SS2)	13.55	98	695956	12.299	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.40%			
73) Bromofluorobenzene (SS3)	17.05	174	271117	11.921	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.36%			
Target Compounds						Qvalue
2) Propene	3.85	42	24670	3.637	ng	# 78
3) Dichlorodifluoromethan...	3.98	85	1499	0.058	ng	# 84
4) Chloromethane	4.18	50	1096	0.115	ng	92
15) 2-Propanol (Isopropanol)	6.15	45	54791	2.796	ng	78
27) 2-Butanone (MEK)	8.53	72	4444	0.701	ng	98
31) n-Hexane	9.24	57	170425	12.450	ng	99
41) Benzene	10.76	78	20498	0.487	ng	85
43) Cyclohexane	11.05	84	1756658	106.597	ng	98
51) n-Heptane	12.13	71	8691	0.889	ng	95
67) m- & p-Xylenes	16.11	91	8745	0.187	ng	93
70) o-Xylene	16.59	91	46862	1.022	ng	98
79) 1,3,5-Trimethylbenzene	17.97	105	68561	1.304	ng	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282011.D Vial: 15
Acq On : 28 Apr 2020 17:56 Operator: SC
Sample : P2002030-004dup (25mL) Inst : MS09
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Quant Time: Apr 28 19:00:33 2020
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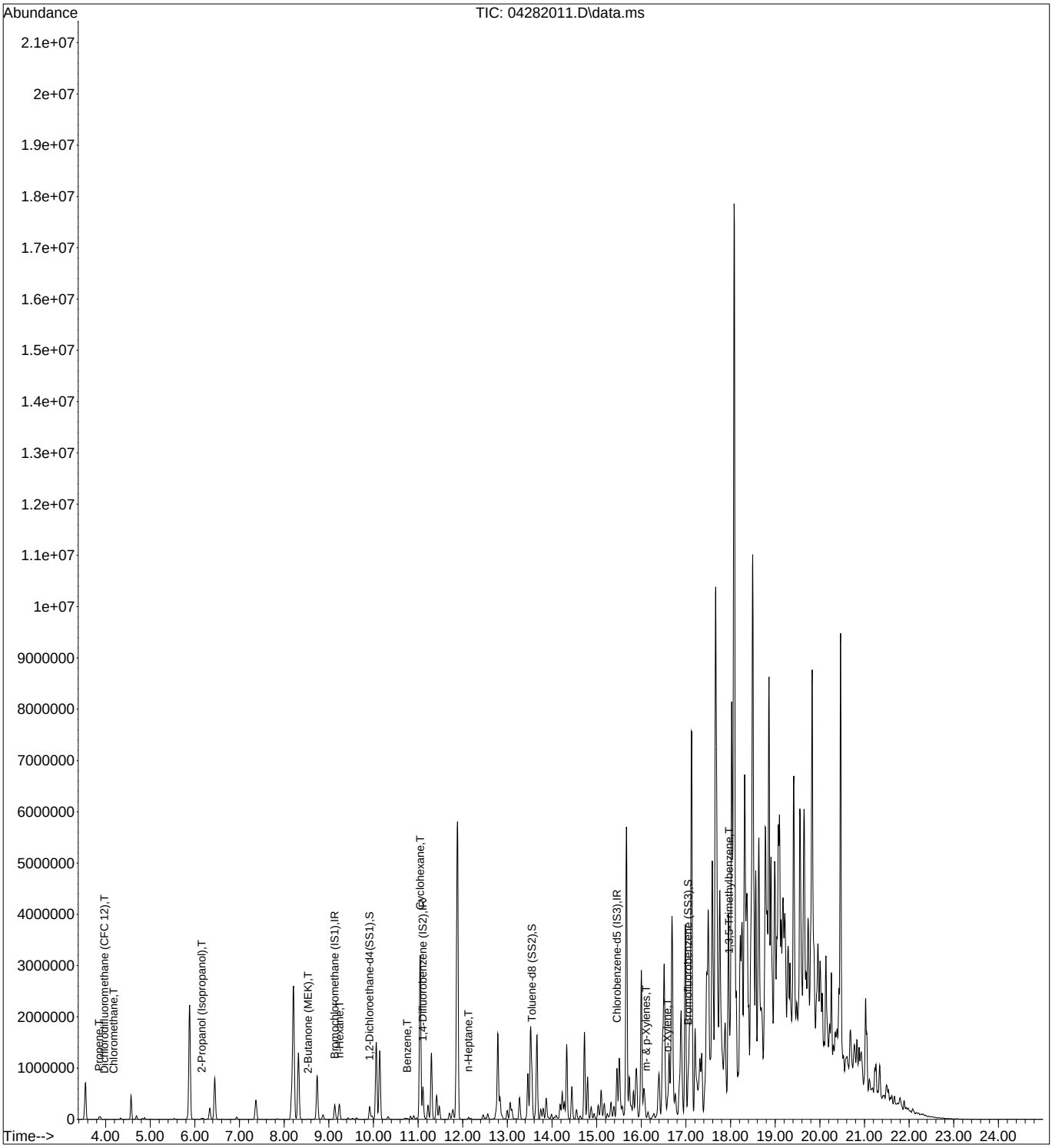
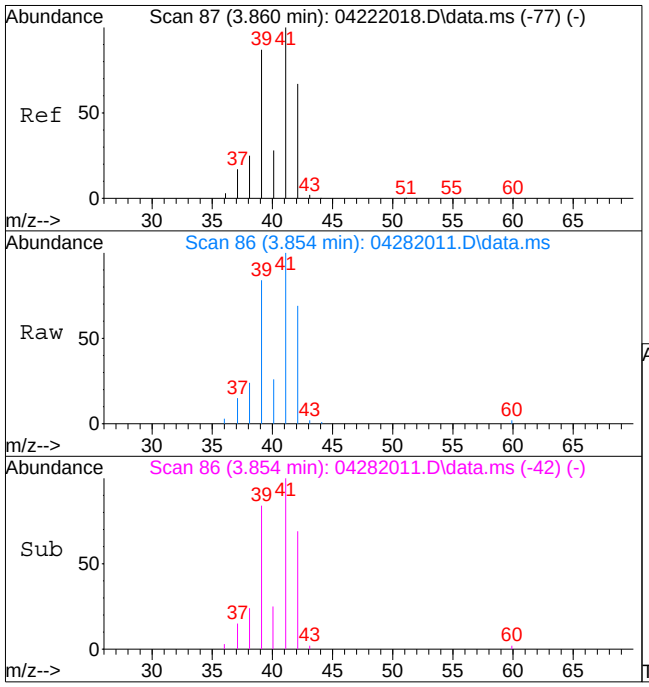
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

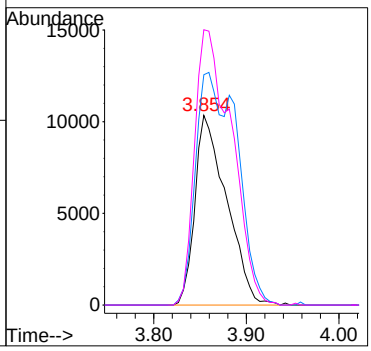


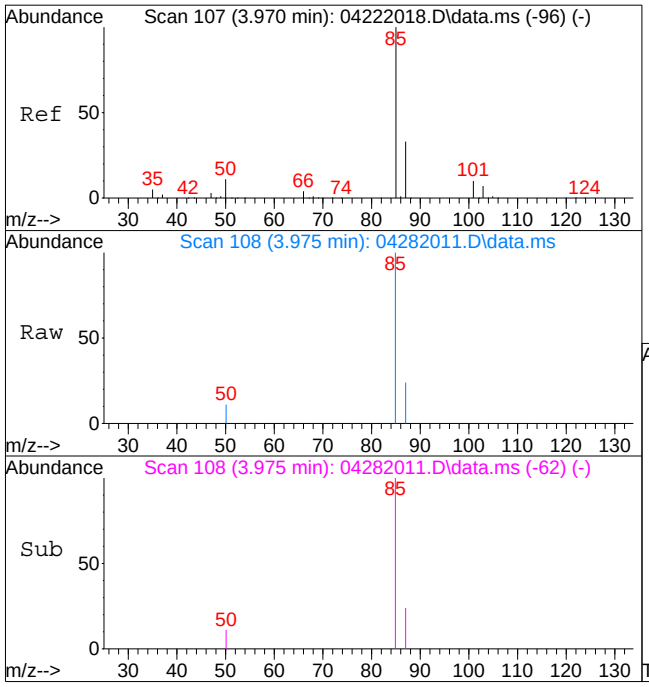


#2
Propene
Concen: 3.64 ng
RT: 3.85 min Scan# 86
Delta R.T. -0.006 min
Lab File: 04282011.D
Acq: 28 Apr 2020 17:56

Tgt Ion: 42 Resp: 24670

Ion	Ratio	Lower	Upper
42	100		
39	160.5	106.4	146.4#
41	168.2	128.8	168.8

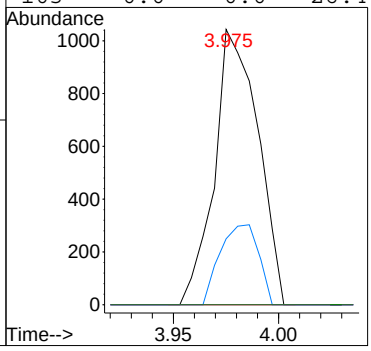


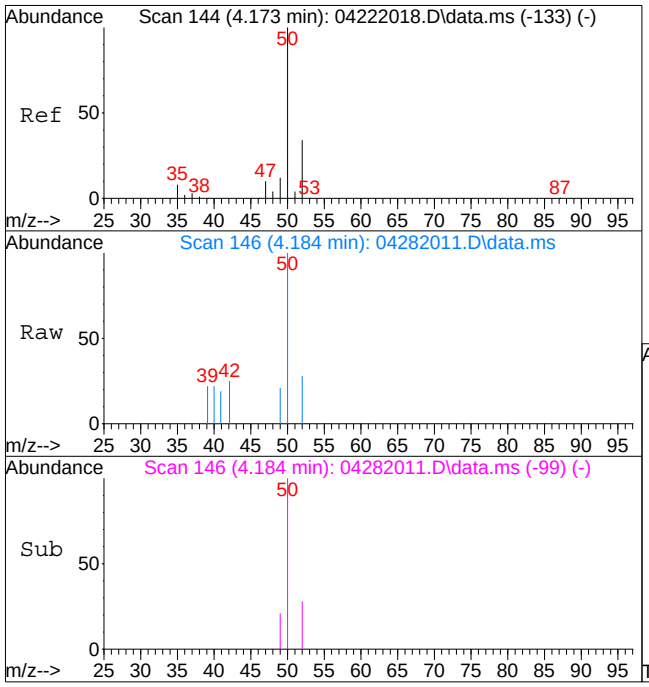


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.06 ng
RT: 3.98 min Scan# 108
Delta R.T. 0.005 min
Lab File: 04282011.D
Acq: 28 Apr 2020 17:56

Tgt Ion: 85 Resp: 1499

Ion	Ratio	Lower	Upper
85	100		
87	25.8	12.4	52.4
101	0.0	0.0	29.9
103	0.0	0.0	26.4

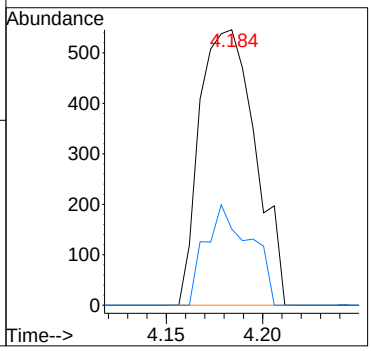


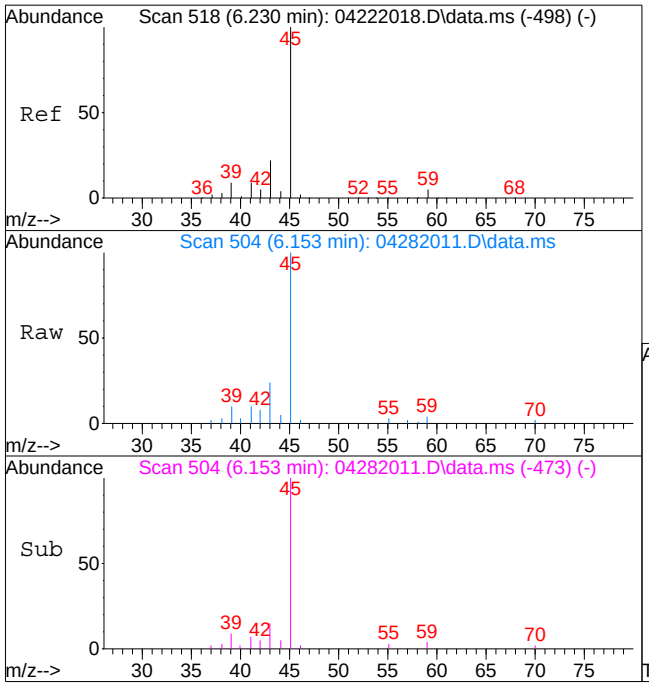


#4
Chloromethane
Concen: 0.12 ng
RT: 4.18 min Scan# 146
Delta R.T. 0.011 min
Lab File: 04282011.D
Acq: 28 Apr 2020 17:56

Tgt Ion: 50 Resp: 1096

Ion	Ratio	Lower	Upper
50	100		
52	29.4	13.7	53.7

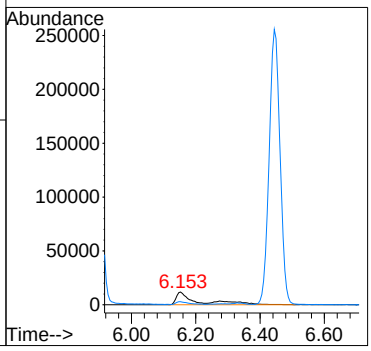


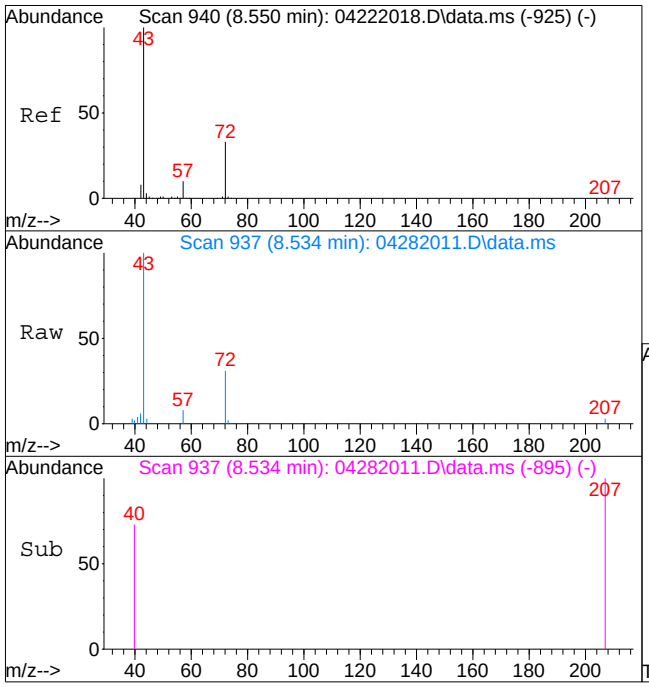


#15
2-Propanol (Isopropanol)
Concen: 2.80 ng
RT: 6.15 min Scan# 504
Delta R.T. -0.077 min
Lab File: 04282011.D
Acq: 28 Apr 2020 17:56

Tgt Ion: 45 Resp: 54791

Ion	Ratio	Lower	Upper
45	100		
43	11.9	2.6	42.6

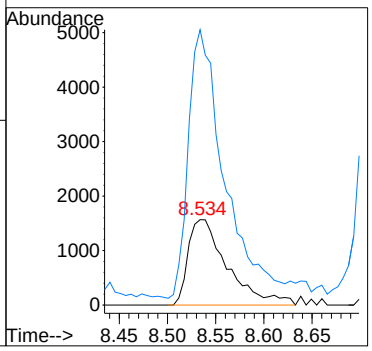


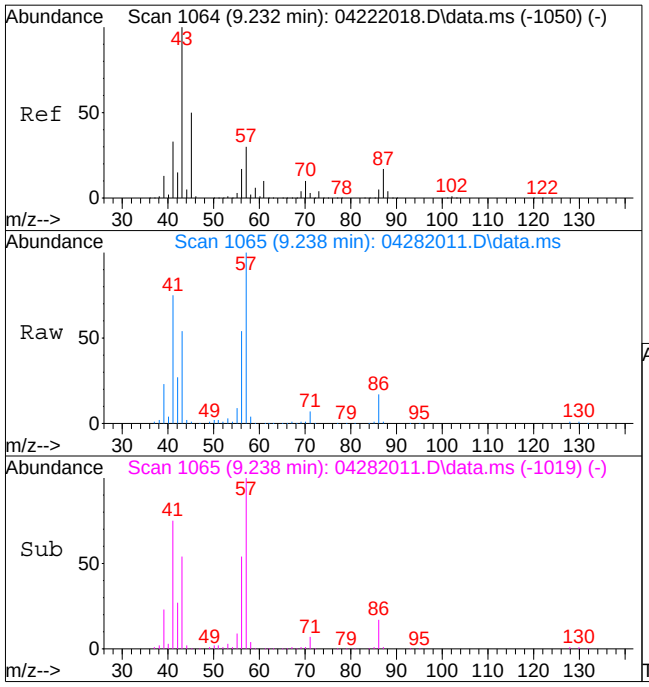


#27
2-Butanone (MEK)
Concen: 0.70 ng
RT: 8.53 min Scan# 937
Delta R.T. -0.017 min
Lab File: 04282011.D
Acq: 28 Apr 2020 17:56

Tgt Ion: 72 Resp: 4444

Ion	Ratio	Lower	Upper
72	100		
43	303.1	278.8	318.8

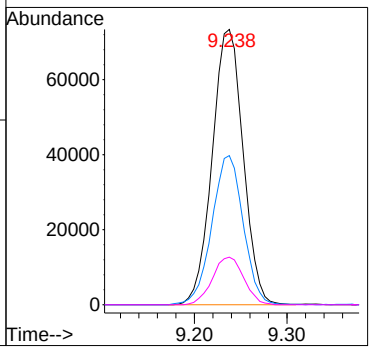


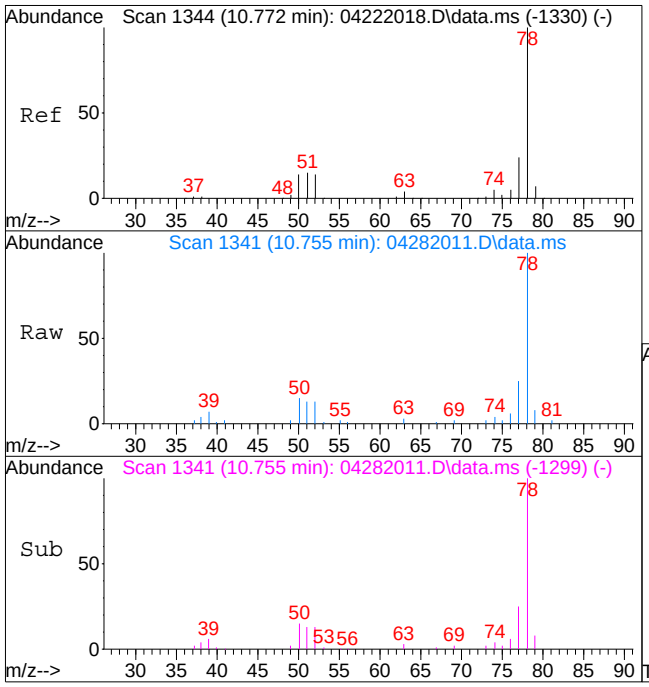


#31
n-Hexane
Concen: 12.45 ng
RT: 9.24 min Scan# 1065
Delta R.T. 0.005 min
Lab File: 04282011.D
Acq: 28 Apr 2020 17:56

Tgt Ion: 57 Resp: 170425

Ion	Ratio	Lower	Upper
57	100		
56	54.9	44.0	66.0
86	17.5	15.0	22.4

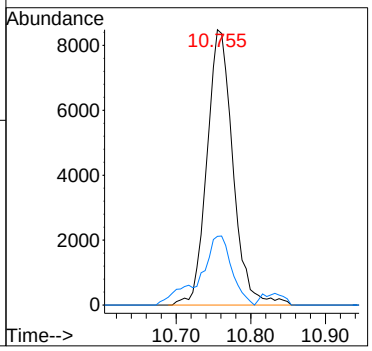


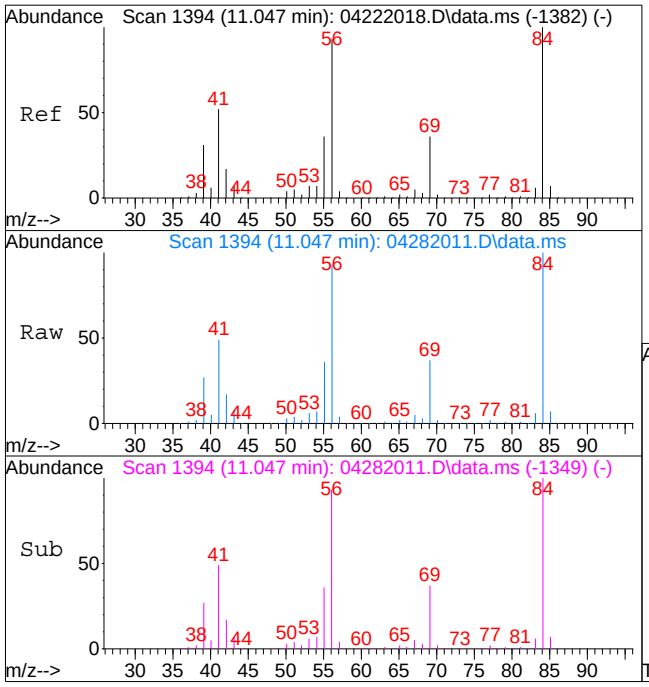


#41
Benzene
Concen: 0.49 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.017 min
Lab File: 04282011.D
Acq: 28 Apr 2020 17:56

Tgt Ion: 78 Resp: 20498

Ion	Ratio	Lower	Upper
78	100		
77	31.1	3.6	43.6

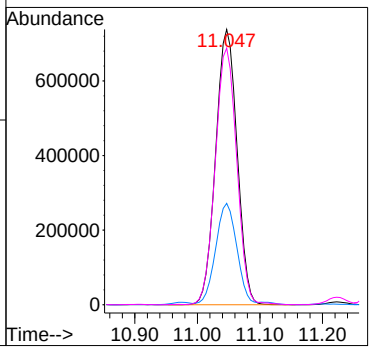


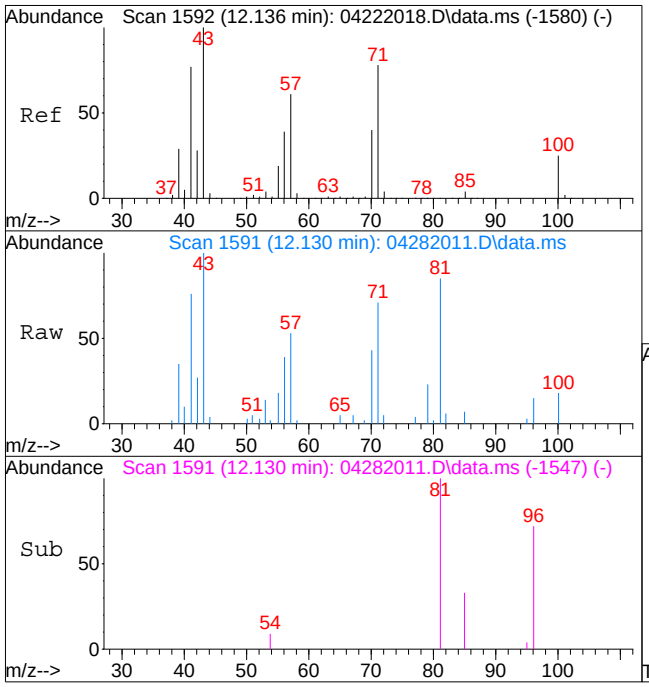


#43
Cyclohexane
Concen: 106.60 ng
RT: 11.05 min Scan# 1394
Delta R.T. -0.000 min
Lab File: 04282011.D
Acq: 28 Apr 2020 17:56

Tgt Ion: 84 Resp: 1756658

Ion	Ratio	Lower	Upper
84	100		
69	37.2	15.8	55.8
56	93.9	72.0	112.0

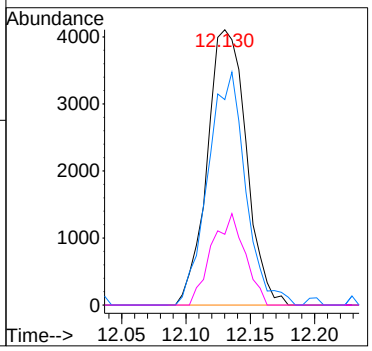


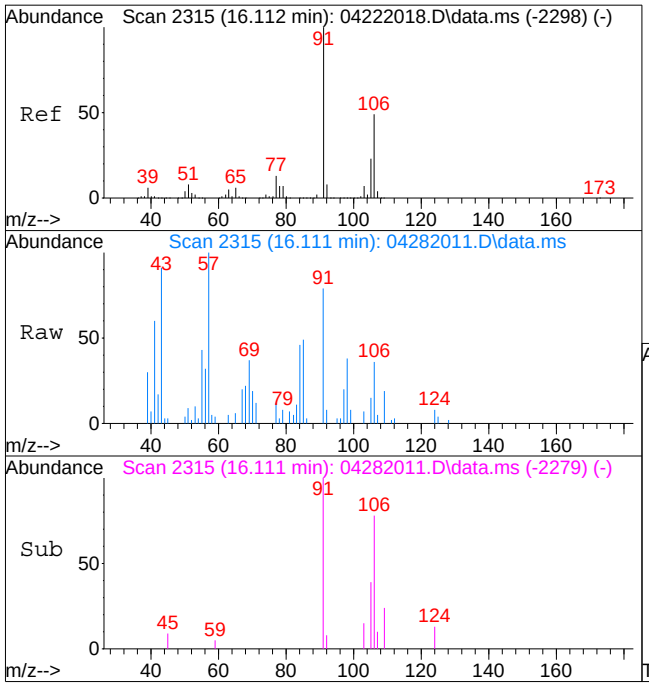


#51
n-Heptane
Concen: 0.89 ng
RT: 12.13 min Scan# 1591
Delta R.T. -0.006 min
Lab File: 04282011.D
Acq: 28 Apr 2020 17:56

Tgt Ion: 71 Resp: 8691

Ion	Ratio	Lower	Upper
71	100		
57	81.4	57.4	97.4
100	28.3	12.0	52.0

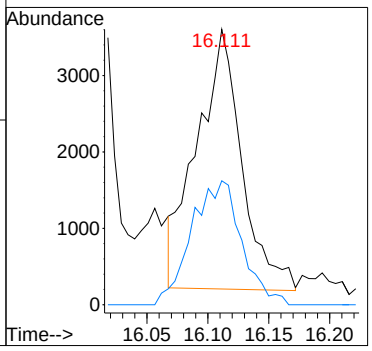


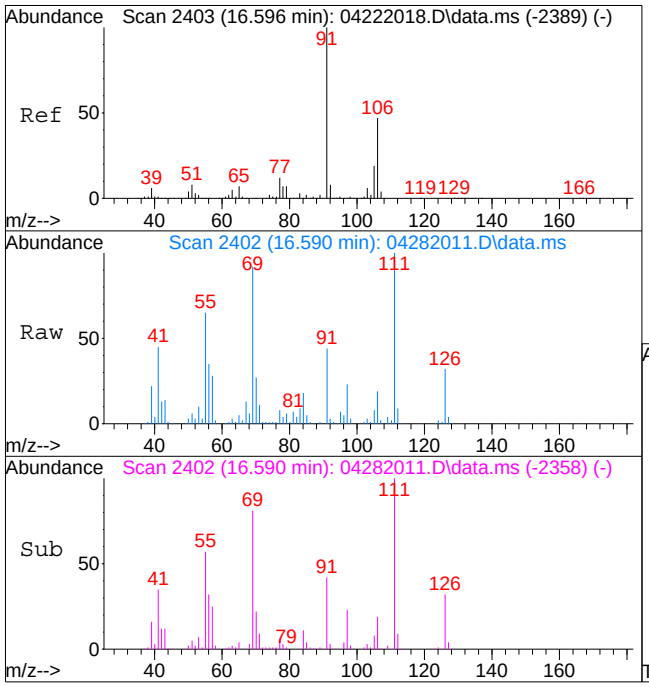


#67
m- & p-Xylenes
Concen: 0.19 ng
RT: 16.11 min Scan# 2315
Delta R.T. -0.000 min
Lab File: 04282011.D
Acq: 28 Apr 2020 17:56

Tgt Ion: 91 Resp: 8745

Ion	Ratio	Lower	Upper
91	100		
106	52.8	28.3	68.3

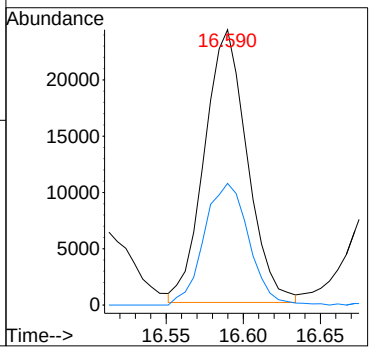


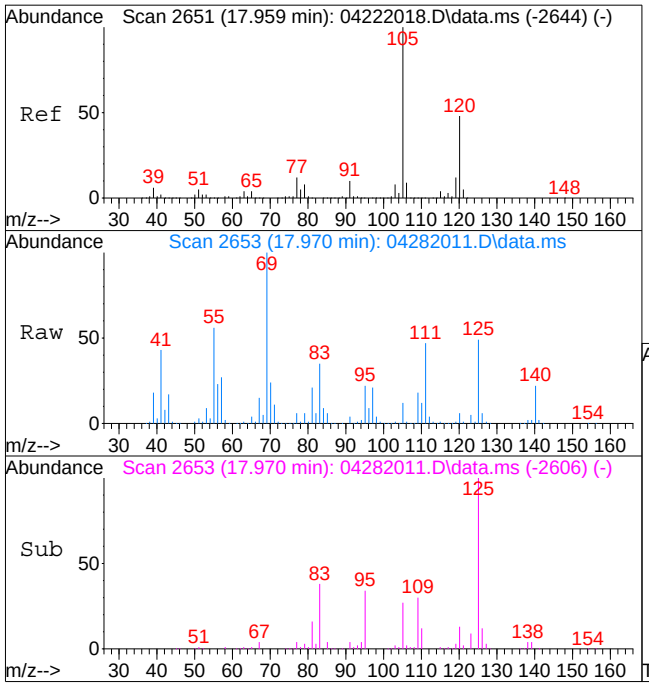


#70
o-Xylene
Concen: 1.02 ng
RT: 16.59 min Scan# 2402
Delta R.T. -0.006 min
Lab File: 04282011.D
Acq: 28 Apr 2020 17:56

Tgt Ion: 91 Resp: 46862

Ion	Ratio	Lower	Upper
91	100		
106	46.4	27.5	67.5

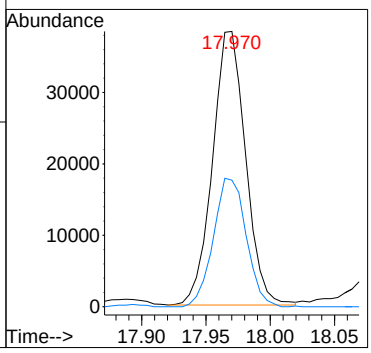




#79
1,3,5-Trimethylbenzene
Concen: 1.30 ng
RT: 17.97 min Scan# 2653
Delta R.T. 0.011 min
Lab File: 04282011.D
Acq: 28 Apr 2020 17:56

Tgt Ion:105 Resp: 68561

Ion	Ratio	Lower	Upper
105	100		
120	46.5	29.5	69.5



Response Factor Report MS09

Method Path : I:\MS09\Methods\
Method File : R9042220.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Apr 23 14:12:50 2020
Response Via : Initial Calibration

4/23/20

Calibration Files
0.2 =04222023.D 0.5 =04222013.D 1.0 =04222014.D 5.0 =04222015.D 25 =04222016.D 50 =04222

		Compound	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------	ISTD	----------						
2)	T	Propene	0.558	0.530	0.468	0.498	0.500	0.537	0.625	0.531	9.61
3)	T	Dichlorodifluo...	2.167	2.392	2.121	1.989	1.939	1.797	1.715	2.017	11.45
4)	T	Chloromethane	0.859	0.912	0.802	0.679	0.788	0.662	0.508	0.744	18.49
5)	T	1,2-Dichloro-1...	1.205	1.262	1.169	1.046	1.051	0.980	0.919	1.090	11.47
6)	T	Vinyl Chloride	1.031	1.068	0.997	0.957	0.971	0.925	0.883	0.976	6.42
7)	T	1,3-Butadiene	0.625	0.663	0.609	0.614	0.661	0.601	0.590	0.623	4.56
8)	T	Bromomethane	0.810	0.873	0.801	0.727	0.749	0.718	0.691	0.767	8.32
9)	T	Chloroethane	0.532	0.560	0.535	0.457	0.474	0.455	0.442	0.494	9.62
10)	T	Ethanol	0.505	0.494	0.430	0.344	0.361	0.345	0.336	0.402	18.28
11)	T	Acetonitrile	1.105	1.061	0.977	0.888	0.896	0.875	0.862	0.952	10.27
12)	T	Acrolein	0.340	0.348	0.389	0.364	0.385	0.375	0.371	0.367	4.94
13)	T	Acetone	0.567	0.562	0.524	0.464	0.450	0.420	0.394	0.483	14.21
14)	T	Trichlorofluor...	2.131	2.315	2.163	1.969	1.940	1.812	1.719	2.007	10.41
15)	T	2-Propanol (Is...	1.808	1.766	1.670	1.473	1.616	1.364	1.039	1.534	17.48
16)	T	Acrylonitrile	0.611	0.776	0.763	0.793	0.826	0.803	0.790	0.766	9.28
17)	T	1,1-Dichloroet...	0.937	1.006	0.918	0.857	0.858	0.817	0.784	0.882	8.63
18)	T	2-Methyl-2-Pro...	1.310	1.502	1.376	1.338	1.411	1.428	1.445	1.401	4.69
19)	T	Methylene Chlo...	0.909	0.949	0.875	0.826	0.831	0.792	0.746	0.847	8.21
20)	T	3-Chloro-1-pro...	1.049	1.180	1.051	0.934	0.927	0.892	0.844	0.983	11.82
21)	T	Trichlorotrifl...	1.117	1.242	1.128	1.020	0.994	0.930	0.881	1.044	12.00
22)	T	Carbon Disulfide	2.907	3.151	2.883	2.739	2.804	2.672	2.552	2.815	6.83
23)	T	trans-1,2-Dich...	0.991	1.205	1.144	1.128	1.153	1.106	1.068	1.114	6.16
24)	T	1,1-Dichloroet...	1.476	1.555	1.490	1.341	1.353	1.284	1.239	1.391	8.42
25)	T	Methyl tert-Bu...	1.735	1.922	1.763	1.717	1.775	1.794	1.845	1.793	3.93
26)	T	Vinyl Acetate	0.143	0.183	0.179	0.186	0.192	0.180	0.170	0.176	9.11
27)	T	2-Butanone (MEK)	0.420	0.488	0.521	0.505	0.532	0.513	0.493	0.496	7.41
28)	T	cis-1,2-Dichlo...	1.106	1.268	1.184	1.109	1.113	1.068	1.030	1.126	6.97
29)	T	Diisopropyl Ether	0.905	0.842	0.744	0.679	0.660	0.616	0.584	0.718	16.53
30)	T	Ethyl Acetate	0.187	0.248	0.235	0.225	0.230	0.216	0.205	0.221	9.28
31)	T	n-Hexane	1.190	1.283	1.164	1.029	1.015	0.940	0.878	1.071	13.59
32)	T	Chloroform	1.823	1.972	1.802	1.671	1.658	1.564	1.508	1.714	9.41
33)	S	1,2-Dichloroet...	1.605	1.626	1.667	1.619	1.604	1.606	1.610	1.620	1.38
34)	T	Tetrahydrofura...	0.496	0.553	0.516	0.493	0.506	0.485	0.468	0.502	5.39
35)	T	Ethyl tert-But...	0.830	0.913	0.819	0.743	0.736	0.685	0.650	0.768	11.90
36)	T	1,2-Dichloroet...	1.392	1.582	1.491	1.397	1.395	1.328	1.283	1.410	7.08
37)	IR	1,4-Difluorobenzen...	----------	ISTD	----------						
38)	T	1,1,1-Trichlor...	0.423	0.509	0.440	0.425	0.424	0.402	0.387	0.430	9.06
39)	T	Isopropyl Acetate	0.101	0.119	0.107	0.102	0.102	0.096	0.092	0.103	8.43
40)	T	1-Butanol	0.116	0.121	0.118	0.138	0.164	0.156	0.151	0.138	14.38
41)	T	Benzene	0.888	0.924	0.845	0.799	0.789	0.744	0.714	0.815	9.27
42)	T	Carbon Tetrach...	0.416	0.487	0.432	0.421	0.420	0.394	0.378	0.421	8.15
43)	T	Cyclohexane	0.343	0.365	0.333	0.318	0.311	0.291	0.274	0.319	9.69
44)	T	tert-Amyl Meth...	0.443	0.499	0.459	0.420	0.421	0.390	0.362	0.428	10.51
45)	T	1,2-Dichloropr...	0.167	0.188	0.173	0.164	0.165	0.157	0.153	0.167	6.90
46)	T	Bromodichlorom...	0.347	0.383	0.344	0.328	0.331	0.311	0.302	0.335	7.98
47)	T	Trichloroethene	0.283	0.325	0.291	0.284	0.281	0.263	0.248	0.282	8.51
48)	T	1,4-Dioxane	0.143	0.177	0.168	0.161	0.175	0.165	0.157	0.164	7.12
49)	T	2,2,4-Trimethy...	0.771	0.780	0.691	0.663	0.650	0.617	0.593	0.681	10.61
50)	T	Methyl Methacr...	0.076	0.089	0.092	0.089	0.094	0.087	0.084	0.087	6.71
51)	T	n-Heptane	0.201	0.214	0.195	0.186	0.188	0.175	0.167	0.189	8.32
52)	T	cis-1,3-Dichlo...	0.300	0.376	0.346	0.350	0.365	0.346	0.334	0.345	7.05
53)	T	4-Methyl-2-pen...	0.110	0.154	0.140	0.149	0.155	0.147	0.143	0.143	10.90
54)	T	trans-1,3-Dich...	0.278	0.327	0.316	0.331	0.366	0.348	0.338	0.331	8.48
55)	T	1,1,2-Trichlor...	0.226	0.247	0.236	0.217	0.222	0.209	0.202	0.223	6.89

56)	IR	Chlorobenzene-d5 (...	----------ISTD----------								
57)	S	Toluene-d8 (SS2)	2.506	2.421	2.410	2.390	2.396	2.394	2.377	2.414	1.79
58)	T	Toluene	2.331	2.268	2.104	1.966	1.962	1.837	1.717	2.026	10.98
59)	T	2-Hexanone	0.404	0.541	0.577	0.636	0.724	0.691	0.657	0.604	17.94
60)	T	Dibromochlorom...	0.661	0.764	0.704	0.684	0.710	0.667	0.629	0.688	6.26
61)	T	1,2-Dibromoethane	0.574	0.600	0.559	0.563	0.586	0.549	0.523	0.565	4.50
62)	T	n-Butyl Acetate	0.561	0.644	0.653	0.670	0.763	0.733	0.703	0.675	9.83
63)	T	n-Octane	0.354	0.377	0.337	0.312	0.311	0.293	0.274	0.323	11.10
64)	T	Tetrachloroethene	0.909	0.871	0.796	0.733	0.730	0.676	0.628	0.763	13.32
65)	T	Chlorobenzene	1.613	1.741	1.521	1.444	1.448	1.352	1.265	1.484	10.76
66)	T	Ethylbenzene	2.577	2.658	2.418	2.342	2.324	2.174	2.035	2.361	9.17
67)	T	m- & p-Xylenes	2.268	2.282	2.049	1.963	1.930	1.790	1.662	1.992	11.55
68)	T	Bromoform	0.584	0.624	0.619	0.624	0.645	0.605	0.567	0.610	4.39
69)	T	Styrene	1.358	1.563	1.488	1.486	1.519	1.419	1.315	1.450	6.18
70)	T	o-Xylene	2.106	2.285	2.026	1.959	1.907	1.770	1.641	1.956	10.87
71)	T	n-Nonane	0.673	0.729	0.657	0.627	0.617	0.578	0.536	0.631	10.05
72)	T	1,1,2,2-Tetrac...	0.769	0.856	0.747	0.744	0.742	0.688	0.641	0.741	9.02
73)	S	Bromofluoroben...	0.930	0.971	0.976	0.993	0.983	0.975	0.962	0.970	2.08
74)	T	Cumene	2.871	2.932	2.616	2.546	2.496	2.289	2.111	2.552	11.51
75)	T	alpha-Pinene	1.252	1.324	1.198	1.185	1.168	1.060	0.946	1.162	10.73
76)	T	n-Propylbenzene	2.961	3.122	2.855	2.815	2.780	2.559	2.367	2.780	9.00
77)	T	3-Ethyltoluene	2.558	2.873	2.591	2.482	2.531	2.267	2.137	2.491	9.52
78)	T	4-Ethyltoluene	2.466	2.754	2.501	2.536	2.414	2.275	2.037	2.426	9.24
79)	T	1,3,5-Trimethy...	2.377	2.617	2.372	2.252	2.198	2.016	1.860	2.242	11.15
80)	T	alpha-Methylst...	0.989	1.229	1.174	1.172	1.192	1.093	1.001	1.122	8.51
81)	T	2-Ethyltoluene	2.638	2.896	2.603	2.500	2.438	2.229	2.048	2.479	11.22
82)	T	1,2,4-Trimethy...	2.216	2.548	2.314	2.223	2.149	1.949	1.775	2.168	11.51
83)	T	n-Decane	0.652	0.907	0.813	0.803	0.785	0.719	0.667	0.764	11.81
84)	T	Benzyl Chloride	1.268	1.648	1.581	1.714	1.881	1.738	1.616	1.635	11.59
85)	T	1,3-Dichlorobe...	1.192	1.516	1.386	1.357	1.351	1.228	1.118	1.307	10.34
86)	T	1,4-Dichlorobe...	1.228	1.514	1.411	1.363	1.389	1.262	1.162	1.333	9.10
87)	T	sec-Butylbenzene	2.940	3.223	2.948	2.821	2.732	2.490	2.279	2.776	11.28
88)	T	4-Isopropyltol...	2.823	3.202	2.913	2.789	2.661	2.365	2.126	2.697	13.23
89)	T	1,2,3-Trimethy...	2.115	2.642	2.298	2.248	2.160	1.952	1.772	2.170	12.67
90)	T	1,2-Dichlorobe...	1.246	1.426	1.364	1.323	1.301	1.170	1.056	1.270	9.83
91)	T	d-Limonene	0.615	0.689	0.625	0.625	0.624	0.573	0.534	0.612	7.90
92)	T	1,2-Dibromo-3-...	0.413	0.503	0.477	0.498	0.528	0.490	0.459	0.481	7.67
93)	T	n-Undecane		0.890	0.829	0.817	0.832	0.761	0.706	0.806	7.92
94)	T	1,2,4-Trichlor...	0.482	0.990	1.003	1.029	1.115	1.011	0.929	0.937	22.19
95)	T	Naphthalene		2.617	2.620	2.847	3.167	2.882	2.622	2.792	7.86
96)	T	n-Dodecane		0.706	0.699	0.715	0.802	0.730	0.677	0.722	6.00
97)	T	Hexachlorobuta...	0.809	0.879	0.811	0.766	0.759	0.688	0.626	0.762	11.00
98)	T	Cyclohexanone	0.446	0.503	0.482	0.487	0.538	0.511	0.490	0.494	5.71
99)	T	tert-Butylbenzene	2.425	2.553	2.321	2.232	2.109	1.895	1.702	2.177	13.74
100)	T	n-Butylbenzene	1.831	2.315	2.155	2.108	2.128	1.939	1.791	2.038	9.33

(#) = Out of Range

R9042220.M Thu Apr 23 14:19:49 2020

Primary Source Standards Concentrations (Working & Initial Calibration)

5/1/20

1ng/L Std. ID:
4ng/L Std. ID: S34-04162006
20ng/L Std. ID: S34-04222004
200ng/L Std. ID: S34-04202004

Dilution Factors:		5	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	20	200	200	200
	Source Std.	Primary Working Standards				Injection (L):	0.025	0.050	0.025	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m³	200ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
Propene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Dichlorodifluoromethane	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Chloromethane	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Freon-114	1.05	210	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Vinyl Chloride	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3-Butadiene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Bromomethane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Chloroethane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Ethanol	5.21	1042	104.2	20.84	5.21		0.521	1.042	2.605	5.21	26.05	130.25	260.5	521
Acetonitrile	1.05	210	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Acrolein	1.03	206	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Acetone	5.33	1066	106.6	21.32	5.33		0.533	1.066	2.665	5.33	26.65	133.25	266.5	533
Trichlorofluoromethane	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Isopropanol	2.10	420	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
Acrylonitrile	1.05	210	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,1-Dichloroethene	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
tert-Butanol	2.16	432	43.2	8.64	2.16		0.216	0.432	1.080	2.16	10.80	54.00	108.0	216
Methylene Chloride	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Allyl Chloride	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Trichlorotrifluoroethane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Carbon Disulfide	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
trans-1,2-Dichloroethene	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1-Dichloroethane	1.09	218	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
Methyl tert-Butyl Ether	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Vinyl Acetate	5.35	1070	107.0	21.40	5.35		0.535	1.070	2.675	5.35	26.75	133.75	267.5	535
2-Butanone	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
cis-1,2-Dichloroethene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Diisopropyl Ether	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Ethyl Acetate	2.17	434	43.4	8.68	2.17		0.217	0.434	1.085	2.17	10.85	54.25	108.5	217
n-Hexane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Chloroform	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Tetrahydrofuran	1.09	218	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
Ethyl tert-Butyl Ether	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dichloroethane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1,1-Trichloroethane	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Isopropyl Acetate	2.11	422	42.2	8.44	2.11		0.211	0.422	1.055	2.11	10.55	52.75	105.5	211
1-Butanol	2.08	416	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
Benzene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Carbon Tetrachloride	1.05	210	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Cyclohexane	2.12	424	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
tert-Amyl Methyl Ether	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dichloropropane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Bromodichloromethane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Trichloroethene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,4-Dioxane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Isooctane	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Methyl Methacrylate	2.15	430	43.0	8.60	2.15		0.215	0.430	1.075	2.15	10.75	53.75	107.5	215
n-Heptane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID:
4ng/L Std. ID: S34-04162006
20ng/L Std. ID: S34-04222004
200ng/L Std. ID: S34-04202004

Dilution Factors:		5	50	250	1000	**Working STD Conc.(ng/L):**	4	4	20	20	20	200	200	200
	Source Std.	**Primary Working Standards**				**Injection (L):**	0.025	0.050	0.025	0.050	0.25	0.125	0.25	0.50
Compounds	**mg/m³**	**200ng/L**	**20ng/L**	**4ng/L**	**1ng/L**	**ICAL Points:**	**0.1ng**	**0.2ng**	**0.5ng**	**1ng**	**5ng**	**25ng**	**50ng**	**100ng**
cis-1,3-Dichloropropene	1.04	208	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
4-Methyl-2-pentanone	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
trans-1,3-Dichloropropene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1,2-Trichloroethane	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Toluene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
2-Hexanone	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Dibromochloromethane	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,2-Dibromoethane	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Butyl Acetate	1.09	218	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
n-Octane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Tetrachloroethene	1.04	208	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Chlorobenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Ethylbenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
m-&p-Xylene	2.14	428	42.8	8.56	2.14		0.214	0.428	1.070	2.14	10.70	53.50	107.0	214
Bromoform	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Styrene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
o-Xylene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Nonane	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,1,2,2-Tetrachloroethane	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Cumene	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
alpha-Pinene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Propylbenzene	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
3-Ethyltoluene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
4-Ethyltoluene	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3,5-Trimethylbenzene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
alpha-Methylstyrene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
2-Ethyltoluene	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2,4-Trimethylbenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Decane	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Benzyl Chloride	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3-Dichlorobenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,4-Dichlorobenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
sec-Butylbenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
p-Isopropyltoluene	1.09	218	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
1,2,3-Trimethylbenzene	1.09	218	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
1,2-Dichlorobenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
d-Limonene	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dibromo-3-chloropropane	1.05	210	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
n-Undecane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2,4-Trichlorobenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Naphthalene	1.03	206	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
n-Dodecane	1.04	208	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Hexachloro-1,3-butadiene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Methacrylonitrile	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Cyclohexanone	1.00	200	20.0	4.00	1.00		0.100	0.200	0.500	1.00	5.00	25.00	50.0	100
tert-Butylbenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Butylbenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107

Calibration Status Report MS09

Method : I:\MS09\Methods\R9042220.M (RTE Integrator)
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration

5/4/20

#	ID	Conc	ISTD Conc	Path\File
2	0.2	13	13	I:\MS09\Data\2020_04\22\04222023.D
3	0.5	13	13	I:\MS09\Data\2020_04\22\04222013.D
4	1.0	13	13	I:\MS09\Data\2020_04\22\04222014.D
5	5.0	13	13	I:\MS09\Data\2020_04\22\04222015.D
6	25	13	13	I:\MS09\Data\2020_04\22\04222016.D
7	50	13	13	I:\MS09\Data\2020_04\22\04222017.D
8	100	13	13	I:\MS09\Data\2020_04\22\04222018.D

#	ID	Update Time	Quant Time	Acquisition Time
2	0.2	Apr 23 14:12 2020	Apr 23 14:10 2020	23 Apr 2020 13:44
3	0.5	Apr 23 11:55 2020	Apr 23 11:49 2020	22 Apr 2020 20:31
4	1.0	Apr 23 11:55 2020	Apr 23 11:49 2020	22 Apr 2020 21:05
5	5.0	Apr 23 11:55 2020	Apr 23 11:49 2020	22 Apr 2020 21:39
6	25	Apr 23 11:55 2020	Apr 23 11:49 2020	22 Apr 2020 22:12
7	50	Apr 23 11:56 2020	Apr 23 11:49 2020	22 Apr 2020 22:46
8	100	Apr 23 11:56 2020	Apr 23 11:49 2020	22 Apr 2020 23:19

R9042220.M Mon May 04 16:31:55 2020

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222023.D Vial: 4
Acq On : 23 Apr 2020 13:44 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04162006 (5/15)

Quant Time: Apr 23 14:10:30 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:56:23 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/23/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	134664	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	566655	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	249724	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	216176	12.364	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.88%				
57) Toluene-d8 (SS2)	13.54	98	625888	12.967	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.76%				
73) Bromofluorobenzene (SS3)	17.05	174	232144	11.970	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.76%				
Target Compounds							Qvalue
2) Propene	3.90	42	1275	0.203	ng		93
3) Dichlorodifluoromethan...	4.00	85	4950	0.195	ng		98
4) Chloromethane	4.20	50	1961	0.214	ng		89
5) 1,2-Dichloro-1,1,2,2-t...	4.36	135	2727	0.199	ng		97
6) Vinyl Chloride	4.48	62	2399	0.199	ng		90
7) 1,3-Butadiene	4.66	54	1428	0.196	ng		87
8) Bromomethane	4.95	94	1884	0.196	ng		94
9) Chloroethane	5.17	64	1239	0.209	ng		79
10) Ethanol	5.36	45	5666	1.175	ng		86
11) Acetonitrile	5.59	41	2501	0.223	ng	#	48
12) Acrolein	5.72	56	755	0.184	ng		87
13) Acetone	5.86	58	6508	1.062	ng		98
14) Trichlorofluoromethane	6.04	101	4867	0.192	ng		98
15) 2-Propanol (Isopropanol)	6.19	45	8179	0.436	ng		84
16) Acrylonitrile	6.41	53	1383	0.159	ng		90
17) 1,1-Dichloroethene	6.74	96	2180	0.201	ng		98
18) 2-Methyl-2-Propanol (t...	6.90	59	6097	0.358	ng		87
19) Methylene Chloride	6.87	84	2077	0.197	ng		100
20) 3-Chloro-1-propene (Al...	7.00	41	2442	0.201	ng		90
21) Trichlorotrifluoroethane	7.19	151	2599	0.200	ng		99
22) Carbon Disulfide	7.17	76	6702	0.194	ng		97
23) trans-1,2-Dichloroethene	7.90	61	2306	0.170	ng		96
24) 1,1-Dichloroethane	8.09	63	3466	0.203	ng		93
25) Methyl tert-Butyl Ether	8.21	73	4037	0.185	ng		100
26) Vinyl Acetate	8.29	86	1651	0.810	ng	#	78
27) 2-Butanone (MEK)	8.56	72	960	0.161	ng	#	35
28) cis-1,2-Dichloroethene	8.97	61	2527	0.181	ng		90
29) Diisopropyl Ether	9.23	87	2107	0.231	ng	#	58
30) Ethyl Acetate	9.23	61	872	0.343	ng		89
31) n-Hexane	9.22	57	2770	0.206	ng		99
32) Chloroform	9.28	83	4202	0.197	ng		95
34) Tetrahydrofuran (THF)	9.72	72	1164	0.187	ng		89
35) Ethyl tert-Butyl Ether	9.78	87	1932	0.203	ng		98
36) 1,2-Dichloroethane	10.02	62	3240	0.181	ng		98
38) 1,1,1-Trichloroethane	10.29	97	4101	0.178	ng		99
39) Isopropyl Acetate	10.68	61	1932	0.368	ng	#	92
40) 1-Butanol	10.73	56	2192	0.363	ng	#	74
41) Benzene	10.75	78	8534	0.199	ng		98
42) Carbon Tetrachloride	10.90	117	3964	0.179	ng		96
43) Cyclohexane	11.04	84	6587	0.389	ng		96
44) tert-Amyl Methyl Ether	11.37	73	4336	0.195	ng		96
45) 1,2-Dichloropropane	11.57	63	1635	0.190	ng		97
46) Bromodichloromethane	11.76	83	3400	0.197	ng		97
47) Trichloroethene	11.81	130	2747	0.188	ng		95
48) 1,4-Dioxane	11.81	88	1399	0.167	ng		82
49) 2,2,4-Trimethylpentane...	11.87	57	7481	0.209	ng		96
50) Methyl Methacrylate	12.02	100	1483	0.345	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222023.D Vial: 4
Acq On : 23 Apr 2020 13:44 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04162006 (5/15)

Quant Time: Apr 23 14:10:30 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:56:23 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

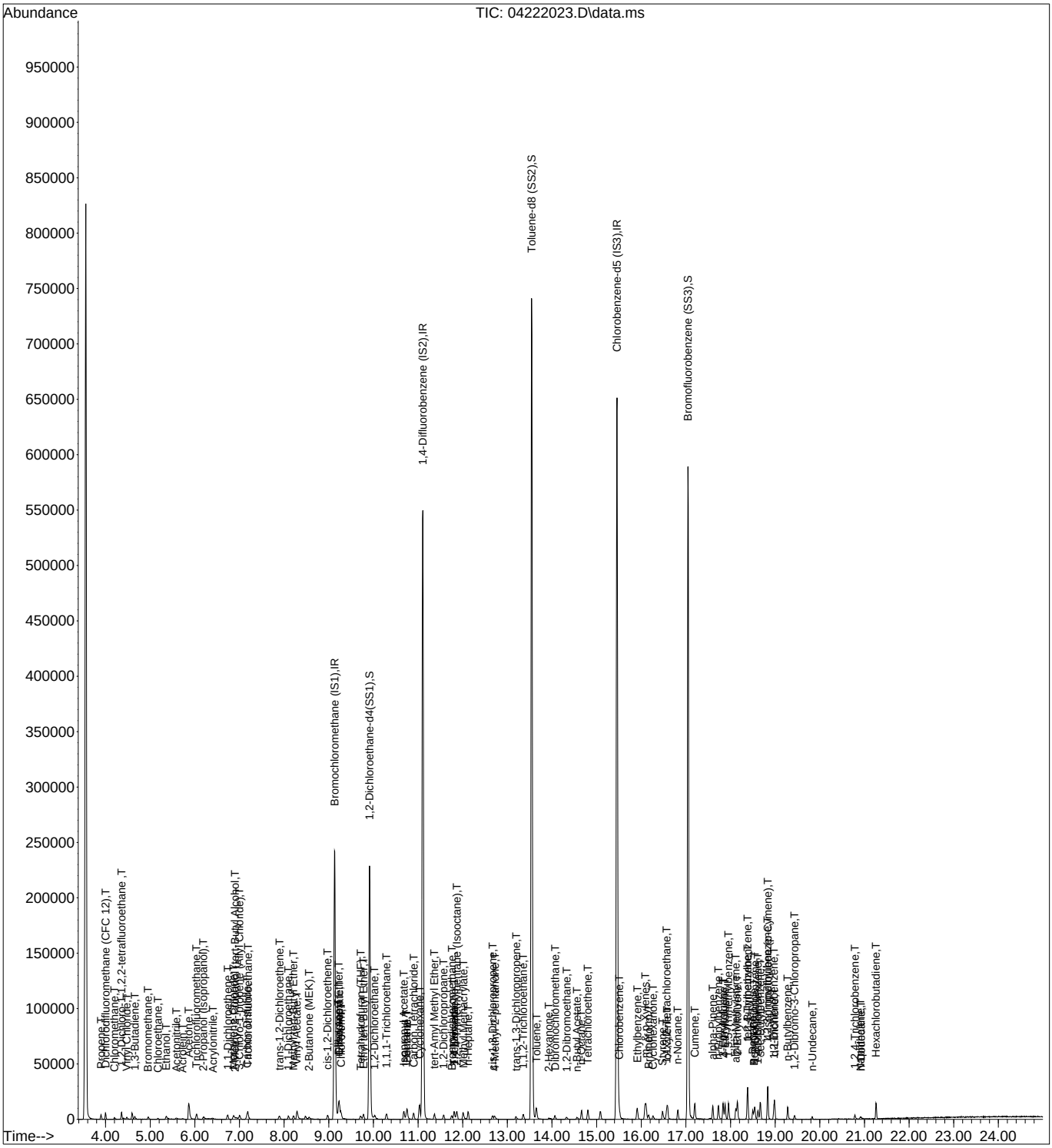
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	12.12	71	1964	0.198	ng		96
52) cis-1,3-Dichloropropene	12.67	75	2827	0.160	ng		99
53) 4-Methyl-2-pentanone	12.72	58	1053	0.152	ng	#	72
54) trans-1,3-Dichloropropene	13.20	75	2670	0.165	ng		80
55) 1,1,2-Trichloroethane	13.36	97	2197	0.190	ng		97
58) Toluene	13.65	91	9967	0.212	ng		99
59) 2-Hexanone	13.93	43	1727	0.135	ng	#	68
60) Dibromochloromethane	14.07	129	2828	0.179	ng		92
61) 1,2-Dibromoethane	14.33	107	2452	0.193	ng		96
62) n-Butyl Acetate	14.56	43	2442	0.166	ng		86
63) n-Octane	14.66	57	1529	0.203	ng		90
64) Tetrachloroethene	14.80	166	3778	0.213	ng		97
65) Chlorobenzene	15.51	112	6898	0.200	ng		99
66) Ethylbenzene	15.91	91	11017	0.202	ng		97
67) m- & p-Xylenes	16.09	91	19390	0.421	ng		93
68) Bromoform	16.17	173	2495	0.177	ng		91
69) Styrene	16.47	104	5750	0.172	ng		96
70) o-Xylene	16.58	91	9004	0.198	ng		97
71) n-Nonane	16.82	43	2878	0.196	ng		90
72) 1,1,2,2-Tetrachloroethane	16.57	83	3286	0.191	ng		94
74) Cumene	17.20	105	12390	0.210	ng		95
75) alpha-Pinene	17.60	93	5352	0.199	ng		97
76) n-Propylbenzene	17.73	91	12776	0.198	ng		98
77) 3-Ethyltoluene	17.83	105	10834	0.186	ng		98
78) 4-Ethyltoluene	17.88	105	10641	0.189	ng		98
79) 1,3,5-Trimethylbenzene	17.95	105	10069	0.190	ng		98
80) alpha-Methylstyrene	18.12	118	4228	0.161	ng		89
81) 2-Ethyltoluene	18.15	105	11382	0.193	ng		100
82) 1,2,4-Trimethylbenzene	18.38	105	9473	0.181	ng		96
83) n-Decane	18.50	57	2789	0.150	ng		91
84) Benzyl Chloride	18.53	91	5471	0.145	ng		92
85) 1,3-Dichlorobenzene	18.55	146	5096	0.162	ng		95
86) 1,4-Dichlorobenzene	18.61	146	5249	0.159	ng		100
87) sec-Butylbenzene	18.67	105	12570	0.192	ng		95
88) 4-Isopropyltoluene (p-...	18.83	119	12296	0.193	ng		99
89) 1,2,3-Trimethylbenzene	18.83	105	9210	0.177	ng		99
90) 1,2-Dichlorobenzene	18.97	146	5329	0.173	ng		98
91) d-Limonene	18.99	68	2655	0.186	ng		99
92) 1,2-Dibromo-3-Chloropr...	19.43	157	1734	0.159	ng		98
93) n-Undecane	19.83	57	1056	0.056	ng		92
94) 1,2,4-Trichlorobenzene	20.79	180	2062	0.088	ng		95
95) Naphthalene	20.91	128	3989	0.063	ng		85
96) n-Dodecane	20.92	57	109	0.007	ng	#	30
97) Hexachlorobutadiene	21.26	225	3425	0.185	ng		99
98) Cyclohexanone	16.27	55	1783	0.159	ng		96
99) tert-Butylbenzene	18.38	119	10369	0.201	ng		100
100) n-Butylbenzene	19.28	91	7829	0.161	ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222023.D Vial: 4
Acq On : 23 Apr 2020 13:44 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04162006 (5/15)

Quant Time: Apr 23 14:10:30 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:56:23 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222013.D Vial: 5
Acq On : 22 Apr 2020 20:31 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04222004 (5/21)

Quant Time: Apr 23 11:49:48 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/23/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	129332	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	11.11	114	538679	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	247239	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	210239	14.368	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.96%				
57) Toluene-d8 (SS2)	13.54	98	598520	12.172	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.36%				
73) Bromofluorobenzene (SS3)	17.05	174	240179	14.681	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 117.44%				
Target Compounds							Qvalue
2) Propene	3.88	42	2906	0.367	ng		97
3) Dichlorodifluoromethan...	3.98	85	13115	0.711	ng		98
4) Chloromethane	4.18	50	5003	0.450	ng		96
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	6856	0.796	ng		98
6) Vinyl Chloride	4.46	62	5965	0.623	ng		99
7) 1,3-Butadiene	4.64	54	3634	0.545	ng		98
8) Bromomethane	4.94	94	4880	0.578	ng		94
9) Chloroethane	5.16	64	3130	0.499	ng		95
10) Ethanol	5.34	45	13315	2.149	ng		88
11) Acetonitrile	5.56	41	5762	0.408	ng		86
12) Acrolein	5.71	56	1856	0.349	ng		98
13) Acetone	5.84	58	15493	2.436	ng		95
14) Trichlorofluoromethane	6.03	101	12695	0.760	ng		96
15) 2-Propanol (Isopropanol)	6.16	45	19185	0.951	ng		92
16) Acrylonitrile	6.37	53	4213	0.381	ng		99
17) 1,1-Dichloroethene	6.73	96	5620	0.596	ng		99
18) 2-Methyl-2-Propanol (t...	6.84	59	16787	0.786	ng		94
19) Methylene Chloride	6.86	84	5202	0.535	ng		97
20) 3-Chloro-1-propene (Al...	6.99	41	6592	0.536	ng		84
21) Trichlorotrifluoroethane	7.18	151	6939	0.745	ng		98
22) Carbon Disulfide	7.15	76	17442	0.517	ng		96
23) trans-1,2-Dichloroethene	7.88	61	6733	0.553	ng		96
24) 1,1-Dichloroethane	8.09	63	8771	0.548	ng		100
25) Methyl tert-Butyl Ether	8.19	73	10739	0.387	ng		99
26) Vinyl Acetate	8.28	86	5073	2.387	ng	#	92
27) 2-Butanone (MEK)	8.53	72	2674	0.428	ng	#	86
28) cis-1,2-Dichloroethene	8.97	61	6954	0.568	ng		98
29) Diisopropyl Ether	9.23	87	4705	0.607	ng	#	85
30) Ethyl Acetate	9.23	61	2784	0.974	ng		99
31) n-Hexane	9.22	57	7168	0.518	ng		96
32) Chloroform	9.27	83	10918	0.662	ng		97
34) Tetrahydrofuran (THF)	9.70	72	3120	0.517	ng		98
35) Ethyl tert-Butyl Ether	9.77	87	5103	0.453	ng		95
36) 1,2-Dichloroethane	10.02	62	8840	0.711	ng		98
38) 1,1,1-Trichloroethane	10.29	97	11727	0.804	ng		98
39) Isopropyl Acetate	10.67	61	5394	1.071	ng	#	86
40) 1-Butanol	10.72	56	5423	0.664	ng	#	56
41) Benzene	10.75	78	21115	0.550	ng		99
42) Carbon Tetrachloride	10.90	117	11021	0.806	ng		97
43) Cyclohexane	11.03	84	16672	1.144	ng		95
44) tert-Amyl Methyl Ether	11.36	73	11616	0.460	ng		98
45) 1,2-Dichloropropane	11.57	63	4380	0.512	ng		97
46) Bromodichloromethane	11.75	83	8920	0.705	ng		98
47) Trichloroethene	11.81	130	7497	0.678	ng		94
48) 1,4-Dioxane	11.81	88	4120	0.550	ng		88
49) 2,2,4-Trimethylpentane...	11.87	57	17992	0.499	ng		99
50) Methyl Methacrylate	12.00	100	4141	1.101	ng		94

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222013.D Vial: 5
Acq On : 22 Apr 2020 20:31 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04222004 (5/21)

Quant Time: Apr 23 11:49:48 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

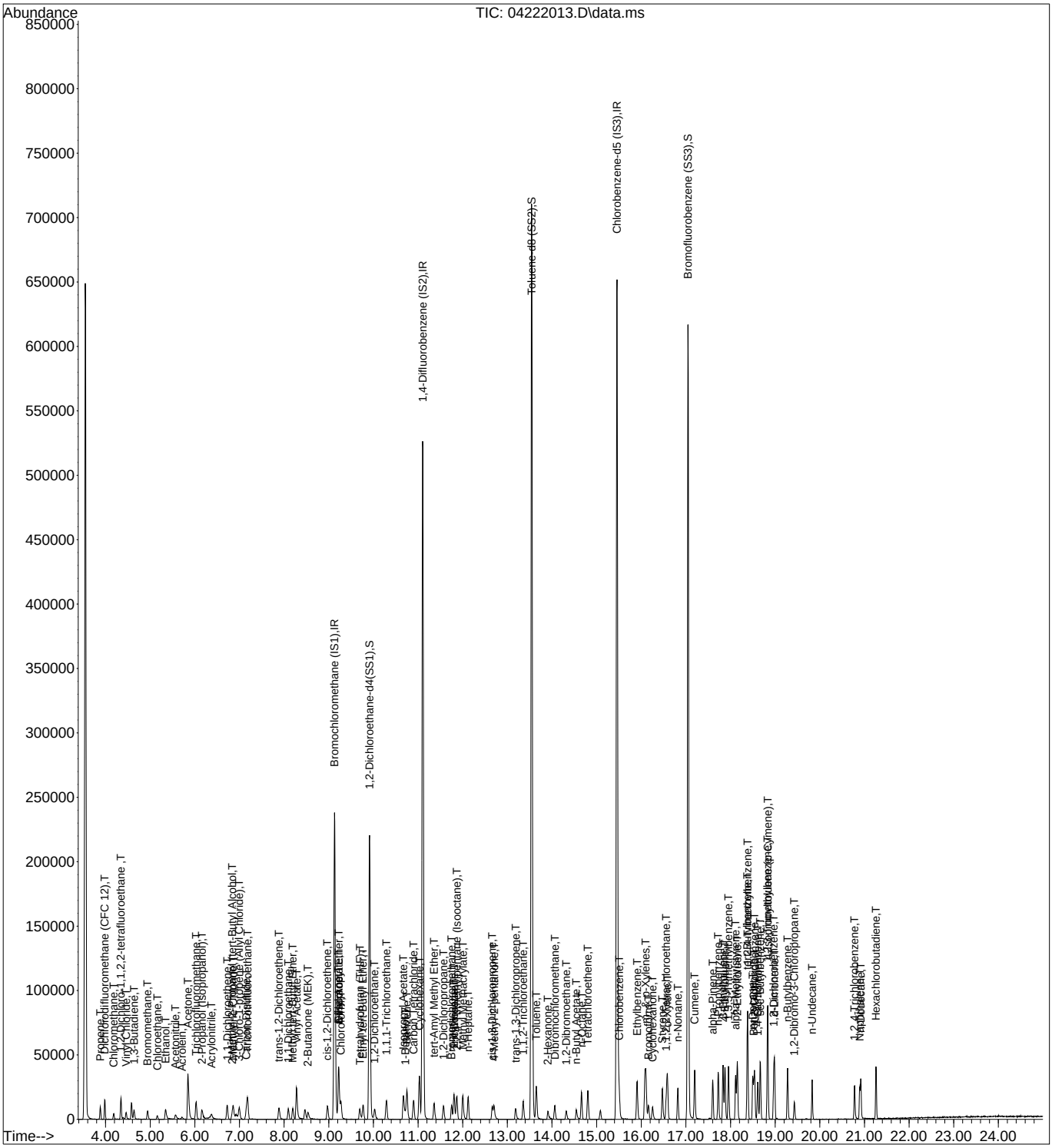
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.12	71	4984	0.544 ng	96
52) cis-1,3-Dichloropropene	12.66	75	8429	0.591 ng	94
53) 4-Methyl-2-pentanone	12.71	58	3522	0.465 ng	96
54) trans-1,3-Dichloropropene	13.19	75	7467	0.559 ng	96
55) 1,1,2-Trichloroethane	13.36	97	5686	0.605 ng	100
58) Toluene	13.65	91	23995	0.575 ng	98
59) 2-Hexanone	13.91	43	5723	0.346 ng	98
60) Dibromochloromethane	14.07	129	8081	0.694 ng	100
61) 1,2-Dibromoethane	14.32	107	6351	0.602 ng	95
62) n-Butyl Acetate	14.54	43	6937	0.393 ng	95
63) n-Octane	14.67	57	4029	0.535 ng	97
64) Tetrachloroethene	14.80	166	8957	0.690 ng	99
65) Chlorobenzene	15.51	112	18426	0.633 ng	99
66) Ethylbenzene	15.91	91	28127	0.628 ng	99
67) m- & p-Xylenes	16.10	91	48290	1.346 ng	99
68) Bromoform	16.16	173	6603	0.687 ng	94
69) Styrene	16.47	104	16387	0.630 ng	98
70) o-Xylene	16.58	91	24176	0.674 ng	98
71) n-Nonane	16.82	43	7718	0.498 ng	97
72) 1,1,2,2-Tetrachloroethane	16.56	83	9061	0.560 ng	100
74) Cumene	17.19	105	31313	0.669 ng	97
75) alpha-Pinene	17.60	93	14014	0.595 ng	100
76) n-Propylbenzene	17.72	91	33340	0.624 ng	100
77) 3-Ethyltoluene	17.83	105	30114	0.672 ng	99
78) 4-Ethyltoluene	17.87	105	29410	0.685 ng	99
79) 1,3,5-Trimethylbenzene	17.95	105	27430	0.695 ng	99
80) alpha-Methylstyrene	18.11	118	13008	0.673 ng	86
81) 2-Ethyltoluene	18.15	105	30928	0.691 ng	98
82) 1,2,4-Trimethylbenzene	18.38	105	26963	0.735 ng	98
83) n-Decane	18.50	57	9598	0.538 ng	98
84) Benzyl Chloride	18.52	91	17607	0.614 ng	97
85) 1,3-Dichlorobenzene	18.54	146	16047	0.758 ng	97
86) 1,4-Dichlorobenzene	18.61	146	16026	0.741 ng	98
87) sec-Butylbenzene	18.66	105	34100	0.661 ng	99
88) 4-Isopropyltoluene (p-...	18.83	119	34516	0.756 ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	28477	0.761 ng	98
90) 1,2-Dichlorobenzene	18.97	146	15092	0.716 ng	98
91) d-Limonene	18.99	68	7364	0.578 ng	96
92) 1,2-Dibromo-3-Chloropr...	19.43	157	5228	0.623 ng	98
93) n-Undecane	19.83	57	9503	0.501 ng	99
94) 1,2,4-Trichlorobenzene	20.77	180	10478	0.645 ng	97
95) Naphthalene	20.90	128	26653	0.528 ng	97
96) n-Dodecane	20.92	57	7261	0.387 ng	95
97) Hexachlorobutadiene	21.26	225	9210	0.818 ng	98
98) Cyclohexanone	16.25	55	4973	0.423 ng	99
99) tert-Butylbenzene	18.38	119	27019	0.714 ng	98
100) n-Butylbenzene	19.28	91	24494	0.666 ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222013.D Vial: 5
Acq On : 22 Apr 2020 20:31 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04222004 (5/21)

Quant Time: Apr 23 11:49:48 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222014.D Vial: 5
Acq On : 22 Apr 2020 21:05 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04222004 (5/21)

Quant Time: Apr 23 11:49:50 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/23/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	126276	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.11	114	536769	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	247388	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.92	65	210491	14.733	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 117.84%				
57) Toluene-d8 (SS2)	13.55	98	596176	12.117	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.96%				
73) Bromofluorobenzene (SS3)	17.05	174	241378	14.745	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 118.00%				
Target Compounds							Qvalue
2) Propene	3.88	42	5015	0.648	ng		91
3) Dichlorodifluoromethan...	3.99	85	22709	1.260	ng		99
4) Chloromethane	4.18	50	8593	0.792	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	12398	1.475	ng		98
6) Vinyl Chloride	4.46	62	10882	1.165	ng		100
7) 1,3-Butadiene	4.63	54	6520	1.001	ng		96
8) Bromomethane	4.94	94	8741	1.061	ng		98
9) Chloroethane	5.16	64	5840	0.953	ng		94
10) Ethanol	5.35	45	22628	3.740	ng		90
11) Acetonitrile	5.57	41	10365	0.751	ng		83
12) Acrolein	5.71	56	4051	0.781	ng		91
13) Acetone	5.84	58	28197	4.541	ng		93
14) Trichlorofluoromethane	6.03	101	23166	1.420	ng		100
15) 2-Propanol (Isopropanol)	6.16	45	35435	1.798	ng		95
16) Acrylonitrile	6.37	53	8090	0.750	ng		99
17) 1,1-Dichloroethene	6.72	96	10014	1.088	ng		100
18) 2-Methyl-2-Propanol (t...	6.82	59	30034	1.440	ng		98
19) Methylene Chloride	6.86	84	9369	0.987	ng		99
20) 3-Chloro-1-propene (Al...	7.00	41	11468	0.954	ng		94
21) Trichlorotrifluoroethane	7.19	151	12306	1.353	ng		99
22) Carbon Disulfide	7.15	76	31163	0.946	ng		99
23) trans-1,2-Dichloroethene	7.88	61	12484	1.051	ng		100
24) 1,1-Dichloroethane	8.09	63	16412	1.050	ng		100
25) Methyl tert-Butyl Ether	8.19	73	19238	0.710	ng		98
26) Vinyl Acetate	8.28	86	9679	4.664	ng	#	95
27) 2-Butanone (MEK)	8.53	72	5583	0.916	ng		90
28) cis-1,2-Dichloroethene	8.98	61	12681	1.060	ng		97
29) Diisopropyl Ether	9.22	87	8113	1.073	ng	#	95
30) Ethyl Acetate	9.22	61	5156	1.848	ng		95
31) n-Hexane	9.22	57	12702	0.939	ng		98
32) Chloroform	9.28	83	19474	1.210	ng		100
34) Tetrahydrofuran (THF)	9.69	72	5685	0.965	ng		94
35) Ethyl tert-Butyl Ether	9.77	87	8937	0.812	ng		99
36) 1,2-Dichloroethane	10.03	62	16265	1.340	ng		99
38) 1,1,1-Trichloroethane	10.29	97	20230	1.392	ng		99
39) Isopropyl Acetate	10.67	61	9686	1.930	ng	#	93
40) 1-Butanol	10.71	56	10515	1.291	ng	#	76
41) Benzene	10.76	78	38449	1.005	ng		99
42) Carbon Tetrachloride	10.90	117	19465	1.428	ng		98
43) Cyclohexane	11.03	84	30305	2.087	ng		99
44) tert-Amyl Methyl Ether	11.36	73	21307	0.847	ng		97
45) 1,2-Dichloropropane	11.57	63	8021	0.940	ng		99
46) Bromodichloromethane	11.76	83	15975	1.266	ng		99
47) Trichloroethene	11.81	130	13388	1.215	ng		98
48) 1,4-Dioxane	11.79	88	7806	1.046	ng		84
49) 2,2,4-Trimethylpentane...	11.87	57	31730	0.883	ng		99
50) Methyl Methacrylate	12.00	100	8462	2.259	ng		96

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222014.D Vial: 5
Acq On : 22 Apr 2020 21:05 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04222004 (5/21)

Quant Time: Apr 23 11:49:50 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

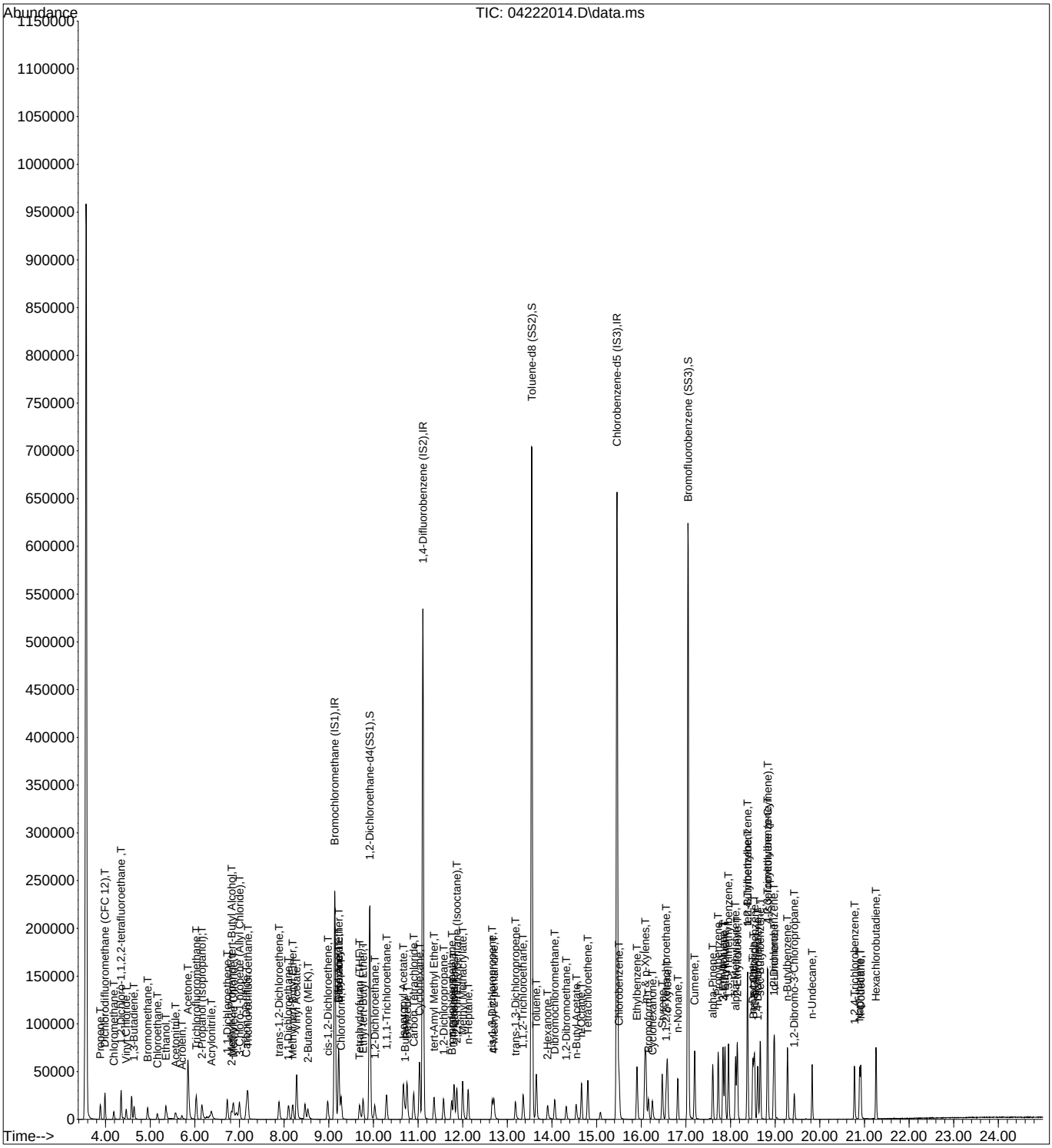
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	9029	0.989	ng	98
52) cis-1,3-Dichloropropene	12.66	75	15472	1.088	ng	98
53) 4-Methyl-2-pentanone	12.70	58	6392	0.848	ng	93
54) trans-1,3-Dichloropropene	13.18	75	14379	1.080	ng	99
55) 1,1,2-Trichloroethane	13.35	97	10838	1.158	ng	96
58) Toluene	13.65	91	44562	1.067	ng	100
59) 2-Hexanone	13.90	43	12222	0.739	ng	100
60) Dibromochloromethane	14.06	129	14909	1.280	ng	99
61) 1,2-Dibromoethane	14.32	107	11842	1.121	ng	99
62) n-Butyl Acetate	14.54	43	14091	0.798	ng	96
63) n-Octane	14.66	57	7199	0.956	ng	97
64) Tetrachloroethene	14.80	166	16393	1.263	ng	98
65) Chlorobenzene	15.50	112	32219	1.107	ng	99
66) Ethylbenzene	15.90	91	51213	1.142	ng	98
67) m- & p-Xylenes	16.09	91	86782	2.418	ng	99
68) Bromoform	16.16	173	13117	1.363	ng	100
69) Styrene	16.47	104	31213	1.199	ng	99
70) o-Xylene	16.58	91	42905	1.196	ng	100
71) n-Nonane	16.82	43	13906	0.898	ng	100
72) 1,1,2,2-Tetrachloroethane	16.56	83	15812	0.977	ng	98
74) Cumene	17.19	105	55907	1.195	ng	100
75) alpha-Pinene	17.60	93	25373	1.076	ng	100
76) n-Propylbenzene	17.72	91	61029	1.142	ng	100
77) 3-Ethyltoluene	17.83	105	54359	1.212	ng	97
78) 4-Ethyltoluene	17.88	105	53458	1.244	ng	98
79) 1,3,5-Trimethylbenzene	17.95	105	49762	1.260	ng	99
80) alpha-Methylstyrene	18.11	118	24852	1.285	ng	90
81) 2-Ethyltoluene	18.15	105	55645	1.242	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	48997	1.335	ng	100
83) n-Decane	18.50	57	17215	0.964	ng	97
84) Benzyl Chloride	18.51	91	33788	1.177	ng	100
85) 1,3-Dichlorobenzene	18.54	146	29341	1.385	ng	100
86) 1,4-Dichlorobenzene	18.61	146	29880	1.380	ng	99
87) sec-Butylbenzene	18.66	105	62433	1.210	ng	99
88) 4-Isopropyltoluene (p-...	18.83	119	62845	1.375	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	49569	1.324	ng	98
90) 1,2-Dichlorobenzene	18.97	146	28891	1.371	ng	99
91) d-Limonene	18.98	68	13364	1.049	ng	99
92) 1,2-Dibromo-3-Chloropr...	19.43	157	9913	1.180	ng	99
93) n-Undecane	19.83	57	17723	0.933	ng	99
94) 1,2,4-Trichlorobenzene	20.78	180	21234	1.305	ng	99
95) Naphthalene	20.89	128	53400	1.057	ng	100
96) n-Dodecane	20.92	57	14385	0.767	ng	98
97) Hexachlorobutadiene	21.26	225	17024	1.511	ng	100
98) Cyclohexanone	16.25	55	9545	0.812	ng	99
99) tert-Butylbenzene	18.38	119	49158	1.298	ng	100
100) n-Butylbenzene	19.27	91	45630	1.241	ng	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222014.D Vial: 5
Acq On : 22 Apr 2020 21:05 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04222004 (5/21)

Quant Time: Apr 23 11:49:50 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222015.D Vial: 5
Acq On : 22 Apr 2020 21:39 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04222004 (5/21)

Quant Time: Apr 23 11:49:52 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/23/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.14	130	127032	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	11.11	114	522643	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	242847	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.92	65	205612	14.306	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.48%			
57) Toluene-d8 (SS2)	13.55	98	580496	12.019	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.16%			
73) Bromofluorobenzene (SS3)	17.05	174	241052	15.001	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 120.00%			
Target Compounds						Qvalue
2) Propene	3.86	42	26825	3.448	ng	98
3) Dichlorodifluoromethan...	3.97	85	107121	5.909	ng	99
4) Chloromethane	4.16	50	36557	3.351	ng	99
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	55821	6.601	ng	98
6) Vinyl Chloride	4.45	62	52544	5.590	ng	99
7) 1,3-Butadiene	4.62	54	33096	5.050	ng	99
8) Bromomethane	4.93	94	39874	4.812	ng	100
9) Chloroethane	5.15	64	25067	4.065	ng	98
10) Ethanol	5.36	45	91042	14.958	ng	100
11) Acetonitrile	5.56	41	47363	3.413	ng	97
12) Acrolein	5.70	56	19034	3.648	ng	98
13) Acetone	5.83	58	125622	20.108	ng	100
14) Trichlorofluoromethane	6.02	101	106048	6.461	ng	99
15) 2-Propanol (Isopropanol)	6.16	45	157161	7.928	ng	97
16) Acrylonitrile	6.37	53	42320	3.900	ng	99
17) 1,1-Dichloroethene	6.72	96	47038	5.081	ng	98
18) 2-Methyl-2-Propanol (t...	6.81	59	146832	6.998	ng	99
19) Methylene Chloride	6.86	84	44481	4.659	ng	99
20) 3-Chloro-1-propene (Al...	6.99	41	51245	4.239	ng	98
21) Trichlorotrifluoroethane	7.18	151	55953	6.116	ng	100
22) Carbon Disulfide	7.14	76	148912	4.494	ng	99
23) trans-1,2-Dichloroethene	7.89	61	61901	5.180	ng	100
24) 1,1-Dichloroethane	8.10	63	74292	4.725	ng	99
25) Methyl tert-Butyl Ether	8.18	73	94198	3.454	ng	100
26) Vinyl Acetate	8.28	86	50438	24.161	ng	96
27) 2-Butanone (MEK)	8.52	72	27190	4.434	ng	99
28) cis-1,2-Dichloroethene	8.98	61	59734	4.964	ng	99
29) Diisopropyl Ether	9.22	87	37252	4.896	ng	98
30) Ethyl Acetate	9.22	61	24814	8.841	ng	93
31) n-Hexane	9.22	57	56462	4.151	ng	98
32) Chloroform	9.28	83	90848	5.611	ng	100
34) Tetrahydrofuran (THF)	9.68	72	27288	4.605	ng	99
35) Ethyl tert-Butyl Ether	9.76	87	40755	3.683	ng	99
36) 1,2-Dichloroethane	10.03	62	76687	6.280	ng	99
38) 1,1,1-Trichloroethane	10.29	97	94993	6.714	ng	100
39) Isopropyl Acetate	10.67	61	45123	9.235	ng	97
40) 1-Butanol	10.68	56	60020	7.571	ng	95
41) Benzene	10.75	78	177125	4.756	ng	100
42) Carbon Tetrachloride	10.90	117	92497	6.968	ng	100
43) Cyclohexane	11.03	84	141066	9.979	ng	99
44) tert-Amyl Methyl Ether	11.35	73	94835	3.871	ng	99
45) 1,2-Dichloropropane	11.57	63	37103	4.466	ng	99
46) Bromodichloromethane	11.75	83	74064	6.030	ng	98
47) Trichloroethene	11.81	130	63453	5.913	ng	100
48) 1,4-Dioxane	11.78	88	36438	5.016	ng	97
49) 2,2,4-Trimethylpentane...	11.87	57	148256	4.239	ng	100
50) Methyl Methacrylate	11.99	100	40050	10.980	ng	97

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222015.D Vial: 5
Acq On : 22 Apr 2020 21:39 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04222004 (5/21)

Quant Time: Apr 23 11:49:52 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

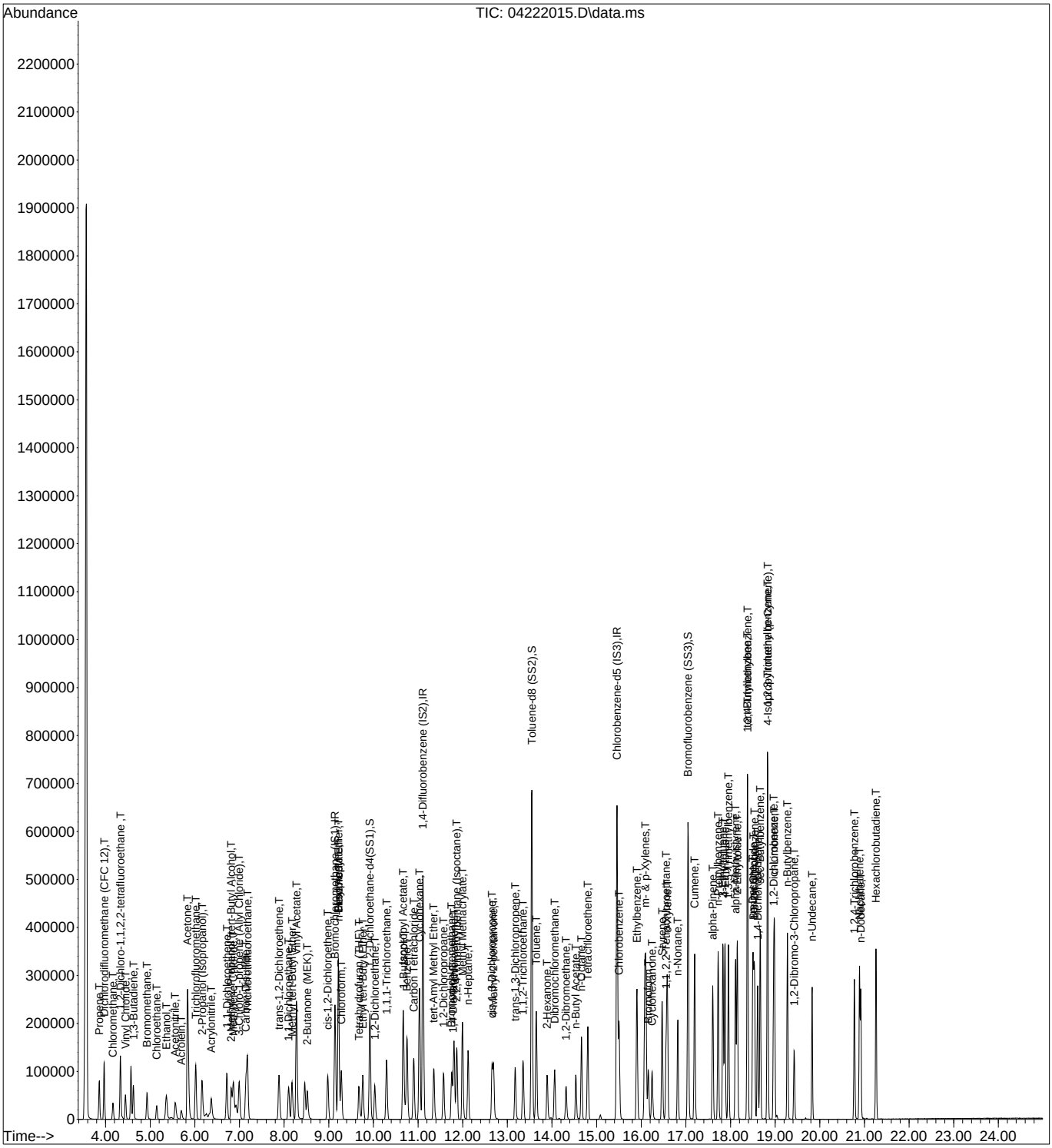
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	41995	4.724	ng	99
52) cis-1,3-Dichloropropene	12.66	75	76063	5.494	ng	100
53) 4-Methyl-2-pentanone	12.69	58	32970	4.490	ng	99
54) trans-1,3-Dichloropropene	13.18	75	75652	5.838	ng	97
55) 1,1,2-Trichloroethane	13.35	97	48516	5.325	ng	99
58) Toluene	13.65	91	204359	4.986	ng	99
59) 2-Hexanone	13.89	43	66070	4.071	ng	99
60) Dibromochloromethane	14.06	129	71135	6.219	ng	99
61) 1,2-Dibromoethane	14.31	107	58489	5.640	ng	98
62) n-Butyl Acetate	14.53	43	70906	4.093	ng	99
63) n-Octane	14.66	57	32746	4.428	ng	99
64) Tetrachloroethene	14.80	166	74010	5.808	ng	100
65) Chlorobenzene	15.50	112	150097	5.253	ng	100
66) Ethylbenzene	15.90	91	243383	5.529	ng	99
67) m- & p-Xylenes	16.10	91	408114	11.584	ng	100
68) Bromoform	16.16	173	64880	6.870	ng	100
69) Styrene	16.47	104	152968	5.987	ng	99
70) o-Xylene	16.58	91	203581	5.782	ng	99
71) n-Nonane	16.82	43	65193	4.287	ng	99
72) 1,1,2,2-Tetrachloroethane	16.56	83	77299	4.863	ng	100
74) Cumene	17.19	105	267150	5.815	ng	100
75) alpha-Pinene	17.60	93	123139	5.321	ng	99
76) n-Propylbenzene	17.72	91	295275	5.628	ng	100
77) 3-Ethyltoluene	17.83	105	255544	5.803	ng	97
78) 4-Ethyltoluene	17.88	105	266013	6.306	ng	97
79) 1,3,5-Trimethylbenzene	17.95	105	231920	5.981	ng	100
80) alpha-Methylstyrene	18.11	118	121821	6.418	ng	97
81) 2-Ethyltoluene	18.15	105	262291	5.963	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	231050	6.412	ng	100
83) n-Decane	18.50	57	83453	4.761	ng	100
84) Benzyl Chloride	18.51	91	179796	6.381	ng	99
85) 1,3-Dichlorobenzene	18.54	146	141029	6.780	ng	99
86) 1,4-Dichlorobenzene	18.61	146	141651	6.666	ng	100
87) sec-Butylbenzene	18.66	105	293214	5.788	ng	100
88) 4-Isopropyltoluene (p-...	18.83	119	295331	6.582	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	238024	6.474	ng	99
90) 1,2-Dichlorobenzene	18.97	146	137496	6.645	ng	99
91) d-Limonene	18.98	68	65560	5.240	ng	99
92) 1,2-Dibromo-3-Chloropr...	19.43	157	50779	6.158	ng	99
93) n-Undecane	19.83	57	85715	4.597	ng	99
94) 1,2,4-Trichlorobenzene	20.77	180	106907	6.695	ng	99
95) Naphthalene	20.89	128	284865	5.744	ng	100
96) n-Dodecane	20.92	57	72247	3.924	ng	99
97) Hexachlorobutadiene	21.26	225	78877	7.130	ng	100
98) Cyclohexanone	16.24	55	47265	4.094	ng	99
99) tert-Butylbenzene	18.38	119	231949	6.238	ng	99
100) n-Butylbenzene	19.27	91	219078	6.067	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222015.D Vial: 5
Acq On : 22 Apr 2020 21:39 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04222004 (5/21)

Quant Time: Apr 23 11:49:52 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222016.D Vial: 2
Acq On : 22 Apr 2020 22:12 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 23 11:49:54 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/23/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	139959	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	11.12	114	576914	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	15.46	82	270547	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.94	65	224495	14.177	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.44%			
57) Toluene-d8 (SS2)	13.55	98	648304	12.049	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.40%			
73) Bromofluorobenzene (SS3)	17.05	174	266005	14.858	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 118.88%			
Target Compounds						Qvalue
2) Propene	3.86	42	148349	17.306	ng	100
3) Dichlorodifluoromethan...	3.97	85	575420	28.811	ng	100
4) Chloromethane	4.17	50	233786	19.451	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	309011	33.168	ng	100
6) Vinyl Chloride	4.45	62	293615	28.354	ng	100
7) 1,3-Butadiene	4.63	54	196130	27.165	ng	100
8) Bromomethane	4.94	94	226533	24.815	ng	100
9) Chloroethane	5.16	64	143289	21.088	ng	100
10) Ethanol	5.40	45	526687	78.538	ng	100
11) Acetonitrile	5.59	41	263390	17.229	ng	100
12) Acrolein	5.71	56	110967	19.303	ng	100
13) Acetone	5.86	58	670690	97.441	ng	100
14) Trichlorofluoromethane	6.03	101	575484	31.821	ng	100
15) 2-Propanol (Isopropanol)	6.20	45	949734	43.486	ng	100
16) Acrylonitrile	6.39	53	242821	20.311	ng	100
17) 1,1-Dichloroethene	6.72	96	259353	25.426	ng	100
18) 2-Methyl-2-Propanol (t...	6.84	59	852826	36.894	ng	100
19) Methylene Chloride	6.88	84	246568	23.439	ng	100
20) 3-Chloro-1-propene (Al...	7.01	41	280359	21.047	ng	100
21) Trichlorotrifluoroethane	7.19	151	300508	29.813	ng	100
22) Carbon Disulfide	7.15	76	839811	23.003	ng	100
23) trans-1,2-Dichloroethene	7.90	61	348501	26.469	ng	100
24) 1,1-Dichloroethane	8.12	63	412914	23.836	ng	100
25) Methyl tert-Butyl Ether	8.18	73	536453	17.852	ng	100
26) Vinyl Acetate	8.30	86	288061	125.244	ng	100
27) 2-Butanone (MEK)	8.53	72	157863	23.366	ng	100
28) cis-1,2-Dichloroethene	8.99	61	330184	24.905	ng	100
29) Diisopropyl Ether	9.22	87	199384	23.785	ng	100
30) Ethyl Acetate	9.23	61	139703	45.176	ng	100
31) n-Hexane	9.23	57	306748	20.468	ng	100
32) Chloroform	9.30	83	496525	27.834	ng	100
34) Tetrahydrofuran (THF)	9.68	72	154237	23.625	ng	100
35) Ethyl tert-Butyl Ether	9.77	87	222400	18.241	ng	100
36) 1,2-Dichloroethane	10.04	62	421595	31.337	ng	100
38) 1,1,1-Trichloroethane	10.30	97	523386	33.514	ng	100
39) Isopropyl Acetate	10.67	61	247371	45.864	ng	100
40) 1-Butanol	10.69	56	393624	44.979	ng	100
41) Benzene	10.76	78	965159	23.478	ng	100
42) Carbon Tetrachloride	10.92	117	509202	34.750	ng	100
43) Cyclohexane	11.04	84	760478	48.737	ng	100
44) tert-Amyl Methyl Ether	11.35	73	525196	19.420	ng	100
45) 1,2-Dichloropropane	11.57	63	205952	22.460	ng	100
46) Bromodichloromethane	11.76	83	412304	30.413	ng	100
47) Trichloroethene	11.81	130	346686	29.267	ng	100
48) 1,4-Dioxane	11.78	88	218205	27.210	ng	100
49) 2,2,4-Trimethylpentane...	11.87	57	802639	20.790	ng	100
50) Methyl Methacrylate	12.00	100	232380	57.715	ng	100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222016.D Vial: 2
Acq On : 22 Apr 2020 22:12 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 23 11:49:54 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

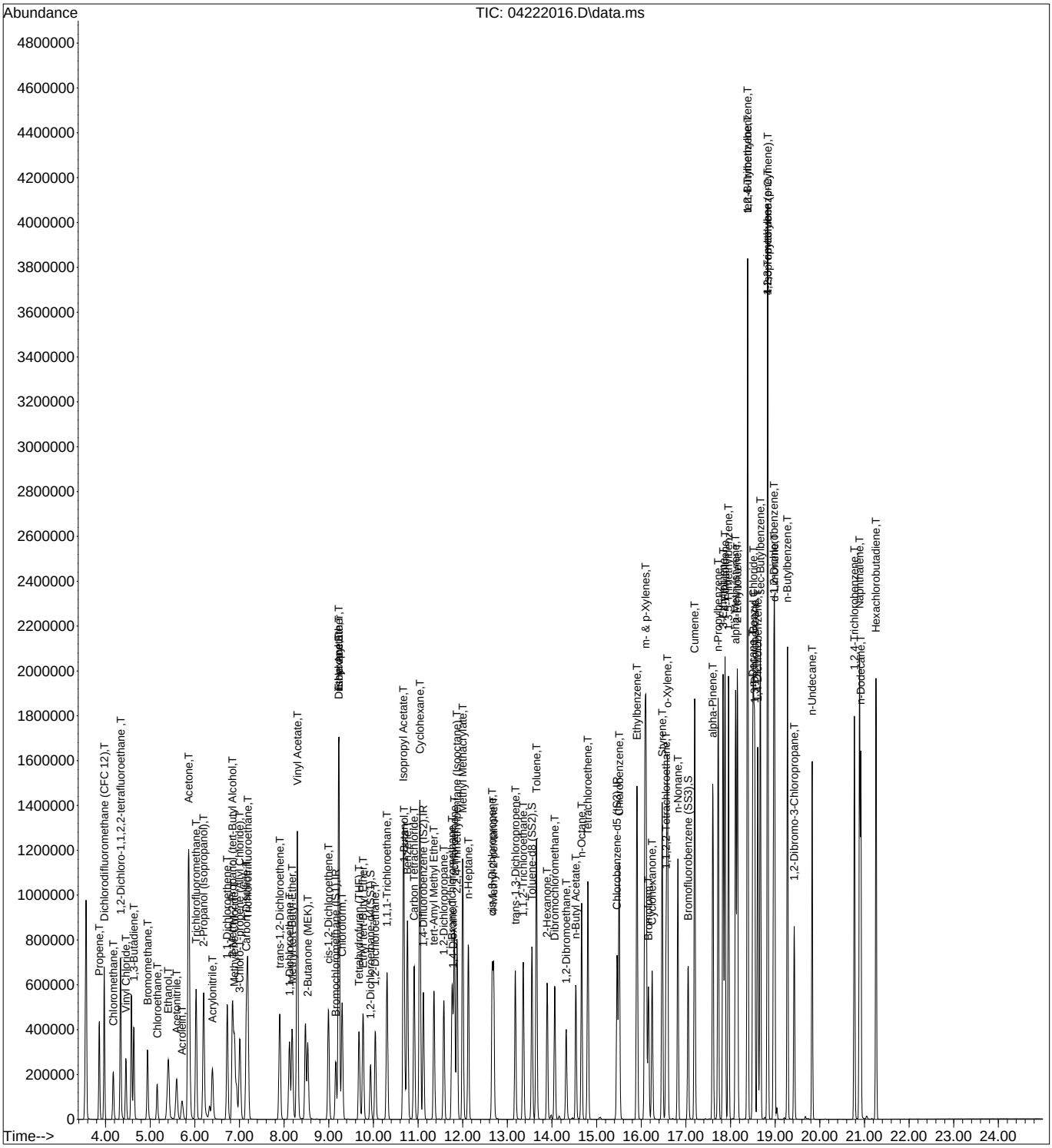
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	233894	23.835	ng	100
52) cis-1,3-Dichloropropene	12.66	75	437947	28.658	ng	100
53) 4-Methyl-2-pentanone	12.69	58	190105	23.453	ng	100
54) trans-1,3-Dichloropropene	13.18	75	447102	31.257	ng	100
55) 1,1,2-Trichloroethane	13.36	97	274331	27.275	ng	100
58) Toluene	13.65	91	1135814	24.873	ng	100
59) 2-Hexanone	13.89	43	418957	23.174	ng	100
60) Dibromochloromethane	14.06	129	411137	32.265	ng	100
61) 1,2-Dibromoethane	14.32	107	339459	29.385	ng	100
62) n-Butyl Acetate	14.53	43	449879	23.309	ng	100
63) n-Octane	14.67	57	181686	22.051	ng	100
64) Tetrachloroethene	14.80	166	410786	28.938	ng	100
65) Chlorobenzene	15.51	112	838490	26.340	ng	100
66) Ethylbenzene	15.90	91	1345406	27.437	ng	100
67) m- & p-Xylenes	16.10	91	2234588	56.932	ng	100
68) Bromoform	16.16	173	373311	35.482	ng	100
69) Styrene	16.47	104	871452	30.616	ng	100
70) o-Xylene	16.58	91	1104137	28.150	ng	100
71) n-Nonane	16.82	43	357159	21.080	ng	100
72) 1,1,2,2-Tetrachloroethane	16.56	83	429814	24.273	ng	100
74) Cumene	17.19	105	1458637	28.499	ng	100
75) alpha-Pinene	17.60	93	676336	26.231	ng	100
76) n-Propylbenzene	17.72	91	1624715	27.795	ng	100
77) 3-Ethyltoluene	17.83	105	1451425	29.587	ng	100
78) 4-Ethyltoluene	17.88	105	1410591	30.017	ng	100
79) 1,3,5-Trimethylbenzene	17.95	105	1260494	29.178	ng	100
80) alpha-Methylstyrene	18.11	118	690235	32.639	ng	100
81) 2-Ethyltoluene	18.15	105	1424607	29.071	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	1244204	30.995	ng	100
83) n-Decane	18.50	57	454506	23.277	ng	100
84) Benzyl Chloride	18.51	91	1099043	35.014	ng	100
85) 1,3-Dichlorobenzene	18.54	146	781993	33.746	ng	100
86) 1,4-Dichlorobenzene	18.61	146	804142	33.965	ng	100
87) sec-Butylbenzene	18.67	105	1581990	28.029	ng	100
88) 4-Isopropyltoluene (p-...	18.83	119	1569378	31.394	ng	100
89) 1,2,3-Trimethylbenzene	18.83	105	1273990	31.104	ng	100
90) 1,2-Dichlorobenzene	18.97	146	753213	32.673	ng	100
91) d-Limonene	18.99	68	364906	26.181	ng	100
92) 1,2-Dibromo-3-Chloropr...	19.43	157	300160	32.674	ng	100
93) n-Undecane	19.83	57	486425	23.417	ng	100
94) 1,2,4-Trichlorobenzene	20.77	180	645472	36.284	ng	100
95) Naphthalene	20.89	128	1764943	31.942	ng	100
96) n-Dodecane	20.92	57	451510	22.010	ng	100
97) Hexachlorobutadiene	21.26	225	435056	35.299	ng	100
98) Cyclohexanone	16.24	55	290938	22.618	ng	100
99) tert-Butylbenzene	18.38	119	1221323	29.482	ng	100
100) n-Butylbenzene	19.27	91	1232000	30.627	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222016.D Vial: 2
Acq On : 22 Apr 2020 22:12 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 23 11:49:54 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222017.D Vial: 2
Acq On : 22 Apr 2020 22:46 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 23 11:49:56 2020 4/23/20
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.17	130	145152	12.500	ng	0.01
37) 1,4-Difluorobenzene (IS2)	11.12	114	598248	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	15.46	82	279965	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.94	65	233121	14.195	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.60%			
57) Toluene-d8 (SS2)	13.55	98	670205	12.037	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.32%			
73) Bromofluorobenzene (SS3)	17.05	174	273089	14.741	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 117.92%			
Target Compounds						Qvalue
2) Propene	3.86	42	330392	37.165	ng	98
3) Dichlorodifluoromethan...	3.97	85	1105663	53.380	ng	100
4) Chloromethane	4.17	50	407411	32.683	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	597211	61.810	ng	99
6) Vinyl Chloride	4.46	62	580007	54.007	ng	100
7) 1,3-Butadiene	4.63	54	370058	49.421	ng	99
8) Bromomethane	4.94	94	450081	47.539	ng	99
9) Chloroethane	5.16	64	285429	40.505	ng	100
10) Ethanol	5.43	45	1044298	150.152	ng	100
11) Acetonitrile	5.60	41	533240	33.633	ng	100
12) Acrolein	5.72	56	224287	37.620	ng	99
13) Acetone	5.87	58	1299615	182.060	ng	98
14) Trichlorofluoromethane	6.03	101	1115252	59.460	ng	99
15) 2-Propanol (Isopropanol)	6.21	45	1663213	73.429	ng	100
16) Acrylonitrile	6.41	53	489337	39.466	ng	99
17) 1,1-Dichloroethene	6.73	96	512268	48.425	ng	100
18) 2-Methyl-2-Propanol (t...	6.86	59	1790353	74.681	ng	99
19) Methylene Chloride	6.90	84	487136	44.650	ng	100
20) 3-Chloro-1-propene (Al...	7.02	41	559510	40.501	ng	100
21) Trichlorotrifluoroethane	7.19	151	583089	55.778	ng	99
22) Carbon Disulfide	7.16	76	1660071	43.844	ng	100
23) trans-1,2-Dichloroethene	7.91	61	693359	50.778	ng	100
24) 1,1-Dichloroethane	8.13	63	812821	45.242	ng	99
25) Methyl tert-Butyl Ether	8.18	73	1124703	36.088	ng	100
26) Vinyl Acetate	8.30	86	558650	234.201	ng	98
27) 2-Butanone (MEK)	8.54	72	315514	45.030	ng	99
28) cis-1,2-Dichloroethene	9.00	61	657246	47.801	ng	99
29) Diisopropyl Ether	9.23	87	386021	44.402	ng	100
30) Ethyl Acetate	9.23	61	271619	84.692	ng	99
31) n-Hexane	9.23	57	589143	37.904	ng	100
32) Chloroform	9.31	83	971469	52.510	ng	100
34) Tetrahydrofuran (THF)	9.68	72	307036	45.347	ng	99
35) Ethyl tert-Butyl Ether	9.77	87	429471	33.965	ng	99
36) 1,2-Dichloroethane	10.05	62	832849	59.690	ng	100
38) 1,1,1-Trichloroethane	10.31	97	1028523	63.512	ng	100
39) Isopropyl Acetate	10.68	61	483997	86.535	ng	100
40) 1-Butanol	10.70	56	776710	85.589	ng	100
41) Benzene	10.77	78	1887102	44.267	ng	99
42) Carbon Tetrachloride	10.91	117	990936	65.214	ng	100
43) Cyclohexane	11.05	84	1474213	91.109	ng	100
44) tert-Amyl Methyl Ether	11.36	73	1007186	35.914	ng	100
45) 1,2-Dichloropropane	11.58	63	406679	42.768	ng	99
46) Bromodichloromethane	11.77	83	804293	57.212	ng	100
47) Trichloroethene	11.82	130	674075	54.877	ng	100
48) 1,4-Dioxane	11.79	88	426867	51.332	ng	99
49) 2,2,4-Trimethylpentane...	11.88	57	1579497	39.452	ng	99
50) Methyl Methacrylate	12.00	100	449956	107.769	ng	99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222017.D Vial: 2
Acq On : 22 Apr 2020 22:46 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 23 11:49:56 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

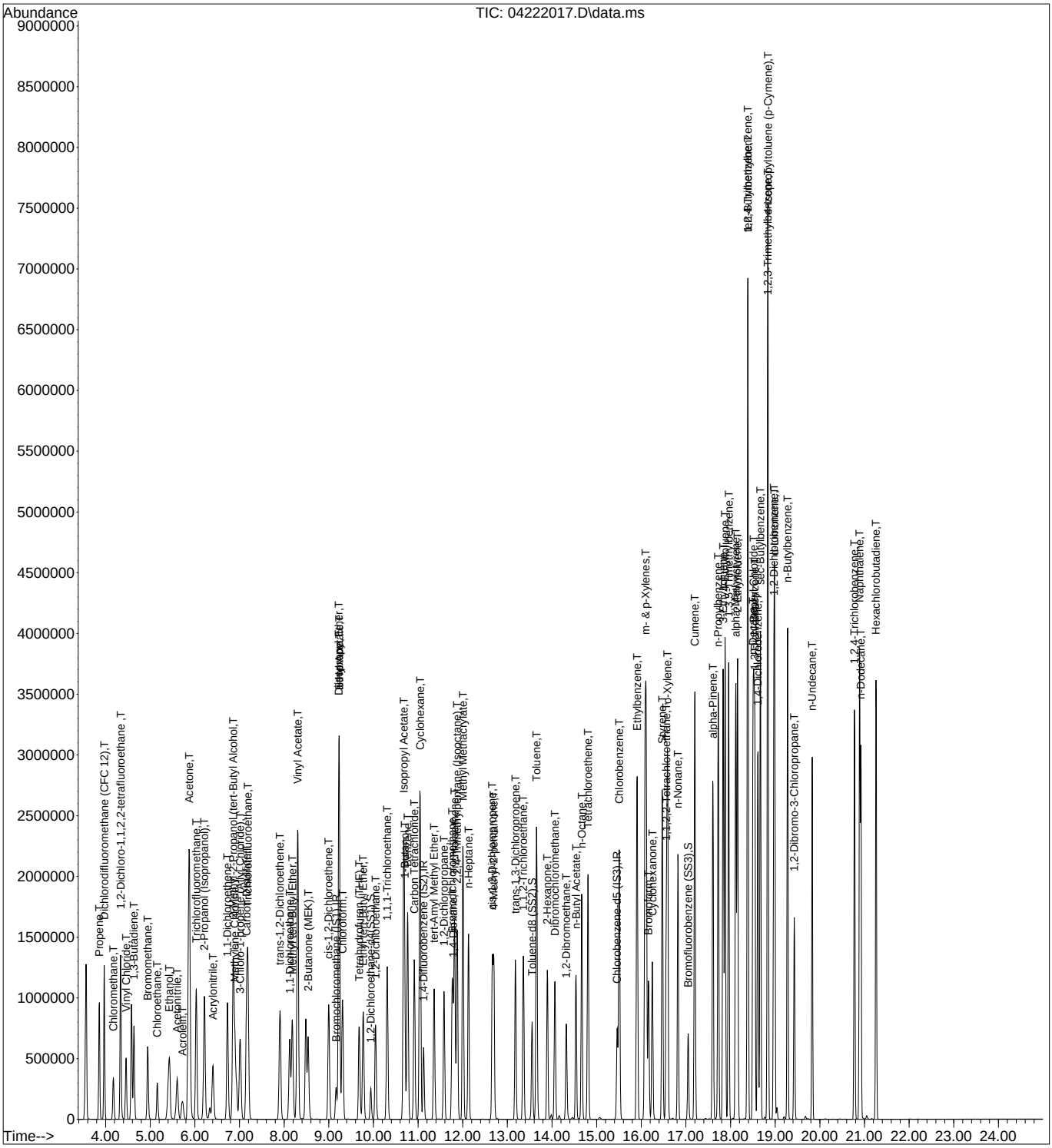
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.13	71	453213	44.537	ng	99
52) cis-1,3-Dichloropropene	12.66	75	860297	54.289	ng	100
53) 4-Methyl-2-pentanone	12.70	58	372186	44.279	ng	99
54) trans-1,3-Dichloropropene	13.18	75	882932	59.524	ng	99
55) 1,1,2-Trichloroethane	13.36	97	535895	51.381	ng	100
58) Toluene	13.65	91	2200796	46.574	ng	100
59) 2-Hexanone	13.90	43	828054	44.262	ng	100
60) Dibromochloromethane	14.07	129	799199	60.609	ng	100
61) 1,2-Dibromoethane	14.32	107	657662	55.014	ng	100
62) n-Butyl Acetate	14.54	43	895005	44.812	ng	99
63) n-Octane	14.67	57	353789	41.494	ng	100
64) Tetrachloroethene	14.81	166	787530	53.612	ng	100
65) Chlorobenzene	15.51	112	1619494	49.163	ng	100
66) Ethylbenzene	15.91	91	2605564	51.348	ng	99
67) m- & p-Xylenes	16.10	91	4289093	105.600	ng	100
68) Bromoform	16.16	173	724639	66.557	ng	99
69) Styrene	16.47	104	1684196	57.179	ng	100
70) o-Xylene	16.59	91	2120519	52.245	ng	99
71) n-Nonane	16.82	43	692402	39.492	ng	100
72) 1,1,2,2-Tetrachloroethane	16.56	83	824924	45.020	ng	100
74) Cumene	17.20	105	2768290	52.267	ng	100
75) alpha-Pinene	17.61	93	1270363	47.612	ng	100
76) n-Propylbenzene	17.72	91	3094989	51.167	ng	100
77) 3-Ethyltoluene	17.83	105	2691483	53.020	ng	100
78) 4-Ethyltoluene	17.88	105	2750937	56.570	ng	100
79) 1,3,5-Trimethylbenzene	17.96	105	2393266	53.535	ng	99
80) alpha-Methylstyrene	18.12	118	1310045	59.864	ng	99
81) 2-Ethyltoluene	18.16	105	2695906	53.164	ng	100
82) 1,2,4-Trimethylbenzene	18.39	105	2335635	56.228	ng	99
83) n-Decane	18.50	57	861713	42.646	ng	100
84) Benzyl Chloride	18.52	91	2102138	64.718	ng	100
85) 1,3-Dichlorobenzene	18.54	146	1471826	61.378	ng	100
86) 1,4-Dichlorobenzene	18.61	146	1512394	61.732	ng	99
87) sec-Butylbenzene	18.67	105	2983928	51.090	ng	100
88) 4-Isopropyltoluene (p-...	18.84	119	2886890	55.807	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	2382967	56.223	ng	99
90) 1,2-Dichlorobenzene	18.97	146	1402445	58.789	ng	99
91) d-Limonene	18.99	68	693005	48.049	ng	100
92) 1,2-Dibromo-3-Chloropr...	19.43	157	576367	60.630	ng	99
93) n-Undecane	19.83	57	920386	42.817	ng	100
94) 1,2,4-Trichlorobenzene	20.77	180	1211612	65.818	ng	99
95) Naphthalene	20.89	128	3323979	58.135	ng	100
96) n-Dodecane	20.92	57	850719	40.075	ng	100
97) Hexachlorobutadiene	21.26	225	816834	64.046	ng	100
98) Cyclohexanone	16.25	55	572657	43.022	ng	99
99) tert-Butylbenzene	18.39	119	2270698	52.970	ng	100
100) n-Butylbenzene	19.28	91	2323808	55.826	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222017.D Vial: 2
Acq On : 22 Apr 2020 22:46 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 23 11:49:56 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222018.D Vial: 2
Acq On : 22 Apr 2020 23:19 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 23 11:49:58 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/23/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.17	130	148278	12.500	ng	0.02
37) 1,4-Difluorobenzene (IS2)	11.13	114	604904	12.500	ng	0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	288609	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.95	65	238771	14.233	ng	0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.84%			
57) Toluene-d8 (SS2)	13.55	98	686115	11.953	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.60%			
73) Bromofluorobenzene (SS3)	17.05	174	277637	14.538	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 116.32%			
Target Compounds						Qvalue
2) Propene	3.86	42	785958	86.546	ng	98
3) Dichlorodifluoromethan...	3.97	85	2156956	101.939	ng	100
4) Chloromethane	4.17	50	638588	50.149	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	1145081	116.014	ng	99
6) Vinyl Chloride	4.46	62	1130766	103.071	ng	100
7) 1,3-Butadiene	4.64	54	742038	97.009	ng	98
8) Bromomethane	4.94	94	885568	91.565	ng	99
9) Chloroethane	5.16	64	566662	78.719	ng	99
10) Ethanol	5.45	45	2076910	292.329	ng	100
11) Acetonitrile	5.62	41	1073293	66.269	ng	100
12) Acrolein	5.73	56	453266	74.424	ng	99
13) Acetone	5.88	58	2491481	341.667	ng	96
14) Trichlorofluoromethane	6.03	101	2161200	112.797	ng	99
15) 2-Propanol (Isopropanol)	6.23	45	2589369	111.908	ng	100
16) Acrylonitrile	6.42	53	983771	77.671	ng	99
17) 1,1-Dichloroethene	6.74	96	1003826	92.891	ng	100
18) 2-Methyl-2-Propanol (t...	6.88	59	3702880	151.202	ng	99
19) Methylene Chloride	6.90	84	937914	84.155	ng	100
20) 3-Chloro-1-propene (Al...	7.02	41	1080840	76.590	ng	99
21) Trichlorotrifluoroethane	7.19	151	1128627	105.687	ng	99
22) Carbon Disulfide	7.16	76	3238906	83.740	ng	100
23) trans-1,2-Dichloroethene	7.91	61	1368694	98.122	ng	99
24) 1,1-Dichloroethane	8.13	63	1602393	87.310	ng	99
25) Methyl tert-Butyl Ether	8.19	73	2363460	74.237	ng	99
26) Vinyl Acetate	8.32	86	1079473	443.004	ng	97
27) 2-Butanone (MEK)	8.55	72	620311	86.665	ng	99
28) cis-1,2-Dichloroethene	9.00	61	1295452	92.230	ng	99
29) Diisopropyl Ether	9.23	87	747987	84.224	ng	99
30) Ethyl Acetate	9.24	61	526581	160.729	ng	100
31) n-Hexane	9.23	57	1125241	70.869	ng	100
32) Chloroform	9.32	83	1914415	101.297	ng	99
34) Tetrahydrofuran (THF)	9.68	72	605437	87.534	ng	99
35) Ethyl tert-Butyl Ether	9.78	87	833016	64.491	ng	100
36) 1,2-Dichloroethane	10.05	62	1643759	115.324	ng	100
38) 1,1,1-Trichloroethane	10.31	97	2001463	122.231	ng	100
39) Isopropyl Acetate	10.68	61	934426	165.230	ng	99
40) 1-Butanol	10.72	56	1523226	166.005	ng	100
41) Benzene	10.77	78	3664850	85.023	ng	99
42) Carbon Tetrachloride	10.92	117	1920120	124.974	ng	100
43) Cyclohexane	11.05	84	2813954	171.994	ng	99
44) tert-Amyl Methyl Ether	11.36	73	1894309	66.804	ng	99
45) 1,2-Dichloropropane	11.59	63	797643	82.960	ng	100
46) Bromodichloromethane	11.77	83	1577887	111.004	ng	100
47) Trichloroethene	11.82	130	1284130	103.391	ng	100
48) 1,4-Dioxane	11.79	88	820475	97.578	ng	97
49) 2,2,4-Trimethylpentane...	11.88	57	3069164	75.817	ng	98
50) Methyl Methacrylate	12.01	100	871200	206.364	ng	99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222018.D Vial: 2
Acq On : 22 Apr 2020 23:19 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 23 11:49:58 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

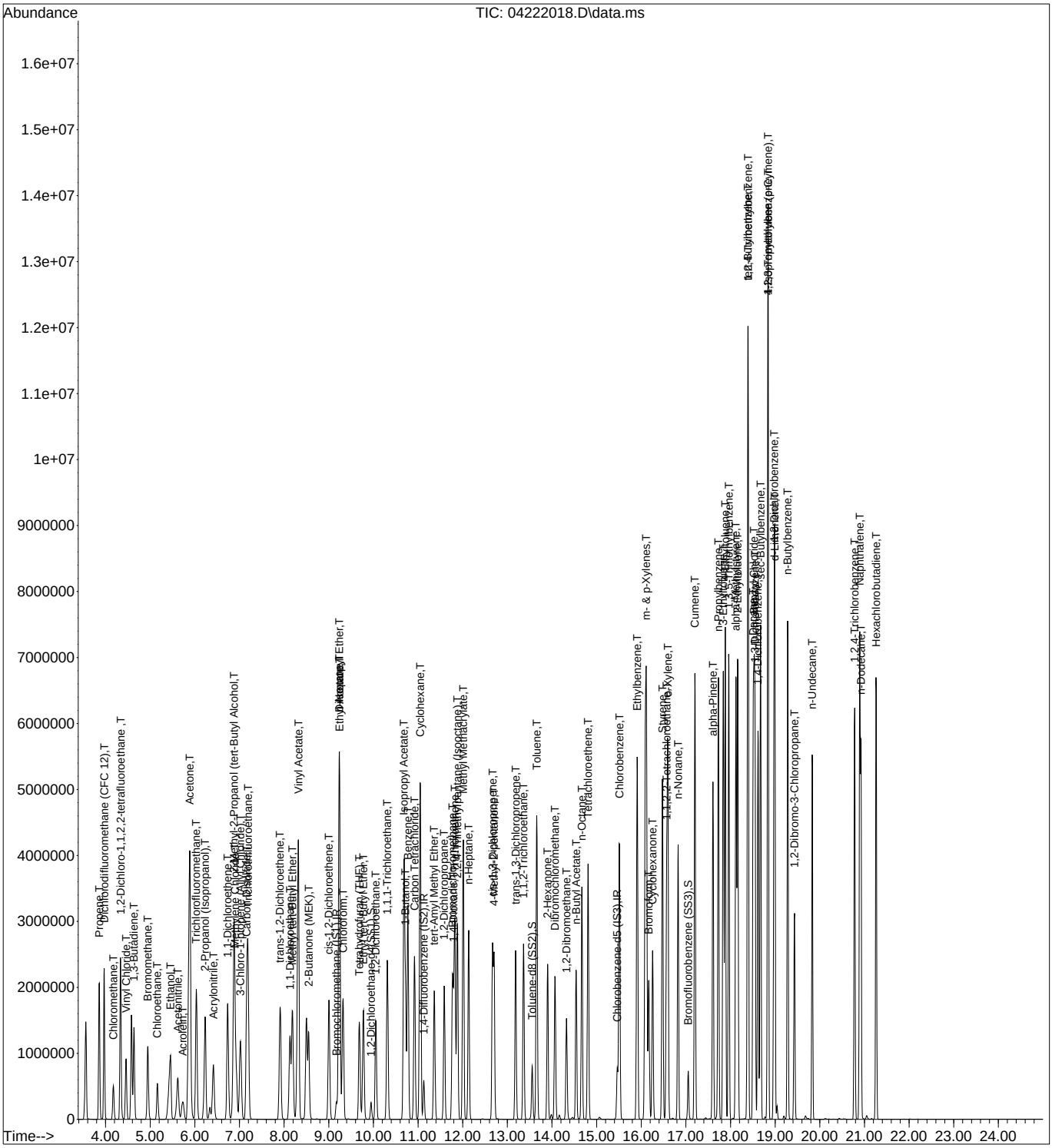
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.14	71	871756	84.724	ng	99
52) cis-1,3-Dichloropropene	12.67	75	1681640	104.951	ng	100
53) 4-Methyl-2-pentanone	12.70	58	733775	86.338	ng	99
54) trans-1,3-Dichloropropene	13.19	75	1735907	115.742	ng	100
55) 1,1,2-Trichloroethane	13.36	97	1044877	99.080	ng	100
58) Toluene	13.66	91	4241230	87.067	ng	100
59) 2-Hexanone	13.90	43	1624051	84.210	ng	100
60) Dibromochloromethane	14.07	129	1553333	114.272	ng	100
61) 1,2-Dibromoethane	14.32	107	1290897	104.751	ng	100
62) n-Butyl Acetate	14.54	43	1769562	85.947	ng	100
63) n-Octane	14.67	57	683435	77.756	ng	99
64) Tetrachloroethene	14.81	166	1507018	99.518	ng	100
65) Chlorobenzene	15.51	112	3124408	92.006	ng	100
66) Ethylbenzene	15.91	91	5026395	96.088	ng	99
67) m- & p-Xylenes	16.11	91	8213758	196.171	ng	99
68) Bromoform	16.17	173	1400185	124.753	ng	99
69) Styrene	16.47	104	3217941	105.977	ng	98
70) o-Xylene	16.60	91	4055077	96.915	ng	99
71) n-Nonane	16.83	43	1324701	73.294	ng	100
72) 1,1,2,2-Tetrachloroethane	16.57	83	1584301	83.872	ng	100
74) Cumene	17.20	105	5263540	96.402	ng	100
75) alpha-Pinene	17.61	93	2337427	84.981	ng	99
76) n-Propylbenzene	17.73	91	5902660	94.661	ng	100
77) 3-Ethyltoluene	17.84	105	5229819	99.937	ng	100
78) 4-Ethyltoluene	17.88	105	5078609	101.309	ng	100
79) 1,3,5-Trimethylbenzene	17.96	105	4552050	98.775	ng	99
80) alpha-Methylstyrene	18.12	118	2473575	109.648	ng	99
81) 2-Ethyltoluene	18.16	105	5107465	97.704	ng	99
82) 1,2,4-Trimethylbenzene	18.39	105	4385377	102.411	ng	98
83) n-Decane	18.51	57	1646824	79.061	ng	100
84) Benzyl Chloride	18.53	91	4029132	120.328	ng	99
85) 1,3-Dichlorobenzene	18.55	146	2762488	111.751	ng	100
86) 1,4-Dichlorobenzene	18.61	146	2871235	113.686	ng	99
87) sec-Butylbenzene	18.67	105	5630899	93.523	ng	99
88) 4-Isopropyltoluene (p-...	18.84	119	5350008	100.325	ng	99
89) 1,2,3-Trimethylbenzene	18.84	105	4460508	102.087	ng	99
90) 1,2-Dichlorobenzene	18.98	146	2608515	106.072	ng	99
91) d-Limonene	18.99	68	1332709	89.635	ng	99
92) 1,2-Dibromo-3-Chloropr...	19.43	157	1113665	113.641	ng	98
93) n-Undecane	19.83	57	1760518	79.448	ng	100
94) 1,2,4-Trichlorobenzene	20.78	180	2294871	120.930	ng	100
95) Naphthalene	20.90	128	6235400	105.787	ng	99
96) n-Dodecane	20.92	57	1626329	74.317	ng	100
97) Hexachlorobutadiene	21.26	225	1532118	116.531	ng	100
98) Cyclohexanone	16.25	55	1131243	82.442	ng	99
99) tert-Butylbenzene	18.39	119	4205655	95.169	ng	100
100) n-Butylbenzene	19.28	91	4424060	103.098	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222018.D Vial: 2
Acq On : 22 Apr 2020 23:19 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 23 11:49:58 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222025.D Vial: 2
Acq On : 23 Apr 2020 14:51 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S34-04212006/S34-04102008 (5/9)

Quant Time: Apr 23 15:16:38 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:40:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/23/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	138305	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	11.12	114	577705	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	257902	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.94	65	219688	12.260	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.08%				
57) Toluene-d8 (SS2)	13.55	98	636981	12.792	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.32%				
73) Bromofluorobenzene (SS3)	17.05	174	245958	12.290	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.32%				
Target Compounds							Qvalue
2) Propene	3.86	42	154699	26.335	ng		98
3) Dichlorodifluoromethan...	3.97	85	589140	26.397	ng		100
4) Chloromethane	4.17	50	237620	28.855	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	308509	25.571	ng		100
6) Vinyl Chloride	4.45	62	303367	28.091	ng		100
7) 1,3-Butadiene	4.63	54	212030	30.741	ng		99
8) Bromomethane	4.94	94	224805	26.489	ng		99
9) Chloroethane	5.16	64	148572	27.196	ng		99
10) Ethanol	5.41	45	551345	123.912	ng		99
11) Acetonitrile	5.59	41	281664	26.742	ng		99
12) Acrolein	5.72	56	115673	28.448	ng		100
13) Acetone	5.86	58	716495	134.126	ng		100
14) Trichlorofluoromethane	6.03	101	587112	26.439	ng		99
15) 2-Propanol (Isopropanol)	6.20	45	991945	58.454	ng		100
16) Acrylonitrile	6.39	53	257853	30.427	ng		99
17) 1,1-Dichloroethene	6.73	96	273599	28.027	ng		100
18) 2-Methyl-2-Propanol (t...	6.85	59	878560	56.660	ng		100
19) Methylene Chloride	6.89	84	259159	27.662	ng		99
20) 3-Chloro-1-propene (Al...	7.01	41	288466	26.536	ng		99
21) Trichlorotrifluoroethane	7.19	151	309497	26.781	ng		99
22) Carbon Disulfide	7.15	76	893442	28.681	ng		99
23) trans-1,2-Dichloroethene	7.90	61	369099	29.956	ng		99
24) 1,1-Dichloroethane	8.12	63	417588	27.124	ng		100
25) Methyl tert-Butyl Ether	8.18	73	561667	28.315	ng		100
26) Vinyl Acetate	8.30	86	288845	148.155	ng	#	95
27) 2-Butanone (MEK)	8.53	72	164286	29.934	ng		97
28) cis-1,2-Dichloroethene	8.99	61	351423	28.219	ng		100
29) Diisopropyl Ether	9.22	87	210546	26.487	ng		96
30) Ethyl Acetate	9.23	61	149636	61.279	ng		96
31) n-Hexane	9.23	57	331607	27.976	ng		100
32) Chloroform	9.30	83	520394	27.442	ng		100
34) Tetrahydrofuran (THF)	9.68	72	161914	29.128	ng		98
35) Ethyl tert-Butyl Ether	9.77	87	231641	27.259	ng		98
36) 1,2-Dichloroethane	10.04	62	437532	28.049	ng		100
38) 1,1,1-Trichloroethane	10.30	97	551673	27.774	ng		100
39) Isopropyl Acetate	10.67	61	263481	55.596	ng		95
40) 1-Butanol	10.68	56	321068	50.426	ng		89
41) Benzene	10.76	78	1014361	26.935	ng		100
42) Carbon Tetrachloride	10.91	117	514147	26.405	ng		99
43) Cyclohexane	11.04	84	804221	54.510	ng		98
44) tert-Amyl Methyl Ether	11.35	73	547671	27.696	ng		99
45) 1,2-Dichloropropane	11.58	63	220258	28.569	ng		99
46) Bromodichloromethane	11.76	83	426060	27.495	ng		99
47) Trichloroethene	11.82	130	357343	27.398	ng		99
48) 1,4-Dioxane	11.78	88	226346	29.892	ng		99
49) 2,2,4-Trimethylpentane...	11.87	57	871344	27.699	ng		100
50) Methyl Methacrylate	12.00	100	242680	60.149	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222025.D Vial: 2
Acq On : 23 Apr 2020 14:51 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S34-04212006/S34-04102008 (5/9)

Quant Time: Apr 23 15:16:38 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:40:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

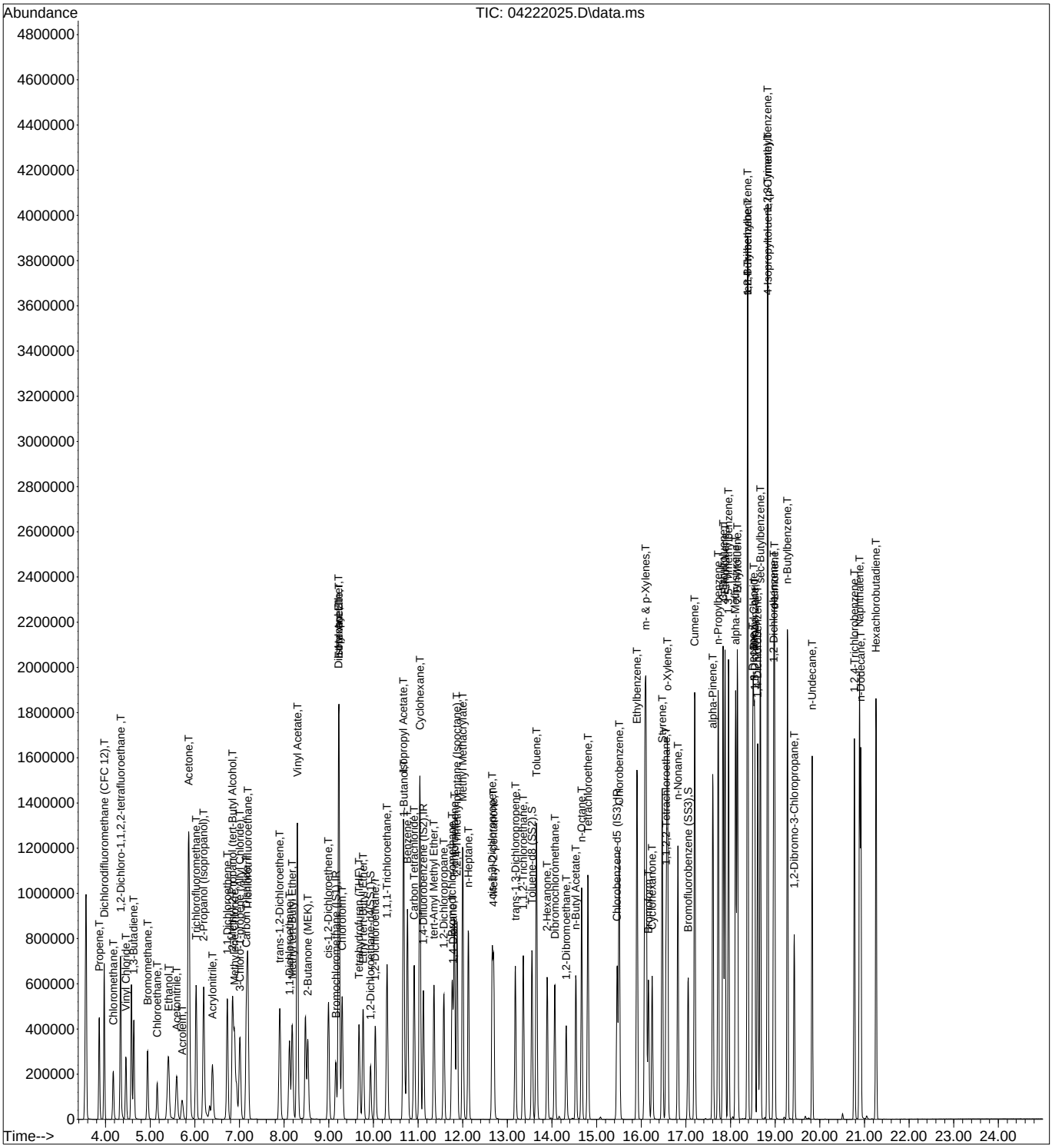
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.13	71	247582	28.295	ng	99
52) cis-1,3-Dichloropropene	12.66	75	483185	30.278	ng	100
53) 4-Methyl-2-pentanone	12.69	58	198322	30.093	ng	99
54) trans-1,3-Dichloropropene	13.18	75	459905	30.102	ng	100
55) 1,1,2-Trichloroethane	13.36	97	287117	27.892	ng	100
58) Toluene	13.65	91	1194763	28.577	ng	100
59) 2-Hexanone	13.89	43	432500	34.692	ng	100
60) Dibromochloromethane	14.07	129	421019	29.639	ng	100
61) 1,2-Dibromoethane	14.32	107	348360	29.896	ng	100
62) n-Butyl Acetate	14.53	43	481394	34.557	ng	99
63) n-Octane	14.67	57	193866	29.129	ng	99
64) Tetrachloroethene	14.81	166	424518	26.957	ng	100
65) Chlorobenzene	15.51	112	868669	28.380	ng	100
66) Ethylbenzene	15.90	91	1404245	28.826	ng	99
67) m- & p-Xylenes	16.10	91	2337527	56.877	ng	100
68) Bromoform	16.16	173	380352	30.239	ng	100
69) Styrene	16.47	104	903435	30.206	ng	100
70) o-Xylene	16.58	91	1145984	28.393	ng	99
71) n-Nonane	16.82	43	376132	28.889	ng	100
72) 1,1,2,2-Tetrachloroethane	16.56	83	446288	29.189	ng	100
74) Cumene	17.19	105	1491842	28.338	ng	100
75) alpha-Pinene	17.60	93	697167	29.081	ng	100
76) n-Propylbenzene	17.72	91	1664929	29.030	ng	100
77) 3-Ethyltoluene	17.83	105	1514987	29.475	ng	100
78) 4-Ethyltoluene	17.88	105	1406441	28.100	ng	100
79) 1,3,5-Trimethylbenzene	17.95	105	1297760	28.058	ng	100
80) alpha-Methylstyrene	18.11	118	687537	29.713	ng	99
81) 2-Ethyltoluene	18.15	105	1460305	28.553	ng	99
82) 1,2,4-Trimethylbenzene	18.38	105	1280190	28.624	ng	99
83) n-Decane	18.50	57	468311	29.721	ng	100
84) Benzyl Chloride	18.52	91	1071774	31.770	ng	100
85) 1,3-Dichlorobenzene	18.54	146	794118	29.452	ng	100
86) 1,4-Dichlorobenzene	18.61	146	815611	29.661	ng	99
87) sec-Butylbenzene	18.67	105	1616035	28.213	ng	100
88) 4-Isopropyltoluene (p-...	18.83	119	1571253	28.236	ng	100
89) 1,2,3-Trimethylbenzene	18.83	105	1253558	28.004	ng	100
90) 1,2-Dichlorobenzene	18.97	146	762623	29.114	ng	100
91) d-Limonene	18.99	68	360217	28.509	ng	99
92) 1,2-Dibromo-3-Chloropr...	19.43	157	285122	28.709	ng	100
93) n-Undecane	19.83	57	497789	29.938	ng	99
94) 1,2,4-Trichlorobenzene	20.77	180	604458	31.268	ng	100
95) Naphthalene	20.89	128	1670947	29.004	ng	100
96) n-Dodecane	20.92	57	456255	30.642	ng	99
97) Hexachlorobutadiene	21.26	225	423905	26.946	ng	99
98) Cyclohexanone	16.24	55	281643	27.641	ng	100
99) tert-Butylbenzene	18.38	119	1232641	27.444	ng	100
100) n-Butylbenzene	19.27	91	1251920	29.772	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222025.D Vial: 2
Acq On : 23 Apr 2020 14:51 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S34-04212006/S34-04102008 (5/9)

Quant Time: Apr 23 15:16:38 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:40:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **04222025.D** Acq. Method File: **TO15.M** *4/23/20*
Data File Path: **I:\MS09\Data\2020_04\22** Sample Name: **25ng TO-15 ICV STD**
Operator: **SC** Misc Info: **S34-04212006/S34-04102008 (**
Date Acquired: **4/23/2020 14:51** Instrument Name: **MS09**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
2)	**Propene**	**3.86**	**26.3**	26.25	100	**51**	**133**	*	*
3)	**Dichlorodifluoromethane (CFC 1**	**3.97**	**26.4**	**26.25**	101	**64**	**115**	*	*
4)	**Chloromethane**	**4.17**	**28.9**	**26.50**	109	**49**	**127**	*	*
5)	**1,2-Dichloro-1,1,2,2-tetrafluoroetl**	**4.34**	**25.6**	**25.75**	99	**65**	**114**	*	*
6)	**Vinyl Chloride**	**4.45**	**28.1**	**26.50**	106	**61**	**129**	*	*
7)	**1,3-Butadiene**	**4.63**	**30.7**	**26.50**	116	**54**	**140**	*	*
8)	**Bromomethane**	**4.94**	**26.5**	**26.50**	100	**68**	**120**	*	*
9)	**Chloroethane**	**5.16**	**27.2**	**26.75**	102	**63**	**123**	*	*
10)	**Ethanol**	**5.41**	**124**	**132.50**	94	**49**	**134**	*	*
11)	**Acetonitrile**	**5.59**	**26.7**	**26.75**	100	**50**	**137**	*	*
12)	**Acrolein**	**5.72**	**28.4**	**25.75**	110	**62**	**128**	*	*
13)	**Acetone**	**5.86**	**134**	**133.50**	100	**56**	**125**	*	*
14)	**Trichlorofluoromethane**	**6.03**	**26.4**	**26.50**	100	**64**	**115**	*	*
15)	**2-Propanol (Isopropanol)**	**6.20**	**58.5**	**52.75**	111	**57**	**133**	*	*
16)	**Acrylonitrile**	**6.39**	**30.4**	**26.50**	115	**64**	**136**	*	*
17)	**1,1-Dichloroethene**	**6.73**	**28.0**	**26.75**	105	**68**	**115**	*	*
18)	2-Methyl-2-Propanol (tert-Butyl Alc	6.85	56.7	53.75	105	56	132	*	*
19)	**Methylene Chloride**	**6.89**	**27.7**	**26.25**	106	**68**	**114**	*	*
20)	**3-Chloro-1-propene (Allyl Chloric**	**7.01**	**26.5**	**26.75**	99	**55**	**139**	*	*
21)	**Trichlorotrifluoroethane**	**7.19**	**26.8**	**27.00**	99	**65**	**115**	*	*
22)	**Carbon Disulfide**	**7.15**	**28.7**	**26.50**	108	**68**	**113**	*	*
23)	**trans-1,2-Dichloroethene**	**7.90**	**30.0**	**26.75**	112	**65**	**122**	*	*
24)	**1,1-Dichloroethane**	**8.12**	**27.1**	**26.50**	102	**63**	**118**	*	*
25)	**Methyl tert-Butyl Ether**	**8.18**	**28.3**	**26.75**	106	**57**	**131**	*	*
26)	**Vinyl Acetate**	**8.30**	**148**	**133.25**	111	**71**	**128**	*	*
27)	**2-Butanone (MEK)**	**8.53**	**29.9**	**26.50**	113	**67**	**123**	*	*
28)	**cis-1,2-Dichloroethene**	**8.99**	**28.2**	**26.50**	106	**64**	**120**	*	*
29)	Diisopropyl Ether	9.22	26.5	27.00	98	62	121	*	*
30)	**Ethyl Acetate**	**9.23**	**61.3**	**54.00**	114	**64**	**131**	*	*
31)	**n-Hexane**	**9.23**	**28.0**	**27.00**	104	**58**	**125**	*	*
32)	**Chloroform**	**9.30**	**27.4**	**26.75**	102	**65**	**114**	*	*
34)	**Tetrahydrofuran (THF)**	**9.68**	**29.1**	**27.50**	106	**65**	**115**	*	*
35)	Ethyl tert-Butyl Ether	9.77	27.3	26.75	102	61	130	*	*
36)	**1,2-Dichloroethane**	**10.04**	**28.0**	**26.75**	105	**59**	**120**	*	*
38)	**1,1,1-Trichloroethane**	**10.30**	**27.8**	**26.75**	104	**66**	**115**	*	*
39)	Isopropyl Acetate	10.67	55.6	52.50	106	65	129	*	*
40)	1-Butanol	10.68	50.4	53.25	95	58	140	*	*
41)	**Benzene**	**10.76**	**26.9**	**26.25**	102	**66**	**109**	*	*
42)	**Carbon Tetrachloride**	**10.91**	**26.4**	**26.00**	102	**66**	**119**	*	*
43)	**Cyclohexane**	**11.04**	**54.5**	**52.75**	103	**67**	**117**	*	*
44)	tert-Amyl Methyl Ether	11.35	27.7	**26.75**	104	62	133	*	*
45)	**1,2-Dichloropropane**	**11.58**	**28.6**	**26.75**	107	**66**	**119**	*	*
46)	**Bromodichloromethane**	**11.76**	**27.5**	**27.25**	101	**71**	**119**	*	*
47)	**Trichloroethene**	**11.82**	**27.4**	**27.00**	101	**70**	**114**	*	*
48)	**1,4-Dioxane**	**11.78**	**29.9**	**27.00**	111	**71**	**117**	*	*
49)	2,2,4-Trimethylpentane (Isooctane)	11.87	27.7	26.75	104	61	122	*	*

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **04222025.D** **TO15.M**
Data File Path: **I:\MS09\Data\2020_04\22** Sample Name: **25ng TO-15 ICV STD**
Operator: **SC** Misc Info: **S34-04212006/S34-04102008 (**
Date Acquired: **4/23/2020** **14:51** Instrument Name: **MS09**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
50)	**Methyl Methacrylate**	**12.00**	**60.1**	**53.75**	112	**76**	**121**	*	*
51)	**n-Heptane**	**12.13**	**28.3**	**26.75**	106	**66**	**119**	*	*
52)	**cis-1,3-Dichloropropene**	**12.66**	**30.3**	**26.75**	113	**72**	**125**	*	*
53)	**4-Methyl-2-pentanone**	**12.69**	**30.1**	**26.50**	114	**68**	**130**	*	*
54)	**trans-1,3-Dichloropropene**	**13.18**	**30.1**	**26.50**	114	**71**	**132**	*	*
55)	**1,1,2-Trichloroethane**	**13.36**	**27.9**	**26.75**	104	**70**	**117**	*	*
58)	**Toluene**	**13.65**	**28.6**	**26.50**	108	**67**	**113**	*	*
59)	**2-Hexanone**	**13.89**	**34.7**	**27.00**	129	**62**	**135**	*	*
60)	**Dibromochloromethane**	**14.07**	**29.6**	**26.75**	111	**73**	**126**	*	*
61)	**1,2-Dibromoethane**	**14.32**	**29.9**	**26.75**	112	**71**	**122**	*	*
62)	**n-Butyl Acetate**	**14.53**	**34.6**	**27.25**	127	**65**	**134**	*	*
63)	**n-Octane**	**14.67**	**29.1**	**27.00**	108	**63**	**120**	*	*
64)	**Tetrachloroethene**	**14.81**	**27.0**	**26.00**	104	**64**	**120**	*	*
65)	**Chlorobenzene**	**15.51**	**28.4**	**26.75**	106	**65**	**116**	*	*
66)	**Ethylbenzene**	**15.90**	**28.8**	**26.50**	109	**65**	**117**	*	*
67)	**m- & p-Xylenes**	**16.10**	**56.9**	**53.25**	107	**64**	**121**	*	*
68)	**Bromoform**	**16.16**	**30.2**	**26.75**	113	**72**	**130**	*	*
69)	**Styrene**	**16.47**	**30.2**	**26.50**	114	**72**	**126**	*	*
70)	**o-Xylene**	**16.58**	**28.4**	**26.75**	106	**64**	**120**	*	*
71)	**n-Nonane**	**16.82**	**28.9**	**26.75**	108	**56**	**132**	*	*
72)	**1,1,2,2-Tetrachloroethane**	**16.56**	**29.2**	**26.75**	109	**66**	**122**	*	*
74)	**Cumene**	**17.19**	**28.3**	**26.75**	106	**64**	**121**	*	*
75)	**alpha-Pinene**	**17.60**	**29.1**	**26.50**	110	**62**	**136**	*	*
76)	**n-Propylbenzene**	**17.72**	**29.0**	**26.75**	108	**65**	**123**	*	*
77)	3-Ethyltoluene	17.83	29.5	26.75	110	62	123	*	*
78)	**4-Ethyltoluene**	**17.88**	**28.1**	**26.25**	**107**	**71**	**126**	*	*
79)	**1,3,5-Trimethylbenzene**	**17.95**	**28.1**	**26.50**	**106**	**65**	**120**	*	*
80)	alpha-Methylstyrene	18.11	29.7	26.50	**112**	70	132	*	*
81)	2-Ethyltoluene	18.15	28.6	26.75	**107**	66	121	*	*
82)	**1,2,4-Trimethylbenzene**	**18.38**	**28.6**	**26.50**	**108**	**63**	**129**	*	*
83)	n-Decane	18.50	29.7	26.75	**111**	61	131	*	*
84)	**Benzyl Chloride**	**18.52**	**31.8**	**26.75**	**119**	**66**	**138**	*	*
85)	**1,3-Dichlorobenzene**	**18.54**	**29.5**	**26.75**	**110**	**65**	**127**	*	*
86)	**1,4-Dichlorobenzene**	**18.61**	**29.7**	**26.75**	**111**	**66**	**125**	*	*
87)	sec-Butylbenzene	18.67	28.2	26.50	**106**	68	123	*	*
88)	4-Isopropyltoluene (p-Cymene)	18.83	28.2	27.25	**103**	61	129	*	*
89)	1,2,3-Trimethylbenzene	18.83	28.0	27.00	**104**	60	134	*	*
90)	**1,2-Dichlorobenzene**	**18.97**	**29.1**	**26.75**	**109**	**67**	**128**	*	*
91)	**d-Limonene**	**18.99**	**28.5**	**26.50**	**108**	**65**	**136**	*	*
92)	**1,2-Dibromo-3-Chloropropane**	**19.43**	**28.7**	**26.75**	**107**	**73**	**133**	*	*
93)	n-Undecane	19.83	29.9	27.00	**111**	64	131	*	*
94)	**1,2,4-Trichlorobenzene**	**20.77**	**31.3**	**27.00**	**116**	**62**	**140**	*	*
95)	**Naphthalene**	**20.89**	**29.0**	**26.50**	**109**	**57**	**149**	*	*
96)	n-Dodecane	20.92	30.6	26.50	**115**	41	181	*	*
97)	**Hexachlorobutadiene**	**21.26**	**26.9**	**26.75**	**101**	57	129	*	*
98)	Cyclohexanone	16.24	27.6	25.25	109	61	131	*	*
99)	tert-Butylbenzene	18.38	27.4	26.50	103	62	130	*	*
100)	n-Butylbenzene	19.27	29.8	26.75	111	67	124	*	*

Bold = 75 Compound List

 *** = Pass** **I:\MS09\0-Instrument Info\0-Security Certificates\ICV_LCS_2019_10111902.CRT** 4/23/2020 3:18 PM

Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2020_04\28\04282002.D Vial: 2
Acq On : 28 Apr 2020 12:33 Operator: TD
Sample : CCV R9042820_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 28 13:05:32 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/28/20

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	114	-0.01
2	T	Propene	0.531	0.527	0.8	121	0.00
3	T	Dichlorodifluoromethane (CF	2.017	1.750	13.2	103	0.00
4	T	Chloromethane	0.744	0.801	-7.7	116	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.090	0.972	10.8	106	0.00
6	T	Vinyl Chloride	0.976	0.925	5.2	109	0.00
7	T	1,3-Butadiene	0.623	0.646	-3.7	112	0.00
8	T	Bromomethane	0.767	0.735	4.2	112	0.00
9	T	Chloroethane	0.494	0.456	7.7	110	0.00
10	T	Ethanol	0.402	0.373	7.2	118	-0.05
11	T	Acetonitrile	0.952	0.867	8.9	111	-0.03
12	T	Acrolein	0.367	0.384	-4.6	114	-0.02
13	T	Acetone	0.483	0.437	9.5	111	-0.02
14	T	Trichlorofluoromethane	2.007	1.700	15.3	100	0.00
15	T	2-Propanol (Isopropanol)	1.534	1.417	7.6	100	-0.03
16	T	Acrylonitrile	0.766	0.782	-2.1	108	-0.03
17	T	1,1-Dichloroethene	0.882	0.817	7.4	109	-0.01
18	T	2-Methyl-2-Propanol (tert-B	1.401	1.790	-27.8	145	-0.03
19	T	Methylene Chloride	0.847	0.790	6.7	109	-0.02
20	T	3-Chloro-1-propene (Allyl C	0.983	0.849	13.6	105	-0.01
21	T	Trichlorotrifluoroethane	1.044	0.925	11.4	106	0.00
22	T	Carbon Disulfide	2.815	2.697	4.2	110	0.00
23	T	trans-1,2-Dichloroethene	1.114	1.067	4.2	106	0.00
24	T	1,1-Dichloroethane	1.391	1.252	10.0	106	-0.01
25	T	Methyl tert-Butyl Ether	1.793	2.351	-31.1#	152	-0.01
26	T	Vinyl Acetate	0.176	0.179	-1.7	107	-0.03
27	T	2-Butanone (MEK)	0.496	0.503	-1.4	108	-0.02
28	T	cis-1,2-Dichloroethene	1.126	1.029	8.6	106	-0.01
29	T	Diisopropyl Ether	0.718	0.665	7.4	115	-0.01
30	T	Ethyl Acetate	0.221	0.220	0.5	109	-0.02
31	T	n-Hexane	1.071	1.007	6.0	114	0.00
32	T	Chloroform	1.714	1.513	11.7	104	-0.02
33	S	1,2-Dichloroethane-d4(SS1)	1.620	1.496	7.7	107	-0.01
34	T	Tetrahydrofuran (THF)	0.502	0.480	4.4	109	0.00
35	T	Ethyl tert-Butyl Ether	0.768	0.907	-18.1	141	-0.01
36	T	1,2-Dichloroethane	1.410	1.229	12.8	101	-0.01
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	116	-0.01
38	T	1,1,1-Trichloroethane	0.430	0.376	12.6	103	0.00
39	T	Isopropyl Acetate	0.103	0.095	7.8	109	-0.01
40	T	1-Butanol	0.138	0.150	-8.7	106	-0.03
41	T	Benzene	0.815	0.747	8.3	110	-0.01
42	T	Carbon Tetrachloride	0.421	0.367	12.8	101	0.00
43	T	Cyclohexane	0.319	0.294	7.8	110	0.00
44	T	tert-Amyl Methyl Ether	0.428	0.479	-11.9	132	0.00
45	T	1,2-Dichloropropane	0.167	0.156	6.6	109	0.00
46	T	Bromodichloromethane	0.335	0.298	11.0	104	-0.01
47	T	Trichloroethene	0.282	0.261	7.4	108	-0.01
48	T	1,4-Dioxane	0.164	0.163	0.6	107	-0.01
49	T	2,2,4-Trimethylpentane (Iso	0.681	0.639	6.2	114	-0.01
50	T	Methyl Methacrylate	0.087	0.087	0.0	107	-0.02
51	T	n-Heptane	0.189	0.178	5.8	110	-0.01
52	T	cis-1,3-Dichloropropene	0.345	0.333	3.5	106	0.00
53	T	4-Methyl-2-pentanone	0.143	0.144	-0.7	108	-0.01
54	T	trans-1,3-Dichloropropene	0.331	0.325	1.8	103	0.00
55	T	1,1,2-Trichloroethane	0.223	0.205	8.1	107	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2020_04\28\04282002.D Vial: 2
Acq On : 28 Apr 2020 12:33 Operator: TD
Sample : CCV R9042820_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 28 13:05:32 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	108	0.00
57	S	Toluene-d8 (SS2)	2.414	2.492	-3.2	112	0.00
58	T	Toluene	2.026	1.948	3.8	107	0.00
59	T	2-Hexanone	0.604	0.697	-15.4	104	-0.01
60	T	Dibromochloromethane	0.688	0.688	0.0	104	0.00
61	T	1,2-Dibromoethane	0.565	0.576	-1.9	106	0.00
62	T	n-Butyl Acetate	0.675	0.740	-9.6	104	0.00
63	T	n-Octane	0.323	0.313	3.1	108	0.00
64	T	Tetrachloroethene	0.763	0.719	5.8	106	0.00
65	T	Chlorobenzene	1.484	1.426	3.9	106	0.00
66	T	Ethylbenzene	2.361	2.280	3.4	106	0.00
67	T	m- & p-Xylenes	1.992	1.882	5.5	105	-0.01
68	T	Bromoform	0.610	0.621	-1.8	104	0.00
69	T	Styrene	1.450	1.498	-3.3	106	0.00
70	T	o-Xylene	1.956	1.858	5.0	105	-0.01
71	T	n-Nonane	0.631	0.604	4.3	105	0.00
72	T	1,1,2,2-Tetrachloroethane	0.741	0.739	0.3	107	-0.01
73	S	Bromofluorobenzene (SS3)	0.970	0.971	-0.1	106	0.00
74	T	Cumene	2.552	2.423	5.1	105	0.00
75	T	alpha-Pinene	1.162	1.197	-3.0	110	0.00
76	T	n-Propylbenzene	2.780	2.713	2.4	105	0.00
77	T	3-Ethyltoluene	2.491	2.463	1.1	105	0.00
78	T	4-Ethyltoluene	2.426	2.338	3.6	104	0.00
79	T	1,3,5-Trimethylbenzene	2.242	2.126	5.2	104	0.00
80	T	alpha-Methylstyrene	1.122	1.148	-2.3	104	0.00
81	T	2-Ethyltoluene	2.479	2.356	5.0	104	0.00
82	T	1,2,4-Trimethylbenzene	2.168	2.075	4.3	104	-0.01
83	T	n-Decane	0.764	0.773	-1.2	106	-0.01
84	T	Benzyl Chloride	1.635	1.775	-8.6	102	-0.01
85	T	1,3-Dichlorobenzene	1.307	1.319	-0.9	105	0.00
86	T	1,4-Dichlorobenzene	1.333	1.347	-1.1	104	0.00
87	T	sec-Butylbenzene	2.776	2.662	4.1	105	0.00
88	T	4-Isopropyltoluene (p-Cymen	2.697	2.572	4.6	104	0.00
89	T	1,2,3-Trimethylbenzene	2.170	2.078	4.2	104	-0.01
90	T	1,2-Dichlorobenzene	1.270	1.268	0.2	105	-0.01
91	T	d-Limonene	0.612	0.603	1.5	104	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.481	0.505	-5.0	103	0.00
93	T	n-Undecane	0.806	0.810	-0.5	105	0.00
94	T	1,2,4-Trichlorobenzene	0.937	1.066	-13.8	103	0.00
95	T	Naphthalene	2.792	3.035	-8.7	103	0.00
96	T	n-Dodecane	0.722	0.782	-8.3	105	0.00
97	T	Hexachlorobutadiene	0.762	0.731	4.1	104	0.00
98	T	Cyclohexanone	0.494	0.516	-4.5	103	-0.01
99	T	tert-Butylbenzene	2.177	2.049	5.9	105	0.00
100	T	n-Butylbenzene	2.038	2.050	-0.6	104	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282002.D Vial: 2
Acq On : 28 Apr 2020 12:33 Operator: TD
Sample : CCV R9042820_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 28 13:05:32 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/28/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	160080	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	11.12	114	667990	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	291354	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.94	65	239421	11.544	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.32%				
57) Toluene-d8 (SS2)	13.55	98	726076	12.907	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.28%				
73) Bromofluorobenzene (SS3)	17.05	174	282903	12.513	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.08%				
Target Compounds							Qvalue
2) Propene	3.85	42	178790	26.296	ng		98
3) Dichlorodifluoromethan...	3.97	85	593854	22.989	ng		100
4) Chloromethane	4.17	50	271675	28.503	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	326598	23.388	ng		99
6) Vinyl Chloride	4.45	62	319905	25.593	ng		100
7) 1,3-Butadiene	4.63	54	219272	27.466	ng		99
8) Bromomethane	4.94	94	254226	25.881	ng		99
9) Chloroethane	5.15	64	157697	24.940	ng		99
10) Ethanol	5.41	45	622994	120.969	ng		100
11) Acetonitrile	5.59	41	291399	23.903	ng		98
12) Acrolein	5.71	56	126481	26.875	ng		100
13) Acetone	5.86	58	745084	120.505	ng		92
14) Trichlorofluoromethane	6.03	101	576973	22.449	ng		99
15) 2-Propanol (Isopropanol)	6.20	45	952405	48.490	ng		99
16) Acrylonitrile	6.39	53	262752	26.788	ng		99
17) 1,1-Dichloroethene	6.72	96	282581	25.009	ng		94
18) 2-Methyl-2-Propanol (t...	6.85	59	1238068	68.985	ng		98
19) Methylene Chloride	6.88	84	268018	24.716	ng		97
20) 3-Chloro-1-propene (Al...	7.01	41	293494	23.326	ng		98
21) Trichlorotrifluoroethane	7.19	151	319824	23.911	ng		100
22) Carbon Disulfide	7.15	76	923886	25.624	ng		99
23) trans-1,2-Dichloroethene	7.90	61	368869	25.865	ng		98
24) 1,1-Dichloroethane	8.12	63	436968	24.522	ng		100
25) Methyl tert-Butyl Ether	8.18	73	812942	35.408	ng		99
26) Vinyl Acetate	8.29	86	307390	136.221	ng		97
27) 2-Butanone (MEK)	8.53	72	170813	26.890	ng		98
28) cis-1,2-Dichloroethene	8.99	61	349328	24.235	ng		98
29) Diisopropyl Ether	9.22	87	229881	24.986	ng	#	90
30) Ethyl Acetate	9.23	61	152938	54.111	ng		100
31) n-Hexane	9.23	57	348168	25.378	ng		99
32) Chloroform	9.30	83	518241	23.611	ng		100
34) Tetrahydrofuran (THF)	9.68	72	167377	26.015	ng		100
35) Ethyl tert-Butyl Ether	9.77	87	313604	31.884	ng		99
36) 1,2-Dichloroethane	10.04	62	424794	23.528	ng		100
38) 1,1,1-Trichloroethane	10.30	97	537656	23.410	ng		99
39) Isopropyl Acetate	10.67	61	268749	49.043	ng		95
40) 1-Butanol	10.68	56	417929	56.767	ng		97
41) Benzene	10.76	78	1057376	24.282	ng		100
42) Carbon Tetrachloride	10.92	117	514515	22.853	ng		100
43) Cyclohexane	11.04	84	834085	48.893	ng		99
44) tert-Amyl Methyl Ether	11.35	73	691100	30.225	ng		99
45) 1,2-Dichloropropane	11.58	63	224690	25.205	ng		100
46) Bromodichloromethane	11.76	83	430287	24.015	ng		99
47) Trichloroethene	11.81	130	373325	24.755	ng		99
48) 1,4-Dioxane	11.78	88	234562	26.790	ng		100
49) 2,2,4-Trimethylpentane...	11.87	57	912948	25.099	ng		97
50) Methyl Methacrylate	12.00	100	249111	53.398	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282002.D Vial: 2
Acq On : 28 Apr 2020 12:33 Operator: TD
Sample : CCV R9042820_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 28 13:05:32 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

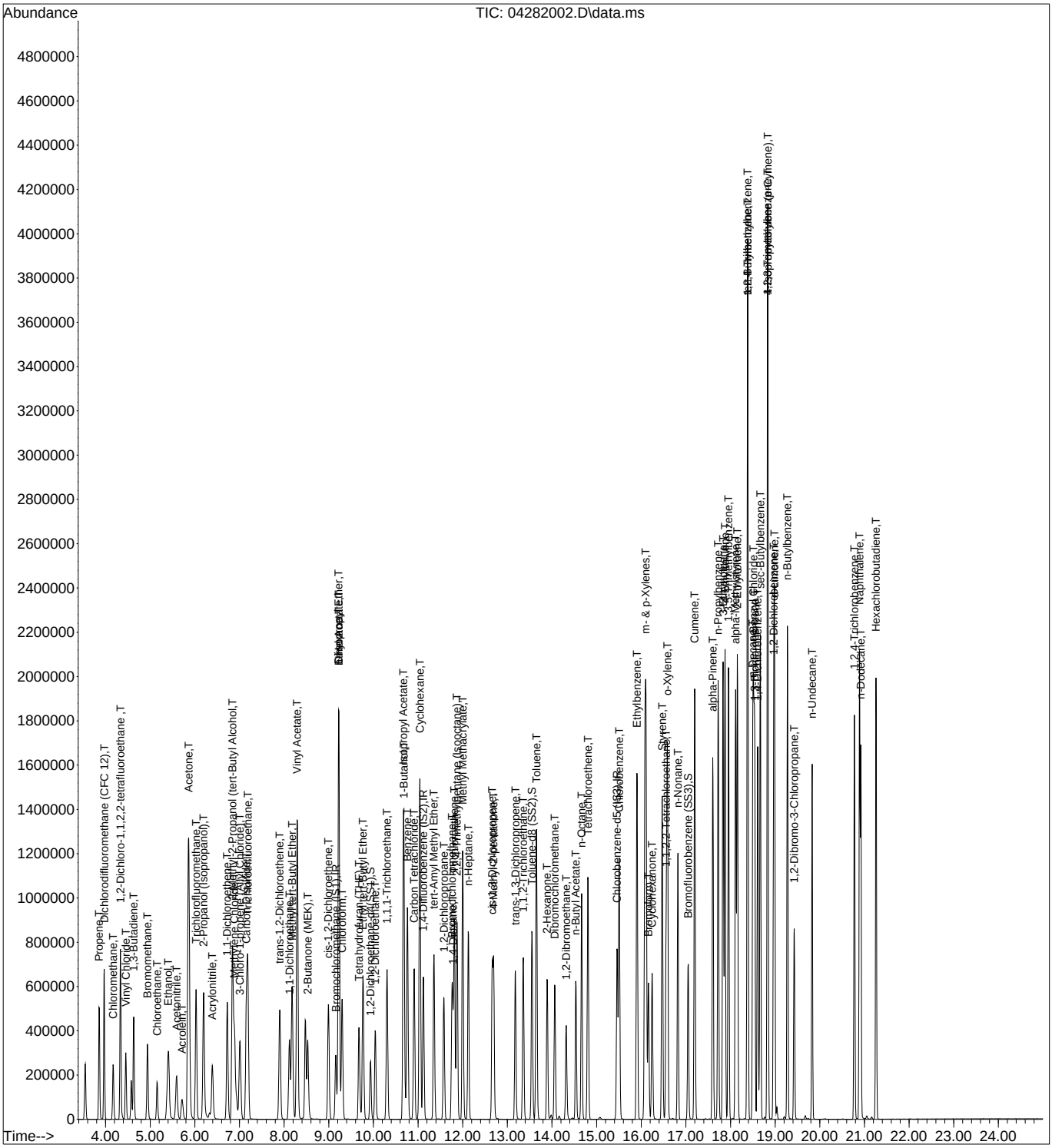
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	257002	25.402	ng	99
52) cis-1,3-Dichloropropene	12.66	75	462869	25.085	ng	99
53) 4-Methyl-2-pentanone	12.69	58	204483	26.834	ng	97
54) trans-1,3-Dichloropropene	13.18	75	460778	26.083	ng	100
55) 1,1,2-Trichloroethane	13.36	97	293418	24.651	ng	100
58) Toluene	13.65	91	1214409	25.712	ng	99
59) 2-Hexanone	13.89	43	434493	30.851	ng	97
60) Dibromochloromethane	14.06	129	429222	26.747	ng	100
61) 1,2-Dibromoethane	14.32	107	359064	27.277	ng	100
62) n-Butyl Acetate	14.53	43	470024	29.867	ng	99
63) n-Octane	14.67	57	196834	26.180	ng	99
64) Tetrachloroethene	14.81	166	435923	24.503	ng	100
65) Chlorobenzene	15.51	112	889242	25.716	ng	100
66) Ethylbenzene	15.90	91	1421709	25.833	ng	100
67) m- & p-Xylenes	16.10	91	2347156	50.554	ng	99
68) Bromoform	16.16	173	387468	27.268	ng	100
69) Styrene	16.47	104	925477	27.391	ng	99
70) o-Xylene	16.58	91	1158179	25.401	ng	99
71) n-Nonane	16.82	43	376800	25.617	ng	99
72) 1,1,2,2-Tetrachloroethane	16.56	83	460850	26.681	ng	99
74) Cumene	17.19	105	1524605	25.636	ng	100
75) alpha-Pinene	17.60	93	746490	27.563	ng	98
76) n-Propylbenzene	17.72	91	1707570	26.355	ng	99
77) 3-Ethyltoluene	17.83	105	1521275	26.199	ng	99
78) 4-Ethyltoluene	17.88	105	1471077	26.017	ng	99
79) 1,3,5-Trimethylbenzene	17.95	105	1313040	25.129	ng	99
80) alpha-Methylstyrene	18.11	118	715908	27.387	ng	100
81) 2-Ethyltoluene	18.15	105	1482975	25.667	ng	99
82) 1,2,4-Trimethylbenzene	18.38	105	1293561	25.602	ng	99
83) n-Decane	18.50	57	481795	27.066	ng	99
84) Benzyl Chloride	18.51	91	1116814	29.304	ng	99
85) 1,3-Dichlorobenzene	18.54	146	822395	26.999	ng	100
86) 1,4-Dichlorobenzene	18.61	146	839863	27.036	ng	99
87) sec-Butylbenzene	18.67	105	1660006	25.653	ng	99
88) 4-Isopropyltoluene (p-...	18.83	119	1633756	25.989	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	1320022	26.103	ng	99
90) 1,2-Dichlorobenzene	18.97	146	790591	26.717	ng	99
91) d-Limonene	18.99	68	379365	26.578	ng	99
92) 1,2-Dibromo-3-Chloropr...	19.43	157	309084	27.548	ng	96
93) n-Undecane	19.83	57	510063	27.154	ng	100
94) 1,2,4-Trichlorobenzene	20.77	180	664914	30.446	ng	100
95) Naphthalene	20.89	128	1821497	27.987	ng	100
96) n-Dodecane	20.92	57	473906	28.173	ng	100
97) Hexachlorobutadiene	21.26	225	451612	25.411	ng	100
98) Cyclohexanone	16.24	55	300543	26.110	ng	98
99) tert-Butylbenzene	18.38	119	1277433	25.176	ng	100
100) n-Butylbenzene	19.27	91	1278254	26.908	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282002.D Vial: 2
Acq On : 28 Apr 2020 12:33 Operator: TD
Sample : CCV R9042820_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 28 13:05:32 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2020_04\28\04282030.D Vial: 2
Acq On : 29 Apr 2020 4:38 Operator: SC
Sample : CCV END R9042820_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 29 05:53:49 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/29/20

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	118	-0.02
2	T	Propene	0.531	0.553	-4.1	131	0.00
3	T	Dichlorodifluoromethane (CF	2.017	1.712	15.1	104	0.00
4	T	Chloromethane	0.744	0.800	-7.5	120	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.090	0.954	12.5	107	0.00
6	T	Vinyl Chloride	0.976	0.924	5.3	112	0.00
7	T	1,3-Butadiene	0.623	0.651	-4.5	116	0.00
8	T	Bromomethane	0.767	0.736	4.0	116	0.00
9	T	Chloroethane	0.494	0.453	8.3	113	0.00
10	T	Ethanol	0.402	0.377	6.2	123	-0.06
11	T	Acetonitrile	0.952	0.867	8.9	114	-0.03
12	T	Acrolein	0.367	0.385	-4.9	118	-0.02
13	T	Acetone	0.483	0.438	9.3	115	-0.03
14	T	Trichlorofluoromethane	2.007	1.678	16.4	102	0.00
15	T	2-Propanol (Isopropanol)	1.534	1.355	11.7	99	-0.04
16	T	Acrylonitrile	0.766	0.792	-3.4	113	-0.03
17	T	1,1-Dichloroethene	0.882	0.809	8.3	111	-0.01
18	T	2-Methyl-2-Propanol (tert-B	1.401	1.761	-25.7	147	-0.04
19	T	Methylene Chloride	0.847	0.792	6.5	113	-0.02
20	T	3-Chloro-1-propene (Allyl C	0.983	0.844	14.1	107	-0.02
21	T	Trichlorotrifluoroethane	1.044	0.912	12.6	108	0.00
22	T	Carbon Disulfide	2.815	2.663	5.4	112	0.00
23	T	trans-1,2-Dichloroethene	1.114	1.067	4.2	109	0.00
24	T	1,1-Dichloroethane	1.391	1.248	10.3	109	-0.02
25	T	Methyl tert-Butyl Ether	1.793	2.361	-31.7#	157	-0.01
26	T	Vinyl Acetate	0.176	0.178	-1.1	110	-0.03
27	T	2-Butanone (MEK)	0.496	0.500	-0.8	111	-0.02
28	T	cis-1,2-Dichloroethene	1.126	1.026	8.9	109	-0.01
29	T	Diisopropyl Ether	0.718	0.655	8.8	117	-0.01
30	T	Ethyl Acetate	0.221	0.219	0.9	113	-0.02
31	T	n-Hexane	1.071	1.012	5.5	118	0.00
32	T	Chloroform	1.714	1.494	12.8	106	-0.02
33	S	1,2-Dichloroethane-d4(SS1)	1.620	1.496	7.7	110	-0.02
34	T	Tetrahydrofuran (THF)	0.502	0.475	5.4	111	0.00
35	T	Ethyl tert-Butyl Ether	0.768	0.909	-18.4	146	-0.01
36	T	1,2-Dichloroethane	1.410	1.217	13.7	103	-0.01
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	120	-0.01
38	T	1,1,1-Trichloroethane	0.430	0.368	14.4	104	0.00
39	T	Isopropyl Acetate	0.103	0.096	6.8	113	-0.01
40	T	1-Butanol	0.138	0.150	-8.7	110	-0.03
41	T	Benzene	0.815	0.741	9.1	112	-0.01
42	T	Carbon Tetrachloride	0.421	0.357	15.2	102	0.00
43	T	Cyclohexane	0.319	0.292	8.5	112	0.00
44	T	tert-Amyl Methyl Ether	0.428	0.479	-11.9	136	0.00
45	T	1,2-Dichloropropane	0.167	0.155	7.2	112	-0.01
46	T	Bromodichloromethane	0.335	0.293	12.5	106	-0.01
47	T	Trichloroethene	0.282	0.257	8.9	110	-0.01
48	T	1,4-Dioxane	0.164	0.161	1.8	110	-0.01
49	T	2,2,4-Trimethylpentane (Iso	0.681	0.638	6.3	117	-0.01
50	T	Methyl Methacrylate	0.087	0.086	1.1	110	-0.02
51	T	n-Heptane	0.189	0.178	5.8	113	-0.01
52	T	cis-1,3-Dichloropropene	0.345	0.332	3.8	109	0.00
53	T	4-Methyl-2-pentanone	0.143	0.144	-0.7	111	-0.01
54	T	trans-1,3-Dichloropropene	0.331	0.324	2.1	106	0.00
55	T	1,1,2-Trichloroethane	0.223	0.203	9.0	109	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2020_04\28\04282030.D Vial: 2
Acq On : 29 Apr 2020 4:38 Operator: SC
Sample : CCV END R9042820_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 29 05:53:49 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	112	0.00
57	S	Toluene-d8 (SS2)	2.414	2.482	-2.8	116	0.00
58	T	Toluene	2.026	1.916	5.4	110	0.00
59	T	2-Hexanone	0.604	0.685	-13.4	106	-0.01
60	T	Dibromochloromethane	0.688	0.666	3.2	105	0.00
61	T	1,2-Dibromoethane	0.565	0.563	0.4	108	0.00
62	T	n-Butyl Acetate	0.675	0.727	-7.7	107	0.00
63	T	n-Octane	0.323	0.311	3.7	112	0.00
64	T	Tetrachloroethene	0.763	0.706	7.5	109	0.00
65	T	Chlorobenzene	1.484	1.399	5.7	108	0.00
66	T	Ethylbenzene	2.361	2.225	5.8	108	0.00
67	T	m- & p-Xylenes	1.992	1.839	7.7	107	-0.02
68	T	Bromoform	0.610	0.603	1.1	105	0.00
69	T	Styrene	1.450	1.455	-0.3	108	0.00
70	T	o-Xylene	1.956	1.832	6.3	108	-0.01
71	T	n-Nonane	0.631	0.596	5.5	109	0.00
72	T	1,1,2,2-Tetrachloroethane	0.741	0.720	2.8	109	-0.01
73	S	Bromofluorobenzene (SS3)	0.970	0.978	-0.8	112	0.00
74	T	Cumene	2.552	2.372	7.1	107	0.00
75	T	alpha-Pinene	1.162	1.175	-1.1	113	0.00
76	T	n-Propylbenzene	2.780	2.638	5.1	107	0.00
77	T	3-Ethyltoluene	2.491	2.402	3.6	107	0.00
78	T	4-Ethyltoluene	2.426	2.303	5.1	107	0.00
79	T	1,3,5-Trimethylbenzene	2.242	2.074	7.5	106	0.00
80	T	alpha-Methylstyrene	1.122	1.114	0.7	105	0.00
81	T	2-Ethyltoluene	2.479	2.295	7.4	106	0.00
82	T	1,2,4-Trimethylbenzene	2.168	2.026	6.5	106	-0.01
83	T	n-Decane	0.764	0.759	0.7	109	-0.01
84	T	Benzyl Chloride	1.635	1.732	-5.9	103	-0.01
85	T	1,3-Dichlorobenzene	1.307	1.289	1.4	107	0.00
86	T	1,4-Dichlorobenzene	1.333	1.315	1.4	106	0.00
87	T	sec-Butylbenzene	2.776	2.595	6.5	107	0.00
88	T	4-Isopropyltoluene (p-Cymen	2.697	2.518	6.6	106	0.00
89	T	1,2,3-Trimethylbenzene	2.170	2.026	6.6	105	-0.01
90	T	1,2-Dichlorobenzene	1.270	1.233	2.9	106	0.00
91	T	d-Limonene	0.612	0.594	2.9	107	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.481	0.497	-3.3	106	0.00
93	T	n-Undecane	0.806	0.801	0.6	108	0.00
94	T	1,2,4-Trichlorobenzene	0.937	1.042	-11.2	105	0.00
95	T	Naphthalene	2.792	2.950	-5.7	105	0.00
96	T	n-Dodecane	0.722	0.771	-6.8	108	0.00
97	T	Hexachlorobutadiene	0.762	0.708	7.1	105	0.00
98	T	Cyclohexanone	0.494	0.507	-2.6	106	-0.01
99	T	tert-Butylbenzene	2.177	1.995	8.4	106	0.00
100	T	n-Butylbenzene	2.038	2.003	1.7	106	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282030.D Vial: 2
Acq On : 29 Apr 2020 4:38 Operator: SC
Sample : CCV END R9042820_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 29 05:53:49 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020 4/29/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	165304	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.12	114	690823	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	303843	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.93	65	247295	11.547	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.40%				
57) Toluene-d8 (SS2)	13.55	98	754027	12.853	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.80%				
73) Bromofluorobenzene (SS3)	17.05	174	297219	12.606	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.88%				
Target Compounds							Qvalue
2) Propene	3.85	42	193892	27.616	ng		98
3) Dichlorodifluoromethan...	3.96	85	599819	22.486	ng		100
4) Chloromethane	4.17	50	280526	28.501	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	331140	22.964	ng		99
6) Vinyl Chloride	4.45	62	330077	25.573	ng		100
7) 1,3-Butadiene	4.63	54	228201	27.681	ng		99
8) Bromomethane	4.94	94	262853	25.914	ng		99
9) Chloroethane	5.15	64	161829	24.785	ng		100
10) Ethanol	5.40	45	649736	122.175	ng		99
11) Acetonitrile	5.59	41	300886	23.901	ng		99
12) Acrolein	5.71	56	130993	26.954	ng		99
13) Acetone	5.86	58	772127	120.932	ng		93
14) Trichlorofluoromethane	6.03	101	587947	22.153	ng		100
15) 2-Propanol (Isopropanol)	6.19	45	940590	46.375	ng		98
16) Acrylonitrile	6.39	53	275105	27.161	ng		99
17) 1,1-Dichloroethene	6.72	96	288980	24.767	ng		96
18) 2-Methyl-2-Propanol (t...	6.84	59	1257351	67.845	ng		98
19) Methylene Chloride	6.88	84	277504	24.782	ng		96
20) 3-Chloro-1-propene (Al...	7.01	41	301361	23.194	ng		99
21) Trichlorotrifluoroethane	7.19	151	325727	23.582	ng		99
22) Carbon Disulfide	7.15	76	942134	25.305	ng		99
23) trans-1,2-Dichloroethene	7.90	61	380954	25.869	ng		99
24) 1,1-Dichloroethane	8.12	63	449880	24.449	ng		100
25) Methyl tert-Butyl Ether	8.18	73	843026	35.558	ng		99
26) Vinyl Acetate	8.29	86	315646	135.459	ng		98
27) 2-Butanone (MEK)	8.53	72	175337	26.730	ng		98
28) cis-1,2-Dichloroethene	8.99	61	359450	24.149	ng		99
29) Diisopropyl Ether	9.22	87	233986	24.628	ng	#	93
30) Ethyl Acetate	9.23	61	157185	53.857	ng		99
31) n-Hexane	9.23	57	361321	25.505	ng		99
32) Chloroform	9.30	83	528409	23.314	ng		99
34) Tetrahydrofuran (THF)	9.68	72	171015	25.740	ng		99
35) Ethyl tert-Butyl Ether	9.77	87	324738	31.973	ng		100
36) 1,2-Dichloroethane	10.04	62	434439	23.302	ng		100
38) 1,1,1-Trichloroethane	10.30	97	544137	22.909	ng		100
39) Isopropyl Acetate	10.67	61	279866	49.384	ng	#	93
40) 1-Butanol	10.68	56	431158	56.628	ng		97
41) Benzene	10.76	78	1085469	24.103	ng		100
42) Carbon Tetrachloride	10.91	117	518397	22.264	ng		100
43) Cyclohexane	11.04	84	854282	48.422	ng		99
44) tert-Amyl Methyl Ether	11.35	73	714857	30.231	ng		99
45) 1,2-Dichloropropane	11.57	63	231126	25.070	ng		99
46) Bromodichloromethane	11.76	83	437779	23.625	ng		100
47) Trichloroethene	11.81	130	380235	24.380	ng		100
48) 1,4-Dioxane	11.78	88	240453	26.555	ng		99
49) 2,2,4-Trimethylpentane...	11.87	57	942596	25.058	ng		97
50) Methyl Methacrylate	12.00	100	256650	53.196	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282030.D Vial: 2
Acq On : 29 Apr 2020 4:38 Operator: SC
Sample : CCV END R9042820_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 29 05:53:49 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

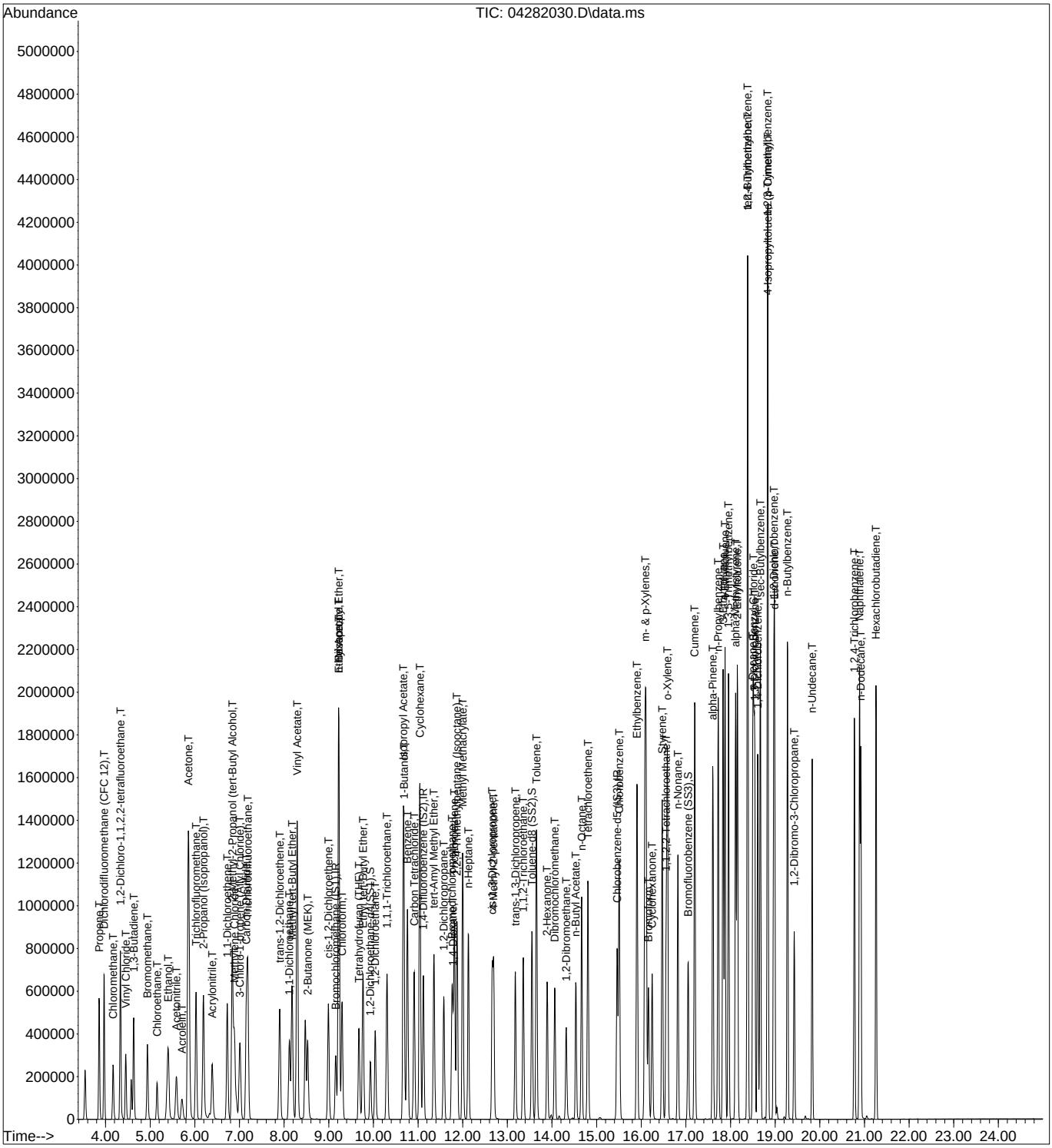
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	265101	25.336	ng	99
52) cis-1,3-Dichloropropene	12.66	75	476798	24.986	ng	100
53) 4-Methyl-2-pentanone	12.69	58	211236	26.804	ng	97
54) trans-1,3-Dichloropropene	13.18	75	475034	26.001	ng	99
55) 1,1,2-Trichloroethane	13.36	97	299583	24.337	ng	99
58) Toluene	13.65	91	1245720	25.291	ng	100
59) 2-Hexanone	13.89	43	445145	30.308	ng	98
60) Dibromochloromethane	14.06	129	432929	25.869	ng	100
61) 1,2-Dibromoethane	14.32	107	365983	26.660	ng	100
62) n-Butyl Acetate	14.53	43	481833	29.359	ng	99
63) n-Octane	14.67	57	204188	26.042	ng	98
64) Tetrachloroethene	14.81	166	445925	24.035	ng	100
65) Chlorobenzene	15.51	112	909653	25.225	ng	100
66) Ethylbenzene	15.90	91	1446894	25.210	ng	100
67) m- & p-Xylenes	16.09	91	2391994	49.402	ng	99
68) Bromoform	16.16	173	392113	26.460	ng	100
69) Styrene	16.47	104	937086	26.594	ng	99
70) o-Xylene	16.58	91	1191256	25.052	ng	100
71) n-Nonane	16.82	43	387724	25.277	ng	99
72) 1,1,2,2-Tetrachloroethane	16.56	83	468040	25.983	ng	100
74) Cumene	17.19	105	1556806	25.101	ng	99
75) alpha-Pinene	17.60	93	764014	27.051	ng	98
76) n-Propylbenzene	17.72	91	1731649	25.628	ng	99
77) 3-Ethyltoluene	17.83	105	1547282	25.552	ng	100
78) 4-Ethyltoluene	17.88	105	1511173	25.627	ng	100
79) 1,3,5-Trimethylbenzene	17.95	105	1335992	24.518	ng	99
80) alpha-Methylstyrene	18.11	118	724476	26.576	ng	99
81) 2-Ethyltoluene	18.15	105	1505885	24.992	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	1317462	25.004	ng	99
83) n-Decane	18.50	57	493785	26.599	ng	99
84) Benzyl Chloride	18.51	91	1136881	28.605	ng	99
85) 1,3-Dichlorobenzene	18.54	146	838076	26.382	ng	100
86) 1,4-Dichlorobenzene	18.61	146	855233	26.399	ng	100
87) sec-Butylbenzene	18.67	105	1687420	25.005	ng	99
88) 4-Isopropyltoluene (p-...	18.83	119	1667684	25.438	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	1342189	25.451	ng	99
90) 1,2-Dichlorobenzene	18.97	146	801497	25.972	ng	100
91) d-Limonene	18.99	68	390100	26.206	ng	98
92) 1,2-Dibromo-3-Chloropr...	19.43	157	316947	27.088	ng	96
93) n-Undecane	19.83	57	525474	26.825	ng	100
94) 1,2,4-Trichlorobenzene	20.77	180	677721	29.757	ng	100
95) Naphthalene	20.89	128	1846343	27.203	ng	100
96) n-Dodecane	20.92	57	487245	27.776	ng	100
97) Hexachlorobutadiene	21.26	225	455960	24.601	ng	100
98) Cyclohexanone	16.24	55	308126	25.668	ng	98
99) tert-Butylbenzene	18.38	119	1296951	24.510	ng	99
100) n-Butylbenzene	19.27	91	1302537	26.293	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\28\04282030.D Vial: 2
Acq On : 29 Apr 2020 4:38 Operator: SC
Sample : CCV END R9042820_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 29 05:53:49 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2020_04\29\04292003.D Vial: 2
Acq On : 29 Apr 2020 6:19 Operator: SC
Sample : CCV R9042920_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 29 06:55:12 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/29/20

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	119	-0.02
2	T	Propene	0.531	0.578	-8.9	137	0.00
3	T	Dichlorodifluoromethane (CF	2.017	1.717	14.9	105	0.00
4	T	Chloromethane	0.744	0.792	-6.5	119	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.090	0.948	13.0	107	0.00
6	T	Vinyl Chloride	0.976	0.927	5.0	113	-0.01
7	T	1,3-Butadiene	0.623	0.662	-6.3	119	0.00
8	T	Bromomethane	0.767	0.735	4.2	116	0.00
9	T	Chloroethane	0.494	0.456	7.7	114	0.00
10	T	Ethanol	0.402	0.376	6.5	123	-0.06
11	T	Acetonitrile	0.952	0.876	8.0	116	-0.04
12	T	Acrolein	0.367	0.385	-4.9	118	-0.02
13	T	Acetone	0.483	0.437	9.5	115	-0.03
14	T	Trichlorofluoromethane	2.007	1.667	16.9	102	0.00
15	T	2-Propanol (Isopropanol)	1.534	1.316	14.2	96	-0.04
16	T	Acrylonitrile	0.766	0.792	-3.4	114	-0.03
17	T	1,1-Dichloroethene	0.882	0.799	9.4	110	-0.01
18	T	2-Methyl-2-Propanol (tert-B	1.401	1.740	-24.2	146	-0.04
19	T	Methylene Chloride	0.847	0.784	7.4	112	-0.02
20	T	3-Chloro-1-propene (Allyl C	0.983	0.840	14.5	107	-0.02
21	T	Trichlorotrifluoroethane	1.044	0.905	13.3	108	0.00
22	T	Carbon Disulfide	2.815	2.650	5.9	112	-0.01
23	T	trans-1,2-Dichloroethene	1.114	1.059	4.9	109	-0.01
24	T	1,1-Dichloroethane	1.391	1.245	10.5	109	-0.02
25	T	Methyl tert-Butyl Ether	1.793	2.349	-31.0#	157	-0.01
26	T	Vinyl Acetate	0.176	0.178	-1.1	110	-0.03
27	T	2-Butanone (MEK)	0.496	0.501	-1.0	112	-0.03
28	T	cis-1,2-Dichloroethene	1.126	1.026	8.9	109	-0.01
29	T	Diisopropyl Ether	0.718	0.658	8.4	118	-0.02
30	T	Ethyl Acetate	0.221	0.220	0.5	113	-0.02
31	T	n-Hexane	1.071	1.008	5.9	118	0.00
32	T	Chloroform	1.714	1.490	13.1	107	-0.02
33	S	1,2-Dichloroethane-d4(SS1)	1.620	1.500	7.4	111	-0.02
34	T	Tetrahydrofuran (THF)	0.502	0.479	4.6	112	0.00
35	T	Ethyl tert-Butyl Ether	0.768	0.912	-18.8	147	-0.01
36	T	1,2-Dichloroethane	1.410	1.211	14.1	103	-0.01
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	120	-0.01
38	T	1,1,1-Trichloroethane	0.430	0.365	15.1	104	0.00
39	T	Isopropyl Acetate	0.103	0.096	6.8	114	-0.02
40	T	1-Butanol	0.138	0.151	-9.4	110	-0.03
41	T	Benzene	0.815	0.738	9.4	112	-0.01
42	T	Carbon Tetrachloride	0.421	0.356	15.4	102	-0.01
43	T	Cyclohexane	0.319	0.290	9.1	112	0.00
44	T	tert-Amyl Methyl Ether	0.428	0.482	-12.6	138	0.00
45	T	1,2-Dichloropropane	0.167	0.155	7.2	113	-0.01
46	T	Bromodichloromethane	0.335	0.291	13.1	106	-0.02
47	T	Trichloroethene	0.282	0.258	8.5	110	-0.01
48	T	1,4-Dioxane	0.164	0.161	1.8	110	-0.01
49	T	2,2,4-Trimethylpentane (Iso	0.681	0.637	6.5	118	-0.01
50	T	Methyl Methacrylate	0.087	0.087	0.0	111	-0.02
51	T	n-Heptane	0.189	0.177	6.3	113	-0.01
52	T	cis-1,3-Dichloropropene	0.345	0.330	4.3	109	0.00
53	T	4-Methyl-2-pentanone	0.143	0.143	0.0	111	-0.01
54	T	trans-1,3-Dichloropropene	0.331	0.321	3.0	106	0.00
55	T	1,1,2-Trichloroethane	0.223	0.201	9.9	109	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2020_04\29\04292003.D Vial: 2
Acq On : 29 Apr 2020 6:19 Operator: SC
Sample : CCV R9042920_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 29 06:55:12 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	113	0.00
57	S	Toluene-d8 (SS2)	2.414	2.482	-2.8	117	0.00
58	T	Toluene	2.026	1.907	5.9	110	0.00
59	T	2-Hexanone	0.604	0.683	-13.1	106	-0.01
60	T	Dibromochloromethane	0.688	0.666	3.2	106	0.00
61	T	1,2-Dibromoethane	0.565	0.560	0.9	108	0.00
62	T	n-Butyl Acetate	0.675	0.729	-8.0	108	0.00
63	T	n-Octane	0.323	0.304	5.9	110	0.00
64	T	Tetrachloroethene	0.763	0.701	8.1	108	0.00
65	T	Chlorobenzene	1.484	1.393	6.1	108	0.00
66	T	Ethylbenzene	2.361	2.228	5.6	108	0.00
67	T	m- & p-Xylenes	1.992	1.834	7.9	107	-0.01
68	T	Bromoform	0.610	0.600	1.6	105	0.00
69	T	Styrene	1.450	1.454	-0.3	108	0.00
70	T	o-Xylene	1.956	1.812	7.4	107	-0.01
71	T	n-Nonane	0.631	0.593	6.0	108	0.00
72	T	1,1,2,2-Tetrachloroethane	0.741	0.719	3.0	109	-0.01
73	S	Bromofluorobenzene (SS3)	0.970	0.974	-0.4	112	0.00
74	T	Cumene	2.552	2.370	7.1	107	0.00
75	T	alpha-Pinene	1.162	1.168	-0.5	113	0.00
76	T	n-Propylbenzene	2.780	2.632	5.3	107	0.00
77	T	3-Ethyltoluene	2.491	2.412	3.2	107	0.00
78	T	4-Ethyltoluene	2.426	2.274	6.3	106	0.00
79	T	1,3,5-Trimethylbenzene	2.242	2.072	7.6	106	0.00
80	T	alpha-Methylstyrene	1.122	1.110	1.1	105	0.00
81	T	2-Ethyltoluene	2.479	2.296	7.4	106	0.00
82	T	1,2,4-Trimethylbenzene	2.168	2.027	6.5	106	-0.01
83	T	n-Decane	0.764	0.759	0.7	109	-0.01
84	T	Benzyl Chloride	1.635	1.735	-6.1	104	-0.01
85	T	1,3-Dichlorobenzene	1.307	1.283	1.8	107	-0.01
86	T	1,4-Dichlorobenzene	1.333	1.309	1.8	106	0.00
87	T	sec-Butylbenzene	2.776	2.596	6.5	107	0.00
88	T	4-Isopropyltoluene (p-Cymen	2.697	2.506	7.1	106	0.00
89	T	1,2,3-Trimethylbenzene	2.170	2.029	6.5	106	-0.01
90	T	1,2-Dichlorobenzene	1.270	1.231	3.1	107	-0.01
91	T	d-Limonene	0.612	0.594	2.9	107	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.481	0.496	-3.1	106	0.00
93	T	n-Undecane	0.806	0.796	1.2	108	0.00
94	T	1,2,4-Trichlorobenzene	0.937	1.043	-11.3	105	0.00
95	T	Naphthalene	2.792	2.967	-6.3	106	0.00
96	T	n-Dodecane	0.722	0.769	-6.5	108	0.00
97	T	Hexachlorobutadiene	0.762	0.706	7.3	105	0.00
98	T	Cyclohexanone	0.494	0.513	-3.8	108	-0.01
99	T	tert-Butylbenzene	2.177	1.995	8.4	107	0.00
100	T	n-Butylbenzene	2.038	1.995	2.1	106	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292003.D Vial: 2
Acq On : 29 Apr 2020 6:19 Operator: SC
Sample : CCV R9042920_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 29 06:55:12 2020 4/29/20
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	165863	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.12	114	693341	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	304929	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.93	65	248840	11.580	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.64%				
57) Toluene-d8 (SS2)	13.55	98	756716	12.852	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.80%				
73) Bromofluorobenzene (SS3)	17.05	174	296884	12.547	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.40%				
Target Compounds							Qvalue
2) Propene	3.85	42	203250	28.851	ng		98
3) Dichlorodifluoromethan...	3.96	85	603736	22.557	ng		100
4) Chloromethane	4.17	50	278400	28.190	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	330227	22.823	ng		99
6) Vinyl Chloride	4.45	62	332158	25.647	ng		100
7) 1,3-Butadiene	4.63	54	232799	28.144	ng		99
8) Bromomethane	4.94	94	263484	25.888	ng		99
9) Chloroethane	5.15	64	163245	24.917	ng		99
10) Ethanol	5.40	45	649381	121.696	ng		99
11) Acetonitrile	5.58	41	304995	24.146	ng		99
12) Acrolein	5.71	56	131388	26.945	ng		100
13) Acetone	5.86	58	772933	120.651	ng		93
14) Trichlorofluoromethane	6.03	101	586270	22.015	ng		99
15) 2-Propanol (Isopropanol)	6.19	45	916463	45.033	ng		98
16) Acrylonitrile	6.38	53	275807	27.138	ng		99
17) 1,1-Dichloroethene	6.72	96	286099	24.438	ng		97
18) 2-Methyl-2-Propanol (t...	6.83	59	1246840	67.051	ng		98
19) Methylene Chloride	6.88	84	275818	24.549	ng		97
20) 3-Chloro-1-propene (Al...	7.00	41	301113	23.097	ng		99
21) Trichlorotrifluoroethane	7.19	151	324328	23.402	ng		99
22) Carbon Disulfide	7.15	76	940529	25.176	ng		100
23) trans-1,2-Dichloroethene	7.90	61	379436	25.679	ng		99
24) 1,1-Dichloroethane	8.12	63	450227	24.385	ng		100
25) Methyl tert-Butyl Ether	8.18	73	841448	35.371	ng		99
26) Vinyl Acetate	8.29	86	315989	135.149	ng		97
27) 2-Butanone (MEK)	8.52	72	176115	26.758	ng		99
28) cis-1,2-Dichloroethene	8.99	61	360846	24.161	ng		100
29) Diisopropyl Ether	9.22	87	235847	24.740	ng	#	92
30) Ethyl Acetate	9.22	61	158195	54.020	ng		100
31) n-Hexane	9.23	57	360955	25.393	ng		99
32) Chloroform	9.30	83	528930	23.258	ng		100
34) Tetrahydrofuran (THF)	9.68	72	173271	25.992	ng		99
35) Ethyl tert-Butyl Ether	9.77	87	326831	32.071	ng		100
36) 1,2-Dichloroethane	10.04	62	433873	23.193	ng		100
38) 1,1,1-Trichloroethane	10.30	97	541990	22.736	ng		100
39) Isopropyl Acetate	10.67	61	281219	49.442	ng		94
40) 1-Butanol	10.68	56	434272	56.830	ng		96
41) Benzene	10.76	78	1084650	23.998	ng		100
42) Carbon Tetrachloride	10.91	117	518221	22.176	ng		100
43) Cyclohexane	11.04	84	853631	48.209	ng		99
44) tert-Amyl Methyl Ether	11.35	73	722392	30.439	ng		99
45) 1,2-Dichloropropane	11.57	63	232279	25.103	ng		100
46) Bromodichloromethane	11.76	83	436554	23.474	ng		100
47) Trichloroethene	11.81	130	382221	24.418	ng		98
48) 1,4-Dioxane	11.78	88	240787	26.496	ng		99
49) 2,2,4-Trimethylpentane...	11.87	57	944587	25.019	ng		97
50) Methyl Methacrylate	12.00	100	257920	53.265	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292003.D Vial: 2
Acq On : 29 Apr 2020 6:19 Operator: SC
Sample : CCV R9042920_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 29 06:55:12 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

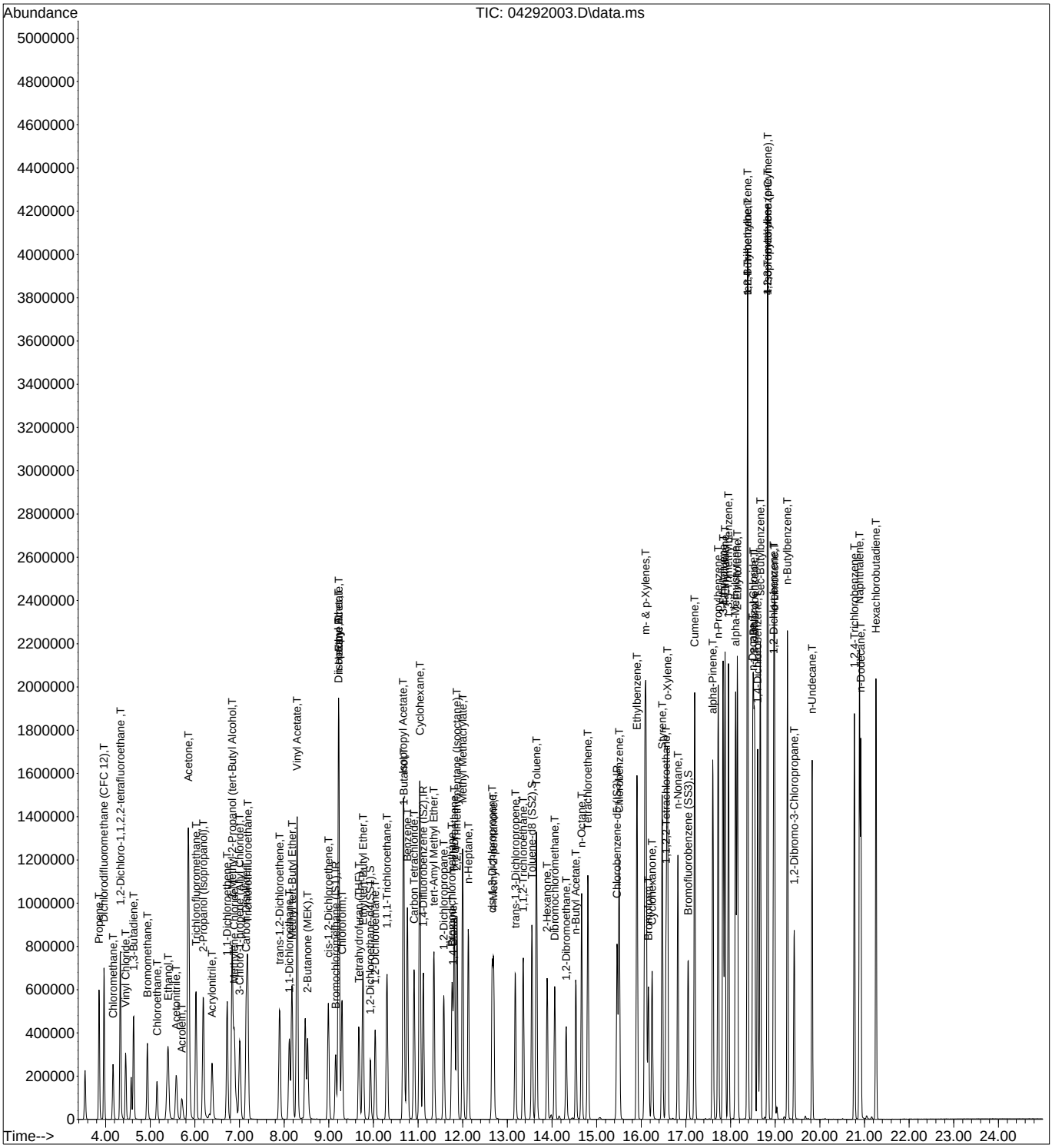
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	264357	25.173	ng	99
52) cis-1,3-Dichloropropene	12.66	75	475872	24.847	ng	100
53) 4-Methyl-2-pentanone	12.69	58	210458	26.608	ng	98
54) trans-1,3-Dichloropropene	13.18	75	472564	25.772	ng	100
55) 1,1,2-Trichloroethane	13.36	97	298711	24.178	ng	99
58) Toluene	13.65	91	1244317	25.172	ng	100
59) 2-Hexanone	13.89	43	445700	30.238	ng	97
60) Dibromochloromethane	14.06	129	434306	25.859	ng	100
61) 1,2-Dibromoethane	14.32	107	365517	26.531	ng	100
62) n-Butyl Acetate	14.53	43	484923	29.442	ng	99
63) n-Octane	14.67	57	199910	25.405	ng	100
64) Tetrachloroethene	14.80	166	444641	23.881	ng	100
65) Chlorobenzene	15.51	112	908805	25.112	ng	100
66) Ethylbenzene	15.90	91	1453962	25.243	ng	100
67) m- & p-Xylenes	16.10	91	2392934	49.245	ng	99
68) Bromoform	16.16	173	391441	26.321	ng	99
69) Styrene	16.47	104	940096	26.585	ng	99
70) o-Xylene	16.58	91	1182651	24.783	ng	100
71) n-Nonane	16.82	43	387260	25.156	ng	99
72) 1,1,2,2-Tetrachloroethane	16.56	83	468874	25.937	ng	100
74) Cumene	17.19	105	1560684	25.074	ng	100
75) alpha-Pinene	17.60	93	762301	26.894	ng	98
76) n-Propylbenzene	17.72	91	1733812	25.568	ng	100
77) 3-Ethyltoluene	17.83	105	1559054	25.654	ng	100
78) 4-Ethyltoluene	17.88	105	1497470	25.305	ng	100
79) 1,3,5-Trimethylbenzene	17.95	105	1339759	24.499	ng	100
80) alpha-Methylstyrene	18.11	118	724213	26.471	ng	100
81) 2-Ethyltoluene	18.15	105	1512504	25.013	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	1322781	25.015	ng	100
83) n-Decane	18.50	57	495604	26.602	ng	99
84) Benzyl Chloride	18.51	91	1142780	28.651	ng	99
85) 1,3-Dichlorobenzene	18.54	146	837383	26.267	ng	100
86) 1,4-Dichlorobenzene	18.61	146	853953	26.266	ng	99
87) sec-Butylbenzene	18.67	105	1693897	25.011	ng	99
88) 4-Isopropyltoluene (p-...	18.83	119	1666115	25.323	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	1348961	25.488	ng	99
90) 1,2-Dichlorobenzene	18.97	146	803399	25.941	ng	100
91) d-Limonene	18.99	68	391351	26.197	ng	99
92) 1,2-Dibromo-3-Chloropr...	19.43	157	317594	27.047	ng	96
93) n-Undecane	19.83	57	524521	26.681	ng	100
94) 1,2,4-Trichlorobenzene	20.77	180	680517	29.774	ng	100
95) Naphthalene	20.89	128	1863752	27.361	ng	100
96) n-Dodecane	20.92	57	487848	27.711	ng	100
97) Hexachlorobutadiene	21.26	225	456493	24.542	ng	100
98) Cyclohexanone	16.24	55	312823	25.967	ng	98
99) tert-Butylbenzene	18.38	119	1302123	24.520	ng	100
100) n-Butylbenzene	19.27	91	1301697	26.182	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292003.D Vial: 2
Acq On : 29 Apr 2020 6:19 Operator: SC
Sample : CCV R9042920_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 29 06:55:12 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2020_04\29\04292037.D Vial: 2
Acq On : 30 Apr 2020 2:29 Operator: SC
Sample : CCV END R9042920_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 30 03:56:08 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/30/20

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	117	-0.02
2	T	Propene	0.531	0.564	-6.2	132	-0.02
3	T	Dichlorodifluoromethane (CF	2.017	1.677	16.9	102	-0.01
4	T	Chloromethane	0.744	0.757	-1.7	113	-0.01
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.090	0.946	13.2	106	-0.02
6	T	Vinyl Chloride	0.976	0.903	7.5	109	-0.02
7	T	1,3-Butadiene	0.623	0.626	-0.5	111	-0.02
8	T	Bromomethane	0.767	0.726	5.3	114	-0.01
9	T	Chloroethane	0.494	0.444	10.1	110	-0.01
10	T	Ethanol	0.402	0.367	8.7	119	-0.06
11	T	Acetonitrile	0.952	0.853	10.4	112	-0.04
12	T	Acrolein	0.367	0.381	-3.8	116	-0.03
13	T	Acetone	0.483	0.429	11.2	112	-0.03
14	T	Trichlorofluoromethane	2.007	1.664	17.1	101	-0.01
15	T	2-Propanol (Isopropanol)	1.534	1.280	16.6	93	-0.04
16	T	Acrylonitrile	0.766	0.775	-1.2	110	-0.03
17	T	1,1-Dichloroethene	0.882	0.796	9.8	109	-0.02
18	T	2-Methyl-2-Propanol (tert-B	1.401	1.737	-24.0	145	-0.04
19	T	Methylene Chloride	0.847	0.773	8.7	109	-0.02
20	T	3-Chloro-1-propene (Allyl C	0.983	0.827	15.9	105	-0.02
21	T	Trichlorotrifluoroethane	1.044	0.903	13.5	107	-0.01
22	T	Carbon Disulfide	2.815	2.636	6.4	110	-0.01
23	T	trans-1,2-Dichloroethene	1.114	1.045	6.2	106	-0.01
24	T	1,1-Dichloroethane	1.391	1.222	12.1	106	-0.02
25	T	Methyl tert-Butyl Ether	1.793	2.320	-29.4	153	-0.02
26	T	Vinyl Acetate	0.176	0.176	0.0	108	-0.03
27	T	2-Butanone (MEK)	0.496	0.492	0.8	108	-0.03
28	T	cis-1,2-Dichloroethene	1.126	1.006	10.7	106	-0.02
29	T	Diisopropyl Ether	0.718	0.648	9.7	115	-0.02
30	T	Ethyl Acetate	0.221	0.215	2.7	110	-0.02
31	T	n-Hexane	1.071	0.985	8.0	114	-0.01
32	T	Chloroform	1.714	1.471	14.2	104	-0.03
33	S	1,2-Dichloroethane-d4(SS1)	1.620	1.504	7.2	110	-0.02
34	T	Tetrahydrofuran (THF)	0.502	0.464	7.6	108	-0.01
35	T	Ethyl tert-Butyl Ether	0.768	0.910	-18.5	145	-0.01
36	T	1,2-Dichloroethane	1.410	1.194	15.3	101	-0.01
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	119	-0.01
38	T	1,1,1-Trichloroethane	0.430	0.364	15.3	102	0.00
39	T	Isopropyl Acetate	0.103	0.094	8.7	110	-0.02
40	T	1-Butanol	0.138	0.146	-5.8	106	-0.03
41	T	Benzene	0.815	0.729	10.6	110	-0.01
42	T	Carbon Tetrachloride	0.421	0.353	16.2	100	-0.01
43	T	Cyclohexane	0.319	0.289	9.4	110	-0.01
44	T	tert-Amyl Methyl Ether	0.428	0.479	-11.9	135	0.00
45	T	1,2-Dichloropropane	0.167	0.153	8.4	110	-0.01
46	T	Bromodichloromethane	0.335	0.290	13.4	104	-0.02
47	T	Trichloroethene	0.282	0.253	10.3	107	-0.01
48	T	1,4-Dioxane	0.164	0.159	3.0	108	-0.01
49	T	2,2,4-Trimethylpentane (Iso	0.681	0.624	8.4	114	-0.01
50	T	Methyl Methacrylate	0.087	0.085	2.3	108	-0.02
51	T	n-Heptane	0.189	0.174	7.9	110	-0.01
52	T	cis-1,3-Dichloropropene	0.345	0.325	5.8	106	-0.01
53	T	4-Methyl-2-pentanone	0.143	0.142	0.7	109	-0.01
54	T	trans-1,3-Dichloropropene	0.331	0.318	3.9	103	0.00
55	T	1,1,2-Trichloroethane	0.223	0.200	10.3	107	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2020_04\29\04292037.D Vial: 2
Acq On : 30 Apr 2020 2:29 Operator: SC
Sample : CCV END R9042920_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 30 03:56:08 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	113	0.00
57	S	Toluene-d8 (SS2)	2.414	2.470	-2.3	116	0.00
58	T	Toluene	2.026	1.869	7.7	108	0.00
59	T	2-Hexanone	0.604	0.666	-10.3	104	-0.01
60	T	Dibromochloromethane	0.688	0.652	5.2	104	0.00
61	T	1,2-Dibromoethane	0.565	0.550	2.7	106	0.00
62	T	n-Butyl Acetate	0.675	0.706	-4.6	104	0.00
63	T	n-Octane	0.323	0.298	7.7	108	0.00
64	T	Tetrachloroethene	0.763	0.692	9.3	107	0.00
65	T	Chlorobenzene	1.484	1.370	7.7	107	0.00
66	T	Ethylbenzene	2.361	2.176	7.8	106	0.00
67	T	m- & p-Xylenes	1.992	1.792	10.0	105	-0.01
68	T	Bromoform	0.610	0.593	2.8	104	0.00
69	T	Styrene	1.450	1.424	1.8	106	0.00
70	T	o-Xylene	1.956	1.772	9.4	105	-0.01
71	T	n-Nonane	0.631	0.577	8.6	106	0.00
72	T	1,1,2,2-Tetrachloroethane	0.741	0.702	5.3	107	-0.01
73	S	Bromofluorobenzene (SS3)	0.970	0.991	-2.2	114	0.00
74	T	Cumene	2.552	2.316	9.2	105	0.00
75	T	alpha-Pinene	1.162	1.145	1.5	111	0.00
76	T	n-Propylbenzene	2.780	2.571	7.5	104	0.00
77	T	3-Ethyltoluene	2.491	2.343	5.9	104	0.00
78	T	4-Ethyltoluene	2.426	2.235	7.9	104	0.00
79	T	1,3,5-Trimethylbenzene	2.242	2.032	9.4	104	0.00
80	T	alpha-Methylstyrene	1.122	1.088	3.0	103	0.00
81	T	2-Ethyltoluene	2.479	2.251	9.2	104	0.00
82	T	1,2,4-Trimethylbenzene	2.168	1.987	8.3	104	-0.01
83	T	n-Decane	0.764	0.741	3.0	107	-0.01
84	T	Benzyl Chloride	1.635	1.695	-3.7	102	-0.01
85	T	1,3-Dichlorobenzene	1.307	1.260	3.6	105	0.00
86	T	1,4-Dichlorobenzene	1.333	1.286	3.5	104	0.00
87	T	sec-Butylbenzene	2.776	2.533	8.8	105	0.00
88	T	4-Isopropyltoluene (p-Cymen	2.697	2.463	8.7	104	0.00
89	T	1,2,3-Trimethylbenzene	2.170	1.988	8.4	104	-0.01
90	T	1,2-Dichlorobenzene	1.270	1.208	4.9	105	-0.01
91	T	d-Limonene	0.612	0.576	5.9	104	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.481	0.491	-2.1	105	0.00
93	T	n-Undecane	0.806	0.779	3.3	106	0.00
94	T	1,2,4-Trichlorobenzene	0.937	1.029	-9.8	104	0.00
95	T	Naphthalene	2.792	2.890	-3.5	103	0.00
96	T	n-Dodecane	0.722	0.756	-4.7	106	0.00
97	T	Hexachlorobutadiene	0.762	0.694	8.9	103	0.00
98	T	Cyclohexanone	0.494	0.491	0.6	103	-0.01
99	T	tert-Butylbenzene	2.177	1.958	10.1	105	0.00
100	T	n-Butylbenzene	2.038	1.959	3.9	104	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292037.D Vial: 2
Acq On : 30 Apr 2020 2:29 Operator: SC
Sample : CCV END R9042920_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 30 03:56:08 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020 4/30/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.15	130	164316	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.12	114	686519	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	305234	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.93	65	247182	11.611	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.88%				
57) Toluene-d8 (SS2)	13.55	98	753985	12.793	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.32%				
73) Bromofluorobenzene (SS3)	17.05	174	302625	12.776	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.24%				
Target Compounds							Qvalue
2) Propene	3.84	42	196307	28.128	ng		98
3) Dichlorodifluoromethan...	3.96	85	584171	22.031	ng		100
4) Chloromethane	4.16	50	263607	26.944	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.32	135	326389	22.770	ng		100
6) Vinyl Chloride	4.44	62	320621	24.989	ng		100
7) 1,3-Butadiene	4.62	54	218011	26.604	ng		98
8) Bromomethane	4.93	94	257749	25.563	ng		99
9) Chloroethane	5.15	64	157623	24.286	ng		100
10) Ethanol	5.39	45	628829	118.954	ng		100
11) Acetonitrile	5.58	41	294209	23.511	ng		99
12) Acrolein	5.70	56	128919	26.687	ng		100
13) Acetone	5.85	58	751486	118.407	ng		92
14) Trichlorofluoromethane	6.02	101	579520	21.966	ng		99
15) 2-Propanol (Isopropanol)	6.19	45	883170	43.806	ng		99
16) Acrylonitrile	6.38	53	267413	26.560	ng		100
17) 1,1-Dichloroethene	6.72	96	282687	24.374	ng		95
18) 2-Methyl-2-Propanol (t...	6.83	59	1232994	66.931	ng		98
19) Methylene Chloride	6.88	84	269164	24.182	ng		97
20) 3-Chloro-1-propene (Al...	7.01	41	293524	22.727	ng		98
21) Trichlorotrifluoroethane	7.18	151	320559	23.348	ng		100
22) Carbon Disulfide	7.15	76	926782	25.042	ng		100
23) trans-1,2-Dichloroethene	7.90	61	370902	25.337	ng		99
24) 1,1-Dichloroethane	8.12	63	437710	23.931	ng		100
25) Methyl tert-Butyl Ether	8.17	73	823394	34.938	ng		99
26) Vinyl Acetate	8.29	86	310193	133.919	ng		96
27) 2-Butanone (MEK)	8.52	72	171259	26.265	ng		99
28) cis-1,2-Dichloroethene	8.98	61	350421	23.684	ng		98
29) Diisopropyl Ether	9.22	87	229904	24.344	ng	#	91
30) Ethyl Acetate	9.22	61	153407	52.878	ng		100
31) n-Hexane	9.22	57	349658	24.830	ng		100
32) Chloroform	9.29	83	517335	22.962	ng		100
34) Tetrahydrofuran (THF)	9.67	72	166062	25.145	ng		98
35) Ethyl tert-Butyl Ether	9.77	87	322819	31.975	ng		99
36) 1,2-Dichloroethane	10.04	62	423869	22.872	ng		100
38) 1,1,1-Trichloroethane	10.30	97	534151	22.629	ng		100
39) Isopropyl Acetate	10.67	61	272965	48.468	ng	#	93
40) 1-Butanol	10.68	56	417807	55.218	ng		97
41) Benzene	10.76	78	1060527	23.697	ng		100
42) Carbon Tetrachloride	10.91	117	508603	21.980	ng		99
43) Cyclohexane	11.04	84	839810	47.900	ng		99
44) tert-Amyl Methyl Ether	11.35	73	709785	30.205	ng		99
45) 1,2-Dichloropropane	11.57	63	227350	24.815	ng		100
46) Bromodichloromethane	11.76	83	429345	23.316	ng		100
47) Trichloroethene	11.81	130	371382	23.961	ng		100
48) 1,4-Dioxane	11.78	88	236311	26.262	ng		99
49) 2,2,4-Trimethylpentane...	11.87	57	916892	24.527	ng		97
50) Methyl Methacrylate	12.00	100	250131	52.170	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292037.D Vial: 2
Acq On : 30 Apr 2020 2:29 Operator: SC
Sample : CCV END R9042920_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 30 03:56:08 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

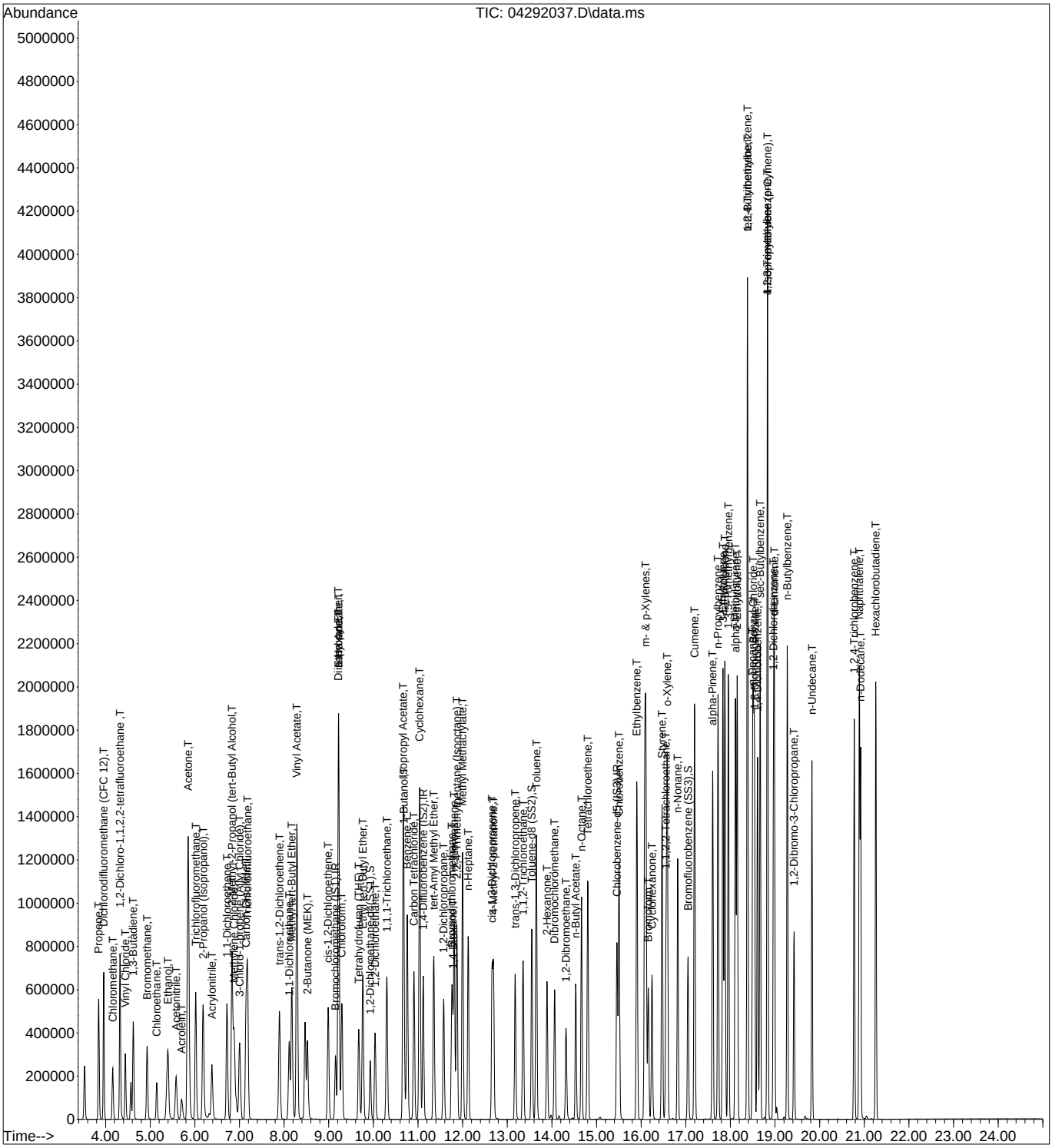
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	258177	24.829	ng	100
52) cis-1,3-Dichloropropene	12.66	75	463727	24.453	ng	99
53) 4-Methyl-2-pentanone	12.69	58	207000	26.431	ng	96
54) trans-1,3-Dichloropropene	13.18	75	462507	25.474	ng	100
55) 1,1,2-Trichloroethane	13.36	97	293950	24.029	ng	99
58) Toluene	13.65	91	1221016	24.676	ng	100
59) 2-Hexanone	13.89	43	435104	29.489	ng	97
60) Dibromochloromethane	14.06	129	426155	25.348	ng	100
61) 1,2-Dibromoethane	14.32	107	358979	26.030	ng	100
62) n-Butyl Acetate	14.53	43	470043	28.510	ng	99
63) n-Octane	14.67	57	196389	24.933	ng	100
64) Tetrachloroethene	14.80	166	439284	23.569	ng	100
65) Chlorobenzene	15.51	112	894879	24.703	ng	100
66) Ethylbenzene	15.90	91	1421494	24.655	ng	100
67) m- & p-Xylenes	16.10	91	2341084	48.130	ng	98
68) Bromoform	16.16	173	387064	26.001	ng	100
69) Styrene	16.47	104	921703	26.038	ng	99
70) o-Xylene	16.58	91	1157248	24.226	ng	99
71) n-Nonane	16.82	43	376937	24.461	ng	99
72) 1,1,2,2-Tetrachloroethane	16.56	83	458707	25.349	ng	99
74) Cumene	17.19	105	1526670	24.503	ng	99
75) alpha-Pinene	17.60	93	747792	26.356	ng	98
76) n-Propylbenzene	17.72	91	1695192	24.974	ng	99
77) 3-Ethyltoluene	17.83	105	1515833	24.918	ng	99
78) 4-Ethyltoluene	17.88	105	1473551	24.876	ng	99
79) 1,3,5-Trimethylbenzene	17.95	105	1314760	24.018	ng	100
80) alpha-Methylstyrene	18.11	118	710922	25.960	ng	99
81) 2-Ethyltoluene	18.15	105	1484317	24.522	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	1298144	24.525	ng	99
83) n-Decane	18.50	57	484167	25.962	ng	99
84) Benzyl Chloride	18.51	91	1117538	27.990	ng	99
85) 1,3-Dichlorobenzene	18.54	146	822870	25.786	ng	100
86) 1,4-Dichlorobenzene	18.61	146	840103	25.814	ng	100
87) sec-Butylbenzene	18.67	105	1654550	24.406	ng	99
88) 4-Isopropyltoluene (p-...	18.83	119	1638859	24.884	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	1322721	24.967	ng	99
90) 1,2-Dichlorobenzene	18.97	146	789101	25.454	ng	100
91) d-Limonene	18.99	68	379469	25.376	ng	100
92) 1,2-Dibromo-3-Chloropr...	19.43	157	314907	26.791	ng	95
93) n-Undecane	19.83	57	513379	26.088	ng	100
94) 1,2,4-Trichlorobenzene	20.77	180	672128	29.377	ng	100
95) Naphthalene	20.89	128	1817163	26.651	ng	100
96) n-Dodecane	20.92	57	480240	27.251	ng	100
97) Hexachlorobutadiene	21.26	225	449244	24.128	ng	100
98) Cyclohexanone	16.24	55	299664	24.849	ng	98
99) tert-Butylbenzene	18.38	119	1279146	24.063	ng	99
100) n-Butylbenzene	19.27	91	1279464	25.709	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\29\04292037.D Vial: 2
Acq On : 30 Apr 2020 2:29 Operator: SC
Sample : CCV END R9042920_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 30 03:56:08 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



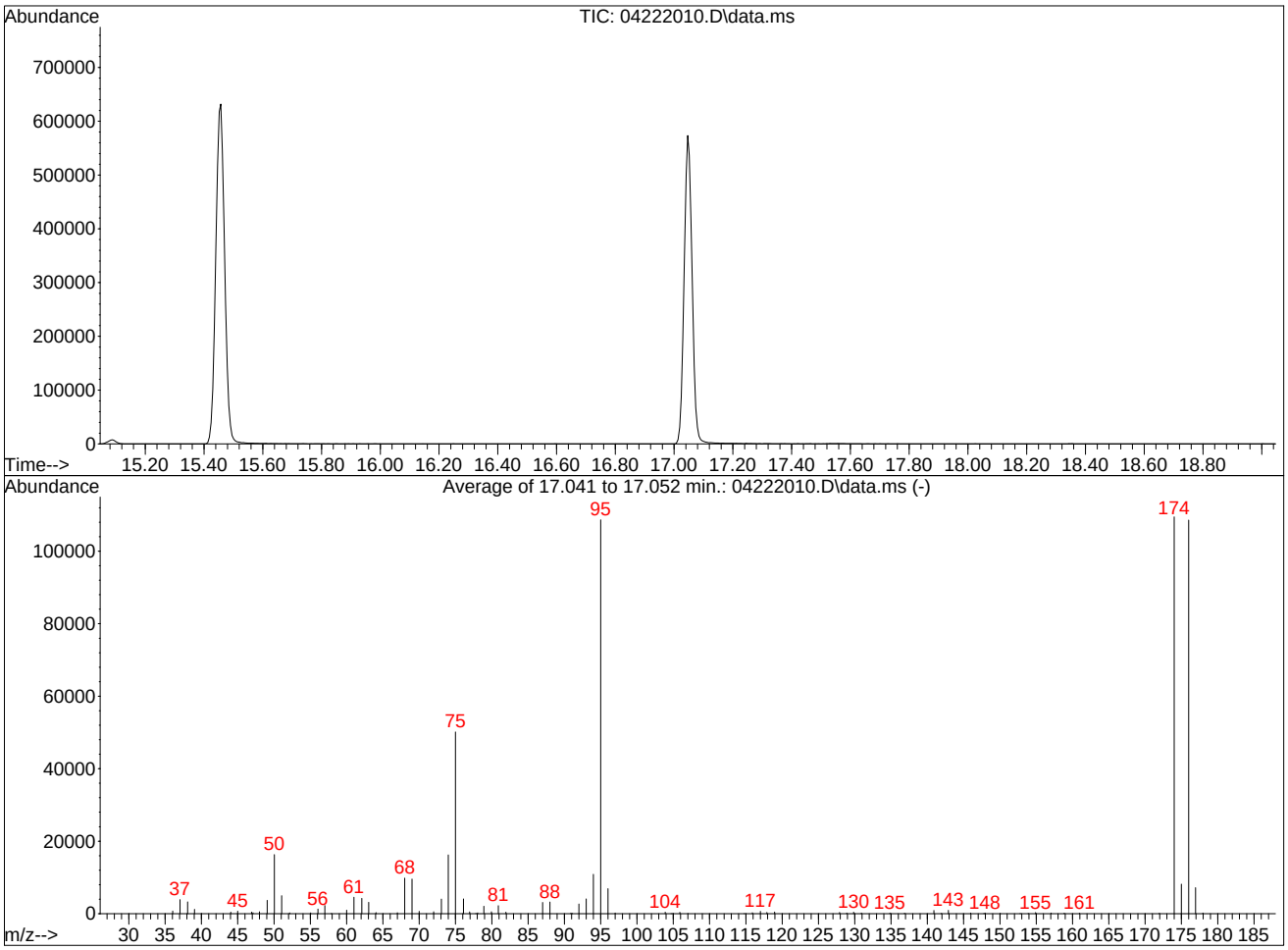
BFB

Data Path : I:\MS09\Data\2020_04\22\
Data File : 04222010.D
Acq On : 22 Apr 2020 18:51
Operator : SC
Sample : 12.5ng TO-15 BFB STD
Misc : S34-04212006
ALS Vial : 2 Sample Multiplier: 1

4/23/20

Integration File: LSCINT.P

Method : I:\MS09\Methods\R9042220.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Apr 23 11:56:23 2020



AutoFind: Scans 2484, 2485, 2486; Background Corrected with Scan 2476

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	15.0	16304	PASS
75	95	30	66	46.1	50136	PASS
95	95	100	100	100.0	108672	PASS
96	95	5	9	6.4	6913	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	100.7	109467	PASS
175	174	4	9	7.4	8135	PASS
176	174	93	101	99.2	108563	PASS
177	176	5	9	6.6	7191	PASS

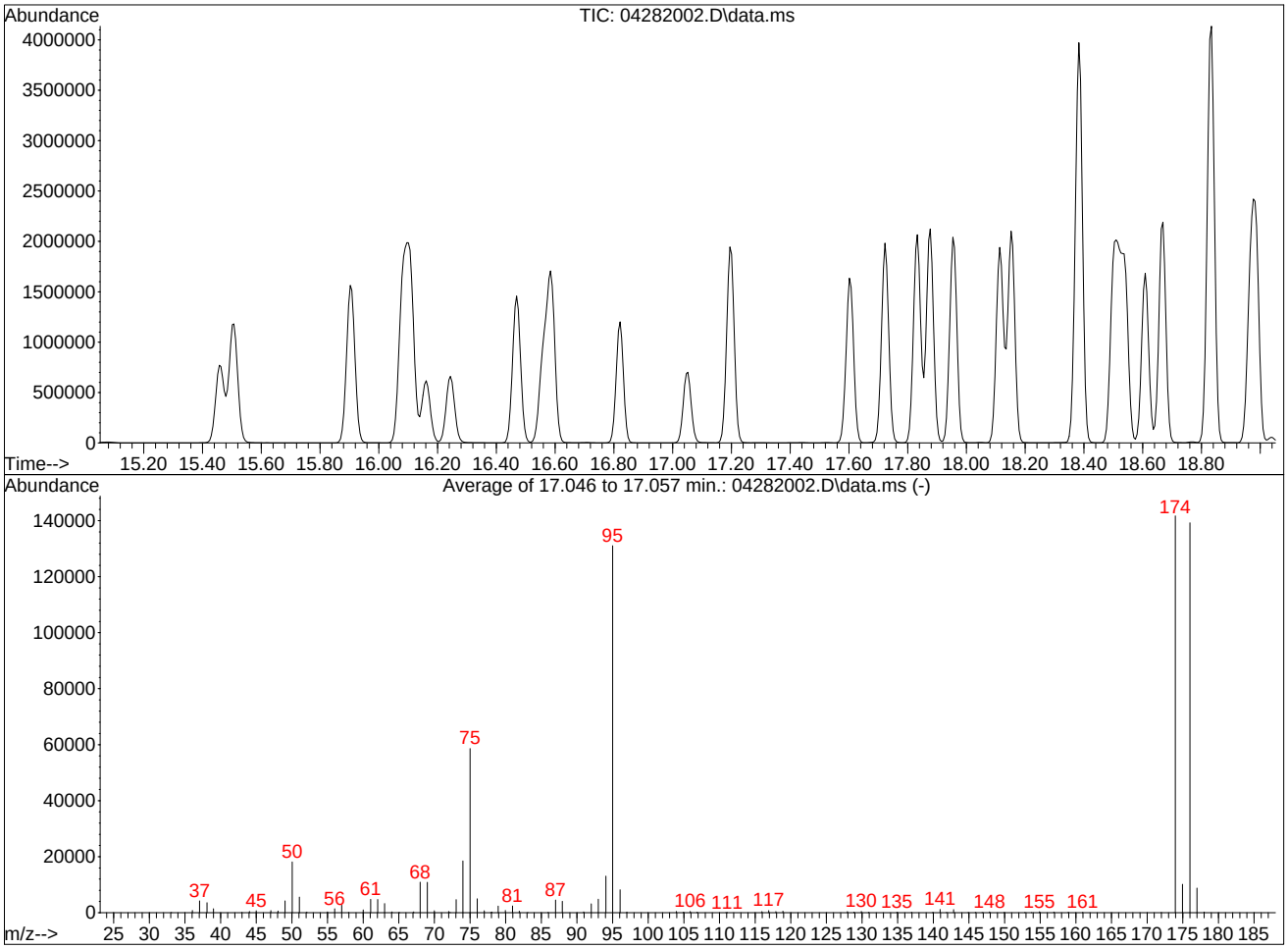
BFB

Data Path : I:\MS09\Data\2020_04\28\
Data File : 04282002.D
Acq On : 28 Apr 2020 12:33
Operator : TD
Sample : CCV R9042820_25ng
Misc : S34-04212006/S34-04202004 (5/19)
ALS Vial : 2 Sample Multiplier: 1

4/28/20

Integration File: LSCINT.P

Method : I:\MS09\Methods\R9042220.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Apr 23 14:12:50 2020



AutoFind: Scans 2485, 2486, 2487; Background Corrected with Scan 2476

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	13.8	18152	PASS
75	95	30	66	44.7	58621	PASS
95	95	100	100	100.0	131075	PASS
96	95	5	9	6.3	8207	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	108.1	141701	PASS
175	174	4	9	7.2	10158	PASS
176	174	93	101	98.3	139243	PASS
177	176	5	9	6.3	8821	PASS

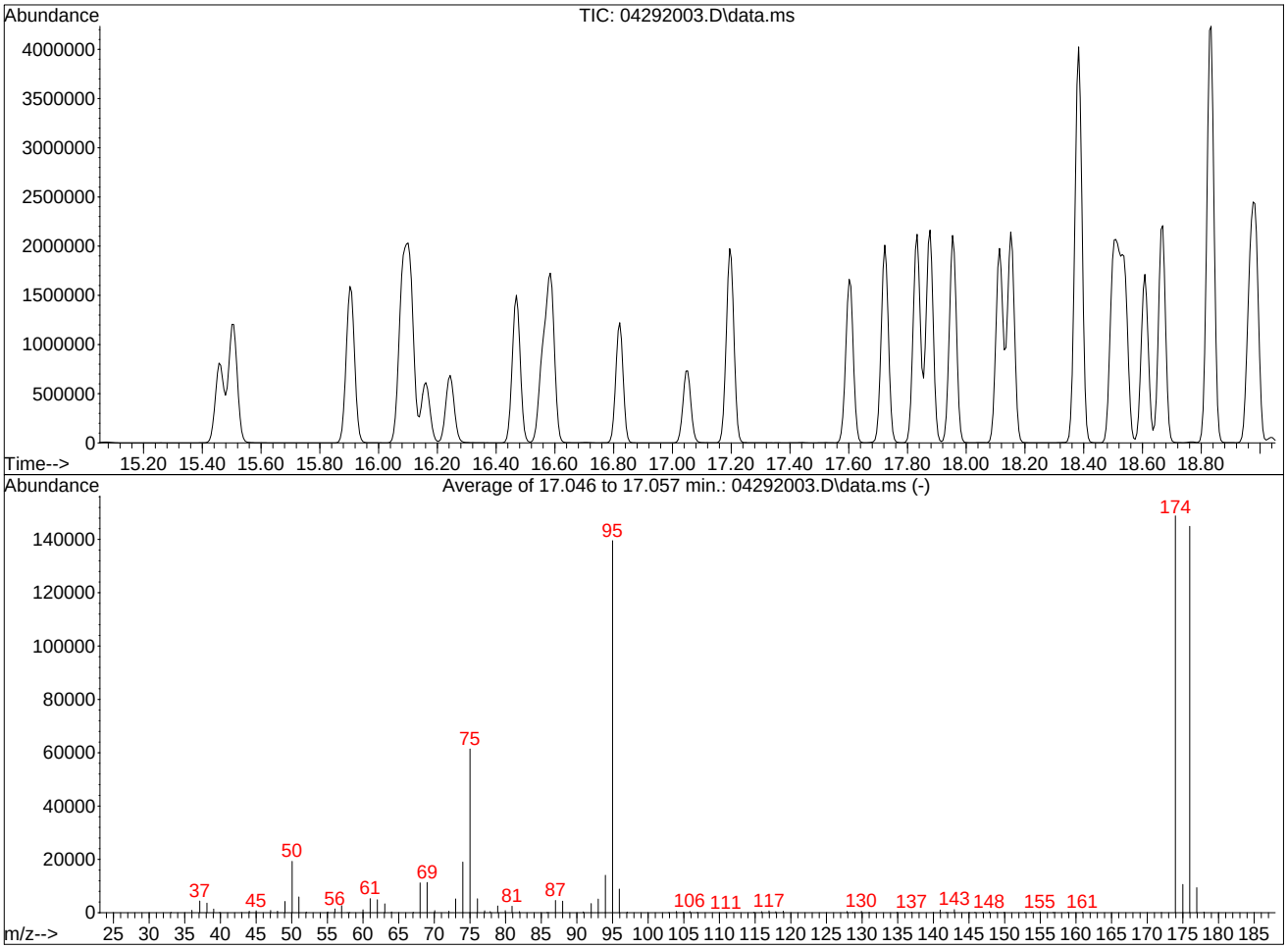
BFB

Data Path : I:\MS09\Data\2020_04\29\
Data File : 04292003.D
Acq On : 29 Apr 2020 6:19
Operator : SC
Sample : CCV R9042920_25ng
Misc : S34-04212006/S34-04202004 (5/19)
ALS Vial : 2 Sample Multiplier: 1

4/29/20

Integration File: LSCINT.P

Method : I:\MS09\Methods\R9042220.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Apr 23 14:12:50 2020



AutoFind: Scans 2485, 2486, 2487; Background Corrected with Scan 2476

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	13.8	19260	PASS
75	95	30	66	44.0	61389	PASS
95	95	100	100	100.0	139531	PASS
96	95	5	9	6.3	8844	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	106.7	148821	PASS
175	174	4	9	7.1	10609	PASS
176	174	93	101	97.4	144939	PASS
177	176	5	9	6.5	9373	PASS

Injection Log

Directory: I:\MS09\Data\2020_04\22\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	4/22/20 13:32	04222001.D	Blank (100mL)	S34-04212006	SC	2	
2	4/22/20 14:06	04222002.D	CCV R9042220_25ng	S34-04212006/S34-04202004 (5/19)	SC	2	
3	4/22/20 14:59	04222003.D	Blank (100mL)	S34-04212006	SC	2	
4	4/22/20 15:32	04222004.D	MB R9042220_1000mL	S34-04212006	SC	2	
5	4/22/20 16:05	04222005.D	LCS R9042220_25ng	S34-04212006/S34-03252004 (4/23)	SC	2	
6	4/22/20 16:38	04222006.D	LCSD R9042220_25ng	S34-04212006/S34-03252004 (4/23)	SC	2	
7	4/22/20 17:12	04222007.D	RL R9042220_ 0.5ng	S34-04212006/S34-04102009 (5/9)	SC	4	
8	4/22/20 17:45	04222008.D	Chamber QC_AC00323	S34-04212006	SC	16	
9	4/22/20 18:18	04222009.D	Blank (100mL)	S34-04212006	SC	2	
10	4/22/20 18:51	04222010.D	12.5ng TO-15 BFB STD	S34-04212006	SC	2	passed
11	4/22/20 19:25	04222011.D	0.1ng TO-15 ICAL STD	S34-04212006/S34-04072004 (5/6)	SC	4	not used
12	4/22/20 19:58	04222012.D	0.2ng TO-15 ICAL STD	S34-04212006/S34-04072004 (5/6)	SC	4	
13	4/22/20 20:31	04222013.D	0.5ng TO-15 ICAL STD	S34-04212006/S34-04222004 (5/21)	SC	5	
14	4/22/20 21:05	04222014.D	1.0ng TO-15 ICAL STD	S34-04212006/S34-04222004 (5/21)	SC	5	
15	4/22/20 21:39	04222015.D	5.0ng TO-15 ICAL STD	S34-04212006/S34-04222004 (5/21)	SC	5	
16	4/22/20 22:12	04222016.D	25ng TO-15 ICAL STD	S34-04212006/S34-04202004 (5/19)	SC	2	
17	4/22/20 22:46	04222017.D	50ng TO-15 ICAL STD	S34-04212006/S34-04202004 (5/19)	SC	2	
18	4/22/20 23:19	04222018.D	100ng TO-15 ICAL STD	S34-04212006/S34-04202004 (5/19)	SC	2	
19	4/22/20 23:53	04222019.D	Blank (100mL)	S34-04212006	SC	2	
20	4/23/20 0:27	04222020.D	25ng TO-15 ICV STD	S34-04212006/S34-04102008 (5/9)	SC	2	not used
21	4/23/20 1:01	04222021.D	25ng TO-15 ICV STD	S34-04212006/S34-04102008 (5/9)	SC	2	
22	4/23/20 13:11	04222022.D	Blank (100mL)	S34-04212006	SC	2	
23	4/23/20 13:44	04222023.D	0.2ng TO-15 ICAL STD	S34-04212006/S34-04162003 (5/15)	SC	4	
24	4/23/20 14:17	04222024.D	Blank (100mL)	S34-04212006	SC	2	
25	4/23/20 14:51	04222025.D	25ng TO-15 ICV STD	S34-04212006/S34-04102008 (5/9)	SC	2	passed

Injection Log

Directory: I:\MS09\Data\2020_04\28\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	4/28/20 11:59	04282001.D	CCV C9042820_25ng	S34-04212006/S34-03312002 (4/29)	TD	3	Passed
2	4/28/20 12:33	04282002.D	CCV R9042820_25ng	S34-04212006/S34-04202004 (5/19)	TD	2	Passed*
3	4/28/20 13:06	04282003.D	Blank (100mL)	S34-04212006	TD	2	
4	4/28/20 13:41	04282004.D	MB R9042820_1000mL	S34-04212006	TD	2	Passed
5	4/28/20 14:14	04282005.D	LCS R9042820_25ng	S34-04212006/S34-04102008 (5/9)	TD	2	Passed*
6	4/28/20 14:48	04282006.D	LCSD R9042820_25ng	S34-04212006/S34-04102008 (5/9)	TD	2	Passed*
7	4/28/20 15:21	04282007.D	Blank (100mL)	S34-04212006	TD	2	
8	4/28/20 16:05	04282008.D	P2002030-004 (10mL)	S34-04212006	SC	1	over diluted
9	4/28/20 16:50	04282009.D	P2002030-008 (0.2mL)	S34-04212006	SC	1	over diluted
10	4/28/20 17:23	04282010.D	P2002030-004 (25mL)	S34-04212006	SC	15	
11	4/28/20 17:56	04282011.D	P2002030-004dup (25mL)	S34-04212006	SC	15	Passed
12	4/28/20 18:30	04282012.D	P2002030-008 (1.0mL)	S34-04212006	SC	1	
13	4/28/20 19:03	04282013.D	P2002030-009 (0.3mL)	S34-04212006	SC	1	
14	4/28/20 19:37	04282014.D	P2002030-010 (0.6mL)	S34-04212006	SC	1	
15	4/28/20 20:11	04282015.D	P2002030-011 (0.1mL)	S34-04212006	SC	1	screen
16	4/28/20 20:46	04282016.D	P2002030-011 (6.0mL)	S34-04212006	SC	1	over diluted
17	4/28/20 21:20	04282017.D	P2002030-001 (400mL)	S34-04212006	SC	4	
18	4/28/20 21:54	04282018.D	P2002030-002 (400mL)	S34-04212006	SC	5	
19	4/28/20 22:27	04282019.D	P2002030-003 (400mL)	S34-04212006	SC	6	
20	4/28/20 23:01	04282020.D	P2002030-005 (400mL)	S34-04212006	SC	7	
21	4/28/20 23:35	04282021.D	P2002030-006 (250mL)	S34-04212006	SC	8	
22	4/29/20 0:09	04282022.D	P2002030-007 (400mL)	S34-04212006	SC	9	
23	4/29/20 0:42	04282023.D	P2002030-012 (400mL)	S34-04212006	SC	10	
24	4/29/20 1:16	04282024.D	P2002030-013 (400mL)	S34-04212006	SC	11	
25	4/29/20 1:50	04282025.D	P2002030-014 (400mL)	S34-04212006	SC	12	
26	4/29/20 2:24	04282026.D	P2002030-018 (200mL)	S34-04212006	SC	13	over diluted
27	4/29/20 2:57	04282027.D	P2002030-019 (400mL)	S34-04212006	SC	14	need dil
28	4/29/20 3:31	04282028.D	P2002030-011 (60mL)	S34-04212006	SC	16	
29	4/29/20 4:04	04282029.D	Blank (100mL)	S34-04212006	SC	2	
30	4/29/20 4:38	04282030.D	CCV END R9042820_25ng	S34-04212006/S34-04202004 (5/19)	SC	2	Passed*
	CCV, LCS/LCSD and CCVend: MTBE biased high (samples ND)						
						WA 4/29/20	

Injection Log

Directory: I:\MS09\Data\2020_04\29\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	4/29/20 5:12	04292001.D	Blank (100mL)	S34-04212006	SC	2	
2	4/29/20 5:45	04292002.D	CCV C9042920_25ng	S34-04212006/S34-03312002 (4/29)	SC	3	Passed
3	4/29/20 6:19	04292003.D	CCV R9042920_25ng	S34-04212006/S34-04202004 (5/19)	SC	2	Passed
4	4/29/20 6:52	04292004.D	Blank (100mL)	S34-04212006	SC	2	
5	4/29/20 7:37	04292005.D	MB R9042920_1000mL	S34-04212006	SC	2	Passed
6	4/29/20 8:11	04292006.D	LCS R9042920_25ng	S34-04212006/S34-04102008 (5/9)	SC	2	Passed
7	4/29/20 8:44	04292007.D	LCSD R9042920_25ng	S34-04212006/S34-04102008 (5/9)	SC	2	Passed
8	4/29/20 9:17	04292008.D	Blank (100mL)	S34-04212006	SC	2	
9	4/29/20 9:50	04292009.D	P2002030-015 (3.5mL)	S34-04212006	TD	1	
10	4/29/20 10:24	04292010.D	P2002030-016 (3.0mL)	S34-04212006	TD	1	
11	4/29/20 10:59	04292011.D	P2002030-017 (2.5mL)	S34-04212006	TD	1	IS-3 failed
12	4/29/20 11:33	04292012.D	P2002030-019dil (40mL)	S34-04212006	TD	14	
13	4/29/20 12:06	04292013.D	P2002030-018 (400mL)	S34-04212006	TD	13	
14	4/29/20 12:39	04292014.D	P2002030-017 (0.25mL)	S34-04212006	TD	1	
15	4/29/20 13:36	04292015.D	P2002029-002 (5.0mL)	S34-04212006	SC	1	over diluted
16	4/29/20 14:32	04292016.D	P2002029-005 (0.2mL)	S34-04212006	SC	1	
17	4/29/20 15:05	04292017.D	P2002029-002 (30mL)	S34-04212006	SC	4	
18	4/29/20 15:39	04292018.D	P2002029-003 (30mL)	S34-04212006	SC	5	
19	4/29/20 16:12	04292019.D	P2002029-004 (150mL)	S34-04212006	SC	6	
20	4/29/20 16:46	04292020.D	P2002029-006 (0.25mL)	S34-04212006	SC	1	
21	4/29/20 17:19	04292021.D	P2002029-006Dil (0.05mL)	S34-04212006	SC	1	
22	4/29/20 17:53	04292022.D	P2002029-007Dil (0.08mL)	S34-04212006	SC	1	
23	4/29/20 18:27	04292023.D	P2002029-002 dup(30mL)	S34-04212006	SC	4	Passed
24	4/29/20 19:05	04292024.D	P2002029-007 (0.30mL)	S34-04212006	SC	1	
25	4/29/20 19:45	04292025.D	P2002029-001 (0.0005mL)	S34-04212006(0.1--500 /2.5ml)	SC	1	over diluted
26	4/29/20 20:19	04292026.D	P2002132-001 (400mL)	S34-04212006	SC	7	
27	4/29/20 20:53	04292027.D	P2002132-002 (400mL)	S34-04212006	SC	8	
28	4/29/20 21:26	04292028.D	P2002132-003 (400mL)	S34-04212006	SC	9	
29	4/29/20 22:00	04292029.D	P2002132-004 (400mL)	S34-04212006	SC	10	
30	4/29/20 22:34	04292030.D	P2002132-005 (400mL)	S34-04212006	SC	11	
31	4/29/20 23:07	04292031.D	P2002132-006 (400mL)	S34-04212006	SC	12	
32	4/29/20 23:41	04292032.D	P2002132-007 (400mL)	S34-04212006	SC	13	
33	4/30/20 0:15	04292033.D	P2002132-008 (400mL)	S34-04212006	SC	14	
34	4/30/20 0:48	04292034.D	P2002132-009 (400mL)	S34-04212006	SC	15	
35	4/30/20 1:22	04292035.D	P2002132-010 (400mL)	S34-04212006	SC	16	
36	4/30/20 1:55	04292036.D	Blank (100mL)	S34-04212006	SC	2	
37	4/30/20 2:29	04292037.D	CCV END R9042920_25ng	S34-04212006/S34-04202004 (5/19)	SC	2	Passed
	CCV, LCS/LCSD : MTBE out high						
							4/30/20

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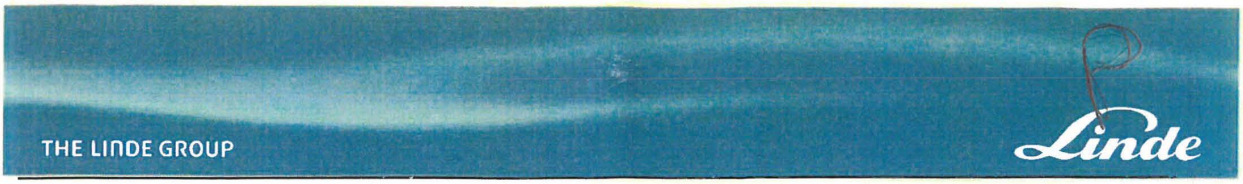

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PAGE: 1 of 4

Primary

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Propylene	115-07-1	1.00 mg/m3	1.06 mg/m3
Freon-12	75-71-8	1.00 mg/m3	1.06 mg/m3
Chloromethane	74-87-3	1.00 mg/m3	1.06 mg/m3
Freon-114	76-14-2	1.00 mg/m3	1.05 mg/m3
Vinyl Chloride	75-01-4	1.00 mg/m3	1.08 mg/m3
1,3-Butadiene	106-99-0	1.00 mg/m3	1.06 mg/m3
Bromomethane	74-83-9	1.00 mg/m3	1.08 mg/m3
Chloroethane	75-00-3	1.00 mg/m3	1.08 mg/m3
Ethanol	64-17-5	5.00 mg/m3	5.21 mg/m3
Acetonitrile	75-05-8	1.00 mg/m3	1.05 mg/m3
Acrolein	107-02-8	1.00 mg/m3	1.03 mg/m3
Acetone	67-64-1	5.00 mg/m3	5.33 mg/m3
Freon-11	75-69-4	1.00 mg/m3	1.06 mg/m3
Isopropyl Alcohol	67-63-0	2.00 mg/m3	2.10 mg/m3
Acrylonitrile	107-13-1	1.00 mg/m3	1.05 mg/m3
1,1-Dichloroethene	75-35-4	1.00 mg/m3	1.08 mg/m3
Carbon Disulfide	75-15-0	1.00 mg/m3	1.07 mg/m3
Methylene Chloride	75-09-2	1.00 mg/m3	1.06 mg/m3
Tert-Butanol	75-65-0	2.00 mg/m3	2.16 mg/m3
Allyl Chloride	107-05-1	1.00 mg/m3	1.08 mg/m3
Freon-113	76-13-1	1.00 mg/m3	1.08 mg/m3
Trans-1,2-Dichloroethene	156-60-5	1.00 mg/m3	1.08 mg/m3
1,1-Dichloroethane	75-34-3	1.00 mg/m3	1.09 mg/m3
Methyl Tert Butyl Ether	1634-04-4	1.00 mg/m3	1.08 mg/m3
Vinyl Acetate	108-05-4	5.00 mg/m3	5.35 mg/m3
Methacrylonitrile	126-98-7	1.00 mg/m3	1.06 mg/m3
Methyl Ethyl Ketone	78-93-3	1.00 mg/m3	1.06 mg/m3
Cis-1,2-Dichloroethene	156-59-2	1.00 mg/m3	1.06 mg/m3
Hexane	110-54-3	1.00 mg/m3	1.08 mg/m3
Di-isopropyl Ether	108-20-3	1.00 mg/m3	1.08 mg/m3

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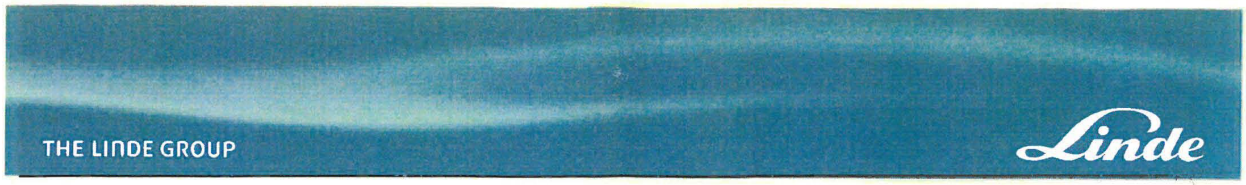

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PAGE: **2 of 4**

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chloroform	67-66-3	1.00 mg/m3	1.07 mg/m3
Ethyl Acetate	141-78-6	2.00 mg/m3	2.17 mg/m3
Tetrahydrofuran	109-99-9	1.00 mg/m3	1.09 mg/m3
Ethyl Tert-Butyl Ether	637-92-3	1.00 mg/m3	1.08 mg/m3
1,2-Dichloroethane	107-06-2	1.00 mg/m3	1.08 mg/m3
1,1,1-Trichloroethane	71-55-6	1.00 mg/m3	1.07 mg/m3
Benzene	71-43-2	1.00 mg/m3	1.06 mg/m3
Isopropyl Acetate	108-21-4	2.00 mg/m3	2.11 mg/m3
1-Butanol	71-36-3	2.00 mg/m3	2.08 mg/m3
Carbon Tetrachloride	56-23-5	1.00 mg/m3	1.05 mg/m3
Cyclohexane	110-82-7	2.00 mg/m3	2.12 mg/m3
Tert Amyl Methyl Ether	994-05-8	1.00 mg/m3	1.08 mg/m3
1,2-Dichloropropane	78-87-5	1.00 mg/m3	1.08 mg/m3
Trichloroethylene	79-01-6	1.00 mg/m3	1.07 mg/m3
Bromodichloromethane	75-27-4	1.00 mg/m3	1.08 mg/m3
1,4-Dioxane	123-91-1	1.00 mg/m3	1.08 mg/m3
Isooctane	540-84-1	1.00 mg/m3	1.07 mg/m3
Methyl Methacrylate	80-62-6	2.00 mg/m3	2.15 mg/m3
Heptane	142-82-5	1.00 mg/m3	1.08 mg/m3
Cis-1,3-Dichloropropene	10061-01-5	1.00 mg/m3	1.04 mg/m3
Methyl Isobutyl Ketone	108-10-1	1.00 mg/m3	1.06 mg/m3
Trans-1,3-Dichloropropene	10061-02-6	1.00 mg/m3	1.06 mg/m3
1,1,2-Trichloroethane	79-00-5	1.00 mg/m3	1.07 mg/m3
Toluene	108-88-3	1.00 mg/m3	1.07 mg/m3
Methyl Butyl Ketone	591-78-6	1.00 mg/m3	1.07 mg/m3
Dibromochloromethane	124-48-1	1.00 mg/m3	1.07 mg/m3
1,2-Dibromoethane	106-93-4	1.00 mg/m3	1.07 mg/m3
n-Butyl Acetate	123-86-4	1.00 mg/m3	1.09 mg/m3
n-Octane	111-65-9	1.00 mg/m3	1.08 mg/m3
Tetrachloroethylene	127-18-4	1.00 mg/m3	1.04 mg/m3

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PAGE: 3 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chlorobenzene	108-90-7	1.00 mg/m3	1.07 mg/m3
Ethylbenzene	100-41-4	1.00 mg/m3	1.07 mg/m3
p-xylene	106-42-3	1.00 mg/m3	1.07 mg/m3
m-xylene	108-38-3	1.00 mg/m3	1.07 mg/m3
Bromoform	75-25-2	1.00 mg/m3	1.07 mg/m3
Cyclohexanone	108-94-1	1.00 mg/m3	1.00 mg/m3
Styrene	100-42-5	1.00 mg/m3	1.06 mg/m3
o-xylene	95-47-6	1.00 mg/m3	1.07 mg/m3
1,1,2,2-Tetrachloroethane	79-34-5	1.00 mg/m3	1.07 mg/m3
Nonane	111-84-2	1.00 mg/m3	1.07 mg/m3
Isopropylbenzene	98-82-8	1.00 mg/m3	1.08 mg/m3
alpha-Pinene	80-56-8	1.00 mg/m3	1.07 mg/m3
n-Propylbenzene	103-65-1	1.00 mg/m3	1.08 mg/m3
3-Ethyltoluene	620-14-4	1.00 mg/m3	1.06 mg/m3
4-Ethyltoluene	622-96-8	1.00 mg/m3	1.08 mg/m3
2-Ethyltoluene	611-14-3	1.00 mg/m3	1.08 mg/m3
1,3,5-Trimethylbenzene	108-67-8	1.00 mg/m3	1.06 mg/m3
alpha-Methylstyrene	98-83-9	1.00 mg/m3	1.07 mg/m3
Tert-Butyl Benzene	98-06-6	1.00 mg/m3	1.07 mg/m3
1,2,4-Trimethylbenzene	95-63-6	1.00 mg/m3	1.07 mg/m3
1,3-Dichlorobenzene	541-73-1	1.00 mg/m3	1.07 mg/m3
Benzyl Chloride	100-44-7	1.00 mg/m3	1.08 mg/m3
n-Decane	124-18-5	1.00 mg/m3	1.07 mg/m3
1,4-Dichlorobenzene	106-46-7	1.00 mg/m3	1.07 mg/m3
Sec-Butyl Benzene	135-98-8	1.00 mg/m3	1.07 mg/m3
p-Isopropyltoluene	99-87-6	1.00 mg/m3	1.09 mg/m3
1,2,3-Trimethylbenzene	526-73-8	1.00 mg/m3	1.09 mg/m3
1,2-Dichlorobenzene	95-50-1	1.00 mg/m3	1.07 mg/m3

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PAGE: 4 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
d-Limonene	5989-27-5	1.00 mg/m3	1.08 mg/m3
n-Butyl Benzene	104-51-8	1.00 mg/m3	1.07 mg/m3
1,2-Dibromo-3-Chloropropane	96-12-8	1.00 mg/m3	1.05 mg/m3
n-Undecane	1120-21-4	1.00 mg/m3	1.08 mg/m3
1,2,4-Trichlorobenzene	120-82-1	1.00 mg/m3	1.07 mg/m3
Naphthalene	91-20-3	1.00 mg/m3	1.03 mg/m3
n-Dodecane	112-40-3	1.00 mg/m3	1.04 mg/m3
Hexachloro-1,3-Butadiene	87-68-3	1.00 mg/m3	1.06 mg/m3
Nitrogen	7727-37-9	Balance	Balance

ANALYST: Lou Lorenzetti **DATE:** Sep-24-2019

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PAGE: 1 of 4

Secondary

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Propylene	115-07-1	1.00 mg/m3	1.05 mg/m3
Freon-12	75-71-8	1.00 mg/m3	1.05 mg/m3
Chloromethane	74-87-3	1.00 mg/m3	1.06 mg/m3
Freon-114	76-14-2	1.00 mg/m3	1.03 mg/m3
Vinyl Chloride	75-01-4	1.00 mg/m3	1.06 mg/m3
1,3-Butadiene	106-99-0	1.00 mg/m3	1.06 mg/m3
Bromomethane	74-83-9	1.00 mg/m3	1.06 mg/m3
Chloroethane	75-00-3	1.00 mg/m3	1.07 mg/m3
Ethanol	64-17-5	5.00 mg/m3	5.30 mg/m3
Acetonitrile	75-05-8	1.00 mg/m3	1.07 mg/m3
Acrolein	107-02-8	1.00 mg/m3	1.03 mg/m3
Acetone	67-64-1	5.00 mg/m3	5.34 mg/m3
Freon-11	75-69-4	1.00 mg/m3	1.06 mg/m3
Isopropyl Alcohol	67-63-0	2.00 mg/m3	2.11 mg/m3
Acrylonitrile	107-13-1	1.00 mg/m3	1.06 mg/m3
1,1-Dichloroethene	75-35-4	1.00 mg/m3	1.07 mg/m3
Carbon Disulfide	75-15-0	1.00 mg/m3	1.06 mg/m3
Methylene Chloride	75-09-2	1.00 mg/m3	1.05 mg/m3
Tert-Butanol	75-65-0	2.00 mg/m3	2.15 mg/m3
Allyl Chloride	107-05-1	1.00 mg/m3	1.07 mg/m3
Freon-113	76-13-1	1.00 mg/m3	1.08 mg/m3
Trans-1,2-Dichloroethene	156-60-5	1.00 mg/m3	1.07 mg/m3
1,1-Dichloroethane	75-34-3	1.00 mg/m3	1.06 mg/m3
Methyl Tert Butyl Ether	1634-04-4	1.00 mg/m3	1.07 mg/m3
Vinyl Acetate	108-05-4	5.00 mg/m3	5.33 mg/m3
Methacrylonitrile	126-98-7	1.00 mg/m3	1.06 mg/m3
Methyl Ethyl Ketone	78-93-3	1.00 mg/m3	1.06 mg/m3
Cis-1,2-Dichloroethene	156-59-2	1.00 mg/m3	1.06 mg/m3
Hexane	110-54-3	1.00 mg/m3	1.08 mg/m3
Di-isopropyl Ether	108-20-3	1.00 mg/m3	1.08 mg/m3

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PAGE: 2 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chloroform	67-66-3	1.00 mg/m3	1.07 mg/m3
Ethyl Acetate	141-78-6	2.00 mg/m3	2.16 mg/m3
Tetrahydrofuran	109-99-9	1.00 mg/m3	1.10 mg/m3
Ethyl Tert-Butyl Ether	637-92-3	1.00 mg/m3	1.07 mg/m3
1,2-Dichloroethane	107-06-2	1.00 mg/m3	1.07 mg/m3
1,1,1-Trichloroethane	71-55-6	1.00 mg/m3	1.07 mg/m3
Benzene	71-43-2	1.00 mg/m3	1.05 mg/m3
Isopropyl Acetate	108-21-4	2.00 mg/m3	2.10 mg/m3
1-Butanol	71-36-3	2.00 mg/m3	2.13 mg/m3
Carbon Tetrachloride	56-23-5	1.00 mg/m3	1.04 mg/m3
Cyclohexane	110-82-7	2.00 mg/m3	2.11 mg/m3
Tert Amyl Methyl Ether	994-05-8	1.00 mg/m3	1.07 mg/m3
1,2-Dichloropropane	78-87-5	1.00 mg/m3	1.07 mg/m3
Trichloroethylene	79-01-6	1.00 mg/m3	1.08 mg/m3
Bromodichloromethane	75-27-4	1.00 mg/m3	1.09 mg/m3
1,4-Dioxane	123-91-1	1.00 mg/m3	1.08 mg/m3
Isooctane	540-84-1	1.00 mg/m3	1.07 mg/m3
Methyl Methacrylate	80-62-6	2.00 mg/m3	2.15 mg/m3
Heptane	142-82-5	1.00 mg/m3	1.07 mg/m3
Cis-1,3-Dichloropropene	10061-01-5	1.00 mg/m3	1.07 mg/m3
Methyl Isobutyl Ketone	108-10-1	1.00 mg/m3	1.06 mg/m3
Trans-1,3-Dichloropropene	10061-02-6	1.00 mg/m3	1.06 mg/m3
1,1,2-Trichloroethane	79-00-5	1.00 mg/m3	1.07 mg/m3
Toluene	108-88-3	1.00 mg/m3	1.06 mg/m3
Methyl Butyl Ketone	591-78-6	1.00 mg/m3	1.08 mg/m3
Dibromochloromethane	124-48-1	1.00 mg/m3	1.07 mg/m3
1,2-Dibromoethane	106-93-4	1.00 mg/m3	1.07 mg/m3
n-Butyl Acetate	123-86-4	1.00 mg/m3	1.09 mg/m3
n-Octane	111-65-9	1.00 mg/m3	1.08 mg/m3
Tetrachloroethylene	127-18-4	1.00 mg/m3	1.04 mg/m3

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PAGE: **3 of 4**

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chlorobenzene	108-90-7	1.00 mg/m3	1.07 mg/m3
Ethylbenzene	100-41-4	1.00 mg/m3	1.06 mg/m3
p-xylene	106-42-3	1.00 mg/m3	1.07 mg/m3
m-xylene	108-38-3	1.00 mg/m3	1.06 mg/m3
Bromoform	75-25-2	1.00 mg/m3	1.07 mg/m3
Cyclohexanone	108-94-1	1.00 mg/m3	1.01 mg/m3
Styrene	100-42-5	1.00 mg/m3	1.06 mg/m3
o-xylene	95-47-6	1.00 mg/m3	1.07 mg/m3
1,1,2,2-Tetrachloroethane	79-34-5	1.00 mg/m3	1.07 mg/m3
Nonane	111-84-2	1.00 mg/m3	1.07 mg/m3
Isopropylbenzene	98-82-8	1.00 mg/m3	1.07 mg/m3
alpha-Pinene	80-56-8	1.00 mg/m3	1.06 mg/m3
n-Propylbenzene	103-65-1	1.00 mg/m3	1.07 mg/m3
3-Ethyltoluene	620-14-4	1.00 mg/m3	1.07 mg/m3
4-Ethyltoluene	622-96-8	1.00 mg/m3	1.05 mg/m3
2-Ethyltoluene	611-14-3	1.00 mg/m3	1.07 mg/m3
1,3,5-Trimethylbenzene	108-67-8	1.00 mg/m3	1.06 mg/m3
alpha-Methylstyrene	98-83-9	1.00 mg/m3	1.06 mg/m3
Tert-Butyl Benzene	98-06-6	1.00 mg/m3	1.06 mg/m3
1,2,4-Trimethylbenzene	95-63-6	1.00 mg/m3	1.06 mg/m3
1,3-Dichlorobenzene	541-73-1	1.00 mg/m3	1.07 mg/m3
Benzyl Chloride	100-44-7	1.00 mg/m3	1.07 mg/m3
n-Decane	124-18-5	1.00 mg/m3	1.07 mg/m3
1,4-Dichlorobenzene	106-46-7	1.00 mg/m3	1.07 mg/m3
Sec-Butyl Benzene	135-98-8	1.00 mg/m3	1.06 mg/m3
p-Isopropyltoluene	99-87-6	1.00 mg/m3	1.09 mg/m3
1,2,3-Trimethylbenzene	526-73-8	1.00 mg/m3	1.08 mg/m3
1,2-Dichlorobenzene	95-50-1	1.00 mg/m3	1.07 mg/m3

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PAGE: **4 of 4**

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
d-Limonene	5989-27-5	1.00 mg/m3	1.06 mg/m3
n-Butyl Benzene	104-51-8	1.00 mg/m3	1.07 mg/m3
1,2-Dibromo-3-Chloropropane	96-12-8	1.00 mg/m3	1.07 mg/m3
n-Undecane	1120-21-4	1.00 mg/m3	1.08 mg/m3
1,2,4-Trichlorobenzene	120-82-1	1.00 mg/m3	1.08 mg/m3
Naphthalene	91-20-3	1.00 mg/m3	1.06 mg/m3
n-Dodecane	112-40-3	1.00 mg/m3	1.06 mg/m3
Hexachloro-1,3-Butadiene	87-68-3	1.00 mg/m3	1.07 mg/m3
Nitrogen	7727-37-9	Balance	Balance

ANALYST: _____
Lou Lorenzetti

DATE: Sep-24-2019

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1/6/20 VH

TO-15 MAPH STD				20ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of S31-11061903 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-01062006	20 ng/L	STD00164	1/6/20	**3/4/20**	LH

1/6/20 S31-01062007 TO-15 IS/SURR STD ~0,5 mg/m³

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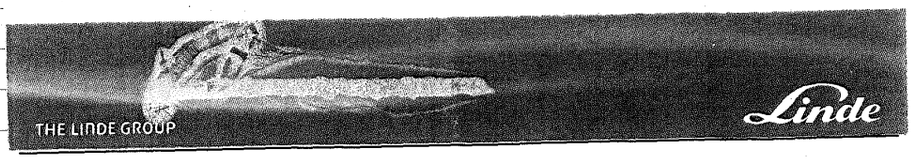

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PAGE: 1 of 1

S31-01062007 **ANALYSIS REPORT** IS/SURR STD.

Sales#:	117350975	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1502527	**Cylinder # :**	CC-430401
Report Date:	Dec-23-2019	**Cylinder Pressure:**	2000 psig
P.O.# :	SM003000	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24086333	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	4000 Liters
Expiration Date:	Dec-23-~~2020~~ 2021	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	10% Relative

VH 1/7/20

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Bromochloromethane	74-97-5	0.50 mg/m3	0.55 mg/m3
1,2-Dichloroethane-d4	17060-07-0	0.50 mg/m3	0.55 mg/m3
1,4-Difluorobenzene	540-36-3	0.50 mg/m3	0.55 mg/m3
Toluene-d8	2037-26-5	0.50 mg/m3	0.55 mg/m3
Chlorobenzene-d5	3114-55-4	0.50 mg/m3	0.55 mg/m3
4-Bromofluorobenzene	460-00-4	0.50 mg/m3	0.53 mg/m3
Nitrogen	7727-37-9	Balance	Balance

1/7/20 VH

EPA 325B STD	BTEX 1° Working Standard	200 µg/mL
S31-01072001	Expires:	1/21/2020
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 2000µg/mL BTEX stock standard S31-11271903 (expires 1/27/20).		

VH

EPA 325B STD	BTEX 2° Working Standard	200 µg/mL
S31-01072002	Expires:	1/21/2020
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 2000µg/mL BTEX stock standard S31-11271904 (expires 1/27/20).		

VH

S34-03192001	TO-15 IS & Surr. STD	500 ng/L
Filled 6L CAN STD00154 with	S31-01062007 to ~80 psig.	Exp. 5/19/20 TD

TD 3/23/20

S34-03202001	TO-15 SIM IS/SURR	40 ng/L
Filled can STD00226	to (-7.46) psig with S31-01062007 then pressurized to 75.4 psig	
with HZA Lot #70086833701		
	Exp: 6/18/2020	RVT
DF = 14.7+ 61.80= 12.5X		
14.7+ (-8.58)		

3/20/20 RVT

TO-17 STD S34-03202002	PAH 1° Working Standard	2 µg/ml 5/20/2020
Into 1mL mininert vial with 9900µL B&J P&T methanol, Lot #DL535, added 10µL 200µg/mL PAH 1° stock standard S31-01222001 (Exp. 7/21/20)		

MA

TO-17 STD S34-03232001	RAD VOC 1° Stock Standard	2000ng/µL 5/23/2020
Transferred stock standard S31-09061901B (exp. 3/13/27) into glass vial with mininert valve cap.		

3/23/20 CV

TO-17 STD S34-03232002	RAD VOC 1° Working Standard	200ng/µL 5/23/2020
Into 1mL mininert vial with 900uL B&J P&T methanol, Lot # DL535, added 100uL 2000ng/µL Stock Standard S34-03232001 (expires 3/13/20)		

CV

TO-15 ICV/LCS STD	200 ng/L
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-10111902 with HZA Lot # 70086915004 using 4700 diluter	

3/25/20

RVT

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34 ~~S31~~-03252001	200 ng/L	STD00033	3/25/20	4/23/20	RVT
RVT S34 ~~S31~~-03252002	200 ng/L	STD00182	3/25/20	4/23/20	RVT
4/3/20 S34 ~~S31~~-03252003	200 ng/L	STD00132	3/25/20	4/23/20	RVT
S34 ~~S31~~-03252004	200 ng/L	STD00139	3/25/20	4/23/20	RVT

S34-03262001	TO-15 IS & Surr. STD	500 ng/L
Filled 15L CAN STD00219 with	S31-10111901 to ~80 psig.	Exp. 6/26/20 WA

3/26/20 WA

3/27/20 RVT

TO-15 ICV/LCS STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111902** with HZA Lot # 70086915004 using 4700 diluter

TD 4/4/20

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04022001	200 ng/L	STD00173	4/2/20	**5/1/20**	TD

TO-17 STD **PAH 1° Stock Standard** **200 µg/ml**
S34-04022002 **10/2/2020**
Into 1mL mininert vial, directly transfered entire contents 200µg/mL PAH 1° stock standard S31-01181908D (expires 1/17/22).

TO-17 STD **PAH 2° Stock Standard** **100 µg/ml**
S34-04022003 **10/2/2020**
Into 1mL mininert vial, directly transfered entire contents of 100µg/mL PAH 1° stock standard S31-03221901B (expires 4/11/22).

TO-17 STD **PAH 1° Working Standard** **20 µg/mL**
S34-04022004 **10/2/2020**
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 200µg/mL PAH 1° stock standard S34-4022002 (Exp. 10/2/20)

TO-17 STD **PAH 1° Working Standard** **2 µg/ml**
S34-04022005 **10/2/2020**
Into 1mL mininert vial with 990µL B&J P&T methanol, Lot #DL535, added 10µL 200µg/mL PAH 1° stock standard S34-04022002 (Exp. 10/2/20)

TO-17 STD **PAH 2° Working Standard** **20 µg/ml**
S34-04022006 **10/2/2020**
Into 1mL mininert vial with 800µL B&J P&T methanol, Lot #DL535, added 200µL 100µg/mL PAH 2° stock standard S34-04022003 (Exp. 10/2/20)

EPA 325B STD **BTEX 1° Working Standard** **20 µg/mL**
MK **S34-04022007** **Expires: 4/22/2020**
Into 1mL mininert vial with 990µL B&J P&T methanol, Lot #DL535, added 10µL 2000µg/mL BTEX Stock standard S34-03312005 (expires 5/31/20).

4/7/20 RVT

TO-15 STD 1000 ng/L
S34-04072001
Filled Can: STD00056 w/S31-10111901 To ~ 10.23 PSIG
Expires: 9/24/20 RVT

TO-15 STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S34-04072001** using 4700 diluter HZA Lot #70086915004

TD 4/7/20

Standard ID	Standard conc.	CAN I.D.	Prep. Date	**Exp. Date**	Initial
S34-04072002	200 ng/L	STD00134	4/7/20	**5/6/20**	TD

12

		TO-15 STD		20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04072002**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
TD S34-04072003	20 ng/L	STD00007	4/7/20	**5/6/20**	TD

		TO-15 STD		4 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S34-04072003**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
TD S34-04072004	4 ng/L	STD00211	4/7/20	**5/6/20**	TD

RVT TO-15 ICV/LCS STD 1000ng/L
S34-04072005
Filled Can: STD00136 w/S31-10111902 To ~ 10.52 PSIG
Exp 9/24/20 RVT

	TO-15 ICV/LCS STD	200 ng/L			
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S34-04072005** with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
TD S34-04072006	200 ng/L	STD00194	4/7/20	**5/6/20**	TD

S31-04072007 **TO-17 IS/Surr Neat Mix** **75,000** µg each compd.
34
@ 4/7/20 **Exp** **1/31/21**

CM

Compound	Std ID	d(µg/µl)	amt spiked (µl)	exp. date
Bromochloromethane	S31-11281802	1934.4	39	6/30/2021
1,4-Difluorobenzene	S31-11281803	1170.1	64	2/1/2021
Chlorobenzene-d5	S31-05131901	1157	65	5/31/2024
1,2-Dichloroethane-d4	S31-11281804	1307	57	11/28/2023
Toluene-d8	S29-04281602	943	80	4/28/2021
4-Bromofluorobenzene	S31-05131903	1593	47	1/31/2021
		total µl:	352	

neat compound density: **213.3 µg/µl**

RVT TO-15 ICV/LCS STD 1000ng/L
S34-04082001
Filled Can: STD00136 w/S31-10111902 To ~ 11.93 PSIG
Exp: 9/24/20
RVT

4/8/20 S34-~~03~~04082002 TO-17 IS/surr 50ng/ml
Spiked 23.5 µl S34-04072007 into can STDcc215 and
pressurized to 83.3 psig w/ HZA (Lot 7008600403).
Exp. 10/8/20

	TO-15 STD			200 ng/L	
4/10/20	Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111901**				
	using 4700 diluter	HZA Lot #70086915004			
RVT					
	Standard ID	Standard conc.	CAN I.D.	Prep. Date	**Exp. Date**	Initial
	S34-04102001	200 ng/L	STD00096	4/10/20	**5/9/20**	RVT
	S34-04102002	200 ng/L	STD00111	4/10/20	**5/9/20**	RVT
	S34-04102003	200 ng/L	STD00013	4/10/20	**5/9/20**	RVT
	S34-04102004	200 ng/L	STD00018	4/10/20	**5/9/20**	RVT

RVT S34-04102005 TO-15 STD 1000 ng/L
Pressurized Can: STD00056 w/S31-10111901 To. 16.61 psig
Exp. 9/24/20
RVT

	TO-15 STD			200 ng/L	
RVT	Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S34-04102005**				
	using 4700 diluter	HZA Lot #70086915004			
	Standard ID	Standard conc.	CAN I.D.	Prep. Date	**Exp. Date**	Initial
	S34-04102006	200 ng/L	STD00003	4/10/20	**5/9/20**	RVT

RVT S34-04102007 TO-15 STD 1000ng/L
ICV/LCS
Pressurized Can: STD00136 w/S31-10111902 To ≈ 17 psig
Exp. 9/24/20
RVT

	TO-15 ICV/LCS STD			200 ng/L	
RVT	Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S34-04102007** with HZA Lot # 70086915004 using 4700 diluter				
	Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
	S34-04102008	200 ng/L	STD00158	4/10/20	**5/9/20**	RVT

	TO-15 STD			20 ng/L	
RVT	Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04102004**				
	using 4700 diluter	HZA Lot #70086915004			
	Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
	S34-04102009	20 ng/L	STD00145	4/10/20	**5/9/20**	RVT

4/15/20
RVT

TO-15 STD **4 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S34-04102010**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04152001	4 ng/L	STD00161	4/15/20	**5/14/20**	RVT

TO-15 Custom STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with
HZA Lot # 70086915004 using 4700 diluter

TD 4/16/20

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04162001	200 ng/L	STD00009	4/16/2020	**5/15/2020**	TD
S34-04162002	200 ng/L	STD00124	4/16/2020	**5/15/2020**	TD

4/16/20
RVT

TO-15 STD **4 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of **S34-04102003**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04162003	4 ng/L	STD00227	4/16/20	**5/15/20**	RVT

4/20/20
RVT

TO-15 STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111901**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04202001	200 ng/L	STD00128	4/20/20	**5/19/20**	RVT
S34-04202002	200 ng/L	STD00112	4/20/20	**5/19/20**	RVT
S34-04202003	200 ng/L	STD00105	4/20/20	**5/19/20**	RVT
S34-04202004	200 ng/L	STD00047	4/20/20	**5/19/20**	RVT

TO-15 Custom STD **20 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of S31-06251901 with
HZA Lot # 70086915004 using 4700 diluter

TD 4/21/20

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04212001	20 ng/L	STD00049	4/21/2020	**5/20/2020**	TD

TD 4/21/20

16

		TO-15 Custom STD		200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04212002	200 ng/L	STD00208	4/21/2020	**5/20/2020**	TD
S34-04212003	200 ng/L	STD00140	4/21/2020	**5/20/2020**	TD

TD

		TO-15 Custom STD		20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of S34-04212003 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04212004	20 ng/L	STD00065	4/21/2020	**5/20/2020**	TD

TD

		TO-15 Custom ICV/LCS		200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251902 with HZA Lot #70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-0421~~2006~~ 2007 NN 5-5-20	200 ng/L	STD00181	4/21/2020	**5/20/2020**	TD

TD

		TO-15 Custom ICV/ LCS STD		20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of S31-06251902 with HZA Lot #70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04212005	20 ng/L	STD00080	4/21/2020	**5/20/2020**	TD

TD

4/21/20 S34-0421~~2006~~ 2007 NN 5-5-20 TO-15 IS/Surr 500 ng/L
Filled Can # STD00075 with S31-01062007 to psig 84
EXP 06/29/20

S34-04222001	**TO-15 IS & Surr. STD**	**500 ng/L**
Filled 15L CAN STD00228 with S31-01062007 to ~80 psig.		Exp. 7/22/20 TD

TD 4/22/20

4/22/20 RVT

4/22/20 RVT

S34-04222002 **TO-15 SIM IS/SURR** **40 ng/L**

Filled can STD00226 to (-6.74) psig with S31-01062007 then pressurized to 84.34 psig with HZA Lot #70086004903

Exp: 7/21/20 RVT

DF = 14.7+ 61.80= 12.5X
14.7+ (-8.58)

RVT

		TO-15 STD		20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04202002**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04222003	20 ng/L	STD00043	4/22/20	**5/21/20**	RVT

RVT

		TO-15 STD		20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04202003**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04222004	20 ng/L	STD00197	4/22/20	**5/21/20**	RVT

4/23/20 RVT

S34-04232001 TO-15 STD 1000 ng/L
Pressurized Can: ~~STD~~ 15C0109 w/ S31-10111901 To ~ 11.5 psig
RVT
Exp: 9/24/20

RVT

S34-04242001 TO-15 STD 1000 ng/L
Pressurized Can: STD00134 w/ S31-10111901 To ~ 11.01 psig
RVT
Exp 9/24/20

4/27/20 RVT

		TO-15 Custom STD		200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272001	200 ng/L	STD00153	4/27/2020	**5/26/2020**	RVT
S34-04272002	200 ng/L	STD00116	4/27/2020	**5/26/2020**	RVT
S34-04272003	200 ng/L	STD00157	4/27/2020	**5/26/2020**	RVT
S34-04272004	200 ng/L	STD00125	4/27/2020	**5/26/2020**	RVT

4/27/20
RVT

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Simi Valley, CA 93065
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www.alsglobal.com

LABORATORY REPORT

April 30, 2020

Pamela Moss
EA Engineering, Science, and Technology, Inc.
7995 E. Prentice Ave, Suite 206E
Greenwood Village, CO 80111

RE: Kirtland AFB Bulk Fuels Facility / 62735DM02

Dear Pamela:

Enclosed are the results of the samples submitted to our laboratory on April 14, 2020. For your reference, these analyses have been assigned our service request number P2002031.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

Kate Kaneko
Apr 30, 2020, 3:51 pm

Kate Kaneko
Project Manager

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

Client: EA Engineering, Science, and Technology, Inc. Service Request No: P2002031
Project: Kirtland AFB Bulk Fuels Facility / 62735DM02

CASE NARRATIVE

The samples were received intact under chain of custody on April 14, 2020 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The reporting limit is elevated for sample(s) SV124-350-202, SV124-450-202, SV125-350-202, SV125-450-202, SV127-350-202 and SV127-450-202. The chromatogram indicated the presence of non-target background components. The samples were diluted in order to prevent damage to the instrument and to achieve optimal resolution of the target analytes.

Manual integrations were performed on the following samples and analytes. Refer to the raw data for additional information.

Sample Identifications	Analyte
P2002031-004, 004dup, 010, 013,	propene
P2002031-008, 012, 017, 017dup, 019	acetone
P2002031-014	2-hexanone
P2002031-018	bromodichloromethane

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.1 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

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Simi Valley, CA 93065
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www.alsglobal.com

ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1776326
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-007
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272019-10
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: EA Engineering, Science, and Technology, Inc. Service Request: P2002031

Project ID: Kirtland AFB Bulk Fuels Facility / 62735DM02

Date Received: 4/14/2020

Time Received: 10:45

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	TO-15 - VOC Cans
SV124-150-202	P2002031-001	Air	4/7/2020	12:07	1SC01203	-2.97	5.03	X
SV124-250-602	P2002031-002	Air	4/7/2020	12:10	1SS00139	-3.14	5.36	X
SV124-250-202	P2002031-003	Air	4/7/2020	12:10	1SS00588	-2.82	5.11	X
SV124-350-202	P2002031-004	Air	4/7/2020	12:15	1SS00756	-3.93	5.23	X
SV124-450-202	P2002031-005	Air	4/7/2020	12:26	1SS01007	-3.37	5.79	X
SV125-025-202	P2002031-006	Air	4/7/2020	11:03	1SC00202	-3.11	6.23	X
SV125-050-202	P2002031-007	Air	4/7/2020	11:06	1SC00106	-2.99	5.65	X
SV125-150-202	P2002031-008	Air	4/7/2020	11:10	1SC00304	-2.66	5.57	X
SV125-250-202	P2002031-009	Air	4/7/2020	11:13	1SS00940	-3.32	5.44	X
SV125-350-202	P2002031-010	Air	4/7/2020	11:16	1SC00929	-2.60	5.68	X
SV125-450-202	P2002031-011	Air	4/7/2020	11:27	1SC00754	-3.26	6.78	X
SV127-025-202	P2002031-012	Air	4/7/2020	09:36	1SC00934	-3.49	5.54	X
SV127-050-202	P2002031-013	Air	4/7/2020	09:41	1SC00156	-4.95	5.77	X
SV127-150-202	P2002031-014	Air	4/7/2020	09:47	1SC00943	-2.84	5.69	X
SV127-250-602	P2002031-015	Air	4/7/2020	09:54	1SS01018	-3.20	5.49	X
SV127-250-202	P2002031-016	Air	4/7/2020	09:54	1SS00801	-2.93	5.37	X
SV127-350-202	P2002031-017	Air	4/7/2020	10:03	1SC00528	-1.73	7.44	X
SV127-450-202	P2002031-018	Air	4/7/2020	10:16	1SS00743	-2.94	5.32	X
SV133-025-202	P2002031-019	Air	4/8/2020	08:31	1SC00116	-2.66	5.45	X
SV133-050-202	P2002031-020	Air	4/8/2020	08:34	1SS00807	-2.14	5.17	X

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

COC #: COC-SV202-05

Requested Turnaround Time in Business Days: 10 Day-Standard

ALS Project No. P1002031

Company Name & Address (Reporting Information)	Project Name	ALS Contact: Kate Kaneko 1 (805) 577-2089
EA Engineering, Science, and Technology, Inc., PBC 225 Schilling Circle Suite 400, Hunt Valley, MD (410) 584-7000	Kirtland AFB Bulk Fuels Facility	**Analysis Method**
	Project Number: 62735DM02	TO-15 Project Specific List
Project Manager / Project Chemist: Bernie Bockish (505) 234-1105 / Pam Moss (303) 590-9143	P.O. # / Billing Information: 17682	
Email Address for Result Reporting Tara Lamond: tlamond@eaest.com Amanda Smith: asmith@eaest.com Pam Moss: pmoss@eaest.com	Sampler (Print & Sign): Ryan Wortman	

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg	Sample Volume	TO-15 Project Specific List	Comments e.g. Actual **Preservative or** specific instructions
SV124-150-202		4/7/2020	1207	1SC01203	NA	-25.0	-0.5	1L	X	None
SV124-250-602		4/7/2020	1210	1SS00139	NA	-25.0	-2.0	1L	X	None
SV124-250-202		4/7/2020	1210	1SS00588	AVG05121	-24.0	-2.0	1L	X	None
SV124-350-202		4/7/2020	1215	1SS00756	NA	-24.5	-2.0	1L	X	None
SV124-450-202		4/7/2020	1226	1SS01007	NA	-25.0	-2.0	1L	X	None
SV125-025-202		4/7/2020	1103	1SC00202	NA	-28.0	-3.5	1L	X	None
SV125-050-202		4/7/2020	1106	1SC00106	NA	-26.0	-2.0	1L	X	None
SV125-150-202		4/7/2020	1110	1SC00304	AVG05120	-20.0	-1.0	1L	X	None
SV125-250-202		4/7/2020	1113	1SS00940	NA	-25.0	-2.0	1L	X	None
SV125-350-202		4/7/2020	1116	1SC00929	NA	-26.0	-1.0	1L	X	None

FedEX Tracking Number: 1028 3396 5160

Associated with Trip blank: SVTB-202-01

Shipping information: Box number 2 of 3

Report Tier Levels - please select

Tier I - Results (Default if not specified) _____ Tier III (Results + QC & Calibration Summaries) _____
Tier II (Results + QC Summaries) _____ Tier IV (Data Validation Package) X

EDD required: Yes
Type: ERPIMS / EQuIS

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements: QAPP

Relinquished by: (Signature)	Date: 4/13/20	Time: 1300	Received by: (Signature)	Date: 4-14-20	Time: 1045
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Cooler / Blank Temperature NA °C

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

COC #: COC-SV202-05

Requested Turnaround Time in Business Days: 10 Day-Standard

ALS Project No: P200203 1

Company Name & Address (Reporting Information)	EA Engineering, Science, and Technology, Inc., PBC 225 Schilling Circle Suite 400, Hunt Valley, MD (410) 584-7000
Project Manager / Project Chemist	Bernie Bockish (505) 234-1105 / Pam Moss (303) 590-9143
Email Address for Result Reporting	Tara Lamond: tlamond@eaest.com Amanda Smith: asmith@eaest.com Pam Moss: pmoss@eaest.com
Project Name	Kirtland AFB Bulk Fuels Facility
Project Number	62735DM02
P.O. # / Billing Information	17682
Sampler (Print & Sign)	Ryan Wortman

ALS Contact: Kate Kaneko
1 (805) 577-2089

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg	Sample Volume	Analysis Method: TO-15 Project Specific List	Comments e.g. Actual Preservative or specific instructions
SV125-450-202		4/7/2020	1127	1SC00754	NA	-26.0	-3.5	1L	X	None
SV127-025-202		4/7/2020	0936	1SC00934	AVG###99	-25.5	-3.5	1L	X	None
SV127-050-202		4/7/2020	0941	1SC00156	AVG05107	-24.5	-5.0	1L	X	None
SV127-150-202		4/7/2020	0947	1SC00943	AVG03260	-25.0	-2.0	1L	X	None
SV127-250-602		4/7/2020	0954	1SS01018	NA	-23.0	-2.0	1L	X	None
SV127-250-202		4/7/2020	0954	1SS00801	AVG05044	-24.0	-1.0	1L	X	None
SV127-350-202		4/7/2020	1003	1SC00528	NA	-24.0	-4.0	1L	X	None
SV127-450-202		4/7/2020	1016	1SS00743	NA	-25.0	-2.0	1L	X	None
SV133-025-202		4/8/2020	0831	1SC00116	NA	-24.5	-2.5	1L	X	None
SV133-050-202		4/8/2020	0834	1SS00807	AVG03841	-25.0	-1.0	1L	X	None

FedEX Tracking Number: 1028 3396 5160

Associated with Trip blank: SVTB-202-01

Shipping information: Box number 2 of 3

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____ Tier III (Results + QC & Calibration Summaries) ____
Tier II (Results + QC Summaries) ____ Tier IV (Data Validation Package) X

EDD required: Yes
Type: ERPIMS / EQuIS

Chain of Custody Seal: (Circle) ~~INTACT~~ BROKEN ABSENT

Project Requirements: QAPP

Relinquished by: (Signature)	Date: 4/7/20	Time: 1300	Received by: (Signature)	Date: 4/14/20	Time: 1045
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Cooler / Blank Temperature NA °C

ALS Environmental

Sample Acceptance Check Form

Client: EA Engineering, Science, and Technology, Inc. Work order: P2002031

Project: Kirtland AFB Bulk Fuels Facility / 62735DM02

Sample(s) received on: 04/14/20 Date opened: 04/14/20 by: DENISE.POSADA

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☒	☐	☐
	Location of seal(s)? _____ Sealing Lid?	☒	☐	☐
	Were signature and date included?	☒	☐	☐
	Were seals intact?	☒	☐	☐
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2002031-001.01	1.0 L Source Can					
P2002031-002.01	1.0 L Source Silonite Canister					
P2002031-003.01	1.0 L Source Silonite Canister					
P2002031-004.01	1.0 L Source Silonite Canister					
P2002031-005.01	1.0 L Source Silonite Canister					
P2002031-006.01	1.0 L Source Can					
P2002031-007.01	1.0 L Source Can					
P2002031-008.01	1.0 L Source Can					
P2002031-009.01	1.0 L Source Silonite Canister					
P2002031-010.01	1.0 L Source Can					
P2002031-011.01	1.0 L Source Can					
P2002031-012.01	1.0 L Source Can					
P2002031-013.01	1.0 L Source Can					
P2002031-014.01	1.0 L Source Can					
P2002031-015.01	1.0 L Source Silonite Canister					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS Environmental

Sample Acceptance Check Form

Client: EA Engineering, Science, and Technology, Inc. Work order: P2002031

Project: Kirtland AFB Bulk Fuels Facility / 62735DM02

Sample(s) received on: 04/14/20 Date opened: 04/14/20 by: DENISE.POSADA

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2002031-016.01	1.0 L Source Silonite Canister					
P2002031-017.01	1.0 L Source Can					
P2002031-018.01	1.0 L Source Silonite Canister					
P2002031-019.01	1.0 L Source Can					
P2002031-020.01	1.0 L Source Silonite Canister					

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV124-150-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-001

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01203

Initial Pressure (psig): -2.97 Final Pressure (psig): 5.03

Container Dilution Factor: 1.68

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**0.81**	2.2	1.3	0.55	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.5**	2.2	1.3	0.37	**J**
74-87-3	Chloromethane	1.3	2.2	1.3	0.36	**U**
75-01-4	Vinyl Chloride	0.71	2.3	0.71	0.24	**U**
106-99-0	1,3-Butadiene	1.3	2.2	1.3	0.37	**U**
75-00-3	Chloroethane	1.3	2.3	1.3	0.28	**U**
64-17-5	Ethanol	**4.8**	22	3.5	1.6	**J, B**
67-64-1	Acetone	11	22	11	5.0	**U**
75-69-4	Trichlorofluoromethane	**1.2**	2.2	1.3	0.34	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.3**	8.8	2.6	0.92	**J**
75-09-2	Methylene Chloride	1.3	2.2	1.3	0.63	**U**
76-13-1	Trichlorotrifluoroethane	**0.34**	2.3	0.71	0.32	**J**
75-15-0	Carbon Disulfide	**5.5**	4.6	2.3	0.67	
75-34-3	1,1-Dichloroethane	1.4	2.3	1.4	0.33	**U**
78-93-3	2-Butanone (MEK)	**1.1**	4.6	1.3	0.46	**J**
141-78-6	Ethyl Acetate	2.7	4.6	2.7	1.2	**U**
110-54-3	n-Hexane	1.3	2.3	1.3	0.46	**U**
67-66-3	Chloroform	**170**	2.3	0.71	0.30	
109-99-9	Tetrahydrofuran (THF)	**7.8**	2.3	0.71	0.28	
107-06-2	1,2-Dichloroethane	0.71	2.3	0.71	0.25	**U**
71-43-2	Benzene	**0.36**	2.2	0.71	0.32	**J**
56-23-5	Carbon Tetrachloride	**29**	2.2	0.71	0.31	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV124-150-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-001

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01203

Initial Pressure (psig): -2.97 Final Pressure (psig): 5.03

Container Dilution Factor: 1.68

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.4	4.6	1.4	0.63	**U**
75-27-4	Bromodichloromethane	**13**	2.3	0.71	0.32	
79-01-6	Trichloroethene	**0.50**	2.3	0.71	0.30	**J**
123-91-1	1,4-Dioxane	**0.50**	2.3	0.71	0.26	**J**
142-82-5	n-Heptane	1.3	2.3	1.3	0.36	**U**
108-10-1	4-Methyl-2-pentanone	0.71	2.2	0.71	0.31	**U**
108-88-3	Toluene	**1.6**	2.3	0.71	0.27	**J**
591-78-6	2-Hexanone	0.71	2.3	0.71	0.28	**U**
124-48-1	Dibromochloromethane	**0.73**	2.3	0.71	0.29	**J**
106-93-4	1,2-Dibromoethane	0.71	2.3	0.71	0.26	**U**
127-18-4	Tetrachloroethene	**6.0**	2.2	0.71	0.29	
100-41-4	Ethylbenzene	**0.44**	2.3	0.71	0.32	**J**
179601-23-1	m,p-Xylenes	**2.2**	4.6	1.4	0.59	**J**
75-25-2	Bromoform	1.3	2.3	1.3	0.46	**U**
100-42-5	Styrene	1.3	2.2	1.3	0.36	**U**
95-47-6	o-Xylene	**0.70**	2.3	0.71	0.32	**J**
108-67-8	1,3,5-Trimethylbenzene	**1.5**	2.2	0.71	0.32	**J**
95-63-6	1,2,4-Trimethylbenzene	**7.5**	2.3	0.71	0.31	
120-82-1	1,2,4-Trichlorobenzene	1.3	2.3	1.3	0.55	**U**
91-20-3	Naphthalene	**2.2**	2.2	1.3	0.55	
1330-20-7	Xylenes, Total	**2.9**	4.6	1.4	0.59	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV124-250-602** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-002

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00139

Initial Pressure (psig): -3.14 Final Pressure (psig): 5.36

Container Dilution Factor: 1.74

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.0**	2.3	1.4	0.57	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.2**	2.3	1.4	0.38	**J**
74-87-3	Chloromethane	**0.53**	2.3	1.4	0.37	**J**
75-01-4	Vinyl Chloride	0.74	2.3	0.74	0.25	**U**
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.38	**U**
75-00-3	Chloroethane	1.4	2.3	1.4	0.29	**U**
64-17-5	Ethanol	**6.3**	23	3.6	1.6	**J, B**
67-64-1	Acetone	**24**	23	12	5.2	
75-69-4	Trichlorofluoromethane	**0.94**	2.3	1.4	0.35	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	2.7	9.1	2.7	0.96	**U**
75-09-2	Methylene Chloride	1.4	2.3	1.4	0.65	**U**
76-13-1	Trichlorotrifluoroethane	0.74	2.3	0.74	0.33	**U**
75-15-0	Carbon Disulfide	**32**	4.8	2.3	0.70	
75-34-3	1,1-Dichloroethane	1.4	2.4	1.4	0.34	**U**
78-93-3	2-Butanone (MEK)	**2.2**	4.8	1.4	0.48	**J**
141-78-6	Ethyl Acetate	2.8	4.8	2.8	1.2	**U**
110-54-3	n-Hexane	1.4	2.3	1.4	0.48	**U**
67-66-3	Chloroform	**3.7**	2.3	0.74	0.31	
109-99-9	Tetrahydrofuran (THF)	**18**	2.4	0.74	0.29	
107-06-2	1,2-Dichloroethane	0.74	2.3	0.74	0.26	**U**
71-43-2	Benzene	**4.9**	2.3	0.74	0.33	
56-23-5	Carbon Tetrachloride	**3.4**	2.3	0.74	0.32	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV124-250-602** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-002

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00139

Initial Pressure (psig): -3.14 Final Pressure (psig): 5.36

Container Dilution Factor: 1.74

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.5	4.8	1.5	0.65	**U**
75-27-4	Bromodichloromethane	**0.44**	2.3	0.74	0.33	**J**
79-01-6	Trichloroethene	0.74	2.3	0.74	0.31	**U**
123-91-1	1,4-Dioxane	**0.83**	2.3	0.74	0.27	**J**
142-82-5	n-Heptane	**1.4**	2.3	1.4	0.37	**J**
108-10-1	4-Methyl-2-pentanone	**0.78**	2.3	0.74	0.32	**J**
108-88-3	Toluene	**7.5**	2.3	0.74	0.28	
591-78-6	2-Hexanone	**0.50**	2.3	0.74	0.29	**J**
124-48-1	Dibromochloromethane	0.74	2.3	0.74	0.30	**U**
106-93-4	1,2-Dibromoethane	0.74	2.3	0.74	0.27	**U**
127-18-4	Tetrachloroethene	**0.53**	2.3	0.74	0.30	**J**
100-41-4	Ethylbenzene	**2.1**	2.3	0.74	0.33	**J**
179601-23-1	m,p-Xylenes	**11**	4.8	1.5	0.61	
75-25-2	Bromoform	1.4	2.3	1.4	0.48	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.37	**U**
95-47-6	o-Xylene	**3.4**	2.3	0.74	0.33	
108-67-8	1,3,5-Trimethylbenzene	**8.4**	2.3	0.74	0.33	
95-63-6	1,2,4-Trimethylbenzene	**41**	2.3	0.74	0.32	
120-82-1	1,2,4-Trichlorobenzene	1.4	2.3	1.4	0.57	**U**
91-20-3	Naphthalene	**5.6**	2.3	1.3	0.57	
1330-20-7	Xylenes, Total	**14**	4.8	1.5	0.61	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV124-250-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-003

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00588

Initial Pressure (psig): -2.82 Final Pressure (psig): 5.11

Container Dilution Factor: 1.67

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**0.62**	2.2	1.3	0.54	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.2**	2.2	1.3	0.36	**J**
74-87-3	Chloromethane	1.3	2.2	1.3	0.36	**U**
75-01-4	Vinyl Chloride	0.71	2.3	0.71	0.24	**U**
106-99-0	1,3-Butadiene	1.3	2.2	1.3	0.37	**U**
75-00-3	Chloroethane	1.3	2.3	1.3	0.28	**U**
64-17-5	Ethanol	**3.1**	22	3.5	1.5	**J, B**
67-64-1	Acetone	**17**	22	11	5.0	**J**
75-69-4	Trichlorofluoromethane	**0.94**	2.2	1.3	0.34	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	2.6	8.8	2.6	0.92	**U**
75-09-2	Methylene Chloride	1.3	2.2	1.3	0.63	**U**
76-13-1	Trichlorotrifluoroethane	0.71	2.3	0.71	0.32	**U**
75-15-0	Carbon Disulfide	**8.3**	4.6	2.3	0.67	
75-34-3	1,1-Dichloroethane	1.4	2.3	1.4	0.33	**U**
78-93-3	2-Butanone (MEK)	**1.1**	4.6	1.3	0.46	**J**
141-78-6	Ethyl Acetate	2.7	4.6	2.7	1.2	**U**
110-54-3	n-Hexane	1.3	2.3	1.3	0.46	**U**
67-66-3	Chloroform	**2.9**	2.3	0.71	0.30	
109-99-9	Tetrahydrofuran (THF)	**6.0**	2.3	0.71	0.28	
107-06-2	1,2-Dichloroethane	0.71	2.3	0.71	0.25	**U**
71-43-2	Benzene	**0.42**	2.2	0.71	0.32	**J**
56-23-5	Carbon Tetrachloride	**3.4**	2.2	0.71	0.31	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV124-250-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-003

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00588

Initial Pressure (psig): -2.82 Final Pressure (psig): 5.11

Container Dilution Factor: 1.67

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.4	4.6	1.4	0.63	**U**
75-27-4	Bromodichloromethane	0.71	2.3	0.71	0.32	**U**
79-01-6	Trichloroethene	0.71	2.3	0.71	0.30	**U**
123-91-1	1,4-Dioxane	0.71	2.3	0.71	0.26	**U**
142-82-5	n-Heptane	**0.82**	2.3	1.3	0.35	**J**
108-10-1	4-Methyl-2-pentanone	**0.96**	2.2	0.71	0.30	**J**
108-88-3	Toluene	**4.5**	2.3	0.71	0.27	
591-78-6	2-Hexanone	**0.30**	2.3	0.71	0.28	**J**
124-48-1	Dibromochloromethane	0.71	2.3	0.71	0.29	**U**
106-93-4	1,2-Dibromoethane	0.71	2.3	0.71	0.26	**U**
127-18-4	Tetrachloroethene	**0.37**	2.2	0.71	0.29	**J**
100-41-4	Ethylbenzene	**1.3**	2.3	0.71	0.31	**J**
179601-23-1	m,p-Xylenes	**6.6**	4.6	1.4	0.58	
75-25-2	Bromoform	1.3	2.3	1.3	0.46	**U**
100-42-5	Styrene	1.3	2.2	1.3	0.36	**U**
95-47-6	o-Xylene	**2.0**	2.3	0.71	0.32	**J**
108-67-8	1,3,5-Trimethylbenzene	**4.4**	2.2	0.71	0.32	
95-63-6	1,2,4-Trimethylbenzene	**22**	2.3	0.71	0.31	
120-82-1	1,2,4-Trichlorobenzene	1.3	2.3	1.3	0.54	**U**
91-20-3	Naphthalene	**1.9**	2.2	1.3	0.54	**J**
1330-20-7	Xylenes, Total	**8.6**	4.6	1.4	0.58	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV124-350-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-004

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.040 Liter(s)
Test Notes:
Container ID: 1SS00756

Initial Pressure (psig): -3.93 Final Pressure (psig): 5.23

Container Dilution Factor: 1.85

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**7.3**	25	15	6.0	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	15	25	15	4.0	**U**
74-87-3	Chloromethane	15	25	15	4.0	**U**
75-01-4	Vinyl Chloride	7.9	25	7.9	2.6	**U**
106-99-0	1,3-Butadiene	15	25	15	4.1	**U**
75-00-3	Chloroethane	15	25	15	3.1	**U**
64-17-5	Ethanol	38	240	38	17	**U**
67-64-1	Acetone	120	250	120	56	**U**
75-69-4	Trichlorofluoromethane	15	25	15	3.7	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	29	97	29	10	**U**
75-09-2	Methylene Chloride	15	25	15	6.9	**U**
76-13-1	Trichlorotrifluoroethane	7.9	25	7.9	3.5	**U**
75-15-0	Carbon Disulfide	25	51	25	7.4	**U**
75-34-3	1,1-Dichloroethane	15	25	15	3.6	**U**
78-93-3	2-Butanone (MEK)	15	51	15	5.1	**U**
141-78-6	Ethyl Acetate	30	51	30	13	**U**
110-54-3	n-Hexane	**7.6**	25	15	5.1	**J**
67-66-3	Chloroform	7.9	25	7.9	3.3	**U**
109-99-9	Tetrahydrofuran (THF)	**6.2**	25	7.9	3.1	**J**
107-06-2	1,2-Dichloroethane	7.9	25	7.9	2.7	**U**
71-43-2	Benzene	**21**	25	7.9	3.6	**J**
56-23-5	Carbon Tetrachloride	7.9	25	7.9	3.4	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV124-350-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-004

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.040 Liter(s)
Test Notes:
Container ID: 1SS00756

Initial Pressure (psig): -3.93 Final Pressure (psig): 5.23

Container Dilution Factor: 1.85

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**31**	51	16	6.9	**J**
75-27-4	Bromodichloromethane	7.9	25	7.9	3.6	**U**
79-01-6	Trichloroethene	7.9	25	7.9	3.3	**U**
123-91-1	1,4-Dioxane	7.9	25	7.9	2.9	**U**
142-82-5	n-Heptane	15	25	15	3.9	**U**
108-10-1	4-Methyl-2-pentanone	7.9	25	7.9	3.4	**U**
108-88-3	Toluene	**3.4**	25	7.9	3.0	**J**
591-78-6	2-Hexanone	7.9	25	7.9	3.1	**U**
124-48-1	Dibromochloromethane	7.9	25	7.9	3.2	**U**
106-93-4	1,2-Dibromoethane	7.9	25	7.9	2.9	**U**
127-18-4	Tetrachloroethene	7.9	24	7.9	3.2	**U**
100-41-4	Ethylbenzene	7.9	25	7.9	3.5	**U**
179601-23-1	m,p-Xylenes	16	51	16	6.5	**U**
75-25-2	Bromoform	15	25	15	5.1	**U**
100-42-5	Styrene	15	25	15	4.0	**U**
95-47-6	o-Xylene	7.9	25	7.9	3.6	**U**
108-67-8	1,3,5-Trimethylbenzene	7.9	25	7.9	3.6	**U**
95-63-6	1,2,4-Trimethylbenzene	**6.4**	25	7.9	3.4	**J**
120-82-1	1,2,4-Trichlorobenzene	15	25	15	6.0	**U**
91-20-3	Naphthalene	14	24	14	6.0	**U**
1330-20-7	Xylenes, Total	16	51	16	6.5	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV124-450-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-005

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0015 Liter(s)
Test Notes:
Container ID: 1SS01007

Initial Pressure (psig): -3.37 Final Pressure (psig): 5.79

Container Dilution Factor: 1.81

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	390	640	390	160	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	390	640	390	100	**U**
74-87-3	Chloromethane	390	640	390	100	**U**
75-01-4	Vinyl Chloride	210	650	210	69	**U**
106-99-0	1,3-Butadiene	390	640	390	110	**U**
75-00-3	Chloroethane	390	650	390	80	**U**
64-17-5	Ethanol	**620**	6,300	1,000	450	**J, B**
67-64-1	Acetone	3,300	6,400	3,300	1,400	**U**
75-69-4	Trichlorofluoromethane	390	640	390	98	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	760	2,500	760	270	**U**
75-09-2	Methylene Chloride	390	640	390	180	**U**
76-13-1	Trichlorotrifluoroethane	210	650	210	92	**U**
75-15-0	Carbon Disulfide	**240**	1,300	650	190	**J**
75-34-3	1,1-Dichloroethane	400	660	400	94	**U**
78-93-3	2-Butanone (MEK)	390	1,300	390	130	**U**
141-78-6	Ethyl Acetate	780	1,300	780	340	**U**
110-54-3	n-Hexane	**160**	650	390	130	**J**
67-66-3	Chloroform	210	650	210	86	**U**
109-99-9	Tetrahydrofuran (THF)	210	660	210	81	**U**
107-06-2	1,2-Dichloroethane	210	650	210	71	**U**
71-43-2	Benzene	**290**	640	210	93	**J**
56-23-5	Carbon Tetrachloride	210	640	210	89	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV124-450-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-005

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0015 Liter(s)
Test Notes:
Container ID: 1SS01007

Initial Pressure (psig): -3.37 Final Pressure (psig): 5.79

Container Dilution Factor: 1.81

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**1,800**	1,300	410	180	
75-27-4	Bromodichloromethane	210	650	210	93	**U**
79-01-6	Trichloroethene	210	650	210	87	**U**
123-91-1	1,4-Dioxane	210	650	210	76	**U**
142-82-5	n-Heptane	390	650	390	100	**U**
108-10-1	4-Methyl-2-pentanone	210	640	210	88	**U**
108-88-3	Toluene	210	650	210	78	**U**
591-78-6	2-Hexanone	210	650	210	80	**U**
124-48-1	Dibromochloromethane	210	650	210	84	**U**
106-93-4	1,2-Dibromoethane	210	650	210	75	**U**
127-18-4	Tetrachloroethene	210	630	210	83	**U**
100-41-4	Ethylbenzene	210	650	210	91	**U**
179601-23-1	m,p-Xylenes	410	1,300	410	170	**U**
75-25-2	Bromoform	390	650	390	130	**U**
100-42-5	Styrene	390	640	390	100	**U**
95-47-6	o-Xylene	210	650	210	93	**U**
108-67-8	1,3,5-Trimethylbenzene	210	640	210	93	**U**
95-63-6	1,2,4-Trimethylbenzene	210	650	210	89	**U**
120-82-1	1,2,4-Trichlorobenzene	390	650	390	160	**U**
91-20-3	Naphthalene	370	630	370	160	**U**
1330-20-7	Xylenes, Total	410	1,300	410	170	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV125-025-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-006

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00202

Initial Pressure (psig): -3.11 Final Pressure (psig): 6.23

Container Dilution Factor: 1.81

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**11**	2.4	1.4	0.59	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.4**	2.4	1.4	0.39	**J**
74-87-3	Chloromethane	1.4	2.4	1.4	0.39	**U**
75-01-4	Vinyl Chloride	0.77	2.4	0.77	0.26	**U**
106-99-0	1,3-Butadiene	1.4	2.4	1.4	0.40	**U**
75-00-3	Chloroethane	1.4	2.4	1.4	0.30	**U**
64-17-5	Ethanol	**50**	24	3.8	1.7	**B**
67-64-1	Acetone	**21**	24	12	5.4	**J**
75-69-4	Trichlorofluoromethane	**2.6**	2.4	1.4	0.37	
67-63-0	2-Propanol (Isopropyl Alcohol)	**31**	9.5	2.9	1.0	
75-09-2	Methylene Chloride	**1.1**	2.4	1.4	0.68	**J**
76-13-1	Trichlorotrifluoroethane	**0.47**	2.4	0.77	0.34	**J**
75-15-0	Carbon Disulfide	**3.8**	5.0	2.4	0.72	**J**
75-34-3	1,1-Dichloroethane	1.5	2.5	1.5	0.35	**U**
78-93-3	2-Butanone (MEK)	**3.8**	5.0	1.4	0.50	**J**
141-78-6	Ethyl Acetate	**41**	5.0	2.9	1.3	
110-54-3	n-Hexane	1.4	2.4	1.4	0.50	**U**
67-66-3	Chloroform	**380**	2.4	0.77	0.32	
109-99-9	Tetrahydrofuran (THF)	**11**	2.5	0.77	0.30	
107-06-2	1,2-Dichloroethane	0.77	2.4	0.77	0.27	**U**
71-43-2	Benzene	**0.46**	2.4	0.77	0.35	**J**
56-23-5	Carbon Tetrachloride	**2.7**	2.4	0.77	0.33	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV125-025-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-006

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00202

Initial Pressure (psig): -3.11 Final Pressure (psig): 6.23

Container Dilution Factor: 1.81

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.5	5.0	1.5	0.68	**U**
75-27-4	Bromodichloromethane	**41**	2.4	0.77	0.35	
79-01-6	Trichloroethene	**0.37**	2.4	0.77	0.33	**J**
123-91-1	1,4-Dioxane	0.77	2.4	0.77	0.29	**U**
142-82-5	n-Heptane	**1.8**	2.4	1.4	0.38	**J**
108-10-1	4-Methyl-2-pentanone	**1.4**	2.4	0.77	0.33	**J**
108-88-3	Toluene	**9.3**	2.4	0.77	0.29	
591-78-6	2-Hexanone	**0.85**	2.4	0.77	0.30	**J**
124-48-1	Dibromochloromethane	**0.63**	2.4	0.77	0.32	**J**
106-93-4	1,2-Dibromoethane	0.77	2.4	0.77	0.28	**U**
127-18-4	Tetrachloroethene	**4.0**	2.4	0.77	0.31	
100-41-4	Ethylbenzene	**1.0**	2.4	0.77	0.34	**J**
179601-23-1	m,p-Xylenes	**4.3**	5.0	1.5	0.63	**J**
75-25-2	Bromoform	1.4	2.4	1.4	0.50	**U**
100-42-5	Styrene	1.4	2.4	1.4	0.39	**U**
95-47-6	o-Xylene	**1.5**	2.4	0.77	0.35	**J**
108-67-8	1,3,5-Trimethylbenzene	**2.8**	2.4	0.77	0.35	
95-63-6	1,2,4-Trimethylbenzene	**15**	2.4	0.77	0.33	
120-82-1	1,2,4-Trichlorobenzene	1.4	2.4	1.4	0.59	**U**
91-20-3	Naphthalene	**4.3**	2.4	1.4	0.59	
1330-20-7	Xylenes, Total	**5.9**	5.0	1.5	0.63	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV125-050-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-007

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan/Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00106

Initial Pressure (psig): -2.99 Final Pressure (psig): 5.65

Container Dilution Factor: 1.74

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.8**	2.3	1.4	0.57	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.4**	2.3	1.4	0.38	
74-87-3	Chloromethane	1.4	2.3	1.4	0.37	**U**
75-01-4	Vinyl Chloride	0.74	2.3	0.74	0.25	**U**
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.38	**U**
75-00-3	Chloroethane	1.4	2.3	1.4	0.29	**U**
64-17-5	Ethanol	**5.8**	23	3.6	1.6	**J, B**
67-64-1	Acetone	**20**	23	12	5.2	**J**
75-69-4	Trichlorofluoromethane	**1.2**	2.3	1.4	0.35	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.0**	9.1	2.7	0.96	**J**
75-09-2	Methylene Chloride	**3.1**	2.3	1.4	0.65	
76-13-1	Trichlorotrifluoroethane	**0.50**	2.3	0.74	0.33	**J**
75-15-0	Carbon Disulfide	**8.4**	4.8	2.3	0.70	
75-34-3	1,1-Dichloroethane	1.4	2.4	1.4	0.34	**U**
78-93-3	2-Butanone (MEK)	**4.9**	4.8	1.4	0.48	
141-78-6	Ethyl Acetate	2.8	4.8	2.8	1.2	**U**
110-54-3	n-Hexane	1.4	2.3	1.4	0.48	**U**
67-66-3	Chloroform	**1,300**	23	7.4	3.1	**D**
109-99-9	Tetrahydrofuran (THF)	**58**	2.4	0.74	0.29	
107-06-2	1,2-Dichloroethane	**0.79**	2.3	0.74	0.26	**J**
71-43-2	Benzene	**2.4**	2.3	0.74	0.33	
56-23-5	Carbon Tetrachloride	**15**	2.3	0.74	0.32	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV125-050-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-007

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan/Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00106

Initial Pressure (psig): -2.99 Final Pressure (psig): 5.65

Container Dilution Factor: 1.74

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.5	4.8	1.5	0.65	**U**
75-27-4	Bromodichloromethane	**230**	2.3	0.74	0.33	
79-01-6	Trichloroethene	**2.2**	2.3	0.74	0.31	**J**
123-91-1	1,4-Dioxane	0.74	2.3	0.74	0.27	**U**
142-82-5	n-Heptane	**0.38**	2.3	1.4	0.37	**J**
108-10-1	4-Methyl-2-pentanone	**0.33**	2.3	0.74	0.32	**J**
108-88-3	Toluene	**2.7**	2.3	0.74	0.28	
591-78-6	2-Hexanone	**0.84**	2.3	0.74	0.29	**J**
124-48-1	Dibromochloromethane	**7.1**	2.3	0.74	0.30	
106-93-4	1,2-Dibromoethane	0.74	2.3	0.74	0.27	**U**
127-18-4	Tetrachloroethene	**12**	2.3	0.74	0.30	
100-41-4	Ethylbenzene	**0.62**	2.3	0.74	0.33	**J**
179601-23-1	m,p-Xylenes	**3.0**	4.8	1.5	0.61	**J**
75-25-2	Bromoform	1.4	2.3	1.4	0.48	**U**
100-42-5	Styrene	**0.51**	2.3	1.4	0.37	**J**
95-47-6	o-Xylene	**0.99**	2.3	0.74	0.33	**J**
108-67-8	1,3,5-Trimethylbenzene	**2.1**	2.3	0.74	0.33	**J**
95-63-6	1,2,4-Trimethylbenzene	**10**	2.3	0.74	0.32	
120-82-1	1,2,4-Trichlorobenzene	1.4	2.3	1.4	0.57	**U**
91-20-3	Naphthalene	**3.2**	2.3	1.3	0.57	
1330-20-7	Xylenes, Total	**4.0**	4.8	1.5	0.61	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV125-150-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-008

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan/Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00304

Initial Pressure (psig): -2.66 Final Pressure (psig): 5.57

Container Dilution Factor: 1.68

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**5.1**	2.2	1.3	0.55	
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.5**	2.2	1.3	0.37	**J**
74-87-3	Chloromethane	**0.48**	2.2	1.3	0.36	**J**
75-01-4	Vinyl Chloride	0.71	2.3	0.71	0.24	**U**
106-99-0	1,3-Butadiene	1.3	2.2	1.3	0.37	**U**
75-00-3	Chloroethane	1.3	2.3	1.3	0.28	**U**
64-17-5	Ethanol	**76**	22	3.5	1.6	**B**
67-64-1	Acetone	**22**	22	11	5.0	**J**
75-69-4	Trichlorofluoromethane	**1.9**	2.2	1.3	0.34	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**14**	8.8	2.6	0.92	
75-09-2	Methylene Chloride	**2.6**	2.2	1.3	0.63	
76-13-1	Trichlorotrifluoroethane	**0.36**	2.3	0.71	0.32	**J**
75-15-0	Carbon Disulfide	**4.5**	4.6	2.3	0.67	**J**
75-34-3	1,1-Dichloroethane	1.4	2.3	1.4	0.33	**U**
78-93-3	2-Butanone (MEK)	**8.5**	4.6	1.3	0.46	
141-78-6	Ethyl Acetate	**680**	46	27	12	**D**
110-54-3	n-Hexane	**1.5**	2.3	1.3	0.46	**J**
67-66-3	Chloroform	**33**	2.3	0.71	0.30	
109-99-9	Tetrahydrofuran (THF)	**15**	2.3	0.71	0.28	
107-06-2	1,2-Dichloroethane	0.71	2.3	0.71	0.25	**U**
71-43-2	Benzene	**2.2**	2.2	0.71	0.32	**J**
56-23-5	Carbon Tetrachloride	**20**	2.2	0.71	0.31	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV125-150-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-008

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan/Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00304

Initial Pressure (psig): -2.66 Final Pressure (psig): 5.57

Container Dilution Factor: 1.68

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.4	4.6	1.4	0.63	**U**
75-27-4	Bromodichloromethane	**1.0**	2.3	0.71	0.32	**J**
79-01-6	Trichloroethene	**8.0**	2.3	0.71	0.30	
123-91-1	1,4-Dioxane	**0.39**	2.3	0.71	0.26	**J**
142-82-5	n-Heptane	**1.6**	2.3	1.3	0.36	**J**
108-10-1	4-Methyl-2-pentanone	**0.55**	2.2	0.71	0.31	**J**
108-88-3	Toluene	**27**	2.3	0.71	0.27	
591-78-6	2-Hexanone	**0.67**	2.3	0.71	0.28	**J**
124-48-1	Dibromochloromethane	0.71	2.3	0.71	0.29	**U**
106-93-4	1,2-Dibromoethane	0.71	2.3	0.71	0.26	**U**
127-18-4	Tetrachloroethene	**16**	2.2	0.71	0.29	
100-41-4	Ethylbenzene	**0.94**	2.3	0.71	0.32	**J**
179601-23-1	m,p-Xylenes	**3.5**	4.6	1.4	0.59	**J**
75-25-2	Bromoform	1.3	2.3	1.3	0.46	**U**
100-42-5	Styrene	**0.39**	2.2	1.3	0.36	**J**
95-47-6	o-Xylene	**2.7**	2.3	0.71	0.32	
108-67-8	1,3,5-Trimethylbenzene	**1.5**	2.2	0.71	0.32	**J**
95-63-6	1,2,4-Trimethylbenzene	**6.8**	2.3	0.71	0.31	
120-82-1	1,2,4-Trichlorobenzene	1.3	2.3	1.3	0.55	**U**
91-20-3	Naphthalene	**0.88**	2.2	1.3	0.55	**J**
1330-20-7	Xylenes, Total	**6.3**	4.6	1.4	0.59	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV125-250-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-009

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00940

Initial Pressure (psig): -3.32 Final Pressure (psig): 5.44

Container Dilution Factor: 1.77

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	1.4	2.3	1.4	0.58	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.50**	2.3	1.4	0.38	**J**
74-87-3	Chloromethane	1.4	2.3	1.4	0.38	**U**
75-01-4	Vinyl Chloride	0.75	2.4	0.75	0.25	**U**
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.39	**U**
75-00-3	Chloroethane	1.4	2.4	1.4	0.29	**U**
64-17-5	Ethanol	**2.5**	23	3.7	1.6	**J, B**
67-64-1	Acetone	**58**	23	12	5.3	
75-69-4	Trichlorofluoromethane	**1.2**	2.3	1.4	0.36	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	2.8	9.3	2.8	0.97	**U**
75-09-2	Methylene Chloride	1.4	2.3	1.4	0.66	**U**
76-13-1	Trichlorotrifluoroethane	0.75	2.4	0.75	0.34	**U**
75-15-0	Carbon Disulfide	**4.6**	4.9	2.4	0.71	**J**
75-34-3	1,1-Dichloroethane	1.5	2.4	1.5	0.35	**U**
78-93-3	2-Butanone (MEK)	**1.3**	4.9	1.4	0.49	**J**
141-78-6	Ethyl Acetate	**3.0**	4.9	2.9	1.2	**J**
110-54-3	n-Hexane	1.4	2.4	1.4	0.49	**U**
67-66-3	Chloroform	**1.3**	2.4	0.75	0.31	**J**
109-99-9	Tetrahydrofuran (THF)	**17**	2.4	0.75	0.30	
107-06-2	1,2-Dichloroethane	0.75	2.4	0.75	0.26	**U**
71-43-2	Benzene	0.75	2.3	0.75	0.34	**U**
56-23-5	Carbon Tetrachloride	**1.1**	2.3	0.75	0.33	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV125-250-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-009

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00940

Initial Pressure (psig): -3.32 Final Pressure (psig): 5.44

Container Dilution Factor: 1.77

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.5	4.9	1.5	0.66	**U**
75-27-4	Bromodichloromethane	0.75	2.4	0.75	0.34	**U**
79-01-6	Trichloroethene	0.75	2.4	0.75	0.32	**U**
123-91-1	1,4-Dioxane	0.75	2.4	0.75	0.28	**U**
142-82-5	n-Heptane	**0.43**	2.4	1.4	0.38	**J**
108-10-1	4-Methyl-2-pentanone	**0.42**	2.3	0.75	0.32	**J**
108-88-3	Toluene	**2.3**	2.4	0.75	0.29	**J**
591-78-6	2-Hexanone	0.75	2.4	0.75	0.29	**U**
124-48-1	Dibromochloromethane	0.75	2.4	0.75	0.31	**U**
106-93-4	1,2-Dibromoethane	0.75	2.4	0.75	0.27	**U**
127-18-4	Tetrachloroethene	**0.45**	2.3	0.75	0.31	**J**
100-41-4	Ethylbenzene	**0.50**	2.4	0.75	0.33	**J**
179601-23-1	m,p-Xylenes	**2.8**	4.9	1.5	0.62	**J**
75-25-2	Bromoform	1.4	2.4	1.4	0.49	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.38	**U**
95-47-6	o-Xylene	**1.1**	2.4	0.75	0.34	**J**
108-67-8	1,3,5-Trimethylbenzene	**1.7**	2.3	0.75	0.34	**J**
95-63-6	1,2,4-Trimethylbenzene	**7.9**	2.4	0.75	0.33	
120-82-1	1,2,4-Trichlorobenzene	1.4	2.4	1.4	0.58	**U**
91-20-3	Naphthalene	**2.9**	2.3	1.4	0.58	
1330-20-7	Xylenes, Total	**3.9**	4.9	1.5	0.62	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV125-350-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-010

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.12 Liter(s)
Test Notes:
Container ID: 1SC00929

Initial Pressure (psig): -2.60 Final Pressure (psig): 5.68

Container Dilution Factor: 1.68

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**5.9**	7.4	4.5	1.8	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	4.5	7.4	4.5	1.2	**U**
74-87-3	Chloromethane	**1.3**	7.4	4.5	1.2	**J**
75-01-4	Vinyl Chloride	2.4	7.6	2.4	0.80	**U**
106-99-0	1,3-Butadiene	4.5	7.4	4.5	1.2	**U**
75-00-3	Chloroethane	4.5	7.6	4.5	0.92	**U**
64-17-5	Ethanol	**5.5**	73	12	5.2	**J, B**
67-64-1	Acetone	38	74	38	17	**U**
75-69-4	Trichlorofluoromethane	4.5	7.4	4.5	1.1	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	8.8	29	8.8	3.1	**U**
75-09-2	Methylene Chloride	4.5	7.4	4.5	2.1	**U**
76-13-1	Trichlorotrifluoroethane	2.4	7.6	2.4	1.1	**U**
75-15-0	Carbon Disulfide	**15**	15	7.6	2.2	**J**
75-34-3	1,1-Dichloroethane	4.6	7.7	4.6	1.1	**U**
78-93-3	2-Butanone (MEK)	**4.8**	15	4.5	1.5	**J**
141-78-6	Ethyl Acetate	9.1	15	9.1	3.9	**U**
110-54-3	n-Hexane	**2.7**	7.6	4.5	1.5	**J**
67-66-3	Chloroform	2.4	7.6	2.4	0.99	**U**
109-99-9	Tetrahydrofuran (THF)	**14**	7.7	2.4	0.94	
107-06-2	1,2-Dichloroethane	2.4	7.6	2.4	0.83	**U**
71-43-2	Benzene	2.4	7.4	2.4	1.1	**U**
56-23-5	Carbon Tetrachloride	2.4	7.4	2.4	1.0	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV125-350-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-010

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.12 Liter(s)
Test Notes:
Container ID: 1SC00929

Initial Pressure (psig): -2.60 Final Pressure (psig): 5.68

Container Dilution Factor: 1.68

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**16**	15	4.8	2.1	
75-27-4	Bromodichloromethane	2.4	7.6	2.4	1.1	**U**
79-01-6	Trichloroethene	**6.5**	7.6	2.4	1.0	**J**
123-91-1	1,4-Dioxane	2.4	7.6	2.4	0.88	**U**
142-82-5	n-Heptane	4.5	7.6	4.5	1.2	**U**
108-10-1	4-Methyl-2-pentanone	2.4	7.4	2.4	1.0	**U**
108-88-3	Toluene	**6.5**	7.6	2.4	0.91	**J**
591-78-6	2-Hexanone	**1.0**	7.6	2.4	0.92	**J**
124-48-1	Dibromochloromethane	2.4	7.6	2.4	0.98	**U**
106-93-4	1,2-Dibromoethane	2.4	7.6	2.4	0.87	**U**
127-18-4	Tetrachloroethene	2.4	7.3	2.4	0.97	**U**
100-41-4	Ethylbenzene	**1.9**	7.6	2.4	1.1	**J**
179601-23-1	m,p-Xylenes	**9.6**	15	4.8	2.0	**J**
75-25-2	Bromoform	4.5	7.6	4.5	1.5	**U**
100-42-5	Styrene	4.5	7.4	4.5	1.2	**U**
95-47-6	o-Xylene	**3.0**	7.6	2.4	1.1	**J**
108-67-8	1,3,5-Trimethylbenzene	**6.6**	7.4	2.4	1.1	**J**
95-63-6	1,2,4-Trimethylbenzene	**30**	7.6	2.4	1.0	
120-82-1	1,2,4-Trichlorobenzene	4.5	7.6	4.5	1.8	**U**
91-20-3	Naphthalene	**3.2**	7.3	4.3	1.8	**J**
1330-20-7	Xylenes, Total	**13**	15	4.8	2.0	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV125-450-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-011

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0025 Liter(s)
Test Notes:
Container ID: 1SC00754

Initial Pressure (psig): -3.26 Final Pressure (psig): 6.78

Container Dilution Factor: 1.88

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	240	400	240	98	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	240	400	240	65	**U**
74-87-3	Chloromethane	240	400	240	65	**U**
75-01-4	Vinyl Chloride	130	410	130	43	**U**
106-99-0	1,3-Butadiene	240	400	240	66	**U**
75-00-3	Chloroethane	240	410	240	50	**U**
64-17-5	Ethanol	620	3,900	620	280	**U**
67-64-1	Acetone	2,000	4,000	2,000	900	**U**
75-69-4	Trichlorofluoromethane	240	400	240	61	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	470	1,600	470	170	**U**
75-09-2	Methylene Chloride	240	400	240	110	**U**
76-13-1	Trichlorotrifluoroethane	130	410	130	57	**U**
75-15-0	Carbon Disulfide	**210**	830	410	120	**J**
75-34-3	1,1-Dichloroethane	250	410	250	59	**U**
78-93-3	2-Butanone (MEK)	**120**	830	240	83	**J**
141-78-6	Ethyl Acetate	490	830	490	210	**U**
110-54-3	n-Hexane	240	410	240	83	**U**
67-66-3	Chloroform	130	410	130	53	**U**
109-99-9	Tetrahydrofuran (THF)	**59**	410	130	50	**J**
107-06-2	1,2-Dichloroethane	130	410	130	44	**U**
71-43-2	Benzene	**180**	400	130	58	**J**
56-23-5	Carbon Tetrachloride	130	400	130	56	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV125-450-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-011

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0025 Liter(s)
Test Notes:
Container ID: 1SC00754

Initial Pressure (psig): -3.26 Final Pressure (psig): 6.78

Container Dilution Factor: 1.88

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	260	830	260	110	**U**
75-27-4	Bromodichloromethane	130	410	130	58	**U**
79-01-6	Trichloroethene	130	410	130	54	**U**
123-91-1	1,4-Dioxane	130	410	130	47	**U**
142-82-5	n-Heptane	240	410	240	64	**U**
108-10-1	4-Methyl-2-pentanone	130	400	130	55	**U**
108-88-3	Toluene	**450**	410	130	49	
591-78-6	2-Hexanone	130	410	130	50	**U**
124-48-1	Dibromochloromethane	130	410	130	53	**U**
106-93-4	1,2-Dibromoethane	130	410	130	47	**U**
127-18-4	Tetrachloroethene	130	390	130	52	**U**
100-41-4	Ethylbenzene	130	410	130	56	**U**
179601-23-1	m,p-Xylenes	260	830	260	110	**U**
75-25-2	Bromoform	240	410	240	83	**U**
100-42-5	Styrene	240	400	240	65	**U**
95-47-6	o-Xylene	130	410	130	58	**U**
108-67-8	1,3,5-Trimethylbenzene	130	400	130	58	**U**
95-63-6	1,2,4-Trimethylbenzene	130	410	130	56	**U**
120-82-1	1,2,4-Trichlorobenzene	240	410	240	98	**U**
91-20-3	Naphthalene	230	390	230	98	**U**
1330-20-7	Xylenes, Total	260	830	260	110	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV127-025-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-012

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00934

Initial Pressure (psig): -3.49 Final Pressure (psig): 5.54

Container Dilution Factor: 1.81

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.4**	2.4	1.4	0.59	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.4**	2.4	1.4	0.39	**J**
74-87-3	Chloromethane	1.4	2.4	1.4	0.39	**U**
75-01-4	Vinyl Chloride	0.77	2.4	0.77	0.26	**U**
106-99-0	1,3-Butadiene	1.4	2.4	1.4	0.40	**U**
75-00-3	Chloroethane	1.4	2.4	1.4	0.30	**U**
64-17-5	Ethanol	**11**	24	3.8	1.7	**J, B**
67-64-1	Acetone	**53**	24	12	5.4	
75-69-4	Trichlorofluoromethane	**1.2**	2.4	1.4	0.37	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**2.3**	9.5	2.9	1.0	**J**
75-09-2	Methylene Chloride	**0.97**	2.4	1.4	0.68	**J**
76-13-1	Trichlorotrifluoroethane	**0.45**	2.4	0.77	0.34	**J**
75-15-0	Carbon Disulfide	**1.0**	5.0	2.4	0.72	**J**
75-34-3	1,1-Dichloroethane	1.5	2.5	1.5	0.35	**U**
78-93-3	2-Butanone (MEK)	**19**	5.0	1.4	0.50	
141-78-6	Ethyl Acetate	2.9	5.0	2.9	1.3	**U**
110-54-3	n-Hexane	**0.78**	2.4	1.4	0.50	**J**
67-66-3	Chloroform	**430**	2.4	0.77	0.32	
109-99-9	Tetrahydrofuran (THF)	**1.2**	2.5	0.77	0.30	**J**
107-06-2	1,2-Dichloroethane	0.77	2.4	0.77	0.27	**U**
71-43-2	Benzene	**0.59**	2.4	0.77	0.35	**J**
56-23-5	Carbon Tetrachloride	**5.1**	2.4	0.77	0.33	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV127-025-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-012

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00934

Initial Pressure (psig): -3.49 Final Pressure (psig): 5.54

Container Dilution Factor: 1.81

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**1.3**	5.0	1.5	0.68	**J**
75-27-4	Bromodichloromethane	**38**	2.4	0.77	0.35	
79-01-6	Trichloroethene	**2.1**	2.4	0.77	0.33	**J**
123-91-1	1,4-Dioxane	**0.55**	2.4	0.77	0.29	**J**
142-82-5	n-Heptane	**3.4**	2.4	1.4	0.38	
108-10-1	4-Methyl-2-pentanone	**1.9**	2.4	0.77	0.33	**J**
108-88-3	Toluene	**14**	2.4	0.77	0.29	
591-78-6	2-Hexanone	**13**	2.4	0.77	0.30	
124-48-1	Dibromochloromethane	**1.1**	2.4	0.77	0.32	**J**
106-93-4	1,2-Dibromoethane	0.77	2.4	0.77	0.28	**U**
127-18-4	Tetrachloroethene	**2.2**	2.4	0.77	0.31	**J**
100-41-4	Ethylbenzene	**6.1**	2.4	0.77	0.34	
179601-23-1	m,p-Xylenes	**27**	5.0	1.5	0.63	
75-25-2	Bromoform	1.4	2.4	1.4	0.50	**U**
100-42-5	Styrene	**1.6**	2.4	1.4	0.39	**J**
95-47-6	o-Xylene	**12**	2.4	0.77	0.35	
108-67-8	1,3,5-Trimethylbenzene	**28**	2.4	0.77	0.35	
95-63-6	1,2,4-Trimethylbenzene	**130**	2.4	0.77	0.33	
120-82-1	1,2,4-Trichlorobenzene	1.4	2.4	1.4	0.59	**U**
91-20-3	Naphthalene	**72**	2.4	1.4	0.59	
1330-20-7	Xylenes, Total	**39**	5.0	1.5	0.63	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV127-050-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-013

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan/Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00156

Initial Pressure (psig): -4.95 Final Pressure (psig): 5.77

Container Dilution Factor: 2.10

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.3**	2.8	1.7	0.68	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	2.8	1.7	0.46	**J**
74-87-3	Chloromethane	1.7	2.8	1.7	0.45	**U**
75-01-4	Vinyl Chloride	0.89	2.8	0.89	0.30	**U**
106-99-0	1,3-Butadiene	1.7	2.8	1.7	0.46	**U**
75-00-3	Chloroethane	1.7	2.8	1.7	0.35	**U**
64-17-5	Ethanol	**7.1**	27	4.4	1.9	**J, B**
67-64-1	Acetone	**40**	28	14	6.3	
75-69-4	Trichlorofluoromethane	**1.2**	2.8	1.7	0.43	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**2.5**	11	3.3	1.2	**J**
75-09-2	Methylene Chloride	1.7	2.8	1.7	0.79	**U**
76-13-1	Trichlorotrifluoroethane	**0.49**	2.8	0.89	0.40	**J**
75-15-0	Carbon Disulfide	**3.9**	5.8	2.8	0.84	**J**
75-34-3	1,1-Dichloroethane	1.7	2.9	1.7	0.41	**U**
78-93-3	2-Butanone (MEK)	**22**	5.8	1.7	0.58	
141-78-6	Ethyl Acetate	3.4	5.8	3.4	1.5	**U**
110-54-3	n-Hexane	**2.0**	2.8	1.7	0.58	**J**
67-66-3	Chloroform	**470**	28	8.9	3.7	**D**
109-99-9	Tetrahydrofuran (THF)	**73**	2.9	0.89	0.35	
107-06-2	1,2-Dichloroethane	0.89	2.8	0.89	0.31	**U**
71-43-2	Benzene	**1.2**	2.8	0.89	0.40	**J**
56-23-5	Carbon Tetrachloride	**20**	2.8	0.89	0.39	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV127-050-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-013

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan/Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00156

Initial Pressure (psig): -4.95 Final Pressure (psig): 5.77

Container Dilution Factor: 2.10

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**3.0**	5.8	1.8	0.79	**J**
75-27-4	Bromodichloromethane	**77**	2.8	0.89	0.40	
79-01-6	Trichloroethene	**2.8**	2.8	0.89	0.38	**J**
123-91-1	1,4-Dioxane	0.89	2.8	0.89	0.33	**U**
142-82-5	n-Heptane	**11**	2.8	1.7	0.45	
108-10-1	4-Methyl-2-pentanone	**1.0**	2.8	0.89	0.38	**J**
108-88-3	Toluene	**31**	2.8	0.89	0.34	
591-78-6	2-Hexanone	**6.0**	2.8	0.89	0.35	
124-48-1	Dibromochloromethane	**20**	2.8	0.89	0.37	
106-93-4	1,2-Dibromoethane	0.89	2.8	0.89	0.33	**U**
127-18-4	Tetrachloroethene	**6.8**	2.7	0.89	0.36	
100-41-4	Ethylbenzene	**9.2**	2.8	0.89	0.39	
179601-23-1	m,p-Xylenes	**38**	5.8	1.8	0.74	
75-25-2	Bromoform	**3.5**	2.8	1.7	0.58	
100-42-5	Styrene	1.7	2.8	1.7	0.45	**U**
95-47-6	o-Xylene	**14**	2.8	0.89	0.40	
108-67-8	1,3,5-Trimethylbenzene	**21**	2.8	0.89	0.40	
95-63-6	1,2,4-Trimethylbenzene	**100**	2.8	0.89	0.39	
120-82-1	1,2,4-Trichlorobenzene	1.7	2.8	1.7	0.68	**U**
91-20-3	Naphthalene	**42**	2.7	1.6	0.68	
1330-20-7	Xylenes, Total	**52**	5.8	1.8	0.74	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV127-150-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-014

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00943

Initial Pressure (psig): -2.84 Final Pressure (psig): 5.69

Container Dilution Factor: 1.72

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.2**	2.3	1.4	0.56	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.93**	2.3	1.4	0.37	**J**
74-87-3	Chloromethane	**0.42**	2.3	1.4	0.37	**J**
75-01-4	Vinyl Chloride	0.73	2.3	0.73	0.25	**U**
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.38	**U**
75-00-3	Chloroethane	1.4	2.3	1.4	0.28	**U**
64-17-5	Ethanol	**6.8**	22	3.6	1.6	**J, B**
67-64-1	Acetone	**42**	23	12	5.2	
75-69-4	Trichlorofluoromethane	**1.4**	2.3	1.4	0.35	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.6**	9.0	2.7	0.95	**J**
75-09-2	Methylene Chloride	1.4	2.3	1.4	0.65	**U**
76-13-1	Trichlorotrifluoroethane	0.73	2.3	0.73	0.33	**U**
75-15-0	Carbon Disulfide	**1.5**	4.7	2.3	0.69	**J**
75-34-3	1,1-Dichloroethane	1.4	2.4	1.4	0.34	**U**
78-93-3	2-Butanone (MEK)	**10**	4.7	1.4	0.47	
141-78-6	Ethyl Acetate	**7.3**	4.7	2.8	1.2	
110-54-3	n-Hexane	**1.2**	2.3	1.4	0.47	**J**
67-66-3	Chloroform	**34**	2.3	0.73	0.31	
109-99-9	Tetrahydrofuran (THF)	**1.2**	2.4	0.73	0.29	**J**
107-06-2	1,2-Dichloroethane	0.73	2.3	0.73	0.25	**U**
71-43-2	Benzene	**1.4**	2.3	0.73	0.33	**J**
56-23-5	Carbon Tetrachloride	**8.1**	2.3	0.73	0.32	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV127-150-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-014

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00943

Initial Pressure (psig): -2.84 Final Pressure (psig): 5.69

Container Dilution Factor: 1.72

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**1.6**	4.7	1.5	0.65	**J**
75-27-4	Bromodichloromethane	**2.8**	2.3	0.73	0.33	
79-01-6	Trichloroethene	0.73	2.3	0.73	0.31	**U**
123-91-1	1,4-Dioxane	0.73	2.3	0.73	0.27	**U**
142-82-5	n-Heptane	**5.0**	2.3	1.4	0.37	
108-10-1	4-Methyl-2-pentanone	**1.2**	2.3	0.73	0.31	**J**
108-88-3	Toluene	**12**	2.3	0.73	0.28	
591-78-6	2-Hexanone	**7.5**	2.3	0.73	0.28	
124-48-1	Dibromochloromethane	0.73	2.3	0.73	0.30	**U**
106-93-4	1,2-Dibromoethane	0.73	2.3	0.73	0.27	**U**
127-18-4	Tetrachloroethene	**1.7**	2.2	0.73	0.30	**J**
100-41-4	Ethylbenzene	**5.0**	2.3	0.73	0.32	
179601-23-1	m,p-Xylenes	**24**	4.7	1.5	0.60	
75-25-2	Bromoform	1.4	2.3	1.4	0.47	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.37	**U**
95-47-6	o-Xylene	**10**	2.3	0.73	0.33	
108-67-8	1,3,5-Trimethylbenzene	**26**	2.3	0.73	0.33	
95-63-6	1,2,4-Trimethylbenzene	**120**	2.3	0.73	0.32	
120-82-1	1,2,4-Trichlorobenzene	1.4	2.3	1.4	0.56	**U**
91-20-3	Naphthalene	**59**	2.2	1.3	0.56	
1330-20-7	Xylenes, Total	**34**	4.7	1.5	0.60	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV127-250-602** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-015

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01018

Initial Pressure (psig): -3.20 Final Pressure (psig): 5.49

Container Dilution Factor: 1.76

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.9**	2.3	1.4	0.57	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.68**	2.3	1.4	0.38	**J**
74-87-3	Chloromethane	1.4	2.3	1.4	0.38	**U**
75-01-4	Vinyl Chloride	0.75	2.4	0.75	0.25	**U**
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.39	**U**
75-00-3	Chloroethane	1.4	2.4	1.4	0.29	**U**
64-17-5	Ethanol	**8.2**	23	3.7	1.6	**J, B**
67-64-1	Acetone	**19**	23	12	5.3	**J**
75-69-4	Trichlorofluoromethane	**1.2**	2.3	1.4	0.36	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**3.6**	9.2	2.8	0.97	**J**
75-09-2	Methylene Chloride	1.4	2.3	1.4	0.66	**U**
76-13-1	Trichlorotrifluoroethane	0.75	2.4	0.75	0.33	**U**
75-15-0	Carbon Disulfide	**12**	4.8	2.4	0.70	
75-34-3	1,1-Dichloroethane	1.5	2.4	1.5	0.34	**U**
78-93-3	2-Butanone (MEK)	**9.5**	4.8	1.4	0.48	
141-78-6	Ethyl Acetate	**3.3**	4.8	2.9	1.2	**J**
110-54-3	n-Hexane	**1.2**	2.4	1.4	0.48	**J**
67-66-3	Chloroform	**2.8**	2.4	0.75	0.31	
109-99-9	Tetrahydrofuran (THF)	**3.1**	2.4	0.75	0.29	
107-06-2	1,2-Dichloroethane	0.75	2.4	0.75	0.26	**U**
71-43-2	Benzene	**1.2**	2.3	0.75	0.34	**J**
56-23-5	Carbon Tetrachloride	**3.2**	2.3	0.75	0.33	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV127-250-602** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-015

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01018

Initial Pressure (psig): -3.20 Final Pressure (psig): 5.49

Container Dilution Factor: 1.76

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**1.1**	4.8	1.5	0.66	**J**
75-27-4	Bromodichloromethane	**0.38**	2.4	0.75	0.34	**J**
79-01-6	Trichloroethene	0.75	2.4	0.75	0.32	**U**
123-91-1	1,4-Dioxane	**0.50**	2.4	0.75	0.28	**J**
142-82-5	n-Heptane	**5.8**	2.4	1.4	0.37	
108-10-1	4-Methyl-2-pentanone	**1.5**	2.3	0.75	0.32	**J**
108-88-3	Toluene	**17**	2.4	0.75	0.29	
591-78-6	2-Hexanone	**2.5**	2.4	0.75	0.29	
124-48-1	Dibromochloromethane	0.75	2.4	0.75	0.31	**U**
106-93-4	1,2-Dibromoethane	0.75	2.4	0.75	0.27	**U**
127-18-4	Tetrachloroethene	**0.40**	2.3	0.75	0.30	**J**
100-41-4	Ethylbenzene	**5.5**	2.4	0.75	0.33	
179601-23-1	m,p-Xylenes	**27**	4.8	1.5	0.62	
75-25-2	Bromoform	1.4	2.4	1.4	0.48	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.38	**U**
95-47-6	o-Xylene	**9.0**	2.4	0.75	0.34	
108-67-8	1,3,5-Trimethylbenzene	**19**	2.3	0.75	0.34	
95-63-6	1,2,4-Trimethylbenzene	**90**	2.4	0.75	0.33	
120-82-1	1,2,4-Trichlorobenzene	1.4	2.4	1.4	0.57	**U**
91-20-3	Naphthalene	**37**	2.3	1.4	0.57	
1330-20-7	Xylenes, Total	**36**	4.8	1.5	0.62	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV127-250-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-016

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00801

Initial Pressure (psig): -2.93 Final Pressure (psig): 5.37

Container Dilution Factor: 1.71

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**0.80**	2.3	1.4	0.56	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.72**	2.3	1.4	0.37	**J**
74-87-3	Chloromethane	1.4	2.3	1.4	0.37	**U**
75-01-4	Vinyl Chloride	0.73	2.3	0.73	0.24	**U**
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.38	**U**
75-00-3	Chloroethane	1.4	2.3	1.4	0.28	**U**
64-17-5	Ethanol	**2.9**	22	3.5	1.6	**J, B**
67-64-1	Acetone	**12**	23	12	5.1	**J**
75-69-4	Trichlorofluoromethane	**1.3**	2.3	1.4	0.35	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	2.7	9.0	2.7	0.94	**U**
75-09-2	Methylene Chloride	1.4	2.3	1.4	0.64	**U**
76-13-1	Trichlorotrifluoroethane	0.73	2.3	0.73	0.32	**U**
75-15-0	Carbon Disulfide	**3.7**	4.7	2.3	0.68	**J**
75-34-3	1,1-Dichloroethane	1.4	2.4	1.4	0.33	**U**
78-93-3	2-Butanone (MEK)	**3.1**	4.7	1.4	0.47	**J**
141-78-6	Ethyl Acetate	2.8	4.7	2.8	1.2	**U**
110-54-3	n-Hexane	**1.1**	2.3	1.4	0.47	**J**
67-66-3	Chloroform	**2.8**	2.3	0.73	0.30	
109-99-9	Tetrahydrofuran (THF)	**1.2**	2.4	0.73	0.29	**J**
107-06-2	1,2-Dichloroethane	0.73	2.3	0.73	0.25	**U**
71-43-2	Benzene	**1.0**	2.3	0.73	0.33	**J**
56-23-5	Carbon Tetrachloride	**3.3**	2.3	0.73	0.32	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV127-250-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-016

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00801

Initial Pressure (psig): -2.93 Final Pressure (psig): 5.37

Container Dilution Factor: 1.71

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**0.97**	4.7	1.5	0.64	**J**
75-27-4	Bromodichloromethane	0.73	2.3	0.73	0.33	**U**
79-01-6	Trichloroethene	0.73	2.3	0.73	0.31	**U**
123-91-1	1,4-Dioxane	0.73	2.3	0.73	0.27	**U**
142-82-5	n-Heptane	**4.5**	2.3	1.4	0.36	
108-10-1	4-Methyl-2-pentanone	0.73	2.3	0.73	0.31	**U**
108-88-3	Toluene	**11**	2.3	0.73	0.28	
591-78-6	2-Hexanone	**1.6**	2.3	0.73	0.28	**J**
124-48-1	Dibromochloromethane	0.73	2.3	0.73	0.30	**U**
106-93-4	1,2-Dibromoethane	0.73	2.3	0.73	0.27	**U**
127-18-4	Tetrachloroethene	**0.32**	2.2	0.73	0.29	**J**
100-41-4	Ethylbenzene	**3.4**	2.3	0.73	0.32	
179601-23-1	m,p-Xylenes	**17**	4.7	1.5	0.60	
75-25-2	Bromoform	1.4	2.3	1.4	0.47	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.37	**U**
95-47-6	o-Xylene	**5.5**	2.3	0.73	0.33	
108-67-8	1,3,5-Trimethylbenzene	**11**	2.3	0.73	0.33	
95-63-6	1,2,4-Trimethylbenzene	**54**	2.3	0.73	0.32	
120-82-1	1,2,4-Trichlorobenzene	1.4	2.3	1.4	0.56	**U**
91-20-3	Naphthalene	**10**	2.2	1.3	0.56	
1330-20-7	Xylenes, Total	**22**	4.7	1.5	0.60	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV127-350-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-017

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.16 Liter(s)
Test Notes:
Container ID: 1SC00528

Initial Pressure (psig): -1.73 Final Pressure (psig): 7.44

Container Dilution Factor: 1.71

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**37**	5.7	3.4	1.4	
75-71-8	Dichlorodifluoromethane (CFC 12)	3.4	5.7	3.4	0.93	**U**
74-87-3	Chloromethane	**2.6**	5.7	3.4	0.92	**J**
75-01-4	Vinyl Chloride	1.8	5.8	1.8	0.61	**U**
106-99-0	1,3-Butadiene	3.4	5.7	3.4	0.94	**U**
75-00-3	Chloroethane	3.4	5.8	3.4	0.71	**U**
64-17-5	Ethanol	**300**	56	8.9	4.0	**B**
67-64-1	Acetone	**61**	57	29	13	
75-69-4	Trichlorofluoromethane	**13**	5.7	3.4	0.87	
67-63-0	2-Propanol (Isopropyl Alcohol)	**280**	22	6.7	2.4	
75-09-2	Methylene Chloride	**5.9**	5.7	3.4	1.6	
76-13-1	Trichlorotrifluoroethane	1.8	5.8	1.8	0.81	**U**
75-15-0	Carbon Disulfide	**2.4**	12	5.8	1.7	**J**
75-34-3	1,1-Dichloroethane	3.5	5.9	3.5	0.83	**U**
78-93-3	2-Butanone (MEK)	**14**	12	3.4	1.2	
141-78-6	Ethyl Acetate	**120**	12	6.9	3.0	
110-54-3	n-Hexane	**4.5**	5.8	3.4	1.2	**J**
67-66-3	Chloroform	1.8	5.8	1.8	0.76	**U**
109-99-9	Tetrahydrofuran (THF)	**1.3**	5.9	1.8	0.72	**J**
107-06-2	1,2-Dichloroethane	1.8	5.8	1.8	0.63	**U**
71-43-2	Benzene	**3.9**	5.7	1.8	0.82	**J**
56-23-5	Carbon Tetrachloride	1.8	5.7	1.8	0.79	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV127-350-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-017

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.16 Liter(s)
Test Notes:
Container ID: 1SC00528

Initial Pressure (psig): -1.73 Final Pressure (psig): 7.44

Container Dilution Factor: 1.71

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**9.5**	12	3.6	1.6	**J**
75-27-4	Bromodichloromethane	1.8	5.8	1.8	0.82	**U**
79-01-6	Trichloroethene	**0.97**	5.8	1.8	0.77	**J**
123-91-1	1,4-Dioxane	1.8	5.8	1.8	0.67	**U**
142-82-5	n-Heptane	**12**	5.8	3.4	0.91	
108-10-1	4-Methyl-2-pentanone	**6.0**	5.7	1.8	0.78	
108-88-3	Toluene	**59**	5.8	1.8	0.69	
591-78-6	2-Hexanone	**1.0**	5.8	1.8	0.71	**J**
124-48-1	Dibromochloromethane	1.8	5.8	1.8	0.75	**U**
106-93-4	1,2-Dibromoethane	1.8	5.8	1.8	0.66	**U**
127-18-4	Tetrachloroethene	**1.1**	5.6	1.8	0.74	**J**
100-41-4	Ethylbenzene	**3.7**	5.8	1.8	0.80	**J**
179601-23-1	m,p-Xylenes	**12**	12	3.6	1.5	**J**
75-25-2	Bromoform	3.4	5.8	3.4	1.2	**U**
100-42-5	Styrene	**1.7**	5.7	3.4	0.92	**J**
95-47-6	o-Xylene	**4.4**	5.8	1.8	0.82	**J**
108-67-8	1,3,5-Trimethylbenzene	**3.1**	5.7	1.8	0.82	**J**
95-63-6	1,2,4-Trimethylbenzene	**13**	5.8	1.8	0.79	
120-82-1	1,2,4-Trichlorobenzene	3.4	5.8	3.4	1.4	**U**
91-20-3	Naphthalene	**1.4**	5.6	3.3	1.4	**J**
1330-20-7	Xylenes, Total	**16**	12	3.6	1.5	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV127-450-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-018

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0040 Liter(s)
Test Notes:
Container ID: 1SS00743

Initial Pressure (psig): -2.94 Final Pressure (psig): 5.32

Container Dilution Factor: 1.70

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**110**	230	140	55	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	140	230	140	37	**U**
74-87-3	Chloromethane	140	230	140	37	**U**
75-01-4	Vinyl Chloride	72	230	72	24	**U**
106-99-0	1,3-Butadiene	140	230	140	37	**U**
75-00-3	Chloroethane	140	230	140	28	**U**
64-17-5	Ethanol	**2,600**	2,200	350	160	**B**
67-64-1	Acetone	1,100	2,300	1,100	510	**U**
75-69-4	Trichlorofluoromethane	140	230	140	34	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	**300**	890	270	94	**J**
75-09-2	Methylene Chloride	140	230	140	64	**U**
76-13-1	Trichlorotrifluoroethane	72	230	72	32	**U**
75-15-0	Carbon Disulfide	230	470	230	68	**U**
75-34-3	1,1-Dichloroethane	140	230	140	33	**U**
78-93-3	2-Butanone (MEK)	140	470	140	47	**U**
141-78-6	Ethyl Acetate	**130**	470	280	120	**J**
110-54-3	n-Hexane	140	230	140	47	**U**
67-66-3	Chloroform	**430**	230	72	30	
109-99-9	Tetrahydrofuran (THF)	**48**	230	72	28	**J**
107-06-2	1,2-Dichloroethane	72	230	72	25	**U**
71-43-2	Benzene	**64**	230	72	33	**J**
56-23-5	Carbon Tetrachloride	72	230	72	31	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV127-450-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-018

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0040 Liter(s)
Test Notes:
Container ID: 1SS00743

Initial Pressure (psig): -2.94 Final Pressure (psig): 5.32

Container Dilution Factor: 1.70

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**520**	470	140	64	
75-27-4	Bromodichloromethane	**50**	230	72	33	**J**
79-01-6	Trichloroethene	**2,000**	230	72	31	
123-91-1	1,4-Dioxane	72	230	72	27	**U**
142-82-5	n-Heptane	140	230	140	36	**U**
108-10-1	4-Methyl-2-pentanone	72	230	72	31	**U**
108-88-3	Toluene	**70**	230	72	28	**J**
591-78-6	2-Hexanone	72	230	72	28	**U**
124-48-1	Dibromochloromethane	72	230	72	30	**U**
106-93-4	1,2-Dibromoethane	72	230	72	26	**U**
127-18-4	Tetrachloroethene	**41**	220	72	29	**J**
100-41-4	Ethylbenzene	72	230	72	32	**U**
179601-23-1	m,p-Xylenes	140	470	140	60	**U**
75-25-2	Bromoform	140	230	140	47	**U**
100-42-5	Styrene	140	230	140	37	**U**
95-47-6	o-Xylene	72	230	72	33	**U**
108-67-8	1,3,5-Trimethylbenzene	72	230	72	33	**U**
95-63-6	1,2,4-Trimethylbenzene	**61**	230	72	31	**J**
120-82-1	1,2,4-Trichlorobenzene	140	230	140	55	**U**
91-20-3	Naphthalene	130	220	130	55	**U**
1330-20-7	Xylenes, Total	140	470	140	60	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV133-025-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-019

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00116

Initial Pressure (psig): -2.66 Final Pressure (psig): 5.45

Container Dilution Factor: 1.67

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.1**	2.2	1.3	0.54	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.8**	2.2	1.3	0.36	
74-87-3	Chloromethane	1.3	2.2	1.3	0.36	**U**
75-01-4	Vinyl Chloride	0.71	2.3	0.71	0.24	**U**
106-99-0	1,3-Butadiene	1.3	2.2	1.3	0.37	**U**
75-00-3	Chloroethane	1.3	2.3	1.3	0.28	**U**
64-17-5	Ethanol	**7.4**	22	3.5	1.5	**J, B**
67-64-1	Acetone	**30**	22	11	5.0	
75-69-4	Trichlorofluoromethane	**1.2**	2.2	1.3	0.34	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.5**	8.8	2.6	0.92	**J**
75-09-2	Methylene Chloride	1.3	2.2	1.3	0.63	**U**
76-13-1	Trichlorotrifluoroethane	**4.4**	2.3	0.71	0.32	
75-15-0	Carbon Disulfide	**0.99**	4.6	2.3	0.67	**J**
75-34-3	1,1-Dichloroethane	1.4	2.3	1.4	0.33	**U**
78-93-3	2-Butanone (MEK)	**7.9**	4.6	1.3	0.46	
141-78-6	Ethyl Acetate	2.7	4.6	2.7	1.2	**U**
110-54-3	n-Hexane	1.3	2.3	1.3	0.46	**U**
67-66-3	Chloroform	**0.57**	2.3	0.71	0.30	**J**
109-99-9	Tetrahydrofuran (THF)	**2.8**	2.3	0.71	0.28	
107-06-2	1,2-Dichloroethane	0.71	2.3	0.71	0.25	**U**
71-43-2	Benzene	**0.41**	2.2	0.71	0.32	**J**
56-23-5	Carbon Tetrachloride	**0.55**	2.2	0.71	0.31	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV133-025-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-019

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00116

Initial Pressure (psig): -2.66 Final Pressure (psig): 5.45

Container Dilution Factor: 1.67

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.4	4.6	1.4	0.63	**U**
75-27-4	Bromodichloromethane	0.71	2.3	0.71	0.32	**U**
79-01-6	Trichloroethene	**83**	2.3	0.71	0.30	
123-91-1	1,4-Dioxane	0.71	2.3	0.71	0.26	**U**
142-82-5	n-Heptane	**1.4**	2.3	1.3	0.35	**J**
108-10-1	4-Methyl-2-pentanone	**0.53**	2.2	0.71	0.30	**J**
108-88-3	Toluene	**3.3**	2.3	0.71	0.27	
591-78-6	2-Hexanone	**1.6**	2.3	0.71	0.28	**J**
124-48-1	Dibromochloromethane	0.71	2.3	0.71	0.29	**U**
106-93-4	1,2-Dibromoethane	0.71	2.3	0.71	0.26	**U**
127-18-4	Tetrachloroethene	**5.3**	2.2	0.71	0.29	
100-41-4	Ethylbenzene	**0.90**	2.3	0.71	0.31	**J**
179601-23-1	m,p-Xylenes	**5.1**	4.6	1.4	0.58	
75-25-2	Bromoform	1.3	2.3	1.3	0.46	**U**
100-42-5	Styrene	1.3	2.2	1.3	0.36	**U**
95-47-6	o-Xylene	**2.2**	2.3	0.71	0.32	**J**
108-67-8	1,3,5-Trimethylbenzene	**2.3**	2.2	0.71	0.32	
95-63-6	1,2,4-Trimethylbenzene	**11**	2.3	0.71	0.31	
120-82-1	1,2,4-Trichlorobenzene	1.3	2.3	1.3	0.54	**U**
91-20-3	Naphthalene	**1.4**	2.2	1.3	0.54	**J**
1330-20-7	Xylenes, Total	**7.2**	4.6	1.4	0.58	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV133-050-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-020

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00807

Initial Pressure (psig): -2.14 Final Pressure (psig): 5.17

Container Dilution Factor: 1.58

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	1.3	2.1	1.3	0.51	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.9**	2.1	1.3	0.34	
74-87-3	Chloromethane	1.3	2.1	1.3	0.34	**U**
75-01-4	Vinyl Chloride	0.67	2.1	0.67	0.23	**U**
106-99-0	1,3-Butadiene	1.3	2.1	1.3	0.35	**U**
75-00-3	Chloroethane	1.3	2.1	1.3	0.26	**U**
64-17-5	Ethanol	**1.7**	21	3.3	1.5	**J, B**
67-64-1	Acetone	**10**	21	11	4.7	**J**
75-69-4	Trichlorofluoromethane	**1.3**	2.1	1.3	0.32	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	2.5	8.3	2.5	0.87	**U**
75-09-2	Methylene Chloride	1.3	2.1	1.3	0.59	**U**
76-13-1	Trichlorotrifluoroethane	**4.9**	2.1	0.67	0.30	
75-15-0	Carbon Disulfide	**1.1**	4.3	2.1	0.63	**J**
75-34-3	1,1-Dichloroethane	1.3	2.2	1.3	0.31	**U**
78-93-3	2-Butanone (MEK)	**1.6**	4.3	1.3	0.43	**J**
141-78-6	Ethyl Acetate	**2.2**	4.3	2.6	1.1	**J**
110-54-3	n-Hexane	1.3	2.1	1.3	0.43	**U**
67-66-3	Chloroform	**0.79**	2.1	0.67	0.28	**J**
109-99-9	Tetrahydrofuran (THF)	**0.97**	2.2	0.67	0.26	**J**
107-06-2	1,2-Dichloroethane	0.67	2.1	0.67	0.23	**U**
71-43-2	Benzene	0.67	2.1	0.67	0.30	**U**
56-23-5	Carbon Tetrachloride	**0.75**	2.1	0.67	0.29	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV133-050-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-020

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00807

Initial Pressure (psig): -2.14 Final Pressure (psig): 5.17

Container Dilution Factor: 1.58

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.3	4.3	1.3	0.59	**U**
75-27-4	Bromodichloromethane	0.67	2.1	0.67	0.30	**U**
79-01-6	Trichloroethene	**100**	2.1	0.67	0.28	
123-91-1	1,4-Dioxane	0.67	2.1	0.67	0.25	**U**
142-82-5	n-Heptane	**0.73**	2.1	1.3	0.34	**J**
108-10-1	4-Methyl-2-pentanone	0.67	2.1	0.67	0.29	**U**
108-88-3	Toluene	**1.3**	2.1	0.67	0.26	**J**
591-78-6	2-Hexanone	**0.45**	2.1	0.67	0.26	**J**
124-48-1	Dibromochloromethane	0.67	2.1	0.67	0.28	**U**
106-93-4	1,2-Dibromoethane	0.67	2.1	0.67	0.24	**U**
127-18-4	Tetrachloroethene	**5.0**	2.1	0.67	0.27	
100-41-4	Ethylbenzene	**0.35**	2.1	0.67	0.30	**J**
179601-23-1	m,p-Xylenes	**2.0**	4.3	1.3	0.55	**J**
75-25-2	Bromoform	1.3	2.1	1.3	0.43	**U**
100-42-5	Styrene	1.3	2.1	1.3	0.34	**U**
95-47-6	o-Xylene	**0.73**	2.1	0.67	0.30	**J**
108-67-8	1,3,5-Trimethylbenzene	**1.0**	2.1	0.67	0.30	**J**
95-63-6	1,2,4-Trimethylbenzene	**5.1**	2.1	0.67	0.29	
120-82-1	1,2,4-Trichlorobenzene	1.3	2.1	1.3	0.51	**U**
91-20-3	Naphthalene	**1.2**	2.1	1.2	0.51	**J**
1330-20-7	Xylenes, Total	**2.7**	4.3	1.3	0.55	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200420-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	0.32	0.53	0.32	0.13	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.32	0.53	0.32	0.087	**U**
74-87-3	Chloromethane	0.32	0.53	0.32	0.086	**U**
75-01-4	Vinyl Chloride	0.17	0.54	0.17	0.057	**U**
106-99-0	1,3-Butadiene	0.32	0.53	0.32	0.088	**U**
75-00-3	Chloroethane	0.32	0.54	0.32	0.066	**U**
64-17-5	Ethanol	**0.46**	5.2	0.83	0.37	**J**
67-64-1	Acetone	2.7	5.3	2.7	1.2	**U**
75-69-4	Trichlorofluoromethane	0.32	0.53	0.32	0.081	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.63	2.1	0.63	0.22	**U**
75-09-2	Methylene Chloride	0.32	0.53	0.32	0.15	**U**
76-13-1	Trichlorotrifluoroethane	0.17	0.54	0.17	0.076	**U**
75-15-0	Carbon Disulfide	0.54	1.1	0.54	0.16	**U**
75-34-3	1,1-Dichloroethane	0.33	0.55	0.33	0.078	**U**
78-93-3	2-Butanone (MEK)	0.32	1.1	0.32	0.11	**U**
141-78-6	Ethyl Acetate	0.65	1.1	0.65	0.28	**U**
110-54-3	n-Hexane	0.32	0.54	0.32	0.11	**U**
67-66-3	Chloroform	0.17	0.54	0.17	0.071	**U**
109-99-9	Tetrahydrofuran (THF)	0.17	0.55	0.17	0.067	**U**
107-06-2	1,2-Dichloroethane	0.17	0.54	0.17	0.059	**U**
71-43-2	Benzene	0.17	0.53	0.17	0.077	**U**
56-23-5	Carbon Tetrachloride	0.17	0.53	0.17	0.074	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200420-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	0.34	1.1	0.34	0.15	U
75-27-4	Bromodichloromethane	0.17	0.54	0.17	0.077	U
79-01-6	Trichloroethene	0.17	0.54	0.17	0.072	U
123-91-1	1,4-Dioxane	0.17	0.54	0.17	0.063	U
142-82-5	n-Heptane	0.32	0.54	0.32	0.085	U
108-10-1	4-Methyl-2-pentanone	0.17	0.53	0.17	0.073	U
108-88-3	Toluene	0.17	0.54	0.17	0.065	U
591-78-6	2-Hexanone	0.17	0.54	0.17	0.066	U
124-48-1	Dibromochloromethane	0.17	0.54	0.17	0.070	U
106-93-4	1,2-Dibromoethane	0.17	0.54	0.17	0.062	U
127-18-4	Tetrachloroethene	0.17	0.52	0.17	0.069	U
100-41-4	Ethylbenzene	0.17	0.54	0.17	0.075	U
179601-23-1	m,p-Xylenes	0.34	1.1	0.34	0.14	U
75-25-2	Bromoform	0.32	0.54	0.32	0.11	U
100-42-5	Styrene	0.32	0.53	0.32	0.086	U
95-47-6	o-Xylene	0.17	0.54	0.17	0.077	U
108-67-8	1,3,5-Trimethylbenzene	0.17	0.53	0.17	0.077	U
95-63-6	1,2,4-Trimethylbenzene	0.17	0.54	0.17	0.074	U
120-82-1	1,2,4-Trichlorobenzene	0.32	0.54	0.32	0.13	U
91-20-3	Naphthalene	0.31	0.52	0.31	0.13	U
1330-20-7	Xylenes, Total	0.34	1.1	0.34	0.14	U

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200421-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	0.32	0.53	0.32	0.13	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.32	0.53	0.32	0.087	**U**
74-87-3	Chloromethane	0.32	0.53	0.32	0.086	**U**
75-01-4	Vinyl Chloride	0.17	0.54	0.17	0.057	**U**
106-99-0	1,3-Butadiene	0.32	0.53	0.32	0.088	**U**
75-00-3	Chloroethane	0.32	0.54	0.32	0.066	**U**
64-17-5	Ethanol	**0.44**	5.2	0.83	0.37	**J**
67-64-1	Acetone	2.7	5.3	2.7	1.2	**U**
75-69-4	Trichlorofluoromethane	0.32	0.53	0.32	0.081	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.63	2.1	0.63	0.22	**U**
75-09-2	Methylene Chloride	0.32	0.53	0.32	0.15	**U**
76-13-1	Trichlorotrifluoroethane	0.17	0.54	0.17	0.076	**U**
75-15-0	Carbon Disulfide	0.54	1.1	0.54	0.16	**U**
75-34-3	1,1-Dichloroethane	0.33	0.55	0.33	0.078	**U**
78-93-3	2-Butanone (MEK)	0.32	1.1	0.32	0.11	**U**
141-78-6	Ethyl Acetate	0.65	1.1	0.65	0.28	**U**
110-54-3	n-Hexane	0.32	0.54	0.32	0.11	**U**
67-66-3	Chloroform	0.17	0.54	0.17	0.071	**U**
109-99-9	Tetrahydrofuran (THF)	0.17	0.55	0.17	0.067	**U**
107-06-2	1,2-Dichloroethane	0.17	0.54	0.17	0.059	**U**
71-43-2	Benzene	0.17	0.53	0.17	0.077	**U**
56-23-5	Carbon Tetrachloride	0.17	0.53	0.17	0.074	**U**

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200421-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	0.34	1.1	0.34	0.15	U
75-27-4	Bromodichloromethane	0.17	0.54	0.17	0.077	U
79-01-6	Trichloroethene	0.17	0.54	0.17	0.072	U
123-91-1	1,4-Dioxane	0.17	0.54	0.17	0.063	U
142-82-5	n-Heptane	0.32	0.54	0.32	0.085	U
108-10-1	4-Methyl-2-pentanone	0.17	0.53	0.17	0.073	U
108-88-3	Toluene	0.17	0.54	0.17	0.065	U
591-78-6	2-Hexanone	0.17	0.54	0.17	0.066	U
124-48-1	Dibromochloromethane	0.17	0.54	0.17	0.070	U
106-93-4	1,2-Dibromoethane	0.17	0.54	0.17	0.062	U
127-18-4	Tetrachloroethene	0.17	0.52	0.17	0.069	U
100-41-4	Ethylbenzene	0.17	0.54	0.17	0.075	U
179601-23-1	m,p-Xylenes	0.34	1.1	0.34	0.14	U
75-25-2	Bromoform	0.32	0.54	0.32	0.11	U
100-42-5	Styrene	0.32	0.53	0.32	0.086	U
95-47-6	o-Xylene	0.17	0.54	0.17	0.077	U
108-67-8	1,3,5-Trimethylbenzene	0.17	0.53	0.17	0.077	U
95-63-6	1,2,4-Trimethylbenzene	0.17	0.54	0.17	0.074	U
120-82-1	1,2,4-Trichlorobenzene	0.32	0.54	0.32	0.13	U
91-20-3	Naphthalene	0.31	0.52	0.31	0.13	U
1330-20-7	Xylenes, Total	0.34	1.1	0.34	0.14	U

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Project ID: P2002031

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date(s) Collected: 4/7 - 4/8/20
Analyst: Lusine Hakobyan Date(s) Received: 4/14/20
Sampling Media: 1.0 L Summa Canister(s) / 1.0 L Silonite Summa Canister(s) Date(s) Analyzed: 4/20 - 4/21/20
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P200420-MB	**101**	**98**	**89**	70-130	
Method Blank	P200421-MB	**99**	**98**	**93**	70-130	
Lab Control Sample	P200420-LCS	**94**	**96**	**101**	70-130	
Lab Control Sample	P200421-LCS	**94**	**96**	**102**	70-130	
Duplicate Lab Control Sample	P200420-DLCS	**93**	**97**	**104**	70-130	
Duplicate Lab Control Sample	P200421-DLCS	**93**	**96**	**104**	70-130	
SV124-150-202	P2002031-001	**101**	**98**	**93**	70-130	
SV124-250-602	P2002031-002	**101**	**97**	**93**	70-130	
SV124-250-202	P2002031-003	**100**	**96**	**93**	70-130	
SV124-350-202	P2002031-004	**99**	**99**	**90**	70-130	
SV124-350-202	P2002031-004DUP	**100**	**99**	**89**	70-130	
SV124-450-202	P2002031-005	**98**	**99**	**93**	70-130	
SV125-025-202	P2002031-006	**101**	**95**	**91**	70-130	
SV125-050-202	P2002031-007	**100**	**98**	**92**	70-130	
SV125-150-202	P2002031-008	**101**	**98**	**94**	70-130	
SV125-250-202	P2002031-009	**100**	**99**	**92**	70-130	
SV125-350-202	P2002031-010	**99**	**98**	**91**	70-130	
SV125-450-202	P2002031-011	**100**	**99**	**91**	70-130	
SV127-025-202	P2002031-012	**99**	**96**	**98**	70-130	
SV127-050-202	P2002031-013	**96**	**98**	**99**	70-130	
SV127-150-202	P2002031-014	**97**	**97**	**102**	70-130	
SV127-250-602	P2002031-015	**95**	**98**	**100**	70-130	
SV127-250-202	P2002031-016	**101**	**95**	**96**	70-130	
SV127-350-202	P2002031-017	**99**	**95**	**92**	70-130	
SV127-350-202	P2002031-017DUP	**100**	**96**	**92**	70-130	
SV127-450-202	P2002031-018	**99**	**101**	**93**	70-130	
SV133-025-202	P2002031-019	**101**	**93**	**93**	70-130	
SV133-050-202	P2002031-020	**101**	**95**	**94**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200420-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	210	207	210	**99**	**100**	57-136	1	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	190	193	**90**	**92**	59-128	2	25	
74-87-3	Chloromethane	212	181	180	**85**	**85**	59-132	0	25	
75-01-4	Vinyl Chloride	212	196	195	**92**	**92**	64-127	0	25	
106-99-0	1,3-Butadiene	212	175	178	**83**	**84**	66-134	1	25	
75-00-3	Chloroethane	214	199	202	**93**	**94**	63-127	1	25	
64-17-5	Ethanol	1,060	960	970	**91**	**92**	59-125	1	25	
67-64-1	Acetone	1,070	1050	1030	**98**	**96**	58-128	2	25	
75-69-4	Trichlorofluoromethane	212	191	193	**90**	**91**	62-126	1	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	422	427	422	**101**	**100**	52-125	1	25	
75-09-2	Methylene Chloride	210	204	201	**97**	**96**	62-115	1	25	
76-13-1	Trichlorotrifluoroethane	216	195	197	**90**	**91**	66-126	1	25	
75-15-0	Carbon Disulfide	212	206	207	**97**	**98**	57-134	1	25	
75-34-3	1,1-Dichloroethane	212	197	197	**93**	**93**	68-126	0	25	
78-93-3	2-Butanone (MEK)	212	216	214	**102**	**101**	67-130	1	25	
141-78-6	Ethyl Acetate	432	469	464	**109**	**107**	65-128	2	25	
110-54-3	n-Hexane	216	221	218	**102**	**101**	63-120	1	25	
67-66-3	Chloroform	214	196	195	**92**	**91**	68-123	1	25	
109-99-9	Tetrahydrofuran (THF)	220	205	204	**93**	**93**	64-123	0	25	
107-06-2	1,2-Dichloroethane	214	189	189	**88**	**88**	65-128	0	25	
71-43-2	Benzene	210	198	194	**94**	**92**	69-119	2	25	
56-23-5	Carbon Tetrachloride	208	200	201	**96**	**97**	68-132	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200420-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	422	413	410	**98**	**97**	70-117	1	25	
75-27-4	Bromodichloromethane	218	210	208	**96**	**95**	72-128	1	25	
79-01-6	Trichloroethene	216	183	185	**85**	**86**	71-123	1	25	
123-91-1	1,4-Dioxane	216	205	204	**95**	**94**	71-122	1	25	
142-82-5	n-Heptane	214	212	211	**99**	**99**	69-123	0	25	
108-10-1	4-Methyl-2-pentanone	212	225	222	**106**	**105**	67-130	0.9	25	
108-88-3	Toluene	212	196	197	**92**	**93**	66-119	1	25	
591-78-6	2-Hexanone	216	216	214	**100**	**99**	62-128	1	25	
124-48-1	Dibromochloromethane	214	222	226	**104**	**106**	70-130	2	25	
106-93-4	1,2-Dibromoethane	214	218	221	**102**	**103**	74-122	1	25	
127-18-4	Tetrachloroethene	208	194	199	**93**	**96**	66-124	3	25	
100-41-4	Ethylbenzene	212	210	210	**99**	**99**	70-124	0	25	
179601-23-1	m,p-Xylenes	426	417	416	**98**	**98**	61-134	0	25	
75-25-2	Bromoform	214	213	217	**100**	**101**	66-139	1	25	
100-42-5	Styrene	212	199	200	**94**	**94**	73-127	0	25	
95-47-6	o-Xylene	214	206	205	**96**	**96**	67-125	0	25	
108-67-8	1,3,5-Trimethylbenzene	212	201	202	**95**	**95**	67-130	0	25	
95-63-6	1,2,4-Trimethylbenzene	212	215	216	**101**	**102**	66-132	1	25	
120-82-1	1,2,4-Trichlorobenzene	216	244	249	**113**	**115**	55-142	2	25	
91-20-3	Naphthalene	212	229	231	**108**	**109**	57-138	0.9	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200421-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	210	204	207	**97**	**99**	57-136	2	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	183	192	**87**	**91**	59-128	4	25	
74-87-3	Chloromethane	212	166	172	**78**	**81**	59-132	4	25	
75-01-4	Vinyl Chloride	212	189	192	**89**	**91**	64-127	2	25	
106-99-0	1,3-Butadiene	212	172	180	**81**	**85**	66-134	5	25	
75-00-3	Chloroethane	214	191	198	**89**	**93**	63-127	4	25	
64-17-5	Ethanol	1,060	929	952	**88**	**90**	59-125	2	25	
67-64-1	Acetone	1,070	1010	1010	**94**	**94**	58-128	0	25	
75-69-4	Trichlorofluoromethane	212	188	190	**89**	**90**	62-126	1	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	422	409	415	**97**	**98**	52-125	1	25	
75-09-2	Methylene Chloride	210	196	199	**93**	**95**	62-115	2	25	
76-13-1	Trichlorotrifluoroethane	216	193	196	**89**	**91**	66-126	2	25	
75-15-0	Carbon Disulfide	212	201	202	**95**	**95**	57-134	0	25	
75-34-3	1,1-Dichloroethane	212	191	193	**90**	**91**	68-126	1	25	
78-93-3	2-Butanone (MEK)	212	212	207	**100**	**98**	67-130	2	25	
141-78-6	Ethyl Acetate	432	463	453	**107**	**105**	65-128	2	25	
110-54-3	n-Hexane	216	216	214	**100**	**99**	63-120	1	25	
67-66-3	Chloroform	214	193	191	**90**	**89**	68-123	1	25	
109-99-9	Tetrahydrofuran (THF)	220	199	199	**90**	**90**	64-123	0	25	
107-06-2	1,2-Dichloroethane	214	188	186	**88**	**87**	65-128	1	25	
71-43-2	Benzene	210	193	192	**92**	**91**	69-119	1	25	
56-23-5	Carbon Tetrachloride	208	199	199	**96**	**96**	68-132	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200421-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	422	402	403	**95**	**95**	70-117	0	25	
75-27-4	Bromodichloromethane	218	206	206	**94**	**94**	72-128	0	25	
79-01-6	Trichloroethene	216	183	182	**85**	**84**	71-123	1	25	
123-91-1	1,4-Dioxane	216	201	201	**93**	**93**	71-122	0	25	
142-82-5	n-Heptane	214	208	208	**97**	**97**	69-123	0	25	
108-10-1	4-Methyl-2-pentanone	212	218	219	**103**	**103**	67-130	0	25	
108-88-3	Toluene	212	194	194	**92**	**92**	66-119	0	25	
591-78-6	2-Hexanone	216	212	210	**98**	**97**	62-128	1	25	
124-48-1	Dibromochloromethane	214	221	223	**103**	**104**	70-130	1	25	
106-93-4	1,2-Dibromoethane	214	216	216	**101**	**101**	74-122	0	25	
127-18-4	Tetrachloroethene	208	195	196	**94**	**94**	66-124	0	25	
100-41-4	Ethylbenzene	212	208	207	**98**	**98**	70-124	0	25	
179601-23-1	m,p-Xylenes	426	412	409	**97**	**96**	61-134	1	25	
75-25-2	Bromoform	214	214	215	**100**	**100**	66-139	0	25	
100-42-5	Styrene	212	198	196	**93**	**92**	73-127	1	25	
95-47-6	o-Xylene	214	204	202	**95**	**94**	67-125	1	25	
108-67-8	1,3,5-Trimethylbenzene	212	199	197	**94**	**93**	67-130	1	25	
95-63-6	1,2,4-Trimethylbenzene	212	214	212	**101**	**100**	66-132	1	25	
120-82-1	1,2,4-Trichlorobenzene	216	247	247	**114**	**114**	55-142	0	25	
91-20-3	Naphthalene	212	228	227	**108**	**107**	57-138	0.9	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV124-350-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-004DUP

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.040 Liter(s)
Test Notes:
Container ID: 1SS00756

Initial Pressure (psig): -3.93 Final Pressure (psig): 5.23

Container Dilution Factor: 1.85

Compound	Sample Result µg/m³	Duplicate Sample Result µg/m³	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Propene	7.3	7.2	7.25	**1**	25	**J**
Dichlorodifluoromethane (CFC 12)	ND	ND	-	-	25	
Chloromethane	ND	ND	-	-	25	
Vinyl Chloride	ND	ND	-	-	25	
1,3-Butadiene	ND	ND	-	-	25	
Chloroethane	ND	ND	-	-	25	
Ethanol	ND	ND	-	-	25	
Acetone	ND	ND	-	-	25	
Trichlorofluoromethane	ND	ND	-	-	25	
2-Propanol (Isopropyl Alcohol)	ND	ND	-	-	25	
Methylene Chloride	ND	ND	-	-	25	
Trichlorotrifluoroethane	ND	ND	-	-	25	
Carbon Disulfide	ND	ND	-	-	25	
1,1-Dichloroethane	ND	ND	-	-	25	
2-Butanone (MEK)	ND	ND	-	-	25	
Ethyl Acetate	ND	ND	-	-	25	
n-Hexane	7.6	7.8	7.7	**3**	25	**J**
Chloroform	ND	ND	-	-	25	
Tetrahydrofuran (THF)	6.2	6.1	6.15	**2**	25	**J**
1,2-Dichloroethane	ND	ND	-	-	25	
Benzene	21	21	21	**0**	25	**J**
Carbon Tetrachloride	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV124-350-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-004DUP

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.040 Liter(s)
Test Notes:
Container ID: 1SS00756

Initial Pressure (psig): -3.93 Final Pressure (psig): 5.23

Container Dilution Factor: 1.85

Compound	Sample Result µg/m³	Duplicate Sample Result µg/m³	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Cyclohexane	31	31	31	**0**	25	**J**
Bromodichloromethane	ND	ND	-	-	25	
Trichloroethene	ND	ND	-	-	25	
1,4-Dioxane	ND	ND	-	-	25	
n-Heptane	ND	ND	-	-	25	
4-Methyl-2-pentanone	ND	ND	-	-	25	
Toluene	3.4	3.1	3.25	**9**	25	**J**
2-Hexanone	ND	ND	-	-	25	
Dibromochloromethane	ND	ND	-	-	25	
1,2-Dibromoethane	ND	ND	-	-	25	
Tetrachloroethene	ND	ND	-	-	25	
Ethylbenzene	ND	ND	-	-	25	
m,p-Xylenes	ND	ND	-	-	25	
Bromoform	ND	ND	-	-	25	
Styrene	ND	ND	-	-	25	
o-Xylene	ND	ND	-	-	25	
1,3,5-Trimethylbenzene	ND	ND	-	-	25	
1,2,4-Trimethylbenzene	6.4	6.4	6.4	**0**	25	**J**
1,2,4-Trichlorobenzene	ND	ND	-	-	25	
Naphthalene	ND	ND	-	-	25	
Xylenes, Total	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV127-350-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-017DUP

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.16 Liter(s)
Test Notes:
Container ID: 1SC00528

Initial Pressure (psig): -1.73 Final Pressure (psig): 7.44

Container Dilution Factor: 1.71

Compound	Sample Result µg/m³	Duplicate Sample Result µg/m³	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Propene	37	37	37	**0**	25	
Dichlorodifluoromethane (CFC 12)	ND	ND	-	-	25	
Chloromethane	2.6	2.6	2.6	**0**	25	**J**
Vinyl Chloride	ND	ND	-	-	25	
1,3-Butadiene	ND	ND	-	-	25	
Chloroethane	ND	ND	-	-	25	
Ethanol	300	300	300	**0**	25	**B**
Acetone	61	62	61.5	**2**	25	
Trichlorofluoromethane	13	13	13	**0**	25	
2-Propanol (Isopropyl Alcohol)	280	280	280	**0**	25	
Methylene Chloride	5.9	6.0	5.95	**2**	25	
Trichlorotrifluoroethane	ND	ND	-	-	25	
Carbon Disulfide	2.4	2.4	2.4	**0**	25	**J**
1,1-Dichloroethane	ND	ND	-	-	25	
2-Butanone (MEK)	14	14	14	**0**	25	
Ethyl Acetate	120	120	120	**0**	25	
n-Hexane	4.5	4.6	4.55	**2**	25	**J**
Chloroform	ND	ND	-	-	25	
Tetrahydrofuran (THF)	1.3	1.3	1.3	**0**	25	**J**
1,2-Dichloroethane	ND	ND	-	-	25	
Benzene	3.9	3.8	3.85	**3**	25	**J**
Carbon Tetrachloride	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV127-350-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-017DUP

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.16 Liter(s)
Test Notes:
Container ID: 1SC00528

Initial Pressure (psig): -1.73 Final Pressure (psig): 7.44

Container Dilution Factor: 1.71

Compound	Sample Result µg/m³	Duplicate Sample Result µg/m³	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Cyclohexane	9.5	9.5	9.5	**0**	25	**J**
Bromodichloromethane	ND	ND	-	-	25	
Trichloroethene	0.97	0.94	0.955	**3**	25	**J**
1,4-Dioxane	ND	ND	-	-	25	
n-Heptane	12	12	12	**0**	25	
4-Methyl-2-pentanone	6.0	6.1	6.05	**2**	25	
Toluene	59	58	58.5	**2**	25	
2-Hexanone	1.0	0.89	0.945	**12**	25	**J**
Dibromochloromethane	ND	ND	-	-	25	
1,2-Dibromoethane	ND	ND	-	-	25	
Tetrachloroethene	1.1	1.1	1.1	**0**	25	**J**
Ethylbenzene	3.7	3.8	3.75	**3**	25	**J**
m,p-Xylenes	12	12	12	**0**	25	
Bromoform	ND	ND	-	-	25	
Styrene	1.7	1.7	1.7	**0**	25	**J**
o-Xylene	4.4	4.4	4.4	**0**	25	**J**
1,3,5-Trimethylbenzene	3.1	3.2	3.15	**3**	25	**J**
1,2,4-Trimethylbenzene	13	14	13.5	**7**	25	
1,2,4-Trichlorobenzene	ND	ND	-	-	25	
Naphthalene	1.4	ND	-	-	25	
Xylenes, Total	16	16	16	**0**	25	

ND = Compound was analyzed for, but not detected.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV124-150-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-001

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01203

Initial Pressure (psig): -2.97 Final Pressure (psig): 5.03

Container Dilution Factor: 1.68

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.47**	1.3	0.78	0.32	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.31**	0.45	0.27	0.074	**J**
74-87-3	Chloromethane	0.65	1.1	0.65	0.17	**U**
75-01-4	Vinyl Chloride	0.28	0.89	0.28	0.094	**U**
106-99-0	1,3-Butadiene	0.61	1.0	0.61	0.17	**U**
75-00-3	Chloroethane	0.51	0.86	0.51	0.11	**U**
64-17-5	Ethanol	**2.6**	12	1.9	0.83	**J, B**
67-64-1	Acetone	4.8	9.4	4.8	2.1	**U**
75-69-4	Trichlorofluoromethane	**0.21**	0.40	0.24	0.061	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.53**	3.6	1.1	0.38	**J**
75-09-2	Methylene Chloride	0.39	0.64	0.39	0.18	**U**
76-13-1	Trichlorotrifluoroethane	**0.045**	0.30	0.093	0.042	**J**
75-15-0	Carbon Disulfide	**1.8**	1.5	0.73	0.22	
75-34-3	1,1-Dichloroethane	0.34	0.57	0.34	0.081	**U**
78-93-3	2-Butanone (MEK)	**0.39**	1.6	0.46	0.16	**J**
141-78-6	Ethyl Acetate	0.76	1.3	0.76	0.33	**U**
110-54-3	n-Hexane	0.38	0.64	0.38	0.13	**U**
67-66-3	Chloroform	**35**	0.46	0.15	0.061	
109-99-9	Tetrahydrofuran (THF)	**2.7**	0.78	0.24	0.095	
107-06-2	1,2-Dichloroethane	0.18	0.56	0.18	0.061	**U**
71-43-2	Benzene	**0.11**	0.70	0.22	0.10	**J**
56-23-5	Carbon Tetrachloride	**4.6**	0.35	0.11	0.049	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV124-150-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-001

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01203

Initial Pressure (psig): -2.97 Final Pressure (psig): 5.03

Container Dilution Factor: 1.68

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.42	1.3	0.42	0.18	**U**
75-27-4	Bromodichloromethane	**2.0**	0.34	0.11	0.048	
79-01-6	Trichloroethene	**0.092**	0.42	0.13	0.056	**J**
123-91-1	1,4-Dioxane	**0.14**	0.63	0.20	0.073	**J**
142-82-5	n-Heptane	0.33	0.55	0.33	0.087	**U**
108-10-1	4-Methyl-2-pentanone	0.17	0.54	0.17	0.075	**U**
108-88-3	Toluene	**0.42**	0.60	0.19	0.072	**J**
591-78-6	2-Hexanone	0.17	0.55	0.17	0.068	**U**
124-48-1	Dibromochloromethane	**0.086**	0.27	0.084	0.035	**J**
106-93-4	1,2-Dibromoethane	0.093	0.30	0.093	0.034	**U**
127-18-4	Tetrachloroethene	**0.88**	0.32	0.11	0.043	
100-41-4	Ethylbenzene	**0.10**	0.52	0.16	0.073	**J**
179601-23-1	m,p-Xylenes	**0.51**	1.1	0.33	0.14	**J**
75-25-2	Bromoform	0.13	0.22	0.13	0.045	**U**
100-42-5	Styrene	0.32	0.52	0.32	0.085	**U**
95-47-6	o-Xylene	**0.16**	0.52	0.16	0.074	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.31**	0.45	0.15	0.066	**J**
95-63-6	1,2,4-Trimethylbenzene	**1.5**	0.46	0.15	0.063	
120-82-1	1,2,4-Trichlorobenzene	0.18	0.31	0.18	0.074	**U**
91-20-3	Naphthalene	**0.43**	0.42	0.25	0.10	
1330-20-7	Xylenes, Total	**0.68**	1.1	0.33	0.14	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV124-250-602** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-002

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00139

Initial Pressure (psig): -3.14 Final Pressure (psig): 5.36

Container Dilution Factor: 1.74

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.61**	1.3	0.81	0.33	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.24**	0.47	0.28	0.077	**J**
74-87-3	Chloromethane	**0.26**	1.1	0.67	0.18	**J**
75-01-4	Vinyl Chloride	0.29	0.92	0.29	0.097	**U**
106-99-0	1,3-Butadiene	0.63	1.0	0.63	0.17	**U**
75-00-3	Chloroethane	0.53	0.89	0.53	0.11	**U**
64-17-5	Ethanol	**3.3**	12	1.9	0.85	**J, B**
67-64-1	Acetone	**10**	9.7	4.9	2.2	
75-69-4	Trichlorofluoromethane	**0.17**	0.41	0.25	0.063	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.1	3.7	1.1	0.39	**U**
75-09-2	Methylene Chloride	0.40	0.66	0.40	0.19	**U**
76-13-1	Trichlorotrifluoroethane	0.097	0.31	0.097	0.043	**U**
75-15-0	Carbon Disulfide	**10**	1.5	0.75	0.22	
75-34-3	1,1-Dichloroethane	0.35	0.59	0.35	0.084	**U**
78-93-3	2-Butanone (MEK)	**0.73**	1.6	0.47	0.16	**J**
141-78-6	Ethyl Acetate	0.78	1.3	0.78	0.34	**U**
110-54-3	n-Hexane	0.40	0.67	0.40	0.14	**U**
67-66-3	Chloroform	**0.76**	0.48	0.15	0.063	
109-99-9	Tetrahydrofuran (THF)	**6.0**	0.81	0.25	0.099	
107-06-2	1,2-Dichloroethane	0.18	0.58	0.18	0.063	**U**
71-43-2	Benzene	**1.5**	0.72	0.23	0.10	
56-23-5	Carbon Tetrachloride	**0.55**	0.37	0.12	0.051	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV124-250-602** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-002

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00139

Initial Pressure (psig): -3.14 Final Pressure (psig): 5.36

Container Dilution Factor: 1.74

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.43	1.4	0.43	0.19	**U**
75-27-4	Bromodichloromethane	**0.066**	0.35	0.11	0.050	**J**
79-01-6	Trichloroethene	0.14	0.44	0.14	0.058	**U**
123-91-1	1,4-Dioxane	**0.23**	0.65	0.21	0.076	**J**
142-82-5	n-Heptane	**0.34**	0.57	0.34	0.090	**J**
108-10-1	4-Methyl-2-pentanone	**0.19**	0.56	0.18	0.078	**J**
108-88-3	Toluene	**2.0**	0.62	0.20	0.075	
591-78-6	2-Hexanone	**0.12**	0.57	0.18	0.070	**J**
124-48-1	Dibromochloromethane	0.087	0.28	0.087	0.036	**U**
106-93-4	1,2-Dibromoethane	0.096	0.31	0.096	0.035	**U**
127-18-4	Tetrachloroethene	**0.078**	0.33	0.11	0.044	**J**
100-41-4	Ethylbenzene	**0.48**	0.54	0.17	0.075	**J**
179601-23-1	m,p-Xylenes	**2.6**	1.1	0.34	0.14	
75-25-2	Bromoform	0.13	0.23	0.13	0.046	**U**
100-42-5	Styrene	0.33	0.54	0.33	0.088	**U**
95-47-6	o-Xylene	**0.78**	0.54	0.17	0.077	
108-67-8	1,3,5-Trimethylbenzene	**1.7**	0.47	0.15	0.068	
95-63-6	1,2,4-Trimethylbenzene	**8.4**	0.48	0.15	0.066	
120-82-1	1,2,4-Trichlorobenzene	0.19	0.32	0.19	0.076	**U**
91-20-3	Naphthalene	**1.1**	0.43	0.26	0.11	
1330-20-7	Xylenes, Total	**3.3**	1.1	0.34	0.14	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV124-250-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-003

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00588

Initial Pressure (psig): -2.82 Final Pressure (psig): 5.11

Container Dilution Factor: 1.67

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.36**	1.3	0.78	0.32	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.24**	0.45	0.27	0.073	**J**
74-87-3	Chloromethane	0.65	1.1	0.65	0.17	**U**
75-01-4	Vinyl Chloride	0.28	0.88	0.28	0.093	**U**
106-99-0	1,3-Butadiene	0.60	1.0	0.60	0.17	**U**
75-00-3	Chloroethane	0.51	0.85	0.51	0.10	**U**
64-17-5	Ethanol	**1.6**	12	1.8	0.82	**J, B**
67-64-1	Acetone	**7.3**	9.3	4.7	2.1	**J**
75-69-4	Trichlorofluoromethane	**0.17**	0.39	0.24	0.060	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.1	3.6	1.1	0.37	**U**
75-09-2	Methylene Chloride	0.38	0.64	0.38	0.18	**U**
76-13-1	Trichlorotrifluoroethane	0.093	0.29	0.093	0.041	**U**
75-15-0	Carbon Disulfide	**2.7**	1.5	0.72	0.21	
75-34-3	1,1-Dichloroethane	0.34	0.57	0.34	0.080	**U**
78-93-3	2-Butanone (MEK)	**0.36**	1.6	0.45	0.16	**J**
141-78-6	Ethyl Acetate	0.75	1.3	0.75	0.32	**U**
110-54-3	n-Hexane	0.38	0.64	0.38	0.13	**U**
67-66-3	Chloroform	**0.60**	0.46	0.15	0.061	
109-99-9	Tetrahydrofuran (THF)	**2.0**	0.78	0.24	0.095	
107-06-2	1,2-Dichloroethane	0.18	0.56	0.18	0.061	**U**
71-43-2	Benzene	**0.13**	0.69	0.22	0.10	**J**
56-23-5	Carbon Tetrachloride	**0.54**	0.35	0.11	0.049	

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV124-250-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-003

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00588

Initial Pressure (psig): -2.82 Final Pressure (psig): 5.11

Container Dilution Factor: 1.67

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.41	1.3	0.41	0.18	**U**
75-27-4	Bromodichloromethane	0.11	0.34	0.11	0.048	**U**
79-01-6	Trichloroethene	0.13	0.42	0.13	0.056	**U**
123-91-1	1,4-Dioxane	0.20	0.63	0.20	0.073	**U**
142-82-5	n-Heptane	**0.20**	0.55	0.33	0.087	**J**
108-10-1	4-Methyl-2-pentanone	**0.23**	0.54	0.17	0.074	**J**
108-88-3	Toluene	**1.2**	0.60	0.19	0.072	
591-78-6	2-Hexanone	**0.072**	0.55	0.17	0.067	**J**
124-48-1	Dibromochloromethane	0.083	0.26	0.083	0.034	**U**
106-93-4	1,2-Dibromoethane	0.092	0.29	0.092	0.034	**U**
127-18-4	Tetrachloroethene	**0.055**	0.32	0.10	0.042	**J**
100-41-4	Ethylbenzene	**0.30**	0.52	0.16	0.072	**J**
179601-23-1	m,p-Xylenes	**1.5**	1.1	0.33	0.13	
75-25-2	Bromoform	0.13	0.22	0.13	0.044	**U**
100-42-5	Styrene	0.31	0.52	0.31	0.084	**U**
95-47-6	o-Xylene	**0.46**	0.52	0.16	0.074	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.89**	0.45	0.14	0.065	
95-63-6	1,2,4-Trimethylbenzene	**4.5**	0.46	0.14	0.063	
120-82-1	1,2,4-Trichlorobenzene	0.18	0.30	0.18	0.073	**U**
91-20-3	Naphthalene	**0.36**	0.41	0.25	0.10	**J**
1330-20-7	Xylenes, Total	**2.0**	1.1	0.33	0.13	

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV124-350-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-004

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.040 Liter(s)
Test Notes:
Container ID: 1SS00756

Initial Pressure (psig): -3.93 Final Pressure (psig): 5.23

Container Dilution Factor: 1.85

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**4.2**	14	8.6	3.5	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	3.0	5.0	3.0	0.81	**U**
74-87-3	Chloromethane	7.2	12	7.2	1.9	**U**
75-01-4	Vinyl Chloride	3.1	9.8	3.1	1.0	**U**
106-99-0	1,3-Butadiene	6.7	11	6.7	1.8	**U**
75-00-3	Chloroethane	5.6	9.5	5.6	1.2	**U**
64-17-5	Ethanol	20	130	20	9.1	**U**
67-64-1	Acetone	53	100	53	23	**U**
75-69-4	Trichlorofluoromethane	2.6	4.4	2.6	0.67	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	12	40	12	4.1	**U**
75-09-2	Methylene Chloride	4.3	7.1	4.3	2.0	**U**
76-13-1	Trichlorotrifluoroethane	1.0	3.3	1.0	0.46	**U**
75-15-0	Carbon Disulfide	8.0	16	8.0	2.4	**U**
75-34-3	1,1-Dichloroethane	3.8	6.3	3.8	0.89	**U**
78-93-3	2-Butanone (MEK)	5.0	17	5.0	1.7	**U**
141-78-6	Ethyl Acetate	8.3	14	8.3	3.6	**U**
110-54-3	n-Hexane	**2.2**	7.1	4.2	1.4	**J**
67-66-3	Chloroform	1.6	5.1	1.6	0.67	**U**
109-99-9	Tetrahydrofuran (THF)	**2.1**	8.6	2.7	1.1	**J**
107-06-2	1,2-Dichloroethane	1.9	6.2	1.9	0.67	**U**
71-43-2	Benzene	**6.6**	7.7	2.5	1.1	**J**
56-23-5	Carbon Tetrachloride	1.3	3.9	1.3	0.54	**U**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV124-350-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-004

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.040 Liter(s)
Test Notes:
Container ID: 1SS00756

Initial Pressure (psig): -3.93 Final Pressure (psig): 5.23

Container Dilution Factor: 1.85

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**9.0**	15	4.6	2.0	**J**
75-27-4	Bromodichloromethane	1.2	3.7	1.2	0.53	**U**
79-01-6	Trichloroethene	1.5	4.6	1.5	0.62	**U**
123-91-1	1,4-Dioxane	2.2	6.9	2.2	0.81	**U**
142-82-5	n-Heptane	3.6	6.1	3.6	0.96	**U**
108-10-1	4-Methyl-2-pentanone	1.9	6.0	1.9	0.82	**U**
108-88-3	Toluene	**0.90**	6.6	2.1	0.80	**J**
591-78-6	2-Hexanone	1.9	6.1	1.9	0.75	**U**
124-48-1	Dibromochloromethane	0.92	2.9	0.92	0.38	**U**
106-93-4	1,2-Dibromoethane	1.0	3.3	1.0	0.37	**U**
127-18-4	Tetrachloroethene	1.2	3.5	1.2	0.47	**U**
100-41-4	Ethylbenzene	1.8	5.8	1.8	0.80	**U**
179601-23-1	m,p-Xylenes	3.6	12	3.6	1.5	**U**
75-25-2	Bromoform	1.4	2.4	1.4	0.49	**U**
100-42-5	Styrene	3.5	5.8	3.5	0.93	**U**
95-47-6	o-Xylene	1.8	5.8	1.8	0.82	**U**
108-67-8	1,3,5-Trimethylbenzene	1.6	5.0	1.6	0.72	**U**
95-63-6	1,2,4-Trimethylbenzene	**1.3**	5.1	1.6	0.70	**J**
120-82-1	1,2,4-Trichlorobenzene	2.0	3.4	2.0	0.81	**U**
91-20-3	Naphthalene	2.7	4.6	2.7	1.1	**U**
1330-20-7	Xylenes, Total	3.6	12	3.6	1.5	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV124-450-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-005

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0015 Liter(s)
Test Notes:
Container ID: 1SS01007

Initial Pressure (psig): -3.37 Final Pressure (psig): 5.79

Container Dilution Factor: 1.81

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	220	370	220	91	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	78	130	78	21	**U**
74-87-3	Chloromethane	190	310	190	50	**U**
75-01-4	Vinyl Chloride	80	260	80	27	**U**
106-99-0	1,3-Butadiene	170	290	170	48	**U**
75-00-3	Chloroethane	150	250	150	30	**U**
64-17-5	Ethanol	**330**	3,300	530	240	**J, B**
67-64-1	Acetone	1,400	2,700	1,400	610	**U**
75-69-4	Trichlorofluoromethane	69	110	69	17	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	310	1,000	310	110	**U**
75-09-2	Methylene Chloride	110	180	110	52	**U**
76-13-1	Trichlorotrifluoroethane	27	85	27	12	**U**
75-15-0	Carbon Disulfide	**76**	430	210	62	**J**
75-34-3	1,1-Dichloroethane	98	160	98	23	**U**
78-93-3	2-Butanone (MEK)	130	450	130	45	**U**
141-78-6	Ethyl Acetate	220	370	220	94	**U**
110-54-3	n-Hexane	**46**	180	110	38	**J**
67-66-3	Chloroform	42	130	42	18	**U**
109-99-9	Tetrahydrofuran (THF)	70	230	70	27	**U**
107-06-2	1,2-Dichloroethane	51	160	51	18	**U**
71-43-2	Benzene	**92**	200	64	29	**J**
56-23-5	Carbon Tetrachloride	33	100	33	14	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV124-450-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-005

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0015 Liter(s)
Test Notes:
Container ID: 1SS01007

Initial Pressure (psig): -3.37 Final Pressure (psig): 5.79

Container Dilution Factor: 1.81

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**530**	390	120	53	
75-27-4	Bromodichloromethane	31	97	31	14	**U**
79-01-6	Trichloroethene	38	120	38	16	**U**
123-91-1	1,4-Dioxane	57	180	57	21	**U**
142-82-5	n-Heptane	94	160	94	25	**U**
108-10-1	4-Methyl-2-pentanone	50	160	50	22	**U**
108-88-3	Toluene	54	170	54	21	**U**
591-78-6	2-Hexanone	50	160	50	19	**U**
124-48-1	Dibromochloromethane	24	77	24	9.9	**U**
106-93-4	1,2-Dibromoethane	27	85	27	9.7	**U**
127-18-4	Tetrachloroethene	30	93	30	12	**U**
100-41-4	Ethylbenzene	47	150	47	21	**U**
179601-23-1	m,p-Xylenes	94	310	94	39	**U**
75-25-2	Bromoform	37	63	37	13	**U**
100-42-5	Styrene	91	150	91	24	**U**
95-47-6	o-Xylene	47	150	47	21	**U**
108-67-8	1,3,5-Trimethylbenzene	42	130	42	19	**U**
95-63-6	1,2,4-Trimethylbenzene	42	130	42	18	**U**
120-82-1	1,2,4-Trichlorobenzene	52	88	52	21	**U**
91-20-3	Naphthalene	71	120	71	30	**U**
1330-20-7	Xylenes, Total	94	310	94	39	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV125-025-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-006

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00202

Initial Pressure (psig): -3.11 Final Pressure (psig): 6.23

Container Dilution Factor: 1.81

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**6.5**	1.4	0.84	0.34	
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.48**	0.49	0.29	0.080	**J**
74-87-3	Chloromethane	0.70	1.2	0.70	0.19	**U**
75-01-4	Vinyl Chloride	0.30	0.96	0.30	0.10	**U**
106-99-0	1,3-Butadiene	0.65	1.1	0.65	0.18	**U**
75-00-3	Chloroethane	0.55	0.93	0.55	0.11	**U**
64-17-5	Ethanol	**26**	12	2.0	0.89	**B**
67-64-1	Acetone	**9.0**	10	5.1	2.3	**J**
75-69-4	Trichlorofluoromethane	**0.47**	0.43	0.26	0.065	
67-63-0	2-Propanol (Isopropyl Alcohol)	**12**	3.9	1.2	0.41	
75-09-2	Methylene Chloride	**0.33**	0.69	0.42	0.20	**J**
76-13-1	Trichlorotrifluoroethane	**0.061**	0.32	0.10	0.045	**J**
75-15-0	Carbon Disulfide	**1.2**	1.6	0.78	0.23	**J**
75-34-3	1,1-Dichloroethane	0.37	0.62	0.37	0.087	**U**
78-93-3	2-Butanone (MEK)	**1.3**	1.7	0.49	0.17	**J**
141-78-6	Ethyl Acetate	**11**	1.4	0.82	0.35	
110-54-3	n-Hexane	0.41	0.69	0.41	0.14	**U**
67-66-3	Chloroform	**79**	0.50	0.16	0.066	
109-99-9	Tetrahydrofuran (THF)	**3.8**	0.84	0.26	0.10	
107-06-2	1,2-Dichloroethane	0.19	0.60	0.19	0.066	**U**
71-43-2	Benzene	**0.14**	0.75	0.24	0.11	**J**
56-23-5	Carbon Tetrachloride	**0.42**	0.38	0.12	0.053	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV125-025-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-006

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00202

Initial Pressure (psig): -3.11 Final Pressure (psig): 6.23

Container Dilution Factor: 1.81

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.45	1.4	0.45	0.20	**U**
75-27-4	Bromodichloromethane	**6.1**	0.36	0.11	0.052	
79-01-6	Trichloroethene	**0.068**	0.45	0.14	0.061	**J**
123-91-1	1,4-Dioxane	0.21	0.68	0.21	0.079	**U**
142-82-5	n-Heptane	**0.44**	0.60	0.35	0.094	**J**
108-10-1	4-Methyl-2-pentanone	**0.33**	0.59	0.19	0.081	**J**
108-88-3	Toluene	**2.5**	0.65	0.20	0.078	
591-78-6	2-Hexanone	**0.21**	0.60	0.19	0.073	**J**
124-48-1	Dibromochloromethane	**0.074**	0.29	0.090	0.037	**J**
106-93-4	1,2-Dibromoethane	0.10	0.32	0.10	0.037	**U**
127-18-4	Tetrachloroethene	**0.59**	0.35	0.11	0.046	
100-41-4	Ethylbenzene	**0.24**	0.56	0.18	0.078	**J**
179601-23-1	m,p-Xylenes	**1.0**	1.1	0.35	0.15	**J**
75-25-2	Bromoform	0.14	0.24	0.14	0.048	**U**
100-42-5	Styrene	0.34	0.56	0.34	0.091	**U**
95-47-6	o-Xylene	**0.35**	0.56	0.18	0.080	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.56**	0.49	0.16	0.071	
95-63-6	1,2,4-Trimethylbenzene	**3.0**	0.50	0.16	0.068	
120-82-1	1,2,4-Trichlorobenzene	0.20	0.33	0.20	0.079	**U**
91-20-3	Naphthalene	**0.81**	0.45	0.27	0.11	
1330-20-7	Xylenes, Total	**1.4**	1.1	0.35	0.15	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV125-050-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-007

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan/Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00106

Initial Pressure (psig): -2.99 Final Pressure (psig): 5.65

Container Dilution Factor: 1.74

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**1.0**	1.3	0.81	0.33	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.48**	0.47	0.28	0.077	
74-87-3	Chloromethane	0.67	1.1	0.67	0.18	**U**
75-01-4	Vinyl Chloride	0.29	0.92	0.29	0.097	**U**
106-99-0	1,3-Butadiene	0.63	1.0	0.63	0.17	**U**
75-00-3	Chloroethane	0.53	0.89	0.53	0.11	**U**
64-17-5	Ethanol	**3.1**	12	1.9	0.85	**J, B**
67-64-1	Acetone	**8.5**	9.7	4.9	2.2	**J**
75-69-4	Trichlorofluoromethane	**0.21**	0.41	0.25	0.063	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.43**	3.7	1.1	0.39	**J**
75-09-2	Methylene Chloride	**0.90**	0.66	0.40	0.19	
76-13-1	Trichlorotrifluoroethane	**0.065**	0.31	0.097	0.043	**J**
75-15-0	Carbon Disulfide	**2.7**	1.5	0.75	0.22	
75-34-3	1,1-Dichloroethane	0.35	0.59	0.35	0.084	**U**
78-93-3	2-Butanone (MEK)	**1.6**	1.6	0.47	0.16	
141-78-6	Ethyl Acetate	0.78	1.3	0.78	0.34	**U**
110-54-3	n-Hexane	0.40	0.67	0.40	0.14	**U**
67-66-3	Chloroform	**260**	4.8	1.5	0.63	**D**
109-99-9	Tetrahydrofuran (THF)	**20**	0.81	0.25	0.099	
107-06-2	1,2-Dichloroethane	**0.20**	0.58	0.18	0.063	**J**
71-43-2	Benzene	**0.75**	0.72	0.23	0.10	
56-23-5	Carbon Tetrachloride	**2.3**	0.37	0.12	0.051	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV125-050-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-007

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan/Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00106

Initial Pressure (psig): -2.99 Final Pressure (psig): 5.65

Container Dilution Factor: 1.74

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.43	1.4	0.43	0.19	**U**
75-27-4	Bromodichloromethane	**34**	0.35	0.11	0.050	
79-01-6	Trichloroethene	**0.41**	0.44	0.14	0.058	**J**
123-91-1	1,4-Dioxane	0.21	0.65	0.21	0.076	**U**
142-82-5	n-Heptane	**0.092**	0.57	0.34	0.090	**J**
108-10-1	4-Methyl-2-pentanone	**0.082**	0.56	0.18	0.078	**J**
108-88-3	Toluene	**0.71**	0.62	0.20	0.075	
591-78-6	2-Hexanone	**0.21**	0.57	0.18	0.070	**J**
124-48-1	Dibromochloromethane	**0.84**	0.28	0.087	0.036	
106-93-4	1,2-Dibromoethane	0.096	0.31	0.096	0.035	**U**
127-18-4	Tetrachloroethene	**1.8**	0.33	0.11	0.044	
100-41-4	Ethylbenzene	**0.14**	0.54	0.17	0.075	**J**
179601-23-1	m,p-Xylenes	**0.70**	1.1	0.34	0.14	**J**
75-25-2	Bromoform	0.13	0.23	0.13	0.046	**U**
100-42-5	Styrene	**0.12**	0.54	0.33	0.088	**J**
95-47-6	o-Xylene	**0.23**	0.54	0.17	0.077	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.42**	0.47	0.15	0.068	**J**
95-63-6	1,2,4-Trimethylbenzene	**2.1**	0.48	0.15	0.066	
120-82-1	1,2,4-Trichlorobenzene	0.19	0.32	0.19	0.076	**U**
91-20-3	Naphthalene	**0.62**	0.43	0.26	0.11	
1330-20-7	Xylenes, Total	**0.92**	1.1	0.34	0.14	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV125-150-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-008

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan/Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00304

Initial Pressure (psig): -2.66 Final Pressure (psig): 5.57

Container Dilution Factor: 1.68

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**3.0**	1.3	0.78	0.32	
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.31**	0.45	0.27	0.074	**J**
74-87-3	Chloromethane	**0.23**	1.1	0.65	0.17	**J**
75-01-4	Vinyl Chloride	0.28	0.89	0.28	0.094	**U**
106-99-0	1,3-Butadiene	0.61	1.0	0.61	0.17	**U**
75-00-3	Chloroethane	0.51	0.86	0.51	0.11	**U**
64-17-5	Ethanol	**40**	12	1.9	0.83	**B**
67-64-1	Acetone	**9.2**	9.4	4.8	2.1	**J**
75-69-4	Trichlorofluoromethane	**0.35**	0.40	0.24	0.061	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**5.8**	3.6	1.1	0.38	
75-09-2	Methylene Chloride	**0.74**	0.64	0.39	0.18	
76-13-1	Trichlorotrifluoroethane	**0.047**	0.30	0.093	0.042	**J**
75-15-0	Carbon Disulfide	**1.4**	1.5	0.73	0.22	**J**
75-34-3	1,1-Dichloroethane	0.34	0.57	0.34	0.081	**U**
78-93-3	2-Butanone (MEK)	**2.9**	1.6	0.46	0.16	
141-78-6	Ethyl Acetate	**190**	13	7.6	3.3	**D**
110-54-3	n-Hexane	**0.42**	0.64	0.38	0.13	**J**
67-66-3	Chloroform	**6.7**	0.46	0.15	0.061	
109-99-9	Tetrahydrofuran (THF)	**5.0**	0.78	0.24	0.095	
107-06-2	1,2-Dichloroethane	0.18	0.56	0.18	0.061	**U**
71-43-2	Benzene	**0.68**	0.70	0.22	0.10	**J**
56-23-5	Carbon Tetrachloride	**3.2**	0.35	0.11	0.049	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV125-150-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-008

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan/Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00304

Initial Pressure (psig): -2.66 Final Pressure (psig): 5.57

Container Dilution Factor: 1.68

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.42	1.3	0.42	0.18	**U**
75-27-4	Bromodichloromethane	**0.15**	0.34	0.11	0.048	**J**
79-01-6	Trichloroethene	**1.5**	0.42	0.13	0.056	
123-91-1	1,4-Dioxane	**0.11**	0.63	0.20	0.073	**J**
142-82-5	n-Heptane	**0.39**	0.55	0.33	0.087	**J**
108-10-1	4-Methyl-2-pentanone	**0.14**	0.54	0.17	0.075	**J**
108-88-3	Toluene	**7.2**	0.60	0.19	0.072	
591-78-6	2-Hexanone	**0.16**	0.55	0.17	0.068	**J**
124-48-1	Dibromochloromethane	0.084	0.27	0.084	0.035	**U**
106-93-4	1,2-Dibromoethane	0.093	0.30	0.093	0.034	**U**
127-18-4	Tetrachloroethene	**2.4**	0.32	0.11	0.043	
100-41-4	Ethylbenzene	**0.22**	0.52	0.16	0.073	**J**
179601-23-1	m,p-Xylenes	**0.81**	1.1	0.33	0.14	**J**
75-25-2	Bromoform	0.13	0.22	0.13	0.045	**U**
100-42-5	Styrene	**0.091**	0.52	0.32	0.085	**J**
95-47-6	o-Xylene	**0.63**	0.52	0.16	0.074	
108-67-8	1,3,5-Trimethylbenzene	**0.31**	0.45	0.15	0.066	**J**
95-63-6	1,2,4-Trimethylbenzene	**1.4**	0.46	0.15	0.063	
120-82-1	1,2,4-Trichlorobenzene	0.18	0.31	0.18	0.074	**U**
91-20-3	Naphthalene	**0.17**	0.42	0.25	0.10	**J**
1330-20-7	Xylenes, Total	**1.4**	1.1	0.33	0.14	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV125-250-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-009

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00940

Initial Pressure (psig): -3.32 Final Pressure (psig): 5.44

Container Dilution Factor: 1.77

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.82	1.4	0.82	0.33	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.10**	0.47	0.29	0.078	**J**
74-87-3	Chloromethane	0.69	1.1	0.69	0.18	**U**
75-01-4	Vinyl Chloride	0.29	0.94	0.29	0.099	**U**
106-99-0	1,3-Butadiene	0.64	1.1	0.64	0.18	**U**
75-00-3	Chloroethane	0.54	0.91	0.54	0.11	**U**
64-17-5	Ethanol	**1.3**	12	1.9	0.87	**J, B**
67-64-1	Acetone	**25**	9.9	5.0	2.2	
75-69-4	Trichlorofluoromethane	**0.21**	0.42	0.25	0.064	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.1	3.8	1.1	0.40	**U**
75-09-2	Methylene Chloride	0.41	0.68	0.41	0.19	**U**
76-13-1	Trichlorotrifluoroethane	0.098	0.31	0.098	0.044	**U**
75-15-0	Carbon Disulfide	**1.5**	1.6	0.77	0.23	**J**
75-34-3	1,1-Dichloroethane	0.36	0.60	0.36	0.085	**U**
78-93-3	2-Butanone (MEK)	**0.43**	1.7	0.48	0.17	**J**
141-78-6	Ethyl Acetate	**0.84**	1.4	0.80	0.34	**J**
110-54-3	n-Hexane	0.40	0.68	0.40	0.14	**U**
67-66-3	Chloroform	**0.26**	0.49	0.15	0.064	**J**
109-99-9	Tetrahydrofuran (THF)	**5.9**	0.83	0.26	0.10	
107-06-2	1,2-Dichloroethane	0.19	0.59	0.19	0.065	**U**
71-43-2	Benzene	0.24	0.73	0.24	0.11	**U**
56-23-5	Carbon Tetrachloride	**0.17**	0.37	0.12	0.052	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV125-250-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-009

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00940

Initial Pressure (psig): -3.32 Final Pressure (psig): 5.44

Container Dilution Factor: 1.77

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.44	1.4	0.44	0.19	**U**
75-27-4	Bromodichloromethane	0.11	0.36	0.11	0.051	**U**
79-01-6	Trichloroethene	0.14	0.44	0.14	0.059	**U**
123-91-1	1,4-Dioxane	0.21	0.66	0.21	0.077	**U**
142-82-5	n-Heptane	**0.11**	0.58	0.35	0.092	**J**
108-10-1	4-Methyl-2-pentanone	**0.10**	0.57	0.18	0.079	**J**
108-88-3	Toluene	**0.61**	0.63	0.20	0.076	**J**
591-78-6	2-Hexanone	0.18	0.58	0.18	0.071	**U**
124-48-1	Dibromochloromethane	0.088	0.28	0.088	0.036	**U**
106-93-4	1,2-Dibromoethane	0.098	0.31	0.098	0.036	**U**
127-18-4	Tetrachloroethene	**0.066**	0.34	0.11	0.045	**J**
100-41-4	Ethylbenzene	**0.12**	0.55	0.17	0.076	**J**
179601-23-1	m,p-Xylenes	**0.64**	1.1	0.35	0.14	**J**
75-25-2	Bromoform	0.14	0.23	0.14	0.047	**U**
100-42-5	Styrene	0.33	0.55	0.33	0.089	**U**
95-47-6	o-Xylene	**0.26**	0.55	0.17	0.078	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.35**	0.48	0.15	0.069	**J**
95-63-6	1,2,4-Trimethylbenzene	**1.6**	0.49	0.15	0.067	
120-82-1	1,2,4-Trichlorobenzene	0.19	0.32	0.19	0.078	**U**
91-20-3	Naphthalene	**0.56**	0.44	0.26	0.11	
1330-20-7	Xylenes, Total	**0.90**	1.1	0.35	0.14	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV125-350-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-010

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.12 Liter(s)
Test Notes:
Container ID: 1SC00929

Initial Pressure (psig): -2.60 Final Pressure (psig): 5.68

Container Dilution Factor: 1.68

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**3.4**	4.3	2.6	1.1	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.91	1.5	0.91	0.25	**U**
74-87-3	Chloromethane	**0.62**	3.6	2.2	0.58	**J**
75-01-4	Vinyl Chloride	0.93	3.0	0.93	0.31	**U**
106-99-0	1,3-Butadiene	2.0	3.4	2.0	0.56	**U**
75-00-3	Chloroethane	1.7	2.9	1.7	0.35	**U**
64-17-5	Ethanol	**2.9**	39	6.2	2.8	**J, B**
67-64-1	Acetone	16	31	16	7.1	**U**
75-69-4	Trichlorofluoromethane	0.80	1.3	0.80	0.20	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	3.6	12	3.6	1.3	**U**
75-09-2	Methylene Chloride	1.3	2.1	1.3	0.60	**U**
76-13-1	Trichlorotrifluoroethane	0.31	0.99	0.31	0.14	**U**
75-15-0	Carbon Disulfide	**4.9**	4.9	2.4	0.72	**J**
75-34-3	1,1-Dichloroethane	1.1	1.9	1.1	0.27	**U**
78-93-3	2-Butanone (MEK)	**1.6**	5.2	1.5	0.52	**J**
141-78-6	Ethyl Acetate	2.5	4.3	2.5	1.1	**U**
110-54-3	n-Hexane	**0.76**	2.1	1.3	0.44	**J**
67-66-3	Chloroform	0.49	1.5	0.49	0.20	**U**
109-99-9	Tetrahydrofuran (THF)	**4.9**	2.6	0.81	0.32	
107-06-2	1,2-Dichloroethane	0.59	1.9	0.59	0.20	**U**
71-43-2	Benzene	0.75	2.3	0.75	0.34	**U**
56-23-5	Carbon Tetrachloride	0.38	1.2	0.38	0.16	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV125-350-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-010

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.12 Liter(s)
Test Notes:
Container ID: 1SC00929

Initial Pressure (psig): -2.60 Final Pressure (psig): 5.68

Container Dilution Factor: 1.68

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**4.6**	4.5	1.4	0.61	
75-27-4	Bromodichloromethane	0.36	1.1	0.36	0.16	**U**
79-01-6	Trichloroethene	**1.2**	1.4	0.44	0.19	**J**
123-91-1	1,4-Dioxane	0.66	2.1	0.66	0.24	**U**
142-82-5	n-Heptane	1.1	1.8	1.1	0.29	**U**
108-10-1	4-Methyl-2-pentanone	0.58	1.8	0.58	0.25	**U**
108-88-3	Toluene	**1.7**	2.0	0.63	0.24	**J**
591-78-6	2-Hexanone	**0.25**	1.8	0.58	0.23	**J**
124-48-1	Dibromochloromethane	0.28	0.89	0.28	0.12	**U**
106-93-4	1,2-Dibromoethane	0.31	0.98	0.31	0.11	**U**
127-18-4	Tetrachloroethene	0.35	1.1	0.35	0.14	**U**
100-41-4	Ethylbenzene	**0.43**	1.7	0.55	0.24	**J**
179601-23-1	m,p-Xylenes	**2.2**	3.5	1.1	0.45	**J**
75-25-2	Bromoform	0.43	0.73	0.43	0.15	**U**
100-42-5	Styrene	1.1	1.7	1.1	0.28	**U**
95-47-6	o-Xylene	**0.68**	1.7	0.55	0.25	**J**
108-67-8	1,3,5-Trimethylbenzene	**1.3**	1.5	0.48	0.22	**J**
95-63-6	1,2,4-Trimethylbenzene	**6.1**	1.5	0.48	0.21	
120-82-1	1,2,4-Trichlorobenzene	0.60	1.0	0.60	0.25	**U**
91-20-3	Naphthalene	**0.60**	1.4	0.83	0.35	**J**
1330-20-7	Xylenes, Total	**2.9**	3.5	1.1	0.45	**J**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV125-450-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-011

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0025 Liter(s)
Test Notes:
Container ID: 1SC00754

Initial Pressure (psig): -3.26 Final Pressure (psig): 6.78

Container Dilution Factor: 1.88

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	140	230	140	57	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	49	81	49	13	**U**
74-87-3	Chloromethane	120	190	120	31	**U**
75-01-4	Vinyl Chloride	50	160	50	17	**U**
106-99-0	1,3-Butadiene	110	180	110	30	**U**
75-00-3	Chloroethane	91	150	91	19	**U**
64-17-5	Ethanol	330	2,100	330	150	**U**
67-64-1	Acetone	860	1,700	860	380	**U**
75-69-4	Trichlorofluoromethane	43	71	43	11	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	190	640	190	67	**U**
75-09-2	Methylene Chloride	69	110	69	32	**U**
76-13-1	Trichlorotrifluoroethane	17	53	17	7.5	**U**
75-15-0	Carbon Disulfide	**68**	270	130	39	**J**
75-34-3	1,1-Dichloroethane	61	100	61	14	**U**
78-93-3	2-Butanone (MEK)	**41**	280	82	28	**J**
141-78-6	Ethyl Acetate	140	230	140	58	**U**
110-54-3	n-Hexane	68	120	68	23	**U**
67-66-3	Chloroform	26	83	26	11	**U**
109-99-9	Tetrahydrofuran (THF)	**20**	140	43	17	**J**
107-06-2	1,2-Dichloroethane	32	100	32	11	**U**
71-43-2	Benzene	**57**	120	40	18	**J**
56-23-5	Carbon Tetrachloride	20	63	20	8.9	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV125-450-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-011

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0025 Liter(s)
Test Notes:
Container ID: 1SC00754

Initial Pressure (psig): -3.26 Final Pressure (psig): 6.78

Container Dilution Factor: 1.88

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	74	240	74	33	**U**
75-27-4	Bromodichloromethane	19	61	19	8.6	**U**
79-01-6	Trichloroethene	24	76	24	10	**U**
123-91-1	1,4-Dioxane	35	110	35	13	**U**
142-82-5	n-Heptane	59	99	59	16	**U**
108-10-1	4-Methyl-2-pentanone	31	97	31	13	**U**
108-88-3	Toluene	**120**	110	34	13	
591-78-6	2-Hexanone	31	99	31	12	**U**
124-48-1	Dibromochloromethane	15	48	15	6.2	**U**
106-93-4	1,2-Dibromoethane	17	53	17	6.1	**U**
127-18-4	Tetrachloroethene	19	58	19	7.7	**U**
100-41-4	Ethylbenzene	29	94	29	13	**U**
179601-23-1	m,p-Xylenes	59	190	59	24	**U**
75-25-2	Bromoform	23	39	23	8.0	**U**
100-42-5	Styrene	57	94	57	15	**U**
95-47-6	o-Xylene	29	94	29	13	**U**
108-67-8	1,3,5-Trimethylbenzene	26	81	26	12	**U**
95-63-6	1,2,4-Trimethylbenzene	26	83	26	11	**U**
120-82-1	1,2,4-Trichlorobenzene	32	55	32	13	**U**
91-20-3	Naphthalene	44	75	44	19	**U**
1330-20-7	Xylenes, Total	59	190	59	24	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV127-025-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-012

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00934

Initial Pressure (psig): -3.49 Final Pressure (psig): 5.54

Container Dilution Factor: 1.81

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.81**	1.4	0.84	0.34	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.48**	0.49	0.29	0.080	**J**
74-87-3	Chloromethane	0.70	1.2	0.70	0.19	**U**
75-01-4	Vinyl Chloride	0.30	0.96	0.30	0.10	**U**
106-99-0	1,3-Butadiene	0.65	1.1	0.65	0.18	**U**
75-00-3	Chloroethane	0.55	0.93	0.55	0.11	**U**
64-17-5	Ethanol	**6.1**	12	2.0	0.89	**J, B**
67-64-1	Acetone	**22**	10	5.1	2.3	
75-69-4	Trichlorofluoromethane	**0.21**	0.43	0.26	0.065	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.93**	3.9	1.2	0.41	**J**
75-09-2	Methylene Chloride	**0.28**	0.69	0.42	0.20	**J**
76-13-1	Trichlorotrifluoroethane	**0.058**	0.32	0.10	0.045	**J**
75-15-0	Carbon Disulfide	**0.32**	1.6	0.78	0.23	**J**
75-34-3	1,1-Dichloroethane	0.37	0.62	0.37	0.087	**U**
78-93-3	2-Butanone (MEK)	**6.3**	1.7	0.49	0.17	
141-78-6	Ethyl Acetate	0.82	1.4	0.82	0.35	**U**
110-54-3	n-Hexane	**0.22**	0.69	0.41	0.14	**J**
67-66-3	Chloroform	**88**	0.50	0.16	0.066	
109-99-9	Tetrahydrofuran (THF)	**0.41**	0.84	0.26	0.10	**J**
107-06-2	1,2-Dichloroethane	0.19	0.60	0.19	0.066	**U**
71-43-2	Benzene	**0.18**	0.75	0.24	0.11	**J**
56-23-5	Carbon Tetrachloride	**0.81**	0.38	0.12	0.053	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV127-025-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-012

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00934

Initial Pressure (psig): -3.49 Final Pressure (psig): 5.54

Container Dilution Factor: 1.81

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**0.36**		1.4	0.45	0.20	**J**
75-27-4	Bromodichloromethane	**5.7**		0.36	0.11	0.052	
79-01-6	Trichloroethene	**0.38**		0.45	0.14	0.061	**J**
123-91-1	1,4-Dioxane	**0.15**		0.68	0.21	0.079	**J**
142-82-5	n-Heptane	**0.83**		0.60	0.35	0.094	
108-10-1	4-Methyl-2-pentanone	**0.47**		0.59	0.19	0.081	**J**
108-88-3	Toluene	**3.7**		0.65	0.20	0.078	
591-78-6	2-Hexanone	**3.2**		0.60	0.19	0.073	
124-48-1	Dibromochloromethane	**0.13**		0.29	0.090	0.037	**J**
106-93-4	1,2-Dibromoethane		0.10	0.32	0.10	0.037	**U**
127-18-4	Tetrachloroethene	**0.32**		0.35	0.11	0.046	**J**
100-41-4	Ethylbenzene	**1.4**		0.56	0.18	0.078	
179601-23-1	m,p-Xylenes	**6.3**		1.1	0.35	0.15	
75-25-2	Bromoform		0.14	0.24	0.14	0.048	**U**
100-42-5	Styrene	**0.39**		0.56	0.34	0.091	**J**
95-47-6	o-Xylene	**2.8**		0.56	0.18	0.080	
108-67-8	1,3,5-Trimethylbenzene	**5.6**		0.49	0.16	0.071	
95-63-6	1,2,4-Trimethylbenzene	**26**		0.50	0.16	0.068	
120-82-1	1,2,4-Trichlorobenzene		0.20	0.33	0.20	0.079	**U**
91-20-3	Naphthalene	**14**		0.45	0.27	0.11	
1330-20-7	Xylenes, Total	**9.1**		1.1	0.35	0.15	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV127-050-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-013

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan/Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00156

Initial Pressure (psig): -4.95 Final Pressure (psig): 5.77

Container Dilution Factor: 2.10

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.78**	1.6	0.98	0.40	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.46**	0.56	0.34	0.092	**J**
74-87-3	Chloromethane	0.81	1.3	0.81	0.22	**U**
75-01-4	Vinyl Chloride	0.35	1.1	0.35	0.12	**U**
106-99-0	1,3-Butadiene	0.76	1.3	0.76	0.21	**U**
75-00-3	Chloroethane	0.64	1.1	0.64	0.13	**U**
64-17-5	Ethanol	**3.8**	14	2.3	1.0	**J, B**
67-64-1	Acetone	**17**	12	6.0	2.7	
75-69-4	Trichlorofluoromethane	**0.21**	0.50	0.30	0.076	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.0**	4.5	1.3	0.47	**J**
75-09-2	Methylene Chloride	0.48	0.80	0.48	0.23	**U**
76-13-1	Trichlorotrifluoroethane	**0.064**	0.37	0.12	0.052	**J**
75-15-0	Carbon Disulfide	**1.2**	1.9	0.91	0.27	**J**
75-34-3	1,1-Dichloroethane	0.43	0.71	0.43	0.10	**U**
78-93-3	2-Butanone (MEK)	**7.5**	2.0	0.57	0.20	
141-78-6	Ethyl Acetate	0.95	1.6	0.95	0.41	**U**
110-54-3	n-Hexane	**0.57**	0.80	0.48	0.16	**J**
67-66-3	Chloroform	**97**	5.8	1.8	0.76	**D**
109-99-9	Tetrahydrofuran (THF)	**25**	0.98	0.30	0.12	
107-06-2	1,2-Dichloroethane	0.22	0.70	0.22	0.077	**U**
71-43-2	Benzene	**0.39**	0.87	0.28	0.13	**J**
56-23-5	Carbon Tetrachloride	**3.2**	0.44	0.14	0.062	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV127-050-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-013

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan/Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00156

Initial Pressure (psig): -4.95 Final Pressure (psig): 5.77

Container Dilution Factor: 2.10

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**0.87**		1.7	0.52	0.23	**J**
75-27-4	Bromodichloromethane	**11**		0.42	0.13	0.060	
79-01-6	Trichloroethene	**0.52**		0.53	0.17	0.070	**J**
123-91-1	1,4-Dioxane		0.25	0.79	0.25	0.092	**U**
142-82-5	n-Heptane	**2.8**		0.69	0.41	0.11	
108-10-1	4-Methyl-2-pentanone	**0.26**		0.68	0.22	0.094	**J**
108-88-3	Toluene	**8.2**		0.75	0.24	0.091	
591-78-6	2-Hexanone	**1.5**		0.69	0.22	0.085	
124-48-1	Dibromochloromethane	**2.4**		0.33	0.10	0.043	
106-93-4	1,2-Dibromoethane		0.12	0.37	0.12	0.042	**U**
127-18-4	Tetrachloroethene	**1.0**		0.40	0.13	0.053	
100-41-4	Ethylbenzene	**2.1**		0.65	0.21	0.091	
179601-23-1	m,p-Xylenes	**8.8**		1.3	0.41	0.17	
75-25-2	Bromoform	**0.34**		0.27	0.16	0.056	
100-42-5	Styrene		0.39	0.65	0.39	0.11	**U**
95-47-6	o-Xylene	**3.2**		0.65	0.21	0.093	
108-67-8	1,3,5-Trimethylbenzene	**4.3**		0.57	0.18	0.082	
95-63-6	1,2,4-Trimethylbenzene	**21**		0.58	0.18	0.079	
120-82-1	1,2,4-Trichlorobenzene		0.23	0.38	0.23	0.092	**U**
91-20-3	Naphthalene	**8.0**		0.52	0.31	0.13	
1330-20-7	Xylenes, Total	**12**		1.3	0.41	0.17	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV127-150-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-014

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00943

Initial Pressure (psig): -2.84 Final Pressure (psig): 5.69

Container Dilution Factor: 1.72

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.71**	1.3	0.80	0.32	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.19**	0.46	0.28	0.076	**J**
74-87-3	Chloromethane	**0.20**	1.1	0.67	0.18	**J**
75-01-4	Vinyl Chloride	0.29	0.91	0.29	0.096	**U**
106-99-0	1,3-Butadiene	0.62	1.0	0.62	0.17	**U**
75-00-3	Chloroethane	0.52	0.88	0.52	0.11	**U**
64-17-5	Ethanol	**3.6**	12	1.9	0.84	**J, B**
67-64-1	Acetone	**18**	9.6	4.9	2.2	
75-69-4	Trichlorofluoromethane	**0.25**	0.41	0.24	0.062	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.66**	3.7	1.1	0.39	**J**
75-09-2	Methylene Chloride	0.40	0.66	0.40	0.19	**U**
76-13-1	Trichlorotrifluoroethane	0.095	0.30	0.095	0.043	**U**
75-15-0	Carbon Disulfide	**0.47**	1.5	0.75	0.22	**J**
75-34-3	1,1-Dichloroethane	0.35	0.58	0.35	0.083	**U**
78-93-3	2-Butanone (MEK)	**3.4**	1.6	0.47	0.16	
141-78-6	Ethyl Acetate	**2.0**	1.3	0.78	0.33	
110-54-3	n-Hexane	**0.35**	0.66	0.39	0.13	**J**
67-66-3	Chloroform	**6.9**	0.48	0.15	0.063	
109-99-9	Tetrahydrofuran (THF)	**0.42**	0.80	0.25	0.098	**J**
107-06-2	1,2-Dichloroethane	0.18	0.57	0.18	0.063	**U**
71-43-2	Benzene	**0.45**	0.71	0.23	0.10	**J**
56-23-5	Carbon Tetrachloride	**1.3**	0.36	0.12	0.051	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV127-150-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-014

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00943

Initial Pressure (psig): -2.84 Final Pressure (psig): 5.69

Container Dilution Factor: 1.72

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**0.47**	1.4	0.42	0.19	**J**
75-27-4	Bromodichloromethane	**0.41**	0.35	0.11	0.049	
79-01-6	Trichloroethene	0.14	0.43	0.14	0.058	**U**
123-91-1	1,4-Dioxane	0.20	0.64	0.20	0.075	**U**
142-82-5	n-Heptane	**1.2**	0.57	0.34	0.089	
108-10-1	4-Methyl-2-pentanone	**0.30**	0.56	0.18	0.077	**J**
108-88-3	Toluene	**3.1**	0.62	0.19	0.074	
591-78-6	2-Hexanone	**1.8**	0.57	0.18	0.069	
124-48-1	Dibromochloromethane	0.086	0.27	0.086	0.035	**U**
106-93-4	1,2-Dibromoethane	0.095	0.30	0.095	0.035	**U**
127-18-4	Tetrachloroethene	**0.25**	0.33	0.11	0.044	**J**
100-41-4	Ethylbenzene	**1.2**	0.53	0.17	0.074	
179601-23-1	m,p-Xylenes	**5.5**	1.1	0.34	0.14	
75-25-2	Bromoform	0.13	0.22	0.13	0.046	**U**
100-42-5	Styrene	0.32	0.54	0.32	0.087	**U**
95-47-6	o-Xylene	**2.4**	0.53	0.17	0.076	
108-67-8	1,3,5-Trimethylbenzene	**5.4**	0.46	0.15	0.067	
95-63-6	1,2,4-Trimethylbenzene	**25**	0.47	0.15	0.065	
120-82-1	1,2,4-Trichlorobenzene	0.19	0.31	0.19	0.075	**U**
91-20-3	Naphthalene	**11**	0.43	0.25	0.11	
1330-20-7	Xylenes, Total	**7.9**	1.1	0.34	0.14	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV127-250-602** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-015

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01018

Initial Pressure (psig): -3.20 Final Pressure (psig): 5.49

Container Dilution Factor: 1.76

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**1.1**	1.4	0.82	0.33	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.14**	0.47	0.28	0.077	**J**
74-87-3	Chloromethane	0.68	1.1	0.68	0.18	**U**
75-01-4	Vinyl Chloride	0.29	0.93	0.29	0.098	**U**
106-99-0	1,3-Butadiene	0.64	1.1	0.64	0.18	**U**
75-00-3	Chloroethane	0.53	0.90	0.53	0.11	**U**
64-17-5	Ethanol	**4.3**	12	1.9	0.86	**J, B**
67-64-1	Acetone	**8.0**	9.8	5.0	2.2	**J**
75-69-4	Trichlorofluoromethane	**0.22**	0.42	0.25	0.063	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.5**	3.8	1.1	0.39	**J**
75-09-2	Methylene Chloride	0.41	0.67	0.41	0.19	**U**
76-13-1	Trichlorotrifluoroethane	0.098	0.31	0.098	0.044	**U**
75-15-0	Carbon Disulfide	**4.0**	1.6	0.76	0.23	
75-34-3	1,1-Dichloroethane	0.36	0.60	0.36	0.085	**U**
78-93-3	2-Butanone (MEK)	**3.2**	1.6	0.48	0.16	
141-78-6	Ethyl Acetate	**0.92**	1.3	0.79	0.34	**J**
110-54-3	n-Hexane	**0.35**	0.67	0.40	0.14	**J**
67-66-3	Chloroform	**0.57**	0.49	0.15	0.064	
109-99-9	Tetrahydrofuran (THF)	**1.0**	0.82	0.25	0.10	
107-06-2	1,2-Dichloroethane	0.18	0.59	0.18	0.064	**U**
71-43-2	Benzene	**0.37**	0.73	0.23	0.11	**J**
56-23-5	Carbon Tetrachloride	**0.51**	0.37	0.12	0.052	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV127-250-602** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-015

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01018

Initial Pressure (psig): -3.20 Final Pressure (psig): 5.49

Container Dilution Factor: 1.76

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**0.32**	1.4	0.43	0.19	**J**
75-27-4	Bromodichloromethane	**0.057**	0.35	0.11	0.051	**J**
79-01-6	Trichloroethene	0.14	0.44	0.14	0.059	**U**
123-91-1	1,4-Dioxane	**0.14**	0.66	0.21	0.077	**J**
142-82-5	n-Heptane	**1.4**	0.58	0.34	0.091	
108-10-1	4-Methyl-2-pentanone	**0.37**	0.57	0.18	0.078	**J**
108-88-3	Toluene	**4.6**	0.63	0.20	0.076	
591-78-6	2-Hexanone	**0.62**	0.58	0.18	0.071	
124-48-1	Dibromochloromethane	0.088	0.28	0.088	0.036	**U**
106-93-4	1,2-Dibromoethane	0.097	0.31	0.097	0.036	**U**
127-18-4	Tetrachloroethene	**0.058**	0.34	0.11	0.045	**J**
100-41-4	Ethylbenzene	**1.3**	0.55	0.17	0.076	
179601-23-1	m,p-Xylenes	**6.3**	1.1	0.34	0.14	
75-25-2	Bromoform	0.14	0.23	0.14	0.047	**U**
100-42-5	Styrene	0.33	0.55	0.33	0.089	**U**
95-47-6	o-Xylene	**2.1**	0.55	0.17	0.078	
108-67-8	1,3,5-Trimethylbenzene	**3.8**	0.47	0.15	0.069	
95-63-6	1,2,4-Trimethylbenzene	**18**	0.48	0.15	0.066	
120-82-1	1,2,4-Trichlorobenzene	0.19	0.32	0.19	0.077	**U**
91-20-3	Naphthalene	**7.0**	0.44	0.26	0.11	
1330-20-7	Xylenes, Total	**8.3**	1.1	0.34	0.14	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV127-250-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-016

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00801

Initial Pressure (psig): -2.93 Final Pressure (psig): 5.37

Container Dilution Factor: 1.71

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.46**	1.3	0.80	0.32	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.15**	0.46	0.28	0.075	**J**
74-87-3	Chloromethane	0.66	1.1	0.66	0.18	**U**
75-01-4	Vinyl Chloride	0.28	0.90	0.28	0.095	**U**
106-99-0	1,3-Butadiene	0.62	1.0	0.62	0.17	**U**
75-00-3	Chloroethane	0.52	0.88	0.52	0.11	**U**
64-17-5	Ethanol	**1.5**	12	1.9	0.84	**J, B**
67-64-1	Acetone	**4.9**	9.5	4.9	2.2	**J**
75-69-4	Trichlorofluoromethane	**0.23**	0.40	0.24	0.062	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.1	3.7	1.1	0.38	**U**
75-09-2	Methylene Chloride	0.39	0.65	0.39	0.18	**U**
76-13-1	Trichlorotrifluoroethane	0.095	0.30	0.095	0.042	**U**
75-15-0	Carbon Disulfide	**1.2**	1.5	0.74	0.22	**J**
75-34-3	1,1-Dichloroethane	0.35	0.58	0.35	0.082	**U**
78-93-3	2-Butanone (MEK)	**1.0**	1.6	0.46	0.16	**J**
141-78-6	Ethyl Acetate	0.77	1.3	0.77	0.33	**U**
110-54-3	n-Hexane	**0.31**	0.66	0.39	0.13	**J**
67-66-3	Chloroform	**0.57**	0.47	0.15	0.062	
109-99-9	Tetrahydrofuran (THF)	**0.42**	0.80	0.25	0.097	**J**
107-06-2	1,2-Dichloroethane	0.18	0.57	0.18	0.062	**U**
71-43-2	Benzene	**0.33**	0.71	0.23	0.10	**J**
56-23-5	Carbon Tetrachloride	**0.53**	0.36	0.12	0.050	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV127-250-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-016

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00801

Initial Pressure (psig): -2.93 Final Pressure (psig): 5.37

Container Dilution Factor: 1.71

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**0.28**		1.4	0.42	0.19	**J**
75-27-4	Bromodichloromethane		0.11	0.34	0.11	0.049	**U**
79-01-6	Trichloroethene		0.14	0.43	0.14	0.057	**U**
123-91-1	1,4-Dioxane		0.20	0.64	0.20	0.075	**U**
142-82-5	n-Heptane	**1.1**		0.56	0.33	0.089	
108-10-1	4-Methyl-2-pentanone		0.18	0.55	0.18	0.076	**U**
108-88-3	Toluene	**2.9**		0.61	0.19	0.074	
591-78-6	2-Hexanone	**0.38**		0.56	0.18	0.069	**J**
124-48-1	Dibromochloromethane		0.085	0.27	0.085	0.035	**U**
106-93-4	1,2-Dibromoethane		0.095	0.30	0.095	0.035	**U**
127-18-4	Tetrachloroethene	**0.047**		0.33	0.11	0.044	**J**
100-41-4	Ethylbenzene	**0.79**		0.53	0.17	0.074	
179601-23-1	m,p-Xylenes	**3.9**		1.1	0.33	0.14	
75-25-2	Bromoform		0.13	0.22	0.13	0.045	**U**
100-42-5	Styrene		0.32	0.53	0.32	0.086	**U**
95-47-6	o-Xylene	**1.3**		0.53	0.17	0.076	
108-67-8	1,3,5-Trimethylbenzene	**2.3**		0.46	0.15	0.067	
95-63-6	1,2,4-Trimethylbenzene	**11**		0.47	0.15	0.064	
120-82-1	1,2,4-Trichlorobenzene		0.18	0.31	0.18	0.075	**U**
91-20-3	Naphthalene	**1.9**		0.42	0.25	0.11	
1330-20-7	Xylenes, Total	**5.2**		1.1	0.33	0.14	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV127-350-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-017

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.16 Liter(s)
Test Notes:
Container ID: 1SC00528

Initial Pressure (psig): -1.73 Final Pressure (psig): 7.44

Container Dilution Factor: 1.71

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**21**		3.3	2.0	0.81	
75-71-8	Dichlorodifluoromethane (CFC 12)		0.69	1.1	0.69	0.19	**U**
74-87-3	Chloromethane	**1.3**		2.7	1.7	0.45	**J**
75-01-4	Vinyl Chloride		0.71	2.3	0.71	0.24	**U**
106-99-0	1,3-Butadiene		1.5	2.6	1.5	0.43	**U**
75-00-3	Chloroethane		1.3	2.2	1.3	0.27	**U**
64-17-5	Ethanol	**160**		30	4.7	2.1	**B**
67-64-1	Acetone	**26**		24	12	5.4	
75-69-4	Trichlorofluoromethane	**2.3**		1.0	0.61	0.15	
67-63-0	2-Propanol (Isopropyl Alcohol)	**110**		9.1	2.7	0.96	
75-09-2	Methylene Chloride	**1.7**		1.6	0.98	0.46	
76-13-1	Trichlorotrifluoroethane		0.24	0.75	0.24	0.11	**U**
75-15-0	Carbon Disulfide	**0.78**		3.8	1.9	0.55	**J**
75-34-3	1,1-Dichloroethane		0.87	1.5	0.87	0.21	**U**
78-93-3	2-Butanone (MEK)	**4.7**		4.0	1.2	0.40	
141-78-6	Ethyl Acetate	**33**		3.3	1.9	0.83	
110-54-3	n-Hexane	**1.3**		1.6	0.97	0.33	**J**
67-66-3	Chloroform		0.37	1.2	0.37	0.16	**U**
109-99-9	Tetrahydrofuran (THF)	**0.43**		2.0	0.62	0.24	**J**
107-06-2	1,2-Dichloroethane		0.45	1.4	0.45	0.16	**U**
71-43-2	Benzene	**1.2**		1.8	0.57	0.26	**J**
56-23-5	Carbon Tetrachloride		0.29	0.90	0.29	0.13	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV127-350-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-017

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.16 Liter(s)
Test Notes:
Container ID: 1SC00528

Initial Pressure (psig): -1.73 Final Pressure (psig): 7.44

Container Dilution Factor: 1.71

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**2.8**		3.4	1.1	0.47	**J**
75-27-4	Bromodichloromethane		0.27	0.86	0.27	0.12	**U**
79-01-6	Trichloroethene	**0.18**		1.1	0.34	0.14	**J**
123-91-1	1,4-Dioxane		0.50	1.6	0.50	0.19	**U**
142-82-5	n-Heptane	**3.0**		1.4	0.83	0.22	
108-10-1	4-Methyl-2-pentanone	**1.5**		1.4	0.44	0.19	
108-88-3	Toluene	**16**		1.5	0.48	0.18	
591-78-6	2-Hexanone	**0.25**		1.4	0.44	0.17	**J**
124-48-1	Dibromochloromethane		0.21	0.68	0.21	0.088	**U**
106-93-4	1,2-Dibromoethane		0.24	0.75	0.24	0.086	**U**
127-18-4	Tetrachloroethene	**0.16**		0.82	0.27	0.11	**J**
100-41-4	Ethylbenzene	**0.85**		1.3	0.42	0.18	**J**
179601-23-1	m,p-Xylenes	**2.7**		2.7	0.84	0.34	**J**
75-25-2	Bromoform		0.33	0.56	0.33	0.11	**U**
100-42-5	Styrene	**0.39**		1.3	0.80	0.22	**J**
95-47-6	o-Xylene	**1.0**		1.3	0.42	0.19	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.64**		1.2	0.37	0.17	**J**
95-63-6	1,2,4-Trimethylbenzene	**2.7**		1.2	0.37	0.16	
120-82-1	1,2,4-Trichlorobenzene		0.46	0.78	0.46	0.19	**U**
91-20-3	Naphthalene	**0.27**		1.1	0.63	0.27	**J**
1330-20-7	Xylenes, Total	**3.7**		2.7	0.84	0.34	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV127-450-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-018

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0040 Liter(s)
Test Notes:
Container ID: 1SS00743

Initial Pressure (psig): -2.94 Final Pressure (psig): 5.32

Container Dilution Factor: 1.70

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**64**	130	79	32	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	28	46	28	7.5	**U**
74-87-3	Chloromethane	66	110	66	18	**U**
75-01-4	Vinyl Chloride	28	90	28	9.5	**U**
106-99-0	1,3-Butadiene	62	100	62	17	**U**
75-00-3	Chloroethane	52	87	52	11	**U**
64-17-5	Ethanol	**1,400**	1,200	190	83	**B**
67-64-1	Acetone	480	950	480	210	**U**
75-69-4	Trichlorofluoromethane	24	40	24	6.1	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	**120**	360	110	38	**J**
75-09-2	Methylene Chloride	39	65	39	18	**U**
76-13-1	Trichlorotrifluoroethane	9.4	30	9.4	4.2	**U**
75-15-0	Carbon Disulfide	74	150	74	22	**U**
75-34-3	1,1-Dichloroethane	35	58	35	8.2	**U**
78-93-3	2-Butanone (MEK)	46	160	46	16	**U**
141-78-6	Ethyl Acetate	**36**	130	77	33	**J**
110-54-3	n-Hexane	39	65	39	13	**U**
67-66-3	Chloroform	**88**	47	15	6.2	
109-99-9	Tetrahydrofuran (THF)	**16**	79	25	9.7	**J**
107-06-2	1,2-Dichloroethane	18	57	18	6.2	**U**
71-43-2	Benzene	**20**	71	23	10	**J**
56-23-5	Carbon Tetrachloride	11	36	11	5.0	**U**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV127-450-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-018

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0040 Liter(s)
Test Notes:
Container ID: 1SS00743

Initial Pressure (psig): -2.94 Final Pressure (psig): 5.32

Container Dilution Factor: 1.70

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**150**	140	42	19	
75-27-4	Bromodichloromethane	**7.5**	34	11	4.9	**J**
79-01-6	Trichloroethene	**370**	43	13	5.7	
123-91-1	1,4-Dioxane	20	64	20	7.4	**U**
142-82-5	n-Heptane	33	56	33	8.8	**U**
108-10-1	4-Methyl-2-pentanone	18	55	18	7.6	**U**
108-88-3	Toluene	**19**	61	19	7.3	**J**
591-78-6	2-Hexanone	18	56	18	6.9	**U**
124-48-1	Dibromochloromethane	8.5	27	8.5	3.5	**U**
106-93-4	1,2-Dibromoethane	9.4	30	9.4	3.4	**U**
127-18-4	Tetrachloroethene	**6.1**	33	11	4.3	**J**
100-41-4	Ethylbenzene	17	53	17	7.3	**U**
179601-23-1	m,p-Xylenes	33	110	33	14	**U**
75-25-2	Bromoform	13	22	13	4.5	**U**
100-42-5	Styrene	32	53	32	8.6	**U**
95-47-6	o-Xylene	17	53	17	7.5	**U**
108-67-8	1,3,5-Trimethylbenzene	15	46	15	6.7	**U**
95-63-6	1,2,4-Trimethylbenzene	**12**	47	15	6.4	**J**
120-82-1	1,2,4-Trichlorobenzene	18	31	18	7.4	**U**
91-20-3	Naphthalene	25	42	25	11	**U**
1330-20-7	Xylenes, Total	33	110	33	14	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV133-025-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-019

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00116

Initial Pressure (psig): -2.66 Final Pressure (psig): 5.45

Container Dilution Factor: 1.67

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.65**	1.3	0.78	0.32	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.57**	0.45	0.27	0.073	
74-87-3	Chloromethane	0.65	1.1	0.65	0.17	**U**
75-01-4	Vinyl Chloride	0.28	0.88	0.28	0.093	**U**
106-99-0	1,3-Butadiene	0.60	1.0	0.60	0.17	**U**
75-00-3	Chloroethane	0.51	0.85	0.51	0.10	**U**
64-17-5	Ethanol	**3.9**	12	1.8	0.82	**J, B**
67-64-1	Acetone	**12**	9.3	4.7	2.1	
75-69-4	Trichlorofluoromethane	**0.21**	0.39	0.24	0.060	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.62**	3.6	1.1	0.37	**J**
75-09-2	Methylene Chloride	0.38	0.64	0.38	0.18	**U**
76-13-1	Trichlorotrifluoroethane	**0.58**	0.29	0.093	0.041	
75-15-0	Carbon Disulfide	**0.32**	1.5	0.72	0.21	**J**
75-34-3	1,1-Dichloroethane	0.34	0.57	0.34	0.080	**U**
78-93-3	2-Butanone (MEK)	**2.7**	1.6	0.45	0.16	
141-78-6	Ethyl Acetate	0.75	1.3	0.75	0.32	**U**
110-54-3	n-Hexane	0.38	0.64	0.38	0.13	**U**
67-66-3	Chloroform	**0.12**	0.46	0.15	0.061	**J**
109-99-9	Tetrahydrofuran (THF)	**0.96**	0.78	0.24	0.095	
107-06-2	1,2-Dichloroethane	0.18	0.56	0.18	0.061	**U**
71-43-2	Benzene	**0.13**	0.69	0.22	0.10	**J**
56-23-5	Carbon Tetrachloride	**0.088**	0.35	0.11	0.049	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV133-025-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-019

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00116

Initial Pressure (psig): -2.66 Final Pressure (psig): 5.45

Container Dilution Factor: 1.67

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.41	1.3	0.41	0.18	**U**
75-27-4	Bromodichloromethane	0.11	0.34	0.11	0.048	**U**
79-01-6	Trichloroethene	**15**	0.42	0.13	0.056	
123-91-1	1,4-Dioxane	0.20	0.63	0.20	0.073	**U**
142-82-5	n-Heptane	**0.34**	0.55	0.33	0.087	**J**
108-10-1	4-Methyl-2-pentanone	**0.13**	0.54	0.17	0.074	**J**
108-88-3	Toluene	**0.87**	0.60	0.19	0.072	
591-78-6	2-Hexanone	**0.40**	0.55	0.17	0.067	**J**
124-48-1	Dibromochloromethane	0.083	0.26	0.083	0.034	**U**
106-93-4	1,2-Dibromoethane	0.092	0.29	0.092	0.034	**U**
127-18-4	Tetrachloroethene	**0.78**	0.32	0.10	0.042	
100-41-4	Ethylbenzene	**0.21**	0.52	0.16	0.072	**J**
179601-23-1	m,p-Xylenes	**1.2**	1.1	0.33	0.13	
75-25-2	Bromoform	0.13	0.22	0.13	0.044	**U**
100-42-5	Styrene	0.31	0.52	0.31	0.084	**U**
95-47-6	o-Xylene	**0.50**	0.52	0.16	0.074	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.47**	0.45	0.14	0.065	
95-63-6	1,2,4-Trimethylbenzene	**2.3**	0.46	0.14	0.063	
120-82-1	1,2,4-Trichlorobenzene	0.18	0.30	0.18	0.073	**U**
91-20-3	Naphthalene	**0.26**	0.41	0.25	0.10	**J**
1330-20-7	Xylenes, Total	**1.7**	1.1	0.33	0.13	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV133-050-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-020

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00807

Initial Pressure (psig): -2.14 Final Pressure (psig): 5.17

Container Dilution Factor: 1.58

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.73	1.2	0.73	0.30	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.59**	0.42	0.26	0.070	
74-87-3	Chloromethane	0.61	1.0	0.61	0.16	**U**
75-01-4	Vinyl Chloride	0.26	0.83	0.26	0.088	**U**
106-99-0	1,3-Butadiene	0.57	0.95	0.57	0.16	**U**
75-00-3	Chloroethane	0.48	0.81	0.48	0.099	**U**
64-17-5	Ethanol	**0.91**	11	1.7	0.78	**J, B**
67-64-1	Acetone	**4.2**	8.8	4.5	2.0	**J**
75-69-4	Trichlorofluoromethane	**0.23**	0.37	0.23	0.057	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.0	3.4	1.0	0.35	**U**
75-09-2	Methylene Chloride	0.36	0.60	0.36	0.17	**U**
76-13-1	Trichlorotrifluoroethane	**0.64**	0.28	0.088	0.039	
75-15-0	Carbon Disulfide	**0.34**	1.4	0.69	0.20	**J**
75-34-3	1,1-Dichloroethane	0.32	0.54	0.32	0.076	**U**
78-93-3	2-Butanone (MEK)	**0.55**	1.5	0.43	0.15	**J**
141-78-6	Ethyl Acetate	**0.61**	1.2	0.71	0.31	**J**
110-54-3	n-Hexane	0.36	0.61	0.36	0.12	**U**
67-66-3	Chloroform	**0.16**	0.44	0.14	0.057	**J**
109-99-9	Tetrahydrofuran (THF)	**0.33**	0.74	0.23	0.090	**J**
107-06-2	1,2-Dichloroethane	0.17	0.53	0.17	0.058	**U**
71-43-2	Benzene	0.21	0.66	0.21	0.095	**U**
56-23-5	Carbon Tetrachloride	**0.12**	0.33	0.11	0.046	**J**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV133-050-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-020

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00807

Initial Pressure (psig): -2.14 Final Pressure (psig): 5.17

Container Dilution Factor: 1.58

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.39	1.3	0.39	0.17	**U**
75-27-4	Bromodichloromethane	0.10	0.32	0.10	0.045	**U**
79-01-6	Trichloroethene	**19**	0.40	0.12	0.053	
123-91-1	1,4-Dioxane	0.19	0.59	0.19	0.069	**U**
142-82-5	n-Heptane	**0.18**	0.52	0.31	0.082	**J**
108-10-1	4-Methyl-2-pentanone	0.16	0.51	0.16	0.070	**U**
108-88-3	Toluene	**0.34**	0.57	0.18	0.068	**J**
591-78-6	2-Hexanone	**0.11**	0.52	0.16	0.064	**J**
124-48-1	Dibromochloromethane	0.079	0.25	0.079	0.032	**U**
106-93-4	1,2-Dibromoethane	0.087	0.28	0.087	0.032	**U**
127-18-4	Tetrachloroethene	**0.74**	0.30	0.099	0.040	
100-41-4	Ethylbenzene	**0.080**	0.49	0.15	0.068	**J**
179601-23-1	m,p-Xylenes	**0.45**	1.0	0.31	0.13	**J**
75-25-2	Bromoform	0.12	0.21	0.12	0.042	**U**
100-42-5	Styrene	0.30	0.49	0.30	0.080	**U**
95-47-6	o-Xylene	**0.17**	0.49	0.15	0.070	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.21**	0.43	0.14	0.062	**J**
95-63-6	1,2,4-Trimethylbenzene	**1.0**	0.43	0.14	0.059	
120-82-1	1,2,4-Trichlorobenzene	0.17	0.29	0.17	0.069	**U**
91-20-3	Naphthalene	**0.24**	0.39	0.23	0.098	**J**
1330-20-7	Xylenes, Total	**0.62**	1.0	0.31	0.13	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200420-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.19	0.31	0.19	0.076	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.065	0.11	0.065	0.018	**U**
74-87-3	Chloromethane	0.16	0.26	0.16	0.042	**U**
75-01-4	Vinyl Chloride	0.067	0.21	0.067	0.022	**U**
106-99-0	1,3-Butadiene	0.14	0.24	0.14	0.040	**U**
75-00-3	Chloroethane	0.12	0.20	0.12	0.025	**U**
64-17-5	Ethanol	**0.25**	2.8	0.44	0.20	**J**
67-64-1	Acetone	1.1	2.2	1.1	0.51	**U**
75-69-4	Trichlorofluoromethane	0.057	0.094	0.057	0.014	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.26	0.85	0.26	0.090	**U**
75-09-2	Methylene Chloride	0.092	0.15	0.092	0.043	**U**
76-13-1	Trichlorotrifluoroethane	0.022	0.070	0.022	0.0099	**U**
75-15-0	Carbon Disulfide	0.17	0.35	0.17	0.051	**U**
75-34-3	1,1-Dichloroethane	0.082	0.14	0.082	0.019	**U**
78-93-3	2-Butanone (MEK)	0.11	0.37	0.11	0.037	**U**
141-78-6	Ethyl Acetate	0.18	0.31	0.18	0.078	**U**
110-54-3	n-Hexane	0.091	0.15	0.091	0.031	**U**
67-66-3	Chloroform	0.035	0.11	0.035	0.015	**U**
109-99-9	Tetrahydrofuran (THF)	0.058	0.19	0.058	0.023	**U**
107-06-2	1,2-Dichloroethane	0.042	0.13	0.042	0.015	**U**
71-43-2	Benzene	0.053	0.17	0.053	0.024	**U**
56-23-5	Carbon Tetrachloride	0.027	0.084	0.027	0.012	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200420-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.099	0.32	0.099	0.044	**U**
75-27-4	Bromodichloromethane	0.025	0.081	0.025	0.011	**U**
79-01-6	Trichloroethene	0.032	0.10	0.032	0.013	**U**
123-91-1	1,4-Dioxane	0.047	0.15	0.047	0.017	**U**
142-82-5	n-Heptane	0.078	0.13	0.078	0.021	**U**
108-10-1	4-Methyl-2-pentanone	0.041	0.13	0.041	0.018	**U**
108-88-3	Toluene	0.045	0.14	0.045	0.017	**U**
591-78-6	2-Hexanone	0.042	0.13	0.042	0.016	**U**
124-48-1	Dibromochloromethane	0.020	0.063	0.020	0.0082	**U**
106-93-4	1,2-Dibromoethane	0.022	0.070	0.022	0.0081	**U**
127-18-4	Tetrachloroethene	0.025	0.077	0.025	0.010	**U**
100-41-4	Ethylbenzene	0.039	0.12	0.039	0.017	**U**
179601-23-1	m,p-Xylenes	0.078	0.25	0.078	0.032	**U**
75-25-2	Bromoform	0.031	0.052	0.031	0.011	**U**
100-42-5	Styrene	0.075	0.12	0.075	0.020	**U**
95-47-6	o-Xylene	0.039	0.12	0.039	0.018	**U**
108-67-8	1,3,5-Trimethylbenzene	0.035	0.11	0.035	0.016	**U**
95-63-6	1,2,4-Trimethylbenzene	0.035	0.11	0.035	0.015	**U**
120-82-1	1,2,4-Trichlorobenzene	0.043	0.073	0.043	0.018	**U**
91-20-3	Naphthalene	0.059	0.099	0.059	0.025	**U**
1330-20-7	Xylenes, Total	0.078	0.25	0.078	0.032	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200421-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.19	0.31	0.19	0.076	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.065	0.11	0.065	0.018	**U**
74-87-3	Chloromethane	0.16	0.26	0.16	0.042	**U**
75-01-4	Vinyl Chloride	0.067	0.21	0.067	0.022	**U**
106-99-0	1,3-Butadiene	0.14	0.24	0.14	0.040	**U**
75-00-3	Chloroethane	0.12	0.20	0.12	0.025	**U**
64-17-5	Ethanol	**0.23**	2.8	0.44	0.20	**J**
67-64-1	Acetone	1.1	2.2	1.1	0.51	**U**
75-69-4	Trichlorofluoromethane	0.057	0.094	0.057	0.014	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.26	0.85	0.26	0.090	**U**
75-09-2	Methylene Chloride	0.092	0.15	0.092	0.043	**U**
76-13-1	Trichlorotrifluoroethane	0.022	0.070	0.022	0.0099	**U**
75-15-0	Carbon Disulfide	0.17	0.35	0.17	0.051	**U**
75-34-3	1,1-Dichloroethane	0.082	0.14	0.082	0.019	**U**
78-93-3	2-Butanone (MEK)	0.11	0.37	0.11	0.037	**U**
141-78-6	Ethyl Acetate	0.18	0.31	0.18	0.078	**U**
110-54-3	n-Hexane	0.091	0.15	0.091	0.031	**U**
67-66-3	Chloroform	0.035	0.11	0.035	0.015	**U**
109-99-9	Tetrahydrofuran (THF)	0.058	0.19	0.058	0.023	**U**
107-06-2	1,2-Dichloroethane	0.042	0.13	0.042	0.015	**U**
71-43-2	Benzene	0.053	0.17	0.053	0.024	**U**
56-23-5	Carbon Tetrachloride	0.027	0.084	0.027	0.012	**U**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200421-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.099	0.32	0.099	0.044	**U**
75-27-4	Bromodichloromethane	0.025	0.081	0.025	0.011	**U**
79-01-6	Trichloroethene	0.032	0.10	0.032	0.013	**U**
123-91-1	1,4-Dioxane	0.047	0.15	0.047	0.017	**U**
142-82-5	n-Heptane	0.078	0.13	0.078	0.021	**U**
108-10-1	4-Methyl-2-pentanone	0.041	0.13	0.041	0.018	**U**
108-88-3	Toluene	0.045	0.14	0.045	0.017	**U**
591-78-6	2-Hexanone	0.042	0.13	0.042	0.016	**U**
124-48-1	Dibromochloromethane	0.020	0.063	0.020	0.0082	**U**
106-93-4	1,2-Dibromoethane	0.022	0.070	0.022	0.0081	**U**
127-18-4	Tetrachloroethene	0.025	0.077	0.025	0.010	**U**
100-41-4	Ethylbenzene	0.039	0.12	0.039	0.017	**U**
179601-23-1	m,p-Xylenes	0.078	0.25	0.078	0.032	**U**
75-25-2	Bromoform	0.031	0.052	0.031	0.011	**U**
100-42-5	Styrene	0.075	0.12	0.075	0.020	**U**
95-47-6	o-Xylene	0.039	0.12	0.039	0.018	**U**
108-67-8	1,3,5-Trimethylbenzene	0.035	0.11	0.035	0.016	**U**
95-63-6	1,2,4-Trimethylbenzene	0.035	0.11	0.035	0.015	**U**
120-82-1	1,2,4-Trichlorobenzene	0.043	0.073	0.043	0.018	**U**
91-20-3	Naphthalene	0.059	0.099	0.059	0.025	**U**
1330-20-7	Xylenes, Total	0.078	0.25	0.078	0.032	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Project ID: P2002031

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date(s) Collected: 4/7 - 4/8/20
Analyst: Lusine Hakobyan Date(s) Received: 4/14/20
Sampling Media: 1.0 L Summa Canister(s) / 1.0 L Silonite Summa Canister(s) Date(s) Analyzed: 4/20 - 4/21/20
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P200420-MB	**101**	**98**	**89**	70-130	
Method Blank	P200421-MB	**98**	**98**	**93**	70-130	
Lab Control Sample	P200420-LCS	**93**	**96**	**101**	70-130	
Lab Control Sample	P200421-LCS	**93**	**96**	**102**	70-130	
Duplicate Lab Control Sample	P200420-DLCS	**93**	**97**	**104**	70-130	
Duplicate Lab Control Sample	P200421-DLCS	**92**	**96**	**104**	70-130	
SV124-150-202	P2002031-001	**101**	**98**	**93**	70-130	
SV124-250-602	P2002031-002	**101**	**97**	**93**	70-130	
SV124-250-202	P2002031-003	**99**	**97**	**93**	70-130	
SV124-350-202	P2002031-004	**99**	**99**	**90**	70-130	
SV124-350-202	P2002031-004DUP	**100**	**98**	**89**	70-130	
SV124-450-202	P2002031-005	**97**	**98**	**93**	70-130	
SV125-025-202	P2002031-006	**100**	**95**	**91**	70-130	
SV125-050-202	P2002031-007	**99**	**98**	**92**	70-130	
SV125-150-202	P2002031-008	**101**	**98**	**94**	70-130	
SV125-250-202	P2002031-009	**100**	**98**	**92**	70-130	
SV125-350-202	P2002031-010	**99**	**98**	**91**	70-130	
SV125-450-202	P2002031-011	**100**	**99**	**91**	70-130	
SV127-025-202	P2002031-012	**99**	**96**	**98**	70-130	
SV127-050-202	P2002031-013	**96**	**98**	**99**	70-130	
SV127-150-202	P2002031-014	**97**	**98**	**102**	70-130	
SV127-250-602	P2002031-015	**95**	**98**	**100**	70-130	
SV127-250-202	P2002031-016	**100**	**95**	**96**	70-130	
SV127-350-202	P2002031-017	**99**	**95**	**92**	70-130	
SV127-350-202	P2002031-017DUP	**100**	**96**	**92**	70-130	
SV127-450-202	P2002031-018	**98**	**101**	**93**	70-130	
SV133-025-202	P2002031-019	**101**	**93**	**93**	70-130	
SV133-050-202	P2002031-020	**100**	**94**	**94**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200420-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	122	120	122	**98**	**100**	57-136	2	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	42.5	38.4	39.0	**90**	**92**	59-128	2	25	
74-87-3	Chloromethane	103	87.8	87.0	**85**	**84**	59-132	1	25	
75-01-4	Vinyl Chloride	83.0	76.6	76.4	**92**	**92**	64-127	0	25	
106-99-0	1,3-Butadiene	95.9	79.0	80.4	**82**	**84**	66-134	2	25	
75-00-3	Chloroethane	81.1	75.4	76.7	**93**	**95**	63-127	2	25	
64-17-5	Ethanol	563	510	515	**91**	**91**	59-125	0	25	
67-64-1	Acetone	450	443	432	**98**	**96**	58-128	2	25	
75-69-4	Trichlorofluoromethane	37.7	34.0	34.4	**90**	**91**	62-126	1	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	172	174	172	**101**	**100**	52-125	1	25	
75-09-2	Methylene Chloride	60.5	58.6	57.9	**97**	**96**	62-115	1	25	
76-13-1	Trichlorotrifluoroethane	28.2	25.4	25.8	**90**	**91**	66-126	1	25	
75-15-0	Carbon Disulfide	68.1	66.3	66.5	**97**	**98**	57-134	1	25	
75-34-3	1,1-Dichloroethane	52.4	48.7	48.6	**93**	**93**	68-126	0	25	
78-93-3	2-Butanone (MEK)	71.9	73.4	72.5	**102**	**101**	67-130	1	25	
141-78-6	Ethyl Acetate	120	130	129	**108**	**108**	65-128	0	25	
110-54-3	n-Hexane	61.3	62.7	61.8	**102**	**101**	63-120	1	25	
67-66-3	Chloroform	43.8	40.1	40.0	**92**	**91**	68-123	1	25	
109-99-9	Tetrahydrofuran (THF)	74.6	69.4	69.1	**93**	**93**	64-123	0	25	
107-06-2	1,2-Dichloroethane	52.9	46.7	46.8	**88**	**88**	65-128	0	25	
71-43-2	Benzene	65.8	61.9	60.8	**94**	**92**	69-119	2	25	
56-23-5	Carbon Tetrachloride	33.1	31.9	31.9	**96**	**96**	68-132	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200420-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	123	120	119	**98**	**97**	70-117	1	25	
75-27-4	Bromodichloromethane	32.6	31.3	31.0	**96**	**95**	72-128	1	25	
79-01-6	Trichloroethene	40.2	34.1	34.4	**85**	**86**	71-123	1	25	
123-91-1	1,4-Dioxane	60.0	57.0	56.7	**95**	**95**	71-122	0	25	
142-82-5	n-Heptane	52.2	51.8	51.5	**99**	**99**	69-123	0	25	
108-10-1	4-Methyl-2-pentanone	51.8	54.9	54.1	**106**	**104**	67-130	2	25	
108-88-3	Toluene	56.3	52.0	52.3	**92**	**93**	66-119	1	25	
591-78-6	2-Hexanone	52.7	52.7	52.3	**100**	**99**	62-128	1	25	
124-48-1	Dibromochloromethane	25.1	26.1	26.6	**104**	**106**	70-130	2	25	
106-93-4	1,2-Dibromoethane	27.9	28.3	28.7	**101**	**103**	74-122	2	25	
127-18-4	Tetrachloroethene	30.7	28.6	29.3	**93**	**95**	66-124	2	25	
100-41-4	Ethylbenzene	48.8	48.5	48.5	**99**	**99**	70-124	0	25	
179601-23-1	m,p-Xylenes	98.1	96.0	95.7	**98**	**98**	61-134	0	25	
75-25-2	Bromoform	20.7	20.6	21.0	**100**	**101**	66-139	1	25	
100-42-5	Styrene	49.8	46.8	46.9	**94**	**94**	73-127	0	25	
95-47-6	o-Xylene	49.3	47.5	47.3	**96**	**96**	67-125	0	25	
108-67-8	1,3,5-Trimethylbenzene	43.1	40.9	41.1	**95**	**95**	67-130	0	25	
95-63-6	1,2,4-Trimethylbenzene	43.1	43.8	44.0	**102**	**102**	66-132	0	25	
120-82-1	1,2,4-Trichlorobenzene	29.1	32.9	33.5	**113**	**115**	55-142	2	25	
91-20-3	Naphthalene	40.5	43.6	44.0	**108**	**109**	57-138	0.9	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200421-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	122	118	120	**97**	**98**	57-136	1	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	42.5	37.1	38.8	**87**	**91**	59-128	4	25	
74-87-3	Chloromethane	103	80.5	83.2	**78**	**81**	59-132	4	25	
75-01-4	Vinyl Chloride	83.0	74.1	75.2	**89**	**91**	64-127	2	25	
106-99-0	1,3-Butadiene	95.9	78.0	81.2	**81**	**85**	66-134	5	25	
75-00-3	Chloroethane	81.1	72.5	75.2	**89**	**93**	63-127	4	25	
64-17-5	Ethanol	563	493	505	**88**	**90**	59-125	2	25	
67-64-1	Acetone	450	424	424	**94**	**94**	58-128	0	25	
75-69-4	Trichlorofluoromethane	37.7	33.6	33.9	**89**	**90**	62-126	1	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	172	167	169	**97**	**98**	52-125	1	25	
75-09-2	Methylene Chloride	60.5	56.5	57.3	**93**	**95**	62-115	2	25	
76-13-1	Trichlorotrifluoroethane	28.2	25.2	25.5	**89**	**90**	66-126	1	25	
75-15-0	Carbon Disulfide	68.1	64.5	64.9	**95**	**95**	57-134	0	25	
75-34-3	1,1-Dichloroethane	52.4	47.3	47.7	**90**	**91**	68-126	1	25	
78-93-3	2-Butanone (MEK)	71.9	71.8	70.2	**100**	**98**	67-130	2	25	
141-78-6	Ethyl Acetate	120	129	126	**108**	**105**	65-128	3	25	
110-54-3	n-Hexane	61.3	61.3	60.8	**100**	**99**	63-120	1	25	
67-66-3	Chloroform	43.8	39.6	39.2	**90**	**89**	68-123	1	25	
109-99-9	Tetrahydrofuran (THF)	74.6	67.6	67.6	**91**	**91**	64-123	0	25	
107-06-2	1,2-Dichloroethane	52.9	46.4	46.0	**88**	**87**	65-128	1	25	
71-43-2	Benzene	65.8	60.4	60.2	**92**	**91**	69-119	1	25	
56-23-5	Carbon Tetrachloride	33.1	31.6	31.7	**95**	**96**	68-132	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200421-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	123	117	117	**95**	**95**	70-117	0	25	
75-27-4	Bromodichloromethane	32.6	30.7	30.7	**94**	**94**	72-128	0	25	
79-01-6	Trichloroethene	40.2	34.1	33.9	**85**	**84**	71-123	1	25	
123-91-1	1,4-Dioxane	60.0	55.8	55.8	**93**	**93**	71-122	0	25	
142-82-5	n-Heptane	52.2	50.7	50.7	**97**	**97**	69-123	0	25	
108-10-1	4-Methyl-2-pentanone	51.8	53.3	53.5	**103**	**103**	67-130	0	25	
108-88-3	Toluene	56.3	51.4	51.5	**91**	**91**	66-119	0	25	
591-78-6	2-Hexanone	52.7	51.7	51.2	**98**	**97**	62-128	1	25	
124-48-1	Dibromochloromethane	25.1	26.0	26.1	**104**	**104**	70-130	0	25	
106-93-4	1,2-Dibromoethane	27.9	28.1	28.2	**101**	**101**	74-122	0	25	
127-18-4	Tetrachloroethene	30.7	28.8	29.0	**94**	**94**	66-124	0	25	
100-41-4	Ethylbenzene	48.8	47.9	47.8	**98**	**98**	70-124	0	25	
179601-23-1	m,p-Xylenes	98.1	94.9	94.2	**97**	**96**	61-134	1	25	
75-25-2	Bromoform	20.7	20.7	20.8	**100**	**100**	66-139	0	25	
100-42-5	Styrene	49.8	46.5	46.1	**93**	**93**	73-127	0	25	
95-47-6	o-Xylene	49.3	47.1	46.5	**96**	**94**	67-125	2	25	
108-67-8	1,3,5-Trimethylbenzene	43.1	40.4	40.2	**94**	**93**	67-130	1	25	
95-63-6	1,2,4-Trimethylbenzene	43.1	43.5	43.2	**101**	**100**	66-132	1	25	
120-82-1	1,2,4-Trichlorobenzene	29.1	33.3	33.2	**114**	**114**	55-142	0	25	
91-20-3	Naphthalene	40.5	43.5	43.3	**107**	**107**	57-138	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV124-350-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-004DUP

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.040 Liter(s)
Test Notes:
Container ID: 1SS00756

Initial Pressure (psig): -3.93 Final Pressure (psig): 5.23

Container Dilution Factor: 1.85

Compound	Sample Result ppbV	Duplicate Sample Result ppbV	Average ppbV	% RPD	RPD Limit	Data Qualifier
Propene	4.2	4.2	4.2	**0**	25	**J**
Dichlorodifluoromethane (CFC 12)	ND	ND	-	-	25	
Chloromethane	ND	ND	-	-	25	
Vinyl Chloride	ND	ND	-	-	25	
1,3-Butadiene	ND	ND	-	-	25	
Chloroethane	ND	ND	-	-	25	
Ethanol	ND	ND	-	-	25	
Acetone	ND	ND	-	-	25	
Trichlorofluoromethane	ND	ND	-	-	25	
2-Propanol (Isopropyl Alcohol)	ND	ND	-	-	25	
Methylene Chloride	ND	ND	-	-	25	
Trichlorotrifluoroethane	ND	ND	-	-	25	
Carbon Disulfide	ND	ND	-	-	25	
1,1-Dichloroethane	ND	ND	-	-	25	
2-Butanone (MEK)	ND	ND	-	-	25	
Ethyl Acetate	ND	ND	-	-	25	
n-Hexane	2.2	2.2	2.2	**0**	25	**J**
Chloroform	ND	ND	-	-	25	
Tetrahydrofuran (THF)	2.1	2.1	2.1	**0**	25	**J**
1,2-Dichloroethane	ND	ND	-	-	25	
Benzene	6.6	6.6	6.6	**0**	25	**J**
Carbon Tetrachloride	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV124-350-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-004DUP

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.040 Liter(s)
Test Notes:
Container ID: 1SS00756

Initial Pressure (psig): -3.93 Final Pressure (psig): 5.23

Container Dilution Factor: 1.85

Compound	Sample Result ppbV	Duplicate Sample Result ppbV	Average ppbV	% RPD	RPD Limit	Data Qualifier
Cyclohexane	9.0	9.0	9	**0**	25	**J**
Bromodichloromethane	ND	ND	-	-	25	
Trichloroethene	ND	ND	-	-	25	
1,4-Dioxane	ND	ND	-	-	25	
n-Heptane	ND	ND	-	-	25	
4-Methyl-2-pentanone	ND	ND	-	-	25	
Toluene	0.90	0.81	0.855	**11**	25	**J**
2-Hexanone	ND	ND	-	-	25	
Dibromochloromethane	ND	ND	-	-	25	
1,2-Dibromoethane	ND	ND	-	-	25	
Tetrachloroethene	ND	ND	-	-	25	
Ethylbenzene	ND	ND	-	-	25	
m,p-Xylenes	ND	ND	-	-	25	
Bromoform	ND	ND	-	-	25	
Styrene	ND	ND	-	-	25	
o-Xylene	ND	ND	-	-	25	
1,3,5-Trimethylbenzene	ND	ND	-	-	25	
1,2,4-Trimethylbenzene	1.3	1.3	1.3	**0**	25	**J**
1,2,4-Trichlorobenzene	ND	ND	-	-	25	
Naphthalene	ND	ND	-	-	25	
Xylenes, Total	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV127-350-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-017DUP

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.16 Liter(s)
Test Notes:
Container ID: 1SC00528

Initial Pressure (psig): -1.73 Final Pressure (psig): 7.44

Container Dilution Factor: 1.71

Compound	Sample Result ppbV	Duplicate Sample Result ppbV	Average ppbV	% RPD	RPD Limit	Data Qualifier
Propene	21	22	21.5	**5**	25	
Dichlorodifluoromethane (CFC 12)	ND	ND	-	-	25	
Chloromethane	1.3	1.3	1.3	**0**	25	**J**
Vinyl Chloride	ND	ND	-	-	25	
1,3-Butadiene	ND	ND	-	-	25	
Chloroethane	ND	ND	-	-	25	
Ethanol	160	160	160	**0**	25	**B**
Acetone	26	26	26	**0**	25	
Trichlorofluoromethane	2.3	2.3	2.3	**0**	25	
2-Propanol (Isopropyl Alcohol)	110	110	110	**0**	25	
Methylene Chloride	1.7	1.7	1.7	**0**	25	
Trichlorotrifluoroethane	ND	ND	-	-	25	
Carbon Disulfide	0.78	0.79	0.785	**1**	25	**J**
1,1-Dichloroethane	ND	ND	-	-	25	
2-Butanone (MEK)	4.7	4.7	4.7	**0**	25	
Ethyl Acetate	33	33	33	**0**	25	
n-Hexane	1.3	1.3	1.3	**0**	25	**J**
Chloroform	ND	ND	-	-	25	
Tetrahydrofuran (THF)	0.43	0.44	0.435	**2**	25	**J**
1,2-Dichloroethane	ND	ND	-	-	25	
Benzene	1.2	1.2	1.2	**0**	25	**J**
Carbon Tetrachloride	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV127-350-202** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002031-017DUP

Test Code: EPA TO-15 Date Collected: 4/7/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.16 Liter(s)
Test Notes:
Container ID: 1SC00528

Initial Pressure (psig): -1.73 Final Pressure (psig): 7.44

Container Dilution Factor: 1.71

Compound	Sample Result ppbV	Duplicate Sample Result ppbV	Average ppbV	% RPD	RPD Limit	Data Qualifier
Cyclohexane	2.8	2.8	2.8	**0**	25	**J**
Bromodichloromethane	ND	ND	-	-	25	
Trichloroethene	0.18	0.18	0.18	**0**	25	**J**
1,4-Dioxane	ND	ND	-	-	25	
n-Heptane	3.0	3.0	3	**0**	25	
4-Methyl-2-pentanone	1.5	1.5	1.5	**0**	25	
Toluene	16	15	15.5	**6**	25	
2-Hexanone	0.25	0.22	0.235	**13**	25	**J**
Dibromochloromethane	ND	ND	-	-	25	
1,2-Dibromoethane	ND	ND	-	-	25	
Tetrachloroethene	0.16	0.17	0.165	**6**	25	**J**
Ethylbenzene	0.85	0.87	0.86	**2**	25	**J**
m,p-Xylenes	2.7	2.7	2.7	**0**	25	
Bromoform	ND	ND	-	-	25	
Styrene	0.39	0.39	0.39	**0**	25	**J**
o-Xylene	1.0	1.0	1	**0**	25	**J**
1,3,5-Trimethylbenzene	0.64	0.65	0.645	**2**	25	**J**
1,2,4-Trimethylbenzene	2.7	2.8	2.75	**4**	25	
1,2,4-Trichlorobenzene	ND	ND	-	-	25	
Naphthalene	0.27	ND	-	-	25	
Xylenes, Total	3.7	3.7	3.7	**0**	25	

ND = Compound was analyzed for, but not detected.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: **EA Engineering, Science, and Technology, Inc.** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Lab File ID: 04202025.D
Analyst: Lusine Hakobyan Date Analyzed: 4/20/20
Sampling Media: 1.0 L Summa Canister(s) Time Analyzed: 17:23
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	AREA	#	RT	AREA	#	RT	#
	24 Hour Standard	335587		11.17	1454226		13.30	699127		17.61	
	Upper Limit	469822		11.50	2035916		13.63	978778		17.94	
	Lower Limit	201352		10.84	872536		12.97	419476		17.28	
	Client Sample ID										
01	Method Blank	284016		11.16	1270846		13.29	606982		17.61	
02	Lab Control Sample	354609		11.17	1528676		13.30	733709		17.61	
03	Duplicate Lab Control Sample	367608		11.17	1586396		13.30	746113		17.61	
04	SV124-150-202	310499		11.15	1394885		13.29	659174		17.61	
05	SV124-250-602	302698		11.16	1362733		13.29	651958		17.61	
06	SV124-250-202	316653		11.15	1410591		13.29	674058		17.61	
07	SV124-350-202	356501		11.16	1590203		13.29	748716		17.61	
08	SV124-350-202 (Lab Duplicate)	346186		11.16	1551676		13.29	737922		17.61	
09	SV125-025-202	304145		11.16	1350128		13.29	660879		17.61	
10	SV125-050-202	313282		11.17	1383699		13.30	660891		17.61	
11	SV125-150-202	311718		11.17	1378010		13.30	655755		17.61	
12	SV125-250-202	300076		11.16	1340102		13.29	627994		17.61	
13	SV125-350-202	310211		11.16	1382701		13.29	642764		17.61	
14	SV127-025-202	309269		11.16	1391065		13.29	666500		17.61	
15	SV127-050-202	345241		11.16	1514057		13.29	703989		17.61	
16	SV127-150-202	339673		11.16	1512485		13.29	714077		17.61	
17	SV127-250-602	356373		11.16	1558337		13.29	718377		17.61	
18											
19											
20											

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: **EA Engineering, Science, and Technology, Inc.** ALS Project ID: P2002031
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Lab File ID: 04212002.D
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister(s) Time Analyzed: 08:32
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	378521		11.17	1629181		13.30		759188		17.61	
	Upper Limit	529929		11.50	2280853		13.63		1062863		17.94	
	Lower Limit	227113		10.84	977509		12.97		455513		17.28	
	Client Sample ID											
01	Method Blank	318885		11.16	1419150		13.29		670052		17.61	
02	Lab Control Sample	363394		11.17	1576079		13.30		748702		17.61	
03	Duplicate Lab Control Sample	375827		11.17	1618168		13.30		769606		17.61	
04	SV124-450-202	335839		11.16	1485968		13.29		714907		17.61	
05	SV125-450-202	320340		11.16	1438448		13.29		705311		17.61	
06	SV127-450-202	326524		11.16	1454594		13.29		703135		17.61	
07	SV127-250-202	301296		11.16	1349358		13.29		668439		17.61	
08	SV125-050-202 (Dilution)	355739		11.16	1575127		13.29		759662		17.61	
09	SV125-150-202 (Dilution)	340361		11.16	1529209		13.29		743048		17.61	
10	SV127-050-202 (Dilution)	332251		11.16	1495799		13.29		728331		17.61	
11	SV127-350-202 (Lab Duplicate)	308288		11.16	1366264		13.29		661540		17.61	
12	SV127-350-202	303358		11.16	1333373		13.29		650728		17.61	
13	SV133-025-202	299504		11.16	1328251		13.29		672433		17.61	
14	SV133-050-202	302381		11.16	1343821		13.29		663725		17.61	
15												
16												
17												
18												
19												
20												

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202036.D Vial: 4
Acq On : 20 Apr 2020 23:34 Operator: LH
Sample : P2002031-001 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 16:34:14 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/22/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	310499	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1394885	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	659174	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.01	65	541642	12.598	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.80%				
57) Toluene-d8 (SS2)	15.74	98	1427050	12.214	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.68%				
73) Bromofluorobenzene (SS3)	19.00	174	480853	11.655	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.20%				
Target Compounds							Qvalue
2) Propene	4.14	42	6278	0.193	ng		94
3) Dichlorodifluoromethan...	4.28	85	25277	0.361	ng		100
4) Chloromethane	4.55	50	2694	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	418	N.D.			
6) Vinyl Chloride	4.97	62	401	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	5.65	94	257	N.D.			
9) Chloroethane	5.99	64	452	N.D.			
10) Ethanol	6.33	45	29678	1.153	ng		98
11) Acetonitrile	6.62	41	8441	0.149	ng		88
12) Acrolein	6.82	56	4093	0.216	ng		99
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	7.26	101	17265	0.279	ng		99
15) 2-Propanol (Isopropanol)	7.52	45	23166	0.308	ng		76
16) Acrylonitrile	7.79	53	1269	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.49	59	1008	N.D.			
19) Methylene Chloride	8.44	84	777	N.D.			
20) 3-Chloro-1-propene (Al...	8.59	41	163	N.D.			
21) Trichlorotrifluoroethane	8.87	151	2422	0.082	ng		99
22) Carbon Disulfide	8.70	76	155236	1.306	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	9.96	63	513	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.50	72	5733	0.271	ng	#	87
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.31	61	1497	0.120	ng	#	1
31) n-Hexane	11.28	57	1716	N.D.			
32) Chloroform	11.32	83	2484094	40.294	ng		99
34) Tetrahydrofuran (THF)	11.75	72	40631	1.868	ng		93
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.02	62	153	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.90	78	12345	0.086	ng		99
42) Carbon Tetrachloride	13.06	117	337605	6.816	ng		99
43) Cyclohexane	13.19	84	998	N.D.			
44) tert-Amyl Methyl Ether	13.57	73	439	N.D.			
45) 1,2-Dichloropropane	13.55	63	631	N.D.			
46) Bromodichloromethane	13.93	83	156120	3.202	ng		100
47) Trichloroethene	14.00	130	4826	0.118	ng		98
48) 1,4-Dioxane	13.99	88	3337	0.119	ng		93
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.33	100	436	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202036.D Vial: 4
Acq On : 20 Apr 2020 23:34 Operator: LH
Sample : P2002031-001 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 16:34:14 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

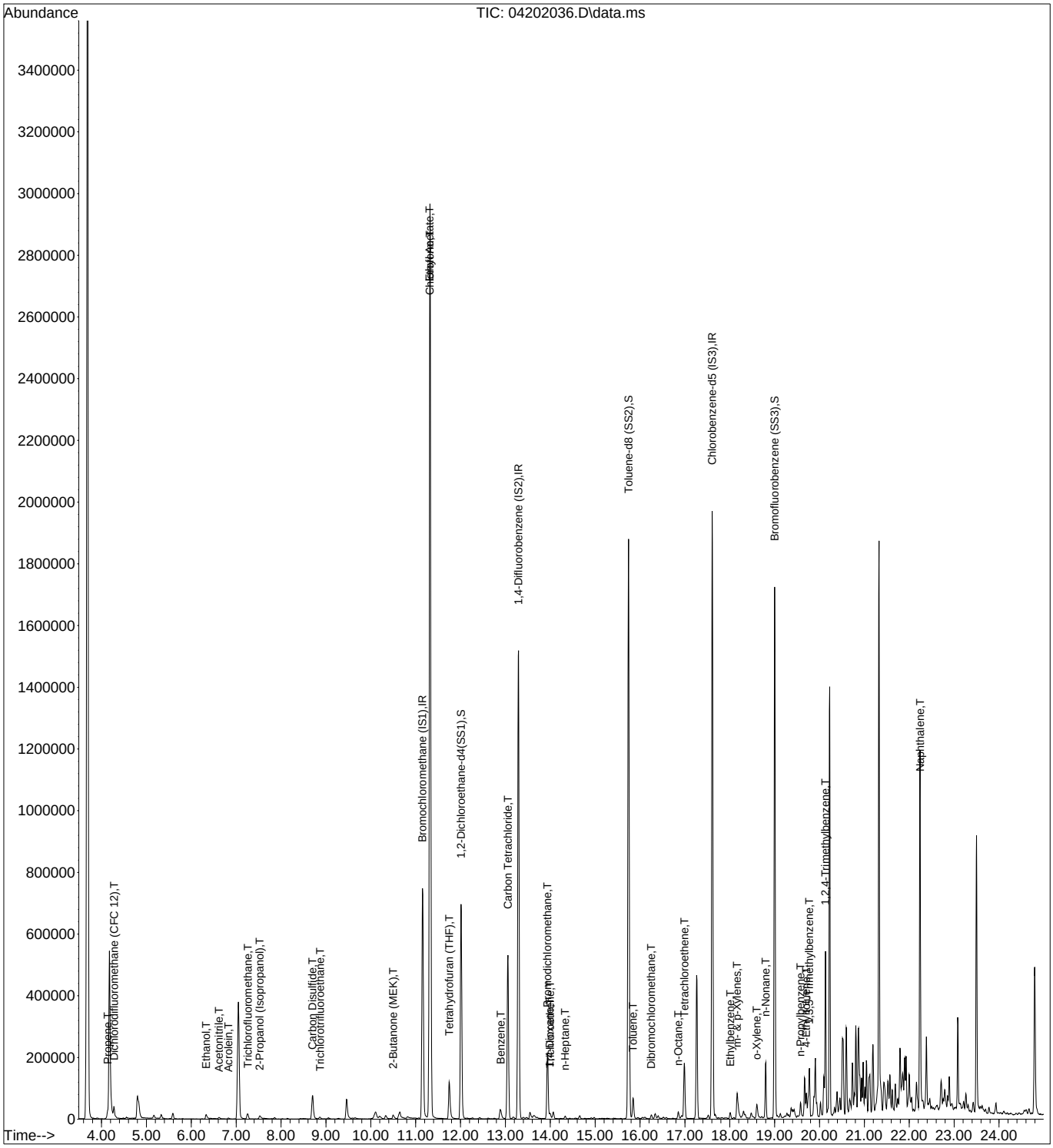
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.33	71	2227	0.066 ng	93
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.92	58	903	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.84	91	54497	0.377 ng	98
59) 2-Hexanone	16.11	43	3597	N.D.	
60) Dibromochloromethane	16.25	129	6698	0.174 ng	100
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.73	43	1744	N.D.	
63) n-Octane	16.85	57	4613	0.161 ng	90
64) Tetrachloroethene	16.99	166	57288	1.423 ng	100
65) Chlorobenzene	17.65	112	890	N.D.	
66) Ethylbenzene	18.01	91	16504	0.104 ng	97
67) m- & p-Xylenes	18.16	91	68448	0.531 ng	94
68) Bromoform	18.23	173	338	N.D.	
69) Styrene	18.50	104	1466	N.D.	
70) o-Xylene	18.60	91	21517	0.167 ng	97
71) n-Nonane	18.80	43	63193	0.981 ng	94
72) 1,1,2,2-Tetrachloroethane	18.58	83	362	N.D.	
74) Cumene	19.13	105	6414	N.D.	
75) alpha-Pinene	19.47	93	115	N.D.	
76) n-Propylbenzene	19.58	91	35852	0.188 ng	92
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.70	105	39576	0.256 ng	92
79) 1,3,5-Trimethylbenzene	19.77	105	49736	0.361 ng	98
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.13	105	255422	1.790 ng	87
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.25	91	1740	N.D.	
85) 1,3-Dichlorobenzene	20.27	146	1537	N.D.	
86) 1,4-Dichlorobenzene	20.34	146	1767	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	20.63	146	869	N.D.	
91) d-Limonene	20.63	68	815	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.14	180	1371	N.D.	
95) Naphthalene	22.24	128	85010	0.532 ng	97
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.09	119	2765	N.D.	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202036.D Vial: 4
Acq On : 20 Apr 2020 23:34 Operator: LH
Sample : P2002031-001 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 16:34:14 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202036.D Vial: 4
Acq On : 20 Apr 2020 23:34 Operator: LH
Sample : P2002031-001 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 16:34:14 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration LH 4/22/20
DataAcq Meth:TO15.M

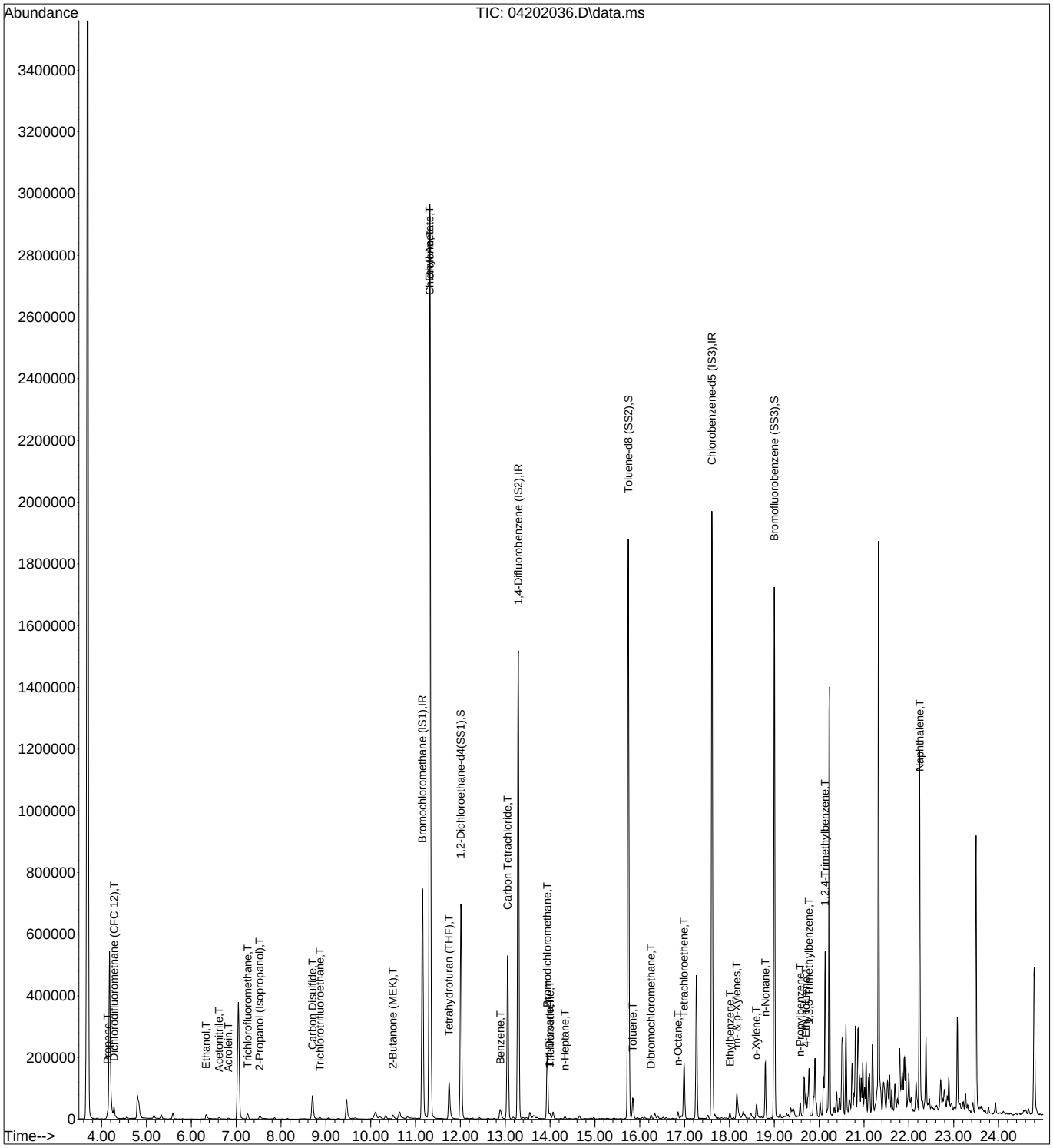
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	310499	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1394885	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	659174	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.01	65	541642	12.598	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.80%				
57) Toluene-d8 (SS2)	15.74	98	1427050	12.214	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.68%				
73) Bromofluorobenzene (SS3)	19.00	174	480853	11.655	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.20%				
Target Compounds							Qvalue
2) Propene	4.14	42	6278	0.193	ng		94
3) Dichlorodifluoromethan...	4.28	85	25277	0.361	ng		100
10) Ethanol	6.33	45	29678	1.153	ng		98
11) Acetonitrile	6.62	41	8441	0.149	ng		88
12) Acrolein	6.82	56	4093	0.216	ng		99
14) Trichlorofluoromethane	7.26	101	17265	0.279	ng		99
15) 2-Propanol (Isopropanol)	7.52	45	23166	0.308	ng		76
21) Trichlorotrifluoroethane	8.87	151	2422	0.082	ng		99
22) Carbon Disulfide	8.70	76	155236	1.306	ng		99
27) 2-Butanone (MEK)	10.50	72	5733	0.271	ng	#	87
30) Ethyl Acetate	11.31	61	1497	0.120	ng	#	1
32) Chloroform	11.32	83	2484094	40.294	ng		99
34) Tetrahydrofuran (THF)	11.75	72	40631	1.868	ng		93
41) Benzene	12.90	78	12345	0.086	ng		99
42) Carbon Tetrachloride	13.06	117	337605	6.816	ng		99
46) Bromodichloromethane	13.93	83	156120	3.202	ng		100
47) Trichloroethene	14.00	130	4826	0.118	ng		98
48) 1,4-Dioxane	13.99	88	3337	0.119	ng		93
51) n-Heptane	14.33	71	2227	0.066	ng		93
58) Toluene	15.84	91	54497	0.377	ng		98
60) Dibromochloromethane	16.25	129	6698	0.174	ng		100
63) n-Octane	16.85	57	4613	0.161	ng		90
64) Tetrachloroethene	16.99	166	57288	1.423	ng		100
66) Ethylbenzene	18.01	91	16504	0.104	ng		97
67) m- & p-Xylenes	18.16	91	68448	0.531	ng		94
70) o-Xylene	18.60	91	21517	0.167	ng		97
71) n-Nonane	18.80	43	63193	0.981	ng		94
76) n-Propylbenzene	19.58	91	35852	0.188	ng		92
78) 4-Ethyltoluene	19.70	105	39576	0.256	ng		92
79) 1,3,5-Trimethylbenzene	19.77	105	49736	0.361	ng		98
82) 1,2,4-Trimethylbenzene	20.13	105	255422	1.790	ng		87
95) Naphthalene	22.24	128	85010	0.532	ng		97

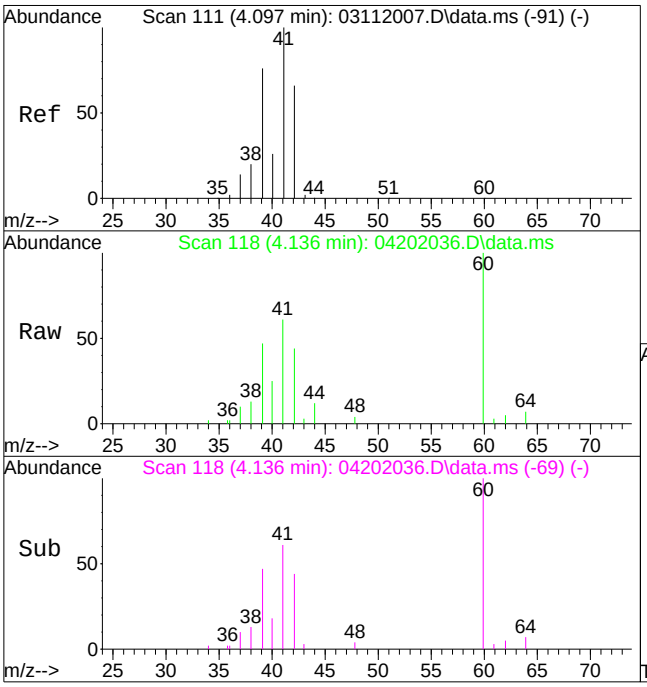
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202036.D Vial: 4
Acq On : 20 Apr 2020 23:34 Operator: LH
Sample : P2002031-001 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 16:34:14 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

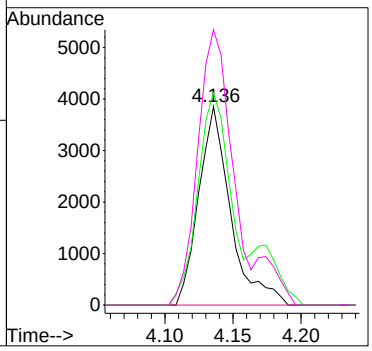


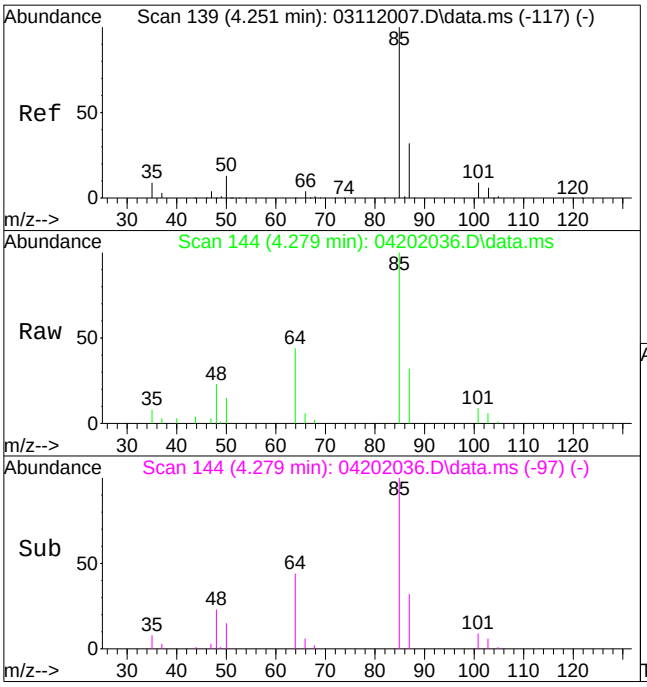


#2
Propene
Concen: 0.19 ng
RT: 4.14 min Scan# 118
Delta R.T. 0.022 min
Lab File: 04202036.D
Acq: 20 Apr 2020 23:34

Tgt Ion: 42 Resp: 6278

Ion	Ratio	Lower	Upper
42	100		
39	112.6	95.3	135.3
41	163.6	132.0	172.0

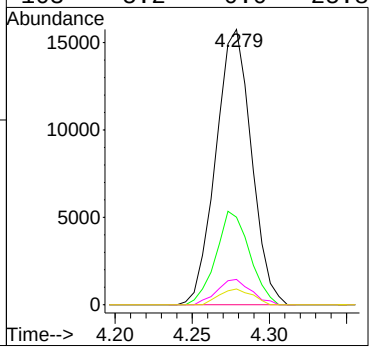


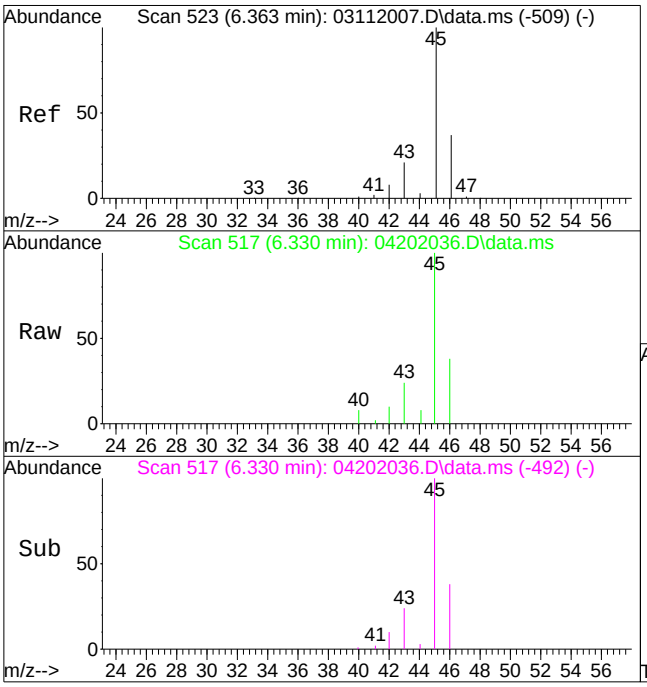


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.36 ng
RT: 4.28 min Scan# 144
Delta R.T. 0.011 min
Lab File: 04202036.D
Acq: 20 Apr 2020 23:34

Tgt Ion: 85 Resp: 25277

Ion	Ratio	Lower	Upper
85	100		
87	32.1	12.3	52.3
101	8.8	0.0	29.0
103	5.2	0.0	25.8

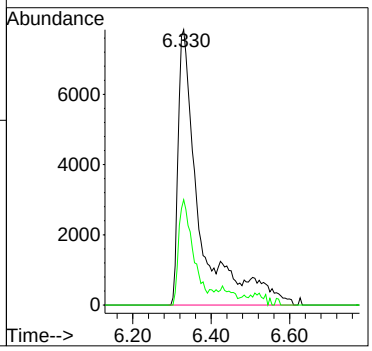


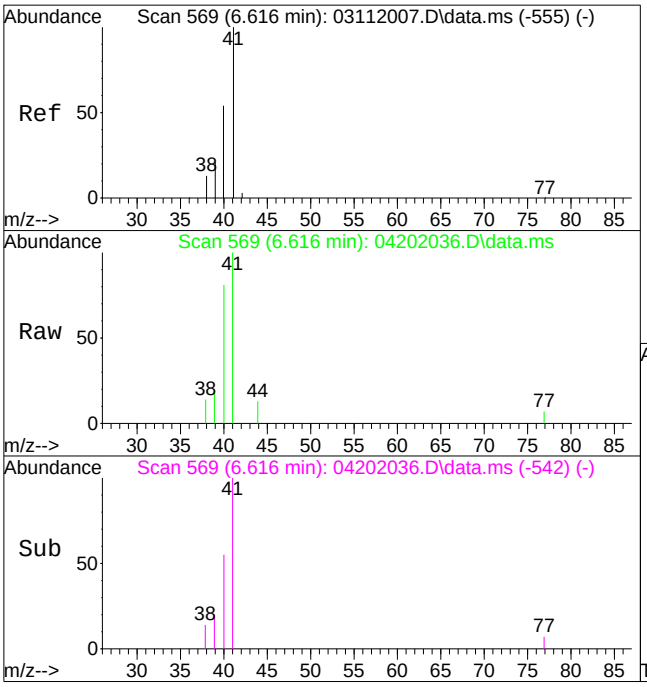


#10
Ethanol
Concen: 1.15 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.110 min
Lab File: 04202036.D
Acq: 20 Apr 2020 23:34

Tgt Ion: 45 Resp: 29678

Ion	Ratio	Lower	Upper
45	100		
46	36.0	17.3	57.3

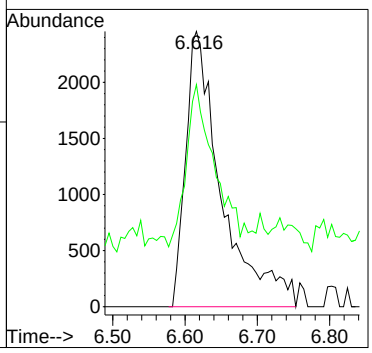


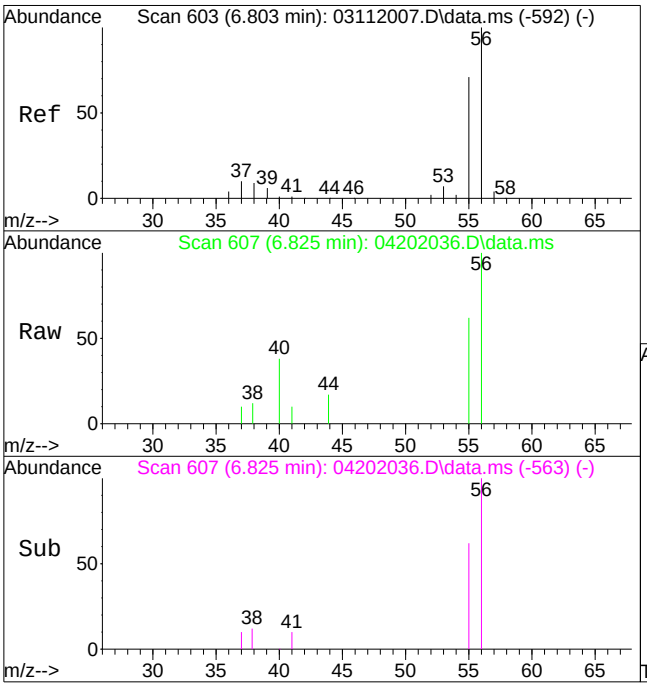


#11
Acetonitrile
Concen: 0.15 ng
RT: 6.62 min Scan# 569
Delta R.T. -0.049 min
Lab File: 04202036.D
Acq: 20 Apr 2020 23:34

Tgt Ion: 41 Resp: 8441

Ion	Ratio	Lower	Upper
41	100		
40	62.0	33.6	73.6

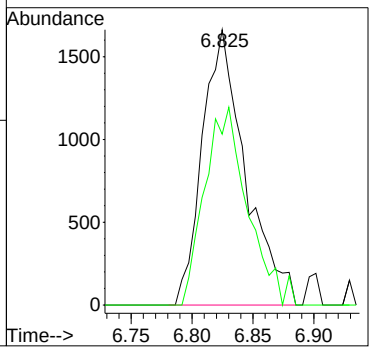


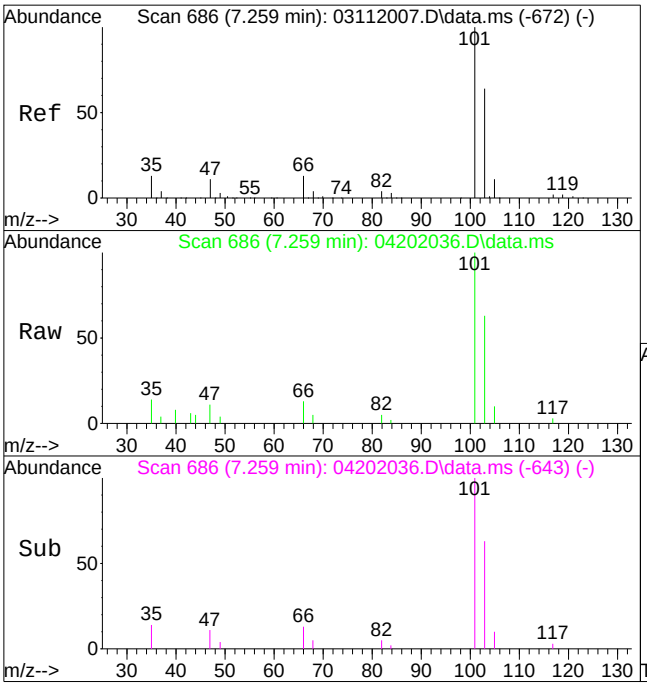


#12
Acrolein
Concen: 0.22 ng
RT: 6.82 min Scan# 607
Delta R.T. -0.005 min
Lab File: 04202036.D
Acq: 20 Apr 2020 23:34

Tgt Ion: 56 Resp: 4093

Ion	Ratio	Lower	Upper
56	100		
55	71.5	50.4	90.4

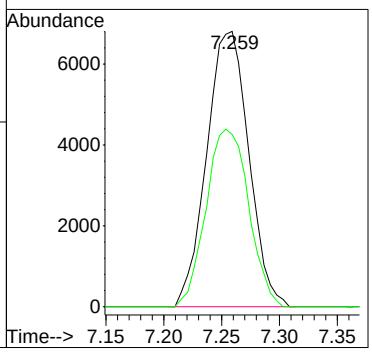


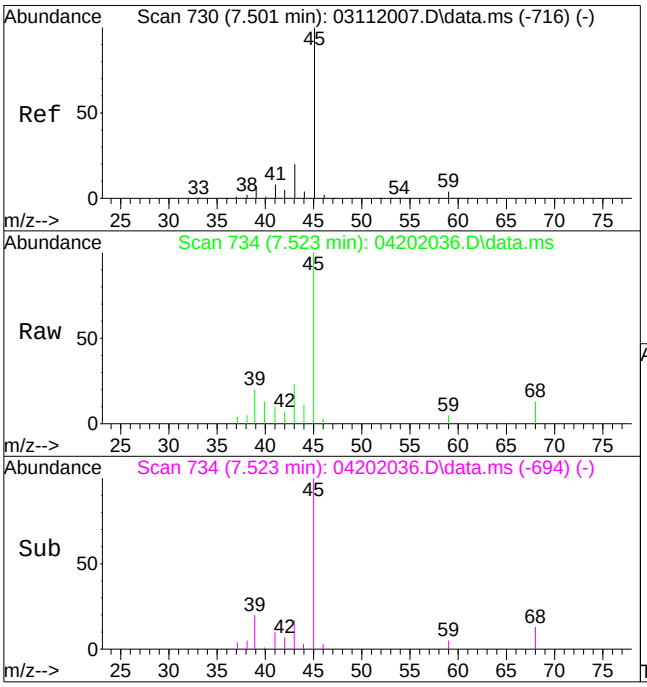


#14
Trichlorofluoromethane
Concen: 0.28 ng
RT: 7.26 min Scan# 686
Delta R.T. -0.016 min
Lab File: 04202036.D
Acq: 20 Apr 2020 23:34

Tgt Ion:101 Resp: 17265

Ion	Ratio	Lower	Upper
101	100		
103	65.2	44.6	84.6

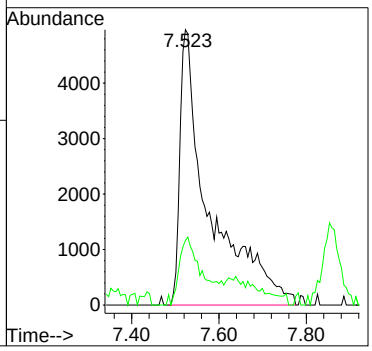


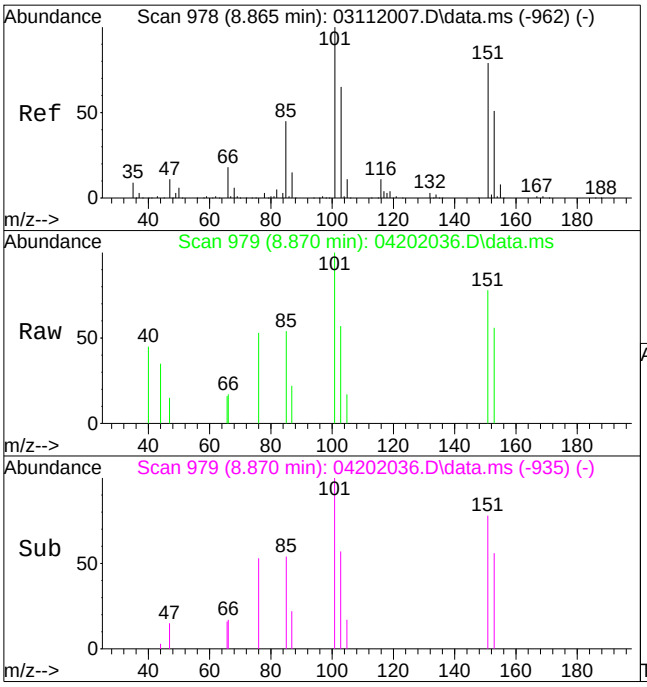


#15
2-Propanol (Isopropanol)
Concen: 0.31 ng
RT: 7.52 min Scan# 734
Delta R.T. -0.027 min
Lab File: 04202036.D
Acq: 20 Apr 2020 23:34

Tgt Ion: 45 Resp: 23166

Ion	Ratio	Lower	Upper
45	100		
43	31.6	0.3	40.3

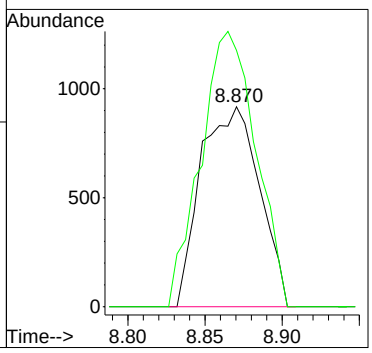


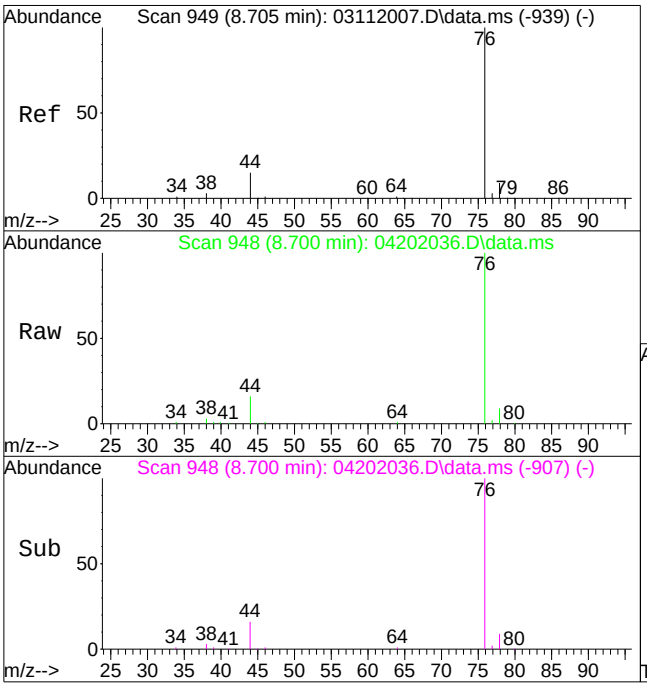


#21
Trichlorotrifluoroethane
Concen: 0.08 ng
RT: 8.87 min Scan# 979
Delta R.T. -0.006 min
Lab File: 04202036.D
Acq: 20 Apr 2020 23:34

Tgt Ion:151 Resp: 2422

Ion	Ratio	Lower	Upper
151	100		
101	129.7	108.4	148.4

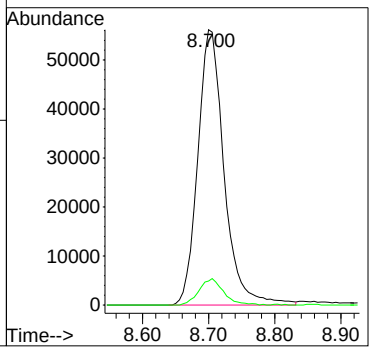


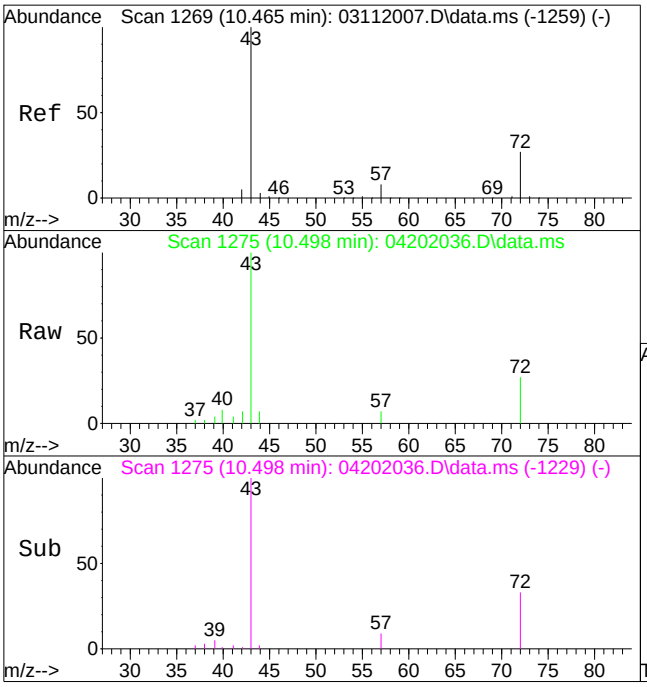


#22
Carbon Disulfide
Concen: 1.31 ng
RT: 8.70 min Scan# 948
Delta R.T. -0.022 min
Lab File: 04202036.D
Acq: 20 Apr 2020 23:34

Tgt Ion: 76 Resp: 155236

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	29.2

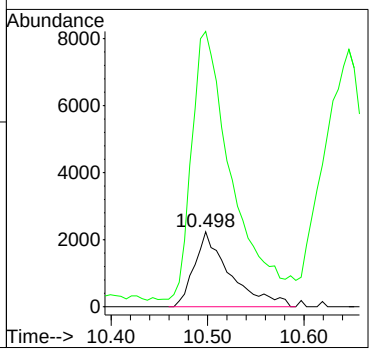


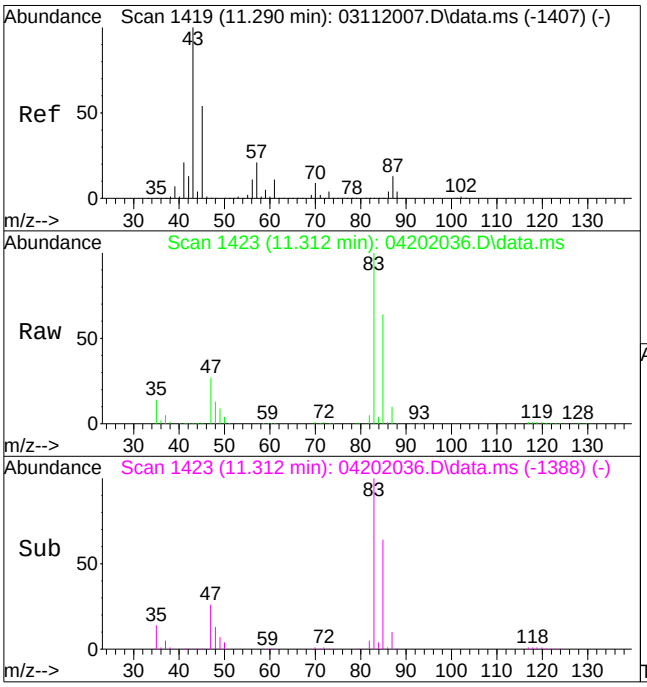


#27
2-Butanone (MEK)
Concen: 0.27 ng
RT: 10.50 min Scan# 1275
Delta R.T. 0.006 min
Lab File: 04202036.D
Acq: 20 Apr 2020 23:34

Tgt Ion: 72 Resp: 5733

Ion	Ratio	Lower	Upper
72	100		
43	403.4	353.4	393.4#

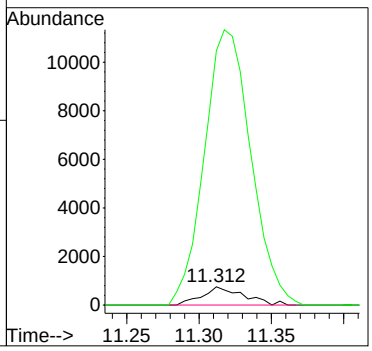


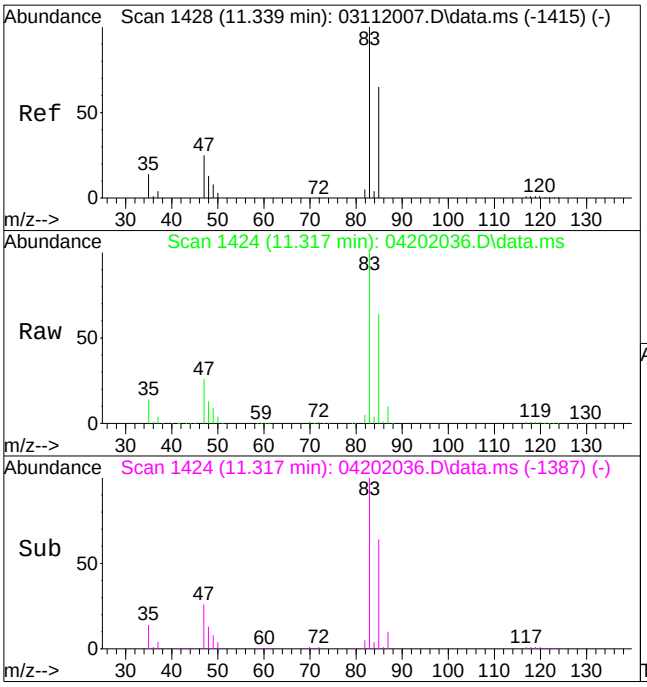


#30
Ethyl Acetate
Concen: 0.12 ng
RT: 11.31 min Scan# 1423
Delta R.T. -0.005 min
Lab File: 04202036.D
Acq: 20 Apr 2020 23:34

Tgt Ion: 61 Resp: 1497

Ion	Ratio	Lower	Upper
61	100		
70	1695.5	59.1	99.1#

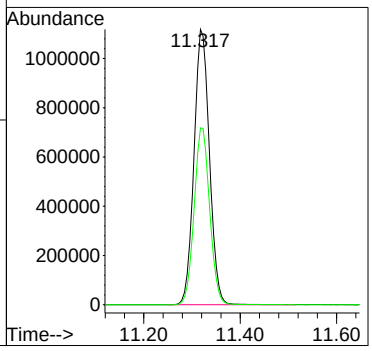


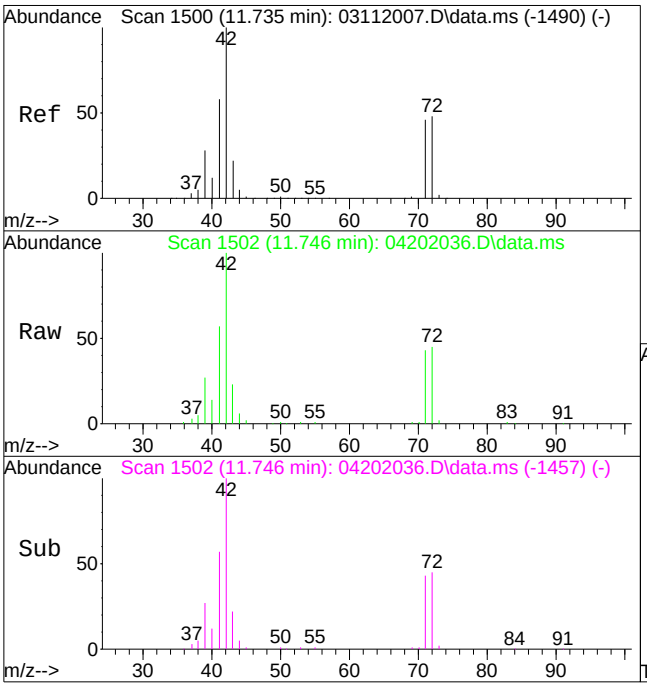


#32
Chloroform
Concen: 40.29 ng
RT: 11.32 min Scan# 1424
Delta R.T. -0.044 min
Lab File: 04202036.D
Acq: 20 Apr 2020 23:34

Tgt Ion: 83 Resp: 2484094

Ion	Ratio	Lower	Upper
83	100		
85	64.8	45.5	85.5

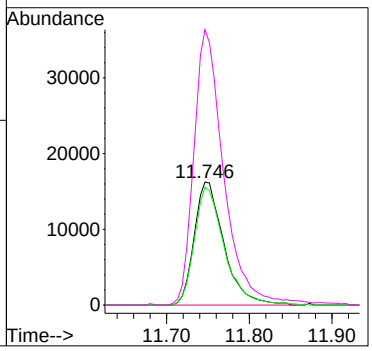


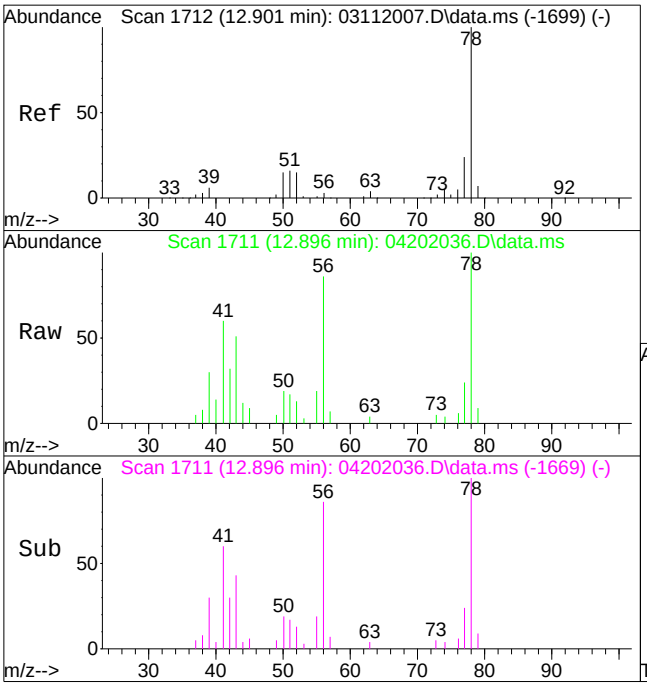


#34
Tetrahydrofuran (THF)
Concen: 1.87 ng
RT: 11.75 min Scan# 1502
Delta R.T. 0.000 min
Lab File: 04202036.D
Acq: 20 Apr 2020 23:34

Tgt Ion: 72 Resp: 40631

Ion	Ratio	Lower	Upper
72	100		
71	96.0	75.9	115.9
42	226.2	189.3	229.3

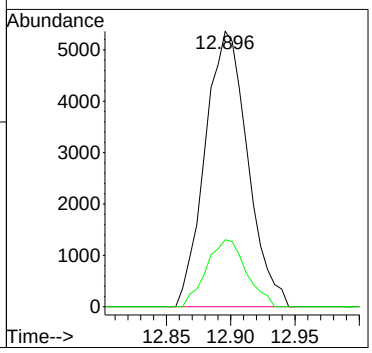


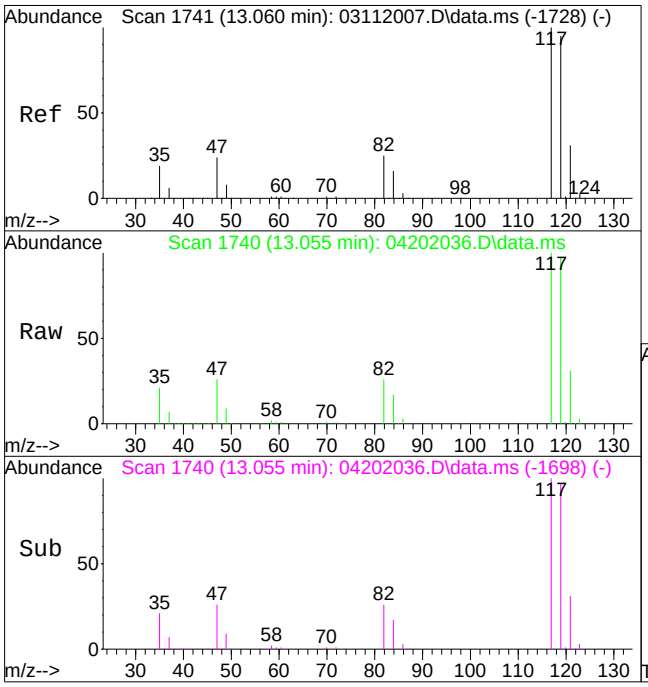


#41
Benzene
Concen: 0.09 ng
RT: 12.90 min Scan# 1711
Delta R.T. -0.016 min
Lab File: 04202036.D
Acq: 20 Apr 2020 23:34

Tgt Ion: 78 Resp: 12345

Ion	Ratio	Lower	Upper
78	100		
77	22.8	3.4	43.4

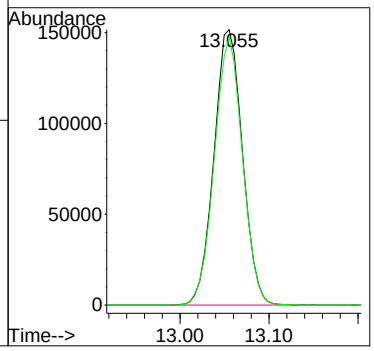


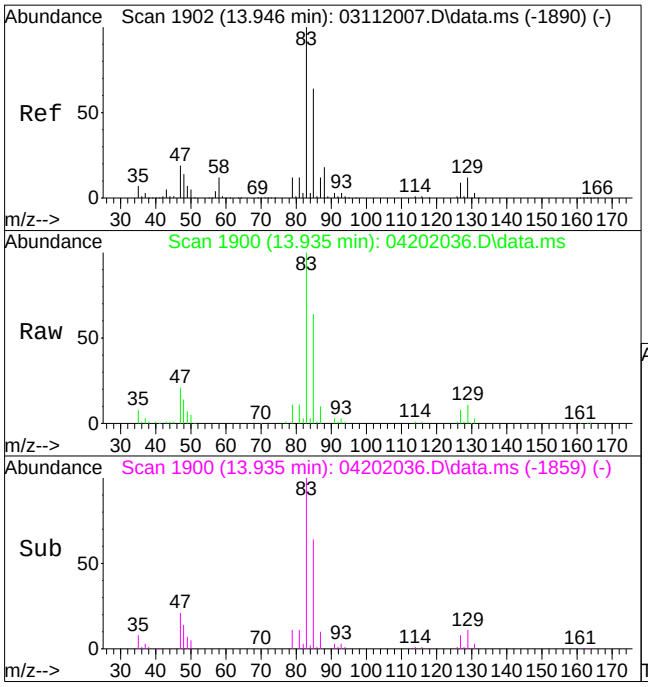


#42
Carbon Tetrachloride
Concen: 6.82 ng
RT: 13.06 min Scan# 1740
Delta R.T. -0.016 min
Lab File: 04202036.D
Acq: 20 Apr 2020 23:34

Tgt Ion:117 Resp: 337605

Ion	Ratio	Lower	Upper
117	100		
119	95.9	75.4	115.4

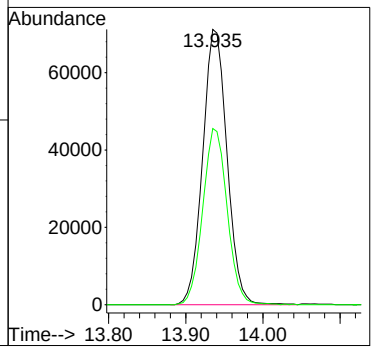


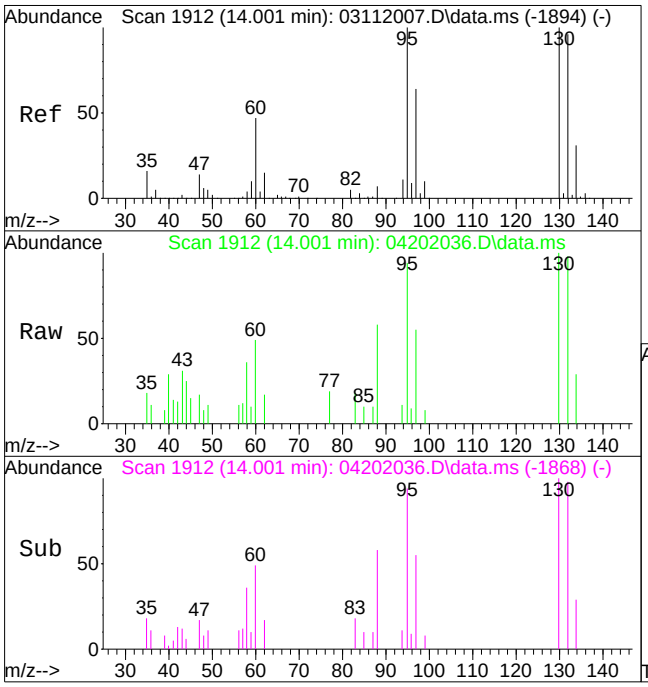


#46
Bromodichloromethane
Concen: 3.20 ng
RT: 13.93 min Scan# 1900
Delta R.T. -0.022 min
Lab File: 04202036.D
Acq: 20 Apr 2020 23:34

Tgt Ion: 83 Resp: 156120

Ion	Ratio	Lower	Upper
83	100		
85	64.0	44.0	84.0

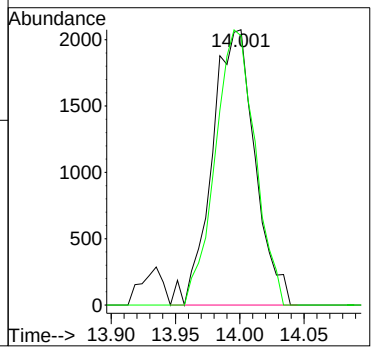


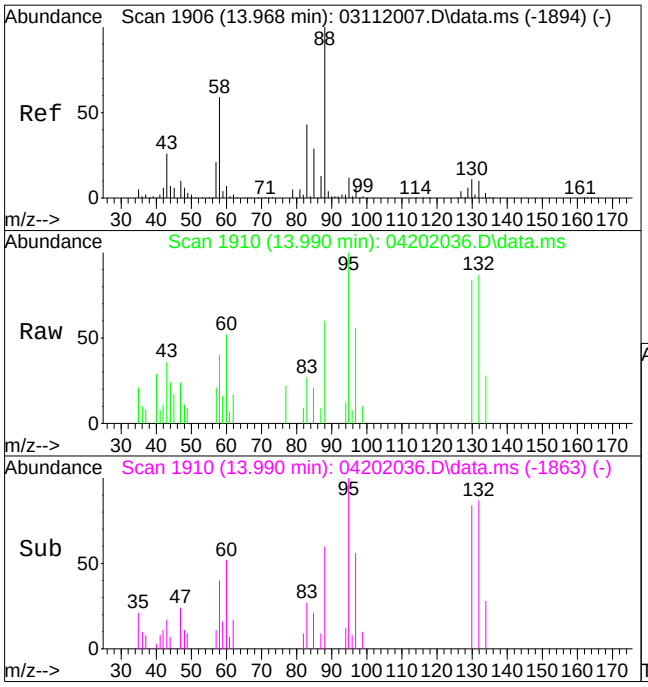


#47
Trichloroethene
Concen: 0.12 ng
RT: 14.00 min Scan# 1912
Delta R.T. -0.005 min
Lab File: 04202036.D
Acq: 20 Apr 2020 23:34

Tgt Ion:130 Resp: 4826

Ion	Ratio	Lower	Upper
130	100		
132	92.8	74.7	114.7

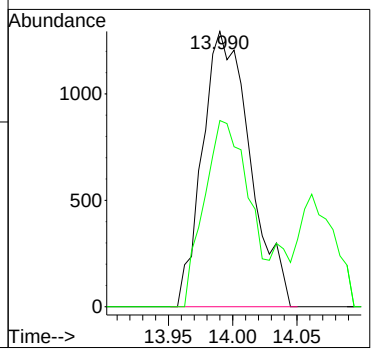


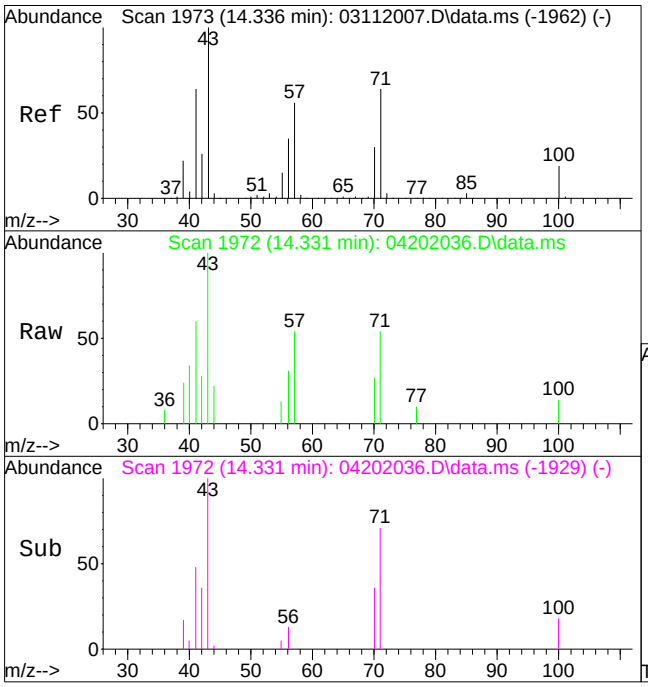


#48
1,4-Dioxane
Concen: 0.12 ng
RT: 13.99 min Scan# 1910
Delta R.T. 0.011 min
Lab File: 04202036.D
Acq: 20 Apr 2020 23:34

Tgt Ion: 88 Resp: 3337

Ion	Ratio	Lower	Upper
88	100		
58	64.4	39.5	79.5

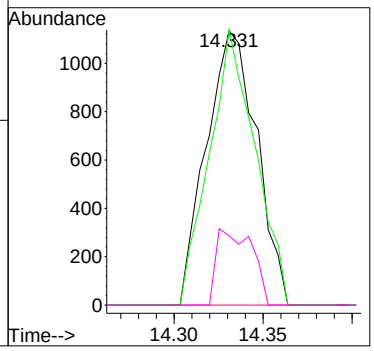


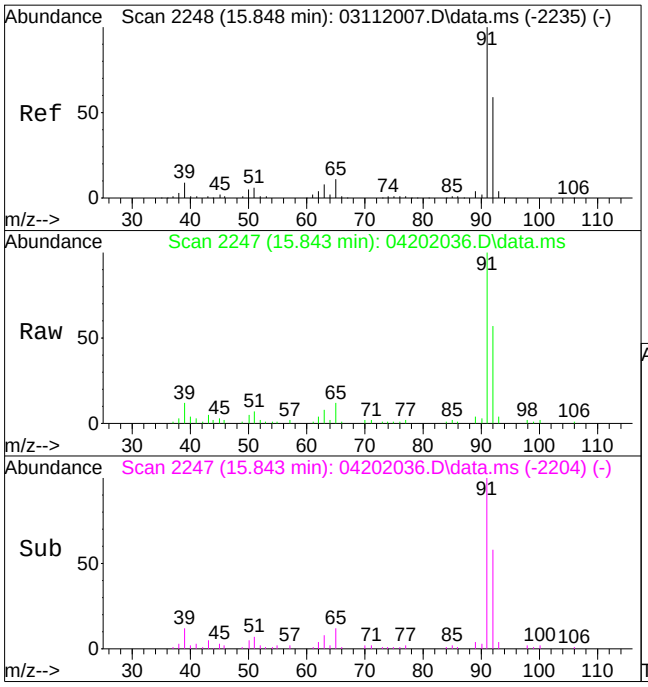


#51
n-Heptane
Concen: 0.07 ng
RT: 14.33 min Scan# 1972
Delta R.T. -0.011 min
Lab File: 04202036.D
Acq: 20 Apr 2020 23:34

Tgt Ion: 71 Resp: 2227

Ion	Ratio	Lower	Upper
71	100		
57	91.3	68.6	108.6
100	19.6	9.1	49.1

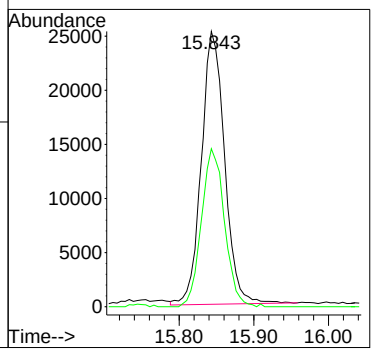


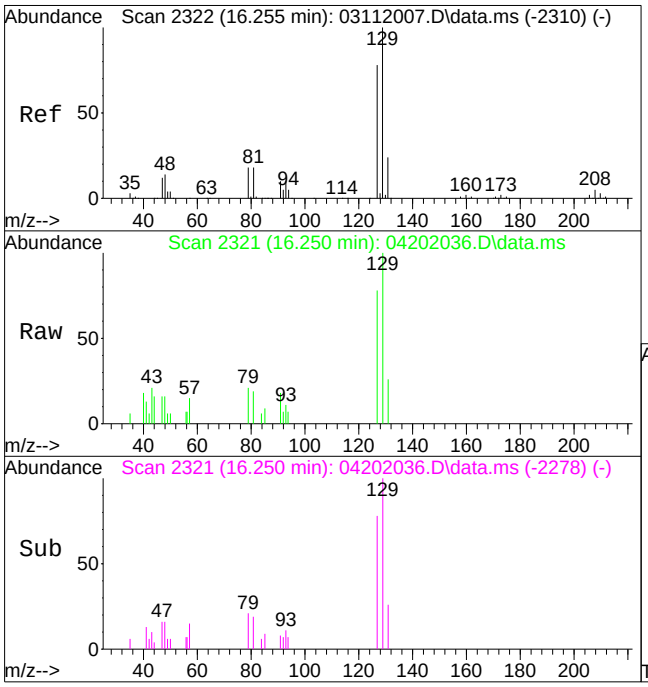


#58
Toluene
Concen: 0.38 ng
RT: 15.84 min Scan# 2247
Delta R.T. -0.011 min
Lab File: 04202036.D
Acq: 20 Apr 2020 23:34

Tgt Ion: 91 Resp: 54497

Ion	Ratio	Lower	Upper
91	100		
92	57.4	39.0	79.0

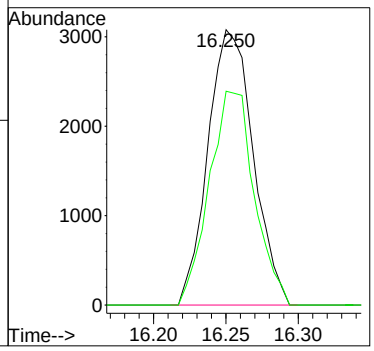


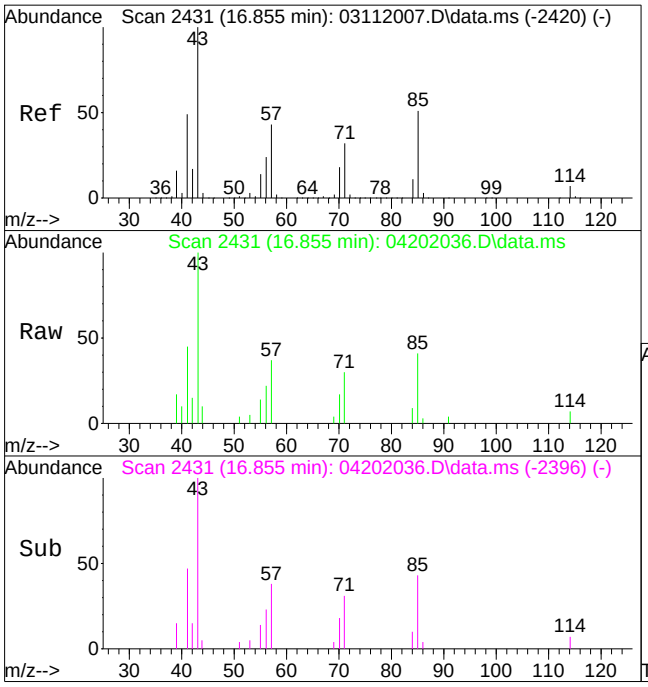


#60
Dibromochloromethane
Concen: 0.17 ng
RT: 16.25 min Scan# 2321
Delta R.T. -0.011 min
Lab File: 04202036.D
Acq: 20 Apr 2020 23:34

Tgt Ion:129 Resp: 6698

Ion	Ratio	Lower	Upper
129	100		
127	77.3	57.3	97.3

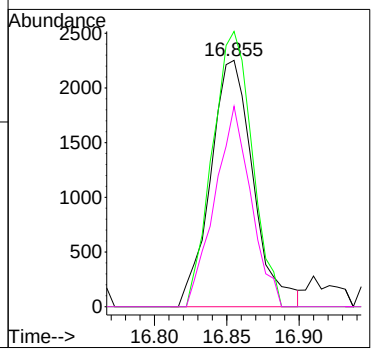


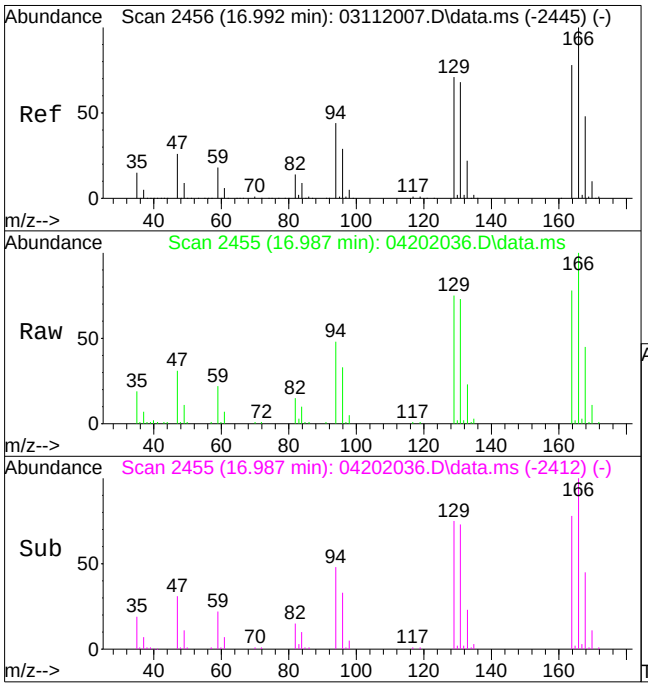


#63
n-Octane
Concen: 0.16 ng
RT: 16.85 min Scan# 2431
Delta R.T. -0.005 min
Lab File: 04202036.D
Acq: 20 Apr 2020 23:34

Tgt Ion: 57 Resp: 4613

Ion	Ratio	Lower	Upper
57	100		
85	104.2	95.1	142.7
71	69.2	58.2	87.4

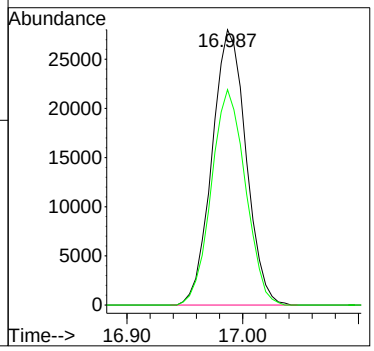


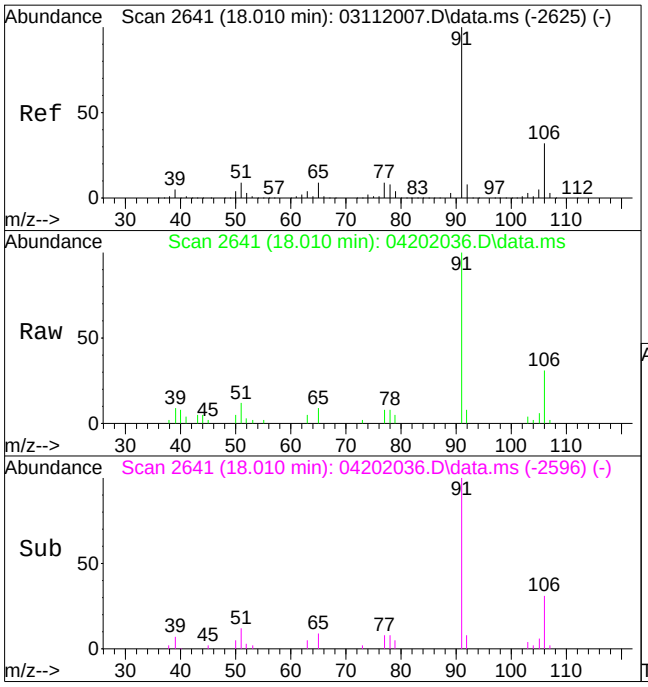


#64
Tetrachloroethene
Concen: 1.42 ng
RT: 16.99 min Scan# 2455
Delta R.T. -0.011 min
Lab File: 04202036.D
Acq: 20 Apr 2020 23:34

Tgt Ion:166 Resp: 57288

Ion	Ratio	Lower	Upper
166	100		
164	78.4	58.6	98.6

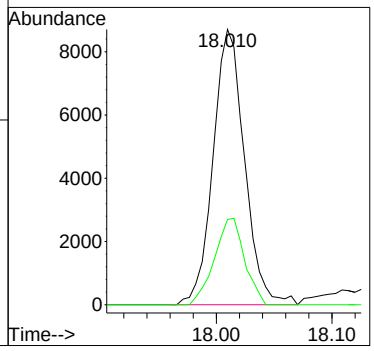


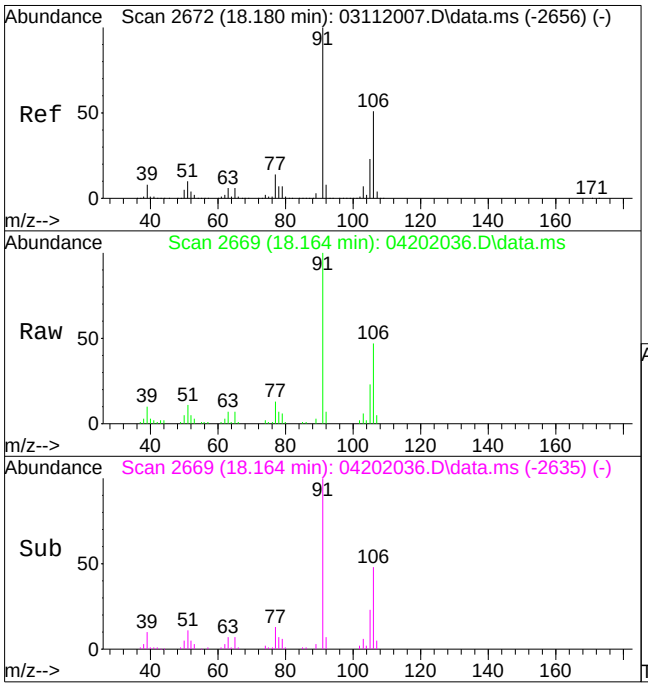


#66
Ethylbenzene
Concen: 0.10 ng
RT: 18.01 min Scan# 2641
Delta R.T. 0.000 min
Lab File: 04202036.D
Acq: 20 Apr 2020 23:34

Tgt Ion: 91 Resp: 16504

Ion	Ratio	Lower	Upper
91	100		
106	30.0	11.7	51.7

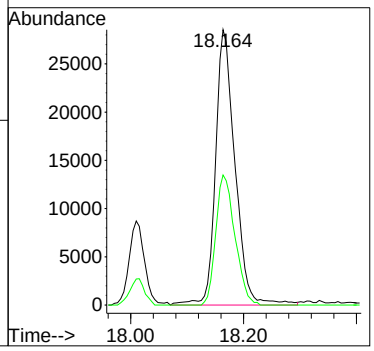


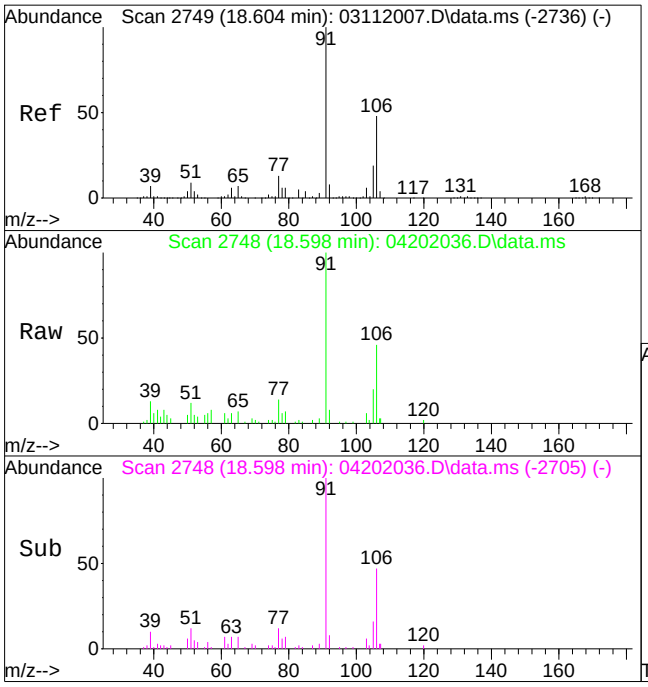


#67
m- & p-Xylenes
Concen: 0.53 ng
RT: 18.16 min Scan# 2669
Delta R.T. -0.011 min
Lab File: 04202036.D
Acq: 20 Apr 2020 23:34

Tgt Ion: 91 Resp: 68448

Ion	Ratio	Lower	Upper
91	100		
106	46.3	30.4	70.4

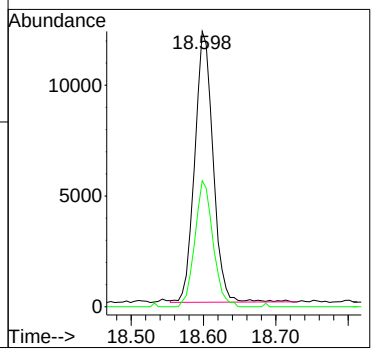


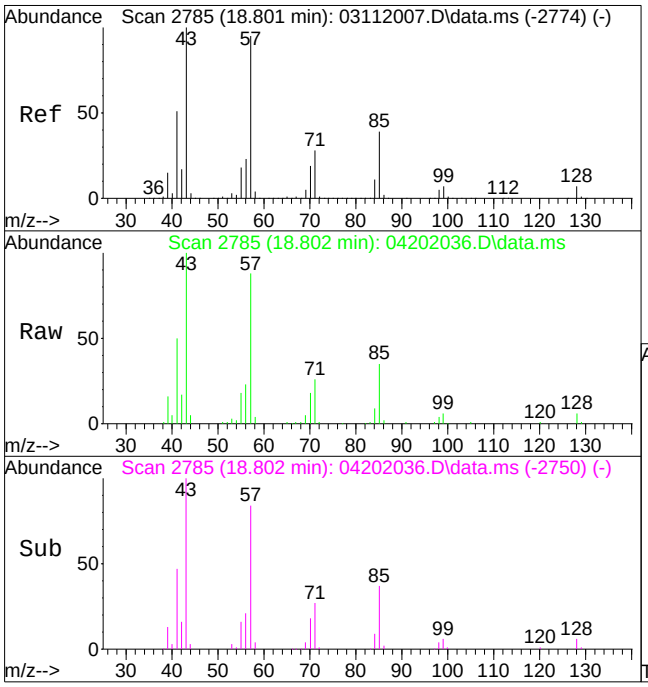


#70
o-Xylene
Concen: 0.17 ng
RT: 18.60 min Scan# 2748
Delta R.T. -0.011 min
Lab File: 04202036.D
Acq: 20 Apr 2020 23:34

Tgt Ion: 91 Resp: 21517

Ion	Ratio	Lower	Upper
91	100		
106	46.0	28.1	68.1

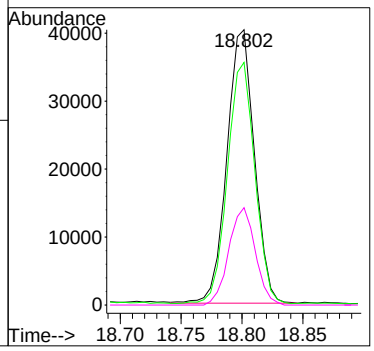


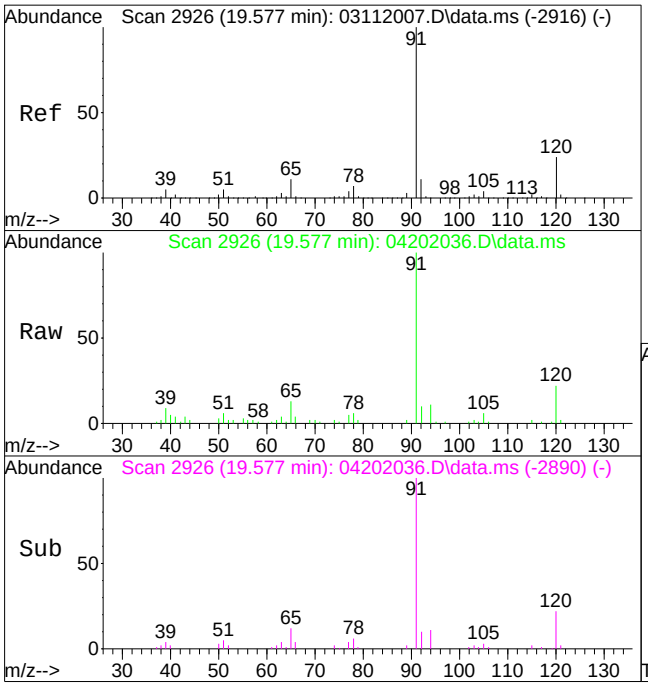


#71
n-Nonane
Concen: 0.98 ng
RT: 18.80 min Scan# 2785
Delta R.T. -0.005 min
Lab File: 04202036.D
Acq: 20 Apr 2020 23:34

Tgt Ion: 43 Resp: 63193

Ion	Ratio	Lower	Upper
43	100		
57	87.6	73.6	113.6
85	34.3	18.7	58.7

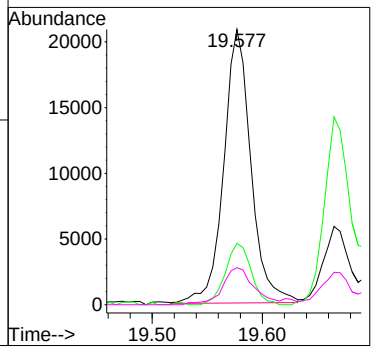


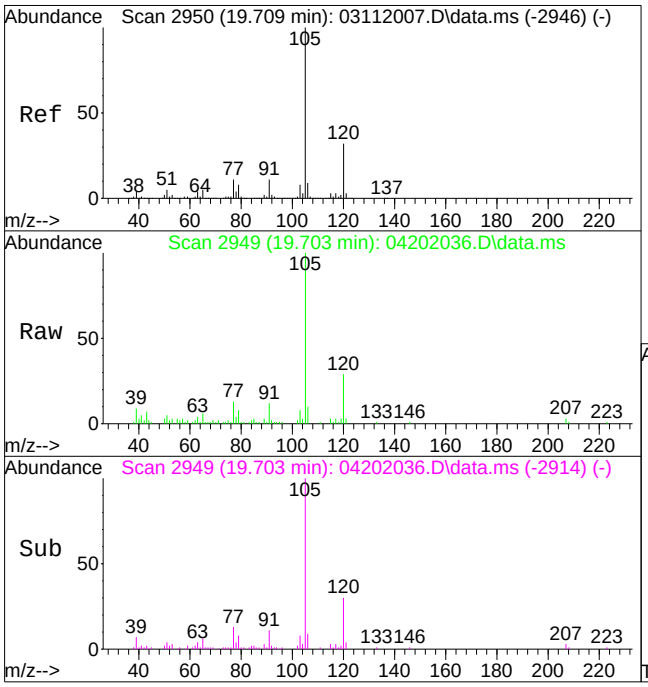


#76
n-Propylbenzene
Concen: 0.19 ng
RT: 19.58 min Scan# 2926
Delta R.T. -0.000 min
Lab File: 04202036.D
Acq: 20 Apr 2020 23:34

Tgt Ion: 91 Resp: 35852

Ion	Ratio	Lower	Upper
91	100		
120	21.2	3.9	43.9
65	15.6	0.0	30.5

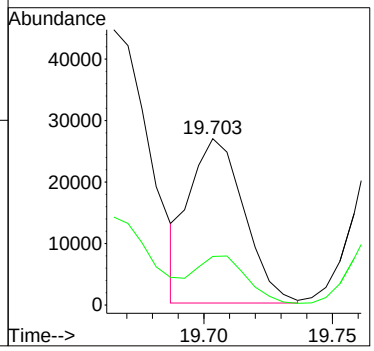


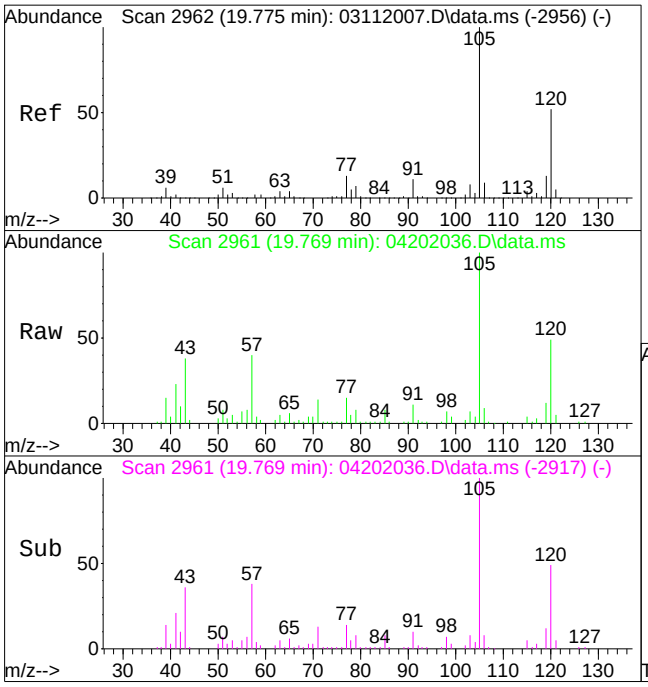


#78
4-Ethyltoluene
Concen: 0.26 ng
RT: 19.70 min Scan# 2949
Delta R.T. -0.006 min
Lab File: 04202036.D
Acq: 20 Apr 2020 23:34

Tgt Ion:105 Resp: 39576

Ion	Ratio	Lower	Upper
105	100		
120	26.7	11.1	51.1

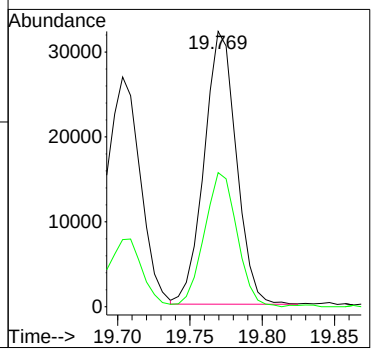


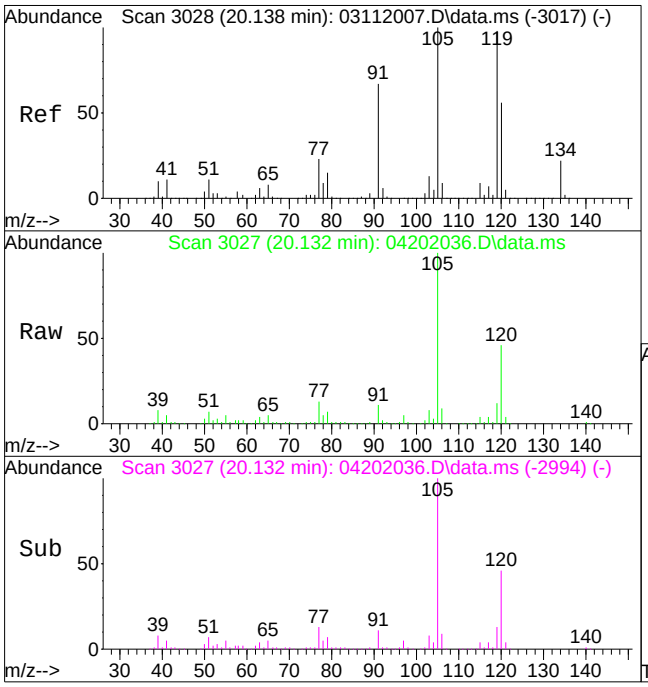


#79
1,3,5-Trimethylbenzene
Concen: 0.36 ng
RT: 19.77 min Scan# 2961
Delta R.T. -0.006 min
Lab File: 04202036.D
Acq: 20 Apr 2020 23:34

Tgt Ion:105 Resp: 49736

Ion	Ratio	Lower	Upper
105	100		
120	50.2	31.3	71.3

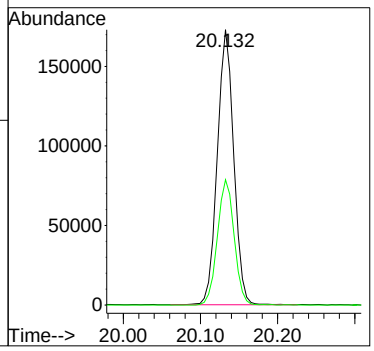


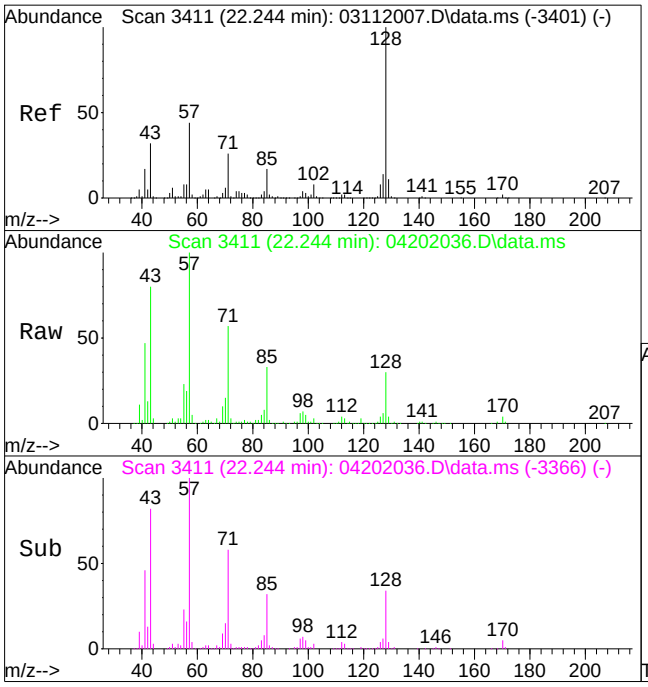


#82
1,2,4-Trimethylbenzene
Concen: 1.79 ng
RT: 20.13 min Scan# 3027
Delta R.T. -0.017 min
Lab File: 04202036.D
Acq: 20 Apr 2020 23:34

Tgt Ion:105 Resp: 255422

Ion	Ratio	Lower	Upper
105	100		
120	46.5	35.8	75.8

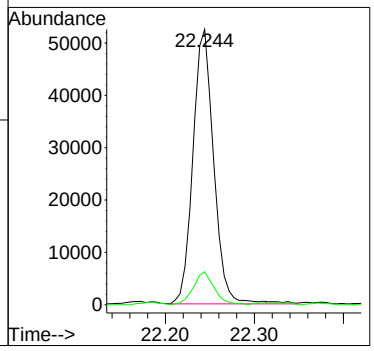




#95
Naphthalene
Concen: 0.53 ng
RT: 22.24 min Scan# 3411
Delta R.T. -0.005 min
Lab File: 04202036.D
Acq: 20 Apr 2020 23:34

Tgt Ion:128 Resp: 85010

Ion	Ratio	Lower	Upper
128	100		
129	12.1	0.0	31.1



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202037.D Vial: 5
Acq On : 21 Apr 2020 00:07 Operator: LH
Sample : P2002031-002 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 16:38:21 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/22/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	302698	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1362733	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	651958	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.01	65	530897	12.666	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.36%				
57) Toluene-d8 (SS2)	15.74	98	1394231	12.065	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.48%				
73) Bromofluorobenzene (SS3)	19.00	174	476345	11.673	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.36%				
Target Compounds							Qvalue
2) Propene	4.13	42	7632	0.240	ng		94
3) Dichlorodifluoromethan...	4.27	85	18739	0.274	ng		99
4) Chloromethane	4.55	50	6605	0.122	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	321	N.D.			
6) Vinyl Chloride	4.96	62	1100	N.D.			
7) 1,3-Butadiene	5.23	54	196	N.D.			
8) Bromomethane	5.66	94	109	N.D.			
9) Chloroethane	6.00	64	598	N.D.			
10) Ethanol	6.33	45	36057	1.437	ng		100
11) Acetonitrile	6.62	41	4721	0.086	ng		83
12) Acrolein	6.81	56	3660	0.198	ng		96
13) Acetone	7.01	58	135231	5.461	ng		91
14) Trichlorofluoromethane	7.25	101	12943	0.215	ng		99
15) 2-Propanol (Isopropanol)	7.53	45	13357	0.182	ng	#	35
16) Acrylonitrile	7.80	53	191	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.43	84	1019	N.D.			
20) 3-Chloro-1-propene (Al...	8.60	41	113	N.D.			
21) Trichlorotrifluoroethane	8.86	151	923	N.D.			
22) Carbon Disulfide	8.70	76	845665	7.298	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.10	73	220	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.49	72	10262	0.498	ng		91
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.31	61	2718	0.223	ng		93
31) n-Hexane	11.28	57	3907	0.069	ng		93
32) Chloroform	11.32	83	51491	0.857	ng		100
34) Tetrahydrofuran (THF)	11.74	72	86045	4.057	ng		94
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.13	62	212	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	12.90	61	1032	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.90	78	157660	1.119	ng		100
42) Carbon Tetrachloride	13.06	117	38260	0.791	ng		100
43) Cyclohexane	13.19	84	3721	0.069	ng	#	82
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	13.55	63	322	N.D.			
46) Bromodichloromethane	13.94	83	4791	0.101	ng		95
47) Trichloroethene	14.00	130	726	N.D.			
48) 1,4-Dioxane	13.98	88	5191	0.190	ng		93
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202037.D Vial: 5
Acq On : 21 Apr 2020 00:07 Operator: LH
Sample : P2002031-002 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 16:38:21 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

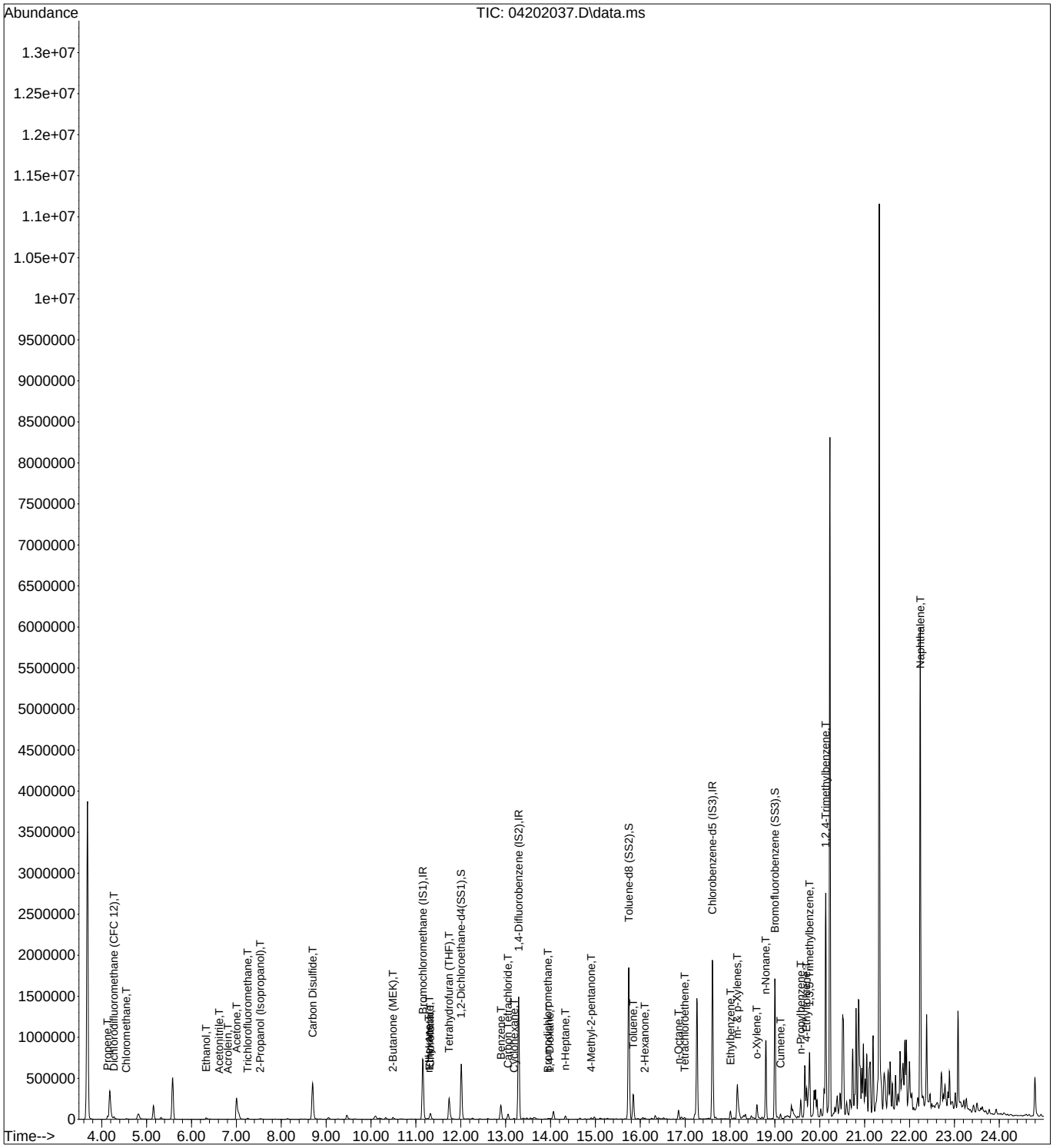
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.33	71	10500	0.319 ng	94
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.91	58	5315	0.180 ng	87
54) trans-1,3-Dichloropropene	15.35	75	922	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.84	91	245306	1.717 ng	99
59) 2-Hexanone	16.10	43	8314	0.116 ng	88
60) Dibromochloromethane	16.26	129	1020	N.D.	
61) 1,2-Dibromoethane	16.50	107	171	N.D.	
62) n-Butyl Acetate	16.74	43	1208	N.D.	
63) n-Octane	16.85	57	21950	0.774 ng	92
64) Tetrachloroethene	16.99	166	4860	0.122 ng	100
65) Chlorobenzene	17.65	112	1302	N.D.	
66) Ethylbenzene	18.01	91	74768	0.477 ng	98
67) m- & p-Xylenes	18.16	91	325608	2.554 ng	99
68) Bromoform	18.24	173	270	N.D.	
69) Styrene	18.50	104	1827	N.D.	
70) o-Xylene	18.60	91	98615	0.774 ng	99
71) n-Nonane	18.80	43	340992	5.350 ng	95
72) 1,1,2,2-Tetrachloroethane	18.57	83	545	N.D.	
74) Cumene	19.13	105	24980	0.155 ng	99
75) alpha-Pinene	19.48	93	359	N.D.	
76) n-Propylbenzene	19.58	91	163104	0.866 ng	96
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.70	105	197254	1.288 ng	98
79) 1,3,5-Trimethylbenzene	19.77	105	261758	1.921 ng	97
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.13	105	1334402	9.453 ng	87
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.23	91	2375	N.D.	
85) 1,3-Dichlorobenzene	20.26	146	755	N.D.	
86) 1,4-Dichlorobenzene	20.32	146	1093	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	20.63	146	494	N.D.	
91) d-Limonene	20.64	68	1022	N.D.	
92) 1,2-Dibromo-3-Chloropr...	20.97	157	212	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.14	180	1032	N.D.	
95) Naphthalene	22.24	128	201893	1.279 ng	92
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202037.D Vial: 5
Acq On : 21 Apr 2020 00:07 Operator: LH
Sample : P2002031-002 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 16:38:21 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202037.D Vial: 5
Acq On : 21 Apr 2020 00:07 Operator: LH
Sample : P2002031-002 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 16:38:21 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020 LH 4/22/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

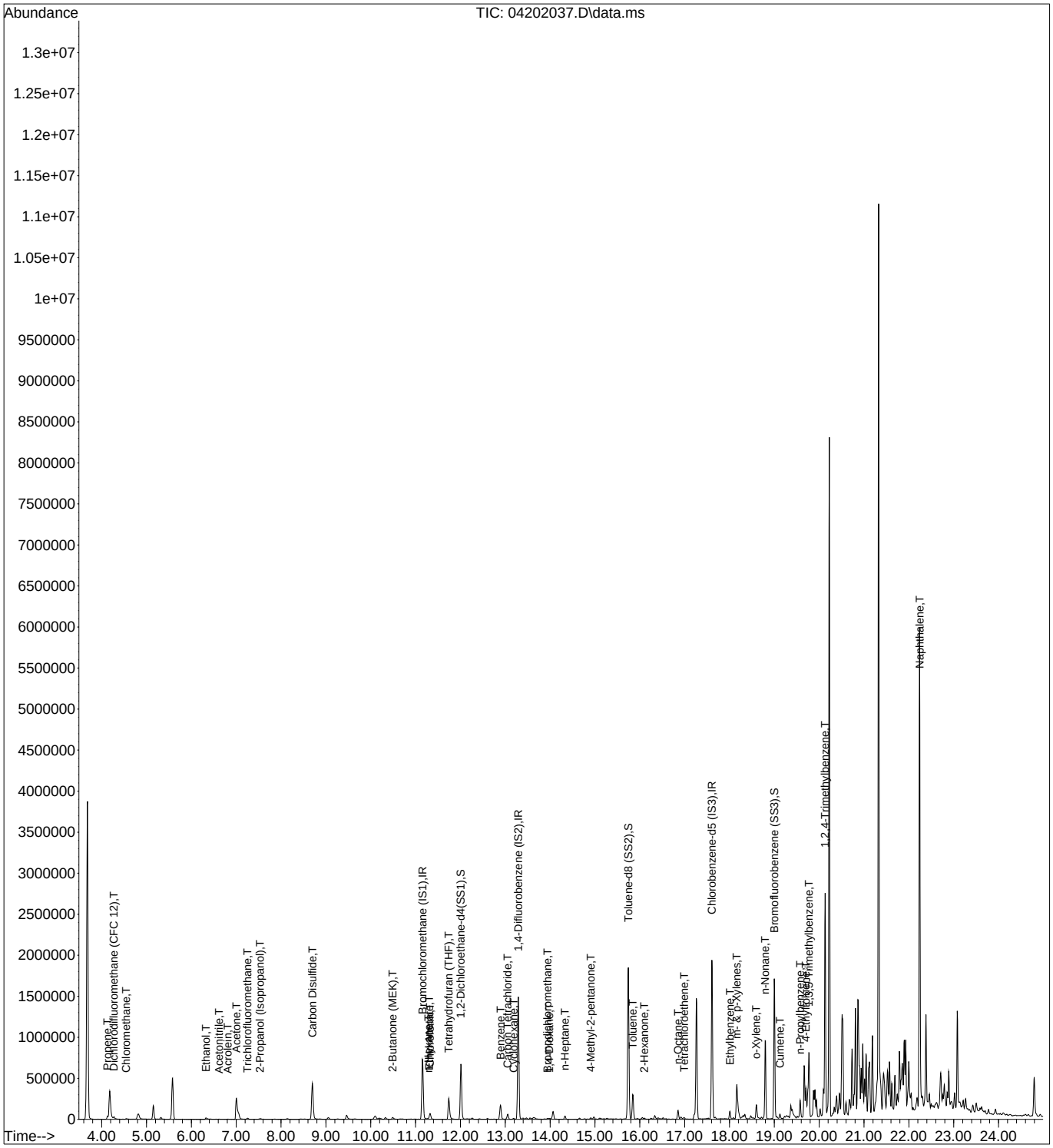
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	302698	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1362733	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	651958	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.01	65	530897	12.666	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.36%				
57) Toluene-d8 (SS2)	15.74	98	1394231	12.065	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.48%				
73) Bromofluorobenzene (SS3)	19.00	174	476345	11.673	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.36%				
Target Compounds							Qvalue
2) Propene	4.13	42	7632	0.240	ng		94
3) Dichlorodifluoromethan...	4.27	85	18739	0.274	ng		99
4) Chloromethane	4.55	50	6605	0.122	ng		100
10) Ethanol	6.33	45	36057	1.437	ng		100
11) Acetonitrile	6.62	41	4721	0.086	ng		83
12) Acrolein	6.81	56	3660	0.198	ng		96
13) Acetone	7.01	58	135231	5.461	ng		91
14) Trichlorofluoromethane	7.25	101	12943	0.215	ng		99
15) 2-Propanol (Isopropanol)	7.53	45	13357	0.182	ng	#	35
22) Carbon Disulfide	8.70	76	845665	7.298	ng		99
27) 2-Butanone (MEK)	10.49	72	10262	0.498	ng		91
30) Ethyl Acetate	11.31	61	2718	0.223	ng		93
31) n-Hexane	11.28	57	3907	0.069	ng		93
32) Chloroform	11.32	83	51491	0.857	ng		100
34) Tetrahydrofuran (THF)	11.74	72	86045	4.057	ng		94
41) Benzene	12.90	78	157660	1.119	ng		100
42) Carbon Tetrachloride	13.06	117	38260	0.791	ng		100
43) Cyclohexane	13.19	84	3721	0.069	ng	#	82
46) Bromodichloromethane	13.94	83	4791	0.101	ng		95
48) 1,4-Dioxane	13.98	88	5191	0.190	ng		93
51) n-Heptane	14.33	71	10500	0.319	ng		94
53) 4-Methyl-2-pentanone	14.91	58	5315	0.180	ng		87
58) Toluene	15.84	91	245306	1.717	ng		99
59) 2-Hexanone	16.10	43	8314	0.116	ng		88
63) n-Octane	16.85	57	21950	0.774	ng		92
64) Tetrachloroethene	16.99	166	4860	0.122	ng		100
66) Ethylbenzene	18.01	91	74768	0.477	ng		98
67) m- & p-Xylenes	18.16	91	325608	2.554	ng		99
70) o-Xylene	18.60	91	98615	0.774	ng		99
71) n-Nonane	18.80	43	340992	5.350	ng		95
74) Cumene	19.13	105	24980	0.155	ng		99
76) n-Propylbenzene	19.58	91	163104	0.866	ng		96
78) 4-Ethyltoluene	19.70	105	197254	1.288	ng		98
79) 1,3,5-Trimethylbenzene	19.77	105	261758	1.921	ng		97
82) 1,2,4-Trimethylbenzene	20.13	105	1334402	9.453	ng		87
95) Naphthalene	22.24	128	201893	1.279	ng		92

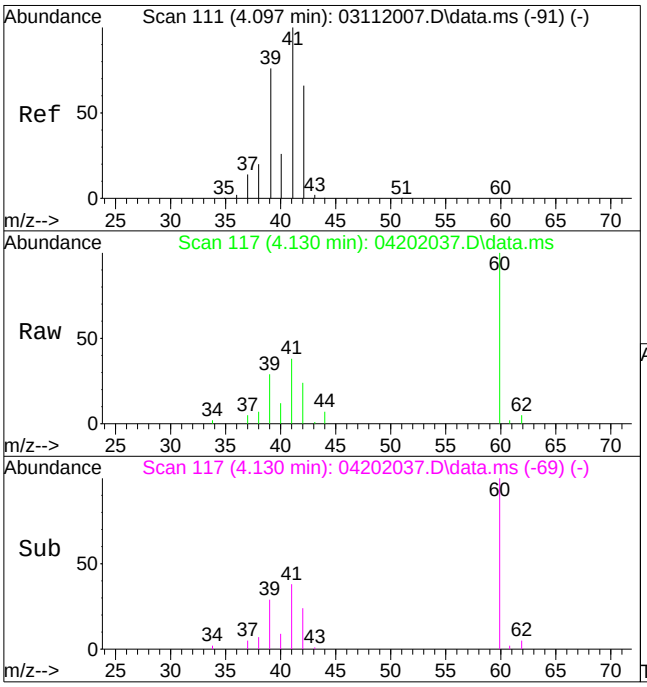
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202037.D Vial: 5
Acq On : 21 Apr 2020 00:07 Operator: LH
Sample : P2002031-002 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 16:38:21 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

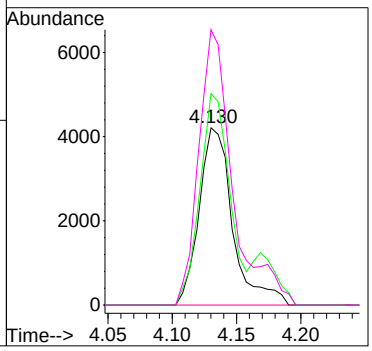


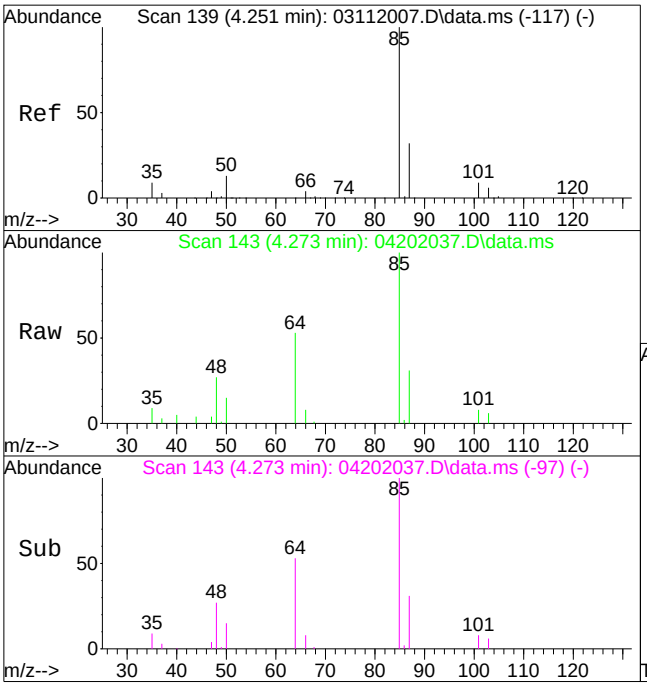


#2
Propene
Concen: 0.24 ng
RT: 4.13 min Scan# 117
Delta R.T. 0.016 min
Lab File: 04202037.D
Acq: 21 Apr 2020 00:07

Tgt Ion: 42 Resp: 7632

Ion	Ratio	Lower	Upper
42	100		
39	106.6	95.3	135.3
41	157.8	132.0	172.0

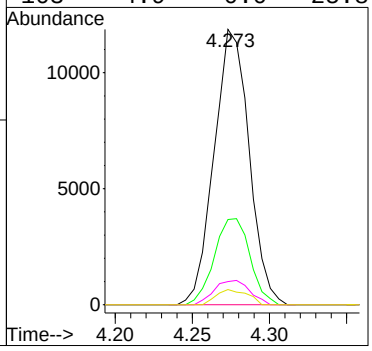


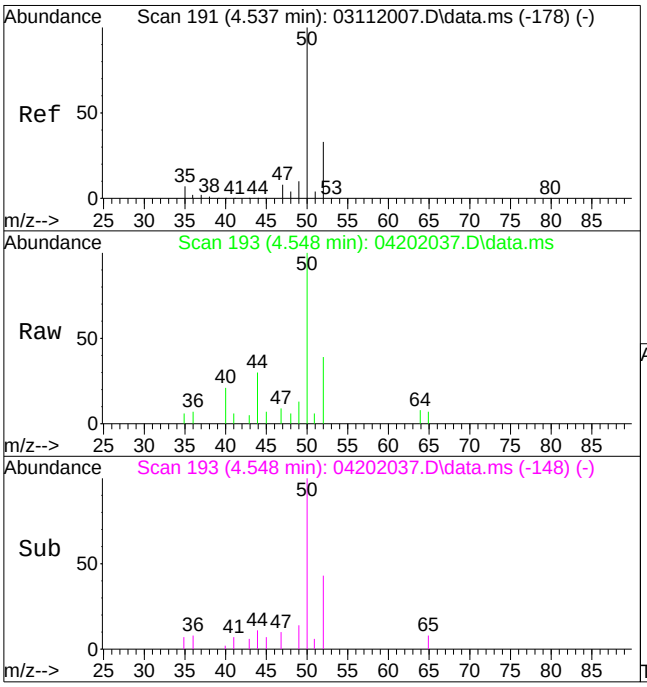


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.27 ng
RT: 4.27 min Scan# 143
Delta R.T. 0.005 min
Lab File: 04202037.D
Acq: 21 Apr 2020 00:07

Tgt Ion: 85 Resp: 18739

Ion	Ratio	Lower	Upper
85	100		
87	31.9	12.3	52.3
101	9.0	0.0	29.0
103	4.9	0.0	25.8

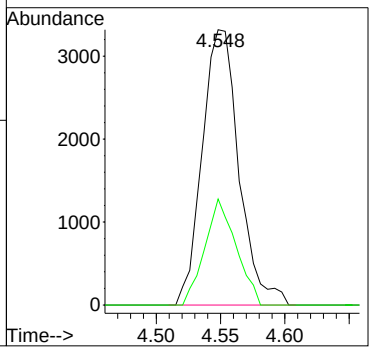


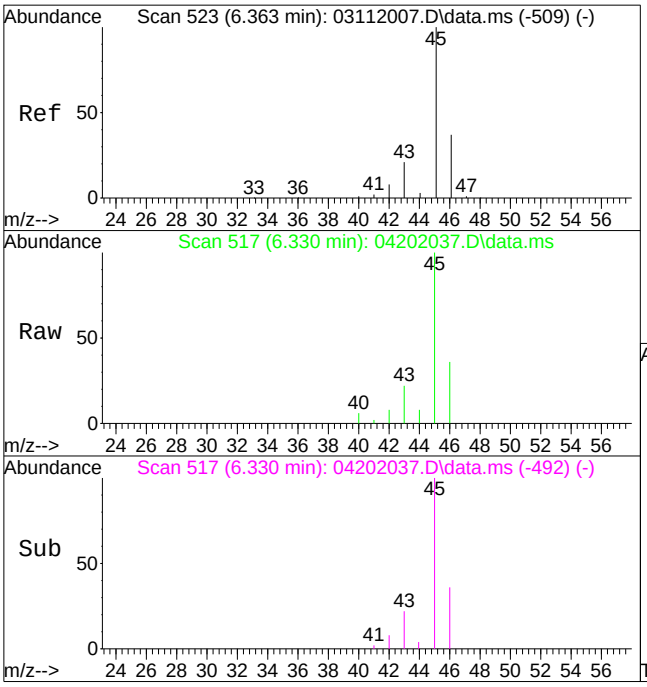


#4
Chloromethane
Concen: 0.12 ng
RT: 4.55 min Scan# 193
Delta R.T. -0.005 min
Lab File: 04202037.D
Acq: 21 Apr 2020 00:07

Tgt Ion: 50 Resp: 6605

Ion	Ratio	Lower	Upper
50	100		
52	32.8	12.8	52.8

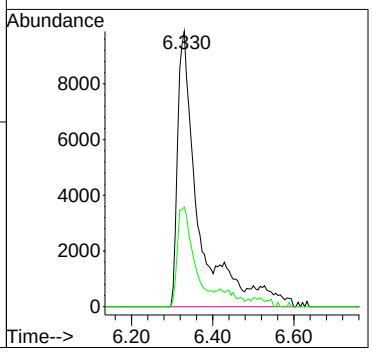


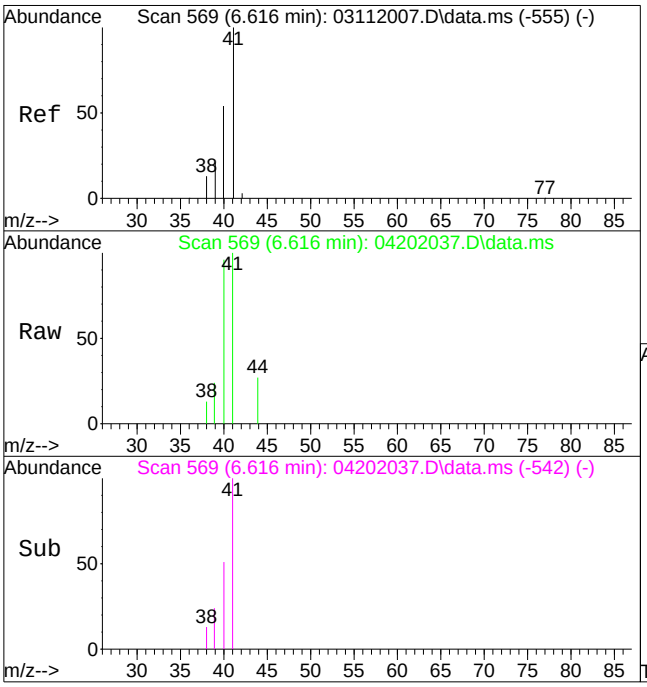


#10
Ethanol
Concen: 1.44 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.110 min
Lab File: 04202037.D
Acq: 21 Apr 2020 00:07

Tgt Ion: 45 Resp: 36057

Ion	Ratio	Lower	Upper
45	100		
46	37.1	17.3	57.3

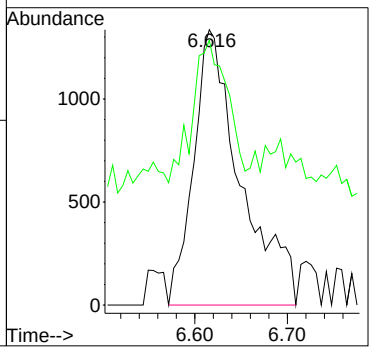


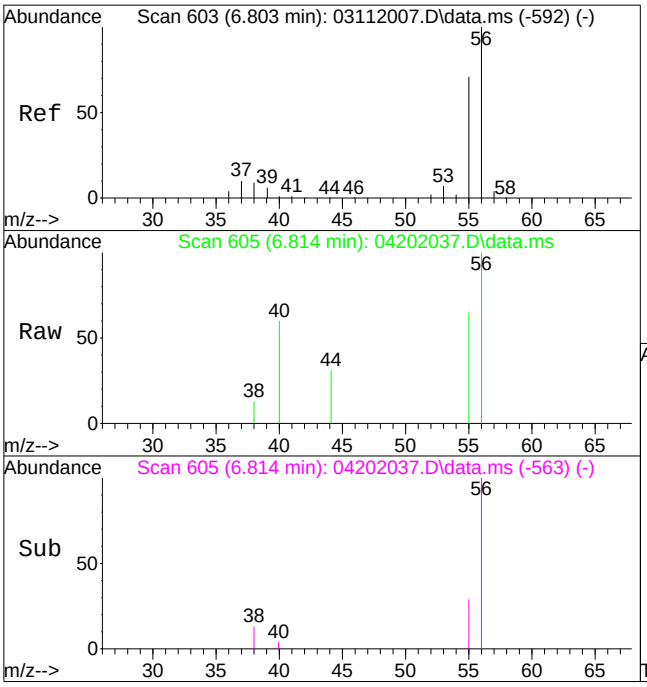


#11
Acetonitrile
Concen: 0.09 ng
RT: 6.62 min Scan# 569
Delta R.T. -0.049 min
Lab File: 04202037.D
Acq: 21 Apr 2020 00:07

Tgt Ion: 41 Resp: 4721

Ion	Ratio	Lower	Upper
41	100		
40	65.8	33.6	73.6

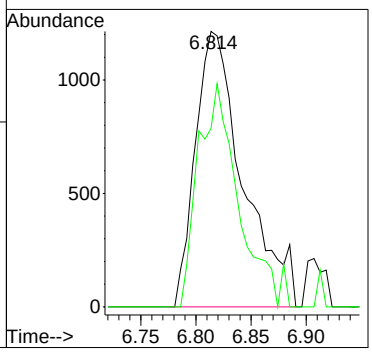


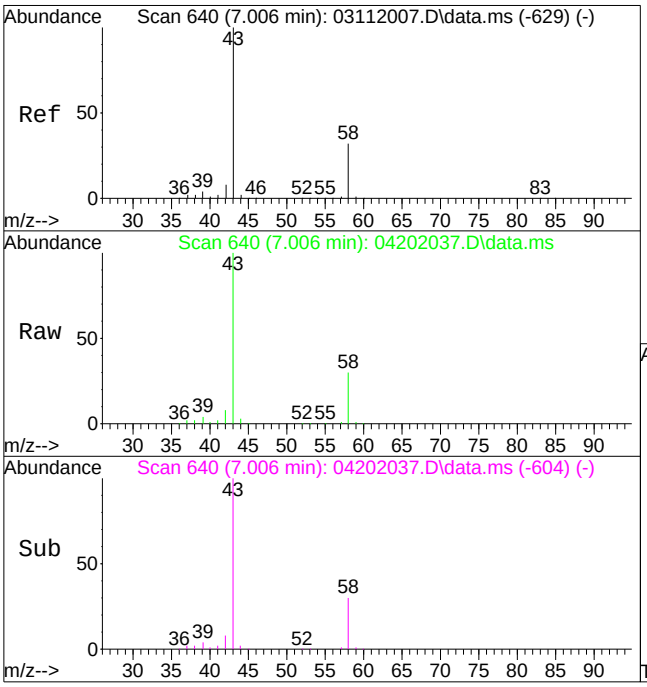


#12
Acrolein
Concen: 0.20 ng
RT: 6.81 min Scan# 605
Delta R.T. -0.016 min
Lab File: 04202037.D
Acq: 21 Apr 2020 00:07

Tgt Ion: 56 Resp: 3660

Ion	Ratio	Lower	Upper
56	100		
55	67.0	50.4	90.4

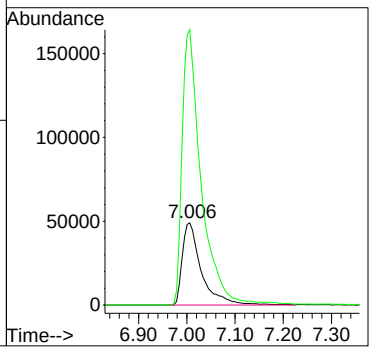


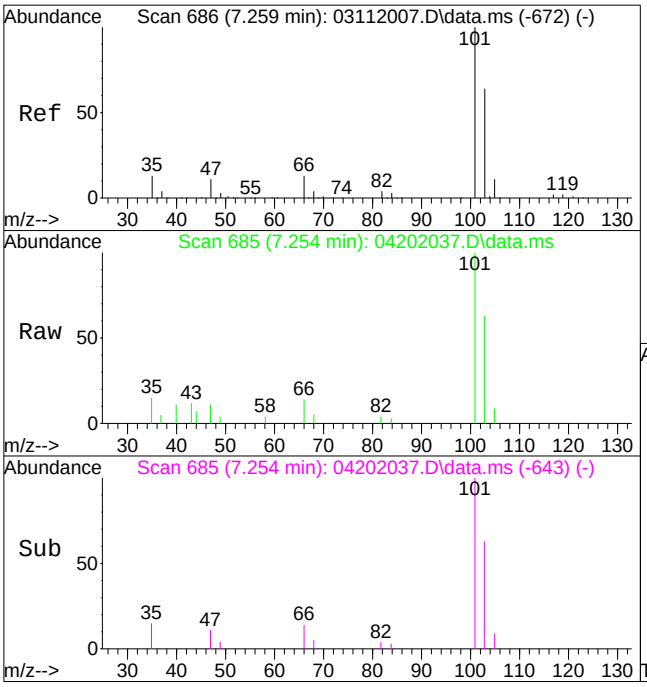


#13
Acetone
Concen: 5.46 ng
RT: 7.01 min Scan# 640
Delta R.T. -0.050 min
Lab File: 04202037.D
Acq: 21 Apr 2020 00:07

Tgt Ion: 58 Resp: 135231

Ion	Ratio	Lower	Upper
58	100		
43	334.9	287.3	347.3

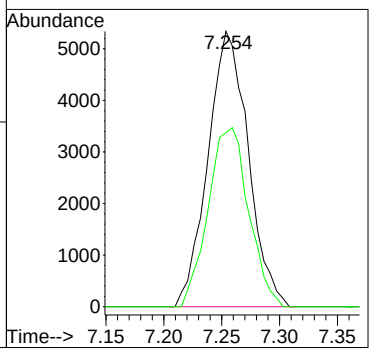


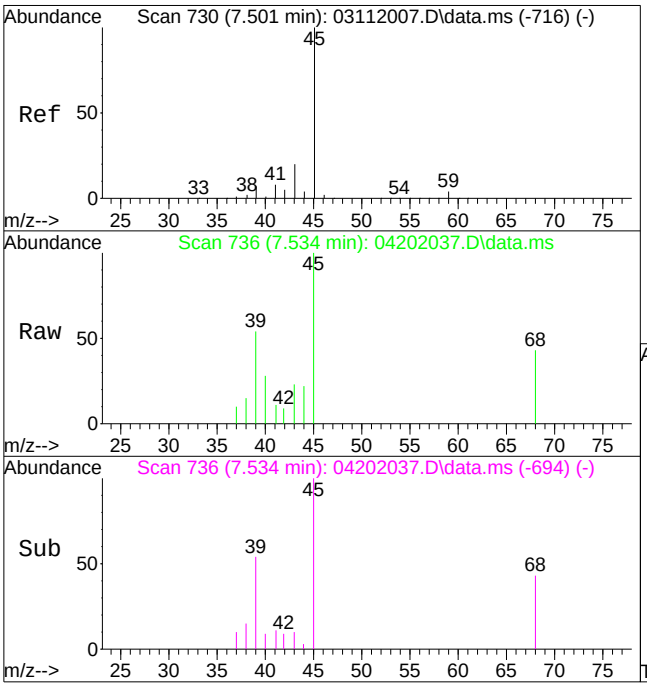


#14
Trichlorofluoromethane
Concen: 0.21 ng
RT: 7.25 min Scan# 685
Delta R.T. -0.021 min
Lab File: 04202037.D
Acq: 21 Apr 2020 00:07

Tgt Ion:101 Resp: 12943

Ion	Ratio	Lower	Upper
101	100		
103	65.3	44.6	84.6

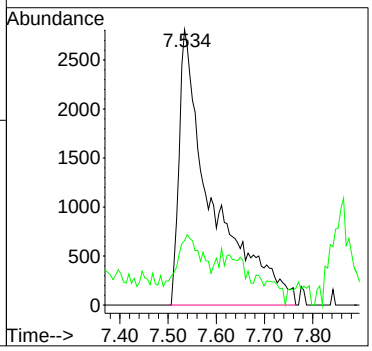


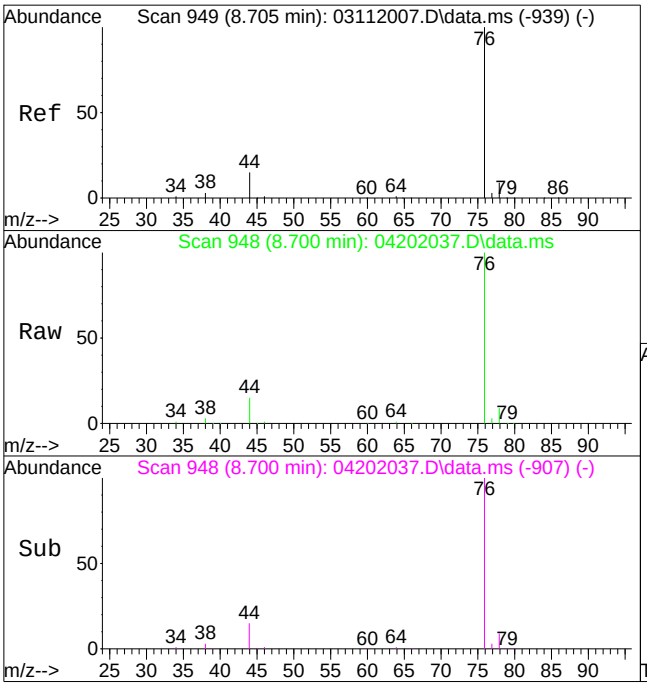


#15
2-Propanol (Isopropanol)
Concen: 0.18 ng
RT: 7.53 min Scan# 736
Delta R.T. -0.016 min
Lab File: 04202037.D
Acq: 21 Apr 2020 00:07

Tgt Ion: 45 Resp: 13357

Ion	Ratio	Lower	Upper
45	100		
43	50.5	0.3	40.3#

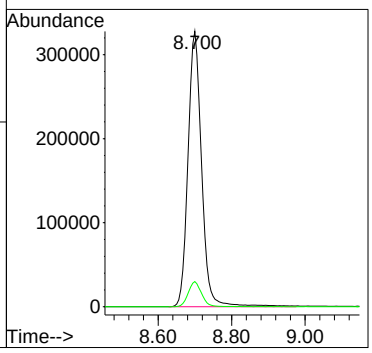


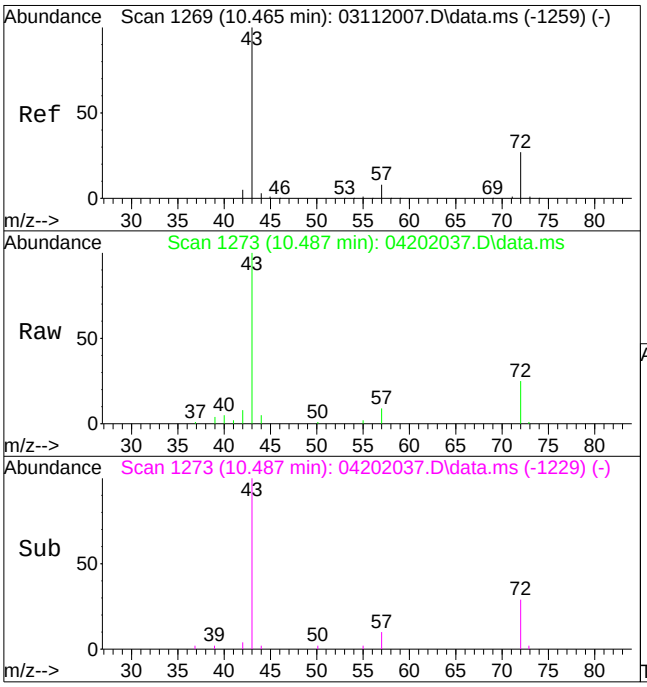


#22
Carbon Disulfide
Concen: 7.30 ng
RT: 8.70 min Scan# 948
Delta R.T. -0.022 min
Lab File: 04202037.D
Acq: 21 Apr 2020 00:07

Tgt Ion: 76 Resp: 845665

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	29.2

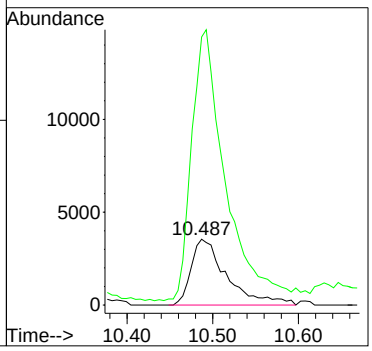


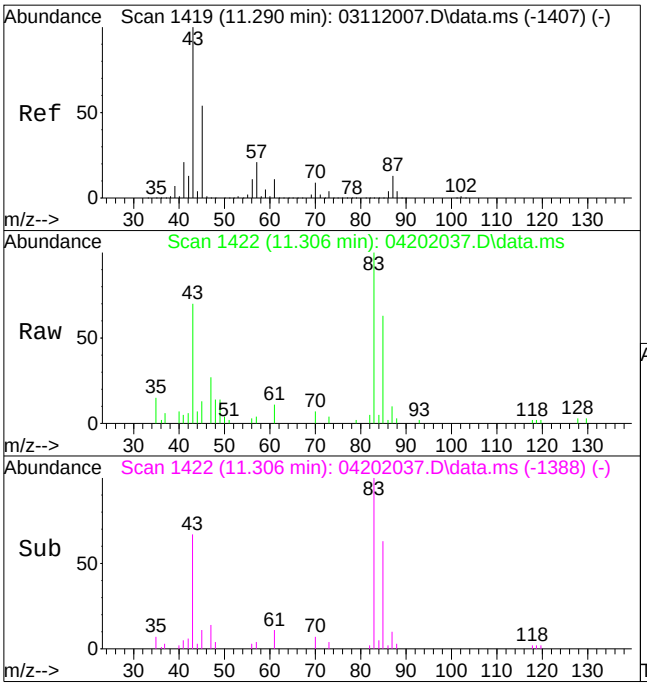


#27
2-Butanone (MEK)
Concen: 0.50 ng
RT: 10.49 min Scan# 1273
Delta R.T. -0.005 min
Lab File: 04202037.D
Acq: 21 Apr 2020 00:07

Tgt Ion: 72 Resp: 10262

Ion	Ratio	Lower	Upper
72	100		
43	393.1	353.4	393.4

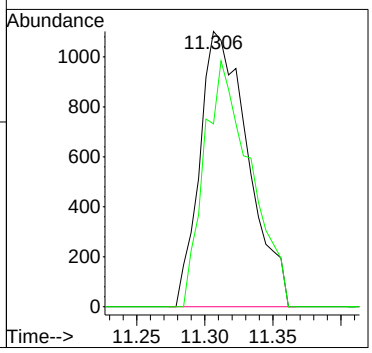


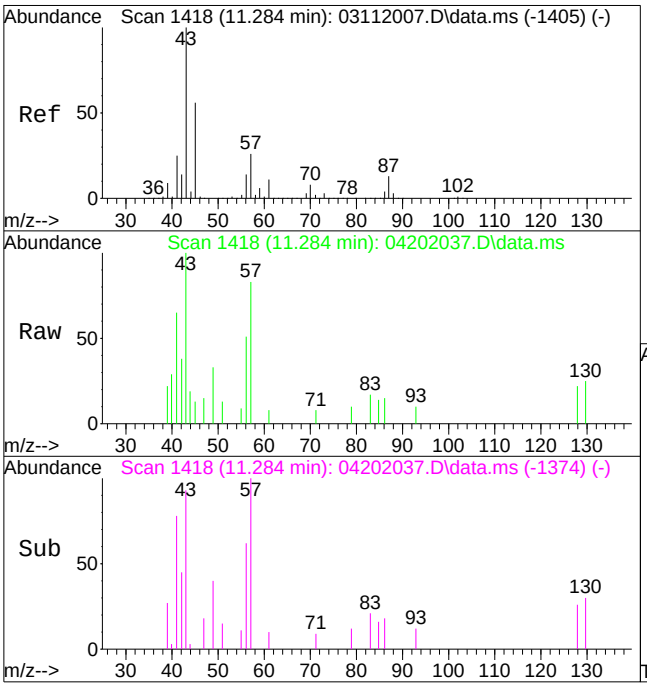


#30
Ethyl Acetate
Concen: 0.22 ng
RT: 11.31 min Scan# 1422
Delta R.T. -0.011 min
Lab File: 04202037.D
Acq: 21 Apr 2020 00:07

Tgt Ion: 61 Resp: 2718

Ion	Ratio	Lower	Upper
61	100		
70	85.3	59.1	99.1

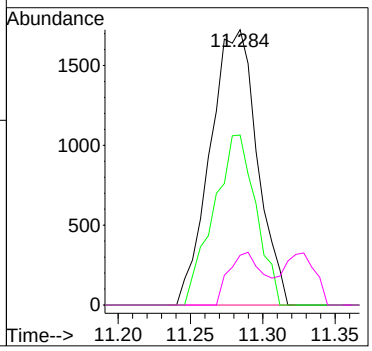


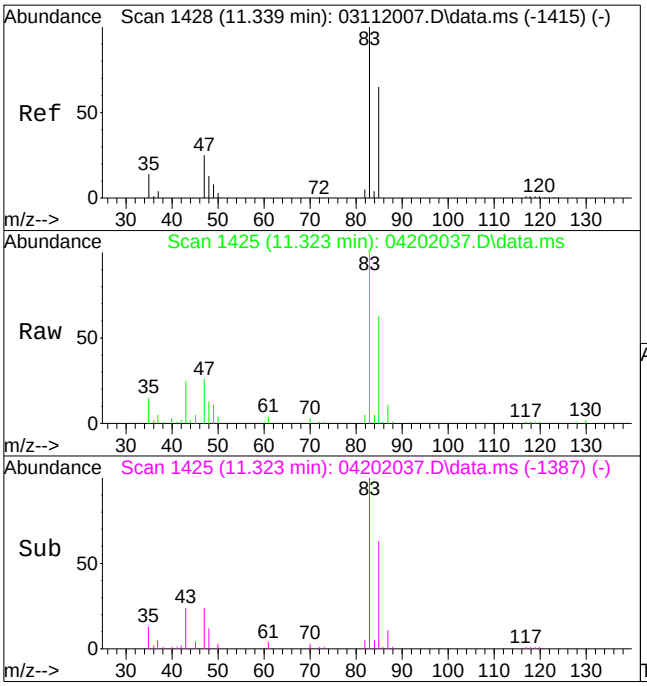


#31
n-Hexane
Concen: 0.07 ng
RT: 11.28 min Scan# 1418
Delta R.T. -0.005 min
Lab File: 04202037.D
Acq: 21 Apr 2020 00:07

Tgt Ion: 57 Resp: 3907

Ion	Ratio	Lower	Upper
57	100		
56	55.6	41.0	61.4
86	14.1	13.9	20.9

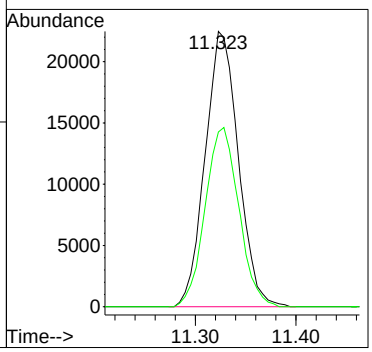


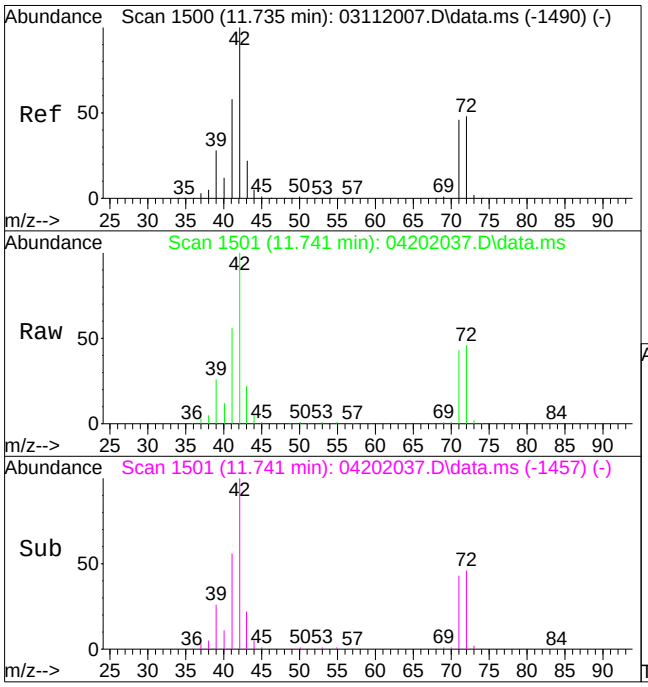


#32
Chloroform
Concen: 0.86 ng
RT: 11.32 min Scan# 1425
Delta R.T. -0.038 min
Lab File: 04202037.D
Acq: 21 Apr 2020 00:07

Tgt Ion: 83 Resp: 51491

Ion	Ratio	Lower	Upper
83	100		
85	65.9	45.5	85.5

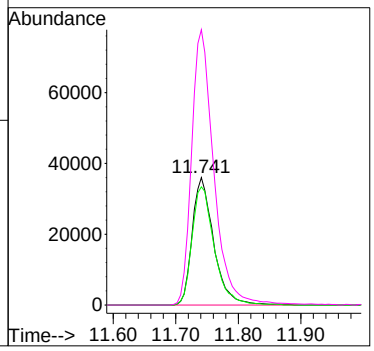


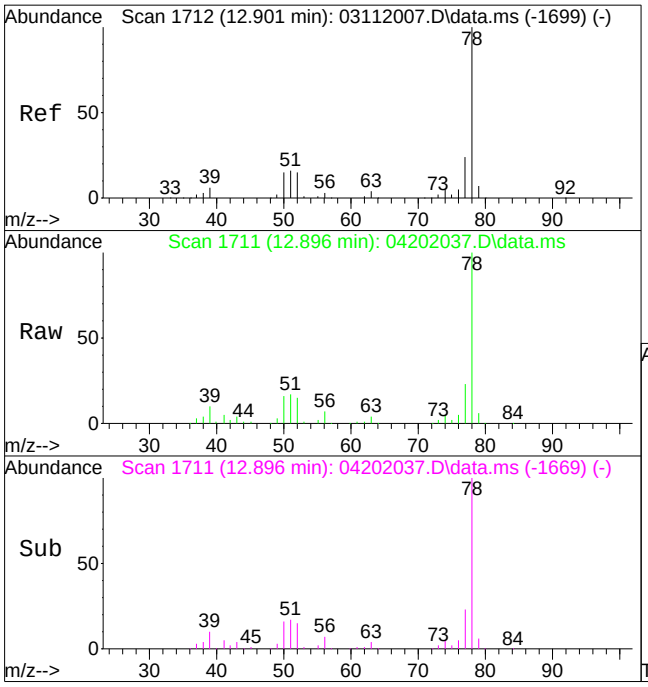


#34
Tetrahydrofuran (THF)
Concen: 4.06 ng
RT: 11.74 min Scan# 1501
Delta R.T. -0.005 min
Lab File: 04202037.D
Acq: 21 Apr 2020 00:07

Tgt Ion: 72 Resp: 86045

Ion	Ratio	Lower	Upper
72	100		
71	95.8	75.9	115.9
42	223.2	189.3	229.3

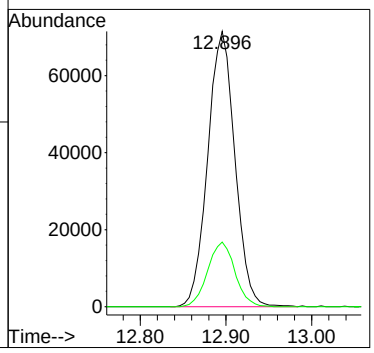


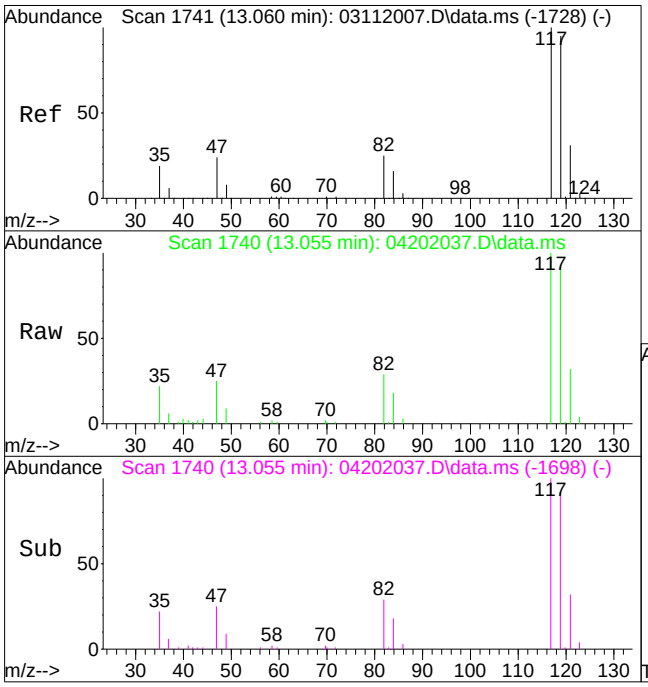


#41
Benzene
Concen: 1.12 ng
RT: 12.90 min Scan# 1711
Delta R.T. -0.016 min
Lab File: 04202037.D
Acq: 21 Apr 2020 00:07

Tgt Ion: 78 Resp: 157660

Ion	Ratio	Lower	Upper
78	100		
77	23.6	3.4	43.4

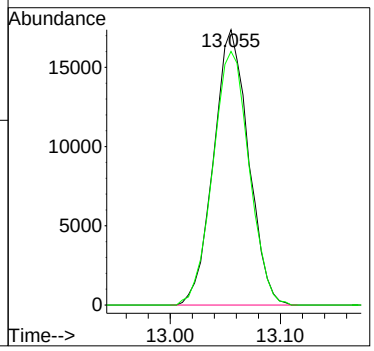


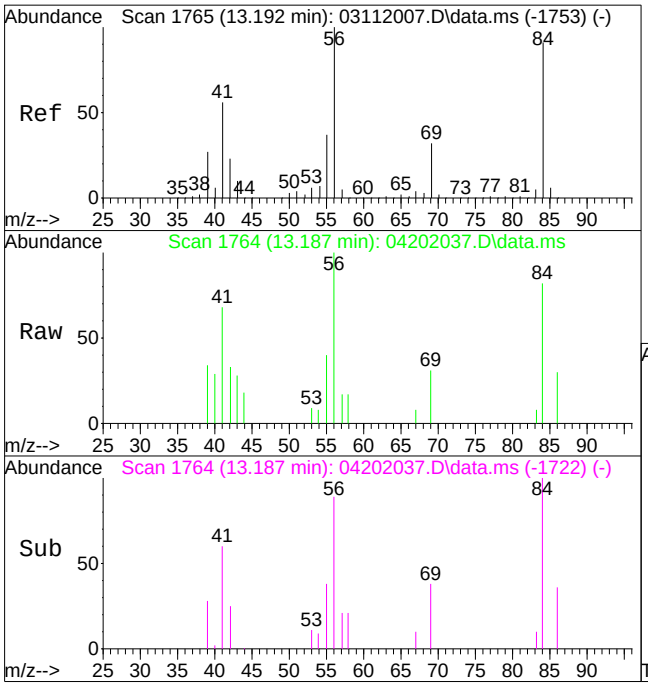


#42
Carbon Tetrachloride
Concen: 0.79 ng
RT: 13.06 min Scan# 1740
Delta R.T. -0.016 min
Lab File: 04202037.D
Acq: 21 Apr 2020 00:07

Tgt Ion:117 Resp: 38260

Ion	Ratio	Lower	Upper
117	100		
119	95.9	75.4	115.4

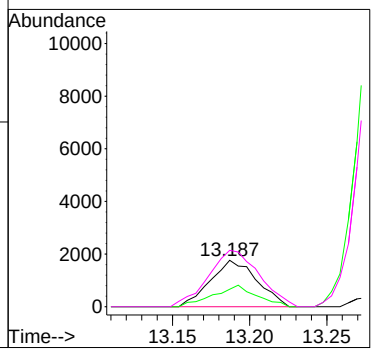


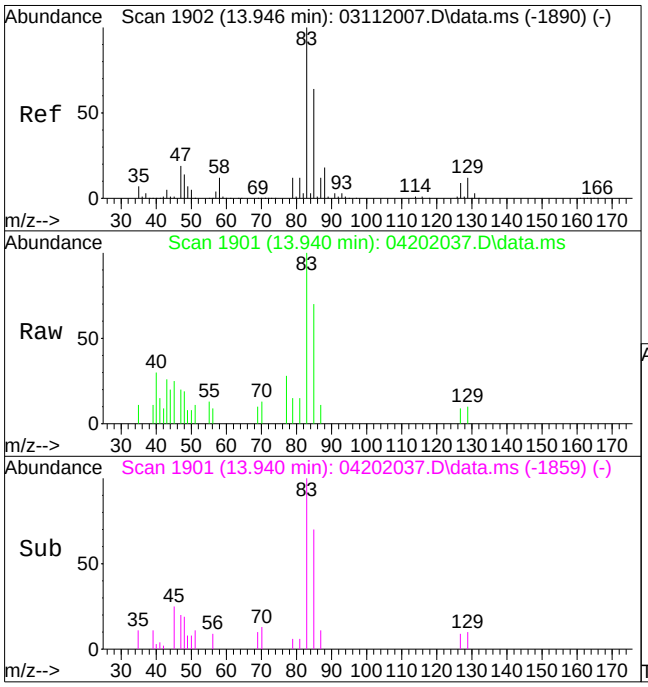


#43
Cyclohexane
Concen: 0.07 ng
RT: 13.19 min Scan# 1764
Delta R.T. -0.016 min
Lab File: 04202037.D
Acq: 21 Apr 2020 00:07

Tgt Ion: 84 Resp: 3721

Ion	Ratio	Lower	Upper
84	100		
69	42.4	15.3	55.3
56	131.9	90.5	130.5#

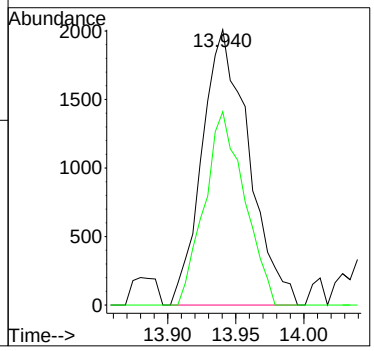


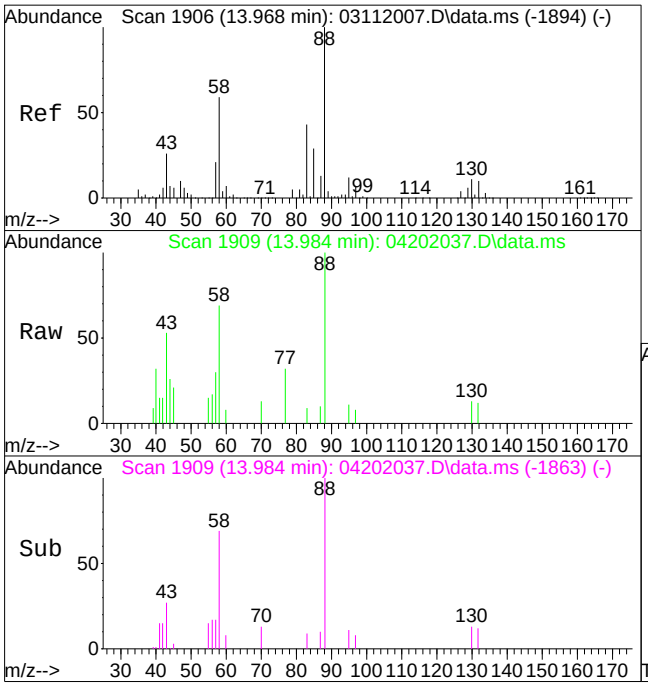


#46
Bromodichloromethane
Concen: 0.10 ng
RT: 13.94 min Scan# 1901
Delta R.T. -0.016 min
Lab File: 04202037.D
Acq: 21 Apr 2020 00:07

Tgt Ion: 83 Resp: 4791

Ion	Ratio	Lower	Upper
83	100		
85	60.0	44.0	84.0

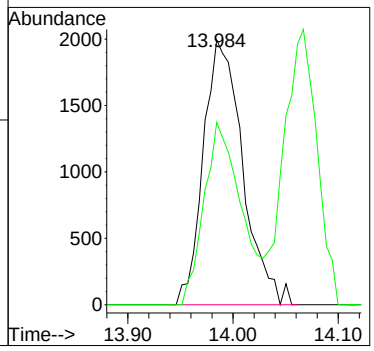


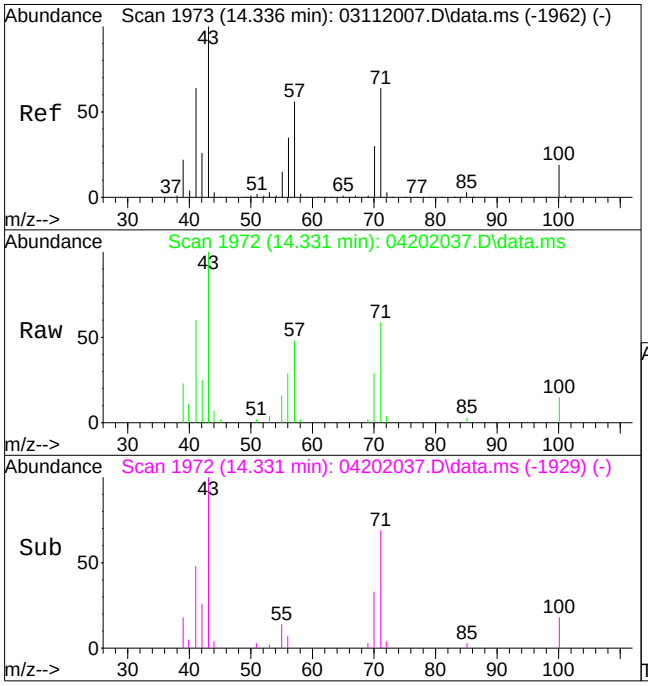


#48
1,4-Dioxane
Concen: 0.19 ng
RT: 13.98 min Scan# 1909
Delta R.T. 0.006 min
Lab File: 04202037.D
Acq: 21 Apr 2020 00:07

Tgt Ion: 88 Resp: 5191

Ion	Ratio	Lower	Upper
88	100		
58	65.1	39.5	79.5

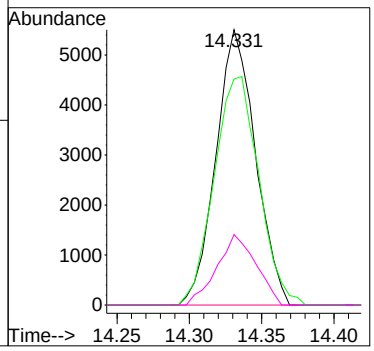


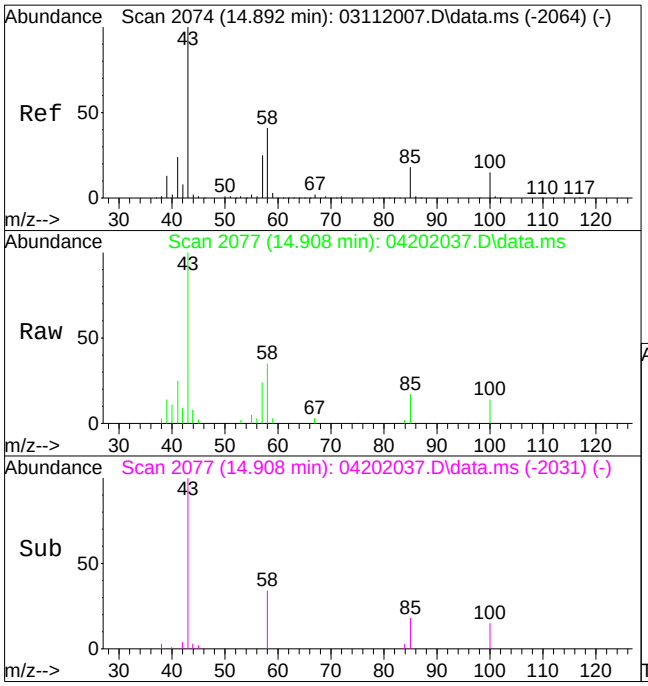


#51
n-Heptane
Concen: 0.32 ng
RT: 14.33 min Scan# 1972
Delta R.T. -0.011 min
Lab File: 04202037.D
Acq: 21 Apr 2020 00:07

Tgt Ion: 71 Resp: 10500

Ion	Ratio	Lower	Upper
71	100		
57	93.6	68.6	108.6
100	25.2	9.1	49.1

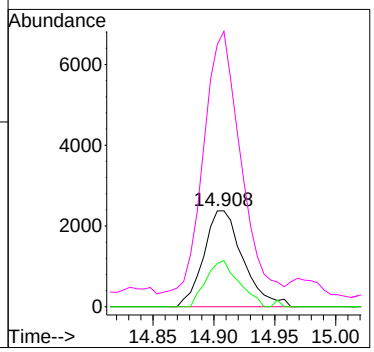


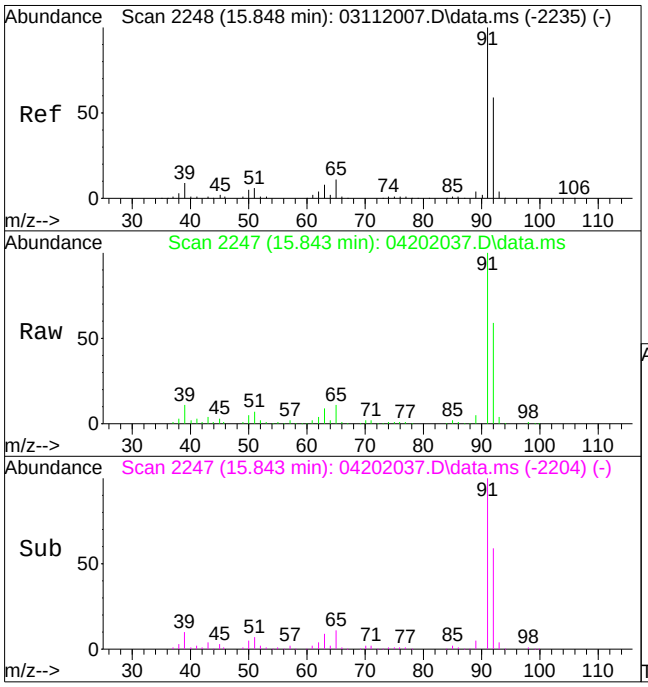


#53
4-Methyl-2-pentanone
Concen: 0.18 ng
RT: 14.91 min Scan# 2077
Delta R.T. 0.006 min
Lab File: 04202037.D
Acq: 21 Apr 2020 00:07

Tgt Ion: 58 Resp: 5315

Ion	Ratio	Lower	Upper
58	100		
85	40.2	37.0	55.4
43	268.3	196.3	294.5

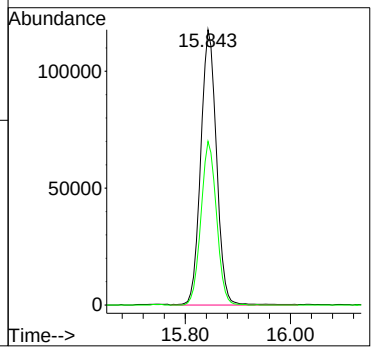


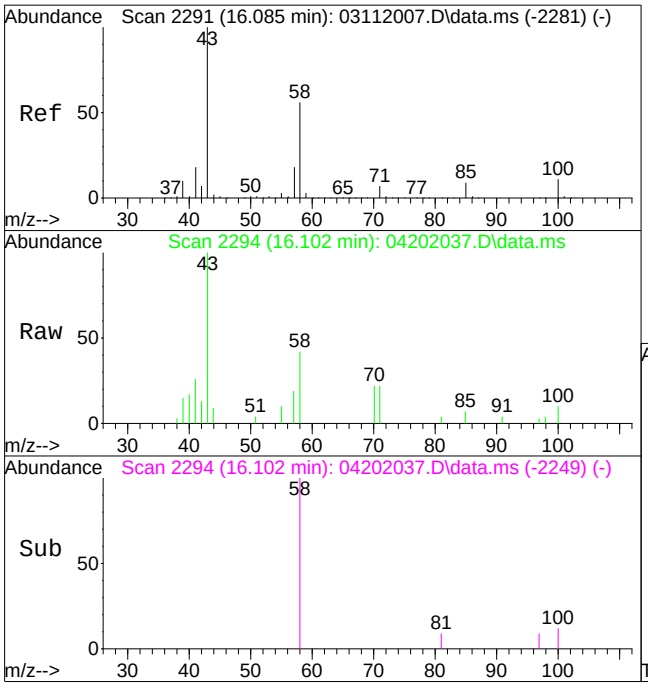


#58
Toluene
Concen: 1.72 ng
RT: 15.84 min Scan# 2247
Delta R.T. -0.011 min
Lab File: 04202037.D
Acq: 21 Apr 2020 00:07

Tgt Ion: 91 Resp: 245306

Ion	Ratio	Lower	Upper
91	100		
92	58.5	39.0	79.0

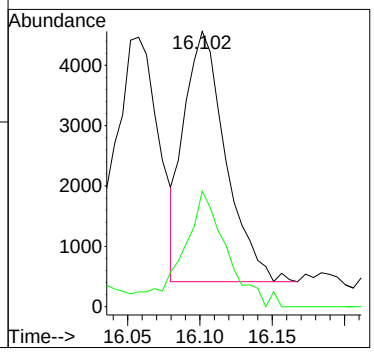


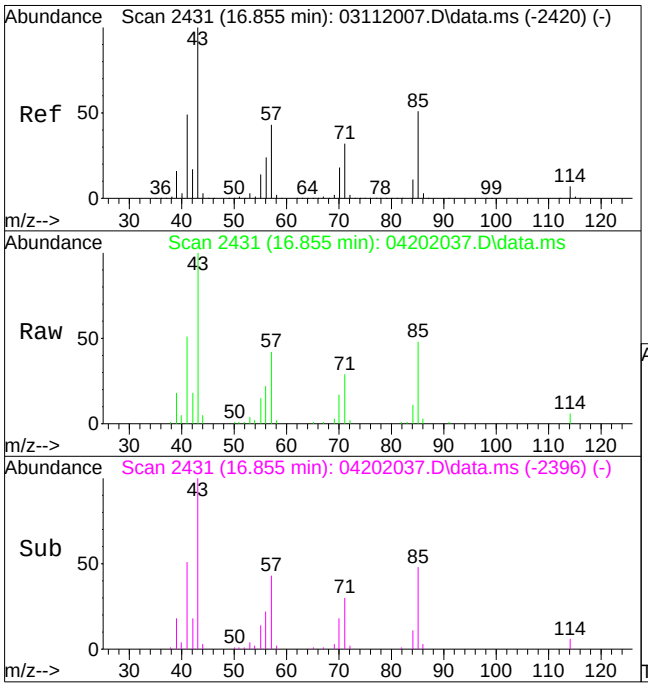


#59
2-Hexanone
Concen: 0.12 ng
RT: 16.10 min Scan# 2294
Delta R.T. 0.000 min
Lab File: 04202037.D
Acq: 21 Apr 2020 00:07

Tgt Ion: 43 Resp: 8314

Ion	Ratio	Lower	Upper
43	100		
58	47.5	36.5	76.5

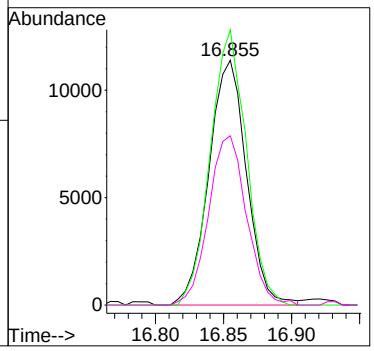


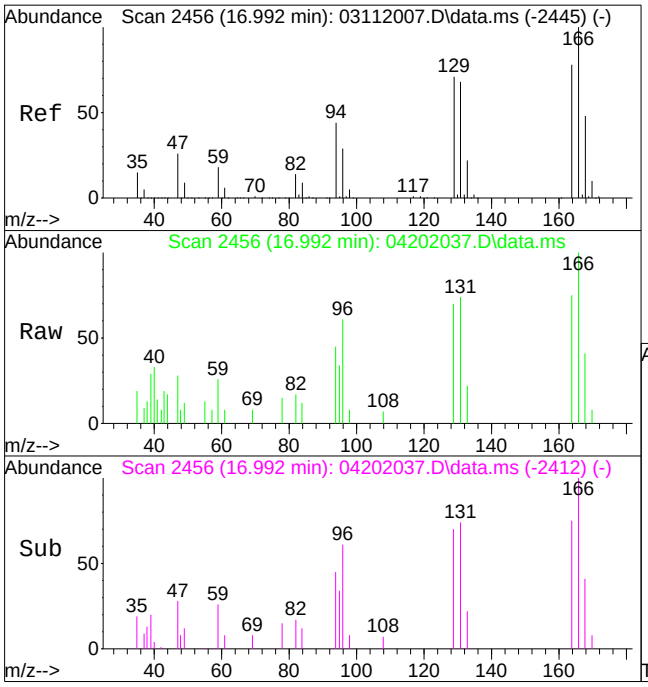


#63
n-Octane
Concen: 0.77 ng
RT: 16.85 min Scan# 2431
Delta R.T. -0.005 min
Lab File: 04202037.D
Acq: 21 Apr 2020 00:07

Tgt Ion: 57 Resp: 21950

Ion	Ratio	Lower	Upper
57	100		
85	107.3	95.1	142.7
71	69.3	58.2	87.4

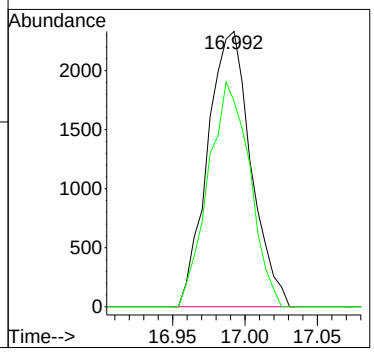


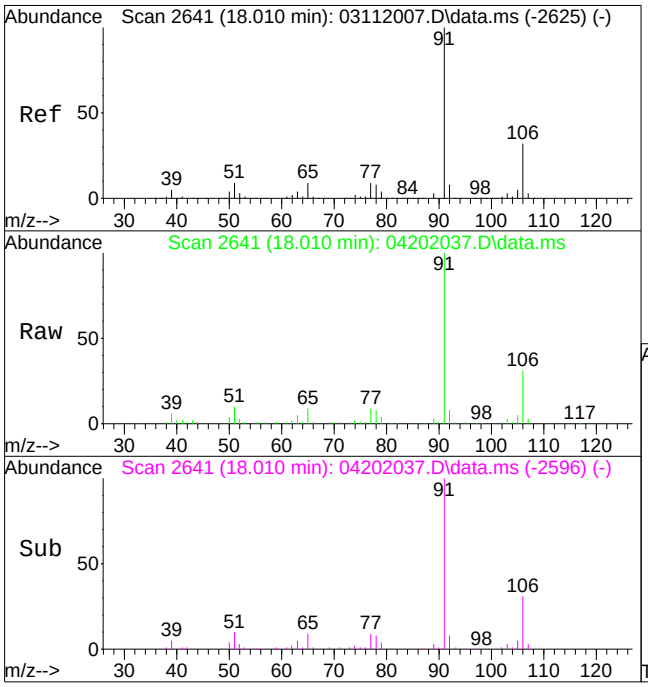


#64
Tetrachloroethene
Concen: 0.12 ng
RT: 16.99 min Scan# 2456
Delta R.T. -0.005 min
Lab File: 04202037.D
Acq: 21 Apr 2020 00:07

Tgt Ion:166 Resp: 4860

Ion	Ratio	Lower	Upper
166	100		
164	78.5	58.6	98.6

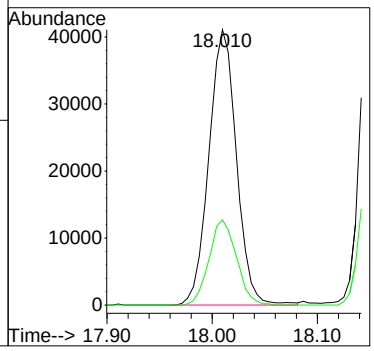


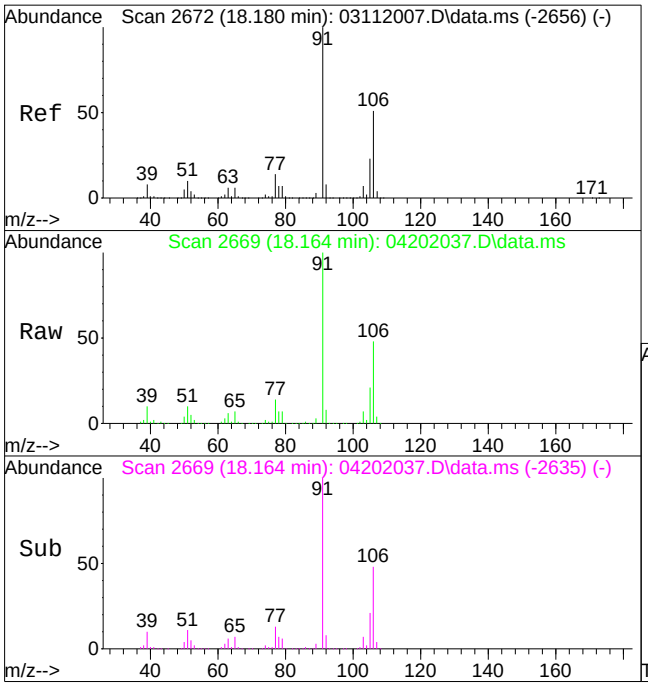


#66
Ethylbenzene
Concen: 0.48 ng
RT: 18.01 min Scan# 2641
Delta R.T. 0.000 min
Lab File: 04202037.D
Acq: 21 Apr 2020 00:07

Tgt Ion: 91 Resp: 74768

Ion	Ratio	Lower	Upper
91	100		
106	30.7	11.7	51.7

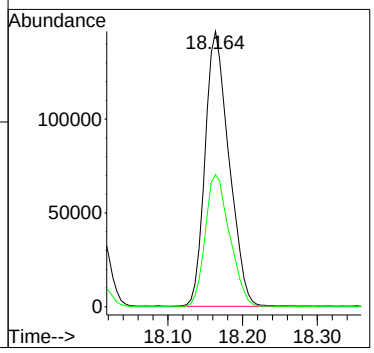


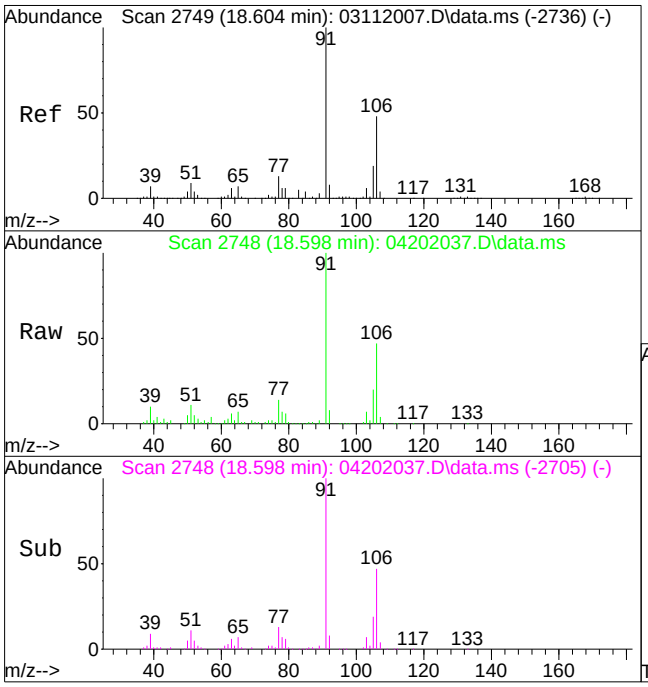


#67
m- & p-Xylenes
Concen: 2.55 ng
RT: 18.16 min Scan# 2669
Delta R.T. -0.011 min
Lab File: 04202037.D
Acq: 21 Apr 2020 00:07

Tgt Ion: 91 Resp: 325608

Ion	Ratio	Lower	Upper
91	100		
106	49.5	30.4	70.4

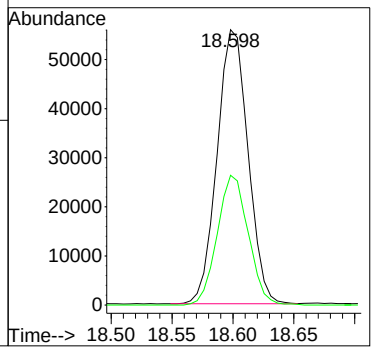


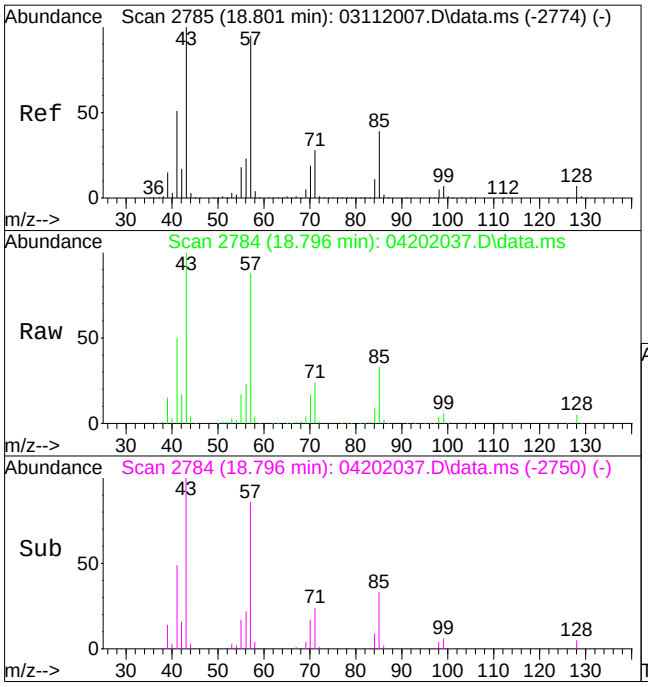


#70
o-Xylene
Concen: 0.77 ng
RT: 18.60 min Scan# 2748
Delta R.T. -0.011 min
Lab File: 04202037.D
Acq: 21 Apr 2020 00:07

Tgt Ion: 91 Resp: 98615

Ion	Ratio	Lower	Upper
91	100		
106	47.4	28.1	68.1

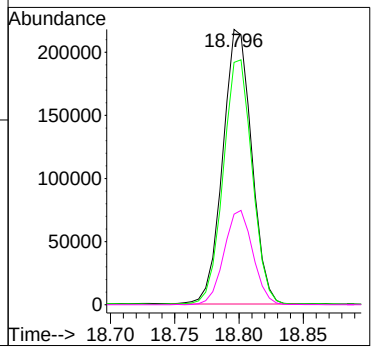


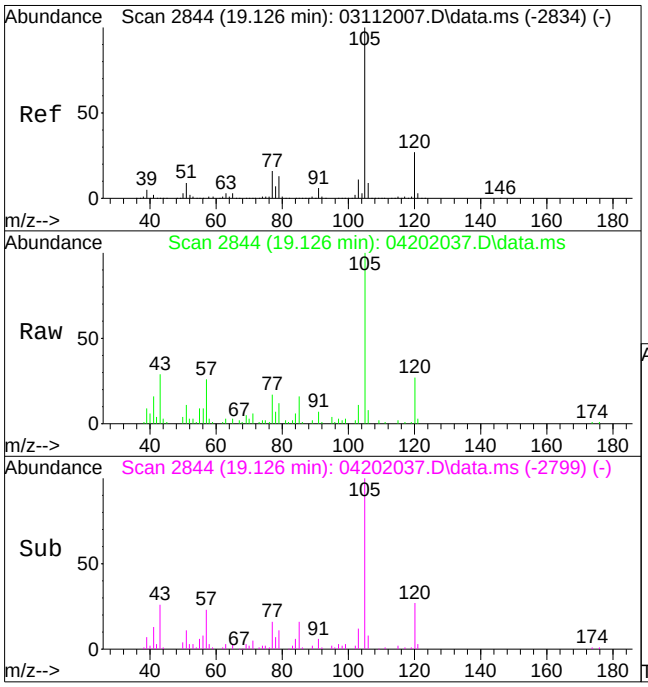


#71
n-Nonane
Concen: 5.35 ng
RT: 18.80 min Scan# 2784
Delta R.T. -0.011 min
Lab File: 04202037.D
Acq: 21 Apr 2020 00:07

Tgt Ion: 43 Resp: 340992

Ion	Ratio	Lower	Upper
43	100		
57	89.1	73.6	113.6
85	34.3	18.7	58.7

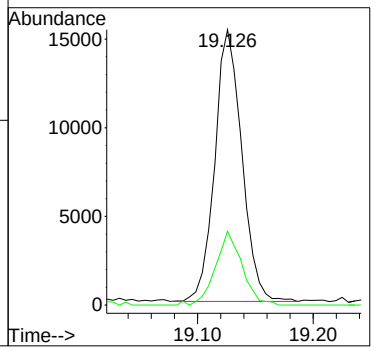


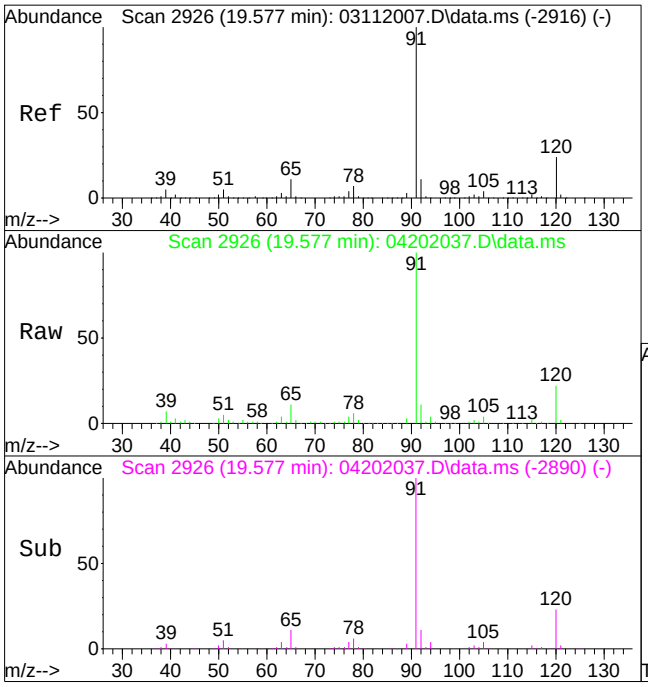


#74
Cumene
Concen: 0.15 ng
RT: 19.13 min Scan# 2844
Delta R.T. -0.000 min
Lab File: 04202037.D
Acq: 21 Apr 2020 00:07

Tgt Ion:105 Resp: 24980

Ion	Ratio	Lower	Upper
105	100		
120	26.6	7.2	47.2

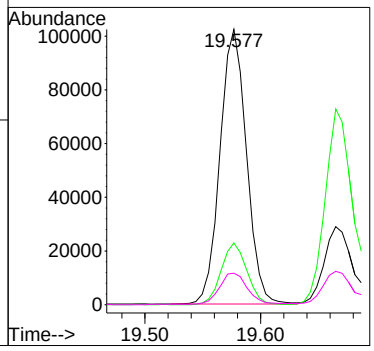


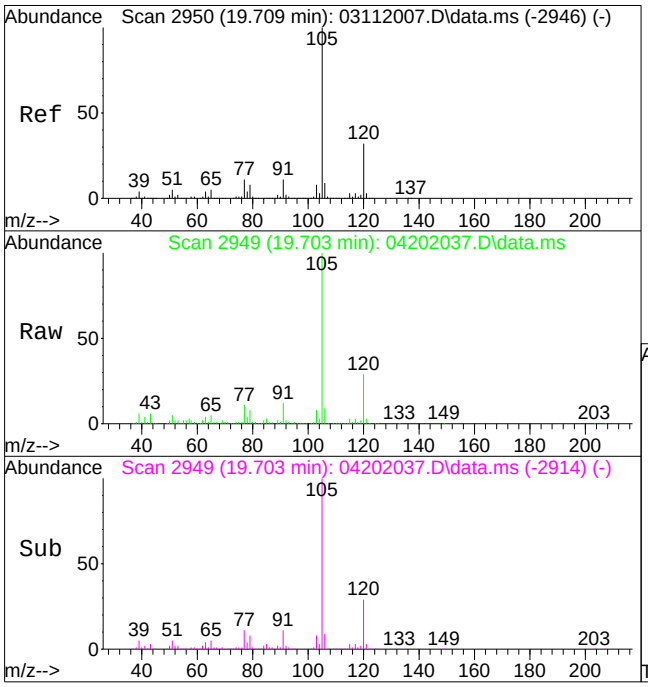


#76
n-Propylbenzene
Concen: 0.87 ng
RT: 19.58 min Scan# 2926
Delta R.T. -0.000 min
Lab File: 04202037.D
Acq: 21 Apr 2020 00:07

Tgt Ion: 91 Resp: 163104

Ion	Ratio	Lower	Upper
91	100		
120	21.9	3.9	43.9
65	12.1	0.0	30.5

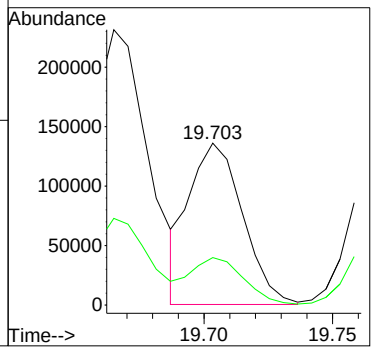


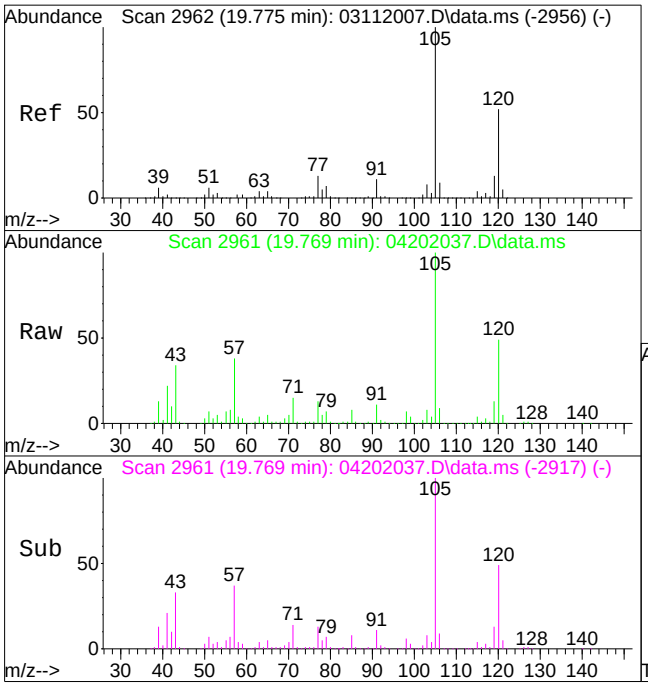


#78
4-Ethyltoluene
Concen: 1.29 ng
RT: 19.70 min Scan# 2949
Delta R.T. -0.006 min
Lab File: 04202037.D
Acq: 21 Apr 2020 00:07

Tgt Ion:105 Resp: 197254

Ion	Ratio	Lower	Upper
105	100		
120	29.7	11.1	51.1

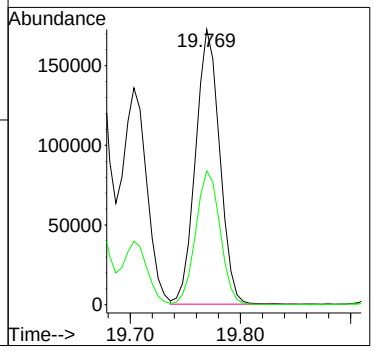


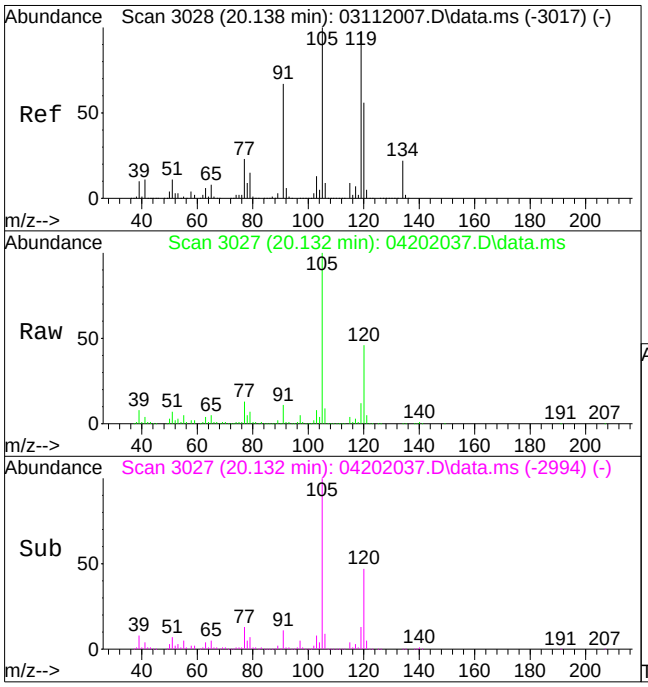


#79
1,3,5-Trimethylbenzene
Concen: 1.92 ng
RT: 19.77 min Scan# 2961
Delta R.T. -0.006 min
Lab File: 04202037.D
Acq: 21 Apr 2020 00:07

Tgt Ion:105 Resp: 261758

Ion	Ratio	Lower	Upper
105	100		
120	49.5	31.3	71.3

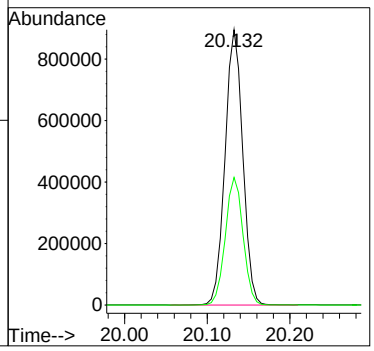


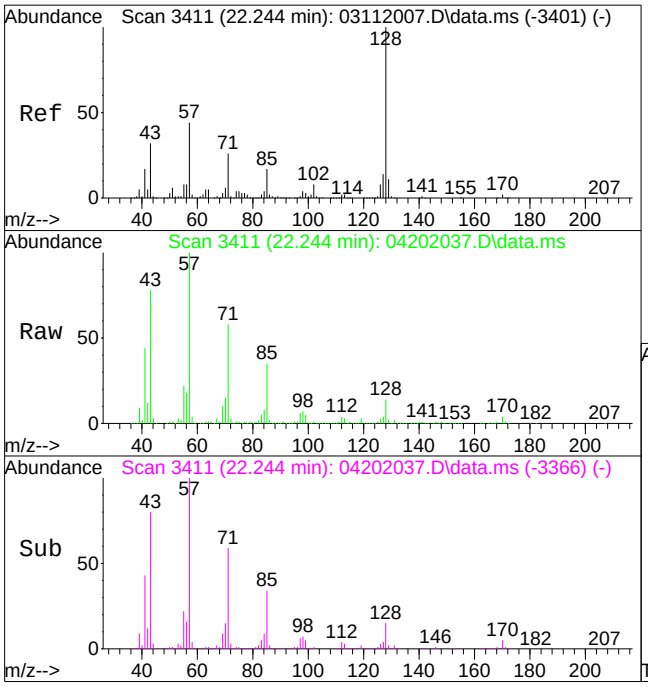


#82
1,2,4-Trimethylbenzene
Concen: 9.45 ng
RT: 20.13 min Scan# 3027
Delta R.T. -0.017 min
Lab File: 04202037.D
Acq: 21 Apr 2020 00:07

Tgt Ion:105 Resp: 1334402

Ion	Ratio	Lower	Upper
105	100		
120	46.5	35.8	75.8

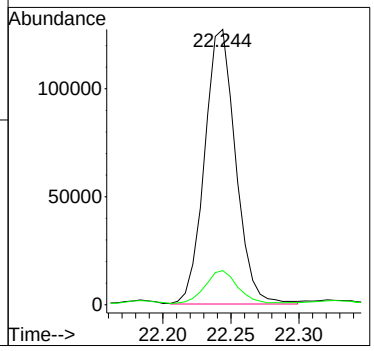




#95
Naphthalene
Concen: 1.28 ng
RT: 22.24 min Scan# 3411
Delta R.T. -0.005 min
Lab File: 04202037.D
Acq: 21 Apr 2020 00:07

Tgt Ion:128 Resp: 201893

Ion	Ratio	Lower	Upper
128	100		
129	14.2	0.0	31.1



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202038.D Vial: 6
Acq On : 21 Apr 2020 00:41 Operator: LH
Sample : P2002031-003 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 16:39:35 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/22/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	316653	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1410591	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	674058	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.01	65	545807	12.448	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.60%				
57) Toluene-d8 (SS2)	15.74	98	1439638	12.049	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.40%				
73) Bromofluorobenzene (SS3)	19.00	174	492367	11.670	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.36%				
Target Compounds							Qvalue
2) Propene	4.13	42	4917	0.148	ng	#	85
3) Dichlorodifluoromethan...	4.27	85	20496	0.287	ng		99
4) Chloromethane	4.55	50	4282	0.076	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	338	N.D.			
6) Vinyl Chloride	4.96	62	589	N.D.			
7) 1,3-Butadiene	5.23	54	103	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.99	64	316	N.D.			
10) Ethanol	6.33	45	19285	0.735	ng		99
11) Acetonitrile	6.62	41	2708	N.D.			
12) Acrolein	6.81	56	1957	0.101	ng		100
13) Acetone	7.01	58	107375	4.145	ng		88
14) Trichlorofluoromethane	7.25	101	14226	0.226	ng		99
15) 2-Propanol (Isopropanol)	7.54	45	9192	0.120	ng	#	47
16) Acrylonitrile	7.81	53	63	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.42	84	563	N.D.			
20) 3-Chloro-1-propene (Al...	8.49	41	537	N.D.			
21) Trichlorotrifluoroethane	8.87	151	1048	N.D.			
22) Carbon Disulfide	8.70	76	242337	1.999	ng		98
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.10	73	558	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.50	72	5546	0.257	ng	#	90
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.31	61	2830	0.222	ng		96
31) n-Hexane	11.27	57	3274	0.055	ng		98
32) Chloroform	11.32	83	44184	0.703	ng		97
34) Tetrahydrofuran (THF)	11.75	72	31639	1.426	ng		91
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.90	78	14573	0.100	ng		99
42) Carbon Tetrachloride	13.06	117	40858	0.816	ng		100
43) Cyclohexane	13.19	84	1119	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	13.59	63	114	N.D.			
46) Bromodichloromethane	13.94	83	2768	0.056	ng		86
47) Trichloroethene	14.00	130	315	N.D.			
48) 1,4-Dioxane	14.00	88	959	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202038.D Vial: 6
Acq On : 21 Apr 2020 00:41 Operator: LH
Sample : P2002031-003 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 16:39:35 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

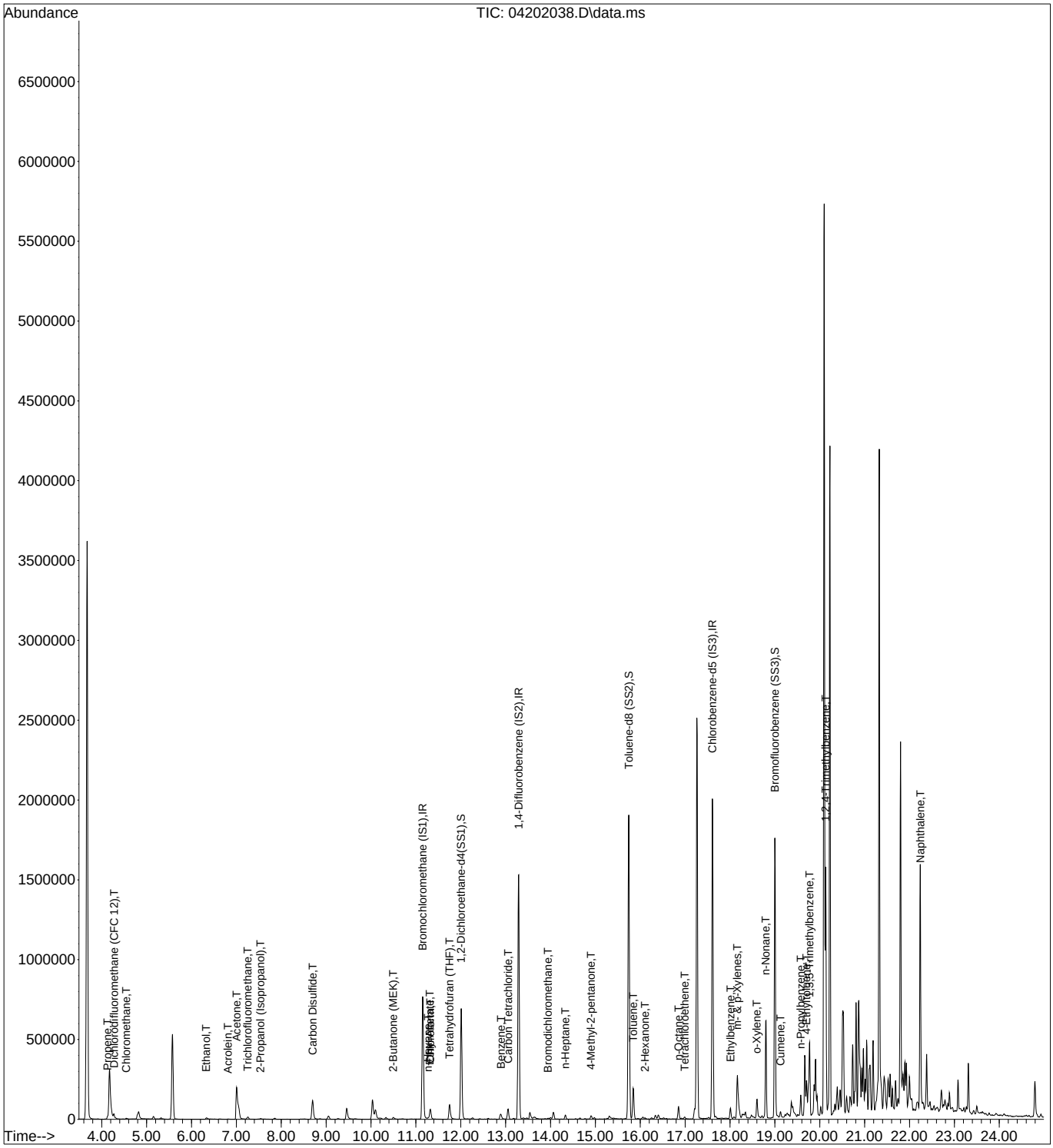
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.33	71	6716	0.197 ng	93
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.90	58	7008	0.229 ng	79
54) trans-1,3-Dichloropropene	15.40	75	510	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.84	91	159189	1.078 ng	99
59) 2-Hexanone	16.11	43	5246	0.071 ng	81
60) Dibromochloromethane	16.24	129	428	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.73	43	1002	N.D.	
63) n-Octane	16.85	57	16064	0.548 ng	93
64) Tetrachloroethene	16.99	166	3684	0.089 ng	99
65) Chlorobenzene	17.64	112	109	N.D.	
66) Ethylbenzene	18.01	91	51450	0.317 ng	98
67) m- & p-Xylenes	18.16	91	207172	1.572 ng	99
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.51	104	1138	N.D.	
70) o-Xylene	18.60	91	63095	0.479 ng	99
71) n-Nonane	18.80	43	220145	3.341 ng	94
72) 1,1,2,2-Tetrachloroethane	18.58	83	409	N.D.	
74) Cumene	19.13	105	16341	0.098 ng	95
75) alpha-Pinene	19.48	93	581	N.D.	
76) n-Propylbenzene	19.58	91	101531	0.522 ng	96
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.70	105	118593	0.749 ng	97
79) 1,3,5-Trimethylbenzene	19.77	105	147665	1.048 ng	98
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.13	105	776805	5.322 ng	88
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.23	91	1995	N.D.	
85) 1,3-Dichlorobenzene	20.26	146	539	N.D.	
86) 1,4-Dichlorobenzene	20.33	146	707	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	20.62	146	469	N.D.	
91) d-Limonene	20.63	68	990	N.D.	
92) 1,2-Dibromo-3-Chloropr...	20.90	157	108	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.14	180	621	N.D.	
95) Naphthalene	22.24	128	74041	0.454 ng	96
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202038.D Vial: 6
Acq On : 21 Apr 2020 00:41 Operator: LH
Sample : P2002031-003 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 16:39:35 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202038.D Vial: 6
Acq On : 21 Apr 2020 00:41 Operator: LH
Sample : P2002031-003 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 16:39:35 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/22/20

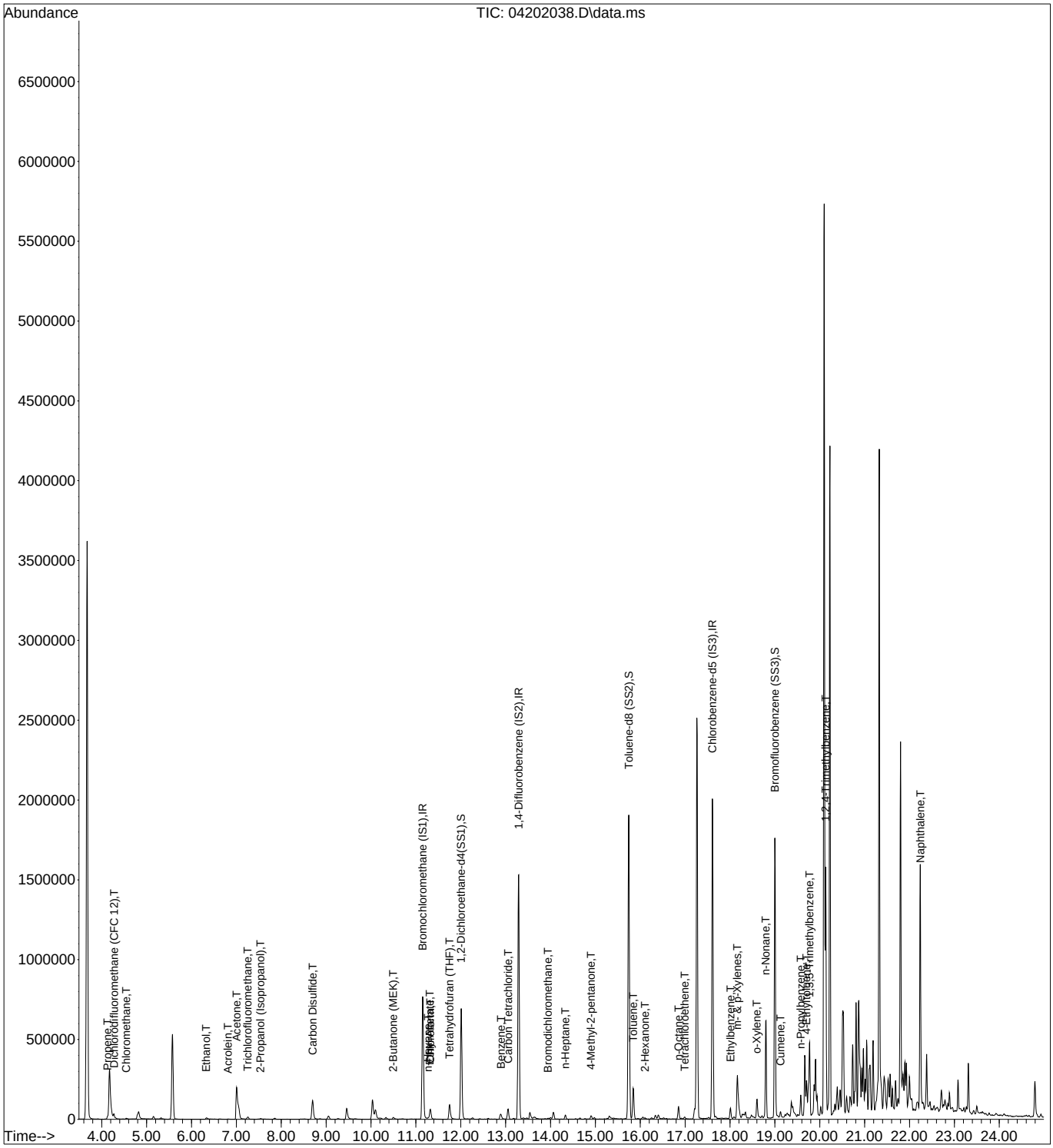
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	316653	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1410591	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	674058	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.01	65	545807	12.448	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.60%				
57) Toluene-d8 (SS2)	15.74	98	1439638	12.049	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.40%				
73) Bromofluorobenzene (SS3)	19.00	174	492367	11.670	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.36%				
Target Compounds							Qvalue
2) Propene	4.13	42	4917	0.148	ng	#	85
3) Dichlorodifluoromethan...	4.27	85	20496	0.287	ng		99
4) Chloromethane	4.55	50	4282	0.076	ng		98
10) Ethanol	6.33	45	19285	0.735	ng		99
12) Acrolein	6.81	56	1957	0.101	ng		100
13) Acetone	7.01	58	107375	4.145	ng		88
14) Trichlorofluoromethane	7.25	101	14226	0.226	ng		99
15) 2-Propanol (Isopropanol)	7.54	45	9192	0.120	ng	#	47
22) Carbon Disulfide	8.70	76	242337	1.999	ng		98
27) 2-Butanone (MEK)	10.50	72	5546	0.257	ng	#	90
30) Ethyl Acetate	11.31	61	2830	0.222	ng		96
31) n-Hexane	11.27	57	3274	0.055	ng		98
32) Chloroform	11.32	83	44184	0.703	ng		97
34) Tetrahydrofuran (THF)	11.75	72	31639	1.426	ng		91
41) Benzene	12.90	78	14573	0.100	ng		99
42) Carbon Tetrachloride	13.06	117	40858	0.816	ng		100
46) Bromodichloromethane	13.94	83	2768	0.056	ng		86
51) n-Heptane	14.33	71	6716	0.197	ng		93
53) 4-Methyl-2-pentanone	14.90	58	7008	0.229	ng		79
58) Toluene	15.84	91	159189	1.078	ng		99
59) 2-Hexanone	16.11	43	5246	0.071	ng		81
63) n-Octane	16.85	57	16064	0.548	ng		93
64) Tetrachloroethene	16.99	166	3684	0.089	ng		99
66) Ethylbenzene	18.01	91	51450	0.317	ng		98
67) m- & p-Xylenes	18.16	91	207172	1.572	ng		99
70) o-Xylene	18.60	91	63095	0.479	ng		99
71) n-Nonane	18.80	43	220145	3.341	ng		94
74) Cumene	19.13	105	16341	0.098	ng		95
76) n-Propylbenzene	19.58	91	101531	0.522	ng		96
78) 4-Ethyltoluene	19.70	105	118593	0.749	ng		97
79) 1,3,5-Trimethylbenzene	19.77	105	147665	1.048	ng		98
82) 1,2,4-Trimethylbenzene	20.13	105	776805	5.322	ng		88
95) Naphthalene	22.24	128	74041	0.454	ng		96

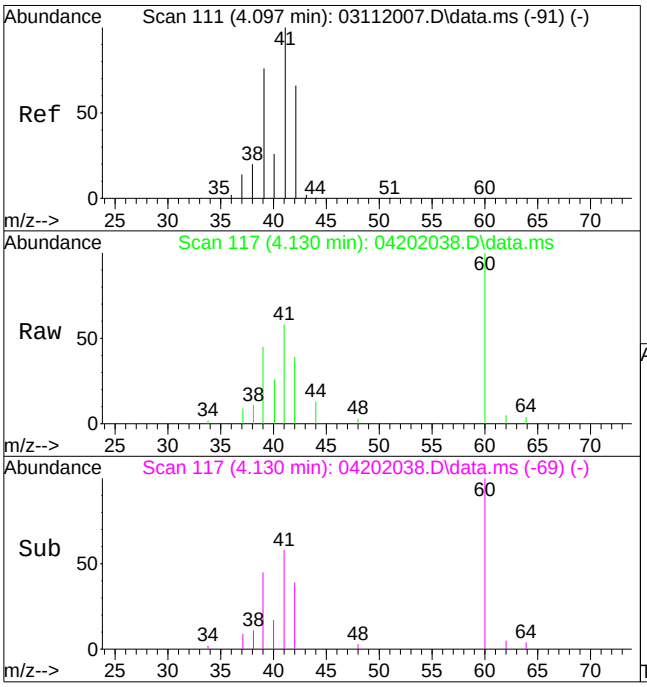
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202038.D Vial: 6
Acq On : 21 Apr 2020 00:41 Operator: LH
Sample : P2002031-003 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 16:39:35 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

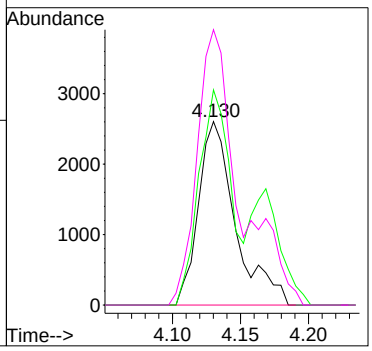


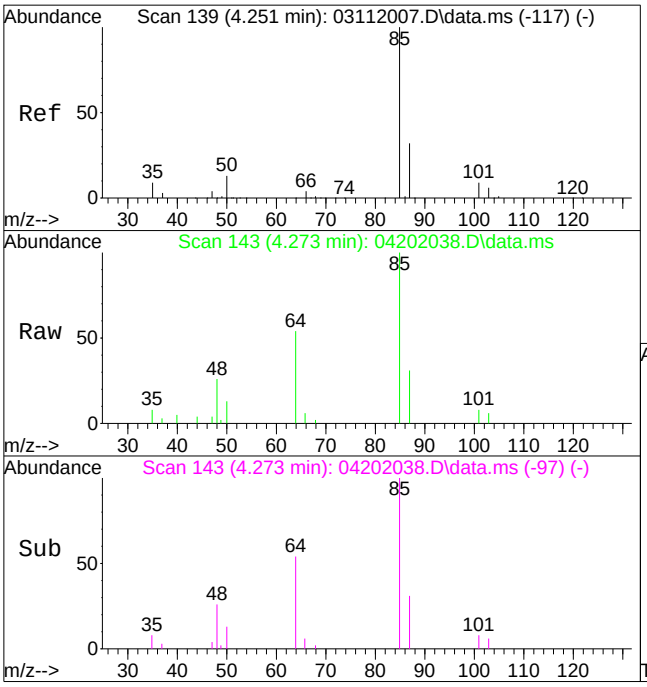


#2
Propene
Concen: 0.15 ng
RT: 4.13 min Scan# 117
Delta R.T. 0.016 min
Lab File: 04202038.D
Acq: 21 Apr 2020 00:41

Tgt Ion: 42 Resp: 4917

Ion	Ratio	Lower	Upper
42	100		
39	101.7	95.3	135.3
41	172.5	132.0	172.0#

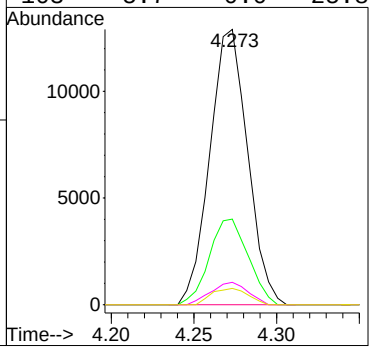


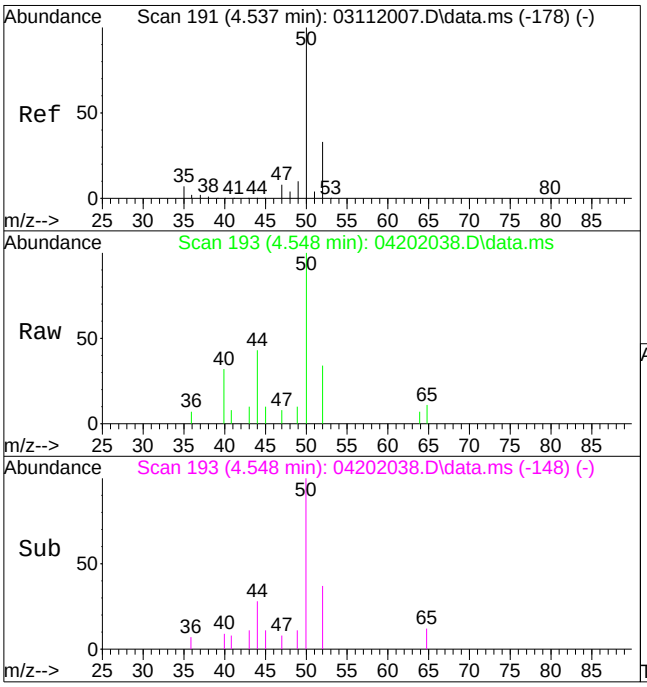


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.29 ng
RT: 4.27 min Scan# 143
Delta R.T. 0.005 min
Lab File: 04202038.D
Acq: 21 Apr 2020 00:41

Tgt Ion: 85 Resp: 20496

Ion	Ratio	Lower	Upper
85	100		
87	32.0	12.3	52.3
101	7.9	0.0	29.0
103	5.7	0.0	25.8

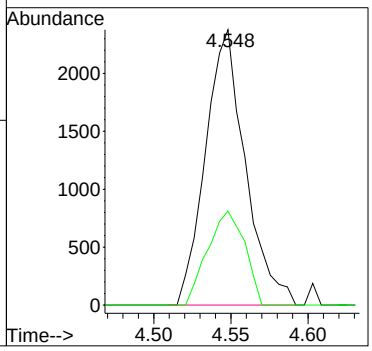


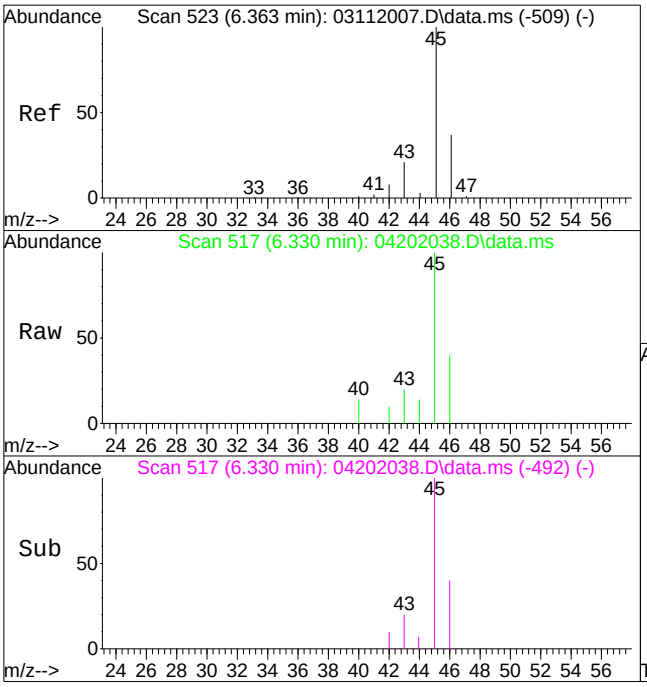


#4
Chloromethane
Concen: 0.08 ng
RT: 4.55 min Scan# 193
Delta R.T. -0.005 min
Lab File: 04202038.D
Acq: 21 Apr 2020 00:41

Tgt Ion: 50 Resp: 4282

Ion	Ratio	Lower	Upper
50	100		
52	31.7	12.8	52.8

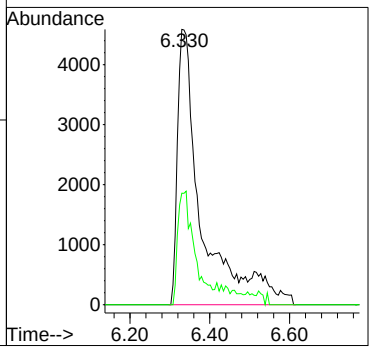


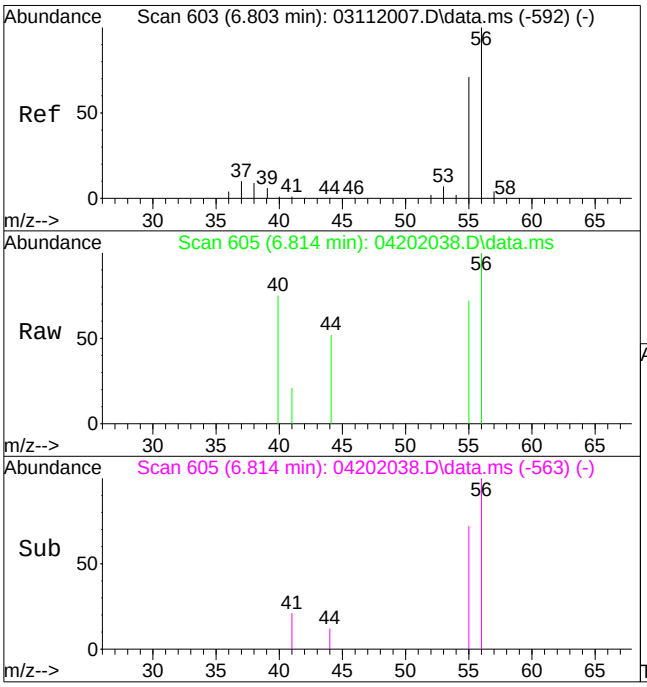


#10
Ethanol
Concen: 0.73 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.110 min
Lab File: 04202038.D
Acq: 21 Apr 2020 00:41

Tgt Ion: 45 Resp: 19285

Ion	Ratio	Lower	Upper
45	100		
46	36.9	17.3	57.3

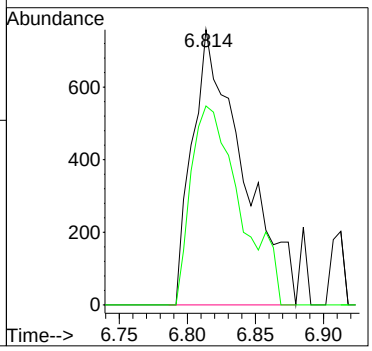


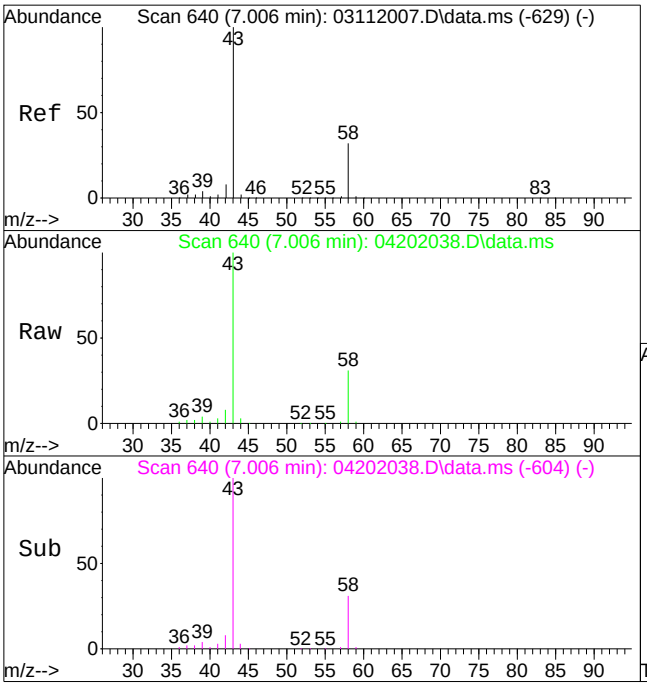


#12
Acrolein
Concen: 0.10 ng
RT: 6.81 min Scan# 605
Delta R.T. -0.016 min
Lab File: 04202038.D
Acq: 21 Apr 2020 00:41

Tgt Ion: 56 Resp: 1957

Ion	Ratio	Lower	Upper
56	100		
55	70.3	50.4	90.4

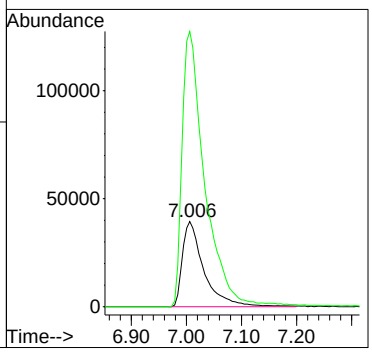


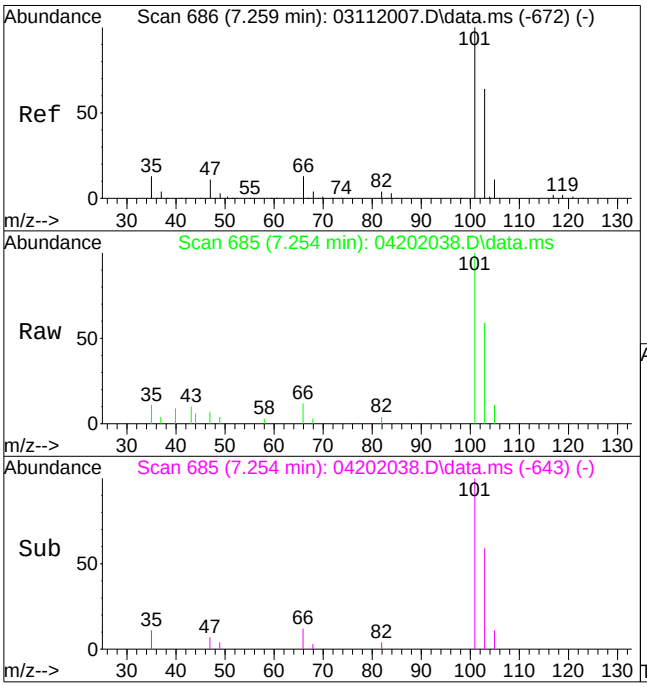


#13
Acetone
Concen: 4.15 ng
RT: 7.01 min Scan# 640
Delta R.T. -0.050 min
Lab File: 04202038.D
Acq: 21 Apr 2020 00:41

Tgt Ion: 58 Resp: 107375

Ion	Ratio	Lower	Upper
58	100		
43	342.3	287.3	347.3

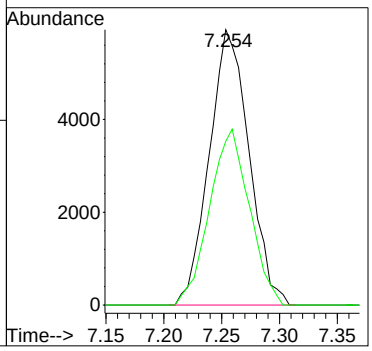


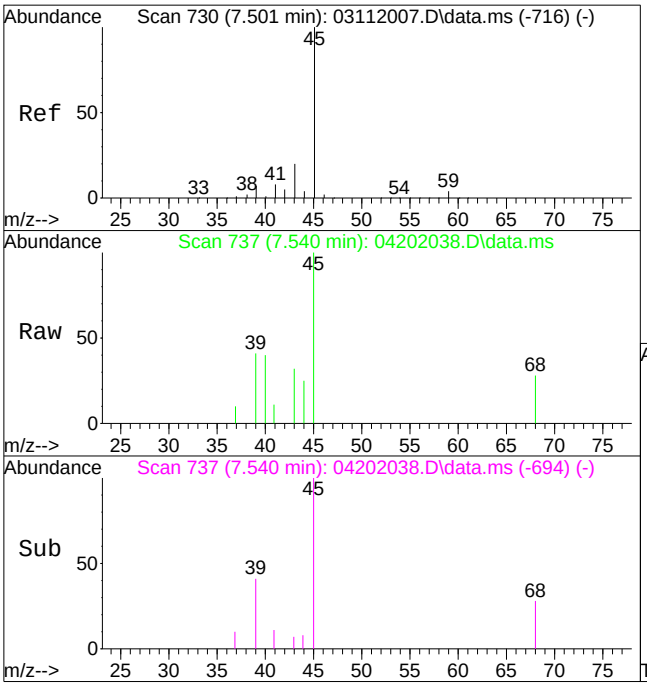


#14
Trichlorofluoromethane
Concen: 0.23 ng
RT: 7.25 min Scan# 685
Delta R.T. -0.021 min
Lab File: 04202038.D
Acq: 21 Apr 2020 00:41

Tgt Ion:101 Resp: 14226

Ion	Ratio	Lower	Upper
101	100		
103	63.9	44.6	84.6

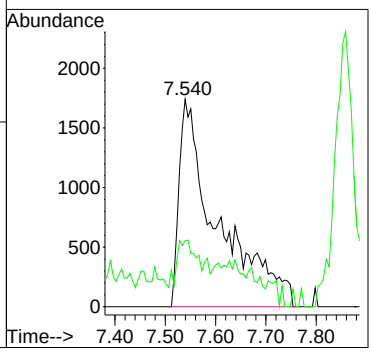


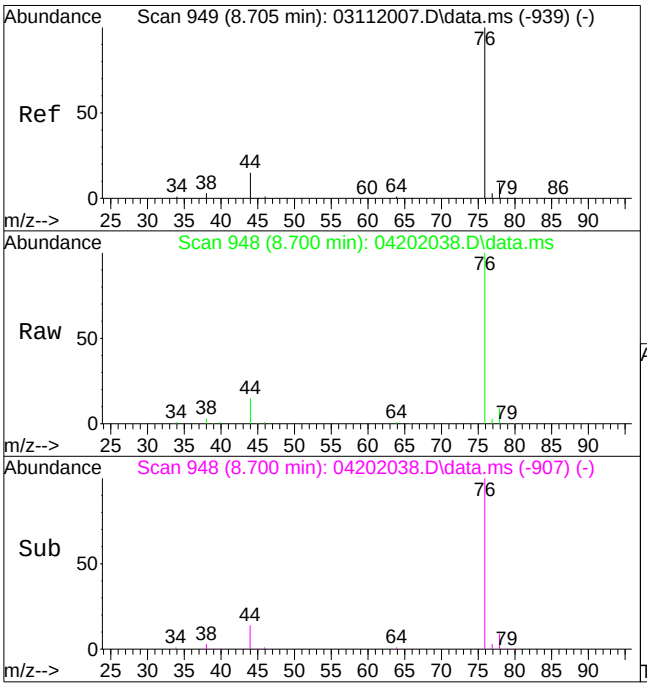


#15
2-Propanol (Isopropanol)
Concen: 0.12 ng
RT: 7.54 min Scan# 737
Delta R.T. -0.011 min
Lab File: 04202038.D
Acq: 21 Apr 2020 00:41

Tgt Ion: 45 Resp: 9192

Ion	Ratio	Lower	Upper
45	100		
43	45.0	0.3	40.3#

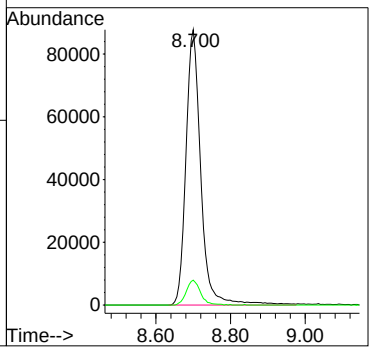


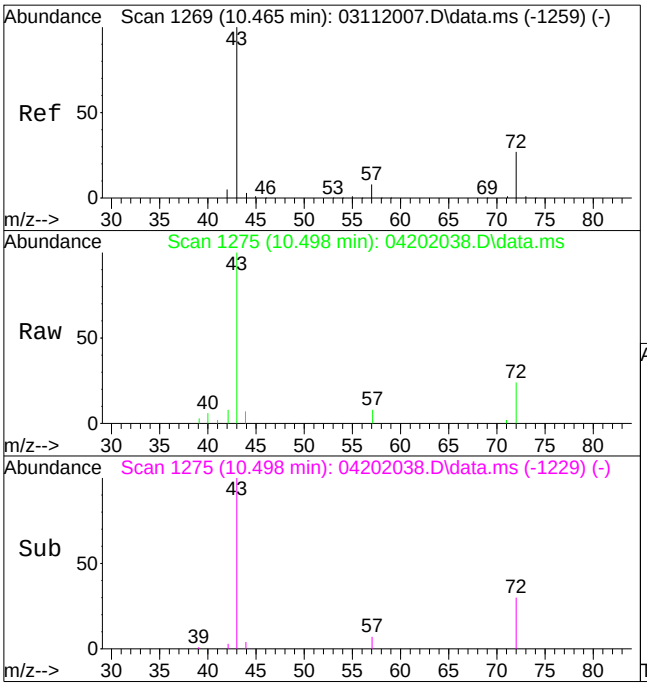


#22
Carbon Disulfide
Concen: 2.00 ng
RT: 8.70 min Scan# 948
Delta R.T. -0.022 min
Lab File: 04202038.D
Acq: 21 Apr 2020 00:41

Tgt Ion: 76 Resp: 242337

Ion	Ratio	Lower	Upper
76	100		
78	8.6	0.0	29.2

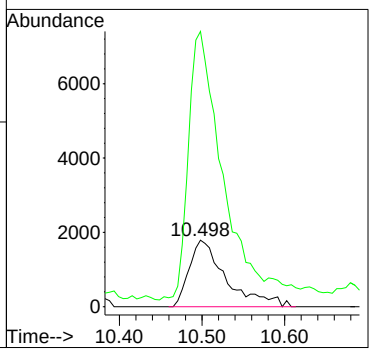


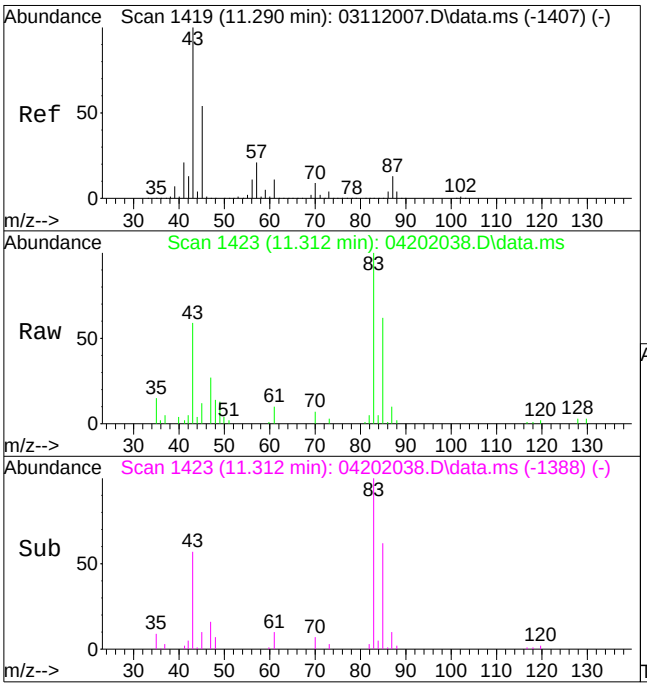


#27
2-Butanone (MEK)
Concen: 0.26 ng
RT: 10.50 min Scan# 1275
Delta R.T. 0.006 min
Lab File: 04202038.D
Acq: 21 Apr 2020 00:41

Tgt Ion: 72 Resp: 5546

Ion	Ratio	Lower	Upper
72	100		
43	395.6	353.4	393.4#

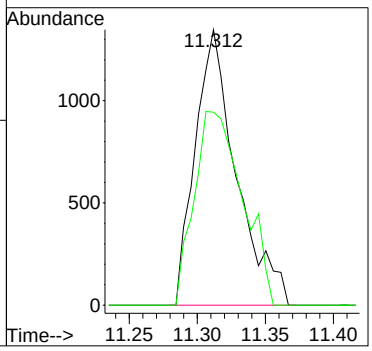


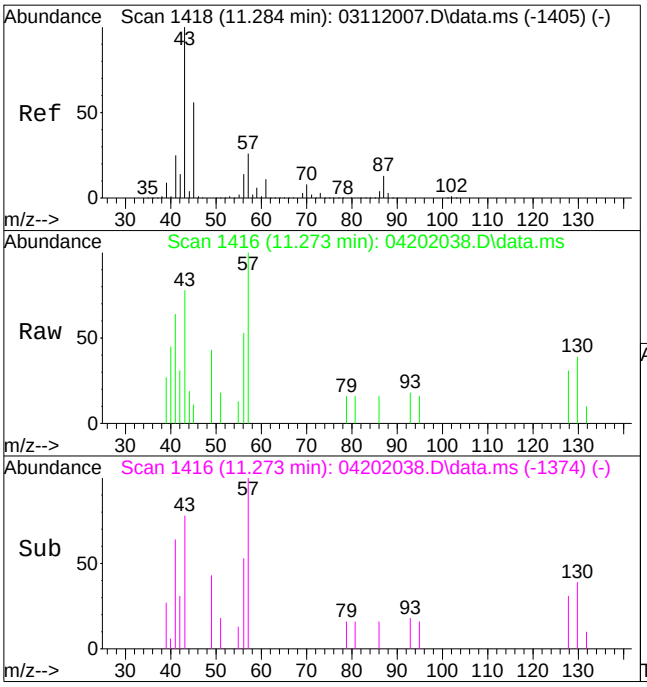


#30
Ethyl Acetate
Concen: 0.22 ng
RT: 11.31 min Scan# 1423
Delta R.T. -0.005 min
Lab File: 04202038.D
Acq: 21 Apr 2020 00:41

Tgt Ion: 61 Resp: 2830

Ion	Ratio	Lower	Upper
61	100		
70	82.7	59.1	99.1

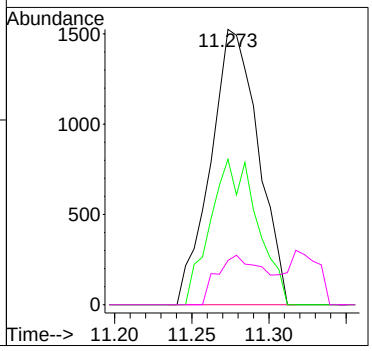


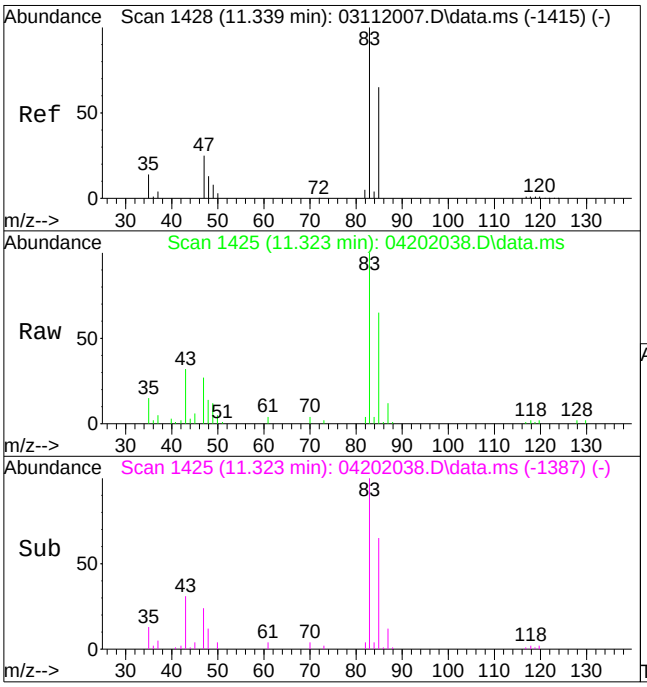


#31
n-Hexane
Concen: 0.06 ng
RT: 11.27 min Scan# 1416
Delta R.T. -0.016 min
Lab File: 04202038.D
Acq: 21 Apr 2020 00:41

Tgt Ion: 57 Resp: 3274

Ion	Ratio	Lower	Upper
57	100		
56	52.1	41.0	61.4
86	18.6	13.9	20.9

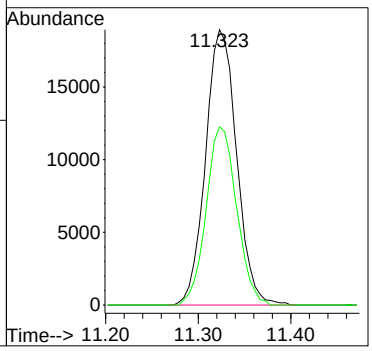


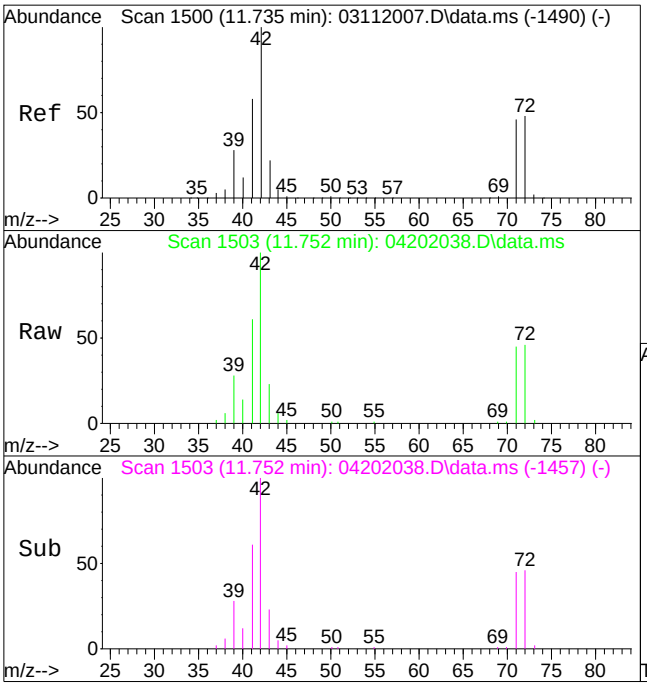


#32
Chloroform
Concen: 0.70 ng
RT: 11.32 min Scan# 1425
Delta R.T. -0.038 min
Lab File: 04202038.D
Acq: 21 Apr 2020 00:41

Tgt Ion: 83 Resp: 44184

Ion	Ratio	Lower	Upper
83	100		
85	63.5	45.5	85.5

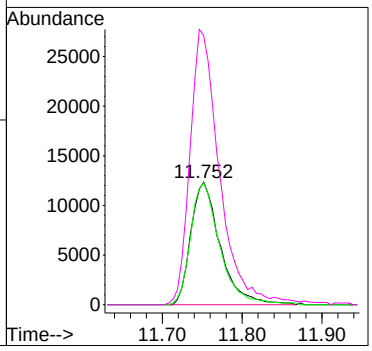


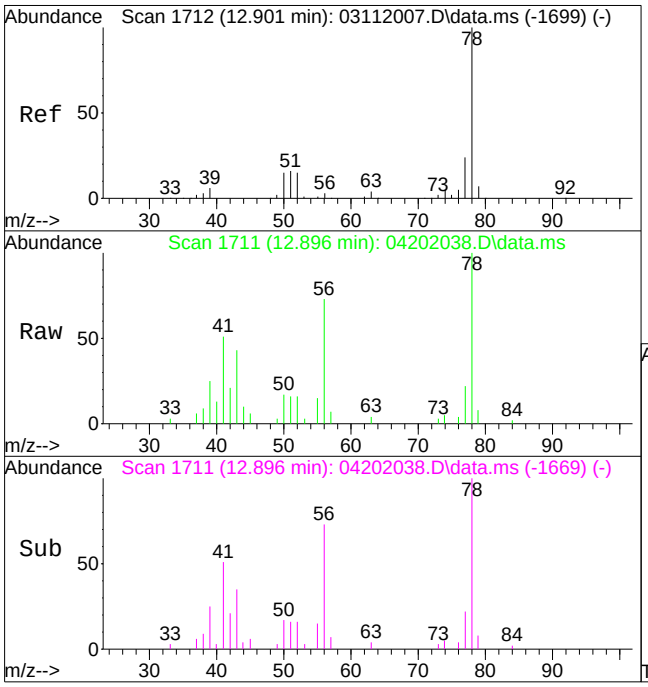


#34
Tetrahydrofuran (THF)
Concen: 1.43 ng
RT: 11.75 min Scan# 1503
Delta R.T. 0.006 min
Lab File: 04202038.D
Acq: 21 Apr 2020 00:41

Tgt Ion: 72 Resp: 31639

Ion	Ratio	Lower	Upper
72	100		
71	98.7	75.9	115.9
42	227.2	189.3	229.3

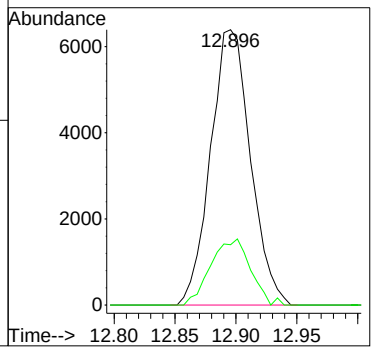


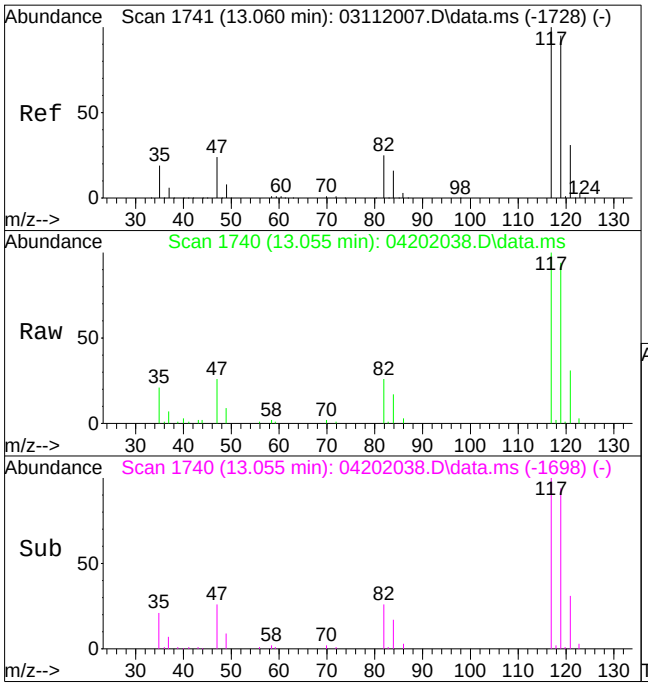


#41
Benzene
Concen: 0.10 ng
RT: 12.90 min Scan# 1711
Delta R.T. -0.016 min
Lab File: 04202038.D
Acq: 21 Apr 2020 00:41

Tgt Ion: 78 Resp: 14573

Ion	Ratio	Lower	Upper
78	100		
77	23.9	3.4	43.4

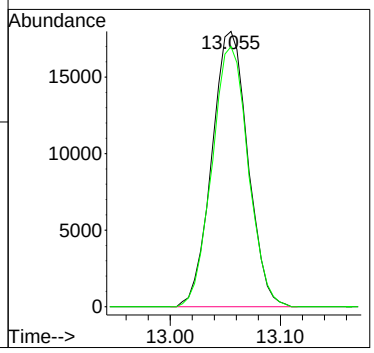


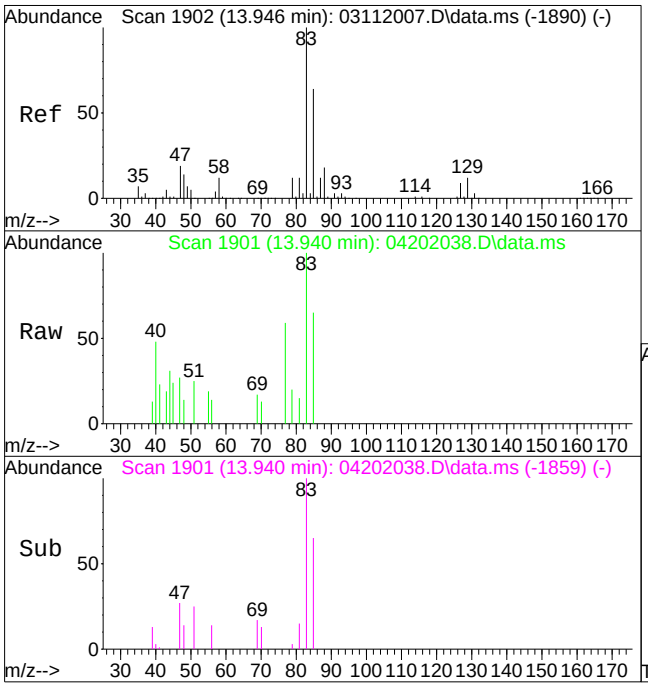


#42
Carbon Tetrachloride
Concen: 0.82 ng
RT: 13.06 min Scan# 1740
Delta R.T. -0.016 min
Lab File: 04202038.D
Acq: 21 Apr 2020 00:41

Tgt Ion:117 Resp: 40858

Ion	Ratio	Lower	Upper
117	100		
119	95.0	75.4	115.4

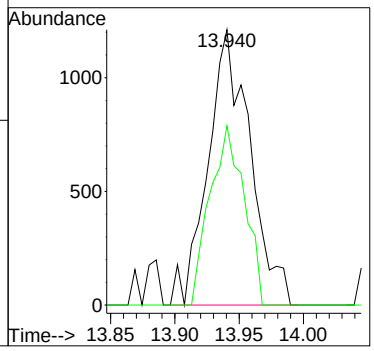


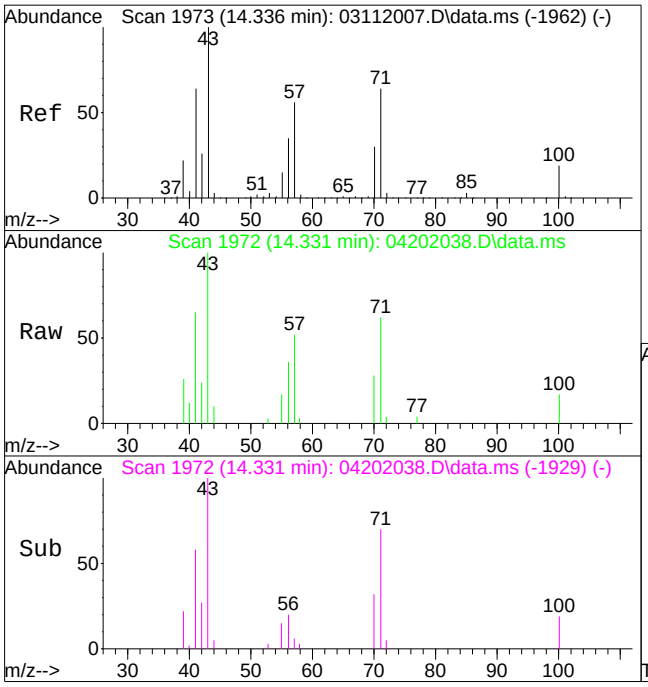


#46
Bromodichloromethane
Concen: 0.06 ng
RT: 13.94 min Scan# 1901
Delta R.T. -0.016 min
Lab File: 04202038.D
Acq: 21 Apr 2020 00:41

Tgt Ion: 83 Resp: 2768

Ion	Ratio	Lower	Upper
83	100		
85	52.8	44.0	84.0

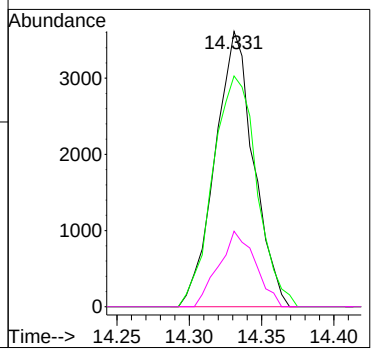


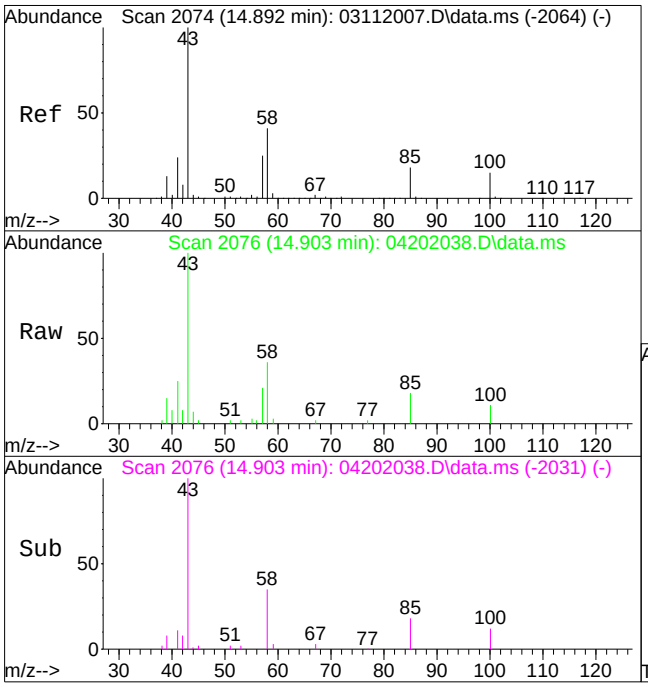


#51
n-Heptane
Concen: 0.20 ng
RT: 14.33 min Scan# 1972
Delta R.T. -0.011 min
Lab File: 04202038.D
Acq: 21 Apr 2020 00:41

Tgt Ion: 71 Resp: 6716

Ion	Ratio	Lower	Upper
71	100		
57	95.6	68.6	108.6
100	26.0	9.1	49.1

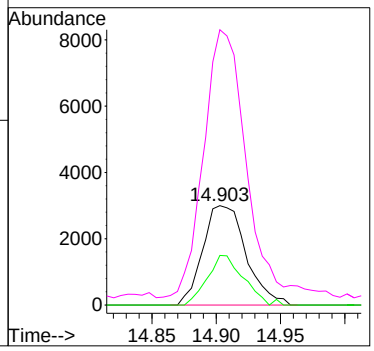


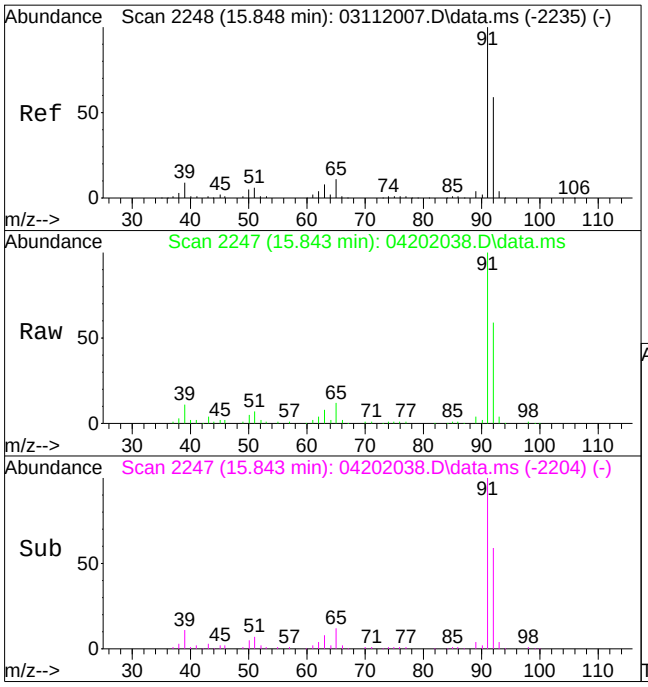


#53
4-Methyl-2-pentanone
Concen: 0.23 ng
RT: 14.90 min Scan# 2076
Delta R.T. 0.000 min
Lab File: 04202038.D
Acq: 21 Apr 2020 00:41

Tgt Ion: 58 Resp: 7008

Ion	Ratio	Lower	Upper
58	100		
85	41.9	37.0	55.4
43	285.6	196.3	294.5

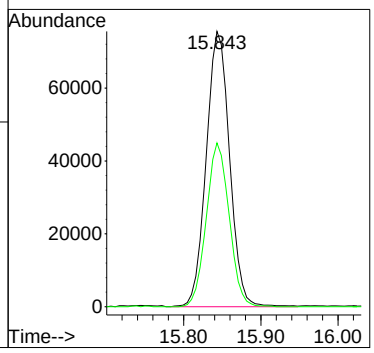


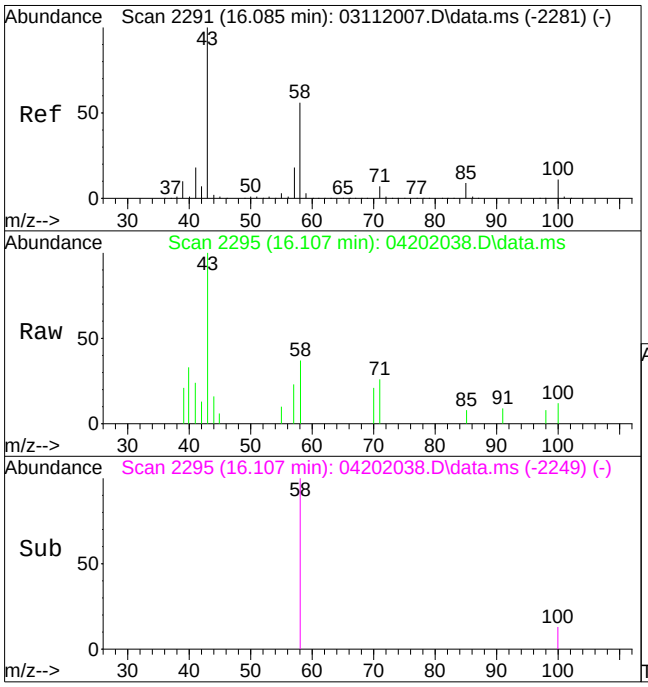


#58
Toluene
Concen: 1.08 ng
RT: 15.84 min Scan# 2247
Delta R.T. -0.011 min
Lab File: 04202038.D
Acq: 21 Apr 2020 00:41

Tgt Ion: 91 Resp: 159189

Ion	Ratio	Lower	Upper
91	100		
92	58.1	39.0	79.0

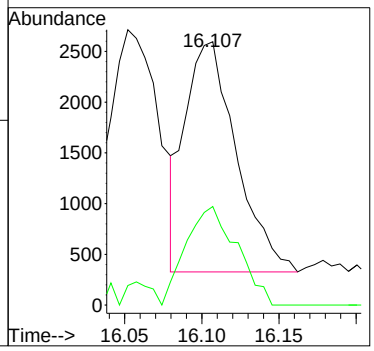


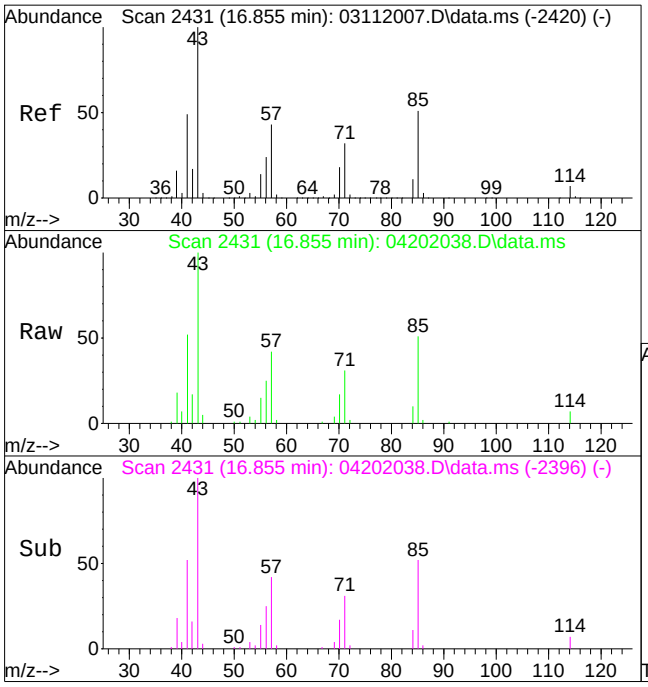


#59
2-Hexanone
Concen: 0.07 ng
RT: 16.11 min Scan# 2295
Delta R.T. 0.006 min
Lab File: 04202038.D
Acq: 21 Apr 2020 00:41

Tgt Ion: 43 Resp: 5246

Ion	Ratio	Lower	Upper
43	100		
58	42.6	36.5	76.5

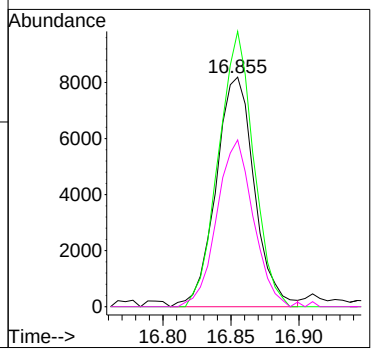


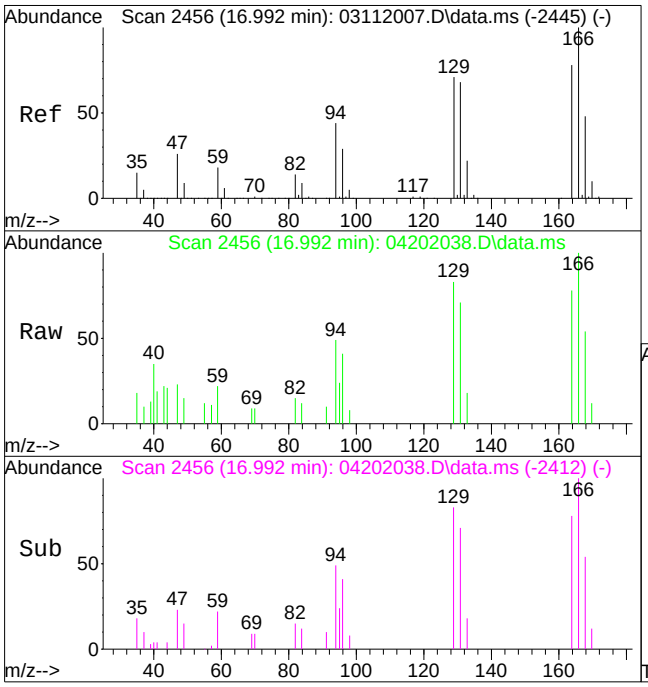


#63
n-Octane
Concen: 0.55 ng
RT: 16.85 min Scan# 2431
Delta R.T. -0.005 min
Lab File: 04202038.D
Acq: 21 Apr 2020 00:41

Tgt Ion: 57 Resp: 16064

Ion	Ratio	Lower	Upper
57	100		
85	109.5	95.1	142.7
71	68.7	58.2	87.4

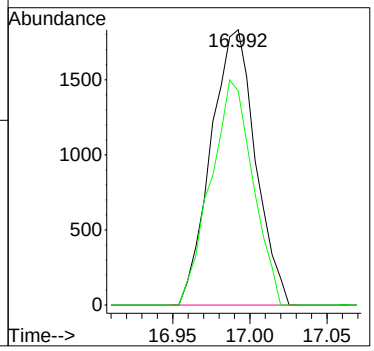


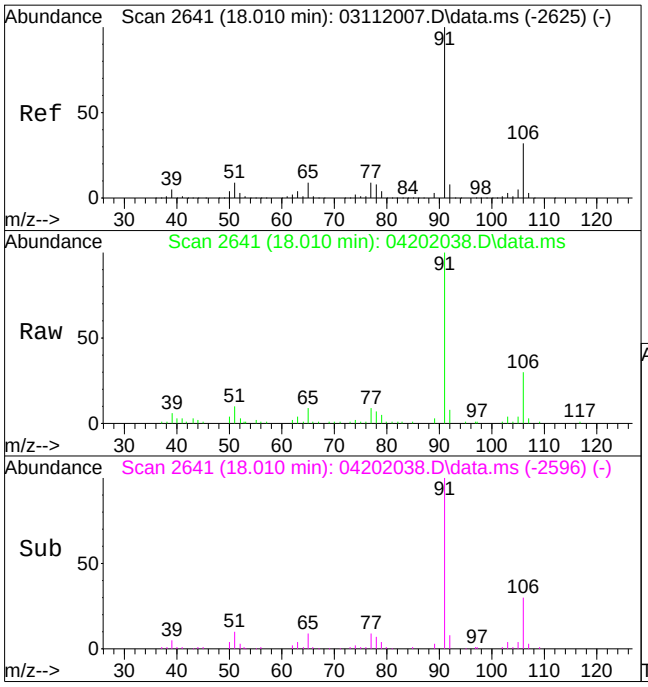


#64
Tetrachloroethene
Concen: 0.09 ng
RT: 16.99 min Scan# 2456
Delta R.T. -0.005 min
Lab File: 04202038.D
Acq: 21 Apr 2020 00:41

Tgt Ion:166 Resp: 3684

Ion	Ratio	Lower	Upper
166	100		
164	77.5	58.6	98.6

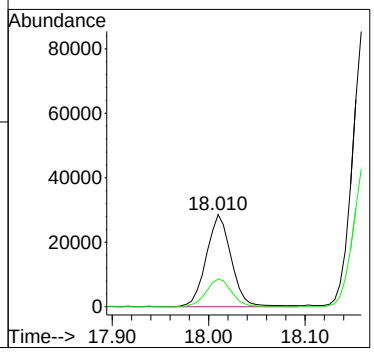


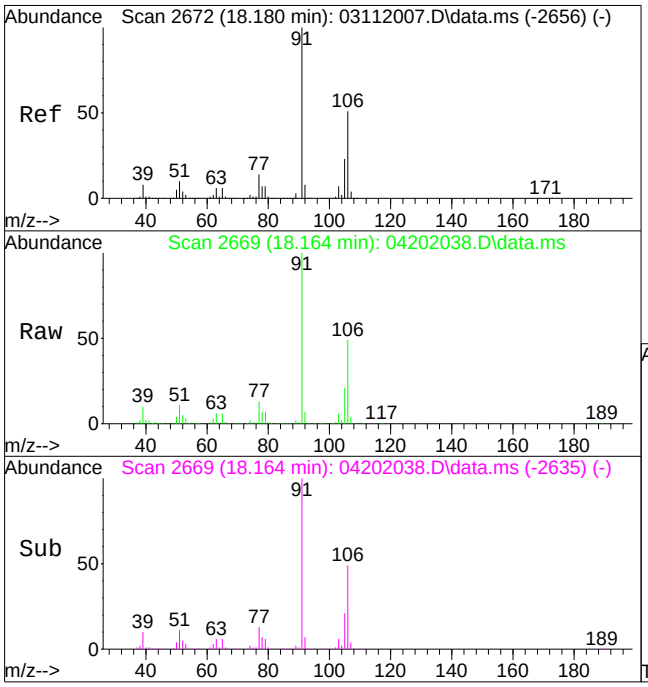


#66
Ethylbenzene
Concen: 0.32 ng
RT: 18.01 min Scan# 2641
Delta R.T. 0.000 min
Lab File: 04202038.D
Acq: 21 Apr 2020 00:41

Tgt Ion: 91 Resp: 51450

Ion	Ratio	Lower	Upper
91	100		
106	30.5	11.7	51.7

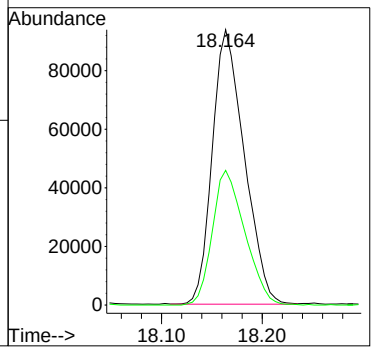


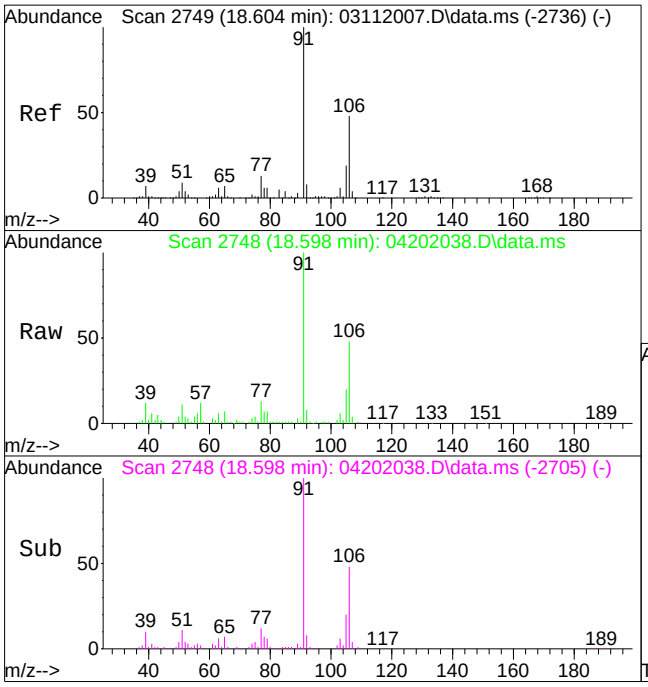


#67
m- & p-Xylenes
Concen: 1.57 ng
RT: 18.16 min Scan# 2669
Delta R.T. -0.011 min
Lab File: 04202038.D
Acq: 21 Apr 2020 00:41

Tgt Ion: 91 Resp: 207172

Ion	Ratio	Lower	Upper
91	100		
106	49.8	30.4	70.4

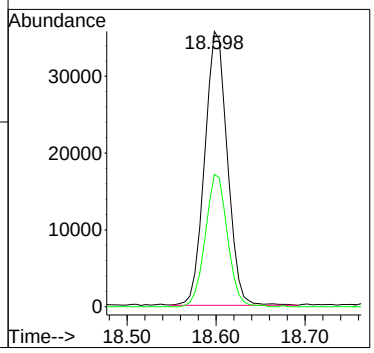


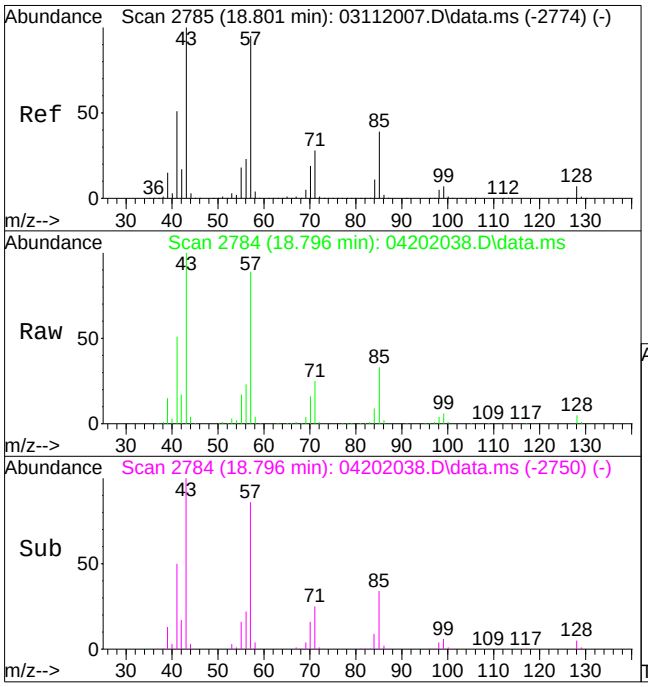


#70
o-Xylene
Concen: 0.48 ng
RT: 18.60 min Scan# 2748
Delta R.T. -0.011 min
Lab File: 04202038.D
Acq: 21 Apr 2020 00:41

Tgt Ion: 91 Resp: 63095

Ion	Ratio	Lower	Upper
91	100		
106	47.3	28.1	68.1

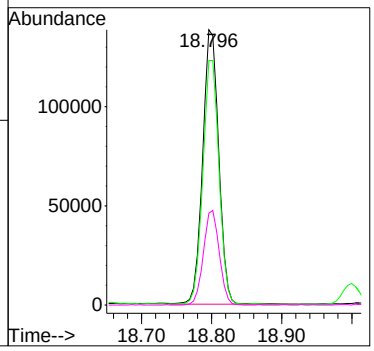


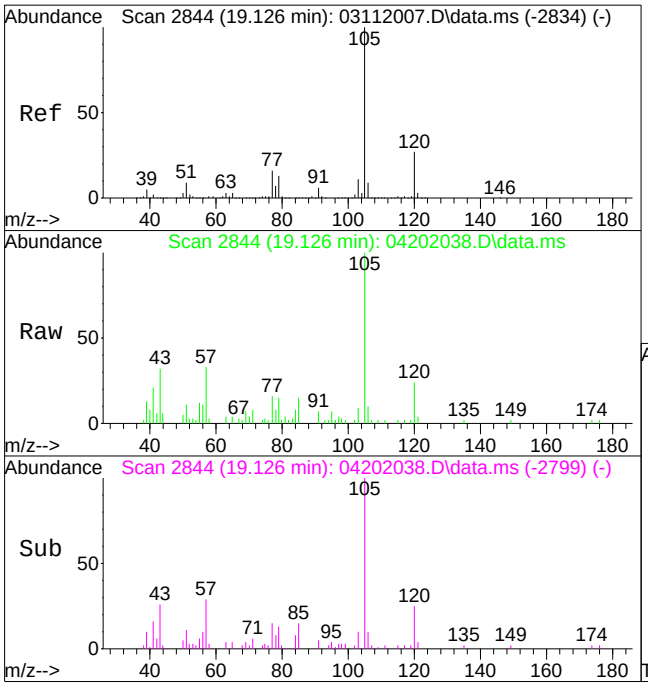


#71
n-Nonane
Concen: 3.34 ng
RT: 18.80 min Scan# 2784
Delta R.T. -0.011 min
Lab File: 04202038.D
Acq: 21 Apr 2020 00:41

Tgt Ion: 43 Resp: 220145

Ion	Ratio	Lower	Upper
43	100		
57	88.9	73.6	113.6
85	34.1	18.7	58.7

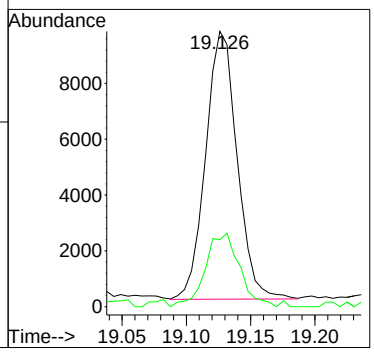


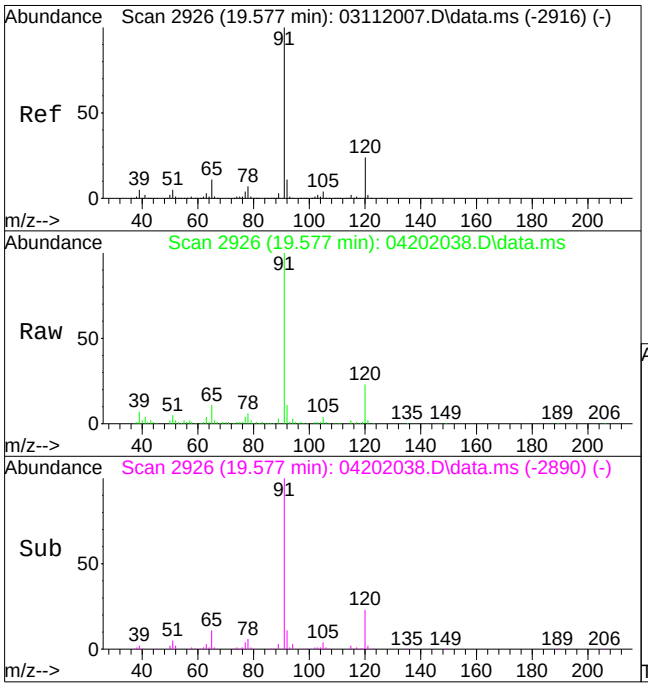


#74
Cumene
Concen: 0.10 ng
RT: 19.13 min Scan# 2844
Delta R.T. 0.000 min
Lab File: 04202038.D
Acq: 21 Apr 2020 00:41

Tgt Ion:105 Resp: 16341

Ion	Ratio	Lower	Upper
105	100		
120	29.6	7.2	47.2

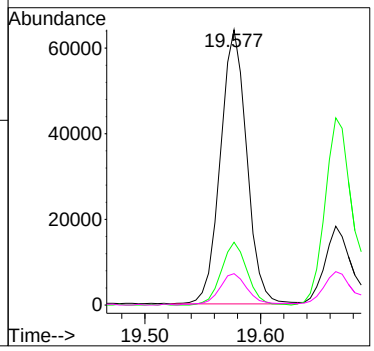


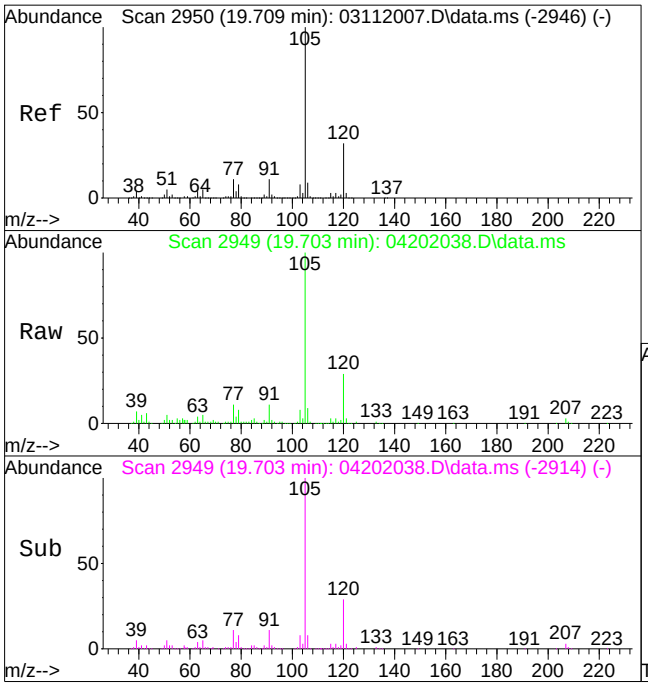


#76
n-Propylbenzene
Concen: 0.52 ng
RT: 19.58 min Scan# 2926
Delta R.T. -0.000 min
Lab File: 04202038.D
Acq: 21 Apr 2020 00:41

Tgt Ion: 91 Resp: 101531

Ion	Ratio	Lower	Upper
91	100		
120	22.5	3.9	43.9
65	12.5	0.0	30.5

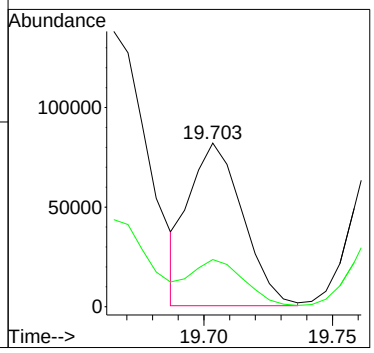


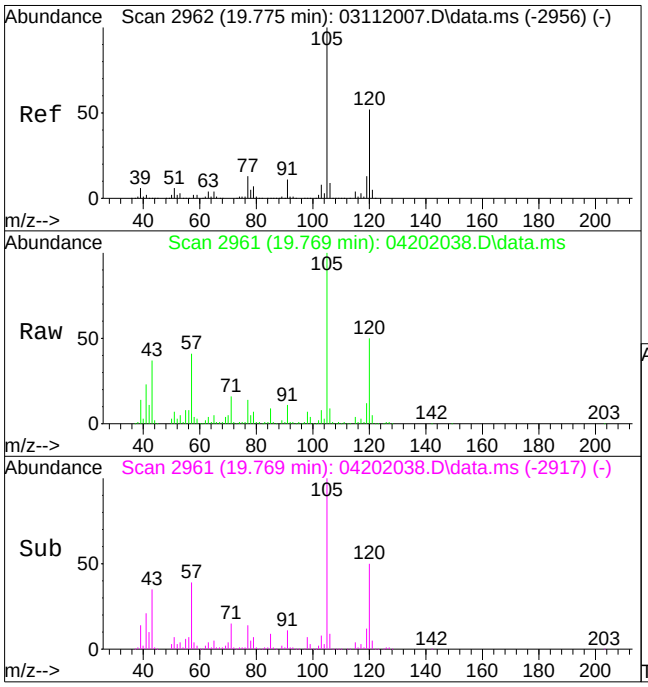


#78
4-Ethyltoluene
Concen: 0.75 ng
RT: 19.70 min Scan# 2949
Delta R.T. -0.006 min
Lab File: 04202038.D
Acq: 21 Apr 2020 00:41

Tgt Ion:105 Resp: 118593

Ion	Ratio	Lower	Upper
105	100		
120	29.5	11.1	51.1

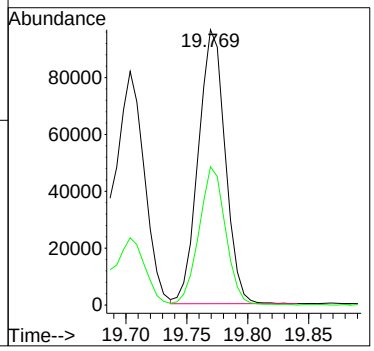


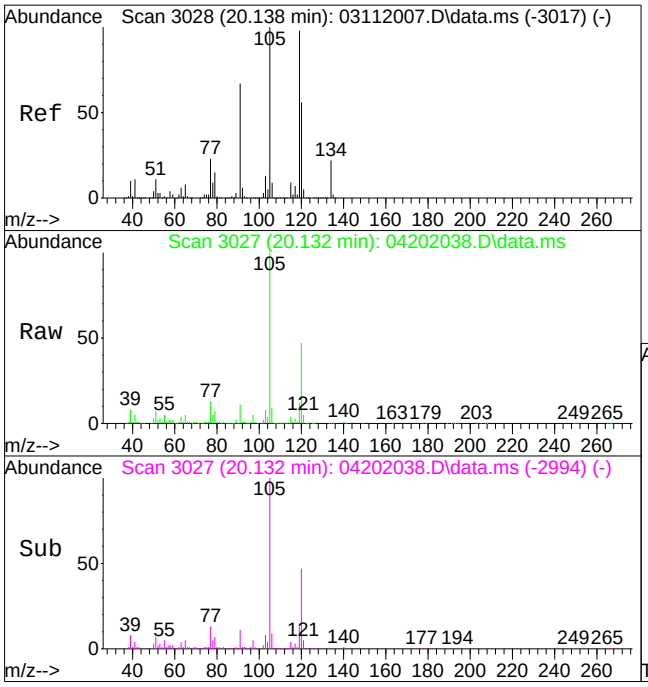


#79
1,3,5-Trimethylbenzene
Concen: 1.05 ng
RT: 19.77 min Scan# 2961
Delta R.T. -0.006 min
Lab File: 04202038.D
Acq: 21 Apr 2020 00:41

Tgt Ion:105 Resp: 147665

Ion	Ratio	Lower	Upper
105	100		
120	50.2	31.3	71.3

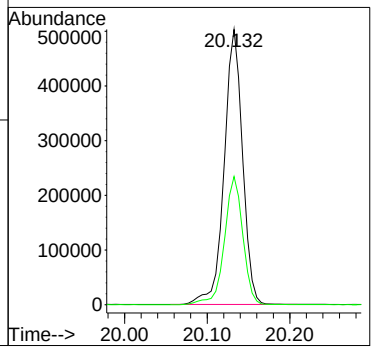


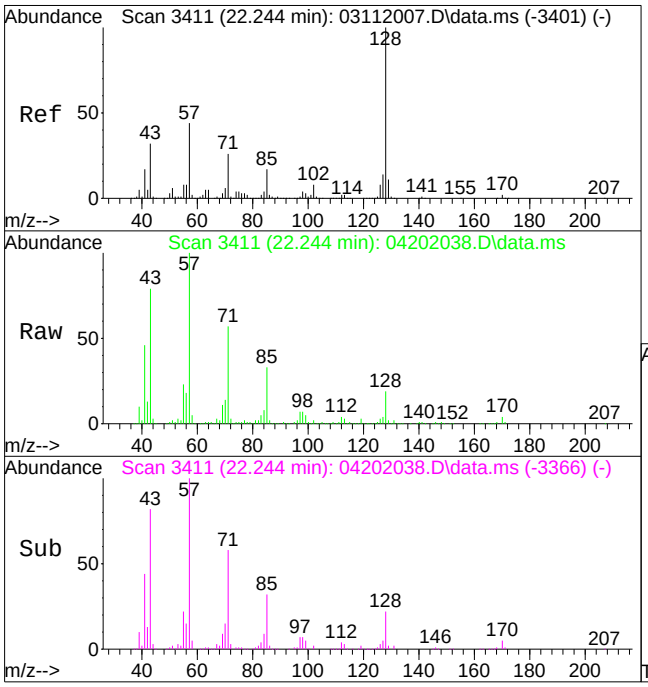


#82
1,2,4-Trimethylbenzene
Concen: 5.32 ng
RT: 20.13 min Scan# 3027
Delta R.T. -0.017 min
Lab File: 04202038.D
Acq: 21 Apr 2020 00:41

Tgt Ion:105 Resp: 776805

Ion	Ratio	Lower	Upper
105	100		
120	46.8	35.8	75.8

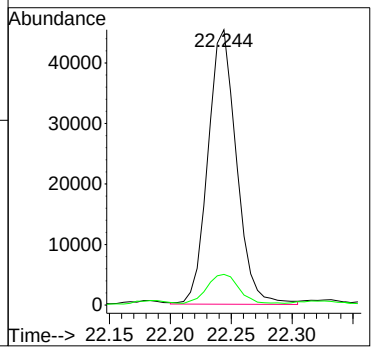




#95
Naphthalene
Concen: 0.45 ng
RT: 22.24 min Scan# 3411
Delta R.T. -0.005 min
Lab File: 04202038.D
Acq: 21 Apr 2020 00:41

Tgt Ion:128 Resp: 74041

Ion	Ratio	Lower	Upper
128	100		
129	12.5	0.0	31.1



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202039.D Vial: 7
Acq On : 21 Apr 2020 1:15 Operator: LH
Sample : P2002031-004 (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 16:41:06 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/22/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	356501	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1590203	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	748716	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	611493	12.387	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.12%				
57) Toluene-d8 (SS2)	15.74	98	1643966	12.388	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.12%				
73) Bromofluorobenzene (SS3)	19.00	174	525864	11.221	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.76%				
Target Compounds							Qvalue
2) Propene	4.14	42	5855m	0.157	ng		
3) Dichlorodifluoromethan...	4.27	85	1125	N.D.			
4) Chloromethane	4.55	50	1099	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.36	45	4656	0.158	ng		82
11) Acetonitrile	6.66	41	273	N.D.			
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	7.26	101	246	N.D.			
15) 2-Propanol (Isopropanol)	7.56	45	5449	0.063	ng		97
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.44	84	177	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.72	76	20900	0.153	ng		97
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.	d		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	d		
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.54	72	282	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	11.32	61	3591	0.250	ng		81
31) n-Hexane	11.28	57	10935	0.164	ng	#	96
32) Chloroform	11.32	83	762	N.D.			
34) Tetrahydrofuran (THF)	11.78	72	3330	0.133	ng	#	77
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.03	62	136	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	12.87	61	1049	N.D.			
40) 1-Butanol	12.92	56	1490	N.D.			
41) Benzene	12.90	78	75538	0.459	ng		100
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	13.19	84	42509	0.673	ng		92
44) tert-Amyl Methyl Ether	13.47	73	543	N.D.			
45) 1,2-Dichloropropane	13.59	63	248	N.D.			
46) Bromodichloromethane	13.97	83	1281	N.D.			
47) Trichloroethene	14.00	130	1541	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202039.D Vial: 7
Acq On : 21 Apr 2020 1:15 Operator: LH
Sample : P2002031-004 (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 16:41:06 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

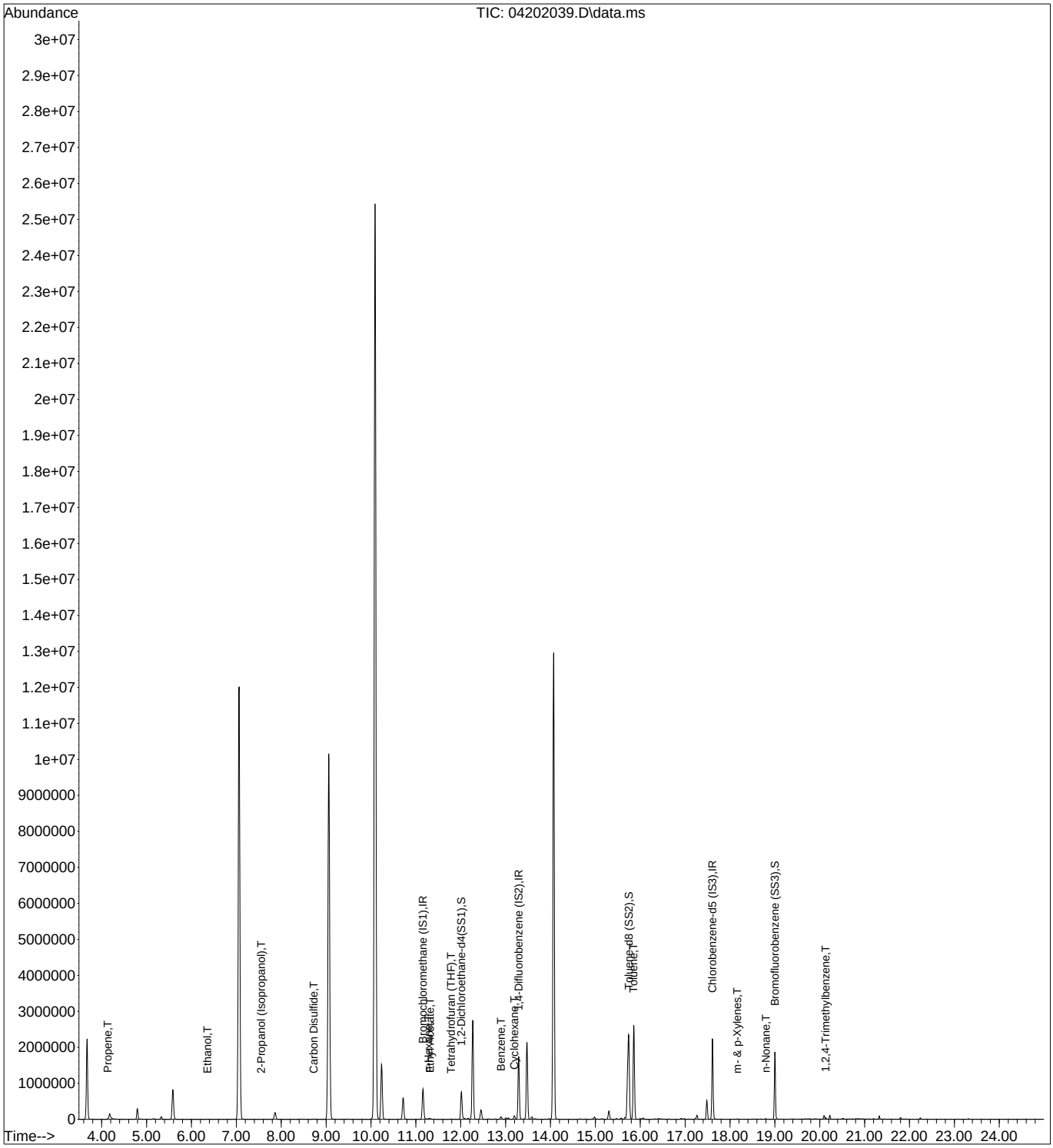
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.34	71	534	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.91	58	341	N.D.	
54) trans-1,3-Dichloropropene	15.17	75	1733	N.D.	
55) 1,1,2-Trichloroethane	15.46	97	1022	N.D.	
58) Toluene	15.85	91	12060	0.073 ng	97
59) 2-Hexanone	16.12	43	321	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	16.51	107	569	N.D.	
62) n-Butyl Acetate	16.76	43	1163	N.D.	
63) n-Octane	16.86	57	819	N.D.	
64) Tetrachloroethene	17.00	166	682	N.D.	
65) Chlorobenzene	17.65	112	543	N.D.	
66) Ethylbenzene	18.02	91	3368	N.D.	
67) m- & p-Xylenes	18.16	91	9044	0.062 ng	90
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.51	104	1218	N.D.	
70) o-Xylene	18.60	91	3002	N.D.	
71) n-Nonane	18.80	43	6915	0.094 ng	90
72) 1,1,2,2-Tetrachloroethane	18.54	83	764	N.D.	
74) Cumene	19.14	105	1726	N.D.	
75) alpha-Pinene	19.48	93	135	N.D.	
76) n-Propylbenzene	19.58	91	4366	N.D.	
77) 3-Ethyltoluene	19.67	105	7221	N.D.	
78) 4-Ethyltoluene	19.71	105	3687	N.D.	
79) 1,3,5-Trimethylbenzene	19.77	105	4622	N.D.	
80) alpha-Methylstyrene	19.91	118	3300	N.D.	
81) 2-Ethyltoluene	19.94	105	4575	N.D.	
82) 1,2,4-Trimethylbenzene	20.13	105	22500	0.139 ng	85
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.25	91	450	N.D.	
85) 1,3-Dichlorobenzene	20.28	146	288	N.D.	
86) 1,4-Dichlorobenzene	20.34	146	426	N.D.	
87) sec-Butylbenzene	20.37	105	2071	N.D.	
88) 4-Isopropyltoluene (p-...	20.51	119	3678	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	20.63	146	218	N.D.	
91) d-Limonene	20.63	68	818	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.15	180	269	N.D.	
95) Naphthalene	22.25	128	3809	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.31	55	2043	N.D.	
99) tert-Butylbenzene	20.13	119	2868	N.D.	
100) n-Butylbenzene	20.88	91	5473	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202039.D Vial: 7
Acq On : 21 Apr 2020 1:15 Operator: LH
Sample : P2002031-004 (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 16:41:06 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/22/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	356501	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1590203	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	748716	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	611493	12.387	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.12%				
57) Toluene-d8 (SS2)	15.74	98	1643966	12.388	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.12%				
73) Bromofluorobenzene (SS3)	19.00	174	525864	11.221	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.76%				
Target Compounds							Qvalue
2) Propene	4.14	42	5855m	0.157	ng		
10) Ethanol	6.36	45	4656	0.158	ng		82
15) 2-Propanol (Isopropanol)	7.56	45	5449	0.063	ng		97
22) Carbon Disulfide	8.72	76	20900	0.153	ng		97
30) Ethyl Acetate	11.32	61	3591	0.250	ng		81
31) n-Hexane	11.28	57	10935	0.164	ng	#	96
34) Tetrahydrofuran (THF)	11.78	72	3330	0.133	ng	#	77
41) Benzene	12.90	78	75538	0.459	ng		100
43) Cyclohexane	13.19	84	42509	0.673	ng		92
58) Toluene	15.85	91	12060	0.073	ng		97
67) m- & p-Xylenes	18.16	91	9044	0.062	ng		90
71) n-Nonane	18.80	43	6915	0.094	ng		90
82) 1,2,4-Trimethylbenzene	20.13	105	22500	0.139	ng		85

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202039.D Vial: 7
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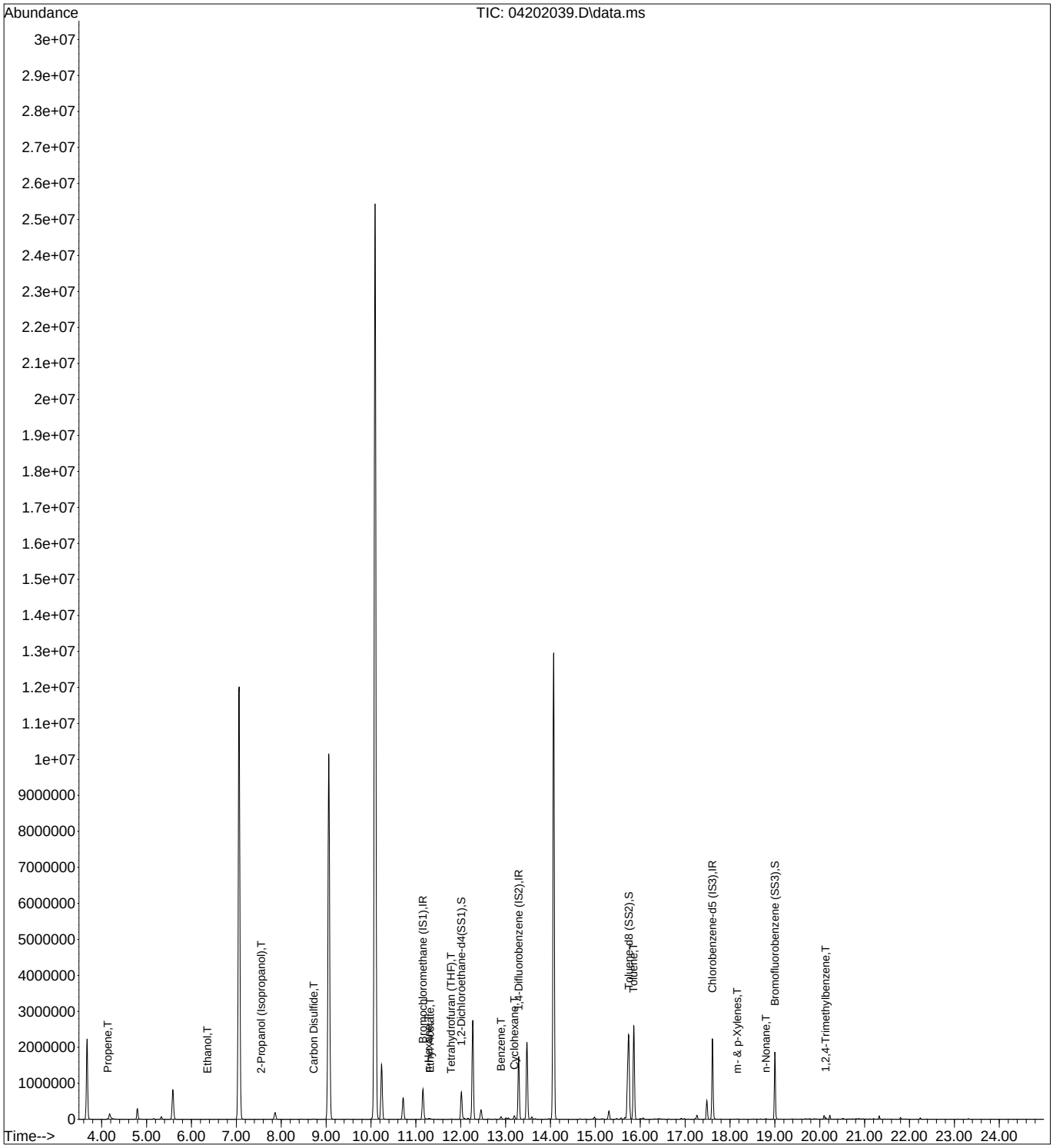
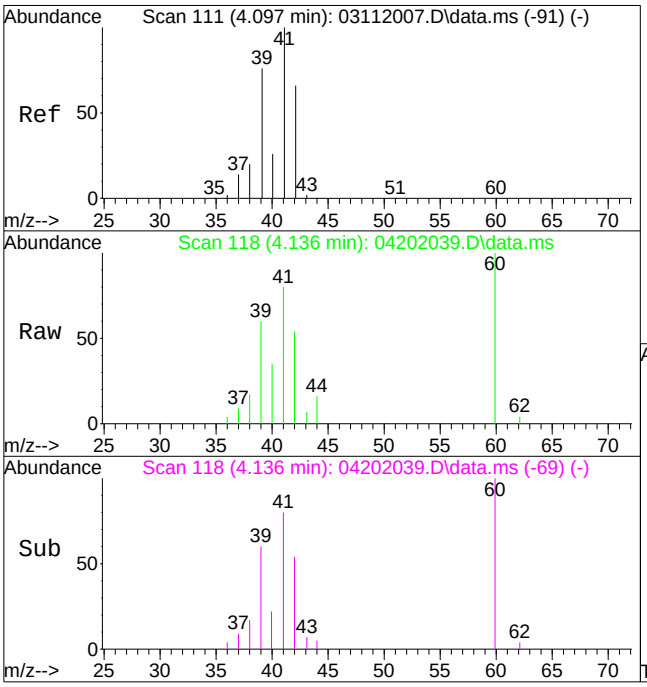
DataAcq Meth:TO15.M

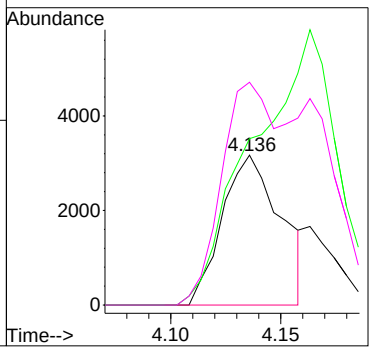


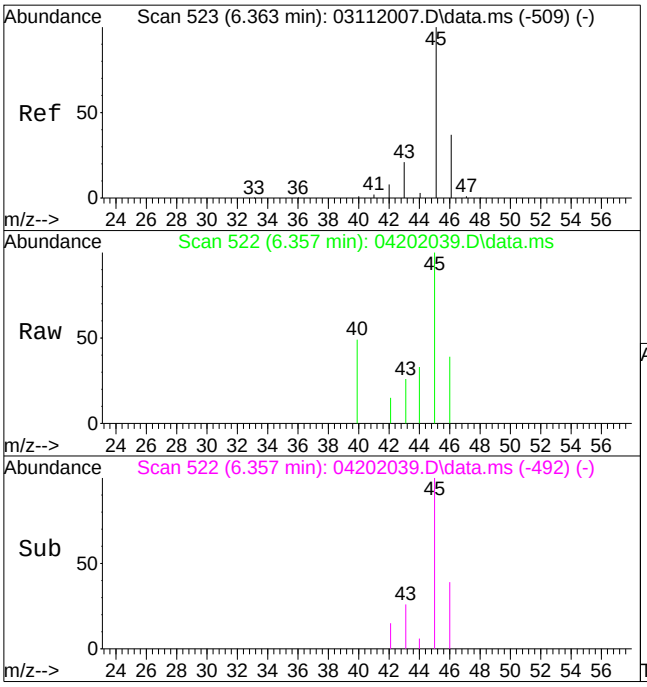


#2
Propene
Concen: 0.16 ng m
RT: 4.14 min Scan# 118
Delta R.T. 0.022 min
Lab File: 04202039.D
Acq: 21 Apr 2020 1:15

Tgt Ion: 42 Resp: 5855

Ion	Ratio	Lower	Upper
42	100		
39	261.6	95.3	135.3#
41	254.0	132.0	172.0#

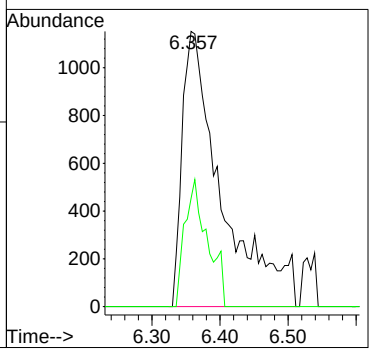


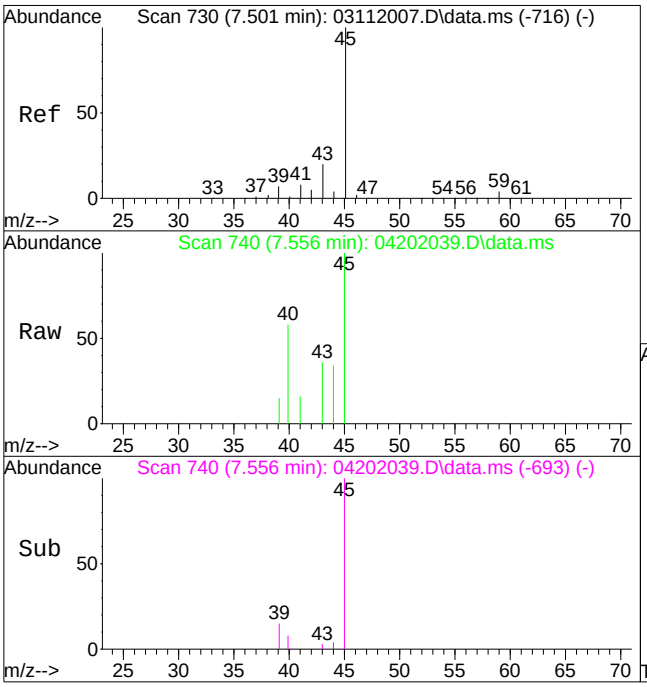


#10
Ethanol
Concen: 0.16 ng
RT: 6.36 min Scan# 522
Delta R.T. -0.083 min
Lab File: 04202039.D
Acq: 21 Apr 2020 1:15

Tgt Ion: 45 Resp: 4656

Ion	Ratio	Lower	Upper
45	100		
46	26.5	17.3	57.3

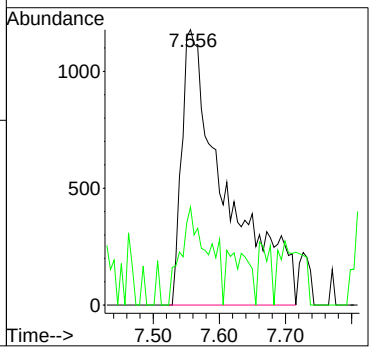


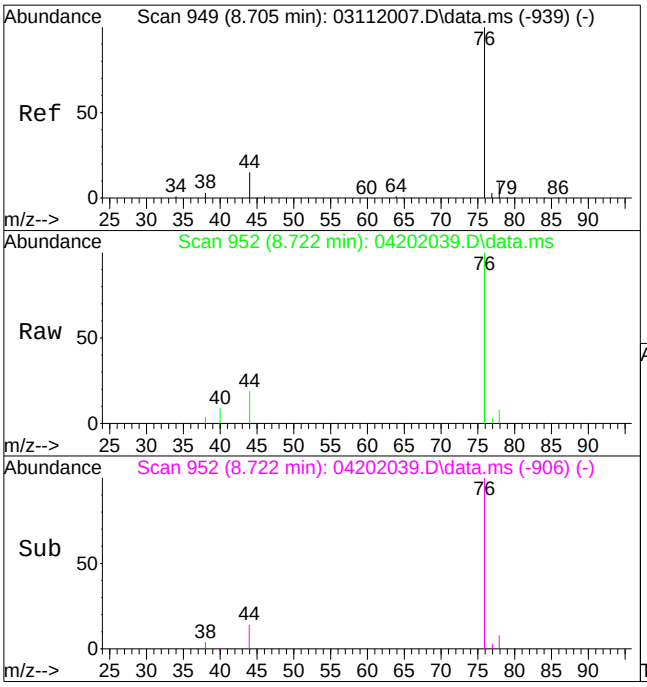


#15
2-Propanol (Isopropanol)
Concen: 0.06 ng
RT: 7.56 min Scan# 740
Delta R.T. 0.006 min
Lab File: 04202039.D
Acq: 21 Apr 2020 1:15

Tgt Ion: 45 Resp: 5449

Ion	Ratio	Lower	Upper
45	100		
43	21.8	0.3	40.3

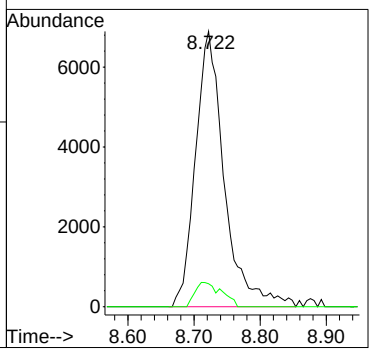


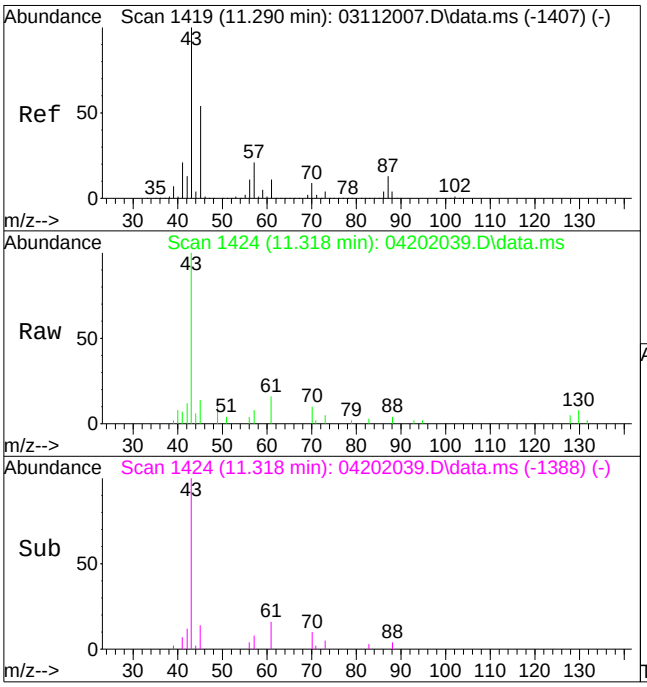


#22
Carbon Disulfide
Concen: 0.15 ng
RT: 8.72 min Scan# 952
Delta R.T. 0.000 min
Lab File: 04202039.D
Acq: 21 Apr 2020 1:15

Tgt Ion: 76 Resp: 20900

Ion	Ratio	Lower	Upper
76	100		
78	8.1	0.0	29.2

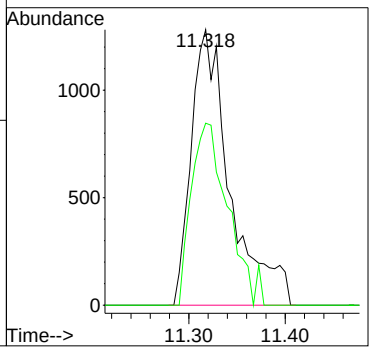


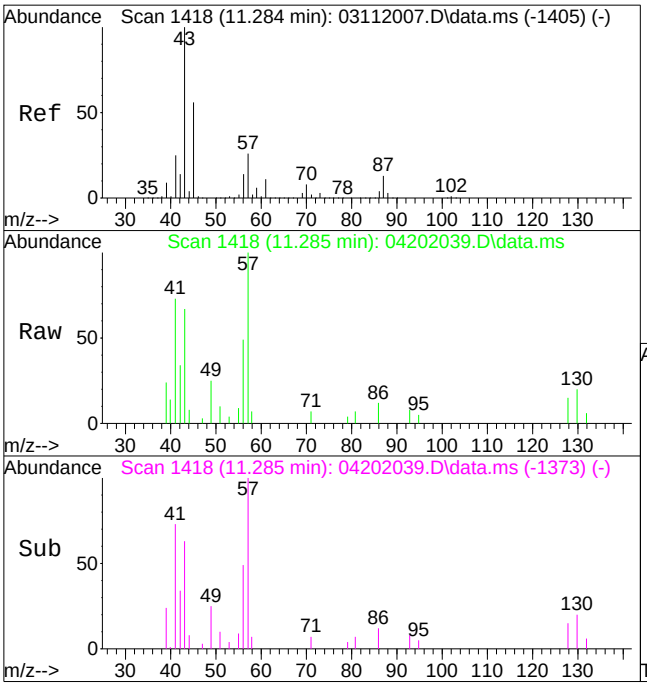


#30
Ethyl Acetate
Concen: 0.25 ng
RT: 11.32 min Scan# 1424
Delta R.T. 0.000 min
Lab File: 04202039.D
Acq: 21 Apr 2020 1:15

Tgt Ion: 61 Resp: 3591

Ion	Ratio	Lower	Upper
61	100		
70	62.2	59.1	99.1

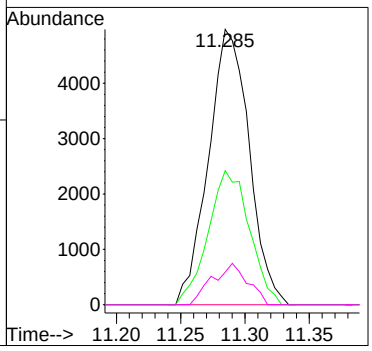


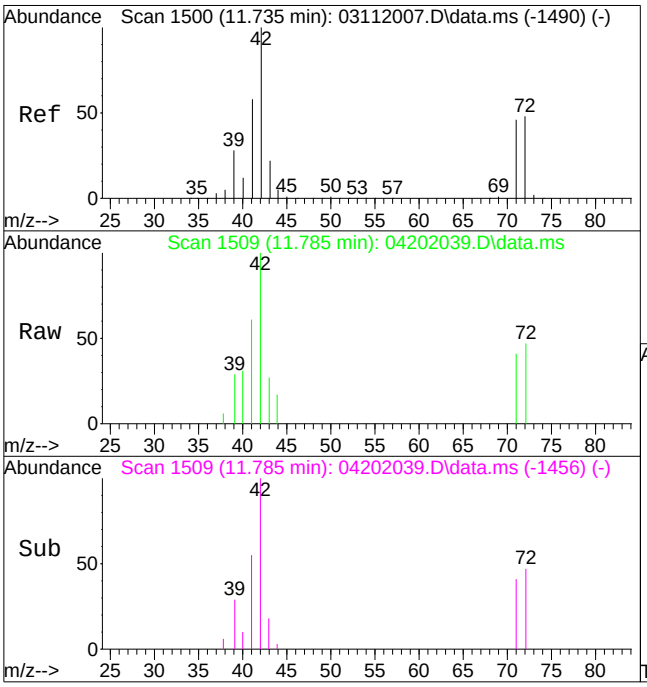


#31
n-Hexane
Concen: 0.16 ng
RT: 11.28 min Scan# 1418
Delta R.T. -0.005 min
Lab File: 04202039.D
Acq: 21 Apr 2020 1:15

Tgt Ion: 57 Resp: 10935

Ion	Ratio	Lower	Upper
57	100		
56	49.5	41.0	61.4
86	13.1	13.9	20.9#

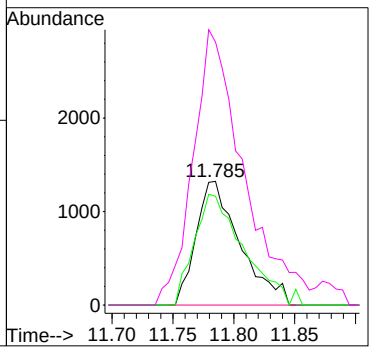


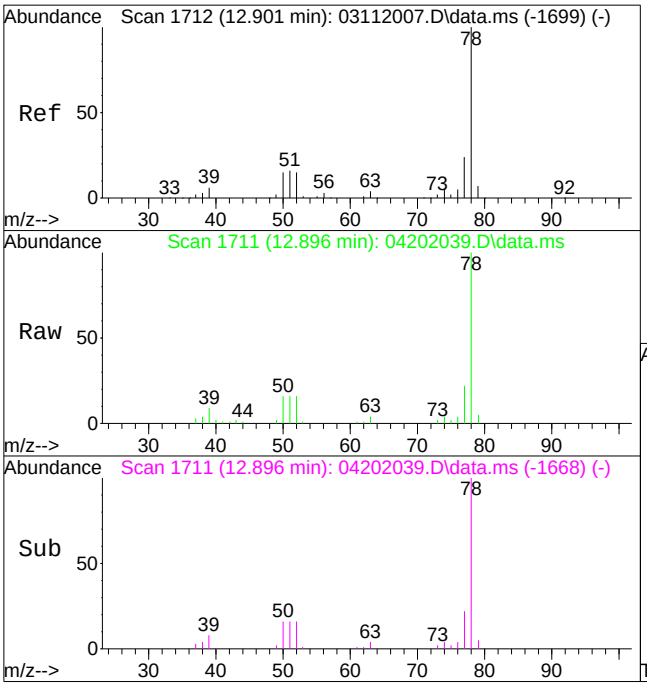


#34
Tetrahydrofuran (THF)
Concen: 0.13 ng
RT: 11.78 min Scan# 1509
Delta R.T. 0.039 min
Lab File: 04202039.D
Acq: 21 Apr 2020 1:15

Tgt Ion: 72 Resp: 3330

Ion	Ratio	Lower	Upper
72	100		
71	100.8	75.9	115.9
42	258.1	189.3	229.3#

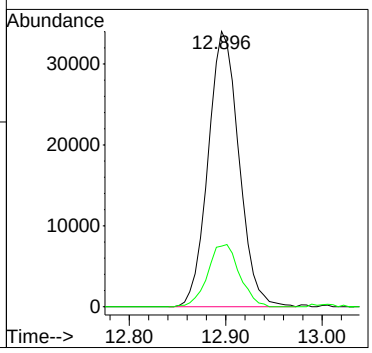


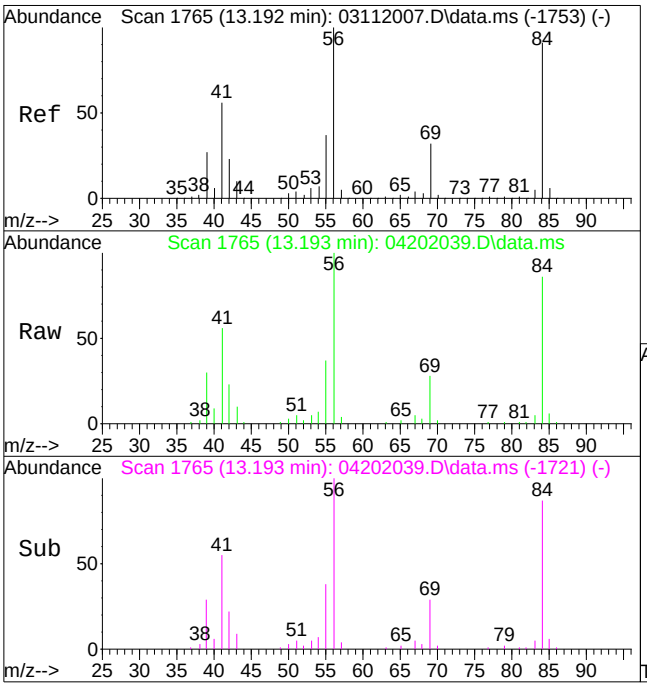


#41
Benzene
Concen: 0.46 ng
RT: 12.90 min Scan# 1711
Delta R.T. -0.016 min
Lab File: 04202039.D
Acq: 21 Apr 2020 1:15

Tgt Ion: 78 Resp: 75538

Ion	Ratio	Lower	Upper
78	100		
77	23.3	3.4	43.4

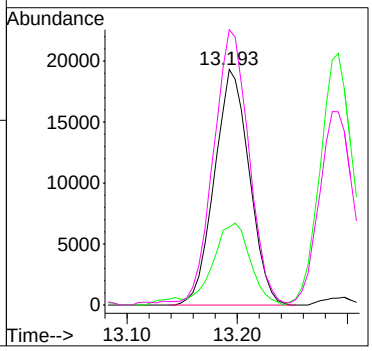


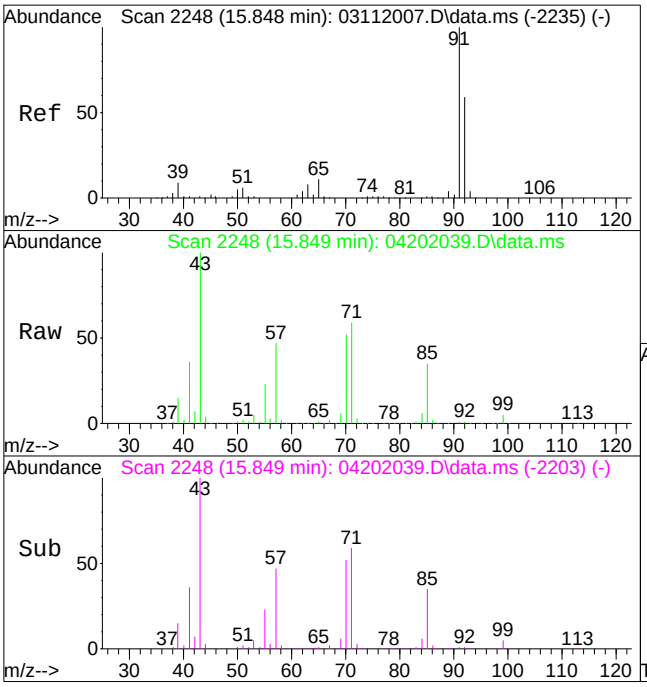


#43
Cyclohexane
Concen: 0.67 ng
RT: 13.19 min Scan# 1765
Delta R.T. -0.011 min
Lab File: 04202039.D
Acq: 21 Apr 2020 1:15

Tgt Ion: 84 Resp: 42509

Ion	Ratio	Lower	Upper
84	100		
69	39.0	15.3	55.3
56	120.2	90.5	130.5

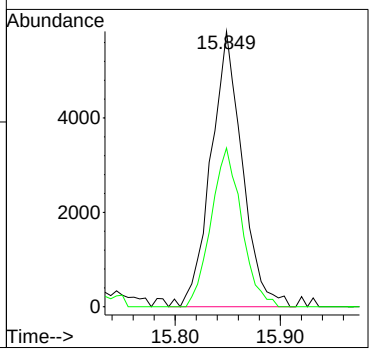


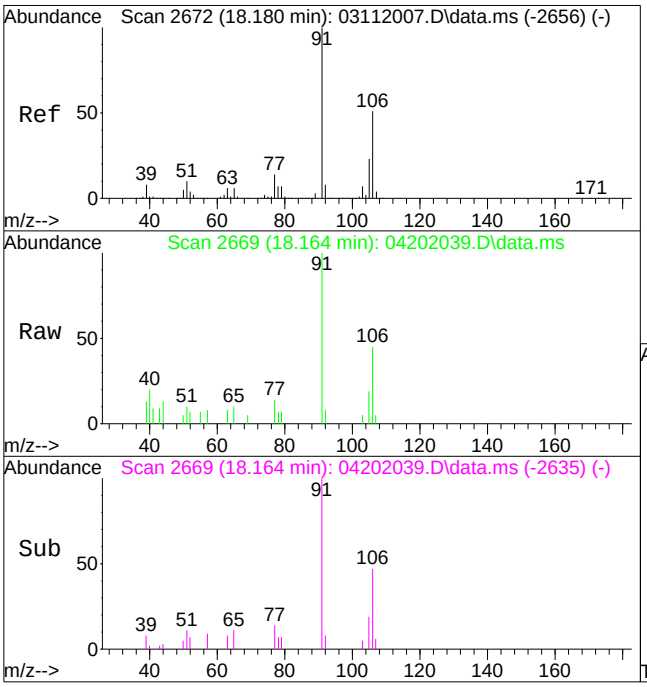


#58
Toluene
Concen: 0.07 ng
RT: 15.85 min Scan# 2248
Delta R.T. -0.005 min
Lab File: 04202039.D
Acq: 21 Apr 2020 1:15

Tgt Ion: 91 Resp: 12060

Ion	Ratio	Lower	Upper
91	100		
92	56.4	39.0	79.0

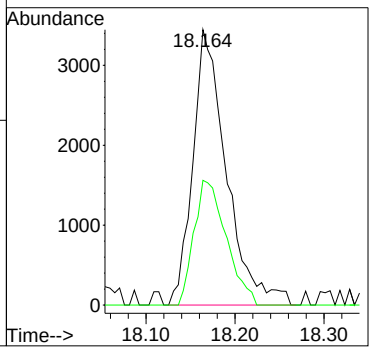


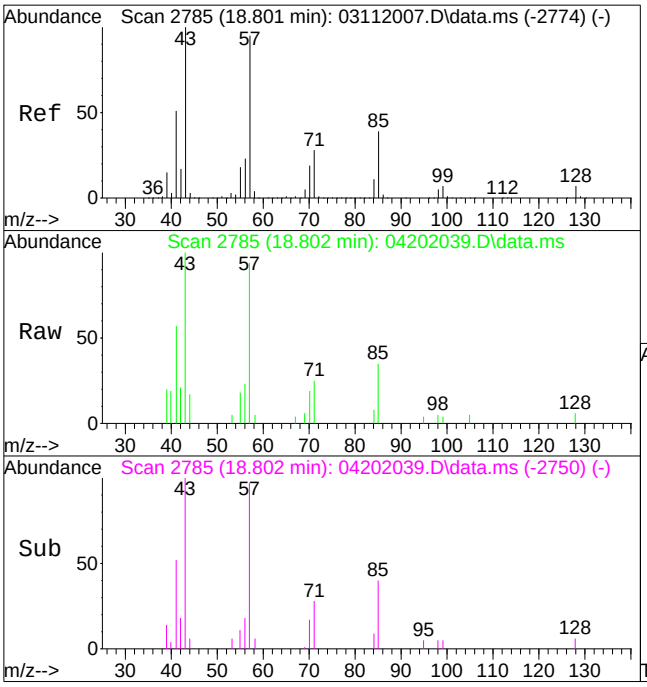


#67
m- & p-Xylenes
Concen: 0.06 ng
RT: 18.16 min Scan# 2669
Delta R.T. -0.011 min
Lab File: 04202039.D
Acq: 21 Apr 2020 1:15

Tgt Ion: 91 Resp: 9044

Ion	Ratio	Lower	Upper
91	100		
106	43.4	30.4	70.4

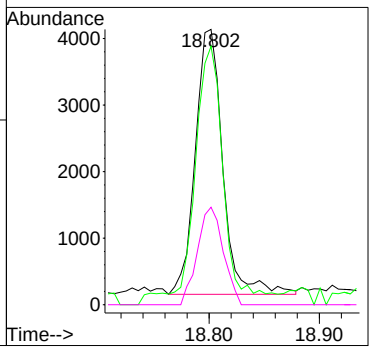


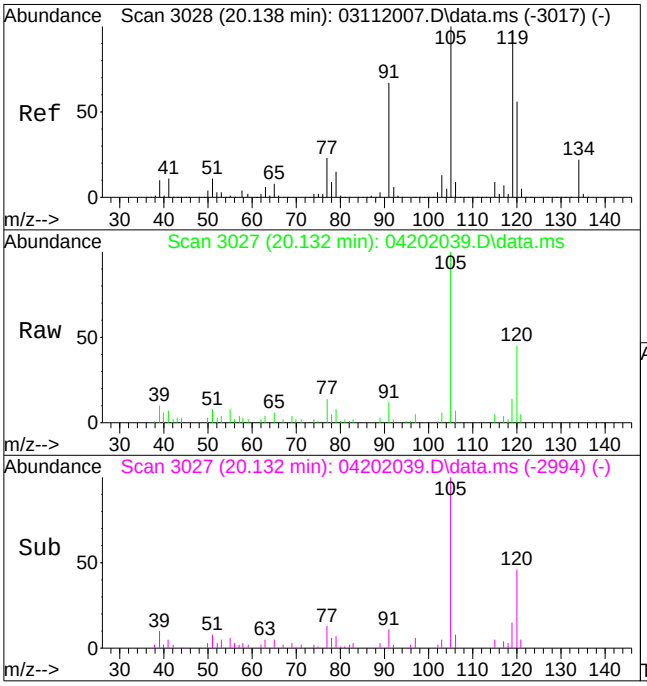


#71
n-Nonane
Concen: 0.09 ng
RT: 18.80 min Scan# 2785
Delta R.T. -0.005 min
Lab File: 04202039.D
Acq: 21 Apr 2020 1:15

Tgt Ion: 43 Resp: 6915

Ion	Ratio	Lower	Upper
43	100		
57	104.4	73.6	113.6
85	34.4	18.7	58.7

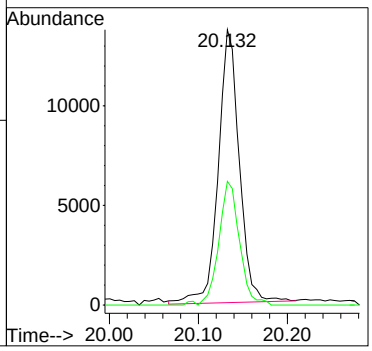




#82
1,2,4-Trimethylbenzene
Concen: 0.14 ng
RT: 20.13 min Scan# 3027
Delta R.T. -0.017 min
Lab File: 04202039.D
Acq: 21 Apr 2020 1:15

Tgt Ion:105 Resp: 22500

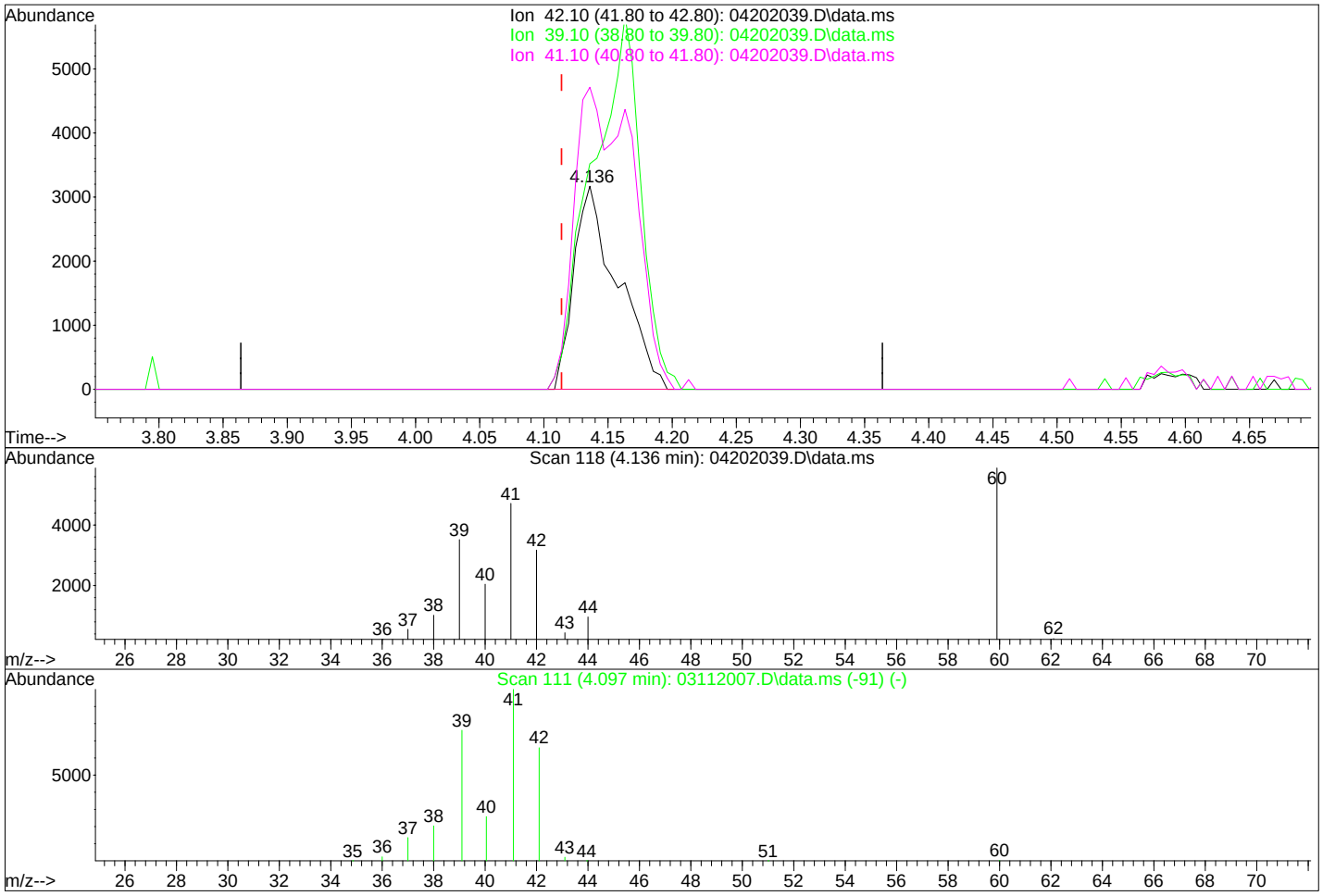
Ion	Ratio	Lower	Upper
105	100		
120	44.7	35.8	75.8



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\20\04202039.D Vial: 7
Acq On : 21 Apr 2020 1:15 Operator: LH
Sample : P2002031-004 (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 21 12:26:57 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202039.D\data.ms

(2) Propene (T)

4.136min (+0.022) 0.20ng

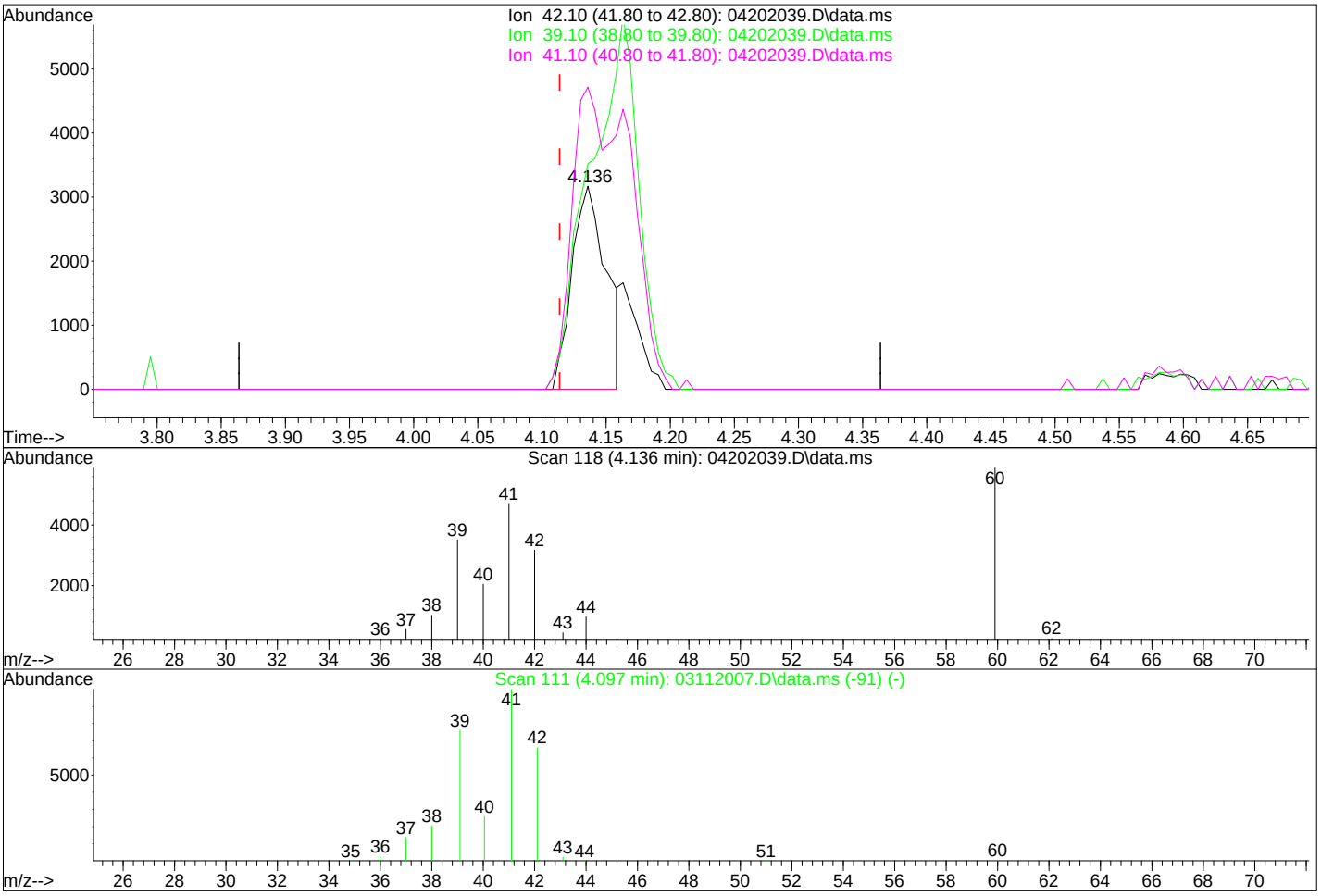
response 7543

Ion	Exp%	Act%
42.10	100	100
39.10	115.30	203.02#
41.10	152.00	197.16#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\20\04202039.D Vial: 7
Acq On : 21 Apr 2020 1:15 Operator: LH
Sample : P2002031-004 (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 21 12:26:57 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202039.D\data.ms

(2) Propene (T)

4.136min (+0.022) 0.16ng m

response 5855

Ion	Exp%	Act%
42.10	100	100
39.10	115.30	261.55#
41.10	152.00	254.01#
0.00	0.00	0.00

IPC

LH 4/22/20

4/23/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212008.D Vial: 1
Acq On : 21 Apr 2020 12:44 Operator: WA
Sample : P2002031-005 (1.5mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 18:37:41 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 4/22/20
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	335839	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1485968	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	714907	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	570157	12.260	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.08%				
57) Toluene-d8 (SS2)	15.74	98	1562755	12.333	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.64%				
73) Bromofluorobenzene (SS3)	19.01	174	518796	11.594	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.72%				
Target Compounds							Qvalue
2) Propene	4.14	42	1641	N.D.			
3) Dichlorodifluoromethan...	4.28	85	427	N.D.			
4) Chloromethane	4.56	50	604	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	4.97	62	272	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.36	45	14188	0.510	ng		91
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	7.26	101	246	N.D.			
15) 2-Propanol (Isopropanol)	7.59	45	3467	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.50	59	1344	N.D.			
19) Methylene Chloride	8.44	84	501	N.D.			
20) 3-Chloro-1-propene (Al...	8.53	41	1229	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.72	76	25270	0.197	ng		97
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.	d		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	d		
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.54	72	1022	N.D.			
28) cis-1,2-Dichloroethene	10.99	61	168	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	11.29	57	8372	0.134	ng	#	95
32) Chloroform	11.32	83	620	N.D.			
34) Tetrahydrofuran (THF)	11.80	72	1559	0.066	ng	#	79
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.15	62	175	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	12.89	61	399	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.90	78	37350	0.243	ng		100
42) Carbon Tetrachloride	13.07	117	105	N.D.			
43) Cyclohexane	13.20	84	89783	1.522	ng		96
44) tert-Amyl Methyl Ether	13.58	73	168	N.D.			
45) 1,2-Dichloropropane	13.75	63	109	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	14.00	130	787	N.D.			
48) 1,4-Dioxane	14.02	88	260	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212008.D Vial: 1
Acq On : 21 Apr 2020 12:44 Operator: WA
Sample : P2002031-005 (1.5mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 18:37:41 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

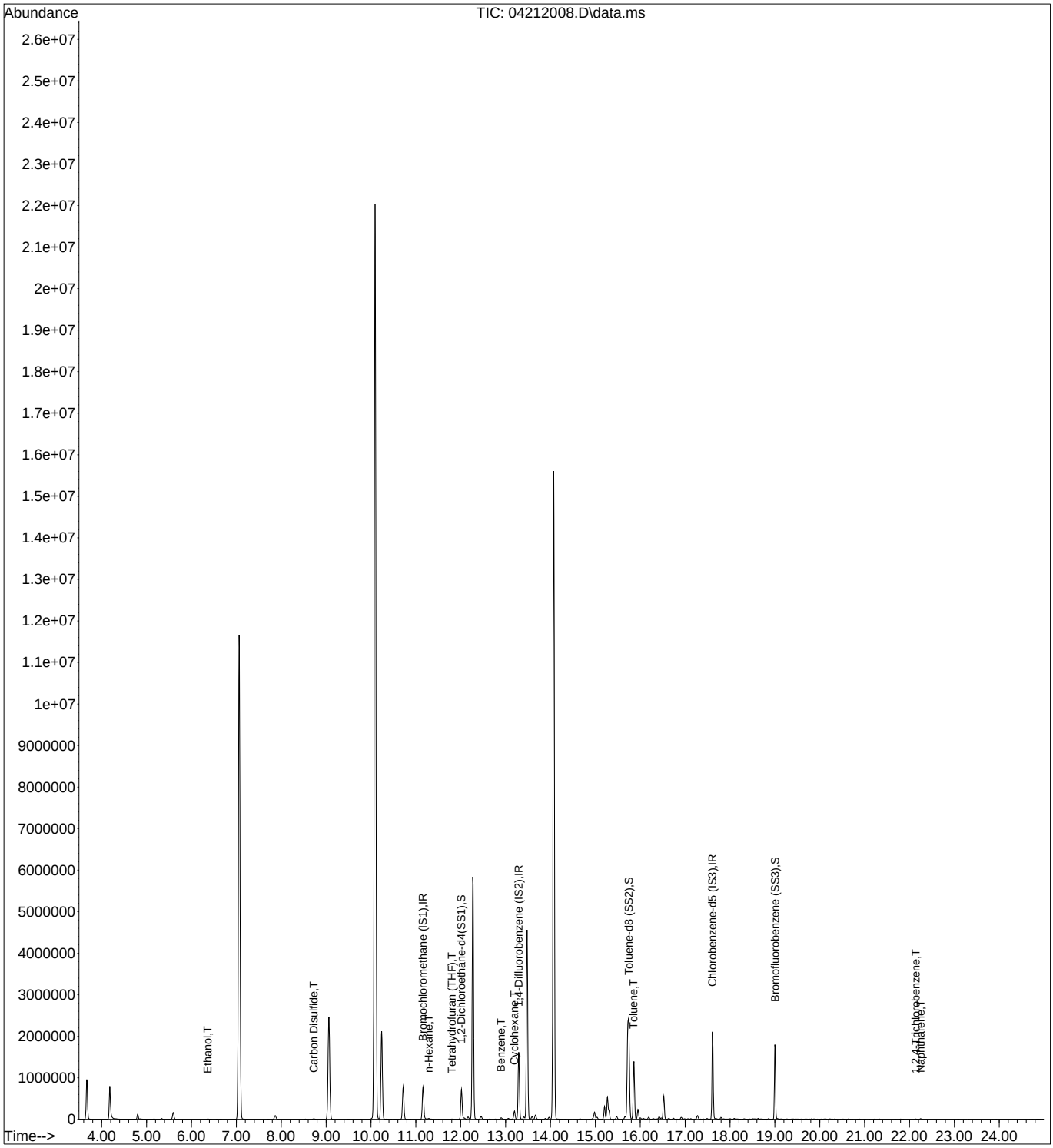
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.34	71	174	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.96	58	650	N.D.	
54) trans-1,3-Dichloropropene	15.16	75	630	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	15.85	91	9001	0.057 ng	87
59) 2-Hexanone	16.10	43	2409	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.74	43	3294	N.D.	
63) n-Octane	16.86	57	738	N.D.	
64) Tetrachloroethene	16.99	166	630	N.D.	
65) Chlorobenzene	17.67	112	2948	N.D.	
66) Ethylbenzene	18.02	91	2363	N.D.	
67) m- & p-Xylenes	18.17	91	6042	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.50	104	1590	N.D.	
70) o-Xylene	18.60	91	4291	N.D.	
71) n-Nonane	18.80	43	1215	N.D.	
72) 1,1,2,2-Tetrachloroethane	18.58	83	525	N.D.	
74) Cumene	19.13	105	2840	N.D.	
75) alpha-Pinene	19.47	93	343	N.D.	
76) n-Propylbenzene	19.58	91	4030	N.D.	
77) 3-Ethyltoluene	19.68	105	2668	N.D.	
78) 4-Ethyltoluene	19.71	105	2272	N.D.	
79) 1,3,5-Trimethylbenzene	19.77	105	2436	N.D.	
80) alpha-Methylstyrene	19.92	118	526	N.D.	
81) 2-Ethyltoluene	19.95	105	2141	N.D.	
82) 1,2,4-Trimethylbenzene	20.13	105	3269	N.D.	
83) n-Decane	20.23	57	3178	N.D.	
84) Benzyl Chloride	20.26	91	1166	N.D.	
85) 1,3-Dichlorobenzene	20.28	146	2284	N.D.	
86) 1,4-Dichlorobenzene	20.34	146	2919	N.D.	
87) sec-Butylbenzene	20.37	105	1206	N.D.	
88) 4-Isopropyltoluene (p-...	20.51	119	1750	N.D.	
89) 1,2,3-Trimethylbenzene	20.51	105	1934	N.D.	
90) 1,2-Dichlorobenzene	20.64	146	1713	N.D.	
91) d-Limonene	20.64	68	645	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.33	57	1726	N.D.	
94) 1,2,4-Trichlorobenzene	22.14	180	2503	0.051 ng	92
95) Naphthalene	22.25	128	13665	0.079 ng	95
96) n-Dodecane	22.24	57	913	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.13	119	1014	N.D.	
100) n-Butylbenzene	20.88	91	2326	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212008.D Vial: 1
Acq On : 21 Apr 2020 12:44 Operator: WA
Sample : P2002031-005 (1.5mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 18:37:41 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212008.D Vial: 1
Acq On : 21 Apr 2020 12:44 Operator: WA
Sample : P2002031-005 (1.5mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 18:37:41 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020 LH 4/22/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

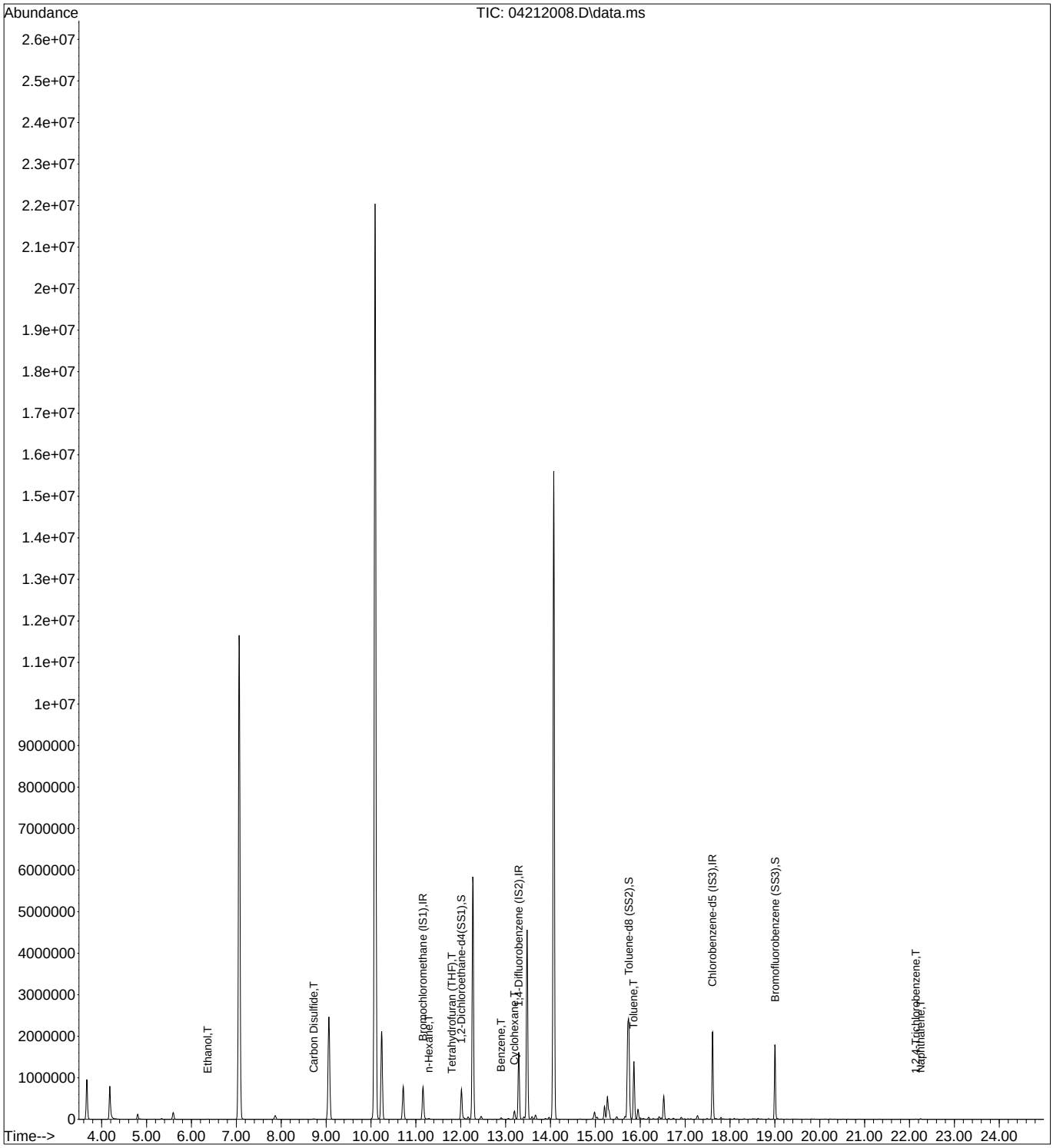
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	335839	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1485968	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	714907	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	570157	12.260	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.08%				
57) Toluene-d8 (SS2)	15.74	98	1562755	12.333	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.64%				
73) Bromofluorobenzene (SS3)	19.01	174	518796	11.594	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.72%				
Target Compounds							Qvalue
10) Ethanol	6.36	45	14188	0.510	ng		91
22) Carbon Disulfide	8.72	76	25270	0.197	ng		97
31) n-Hexane	11.29	57	8372	0.134	ng	#	95
34) Tetrahydrofuran (THF)	11.80	72	1559	0.066	ng	#	79
41) Benzene	12.90	78	37350	0.243	ng		100
43) Cyclohexane	13.20	84	89783	1.522	ng		96
58) Toluene	15.85	91	9001	0.057	ng		87
94) 1,2,4-Trichlorobenzene	22.14	180	2503	0.051	ng		92
95) Naphthalene	22.25	128	13665	0.079	ng		95

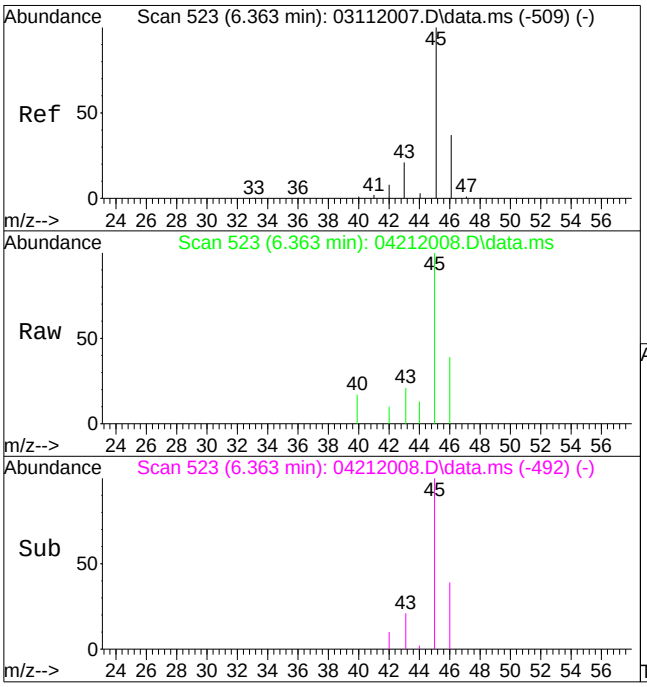
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212008.D Vial: 1
Acq On : 21 Apr 2020 12:44 Operator: WA
Sample : P2002031-005 (1.5mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 18:37:41 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

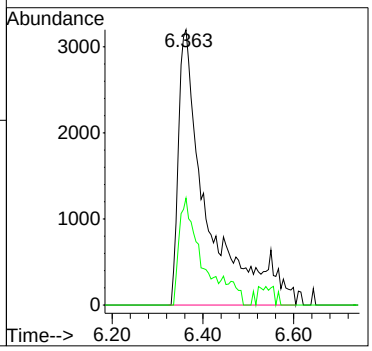


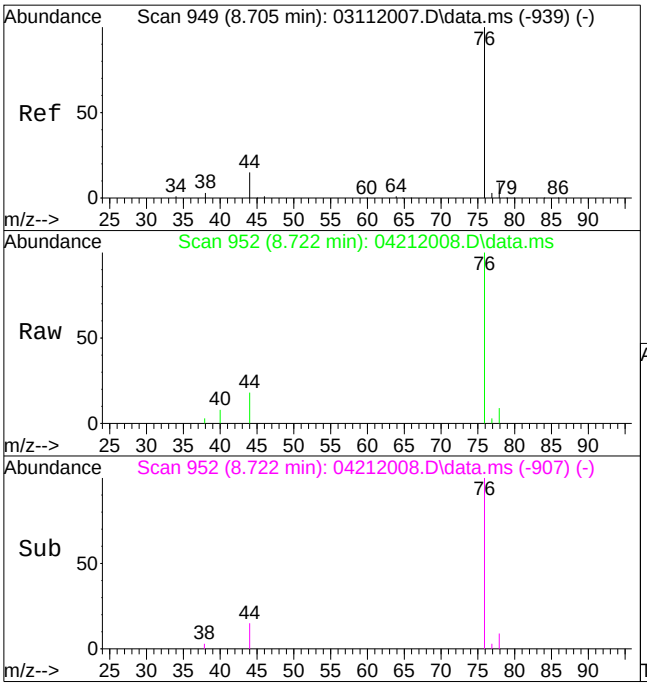


#10
Ethanol
Concen: 0.51 ng
RT: 6.36 min Scan# 523
Delta R.T. -0.077 min
Lab File: 04212008.D
Acq: 21 Apr 2020 12:44

Tgt Ion: 45 Resp: 14188

Ion	Ratio	Lower	Upper
45	100		
46	32.0	17.3	57.3

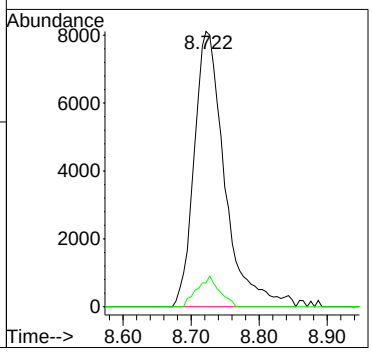


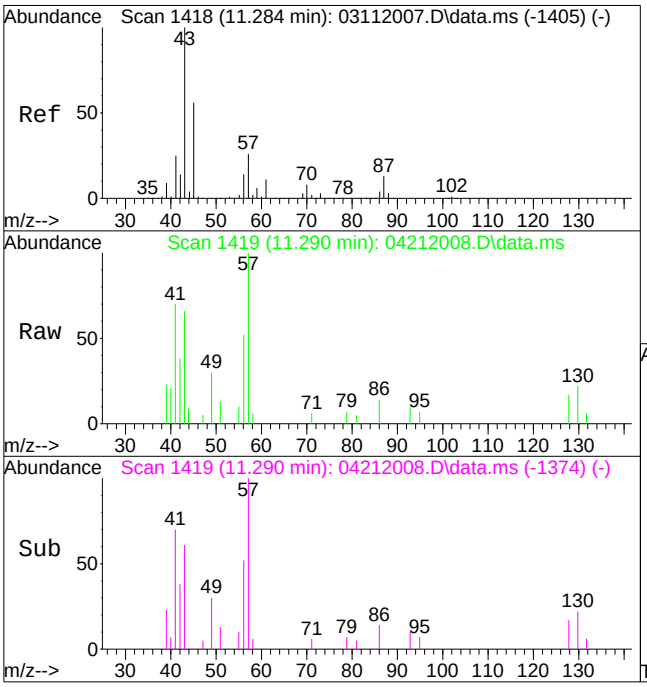


#22
Carbon Disulfide
Concen: 0.20 ng
RT: 8.72 min Scan# 952
Delta R.T. 0.000 min
Lab File: 04212008.D
Acq: 21 Apr 2020 12:44

Tgt Ion: 76 Resp: 25270

Ion	Ratio	Lower	Upper
76	100		
78	8.1	0.0	29.2

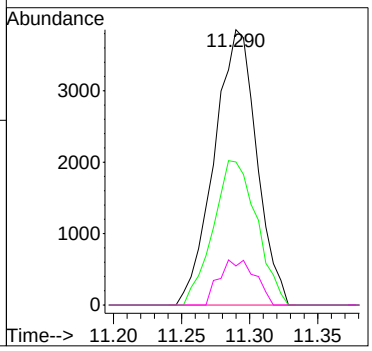


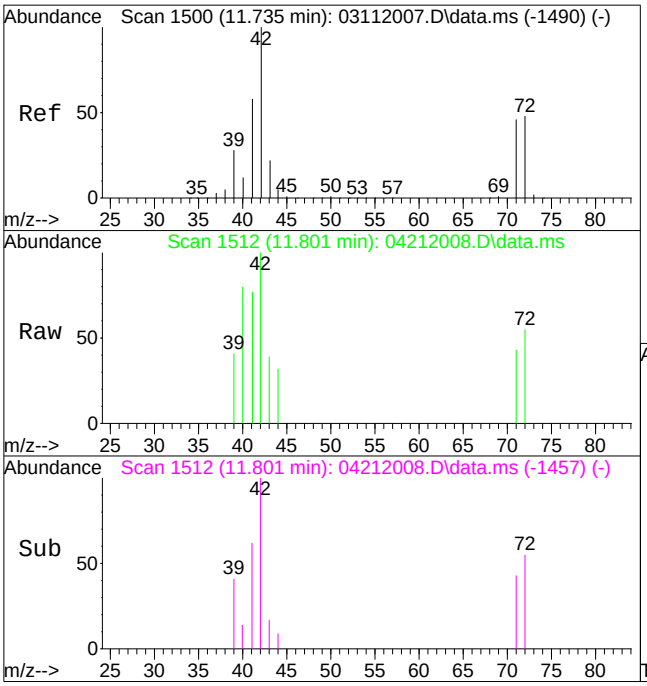


#31
n-Hexane
Concen: 0.13 ng
RT: 11.29 min Scan# 1419
Delta R.T. 0.000 min
Lab File: 04212008.D
Acq: 21 Apr 2020 12:44

Tgt Ion: 57 Resp: 8372

Ion	Ratio	Lower	Upper
57	100		
56	53.6	41.0	61.4
86	13.9	13.9	20.9#

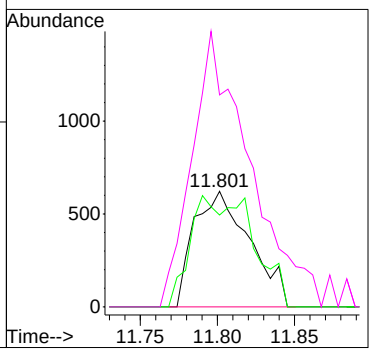


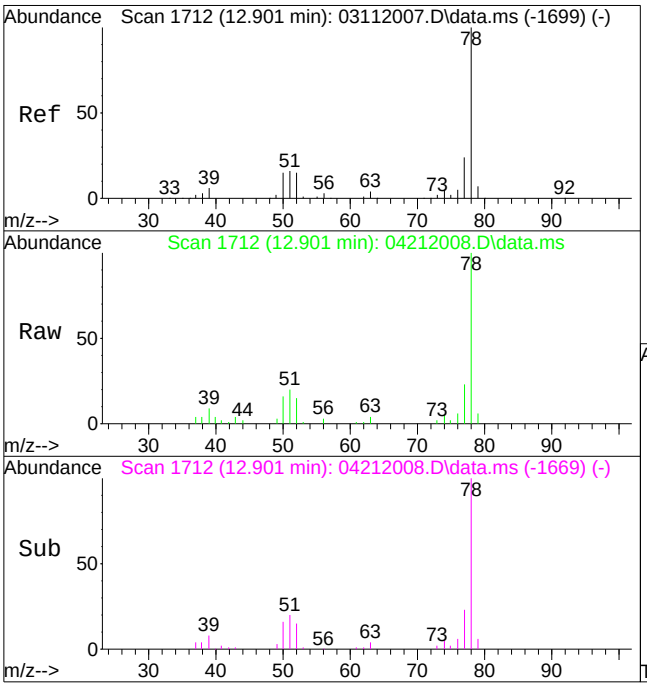


#34
Tetrahydrofuran (THF)
Concen: 0.07 ng
RT: 11.80 min Scan# 1512
Delta R.T. 0.055 min
Lab File: 04212008.D
Acq: 21 Apr 2020 12:44

Tgt Ion: 72 Resp: 1559

Ion	Ratio	Lower	Upper
72	100		
71	107.8	75.9	115.9
42	248.9	189.3	229.3#

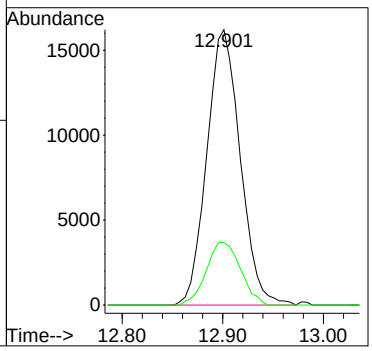


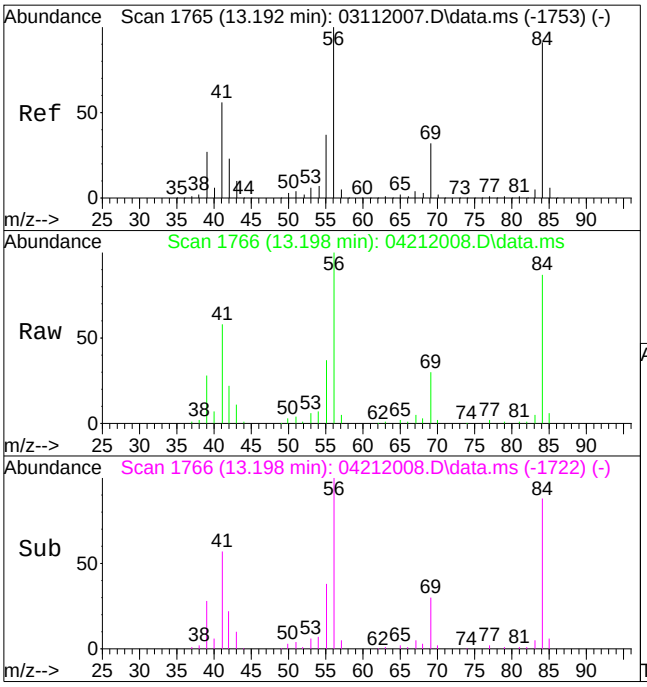


#41
Benzene
Concen: 0.24 ng
RT: 12.90 min Scan# 1712
Delta R.T. -0.011 min
Lab File: 04212008.D
Acq: 21 Apr 2020 12:44

Tgt Ion: 78 Resp: 37350

Ion	Ratio	Lower	Upper
78	100		
77	23.4	3.4	43.4

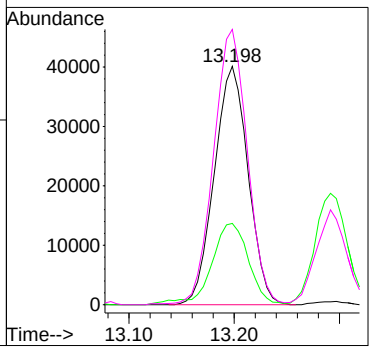


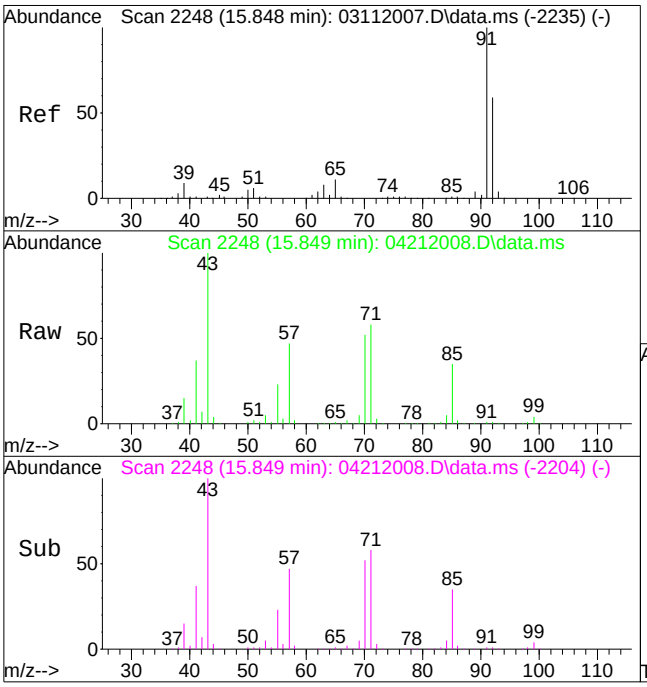


#43
Cyclohexane
Concen: 1.52 ng
RT: 13.20 min Scan# 1766
Delta R.T. -0.005 min
Lab File: 04212008.D
Acq: 21 Apr 2020 12:44

Tgt Ion: 84 Resp: 89783

Ion	Ratio	Lower	Upper
84	100		
69	37.2	15.3	55.3
56	115.4	90.5	130.5

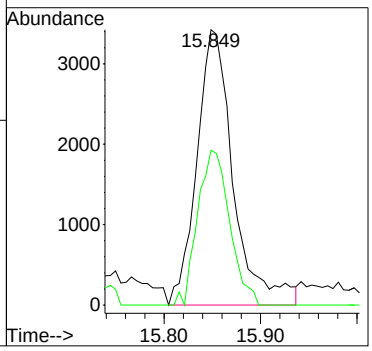


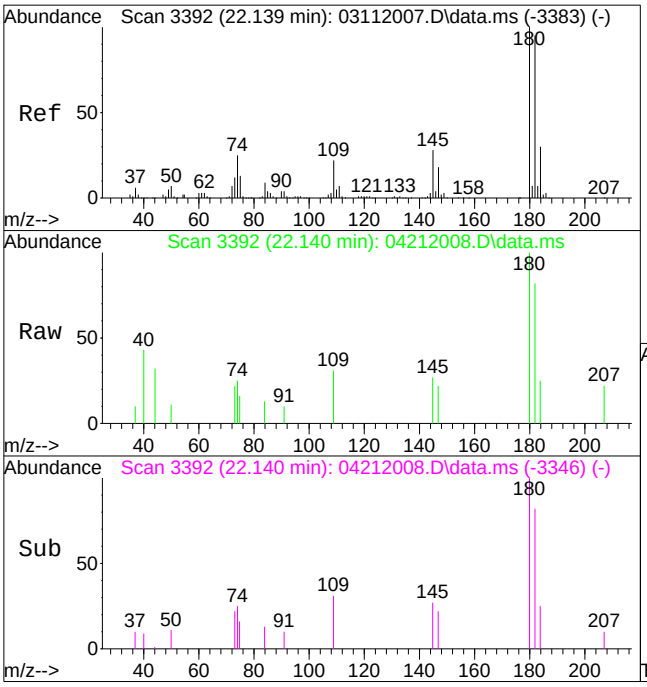


#58
Toluene
Concen: 0.06 ng
RT: 15.85 min Scan# 2248
Delta R.T. -0.005 min
Lab File: 04212008.D
Acq: 21 Apr 2020 12:44

Tgt Ion: 91 Resp: 9001

Ion	Ratio	Lower	Upper
91	100		
92	49.1	39.0	79.0

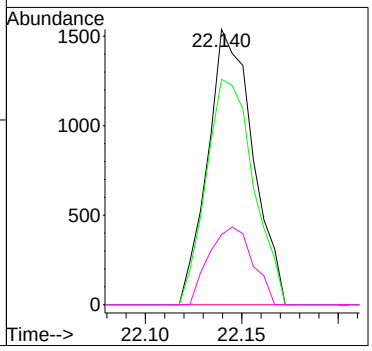


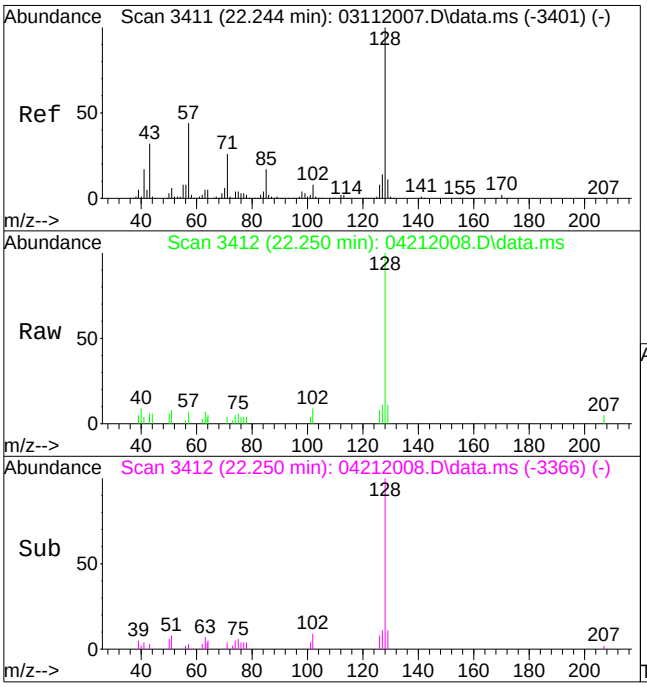


#94
1,2,4-Trichlorobenzene
Concen: 0.05 ng
RT: 22.14 min Scan# 3392
Delta R.T. 0.001 min
Lab File: 04212008.D
Acq: 21 Apr 2020 12:44

Tgt Ion:180 Resp: 2503

Ion	Ratio	Lower	Upper
180	100		
182	85.9	75.8	113.6
184	27.4	24.3	36.5

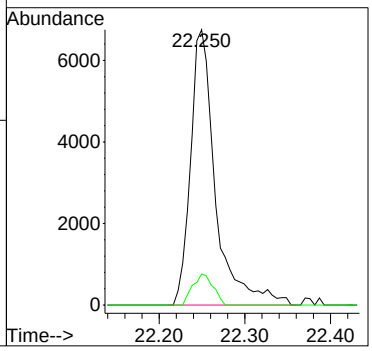




#95
Naphthalene
Concen: 0.08 ng
RT: 22.25 min Scan# 3412
Delta R.T. 0.001 min
Lab File: 04212008.D
Acq: 21 Apr 2020 12:44

Tgt Ion:128 Resp: 13665

Ion	Ratio	Lower	Upper
128	100		
129	9.2	0.0	31.1



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202041.D Vial: 8
Acq On : 21 Apr 2020 2:22 Operator: LH
Sample : P2002031-006 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 16:44:01 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 4/22/20
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	304145	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1350128	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	660879	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	529177	12.565	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.56%				
57) Toluene-d8 (SS2)	15.74	98	1389626	11.863	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.88%				
73) Bromofluorobenzene (SS3)	19.00	174	470506	11.374	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.96%				
Target Compounds							Qvalue
2) Propene	4.11	42	78402	2.458	ng		91
3) Dichlorodifluoromethan...	4.28	85	35997	0.525	ng		99
4) Chloromethane	4.55	50	4018	0.074	ng		97
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	4080	0.093	ng		100
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.16	54	371	N.D.			
8) Bromomethane	5.66	94	220	N.D.			
9) Chloroethane	6.01	64	571	N.D.			
10) Ethanol	6.32	45	276270	10.959	ng		100
11) Acetonitrile	6.63	41	4526	0.082	ng		95
12) Acrolein	6.83	56	6850	0.369	ng		98
13) Acetone	7.02	58	117150	4.709	ng	#	28
14) Trichlorofluoromethane	7.26	101	35307	0.583	ng		100
15) 2-Propanol (Isopropanol)	7.48	45	500396	6.782	ng		99
16) Acrylonitrile	0.00	53	0	N.D. d			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d			
19) Methylene Chloride	8.43	84	8206	0.253	ng		97
20) 3-Chloro-1-propene (Al...	8.53	41	909	N.D.			
21) Trichlorotrifluoroethane	8.86	151	2974	0.103	ng		95
22) Carbon Disulfide	8.71	76	98999	0.850	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	10.08	63	274	N.D.			
25) Methyl tert-Butyl Ether	10.11	73	1312	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	10.48	72	17215	0.831	ng	#	91
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D. d			
30) Ethyl Acetate	11.29	61	110842	9.054	ng	#	58
31) n-Hexane	11.28	57	5001	0.088	ng	#	85
32) Chloroform	11.32	83	5117717	84.748	ng		99
34) Tetrahydrofuran (THF)	11.75	72	53363	2.504	ng	#	90
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.14	62	269	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D. d			
41) Benzene	12.90	78	14222	0.102	ng		99
42) Carbon Tetrachloride	13.06	117	28180	0.588	ng		99
43) Cyclohexane	13.20	84	7343	0.137	ng		98
44) tert-Amyl Methyl Ether	13.56	73	1747	N.D.			
45) 1,2-Dichloropropane	13.94	63	314	N.D.			
46) Bromodichloromethane	13.94	83	423937	8.984	ng		100
47) Trichloroethene	14.00	130	3209	0.081	ng		93
48) 1,4-Dioxane	13.94	88	372	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d			
50) Methyl Methacrylate	14.13	100	114	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202041.D Vial: 8
Acq On : 21 Apr 2020 2:22 Operator: LH
Sample : P2002031-006 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 16:44:01 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

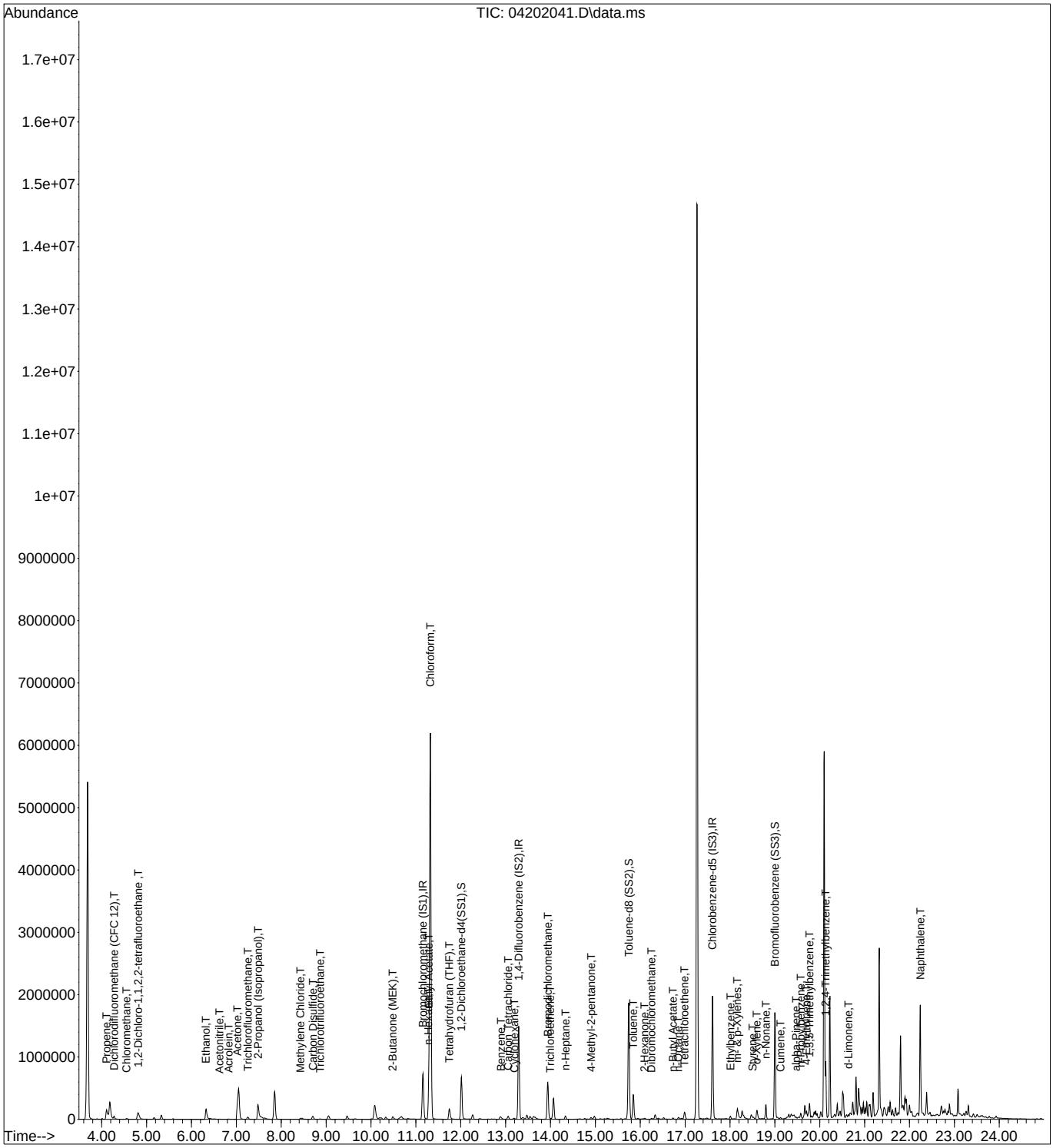
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.34	71	12998	0.399	ng		97
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
53) 4-Methyl-2-pentanone	14.91	58	8808	0.301	ng		93
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.			
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.			
58) Toluene	15.84	91	297734	2.056	ng		100
59) 2-Hexanone	16.10	43	13642	0.188	ng		90
60) Dibromochloromethane	16.25	129	5372	0.139	ng		99
61) 1,2-Dibromoethane	0.00	107	0	N.D.			
62) n-Butyl Acetate	16.73	43	19508	0.252	ng		97
63) n-Octane	16.85	57	5959	0.207	ng		92
64) Tetrachloroethene	16.99	166	35408	0.877	ng		100
65) Chlorobenzene	17.65	112	623	N.D.			
66) Ethylbenzene	18.01	91	35895	0.226	ng		98
67) m- & p-Xylenes	18.16	91	124067	0.960	ng		98
68) Bromoform	0.00	173	0	N.D.			
69) Styrene	18.50	104	6524	0.064	ng		94
70) o-Xylene	18.60	91	43490	0.337	ng		98
71) n-Nonane	18.80	43	84905	1.314	ng		93
72) 1,1,2,2-Tetrachloroethane	18.58	83	385	N.D.			
74) Cumene	19.13	105	8577	0.052	ng		93
75) alpha-Pinene	19.47	93	9778	0.118	ng	#	1
76) n-Propylbenzene	19.58	91	52628	0.276	ng		92
77) 3-Ethyltoluene	0.00	105	0	N.D.	d		
78) 4-Ethyltoluene	19.70	105	62831	0.405	ng		97
79) 1,3,5-Trimethylbenzene	19.77	105	84280	0.610	ng		96
80) alpha-Methylstyrene	0.00	118	0	N.D.	d		
81) 2-Ethyltoluene	0.00	105	0	N.D.	d		
82) 1,2,4-Trimethylbenzene	20.13	105	467539	3.267	ng		88
83) n-Decane	0.00	57	0	N.D.	d		
84) Benzyl Chloride	20.25	91	1661	N.D.			
85) 1,3-Dichlorobenzene	20.27	146	318	N.D.			
86) 1,4-Dichlorobenzene	20.32	146	487	N.D.			
87) sec-Butylbenzene	0.00	105	0	N.D.	d		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.	d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d		
90) 1,2-Dichlorobenzene	20.63	146	204	N.D.			
91) d-Limonene	20.64	68	10940	0.198	ng		99
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.			
93) n-Undecane	0.00	57	0	N.D.	d		
94) 1,2,4-Trichlorobenzene	22.14	180	404	N.D.			
95) Naphthalene	22.24	128	150476	0.940	ng		98
96) n-Dodecane	0.00	57	0	N.D.	d		
97) Hexachlorobutadiene	0.00	225	0	N.D.			
98) Cyclohexanone	0.00	55	0	N.D.	d		
99) tert-Butylbenzene	0.00	119	0	N.D.	d		
100) n-Butylbenzene	0.00	91	0	N.D.	d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202041.D Vial: 8
Acq On : 21 Apr 2020 2:22 Operator: LH
Sample : P2002031-006 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 16:44:01 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202041.D Vial: 8
Acq On : 21 Apr 2020 2:22 Operator: LH
Sample : P2002031-006 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 16:44:01 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/22/20

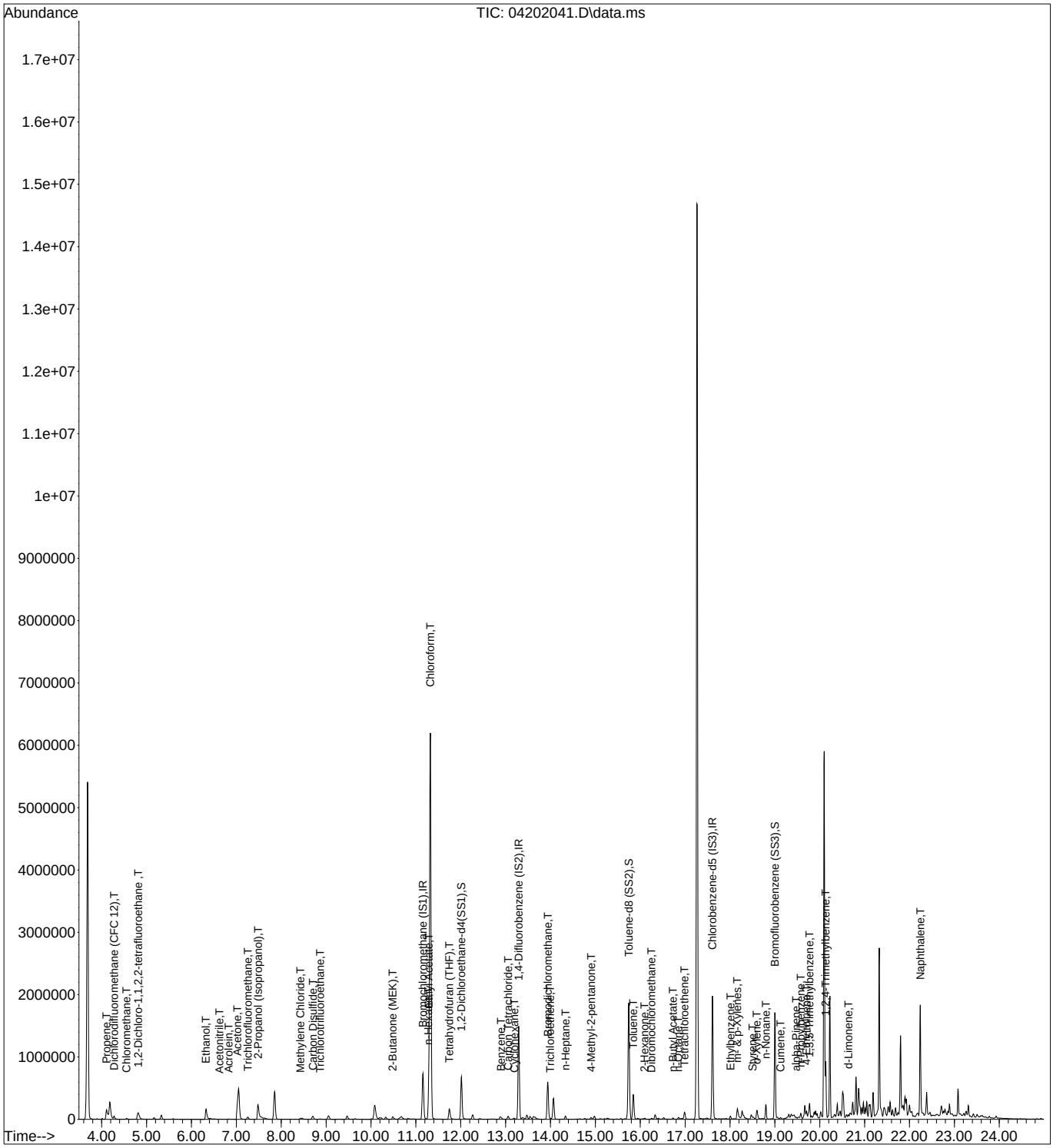
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	304145	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1350128	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	660879	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	529177	12.565	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.56%				
57) Toluene-d8 (SS2)	15.74	98	1389626	11.863	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.88%				
73) Bromofluorobenzene (SS3)	19.00	174	470506	11.374	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.96%				
Target Compounds							Qvalue
2) Propene	4.11	42	78402	2.458	ng		91
3) Dichlorodifluoromethan...	4.28	85	35997	0.525	ng		99
4) Chloromethane	4.55	50	4018	0.074	ng		97
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	4080	0.093	ng		100
10) Ethanol	6.32	45	276270	10.959	ng		100
11) Acetonitrile	6.63	41	4526	0.082	ng		95
12) Acrolein	6.83	56	6850	0.369	ng		98
13) Acetone	7.02	58	117150	4.709	ng	#	28
14) Trichlorofluoromethane	7.26	101	35307	0.583	ng		100
15) 2-Propanol (Isopropanol)	7.48	45	500396	6.782	ng		99
19) Methylene Chloride	8.43	84	8206	0.253	ng		97
21) Trichlorotrifluoroethane	8.86	151	2974	0.103	ng		95
22) Carbon Disulfide	8.71	76	98999	0.850	ng		99
27) 2-Butanone (MEK)	10.48	72	17215	0.831	ng	#	91
30) Ethyl Acetate	11.29	61	110842	9.054	ng	#	58
31) n-Hexane	11.28	57	5001	0.088	ng	#	85
32) Chloroform	11.32	83	5117717	84.748	ng		99
34) Tetrahydrofuran (THF)	11.75	72	53363	2.504	ng	#	90
41) Benzene	12.90	78	14222	0.102	ng		99
42) Carbon Tetrachloride	13.06	117	28180	0.588	ng		99
43) Cyclohexane	13.20	84	7343	0.137	ng		98
46) Bromodichloromethane	13.94	83	423937	8.984	ng		100
47) Trichloroethene	14.00	130	3209	0.081	ng		93
51) n-Heptane	14.34	71	12998	0.399	ng		97
53) 4-Methyl-2-pentanone	14.91	58	8808	0.301	ng		93
58) Toluene	15.84	91	297734	2.056	ng		100
59) 2-Hexanone	16.10	43	13642	0.188	ng		90
60) Dibromochloromethane	16.25	129	5372	0.139	ng		99
62) n-Butyl Acetate	16.73	43	19508	0.252	ng		97
63) n-Octane	16.85	57	5959	0.207	ng		92
64) Tetrachloroethene	16.99	166	35408	0.877	ng		100
66) Ethylbenzene	18.01	91	35895	0.226	ng		98
67) m- & p-Xylenes	18.16	91	124067	0.960	ng		98
69) Styrene	18.50	104	6524	0.064	ng		94
70) o-Xylene	18.60	91	43490	0.337	ng		98
71) n-Nonane	18.80	43	84905	1.314	ng		93
74) Cumene	19.13	105	8577	0.052	ng		93
75) alpha-Pinene	19.47	93	9778	0.118	ng	#	1
76) n-Propylbenzene	19.58	91	52628	0.276	ng		92
78) 4-Ethyltoluene	19.70	105	62831	0.405	ng		97
79) 1,3,5-Trimethylbenzene	19.77	105	84280	0.610	ng		96
82) 1,2,4-Trimethylbenzene	20.13	105	467539	3.267	ng		88
91) d-Limonene	20.64	68	10940	0.198	ng		99
95) Naphthalene	22.24	128	150476	0.940	ng		98

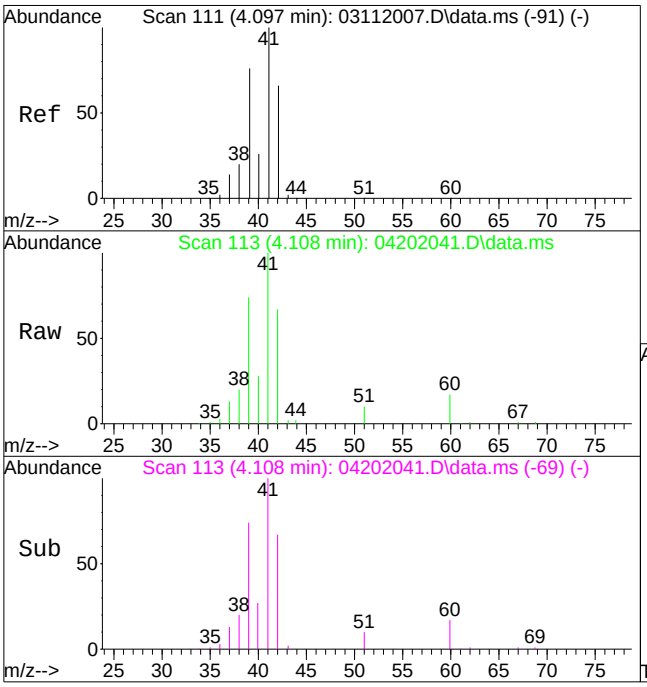
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202041.D Vial: 8
Acq On : 21 Apr 2020 2:22 Operator: LH
Sample : P2002031-006 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 16:44:01 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

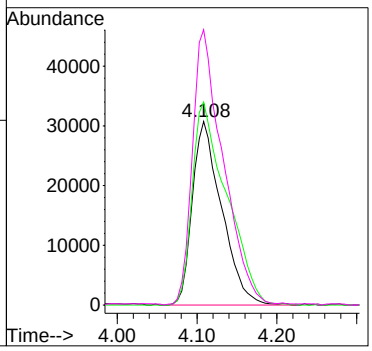


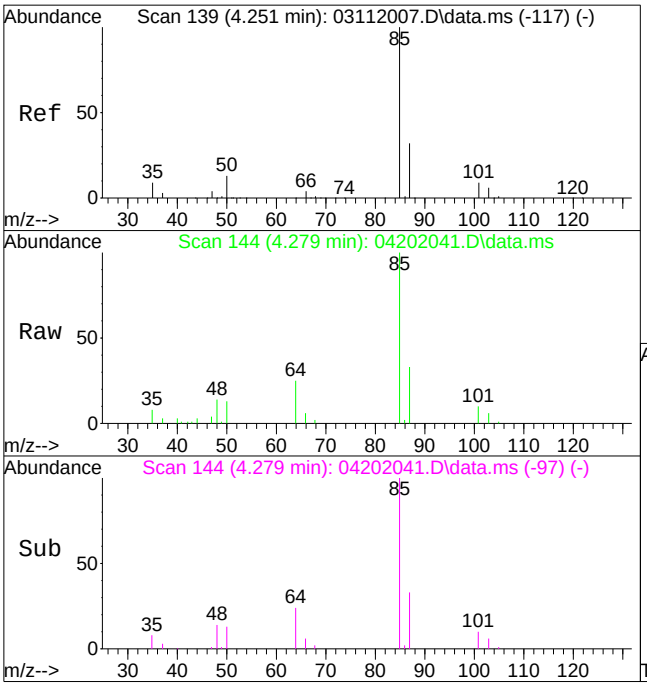


#2
Propene
Concen: 2.46 ng
RT: 4.11 min Scan# 113
Delta R.T. -0.006 min
Lab File: 04202041.D
Acq: 21 Apr 2020 2:22

Tgt Ion: 42 Resp: 78402

Ion	Ratio	Lower	Upper
42	100		
39	130.2	95.3	135.3
41	157.9	132.0	172.0

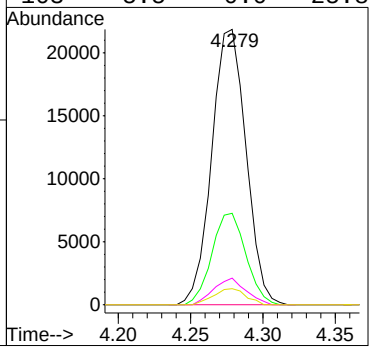


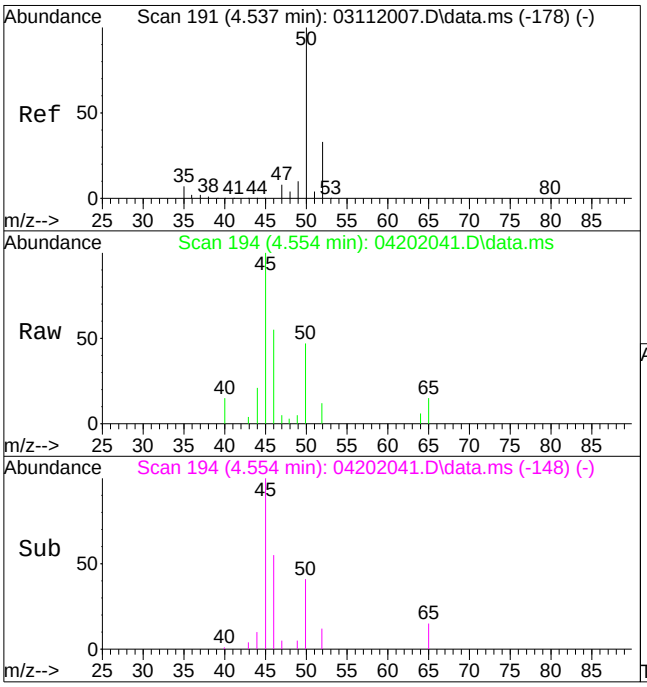


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.52 ng
RT: 4.28 min Scan# 144
Delta R.T. 0.011 min
Lab File: 04202041.D
Acq: 21 Apr 2020 2:22

Tgt Ion: 85 Resp: 35997

Ion	Ratio	Lower	Upper
85	100		
87	32.9	12.3	52.3
101	9.0	0.0	29.0
103	5.5	0.0	25.8

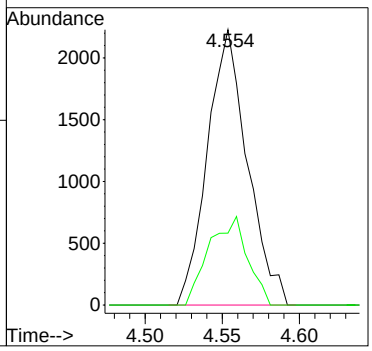


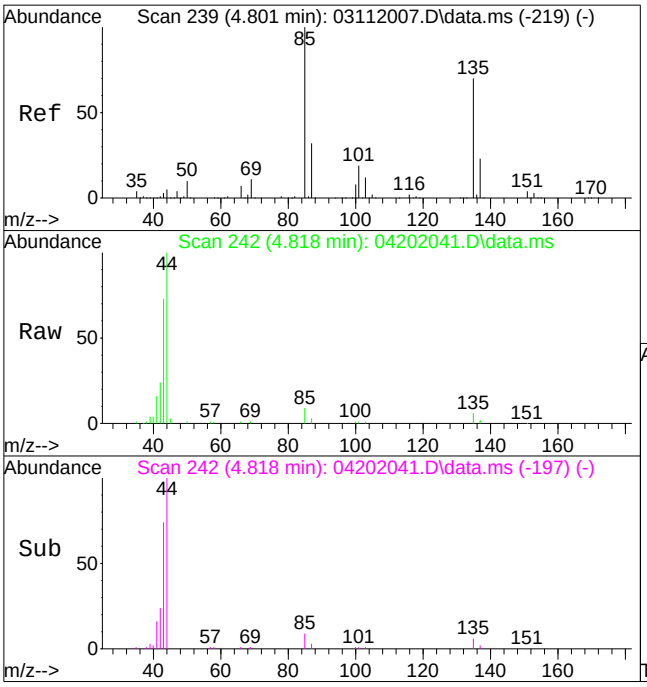


#4
Chloromethane
Concen: 0.07 ng
RT: 4.55 min Scan# 194
Delta R.T. 0.001 min
Lab File: 04202041.D
Acq: 21 Apr 2020 2:22

Tgt Ion: 50 Resp: 4018

Ion	Ratio	Lower	Upper
50	100		
52	31.0	12.8	52.8

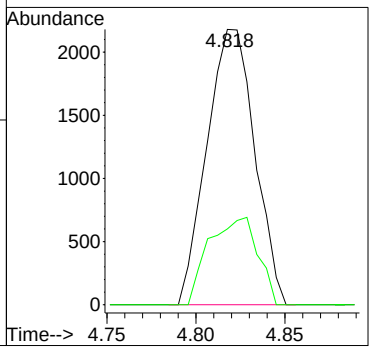


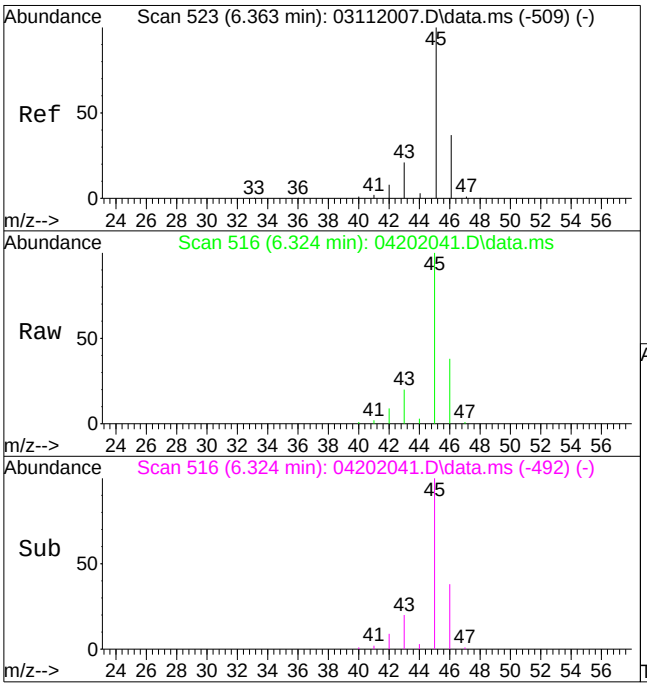


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 0.09 ng
RT: 4.82 min Scan# 242
Delta R.T. -0.005 min
Lab File: 04202041.D
Acq: 21 Apr 2020 2:22

Tgt Ion:135 Resp: 4080

Ion	Ratio	Lower	Upper
135	100		
137	32.3	12.3	52.3

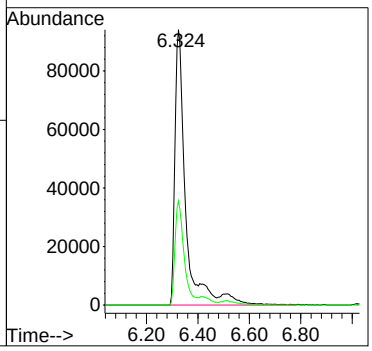


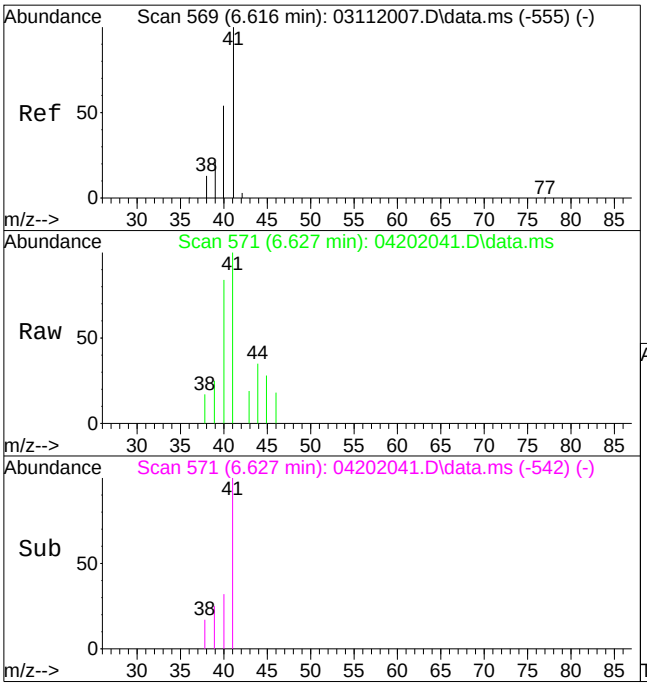


#10
Ethanol
Concen: 10.96 ng
RT: 6.32 min Scan# 516
Delta R.T. -0.116 min
Lab File: 04202041.D
Acq: 21 Apr 2020 2:22

Tgt Ion: 45 Resp: 276270

Ion	Ratio	Lower	Upper
45	100		
46	37.3	17.3	57.3

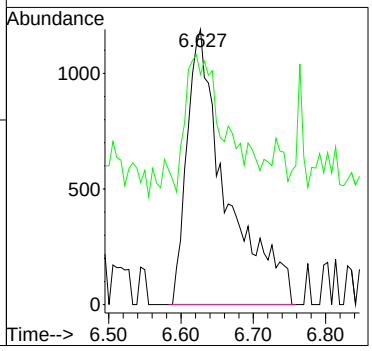


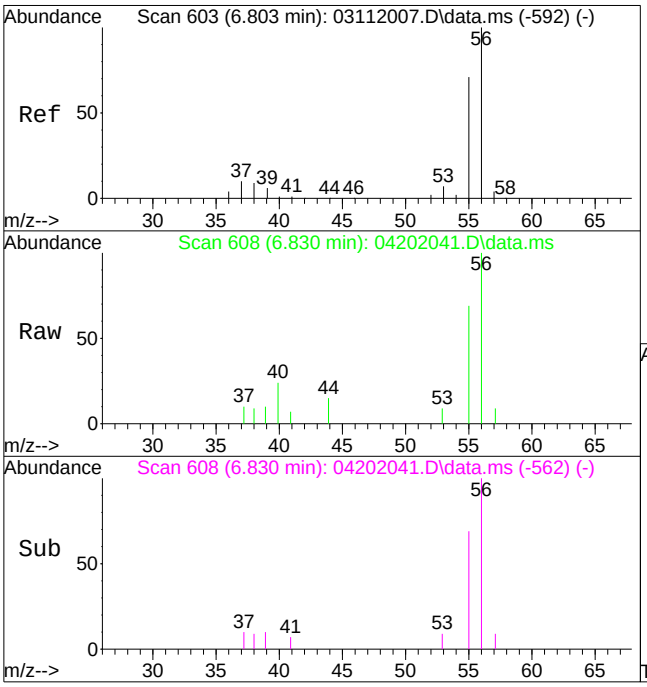


#11
Acetonitrile
Concen: 0.08 ng
RT: 6.63 min Scan# 571
Delta R.T. -0.038 min
Lab File: 04202041.D
Acq: 21 Apr 2020 2:22

Tgt Ion: 41 Resp: 4526

Ion	Ratio	Lower	Upper
41	100		
40	57.2	33.6	73.6

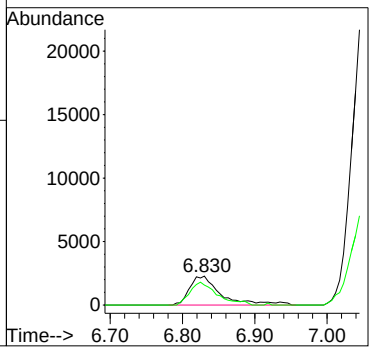


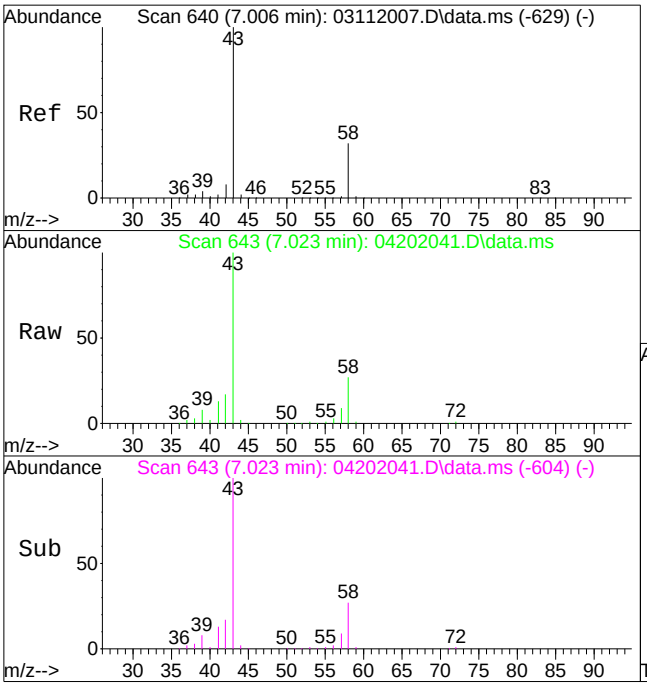


#12
Acrolein
Concen: 0.37 ng
RT: 6.83 min Scan# 608
Delta R.T. 0.000 min
Lab File: 04202041.D
Acq: 21 Apr 2020 2:22

Tgt Ion: 56 Resp: 6850

Ion	Ratio	Lower	Upper
56	100		
55	68.7	50.4	90.4

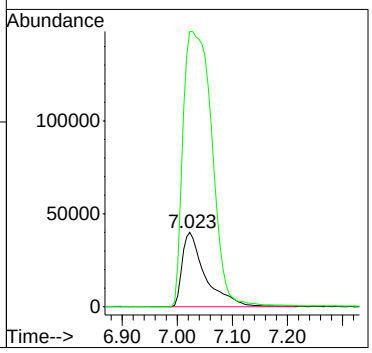


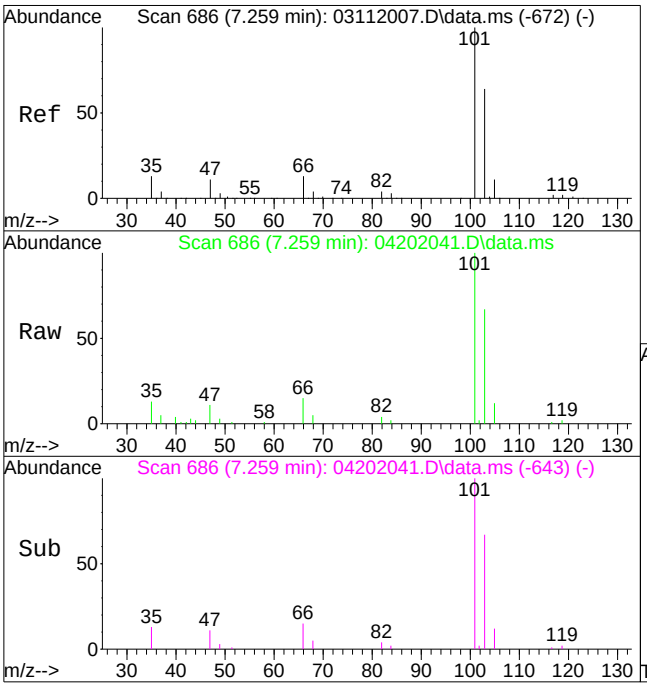


#13
Acetone
Concen: 4.71 ng
RT: 7.02 min Scan# 643
Delta R.T. -0.033 min
Lab File: 04202041.D
Acq: 21 Apr 2020 2:22

Tgt Ion: 58 Resp: 117150

Ion	Ratio	Lower	Upper
58	100		
43	463.1	287.3	347.3#

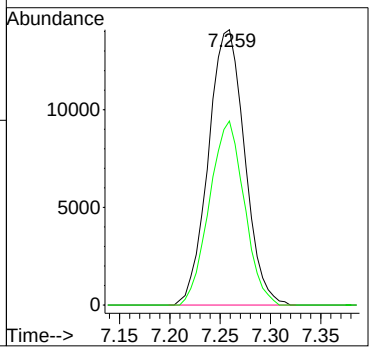


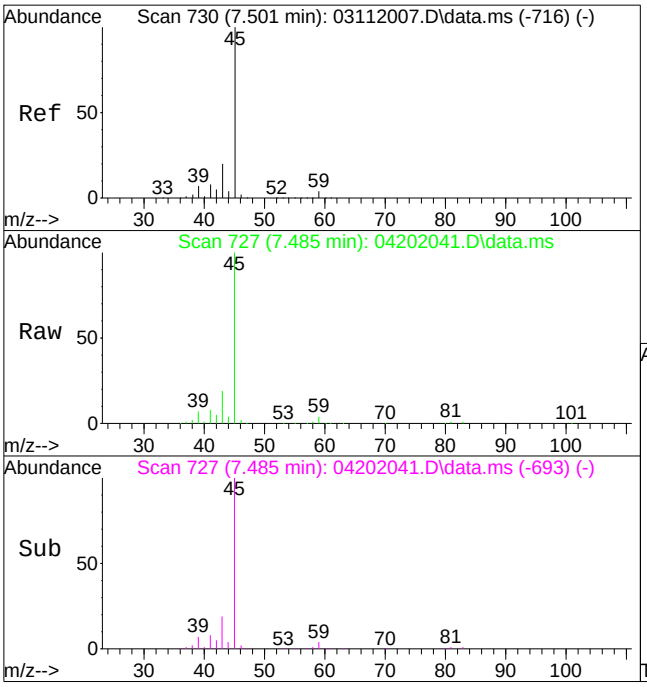


#14
Trichlorofluoromethane
Concen: 0.58 ng
RT: 7.26 min Scan# 686
Delta R.T. -0.016 min
Lab File: 04202041.D
Acq: 21 Apr 2020 2:22

Tgt Ion:101 Resp: 35307

Ion	Ratio	Lower	Upper
101	100		
103	64.3	44.6	84.6

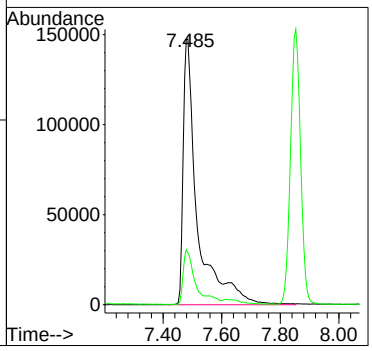


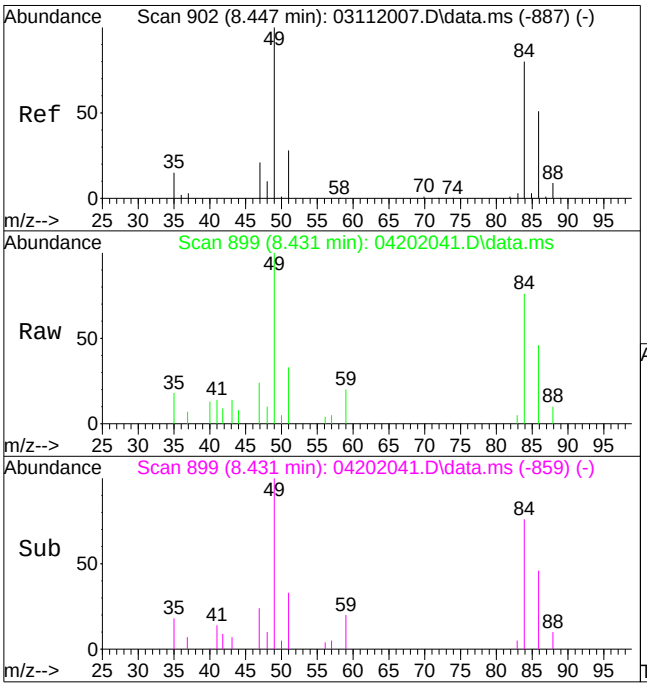


#15
2-Propanol (Isopropanol)
Concen: 6.78 ng
RT: 7.48 min Scan# 727
Delta R.T. -0.066 min
Lab File: 04202041.D
Acq: 21 Apr 2020 2:22

Tgt Ion: 45 Resp: 500396

Ion	Ratio	Lower	Upper
45	100		
43	20.6	0.3	40.3

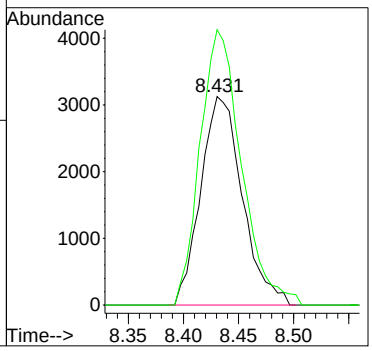


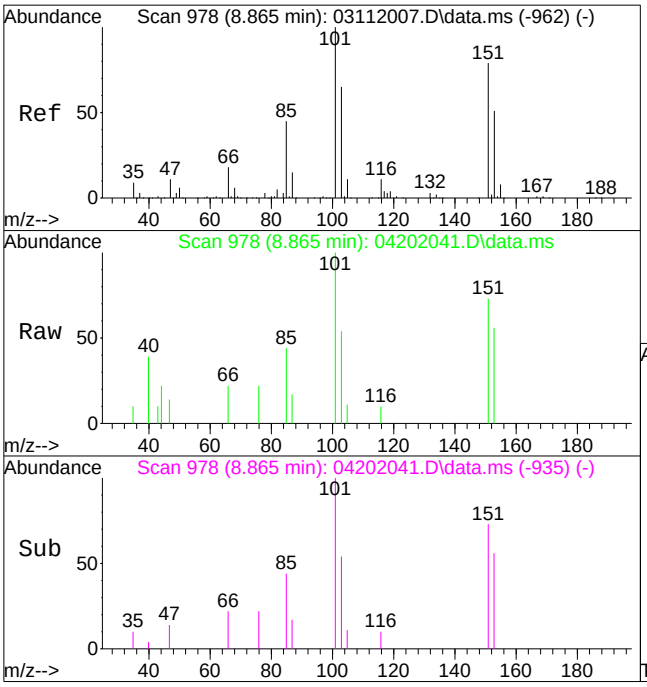


#19
Methylene Chloride
Concen: 0.25 ng
RT: 8.43 min Scan# 899
Delta R.T. -0.032 min
Lab File: 04202041.D
Acq: 21 Apr 2020 2:22

Tgt Ion: 84 Resp: 8206

Ion	Ratio	Lower	Upper
84	100		
49	131.2	102.2	152.2

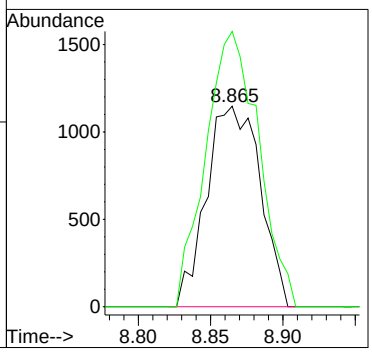


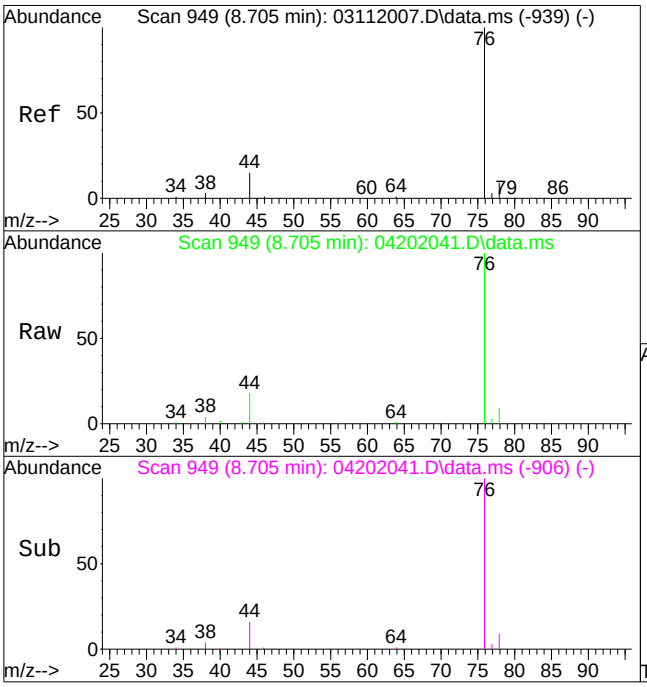


#21
Trichlorotrifluoroethane
Concen: 0.10 ng
RT: 8.86 min Scan# 978
Delta R.T. -0.011 min
Lab File: 04202041.D
Acq: 21 Apr 2020 2:22

Tgt Ion:151 Resp: 2974

Ion	Ratio	Lower	Upper
151	100		
101	134.6	108.4	148.4

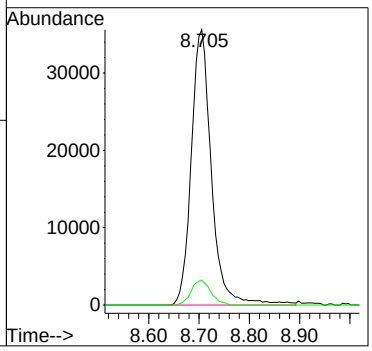


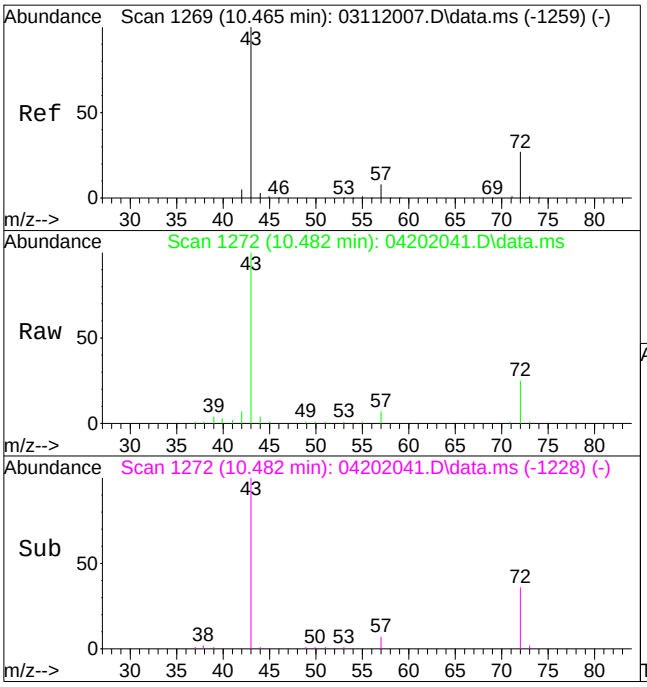


#22
Carbon Disulfide
Concen: 0.85 ng
RT: 8.71 min Scan# 949
Delta R.T. -0.016 min
Lab File: 04202041.D
Acq: 21 Apr 2020 2:22

Tgt Ion: 76 Resp: 98999

Ion	Ratio	Lower	Upper
76	100		
78	8.8	0.0	29.2

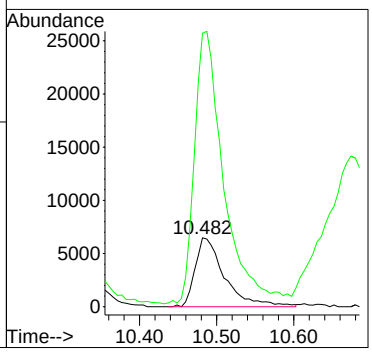


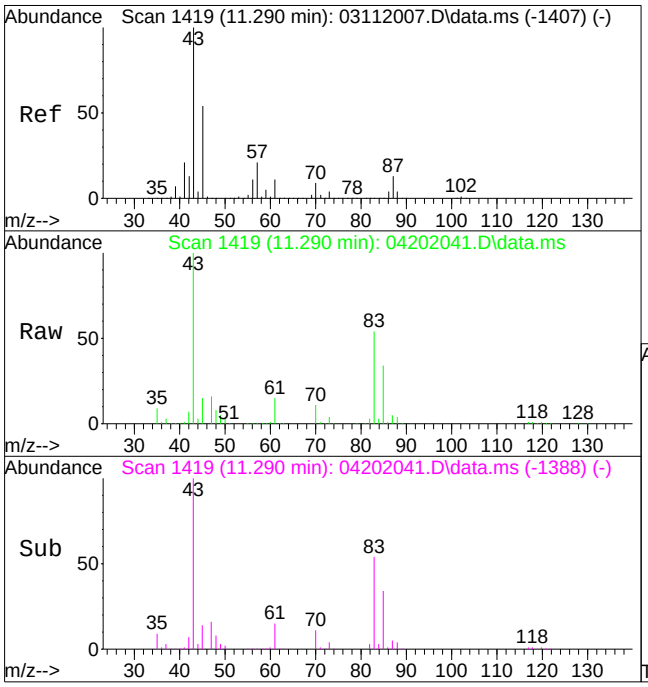


#27
2-Butanone (MEK)
Concen: 0.83 ng
RT: 10.48 min Scan# 1272
Delta R.T. -0.011 min
Lab File: 04202041.D
Acq: 21 Apr 2020 2:22

Tgt Ion: 72 Resp: 17215

Ion	Ratio	Lower	Upper
72	100		
43	393.8	353.4	393.4#

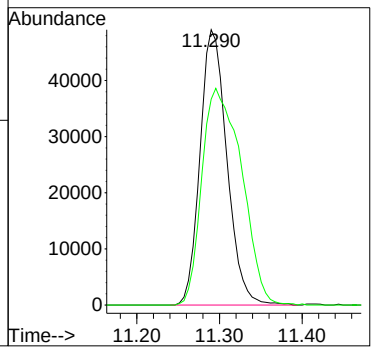


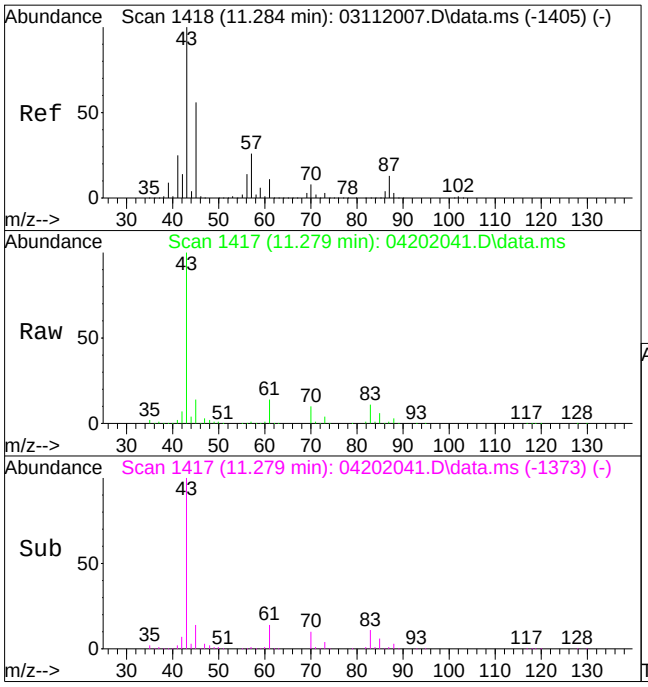


#30
Ethyl Acetate
Concen: 9.05 ng
RT: 11.29 min Scan# 1419
Delta R.T. -0.027 min
Lab File: 04202041.D
Acq: 21 Apr 2020 2:22

Tgt Ion: 61 Resp: 110842

Ion	Ratio	Lower	Upper
61	100		
70	116.0	59.1	99.1#

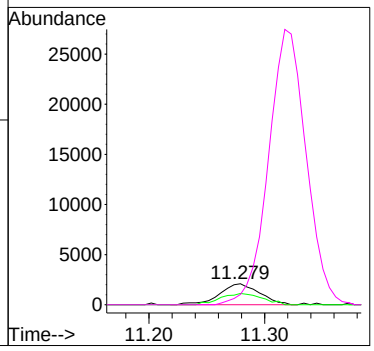


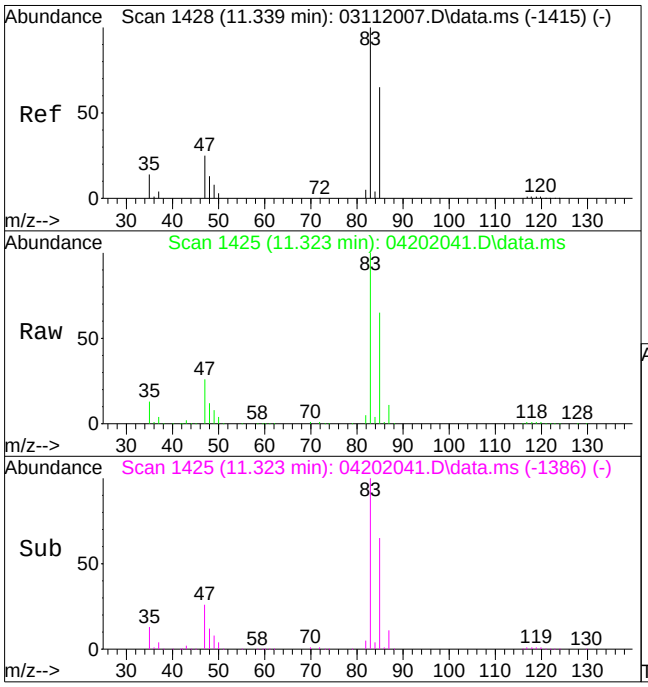


#31
n-Hexane
Concen: 0.09 ng
RT: 11.28 min Scan# 1417
Delta R.T. -0.011 min
Lab File: 04202041.D
Acq: 21 Apr 2020 2:22

Tgt Ion: 57 Resp: 5001

Ion	Ratio	Lower	Upper
57	100		
56	56.0	41.0	61.4
86	0.0	13.9	20.9#

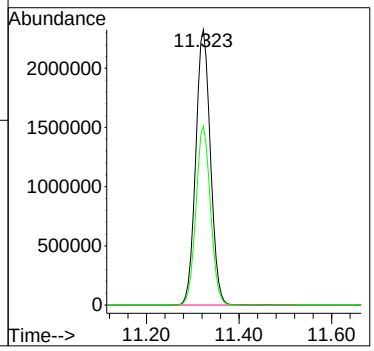


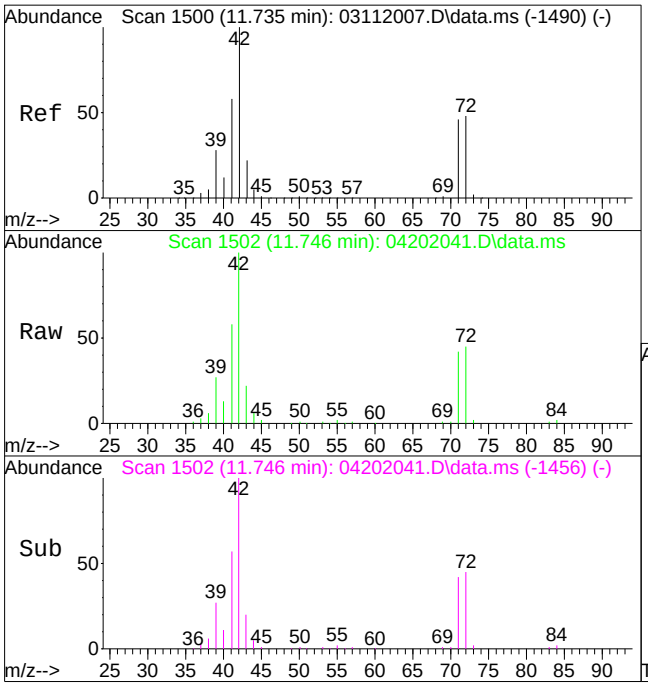


#32
Chloroform
Concen: 84.75 ng
RT: 11.32 min Scan# 1425
Delta R.T. -0.038 min
Lab File: 04202041.D
Acq: 21 Apr 2020 2:22

Tgt Ion: 83 Resp: 5117717

Ion	Ratio	Lower	Upper
83	100		
85	64.7	45.5	85.5

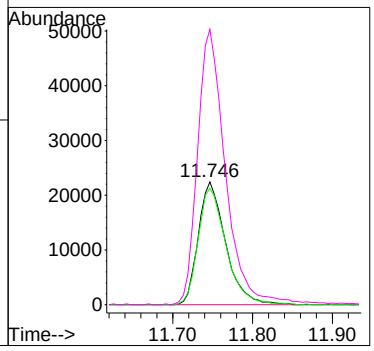


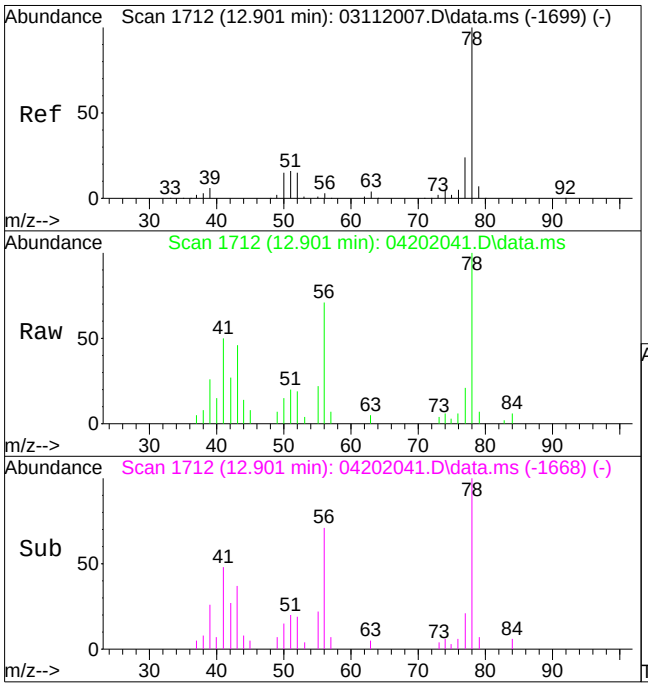


#34
Tetrahydrofuran (THF)
Concen: 2.50 ng
RT: 11.75 min Scan# 1502
Delta R.T. 0.000 min
Lab File: 04202041.D
Acq: 21 Apr 2020 2:22

Tgt Ion: 72 Resp: 53363

Ion	Ratio	Lower	Upper
72	100		
71	97.2	75.9	115.9
42	230.9	189.3	229.3#

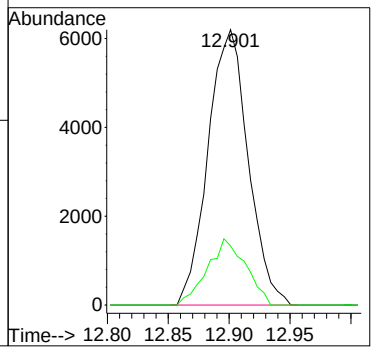


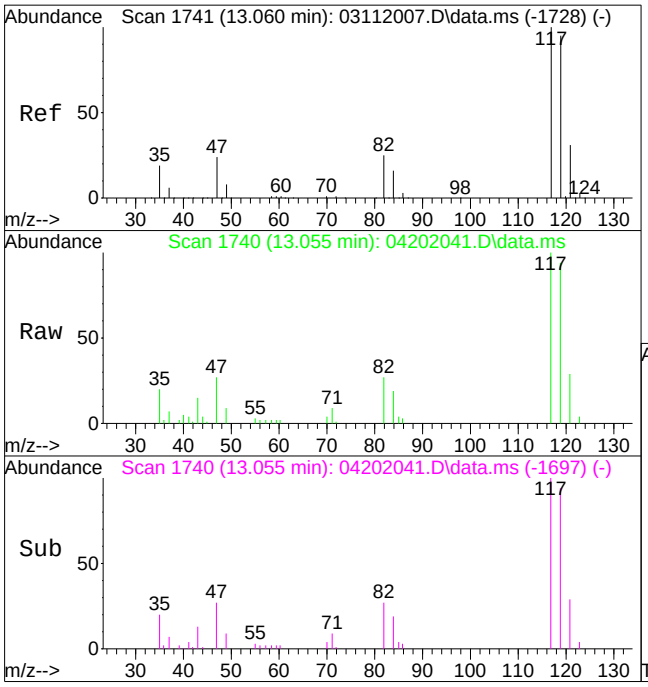


#41
Benzene
Concen: 0.10 ng
RT: 12.90 min Scan# 1712
Delta R.T. -0.011 min
Lab File: 04202041.D
Acq: 21 Apr 2020 2:22

Tgt Ion: 78 Resp: 14222

Ion	Ratio	Lower	Upper
78	100		
77	23.0	3.4	43.4

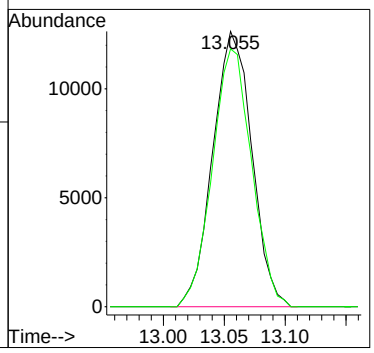


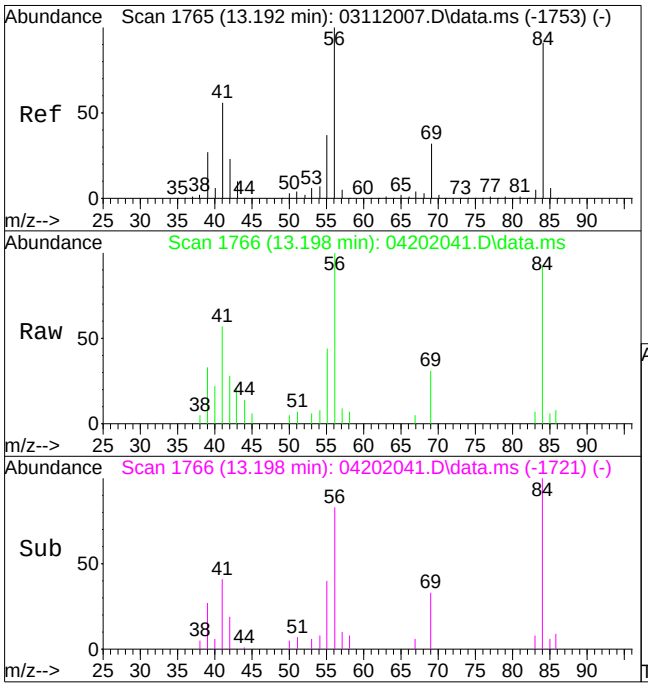


#42
Carbon Tetrachloride
Concen: 0.59 ng
RT: 13.06 min Scan# 1740
Delta R.T. -0.016 min
Lab File: 04202041.D
Acq: 21 Apr 2020 2:22

Tgt Ion:117 Resp: 28180

Ion	Ratio	Lower	Upper
117	100		
119	94.3	75.4	115.4

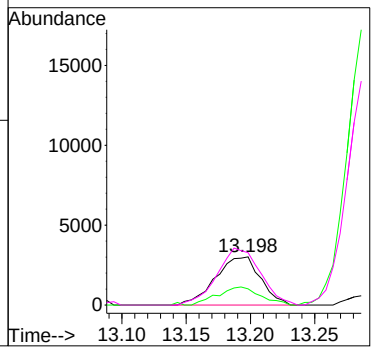


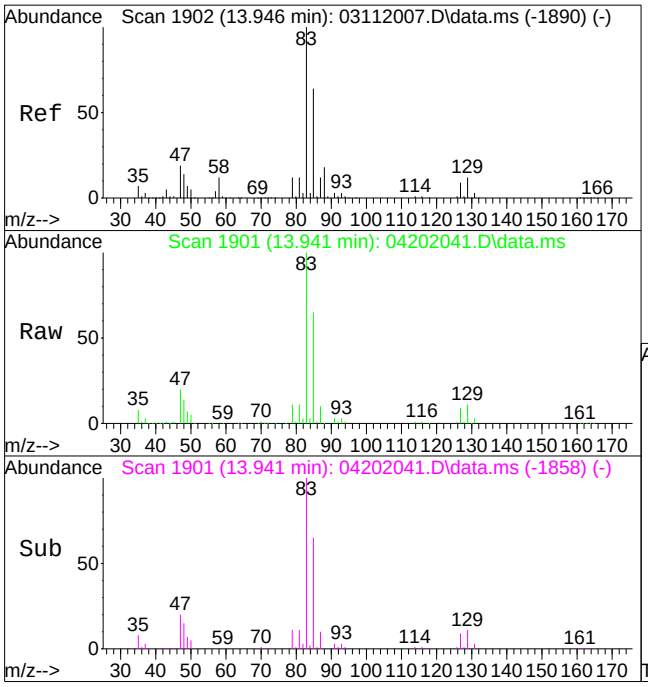


#43
Cyclohexane
Concen: 0.14 ng
RT: 13.20 min Scan# 1766
Delta R.T. -0.005 min
Lab File: 04202041.D
Acq: 21 Apr 2020 2:22

Tgt Ion: 84 Resp: 7343

Ion	Ratio	Lower	Upper
84	100		
69	35.4	15.3	55.3
56	113.8	90.5	130.5

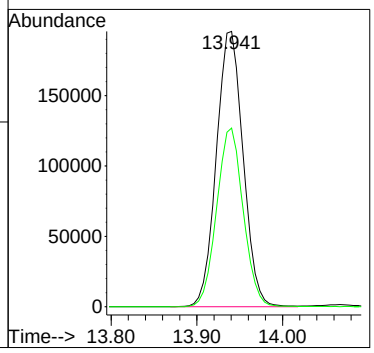


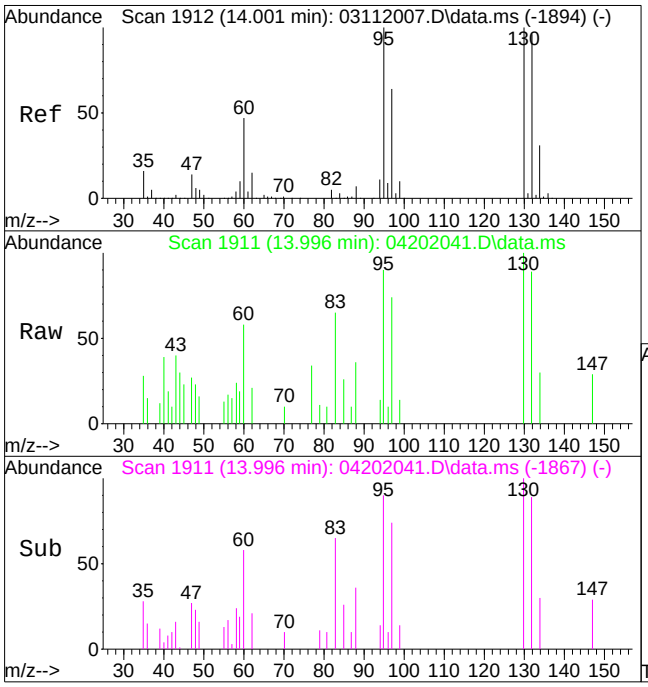


#46
Bromodichloromethane
Concen: 8.98 ng
RT: 13.94 min Scan# 1901
Delta R.T. -0.016 min
Lab File: 04202041.D
Acq: 21 Apr 2020 2:22

Tgt Ion: 83 Resp: 423937

Ion	Ratio	Lower	Upper
83	100		
85	64.4	44.0	84.0

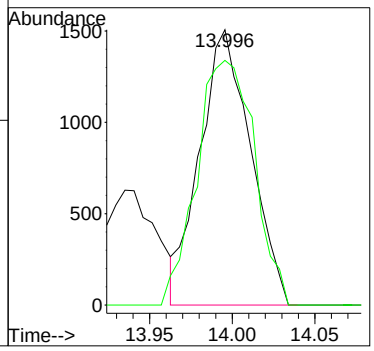


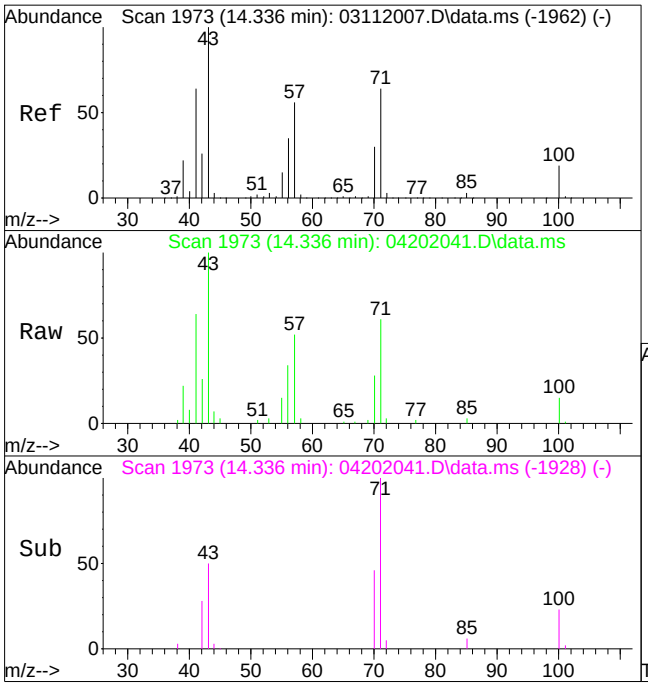


#47
Trichloroethene
Concen: 0.08 ng
RT: 14.00 min Scan# 1911
Delta R.T. -0.011 min
Lab File: 04202041.D
Acq: 21 Apr 2020 2:22

Tgt Ion:130 Resp: 3209

Ion	Ratio	Lower	Upper
130	100		
132	101.0	74.7	114.7

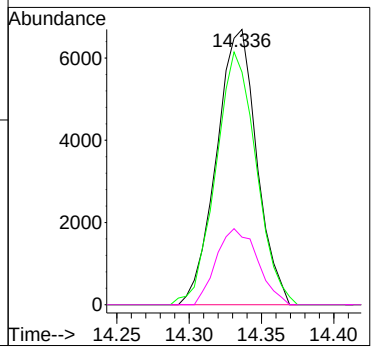


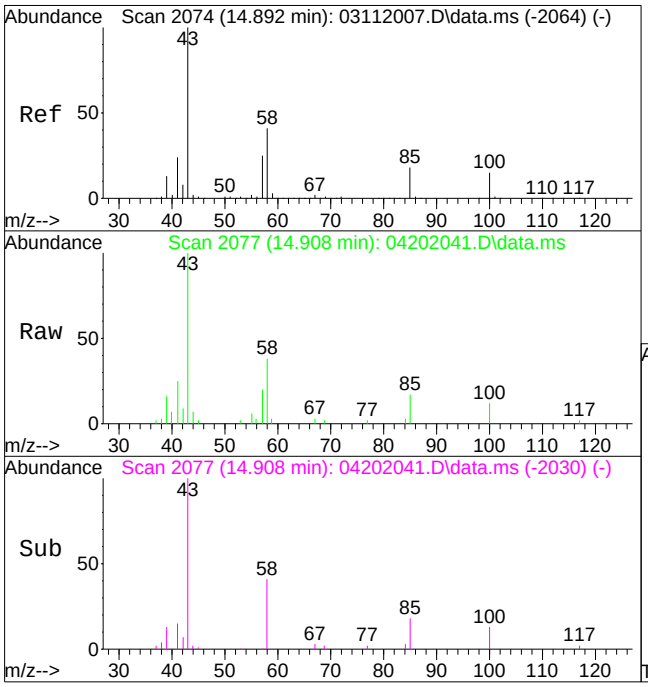


#51
n-Heptane
Concen: 0.40 ng
RT: 14.34 min Scan# 1973
Delta R.T. -0.005 min
Lab File: 04202041.D
Acq: 21 Apr 2020 2:22

Tgt Ion: 71 Resp: 12998

Ion	Ratio	Lower	Upper
71	100		
57	92.2	68.6	108.6
100	28.3	9.1	49.1

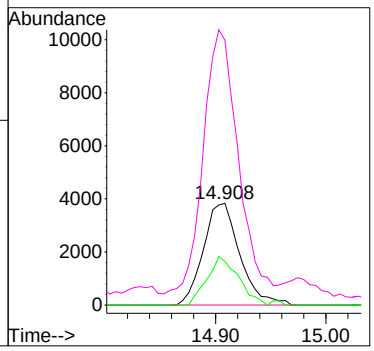


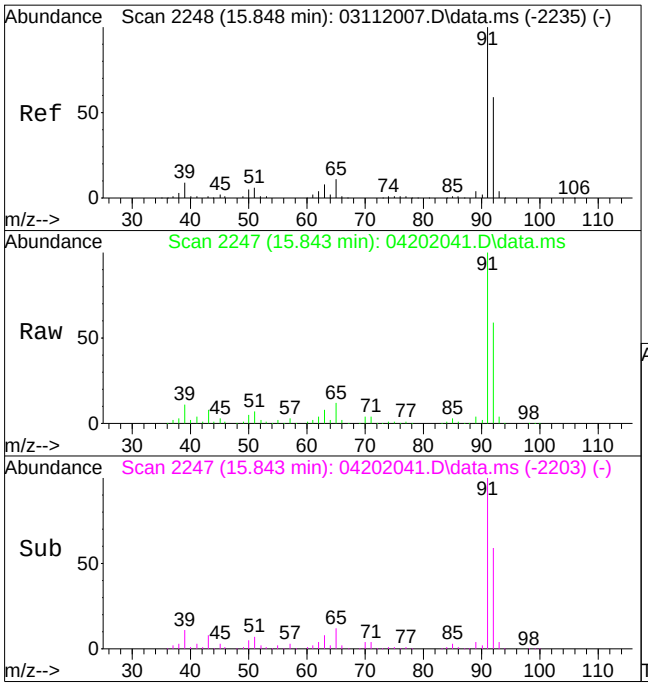


#53
4-Methyl-2-pentanone
Concen: 0.30 ng
RT: 14.91 min Scan# 2077
Delta R.T. 0.006 min
Lab File: 04202041.D
Acq: 21 Apr 2020 2:22

Tgt Ion: 58 Resp: 8808

Ion	Ratio	Lower	Upper
58	100		
85	41.0	37.0	55.4
43	256.3	196.3	294.5

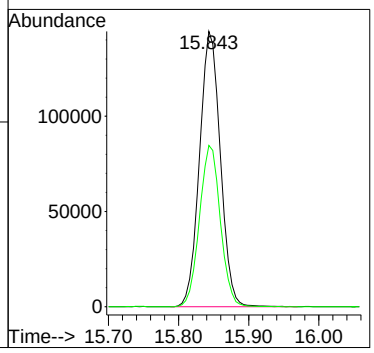


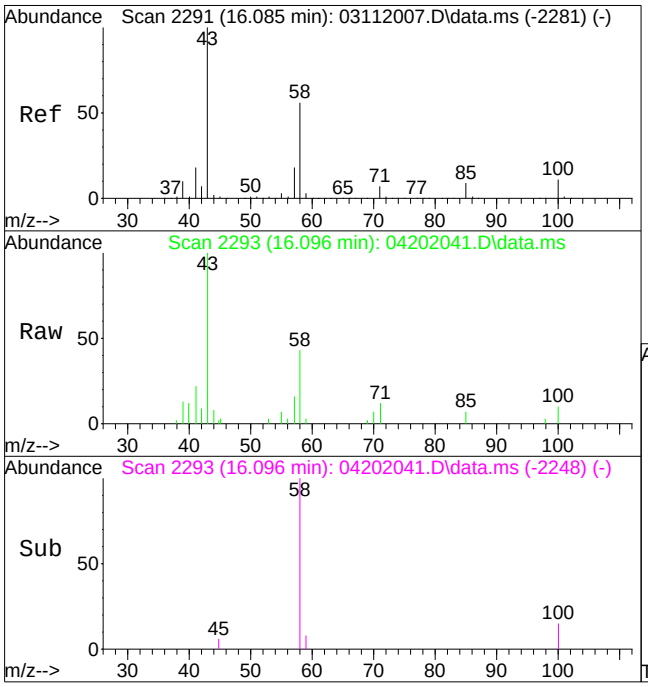


#58
Toluene
Concen: 2.06 ng
RT: 15.84 min Scan# 2247
Delta R.T. -0.011 min
Lab File: 04202041.D
Acq: 21 Apr 2020 2:22

Tgt Ion: 91 Resp: 297734

Ion	Ratio	Lower	Upper
91	100		
92	58.7	39.0	79.0

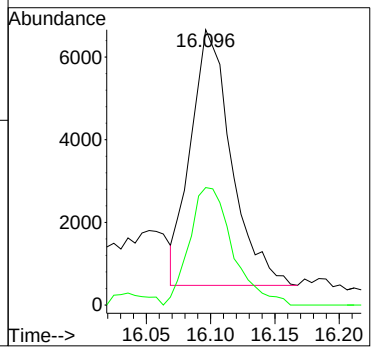


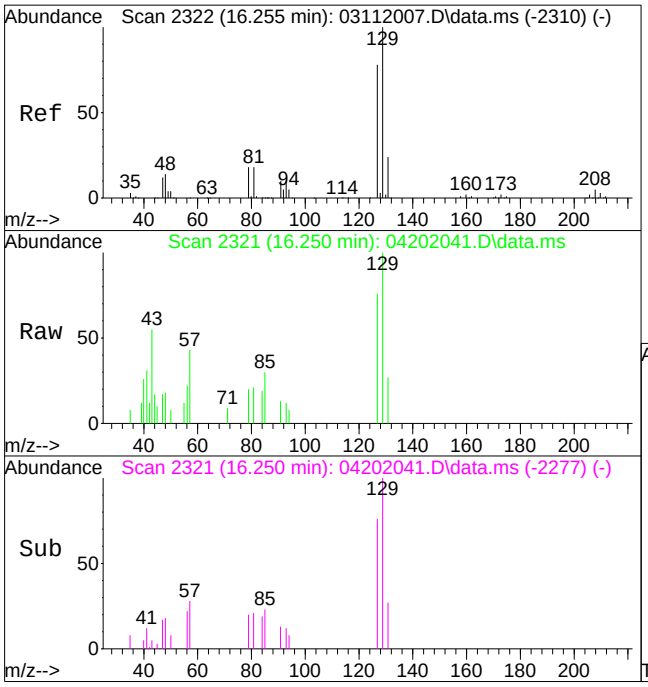


#59
2-Hexanone
Concen: 0.19 ng
RT: 16.10 min Scan# 2293
Delta R.T. -0.005 min
Lab File: 04202041.D
Acq: 21 Apr 2020 2:22

Tgt Ion: 43 Resp: 13642

Ion	Ratio	Lower	Upper
43	100		
58	48.8	36.5	76.5

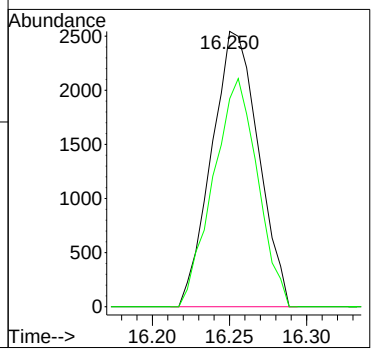


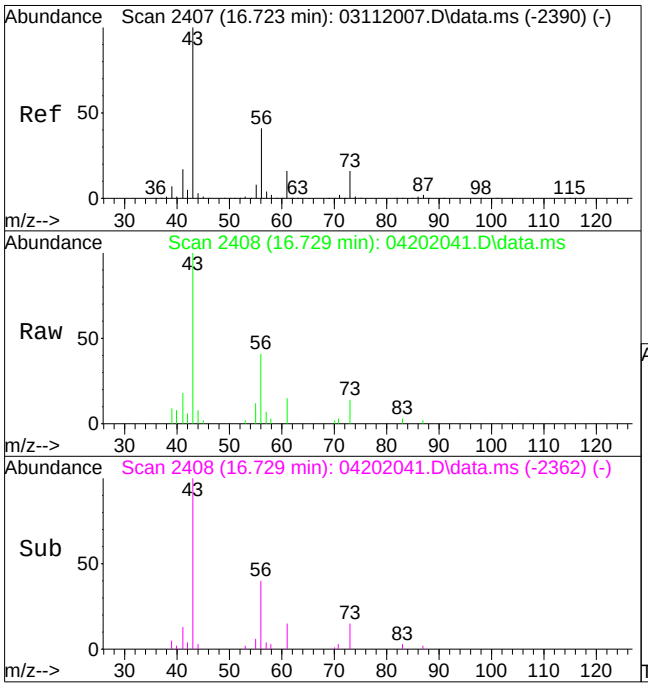


#60
Dibromochloromethane
Concen: 0.14 ng
RT: 16.25 min Scan# 2321
Delta R.T. -0.011 min
Lab File: 04202041.D
Acq: 21 Apr 2020 2:22

Tgt Ion:129 Resp: 5372

Ion	Ratio	Lower	Upper
129	100		
127	78.4	57.3	97.3

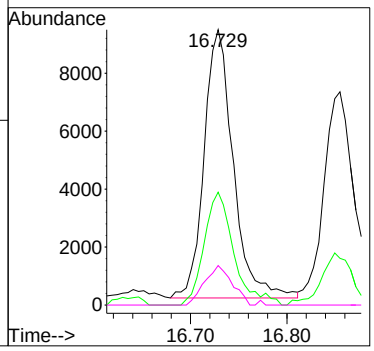


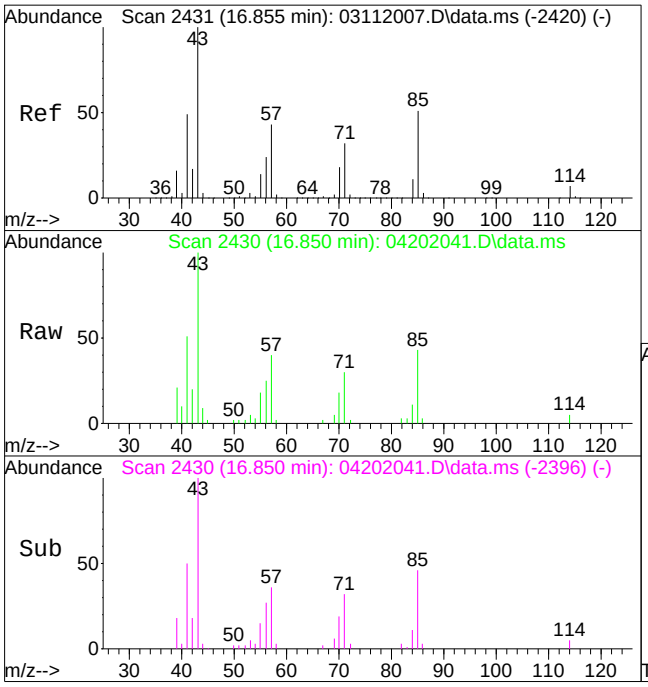


#62
n-Butyl Acetate
Concen: 0.25 ng
RT: 16.73 min Scan# 2408
Delta R.T. 0.000 min
Lab File: 04202041.D
Acq: 21 Apr 2020 2:22

Tgt Ion: 43 Resp: 19508

Ion	Ratio	Lower	Upper
43	100		
56	42.5	20.7	60.7
73	13.8	0.0	35.5

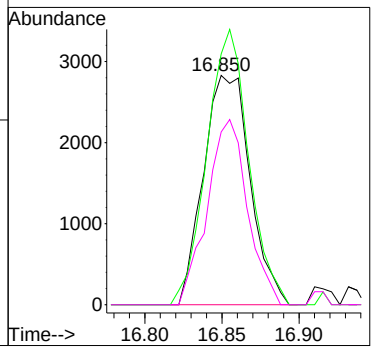


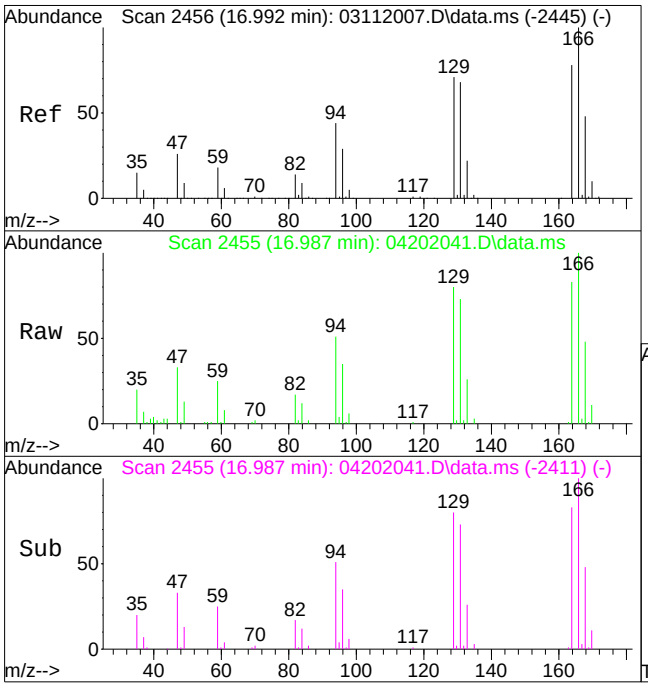


#63
n-Octane
Concen: 0.21 ng
RT: 16.85 min Scan# 2430
Delta R.T. -0.011 min
Lab File: 04202041.D
Acq: 21 Apr 2020 2:22

Tgt Ion: 57 Resp: 5959

Ion	Ratio	Lower	Upper
57	100		
85	108.0	95.1	142.7
71	69.6	58.2	87.4

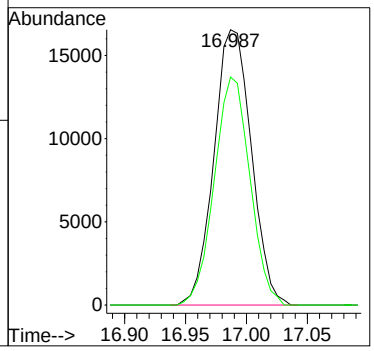


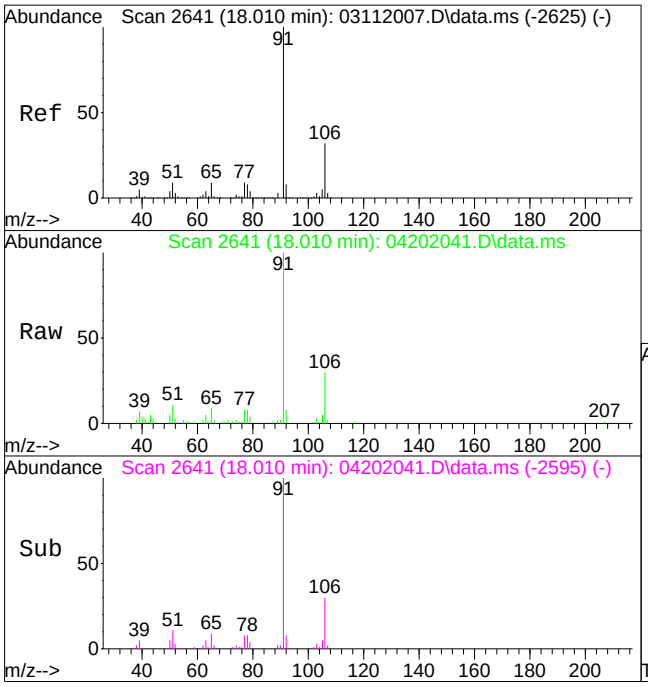


#64
Tetrachloroethene
Concen: 0.88 ng
RT: 16.99 min Scan# 2455
Delta R.T. -0.011 min
Lab File: 04202041.D
Acq: 21 Apr 2020 2:22

Tgt Ion:166 Resp: 35408

Ion	Ratio	Lower	Upper
166	100		
164	78.7	58.6	98.6

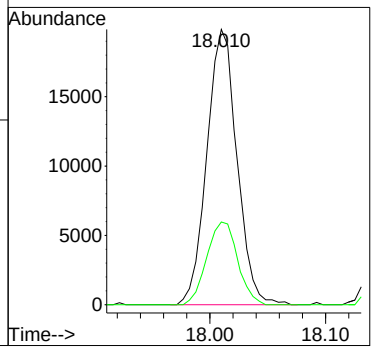


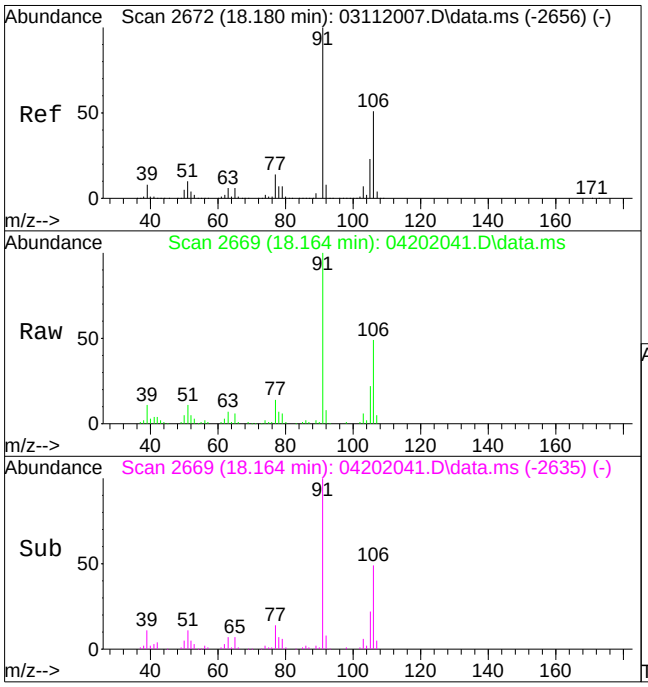


#66
Ethylbenzene
Concen: 0.23 ng
RT: 18.01 min Scan# 2641
Delta R.T. 0.000 min
Lab File: 04202041.D
Acq: 21 Apr 2020 2:22

Tgt Ion: 91 Resp: 35895

Ion	Ratio	Lower	Upper
91	100		
106	30.7	11.7	51.7

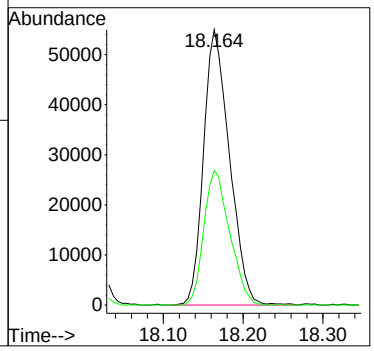


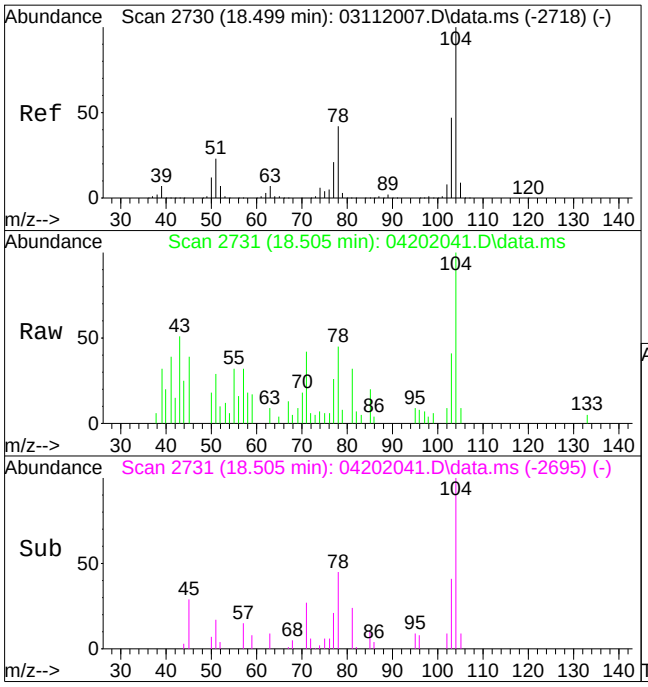


#67
m- & p-Xylenes
Concen: 0.96 ng
RT: 18.16 min Scan# 2669
Delta R.T. -0.011 min
Lab File: 04202041.D
Acq: 21 Apr 2020 2:22

Tgt Ion: 91 Resp: 124067

Ion	Ratio	Lower	Upper
91	100		
106	48.8	30.4	70.4

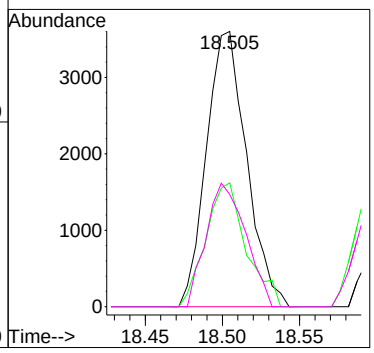


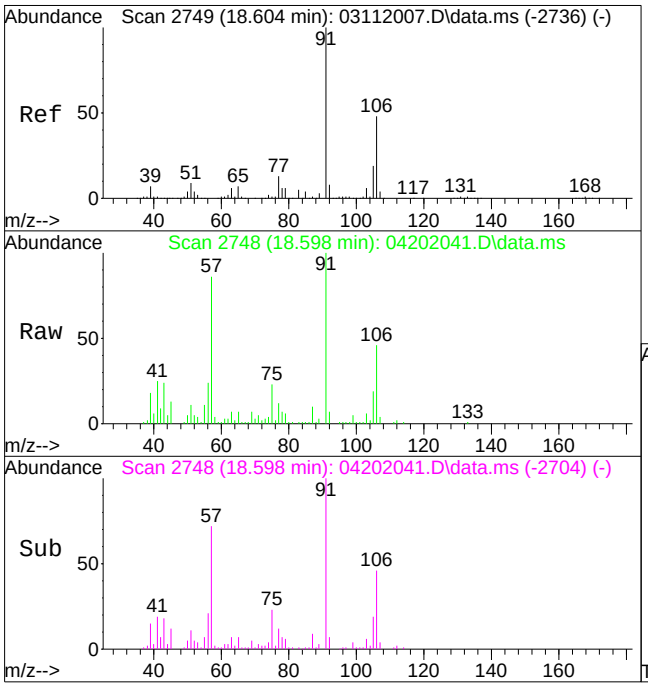


#69
Styrene
Concen: 0.06 ng
RT: 18.50 min Scan# 2731
Delta R.T. -0.000 min
Lab File: 04202041.D
Acq: 21 Apr 2020 2:22

Tgt Ion:104 Resp: 6524

Ion	Ratio	Lower	Upper
104	100		
78	45.2	20.9	60.9
103	44.2	27.4	67.4

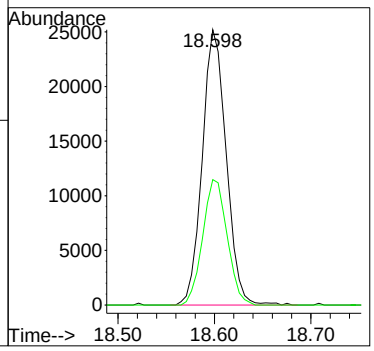


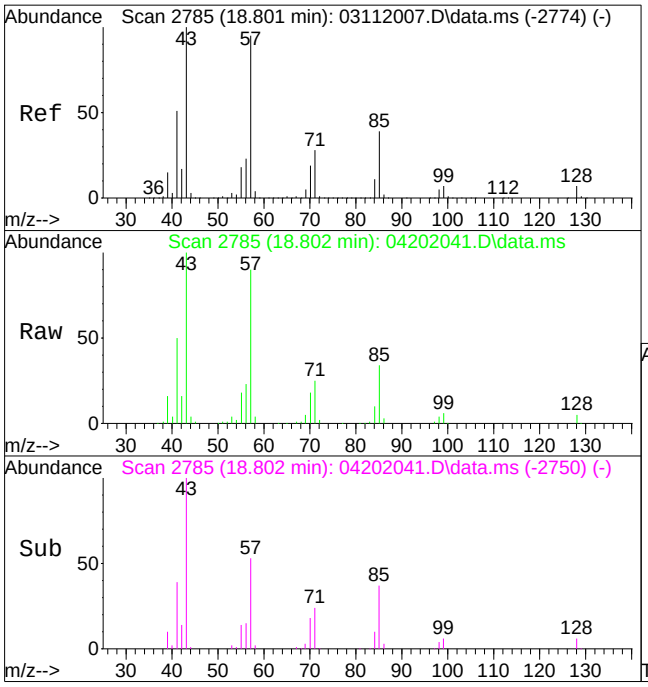


#70
o-Xylene
Concen: 0.34 ng
RT: 18.60 min Scan# 2748
Delta R.T. -0.011 min
Lab File: 04202041.D
Acq: 21 Apr 2020 2:22

Tgt Ion: 91 Resp: 43490

Ion	Ratio	Lower	Upper
91	100		
106	46.5	28.1	68.1

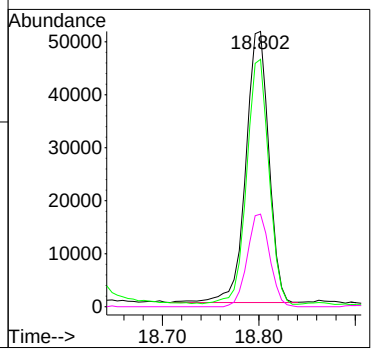


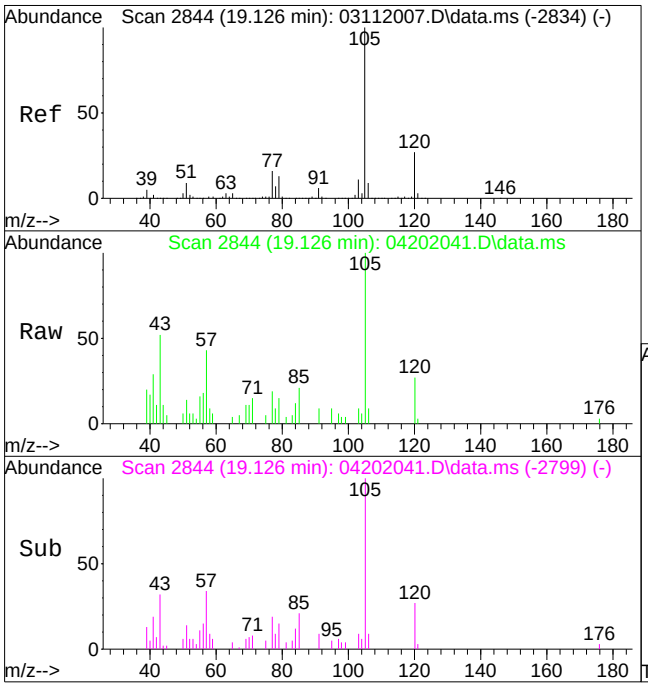


#71
n-Nonane
Concen: 1.31 ng
RT: 18.80 min Scan# 2785
Delta R.T. -0.005 min
Lab File: 04202041.D
Acq: 21 Apr 2020 2:22

Tgt Ion: 43 Resp: 84905

Ion	Ratio	Lower	Upper
43	100		
57	87.5	73.6	113.6
85	33.2	18.7	58.7

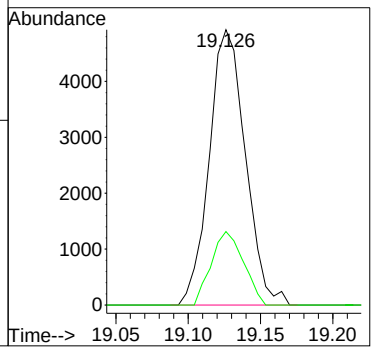


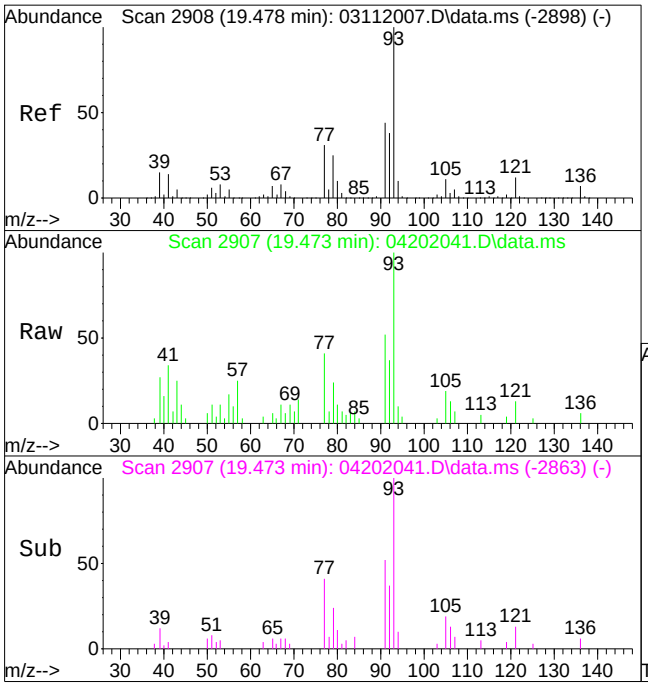


#74
Cumene
Concen: 0.05 ng
RT: 19.13 min Scan# 2844
Delta R.T. 0.000 min
Lab File: 04202041.D
Acq: 21 Apr 2020 2:22

Tgt Ion:105 Resp: 8577

Ion	Ratio	Lower	Upper
105	100		
120	23.8	7.2	47.2

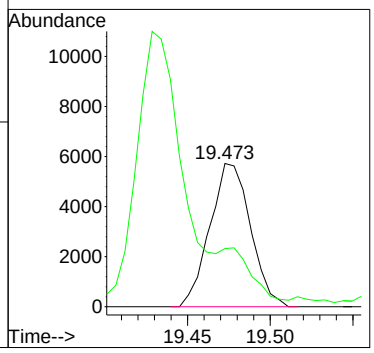


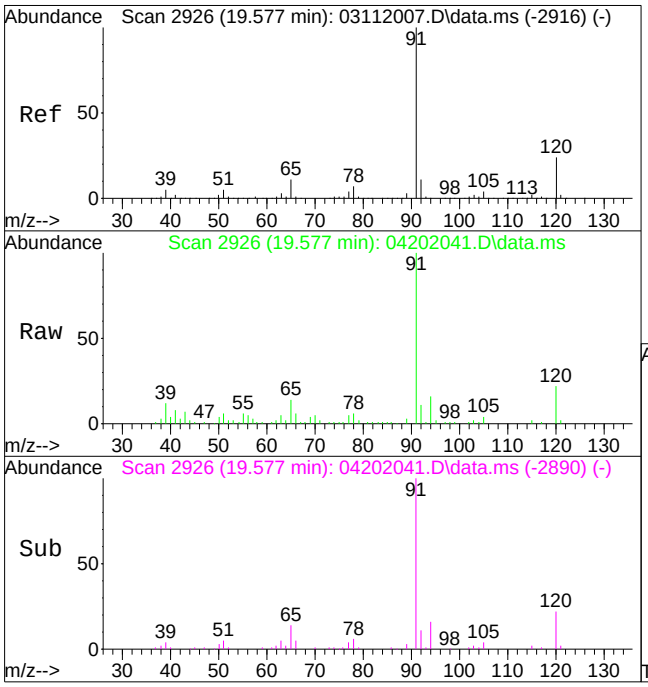


#75
alpha-Pinene
Concen: 0.12 ng
RT: 19.47 min Scan# 2907
Delta R.T. -0.011 min
Lab File: 04202041.D
Acq: 21 Apr 2020 2:22

Tgt Ion: 93 Resp: 9778

Ion	Ratio	Lower	Upper
93	100		
77	238.4	11.1	51.1#

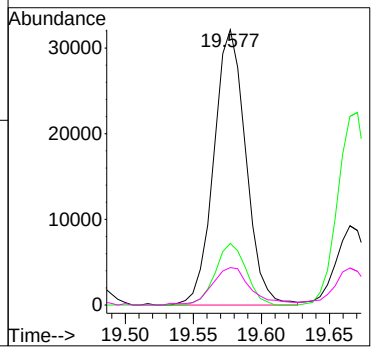


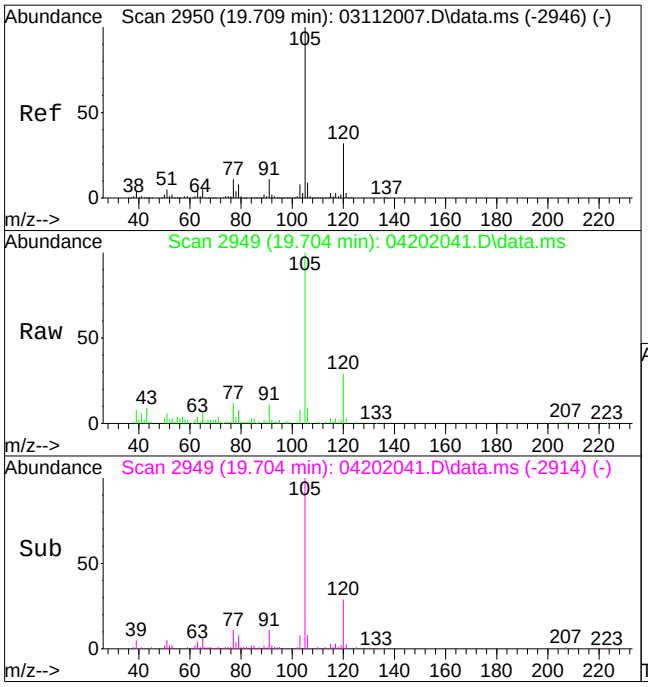


#76
n-Propylbenzene
Concen: 0.28 ng
RT: 19.58 min Scan# 2926
Delta R.T. 0.000 min
Lab File: 04202041.D
Acq: 21 Apr 2020 2:22

Tgt Ion: 91 Resp: 52628

Ion	Ratio	Lower	Upper
91	100		
120	21.4	3.9	43.9
65	16.6	0.0	30.5

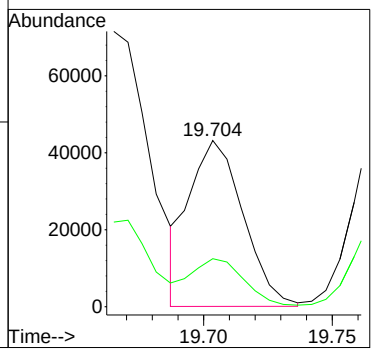


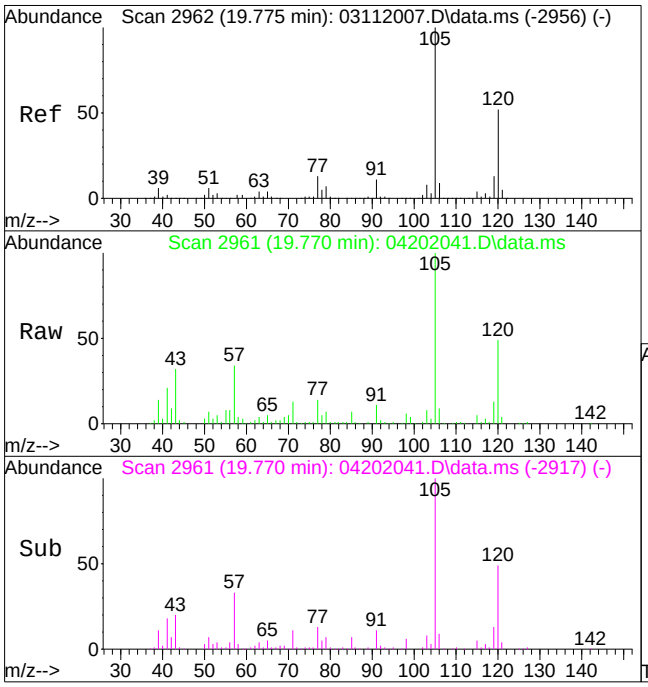


#78
4-Ethyltoluene
Concen: 0.40 ng
RT: 19.70 min Scan# 2949
Delta R.T. -0.005 min
Lab File: 04202041.D
Acq: 21 Apr 2020 2:22

Tgt Ion:105 Resp: 62831

Ion	Ratio	Lower	Upper
105	100		
120	29.5	11.1	51.1

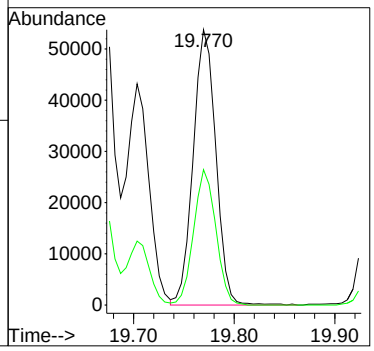


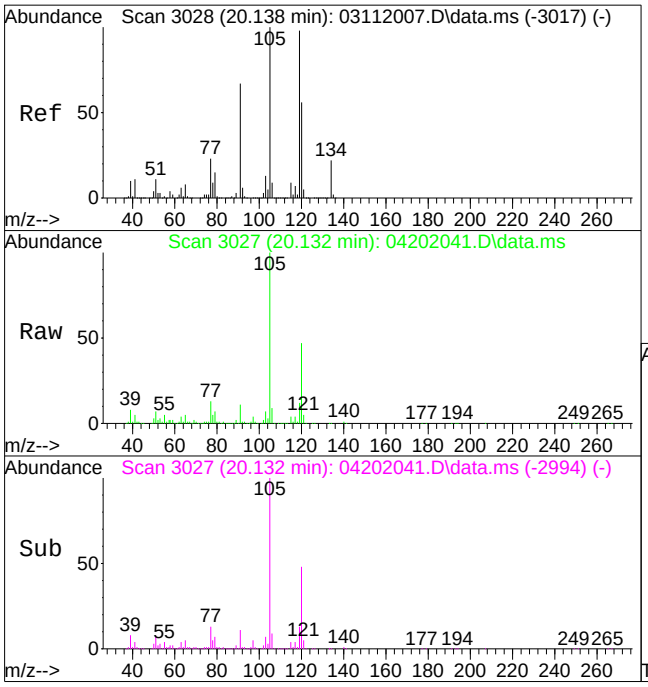


#79
1,3,5-Trimethylbenzene
Concen: 0.61 ng
RT: 19.77 min Scan# 2961
Delta R.T. -0.005 min
Lab File: 04202041.D
Acq: 21 Apr 2020 2:22

Tgt Ion:105 Resp: 84280

Ion	Ratio	Lower	Upper
105	100		
120	48.2	31.3	71.3

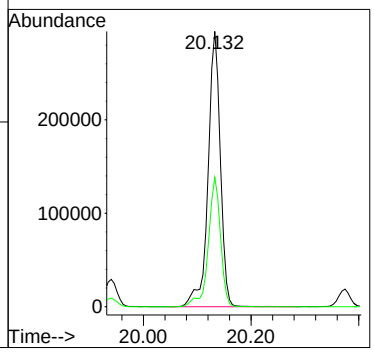


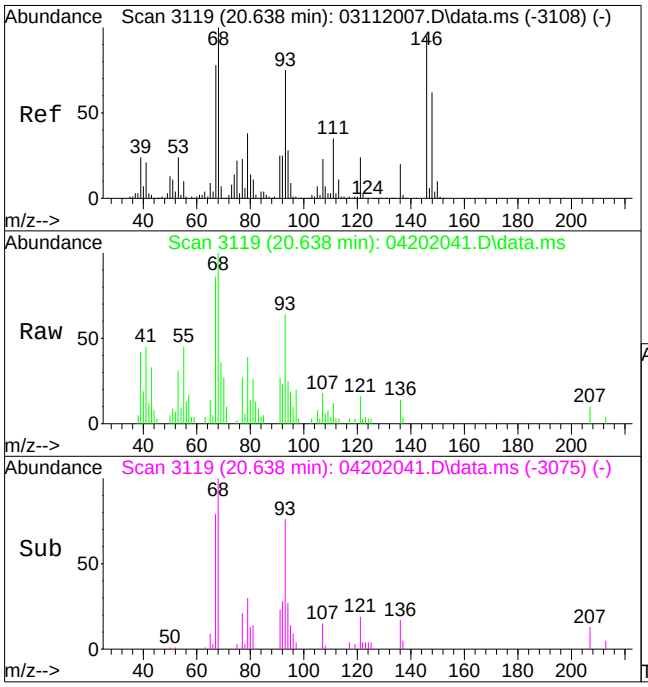


#82
1,2,4-Trimethylbenzene
Concen: 3.27 ng
RT: 20.13 min Scan# 3027
Delta R.T. -0.017 min
Lab File: 04202041.D
Acq: 21 Apr 2020 2:22

Tgt Ion:105 Resp: 467539

Ion	Ratio	Lower	Upper
105	100		
120	46.7	35.8	75.8

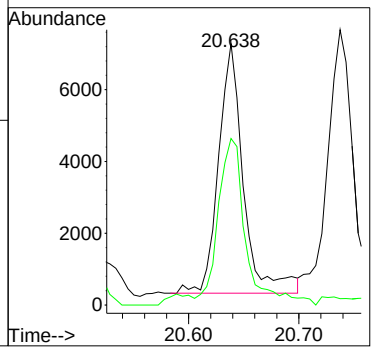


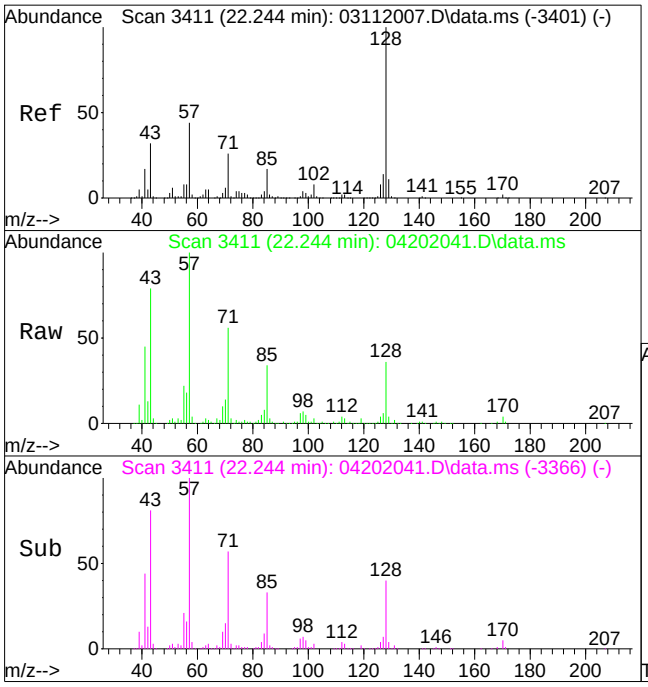


#91
d-Limonene
Concen: 0.20 ng
RT: 20.64 min Scan# 3119
Delta R.T. -0.011 min
Lab File: 04202041.D
Acq: 21 Apr 2020 2:22

Tgt Ion: 68 Resp: 10940

Ion	Ratio	Lower	Upper
68	100		
93	73.7	54.7	94.7

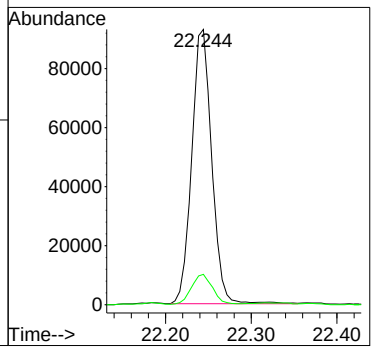




#95
Naphthalene
Concen: 0.94 ng
RT: 22.24 min Scan# 3411
Delta R.T. -0.005 min
Lab File: 04202041.D
Acq: 21 Apr 2020 2:22

Tgt Ion:128 Resp: 150476

Ion	Ratio	Lower	Upper
128	100		
129	12.0	0.0	31.1



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202042.D Vial: 9
Acq On : 21 Apr 2020 2:56 Operator: LH
Sample : P2002031-007 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 16:46:31 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 4/22/20
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	313282	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.30	114	1383699	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.61	82	660891	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	539562	12.438	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.52%				
57) Toluene-d8 (SS2)	15.74	98	1430091	12.208	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.68%				
73) Bromofluorobenzene (SS3)	19.00	174	475331	11.491	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.92%				
Target Compounds							Qvalue
2) Propene	4.15	42	13468	0.410	ng	#	81
3) Dichlorodifluoromethan...	4.29	85	38891	0.550	ng		98
4) Chloromethane	4.56	50	2520	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.84	135	1039	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.26	54	311	N.D.			
8) Bromomethane	5.67	94	534	N.D.			
9) Chloroethane	6.03	64	529	N.D.			
10) Ethanol	6.35	45	34794	1.340	ng		99
11) Acetonitrile	6.65	41	3758	0.066	ng	#	62
12) Acrolein	6.84	56	32998	1.727	ng		99
13) Acetone	7.04	58	119255	4.653	ng		86
14) Trichlorofluoromethane	7.28	101	17105	0.274	ng		99
15) 2-Propanol (Isopropanol)	7.55	45	18320	0.241	ng	#	56
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.44	84	24002	0.720	ng		96
20) 3-Chloro-1-propene (Al...	8.62	41	775	N.D.			
21) Trichlorotrifluoroethane	8.88	151	3410	0.114	ng		96
22) Carbon Disulfide	8.71	76	231979	1.934	ng		99
23) trans-1,2-Dichloroethene	9.72	61	208	N.D.			
24) 1,1-Dichloroethane	9.97	63	1031	N.D.			
25) Methyl tert-Butyl Ether	10.11	73	1043	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.49	72	23849	1.118	ng		92
28) cis-1,2-Dichloroethene	11.00	61	471	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	0.00	57	0	N.D.	d		
32) Chloroform	11.32	83	22853945	367.416	ng		93
34) Tetrahydrofuran (THF)	11.74	72	294941	13.437	ng		92
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.14	62	8817	0.182	ng		99
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	12.90	61	469	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.90	78	78237	0.547	ng		100
42) Carbon Tetrachloride	13.06	117	166076	3.380	ng		99
43) Cyclohexane	13.19	84	2311	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.	d		
45) 1,2-Dichloropropane	13.76	63	541	N.D.			
46) Bromodichloromethane	13.94	83	2525762	52.227	ng		99
47) Trichloroethene	14.00	130	20566	0.507	ng		94
48) 1,4-Dioxane	0.00	88	0	N.D.	d		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.07	100	612	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202042.D Vial: 9
Acq On : 21 Apr 2020 2:56 Operator: LH
Sample : P2002031-007 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 16:46:31 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.34	71	2918	0.087	ng	#	77
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
53) 4-Methyl-2-pentanone	14.90	58	2308	0.077	ng	#	70
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.			
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.			
58) Toluene	15.85	91	88830	0.613	ng		100
59) 2-Hexanone	16.10	43	14045	0.194	ng		98
60) Dibromochloromethane	16.26	129	63188	1.639	ng		100
61) 1,2-Dibromoethane	0.00	107	0	N.D.			
62) n-Butyl Acetate	16.73	43	1954	N.D.			
63) n-Octane	16.85	57	5611	0.195	ng		95
64) Tetrachloroethene	16.99	166	110809	2.745	ng		99
65) Chlorobenzene	17.65	112	5985	0.061	ng		88
66) Ethylbenzene	18.01	91	22622	0.142	ng		99
67) m- & p-Xylenes	18.16	91	89668	0.694	ng		98
68) Bromoform	18.24	173	1774	0.051	ng		99
69) Styrene	18.50	104	11928	0.118	ng		96
70) o-Xylene	18.60	91	29277	0.227	ng		98
71) n-Nonane	18.80	43	78853	1.220	ng		93
72) 1,1,2,2-Tetrachloroethane	18.60	83	313	N.D.			
74) Cumene	19.13	105	7253	N.D.			
75) alpha-Pinene	19.48	93	195	N.D.			
76) n-Propylbenzene	19.58	91	44564	0.234	ng		91
77) 3-Ethyltoluene	0.00	105	0	N.D.	d		
78) 4-Ethyltoluene	19.70	105	52369	0.337	ng		90
79) 1,3,5-Trimethylbenzene	19.77	105	66251	0.480	ng		97
80) alpha-Methylstyrene	0.00	118	0	N.D.	d		
81) 2-Ethyltoluene	0.00	105	0	N.D.	d		
82) 1,2,4-Trimethylbenzene	20.13	105	336857	2.354	ng		86
83) n-Decane	0.00	57	0	N.D.	d		
84) Benzyl Chloride	20.23	91	997	N.D.			
85) 1,3-Dichlorobenzene	20.26	146	356	N.D.			
86) 1,4-Dichlorobenzene	20.33	146	3233	N.D.			
87) sec-Butylbenzene	0.00	105	0	N.D.	d		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.	d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d		
90) 1,2-Dichlorobenzene	20.63	146	882	N.D.			
91) d-Limonene	20.64	68	2313	N.D.			
92) 1,2-Dibromo-3-Chloropr...	21.01	157	6245	0.237	ng	#	58
93) n-Undecane	0.00	57	0	N.D.	d		
94) 1,2,4-Trichlorobenzene	22.14	180	277	N.D.			
95) Naphthalene	22.24	128	118989	0.743	ng		98
96) n-Dodecane	0.00	57	0	N.D.	d		
97) Hexachlorobutadiene	0.00	225	0	N.D.			
98) Cyclohexanone	0.00	55	0	N.D.	d		
99) tert-Butylbenzene	0.00	119	0	N.D.	d		
100) n-Butylbenzene	0.00	91	0	N.D.	d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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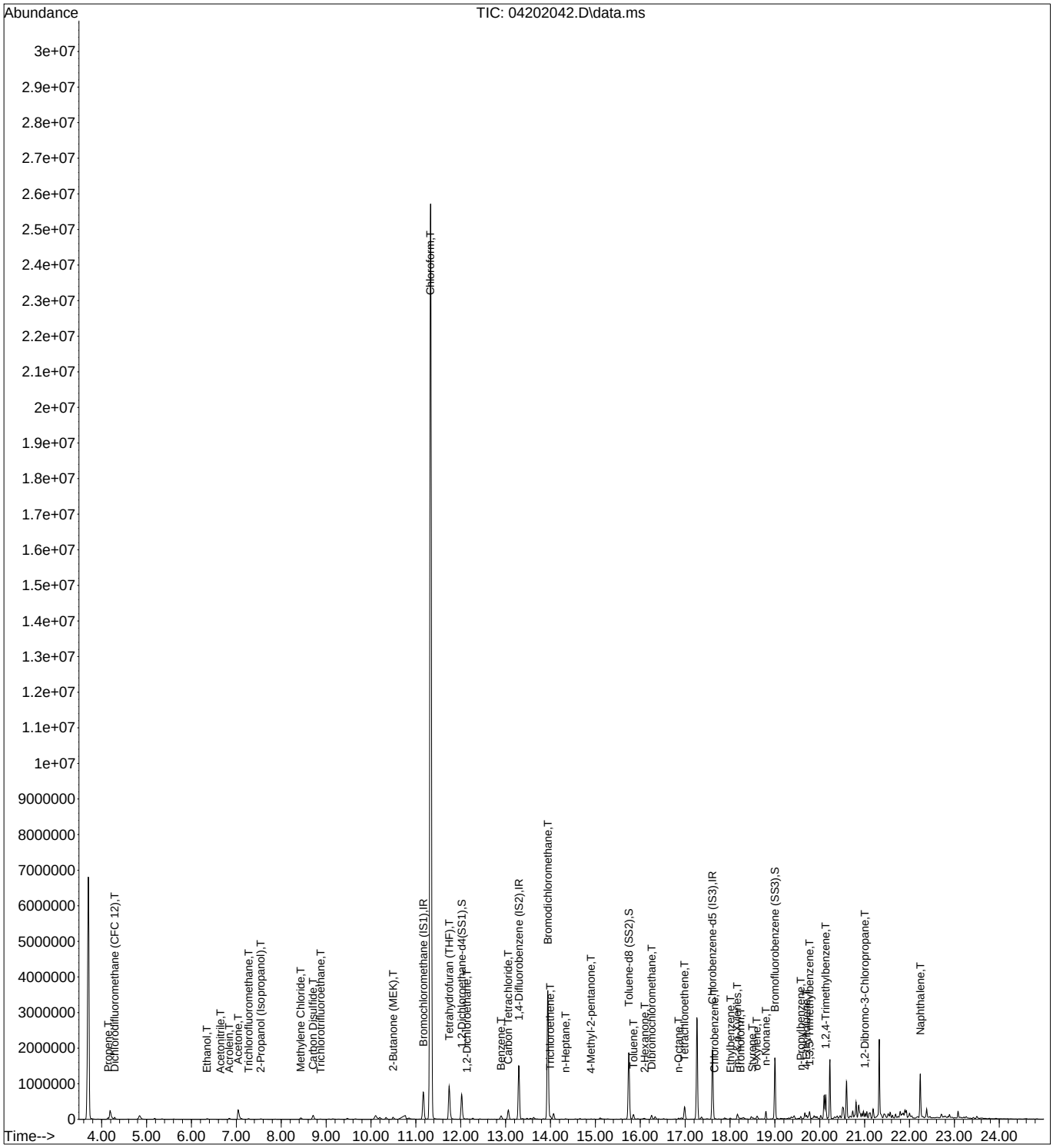
Acq On : 21 Apr 2020 2:56 Operator: LH
Sample : P2002031-007 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 16:46:31 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202042.D Vial: 9
Acq On : 21 Apr 2020 2:56 Operator: LH
Sample : P2002031-007 (400mL) Inst : GCMS-16
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Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020 LH 4/22/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

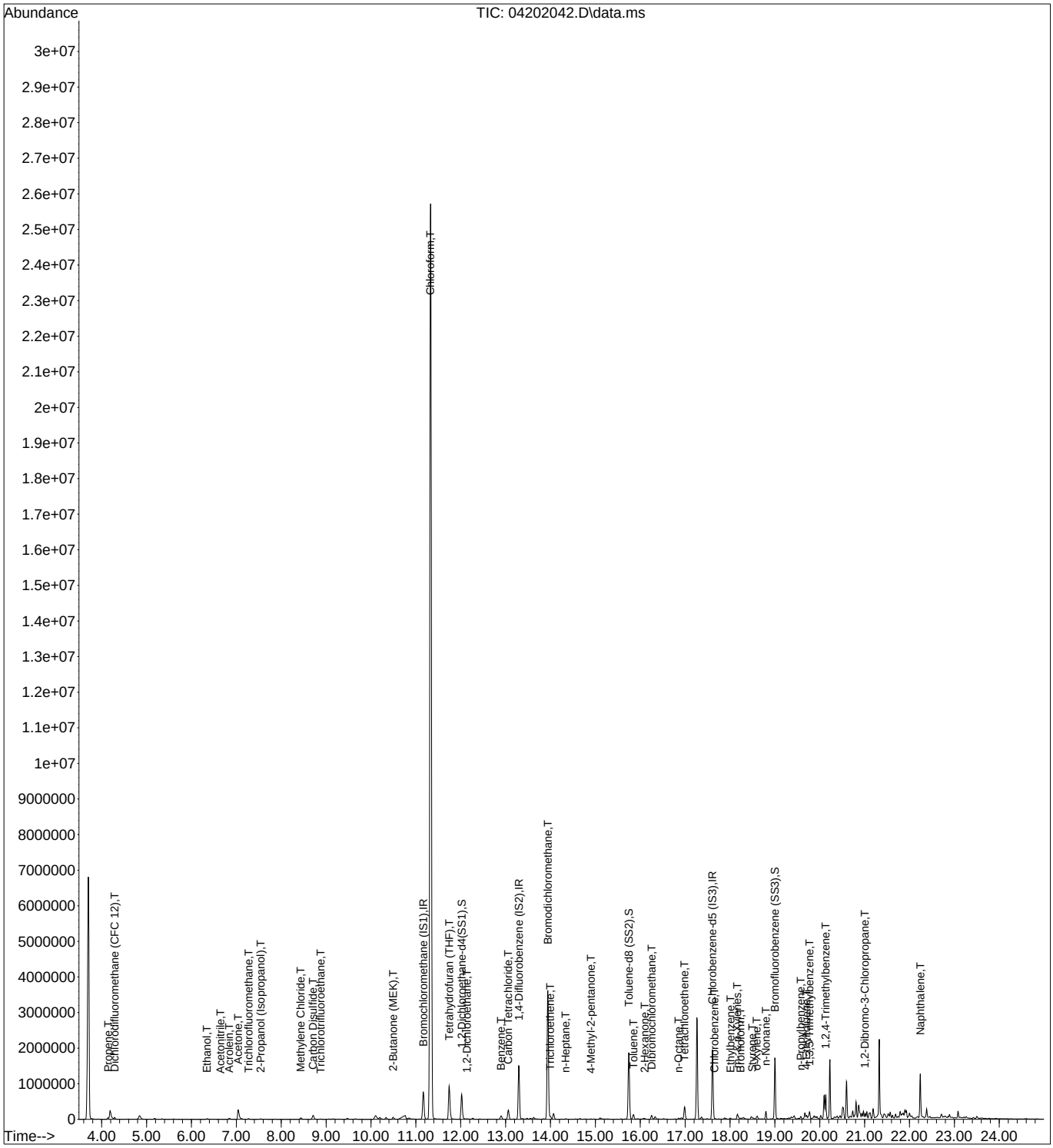
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	313282	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.30	114	1383699	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.61	82	660891	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	539562	12.438	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.52%				
57) Toluene-d8 (SS2)	15.74	98	1430091	12.208	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.68%				
73) Bromofluorobenzene (SS3)	19.00	174	475331	11.491	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.92%				
Target Compounds							Qvalue
2) Propene	4.15	42	13468	0.410	ng	#	81
3) Dichlorodifluoromethan...	4.29	85	38891	0.550	ng		98
10) Ethanol	6.35	45	34794	1.340	ng		99
11) Acetonitrile	6.65	41	3758	0.066	ng	#	62
12) Acrolein	6.84	56	32998	1.727	ng		99
13) Acetone	7.04	58	119255	4.653	ng		86
14) Trichlorofluoromethane	7.28	101	17105	0.274	ng		99
15) 2-Propanol (Isopropanol)	7.55	45	18320	0.241	ng	#	56
19) Methylene Chloride	8.44	84	24002	0.720	ng		96
21) Trichlorotrifluoroethane	8.88	151	3410	0.114	ng		96
22) Carbon Disulfide	8.71	76	231979	1.934	ng		99
27) 2-Butanone (MEK)	10.49	72	23849	1.118	ng		92
32) Chloroform	11.32	83	22853945	367.416	ng		93
34) Tetrahydrofuran (THF)	11.74	72	294941	13.437	ng		92
36) 1,2-Dichloroethane	12.14	62	8817	0.182	ng		99
41) Benzene	12.90	78	78237	0.547	ng		100
42) Carbon Tetrachloride	13.06	117	166076	3.380	ng		99
46) Bromodichloromethane	13.94	83	2525762	52.227	ng		99
47) Trichloroethene	14.00	130	20566	0.507	ng		94
51) n-Heptane	14.34	71	2918	0.087	ng	#	77
53) 4-Methyl-2-pentanone	14.90	58	2308	0.077	ng	#	70
58) Toluene	15.85	91	88830	0.613	ng		100
59) 2-Hexanone	16.10	43	14045	0.194	ng		98
60) Dibromochloromethane	16.26	129	63188	1.639	ng		100
63) n-Octane	16.85	57	5611	0.195	ng		95
64) Tetrachloroethene	16.99	166	110809	2.745	ng		99
65) Chlorobenzene	17.65	112	5985	0.061	ng		88
66) Ethylbenzene	18.01	91	22622	0.142	ng		99
67) m- & p-Xylenes	18.16	91	89668	0.694	ng		98
68) Bromoform	18.24	173	1774	0.051	ng		99
69) Styrene	18.50	104	11928	0.118	ng		96
70) o-Xylene	18.60	91	29277	0.227	ng		98
71) n-Nonane	18.80	43	78853	1.220	ng		93
76) n-Propylbenzene	19.58	91	44564	0.234	ng		91
78) 4-Ethyltoluene	19.70	105	52369	0.337	ng		90
79) 1,3,5-Trimethylbenzene	19.77	105	66251	0.480	ng		97
82) 1,2,4-Trimethylbenzene	20.13	105	336857	2.354	ng		86
92) 1,2-Dibromo-3-Chloropr...	21.01	157	6245	0.237	ng	#	58
95) Naphthalene	22.24	128	118989	0.743	ng		98

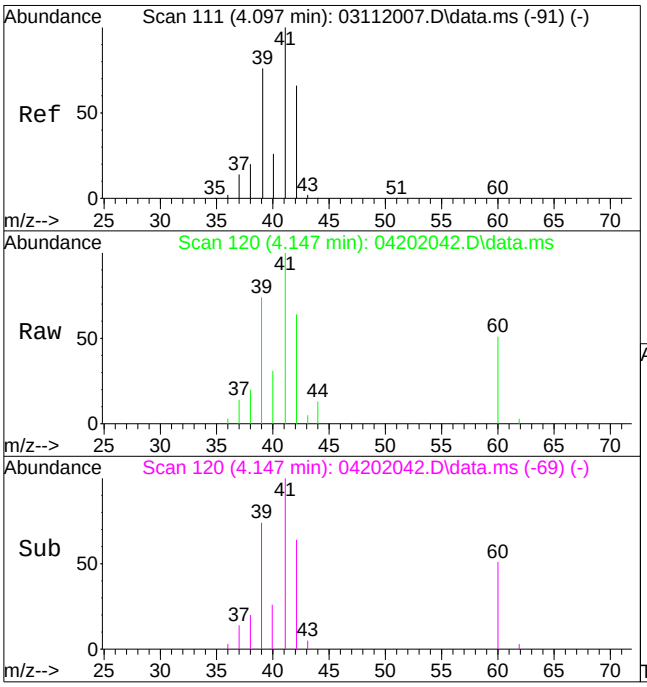
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202042.D Vial: 9
Acq On : 21 Apr 2020 2:56 Operator: LH
Sample : P2002031-007 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 16:46:31 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

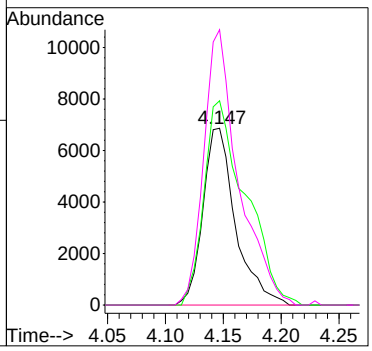


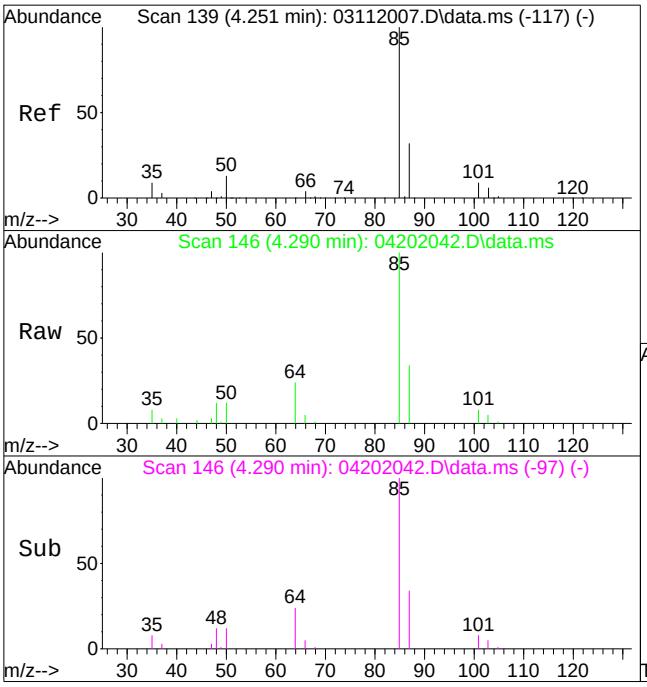


#2
Propene
Concen: 0.41 ng
RT: 4.15 min Scan# 120
Delta R.T. 0.033 min
Lab File: 04202042.D
Acq: 21 Apr 2020 2:56

Tgt Ion: 42 Resp: 13468

Ion	Ratio	Lower	Upper
42	100		
39	147.2	95.3	135.3#
41	166.1	132.0	172.0

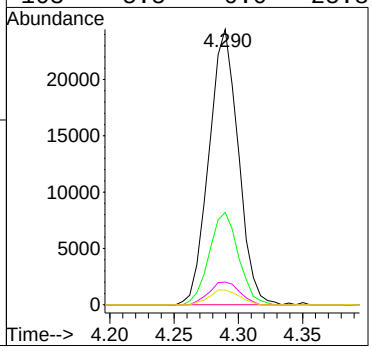


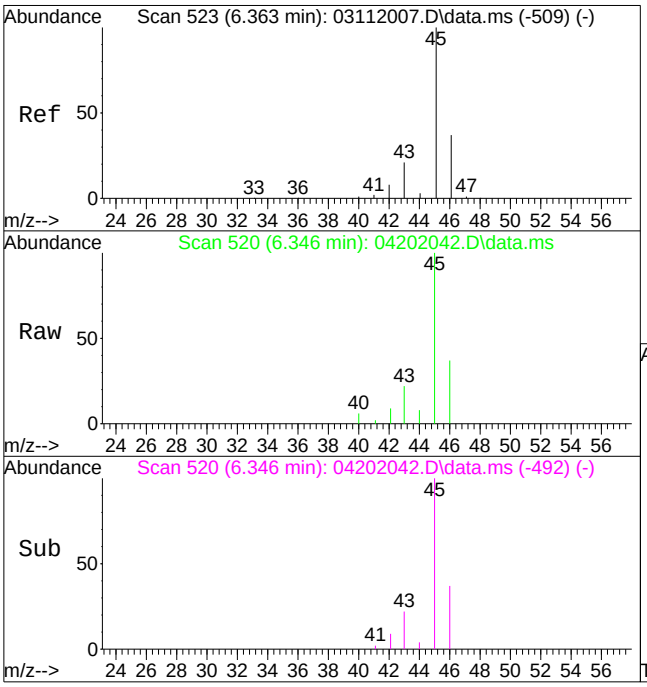


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.55 ng
RT: 4.29 min Scan# 146
Delta R.T. 0.022 min
Lab File: 04202042.D
Acq: 21 Apr 2020 2:56

Tgt Ion: 85 Resp: 38891

Ion	Ratio	Lower	Upper
85	100		
87	33.3	12.3	52.3
101	8.6	0.0	29.0
103	5.5	0.0	25.8

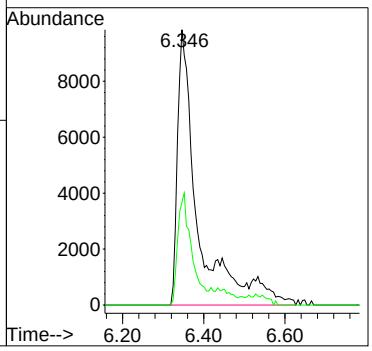


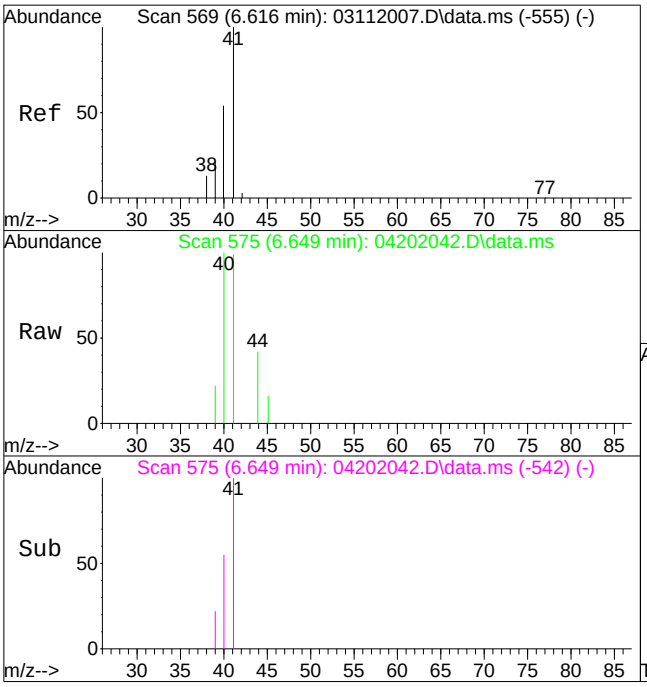


#10
Ethanol
Concen: 1.34 ng
RT: 6.35 min Scan# 520
Delta R.T. -0.094 min
Lab File: 04202042.D
Acq: 21 Apr 2020 2:56

Tgt Ion: 45 Resp: 34794

Ion	Ratio	Lower	Upper
45	100		
46	37.7	17.3	57.3

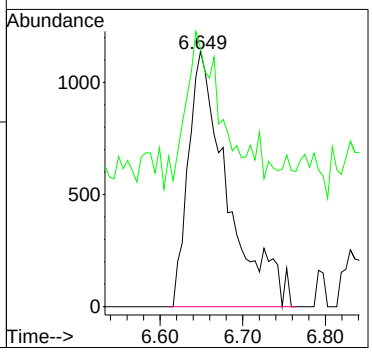


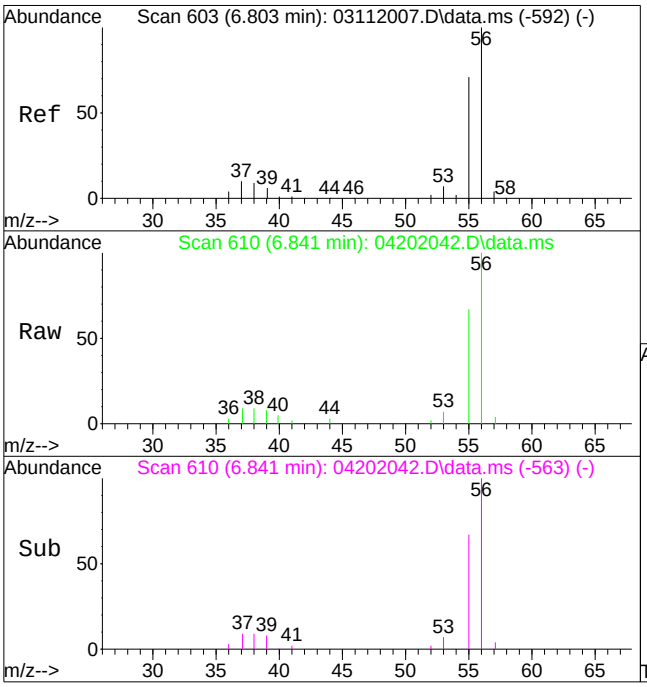


#11
Acetonitrile
Concen: 0.07 ng
RT: 6.65 min Scan# 575
Delta R.T. -0.016 min
Lab File: 04202042.D
Acq: 21 Apr 2020 2:56

Tgt Ion: 41 Resp: 3758

Ion	Ratio	Lower	Upper
41	100		
40	81.0	33.6	73.6#

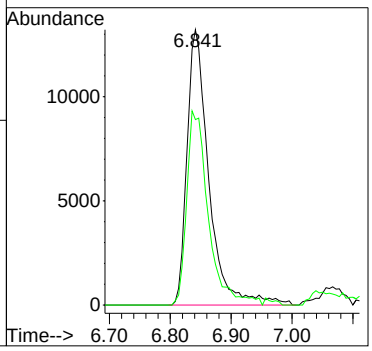


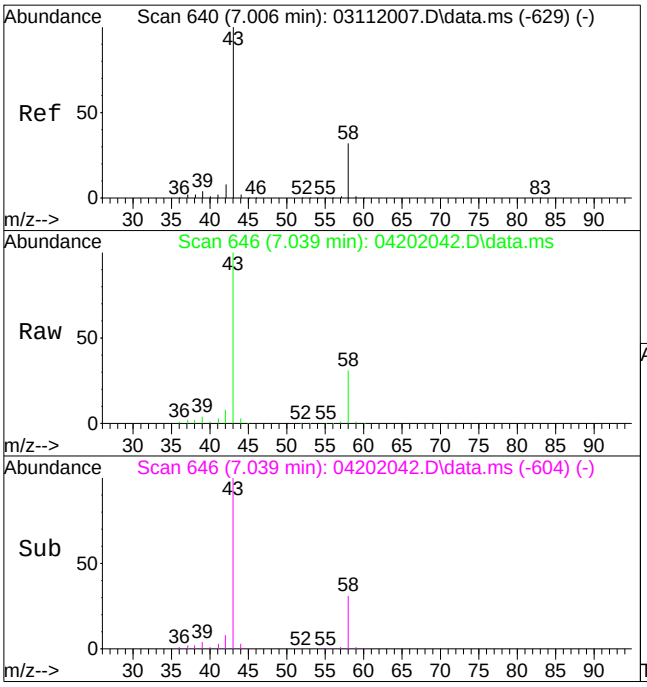


#12
Acrolein
Concen: 1.73 ng
RT: 6.84 min Scan# 610
Delta R.T. 0.011 min
Lab File: 04202042.D
Acq: 21 Apr 2020 2:56

Tgt Ion: 56 Resp: 32998

Ion	Ratio	Lower	Upper
56	100		
55	69.7	50.4	90.4

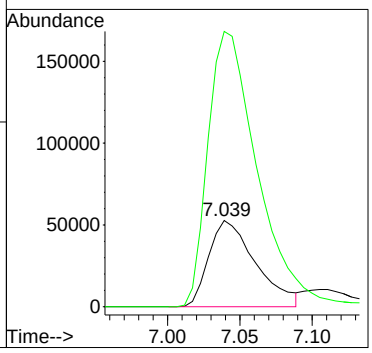


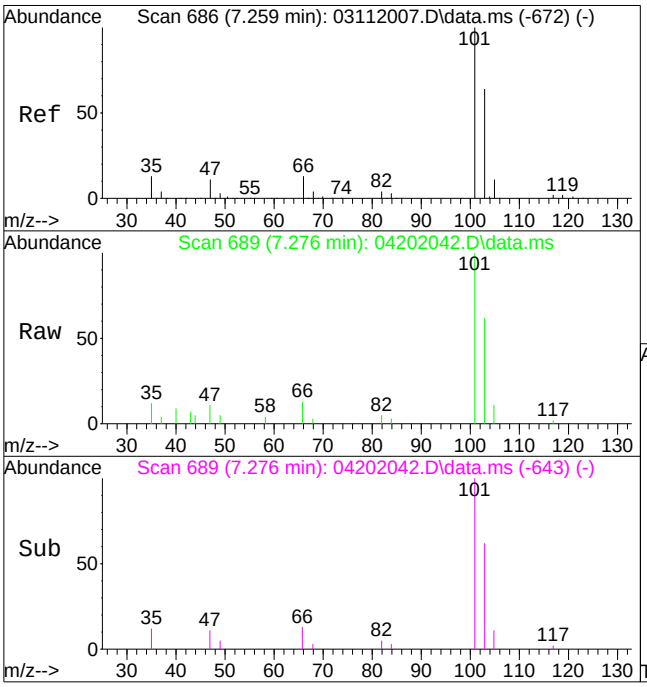


#13
Acetone
Concen: 4.65 ng
RT: 7.04 min Scan# 646
Delta R.T. -0.017 min
Lab File: 04202042.D
Acq: 21 Apr 2020 2:56

Tgt Ion: 58 Resp: 119255

Ion	Ratio	Lower	Upper
58	100		
43	344.9	287.3	347.3

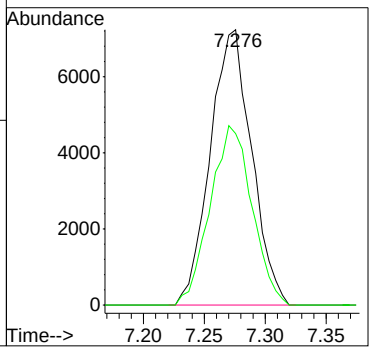


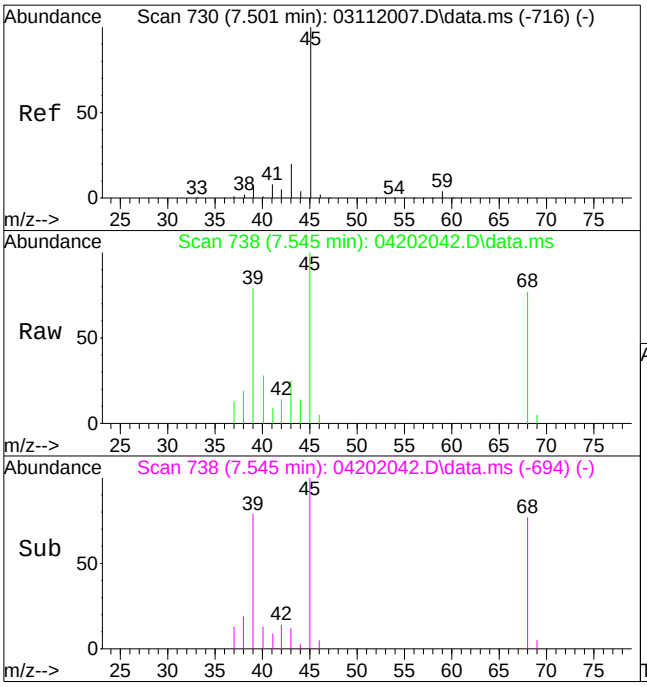


#14
Trichlorofluoromethane
Concen: 0.27 ng
RT: 7.28 min Scan# 689
Delta R.T. 0.001 min
Lab File: 04202042.D
Acq: 21 Apr 2020 2:56

Tgt Ion:101 Resp: 17105

Ion	Ratio	Lower	Upper
101	100		
103	65.7	44.6	84.6

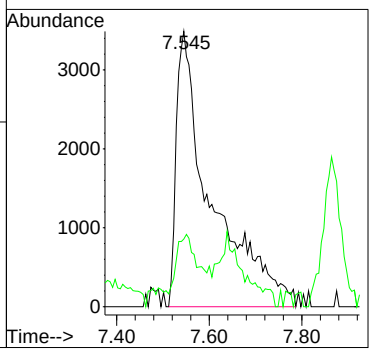


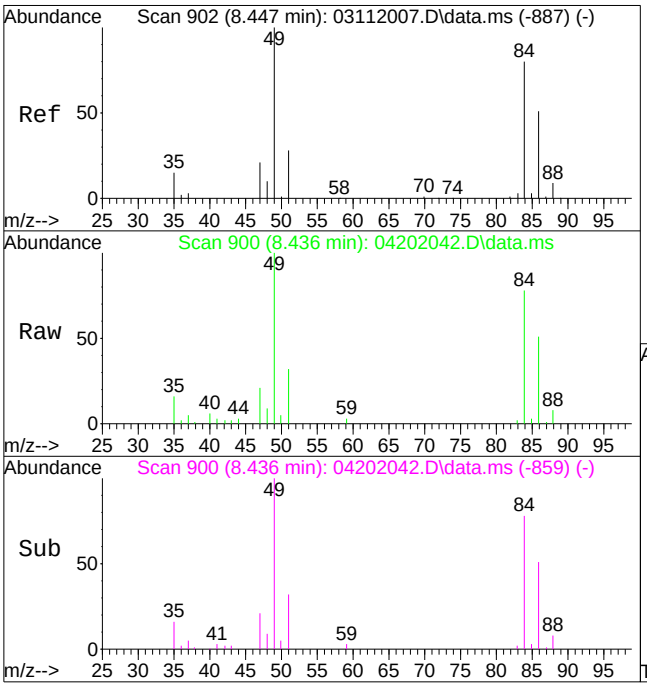


#15
2-Propanol (Isopropanol)
Concen: 0.24 ng
RT: 7.55 min Scan# 738
Delta R.T. -0.005 min
Lab File: 04202042.D
Acq: 21 Apr 2020 2:56

Tgt Ion: 45 Resp: 18320

Ion	Ratio	Lower	Upper
45	100		
43	0.0	0.3	40.3#

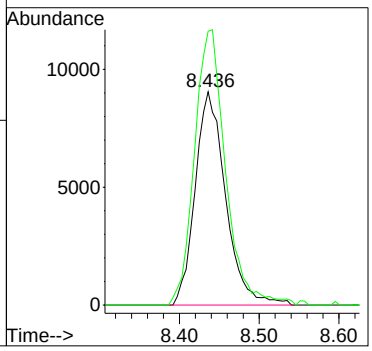


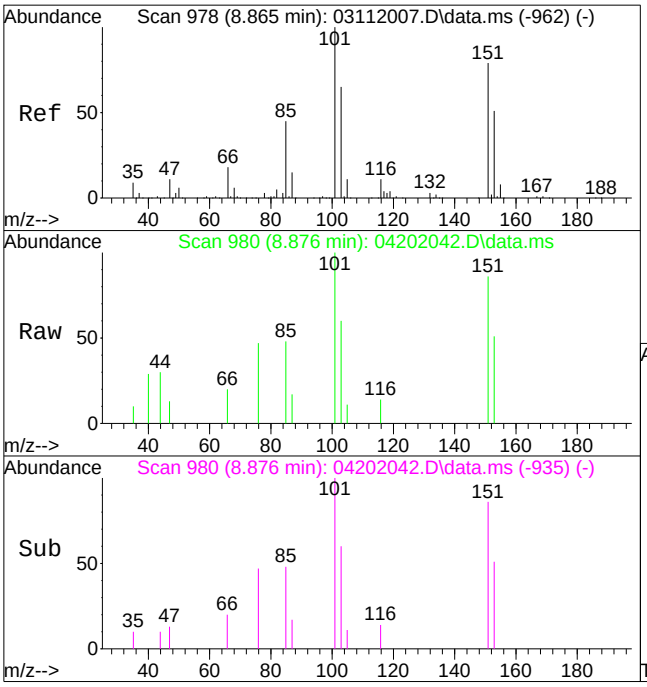


#19
Methylene Chloride
Concen: 0.72 ng
RT: 8.44 min Scan# 900
Delta R.T. -0.027 min
Lab File: 04202042.D
Acq: 21 Apr 2020 2:56

Tgt Ion: 84 Resp: 24002

Ion	Ratio	Lower	Upper
84	100		
49	132.0	102.2	152.2

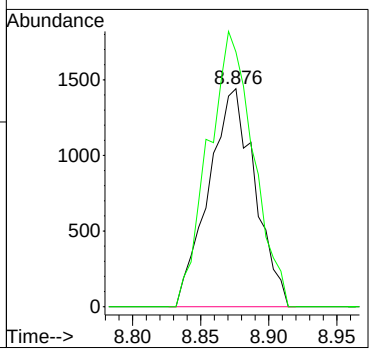


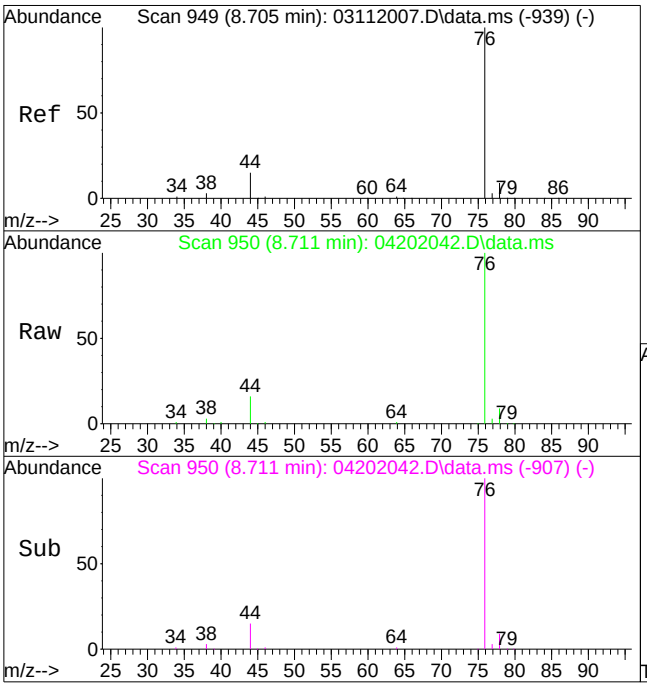


#21
Trichlorotrifluoroethane
Concen: 0.11 ng
RT: 8.88 min Scan# 980
Delta R.T. -0.000 min
Lab File: 04202042.D
Acq: 21 Apr 2020 2:56

Tgt Ion:151 Resp: 3410

Ion	Ratio	Lower	Upper
151	100		
101	123.7	108.4	148.4

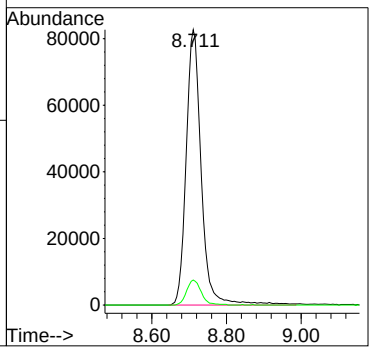


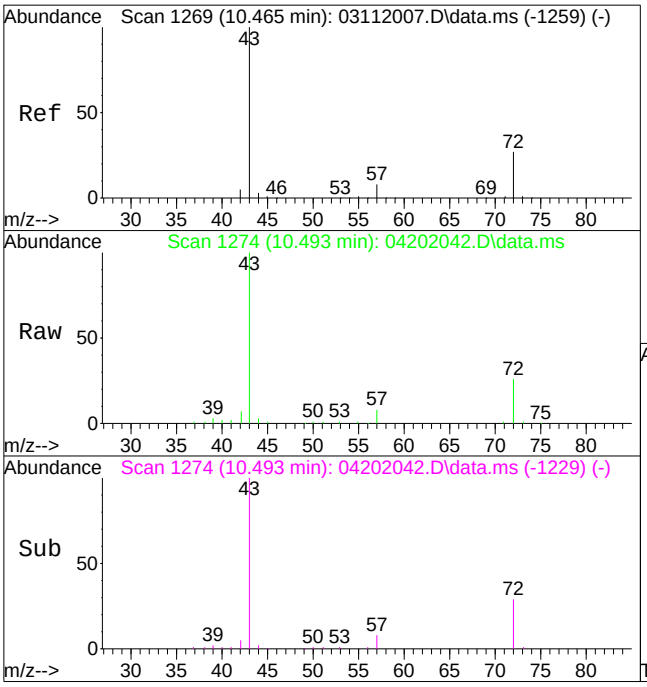


#22
Carbon Disulfide
Concen: 1.93 ng
RT: 8.71 min Scan# 950
Delta R.T. -0.011 min
Lab File: 04202042.D
Acq: 21 Apr 2020 2:56

Tgt Ion: 76 Resp: 231979

Ion	Ratio	Lower	Upper
76	100		
78	8.8	0.0	29.2

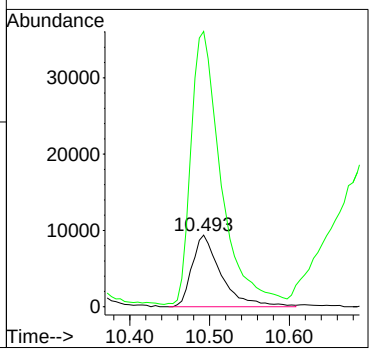


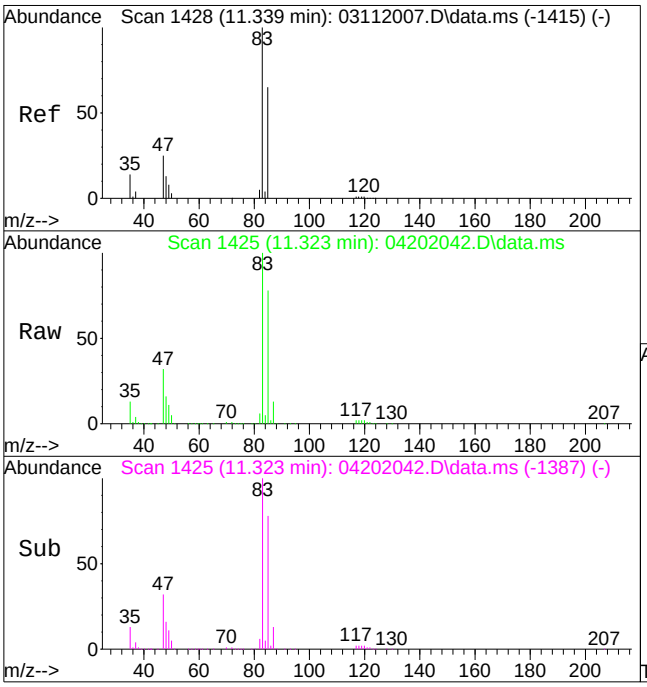


#27
2-Butanone (MEK)
Concen: 1.12 ng
RT: 10.49 min Scan# 1274
Delta R.T. 0.000 min
Lab File: 04202042.D
Acq: 21 Apr 2020 2:56

Tgt Ion: 72 Resp: 23849

Ion	Ratio	Lower	Upper
72	100		
43	391.7	353.4	393.4

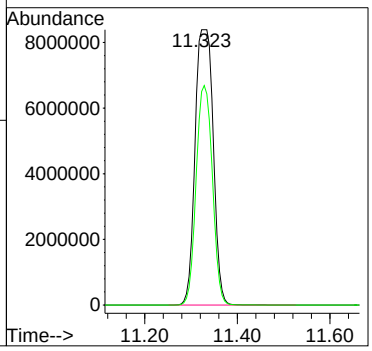


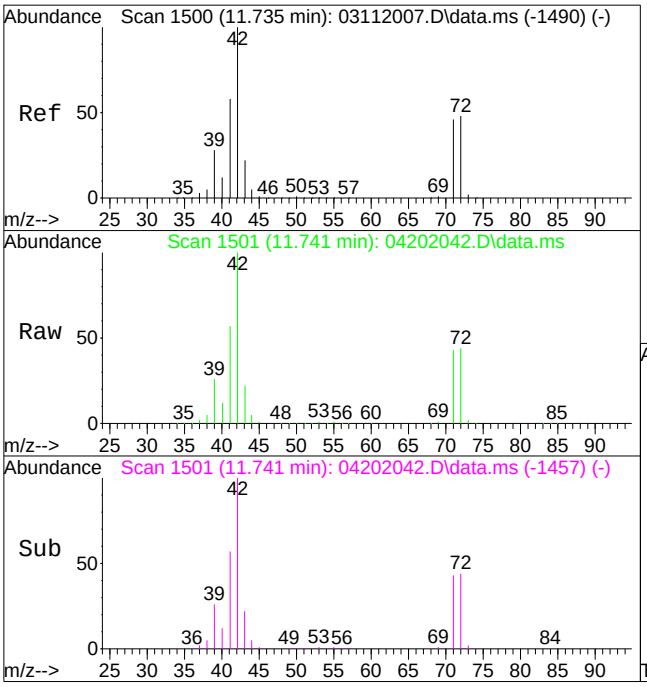


#32
Chloroform
Concen: 367.42 ng
RT: 11.32 min Scan# 1425
Delta R.T. -0.038 min
Lab File: 04202042.D
Acq: 21 Apr 2020 2:56

Tgt Ion: 83 Resp:22853945

Ion	Ratio	Lower	Upper
83	100		
85	71.2	45.5	85.5

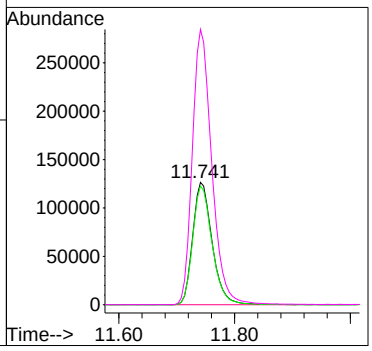


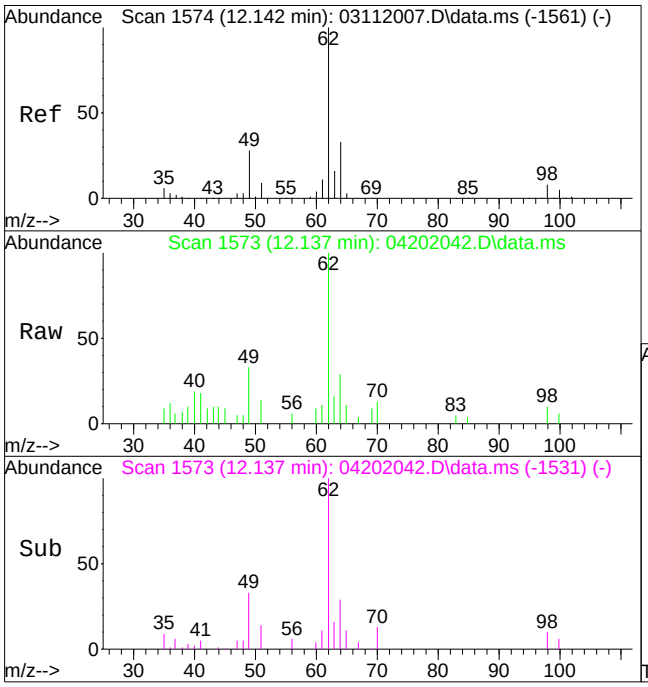


#34
Tetrahydrofuran (THF)
Concen: 13.44 ng
RT: 11.74 min Scan# 1501
Delta R.T. -0.005 min
Lab File: 04202042.D
Acq: 21 Apr 2020 2:56

Tgt Ion: 72 Resp: 294941

Ion	Ratio	Lower	Upper
72	100		
71	96.9	75.9	115.9
42	225.7	189.3	229.3

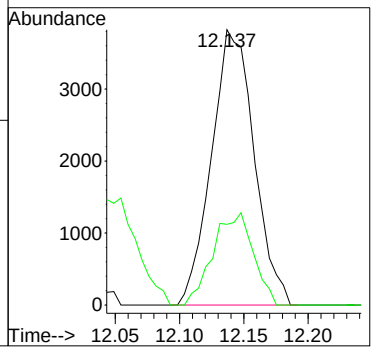


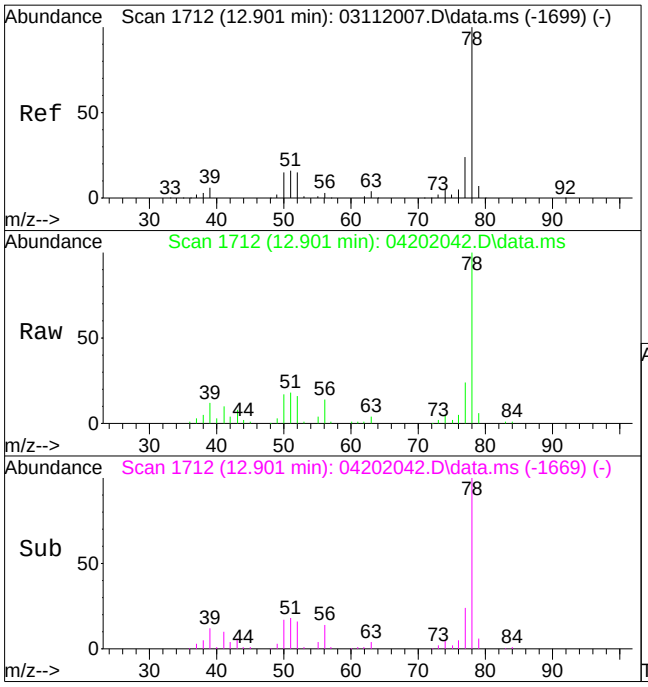


#36
1,2-Dichloroethane
Concen: 0.18 ng
RT: 12.14 min Scan# 1573
Delta R.T. -0.016 min
Lab File: 04202042.D
Acq: 21 Apr 2020 2:56

Tgt Ion: 62 Resp: 8817

Ion	Ratio	Lower	Upper
62	100		
64	31.6	12.4	52.4

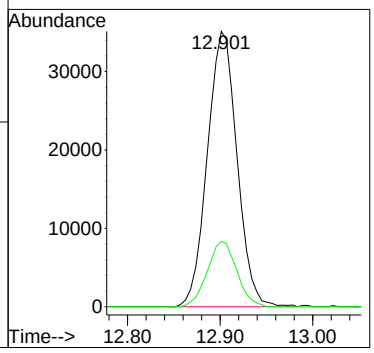


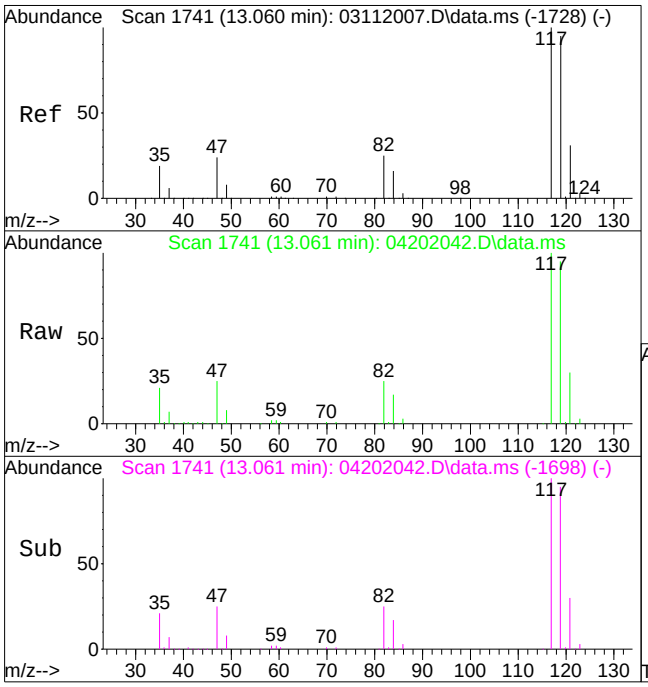


#41
Benzene
Concen: 0.55 ng
RT: 12.90 min Scan# 1712
Delta R.T. -0.011 min
Lab File: 04202042.D
Acq: 21 Apr 2020 2:56

Tgt Ion: 78 Resp: 78237

Ion	Ratio	Lower	Upper
78	100		
77	23.5	3.4	43.4

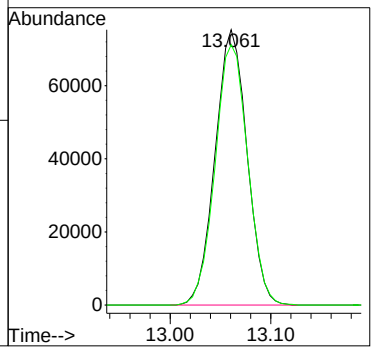


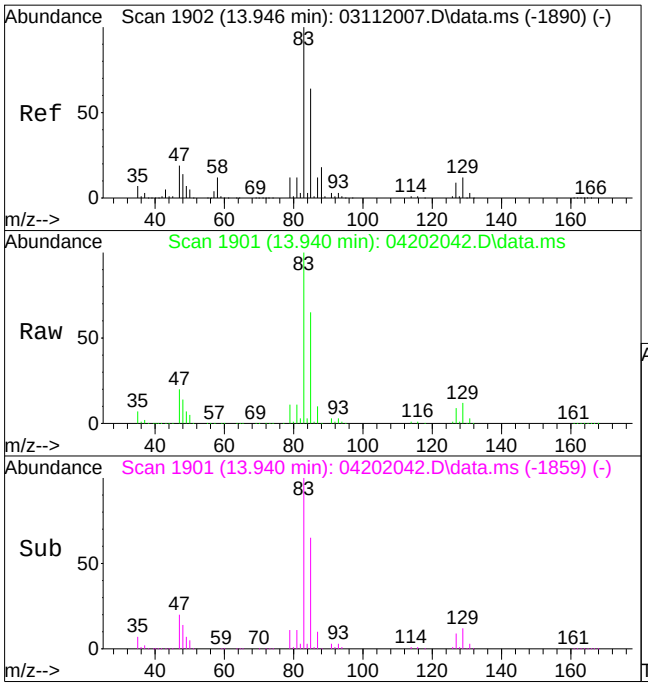


#42
Carbon Tetrachloride
Concen: 3.38 ng
RT: 13.06 min Scan# 1741
Delta R.T. -0.011 min
Lab File: 04202042.D
Acq: 21 Apr 2020 2:56

Tgt Ion:117 Resp: 166076

Ion	Ratio	Lower	Upper
117	100		
119	96.6	75.4	115.4

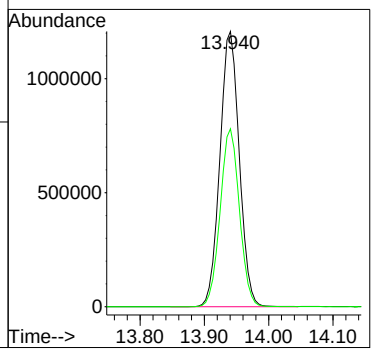


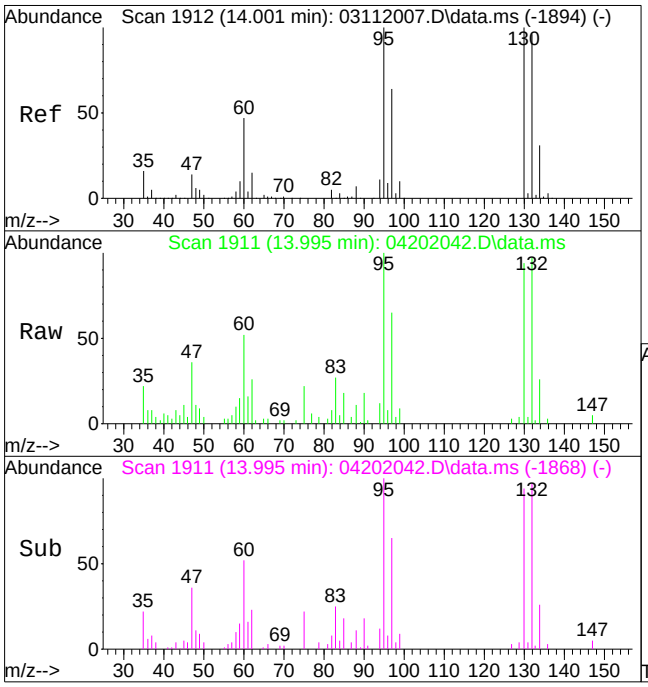


#46
Bromodichloromethane
Concen: 52.23 ng
RT: 13.94 min Scan# 1901
Delta R.T. -0.016 min
Lab File: 04202042.D
Acq: 21 Apr 2020 2:56

Tgt Ion: 83 Resp: 2525762

Ion	Ratio	Lower	Upper
83	100		
85	64.4	44.0	84.0

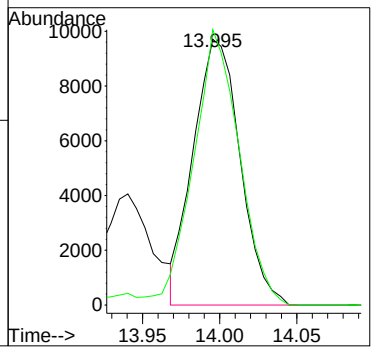


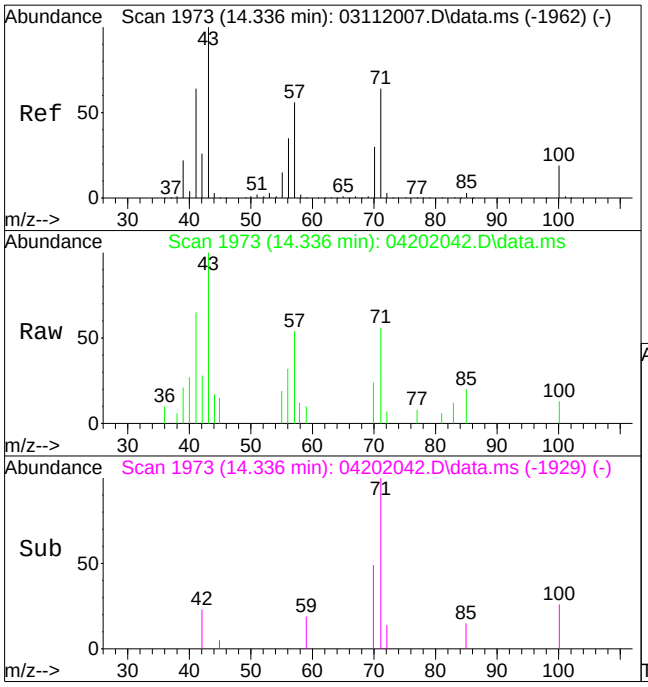


#47
Trichloroethene
Concen: 0.51 ng
RT: 14.00 min Scan# 1911
Delta R.T. -0.011 min
Lab File: 04202042.D
Acq: 21 Apr 2020 2:56

Tgt Ion:130 Resp: 20566

Ion	Ratio	Lower	Upper
130	100		
132	100.5	74.7	114.7

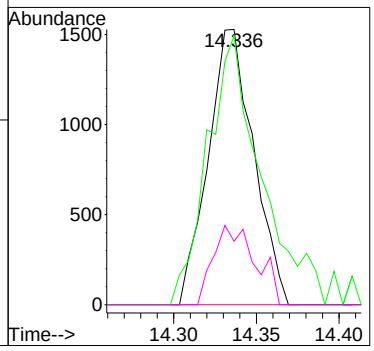


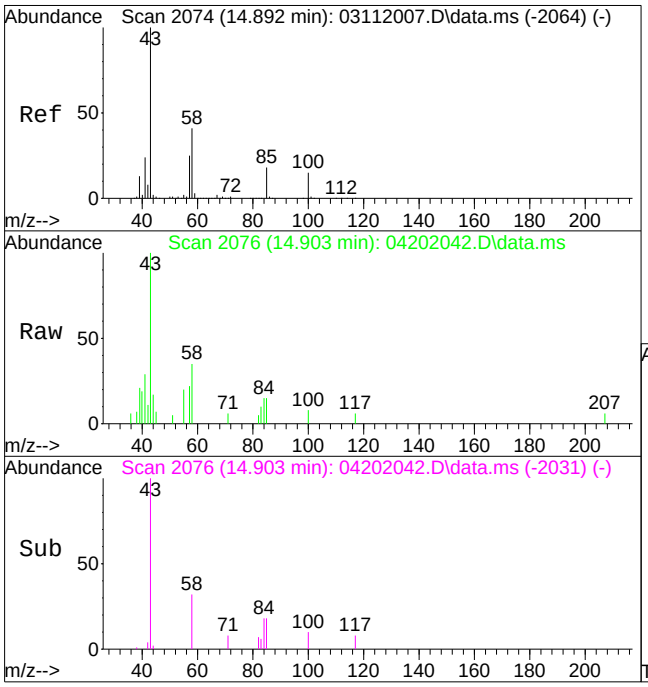


#51
n-Heptane
Concen: 0.09 ng
RT: 14.34 min Scan# 1973
Delta R.T. -0.005 min
Lab File: 04202042.D
Acq: 21 Apr 2020 2:56

Tgt Ion: 71 Resp: 2918

Ion	Ratio	Lower	Upper
71	100		
57	115.4	68.6	108.6#
100	26.7	9.1	49.1

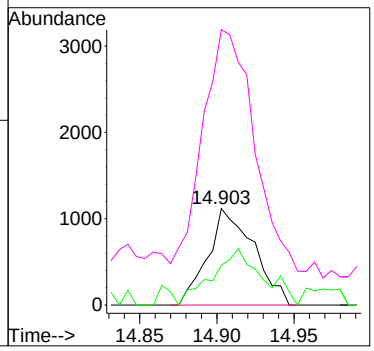


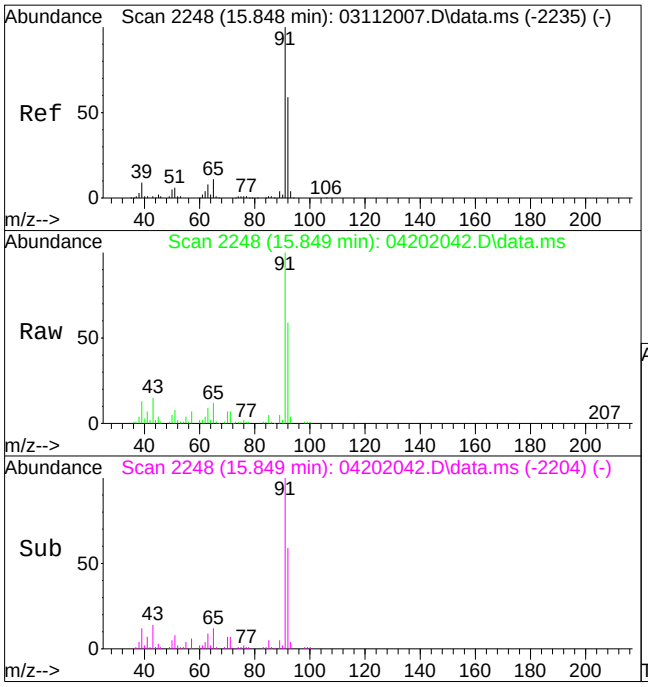


#53
4-Methyl-2-pentanone
Concen: 0.08 ng
RT: 14.90 min Scan# 2076
Delta R.T. 0.000 min
Lab File: 04202042.D
Acq: 21 Apr 2020 2:56

Tgt Ion: 58 Resp: 2308

Ion	Ratio	Lower	Upper
58	100		
85	63.7	37.0	55.4#
43	298.0	196.3	294.5#

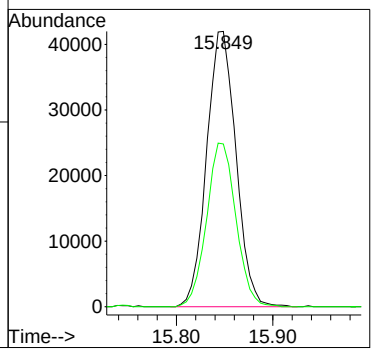


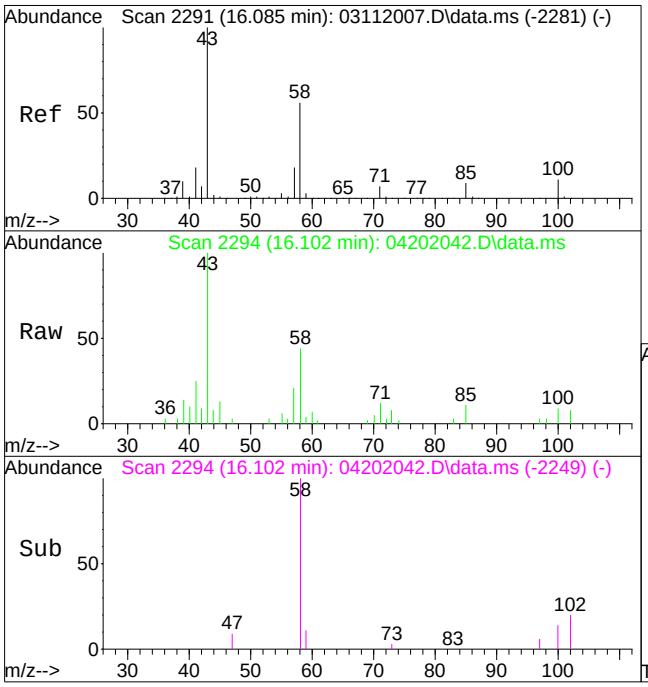


#58
Toluene
Concen: 0.61 ng
RT: 15.85 min Scan# 2248
Delta R.T. -0.005 min
Lab File: 04202042.D
Acq: 21 Apr 2020 2:56

Tgt Ion: 91 Resp: 88830

Ion	Ratio	Lower	Upper
91	100		
92	59.3	39.0	79.0

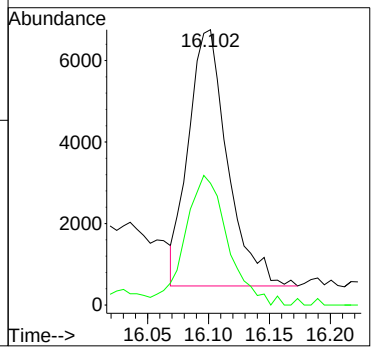


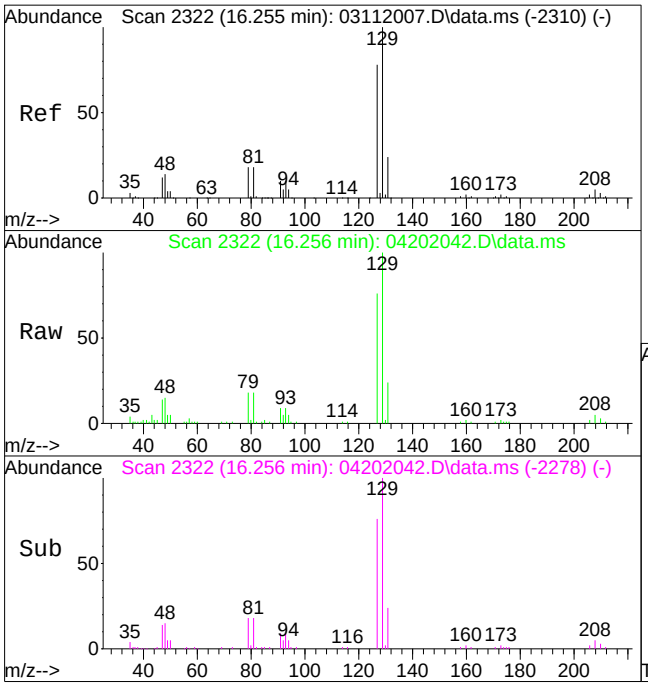


#59
2-Hexanone
Concen: 0.19 ng
RT: 16.10 min Scan# 2294
Delta R.T. 0.000 min
Lab File: 04202042.D
Acq: 21 Apr 2020 2:56

Tgt Ion: 43 Resp: 14045

Ion	Ratio	Lower	Upper
43	100		
58	55.1	36.5	76.5

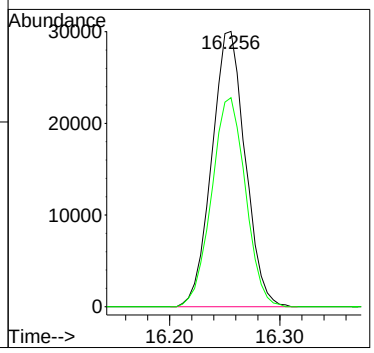


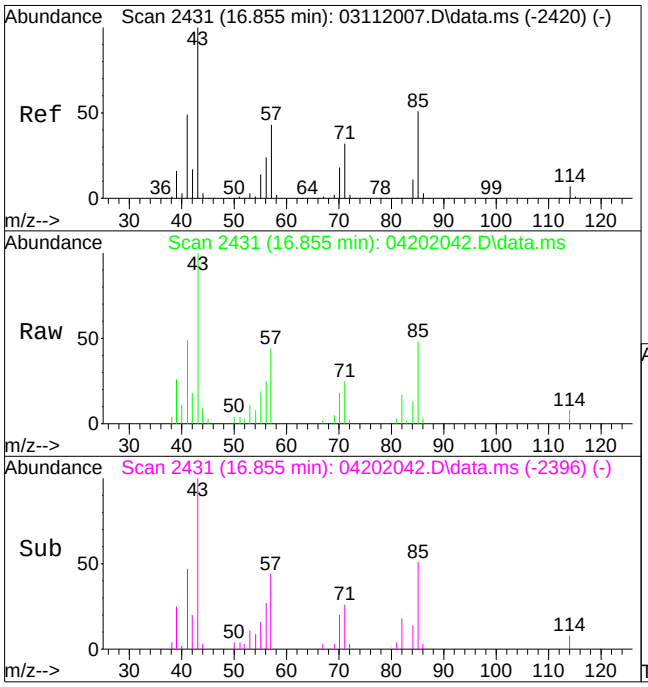


#60
Dibromochloromethane
Concen: 1.64 ng
RT: 16.26 min Scan# 2322
Delta R.T. -0.005 min
Lab File: 04202042.D
Acq: 21 Apr 2020 2:56

Tgt Ion:129 Resp: 63188

Ion	Ratio	Lower	Upper
129	100		
127	76.9	57.3	97.3

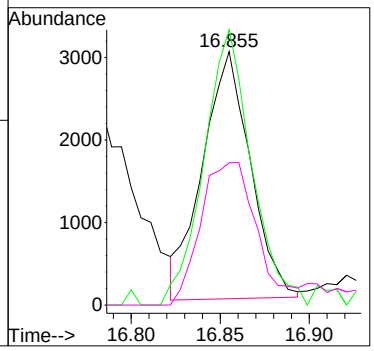


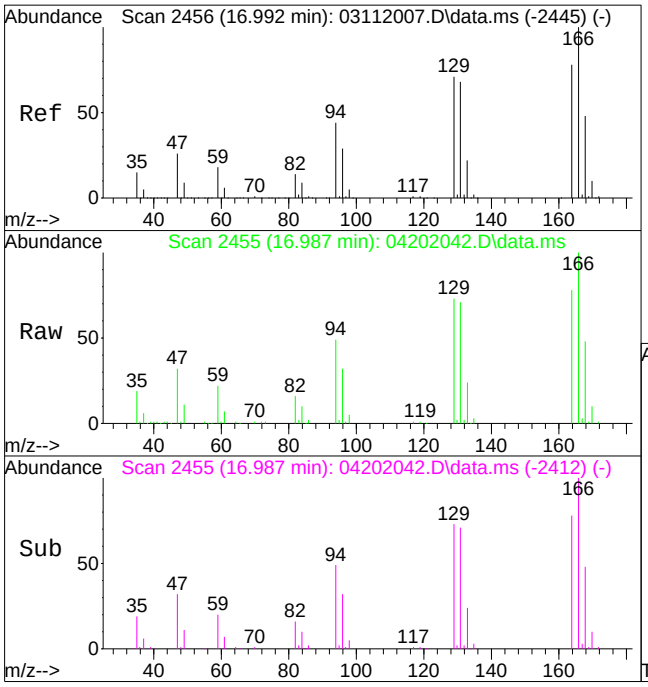


#63
n-Octane
Concen: 0.20 ng
RT: 16.85 min Scan# 2431
Delta R.T. -0.005 min
Lab File: 04202042.D
Acq: 21 Apr 2020 2:56

Tgt Ion: 57 Resp: 5611

Ion	Ratio	Lower	Upper
57	100		
85	110.8	95.1	142.7
71	74.7	58.2	87.4

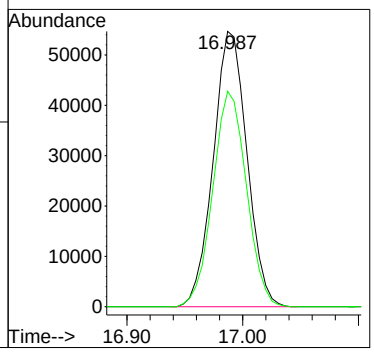


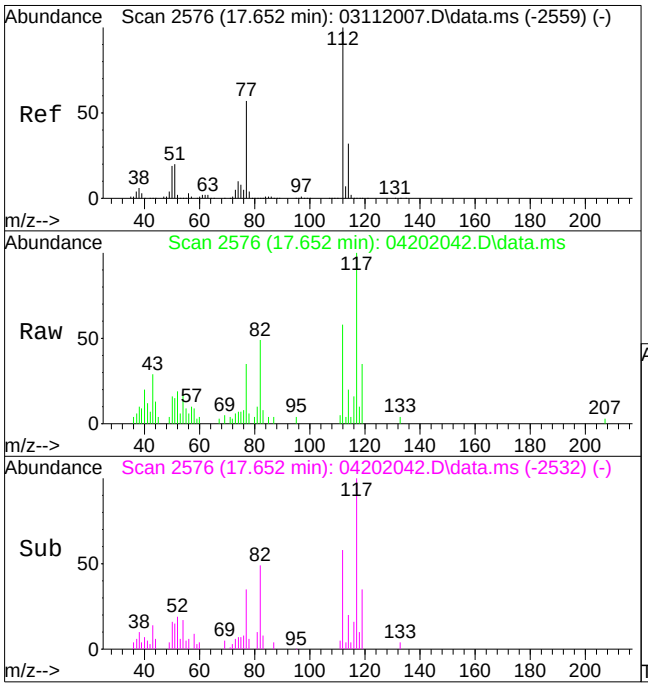


#64
Tetrachloroethene
Concen: 2.75 ng
RT: 16.99 min Scan# 2455
Delta R.T. -0.011 min
Lab File: 04202042.D
Acq: 21 Apr 2020 2:56

Tgt Ion:166 Resp: 110809

Ion	Ratio	Lower	Upper
166	100		
164	78.0	58.6	98.6

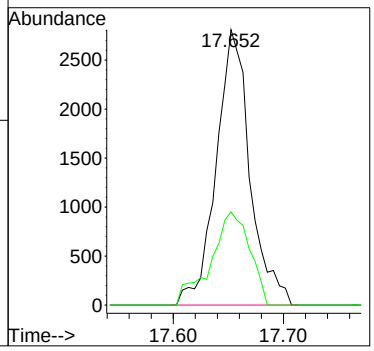


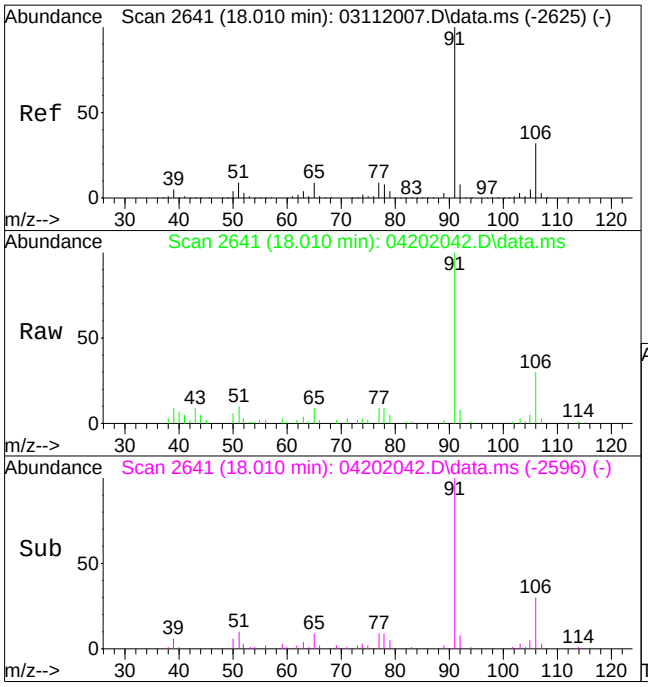


#65
Chlorobenzene
Concen: 0.06 ng
RT: 17.65 min Scan# 2576
Delta R.T. -0.005 min
Lab File: 04202042.D
Acq: 21 Apr 2020 2:56

Tgt Ion:112 Resp: 5985

Ion	Ratio	Lower	Upper
112	100		
114	39.1	12.2	52.2

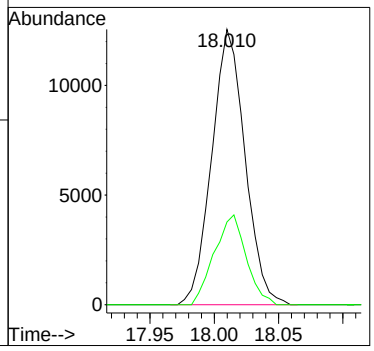


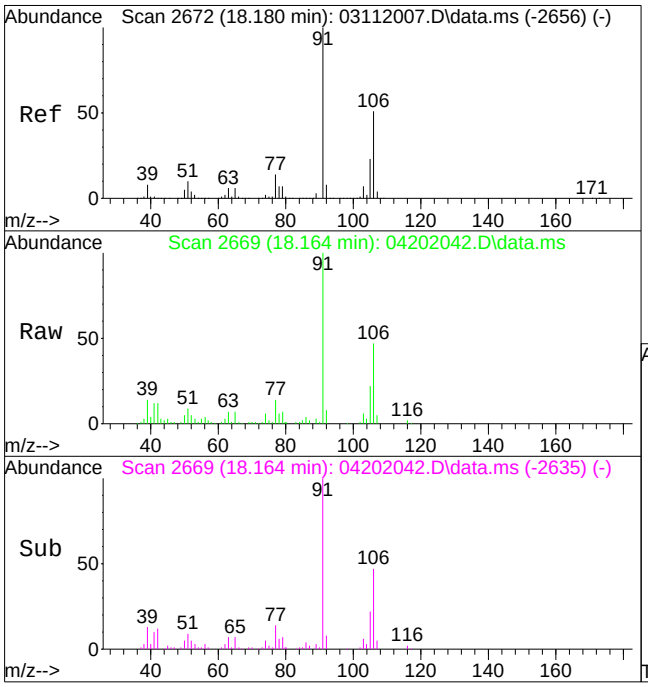


#66
Ethylbenzene
Concen: 0.14 ng
RT: 18.01 min Scan# 2641
Delta R.T. 0.000 min
Lab File: 04202042.D
Acq: 21 Apr 2020 2:56

Tgt Ion: 91 Resp: 22622

Ion	Ratio	Lower	Upper
91	100		
106	31.2	11.7	51.7

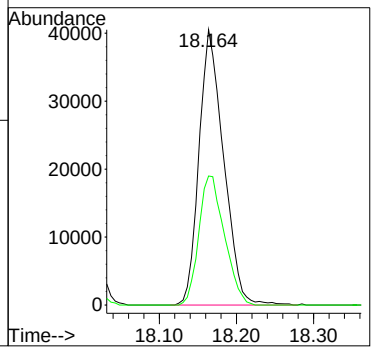


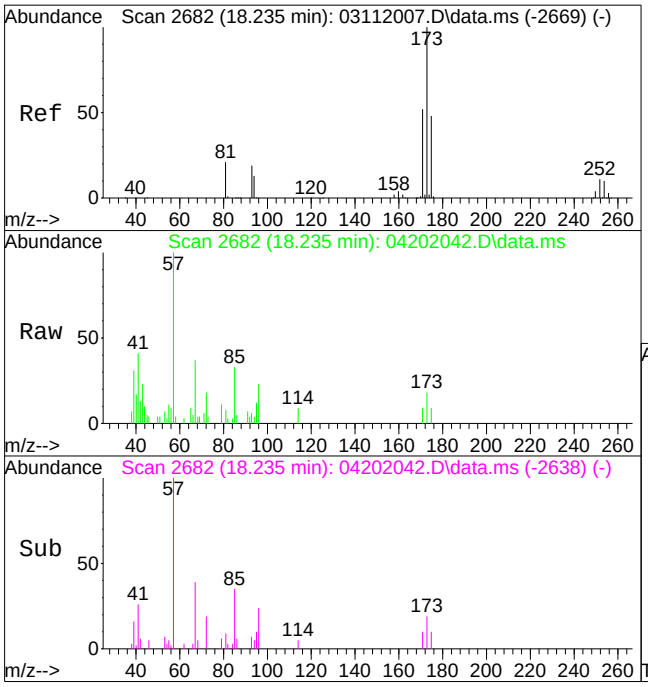


#67
m- & p-Xylenes
Concen: 0.69 ng
RT: 18.16 min Scan# 2669
Delta R.T. -0.011 min
Lab File: 04202042.D
Acq: 21 Apr 2020 2:56

Tgt Ion: 91 Resp: 89668

Ion	Ratio	Lower	Upper
91	100		
106	48.8	30.4	70.4

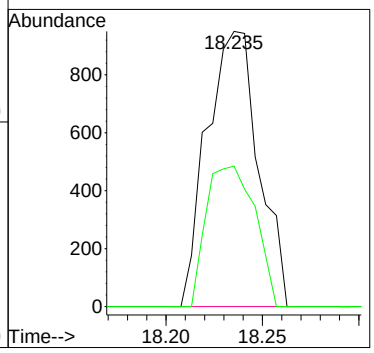


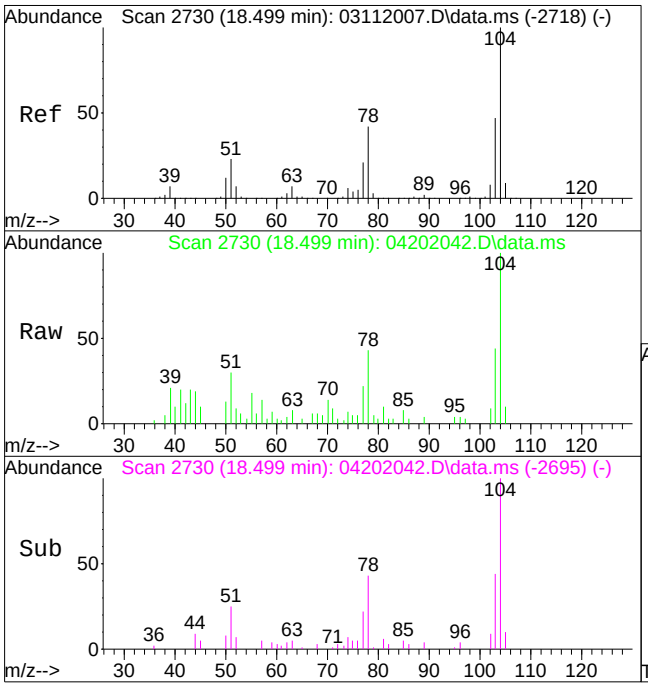


#68
Bromoform
Concen: 0.05 ng
RT: 18.24 min Scan# 2682
Delta R.T. -0.006 min
Lab File: 04202042.D
Acq: 21 Apr 2020 2:56

Tgt Ion:173 Resp: 1774

Ion	Ratio	Lower	Upper
173	100		
175	48.2	28.7	68.7

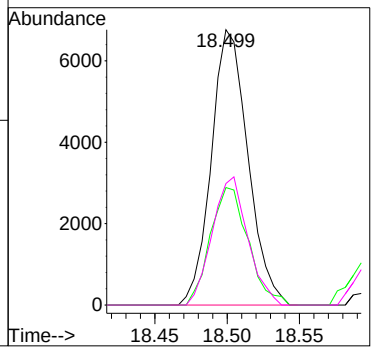


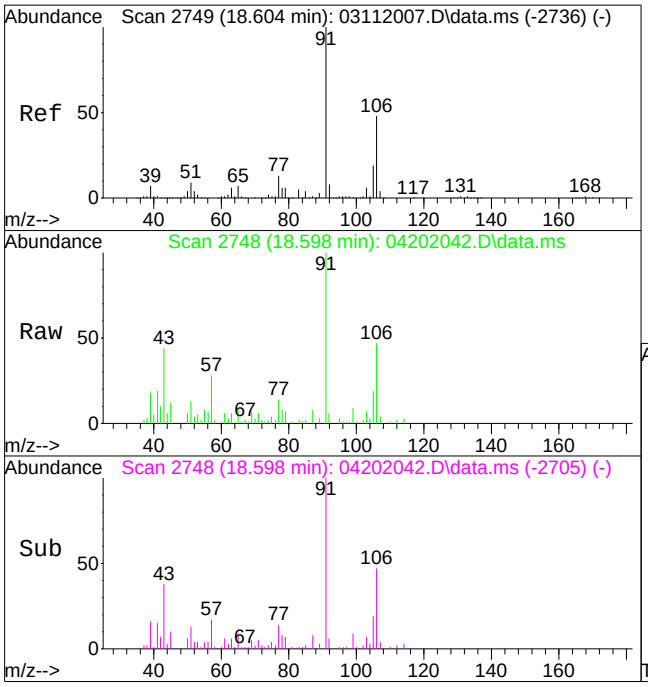


#69
Styrene
Concen: 0.12 ng
RT: 18.50 min Scan# 2730
Delta R.T. -0.006 min
Lab File: 04202042.D
Acq: 21 Apr 2020 2:56

Tgt Ion:104 Resp: 11928

Ion	Ratio	Lower	Upper
104	100		
78	44.0	20.9	60.9
103	45.0	27.4	67.4

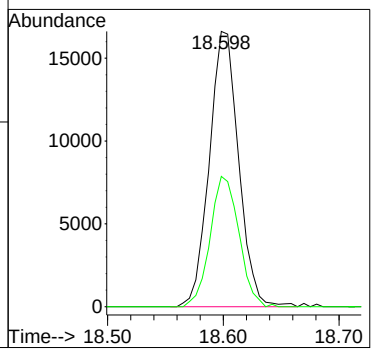


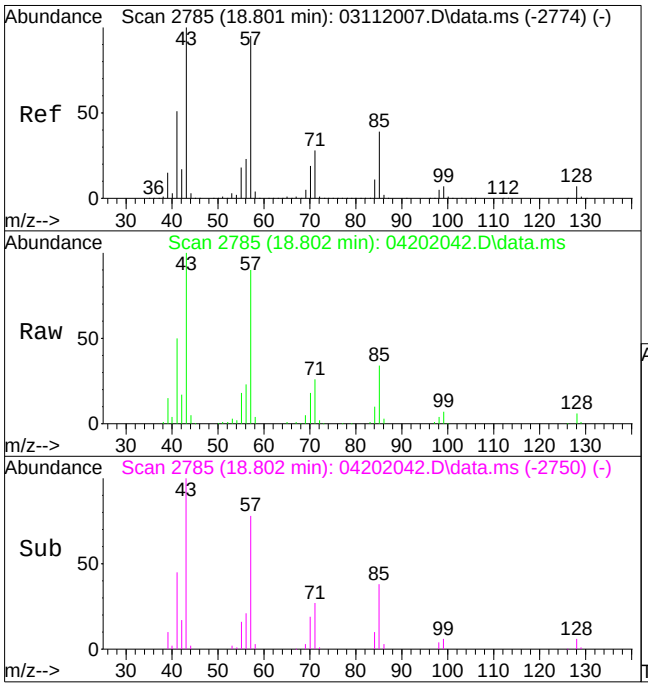


#70
o-Xylene
Concen: 0.23 ng
RT: 18.60 min Scan# 2748
Delta R.T. -0.011 min
Lab File: 04202042.D
Acq: 21 Apr 2020 2:56

Tgt Ion: 91 Resp: 29277

Ion	Ratio	Lower	Upper
91	100		
106	46.5	28.1	68.1

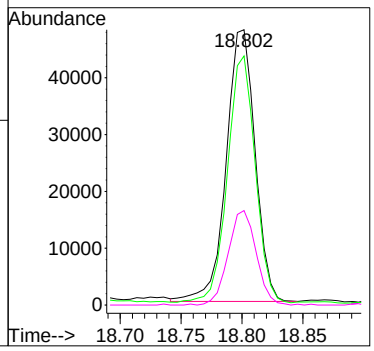


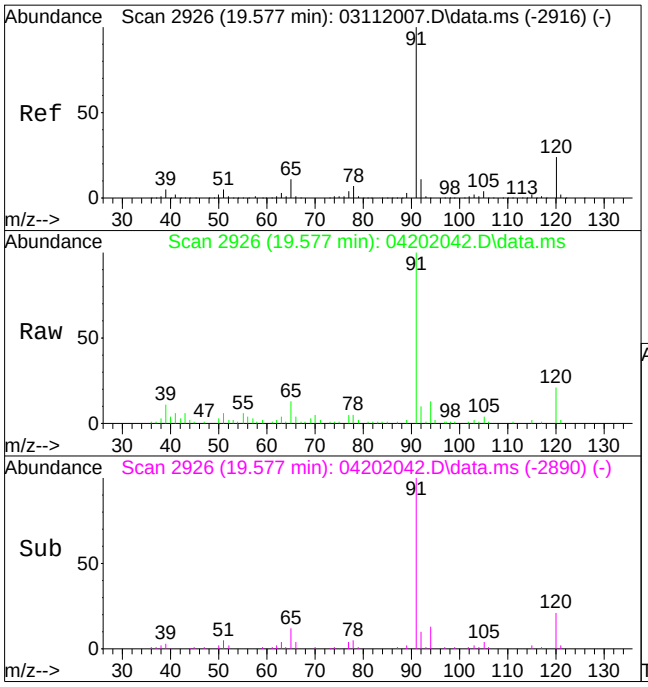


#71
n-Nonane
Concen: 1.22 ng
RT: 18.80 min Scan# 2785
Delta R.T. -0.005 min
Lab File: 04202042.D
Acq: 21 Apr 2020 2:56

Tgt Ion: 43 Resp: 78853

Ion	Ratio	Lower	Upper
43	100		
57	87.4	73.6	113.6
85	33.6	18.7	58.7

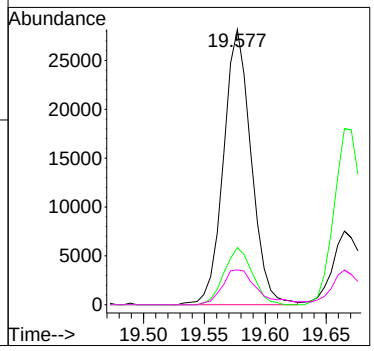


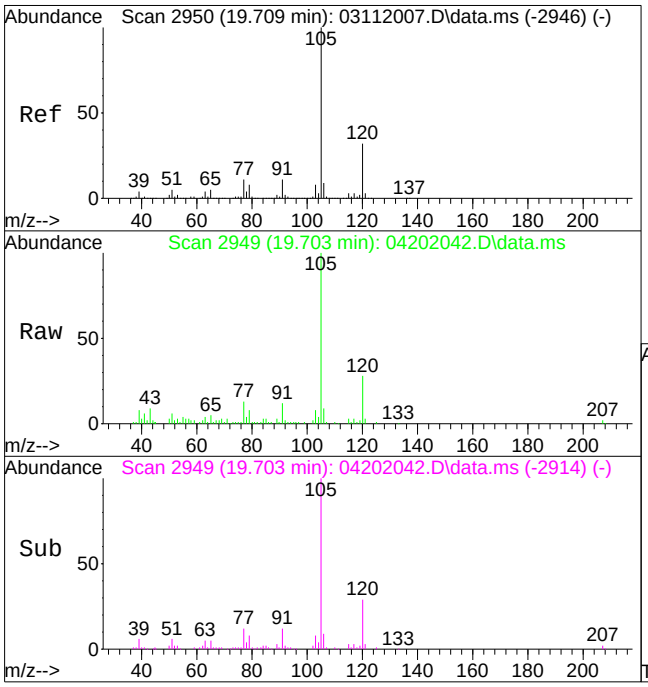


#76
n-Propylbenzene
Concen: 0.23 ng
RT: 19.58 min Scan# 2926
Delta R.T. 0.000 min
Lab File: 04202042.D
Acq: 21 Apr 2020 2:56

Tgt Ion: 91 Resp: 44564

Ion	Ratio	Lower	Upper
91	100		
120	21.1	3.9	43.9
65	16.4	0.0	30.5

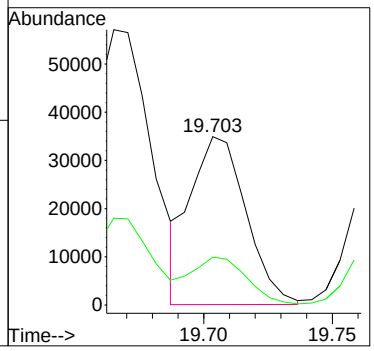


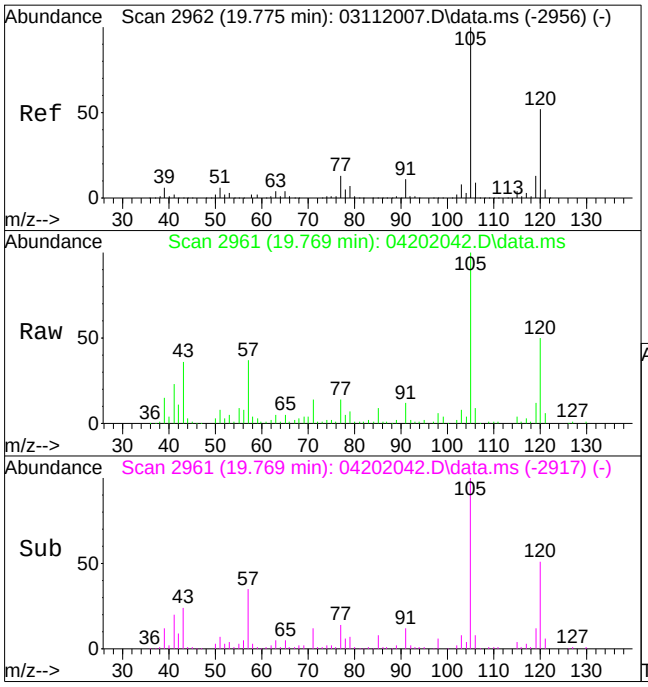


#78
4-Ethyltoluene
Concen: 0.34 ng
RT: 19.70 min Scan# 2949
Delta R.T. -0.006 min
Lab File: 04202042.D
Acq: 21 Apr 2020 2:56

Tgt Ion:105 Resp: 52369

Ion	Ratio	Lower	Upper
105	100		
120	25.5	11.1	51.1

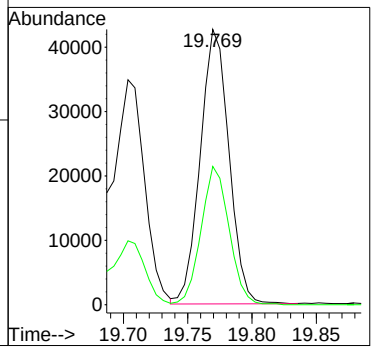


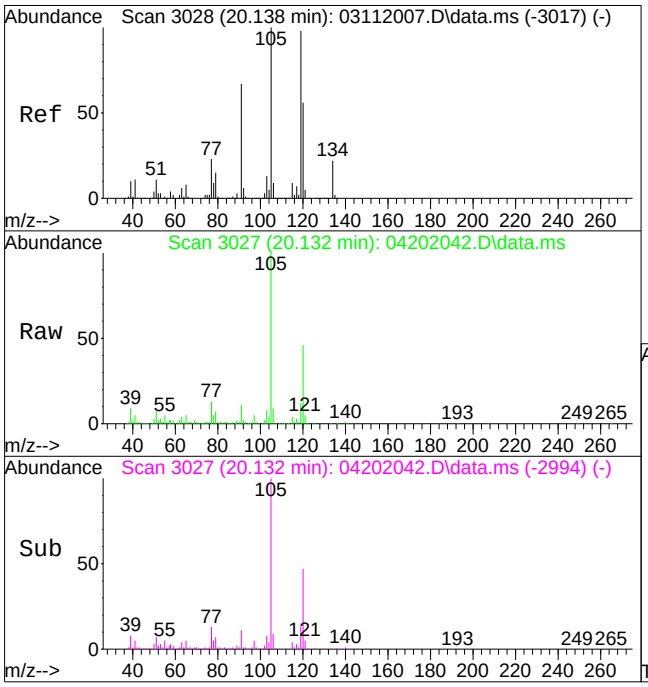


#79
1,3,5-Trimethylbenzene
Concen: 0.48 ng
RT: 19.77 min Scan# 2961
Delta R.T. -0.006 min
Lab File: 04202042.D
Acq: 21 Apr 2020 2:56

Tgt Ion:105 Resp: 66251

Ion	Ratio	Lower	Upper
105	100		
120	49.2	31.3	71.3

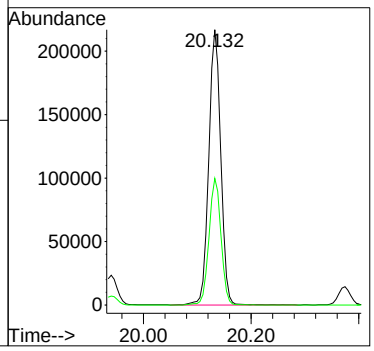


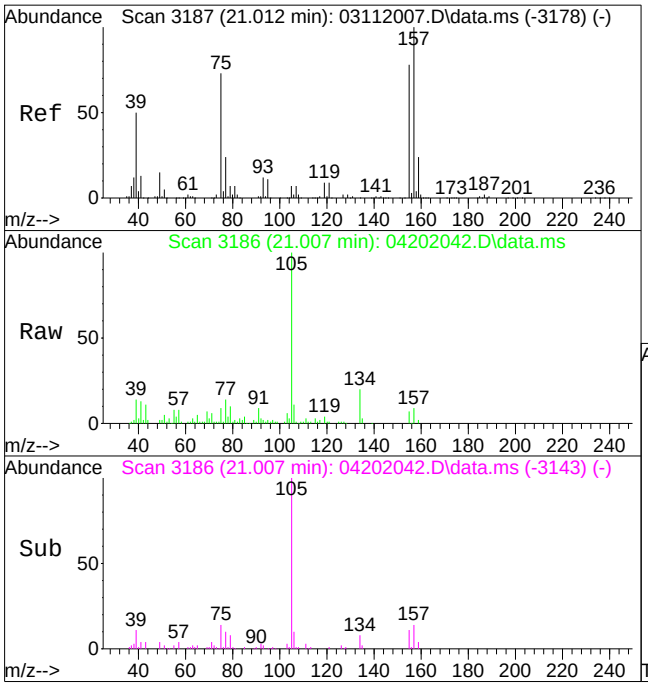


#82
1,2,4-Trimethylbenzene
Concen: 2.35 ng
RT: 20.13 min Scan# 3027
Delta R.T. -0.017 min
Lab File: 04202042.D
Acq: 21 Apr 2020 2:56

Tgt Ion:105 Resp: 336857

Ion	Ratio	Lower	Upper
105	100		
120	45.9	35.8	75.8

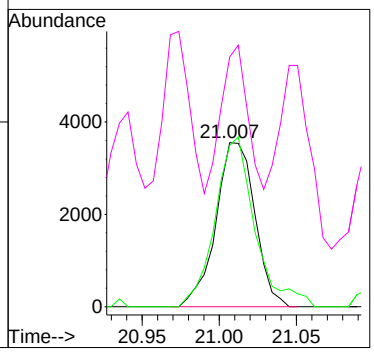


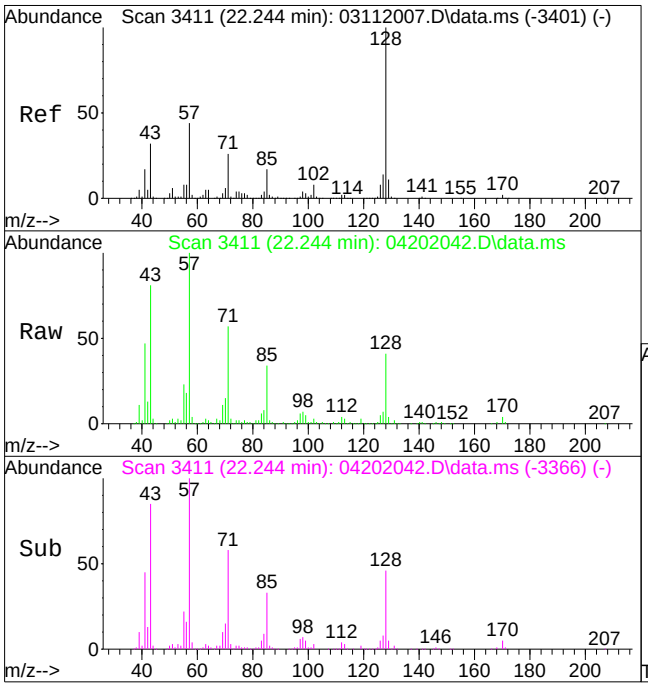


#92
1,2-Dibromo-3-Chloropropane
Concen: 0.24 ng
RT: 21.01 min Scan# 3186
Delta R.T. -0.011 min
Lab File: 04202042.D
Acq: 21 Apr 2020 2:56

Tgt Ion:157 Resp: 6245

Ion	Ratio	Lower	Upper
157	100		
75	105.4	55.5	95.5#
39	90.5	32.9	72.9#

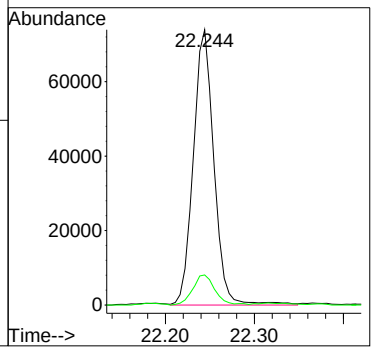




#95
Naphthalene
Concen: 0.74 ng
RT: 22.24 min Scan# 3411
Delta R.T. -0.005 min
Lab File: 04202042.D
Acq: 21 Apr 2020 2:56

Tgt Ion:128 Resp: 118989

Ion	Ratio	Lower	Upper
128	100		
129	11.9	0.0	31.1



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212012.D Vial: 9
Acq On : 21 Apr 2020 15:33 Operator: WA
Sample : P2002031-007dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 18:44:22 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/22/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	355739	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.29	114	1575127	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	759662	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	613039	12.445	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.60%				
57) Toluene-d8 (SS2)	15.74	98	1621665	12.043	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.32%				
73) Bromofluorobenzene (SS3)	19.01	174	546237	11.488	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.92%				
Target Compounds							Qvalue
2) Propene	4.17	42	1488	N.D.			
3) Dichlorodifluoromethan...	4.31	85	3888	N.D.			
4) Chloromethane	4.59	50	752	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.37	45	3800	0.129	ng		82
11) Acetonitrile	6.67	41	141	N.D.			
12) Acrolein	6.86	56	2607	0.120	ng		96
13) Acetone	7.07	58	16249	0.558	ng	#	74
14) Trichlorofluoromethane	7.28	101	1576	N.D.			
15) 2-Propanol (Isopropanol)	7.59	45	2214	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.50	59	934	N.D.			
19) Methylene Chloride	8.45	84	2460	0.065	ng		96
20) 3-Chloro-1-propene (Al...	8.53	41	118	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.72	76	22195	0.163	ng		96
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.53	72	1580	0.065	ng	#	7
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	11.27	57	132	N.D.			
32) Chloroform	11.32	83	2054634	29.089	ng		99
34) Tetrahydrofuran (THF)	11.76	72	26748	1.073	ng		94
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.14	62	771	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	12.93	56	1432	N.D.			
41) Benzene	12.90	78	7831	N.D.			
42) Carbon Tetrachloride	13.06	117	14272	0.255	ng		96
43) Cyclohexane	13.19	84	121	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	13.94	83	204291	3.711	ng		99
47) Trichloroethene	14.00	130	2071	N.D.			
48) 1,4-Dioxane	14.02	88	140	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212012.D Vial: 9
Acq On : 21 Apr 2020 15:33 Operator: WA
Sample : P2002031-007dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 18:44:22 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

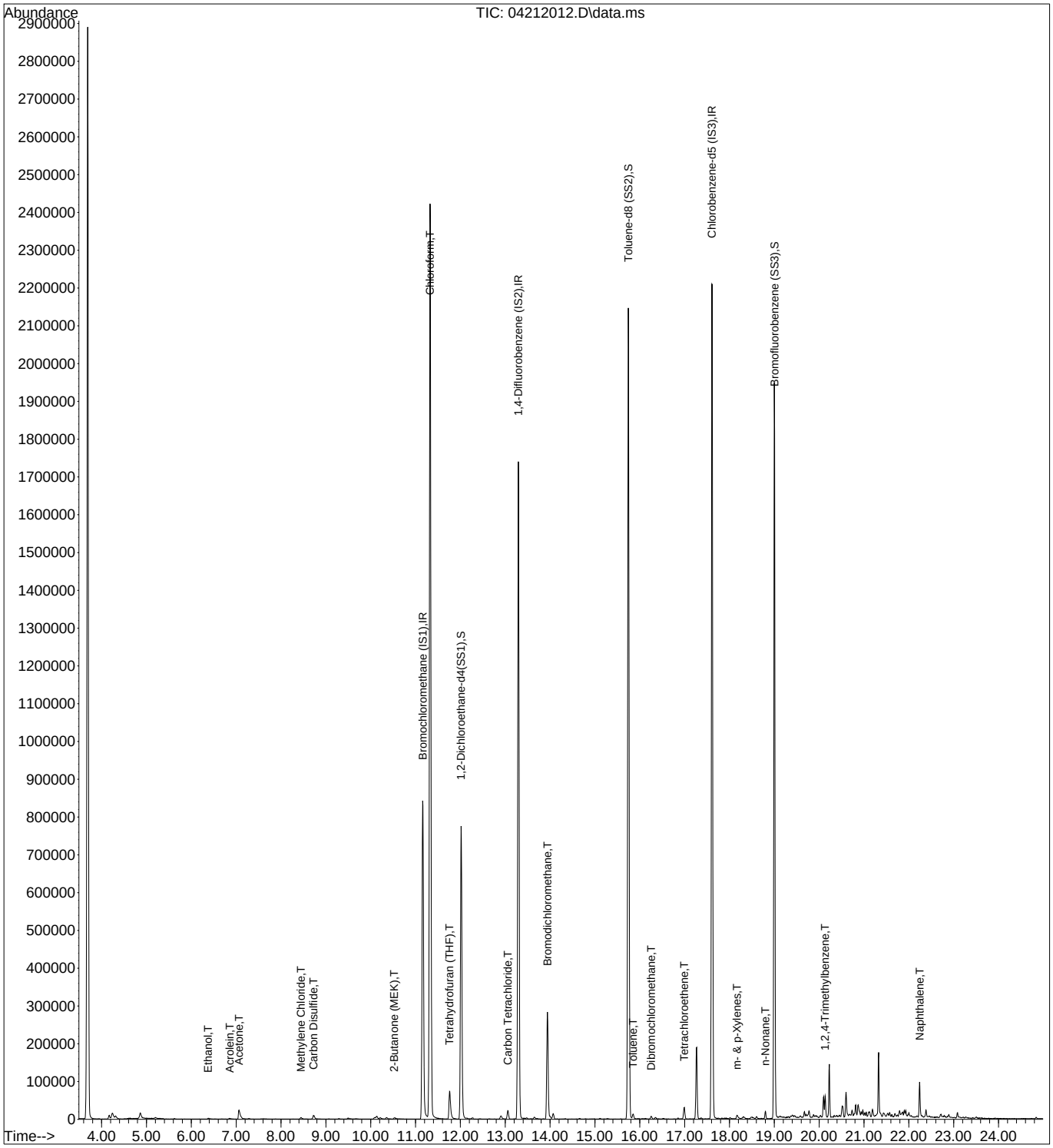
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.85	91	9613	0.058 ng	89
59) 2-Hexanone	16.07	43	654	N.D.	
60) Dibromochloromethane	16.26	129	4847	0.109 ng	99
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.76	43	307	N.D.	
63) n-Octane	16.86	57	612	N.D.	
64) Tetrachloroethene	16.99	166	10027	0.216 ng	98
65) Chlorobenzene	17.66	112	694	N.D.	
66) Ethylbenzene	18.02	91	2362	N.D.	
67) m- & p-Xylenes	18.17	91	9066	0.061 ng	93
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.50	104	1106	N.D.	
70) o-Xylene	18.60	91	3146	N.D.	
71) n-Nonane	18.80	43	6765	0.091 ng	94
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.13	105	1478	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	19.58	91	4745	N.D.	
77) 3-Ethyltoluene	19.67	105	8398	N.D.	
78) 4-Ethyltoluene	19.71	105	4291	N.D.	
79) 1,3,5-Trimethylbenzene	19.77	105	6095	N.D.	
80) alpha-Methylstyrene	19.91	118	1660	N.D.	
81) 2-Ethyltoluene	19.95	105	3707	N.D.	
82) 1,2,4-Trimethylbenzene	20.13	105	28732	0.175 ng	85
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.22	91	345	N.D.	
85) 1,3-Dichlorobenzene	20.28	146	101	N.D.	
86) 1,4-Dichlorobenzene	20.34	146	596	N.D.	
87) sec-Butylbenzene	20.37	105	2350	N.D.	
88) 4-Isopropyltoluene (p-...	20.51	119	4099	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	20.63	146	162	N.D.	
91) d-Limonene	20.64	68	301	N.D.	
92) 1,2-Dibromo-3-Chloropr...	21.01	157	361	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.13	180	101	N.D.	
95) Naphthalene	22.24	128	10610	0.058 ng	100
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.09	119	1424	N.D.	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212012.D Vial: 9
Acq On : 21 Apr 2020 15:33 Operator: WA
Sample : P2002031-007dil (40mL) Inst : GCMS-16
Misc : S31-02112001

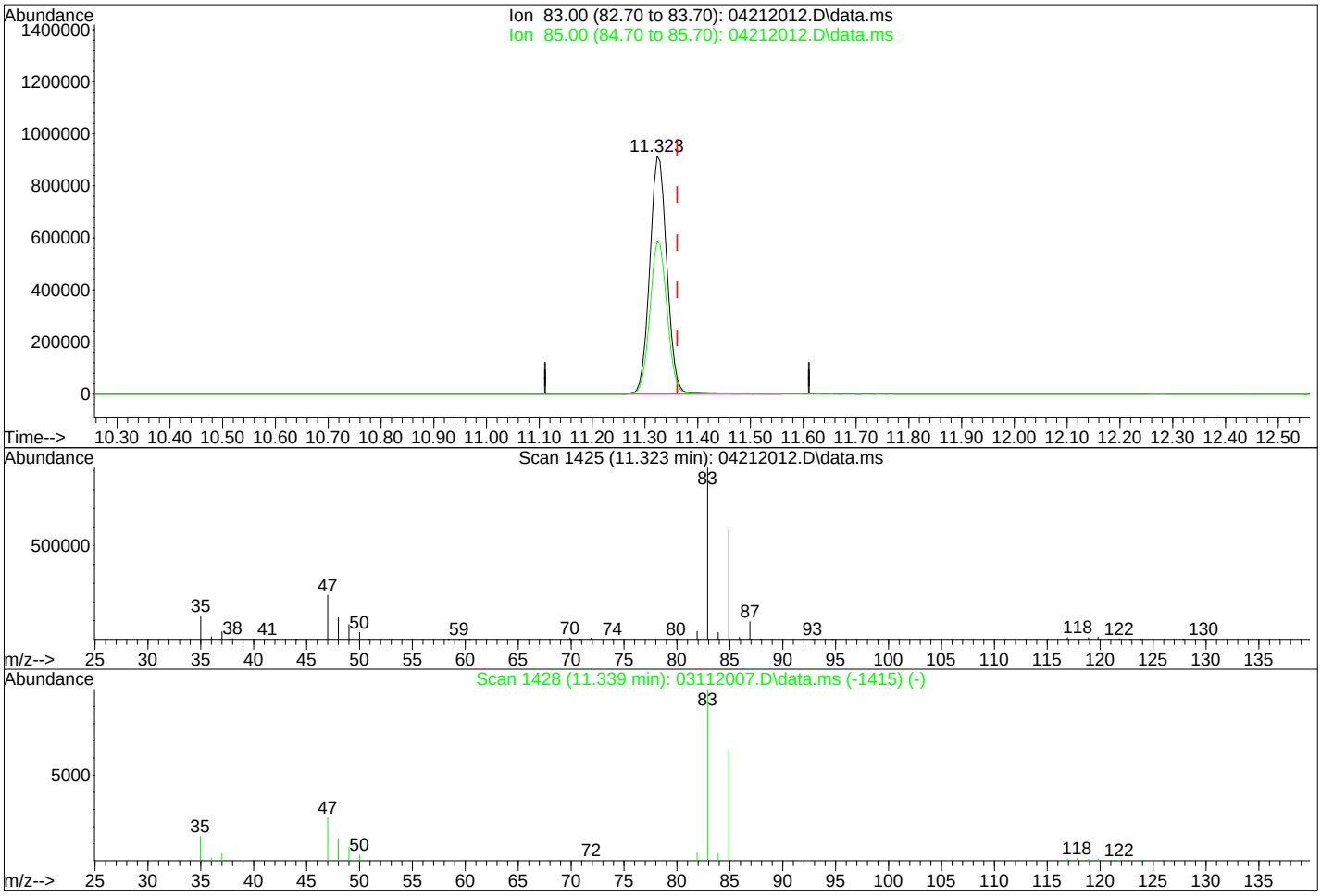
Quant Time: Apr 22 18:44:22 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\21\04212012.D Vial: 9
Acq On : 21 Apr 2020 15:33 Operator: WA
Sample : P2002031-007dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 03:14:57 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04212012.D\data.ms

(32) Chloroform (T)

11.323min (-0.038) 29.09ng

response 2054634

Ion	Exp%	Act%
83.00	100	100
85.00	65.50	64.67
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202043.D Vial: 10
Acq On : 21 Apr 2020 3:29 Operator: LH
Sample : P2002031-008 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 17:04:09 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/22/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	311718	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.30	114	1378010	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.61	82	655755	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	543416	12.590	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.72%				
57) Toluene-d8 (SS2)	15.74	98	1422612	12.239	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.92%				
73) Bromofluorobenzene (SS3)	19.00	174	481714	11.736	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.92%				
Target Compounds							Qvalue
2) Propene	4.13	42	39689	1.214	ng	#	86
3) Dichlorodifluoromethan...	4.28	85	25682	0.365	ng		99
4) Chloromethane	4.56	50	6356	0.114	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.83	135	1815	N.D.			
6) Vinyl Chloride	4.98	62	446	N.D.			
7) 1,3-Butadiene	5.25	54	782	N.D.			
8) Bromomethane	5.68	94	390	N.D.			
9) Chloroethane	6.00	64	579	N.D.			
10) Ethanol	6.34	45	464482	17.977	ng		100
11) Acetonitrile	6.63	41	5998	0.106	ng	#	61
12) Acrolein	6.81	56	11744	0.618	ng		98
13) Acetone	7.01	58	132972m	5.215	ng		
14) Trichlorofluoromethane	7.26	101	28777	0.464	ng		98
15) 2-Propanol (Isopropanol)	7.50	45	255600	3.380	ng		99
16) Acrylonitrile	0.00	53	0	N.D. d			
17) 1,1-Dichloroethene	8.23	96	2007	0.065	ng		95
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d			
19) Methylene Chloride	8.44	84	20234	0.610	ng		99
20) 3-Chloro-1-propene (Al...	8.59	41	104	N.D.			
21) Trichlorotrifluoroethane	8.88	151	2560	0.086	ng		95
22) Carbon Disulfide	8.71	76	126458	1.060	ng		98
23) trans-1,2-Dichloroethene	9.72	61	1398	N.D.			
24) 1,1-Dichloroethane	9.97	63	1194	N.D.			
25) Methyl tert-Butyl Ether	10.12	73	974	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	10.48	72	42812	2.017	ng	#	90
28) cis-1,2-Dichloroethene	11.00	61	7374	0.159	ng		97
29) Diisopropyl Ether	0.00	87	0	N.D. d			
30) Ethyl Acetate	11.30	61	3373645	268.872	ng		93
31) n-Hexane	11.28	57	20607	0.354	ng	#	74
32) Chloroform	11.34	83	483469	7.812	ng		99
34) Tetrahydrofuran (THF)	11.74	72	76122	3.485	ng		94
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.14	62	662	N.D.			
38) 1,1,1-Trichloroethane	12.42	97	12124	0.224	ng		98
39) Isopropyl Acetate	0.00	61	0	N.D. d			
40) 1-Butanol	0.00	56	0	N.D. d			
41) Benzene	12.90	78	73519	0.516	ng		100
42) Carbon Tetrachloride	13.06	117	231851	4.738	ng		99
43) Cyclohexane	13.19	84	6140	0.112	ng		94
44) tert-Amyl Methyl Ether	13.55	73	1426	N.D.			
45) 1,2-Dichloropropane	13.76	63	193	N.D.			
46) Bromodichloromethane	13.95	83	11629	0.241	ng		90
47) Trichloroethene	14.00	130	77192	1.912	ng		99
48) 1,4-Dioxane	14.00	88	2541	0.092	ng		89
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d			
50) Methyl Methacrylate	14.07	100	230	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202043.D Vial: 10
Acq On : 21 Apr 2020 3:29 Operator: LH
Sample : P2002031-008 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 17:04:09 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.33	71	12806	0.385 ng		96
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.91	58	3941	0.132 ng	#	92
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	15.56	97	4209	0.128 ng		99
58) Toluene	15.84	91	922882	6.422 ng		100
59) 2-Hexanone	16.10	43	11428	0.159 ng		89
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.73	43	15576	0.203 ng		90
63) n-Octane	16.85	57	10131	0.355 ng		93
64) Tetrachloroethene	16.99	166	152771	3.815 ng		100
65) Chlorobenzene	17.65	112	23793	0.246 ng		98
66) Ethylbenzene	18.01	91	35288	0.224 ng		98
67) m- & p-Xylenes	18.16	91	107614	0.839 ng		99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.50	104	9268	0.092 ng		97
70) o-Xylene	18.60	91	83568	0.652 ng		97
71) n-Nonane	18.80	43	61818	0.964 ng		97
72) 1,1,2,2-Tetrachloroethane	18.60	83	1675	N.D.		
74) Cumene	19.13	105	7074	N.D.		
75) alpha-Pinene	19.48	93	20322	0.247 ng		96
76) n-Propylbenzene	19.58	91	32962	0.174 ng		91
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.70	105	37629	0.244 ng		97
79) 1,3,5-Trimethylbenzene	19.77	105	49186	0.359 ng		97
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	20.13	105	229475	1.616 ng		86
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.24	91	1867	N.D.		
85) 1,3-Dichlorobenzene	20.27	146	368	N.D.		
86) 1,4-Dichlorobenzene	20.32	146	1046	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D. d		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	20.63	146	1324	N.D.		
91) d-Limonene	20.64	68	12091	0.220 ng		99
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.15	180	312	N.D.		
95) Naphthalene	22.24	128	33203	0.209 ng		95
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

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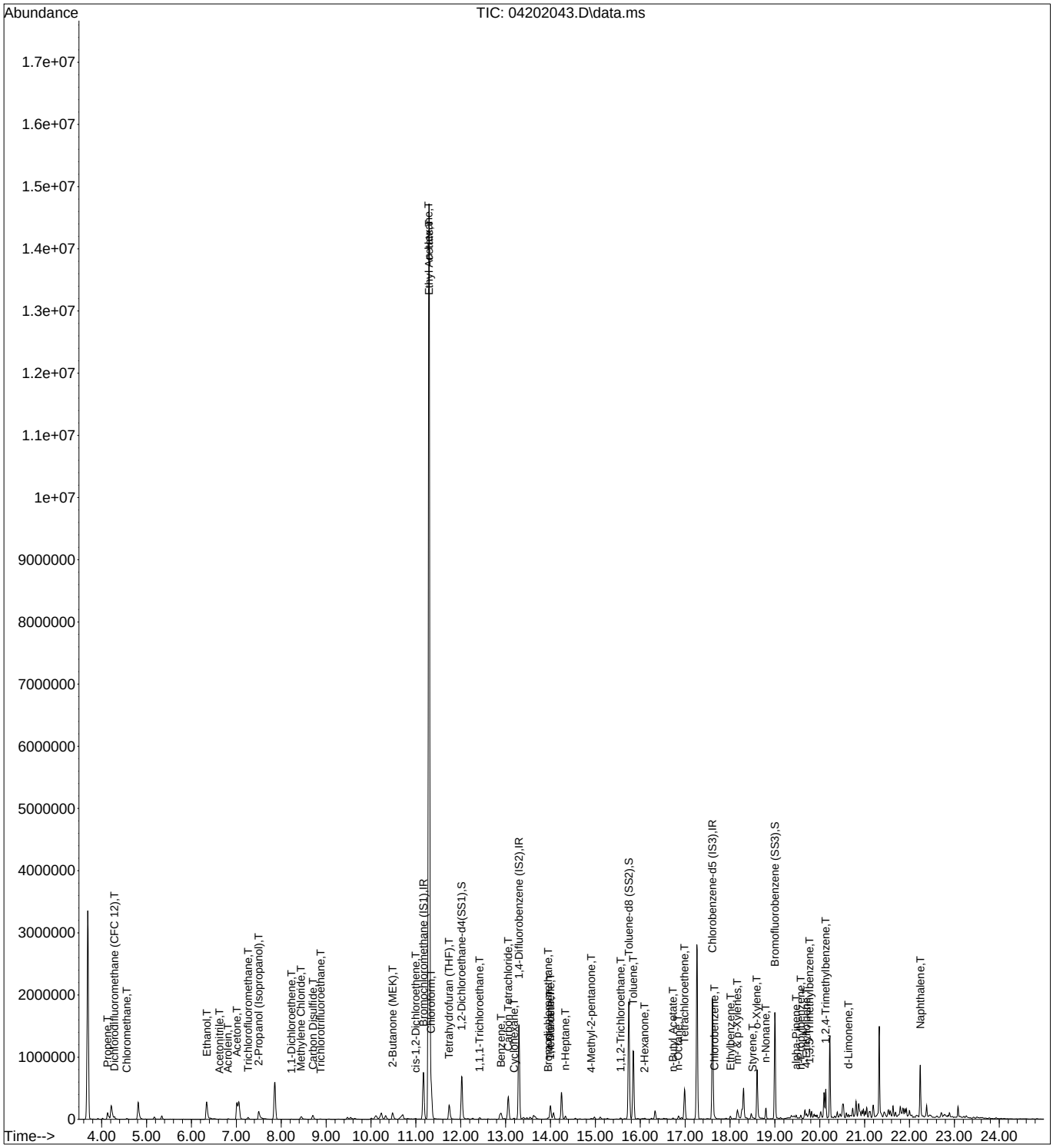
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



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DataAcq Meth:TO15.M

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33) 1,2-Dichloroethane-d4(...	12.02	65	543416	12.590	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.72%				
57) Toluene-d8 (SS2)	15.74	98	1422612	12.239	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.92%				
73) Bromofluorobenzene (SS3)	19.00	174	481714	11.736	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.92%				
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3) Dichlorodifluoromethan...	4.28	85	25682	0.365	ng		99
4) Chloromethane	4.56	50	6356	0.114	ng		99
10) Ethanol	6.34	45	464482	17.977	ng		100
11) Acetonitrile	6.63	41	5998	0.106	ng	#	61
12) Acrolein	6.81	56	11744	0.618	ng		98
13) Acetone	7.01	58	132972m	5.215	ng		
14) Trichlorofluoromethane	7.26	101	28777	0.464	ng		98
15) 2-Propanol (Isopropanol)	7.50	45	255600	3.380	ng		99
17) 1,1-Dichloroethene	8.23	96	2007	0.065	ng		95
19) Methylene Chloride	8.44	84	20234	0.610	ng		99
21) Trichlorotrifluoroethane	8.88	151	2560	0.086	ng		95
22) Carbon Disulfide	8.71	76	126458	1.060	ng		98
27) 2-Butanone (MEK)	10.48	72	42812	2.017	ng	#	90
28) cis-1,2-Dichloroethene	11.00	61	7374	0.159	ng		97
30) Ethyl Acetate	11.30	61	3373645	268.872	ng		93
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32) Chloroform	11.34	83	483469	7.812	ng		99
34) Tetrahydrofuran (THF)	11.74	72	76122	3.485	ng		94
38) 1,1,1-Trichloroethane	12.42	97	12124	0.224	ng		98
41) Benzene	12.90	78	73519	0.516	ng		100
42) Carbon Tetrachloride	13.06	117	231851	4.738	ng		99
43) Cyclohexane	13.19	84	6140	0.112	ng		94
46) Bromodichloromethane	13.95	83	11629	0.241	ng		90
47) Trichloroethene	14.00	130	77192	1.912	ng		99
48) 1,4-Dioxane	14.00	88	2541	0.092	ng		89
51) n-Heptane	14.33	71	12806	0.385	ng		96
53) 4-Methyl-2-pentanone	14.91	58	3941	0.132	ng	#	92
55) 1,1,2-Trichloroethane	15.56	97	4209	0.128	ng		99
58) Toluene	15.84	91	922882	6.422	ng		100
59) 2-Hexanone	16.10	43	11428	0.159	ng		89
62) n-Butyl Acetate	16.73	43	15576	0.203	ng		90
63) n-Octane	16.85	57	10131	0.355	ng		93
64) Tetrachloroethene	16.99	166	152771	3.815	ng		100
65) Chlorobenzene	17.65	112	23793	0.246	ng		98
66) Ethylbenzene	18.01	91	35288	0.224	ng		98
67) m- & p-Xylenes	18.16	91	107614	0.839	ng		99
69) Styrene	18.50	104	9268	0.092	ng		97
70) o-Xylene	18.60	91	83568	0.652	ng		97
71) n-Nonane	18.80	43	61818	0.964	ng		97
75) alpha-Pinene	19.48	93	20322	0.247	ng		96
76) n-Propylbenzene	19.58	91	32962	0.174	ng		91
78) 4-Ethyltoluene	19.70	105	37629	0.244	ng		97
79) 1,3,5-Trimethylbenzene	19.77	105	49186	0.359	ng		97
82) 1,2,4-Trimethylbenzene	20.13	105	229475	1.616	ng		86
91) d-Limonene	20.64	68	12091	0.220	ng		99
95) Naphthalene	22.24	128	33203	0.209	ng		95

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Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)

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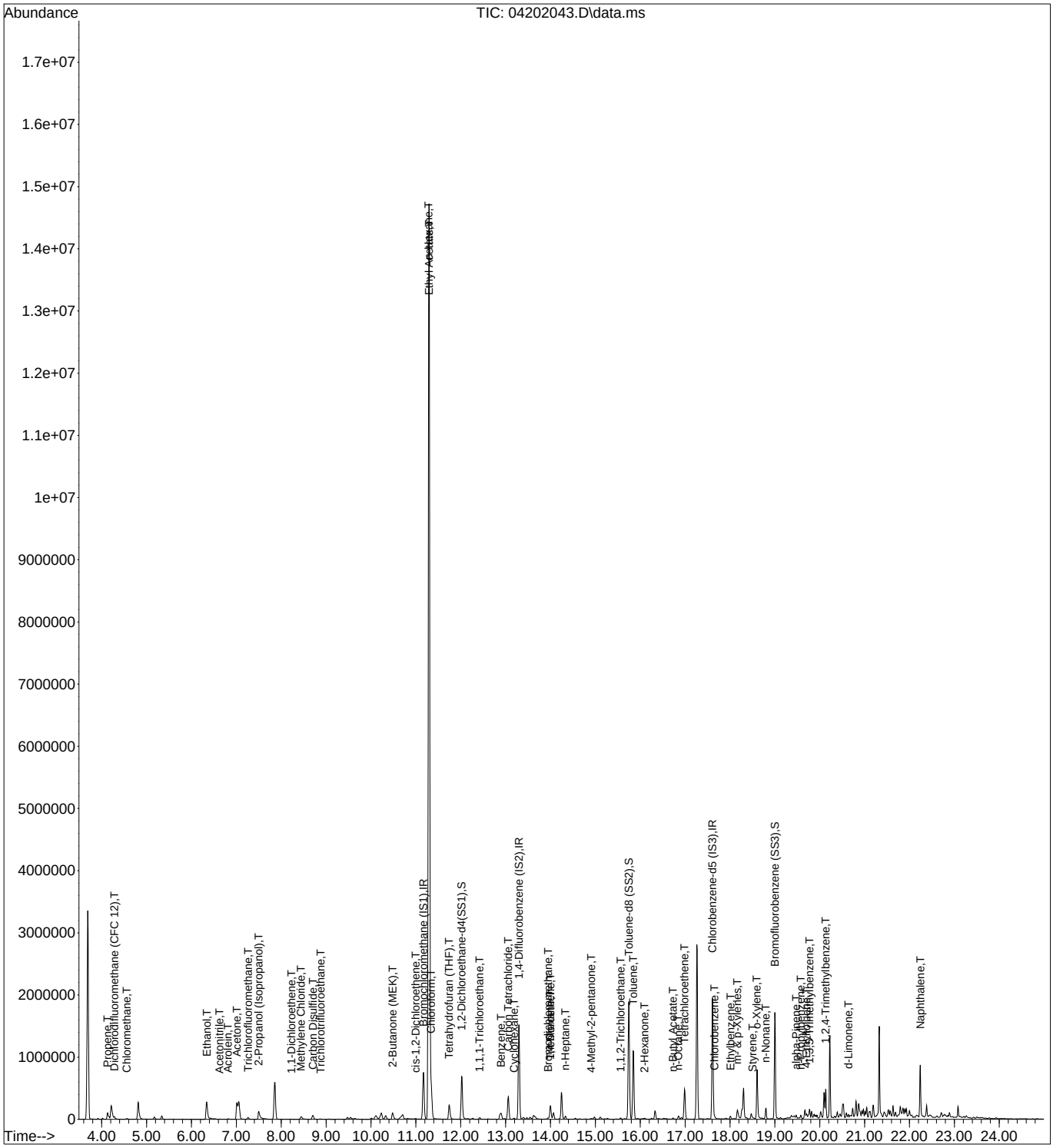
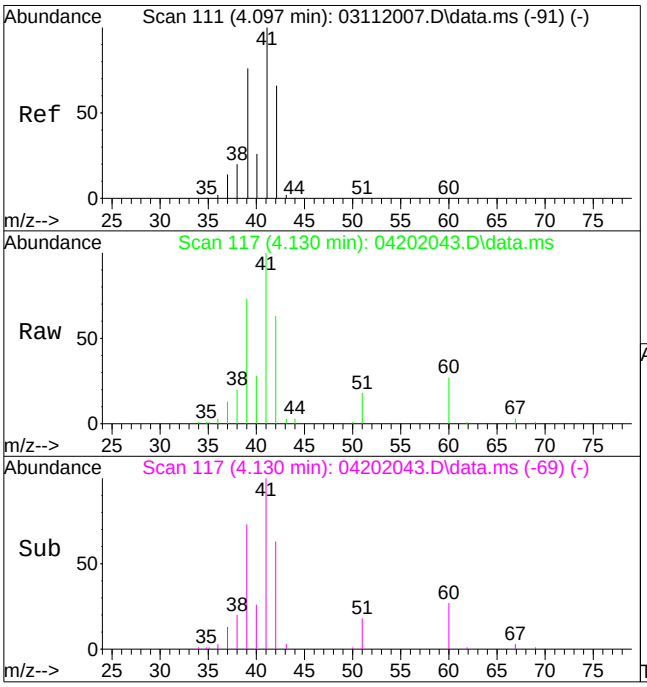
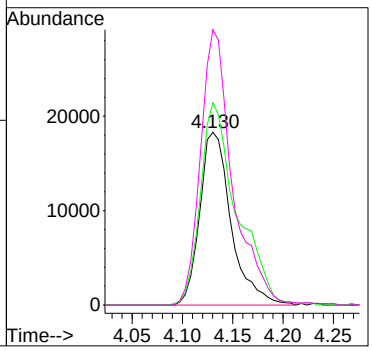


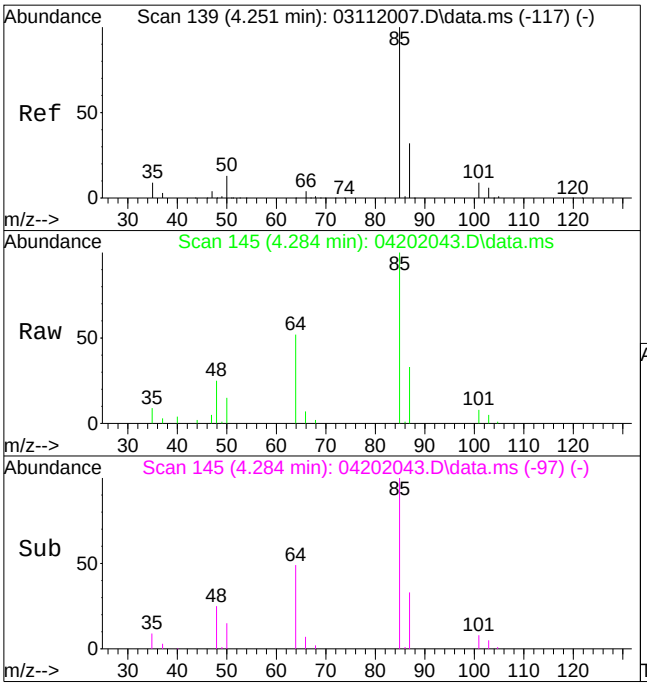


#2
Propene
Concen: 1.21 ng
RT: 4.13 min Scan# 117
Delta R.T. 0.016 min
Lab File: 04202043.D
Acq: 21 Apr 2020 3:29

Tgt Ion: 42 Resp: 39689

Ion	Ratio	Lower	Upper
42	100		
39	137.3	95.3	135.3#
41	164.7	132.0	172.0

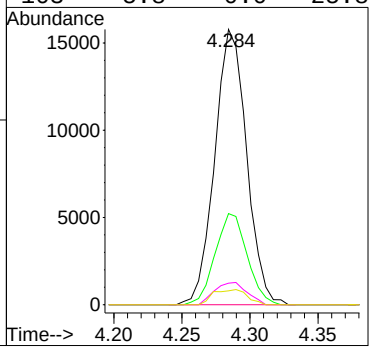


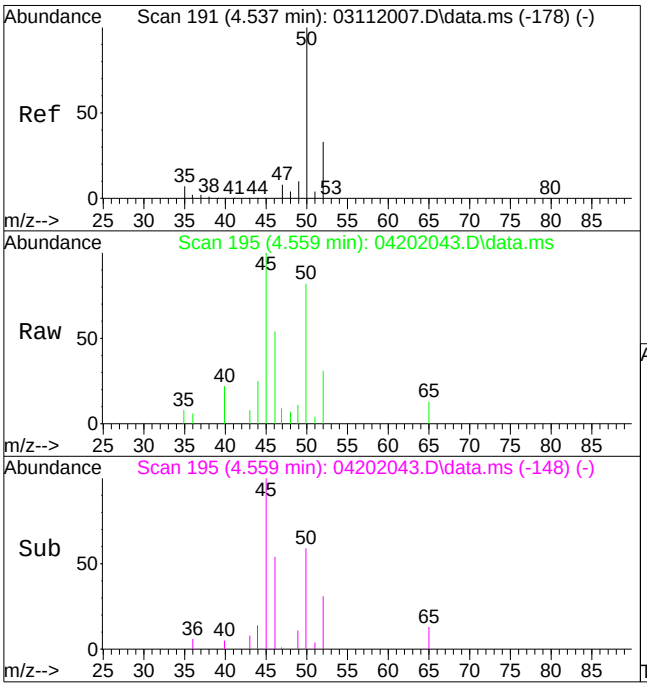


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.37 ng
RT: 4.28 min Scan# 145
Delta R.T. 0.016 min
Lab File: 04202043.D
Acq: 21 Apr 2020 3:29

Tgt Ion: 85 Resp: 25682

Ion	Ratio	Lower	Upper
85	100		
87	33.1	12.3	52.3
101	8.2	0.0	29.0
103	5.8	0.0	25.8

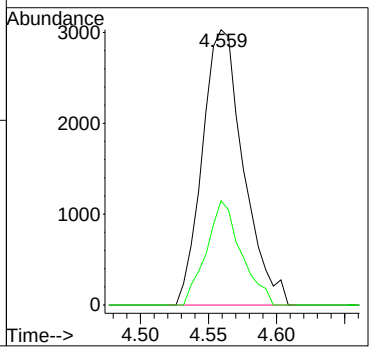


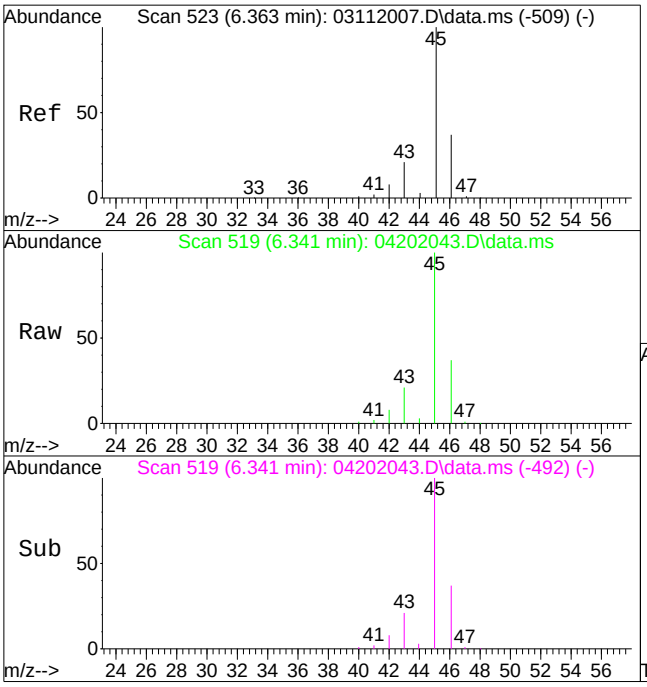


#4
Chloromethane
Concen: 0.11 ng
RT: 4.56 min Scan# 195
Delta R.T. 0.006 min
Lab File: 04202043.D
Acq: 21 Apr 2020 3:29

Tgt Ion: 50 Resp: 6356

Ion	Ratio	Lower	Upper
50	100		
52	32.1	12.8	52.8

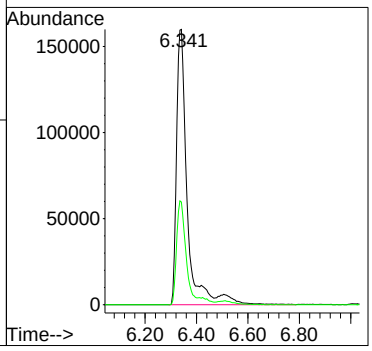


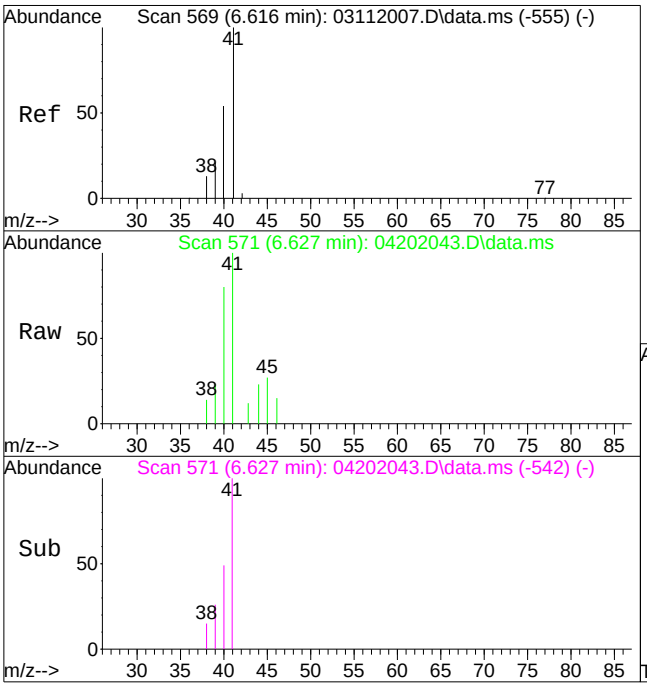


#10
Ethanol
Concen: 17.98 ng
RT: 6.34 min Scan# 519
Delta R.T. -0.099 min
Lab File: 04202043.D
Acq: 21 Apr 2020 3:29

Tgt Ion: 45 Resp: 464482

Ion	Ratio	Lower	Upper
45	100		
46	37.4	17.3	57.3

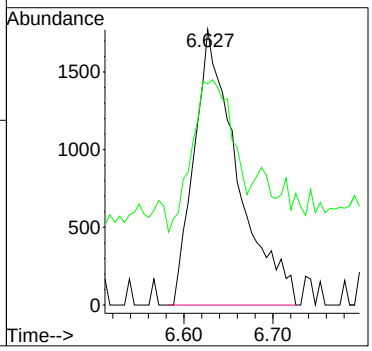


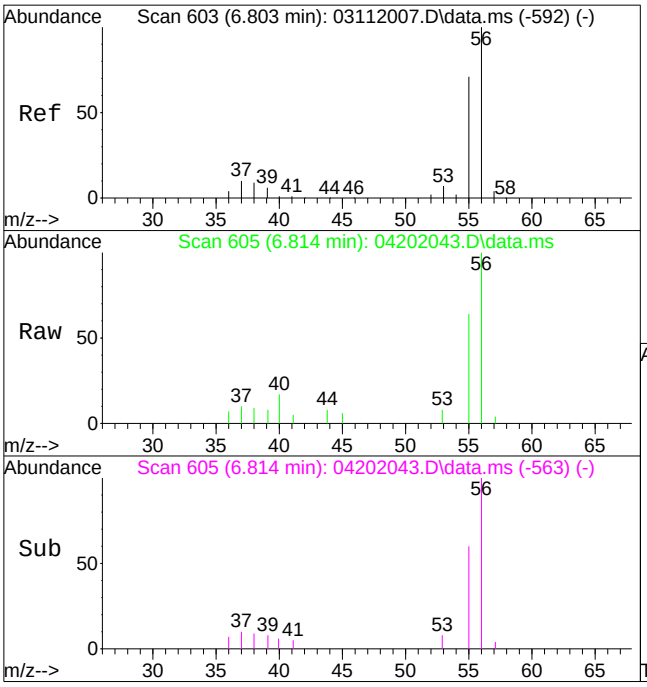


#11
Acetonitrile
Concen: 0.11 ng
RT: 6.63 min Scan# 571
Delta R.T. -0.038 min
Lab File: 04202043.D
Acq: 21 Apr 2020 3:29

Tgt Ion: 41 Resp: 5998

Ion	Ratio	Lower	Upper
41	100		
40	81.3	33.6	73.6#

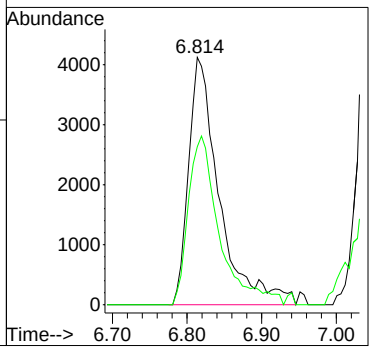


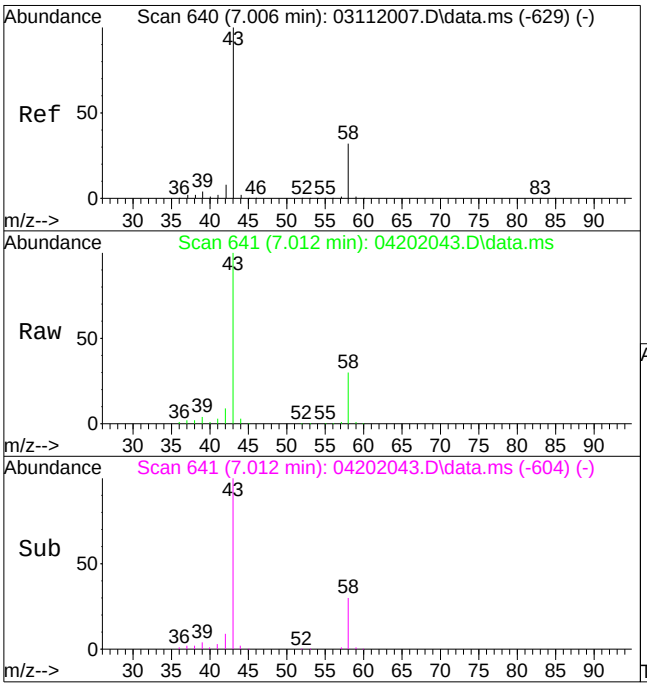


#12
Acrolein
Concen: 0.62 ng
RT: 6.81 min Scan# 605
Delta R.T. -0.016 min
Lab File: 04202043.D
Acq: 21 Apr 2020 3:29

Tgt Ion: 56 Resp: 11744

Ion	Ratio	Lower	Upper
56	100		
55	69.1	50.4	90.4

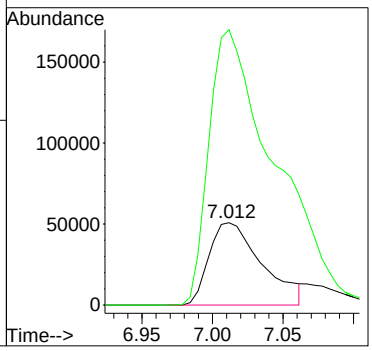


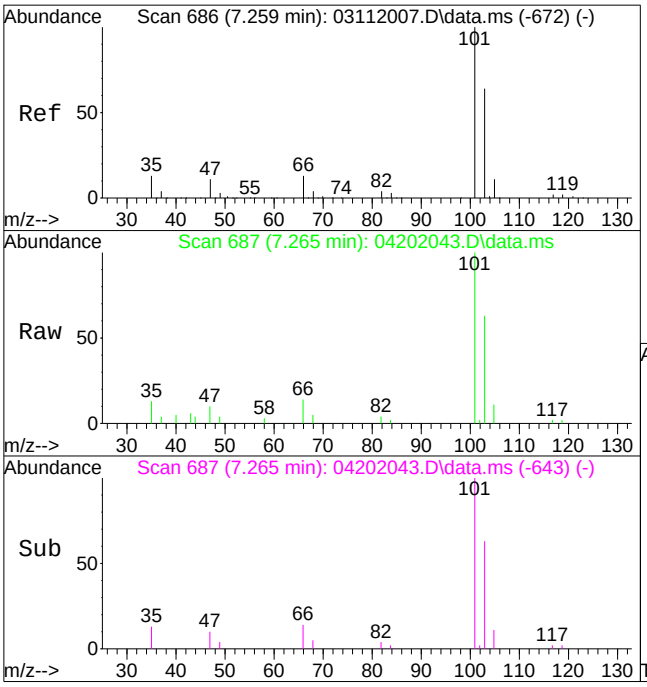


#13
Acetone
Concen: 5.21 ng m
RT: 7.01 min Scan# 641
Delta R.T. -0.044 min
Lab File: 04202043.D
Acq: 21 Apr 2020 3:29

Tgt Ion: 58 Resp: 132972

Ion	Ratio	Lower	Upper
58	100		
43	428.1	287.3	347.3#

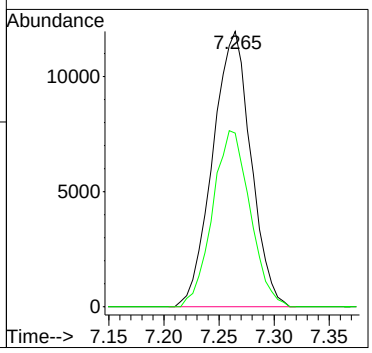


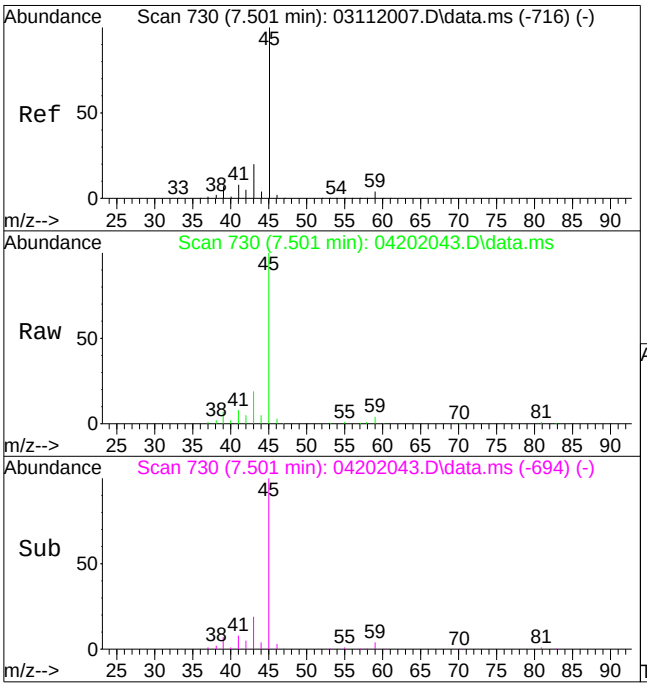


#14
Trichlorofluoromethane
Concen: 0.46 ng
RT: 7.26 min Scan# 687
Delta R.T. -0.010 min
Lab File: 04202043.D
Acq: 21 Apr 2020 3:29

Tgt Ion:101 Resp: 28777

Ion	Ratio	Lower	Upper
101	100		
103	62.9	44.6	84.6

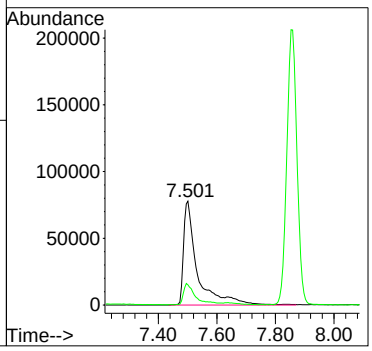


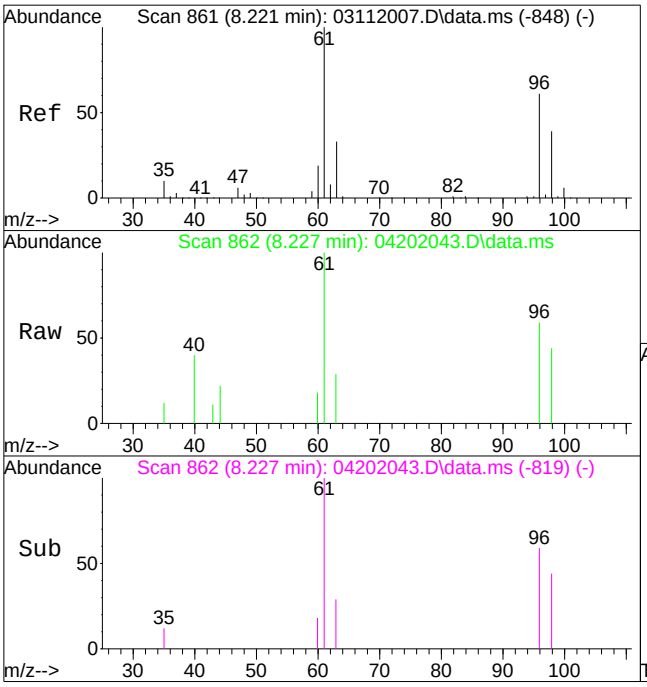


#15
2-Propanol (Isopropanol)
Concen: 3.38 ng
RT: 7.50 min Scan# 730
Delta R.T. -0.049 min
Lab File: 04202043.D
Acq: 21 Apr 2020 3:29

Tgt Ion: 45 Resp: 255600

Ion	Ratio	Lower	Upper
45	100		
43	20.1	0.3	40.3

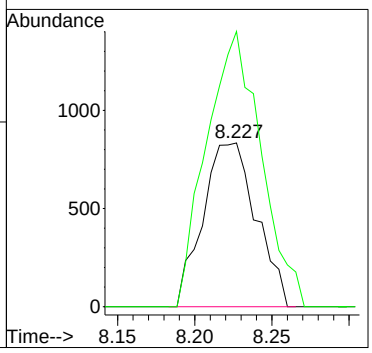


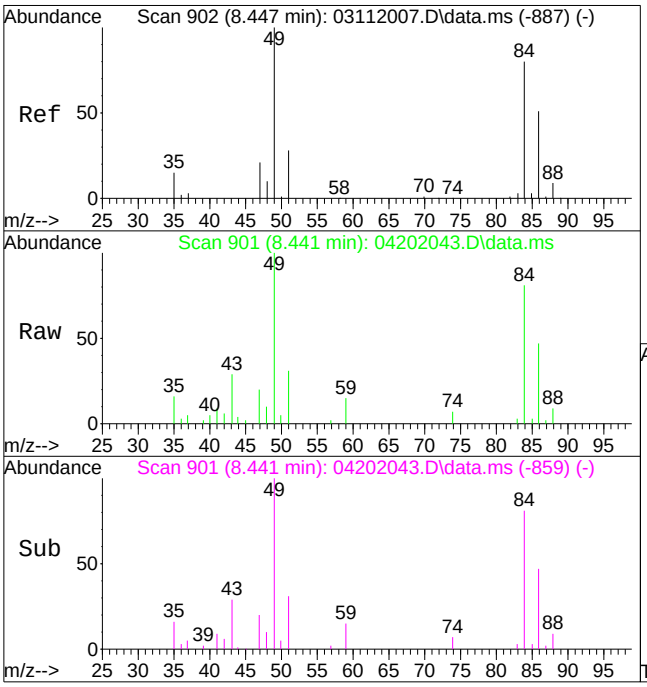


#17
1,1-Dichloroethene
Concen: 0.07 ng
RT: 8.23 min Scan# 862
Delta R.T. -0.011 min
Lab File: 04202043.D
Acq: 21 Apr 2020 3:29

Tgt Ion: 96 Resp: 2007

Ion	Ratio	Lower	Upper
96	100		
61	171.8	145.6	185.6

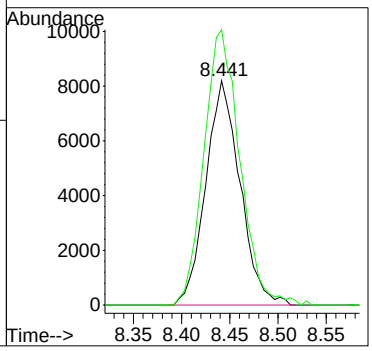


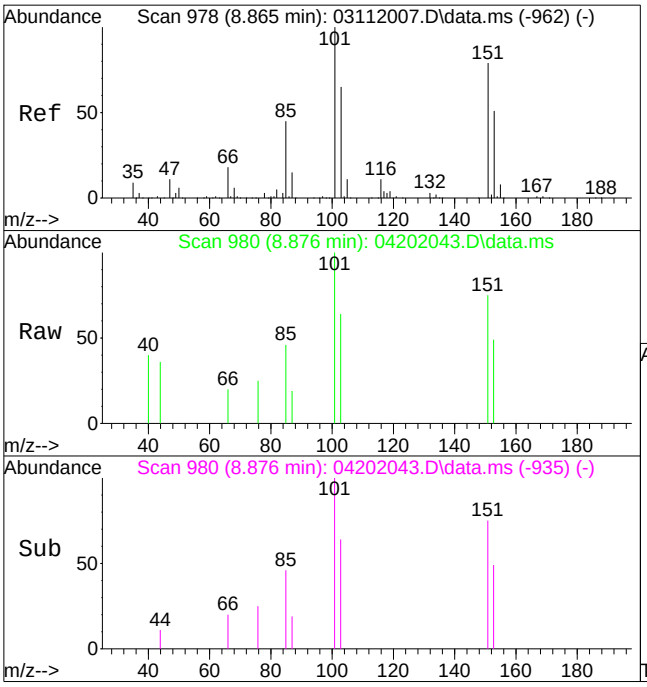


#19
Methylene Chloride
Concen: 0.61 ng
RT: 8.44 min Scan# 901
Delta R.T. -0.022 min
Lab File: 04202043.D
Acq: 21 Apr 2020 3:29

Tgt Ion: 84 Resp: 20234

Ion	Ratio	Lower	Upper
84	100		
49	128.9	102.2	152.2

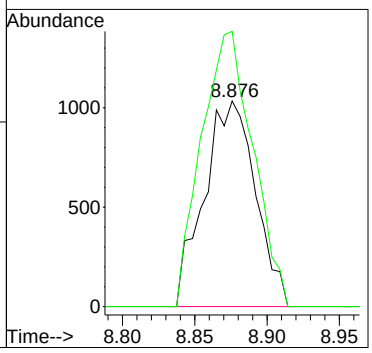


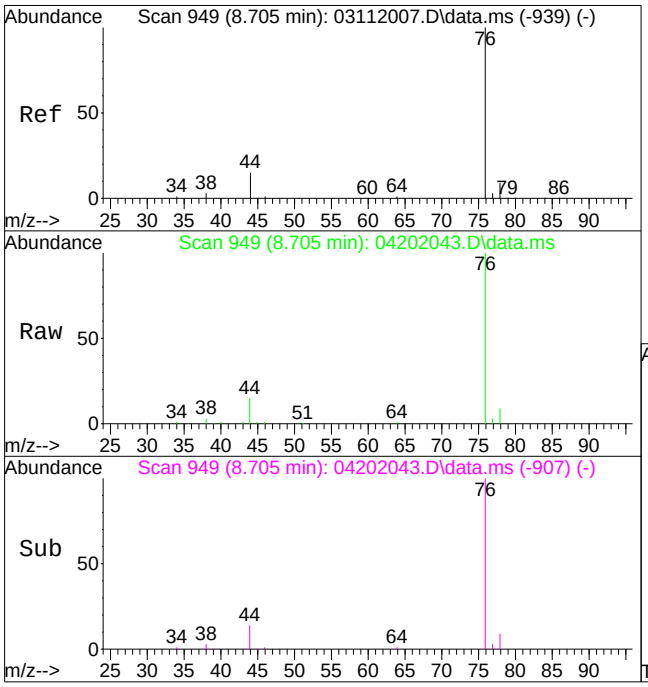


#21
Trichlorotrifluoroethane
Concen: 0.09 ng
RT: 8.88 min Scan# 980
Delta R.T. -0.000 min
Lab File: 04202043.D
Acq: 21 Apr 2020 3:29

Tgt Ion:151 Resp: 2560

Ion	Ratio	Lower	Upper
151	100		
101	134.1	108.4	148.4

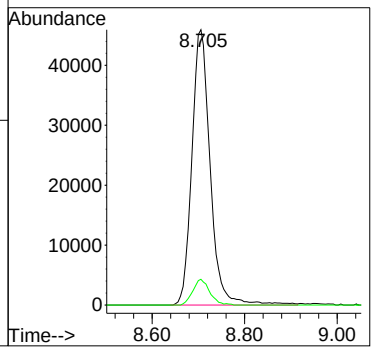


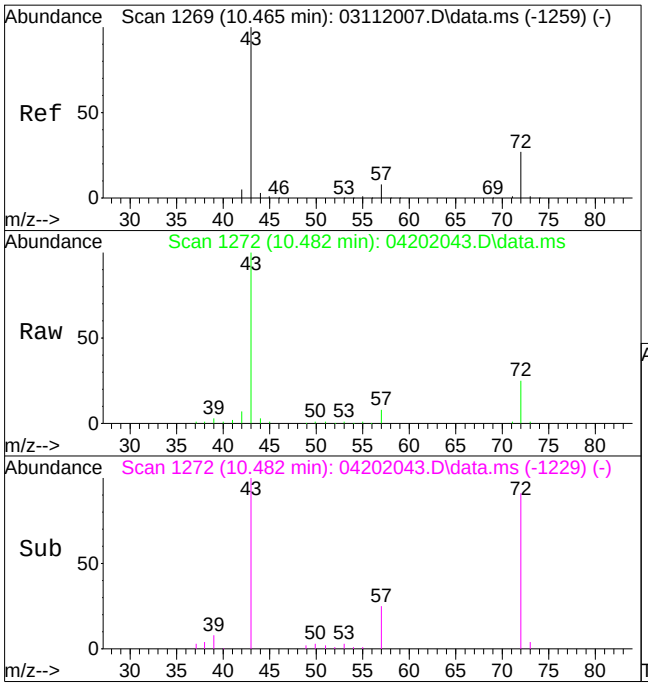


#22
Carbon Disulfide
Concen: 1.06 ng
RT: 8.71 min Scan# 949
Delta R.T. -0.016 min
Lab File: 04202043.D
Acq: 21 Apr 2020 3:29

Tgt Ion: 76 Resp: 126458

Ion	Ratio	Lower	Upper
76	100		
78	8.6	0.0	29.2

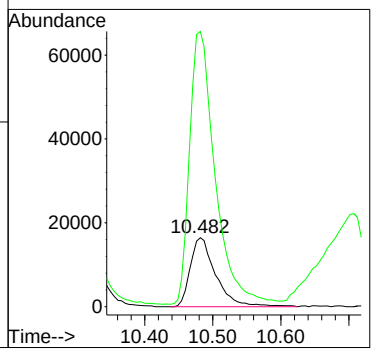


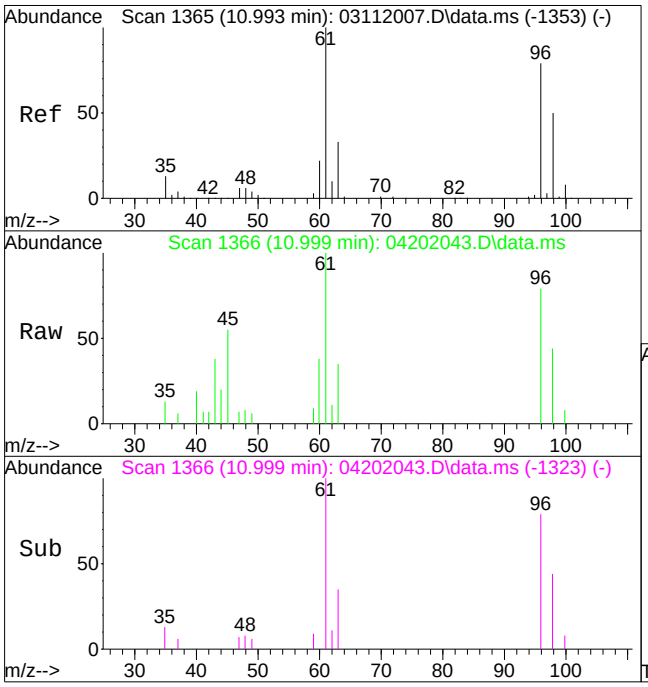


#27
2-Butanone (MEK)
Concen: 2.02 ng
RT: 10.48 min Scan# 1272
Delta R.T. -0.011 min
Lab File: 04202043.D
Acq: 21 Apr 2020 3:29

Tgt Ion: 72 Resp: 42812

Ion	Ratio	Lower	Upper
72	100		
43	396.2	353.4	393.4#

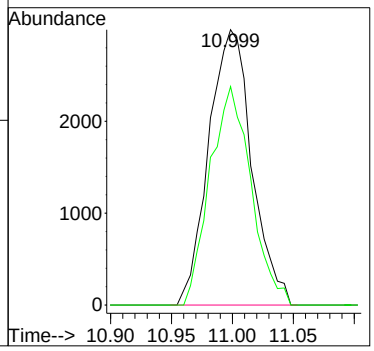


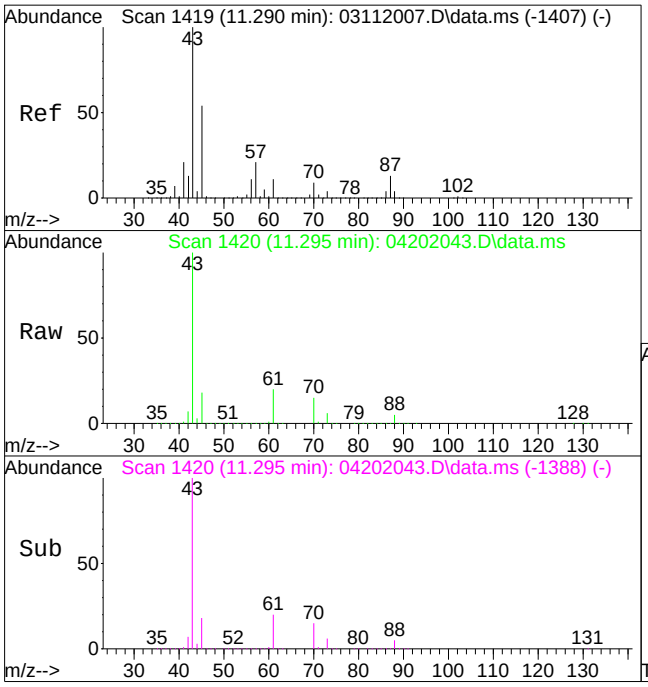


#28
cis-1,2-Dichloroethene
Concen: 0.16 ng
RT: 11.00 min Scan# 1366
Delta R.T. -0.011 min
Lab File: 04202043.D
Acq: 21 Apr 2020 3:29

Tgt Ion: 61 Resp: 7374

Ion	Ratio	Lower	Upper
61	100		
96	75.5	58.0	98.0

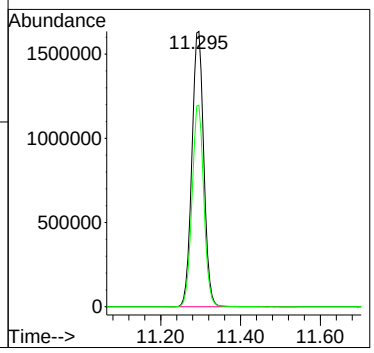


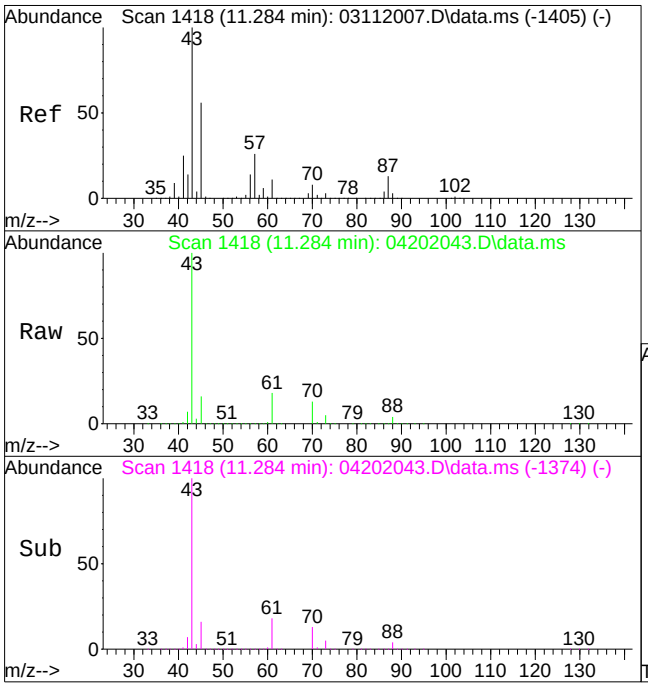


#30
Ethyl Acetate
Concen: 268.87 ng
RT: 11.30 min Scan# 1420
Delta R.T. -0.022 min
Lab File: 04202043.D
Acq: 21 Apr 2020 3:29

Tgt Ion: 61 Resp: 3373645

Ion	Ratio	Lower	Upper
61	100		
70	72.8	59.1	99.1

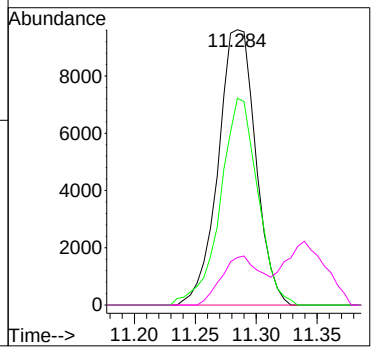


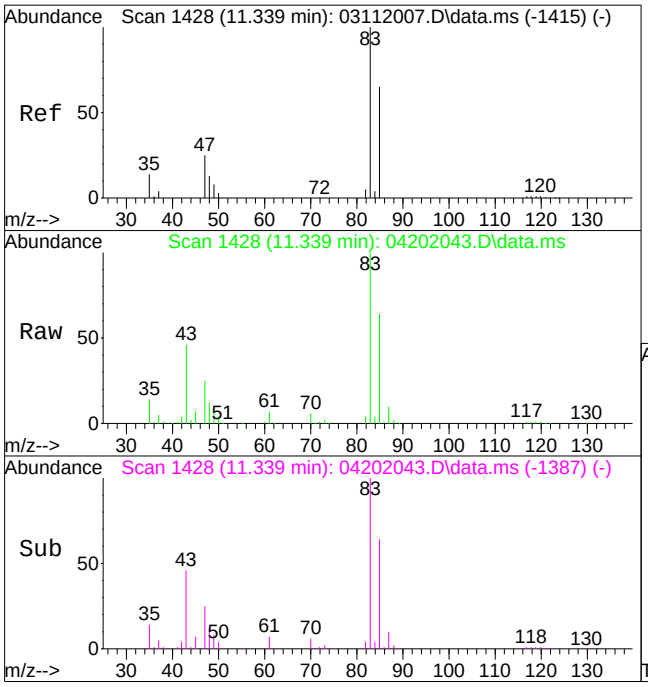


#31
n-Hexane
Concen: 0.35 ng
RT: 11.28 min Scan# 1418
Delta R.T. -0.005 min
Lab File: 04202043.D
Acq: 21 Apr 2020 3:29

Tgt Ion: 57 Resp: 20607

Ion	Ratio	Lower	Upper
57	100		
56	74.8	41.0	61.4#
86	19.2	13.9	20.9

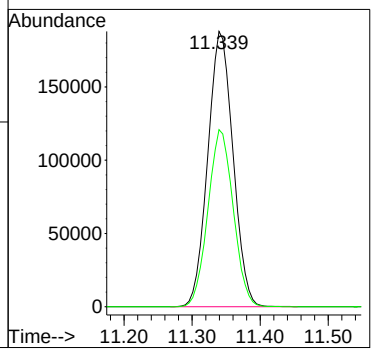


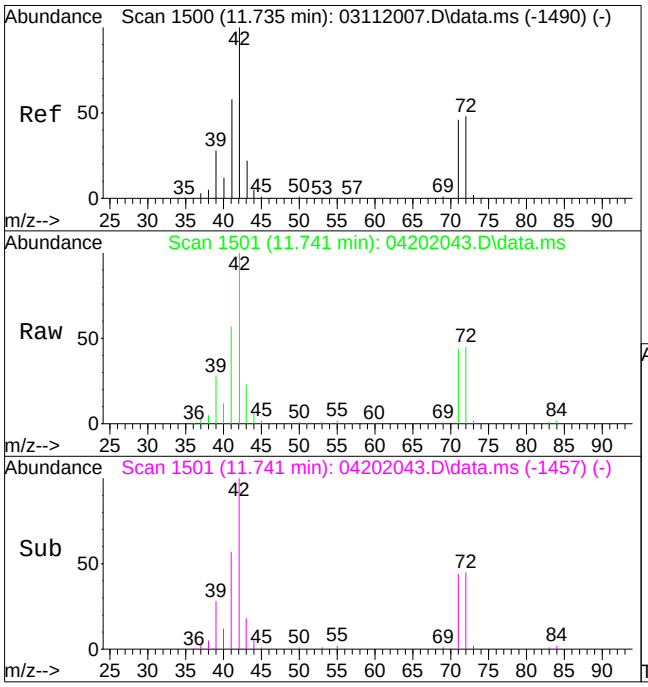


#32
Chloroform
Concen: 7.81 ng
RT: 11.34 min Scan# 1428
Delta R.T. -0.022 min
Lab File: 04202043.D
Acq: 21 Apr 2020 3:29

Tgt Ion: 83 Resp: 483469

Ion	Ratio	Lower	Upper
83	100		
85	64.4	45.5	85.5

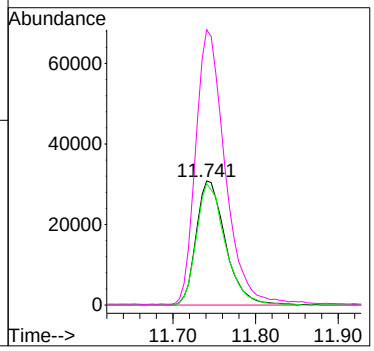


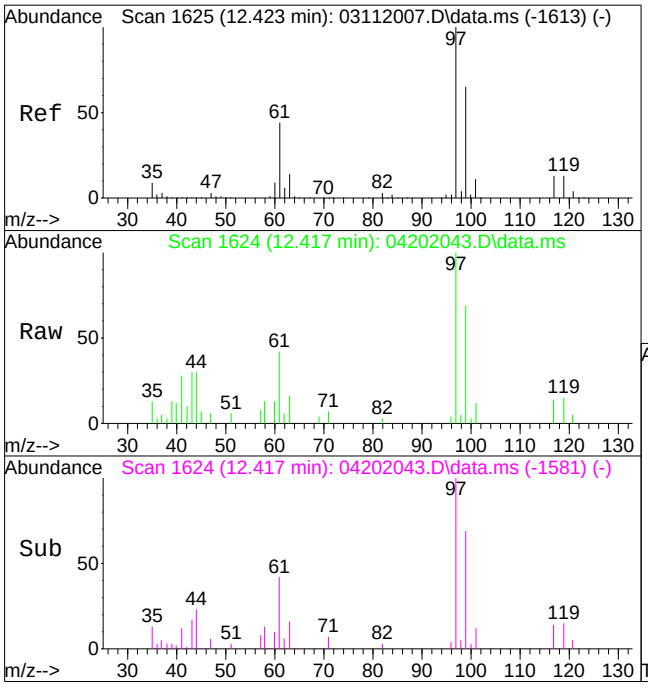


#34
Tetrahydrofuran (THF)
Concen: 3.49 ng
RT: 11.74 min Scan# 1501
Delta R.T. -0.005 min
Lab File: 04202043.D
Acq: 21 Apr 2020 3:29

Tgt Ion: 72 Resp: 76122

Ion	Ratio	Lower	Upper
72	100		
71	96.5	75.9	115.9
42	222.8	189.3	229.3

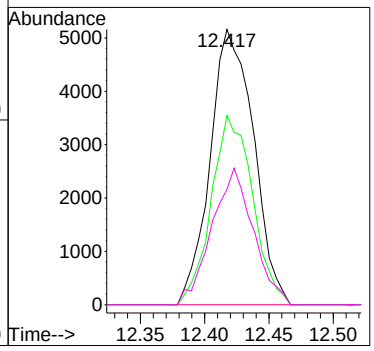


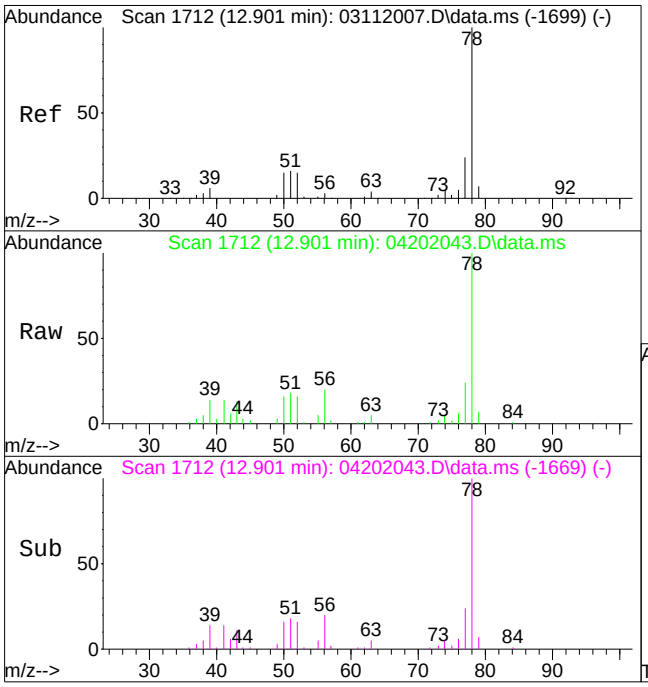


#38
1,1,1-Trichloroethane
Concen: 0.22 ng
RT: 12.42 min Scan# 1624
Delta R.T. -0.011 min
Lab File: 04202043.D
Acq: 21 Apr 2020 3:29

Tgt Ion: 97 Resp: 12124

Ion	Ratio	Lower	Upper
97	100		
99	65.4	44.6	84.6
61	47.4	24.9	64.9

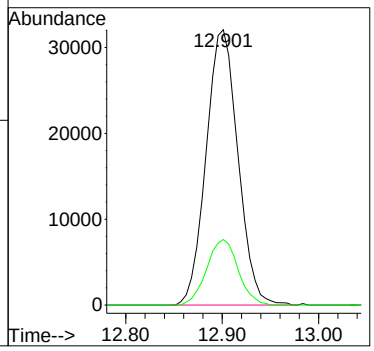


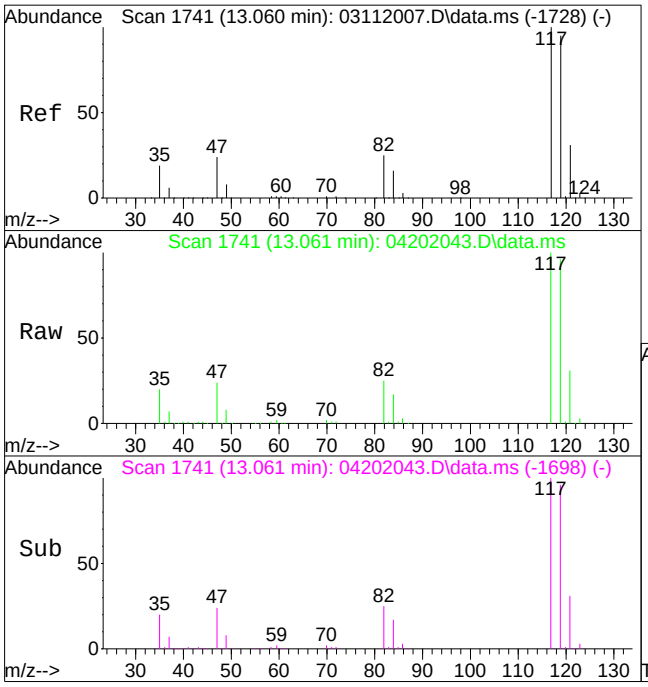


#41
Benzene
Concen: 0.52 ng
RT: 12.90 min Scan# 1712
Delta R.T. -0.011 min
Lab File: 04202043.D
Acq: 21 Apr 2020 3:29

Tgt Ion: 78 Resp: 73519

Ion	Ratio	Lower	Upper
78	100		
77	23.5	3.4	43.4

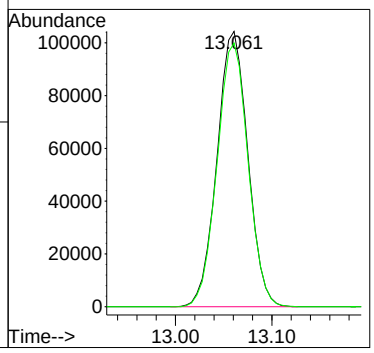


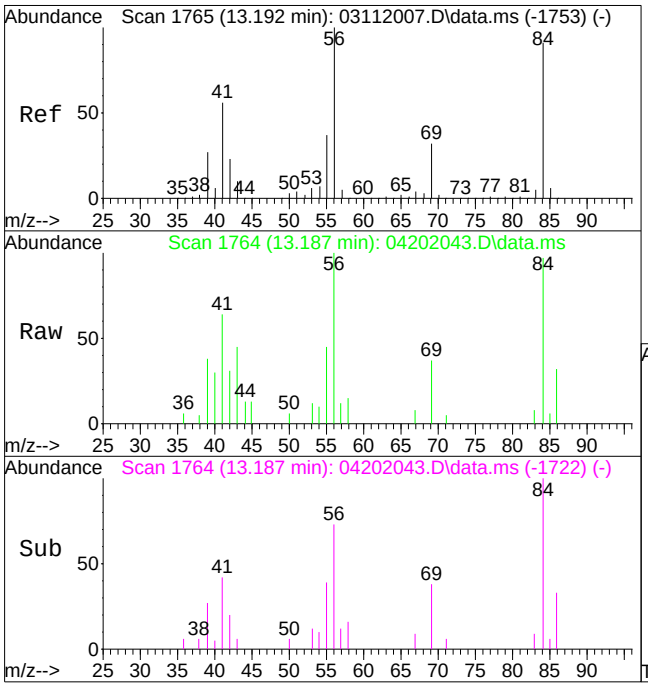


#42
Carbon Tetrachloride
Concen: 4.74 ng
RT: 13.06 min Scan# 1741
Delta R.T. -0.011 min
Lab File: 04202043.D
Acq: 21 Apr 2020 3:29

Tgt Ion:117 Resp: 231851

Ion	Ratio	Lower	Upper
117	100		
119	96.2	75.4	115.4

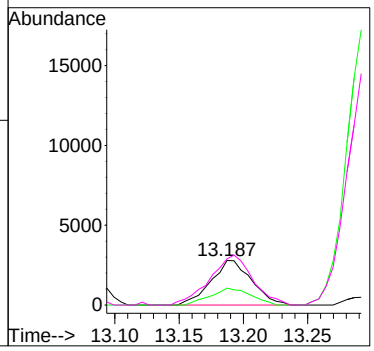


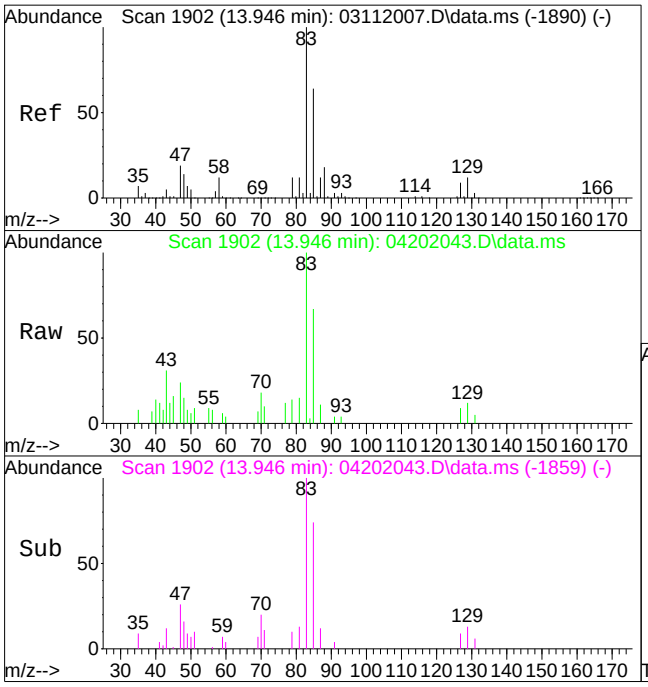


#43
Cyclohexane
Concen: 0.11 ng
RT: 13.19 min Scan# 1764
Delta R.T. -0.016 min
Lab File: 04202043.D
Acq: 21 Apr 2020 3:29

Tgt Ion: 84 Resp: 6140

Ion	Ratio	Lower	Upper
84	100		
69	37.4	15.3	55.3
56	117.4	90.5	130.5

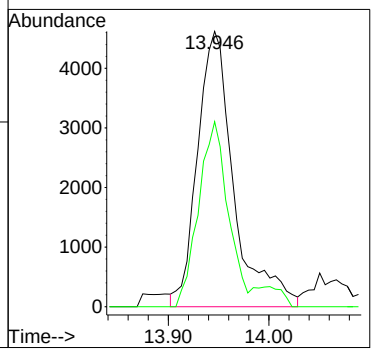


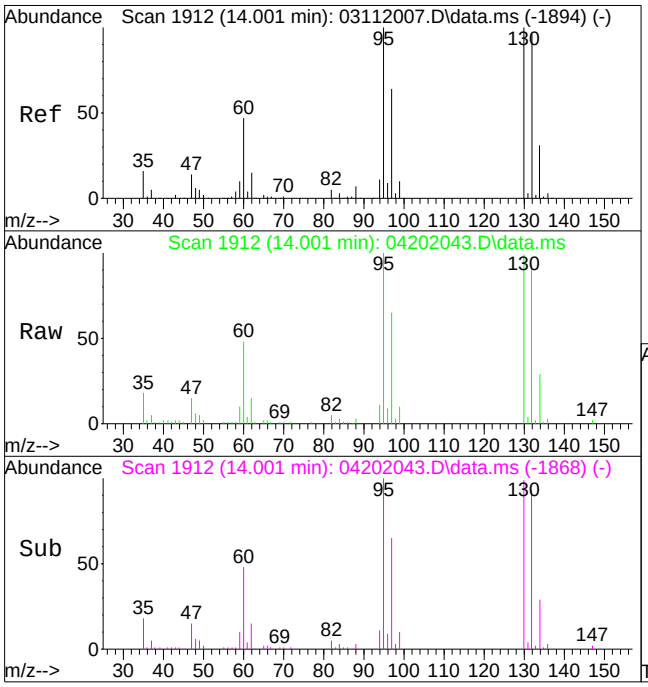


#46
Bromodichloromethane
Concen: 0.24 ng
RT: 13.95 min Scan# 1902
Delta R.T. -0.011 min
Lab File: 04202043.D
Acq: 21 Apr 2020 3:29

Tgt Ion: 83 Resp: 11629

Ion	Ratio	Lower	Upper
83	100		
85	56.2	44.0	84.0

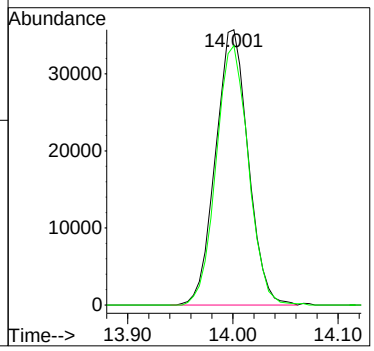


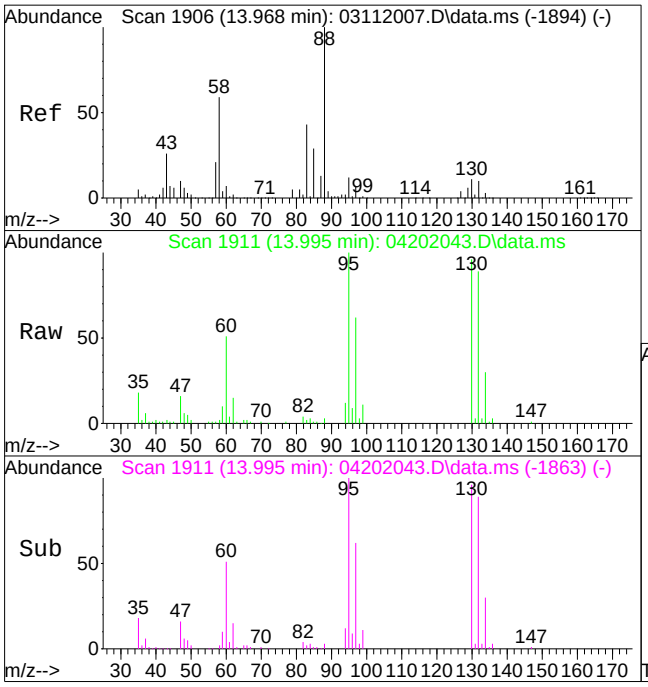


#47
Trichloroethene
Concen: 1.91 ng
RT: 14.00 min Scan# 1912
Delta R.T. -0.005 min
Lab File: 04202043.D
Acq: 21 Apr 2020 3:29

Tgt Ion:130 Resp: 77192

Ion	Ratio	Lower	Upper
130	100		
132	93.3	74.7	114.7

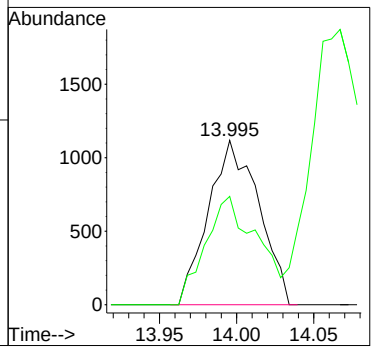


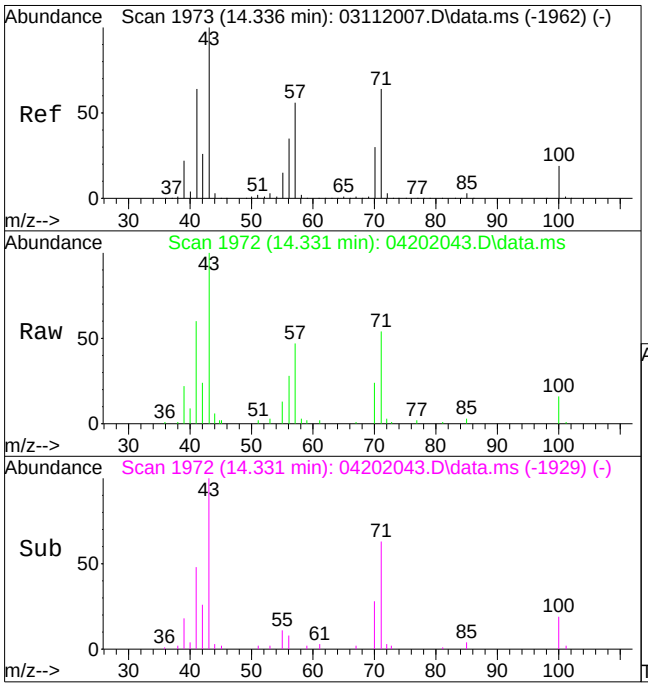


#48
1,4-Dioxane
Concen: 0.09 ng
RT: 14.00 min Scan# 1911
Delta R.T. 0.017 min
Lab File: 04202043.D
Acq: 21 Apr 2020 3:29

Tgt Ion: 88 Resp: 2541

Ion	Ratio	Lower	Upper
88	100		
58	67.5	39.5	79.5

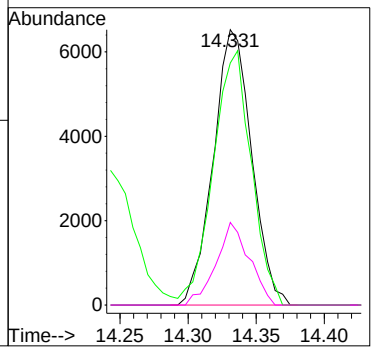


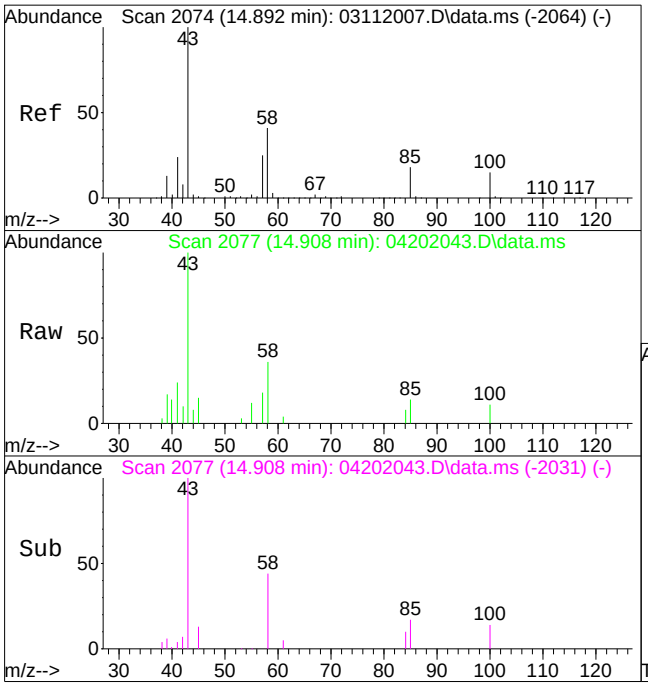


#51
n-Heptane
Concen: 0.38 ng
RT: 14.33 min Scan# 1972
Delta R.T. -0.011 min
Lab File: 04202043.D
Acq: 21 Apr 2020 3:29

Tgt Ion: 71 Resp: 12806

Ion	Ratio	Lower	Upper
71	100		
57	91.6	68.6	108.6
100	25.9	9.1	49.1

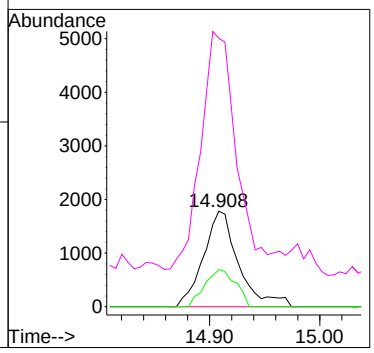


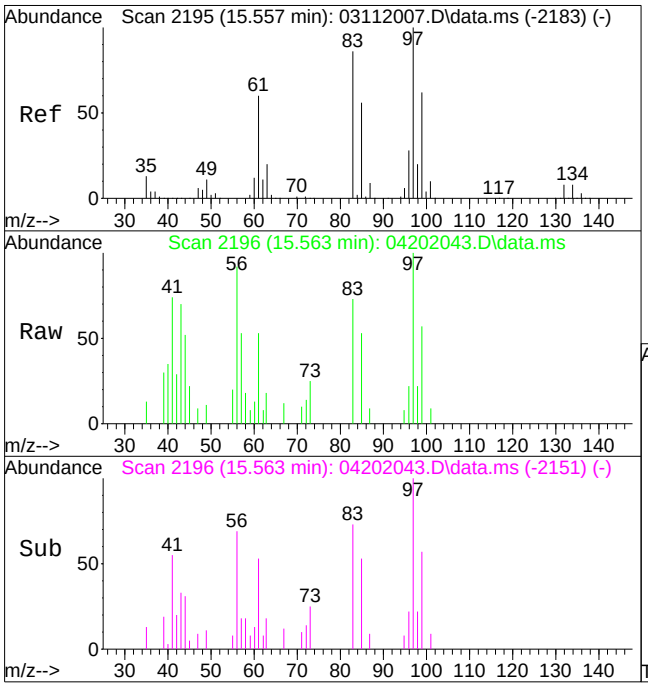


#53
4-Methyl-2-pentanone
Concen: 0.13 ng
RT: 14.91 min Scan# 2077
Delta R.T. 0.006 min
Lab File: 04202043.D
Acq: 21 Apr 2020 3:29

Tgt Ion: 58 Resp: 3941

Ion	Ratio	Lower	Upper
58	100		
85	34.1	37.0	55.4#
43	255.0	196.3	294.5

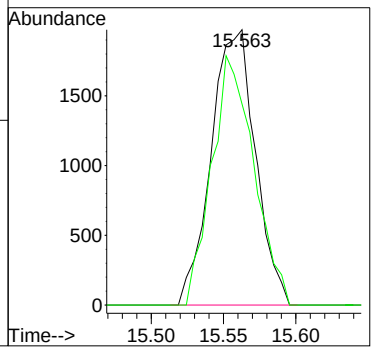


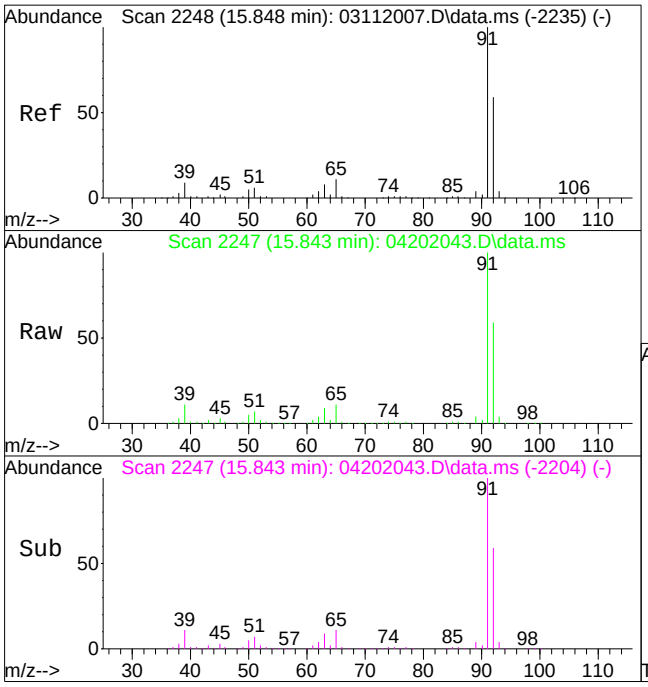


#55
1,1,2-Trichloroethane
Concen: 0.13 ng
RT: 15.56 min Scan# 2196
Delta R.T. 0.000 min
Lab File: 04202043.D
Acq: 21 Apr 2020 3:29

Tgt Ion: 97 Resp: 4209

Ion	Ratio	Lower	Upper
97	100		
83	86.2	67.3	107.3

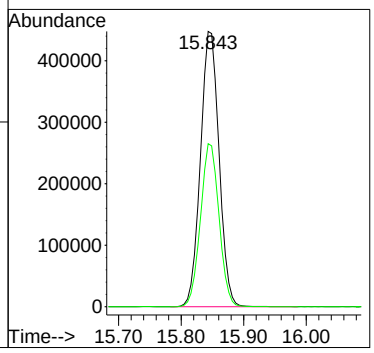


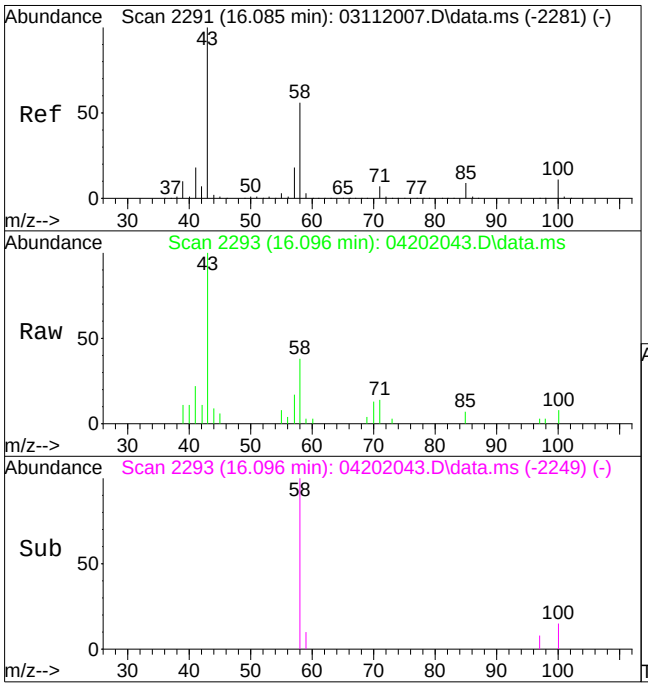


#58
Toluene
Concen: 6.42 ng
RT: 15.84 min Scan# 2247
Delta R.T. -0.011 min
Lab File: 04202043.D
Acq: 21 Apr 2020 3:29

Tgt Ion: 91 Resp: 922882

Ion	Ratio	Lower	Upper
91	100		
92	59.0	39.0	79.0

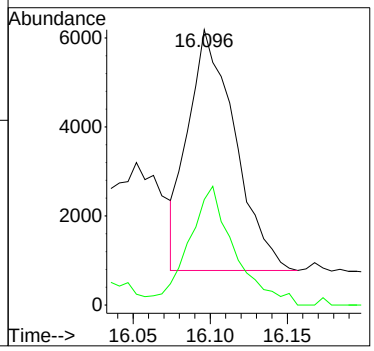


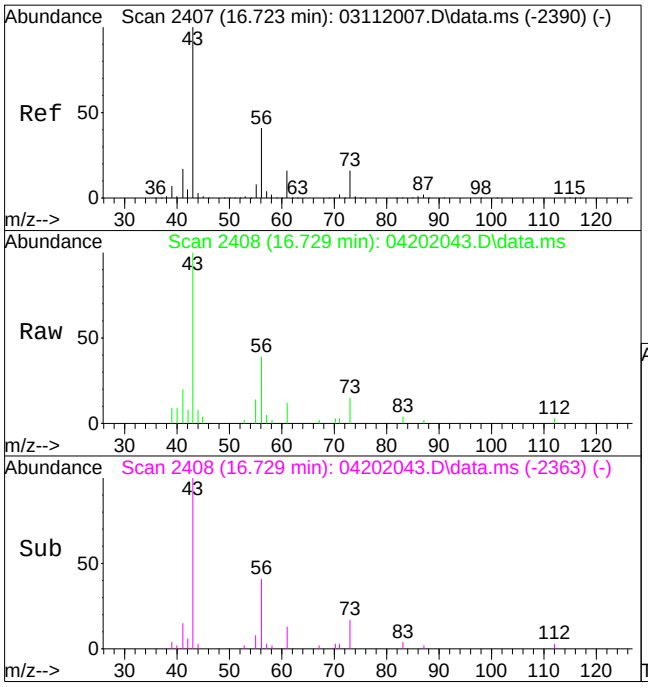


#59
2-Hexanone
Concen: 0.16 ng
RT: 16.10 min Scan# 2293
Delta R.T. -0.005 min
Lab File: 04202043.D
Acq: 21 Apr 2020 3:29

Tgt Ion: 43 Resp: 11428

Ion	Ratio	Lower	Upper
43	100		
58	48.4	36.5	76.5

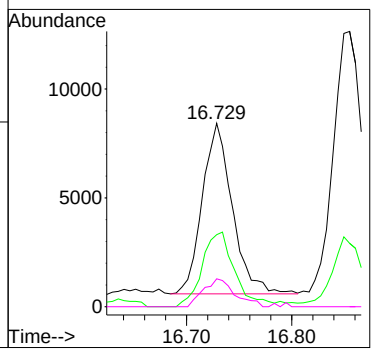


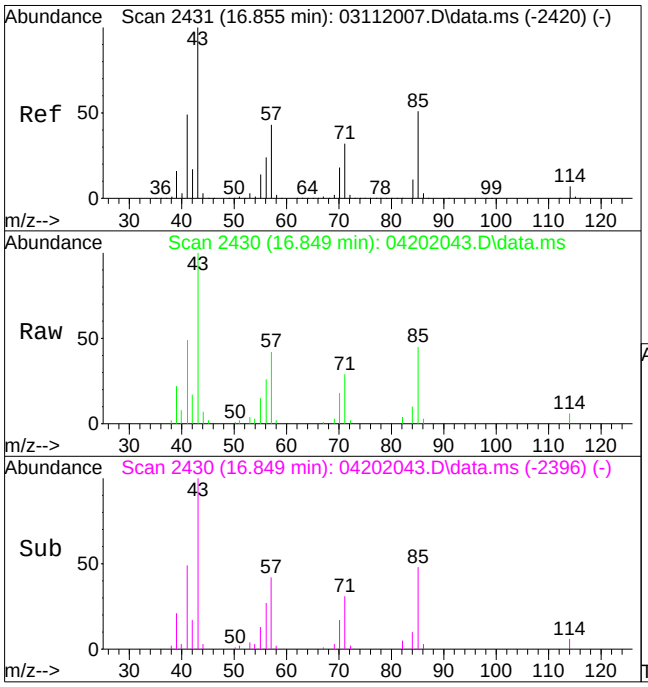


#62
n-Butyl Acetate
Concen: 0.20 ng
RT: 16.73 min Scan# 2408
Delta R.T. 0.000 min
Lab File: 04202043.D
Acq: 21 Apr 2020 3:29

Tgt Ion: 43 Resp: 15576

Ion	Ratio	Lower	Upper
43	100		
56	48.7	20.7	60.7
73	17.0	0.0	35.5

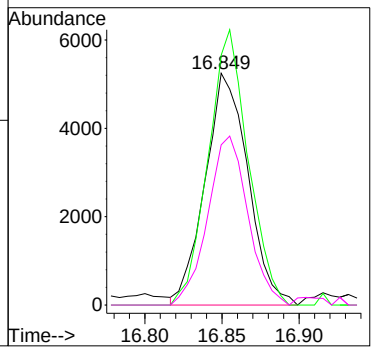


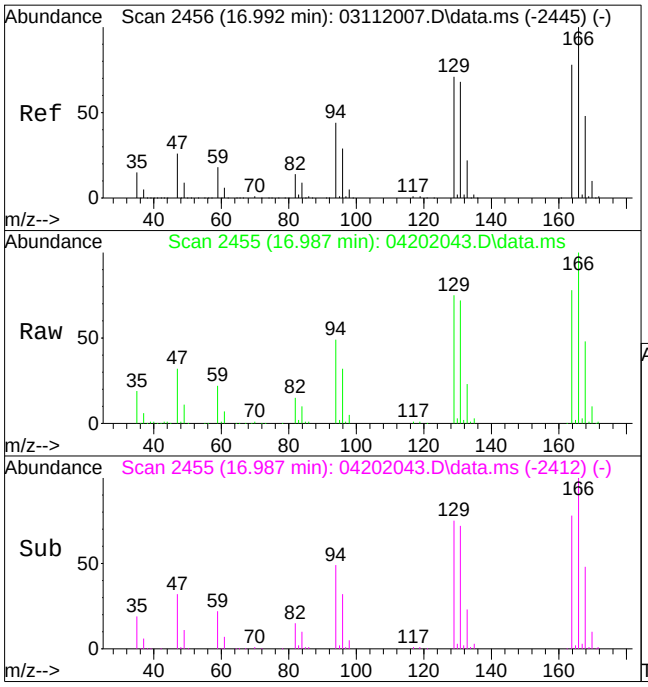


#63
n-Octane
Concen: 0.36 ng
RT: 16.85 min Scan# 2430
Delta R.T. -0.011 min
Lab File: 04202043.D
Acq: 21 Apr 2020 3:29

Tgt Ion: 57 Resp: 10131

Ion	Ratio	Lower	Upper
57	100		
85	110.8	95.1	142.7
71	68.4	58.2	87.4

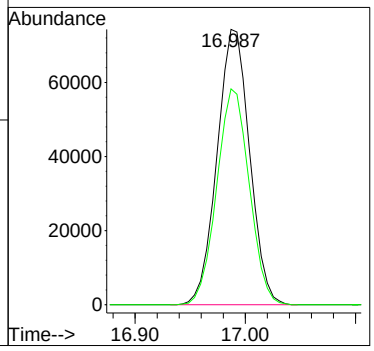


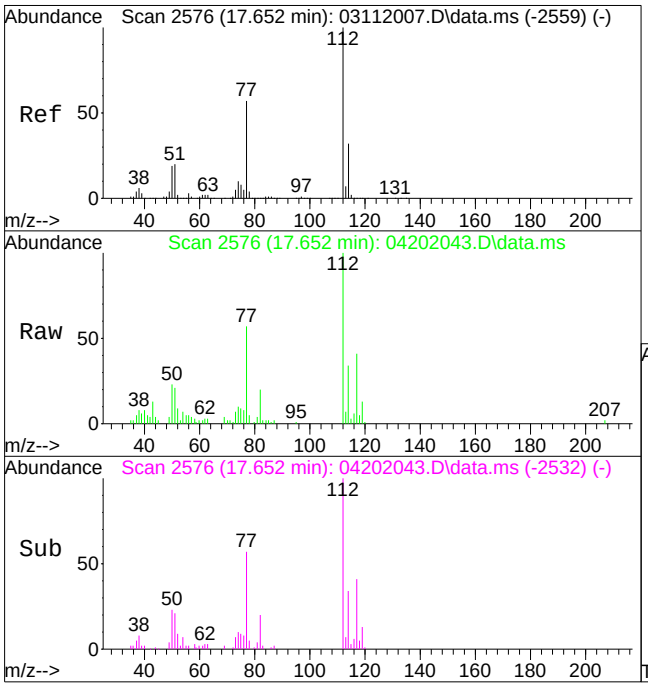


#64
Tetrachloroethene
Concen: 3.81 ng
RT: 16.99 min Scan# 2455
Delta R.T. -0.011 min
Lab File: 04202043.D
Acq: 21 Apr 2020 3:29

Tgt Ion:166 Resp: 152771

Ion	Ratio	Lower	Upper
166	100		
164	78.2	58.6	98.6

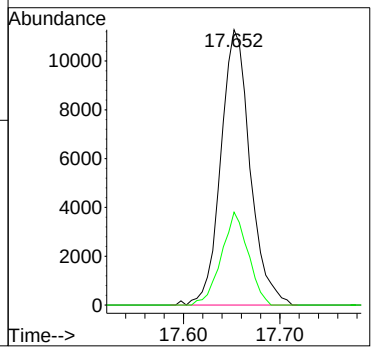


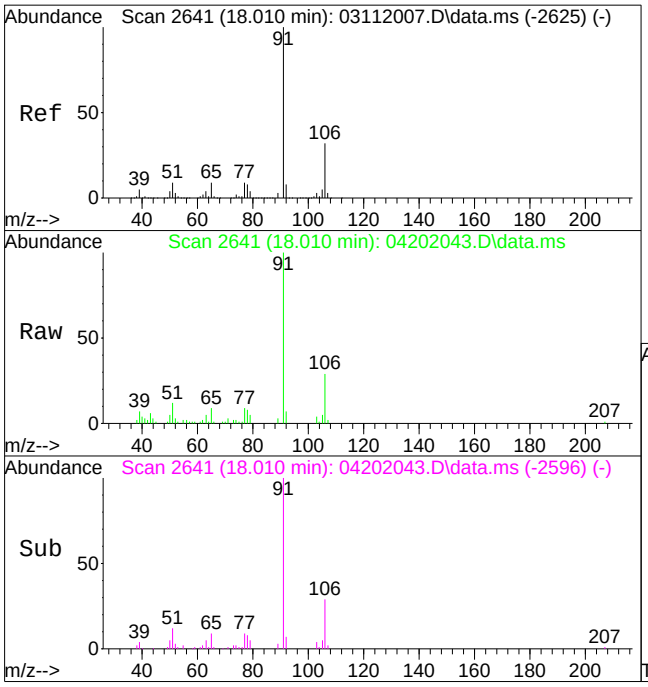


#65
Chlorobenzene
Concen: 0.25 ng
RT: 17.65 min Scan# 2576
Delta R.T. -0.005 min
Lab File: 04202043.D
Acq: 21 Apr 2020 3:29

Tgt Ion:112 Resp: 23793

Ion	Ratio	Lower	Upper
112	100		
114	30.9	12.2	52.2

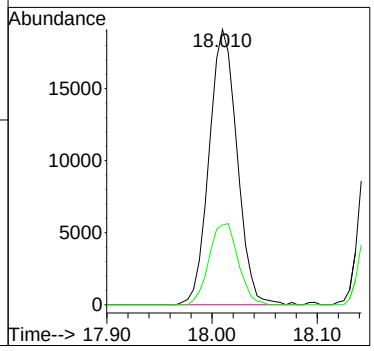


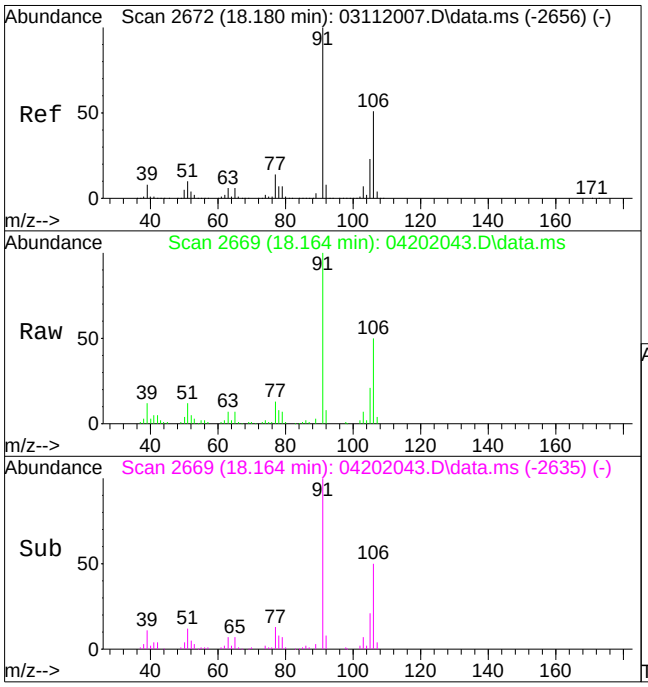


#66
Ethylbenzene
Concen: 0.22 ng
RT: 18.01 min Scan# 2641
Delta R.T. 0.000 min
Lab File: 04202043.D
Acq: 21 Apr 2020 3:29

Tgt Ion: 91 Resp: 35288

Ion	Ratio	Lower	Upper
91	100		
106	30.6	11.7	51.7

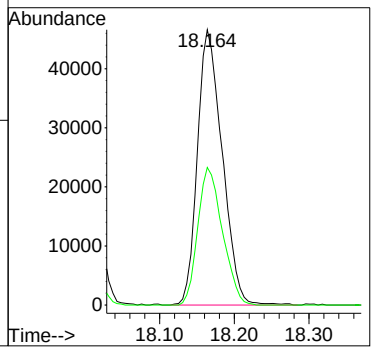


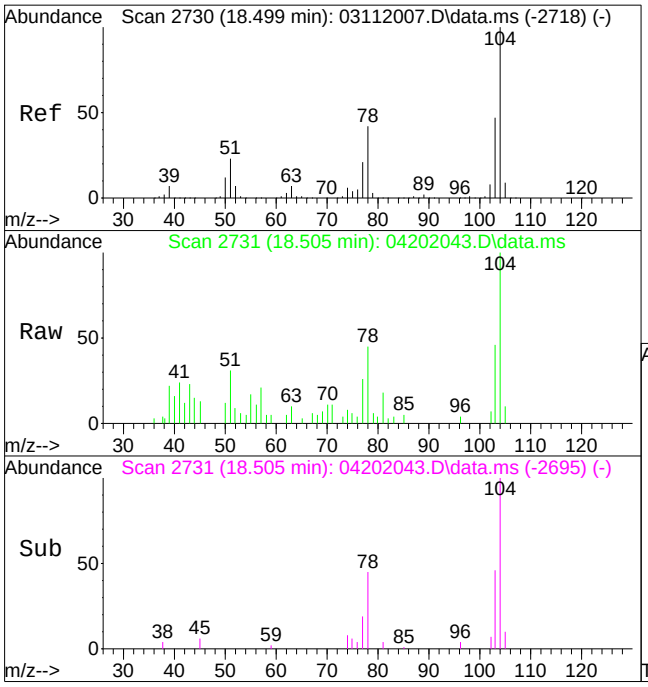


#67
m- & p-Xylenes
Concen: 0.84 ng
RT: 18.16 min Scan# 2669
Delta R.T. -0.011 min
Lab File: 04202043.D
Acq: 21 Apr 2020 3:29

Tgt Ion: 91 Resp: 107614

Ion	Ratio	Lower	Upper
91	100		
106	49.5	30.4	70.4

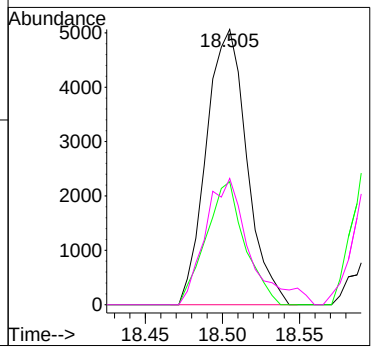


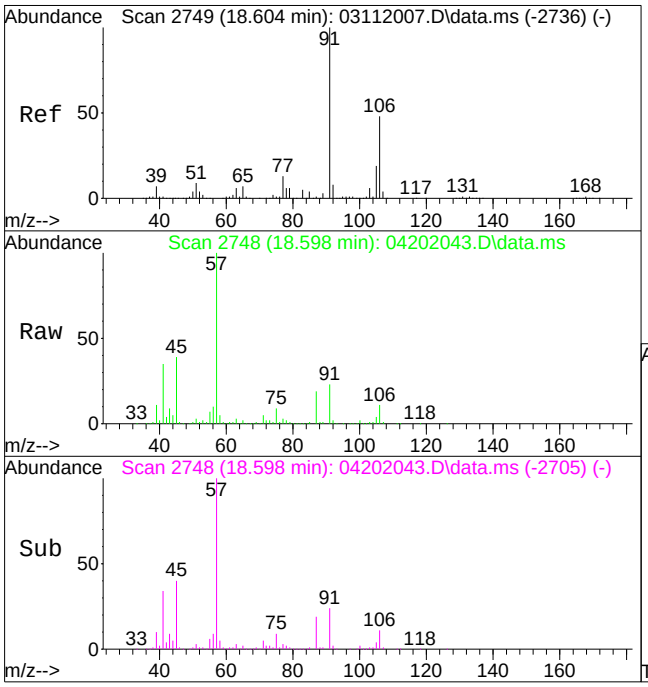


#69
Styrene
Concen: 0.09 ng
RT: 18.50 min Scan# 2731
Delta R.T. -0.000 min
Lab File: 04202043.D
Acq: 21 Apr 2020 3:29

Tgt Ion:104 Resp: 9268

Ion	Ratio	Lower	Upper
104	100		
78	42.6	20.9	60.9
103	50.0	27.4	67.4

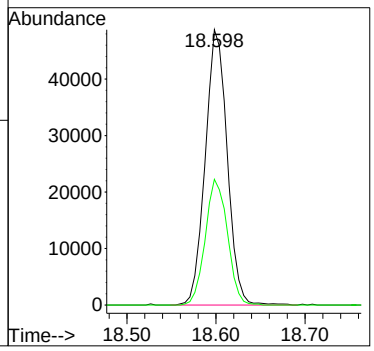


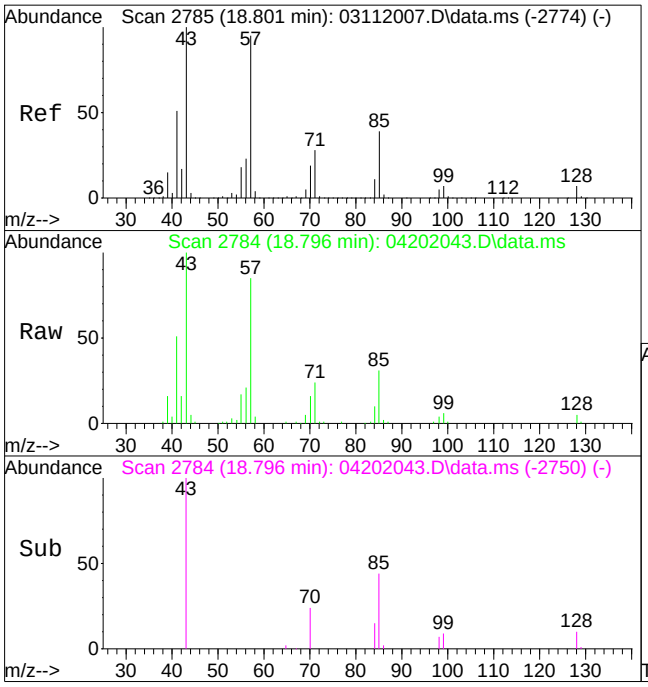


#70
o-Xylene
Concen: 0.65 ng
RT: 18.60 min Scan# 2748
Delta R.T. -0.011 min
Lab File: 04202043.D
Acq: 21 Apr 2020 3:29

Tgt Ion: 91 Resp: 83568

Ion	Ratio	Lower	Upper
91	100		
106	46.0	28.1	68.1

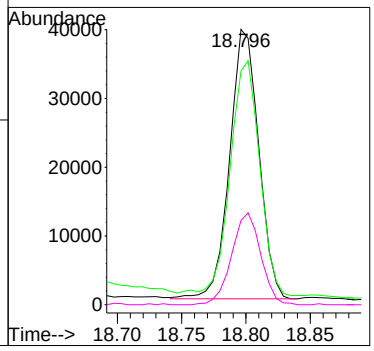


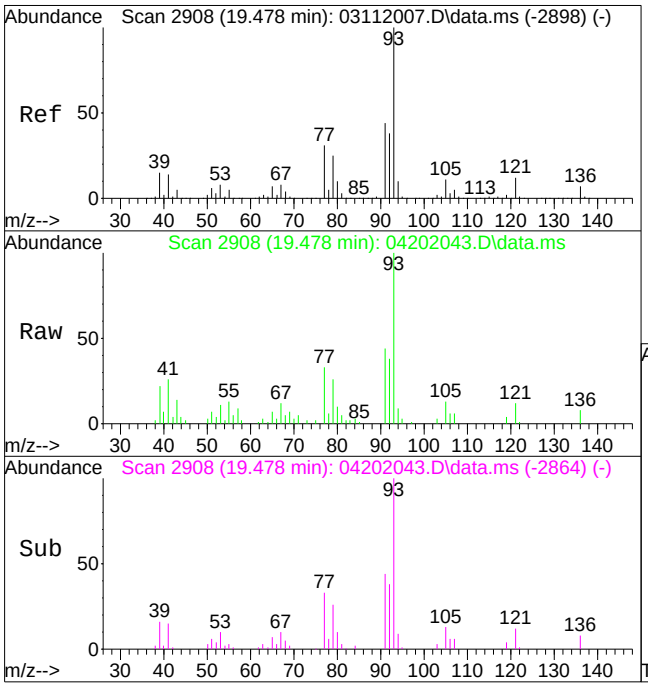


#71
n-Nonane
Concen: 0.96 ng
RT: 18.80 min Scan# 2784
Delta R.T. -0.011 min
Lab File: 04202043.D
Acq: 21 Apr 2020 3:29

Tgt Ion: 43 Resp: 61818

Ion	Ratio	Lower	Upper
43	100		
57	94.2	73.6	113.6
85	33.9	18.7	58.7

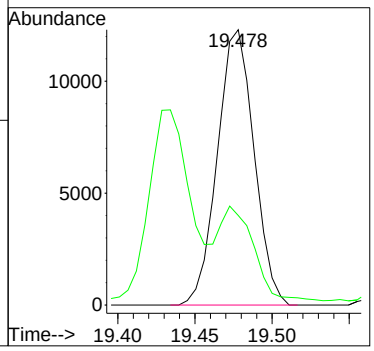


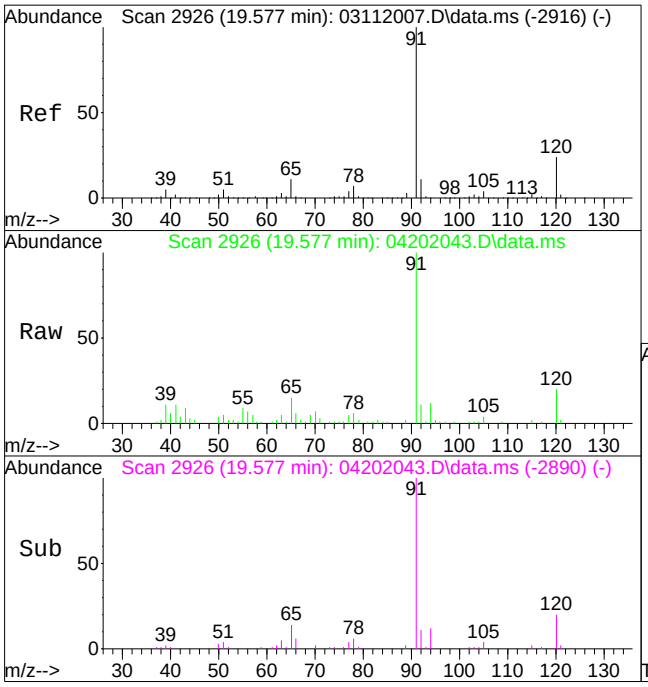


#75
alpha-Pinene
Concen: 0.25 ng
RT: 19.48 min Scan# 2908
Delta R.T. -0.005 min
Lab File: 04202043.D
Acq: 21 Apr 2020 3:29

Tgt Ion: 93 Resp: 20322

Ion	Ratio	Lower	Upper
93	100		
77	33.2	11.1	51.1

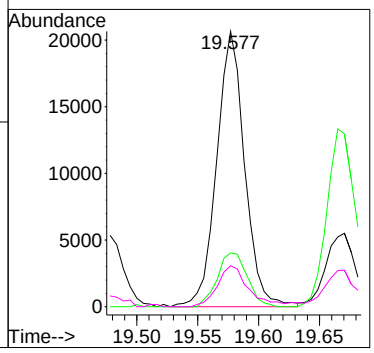


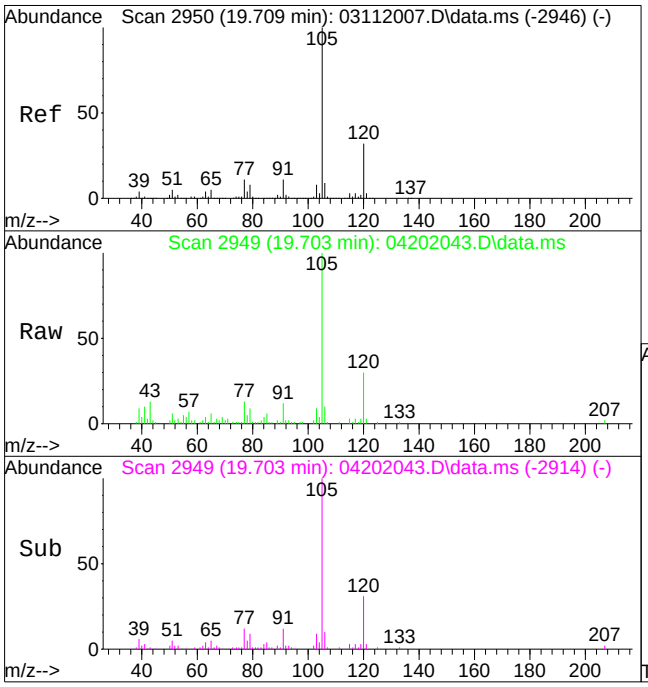


#76
n-Propylbenzene
Concen: 0.17 ng
RT: 19.58 min Scan# 2926
Delta R.T. 0.000 min
Lab File: 04202043.D
Acq: 21 Apr 2020 3:29

Tgt Ion: 91 Resp: 32962

Ion	Ratio	Lower	Upper
91	100		
120	20.9	3.9	43.9
65	16.7	0.0	30.5

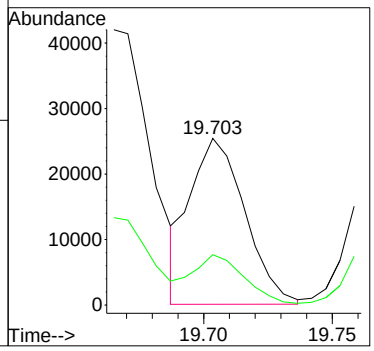


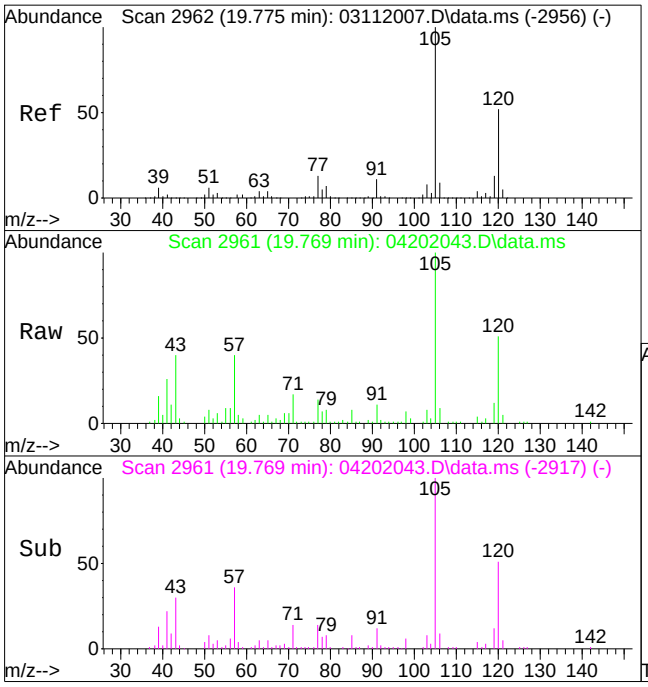


#78
4-Ethyltoluene
Concen: 0.24 ng
RT: 19.70 min Scan# 2949
Delta R.T. -0.006 min
Lab File: 04202043.D
Acq: 21 Apr 2020 3:29

Tgt Ion:105 Resp: 37629

Ion	Ratio	Lower	Upper
105	100		
120	29.7	11.1	51.1

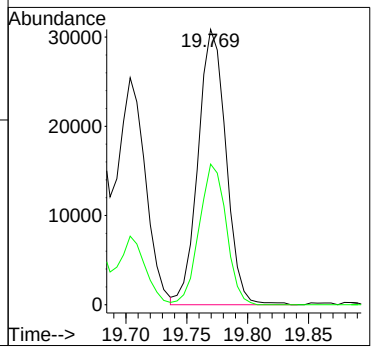


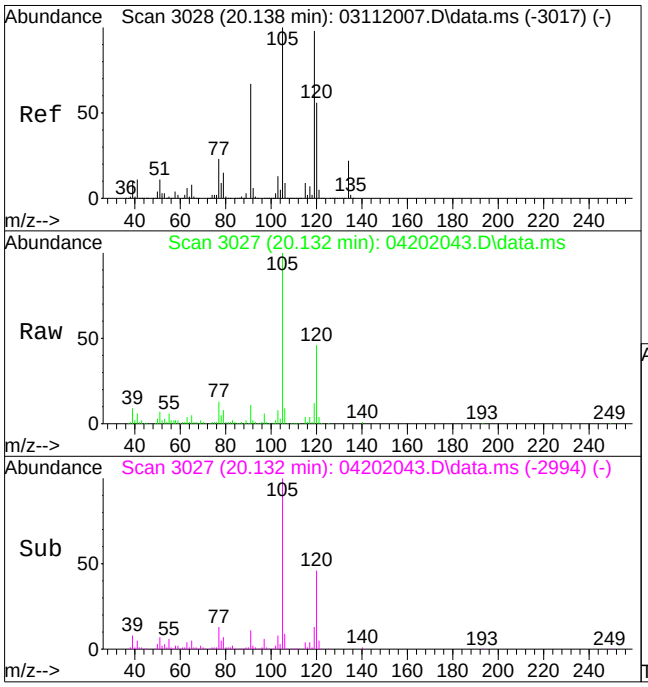


#79
1,3,5-Trimethylbenzene
Concen: 0.36 ng
RT: 19.77 min Scan# 2961
Delta R.T. -0.006 min
Lab File: 04202043.D
Acq: 21 Apr 2020 3:29

Tgt Ion:105 Resp: 49186

Ion	Ratio	Lower	Upper
105	100		
120	49.5	31.3	71.3

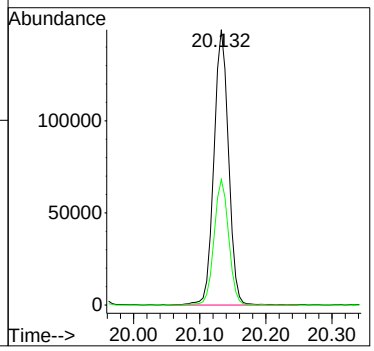


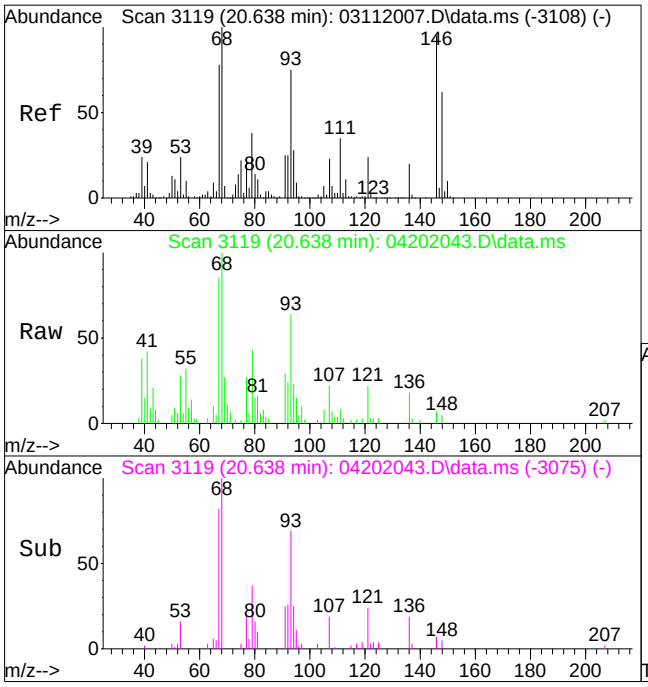


#82
1,2,4-Trimethylbenzene
Concen: 1.62 ng
RT: 20.13 min Scan# 3027
Delta R.T. -0.017 min
Lab File: 04202043.D
Acq: 21 Apr 2020 3:29

Tgt Ion:105 Resp: 229475

Ion	Ratio	Lower	Upper
105	100		
120	45.3	35.8	75.8

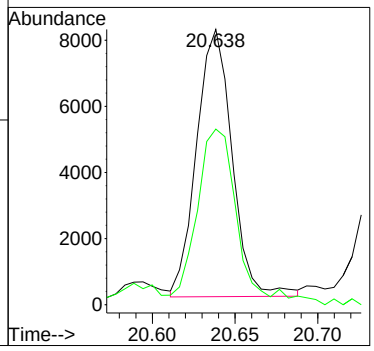


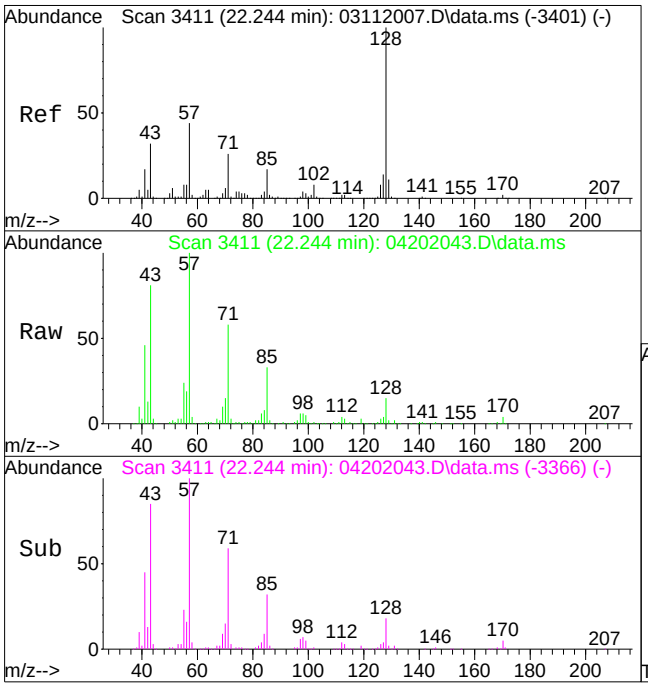


#91
d-Limonene
Concen: 0.22 ng
RT: 20.64 min Scan# 3119
Delta R.T. -0.011 min
Lab File: 04202043.D
Acq: 21 Apr 2020 3:29

Tgt Ion: 68 Resp: 12091

Ion	Ratio	Lower	Upper
68	100		
93	75.8	54.7	94.7

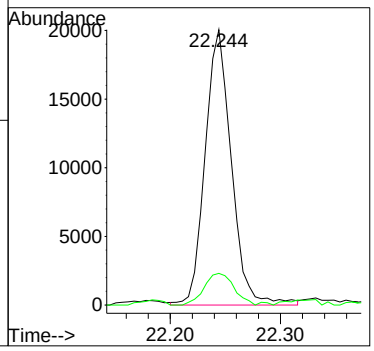




#95
Naphthalene
Concen: 0.21 ng
RT: 22.24 min Scan# 3411
Delta R.T. -0.005 min
Lab File: 04202043.D
Acq: 21 Apr 2020 3:29

Tgt Ion:128 Resp: 33203

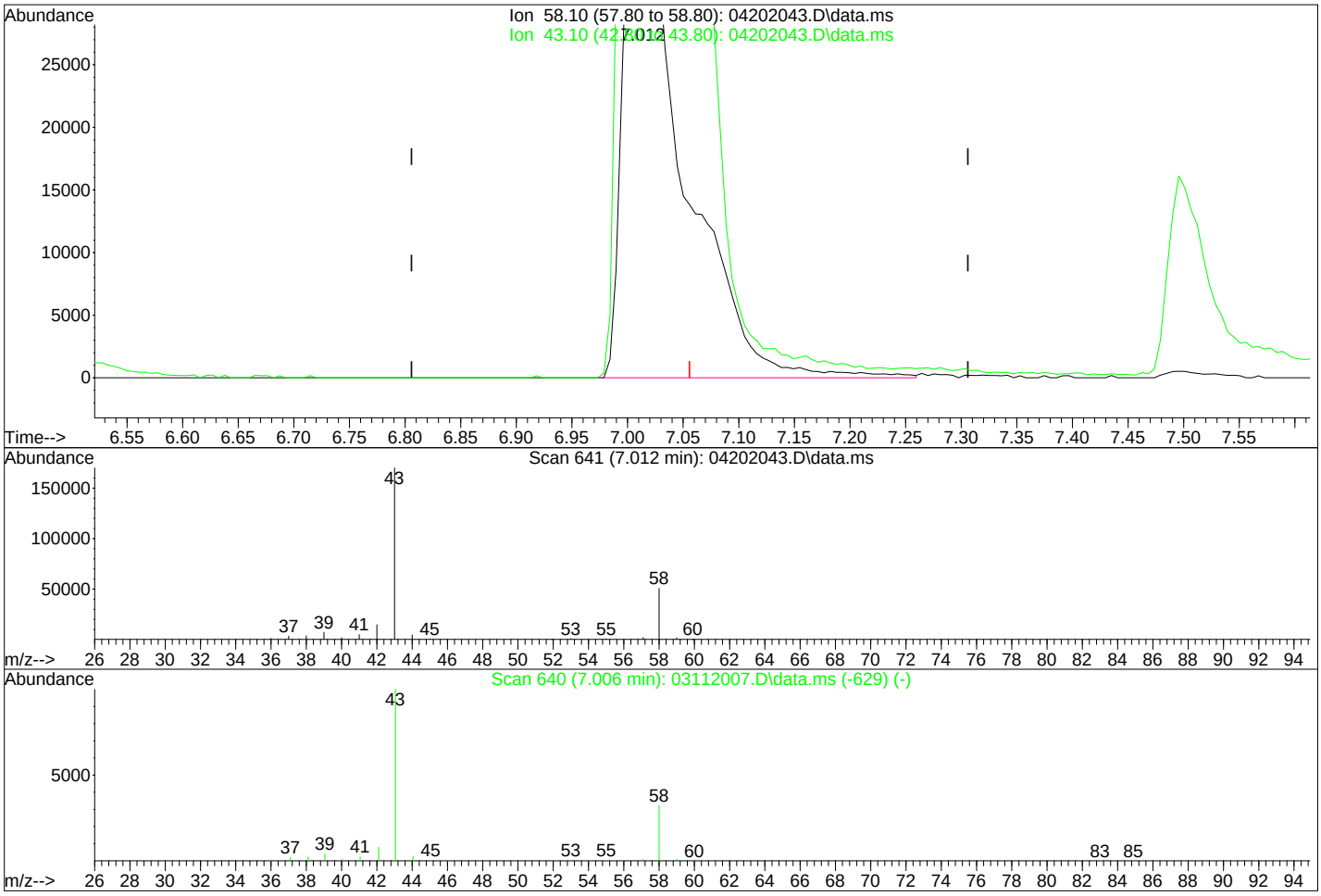
Ion	Ratio	Lower	Upper
128	100		
129	13.0	0.0	31.1



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\20\04202043.D Vial: 10
Acq On : 21 Apr 2020 3:29 Operator: LH
Sample : P2002031-008 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 21 12:27:05 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202043.D\data.ms

(13) Acetone (T)

7.012min (-0.044) 6.36ng

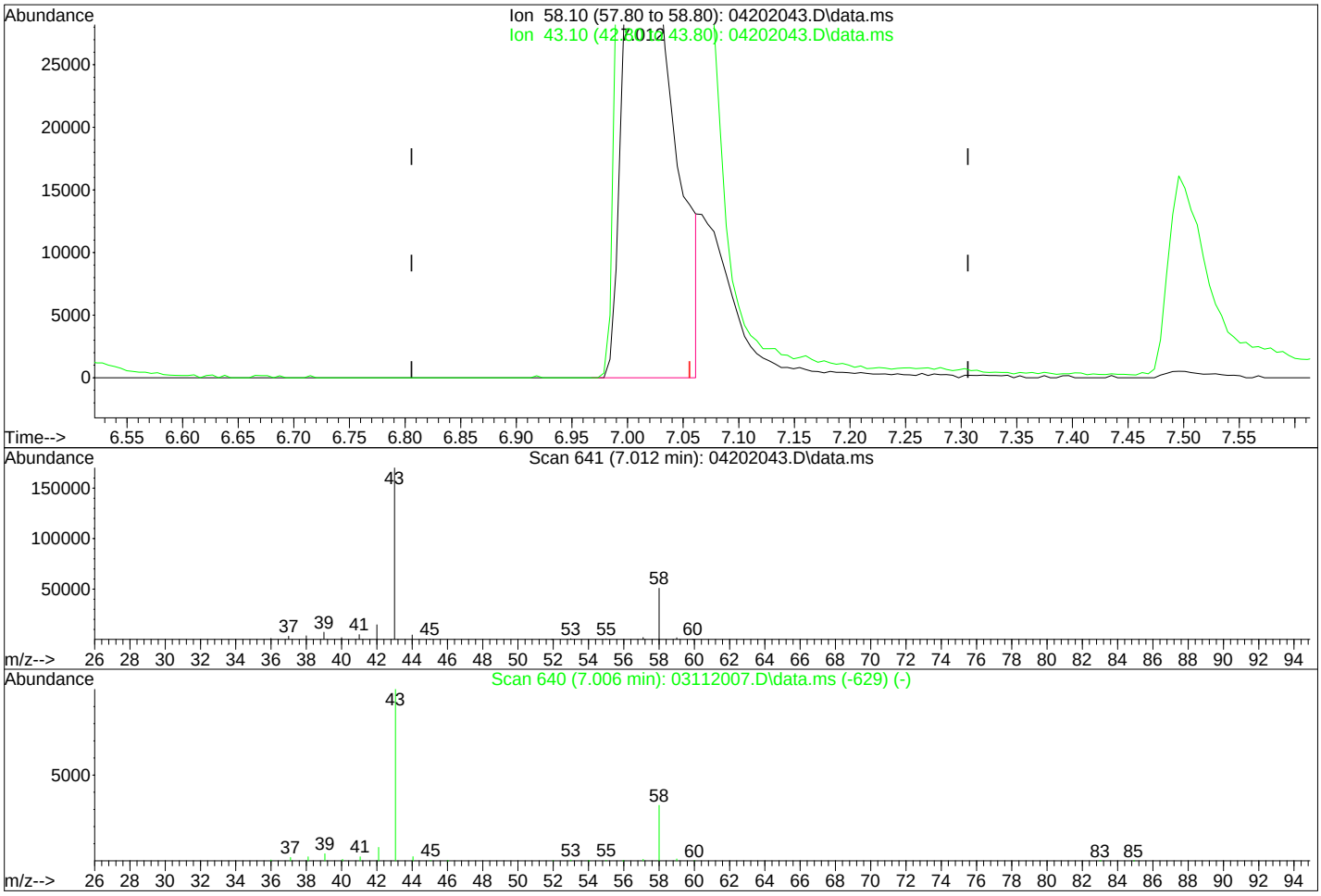
response 162158

Ion	Exp%	Act%
58.10	100	100
43.10	317.30	351.03#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\20\04202043.D Vial: 10
Acq On : 21 Apr 2020 3:29 Operator: LH
Sample : P2002031-008 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 21 12:27:05 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202043.D\data.ms

(13) Acetone (T)

7.012min (-0.044) 5.21ng m

response 132972

Ion	Exp%	Act%
58.10	100	100
43.10	317.30	428.08#
0.00	0.00	0.00
0.00	0.00	0.00

IPC

LH 4/22/20

4/23/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212013.D Vial: 10
Acq On : 21 Apr 2020 16:07 Operator: WA
Sample : P2002031-008dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 18:45:06 2020
Quant Method : I:\MS16\METHODS\R16031120.M LH 4/22/20
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	340361	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1529209	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	743048	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	600286	12.737	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.92%				
57) Toluene-d8 (SS2)	15.74	98	1584687	12.032	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.24%				
73) Bromofluorobenzene (SS3)	19.00	174	528794	11.370	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.96%				
Target Compounds							Qvalue
2) Propene	4.16	42	1093	N.D.			
3) Dichlorodifluoromethan...	4.30	85	2547	N.D.			
4) Chloromethane	4.58	50	1410	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.34	45	39693	1.407	ng		99
11) Acetonitrile	6.67	41	499	N.D.			
12) Acrolein	6.84	56	616	N.D.			
13) Acetone	7.05	58	16254	0.584	ng		94
14) Trichlorofluoromethane	7.27	101	2610	N.D.			
15) 2-Propanol (Isopropanol)	7.53	45	28965	0.351	ng		92
16) Acrylonitrile	7.87	53	744	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.51	59	1131	N.D.			
19) Methylene Chloride	8.44	84	1907	0.053	ng		88
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.72	76	11927	0.092	ng		95
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.40	72	106	N.D.			
28) cis-1,2-Dichloroethene	10.99	61	601	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.29	61	220213	16.074	ng		91
31) n-Hexane	11.28	57	1494	N.D.			
32) Chloroform	11.33	83	40945	0.606	ng		97
34) Tetrahydrofuran (THF)	11.77	72	6599	0.277	ng	#	89
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.04	62	173	N.D.			
38) 1,1,1-Trichloroethane	12.42	97	1081	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.90	78	7277	N.D.			
42) Carbon Tetrachloride	13.06	117	18930	0.349	ng		99
43) Cyclohexane	13.20	84	637	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	13.96	83	853	N.D.			
47) Trichloroethene	14.00	130	6862	0.153	ng		99
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.34	100	126	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212013.D Vial: 10
Acq On : 21 Apr 2020 16:07 Operator: WA
Sample : P2002031-008dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 18:45:06 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

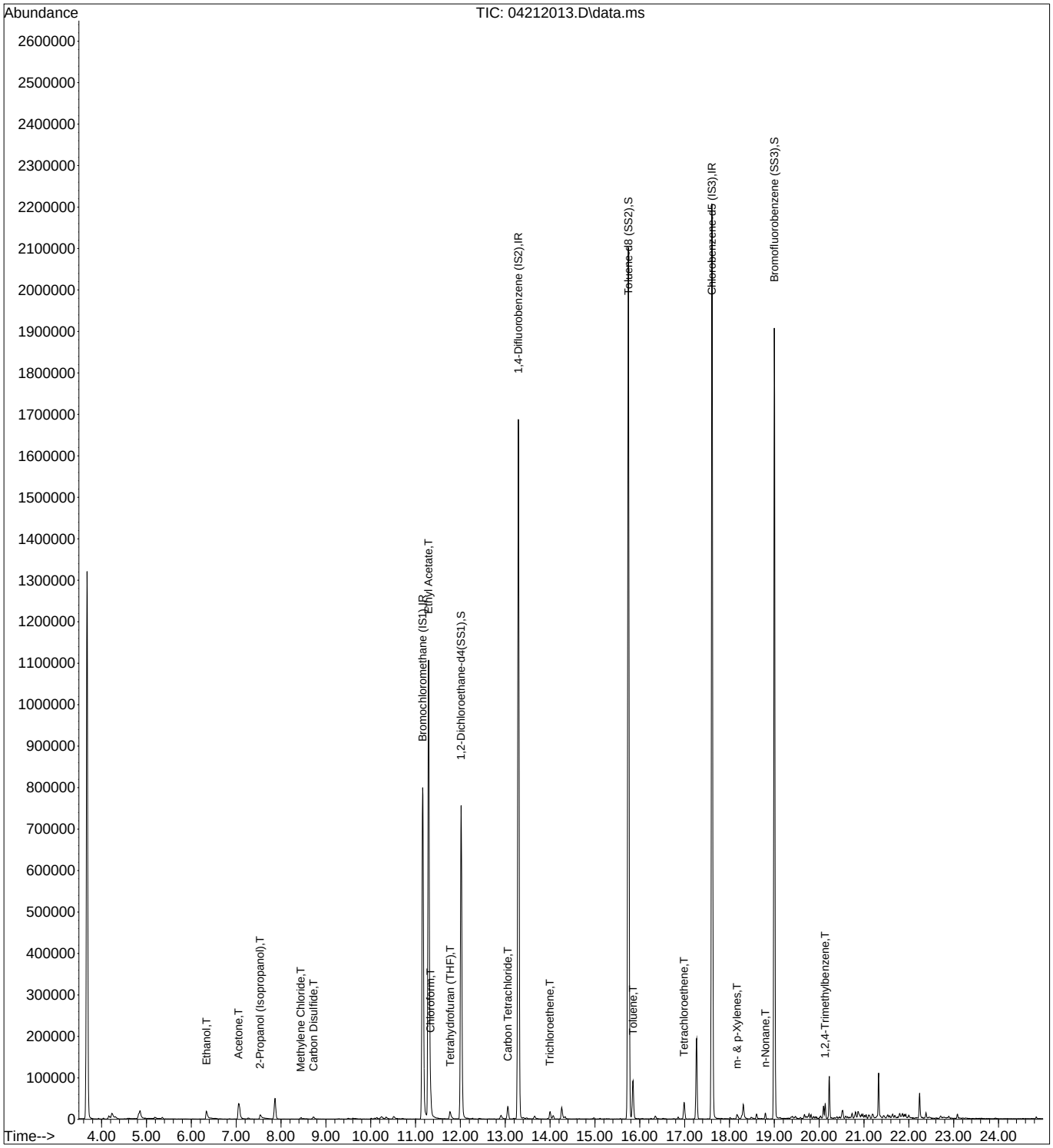
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.34	71	1070	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	15.56	97	186	N.D.	
58) Toluene	15.85	91	79718	0.490 ng	99
59) 2-Hexanone	16.06	43	1521	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.74	43	1832	N.D.	
63) n-Octane	16.85	57	805	N.D.	
64) Tetrachloroethene	16.99	166	13265	0.292 ng	97
65) Chlorobenzene	17.65	112	2293	N.D.	
66) Ethylbenzene	18.02	91	3031	N.D.	
67) m- & p-Xylenes	18.17	91	9559	0.066 ng	93
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.51	104	712	N.D.	
70) o-Xylene	18.60	91	6906	N.D.	
71) n-Nonane	18.80	43	5295	0.073 ng	92
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.13	105	946	N.D.	
75) alpha-Pinene	19.48	93	1621	N.D.	
76) n-Propylbenzene	19.58	91	2860	N.D.	
77) 3-Ethyltoluene	19.67	105	5506	N.D.	
78) 4-Ethyltoluene	19.71	105	3228	N.D.	
79) 1,3,5-Trimethylbenzene	19.77	105	4312	N.D.	
80) alpha-Methylstyrene	19.91	118	1464	N.D.	
81) 2-Ethyltoluene	19.94	105	2666	N.D.	
82) 1,2,4-Trimethylbenzene	20.13	105	18170	0.113 ng	86
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.33	91	524	N.D.	
85) 1,3-Dichlorobenzene	20.28	146	118	N.D.	
86) 1,4-Dichlorobenzene	20.34	146	249	N.D.	
87) sec-Butylbenzene	20.37	105	1522	N.D.	
88) 4-Isopropyltoluene (p-...	20.51	119	2831	N.D.	
89) 1,2,3-Trimethylbenzene	20.51	105	6861	N.D.	
90) 1,2-Dichlorobenzene	20.63	146	219	N.D.	
91) d-Limonene	20.64	68	873	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.15	180	112	N.D.	
95) Naphthalene	22.25	128	3797	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.13	119	2254	N.D.	
100) n-Butylbenzene	20.87	91	5324	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212013.D Vial: 10
Acq On : 21 Apr 2020 16:07 Operator: WA
Sample : P2002031-008dil (40mL) Inst : GCMS-16
Misc : S31-02112001

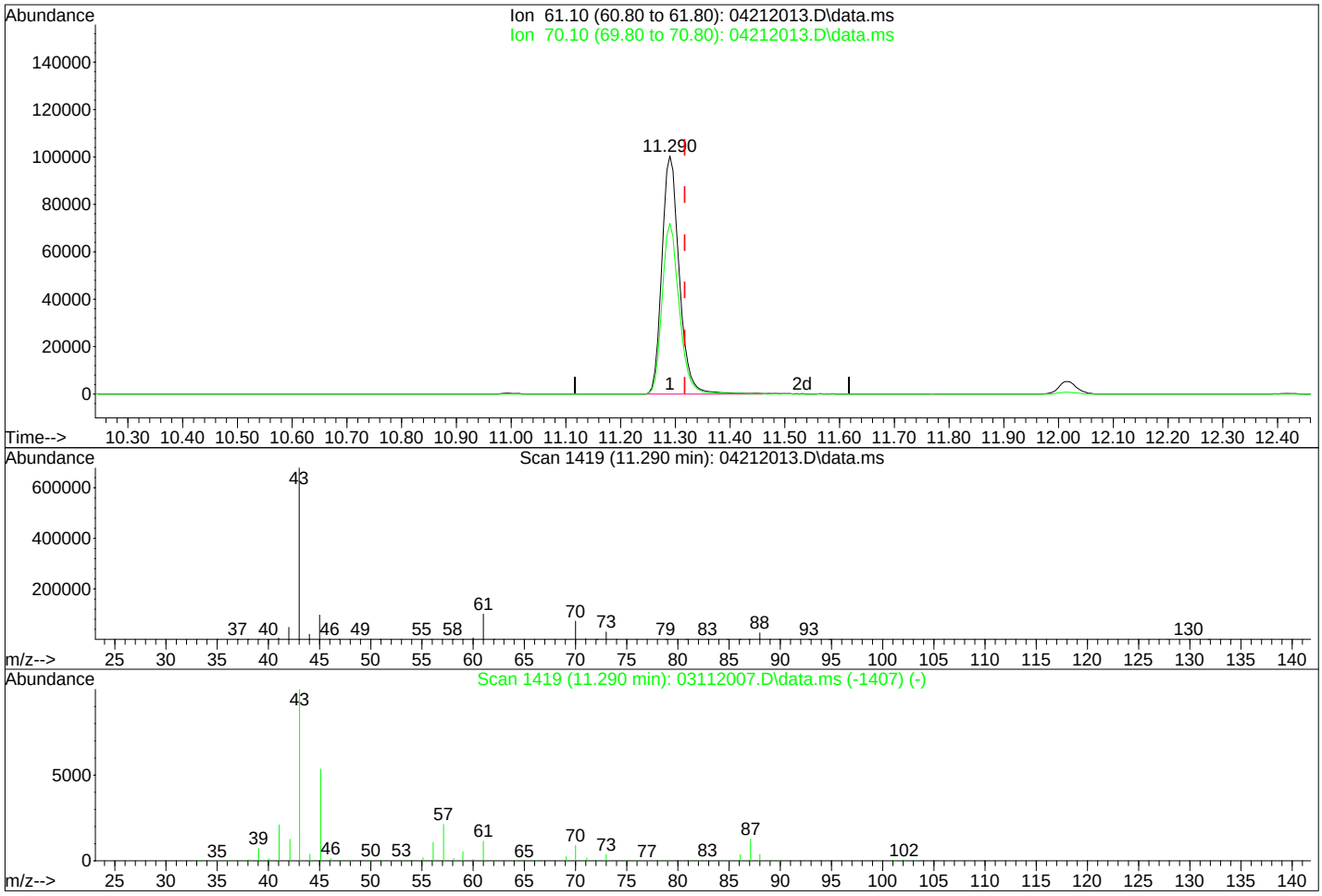
Quant Time: Apr 22 18:45:06 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\21\04212013.D Vial: 10
Acq On : 21 Apr 2020 16:07 Operator: WA
Sample : P2002031-008dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 18:45:06 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04212013.D\data.ms

(30) Ethyl Acetate (T)

11.290min (-0.027) 16.07ng

response 220213

Ion	Exp%	Act%
61.10	100	100
70.10	79.10	70.83
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202044.D Vial: 11
Acq On : 21 Apr 2020 4:03 Operator: LH
Sample : P2002031-009 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 17:05:42 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 4/22/20
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	300076	12.500 ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1340102	12.500 ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	627994	12.500 ng	0.00
System Monitoring Compounds					
33) 1,2-Dichloroethane-d4(...	12.02	65	520502	12.527 ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.24%		
57) Toluene-d8 (SS2)	15.74	98	1371052	12.317 ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.56%		
73) Bromofluorobenzene (SS3)	19.00	174	452559	11.513 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.08%		
Target Compounds					Qvalue
2) Propene	0.00	42	0	N.D. d	
3) Dichlorodifluoromethan...	4.30	85	7567	0.112 ng	99
4) Chloromethane	4.57	50	4015	0.075 ng	92
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.	
6) Vinyl Chloride	4.98	62	577	N.D.	
7) 1,3-Butadiene	0.00	54	0	N.D.	
8) Bromomethane	0.00	94	0	N.D.	
9) Chloroethane	0.00	64	0	N.D.	
10) Ethanol	6.35	45	14072	0.566 ng	93
11) Acetonitrile	6.63	41	2256	N.D.	
12) Acrolein	6.84	56	991	0.054 ng	99
13) Acetone	7.00	58	323499	13.179 ng	90
14) Trichlorofluoromethane	7.26	101	15806	0.265 ng	99
15) 2-Propanol (Isopropanol)	7.57	45	3499	N.D.	
16) Acrylonitrile	0.00	53	0	N.D.	
17) 1,1-Dichloroethene	0.00	96	0	N.D.	
18) 2-Methyl-2-Propanol (t...	8.50	59	1753	N.D.	
19) Methylene Chloride	8.45	84	121	N.D.	
20) 3-Chloro-1-propene (Al...	8.53	41	175	N.D.	
21) Trichlorotrifluoroethane	8.88	151	757	N.D.	
22) Carbon Disulfide	8.71	76	118755	1.034 ng	98
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.	
24) 1,1-Dichloroethane	0.00	63	0	N.D.	
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	
26) Vinyl Acetate	0.00	86	0	N.D. d	
27) 2-Butanone (MEK)	10.50	72	5841	0.286 ng	92
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.	
29) Diisopropyl Ether	0.00	87	0	N.D. d	
30) Ethyl Acetate	11.31	61	8294	0.687 ng	91
31) n-Hexane	11.28	57	1857	N.D.	
32) Chloroform	11.33	83	17362	0.291 ng	99
34) Tetrahydrofuran (THF)	11.74	72	82803	3.938 ng	94
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.	
36) 1,2-Dichloroethane	12.01	62	118	N.D.	
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.	
39) Isopropyl Acetate	0.00	61	0	N.D.	
40) 1-Butanol	0.00	56	0	N.D. d	
41) Benzene	12.90	78	9225	0.067 ng	99
42) Carbon Tetrachloride	13.06	117	11565	0.243 ng	100
43) Cyclohexane	13.19	84	2210	N.D.	
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.	
45) 1,2-Dichloropropane	13.56	63	117	N.D.	
46) Bromodichloromethane	13.93	83	544	N.D.	
47) Trichloroethene	14.00	130	223	N.D.	
48) 1,4-Dioxane	14.01	88	788	N.D.	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d	
50) Methyl Methacrylate	0.00	100	0	N.D. d	

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202044.D Vial: 11
Acq On : 21 Apr 2020 4:03 Operator: LH
Sample : P2002031-009 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 17:05:42 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

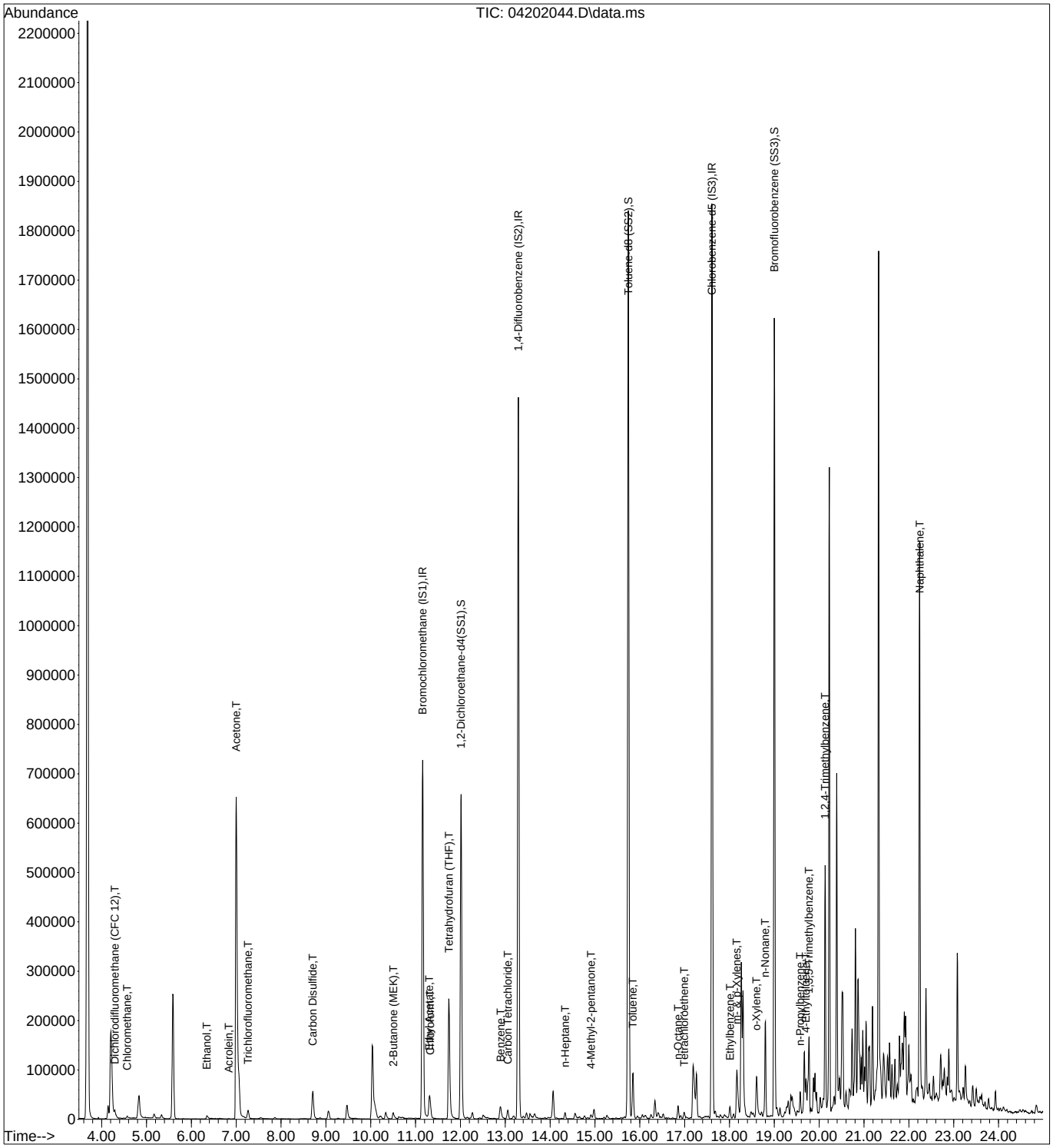
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.34	71	3157	0.098	ng		91
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
53) 4-Methyl-2-pentanone	14.91	58	2769	0.095	ng	#	94
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.			
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.			
58) Toluene	15.84	91	71766	0.521	ng		100
59) 2-Hexanone	0.00	43	0	N.D.	d		
60) Dibromochloromethane	0.00	129	0	N.D.			
61) 1,2-Dibromoethane	0.00	107	0	N.D.			
62) n-Butyl Acetate	16.74	43	774	N.D.			
63) n-Octane	16.85	57	5180	0.190	ng		96
64) Tetrachloroethene	16.99	166	3871	0.101	ng		97
65) Chlorobenzene	17.69	112	1455	N.D.			
66) Ethylbenzene	18.01	91	17167	0.114	ng		99
67) m- & p-Xylenes	18.16	91	76996	0.627	ng		97
68) Bromoform	0.00	173	0	N.D.			
69) Styrene	18.50	104	1139	N.D.			
70) o-Xylene	18.60	91	30897	0.252	ng		99
71) n-Nonane	18.80	43	70846	1.154	ng		93
72) 1,1,2,2-Tetrachloroethane	18.56	83	118	N.D.			
74) Cumene	19.13	105	6541	N.D.			
75) alpha-Pinene	19.47	93	253	N.D.			
76) n-Propylbenzene	19.58	91	36450	0.201	ng		93
77) 3-Ethyltoluene	0.00	105	0	N.D.	d		
78) 4-Ethyltoluene	19.70	105	39315	0.267	ng		90
79) 1,3,5-Trimethylbenzene	19.77	105	51347	0.391	ng		96
80) alpha-Methylstyrene	0.00	118	0	N.D.	d		
81) 2-Ethyltoluene	0.00	105	0	N.D.	d		
82) 1,2,4-Trimethylbenzene	20.13	105	242825	1.786	ng		87
83) n-Decane	0.00	57	0	N.D.	d		
84) Benzyl Chloride	20.24	91	1359	N.D.			
85) 1,3-Dichlorobenzene	20.32	146	249	N.D.			
86) 1,4-Dichlorobenzene	20.32	146	249	N.D.			
87) sec-Butylbenzene	0.00	105	0	N.D.	d		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.	d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.			
91) d-Limonene	20.64	68	659	N.D.			
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.			
93) n-Undecane	0.00	57	0	N.D.	d		
94) 1,2,4-Trichlorobenzene	22.14	180	129	N.D.			
95) Naphthalene	22.24	128	101331	0.666	ng		98
96) n-Dodecane	0.00	57	0	N.D.	d		
97) Hexachlorobutadiene	0.00	225	0	N.D.			
98) Cyclohexanone	0.00	55	0	N.D.	d		
99) tert-Butylbenzene	0.00	119	0	N.D.	d		
100) n-Butylbenzene	0.00	91	0	N.D.	d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202044.D Vial: 11
Acq On : 21 Apr 2020 4:03 Operator: LH
Sample : P2002031-009 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 17:05:42 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202044.D Vial: 11
Acq On : 21 Apr 2020 4:03 Operator: LH
Sample : P2002031-009 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 17:05:42 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 4/22/20
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

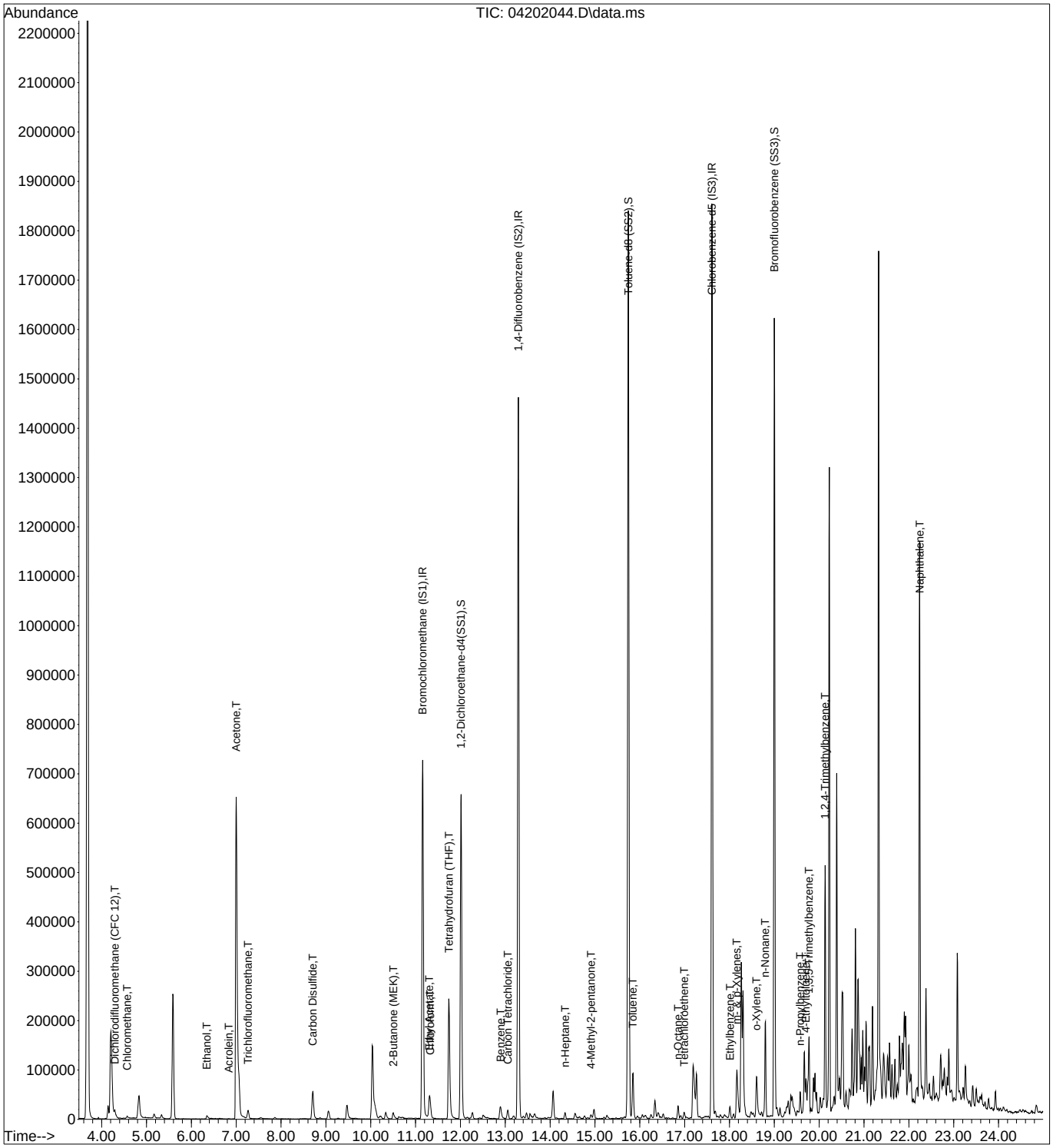
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	300076	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1340102	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	627994	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	520502	12.527	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.24%				
57) Toluene-d8 (SS2)	15.74	98	1371052	12.317	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.56%				
73) Bromofluorobenzene (SS3)	19.00	174	452559	11.513	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.08%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.30	85	7567	0.112	ng		99
4) Chloromethane	4.57	50	4015	0.075	ng		92
10) Ethanol	6.35	45	14072	0.566	ng		93
12) Acrolein	6.84	56	991	0.054	ng		99
13) Acetone	7.00	58	323499	13.179	ng		90
14) Trichlorofluoromethane	7.26	101	15806	0.265	ng		99
22) Carbon Disulfide	8.71	76	118755	1.034	ng		98
27) 2-Butanone (MEK)	10.50	72	5841	0.286	ng		92
30) Ethyl Acetate	11.31	61	8294	0.687	ng		91
32) Chloroform	11.33	83	17362	0.291	ng		99
34) Tetrahydrofuran (THF)	11.74	72	82803	3.938	ng		94
41) Benzene	12.90	78	9225	0.067	ng		99
42) Carbon Tetrachloride	13.06	117	11565	0.243	ng		100
51) n-Heptane	14.34	71	3157	0.098	ng		91
53) 4-Methyl-2-pentanone	14.91	58	2769	0.095	ng	#	94
58) Toluene	15.84	91	71766	0.521	ng		100
63) n-Octane	16.85	57	5180	0.190	ng		96
64) Tetrachloroethene	16.99	166	3871	0.101	ng		97
66) Ethylbenzene	18.01	91	17167	0.114	ng		99
67) m- & p-Xylenes	18.16	91	76996	0.627	ng		97
70) o-Xylene	18.60	91	30897	0.252	ng		99
71) n-Nonane	18.80	43	70846	1.154	ng		93
76) n-Propylbenzene	19.58	91	36450	0.201	ng		93
78) 4-Ethyltoluene	19.70	105	39315	0.267	ng		90
79) 1,3,5-Trimethylbenzene	19.77	105	51347	0.391	ng		96
82) 1,2,4-Trimethylbenzene	20.13	105	242825	1.786	ng		87
95) Naphthalene	22.24	128	101331	0.666	ng		98

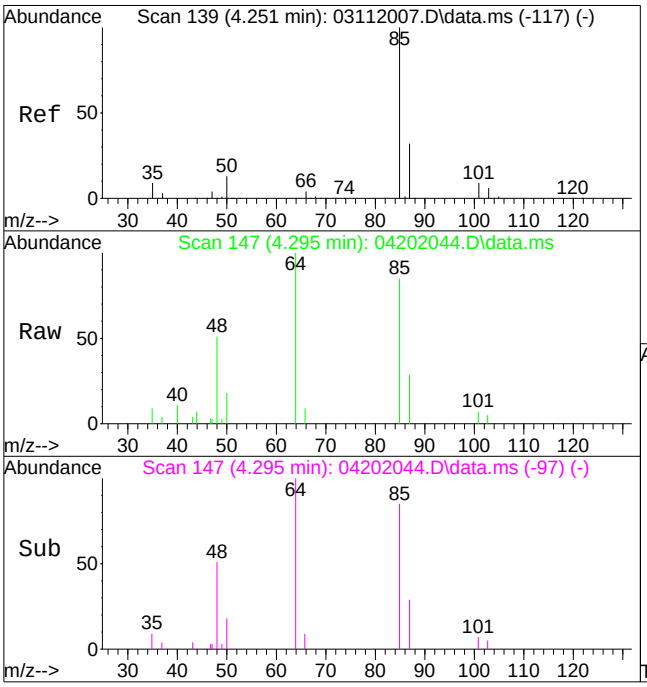
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202044.D Vial: 11
Acq On : 21 Apr 2020 4:03 Operator: LH
Sample : P2002031-009 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 17:05:42 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

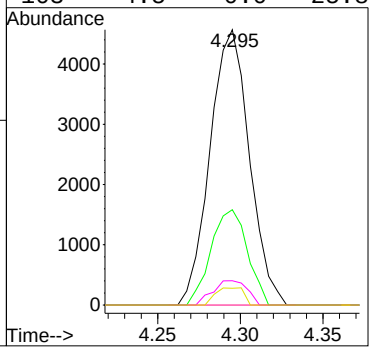


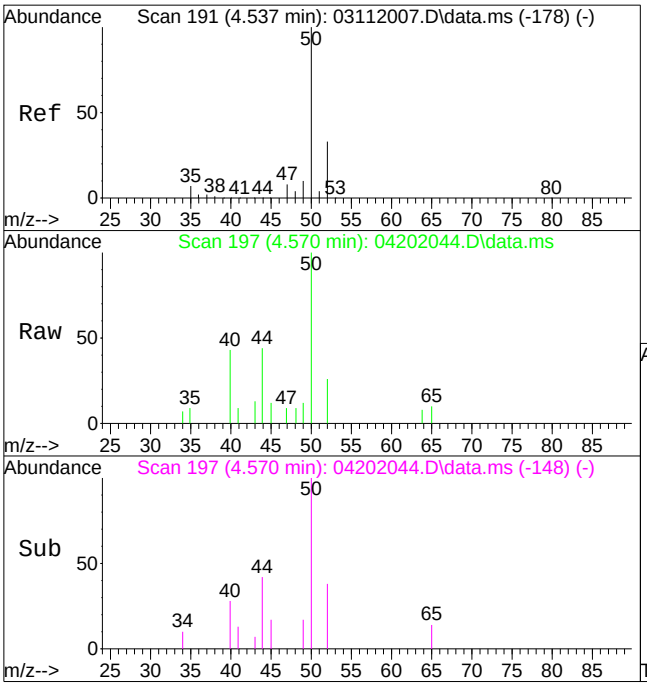


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.11 ng
RT: 4.30 min Scan# 147
Delta R.T. 0.027 min
Lab File: 04202044.D
Acq: 21 Apr 2020 4:03

Tgt Ion: 85 Resp: 7567

Ion	Ratio	Lower	Upper
85	100		
87	32.0	12.3	52.3
101	7.7	0.0	29.0
103	4.5	0.0	25.8

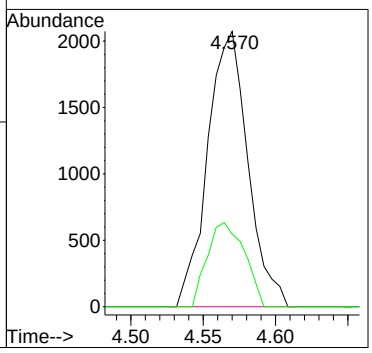


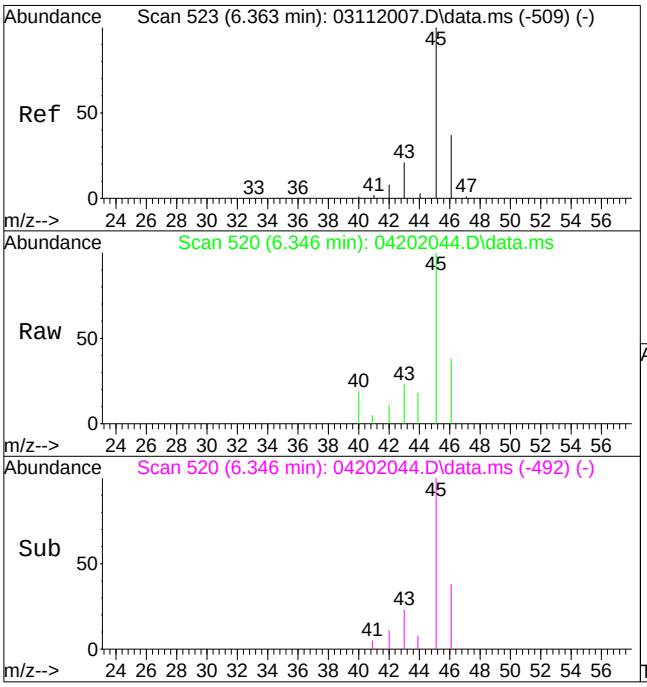


#4
Chloromethane
Concen: 0.08 ng
RT: 4.57 min Scan# 197
Delta R.T. 0.017 min
Lab File: 04202044.D
Acq: 21 Apr 2020 4:03

Tgt Ion: 50 Resp: 4015

Ion	Ratio	Lower	Upper
50	100		
52	28.2	12.8	52.8

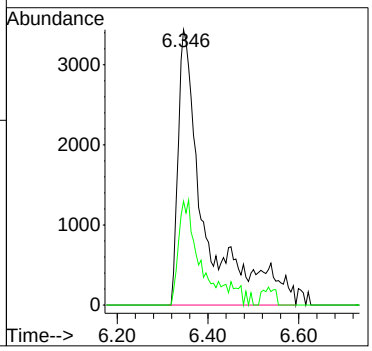


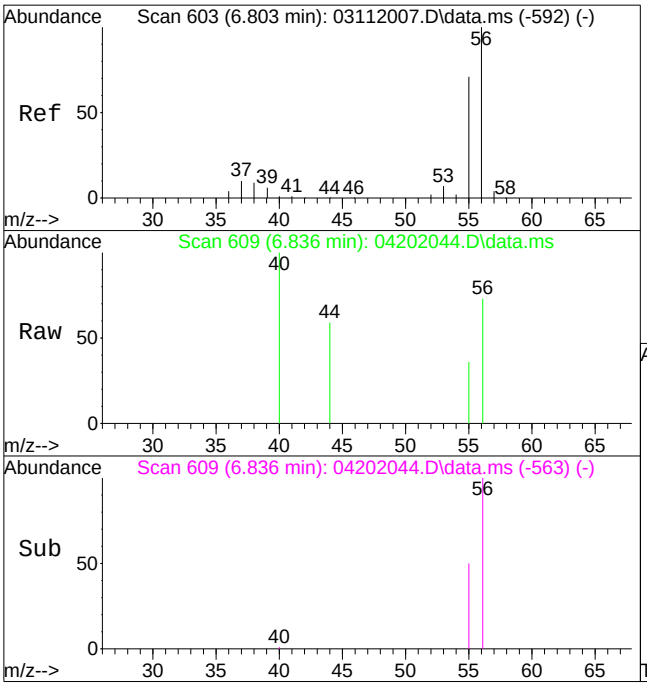


#10
Ethanol
Concen: 0.57 ng
RT: 6.35 min Scan# 520
Delta R.T. -0.094 min
Lab File: 04202044.D
Acq: 21 Apr 2020 4:03

Tgt Ion: 45 Resp: 14072

Ion	Ratio	Lower	Upper
45	100		
46	33.3	17.3	57.3

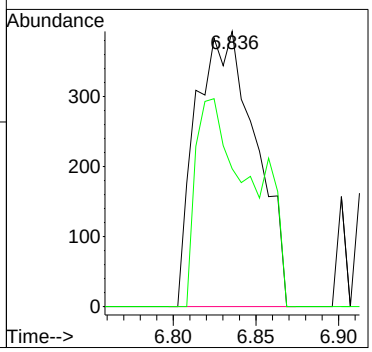


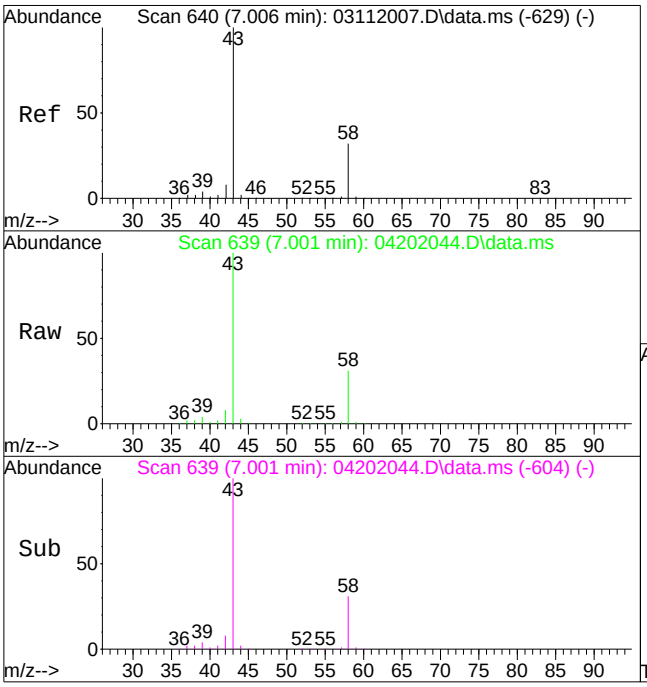


#12
Acrolein
Concen: 0.05 ng
RT: 6.84 min Scan# 609
Delta R.T. 0.006 min
Lab File: 04202044.D
Acq: 21 Apr 2020 4:03

Tgt Ion: 56 Resp: 991

Ion	Ratio	Lower	Upper
56	100		
55	71.2	50.4	90.4

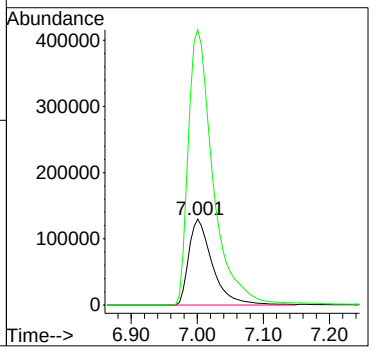


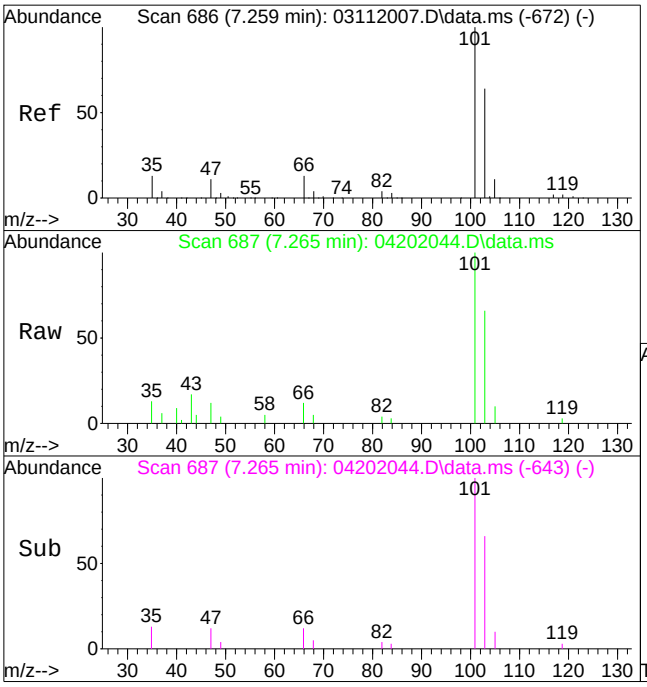


#13
Acetone
Concen: 13.18 ng
RT: 7.00 min Scan# 639
Delta R.T. -0.055 min
Lab File: 04202044.D
Acq: 21 Apr 2020 4:03

Tgt Ion: 58 Resp: 323499

Ion	Ratio	Lower	Upper
58	100		
43	338.6	287.3	347.3

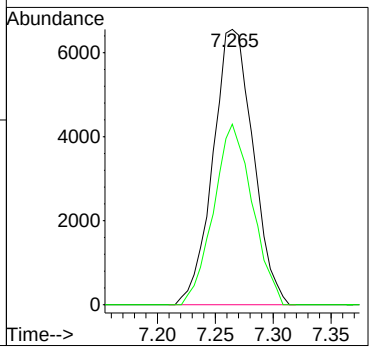


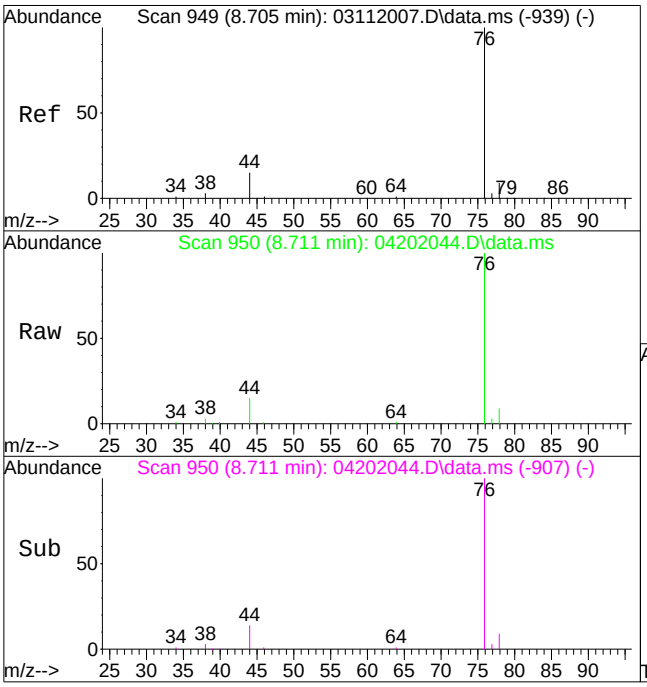


#14
Trichlorofluoromethane
Concen: 0.26 ng
RT: 7.26 min Scan# 687
Delta R.T. -0.010 min
Lab File: 04202044.D
Acq: 21 Apr 2020 4:03

Tgt Ion:101 Resp: 15806

Ion	Ratio	Lower	Upper
101	100		
103	63.4	44.6	84.6

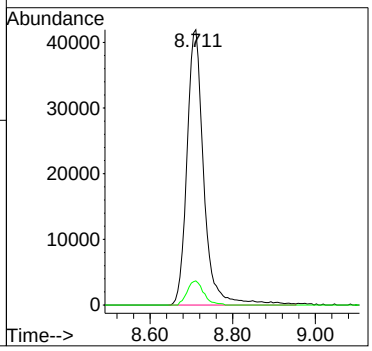


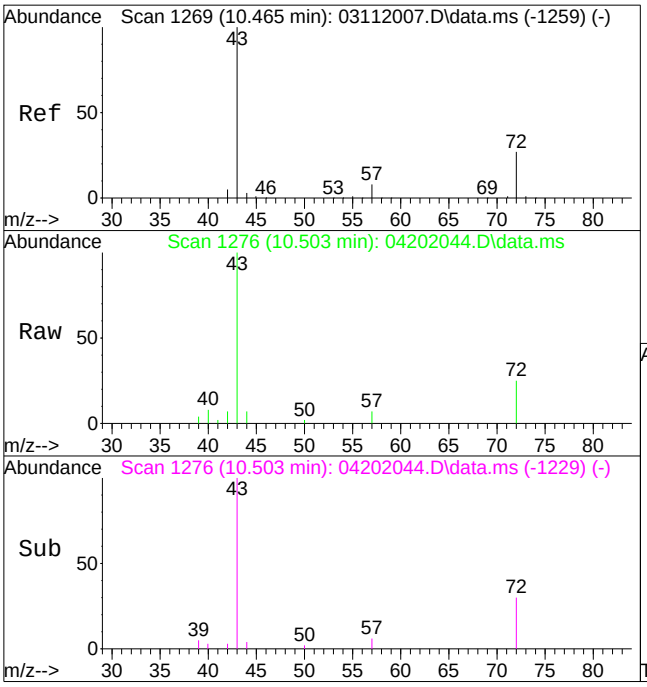


#22
Carbon Disulfide
Concen: 1.03 ng
RT: 8.71 min Scan# 950
Delta R.T. -0.011 min
Lab File: 04202044.D
Acq: 21 Apr 2020 4:03

Tgt Ion: 76 Resp: 118755

Ion	Ratio	Lower	Upper
76	100		
78	8.6	0.0	29.2

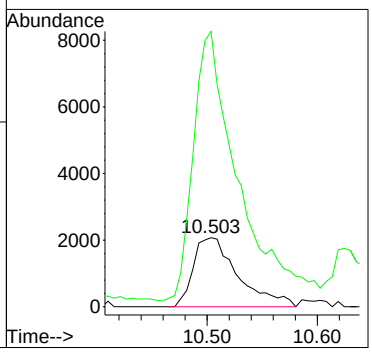


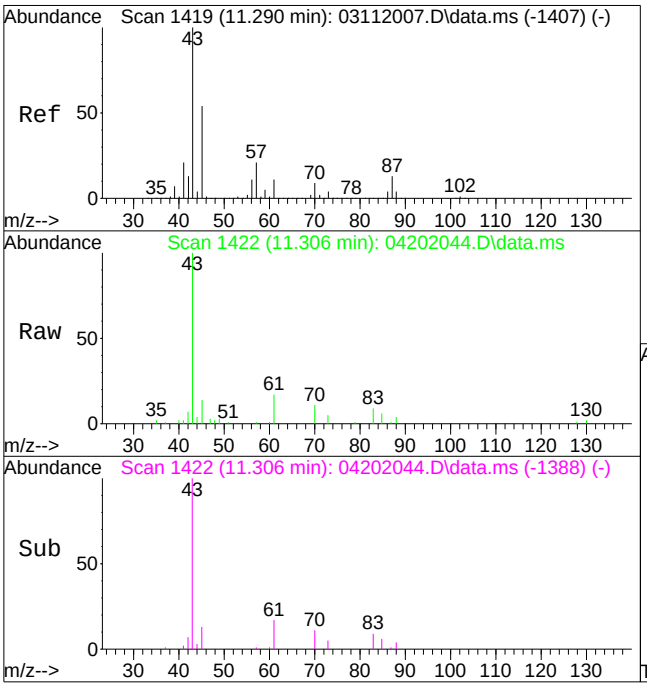


#27
2-Butanone (MEK)
Concen: 0.29 ng
RT: 10.50 min Scan# 1276
Delta R.T. 0.011 min
Lab File: 04202044.D
Acq: 21 Apr 2020 4:03

Tgt Ion: 72 Resp: 5841

Ion	Ratio	Lower	Upper
72	100		
43	392.6	353.4	393.4

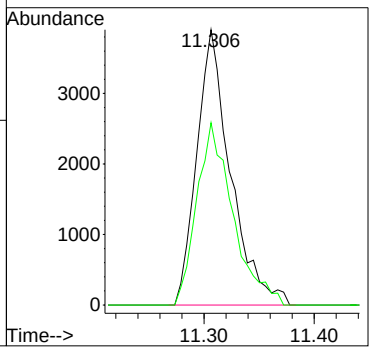


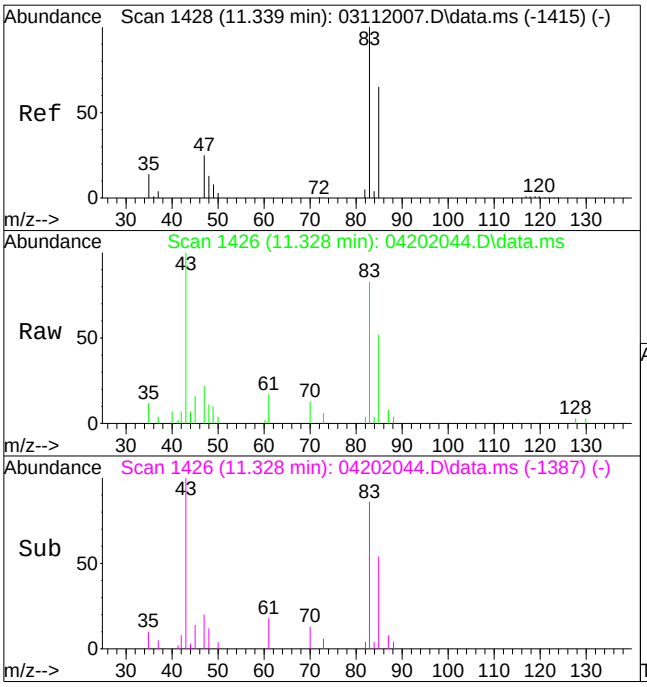


#30
Ethyl Acetate
Concen: 0.69 ng
RT: 11.31 min Scan# 1422
Delta R.T. -0.011 min
Lab File: 04202044.D
Acq: 21 Apr 2020 4:03

Tgt Ion: 61 Resp: 8294

Ion	Ratio	Lower	Upper
61	100		
70	70.8	59.1	99.1

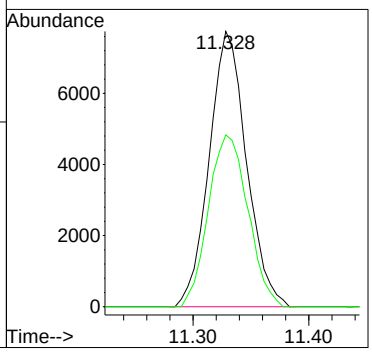


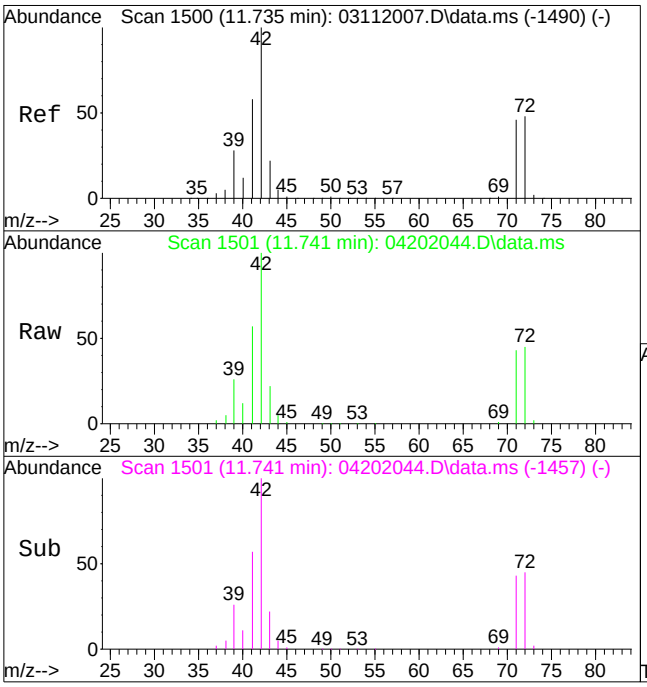


#32
Chloroform
Concen: 0.29 ng
RT: 11.33 min Scan# 1426
Delta R.T. -0.033 min
Lab File: 04202044.D
Acq: 21 Apr 2020 4:03

Tgt Ion: 83 Resp: 17362

Ion	Ratio	Lower	Upper
83	100		
85	66.0	45.5	85.5

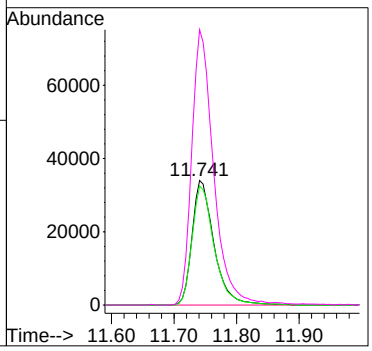


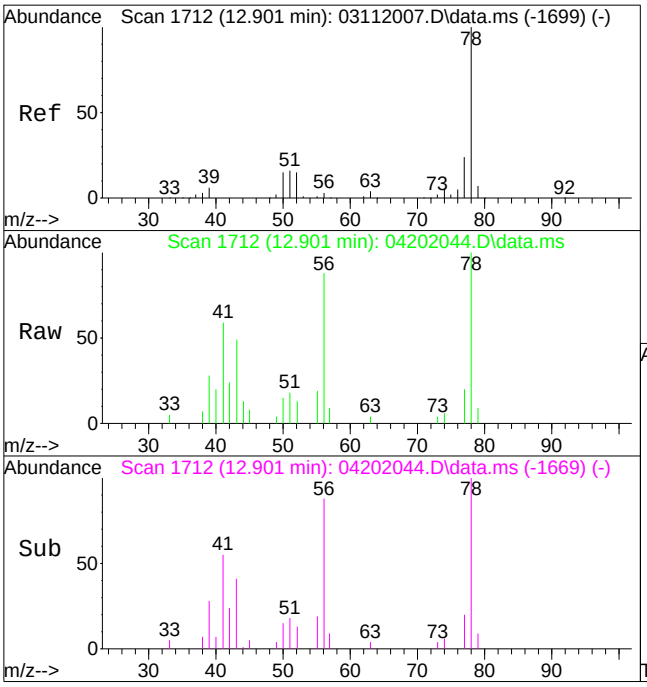


#34
Tetrahydrofuran (THF)
Concen: 3.94 ng
RT: 11.74 min Scan# 1501
Delta R.T. -0.005 min
Lab File: 04202044.D
Acq: 21 Apr 2020 4:03

Tgt Ion: 72 Resp: 82803

Ion	Ratio	Lower	Upper
72	100		
71	96.8	75.9	115.9
42	221.4	189.3	229.3

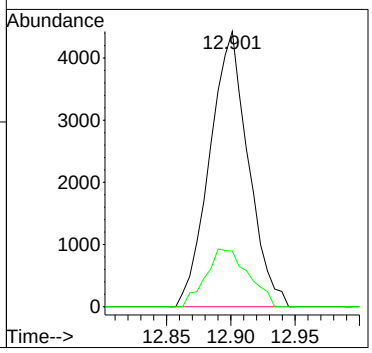


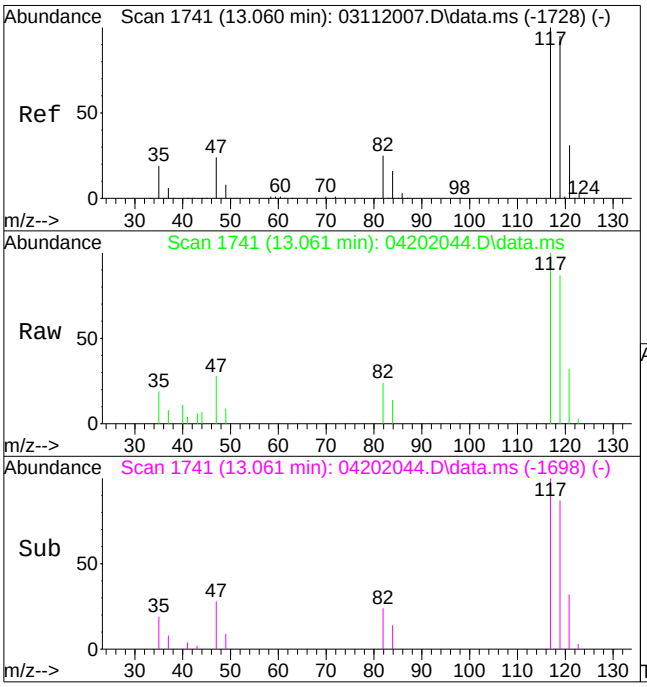


#41
Benzene
Concen: 0.07 ng
RT: 12.90 min Scan# 1712
Delta R.T. -0.011 min
Lab File: 04202044.D
Acq: 21 Apr 2020 4:03

Tgt Ion: 78 Resp: 9225

Ion	Ratio	Lower	Upper
78	100		
77	23.1	3.4	43.4

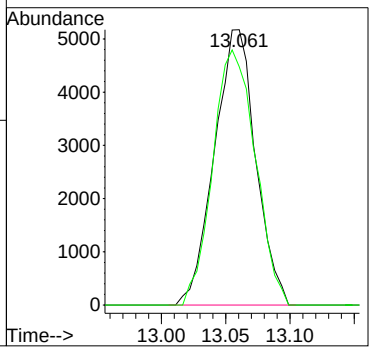


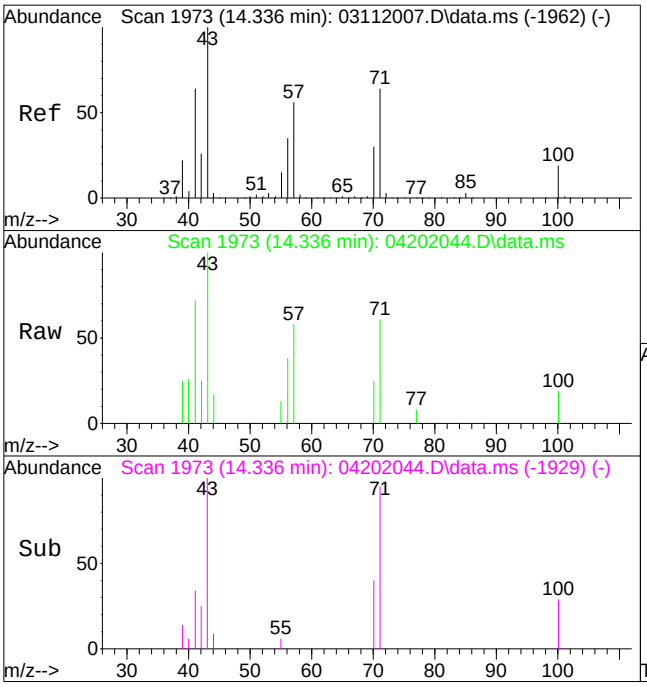


#42
Carbon Tetrachloride
Concen: 0.24 ng
RT: 13.06 min Scan# 1741
Delta R.T. -0.011 min
Lab File: 04202044.D
Acq: 21 Apr 2020 4:03

Tgt Ion:117 Resp: 11565

Ion	Ratio	Lower	Upper
117	100		
119	95.6	75.4	115.4

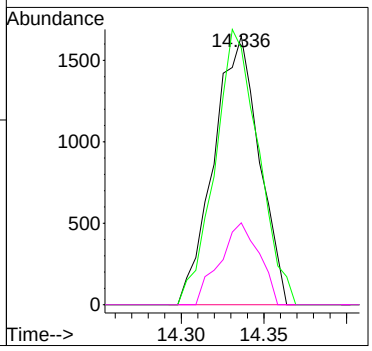


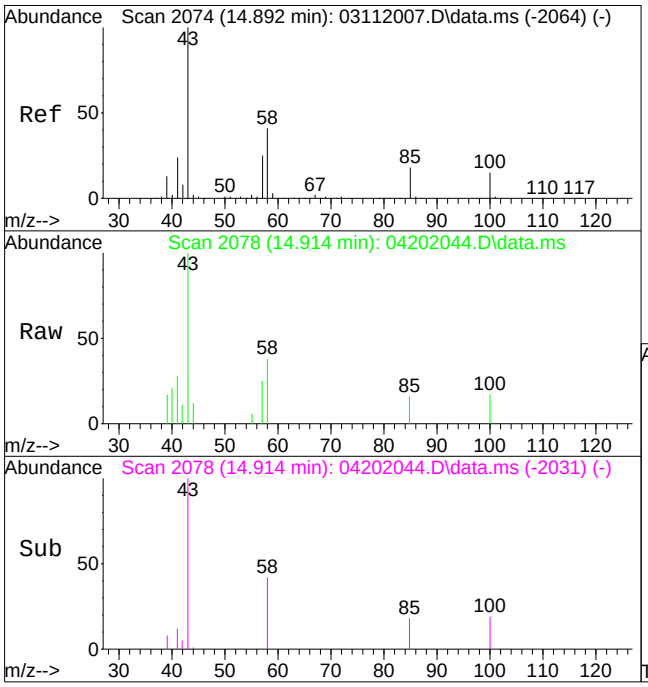


#51
n-Heptane
Concen: 0.10 ng
RT: 14.34 min Scan# 1973
Delta R.T. -0.005 min
Lab File: 04202044.D
Acq: 21 Apr 2020 4:03

Tgt Ion: 71 Resp: 3157

Ion	Ratio	Lower	Upper
71	100		
57	97.9	68.6	108.6
100	26.3	9.1	49.1

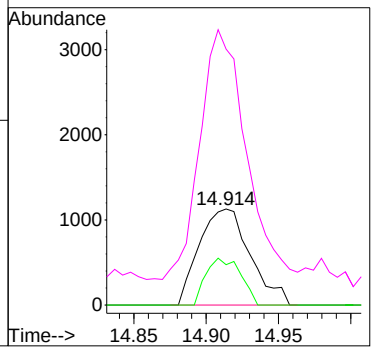


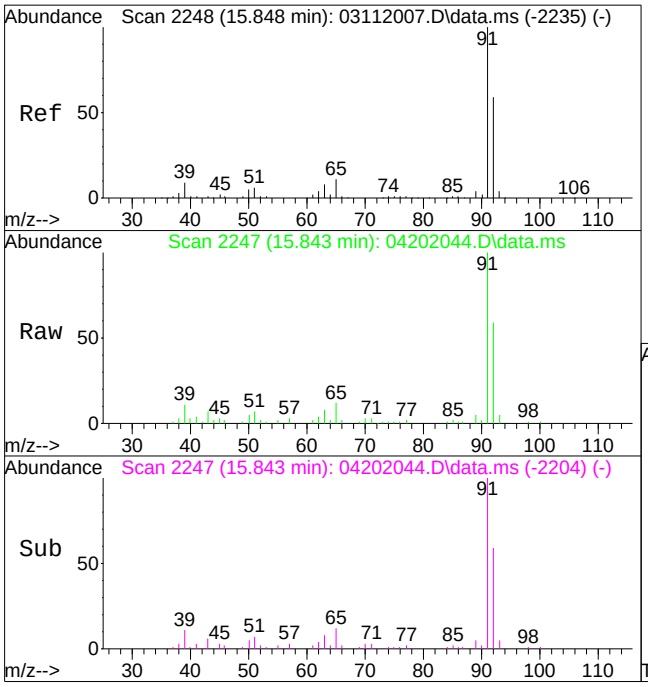


#53
4-Methyl-2-pentanone
Concen: 0.10 ng
RT: 14.91 min Scan# 2078
Delta R.T. 0.011 min
Lab File: 04202044.D
Acq: 21 Apr 2020 4:03

Tgt Ion: 58 Resp: 2769

Ion	Ratio	Lower	Upper
58	100		
85	33.3	37.0	55.4#
43	239.9	196.3	294.5

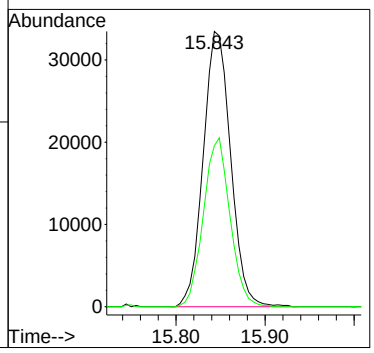


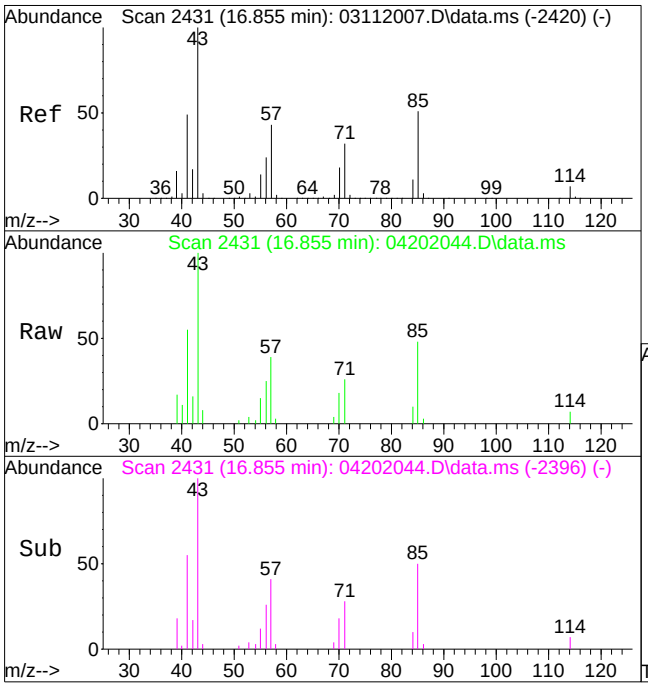


#58
Toluene
Concen: 0.52 ng
RT: 15.84 min Scan# 2247
Delta R.T. -0.011 min
Lab File: 04202044.D
Acq: 21 Apr 2020 4:03

Tgt Ion: 91 Resp: 71766

Ion	Ratio	Lower	Upper
91	100		
92	59.3	39.0	79.0

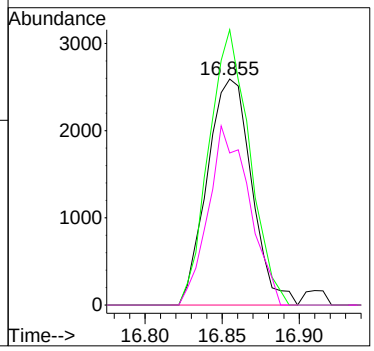


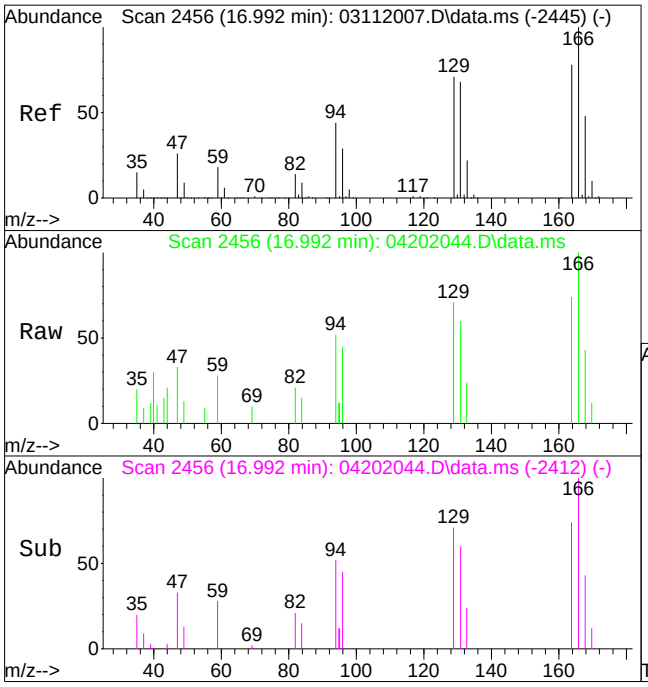


#63
n-Octane
Concen: 0.19 ng
RT: 16.85 min Scan# 2431
Delta R.T. -0.005 min
Lab File: 04202044.D
Acq: 21 Apr 2020 4:03

Tgt Ion: 57 Resp: 5180

Ion	Ratio	Lower	Upper
57	100		
85	112.2	95.1	142.7
71	73.1	58.2	87.4

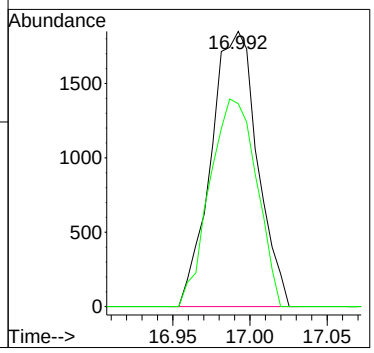


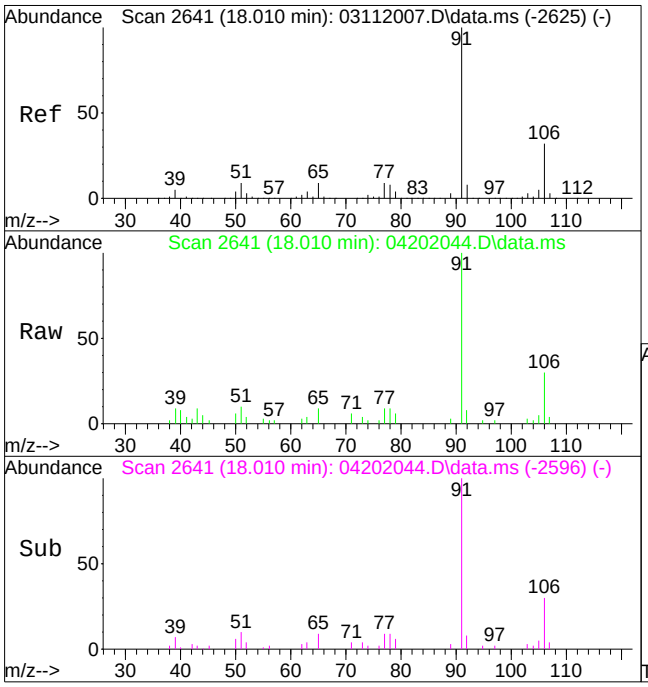


#64
Tetrachloroethene
Concen: 0.10 ng
RT: 16.99 min Scan# 2456
Delta R.T. -0.005 min
Lab File: 04202044.D
Acq: 21 Apr 2020 4:03

Tgt Ion:166 Resp: 3871

Ion	Ratio	Lower	Upper
166	100		
164	76.1	58.6	98.6

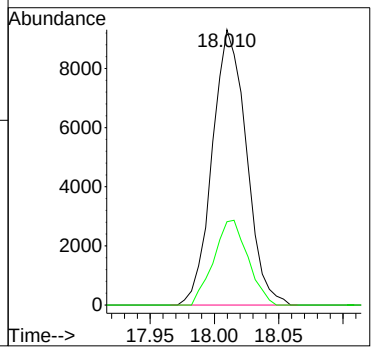


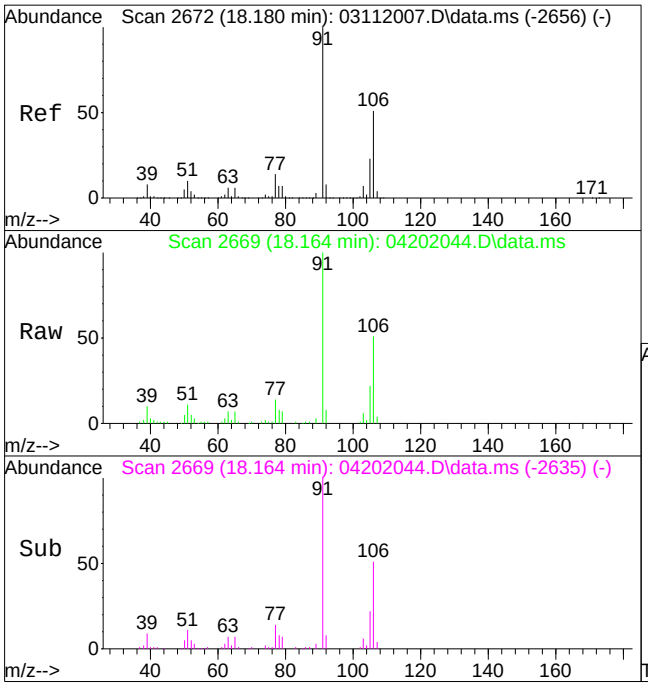


#66
Ethylbenzene
Concen: 0.11 ng
RT: 18.01 min Scan# 2641
Delta R.T. 0.000 min
Lab File: 04202044.D
Acq: 21 Apr 2020 4:03

Tgt Ion: 91 Resp: 17167

Ion	Ratio	Lower	Upper
91	100		
106	30.9	11.7	51.7

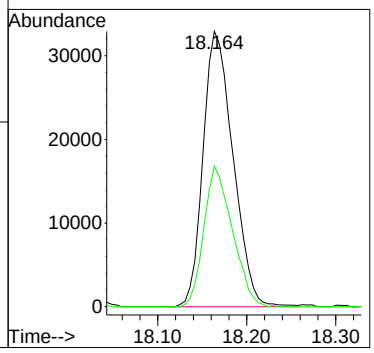


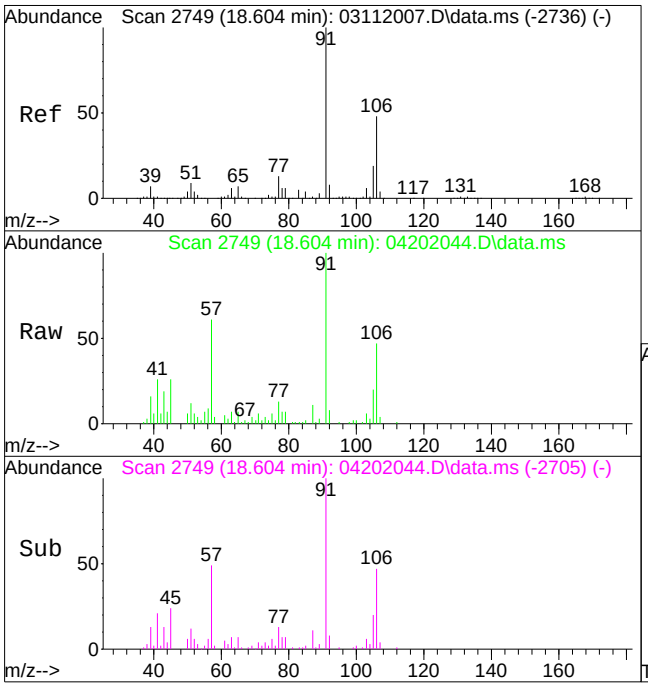


#67
m- & p-Xylenes
Concen: 0.63 ng
RT: 18.16 min Scan# 2669
Delta R.T. -0.011 min
Lab File: 04202044.D
Acq: 21 Apr 2020 4:03

Tgt Ion: 91 Resp: 76996

Ion	Ratio	Lower	Upper
91	100		
106	48.5	30.4	70.4

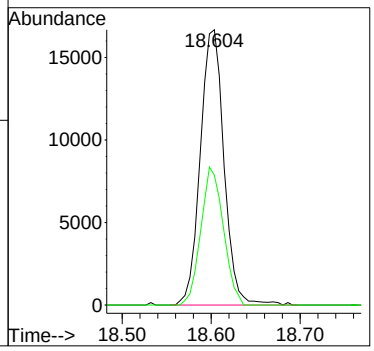


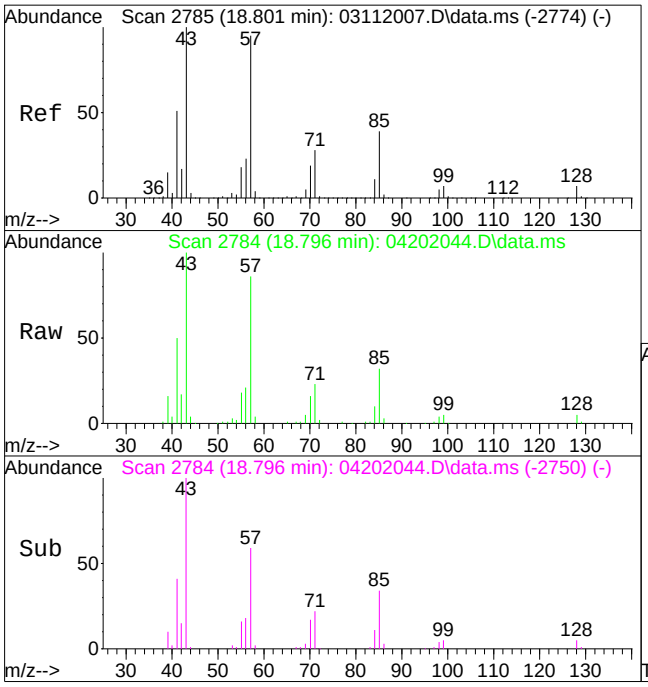


#70
o-Xylene
Concen: 0.25 ng
RT: 18.60 min Scan# 2749
Delta R.T. -0.005 min
Lab File: 04202044.D
Acq: 21 Apr 2020 4:03

Tgt Ion: 91 Resp: 30897

Ion	Ratio	Lower	Upper
91	100		
106	47.5	28.1	68.1

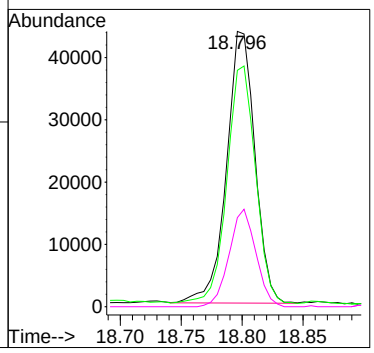


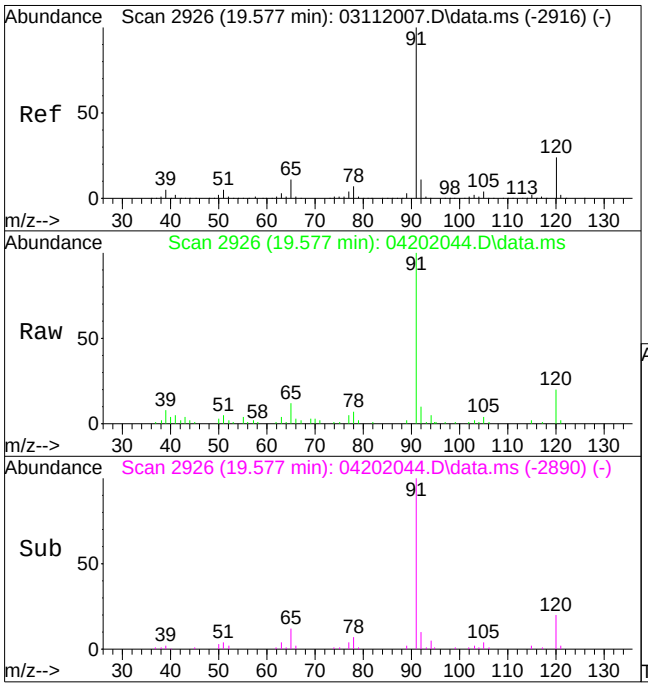


#71
n-Nonane
Concen: 1.15 ng
RT: 18.80 min Scan# 2784
Delta R.T. -0.011 min
Lab File: 04202044.D
Acq: 21 Apr 2020 4:03

Tgt Ion: 43 Resp: 70846

Ion	Ratio	Lower	Upper
43	100		
57	88.0	73.6	113.6
85	33.7	18.7	58.7

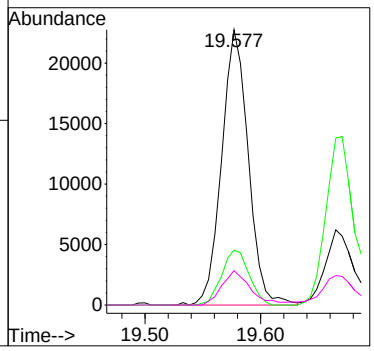


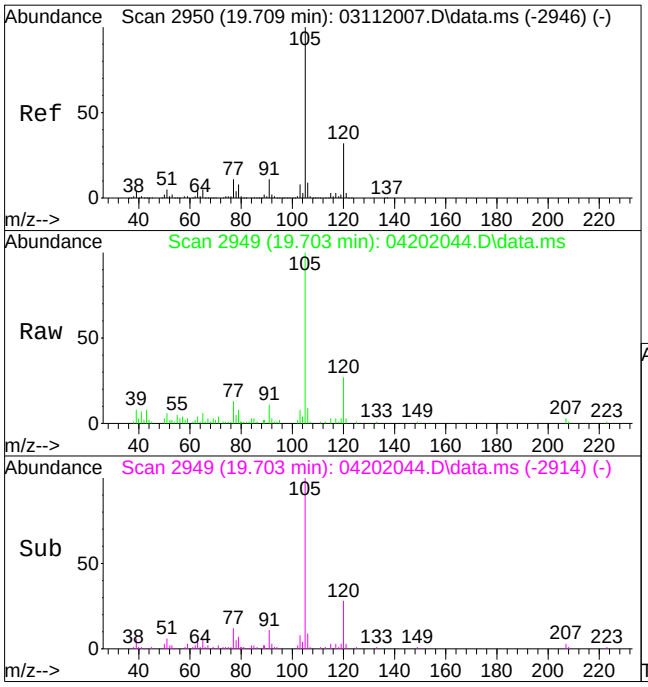


#76
n-Propylbenzene
Concen: 0.20 ng
RT: 19.58 min Scan# 2926
Delta R.T. -0.000 min
Lab File: 04202044.D
Acq: 21 Apr 2020 4:03

Tgt Ion: 91 Resp: 36450

Ion	Ratio	Lower	Upper
91	100		
120	20.6	3.9	43.9
65	13.6	0.0	30.5

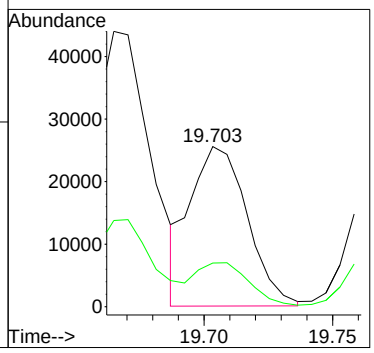


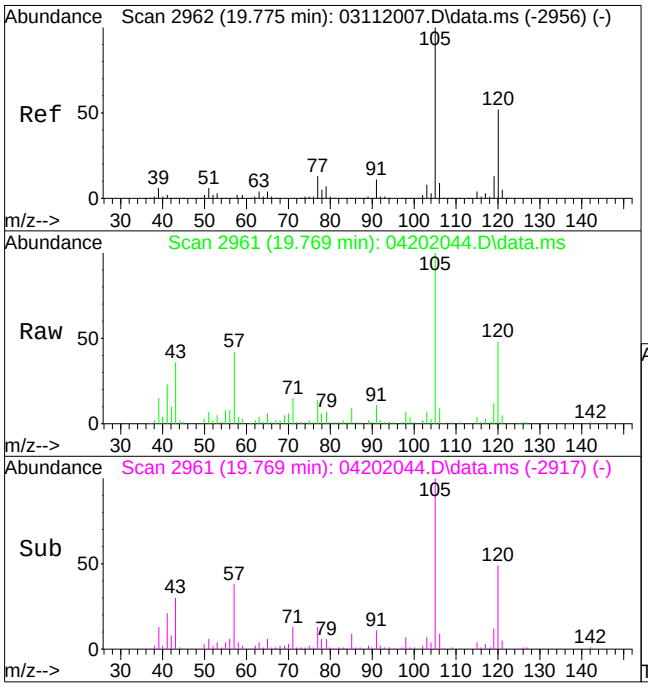


#78
4-Ethyltoluene
Concen: 0.27 ng
RT: 19.70 min Scan# 2949
Delta R.T. -0.006 min
Lab File: 04202044.D
Acq: 21 Apr 2020 4:03

Tgt Ion:105 Resp: 39315

Ion	Ratio	Lower	Upper
105	100		
120	25.5	11.1	51.1

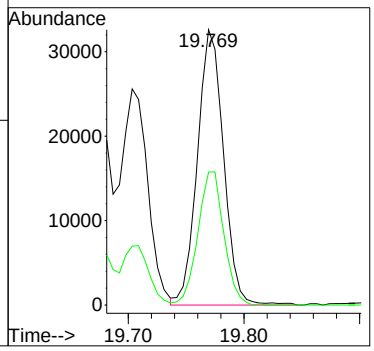


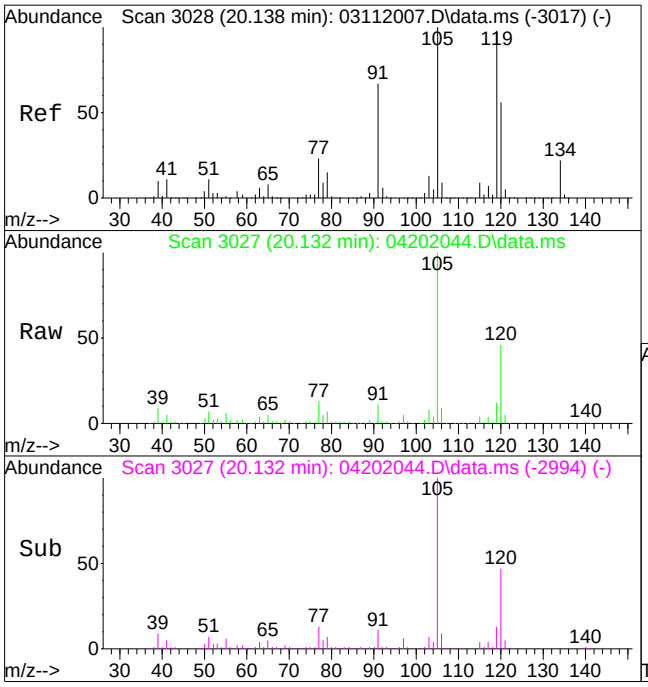


#79
1,3,5-Trimethylbenzene
Concen: 0.39 ng
RT: 19.77 min Scan# 2961
Delta R.T. -0.006 min
Lab File: 04202044.D
Acq: 21 Apr 2020 4:03

Tgt Ion:105 Resp: 51347

Ion	Ratio	Lower	Upper
105	100		
120	48.2	31.3	71.3

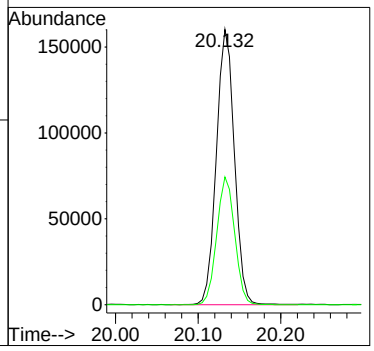


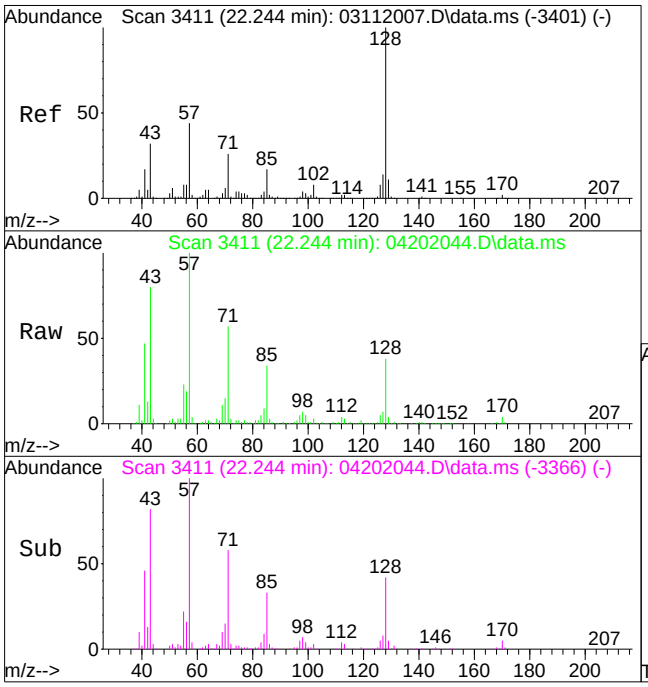


#82
1,2,4-Trimethylbenzene
Concen: 1.79 ng
RT: 20.13 min Scan# 3027
Delta R.T. -0.017 min
Lab File: 04202044.D
Acq: 21 Apr 2020 4:03

Tgt Ion:105 Resp: 242825

Ion	Ratio	Lower	Upper
105	100		
120	46.2	35.8	75.8

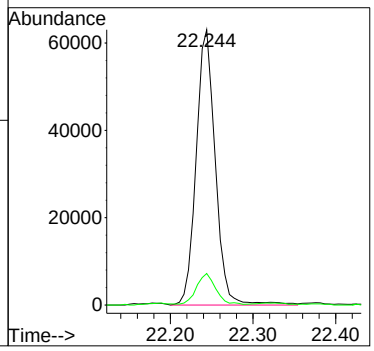




#95
Naphthalene
Concen: 0.67 ng
RT: 22.24 min Scan# 3411
Delta R.T. -0.005 min
Lab File: 04202044.D
Acq: 21 Apr 2020 4:03

Tgt Ion:128 Resp: 101331

Ion	Ratio	Lower	Upper
128	100		
129	11.9	0.0	31.1



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202045.D Vial: 12
Acq On : 21 Apr 2020 4:37 Operator: LH
Sample : P2002031-010 (120mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 17:10:03 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 4/22/20
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	310211	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	13.29	114	1382701	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	642764	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.02	65	534038	12.433	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.44%			
57) Toluene-d8 (SS2)	15.74	98	1393758	12.233	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.84%			
73) Bromofluorobenzene (SS3)	19.00	174	459174	11.413	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.28%			
Target Compounds						Qvalue
2) Propene	4.14	42	13748m	0.423	ng	
3) Dichlorodifluoromethan...	4.28	85	992	N.D.		
4) Chloromethane	4.56	50	5039	0.091	ng	92
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	4.98	62	272	N.D.		
7) 1,3-Butadiene	5.17	54	251	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.36	45	10112	0.393	ng	89
11) Acetonitrile	0.00	41	0	N.D. d		
12) Acrolein	6.82	56	4261	0.225	ng	92
13) Acetone	0.00	58	0	N.D. d		
14) Trichlorofluoromethane	7.27	101	493	N.D.		
15) 2-Propanol (Isopropanol)	7.56	45	7161	0.095	ng #	1
16) Acrylonitrile	7.81	53	717	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d		
19) Methylene Chloride	8.45	84	117	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D. d		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	8.73	76	130202	1.096	ng	98
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	10.03	63	332	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D. d		
26) Vinyl Acetate	0.00	86	0	N.D. d		
27) 2-Butanone (MEK)	10.50	72	7242	0.343	ng #	89
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D. d		
31) n-Hexane	11.29	57	11051	0.191	ng #	96
32) Chloroform	11.33	83	1707	N.D.		
34) Tetrahydrofuran (THF)	11.76	72	22355	1.029	ng #	90
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D. d		
41) Benzene	12.90	78	7355	0.051	ng	99
42) Carbon Tetrachloride	13.06	117	553	N.D.		
43) Cyclohexane	13.20	84	62447	1.137	ng	93
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	13.96	83	478	N.D.		
47) Trichloroethene	14.00	130	18679	0.461	ng	95
48) 1,4-Dioxane	14.01	88	533	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d		
50) Methyl Methacrylate	0.00	100	0	N.D. d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202045.D Vial: 12
Acq On : 21 Apr 2020 4:37 Operator: LH
Sample : P2002031-010 (120mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 17:10:03 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

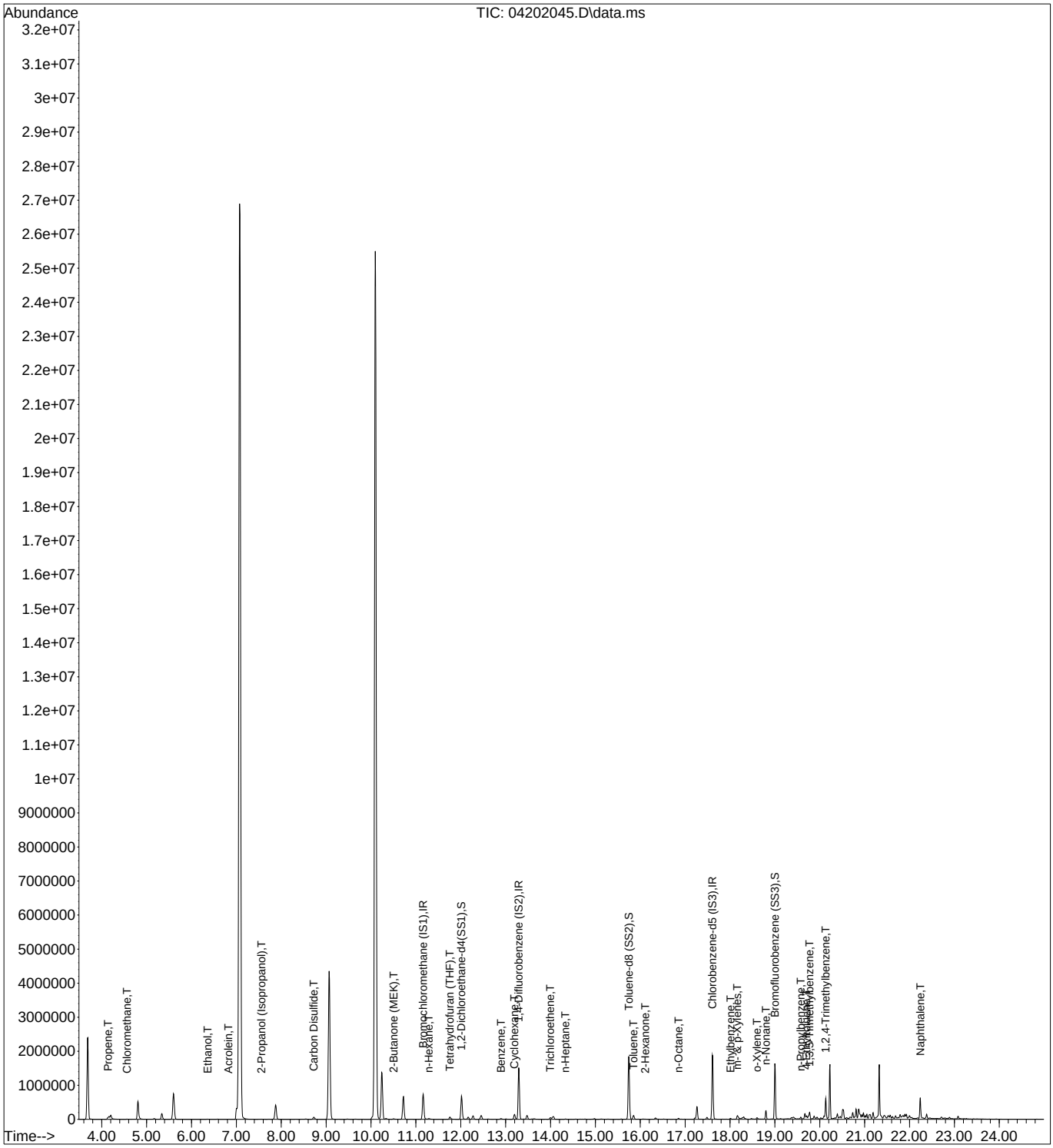
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.33	71	2511	0.075	ng	#	83
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
53) 4-Methyl-2-pentanone	14.91	58	814	N.D.			
54) trans-1,3-Dichloropropene	15.16	75	395	N.D.			
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.			
58) Toluene	15.85	91	65792	0.467	ng		99
59) 2-Hexanone	16.11	43	5125	0.073	ng		73
60) Dibromochloromethane	0.00	129	0	N.D.			
61) 1,2-Dibromoethane	0.00	107	0	N.D.			
62) n-Butyl Acetate	16.73	43	301	N.D.			
63) n-Octane	16.85	57	6196	0.222	ng		86
64) Tetrachloroethene	16.99	166	1116	N.D.			
65) Chlorobenzene	17.65	112	333	N.D.			
66) Ethylbenzene	18.01	91	20608	0.133	ng		97
67) m- & p-Xylenes	18.16	91	85808	0.683	ng		98
68) Bromoform	0.00	173	0	N.D.			
69) Styrene	18.50	104	642	N.D.			
70) o-Xylene	18.60	91	26519	0.211	ng		97
71) n-Nonane	18.80	43	86628	1.379	ng		96
72) 1,1,2,2-Tetrachloroethane	18.65	83	1033	N.D.			
74) Cumene	19.13	105	7172	N.D.			
75) alpha-Pinene	19.44	93	104	N.D.			
76) n-Propylbenzene	19.58	91	42060	0.227	ng		94
77) 3-Ethyltoluene	0.00	105	0	N.D.	d		
78) 4-Ethyltoluene	19.70	105	49436	0.328	ng		98
79) 1,3,5-Trimethylbenzene	19.77	105	62895	0.468	ng		98
80) alpha-Methylstyrene	0.00	118	0	N.D.	d		
81) 2-Ethyltoluene	0.00	105	0	N.D.	d		
82) 1,2,4-Trimethylbenzene	20.13	105	296303	2.129	ng		86
83) n-Decane	0.00	57	0	N.D.	d		
84) Benzyl Chloride	20.27	91	270	N.D.			
85) 1,3-Dichlorobenzene	20.26	146	135	N.D.			
86) 1,4-Dichlorobenzene	20.33	146	363	N.D.			
87) sec-Butylbenzene	0.00	105	0	N.D.	d		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.	d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d		
90) 1,2-Dichlorobenzene	20.63	146	117	N.D.			
91) d-Limonene	20.64	68	586	N.D.			
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.			
93) n-Undecane	0.00	57	0	N.D.	d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.			
95) Naphthalene	22.24	128	34975	0.225	ng		96
96) n-Dodecane	0.00	57	0	N.D.	d		
97) Hexachlorobutadiene	0.00	225	0	N.D.			
98) Cyclohexanone	0.00	55	0	N.D.	d		
99) tert-Butylbenzene	0.00	119	0	N.D.	d		
100) n-Butylbenzene	0.00	91	0	N.D.	d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202045.D Vial: 12
Acq On : 21 Apr 2020 4:37 Operator: LH
Sample : P2002031-010 (120mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 17:10:03 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202045.D Vial: 12
Acq On : 21 Apr 2020 4:37 Operator: LH
Sample : P2002031-010 (120mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 17:10:03 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020 LH 4/22/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

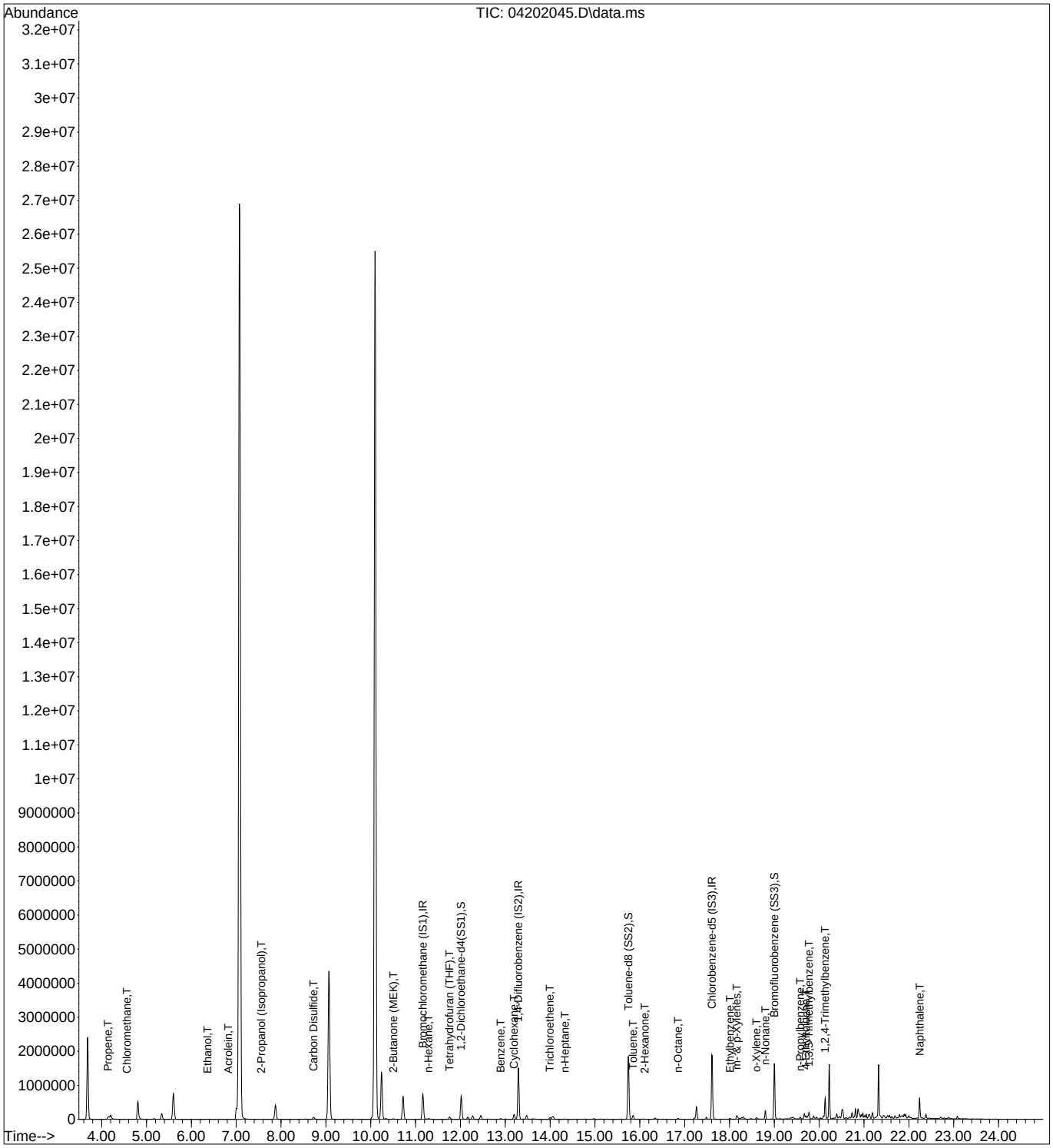
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	310211	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.29	114	1382701	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	642764	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	534038	12.433	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.44%				
57) Toluene-d8 (SS2)	15.74	98	1393758	12.233	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.84%				
73) Bromofluorobenzene (SS3)	19.00	174	459174	11.413	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.28%				
Target Compounds							Qvalue
2) Propene	4.14	42	13748m	0.423	ng		
4) Chloromethane	4.56	50	5039	0.091	ng		92
10) Ethanol	6.36	45	10112	0.393	ng		89
12) Acrolein	6.82	56	4261	0.225	ng		92
15) 2-Propanol (Isopropanol)	7.56	45	7161	0.095	ng	#	1
22) Carbon Disulfide	8.73	76	130202	1.096	ng		98
27) 2-Butanone (MEK)	10.50	72	7242	0.343	ng	#	89
31) n-Hexane	11.29	57	11051	0.191	ng	#	96
34) Tetrahydrofuran (THF)	11.76	72	22355	1.029	ng	#	90
41) Benzene	12.90	78	7355	0.051	ng		99
43) Cyclohexane	13.20	84	62447	1.137	ng		93
47) Trichloroethene	14.00	130	18679	0.461	ng		95
51) n-Heptane	14.33	71	2511	0.075	ng	#	83
58) Toluene	15.85	91	65792	0.467	ng		99
59) 2-Hexanone	16.11	43	5125	0.073	ng		73
63) n-Octane	16.85	57	6196	0.222	ng		86
66) Ethylbenzene	18.01	91	20608	0.133	ng		97
67) m- & p-Xylenes	18.16	91	85808	0.683	ng		98
70) o-Xylene	18.60	91	26519	0.211	ng		97
71) n-Nonane	18.80	43	86628	1.379	ng		96
76) n-Propylbenzene	19.58	91	42060	0.227	ng		94
78) 4-Ethyltoluene	19.70	105	49436	0.328	ng		98
79) 1,3,5-Trimethylbenzene	19.77	105	62895	0.468	ng		98
82) 1,2,4-Trimethylbenzene	20.13	105	296303	2.129	ng		86
95) Naphthalene	22.24	128	34975	0.225	ng		96

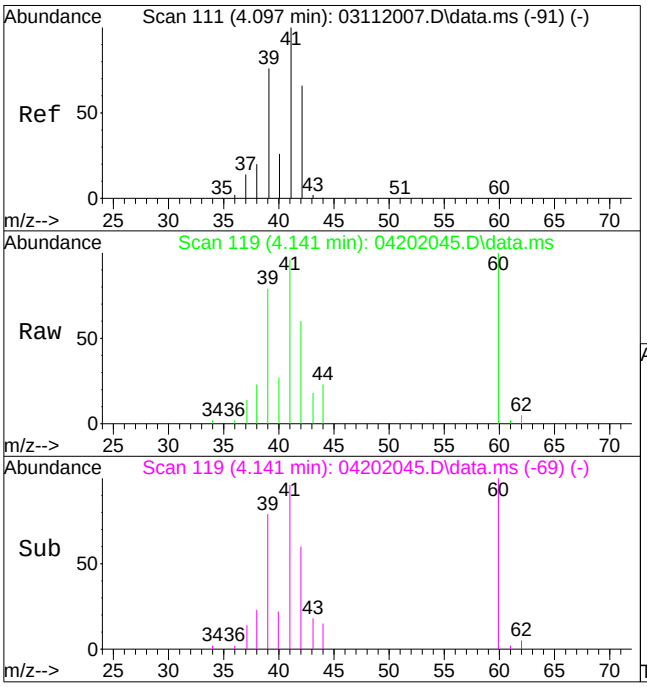
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202045.D Vial: 12
Acq On : 21 Apr 2020 4:37 Operator: LH
Sample : P2002031-010 (120mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 17:10:03 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

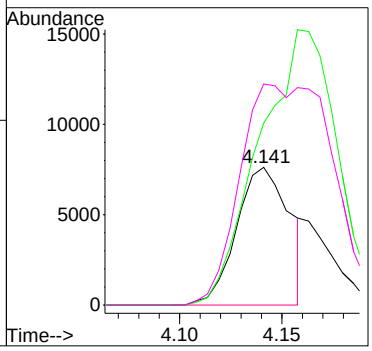


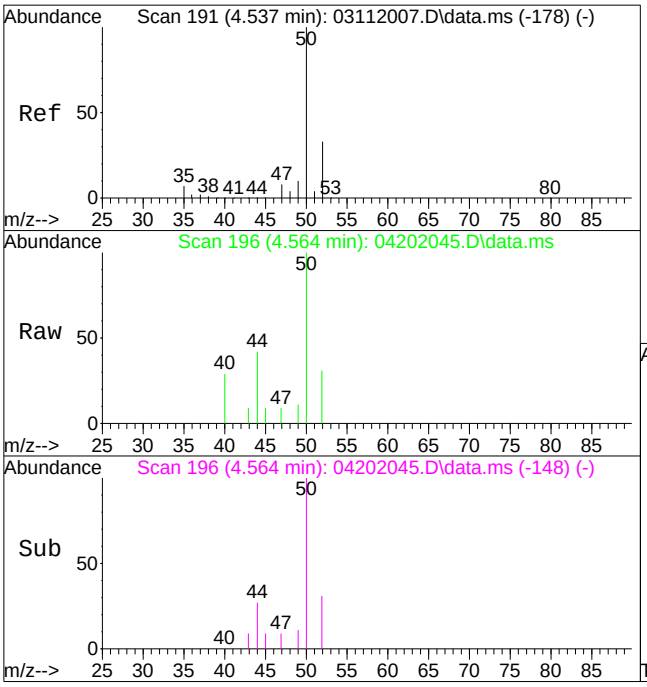


#2
Propene
Concen: 0.42 ng m
RT: 4.14 min Scan# 119
Delta R.T. 0.027 min
Lab File: 04202045.D
Acq: 21 Apr 2020 4:37

Tgt Ion: 42 Resp: 13748

Ion	Ratio	Lower	Upper
42	100		
39	291.8	95.3	135.3#
41	280.7	132.0	172.0#

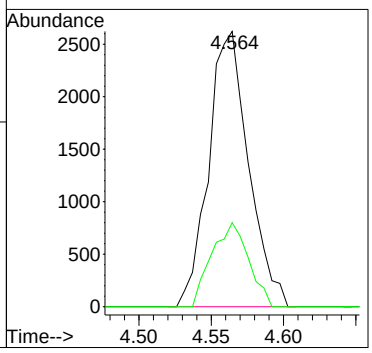


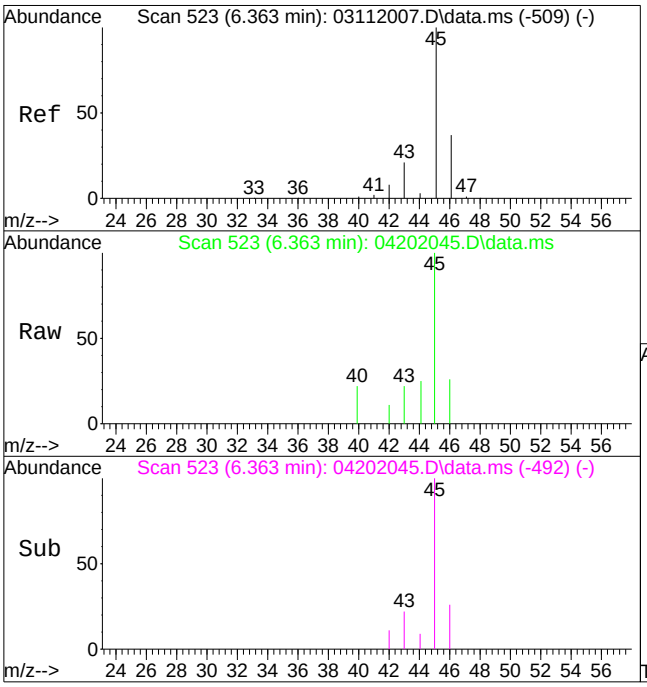


#4
Chloromethane
Concen: 0.09 ng
RT: 4.56 min Scan# 196
Delta R.T. 0.011 min
Lab File: 04202045.D
Acq: 21 Apr 2020 4:37

Tgt Ion: 50 Resp: 5039

Ion	Ratio	Lower	Upper
50	100		
52	28.2	12.8	52.8

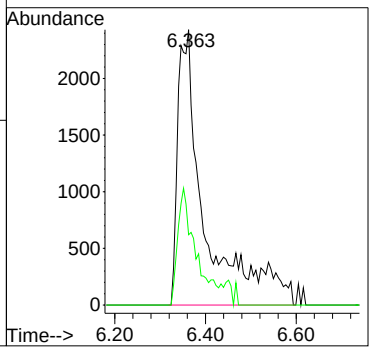


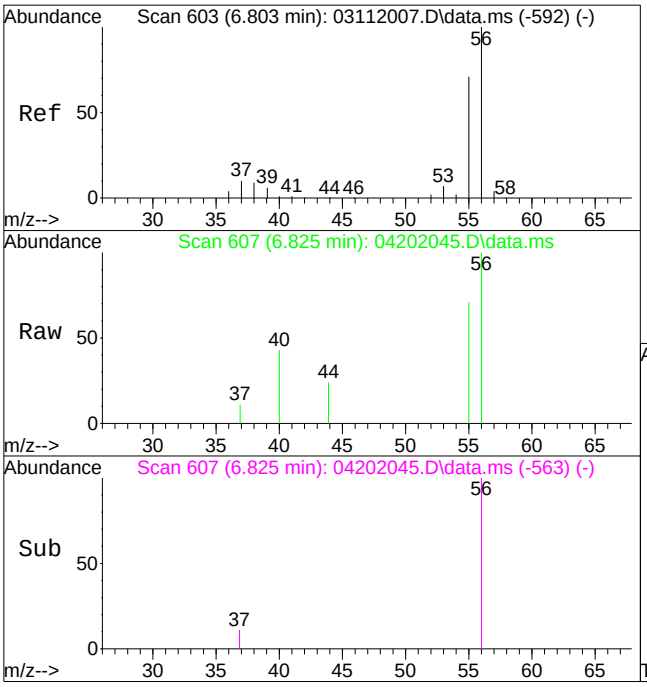


#10
Ethanol
Concen: 0.39 ng
RT: 6.36 min Scan# 523
Delta R.T. -0.077 min
Lab File: 04202045.D
Acq: 21 Apr 2020 4:37

Tgt Ion: 45 Resp: 10112

Ion	Ratio	Lower	Upper
45	100		
46	31.0	17.3	57.3

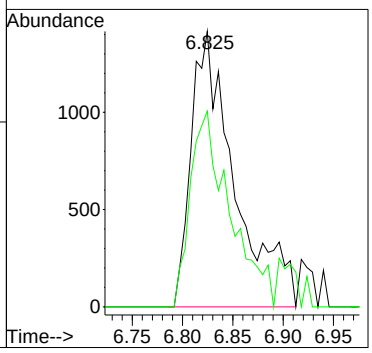


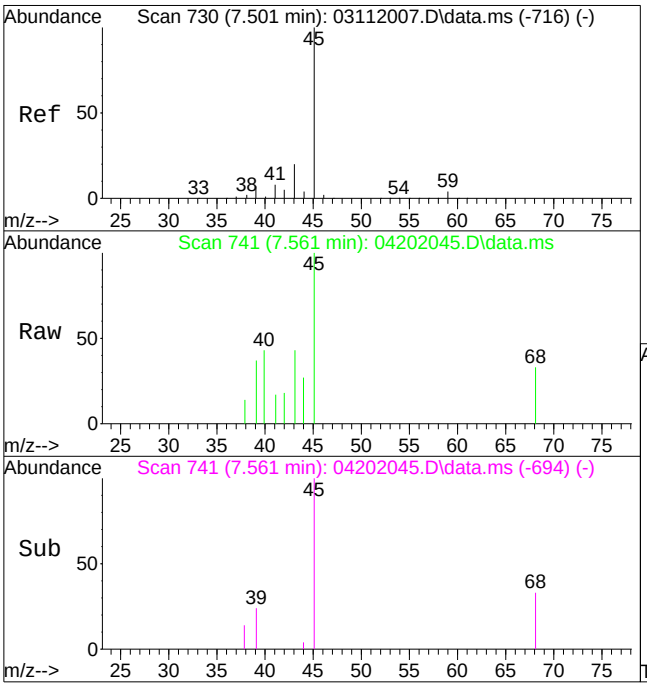


#12
Acrolein
Concen: 0.23 ng
RT: 6.82 min Scan# 607
Delta R.T. -0.005 min
Lab File: 04202045.D
Acq: 21 Apr 2020 4:37

Tgt Ion: 56 Resp: 4261

Ion	Ratio	Lower	Upper
56	100		
55	64.2	50.4	90.4

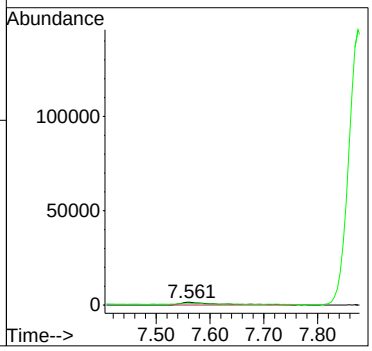


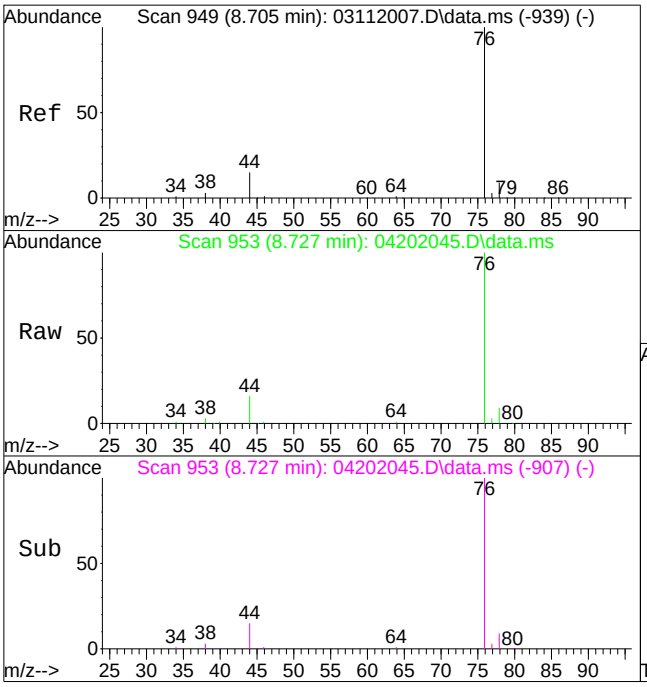


#15
2-Propanol (Isopropanol)
Concen: 0.10 ng
RT: 7.56 min Scan# 741
Delta R.T. 0.011 min
Lab File: 04202045.D
Acq: 21 Apr 2020 4:37

Tgt Ion: 45 Resp: 7161

Ion	Ratio	Lower	Upper
45	100		
43	71.1	0.3	40.3#

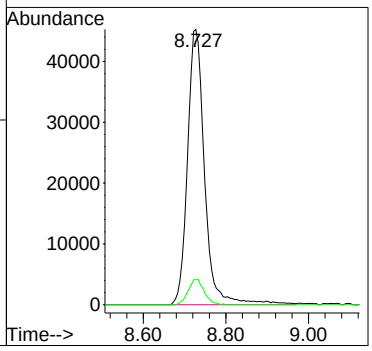


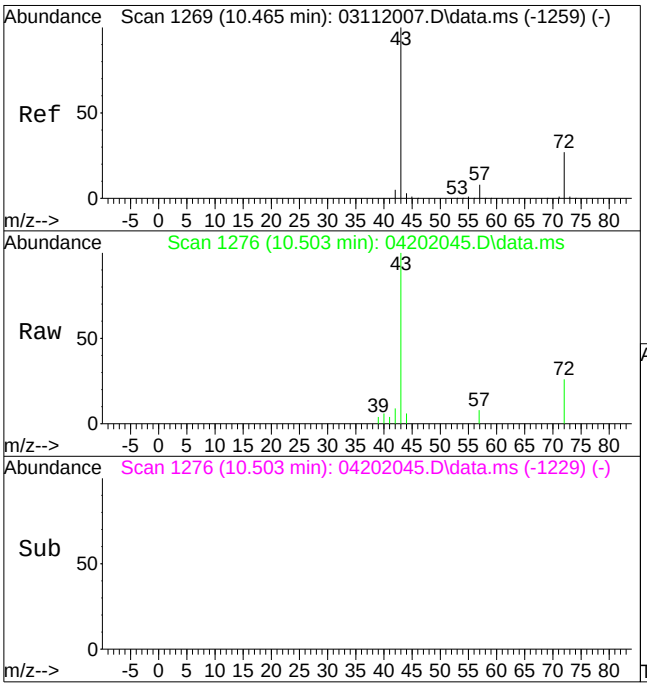


#22
Carbon Disulfide
Concen: 1.10 ng
RT: 8.73 min Scan# 953
Delta R.T. 0.006 min
Lab File: 04202045.D
Acq: 21 Apr 2020 4:37

Tgt Ion: 76 Resp: 130202

Ion	Ratio	Lower	Upper
76	100		
78	8.6	0.0	29.2

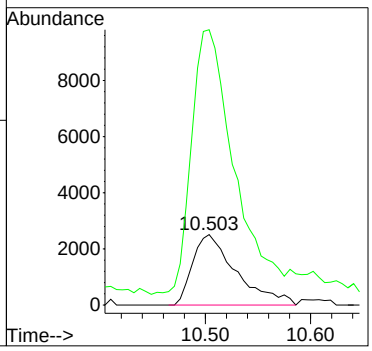


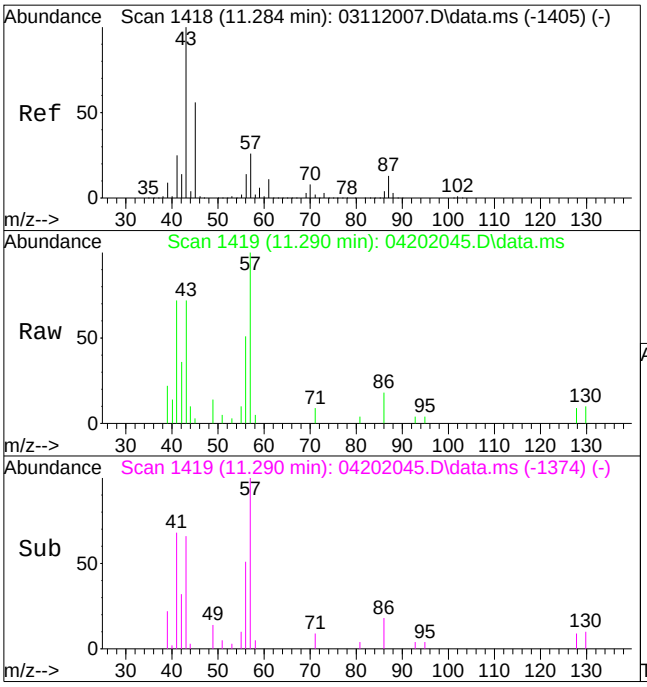


#27
2-Butanone (MEK)
Concen: 0.34 ng
RT: 10.50 min Scan# 1276
Delta R.T. 0.011 min
Lab File: 04202045.D
Acq: 21 Apr 2020 4:37

Tgt Ion: 72 Resp: 7242

Ion	Ratio	Lower	Upper
72	100		
43	397.7	353.4	393.4#

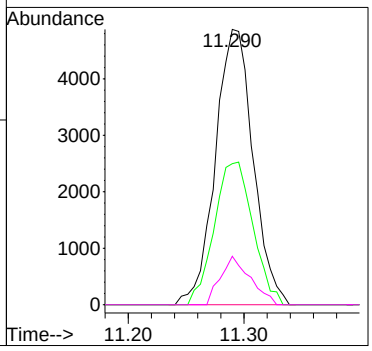


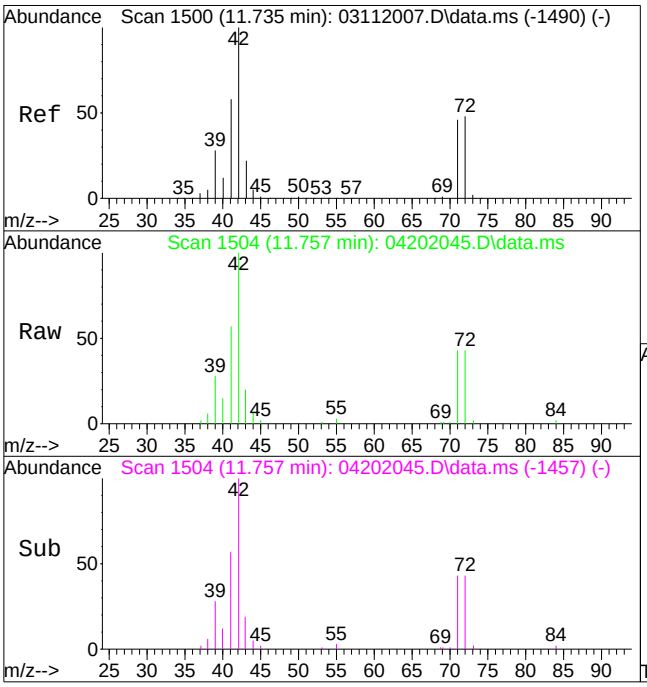


#31
n-Hexane
Concen: 0.19 ng
RT: 11.29 min Scan# 1419
Delta R.T. 0.000 min
Lab File: 04202045.D
Acq: 21 Apr 2020 4:37

Tgt Ion: 57 Resp: 11051

Ion	Ratio	Lower	Upper
57	100		
56	53.1	41.0	61.4
86	13.9	13.9	20.9#

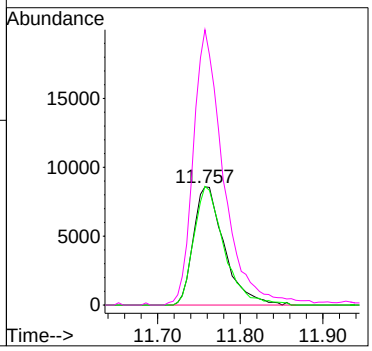


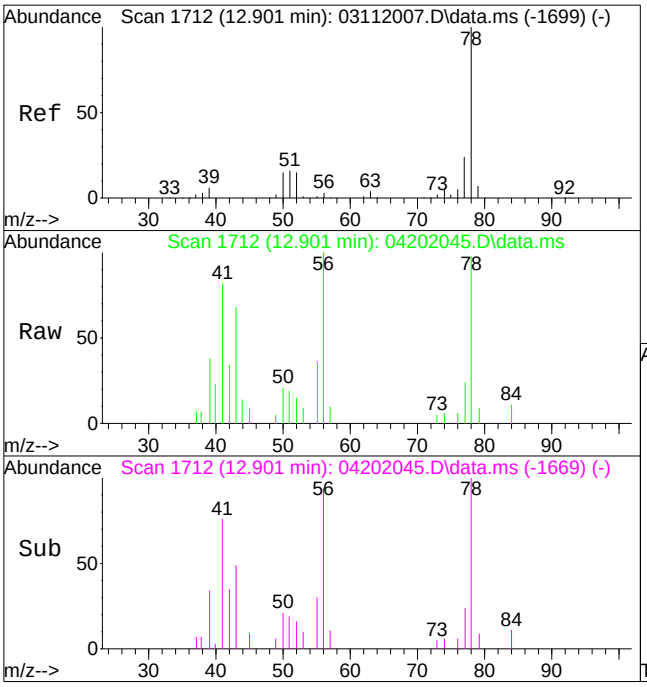


#34
Tetrahydrofuran (THF)
Concen: 1.03 ng
RT: 11.76 min Scan# 1504
Delta R.T. 0.011 min
Lab File: 04202045.D
Acq: 21 Apr 2020 4:37

Tgt Ion: 72 Resp: 22355

Ion	Ratio	Lower	Upper
72	100		
71	98.0	75.9	115.9
42	230.6	189.3	229.3#

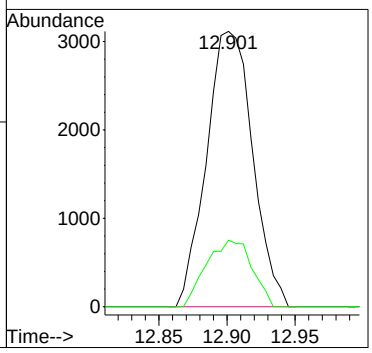


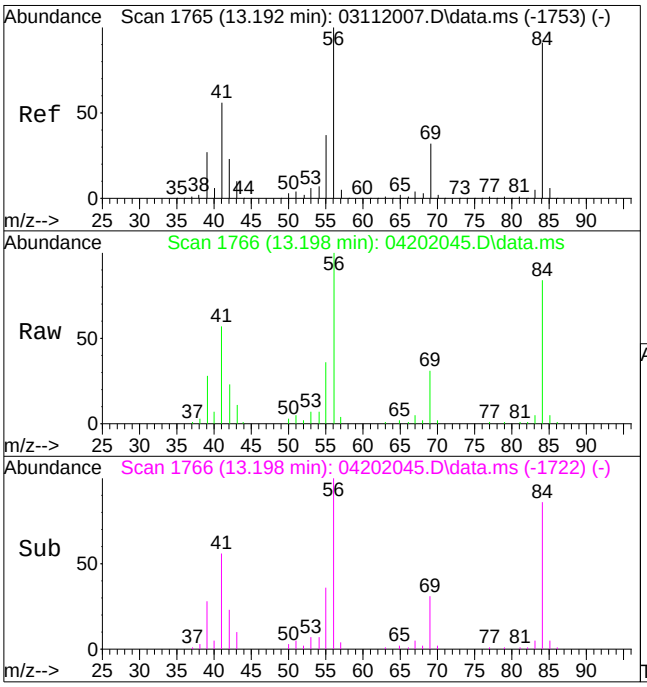


#41
Benzene
Concen: 0.05 ng
RT: 12.90 min Scan# 1712
Delta R.T. -0.011 min
Lab File: 04202045.D
Acq: 21 Apr 2020 4:37

Tgt Ion: 78 Resp: 7355

Ion	Ratio	Lower	Upper
78	100		
77	23.8	3.4	43.4

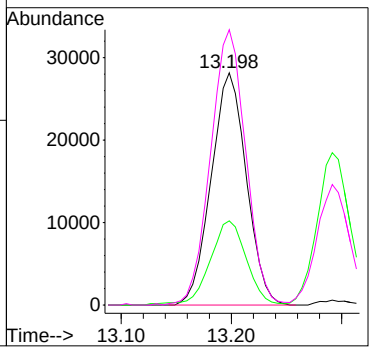


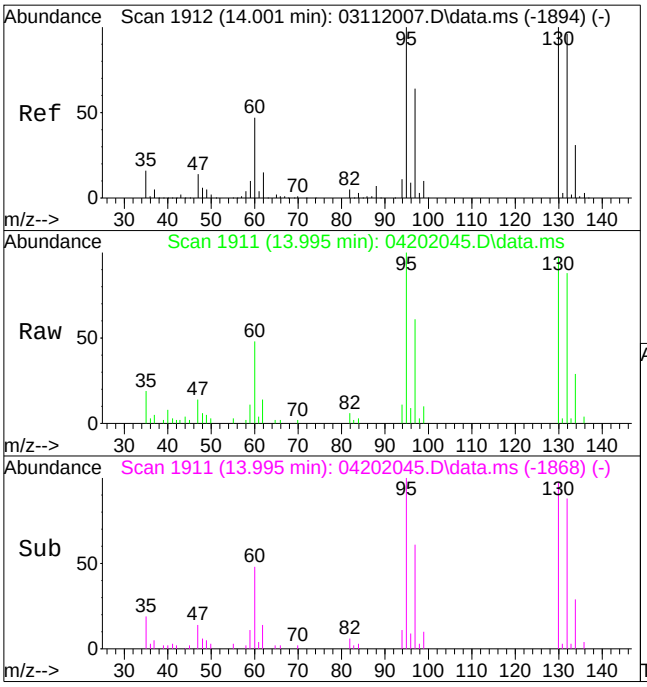


#43
Cyclohexane
Concen: 1.14 ng
RT: 13.20 min Scan# 1766
Delta R.T. -0.005 min
Lab File: 04202045.D
Acq: 21 Apr 2020 4:37

Tgt Ion: 84 Resp: 62447

Ion	Ratio	Lower	Upper
84	100		
69	37.4	15.3	55.3
56	118.8	90.5	130.5

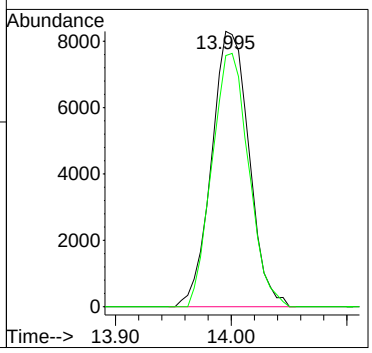


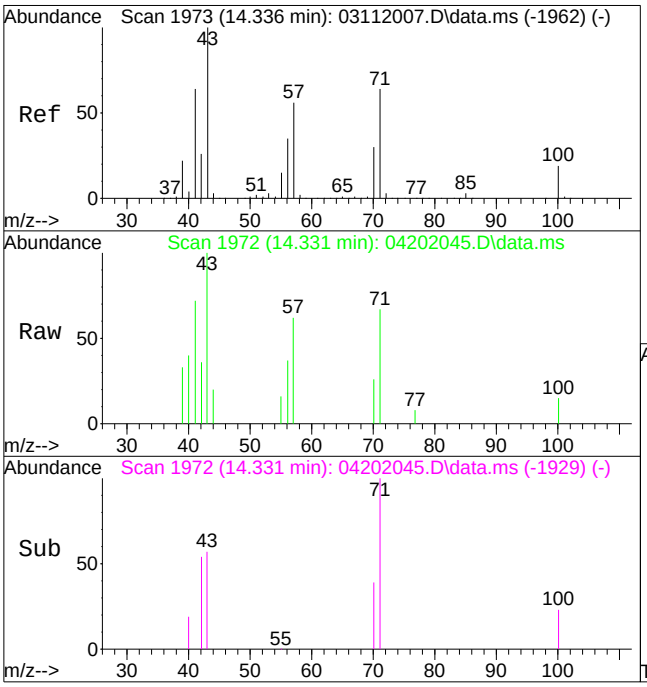


#47
Trichloroethene
Concen: 0.46 ng
RT: 14.00 min Scan# 1911
Delta R.T. -0.011 min
Lab File: 04202045.D
Acq: 21 Apr 2020 4:37

Tgt Ion:130 Resp: 18679

Ion	Ratio	Lower	Upper
130	100		
132	90.2	74.7	114.7

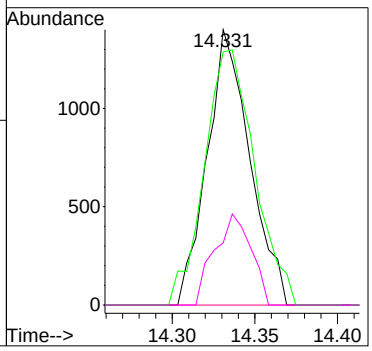


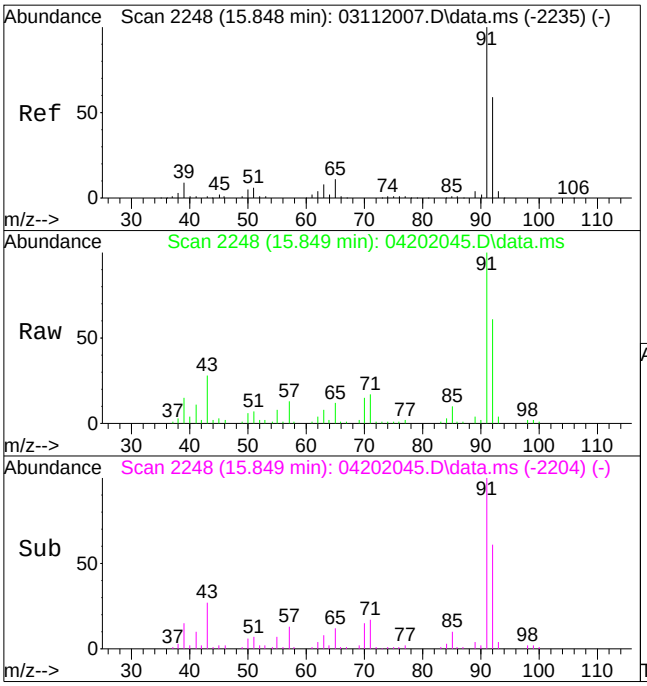


#51
n-Heptane
Concen: 0.08 ng
RT: 14.33 min Scan# 1972
Delta R.T. -0.011 min
Lab File: 04202045.D
Acq: 21 Apr 2020 4:37

Tgt Ion: 71 Resp: 2511

Ion	Ratio	Lower	Upper
71	100		
57	109.1	68.6	108.6#
100	28.3	9.1	49.1

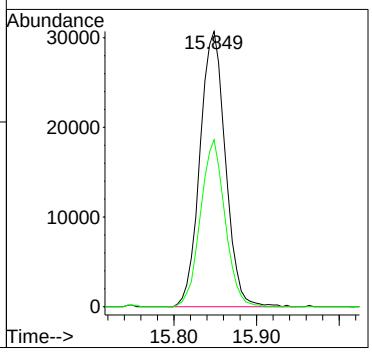


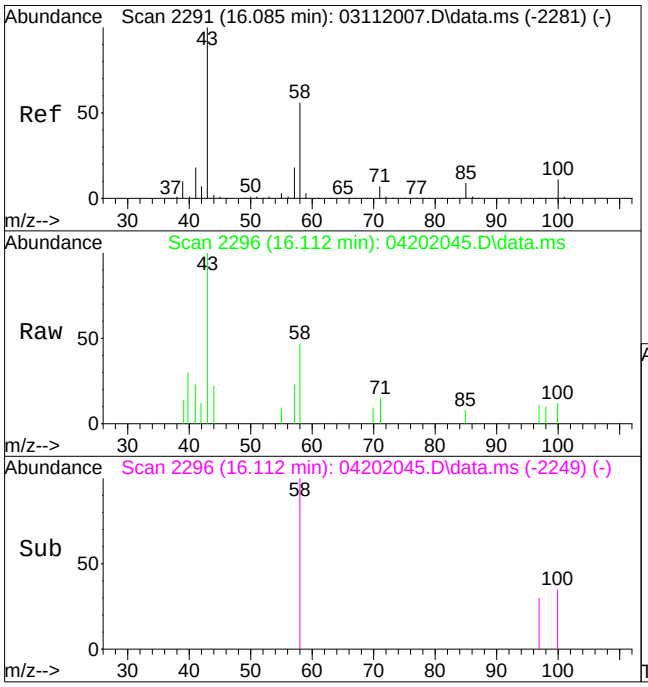


#58
Toluene
Concen: 0.47 ng
RT: 15.85 min Scan# 2248
Delta R.T. -0.005 min
Lab File: 04202045.D
Acq: 21 Apr 2020 4:37

Tgt Ion: 91 Resp: 65792

Ion	Ratio	Lower	Upper
91	100		
92	58.3	39.0	79.0

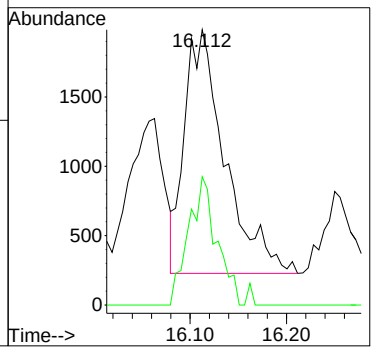


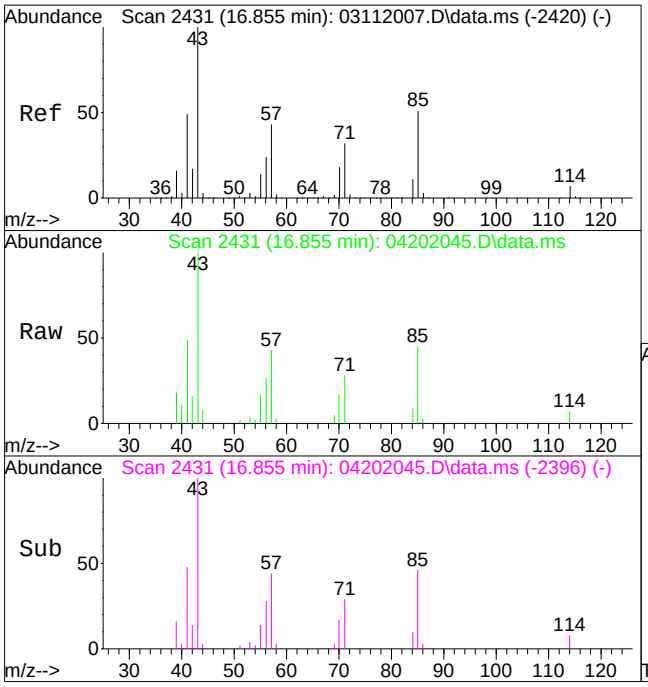


#59
2-Hexanone
Concen: 0.07 ng
RT: 16.11 min Scan# 2296
Delta R.T. 0.011 min
Lab File: 04202045.D
Acq: 21 Apr 2020 4:37

Tgt Ion: 43 Resp: 5125

Ion	Ratio	Lower	Upper
43	100		
58	36.6	36.5	76.5

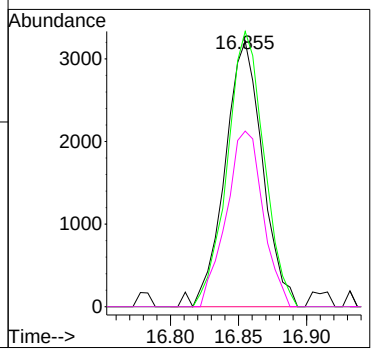


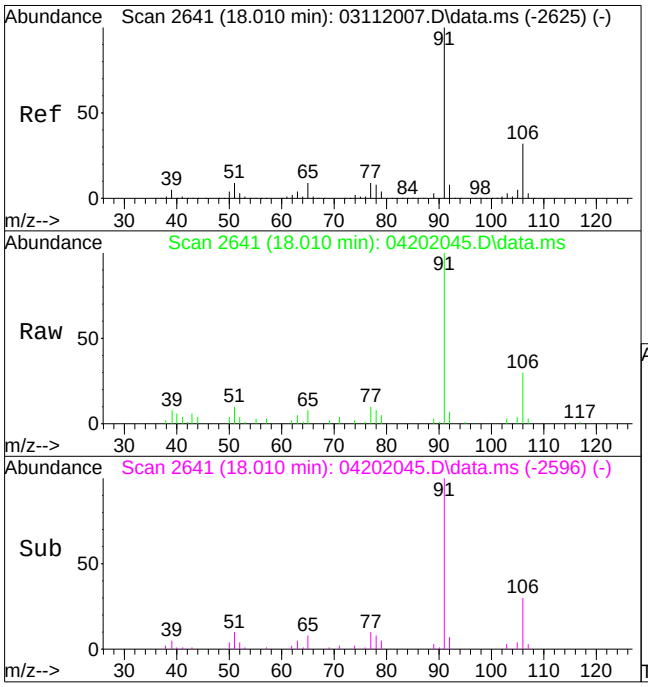


#63
n-Octane
Concen: 0.22 ng
RT: 16.85 min Scan# 2431
Delta R.T. -0.005 min
Lab File: 04202045.D
Acq: 21 Apr 2020 4:37

Tgt Ion: 57 Resp: 6196

Ion	Ratio	Lower	Upper
57	100		
85	101.0	95.1	142.7
71	64.7	58.2	87.4

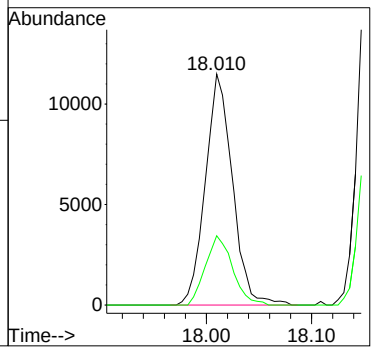


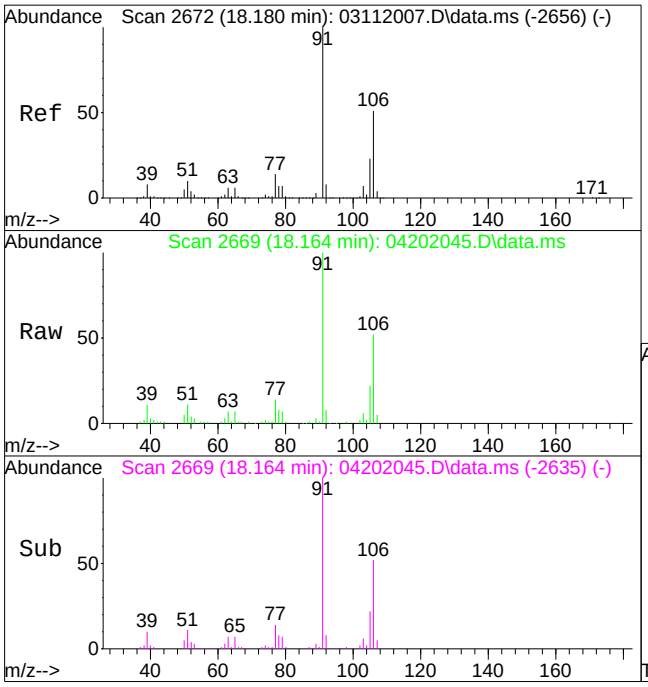


#66
Ethylbenzene
Concen: 0.13 ng
RT: 18.01 min Scan# 2641
Delta R.T. 0.000 min
Lab File: 04202045.D
Acq: 21 Apr 2020 4:37

Tgt Ion: 91 Resp: 20608

Ion	Ratio	Lower	Upper
91	100		
106	30.0	11.7	51.7

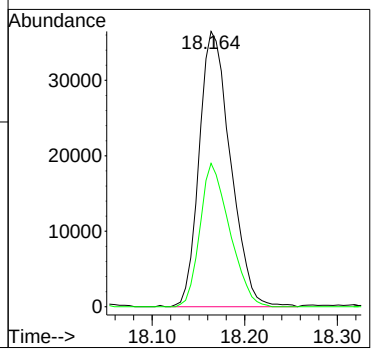


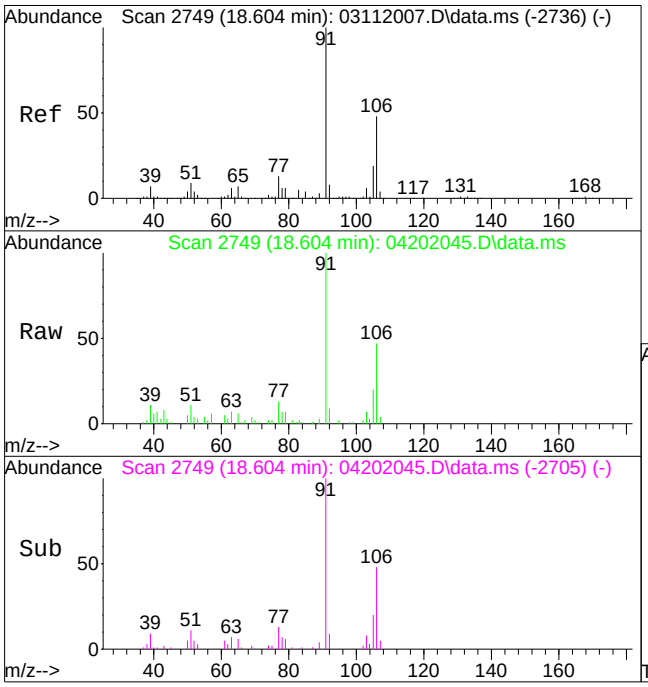


#67
m- & p-Xylenes
Concen: 0.68 ng
RT: 18.16 min Scan# 2669
Delta R.T. -0.011 min
Lab File: 04202045.D
Acq: 21 Apr 2020 4:37

Tgt Ion: 91 Resp: 85808

Ion	Ratio	Lower	Upper
91	100		
106	49.3	30.4	70.4

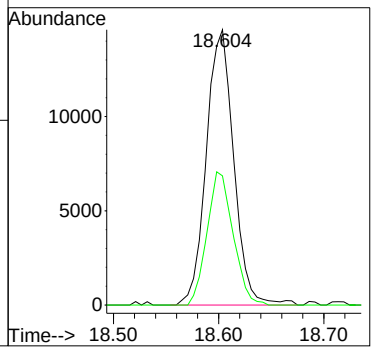


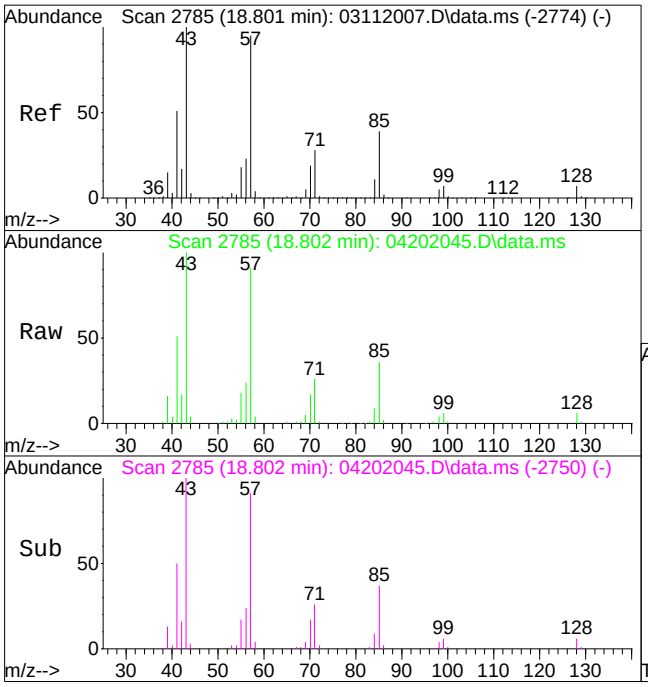


#70
o-Xylene
Concen: 0.21 ng
RT: 18.60 min Scan# 2749
Delta R.T. -0.005 min
Lab File: 04202045.D
Acq: 21 Apr 2020 4:37

Tgt Ion: 91 Resp: 26519

Ion	Ratio	Lower	Upper
91	100		
106	45.8	28.1	68.1

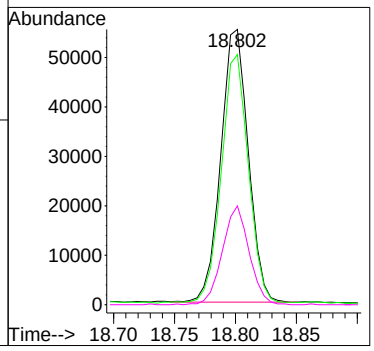


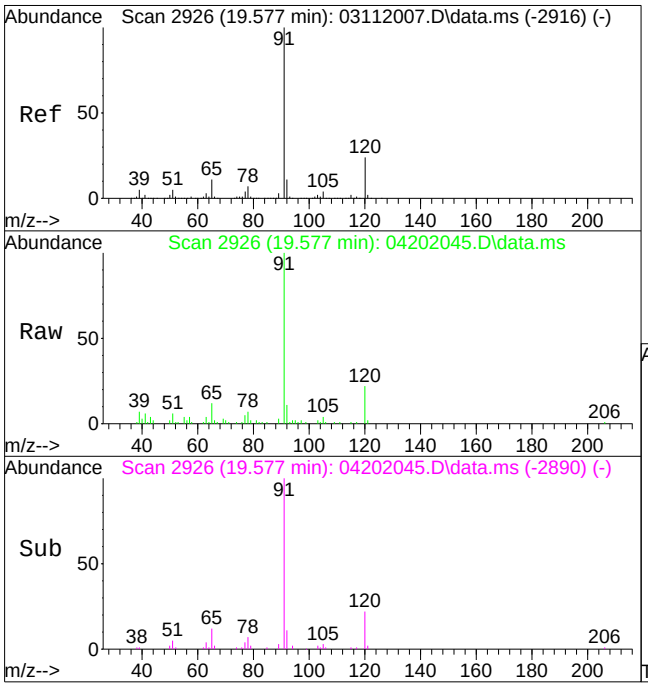


#71
n-Nonane
Concen: 1.38 ng
RT: 18.80 min Scan# 2785
Delta R.T. -0.005 min
Lab File: 04202045.D
Acq: 21 Apr 2020 4:37

Tgt Ion: 43 Resp: 86628

Ion	Ratio	Lower	Upper
43	100		
57	90.1	73.6	113.6
85	35.1	18.7	58.7

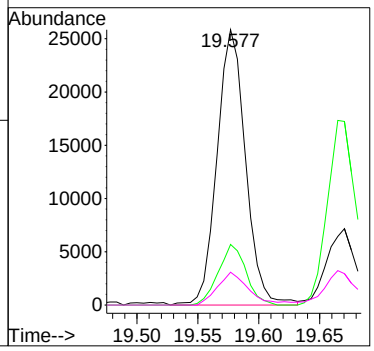


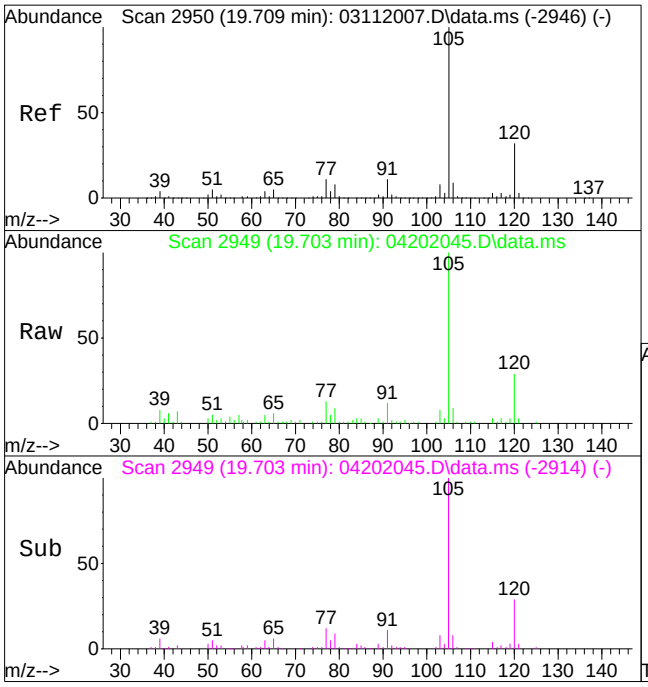


#76
n-Propylbenzene
Concen: 0.23 ng
RT: 19.58 min Scan# 2926
Delta R.T. -0.000 min
Lab File: 04202045.D
Acq: 21 Apr 2020 4:37

Tgt Ion: 91 Resp: 42060

Ion	Ratio	Lower	Upper
91	100		
120	21.4	3.9	43.9
65	13.1	0.0	30.5

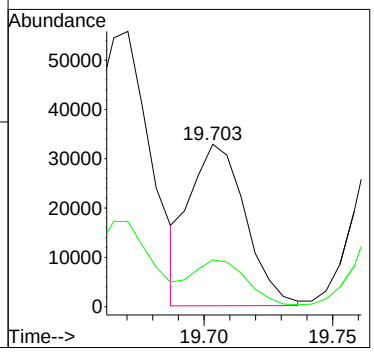


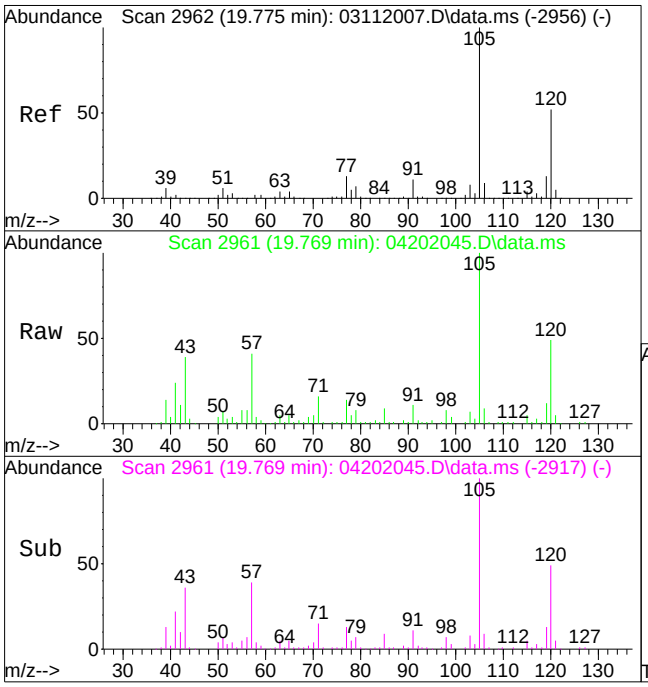


#78
4-Ethyltoluene
Concen: 0.33 ng
RT: 19.70 min Scan# 2949
Delta R.T. -0.006 min
Lab File: 04202045.D
Acq: 21 Apr 2020 4:37

Tgt Ion:105 Resp: 49436

Ion	Ratio	Lower	Upper
105	100		
120	29.9	11.1	51.1

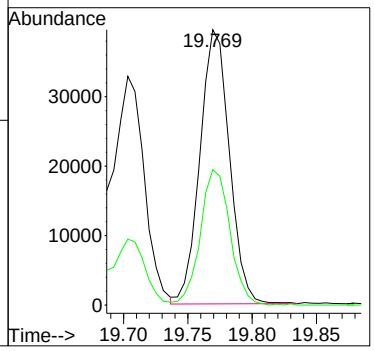


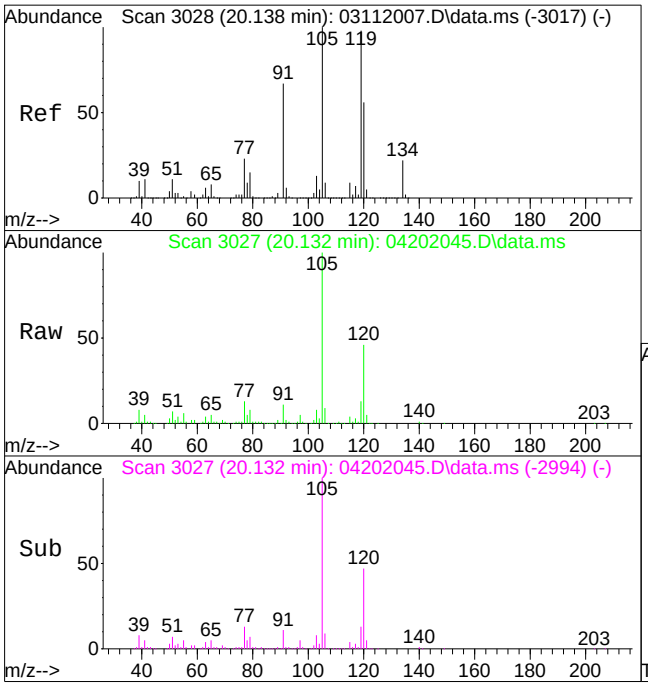


#79
1,3,5-Trimethylbenzene
Concen: 0.47 ng
RT: 19.77 min Scan# 2961
Delta R.T. -0.006 min
Lab File: 04202045.D
Acq: 21 Apr 2020 4:37

Tgt Ion:105 Resp: 62895

Ion	Ratio	Lower	Upper
105	100		
120	49.6	31.3	71.3

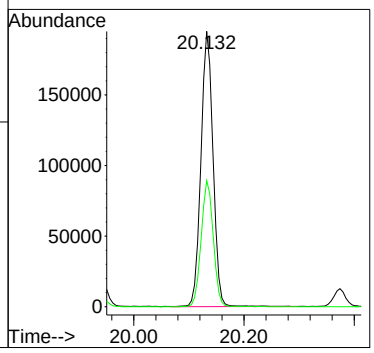


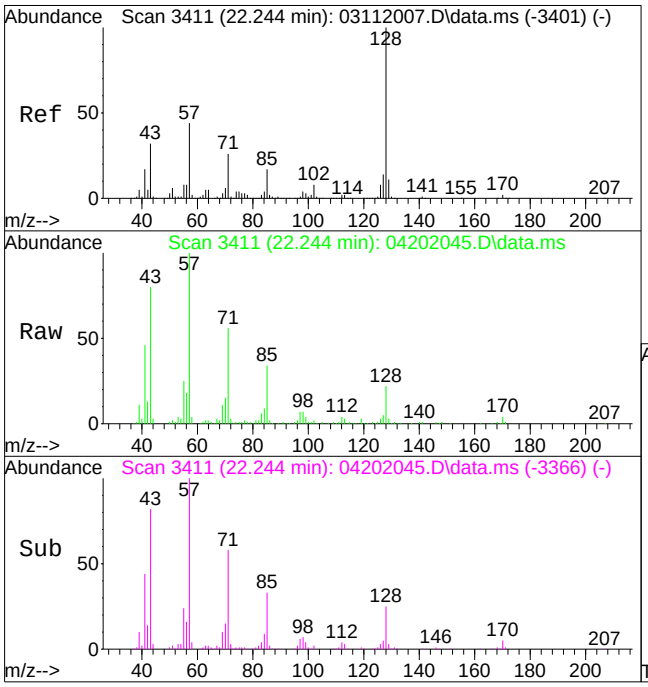


#82
1,2,4-Trimethylbenzene
Concen: 2.13 ng
RT: 20.13 min Scan# 3027
Delta R.T. -0.017 min
Lab File: 04202045.D
Acq: 21 Apr 2020 4:37

Tgt Ion:105 Resp: 296303

Ion	Ratio	Lower	Upper
105	100		
120	45.8	35.8	75.8

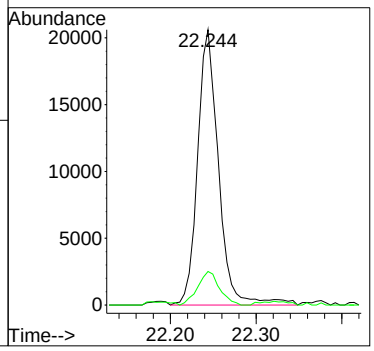




#95
Naphthalene
Concen: 0.22 ng
RT: 22.24 min Scan# 3411
Delta R.T. -0.005 min
Lab File: 04202045.D
Acq: 21 Apr 2020 4:37

Tgt Ion:128 Resp: 34975

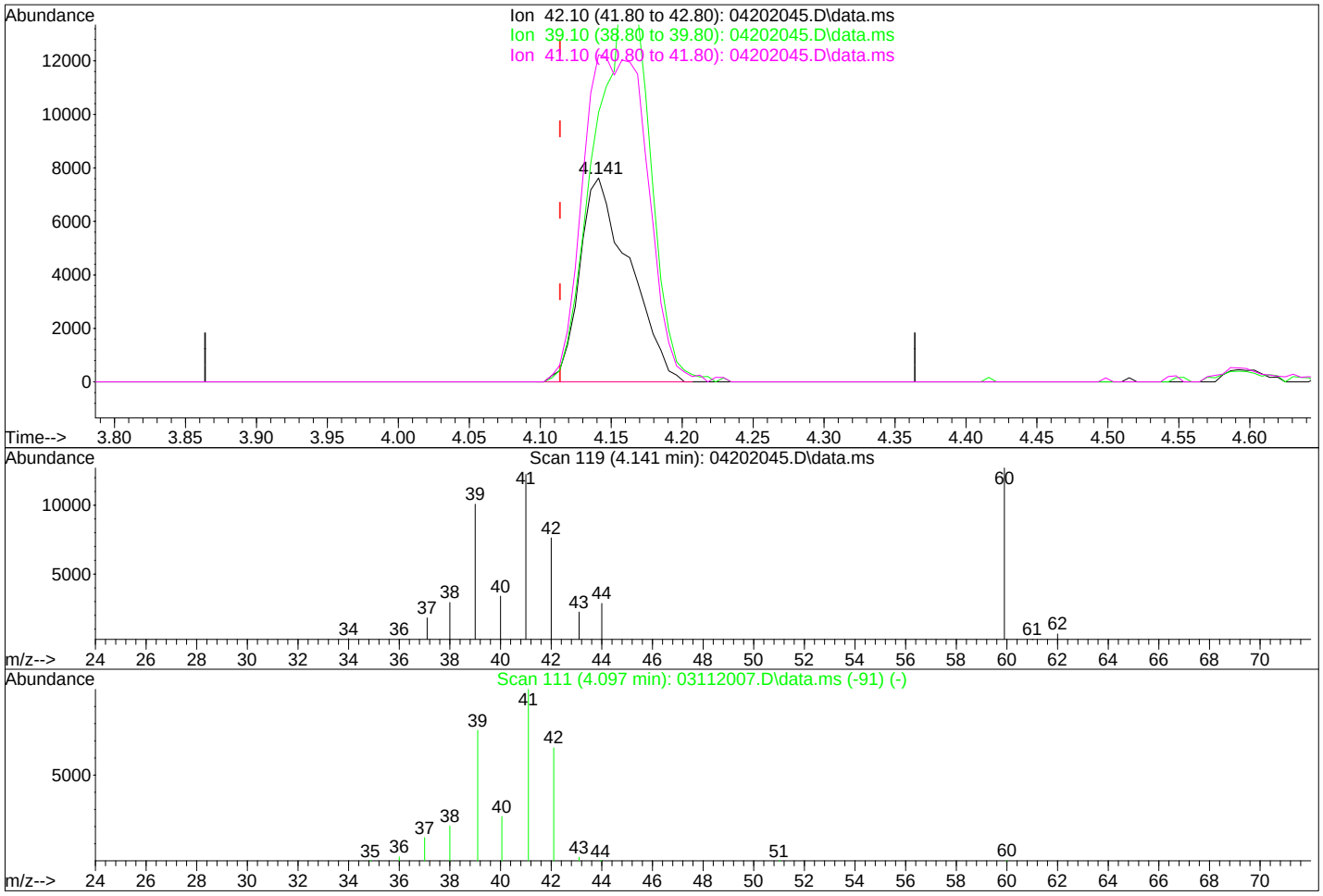
Ion	Ratio	Lower	Upper
128	100		
129	12.6	0.0	31.1



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\20\04202045.D Vial: 12
Acq On : 21 Apr 2020 4:37 Operator: LH
Sample : P2002031-010 (120mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 21 12:27:09 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202045.D\data.ms

(2) Propene (T)

4.141min (+0.027) 0.57ng

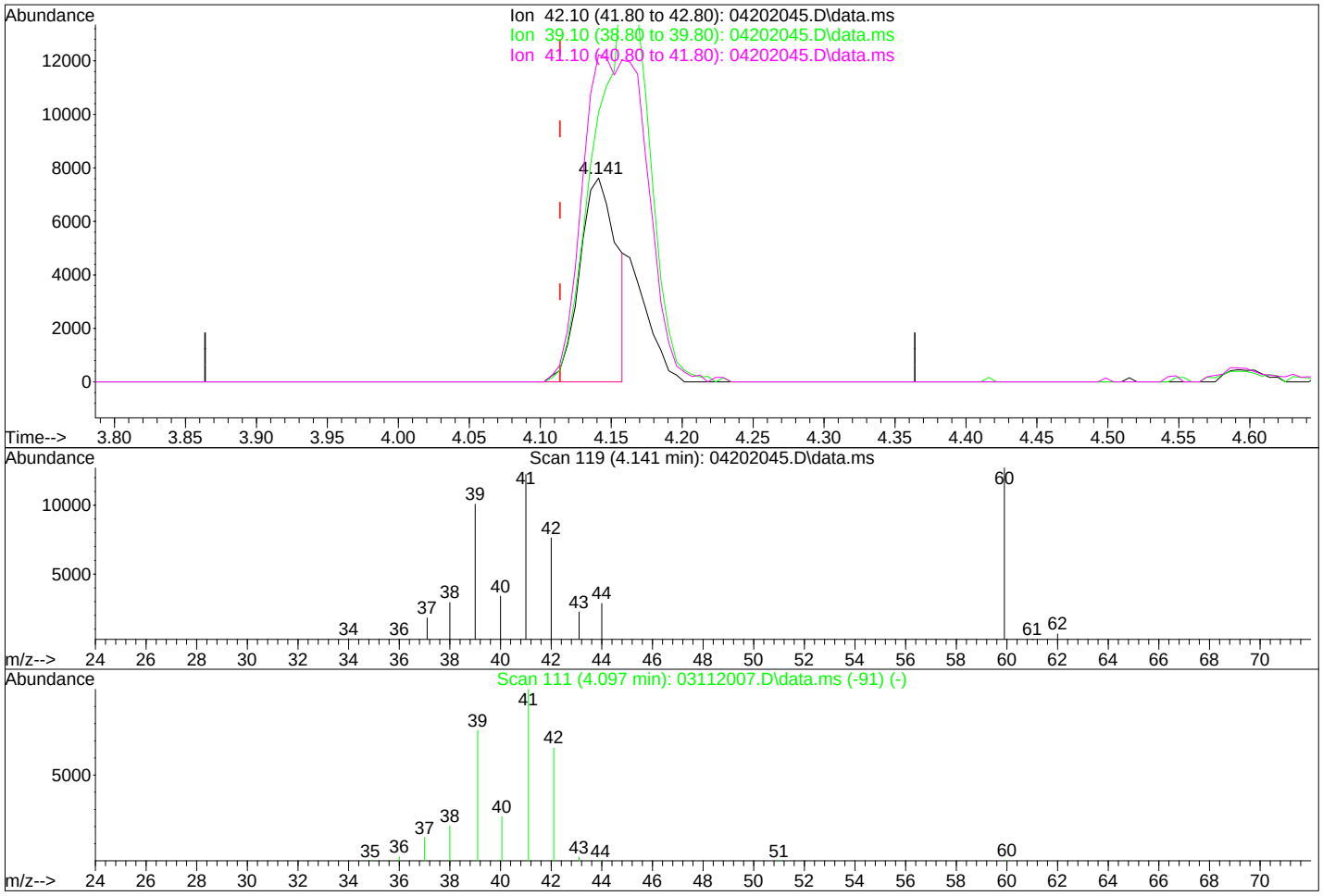
response 18628

Ion	Exp%	Act%
42.10	100	100
39.10	115.30	215.34#
41.10	152.00	207.17#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\20\04202045.D Vial: 12
Acq On : 21 Apr 2020 4:37 Operator: LH
Sample : P2002031-010 (120mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 21 12:27:09 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202045.D\data.ms

(2) Propene (T)

4.141min (+0.027) 0.42ng m

response 13748

Ion	Exp%	Act%
42.10	100	100
39.10	115.30	291.78#
41.10	152.00	280.71#
0.00	0.00	0.00

IPC

LH 4/22/20

4/23/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212009.D Vial: 1
Acq On : 21 Apr 2020 13:18 Operator: WA
Sample : P2002031-011 (2.5mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 18:38:40 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 4/22/20
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	320340	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1438448	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	705311	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	555542	12.524	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.16%				
57) Toluene-d8 (SS2)	15.74	98	1549609	12.395	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.20%				
73) Bromofluorobenzene (SS3)	19.01	174	503060	11.395	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.20%				
Target Compounds							Qvalue
2) Propene	4.15	42	1421	N.D.			
3) Dichlorodifluoromethan...	4.29	85	157	N.D.			
4) Chloromethane	4.56	50	3594	0.063	ng		95
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	4.98	62	775	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.37	45	6310	0.238	ng		88
11) Acetonitrile	6.64	41	2539	N.D.			
12) Acrolein	0.00	56	0	N.D.	d		
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	7.63	45	1693	N.D.			
16) Acrylonitrile	7.86	53	279	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.45	84	275	N.D.			
20) 3-Chloro-1-propene (Al...	8.62	41	116	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.72	76	34360	0.280	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	9.96	63	389	N.D.			
25) Methyl tert-Butyl Ether	10.08	73	919	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.51	72	3504	0.161	ng	#	78
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.	d		
32) Chloroform	11.33	83	640	N.D.			
34) Tetrahydrofuran (THF)	11.80	72	1748	0.078	ng	#	77
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.14	62	162	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	12.91	61	156	N.D.			
40) 1-Butanol	12.94	56	1735	N.D.			
41) Benzene	12.90	78	35987	0.242	ng		99
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	13.19	84	2139	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	14.00	130	851	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212009.D Vial: 1
Acq On : 21 Apr 2020 13:18 Operator: WA
Sample : P2002031-011 (2.5mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 18:38:40 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

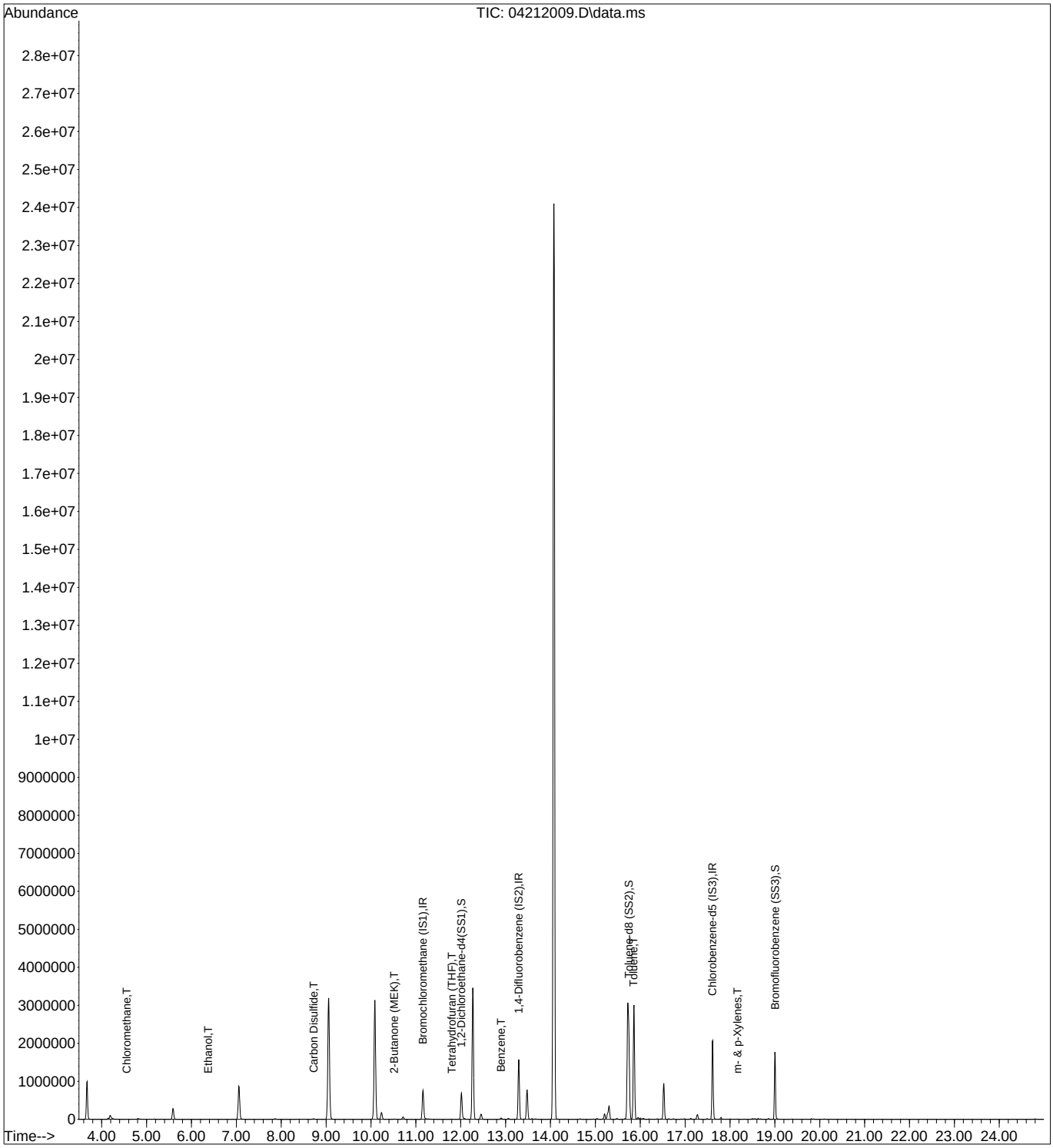
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.33	71	341	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.94	58	116	N.D.	
54) trans-1,3-Dichloropropene	15.16	75	1076	N.D.	
55) 1,1,2-Trichloroethane	15.47	97	367	N.D.	
58) Toluene	15.85	91	92538	0.599 ng	98
59) 2-Hexanone	16.18	43	2576	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.74	43	2039	N.D.	
63) n-Octane	16.87	57	224	N.D.	
64) Tetrachloroethene	16.99	166	461	N.D.	
65) Chlorobenzene	17.65	112	531	N.D.	
66) Ethylbenzene	18.02	91	5240	N.D.	
67) m- & p-Xylenes	18.17	91	7229	0.052 ng	88
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.53	104	273	N.D.	
70) o-Xylene	18.61	91	2154	N.D.	
71) n-Nonane	18.80	43	617	N.D.	
72) 1,1,2,2-Tetrachloroethane	18.54	83	1199	N.D.	
74) Cumene	19.13	105	1545	N.D.	
75) alpha-Pinene	19.48	93	216	N.D.	
76) n-Propylbenzene	19.59	91	1461	N.D.	
77) 3-Ethyltoluene	19.67	105	1436	N.D.	
78) 4-Ethyltoluene	19.72	105	1067	N.D.	
79) 1,3,5-Trimethylbenzene	19.78	105	857	N.D.	
80) alpha-Methylstyrene	19.92	118	189	N.D.	
81) 2-Ethyltoluene	19.94	105	820	N.D.	
82) 1,2,4-Trimethylbenzene	20.14	105	1497	N.D.	
83) n-Decane	20.23	57	2414	N.D.	
84) Benzyl Chloride	20.26	91	234	N.D.	
85) 1,3-Dichlorobenzene	20.28	146	412	N.D.	
86) 1,4-Dichlorobenzene	20.34	146	593	N.D.	
87) sec-Butylbenzene	20.37	105	414	N.D.	
88) 4-Isopropyltoluene (p-...	20.51	119	665	N.D.	
89) 1,2,3-Trimethylbenzene	20.52	105	649	N.D.	
90) 1,2-Dichlorobenzene	20.63	146	204	N.D.	
91) d-Limonene	20.64	68	326	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.33	57	1230	N.D.	
94) 1,2,4-Trichlorobenzene	22.14	180	375	N.D.	
95) Naphthalene	22.26	128	2410	N.D.	
96) n-Dodecane	22.24	57	516	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.14	119	365	N.D.	
100) n-Butylbenzene	20.89	91	656	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212009.D Vial: 1
Acq On : 21 Apr 2020 13:18 Operator: WA
Sample : P2002031-011 (2.5mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 18:38:40 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212009.D Vial: 1
Acq On : 21 Apr 2020 13:18 Operator: WA
Sample : P2002031-011 (2.5mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 18:38:40 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/22/20

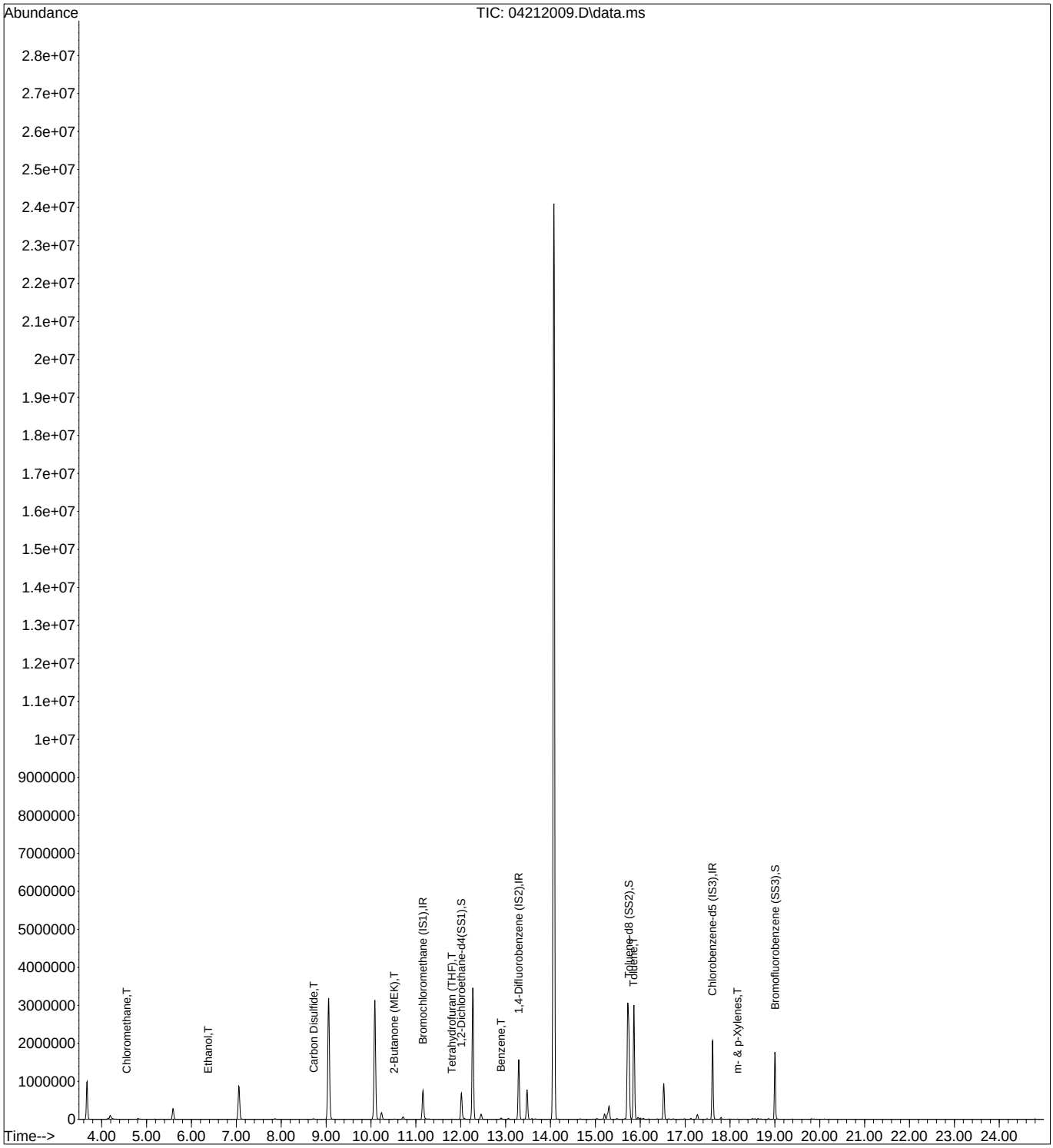
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	320340	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1438448	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	705311	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	555542	12.524	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.16%				
57) Toluene-d8 (SS2)	15.74	98	1549609	12.395	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.20%				
73) Bromofluorobenzene (SS3)	19.01	174	503060	11.395	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.20%				
Target Compounds							Qvalue
4) Chloromethane	4.56	50	3594	0.063	ng		95
10) Ethanol	6.37	45	6310	0.238	ng		88
22) Carbon Disulfide	8.72	76	34360	0.280	ng		99
27) 2-Butanone (MEK)	10.51	72	3504	0.161	ng	#	78
34) Tetrahydrofuran (THF)	11.80	72	1748	0.078	ng	#	77
41) Benzene	12.90	78	35987	0.242	ng		99
58) Toluene	15.85	91	92538	0.599	ng		98
67) m- & p-Xylenes	18.17	91	7229	0.052	ng		88

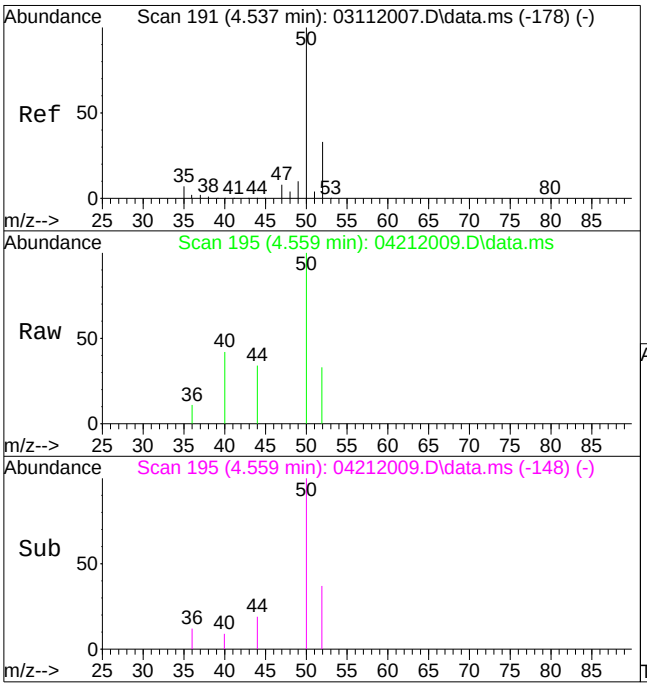
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212009.D Vial: 1
Acq On : 21 Apr 2020 13:18 Operator: WA
Sample : P2002031-011 (2.5mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 18:38:40 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

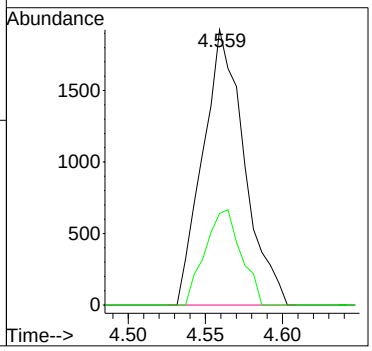


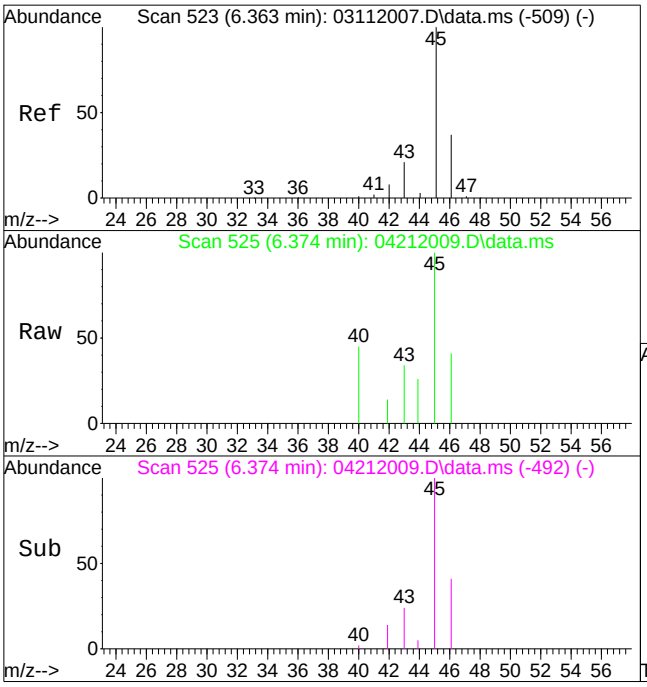


#4
Chloromethane
Concen: 0.06 ng
RT: 4.56 min Scan# 195
Delta R.T. 0.006 min
Lab File: 04212009.D
Acq: 21 Apr 2020 13:18

Tgt Ion: 50 Resp: 3594

Ion	Ratio	Lower	Upper
50	100		
52	30.1	12.8	52.8

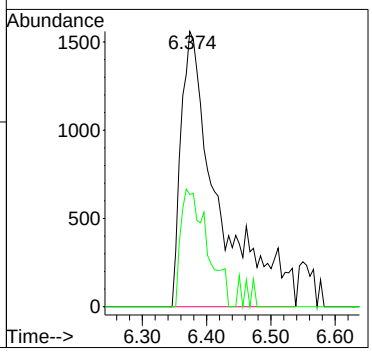


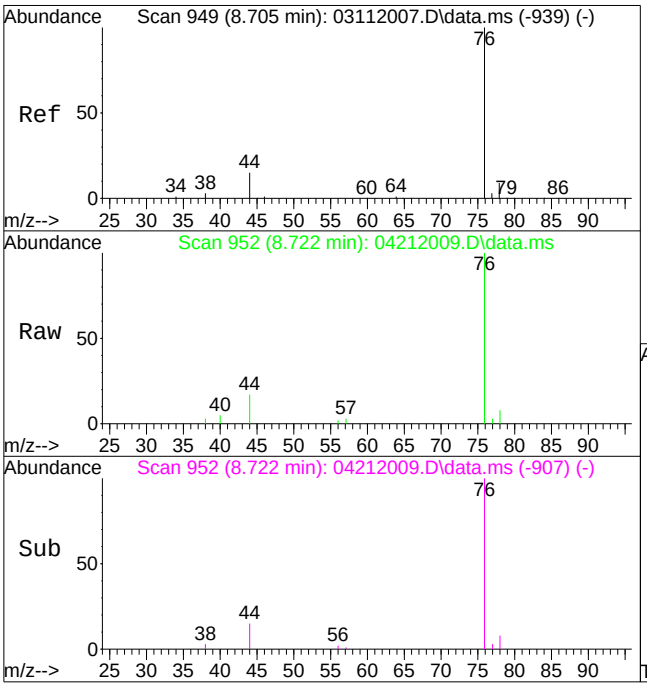


#10
Ethanol
Concen: 0.24 ng
RT: 6.37 min Scan# 525
Delta R.T. -0.066 min
Lab File: 04212009.D
Acq: 21 Apr 2020 13:18

Tgt Ion: 45 Resp: 6310

Ion	Ratio	Lower	Upper
45	100		
46	30.0	17.3	57.3

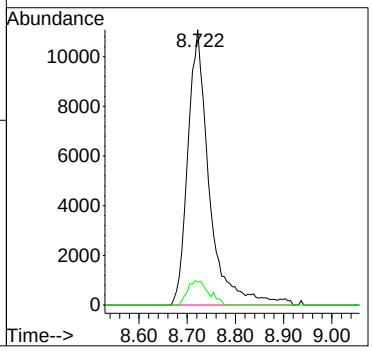


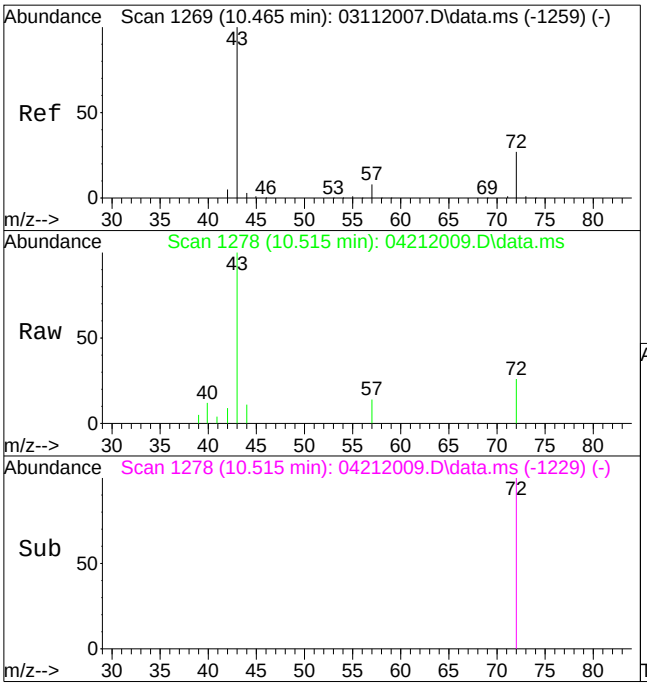


#22
Carbon Disulfide
Concen: 0.28 ng
RT: 8.72 min Scan# 952
Delta R.T. 0.000 min
Lab File: 04212009.D
Acq: 21 Apr 2020 13:18

Tgt Ion: 76 Resp: 34360

Ion	Ratio	Lower	Upper
76	100		
78	8.7	0.0	29.2

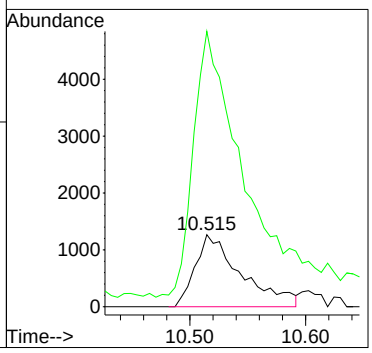


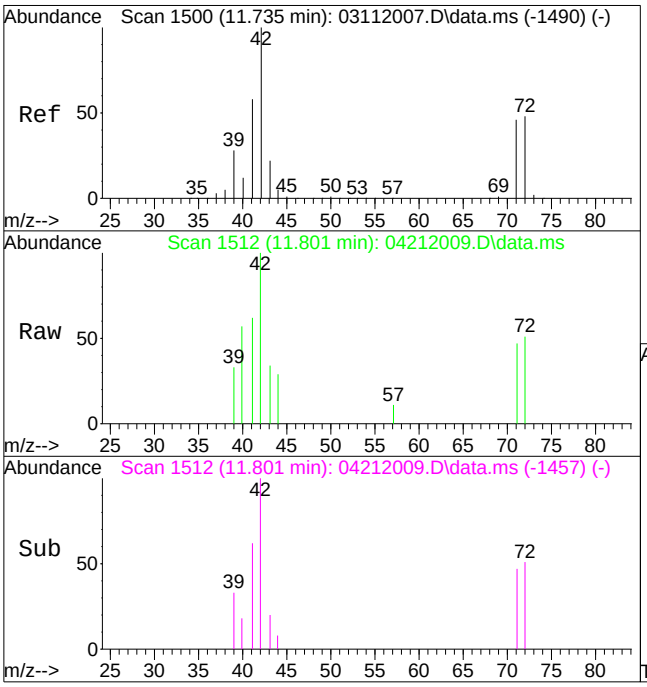


#27
2-Butanone (MEK)
Concen: 0.16 ng
RT: 10.51 min Scan# 1278
Delta R.T. 0.022 min
Lab File: 04212009.D
Acq: 21 Apr 2020 13:18

Tgt Ion: 72 Resp: 3504

Ion	Ratio	Lower	Upper
72	100		
43	423.0	353.4	393.4#

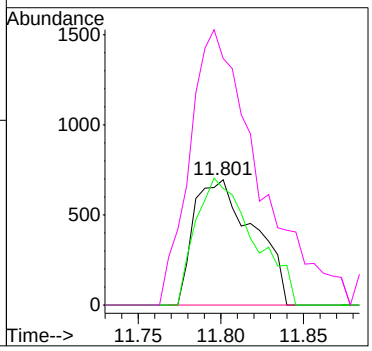


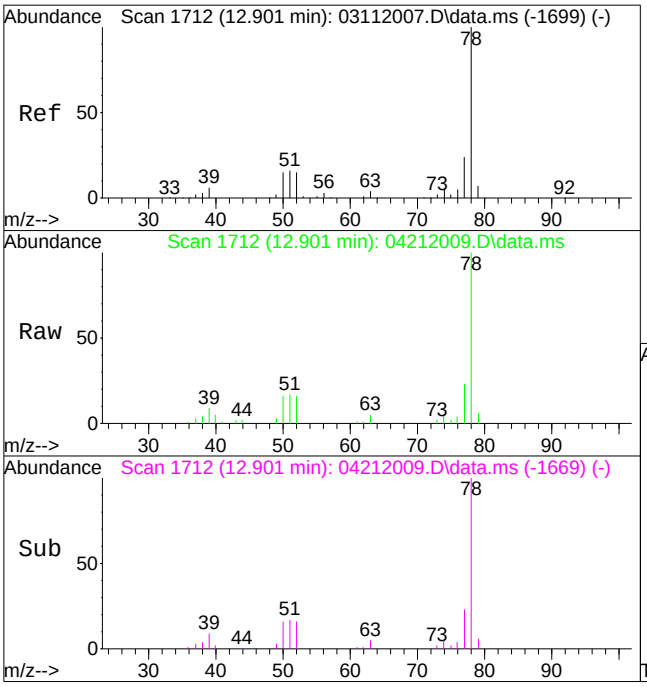


#34
Tetrahydrofuran (THF)
Concen: 0.08 ng
RT: 11.80 min Scan# 1512
Delta R.T. 0.055 min
Lab File: 04212009.D
Acq: 21 Apr 2020 13:18

Tgt Ion: 72 Resp: 1748

Ion	Ratio	Lower	Upper
72	100		
71	98.2	75.9	115.9
42	259.0	189.3	229.3#

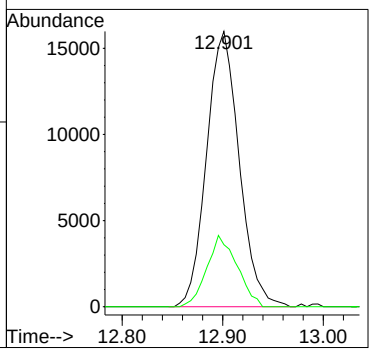


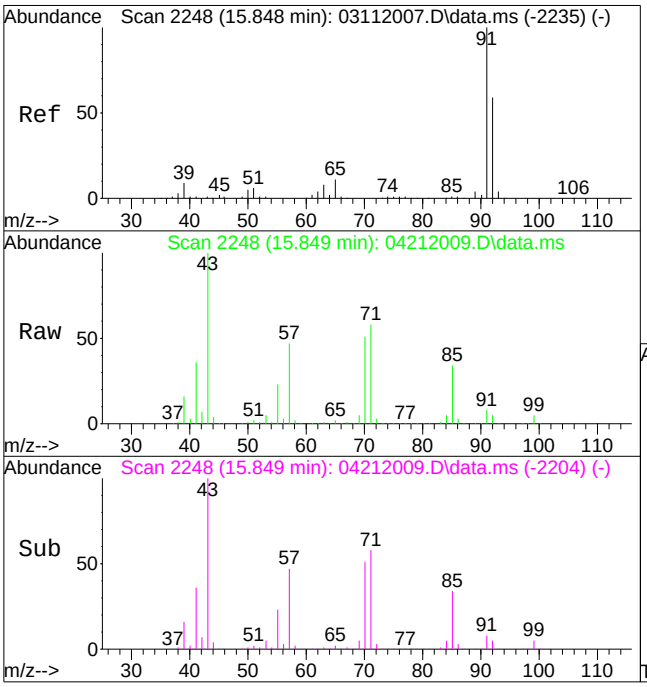


#41
Benzene
Concen: 0.24 ng
RT: 12.90 min Scan# 1712
Delta R.T. -0.011 min
Lab File: 04212009.D
Acq: 21 Apr 2020 13:18

Tgt Ion: 78 Resp: 35987

Ion	Ratio	Lower	Upper
78	100		
77	24.0	3.4	43.4

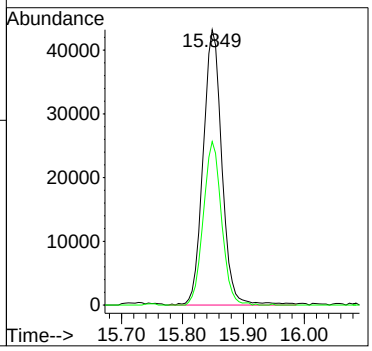


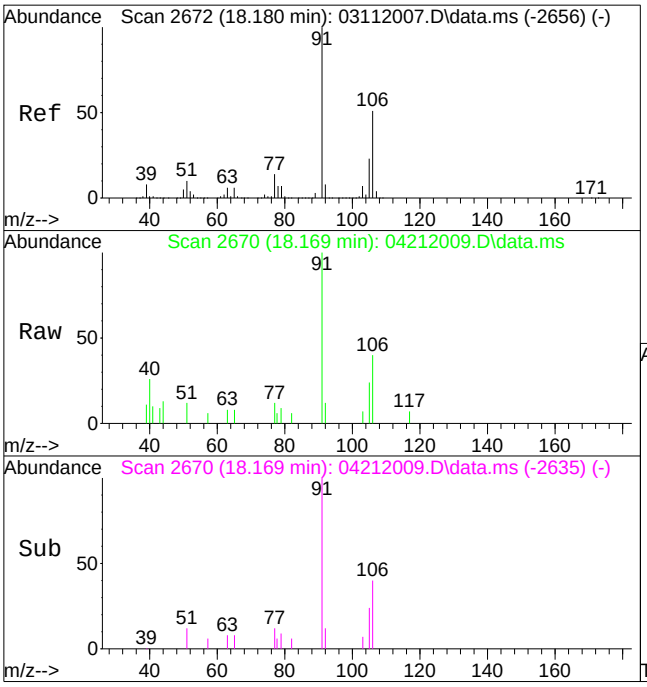


#58
Toluene
Concen: 0.60 ng
RT: 15.85 min Scan# 2248
Delta R.T. -0.005 min
Lab File: 04212009.D
Acq: 21 Apr 2020 13:18

Tgt Ion: 91 Resp: 92538

Ion	Ratio	Lower	Upper
91	100		
92	57.4	39.0	79.0

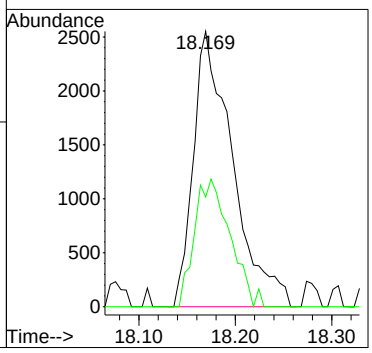




#67
m- & p-Xylenes
Concen: 0.05 ng
RT: 18.17 min Scan# 2670
Delta R.T. -0.005 min
Lab File: 04212009.D
Acq: 21 Apr 2020 13:18

Tgt Ion: 91 Resp: 7229

Ion	Ratio	Lower	Upper
91	100		
106	41.9	30.4	70.4



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202046.D Vial: 13
Acq On : 21 Apr 2020 5:11 Operator: LH
Sample : P2002031-012 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 17:12:36 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 4/22/20
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	309269	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1391065	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	666500	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	530779	12.394	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.12%				
57) Toluene-d8 (SS2)	15.74	98	1419432	12.015	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.16%				
73) Bromofluorobenzene (SS3)	19.00	174	513615	12.312	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.48%				
Target Compounds							Qvalue
2) Propene	4.13	42	9970	0.307	ng		92
3) Dichlorodifluoromethan...	4.28	85	36567	0.524	ng		99
4) Chloromethane	4.55	50	1794	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.83	135	944	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.24	54	516	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	6.01	64	335	N.D.			
10) Ethanol	6.33	45	65095	2.539	ng		100
11) Acetonitrile	6.63	41	7158	0.127	ng	#	33
12) Acrolein	6.81	56	13345	0.707	ng		99
13) Acetone	7.02	58	296974m	11.739	ng		
14) Trichlorofluoromethane	7.26	101	15832	0.257	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	37948	0.506	ng		78
16) Acrylonitrile	7.81	53	53	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.44	84	7057	0.214	ng		94
20) 3-Chloro-1-propene (Al...	8.43	41	518	N.D.			
21) Trichlorotrifluoroethane	8.88	151	2916	0.099	ng		88
22) Carbon Disulfide	8.70	76	26208	0.221	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	10.10	63	1069	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	d		
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.47	72	86987	4.130	ng	#	89
28) cis-1,2-Dichloroethene	10.84	61	631	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	11.28	57	9926	0.172	ng	#	1
32) Chloroform	11.32	83	5813164	94.669	ng		99
34) Tetrahydrofuran (THF)	11.77	72	5844	0.270	ng	#	46
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.02	62	136	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.90	78	18657	0.130	ng		99
42) Carbon Tetrachloride	13.06	117	55695	1.128	ng		98
43) Cyclohexane	13.19	84	15280	0.277	ng		91
44) tert-Amyl Methyl Ether	13.58	73	1314	N.D.			
45) 1,2-Dichloropropane	13.75	63	555	N.D.			
46) Bromodichloromethane	13.94	83	412849	8.492	ng		99
47) Trichloroethene	14.00	130	18633	0.457	ng		98
48) 1,4-Dioxane	14.00	88	3380	0.121	ng		78
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202046.D Vial: 13
Acq On : 21 Apr 2020 5:11 Operator: LH
Sample : P2002031-012 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 17:12:36 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

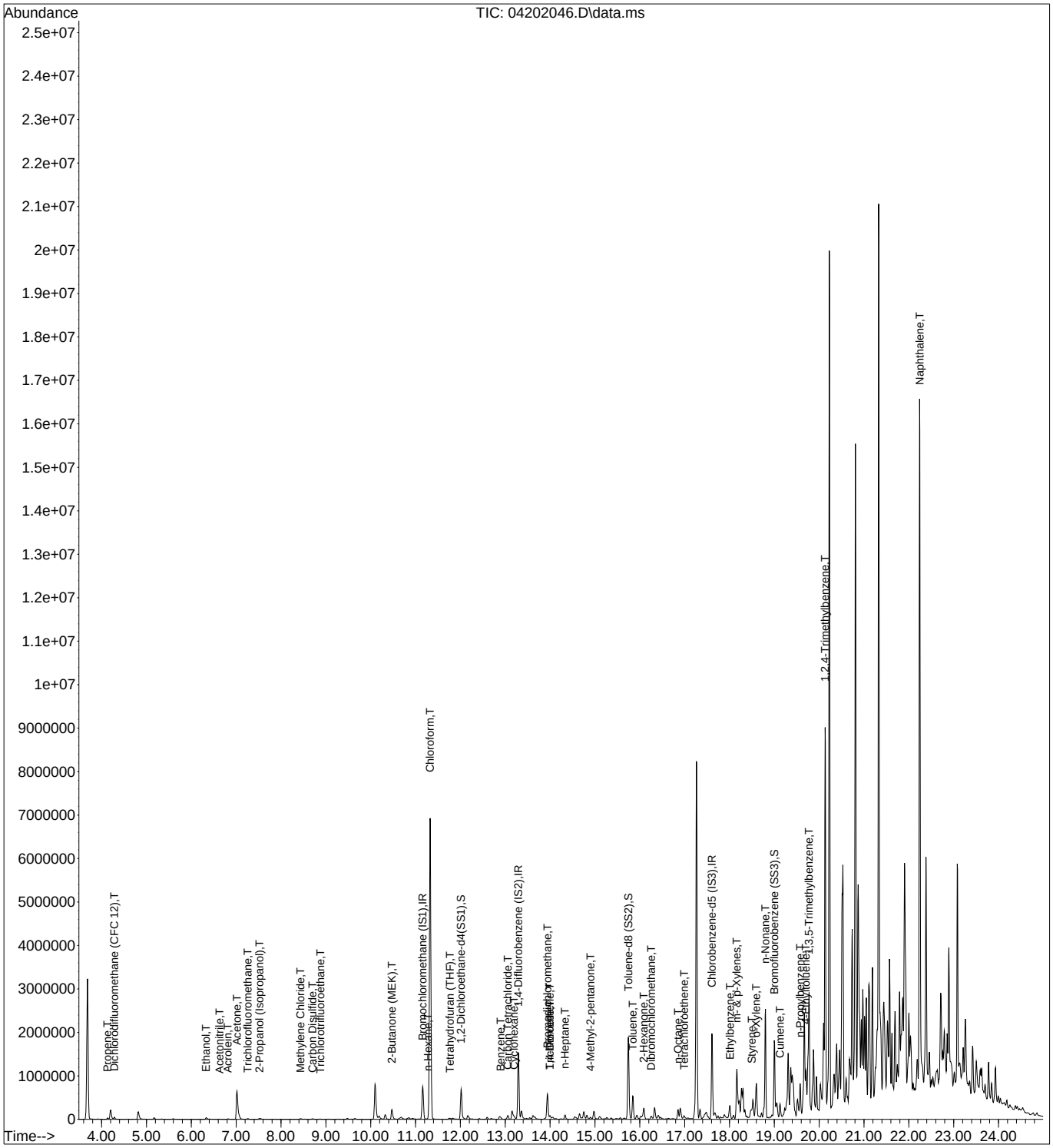
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.33	71	25172	0.749 ng	98
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.90	58	12795	0.424 ng	98
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	15.47	97	623	N.D.	
58) Toluene	15.84	91	448680	3.072 ng	100
59) 2-Hexanone	16.09	43	210746	2.883 ng	92
60) Dibromochloromethane	16.26	129	9606	0.247 ng	99
61) 1,2-Dibromoethane	16.50	107	854	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	16.86	57	42423	1.464 ng	95
64) Tetrachloroethene	16.99	166	19726	0.485 ng	100
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	18.01	91	217566	1.358 ng	99
67) m- & p-Xylenes	18.16	91	791020	6.069 ng	99
68) Bromoform	18.24	173	421	N.D.	
69) Styrene	18.50	104	37132	0.363 ng	96
70) o-Xylene	18.60	91	345760	2.653 ng	99
71) n-Nonane	18.80	43	865764m	13.287 ng	
72) 1,1,2,2-Tetrachloroethane	18.59	83	2111	N.D.	
74) Cumene	19.13	105	111466	0.676 ng	97
75) alpha-Pinene	19.43	93	556	N.D.	
76) n-Propylbenzene	19.58	91	535365	2.782 ng	97
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.70	105	453212	2.896 ng	99
79) 1,3,5-Trimethylbenzene	19.77	105	853499	6.127 ng	99
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.13	105	4037866	27.980 ng	88
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.23	91	3554	N.D.	
85) 1,3-Dichlorobenzene	20.28	146	252	N.D.	
86) 1,4-Dichlorobenzene	20.33	146	887	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	20.63	146	142	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	21.05	157	658	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.15	180	1500	N.D.	
95) Naphthalene	22.24	128	2575152	15.953 ng	98
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202046.D Vial: 13
Acq On : 21 Apr 2020 5:11 Operator: LH
Sample : P2002031-012 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 17:12:36 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202046.D Vial: 13
Acq On : 21 Apr 2020 5:11 Operator: LH
Sample : P2002031-012 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 17:12:36 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/22/20

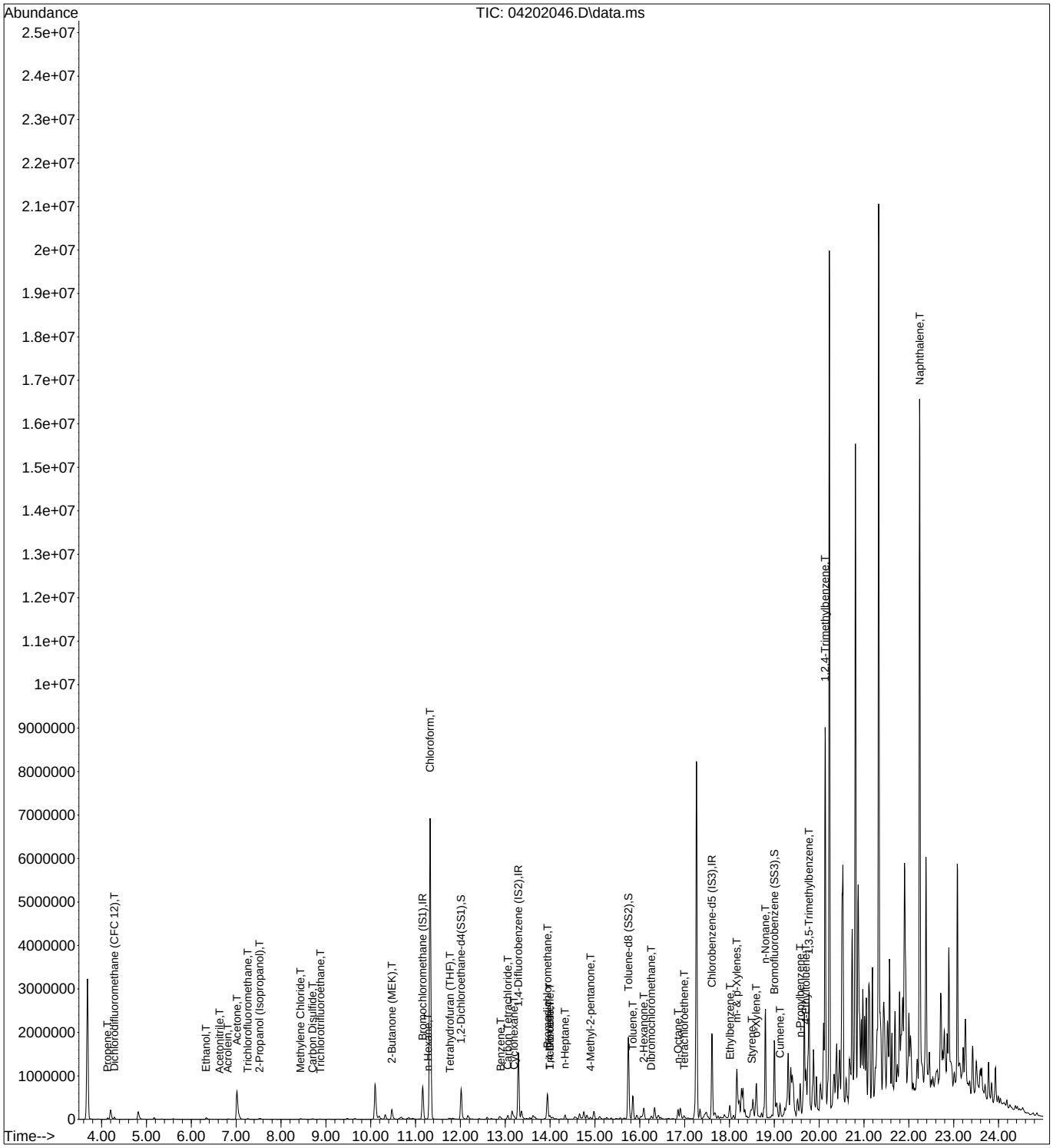
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	309269	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1391065	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	666500	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	530779	12.394	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.12%				
57) Toluene-d8 (SS2)	15.74	98	1419432	12.015	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.16%				
73) Bromofluorobenzene (SS3)	19.00	174	513615	12.312	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.48%				
Target Compounds							Qvalue
2) Propene	4.13	42	9970	0.307	ng		92
3) Dichlorodifluoromethan...	4.28	85	36567	0.524	ng		99
10) Ethanol	6.33	45	65095	2.539	ng		100
11) Acetonitrile	6.63	41	7158	0.127	ng	#	33
12) Acrolein	6.81	56	13345	0.707	ng		99
13) Acetone	7.02	58	296974m	11.739	ng		
14) Trichlorofluoromethane	7.26	101	15832	0.257	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	37948	0.506	ng		78
19) Methylene Chloride	8.44	84	7057	0.214	ng		94
21) Trichlorotrifluoroethane	8.88	151	2916	0.099	ng		88
22) Carbon Disulfide	8.70	76	26208	0.221	ng		99
27) 2-Butanone (MEK)	10.47	72	86987	4.130	ng	#	89
31) n-Hexane	11.28	57	9926	0.172	ng	#	1
32) Chloroform	11.32	83	5813164	94.669	ng		99
34) Tetrahydrofuran (THF)	11.77	72	5844	0.270	ng	#	46
41) Benzene	12.90	78	18657	0.130	ng		99
42) Carbon Tetrachloride	13.06	117	55695	1.128	ng		98
43) Cyclohexane	13.19	84	15280	0.277	ng		91
46) Bromodichloromethane	13.94	83	412849	8.492	ng		99
47) Trichloroethene	14.00	130	18633	0.457	ng		98
48) 1,4-Dioxane	14.00	88	3380	0.121	ng		78
51) n-Heptane	14.33	71	25172	0.749	ng		98
53) 4-Methyl-2-pentanone	14.90	58	12795	0.424	ng		98
58) Toluene	15.84	91	448680	3.072	ng		100
59) 2-Hexanone	16.09	43	210746	2.883	ng		92
60) Dibromochloromethane	16.26	129	9606	0.247	ng		99
63) n-Octane	16.86	57	42423	1.464	ng		95
64) Tetrachloroethene	16.99	166	19726	0.485	ng		100
66) Ethylbenzene	18.01	91	217566	1.358	ng		99
67) m- & p-Xylenes	18.16	91	791020	6.069	ng		99
69) Styrene	18.50	104	37132	0.363	ng		96
70) o-Xylene	18.60	91	345760	2.653	ng		99
71) n-Nonane	18.80	43	865764m	13.287	ng		
74) Cumene	19.13	105	111466	0.676	ng		97
76) n-Propylbenzene	19.58	91	535365	2.782	ng		97
78) 4-Ethyltoluene	19.70	105	453212	2.896	ng		99
79) 1,3,5-Trimethylbenzene	19.77	105	853499	6.127	ng		99
82) 1,2,4-Trimethylbenzene	20.13	105	4037866	27.980	ng		88
95) Naphthalene	22.24	128	2575152	15.953	ng		98

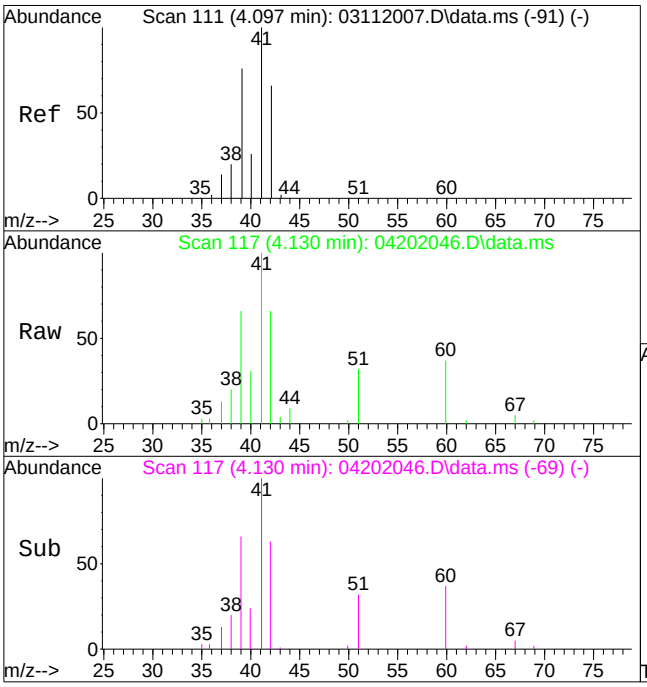
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202046.D Vial: 13
Acq On : 21 Apr 2020 5:11 Operator: LH
Sample : P2002031-012 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 17:12:36 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

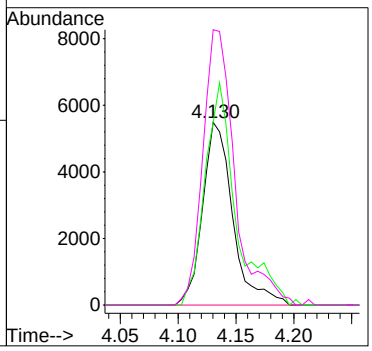


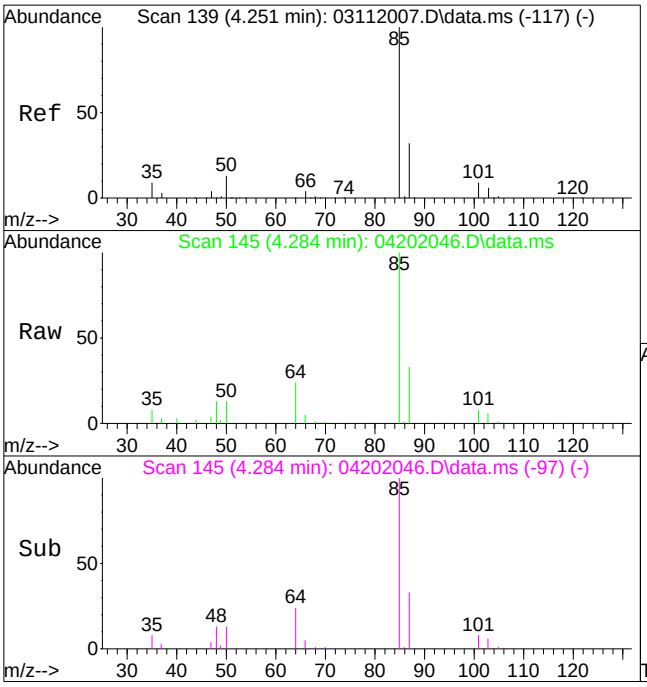


#2
Propene
Concen: 0.31 ng
RT: 4.13 min Scan# 117
Delta R.T. 0.016 min
Lab File: 04202046.D
Acq: 21 Apr 2020 5:11

Tgt Ion: 42 Resp: 9970

Ion	Ratio	Lower	Upper
42	100		
39	125.7	95.3	135.3
41	159.6	132.0	172.0

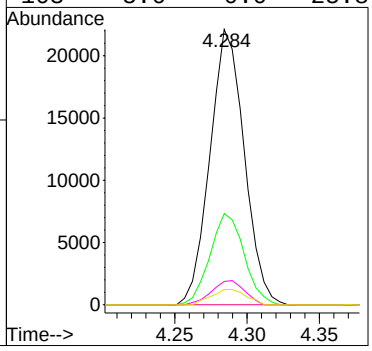


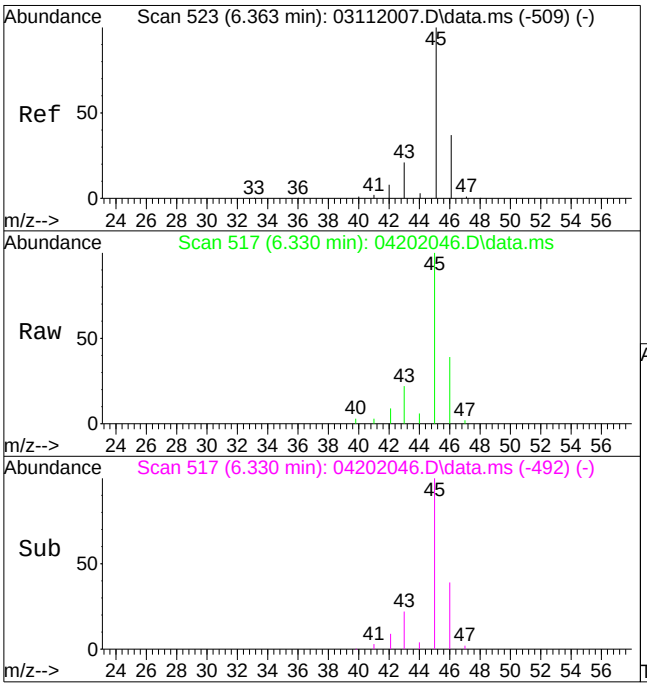


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.52 ng
RT: 4.28 min Scan# 145
Delta R.T. 0.016 min
Lab File: 04202046.D
Acq: 21 Apr 2020 5:11

Tgt Ion: 85 Resp: 36567

Ion	Ratio	Lower	Upper
85	100		
87	32.9	12.3	52.3
101	8.4	0.0	29.0
103	5.6	0.0	25.8

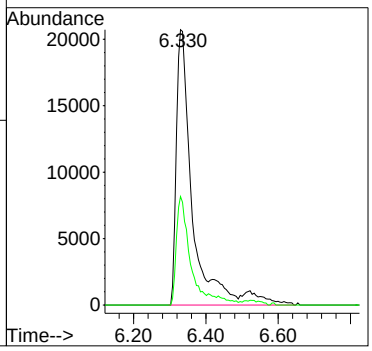


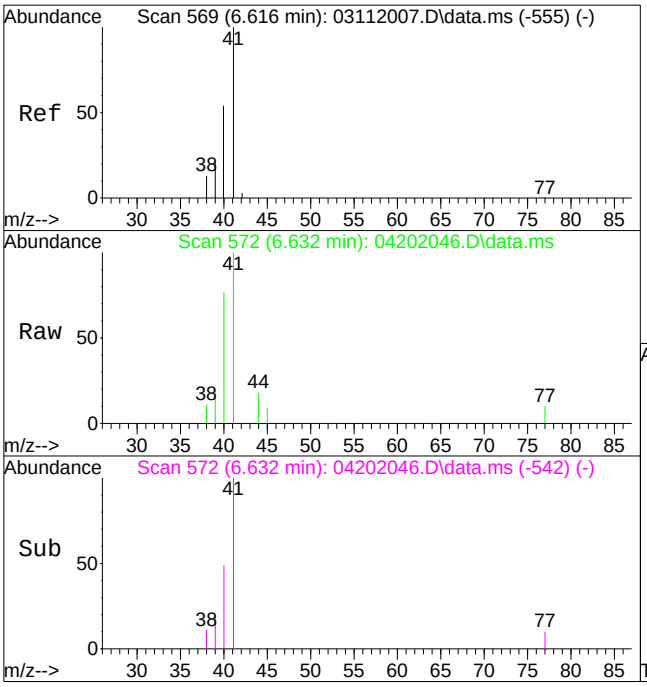


#10
Ethanol
Concen: 2.54 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.110 min
Lab File: 04202046.D
Acq: 21 Apr 2020 5:11

Tgt Ion: 45 Resp: 65095

Ion	Ratio	Lower	Upper
45	100		
46	37.1	17.3	57.3

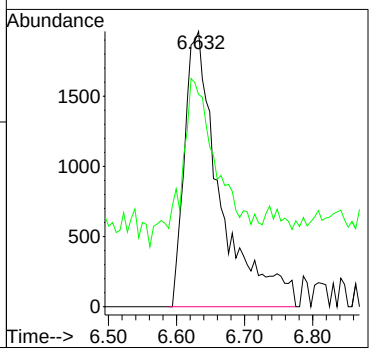


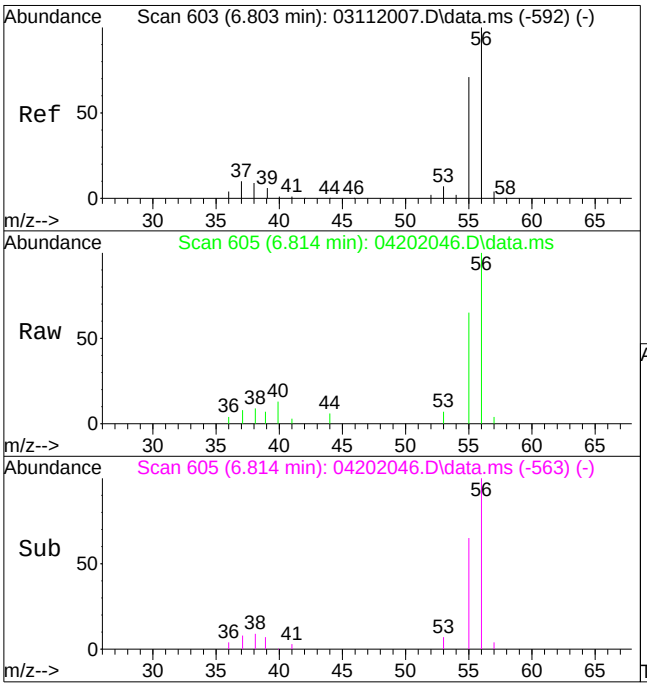


#11
Acetonitrile
Concen: 0.13 ng
RT: 6.63 min Scan# 572
Delta R.T. -0.033 min
Lab File: 04202046.D
Acq: 21 Apr 2020 5:11

Tgt Ion: 41 Resp: 7158

Ion	Ratio	Lower	Upper
41	100		
40	101.7	33.6	73.6#

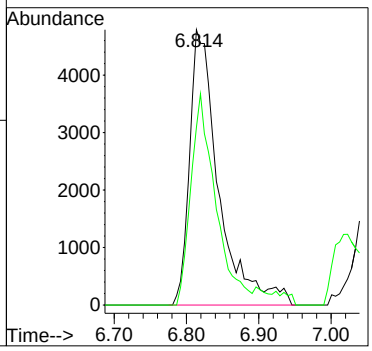


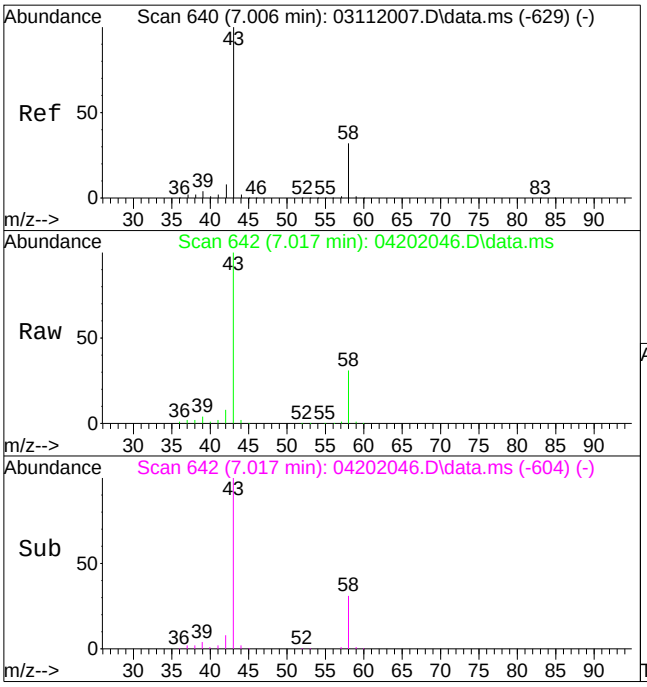


#12
Acrolein
Concen: 0.71 ng
RT: 6.81 min Scan# 605
Delta R.T. -0.016 min
Lab File: 04202046.D
Acq: 21 Apr 2020 5:11

Tgt Ion: 56 Resp: 13345

Ion	Ratio	Lower	Upper
56	100		
55	71.0	50.4	90.4

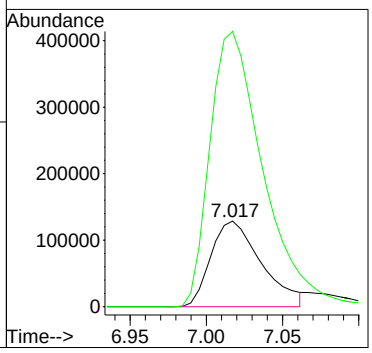


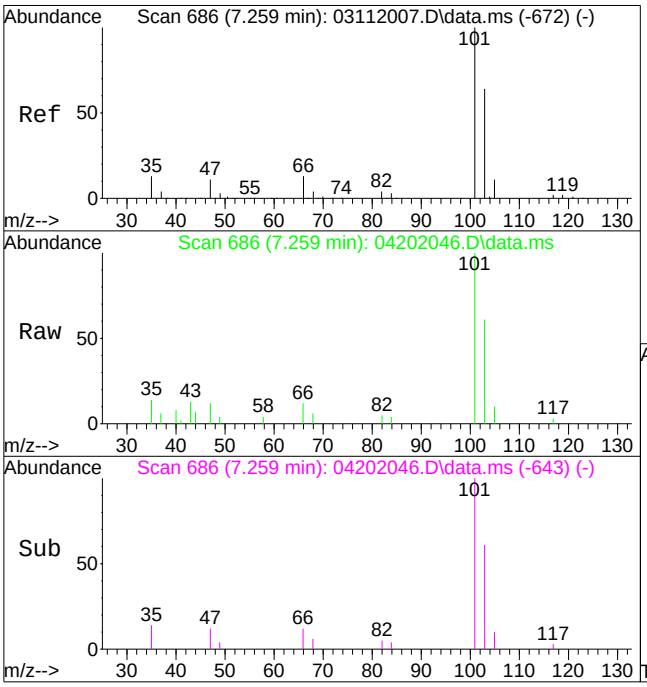


#13
Acetone
Concen: 11.74 ng m
RT: 7.02 min Scan# 642
Delta R.T. -0.039 min
Lab File: 04202046.D
Acq: 21 Apr 2020 5:11

Tgt Ion: 58 Resp: 296974

Ion	Ratio	Lower	Upper
58	100		
43	344.8	287.3	347.3

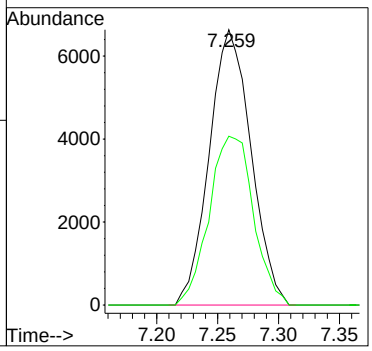


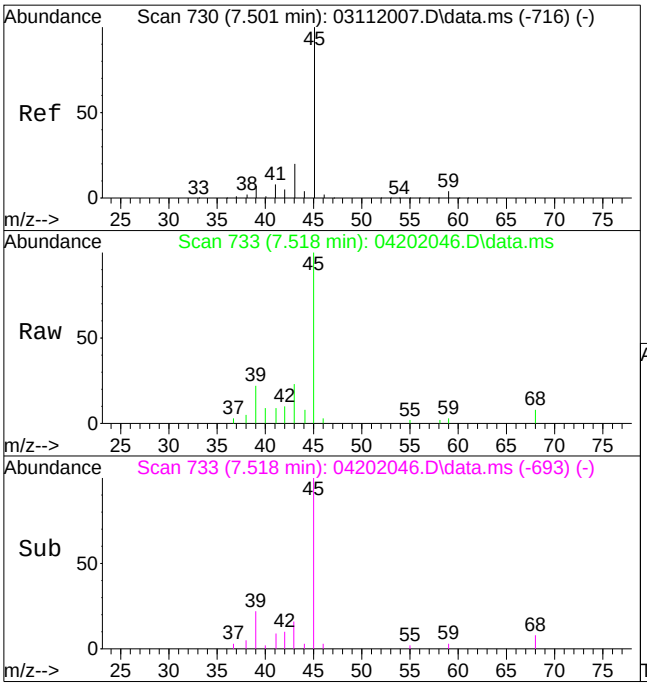


#14
Trichlorofluoromethane
Concen: 0.26 ng
RT: 7.26 min Scan# 686
Delta R.T. -0.016 min
Lab File: 04202046.D
Acq: 21 Apr 2020 5:11

Tgt Ion:101 Resp: 15832

Ion	Ratio	Lower	Upper
101	100		
103	64.9	44.6	84.6

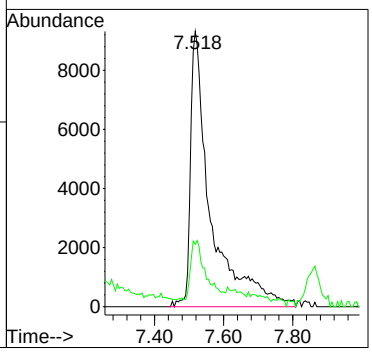


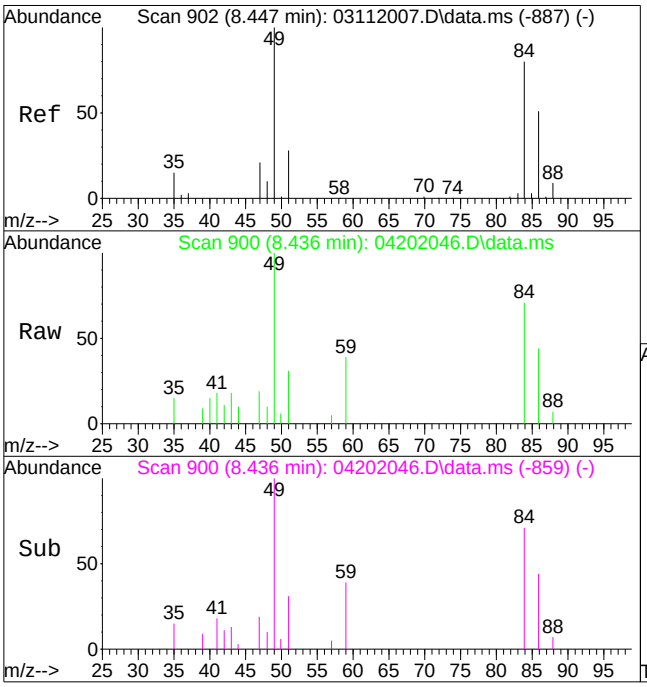


#15
2-Propanol (Isopropanol)
Concen: 0.51 ng
RT: 7.52 min Scan# 733
Delta R.T. -0.033 min
Lab File: 04202046.D
Acq: 21 Apr 2020 5:11

Tgt Ion: 45 Resp: 37948

Ion	Ratio	Lower	Upper
45	100		
43	30.7	0.3	40.3

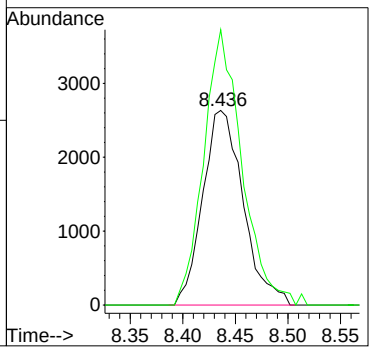


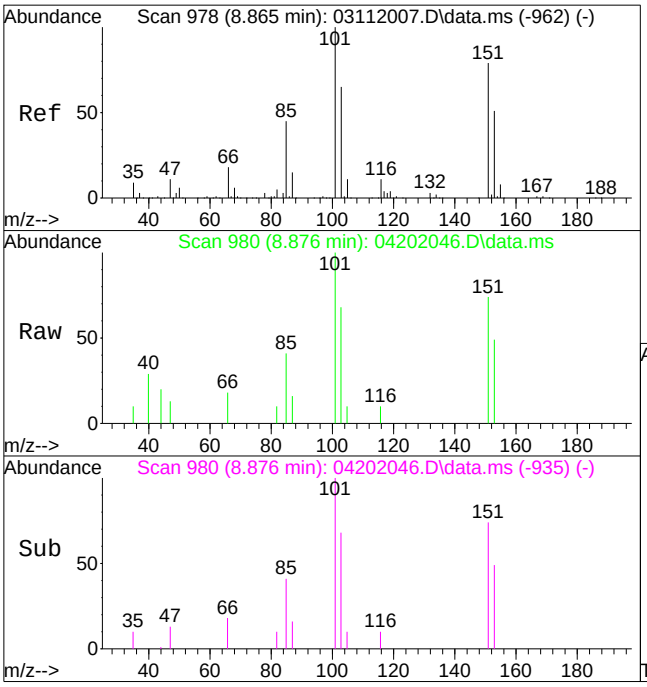


#19
Methylene Chloride
Concen: 0.21 ng
RT: 8.44 min Scan# 900
Delta R.T. -0.027 min
Lab File: 04202046.D
Acq: 21 Apr 2020 5:11

Tgt Ion: 84 Resp: 7057

Ion	Ratio	Lower	Upper
84	100		
49	134.2	102.2	152.2

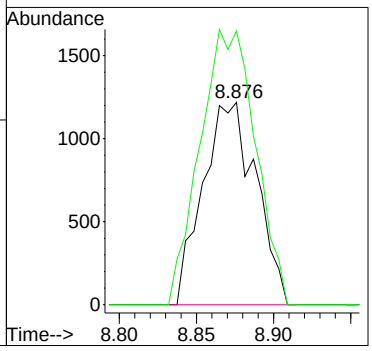


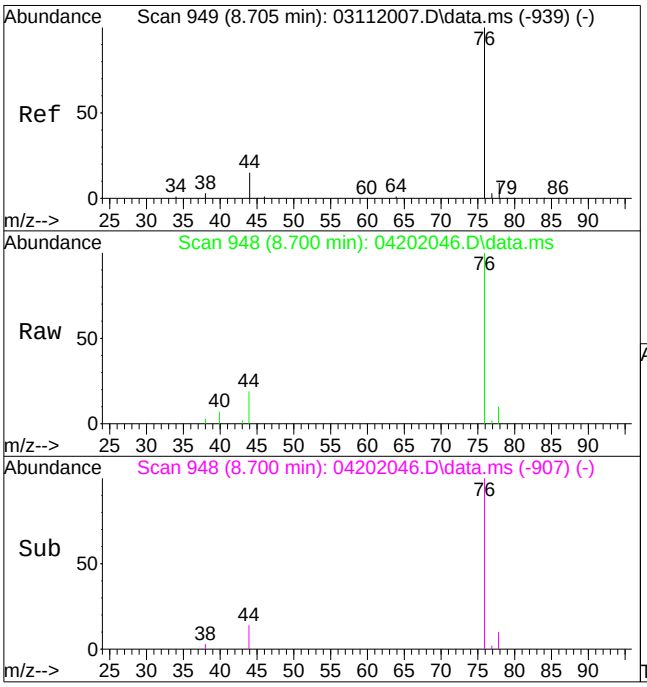


#21
Trichlorotrifluoroethane
Concen: 0.10 ng
RT: 8.88 min Scan# 980
Delta R.T. -0.000 min
Lab File: 04202046.D
Acq: 21 Apr 2020 5:11

Tgt Ion:151 Resp: 2916

Ion	Ratio	Lower	Upper
151	100		
101	142.6	108.4	148.4

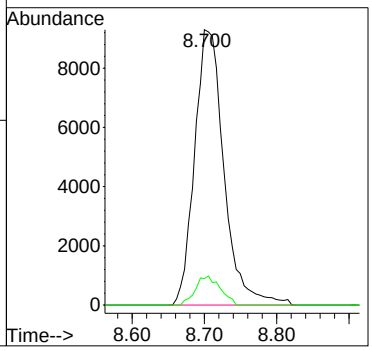


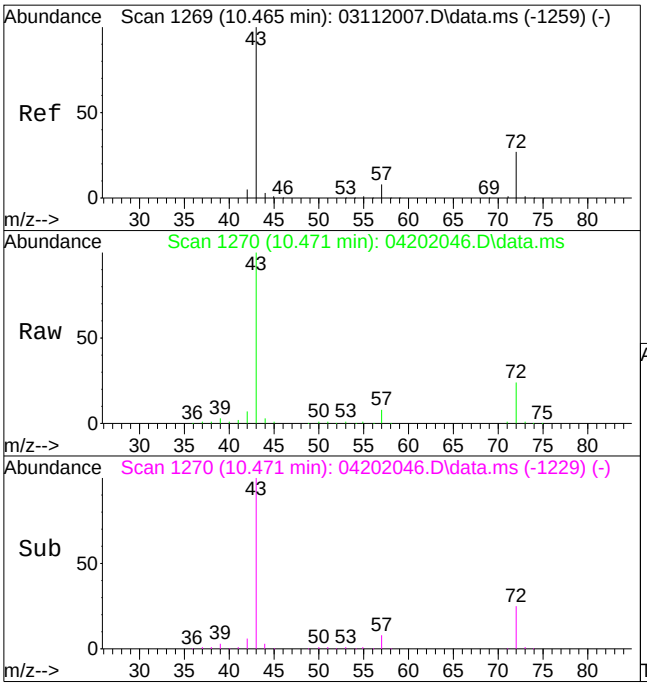


#22
Carbon Disulfide
Concen: 0.22 ng
RT: 8.70 min Scan# 948
Delta R.T. -0.022 min
Lab File: 04202046.D
Acq: 21 Apr 2020 5:11

Tgt Ion: 76 Resp: 26208

Ion	Ratio	Lower	Upper
76	100		
78	8.9	0.0	29.2

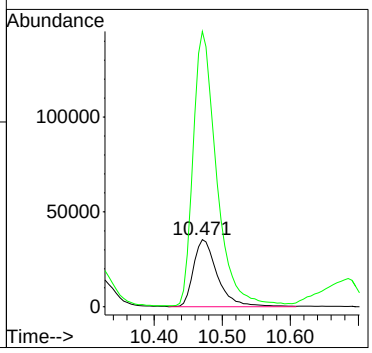


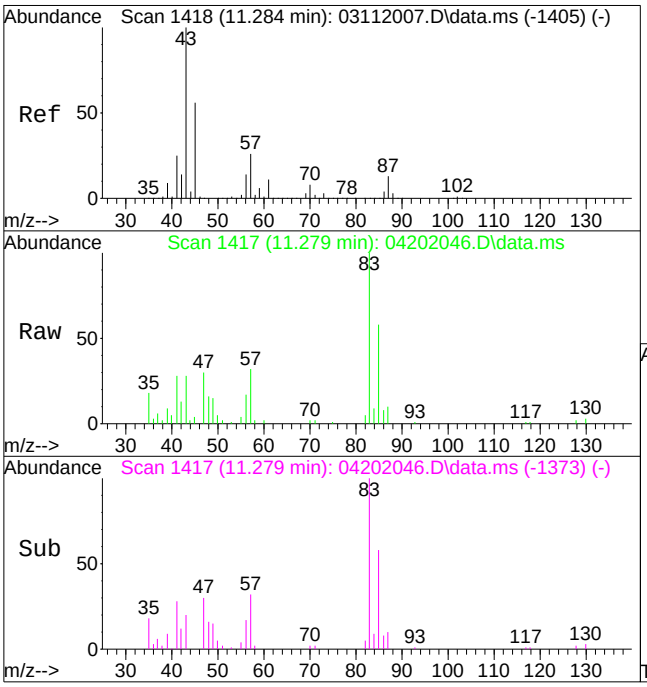


#27
2-Butanone (MEK)
Concen: 4.13 ng
RT: 10.47 min Scan# 1270
Delta R.T. -0.022 min
Lab File: 04202046.D
Acq: 21 Apr 2020 5:11

Tgt Ion: 72 Resp: 86987

Ion	Ratio	Lower	Upper
72	100		
43	397.3	353.4	393.4#

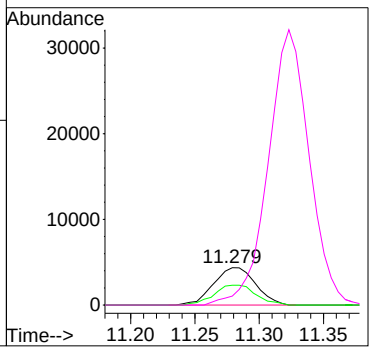


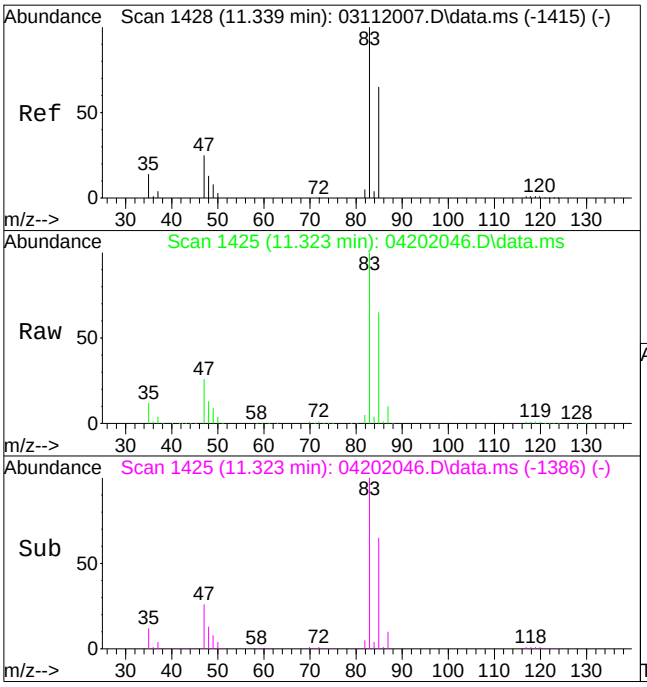


#31
n-Hexane
Concen: 0.17 ng
RT: 11.28 min Scan# 1417
Delta R.T. -0.011 min
Lab File: 04202046.D
Acq: 21 Apr 2020 5:11

Tgt Ion: 57 Resp: 9926

Ion	Ratio	Lower	Upper
57	100		
56	53.0	41.0	61.4
86	716.9	13.9	20.9#

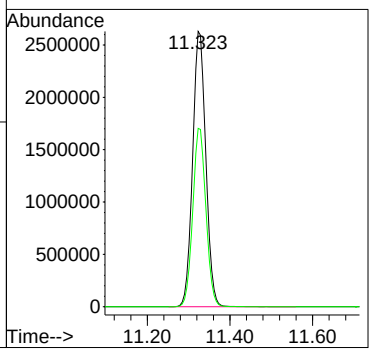


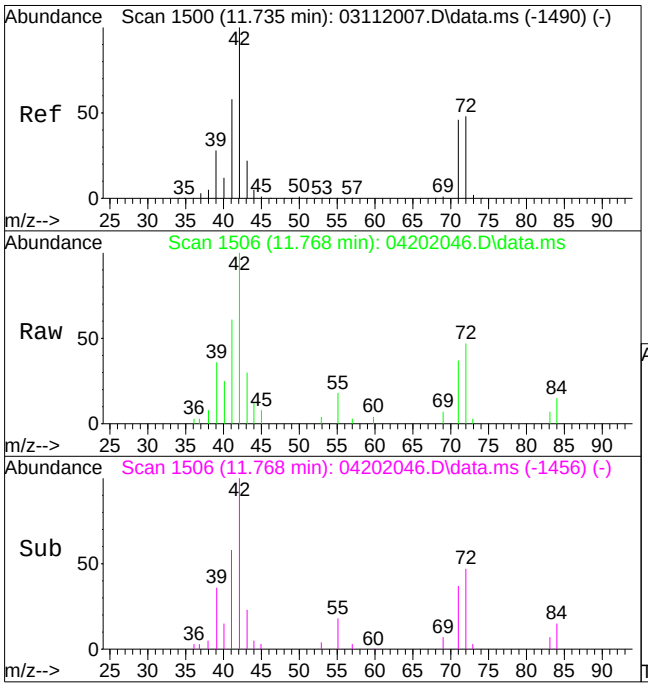


#32
Chloroform
Concen: 94.67 ng
RT: 11.32 min Scan# 1425
Delta R.T. -0.038 min
Lab File: 04202046.D
Acq: 21 Apr 2020 5:11

Tgt Ion: 83 Resp: 5813164

Ion	Ratio	Lower	Upper
83	100		
85	64.8	45.5	85.5

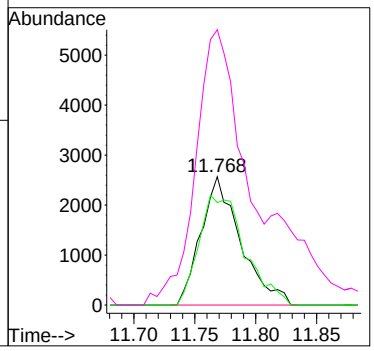


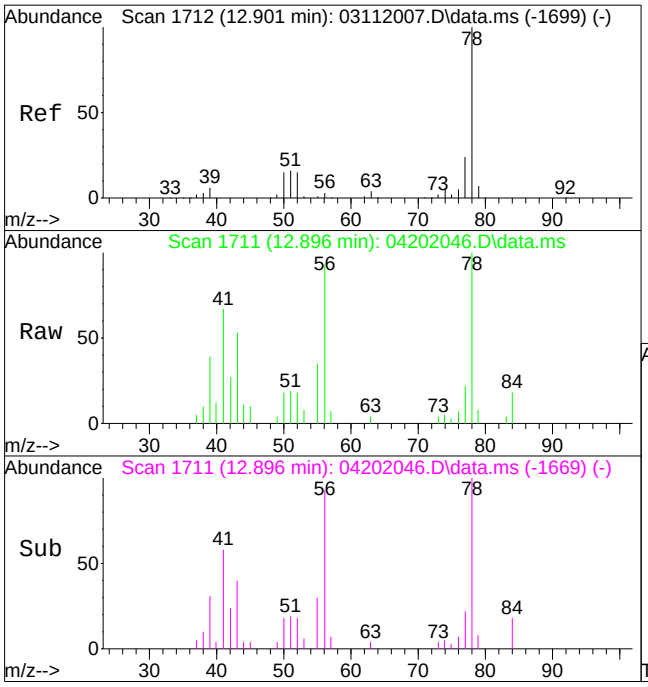


#34
Tetrahydrofuran (THF)
Concen: 0.27 ng
RT: 11.77 min Scan# 1506
Delta R.T. 0.022 min
Lab File: 04202046.D
Acq: 21 Apr 2020 5:11

Tgt Ion: 72 Resp: 5844

Ion	Ratio	Lower	Upper
72	100		
71	98.4	75.9	115.9
42	330.4	189.3	229.3#

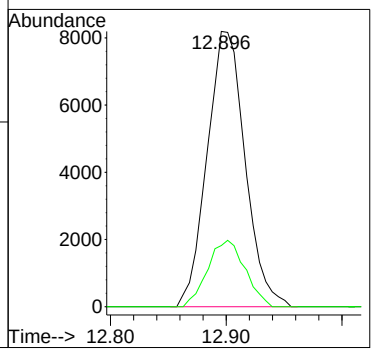


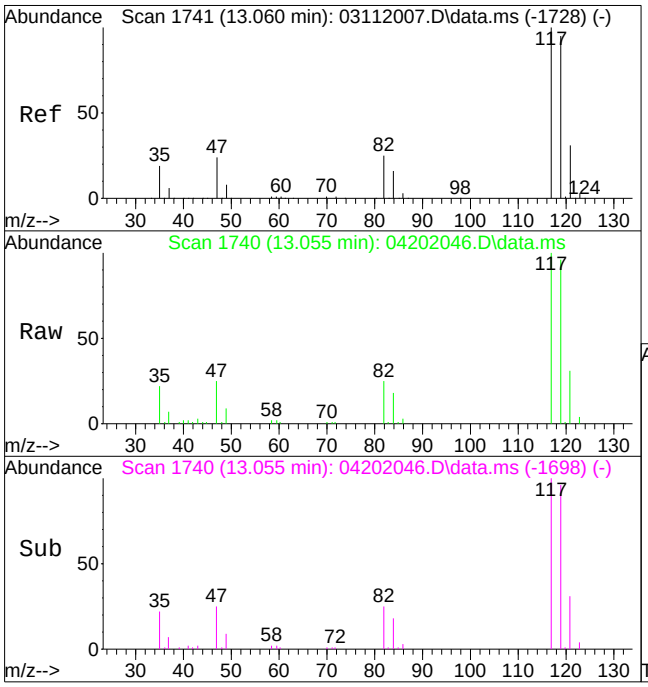


#41
Benzene
Concen: 0.13 ng
RT: 12.90 min Scan# 1711
Delta R.T. -0.016 min
Lab File: 04202046.D
Acq: 21 Apr 2020 5:11

Tgt Ion: 78 Resp: 18657

Ion	Ratio	Lower	Upper
78	100		
77	23.7	3.4	43.4

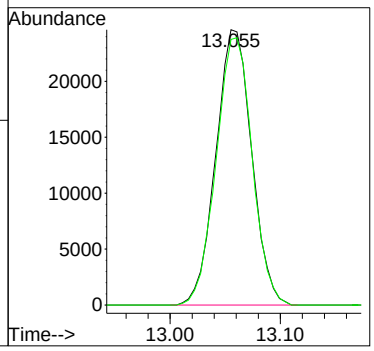


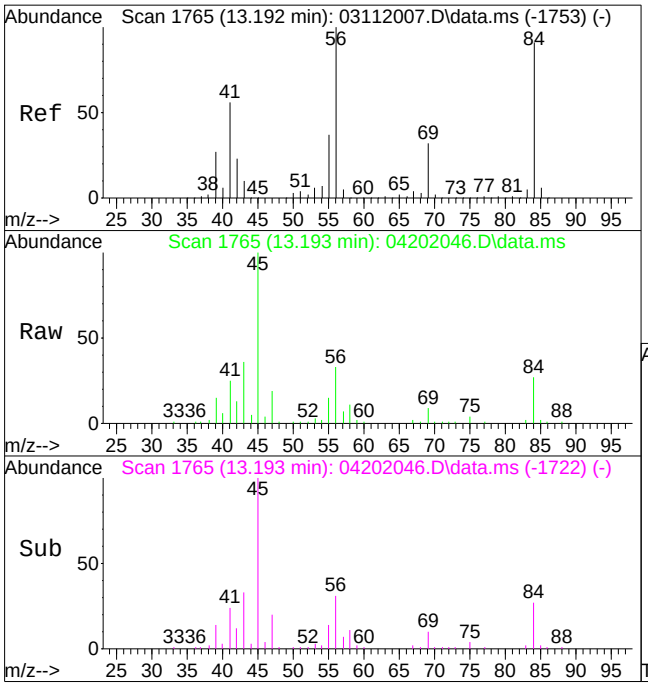


#42
Carbon Tetrachloride
Concen: 1.13 ng
RT: 13.06 min Scan# 1740
Delta R.T. -0.016 min
Lab File: 04202046.D
Acq: 21 Apr 2020 5:11

Tgt Ion:117 Resp: 55695

Ion	Ratio	Lower	Upper
117	100		
119	97.5	75.4	115.4

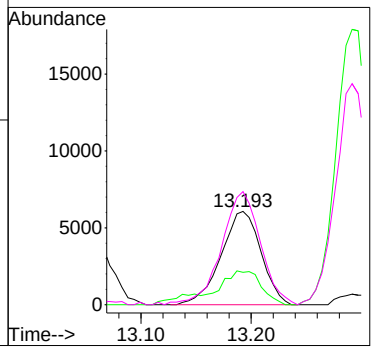


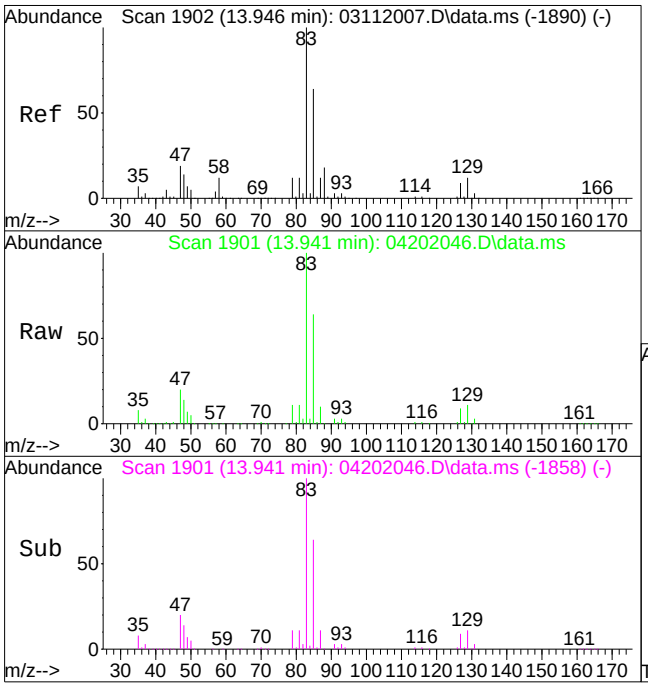


#43
Cyclohexane
Concen: 0.28 ng
RT: 13.19 min Scan# 1765
Delta R.T. -0.011 min
Lab File: 04202046.D
Acq: 21 Apr 2020 5:11

Tgt Ion: 84 Resp: 15280

Ion	Ratio	Lower	Upper
84	100		
69	44.3	15.3	55.3
56	118.5	90.5	130.5

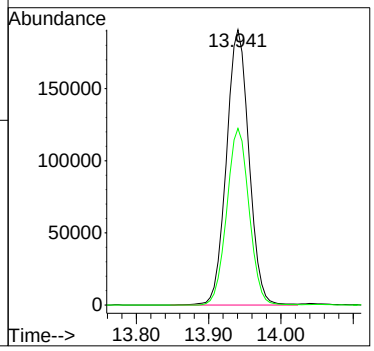


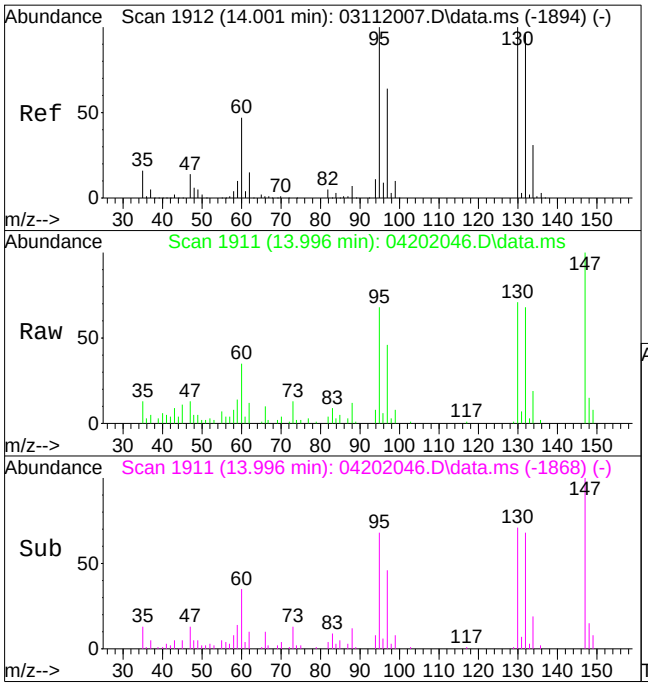


#46
Bromodichloromethane
Concen: 8.49 ng
RT: 13.94 min Scan# 1901
Delta R.T. -0.016 min
Lab File: 04202046.D
Acq: 21 Apr 2020 5:11

Tgt Ion: 83 Resp: 412849

Ion	Ratio	Lower	Upper
83	100		
85	63.6	44.0	84.0

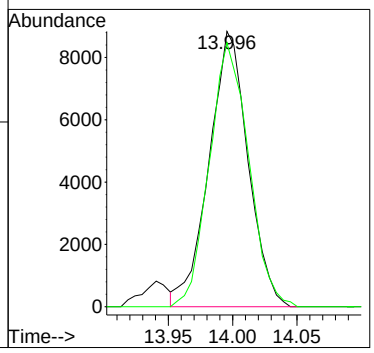


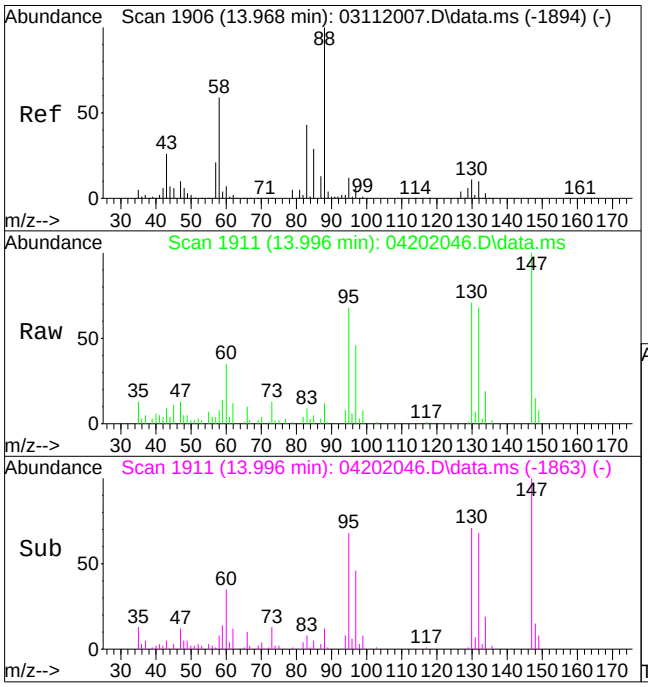


#47
Trichloroethene
Concen: 0.46 ng
RT: 14.00 min Scan# 1911
Delta R.T. -0.011 min
Lab File: 04202046.D
Acq: 21 Apr 2020 5:11

Tgt Ion:130 Resp: 18633

Ion	Ratio	Lower	Upper
130	100		
132	96.6	74.7	114.7

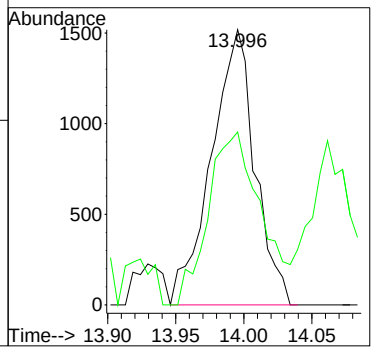


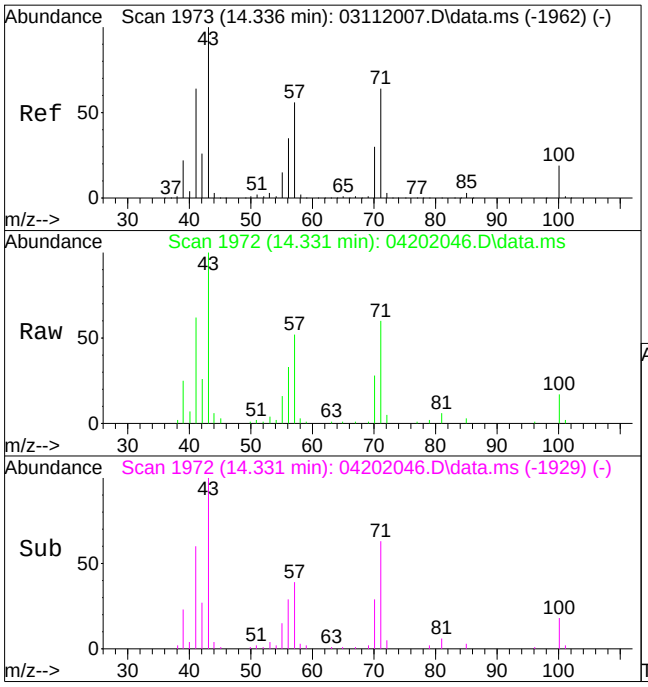


#48
1,4-Dioxane
Concen: 0.12 ng
RT: 14.00 min Scan# 1911
Delta R.T. 0.017 min
Lab File: 04202046.D
Acq: 21 Apr 2020 5:11

Tgt Ion: 88 Resp: 3380

Ion	Ratio	Lower	Upper
88	100		
58	76.2	39.5	79.5

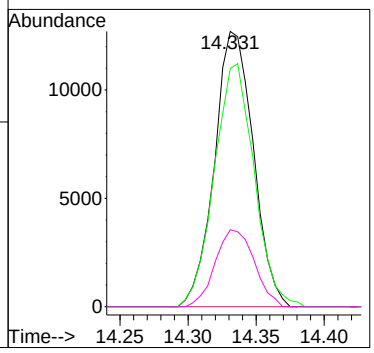


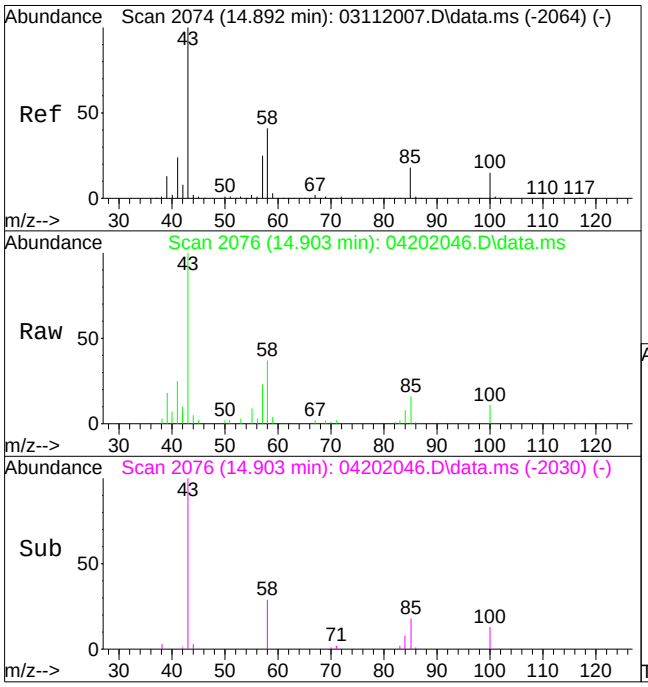


#51
n-Heptane
Concen: 0.75 ng
RT: 14.33 min Scan# 1972
Delta R.T. -0.011 min
Lab File: 04202046.D
Acq: 21 Apr 2020 5:11

Tgt Ion: 71 Resp: 25172

Ion	Ratio	Lower	Upper
71	100		
57	90.7	68.6	108.6
100	28.1	9.1	49.1

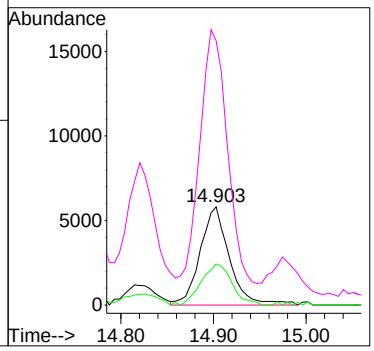


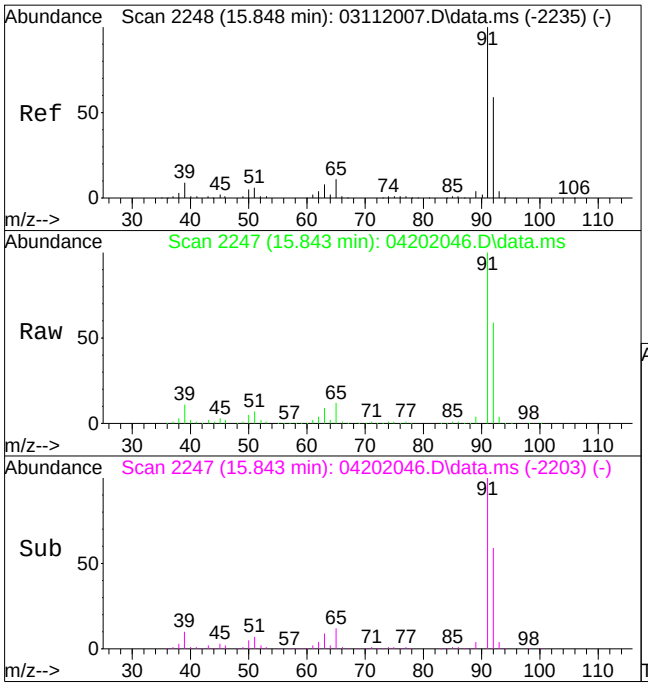


#53
4-Methyl-2-pentanone
Concen: 0.42 ng
RT: 14.90 min Scan# 2076
Delta R.T. 0.000 min
Lab File: 04202046.D
Acq: 21 Apr 2020 5:11

Tgt Ion: 58 Resp: 12795

Ion	Ratio	Lower	Upper
58	100		
85	43.2	37.0	55.4
43	248.8	196.3	294.5

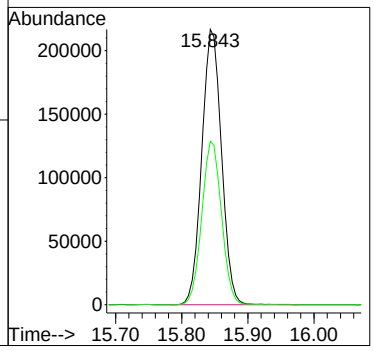


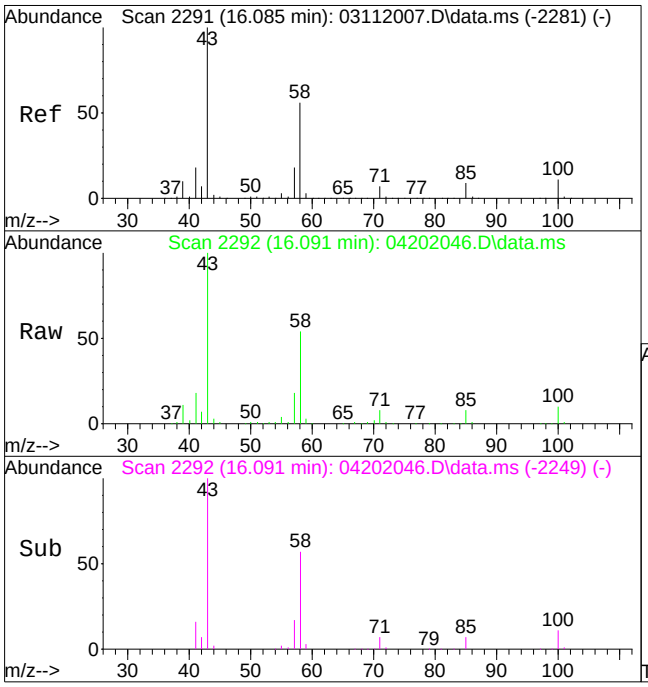


#58
Toluene
Concen: 3.07 ng
RT: 15.84 min Scan# 2247
Delta R.T. -0.011 min
Lab File: 04202046.D
Acq: 21 Apr 2020 5:11

Tgt Ion: 91 Resp: 448680

Ion	Ratio	Lower	Upper
91	100		
92	59.3	39.0	79.0

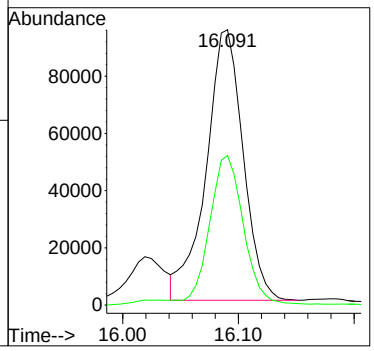


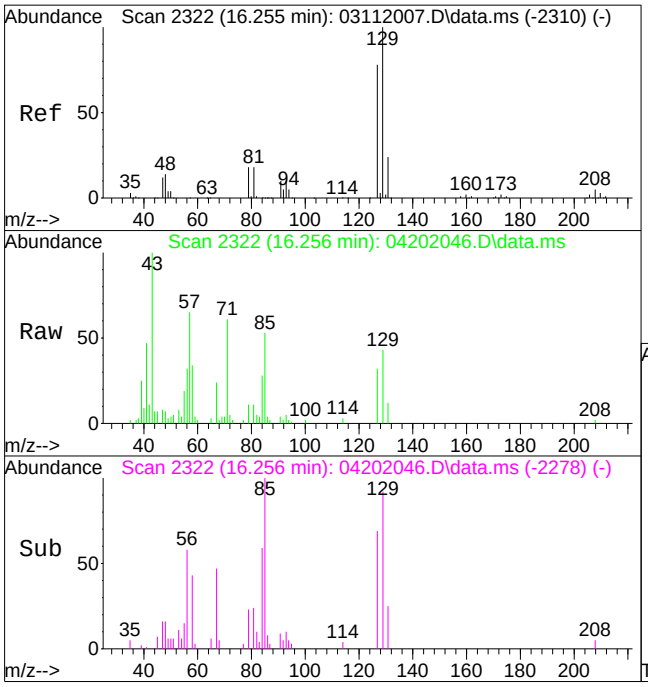


#59
2-Hexanone
Concen: 2.88 ng
RT: 16.09 min Scan# 2292
Delta R.T. -0.011 min
Lab File: 04202046.D
Acq: 21 Apr 2020 5:11

Tgt Ion: 43 Resp: 210746

Ion	Ratio	Lower	Upper
43	100		
58	50.5	36.5	76.5

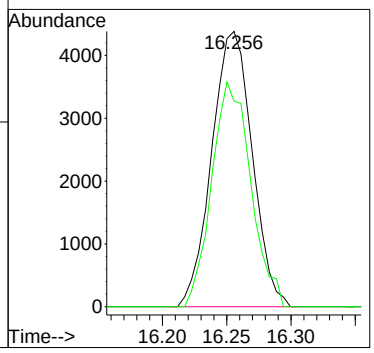


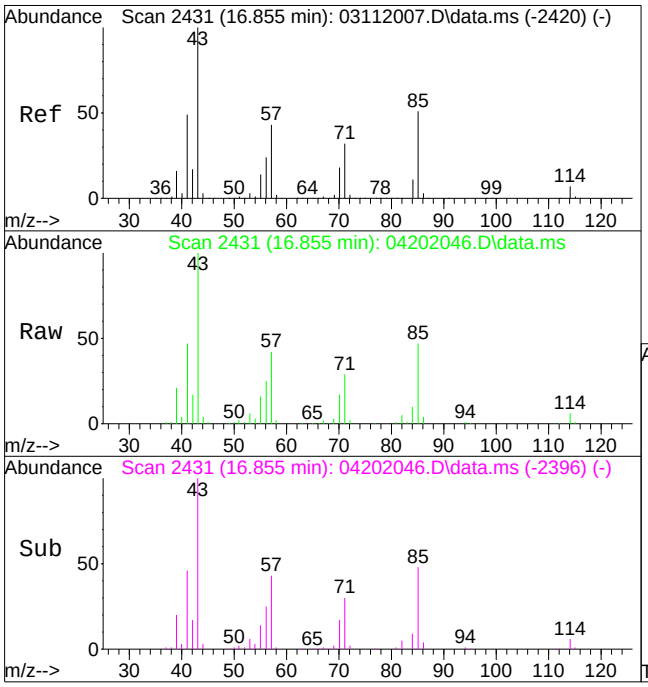


#60
Dibromochloromethane
Concen: 0.25 ng
RT: 16.26 min Scan# 2322
Delta R.T. -0.005 min
Lab File: 04202046.D
Acq: 21 Apr 2020 5:11

Tgt Ion:129 Resp: 9606

Ion	Ratio	Lower	Upper
129	100		
127	78.6	57.3	97.3

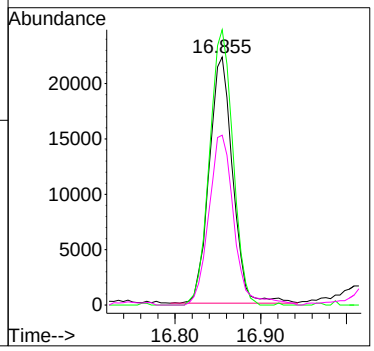


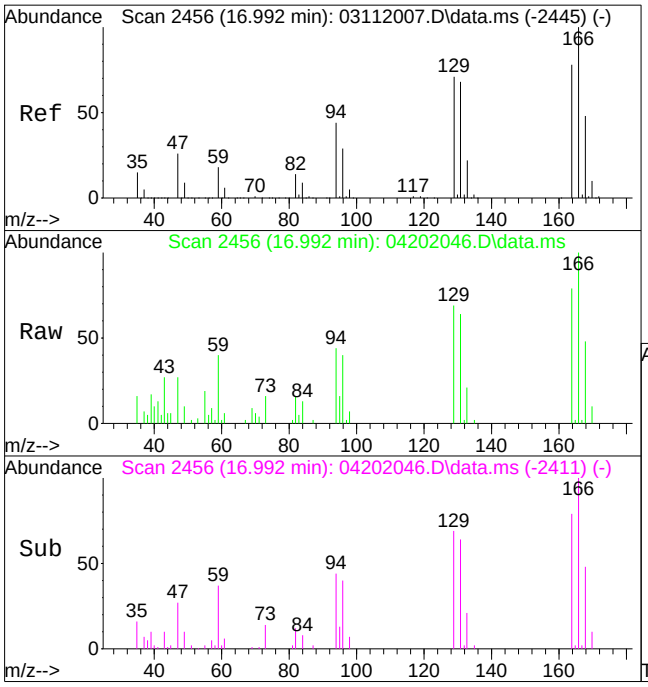


#63
n-Octane
Concen: 1.46 ng
RT: 16.86 min Scan# 2431
Delta R.T. -0.005 min
Lab File: 04202046.D
Acq: 21 Apr 2020 5:11

Tgt Ion: 57 Resp: 42423

Ion	Ratio	Lower	Upper
57	100		
85	110.9	95.1	142.7
71	73.5	58.2	87.4

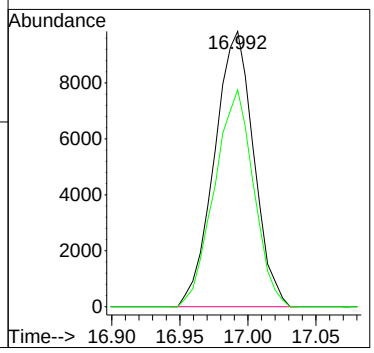


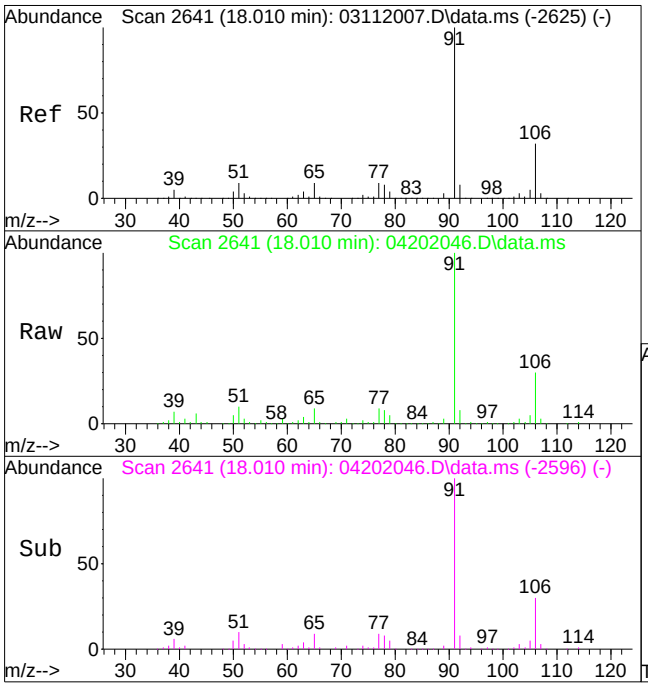


#64
Tetrachloroethene
Concen: 0.48 ng
RT: 16.99 min Scan# 2456
Delta R.T. -0.005 min
Lab File: 04202046.D
Acq: 21 Apr 2020 5:11

Tgt Ion:166 Resp: 19726

Ion	Ratio	Lower	Upper
166	100		
164	78.5	58.6	98.6

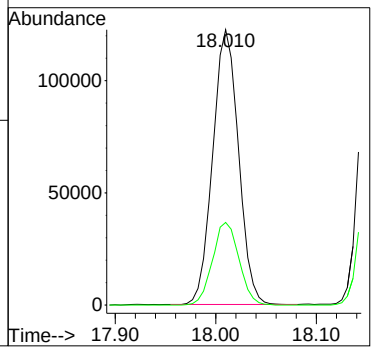


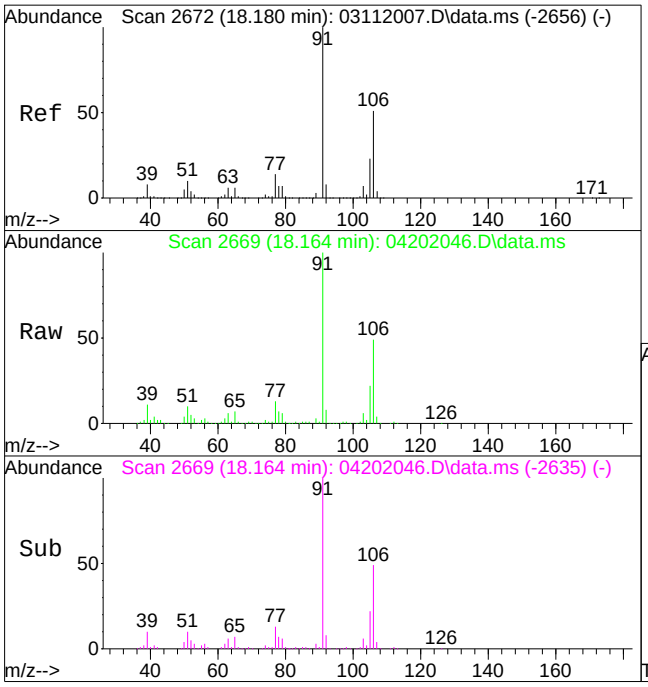


#66
Ethylbenzene
Concen: 1.36 ng
RT: 18.01 min Scan# 2641
Delta R.T. 0.000 min
Lab File: 04202046.D
Acq: 21 Apr 2020 5:11

Tgt Ion: 91 Resp: 217566

Ion	Ratio	Lower	Upper
91	100		
106	30.9	11.7	51.7

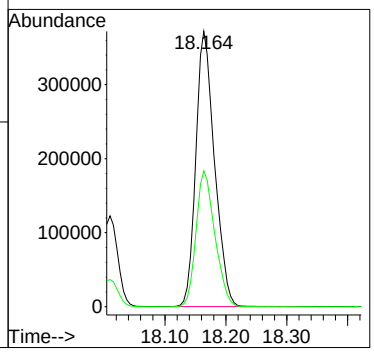


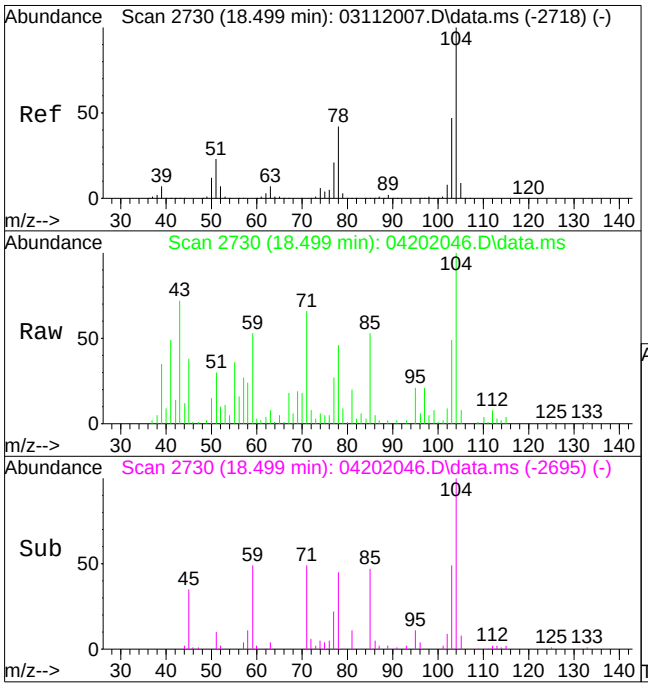


#67
m- & p-Xylenes
Concen: 6.07 ng
RT: 18.16 min Scan# 2669
Delta R.T. -0.011 min
Lab File: 04202046.D
Acq: 21 Apr 2020 5:11

Tgt Ion: 91 Resp: 791020

Ion	Ratio	Lower	Upper
91	100		
106	49.8	30.4	70.4

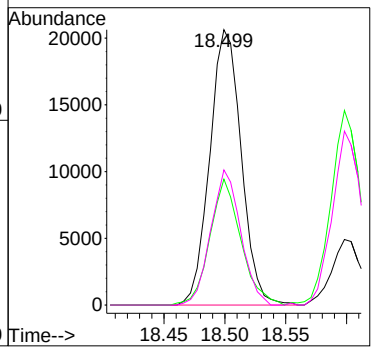


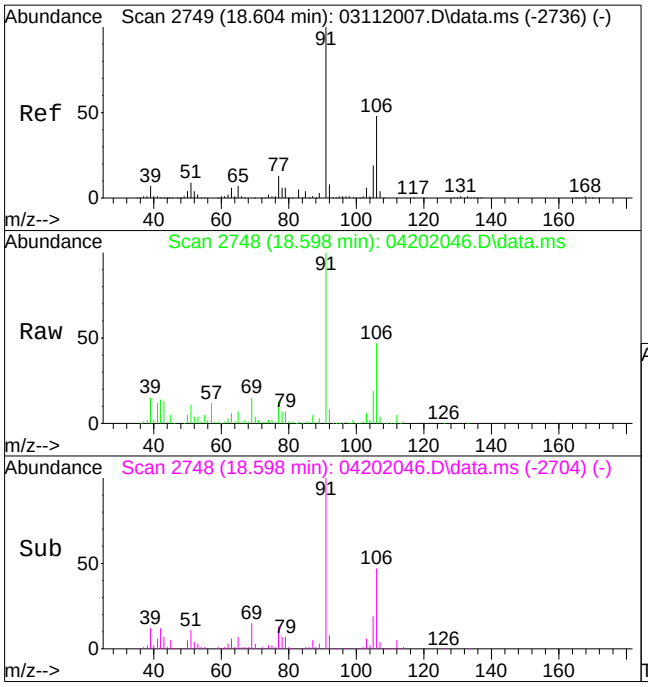


#69
Styrene
Concen: 0.36 ng
RT: 18.50 min Scan# 2730
Delta R.T. -0.006 min
Lab File: 04202046.D
Acq: 21 Apr 2020 5:11

Tgt Ion:104 Resp: 37132

Ion	Ratio	Lower	Upper
104	100		
78	44.9	20.9	60.9
103	46.4	27.4	67.4

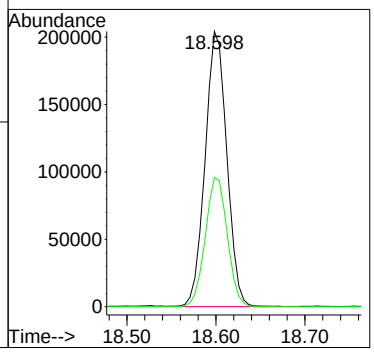


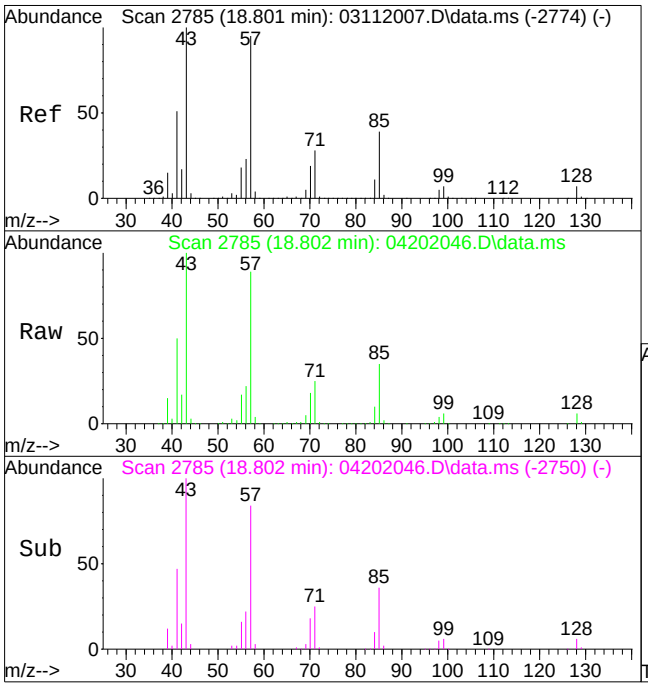


#70
o-Xylene
Concen: 2.65 ng
RT: 18.60 min Scan# 2748
Delta R.T. -0.011 min
Lab File: 04202046.D
Acq: 21 Apr 2020 5:11

Tgt Ion: 91 Resp: 345760

Ion	Ratio	Lower	Upper
91	100		
106	47.6	28.1	68.1

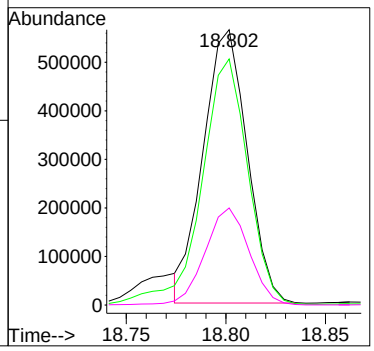


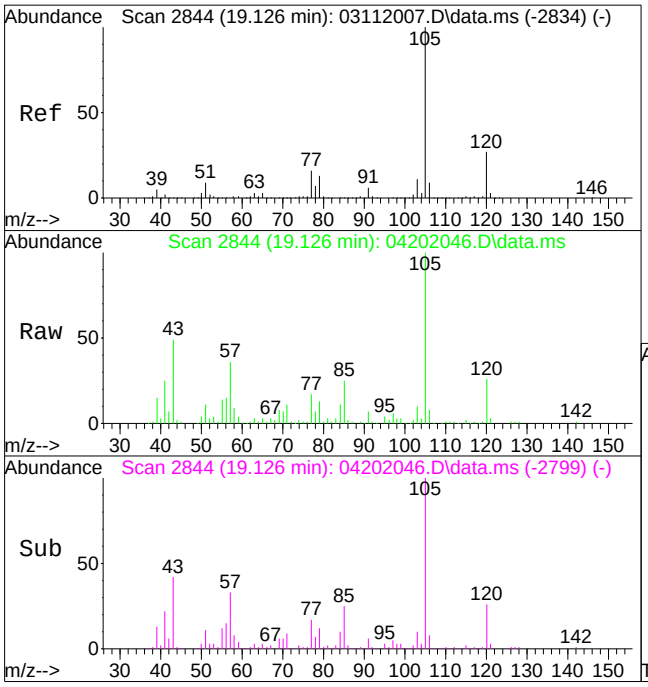


#71
n-Nonane
Concen: 13.29 ng m
RT: 18.80 min Scan# 2785
Delta R.T. -0.005 min
Lab File: 04202046.D
Acq: 21 Apr 2020 5:11

Tgt Ion: 43 Resp: 865764

Ion	Ratio	Lower	Upper
43	100		
57	94.0	73.6	113.6
85	35.7	18.7	58.7

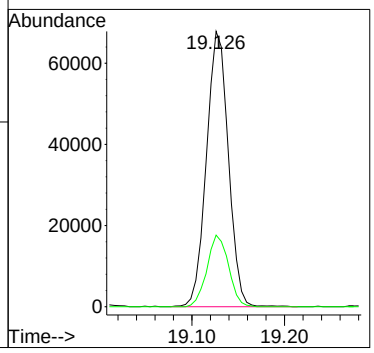


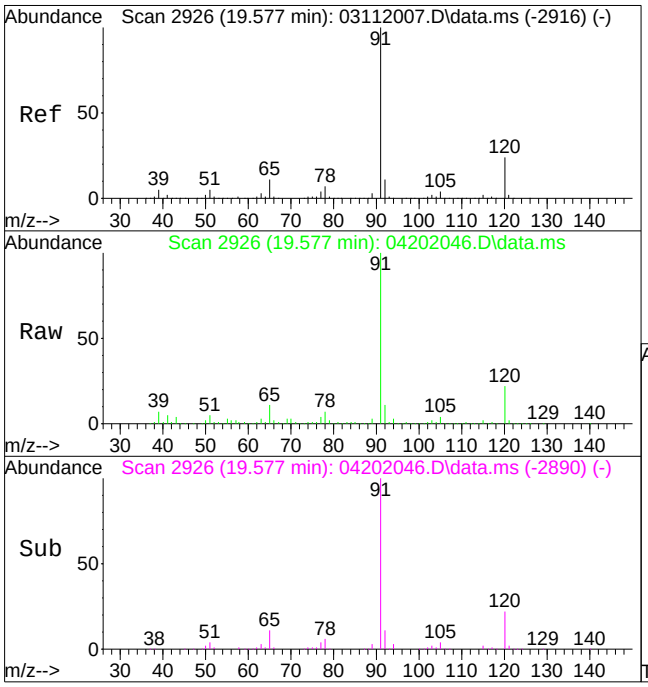


#74
Cumene
Concen: 0.68 ng
RT: 19.13 min Scan# 2844
Delta R.T. 0.000 min
Lab File: 04202046.D
Acq: 21 Apr 2020 5:11

Tgt Ion:105 Resp: 111466

Ion	Ratio	Lower	Upper
105	100		
120	25.6	7.2	47.2

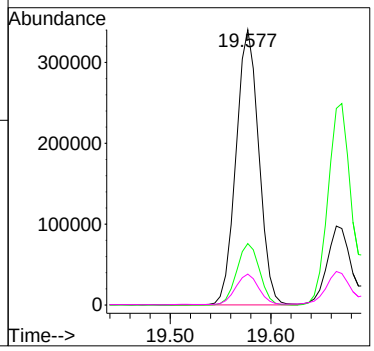


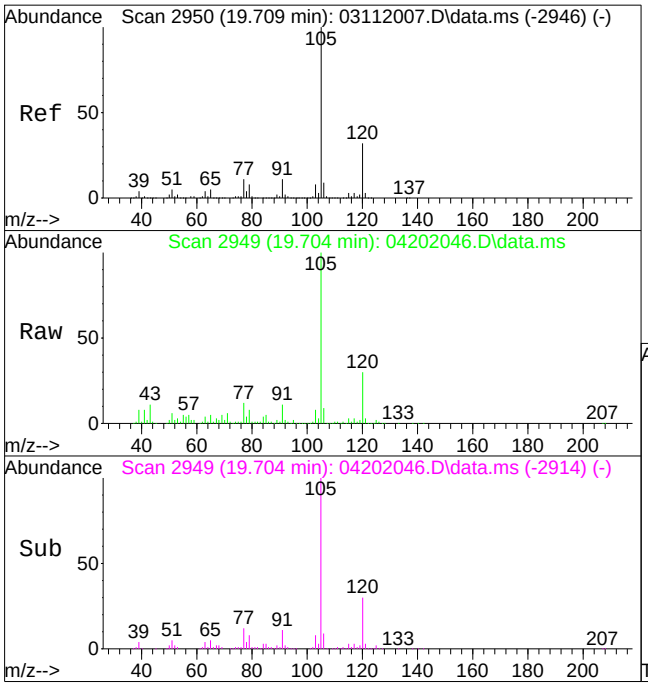


#76
n-Propylbenzene
Concen: 2.78 ng
RT: 19.58 min Scan# 2926
Delta R.T. 0.000 min
Lab File: 04202046.D
Acq: 21 Apr 2020 5:11

Tgt Ion: 91 Resp: 535365

Ion	Ratio	Lower	Upper
91	100		
120	22.3	3.9	43.9
65	11.1	0.0	30.5

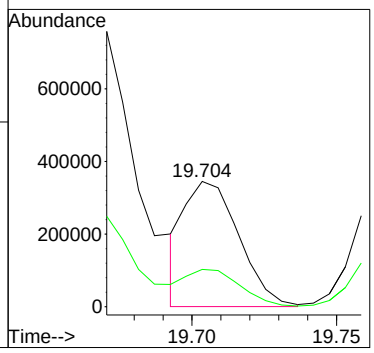


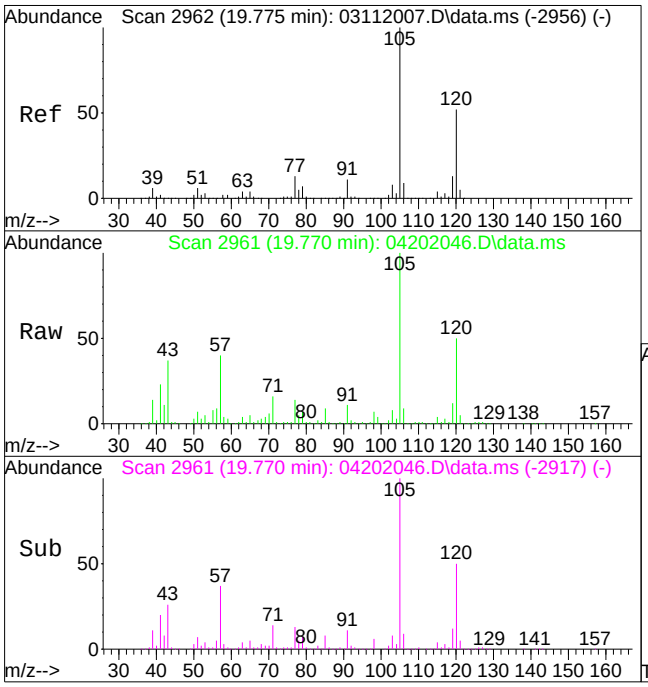


#78
4-Ethyltoluene
Concen: 2.90 ng
RT: 19.70 min Scan# 2949
Delta R.T. -0.005 min
Lab File: 04202046.D
Acq: 21 Apr 2020 5:11

Tgt Ion:105 Resp: 453212

Ion	Ratio	Lower	Upper
105	100		
120	30.5	11.1	51.1

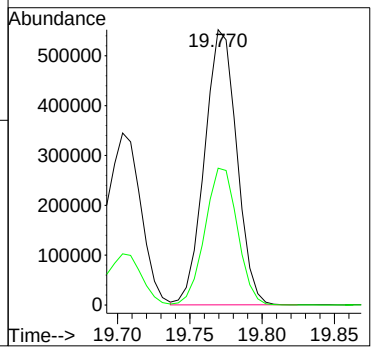


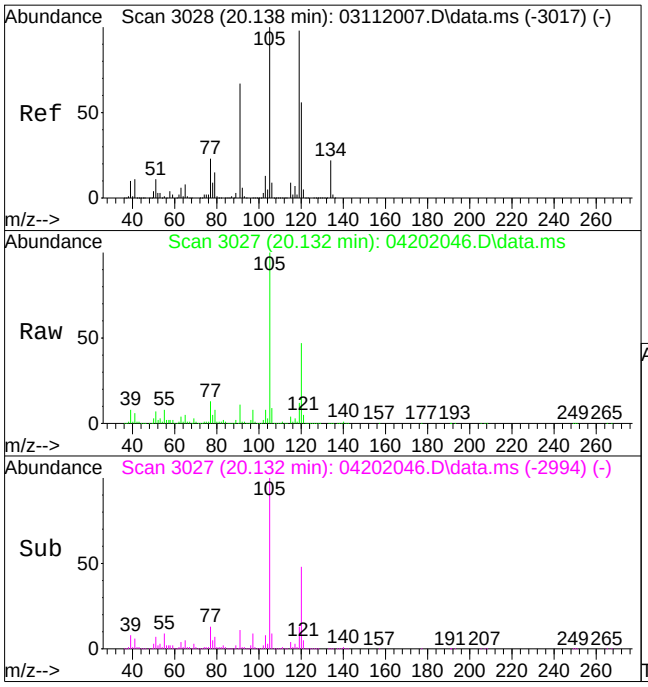


#79
1,3,5-Trimethylbenzene
Concen: 6.13 ng
RT: 19.77 min Scan# 2961
Delta R.T. -0.005 min
Lab File: 04202046.D
Acq: 21 Apr 2020 5:11

Tgt Ion:105 Resp: 853499

Ion	Ratio	Lower	Upper
105	100		
120	50.4	31.3	71.3

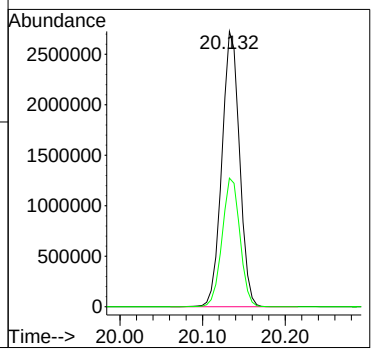


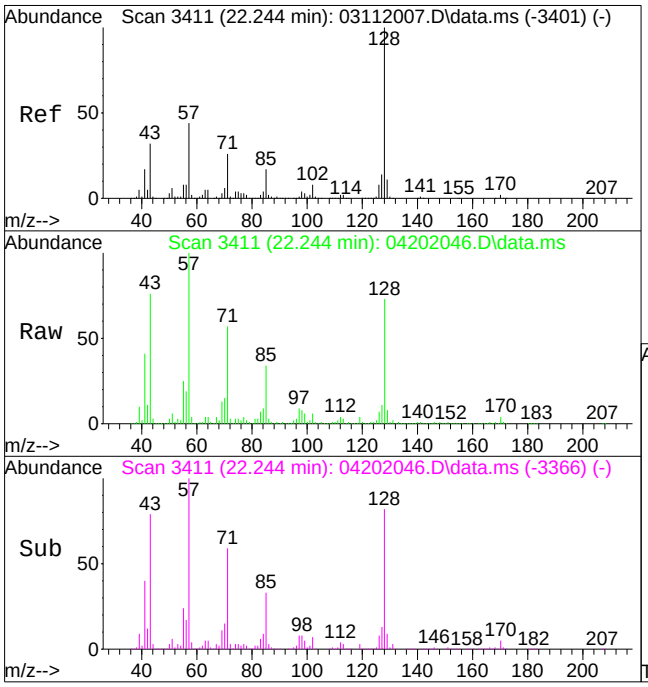


#82
1,2,4-Trimethylbenzene
Concen: 27.98 ng
RT: 20.13 min Scan# 3027
Delta R.T. -0.017 min
Lab File: 04202046.D
Acq: 21 Apr 2020 5:11

Tgt Ion:105 Resp: 4037866

Ion	Ratio	Lower	Upper
105	100		
120	47.4	35.8	75.8

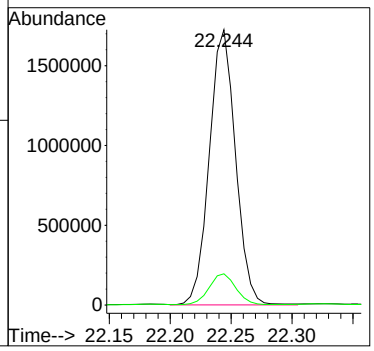




#95
Naphthalene
Concen: 15.95 ng
RT: 22.24 min Scan# 3411
Delta R.T. -0.005 min
Lab File: 04202046.D
Acq: 21 Apr 2020 5:11

Tgt Ion:128 Resp: 2575152

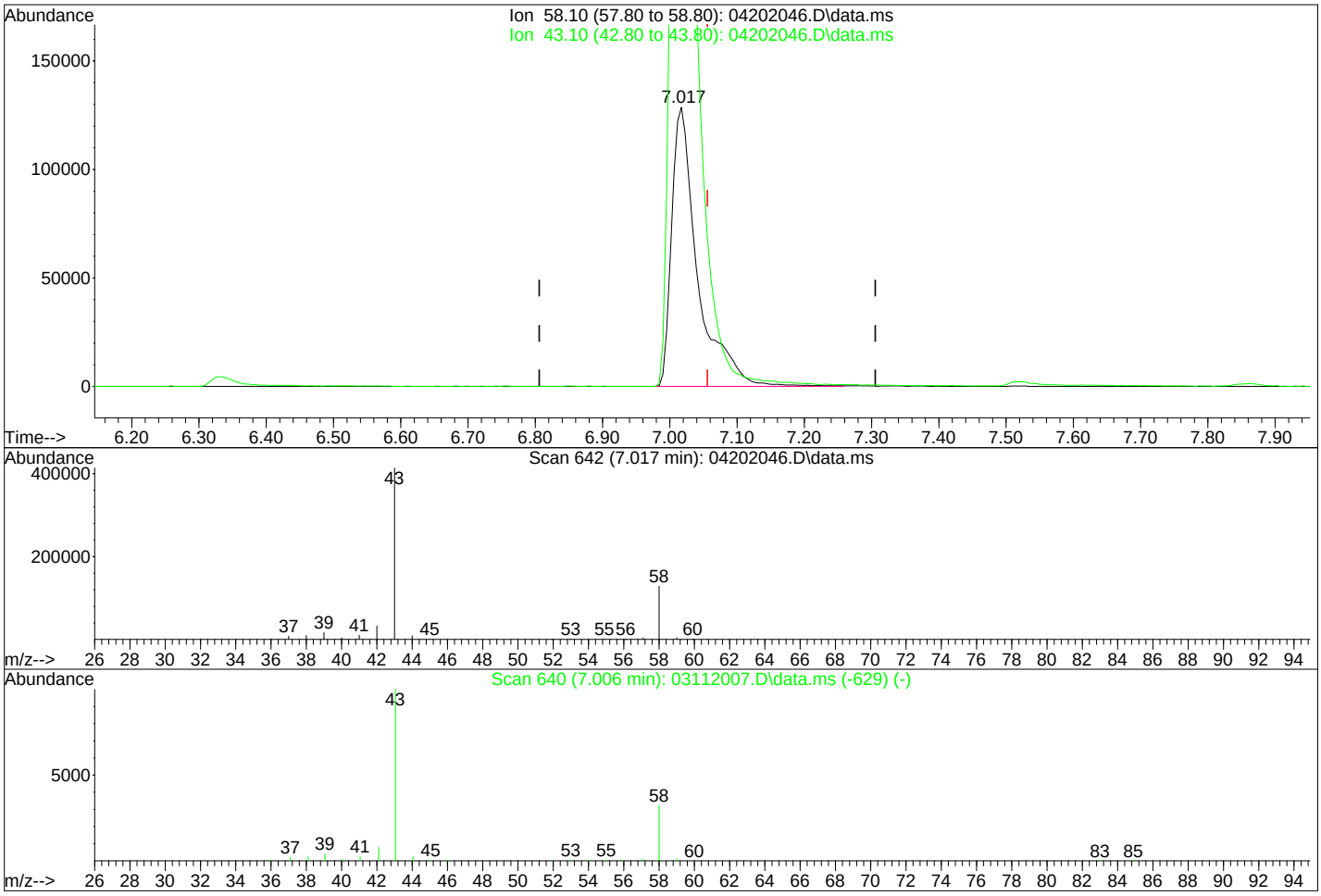
Ion	Ratio	Lower	Upper
128	100		
129	11.8	0.0	31.1



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\20\04202046.D Vial: 13
Acq On : 21 Apr 2020 5:11 Operator: LH
Sample : P2002031-012 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 21 12:27:11 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202046.D\data.ms

(13) Acetone (T)

7.017min (-0.039) 13.65ng

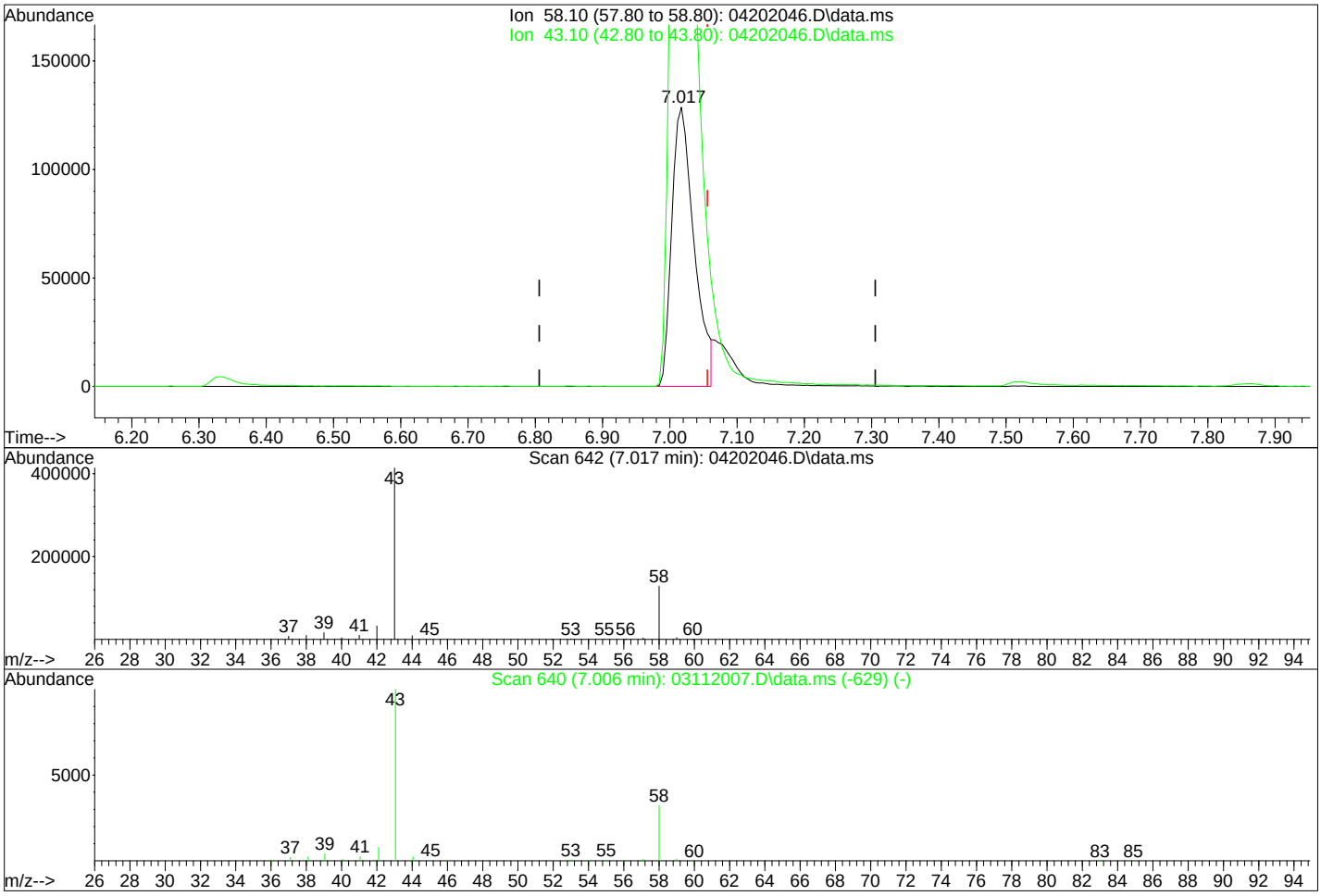
response 345388

Ion	Exp%	Act%
58.10	100	100
43.10	317.30	296.48
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\20\04202046.D Vial: 13
Acq On : 21 Apr 2020 5:11 Operator: LH
Sample : P2002031-012 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 21 12:27:11 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202046.D\data.ms

(13) Acetone (T)

7.017min (-0.039) 11.74ng m

response 296974

Ion	Exp%	Act%
58.10	100	100
43.10	317.30	344.81
0.00	0.00	0.00
0.00	0.00	0.00

IPC

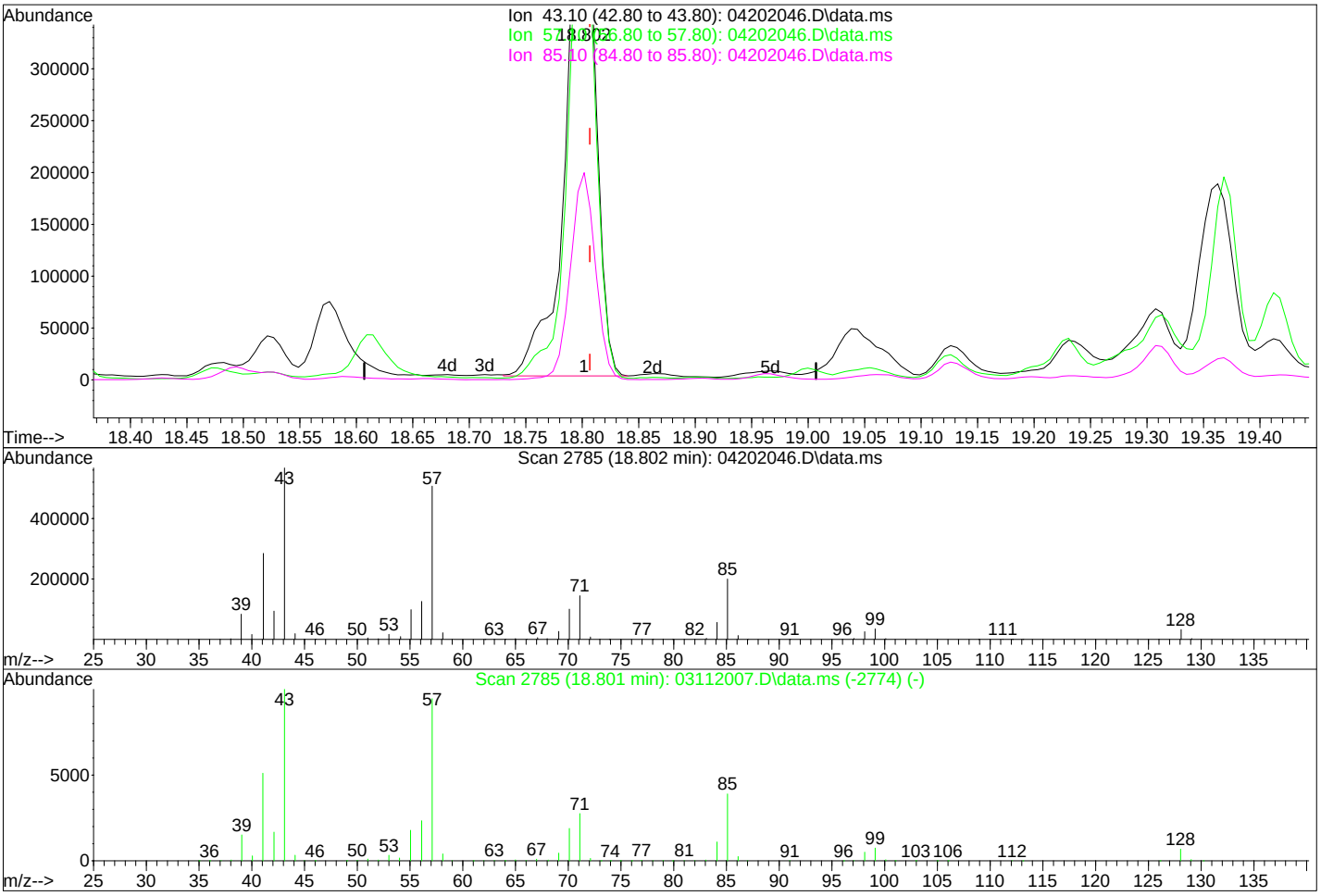
LH 4/22/20

4/23/20

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\20\04202046.D Vial: 13
Acq On : 21 Apr 2020 5:11 Operator: LH
Sample : P2002031-012 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 21 12:27:11 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202046.D\data.ms

(71) n-Nonane (T)

18.802min (-0.005) 14.61ng

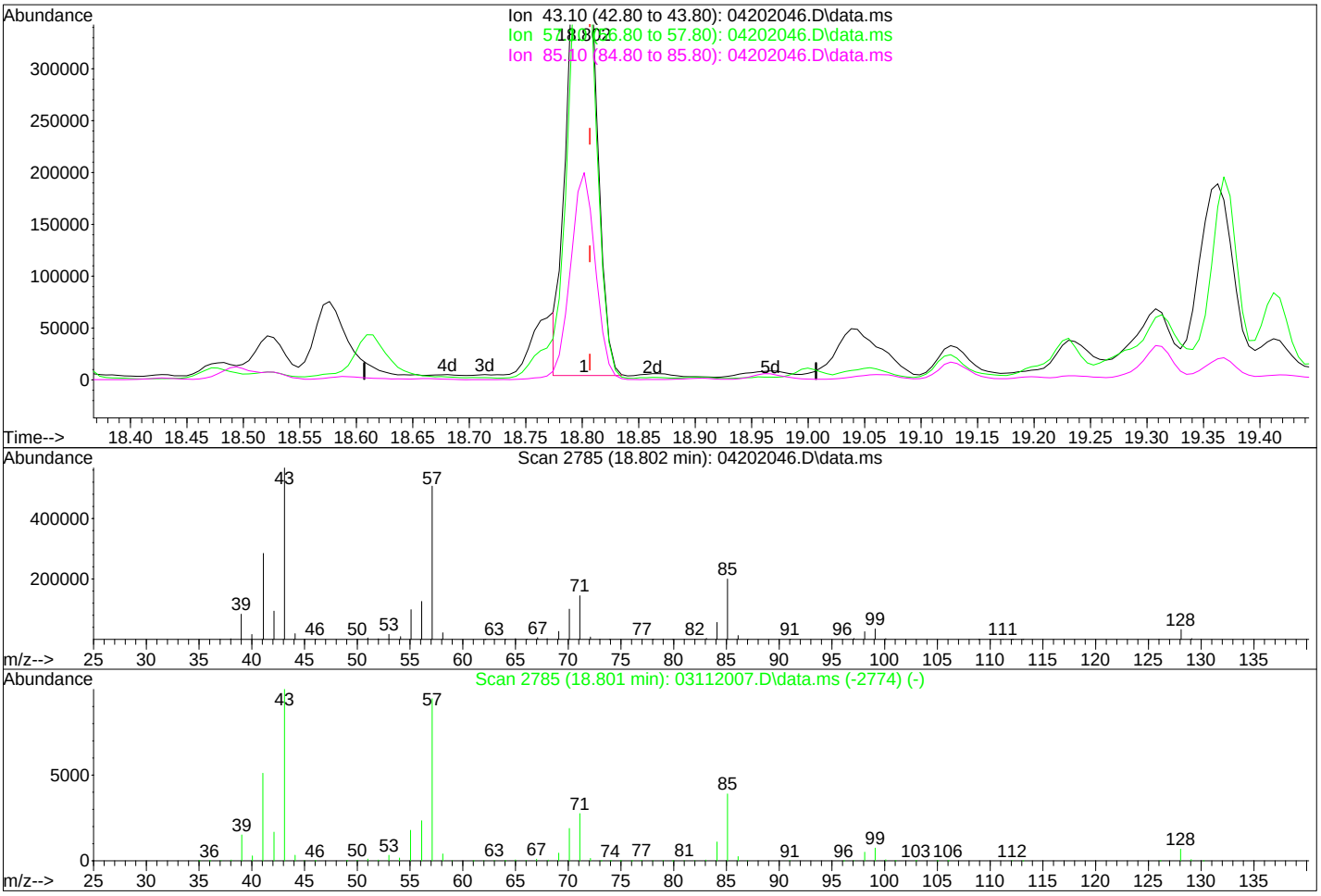
response 952248

Ion	Exp%	Act%
43.10	100	100
57.10	93.60	85.44
85.10	38.70	32.43
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\20\04202046.D Vial: 13
Acq On : 21 Apr 2020 5:11 Operator: LH
Sample : P2002031-012 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 21 12:27:11 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202046.D\data.ms

(71) n-Nonane (T)

18.802min (-0.005) 13.29ng m

response 865764

Ion	Exp%	Act%
43.10	100	100
57.10	93.60	93.98
85.10	38.70	35.67
0.00	0.00	0.00

IPC

LH 4/22/20

4/23/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202047.D Vial: 14
Acq On : 21 Apr 2020 5:44 Operator: LH
Sample : P2002031-013 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 17:14:26 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 4/22/20
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	345241	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.29	114	1514057	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	703989	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	571532	11.955	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.68%				
57) Toluene-d8 (SS2)	15.74	98	1530492	12.265	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.16%				
73) Bromofluorobenzene (SS3)	19.00	174	544258	12.352	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.80%				
Target Compounds							Qvalue
2) Propene	4.14	42	9195m	0.254	ng		
3) Dichlorodifluoromethan...	4.28	85	33406	0.429	ng		99
4) Chloromethane	4.56	50	4522	0.074	ng		95
5) 1,2-Dichloro-1,1,2,2-t...	4.83	135	1064	N.D.			
6) Vinyl Chloride	4.98	62	233	N.D.			
7) 1,3-Butadiene	5.25	54	255	N.D.			
8) Bromomethane	5.67	94	1487	N.D.			
9) Chloroethane	6.01	64	872	N.D.			
10) Ethanol	6.34	45	38859	1.358	ng		99
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	6.83	56	6134	0.291	ng		89
13) Acetone	7.02	58	214432	7.593	ng		97
14) Trichlorofluoromethane	7.26	101	15192	0.221	ng		99
15) 2-Propanol (Isopropanol)	7.52	45	39949	0.477	ng		76
16) Acrylonitrile	7.85	53	54	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.43	84	4342	0.118	ng		98
20) 3-Chloro-1-propene (Al...	8.60	41	159	N.D.			
21) Trichlorotrifluoroethane	8.88	151	3090	0.094	ng		98
22) Carbon Disulfide	8.71	76	97825	0.740	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	9.97	63	454	N.D.			
25) Methyl tert-Butyl Ether	10.10	73	2472	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.47	72	99439	4.230	ng	#	91
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	11.28	57	24702	0.384	ng	#	1
32) Chloroform	11.32	83	8590433	125.321	ng		99
34) Tetrahydrofuran (THF)	11.74	72	338192	13.981	ng		95
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.16	62	100	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	12.88	61	115	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.90	78	37131	0.237	ng		99
42) Carbon Tetrachloride	13.06	117	208599	3.880	ng		100
43) Cyclohexane	13.19	84	34419	0.573	ng		94
44) tert-Amyl Methyl Ether	13.58	73	131	N.D.			
45) 1,2-Dichloropropane	13.65	63	127	N.D.			
46) Bromodichloromethane	13.94	83	771534	14.580	ng		99
47) Trichloroethene	14.00	130	23531	0.530	ng		99
48) 1,4-Dioxane	0.00	88	0	N.D.	d		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202047.D Vial: 14
Acq On : 21 Apr 2020 5:44 Operator: LH
Sample : P2002031-013 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 17:14:26 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

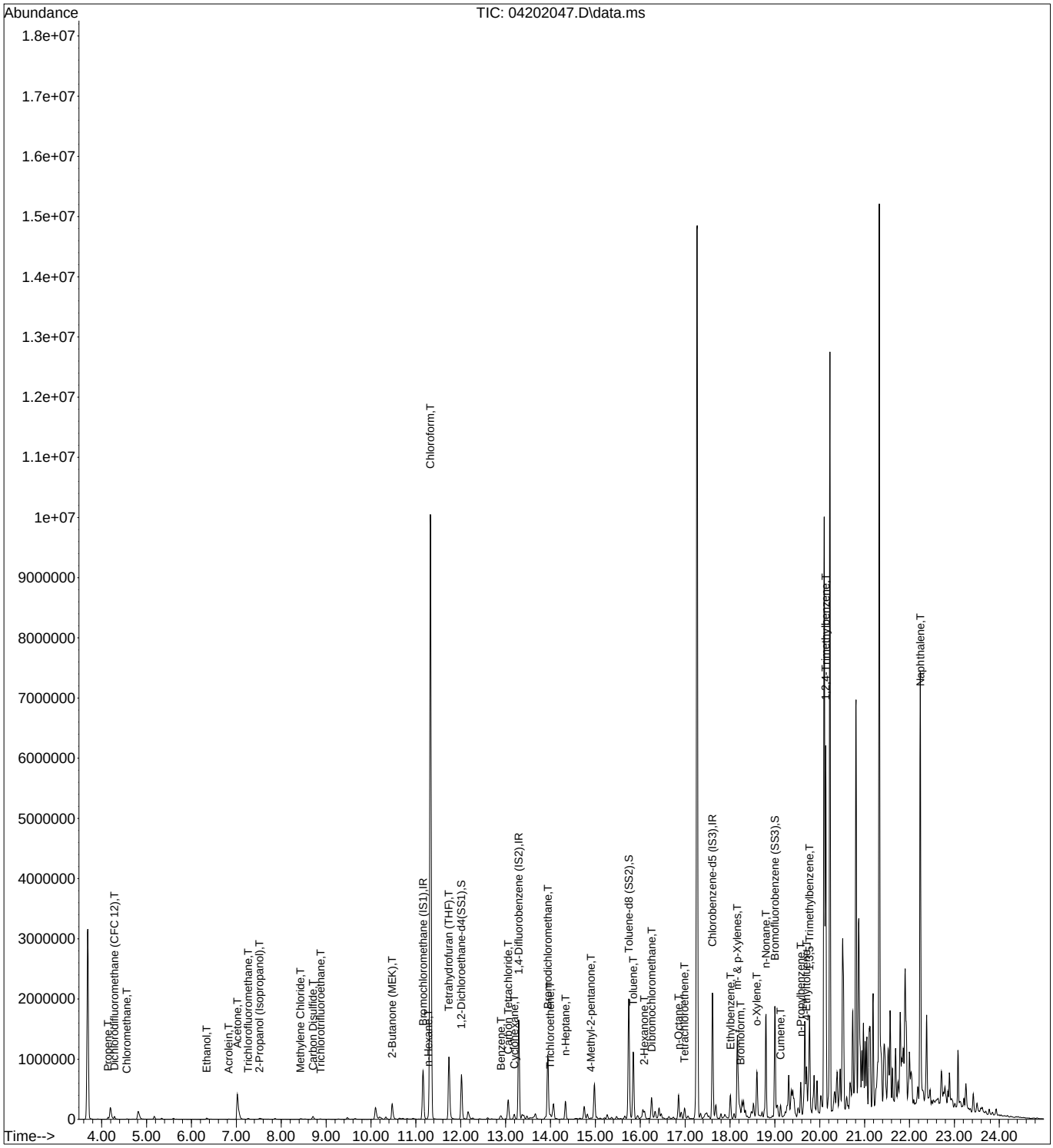
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.34	71	78665	2.152 ng	98
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.90	58	6532	0.199 ng	89
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	15.47	97	1795	N.D.	
58) Toluene	15.84	91	907559	5.882 ng	100
59) 2-Hexanone	16.09	43	88214	1.143 ng	97
60) Dibromochloromethane	16.26	129	159562	3.885 ng	100
61) 1,2-Dibromoethane	16.51	107	1338	N.D.	
62) n-Butyl Acetate	16.73	43	3850	N.D.	
63) n-Octane	16.86	57	78076	2.550 ng	97
64) Tetrachloroethene	16.99	166	55372	1.288 ng	98
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	18.01	91	295459	1.746 ng	99
67) m- & p-Xylenes	18.16	91	1003521	7.289 ng	99
68) Bromoform	18.24	173	24687	0.666 ng	99
69) Styrene	18.50	104	3548	N.D.	
70) o-Xylene	18.60	91	365398	2.655 ng	99
71) n-Nonane	18.80	43	643234	9.346 ng	92
72) 1,1,2,2-Tetrachloroethane	18.59	83	1181	N.D.	
74) Cumene	19.13	105	93293	0.536 ng	99
75) alpha-Pinene	19.48	93	552	N.D.	
76) n-Propylbenzene	19.58	91	417341	2.053 ng	97
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.70	105	424422	2.567 ng	98
79) 1,3,5-Trimethylbenzene	19.77	105	597967	4.064 ng	99
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.13	105	3014466	19.776 ng	89
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.23	91	3031	N.D.	
85) 1,3-Dichlorobenzene	20.27	146	441	N.D.	
86) 1,4-Dichlorobenzene	20.32	146	819	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	20.63	146	319	N.D.	
91) d-Limonene	20.64	68	2355	N.D.	
92) 1,2-Dibromo-3-Chloropr...	21.05	157	402	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.13	180	1343	N.D.	
95) Naphthalene	22.24	128	1363550	7.997 ng	98
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	22.56	225	314	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202047.D Vial: 14
Acq On : 21 Apr 2020 5:44 Operator: LH
Sample : P2002031-013 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 17:14:26 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202047.D Vial: 14
Acq On : 21 Apr 2020 5:44 Operator: LH
Sample : P2002031-013 (400mL) Inst : GCMS-16
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Quant Time: Apr 22 17:14:26 2020
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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/22/20

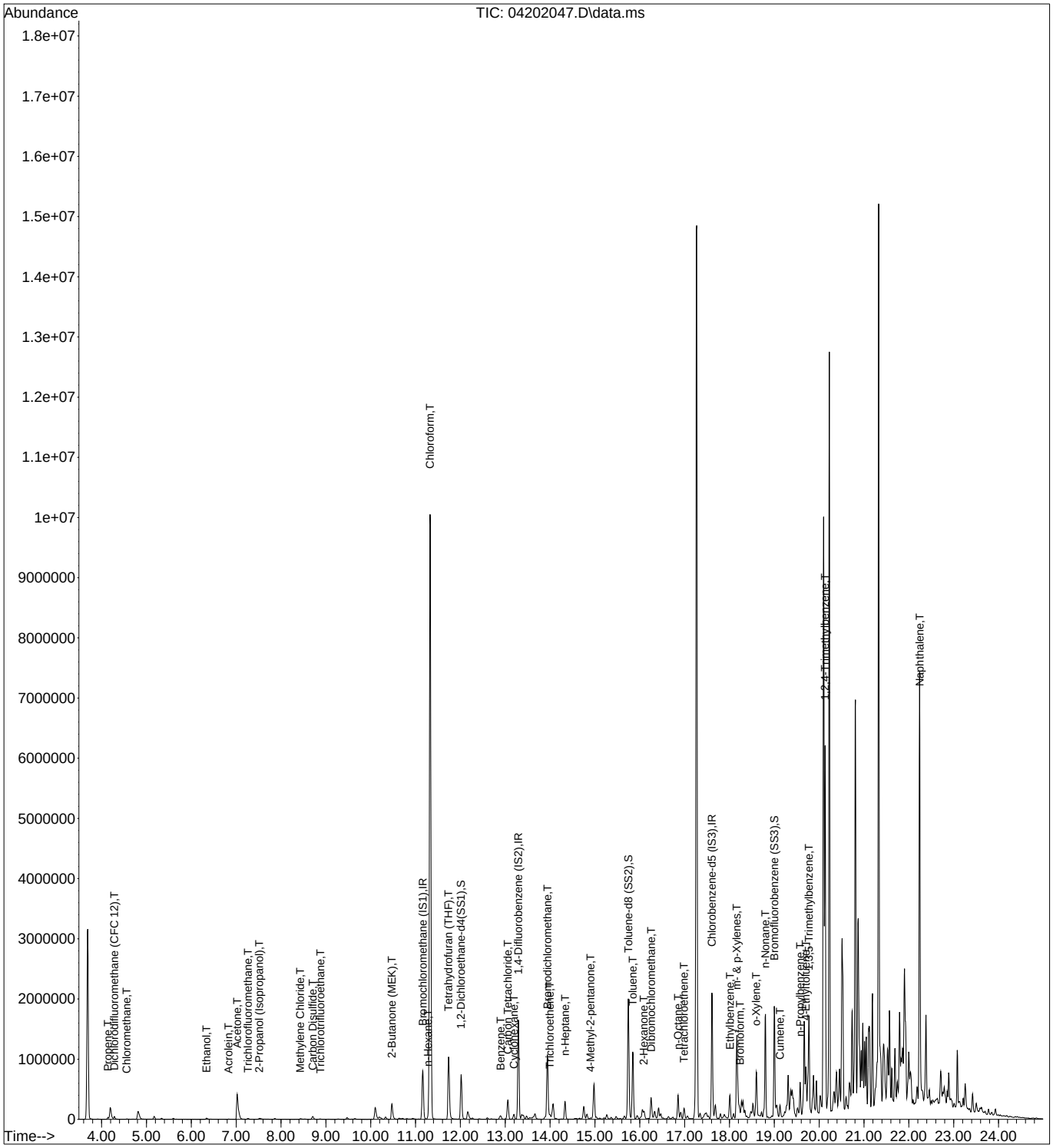
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	345241	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.29	114	1514057	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	703989	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	571532	11.955	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.68%				
57) Toluene-d8 (SS2)	15.74	98	1530492	12.265	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.16%				
73) Bromofluorobenzene (SS3)	19.00	174	544258	12.352	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.80%				
Target Compounds							Qvalue
2) Propene	4.14	42	9195m	0.254	ng		
3) Dichlorodifluoromethan...	4.28	85	33406	0.429	ng		99
4) Chloromethane	4.56	50	4522	0.074	ng		95
10) Ethanol	6.34	45	38859	1.358	ng		99
12) Acrolein	6.83	56	6134	0.291	ng		89
13) Acetone	7.02	58	214432	7.593	ng		97
14) Trichlorofluoromethane	7.26	101	15192	0.221	ng		99
15) 2-Propanol (Isopropanol)	7.52	45	39949	0.477	ng		76
19) Methylene Chloride	8.43	84	4342	0.118	ng		98
21) Trichlorotrifluoroethane	8.88	151	3090	0.094	ng		98
22) Carbon Disulfide	8.71	76	97825	0.740	ng		99
27) 2-Butanone (MEK)	10.47	72	99439	4.230	ng	#	91
31) n-Hexane	11.28	57	24702	0.384	ng	#	1
32) Chloroform	11.32	83	8590433	125.321	ng		99
34) Tetrahydrofuran (THF)	11.74	72	338192	13.981	ng		95
41) Benzene	12.90	78	37131	0.237	ng		99
42) Carbon Tetrachloride	13.06	117	208599	3.880	ng		100
43) Cyclohexane	13.19	84	34419	0.573	ng		94
46) Bromodichloromethane	13.94	83	771534	14.580	ng		99
47) Trichloroethene	14.00	130	23531	0.530	ng		99
51) n-Heptane	14.34	71	78665	2.152	ng		98
53) 4-Methyl-2-pentanone	14.90	58	6532	0.199	ng		89
58) Toluene	15.84	91	907559	5.882	ng		100
59) 2-Hexanone	16.09	43	88214	1.143	ng		97
60) Dibromochloromethane	16.26	129	159562	3.885	ng		100
63) n-Octane	16.86	57	78076	2.550	ng		97
64) Tetrachloroethene	16.99	166	55372	1.288	ng		98
66) Ethylbenzene	18.01	91	295459	1.746	ng		99
67) m- & p-Xylenes	18.16	91	1003521	7.289	ng		99
68) Bromoform	18.24	173	24687	0.666	ng		99
70) o-Xylene	18.60	91	365398	2.655	ng		99
71) n-Nonane	18.80	43	643234	9.346	ng		92
74) Cumene	19.13	105	93293	0.536	ng		99
76) n-Propylbenzene	19.58	91	417341	2.053	ng		97
78) 4-Ethyltoluene	19.70	105	424422	2.567	ng		98
79) 1,3,5-Trimethylbenzene	19.77	105	597967	4.064	ng		99
82) 1,2,4-Trimethylbenzene	20.13	105	3014466	19.776	ng		89
95) Naphthalene	22.24	128	1363550	7.997	ng		98

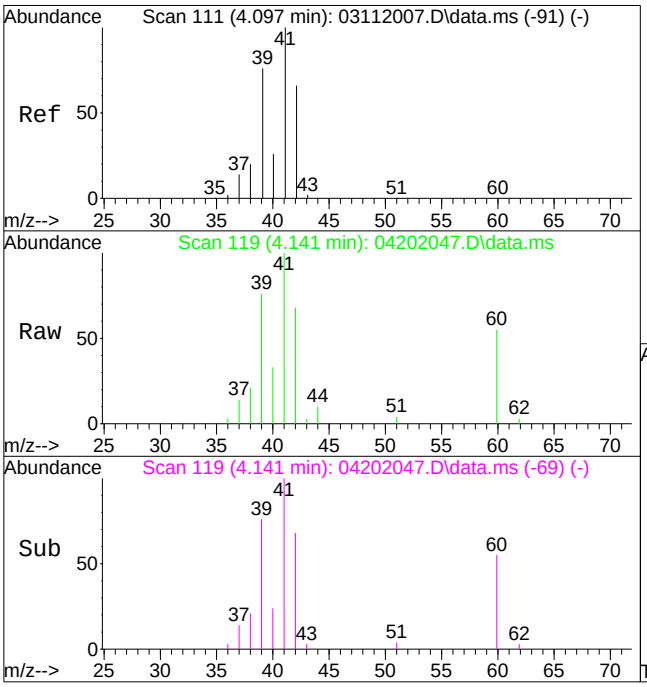
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202047.D Vial: 14
Acq On : 21 Apr 2020 5:44 Operator: LH
Sample : P2002031-013 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 17:14:26 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

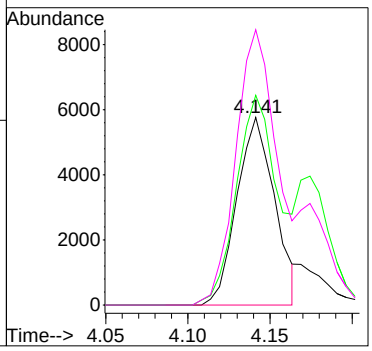


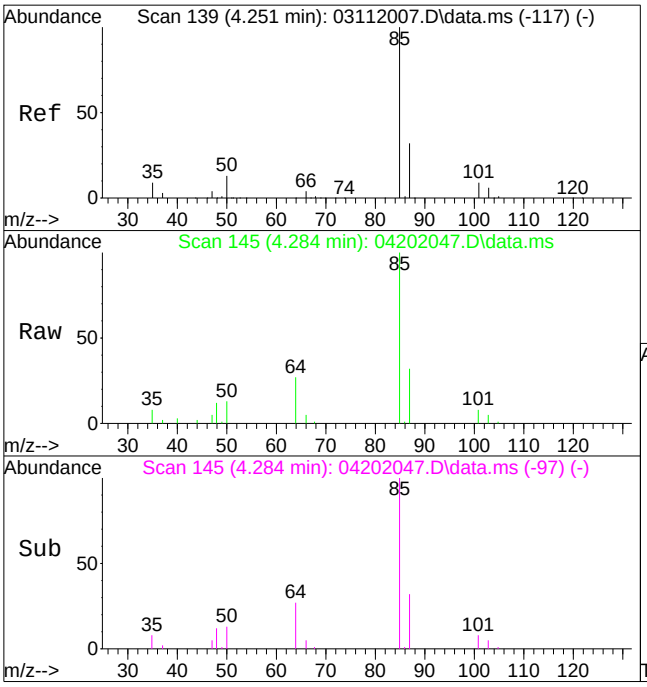


#2
Propene
Concen: 0.25 ng m
RT: 4.14 min Scan# 119
Delta R.T. 0.027 min
Lab File: 04202047.D
Acq: 21 Apr 2020 5:44

Tgt Ion: 42 Resp: 9195

Ion	Ratio	Lower	Upper
42	100		
39	123.2	95.3	135.3
41	203.1	132.0	172.0#

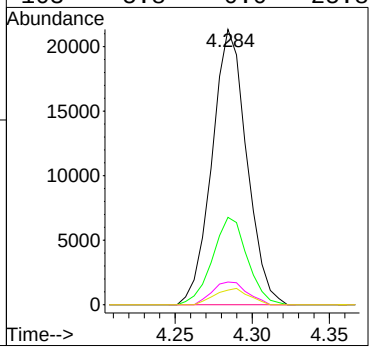


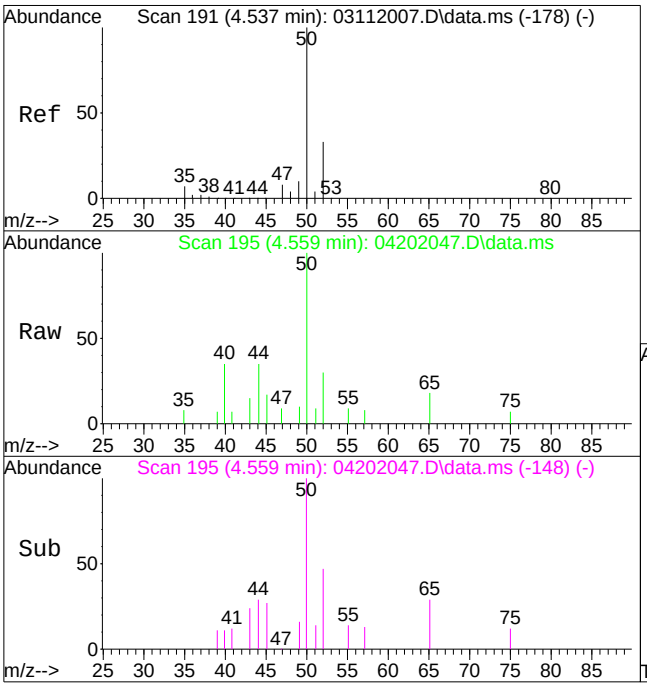


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.43 ng
RT: 4.28 min Scan# 145
Delta R.T. 0.016 min
Lab File: 04202047.D
Acq: 21 Apr 2020 5:44

Tgt Ion: 85 Resp: 33406

Ion	Ratio	Lower	Upper
85	100		
87	31.8	12.3	52.3
101	8.3	0.0	29.0
103	5.8	0.0	25.8

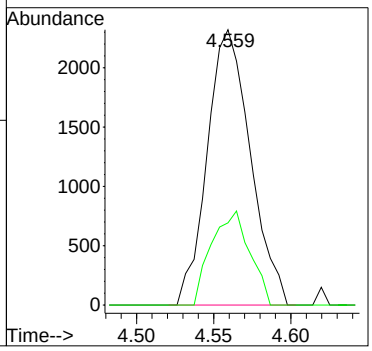


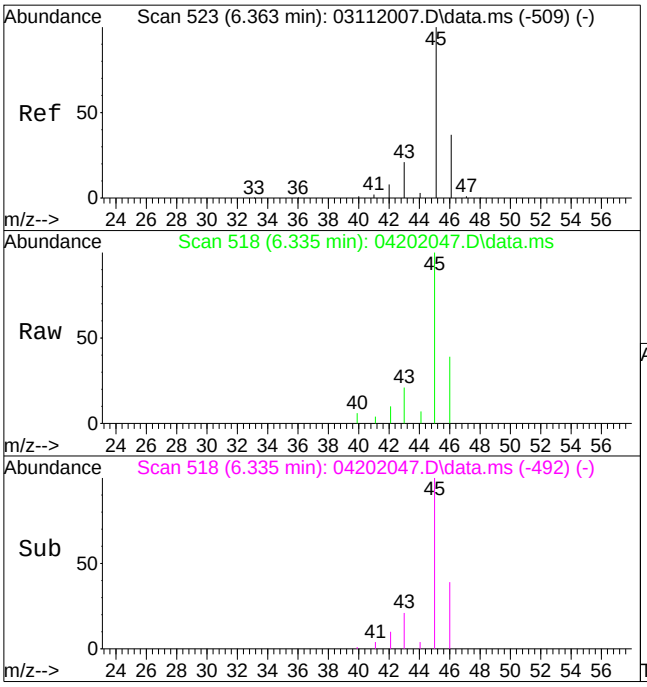


#4
Chloromethane
Concen: 0.07 ng
RT: 4.56 min Scan# 195
Delta R.T. 0.006 min
Lab File: 04202047.D
Acq: 21 Apr 2020 5:44

Tgt Ion: 50 Resp: 4522

Ion	Ratio	Lower	Upper
50	100		
52	30.2	12.8	52.8

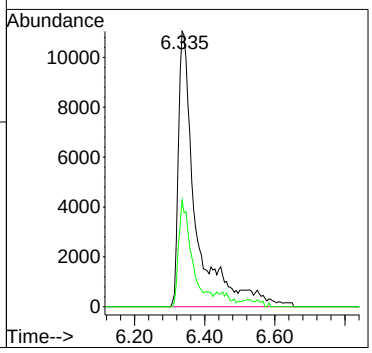


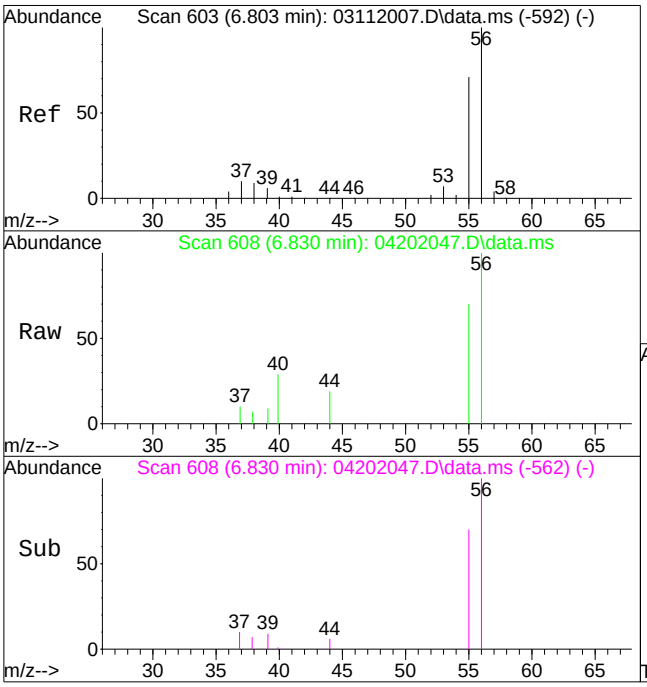


#10
Ethanol
Concen: 1.36 ng
RT: 6.34 min Scan# 518
Delta R.T. -0.105 min
Lab File: 04202047.D
Acq: 21 Apr 2020 5:44

Tgt Ion: 45 Resp: 38859

Ion	Ratio	Lower	Upper
45	100		
46	36.4	17.3	57.3

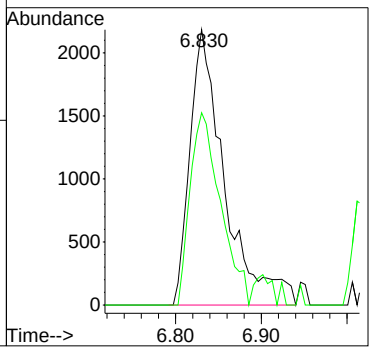


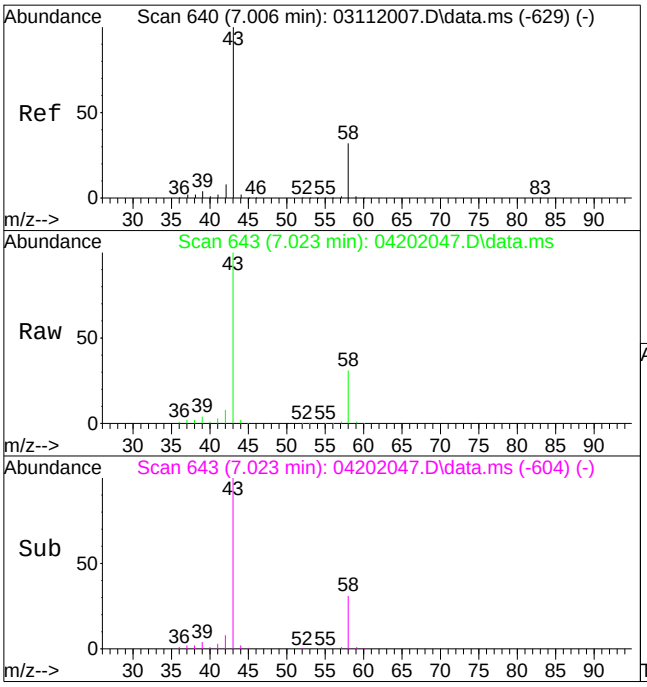


#12
Acrolein
Concen: 0.29 ng
RT: 6.83 min Scan# 608
Delta R.T. 0.000 min
Lab File: 04202047.D
Acq: 21 Apr 2020 5:44

Tgt Ion: 56 Resp: 6134

Ion	Ratio	Lower	Upper
56	100		
55	61.1	50.4	90.4

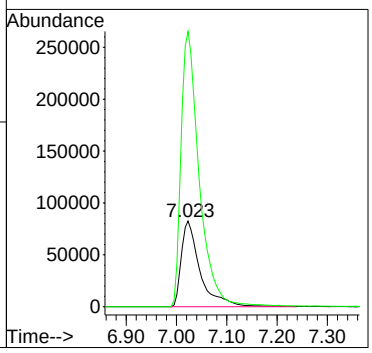


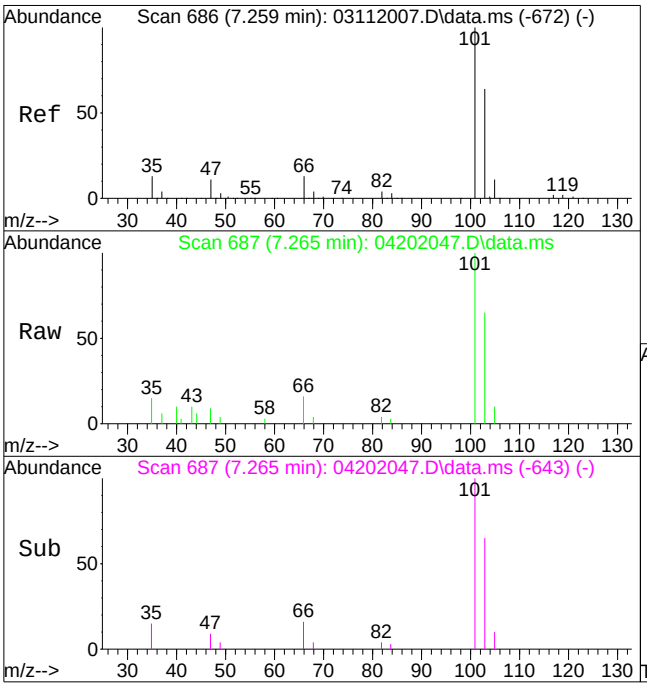


#13
Acetone
Concen: 7.59 ng
RT: 7.02 min Scan# 643
Delta R.T. -0.033 min
Lab File: 04202047.D
Acq: 21 Apr 2020 5:44

Tgt Ion: 58 Resp: 214432

Ion	Ratio	Lower	Upper
58	100		
43	311.6	287.3	347.3

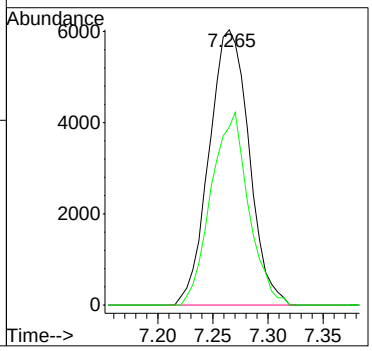


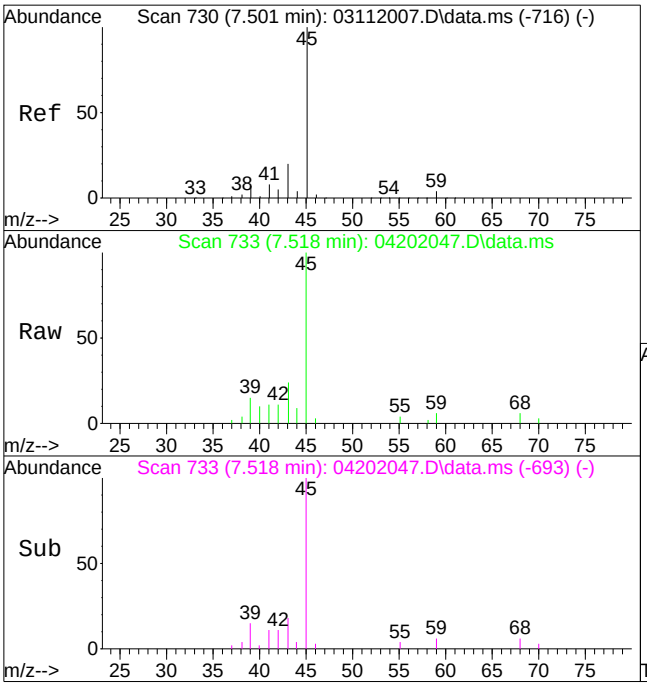


#14
Trichlorofluoromethane
Concen: 0.22 ng
RT: 7.26 min Scan# 687
Delta R.T. -0.010 min
Lab File: 04202047.D
Acq: 21 Apr 2020 5:44

Tgt Ion:101 Resp: 15192

Ion	Ratio	Lower	Upper
101	100		
103	65.6	44.6	84.6

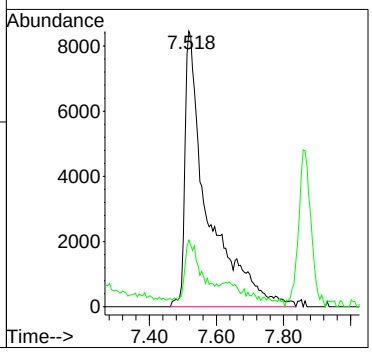


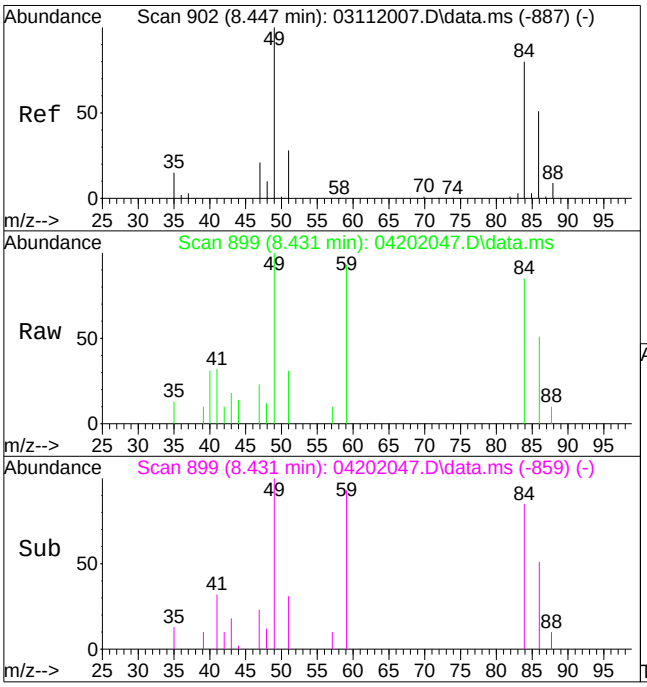


#15
2-Propanol (Isopropanol)
Concen: 0.48 ng
RT: 7.52 min Scan# 733
Delta R.T. -0.033 min
Lab File: 04202047.D
Acq: 21 Apr 2020 5:44

Tgt Ion: 45 Resp: 39949

Ion	Ratio	Lower	Upper
45	100		
43	31.2	0.3	40.3

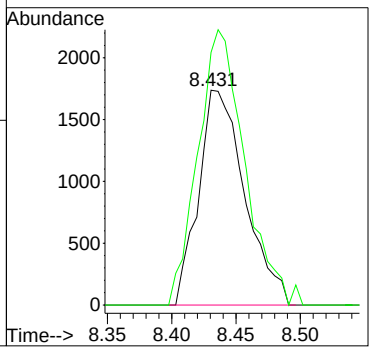


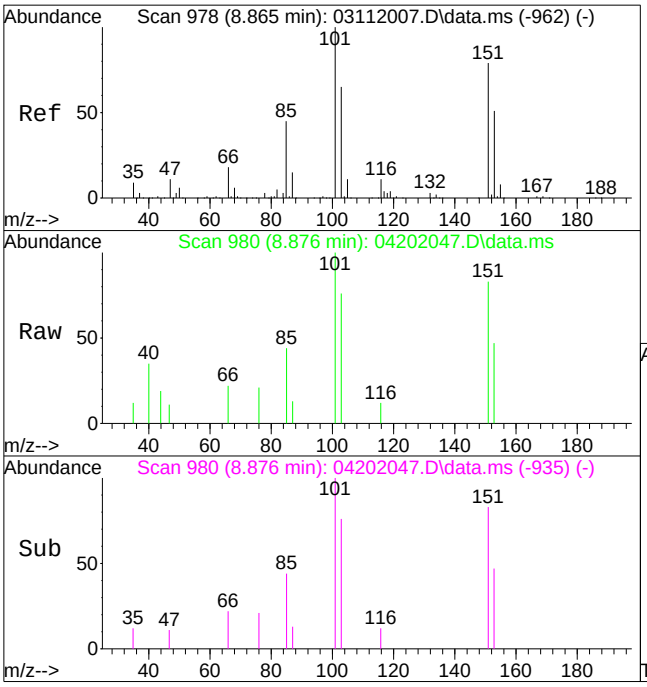


#19
Methylene Chloride
Concen: 0.12 ng
RT: 8.43 min Scan# 899
Delta R.T. -0.032 min
Lab File: 04202047.D
Acq: 21 Apr 2020 5:44

Tgt Ion: 84 Resp: 4342

Ion	Ratio	Lower	Upper
84	100		
49	129.8	102.2	152.2

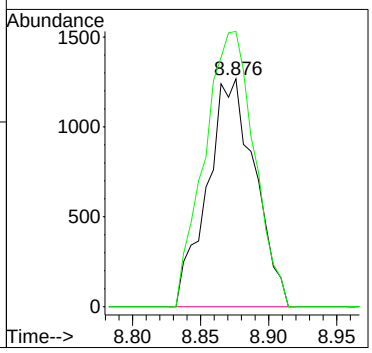


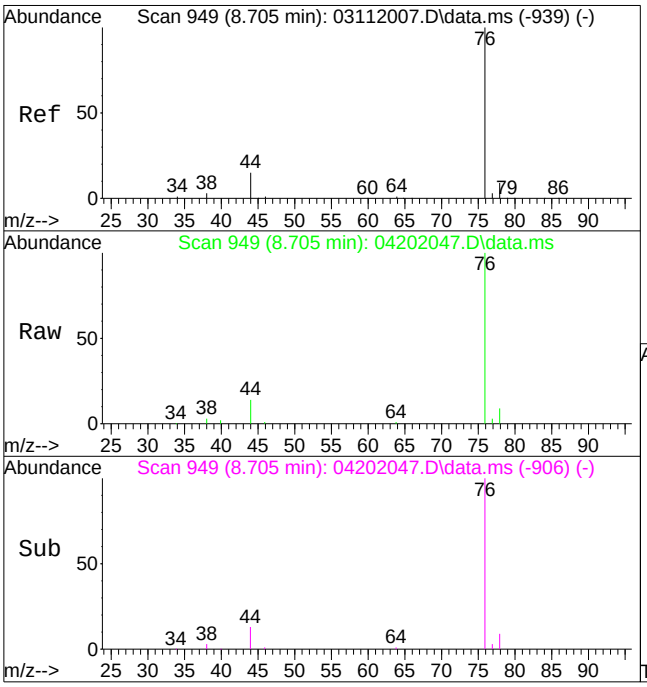


#21
Trichlorotrifluoroethane
Concen: 0.09 ng
RT: 8.88 min Scan# 980
Delta R.T. -0.000 min
Lab File: 04202047.D
Acq: 21 Apr 2020 5:44

Tgt Ion:151 Resp: 3090

Ion	Ratio	Lower	Upper
151	100		
101	126.3	108.4	148.4

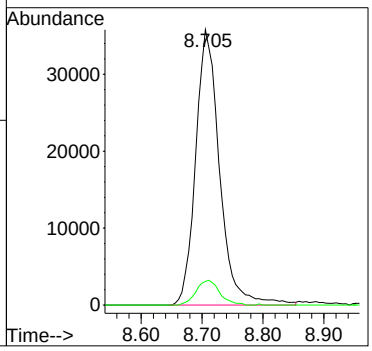


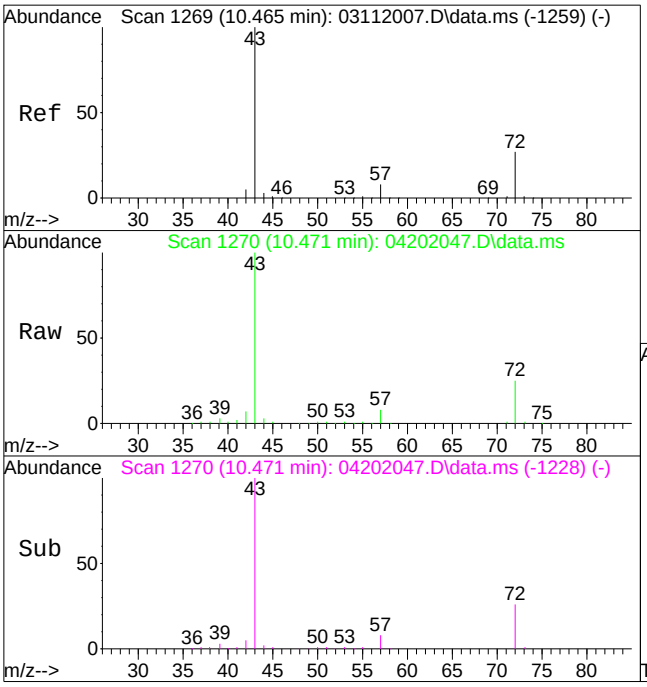


#22
Carbon Disulfide
Concen: 0.74 ng
RT: 8.71 min Scan# 949
Delta R.T. -0.016 min
Lab File: 04202047.D
Acq: 21 Apr 2020 5:44

Tgt Ion: 76 Resp: 97825

Ion	Ratio	Lower	Upper
76	100		
78	8.8	0.0	29.2

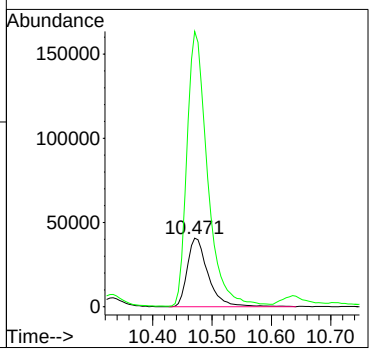


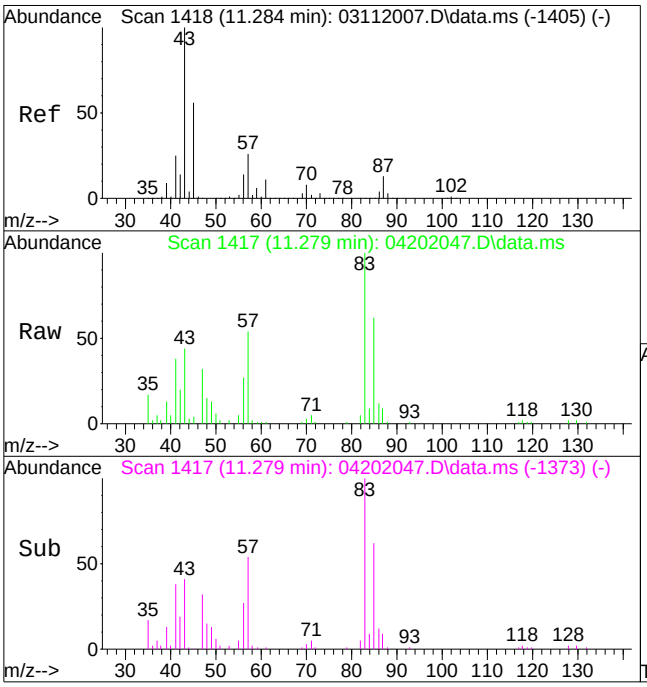


#27
2-Butanone (MEK)
Concen: 4.23 ng
RT: 10.47 min Scan# 1270
Delta R.T. -0.022 min
Lab File: 04202047.D
Acq: 21 Apr 2020 5:44

Tgt Ion: 72 Resp: 99439

Ion	Ratio	Lower	Upper
72	100		
43	394.5	353.4	393.4#

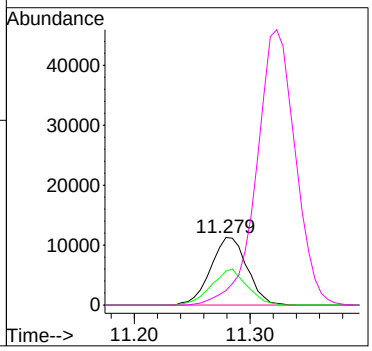


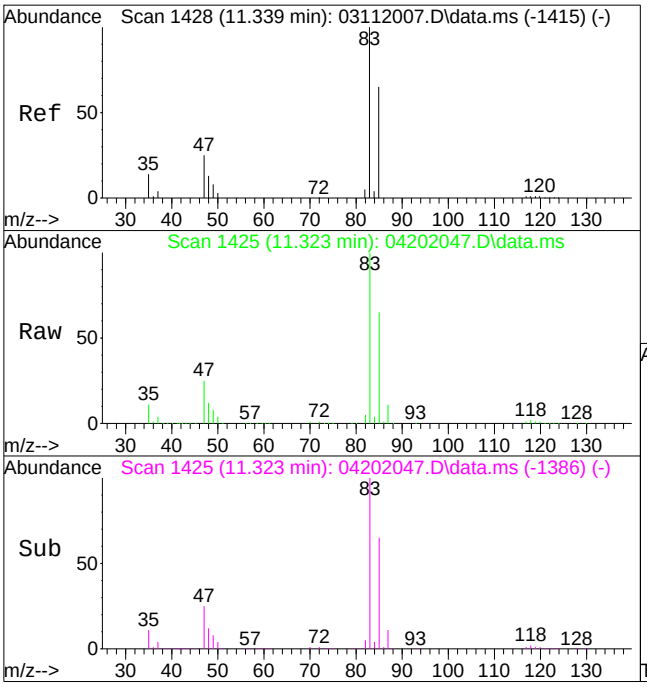


#31
n-Hexane
Concen: 0.38 ng
RT: 11.28 min Scan# 1417
Delta R.T. -0.011 min
Lab File: 04202047.D
Acq: 21 Apr 2020 5:44

Tgt Ion: 57 Resp: 24702

Ion	Ratio	Lower	Upper
57	100		
56	51.7	41.0	61.4
86	432.8	13.9	20.9#

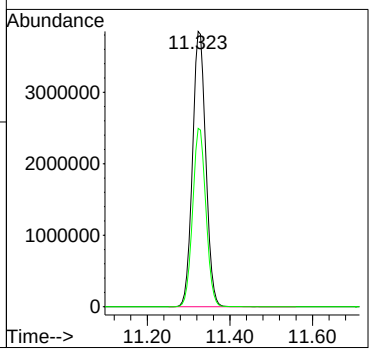


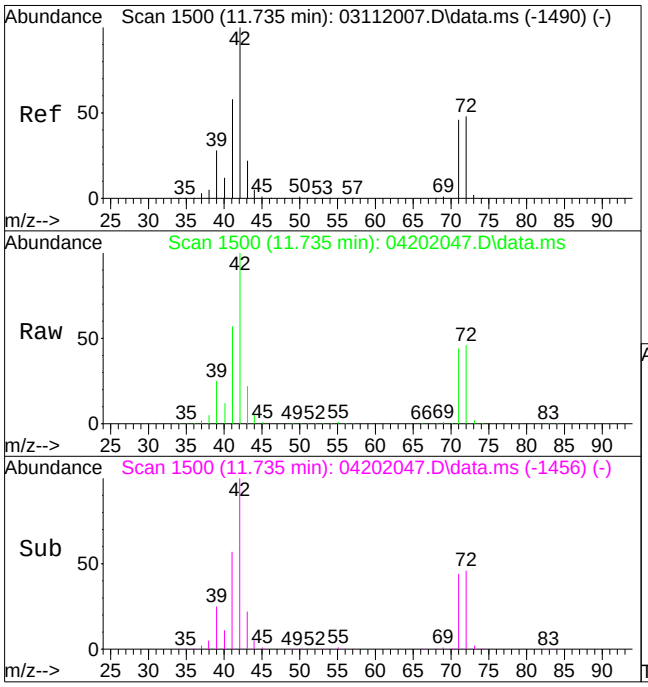


#32
Chloroform
Concen: 125.32 ng
RT: 11.32 min Scan# 1425
Delta R.T. -0.038 min
Lab File: 04202047.D
Acq: 21 Apr 2020 5:44

Tgt Ion: 83 Resp: 8590433

Ion	Ratio	Lower	Upper
83	100		
85	64.8	45.5	85.5

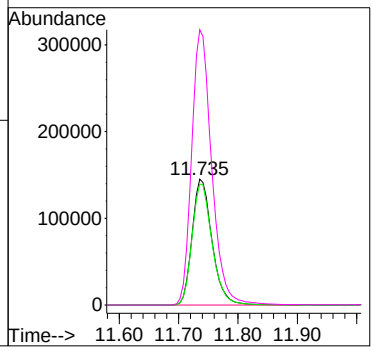


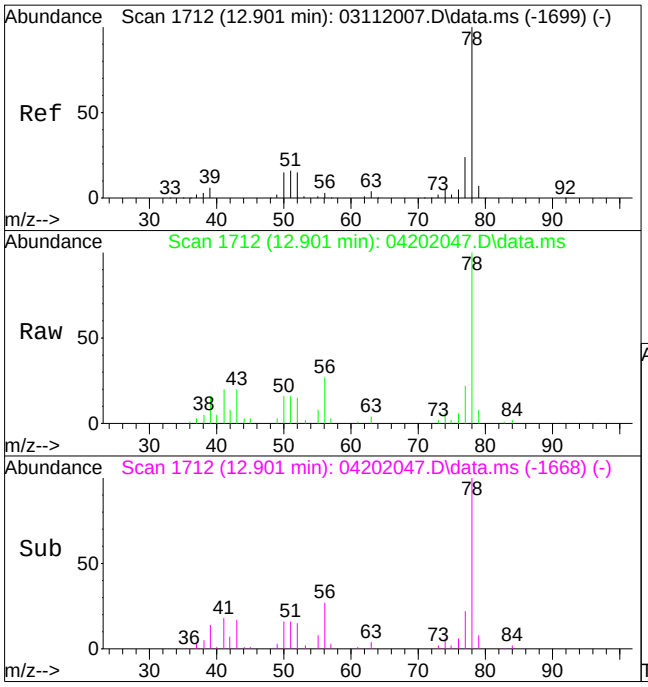


#34
Tetrahydrofuran (THF)
Concen: 13.98 ng
RT: 11.74 min Scan# 1500
Delta R.T. -0.011 min
Lab File: 04202047.D
Acq: 21 Apr 2020 5:44

Tgt Ion: 72 Resp: 338192

Ion	Ratio	Lower	Upper
72	100		
71	96.9	75.9	115.9
42	220.8	189.3	229.3

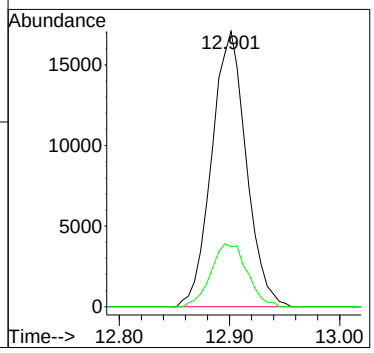


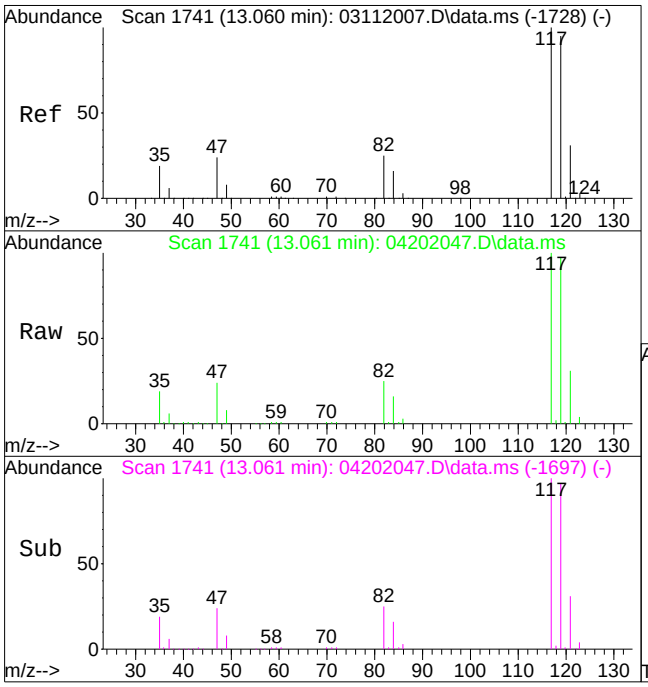


#41
Benzene
Concen: 0.24 ng
RT: 12.90 min Scan# 1712
Delta R.T. -0.011 min
Lab File: 04202047.D
Acq: 21 Apr 2020 5:44

Tgt Ion: 78 Resp: 37131

Ion	Ratio	Lower	Upper
78	100		
77	23.9	3.4	43.4

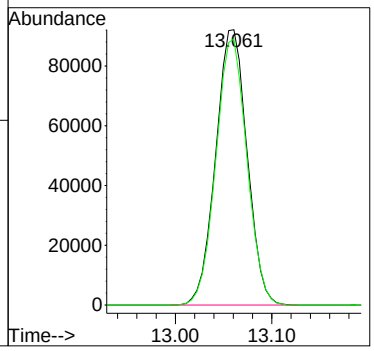


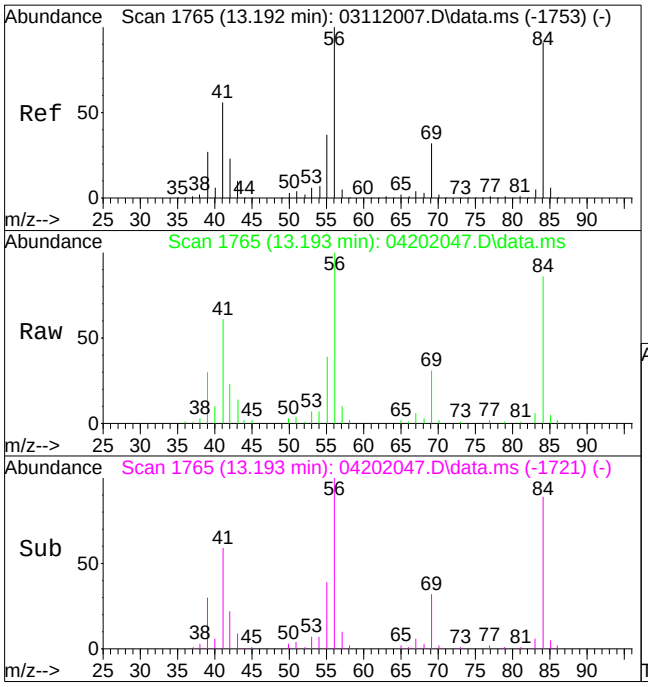


#42
Carbon Tetrachloride
Concen: 3.88 ng
RT: 13.06 min Scan# 1741
Delta R.T. -0.011 min
Lab File: 04202047.D
Acq: 21 Apr 2020 5:44

Tgt Ion:117 Resp: 208599

Ion	Ratio	Lower	Upper
117	100		
119	95.3	75.4	115.4

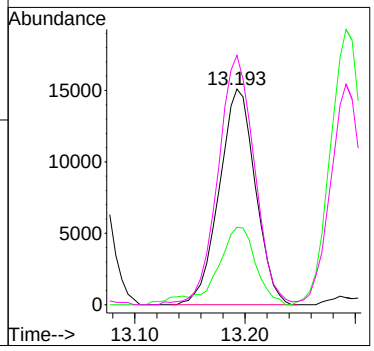


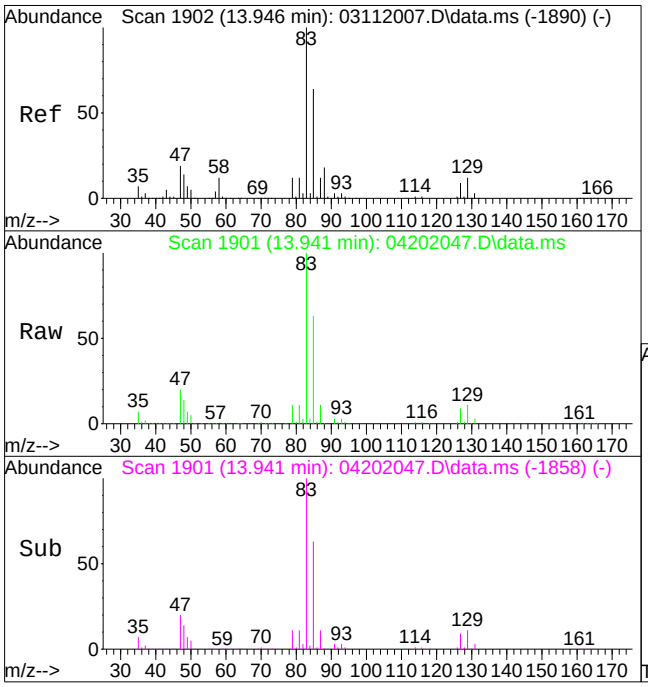


#43
Cyclohexane
Concen: 0.57 ng
RT: 13.19 min Scan# 1765
Delta R.T. -0.011 min
Lab File: 04202047.D
Acq: 21 Apr 2020 5:44

Tgt Ion: 84 Resp: 34419

Ion	Ratio	Lower	Upper
84	100		
69	39.0	15.3	55.3
56	116.4	90.5	130.5

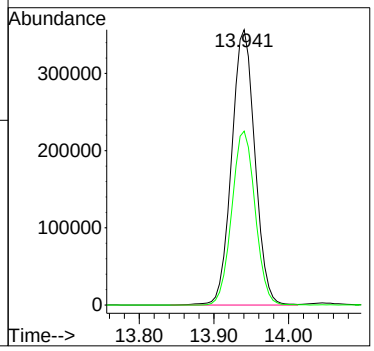


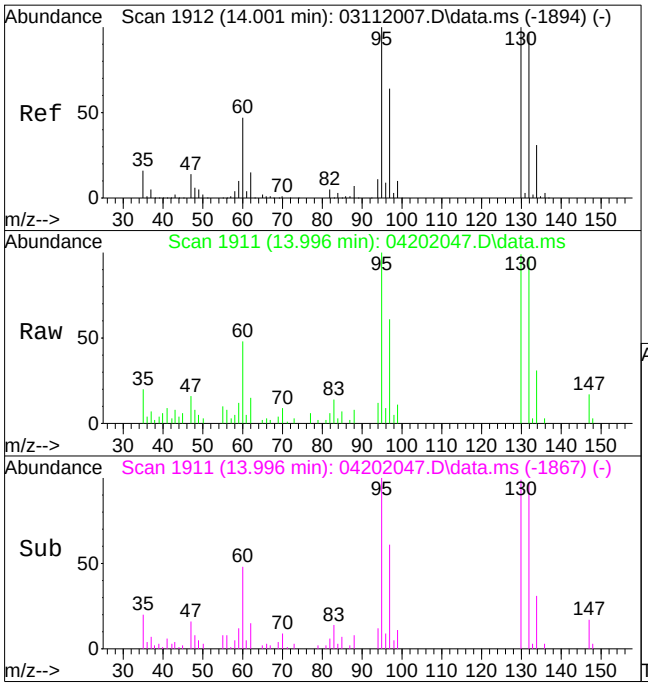


#46
Bromodichloromethane
Concen: 14.58 ng
RT: 13.94 min Scan# 1901
Delta R.T. -0.016 min
Lab File: 04202047.D
Acq: 21 Apr 2020 5:44

Tgt Ion: 83 Resp: 771534

Ion	Ratio	Lower	Upper
83	100		
85	63.3	44.0	84.0

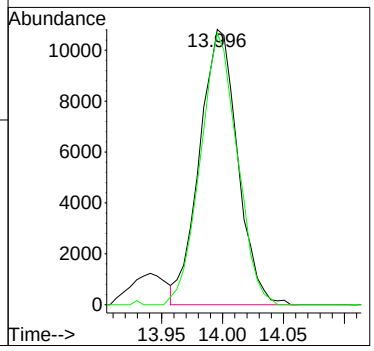


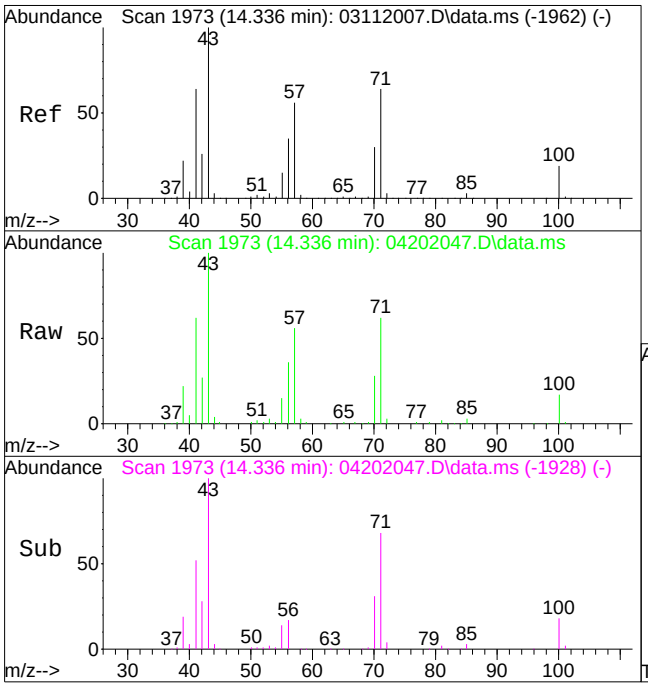


#47
Trichloroethene
Concen: 0.53 ng
RT: 14.00 min Scan# 1911
Delta R.T. -0.011 min
Lab File: 04202047.D
Acq: 21 Apr 2020 5:44

Tgt Ion:130 Resp: 23531

Ion	Ratio	Lower	Upper
130	100		
132	95.5	74.7	114.7

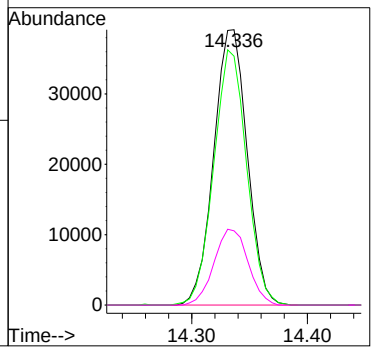


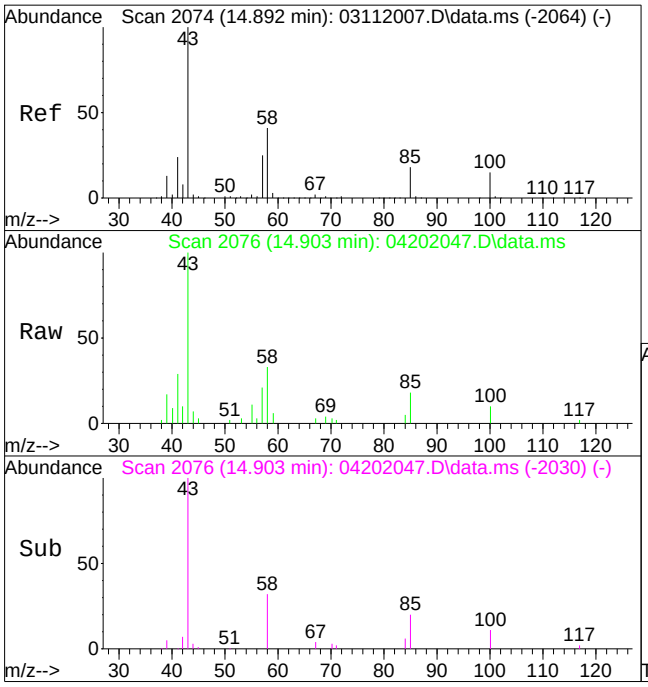


#51
n-Heptane
Concen: 2.15 ng
RT: 14.34 min Scan# 1973
Delta R.T. -0.005 min
Lab File: 04202047.D
Acq: 21 Apr 2020 5:44

Tgt Ion: 71 Resp: 78665

Ion	Ratio	Lower	Upper
71	100		
57	90.9	68.6	108.6
100	28.1	9.1	49.1

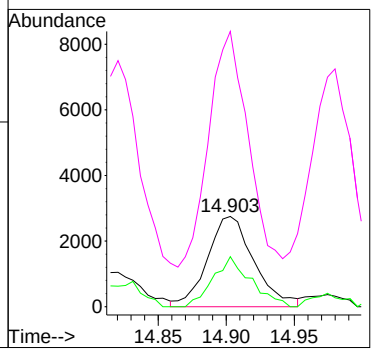


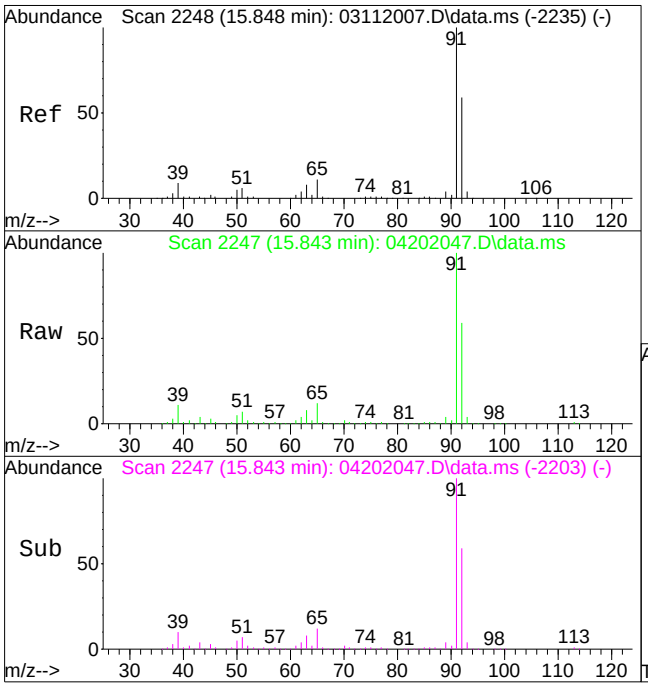


#53
4-Methyl-2-pentanone
Concen: 0.20 ng
RT: 14.90 min Scan# 2076
Delta R.T. 0.000 min
Lab File: 04202047.D
Acq: 21 Apr 2020 5:44

Tgt Ion: 58 Resp: 6532

Ion	Ratio	Lower	Upper
58	100		
85	45.1	37.0	55.4
43	267.9	196.3	294.5

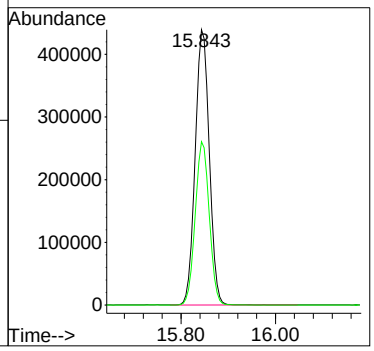


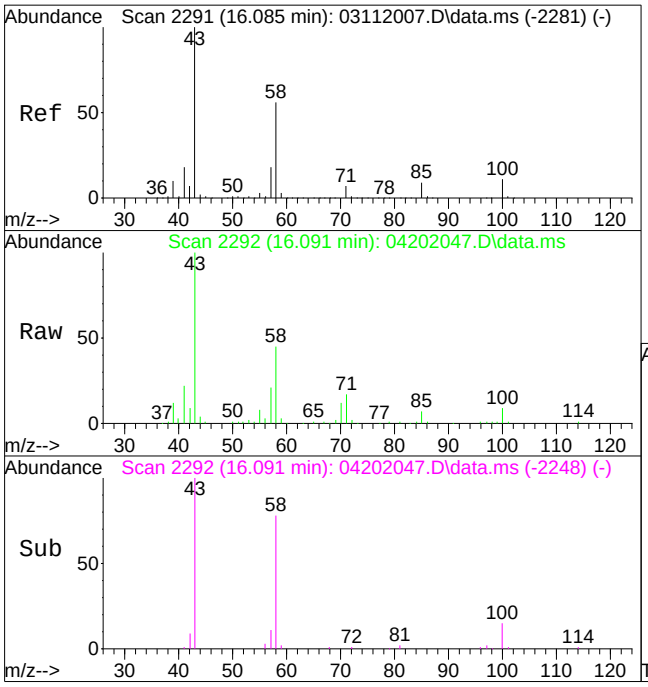


#58
Toluene
Concen: 5.88 ng
RT: 15.84 min Scan# 2247
Delta R.T. -0.011 min
Lab File: 04202047.D
Acq: 21 Apr 2020 5:44

Tgt Ion: 91 Resp: 907559

Ion	Ratio	Lower	Upper
91	100		
92	59.1	39.0	79.0

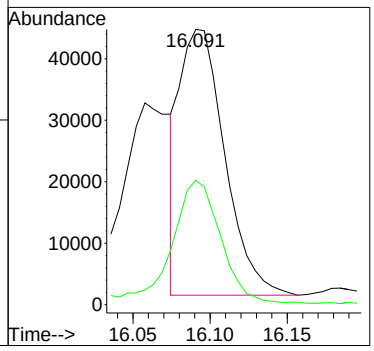


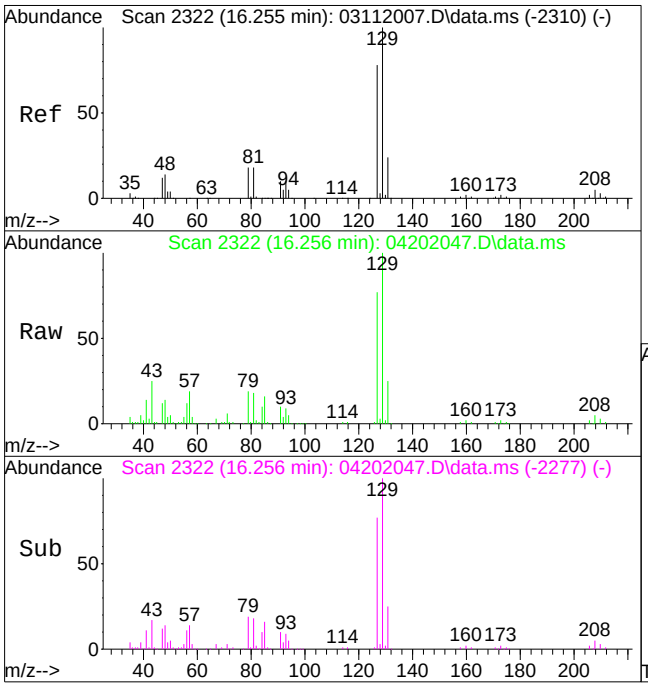


#59
2-Hexanone
Concen: 1.14 ng
RT: 16.09 min Scan# 2292
Delta R.T. -0.011 min
Lab File: 04202047.D
Acq: 21 Apr 2020 5:44

Tgt Ion: 43 Resp: 88214

Ion	Ratio	Lower	Upper
43	100		
58	54.2	36.5	76.5

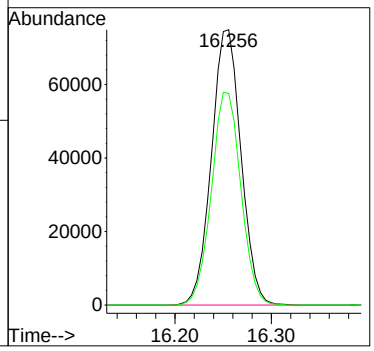


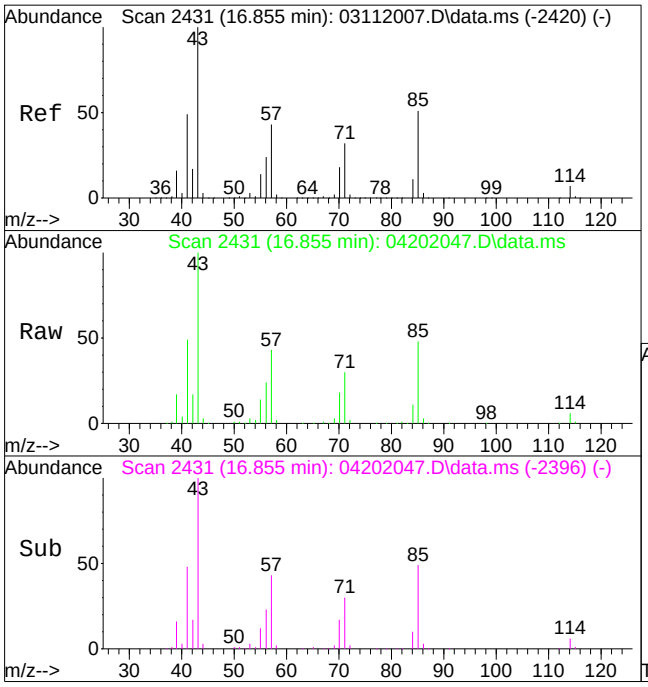


#60
Dibromochloromethane
Concen: 3.88 ng
RT: 16.26 min Scan# 2322
Delta R.T. -0.005 min
Lab File: 04202047.D
Acq: 21 Apr 2020 5:44

Tgt Ion:129 Resp: 159562

Ion	Ratio	Lower	Upper
129	100		
127	77.0	57.3	97.3

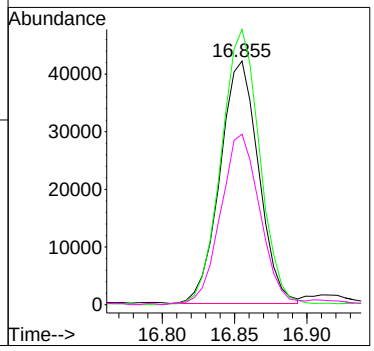


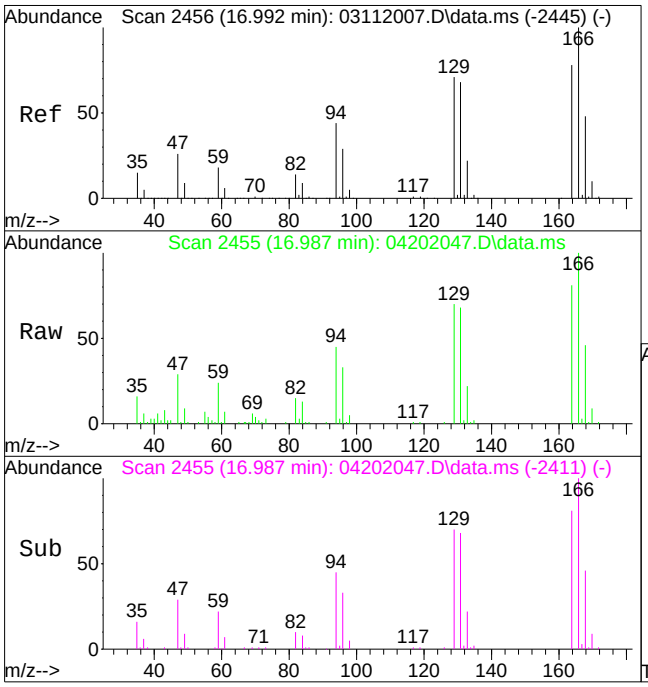


#63
n-Octane
Concen: 2.55 ng
RT: 16.86 min Scan# 2431
Delta R.T. -0.005 min
Lab File: 04202047.D
Acq: 21 Apr 2020 5:44

Tgt Ion: 57 Resp: 78076

Ion	Ratio	Lower	Upper
57	100		
85	113.9	95.1	142.7
71	71.8	58.2	87.4

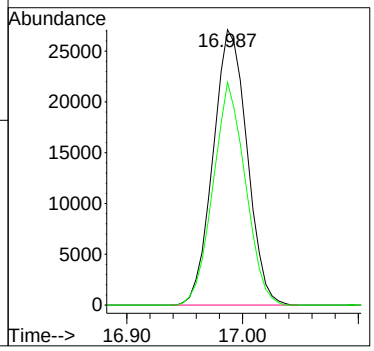


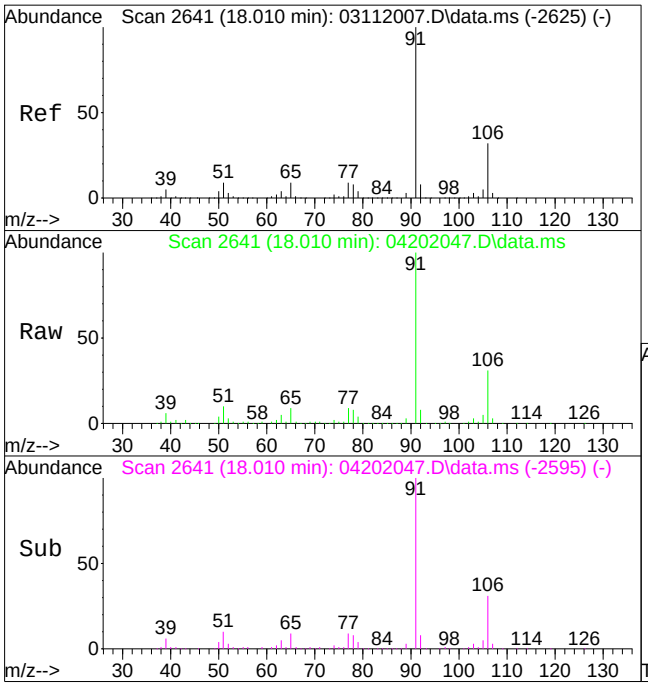


#64
Tetrachloroethene
Concen: 1.29 ng
RT: 16.99 min Scan# 2455
Delta R.T. -0.011 min
Lab File: 04202047.D
Acq: 21 Apr 2020 5:44

Tgt Ion:166 Resp: 55372

Ion	Ratio	Lower	Upper
166	100		
164	76.7	58.6	98.6

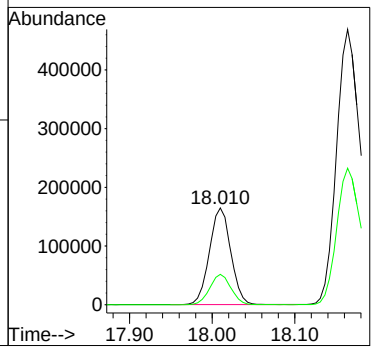


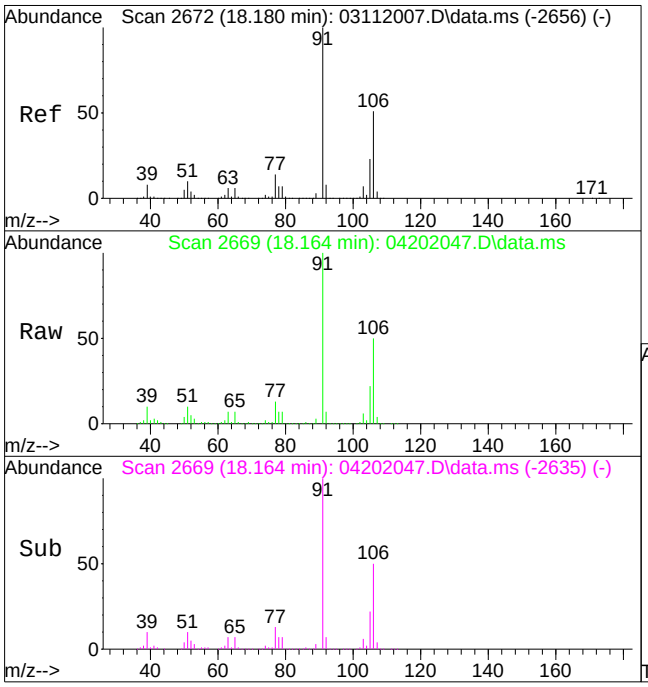


#66
Ethylbenzene
Concen: 1.75 ng
RT: 18.01 min Scan# 2641
Delta R.T. 0.000 min
Lab File: 04202047.D
Acq: 21 Apr 2020 5:44

Tgt Ion: 91 Resp: 295459

Ion	Ratio	Lower	Upper
91	100		
106	31.2	11.7	51.7

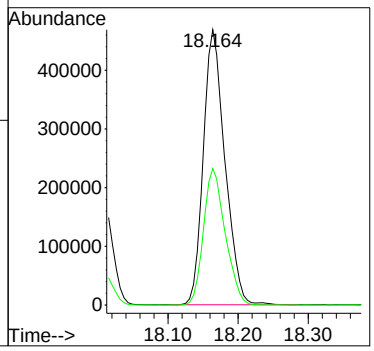


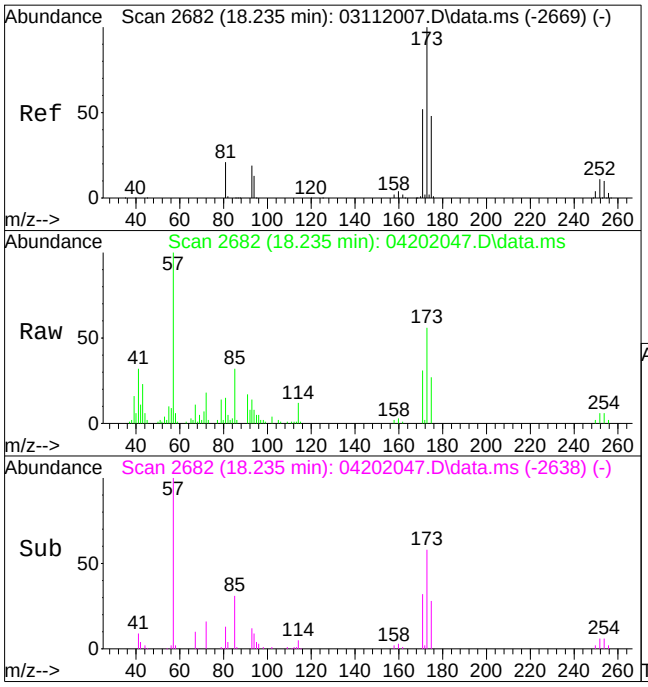


#67
m- & p-Xylenes
Concen: 7.29 ng
RT: 18.16 min Scan# 2669
Delta R.T. -0.011 min
Lab File: 04202047.D
Acq: 21 Apr 2020 5:44

Tgt Ion: 91 Resp: 1003521

Ion	Ratio	Lower	Upper
91	100		
106	49.8	30.4	70.4

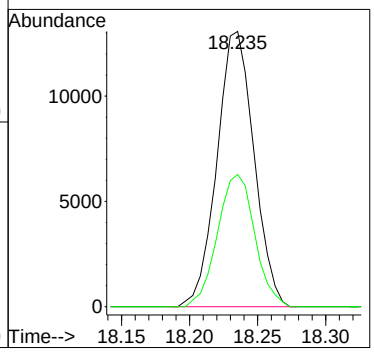


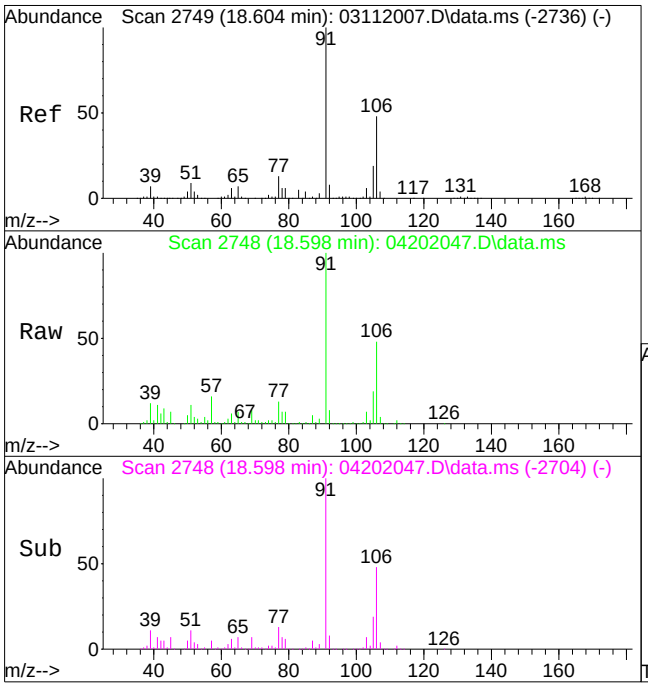


#68
Bromoform
Concen: 0.67 ng
RT: 18.24 min Scan# 2682
Delta R.T. -0.006 min
Lab File: 04202047.D
Acq: 21 Apr 2020 5:44

Tgt Ion:173 Resp: 24687

Ion	Ratio	Lower	Upper
173	100		
175	48.3	28.7	68.7

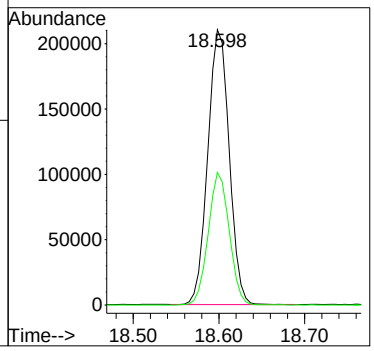


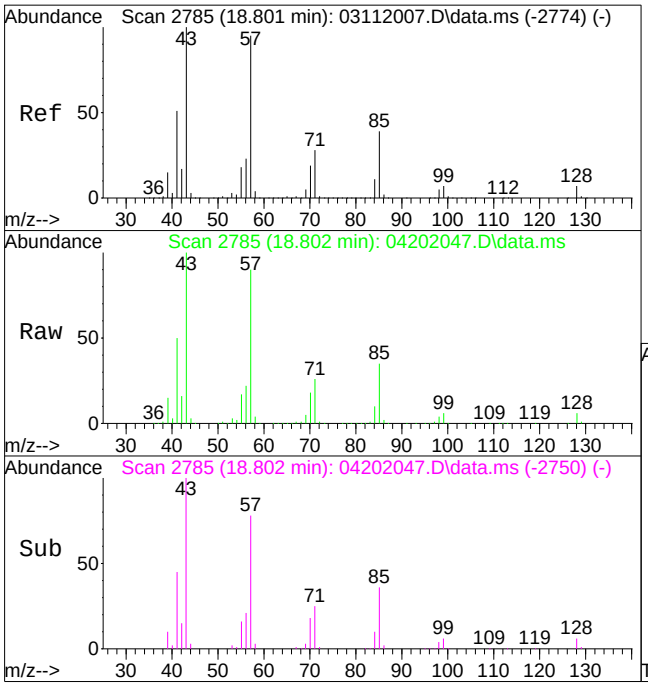


#70
o-Xylene
Concen: 2.65 ng
RT: 18.60 min Scan# 2748
Delta R.T. -0.011 min
Lab File: 04202047.D
Acq: 21 Apr 2020 5:44

Tgt Ion: 91 Resp: 365398

Ion	Ratio	Lower	Upper
91	100		
106	47.4	28.1	68.1

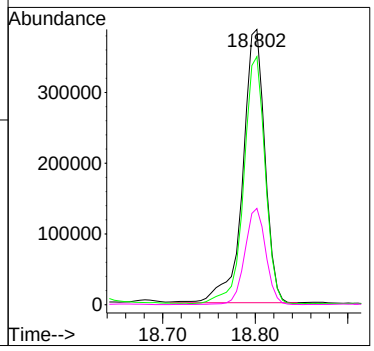


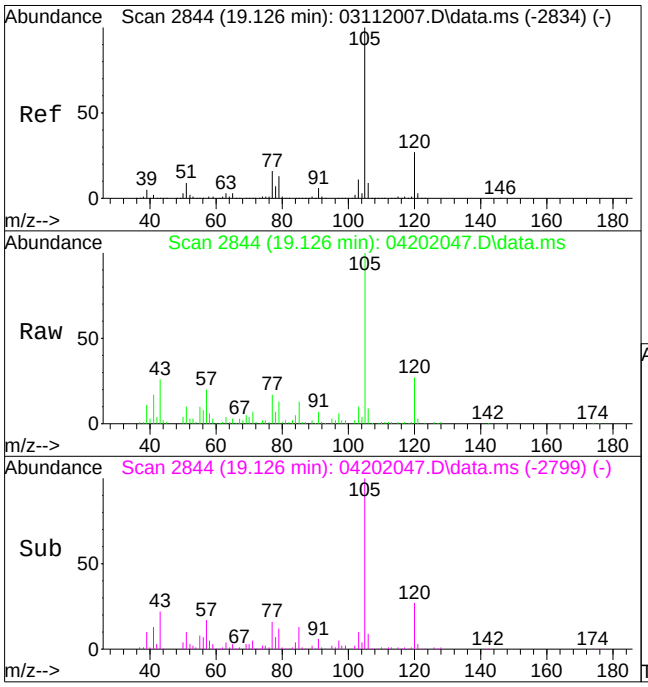


#71
n-Nonane
Concen: 9.35 ng
RT: 18.80 min Scan# 2785
Delta R.T. -0.005 min
Lab File: 04202047.D
Acq: 21 Apr 2020 5:44

Tgt Ion: 43 Resp: 643234

Ion	Ratio	Lower	Upper
43	100		
57	87.0	73.6	113.6
85	33.2	18.7	58.7

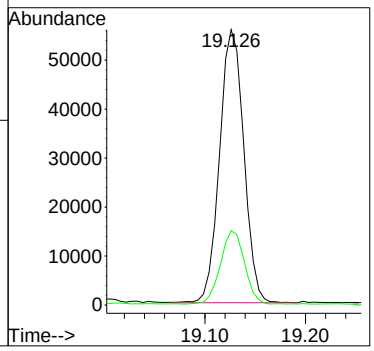


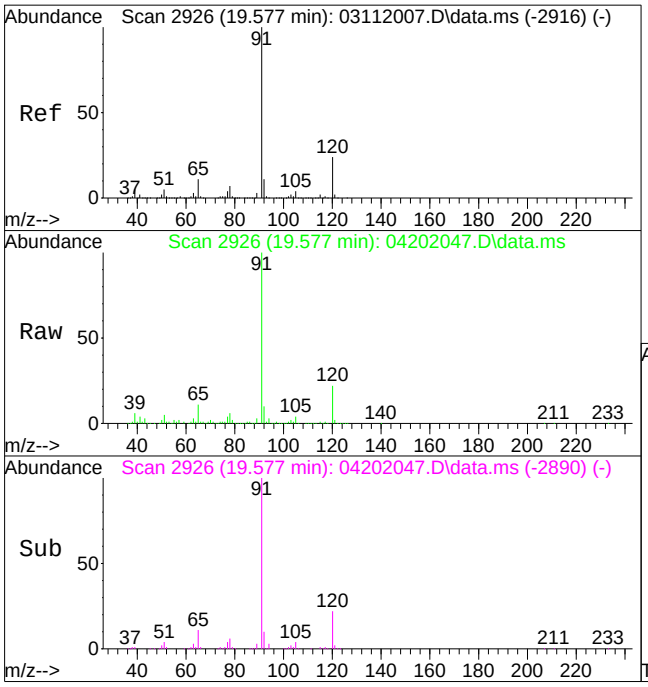


#74
Cumene
Concen: 0.54 ng
RT: 19.13 min Scan# 2844
Delta R.T. 0.000 min
Lab File: 04202047.D
Acq: 21 Apr 2020 5:44

Tgt Ion:105 Resp: 93293

Ion	Ratio	Lower	Upper
105	100		
120	26.8	7.2	47.2

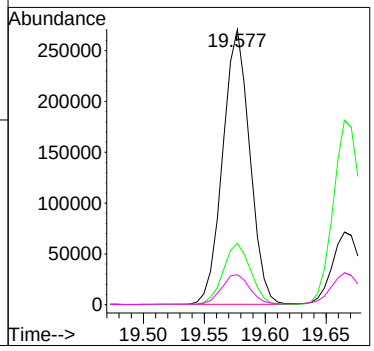


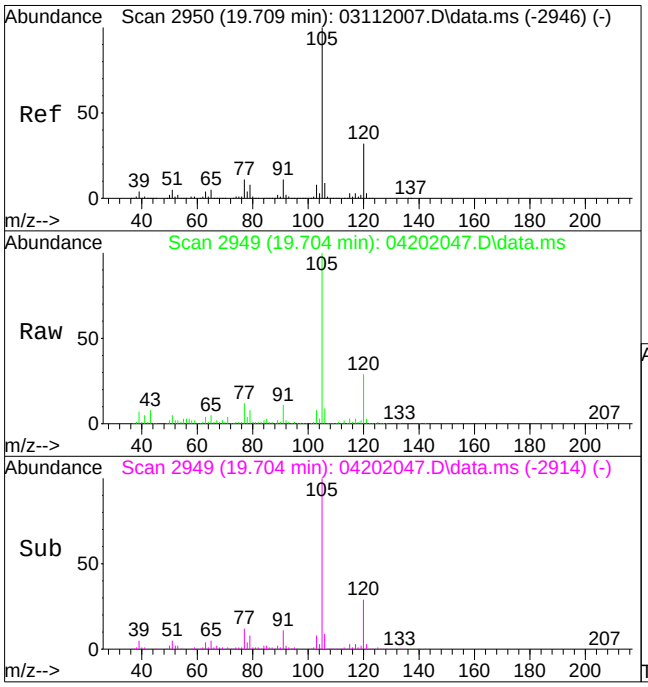


#76
n-Propylbenzene
Concen: 2.05 ng
RT: 19.58 min Scan# 2926
Delta R.T. 0.000 min
Lab File: 04202047.D
Acq: 21 Apr 2020 5:44

Tgt Ion: 91 Resp: 417341

Ion	Ratio	Lower	Upper
91	100		
120	22.4	3.9	43.9
65	11.3	0.0	30.5

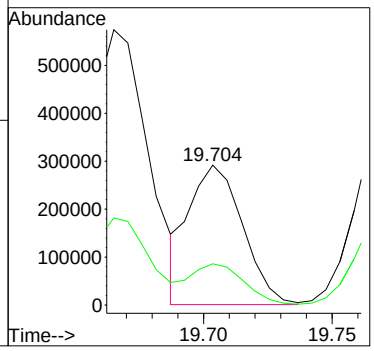


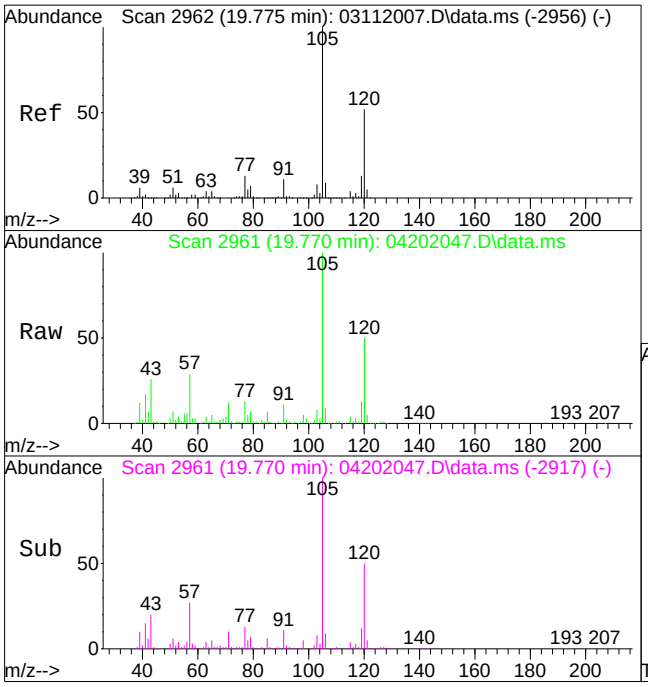


#78
4-Ethyltoluene
Concen: 2.57 ng
RT: 19.70 min Scan# 2949
Delta R.T. -0.005 min
Lab File: 04202047.D
Acq: 21 Apr 2020 5:44

Tgt Ion:105 Resp: 424422

Ion	Ratio	Lower	Upper
105	100		
120	30.2	11.1	51.1

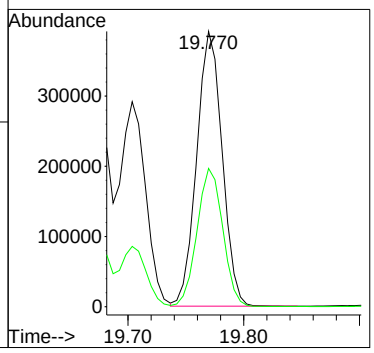


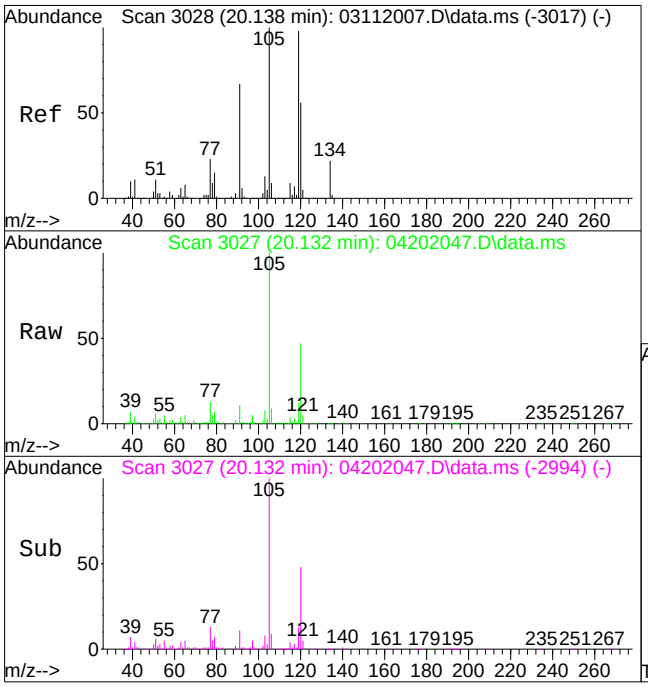


#79
1,3,5-Trimethylbenzene
Concen: 4.06 ng
RT: 19.77 min Scan# 2961
Delta R.T. -0.005 min
Lab File: 04202047.D
Acq: 21 Apr 2020 5:44

Tgt Ion:105 Resp: 597967

Ion	Ratio	Lower	Upper
105	100		
120	50.7	31.3	71.3

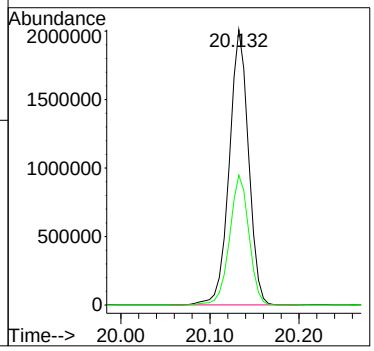


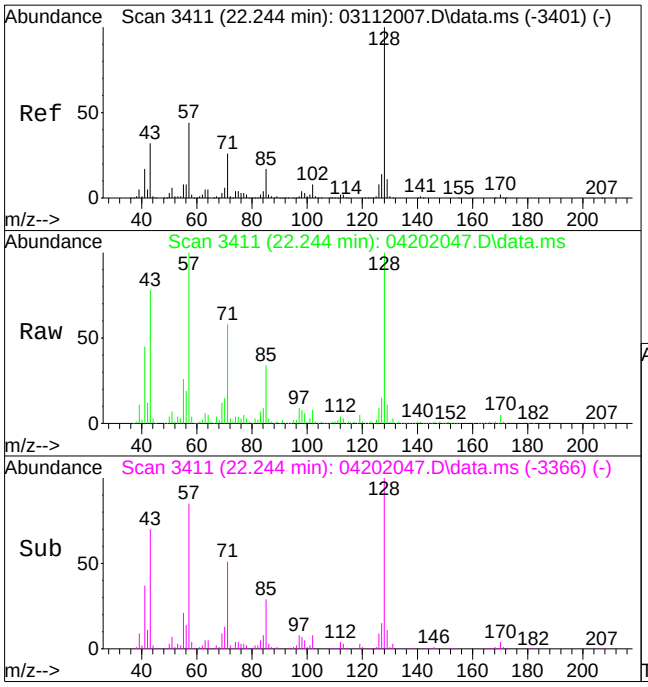


#82
1,2,4-Trimethylbenzene
Concen: 19.78 ng
RT: 20.13 min Scan# 3027
Delta R.T. -0.017 min
Lab File: 04202047.D
Acq: 21 Apr 2020 5:44

Tgt Ion:105 Resp: 3014466

Ion	Ratio	Lower	Upper
105	100		
120	47.5	35.8	75.8

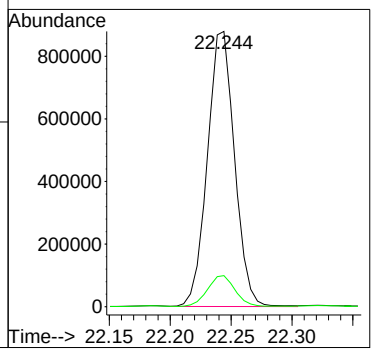




#95
Naphthalene
Concen: 8.00 ng
RT: 22.24 min Scan# 3411
Delta R.T. -0.005 min
Lab File: 04202047.D
Acq: 21 Apr 2020 5:44

Tgt Ion:128 Resp: 1363550

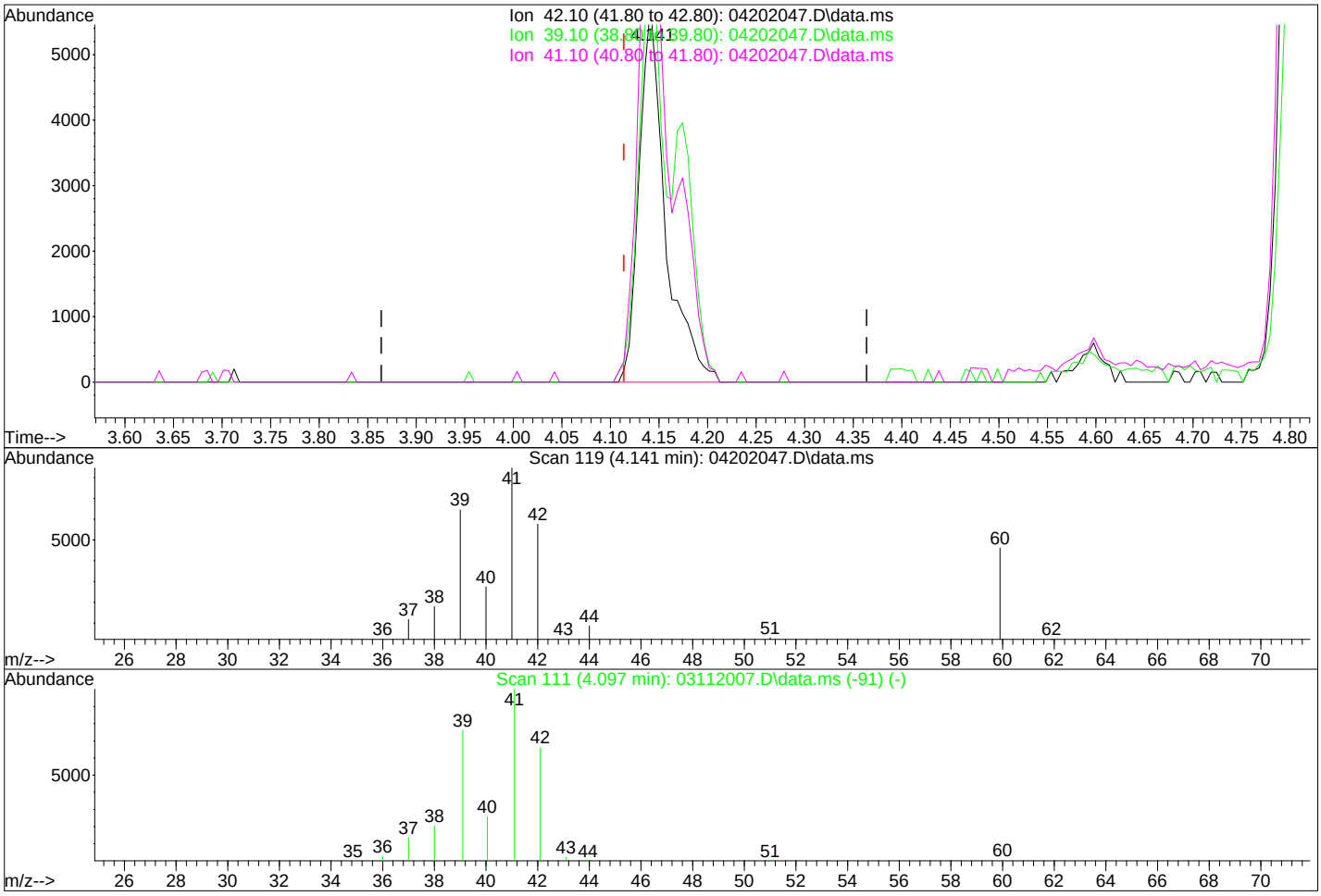
Ion	Ratio	Lower	Upper
128	100		
129	11.7	0.0	31.1



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\20\04202047.D Vial: 14
Acq On : 21 Apr 2020 5:44 Operator: LH
Sample : P2002031-013 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 21 12:27:13 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202047.D\data.ms

(2) Propene (T)

4.141min (+0.027) 0.30ng

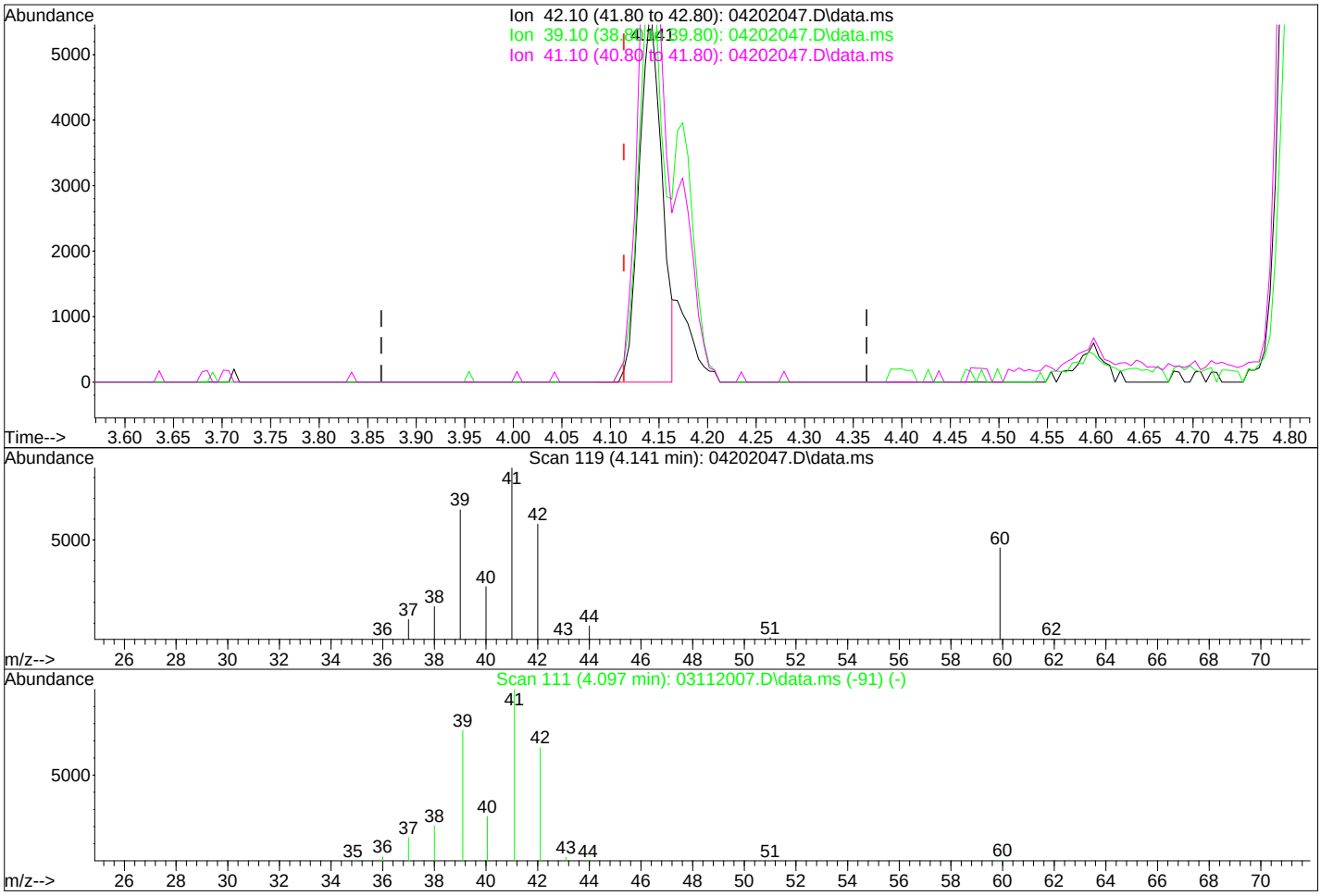
response 10756

Ion	Exp%	Act%
42.10	100	100
39.10	115.30	105.28
41.10	152.00	173.61#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\20\04202047.D Vial: 14
Acq On : 21 Apr 2020 5:44 Operator: LH
Sample : P2002031-013 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 21 12:27:13 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202047.D\data.ms

(2) Propene (T)

4.141min (+0.027) 0.25ng m

response 9195

Ion	Exp%	Act%
42.10	100	100
39.10	115.30	123.15
41.10	152.00	203.09#
0.00	0.00	0.00

IPC

LH 4/22/20

4/23/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212014.D Vial: 14
Acq On : 21 Apr 2020 16:41 Operator: WA
Sample : P2002031-013dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 18:47:46 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020 LH 4/22/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	332251	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1495799	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	728331	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	587385	12.767	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.16%				
57) Toluene-d8 (SS2)	15.74	98	1541269	11.939	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.52%				
73) Bromofluorobenzene (SS3)	19.00	174	523205	11.477	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.84%				
Target Compounds							Qvalue
2) Propene	4.16	42	635	N.D.			
3) Dichlorodifluoromethan...	4.31	85	2749	N.D.			
4) Chloromethane	4.59	50	904	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.37	45	4318	0.157	ng		77
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	6.87	56	55	N.D.			
13) Acetone	7.05	58	17002	0.626	ng		97
14) Trichlorofluoromethane	7.29	101	1210	N.D.			
15) 2-Propanol (Isopropanol)	7.59	45	3742	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.51	59	2616	N.D.			
19) Methylene Chloride	8.45	84	537	N.D.			
20) 3-Chloro-1-propene (Al...	8.55	41	114	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.73	76	8786	0.069	ng		95
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	10.25	86	112	N.D.			
27) 2-Butanone (MEK)	10.50	72	5851	0.259	ng	#	55
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.34	61	409	N.D.			
31) n-Hexane	11.28	57	1939	N.D.			
32) Chloroform	11.33	83	594459	9.011	ng		99
34) Tetrahydrofuran (THF)	11.76	72	24737	1.063	ng	#	90
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.05	62	116	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	12.93	56	1387	N.D.			
41) Benzene	12.91	78	3592	N.D.			
42) Carbon Tetrachloride	13.06	117	14962	0.282	ng		99
43) Cyclohexane	13.19	84	2475	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	13.94	83	54608	1.045	ng		98
47) Trichloroethene	14.00	130	1867	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212014.D Vial: 14
Acq On : 21 Apr 2020 16:41 Operator: WA
Sample : P2002031-013dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 18:47:46 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

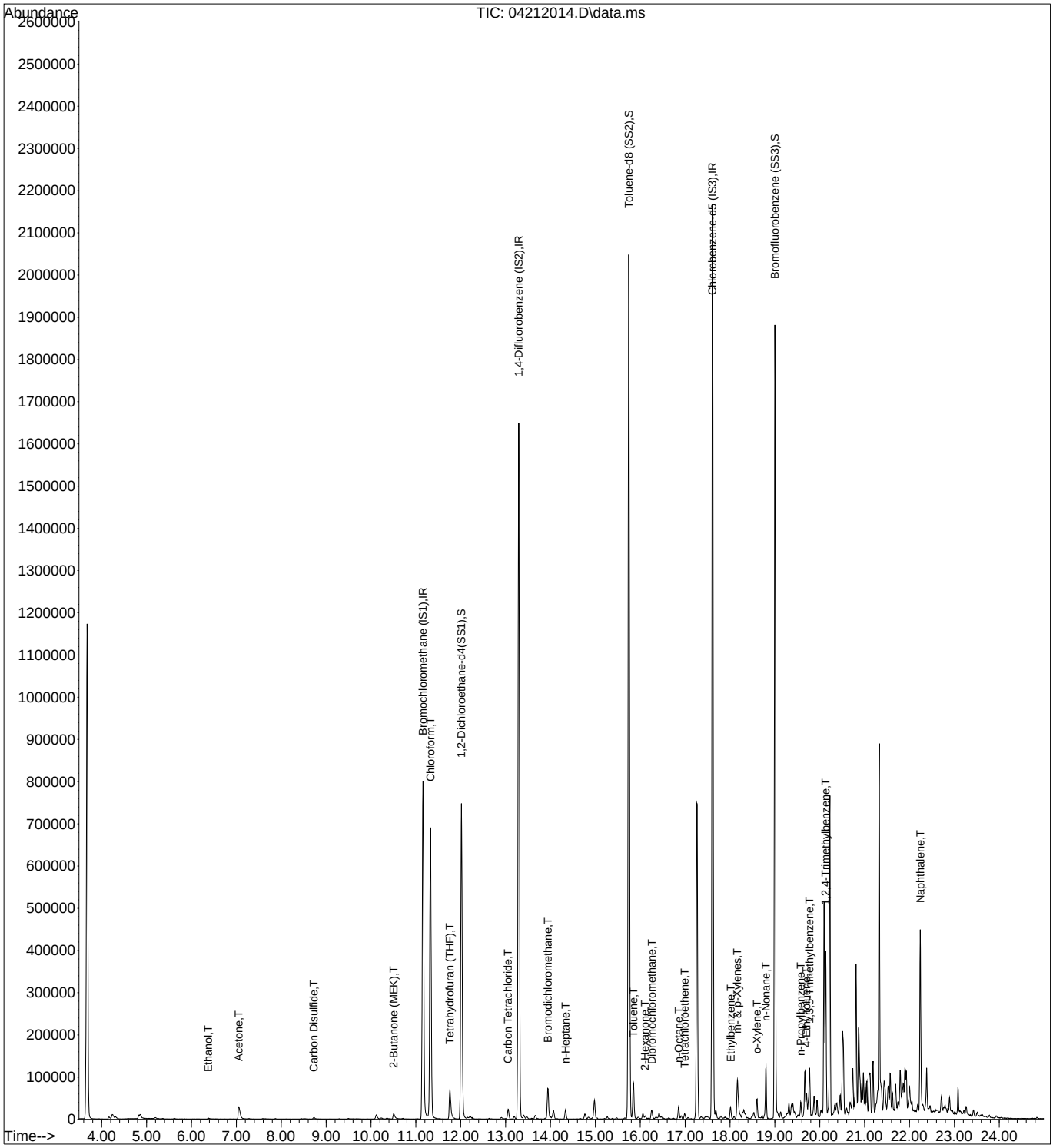
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.34	71	5667	0.157 ng	97
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.92	58	226	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.85	91	68517	0.429 ng	100
59) 2-Hexanone	16.11	43	6511	0.082 ng	74
60) Dibromochloromethane	16.26	129	10347	0.243 ng	100
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.74	43	222	N.D.	
63) n-Octane	16.86	57	5714	0.180 ng	94
64) Tetrachloroethene	16.99	166	4063	0.091 ng	95
65) Chlorobenzene	17.61	112	109	N.D.	
66) Ethylbenzene	18.02	91	21471	0.123 ng	98
67) m- & p-Xylenes	18.16	91	72483	0.509 ng	98
68) Bromoform	18.24	173	1449	N.D.	
69) Styrene	18.52	104	236	N.D.	
70) o-Xylene	18.60	91	26527	0.186 ng	96
71) n-Nonane	18.80	43	45622	0.641 ng	91
72) 1,1,2,2-Tetrachloroethane	18.66	83	710	N.D.	
74) Cumene	19.13	105	7069	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	19.58	91	29579	0.141 ng	96
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.70	105	27137	0.159 ng	98
79) 1,3,5-Trimethylbenzene	19.77	105	42200	0.277 ng	95
80) alpha-Methylstyrene	19.91	118	2534	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.13	105	198598	1.259 ng	86
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.23	91	378	N.D.	
85) 1,3-Dichlorobenzene	20.33	146	250	N.D.	
86) 1,4-Dichlorobenzene	20.33	146	250	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.64	68	928	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.13	180	283	N.D.	
95) Naphthalene	22.24	128	81147	0.460 ng	99
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212014.D Vial: 14
Acq On : 21 Apr 2020 16:41 Operator: WA
Sample : P2002031-013dil (40mL) Inst : GCMS-16
Misc : S31-02112001

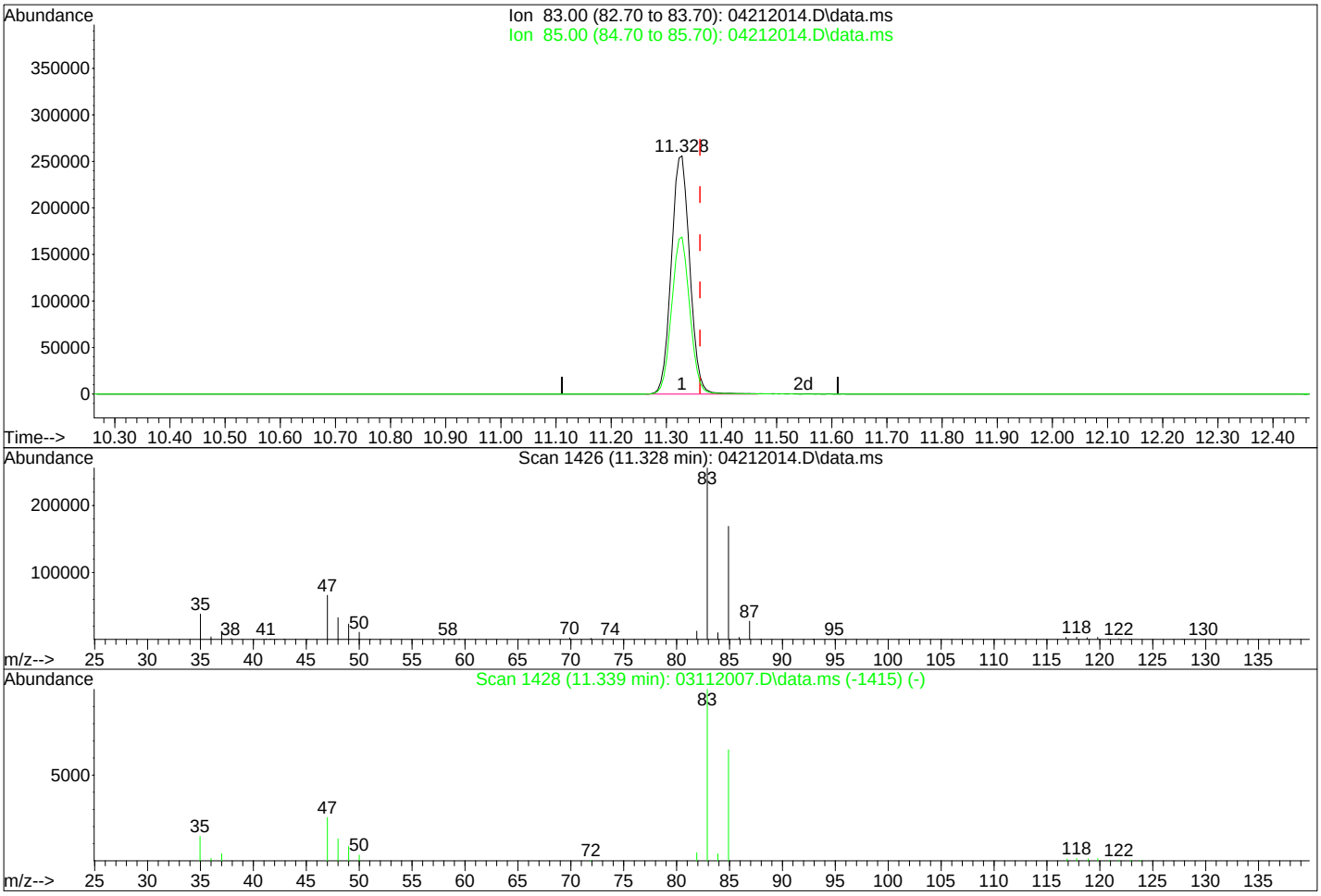
Quant Time: Apr 22 18:47:46 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\21\04212014.D Vial: 14
Acq On : 21 Apr 2020 16:41 Operator: WA
Sample : P2002031-013dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 03:15:01 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04212014.D\data.ms

(32) Chloroform (T)

11.328min (-0.033) 9.01ng

response 594459

Ion	Exp%	Act%
83.00	100	100
85.00	65.50	65.00
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202048.D Vial: 15
Acq On : 21 Apr 2020 6:18 Operator: LH
Sample : P2002031-014 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 17:18:22 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/22/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	339673	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1512485	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	714077	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.02	65	573077	12.184	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.44%			
57) Toluene-d8 (SS2)	15.74	98	1537562	12.148	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.20%			
73) Bromofluorobenzene (SS3)	19.00	174	570026	12.754	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.00%			
Target Compounds						Qvalue
2) Propene	4.14	42	10151	0.285	ng	90
3) Dichlorodifluoromethan...	4.29	85	16573	0.216	ng	99
4) Chloromethane	4.56	50	5946	0.098	ng	93
5) 1,2-Dichloro-1,1,2,2-t...	4.83	135	316	N.D.		
6) Vinyl Chloride	4.99	62	405	N.D.		
7) 1,3-Butadiene	5.24	54	423	N.D.		
8) Bromomethane	5.68	94	479	N.D.		
9) Chloroethane	5.99	64	850	N.D.		
10) Ethanol	6.33	45	44517	1.581	ng	95
11) Acetonitrile	6.62	41	6019	0.097	ng	84
12) Acrolein	6.81	56	13192	0.637	ng	96
13) Acetone	7.00	58	271427	9.769	ng	91
14) Trichlorofluoromethane	7.26	101	22177	0.328	ng	100
15) 2-Propanol (Isopropanol)	7.52	45	31093	0.377	ng	69
16) Acrylonitrile	7.83	53	57	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d	
19) Methylene Chloride	8.44	84	2529	0.070	ng	99
20) 3-Chloro-1-propene (Al...	8.61	41	114	N.D.		
21) Trichlorotrifluoroethane	8.86	151	1523	N.D.		
22) Carbon Disulfide	8.70	76	44402	0.341	ng	97
23) trans-1,2-Dichloroethene	9.71	61	171	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	10.10	73	1086	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	10.48	72	54135	2.340	ng	92
28) cis-1,2-Dichloroethene	10.99	61	1123	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	11.30	61	23133	1.692	ng	86
31) n-Hexane	11.28	57	18181	0.287	ng	97
32) Chloroform	11.33	83	530815	7.871	ng	99
34) Tetrahydrofuran (THF)	11.77	72	6818	0.286	ng #	70
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.02	62	209	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	12.90	61	170	N.D.		
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	12.90	78	51955	0.332	ng	99
42) Carbon Tetrachloride	13.06	117	101780	1.895	ng	99
43) Cyclohexane	13.19	84	22399	0.373	ng	96
44) tert-Amyl Methyl Ether	13.59	73	721	N.D.		
45) 1,2-Dichloropropane	13.66	63	171	N.D.		
46) Bromodichloromethane	13.95	83	34077	0.645	ng	94
47) Trichloroethene	14.00	130	1664	N.D.		
48) 1,4-Dioxane	14.01	88	896	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202048.D Vial: 15
Acq On : 21 Apr 2020 6:18 Operator: LH
Sample : P2002031-014 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 17:18:22 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

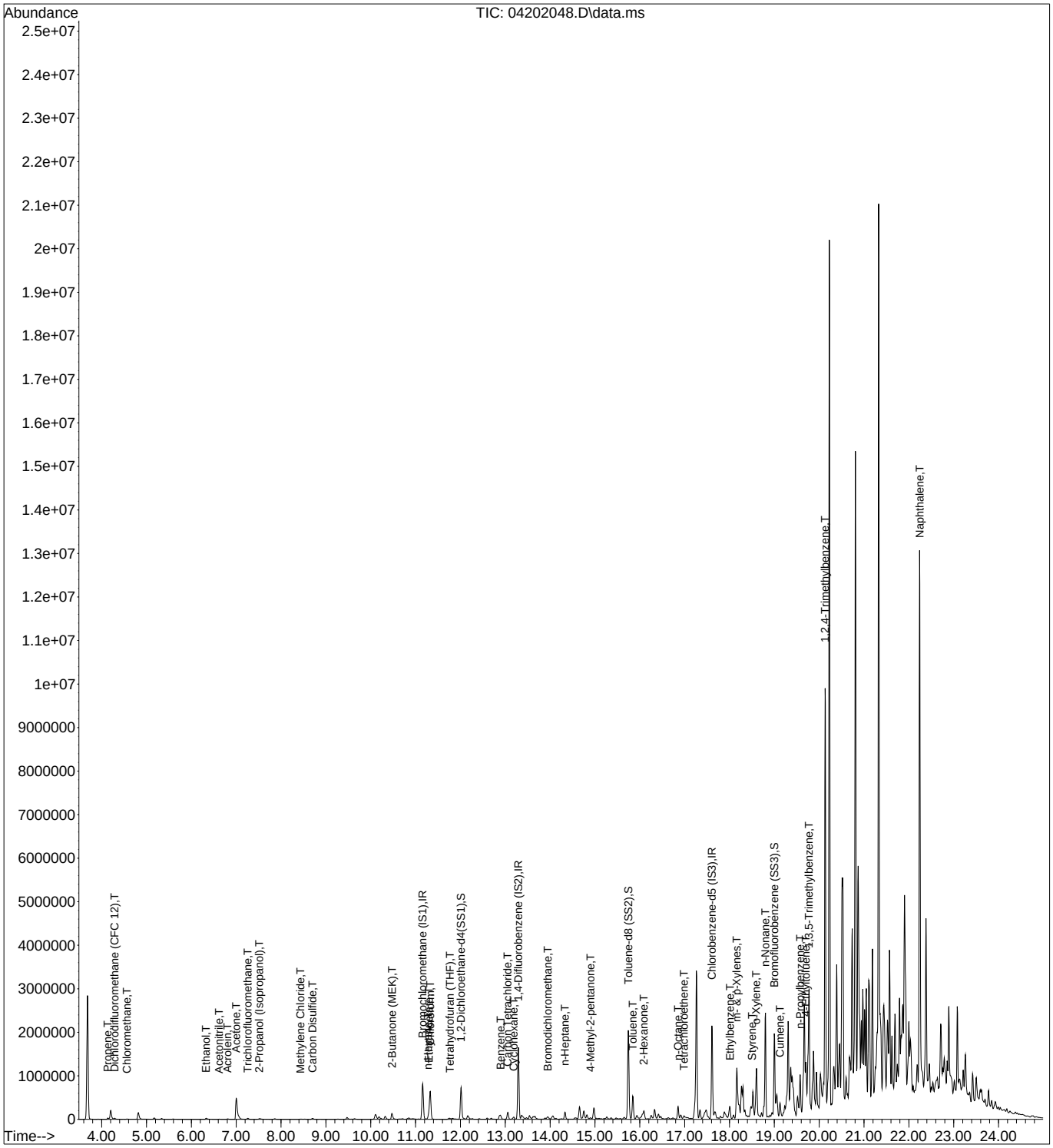
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.33	71	42495	1.164	ng		96
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
53) 4-Methyl-2-pentanone	14.90	58	9342	0.285	ng		95
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.			
55) 1,1,2-Trichloroethane	15.47	97	1121	N.D.			
58) Toluene	15.84	91	430455	2.751	ng		100
59) 2-Hexanone	16.09	43	136100m	1.738	ng		
60) Dibromochloromethane	16.27	129	1298	N.D.			
61) 1,2-Dibromoethane	16.50	107	744	N.D.			
62) n-Butyl Acetate	0.00	43	0	N.D.	d		
63) n-Octane	16.85	57	54745	1.763	ng		96
64) Tetrachloroethene	16.99	166	16919	0.388	ng		99
65) Chlorobenzene	0.00	112	0	N.D.	d		
66) Ethylbenzene	18.01	91	200443	1.167	ng		100
67) m- & p-Xylenes	18.16	91	779649	5.583	ng		99
68) Bromoform	0.00	173	0	N.D.			
69) Styrene	18.50	104	7342	0.067	ng	#	75
70) o-Xylene	18.60	91	337086	2.414	ng		100
71) n-Nonane	18.80	43	840234m	12.036	ng		
72) 1,1,2,2-Tetrachloroethane	18.59	83	2569	N.D.			
74) Cumene	19.13	105	112534	0.637	ng		100
75) alpha-Pinene	19.47	93	720	N.D.			
76) n-Propylbenzene	19.58	91	561288	2.722	ng		96
77) 3-Ethyltoluene	0.00	105	0	N.D.	d		
78) 4-Ethyltoluene	19.70	105	493558	2.943	ng		99
79) 1,3,5-Trimethylbenzene	19.77	105	915371	6.133	ng		98
80) alpha-Methylstyrene	0.00	118	0	N.D.	d		
81) 2-Ethyltoluene	0.00	105	0	N.D.	d		
82) 1,2,4-Trimethylbenzene	20.13	105	4487959	29.027	ng		88
83) n-Decane	0.00	57	0	N.D.	d		
84) Benzyl Chloride	20.23	91	5012	N.D.			
85) 1,3-Dichlorobenzene	20.26	146	325	N.D.			
86) 1,4-Dichlorobenzene	20.33	146	841	N.D.			
87) sec-Butylbenzene	0.00	105	0	N.D.	d		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.	d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d		
90) 1,2-Dichlorobenzene	20.64	146	206	N.D.			
91) d-Limonene	20.61	68	2703	N.D.			
92) 1,2-Dibromo-3-Chloropr...	21.05	157	728	N.D.			
93) n-Undecane	0.00	57	0	N.D.	d		
94) 1,2,4-Trichlorobenzene	22.15	180	1441	N.D.			
95) Naphthalene	22.24	128	2366574	13.684	ng		98
96) n-Dodecane	0.00	57	0	N.D.	d		
97) Hexachlorobutadiene	0.00	225	0	N.D.			
98) Cyclohexanone	0.00	55	0	N.D.	d		
99) tert-Butylbenzene	0.00	119	0	N.D.	d		
100) n-Butylbenzene	0.00	91	0	N.D.	d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202048.D Vial: 15
Acq On : 21 Apr 2020 6:18 Operator: LH
Sample : P2002031-014 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 17:18:22 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202048.D Vial: 15
Acq On : 21 Apr 2020 6:18 Operator: LH
Sample : P2002031-014 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 17:18:22 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/22/20

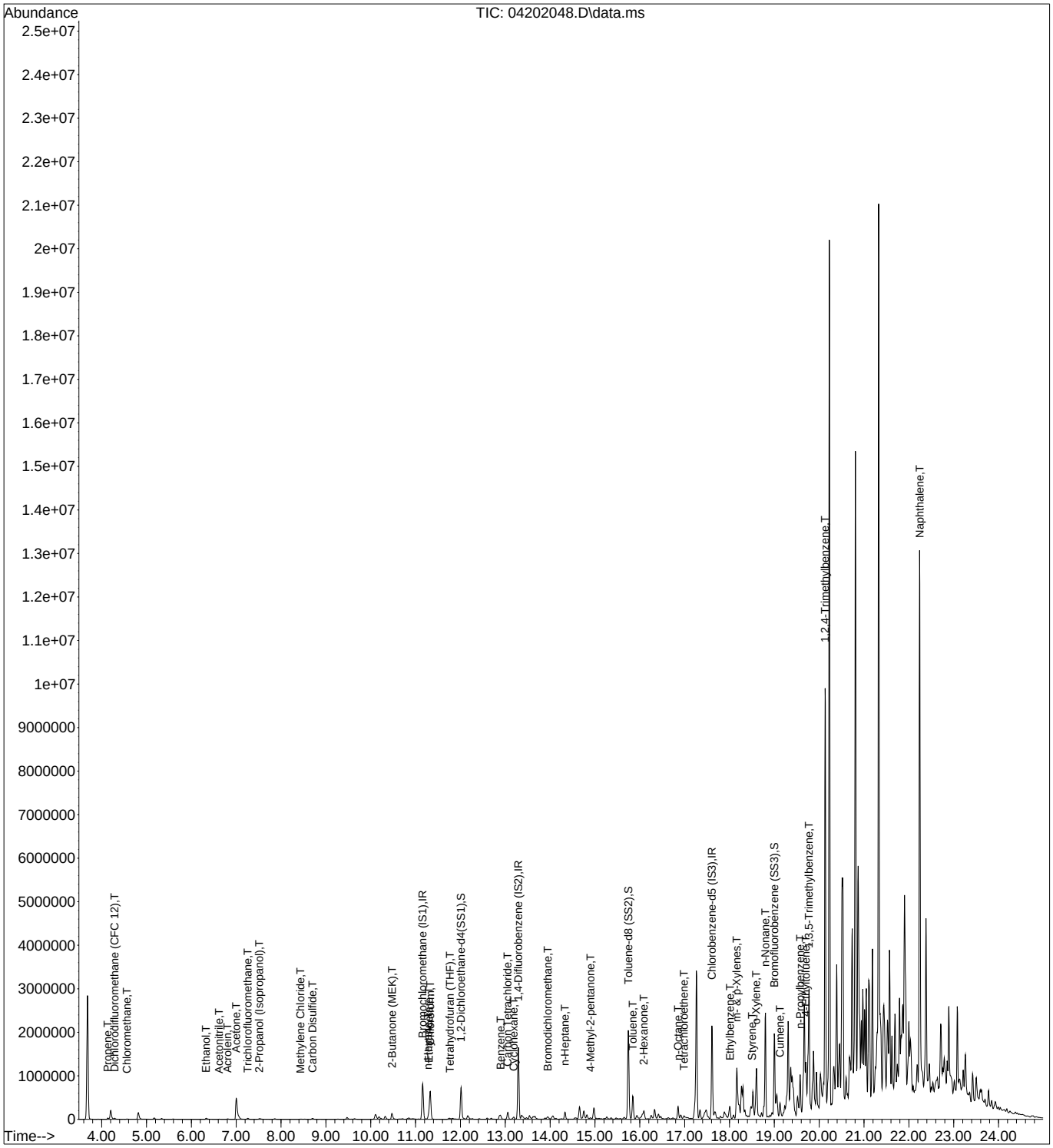
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	339673	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1512485	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	714077	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	573077	12.184	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.44%				
57) Toluene-d8 (SS2)	15.74	98	1537562	12.148	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.20%				
73) Bromofluorobenzene (SS3)	19.00	174	570026	12.754	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.00%				
Target Compounds							Qvalue
2) Propene	4.14	42	10151	0.285	ng		90
3) Dichlorodifluoromethan...	4.29	85	16573	0.216	ng		99
4) Chloromethane	4.56	50	5946	0.098	ng		93
10) Ethanol	6.33	45	44517	1.581	ng		95
11) Acetonitrile	6.62	41	6019	0.097	ng		84
12) Acrolein	6.81	56	13192	0.637	ng		96
13) Acetone	7.00	58	271427	9.769	ng		91
14) Trichlorofluoromethane	7.26	101	22177	0.328	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	31093	0.377	ng		69
19) Methylene Chloride	8.44	84	2529	0.070	ng		99
22) Carbon Disulfide	8.70	76	44402	0.341	ng		97
27) 2-Butanone (MEK)	10.48	72	54135	2.340	ng		92
30) Ethyl Acetate	11.30	61	23133	1.692	ng		86
31) n-Hexane	11.28	57	18181	0.287	ng		97
32) Chloroform	11.33	83	530815	7.871	ng		99
34) Tetrahydrofuran (THF)	11.77	72	6818	0.286	ng	#	70
41) Benzene	12.90	78	51955	0.332	ng		99
42) Carbon Tetrachloride	13.06	117	101780	1.895	ng		99
43) Cyclohexane	13.19	84	22399	0.373	ng		96
46) Bromodichloromethane	13.95	83	34077	0.645	ng		94
51) n-Heptane	14.33	71	42495	1.164	ng		96
53) 4-Methyl-2-pentanone	14.90	58	9342	0.285	ng		95
58) Toluene	15.84	91	430455	2.751	ng		100
59) 2-Hexanone	16.09	43	136100m	1.738	ng		
63) n-Octane	16.85	57	54745	1.763	ng		96
64) Tetrachloroethene	16.99	166	16919	0.388	ng		99
66) Ethylbenzene	18.01	91	200443	1.167	ng		100
67) m- & p-Xylenes	18.16	91	779649	5.583	ng		99
69) Styrene	18.50	104	7342	0.067	ng	#	75
70) o-Xylene	18.60	91	337086	2.414	ng		100
71) n-Nonane	18.80	43	840234m	12.036	ng		
74) Cumene	19.13	105	112534	0.637	ng		100
76) n-Propylbenzene	19.58	91	561288	2.722	ng		96
78) 4-Ethyltoluene	19.70	105	493558	2.943	ng		99
79) 1,3,5-Trimethylbenzene	19.77	105	915371	6.133	ng		98
82) 1,2,4-Trimethylbenzene	20.13	105	4487959	29.027	ng		88
95) Naphthalene	22.24	128	2366574	13.684	ng		98

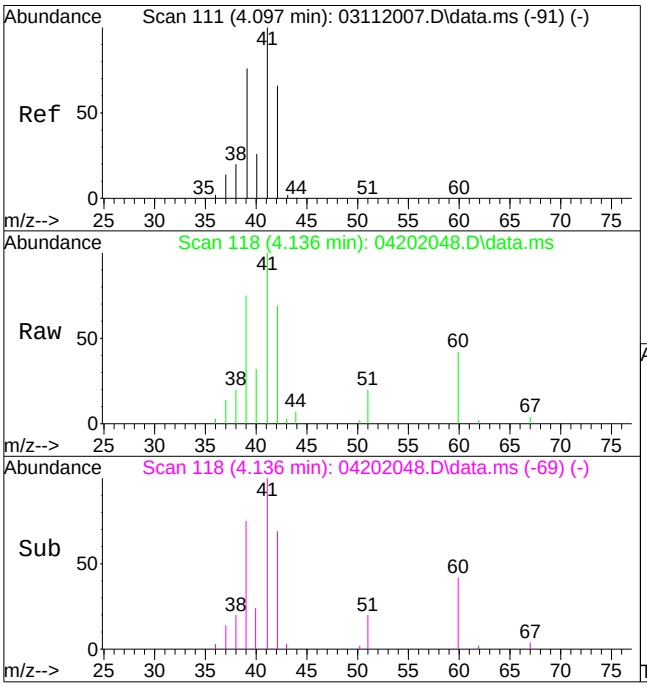
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202048.D Vial: 15
Acq On : 21 Apr 2020 6:18 Operator: LH
Sample : P2002031-014 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 17:18:22 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

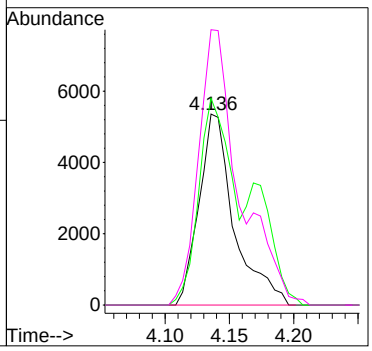


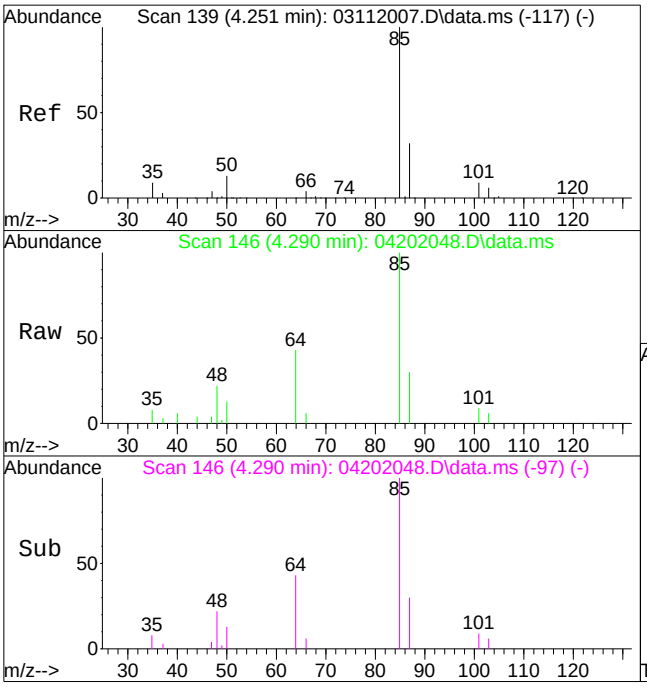


#2
Propene
Concen: 0.28 ng
RT: 4.14 min Scan# 118
Delta R.T. 0.022 min
Lab File: 04202048.D
Acq: 21 Apr 2020 6:18

Tgt Ion: 42 Resp: 10151

Ion	Ratio	Lower	Upper
42	100		
39	108.8	95.3	135.3
41	168.4	132.0	172.0

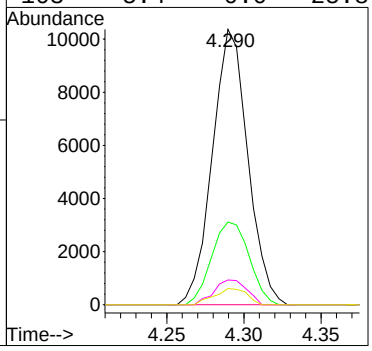


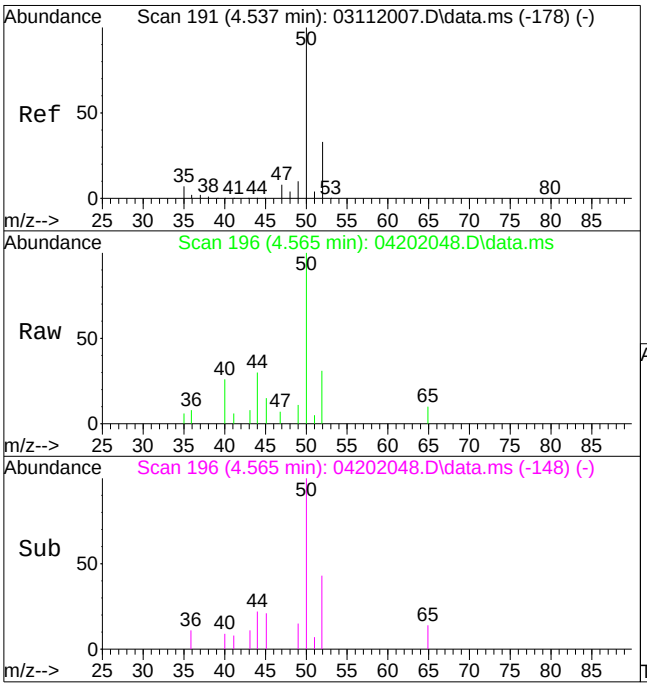


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.22 ng
RT: 4.29 min Scan# 146
Delta R.T. 0.022 min
Lab File: 04202048.D
Acq: 21 Apr 2020 6:18

Tgt Ion: 85 Resp: 16573

Ion	Ratio	Lower	Upper
85	100		
87	31.7	12.3	52.3
101	8.3	0.0	29.0
103	5.4	0.0	25.8

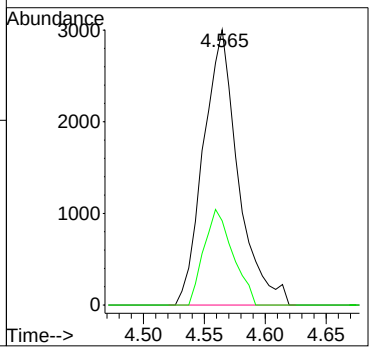


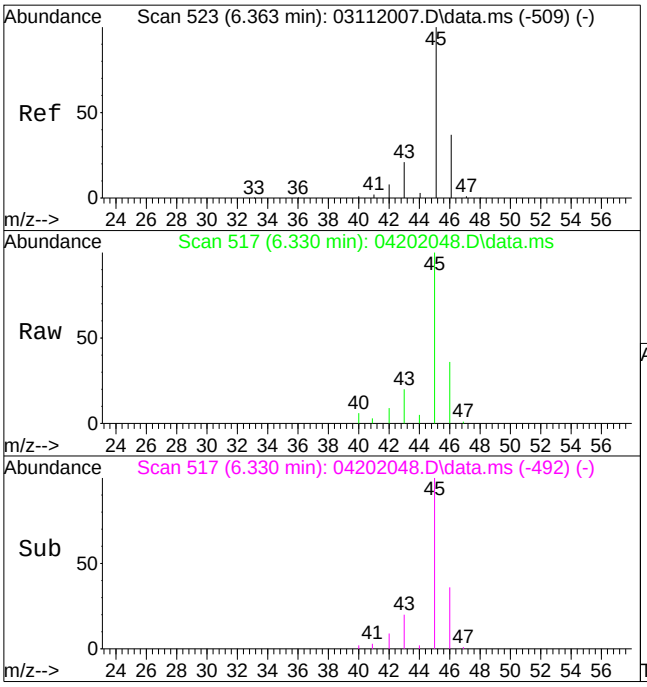


#4
Chloromethane
Concen: 0.10 ng
RT: 4.56 min Scan# 196
Delta R.T. 0.012 min
Lab File: 04202048.D
Acq: 21 Apr 2020 6:18

Tgt Ion: 50 Resp: 5946

Ion	Ratio	Lower	Upper
50	100		
52	29.0	12.8	52.8

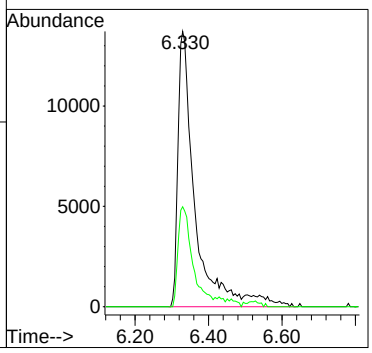


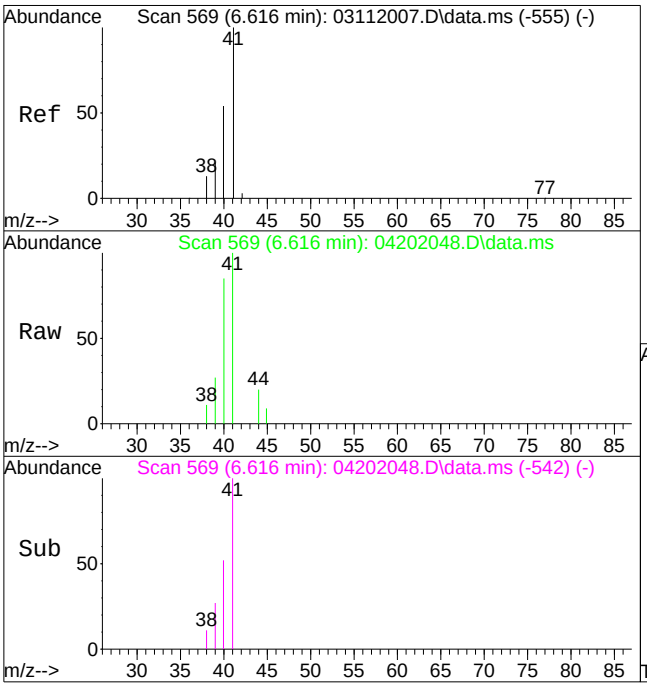


#10
Ethanol
Concen: 1.58 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.110 min
Lab File: 04202048.D
Acq: 21 Apr 2020 6:18

Tgt Ion: 45 Resp: 44517

Ion	Ratio	Lower	Upper
45	100		
46	34.2	17.3	57.3

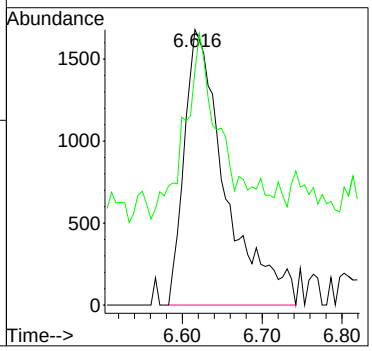


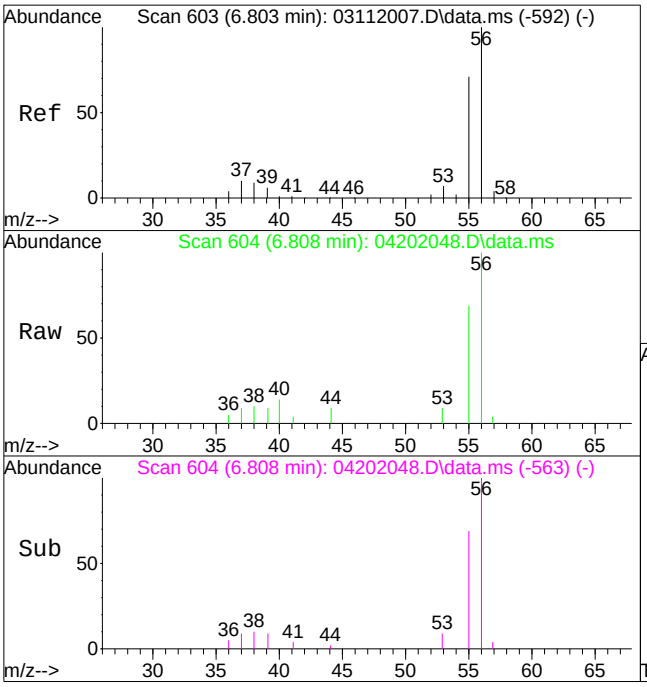


#11
Acetonitrile
Concen: 0.10 ng
RT: 6.62 min Scan# 569
Delta R.T. -0.049 min
Lab File: 04202048.D
Acq: 21 Apr 2020 6:18

Tgt Ion: 41 Resp: 6019

Ion	Ratio	Lower	Upper
41	100		
40	65.1	33.6	73.6

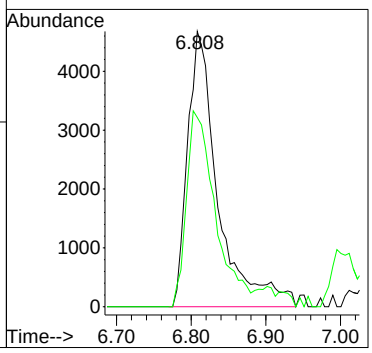


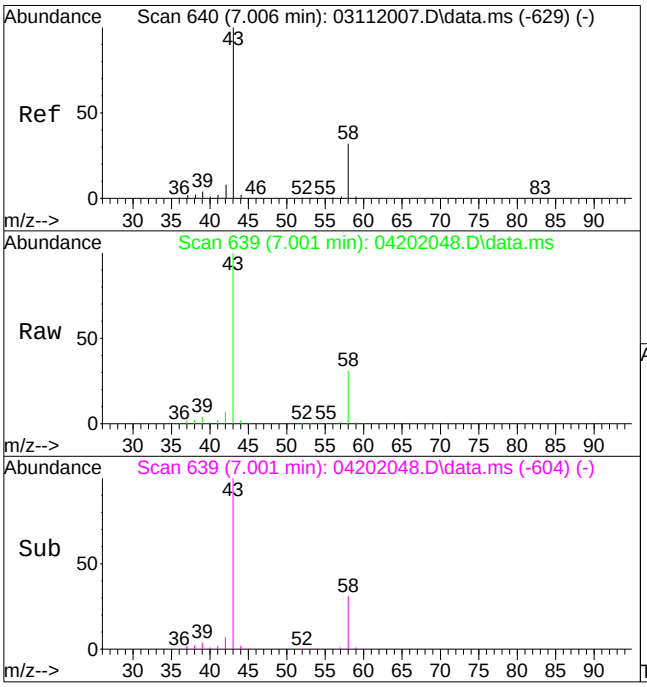


#12
Acrolein
Concen: 0.64 ng
RT: 6.81 min Scan# 604
Delta R.T. -0.022 min
Lab File: 04202048.D
Acq: 21 Apr 2020 6:18

Tgt Ion: 56 Resp: 13192

Ion	Ratio	Lower	Upper
56	100		
55	74.0	50.4	90.4

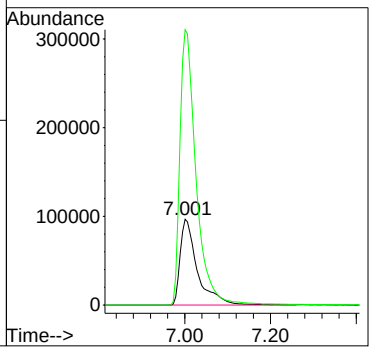


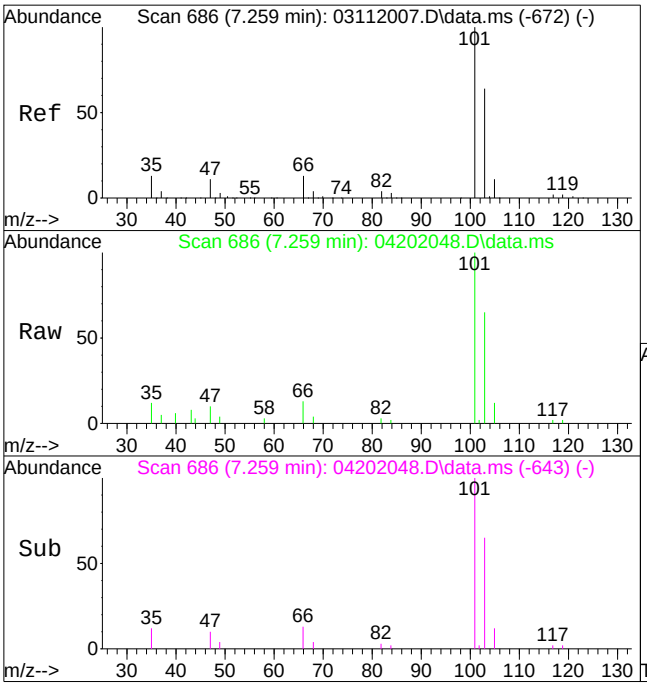


#13
Acetone
Concen: 9.77 ng
RT: 7.00 min Scan# 639
Delta R.T. -0.055 min
Lab File: 04202048.D
Acq: 21 Apr 2020 6:18

Tgt Ion: 58 Resp: 271427

Ion	Ratio	Lower	Upper
58	100		
43	299.6	287.3	347.3

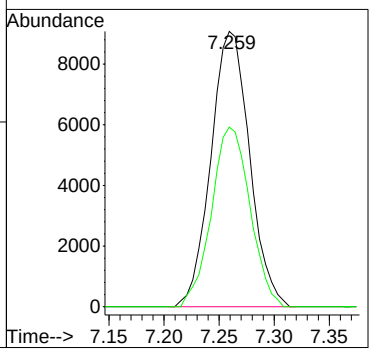


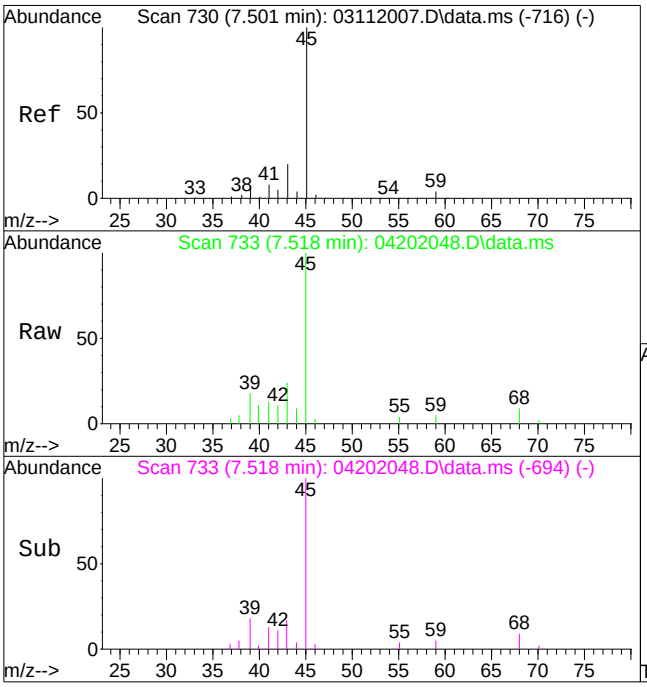


#14
Trichlorofluoromethane
Concen: 0.33 ng
RT: 7.26 min Scan# 686
Delta R.T. -0.016 min
Lab File: 04202048.D
Acq: 21 Apr 2020 6:18

Tgt Ion:101 Resp: 22177

Ion	Ratio	Lower	Upper
101	100		
103	64.9	44.6	84.6

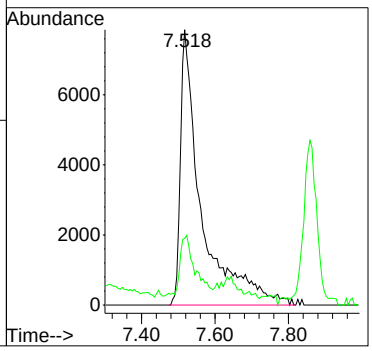


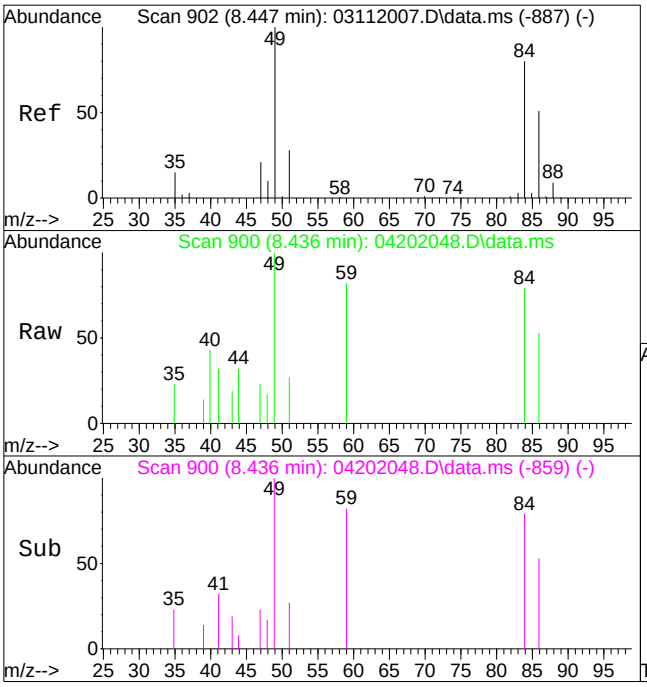


#15
2-Propanol (Isopropanol)
Concen: 0.38 ng
RT: 7.52 min Scan# 733
Delta R.T. -0.033 min
Lab File: 04202048.D
Acq: 21 Apr 2020 6:18

Tgt Ion: 45 Resp: 31093

Ion	Ratio	Lower	Upper
45	100		
43	34.7	0.3	40.3

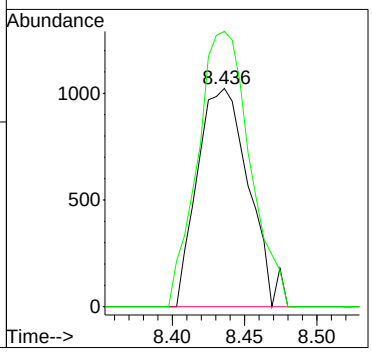


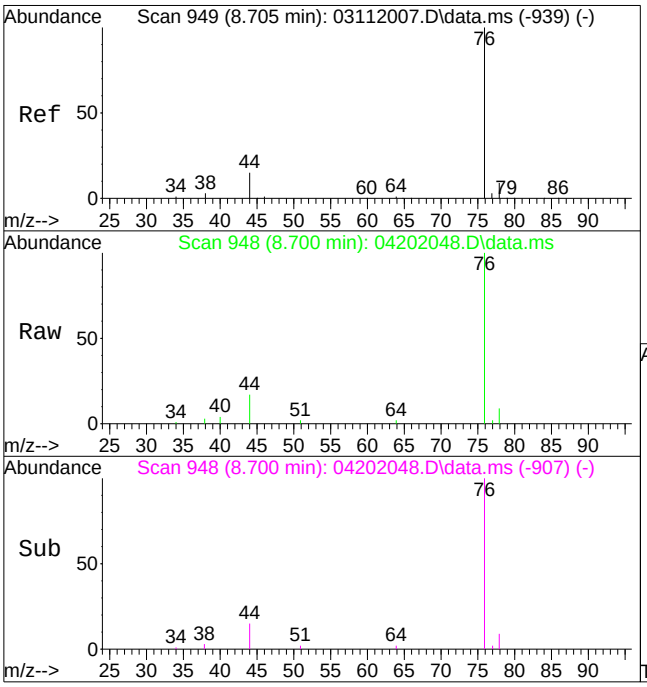


#19
Methylene Chloride
Concen: 0.07 ng
RT: 8.44 min Scan# 900
Delta R.T. -0.027 min
Lab File: 04202048.D
Acq: 21 Apr 2020 6:18

Tgt Ion: 84 Resp: 2529

Ion	Ratio	Lower	Upper
84	100		
49	128.4	102.2	152.2

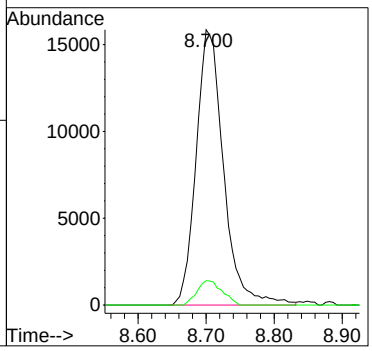


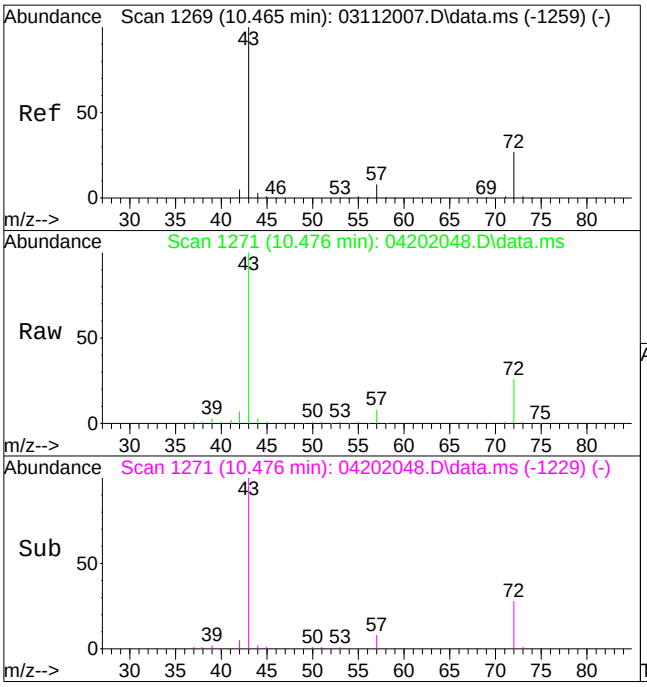


#22
Carbon Disulfide
Concen: 0.34 ng
RT: 8.70 min Scan# 948
Delta R.T. -0.022 min
Lab File: 04202048.D
Acq: 21 Apr 2020 6:18

Tgt Ion: 76 Resp: 44402

Ion	Ratio	Lower	Upper
76	100		
78	8.1	0.0	29.2

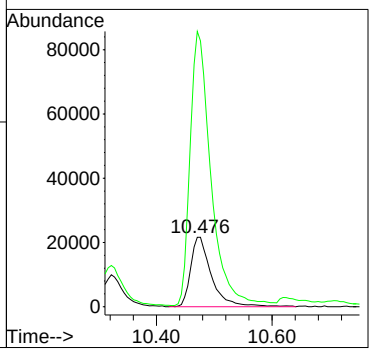


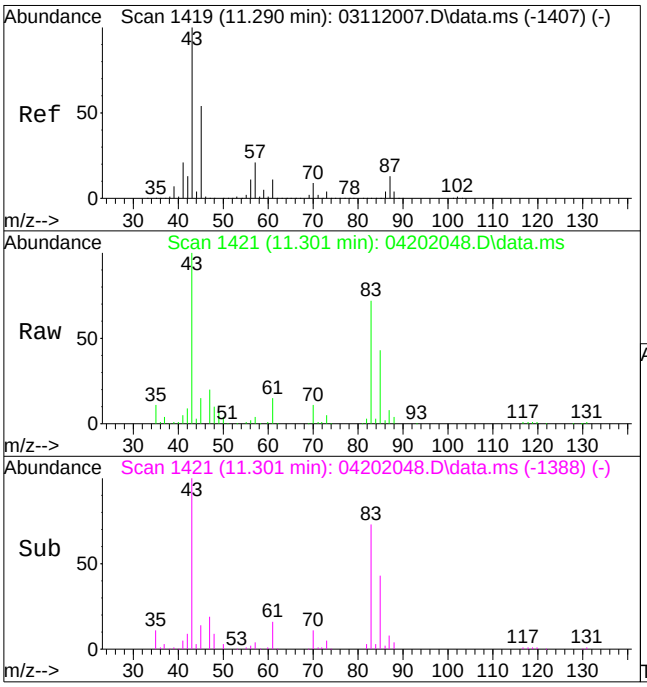


#27
2-Butanone (MEK)
Concen: 2.34 ng
RT: 10.48 min Scan# 1271
Delta R.T. -0.016 min
Lab File: 04202048.D
Acq: 21 Apr 2020 6:18

Tgt Ion: 72 Resp: 54135

Ion	Ratio	Lower	Upper
72	100		
43	392.5	353.4	393.4

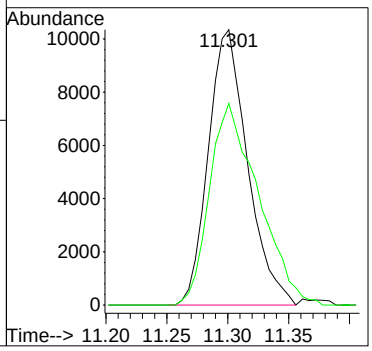


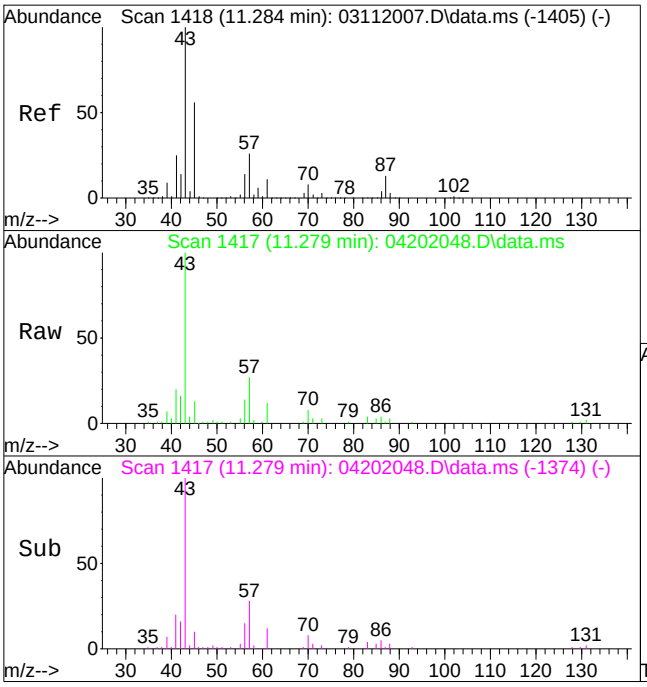


#30
Ethyl Acetate
Concen: 1.69 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.016 min
Lab File: 04202048.D
Acq: 21 Apr 2020 6:18

Tgt Ion: 61 Resp: 23133

Ion	Ratio	Lower	Upper
61	100		
70	91.4	59.1	99.1

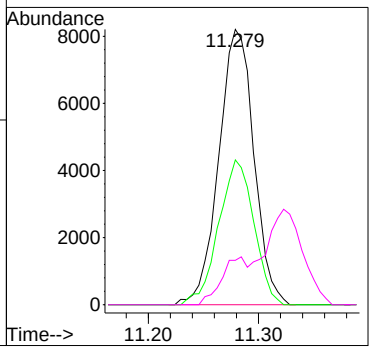


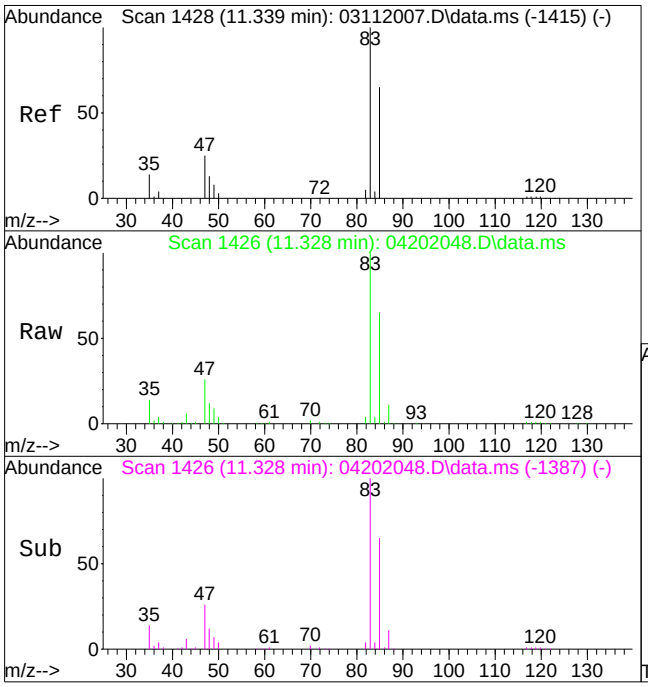


#31
n-Hexane
Concen: 0.29 ng
RT: 11.28 min Scan# 1417
Delta R.T. -0.011 min
Lab File: 04202048.D
Acq: 21 Apr 2020 6:18

Tgt Ion: 57 Resp: 18181

Ion	Ratio	Lower	Upper
57	100		
56	52.7	41.0	61.4
86	15.1	13.9	20.9

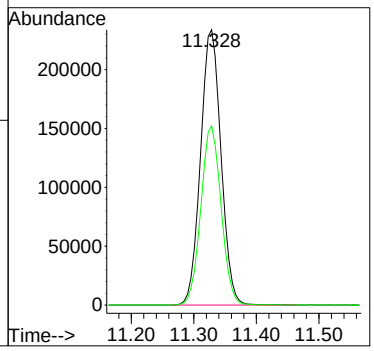


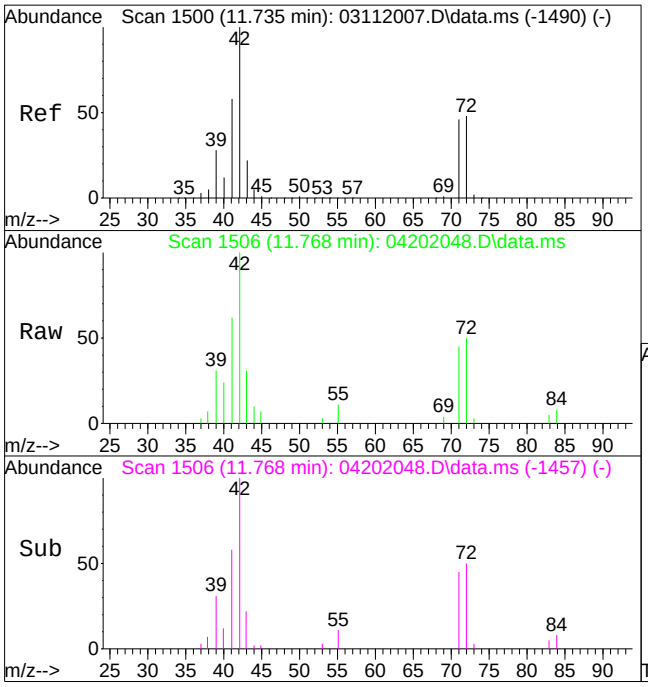


#32
Chloroform
Concen: 7.87 ng
RT: 11.33 min Scan# 1426
Delta R.T. -0.033 min
Lab File: 04202048.D
Acq: 21 Apr 2020 6:18

Tgt Ion: 83 Resp: 530815

Ion	Ratio	Lower	Upper
83	100		
85	64.5	45.5	85.5

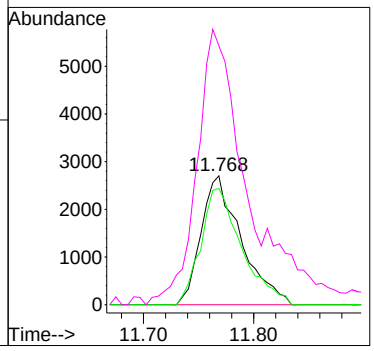


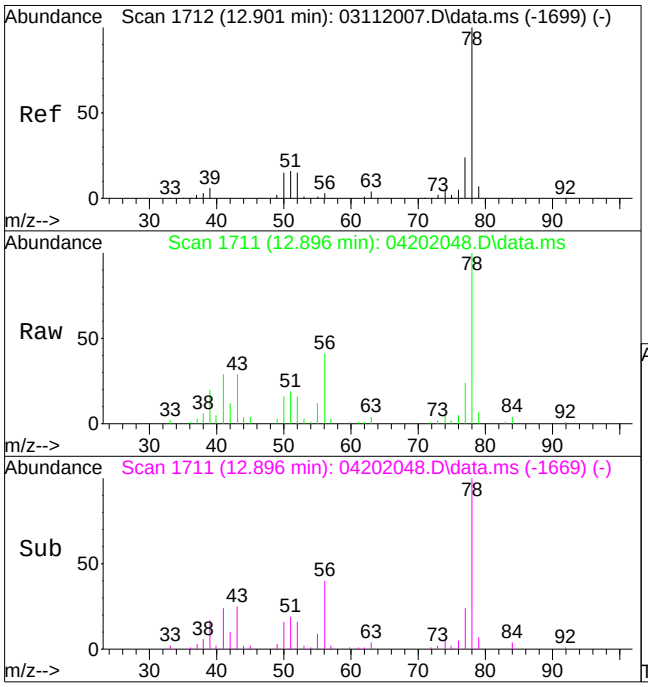


#34
Tetrahydrofuran (THF)
Concen: 0.29 ng
RT: 11.77 min Scan# 1506
Delta R.T. 0.022 min
Lab File: 04202048.D
Acq: 21 Apr 2020 6:18

Tgt Ion: 72 Resp: 6818

Ion	Ratio	Lower	Upper
72	100		
71	92.2	75.9	115.9
42	274.3	189.3	229.3#

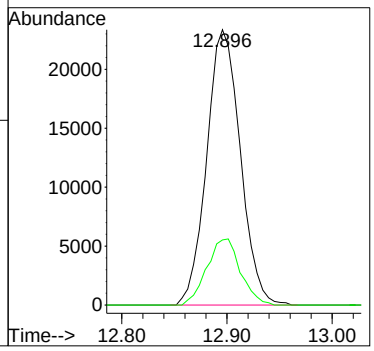


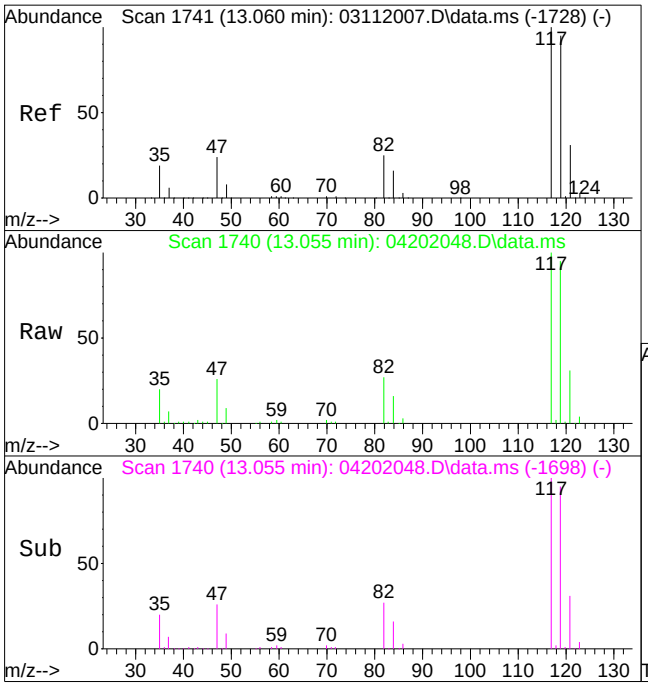


#41
Benzene
Concen: 0.33 ng
RT: 12.90 min Scan# 1711
Delta R.T. -0.016 min
Lab File: 04202048.D
Acq: 21 Apr 2020 6:18

Tgt Ion: 78 Resp: 51955

Ion	Ratio	Lower	Upper
78	100		
77	23.9	3.4	43.4

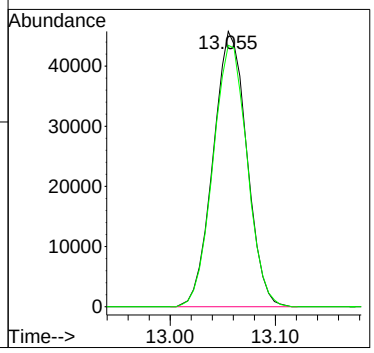


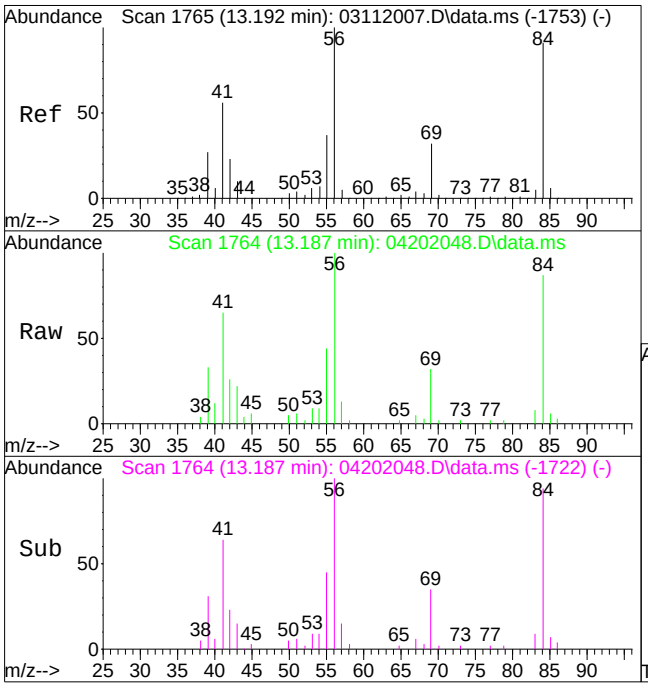


#42
Carbon Tetrachloride
Concen: 1.90 ng
RT: 13.06 min Scan# 1740
Delta R.T. -0.016 min
Lab File: 04202048.D
Acq: 21 Apr 2020 6:18

Tgt Ion:117 Resp: 101780

Ion	Ratio	Lower	Upper
117	100		
119	96.7	75.4	115.4

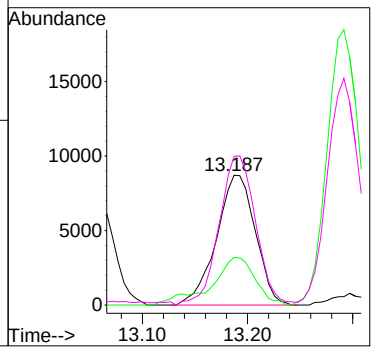


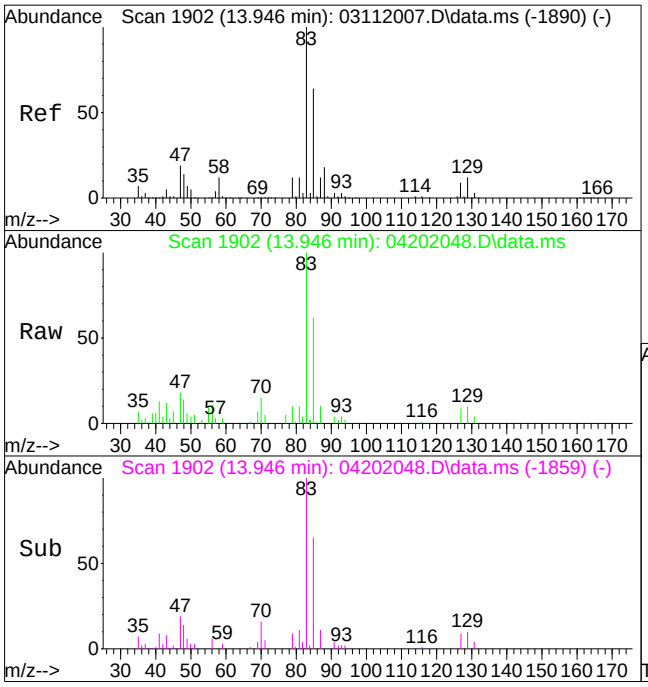


#43
Cyclohexane
Concen: 0.37 ng
RT: 13.19 min Scan# 1764
Delta R.T. -0.016 min
Lab File: 04202048.D
Acq: 21 Apr 2020 6:18

Tgt Ion: 84 Resp: 22399

Ion	Ratio	Lower	Upper
84	100		
69	41.5	15.3	55.3
56	108.0	90.5	130.5

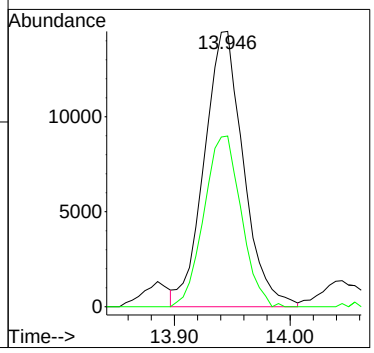


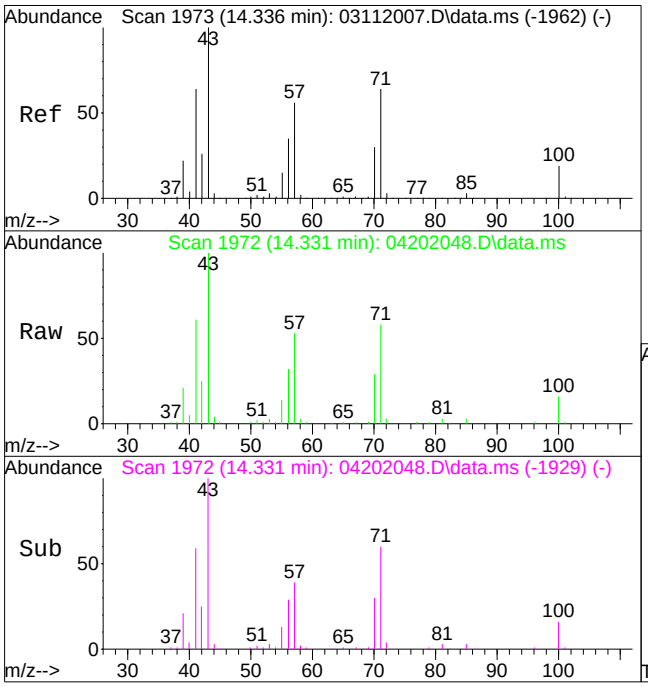


#46
Bromodichloromethane
Concen: 0.64 ng
RT: 13.95 min Scan# 1902
Delta R.T. -0.011 min
Lab File: 04202048.D
Acq: 21 Apr 2020 6:18

Tgt Ion: 83 Resp: 34077

Ion	Ratio	Lower	Upper
83	100		
85	58.9	44.0	84.0

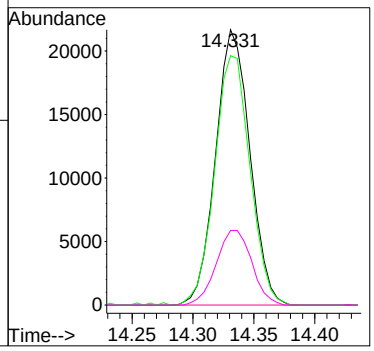


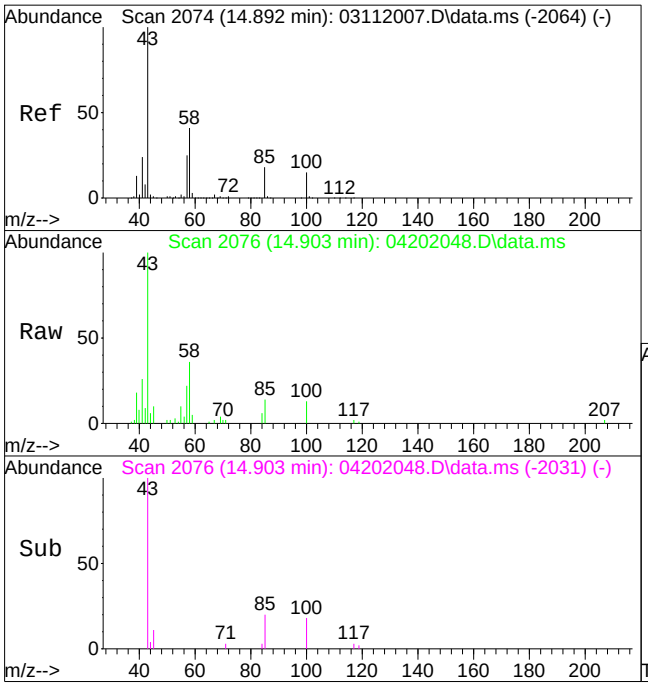


#51
n-Heptane
Concen: 1.16 ng
RT: 14.33 min Scan# 1972
Delta R.T. -0.011 min
Lab File: 04202048.D
Acq: 21 Apr 2020 6:18

Tgt Ion: 71 Resp: 42495

Ion	Ratio	Lower	Upper
71	100		
57	93.2	68.6	108.6
100	28.1	9.1	49.1

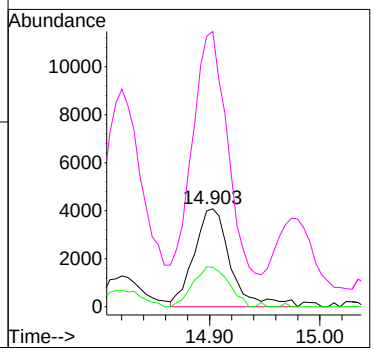


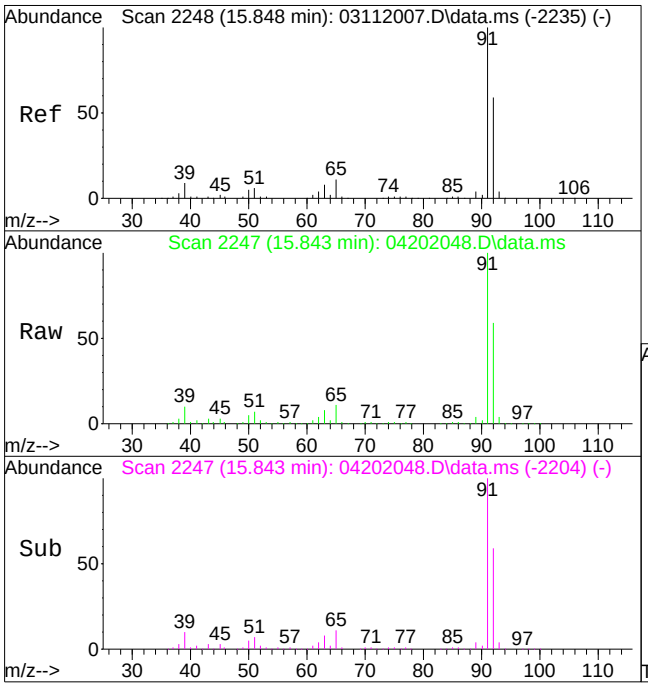


#53
4-Methyl-2-pentanone
Concen: 0.28 ng
RT: 14.90 min Scan# 2076
Delta R.T. 0.000 min
Lab File: 04202048.D
Acq: 21 Apr 2020 6:18

Tgt Ion: 58 Resp: 9342

Ion	Ratio	Lower	Upper
58	100		
85	39.7	37.0	55.4
43	239.3	196.3	294.5

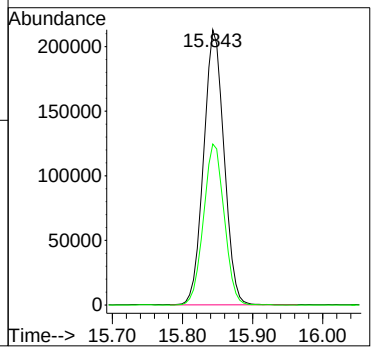


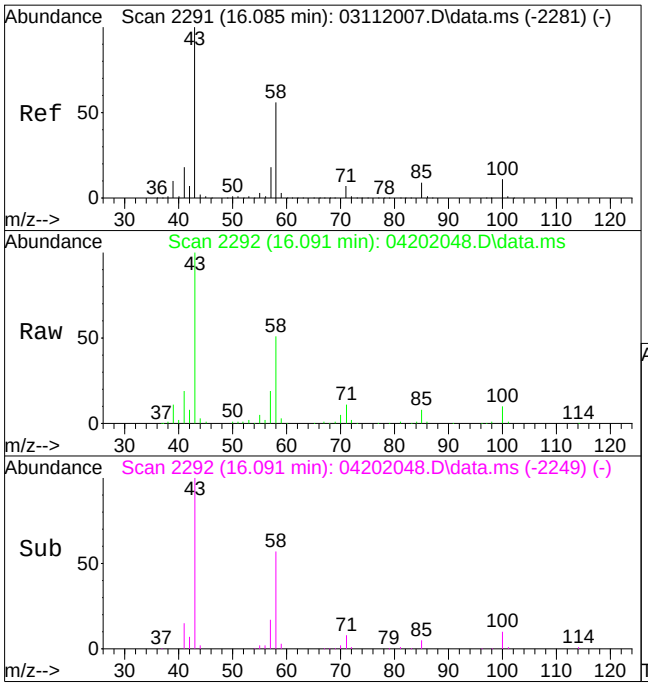


#58
Toluene
Concen: 2.75 ng
RT: 15.84 min Scan# 2247
Delta R.T. -0.011 min
Lab File: 04202048.D
Acq: 21 Apr 2020 6:18

Tgt Ion: 91 Resp: 430455

Ion	Ratio	Lower	Upper
91	100		
92	59.4	39.0	79.0

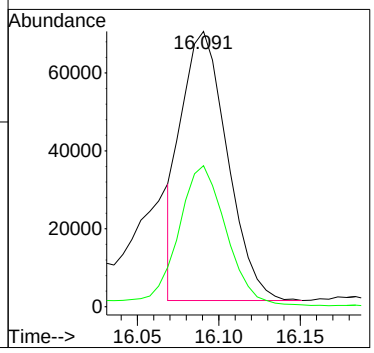


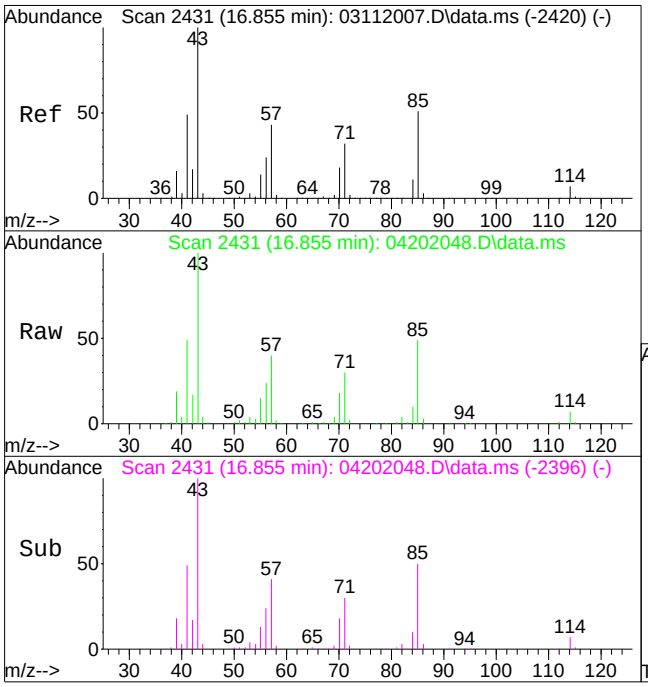


#59
2-Hexanone
Concen: 1.74 ng m
RT: 16.09 min Scan# 2292
Delta R.T. -0.011 min
Lab File: 04202048.D
Acq: 21 Apr 2020 6:18

Tgt Ion: 43 Resp: 136100

Ion	Ratio	Lower	Upper
43	100		
58	58.5	36.5	76.5

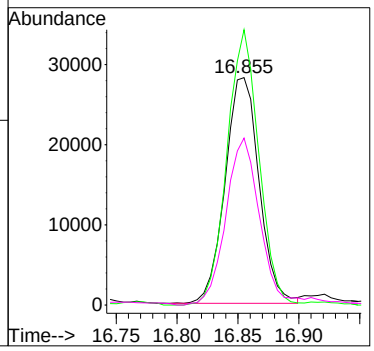


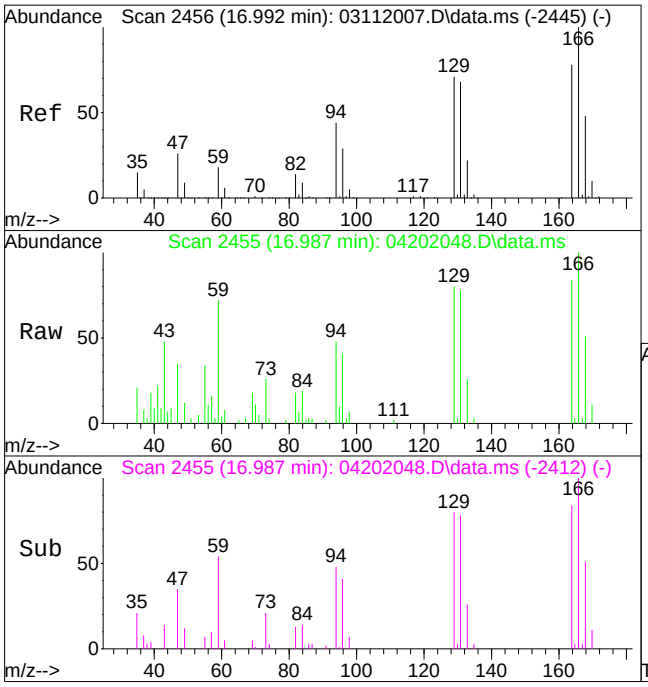


#63
n-Octane
Concen: 1.76 ng
RT: 16.85 min Scan# 2431
Delta R.T. -0.005 min
Lab File: 04202048.D
Acq: 21 Apr 2020 6:18

Tgt Ion: 57 Resp: 54745

Ion	Ratio	Lower	Upper
57	100		
85	114.1	95.1	142.7
71	75.7	58.2	87.4

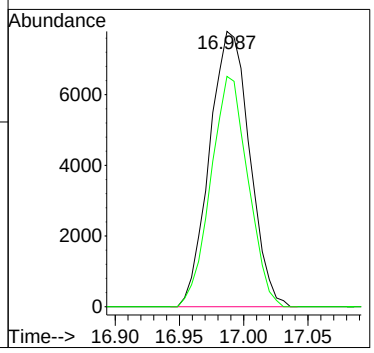


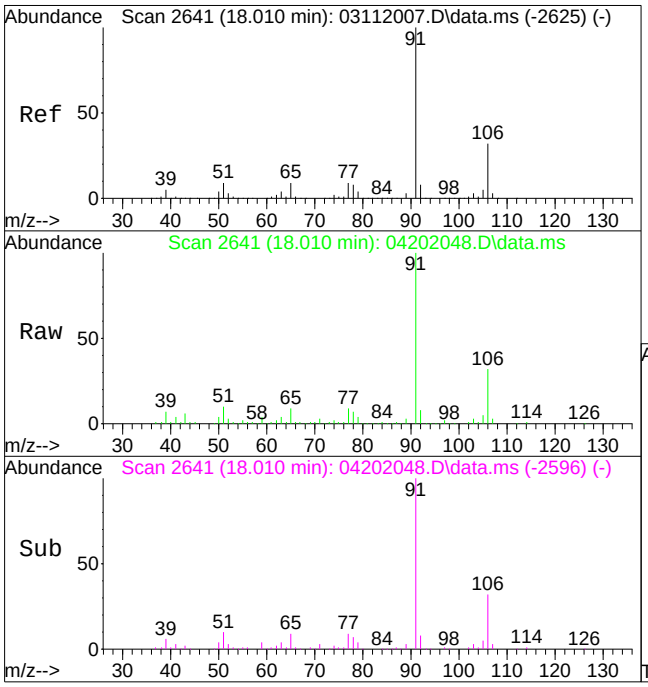


#64
Tetrachloroethene
Concen: 0.39 ng
RT: 16.99 min Scan# 2455
Delta R.T. -0.011 min
Lab File: 04202048.D
Acq: 21 Apr 2020 6:18

Tgt Ion:166 Resp: 16919

Ion	Ratio	Lower	Upper
166	100		
164	77.5	58.6	98.6

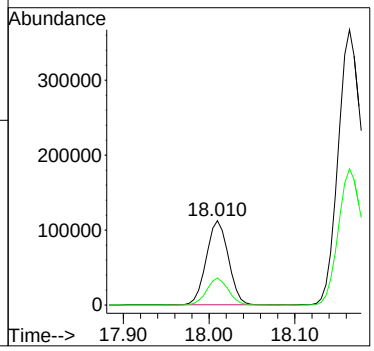


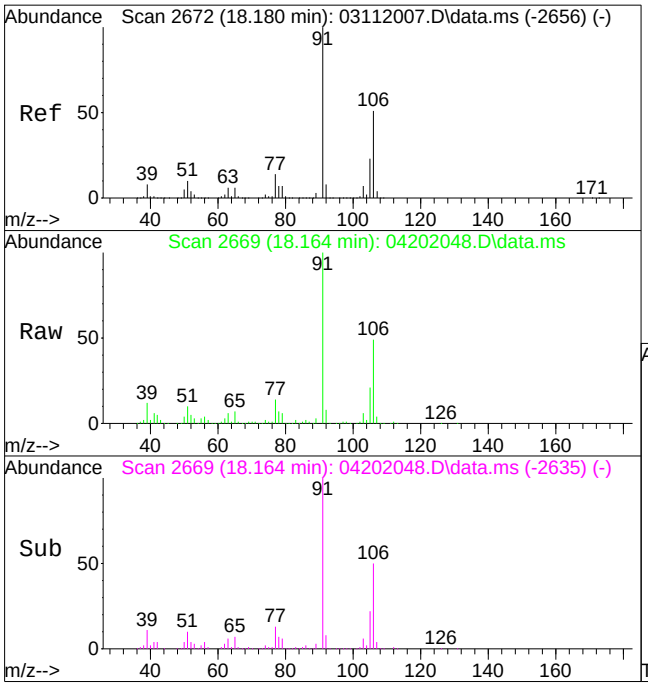


#66
Ethylbenzene
Concen: 1.17 ng
RT: 18.01 min Scan# 2641
Delta R.T. 0.000 min
Lab File: 04202048.D
Acq: 21 Apr 2020 6:18

Tgt Ion: 91 Resp: 200443

Ion	Ratio	Lower	Upper
91	100		
106	31.5	11.7	51.7

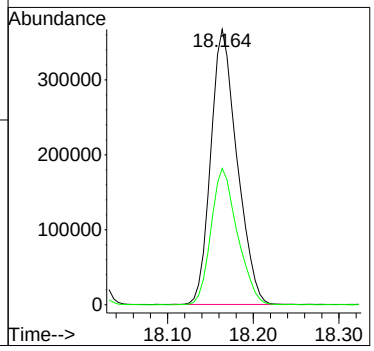


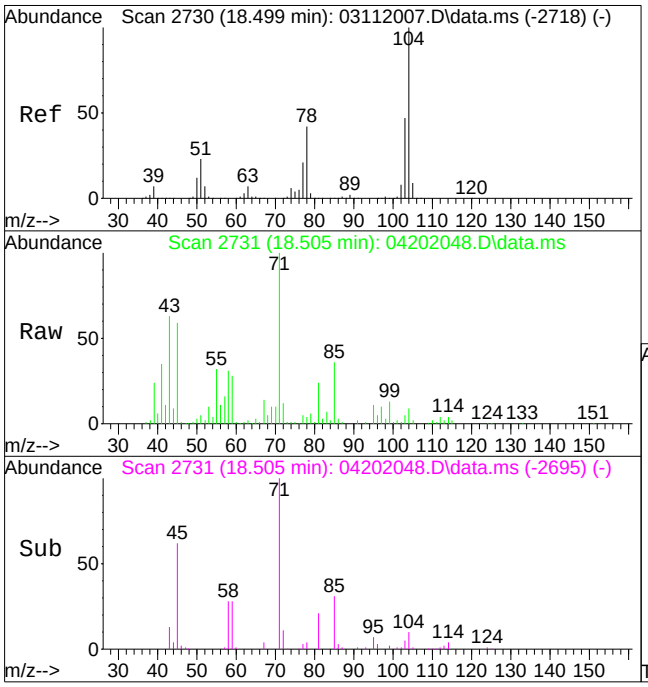


#67
m- & p-Xylenes
Concen: 5.58 ng
RT: 18.16 min Scan# 2669
Delta R.T. -0.011 min
Lab File: 04202048.D
Acq: 21 Apr 2020 6:18

Tgt Ion: 91 Resp: 779649

Ion	Ratio	Lower	Upper
91	100		
106	49.8	30.4	70.4

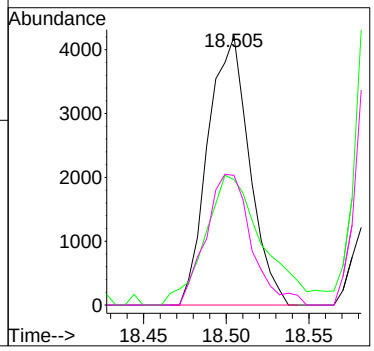


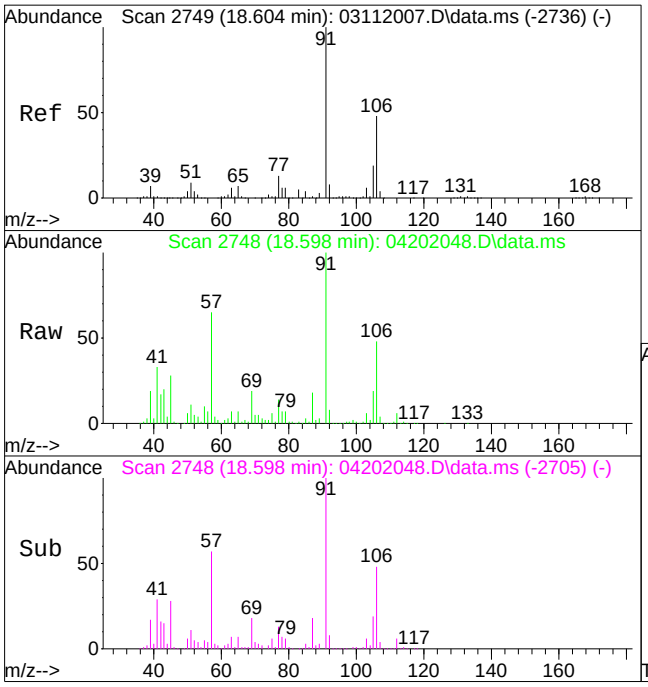


#69
Styrene
Concen: 0.07 ng
RT: 18.50 min Scan# 2731
Delta R.T. -0.000 min
Lab File: 04202048.D
Acq: 21 Apr 2020 6:18

Tgt Ion:104 Resp: 7342

Ion	Ratio	Lower	Upper
104	100		
78	68.7	20.9	60.9#
103	53.3	27.4	67.4

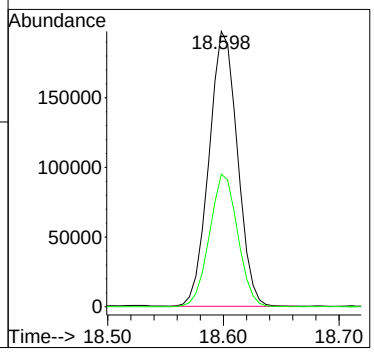


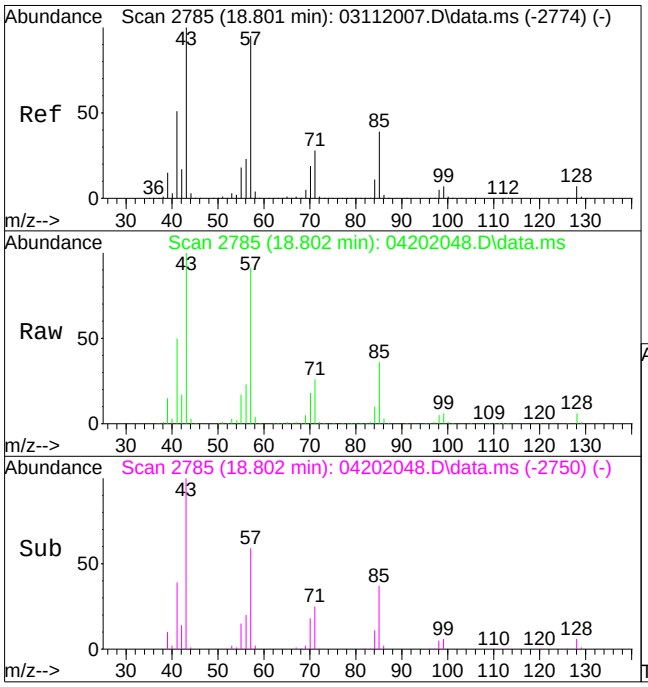


#70
o-Xylene
Concen: 2.41 ng
RT: 18.60 min Scan# 2748
Delta R.T. -0.011 min
Lab File: 04202048.D
Acq: 21 Apr 2020 6:18

Tgt Ion: 91 Resp: 337086

Ion	Ratio	Lower	Upper
91	100		
106	47.9	28.1	68.1

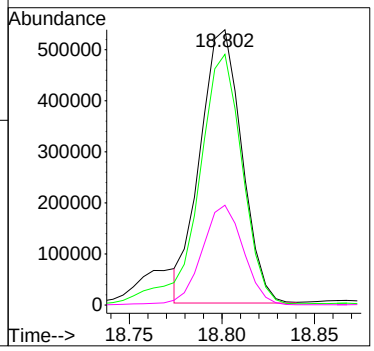


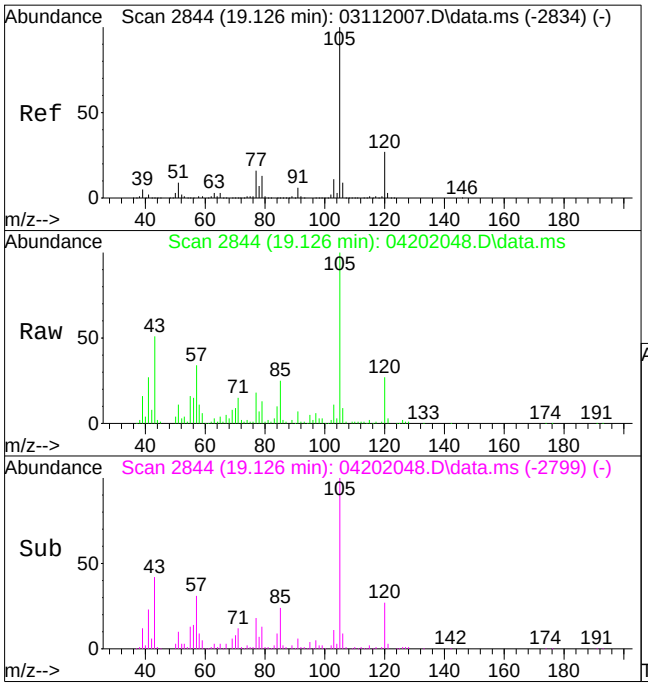


#71
n-Nonane
Concen: 12.04 ng m
RT: 18.80 min Scan# 2785
Delta R.T. -0.005 min
Lab File: 04202048.D
Acq: 21 Apr 2020 6:18

Tgt Ion: 43 Resp: 840234

Ion	Ratio	Lower	Upper
43	100		
57	95.2	73.6	113.6
85	36.3	18.7	58.7

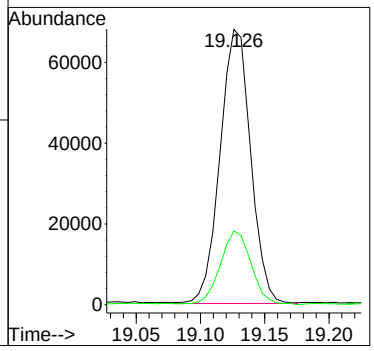


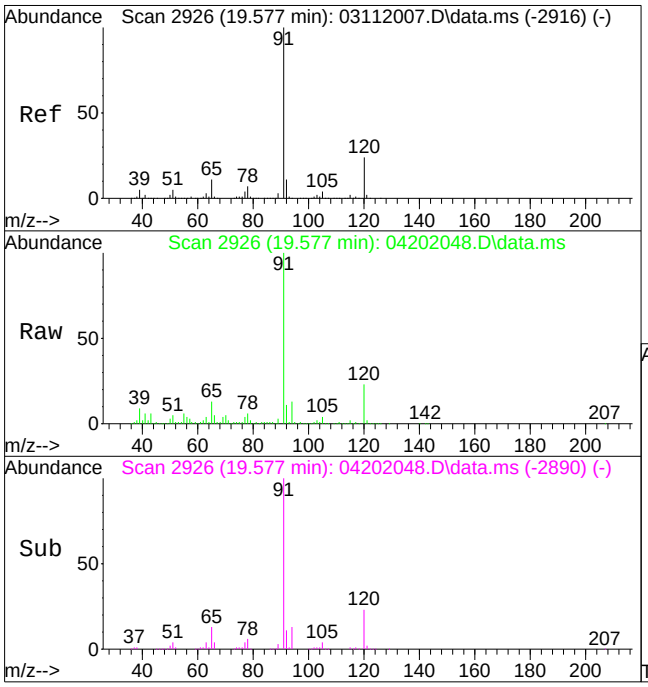


#74
Cumene
Concen: 0.64 ng
RT: 19.13 min Scan# 2844
Delta R.T. 0.000 min
Lab File: 04202048.D
Acq: 21 Apr 2020 6:18

Tgt Ion:105 Resp: 112534

Ion	Ratio	Lower	Upper
105	100		
120	27.3	7.2	47.2

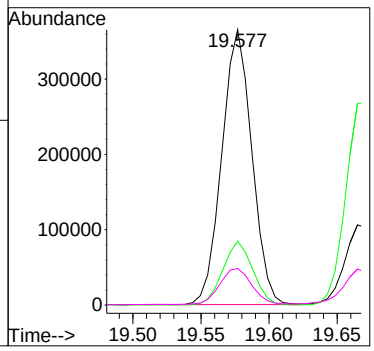


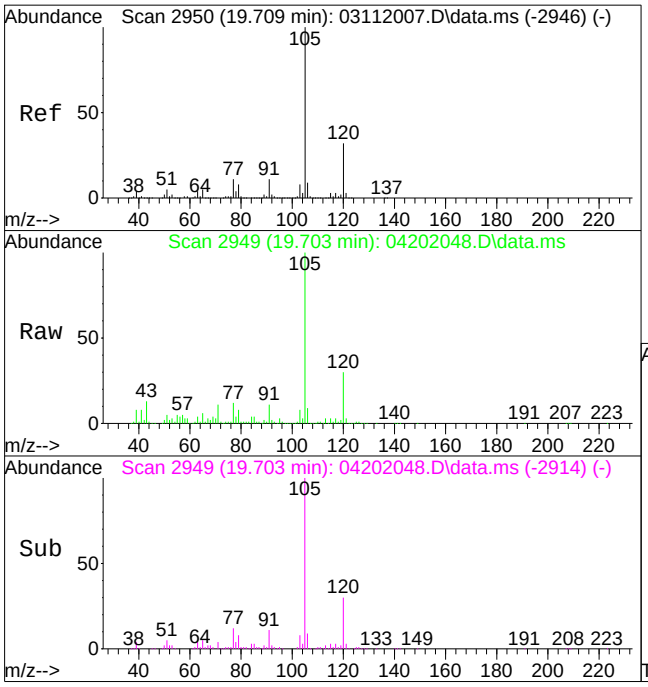


#76
n-Propylbenzene
Concen: 2.72 ng
RT: 19.58 min Scan# 2926
Delta R.T. -0.000 min
Lab File: 04202048.D
Acq: 21 Apr 2020 6:18

Tgt Ion: 91 Resp: 561288

Ion	Ratio	Lower	Upper
91	100		
120	22.8	3.9	43.9
65	13.9	0.0	30.5

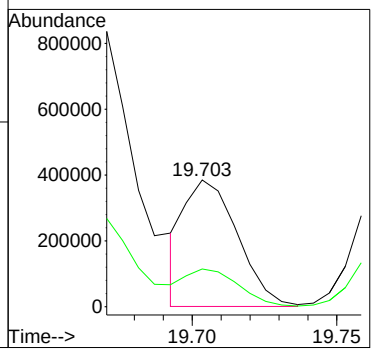


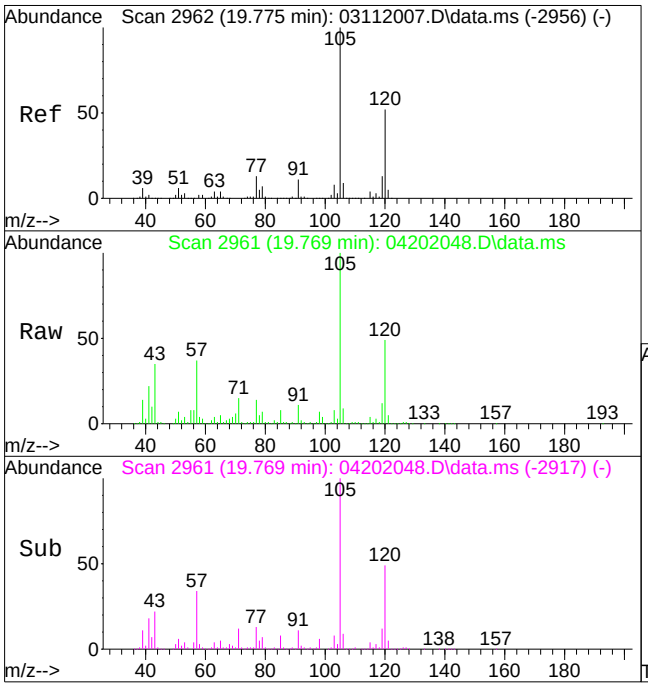


#78
4-Ethyltoluene
Concen: 2.94 ng
RT: 19.70 min Scan# 2949
Delta R.T. -0.006 min
Lab File: 04202048.D
Acq: 21 Apr 2020 6:18

Tgt Ion:105 Resp: 493558

Ion	Ratio	Lower	Upper
105	100		
120	30.3	11.1	51.1

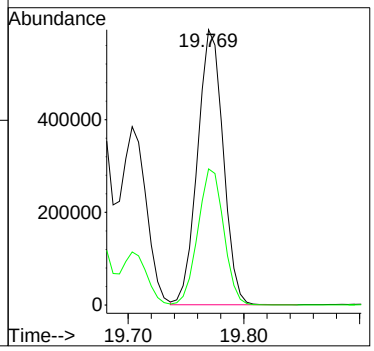


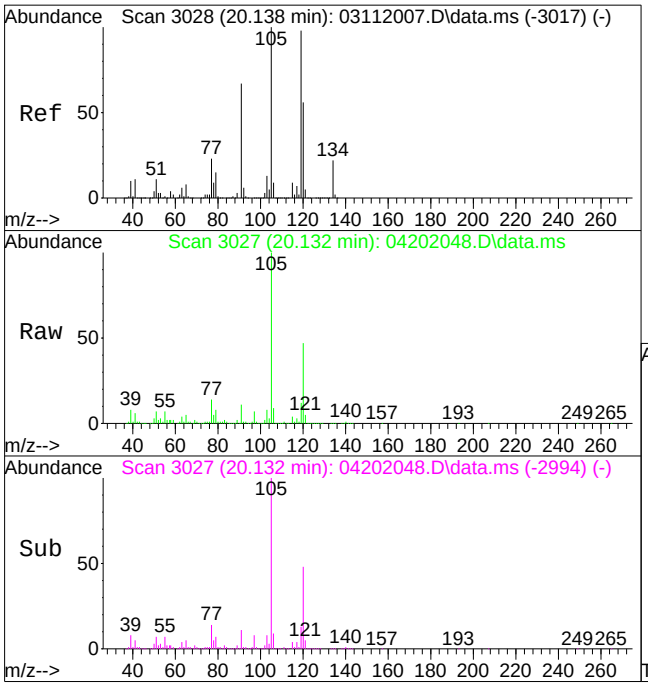


#79
1,3,5-Trimethylbenzene
Concen: 6.13 ng
RT: 19.77 min Scan# 2961
Delta R.T. -0.006 min
Lab File: 04202048.D
Acq: 21 Apr 2020 6:18

Tgt Ion:105 Resp: 915371

Ion	Ratio	Lower	Upper
105	100		
120	49.9	31.3	71.3

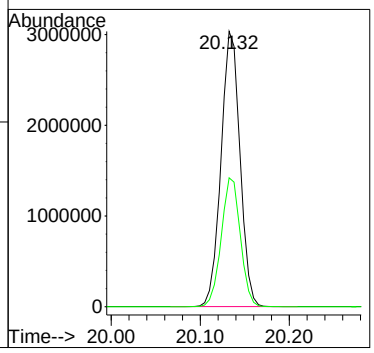


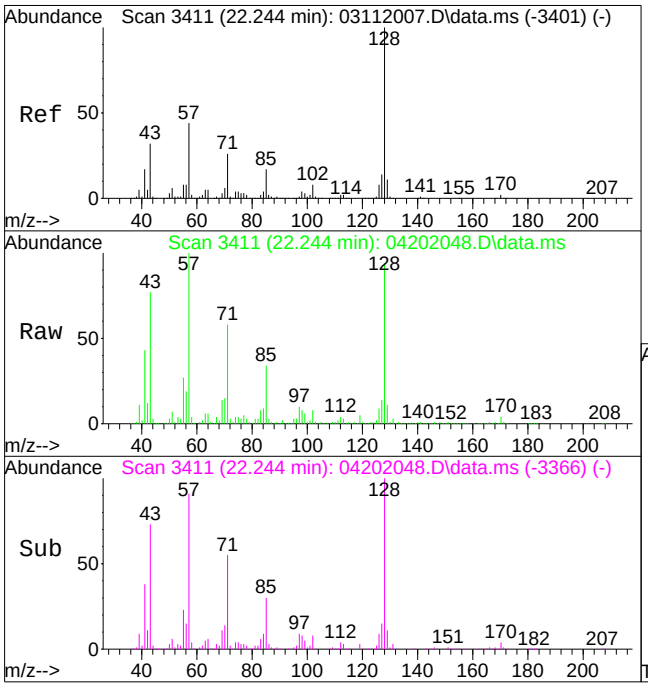


#82
1,2,4-Trimethylbenzene
Concen: 29.03 ng
RT: 20.13 min Scan# 3027
Delta R.T. -0.017 min
Lab File: 04202048.D
Acq: 21 Apr 2020 6:18

Tgt Ion:105 Resp: 4487959

Ion	Ratio	Lower	Upper
105	100		
120	47.2	35.8	75.8

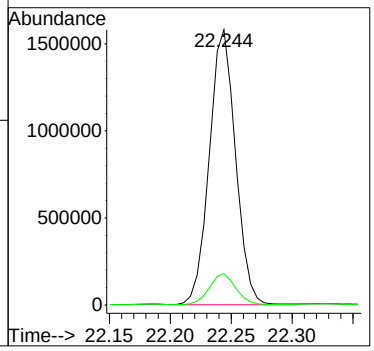




#95
Naphthalene
Concen: 13.68 ng
RT: 22.24 min Scan# 3411
Delta R.T. -0.005 min
Lab File: 04202048.D
Acq: 21 Apr 2020 6:18

Tgt Ion:128 Resp: 2366574

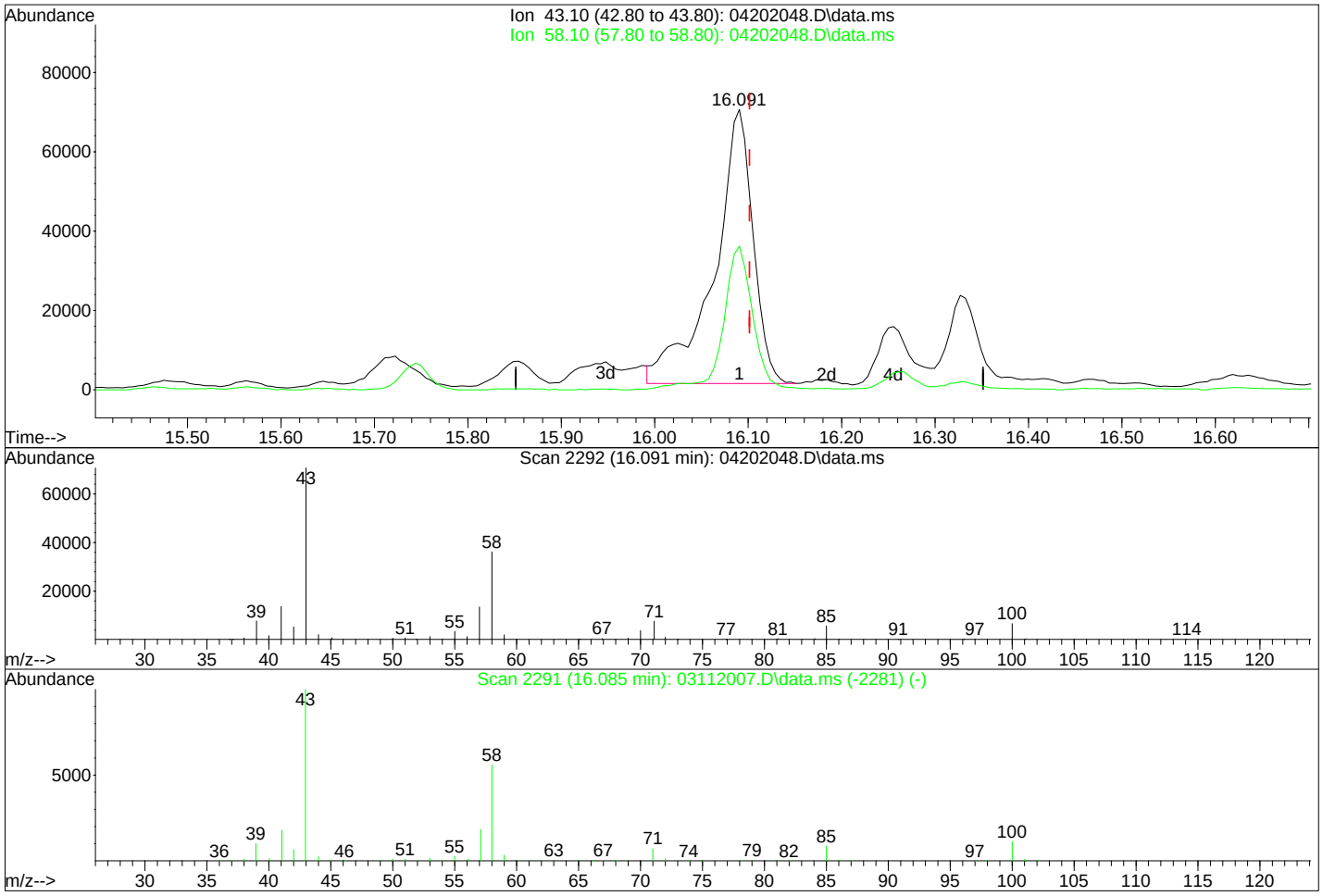
Ion	Ratio	Lower	Upper
128	100		
129	11.7	0.0	31.1



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\20\04202048.D Vial: 15
Acq On : 21 Apr 2020 6:18 Operator: LH
Sample : P2002031-014 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 21 12:27:15 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202048.D\data.ms

(59) 2-Hexanone (T)

16.091min (-0.011) 2.55ng

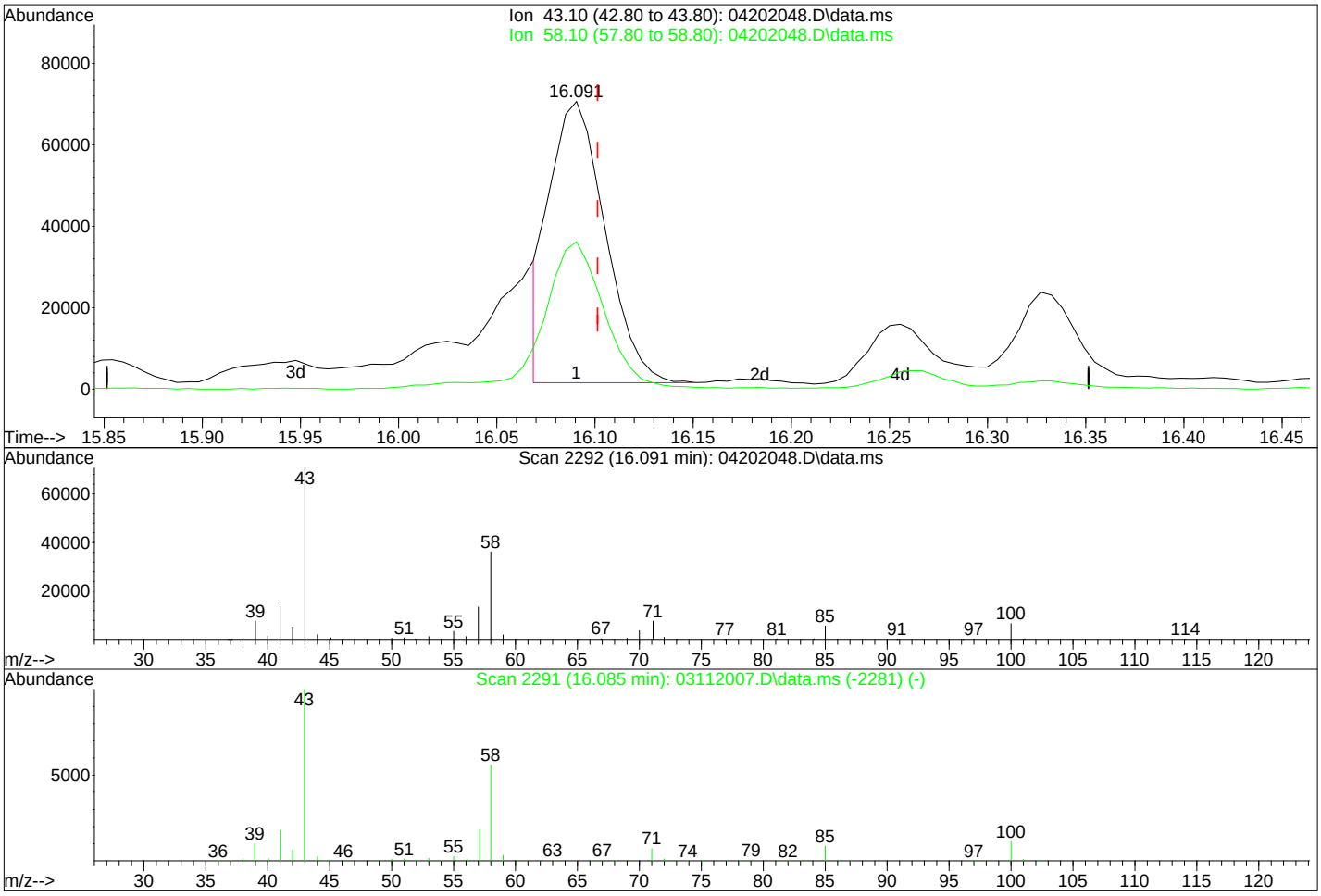
response 199472

Ion	Exp%	Act%
43.10	100	100
58.10	56.50	39.91
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\20\04202048.D Vial: 15
Acq On : 21 Apr 2020 6:18 Operator: LH
Sample : P2002031-014 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 21 12:27:15 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202048.D\data.ms

(59) 2-Hexanone (T)

16.091min (-0.011) 1.74ng m

response 136100

Ion	Exp%	Act%
43.10	100	100
58.10	56.50	58.49
0.00	0.00	0.00
0.00	0.00	0.00

IPC

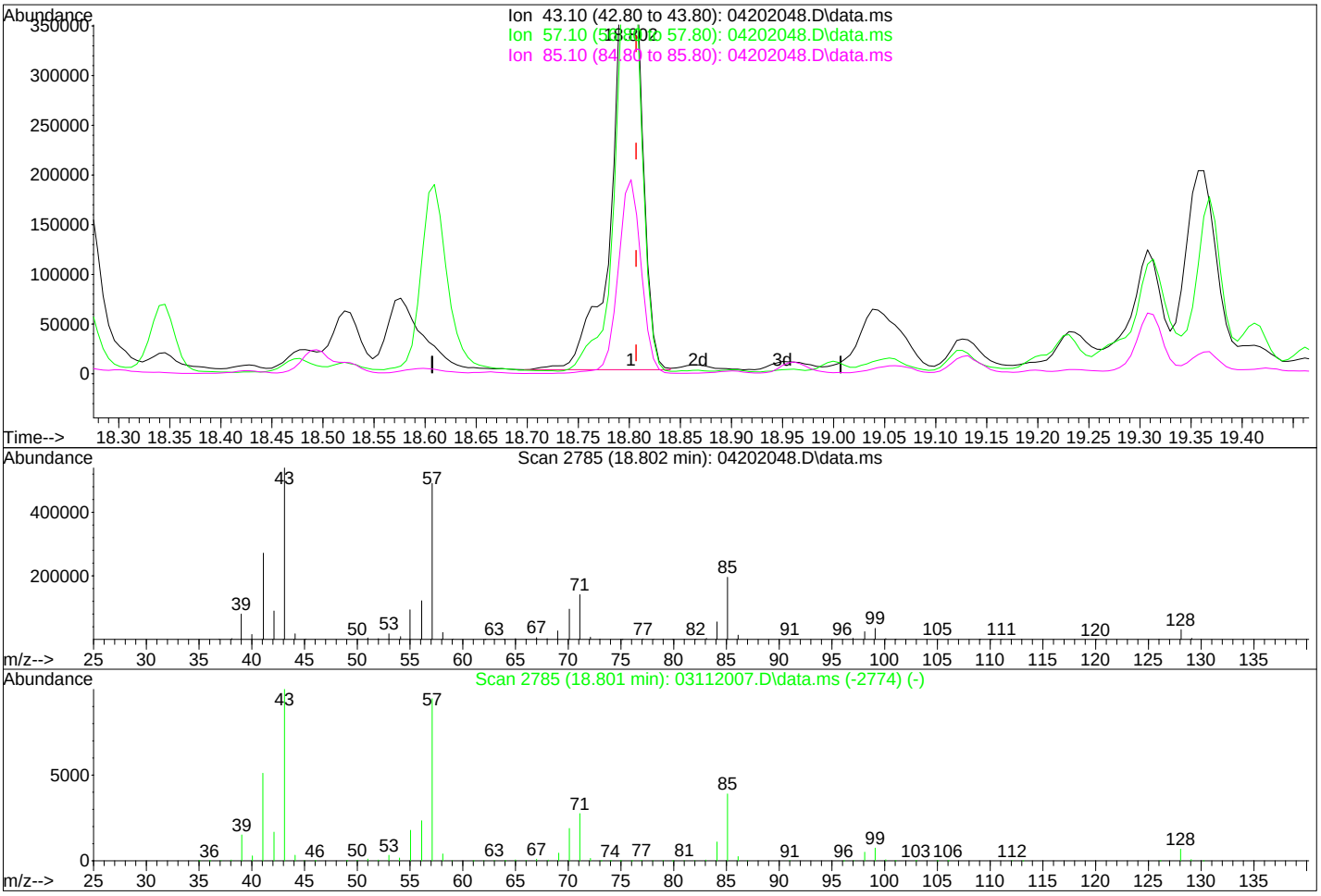
LH 4/22/20

4/23/20

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\20\04202048.D Vial: 15
Acq On : 21 Apr 2020 6:18 Operator: LH
Sample : P2002031-014 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 21 12:27:15 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202048.D\data.ms

(71) n-Nonane (T)

18.802min (-0.005) 13.52ng

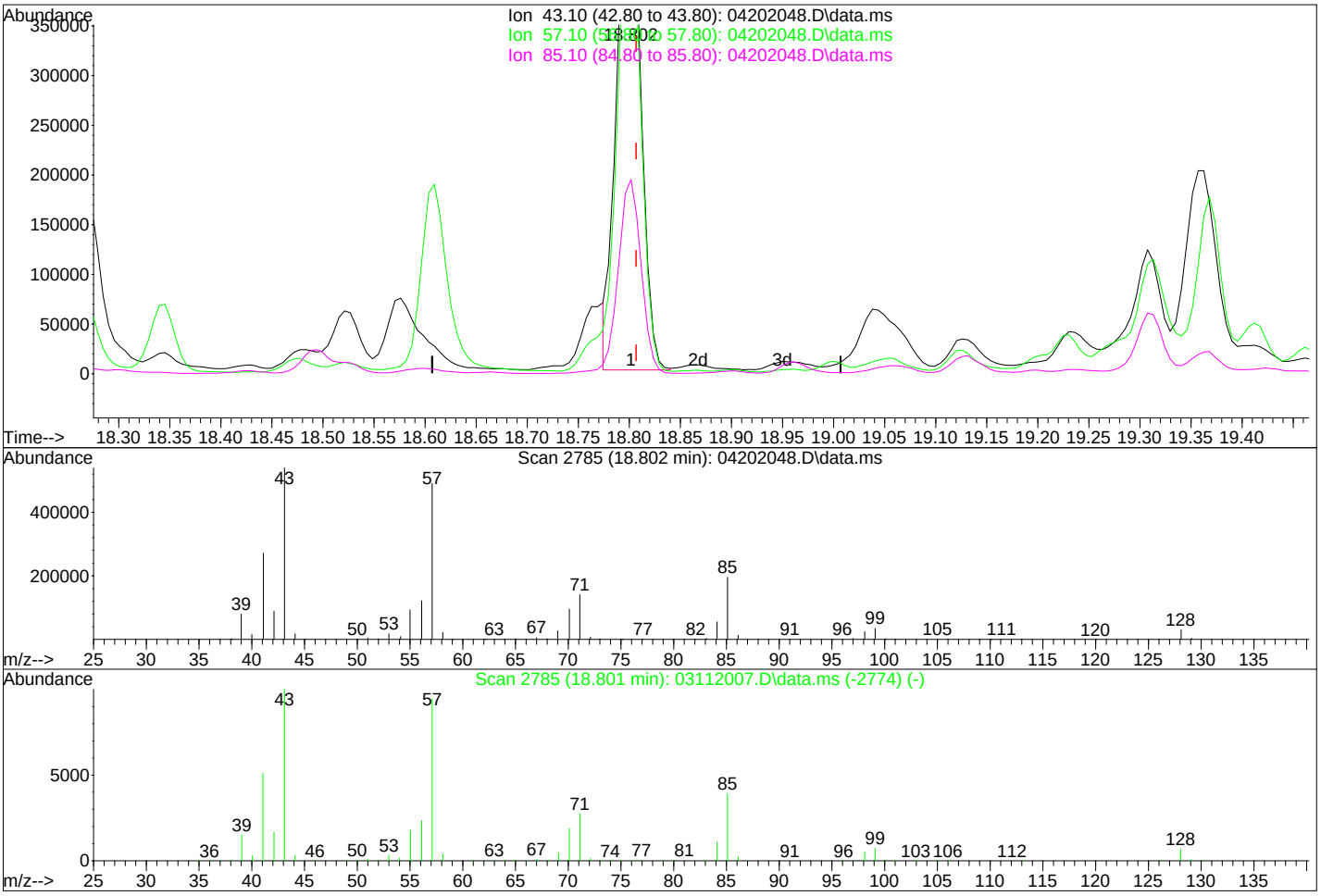
response 943821

Ion	Exp%	Act%
43.10	100	100
57.10	93.60	84.72
85.10	38.70	32.36
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\20\04202048.D Vial: 15
Acq On : 21 Apr 2020 6:18 Operator: LH
Sample : P2002031-014 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 21 12:27:15 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202048.D\data.ms

(71) n-Nonane (T)

18.802min (-0.005) 12.04ng m

response 840234

Ion	Exp%	Act%
43.10	100	100
57.10	93.60	95.16
85.10	38.70	36.34
0.00	0.00	0.00

IPC

LH 4/22/20

4/23/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202049.D Vial: 16
Acq On : 21 Apr 2020 6:51 Operator: LH
Sample : P2002031-015 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 17:19:40 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 4/22/20
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	356373	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1558337	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	718377	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.01	65	587088	11.897	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.20%				
57) Toluene-d8 (SS2)	15.74	98	1566248	12.300	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.40%				
73) Bromofluorobenzene (SS3)	19.00	174	560978	12.476	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.84%				
Target Compounds							Qvalue
2) Propene	4.13	42	15772	0.422	ng	#	83
3) Dichlorodifluoromethan...	4.28	85	12394	0.154	ng		97
4) Chloromethane	4.55	50	4656	0.073	ng		97
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	4.97	62	1563	N.D.			
7) 1,3-Butadiene	5.24	54	563	N.D.			
8) Bromomethane	5.66	94	445	N.D.			
9) Chloroethane	5.99	64	607	N.D.			
10) Ethanol	6.33	45	54962	1.861	ng		99
11) Acetonitrile	6.62	41	6601	0.102	ng		83
12) Acrolein	6.82	56	3870	0.178	ng		91
13) Acetone	7.01	58	125883	4.318	ng		97
14) Trichlorofluoromethane	7.26	101	19812	0.279	ng		99
15) 2-Propanol (Isopropanol)	7.50	45	70365	0.814	ng		98
16) Acrylonitrile	7.78	53	2040	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.44	84	1145	N.D.			
20) 3-Chloro-1-propene (Al...	8.62	41	643	N.D.			
21) Trichlorotrifluoroethane	8.88	151	877	N.D.			
22) Carbon Disulfide	8.70	76	386712	2.835	ng		100
23) trans-1,2-Dichloroethene	9.71	61	728	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.10	73	3311	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.47	72	52172	2.150	ng	#	88
28) cis-1,2-Dichloroethene	10.99	61	920	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.30	61	10800	0.753	ng		96
31) n-Hexane	11.28	57	18395	0.277	ng		98
32) Chloroform	11.33	83	44866	0.634	ng		99
34) Tetrahydrofuran (THF)	11.76	72	17326	0.694	ng	#	79
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.14	62	963	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	12.86	61	663	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.90	78	43544	0.270	ng		99
42) Carbon Tetrachloride	13.06	117	40615	0.734	ng		100
43) Cyclohexane	13.19	84	15589	0.252	ng		87
44) tert-Amyl Methyl Ether	13.58	73	1926	N.D.			
45) 1,2-Dichloropropane	13.67	63	276	N.D.			
46) Bromodichloromethane	13.96	83	4670	0.086	ng	#	58
47) Trichloroethene	14.00	130	824	N.D.			
48) 1,4-Dioxane	13.99	88	3560	0.114	ng		93
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202049.D Vial: 16
Acq On : 21 Apr 2020 6:51 Operator: LH
Sample : P2002031-015 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 17:19:40 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.33	71	49574	1.318 ng	97
52) cis-1,3-Dichloropropene	14.87	75	598	N.D.	
53) 4-Methyl-2-pentanone	14.90	58	11568	0.343 ng	95
54) trans-1,3-Dichloropropene	15.38	75	2135	N.D.	
55) 1,1,2-Trichloroethane	15.47	97	961	N.D.	
58) Toluene	15.84	91	625608	3.974 ng	100
59) 2-Hexanone	16.09	43	45338	0.575 ng	99
60) Dibromochloromethane	16.26	129	486	N.D.	
61) 1,2-Dibromoethane	16.50	107	1745	N.D.	
62) n-Butyl Acetate	16.72	43	487537	5.786 ng	99
63) n-Octane	16.85	57	77834	2.491 ng	97
64) Tetrachloroethene	16.99	166	3953	0.090 ng	100
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	18.01	91	217358	1.258 ng	99
67) m- & p-Xylenes	18.16	91	869450	6.189 ng	100
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.50	104	6077	0.055 ng	83
70) o-Xylene	18.60	91	287775	2.049 ng	100
71) n-Nonane	18.80	43	818978	11.661 ng	95
72) 1,1,2,2-Tetrachloroethane	18.59	83	698	N.D.	
74) Cumene	19.13	105	73843	0.416 ng	99
75) alpha-Pinene	19.48	93	2379	N.D.	
76) n-Propylbenzene	19.58	91	421384	2.031 ng	97
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.70	105	479459	2.842 ng	99
79) 1,3,5-Trimethylbenzene	19.77	105	640425	4.265 ng	98
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.13	105	3197499	20.557 ng	88
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.23	91	3940	N.D.	
85) 1,3-Dichlorobenzene	20.27	146	797	N.D.	
86) 1,4-Dichlorobenzene	20.33	146	1180	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	20.63	146	669	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	21.01	157	162	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.13	180	1600	N.D.	
95) Naphthalene	22.24	128	1449086	8.329 ng	98
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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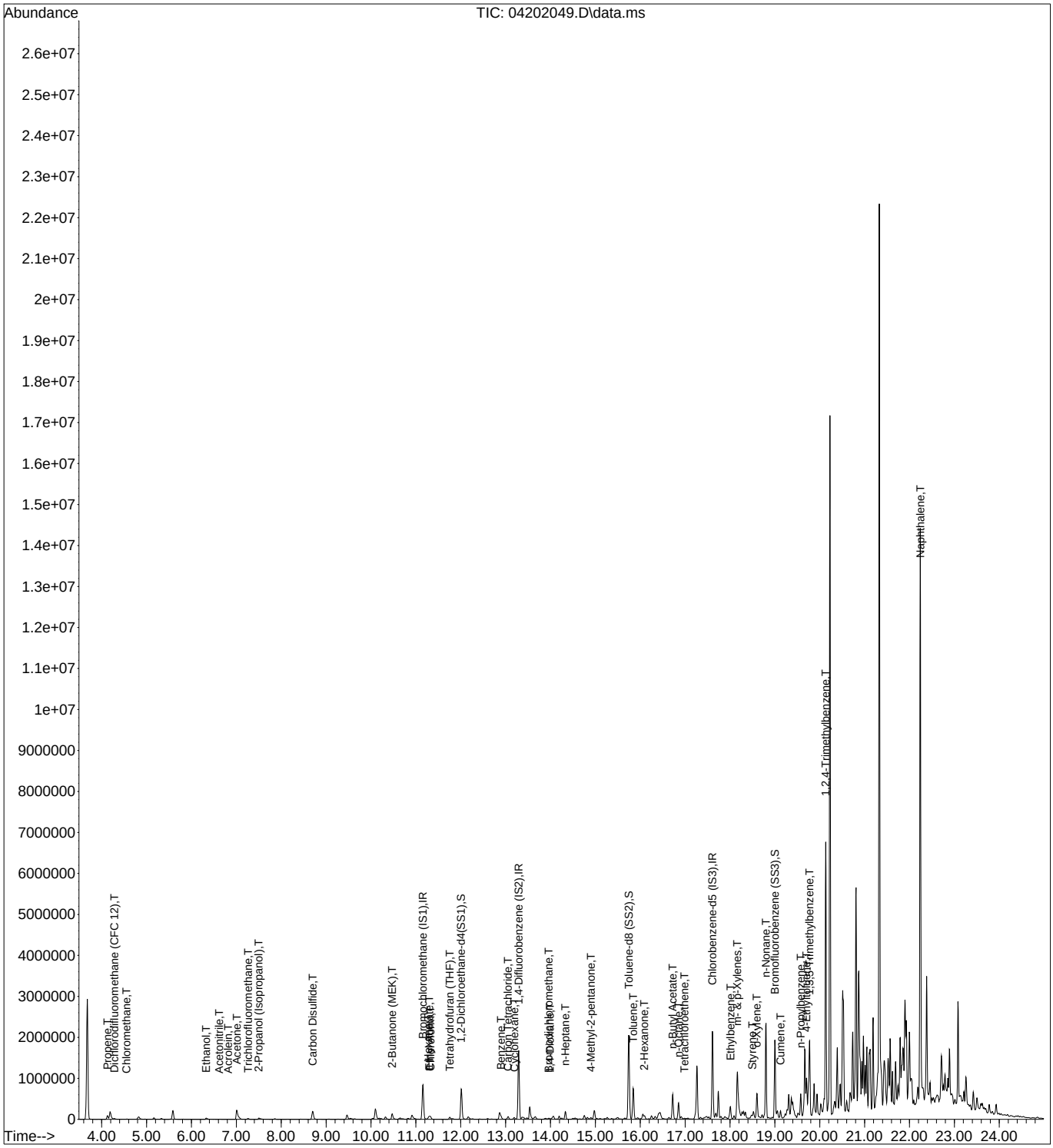
Acq On : 21 Apr 2020 6:51 Operator: LH
Sample : P2002031-015 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 17:19:40 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202049.D Vial: 16
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Sample : P2002031-015 (400mL) Inst : GCMS-16
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Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/22/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	356373	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1558337	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	718377	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.01	65	587088	11.897	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.20%				
57) Toluene-d8 (SS2)	15.74	98	1566248	12.300	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.40%				
73) Bromofluorobenzene (SS3)	19.00	174	560978	12.476	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.84%				
Target Compounds							Qvalue
2) Propene	4.13	42	15772	0.422	ng	#	83
3) Dichlorodifluoromethan...	4.28	85	12394	0.154	ng		97
4) Chloromethane	4.55	50	4656	0.073	ng		97
10) Ethanol	6.33	45	54962	1.861	ng		99
11) Acetonitrile	6.62	41	6601	0.102	ng		83
12) Acrolein	6.82	56	3870	0.178	ng		91
13) Acetone	7.01	58	125883	4.318	ng		97
14) Trichlorofluoromethane	7.26	101	19812	0.279	ng		99
15) 2-Propanol (Isopropanol)	7.50	45	70365	0.814	ng		98
22) Carbon Disulfide	8.70	76	386712	2.835	ng		100
27) 2-Butanone (MEK)	10.47	72	52172	2.150	ng	#	88
30) Ethyl Acetate	11.30	61	10800	0.753	ng		96
31) n-Hexane	11.28	57	18395	0.277	ng		98
32) Chloroform	11.33	83	44866	0.634	ng		99
34) Tetrahydrofuran (THF)	11.76	72	17326	0.694	ng	#	79
41) Benzene	12.90	78	43544	0.270	ng		99
42) Carbon Tetrachloride	13.06	117	40615	0.734	ng		100
43) Cyclohexane	13.19	84	15589	0.252	ng		87
46) Bromodichloromethane	13.96	83	4670	0.086	ng	#	58
48) 1,4-Dioxane	13.99	88	3560	0.114	ng		93
51) n-Heptane	14.33	71	49574	1.318	ng		97
53) 4-Methyl-2-pentanone	14.90	58	11568	0.343	ng		95
58) Toluene	15.84	91	625608	3.974	ng		100
59) 2-Hexanone	16.09	43	45338	0.575	ng		99
62) n-Butyl Acetate	16.72	43	487537	5.786	ng		99
63) n-Octane	16.85	57	77834	2.491	ng		97
64) Tetrachloroethene	16.99	166	3953	0.090	ng		100
66) Ethylbenzene	18.01	91	217358	1.258	ng		99
67) m- & p-Xylenes	18.16	91	869450	6.189	ng		100
69) Styrene	18.50	104	6077	0.055	ng		83
70) o-Xylene	18.60	91	287775	2.049	ng		100
71) n-Nonane	18.80	43	818978	11.661	ng		95
74) Cumene	19.13	105	73843	0.416	ng		99
76) n-Propylbenzene	19.58	91	421384	2.031	ng		97
78) 4-Ethyltoluene	19.70	105	479459	2.842	ng		99
79) 1,3,5-Trimethylbenzene	19.77	105	640425	4.265	ng		98
82) 1,2,4-Trimethylbenzene	20.13	105	3197499	20.557	ng		88
95) Naphthalene	22.24	128	1449086	8.329	ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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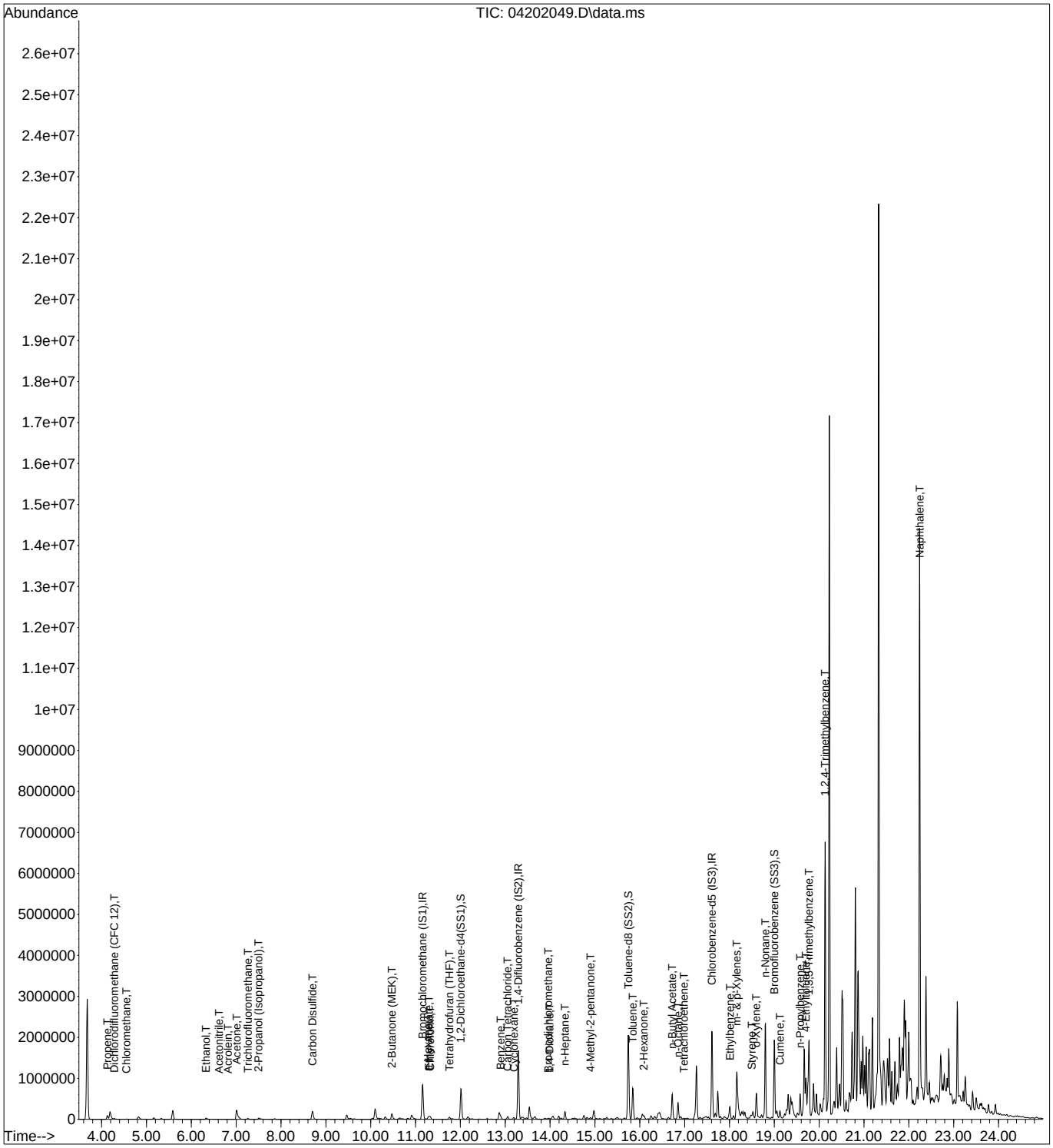
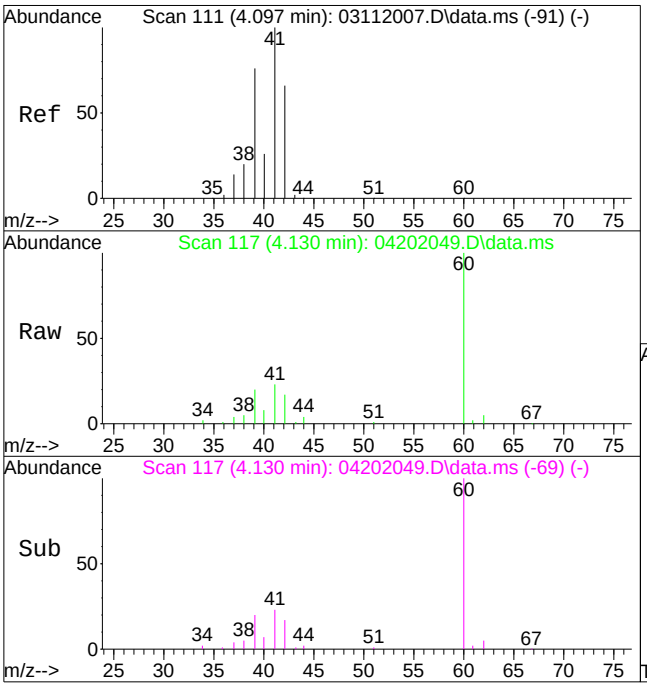
Acq On : 21 Apr 2020 6:51 Operator: LH
Sample : P2002031-015 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 17:19:40 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

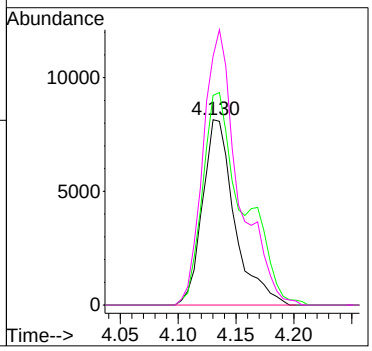


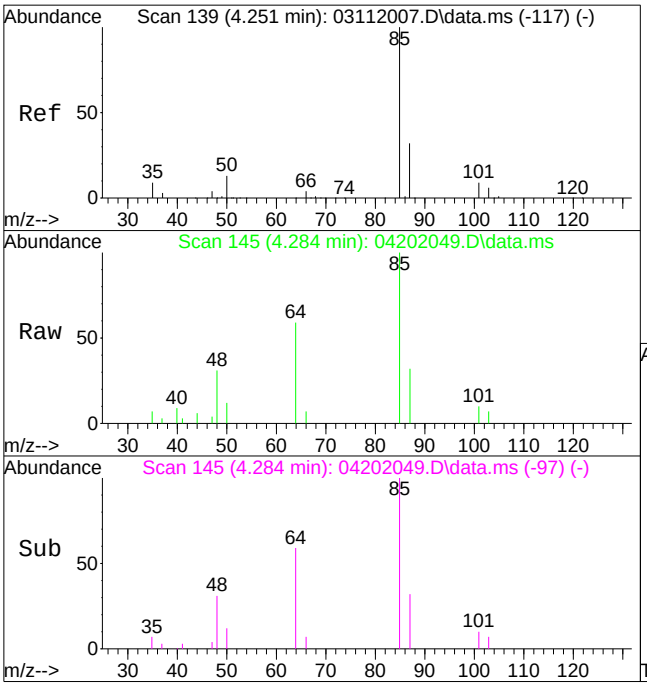


#2
Propene
Concen: 0.42 ng
RT: 4.13 min Scan# 117
Delta R.T. 0.016 min
Lab File: 04202049.D
Acq: 21 Apr 2020 6:51

Tgt Ion: 42 Resp: 15772

Ion	Ratio	Lower	Upper
42	100		
39	145.1	95.3	135.3#
41	164.0	132.0	172.0

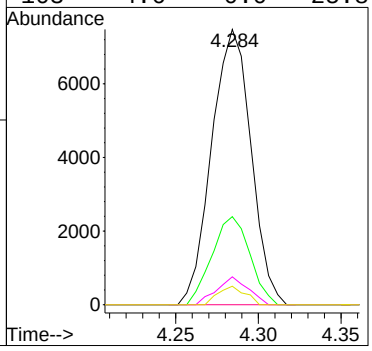


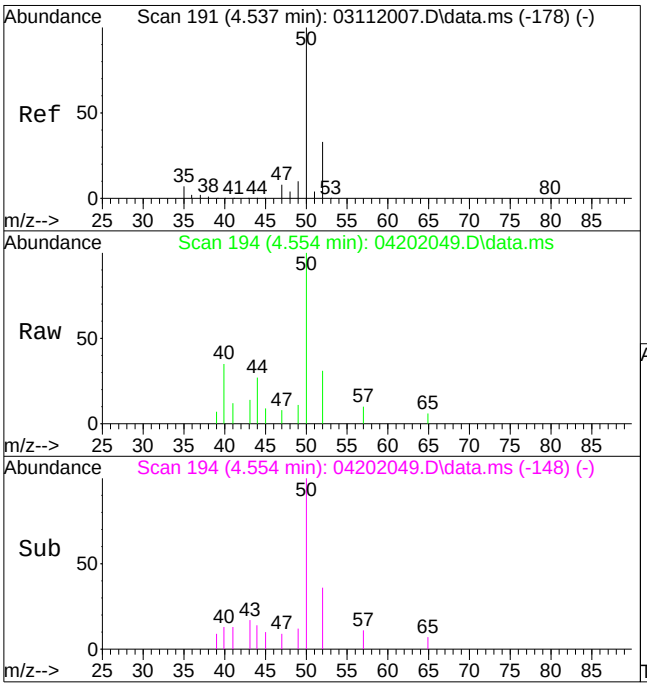


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.15 ng
RT: 4.28 min Scan# 145
Delta R.T. 0.016 min
Lab File: 04202049.D
Acq: 21 Apr 2020 6:51

Tgt Ion: 85 Resp: 12394

Ion	Ratio	Lower	Upper
85	100		
87	30.7	12.3	52.3
101	8.0	0.0	29.0
103	4.6	0.0	25.8

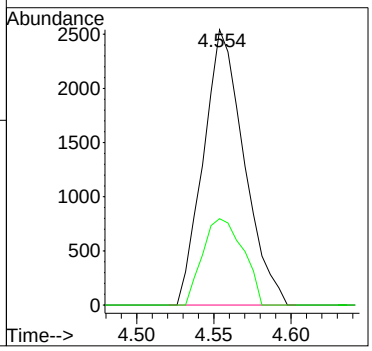


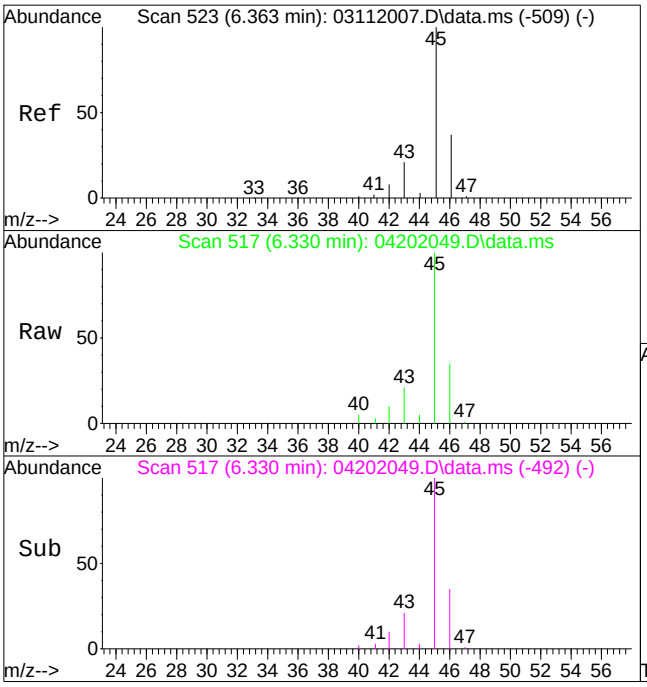


#4
Chloromethane
Concen: 0.07 ng
RT: 4.55 min Scan# 194
Delta R.T. 0.001 min
Lab File: 04202049.D
Acq: 21 Apr 2020 6:51

Tgt Ion: 50 Resp: 4656

Ion	Ratio	Lower	Upper
50	100		
52	31.2	12.8	52.8

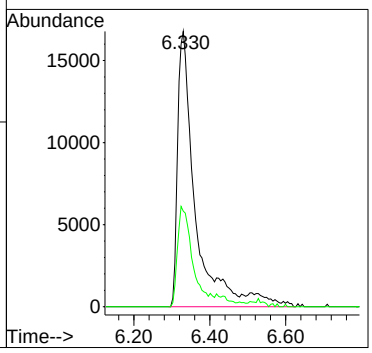


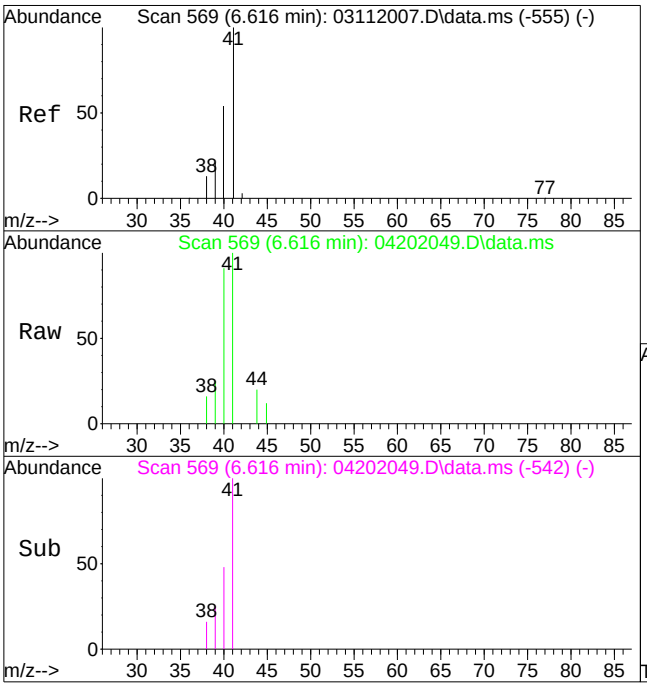


#10
Ethanol
Concen: 1.86 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.110 min
Lab File: 04202049.D
Acq: 21 Apr 2020 6:51

Tgt Ion: 45 Resp: 54962

Ion	Ratio	Lower	Upper
45	100		
46	36.5	17.3	57.3

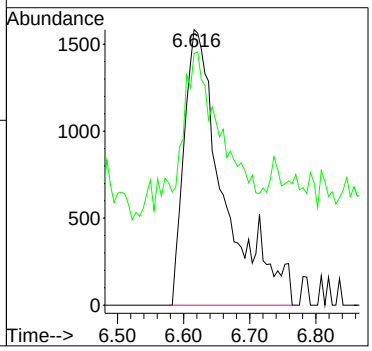


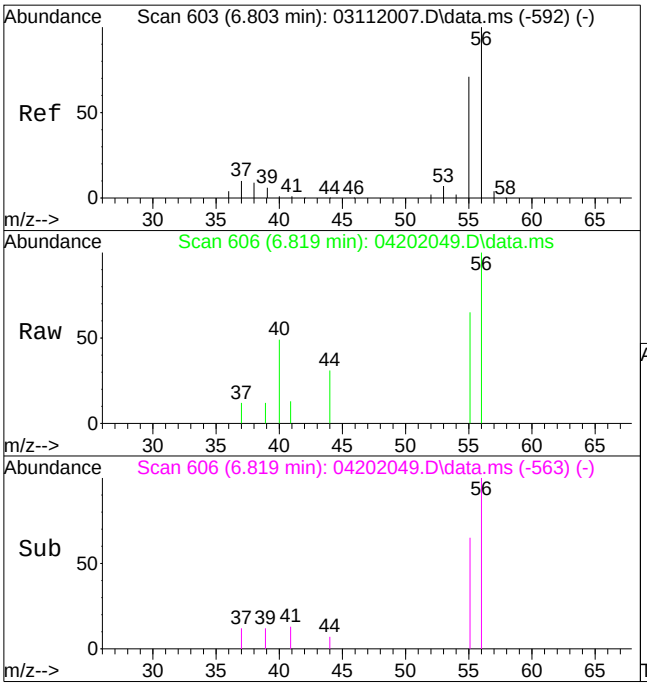


#11
Acetonitrile
Concen: 0.10 ng
RT: 6.62 min Scan# 569
Delta R.T. -0.049 min
Lab File: 04202049.D
Acq: 21 Apr 2020 6:51

Tgt Ion: 41 Resp: 6601

Ion	Ratio	Lower	Upper
41	100		
40	65.9	33.6	73.6

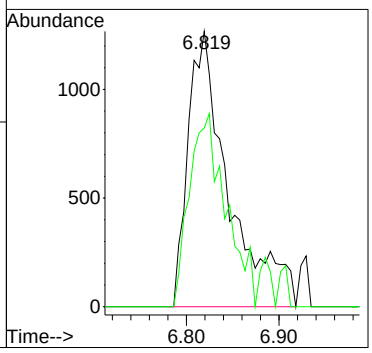


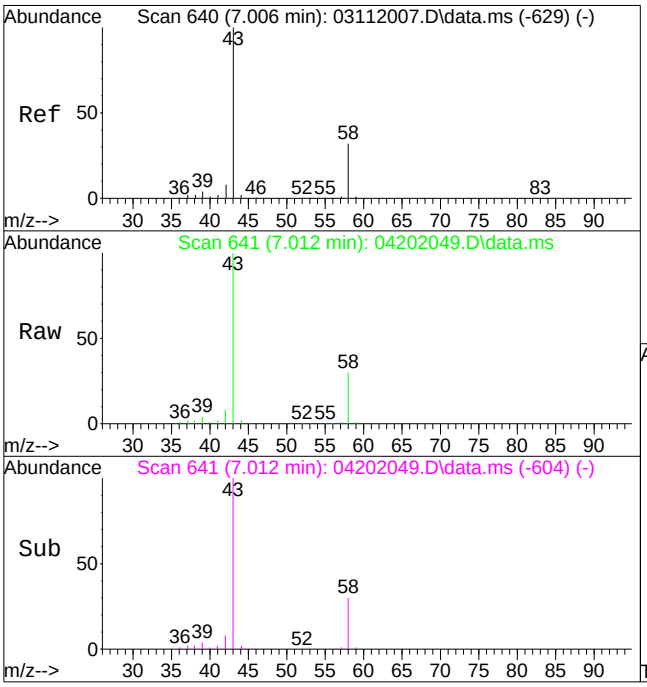


#12
Acrolein
Concen: 0.18 ng
RT: 6.82 min Scan# 606
Delta R.T. -0.011 min
Lab File: 04202049.D
Acq: 21 Apr 2020 6:51

Tgt Ion: 56 Resp: 3870

Ion	Ratio	Lower	Upper
56	100		
55	62.7	50.4	90.4

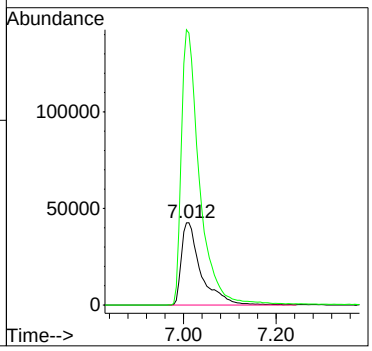


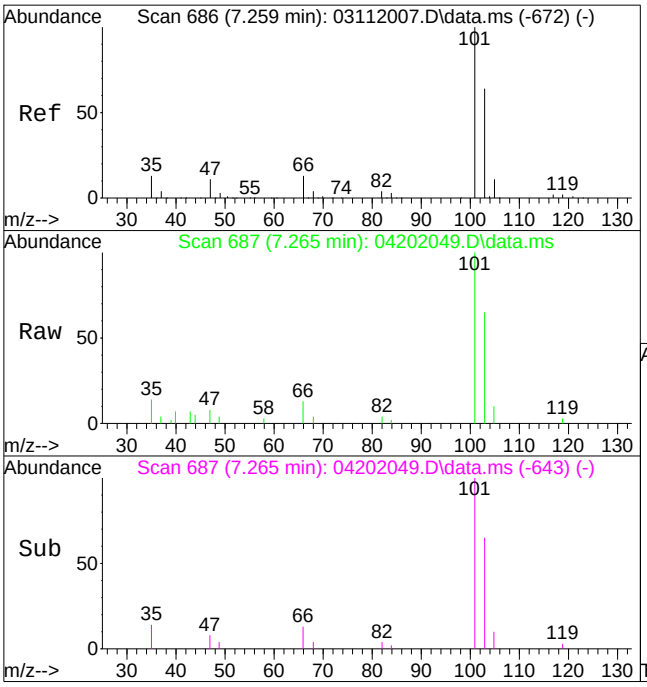


#13
Acetone
Concen: 4.32 ng
RT: 7.01 min Scan# 641
Delta R.T. -0.044 min
Lab File: 04202049.D
Acq: 21 Apr 2020 6:51

Tgt Ion: 58 Resp: 125883

Ion	Ratio	Lower	Upper
58	100		
43	310.3	287.3	347.3

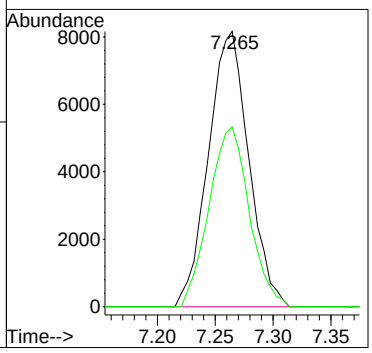


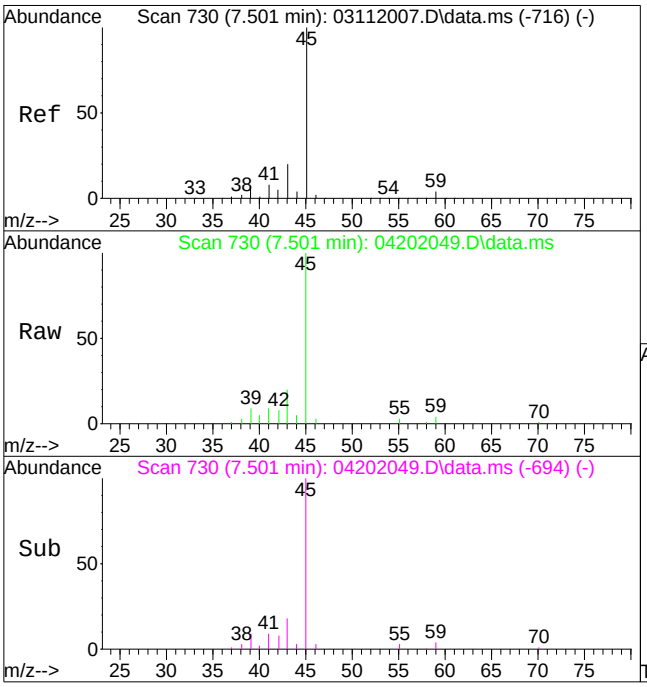


#14
Trichlorofluoromethane
Concen: 0.28 ng
RT: 7.26 min Scan# 687
Delta R.T. -0.010 min
Lab File: 04202049.D
Acq: 21 Apr 2020 6:51

Tgt Ion:101 Resp: 19812

Ion	Ratio	Lower	Upper
101	100		
103	65.0	44.6	84.6

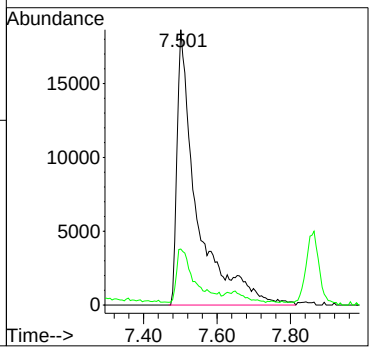


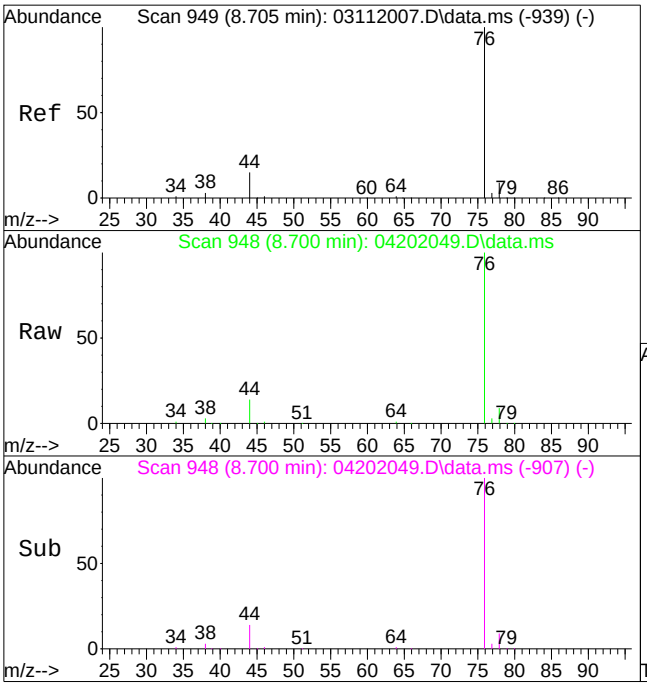


#15
2-Propanol (Isopropanol)
Concen: 0.81 ng
RT: 7.50 min Scan# 730
Delta R.T. -0.049 min
Lab File: 04202049.D
Acq: 21 Apr 2020 6:51

Tgt Ion: 45 Resp: 70365

Ion	Ratio	Lower	Upper
45	100		
43	21.4	0.3	40.3

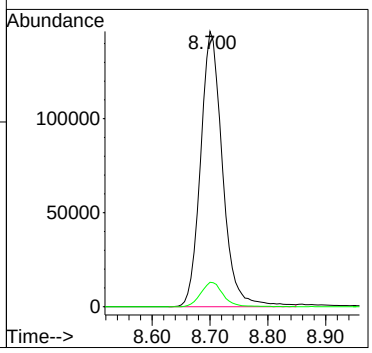


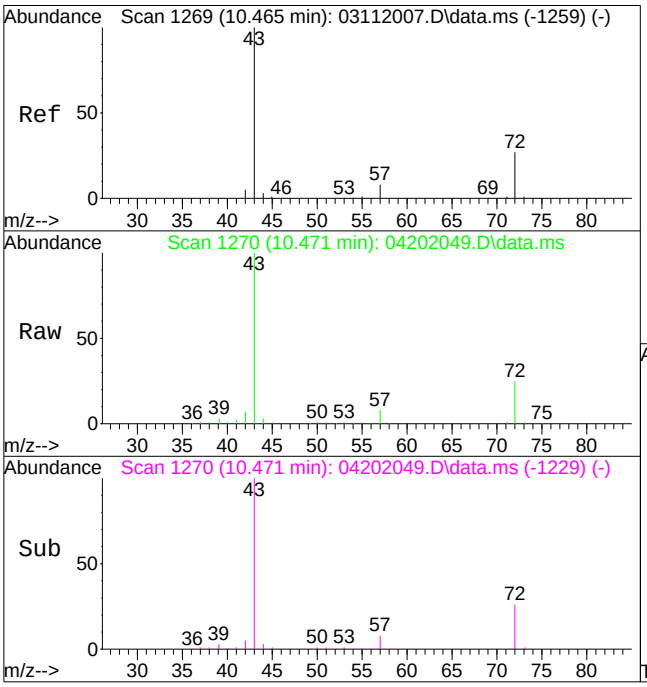


#22
Carbon Disulfide
Concen: 2.83 ng
RT: 8.70 min Scan# 948
Delta R.T. -0.022 min
Lab File: 04202049.D
Acq: 21 Apr 2020 6:51

Tgt Ion: 76 Resp: 386712

Ion	Ratio	Lower	Upper
76	100		
78	9.1	0.0	29.2

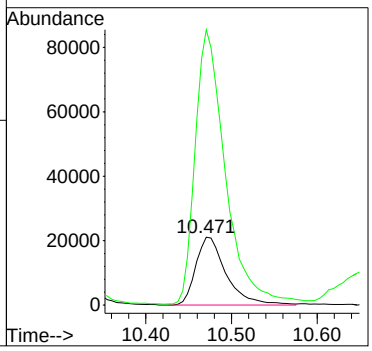


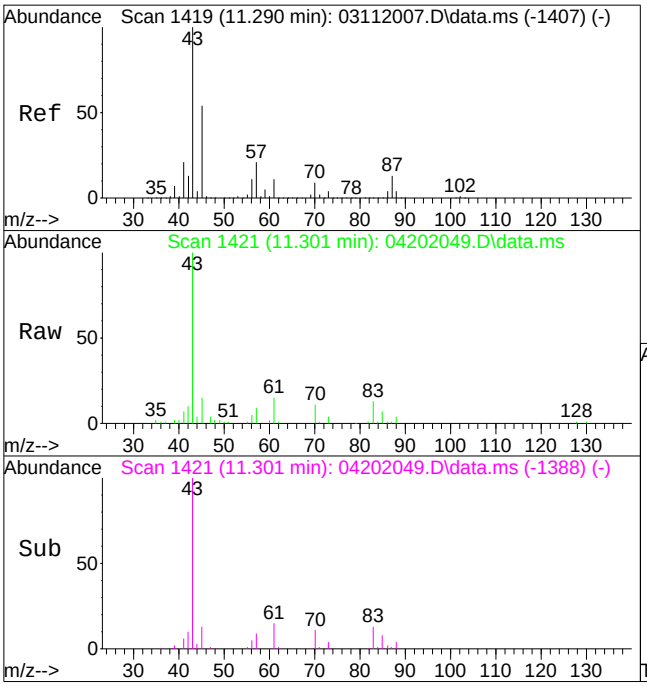


#27
2-Butanone (MEK)
Concen: 2.15 ng
RT: 10.47 min Scan# 1270
Delta R.T. -0.022 min
Lab File: 04202049.D
Acq: 21 Apr 2020 6:51

Tgt Ion: 72 Resp: 52172

Ion	Ratio	Lower	Upper
72	100		
43	401.4	353.4	393.4#

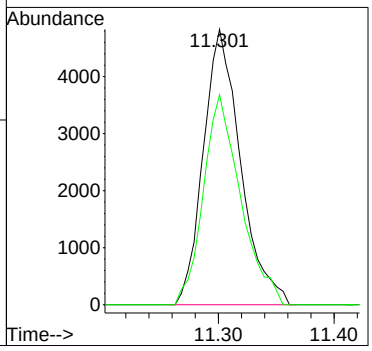


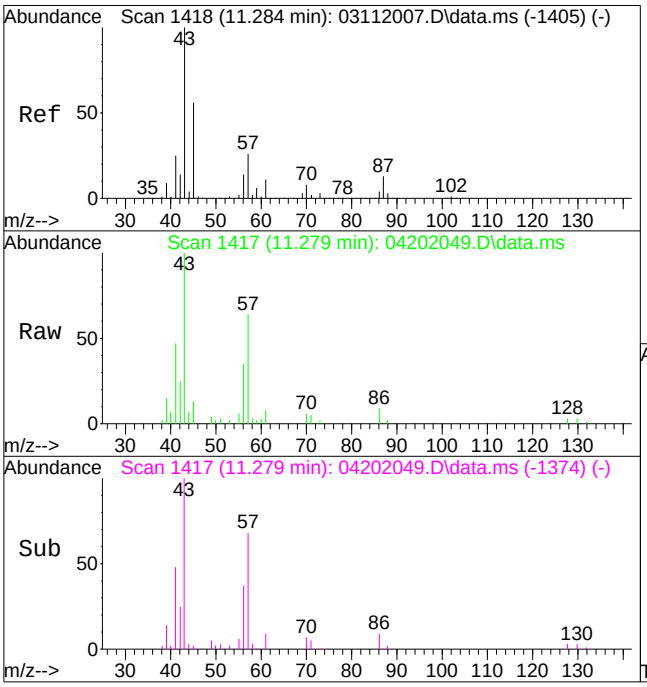


#30
Ethyl Acetate
Concen: 0.75 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.016 min
Lab File: 04202049.D
Acq: 21 Apr 2020 6:51

Tgt Ion: 61 Resp: 10800

Ion	Ratio	Lower	Upper
61	100		
70	75.9	59.1	99.1

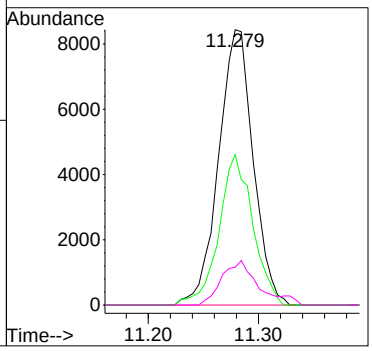


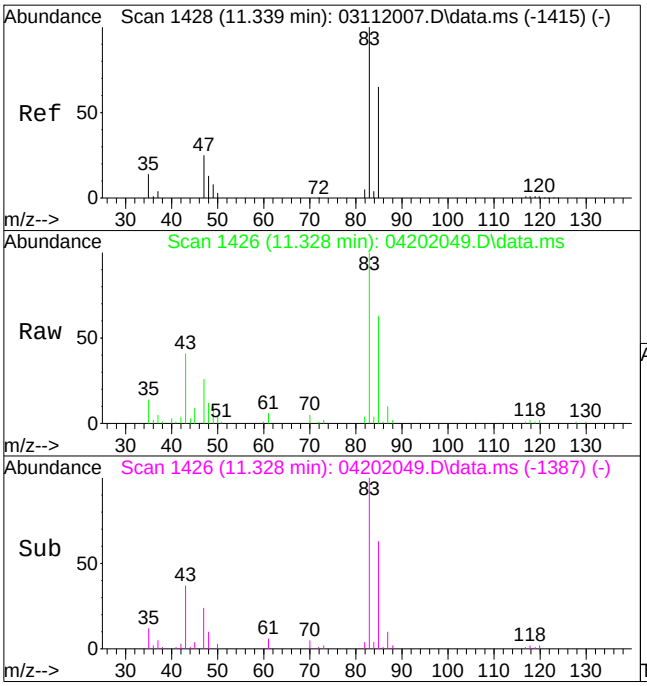


#31
n-Hexane
Concen: 0.28 ng
RT: 11.28 min Scan# 1417
Delta R.T. -0.011 min
Lab File: 04202049.D
Acq: 21 Apr 2020 6:51

Tgt Ion: 57 Resp: 18395

Ion	Ratio	Lower	Upper
57	100		
56	53.3	41.0	61.4
86	17.2	13.9	20.9

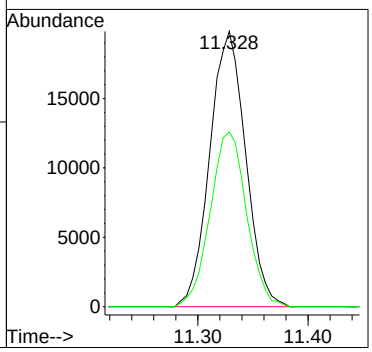


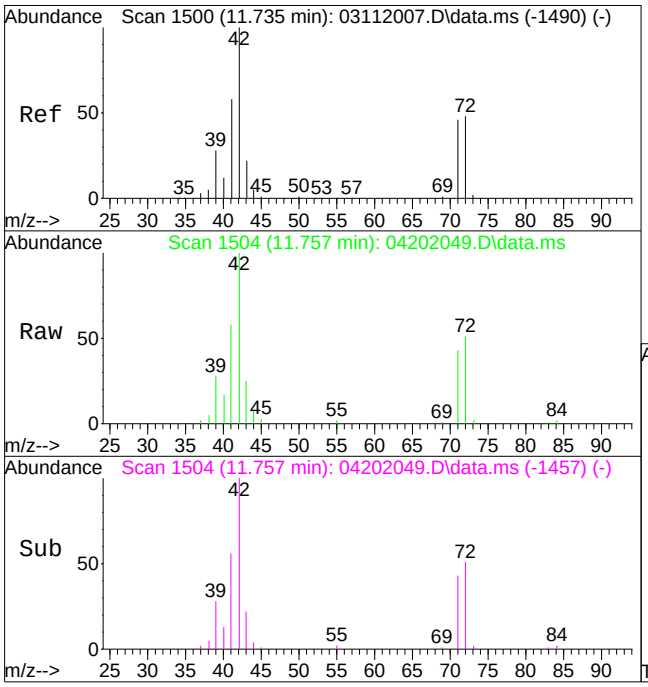


#32
Chloroform
Concen: 0.63 ng
RT: 11.33 min Scan# 1426
Delta R.T. -0.033 min
Lab File: 04202049.D
Acq: 21 Apr 2020 6:51

Tgt Ion: 83 Resp: 44866

Ion	Ratio	Lower	Upper
83	100		
85	64.3	45.5	85.5

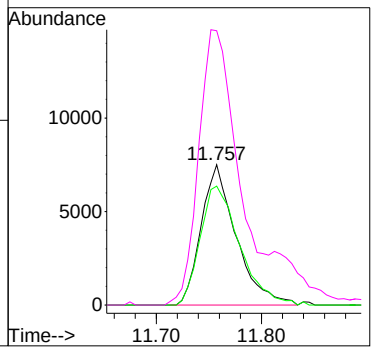


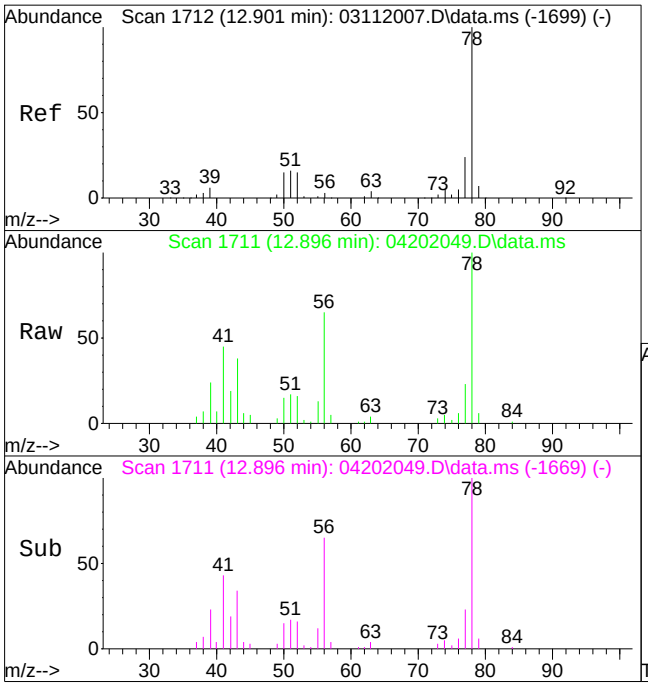


#34
Tetrahydrofuran (THF)
Concen: 0.69 ng
RT: 11.76 min Scan# 1504
Delta R.T. 0.011 min
Lab File: 04202049.D
Acq: 21 Apr 2020 6:51

Tgt Ion: 72 Resp: 17326

Ion	Ratio	Lower	Upper
72	100		
71	95.7	75.9	115.9
42	256.5	189.3	229.3#

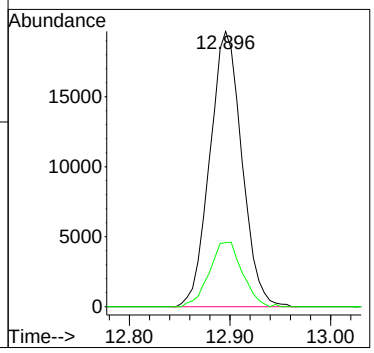


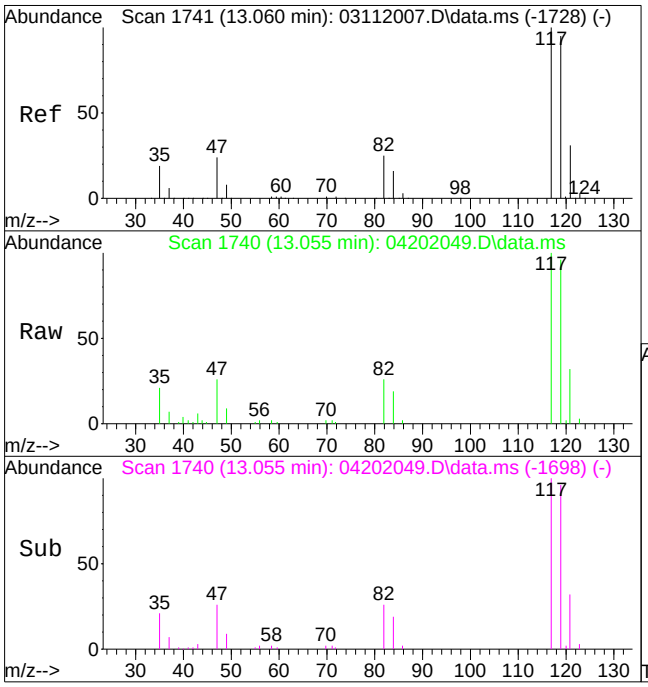


#41
Benzene
Concen: 0.27 ng
RT: 12.90 min Scan# 1711
Delta R.T. -0.016 min
Lab File: 04202049.D
Acq: 21 Apr 2020 6:51

Tgt Ion: 78 Resp: 43544

Ion	Ratio	Lower	Upper
78	100		
77	24.1	3.4	43.4

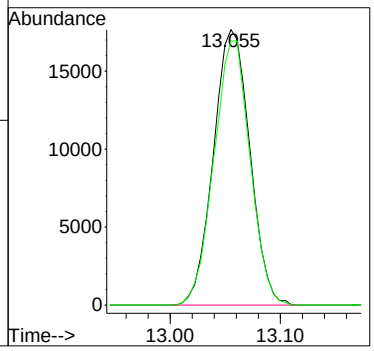


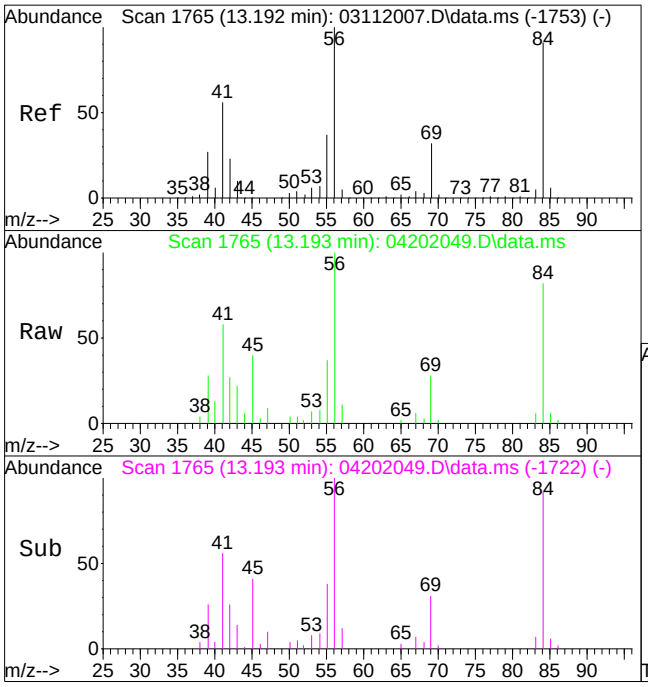


#42
Carbon Tetrachloride
Concen: 0.73 ng
RT: 13.06 min Scan# 1740
Delta R.T. -0.016 min
Lab File: 04202049.D
Acq: 21 Apr 2020 6:51

Tgt Ion:117 Resp: 40615

Ion	Ratio	Lower	Upper
117	100		
119	95.2	75.4	115.4

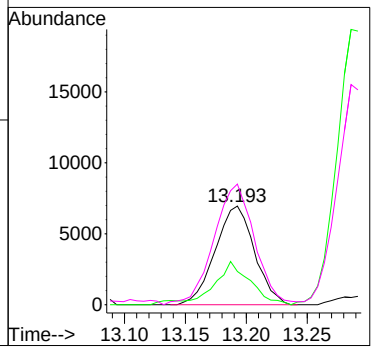


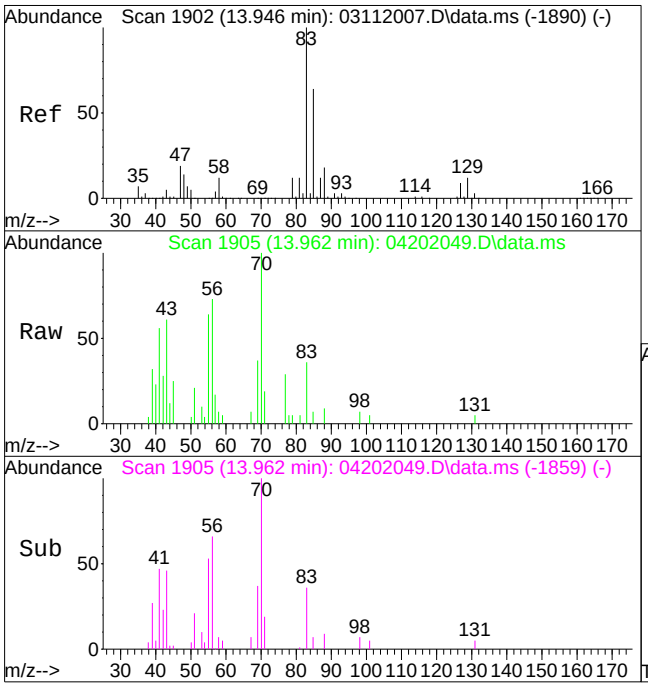


#43
Cyclohexane
Concen: 0.25 ng
RT: 13.19 min Scan# 1765
Delta R.T. -0.011 min
Lab File: 04202049.D
Acq: 21 Apr 2020 6:51

Tgt Ion: 84 Resp: 15589

Ion	Ratio	Lower	Upper
84	100		
69	38.4	15.3	55.3
56	126.8	90.5	130.5

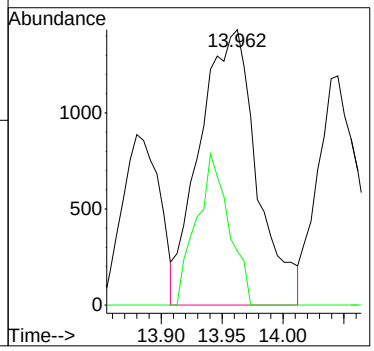


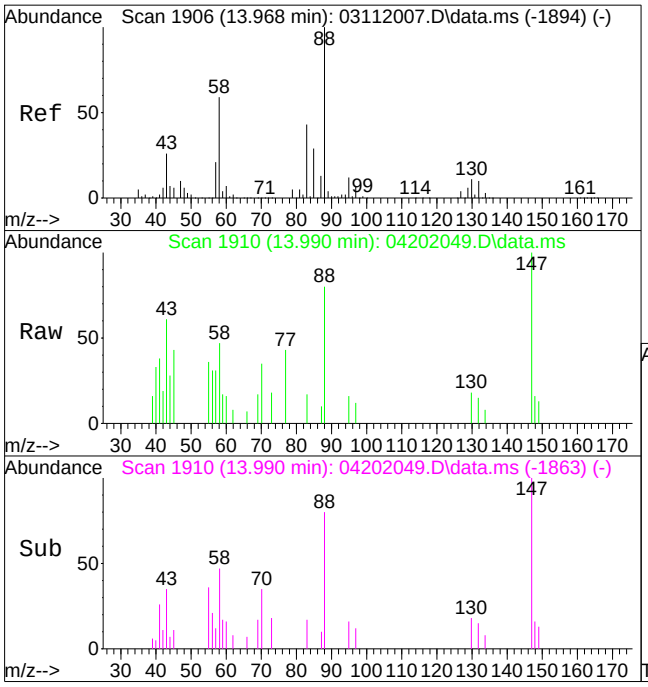


#46
Bromodichloromethane
Concen: 0.09 ng
RT: 13.96 min Scan# 1905
Delta R.T. 0.006 min
Lab File: 04202049.D
Acq: 21 Apr 2020 6:51

Tgt Ion: 83 Resp: 4670

Ion	Ratio	Lower	Upper
83	100		
85	31.3	44.0	84.0#

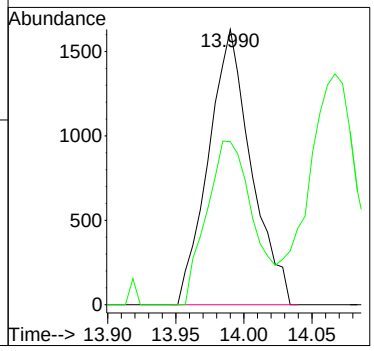


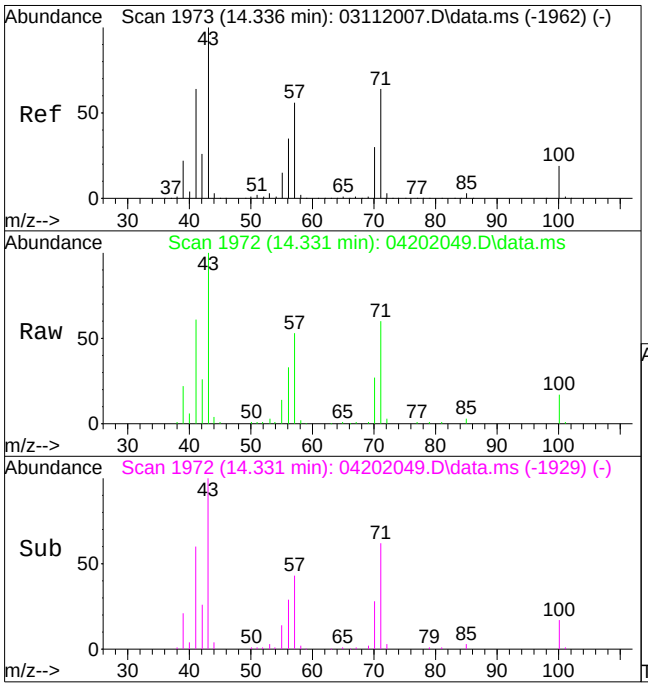


#48
1,4-Dioxane
Concen: 0.11 ng
RT: 13.99 min Scan# 1910
Delta R.T. 0.011 min
Lab File: 04202049.D
Acq: 21 Apr 2020 6:51

Tgt Ion: 88 Resp: 3560

Ion	Ratio	Lower	Upper
88	100		
58	64.5	39.5	79.5

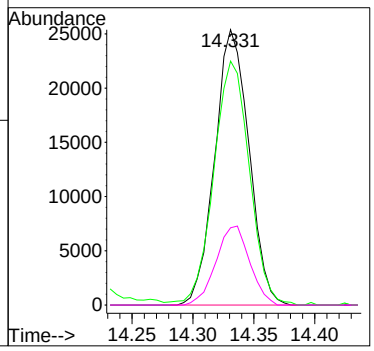


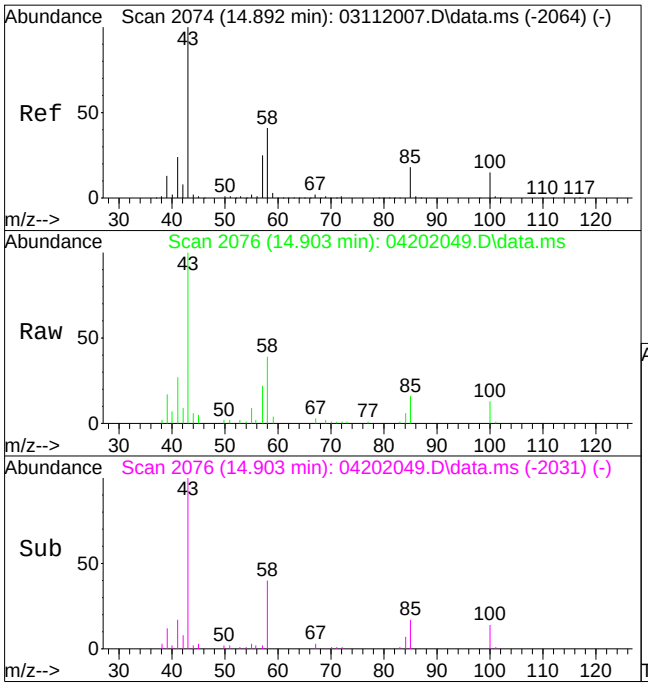


#51
n-Heptane
Concen: 1.32 ng
RT: 14.33 min Scan# 1972
Delta R.T. -0.011 min
Lab File: 04202049.D
Acq: 21 Apr 2020 6:51

Tgt Ion: 71 Resp: 49574

Ion	Ratio	Lower	Upper
71	100		
57	92.2	68.6	108.6
100	28.3	9.1	49.1

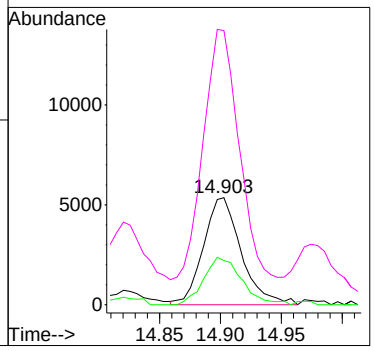


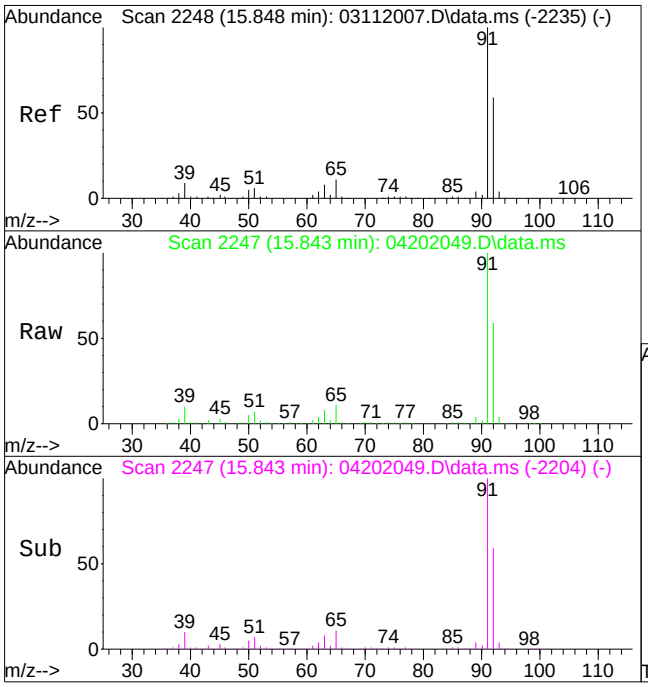


#53
4-Methyl-2-pentanone
Concen: 0.34 ng
RT: 14.90 min Scan# 2076
Delta R.T. 0.000 min
Lab File: 04202049.D
Acq: 21 Apr 2020 6:51

Tgt Ion: 58 Resp: 11568

Ion	Ratio	Lower	Upper
58	100		
85	44.4	37.0	55.4
43	254.3	196.3	294.5

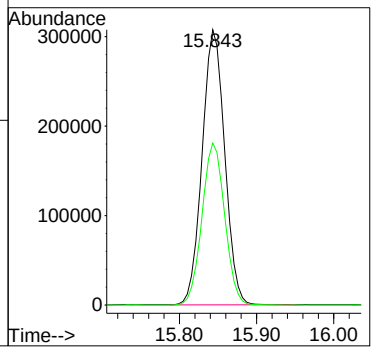


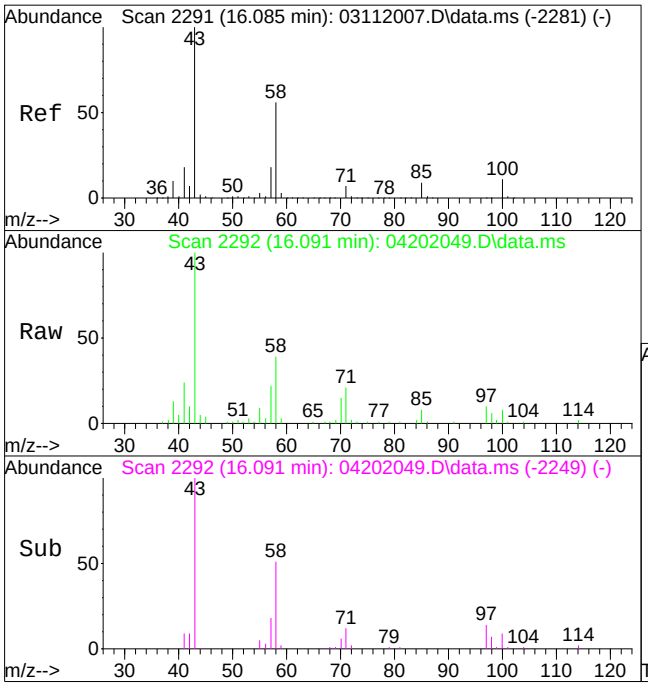


#58
Toluene
Concen: 3.97 ng
RT: 15.84 min Scan# 2247
Delta R.T. -0.011 min
Lab File: 04202049.D
Acq: 21 Apr 2020 6:51

Tgt Ion: 91 Resp: 625608

Ion	Ratio	Lower	Upper
91	100		
92	59.2	39.0	79.0

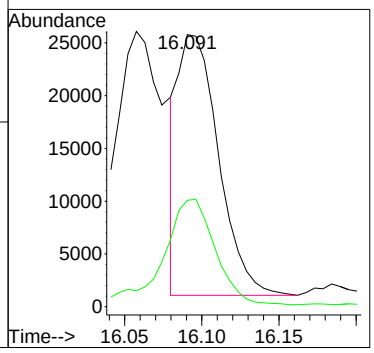


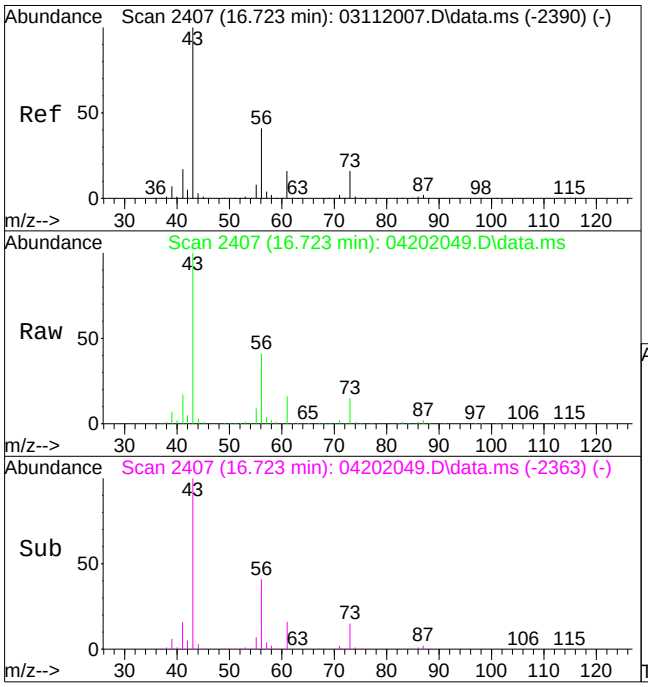


#59
2-Hexanone
Concen: 0.58 ng
RT: 16.09 min Scan# 2292
Delta R.T. -0.011 min
Lab File: 04202049.D
Acq: 21 Apr 2020 6:51

Tgt Ion: 43 Resp: 45338

Ion	Ratio	Lower	Upper
43	100		
58	57.1	36.5	76.5

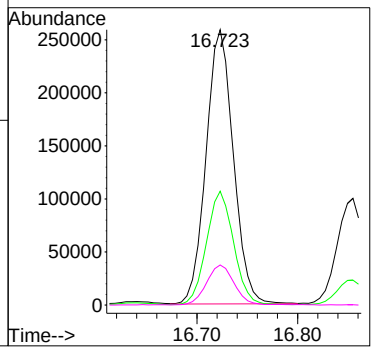


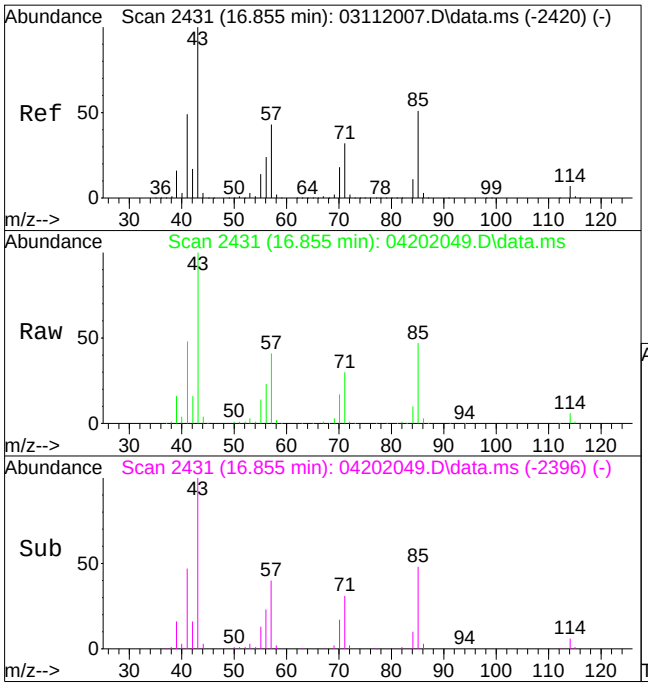


#62
n-Butyl Acetate
Concen: 5.79 ng
RT: 16.72 min Scan# 2407
Delta R.T. -0.005 min
Lab File: 04202049.D
Acq: 21 Apr 2020 6:51

Tgt Ion: 43 Resp: 487537

Ion	Ratio	Lower	Upper
43	100		
56	41.0	20.7	60.7
73	15.0	0.0	35.5

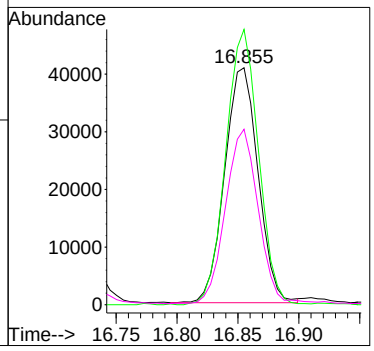


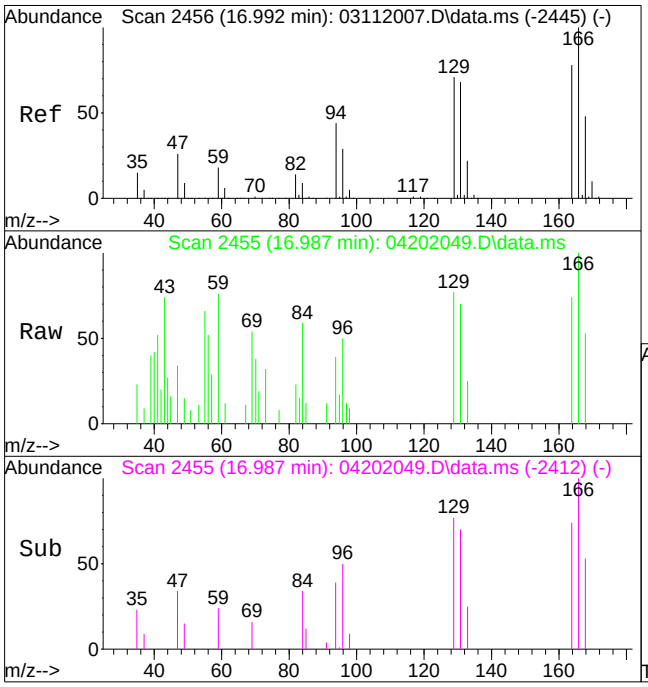


#63
n-Octane
Concen: 2.49 ng
RT: 16.85 min Scan# 2431
Delta R.T. -0.005 min
Lab File: 04202049.D
Acq: 21 Apr 2020 6:51

Tgt Ion: 57 Resp: 77834

Ion	Ratio	Lower	Upper
57	100		
85	114.5	95.1	142.7
71	73.2	58.2	87.4

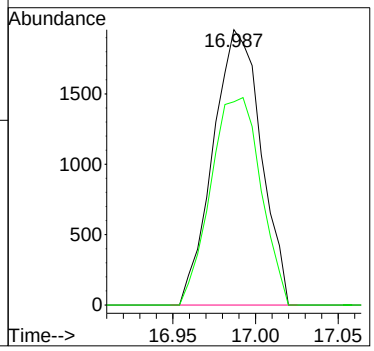


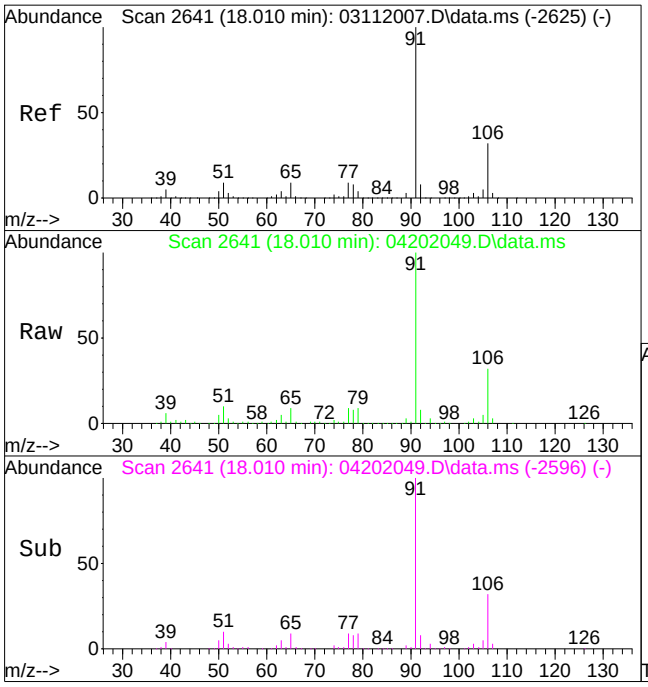


#64
Tetrachloroethene
Concen: 0.09 ng
RT: 16.99 min Scan# 2455
Delta R.T. -0.011 min
Lab File: 04202049.D
Acq: 21 Apr 2020 6:51

Tgt Ion:166 Resp: 3953

Ion	Ratio	Lower	Upper
166	100		
164	78.6	58.6	98.6

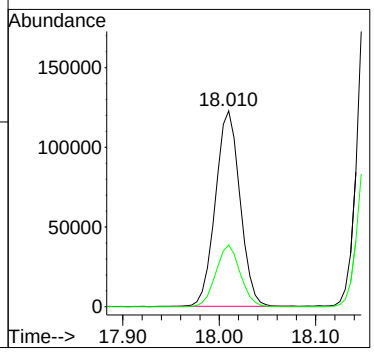


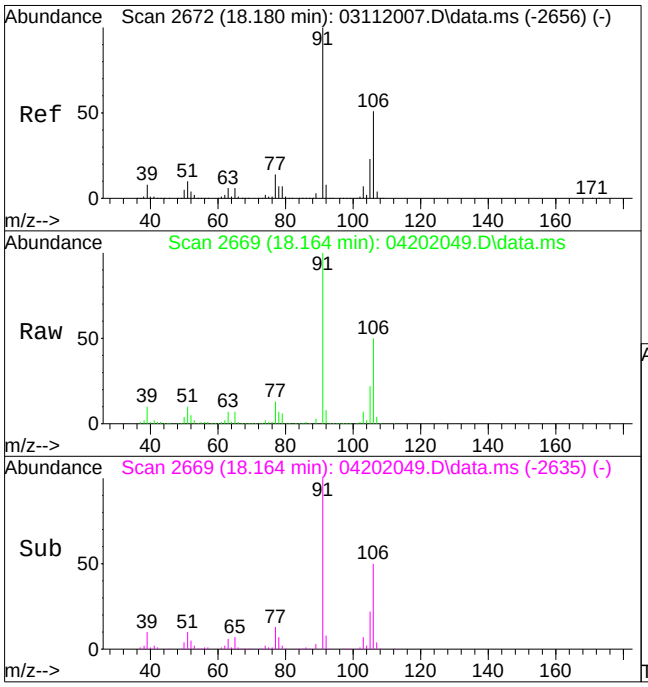


#66
Ethylbenzene
Concen: 1.26 ng
RT: 18.01 min Scan# 2641
Delta R.T. 0.000 min
Lab File: 04202049.D
Acq: 21 Apr 2020 6:51

Tgt Ion: 91 Resp: 217358

Ion	Ratio	Lower	Upper
91	100		
106	31.2	11.7	51.7

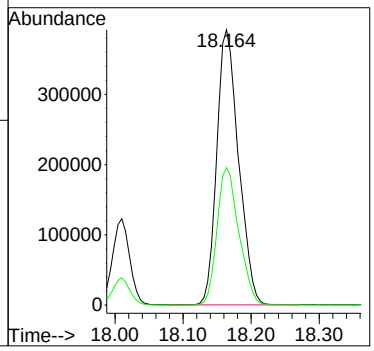


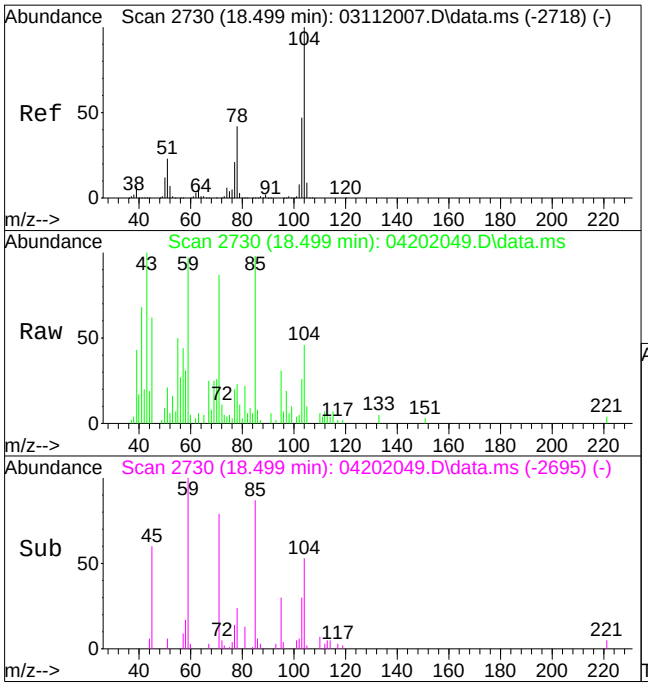


#67
m- & p-Xylenes
Concen: 6.19 ng
RT: 18.16 min Scan# 2669
Delta R.T. -0.011 min
Lab File: 04202049.D
Acq: 21 Apr 2020 6:51

Tgt Ion: 91 Resp: 869450

Ion	Ratio	Lower	Upper
91	100		
106	50.2	30.4	70.4

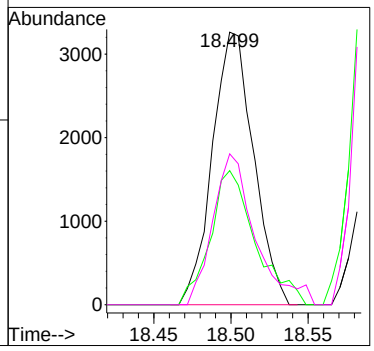


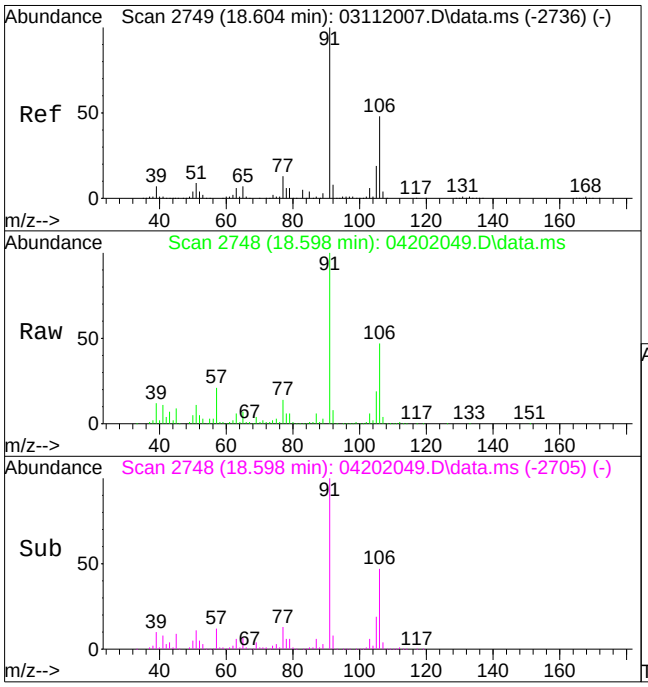


#69
Styrene
Concen: 0.06 ng
RT: 18.50 min Scan# 2730
Delta R.T. -0.006 min
Lab File: 04202049.D
Acq: 21 Apr 2020 6:51

Tgt Ion:104 Resp: 6077

Ion	Ratio	Lower	Upper
104	100		
78	53.8	20.9	60.9
103	56.9	27.4	67.4

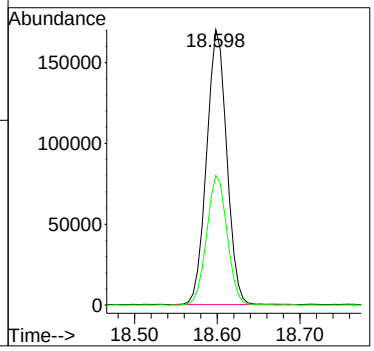


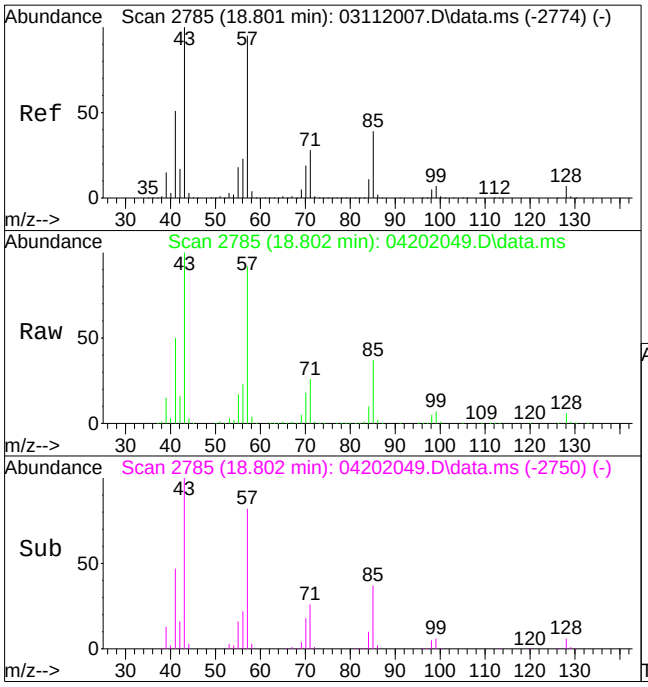


#70
o-Xylene
Concen: 2.05 ng
RT: 18.60 min Scan# 2748
Delta R.T. -0.011 min
Lab File: 04202049.D
Acq: 21 Apr 2020 6:51

Tgt Ion: 91 Resp: 287775

Ion	Ratio	Lower	Upper
91	100		
106	47.8	28.1	68.1

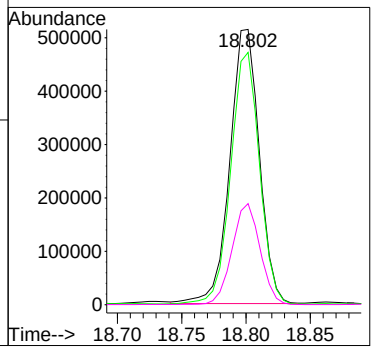


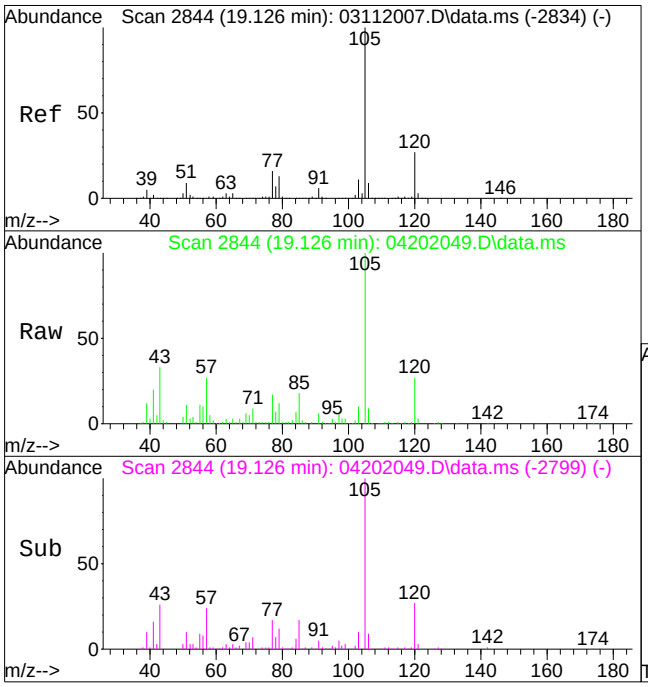


#71
n-Nonane
Concen: 11.66 ng
RT: 18.80 min Scan# 2785
Delta R.T. -0.005 min
Lab File: 04202049.D
Acq: 21 Apr 2020 6:51

Tgt Ion: 43 Resp: 818978

Ion	Ratio	Lower	Upper
43	100		
57	89.5	73.6	113.6
85	35.0	18.7	58.7

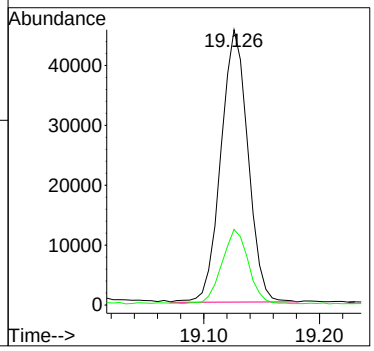


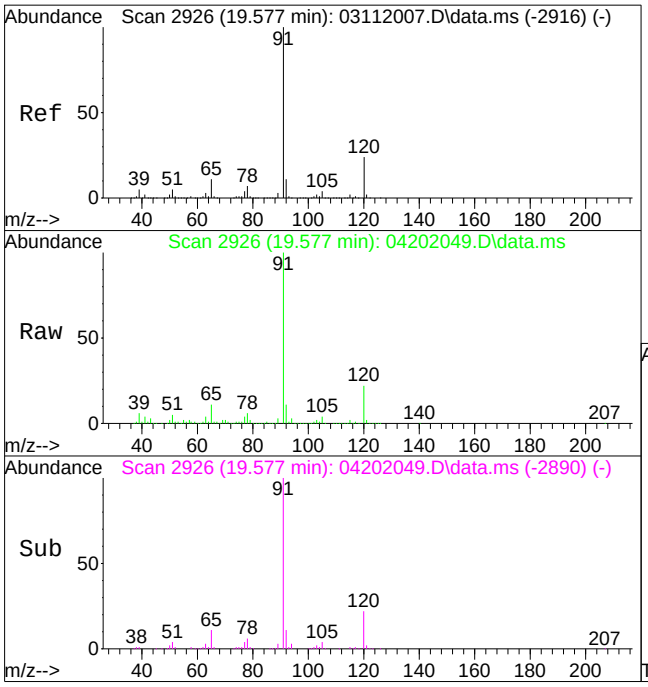


#74
Cumene
Concen: 0.42 ng
RT: 19.13 min Scan# 2844
Delta R.T. 0.000 min
Lab File: 04202049.D
Acq: 21 Apr 2020 6:51

Tgt Ion:105 Resp: 73843

Ion	Ratio	Lower	Upper
105	100		
120	26.5	7.2	47.2

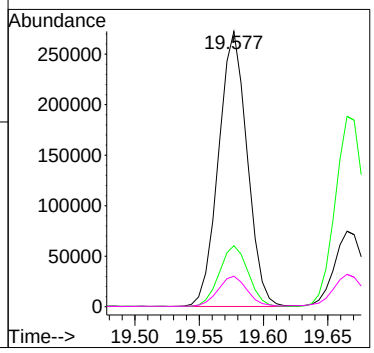


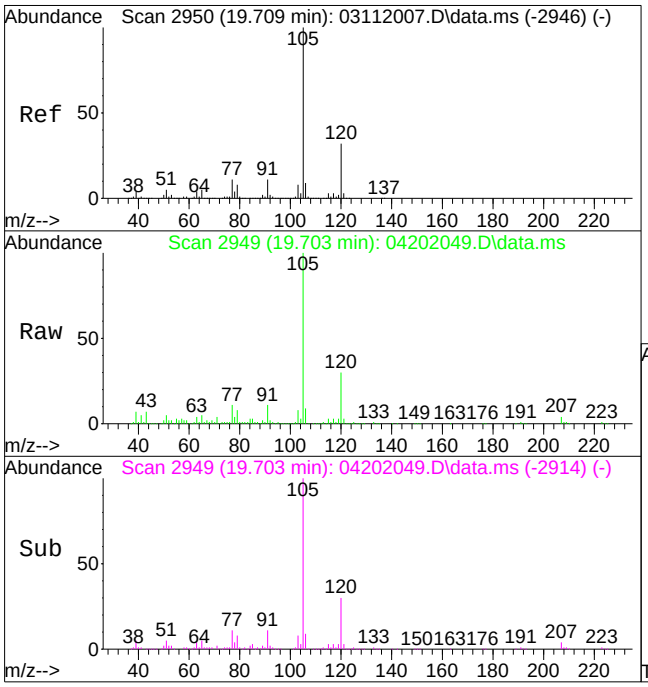


#76
n-Propylbenzene
Concen: 2.03 ng
RT: 19.58 min Scan# 2926
Delta R.T. -0.000 min
Lab File: 04202049.D
Acq: 21 Apr 2020 6:51

Tgt Ion: 91 Resp: 421384

Ion	Ratio	Lower	Upper
91	100		
120	22.3	3.9	43.9
65	11.2	0.0	30.5

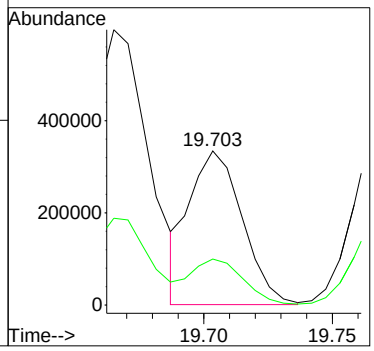


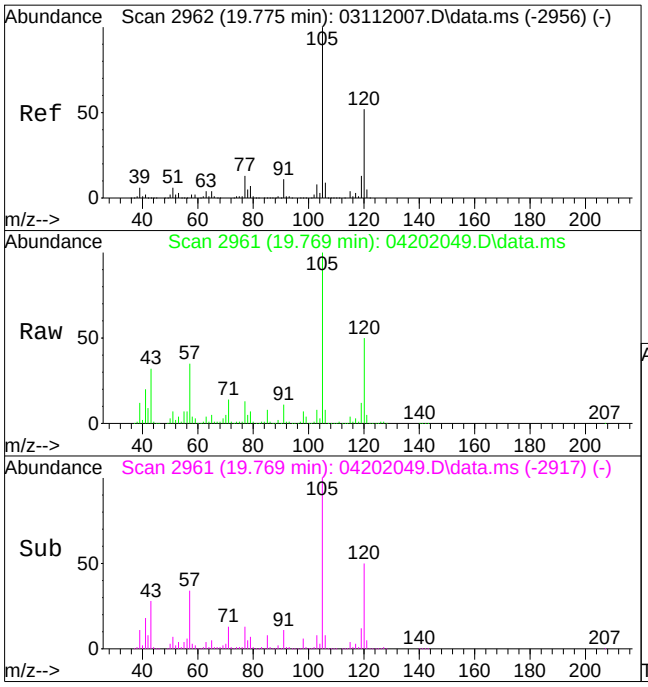


#78
4-Ethyltoluene
Concen: 2.84 ng
RT: 19.70 min Scan# 2949
Delta R.T. -0.006 min
Lab File: 04202049.D
Acq: 21 Apr 2020 6:51

Tgt Ion:105 Resp: 479459

Ion	Ratio	Lower	Upper
105	100		
120	30.3	11.1	51.1

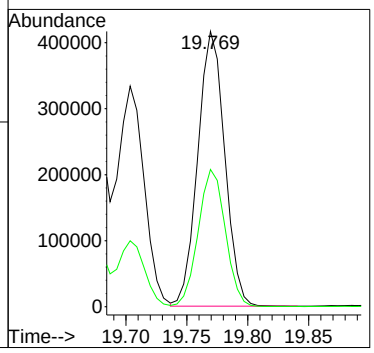


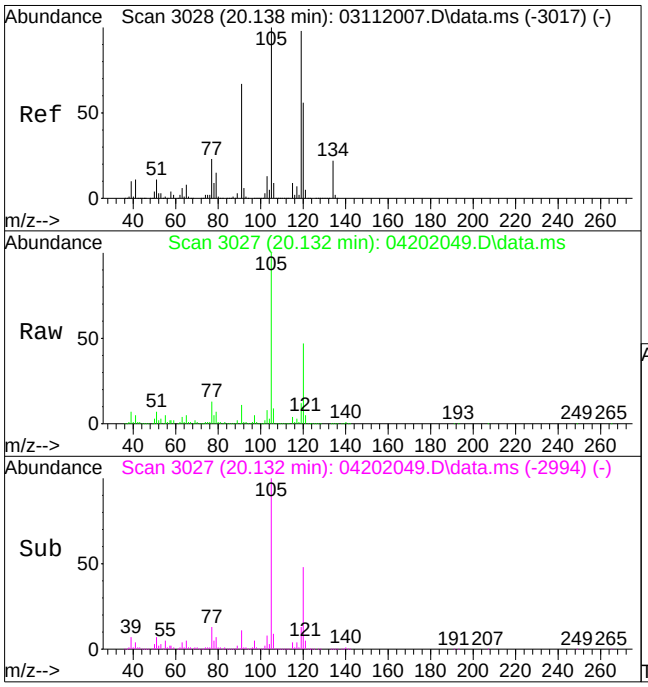


#79
1,3,5-Trimethylbenzene
Concen: 4.27 ng
RT: 19.77 min Scan# 2961
Delta R.T. -0.006 min
Lab File: 04202049.D
Acq: 21 Apr 2020 6:51

Tgt Ion:105 Resp: 640425

Ion	Ratio	Lower	Upper
105	100		
120	50.2	31.3	71.3

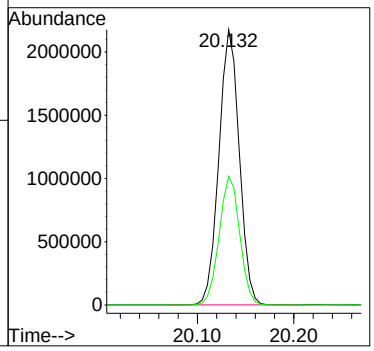


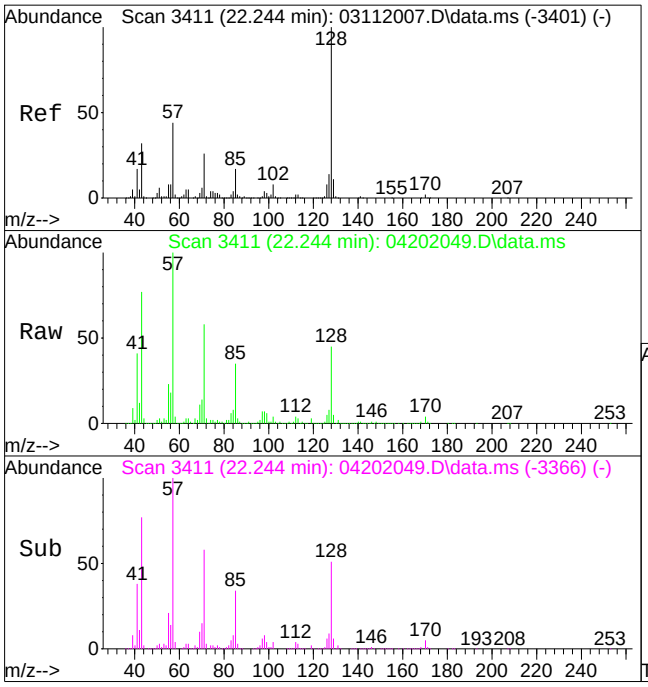


#82
1,2,4-Trimethylbenzene
Concen: 20.56 ng
RT: 20.13 min Scan# 3027
Delta R.T. -0.017 min
Lab File: 04202049.D
Acq: 21 Apr 2020 6:51

Tgt Ion:105 Resp: 3197499

Ion	Ratio	Lower	Upper
105	100		
120	47.1	35.8	75.8

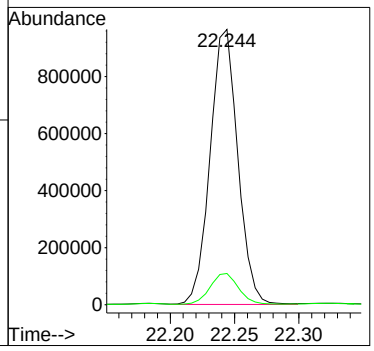




#95
Naphthalene
Concen: 8.33 ng
RT: 22.24 min Scan# 3411
Delta R.T. -0.005 min
Lab File: 04202049.D
Acq: 21 Apr 2020 6:51

Tgt Ion:128 Resp: 1449086

Ion	Ratio	Lower	Upper
128	100		
129	11.8	0.0	31.1



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212011.D Vial: 4
Acq On : 21 Apr 2020 15:00 Operator: WA
Sample : P2002031-016 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 18:43:15 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 4/22/20
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	301296	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1349358	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	668439	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	524523	12.572	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.56%				
57) Toluene-d8 (SS2)	15.74	98	1402516	11.837	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.72%				
73) Bromofluorobenzene (SS3)	19.00	174	502355	12.007	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.08%				
Target Compounds							Qvalue
2) Propene	4.15	42	5910	0.187	ng	#	77
3) Dichlorodifluoromethan...	4.30	85	11517	0.169	ng		98
4) Chloromethane	4.58	50	4236	0.079	ng		97
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	118	N.D.			
6) Vinyl Chloride	4.99	62	774	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	5.68	94	117	N.D.			
9) Chloroethane	6.01	64	443	N.D.			
10) Ethanol	6.35	45	16728	0.670	ng		93
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	6.83	56	3350	0.182	ng		100
13) Acetone	7.03	58	67539	2.740	ng		100
14) Trichlorofluoromethane	7.27	101	18014	0.301	ng		99
15) 2-Propanol (Isopropanol)	7.56	45	10452	0.143	ng	#	55
16) Acrylonitrile	7.82	53	57	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.50	59	3188	N.D.			
19) Methylene Chloride	8.46	84	447	N.D.			
20) 3-Chloro-1-propene (Al...	8.54	41	1077	N.D.			
21) Trichlorotrifluoroethane	8.88	151	662	N.D.			
22) Carbon Disulfide	8.72	76	99573	0.863	ng		98
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.12	73	854	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.49	72	14834	0.723	ng		97
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.32	61	2319	0.191	ng		94
31) n-Hexane	11.28	57	14318	0.255	ng		97
32) Chloroform	11.33	83	39024	0.652	ng		100
34) Tetrahydrofuran (THF)	11.77	72	6157	0.292	ng	#	86
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.05	62	158	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.90	78	33970	0.243	ng		99
42) Carbon Tetrachloride	13.06	117	37102	0.774	ng		100
43) Cyclohexane	13.20	84	12141	0.227	ng		93
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	13.54	63	1371	N.D.			
46) Bromodichloromethane	13.95	83	2968	0.063	ng	#	59
47) Trichloroethene	14.01	130	464	N.D.			
48) 1,4-Dioxane	14.02	88	636	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.14	100	567	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212011.D Vial: 4
Acq On : 21 Apr 2020 15:00 Operator: WA
Sample : P2002031-016 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 18:43:15 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

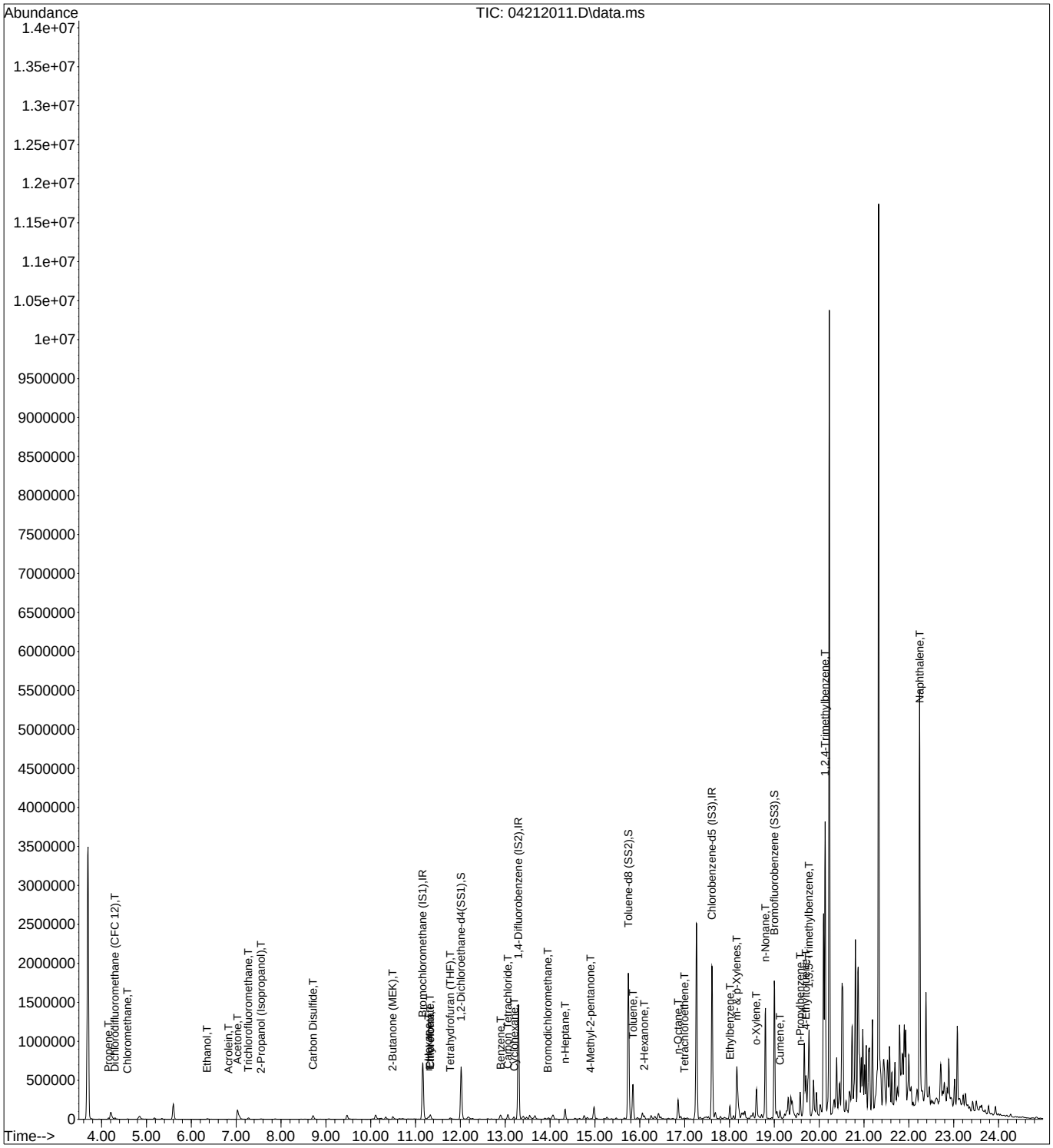
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.34	71	34013	1.044 ng		98
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.90	58	2085	0.071 ng	#	64
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	15.47	97	543	N.D.		
58) Toluene	15.85	91	377881	2.579 ng		100
59) 2-Hexanone	16.10	43	26585	0.363 ng		92
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	16.51	107	608	N.D.		
62) n-Butyl Acetate	16.74	43	1978	N.D.		
63) n-Octane	16.86	57	48330	1.663 ng		95
64) Tetrachloroethene	17.00	166	3069	0.075 ng		94
65) Chlorobenzene	0.00	112	0	N.D. d		
66) Ethylbenzene	18.01	91	129598	0.806 ng		98
67) m- & p-Xylenes	18.16	91	516256	3.949 ng		99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.50	104	2051	N.D.		
70) o-Xylene	18.60	91	167868	1.284 ng		99
71) n-Nonane	18.80	43	501419	7.673 ng		94
72) 1,1,2,2-Tetrachloroethane	18.58	83	345	N.D.		
74) Cumene	19.13	105	41125	0.249 ng		99
75) alpha-Pinene	19.47	93	422	N.D.		
76) n-Propylbenzene	19.58	91	246204	1.276 ng		96
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.70	105	281995	1.797 ng		91
79) 1,3,5-Trimethylbenzene	19.77	105	369704	2.646 ng		97
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	20.13	105	1843456	12.737 ng		88
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.23	91	2144	N.D.		
85) 1,3-Dichlorobenzene	20.27	146	379	N.D.		
86) 1,4-Dichlorobenzene	20.33	146	516	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D. d		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	20.63	146	251	N.D.		
91) d-Limonene	20.63	68	721	N.D.		
92) 1,2-Dibromo-3-Chloropr...	20.97	157	188	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.15	180	768	N.D.		
95) Naphthalene	22.24	128	378620	2.339 ng		96
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212011.D Vial: 4
Acq On : 21 Apr 2020 15:00 Operator: WA
Sample : P2002031-016 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 18:43:15 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212011.D Vial: 4
Acq On : 21 Apr 2020 15:00 Operator: WA
Sample : P2002031-016 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 18:43:15 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/22/20

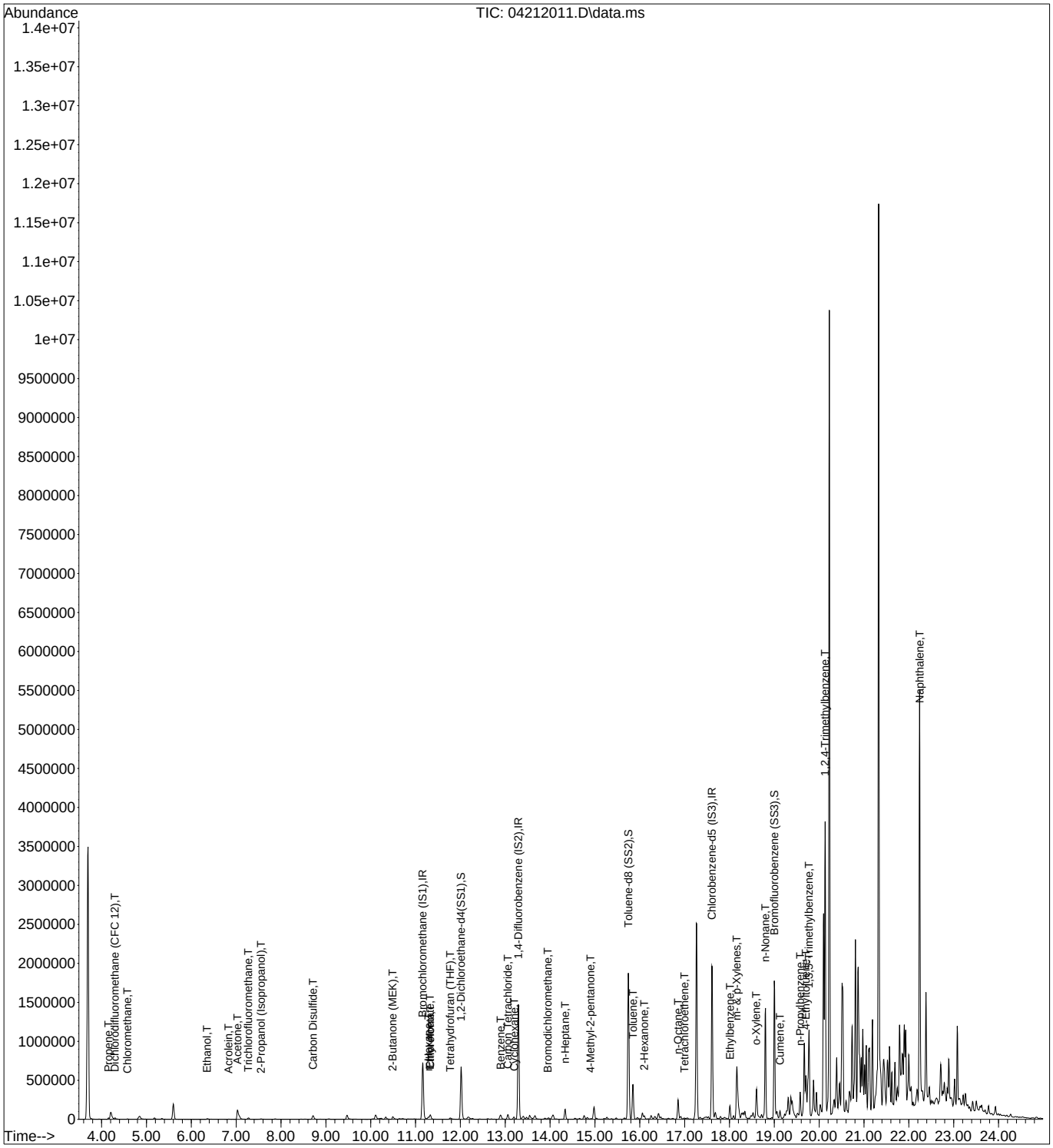
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	301296	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1349358	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	668439	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	524523	12.572	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.56%				
57) Toluene-d8 (SS2)	15.74	98	1402516	11.837	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.72%				
73) Bromofluorobenzene (SS3)	19.00	174	502355	12.007	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.08%				
Target Compounds							Qvalue
2) Propene	4.15	42	5910	0.187	ng	#	77
3) Dichlorodifluoromethan...	4.30	85	11517	0.169	ng		98
4) Chloromethane	4.58	50	4236	0.079	ng		97
10) Ethanol	6.35	45	16728	0.670	ng		93
12) Acrolein	6.83	56	3350	0.182	ng		100
13) Acetone	7.03	58	67539	2.740	ng		100
14) Trichlorofluoromethane	7.27	101	18014	0.301	ng		99
15) 2-Propanol (Isopropanol)	7.56	45	10452	0.143	ng	#	55
22) Carbon Disulfide	8.72	76	99573	0.863	ng		98
27) 2-Butanone (MEK)	10.49	72	14834	0.723	ng		97
30) Ethyl Acetate	11.32	61	2319	0.191	ng		94
31) n-Hexane	11.28	57	14318	0.255	ng		97
32) Chloroform	11.33	83	39024	0.652	ng		100
34) Tetrahydrofuran (THF)	11.77	72	6157	0.292	ng	#	86
41) Benzene	12.90	78	33970	0.243	ng		99
42) Carbon Tetrachloride	13.06	117	37102	0.774	ng		100
43) Cyclohexane	13.20	84	12141	0.227	ng		93
46) Bromodichloromethane	13.95	83	2968	0.063	ng	#	59
51) n-Heptane	14.34	71	34013	1.044	ng		98
53) 4-Methyl-2-pentanone	14.90	58	2085	0.071	ng	#	64
58) Toluene	15.85	91	377881	2.579	ng		100
59) 2-Hexanone	16.10	43	26585	0.363	ng		92
63) n-Octane	16.86	57	48330	1.663	ng		95
64) Tetrachloroethene	17.00	166	3069	0.075	ng		94
66) Ethylbenzene	18.01	91	129598	0.806	ng		98
67) m- & p-Xylenes	18.16	91	516256	3.949	ng		99
70) o-Xylene	18.60	91	167868	1.284	ng		99
71) n-Nonane	18.80	43	501419	7.673	ng		94
74) Cumene	19.13	105	41125	0.249	ng		99
76) n-Propylbenzene	19.58	91	246204	1.276	ng		96
78) 4-Ethyltoluene	19.70	105	281995	1.797	ng		91
79) 1,3,5-Trimethylbenzene	19.77	105	369704	2.646	ng		97
82) 1,2,4-Trimethylbenzene	20.13	105	1843456	12.737	ng		88
95) Naphthalene	22.24	128	378620	2.339	ng		96

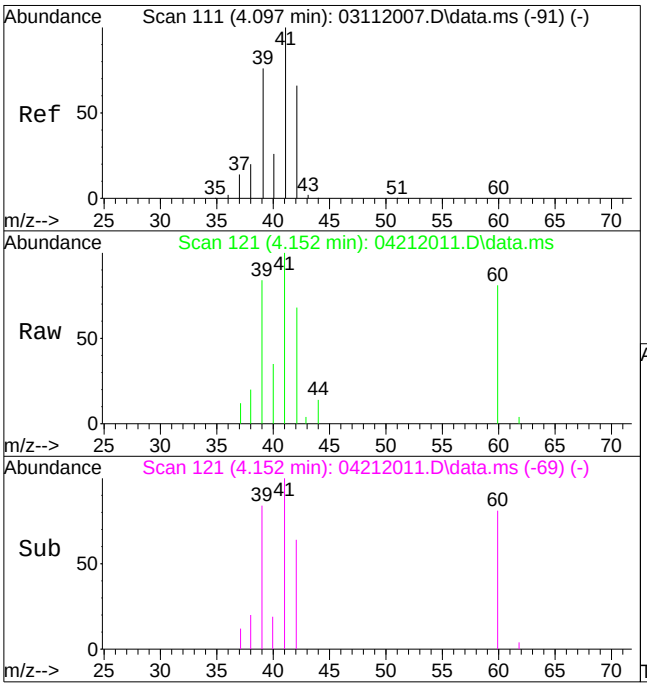
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212011.D Vial: 4
Acq On : 21 Apr 2020 15:00 Operator: WA
Sample : P2002031-016 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 18:43:15 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

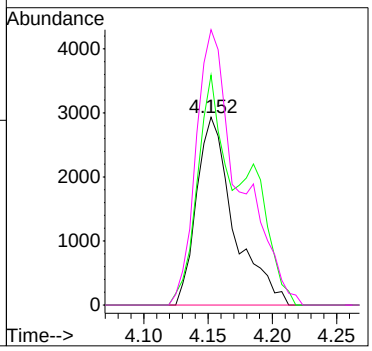


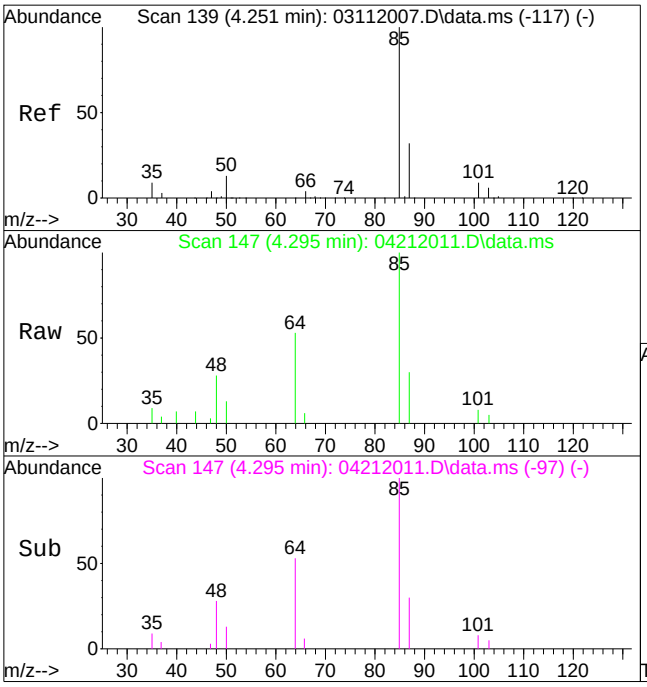


#2
Propene
Concen: 0.19 ng
RT: 4.15 min Scan# 121
Delta R.T. 0.038 min
Lab File: 04212011.D
Acq: 21 Apr 2020 15:00

Tgt Ion: 42 Resp: 5910

Ion	Ratio	Lower	Upper
42	100		
39	151.0	95.3	135.3#
41	171.2	132.0	172.0

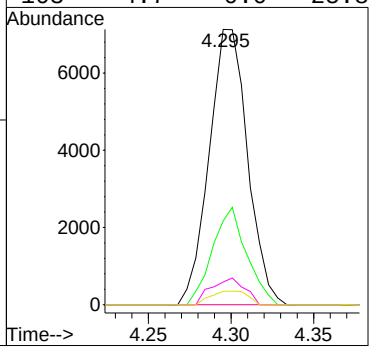


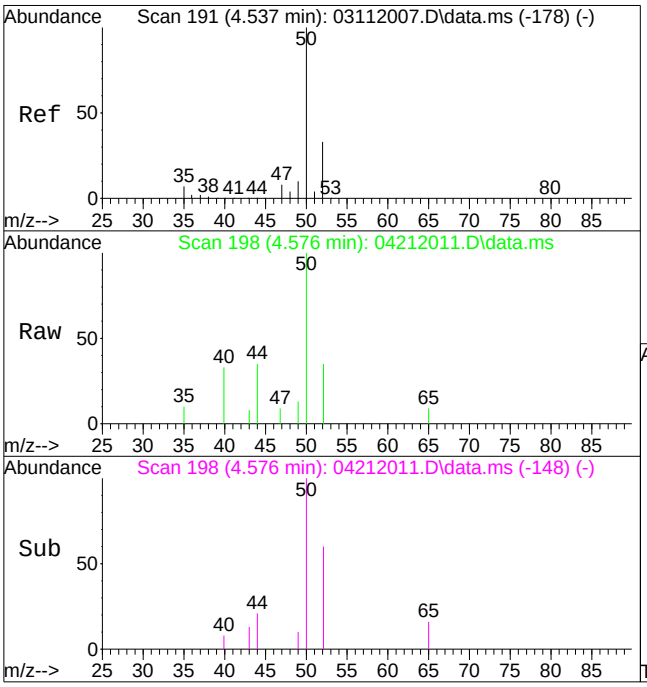


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.17 ng
RT: 4.30 min Scan# 147
Delta R.T. 0.027 min
Lab File: 04212011.D
Acq: 21 Apr 2020 15:00

Tgt Ion: 85 Resp: 11517

Ion	Ratio	Lower	Upper
85	100		
87	31.4	12.3	52.3
101	8.4	0.0	29.0
103	4.7	0.0	25.8

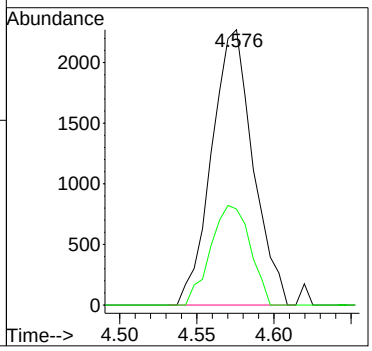


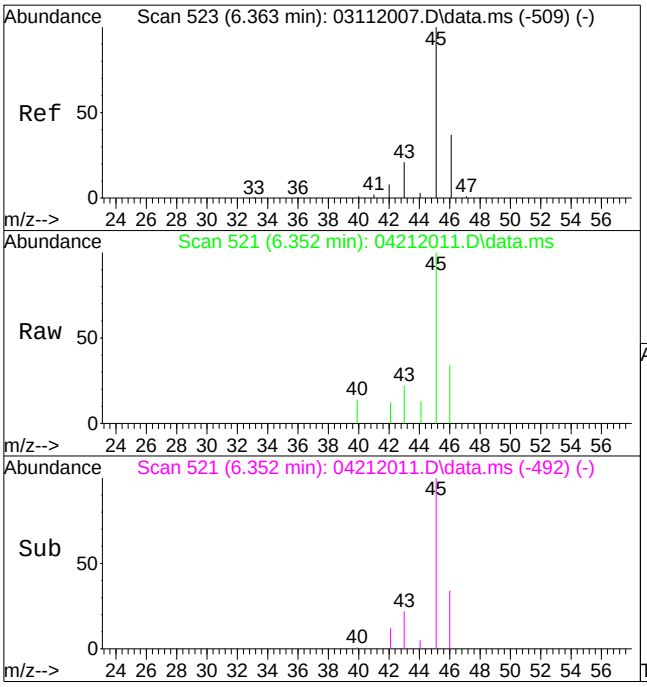


#4
Chloromethane
Concen: 0.08 ng
RT: 4.58 min Scan# 198
Delta R.T. 0.023 min
Lab File: 04212011.D
Acq: 21 Apr 2020 15:00

Tgt Ion: 50 Resp: 4236

Ion	Ratio	Lower	Upper
50	100		
52	34.6	12.8	52.8

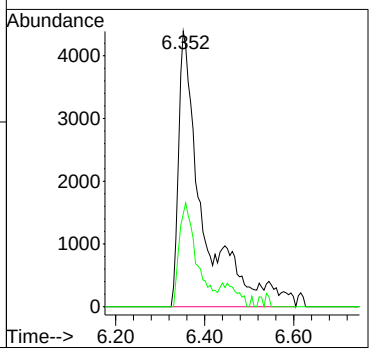


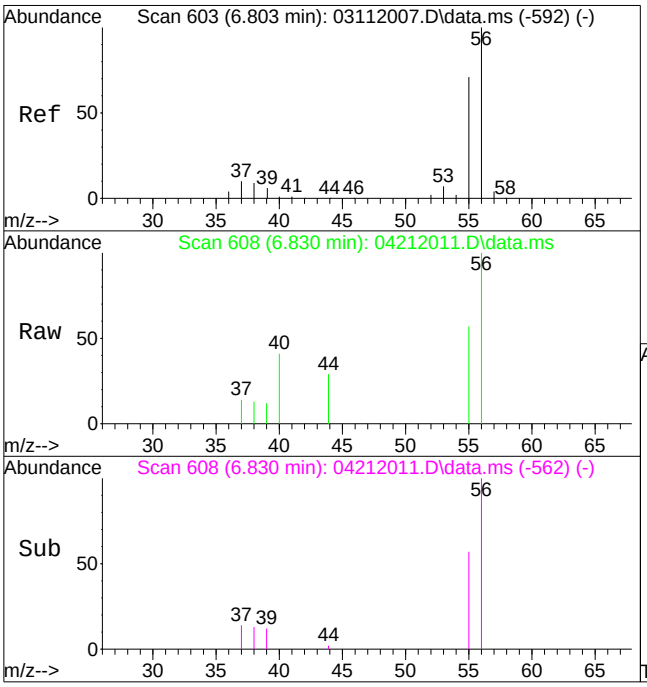


#10
Ethanol
Concen: 0.67 ng
RT: 6.35 min Scan# 521
Delta R.T. -0.088 min
Lab File: 04212011.D
Acq: 21 Apr 2020 15:00

Tgt Ion: 45 Resp: 16728

Ion	Ratio	Lower	Upper
45	100		
46	33.1	17.3	57.3

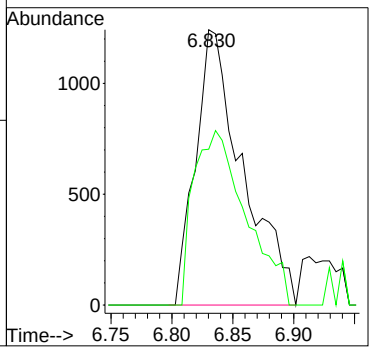


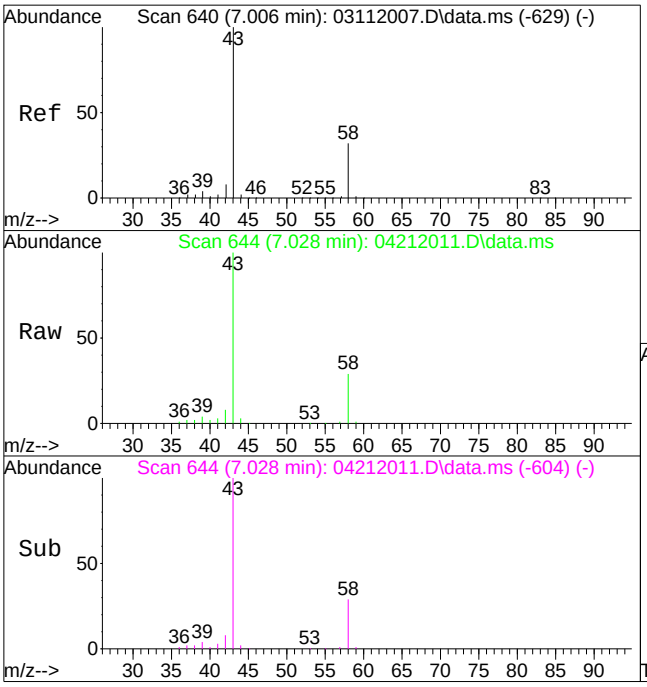


#12
Acrolein
Concen: 0.18 ng
RT: 6.83 min Scan# 608
Delta R.T. 0.000 min
Lab File: 04212011.D
Acq: 21 Apr 2020 15:00

Tgt Ion: 56 Resp: 3350

Ion	Ratio	Lower	Upper
56	100		
55	70.3	50.4	90.4

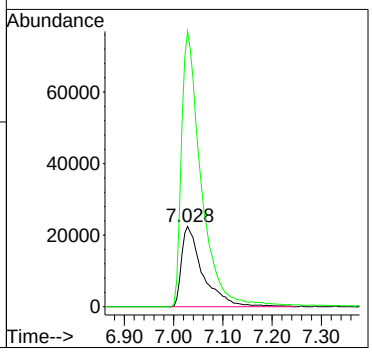


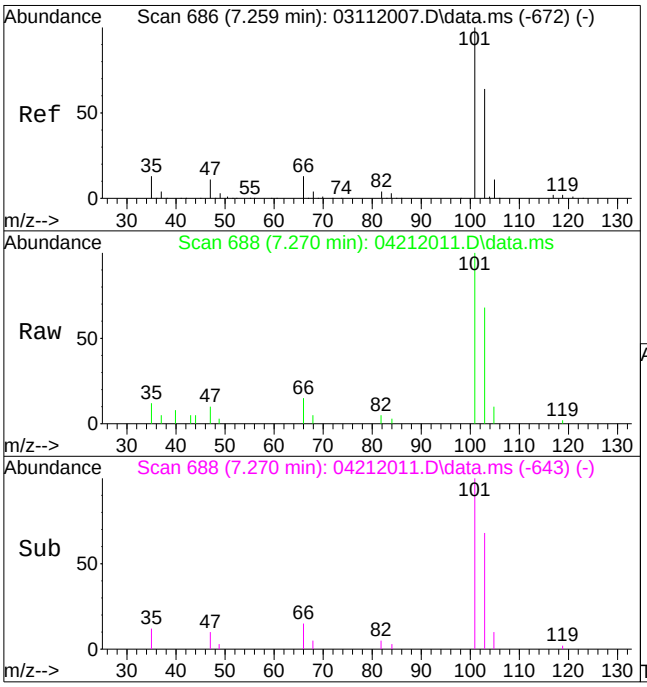


#13
Acetone
Concen: 2.74 ng
RT: 7.03 min Scan# 644
Delta R.T. -0.028 min
Lab File: 04212011.D
Acq: 21 Apr 2020 15:00

Tgt Ion: 58 Resp: 67539

Ion	Ratio	Lower	Upper
58	100		
43	317.5	287.3	347.3

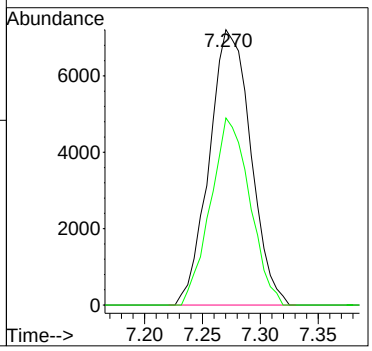


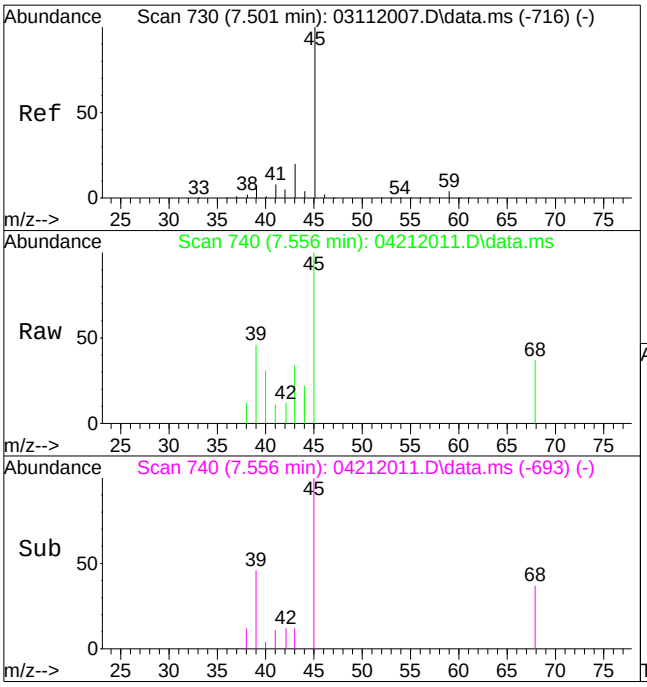


#14
Trichlorofluoromethane
Concen: 0.30 ng
RT: 7.27 min Scan# 688
Delta R.T. -0.005 min
Lab File: 04212011.D
Acq: 21 Apr 2020 15:00

Tgt Ion:101 Resp: 18014

Ion	Ratio	Lower	Upper
101	100		
103	64.2	44.6	84.6

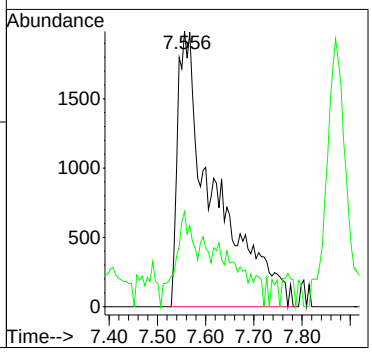


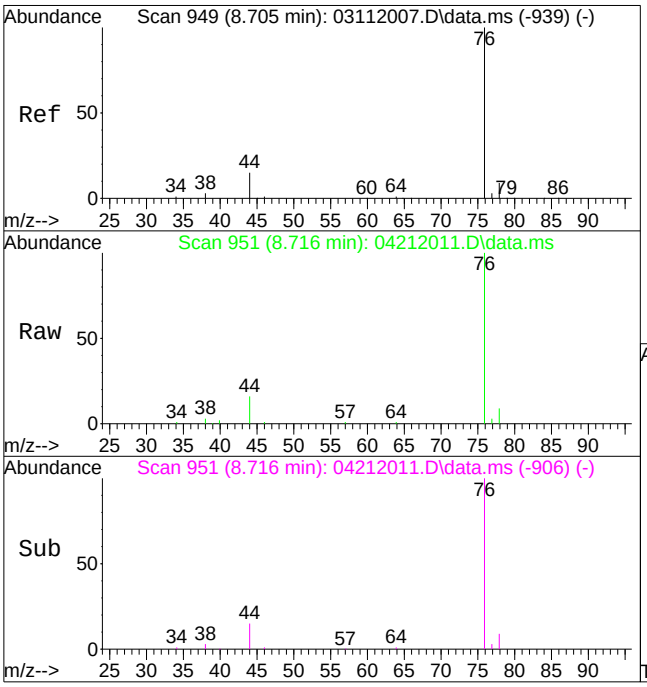


#15
2-Propanol (Isopropanol)
Concen: 0.14 ng
RT: 7.56 min Scan# 740
Delta R.T. 0.006 min
Lab File: 04212011.D
Acq: 21 Apr 2020 15:00

Tgt Ion: 45 Resp: 10452

Ion	Ratio	Lower	Upper
45	100		
43	41.2	0.3	40.3#

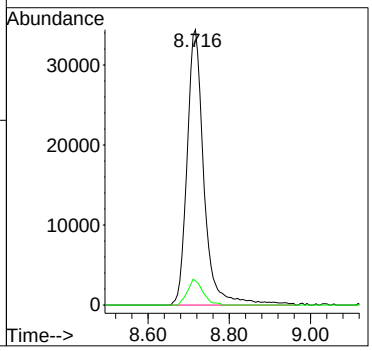


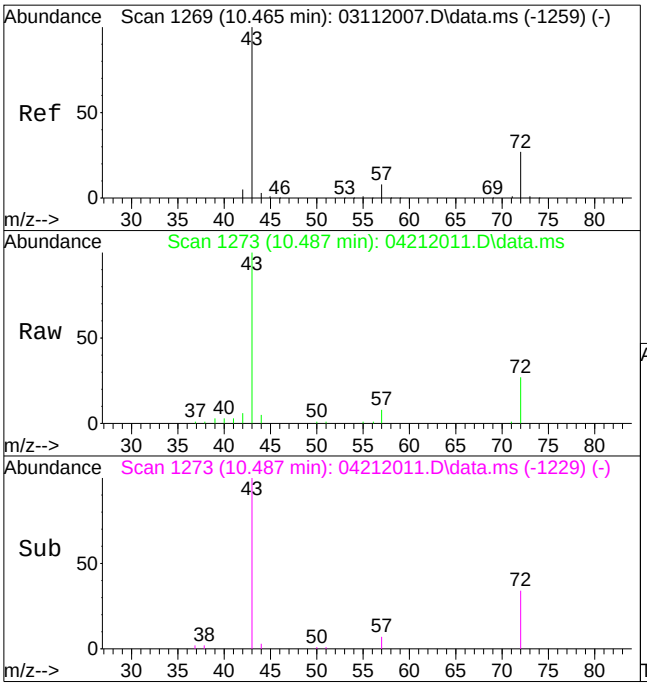


#22
Carbon Disulfide
Concen: 0.86 ng
RT: 8.72 min Scan# 951
Delta R.T. -0.005 min
Lab File: 04212011.D
Acq: 21 Apr 2020 15:00

Tgt Ion: 76 Resp: 99573

Ion	Ratio	Lower	Upper
76	100		
78	8.5	0.0	29.2

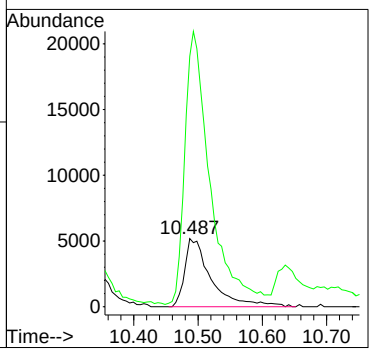


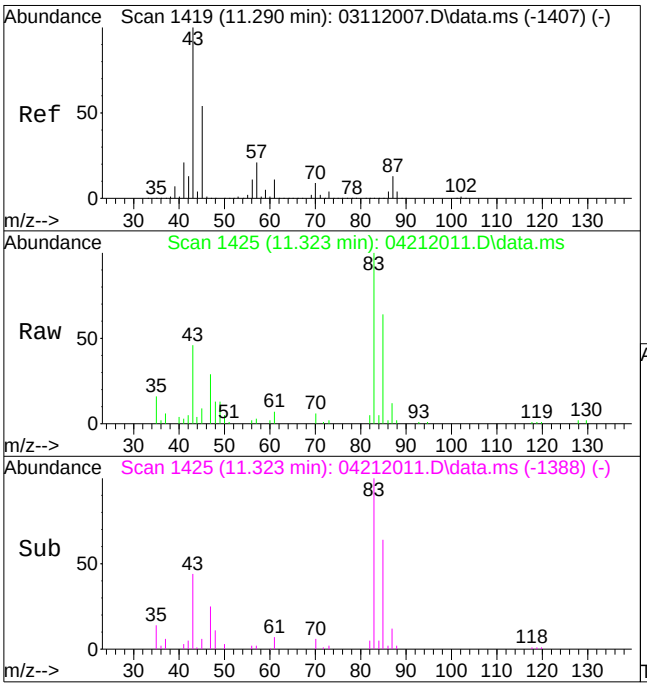


#27
2-Butanone (MEK)
Concen: 0.72 ng
RT: 10.49 min Scan# 1273
Delta R.T. -0.005 min
Lab File: 04212011.D
Acq: 21 Apr 2020 15:00

Tgt Ion: 72 Resp: 14834

Ion	Ratio	Lower	Upper
72	100		
43	380.2	353.4	393.4

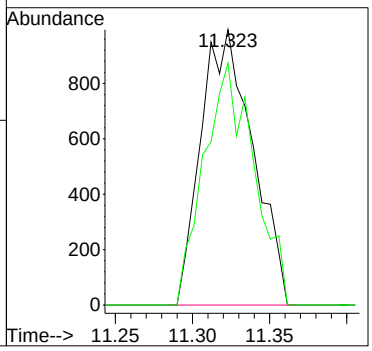


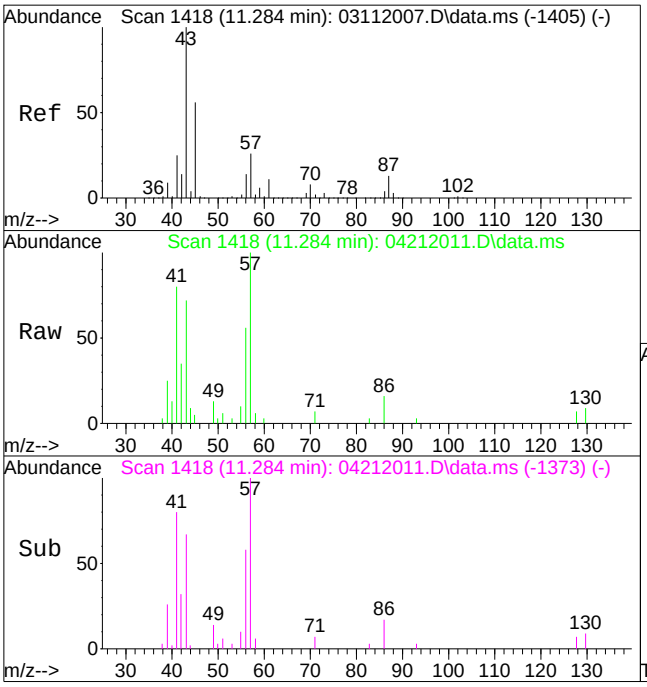


#30
Ethyl Acetate
Concen: 0.19 ng
RT: 11.32 min Scan# 1425
Delta R.T. 0.006 min
Lab File: 04212011.D
Acq: 21 Apr 2020 15:00

Tgt Ion: 61 Resp: 2319

Ion	Ratio	Lower	Upper
61	100		
70	84.6	59.1	99.1

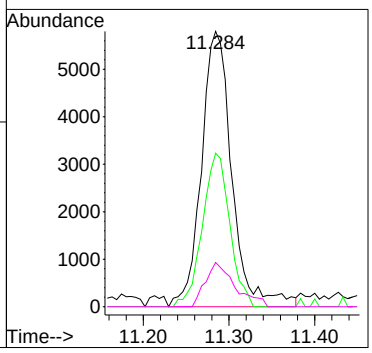


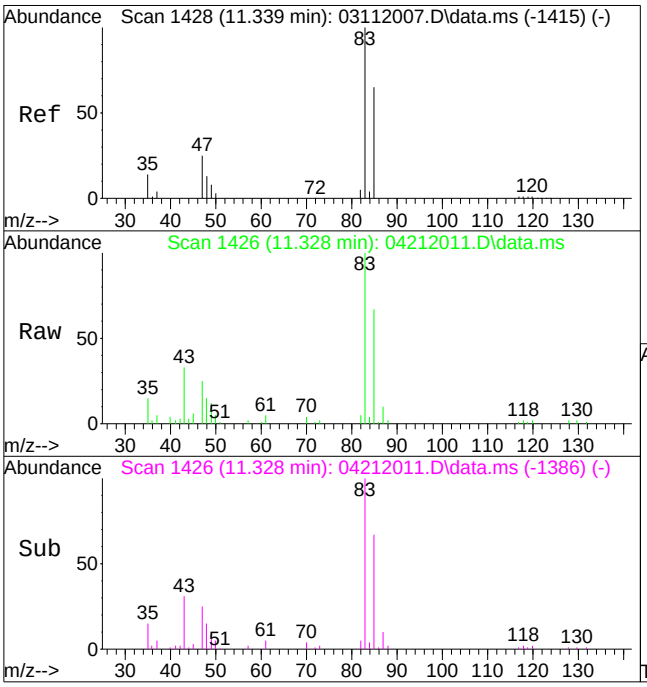


#31
n-Hexane
Concen: 0.25 ng
RT: 11.28 min Scan# 1418
Delta R.T. -0.005 min
Lab File: 04212011.D
Acq: 21 Apr 2020 15:00

Tgt Ion: 57 Resp: 14318

Ion	Ratio	Lower	Upper
57	100		
56	49.8	41.0	61.4
86	15.6	13.9	20.9

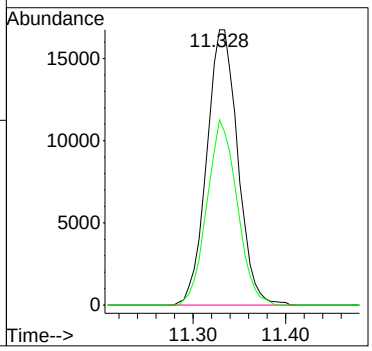


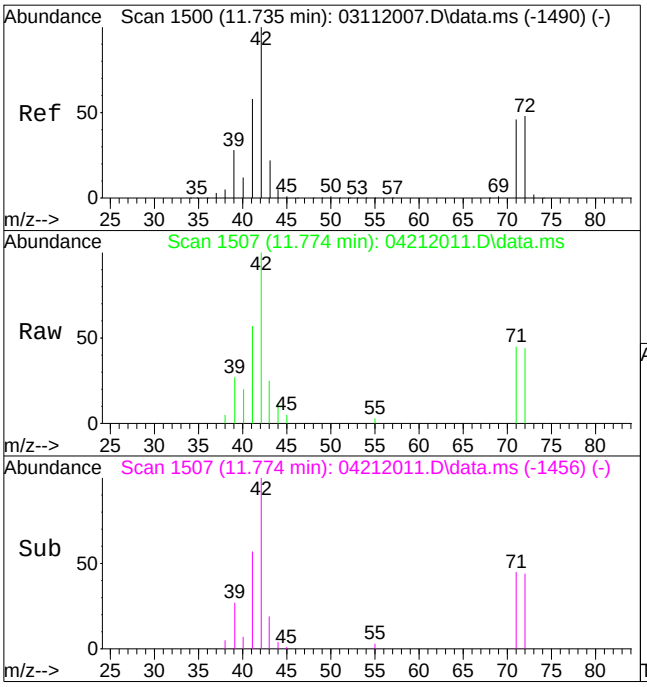


#32
Chloroform
Concen: 0.65 ng
RT: 11.33 min Scan# 1426
Delta R.T. -0.033 min
Lab File: 04212011.D
Acq: 21 Apr 2020 15:00

Tgt Ion: 83 Resp: 39024

Ion	Ratio	Lower	Upper
83	100		
85	65.4	45.5	85.5

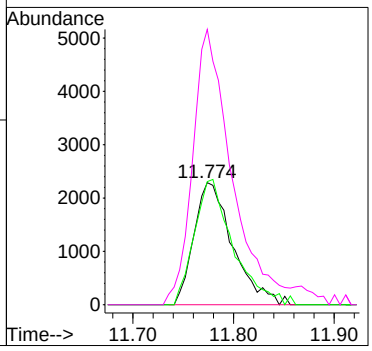


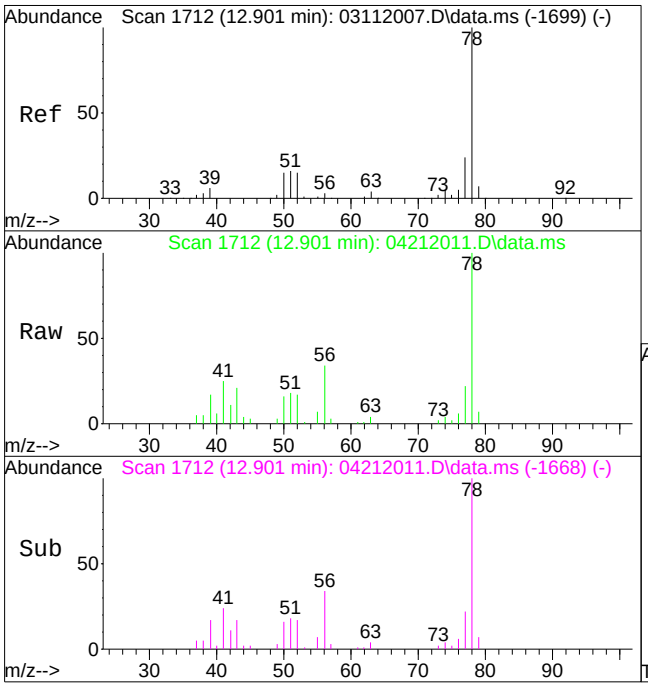


#34
Tetrahydrofuran (THF)
Concen: 0.29 ng
RT: 11.77 min Scan# 1507
Delta R.T. 0.028 min
Lab File: 04212011.D
Acq: 21 Apr 2020 15:00

Tgt Ion: 72 Resp: 6157

Ion	Ratio	Lower	Upper
72	100		
71	102.3	75.9	115.9
42	235.4	189.3	229.3#

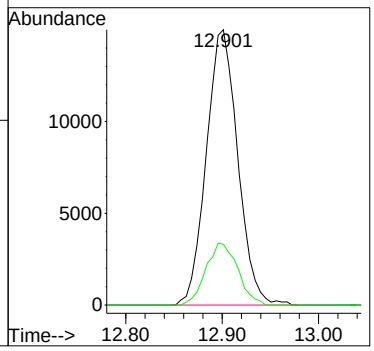


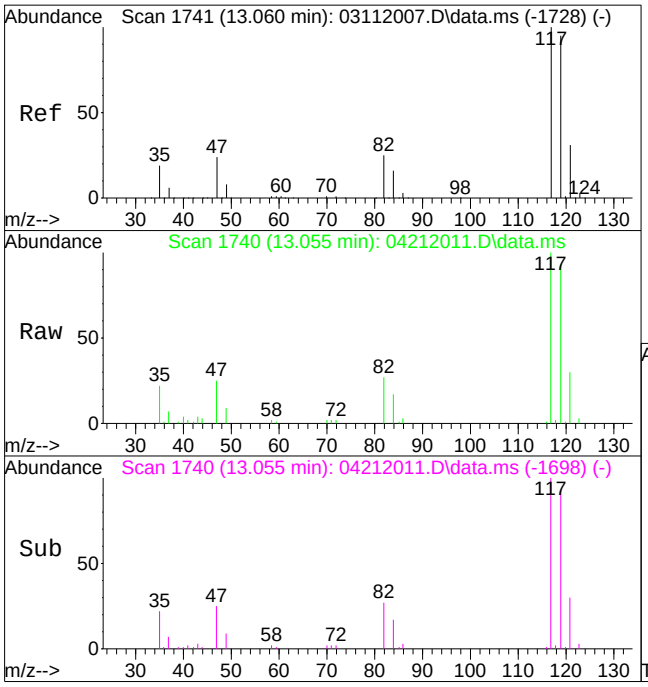


#41
Benzene
Concen: 0.24 ng
RT: 12.90 min Scan# 1712
Delta R.T. -0.011 min
Lab File: 04212011.D
Acq: 21 Apr 2020 15:00

Tgt Ion: 78 Resp: 33970

Ion	Ratio	Lower	Upper
78	100		
77	22.8	3.4	43.4

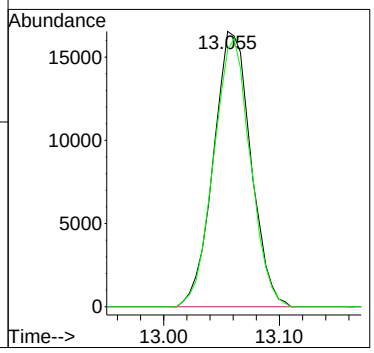


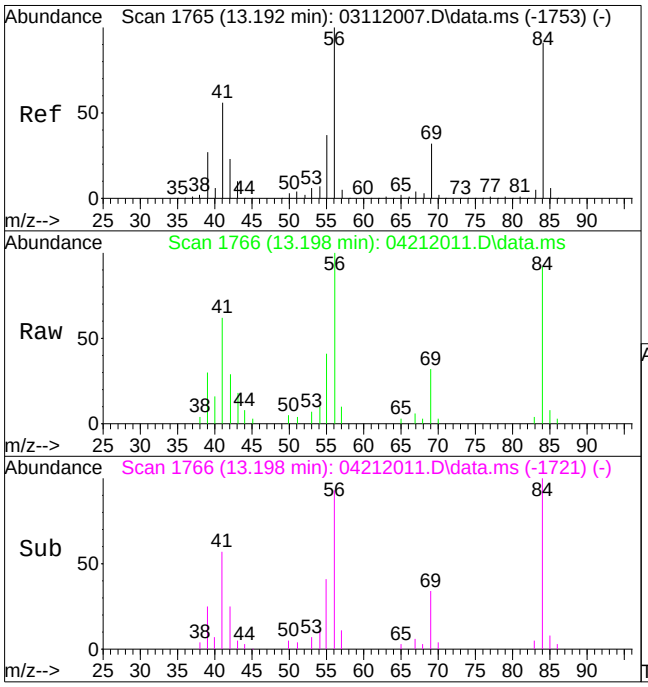


#42
Carbon Tetrachloride
Concen: 0.77 ng
RT: 13.06 min Scan# 1740
Delta R.T. -0.016 min
Lab File: 04212011.D
Acq: 21 Apr 2020 15:00

Tgt Ion:117 Resp: 37102

Ion	Ratio	Lower	Upper
117	100		
119	95.5	75.4	115.4

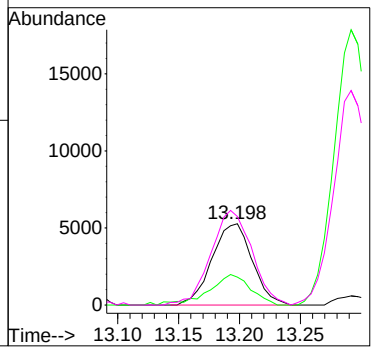


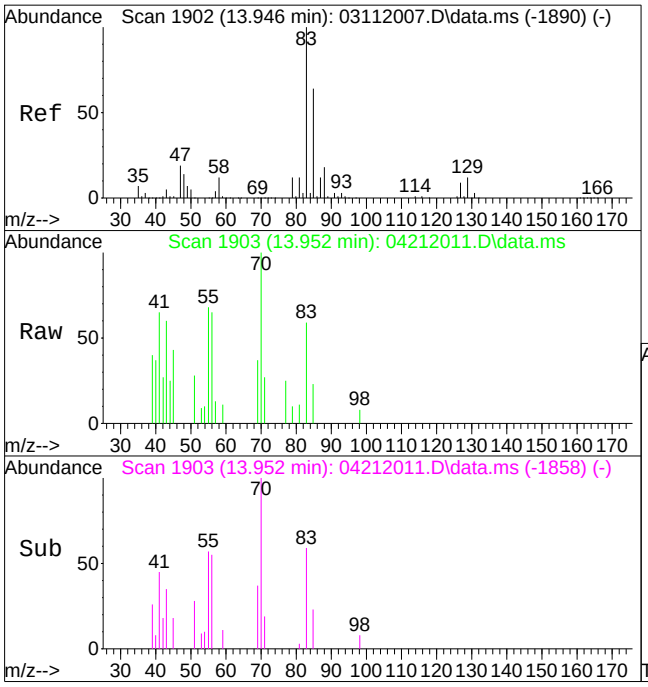


#43
Cyclohexane
Concen: 0.23 ng
RT: 13.20 min Scan# 1766
Delta R.T. -0.005 min
Lab File: 04212011.D
Acq: 21 Apr 2020 15:00

Tgt Ion: 84 Resp: 12141

Ion	Ratio	Lower	Upper
84	100		
69	38.8	15.3	55.3
56	118.5	90.5	130.5

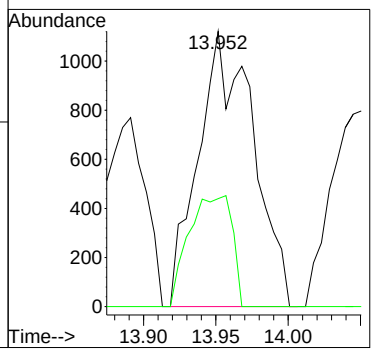


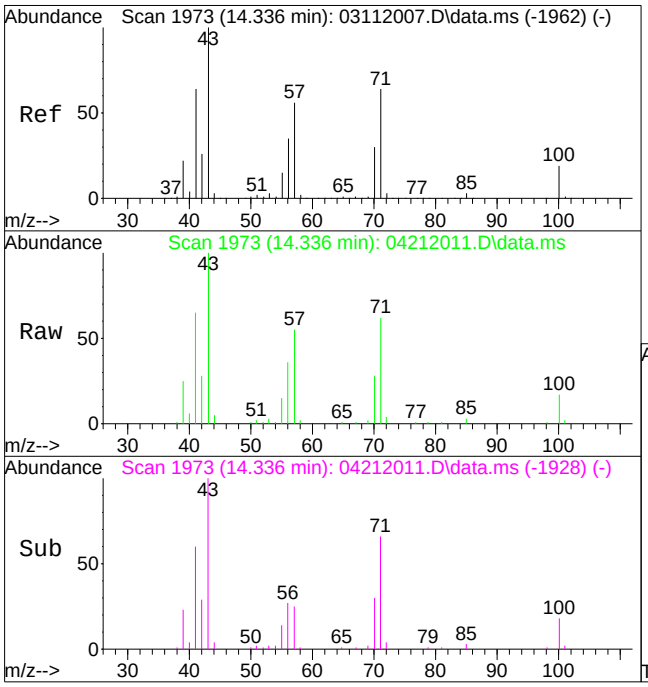


#46
Bromodichloromethane
Concen: 0.06 ng
RT: 13.95 min Scan# 1903
Delta R.T. -0.005 min
Lab File: 04212011.D
Acq: 21 Apr 2020 15:00

Tgt Ion: 83 Resp: 2968

Ion	Ratio	Lower	Upper
83	100		
85	31.6	44.0	84.0#

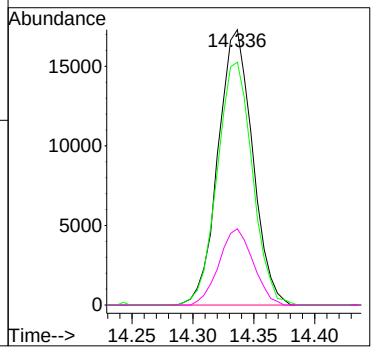


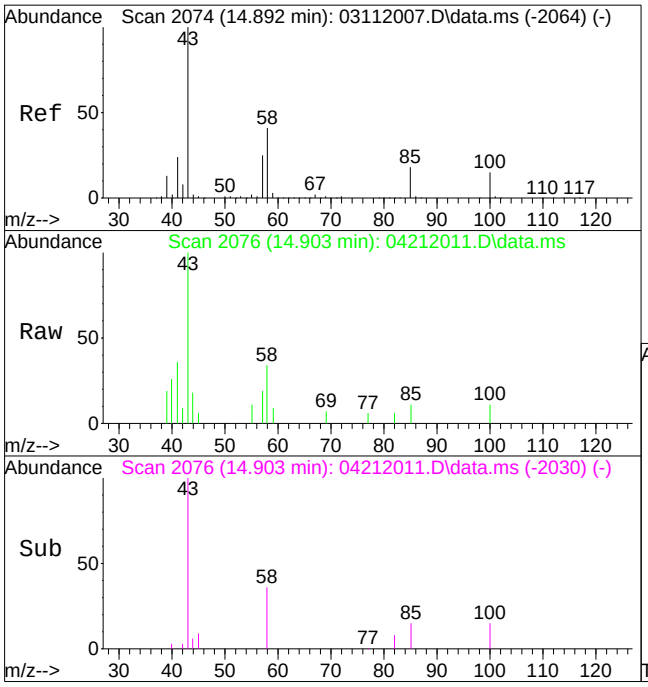


#51
n-Heptane
Concen: 1.04 ng
RT: 14.34 min Scan# 1973
Delta R.T. -0.005 min
Lab File: 04212011.D
Acq: 21 Apr 2020 15:00

Tgt Ion: 71 Resp: 34013

Ion	Ratio	Lower	Upper
71	100		
57	90.0	68.6	108.6
100	27.4	9.1	49.1

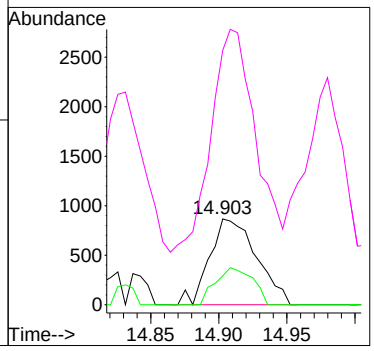


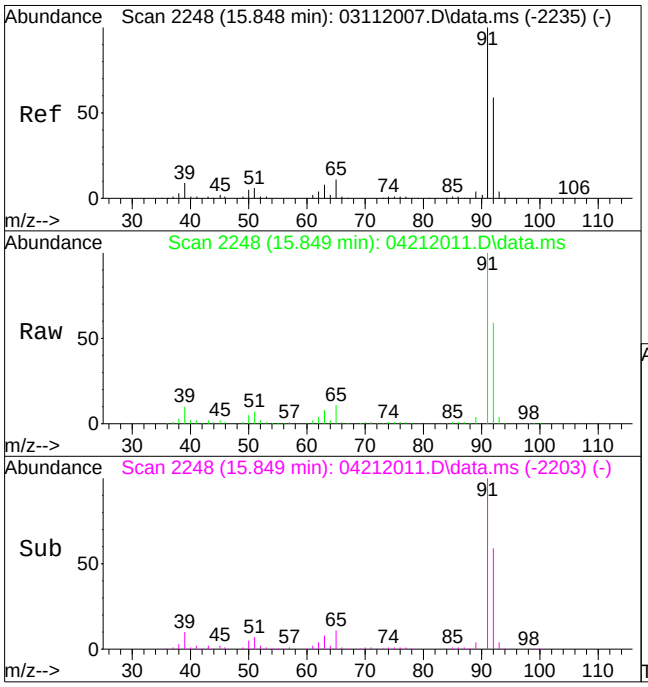


#53
4-Methyl-2-pentanone
Concen: 0.07 ng
RT: 14.90 min Scan# 2076
Delta R.T. 0.000 min
Lab File: 04212011.D
Acq: 21 Apr 2020 15:00

Tgt Ion: 58 Resp: 2085

Ion	Ratio	Lower	Upper
58	100		
85	34.1	37.0	55.4#
43	314.0	196.3	294.5#

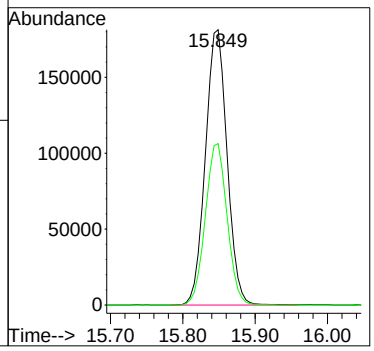


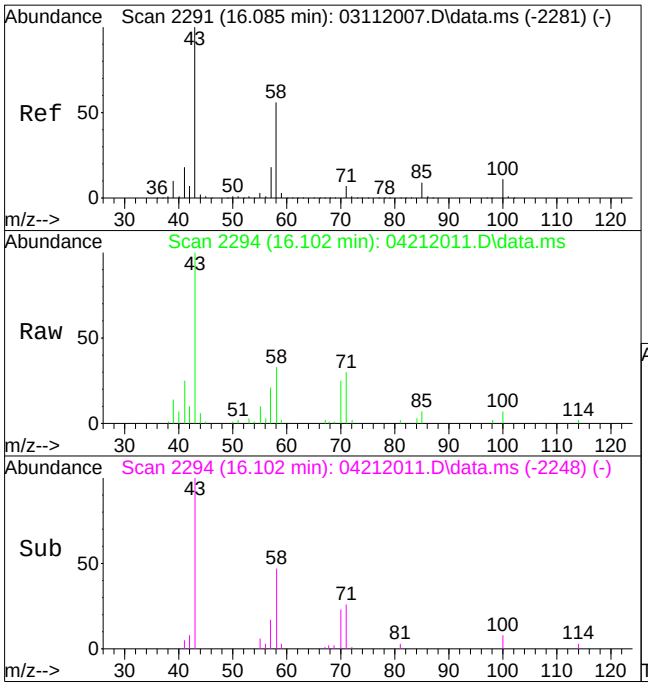


#58
Toluene
Concen: 2.58 ng
RT: 15.85 min Scan# 2248
Delta R.T. -0.005 min
Lab File: 04212011.D
Acq: 21 Apr 2020 15:00

Tgt Ion: 91 Resp: 377881

Ion	Ratio	Lower	Upper
91	100		
92	58.7	39.0	79.0

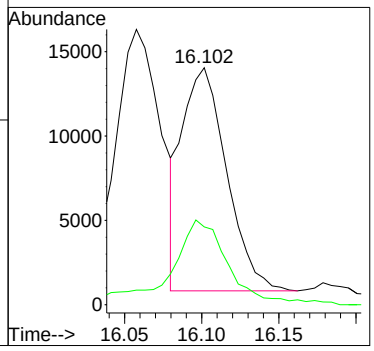


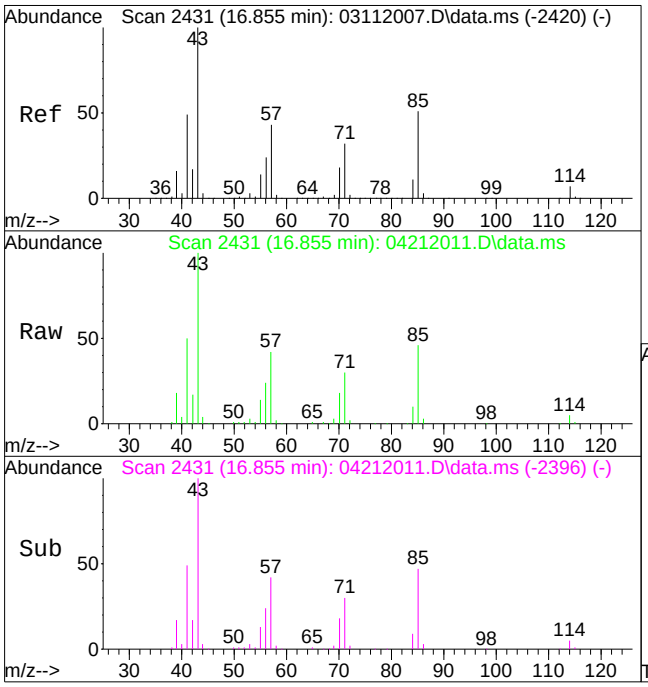


#59
2-Hexanone
Concen: 0.36 ng
RT: 16.10 min Scan# 2294
Delta R.T. 0.000 min
Lab File: 04212011.D
Acq: 21 Apr 2020 15:00

Tgt Ion: 43 Resp: 26585

Ion	Ratio	Lower	Upper
43	100		
58	50.7	36.5	76.5

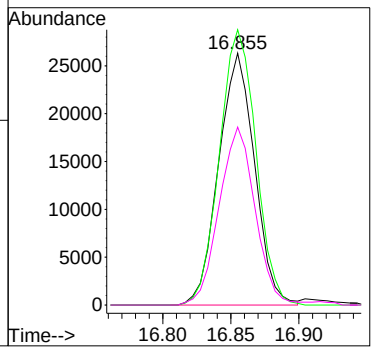


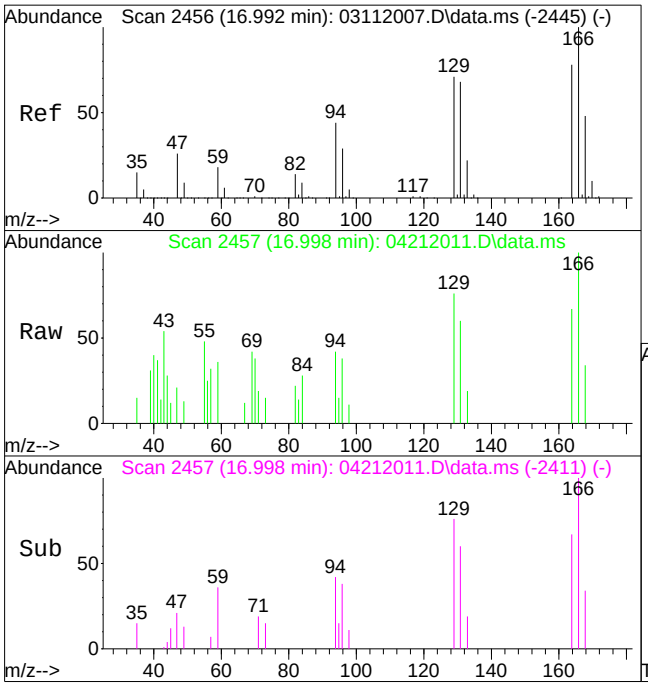


#63
n-Octane
Concen: 1.66 ng
RT: 16.86 min Scan# 2431
Delta R.T. -0.005 min
Lab File: 04212011.D
Acq: 21 Apr 2020 15:00

Tgt Ion: 57 Resp: 48330

Ion	Ratio	Lower	Upper
57	100		
85	111.0	95.1	142.7
71	71.6	58.2	87.4

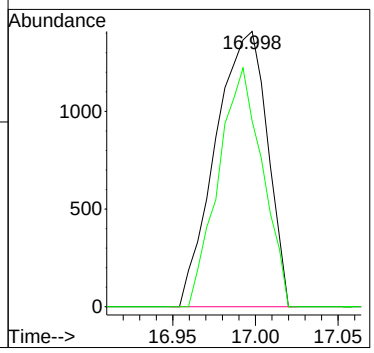


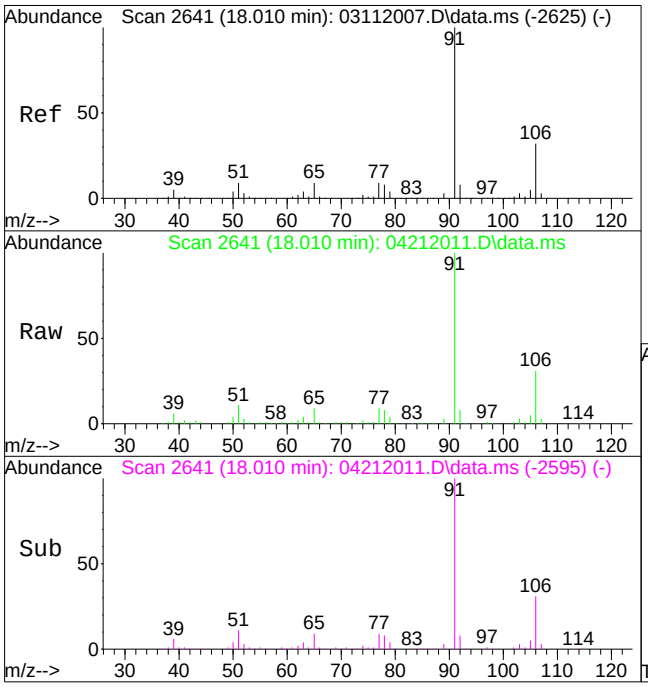


#64
Tetrachloroethene
Concen: 0.08 ng
RT: 17.00 min Scan# 2457
Delta R.T. 0.000 min
Lab File: 04212011.D
Acq: 21 Apr 2020 15:00

Tgt Ion:166 Resp: 3069

Ion	Ratio	Lower	Upper
166	100		
164	73.7	58.6	98.6

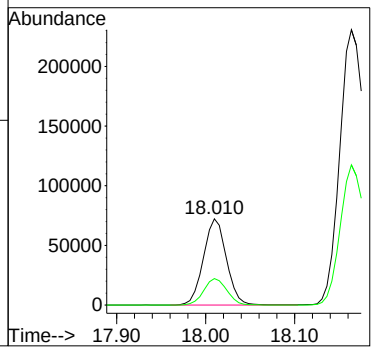


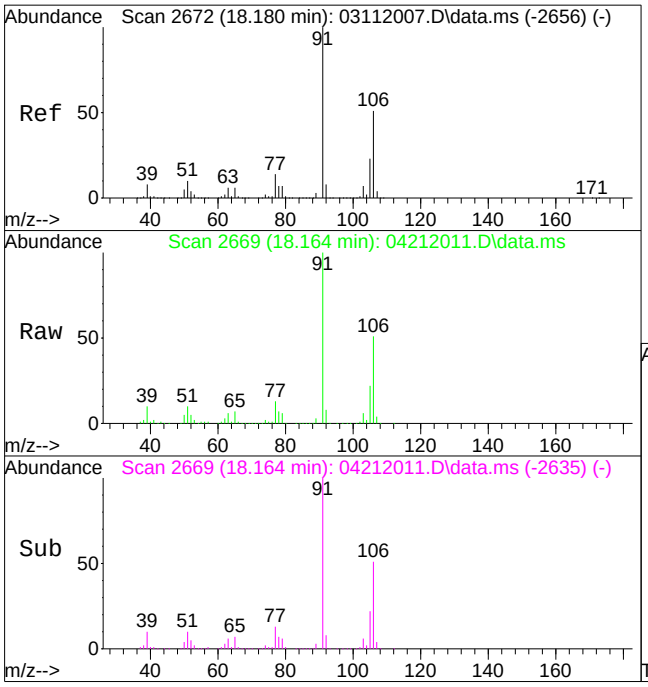


#66
Ethylbenzene
Concen: 0.81 ng
RT: 18.01 min Scan# 2641
Delta R.T. 0.000 min
Lab File: 04212011.D
Acq: 21 Apr 2020 15:00

Tgt Ion: 91 Resp: 129598

Ion	Ratio	Lower	Upper
91	100		
106	30.8	11.7	51.7

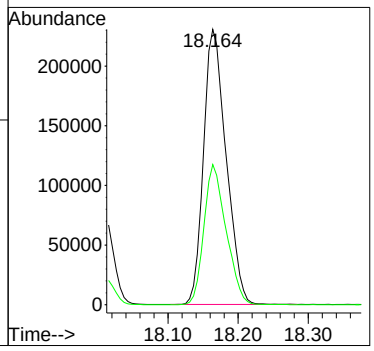


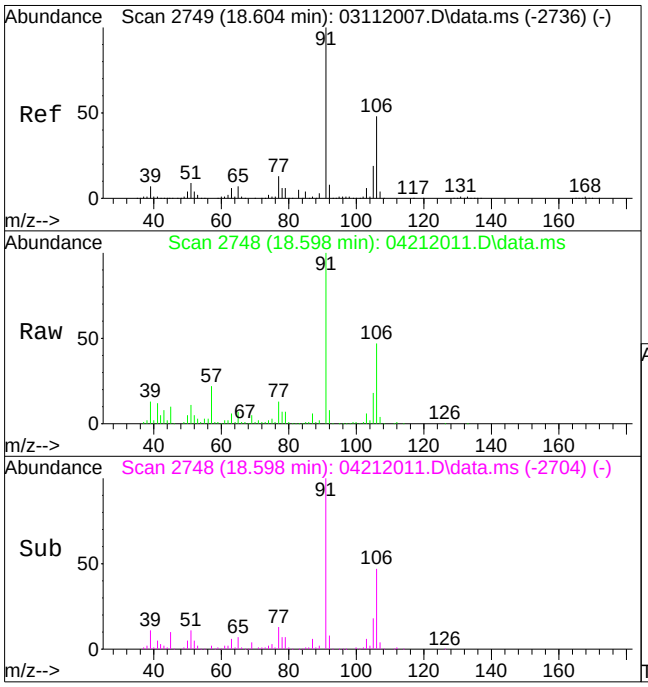


#67
m- & p-Xylenes
Concen: 3.95 ng
RT: 18.16 min Scan# 2669
Delta R.T. -0.011 min
Lab File: 04212011.D
Acq: 21 Apr 2020 15:00

Tgt Ion: 91 Resp: 516256

Ion	Ratio	Lower	Upper
91	100		
106	49.9	30.4	70.4

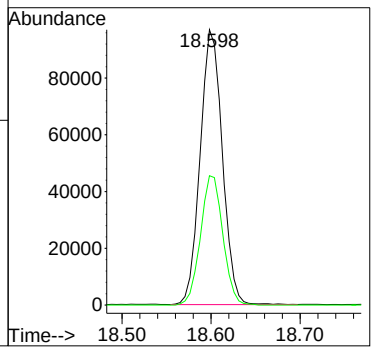


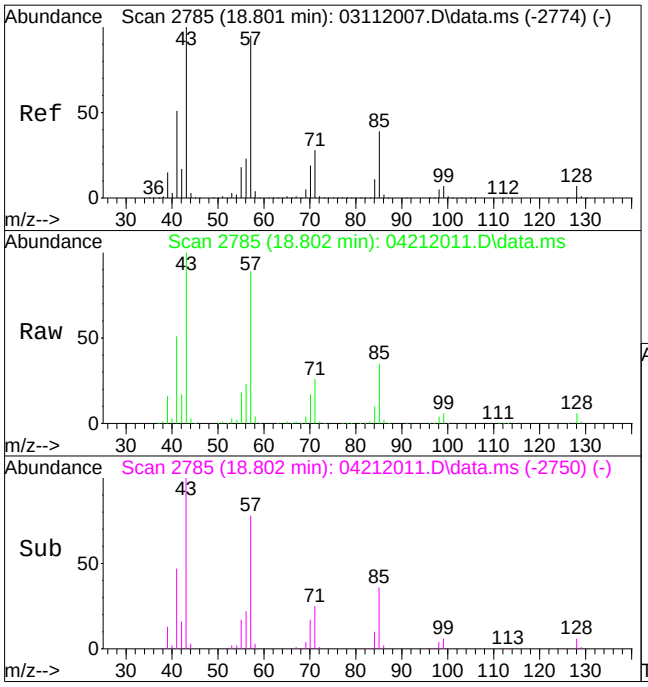


#70
o-Xylene
Concen: 1.28 ng
RT: 18.60 min Scan# 2748
Delta R.T. -0.011 min
Lab File: 04212011.D
Acq: 21 Apr 2020 15:00

Tgt Ion: 91 Resp: 167868

Ion	Ratio	Lower	Upper
91	100		
106	47.3	28.1	68.1

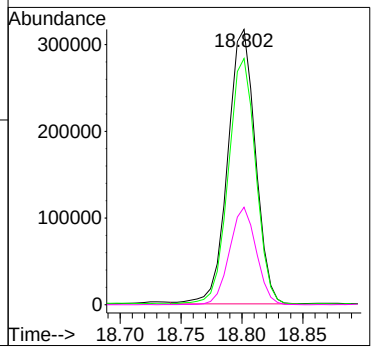


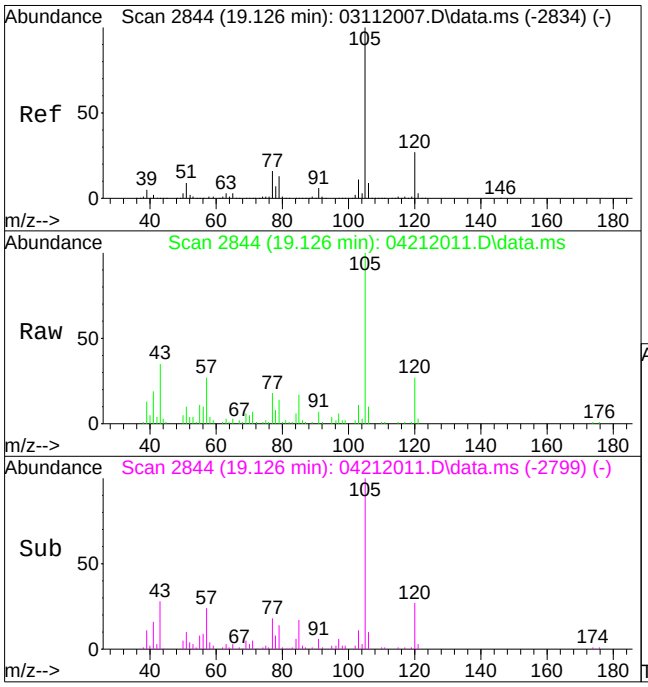


#71
n-Nonane
Concen: 7.67 ng
RT: 18.80 min Scan# 2785
Delta R.T. -0.005 min
Lab File: 04212011.D
Acq: 21 Apr 2020 15:00

Tgt Ion: 43 Resp: 501419

Ion	Ratio	Lower	Upper
43	100		
57	88.4	73.6	113.6
85	34.4	18.7	58.7

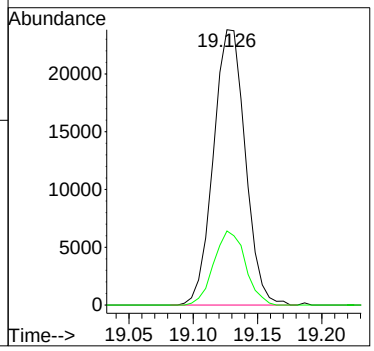


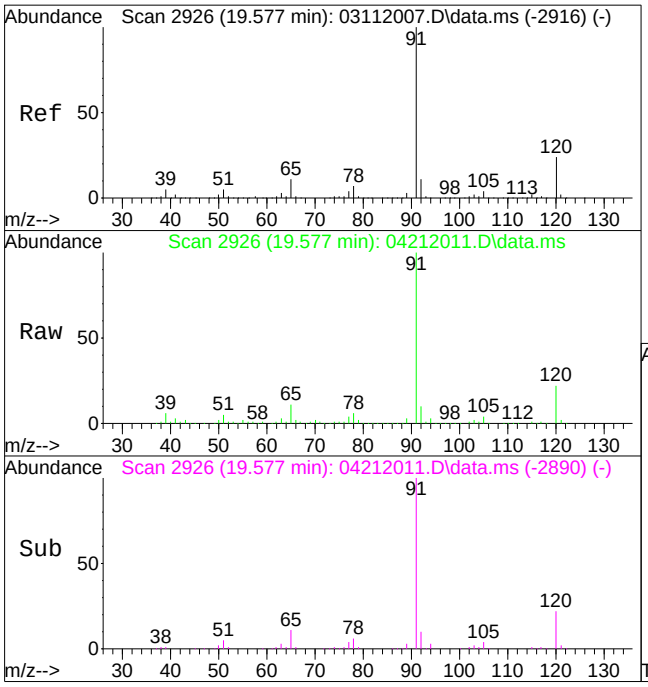


#74
Cumene
Concen: 0.25 ng
RT: 19.13 min Scan# 2844
Delta R.T. 0.000 min
Lab File: 04212011.D
Acq: 21 Apr 2020 15:00

Tgt Ion:105 Resp: 41125

Ion	Ratio	Lower	Upper
105	100		
120	26.6	7.2	47.2

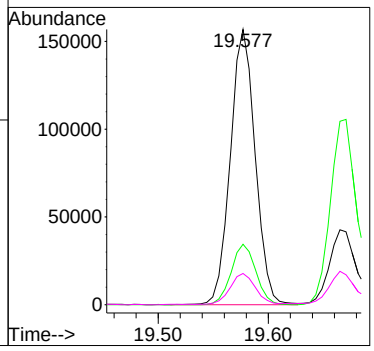


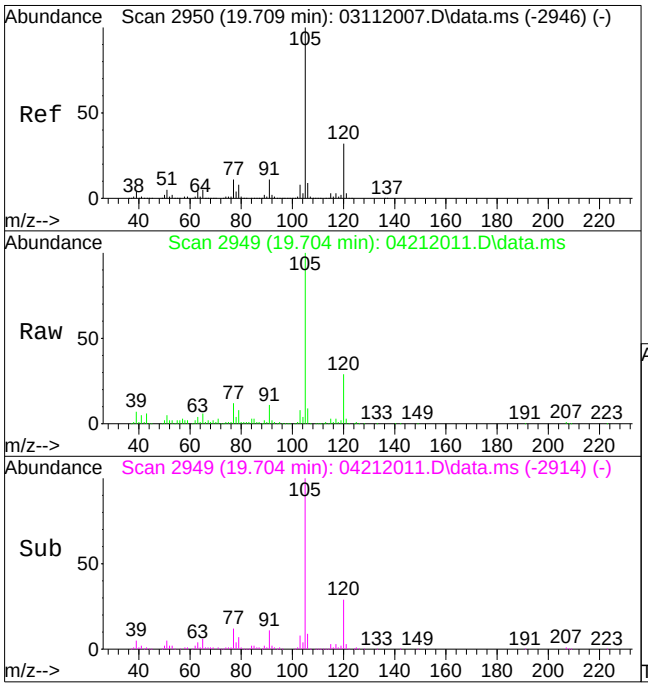


#76
n-Propylbenzene
Concen: 1.28 ng
RT: 19.58 min Scan# 2926
Delta R.T. 0.000 min
Lab File: 04212011.D
Acq: 21 Apr 2020 15:00

Tgt Ion: 91 Resp: 246204

Ion	Ratio	Lower	Upper
91	100		
120	21.8	3.9	43.9
65	11.4	0.0	30.5

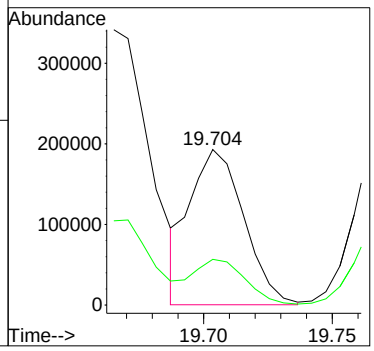


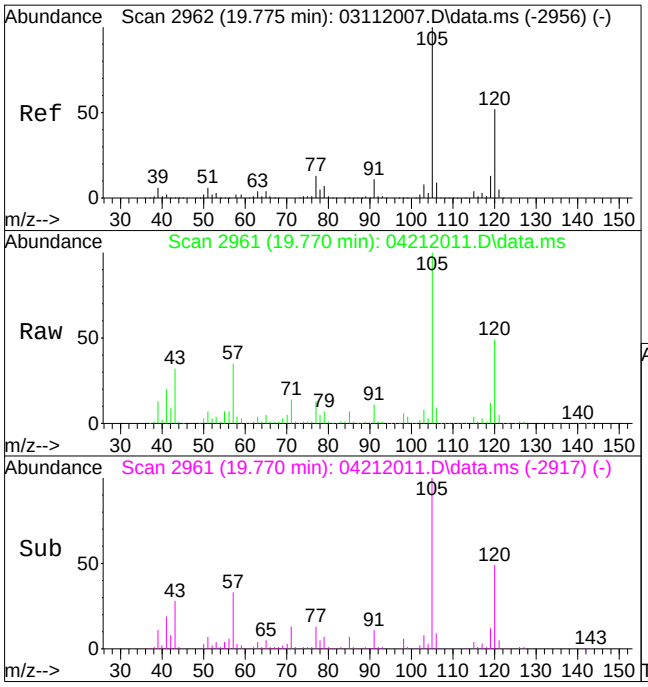


#78
4-Ethyltoluene
Concen: 1.80 ng
RT: 19.70 min Scan# 2949
Delta R.T. -0.005 min
Lab File: 04212011.D
Acq: 21 Apr 2020 15:00

Tgt Ion:105 Resp: 281995

Ion	Ratio	Lower	Upper
105	100		
120	26.2	11.1	51.1

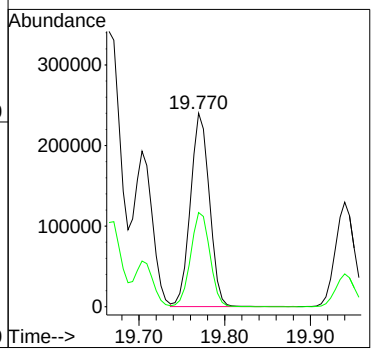


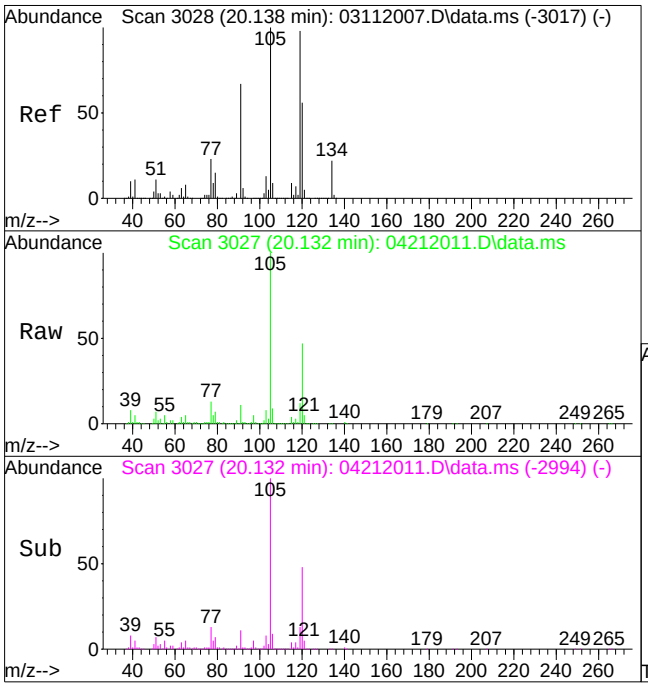


#79
1,3,5-Trimethylbenzene
Concen: 2.65 ng
RT: 19.77 min Scan# 2961
Delta R.T. -0.005 min
Lab File: 04212011.D
Acq: 21 Apr 2020 15:00

Tgt Ion:105 Resp: 369704

Ion	Ratio	Lower	Upper
105	100		
120	49.5	31.3	71.3

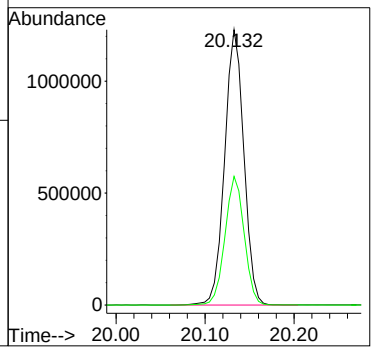


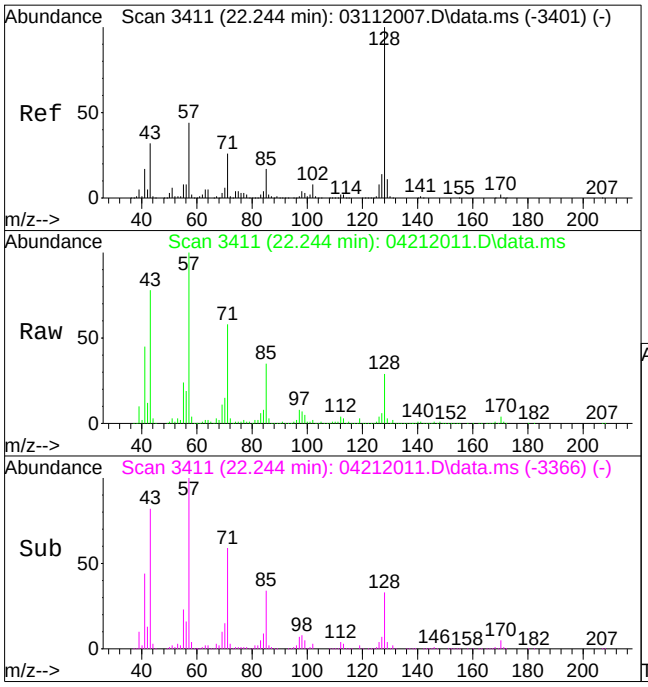


#82
1,2,4-Trimethylbenzene
Concen: 12.74 ng
RT: 20.13 min Scan# 3027
Delta R.T. -0.017 min
Lab File: 04212011.D
Acq: 21 Apr 2020 15:00

Tgt Ion:105 Resp: 1843456

Ion	Ratio	Lower	Upper
105	100		
120	46.8	35.8	75.8

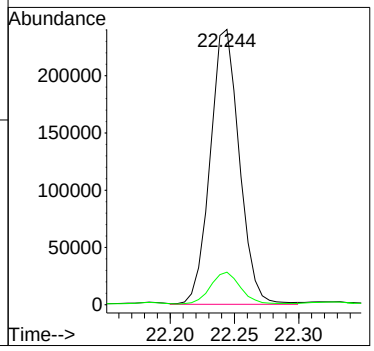




#95
Naphthalene
Concen: 2.34 ng
RT: 22.24 min Scan# 3411
Delta R.T. -0.005 min
Lab File: 04212011.D
Acq: 21 Apr 2020 15:00

Tgt Ion:128 Resp: 378620

Ion	Ratio	Lower	Upper
128	100		
129	12.5	0.0	31.1



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212016.D Vial: 5
Acq On : 21 Apr 2020 18:06 Operator: WA
Sample : P2002031-017 (160mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 18:50:27 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/22/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	303358	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.29	114	1333373	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	650728	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	522040	12.428	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.44%				
57) Toluene-d8 (SS2)	15.74	98	1375891	11.929	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.44%				
73) Bromofluorobenzene (SS3)	19.00	174	470109	11.542	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.32%				
Target Compounds							Qvalue
2) Propene	4.10	42	109230	3.433	ng	#	80
3) Dichlorodifluoromethan...	4.27	85	4395	0.064	ng	#	96
4) Chloromethane	4.55	50	13146	0.243	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	12077	0.277	ng		99
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.16	54	493	N.D.			
8) Bromomethane	5.67	94	2681	0.094	ng		99
9) Chloroethane	6.00	64	628	N.D.			
10) Ethanol	6.33	45	694951	27.638	ng		100
11) Acetonitrile	6.61	41	6223	0.112	ng		96
12) Acrolein	6.81	56	3269	0.177	ng		94
13) Acetone	7.00	58	142338m	5.736	ng		
14) Trichlorofluoromethane	7.26	101	73315	1.215	ng		100
15) 2-Propanol (Isopropanol)	7.48	45	1895715	25.758	ng		99
16) Acrylonitrile	0.00	53	0	N.D. d			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d			
19) Methylene Chloride	8.44	84	17744	0.550	ng		95
20) 3-Chloro-1-propene (Al...	8.62	41	115	N.D.			
21) Trichlorotrifluoroethane	8.87	151	104	N.D.			
22) Carbon Disulfide	8.72	76	26273	0.226	ng		97
23) trans-1,2-Dichloroethene	9.73	61	285	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D. d			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D. d			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	10.48	72	26775	1.296	ng	#	90
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D. d			
30) Ethyl Acetate	11.29	61	135563	11.102	ng		91
31) n-Hexane	11.29	57	23769	0.420	ng		97
32) Chloroform	11.33	83	2508	N.D.			
34) Tetrahydrofuran (THF)	11.77	72	2500	0.118	ng	#	44
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.14	62	887	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	12.87	61	988	N.D.			
40) 1-Butanol	0.00	56	0	N.D. d			
41) Benzene	12.90	78	49954	0.362	ng		99
42) Carbon Tetrachloride	13.07	117	490	N.D.			
43) Cyclohexane	13.20	84	46888	0.886	ng		93
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	13.76	63	255	N.D.			
46) Bromodichloromethane	13.98	83	1167	N.D.			
47) Trichloroethene	14.00	130	3551	0.091	ng		98
48) 1,4-Dioxane	14.01	88	497	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d			
50) Methyl Methacrylate	14.22	100	371	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212016.D Vial: 5
Acq On : 21 Apr 2020 18:06 Operator: WA
Sample : P2002031-017 (160mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 18:50:27 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

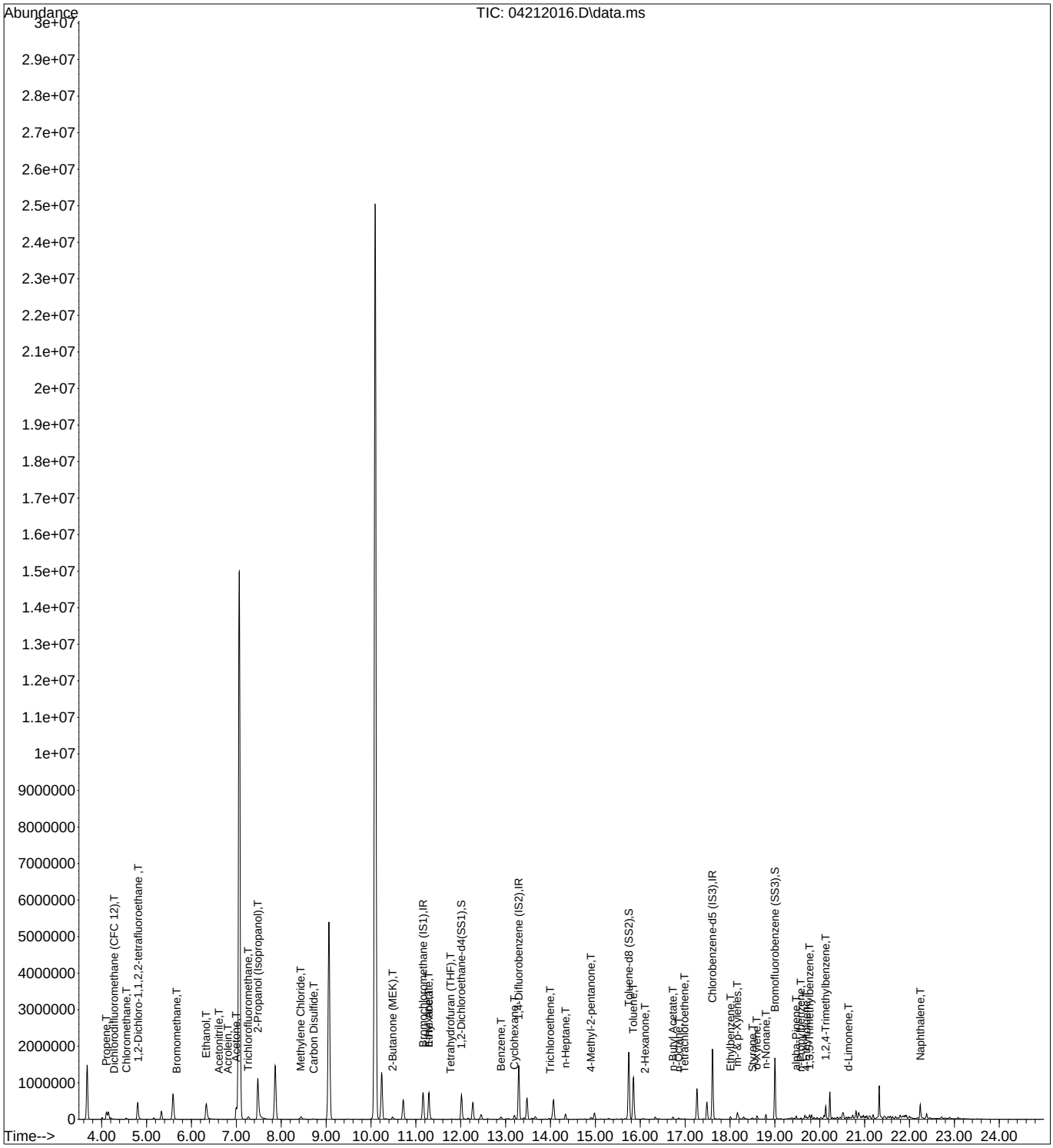
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.34	71	36923	1.147 ng	95
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.90	58	16124	0.558 ng	91
54) trans-1,3-Dichloropropene	15.17	75	498	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.84	91	784456	5.501 ng	100
59) 2-Hexanone	16.11	43	6819	0.096 ng	76
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.73	43	56699	0.743 ng	99
63) n-Octane	16.85	57	6529	0.231 ng	93
64) Tetrachloroethene	16.99	166	4100	0.103 ng	99
65) Chlorobenzene	17.65	112	1530	N.D.	
66) Ethylbenzene	18.01	91	54068	0.346 ng	99
67) m- & p-Xylenes	18.16	91	138539	1.089 ng	98
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.50	104	15446	0.155 ng	97
70) o-Xylene	18.60	91	52160	0.410 ng	98
71) n-Nonane	18.80	43	45709	0.719 ng	94
72) 1,1,2,2-Tetrachloroethane	18.61	83	222	N.D.	
74) Cumene	19.13	105	6817	N.D.	
75) alpha-Pinene	19.48	93	31875	0.391 ng	92
76) n-Propylbenzene	19.58	91	26905	0.143 ng	93
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.70	105	25922	0.170 ng	100
79) 1,3,5-Trimethylbenzene	19.77	105	39900	0.293 ng	95
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.13	105	175426	1.245 ng	87
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.34	91	5431	N.D.	
85) 1,3-Dichlorobenzene	20.33	146	277	N.D.	
86) 1,4-Dichlorobenzene	20.33	146	277	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.64	68	12904	0.237 ng	97
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.14	180	138	N.D.	
95) Naphthalene	22.24	128	20968	0.133 ng	96
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212016.D Vial: 5
Acq On : 21 Apr 2020 18:06 Operator: WA
Sample : P2002031-017 (160mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 18:50:27 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212016.D Vial: 5
Acq On : 21 Apr 2020 18:06 Operator: WA
Sample : P2002031-017 (160mL) Inst : GCMS-16
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Quant Time: Apr 22 18:50:27 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/22/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	303358	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.29	114	1333373	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	650728	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	522040	12.428	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.44%				
57) Toluene-d8 (SS2)	15.74	98	1375891	11.929	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.44%				
73) Bromofluorobenzene (SS3)	19.00	174	470109	11.542	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.32%				
Target Compounds							Qvalue
2) Propene	4.10	42	109230	3.433	ng	#	80
3) Dichlorodifluoromethan...	4.27	85	4395	0.064	ng	#	96
4) Chloromethane	4.55	50	13146	0.243	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	12077	0.277	ng		99
8) Bromomethane	5.67	94	2681	0.094	ng		99
10) Ethanol	6.33	45	694951	27.638	ng		100
11) Acetonitrile	6.61	41	6223	0.112	ng		96
12) Acrolein	6.81	56	3269	0.177	ng		94
13) Acetone	7.00	58	142338m	5.736	ng		
14) Trichlorofluoromethane	7.26	101	73315	1.215	ng		100
15) 2-Propanol (Isopropanol)	7.48	45	1895715	25.758	ng		99
19) Methylene Chloride	8.44	84	17744	0.550	ng		95
22) Carbon Disulfide	8.72	76	26273	0.226	ng		97
27) 2-Butanone (MEK)	10.48	72	26775	1.296	ng	#	90
30) Ethyl Acetate	11.29	61	135563	11.102	ng		91
31) n-Hexane	11.29	57	23769	0.420	ng		97
34) Tetrahydrofuran (THF)	11.77	72	2500	0.118	ng	#	44
41) Benzene	12.90	78	49954	0.362	ng		99
43) Cyclohexane	13.20	84	46888	0.886	ng		93
47) Trichloroethene	14.00	130	3551	0.091	ng		98
51) n-Heptane	14.34	71	36923	1.147	ng		95
53) 4-Methyl-2-pentanone	14.90	58	16124	0.558	ng		91
58) Toluene	15.84	91	784456	5.501	ng		100
59) 2-Hexanone	16.11	43	6819	0.096	ng		76
62) n-Butyl Acetate	16.73	43	56699	0.743	ng		99
63) n-Octane	16.85	57	6529	0.231	ng		93
64) Tetrachloroethene	16.99	166	4100	0.103	ng		99
66) Ethylbenzene	18.01	91	54068	0.346	ng		99
67) m- & p-Xylenes	18.16	91	138539	1.089	ng		98
69) Styrene	18.50	104	15446	0.155	ng		97
70) o-Xylene	18.60	91	52160	0.410	ng		98
71) n-Nonane	18.80	43	45709	0.719	ng		94
75) alpha-Pinene	19.48	93	31875	0.391	ng		92
76) n-Propylbenzene	19.58	91	26905	0.143	ng		93
78) 4-Ethyltoluene	19.70	105	25922	0.170	ng		100
79) 1,3,5-Trimethylbenzene	19.77	105	39900	0.293	ng		95
82) 1,2,4-Trimethylbenzene	20.13	105	175426	1.245	ng		87
91) d-Limonene	20.64	68	12904	0.237	ng		97
95) Naphthalene	22.24	128	20968	0.133	ng		96

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Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212016.D Vial: 5
Acq On : 21 Apr 2020 18:06 Operator: WA
Sample : P2002031-017 (160mL) Inst : GCMS-16
Misc : S31-02112001

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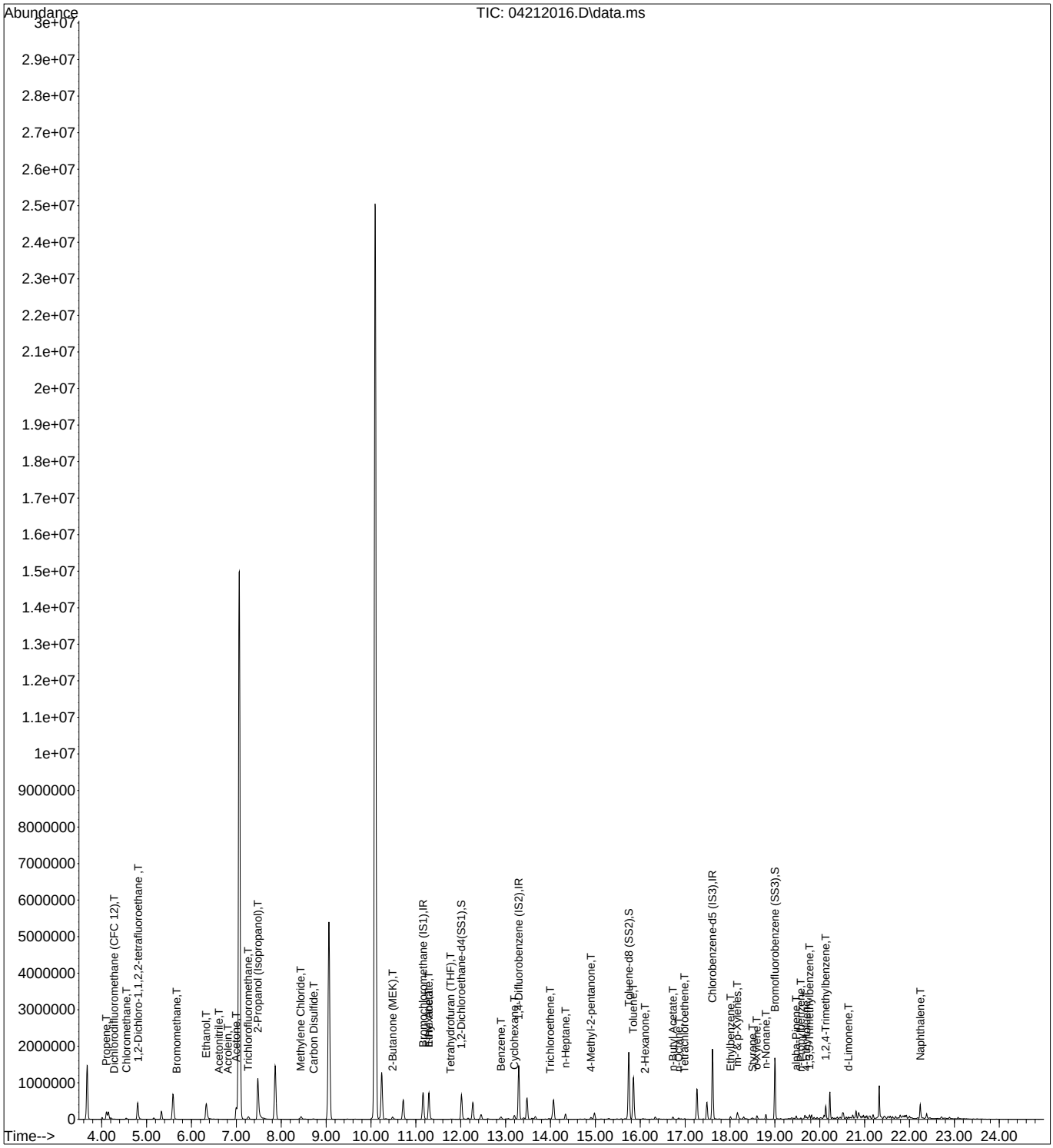
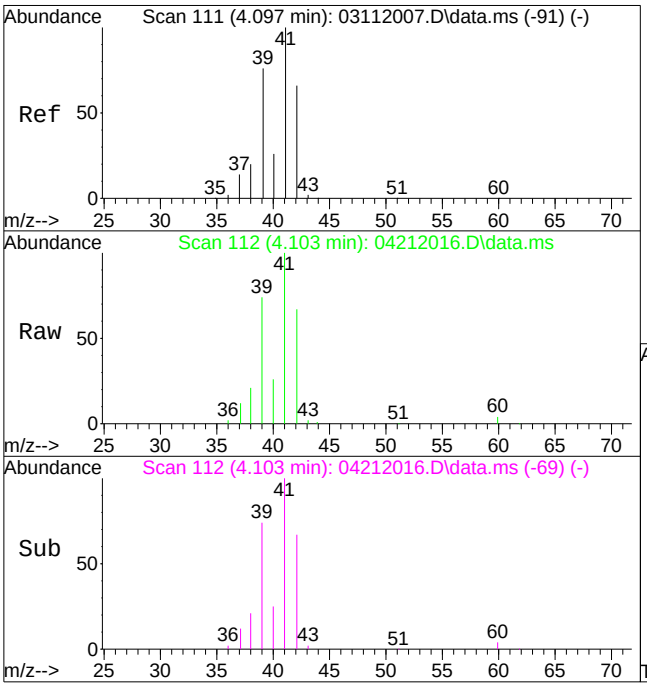
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

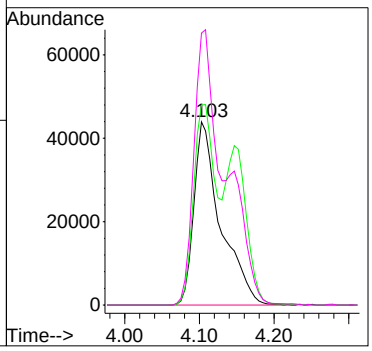


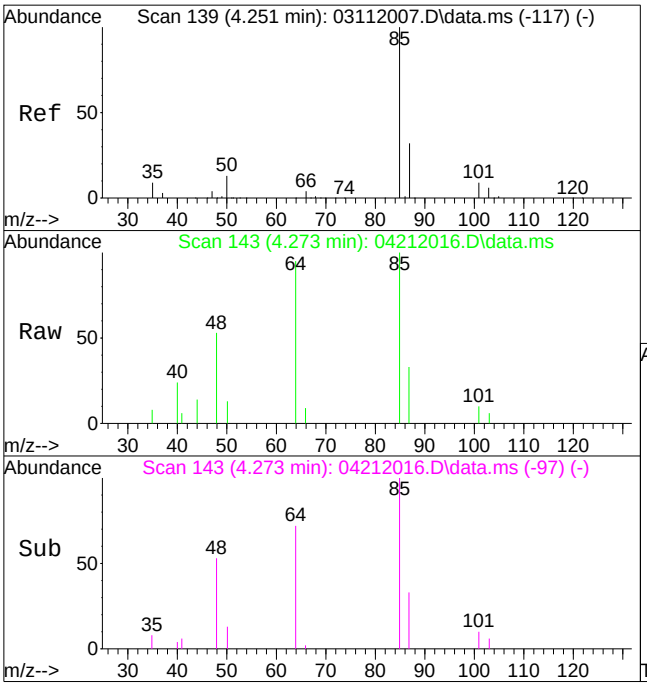


#2
Propene
Concen: 3.43 ng
RT: 4.10 min Scan# 112
Delta R.T. -0.011 min
Lab File: 04212016.D
Acq: 21 Apr 2020 18:06

Tgt Ion: 42 Resp: 109230

Ion	Ratio	Lower	Upper
42	100		
39	91.5	95.3	135.3#
41	175.4	132.0	172.0#

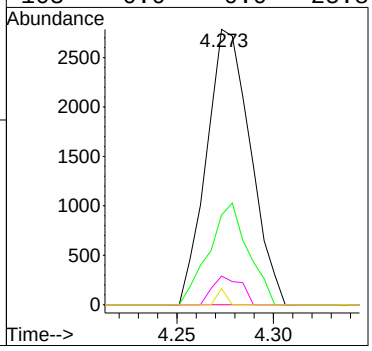


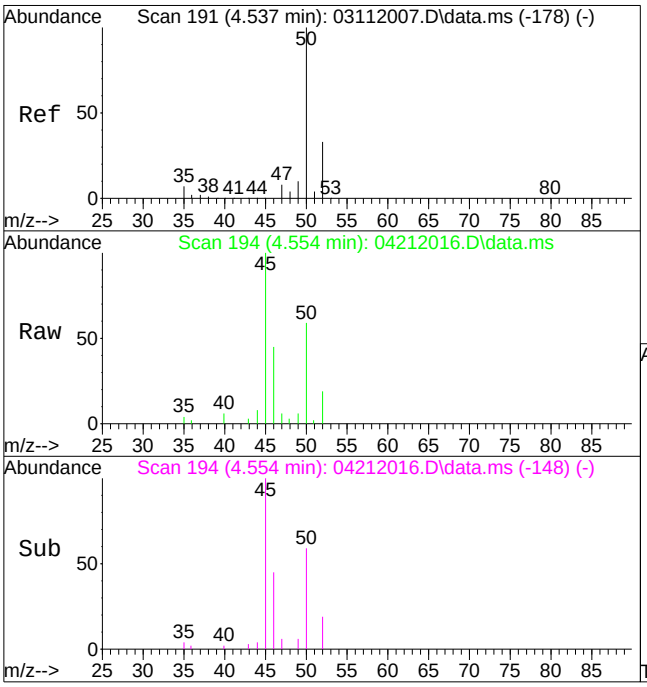


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.06 ng
RT: 4.27 min Scan# 143
Delta R.T. 0.005 min
Lab File: 04212016.D
Acq: 21 Apr 2020 18:06

Tgt Ion: 85 Resp: 4395

Ion	Ratio	Lower	Upper
85	100		
87	33.1	12.3	52.3
101	6.8	0.0	29.0
103	0.0	0.0	25.8

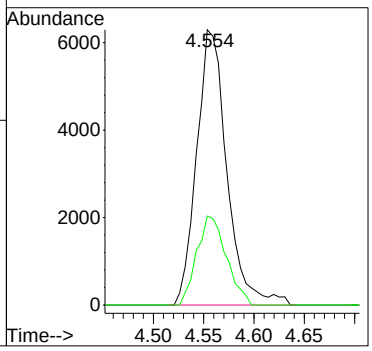


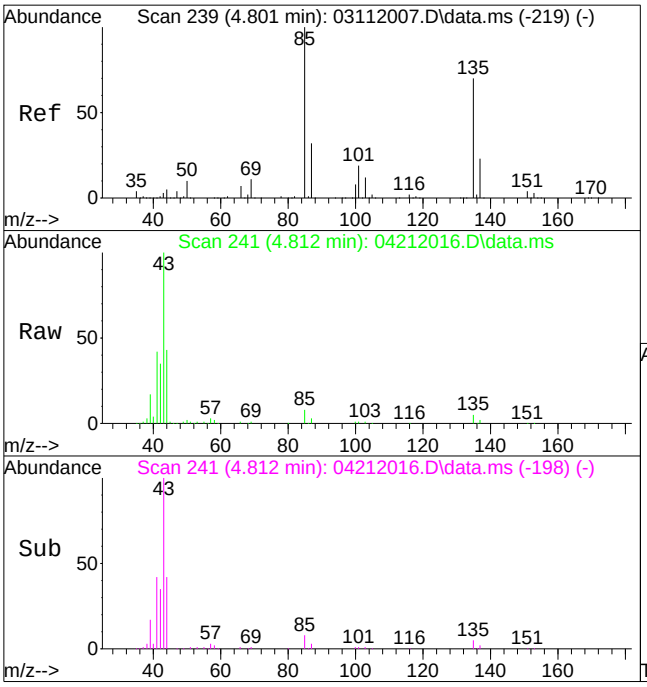


#4
Chloromethane
Concen: 0.24 ng
RT: 4.55 min Scan# 194
Delta R.T. 0.001 min
Lab File: 04212016.D
Acq: 21 Apr 2020 18:06

Tgt Ion: 50 Resp: 13146

Ion	Ratio	Lower	Upper
50	100		
52	31.5	12.8	52.8

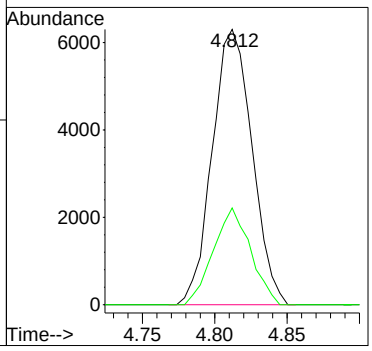


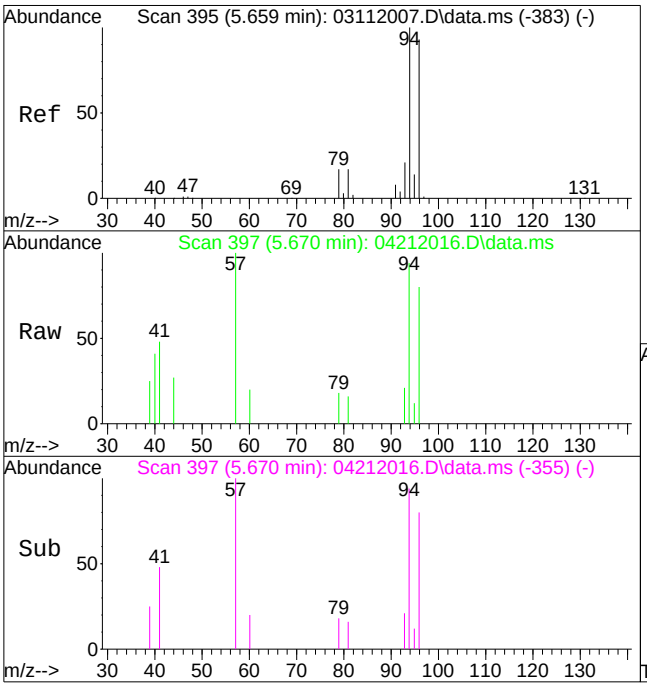


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 0.28 ng
RT: 4.81 min Scan# 241
Delta R.T. -0.011 min
Lab File: 04212016.D
Acq: 21 Apr 2020 18:06

Tgt Ion:135 Resp: 12077

Ion	Ratio	Lower	Upper
135	100		
137	32.7	12.3	52.3

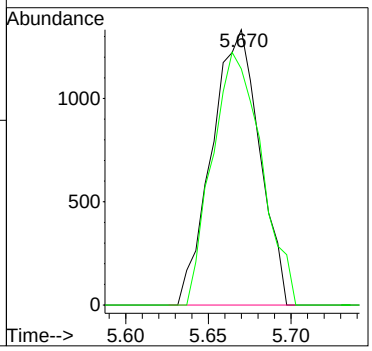


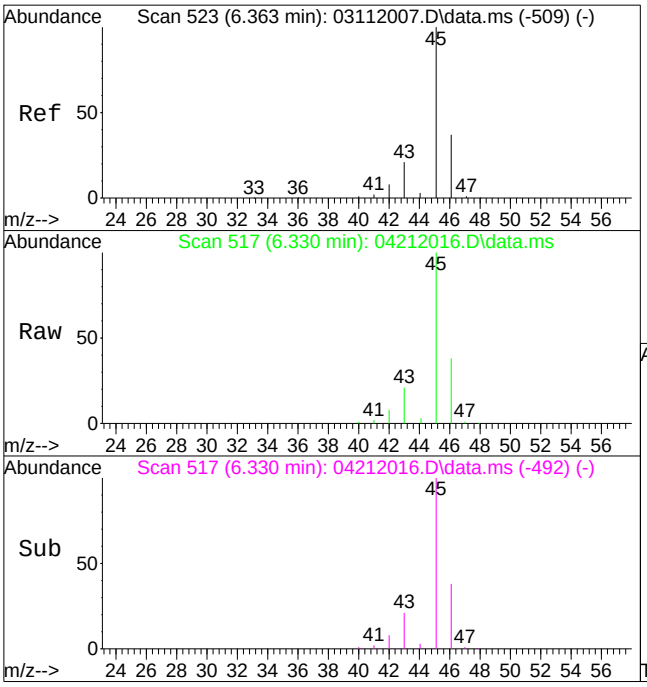


#8
Bromomethane
Concen: 0.09 ng
RT: 5.67 min Scan# 397
Delta R.T. -0.016 min
Lab File: 04212016.D
Acq: 21 Apr 2020 18:06

Tgt Ion: 94 Resp: 2681

Ion	Ratio	Lower	Upper
94	100		
96	94.6	73.8	113.8

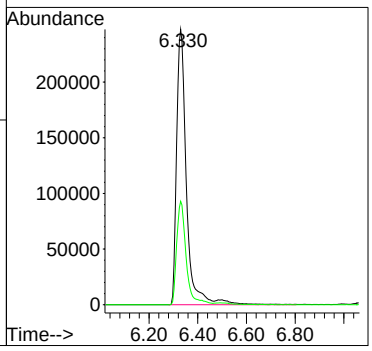


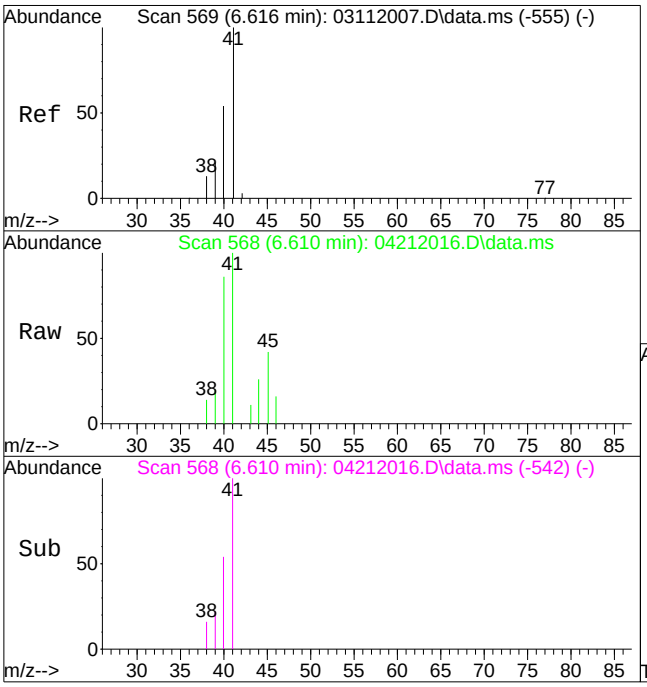


#10
Ethanol
Concen: 27.64 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.110 min
Lab File: 04212016.D
Acq: 21 Apr 2020 18:06

Tgt Ion: 45 Resp: 694951

Ion	Ratio	Lower	Upper
45	100		
46	37.3	17.3	57.3

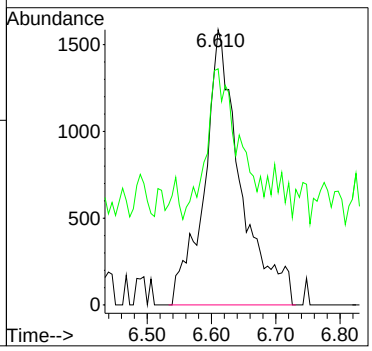


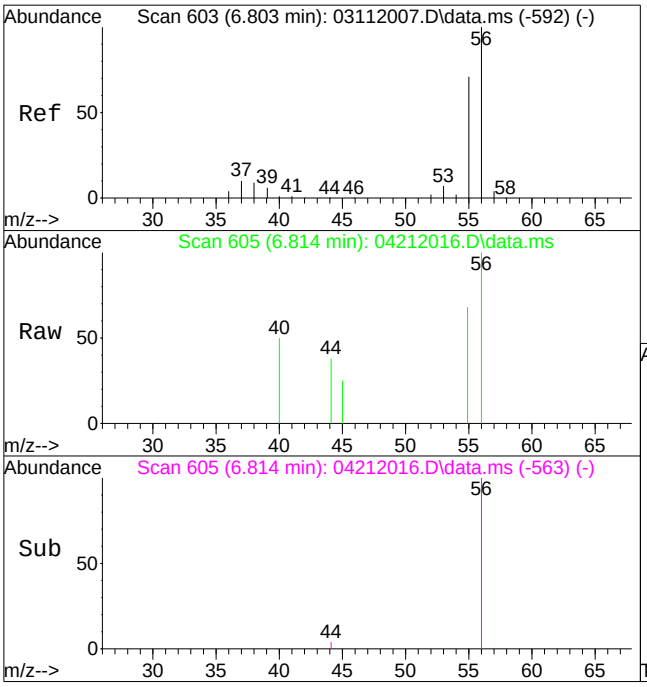


#11
Acetonitrile
Concen: 0.11 ng
RT: 6.61 min Scan# 568
Delta R.T. -0.055 min
Lab File: 04212016.D
Acq: 21 Apr 2020 18:06

Tgt Ion: 41 Resp: 6223

Ion	Ratio	Lower	Upper
41	100		
40	56.5	33.6	73.6

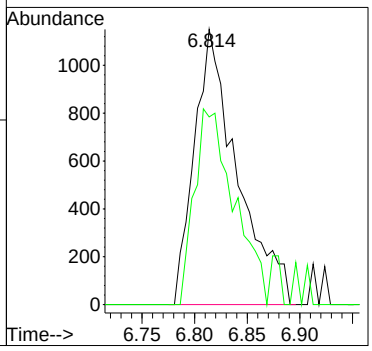


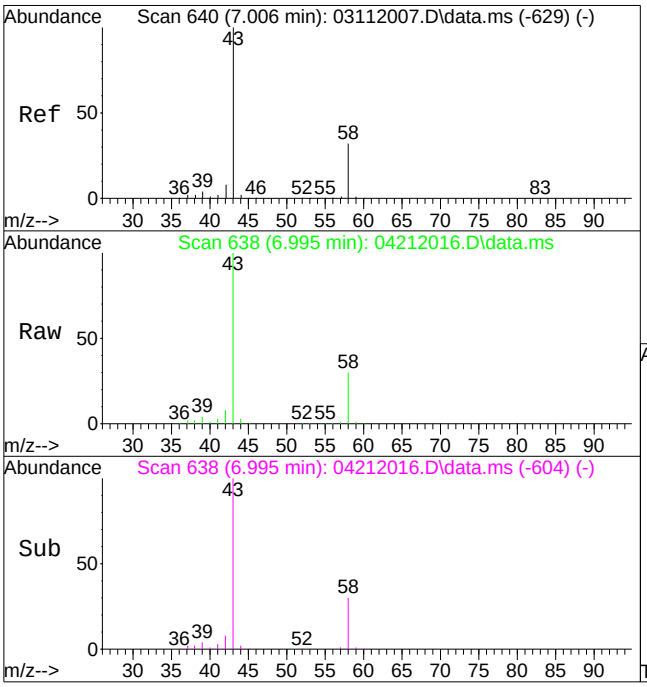


#12
Acrolein
Concen: 0.18 ng
RT: 6.81 min Scan# 605
Delta R.T. -0.016 min
Lab File: 04212016.D
Acq: 21 Apr 2020 18:06

Tgt Ion: 56 Resp: 3269

Ion	Ratio	Lower	Upper
56	100		
55	65.6	50.4	90.4

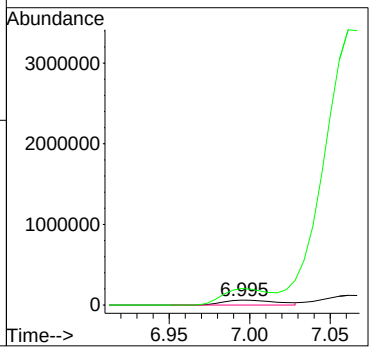


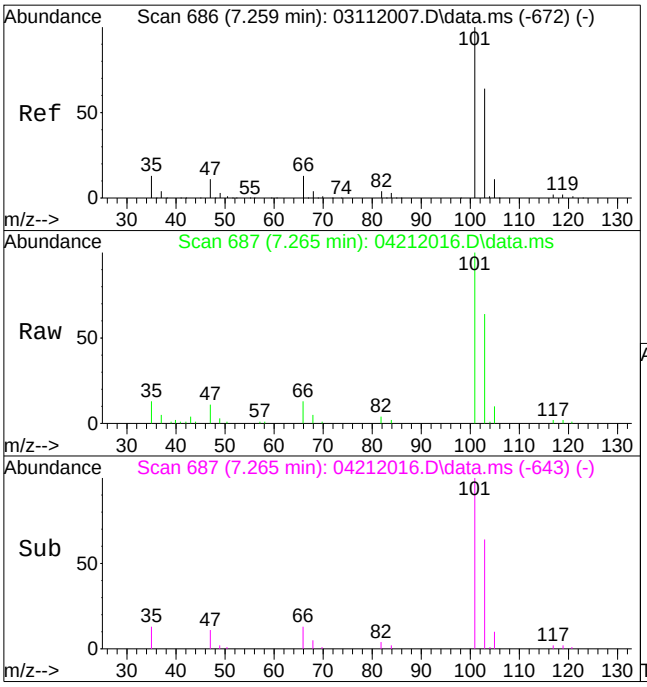


#13
Acetone
Concen: 5.74 ng m
RT: 7.00 min Scan# 638
Delta R.T. -0.061 min
Lab File: 04212016.D
Acq: 21 Apr 2020 18:06

Tgt Ion: 58 Resp: 142338

Ion	Ratio	Lower	Upper
58	100		
43	5906.6	287.3	347.3#

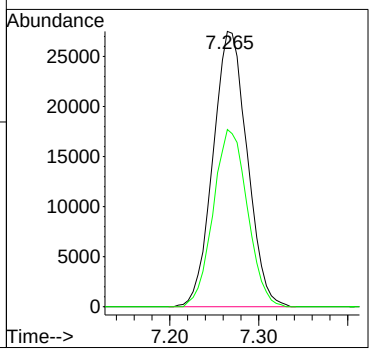


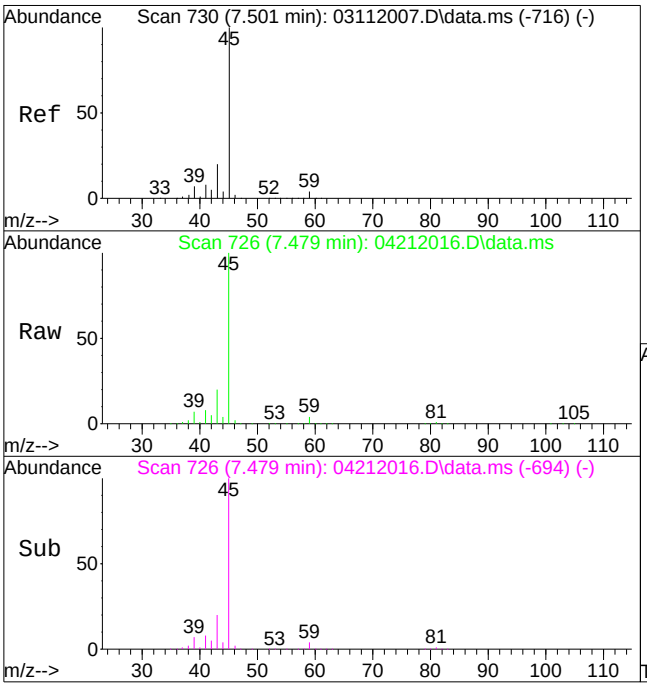


#14
Trichlorofluoromethane
Concen: 1.21 ng
RT: 7.26 min Scan# 687
Delta R.T. -0.010 min
Lab File: 04212016.D
Acq: 21 Apr 2020 18:06

Tgt Ion:101 Resp: 73315

Ion	Ratio	Lower	Upper
101	100		
103	64.3	44.6	84.6

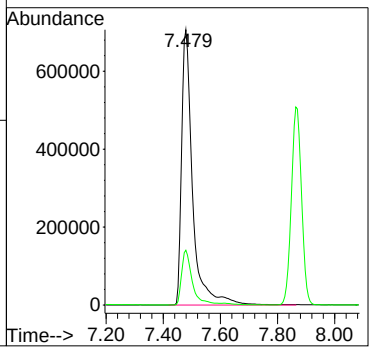


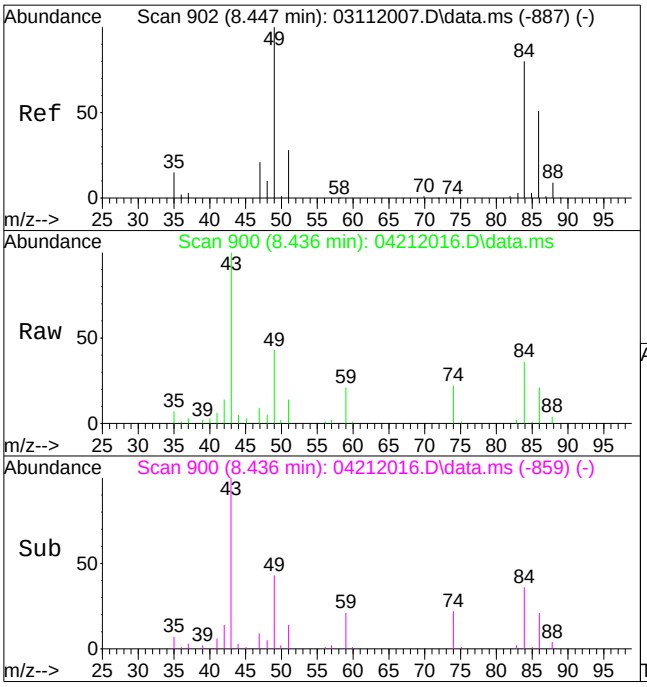


#15
2-Propanol (Isopropanol)
Concen: 25.76 ng
RT: 7.48 min Scan# 726
Delta R.T. -0.071 min
Lab File: 04212016.D
Acq: 21 Apr 2020 18:06

Tgt Ion: 45 Resp: 1895715

Ion	Ratio	Lower	Upper
45	100		
43	20.0	0.3	40.3

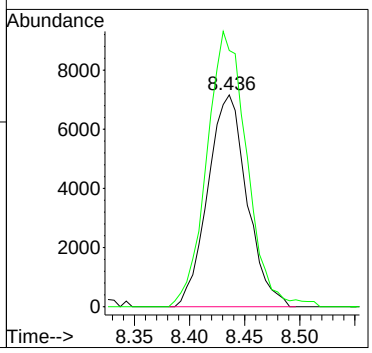


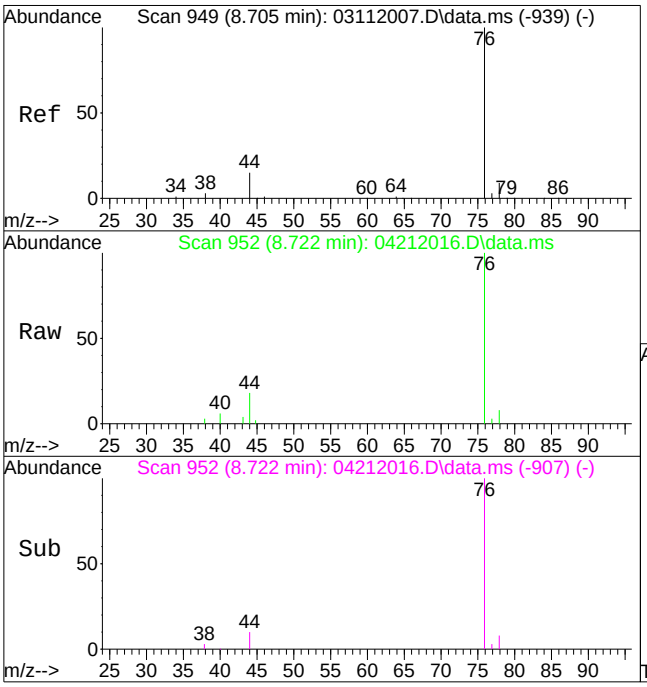


#19
Methylene Chloride
Concen: 0.55 ng
RT: 8.44 min Scan# 900
Delta R.T. -0.027 min
Lab File: 04212016.D
Acq: 21 Apr 2020 18:06

Tgt Ion: 84 Resp: 17744

Ion	Ratio	Lower	Upper
84	100		
49	132.9	102.2	152.2

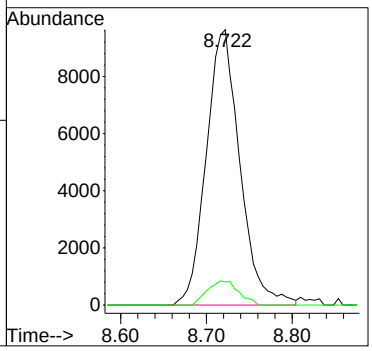


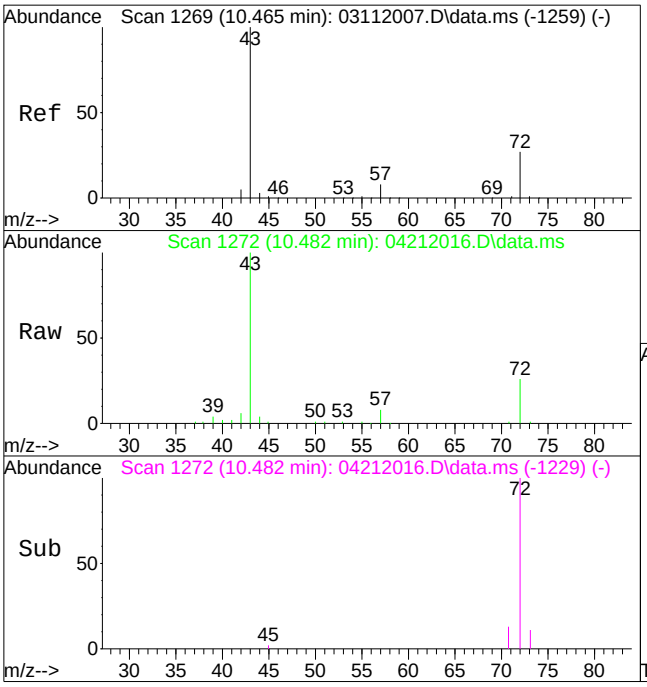


#22
Carbon Disulfide
Concen: 0.23 ng
RT: 8.72 min Scan# 952
Delta R.T. 0.000 min
Lab File: 04212016.D
Acq: 21 Apr 2020 18:06

Tgt Ion: 76 Resp: 26273

Ion	Ratio	Lower	Upper
76	100		
78	8.1	0.0	29.2

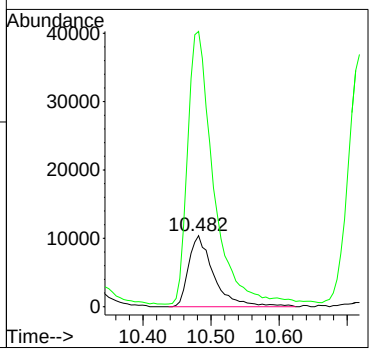


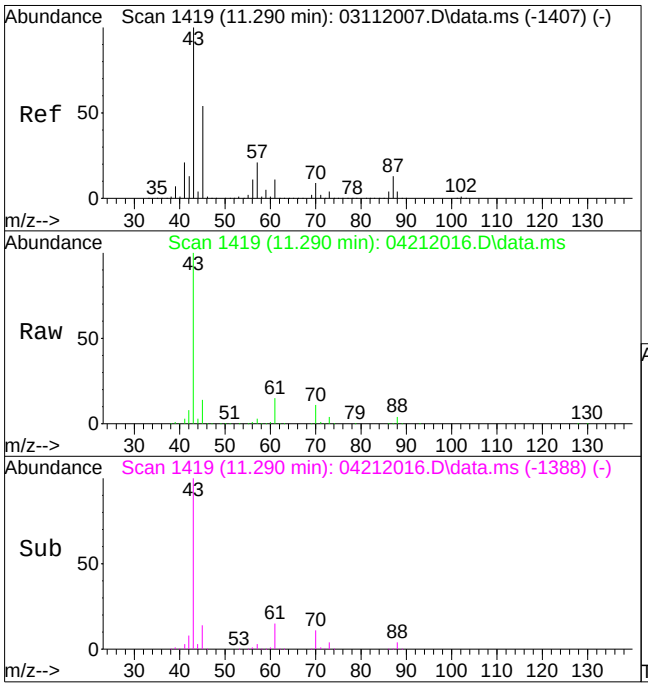


#27
2-Butanone (MEK)
Concen: 1.30 ng
RT: 10.48 min Scan# 1272
Delta R.T. -0.011 min
Lab File: 04212016.D
Acq: 21 Apr 2020 18:06

Tgt Ion: 72 Resp: 26775

Ion	Ratio	Lower	Upper
72	100		
43	396.1	353.4	393.4#

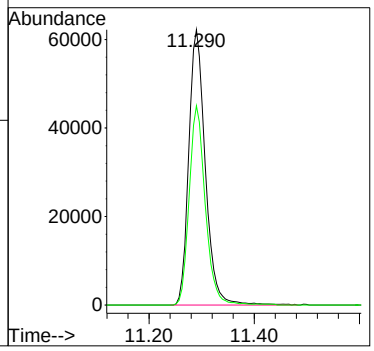


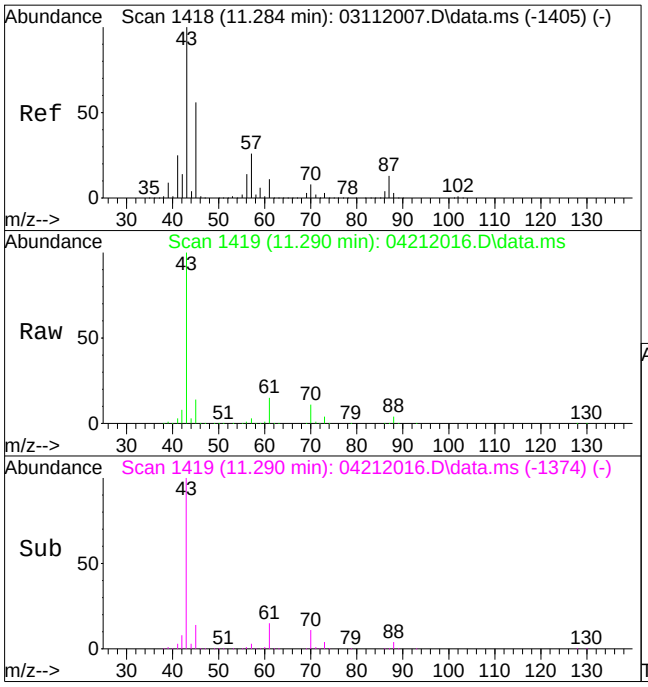


#30
Ethyl Acetate
Concen: 11.10 ng
RT: 11.29 min Scan# 1419
Delta R.T. -0.027 min
Lab File: 04212016.D
Acq: 21 Apr 2020 18:06

Tgt Ion: 61 Resp: 135563

Ion	Ratio	Lower	Upper
61	100		
70	70.8	59.1	99.1

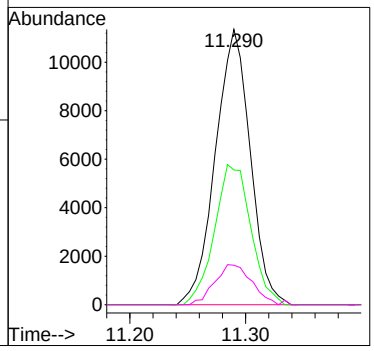


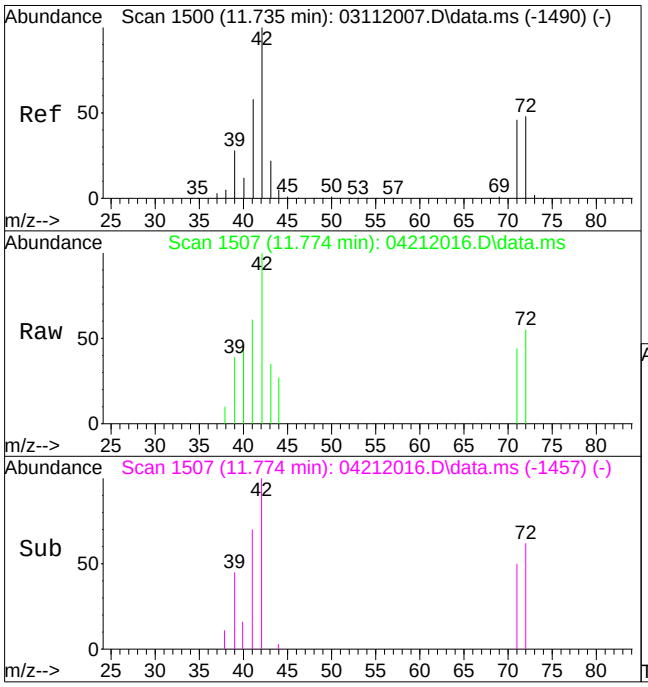


#31
n-Hexane
Concen: 0.42 ng
RT: 11.29 min Scan# 1419
Delta R.T. 0.000 min
Lab File: 04212016.D
Acq: 21 Apr 2020 18:06

Tgt Ion: 57 Resp: 23769

Ion	Ratio	Lower	Upper
57	100		
56	53.0	41.0	61.4
86	15.7	13.9	20.9

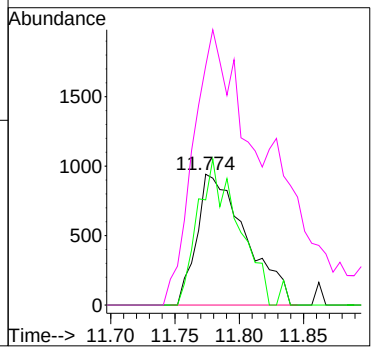


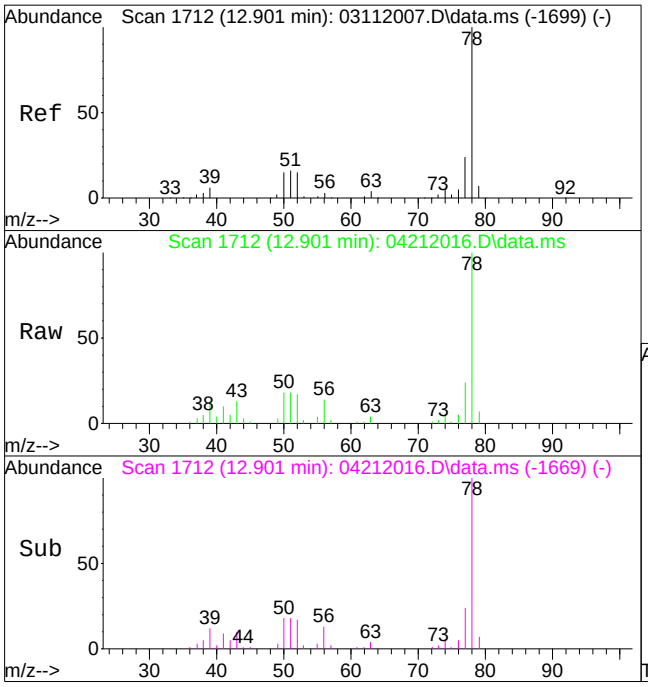


#34
Tetrahydrofuran (THF)
Concen: 0.12 ng
RT: 11.77 min Scan# 1507
Delta R.T. 0.028 min
Lab File: 04212016.D
Acq: 21 Apr 2020 18:06

Tgt Ion: 72 Resp: 2500

Ion	Ratio	Lower	Upper
72	100		
71	91.8	75.9	115.9
42	333.1	189.3	229.3#

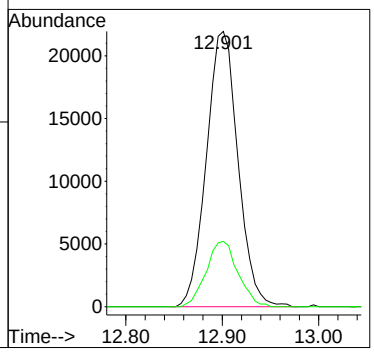


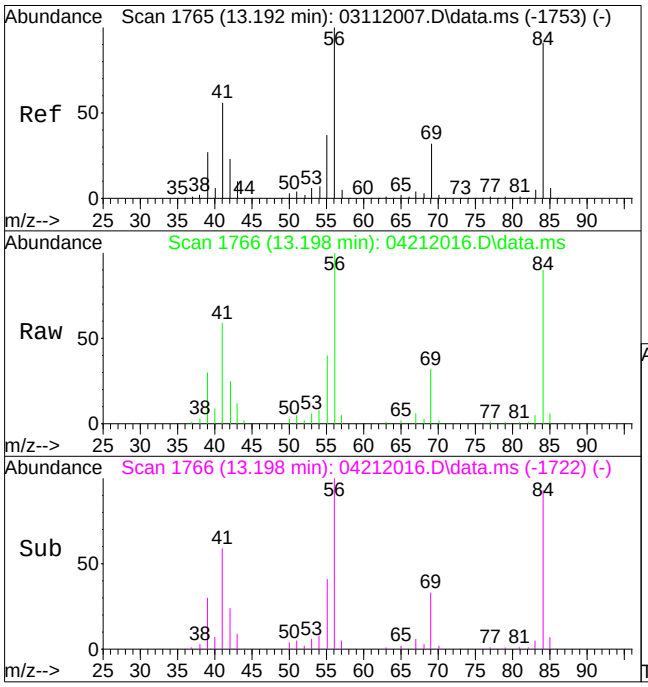


#41
Benzene
Concen: 0.36 ng
RT: 12.90 min Scan# 1712
Delta R.T. -0.011 min
Lab File: 04212016.D
Acq: 21 Apr 2020 18:06

Tgt Ion: 78 Resp: 49954

Ion	Ratio	Lower	Upper
78	100		
77	23.9	3.4	43.4

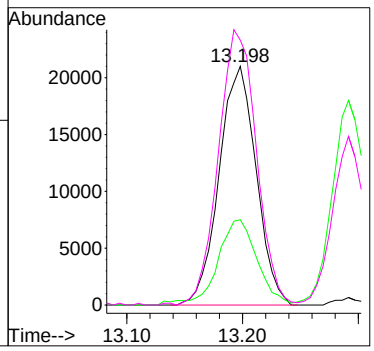


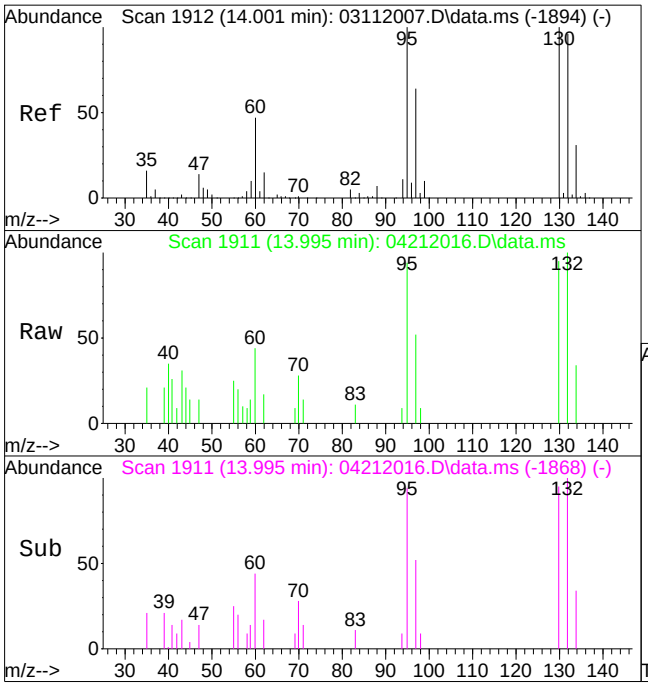


#43
Cyclohexane
Concen: 0.89 ng
RT: 13.20 min Scan# 1766
Delta R.T. -0.005 min
Lab File: 04212016.D
Acq: 21 Apr 2020 18:06

Tgt Ion: 84 Resp: 46888

Ion	Ratio	Lower	Upper
84	100		
69	37.9	15.3	55.3
56	118.4	90.5	130.5

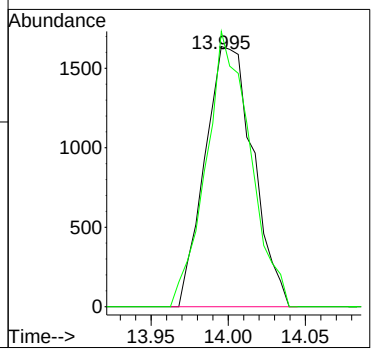


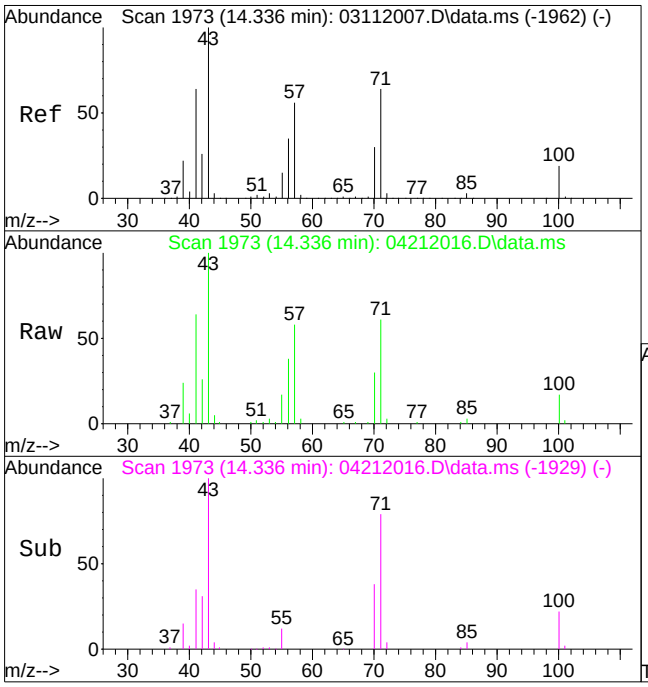


#47
Trichloroethene
Concen: 0.09 ng
RT: 14.00 min Scan# 1911
Delta R.T. -0.011 min
Lab File: 04212016.D
Acq: 21 Apr 2020 18:06

Tgt Ion:130 Resp: 3551

Ion	Ratio	Lower	Upper
130	100		
132	96.9	74.7	114.7

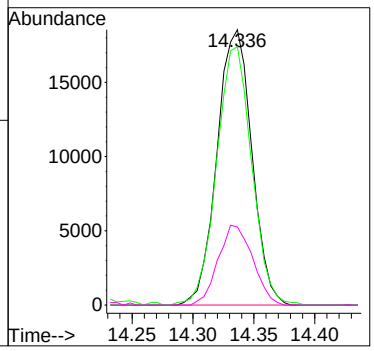


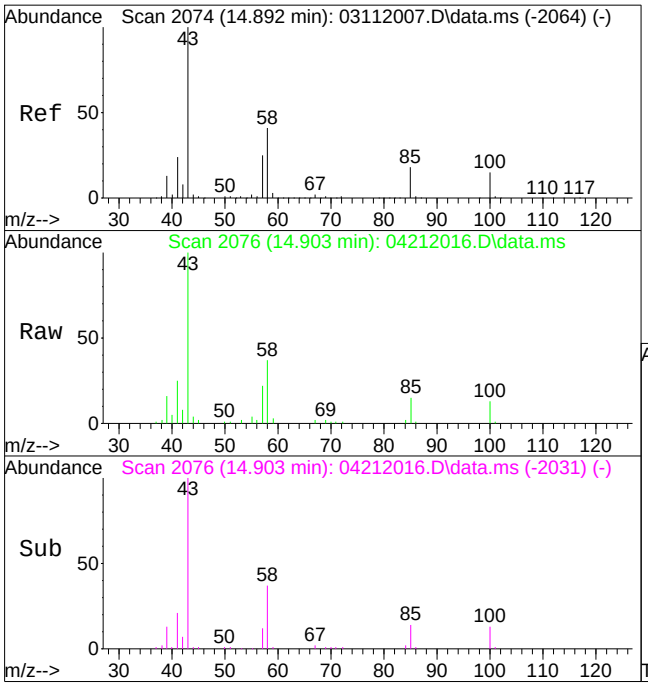


#51
n-Heptane
Concen: 1.15 ng
RT: 14.34 min Scan# 1973
Delta R.T. -0.005 min
Lab File: 04212016.D
Acq: 21 Apr 2020 18:06

Tgt Ion: 71 Resp: 36923

Ion	Ratio	Lower	Upper
71	100		
57	94.6	68.6	108.6
100	28.7	9.1	49.1

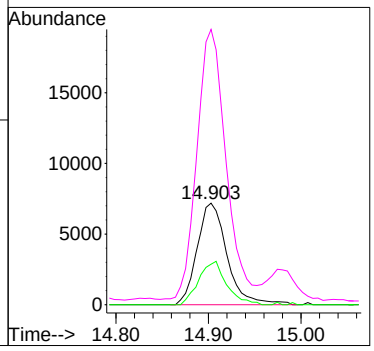


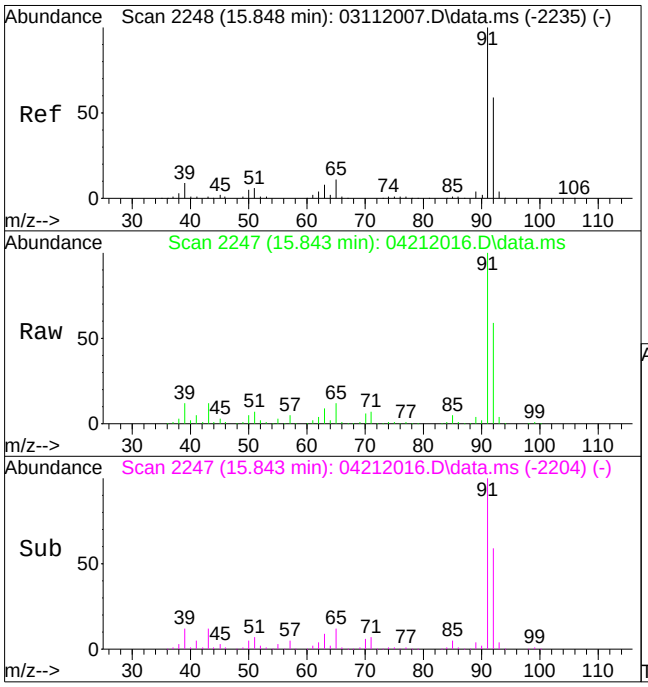


#53
4-Methyl-2-pentanone
Concen: 0.56 ng
RT: 14.90 min Scan# 2076
Delta R.T. 0.000 min
Lab File: 04212016.D
Acq: 21 Apr 2020 18:06

Tgt Ion: 58 Resp: 16124

Ion	Ratio	Lower	Upper
58	100		
85	39.7	37.0	55.4
43	260.1	196.3	294.5

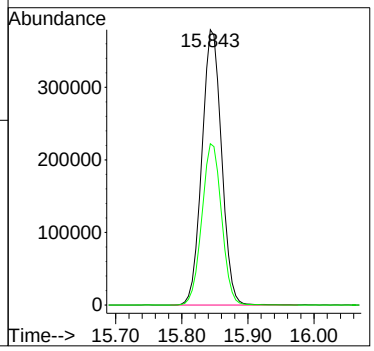


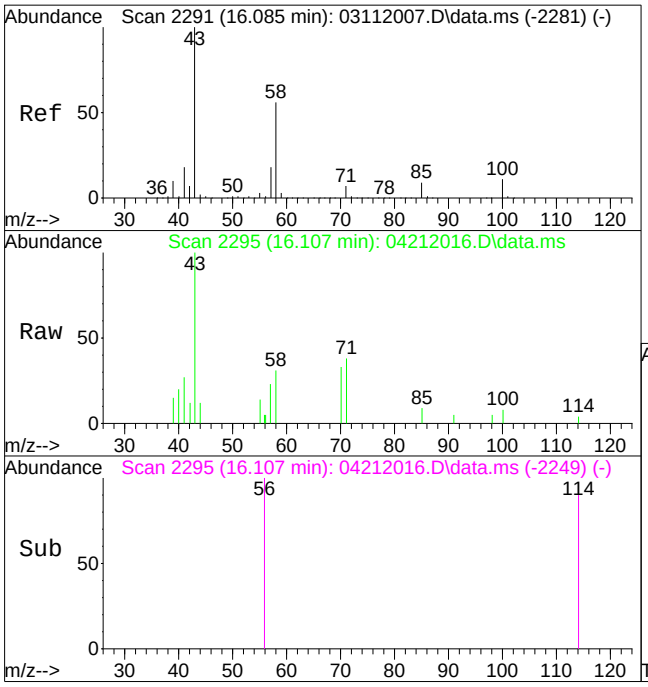


#58
Toluene
Concen: 5.50 ng
RT: 15.84 min Scan# 2247
Delta R.T. -0.011 min
Lab File: 04212016.D
Acq: 21 Apr 2020 18:06

Tgt Ion: 91 Resp: 784456

Ion	Ratio	Lower	Upper
91	100		
92	58.8	39.0	79.0

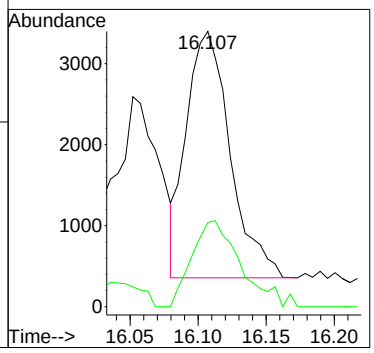


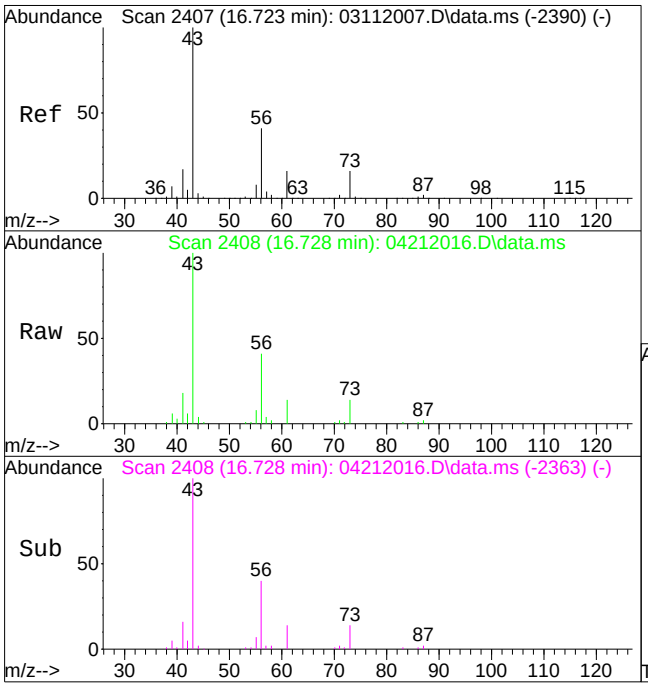


#59
2-Hexanone
Concen: 0.10 ng
RT: 16.11 min Scan# 2295
Delta R.T. 0.006 min
Lab File: 04212016.D
Acq: 21 Apr 2020 18:06

Tgt Ion: 43 Resp: 6819

Ion	Ratio	Lower	Upper
43	100		
58	38.8	36.5	76.5

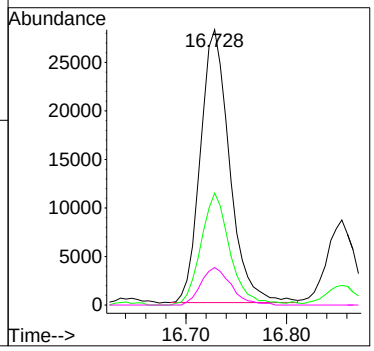


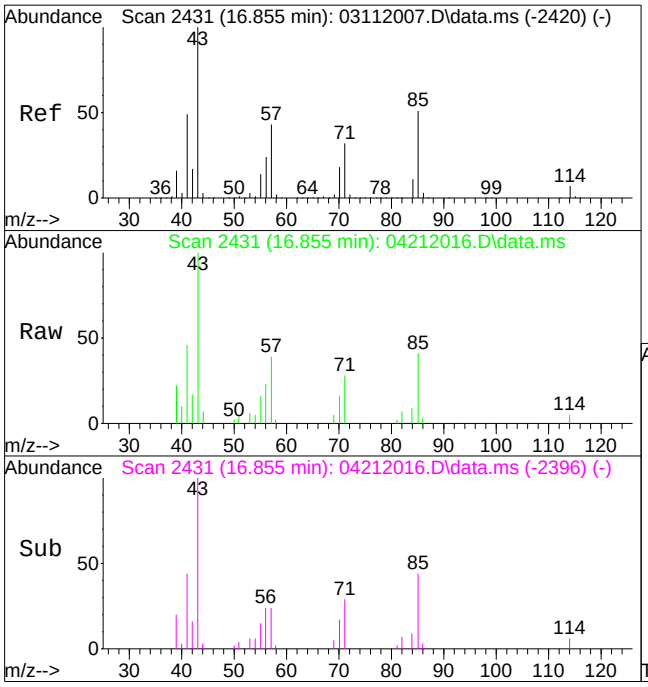


#62
n-Butyl Acetate
Concen: 0.74 ng
RT: 16.73 min Scan# 2408
Delta R.T. 0.000 min
Lab File: 04212016.D
Acq: 21 Apr 2020 18:06

Tgt Ion: 43 Resp: 56699

Ion	Ratio	Lower	Upper
43	100		
56	40.8	20.7	60.7
73	14.2	0.0	35.5

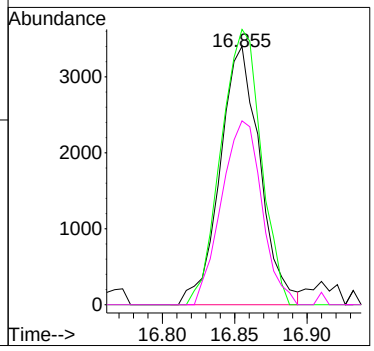


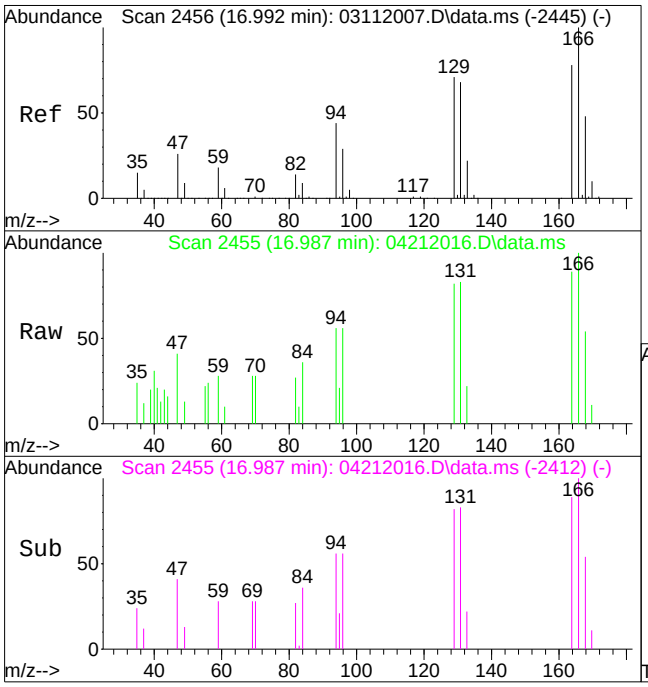


#63
n-Octane
Concen: 0.23 ng
RT: 16.85 min Scan# 2431
Delta R.T. -0.005 min
Lab File: 04212016.D
Acq: 21 Apr 2020 18:06

Tgt Ion: 57 Resp: 6529

Ion	Ratio	Lower	Upper
57	100		
85	107.1	95.1	142.7
71	72.0	58.2	87.4

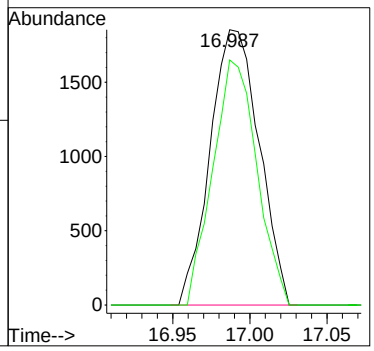


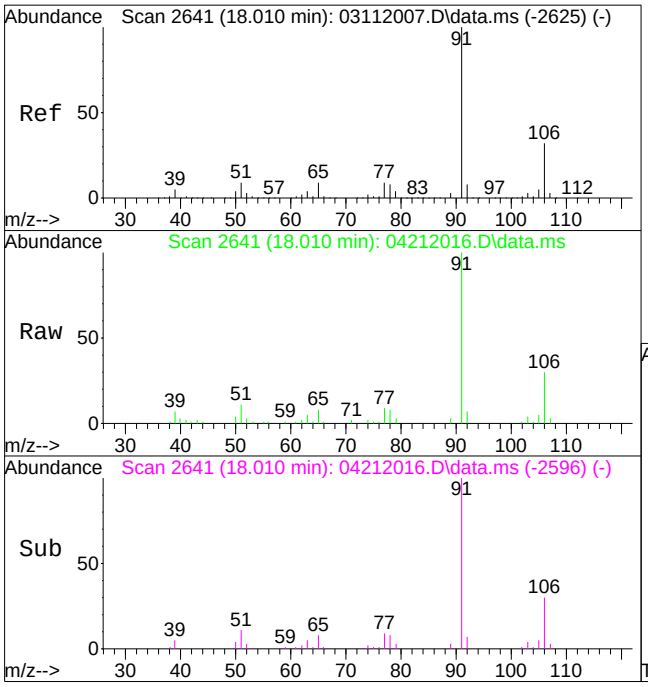


#64
Tetrachloroethene
Concen: 0.10 ng
RT: 16.99 min Scan# 2455
Delta R.T. -0.011 min
Lab File: 04212016.D
Acq: 21 Apr 2020 18:06

Tgt Ion:166 Resp: 4100

Ion	Ratio	Lower	Upper
166	100		
164	79.8	58.6	98.6

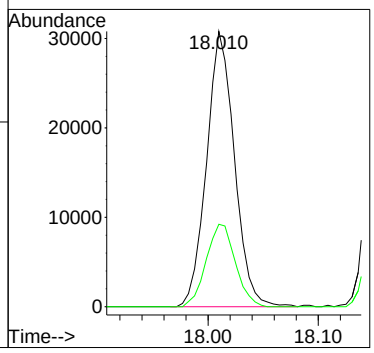


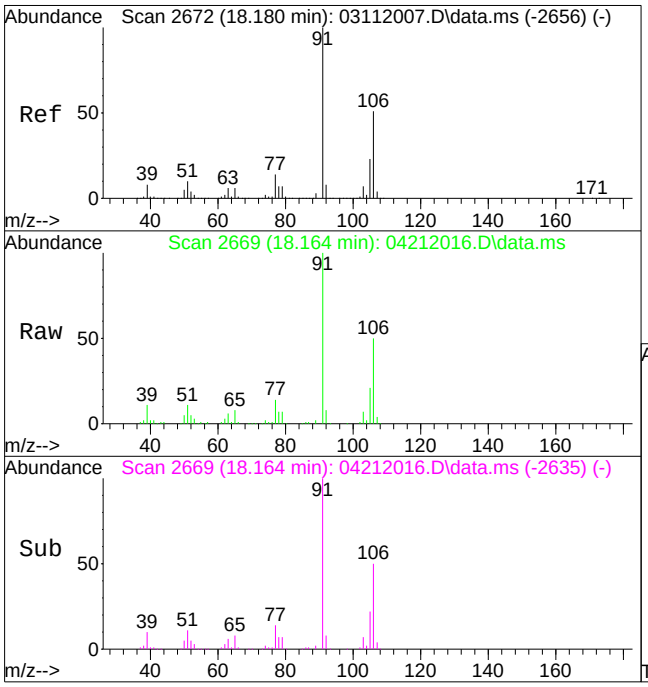


#66
Ethylbenzene
Concen: 0.35 ng
RT: 18.01 min Scan# 2641
Delta R.T. 0.000 min
Lab File: 04212016.D
Acq: 21 Apr 2020 18:06

Tgt Ion: 91 Resp: 54068

Ion	Ratio	Lower	Upper
91	100		
106	31.2	11.7	51.7

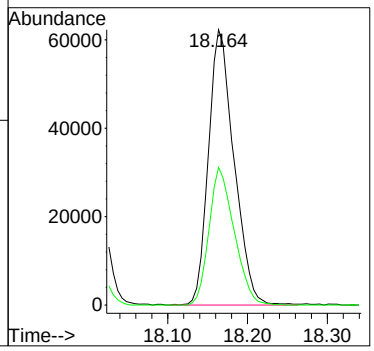


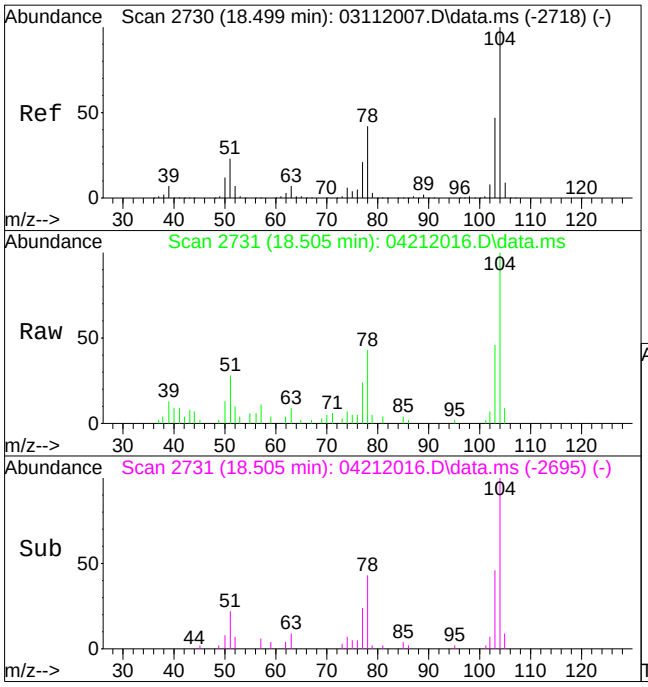


#67
m- & p-Xylenes
Concen: 1.09 ng
RT: 18.16 min Scan# 2669
Delta R.T. -0.011 min
Lab File: 04212016.D
Acq: 21 Apr 2020 18:06

Tgt Ion: 91 Resp: 138539

Ion	Ratio	Lower	Upper
91	100		
106	49.1	30.4	70.4

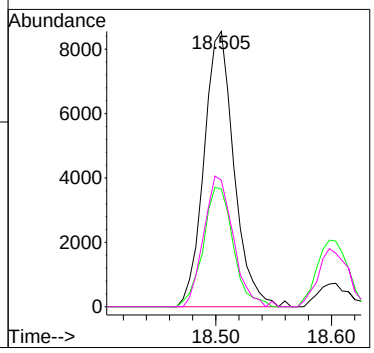


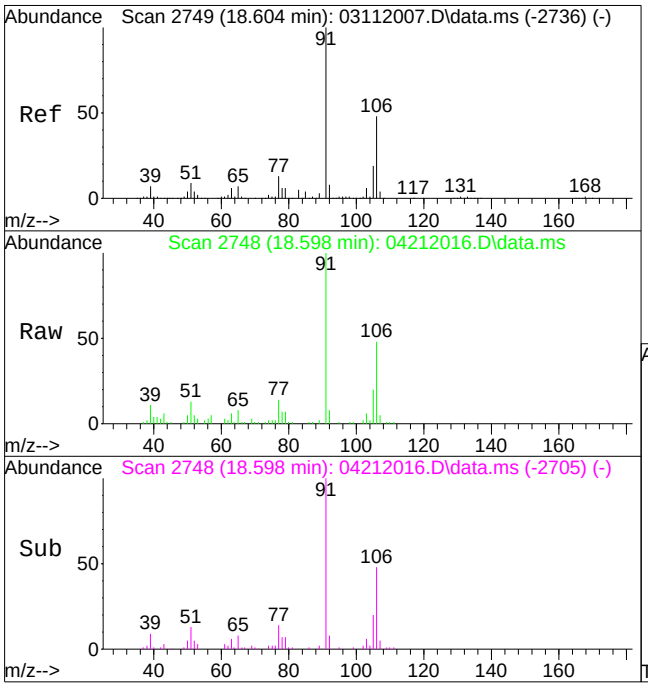


#69
Styrene
Concen: 0.15 ng
RT: 18.50 min Scan# 2731
Delta R.T. -0.000 min
Lab File: 04212016.D
Acq: 21 Apr 2020 18:06

Tgt Ion:104 Resp: 15446

Ion	Ratio	Lower	Upper
104	100		
78	43.3	20.9	60.9
103	46.5	27.4	67.4

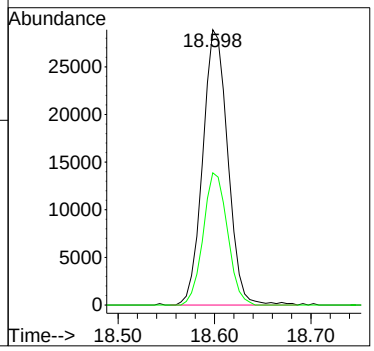


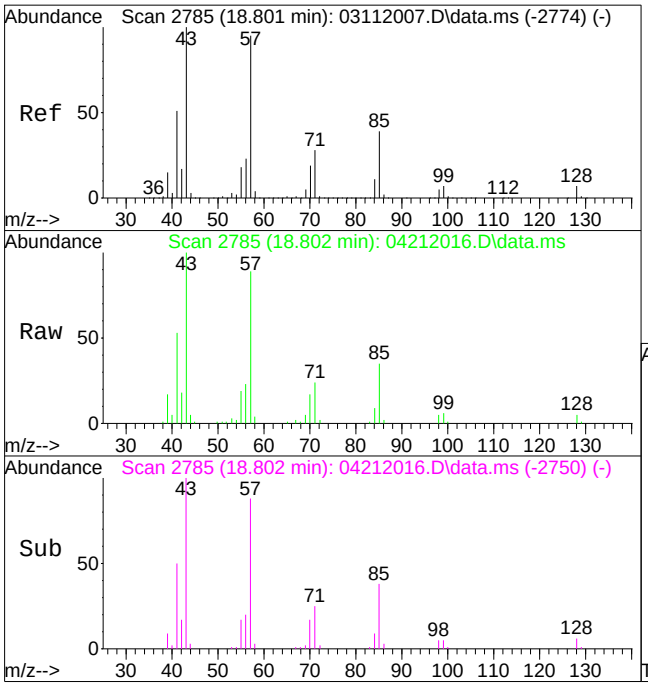


#70
o-Xylene
Concen: 0.41 ng
RT: 18.60 min Scan# 2748
Delta R.T. -0.011 min
Lab File: 04212016.D
Acq: 21 Apr 2020 18:06

Tgt Ion: 91 Resp: 52160

Ion	Ratio	Lower	Upper
91	100		
106	46.5	28.1	68.1

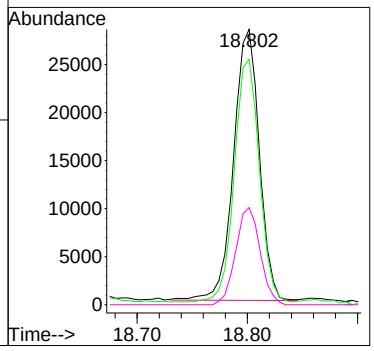


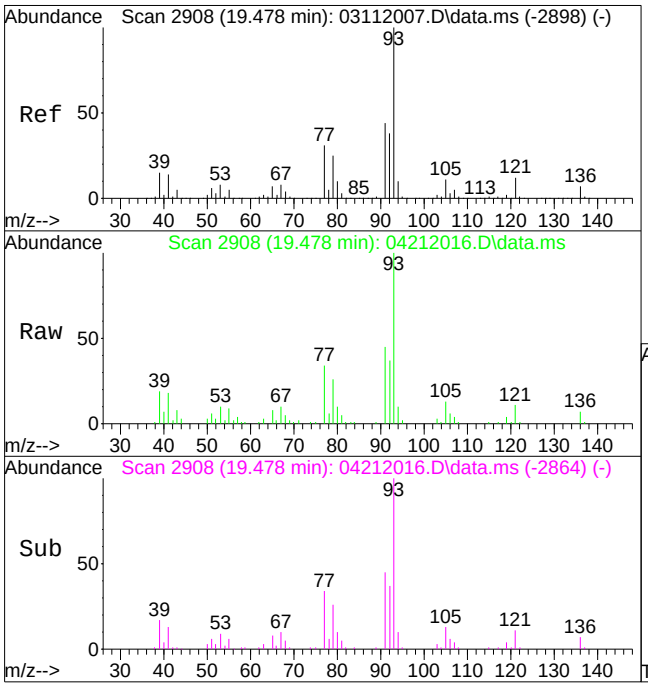


#71
n-Nonane
Concen: 0.72 ng
RT: 18.80 min Scan# 2785
Delta R.T. -0.005 min
Lab File: 04212016.D
Acq: 21 Apr 2020 18:06

Tgt Ion: 43 Resp: 45709

Ion	Ratio	Lower	Upper
43	100		
57	88.0	73.6	113.6
85	34.0	18.7	58.7

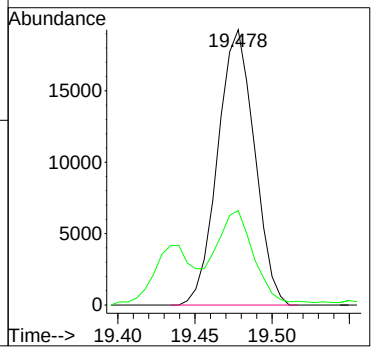


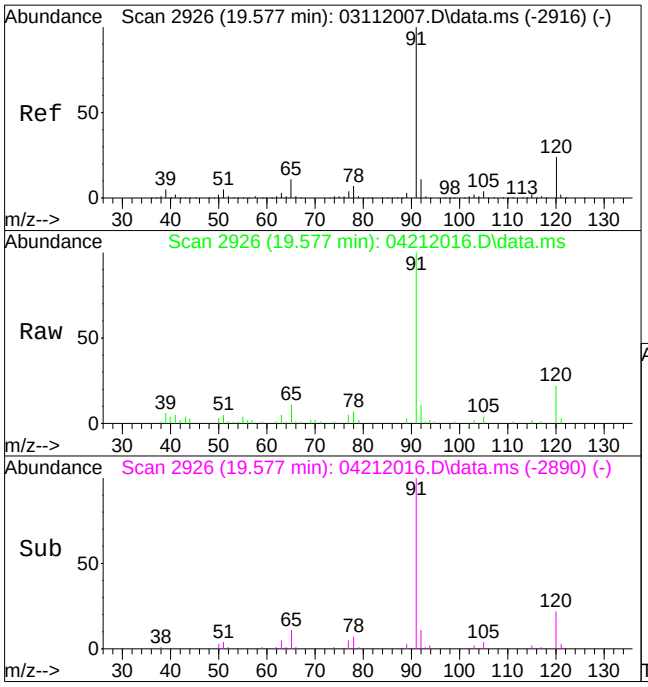


#75
alpha-Pinene
Concen: 0.39 ng
RT: 19.48 min Scan# 2908
Delta R.T. -0.005 min
Lab File: 04212016.D
Acq: 21 Apr 2020 18:06

Tgt Ion: 93 Resp: 31875

Ion	Ratio	Lower	Upper
93	100		
77	35.2	11.1	51.1

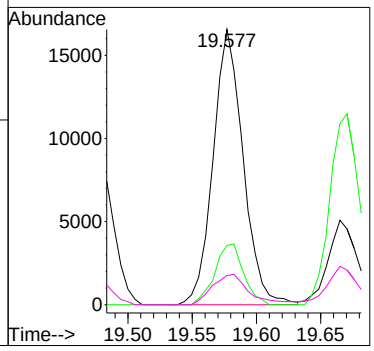


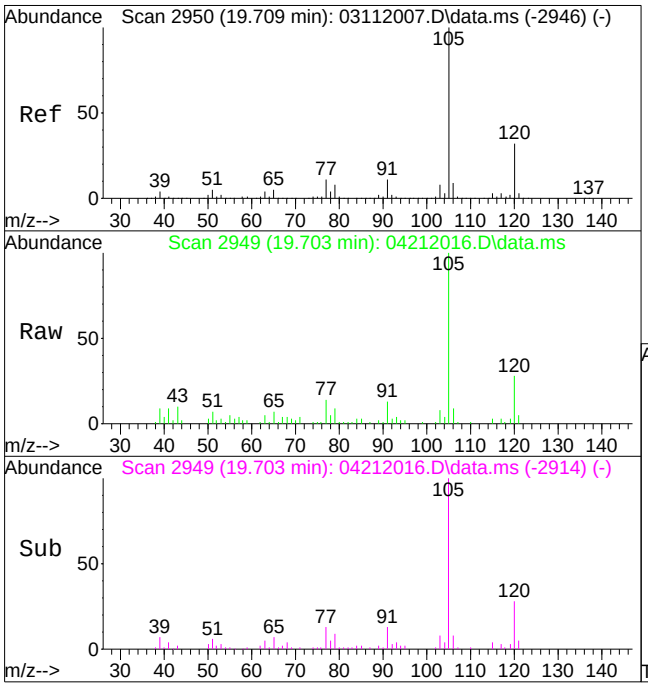


#76
n-Propylbenzene
Concen: 0.14 ng
RT: 19.58 min Scan# 2926
Delta R.T. -0.000 min
Lab File: 04212016.D
Acq: 21 Apr 2020 18:06

Tgt Ion: 91 Resp: 26905

Ion	Ratio	Lower	Upper
91	100		
120	21.1	3.9	43.9
65	13.7	0.0	30.5

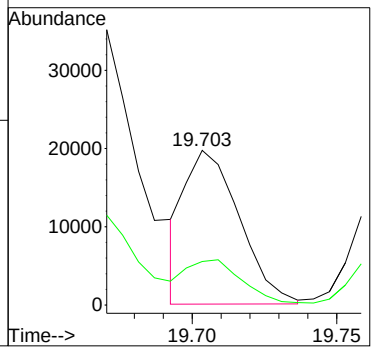


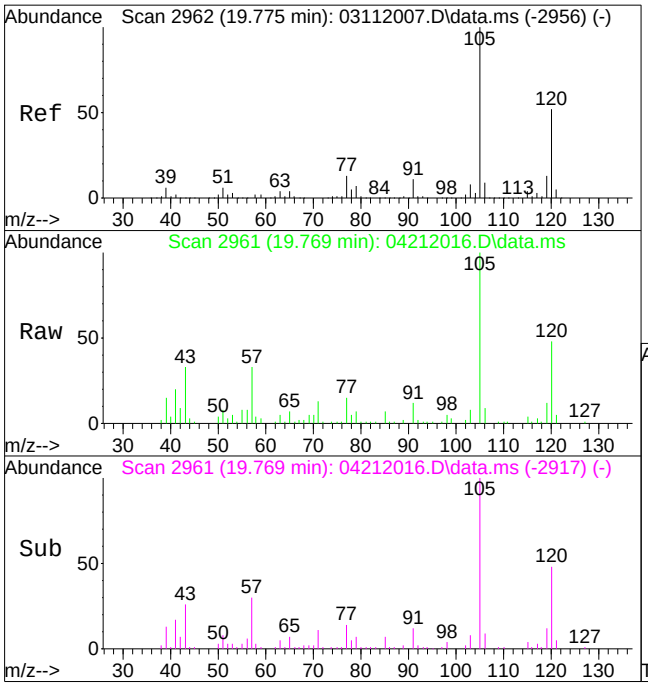


#78
4-Ethyltoluene
Concen: 0.17 ng
RT: 19.70 min Scan# 2949
Delta R.T. -0.006 min
Lab File: 04212016.D
Acq: 21 Apr 2020 18:06

Tgt Ion:105 Resp: 25922

Ion	Ratio	Lower	Upper
105	100		
120	31.4	11.1	51.1

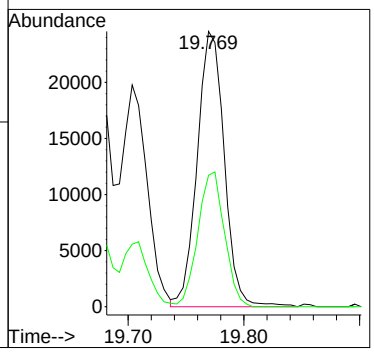


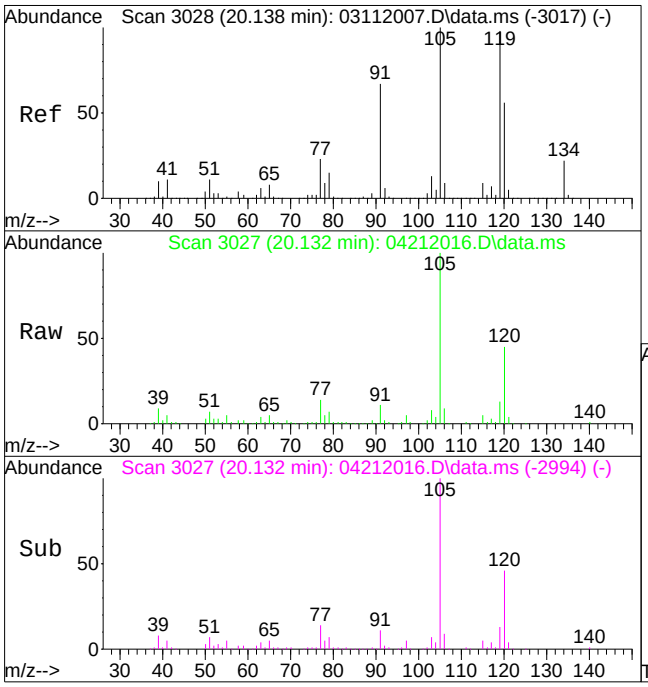


#79
1,3,5-Trimethylbenzene
Concen: 0.29 ng
RT: 19.77 min Scan# 2961
Delta R.T. -0.006 min
Lab File: 04212016.D
Acq: 21 Apr 2020 18:06

Tgt Ion:105 Resp: 39900

Ion	Ratio	Lower	Upper
105	100		
120	47.9	31.3	71.3

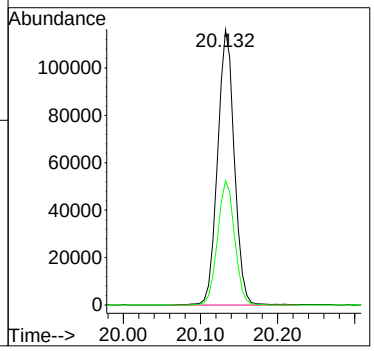


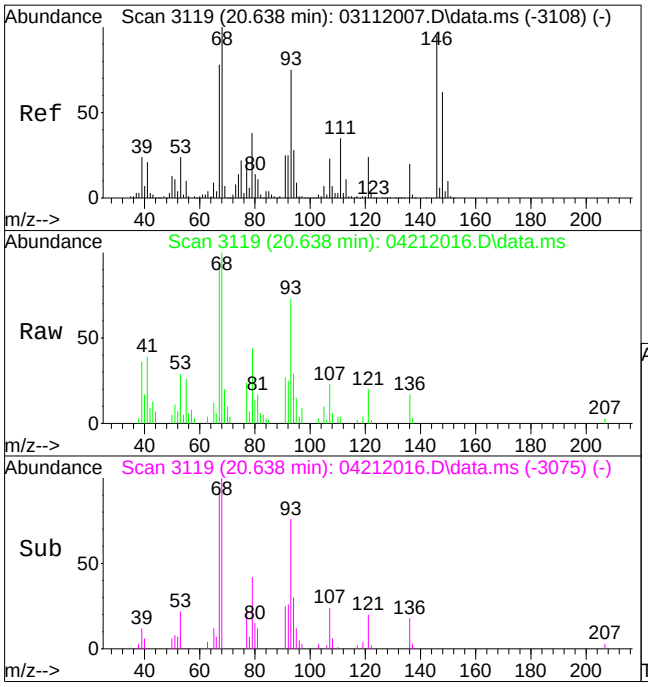


#82
1,2,4-Trimethylbenzene
Concen: 1.25 ng
RT: 20.13 min Scan# 3027
Delta R.T. -0.017 min
Lab File: 04212016.D
Acq: 21 Apr 2020 18:06

Tgt Ion:105 Resp: 175426

Ion	Ratio	Lower	Upper
105	100		
120	46.0	35.8	75.8

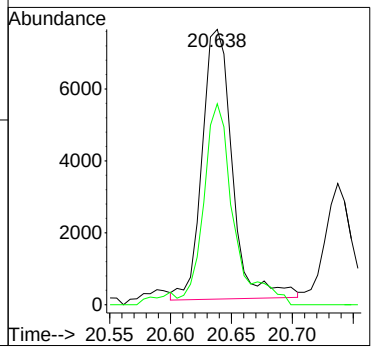


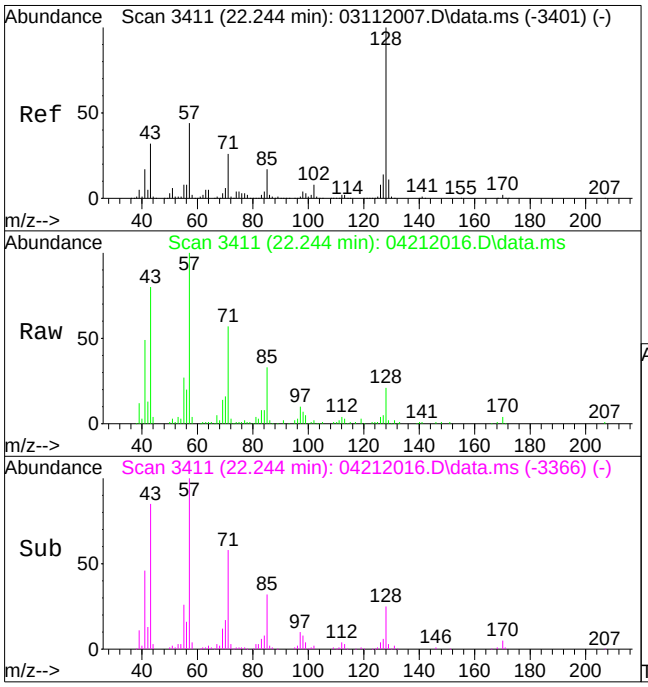


#91
d-Limonene
Concen: 0.24 ng
RT: 20.64 min Scan# 3119
Delta R.T. -0.011 min
Lab File: 04212016.D
Acq: 21 Apr 2020 18:06

Tgt Ion: 68 Resp: 12904

Ion	Ratio	Lower	Upper
68	100		
93	76.9	54.7	94.7

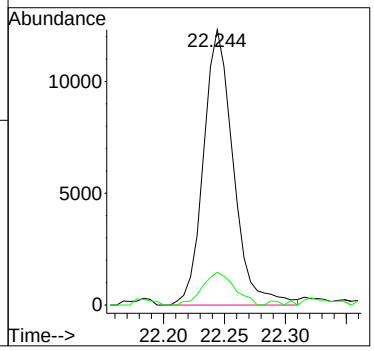




#95
Naphthalene
Concen: 0.13 ng
RT: 22.24 min Scan# 3411
Delta R.T. -0.005 min
Lab File: 04212016.D
Acq: 21 Apr 2020 18:06

Tgt Ion:128 Resp: 20968

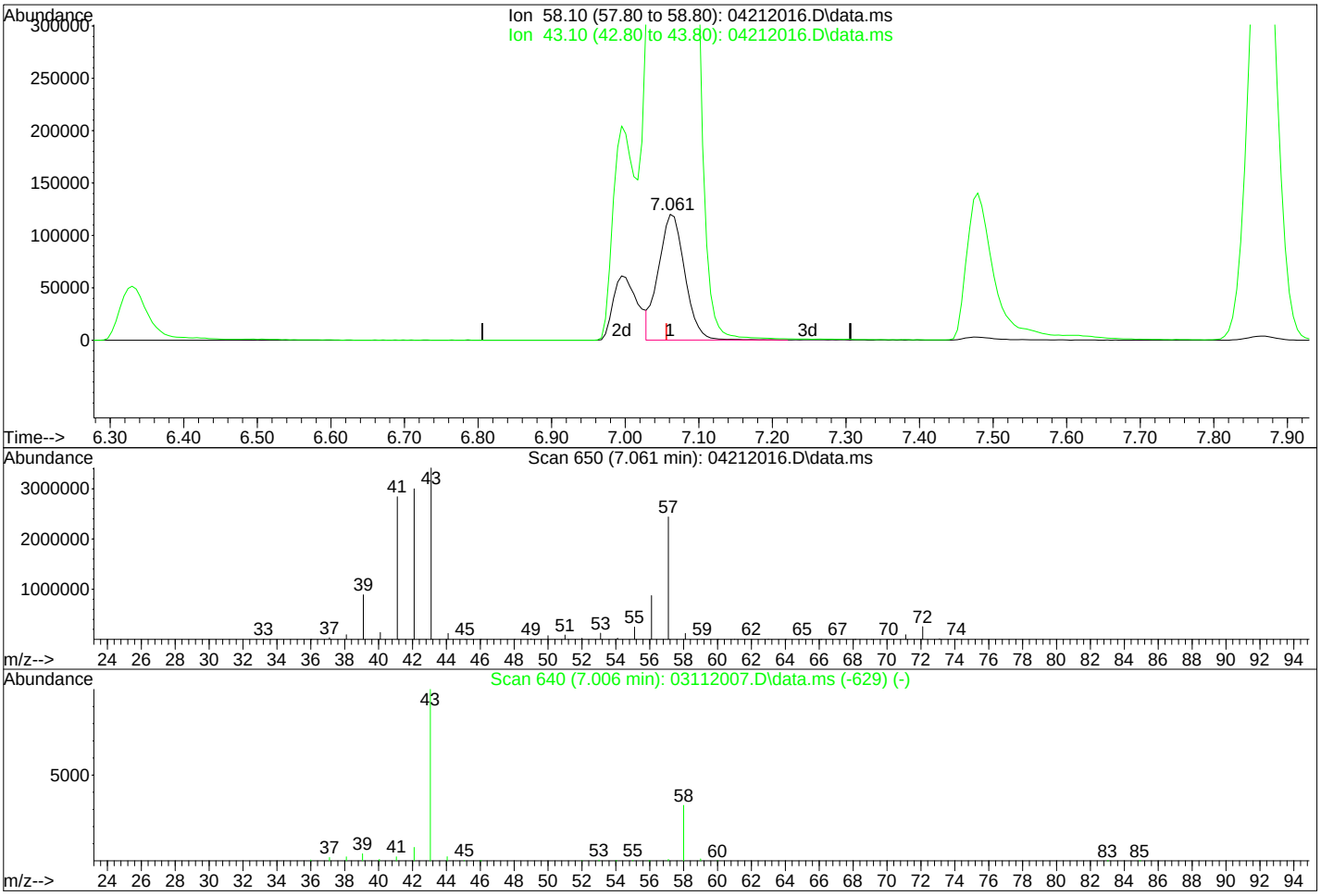
Ion	Ratio	Lower	Upper
128	100		
129	12.7	0.0	31.1



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\21\04212016.D Vial: 5
Acq On : 21 Apr 2020 18:06 Operator: WA
Sample : P2002031-017 (160mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 03:15:05 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04212016.D\data.ms

(13) Acetone (T)

7.061min (+0.005) 12.00ng

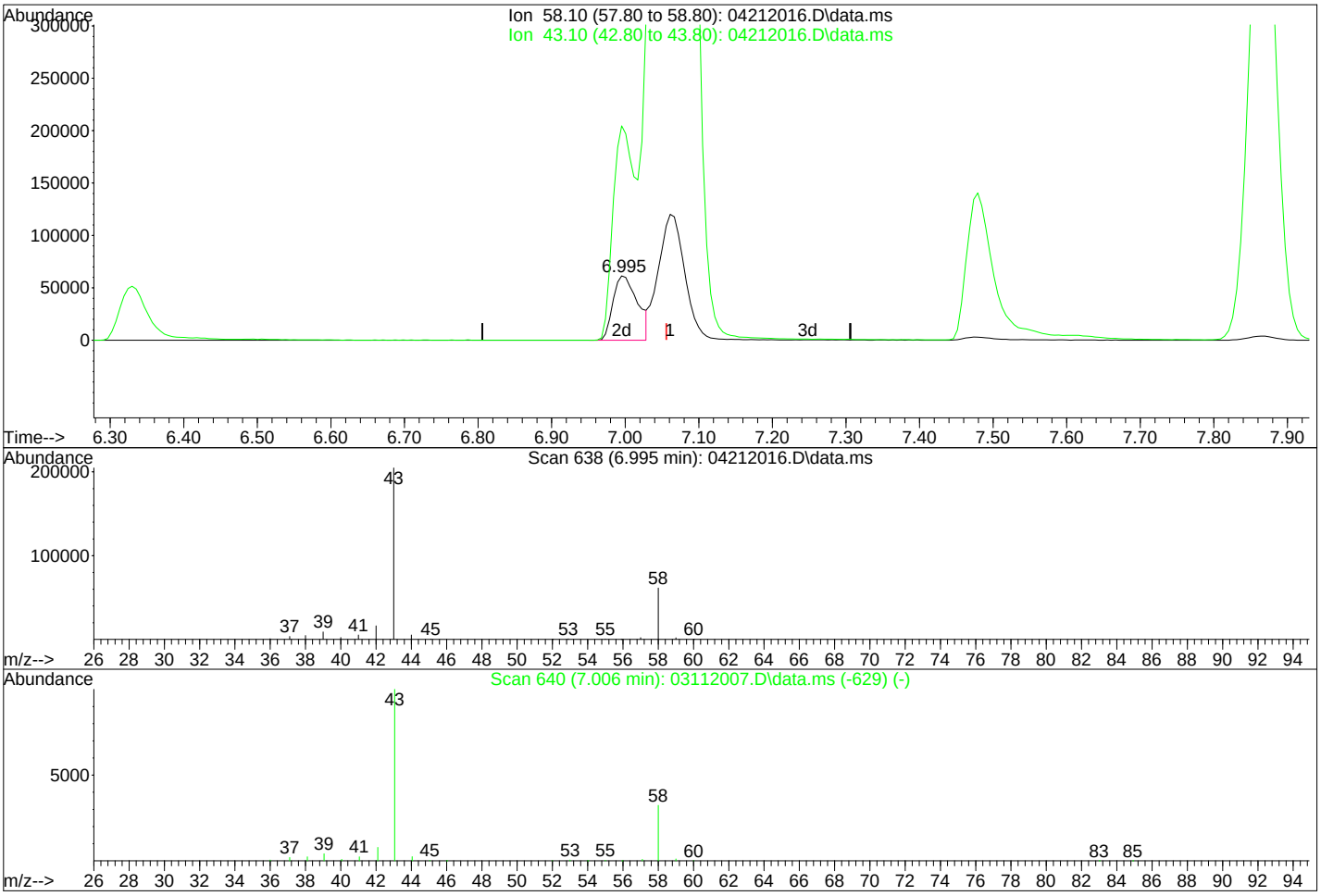
response 297659

Ion	Exp%	Act%
58.10	100	100
43.10	317.30	2824.48#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\21\04212016.D Vial: 5
Acq On : 21 Apr 2020 18:06 Operator: WA
Sample : P2002031-017 (160mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 03:15:05 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04212016.D\data.ms

(13) Acetone (T)

6.995min (-0.061) 5.74ng m

response 142338

Ion	Exp%	Act%
58.10	100	100
43.10	317.30	5906.59#
0.00	0.00	0.00
0.00	0.00	0.00

WP

LH 4/22/20

4/23/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212010.D Vial: 1
Acq On : 21 Apr 2020 14:26 Operator: WA
Sample : P2002031-018 (4.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 18:40:20 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 4/22/20
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	326524	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1454594	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	703135	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	558882	12.361	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.88%				
57) Toluene-d8 (SS2)	15.74	98	1574149	12.630	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.04%				
73) Bromofluorobenzene (SS3)	19.00	174	509820	11.584	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.64%				
Target Compounds							Qvalue
2) Propene	4.14	42	8903	0.260	ng		94
3) Dichlorodifluoromethan...	4.27	85	4546	0.062	ng		95
4) Chloromethane	4.56	50	1070	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	4.97	62	344	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.32	45	163994	6.059	ng		100
11) Acetonitrile	6.62	41	5154	0.087	ng	#	68
12) Acrolein	6.82	56	1993	0.100	ng		97
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	7.26	101	2025	N.D.			
15) 2-Propanol (Isopropanol)	7.52	45	55270	0.698	ng		88
16) Acrylonitrile	7.86	53	1616	N.D.			
17) 1,1-Dichloroethene	8.23	96	1109	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.43	84	1985	0.057	ng		86
20) 3-Chloro-1-propene (Al...	8.61	41	131	N.D.			
21) Trichlorotrifluoroethane	8.88	151	1247	N.D.			
22) Carbon Disulfide	8.72	76	17381	0.139	ng		100
23) trans-1,2-Dichloroethene	9.72	61	256	N.D.			
24) 1,1-Dichloroethane	9.96	63	103	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	d		
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.52	72	1732	0.078	ng		100
28) cis-1,2-Dichloroethene	10.99	61	1239	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.32	61	3953	0.301	ng		93
31) n-Hexane	11.29	57	5073	0.083	ng		97
32) Chloroform	11.33	83	65731	1.014	ng		99
34) Tetrahydrofuran (THF)	11.79	72	2601	0.114	ng	#	73
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.15	62	354	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	12.90	61	225	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.90	78	22728	0.151	ng		98
42) Carbon Tetrachloride	13.07	117	2017	N.D.			
43) Cyclohexane	13.20	84	71197	1.233	ng		95
44) tert-Amyl Methyl Ether	13.57	73	259	N.D.			
45) 1,2-Dichloropropane	13.59	63	232	N.D.			
46) Bromodichloromethane	13.95	83	6017m	0.118	ng		
47) Trichloroethene	14.00	130	198094	4.648	ng		100
48) 1,4-Dioxane	14.02	88	207	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212010.D Vial: 1
Acq On : 21 Apr 2020 14:26 Operator: WA
Sample : P2002031-018 (4.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 18:40:20 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

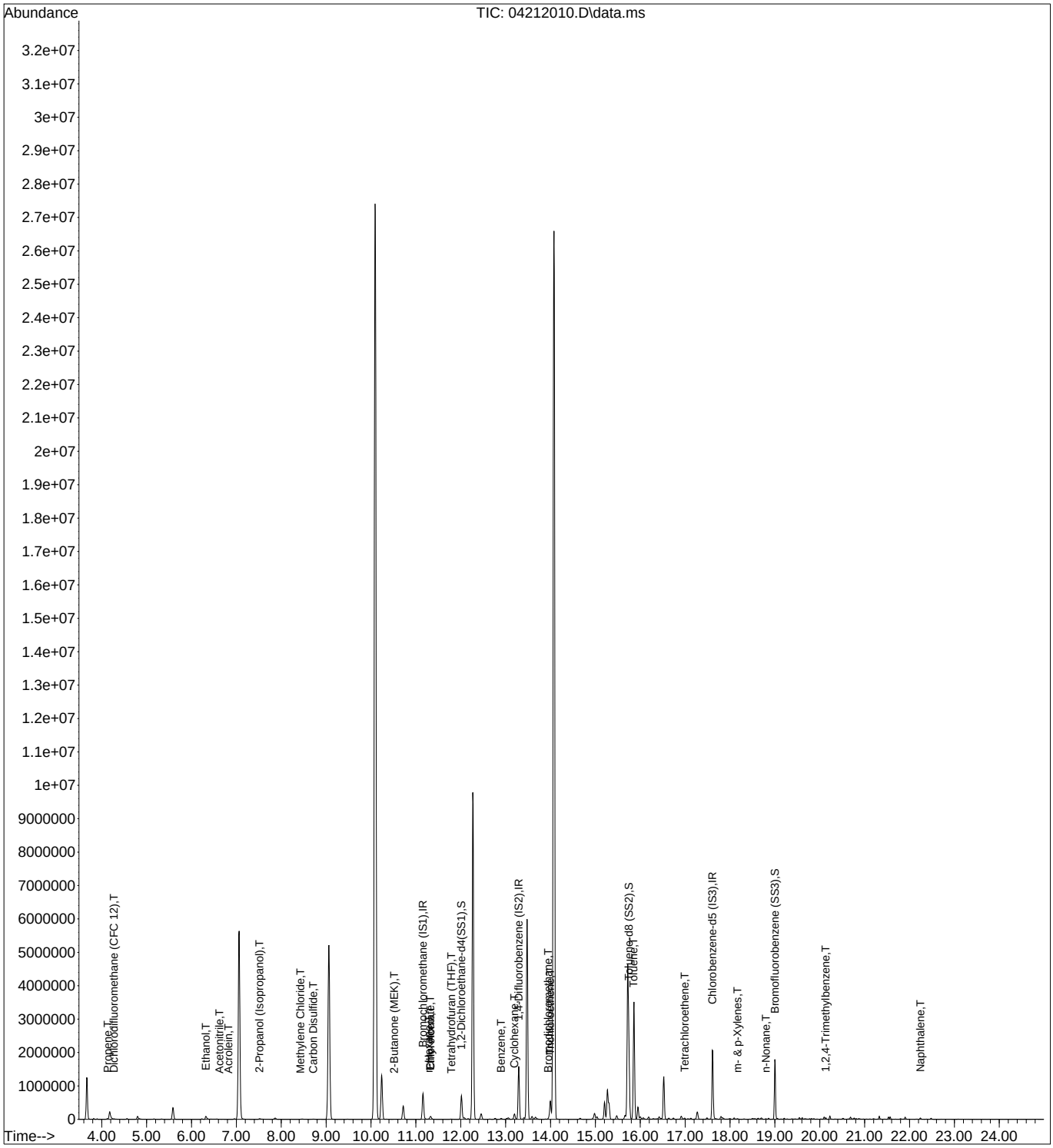
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.34	71	943	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.94	58	921	N.D.	
54) trans-1,3-Dichloropropene	15.16	75	1240	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	15.85	91	25431	0.165 ng	96
59) 2-Hexanone	16.11	43	2608	N.D.	
60) Dibromochloromethane	16.25	129	437	N.D.	
61) 1,2-Dibromoethane	16.52	107	471	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	16.86	57	1400	N.D.	
64) Tetrachloroethene	16.99	166	4173	0.097 ng	99
65) Chlorobenzene	17.66	112	1511	N.D.	
66) Ethylbenzene	18.02	91	4286	N.D.	
67) m- & p-Xylenes	18.17	91	12216	0.089 ng	98
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.51	104	1122	N.D.	
70) o-Xylene	18.60	91	5140	N.D.	
71) n-Nonane	18.80	43	7558	0.110 ng	85
72) 1,1,2,2-Tetrachloroethane	18.58	83	639	N.D.	
74) Cumene	19.13	105	2379	N.D.	
75) alpha-Pinene	19.48	93	1284	N.D.	
76) n-Propylbenzene	0.00	91	0	N.D. d	
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.71	105	4711	N.D.	
79) 1,3,5-Trimethylbenzene	19.77	105	6045	N.D.	
80) alpha-Methylstyrene	19.91	118	856	N.D.	
81) 2-Ethyltoluene	19.95	105	3739	N.D.	
82) 1,2,4-Trimethylbenzene	20.13	105	21712	0.143 ng	90
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.25	91	633	N.D.	
85) 1,3-Dichlorobenzene	20.28	146	1149	N.D.	
86) 1,4-Dichlorobenzene	20.34	146	1684	N.D.	
87) sec-Butylbenzene	20.38	105	2482	N.D.	
88) 4-Isopropyltoluene (p-...	20.52	119	5605	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	20.64	146	1117	N.D.	
91) d-Limonene	20.64	68	2360	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.14	180	1206	N.D.	
95) Naphthalene	22.24	128	10621	0.062 ng	98
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.14	119	3278	N.D.	
100) n-Butylbenzene	20.88	91	6659	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212010.D Vial: 1
Acq On : 21 Apr 2020 14:26 Operator: WA
Sample : P2002031-018 (4.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 18:40:20 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212010.D Vial: 1
Acq On : 21 Apr 2020 14:26 Operator: WA
Sample : P2002031-018 (4.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 18:40:20 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/22/20

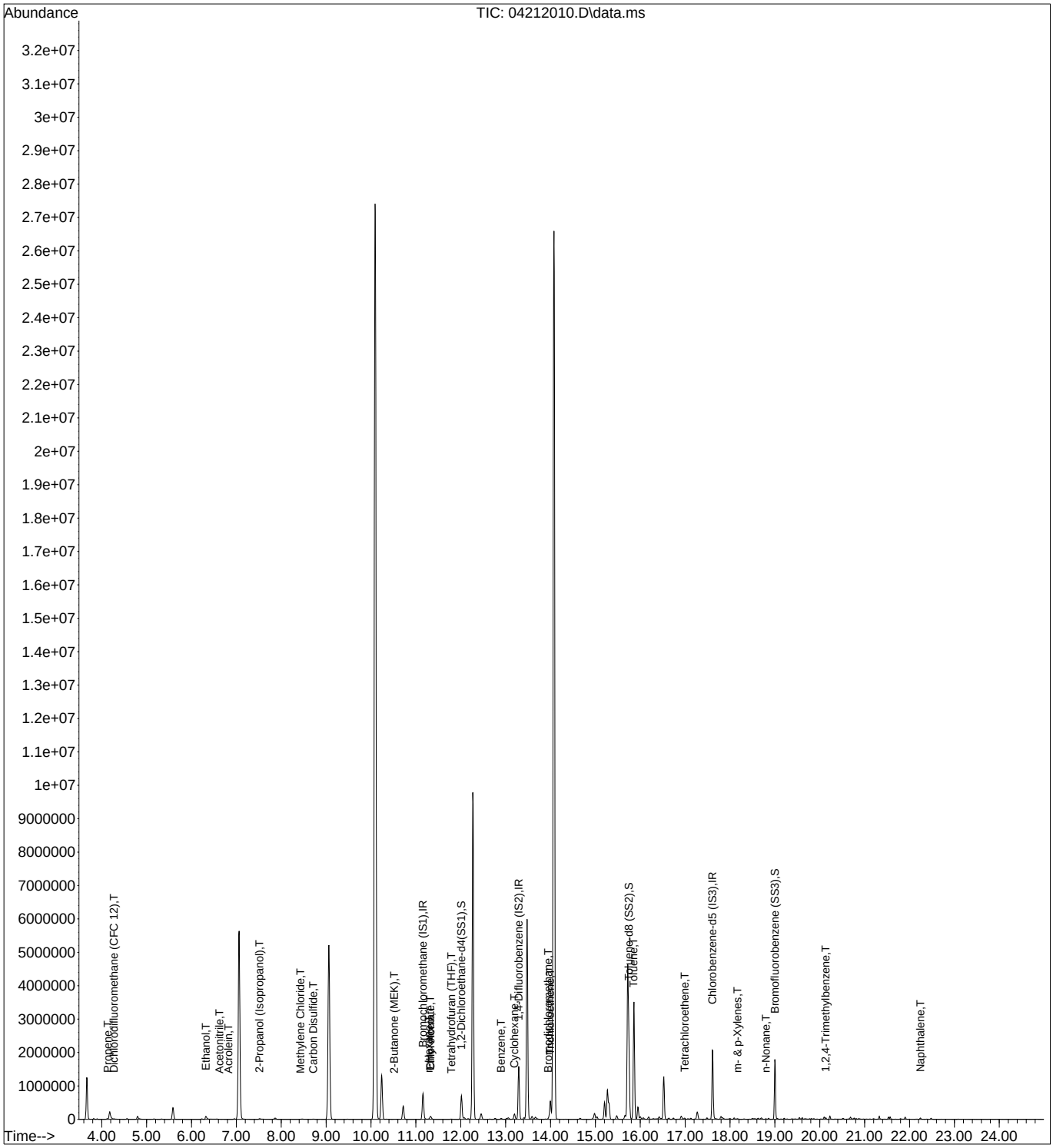
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	326524	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1454594	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	703135	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	558882	12.361	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.88%				
57) Toluene-d8 (SS2)	15.74	98	1574149	12.630	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.04%				
73) Bromofluorobenzene (SS3)	19.00	174	509820	11.584	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.64%				
Target Compounds							Qvalue
2) Propene	4.14	42	8903	0.260	ng		94
3) Dichlorodifluoromethan...	4.27	85	4546	0.062	ng		95
10) Ethanol	6.32	45	163994	6.059	ng		100
11) Acetonitrile	6.62	41	5154	0.087	ng	#	68
12) Acrolein	6.82	56	1993	0.100	ng		97
15) 2-Propanol (Isopropanol)	7.52	45	55270	0.698	ng		88
19) Methylene Chloride	8.43	84	1985	0.057	ng		86
22) Carbon Disulfide	8.72	76	17381	0.139	ng		100
27) 2-Butanone (MEK)	10.52	72	1732	0.078	ng		100
30) Ethyl Acetate	11.32	61	3953	0.301	ng		93
31) n-Hexane	11.29	57	5073	0.083	ng		97
32) Chloroform	11.33	83	65731	1.014	ng		99
34) Tetrahydrofuran (THF)	11.79	72	2601	0.114	ng	#	73
41) Benzene	12.90	78	22728	0.151	ng		98
43) Cyclohexane	13.20	84	71197	1.233	ng		95
46) Bromodichloromethane	13.95	83	6017m	0.118	ng		
47) Trichloroethene	14.00	130	198094	4.648	ng		100
58) Toluene	15.85	91	25431	0.165	ng		96
64) Tetrachloroethene	16.99	166	4173	0.097	ng		99
67) m- & p-Xylenes	18.17	91	12216	0.089	ng		98
71) n-Nonane	18.80	43	7558	0.110	ng		85
82) 1,2,4-Trimethylbenzene	20.13	105	21712	0.143	ng		90
95) Naphthalene	22.24	128	10621	0.062	ng		98

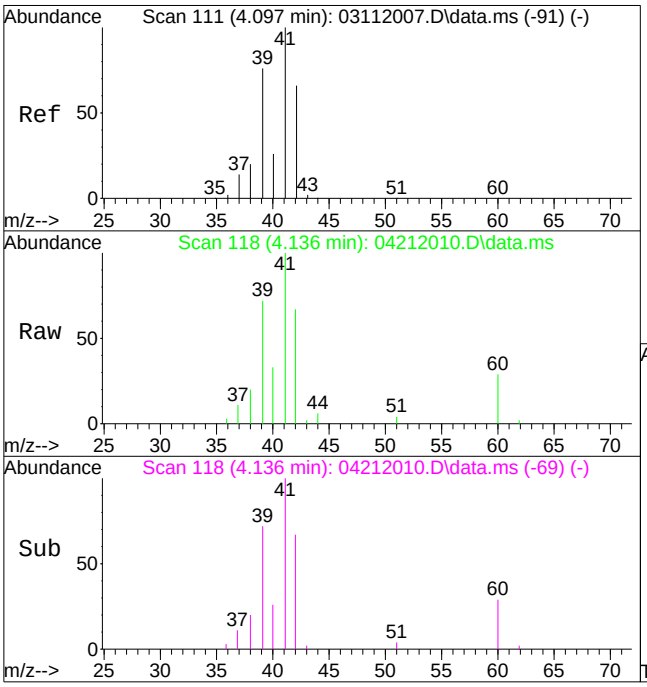
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212010.D Vial: 1
Acq On : 21 Apr 2020 14:26 Operator: WA
Sample : P2002031-018 (4.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 18:40:20 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

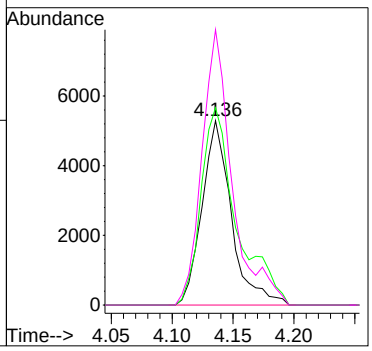


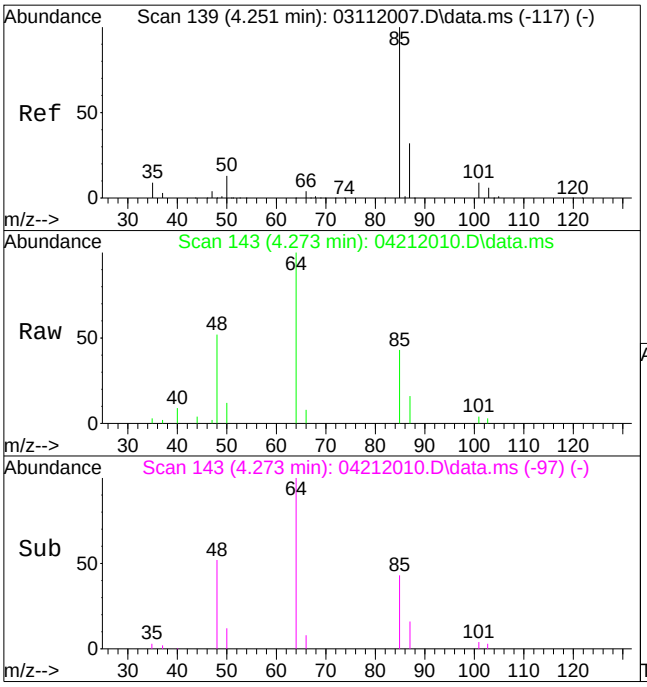


#2
Propene
Concen: 0.26 ng
RT: 4.14 min Scan# 118
Delta R.T. 0.022 min
Lab File: 04212010.D
Acq: 21 Apr 2020 14:26

Tgt Ion: 42 Resp: 8903

Ion	Ratio	Lower	Upper
42	100		
39	129.1	95.3	135.3
41	153.2	132.0	172.0

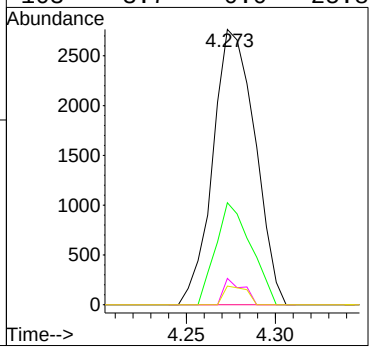


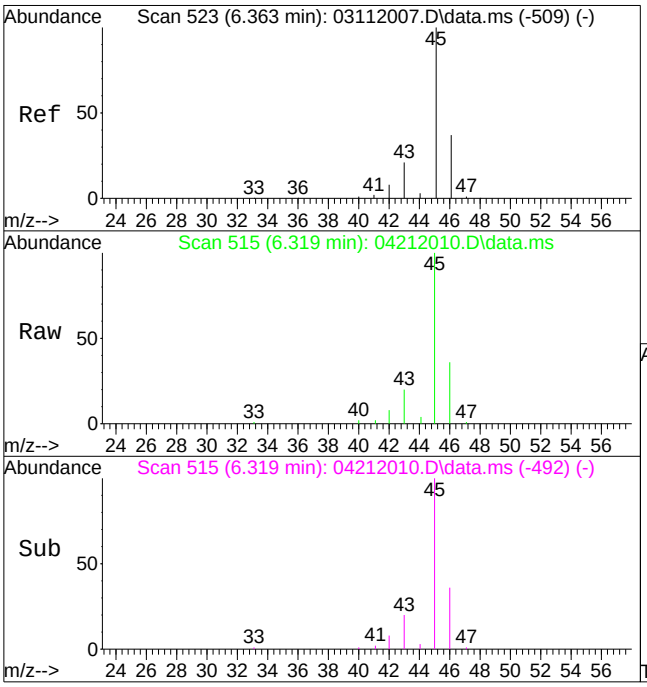


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.06 ng
RT: 4.27 min Scan# 143
Delta R.T. 0.005 min
Lab File: 04212010.D
Acq: 21 Apr 2020 14:26

Tgt Ion: 85 Resp: 4546

Ion	Ratio	Lower	Upper
85	100		
87	31.0	12.3	52.3
101	4.5	0.0	29.0
103	3.7	0.0	25.8

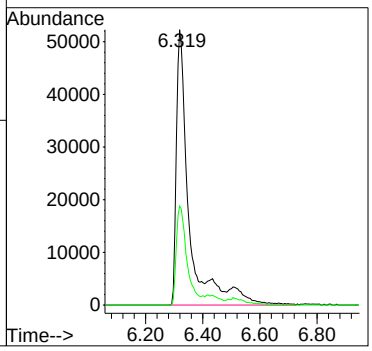


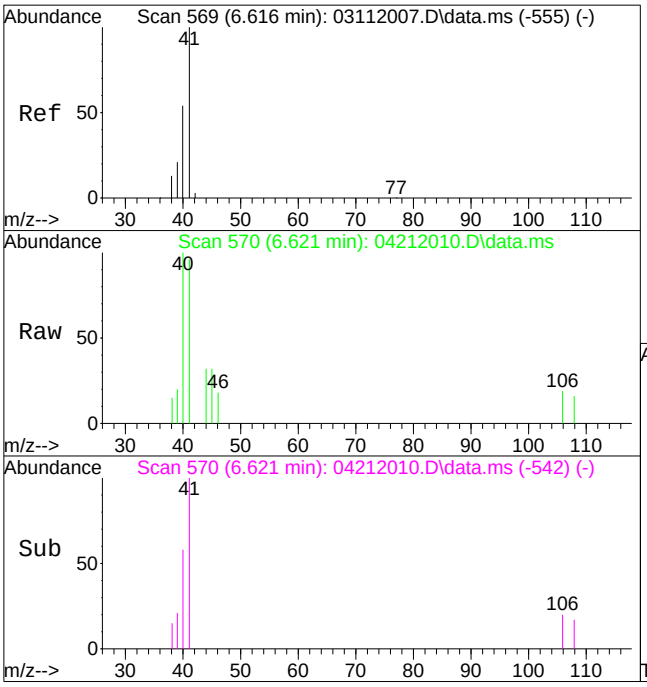


#10
Ethanol
Concen: 6.06 ng
RT: 6.32 min Scan# 515
Delta R.T. -0.121 min
Lab File: 04212010.D
Acq: 21 Apr 2020 14:26

Tgt Ion: 45 Resp: 163994

Ion	Ratio	Lower	Upper
45	100		
46	37.5	17.3	57.3

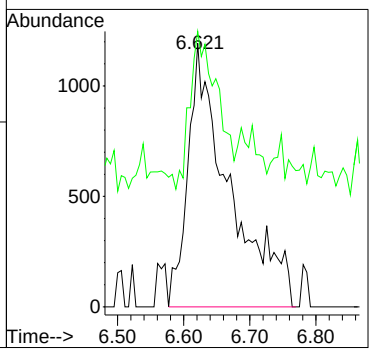


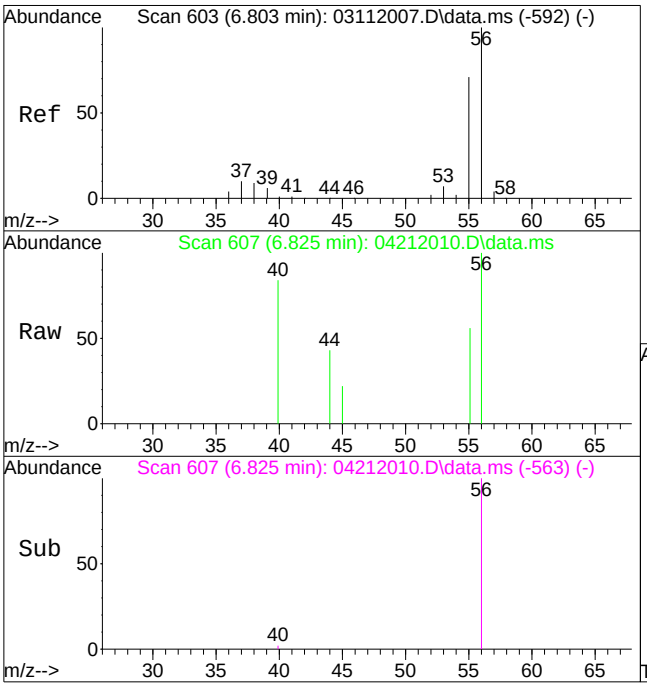


#11
Acetonitrile
Concen: 0.09 ng
RT: 6.62 min Scan# 570
Delta R.T. -0.044 min
Lab File: 04212010.D
Acq: 21 Apr 2020 14:26

Tgt Ion: 41 Resp: 5154

Ion	Ratio	Lower	Upper
41	100		
40	76.7	33.6	73.6#

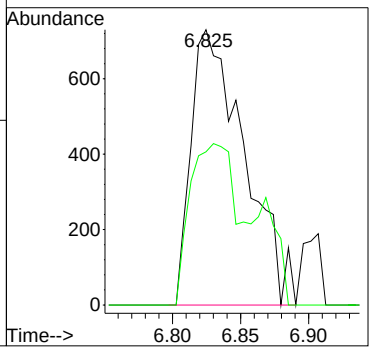


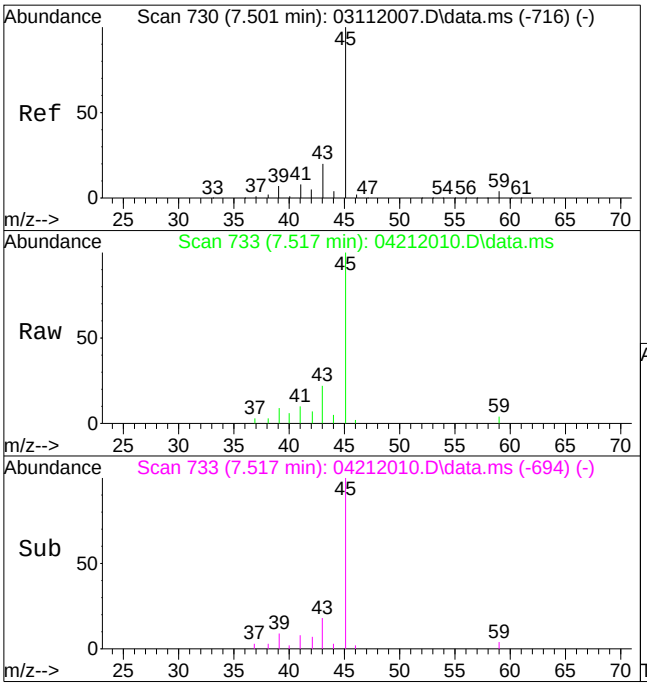


#12
Acrolein
Concen: 0.10 ng
RT: 6.82 min Scan# 607
Delta R.T. -0.005 min
Lab File: 04212010.D
Acq: 21 Apr 2020 14:26

Tgt Ion: 56 Resp: 1993

Ion	Ratio	Lower	Upper
56	100		
55	68.2	50.4	90.4

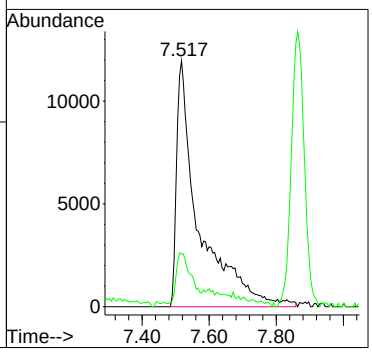


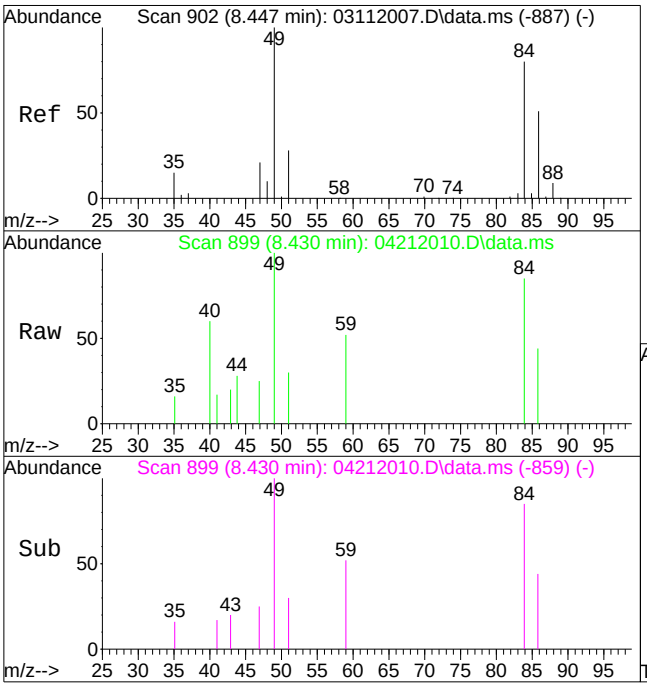


#15
2-Propanol (Isopropanol)
Concen: 0.70 ng
RT: 7.52 min Scan# 733
Delta R.T. -0.033 min
Lab File: 04212010.D
Acq: 21 Apr 2020 14:26

Tgt Ion: 45 Resp: 55270

Ion	Ratio	Lower	Upper
45	100		
43	25.8	0.3	40.3

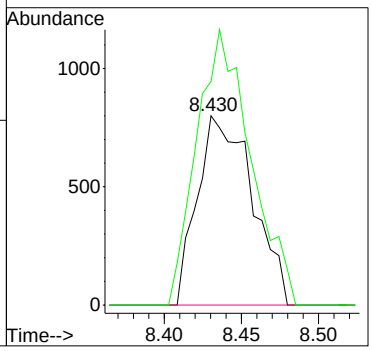


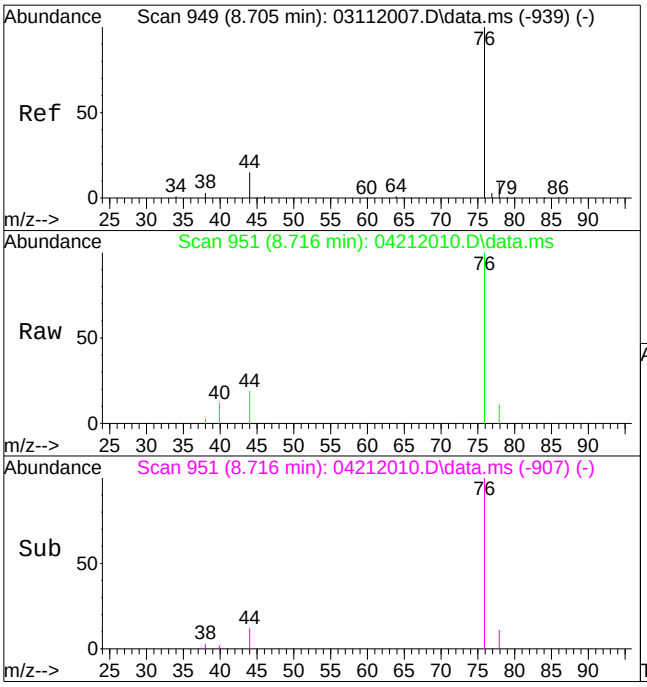


#19
Methylene Chloride
Concen: 0.06 ng
RT: 8.43 min Scan# 899
Delta R.T. -0.033 min
Lab File: 04212010.D
Acq: 21 Apr 2020 14:26

Tgt Ion: 84 Resp: 1985

Ion	Ratio	Lower	Upper
84	100		
49	143.2	102.2	152.2

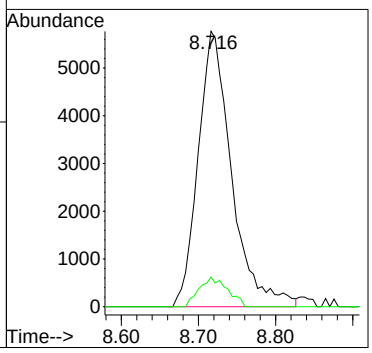


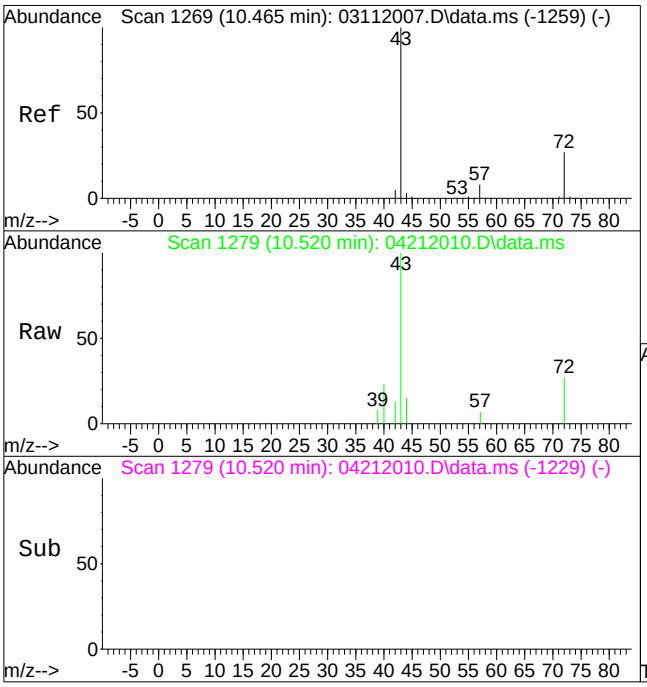


#22
Carbon Disulfide
Concen: 0.14 ng
RT: 8.72 min Scan# 951
Delta R.T. -0.005 min
Lab File: 04212010.D
Acq: 21 Apr 2020 14:26

Tgt Ion: 76 Resp: 17381

Ion	Ratio	Lower	Upper
76	100		
78	9.1	0.0	29.2

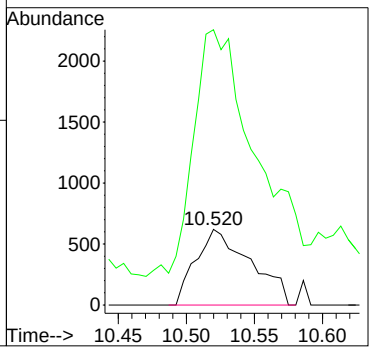


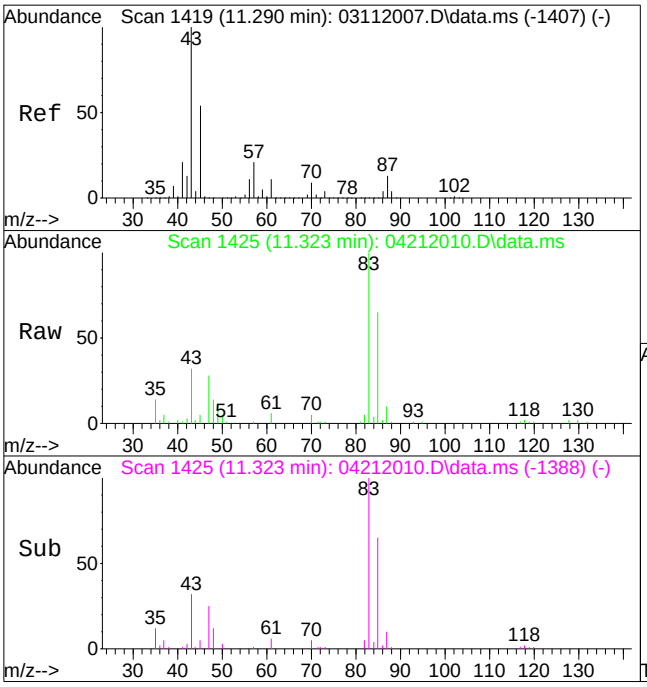


#27
2-Butanone (MEK)
Concen: 0.08 ng
RT: 10.52 min Scan# 1279
Delta R.T. 0.028 min
Lab File: 04212010.D
Acq: 21 Apr 2020 14:26

Tgt Ion: 72 Resp: 1732

Ion	Ratio	Lower	Upper
72	100		
43	374.2	353.4	393.4

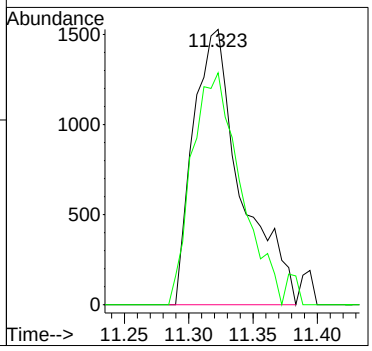


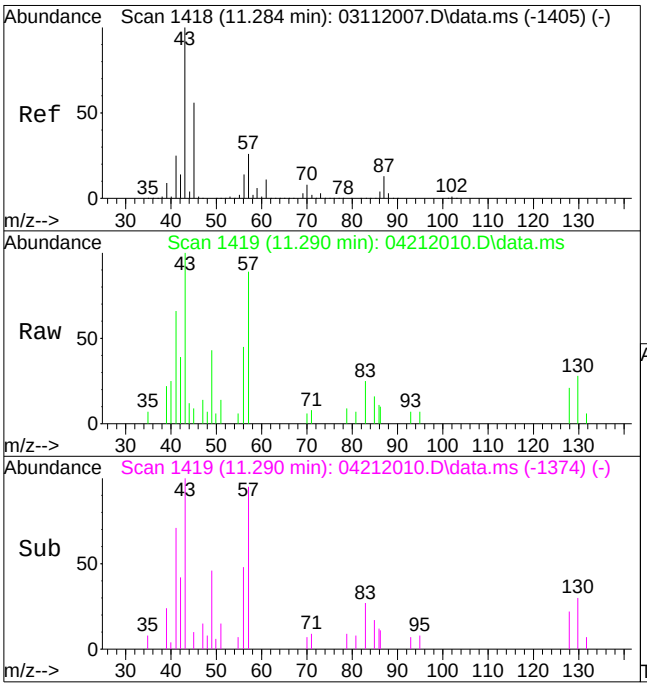


#30
Ethyl Acetate
Concen: 0.30 ng
RT: 11.32 min Scan# 1425
Delta R.T. 0.006 min
Lab File: 04212010.D
Acq: 21 Apr 2020 14:26

Tgt Ion: 61 Resp: 3953

Ion	Ratio	Lower	Upper
61	100		
70	85.4	59.1	99.1

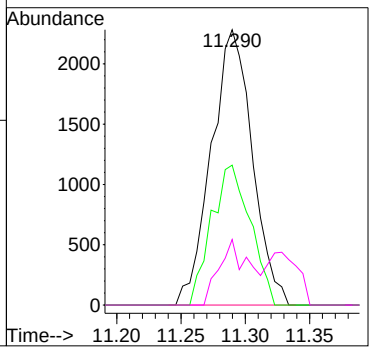


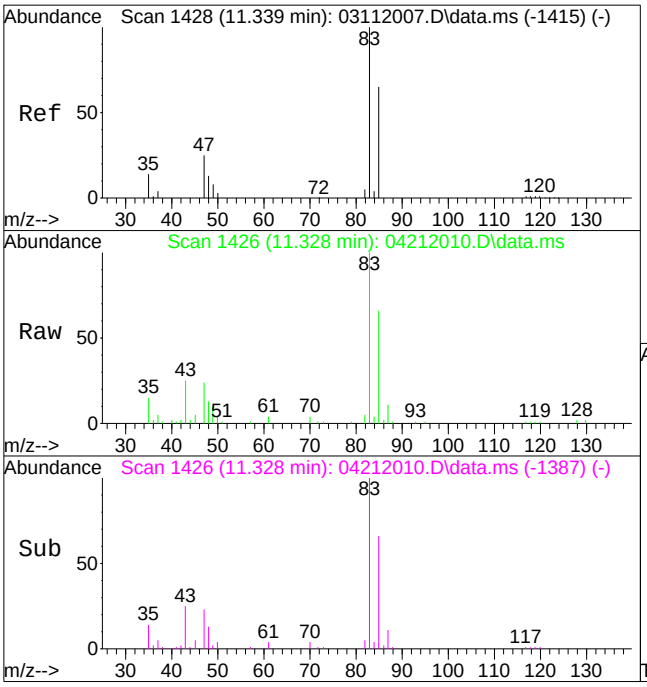


#31
n-Hexane
Concen: 0.08 ng
RT: 11.29 min Scan# 1419
Delta R.T. 0.000 min
Lab File: 04212010.D
Acq: 21 Apr 2020 14:26

Tgt Ion: 57 Resp: 5073

Ion	Ratio	Lower	Upper
57	100		
56	48.1	41.0	61.4
86	17.5	13.9	20.9

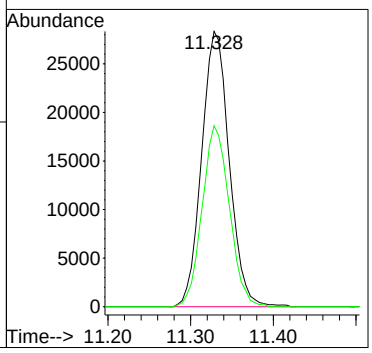


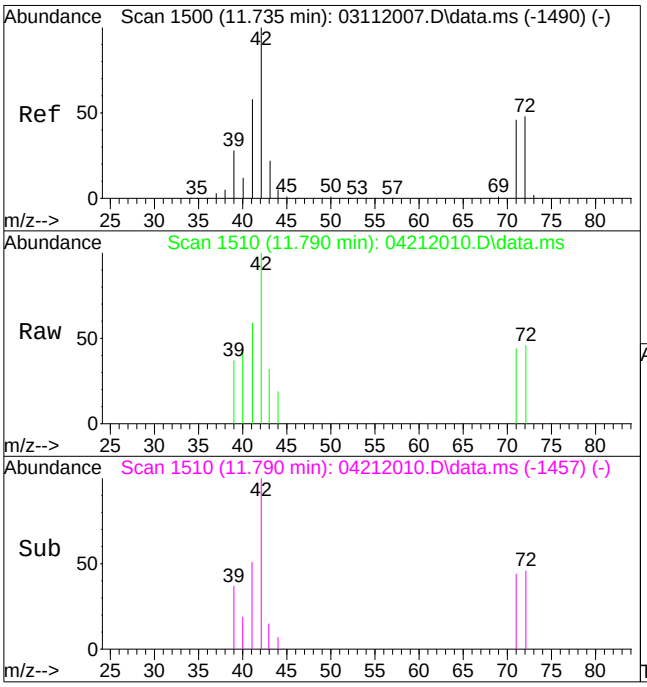


#32
Chloroform
Concen: 1.01 ng
RT: 11.33 min Scan# 1426
Delta R.T. -0.033 min
Lab File: 04212010.D
Acq: 21 Apr 2020 14:26

Tgt Ion: 83 Resp: 65731

Ion	Ratio	Lower	Upper
83	100		
85	64.7	45.5	85.5

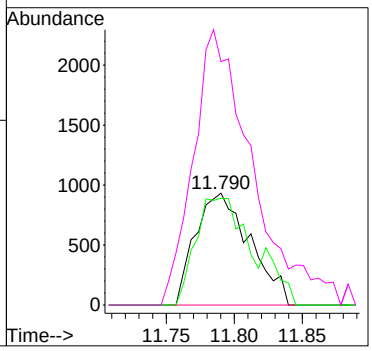


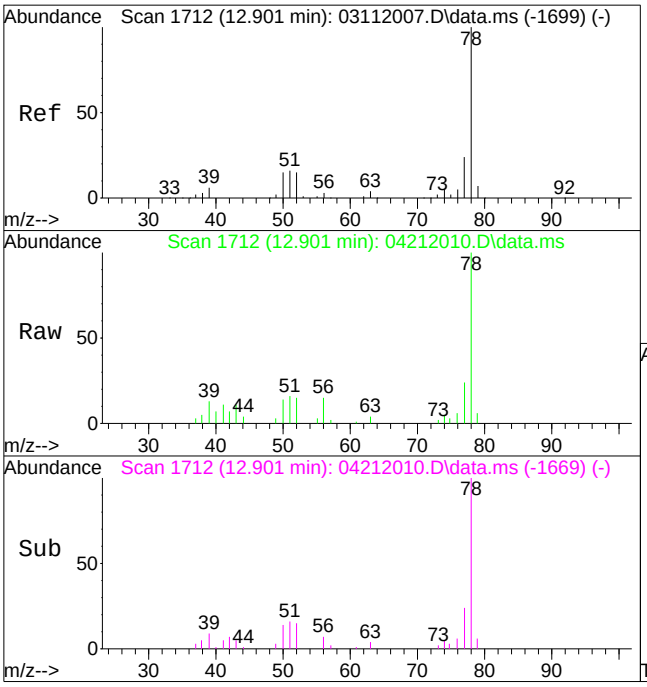


#34
Tetrahydrofuran (THF)
Concen: 0.11 ng
RT: 11.79 min Scan# 1510
Delta R.T. 0.044 min
Lab File: 04212010.D
Acq: 21 Apr 2020 14:26

Tgt Ion: 72 Resp: 2601

Ion	Ratio	Lower	Upper
72	100		
71	101.5	75.9	115.9
42	266.9	189.3	229.3#

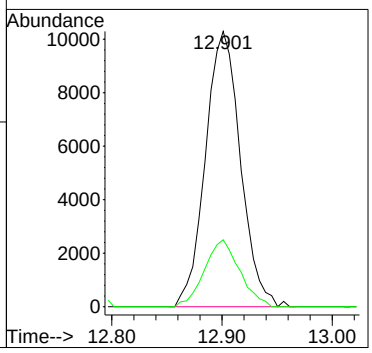


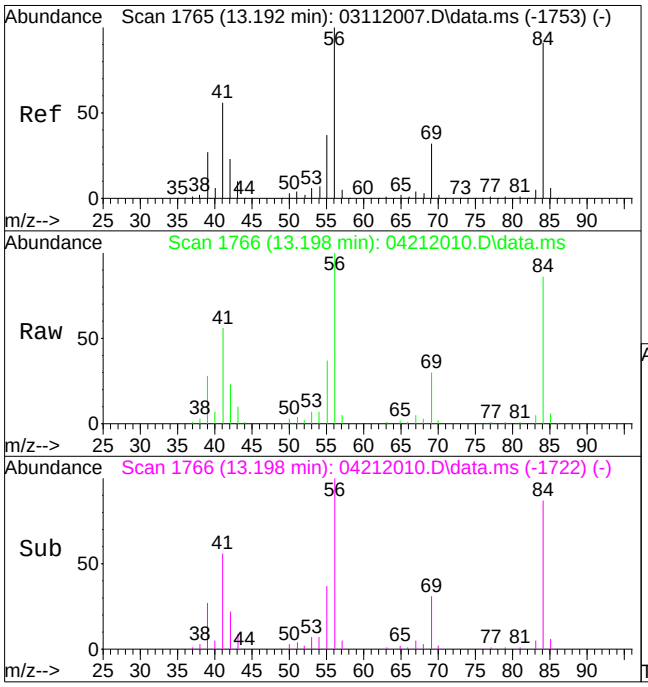


#41
Benzene
Concen: 0.15 ng
RT: 12.90 min Scan# 1712
Delta R.T. -0.011 min
Lab File: 04212010.D
Acq: 21 Apr 2020 14:26

Tgt Ion: 78 Resp: 22728

Ion	Ratio	Lower	Upper
78	100		
77	24.4	3.4	43.4

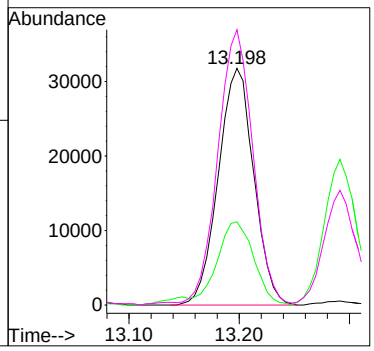


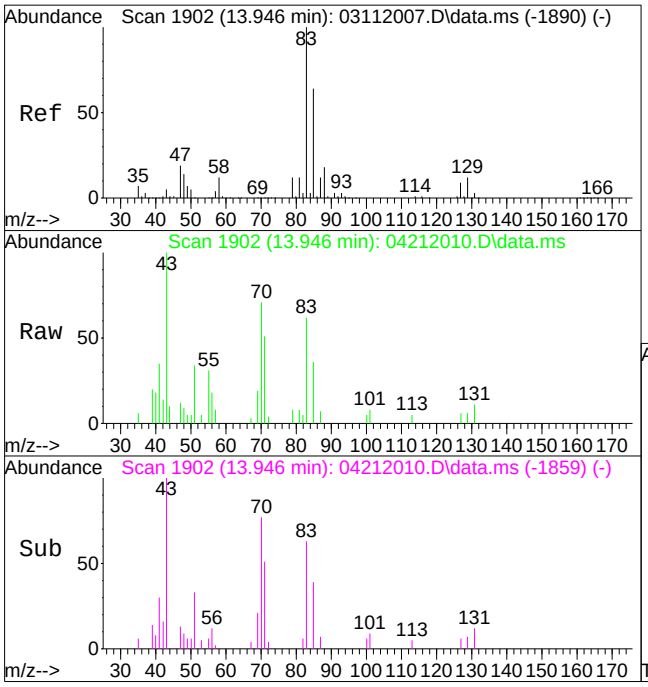


#43
Cyclohexane
Concen: 1.23 ng
RT: 13.20 min Scan# 1766
Delta R.T. -0.005 min
Lab File: 04212010.D
Acq: 21 Apr 2020 14:26

Tgt Ion: 84 Resp: 71197

Ion	Ratio	Lower	Upper
84	100		
69	38.6	15.3	55.3
56	115.6	90.5	130.5

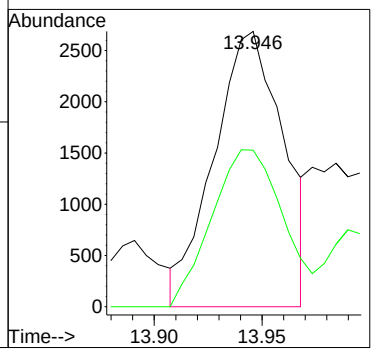


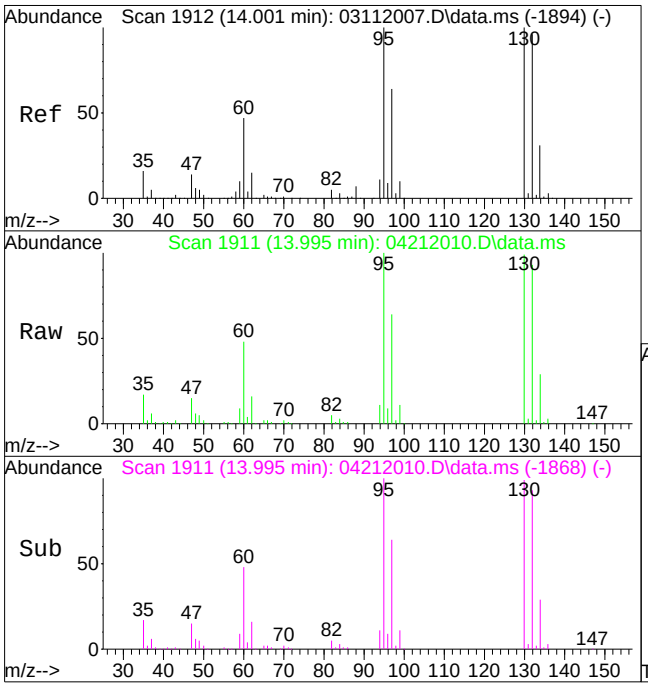


#46
Bromodichloromethane
Concen: 0.12 ng m
RT: 13.95 min Scan# 1902
Delta R.T. -0.011 min
Lab File: 04212010.D
Acq: 21 Apr 2020 14:26

Tgt Ion: 83 Resp: 6017

Ion	Ratio	Lower	Upper
83	100		
85	58.7	44.0	84.0

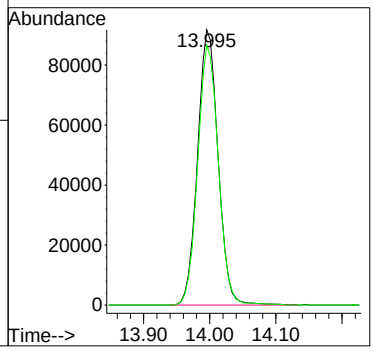


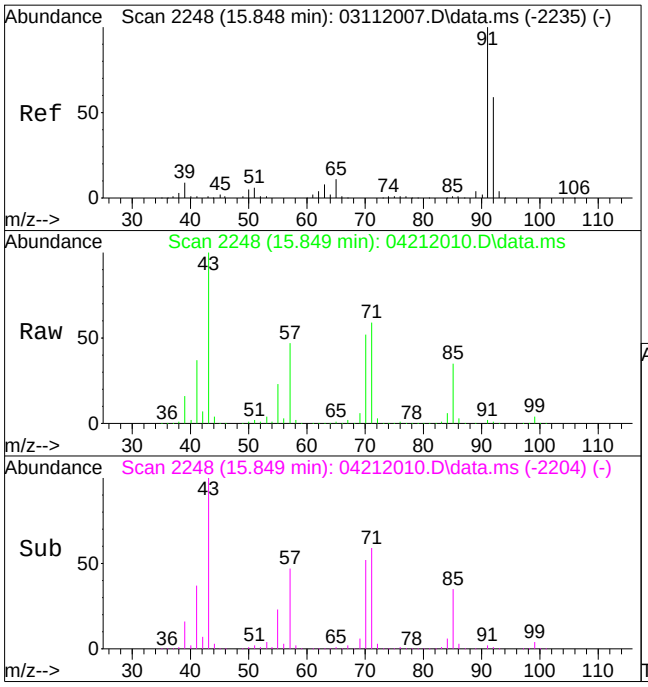


#47
Trichloroethene
Concen: 4.65 ng
RT: 14.00 min Scan# 1911
Delta R.T. -0.011 min
Lab File: 04212010.D
Acq: 21 Apr 2020 14:26

Tgt Ion:130 Resp: 198094

Ion	Ratio	Lower	Upper
130	100		
132	94.9	74.7	114.7

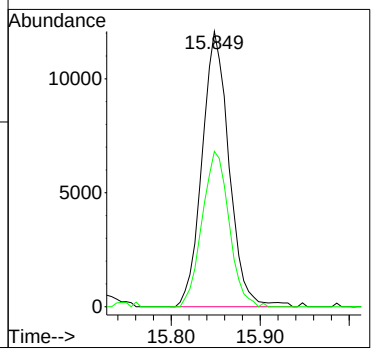


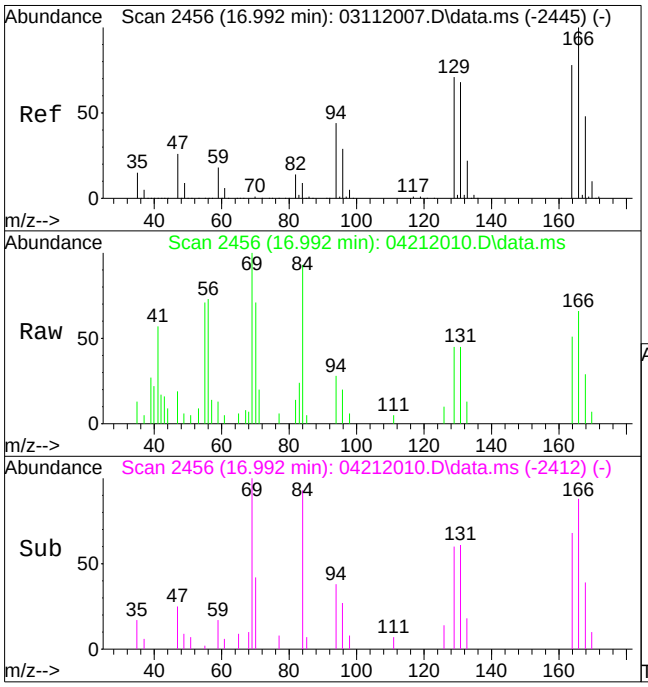


#58
Toluene
Concen: 0.17 ng
RT: 15.85 min Scan# 2248
Delta R.T. -0.005 min
Lab File: 04212010.D
Acq: 21 Apr 2020 14:26

Tgt Ion: 91 Resp: 25431

Ion	Ratio	Lower	Upper
91	100		
92	56.2	39.0	79.0

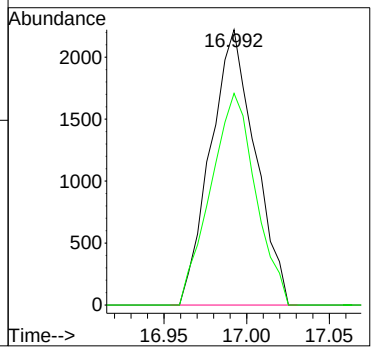


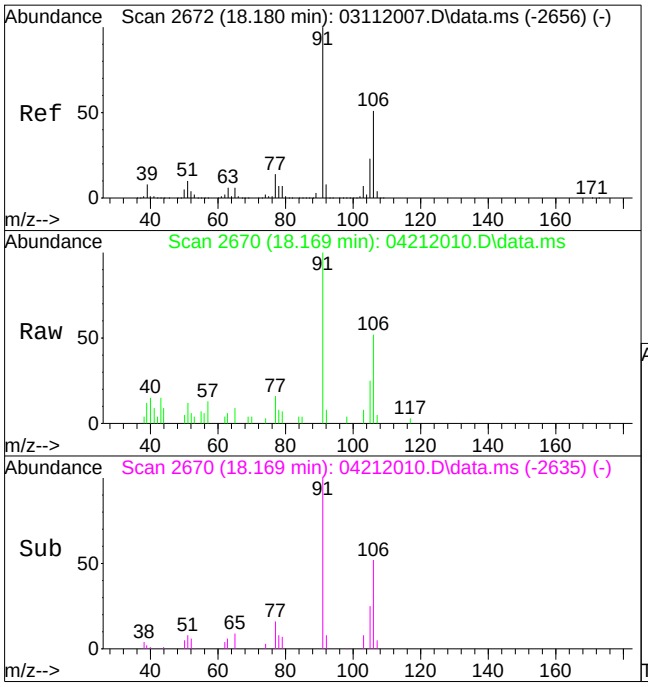


#64
Tetrachloroethene
Concen: 0.10 ng
RT: 16.99 min Scan# 2456
Delta R.T. -0.005 min
Lab File: 04212010.D
Acq: 21 Apr 2020 14:26

Tgt Ion:166 Resp: 4173

Ion	Ratio	Lower	Upper
166	100		
164	77.4	58.6	98.6

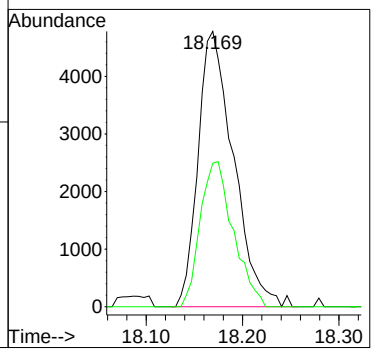


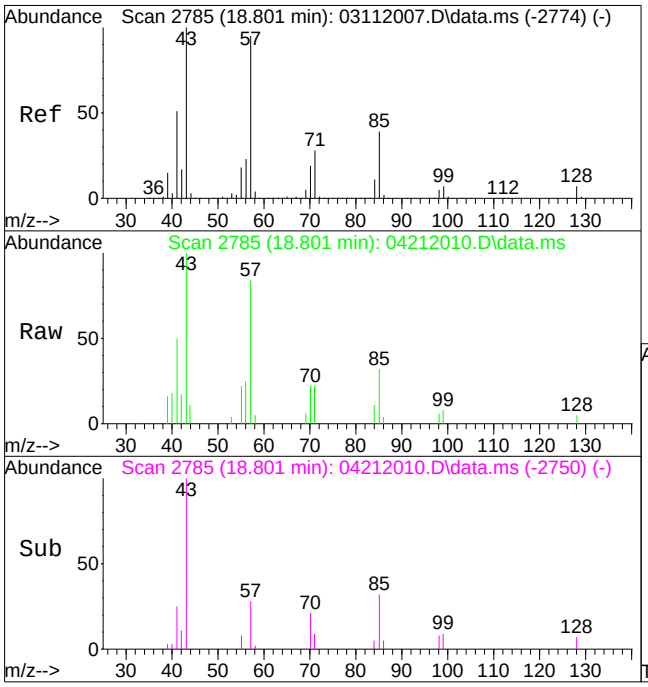


#67
m- & p-Xylenes
Concen: 0.09 ng
RT: 18.17 min Scan# 2670
Delta R.T. -0.005 min
Lab File: 04212010.D
Acq: 21 Apr 2020 14:26

Tgt Ion: 91 Resp: 12216

Ion	Ratio	Lower	Upper
91	100		
106	49.0	30.4	70.4

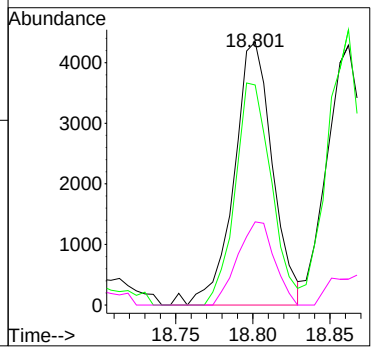


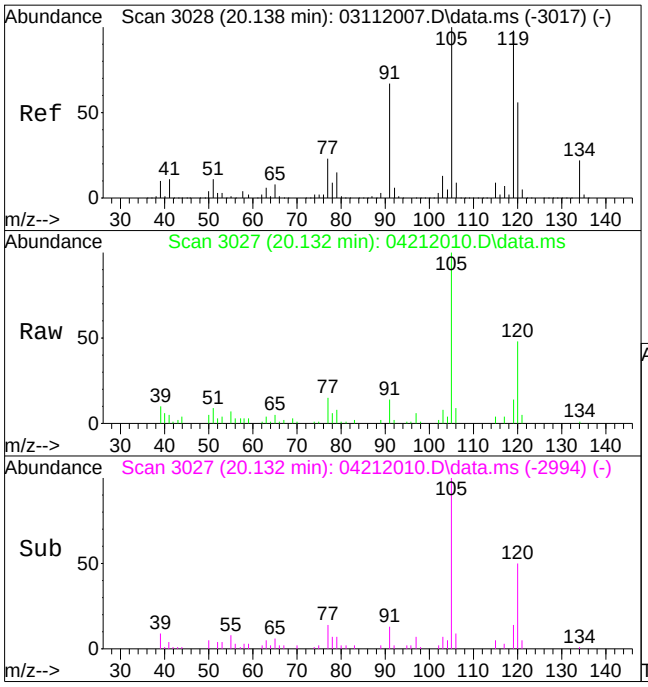


#71
n-Nonane
Concen: 0.11 ng
RT: 18.80 min Scan# 2785
Delta R.T. -0.005 min
Lab File: 04212010.D
Acq: 21 Apr 2020 14:26

Tgt Ion: 43 Resp: 7558

Ion	Ratio	Lower	Upper
43	100		
57	79.3	73.6	113.6
85	30.1	18.7	58.7

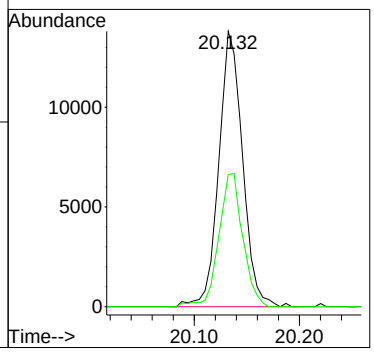


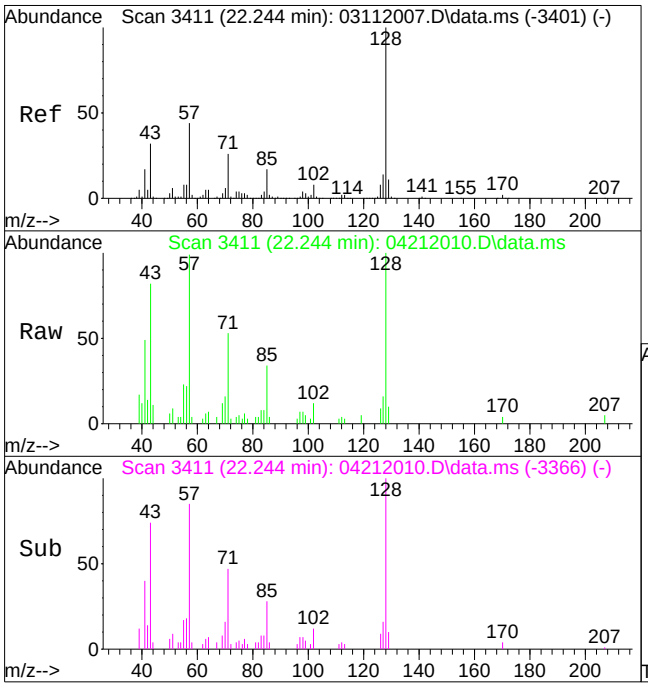


#82
1,2,4-Trimethylbenzene
Concen: 0.14 ng
RT: 20.13 min Scan# 3027
Delta R.T. -0.017 min
Lab File: 04212010.D
Acq: 21 Apr 2020 14:26

Tgt Ion:105 Resp: 21712

Ion	Ratio	Lower	Upper
105	100		
120	48.8	35.8	75.8

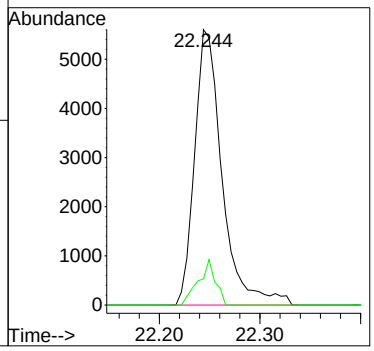




#95
Naphthalene
Concen: 0.06 ng
RT: 22.24 min Scan# 3411
Delta R.T. -0.005 min
Lab File: 04212010.D
Acq: 21 Apr 2020 14:26

Tgt Ion:128 Resp: 10621

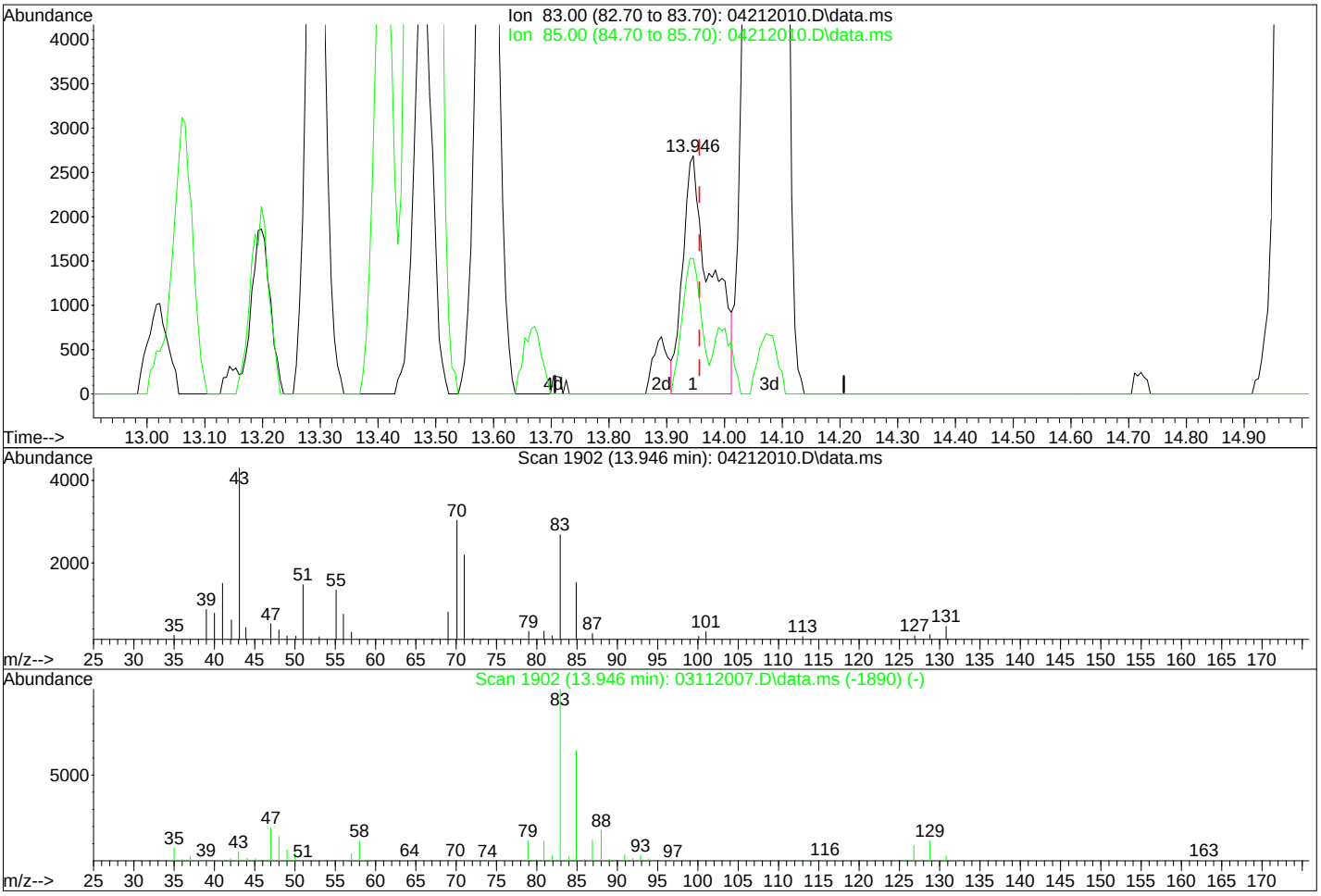
Ion	Ratio	Lower	Upper
128	100		
129	10.2	0.0	31.1



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\21\04212010.D Vial: 1
Acq On : 21 Apr 2020 14:26 Operator: WA
Sample : P2002031-018 (4.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 03:14:53 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04212010.D\data.ms

(46) Bromodichloromethane (T)

13.946min (-0.011) 0.18ng

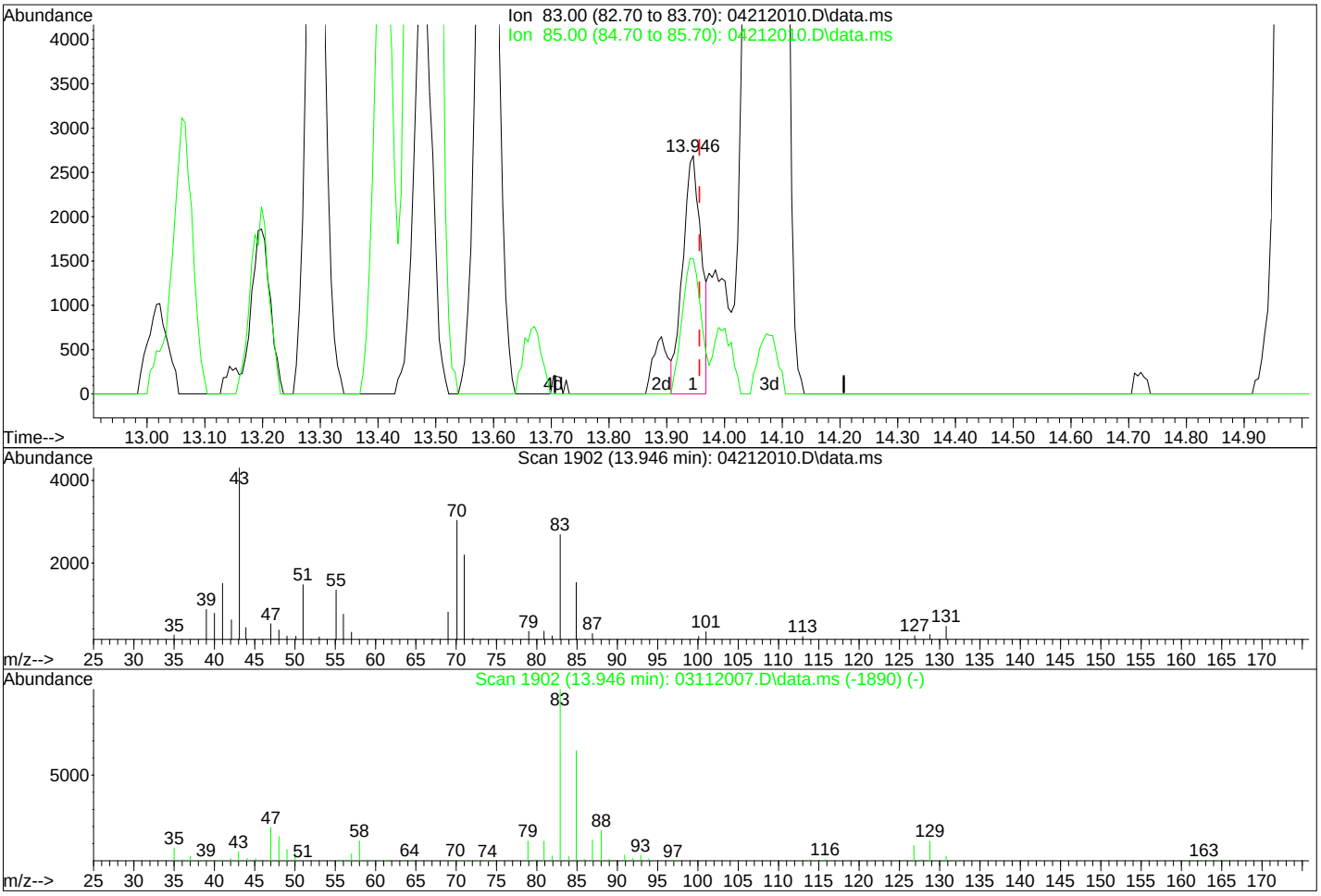
response 9256

Ion	Exp%	Act%
83.00	100	100
85.00	64.00	38.15#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\21\04212010.D Vial: 1
Acq On : 21 Apr 2020 14:26 Operator: WA
Sample : P2002031-018 (4.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 03:14:53 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04212010.D\data.ms

(46) Bromodichloromethane (T)

13.946min (-0.011) 0.12ng m

response 6017

Ion	Exp%	Act%
83.00	100	100
85.00	64.00	58.68
0.00	0.00	0.00
0.00	0.00	0.00

IPC

LH 4/22/20

4/23/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212019.D Vial: 6
Acq On : 21 Apr 2020 19:12 Operator: WA
Sample : P2002031-019 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 18:55:04 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration LH 4/22/20
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	299504	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1328251	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	672433	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	522284	12.594	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.72%				
57) Toluene-d8 (SS2)	15.74	98	1387646	11.642	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.12%				
73) Bromofluorobenzene (SS3)	19.00	174	489835	11.638	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.12%				
Target Compounds							Qvalue
2) Propene	4.12	42	8376	0.267	ng		93
3) Dichlorodifluoromethan...	4.27	85	45609	0.675	ng		100
4) Chloromethane	4.55	50	2955	0.055	ng		92
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	984	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.24	54	414	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.99	64	582	N.D.			
10) Ethanol	6.32	45	44133	1.778	ng		99
11) Acetonitrile	6.60	41	24534	0.449	ng		96
12) Acrolein	6.80	56	14601	0.799	ng		99
13) Acetone	7.00	58	173287m	7.073	ng		
14) Trichlorofluoromethane	7.26	101	17063	0.286	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	26435	0.364	ng		60
16) Acrylonitrile	7.78	53	59	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.42	84	1073	N.D.			
20) 3-Chloro-1-propene (Al...	8.49	41	533	N.D.			
21) Trichlorotrifluoroethane	8.86	151	30240	1.061	ng		94
22) Carbon Disulfide	8.71	76	27033	0.236	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.11	73	654	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.48	72	38746	1.900	ng	#	91
28) cis-1,2-Dichloroethene	10.99	61	106	N.D.			
29) Diisopropyl Ether	11.33	87	907	N.D.			
30) Ethyl Acetate	11.31	61	3016	0.250	ng		89
31) n-Hexane	11.28	57	4286	0.077	ng	#	96
32) Chloroform	11.33	83	8072	0.136	ng		99
34) Tetrahydrofuran (THF)	11.76	72	14226	0.678	ng	#	86
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.03	62	103	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.90	78	13448	0.098	ng		99
42) Carbon Tetrachloride	13.06	117	6205	0.132	ng		96
43) Cyclohexane	13.19	84	4734	0.090	ng		87
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	14.00	130	769819	19.781	ng		99
48) 1,4-Dioxane	0.00	88	0	N.D.	d		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.14	100	437	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212019.D Vial: 6
Acq On : 21 Apr 2020 19:12 Operator: WA
Sample : P2002031-019 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 18:55:04 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

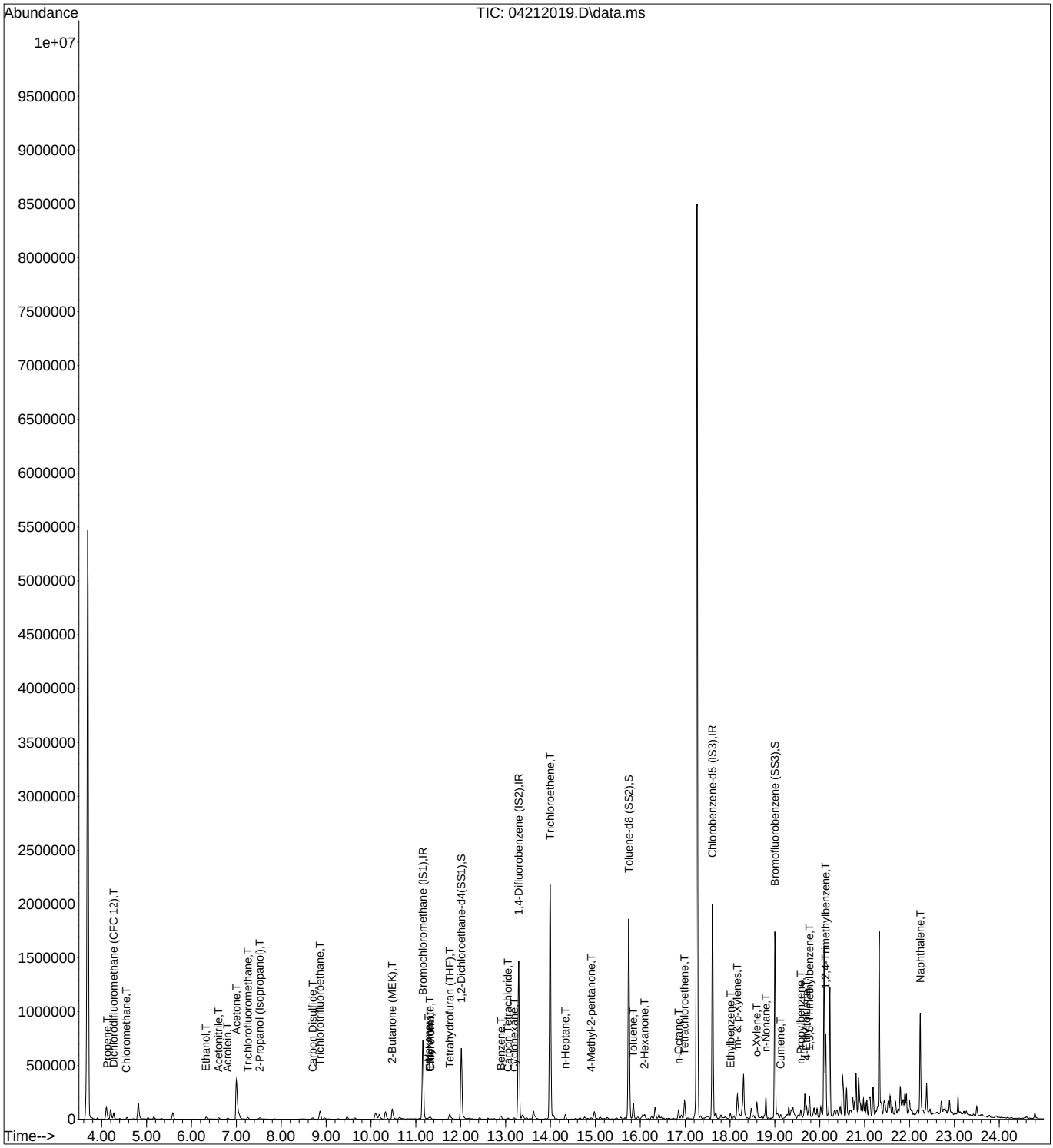
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.33	71	10770	0.336 ng	93
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.91	58	3621	0.126 ng	89
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	15.56	97	332	N.D.	
58) Toluene	15.84	91	116237	0.789 ng	99
59) 2-Hexanone	16.10	43	28900	0.392 ng	93
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.73	43	2204	N.D.	
63) n-Octane	16.85	57	16256	0.556 ng	92
64) Tetrachloroethene	16.99	166	51984	1.266 ng	99
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	18.01	91	34829	0.215 ng	96
67) m- & p-Xylenes	18.16	91	159918	1.216 ng	98
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.50	104	1205	N.D.	
70) o-Xylene	18.60	91	67766	0.515 ng	99
71) n-Nonane	18.80	43	68948m	1.049 ng	
72) 1,1,2,2-Tetrachloroethane	18.58	83	183	N.D.	
74) Cumene	19.13	105	12403	0.075 ng	96
75) alpha-Pinene	19.47	93	169	N.D.	
76) n-Propylbenzene	19.58	91	53717	0.277 ng	94
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.70	105	49335	0.312 ng	97
79) 1,3,5-Trimethylbenzene	19.77	105	78001	0.555 ng	95
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.13	105	386171	2.652 ng	87
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.25	91	856	N.D.	
85) 1,3-Dichlorobenzene	20.26	146	136	N.D.	
86) 1,4-Dichlorobenzene	20.33	146	604	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	20.63	146	305	N.D.	
91) d-Limonene	20.63	68	1982	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.24	128	52779	0.324 ng	91
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212019.D Vial: 6
Acq On : 21 Apr 2020 19:12 Operator: WA
Sample : P2002031-019 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 18:55:04 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212019.D Vial: 6
Acq On : 21 Apr 2020 19:12 Operator: WA
Sample : P2002031-019 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 18:55:04 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/22/20

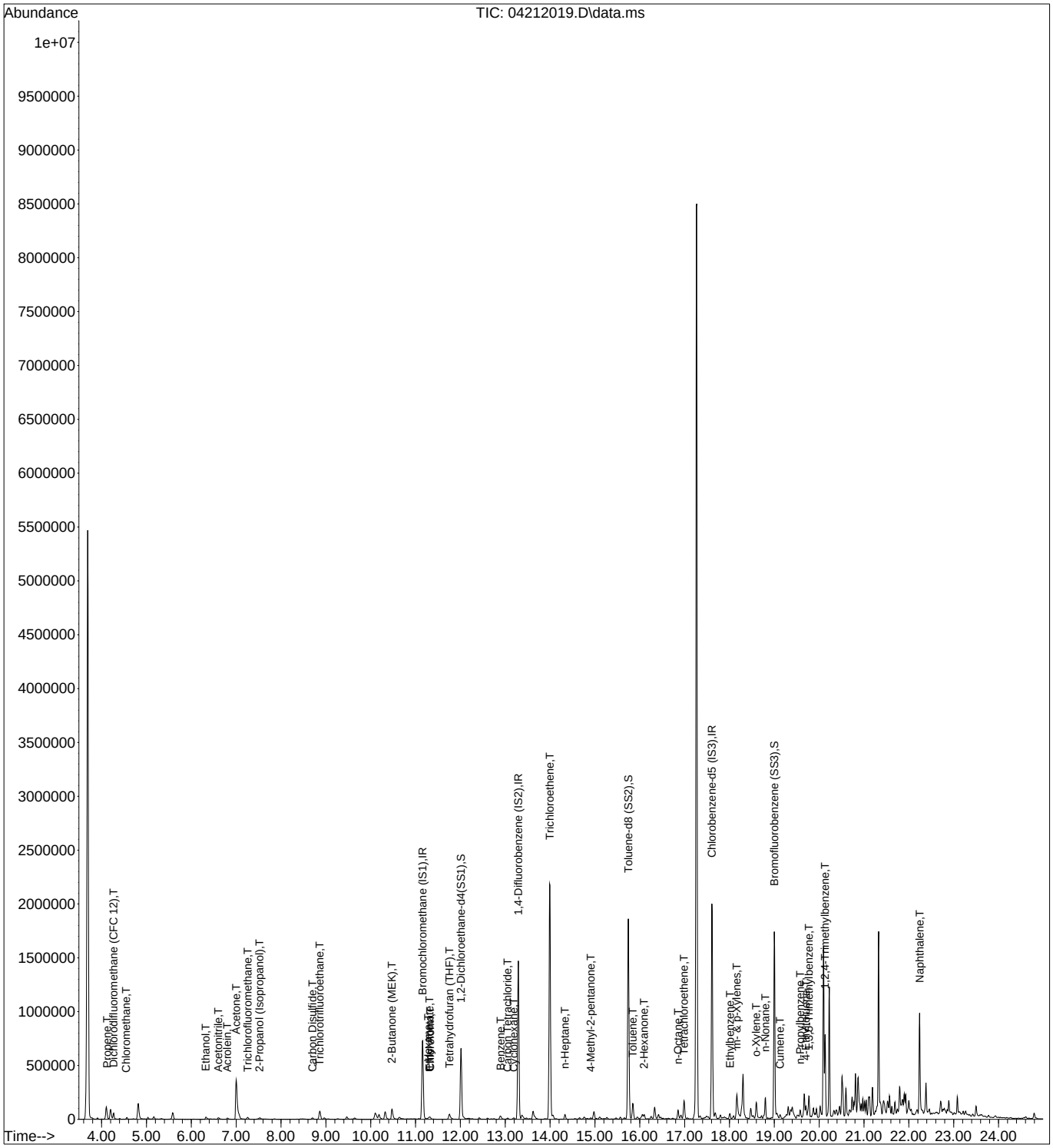
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	299504	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1328251	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	672433	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	522284	12.594	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.72%				
57) Toluene-d8 (SS2)	15.74	98	1387646	11.642	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.12%				
73) Bromofluorobenzene (SS3)	19.00	174	489835	11.638	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.12%				
Target Compounds							Qvalue
2) Propene	4.12	42	8376	0.267	ng		93
3) Dichlorodifluoromethan...	4.27	85	45609	0.675	ng		100
4) Chloromethane	4.55	50	2955	0.055	ng		92
10) Ethanol	6.32	45	44133	1.778	ng		99
11) Acetonitrile	6.60	41	24534	0.449	ng		96
12) Acrolein	6.80	56	14601	0.799	ng		99
13) Acetone	7.00	58	173287m	7.073	ng		
14) Trichlorofluoromethane	7.26	101	17063	0.286	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	26435	0.364	ng		60
21) Trichlorotrifluoroethane	8.86	151	30240	1.061	ng		94
22) Carbon Disulfide	8.71	76	27033	0.236	ng		99
27) 2-Butanone (MEK)	10.48	72	38746	1.900	ng	#	91
30) Ethyl Acetate	11.31	61	3016	0.250	ng		89
31) n-Hexane	11.28	57	4286	0.077	ng	#	96
32) Chloroform	11.33	83	8072	0.136	ng		99
34) Tetrahydrofuran (THF)	11.76	72	14226	0.678	ng	#	86
41) Benzene	12.90	78	13448	0.098	ng		99
42) Carbon Tetrachloride	13.06	117	6205	0.132	ng		96
43) Cyclohexane	13.19	84	4734	0.090	ng		87
47) Trichloroethene	14.00	130	769819	19.781	ng		99
51) n-Heptane	14.33	71	10770	0.336	ng		93
53) 4-Methyl-2-pentanone	14.91	58	3621	0.126	ng		89
58) Toluene	15.84	91	116237	0.789	ng		99
59) 2-Hexanone	16.10	43	28900	0.392	ng		93
63) n-Octane	16.85	57	16256	0.556	ng		92
64) Tetrachloroethene	16.99	166	51984	1.266	ng		99
66) Ethylbenzene	18.01	91	34829	0.215	ng		96
67) m- & p-Xylenes	18.16	91	159918	1.216	ng		98
70) o-Xylene	18.60	91	67766	0.515	ng		99
71) n-Nonane	18.80	43	68948m	1.049	ng		
74) Cumene	19.13	105	12403	0.075	ng		96
76) n-Propylbenzene	19.58	91	53717	0.277	ng		94
78) 4-Ethyltoluene	19.70	105	49335	0.312	ng		97
79) 1,3,5-Trimethylbenzene	19.77	105	78001	0.555	ng		95
82) 1,2,4-Trimethylbenzene	20.13	105	386171	2.652	ng		87
95) Naphthalene	22.24	128	52779	0.324	ng		91

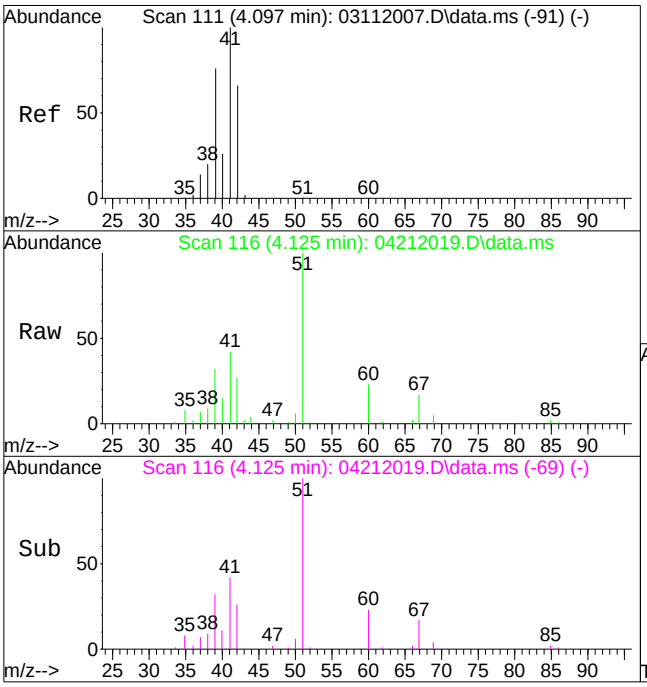
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212019.D Vial: 6
Acq On : 21 Apr 2020 19:12 Operator: WA
Sample : P2002031-019 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 18:55:04 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

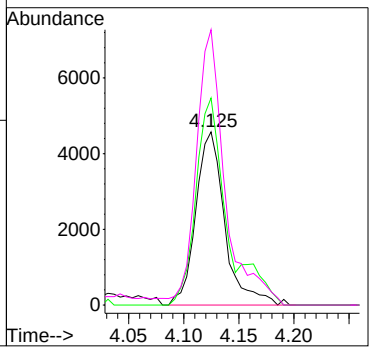


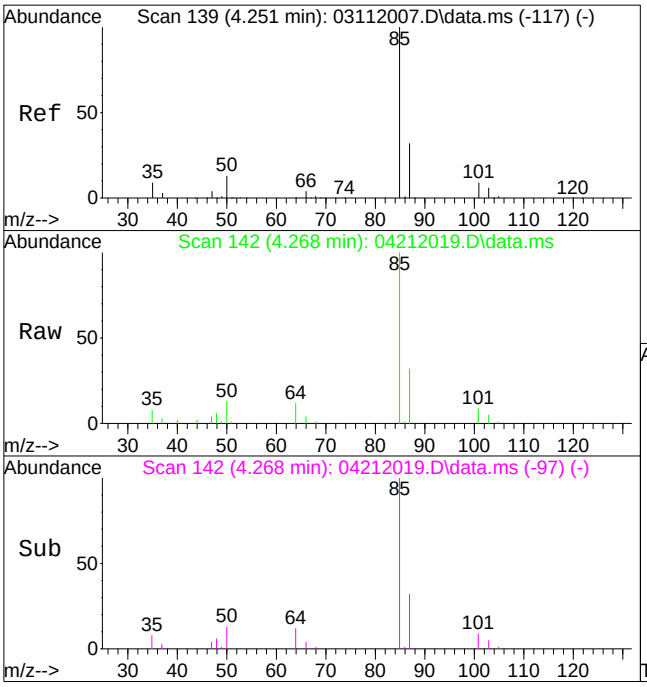


#2
Propene
Concen: 0.27 ng
RT: 4.12 min Scan# 116
Delta R.T. 0.011 min
Lab File: 04212019.D
Acq: 21 Apr 2020 19:12

Tgt Ion: 42 Resp: 8376

Ion	Ratio	Lower	Upper
42	100		
39	128.3	95.3	135.3
41	157.0	132.0	172.0

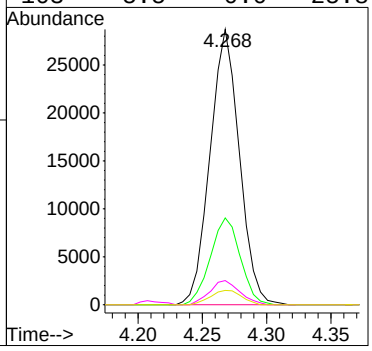


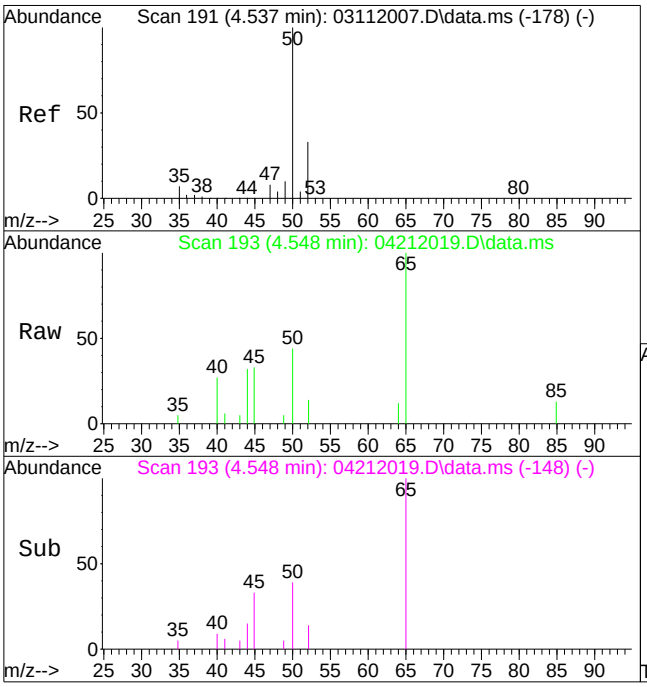


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.67 ng
RT: 4.27 min Scan# 142
Delta R.T. -0.000 min
Lab File: 04212019.D
Acq: 21 Apr 2020 19:12

Tgt Ion: 85 Resp: 45609

Ion	Ratio	Lower	Upper
85	100		
87	32.1	12.3	52.3
101	9.0	0.0	29.0
103	5.5	0.0	25.8

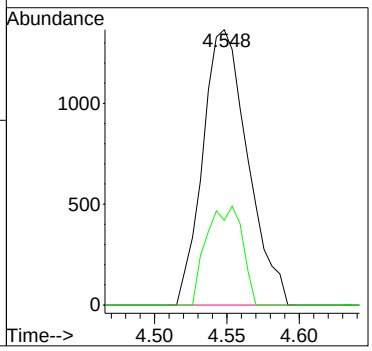


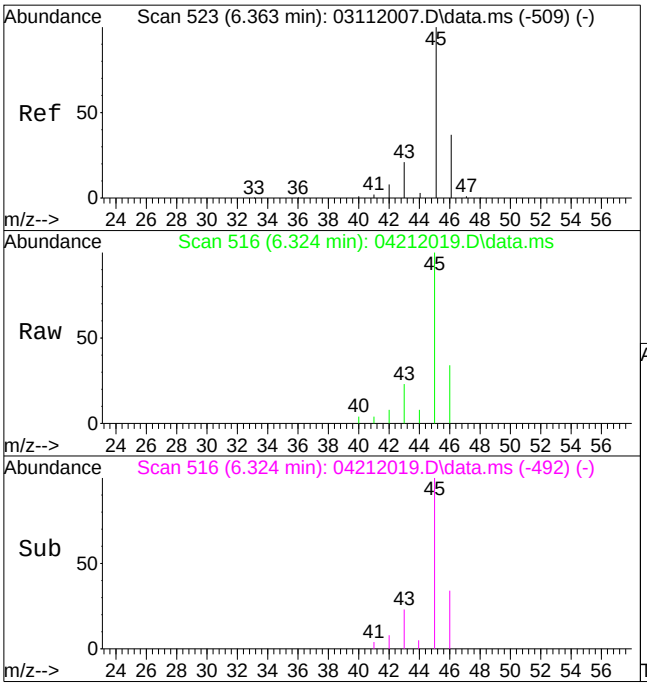


#4
Chloromethane
Concen: 0.06 ng
RT: 4.55 min Scan# 193
Delta R.T. -0.005 min
Lab File: 04212019.D
Acq: 21 Apr 2020 19:12

Tgt Ion: 50 Resp: 2955

Ion	Ratio	Lower	Upper
50	100		
52	28.5	12.8	52.8

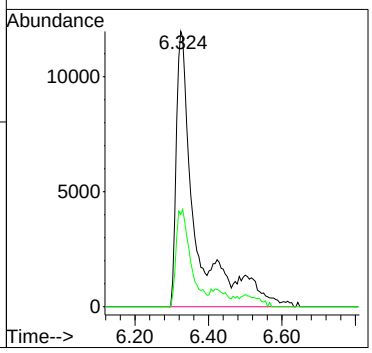


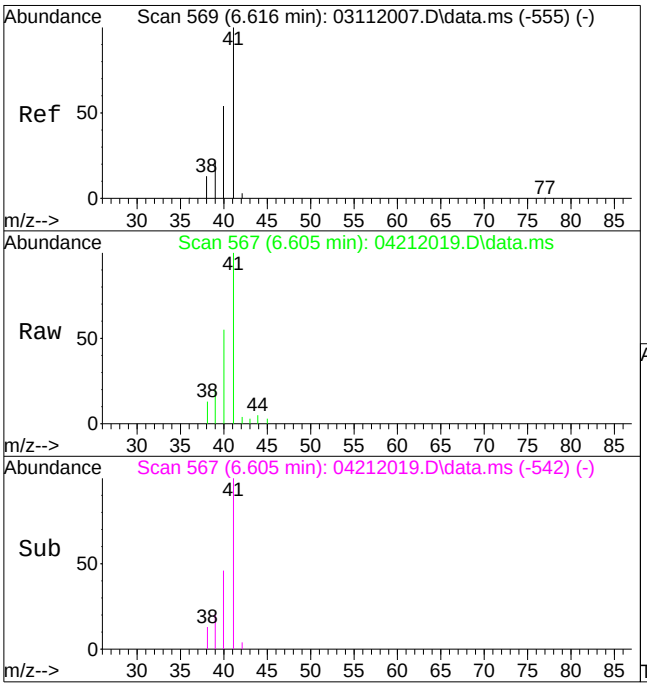


#10
Ethanol
Concen: 1.78 ng
RT: 6.32 min Scan# 516
Delta R.T. -0.116 min
Lab File: 04212019.D
Acq: 21 Apr 2020 19:12

Tgt Ion: 45 Resp: 44133

Ion	Ratio	Lower	Upper
45	100		
46	37.0	17.3	57.3

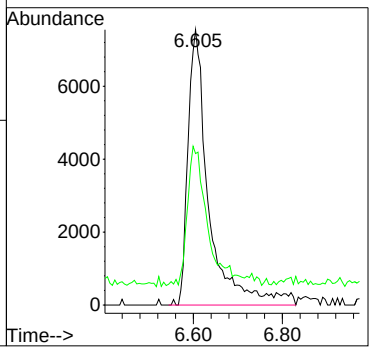


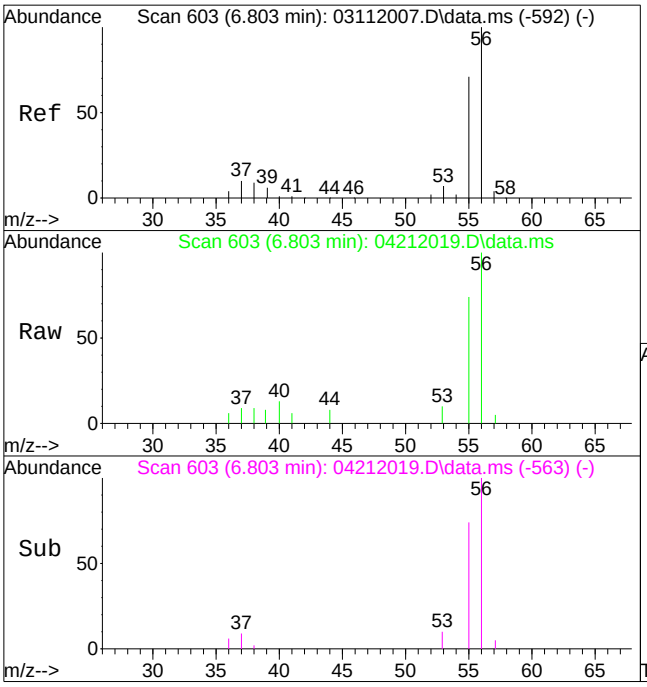


#11
Acetonitrile
Concen: 0.45 ng
RT: 6.60 min Scan# 567
Delta R.T. -0.060 min
Lab File: 04212019.D
Acq: 21 Apr 2020 19:12

Tgt Ion: 41 Resp: 24534

Ion	Ratio	Lower	Upper
41	100		
40	51.1	33.6	73.6

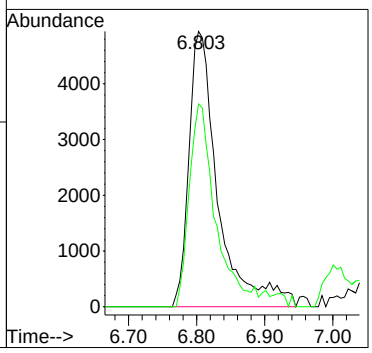


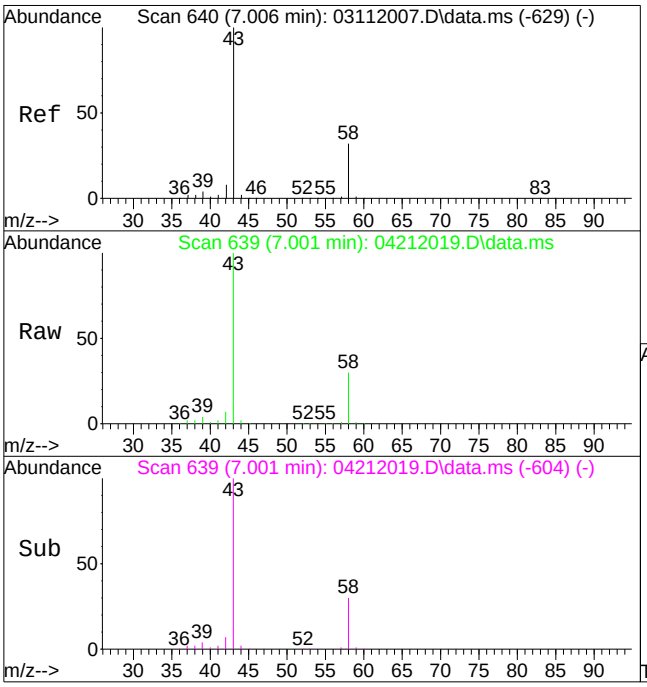


#12
Acrolein
Concen: 0.80 ng
RT: 6.80 min Scan# 603
Delta R.T. -0.027 min
Lab File: 04212019.D
Acq: 21 Apr 2020 19:12

Tgt Ion: 56 Resp: 14601

Ion	Ratio	Lower	Upper
56	100		
55	70.9	50.4	90.4

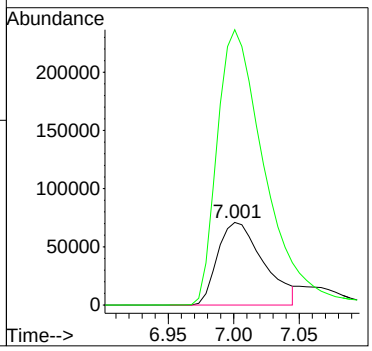


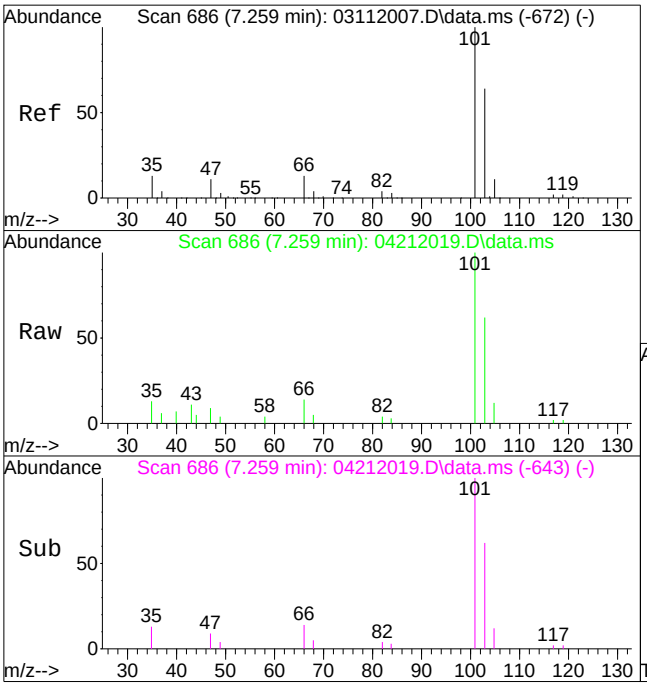


#13
Acetone
Concen: 7.07 ng m
RT: 7.00 min Scan# 639
Delta R.T. -0.055 min
Lab File: 04212019.D
Acq: 21 Apr 2020 19:12

Tgt Ion: 58 Resp: 173287

Ion	Ratio	Lower	Upper
58	100		
43	356.1	287.3	347.3#

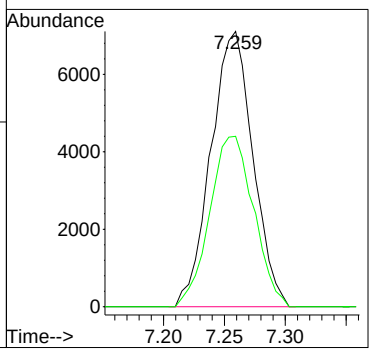


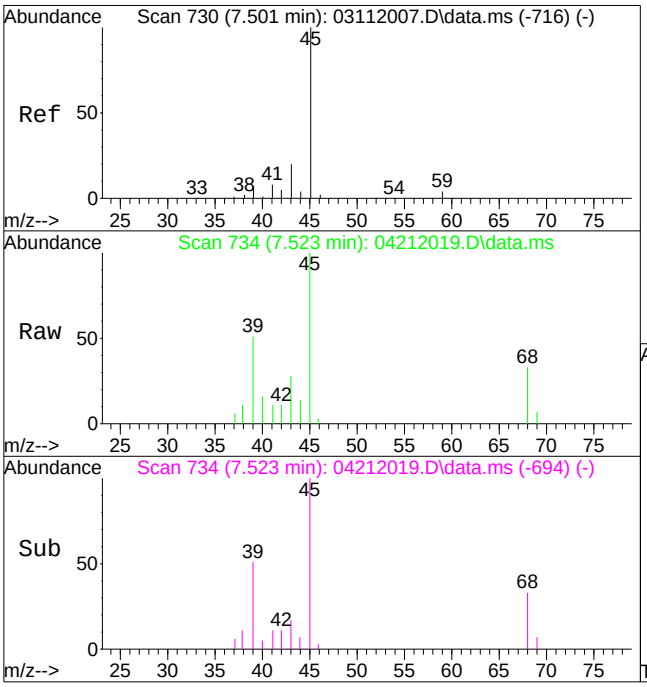


#14
Trichlorofluoromethane
Concen: 0.29 ng
RT: 7.26 min Scan# 686
Delta R.T. -0.016 min
Lab File: 04212019.D
Acq: 21 Apr 2020 19:12

Tgt Ion:101 Resp: 17063

Ion	Ratio	Lower	Upper
101	100		
103	64.7	44.6	84.6

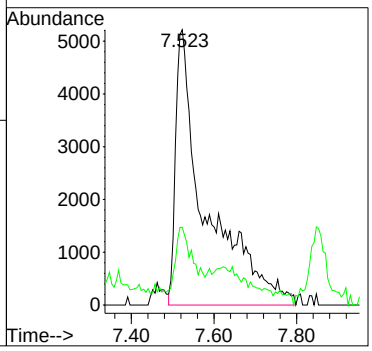


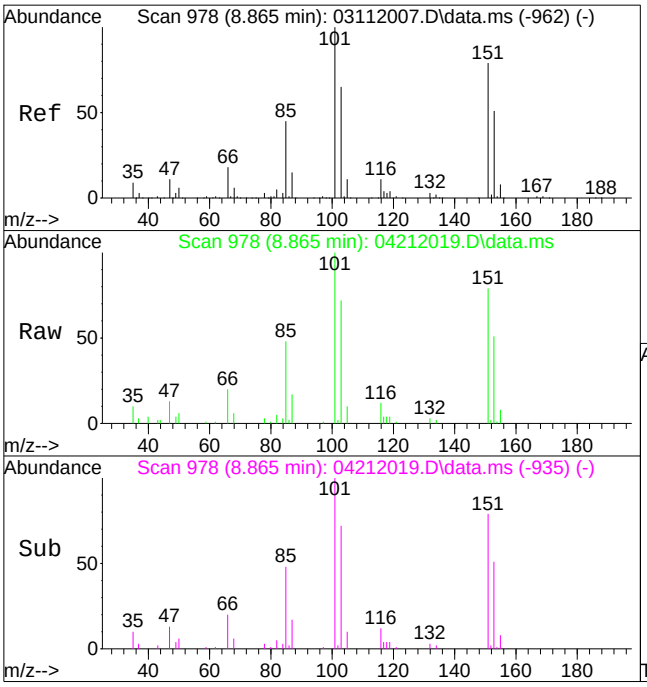


#15
2-Propanol (Isopropanol)
Concen: 0.36 ng
RT: 7.52 min Scan# 734
Delta R.T. -0.027 min
Lab File: 04212019.D
Acq: 21 Apr 2020 19:12

Tgt Ion: 45 Resp: 26435

Ion	Ratio	Lower	Upper
45	100		
43	38.6	0.3	40.3

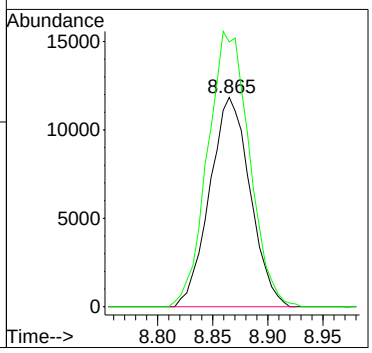


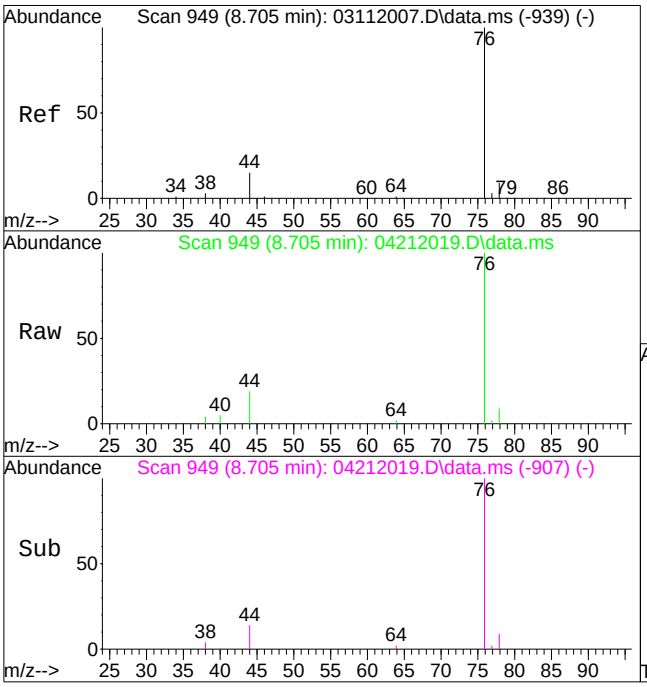


#21
Trichlorotrifluoroethane
Concen: 1.06 ng
RT: 8.86 min Scan# 978
Delta R.T. -0.011 min
Lab File: 04212019.D
Acq: 21 Apr 2020 19:12

Tgt Ion:151 Resp: 30240

Ion	Ratio	Lower	Upper
151	100		
101	135.7	108.4	148.4

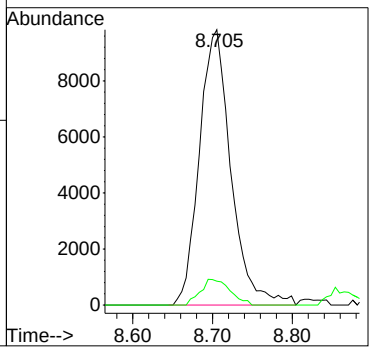


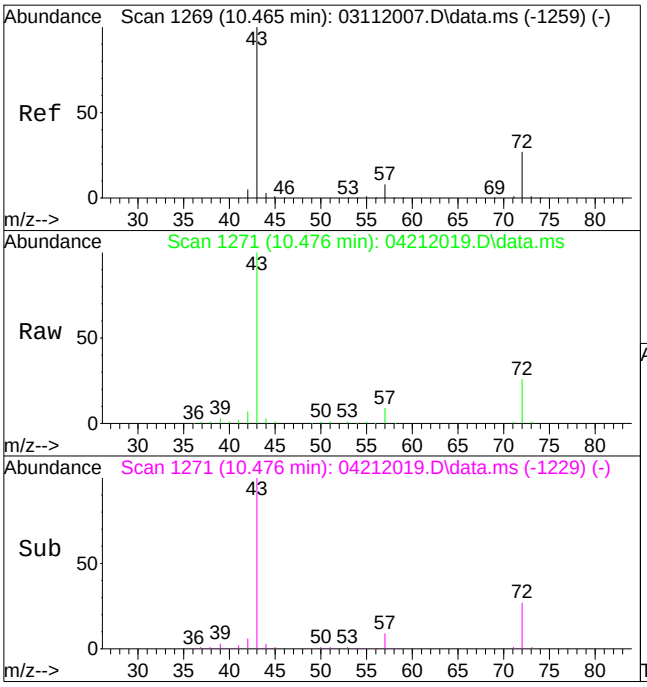


#22
Carbon Disulfide
Concen: 0.24 ng
RT: 8.71 min Scan# 949
Delta R.T. -0.016 min
Lab File: 04212019.D
Acq: 21 Apr 2020 19:12

Tgt Ion: 76 Resp: 27033

Ion	Ratio	Lower	Upper
76	100		
78	8.7	0.0	29.2

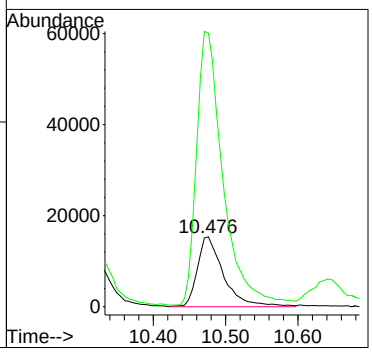


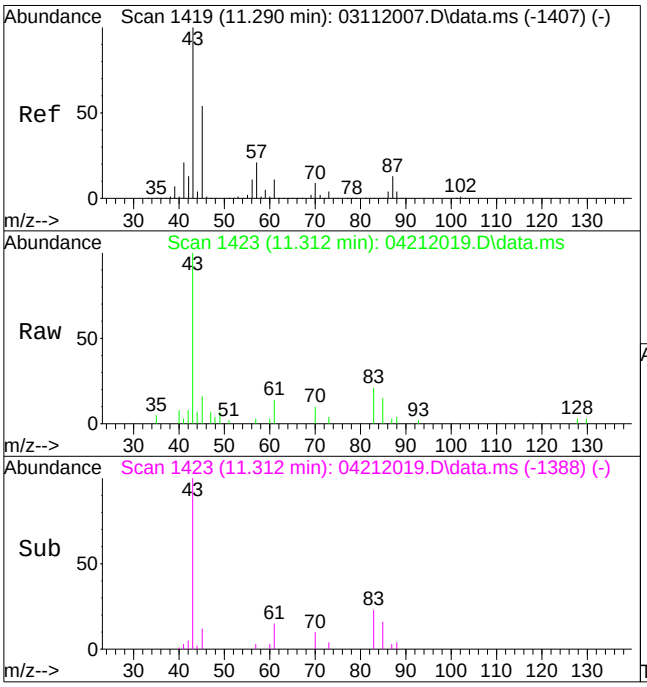


#27
2-Butanone (MEK)
Concen: 1.90 ng
RT: 10.48 min Scan# 1271
Delta R.T. -0.016 min
Lab File: 04212019.D
Acq: 21 Apr 2020 19:12

Tgt Ion: 72 Resp: 38746

Ion	Ratio	Lower	Upper
72	100		
43	394.0	353.4	393.4#

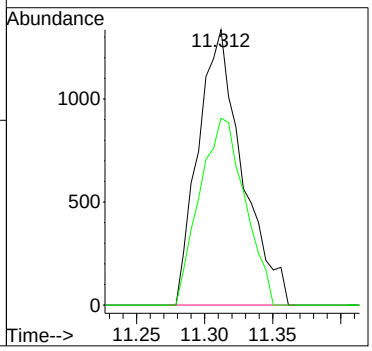


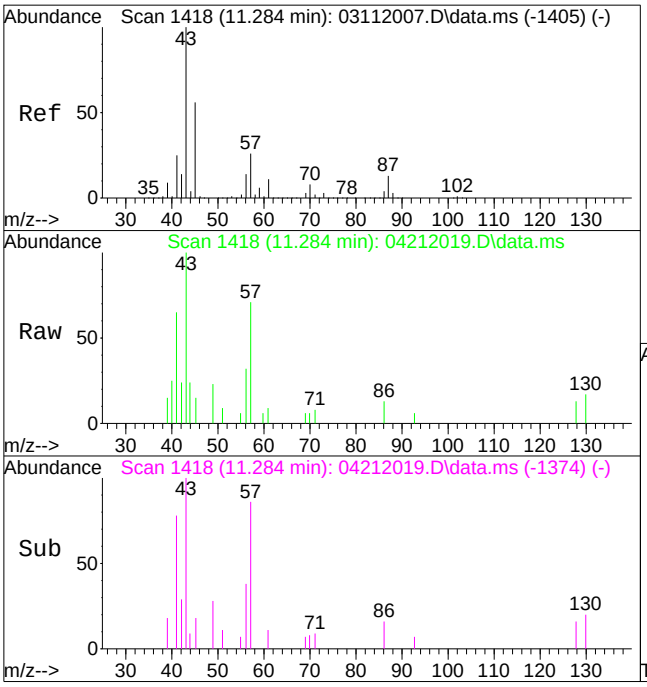


#30
Ethyl Acetate
Concen: 0.25 ng
RT: 11.31 min Scan# 1423
Delta R.T. -0.005 min
Lab File: 04212019.D
Acq: 21 Apr 2020 19:12

Tgt Ion: 61 Resp: 3016

Ion	Ratio	Lower	Upper
61	100		
70	69.4	59.1	99.1

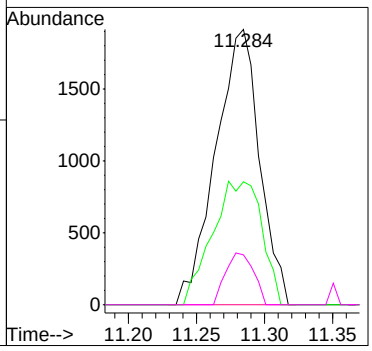


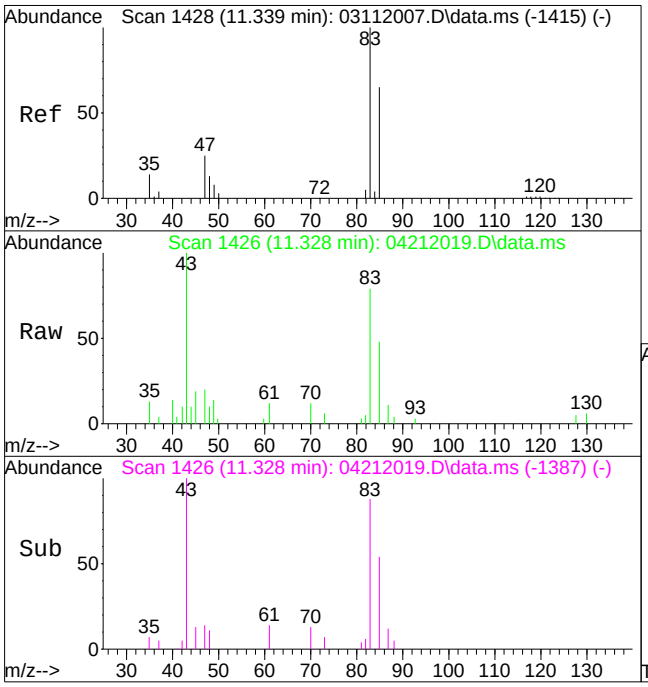


#31
n-Hexane
Concen: 0.08 ng
RT: 11.28 min Scan# 1418
Delta R.T. -0.005 min
Lab File: 04212019.D
Acq: 21 Apr 2020 19:12

Tgt Ion: 57 Resp: 4286

Ion	Ratio	Lower	Upper
57	100		
56	50.7	41.0	61.4
86	12.0	13.9	20.9#

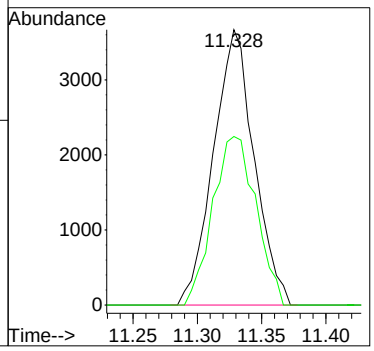


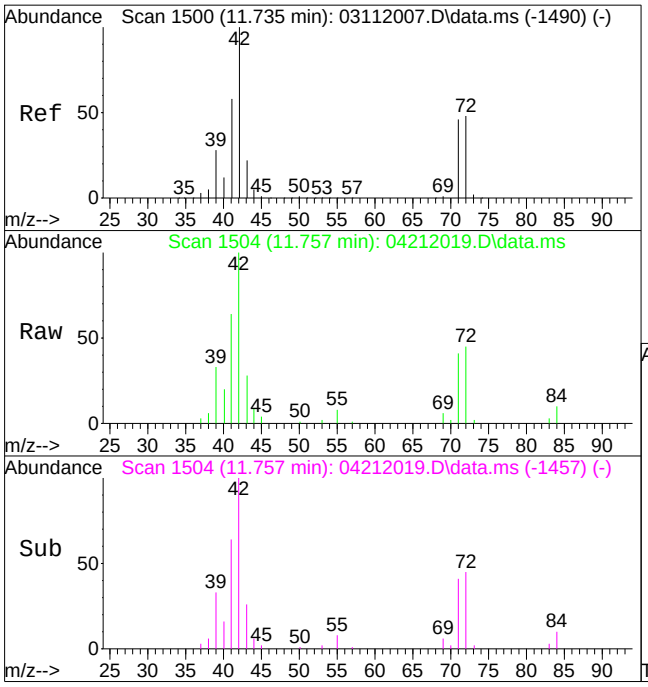


#32
Chloroform
Concen: 0.14 ng
RT: 11.33 min Scan# 1426
Delta R.T. -0.033 min
Lab File: 04212019.D
Acq: 21 Apr 2020 19:12

Tgt Ion: 83 Resp: 8072

Ion	Ratio	Lower	Upper
83	100		
85	64.9	45.5	85.5

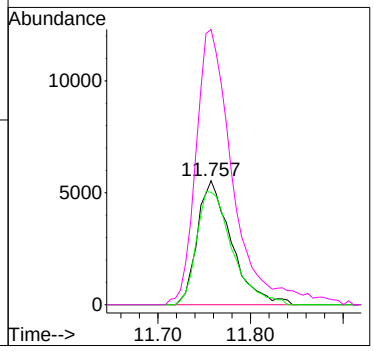


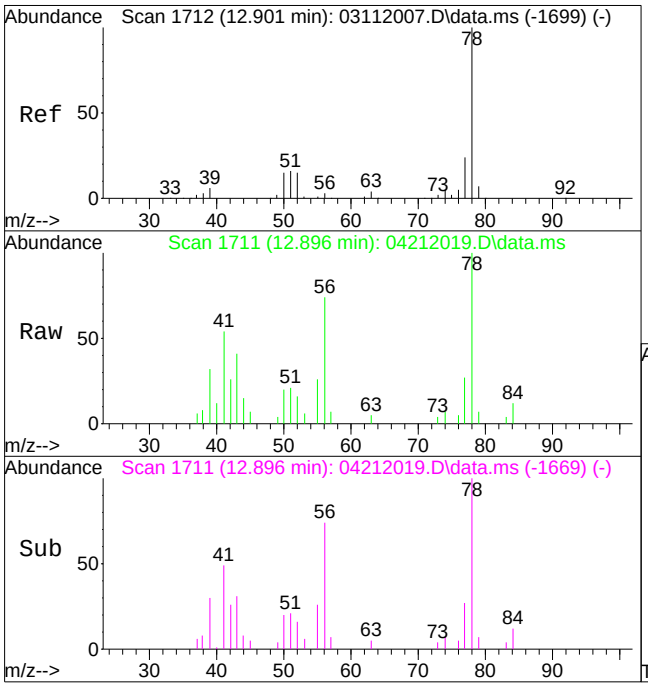


#34
Tetrahydrofuran (THF)
Concen: 0.68 ng
RT: 11.76 min Scan# 1504
Delta R.T. 0.011 min
Lab File: 04212019.D
Acq: 21 Apr 2020 19:12

Tgt Ion: 72 Resp: 14226

Ion	Ratio	Lower	Upper
72	100		
71	95.4	75.9	115.9
42	241.4	189.3	229.3#

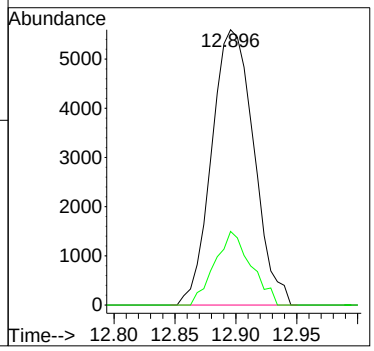


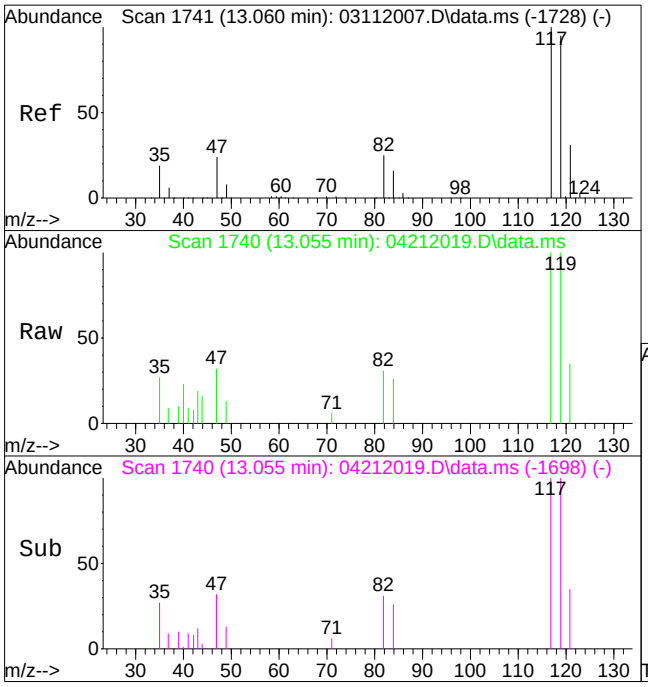


#41
Benzene
Concen: 0.10 ng
RT: 12.90 min Scan# 1711
Delta R.T. -0.016 min
Lab File: 04212019.D
Acq: 21 Apr 2020 19:12

Tgt Ion: 78 Resp: 13448

Ion	Ratio	Lower	Upper
78	100		
77	23.1	3.4	43.4

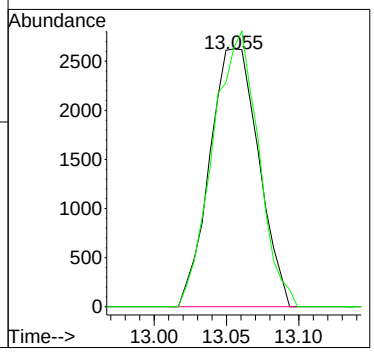


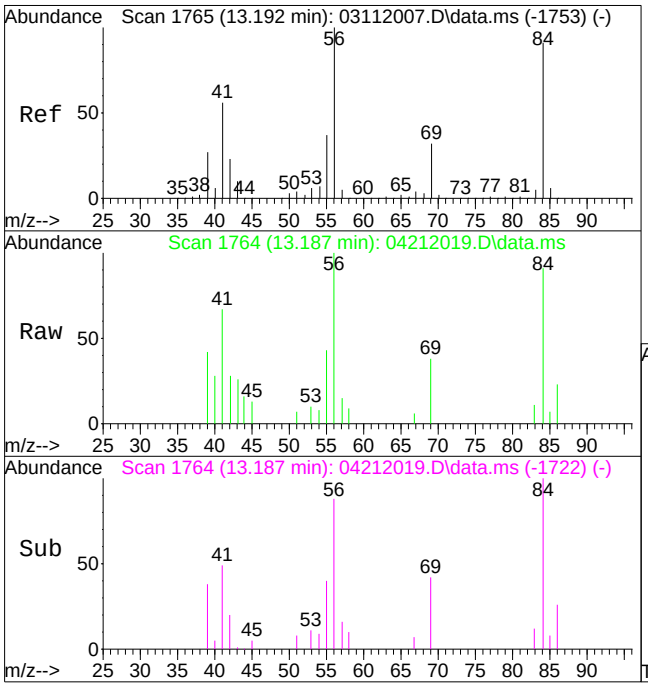


#42
Carbon Tetrachloride
Concen: 0.13 ng
RT: 13.06 min Scan# 1740
Delta R.T. -0.016 min
Lab File: 04212019.D
Acq: 21 Apr 2020 19:12

Tgt Ion:117 Resp: 6205

Ion	Ratio	Lower	Upper
117	100		
119	99.7	75.4	115.4

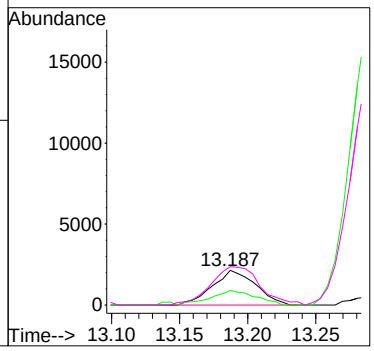


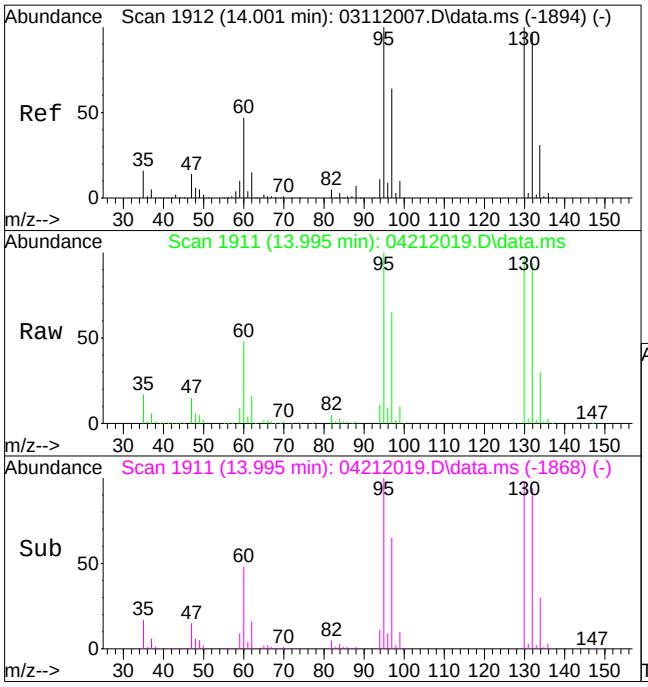


#43
Cyclohexane
Concen: 0.09 ng
RT: 13.19 min Scan# 1764
Delta R.T. -0.016 min
Lab File: 04212019.D
Acq: 21 Apr 2020 19:12

Tgt Ion: 84 Resp: 4734

Ion	Ratio	Lower	Upper
84	100		
69	43.3	15.3	55.3
56	124.7	90.5	130.5

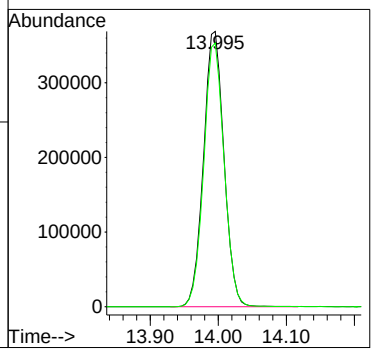


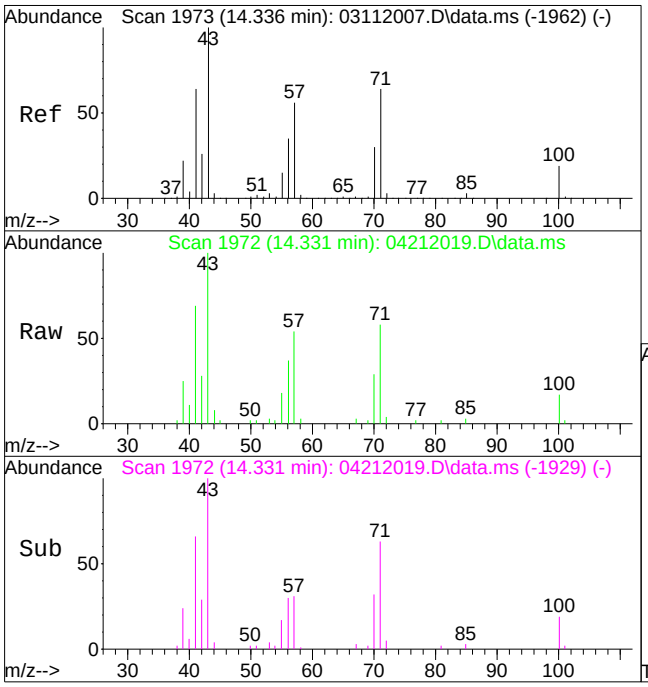


#47
Trichloroethene
Concen: 19.78 ng
RT: 14.00 min Scan# 1911
Delta R.T. -0.011 min
Lab File: 04212019.D
Acq: 21 Apr 2020 19:12

Tgt Ion:130 Resp: 769819

Ion	Ratio	Lower	Upper
130	100		
132	95.6	74.7	114.7

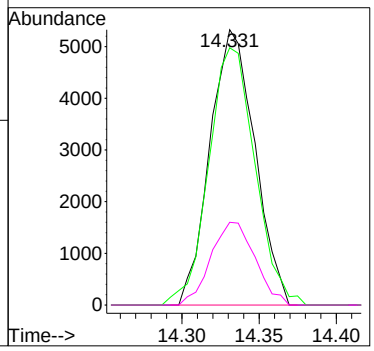


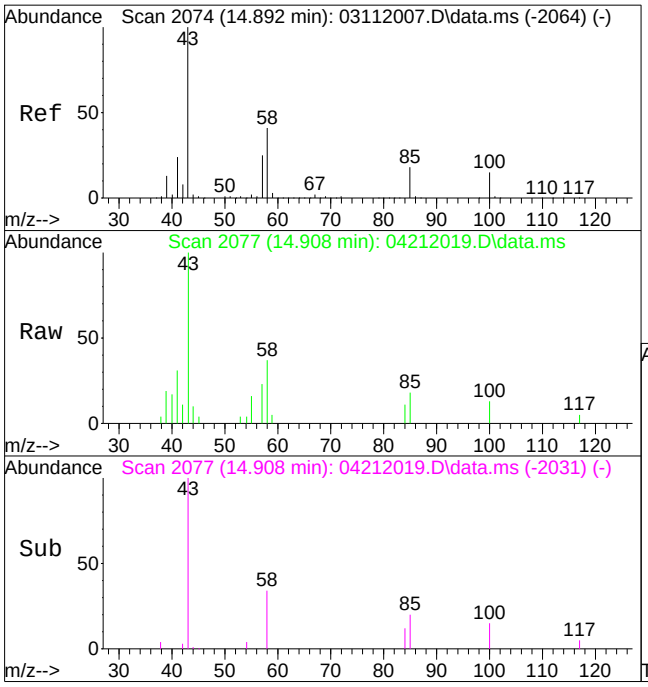


#51
n-Heptane
Concen: 0.34 ng
RT: 14.33 min Scan# 1972
Delta R.T. -0.011 min
Lab File: 04212019.D
Acq: 21 Apr 2020 19:12

Tgt Ion: 71 Resp: 10770

Ion	Ratio	Lower	Upper
71	100		
57	96.5	68.6	108.6
100	29.6	9.1	49.1

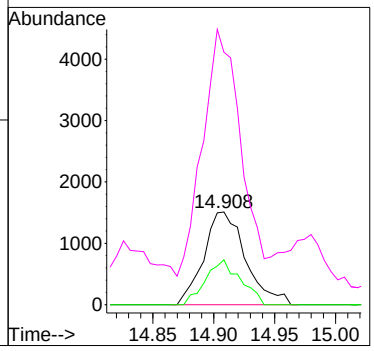


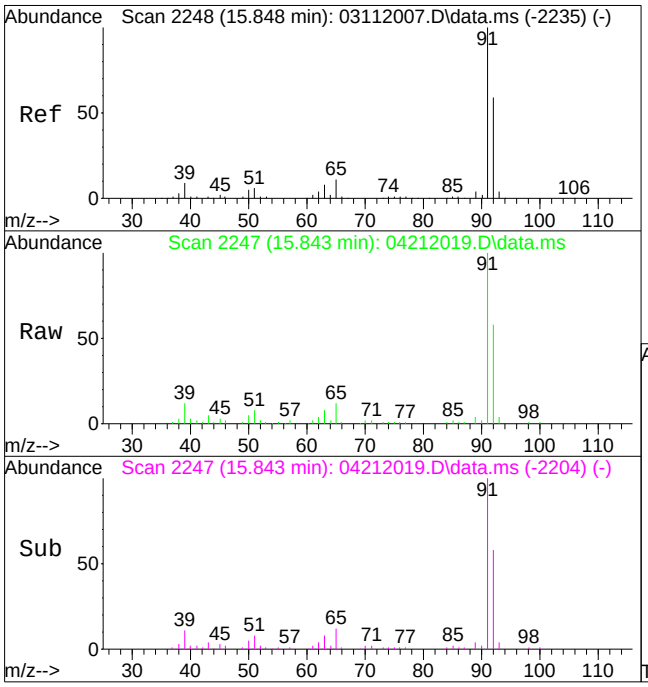


#53
4-Methyl-2-pentanone
Concen: 0.13 ng
RT: 14.91 min Scan# 2077
Delta R.T. 0.006 min
Lab File: 04212019.D
Acq: 21 Apr 2020 19:12

Tgt Ion: 58 Resp: 3621

Ion	Ratio	Lower	Upper
58	100		
85	40.1	37.0	55.4
43	265.1	196.3	294.5

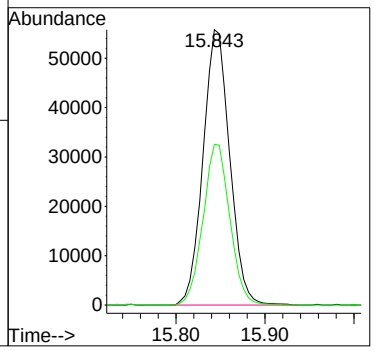


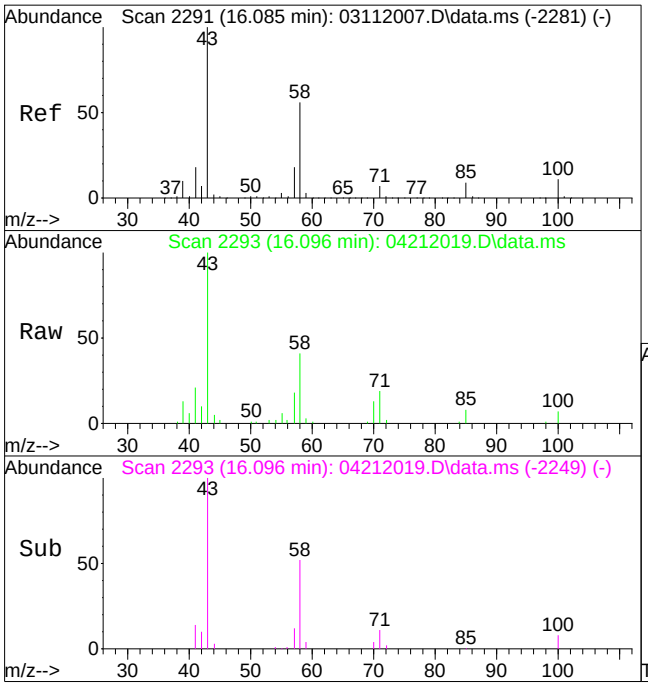


#58
Toluene
Concen: 0.79 ng
RT: 15.84 min Scan# 2247
Delta R.T. -0.011 min
Lab File: 04212019.D
Acq: 21 Apr 2020 19:12

Tgt Ion: 91 Resp: 116237

Ion	Ratio	Lower	Upper
91	100		
92	58.5	39.0	79.0

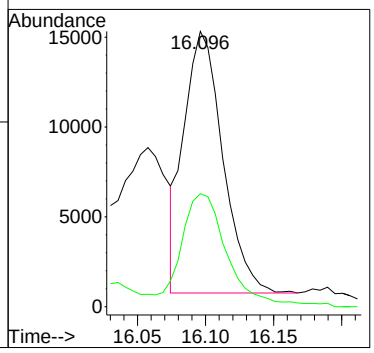


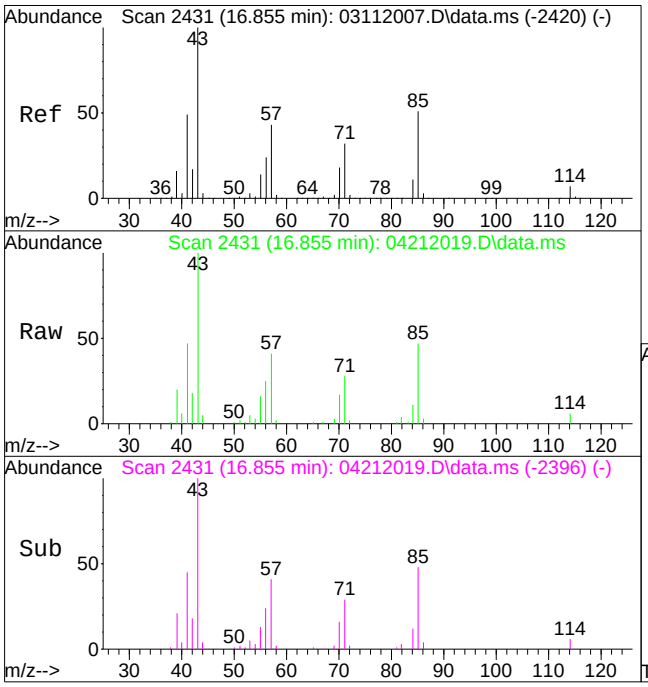


#59
2-Hexanone
Concen: 0.39 ng
RT: 16.10 min Scan# 2293
Delta R.T. -0.005 min
Lab File: 04212019.D
Acq: 21 Apr 2020 19:12

Tgt Ion: 43 Resp: 28900

Ion	Ratio	Lower	Upper
43	100		
58	51.2	36.5	76.5

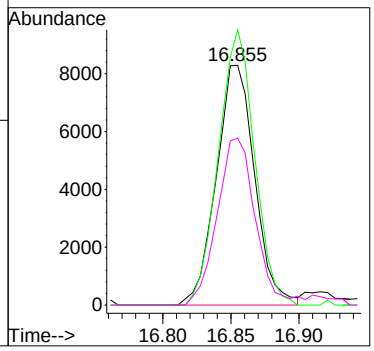


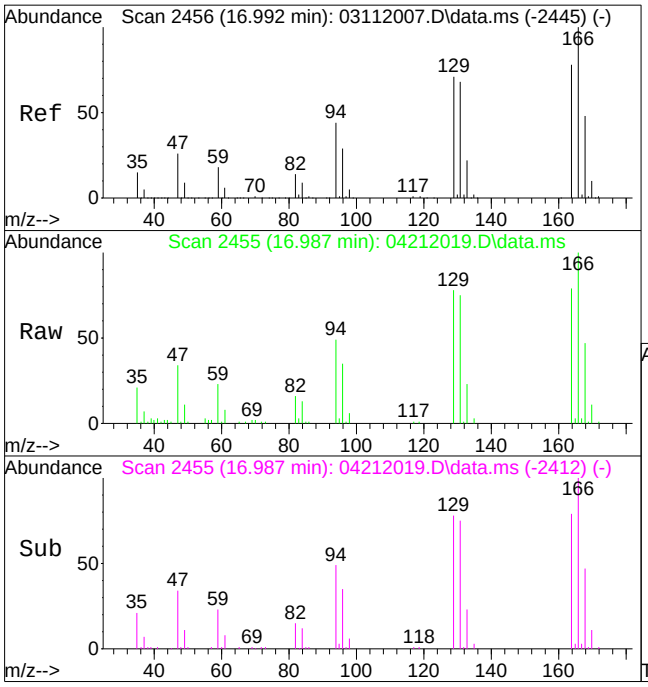


#63
n-Octane
Concen: 0.56 ng
RT: 16.85 min Scan# 2431
Delta R.T. -0.005 min
Lab File: 04212019.D
Acq: 21 Apr 2020 19:12

Tgt Ion: 57 Resp: 16256

Ion	Ratio	Lower	Upper
57	100		
85	107.9	95.1	142.7
71	69.4	58.2	87.4

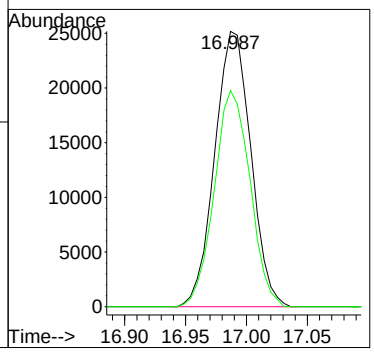


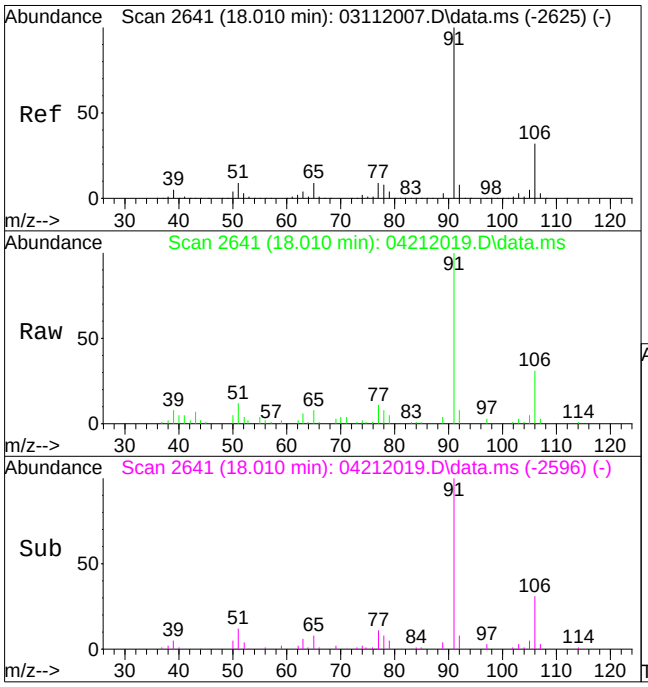


#64
Tetrachloroethene
Concen: 1.27 ng
RT: 16.99 min Scan# 2455
Delta R.T. -0.011 min
Lab File: 04212019.D
Acq: 21 Apr 2020 19:12

Tgt Ion:166 Resp: 51984

Ion	Ratio	Lower	Upper
166	100		
164	77.6	58.6	98.6

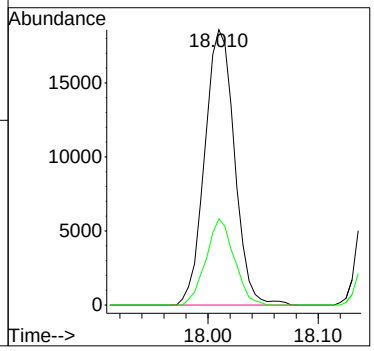


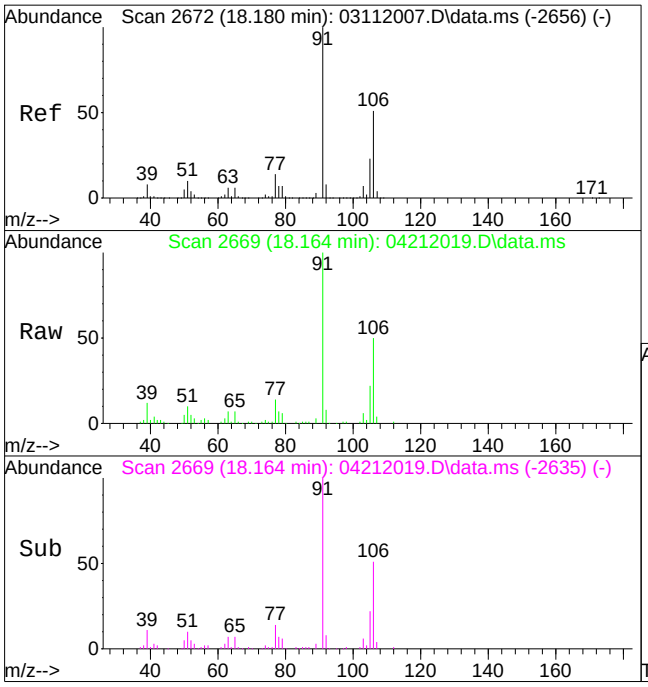


#66
Ethylbenzene
Concen: 0.22 ng
RT: 18.01 min Scan# 2641
Delta R.T. 0.000 min
Lab File: 04212019.D
Acq: 21 Apr 2020 19:12

Tgt Ion: 91 Resp: 34829

Ion	Ratio	Lower	Upper
91	100		
106	29.7	11.7	51.7

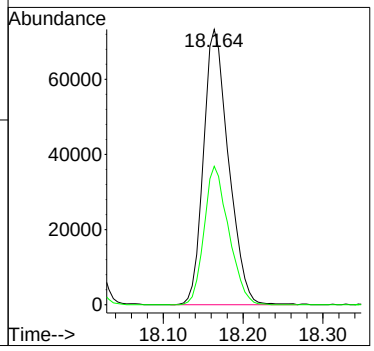


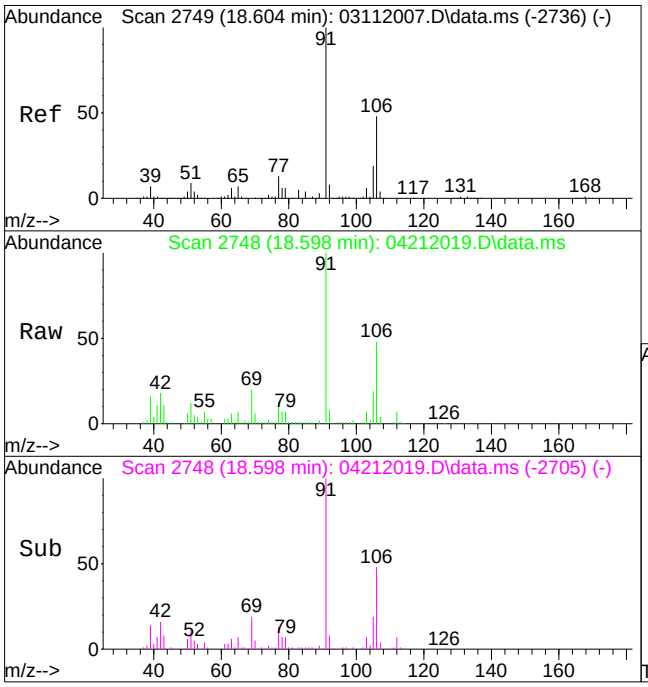


#67
m- & p-Xylenes
Concen: 1.22 ng
RT: 18.16 min Scan# 2669
Delta R.T. -0.011 min
Lab File: 04212019.D
Acq: 21 Apr 2020 19:12

Tgt Ion: 91 Resp: 159918

Ion	Ratio	Lower	Upper
91	100		
106	49.3	30.4	70.4

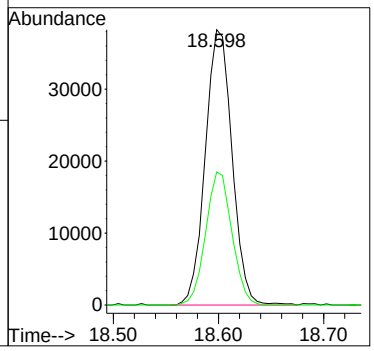


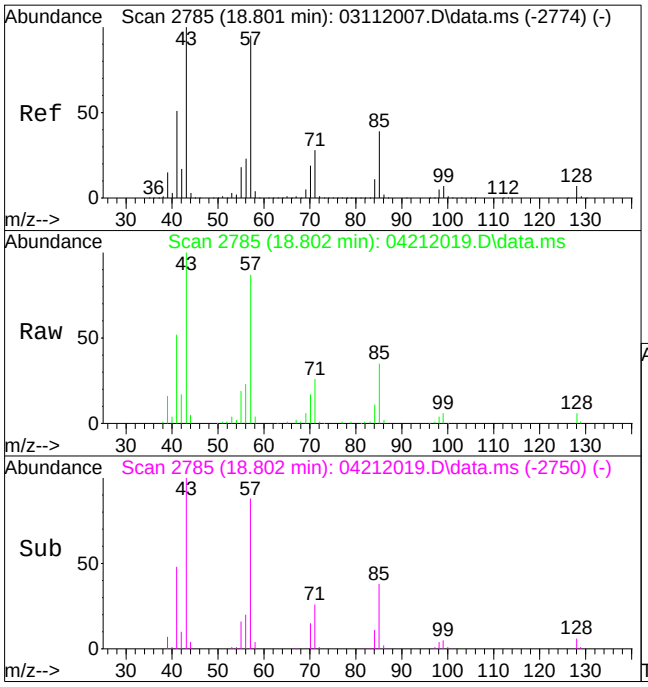


#70
o-Xylene
Concen: 0.52 ng
RT: 18.60 min Scan# 2748
Delta R.T. -0.011 min
Lab File: 04212019.D
Acq: 21 Apr 2020 19:12

Tgt Ion: 91 Resp: 67766

Ion	Ratio	Lower	Upper
91	100		
106	47.2	28.1	68.1

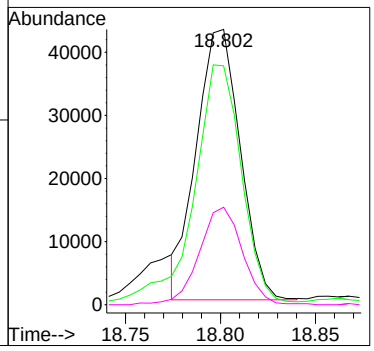


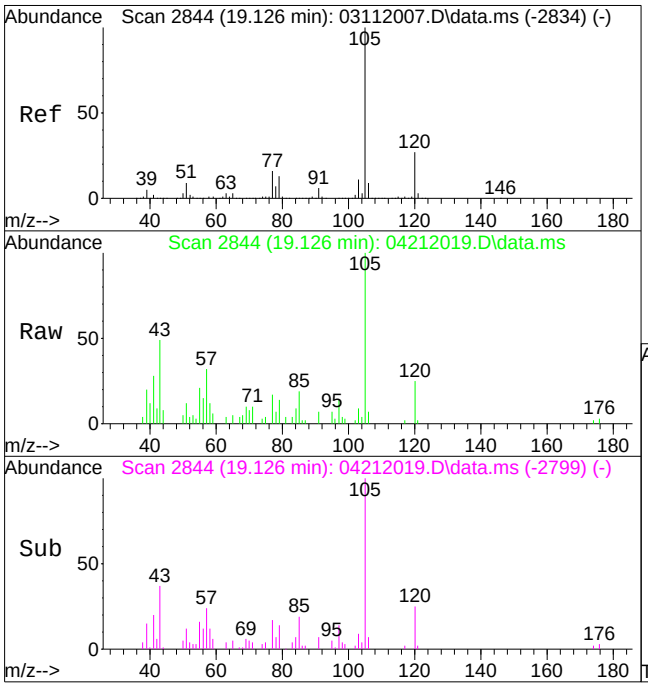


#71
n-Nonane
Concen: 1.05 ng m
RT: 18.80 min Scan# 2785
Delta R.T. -0.005 min
Lab File: 04212019.D
Acq: 21 Apr 2020 19:12

Tgt Ion: 43 Resp: 68948

Ion	Ratio	Lower	Upper
43	100		
57	94.1	73.6	113.6
85	35.7	18.7	58.7

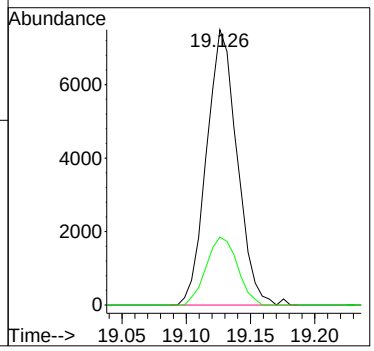


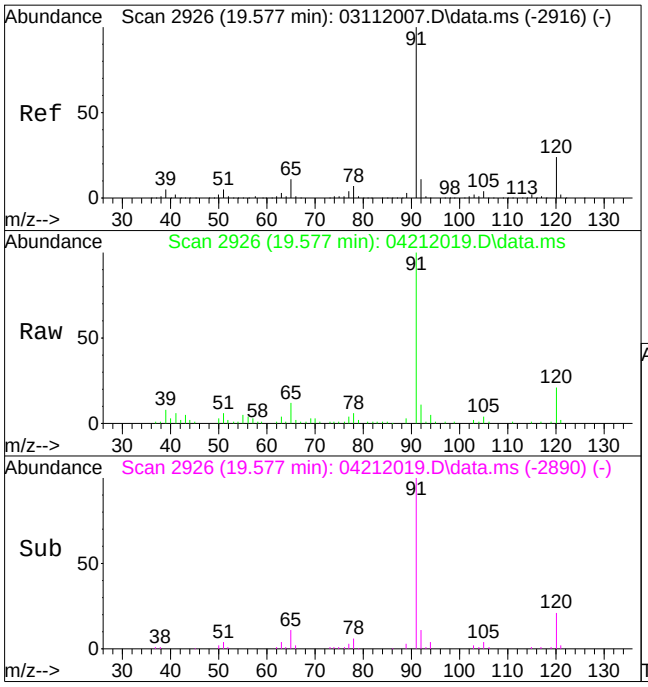


#74
Cumene
Concen: 0.07 ng
RT: 19.13 min Scan# 2844
Delta R.T. 0.000 min
Lab File: 04212019.D
Acq: 21 Apr 2020 19:12

Tgt Ion:105 Resp: 12403

Ion	Ratio	Lower	Upper
105	100		
120	25.2	7.2	47.2

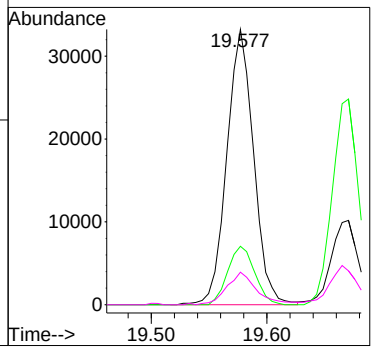


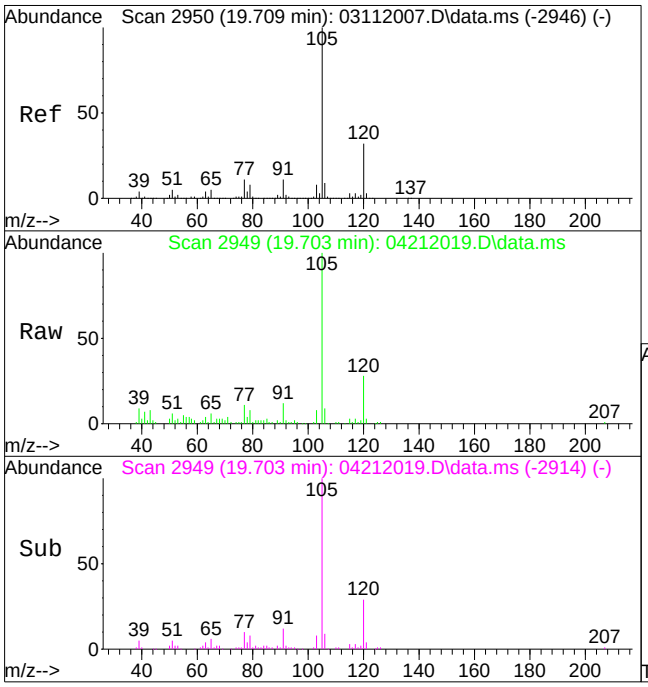


#76
n-Propylbenzene
Concen: 0.28 ng
RT: 19.58 min Scan# 2926
Delta R.T. 0.000 min
Lab File: 04212019.D
Acq: 21 Apr 2020 19:12

Tgt Ion: 91 Resp: 53717

Ion	Ratio	Lower	Upper
91	100		
120	21.3	3.9	43.9
65	13.4	0.0	30.5

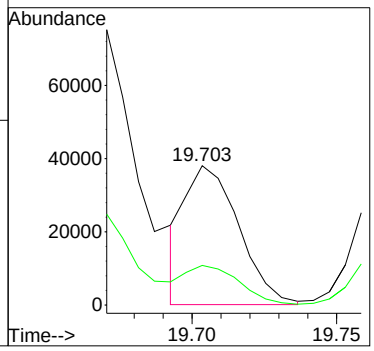


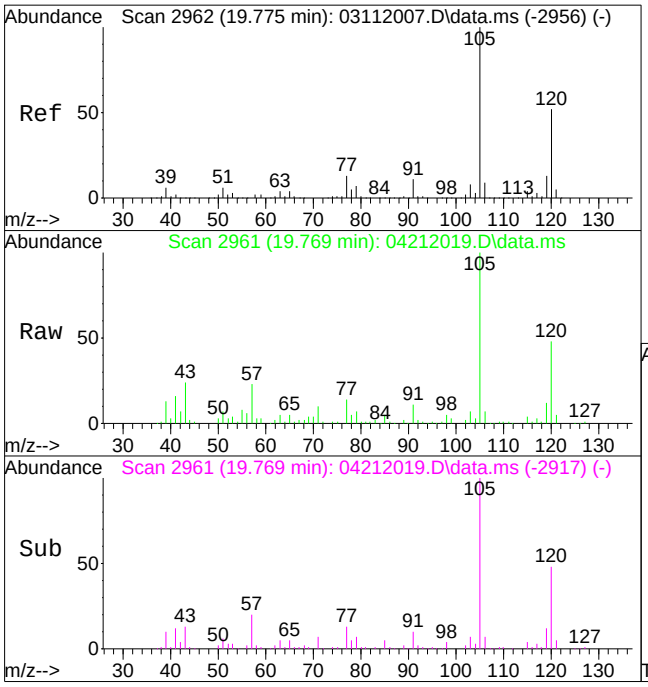


#78
4-Ethyltoluene
Concen: 0.31 ng
RT: 19.70 min Scan# 2949
Delta R.T. -0.006 min
Lab File: 04212019.D
Acq: 21 Apr 2020 19:12

Tgt Ion:105 Resp: 49335

Ion	Ratio	Lower	Upper
105	100		
120	29.3	11.1	51.1

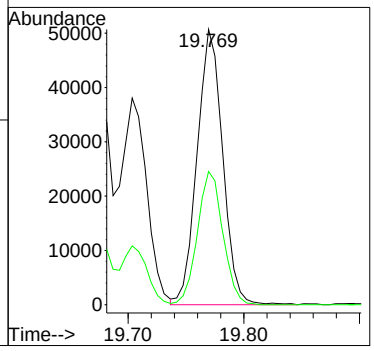


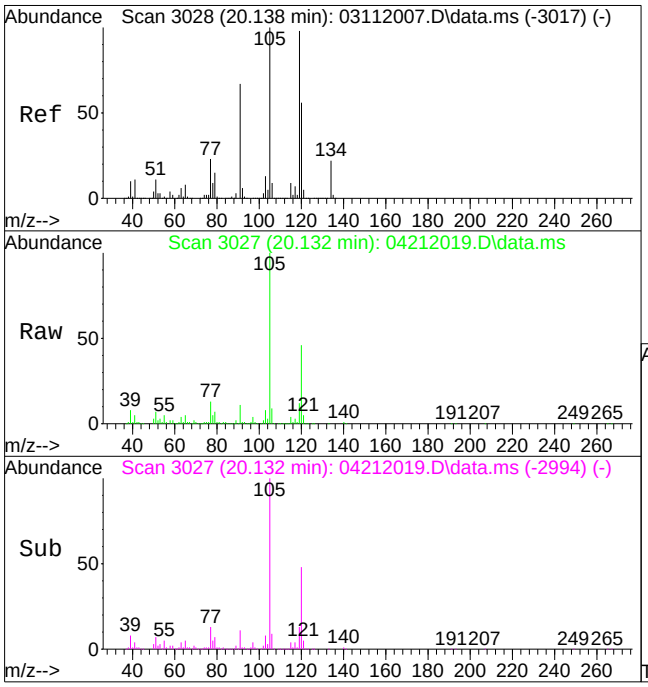


#79
1,3,5-Trimethylbenzene
Concen: 0.55 ng
RT: 19.77 min Scan# 2961
Delta R.T. -0.006 min
Lab File: 04212019.D
Acq: 21 Apr 2020 19:12

Tgt Ion:105 Resp: 78001

Ion	Ratio	Lower	Upper
105	100		
120	48.1	31.3	71.3

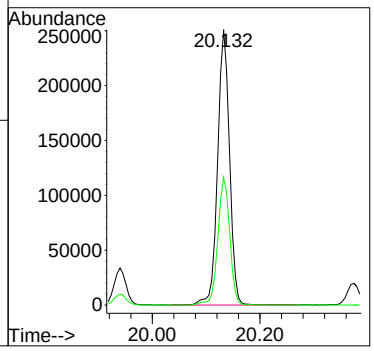


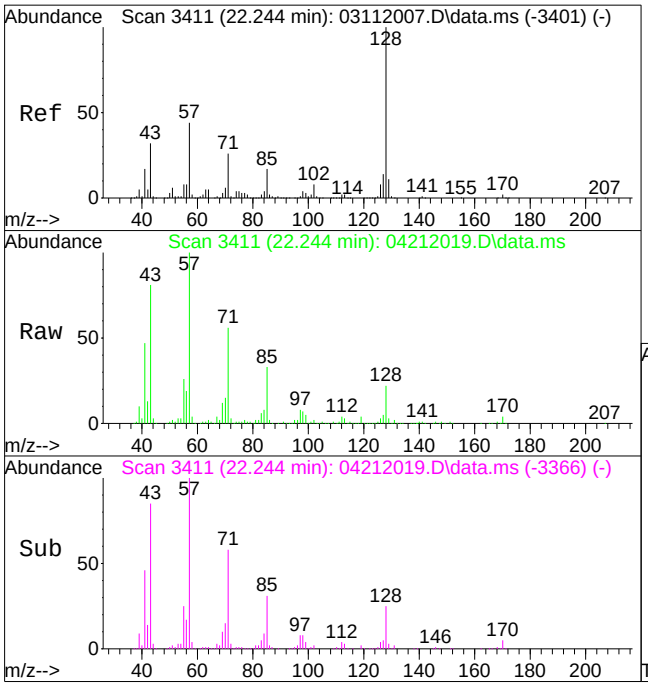


#82
1,2,4-Trimethylbenzene
Concen: 2.65 ng
RT: 20.13 min Scan# 3027
Delta R.T. -0.017 min
Lab File: 04212019.D
Acq: 21 Apr 2020 19:12

Tgt Ion:105 Resp: 386171

Ion	Ratio	Lower	Upper
105	100		
120	46.3	35.8	75.8

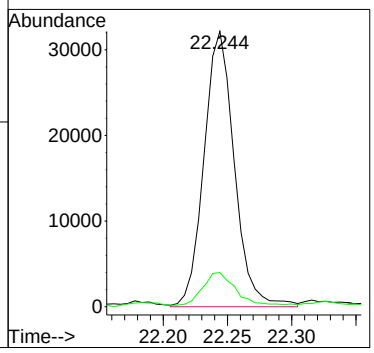




#95
Naphthalene
Concen: 0.32 ng
RT: 22.24 min Scan# 3411
Delta R.T. -0.005 min
Lab File: 04212019.D
Acq: 21 Apr 2020 19:12

Tgt Ion:128 Resp: 52779

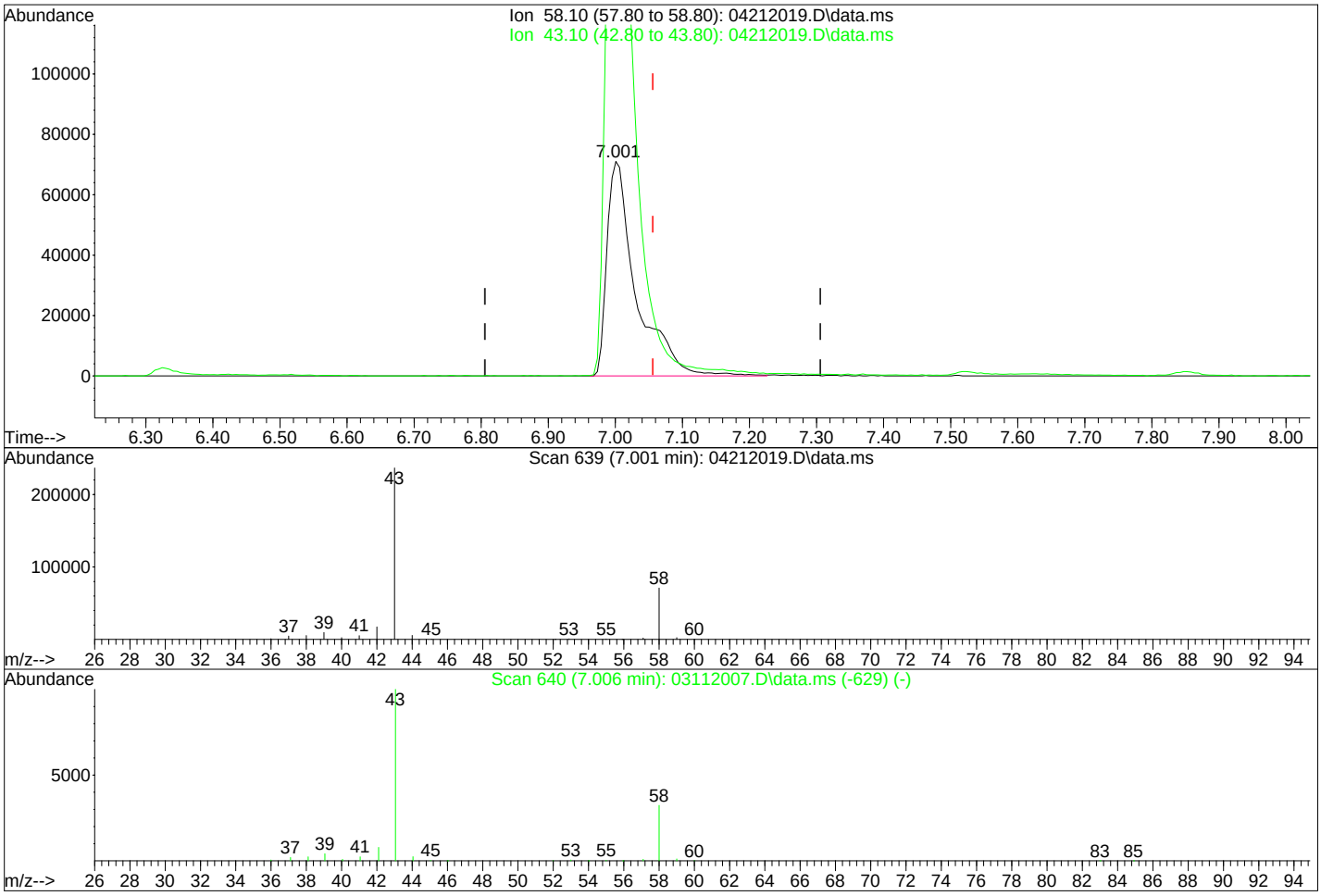
Ion	Ratio	Lower	Upper
128	100		
129	14.4	0.0	31.1



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\21\04212019.D Vial: 6
Acq On : 21 Apr 2020 19:12 Operator: WA
Sample : P2002031-019 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 03:15:09 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04212019.D\data.ms

(13) Acetone (T)

7.001min (-0.055) 8.81ng

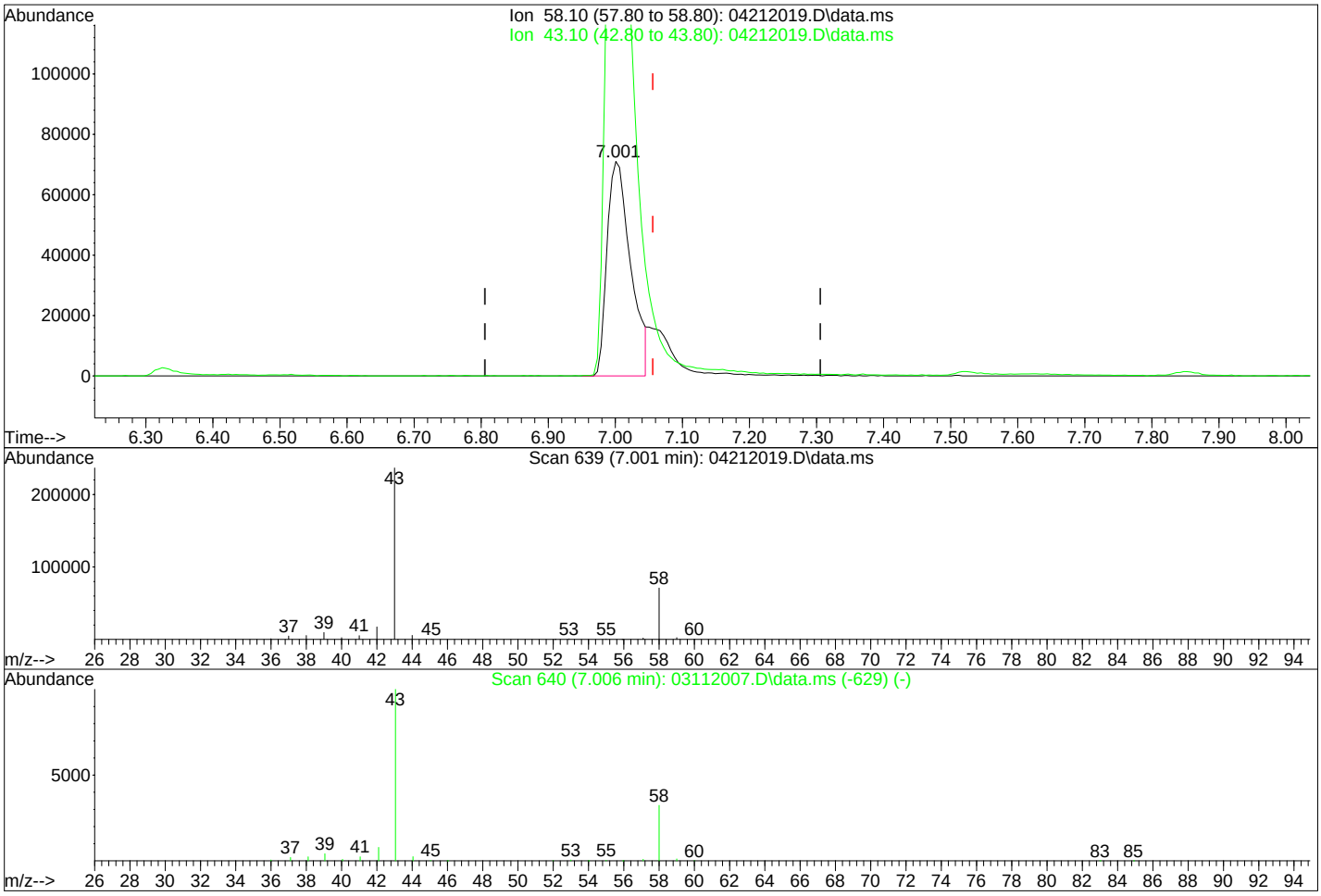
response 215735

Ion	Exp%	Act%
58.10	100	100
43.10	317.30	286.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\21\04212019.D Vial: 6
Acq On : 21 Apr 2020 19:12 Operator: WA
Sample : P2002031-019 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 03:15:09 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04212019.D\data.ms

(13) Acetone (T)

7.001min (-0.055) 7.07ng m

response 173287

Ion	Exp%	Act%
58.10	100	100
43.10	317.30	356.06#
0.00	0.00	0.00
0.00	0.00	0.00

IPC

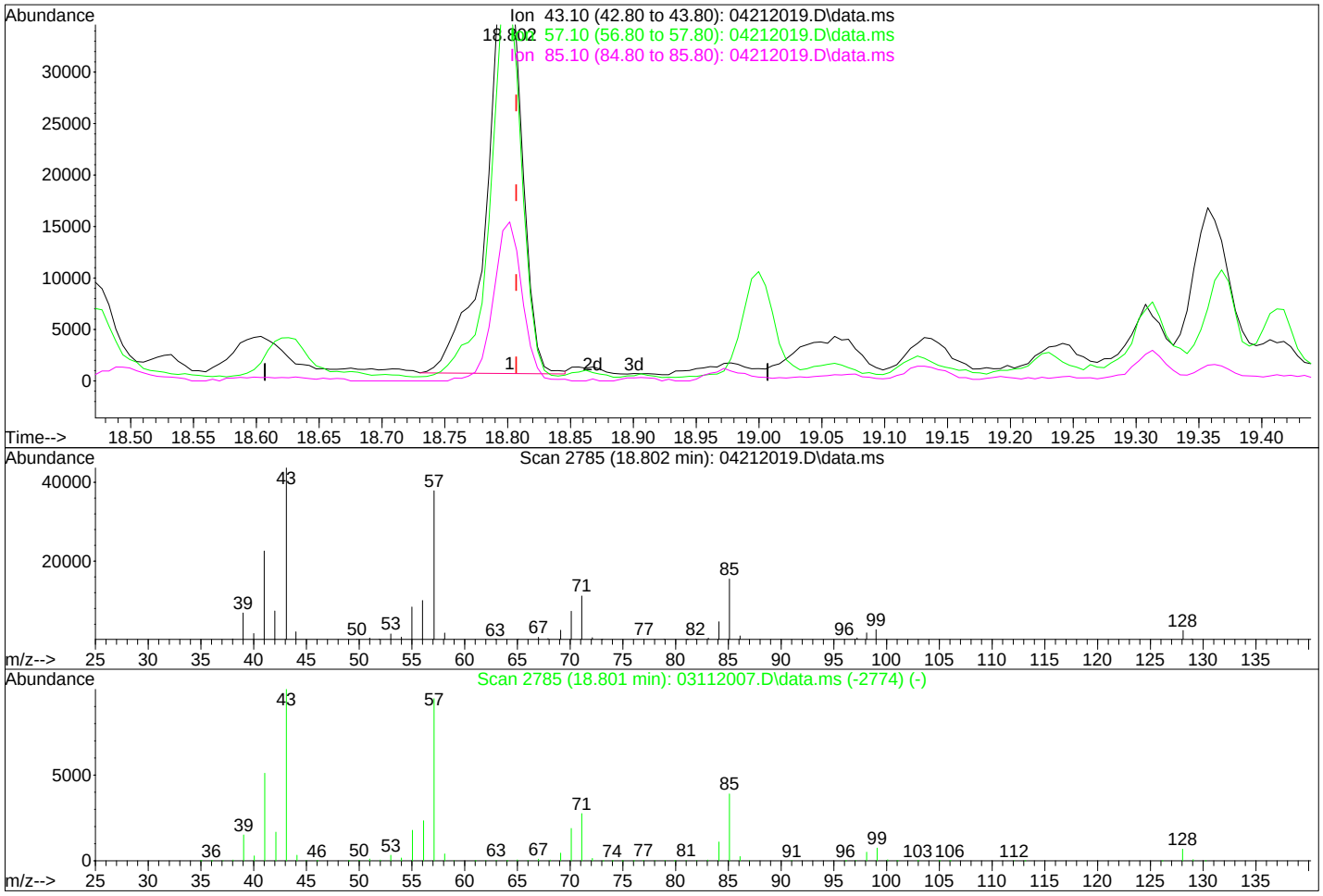
LH 4/22/20

4/23/20

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\21\04212019.D Vial: 6
Acq On : 21 Apr 2020 19:12 Operator: WA
Sample : P2002031-019 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 03:15:09 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04212019.D\data.ms

(71) n-Nonane (T)

18.802min (-0.005) 1.20ng

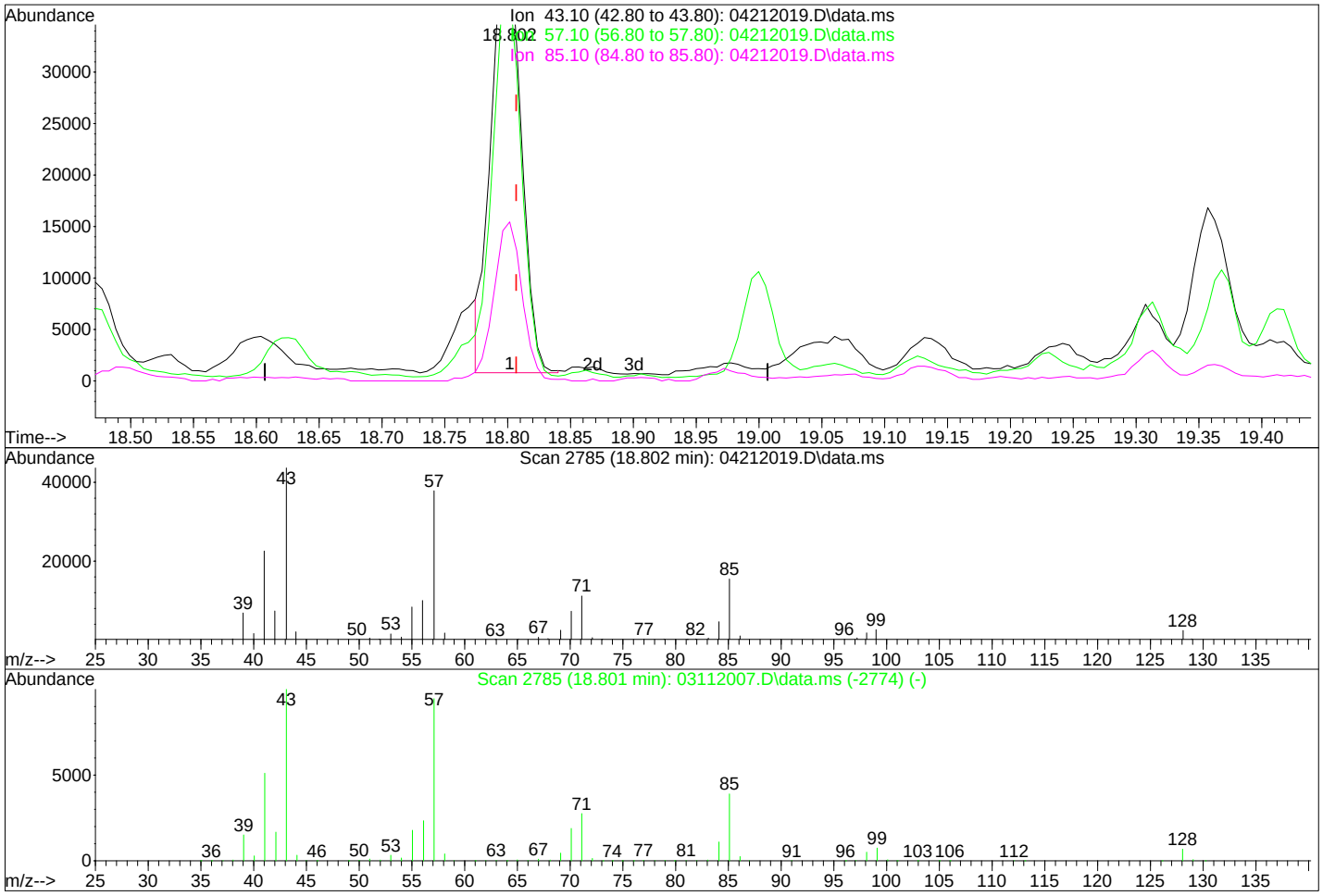
response 78608

Ion	Exp%	Act%
43.10	100	100
57.10	93.60	82.51
85.10	38.70	31.27
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\21\04212019.D Vial: 6
Acq On : 21 Apr 2020 19:12 Operator: WA
Sample : P2002031-019 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 03:15:09 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04212019.D\data.ms

(71) n-Nonane (T)

18.802min (-0.005) 1.05ng m

response 68948

Ion	Exp%	Act%
43.10	100	100
57.10	93.60	94.07
85.10	38.70	35.65
0.00	0.00	0.00

IPC

LH 4/22/20

4/23/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212020.D Vial: 7
Acq On : 21 Apr 2020 19:46 Operator: WA
Sample : P2002031-020 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 18:56:19 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/22/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	302381	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1343821	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	663725	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.01	65	526553	12.576	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.64%			
57) Toluene-d8 (SS2)	15.74	98	1391185	11.825	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.64%			
73) Bromofluorobenzene (SS3)	19.00	174	488023	11.747	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.00%			
Target Compounds						Qvalue
2) Propene	4.13	42	2333	0.074	ng	# 86
3) Dichlorodifluoromethan...	4.27	85	50053	0.734	ng	99
4) Chloromethane	4.55	50	2118	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	1027	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	5.17	54	166	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.35	45	10922	0.436	ng	92
11) Acetonitrile	6.63	41	2671	N.D.		
12) Acrolein	6.82	56	1718	0.093	ng	87
13) Acetone	7.02	58	62615	2.531	ng	99
14) Trichlorofluoromethane	7.26	101	19320	0.321	ng	97
15) 2-Propanol (Isopropanol)	7.55	45	7486	0.102	ng	65
16) Acrylonitrile	8.00	53	57	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d	
19) Methylene Chloride	8.44	84	500	N.D.		
20) 3-Chloro-1-propene (Al...	8.61	41	157	N.D.		
21) Trichlorotrifluoroethane	8.86	151	35859	1.246	ng	93
22) Carbon Disulfide	8.71	76	31083	0.269	ng	98
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	9.97	63	108	N.D.		
25) Methyl tert-Butyl Ether	10.12	73	289	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	10.49	72	8524	0.414	ng	# 85
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	11.32	87	1391	N.D.		
30) Ethyl Acetate	11.31	61	6799	0.559	ng	81
31) n-Hexane	11.28	57	1940	N.D.		
32) Chloroform	11.33	83	12021	0.200	ng	99
34) Tetrahydrofuran (THF)	11.77	72	5185	0.245	ng	# 76
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	12.90	78	9068	0.065	ng	99
42) Carbon Tetrachloride	13.06	117	9047	0.190	ng	98
43) Cyclohexane	13.19	84	2349	N.D.		
44) tert-Amyl Methyl Ether	13.54	73	740	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d	
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	13.99	130	1018698	25.872	ng	100
48) 1,4-Dioxane	14.00	88	1118	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	14.14	100	113	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212020.D Vial: 7
Acq On : 21 Apr 2020 19:46 Operator: WA
Sample : P2002031-020 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 18:56:19 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

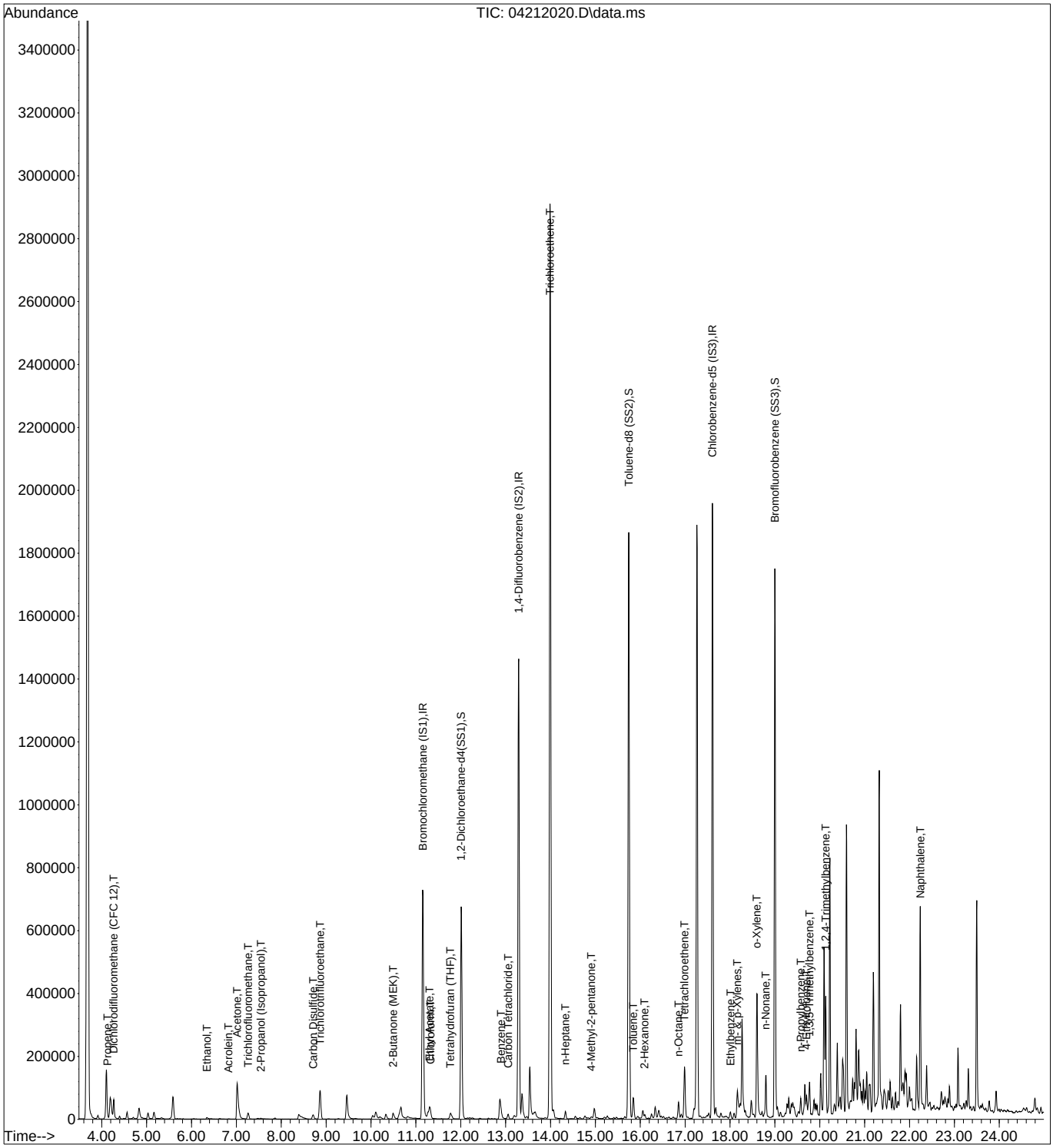
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.33	71	5993	0.185	ng		95
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
53) 4-Methyl-2-pentanone	14.91	58	1948	0.067	ng	#	70
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.			
55) 1,1,2-Trichloroethane	15.47	97	110	N.D.			
58) Toluene	15.84	91	47023	0.323	ng		100
59) 2-Hexanone	16.10	43	8283	0.114	ng		77
60) Dibromochloromethane	0.00	129	0	N.D.			
61) 1,2-Dibromoethane	16.51	107	1515	N.D.			
62) n-Butyl Acetate	16.74	43	2144	N.D.			
63) n-Octane	16.85	57	10828	0.375	ng		91
64) Tetrachloroethene	16.99	166	51165	1.262	ng		100
65) Chlorobenzene	17.62	112	128	N.D.			
66) Ethylbenzene	18.01	91	13985	0.088	ng		97
67) m- & p-Xylenes	18.16	91	64887	0.500	ng		98
68) Bromoform	0.00	173	0	N.D.			
69) Styrene	18.50	104	898	N.D.			
70) o-Xylene	18.60	91	24140	0.186	ng		96
71) n-Nonane	18.80	43	49060	0.756	ng		94
72) 1,1,2,2-Tetrachloroethane	18.61	83	1421	N.D.			
74) Cumene	19.13	105	5404	N.D.			
75) alpha-Pinene	19.48	93	282	N.D.			
76) n-Propylbenzene	19.58	91	25792	0.135	ng		82
77) 3-Ethyltoluene	0.00	105	0	N.D.	d		
78) 4-Ethyltoluene	19.70	105	29717	0.191	ng		91
79) 1,3,5-Trimethylbenzene	19.77	105	36354	0.262	ng		95
80) alpha-Methylstyrene	0.00	118	0	N.D.	d		
81) 2-Ethyltoluene	0.00	105	0	N.D.	d		
82) 1,2,4-Trimethylbenzene	20.13	105	186880	1.300	ng		85
83) n-Decane	0.00	57	0	N.D.	d		
84) Benzyl Chloride	20.23	91	708	N.D.			
85) 1,3-Dichlorobenzene	20.27	146	348	N.D.			
86) 1,4-Dichlorobenzene	20.32	146	594	N.D.			
87) sec-Butylbenzene	0.00	105	0	N.D.	d		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.	d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d		
90) 1,2-Dichlorobenzene	20.63	146	181	N.D.			
91) d-Limonene	20.63	68	2517	N.D.			
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.			
93) n-Undecane	0.00	57	0	N.D.	d		
94) 1,2,4-Trichlorobenzene	22.14	180	282	N.D.			
95) Naphthalene	22.24	128	50828	0.316	ng		96
96) n-Dodecane	0.00	57	0	N.D.	d		
97) Hexachlorobutadiene	0.00	225	0	N.D.			
98) Cyclohexanone	0.00	55	0	N.D.	d		
99) tert-Butylbenzene	0.00	119	0	N.D.	d		
100) n-Butylbenzene	0.00	91	0	N.D.	d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212020.D Vial: 7
Acq On : 21 Apr 2020 19:46 Operator: WA
Sample : P2002031-020 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 18:56:19 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212020.D Vial: 7
Acq On : 21 Apr 2020 19:46 Operator: WA
Sample : P2002031-020 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 18:56:19 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020 LH 4/22/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

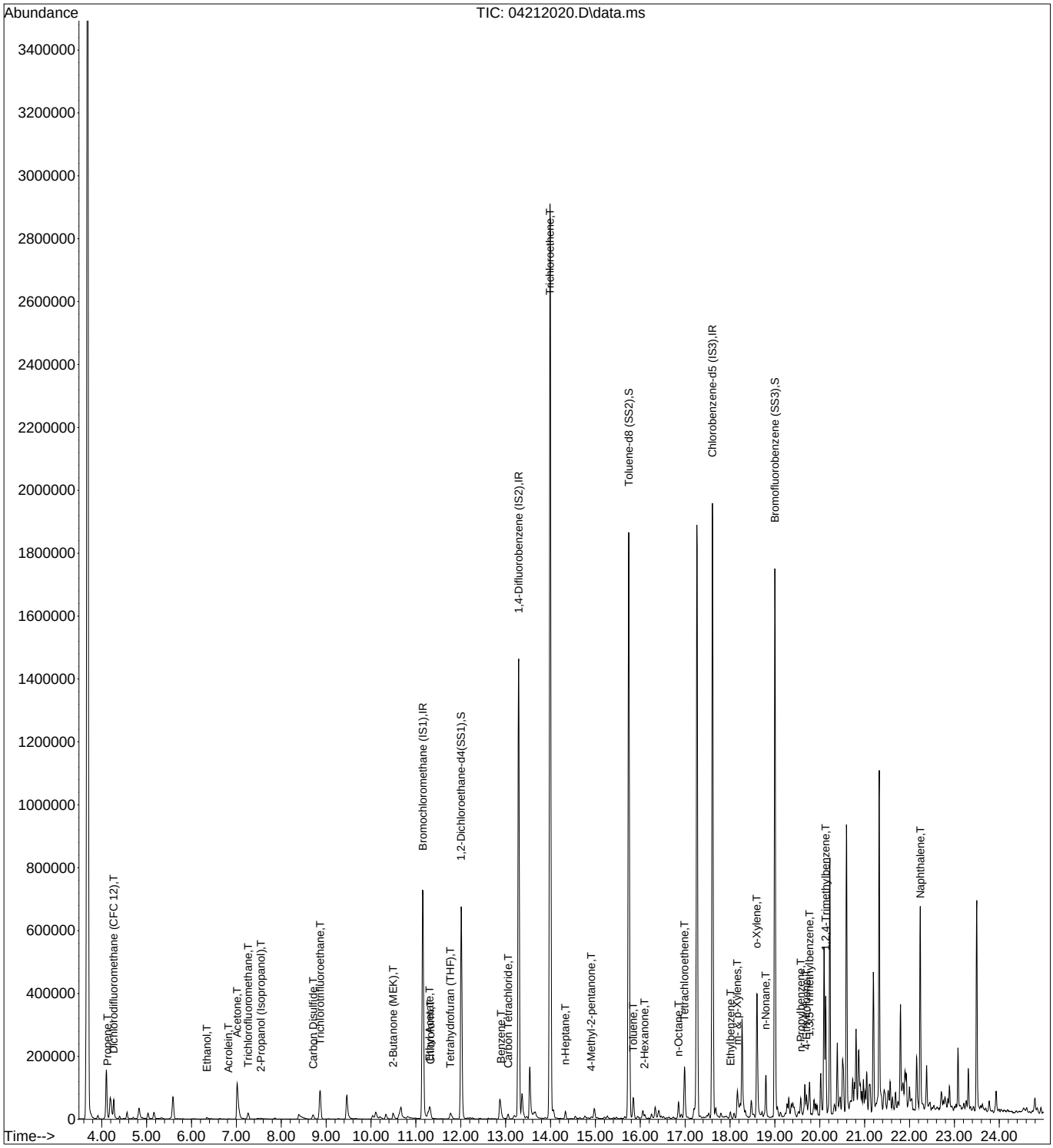
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	302381	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1343821	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	663725	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.01	65	526553	12.576	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.64%				
57) Toluene-d8 (SS2)	15.74	98	1391185	11.825	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.64%				
73) Bromofluorobenzene (SS3)	19.00	174	488023	11.747	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.00%				
Target Compounds							Qvalue
2) Propene	4.13	42	2333	0.074	ng	#	86
3) Dichlorodifluoromethan...	4.27	85	50053	0.734	ng		99
10) Ethanol	6.35	45	10922	0.436	ng		92
12) Acrolein	6.82	56	1718	0.093	ng		87
13) Acetone	7.02	58	62615	2.531	ng		99
14) Trichlorofluoromethane	7.26	101	19320	0.321	ng		97
15) 2-Propanol (Isopropanol)	7.55	45	7486	0.102	ng		65
21) Trichlorotrifluoroethane	8.86	151	35859	1.246	ng		93
22) Carbon Disulfide	8.71	76	31083	0.269	ng		98
27) 2-Butanone (MEK)	10.49	72	8524	0.414	ng	#	85
30) Ethyl Acetate	11.31	61	6799	0.559	ng		81
32) Chloroform	11.33	83	12021	0.200	ng		99
34) Tetrahydrofuran (THF)	11.77	72	5185	0.245	ng	#	76
41) Benzene	12.90	78	9068	0.065	ng		99
42) Carbon Tetrachloride	13.06	117	9047	0.190	ng		98
47) Trichloroethene	13.99	130	1018698	25.872	ng		100
51) n-Heptane	14.33	71	5993	0.185	ng		95
53) 4-Methyl-2-pentanone	14.91	58	1948	0.067	ng	#	70
58) Toluene	15.84	91	47023	0.323	ng		100
59) 2-Hexanone	16.10	43	8283	0.114	ng		77
63) n-Octane	16.85	57	10828	0.375	ng		91
64) Tetrachloroethene	16.99	166	51165	1.262	ng		100
66) Ethylbenzene	18.01	91	13985	0.088	ng		97
67) m- & p-Xylenes	18.16	91	64887	0.500	ng		98
70) o-Xylene	18.60	91	24140	0.186	ng		96
71) n-Nonane	18.80	43	49060	0.756	ng		94
76) n-Propylbenzene	19.58	91	25792	0.135	ng		82
78) 4-Ethyltoluene	19.70	105	29717	0.191	ng		91
79) 1,3,5-Trimethylbenzene	19.77	105	36354	0.262	ng		95
82) 1,2,4-Trimethylbenzene	20.13	105	186880	1.300	ng		85
95) Naphthalene	22.24	128	50828	0.316	ng		96

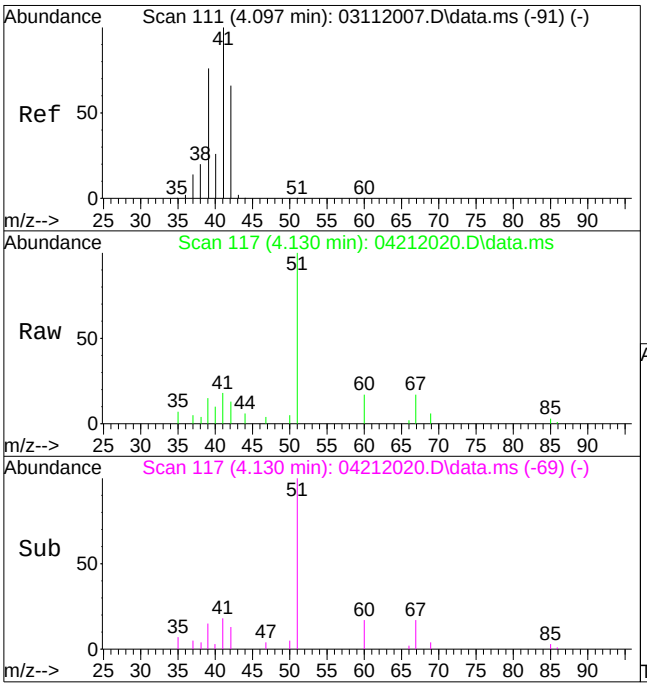
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212020.D Vial: 7
Acq On : 21 Apr 2020 19:46 Operator: WA
Sample : P2002031-020 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 18:56:19 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

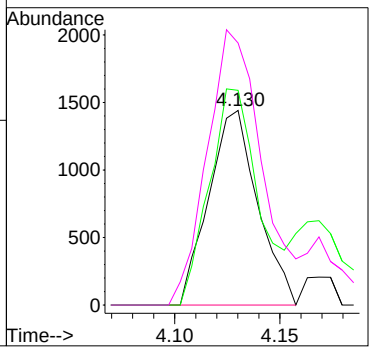


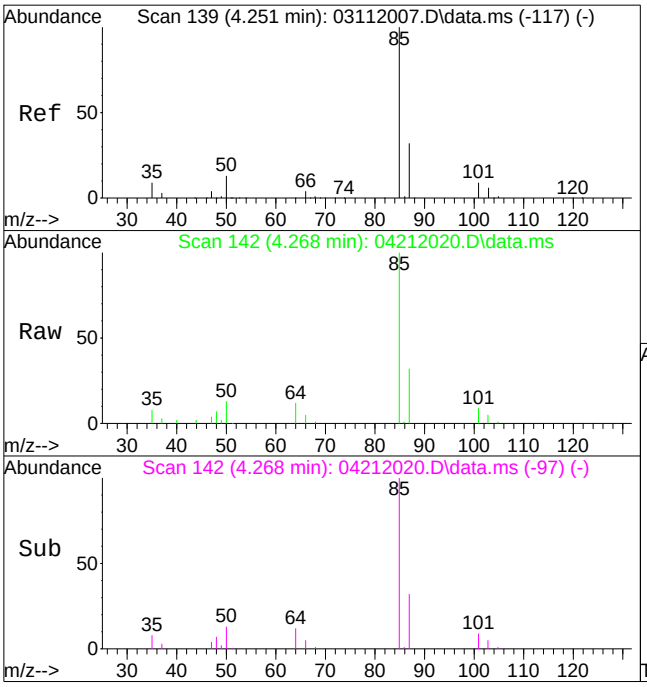


#2
Propene
Concen: 0.07 ng
RT: 4.13 min Scan# 117
Delta R.T. 0.016 min
Lab File: 04212020.D
Acq: 21 Apr 2020 19:46

Tgt Ion: 42 Resp: 2333

Ion	Ratio	Lower	Upper
42	100		
39	112.0	95.3	135.3
41	181.0	132.0	172.0#

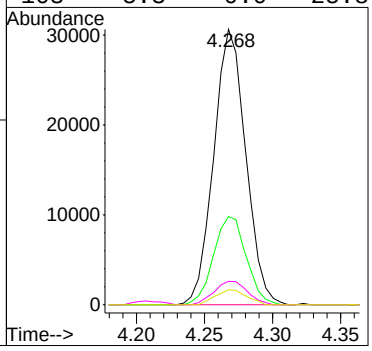


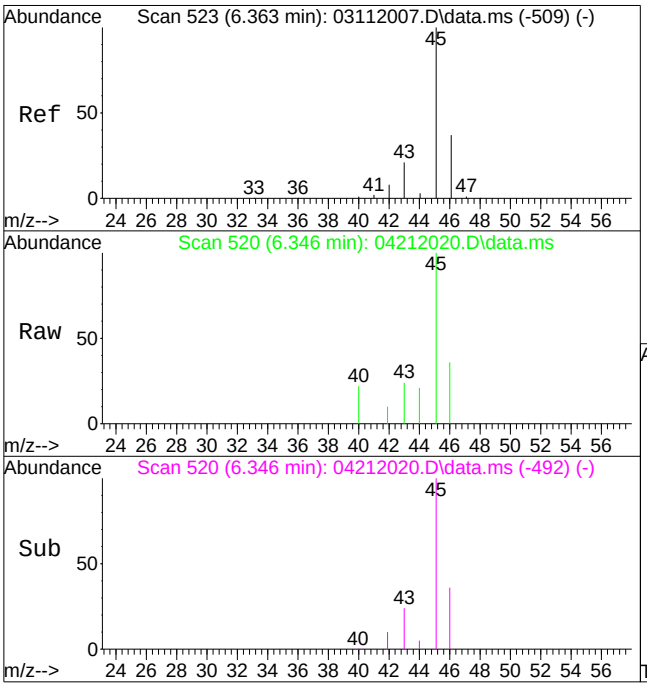


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.73 ng
RT: 4.27 min Scan# 142
Delta R.T. -0.000 min
Lab File: 04212020.D
Acq: 21 Apr 2020 19:46

Tgt Ion: 85 Resp: 50053

Ion	Ratio	Lower	Upper
85	100		
87	32.6	12.3	52.3
101	8.9	0.0	29.0
103	5.3	0.0	25.8

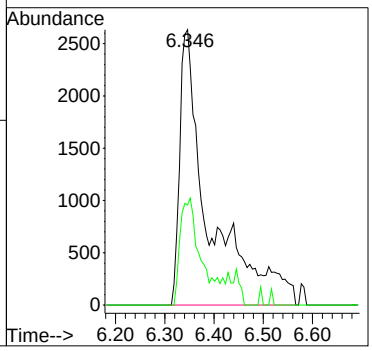


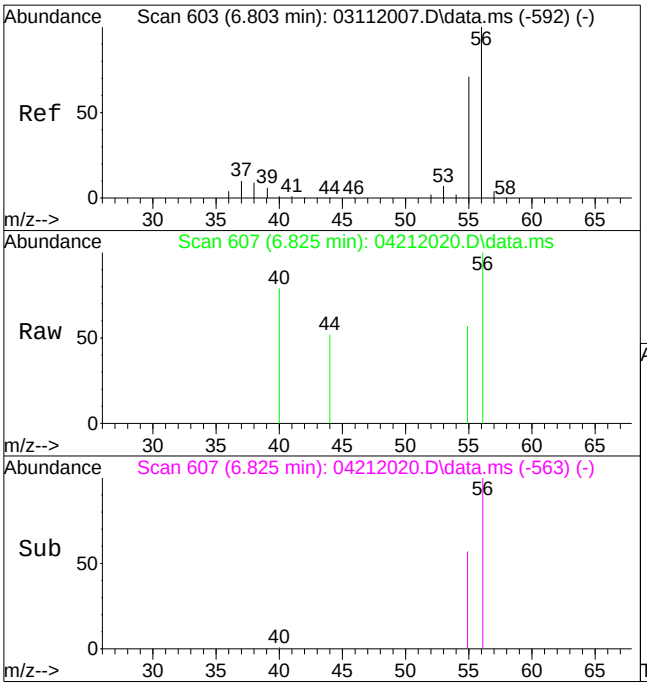


#10
Ethanol
Concen: 0.44 ng
RT: 6.35 min Scan# 520
Delta R.T. -0.094 min
Lab File: 04212020.D
Acq: 21 Apr 2020 19:46

Tgt Ion: 45 Resp: 10922

Ion	Ratio	Lower	Upper
45	100		
46	32.7	17.3	57.3

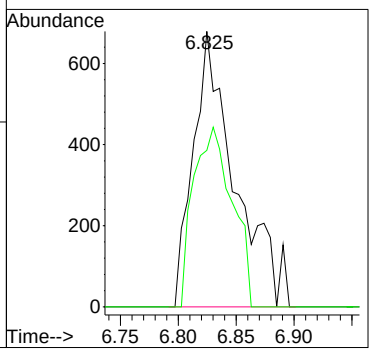


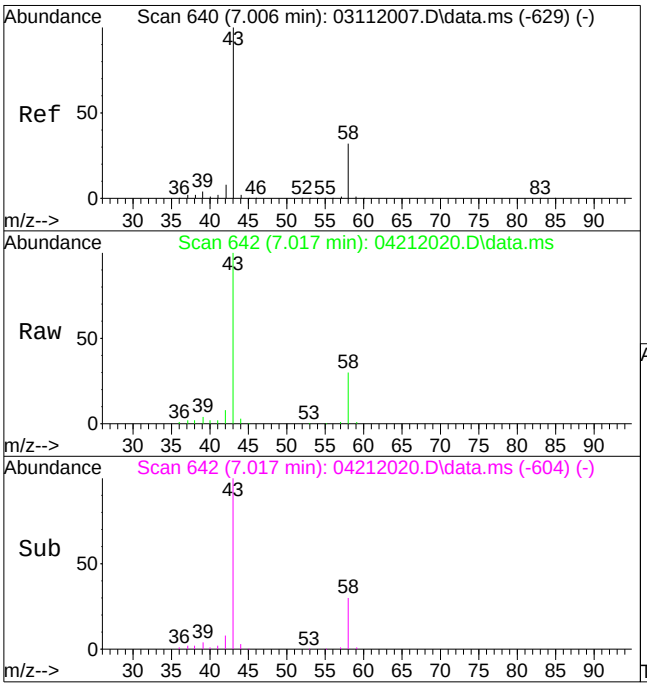


#12
Acrolein
Concen: 0.09 ng
RT: 6.82 min Scan# 607
Delta R.T. -0.005 min
Lab File: 04212020.D
Acq: 21 Apr 2020 19:46

Tgt Ion: 56 Resp: 1718

Ion	Ratio	Lower	Upper
56	100		
55	60.0	50.4	90.4

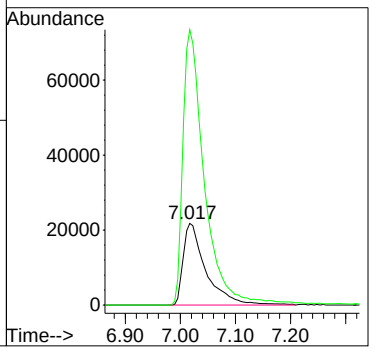


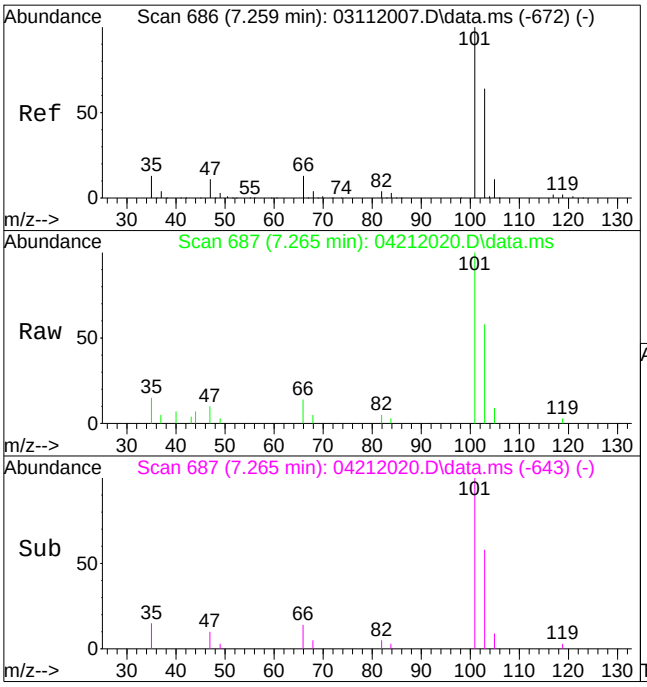


#13
Acetone
Concen: 2.53 ng
RT: 7.02 min Scan# 642
Delta R.T. -0.039 min
Lab File: 04212020.D
Acq: 21 Apr 2020 19:46

Tgt Ion: 58 Resp: 62615

Ion	Ratio	Lower	Upper
58	100		
43	320.0	287.3	347.3

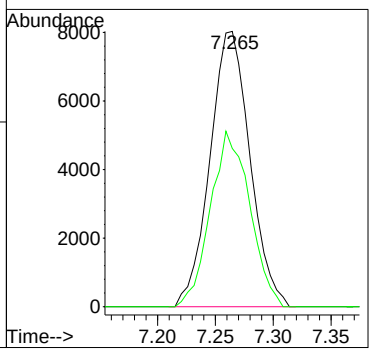


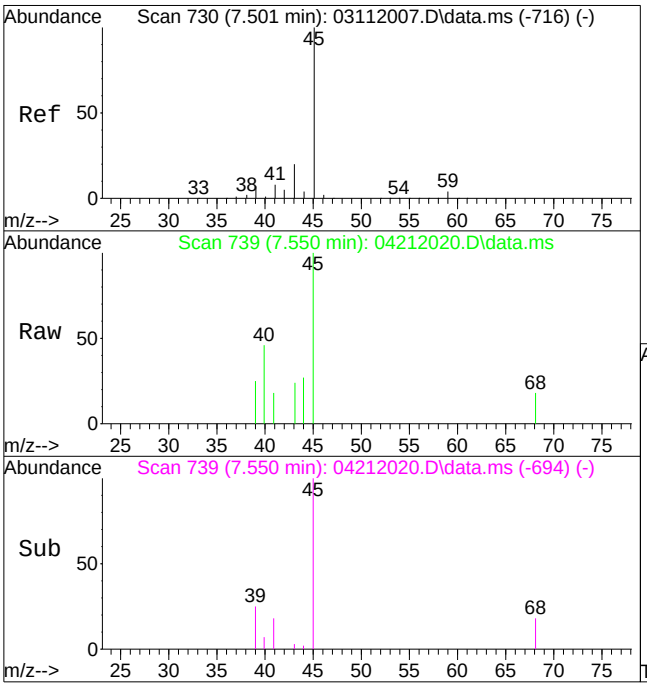


#14
Trichlorofluoromethane
Concen: 0.32 ng
RT: 7.26 min Scan# 687
Delta R.T. -0.010 min
Lab File: 04212020.D
Acq: 21 Apr 2020 19:46

Tgt Ion:101 Resp: 19320

Ion	Ratio	Lower	Upper
101	100		
103	62.6	44.6	84.6

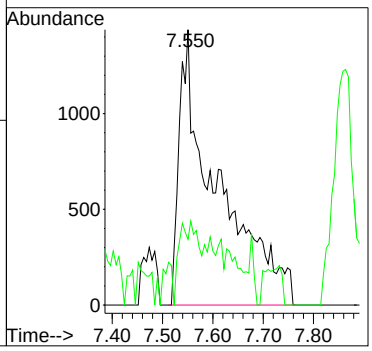


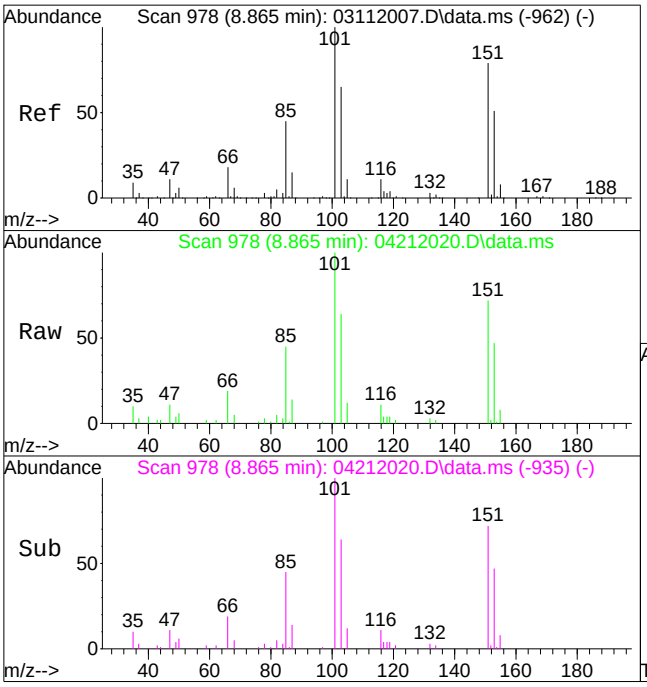


#15
2-Propanol (Isopropanol)
Concen: 0.10 ng
RT: 7.55 min Scan# 739
Delta R.T. 0.000 min
Lab File: 04212020.D
Acq: 21 Apr 2020 19:46

Tgt Ion: 45 Resp: 7486

Ion	Ratio	Lower	Upper
45	100		
43	36.6	0.3	40.3

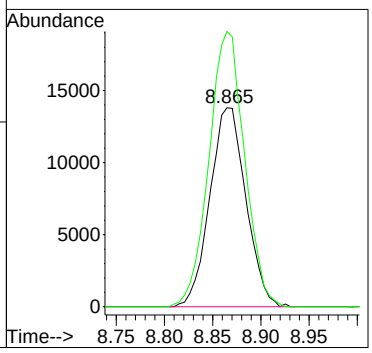


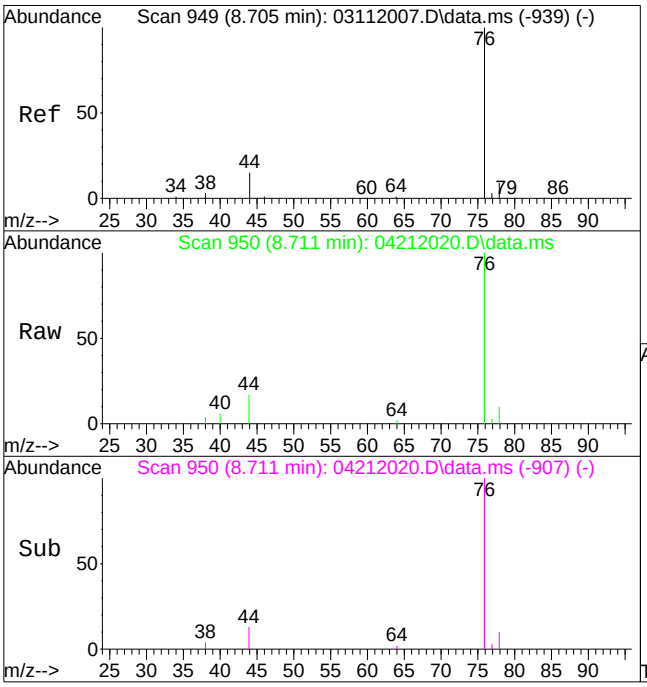


#21
Trichlorotrifluoroethane
Concen: 1.25 ng
RT: 8.86 min Scan# 978
Delta R.T. -0.011 min
Lab File: 04212020.D
Acq: 21 Apr 2020 19:46

Tgt Ion:151 Resp: 35859

Ion	Ratio	Lower	Upper
151	100		
101	136.9	108.4	148.4

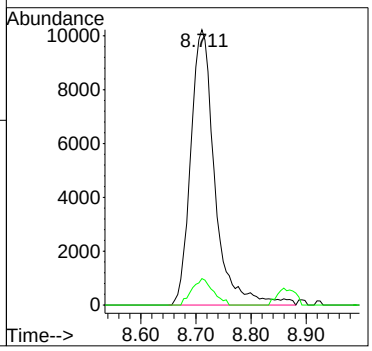


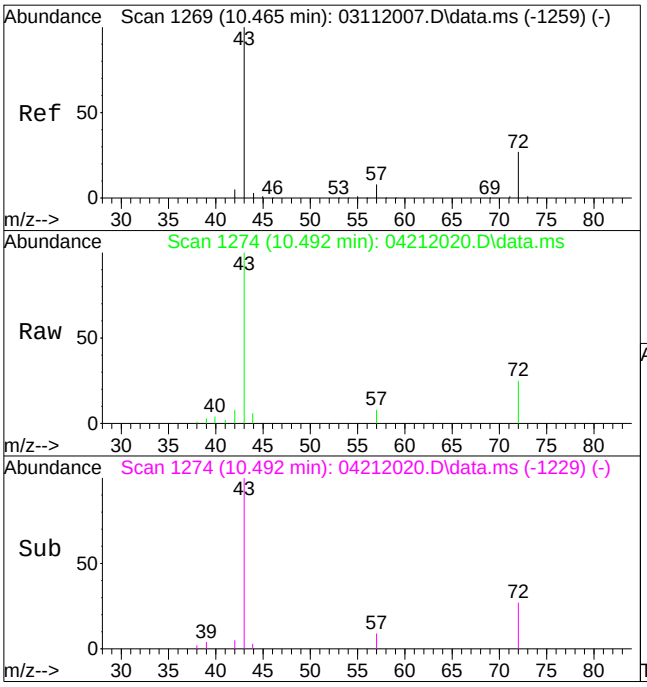


#22
Carbon Disulfide
Concen: 0.27 ng
RT: 8.71 min Scan# 950
Delta R.T. -0.011 min
Lab File: 04212020.D
Acq: 21 Apr 2020 19:46

Tgt Ion: 76 Resp: 31083

Ion	Ratio	Lower	Upper
76	100		
78	8.3	0.0	29.2

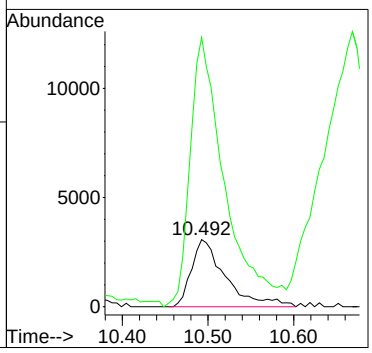


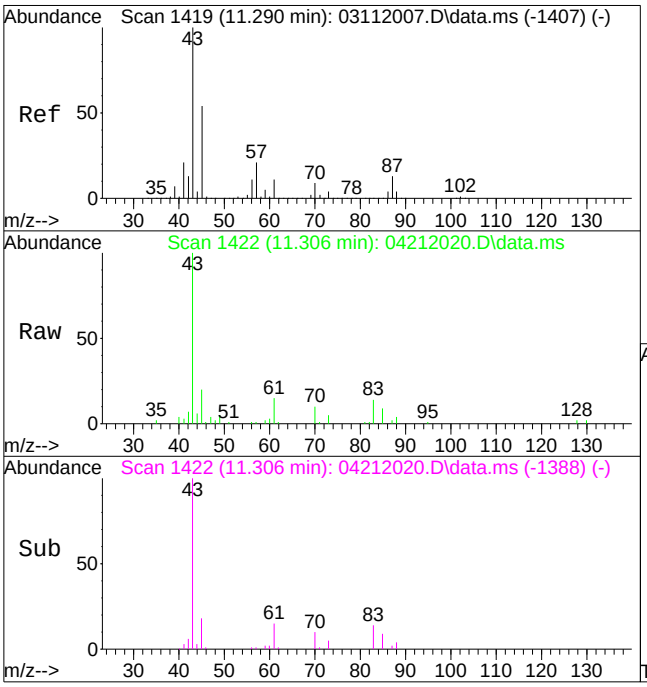


#27
2-Butanone (MEK)
Concen: 0.41 ng
RT: 10.49 min Scan# 1274
Delta R.T. 0.000 min
Lab File: 04212020.D
Acq: 21 Apr 2020 19:46

Tgt Ion: 72 Resp: 8524

Ion	Ratio	Lower	Upper
72	100		
43	407.9	353.4	393.4#

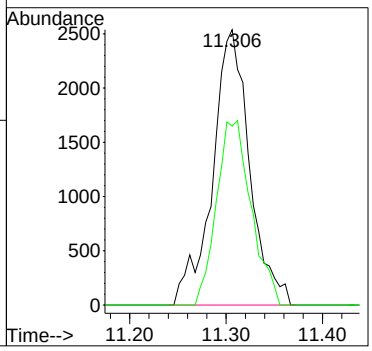


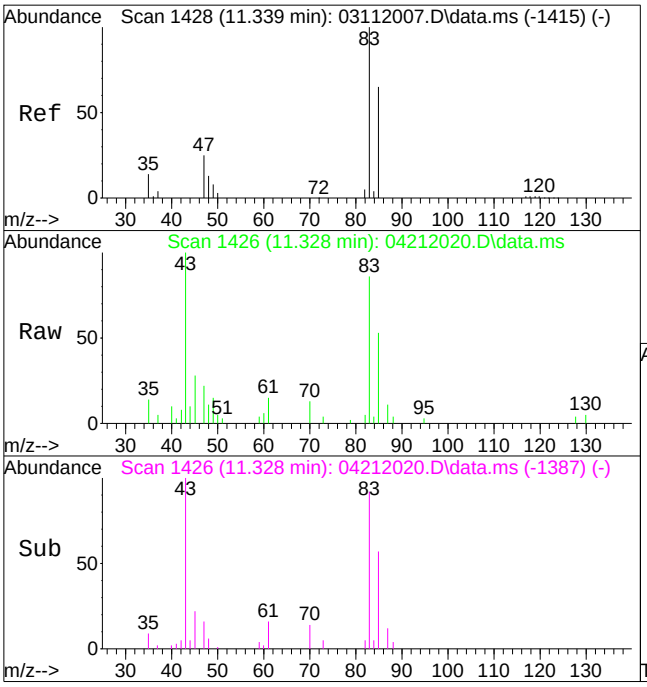


#30
Ethyl Acetate
Concen: 0.56 ng
RT: 11.31 min Scan# 1422
Delta R.T. -0.011 min
Lab File: 04212020.D
Acq: 21 Apr 2020 19:46

Tgt Ion: 61 Resp: 6799

Ion	Ratio	Lower	Upper
61	100		
70	62.3	59.1	99.1

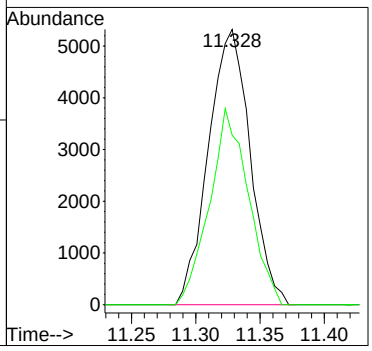


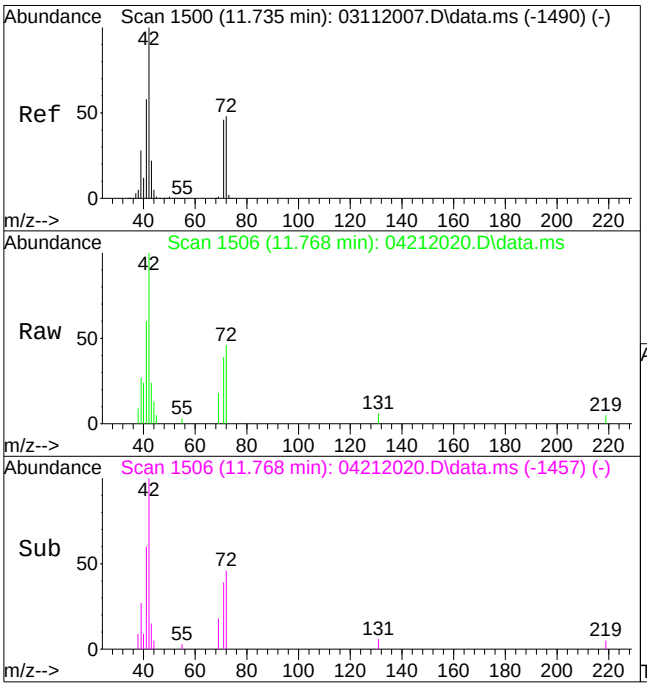


#32
Chloroform
Concen: 0.20 ng
RT: 11.33 min Scan# 1426
Delta R.T. -0.033 min
Lab File: 04212020.D
Acq: 21 Apr 2020 19:46

Tgt Ion: 83 Resp: 12021

Ion	Ratio	Lower	Upper
83	100		
85	66.3	45.5	85.5

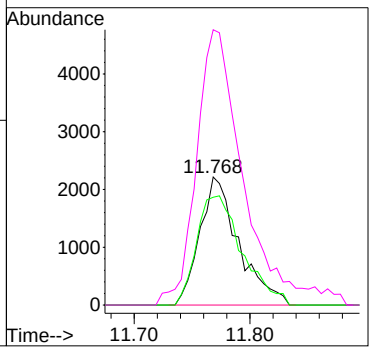


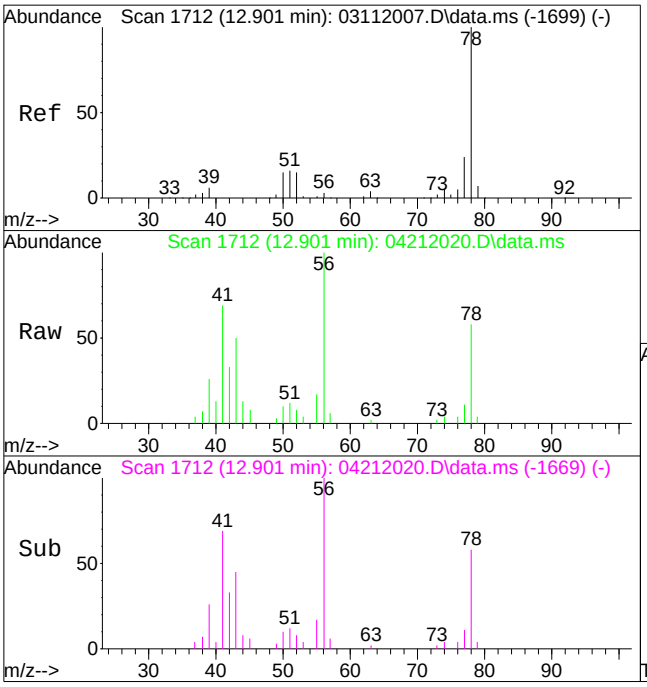


#34
Tetrahydrofuran (THF)
Concen: 0.24 ng
RT: 11.77 min Scan# 1506
Delta R.T. 0.022 min
Lab File: 04212020.D
Acq: 21 Apr 2020 19:46

Tgt Ion: 72 Resp: 5185

Ion	Ratio	Lower	Upper
72	100		
71	99.5	75.9	115.9
42	261.1	189.3	229.3#

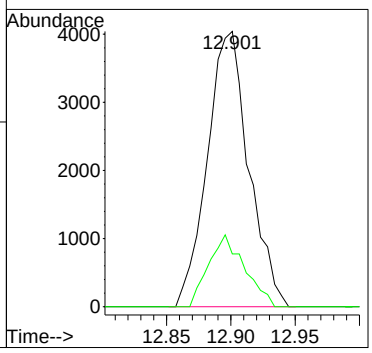


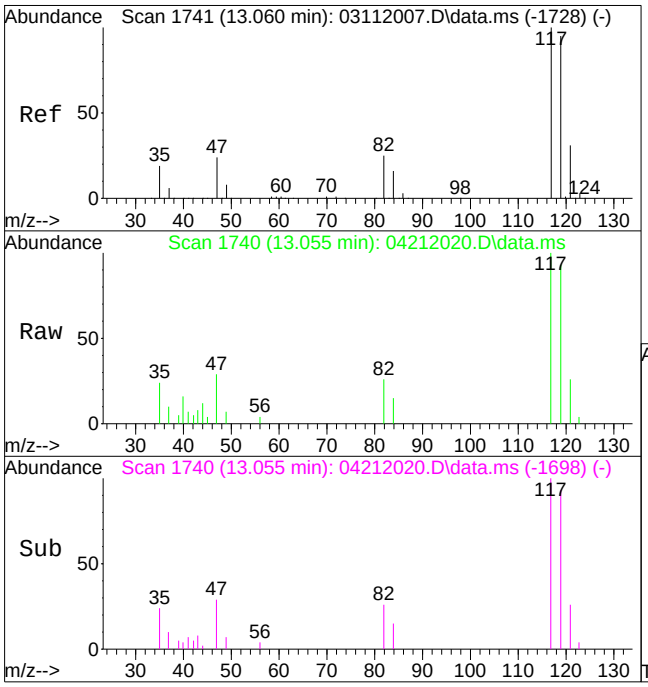


#41
Benzene
Concen: 0.07 ng
RT: 12.90 min Scan# 1712
Delta R.T. -0.011 min
Lab File: 04212020.D
Acq: 21 Apr 2020 19:46

Tgt Ion: 78 Resp: 9068

Ion	Ratio	Lower	Upper
78	100		
77	22.7	3.4	43.4

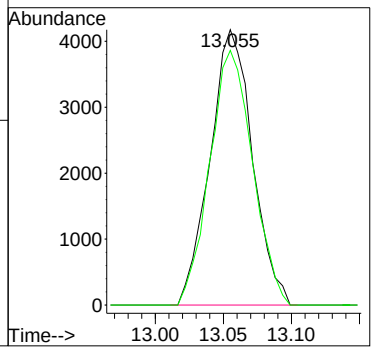


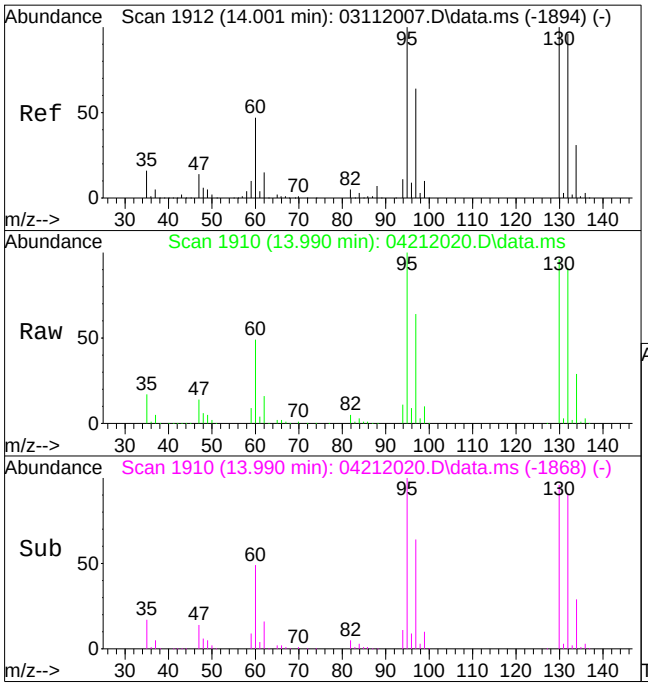


#42
Carbon Tetrachloride
Concen: 0.19 ng
RT: 13.06 min Scan# 1740
Delta R.T. -0.016 min
Lab File: 04212020.D
Acq: 21 Apr 2020 19:46

Tgt Ion:117 Resp: 9047

Ion	Ratio	Lower	Upper
117	100		
119	93.4	75.4	115.4

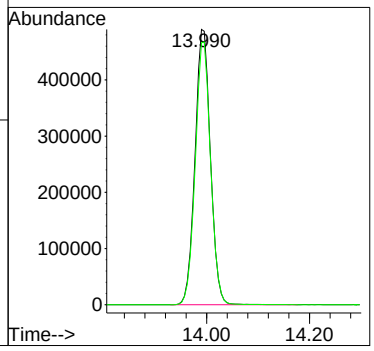


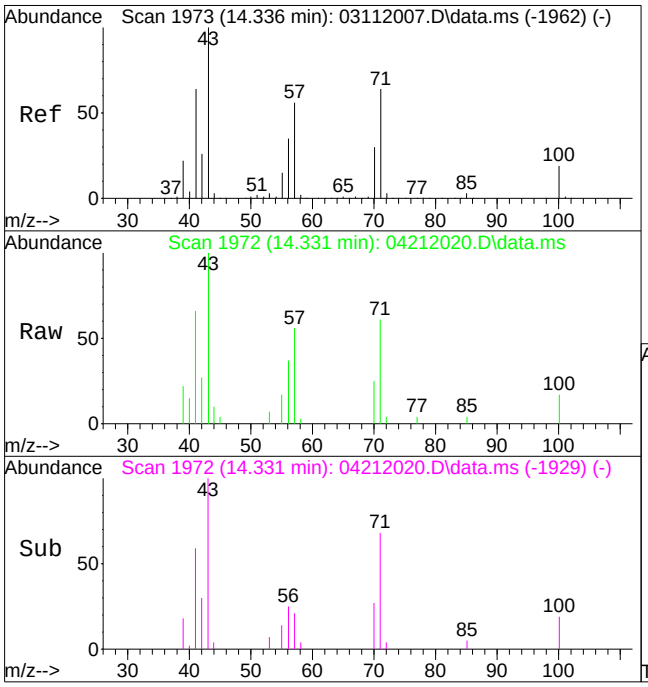


#47
Trichloroethene
Concen: 25.87 ng
RT: 13.99 min Scan# 1910
Delta R.T. -0.016 min
Lab File: 04212020.D
Acq: 21 Apr 2020 19:46

Tgt Ion:130 Resp: 1018698

Ion	Ratio	Lower	Upper
130	100		
132	95.1	74.7	114.7

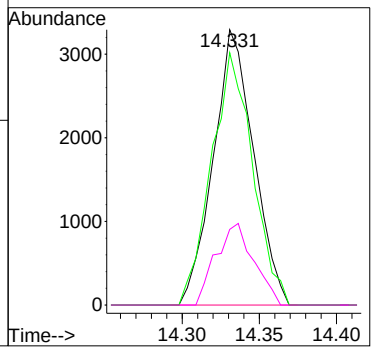


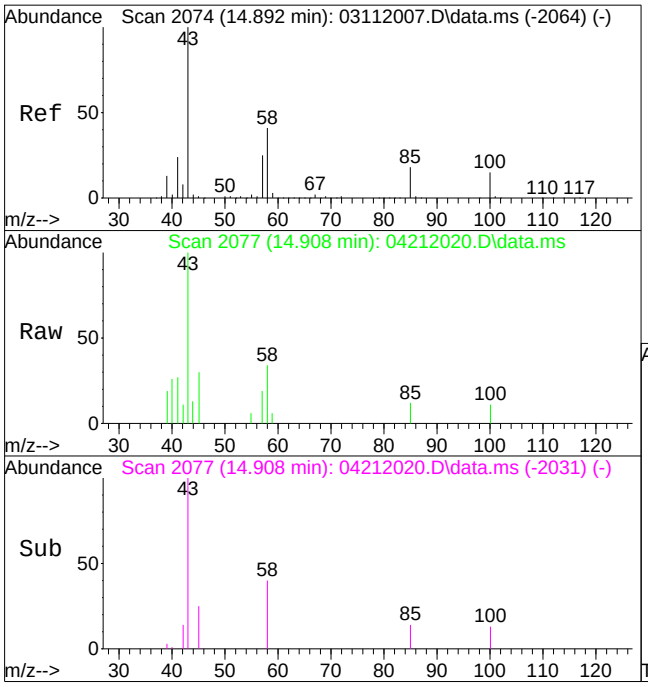


#51
n-Heptane
Concen: 0.18 ng
RT: 14.33 min Scan# 1972
Delta R.T. -0.011 min
Lab File: 04212020.D
Acq: 21 Apr 2020 19:46

Tgt Ion: 71 Resp: 5993

Ion	Ratio	Lower	Upper
71	100		
57	93.9	68.6	108.6
100	27.7	9.1	49.1

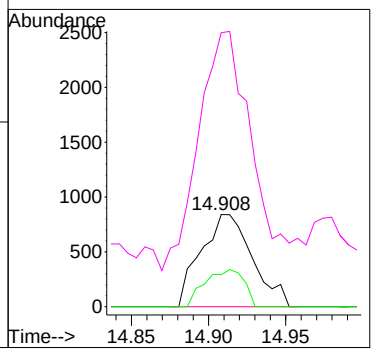


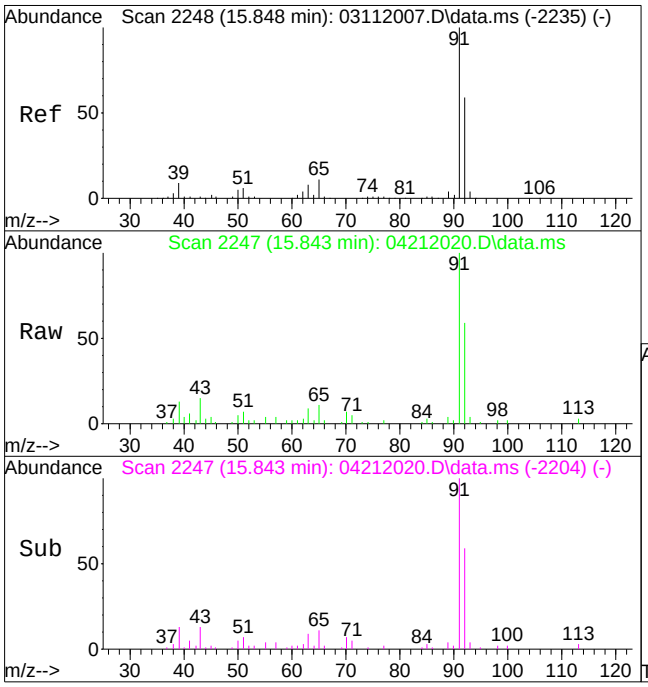


#53
4-Methyl-2-pentanone
Concen: 0.07 ng
RT: 14.91 min Scan# 2077
Delta R.T. 0.006 min
Lab File: 04212020.D
Acq: 21 Apr 2020 19:46

Tgt Ion: 58 Resp: 1948

Ion	Ratio	Lower	Upper
58	100		
85	30.7	37.0	55.4#
43	299.7	196.3	294.5#

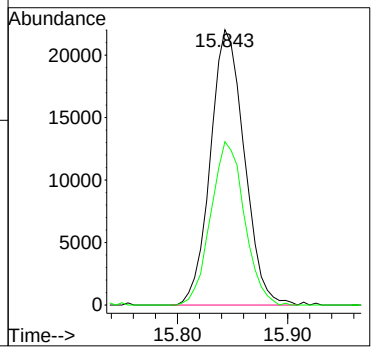


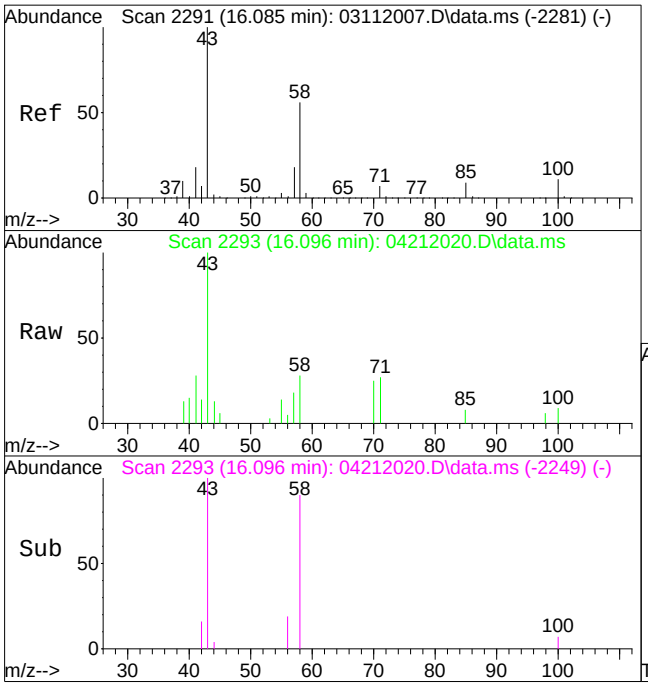


#58
Toluene
Concen: 0.32 ng
RT: 15.84 min Scan# 2247
Delta R.T. -0.011 min
Lab File: 04212020.D
Acq: 21 Apr 2020 19:46

Tgt Ion: 91 Resp: 47023

Ion	Ratio	Lower	Upper
91	100		
92	58.8	39.0	79.0

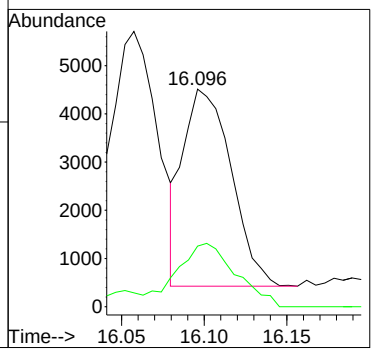


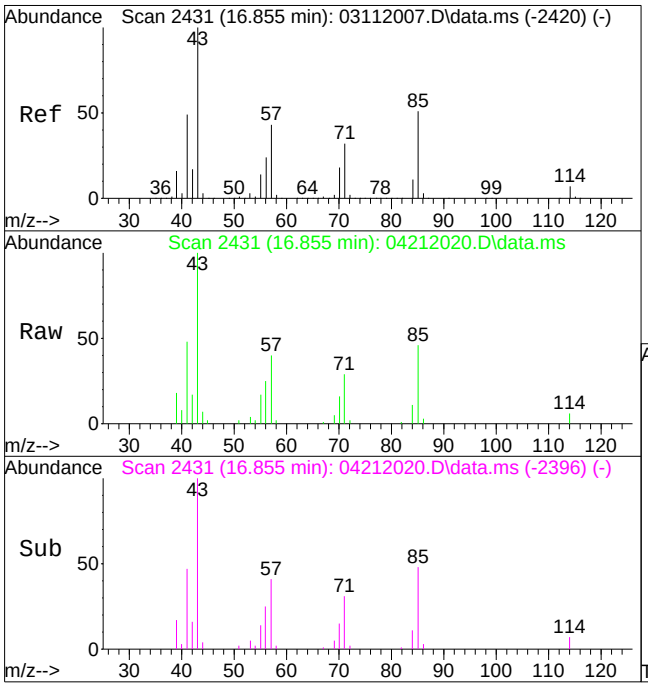


#59
2-Hexanone
Concen: 0.11 ng
RT: 16.10 min Scan# 2293
Delta R.T. -0.005 min
Lab File: 04212020.D
Acq: 21 Apr 2020 19:46

Tgt Ion: 43 Resp: 8283

Ion	Ratio	Lower	Upper
43	100		
58	39.5	36.5	76.5

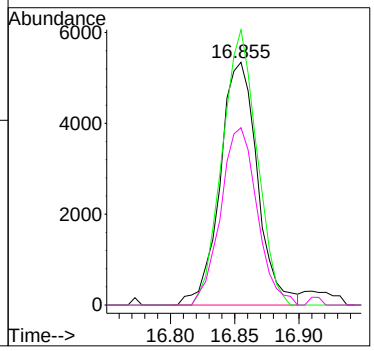


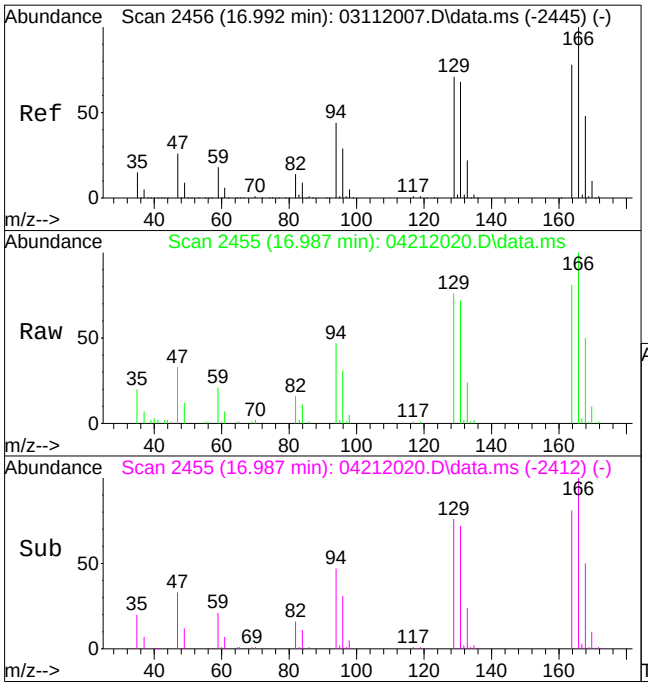


#63
n-Octane
Concen: 0.38 ng
RT: 16.85 min Scan# 2431
Delta R.T. -0.005 min
Lab File: 04212020.D
Acq: 21 Apr 2020 19:46

Tgt Ion: 57 Resp: 10828

Ion	Ratio	Lower	Upper
57	100		
85	105.0	95.1	142.7
71	71.1	58.2	87.4

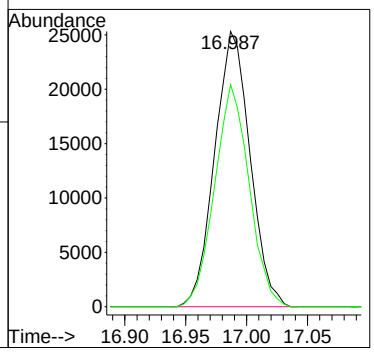


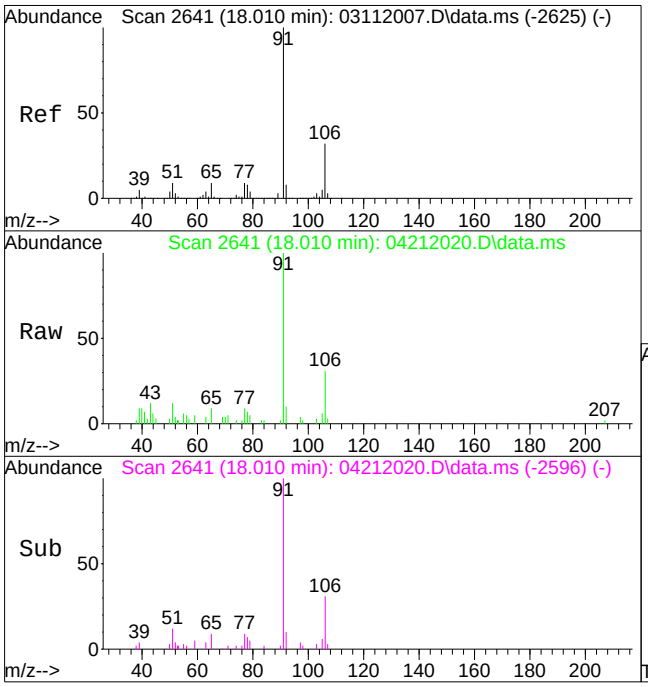


#64
Tetrachloroethene
Concen: 1.26 ng
RT: 16.99 min Scan# 2455
Delta R.T. -0.011 min
Lab File: 04212020.D
Acq: 21 Apr 2020 19:46

Tgt Ion:166 Resp: 51165

Ion	Ratio	Lower	Upper
166	100		
164	78.7	58.6	98.6

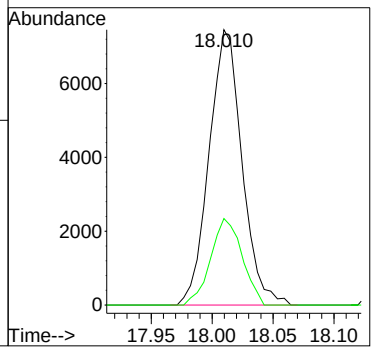


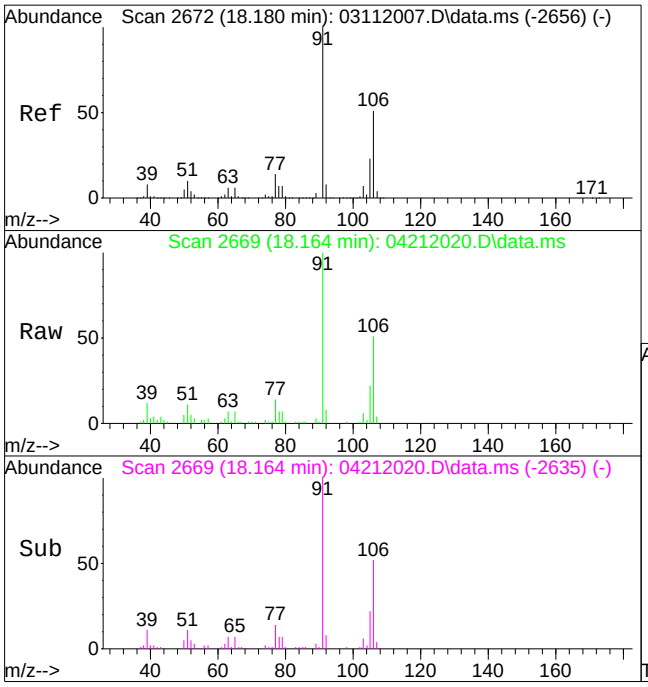


#66
Ethylbenzene
Concen: 0.09 ng
RT: 18.01 min Scan# 2641
Delta R.T. 0.000 min
Lab File: 04212020.D
Acq: 21 Apr 2020 19:46

Tgt Ion: 91 Resp: 13985

Ion	Ratio	Lower	Upper
91	100		
106	30.1	11.7	51.7

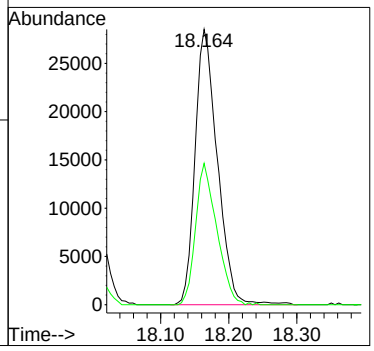


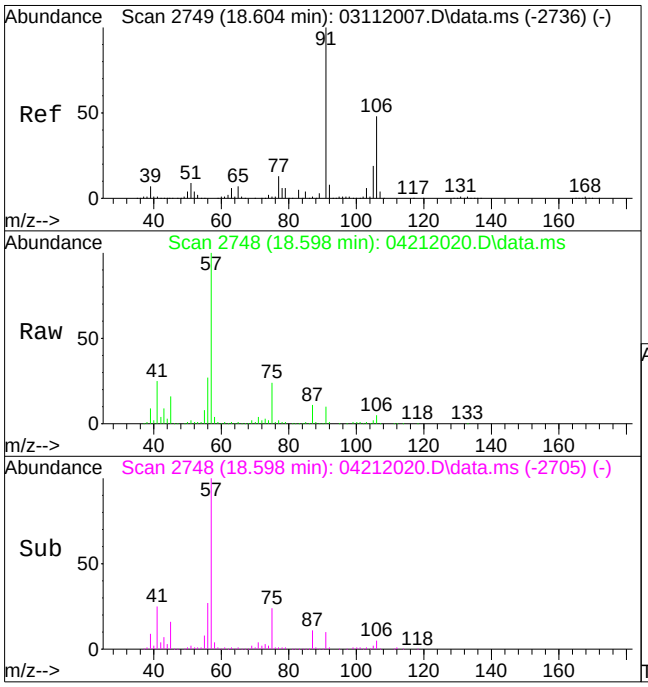


#67
m- & p-Xylenes
Concen: 0.50 ng
RT: 18.16 min Scan# 2669
Delta R.T. -0.011 min
Lab File: 04212020.D
Acq: 21 Apr 2020 19:46

Tgt Ion: 91 Resp: 64887

Ion	Ratio	Lower	Upper
91	100		
106	48.9	30.4	70.4

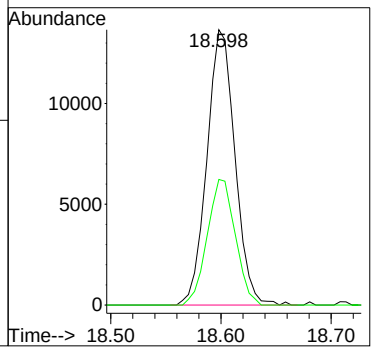


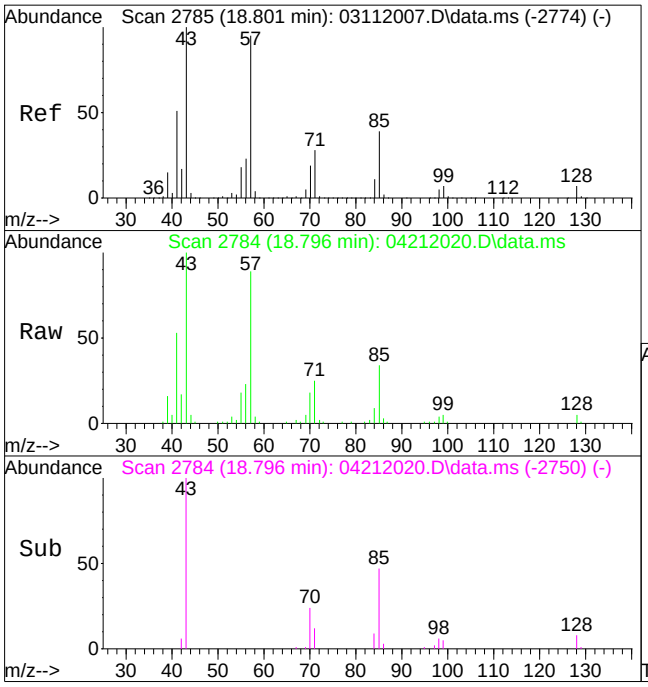


#70
o-Xylene
Concen: 0.19 ng
RT: 18.60 min Scan# 2748
Delta R.T. -0.011 min
Lab File: 04212020.D
Acq: 21 Apr 2020 19:46

Tgt Ion: 91 Resp: 24140

Ion	Ratio	Lower	Upper
91	100		
106	45.6	28.1	68.1

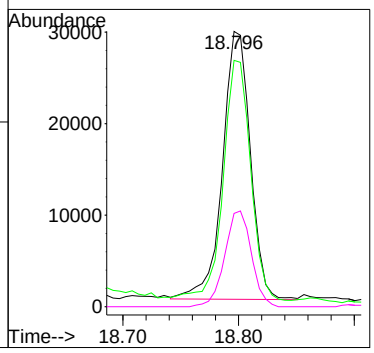


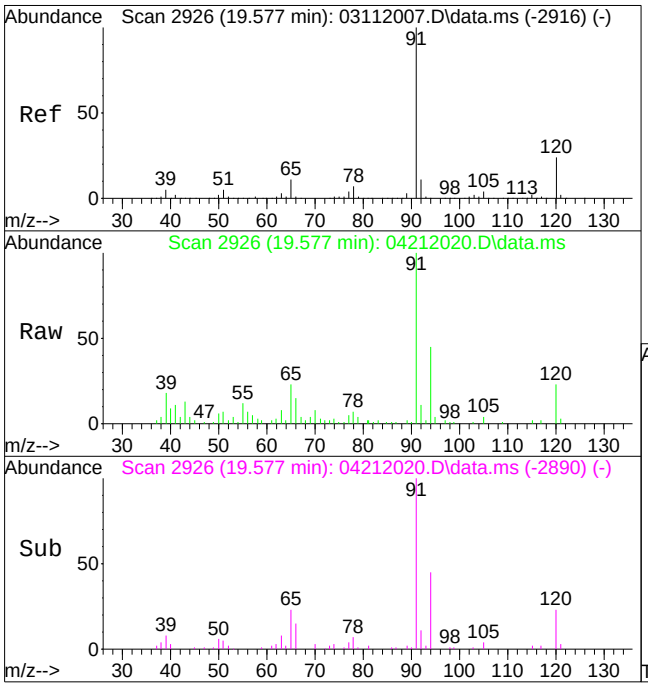


#71
n-Nonane
Concen: 0.76 ng
RT: 18.80 min Scan# 2784
Delta R.T. -0.011 min
Lab File: 04212020.D
Acq: 21 Apr 2020 19:46

Tgt Ion: 43 Resp: 49060

Ion	Ratio	Lower	Upper
43	100		
57	88.6	73.6	113.6
85	34.2	18.7	58.7

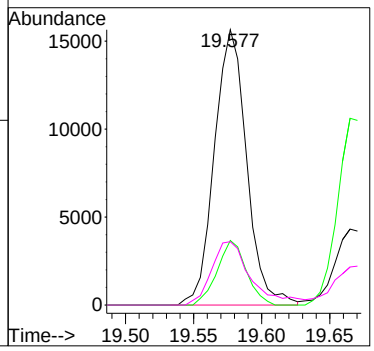


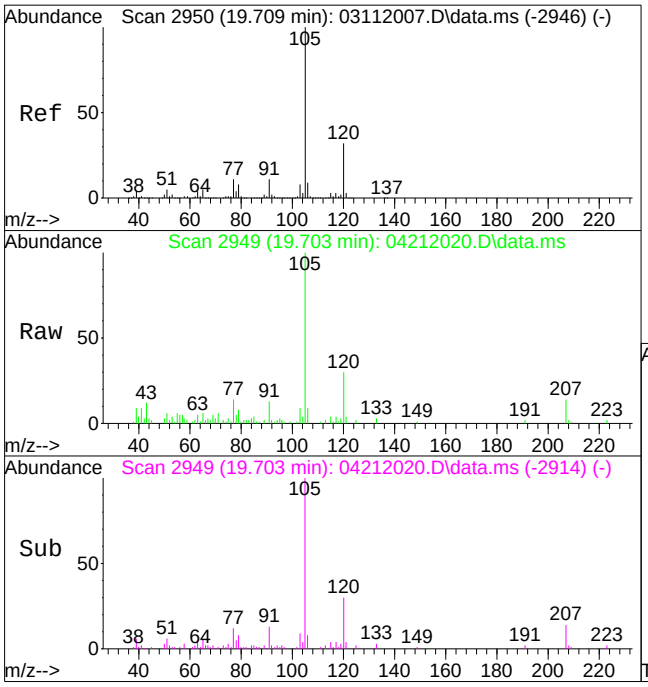


#76
n-Propylbenzene
Concen: 0.13 ng
RT: 19.58 min Scan# 2926
Delta R.T. -0.000 min
Lab File: 04212020.D
Acq: 21 Apr 2020 19:46

Tgt Ion: 91 Resp: 25792

Ion	Ratio	Lower	Upper
91	100		
120	21.2	3.9	43.9
65	28.2	0.0	30.5

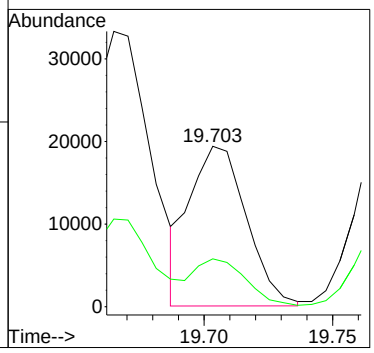


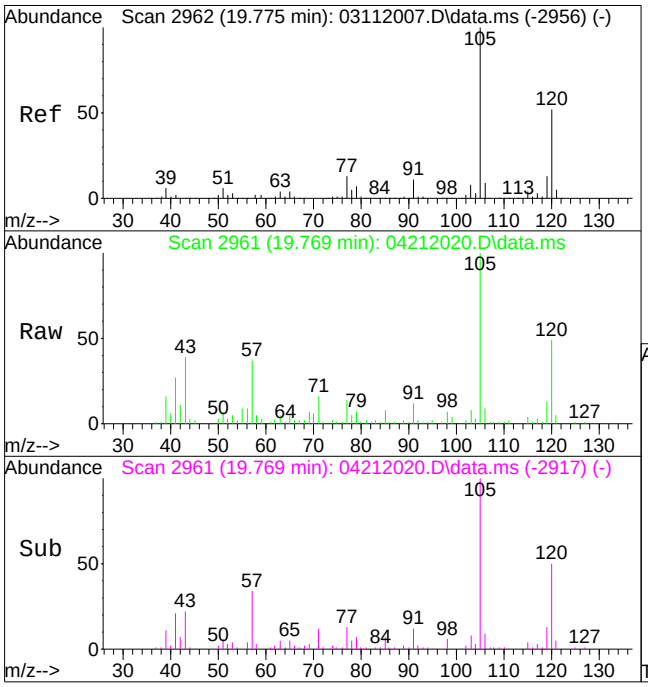


#78
4-Ethyltoluene
Concen: 0.19 ng
RT: 19.70 min Scan# 2949
Delta R.T. -0.006 min
Lab File: 04212020.D
Acq: 21 Apr 2020 19:46

Tgt Ion:105 Resp: 29717

Ion	Ratio	Lower	Upper
105	100		
120	26.4	11.1	51.1

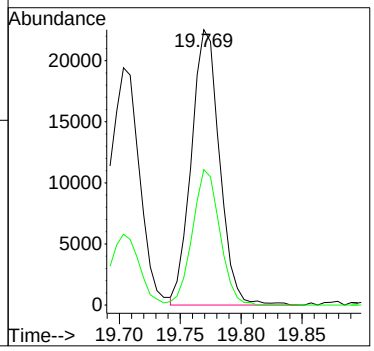


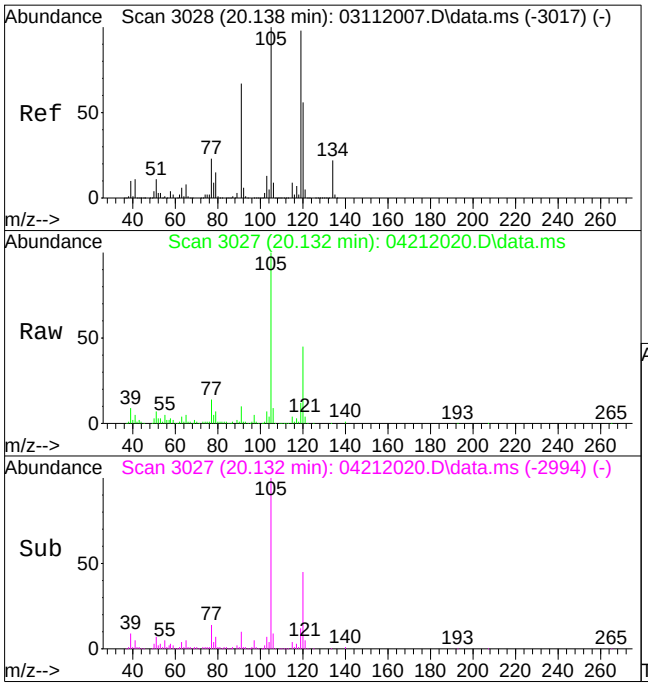


#79
1,3,5-Trimethylbenzene
Concen: 0.26 ng
RT: 19.77 min Scan# 2961
Delta R.T. -0.006 min
Lab File: 04212020.D
Acq: 21 Apr 2020 19:46

Tgt Ion:105 Resp: 36354

Ion	Ratio	Lower	Upper
105	100		
120	47.7	31.3	71.3

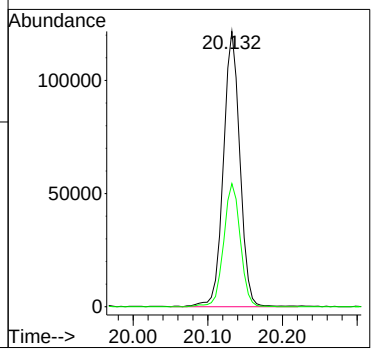


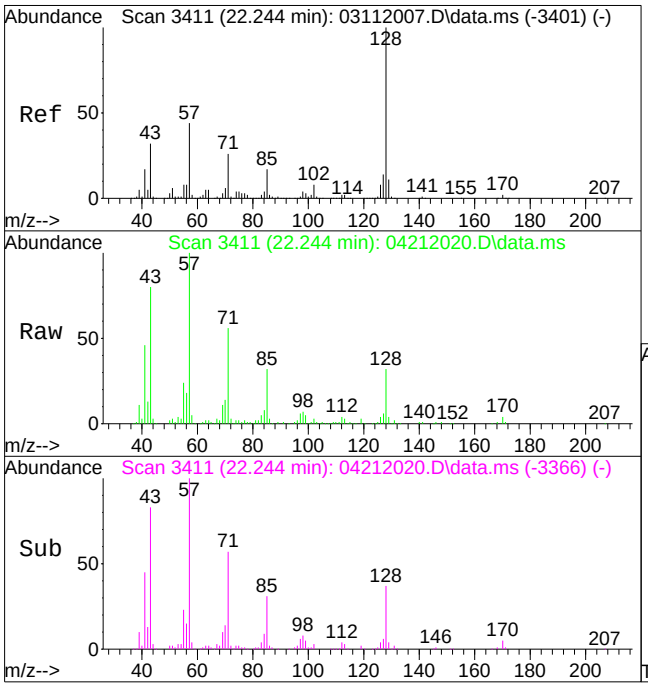


#82
1,2,4-Trimethylbenzene
Concen: 1.30 ng
RT: 20.13 min Scan# 3027
Delta R.T. -0.017 min
Lab File: 04212020.D
Acq: 21 Apr 2020 19:46

Tgt Ion:105 Resp: 186880

Ion	Ratio	Lower	Upper
105	100		
120	45.2	35.8	75.8

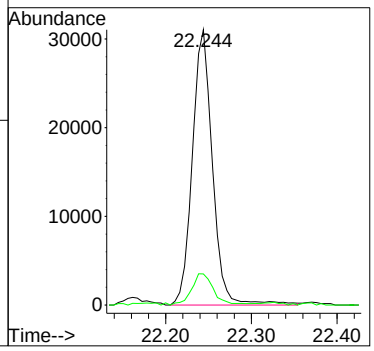




#95
Naphthalene
Concen: 0.32 ng
RT: 22.24 min Scan# 3411
Delta R.T. -0.005 min
Lab File: 04212020.D
Acq: 21 Apr 2020 19:46

Tgt Ion:128 Resp: 50828

Ion	Ratio	Lower	Upper
128	100		
129	12.6	0.0	31.1



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202027.D Vial: 2
Acq On : 20 Apr 2020 18:30 Operator: LH
Sample : MB2 R16042020_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: Apr 20 21:00:26 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/20/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	284016	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1270846	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	606982	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.01	65	497855	12.659	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.28%				
57) Toluene-d8 (SS2)	15.74	98	1312554	12.200	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.60%				
73) Bromofluorobenzene (SS3)	19.00	174	424522	11.174	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.36%				
Target Compounds							Qvalue
2) Propene	4.16	42	473	N.D.			
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.36	45	10911	0.463	ng		92
11) Acetonitrile	6.65	41	4749	0.092	ng	#	1
12) Acrolein	6.85	56	65	N.D.			
13) Acetone	7.08	58	3504	0.151	ng	#	82
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	7.62	45	1211	N.D.			
16) Acrylonitrile	7.84	53	373	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.72	76	2476	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	0.00	72	0	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	11.81	72	267	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.03	62	168	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	12.93	56	2027	0.061	ng		85
41) Benzene	12.91	78	1032	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	13.29	84	996	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.08	57	213	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202027.D Vial: 2
Acq On : 20 Apr 2020 18:30 Operator: LH
Sample : MB2 R16042020_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: Apr 20 21:00:26 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

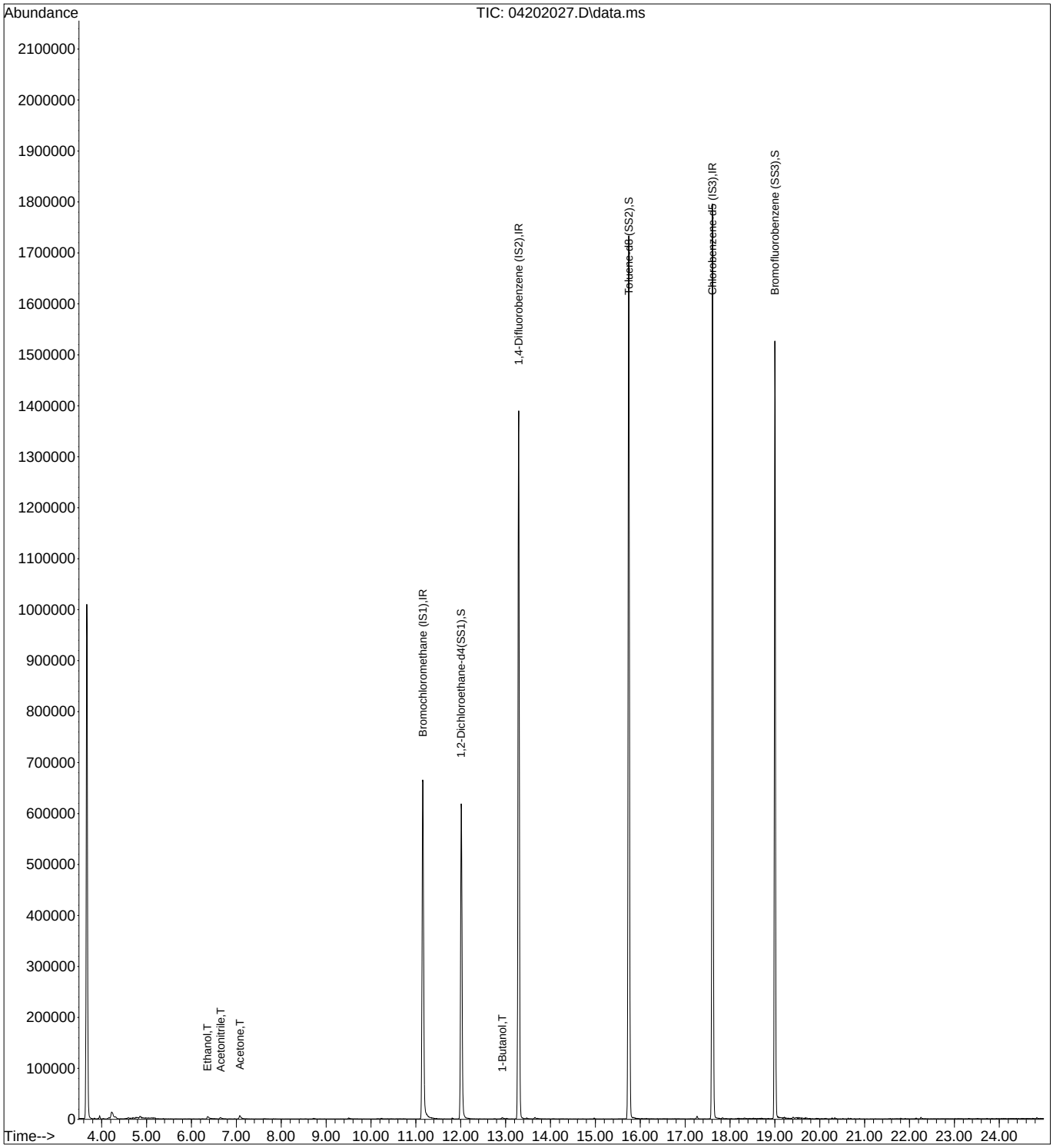
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.85	91	2336	N.D.		
59) 2-Hexanone	16.16	43	480	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.77	43	436	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	17.66	112	417	N.D.		
66) Ethylbenzene	18.02	91	1024	N.D.		
67) m- & p-Xylenes	18.19	91	2465	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.52	104	390	N.D.		
70) o-Xylene	18.60	91	498	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.13	105	674	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	19.59	91	611	N.D.		
77) 3-Ethyltoluene	19.67	105	488	N.D.		
78) 4-Ethyltoluene	19.71	105	601	N.D.		
79) 1,3,5-Trimethylbenzene	19.77	105	777	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	19.95	105	1375	N.D.		
82) 1,2,4-Trimethylbenzene	20.13	105	732	N.D.		
83) n-Decane	0.00	57	0	N.D.		
84) Benzyl Chloride	20.28	91	716	N.D.		
85) 1,3-Dichlorobenzene	20.28	146	822	N.D.		
86) 1,4-Dichlorobenzene	20.34	146	1154	N.D.		
87) sec-Butylbenzene	20.37	105	221	N.D.		
88) 4-Isopropyltoluene (p-...	20.51	119	316	N.D.		
89) 1,2,3-Trimethylbenzene	20.51	105	212	N.D.		
90) 1,2-Dichlorobenzene	20.63	146	600	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.15	180	719	N.D.		
95) Naphthalene	22.26	128	3790	N.D.		
96) n-Dodecane	0.00	57	0	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.32	55	702	N.D.		
99) tert-Butylbenzene	20.14	119	199	N.D.		
100) n-Butylbenzene	20.89	91	586	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202027.D Vial: 2
Acq On : 20 Apr 2020 18:30 Operator: LH
Sample : MB2 R16042020_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: Apr 20 21:00:26 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212004.D Vial: 2
Acq On : 21 Apr 2020 9:39 Operator: LH
Sample : MB R16042120_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: Apr 21 12:27:27 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 4/21/20
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	318885	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1419150	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	670052	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.01	65	544907	12.341	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.72%				
57) Toluene-d8 (SS2)	15.74	98	1455585	12.256	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.08%				
73) Bromofluorobenzene (SS3)	19.00	174	487846	11.632	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.04%				
Target Compounds							Qvalue
2) Propene	4.15	42	674	N.D.			
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	4.56	50	215	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.36	45	11645	0.441	ng		90
11) Acetonitrile	6.67	41	5734	0.099	ng		90
12) Acrolein	6.85	56	165	N.D.			
13) Acetone	7.08	58	3953	0.152	ng	#	80
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	7.62	45	1600	N.D.			
16) Acrylonitrile	7.84	53	713	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	8.45	84	128	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.72	76	15171	0.124	ng		96
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	0.00	72	0	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	11.82	72	325	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	12.93	56	2149	0.058	ng		96
41) Benzene	12.90	78	1271	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	13.29	84	1050	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.07	57	236	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212004.D Vial: 2
Acq On : 21 Apr 2020 9:39 Operator: LH
Sample : MB R16042120_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: Apr 21 12:27:27 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

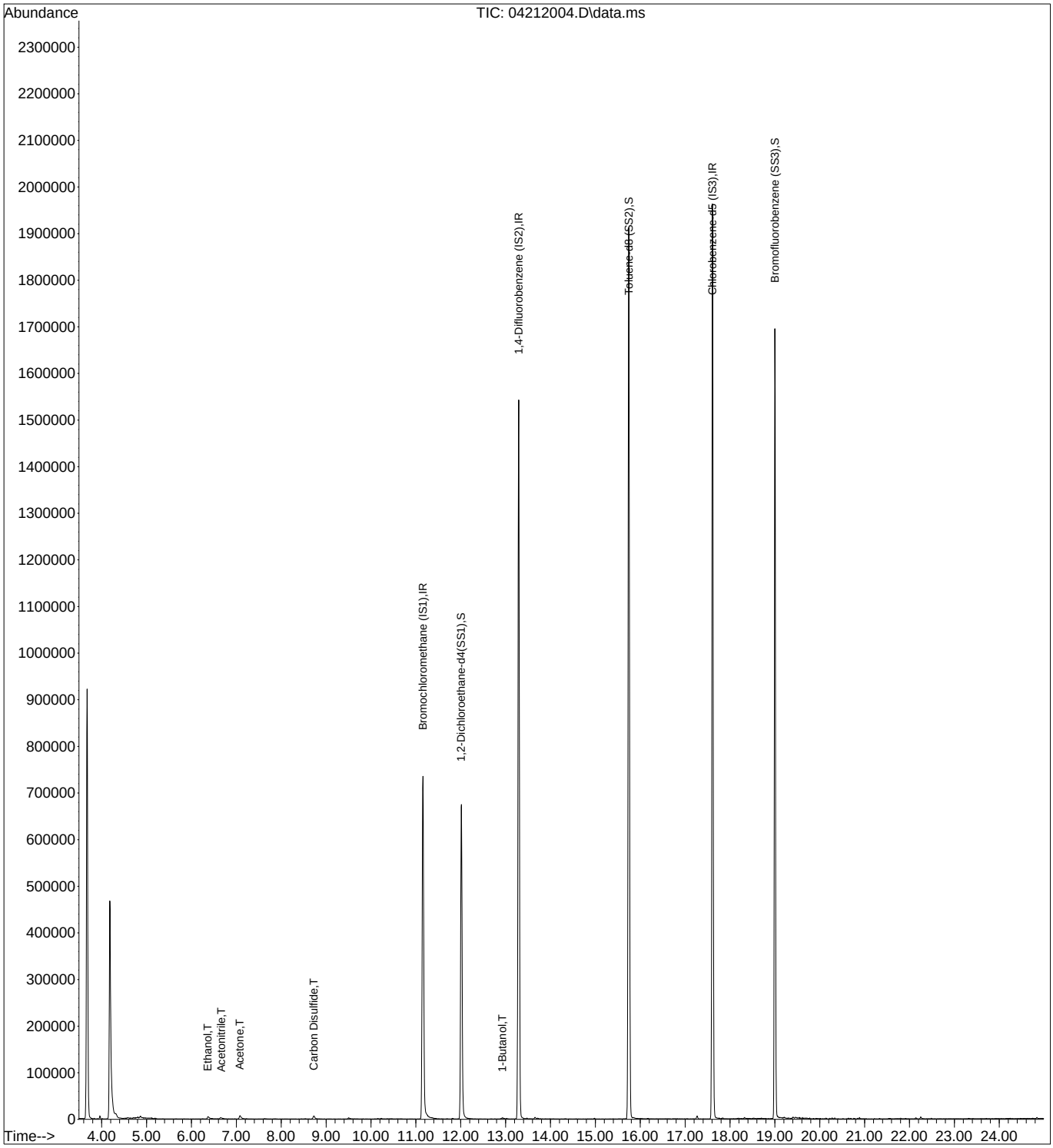
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.85	91	3291	N.D.		
59) 2-Hexanone	16.16	43	376	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.77	43	541	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	17.66	112	531	N.D.		
66) Ethylbenzene	18.02	91	1217	N.D.		
67) m- & p-Xylenes	18.17	91	698	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.52	104	612	N.D.		
70) o-Xylene	18.61	91	361	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.13	105	424	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	19.58	91	1096	N.D.		
77) 3-Ethyltoluene	19.68	105	694	N.D.		
78) 4-Ethyltoluene	19.71	105	770	N.D.		
79) 1,3,5-Trimethylbenzene	19.78	105	369	N.D.		
80) alpha-Methylstyrene	19.92	118	323	N.D.		
81) 2-Ethyltoluene	19.95	105	1028	N.D.		
82) 1,2,4-Trimethylbenzene	20.14	105	1169	N.D.		
83) n-Decane	20.23	57	184	N.D.		
84) Benzyl Chloride	20.26	91	791	N.D.		
85) 1,3-Dichlorobenzene	20.28	146	957	N.D.		
86) 1,4-Dichlorobenzene	20.34	146	1214	N.D.		
87) sec-Butylbenzene	20.37	105	269	N.D.		
88) 4-Isopropyltoluene (p-...	20.51	119	414	N.D.		
89) 1,2,3-Trimethylbenzene	20.52	105	424	N.D.		
90) 1,2-Dichlorobenzene	20.63	146	793	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.32	57	265	N.D.		
94) 1,2,4-Trichlorobenzene	22.15	180	922	N.D.		
95) Naphthalene	22.25	128	4948	N.D.		
96) n-Dodecane	0.00	57	0	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.32	55	802	N.D.		
99) tert-Butylbenzene	20.14	119	340	N.D.		
100) n-Butylbenzene	20.89	91	863	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212004.D Vial: 2
Acq On : 21 Apr 2020 9:39 Operator: LH
Sample : MB R16042120_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: Apr 21 12:27:27 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202033.D Vial: 2
Acq On : 20 Apr 2020 21:53 Operator: LH
Sample : LCS2 R16042020_25ng Inst : GCMS-16
Misc : S31-02112001/S34-03252003 (4/23)

Quant Time: Apr 21 12:26:45 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020 4/21/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	354609	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.30	114	1528676	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.61	82	733709	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	575848	11.727	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.84%				
57) Toluene-d8 (SS2)	15.75	98	1552988	11.941	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.52%				
73) Bromofluorobenzene (SS3)	19.00	174	580362	12.637	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.12%				
Target Compounds							Qvalue
2) Propene	4.11	42	962588	25.882	ng		99
3) Dichlorodifluoromethan...	4.26	85	1897253	23.711	ng		100
4) Chloromethane	4.54	50	1430837	22.647	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	1101707	21.618	ng		100
6) Vinyl Chloride	4.97	62	1631116	24.459	ng		100
7) 1,3-Butadiene	5.23	54	1055573	21.849	ng		100
8) Bromomethane	5.66	94	816939	24.454	ng		100
9) Chloroethane	6.00	64	636227	24.862	ng		100
10) Ethanol	6.36	45	3527341	120.005	ng		100
11) Acetonitrile	6.62	41	1606640	24.847	ng		100
12) Acrolein	6.81	56	557411	25.771	ng		99
13) Acetone	7.01	58	3818304	131.631	ng		100
14) Trichlorofluoromethane	7.26	101	1685824	23.894	ng		100
15) 2-Propanol (Isopropanol)	7.50	45	4587055	53.319	ng		98
16) Acrylonitrile	7.77	53	1231172	28.285	ng		99
17) 1,1-Dichloroethene	8.22	96	909250	26.057	ng		98
18) 2-Methyl-2-Propanol (t...	8.38	59	4208222	54.509	ng		98
19) Methylene Chloride	8.45	84	960592	25.450	ng		99
20) 3-Chloro-1-propene (Al...	8.61	41	1253370	25.630	ng		98
21) Trichlorotrifluoroethane	8.86	151	821760	24.354	ng		99
22) Carbon Disulfide	8.71	76	3499834	25.782	ng		100
23) trans-1,2-Dichloroethene	9.72	61	1356927	26.792	ng		99
24) 1,1-Dichloroethane	9.98	63	1592530	24.638	ng		100
25) Methyl tert-Butyl Ether	10.07	73	2458971	23.502	ng		99
26) Vinyl Acetate	10.23	86	1289442	129.537	ng	#	81
27) 2-Butanone (MEK)	10.47	72	653087	27.044	ng		92
28) cis-1,2-Dichloroethene	10.99	61	1320580	25.096	ng		100
29) Diisopropyl Ether	11.29	87	926451	24.059	ng	#	86
30) Ethyl Acetate	11.30	61	837304	58.660	ng		99
31) n-Hexane	11.28	57	1827469	27.625	ng		99
32) Chloroform	11.34	83	1722476	24.464	ng		100
34) Tetrahydrofuran (THF)	11.74	72	635308	25.571	ng		96
35) Ethyl tert-Butyl Ether	11.88	87	1134590	25.229	ng		97
36) 1,2-Dichloroethane	12.14	62	1297653	23.628	ng		100
38) 1,1,1-Trichloroethane	12.42	97	1530504	25.514	ng		100
39) Isopropyl Acetate	12.85	61	1417473	57.113	ng		99
40) 1-Butanol	12.86	56	1993150	50.188	ng		94
41) Benzene	12.90	78	3905242	24.705	ng		100
42) Carbon Tetrachloride	13.06	117	1359500	25.045	ng		100
43) Cyclohexane	13.19	84	3135419	51.659	ng		96
44) tert-Amyl Methyl Ether	13.54	73	2699467	26.399	ng		99
45) 1,2-Dichloropropane	13.75	63	953903	26.388	ng		99
46) Bromodichloromethane	13.95	83	1401885	26.238	ng		100
47) Trichloroethene	14.00	130	1026503	22.918	ng		100
48) 1,4-Dioxane	13.97	88	785084	25.653	ng		97
49) 2,2,4-Trimethylpentane...	14.07	57	3938506	26.221	ng		98
50) Methyl Methacrylate	14.20	100	847986	55.494	ng		94

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202033.D Vial: 2
Acq On : 20 Apr 2020 21:53 Operator: LH
Sample : LCS2 R16042020_25ng Inst : GCMS-16
Misc : S31-02112001/S34-03252003 (4/23)

Quant Time: Apr 21 12:26:45 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

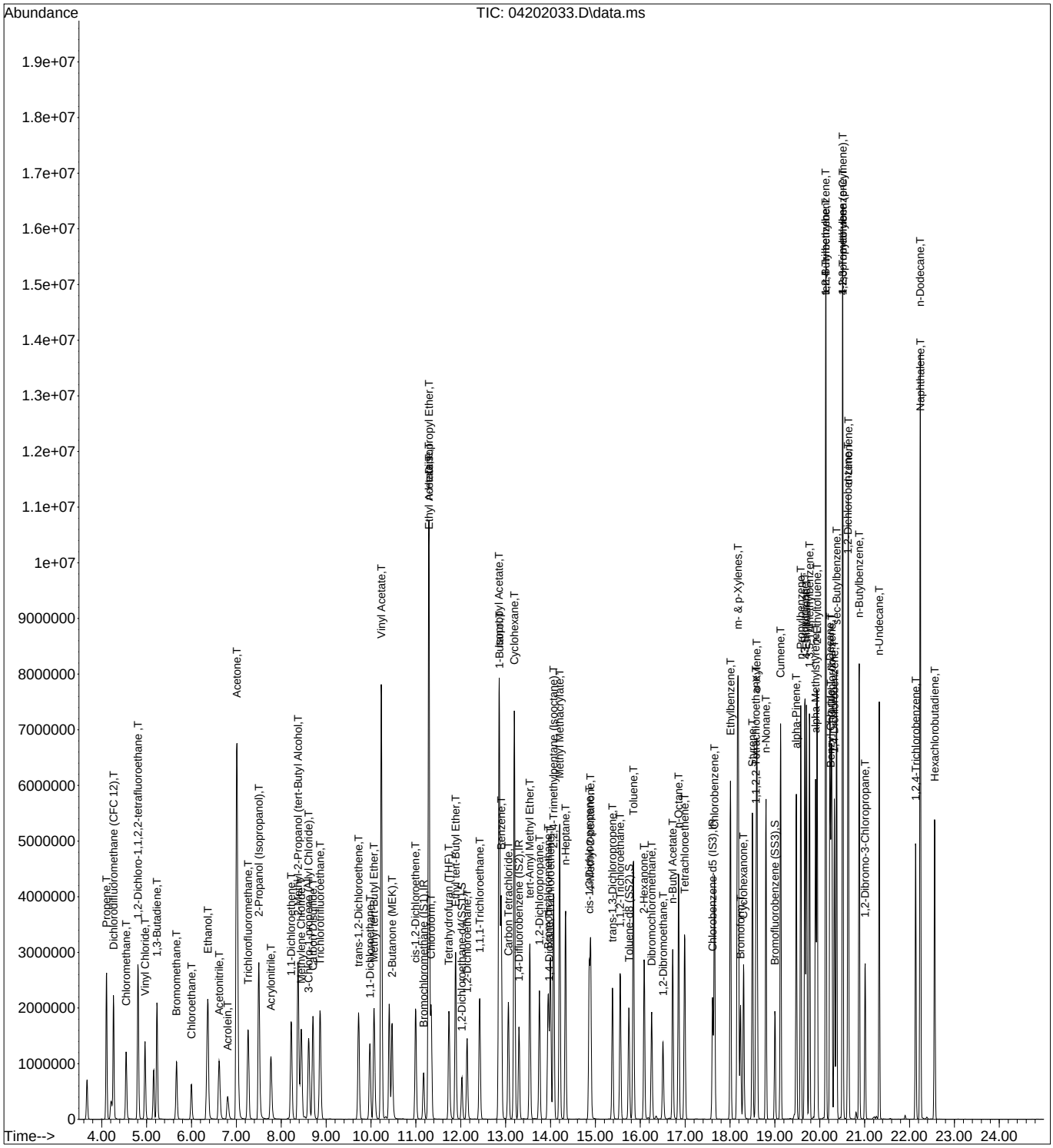
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.34	71	978621	26.515	ng	98
52) cis-1,3-Dichloropropene	14.86	75	1717760	29.438	ng	100
53) 4-Methyl-2-pentanone	14.89	58	932031	28.131	ng	98
54) trans-1,3-Dichloropropene	15.38	75	1461456	26.960	ng	100
55) 1,1,2-Trichloroethane	15.55	97	956682	26.218	ng	100
58) Toluene	15.85	91	3938450	24.493	ng	100
59) 2-Hexanone	16.08	43	2170266	26.971	ng	99
60) Dibromochloromethane	16.26	129	1188690	27.769	ng	100
61) 1,2-Dibromoethane	16.51	107	1119326	27.198	ng	100
62) n-Butyl Acetate	16.72	43	2466151	28.659	ng	99
63) n-Octane	16.85	57	836907	26.228	ng	98
64) Tetrachloroethene	16.99	166	1087388	24.268	ng	100
65) Chlorobenzene	17.65	112	2653821	24.529	ng	100
66) Ethylbenzene	18.01	91	4640470	26.304	ng	100
67) m- & p-Xylenes	18.18	91	7476992	52.111	ng	99
68) Bromoform	18.24	173	1028839	26.618	ng	99
69) Styrene	18.50	104	2799209	24.872	ng	99
70) o-Xylene	18.60	91	3695496	25.759	ng	99
71) n-Nonane	18.80	43	1902147	26.519	ng	97
72) 1,1,2,2-Tetrachloroethane	18.58	83	1853477	26.886	ng	100
74) Cumene	19.13	105	4637943	25.565	ng	99
75) alpha-Pinene	19.48	93	2234311	24.306	ng	97
76) n-Propylbenzene	19.58	91	5652456	26.679	ng	99
77) 3-Ethyltoluene	19.67	105	4739073	26.324	ng	99
78) 4-Ethyltoluene	19.70	105	4369167	25.358	ng	99
79) 1,3,5-Trimethylbenzene	19.77	105	3853727	25.130	ng	99
80) alpha-Methylstyrene	19.91	118	1824873	21.773	ng	92
81) 2-Ethyltoluene	19.94	105	4573238	25.733	ng	99
82) 1,2,4-Trimethylbenzene	20.13	105	4273668	26.901	ng	98
83) n-Decane	20.23	57	2062451	26.863	ng	98
84) Benzyl Chloride	20.25	91	3028215	24.593	ng	98
85) 1,3-Dichlorobenzene	20.27	146	2344228	27.500	ng	100
86) 1,4-Dichlorobenzene	20.32	146	2322566	27.434	ng	100
87) sec-Butylbenzene	20.37	105	5125687	25.942	ng	99
88) 4-Isopropyltoluene (p-...	20.51	119	5053902	26.753	ng	99
89) 1,2,3-Trimethylbenzene	20.51	105	4197712	26.323	ng	98
90) 1,2-Dichlorobenzene	20.63	146	2308613	26.499	ng	100
91) d-Limonene	20.64	68	1454565	23.676	ng	98
92) 1,2-Dibromo-3-Chloropr...	21.01	157	777181	26.580	ng	96
93) n-Undecane	21.33	57	2083388	26.302	ng	98
94) 1,2,4-Trichlorobenzene	22.14	180	1547196	30.471	ng	99
95) Naphthalene	22.24	128	5075734	28.564	ng	100
96) n-Dodecane	22.24	57	1966074	24.979	ng	98
97) Hexachlorobutadiene	22.56	225	980486	24.220	ng	100
98) Cyclohexanone	18.30	55	1231443	22.140	ng	98
99) tert-Butylbenzene	20.13	119	4061646	26.072	ng	99
100) n-Butylbenzene	20.88	91	4189675	26.236	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202033.D Vial: 2
Acq On : 20 Apr 2020 21:53 Operator: LH
Sample : LCS2 R16042020_25ng Inst : GCMS-16
Misc : S31-02112001/S34-03252003 (4/23)

Quant Time: Apr 21 12:26:45 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202034.D Vial: 2
Acq On : 20 Apr 2020 22:26 Operator: LH
Sample : LCSD2 R16042020_25ng Inst : GCMS-16
Misc : S31-02112001/S34-03252003 (4/23)

Quant Time: Apr 21 12:26:47 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LDA 4/21/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	367608	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.30	114	1586396	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.61	82	746113	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	592849	11.647	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.20%				
57) Toluene-d8 (SS2)	15.74	98	1601502	12.110	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.88%				
73) Bromofluorobenzene (SS3)	19.00	174	605680	12.969	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.76%				
Target Compounds							Qvalue
2) Propene	4.11	42	1013671	26.292	ng		99
3) Dichlorodifluoromethan...	4.26	85	1999276	24.103	ng		100
4) Chloromethane	4.54	50	1470169	22.446	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	1144882	21.671	ng		99
6) Vinyl Chloride	4.97	62	1687984	24.416	ng		100
7) 1,3-Butadiene	5.23	54	1112418	22.212	ng		99
8) Bromomethane	5.67	94	869426	25.104	ng		100
9) Chloroethane	6.00	64	671068	25.297	ng		99
10) Ethanol	6.36	45	3695015	121.264	ng		100
11) Acetonitrile	6.62	41	1669832	24.911	ng		100
12) Acrolein	6.81	56	571421	25.484	ng		100
13) Acetone	7.01	58	3857193	128.270	ng		99
14) Trichlorofluoromethane	7.26	101	1765714	24.142	ng		100
15) 2-Propanol (Isopropanol)	7.50	45	4706012	52.768	ng		98
16) Acrylonitrile	7.77	53	1260686	27.938	ng		100
17) 1,1-Dichloroethene	8.22	96	946143	26.156	ng		98
18) 2-Methyl-2-Propanol (t...	8.37	59	4283202	53.519	ng		98
19) Methylene Chloride	8.45	84	984111	25.151	ng		99
20) 3-Chloro-1-propene (Al...	8.61	41	1299808	25.639	ng		98
21) Trichlorotrifluoroethane	8.86	151	862505	24.658	ng		99
22) Carbon Disulfide	8.71	76	3641172	25.875	ng		100
23) trans-1,2-Dichloroethene	9.72	61	1403643	26.735	ng		99
24) 1,1-Dichloroethane	9.98	63	1646697	24.575	ng		100
25) Methyl tert-Butyl Ether	10.07	73	2534059	23.364	ng		99
26) Vinyl Acetate	10.23	86	1324952	128.398	ng	#	84
27) 2-Butanone (MEK)	10.47	72	668539	26.705	ng		94
28) cis-1,2-Dichloroethene	10.99	61	1367609	25.071	ng		99
29) Diisopropyl Ether	11.29	87	1098109	27.509	ng	#	86
30) Ethyl Acetate	11.30	61	857675	57.962	ng		99
31) n-Hexane	11.28	57	1867378	27.230	ng		100
32) Chloroform	11.34	83	1781097	24.403	ng		100
34) Tetrahydrofuran (THF)	11.74	72	656237	25.479	ng		96
35) Ethyl tert-Butyl Ether	11.88	87	1175147	25.207	ng		98
36) 1,2-Dichloroethane	12.14	62	1347183	23.662	ng		100
38) 1,1,1-Trichloroethane	12.42	97	1581766	25.409	ng		100
39) Isopropyl Acetate	12.85	61	1447108	56.186	ng		98
40) 1-Butanol	12.86	56	2040982	49.523	ng		94
41) Benzene	12.90	78	3984444	24.289	ng		100
42) Carbon Tetrachloride	13.06	117	1413036	25.084	ng		100
43) Cyclohexane	13.19	84	3228825	51.262	ng		96
44) tert-Amyl Methyl Ether	13.54	73	2815651	26.533	ng		99
45) 1,2-Dichloropropane	13.75	63	989414	26.374	ng		99
46) Bromodichloromethane	13.95	83	1439289	25.958	ng		100
47) Trichloroethene	14.00	130	1073740	23.100	ng		100
48) 1,4-Dioxane	13.97	88	810442	25.518	ng		98
49) 2,2,4-Trimethylpentane...	14.07	57	4067334	26.093	ng		98
50) Methyl Methacrylate	14.20	100	876017	55.243	ng		95

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202034.D Vial: 2
Acq On : 20 Apr 2020 22:26 Operator: LH
Sample : LCSD2 R16042020_25ng Inst : GCMS-16
Misc : S31-02112001/S34-03252003 (4/23)

Quant Time: Apr 21 12:26:47 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

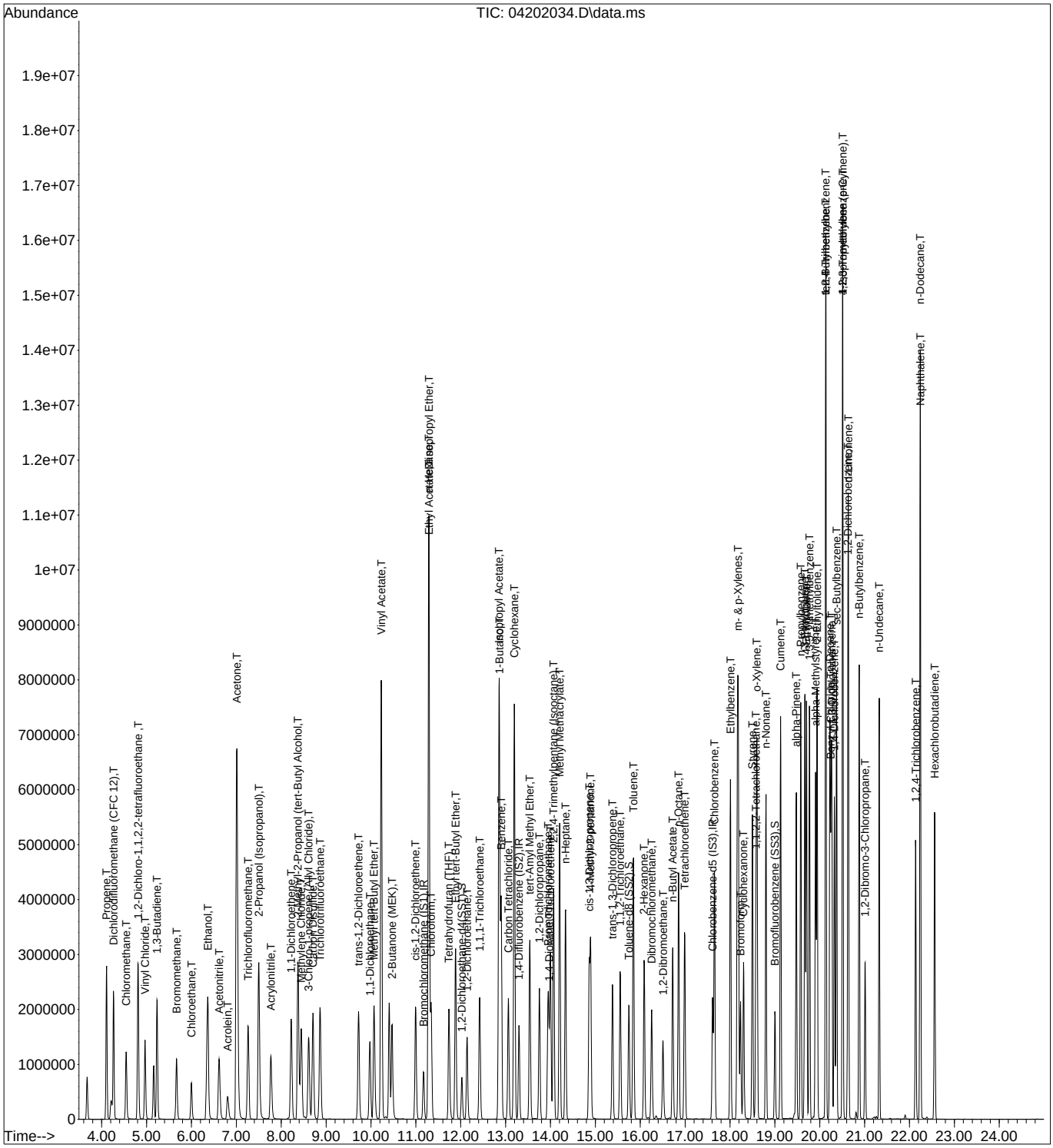
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.34	71	1010334	26.378	ng	99
52) cis-1,3-Dichloropropene	14.86	75	1785562	29.487	ng	100
53) 4-Methyl-2-pentanone	14.89	58	953026	27.718	ng	98
54) trans-1,3-Dichloropropene	15.38	75	1522282	27.060	ng	100
55) 1,1,2-Trichloroethane	15.55	97	976757	25.794	ng	99
58) Toluene	15.85	91	4025210	24.616	ng	100
59) 2-Hexanone	16.09	43	2191600	26.783	ng	99
60) Dibromochloromethane	16.26	129	1231114	28.282	ng	100
61) 1,2-Dibromoethane	16.51	107	1153664	27.567	ng	100
62) n-Butyl Acetate	16.72	43	2507088	28.650	ng	100
63) n-Octane	16.86	57	856612	26.400	ng	98
64) Tetrachloroethene	16.99	166	1130601	24.813	ng	100
65) Chlorobenzene	17.65	112	2753947	25.031	ng	100
66) Ethylbenzene	18.01	91	4717581	26.297	ng	100
67) m- & p-Xylenes	18.18	91	7580729	51.955	ng	99
68) Bromoform	18.24	173	1068264	27.179	ng	100
69) Styrene	18.50	104	2856759	24.961	ng	99
70) o-Xylene	18.60	91	3742544	25.654	ng	99
71) n-Nonane	18.80	43	1950528	26.741	ng	97
72) 1,1,2,2-Tetrachloroethane	18.58	83	1888825	26.944	ng	100
74) Cumene	19.13	105	4711236	25.537	ng	100
75) alpha-Pinene	19.48	93	2294056	24.541	ng	97
76) n-Propylbenzene	19.58	91	5744002	26.660	ng	99
77) 3-Ethyltoluene	19.67	105	4864111	26.569	ng	99
78) 4-Ethyltoluene	19.70	105	4424596	25.253	ng	100
79) 1,3,5-Trimethylbenzene	19.77	105	3937063	25.247	ng	99
80) alpha-Methylstyrene	19.91	118	1858189	21.802	ng	92
81) 2-Ethyltoluene	19.94	105	4667421	25.826	ng	99
82) 1,2,4-Trimethylbenzene	20.13	105	4371284	27.058	ng	98
83) n-Decane	20.23	57	2115932	27.101	ng	98
84) Benzyl Chloride	20.25	91	3130755	25.003	ng	98
85) 1,3-Dichlorobenzene	20.27	146	2397418	27.656	ng	100
86) 1,4-Dichlorobenzene	20.32	146	2373668	27.572	ng	99
87) sec-Butylbenzene	20.37	105	5222030	25.990	ng	99
88) 4-Isopropyltoluene (p-...	20.51	119	5153364	26.826	ng	98
89) 1,2,3-Trimethylbenzene	20.51	105	4271873	26.343	ng	98
90) 1,2-Dichlorobenzene	20.63	146	2347777	26.501	ng	100
91) d-Limonene	20.64	68	1490989	23.865	ng	98
92) 1,2-Dibromo-3-Chloropr...	21.01	157	794307	26.715	ng	96
93) n-Undecane	21.33	57	2139707	26.564	ng	98
94) 1,2,4-Trichlorobenzene	22.14	180	1606453	31.112	ng	100
95) Naphthalene	22.24	128	5210436	28.835	ng	100
96) n-Dodecane	22.24	57	2016204	25.190	ng	98
97) Hexachlorobutadiene	22.56	225	1024984	24.898	ng	100
98) Cyclohexanone	18.30	55	1243022	21.977	ng	98
99) tert-Butylbenzene	20.13	119	4145505	26.168	ng	99
100) n-Butylbenzene	20.88	91	4251394	26.180	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202034.D Vial: 2
Acq On : 20 Apr 2020 22:26 Operator: LH
Sample : LCSD2 R16042020_25ng Inst : GCMS-16
Misc : S31-02112001/S34-03252003 (4/23)

Quant Time: Apr 21 12:26:47 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212005.D Vial: 2
Acq On : 21 Apr 2020 10:12 Operator: LH
Sample : LCS R16042120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-03252003 (4/23)

Quant Time: Apr 21 12:27:29 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020 4/21/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	363394	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.30	114	1576079	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.61	82	748702	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	589695	11.719	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.76%				
57) Toluene-d8 (SS2)	15.75	98	1593232	12.006	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.08%				
73) Bromofluorobenzene (SS3)	19.01	174	597862	12.758	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.08%				
Target Compounds							Qvalue
2) Propene	4.10	42	969497	25.438	ng		99
3) Dichlorodifluoromethan...	4.26	85	1878881	22.914	ng		100
4) Chloromethane	4.54	50	1345214	20.777	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	1102718	21.115	ng		99
6) Vinyl Chloride	4.97	62	1618147	23.678	ng		99
7) 1,3-Butadiene	5.23	54	1066969	21.551	ng		99
8) Bromomethane	5.67	94	810423	23.672	ng		100
9) Chloroethane	6.00	64	626729	23.899	ng		100
10) Ethanol	6.37	45	3499621	116.183	ng		100
11) Acetonitrile	6.62	41	1565015	23.618	ng		100
12) Acrolein	6.81	56	542000	24.452	ng		100
13) Acetone	7.01	58	3741448	125.863	ng		99
14) Trichlorofluoromethane	7.26	101	1703258	23.558	ng		100
15) 2-Propanol (Isopropanol)	7.51	45	4509227	51.148	ng		98
16) Acrylonitrile	7.77	53	1210108	27.129	ng		100
17) 1,1-Dichloroethene	8.22	96	913659	25.551	ng		98
18) 2-Methyl-2-Propanol (t...	8.38	59	4111110	51.964	ng		99
19) Methylene Chloride	8.45	84	949378	24.545	ng		99
20) 3-Chloro-1-propene (Al...	8.61	41	1262314	25.188	ng		98
21) Trichlorotrifluoroethane	8.86	151	833939	24.118	ng		100
22) Carbon Disulfide	8.71	76	3493706	25.115	ng		100
23) trans-1,2-Dichloroethene	9.72	61	1349078	25.993	ng		99
24) 1,1-Dichloroethane	9.98	63	1582937	23.898	ng		99
25) Methyl tert-Butyl Ether	10.07	73	2468289	23.021	ng		99
26) Vinyl Acetate	10.23	86	1291052	126.564	ng	#	84
27) 2-Butanone (MEK)	10.47	72	654833	26.461	ng		93
28) cis-1,2-Dichloroethene	11.00	61	1326242	24.595	ng		100
29) Diisopropyl Ether	11.29	87	1081843	27.416	ng	#	85
30) Ethyl Acetate	11.30	61	846773	57.889	ng		98
31) n-Hexane	11.28	57	1828913	26.978	ng		99
32) Chloroform	11.34	83	1742855	24.156	ng		100
34) Tetrahydrofuran (THF)	11.74	72	634234	24.910	ng		96
35) Ethyl tert-Butyl Ether	11.88	87	1155771	25.079	ng		97
36) 1,2-Dichloroethane	12.14	62	1321169	23.474	ng		100
38) 1,1,1-Trichloroethane	12.42	97	1548353	25.035	ng		100
39) Isopropyl Acetate	12.85	61	1420728	55.523	ng		98
40) 1-Butanol	12.87	56	1990635	48.617	ng		94
41) Benzene	12.90	78	3926683	24.093	ng		100
42) Carbon Tetrachloride	13.06	117	1389290	24.824	ng		99
43) Cyclohexane	13.20	84	3147539	50.299	ng		97
44) tert-Amyl Methyl Ether	13.54	73	2788933	26.454	ng		99
45) 1,2-Dichloropropane	13.75	63	967827	25.968	ng		100
46) Bromodichloromethane	13.95	83	1417313	25.729	ng		99
47) Trichloroethene	14.00	130	1056328	22.875	ng		100
48) 1,4-Dioxane	13.97	88	792298	25.110	ng		98
49) 2,2,4-Trimethylpentane...	14.07	57	3953004	25.526	ng		98
50) Methyl Methacrylate	14.20	100	860558	54.623	ng		94

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212005.D Vial: 2
Acq On : 21 Apr 2020 10:12 Operator: LH
Sample : LCS R16042120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-03252003 (4/23)

Quant Time: Apr 21 12:27:29 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

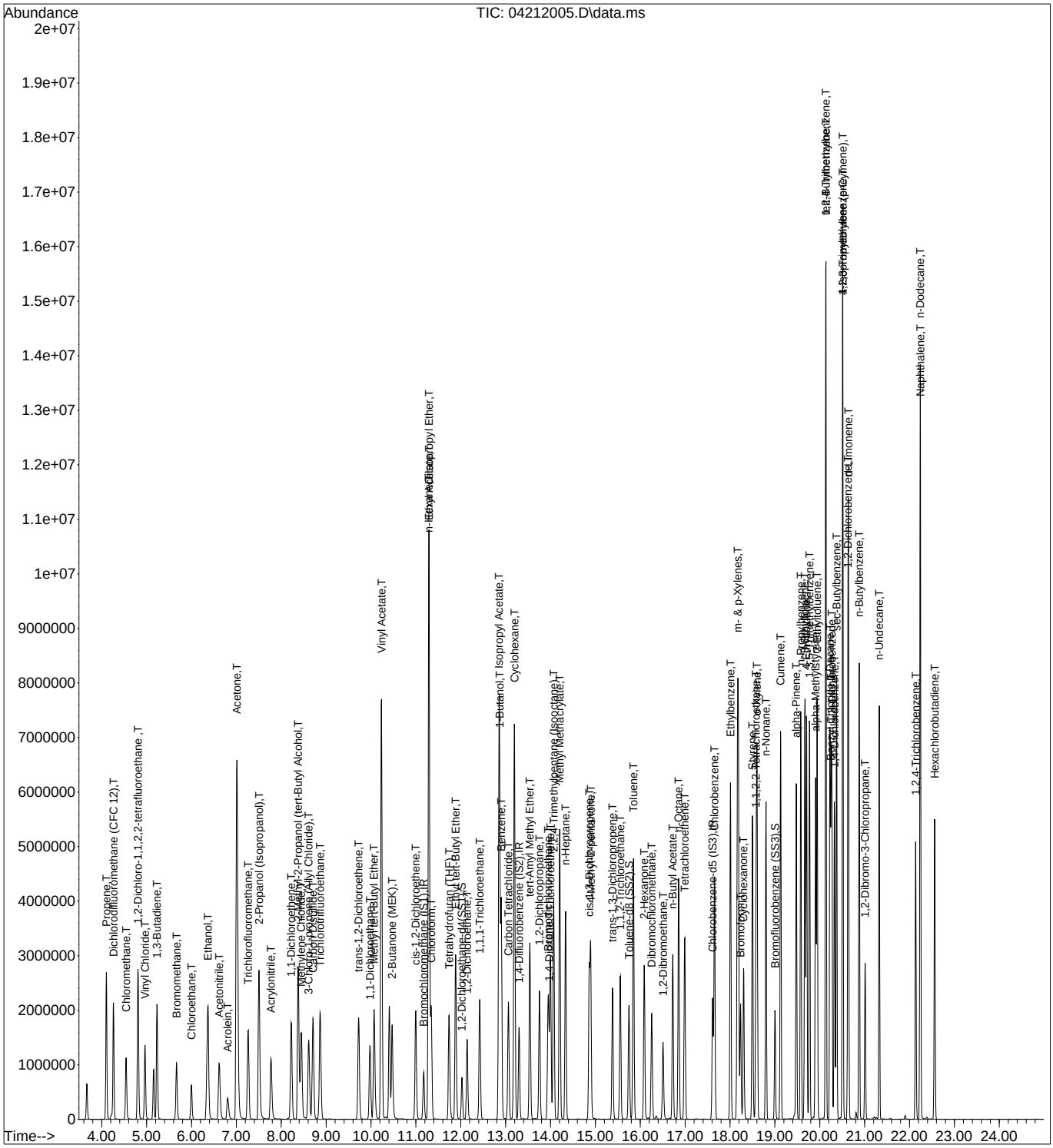
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.34	71	987348	25.947	ng	98
52) cis-1,3-Dichloropropene	14.86	75	1746957	29.038	ng	100
53) 4-Methyl-2-pentanone	14.90	58	932309	27.293	ng	98
54) trans-1,3-Dichloropropene	15.38	75	1492520	26.705	ng	100
55) 1,1,2-Trichloroethane	15.56	97	967986	25.730	ng	100
58) Toluene	15.85	91	3974246	24.221	ng	100
59) 2-Hexanone	16.09	43	2174352	26.481	ng	99
60) Dibromochloromethane	16.26	129	1209005	27.678	ng	100
61) 1,2-Dibromoethane	16.51	107	1134596	27.017	ng	99
62) n-Butyl Acetate	16.72	43	2475596	28.192	ng	99
63) n-Octane	16.85	57	846764	26.006	ng	97
64) Tetrachloroethene	16.99	166	1115264	24.392	ng	100
65) Chlorobenzene	17.65	112	2700380	24.459	ng	100
66) Ethylbenzene	18.01	91	4682459	26.011	ng	100
67) m- & p-Xylenes	18.17	91	7543693	51.523	ng	99
68) Bromoform	18.24	173	1053419	26.708	ng	99
69) Styrene	18.50	104	2840389	24.732	ng	99
70) o-Xylene	18.60	91	3738898	25.540	ng	99
71) n-Nonane	18.80	43	1920575	26.240	ng	97
72) 1,1,2,2-Tetrachloroethane	18.58	83	1877425	26.688	ng	100
74) Cumene	19.13	105	4697606	25.375	ng	99
75) alpha-Pinene	19.48	93	2331752	24.858	ng	97
76) n-Propylbenzene	19.58	91	5715587	26.437	ng	99
77) 3-Ethyltoluene	19.67	105	4763142	25.928	ng	99
78) 4-Ethyltoluene	19.70	105	4461783	25.377	ng	99
79) 1,3,5-Trimethylbenzene	19.77	105	3884240	24.822	ng	99
80) alpha-Methylstyrene	19.91	118	1847303	21.599	ng	92
81) 2-Ethyltoluene	19.94	105	4634542	25.555	ng	99
82) 1,2,4-Trimethylbenzene	20.14	105	4327463	26.694	ng	98
83) n-Decane	20.23	57	2084183	26.602	ng	98
84) Benzyl Chloride	20.25	91	3203875	25.498	ng	98
85) 1,3-Dichlorobenzene	20.27	146	2384043	27.407	ng	100
86) 1,4-Dichlorobenzene	20.33	146	2368975	27.422	ng	99
87) sec-Butylbenzene	20.37	105	5189239	25.738	ng	99
88) 4-Isopropyltoluene (p-...	20.51	119	5119785	26.559	ng	99
89) 1,2,3-Trimethylbenzene	20.51	105	4251401	26.126	ng	99
90) 1,2-Dichlorobenzene	20.63	146	2344416	26.371	ng	100
91) d-Limonene	20.64	68	1478638	23.586	ng	98
92) 1,2-Dibromo-3-Chloropr...	21.01	157	796125	26.683	ng	97
93) n-Undecane	21.33	57	2129937	26.351	ng	98
94) 1,2,4-Trichlorobenzene	22.14	180	1598115	30.844	ng	99
95) Naphthalene	22.24	128	5168458	28.504	ng	100
96) n-Dodecane	22.24	57	2021416	25.168	ng	98
97) Hexachlorobutadiene	22.56	225	1010877	24.471	ng	100
98) Cyclohexanone	18.30	55	1229236	21.658	ng	98
99) tert-Butylbenzene	20.14	119	4105178	25.824	ng	99
100) n-Butylbenzene	20.88	91	4244173	26.045	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212005.D Vial: 2
Acq On : 21 Apr 2020 10:12 Operator: LH
Sample : LCS R16042120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-03252003 (4/23)

Quant Time: Apr 21 12:27:29 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212006.D Vial: 2
Acq On : 21 Apr 2020 10:45 Operator: LH
Sample : LCSD R16042120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-03252003 (4/23)

Quant Time: Apr 21 12:27:31 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/21/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	375827	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.30	114	1618168	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.61	82	769606	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	603824	11.603	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.80%				
57) Toluene-d8 (SS2)	15.75	98	1636782	11.999	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.00%				
73) Bromofluorobenzene (SS3)	19.01	174	623635	12.946	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.60%				
Target Compounds							Qvalue
2) Propene	4.11	42	1018947	25.851	ng		99
3) Dichlorodifluoromethan...	4.26	85	2035104	23.998	ng		100
4) Chloromethane	4.54	50	1437986	21.475	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	1163389	21.539	ng		99
6) Vinyl Chloride	4.97	62	1698649	24.033	ng		100
7) 1,3-Butadiene	5.24	54	1149489	22.450	ng		99
8) Bromomethane	5.67	94	883855	24.963	ng		100
9) Chloroethane	6.00	64	672581	24.799	ng		99
10) Ethanol	6.37	45	3705441	118.947	ng		100
11) Acetonitrile	6.62	41	1684771	24.584	ng		99
12) Acrolein	6.81	56	576315	25.140	ng		99
13) Acetone	7.02	58	3870486	125.897	ng		100
14) Trichlorofluoromethane	7.26	101	1777648	23.773	ng		100
15) 2-Propanol (Isopropanol)	7.51	45	4730203	51.879	ng		98
16) Acrylonitrile	7.78	53	1264547	27.411	ng		100
17) 1,1-Dichloroethene	8.23	96	956784	25.871	ng		97
18) 2-Methyl-2-Propanol (t...	8.38	59	4336147	52.995	ng		98
19) Methylene Chloride	8.45	84	994552	24.862	ng		100
20) 3-Chloro-1-propene (Al...	8.61	41	1308945	25.255	ng		98
21) Trichlorotrifluoroethane	8.87	151	874310	24.449	ng		99
22) Carbon Disulfide	8.71	76	3630299	25.234	ng		100
23) trans-1,2-Dichloroethene	9.72	61	1419609	26.447	ng		99
24) 1,1-Dichloroethane	9.98	63	1653879	24.143	ng		99
25) Methyl tert-Butyl Ether	10.07	73	2578110	23.250	ng		99
26) Vinyl Acetate	10.23	86	1319359	125.060	ng	#	85
27) 2-Butanone (MEK)	10.47	72	662317	25.878	ng		94
28) cis-1,2-Dichloroethene	11.00	61	1371815	24.598	ng		100
29) Diisopropyl Ether	11.29	87	1108421	27.160	ng	#	84
30) Ethyl Acetate	11.30	61	855807	56.571	ng		99
31) n-Hexane	11.28	57	1878743	26.796	ng		99
32) Chloroform	11.34	83	1784824	23.919	ng		99
34) Tetrahydrofuran (THF)	11.74	72	655871	24.908	ng		96
35) Ethyl tert-Butyl Ether	11.89	87	1188548	24.937	ng		97
36) 1,2-Dichloroethane	12.14	62	1354923	23.277	ng		100
38) 1,1,1-Trichloroethane	12.42	97	1604337	25.265	ng		99
39) Isopropyl Acetate	12.85	61	1458029	55.498	ng		97
40) 1-Butanol	12.87	56	2021997	48.099	ng		94
41) Benzene	12.90	78	4021997	24.036	ng		100
42) Carbon Tetrachloride	13.06	117	1430871	24.902	ng		100
43) Cyclohexane	13.20	84	3238046	50.399	ng		96
44) tert-Amyl Methyl Ether	13.54	73	2847635	26.308	ng		99
45) 1,2-Dichloropropane	13.75	63	996339	26.038	ng		100
46) Bromodichloromethane	13.95	83	1454068	25.710	ng		99
47) Trichloroethene	14.00	130	1080206	22.783	ng		99
48) 1,4-Dioxane	13.97	88	814256	25.135	ng		98
49) 2,2,4-Trimethylpentane...	14.07	57	4081925	25.673	ng		98
50) Methyl Methacrylate	14.20	100	882096	54.534	ng		95

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212006.D Vial: 2
Acq On : 21 Apr 2020 10:45 Operator: LH
Sample : LCSD R16042120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-03252003 (4/23)

Quant Time: Apr 21 12:27:31 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

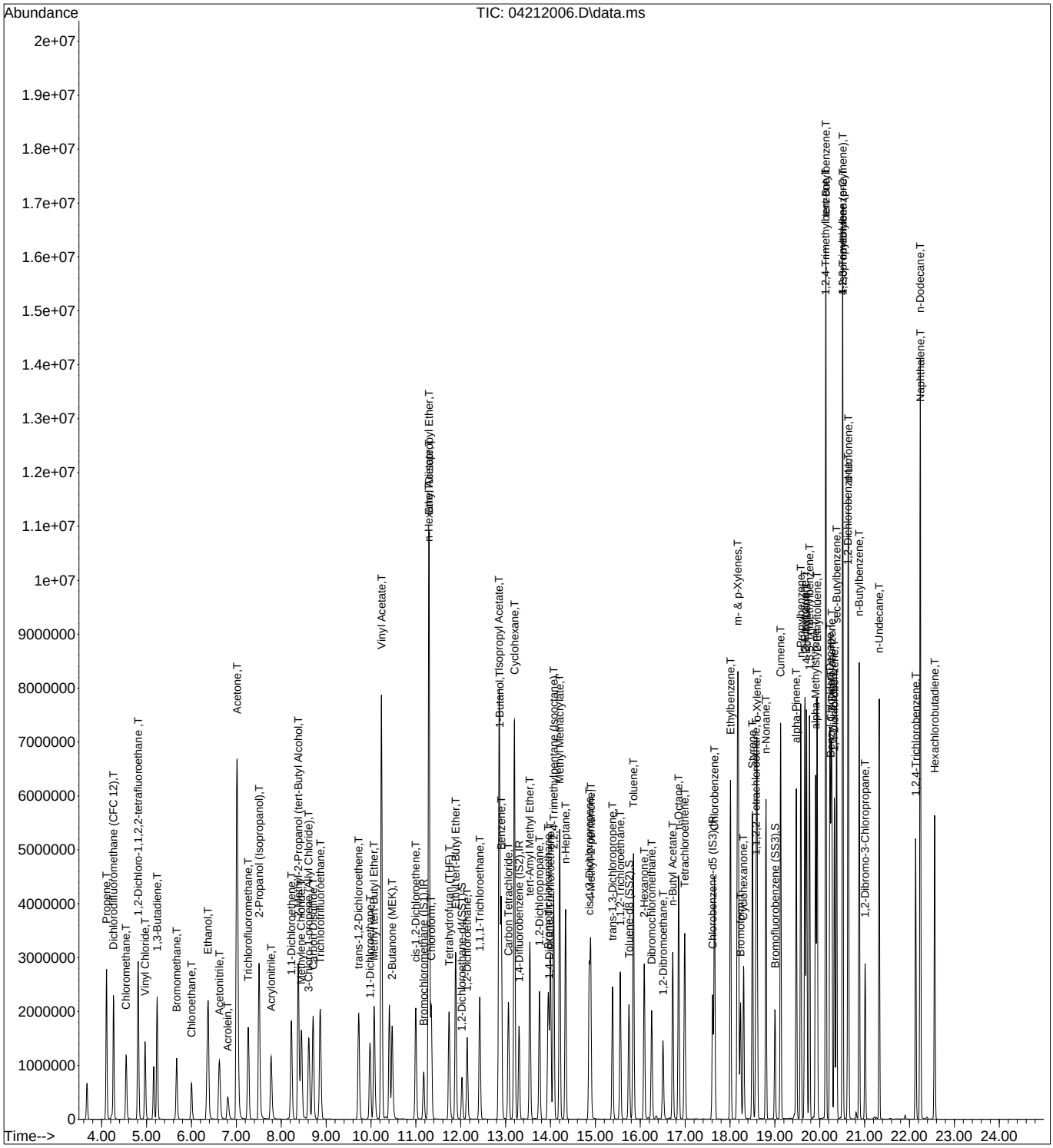
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.34	71	1013615	25.944	ng	99
52) cis-1,3-Dichloropropene	14.86	75	1797130	29.095	ng	100
53) 4-Methyl-2-pentanone	14.90	58	960704	27.393	ng	98
54) trans-1,3-Dichloropropene	15.38	75	1536735	26.780	ng	100
55) 1,1,2-Trichloroethane	15.56	97	994516	25.748	ng	99
58) Toluene	15.85	91	4088652	24.241	ng	100
59) 2-Hexanone	16.09	43	2213006	26.219	ng	99
60) Dibromochloromethane	16.26	129	1248832	27.813	ng	100
61) 1,2-Dibromoethane	16.51	107	1167581	27.048	ng	100
62) n-Butyl Acetate	16.72	43	2531361	28.044	ng	99
63) n-Octane	16.86	57	862314	25.764	ng	98
64) Tetrachloroethene	16.99	166	1153984	24.553	ng	100
65) Chlorobenzene	17.65	112	2778824	24.486	ng	100
66) Ethylbenzene	18.01	91	4797329	25.925	ng	100
67) m- & p-Xylenes	18.17	91	7692051	51.109	ng	99
68) Bromoform	18.24	173	1089037	26.861	ng	100
69) Styrene	18.50	104	2896007	24.532	ng	99
70) o-Xylene	18.60	91	3800160	25.253	ng	99
71) n-Nonane	18.80	43	1954864	25.983	ng	97
72) 1,1,2,2-Tetrachloroethane	18.58	83	1905672	26.354	ng	100
74) Cumene	19.13	105	4795968	25.203	ng	99
75) alpha-Pinene	19.48	93	2375362	24.635	ng	97
76) n-Propylbenzene	19.58	91	5815773	26.170	ng	99
77) 3-Ethyltoluene	19.67	105	4867934	25.778	ng	100
78) 4-Ethyltoluene	19.70	105	4532635	25.080	ng	99
79) 1,3,5-Trimethylbenzene	19.77	105	3969040	24.675	ng	99
80) alpha-Methylstyrene	19.91	118	1887270	21.467	ng	92
81) 2-Ethyltoluene	19.94	105	4703520	25.231	ng	99
82) 1,2,4-Trimethylbenzene	20.13	105	4418663	26.517	ng	98
83) n-Decane	20.23	57	2135041	26.511	ng	98
84) Benzyl Chloride	20.25	91	3300040	25.550	ng	98
85) 1,3-Dichlorobenzene	20.27	146	2428442	27.159	ng	99
86) 1,4-Dichlorobenzene	20.32	146	2412619	27.169	ng	100
87) sec-Butylbenzene	20.37	105	5288883	25.519	ng	99
88) 4-Isopropyltoluene (p-...	20.51	119	5192127	26.203	ng	99
89) 1,2,3-Trimethylbenzene	20.51	105	4316297	25.804	ng	98
90) 1,2-Dichlorobenzene	20.63	146	2375031	25.990	ng	99
91) d-Limonene	20.64	68	1506502	23.378	ng	98
92) 1,2-Dibromo-3-Chloropr...	21.01	157	804901	26.244	ng	96
93) n-Undecane	21.33	57	2170133	26.119	ng	98
94) 1,2,4-Trichlorobenzene	22.14	180	1642469	30.839	ng	99
95) Naphthalene	22.24	128	5280454	28.330	ng	100
96) n-Dodecane	22.24	57	2061104	24.965	ng	98
97) Hexachlorobutadiene	22.56	225	1050184	24.732	ng	100
98) Cyclohexanone	18.30	55	1250699	21.437	ng	98
99) tert-Butylbenzene	20.14	119	4176922	25.562	ng	99
100) n-Butylbenzene	20.88	91	4298181	25.660	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212006.D Vial: 2
Acq On : 21 Apr 2020 10:45 Operator: LH
Sample : LCSD R16042120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-03252003 (4/23)

Quant Time: Apr 21 12:27:31 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202040.D Vial: 7
Acq On : 21 Apr 2020 1:48 Operator: LH
Sample : P2002031-004dup (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 16:42:30 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration LH 4/22/20
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	346186	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1551676	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	737922	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	600916	12.536	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.32%				
57) Toluene-d8 (SS2)	15.74	98	1612227	12.326	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.64%				
73) Bromofluorobenzene (SS3)	19.00	174	514548	11.140	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.12%				
Target Compounds							Qvalue
2) Propene	4.14	42	5617m	0.155	ng		
3) Dichlorodifluoromethan...	4.28	85	973	N.D.			
4) Chloromethane	4.56	50	901	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.36	45	3766	0.131	ng		83
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	7.27	101	182	N.D.			
15) 2-Propanol (Isopropanol)	7.57	45	4813	0.057	ng		85
16) Acrylonitrile	7.72	53	53	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.45	84	112	N.D.			
20) 3-Chloro-1-propene (Al...	8.61	41	184	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.73	76	19241	0.145	ng		95
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.	d		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	d		
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.55	72	119	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	11.32	61	2925	0.210	ng		91
31) n-Hexane	11.29	57	10903	0.169	ng	#	94
32) Chloroform	11.33	83	553	N.D.			
34) Tetrahydrofuran (THF)	11.78	72	3202	0.132	ng	#	83
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.02	62	172	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	12.89	61	1175	N.D.			
40) 1-Butanol	12.93	56	1070	N.D.			
41) Benzene	12.90	78	72946	0.455	ng		99
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	13.20	84	41440	0.673	ng		93
44) tert-Amyl Methyl Ether	13.47	73	564	N.D.			
45) 1,2-Dichloropropane	13.58	63	164	N.D.			
46) Bromodichloromethane	13.97	83	1085	N.D.			
47) Trichloroethene	14.00	130	1324	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202040.D Vial: 7
Acq On : 21 Apr 2020 1:48 Operator: LH
Sample : P2002031-004dup (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 16:42:30 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

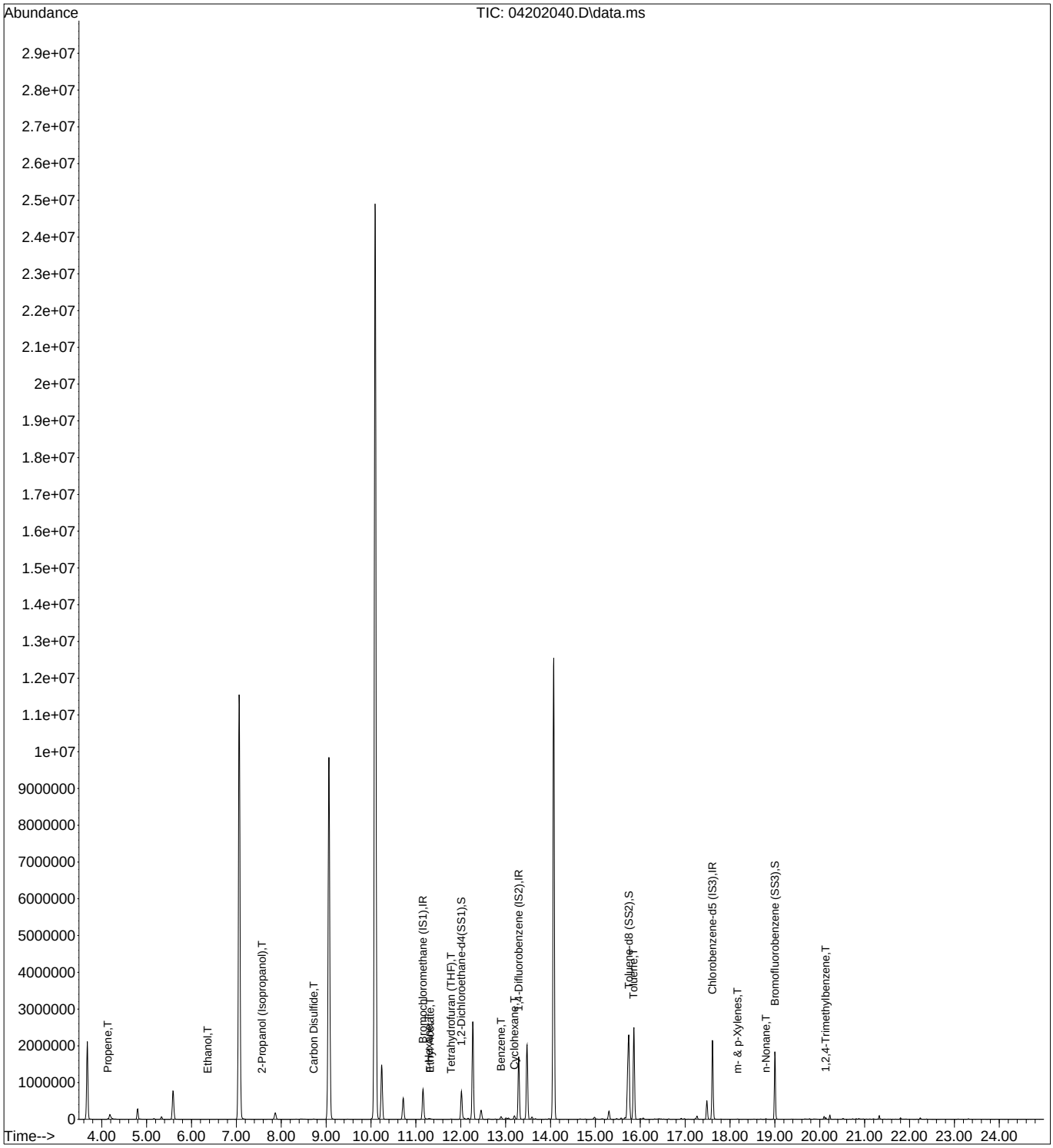
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.33	71	595	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.66	58	159	N.D.	
54) trans-1,3-Dichloropropene	15.16	75	1552	N.D.	
55) 1,1,2-Trichloroethane	15.48	97	811	N.D.	
58) Toluene	15.85	91	10728	0.066 ng	95
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	16.51	107	380	N.D.	
62) n-Butyl Acetate	16.74	43	765	N.D.	
63) n-Octane	16.85	57	673	N.D.	
64) Tetrachloroethene	16.99	166	548	N.D.	
65) Chlorobenzene	17.66	112	397	N.D.	
66) Ethylbenzene	18.01	91	2367	N.D.	
67) m- & p-Xylenes	18.17	91	7541	0.052 ng	93
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.52	104	998	N.D.	
70) o-Xylene	18.61	91	2526	N.D.	
71) n-Nonane	18.80	43	7162	0.099 ng	81
72) 1,1,2,2-Tetrachloroethane	18.54	83	439	N.D.	
74) Cumene	19.13	105	1114	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	19.59	91	3595	N.D.	
77) 3-Ethyltoluene	19.67	105	7241	N.D.	
78) 4-Ethyltoluene	19.71	105	4119	N.D.	
79) 1,3,5-Trimethylbenzene	19.77	105	5216	N.D.	
80) alpha-Methylstyrene	19.91	118	2897	N.D.	
81) 2-Ethyltoluene	19.94	105	2953	N.D.	
82) 1,2,4-Trimethylbenzene	20.13	105	22287	0.139 ng	85
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.33	91	657	N.D.	
85) 1,3-Dichlorobenzene	20.34	146	393	N.D.	
86) 1,4-Dichlorobenzene	20.34	146	393	N.D.	
87) sec-Butylbenzene	20.37	105	1679	N.D.	
88) 4-Isopropyltoluene (p-...	20.51	119	3018	N.D.	
89) 1,2,3-Trimethylbenzene	20.51	105	7599	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.64	68	471	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.14	180	115	N.D.	
95) Naphthalene	22.25	128	3666	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.32	55	1093	N.D.	
99) tert-Butylbenzene	20.13	119	2732	N.D.	
100) n-Butylbenzene	20.88	91	6093	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202040.D Vial: 7
Acq On : 21 Apr 2020 1:48 Operator: LH
Sample : P2002031-004dup (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 16:42:30 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202040.D Vial: 7
Acq On : 21 Apr 2020 1:48 Operator: LH
Sample : P2002031-004dup (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 16:42:30 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020 LH 4/22/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

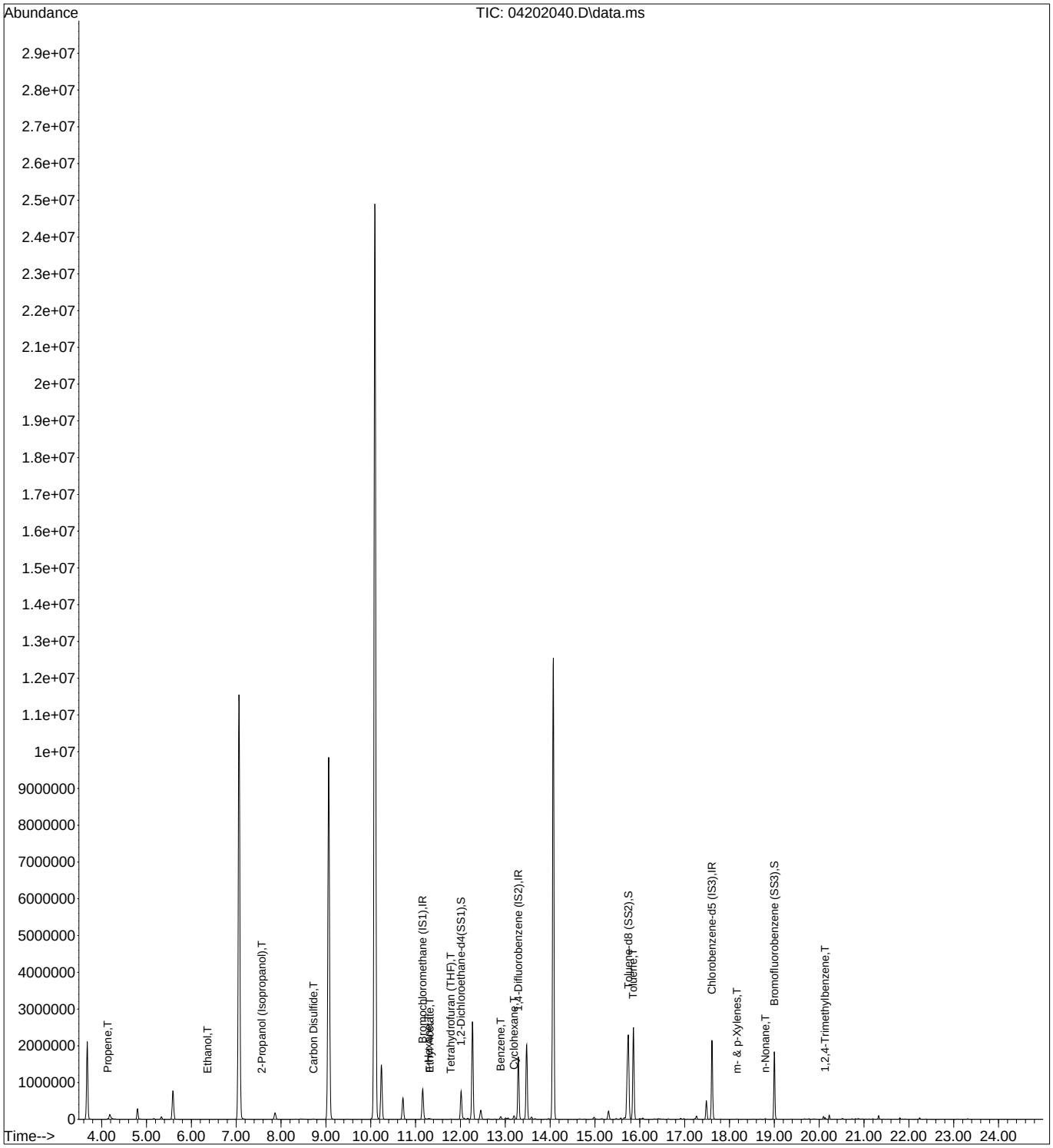
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	346186	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1551676	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	737922	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	600916	12.536	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.32%				
57) Toluene-d8 (SS2)	15.74	98	1612227	12.326	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.64%				
73) Bromofluorobenzene (SS3)	19.00	174	514548	11.140	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.12%				
Target Compounds							Qvalue
2) Propene	4.14	42	5617m	0.155	ng		
10) Ethanol	6.36	45	3766	0.131	ng		83
15) 2-Propanol (Isopropanol)	7.57	45	4813	0.057	ng		85
22) Carbon Disulfide	8.73	76	19241	0.145	ng		95
30) Ethyl Acetate	11.32	61	2925	0.210	ng		91
31) n-Hexane	11.29	57	10903	0.169	ng	#	94
34) Tetrahydrofuran (THF)	11.78	72	3202	0.132	ng	#	83
41) Benzene	12.90	78	72946	0.455	ng		99
43) Cyclohexane	13.20	84	41440	0.673	ng		93
58) Toluene	15.85	91	10728	0.066	ng		95
67) m- & p-Xylenes	18.17	91	7541	0.052	ng		93
71) n-Nonane	18.80	43	7162	0.099	ng		81
82) 1,2,4-Trimethylbenzene	20.13	105	22287	0.139	ng		85

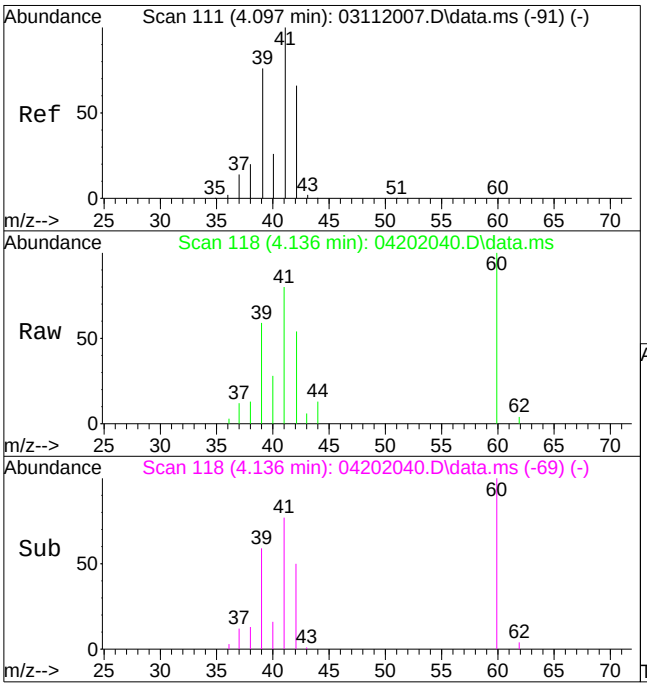
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202040.D Vial: 7
Acq On : 21 Apr 2020 1:48 Operator: LH
Sample : P2002031-004dup (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 16:42:30 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

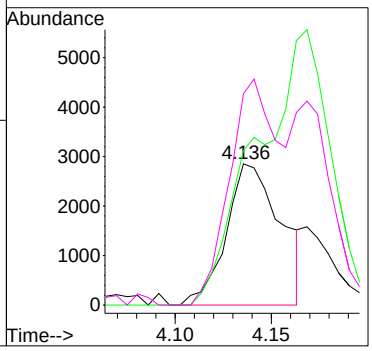


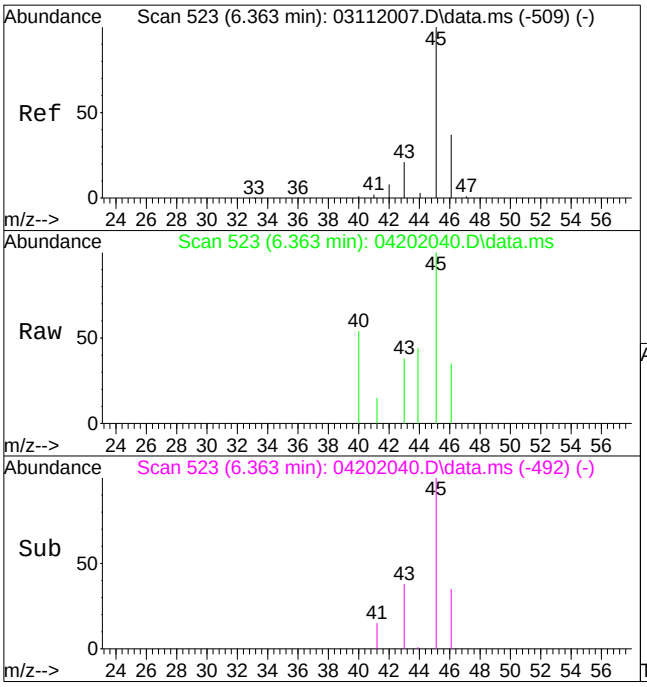


#2
Propene
Concen: 0.15 ng m
RT: 4.14 min Scan# 118
Delta R.T. 0.022 min
Lab File: 04202040.D
Acq: 21 Apr 2020 1:48

Tgt Ion: 42 Resp: 5617

Ion	Ratio	Lower	Upper
42	100		
39	0.0	95.3	135.3#
41	146.7	132.0	172.0

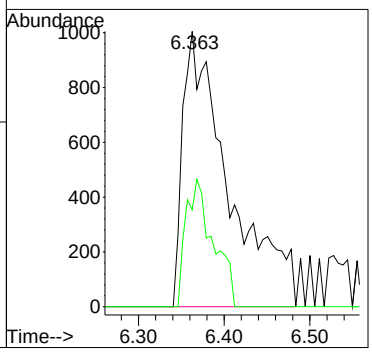


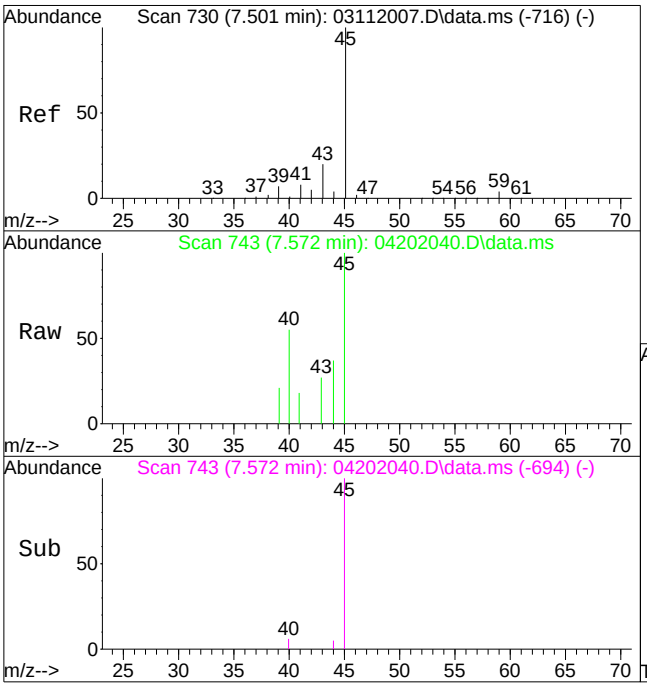


#10
Ethanol
Concen: 0.13 ng
RT: 6.36 min Scan# 523
Delta R.T. -0.077 min
Lab File: 04202040.D
Acq: 21 Apr 2020 1:48

Tgt Ion: 45 Resp: 3766

Ion	Ratio	Lower	Upper
45	100		
46	27.4	17.3	57.3

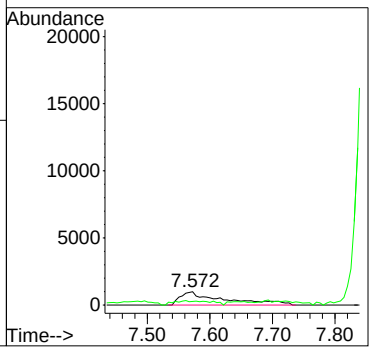


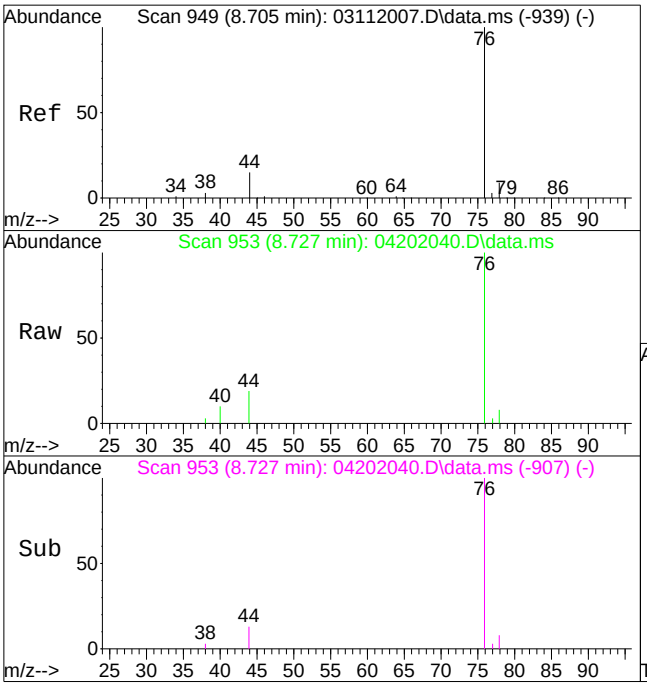


#15
2-Propanol (Isopropanol)
Concen: 0.06 ng
RT: 7.57 min Scan# 743
Delta R.T. 0.022 min
Lab File: 04202040.D
Acq: 21 Apr 2020 1:48

Tgt Ion: 45 Resp: 4813

Ion	Ratio	Lower	Upper
45	100		
43	27.3	0.3	40.3

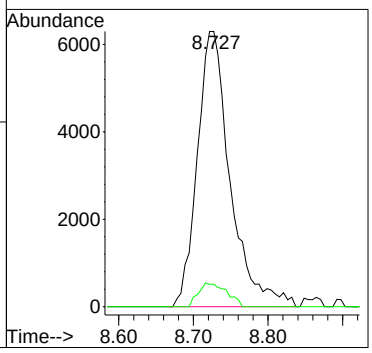


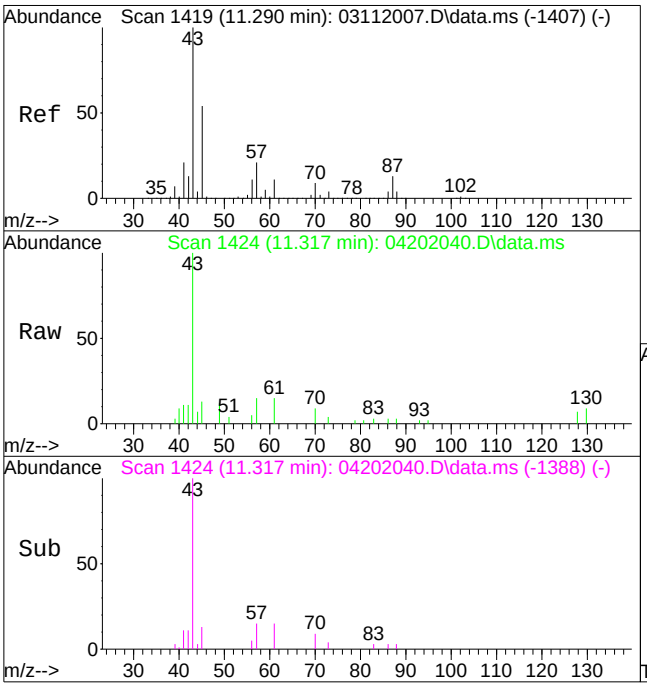


#22
Carbon Disulfide
Concen: 0.15 ng
RT: 8.73 min Scan# 953
Delta R.T. 0.006 min
Lab File: 04202040.D
Acq: 21 Apr 2020 1:48

Tgt Ion: 76 Resp: 19241

Ion	Ratio	Lower	Upper
76	100		
78	7.4	0.0	29.2

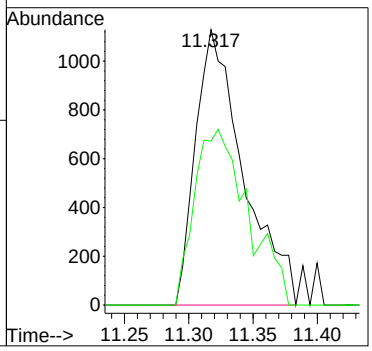


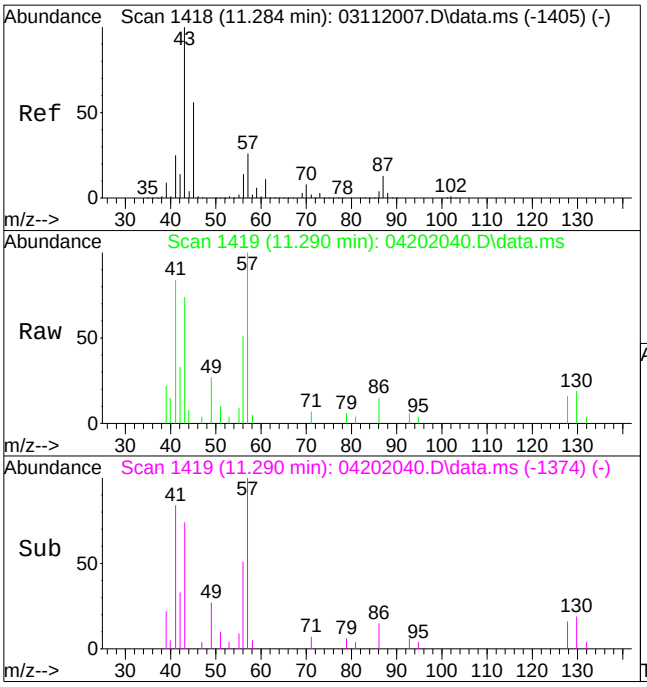


#30
Ethyl Acetate
Concen: 0.21 ng
RT: 11.32 min Scan# 1424
Delta R.T. 0.000 min
Lab File: 04202040.D
Acq: 21 Apr 2020 1:48

Tgt Ion: 61 Resp: 2925

Ion	Ratio	Lower	Upper
61	100		
70	71.2	59.1	99.1

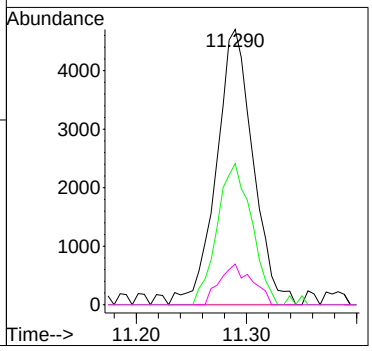


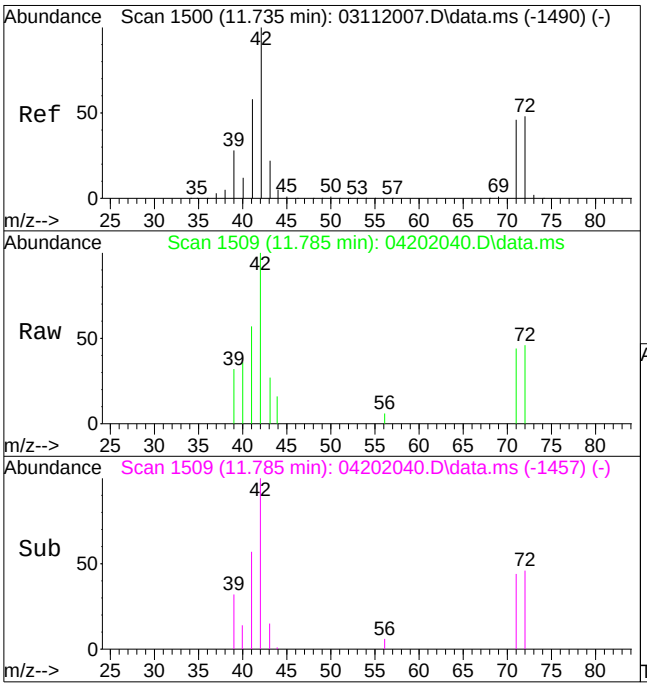


#31
n-Hexane
Concen: 0.17 ng
RT: 11.29 min Scan# 1419
Delta R.T. 0.000 min
Lab File: 04202040.D
Acq: 21 Apr 2020 1:48

Tgt Ion: 57 Resp: 10903

Ion	Ratio	Lower	Upper
57	100		
56	48.2	41.0	61.4
86	13.0	13.9	20.9#

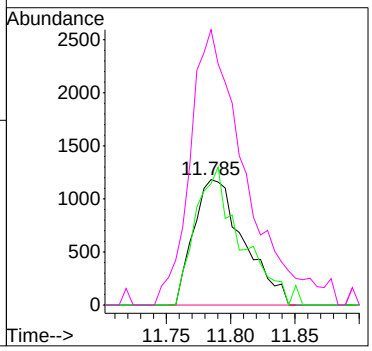


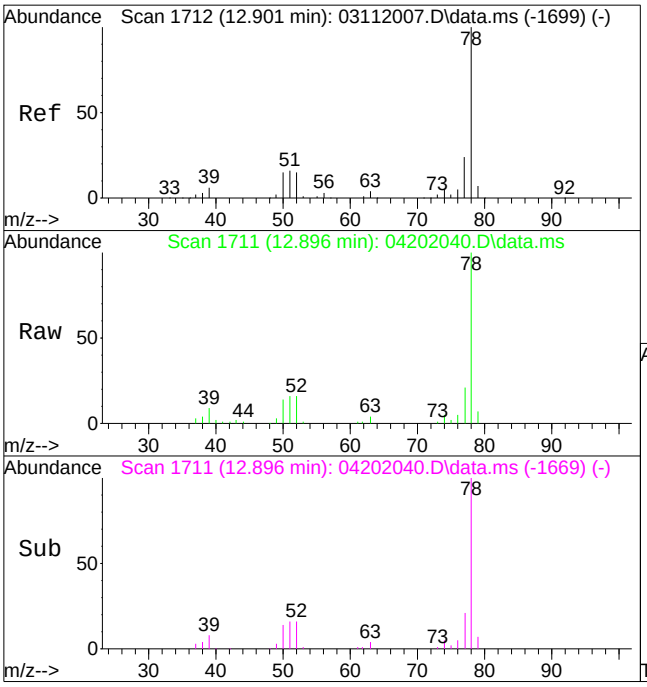


#34
Tetrahydrofuran (THF)
Concen: 0.13 ng
RT: 11.78 min Scan# 1509
Delta R.T. 0.039 min
Lab File: 04202040.D
Acq: 21 Apr 2020 1:48

Tgt Ion: 72 Resp: 3202

Ion	Ratio	Lower	Upper
72	100		
71	101.2	75.9	115.9
42	244.8	189.3	229.3#

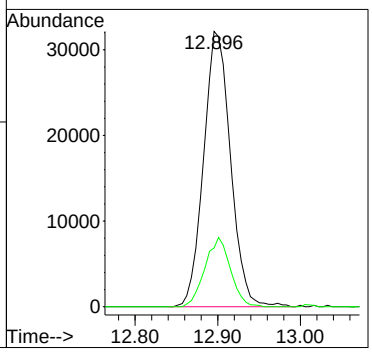


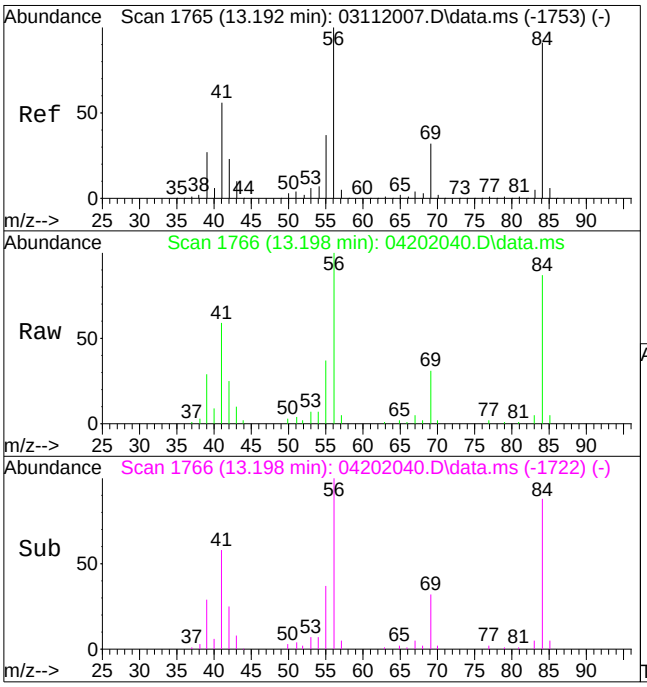


#41
Benzene
Concen: 0.45 ng
RT: 12.90 min Scan# 1711
Delta R.T. -0.016 min
Lab File: 04202040.D
Acq: 21 Apr 2020 1:48

Tgt Ion: 78 Resp: 72946

Ion	Ratio	Lower	Upper
78	100		
77	23.8	3.4	43.4

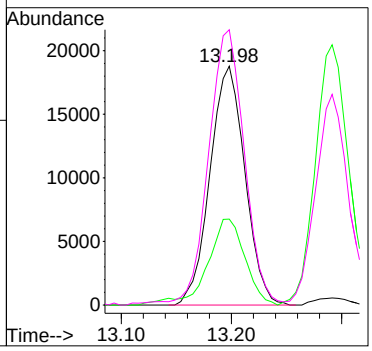


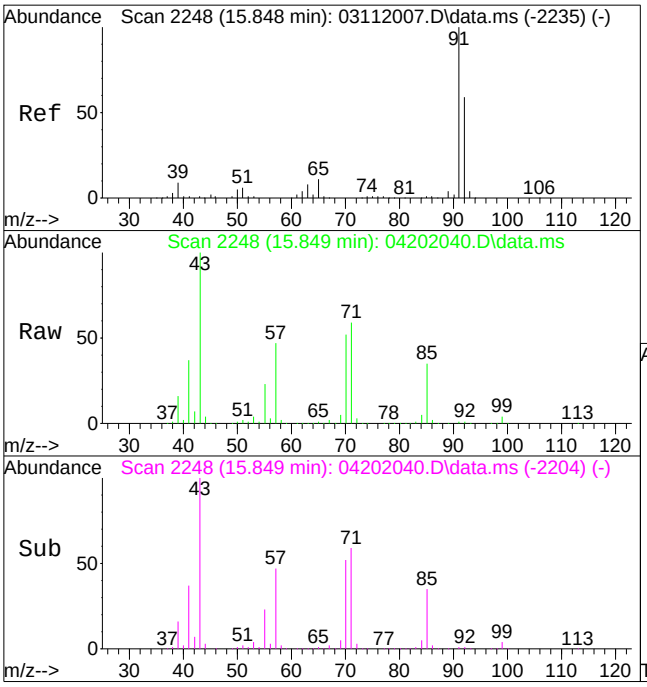


#43
Cyclohexane
Concen: 0.67 ng
RT: 13.20 min Scan# 1766
Delta R.T. -0.005 min
Lab File: 04202040.D
Acq: 21 Apr 2020 1:48

Tgt Ion: 84 Resp: 41440

Ion	Ratio	Lower	Upper
84	100		
69	38.5	15.3	55.3
56	118.5	90.5	130.5

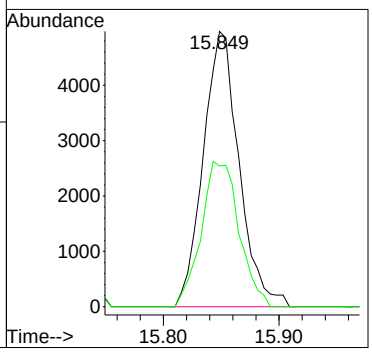


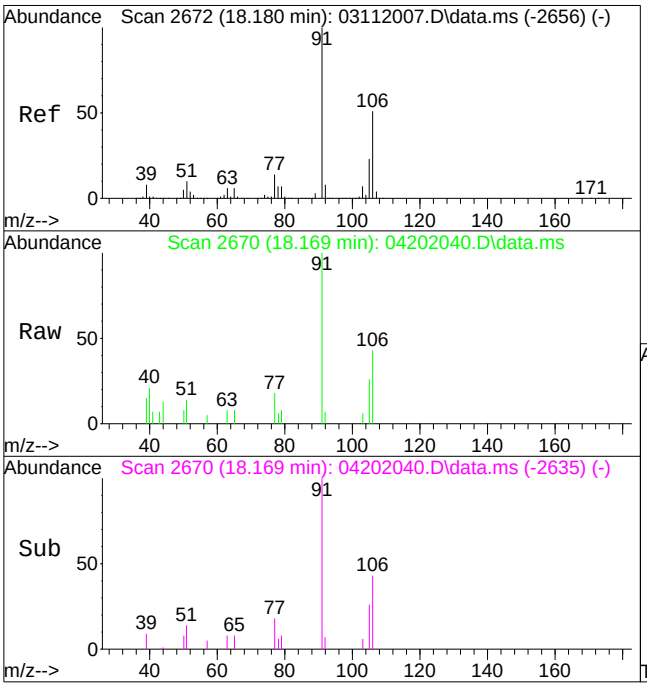


#58
Toluene
Concen: 0.07 ng
RT: 15.85 min Scan# 2248
Delta R.T. -0.005 min
Lab File: 04202040.D
Acq: 21 Apr 2020 1:48

Tgt Ion: 91 Resp: 10728

Ion	Ratio	Lower	Upper
91	100		
92	55.4	39.0	79.0

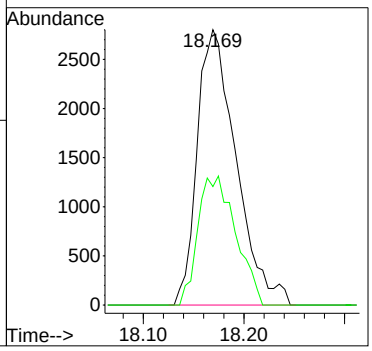


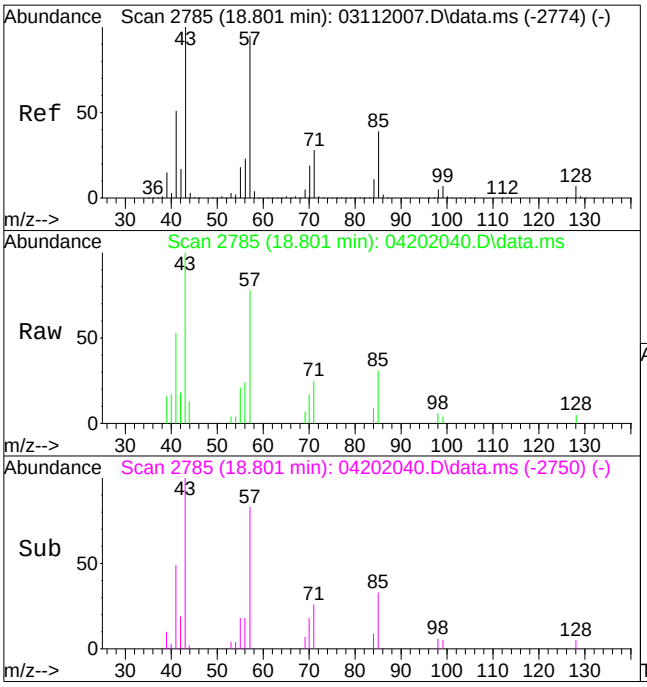


#67
m- & p-Xylenes
Concen: 0.05 ng
RT: 18.17 min Scan# 2670
Delta R.T. -0.005 min
Lab File: 04202040.D
Acq: 21 Apr 2020 1:48

Tgt Ion: 91 Resp: 7541

Ion	Ratio	Lower	Upper
91	100		
106	45.3	30.4	70.4

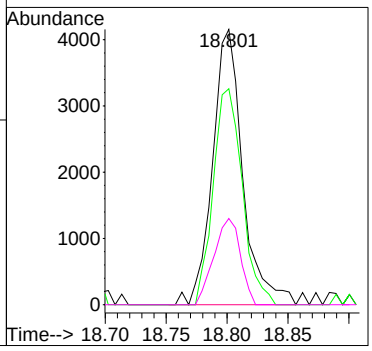


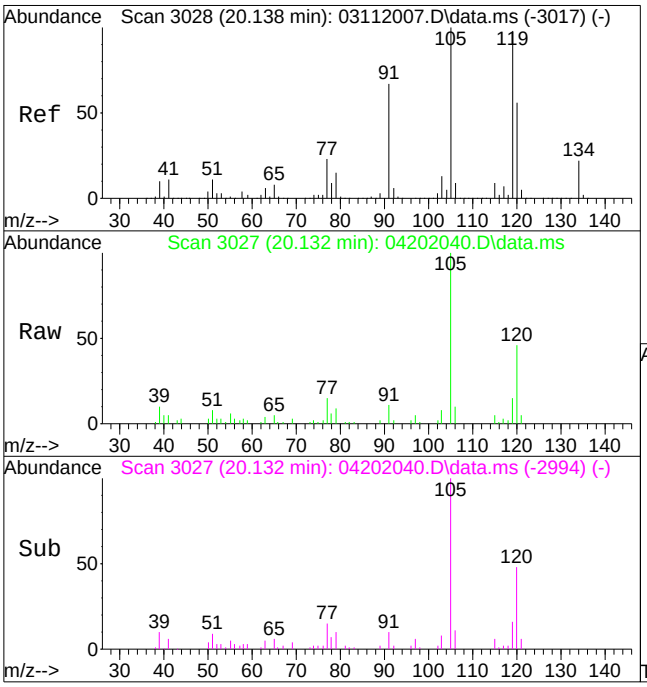


#71
n-Nonane
Concen: 0.10 ng
RT: 18.80 min Scan# 2785
Delta R.T. -0.005 min
Lab File: 04202040.D
Acq: 21 Apr 2020 1:48

Tgt Ion: 43 Resp: 7162

Ion	Ratio	Lower	Upper
43	100		
57	75.5	73.6	113.6
85	27.5	18.7	58.7

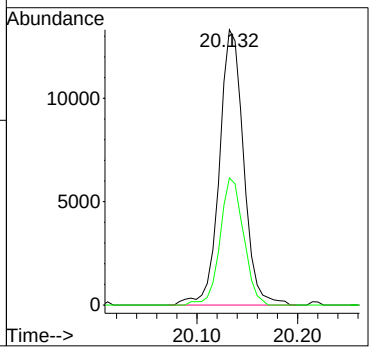




#82
1,2,4-Trimethylbenzene
Concen: 0.14 ng
RT: 20.13 min Scan# 3027
Delta R.T. -0.017 min
Lab File: 04202040.D
Acq: 21 Apr 2020 1:48

Tgt Ion:105 Resp: 22287

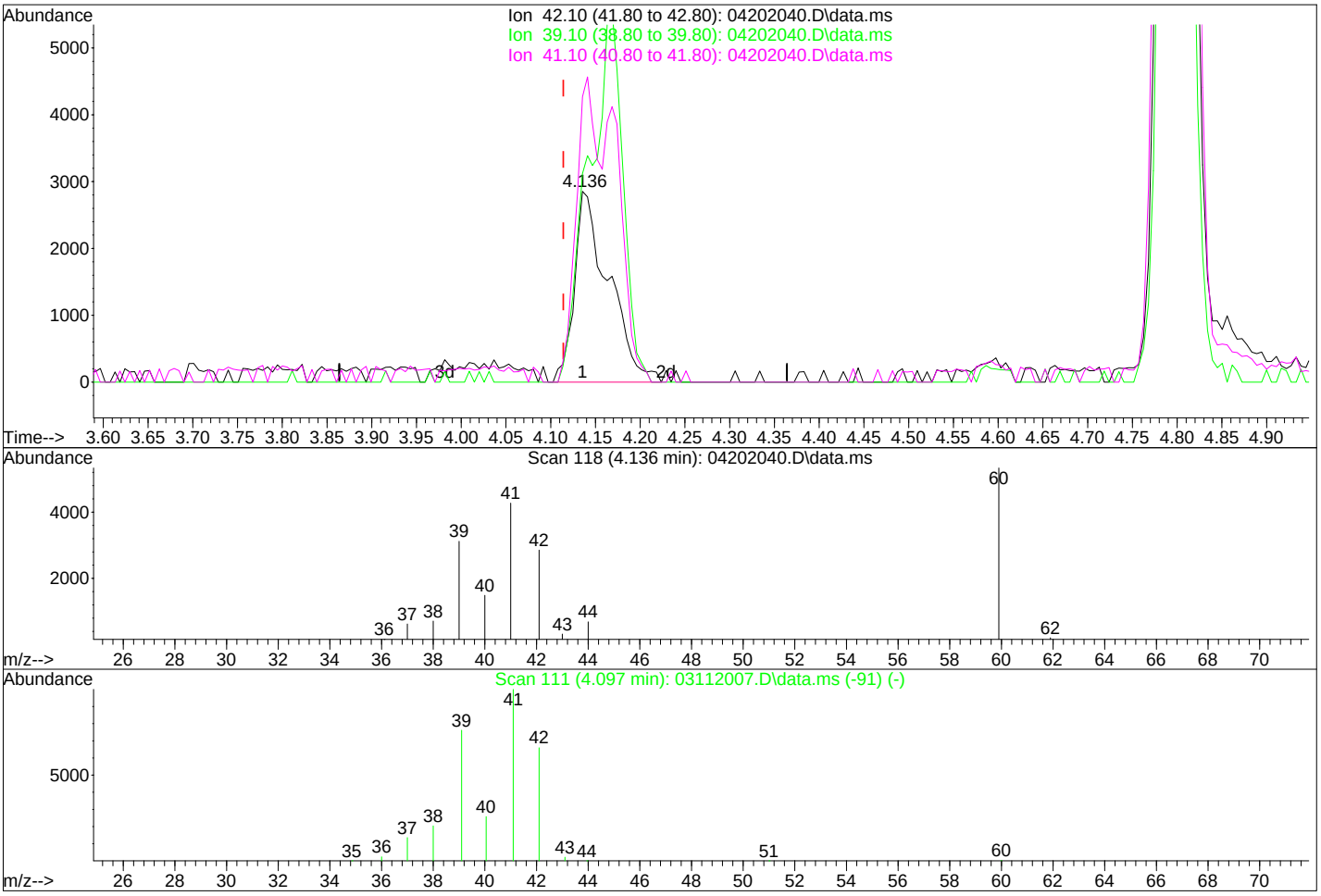
Ion	Ratio	Lower	Upper
105	100		
120	44.7	35.8	75.8



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\20\04202040.D Vial: 7
Acq On : 21 Apr 2020 1:48 Operator: LH
Sample : P2002031-004dup (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 21 12:26:59 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202040.D\data.ms

(2) Propene (T)

4.136min (+0.022) 0.21ng

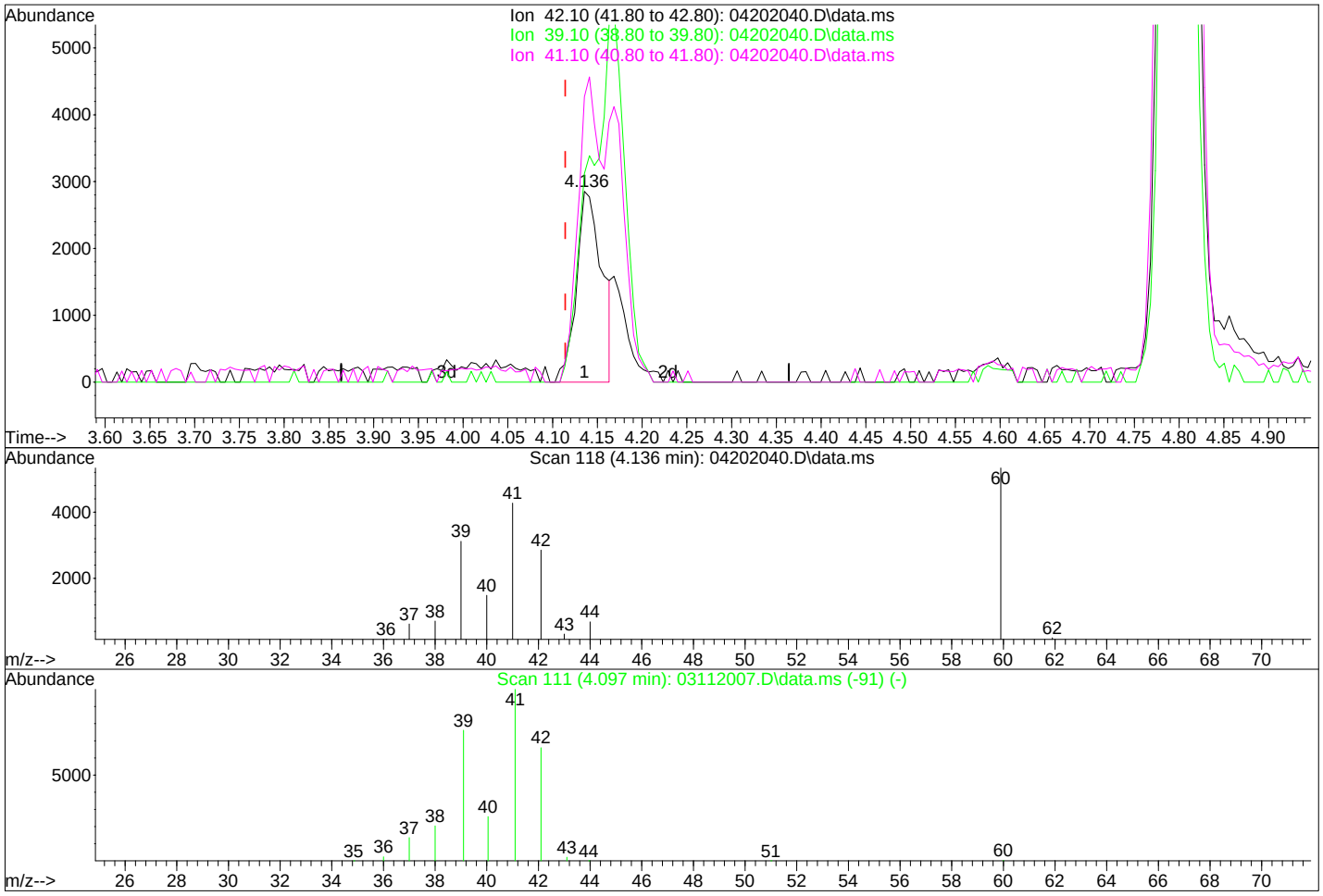
response 7568

Ion	Exp%	Act%
42.10	100	100
39.10	115.30	0.00#
41.10	152.00	108.85#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\20\04202040.D Vial: 7
Acq On : 21 Apr 2020 1:48 Operator: LH
Sample : P2002031-004dup (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 21 12:26:59 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04202040.D\data.ms

(2) Propene (T)

4.136min (+0.022) 0.15ng m

response 5617

Ion	Exp%	Act%
42.10	100	100
39.10	115.30	0.00#
41.10	152.00	146.66
0.00	0.00	0.00

IPC

LH 4/22/20

4/23/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212017.D Vial: 5
Acq On : 21 Apr 2020 18:39 Operator: WA
Sample : P2002031-017dup (160mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 18:52:07 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/22/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	308288	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.29	114	1366264	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	661540	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	533053	12.487	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.92%				
57) Toluene-d8 (SS2)	15.74	98	1400950	11.948	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.60%				
73) Bromofluorobenzene (SS3)	19.00	174	477417	11.530	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.24%				
Target Compounds							Qvalue
2) Propene	4.11	42	112720	3.486	ng	#	79
3) Dichlorodifluoromethan...	4.28	85	4884	0.070	ng	#	96
4) Chloromethane	4.56	50	13367	0.243	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	12522	0.283	ng		99
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.16	54	522	N.D.			
8) Bromomethane	5.67	94	2972	0.102	ng		96
9) Chloroethane	6.00	64	621	N.D.			
10) Ethanol	6.33	45	723315	28.306	ng		100
11) Acetonitrile	6.62	41	6799	0.121	ng		87
12) Acrolein	6.81	56	3412	0.181	ng		84
13) Acetone	7.00	58	147197m	5.837	ng		
14) Trichlorofluoromethane	7.27	101	74549	1.215	ng		99
15) 2-Propanol (Isopropanol)	7.48	45	1961687	26.229	ng		99
16) Acrylonitrile	7.80	53	65	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.44	84	18316	0.558	ng		96
20) 3-Chloro-1-propene (Al...	8.61	41	124	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.72	76	27032	0.229	ng		98
23) trans-1,2-Dichloroethene	9.73	61	401	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.	d		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	d		
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.48	72	26949	1.284	ng	#	87
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.29	61	138246	11.140	ng		90
31) n-Hexane	11.29	57	24600	0.428	ng		97
32) Chloroform	11.33	83	2690	N.D.			
34) Tetrahydrofuran (THF)	11.78	72	2582	0.120	ng		97
35) Ethyl tert-Butyl Ether	11.91	87	109	N.D.			
36) 1,2-Dichloroethane	12.15	62	1096	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	12.87	61	677	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.90	78	50797	0.360	ng		100
42) Carbon Tetrachloride	13.06	117	679	N.D.			
43) Cyclohexane	13.20	84	48448	0.893	ng		98
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	13.75	63	396	N.D.			
46) Bromodichloromethane	13.96	83	447	N.D.			
47) Trichloroethene	14.00	130	3506	0.088	ng		97
48) 1,4-Dioxane	14.01	88	475	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.21	100	550	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212017.D Vial: 5
Acq On : 21 Apr 2020 18:39 Operator: WA
Sample : P2002031-017dup (160mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 18:52:07 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

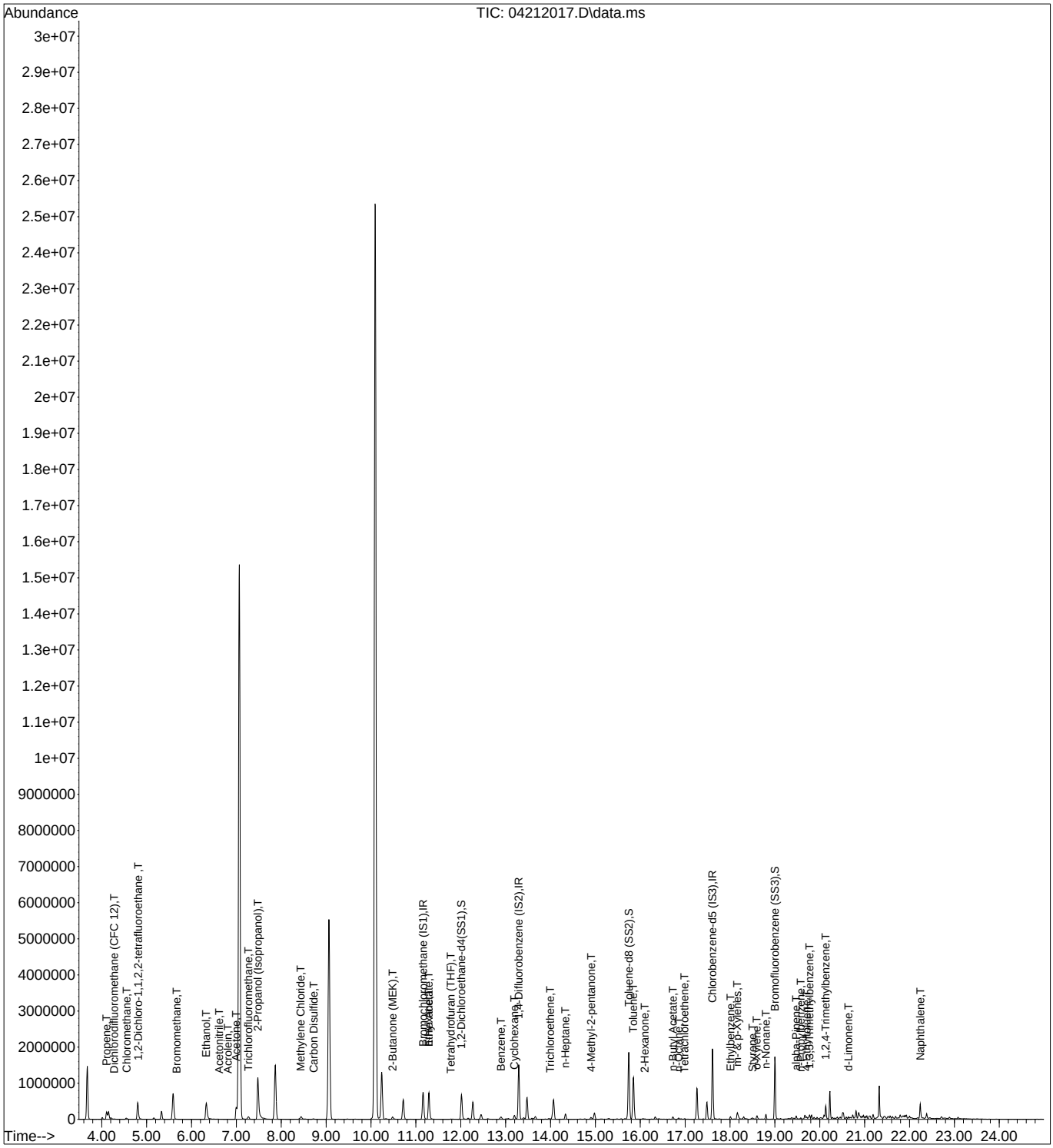
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.33	71	38172	1.157 ng		96
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.91	58	16790	0.567 ng		92
54) trans-1,3-Dichloropropene	15.57	75	105	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.84	91	792079	5.463 ng		100
59) 2-Hexanone	16.10	43	6006	0.083 ng		86
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.73	43	57499	0.741 ng		98
63) n-Octane	16.85	57	7444	0.259 ng	#	80
64) Tetrachloroethene	16.99	166	4288	0.106 ng		94
65) Chlorobenzene	17.65	112	1079	N.D.		
66) Ethylbenzene	18.01	91	55974	0.352 ng		96
67) m- & p-Xylenes	18.16	91	141732	1.096 ng		98
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.50	104	15740	0.155 ng		96
70) o-Xylene	18.60	91	53092	0.410 ng		98
71) n-Nonane	18.80	43	46309	0.716 ng		93
72) 1,1,2,2-Tetrachloroethane	18.62	83	276	N.D.		
74) Cumene	19.13	105	6579	N.D.		
75) alpha-Pinene	19.48	93	32494	0.392 ng		93
76) n-Propylbenzene	19.58	91	28010	0.147 ng		95
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.71	105	27136	0.175 ng		99
79) 1,3,5-Trimethylbenzene	19.77	105	41255	0.298 ng		94
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	20.13	105	181796	1.269 ng		86
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.25	91	1149	N.D.		
85) 1,3-Dichlorobenzene	20.26	146	157	N.D.		
86) 1,4-Dichlorobenzene	20.33	146	332	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D. d		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	20.63	146	125	N.D.		
91) d-Limonene	20.64	68	12656	0.228 ng		97
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	22.24	128	20699	0.129 ng		92
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212017.D Vial: 5
Acq On : 21 Apr 2020 18:39 Operator: WA
Sample : P2002031-017dup (160mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 18:52:07 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212017.D Vial: 5
Acq On : 21 Apr 2020 18:39 Operator: WA
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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/22/20

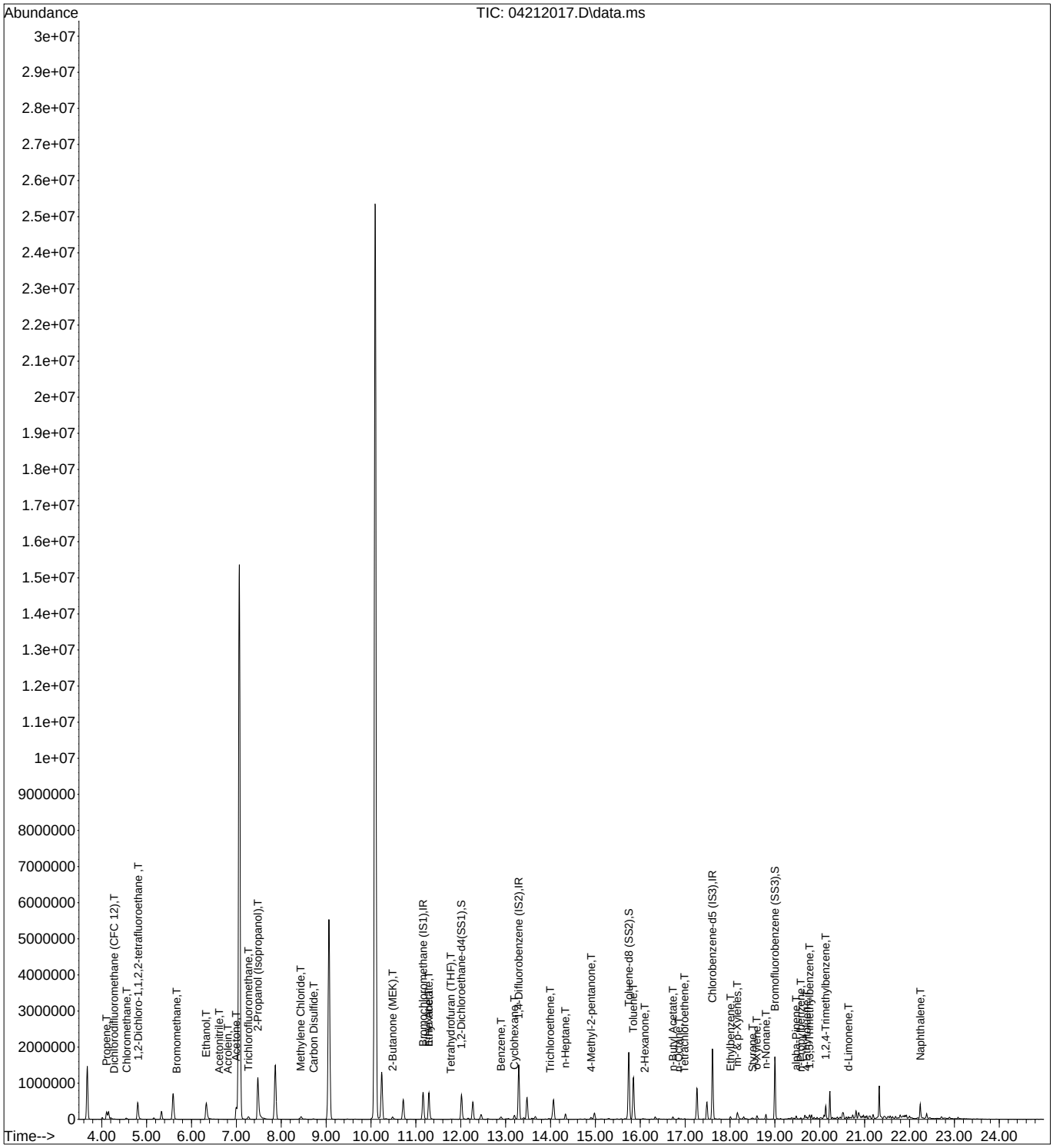
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	308288	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.29	114	1366264	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	661540	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	533053	12.487	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.92%				
57) Toluene-d8 (SS2)	15.74	98	1400950	11.948	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.60%				
73) Bromofluorobenzene (SS3)	19.00	174	477417	11.530	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.24%				
Target Compounds							Qvalue
2) Propene	4.11	42	112720	3.486	ng	#	79
3) Dichlorodifluoromethan...	4.28	85	4884	0.070	ng	#	96
4) Chloromethane	4.56	50	13367	0.243	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	12522	0.283	ng		99
8) Bromomethane	5.67	94	2972	0.102	ng		96
10) Ethanol	6.33	45	723315	28.306	ng		100
11) Acetonitrile	6.62	41	6799	0.121	ng		87
12) Acrolein	6.81	56	3412	0.181	ng		84
13) Acetone	7.00	58	147197m	5.837	ng		
14) Trichlorofluoromethane	7.27	101	74549	1.215	ng		99
15) 2-Propanol (Isopropanol)	7.48	45	1961687	26.229	ng		99
19) Methylene Chloride	8.44	84	18316	0.558	ng		96
22) Carbon Disulfide	8.72	76	27032	0.229	ng		98
27) 2-Butanone (MEK)	10.48	72	26949	1.284	ng	#	87
30) Ethyl Acetate	11.29	61	138246	11.140	ng		90
31) n-Hexane	11.29	57	24600	0.428	ng		97
34) Tetrahydrofuran (THF)	11.78	72	2582	0.120	ng		97
41) Benzene	12.90	78	50797	0.360	ng		100
43) Cyclohexane	13.20	84	48448	0.893	ng		98
47) Trichloroethene	14.00	130	3506	0.088	ng		97
51) n-Heptane	14.33	71	38172	1.157	ng		96
53) 4-Methyl-2-pentanone	14.91	58	16790	0.567	ng		92
58) Toluene	15.84	91	792079	5.463	ng		100
59) 2-Hexanone	16.10	43	6006	0.083	ng		86
62) n-Butyl Acetate	16.73	43	57499	0.741	ng		98
63) n-Octane	16.85	57	7444	0.259	ng	#	80
64) Tetrachloroethene	16.99	166	4288	0.106	ng		94
66) Ethylbenzene	18.01	91	55974	0.352	ng		96
67) m- & p-Xylenes	18.16	91	141732	1.096	ng		98
69) Styrene	18.50	104	15740	0.155	ng		96
70) o-Xylene	18.60	91	53092	0.410	ng		98
71) n-Nonane	18.80	43	46309	0.716	ng		93
75) alpha-Pinene	19.48	93	32494	0.392	ng		93
76) n-Propylbenzene	19.58	91	28010	0.147	ng		95
78) 4-Ethyltoluene	19.71	105	27136	0.175	ng		99
79) 1,3,5-Trimethylbenzene	19.77	105	41255	0.298	ng		94
82) 1,2,4-Trimethylbenzene	20.13	105	181796	1.269	ng		86
91) d-Limonene	20.64	68	12656	0.228	ng		97
95) Naphthalene	22.24	128	20699	0.129	ng		92

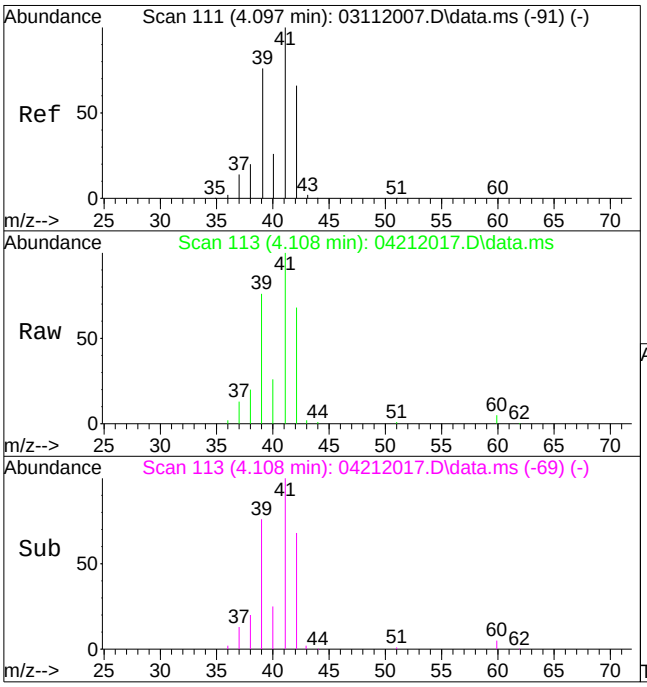
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212017.D Vial: 5
Acq On : 21 Apr 2020 18:39 Operator: WA
Sample : P2002031-017dup (160mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 18:52:07 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

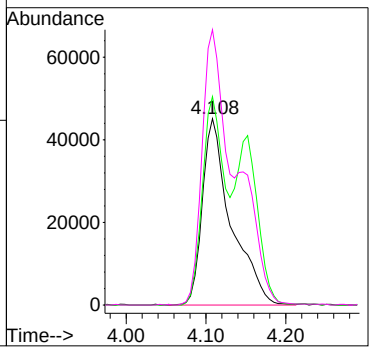


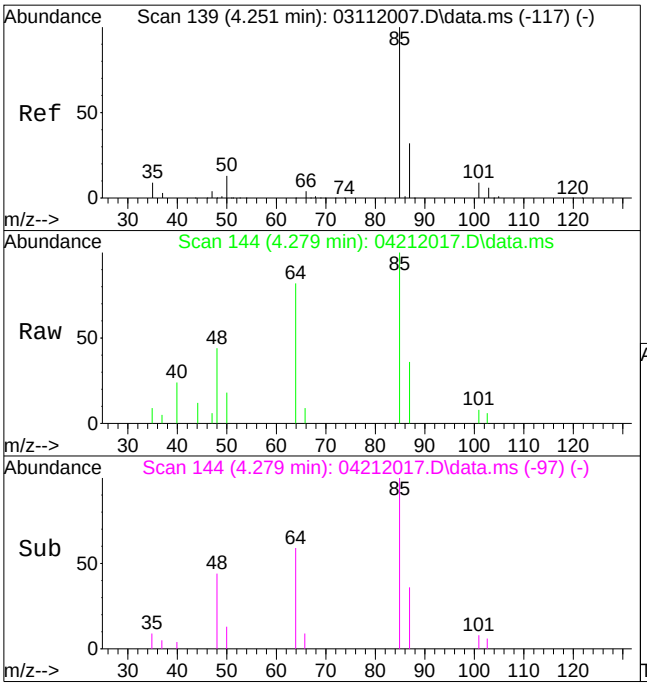


#2
Propene
Concen: 3.49 ng
RT: 4.11 min Scan# 113
Delta R.T. -0.006 min
Lab File: 04212017.D
Acq: 21 Apr 2020 18:39

Tgt Ion: 42 Resp: 112720

Ion	Ratio	Lower	Upper
42	100		
39	85.7	95.3	135.3#
41	173.1	132.0	172.0#

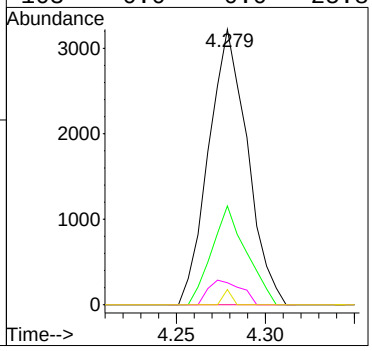


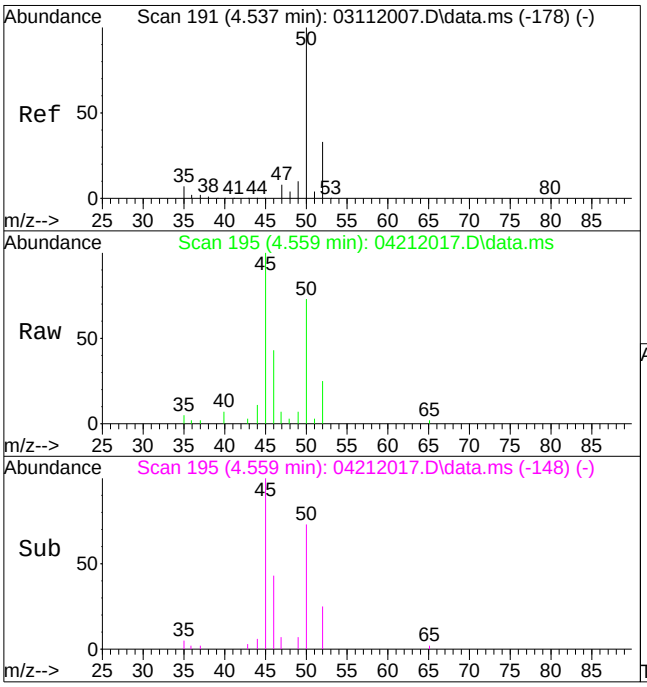


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.07 ng
RT: 4.28 min Scan# 144
Delta R.T. 0.011 min
Lab File: 04212017.D
Acq: 21 Apr 2020 18:39

Tgt Ion: 85 Resp: 4884

Ion	Ratio	Lower	Upper
85	100		
87	31.8	12.3	52.3
101	7.5	0.0	29.0
103	0.0	0.0	25.8

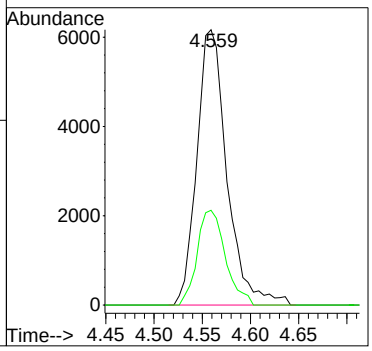


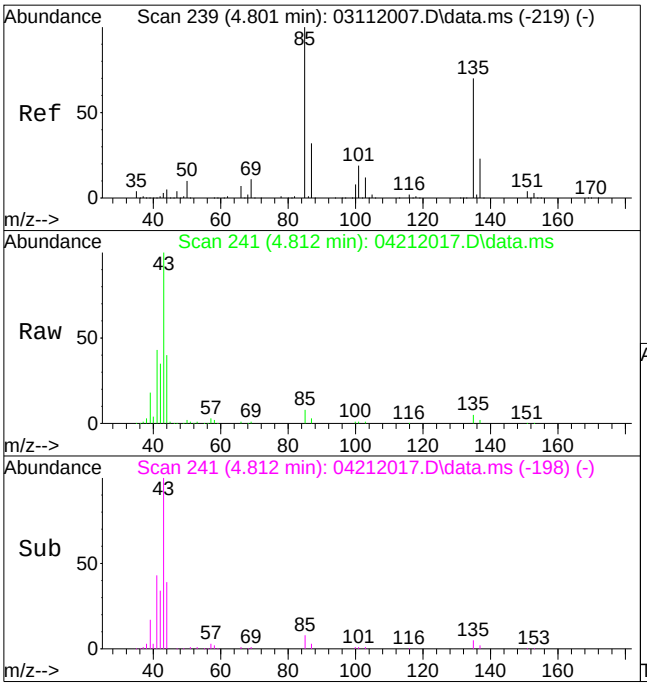


#4
Chloromethane
Concen: 0.24 ng
RT: 4.56 min Scan# 195
Delta R.T. 0.006 min
Lab File: 04212017.D
Acq: 21 Apr 2020 18:39

Tgt Ion: 50 Resp: 13367

Ion	Ratio	Lower	Upper
50	100		
52	32.2	12.8	52.8

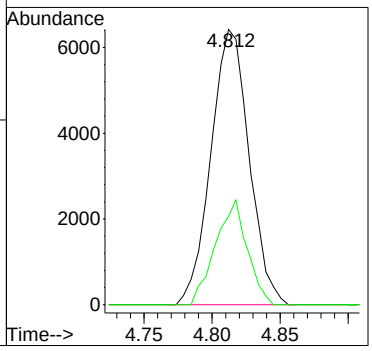


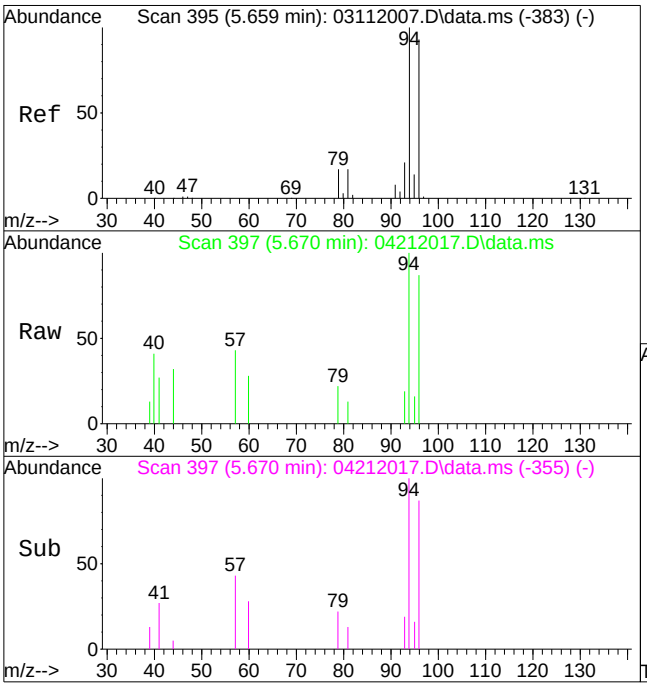


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 0.28 ng
RT: 4.81 min Scan# 241
Delta R.T. -0.011 min
Lab File: 04212017.D
Acq: 21 Apr 2020 18:39

Tgt Ion:135 Resp: 12522

Ion	Ratio	Lower	Upper
135	100		
137	31.5	12.3	52.3

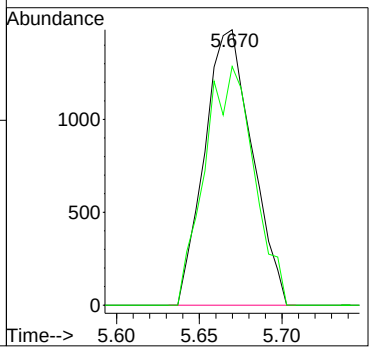


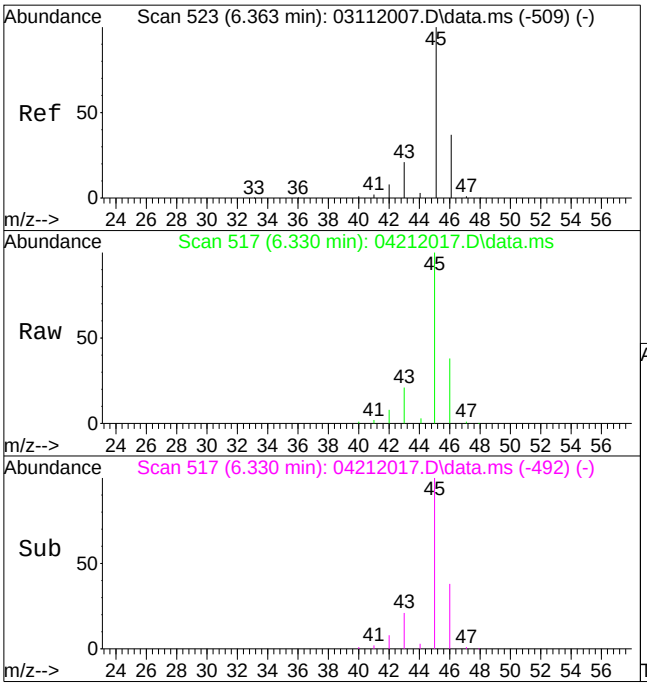


#8
Bromomethane
Concen: 0.10 ng
RT: 5.67 min Scan# 397
Delta R.T. -0.016 min
Lab File: 04212017.D
Acq: 21 Apr 2020 18:39

Tgt Ion: 94 Resp: 2972

Ion	Ratio	Lower	Upper
94	100		
96	89.8	73.8	113.8

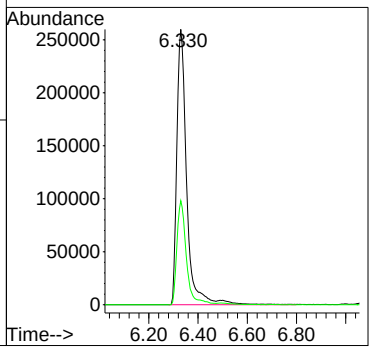


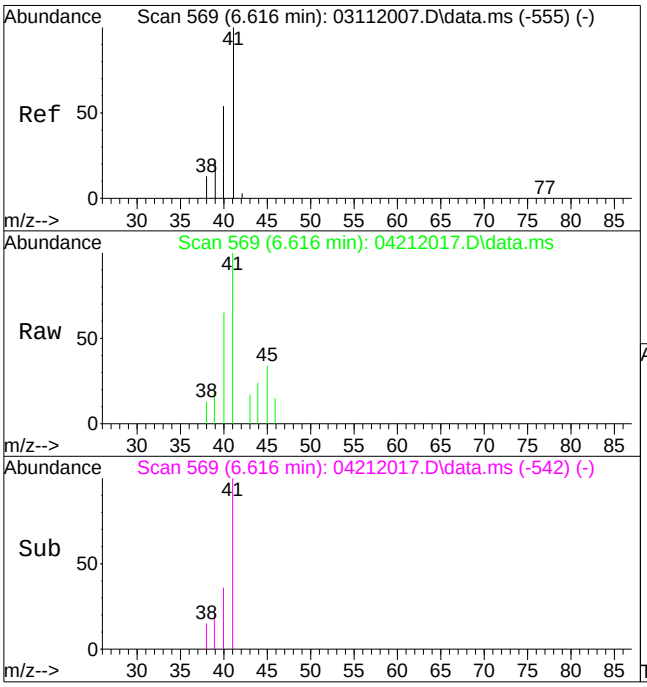


#10
Ethanol
Concen: 28.31 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.110 min
Lab File: 04212017.D
Acq: 21 Apr 2020 18:39

Tgt Ion: 45 Resp: 723315

Ion	Ratio	Lower	Upper
45	100		
46	37.3	17.3	57.3

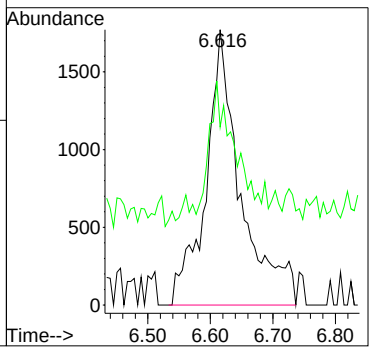


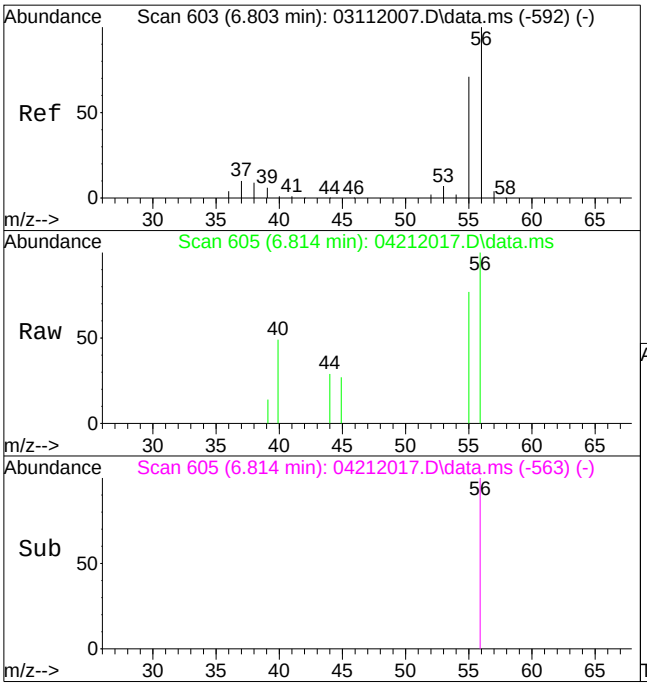


#11
Acetonitrile
Concen: 0.12 ng
RT: 6.62 min Scan# 569
Delta R.T. -0.049 min
Lab File: 04212017.D
Acq: 21 Apr 2020 18:39

Tgt Ion: 41 Resp: 6799

Ion	Ratio	Lower	Upper
41	100		
40	44.1	33.6	73.6

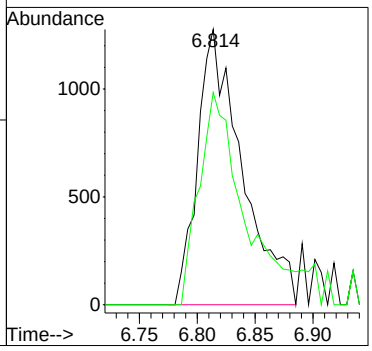


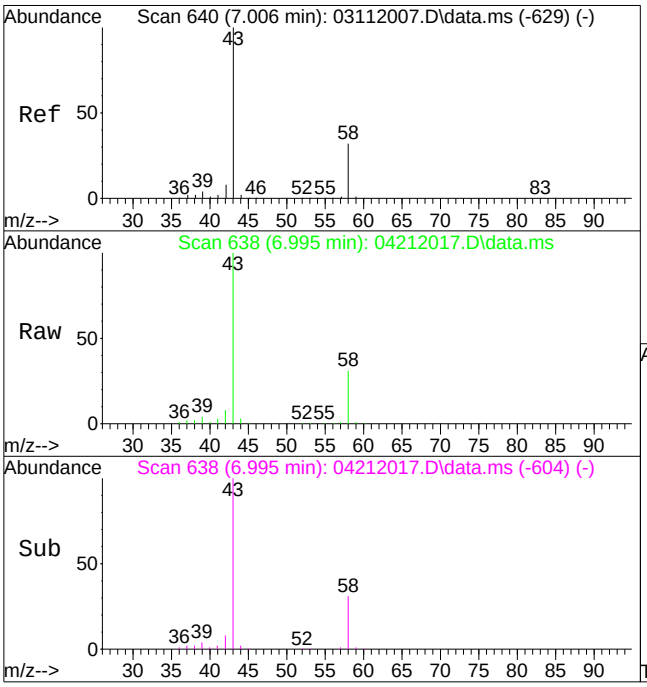


#12
Acrolein
Concen: 0.18 ng
RT: 6.81 min Scan# 605
Delta R.T. -0.016 min
Lab File: 04212017.D
Acq: 21 Apr 2020 18:39

Tgt Ion: 56 Resp: 3412

Ion	Ratio	Lower	Upper
56	100		
55	83.9	50.4	90.4

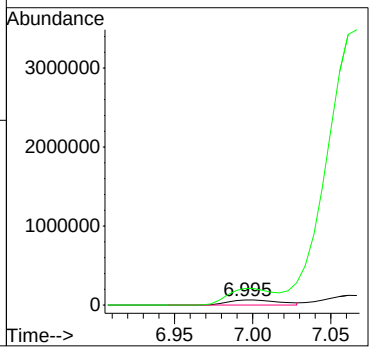


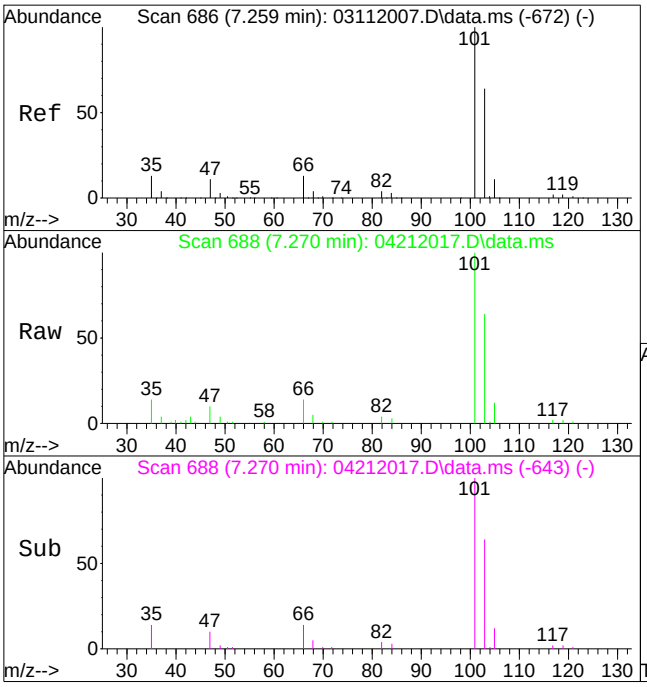


#13
Acetone
Concen: 5.84 ng m
RT: 7.00 min Scan# 638
Delta R.T. -0.061 min
Lab File: 04212017.D
Acq: 21 Apr 2020 18:39

Tgt Ion: 58 Resp: 147197

Ion	Ratio	Lower	Upper
58	100		
43	5807.7	287.3	347.3#

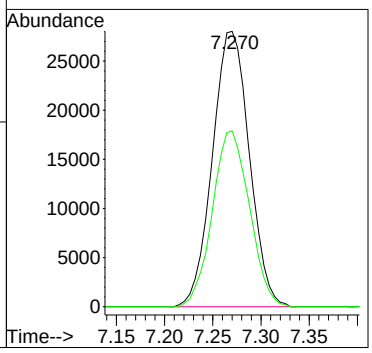


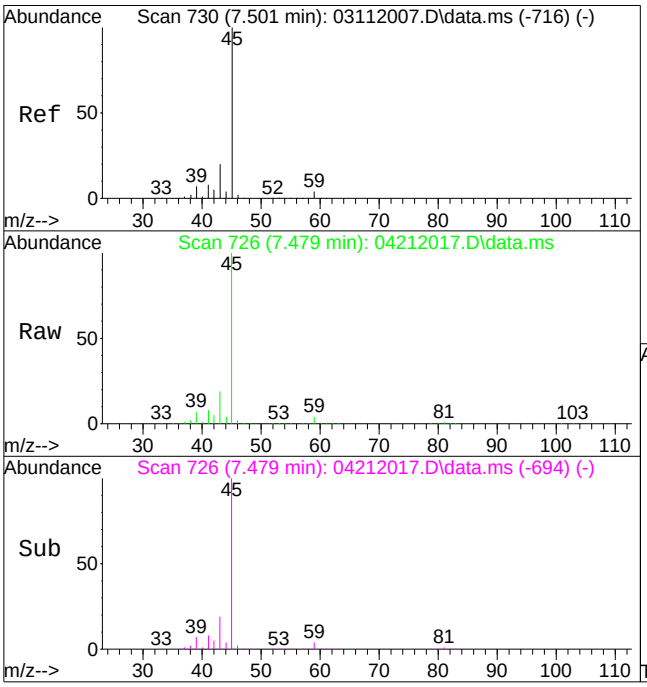


#14
Trichlorofluoromethane
Concen: 1.22 ng
RT: 7.27 min Scan# 688
Delta R.T. -0.005 min
Lab File: 04212017.D
Acq: 21 Apr 2020 18:39

Tgt Ion:101 Resp: 74549

Ion	Ratio	Lower	Upper
101	100		
103	64.1	44.6	84.6

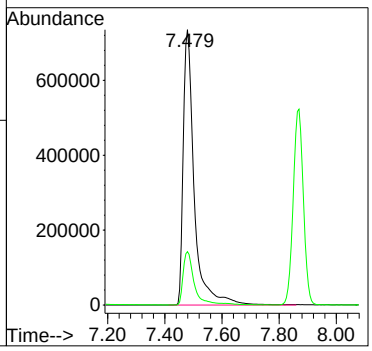


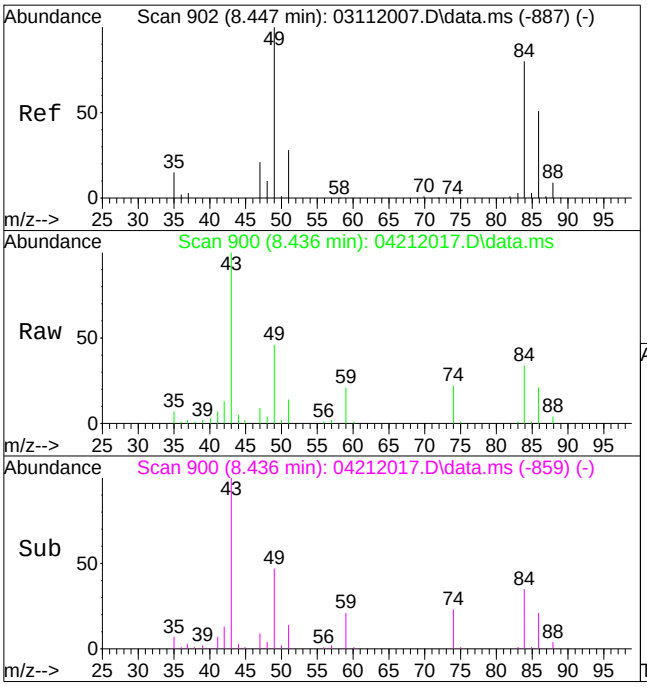


#15
2-Propanol (Isopropanol)
Concen: 26.23 ng
RT: 7.48 min Scan# 726
Delta R.T. -0.071 min
Lab File: 04212017.D
Acq: 21 Apr 2020 18:39

Tgt Ion: 45 Resp: 1961687

Ion	Ratio	Lower	Upper
45	100		
43	19.8	0.3	40.3

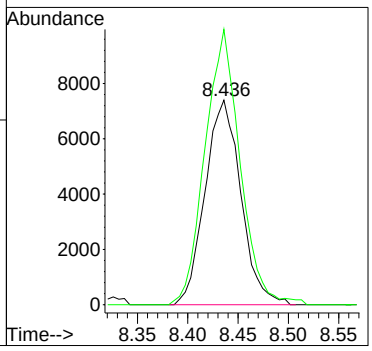


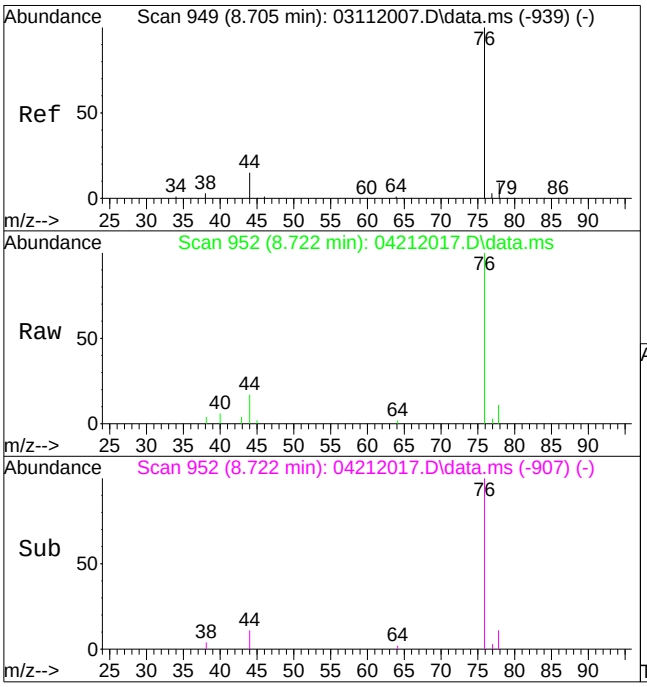


#19
Methylene Chloride
Concen: 0.56 ng
RT: 8.44 min Scan# 900
Delta R.T. -0.027 min
Lab File: 04212017.D
Acq: 21 Apr 2020 18:39

Tgt Ion: 84 Resp: 18316

Ion	Ratio	Lower	Upper
84	100		
49	131.9	102.2	152.2

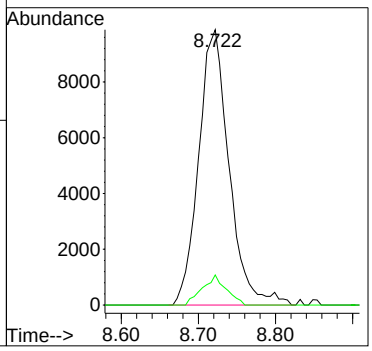


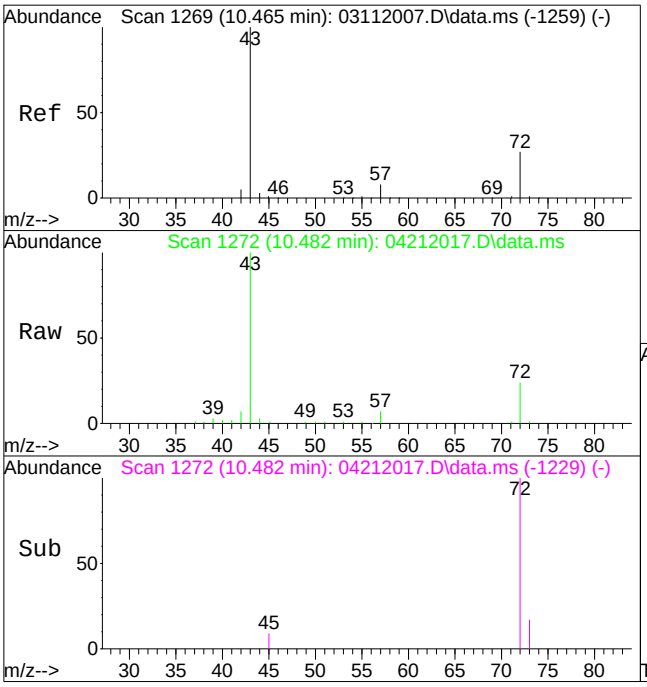


#22
Carbon Disulfide
Concen: 0.23 ng
RT: 8.72 min Scan# 952
Delta R.T. 0.000 min
Lab File: 04212017.D
Acq: 21 Apr 2020 18:39

Tgt Ion: 76 Resp: 27032

Ion	Ratio	Lower	Upper
76	100		
78	8.5	0.0	29.2

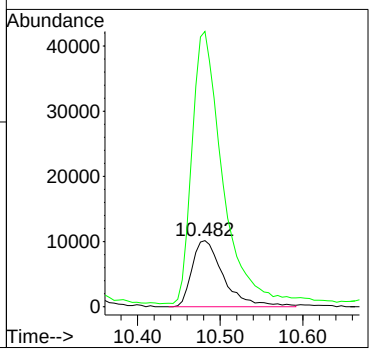


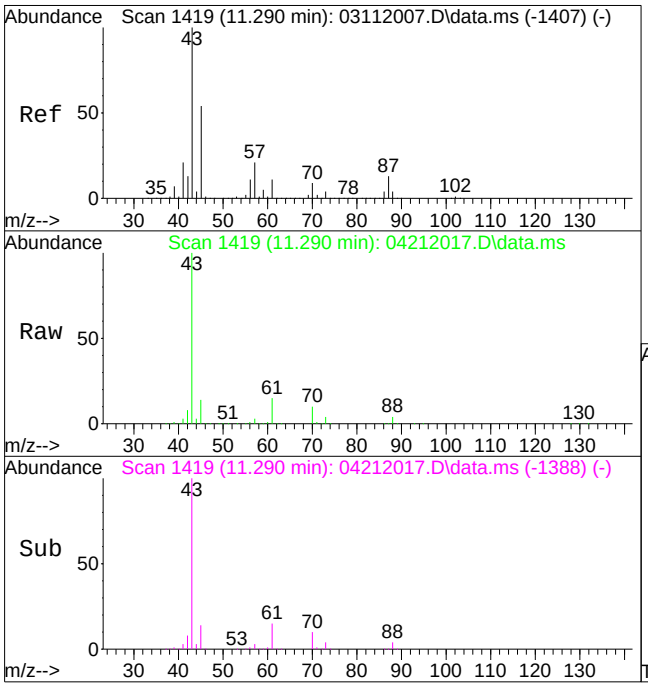


#27
2-Butanone (MEK)
Concen: 1.28 ng
RT: 10.48 min Scan# 1272
Delta R.T. -0.011 min
Lab File: 04212017.D
Acq: 21 Apr 2020 18:39

Tgt Ion: 72 Resp: 26949

Ion	Ratio	Lower	Upper
72	100		
43	402.3	353.4	393.4#

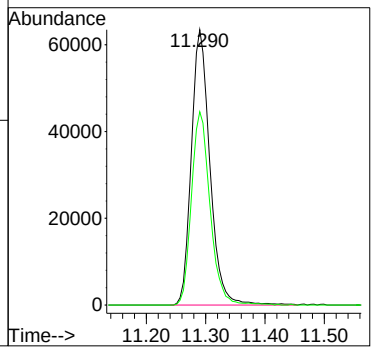


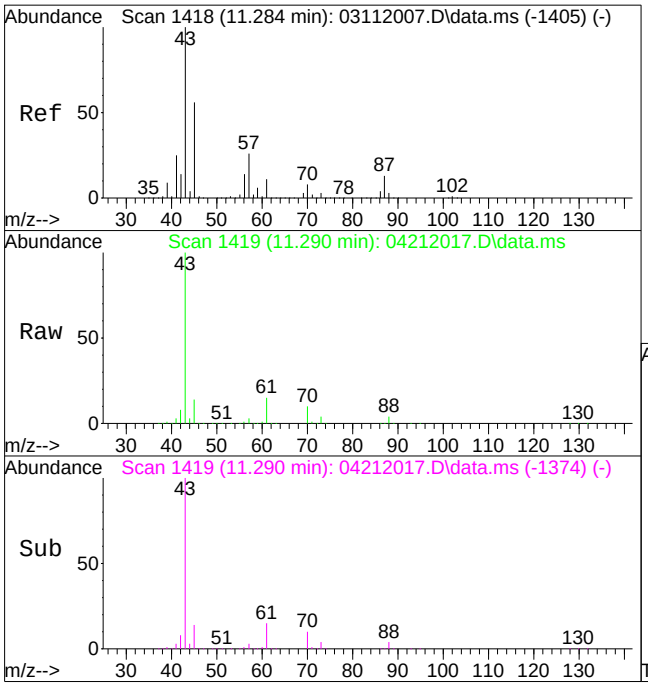


#30
Ethyl Acetate
Concen: 11.14 ng
RT: 11.29 min Scan# 1419
Delta R.T. -0.027 min
Lab File: 04212017.D
Acq: 21 Apr 2020 18:39

Tgt Ion: 61 Resp: 138246

Ion	Ratio	Lower	Upper
61	100		
70	70.3	59.1	99.1

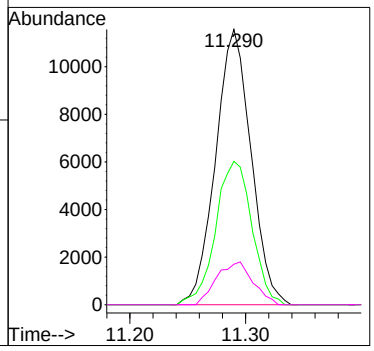


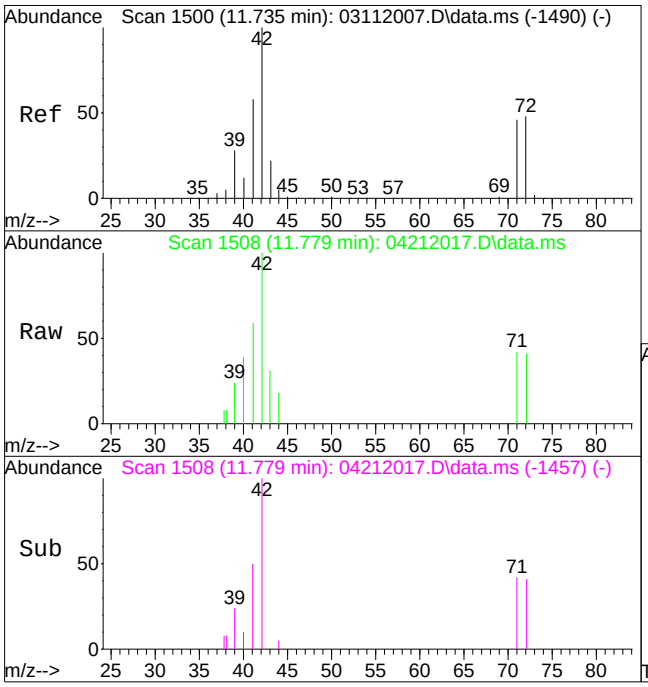


#31
n-Hexane
Concen: 0.43 ng
RT: 11.29 min Scan# 1419
Delta R.T. 0.000 min
Lab File: 04212017.D
Acq: 21 Apr 2020 18:39

Tgt Ion: 57 Resp: 24600

Ion	Ratio	Lower	Upper
57	100		
56	53.3	41.0	61.4
86	16.0	13.9	20.9

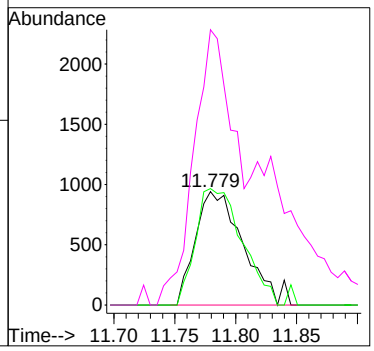


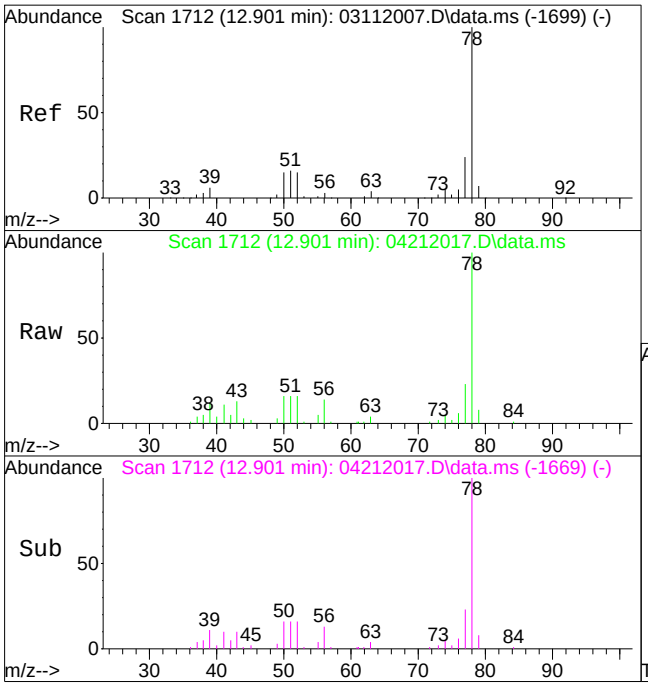


#34
Tetrahydrofuran (THF)
Concen: 0.12 ng
RT: 11.78 min Scan# 1508
Delta R.T. 0.033 min
Lab File: 04212017.D
Acq: 21 Apr 2020 18:39

Tgt Ion: 72 Resp: 2582

Ion	Ratio	Lower	Upper
72	100		
71	99.4	75.9	115.9
42	214.6	189.3	229.3

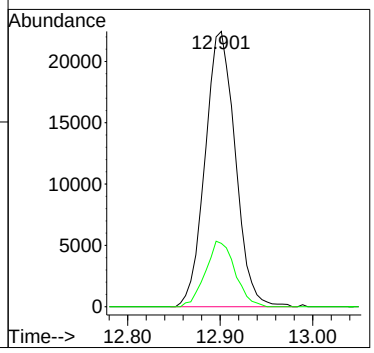


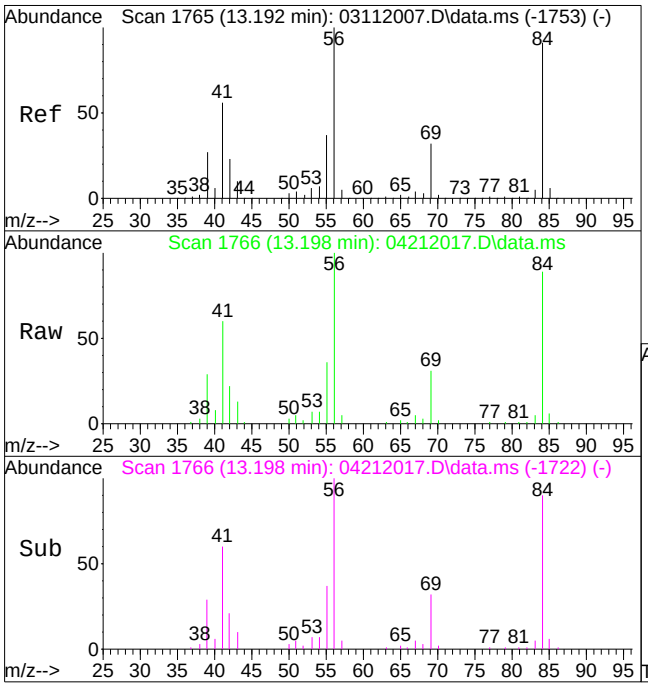


#41
Benzene
Concen: 0.36 ng
RT: 12.90 min Scan# 1712
Delta R.T. -0.011 min
Lab File: 04212017.D
Acq: 21 Apr 2020 18:39

Tgt Ion: 78 Resp: 50797

Ion	Ratio	Lower	Upper
78	100		
77	23.3	3.4	43.4

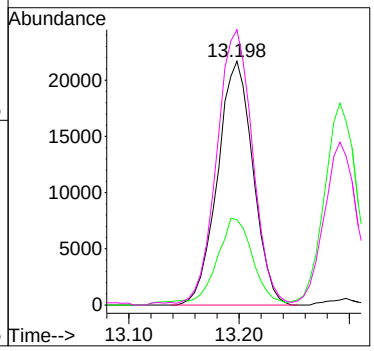


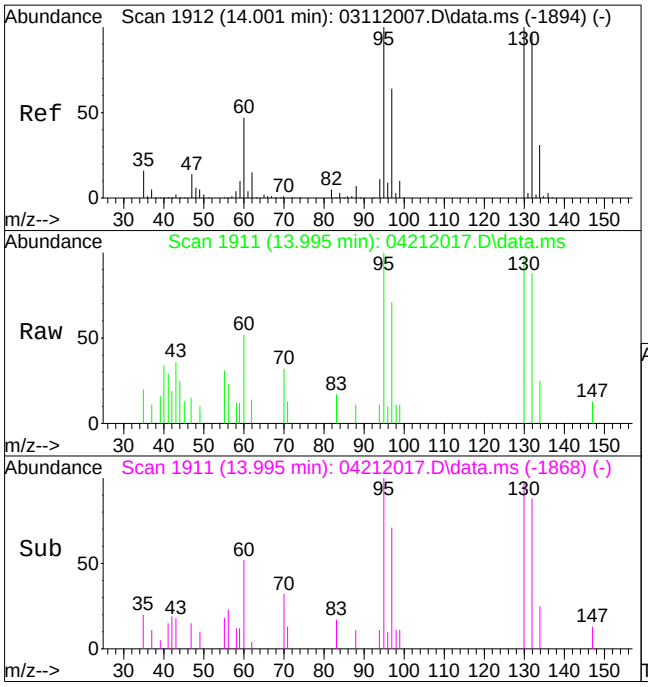


#43
Cyclohexane
Concen: 0.89 ng
RT: 13.20 min Scan# 1766
Delta R.T. -0.005 min
Lab File: 04212017.D
Acq: 21 Apr 2020 18:39

Tgt Ion: 84 Resp: 48448

Ion	Ratio	Lower	Upper
84	100		
69	37.0	15.3	55.3
56	112.3	90.5	130.5

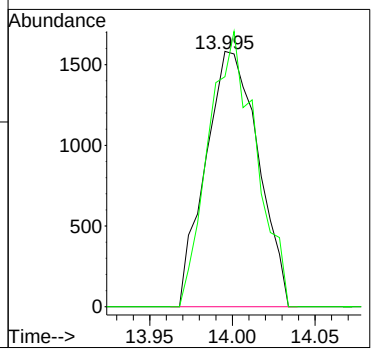


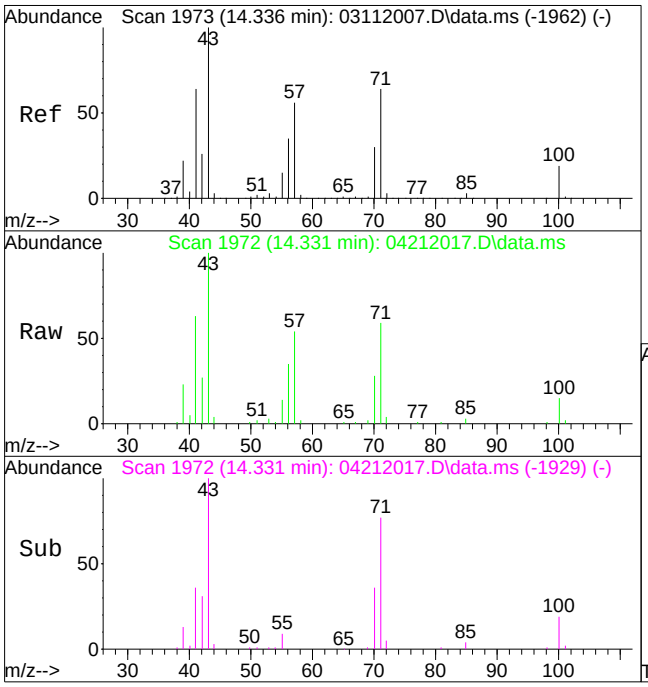


#47
Trichloroethene
Concen: 0.09 ng
RT: 14.00 min Scan# 1911
Delta R.T. -0.011 min
Lab File: 04212017.D
Acq: 21 Apr 2020 18:39

Tgt Ion:130 Resp: 3506

Ion	Ratio	Lower	Upper
130	100		
132	97.3	74.7	114.7

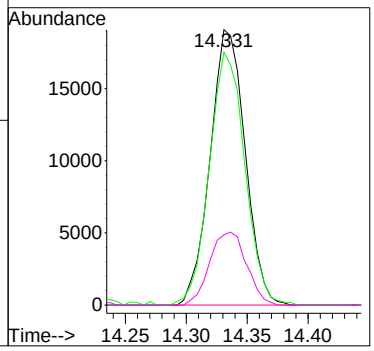


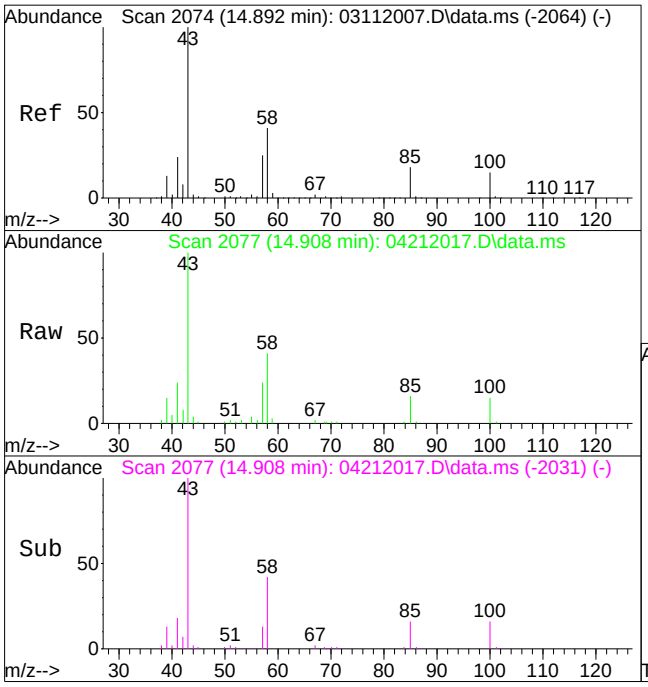


#51
n-Heptane
Concen: 1.16 ng
RT: 14.33 min Scan# 1972
Delta R.T. -0.011 min
Lab File: 04212017.D
Acq: 21 Apr 2020 18:39

Tgt Ion: 71 Resp: 38172

Ion	Ratio	Lower	Upper
71	100		
57	93.2	68.6	108.6
100	27.8	9.1	49.1

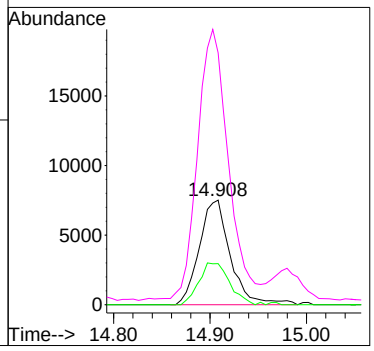


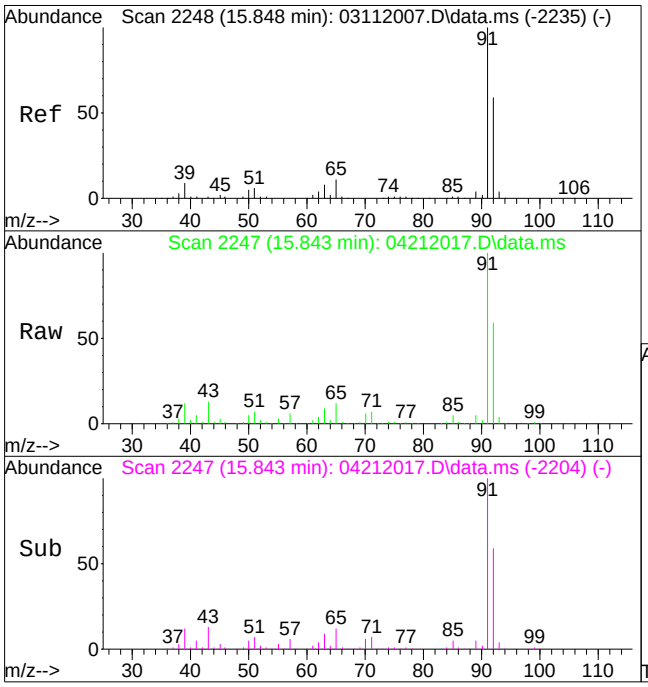


#53
4-Methyl-2-pentanone
Concen: 0.57 ng
RT: 14.91 min Scan# 2077
Delta R.T. 0.006 min
Lab File: 04212017.D
Acq: 21 Apr 2020 18:39

Tgt Ion: 58 Resp: 16790

Ion	Ratio	Lower	Upper
58	100		
85	39.1	37.0	55.4
43	258.8	196.3	294.5

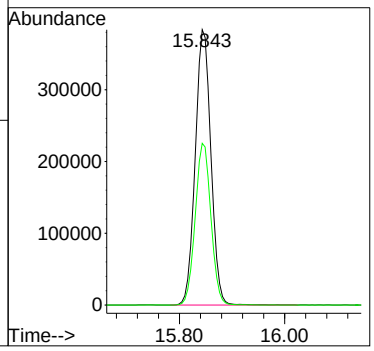


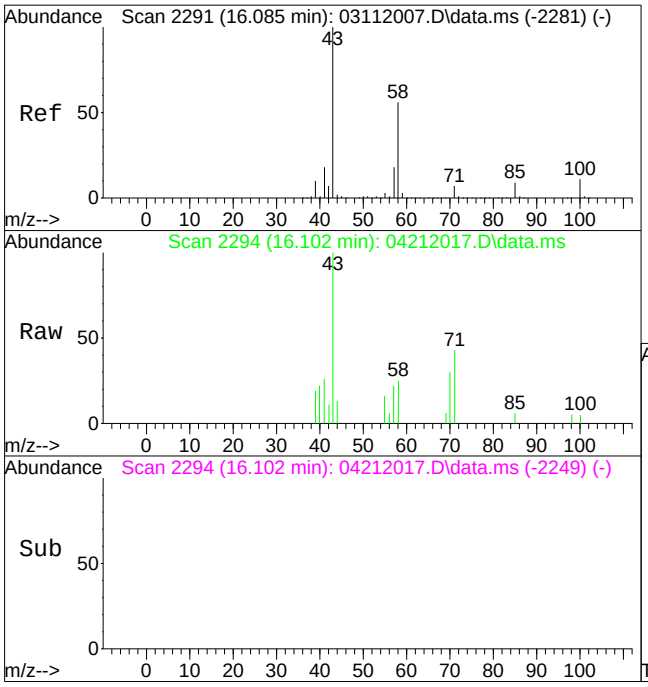


#58
Toluene
Concen: 5.46 ng
RT: 15.84 min Scan# 2247
Delta R.T. -0.011 min
Lab File: 04212017.D
Acq: 21 Apr 2020 18:39

Tgt Ion: 91 Resp: 792079

Ion	Ratio	Lower	Upper
91	100		
92	58.9	39.0	79.0

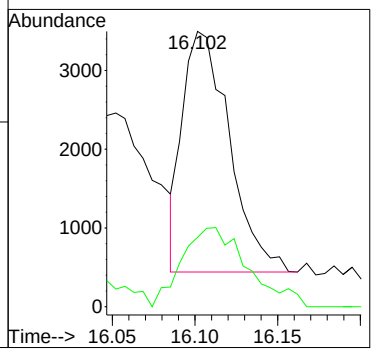


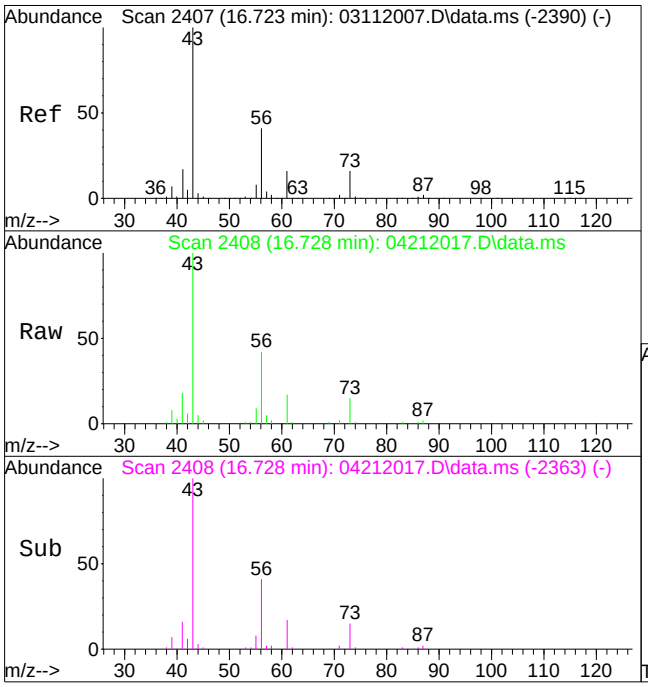


#59
2-Hexanone
Concen: 0.08 ng
RT: 16.10 min Scan# 2294
Delta R.T. 0.000 min
Lab File: 04212017.D
Acq: 21 Apr 2020 18:39

Tgt Ion: 43 Resp: 6006

Ion	Ratio	Lower	Upper
43	100		
58	46.2	36.5	76.5

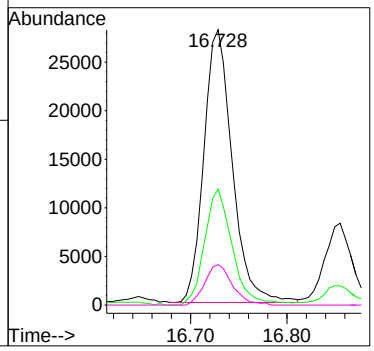


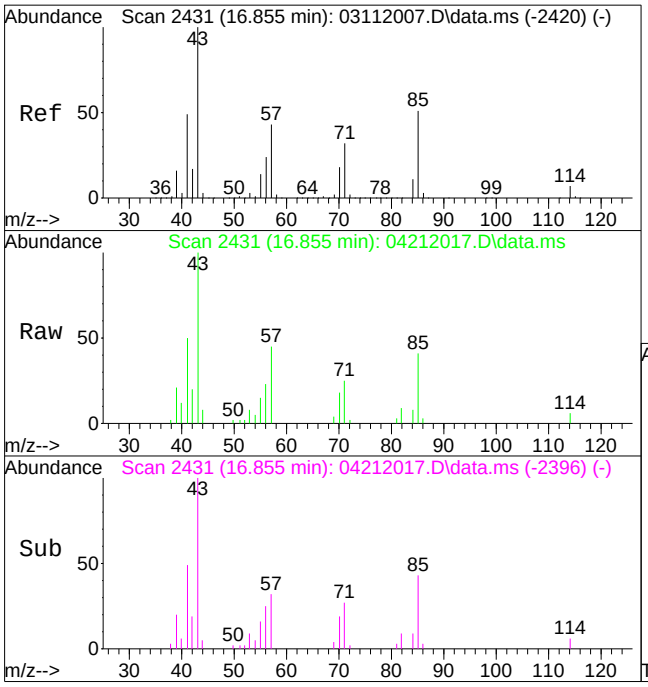


#62
n-Butyl Acetate
Concen: 0.74 ng
RT: 16.73 min Scan# 2408
Delta R.T. 0.000 min
Lab File: 04212017.D
Acq: 21 Apr 2020 18:39

Tgt Ion: 43 Resp: 57499

Ion	Ratio	Lower	Upper
43	100		
56	41.4	20.7	60.7
73	14.4	0.0	35.5

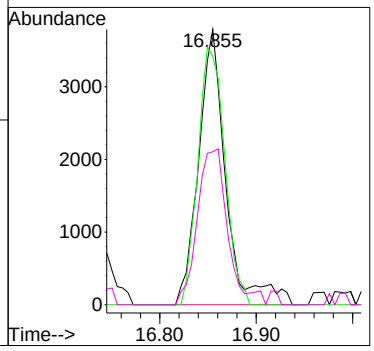


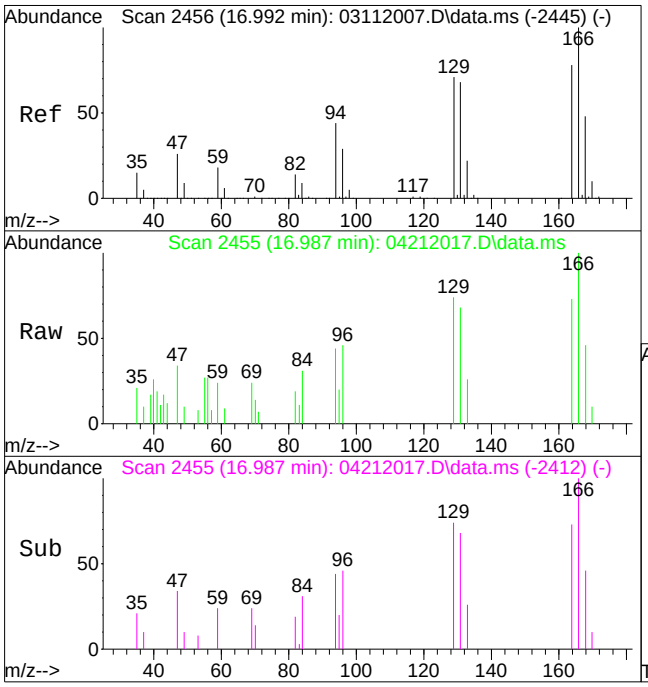


#63
n-Octane
Concen: 0.26 ng
RT: 16.85 min Scan# 2431
Delta R.T. -0.005 min
Lab File: 04212017.D
Acq: 21 Apr 2020 18:39

Tgt Ion: 57 Resp: 7444

Ion	Ratio	Lower	Upper
57	100		
85	92.2	95.1	142.7#
71	62.4	58.2	87.4

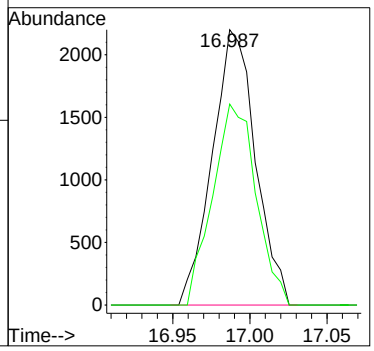


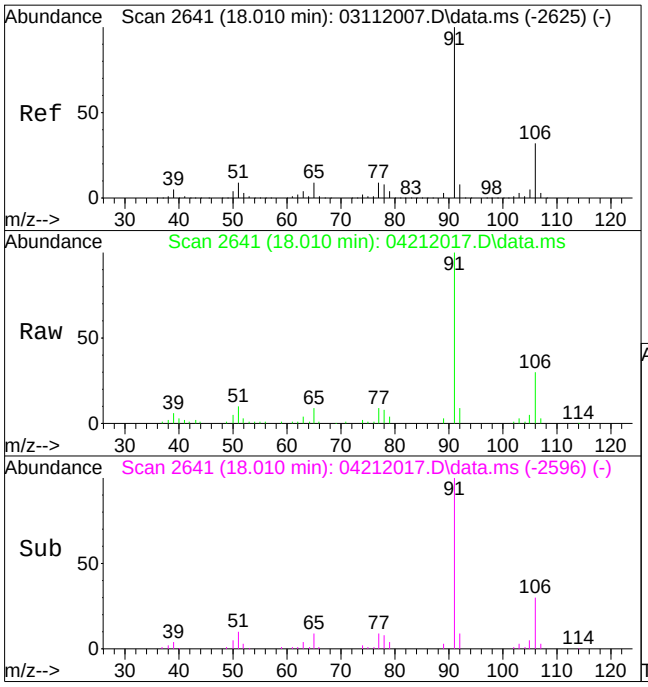


#64
Tetrachloroethene
Concen: 0.11 ng
RT: 16.99 min Scan# 2455
Delta R.T. -0.011 min
Lab File: 04212017.D
Acq: 21 Apr 2020 18:39

Tgt Ion:166 Resp: 4288

Ion	Ratio	Lower	Upper
166	100		
164	73.4	58.6	98.6

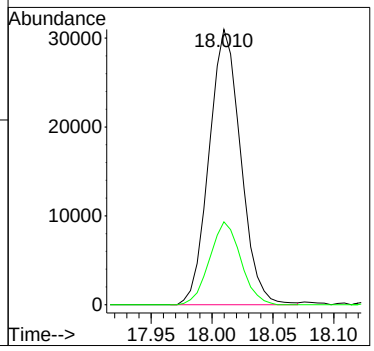


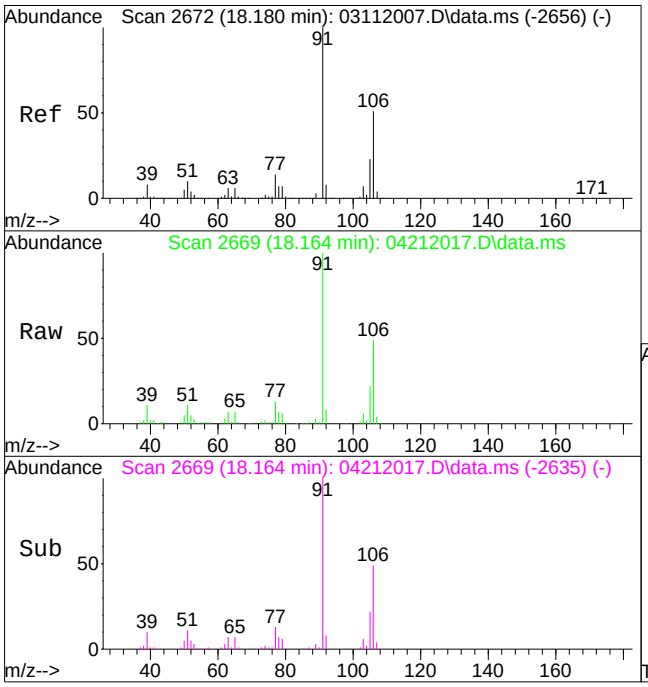


#66
Ethylbenzene
Concen: 0.35 ng
RT: 18.01 min Scan# 2641
Delta R.T. 0.000 min
Lab File: 04212017.D
Acq: 21 Apr 2020 18:39

Tgt Ion: 91 Resp: 55974

Ion	Ratio	Lower	Upper
91	100		
106	29.7	11.7	51.7

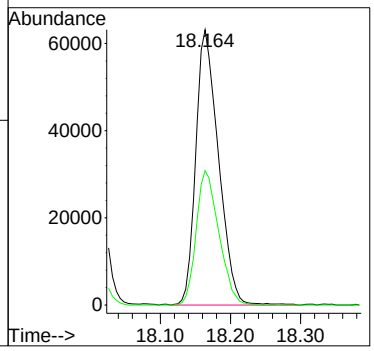


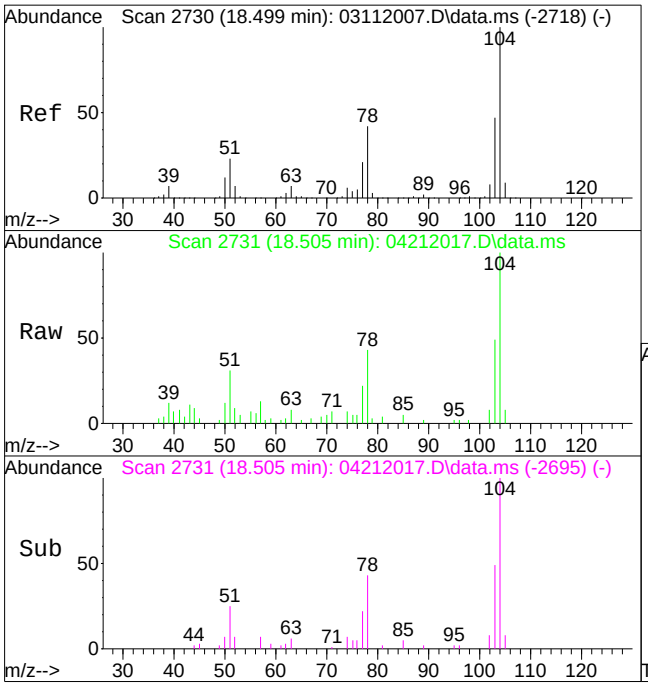


#67
m- & p-Xylenes
Concen: 1.10 ng
RT: 18.16 min Scan# 2669
Delta R.T. -0.011 min
Lab File: 04212017.D
Acq: 21 Apr 2020 18:39

Tgt Ion: 91 Resp: 141732

Ion	Ratio	Lower	Upper
91	100		
106	48.8	30.4	70.4

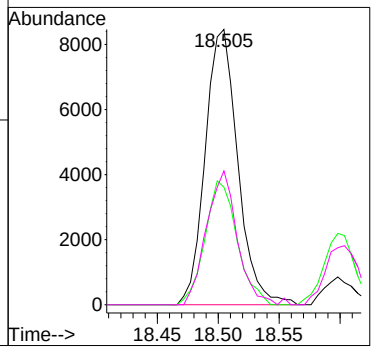


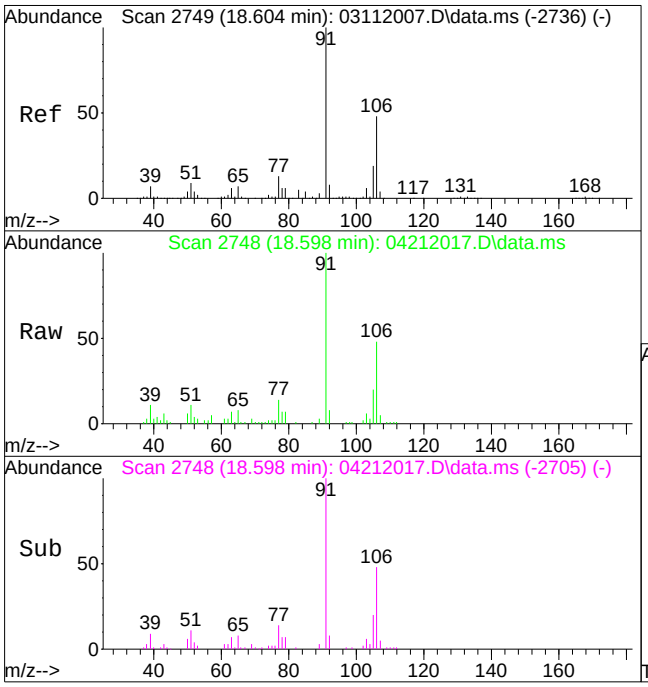


#69
Styrene
Concen: 0.16 ng
RT: 18.50 min Scan# 2731
Delta R.T. -0.000 min
Lab File: 04212017.D
Acq: 21 Apr 2020 18:39

Tgt Ion:104 Resp: 15740

Ion	Ratio	Lower	Upper
104	100		
78	44.4	20.9	60.9
103	45.6	27.4	67.4

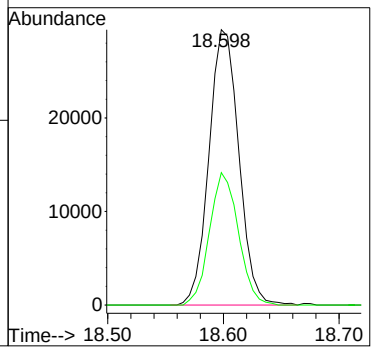


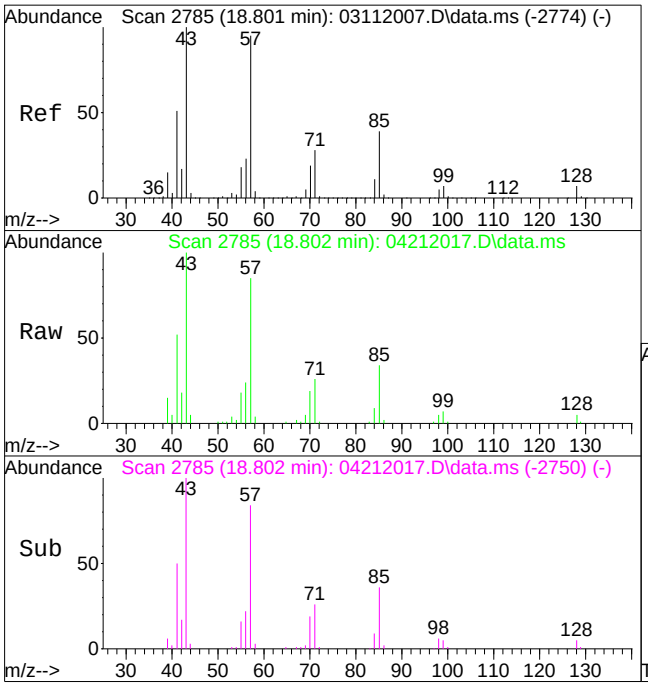


#70
o-Xylene
Concen: 0.41 ng
RT: 18.60 min Scan# 2748
Delta R.T. -0.011 min
Lab File: 04212017.D
Acq: 21 Apr 2020 18:39

Tgt Ion: 91 Resp: 53092

Ion	Ratio	Lower	Upper
91	100		
106	46.4	28.1	68.1

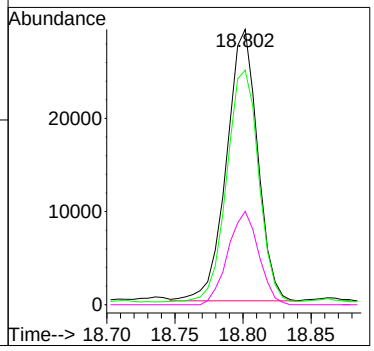


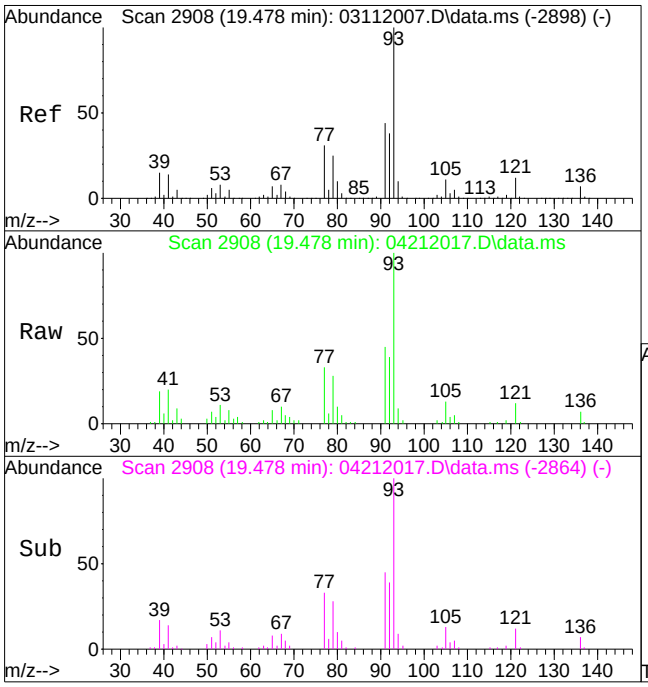


#71
n-Nonane
Concen: 0.72 ng
RT: 18.80 min Scan# 2785
Delta R.T. -0.005 min
Lab File: 04212017.D
Acq: 21 Apr 2020 18:39

Tgt Ion: 43 Resp: 46309

Ion	Ratio	Lower	Upper
43	100		
57	87.8	73.6	113.6
85	33.9	18.7	58.7

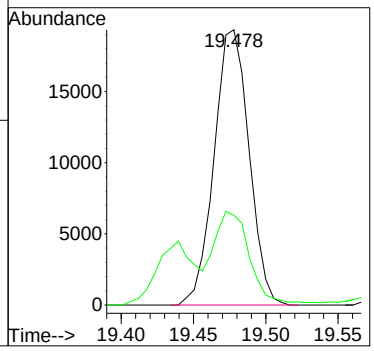


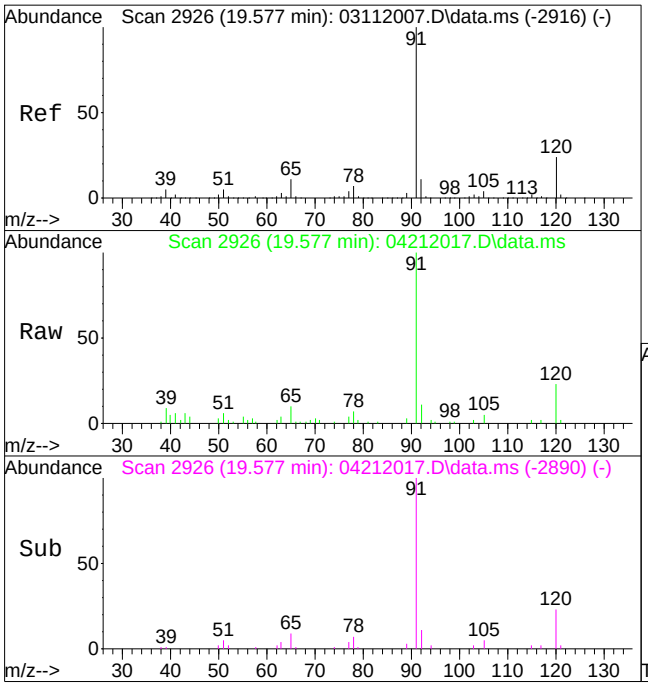


#75
alpha-Pinene
Concen: 0.39 ng
RT: 19.48 min Scan# 2908
Delta R.T. -0.005 min
Lab File: 04212017.D
Acq: 21 Apr 2020 18:39

Tgt Ion: 93 Resp: 32494

Ion	Ratio	Lower	Upper
93	100		
77	35.2	11.1	51.1

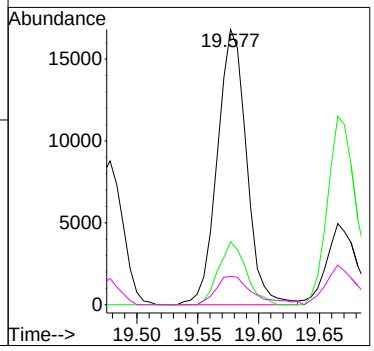


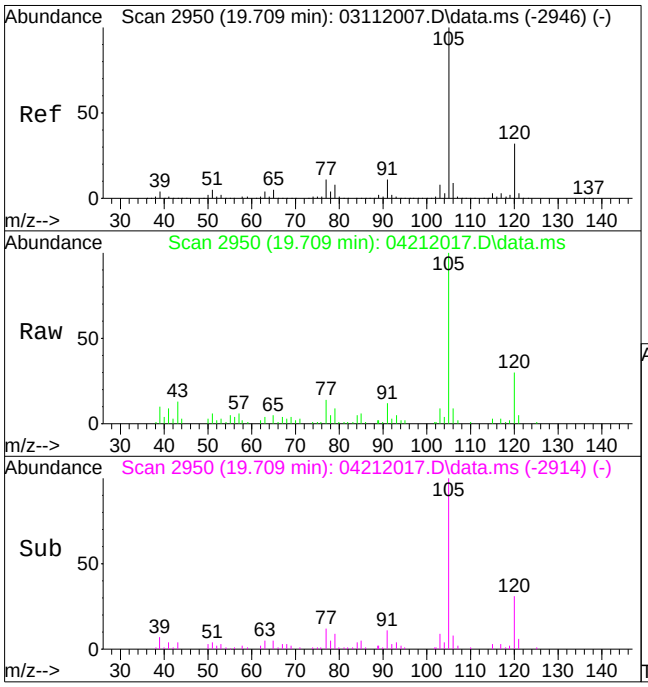


#76
n-Propylbenzene
Concen: 0.15 ng
RT: 19.58 min Scan# 2926
Delta R.T. -0.000 min
Lab File: 04212017.D
Acq: 21 Apr 2020 18:39

Tgt Ion: 91 Resp: 28010

Ion	Ratio	Lower	Upper
91	100		
120	21.7	3.9	43.9
65	13.0	0.0	30.5

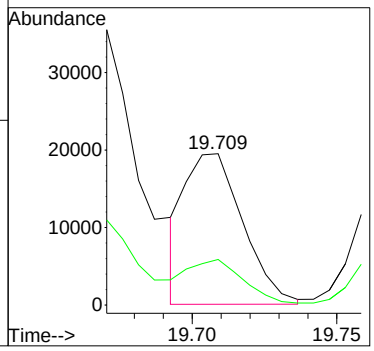


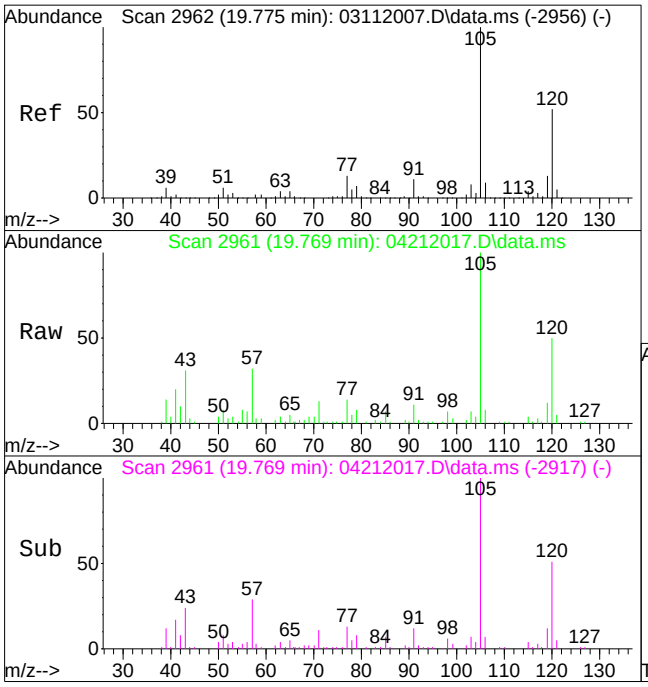


#78
4-Ethyltoluene
Concen: 0.17 ng
RT: 19.71 min Scan# 2950
Delta R.T. -0.000 min
Lab File: 04212017.D
Acq: 21 Apr 2020 18:39

Tgt Ion:105 Resp: 27136

Ion	Ratio	Lower	Upper
105	100		
120	30.3	11.1	51.1

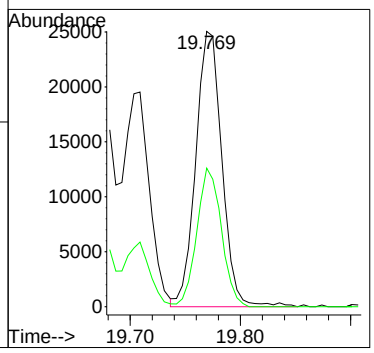


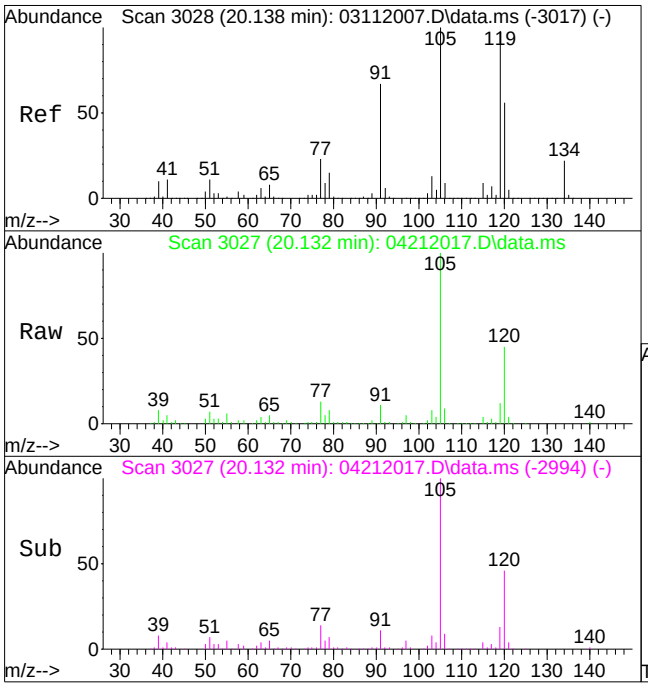


#79
1,3,5-Trimethylbenzene
Concen: 0.30 ng
RT: 19.77 min Scan# 2961
Delta R.T. -0.006 min
Lab File: 04212017.D
Acq: 21 Apr 2020 18:39

Tgt Ion:105 Resp: 41255

Ion	Ratio	Lower	Upper
105	100		
120	47.1	31.3	71.3

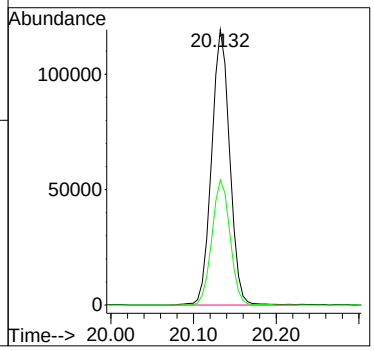


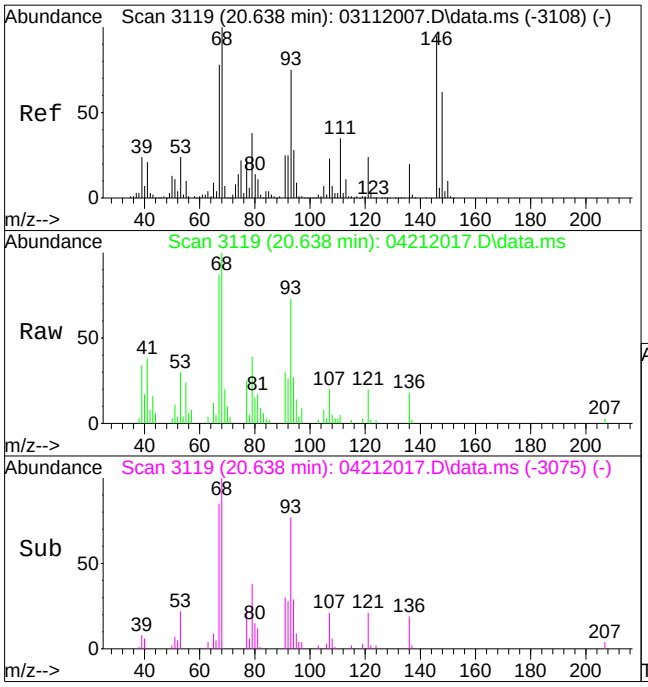


#82
1,2,4-Trimethylbenzene
Concen: 1.27 ng
RT: 20.13 min Scan# 3027
Delta R.T. -0.017 min
Lab File: 04212017.D
Acq: 21 Apr 2020 18:39

Tgt Ion:105 Resp: 181796

Ion	Ratio	Lower	Upper
105	100		
120	45.5	35.8	75.8

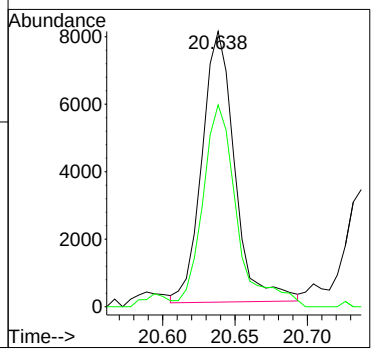


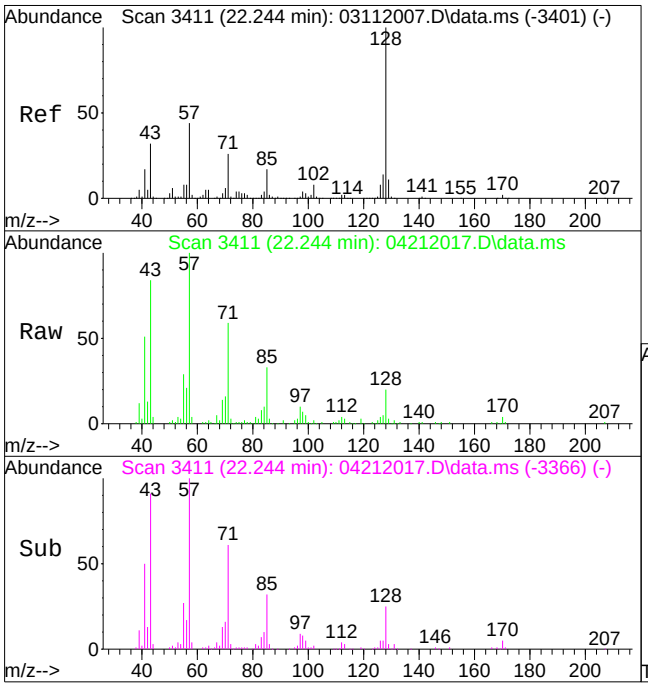


#91
d-Limonene
Concen: 0.23 ng
RT: 20.64 min Scan# 3119
Delta R.T. -0.011 min
Lab File: 04212017.D
Acq: 21 Apr 2020 18:39

Tgt Ion: 68 Resp: 12656

Ion	Ratio	Lower	Upper
68	100		
93	77.1	54.7	94.7

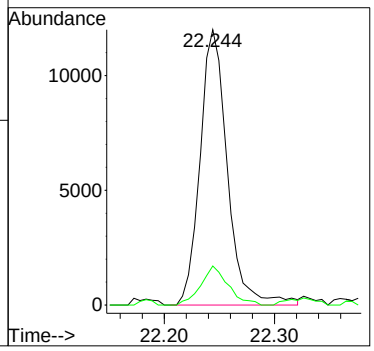




#95
Naphthalene
Concen: 0.13 ng
RT: 22.24 min Scan# 3411
Delta R.T. -0.005 min
Lab File: 04212017.D
Acq: 21 Apr 2020 18:39

Tgt Ion:128 Resp: 20699

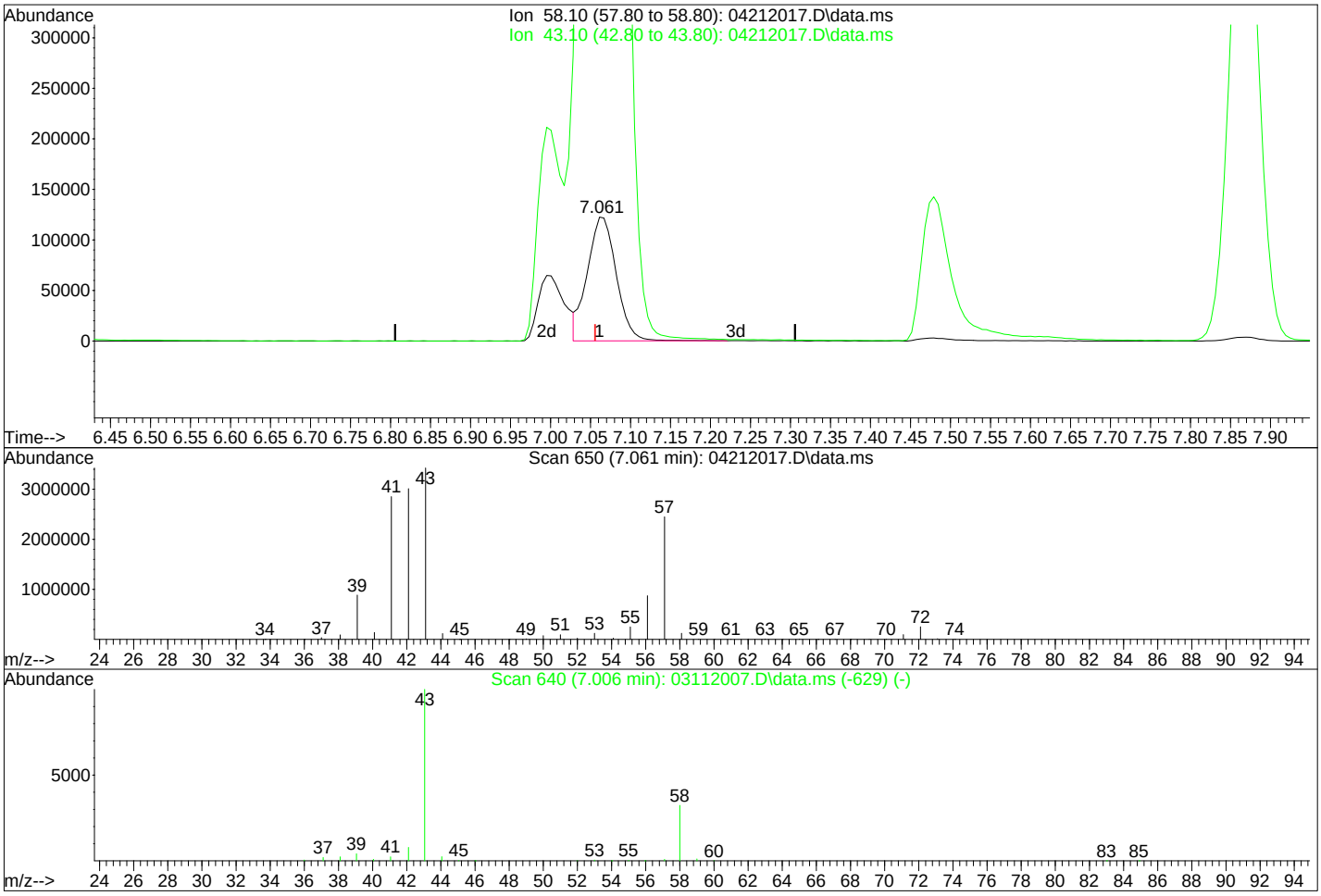
Ion	Ratio	Lower	Upper
128	100		
129	14.2	0.0	31.1



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\21\04212017.D Vial: 5
Acq On : 21 Apr 2020 18:39 Operator: WA
Sample : P2002031-017dup (160mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 03:15:07 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04212017.D\data.ms

(13) Acetone (T)

7.061min (+0.005) 12.18ng

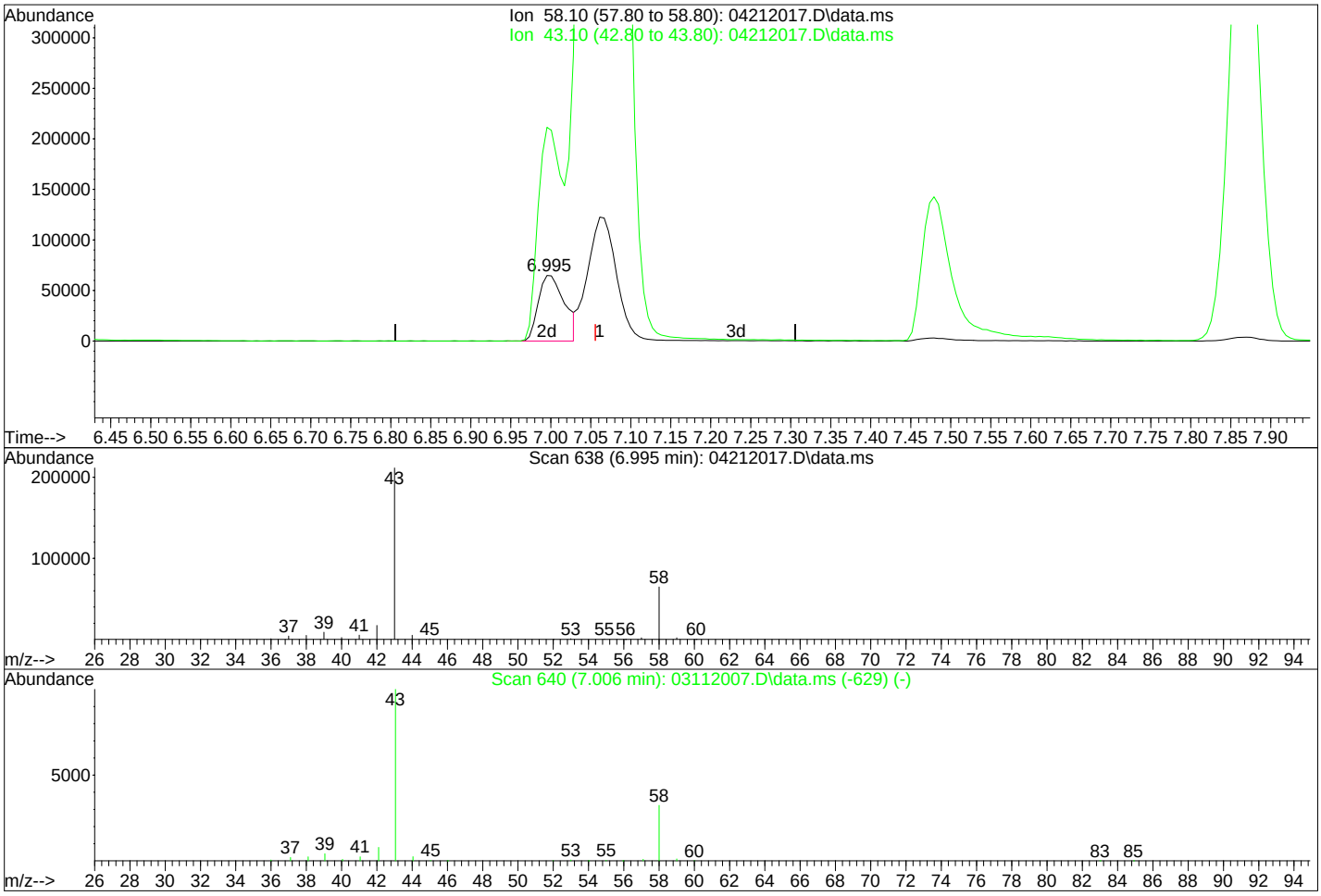
response 307188

Ion	Exp%	Act%
58.10	100	100
43.10	317.30	2782.91#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\21\04212017.D Vial: 5
Acq On : 21 Apr 2020 18:39 Operator: WA
Sample : P2002031-017dup (160mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 03:15:07 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04212017.D\data.ms

(13) Acetone (T)

6.995min (-0.061) 5.84ng m

response 147197

Ion	Exp%	Act%
58.10	100	100
43.10	317.30	5807.70#
0.00	0.00	0.00
0.00	0.00	0.00

WP

LH 4/22/20

4/23/20

Response Factor Report GCMS-16

Method Path : I:\MS16\METHODS\
Method File : R16031120.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Mar 11 10:42:05 2020
Response Via : Initial Calibration

LH 3/11/20

Calibration Files
0.1 =03112002.D 0.2 =03112003.D 0.5 =03112004.D 1.0 =03112005.D 5.0 =03112006.D 25 =03112
100 =03112009.D

		Compound	0.1	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------			ISTD	----------					
2)	T	Propene	1.484	1.302	1.317	1.227	1.437	1.254	1.320	1.147	1.311	8.32
3)	T	Dichlorodifluo...	3.312	2.974	3.197	2.868	2.801	2.658	2.501	2.254	2.821	12.42
4)	T	Chloromethane	2.766	2.486	2.617	2.409	2.072	2.149	1.957	1.361	2.227	20.05
5)	T	1,2-Dichloro-1...	2.087	1.848	1.942	1.791	1.754	1.694	1.649	1.607	1.796	8.88
6)	T	Vinyl Chloride	2.581	2.415	2.582	2.394	2.357	2.248	2.160	2.069	2.351	7.86
7)	T	1,3-Butadiene	1.731	1.774	1.731	1.783	1.791	1.445	1.708	1.660	1.703	6.63
8)	T	Bromomethane	1.312	1.126	1.231	1.136	1.109	1.139	1.178	1.190	1.178	5.70
9)	T	Chloroethane	1.027	0.877	0.949	0.879	0.853	0.867	0.878	0.887	0.902	6.41
10)	T	Ethanol	1.336	1.017	0.987	0.910	0.929	1.005	1.058	1.046	1.036	12.73
11)	T	Acetonitrile	2.985	2.385	2.317	2.132	2.155	2.110	2.109	2.042	2.279	13.49
12)	T	Acrolein	0.742	0.697	0.781	0.723	0.776	0.804	0.806	0.770	0.762	5.05
13)	T	Acetone	1.084	0.936	0.961	0.904	0.948	1.096	1.138	1.113	1.023	9.15
14)	T	Trichlorofluor...	2.643	2.472	2.635	2.414	2.412	2.465	2.434	2.421	2.487	3.88
15)	T	2-Propanol (Is...	3.445	2.983	3.234	3.064	2.717	3.293	2.967	2.557	3.033	9.75
16)	T	Acrylonitrile	1.236	1.318	1.523	1.527	1.622	1.703	1.693	1.654	1.534	11.33
17)	T	1,1-Dichloroet...	1.216	1.148	1.286	1.172	1.196	1.259	1.267	1.297	1.230	4.50
18)	T	2-Methyl-2-Pro...	3.082	2.861	3.144	2.953	2.636	3.323	2.587	1.185	2.721	24.57
19)	T	Methylene Chlo...	1.393	1.290	1.345	1.250	1.286	1.366	1.358	1.356	1.330	3.68
20)	T	3-Chloro-1-pro...	1.835	1.602	1.748	1.648	1.638	1.800	1.773	1.746	1.724	4.88
21)	T	Trichlorotrifl...	1.319	1.142	1.223	1.121	1.111	1.171	1.183	1.246	1.189	5.90
22)	T	Carbon Disulfide	5.167	4.610	4.865	4.604	4.601	4.942	4.834	4.656	4.785	4.28
23)	T	trans-1,2-Dich...	1.668	1.663	1.842	1.771	1.782	1.854	1.844	1.858	1.785	4.51
24)	T	1,1-Dichloroet...	2.451	2.234	2.370	2.236	2.226	2.286	2.223	2.202	2.278	3.85
25)	T	Methyl tert-Bu...	4.103	3.758	4.015	3.718	3.660	3.737	3.495	3.018	3.688	9.01
26)	T	Vinyl Acetate			0.274	0.271	0.305	0.409	0.435	0.412	0.351	21.56
27)	T	2-Butanone (MEK)	0.688	0.692	0.835	0.819	0.887	0.984	0.961	0.944	0.851	13.55
28)	T	cis-1,2-Dichlo...	2.026	1.746	1.922	1.770	1.803	1.880	1.848	1.846	1.855	4.84
29)	T	Diisopropyl Ether	1.390	1.199	1.373	1.249	1.344	1.426	1.526	1.353	1.357	7.45
30)	T	Ethyl Acetate	0.404	0.382	0.446	0.455	0.493	0.622	0.657	0.567	0.503	20.16
31)	T	n-Hexane	2.432	2.073	2.248	2.068	2.186	2.599	2.698	2.351	2.332	10.00
32)	T	Chloroform	2.556	2.409	2.583	2.408	2.438	2.536	2.500	2.425	2.482	2.84
33)	S	1,2-Dichloroet...	1.826	1.819	1.808	1.793	1.747	1.676	1.639	1.538	1.731	5.99
34)	T	Tetrahydrofura...	0.966	0.833	0.871	0.818	0.853	0.893	0.889	0.885	0.876	5.18
35)	T	Ethyl tert-But...	1.615	1.426	1.538	1.444	1.511	1.660	1.716	1.772	1.585	7.96
36)	T	1,2-Dichloroet...	2.197	1.920	1.993	1.859	1.883	1.925	1.882	1.830	1.936	6.01
37)	IR	1,4-Difluorobenzen...	----------			ISTD	----------					
38)	T	1,1,1-Trichlor...	0.516	0.450	0.502	0.458	0.473	0.507	0.507	0.511	0.491	5.30
39)	T	Isopropyl Acetate	0.177	0.165	0.182	0.168	0.193	0.240	0.252	0.247	0.203	18.23
40)	T	1-Butanol	0.273	0.256	0.255	0.264	0.323	0.398	0.425	0.405	0.325	22.66
41)	T	Benzene	1.300	1.174	1.231	1.155	1.222	1.396	1.462	1.400	1.293	8.91
42)	T	Carbon Tetrach...	0.434	0.393	0.435	0.402	0.431	0.476	0.483	0.496	0.444	8.51
43)	T	Cyclohexane	0.485	0.436	0.479	0.442	0.467	0.538	0.571	0.553	0.496	10.31
44)	T	tert-Amyl Meth...	0.827	0.747	0.803	0.752	0.801	0.905	0.931	0.923	0.836	8.88
45)	T	1,2-Dichloropr...	0.311	0.286	0.296	0.274	0.287	0.304	0.304	0.303	0.296	4.18
46)	T	Bromodichlorom...	0.417	0.384	0.432	0.398	0.426	0.475	0.483	0.480	0.437	8.75
47)	T	Trichloroethene	0.500	0.365	0.336	0.302	0.311	0.351	0.370	0.396	0.366	16.97
48)	T	1,4-Dioxane	0.231	0.209	0.238	0.223	0.236	0.273	0.287	0.303	0.250	13.41
49)	T	2,2,4-Trimethy...	1.323	1.153	1.245	1.138	1.186	1.269	1.281	1.231	1.228	5.26
50)	T	Methyl Methacr...	0.097	0.091	0.110	0.108	0.122	0.151	0.159	0.161	0.125	22.71
51)	T	n-Heptane	0.297	0.278	0.290	0.269	0.289	0.319	0.330	0.342	0.302	8.54
52)	T	cis-1,3-Dichlo...	0.412	0.375	0.433	0.423	0.481	0.552	0.569	0.572	0.477	16.37
53)	T	4-Methyl-2-pen...	0.230	0.222	0.254	0.253	0.299	0.309	0.314	0.318	0.271	14.17
54)	T	trans-1,3-Dich...			0.360	0.370	0.430	0.492	0.502	0.506	0.443	15.04

55)	T	1,1,2-Trichlor...	0.300	0.278	0.289	0.280	0.286	0.314	0.319	0.323	0.298	6.01
56)	IR	Chlorobenzene-d5 (...	----------ISTD----------									
57)	S	Toluene-d8 (SS2)	2.224	2.231	2.228	2.206	2.233	2.208	2.210	2.186	2.216	0.72
58)	T	Toluene	3.188	2.597	2.661	2.468	2.577	2.844	2.838	2.744	2.739	8.14
59)	T	2-Hexanone	1.344	1.187	1.308	1.219	1.376	1.518	1.500	1.515	1.371	9.58
60)	T	Dibromochlorom...	0.607	0.586	0.655	0.644	0.731	0.836	0.866	0.909	0.729	17.23
61)	T	1,2-Dibromoethane	0.642	0.600	0.651	0.643	0.702	0.773	0.789	0.809	0.701	11.35
62)	T	n-Butyl Acetate	1.326	1.218	1.335	1.334	1.502	1.678	1.664	1.671	1.466	12.70
63)	T	n-Octane	0.570	0.489	0.521	0.487	0.514	0.566	0.582	0.620	0.544	8.83
64)	T	Tetrachloroethene	0.748	0.691	0.722	0.660	0.702	0.799	0.853	0.931	0.763	12.04
65)	T	Chlorobenzene	1.793	1.598	1.697	1.605	1.687	1.897	2.447	2.020	1.843	15.40
66)	T	Ethylbenzene	3.073	2.711	2.899	2.705	2.950	3.381	3.368	2.958	3.006	8.62
67)	T	m- & p-Xylenes	2.543	2.158	2.327	2.182	2.402	2.780	2.800	2.363	2.444	10.05
68)	T	Bromoform			0.478	0.490	0.595	0.762	0.797	0.828	0.659	23.88
69)	T	Styrene			1.609	1.553	1.828	2.191	2.185	2.138	1.917	15.31
70)	T	o-Xylene	2.371	2.166	2.324	2.165	2.398	2.762	2.780	2.586	2.444	9.91
71)	T	n-Nonane	1.219	1.101	1.183	1.119	1.196	1.313	1.340	1.306	1.222	7.38
72)	T	1,1,2,2-Tetrac...	1.059	1.027	1.114	1.050	1.180	1.319	1.321	1.325	1.174	11.11
73)	S	Bromofluoroben...	0.743	0.748	0.753	0.751	0.780	0.795	0.841	0.849	0.782	5.43
74)	T	Cumene			2.982	2.731	3.023	3.494	3.484	2.830	3.091	10.54
75)	T	alpha-Pinene	1.350	1.301	1.396	1.346	1.551	1.833	1.894	1.856	1.566	16.32
76)	T	n-Propylbenzene			3.518	3.281	3.690	4.174	4.031	2.964	3.610	12.61
77)	T	3-Ethyltoluene			2.831	2.679	3.086	3.503	3.406	2.897	3.067	10.72
78)	T	4-Ethyltoluene			2.643	2.493	2.900	3.445	3.493	2.637	2.935	14.78
79)	T	1,3,5-Trimethy...			2.423	2.203	2.569	2.947	2.972	2.561	2.613	11.48
80)	T	alpha-Methylst...			1.108	1.104	1.371	1.652	1.683	1.649	1.428	19.16
81)	T	2-Ethyltoluene			2.809	2.635	3.049	3.457	3.421	2.796	3.028	11.40
82)	T	1,2,4-Trimethy...			2.362	2.209	2.683	3.339	3.250	2.397	2.707	17.77
83)	T	n-Decane	1.136	1.085	1.203	1.134	1.314	1.500	1.577	1.515	1.308	15.07
84)	T	Benzyl Chloride				1.161	1.874	2.432	2.608	2.413	2.098	28.19
85)	T	1,3-Dichlorobe...	1.181	1.158	1.267	1.203	1.458	1.772	1.813	1.766	1.452	19.94
86)	T	1,4-Dichlorobe...	1.266	1.183	1.289	1.216	1.450	1.719	1.723	1.693	1.442	16.40
87)	T	sec-Butylbenzene			3.138	3.009	3.510	3.921	3.800	2.818	3.366	13.26
88)	T	4-Isopropyltol...			2.848	2.695	3.352	4.073	3.754	2.590	3.218	18.86
89)	T	1,2,3-Trimethy...			2.353	2.258	2.755	3.372	3.240	2.323	2.717	18.05
90)	T	1,2-Dichlorobe...			1.215	1.180	1.427	1.763	1.807	1.513	1.484	17.88
91)	T	d-Limonene			0.841	0.845	1.040	1.224	1.274	1.057	1.047	17.42
92)	T	1,2-Dibromo-3-...			0.383	0.385	0.494	0.560	0.572	0.595	0.498	18.98
93)	T	n-Undecane			1.124	1.103	1.293	1.504	1.576	1.496	1.349	15.23
94)	T	1,2,4-Trichlor...			0.701	0.705	0.833	0.871	1.001	1.078	0.865	17.72
95)	T	Naphthalene			2.445	2.470	3.115	3.634	3.705	2.796	3.027	18.33
96)	T	n-Dodecane			1.008	1.033	1.294	1.619	1.716	1.375	1.341	21.78
97)	T	Hexachlorobuta...			0.525	0.508	0.590	0.723	0.865	0.927	0.690	25.74
98)	T	Cyclohexanone	1.010	0.820	0.842	0.804	0.915	1.059	1.051	1.079	0.948	12.20
99)	T	tert-Butylbenzene			2.327	2.182	2.625	3.293	3.145	2.351	2.654	17.44
100)	T	n-Butylbenzene			2.541	2.386	2.836	3.070	3.019	2.471	2.721	10.79

(#) = Out of Range

R16031120.M Wed Mar 11 14:09:31 2020

Primary Source Standards Concentrations (Working & Initial Calibration)

LH 3/13/20

1ng/L Std. ID:
4ng/L Std. ID: S34-03102004
20ng/L Std. ID: S34-03102003
40ng/L Std. ID:
200ng/L Std. ID: S34-03102002
1000ng/L Std. ID:

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	4	20	200	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.1250	0.050	0.025	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
Propene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Dichlorodifluoromethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Chloromethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Freon-114	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Vinyl Chloride	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3-Butadiene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Bromomethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Chloroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Ethanol	5.21	5210	1042	208.4	104.2	20.84	5.21		0.521	1.042	2.605	5.21	26.05	130.25	260.5	521
Acetonitrile	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Acrolein	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Acetone	5.33	5330	1066	213.2	106.6	21.32	5.33		0.533	1.066	2.665	5.33	26.65	133.25	266.5	533
Trichlorofluoromethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Isopropanol	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
Acrylonitrile	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,1-Dichloroethene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
tert-Butanol	2.16	2160	432	86.4	43.2	8.64	2.16		0.216	0.432	1.080	2.16	10.80	54.00	108.0	216
Methylene Chloride	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Allyl Chloride	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Dichlorotrifluoroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Carbon Disulfide	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
trans-1,2-Dichloroethene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1-Dichloroethane	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
Methyl tert-Butyl Ether	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Vinyl Acetate	5.35	5350	1070	214.0	107.0	21.40	5.35		0.535	1.070	2.675	5.35	26.75	133.75	267.5	535
2-Butanone	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
cis-1,2-Dichloroethene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Diisopropyl Ether	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Ethyl Acetate	2.17	2170	434	86.8	43.4	8.68	2.17		0.217	0.434	1.085	2.17	10.85	54.25	108.5	217
n-Hexane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Chloroform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Tetrahydrofuran	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
Ethyl tert-Butyl Ether	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dichloroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1,1-Trichloroethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Isopropyl Acetate	2.11	2110	422	84.4	42.2	8.44	2.11		0.211	0.422	1.055	2.11	10.55	52.75	105.5	211
1-Butanol	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
Benzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Carbon Tetrachloride	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Cyclohexane	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
tert-Amyl Methyl Ether	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dichloropropane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Bromodichloromethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Trichloroethene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,4-Dioxane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Isooctane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Methyl Methacrylate	2.15	2150	430	86.0	43.0	8.60	2.15		0.215	0.430	1.075	2.15	10.75	53.75	107.5	215
n-Heptane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108

Primary Source Standards Concentrations (Working & Initial Calibration)

LH 3/13/20

1ng/L Std. ID:
4ng/L Std. ID: S34-03102004
20ng/L Std. ID: S34-03102003
40ng/L Std. ID:
200ng/L Std. ID: S34-03102002
1000ng/L Std. ID:

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	4	20	200	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.1250	0.050	0.025	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
cis-1,3-Dichloropropene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
4-Methyl-2-pentanone	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
trans-1,3-Dichloropropene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1,2-Trichloroethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Toluene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
2-Hexanone	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Dibromochloromethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,2-Dibromoethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Butyl Acetate	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
n-Octane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Tetrachloroethene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Chlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Ethylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
m-&p-Xylene	2.14	2140	428	85.6	42.8	8.56	2.14		0.214	0.428	1.070	2.14	10.70	53.50	107.0	214
Bromoform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Styrene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
o-Xylene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Nonane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,1,2,2-Tetrachloroethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Cumene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
alpha-Pinene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Propylbenzene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
3-Ethyltoluene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
4-Ethyltoluene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3,5-Trimethylbenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
alpha-Methylstyrene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
2-Ethyltoluene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2,4-Trimethylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Decane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Benzyl Chloride	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3-Dichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,4-Dichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
sec-Butylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
p-Isopropyltoluene	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
1,2,3-Trimethylbenzene	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
1,2-Dichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
d-Limonene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dibromo-3-chloropropane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
n-Undecane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2,4-Trichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Naphthalene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
n-Dodecane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Hexachloro-1,3-butadiene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Methacrylonitrile	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Cyclohexanone	1.00	1000	200	40.0	20.0	4.00	1.00		0.100	0.200	0.500	1.00	5.00	25.00	50.0	100
tert-Butylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Butylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107

Q:\TO15 Std. Concentrations\MS16 Std. Conc\2020\R16031120\ICAL Conc. (Primary Source)

Calibration Status Report GCMS-16

Method : I:\MS16\METHODS\R16031120.M (RTE Integrator)
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	0.1	0	13	I:\MS16\DATA\2020_03\11\03112002.D
2	0.2	0	13	I:\MS16\DATA\2020_03\11\03112003.D
3	0.5	1	13	I:\MS16\DATA\2020_03\11\03112004.D
4	1.0	1	13	I:\MS16\DATA\2020_03\11\03112005.D
5	5.0	5	13	I:\MS16\DATA\2020_03\11\03112006.D
6	25	27	13	I:\MS16\DATA\2020_03\11\03112007.D
7	50	53	13	I:\MS16\DATA\2020_03\11\03112008.D
8	100	106	13	I:\MS16\DATA\2020_03\11\03112009.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.1	Mar 11 10:40 2020	Mar 11 10:34 2020	11 Mar 2020 00:59
2	0.2	Mar 11 10:40 2020	Mar 11 10:34 2020	11 Mar 2020 1:32
3	0.5	Mar 11 10:41 2020	Mar 11 10:34 2020	11 Mar 2020 2:05
4	1.0	Mar 11 10:41 2020	Mar 11 10:34 2020	11 Mar 2020 2:38
5	5.0	Mar 11 10:41 2020	Mar 11 10:34 2020	11 Mar 2020 3:12
6	25	Mar 11 10:41 2020	Mar 11 10:34 2020	11 Mar 2020 3:45
7	50	Mar 11 10:41 2020	Mar 11 10:34 2020	11 Mar 2020 4:18
8	100	Mar 11 10:42 2020	Mar 11 10:34 2020	11 Mar 2020 4:52

R16031120.M Wed Mar 11 14:10:31 2020

LH 3/11/20

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112002.D
Acq On : 11 Mar 2020 00:59 Operator: LH
Sample : 0.1ng TO15 ICAL STD
Misc : S31-02112001/S34-03102004 (4/8)
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 11 10:34:43 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 3/11/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	256423	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.29	114	1153081	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.61	82	557196	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.01	65	468187	13.481	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.84%				
57) Toluene-d8 (SS2)	15.74	98	1238985	12.458	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.68%				
73) Bromofluorobenzene (SS3)	19.00	174	413930	11.789	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.32%				
Target Compounds							Qvalue
2) Propene	4.15	42	3227	0.114	ng		96
3) Dichlorodifluoromethan...	4.30	85	7202	0.124	ng		99
4) Chloromethane	4.58	50	6014	0.130	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.83	135	4495	0.123	ng		94
6) Vinyl Chloride	4.99	62	5719	0.116	ng		98
7) 1,3-Butadiene	5.25	54	3763	0.104	ng		89
8) Bromomethane	5.68	94	2906	0.119	ng		97
9) Chloroethane	6.02	64	2275	0.122	ng		87
10) Ethanol	6.34	45	14284	0.701	ng		94
11) Acetonitrile	6.63	41	6430	0.140	ng		75
12) Acrolein	6.82	56	1568	0.102	ng		98
13) Acetone	7.03	58	11847	0.542	ng	#	77
14) Trichlorofluoromethane	7.27	101	5747	0.112	ng		99
15) 2-Propanol (Isopropanol)	7.54	45	14841	0.238	ng		84
16) Acrylonitrile	7.79	53	2662	0.082	ng		97
17) 1,1-Dichloroethene	8.23	96	2694	0.105	ng	#	82
18) 2-Methyl-2-Propanol (t...	8.44	59	13657	0.249	ng		90
19) Methylene Chloride	8.44	84	3029	0.110	ng		88
20) 3-Chloro-1-propene (Al...	8.61	41	4066	0.112	ng		87
21) Trichlorotrifluoroethane	8.86	151	2922	0.119	ng		97
22) Carbon Disulfide	8.72	76	11342	0.112	ng		95
23) trans-1,2-Dichloroethene	9.72	61	3696	0.099	ng		96
24) 1,1-Dichloroethane	9.96	63	5480	0.116	ng		100
25) Methyl tert-Butyl Ether	10.11	73	9090	0.118	ng		99
26) Vinyl Acetate	10.23	86	2373	0.418	ng	#	23
27) 2-Butanone (MEK)	10.51	72	1495	0.084	ng	#	59
28) cis-1,2-Dichloroethene	10.99	61	4405	0.116	ng		97
29) Diisopropyl Ether	11.31	87	3079	0.107	ng	#	90
30) Ethyl Acetate	11.31	61	1797	0.168	ng		91
31) n-Hexane	11.28	57	5388	0.111	ng		97
32) Chloroform	11.33	83	5610	0.112	ng		98
34) Tetrahydrofuran (THF)	11.78	72	2160	0.119	ng	#	85
35) Ethyl tert-Butyl Ether	11.91	87	3579	0.110	ng		99
36) 1,2-Dichloroethane	12.13	62	4868	0.125	ng		96
38) 1,1,1-Trichloroethane	12.41	97	5097	0.115	ng		98
39) Isopropyl Acetate	12.87	61	3445	0.184	ng	#	64
40) 1-Butanol	12.91	56	5234	0.219	ng		91
41) Benzene	12.90	78	12713	0.108	ng		99
42) Carbon Tetrachloride	13.06	117	4204	0.102	ng		99
43) Cyclohexane	13.19	84	9486	0.207	ng		97
44) tert-Amyl Methyl Ether	13.55	73	8242	0.105	ng		88
45) 1,2-Dichloropropane	13.75	63	3100	0.113	ng		98
46) Bromodichloromethane	13.93	83	4151	0.103	ng		91
47) Trichloroethene	14.00	130	4931	0.159	ng		97
48) 1,4-Dioxane	14.00	88	2301	0.097	ng		91
49) 2,2,4-Trimethylpentane...	14.07	57	13059	0.115	ng		89

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112002.D
Acq On : 11 Mar 2020 00:59 Operator: LH
Sample : 0.1ng TO15 ICAL STD
Misc : S31-02112001/S34-03102004 (4/8)
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 11 10:34:43 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

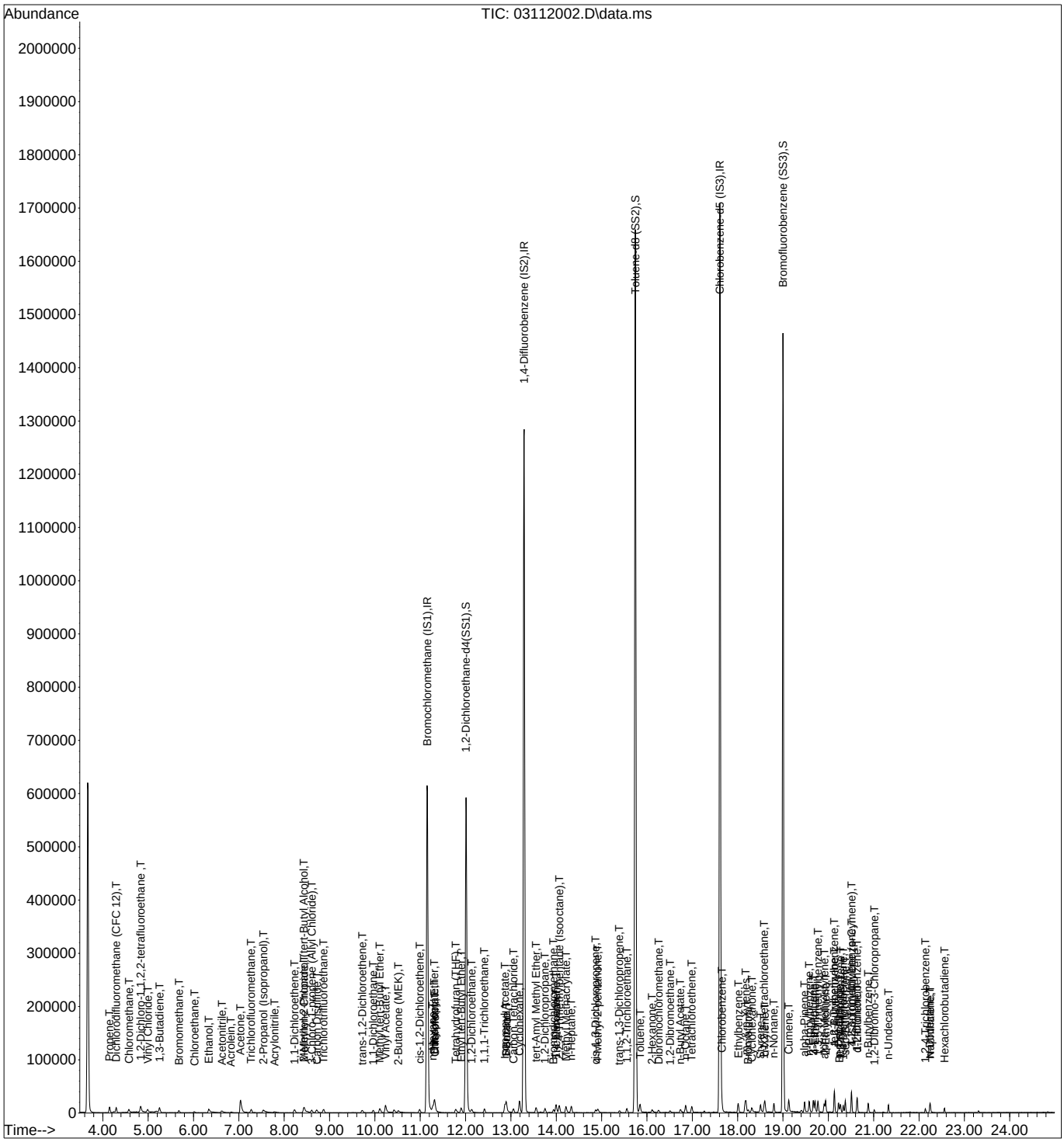
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
50) Methyl Methacrylate	14.22	100	1926	0.166	ng	#	79
51) n-Heptane	14.33	71	2960	0.106	ng		91
52) cis-1,3-Dichloropropene	14.87	75	3951	0.089	ng		98
53) 4-Methyl-2-pentanone	14.91	58	2251	0.089	ng	#	39
54) trans-1,3-Dichloropropene	15.39	75	2694	0.072	ng		98
55) 1,1,2-Trichloroethane	15.56	97	2957	0.107	ng		98
58) Toluene	15.85	91	15204	0.128	ng		92
59) 2-Hexanone	16.11	43	6411	0.109	ng		82
60) Dibromochloromethane	16.26	129	2896	0.087	ng		98
61) 1,2-Dibromoethane	16.51	107	3061	0.098	ng		92
62) n-Butyl Acetate	16.73	43	6445	0.099	ng		92
63) n-Octane	16.85	57	2743	0.114	ng		88
64) Tetrachloroethene	16.99	166	3469	0.102	ng		100
65) Chlorobenzene	17.65	112	8554	0.104	ng		91
66) Ethylbenzene	18.02	91	14658	0.112	ng		97
67) m- & p-Xylenes	18.18	91	24259	0.234	ng		91
68) Bromoform	18.23	173	2174	0.077	ng		99
69) Styrene	18.50	104	7283	0.095	ng		95
70) o-Xylene	18.60	91	11310	0.107	ng		98
71) n-Nonane	18.80	43	5813	0.107	ng		93
72) 1,1,2,2-Tetrachloroethane	18.58	83	5053	0.096	ng		94
74) Cumene	19.13	105	14205	0.108	ng		93
75) alpha-Pinene	19.48	93	6441	0.095	ng	#	59
76) n-Propylbenzene	19.58	91	17060	0.112	ng		99
77) 3-Ethyltoluene	19.67	105	13172	0.104	ng		98
78) 4-Ethyltoluene	19.71	105	12527	0.102	ng		97
79) 1,3,5-Trimethylbenzene	19.77	105	10857	0.100	ng		96
80) alpha-Methylstyrene	19.91	118	4616	0.086	ng		86
81) 2-Ethyltoluene	19.94	105	13003	0.103	ng		98
82) 1,2,4-Trimethylbenzene	20.13	105	11799	0.106	ng		91
83) n-Decane	20.23	57	5420	0.095	ng		93
84) Benzyl Chloride	20.25	91	4881	0.071	ng		81
85) 1,3-Dichlorobenzene	20.27	146	5633	0.088	ng		97
86) 1,4-Dichlorobenzene	20.33	146	6038	0.098	ng		98
87) sec-Butylbenzene	20.37	105	14623	0.103	ng		95
88) 4-Isopropyltoluene (p-...	20.51	119	12617	0.095	ng		92
89) 1,2,3-Trimethylbenzene	20.51	105	10649	0.095	ng		98
90) 1,2-Dichlorobenzene	20.63	146	5386	0.086	ng		98
91) d-Limonene	20.64	68	3716	0.090	ng		90
92) 1,2-Dibromo-3-Chloropr...	21.02	157	1237	0.058	ng	#	39
93) n-Undecane	21.33	57	4032	0.079	ng		95
94) 1,2,4-Trichlorobenzene	22.14	180	2790	0.059	ng		97
95) Naphthalene	22.25	128	10472	0.073	ng		95
96) n-Dodecane	22.24	57	2583	0.046	ng		93
97) Hexachlorobutadiene	22.56	225	1668	0.057	ng		98
98) Cyclohexanone	18.31	55	4503	0.115	ng	#	93
99) tert-Butylbenzene	20.13	119	11295	0.101	ng		99
100) n-Butylbenzene	20.88	91	10167	0.093	ng		94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112002.D
Acq On : 11 Mar 2020 00:59 Operator: LH
Sample : 0.1ng TO15 ICAL STD
Misc : S31-02112001/S34-03102004 (4/8)
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 11 10:34:43 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112003.D
Acq On : 11 Mar 2020 1:32 Operator: LH
Sample : 0.2ng TO15 ICAL STD
Misc : S31-02112001/S34-03102004 (4/8)
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 11 10:34:46 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 3/11/20
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	249384	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.29	114	1122523	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.61	82	545376	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	453537	13.428	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.44%				
57) Toluene-d8 (SS2)	15.74	98	1216540	12.497	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.00%				
73) Bromofluorobenzene (SS3)	19.00	174	407799	11.866	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.96%				
Target Compounds							Qvalue
2) Propene	4.15	42	5507	0.200	ng		96
3) Dichlorodifluoromethan...	4.30	85	12579	0.222	ng		98
4) Chloromethane	4.58	50	10516	0.233	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.83	135	7744	0.217	ng		97
6) Vinyl Chloride	4.99	62	10406	0.217	ng		99
7) 1,3-Butadiene	5.25	54	7505	0.213	ng		95
8) Bromomethane	5.68	94	4852	0.204	ng		99
9) Chloroethane	6.02	64	3780	0.208	ng		96
10) Ethanol	6.34	45	21141	1.067	ng		98
11) Acetonitrile	6.62	41	9992	0.224	ng		93
12) Acrolein	6.82	56	2866	0.192	ng		91
13) Acetone	7.03	58	19909	0.937	ng	#	80
14) Trichlorofluoromethane	7.28	101	10457	0.209	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	24992	0.412	ng		86
16) Acrylonitrile	7.78	53	5522	0.176	ng		97
17) 1,1-Dichloroethene	8.23	96	4945	0.198	ng		92
18) 2-Methyl-2-Propanol (t...	8.43	59	24656	0.461	ng		93
19) Methylene Chloride	8.43	84	5458	0.203	ng		95
20) 3-Chloro-1-propene (Al...	8.61	41	6905	0.196	ng		88
21) Trichlorotrifluoroethane	8.88	151	4920	0.205	ng		98
22) Carbon Disulfide	8.72	76	19683	0.199	ng		99
23) trans-1,2-Dichloroethene	9.72	61	7168	0.198	ng		94
24) 1,1-Dichloroethane	9.96	63	9716	0.211	ng		98
25) Methyl tert-Butyl Ether	10.10	73	16195	0.217	ng		99
26) Vinyl Acetate	10.24	86	4334	0.786	ng	#	18
27) 2-Butanone (MEK)	10.51	72	2928	0.169	ng	#	80
28) cis-1,2-Dichloroethene	10.99	61	7384	0.201	ng		98
29) Diisopropyl Ether	11.31	87	5165	0.185	ng	#	94
30) Ethyl Acetate	11.31	61	3304	0.318	ng		96
31) n-Hexane	11.28	57	8933	0.189	ng		96
32) Chloroform	11.33	83	10286	0.212	ng		96
34) Tetrahydrofuran (THF)	11.78	72	3622	0.206	ng		93
35) Ethyl tert-Butyl Ether	11.91	87	6143	0.194	ng		95
36) 1,2-Dichloroethane	12.14	62	8272	0.219	ng		99
38) 1,1,1-Trichloroethane	12.42	97	8643	0.200	ng		97
39) Isopropyl Acetate	12.86	61	6247	0.343	ng	#	77
40) 1-Butanol	12.90	56	9557	0.412	ng	#	77
41) Benzene	12.90	78	22360	0.196	ng		99
42) Carbon Tetrachloride	13.06	117	7406	0.185	ng		99
43) Cyclohexane	13.19	84	16591	0.372	ng		96
44) tert-Amyl Methyl Ether	13.55	73	14491	0.190	ng		92
45) 1,2-Dichloropropane	13.75	63	5545	0.208	ng		96
46) Bromodichloromethane	13.95	83	7450	0.189	ng		99
47) Trichloroethene	14.00	130	7011	0.232	ng		99
48) 1,4-Dioxane	13.99	88	4052	0.176	ng		92
49) 2,2,4-Trimethylpentane...	14.07	57	22167	0.200	ng		94

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112003.D
Acq On : 11 Mar 2020 1:32 Operator: LH
Sample : 0.2ng TO15 ICAL STD
Misc : S31-02112001/S34-03102004 (4/8)
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 11 10:34:46 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

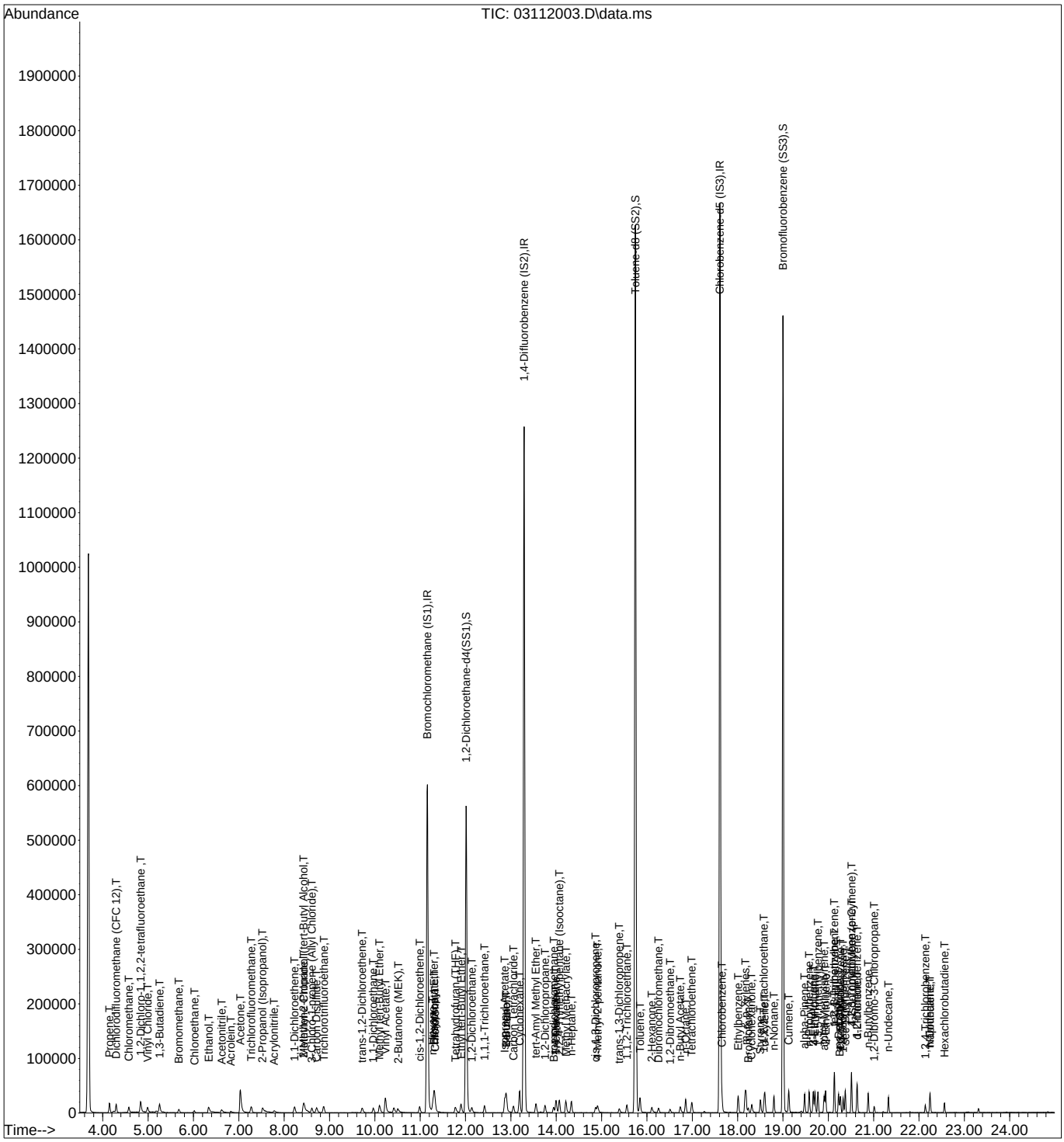
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
50) Methyl Methacrylate	14.22	100	3495	0.310 ng	#	75
51) n-Heptane	14.34	71	5388	0.198 ng		97
52) cis-1,3-Dichloropropene	14.87	75	6997	0.162 ng		98
53) 4-Methyl-2-pentanone	14.91	58	4222	0.172 ng	#	68
54) trans-1,3-Dichloropropene	15.39	75	5897	0.163 ng		96
55) 1,1,2-Trichloroethane	15.56	97	5337	0.199 ng		97
58) Toluene	15.85	91	24251	0.209 ng		96
59) 2-Hexanone	16.11	43	11087	0.193 ng		92
60) Dibromochloromethane	16.26	129	5472	0.168 ng		98
61) 1,2-Dibromoethane	16.51	107	5601	0.184 ng		99
62) n-Butyl Acetate	16.73	43	11589	0.182 ng		93
63) n-Octane	16.86	57	4604	0.195 ng		94
64) Tetrachloroethene	16.99	166	6268	0.189 ng		97
65) Chlorobenzene	17.65	112	14924	0.185 ng		99
66) Ethylbenzene	18.01	91	25310	0.198 ng		97
67) m- & p-Xylenes	18.17	91	40300	0.397 ng		96
68) Bromoform	18.24	173	4169	0.152 ng		96
69) Styrene	18.50	104	13038	0.173 ng		97
70) o-Xylene	18.60	91	20227	0.195 ng		94
71) n-Nonane	18.80	43	10276	0.193 ng		94
72) 1,1,2,2-Tetrachloroethane	18.58	83	9592	0.187 ng		95
74) Cumene	19.13	105	27547	0.213 ng		95
75) alpha-Pinene	19.48	93	12148	0.183 ng		87
76) n-Propylbenzene	19.58	91	30547	0.205 ng		97
77) 3-Ethyltoluene	19.67	105	24120	0.195 ng		97
78) 4-Ethyltoluene	19.70	105	23329	0.194 ng		98
79) 1,3,5-Trimethylbenzene	19.77	105	21310	0.200 ng		93
80) alpha-Methylstyrene	19.91	118	8867	0.168 ng		88
81) 2-Ethyltoluene	19.94	105	24804	0.200 ng		95
82) 1,2,4-Trimethylbenzene	20.13	105	19961	0.183 ng		96
83) n-Decane	20.23	57	10132	0.182 ng		96
84) Benzyl Chloride	20.25	91	8029	0.119 ng		90
85) 1,3-Dichlorobenzene	20.27	146	10812	0.173 ng		98
86) 1,4-Dichlorobenzene	20.32	146	11042	0.183 ng		100
87) sec-Butylbenzene	20.37	105	26898	0.193 ng		96
88) 4-Isopropyltoluene (p-...	20.51	119	23895	0.184 ng		94
89) 1,2,3-Trimethylbenzene	20.51	105	19484	0.178 ng		99
90) 1,2-Dichlorobenzene	20.63	146	9907	0.161 ng		98
91) d-Limonene	20.64	68	6944	0.172 ng		94
92) 1,2-Dibromo-3-Chloropr...	21.01	157	2830	0.136 ng	#	63
93) n-Undecane	21.33	57	7977	0.160 ng		95
94) 1,2,4-Trichlorobenzene	22.14	180	4672	0.101 ng		97
95) Naphthalene	22.24	128	17152	0.122 ng		97
96) n-Dodecane	22.24	57	5207	0.095 ng		95
97) Hexachlorobutadiene	22.56	225	3175	0.111 ng		98
98) Cyclohexanone	18.31	55	7157	0.186 ng		94
99) tert-Butylbenzene	20.13	119	20125	0.185 ng		99
100) n-Butylbenzene	20.88	91	19916	0.185 ng		94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112003.D
Acq On : 11 Mar 2020 1:32 Operator: LH
Sample : 0.2ng TO15 ICAL STD
Misc : S31-02112001/S34-03102004 (4/8)
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 11 10:34:46 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112004.D
Acq On : 11 Mar 2020 2:05 Operator: LH
Sample : 0.5ng TO15 ICAL STD
Misc : S31-02112001/S34-03102003 (4/8)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 11 10:34:48 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020 LH 3/11/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	250199	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.29	114	1119180	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.61	82	536851	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	452455	13.352	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.80%				
57) Toluene-d8 (SS2)	15.74	98	1195902	12.480	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.84%				
73) Bromofluorobenzene (SS3)	19.00	174	404242	11.950	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.60%				
Target Compounds							Qvalue
2) Propene	4.14	42	13970	0.506	ng		99
3) Dichlorodifluoromethan...	4.28	85	33913	0.597	ng		98
4) Chloromethane	4.56	50	27759	0.613	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	20406	0.570	ng		99
6) Vinyl Chloride	4.98	62	27909	0.580	ng		100
7) 1,3-Butadiene	5.24	54	18365	0.520	ng		95
8) Bromomethane	5.67	94	13307	0.557	ng		98
9) Chloroethane	6.01	64	10253	0.562	ng		96
10) Ethanol	6.32	45	51461	2.589	ng		98
11) Acetonitrile	6.60	41	24346	0.543	ng		92
12) Acrolein	6.81	56	8055	0.539	ng		99
13) Acetone	7.01	58	51278	2.406	ng	#	83
14) Trichlorofluoromethane	7.27	101	27953	0.556	ng		99
15) 2-Propanol (Isopropanol)	7.50	45	67976	1.118	ng		88
16) Acrylonitrile	7.77	53	16002	0.508	ng		99
17) 1,1-Dichloroethene	8.22	96	13904	0.556	ng		96
18) 2-Methyl-2-Propanol (t...	8.39	59	67959	1.268	ng		94
19) Methylene Chloride	8.44	84	14269	0.529	ng		91
20) 3-Chloro-1-propene (Al...	8.60	41	18896	0.534	ng		92
21) Trichlorotrifluoroethane	8.87	151	13215	0.550	ng		99
22) Carbon Disulfide	8.71	76	52101	0.525	ng		99
23) trans-1,2-Dichloroethene	9.72	61	19907	0.548	ng		96
24) 1,1-Dichloroethane	9.96	63	25859	0.560	ng		99
25) Methyl tert-Butyl Ether	10.09	73	43396	0.579	ng		98
26) Vinyl Acetate	10.22	86	14652	2.648	ng	#	56
27) 2-Butanone (MEK)	10.49	72	8854	0.511	ng	#	90
28) cis-1,2-Dichloroethene	10.99	61	20385	0.552	ng		95
29) Diisopropyl Ether	11.30	87	14836	0.530	ng	#	82
30) Ethyl Acetate	11.30	61	9693	0.931	ng		97
31) n-Hexane	11.28	57	24296	0.511	ng		100
32) Chloroform	11.33	83	27661	0.568	ng		99
34) Tetrahydrofuran (THF)	11.76	72	9497	0.538	ng		95
35) Ethyl tert-Butyl Ether	11.89	87	16627	0.522	ng		96
36) 1,2-Dichloroethane	12.13	62	21537	0.568	ng		100
38) 1,1,1-Trichloroethane	12.42	97	24045	0.557	ng		98
39) Isopropyl Acetate	12.86	61	17229	0.949	ng	#	84
40) 1-Butanol	12.88	56	23731	1.025	ng	#	72
41) Benzene	12.90	78	58428	0.513	ng		99
42) Carbon Tetrachloride	13.06	117	20467	0.512	ng		99
43) Cyclohexane	13.19	84	45418	1.022	ng		96
44) tert-Amyl Methyl Ether	13.54	73	38832	0.511	ng		95
45) 1,2-Dichloropropane	13.75	63	14304	0.538	ng		98
46) Bromodichloromethane	13.94	83	20909	0.532	ng		97
47) Trichloroethene	14.00	130	16071	0.534	ng		100
48) 1,4-Dioxane	13.98	88	11529	0.502	ng		96
49) 2,2,4-Trimethylpentane...	14.07	57	59617	0.539	ng		96

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112004.D
Acq On : 11 Mar 2020 2:05 Operator: LH
Sample : 0.5ng TO15 ICAL STD
Misc : S31-02112001/S34-03102003 (4/8)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 11 10:34:48 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

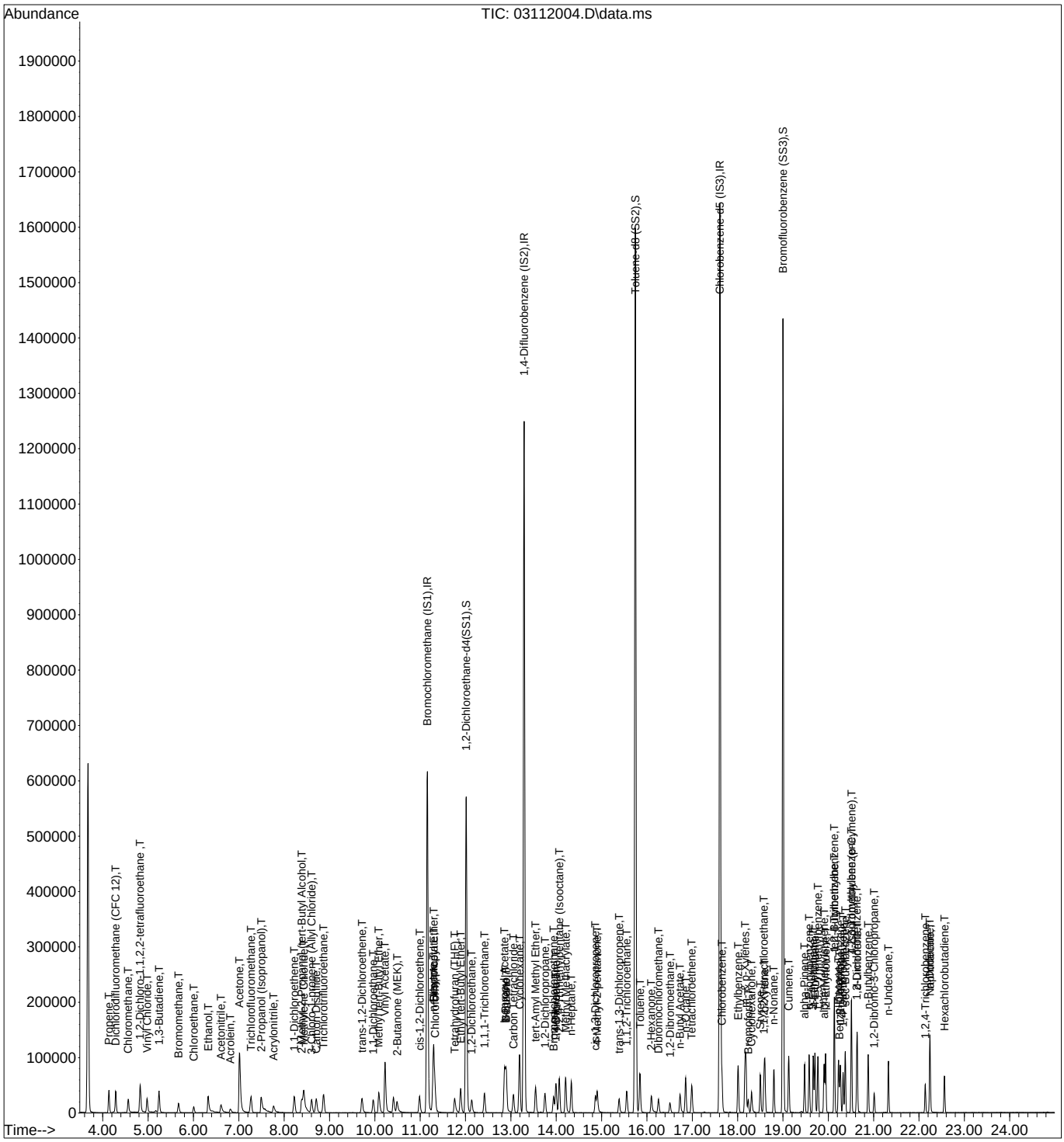
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
50) Methyl Methacrylate	14.21	100	10577	0.941 ng	#	88
51) n-Heptane	14.33	71	14039	0.517 ng		96
52) cis-1,3-Dichloropropene	14.86	75	20178	0.469 ng		98
53) 4-Methyl-2-pentanone	14.90	58	12063	0.492 ng		92
54) trans-1,3-Dichloropropene	15.39	75	17101	0.473 ng		100
55) 1,1,2-Trichloroethane	15.55	97	13848	0.518 ng		99
58) Toluene	15.85	91	61148	0.534 ng		99
59) 2-Hexanone	16.10	43	30048	0.532 ng		91
60) Dibromochloromethane	16.26	129	15049	0.468 ng		99
61) 1,2-Dibromoethane	16.51	107	14951	0.498 ng		98
62) n-Butyl Acetate	16.73	43	31247	0.498 ng		97
63) n-Octane	16.85	57	12094	0.521 ng		95
64) Tetrachloroethene	16.99	166	16134	0.494 ng		99
65) Chlorobenzene	17.65	112	39003	0.491 ng		96
66) Ethylbenzene	18.01	91	66620	0.529 ng		99
67) m- & p-Xylenes	18.17	91	106916	1.069 ng		95
68) Bromoform	18.24	173	10990	0.406 ng		98
69) Styrene	18.50	104	36622	0.495 ng		98
70) o-Xylene	18.60	91	53400	0.523 ng		96
71) n-Nonane	18.80	43	27192	0.520 ng		95
72) 1,1,2,2-Tetrachloroethane	18.58	83	25596	0.506 ng		100
74) Cumene	19.13	105	69162	0.543 ng		96
75) alpha-Pinene	19.48	93	32085	0.492 ng		92
76) n-Propylbenzene	19.58	91	81587	0.555 ng		97
77) 3-Ethyltoluene	19.66	105	64446	0.528 ng		97
78) 4-Ethyltoluene	19.70	105	61305	0.518 ng		98
79) 1,3,5-Trimethylbenzene	19.77	105	55163	0.525 ng		95
80) alpha-Methylstyrene	19.91	118	25464	0.491 ng		95
81) 2-Ethyltoluene	19.94	105	65146	0.534 ng		97
82) 1,2,4-Trimethylbenzene	20.13	105	54274	0.506 ng		96
83) n-Decane	20.23	57	27650	0.506 ng		97
84) Benzyl Chloride	20.25	91	25179	0.380 ng		93
85) 1,3-Dichlorobenzene	20.27	146	29123	0.474 ng		99
86) 1,4-Dichlorobenzene	20.32	146	29617	0.499 ng		99
87) sec-Butylbenzene	20.37	105	72113	0.527 ng		97
88) 4-Isopropyltoluene (p-...	20.51	119	66651	0.521 ng		97
89) 1,2,3-Trimethylbenzene	20.51	105	55067	0.511 ng		98
90) 1,2-Dichlorobenzene	20.63	146	27907	0.461 ng		99
91) d-Limonene	20.64	68	19496	0.491 ng		97
92) 1,2-Dibromo-3-Chloropr...	21.01	157	8646	0.422 ng	#	70
93) n-Undecane	21.33	57	26079	0.533 ng		95
94) 1,2,4-Trichlorobenzene	22.14	180	16118	0.353 ng		99
95) Naphthalene	22.24	128	54073	0.391 ng		98
96) n-Dodecane	22.24	57	22522	0.418 ng		94
97) Hexachlorobutadiene	22.56	225	11961	0.425 ng		98
98) Cyclohexanone	18.31	55	18072	0.478 ng		94
99) tert-Butylbenzene	20.13	119	53477	0.499 ng		98
100) n-Butylbenzene	20.88	91	58386	0.552 ng		94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112004.D
Acq On : 11 Mar 2020 2:05 Operator: LH
Sample : 0.5ng TO15 ICAL STD
Misc : S31-02112001/S34-03102003 (4/8)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 11 10:34:48 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112005.D
Acq On : 11 Mar 2020 2:38 Operator: LH
Sample : 1.0ng TO15 ICAL STD
Misc : S31-02112001/S34-03102003 (4/8)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 11 10:34:50 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 3/11/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	252175	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.29	114	1130413	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.61	82	545964	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	452154	13.238	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.92%				
57) Toluene-d8 (SS2)	15.74	98	1204259	12.358	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.88%				
73) Bromofluorobenzene (SS3)	19.00	174	410040	11.919	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.36%				
Target Compounds							Qvalue
2) Propene	4.13	42	26239	0.944	ng		99
3) Dichlorodifluoromethan...	4.28	85	61335	1.072	ng		99
4) Chloromethane	4.56	50	51518	1.129	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	37929	1.052	ng		99
6) Vinyl Chloride	4.97	62	52171	1.075	ng		99
7) 1,3-Butadiene	5.24	54	38124	1.072	ng		99
8) Bromomethane	5.67	94	24756	1.028	ng		100
9) Chloroethane	6.01	64	19155	1.041	ng		98
10) Ethanol	6.32	45	95679	4.776	ng		99
11) Acetonitrile	6.60	41	45165	0.999	ng		93
12) Acrolein	6.81	56	15031	0.998	ng		96
13) Acetone	7.01	58	97221	4.525	ng	#	85
14) Trichlorofluoromethane	7.26	101	51616	1.019	ng		99
15) 2-Propanol (Isopropanol)	7.48	45	129808	2.119	ng		91
16) Acrylonitrile	7.76	53	32346	1.019	ng		100
17) 1,1-Dichloroethene	8.22	96	25530	1.012	ng		95
18) 2-Methyl-2-Propanol (t...	8.37	59	128678	2.381	ng		95
19) Methylene Chloride	8.43	84	26734	0.984	ng		93
20) 3-Chloro-1-propene (Al...	8.61	41	35910	1.006	ng		95
21) Trichlorotrifluoroethane	8.86	151	24428	1.008	ng		97
22) Carbon Disulfide	8.71	76	99387	0.994	ng		99
23) trans-1,2-Dichloroethene	9.72	61	38578	1.055	ng		97
24) 1,1-Dichloroethane	9.96	63	49172	1.057	ng		100
25) Methyl tert-Butyl Ether	10.08	73	81018	1.072	ng		100
26) Vinyl Acetate	10.22	86	29241	5.243	ng	#	63
27) 2-Butanone (MEK)	10.48	72	17507	1.002	ng	#	89
28) cis-1,2-Dichloroethene	10.99	61	37840	1.017	ng		97
29) Diisopropyl Ether	11.30	87	27212	0.964	ng	#	87
30) Ethyl Acetate	11.30	61	19931	1.899	ng		96
31) n-Hexane	11.28	57	45051	0.941	ng		98
32) Chloroform	11.33	83	51974	1.058	ng		97
34) Tetrahydrofuran (THF)	11.75	72	17985	1.011	ng		96
35) Ethyl tert-Butyl Ether	11.89	87	31469	0.981	ng		96
36) 1,2-Dichloroethane	12.14	62	40493	1.059	ng		99
38) 1,1,1-Trichloroethane	12.42	97	44354	1.018	ng		98
39) Isopropyl Acetate	12.85	61	31963	1.743	ng	#	78
40) 1-Butanol	12.87	56	49627	2.123	ng		82
41) Benzene	12.90	78	110674	0.962	ng		99
42) Carbon Tetrachloride	13.06	117	38200	0.946	ng		98
43) Cyclohexane	13.19	84	84782	1.888	ng		97
44) tert-Amyl Methyl Ether	13.54	73	73466	0.957	ng		95
45) 1,2-Dichloropropane	13.75	63	26752	0.995	ng		99
46) Bromodichloromethane	13.94	83	38892	0.981	ng		100
47) Trichloroethene	14.00	130	29217	0.961	ng		100
48) 1,4-Dioxane	13.97	88	21827	0.942	ng		100
49) 2,2,4-Trimethylpentane...	14.07	57	110125	0.985	ng		96

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112005.D
Acq On : 11 Mar 2020 2:38 Operator: LH
Sample : 1.0ng TO15 ICAL STD
Misc : S31-02112001/S34-03102003 (4/8)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 11 10:34:50 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

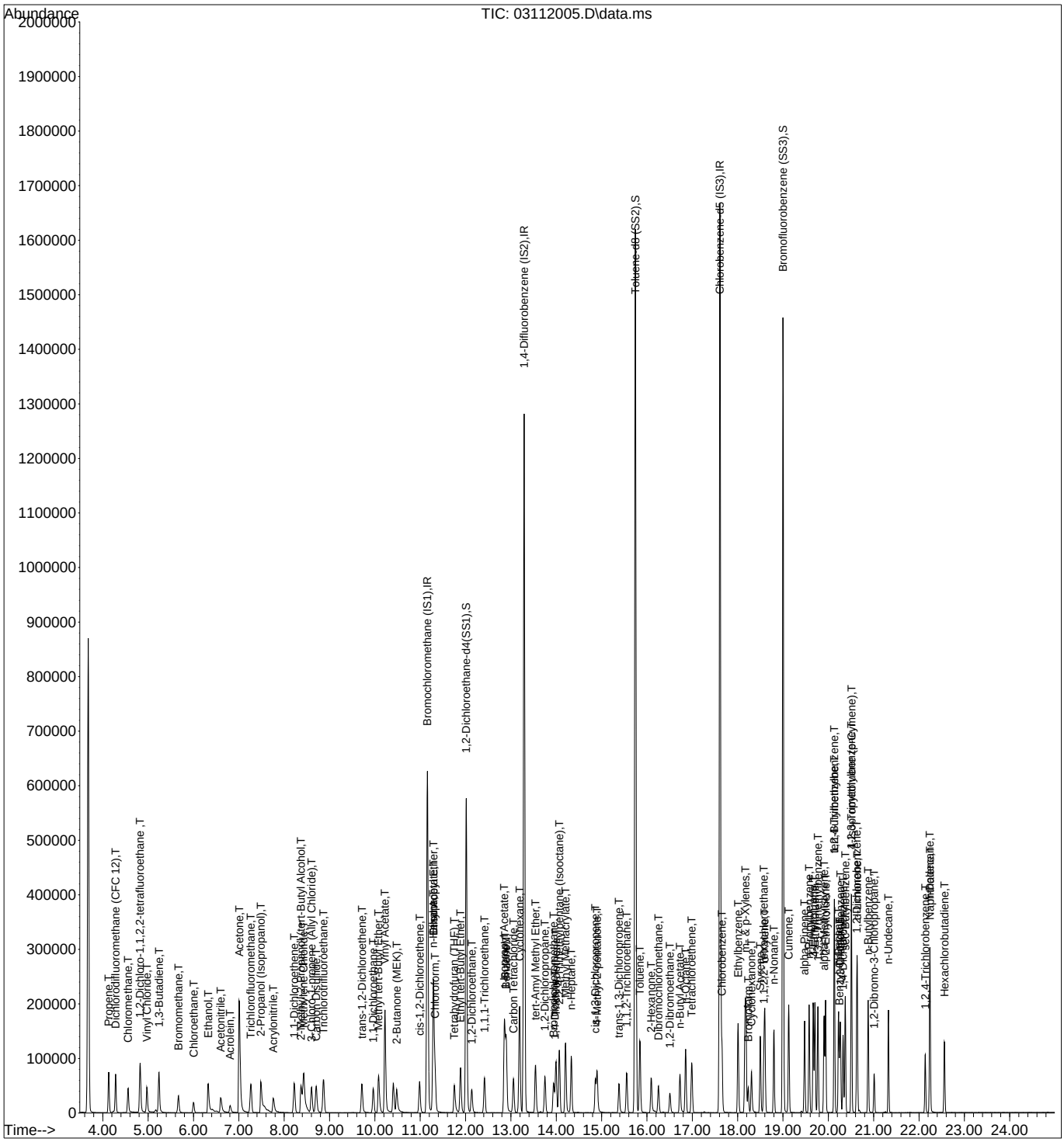
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
50) Methyl Methacrylate	14.20	100	21083	1.856	ng		93
51) n-Heptane	14.33	71	26321	0.960	ng		96
52) cis-1,3-Dichloropropene	14.86	75	39790	0.916	ng		99
53) 4-Methyl-2-pentanone	14.90	58	23994	0.968	ng		90
54) trans-1,3-Dichloropropene	15.38	75	35431	0.970	ng		98
55) 1,1,2-Trichloroethane	15.55	97	27091	1.003	ng		98
58) Toluene	15.84	91	115334	0.991	ng		99
59) 2-Hexanone	16.10	43	56954	0.991	ng		96
60) Dibromochloromethane	16.26	129	30105	0.921	ng		99
61) 1,2-Dibromoethane	16.50	107	30054	0.985	ng		98
62) n-Butyl Acetate	16.73	43	63513	0.994	ng		97
63) n-Octane	16.85	57	22966	0.972	ng		93
64) Tetrachloroethene	16.99	166	29989	0.904	ng		100
65) Chlorobenzene	17.65	112	74997	0.928	ng		99
66) Ethylbenzene	18.01	91	126409	0.987	ng		99
67) m- & p-Xylenes	18.17	91	203937	2.004	ng		95
68) Bromoform	18.24	173	22899	0.832	ng		99
69) Styrene	18.50	104	71908	0.955	ng		98
70) o-Xylene	18.60	91	101189	0.975	ng		98
71) n-Nonane	18.80	43	52281	0.983	ng		93
72) 1,1,2,2-Tetrachloroethane	18.58	83	49059	0.953	ng		100
74) Cumene	19.13	105	128846	0.995	ng		97
75) alpha-Pinene	19.48	93	62905	0.948	ng		95
76) n-Propylbenzene	19.58	91	154753	1.035	ng		97
77) 3-Ethyltoluene	19.66	105	124019	0.999	ng		97
78) 4-Ethyltoluene	19.70	105	117611	0.978	ng		98
79) 1,3,5-Trimethylbenzene	19.77	105	101971	0.954	ng		96
80) alpha-Methylstyrene	19.91	118	51608	0.978	ng		91
81) 2-Ethyltoluene	19.94	105	124284	1.002	ng		97
82) 1,2,4-Trimethylbenzene	20.13	105	103254	0.946	ng		98
83) n-Decane	20.23	57	53015	0.953	ng		97
84) Benzyl Chloride	20.25	91	54780	0.812	ng		94
85) 1,3-Dichlorobenzene	20.27	146	56239	0.900	ng		100
86) 1,4-Dichlorobenzene	20.32	146	56816	0.942	ng		100
87) sec-Butylbenzene	20.37	105	140647	1.010	ng		97
88) 4-Isopropyltoluene (p-...	20.51	119	128282	0.987	ng		97
89) 1,2,3-Trimethylbenzene	20.51	105	107501	0.981	ng		97
90) 1,2-Dichlorobenzene	20.63	146	55130	0.896	ng		99
91) d-Limonene	20.64	68	39857	0.986	ng		96
92) 1,2-Dibromo-3-Chloropr...	21.01	157	17644	0.846	ng	#	74
93) n-Undecane	21.33	57	52052	1.045	ng		95
94) 1,2,4-Trichlorobenzene	22.14	180	32927	0.709	ng		98
95) Naphthalene	22.24	128	111106	0.791	ng		98
96) n-Dodecane	22.24	57	46935	0.858	ng		93
97) Hexachlorobutadiene	22.56	225	23529	0.821	ng		100
98) Cyclohexanone	18.31	55	35128	0.914	ng		95
99) tert-Butylbenzene	20.13	119	101979	0.935	ng		98
100) n-Butylbenzene	20.88	91	111526	1.037	ng		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112005.D
Acq On : 11 Mar 2020 2:38 Operator: LH
Sample : 1.0ng TO15 ICAL STD
Misc : S31-02112001/S34-03102003 (4/8)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 11 10:34:50 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112006.D
Acq On : 11 Mar 2020 3:12 Operator: LH
Sample : 5.0ng TO15 ICAL STD
Misc : S31-02112001/S34-03102003 (4/8)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 11 10:34:52 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020 LH 3/11/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	238218	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.30	114	1069189	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.61	82	507258	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	416208	12.900	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.20%				
57) Toluene-d8 (SS2)	15.74	98	1132691	12.510	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.08%				
73) Bromofluorobenzene (SS3)	19.00	174	395620	12.377	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.04%				
Target Compounds							Qvalue
2) Propene	4.12	42	145141	5.525	ng		99
3) Dichlorodifluoromethan...	4.27	85	282879	5.232	ng		100
4) Chloromethane	4.55	50	209292	4.855	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	175446	5.151	ng		99
6) Vinyl Chloride	4.97	62	242569	5.292	ng		99
7) 1,3-Butadiene	5.24	54	180943	5.386	ng		100
8) Bromomethane	5.66	94	114126	5.017	ng		99
9) Chloroethane	6.00	64	87740	5.048	ng		100
10) Ethanol	6.34	45	461152	24.367	ng		99
11) Acetonitrile	6.60	41	215596	5.049	ng		100
12) Acrolein	6.80	56	76151	5.353	ng		100
13) Acetone	7.01	58	481629	23.731	ng		90
14) Trichlorofluoromethane	7.26	101	243627	5.091	ng		100
15) 2-Propanol (Isopropanol)	7.48	45	543655	9.393	ng		97
16) Acrylonitrile	7.76	53	162242	5.412	ng		99
17) 1,1-Dichloroethene	8.22	96	123062	5.165	ng		98
18) 2-Methyl-2-Propanol (t...	8.36	59	542601	10.630	ng		97
19) Methylene Chloride	8.44	84	129883	5.059	ng		96
20) 3-Chloro-1-propene (Al...	8.61	41	168559	4.999	ng		98
21) Trichlorotrifluoroethane	8.87	151	114355	4.995	ng		99
22) Carbon Disulfide	8.71	76	469089	4.968	ng		100
23) trans-1,2-Dichloroethene	9.72	61	183436	5.308	ng		98
24) 1,1-Dichloroethane	9.97	63	231228	5.261	ng		100
25) Methyl tert-Butyl Ether	10.07	73	376696	5.278	ng		100
26) Vinyl Acetate	10.22	86	155488	29.512	ng	#	72
27) 2-Butanone (MEK)	10.47	72	89640	5.432	ng		92
28) cis-1,2-Dichloroethene	10.99	61	182067	5.179	ng		99
29) Diisopropyl Ether	11.29	87	138319	5.189	ng	#	84
30) Ethyl Acetate	11.29	61	101949	10.281	ng		98
31) n-Hexane	11.28	57	225009	4.975	ng		99
32) Chloroform	11.33	83	248621	5.359	ng		100
34) Tetrahydrofuran (THF)	11.74	72	88587	5.273	ng		99
35) Ethyl tert-Butyl Ether	11.88	87	155453	5.130	ng		97
36) 1,2-Dichloroethane	12.14	62	193754	5.365	ng		99
38) 1,1,1-Trichloroethane	12.42	97	216619	5.257	ng		99
39) Isopropyl Acetate	12.85	61	174388	10.052	ng	#	89
40) 1-Butanol	12.86	56	287057	12.983	ng		93
41) Benzene	12.90	78	553925	5.093	ng		99
42) Carbon Tetrachloride	13.06	117	193610	5.071	ng		99
43) Cyclohexane	13.19	84	423719	9.977	ng		99
44) tert-Amyl Methyl Ether	13.54	73	369982	5.098	ng		98
45) 1,2-Dichloropropane	13.75	63	132658	5.219	ng		99
46) Bromodichloromethane	13.94	83	196821	5.247	ng		100
47) Trichloroethene	14.00	130	142319	4.947	ng		100
48) 1,4-Dioxane	13.97	88	108996	4.973	ng		100
49) 2,2,4-Trimethylpentane...	14.07	57	542593	5.131	ng		98

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112006.D
Acq On : 11 Mar 2020 3:12 Operator: LH
Sample : 5.0ng TO15 ICAL STD
Misc : S31-02112001/S34-03102003 (4/8)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 11 10:34:52 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

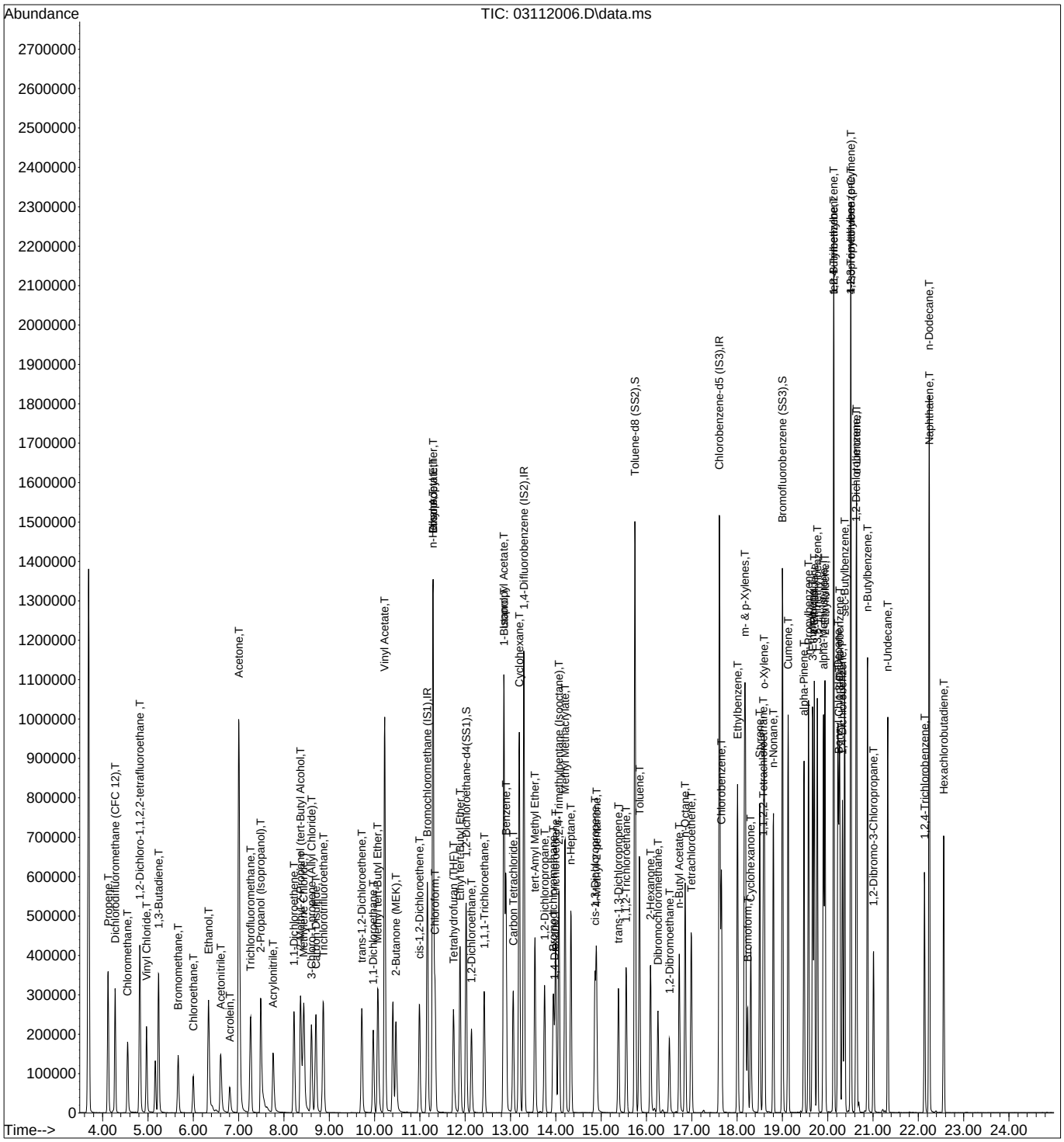
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
50) Methyl Methacrylate	14.20	100	112455	10.468 ng	93
51) n-Heptane	14.33	71	133327	5.140 ng	98
52) cis-1,3-Dichloropropene	14.86	75	213998	5.208 ng	99
53) 4-Methyl-2-pentanone	14.90	58	122251	5.214 ng	95
54) trans-1,3-Dichloropropene	15.38	75	194822	5.637 ng	99
55) 1,1,2-Trichloroethane	15.55	97	130704	5.115 ng	100
58) Toluene	15.85	91	559389	5.173 ng	100
59) 2-Hexanone	16.09	43	298789	5.598 ng	98
60) Dibromochloromethane	16.26	129	158717	5.225 ng	99
61) 1,2-Dibromoethane	16.51	107	152463	5.379 ng	100
62) n-Butyl Acetate	16.72	43	332169	5.597 ng	99
63) n-Octane	16.85	57	112712	5.136 ng	97
64) Tetrachloroethene	16.99	166	148052	4.801 ng	100
65) Chlorobenzene	17.65	112	366324	4.878 ng	100
66) Ethylbenzene	18.01	91	640484	5.385 ng	98
67) m- & p-Xylenes	18.17	91	1043063	11.034 ng	96
68) Bromoform	18.24	173	129238	5.055 ng	100
69) Styrene	18.50	104	393265	5.623 ng	98
70) o-Xylene	18.60	91	520597	5.398 ng	98
71) n-Nonane	18.80	43	259617	5.253 ng	97
72) 1,1,2,2-Tetrachloroethane	18.58	83	256262	5.360 ng	99
74) Cumene	19.13	105	662458	5.508 ng	98
75) alpha-Pinene	19.48	93	336768	5.460 ng	97
76) n-Propylbenzene	19.58	91	808635	5.821 ng	97
77) 3-Ethyltoluene	19.66	105	663831	5.758 ng	97
78) 4-Ethyltoluene	19.70	105	635592	5.687 ng	98
79) 1,3,5-Trimethylbenzene	19.77	105	552584	5.566 ng	97
80) alpha-Methylstyrene	19.91	118	297603	6.068 ng	92
81) 2-Ethyltoluene	19.94	105	668088	5.800 ng	98
82) 1,2,4-Trimethylbenzene	20.13	105	582401	5.743 ng	98
83) n-Decane	20.23	57	285221	5.520 ng	98
84) Benzyl Chloride	20.25	91	410724	6.555 ng	96
85) 1,3-Dichlorobenzene	20.26	146	316489	5.453 ng	100
86) 1,4-Dichlorobenzene	20.32	146	314824	5.617 ng	100
87) sec-Butylbenzene	20.37	105	761982	5.890 ng	98
88) 4-Isopropyltoluene (p-...	20.51	119	741313	6.137 ng	98
89) 1,2,3-Trimethylbenzene	20.51	105	609414	5.988 ng	99
90) 1,2-Dichlorobenzene	20.63	146	309829	5.420 ng	100
91) d-Limonene	20.64	68	227926	6.071 ng	99
92) 1,2-Dibromo-3-Chloropr...	21.01	157	105153	5.429 ng	83
93) n-Undecane	21.33	57	283261	6.122 ng	98
94) 1,2,4-Trichlorobenzene	22.14	180	180953	4.197 ng	99
95) Naphthalene	22.24	128	650949	4.985 ng	99
96) n-Dodecane	22.24	57	273009	5.369 ng	97
97) Hexachlorobutadiene	22.56	225	126999	4.771 ng	99
98) Cyclohexanone	18.30	55	185637	5.200 ng	96
99) tert-Butylbenzene	20.13	119	569860	5.624 ng	98
100) n-Butylbenzene	20.88	91	615822	6.160 ng	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112006.D
Acq On : 11 Mar 2020 3:12 Operator: LH
Sample : 5.0ng TO15 ICAL STD
Misc : S31-02112001/S34-03102003 (4/8)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 11 10:34:52 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112007.D
Acq On : 11 Mar 2020 3:45 Operator: LH
Sample : 25ng TO15 ICAL STD
Misc : S31-02112001/S34-03102002 (4/8)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 11 10:34:54 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020 LH 3/11/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	275523	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	13.30	114	1204193	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.61	82	580422	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.03	65	461792	12.375	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.96%			
57) Toluene-d8 (SS2)	15.75	98	1281620	12.371	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.96%			
73) Bromofluorobenzene (SS3)	19.00	174	461189	12.610	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.88%			
Target Compounds						Qvalue
2) Propene	4.10	42	732648	24.115	ng	100
3) Dichlorodifluoromethan...	4.25	85	1552346	24.824	ng	100
4) Chloromethane	4.54	50	1255490	25.180	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	980363	24.884	ng	100
6) Vinyl Chloride	4.95	62	1337587	25.228	ng	100
7) 1,3-Butadiene	5.22	54	844167	21.726	ng	100
8) Bromomethane	5.66	94	678029	25.771	ng	100
9) Chloroethane	5.99	64	515740	25.654	ng	100
10) Ethanol	6.36	45	2885969	131.847	ng	100
11) Acetonitrile	6.62	41	1220644	24.714	ng	100
12) Acrolein	6.80	56	456386	27.736	ng	100
13) Acetone	7.01	58	3219201	137.142	ng	100
14) Trichlorofluoromethane	7.26	101	1439835	26.015	ng	100
15) 2-Propanol (Isopropanol)	7.50	45	3810750	56.924	ng	100
16) Acrylonitrile	7.76	53	985120	28.412	ng	100
17) 1,1-Dichloroethene	8.22	96	749018	27.182	ng	100
18) 2-Methyl-2-Propanol (t...	8.38	59	3954797	66.986	ng	100
19) Methylene Chloride	8.45	84	798032	26.873	ng	100
20) 3-Chloro-1-propene (Al...	8.61	41	1071292	27.471	ng	100
21) Trichlorotrifluoroethane	8.86	151	696620	26.307	ng	100
22) Carbon Disulfide	8.71	76	2914068	26.683	ng	100
23) trans-1,2-Dichloroethene	9.72	61	1103619	27.611	ng	100
24) 1,1-Dichloroethane	9.98	63	1372815	27.005	ng	100
25) Methyl tert-Butyl Ether	10.07	73	2223740	26.939	ng	100
26) Vinyl Acetate	10.23	86	1204502	197.665	ng	100
27) 2-Butanone (MEK)	10.46	72	575007	30.127	ng	100
28) cis-1,2-Dichloroethene	10.99	61	1098112	27.010	ng	100
29) Diisopropyl Ether	11.29	87	848476	27.520	ng	100
30) Ethyl Acetate	11.29	61	744039	64.873	ng	100
31) n-Hexane	11.28	57	1547007	29.571	ng	100
32) Chloroform	11.34	83	1495177	27.865	ng	100
34) Tetrahydrofuran (THF)	11.74	72	536090	27.588	ng	100
35) Ethyl tert-Butyl Ether	11.88	87	987864	28.186	ng	100
36) 1,2-Dichloroethane	12.14	62	1145801	27.434	ng	100
38) 1,1,1-Trichloroethane	12.42	97	1305781	28.136	ng	100
39) Isopropyl Acetate	12.85	61	1219183	62.396	ng	100
40) 1-Butanol	12.87	56	1995046	80.114	ng	100
41) Benzene	12.90	78	3564123	29.097	ng	100
42) Carbon Tetrachloride	13.06	117	1204113	28.001	ng	100
43) Cyclohexane	13.19	84	2746994	57.427	ng	100
44) tert-Amyl Methyl Ether	13.54	73	2354204	28.803	ng	100
45) 1,2-Dichloropropane	13.75	63	790482	27.611	ng	100
46) Bromodichloromethane	13.95	83	1235596	29.245	ng	100
47) Trichloroethene	14.00	130	904618	27.918	ng	100
48) 1,4-Dioxane	13.97	88	711385	28.817	ng	100
49) 2,2,4-Trimethylpentane...	14.07	57	3271244	27.468	ng	100

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112007.D
Acq On : 11 Mar 2020 3:45 Operator: LH
Sample : 25ng TO15 ICAL STD
Misc : S31-02112001/S34-03102002 (4/8)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 11 10:34:54 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

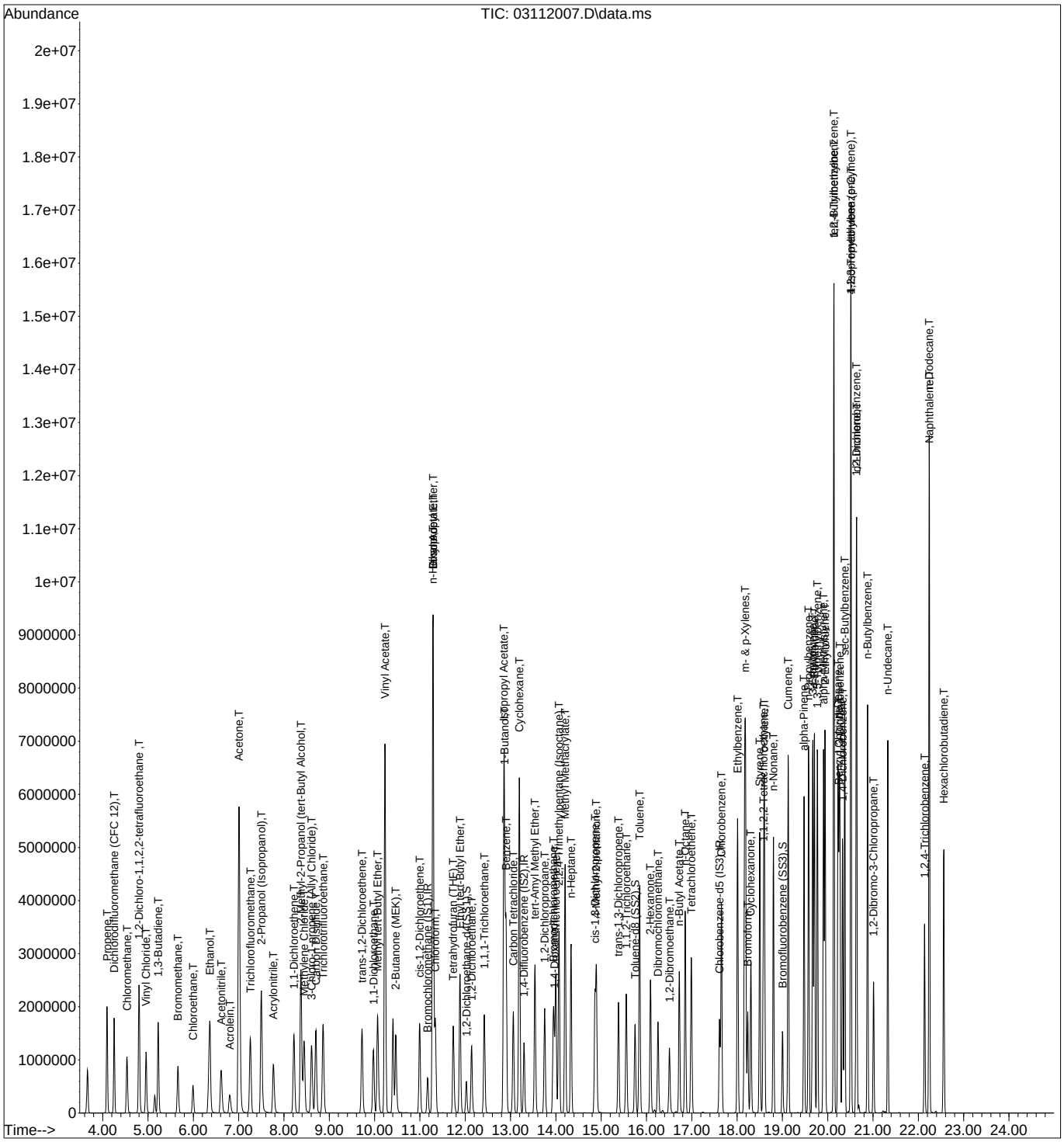
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
50) Methyl Methacrylate	14.20	100	780154	64.478 ng	100
51) n-Heptane	14.34	71	829035	28.376 ng	100
52) cis-1,3-Dichloropropene	14.86	75	1383086	29.887 ng	100
53) 4-Methyl-2-pentanone	14.89	58	789437	29.897 ng	100
54) trans-1,3-Dichloropropene	15.38	75	1255465	32.252 ng	100
55) 1,1,2-Trichloroethane	15.56	97	807884	28.073 ng	100
58) Toluene	15.85	91	3531977	28.542 ng	100
59) 2-Hexanone	16.08	43	1885972	30.881 ng	100
60) Dibromochloromethane	16.26	129	1038566	29.882 ng	100
61) 1,2-Dibromoethane	16.51	107	959746	29.594 ng	100
62) n-Butyl Acetate	16.72	43	2123196	31.268 ng	100
63) n-Octane	16.85	57	709225	28.246 ng	100
64) Tetrachloroethene	16.99	166	965213	27.354 ng	100
65) Chlorobenzene	17.65	112	2356552	27.425 ng	100
66) Ethylbenzene	18.01	91	4199242	30.853 ng	100
67) m- & p-Xylenes	18.18	91	6906672	63.854 ng	100
68) Bromoform	18.24	173	946147	32.345 ng	100
69) Styrene	18.50	104	2696459	33.694 ng	100
70) o-Xylene	18.60	91	3430407	31.083 ng	100
71) n-Nonane	18.80	43	1630756	28.839 ng	100
72) 1,1,2,2-Tetrachloroethane	18.58	83	1638552	29.952 ng	100
74) Cumene	19.13	105	4380463	31.830 ng	100
75) alpha-Pinene	19.48	93	2277036	32.265 ng	100
76) n-Propylbenzene	19.58	91	5233241	32.926 ng	100
77) 3-Ethyltoluene	19.67	105	4310331	32.672 ng	100
78) 4-Ethyltoluene	19.71	105	4319137	33.776 ng	100
79) 1,3,5-Trimethylbenzene	19.77	105	3626127	31.919 ng	100
80) alpha-Methylstyrene	19.91	118	2051941	36.564 ng	100
81) 2-Ethyltoluene	19.94	105	4334620	32.887 ng	100
82) 1,2,4-Trimethylbenzene	20.14	105	4147203	35.743 ng	100
83) n-Decane	20.23	57	1863375	31.518 ng	100
84) Benzyl Chloride	20.25	91	3048474	42.517 ng	100
85) 1,3-Dichlorobenzene	20.27	146	2201522	33.151 ng	100
86) 1,4-Dichlorobenzene	20.33	146	2135420	33.295 ng	100
87) sec-Butylbenzene	20.37	105	4870061	32.899 ng	100
88) 4-Isopropyltoluene (p-...	20.51	119	5153039	37.282 ng	100
89) 1,2,3-Trimethylbenzene	20.51	105	4266734	36.640 ng	100
90) 1,2-Dichlorobenzene	20.63	146	2190113	33.480 ng	100
91) d-Limonene	20.64	68	1534676	35.726 ng	100
92) 1,2-Dibromo-3-Chloropr...	21.01	157	682932	30.815 ng	100
93) n-Undecane	21.33	57	1886046	35.623 ng	100
94) 1,2,4-Trichlorobenzene	22.14	180	1082289	21.936 ng	100
95) Naphthalene	22.24	128	4345162	29.082 ng	100
96) n-Dodecane	22.24	57	1954797	33.596 ng	100
97) Hexachlorobutadiene	22.56	225	889484	29.204 ng	100
98) Cyclohexanone	18.30	55	1229074	30.090 ng	100
99) tert-Butylbenzene	20.14	119	4090534	35.282 ng	100
100) n-Butylbenzene	20.88	91	3813717	33.340 ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112007.D
Acq On : 11 Mar 2020 3:45 Operator: LH
Sample : 25ng TO15 ICAL STD
Misc : S31-02112001/S34-03102002 (4/8)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 11 10:34:54 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112008.D
Acq On : 11 Mar 2020 4:18 Operator: LH
Sample : 50ng TO15 ICAL STD
Misc : S31-02112001/S34-03102002 (4/8)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 11 10:34:56 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 3/11/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	302425	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.30	114	1314811	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.61	82	630918	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	495825	12.105	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.80%				
57) Toluene-d8 (SS2)	15.75	98	1394388	12.382	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.04%				
73) Bromofluorobenzene (SS3)	19.01	174	530896	13.354	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.80%				
Target Compounds							Qvalue
2) Propene	4.10	42	1692785	50.761	ng		100
3) Dichlorodifluoromethan...	4.26	85	3206981	46.722	ng		100
4) Chloromethane	4.54	50	2509316	45.851	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	2094249	48.429	ng		100
6) Vinyl Chloride	4.97	62	2821519	48.483	ng		100
7) 1,3-Butadiene	5.24	54	2190012	51.350	ng		98
8) Bromomethane	5.67	94	1538413	53.272	ng		100
9) Chloroethane	6.00	64	1147102	51.983	ng		99
10) Ethanol	6.40	45	6666384	277.466	ng		100
11) Acetonitrile	6.63	41	2678665	49.410	ng		100
12) Acrolein	6.81	56	1003673	55.571	ng		100
13) Acetone	7.02	58	7337698	284.788	ng		86
14) Trichlorofluoromethane	7.26	101	3121030	51.374	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	7537150	102.573	ng		99
16) Acrylonitrile	7.78	53	2150296	56.500	ng		99
17) 1,1-Dichloroethene	8.23	96	1655606	54.737	ng		96
18) 2-Methyl-2-Propanol (t...	8.39	59	6760531	104.324	ng		99
19) Methylene Chloride	8.45	84	1740731	53.402	ng		97
20) 3-Chloro-1-propene (Al...	8.62	41	2315969	54.106	ng		99
21) Trichlorotrifluoroethane	8.87	151	1545999	53.189	ng		98
22) Carbon Disulfide	8.71	76	6257317	52.198	ng		100
23) trans-1,2-Dichloroethene	9.73	61	2408745	54.902	ng		99
24) 1,1-Dichloroethane	9.98	63	2930829	52.524	ng		100
25) Methyl tert-Butyl Ether	10.07	73	4565915	50.392	ng		100
26) Vinyl Acetate	10.24	86	2813224	420.597	ng	#	59
27) 2-Butanone (MEK)	10.48	72	1232226	58.818	ng		98
28) cis-1,2-Dichloroethene	11.00	61	2369751	53.102	ng		98
29) Diisopropyl Ether	11.30	87	1993471	58.906	ng	#	80
30) Ethyl Acetate	11.30	61	1723440	136.900	ng		97
31) n-Hexane	11.28	57	3524401	61.376	ng		100
32) Chloroform	11.34	83	3235940	54.942	ng		100
34) Tetrahydrofuran (THF)	11.74	72	1171746	54.935	ng		99
35) Ethyl tert-Butyl Ether	11.89	87	2241467	58.265	ng		97
36) 1,2-Dichloroethane	12.14	62	2458246	53.622	ng		100
38) 1,1,1-Trichloroethane	12.42	97	2852203	56.287	ng		99
39) Isopropyl Acetate	12.86	61	2795121	131.015	ng	#	89
40) 1-Butanol	12.88	56	4648415	170.959	ng		93
41) Benzene	12.90	78	8151984	60.952	ng		100
42) Carbon Tetrachloride	13.07	117	2665844	56.776	ng		100
43) Cyclohexane	13.20	84	6365480	121.877	ng		98
44) tert-Amyl Methyl Ether	13.54	73	5286234	59.234	ng		99
45) 1,2-Dichloropropane	13.75	63	1726847	55.243	ng		100
46) Bromodichloromethane	13.95	83	2741579	59.430	ng		99
47) Trichloroethene	14.00	130	2083094	58.880	ng		100
48) 1,4-Dioxane	13.97	88	1631988	60.547	ng		100
49) 2,2,4-Trimethylpentane...	14.07	57	7207940	55.432	ng		98

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112008.D
Acq On : 11 Mar 2020 4:18 Operator: LH
Sample : 50ng TO15 ICAL STD
Misc : S31-02112001/S34-03102002 (4/8)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 11 10:34:56 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

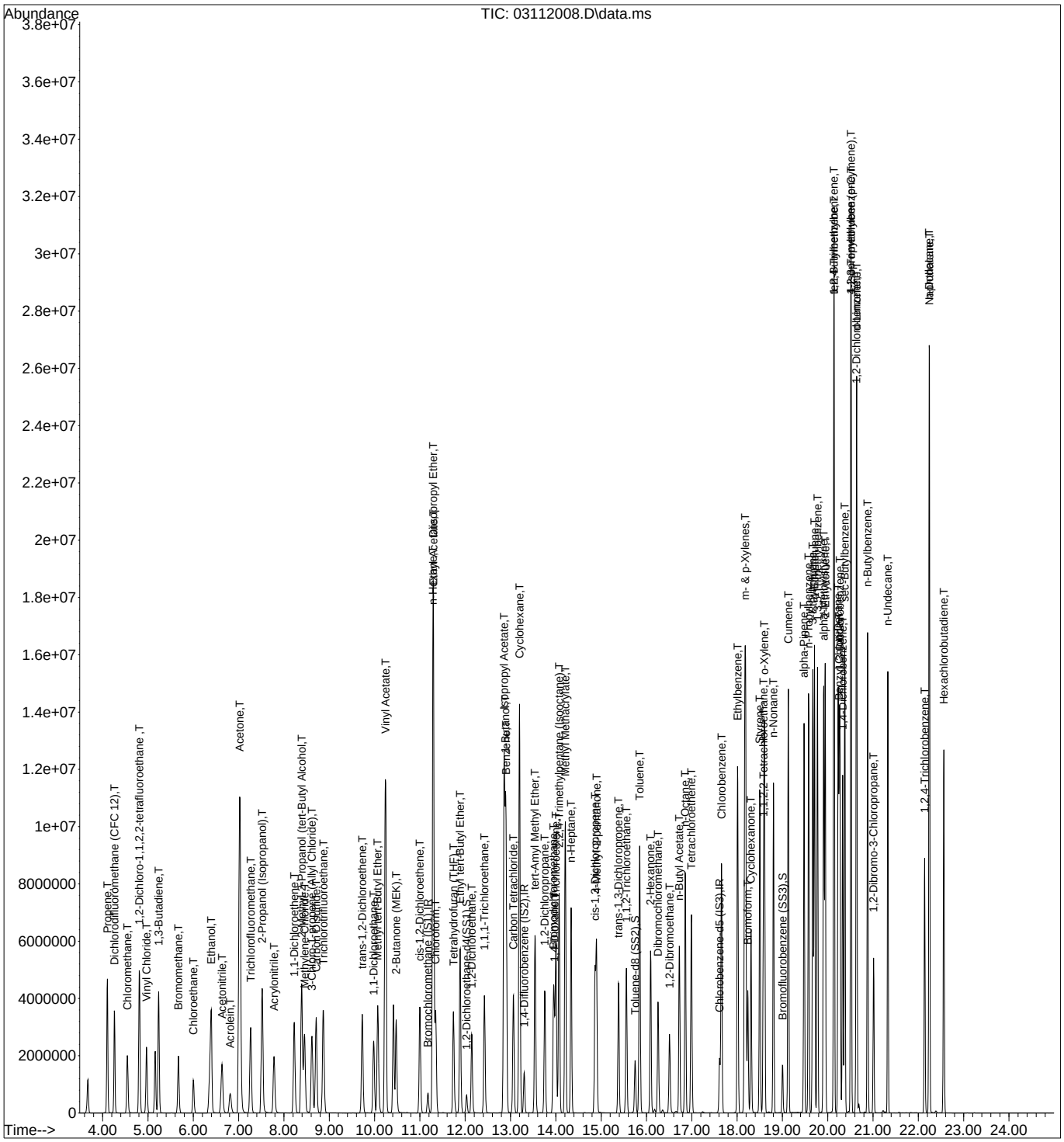
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
50) Methyl Methacrylate	14.21	100	1801367	136.354 ng	96
51) n-Heptane	14.34	71	1877124	58.844 ng	99
52) cis-1,3-Dichloropropene	14.86	75	3113121	61.611 ng	100
53) 4-Methyl-2-pentanone	14.90	58	1750395	60.712 ng	97
54) trans-1,3-Dichloropropene	15.38	75	2800588	65.893 ng	100
55) 1,1,2-Trichloroethane	15.56	97	1794492	57.110 ng	99
58) Toluene	15.85	91	7662489	56.966 ng	99
59) 2-Hexanone	16.09	43	4050093	61.008 ng	98
60) Dibromochloromethane	16.26	129	2338701	61.905 ng	100
61) 1,2-Dibromoethane	16.51	107	2131582	60.468 ng	100
62) n-Butyl Acetate	16.72	43	4577516	62.017 ng	98
63) n-Octane	16.86	57	1586200	58.117 ng	98
64) Tetrachloroethene	16.99	166	2239126	58.377 ng	99
65) Chlorobenzene	17.66	112	5372885	57.524 ng	100
66) Ethylbenzene	18.01	91	9093466	61.465 ng	98
67) m- & p-Xylenes	18.18	91	15123656	128.631 ng	98
68) Bromoform	18.24	173	2153059	67.713 ng	100
69) Styrene	18.50	104	5844983	67.190 ng	99
70) o-Xylene	18.60	91	7507257	62.579 ng	99
71) n-Nonane	18.80	43	3619496	58.886 ng	98
72) 1,1,2,2-Tetrachloroethane	18.58	83	3566640	59.978 ng	100
74) Cumene	19.13	105	9495400	63.474 ng	98
75) alpha-Pinene	19.48	93	5115469	66.684 ng	100
76) n-Propylbenzene	19.58	91	10986096	63.588 ng	97
77) 3-Ethyltoluene	19.67	105	9112158	63.541 ng	93
78) 4-Ethyltoluene	19.71	105	9520256	68.491 ng	98
79) 1,3,5-Trimethylbenzene	19.77	105	7951249	64.390 ng	99
80) alpha-Methylstyrene	19.91	118	4544511	74.499 ng	93
81) 2-Ethyltoluene	19.95	105	9323235	65.075 ng	98
82) 1,2,4-Trimethylbenzene	20.14	105	8775163	69.577 ng	100
83) n-Decane	20.23	57	4257106	66.243 ng	99
84) Benzyl Chloride	20.25	91	7109228	91.217 ng	98
85) 1,3-Dichlorobenzene	20.27	146	4895322	67.815 ng	100
86) 1,4-Dichlorobenzene	20.33	146	4651609	66.721 ng	100
87) sec-Butylbenzene	20.37	105	10262187	63.776 ng	98
88) 4-Isopropyltoluene (p-...	20.51	119	10327338	68.737 ng	97
89) 1,2,3-Trimethylbenzene	20.51	105	8911811	70.404 ng	99
90) 1,2-Dichlorobenzene	20.63	146	4880829	68.642 ng	99
91) d-Limonene	20.64	68	3471524	74.347 ng	99
92) 1,2-Dibromo-3-Chloropr...	21.01	157	1516018	62.930 ng	97
93) n-Undecane	21.33	57	4295149	74.631 ng	99
94) 1,2,4-Trichlorobenzene	22.14	180	2703404	50.407 ng	100
95) Naphthalene	22.24	128	9631249	59.303 ng	99
96) n-Dodecane	22.24	57	4503023	71.196 ng	98
97) Hexachlorobutadiene	22.56	225	2312637	69.853 ng	100
98) Cyclohexanone	18.31	55	2653569	59.765 ng	99
99) tert-Butylbenzene	20.14	119	8493187	67.393 ng	98
100) n-Butylbenzene	20.88	91	8151772	65.560 ng	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112008.D
Acq On : 11 Mar 2020 4:18 Operator: LH
Sample : 50ng TO15 ICAL STD
Misc : S31-02112001/S34-03102002 (4/8)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 11 10:34:56 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112009.D
Acq On : 11 Mar 2020 4:52 Operator: LH
Sample : 100ng TO15 ICAL STD
Misc : S31-02112001/S34-03102002 (4/8)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 11 10:34:58 2020
Quant Method : I:\MS16\METHODS\R16031120.M LH 3/11/20
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.19	130	340305	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	13.31	114	1483064	12.500	ng		0.01
56) Chlorobenzene-d5 (IS3)	17.61	82	685836	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.04	65	523523	11.358	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.88%				
57) Toluene-d8 (SS2)	15.75	98	1499466	12.249	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.00%				
73) Bromofluorobenzene (SS3)	19.00	174	581970	13.466	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.76%				
Target Compounds							Qvalue
2) Propene	4.11	42	3308592	88.171	ng		98
3) Dichlorodifluoromethan...	4.27	85	6504336	84.212	ng		99
4) Chloromethane	4.55	50	3927058	63.769	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	4594070	94.411	ng		100
6) Vinyl Chloride	4.98	62	6083796	92.902	ng		100
7) 1,3-Butadiene	5.25	54	4791631	99.845	ng		95
8) Bromomethane	5.69	94	3499486	107.691	ng		100
9) Chloroethane	6.02	64	2609147	105.078	ng		99
10) Ethanol	6.44	45	14841917	548.982	ng		99
11) Acetonitrile	6.67	41	5837097	95.684	ng		100
12) Acrolein	6.83	56	2158760	106.220	ng		100
13) Acetone	7.06	58	16145799	556.891	ng	#	54
14) Trichlorofluoromethane	7.28	101	6986424	102.200	ng		99
15) 2-Propanol (Isopropanol)	7.55	45	14621518	176.835	ng		98
16) Acrylonitrile	7.80	53	4728655	110.418	ng		99
17) 1,1-Dichloroethene	8.24	96	3813459	112.045	ng		92
18) 2-Methyl-2-Propanol (t...	8.41	59	6968956	95.570	ng		99
19) Methylene Chloride	8.46	84	3911789	106.648	ng		94
20) 3-Chloro-1-propene (Al...	8.63	41	5133890	106.587	ng		98
21) Trichlorotrifluoroethane	8.88	151	3662961	111.993	ng		93
22) Carbon Disulfide	8.72	76	13562562	100.545	ng		99
23) trans-1,2-Dichloroethene	9.73	61	5462056	110.638	ng		96
24) 1,1-Dichloroethane	9.99	63	6532991	104.046	ng		99
25) Methyl tert-Butyl Ether	10.08	73	8874667	87.044	ng		100
26) Vinyl Acetate	10.26	86	6007925	798.244	ng	#	1
27) 2-Butanone (MEK)	10.49	72	2724115	115.556	ng		94
28) cis-1,2-Dichloroethene	11.01	61	5326062	106.064	ng		96
29) Diisopropyl Ether	11.30	87	3979432	104.501	ng	#	60
30) Ethyl Acetate	11.32	61	3347027	236.273	ng		94
31) n-Hexane	11.29	57	6913854	107.000	ng		100
32) Chloroform	11.36	83	7063197	106.575	ng		100
34) Tetrahydrofuran (THF)	11.75	72	2626150	109.417	ng		97
35) Ethyl tert-Butyl Ether	11.89	87	5210458	120.364	ng		92
36) 1,2-Dichloroethane	12.15	62	5381589	104.322	ng		99
38) 1,1,1-Trichloroethane	12.43	97	6484249	113.446	ng		98
39) Isopropyl Acetate	12.86	61	6177142	256.691	ng	#	62
40) 1-Butanol	12.91	56	9988032	325.665	ng		86
41) Benzene	12.91	78	17606253	116.706	ng		98
42) Carbon Tetrachloride	13.07	117	6184539	116.773	ng		100
43) Cyclohexane	13.20	84	13898242	235.915	ng		96
44) tert-Amyl Methyl Ether	13.55	73	11823139	117.452	ng		97
45) 1,2-Dichloropropane	13.76	63	3880134	110.046	ng		100
46) Bromodichloromethane	13.96	83	6148658	118.166	ng		99
47) Trichloroethene	14.01	130	5026454	125.957	ng		100
48) 1,4-Dioxane	13.98	88	3887727	127.871	ng		99
49) 2,2,4-Trimethylpentane...	14.08	57	15623076	106.517	ng		96

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112009.D
Acq On : 11 Mar 2020 4:52 Operator: LH
Sample : 100ng TO15 ICAL STD
Misc : S31-02112001/S34-03102002 (4/8)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 11 10:34:58 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

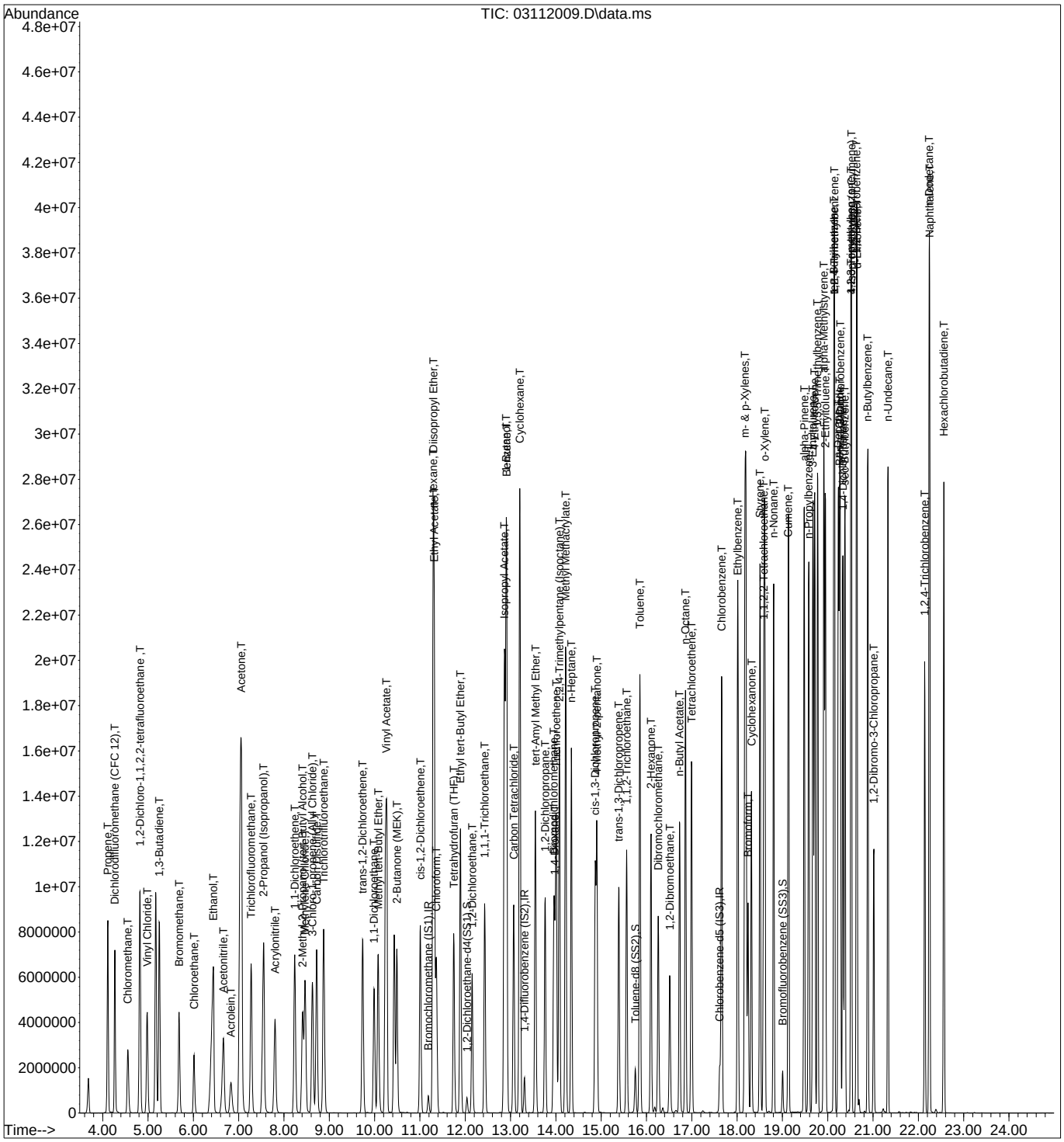
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
50) Methyl Methacrylate	14.22	100	4116642	276.256 ng		93
51) n-Heptane	14.34	71	4379355	121.709 ng		98
52) cis-1,3-Dichloropropene	14.87	75	7054768	123.779 ng		99
53) 4-Methyl-2-pentanone	14.90	58	3998874	122.965 ng		92
54) trans-1,3-Dichloropropene	15.39	75	6360167	132.667 ng		99
55) 1,1,2-Trichloroethane	15.56	97	4095708	115.559 ng		99
58) Toluene	15.85	91	16109947	110.177 ng		95
59) 2-Hexanone	16.10	43	8892572	123.226 ng		95
60) Dibromochloromethane	16.26	129	5334635	129.899 ng		99
61) 1,2-Dibromoethane	16.51	107	4751430	123.994 ng		100
62) n-Butyl Acetate	16.73	43	9990678	124.518 ng		95
63) n-Octane	16.86	57	3675490	123.883 ng		96
64) Tetrachloroethene	17.00	166	5313256	127.431 ng		98
65) Chlorobenzene	17.66	112	11859997	116.809 ng		98
66) Ethylbenzene	18.01	91	17363471	107.965 ng		87
67) m- & p-Xylenes	18.17	91	27751033	217.130 ng		89
68) Bromoform	18.24	173	4863241	140.699 ng		99
69) Styrene	18.50	104	12431681	131.464 ng		96
70) o-Xylene	18.61	91	15183937	116.436 ng		93
71) n-Nonane	18.81	43	7664626	114.712 ng		93
72) 1,1,2,2-Tetrachloroethane	18.59	83	7778557	120.334 ng		99
74) Cumene	19.13	105	16771442	103.135 ng		85
75) alpha-Pinene	19.48	93	10896652	130.672 ng		99
76) n-Propylbenzene	19.58	91	17561192	93.506 ng		81
77) 3-Ethyltoluene	19.67	105	16849385	108.086 ng		86
78) 4-Ethyltoluene	19.71	105	15626045	103.415 ng		82
79) 1,3,5-Trimethylbenzene	19.77	105	14895394	110.965 ng		90
80) alpha-Methylstyrene	19.91	118	9682152	146.011 ng		98
81) 2-Ethyltoluene	19.95	105	16569621	106.393 ng		85
82) 1,2,4-Trimethylbenzene	20.15	105	14070480	102.629 ng		98
83) n-Decane	20.23	57	8891803	127.283 ng		97
84) Benzyl Chloride	20.26	91	14301238	168.803 ng		92
85) 1,3-Dichlorobenzene	20.28	146	10365398	132.094 ng		99
86) 1,4-Dichlorobenzene	20.34	146	9941138	131.175 ng		99
87) sec-Butylbenzene	20.37	105	16544733	94.587 ng		83
88) 4-Isopropyltoluene (p-...	20.52	119	15487849	94.830 ng		93
89) 1,2,3-Trimethylbenzene	20.51	105	13892984	100.967 ng		99
90) 1,2-Dichlorobenzene	20.63	146	8884885	114.947 ng		100
91) d-Limonene	20.65	68	6260753	123.346 ng		99
92) 1,2-Dibromo-3-Chloropr...	21.02	157	3425810	130.819 ng		93
93) n-Undecane	21.33	57	8865627	141.712 ng		96
94) 1,2,4-Trichlorobenzene	22.14	180	6330456	108.584 ng		99
95) Naphthalene	22.25	128	15799261	89.492 ng		97
96) n-Dodecane	22.24	57	7848075	114.148 ng		97
97) Hexachlorobutadiene	22.56	225	5388871	149.737 ng		100
98) Cyclohexanone	18.32	55	5922169	122.701 ng		97
99) tert-Butylbenzene	20.14	119	13804796	100.769 ng		97
100) n-Butylbenzene	20.88	91	14505586	107.319 ng	#	86

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112009.D
Acq On : 11 Mar 2020 4:52 Operator: LH
Sample : 100ng TO15 ICAL STD
Misc : S31-02112001/S34-03102002 (4/8)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 11 10:34:58 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112010.D
Acq On : 11 Mar 2020 5:25 Operator: LH
Sample : 25ng TO15 ICV STD
Misc : S31-02112001/S31-02262006 (3/26)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 11 10:56:51 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 3/11/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	355611	12.500	ng	-0.01
37) 1,4-Difluorobenzene (IS2)	13.30	114	1527052	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.61	82	684548	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.03	65	538729	10.941	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.52%			
57) Toluene-d8 (SS2)	15.75	98	1547325	12.752	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.00%			
73) Bromofluorobenzene (SS3)	19.01	174	582961	13.606	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.88%			
Target Compounds						Qvalue
2) Propene	4.10	42	862551	23.127	ng	100
3) Dichlorodifluoromethan...	4.26	85	1856195	23.133	ng	100
4) Chloromethane	4.54	50	1381695	21.807	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	1141380	22.333	ng	100
6) Vinyl Chloride	4.97	62	1520058	22.729	ng	100
7) 1,3-Butadiene	5.23	54	1020011	21.054	ng	99
8) Bromomethane	5.66	94	824075	24.598	ng	99
9) Chloroethane	6.00	64	609554	23.753	ng	99
10) Ethanol	6.37	45	3340839	113.339	ng	100
11) Acetonitrile	6.62	41	1469354	22.660	ng	100
12) Acrolein	6.81	56	521559	24.045	ng	100
13) Acetone	7.01	58	3600757	123.782	ng	97
14) Trichlorofluoromethane	7.26	101	1663600	23.513	ng	100
15) 2-Propanol (Isopropanol)	7.51	45	4265842	49.446	ng	99
16) Acrylonitrile	7.77	53	1135244	26.007	ng	100
17) 1,1-Dichloroethene	8.22	96	897050	25.635	ng	92
18) 2-Methyl-2-Propanol (t...	8.38	59	4419701	57.087	ng	99
19) Methylene Chloride	8.45	84	931250	24.603	ng	95
20) 3-Chloro-1-propene (Al...	8.61	41	1158146	23.616	ng	98
21) Trichlorotrifluoroethane	8.87	151	873168	25.805	ng	93
22) Carbon Disulfide	8.71	76	3295065	24.206	ng	100
23) trans-1,2-Dichloroethene	9.72	61	1283815	25.277	ng	96
24) 1,1-Dichloroethane	9.98	63	1505850	23.232	ng	99
25) Methyl tert-Butyl Ether	10.07	73	2557821	24.378	ng	99
26) Vinyl Acetate	10.23	86	1265244	126.748	ng	99
27) 2-Butanone (MEK)	10.47	72	625851	25.844	ng	99
28) cis-1,2-Dichloroethene	10.99	61	1237482	23.451	ng	96
29) Diisopropyl Ether	11.29	87	909931	23.564	ng	97
30) Ethyl Acetate	11.30	61	795072	55.544	ng	98
31) n-Hexane	11.28	57	1669683	25.168	ng	100
32) Chloroform	11.34	83	1678465	23.772	ng	100
34) Tetrahydrofuran (THF)	11.74	72	614462	24.662	ng	97
35) Ethyl tert-Butyl Ether	11.88	87	1123408	24.910	ng	97
36) 1,2-Dichloroethane	12.14	62	1258333	22.847	ng	100
38) 1,1,1-Trichloroethane	12.42	97	1517992	25.332	ng	99
39) Isopropyl Acetate	12.85	61	1321796	53.315	ng	95
40) 1-Butanol	12.87	56	2113360	53.272	ng	100
41) Benzene	12.90	78	3776411	23.915	ng	100
42) Carbon Tetrachloride	13.06	117	1356485	25.016	ng	100
43) Cyclohexane	13.20	84	3055382	50.394	ng	98
44) tert-Amyl Methyl Ether	13.54	73	2623216	25.681	ng	99
45) 1,2-Dichloropropane	13.75	63	890161	24.651	ng	100
46) Bromodichloromethane	13.95	83	1367552	25.623	ng	100
47) Trichloroethene	14.00	130	1077020	24.071	ng	100
48) 1,4-Dioxane	13.97	88	827725	27.075	ng	98
49) 2,2,4-Trimethylpentane...	14.07	57	3608118	24.047	ng	98

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112010.D
Acq On : 11 Mar 2020 5:25 Operator: LH
Sample : 25ng TO15 ICV STD
Misc : S31-02112001/S31-02262006 (3/26)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 11 10:56:51 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

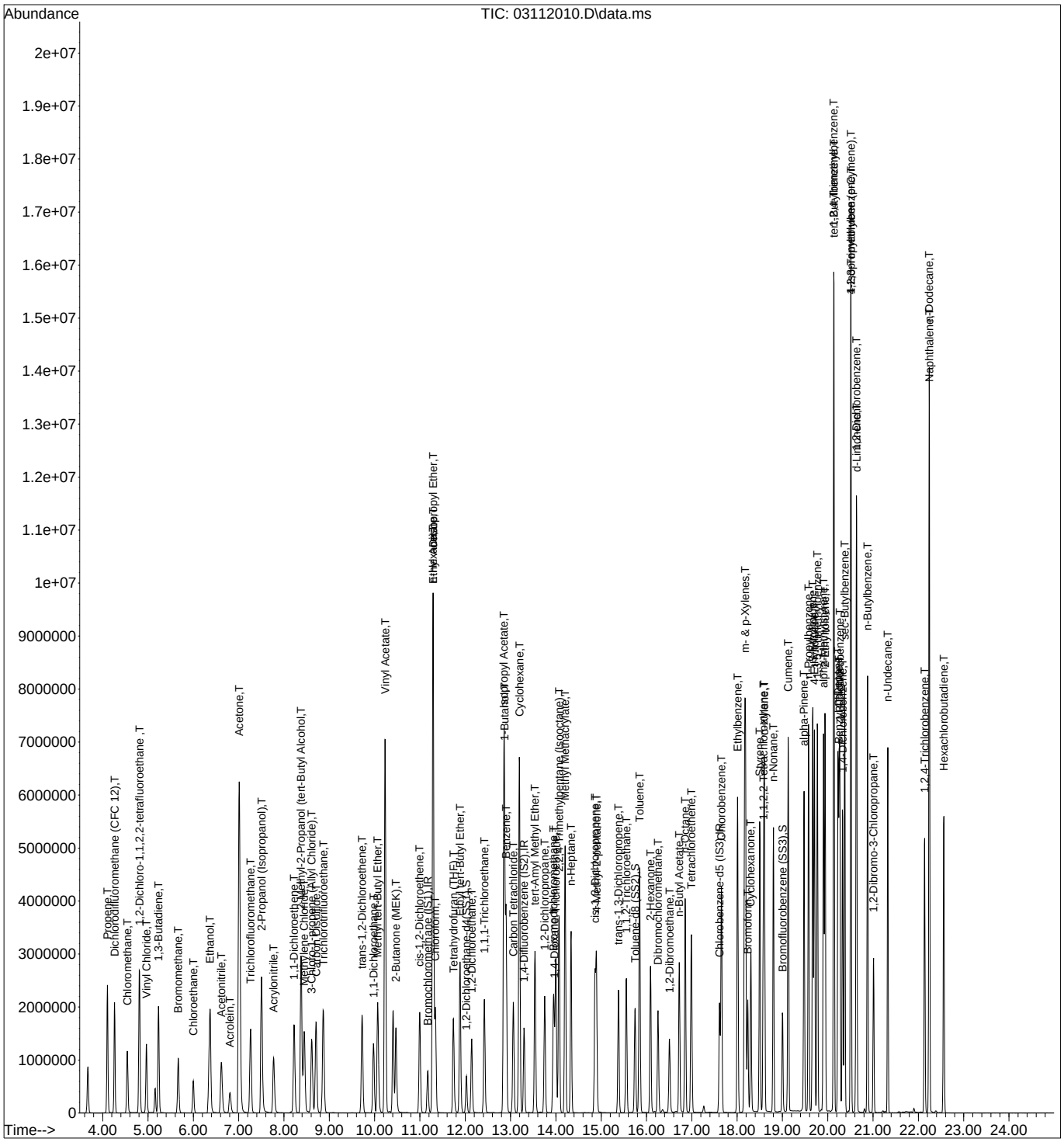
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) Methyl Methacrylate	14.20	100	863790	56.588	ng	96
51) n-Heptane	14.34	71	913344	24.773	ng	99
52) cis-1,3-Dichloropropene	14.86	75	1658900	28.460	ng	100
53) 4-Methyl-2-pentanone	14.90	58	870419	26.299	ng	98
54) trans-1,3-Dichloropropene	15.38	75	1423525	26.288	ng	100
55) 1,1,2-Trichloroethane	15.56	97	939017	25.761	ng	98
58) Toluene	15.85	91	3866473	25.772	ng	100
59) 2-Hexanone	16.09	43	2041667	27.195	ng	99
60) Dibromochloromethane	16.26	129	1202505	30.109	ng	100
61) 1,2-Dibromoethane	16.51	107	1109710	28.901	ng	99
62) n-Butyl Acetate	16.72	43	2253362	28.066	ng	98
63) n-Octane	16.85	57	762661	25.618	ng	98
64) Tetrachloroethene	16.99	166	1157710	27.693	ng	100
65) Chlorobenzene	17.65	112	2682704	26.577	ng	100
66) Ethylbenzene	18.01	91	4512452	27.416	ng	99
67) m- & p-Xylenes	18.18	91	7345655	54.872	ng	100
68) Bromoform	18.24	173	1087333	30.152	ng	99
69) Styrene	18.50	104	2875489	27.385	ng	100
70) o-Xylene	18.60	91	3617042	27.023	ng	100
71) n-Nonane	18.80	43	1721846	25.729	ng	100
72) 1,1,2,2-Tetrachloroethane	18.58	83	1781192	27.693	ng	100
74) Cumene	19.13	105	4614166	27.260	ng	100
75) alpha-Pinene	19.48	93	2328963	27.155	ng	99
76) n-Propylbenzene	19.58	91	5481109	27.728	ng	100
77) 3-Ethyltoluene	19.67	105	4700952	27.987	ng	100
78) 4-Ethyltoluene	19.71	105	4371195	27.192	ng	100
79) 1,3,5-Trimethylbenzene	19.77	105	3849300	26.904	ng	100
80) alpha-Methylstyrene	19.91	118	2108810	26.968	ng	91
81) 2-Ethyltoluene	19.94	105	4578575	27.613	ng	100
82) 1,2,4-Trimethylbenzene	20.13	105	4393633	29.643	ng	99
83) n-Decane	20.23	57	1945135	27.154	ng	100
84) Benzyl Chloride	20.25	91	3479562	30.288	ng	100
85) 1,3-Dichlorobenzene	20.27	146	2423133	30.467	ng	100
86) 1,4-Dichlorobenzene	20.33	146	2365608	29.950	ng	100
87) sec-Butylbenzene	20.37	105	5109372	27.716	ng	100
88) 4-Isopropyltoluene (p-...	20.51	119	5256318	29.823	ng	100
89) 1,2,3-Trimethylbenzene	20.51	105	4300815	28.906	ng	100
90) 1,2-Dichlorobenzene	20.63	146	2408869	29.636	ng	100
91) d-Limonene	20.64	68	1519103	26.502	ng	100
92) 1,2-Dibromo-3-Chloropr...	21.01	157	824904	30.239	ng	99
93) n-Undecane	21.33	57	1922457	26.013	ng	100
94) 1,2,4-Trichlorobenzene	22.14	180	1654245	34.919	ng	99
95) Naphthalene	22.24	128	5657733	34.126	ng	100
96) n-Dodecane	22.24	57	1873801	25.516	ng	100
97) Hexachlorobutadiene	22.56	225	1057194	27.990	ng	100
98) Cyclohexanone	18.30	55	1297660	25.006	ng	100
99) tert-Butylbenzene	20.14	119	4200985	28.904	ng	100
100) n-Butylbenzene	20.88	91	4108973	27.578	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112010.D
Acq On : 11 Mar 2020 5:25 Operator: LH
Sample : 25ng TO15 ICV STD
Misc : S31-02112001/S31-02262006 (3/26)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 11 10:56:51 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



LH 3/11/20

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **03112010.D**
Data File Path: **I:\MS16\DATA\2020_03\11**
Operator: **LH**
Date Acquired: **3/11/20** **5:25**

Acq. Method File: **TO15.M**
Sample Name: **25ng TO15 ICV STD**
Misc Info: **S31-02112001/S31-02262006 (**
Instrument Name: **GCMS-16**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
2)	**Propene**	**4.10**	**23.1**	26.25	88	**51**	**133**	*	*
3)	**Dichlorodifluoromethane (CFC 1**	**4.26**	**23.1**	**26.25**	88	**64**	**115**	*	*
4)	**Chloromethane**	**4.54**	**21.8**	**26.50**	82	**49**	**127**	*	*
5)	**1,2-Dichloro-1,1,2,2-tetrafluoroet**	**4.81**	**22.3**	**25.75**	87	**65**	**114**	*	*
6)	**Vinyl Chloride**	**4.97**	**22.7**	**26.50**	86	**61**	**129**	*	*
7)	**1,3-Butadiene**	**5.23**	**21.1**	**26.50**	80	**54**	**140**	*	*
8)	**Bromomethane**	**5.66**	**24.6**	**26.50**	93	**68**	**120**	*	*
9)	**Chloroethane**	**6.00**	**23.8**	**26.75**	89	**63**	**123**	*	*
10)	**Ethanol**	**6.37**	**113**	**132.50**	85	**49**	**134**	*	*
11)	**Acetonitrile**	**6.62**	**22.7**	**26.75**	85	**50**	**137**	*	*
12)	**Acrolein**	**6.81**	**24.0**	**25.75**	93	**62**	**128**	*	*
13)	**Acetone**	**7.01**	**124**	**133.50**	93	**56**	**125**	*	*
14)	**Trichlorofluoromethane**	**7.26**	**23.5**	**26.50**	89	**64**	**115**	*	*
15)	**2-Propanol (Isopropanol)**	**7.51**	**49.4**	**52.75**	94	**57**	**133**	*	*
16)	**Acrylonitrile**	**7.77**	**26.0**	**26.50**	98	**64**	**136**	*	*
17)	**1,1-Dichloroethene**	**8.22**	**25.6**	**26.75**	96	**68**	**115**	*	*
18)	2-Methyl-2-Propanol (tert-Butyl Alc	8.38	57.1	53.75	106	56	132	*	*
19)	**Methylene Chloride**	**8.45**	**24.6**	**26.25**	94	**68**	**114**	*	*
20)	**3-Chloro-1-propene (Allyl Chloric**	**8.61**	**23.6**	**26.75**	88	**55**	**139**	*	*
21)	**Trichlorotrifluoroethane**	**8.87**	**25.8**	**27.00**	96	**65**	**115**	*	*
22)	**Carbon Disulfide**	**8.71**	**24.2**	**26.50**	91	**68**	**113**	*	*
23)	**trans-1,2-Dichloroethene**	**9.72**	**25.3**	**26.75**	95	**65**	**122**	*	*
24)	**1,1-Dichloroethane**	**9.98**	**23.2**	**26.50**	88	**63**	**118**	*	*
25)	**Methyl tert-Butyl Ether**	**10.07**	**24.4**	**26.75**	91	**57**	**131**	*	*
26)	**Vinyl Acetate**	**10.23**	**127**	**133.25**	95	**71**	**128**	*	*
27)	**2-Butanone (MEK)**	**10.47**	**25.8**	**26.50**	97	**67**	**123**	*	*
28)	**cis-1,2-Dichloroethene**	**10.99**	**23.5**	**26.50**	89	**64**	**120**	*	*
29)	Diisopropyl Ether	11.29	23.6	27.00	87	62	121	*	*
30)	**Ethyl Acetate**	**11.30**	**55.5**	**54.00**	103	**64**	**131**	*	*
31)	**n-Hexane**	**11.28**	**25.2**	**27.00**	93	**58**	**125**	*	*
32)	**Chloroform**	**11.34**	**23.8**	**26.75**	89	**65**	**114**	*	*
34)	**Tetrahydrofuran (THF)**	**11.74**	**24.7**	**27.50**	90	**65**	**115**	*	*
35)	Ethyl tert-Butyl Ether	11.88	24.9	26.75	93	61	130	*	*
36)	**1,2-Dichloroethane**	**12.14**	**22.8**	**26.75**	85	**59**	**120**	*	*
38)	**1,1,1-Trichloroethane**	**12.42**	**25.3**	**26.75**	95	**66**	**115**	*	*
39)	Isopropyl Acetate	12.85	53.3	52.50	102	65	129	*	*
40)	1-Butanol	12.87	53.3	53.25	100	58	140	*	*
41)	**Benzene**	**12.90**	**23.9**	**26.25**	91	**66**	**109**	*	*
42)	**Carbon Tetrachloride**	**13.06**	**25.0**	**26.00**	96	**66**	**119**	*	*
43)	**Cyclohexane**	**13.20**	**50.4**	**52.75**	96	**67**	**117**	*	*
44)	tert-Amyl Methyl Ether	13.54	25.7	**26.75**	96	62	133	*	*
45)	**1,2-Dichloropropane**	**13.75**	**24.7**	**26.75**	92	**66**	**119**	*	*
46)	**Bromodichloromethane**	**13.95**	**25.6**	**27.25**	94	**71**	**119**	*	*
47)	**Trichloroethene**	**14.00**	**24.1**	**27.00**	89	**70**	**114**	*	*
48)	**1,4-Dioxane**	**13.97**	**27.1**	**27.00**	100	**71**	**117**	*	*
49)	2,2,4-Trimethylpentane (Isooctane)	14.07	24.0	26.75	90	61	122	*	*

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **03112010.D** **TO15.M**
Data File Path: **I:\MS16\DATA\2020_03\11** Sample Name: **25ng TO15 ICV STD**
Operator: **LH** Misc Info: **S31-02112001/S31-02262006 (**
Date Acquired: **3/11/20** **5:25** Instrument Name: **GCMS-16**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
50)	**Methyl Methacrylate**	**14.20**	**56.6**	**53.75**	105	**76**	**121**	*	*
51)	**n-Heptane**	**14.34**	**24.8**	**26.75**	93	**66**	**119**	*	*
52)	**cis-1,3-Dichloropropene**	**14.86**	**28.5**	**26.75**	107	**72**	**125**	*	*
53)	**4-Methyl-2-pentanone**	**14.90**	**26.3**	**26.50**	99	**68**	**130**	*	*
54)	**trans-1,3-Dichloropropene**	**15.38**	**26.3**	**26.50**	99	**71**	**132**	*	*
55)	**1,1,2-Trichloroethane**	**15.56**	**25.8**	**26.75**	96	**70**	**117**	*	*
58)	**Toluene**	**15.85**	**25.8**	**26.50**	97	**67**	**113**	*	*
59)	**2-Hexanone**	**16.09**	**27.2**	**27.00**	101	**62**	**135**	*	*
60)	**Dibromochloromethane**	**16.26**	**30.1**	**26.75**	113	**73**	**126**	*	*
61)	**1,2-Dibromoethane**	**16.51**	**28.9**	**26.75**	108	**71**	**122**	*	*
62)	**n-Butyl Acetate**	**16.72**	**28.1**	**27.25**	103	**65**	**134**	*	*
63)	**n-Octane**	**16.85**	**25.6**	**27.00**	95	**63**	**120**	*	*
64)	**Tetrachloroethene**	**16.99**	**27.7**	**26.00**	107	**64**	**120**	*	*
65)	**Chlorobenzene**	**17.65**	**26.6**	**26.75**	99	**65**	**116**	*	*
66)	**Ethylbenzene**	**18.01**	**27.4**	**26.50**	103	**65**	**117**	*	*
67)	**m- & p-Xylenes**	**18.18**	**54.9**	**53.25**	103	**64**	**121**	*	*
68)	**Bromoform**	**18.24**	**30.2**	**26.75**	113	**72**	**130**	*	*
69)	**Styrene**	**18.50**	**27.4**	**26.50**	103	**72**	**126**	*	*
70)	**o-Xylene**	**18.60**	**27.0**	**26.75**	101	**64**	**120**	*	*
71)	**n-Nonane**	**18.80**	**25.7**	**26.75**	96	**56**	**132**	*	*
72)	**1,1,2,2-Tetrachloroethane**	**18.58**	**27.7**	**26.75**	104	**66**	**122**	*	*
74)	**Cumene**	**19.13**	**27.3**	**26.75**	102	**64**	**121**	*	*
75)	**alpha-Pinene**	**19.48**	**27.2**	**26.50**	103	**62**	**136**	*	*
76)	**n-Propylbenzene**	**19.58**	**27.7**	**26.75**	104	**65**	**123**	*	*
77)	3-Ethyltoluene	19.67	28.0	26.75	105	62	123	*	*
78)	**4-Ethyltoluene**	**19.71**	**27.2**	**26.25**	**104**	**71**	**126**	*	*
79)	**1,3,5-Trimethylbenzene**	**19.77**	**26.9**	**26.50**	**102**	**65**	**120**	*	*
80)	alpha-Methylstyrene	19.91	27.0	26.50	**102**	70	132	*	*
81)	2-Ethyltoluene	19.94	27.6	26.75	**103**	66	121	*	*
82)	**1,2,4-Trimethylbenzene**	**20.13**	**29.6**	**26.50**	**112**	**63**	**129**	*	*
83)	n-Decane	20.23	27.2	26.75	**102**	61	131	*	*
84)	**Benzyl Chloride**	**20.25**	**30.3**	**26.75**	**113**	**66**	**138**	*	*
85)	**1,3-Dichlorobenzene**	**20.27**	**30.5**	**26.75**	**114**	**65**	**127**	*	*
86)	**1,4-Dichlorobenzene**	**20.33**	**29.9**	**26.75**	**112**	**66**	**125**	*	*
87)	sec-Butylbenzene	20.37	27.7	26.50	**105**	68	123	*	*
88)	4-Isopropyltoluene (p-Cymene)	20.51	29.8	27.25	**109**	61	129	*	*
89)	1,2,3-Trimethylbenzene	20.51	28.9	27.00	**107**	60	134	*	*
90)	**1,2-Dichlorobenzene**	**20.63**	**29.6**	**26.75**	**111**	**67**	**128**	*	*
91)	**d-Limonene**	**20.64**	**26.5**	**26.50**	**100**	**65**	**136**	*	*
92)	**1,2-Dibromo-3-Chloropropane**	**21.01**	**30.2**	**26.75**	**113**	**73**	**133**	*	*
93)	n-Undecane	21.33	26.0	27.00	**96**	64	131	*	*
94)	**1,2,4-Trichlorobenzene**	**22.14**	**34.9**	**27.00**	**129**	**62**	**140**	*	*
95)	**Naphthalene**	**22.24**	**34.1**	**26.50**	**129**	**57**	**149**	*	*
96)	n-Dodecane	22.24	25.5	26.50	**96**	41	181	*	*
97)	**Hexachlorobutadiene**	**22.56**	**28.0**	**26.75**	**105**	57	129	*	*
98)	Cyclohexanone	18.31	25.0	25.25	99	61	131	*	*
99)	tert-Butylbenzene	20.14	28.9	26.50	109	62	130	*	*
100)	n-Butylbenzene	20.88	27.6	26.75	103	67	124	*	*

Bold = 75 Compound List

 *** = Pass I:\MS16\0-Instrument Info\0-Security Certificates\ICV_LCS_2019_10111902.CRT** 3/11/20 10:58 AM

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_04\20\04202025.D Vial: 2
Acq On : 20 Apr 2020 17:23 Operator: LH
Sample : CCV2 R16042020_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 20 18:30:23 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020 LH 4/20/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	122	-0.01
2	T	Propene	1.311	1.401	-6.9	136	-0.02
3	T	Dichlorodifluoromethane (CF	2.821	2.776	1.6	127	-0.02
4	T	Chloromethane	2.227	2.360	-6.0	134	-0.02
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.796	1.667	7.2	120	-0.02
6	T	Vinyl Chloride	2.351	2.423	-3.1	131	-0.02
7	T	1,3-Butadiene	1.703	1.592	6.5	134	-0.02
8	T	Bromomethane	1.178	1.210	-2.7	129	-0.02
9	T	Chloroethane	0.902	0.928	-2.9	130	-0.02
10	T	Ethanol	1.036	1.068	-3.1	129	-0.07
11	T	Acetonitrile	2.279	2.342	-2.8	135	-0.05
12	T	Acrolein	0.762	0.869	-14.0	132	-0.03
13	T	Acetone	1.023	1.133	-10.8	126	-0.04
14	T	Trichlorofluoromethane	2.487	2.451	1.4	121	-0.02
15	T	2-Propanol (Isopropanol)	3.033	3.502	-15.5	130	-0.05
16	T	Acrylonitrile	1.534	1.831	-19.4	131	-0.03
17	T	1,1-Dichloroethene	1.230	1.302	-5.9	126	-0.02
18	T	2-Methyl-2-Propanol (tert-B	2.721	3.308	-21.6	121	-0.03
19	T	Methylene Chloride	1.330	1.427	-7.3	127	-0.02
20	T	3-Chloro-1-propene (Allyl C	1.724	1.904	-10.4	129	-0.02
21	T	Trichlorotrifluoroethane	1.189	1.182	0.6	123	-0.01
22	T	Carbon Disulfide	4.785	5.087	-6.3	125	-0.02
23	T	trans-1,2-Dichloroethene	1.785	1.951	-9.3	128	-0.01
24	T	1,1-Dichloroethane	2.278	2.360	-3.6	126	-0.01
25	T	Methyl tert-Butyl Ether	3.688	3.551	3.7	116	-0.01
26	T	Vinyl Acetate	0.351	0.385	-9.7	115	-0.03
27	T	2-Butanone (MEK)	0.851	0.981	-15.3	121	-0.02
28	T	cis-1,2-Dichloroethene	1.855	1.935	-4.3	125	-0.02
29	T	Diisopropyl Ether	1.357	1.381	-1.8	118	-0.01
30	T	Ethyl Acetate	0.503	0.622	-23.7	122	-0.02
31	T	n-Hexane	2.332	2.706	-16.0	127	0.00
32	T	Chloroform	2.482	2.518	-1.5	121	-0.02
33	S	1,2-Dichloroethane-d4(SS1)	1.731	1.637	5.4	119	-0.01
34	T	Tetrahydrofuran (THF)	0.876	0.916	-4.6	125	-0.01
35	T	Ethyl tert-Butyl Ether	1.585	1.670	-5.4	123	-0.01
36	T	1,2-Dichloroethane	1.936	1.889	2.4	120	-0.01
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	121	-0.01
38	T	1,1,1-Trichloroethane	0.491	0.510	-3.9	121	0.00
39	T	Isopropyl Acetate	0.203	0.247	-21.7	124	-0.01
40	T	1-Butanol	0.325	0.387	-19.1	117	-0.04
41	T	Benzene	1.293	1.376	-6.4	119	-0.01
42	T	Carbon Tetrachloride	0.444	0.473	-6.5	120	-0.01
43	T	Cyclohexane	0.496	0.539	-8.7	121	-0.01
44	T	tert-Amyl Methyl Ether	0.836	0.928	-11.0	124	-0.01
45	T	1,2-Dichloropropane	0.296	0.319	-7.8	127	-0.01
46	T	Bromodichloromethane	0.437	0.474	-8.5	121	-0.01
47	T	Trichloroethene	0.366	0.351	4.1	121	0.00
48	T	1,4-Dioxane	0.250	0.278	-11.2	123	-0.01
49	T	2,2,4-Trimethylpentane (Iso	1.228	1.341	-9.2	128	-0.01
50	T	Methyl Methacrylate	0.125	0.144	-15.2	116	-0.01
51	T	n-Heptane	0.302	0.330	-9.3	125	0.00
52	T	cis-1,3-Dichloropropene	0.477	0.568	-19.1	124	0.00
53	T	4-Methyl-2-pentanone	0.271	0.323	-19.2	126	0.00
54	T	trans-1,3-Dichloropropene	0.443	0.505	-14.0	124	0.00
55	T	1,1,2-Trichloroethane	0.298	0.323	-8.4	124	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_04\20\04202025.D Vial: 2
Acq On : 20 Apr 2020 17:23 Operator: LH
Sample : CCV2 R16042020_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 20 18:30:23 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	120	0.00
57	S	Toluene-d8 (SS2)	2.216	2.108	4.9	115	0.00
58	T	Toluene	2.739	2.763	-0.9	117	0.00
59	T	2-Hexanone	1.371	1.598	-16.6	127	-0.01
60	T	Dibromochloromethane	0.729	0.844	-15.8	122	0.00
61	T	1,2-Dibromoethane	0.701	0.787	-12.3	123	0.00
62	T	n-Butyl Acetate	1.466	1.775	-21.1	127	0.00
63	T	n-Octane	0.544	0.587	-7.9	125	0.00
64	T	Tetrachloroethene	0.763	0.785	-2.9	118	0.00
65	T	Chlorobenzene	1.843	1.878	-1.9	119	0.00
66	T	Ethylbenzene	3.006	3.298	-9.7	117	0.00
67	T	m- & p-Xylenes	2.444	2.662	-8.9	115	0.00
68	T	Bromoform	0.659	0.729	-10.6	115	0.00
69	T	Styrene	1.917	2.077	-8.3	114	0.00
70	T	o-Xylene	2.444	2.651	-8.5	116	0.00
71	T	n-Nonane	1.222	1.355	-10.9	124	0.00
72	T	1,1,2,2-Tetrachloroethane	1.174	1.323	-12.7	121	0.00
73	S	Bromofluorobenzene (SS3)	0.782	0.787	-0.6	119	0.00
74	T	Cumene	3.091	3.325	-7.6	115	0.00
75	T	alpha-Pinene	1.566	1.740	-11.1	114	0.00
76	T	n-Propylbenzene	3.610	4.021	-11.4	116	0.00
77	T	3-Ethyltoluene	3.067	3.314	-8.1	114	0.00
78	T	4-Ethyltoluene	2.935	3.248	-10.7	114	0.00
79	T	1,3,5-Trimethylbenzene	2.613	2.745	-5.1	112	0.00
80	T	alpha-Methylstyrene	1.428	1.485	-4.0	108	0.00
81	T	2-Ethyltoluene	3.028	3.235	-6.8	113	0.00
82	T	1,2,4-Trimethylbenzene	2.707	3.051	-12.7	110	-0.01
83	T	n-Decane	1.308	1.357	-3.7	109	0.00
84	T	Benzyl Chloride	2.098	2.485	-18.4	123	-0.01
85	T	1,3-Dichlorobenzene	1.452	1.682	-15.8	114	0.00
86	T	1,4-Dichlorobenzene	1.442	1.645	-14.1	115	0.00
87	T	sec-Butylbenzene	3.366	3.682	-9.4	113	0.00
88	T	4-Isopropyltoluene (p-Cymen	3.218	3.637	-13.0	108	-0.01
89	T	1,2,3-Trimethylbenzene	2.717	3.039	-11.9	109	0.00
90	T	1,2-Dichlorobenzene	1.484	1.677	-13.0	115	0.00
91	T	d-Limonene	1.047	1.138	-8.7	112	-0.01
92	T	1,2-Dibromo-3-Chloropropane	0.498	0.601	-20.7	129	0.00
93	T	n-Undecane	1.349	0.907	32.8#	73	0.00
94	T	1,2,4-Trichlorobenzene	0.865	0.966	-11.7	134	0.00
95	T	Naphthalene	3.027	3.078	-1.7	102	0.00
96	T	n-Dodecane	1.341	0.334	75.1#	25#	0.00
97	T	Hexachlorobutadiene	0.690	0.676	2.0	113	0.00
98	T	Cyclohexanone	0.948	1.072	-13.1	122	-0.02
99	T	tert-Butylbenzene	2.654	2.948	-11.1	108	0.00
100	T	n-Butylbenzene	2.721	2.939	-8.0	115	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202025.D Vial: 2
Acq On : 20 Apr 2020 17:23 Operator: LH
Sample : CCV2 R16042020_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 20 18:30:23 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/20/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	335587	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.30	114	1454226	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.61	82	699127	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	549224	11.819	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.56%				
57) Toluene-d8 (SS2)	15.75	98	1473823	11.893	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.12%				
73) Bromofluorobenzene (SS3)	19.00	174	549871	12.566	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.56%				
Target Compounds							Qvalue
2) Propene	4.09	42	996922	28.325	ng		99
3) Dichlorodifluoromethan...	4.25	85	1974765	26.079	ng		100
4) Chloromethane	4.54	50	1679329	28.086	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	1174827	24.359	ng		100
6) Vinyl Chloride	4.96	62	1756612	27.834	ng		100
7) 1,3-Butadiene	5.22	54	1132625	24.773	ng		100
8) Bromomethane	5.66	94	876824	27.734	ng		100
9) Chloroethane	5.99	64	672752	27.780	ng		99
10) Ethanol	6.37	45	3733781	134.228	ng		100
11) Acetonitrile	6.62	41	1650542	26.973	ng		100
12) Acrolein	6.80	56	600867	29.354	ng		100
13) Acetone	7.01	58	4051489	147.587	ng		99
14) Trichlorofluoromethane	7.26	101	1743744	26.116	ng		100
15) 2-Propanol (Isopropanol)	7.50	45	4935252	60.619	ng		98
16) Acrylonitrile	7.77	53	1290171	31.320	ng		99
17) 1,1-Dichloroethene	8.22	96	943571	28.574	ng		98
18) 2-Methyl-2-Propanol (t...	8.38	59	4796389	65.650	ng		98
19) Methylene Chloride	8.45	84	1015251	28.423	ng		99
20) 3-Chloro-1-propene (Al...	8.61	41	1380447	29.828	ng		98
21) Trichlorotrifluoroethane	8.86	151	856546	26.824	ng		98
22) Carbon Disulfide	8.71	76	3653247	28.438	ng		100
23) trans-1,2-Dichloroethene	9.72	61	1414533	29.513	ng		99
24) 1,1-Dichloroethane	9.98	63	1726892	28.231	ng		100
25) Methyl tert-Butyl Ether	10.07	73	2573974	25.996	ng		99
26) Vinyl Acetate	10.23	86	1380964	146.595	ng	#	82
27) 2-Butanone (MEK)	10.47	72	697759	30.532	ng		92
28) cis-1,2-Dichloroethene	10.99	61	1376384	27.640	ng		100
29) Diisopropyl Ether	11.29	87	1000865	27.465	ng	#	86
30) Ethyl Acetate	11.30	61	905269	67.016	ng		98
31) n-Hexane	11.28	57	1961218	31.327	ng		99
32) Chloroform	11.34	83	1808060	27.136	ng		100
34) Tetrahydrofuran (THF)	11.74	72	670364	28.511	ng		96
35) Ethyl tert-Butyl Ether	11.88	87	1210256	28.437	ng		96
36) 1,2-Dichloroethane	12.14	62	1369523	26.350	ng		100
38) 1,1,1-Trichloroethane	12.42	97	1586497	27.801	ng		100
39) Isopropyl Acetate	12.85	61	1516543	64.233	ng		99
40) 1-Butanol	12.87	56	2340329	61.947	ng		97
41) Benzene	12.90	78	4242142	28.210	ng		100
42) Carbon Tetrachloride	13.06	117	1445076	27.984	ng		99
43) Cyclohexane	13.19	84	3325710	57.600	ng		96
44) tert-Amyl Methyl Ether	13.54	73	2916161	29.978	ng		99
45) 1,2-Dichloropropane	13.75	63	1003234	29.173	ng		99
46) Bromodichloromethane	13.95	83	1490336	29.322	ng		100
47) Trichloroethene	14.00	130	1091305	25.612	ng		100
48) 1,4-Dioxane	13.97	88	874154	30.026	ng		97
49) 2,2,4-Trimethylpentane...	14.07	57	4173788	29.210	ng		98
50) Methyl Methacrylate	14.20	100	902227	62.066	ng		93

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202025.D Vial: 2
Acq On : 20 Apr 2020 17:23 Operator: LH
Sample : CCV2 R16042020_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 20 18:30:23 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

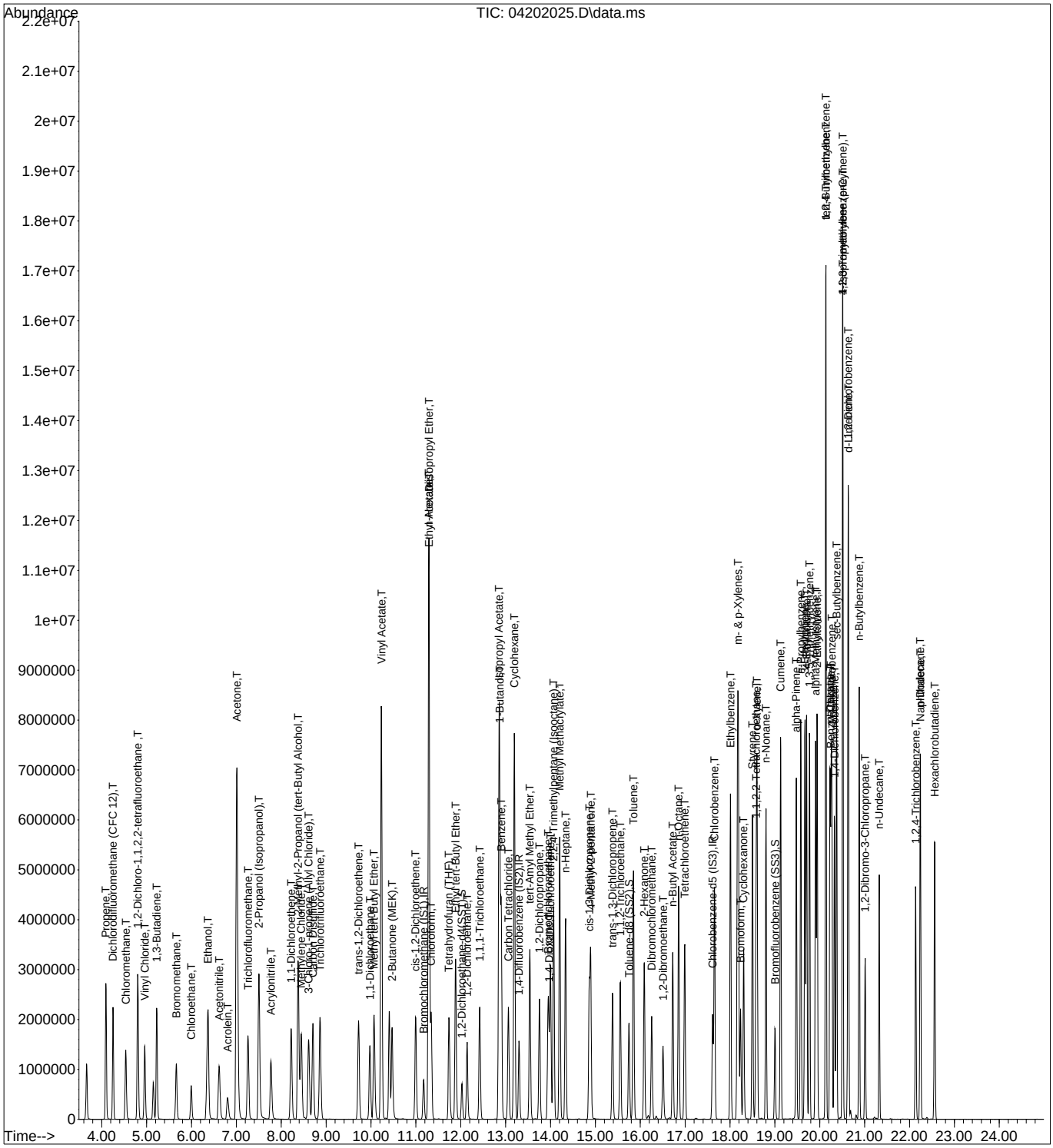
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.34	71	1037004	29.535	ng	98
52) cis-1,3-Dichloropropene	14.86	75	1718264	30.954	ng	100
53) 4-Methyl-2-pentanone	14.90	58	996211	31.608	ng	98
54) trans-1,3-Dichloropropene	15.38	75	1557343	30.199	ng	100
55) 1,1,2-Trichloroethane	15.56	97	1003651	28.913	ng	99
58) Toluene	15.85	91	4134489	26.984	ng	100
59) 2-Hexanone	16.09	43	2391045	31.184	ng	99
60) Dibromochloromethane	16.26	129	1262194	30.944	ng	100
61) 1,2-Dibromoethane	16.51	107	1178157	30.044	ng	100
62) n-Butyl Acetate	16.72	43	2705204	32.992	ng	99
63) n-Octane	16.85	57	886115	29.144	ng	97
64) Tetrachloroethene	16.99	166	1141181	26.728	ng	100
65) Chlorobenzene	17.65	112	2809398	27.251	ng	100
66) Ethylbenzene	18.01	91	4933869	29.351	ng	99
67) m- & p-Xylenes	18.18	91	7965274	58.260	ng	99
68) Bromoform	18.24	173	1090422	29.607	ng	100
69) Styrene	18.50	104	3078007	28.702	ng	99
70) o-Xylene	18.60	91	3966057	29.013	ng	99
71) n-Nonane	18.80	43	2026916	29.656	ng	97
72) 1,1,2,2-Tetrachloroethane	18.58	83	1979867	30.140	ng	100
74) Cumene	19.13	105	5020764	29.044	ng	99
75) alpha-Pinene	19.48	93	2603662	29.725	ng	99
76) n-Propylbenzene	19.58	91	6071803	30.076	ng	99
77) 3-Ethyltoluene	19.67	105	4912221	28.635	ng	99
78) 4-Ethyltoluene	19.71	105	4904923	29.876	ng	99
79) 1,3,5-Trimethylbenzene	19.77	105	4067850	27.839	ng	99
80) alpha-Methylstyrene	19.91	118	2221826	27.820	ng	99
81) 2-Ethyltoluene	19.94	105	4884590	28.844	ng	99
82) 1,2,4-Trimethylbenzene	20.14	105	4565170	30.158	ng	98
83) n-Decane	20.23	57	2030444	27.754	ng	98
84) Benzyl Chloride	20.25	91	3752638	31.984	ng	99
85) 1,3-Dichlorobenzene	20.27	146	2516524	30.981	ng	99
86) 1,4-Dichlorobenzene	20.33	146	2460503	30.501	ng	100
87) sec-Butylbenzene	20.37	105	5508471	29.258	ng	99
88) 4-Isopropyltoluene (p-...	20.51	119	5542905	30.793	ng	99
89) 1,2,3-Trimethylbenzene	20.51	105	4631826	30.482	ng	98
90) 1,2-Dichlorobenzene	20.63	146	2509441	30.229	ng	99
91) d-Limonene	20.64	68	1718440	29.355	ng	98
92) 1,2-Dibromo-3-Chloropr...	21.01	157	882694	31.682	ng	96
93) n-Undecane	21.33	57	1369558	18.145	ng	98
94) 1,2,4-Trichlorobenzene	22.14	180	1445186	29.870	ng	99
95) Naphthalene	22.24	128	4432424	26.178	ng	100
96) n-Dodecane	22.24	57	486124	6.482	ng	98
97) Hexachlorobutadiene	22.56	225	1002011	25.976	ng	100
98) Cyclohexanone	18.30	55	1499483	28.293	ng	98
99) tert-Butylbenzene	20.14	119	4410495	29.712	ng	99
100) n-Butylbenzene	20.88	91	4397534	28.899	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202025.D Vial: 2
Acq On : 20 Apr 2020 17:23 Operator: LH
Sample : CCV2 R16042020_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 20 18:30:23 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_04\20\04202050.D Vial: 2
Acq On : 21 Apr 2020 7:25 Operator: LH
Sample : CCV2end R16042020_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 21 12:27:19 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/21/20

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	141	-0.01
2	T	Propene	1.311	1.365	-4.1	153	0.00
3	T	Dichlorodifluoromethane (CF	2.821	2.780	1.5	147	0.00
4	T	Chloromethane	2.227	2.271	-2.0	149	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.796	1.676	6.7	139	0.00
6	T	Vinyl Chloride	2.351	2.304	2.0	144	-0.01
7	T	1,3-Butadiene	1.703	1.550	9.0	151	-0.01
8	T	Bromomethane	1.178	1.256	-6.6	155	-0.02
9	T	Chloroethane	0.902	0.936	-3.8	152	-0.01
10	T	Ethanol	1.036	1.021	1.4	143	-0.07
11	T	Acetonitrile	2.279	2.218	2.7	148	-0.04
12	T	Acrolein	0.762	0.835	-9.6	146	-0.02
13	T	Acetone	1.023	1.055	-3.1	135	-0.04
14	T	Trichlorofluoromethane	2.487	2.450	1.5	140	0.00
15	T	2-Propanol (Isopropanol)	3.033	3.340	-10.1	143	-0.04
16	T	Acrylonitrile	1.534	1.712	-11.6	141	-0.03
17	T	1,1-Dichloroethene	1.230	1.294	-5.2	145	-0.01
18	T	2-Methyl-2-Propanol (tert-B	2.721	3.236	-18.9	137	-0.03
19	T	Methylene Chloride	1.330	1.367	-2.8	141	-0.01
20	T	3-Chloro-1-propene (Allyl C	1.724	1.795	-4.1	140	-0.01
21	T	Trichlorotrifluoroethane	1.189	1.223	-2.9	147	0.00
22	T	Carbon Disulfide	4.785	4.919	-2.8	140	-0.01
23	T	trans-1,2-Dichloroethene	1.785	1.891	-5.9	144	0.00
24	T	1,1-Dichloroethane	2.278	2.282	-0.2	141	0.00
25	T	Methyl tert-Butyl Ether	3.688	3.397	7.9	128	0.00
26	T	Vinyl Acetate	0.351	0.364	-3.7	125	-0.03
27	T	2-Butanone (MEK)	0.851	0.919	-8.0	131	-0.02
28	T	cis-1,2-Dichloroethene	1.855	1.839	0.9	138	-0.01
29	T	Diisopropyl Ether	1.357	1.303	4.0	129	-0.01
30	T	Ethyl Acetate	0.503	0.574	-14.1	130	-0.02
31	T	n-Hexane	2.332	2.476	-6.2	134	0.00
32	T	Chloroform	2.482	2.400	3.3	133	-0.02
33	S	1,2-Dichloroethane-d4(SS1)	1.731	1.573	9.1	132	-0.01
34	T	Tetrahydrofuran (THF)	0.876	0.871	0.6	137	0.00
35	T	Ethyl tert-Butyl Ether	1.585	1.609	-1.5	136	0.00
36	T	1,2-Dichloroethane	1.936	1.808	6.6	132	-0.01
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	138	0.00
38	T	1,1,1-Trichloroethane	0.491	0.498	-1.4	136	0.00
39	T	Isopropyl Acetate	0.203	0.232	-14.3	134	-0.01
40	T	1-Butanol	0.325	0.360	-10.8	125	-0.04
41	T	Benzene	1.293	1.293	0.0	128	-0.01
42	T	Carbon Tetrachloride	0.444	0.464	-4.5	135	0.00
43	T	Cyclohexane	0.496	0.515	-3.8	133	0.00
44	T	tert-Amyl Methyl Ether	0.836	0.893	-6.8	137	-0.01
45	T	1,2-Dichloropropane	0.296	0.307	-3.7	140	-0.01
46	T	Bromodichloromethane	0.437	0.458	-4.8	134	-0.01
47	T	Trichloroethene	0.366	0.347	5.2	137	0.00
48	T	1,4-Dioxane	0.250	0.270	-8.0	137	-0.01
49	T	2,2,4-Trimethylpentane (Iso	1.228	1.276	-3.9	139	0.00
50	T	Methyl Methacrylate	0.125	0.140	-12.0	128	-0.01
51	T	n-Heptane	0.302	0.312	-3.3	136	0.00
52	T	cis-1,3-Dichloropropene	0.477	0.550	-15.3	138	0.00
53	T	4-Methyl-2-pentanone	0.271	0.302	-11.4	135	0.00
54	T	trans-1,3-Dichloropropene	0.443	0.490	-10.6	138	0.00
55	T	1,1,2-Trichloroethane	0.298	0.313	-5.0	138	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_04\20\04202050.D Vial: 2
Acq On : 21 Apr 2020 7:25 Operator: LH
Sample : CCV2end R16042020_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 21 12:27:19 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	130	0.00
57	S	Toluene-d8 (SS2)	2.216	2.200	0.7	130	0.00
58	T	Toluene	2.739	2.791	-1.9	128	0.00
59	T	2-Hexanone	1.371	1.562	-13.9	134	-0.01
60	T	Dibromochloromethane	0.729	0.872	-19.6	136	0.00
61	T	1,2-Dibromoethane	0.701	0.810	-15.5	136	0.00
62	T	n-Butyl Acetate	1.466	1.734	-18.3	134	0.00
63	T	n-Octane	0.544	0.584	-7.4	134	0.00
64	T	Tetrachloroethene	0.763	0.840	-10.1	137	0.00
65	T	Chlorobenzene	1.843	1.937	-5.1	133	0.00
66	T	Ethylbenzene	3.006	3.296	-9.6	127	0.00
67	T	m- & p-Xylenes	2.444	2.638	-7.9	123	0.00
68	T	Bromoform	0.659	0.756	-14.7	129	0.00
69	T	Styrene	1.917	2.058	-7.4	122	0.00
70	T	o-Xylene	2.444	2.614	-7.0	123	0.00
71	T	n-Nonane	1.222	1.338	-9.5	133	0.00
72	T	1,1,2,2-Tetrachloroethane	1.174	1.299	-10.6	128	0.00
73	S	Bromofluorobenzene (SS3)	0.782	0.807	-3.2	132	0.00
74	T	Cumene	3.091	3.309	-7.1	123	0.00
75	T	alpha-Pinene	1.566	1.735	-10.8	123	0.00
76	T	n-Propylbenzene	3.610	3.973	-10.1	124	0.00
77	T	3-Ethyltoluene	3.067	3.289	-7.2	122	0.00
78	T	4-Ethyltoluene	2.935	3.230	-10.1	122	0.00
79	T	1,3,5-Trimethylbenzene	2.613	2.736	-4.7	121	0.00
80	T	alpha-Methylstyrene	1.428	1.473	-3.2	116	0.00
81	T	2-Ethyltoluene	3.028	3.198	-5.6	120	0.00
82	T	1,2,4-Trimethylbenzene	2.707	2.986	-10.3	116	-0.01
83	T	n-Decane	1.308	1.349	-3.1	117	0.00
84	T	Benzyl Chloride	2.098	2.464	-17.4	132	-0.01
85	T	1,3-Dichlorobenzene	1.452	1.663	-14.5	122	0.00
86	T	1,4-Dichlorobenzene	1.442	1.632	-13.2	123	0.00
87	T	sec-Butylbenzene	3.366	3.628	-7.8	120	0.00
88	T	4-Isopropyltoluene (p-Cymen	3.218	3.550	-10.3	113	-0.01
89	T	1,2,3-Trimethylbenzene	2.717	2.973	-9.4	115	0.00
90	T	1,2-Dichlorobenzene	1.484	1.645	-10.8	121	0.00
91	T	d-Limonene	1.047	1.124	-7.4	119	-0.01
92	T	1,2-Dibromo-3-Chloropropane	0.498	0.599	-20.3	139	0.00
93	T	n-Undecane	1.349	0.889	34.1#	77	0.00
94	T	1,2,4-Trichlorobenzene	0.865	1.003	-16.0	150	0.00
95	T	Naphthalene	3.027	3.032	-0.2	109	0.00
96	T	n-Dodecane	1.341	0.320	76.1#	26#	0.00
97	T	Hexachlorobutadiene	0.690	0.728	-5.5	131	0.00
98	T	Cyclohexanone	0.948	1.044	-10.1	128	-0.02
99	T	tert-Butylbenzene	2.654	2.882	-8.6	114	0.00
100	T	n-Butylbenzene	2.721	2.892	-6.3	122	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202050.D Vial: 2
Acq On : 21 Apr 2020 7:25 Operator: LH
Sample : CCV2end R16042020_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 21 12:27:19 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020 4/21/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	387769	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.30	114	1667034	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.61	82	754902	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	610008	11.361	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.88%				
57) Toluene-d8 (SS2)	15.75	98	1660959	12.413	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.28%				
73) Bromofluorobenzene (SS3)	19.01	174	609583	12.901	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.20%				
Target Compounds							Qvalue
2) Propene	4.11	42	1121872	27.586	ng		99
3) Dichlorodifluoromethan...	4.27	85	2285660	26.123	ng		100
4) Chloromethane	4.55	50	1866994	27.023	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	1364412	24.483	ng		100
6) Vinyl Chloride	4.97	62	1929767	26.463	ng		100
7) 1,3-Butadiene	5.24	54	1274511	24.125	ng		99
8) Bromomethane	5.67	94	1052363	28.807	ng		99
9) Chloroethane	6.01	64	784183	28.024	ng		99
10) Ethanol	6.37	45	4126721	128.390	ng		100
11) Acetonitrile	6.63	41	1806394	25.547	ng		100
12) Acrolein	6.81	56	667327	28.214	ng		99
13) Acetone	7.02	58	4360706	137.474	ng		98
14) Trichlorofluoromethane	7.27	101	2013944	26.104	ng		100
15) 2-Propanol (Isopropanol)	7.51	45	5440023	57.827	ng		97
16) Acrylonitrile	7.78	53	1393706	29.280	ng		100
17) 1,1-Dichloroethene	8.23	96	1083814	28.404	ng		95
18) 2-Methyl-2-Propanol (t...	8.38	59	5421388	64.218	ng		97
19) Methylene Chloride	8.45	84	1123434	27.219	ng		98
20) 3-Chloro-1-propene (Al...	8.62	41	1503738	28.120	ng		100
21) Trichlorotrifluoroethane	8.87	151	1024477	27.766	ng		96
22) Carbon Disulfide	8.71	76	4082187	27.501	ng		100
23) trans-1,2-Dichloroethene	9.73	61	1584248	28.606	ng		99
24) 1,1-Dichloroethane	9.98	63	1929397	27.297	ng		100
25) Methyl tert-Butyl Ether	10.07	73	2845119	24.868	ng		100
26) Vinyl Acetate	10.23	86	1508240	138.561	ng	#	89
27) 2-Butanone (MEK)	10.48	72	755270	28.601	ng		94
28) cis-1,2-Dichloroethene	11.00	61	1512136	26.279	ng		98
29) Diisopropyl Ether	11.29	87	1091086	25.912	ng	#	94
30) Ethyl Acetate	11.30	61	966778	61.939	ng		99
31) n-Hexane	11.28	57	2074143	28.672	ng		99
32) Chloroform	11.34	83	1991747	25.870	ng		100
34) Tetrahydrofuran (THF)	11.74	72	736479	27.108	ng		98
35) Ethyl tert-Butyl Ether	11.89	87	1347812	27.408	ng		99
36) 1,2-Dichloroethane	12.14	62	1514191	25.213	ng		100
38) 1,1,1-Trichloroethane	12.42	97	1775252	27.137	ng		99
39) Isopropyl Acetate	12.85	61	1630085	60.229	ng		98
40) 1-Butanol	12.87	56	2494077	57.589	ng		98
41) Benzene	12.90	78	4569982	26.511	ng		100
42) Carbon Tetrachloride	13.07	117	1624057	27.435	ng		100
43) Cyclohexane	13.20	84	3640709	55.006	ng		98
44) tert-Amyl Methyl Ether	13.54	73	3216541	28.845	ng		99
45) 1,2-Dichloropropane	13.75	63	1106829	28.077	ng		100
46) Bromodichloromethane	13.95	83	1650708	28.331	ng		100
47) Trichloroethene	14.00	130	1236636	25.318	ng		100
48) 1,4-Dioxane	13.97	88	971467	29.108	ng		98
49) 2,2,4-Trimethylpentane...	14.07	57	4553772	27.801	ng		98
50) Methyl Methacrylate	14.20	100	1000508	60.041	ng		97

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202050.D Vial: 2
Acq On : 21 Apr 2020 7:25 Operator: LH
Sample : CCV2end R16042020_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 21 12:27:19 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

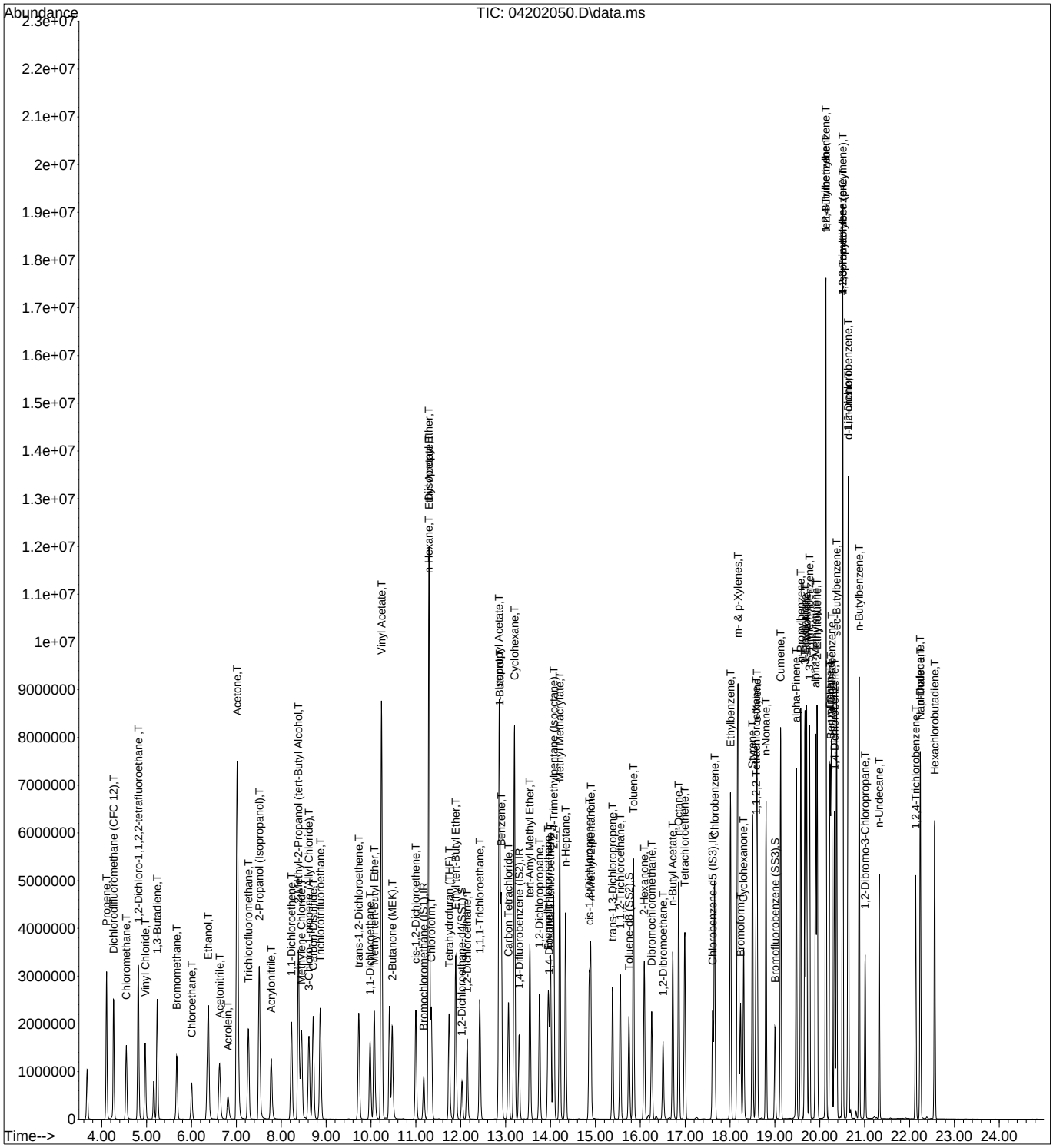
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.34	71	1125099	27.954	ng	99
52) cis-1,3-Dichloropropene	14.86	75	1906422	29.960	ng	100
53) 4-Methyl-2-pentanone	14.90	58	1068300	29.568	ng	99
54) trans-1,3-Dichloropropene	15.38	75	1731756	29.294	ng	100
55) 1,1,2-Trichloroethane	15.56	97	1114921	28.019	ng	100
58) Toluene	15.85	91	4508842	27.253	ng	100
59) 2-Hexanone	16.09	43	2523817	30.484	ng	99
60) Dibromochloromethane	16.26	129	1408186	31.973	ng	100
61) 1,2-Dibromoethane	16.51	107	1308200	30.895	ng	100
62) n-Butyl Acetate	16.72	43	2854161	32.236	ng	99
63) n-Octane	16.85	57	952029	28.999	ng	99
64) Tetrachloroethene	16.99	166	1319646	28.625	ng	100
65) Chlorobenzene	17.66	112	3128846	28.108	ng	100
66) Ethylbenzene	18.01	91	5324578	29.335	ng	100
67) m- & p-Xylenes	18.18	91	8524488	57.743	ng	100
68) Bromoform	18.24	173	1220657	30.694	ng	99
69) Styrene	18.50	104	3293732	28.444	ng	99
70) o-Xylene	18.60	91	4222892	28.609	ng	100
71) n-Nonane	18.80	43	2161766	29.292	ng	97
72) 1,1,2,2-Tetrachloroethane	18.58	83	2099034	29.594	ng	100
74) Cumene	19.13	105	5395241	28.904	ng	100
75) alpha-Pinene	19.48	93	2802507	29.631	ng	99
76) n-Propylbenzene	19.58	91	6477791	29.716	ng	100
77) 3-Ethyltoluene	19.67	105	5264352	28.421	ng	100
78) 4-Ethyltoluene	19.71	105	5267267	29.713	ng	100
79) 1,3,5-Trimethylbenzene	19.77	105	4379217	27.755	ng	99
80) alpha-Methylstyrene	19.91	118	2379341	27.592	ng	99
81) 2-Ethyltoluene	19.94	105	5214820	28.519	ng	99
82) 1,2,4-Trimethylbenzene	20.14	105	4824506	29.516	ng	98
83) n-Decane	20.23	57	2179036	27.584	ng	98
84) Benzyl Chloride	20.25	91	4017657	31.712	ng	99
85) 1,3-Dichlorobenzene	20.27	146	2685818	30.622	ng	99
86) 1,4-Dichlorobenzene	20.33	146	2635914	30.262	ng	99
87) sec-Butylbenzene	20.37	105	5860558	28.829	ng	99
88) 4-Isopropyltoluene (p-...	20.51	119	5842098	30.057	ng	99
89) 1,2,3-Trimethylbenzene	20.51	105	4892083	29.816	ng	98
90) 1,2-Dichlorobenzene	20.63	146	2656880	29.641	ng	99
91) d-Limonene	20.64	68	1832072	28.983	ng	98
92) 1,2-Dibromo-3-Chloropr...	21.01	157	950341	31.590	ng	97
93) n-Undecane	21.33	57	1450229	17.794	ng	98
94) 1,2,4-Trichlorobenzene	22.14	180	1620788	31.025	ng	99
95) Naphthalene	22.24	128	4715801	25.794	ng	100
96) n-Dodecane	22.24	57	503235	6.214	ng	98
97) Hexachlorobutadiene	22.56	225	1164671	27.962	ng	100
98) Cyclohexanone	18.30	55	1575757	27.535	ng	98
99) tert-Butylbenzene	20.14	119	4656592	29.052	ng	99
100) n-Butylbenzene	20.88	91	4671598	28.432	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\20\04202050.D Vial: 2
Acq On : 21 Apr 2020 7:25 Operator: LH
Sample : CCV2end R16042020_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 21 12:27:19 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_04\21\04212002.D Vial: 2
Acq On : 21 Apr 2020 8:32 Operator: LH
Sample : CCV R16042120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 21 12:27:23 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/21/20

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	137	-0.01
2	T	Propene	1.311	1.390	-6.0	152	-0.02
3	T	Dichlorodifluoromethane (CF	2.821	2.755	2.3	142	-0.01
4	T	Chloromethane	2.227	2.234	-0.3	143	-0.01
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.796	1.657	7.7	134	-0.02
6	T	Vinyl Chloride	2.351	2.324	1.1	142	-0.02
7	T	1,3-Butadiene	1.703	1.557	8.6	148	-0.02
8	T	Bromomethane	1.178	1.233	-4.7	149	-0.02
9	T	Chloroethane	0.902	0.932	-3.3	148	-0.02
10	T	Ethanol	1.036	1.028	0.8	140	-0.07
11	T	Acetonitrile	2.279	2.261	0.8	147	-0.04
12	T	Acrolein	0.762	0.847	-11.2	145	-0.02
13	T	Acetone	1.023	1.057	-3.3	133	-0.04
14	T	Trichlorofluoromethane	2.487	2.458	1.2	137	-0.01
15	T	2-Propanol (Isopropanol)	3.033	3.337	-10.0	139	-0.04
16	T	Acrylonitrile	1.534	1.728	-12.6	139	-0.03
17	T	1,1-Dichloroethene	1.230	1.297	-5.4	142	-0.01
18	T	2-Methyl-2-Propanol (tert-B	2.721	3.222	-18.4	133	-0.03
19	T	Methylene Chloride	1.330	1.378	-3.6	139	-0.01
20	T	3-Chloro-1-propene (Allyl C	1.724	1.829	-6.1	140	-0.02
21	T	Trichlorotrifluoroethane	1.189	1.201	-1.0	141	0.00
22	T	Carbon Disulfide	4.785	4.985	-4.2	139	-0.01
23	T	trans-1,2-Dichloroethene	1.785	1.897	-6.3	141	-0.01
24	T	1,1-Dichloroethane	2.278	2.282	-0.2	137	-0.01
25	T	Methyl tert-Butyl Ether	3.688	3.413	7.5	125	-0.01
26	T	Vinyl Acetate	0.351	0.365	-4.0	123	-0.03
27	T	2-Butanone (MEK)	0.851	0.924	-8.6	129	-0.02
28	T	cis-1,2-Dichloroethene	1.855	1.864	-0.5	136	-0.01
29	T	Diisopropyl Ether	1.357	1.494	-10.1	144	-0.01
30	T	Ethyl Acetate	0.503	0.576	-14.5	127	-0.02
31	T	n-Hexane	2.332	2.502	-7.3	132	0.00
32	T	Chloroform	2.482	2.419	2.5	131	-0.02
33	S	1,2-Dichloroethane-d4(SS1)	1.731	1.592	8.0	130	-0.01
34	T	Tetrahydrofuran (THF)	0.876	0.878	-0.2	135	0.00
35	T	Ethyl tert-Butyl Ether	1.585	1.613	-1.8	133	-0.01
36	T	1,2-Dichloroethane	1.936	1.827	5.6	130	-0.01
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	135	0.00
38	T	1,1,1-Trichloroethane	0.491	0.498	-1.4	133	0.00
39	T	Isopropyl Acetate	0.203	0.233	-14.8	132	-0.01
40	T	1-Butanol	0.325	0.363	-11.7	123	-0.04
41	T	Benzene	1.293	1.302	-0.7	126	-0.01
42	T	Carbon Tetrachloride	0.444	0.465	-4.7	132	-0.01
43	T	Cyclohexane	0.496	0.519	-4.6	130	0.00
44	T	tert-Amyl Methyl Ether	0.836	0.898	-7.4	134	-0.01
45	T	1,2-Dichloropropane	0.296	0.309	-4.4	138	-0.01
46	T	Bromodichloromethane	0.437	0.457	-4.6	130	-0.01
47	T	Trichloroethene	0.366	0.346	5.5	133	0.00
48	T	1,4-Dioxane	0.250	0.269	-7.6	133	-0.01
49	T	2,2,4-Trimethylpentane (Iso	1.228	1.288	-4.9	137	0.00
50	T	Methyl Methacrylate	0.125	0.140	-12.0	125	-0.01
51	T	n-Heptane	0.302	0.315	-4.3	134	0.00
52	T	cis-1,3-Dichloropropene	0.477	0.549	-15.1	135	0.00
53	T	4-Methyl-2-pentanone	0.271	0.307	-13.3	134	0.00
54	T	trans-1,3-Dichloropropene	0.443	0.489	-10.4	135	0.00
55	T	1,1,2-Trichloroethane	0.298	0.313	-5.0	135	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_04\21\04212002.D Vial: 2
Acq On : 21 Apr 2020 8:32 Operator: LH
Sample : CCV R16042120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 21 12:27:23 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	131	0.00
57	S	Toluene-d8 (SS2)	2.216	2.148	3.1	127	0.00
58	T	Toluene	2.739	2.733	0.2	126	0.00
59	T	2-Hexanone	1.371	1.544	-12.6	133	-0.01
60	T	Dibromochloromethane	0.729	0.852	-16.9	133	0.00
61	T	1,2-Dibromoethane	0.701	0.791	-12.8	134	0.00
62	T	n-Butyl Acetate	1.466	1.720	-17.3	134	0.00
63	T	n-Octane	0.544	0.569	-4.6	132	0.00
64	T	Tetrachloroethene	0.763	0.810	-6.2	133	0.00
65	T	Chlorobenzene	1.843	1.887	-2.4	130	0.00
66	T	Ethylbenzene	3.006	3.238	-7.7	125	0.00
67	T	m- & p-Xylenes	2.444	2.591	-6.0	122	0.00
68	T	Bromoform	0.659	0.742	-12.6	127	0.00
69	T	Styrene	1.917	2.028	-5.8	121	0.00
70	T	o-Xylene	2.444	2.577	-5.4	122	0.00
71	T	n-Nonane	1.222	1.310	-7.2	131	0.00
72	T	1,1,2,2-Tetrachloroethane	1.174	1.283	-9.3	127	0.00
73	S	Bromofluorobenzene (SS3)	0.782	0.813	-4.0	134	0.00
74	T	Cumene	3.091	3.254	-5.3	122	0.00
75	T	alpha-Pinene	1.566	1.690	-7.9	121	0.00
76	T	n-Propylbenzene	3.610	3.912	-8.4	123	0.00
77	T	3-Ethyltoluene	3.067	3.235	-5.5	121	0.00
78	T	4-Ethyltoluene	2.935	3.152	-7.4	120	0.00
79	T	1,3,5-Trimethylbenzene	2.613	2.682	-2.6	119	0.00
80	T	alpha-Methylstyrene	1.428	1.451	-1.6	115	0.00
81	T	2-Ethyltoluene	3.028	3.140	-3.7	119	0.00
82	T	1,2,4-Trimethylbenzene	2.707	2.945	-8.8	115	-0.01
83	T	n-Decane	1.308	1.327	-1.5	116	0.00
84	T	Benzyl Chloride	2.098	2.402	-14.5	129	-0.01
85	T	1,3-Dichlorobenzene	1.452	1.633	-12.5	121	0.00
86	T	1,4-Dichlorobenzene	1.442	1.602	-11.1	122	-0.01
87	T	sec-Butylbenzene	3.366	3.579	-6.3	119	0.00
88	T	4-Isopropyltoluene (p-Cymen	3.218	3.495	-8.6	112	-0.01
89	T	1,2,3-Trimethylbenzene	2.717	2.928	-7.8	114	0.00
90	T	1,2-Dichlorobenzene	1.484	1.624	-9.4	120	0.00
91	T	d-Limonene	1.047	1.104	-5.4	118	-0.01
92	T	1,2-Dibromo-3-Chloropropane	0.498	0.592	-18.9	138	0.00
93	T	n-Undecane	1.349	0.876	35.1#	76	0.00
94	T	1,2,4-Trichlorobenzene	0.865	0.987	-14.1	148	0.00
95	T	Naphthalene	3.027	2.995	1.1	108	0.00
96	T	n-Dodecane	1.341	0.318	76.3#	26#	0.00
97	T	Hexachlorobutadiene	0.690	0.712	-3.2	129	0.00
98	T	Cyclohexanone	0.948	1.032	-8.9	127	-0.02
99	T	tert-Butylbenzene	2.654	2.837	-6.9	113	0.00
100	T	n-Butylbenzene	2.721	2.858	-5.0	122	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212002.D Vial: 2
Acq On : 21 Apr 2020 8:32 Operator: LH
Sample : CCV R16042120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 21 12:27:23 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/21/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	378521	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.30	114	1629181	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.61	82	759188	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	602434	11.494	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.92%				
57) Toluene-d8 (SS2)	15.75	98	1630763	12.119	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.96%				
73) Bromofluorobenzene (SS3)	19.01	174	617082	12.986	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.92%				
Target Compounds							Qvalue
2) Propene	4.10	42	1115560	28.101	ng		98
3) Dichlorodifluoromethan...	4.26	85	2210406	25.880	ng		100
4) Chloromethane	4.54	50	1792748	26.582	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	1317381	24.217	ng		100
6) Vinyl Chloride	4.96	62	1899851	26.689	ng		100
7) 1,3-Butadiene	5.23	54	1249383	24.227	ng		99
8) Bromomethane	5.66	94	1007976	28.266	ng		100
9) Chloroethane	6.00	64	762157	27.902	ng		100
10) Ethanol	6.37	45	4054527	129.226	ng		100
11) Acetonitrile	6.62	41	1797224	26.039	ng		100
12) Acrolein	6.81	56	660349	28.601	ng		99
13) Acetone	7.02	58	4265910	137.771	ng		98
14) Trichlorofluoromethane	7.26	101	1972579	26.193	ng		100
15) 2-Propanol (Isopropanol)	7.51	45	5304819	57.767	ng		97
16) Acrylonitrile	7.78	53	1373775	29.567	ng		100
17) 1,1-Dichloroethene	8.23	96	1060708	28.477	ng		97
18) 2-Methyl-2-Propanol (t...	8.38	59	5268323	63.930	ng		98
19) Methylene Chloride	8.45	84	1106194	27.456	ng		99
20) 3-Chloro-1-propene (Al...	8.61	41	1495366	28.646	ng		99
21) Trichlorotrifluoroethane	8.87	151	982239	27.271	ng		98
22) Carbon Disulfide	8.71	76	4037948	27.867	ng		100
23) trans-1,2-Dichloroethene	9.72	61	1550744	28.685	ng		100
24) 1,1-Dichloroethane	9.98	63	1882781	27.289	ng		100
25) Methyl tert-Butyl Ether	10.07	73	2790793	24.989	ng		99
26) Vinyl Acetate	10.23	86	1479969	139.285	ng	#	89
27) 2-Butanone (MEK)	10.47	72	741342	28.760	ng		95
28) cis-1,2-Dichloroethene	11.00	61	1495844	26.631	ng		100
29) Diisopropyl Ether	11.29	87	1221478	29.717	ng	#	82
30) Ethyl Acetate	11.30	61	945959	62.086	ng		100
31) n-Hexane	11.28	57	2045322	28.965	ng		100
32) Chloroform	11.35	83	1959200	26.069	ng		100
34) Tetrahydrofuran (THF)	11.74	72	724554	27.321	ng		97
35) Ethyl tert-Butyl Ether	11.88	87	1318522	27.467	ng		98
36) 1,2-Dichloroethane	12.14	62	1493643	25.478	ng		100
38) 1,1,1-Trichloroethane	12.42	97	1736039	27.154	ng		99
39) Isopropyl Acetate	12.85	61	1603479	60.622	ng		98
40) 1-Butanol	12.87	56	2458986	58.098	ng		98
41) Benzene	12.90	78	4496079	26.688	ng		100
42) Carbon Tetrachloride	13.06	117	1589790	27.481	ng		100
43) Cyclohexane	13.20	84	3582296	55.381	ng		97
44) tert-Amyl Methyl Ether	13.54	73	3160842	29.004	ng		99
45) 1,2-Dichloropropane	13.75	63	1087376	28.225	ng		100
46) Bromodichloromethane	13.95	83	1607124	28.224	ng		100
47) Trichloroethene	14.00	130	1207184	25.289	ng		100
48) 1,4-Dioxane	13.97	88	946518	29.020	ng		98
49) 2,2,4-Trimethylpentane...	14.07	57	4492255	28.062	ng		98
50) Methyl Methacrylate	14.20	100	978341	60.075	ng		97

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212002.D Vial: 2
Acq On : 21 Apr 2020 8:32 Operator: LH
Sample : CCV R16042120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 21 12:27:23 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

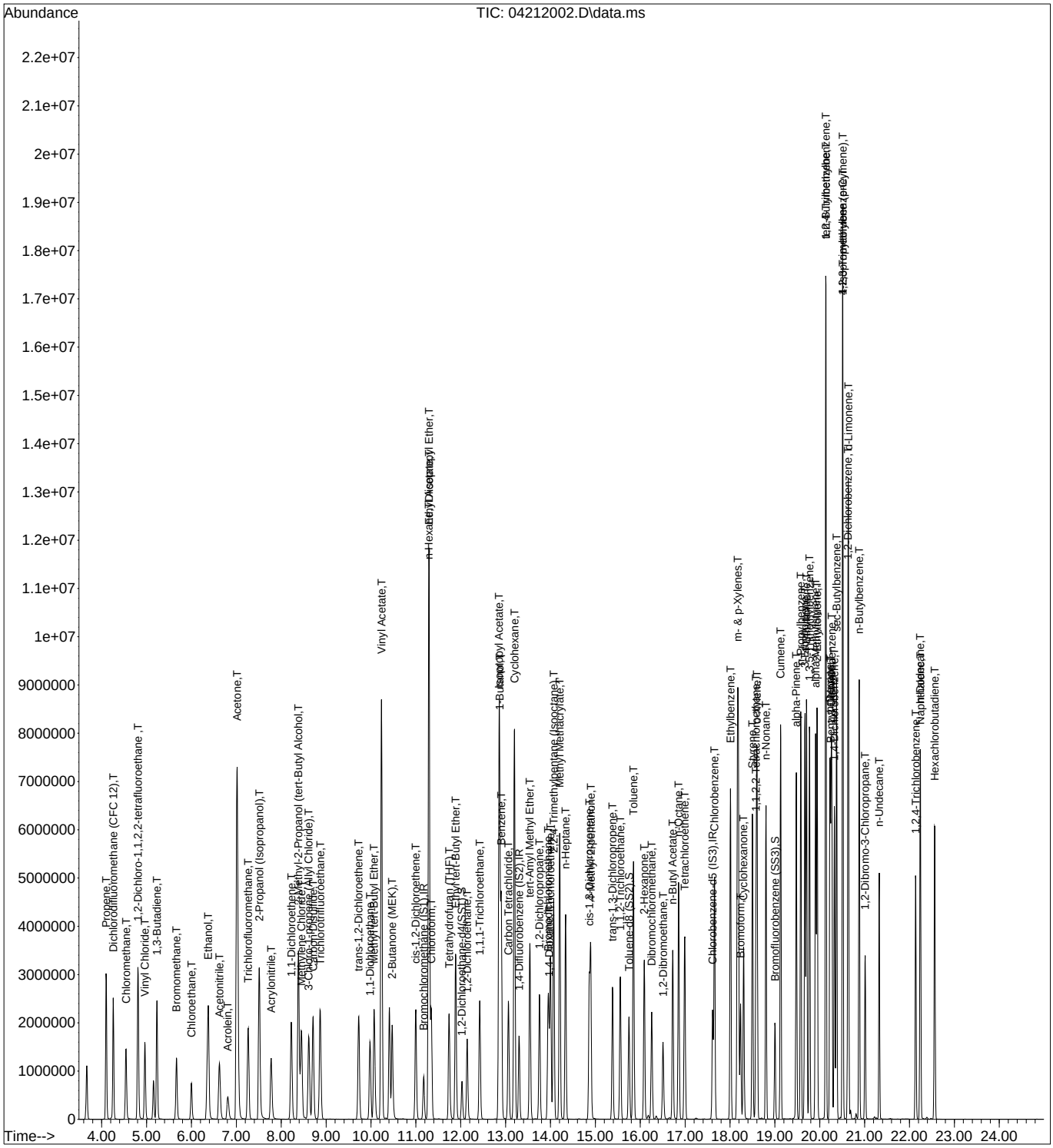
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.34	71	1109984	28.219	ng	99
52) cis-1,3-Dichloropropene	14.86	75	1860309	29.914	ng	99
53) 4-Methyl-2-pentanone	14.90	58	1059146	29.996	ng	99
54) trans-1,3-Dichloropropene	15.38	75	1689527	29.244	ng	100
55) 1,1,2-Trichloroethane	15.56	97	1092342	28.089	ng	100
58) Toluene	15.85	91	4440931	26.691	ng	100
59) 2-Hexanone	16.09	43	2508662	30.130	ng	99
60) Dibromochloromethane	16.26	129	1384618	31.260	ng	100
61) 1,2-Dibromoethane	16.51	107	1285552	30.189	ng	100
62) n-Butyl Acetate	16.72	43	2846691	31.971	ng	100
63) n-Octane	16.86	57	933306	28.268	ng	99
64) Tetrachloroethene	16.99	166	1279863	27.605	ng	100
65) Chlorobenzene	17.65	112	3066237	27.390	ng	100
66) Ethylbenzene	18.01	91	5261423	28.823	ng	100
67) m- & p-Xylenes	18.17	91	8420288	56.715	ng	99
68) Bromoform	18.24	173	1204708	30.122	ng	100
69) Styrene	18.50	104	3263375	28.023	ng	99
70) o-Xylene	18.60	91	4186107	28.200	ng	100
71) n-Nonane	18.80	43	2128357	28.677	ng	98
72) 1,1,2,2-Tetrachloroethane	18.58	83	2083982	29.215	ng	100
74) Cumene	19.13	105	5335594	28.423	ng	100
75) alpha-Pinene	19.48	93	2745515	28.865	ng	99
76) n-Propylbenzene	19.58	91	6415150	29.263	ng	99
77) 3-Ethyltoluene	19.67	105	5207150	27.953	ng	100
78) 4-Ethyltoluene	19.70	105	5168712	28.992	ng	99
79) 1,3,5-Trimethylbenzene	19.77	105	4317264	27.208	ng	99
80) alpha-Methylstyrene	19.91	118	2358071	27.191	ng	99
81) 2-Ethyltoluene	19.94	105	5148963	28.000	ng	99
82) 1,2,4-Trimethylbenzene	20.14	105	4785052	29.109	ng	98
83) n-Decane	20.23	57	2156224	27.142	ng	98
84) Benzyl Chloride	20.25	91	3938102	30.909	ng	99
85) 1,3-Dichlorobenzene	20.27	146	2652928	30.076	ng	100
86) 1,4-Dichlorobenzene	20.32	146	2602498	29.709	ng	100
87) sec-Butylbenzene	20.37	105	5814418	28.440	ng	99
88) 4-Isopropyltoluene (p-...	20.51	119	5783659	29.588	ng	99
89) 1,2,3-Trimethylbenzene	20.51	105	4846673	29.373	ng	98
90) 1,2-Dichlorobenzene	20.63	146	2638198	29.266	ng	99
91) d-Limonene	20.64	68	1810796	28.485	ng	98
92) 1,2-Dibromo-3-Chloropr...	21.01	157	943655	31.191	ng	97
93) n-Undecane	21.33	57	1436773	17.530	ng	98
94) 1,2,4-Trichlorobenzene	22.14	180	1602884	30.509	ng	100
95) Naphthalene	22.24	128	4683334	25.471	ng	100
96) n-Dodecane	22.24	57	502882	6.175	ng	98
97) Hexachlorobutadiene	22.56	225	1145727	27.352	ng	100
98) Cyclohexanone	18.30	55	1566844	27.225	ng	98
99) tert-Butylbenzene	20.14	119	4608413	28.589	ng	99
100) n-Butylbenzene	20.88	91	4642508	28.096	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212002.D Vial: 2
Acq On : 21 Apr 2020 8:32 Operator: LH
Sample : CCV R16042120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 21 12:27:23 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_04\21\04212031.D Vial: 2
Acq On : 22 Apr 2020 1:56 Operator: WA
Sample : CCV2end R16042120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 22 03:15:33 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 4/22/20

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	120	-0.01
2	T	Propene	1.311	1.468	-12.0	140	-0.01
3	T	Dichlorodifluoromethane (CF	2.821	2.875	-1.9	129	0.00
4	T	Chloromethane	2.227	2.446	-9.8	136	-0.01
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.796	1.693	5.7	120	-0.02
6	T	Vinyl Chloride	2.351	2.477	-5.4	132	-0.02
7	T	1,3-Butadiene	1.703	1.629	4.3	135	-0.02
8	T	Bromomethane	1.178	1.241	-5.3	130	-0.02
9	T	Chloroethane	0.902	0.954	-5.8	132	-0.02
10	T	Ethanol	1.036	1.109	-7.0	132	-0.07
11	T	Acetonitrile	2.279	2.412	-5.8	137	-0.04
12	T	Acrolein	0.762	0.896	-17.6	133	-0.02
13	T	Acetone	1.023	1.152	-12.6	126	-0.04
14	T	Trichlorofluoromethane	2.487	2.509	-0.9	122	-0.01
15	T	2-Propanol (Isopropanol)	3.033	3.625	-19.5	132	-0.04
16	T	Acrylonitrile	1.534	1.867	-21.7	131	-0.03
17	T	1,1-Dichloroethene	1.230	1.327	-7.9	126	-0.02
18	T	2-Methyl-2-Propanol (tert-B	2.721	3.457	-27.0	124	-0.03
19	T	Methylene Chloride	1.330	1.437	-8.0	126	-0.02
20	T	3-Chloro-1-propene (Allyl C	1.724	1.949	-13.1	129	-0.02
21	T	Trichlorotrifluoroethane	1.189	1.194	-0.4	122	-0.01
22	T	Carbon Disulfide	4.785	5.201	-8.7	126	-0.02
23	T	trans-1,2-Dichloroethene	1.785	1.987	-11.3	128	-0.01
24	T	1,1-Dichloroethane	2.278	2.401	-5.4	126	-0.01
25	T	Methyl tert-Butyl Ether	3.688	3.605	2.3	115	-0.01
26	T	Vinyl Acetate	0.351	0.392	-11.7	115	-0.03
27	T	2-Butanone (MEK)	0.851	0.996	-17.0	121	-0.02
28	T	cis-1,2-Dichloroethene	1.855	1.976	-6.5	126	-0.01
29	T	Diisopropyl Ether	1.357	1.383	-1.9	116	-0.01
30	T	Ethyl Acetate	0.503	0.638	-26.8	123	-0.02
31	T	n-Hexane	2.332	2.737	-17.4	126	0.00
32	T	Chloroform	2.482	2.566	-3.4	121	-0.02
33	S	1,2-Dichloroethane-d4(SS1)	1.731	1.649	4.7	118	-0.01
34	T	Tetrahydrofuran (THF)	0.876	0.932	-6.4	125	0.00
35	T	Ethyl tert-Butyl Ether	1.585	1.689	-6.6	122	-0.01
36	T	1,2-Dichloroethane	1.936	1.935	0.1	120	-0.01
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	119	-0.01
38	T	1,1,1-Trichloroethane	0.491	0.514	-4.7	121	0.00
39	T	Isopropyl Acetate	0.203	0.251	-23.6	125	-0.01
40	T	1-Butanol	0.325	0.389	-19.7	116	-0.04
41	T	Benzene	1.293	1.381	-6.8	118	-0.01
42	T	Carbon Tetrachloride	0.444	0.474	-6.8	119	-0.01
43	T	Cyclohexane	0.496	0.540	-8.9	120	0.00
44	T	tert-Amyl Methyl Ether	0.836	0.939	-12.3	124	-0.01
45	T	1,2-Dichloropropane	0.296	0.325	-9.8	128	-0.01
46	T	Bromodichloromethane	0.437	0.480	-9.8	121	-0.01
47	T	Trichloroethene	0.366	0.353	3.6	120	0.00
48	T	1,4-Dioxane	0.250	0.281	-12.4	123	-0.01
49	T	2,2,4-Trimethylpentane (Iso	1.228	1.357	-10.5	128	-0.01
50	T	Methyl Methacrylate	0.125	0.146	-16.8	116	-0.01
51	T	n-Heptane	0.302	0.333	-10.3	125	0.00
52	T	cis-1,3-Dichloropropene	0.477	0.576	-20.8	125	0.00
53	T	4-Methyl-2-pentanone	0.271	0.327	-20.7	126	0.00
54	T	trans-1,3-Dichloropropene	0.443	0.512	-15.6	124	0.00
55	T	1,1,2-Trichloroethane	0.298	0.325	-9.1	124	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_04\21\04212031.D Vial: 2
Acq On : 22 Apr 2020 1:56 Operator: WA
Sample : CCV2end R16042120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 22 03:15:33 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	119	0.00
57	S	Toluene-d8 (SS2)	2.216	2.115	4.6	114	0.00
58	T	Toluene	2.739	2.807	-2.5	117	0.00
59	T	2-Hexanone	1.371	1.626	-18.6	127	-0.02
60	T	Dibromochloromethane	0.729	0.849	-16.5	120	0.00
61	T	1,2-Dibromoethane	0.701	0.795	-13.4	122	0.00
62	T	n-Butyl Acetate	1.466	1.811	-23.5	128	0.00
63	T	n-Octane	0.544	0.604	-11.0	126	0.00
64	T	Tetrachloroethene	0.763	0.795	-4.2	118	0.00
65	T	Chlorobenzene	1.843	1.890	-2.6	118	0.00
66	T	Ethylbenzene	3.006	3.325	-10.6	117	0.00
67	T	m- & p-Xylenes	2.444	2.686	-9.9	115	0.00
68	T	Bromoform	0.659	0.732	-11.1	114	0.00
69	T	Styrene	1.917	2.080	-8.5	113	0.00
70	T	o-Xylene	2.444	2.671	-9.3	115	0.00
71	T	n-Nonane	1.222	1.390	-13.7	125	0.00
72	T	1,1,2,2-Tetrachloroethane	1.174	1.340	-14.1	120	0.00
73	S	Bromofluorobenzene (SS3)	0.782	0.778	0.5	116	0.00
74	T	Cumene	3.091	3.349	-8.3	114	0.00
75	T	alpha-Pinene	1.566	1.756	-12.1	114	0.00
76	T	n-Propylbenzene	3.610	4.071	-12.8	116	0.00
77	T	3-Ethyltoluene	3.067	3.360	-9.6	114	0.00
78	T	4-Ethyltoluene	2.935	3.264	-11.2	112	0.00
79	T	1,3,5-Trimethylbenzene	2.613	2.771	-6.0	111	0.00
80	T	alpha-Methylstyrene	1.428	1.492	-4.5	107	0.00
81	T	2-Ethyltoluene	3.028	3.253	-7.4	112	0.00
82	T	1,2,4-Trimethylbenzene	2.707	3.069	-13.4	109	-0.01
83	T	n-Decane	1.308	1.393	-6.5	110	0.00
84	T	Benzyl Chloride	2.098	2.487	-18.5	121	-0.01
85	T	1,3-Dichlorobenzene	1.452	1.687	-16.2	113	0.00
86	T	1,4-Dichlorobenzene	1.442	1.648	-14.3	114	-0.01
87	T	sec-Butylbenzene	3.366	3.715	-10.4	112	0.00
88	T	4-Isopropyltoluene (p-Cymen	3.218	3.649	-13.4	106	-0.01
89	T	1,2,3-Trimethylbenzene	2.717	3.056	-12.5	107	0.00
90	T	1,2-Dichlorobenzene	1.484	1.673	-12.7	112	0.00
91	T	d-Limonene	1.047	1.158	-10.6	112	-0.01
92	T	1,2-Dibromo-3-Chloropropane	0.498	0.602	-20.9	127	0.00
93	T	n-Undecane	1.349	0.930	31.1#	73	0.00
94	T	1,2,4-Trichlorobenzene	0.865	0.982	-13.5	134	0.00
95	T	Naphthalene	3.027	3.104	-2.5	101	0.00
96	T	n-Dodecane	1.341	0.343	74.4#	25#	0.00
97	T	Hexachlorobutadiene	0.690	0.687	0.4	113	0.00
98	T	Cyclohexanone	0.948	1.089	-14.9	122	-0.02
99	T	tert-Butylbenzene	2.654	2.957	-11.4	106	0.00
100	T	n-Butylbenzene	2.721	2.975	-9.3	115	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212031.D Vial: 2
Acq On : 22 Apr 2020 1:56 Operator: WA
Sample : CCV2end R16042120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 22 03:15:33 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 4/22/20
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	329507	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.30	114	1437860	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.61	82	687913	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	543507	11.912	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.28%				
57) Toluene-d8 (SS2)	15.75	98	1455268	11.935	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.44%				
73) Bromofluorobenzene (SS3)	19.01	174	534857	12.422	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.36%				
Target Compounds							Qvalue
2) Propene	4.10	42	1025819	29.684	ng		99
3) Dichlorodifluoromethan...	4.26	85	2008078	27.008	ng		100
4) Chloromethane	4.54	50	1708792	29.106	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	1171761	24.744	ng		99
6) Vinyl Chloride	4.97	62	1763244	28.454	ng		100
7) 1,3-Butadiene	5.23	54	1138287	25.356	ng		100
8) Bromomethane	5.66	94	883000	28.445	ng		100
9) Chloroethane	6.00	64	678939	28.553	ng		99
10) Ethanol	6.37	45	3809243	139.468	ng		100
11) Acetonitrile	6.62	41	1669032	27.778	ng		100
12) Acrolein	6.81	56	607921	30.247	ng		99
13) Acetone	7.01	58	4044840	150.063	ng		100
14) Trichlorofluoromethane	7.26	101	1752994	26.739	ng		100
15) 2-Propanol (Isopropanol)	7.51	45	5016691	62.756	ng		98
16) Acrylonitrile	7.77	53	1291741	31.937	ng		100
17) 1,1-Dichloroethene	8.22	96	944355	29.125	ng		99
18) 2-Methyl-2-Propanol (t...	8.38	59	4921250	68.601	ng		98
19) Methylene Chloride	8.45	84	1003773	28.620	ng		98
20) 3-Chloro-1-propene (Al...	8.61	41	1386983	30.522	ng		98
21) Trichlorotrifluoroethane	8.86	151	849915	27.107	ng		98
22) Carbon Disulfide	8.71	76	3667492	29.076	ng		100
23) trans-1,2-Dichloroethene	9.72	61	1414232	30.051	ng		99
24) 1,1-Dichloroethane	9.98	63	1725050	28.722	ng		100
25) Methyl tert-Butyl Ether	10.07	73	2565882	26.393	ng		99
26) Vinyl Acetate	10.23	86	1380845	149.287	ng	#	79
27) 2-Butanone (MEK)	10.47	72	695969	31.016	ng	#	90
28) cis-1,2-Dichloroethene	11.00	61	1380202	28.228	ng		99
29) Diisopropyl Ether	11.29	87	984065	27.503	ng	#	82
30) Ethyl Acetate	11.30	61	912073	68.766	ng		97
31) n-Hexane	11.28	57	1948095	31.691	ng		99
32) Chloroform	11.34	83	1809739	27.662	ng		100
34) Tetrahydrofuran (THF)	11.74	72	669314	28.992	ng		95
35) Ethyl tert-Butyl Ether	11.88	87	1202380	28.774	ng		96
36) 1,2-Dichloroethane	12.14	62	1377483	26.992	ng		100
38) 1,1,1-Trichloroethane	12.42	97	1580780	28.016	ng		100
39) Isopropyl Acetate	12.85	61	1524104	65.288	ng		98
40) 1-Butanol	12.87	56	2324069	62.217	ng		97
41) Benzene	12.90	78	4208629	28.306	ng		100
42) Carbon Tetrachloride	13.06	117	1430237	28.012	ng		99
43) Cyclohexane	13.20	84	3291573	57.657	ng		95
44) tert-Amyl Methyl Ether	13.54	73	2916045	30.318	ng		99
45) 1,2-Dichloropropane	13.75	63	1010761	29.727	ng		99
46) Bromodichloromethane	13.95	83	1490062	29.650	ng		99
47) Trichloroethene	14.00	130	1085494	25.766	ng		100
48) 1,4-Dioxane	13.97	88	873967	30.361	ng		97
49) 2,2,4-Trimethylpentane...	14.07	57	4176772	29.563	ng		98
50) Methyl Methacrylate	14.20	100	903417	62.856	ng		92

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212031.D Vial: 2
Acq On : 22 Apr 2020 1:56 Operator: WA
Sample : CCV2end R16042120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 22 03:15:33 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

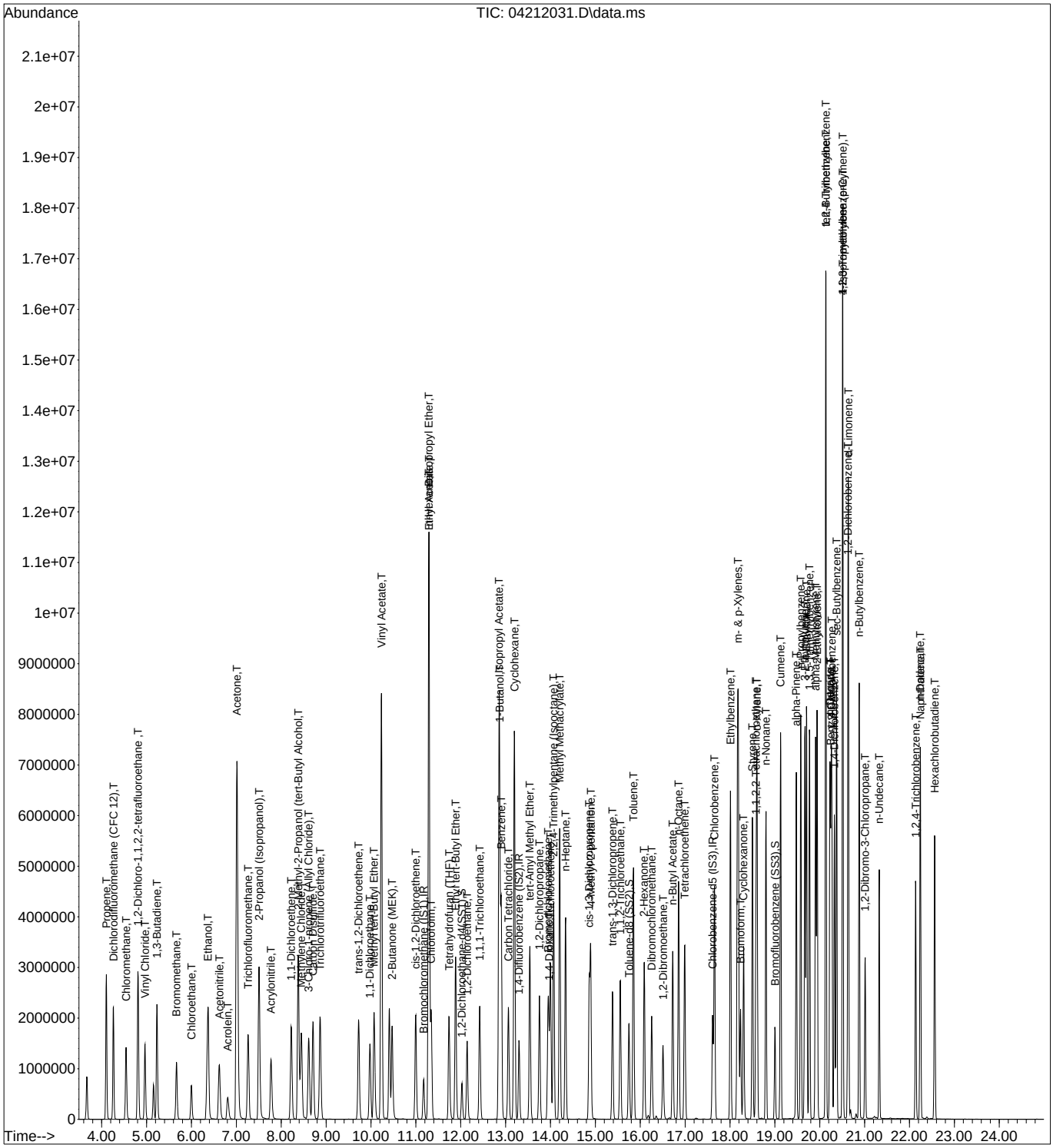
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.34	71	1034034	29.786	ng	98
52) cis-1,3-Dichloropropene	14.86	75	1723475	31.402	ng	100
53) 4-Methyl-2-pentanone	14.90	58	996839	31.988	ng	97
54) trans-1,3-Dichloropropene	15.38	75	1559206	30.579	ng	99
55) 1,1,2-Trichloroethane	15.56	97	1000824	29.160	ng	99
58) Toluene	15.85	91	4132937	27.414	ng	100
59) 2-Hexanone	16.09	43	2393749	31.729	ng	99
60) Dibromochloromethane	16.26	129	1249996	31.145	ng	100
61) 1,2-Dibromoethane	16.51	107	1171001	30.348	ng	100
62) n-Butyl Acetate	16.72	43	2716322	33.667	ng	99
63) n-Octane	16.86	57	897079	29.986	ng	96
64) Tetrachloroethene	16.99	166	1137636	27.080	ng	100
65) Chlorobenzene	17.65	112	2782661	27.432	ng	100
66) Ethylbenzene	18.01	91	4894638	29.592	ng	100
67) m- & p-Xylenes	18.18	91	7908998	58.791	ng	99
68) Bromoform	18.24	173	1077377	29.730	ng	100
69) Styrene	18.50	104	3033596	28.749	ng	99
70) o-Xylene	18.60	91	3932016	29.233	ng	99
71) n-Nonane	18.80	43	2046479	30.430	ng	96
72) 1,1,2,2-Tetrachloroethane	18.58	83	1972371	30.516	ng	100
74) Cumene	19.13	105	4976121	29.255	ng	99
75) alpha-Pinene	19.48	93	2584858	29.991	ng	99
76) n-Propylbenzene	19.58	91	6048498	30.449	ng	99
77) 3-Ethyltoluene	19.67	105	4900777	29.034	ng	99
78) 4-Ethyltoluene	19.70	105	4849299	30.019	ng	99
79) 1,3,5-Trimethylbenzene	19.77	105	4041044	28.106	ng	99
80) alpha-Methylstyrene	19.91	118	2196902	27.957	ng	92
81) 2-Ethyltoluene	19.94	105	4833213	29.006	ng	99
82) 1,2,4-Trimethylbenzene	20.14	105	4517843	30.331	ng	98
83) n-Decane	20.23	57	2051174	28.494	ng	98
84) Benzyl Chloride	20.25	91	3695288	32.008	ng	98
85) 1,3-Dichlorobenzene	20.27	146	2482967	31.066	ng	99
86) 1,4-Dichlorobenzene	20.32	146	2426272	30.567	ng	99
87) sec-Butylbenzene	20.37	105	5468440	29.519	ng	99
88) 4-Isopropyltoluene (p-...	20.51	119	5471737	30.893	ng	98
89) 1,2,3-Trimethylbenzene	20.51	105	4583034	30.653	ng	98
90) 1,2-Dichlorobenzene	20.63	146	2462703	30.150	ng	100
91) d-Limonene	20.64	68	1720130	29.863	ng	97
92) 1,2-Dibromo-3-Chloropr...	21.01	157	870112	31.740	ng	96
93) n-Undecane	21.33	57	1381815	18.606	ng	98
94) 1,2,4-Trichlorobenzene	22.14	180	1444990	30.353	ng	99
95) Naphthalene	22.24	128	4398493	26.401	ng	100
96) n-Dodecane	22.24	57	490843	6.651	ng	98
97) Hexachlorobutadiene	22.56	225	1001777	26.393	ng	100
98) Cyclohexanone	18.30	55	1498562	28.736	ng	97
99) tert-Butylbenzene	20.14	119	4352896	29.802	ng	99
100) n-Butylbenzene	20.88	91	4379992	29.253	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212031.D Vial: 2
Acq On : 22 Apr 2020 1:56 Operator: WA
Sample : CCV2end R16042120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 22 03:15:33 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

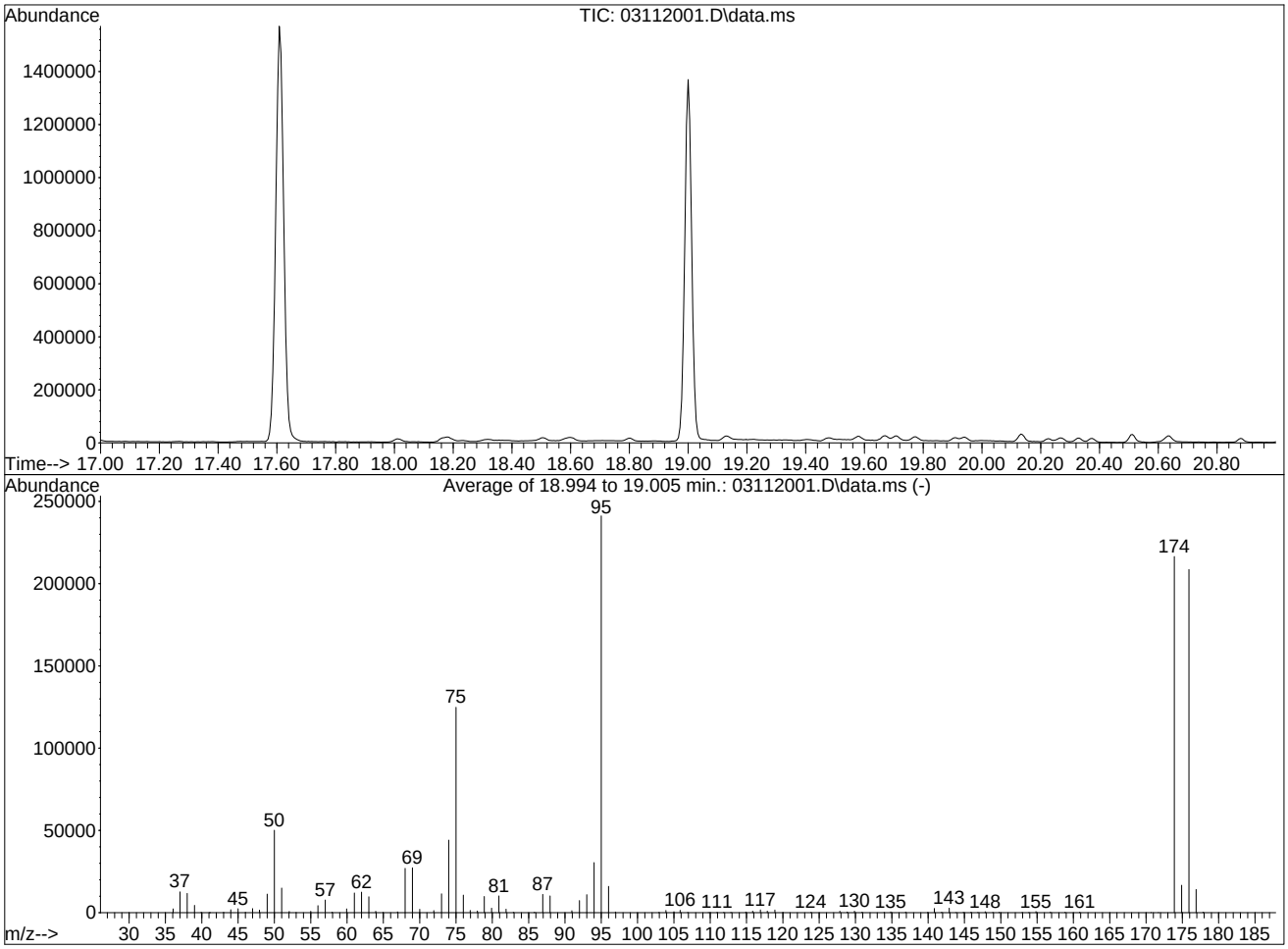


BFB

Data Path : I:\MS16\DATA\2020_03\11\
Data File : 03112001.D
Acq On : 11 Mar 2020 00:26
Operator : LH
Sample : 12.5ng TO15 BFB
Misc : S31-02112001
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16031120.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Mar 11 10:34:22 2020



AutoFind: Scans 2820, 2821, 2822; Background Corrected with Scan 2812

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	20.8	50085	PASS
75	95	30	66	51.8	124832	PASS
95	95	100	100	100.0	241195	PASS
96	95	5	9	6.6	15976	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	89.7	216448	PASS
175	174	4	9	7.7	16698	PASS
176	174	93	101	96.4	208661	PASS
177	176	5	9	6.7	14072	PASS

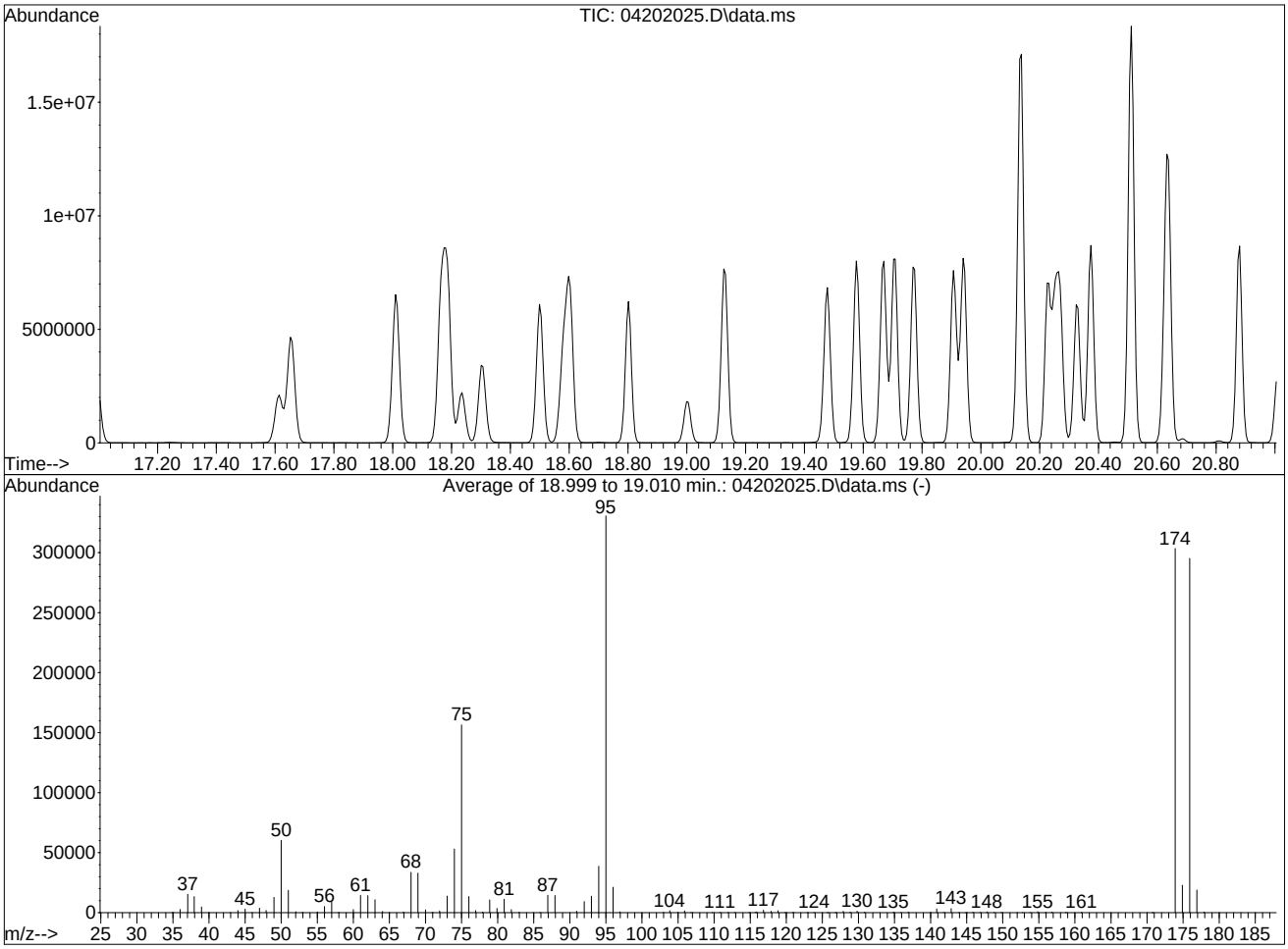
LH 3/11/20

BFB

Data Path : I:\MS16\DATA\2020_04\20\
Data File : 04202025.D
Acq On : 20 Apr 2020 17:23
Operator : LH
Sample : CCV2 R16042020_25ng
Misc : S31-02112001/S34-04102001 (5/9)
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16031120.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Mar 11 10:42:05 2020



AutoFind: Scans 2821, 2822, 2823; Background Corrected with Scan 2812

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	18.2	60255	PASS
75	95	30	66	47.3	156413	PASS
95	95	100	100	100.0	330560	PASS
96	95	5	9	6.4	21253	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	91.8	303339	PASS
175	174	4	9	7.5	22835	PASS
176	174	93	101	97.3	295232	PASS
177	176	5	9	6.4	18859	PASS

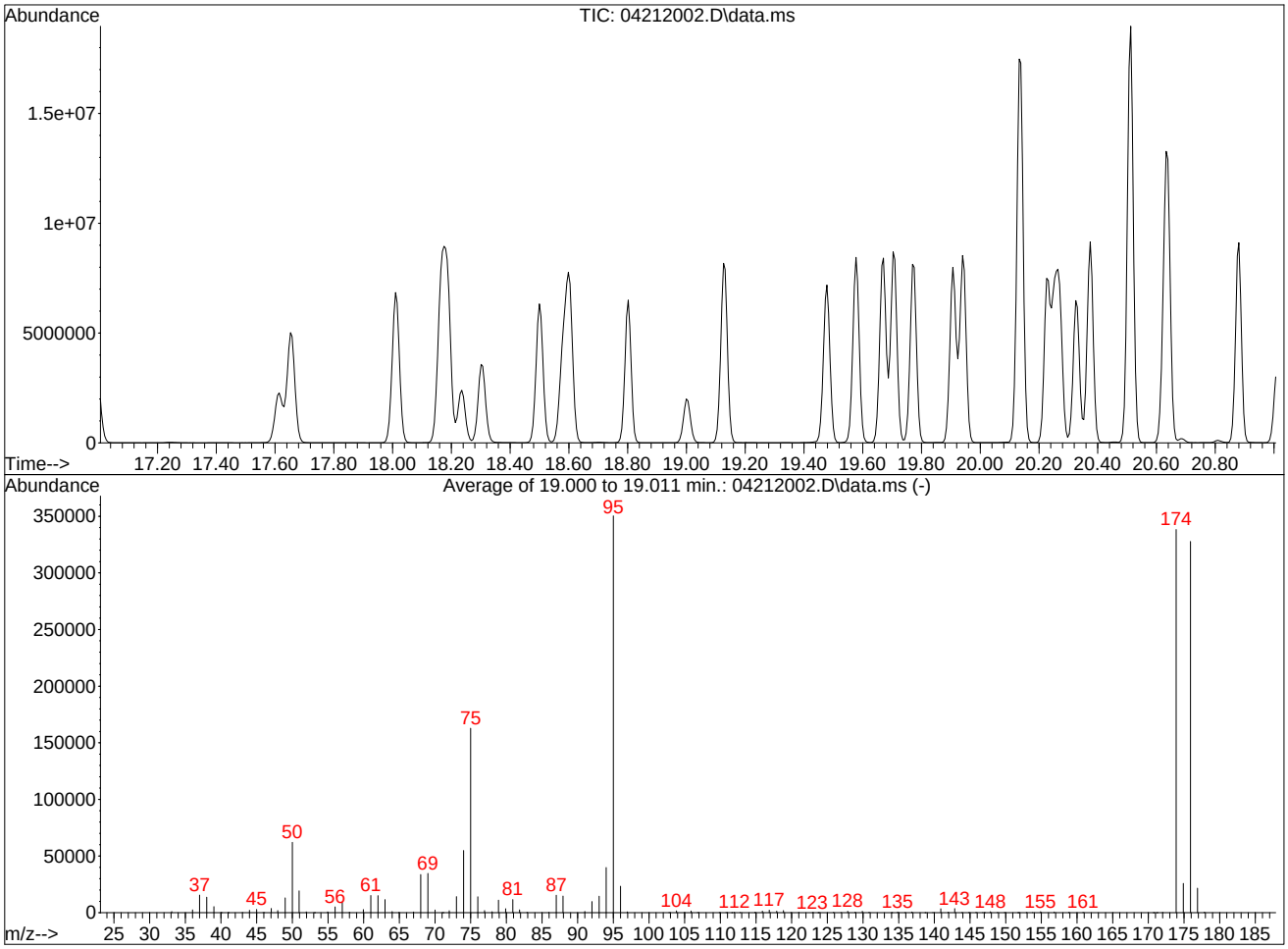
LH 4/20/20

BFB

Data Path : I:\MS16\DATA\2020_04\21\
Data File : 04212002.D
Acq On : 21 Apr 2020 8:32
Operator : LH
Sample : CCV R16042120_25ng
Misc : S31-02112001/S34-04102001 (5/9)
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16031120.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Mar 11 10:42:05 2020



AutoFind: Scans 2821, 2822, 2823; Background Corrected with Scan 2812

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	17.7	62151	PASS
75	95	30	66	46.5	162872	PASS
95	95	100	100	100.0	350336	PASS
96	95	5	9	6.7	23352	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	96.5	338240	PASS
175	174	4	9	7.6	25779	PASS
176	174	93	101	96.9	327744	PASS
177	176	5	9	6.6	21581	PASS

4/21/20

Injection Log

Directory: J:\MS16\DATA\2020_03\11\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	3/11/20 0:26	03112001.D	12.5ng TO15 BFB	S31-02112001	LH	2	passed
2	3/11/20 0:59	03112002.D	0.1ng TO15 ICAL STD	S31-02112001/S34-03102004 (4/8)	LH	3	
3	3/11/20 1:32	03112003.D	0.2ng TO15 ICAL STD	S31-02112001/S34-03102004 (4/8)	LH	3	
4	3/11/20 2:05	03112004.D	0.5ng TO15 ICAL STD	S31-02112001/S34-03102003 (4/8)	LH	4	
5	3/11/20 2:38	03112005.D	1.0ng TO15 ICAL STD	S31-02112001/S34-03102003 (4/8)	LH	4	
6	3/11/20 3:12	03112006.D	5.0ng TO15 ICAL STD	S31-02112001/S34-03102003 (4/8)	LH	4	
7	3/11/20 3:45	03112007.D	25ng TO15 ICAL STD	S31-02112001/S34-03102002 (4/8)	LH	2	**R16031120.M**
8	3/11/20 4:18	03112008.D	50ng TO15 ICAL STD	S31-02112001/S34-03102002 (4/8)	LH	2	
9	3/11/20 4:52	03112009.D	100ng TO15 ICAL STD	S31-02112001/S34-03102002 (4/8)	LH	2	
10	3/11/20 5:25	03112010.D	25ng TO15 ICV STD	S31-02112001/S31-02262006 (3/26)	LH	2	passed

ICAL R16031120.M passed for all compounds.

LH *3/13/20*

Injection Log

Directory: I:\MS16\DATA\2020_04\20\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	4/20/20 17:23	04202025.D	CCV2 R16042020_25ng	S31-02112001/S34-04102001 (5/9)	LH	2	Passed
2	4/20/20 17:56	04202026.D	Blank (100mL)	S31-02112001	LH	2	
3	4/20/20 18:30	04202027.D	MB2 R16042020_1000mL	S31-02112001/AS01319	LH	2	Passed
4	4/20/20 19:03	04202028.D	P2001982-001 (3.5mL)	S31-02112001	LH	1	
5	4/20/20 19:37	04202029.D	P2001983-001 (1.5mL)	S31-02112001	LH	1	
6	4/20/20 20:10	04202030.D	P2002031-004 (20mL)	S31-02112001	LH	7	
7	4/20/20 20:44	04202031.D	P2001983-001dil (0.5mL)	S31-02112001	LH	1	
8	4/20/20 21:19	04202032.D	P2001984-001 (1.0mL)	S31-02112001	LH	1	
9	4/20/20 21:53	04202033.D	LCS2 R16042020_25ng	S31-02112001/S34-03252003 (4/23)	LH	2	Passed
10	4/20/20 22:26	04202034.D	LCSD2 R16042020_25ng	S31-02112001/S34-03252003 (4/23)	LH	2	Passed
11	4/20/20 23:00	04202035.D	Blank (100mL)	S31-02112001	LH	2	
12	4/20/20 23:34	04202036.D	P2002031-001 (400mL)	S31-02112001	LH	4	
13	4/21/20 0:07	04202037.D	P2002031-002 (400mL)	S31-02112001	LH	5	
14	4/21/20 0:41	04202038.D	P2002031-003 (400mL)	S31-02112001	LH	6	
15	4/21/20 1:15	04202039.D	P2002031-004 (40mL)	S31-02112001	LH	7	
16	4/21/20 1:48	04202040.D	P2002031-004dup (40mL)	S31-02112001	LH	7	Passed
17	4/21/20 2:22	04202041.D	P2002031-006 (400mL)	S31-02112001	LH	8	
18	4/21/20 2:56	04202042.D	P2002031-007 (400mL)	S31-02112001	LH	9	need dil
19	4/21/20 3:29	04202043.D	P2002031-008 (400mL)	S31-02112001	LH	10	need dil
20	4/21/20 4:03	04202044.D	P2002031-009 (400mL)	S31-02112001	LH	11	
21	4/21/20 4:37	04202045.D	P2002031-010 (120mL)	S31-02112001	LH	12	
22	4/21/20 5:11	04202046.D	P2002031-012 (400mL)	S31-02112001	LH	13	
23	4/21/20 5:44	04202047.D	P2002031-013 (400mL)	S31-02112001	LH	14	need dil
24	4/21/20 6:18	04202048.D	P2002031-014 (400mL)	S31-02112001	LH	15	
25	4/21/20 6:51	04202049.D	P2002031-015 (400mL)	S31-02112001	LH	16	
26	4/21/20 7:25	04202050.D	CCV2end R16042020_25ng	S31-02112001/S34-04102001 (5/9)	LH	2	Passed

LDH 4/21/20

Injection Log

Directory: I:\MS16\DATA\2020_04\21\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	4/21/20 7:58	04212001.D	CCV C16042120_25ng	S31-02112001/S34-03172008 (4/29)	LH	3	
2	4/21/20 8:32	04212002.D	CCV R16042120_25ng	S31-02112001/S34-04102001 (5/9)	LH	2	Passed
3	4/21/20 9:05	04212003.D	Blank (100mL)	S31-02112001	LH	2	
4	4/21/20 9:39	04212004.D	MB R16042120_1000mL	S31-02112001/AS01319	LH	2	Passed
5	4/21/20 10:12	04212005.D	LCS R16042120_25ng	S31-02112001/S34-03252003 (4/23)	LH	2	Passed
6	4/21/20 10:45	04212006.D	LCSD R16042120_25ng	S31-02112001/S34-03252003 (4/23)	LH	2	Passed
7	4/21/20 11:19	04212007.D	Blank (100mL)	S31-02112001	LH	2	
8	4/21/20 12:44	04212008.D	P2002031-005 (1.5mL)	S31-02112001	WA	1	
9	4/21/20 13:18	04212009.D	P2002031-011 (2.5mL)	S31-02112001	WA	1	
10	4/21/20 14:26	04212010.D	P2002031-018 (4.0mL)	S31-02112001	WA	1	
11	4/21/20 15:00	04212011.D	P2002031-016 (400mL)	S31-02112001	WA	4	
12	4/21/20 15:33	04212012.D	P2002031-007dil (40mL)	S31-02112001	WA	9	
13	4/21/20 16:07	04212013.D	P2002031-008dil (40mL)	S31-02112001	WA	10	
14	4/21/20 16:41	04212014.D	P2002031-013dil (40mL)	S31-02112001	WA	14	
15	4/21/20 17:33	04212015.D	Blank	S31-02112001	WA	1	
16	4/21/20 18:06	04212016.D	P2002031-017 (160mL)	S31-02112001	WA	5	
17	4/21/20 18:39	04212017.D	P2002031-017dup (160mL)	S31-02112001	WA	5	Passed
18	4/21/20 19:12	04212019.D	P2002031-019 (400mL)	S31-02112001	WA	6	
19	4/21/20 19:46	04212020.D	P2002031-020 (400mL)	S31-02112001	WA	7	
20	4/21/20 20:19	04212021.D	P2002032-001 (400mL)	S31-02112001	WA	8	need dil
21	4/21/20 20:53	04212022.D	P2002032-002 (400mL)	S31-02112001	WA	11	need dil
22	4/21/20 21:26	04212023.D	P2002032-003 (400mL)	S31-02112001	WA	12	need dil
23	4/21/20 22:00	04212024.D	P2002032-004 (400mL)	S31-02112001	WA	13	need dil
24	4/21/20 22:34	04212025.D	P2002032-006 (400mL)	S31-02112001	WA	15	
25	4/21/20 23:08	04212026.D	P2002032-007 (400mL)	S31-02112001	WA	16	
26	4/21/20 23:41	04212027.D	P2002032-008 (400mL)	S31-02112001	WA	9	closed
27	4/22/20 0:15	04212028.D	P2002032-009 (400mL)	S31-02112001	WA	10	
28	4/22/20 0:49	04212029.D	P2002032-010 (400mL)	S31-02112001	WA	14	
29	4/22/20 1:23	04212030.D	P2002032-011 (400mL)	S31-02112001	WA	4	
30	4/22/20 1:56	04212031.D	CCV2end R16042120_25ng	S31-02112001/S34-04102001 (5/9)	WA	2	Passed
							WA 4/22/20

224

6/24/19

TO-17 STD	PAH 1° Stock Standard	200 µg/ml
S31-06241903		12/24/2019
Into 1mL mininert vial, directly transfered entire contents 200µg/mL PAH 1° stock standard S31-01181908B (expires 1/17/22).		

TO-17 STD	PAH 1° Working Standard	20 µg/mL
S31-06241904		12/24/2019
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 200µg/mL PAH 1° stock standard S31-06241903 (Exp. 12/24/19)		

TO-17 STD	PAH 1° Working Standard	2 µg/ml
S31-06241905 @ 6/24/19		12/24/2019
Into 1mL mininert vial with 9900µL B&J P&T methanol, Lot #DL535, added 10µL 200µg/mL PAH 1° stock standard S31-06241903 (Exp. 12/24/19)		

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6/25/19

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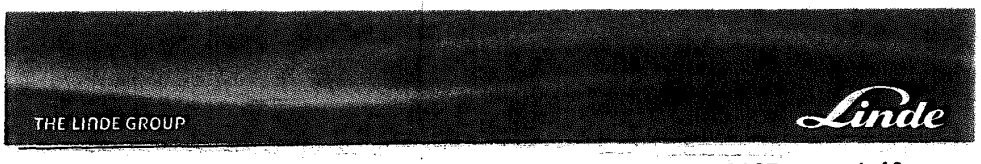
Primary STD

S31-06251901 **CERTIFICATE OF ANALYSIS**

Sales#:	117209081	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1490293	**Cylinder # :**	CC-106678
Certification Date:	Jun-13-2019	**Cylinder Pressure:**	1500 psig
P.O.# :	SM002804	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	CERTIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24106776	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	3000 Liters
Expiration Date:	Jun-13-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	10% Relative

Rcvd 6/25/19

ISO 9001:2008 Linde **SPECTRA** Environmental Gases, 80 Industrial Drive, Alpha, NJ 08865



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PAGE: 1 of 2

Secondary STD

S31-06251902 **CERTIFICATE OF ANALYSIS**

Sales#:	117209081	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1490294	**Cylinder # :**	CC-94582
Certification Date:	Jun-13-2019	**Cylinder Pressure:**	1400 psig
P.O.# :	SM002804	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	CERTIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24106776	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2800 Liters
Expiration Date:	Jun-13-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	10% Relative

Rcvd 6/25/19

259

11/19

ISO 9001:2015 Linde **SPECTRA** Environmental Gases, 80 Industrial Drive, Alpha, NJ 08865

S31-10111901 TO-15 stock std (Primary)

CA

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PAGE: 1 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

ISO 9001:2015 Linde **SPECTRA** Environmental Gases, 80 Industrial Drive, Alpha, NJ 08865

S31-10111902 TO-15 stock std (Secondary)

CA

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PAGE: 1 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

10/11/19
LH

TO-15 STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-10111901 with HZA Lot # 70086915004 using 4700 diluter

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-10111903	200 ng/L	STD00139	10/11/19	**11/9/19**	LH
S31-10111904	200 ng/L	STD00120	10/11/19	**11/9/19**	LH
S31-10111905	200 ng/L	STD00110	10/11/19	**11/9/19**	LH

ISO 9001:2015 Linde **SPECTRA** Environmental Gases, 80 Industrial Drive, Alpha, NJ 08865

S31-1011901

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Primary

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Propylene	115-07-1	1.00 mg/m3	1.06 mg/m3
Freon-12	75-71-8	1.00 mg/m3	1.06 mg/m3
Chloromethane	74-87-3	1.00 mg/m3	1.06 mg/m3
Freon-114	76-14-2	1.00 mg/m3	1.05 mg/m3
Vinyl Chloride	75-01-4	1.00 mg/m3	1.08 mg/m3
1,3-Butadiene	106-99-0	1.00 mg/m3	1.06 mg/m3
Bromomethane	74-83-9	1.00 mg/m3	1.08 mg/m3
Chloroethane	75-00-3	1.00 mg/m3	1.08 mg/m3
Ethanol	64-17-5	5.00 mg/m3	5.21 mg/m3
Acetonitrile	75-05-8	1.00 mg/m3	1.05 mg/m3
Acrolein	107-02-8	1.00 mg/m3	1.03 mg/m3
Acetone	67-64-1	5.00 mg/m3	5.33 mg/m3
Freon-11	75-69-4	1.00 mg/m3	1.06 mg/m3
Isopropyl Alcohol	67-63-0	2.00 mg/m3	2.10 mg/m3
Acrylonitrile	107-13-1	1.00 mg/m3	1.05 mg/m3
1,1-Dichloroethene	75-35-4	1.00 mg/m3	1.08 mg/m3
Carbon Disulfide	75-15-0	1.00 mg/m3	1.07 mg/m3
Methylene Chloride	75-09-2	1.00 mg/m3	1.06 mg/m3
Tert-Butanol	75-65-0	2.00 mg/m3	2.16 mg/m3
Allyl Chloride	107-05-1	1.00 mg/m3	1.08 mg/m3
Freon-113	76-13-1	1.00 mg/m3	1.08 mg/m3
Trans-1,2-Dichloroethene	156-60-5	1.00 mg/m3	1.08 mg/m3
1,1-Dichloroethane	75-34-3	1.00 mg/m3	1.09 mg/m3
Methyl Tert Butyl Ether	1634-04-4	1.00 mg/m3	1.08 mg/m3
Vinyl Acetate	108-05-4	5.00 mg/m3	5.35 mg/m3
Methacrylonitrile	126-98-7	1.00 mg/m3	1.06 mg/m3
Methyl Ethyl Ketone	78-93-3	1.00 mg/m3	1.06 mg/m3
Cis-1,2-Dichloroethene	156-59-2	1.00 mg/m3	1.06 mg/m3
Hexane	110-54-3	1.00 mg/m3	1.08 mg/m3
Di-isopropyl Ether	108-20-3	1.00 mg/m3	1.08 mg/m3

Linde Gas North America LLC

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PAGE: 2 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chloroform	67-66-3	1.00 mg/m3	1.07 mg/m3
Ethyl Acetate	141-78-6	2.00 mg/m3	2.17 mg/m3
Tetrahydrofuran	109-99-9	1.00 mg/m3	1.09 mg/m3
Ethyl Tert-Butyl Ether	637-92-3	1.00 mg/m3	1.08 mg/m3
1,2-Dichloroethane	107-06-2	1.00 mg/m3	1.08 mg/m3
1,1,1-Trichloroethane	71-55-6	1.00 mg/m3	1.07 mg/m3
Benzene	71-43-2	1.00 mg/m3	1.06 mg/m3
Isopropyl Acetate	108-21-4	2.00 mg/m3	2.11 mg/m3
1-Butanol	71-36-3	2.00 mg/m3	2.08 mg/m3
Carbon Tetrachloride	56-23-5	1.00 mg/m3	1.05 mg/m3
Cyclohexane	110-82-7	2.00 mg/m3	2.12 mg/m3
Tert Amyl Methyl Ether	994-05-8	1.00 mg/m3	1.08 mg/m3
1,2-Dichloropropane	78-87-5	1.00 mg/m3	1.08 mg/m3
Trichloroethylene	79-01-6	1.00 mg/m3	1.07 mg/m3
Bromodichloromethane	75-27-4	1.00 mg/m3	1.08 mg/m3
1,4-Dioxane	123-91-1	1.00 mg/m3	1.08 mg/m3
Isooctane	540-84-1	1.00 mg/m3	1.07 mg/m3
Methyl Methacrylate	80-62-6	2.00 mg/m3	2.15 mg/m3
Heptane	142-82-5	1.00 mg/m3	1.08 mg/m3
Cis-1,3-Dichloropropene	10061-01-5	1.00 mg/m3	1.04 mg/m3
Methyl Isobutyl Ketone	108-10-1	1.00 mg/m3	1.06 mg/m3
Trans-1,3-Dichloropropene	10061-02-6	1.00 mg/m3	1.06 mg/m3
1,1,2-Trichloroethane	79-00-5	1.00 mg/m3	1.07 mg/m3
Toluene	108-88-3	1.00 mg/m3	1.07 mg/m3
Methyl Butyl Ketone	591-78-6	1.00 mg/m3	1.07 mg/m3
Dibromochloromethane	124-48-1	1.00 mg/m3	1.07 mg/m3
1,2-Dibromoethane	106-93-4	1.00 mg/m3	1.07 mg/m3
n-Butyl Acetate	123-86-4	1.00 mg/m3	1.09 mg/m3
n-Octane	111-65-9	1.00 mg/m3	1.08 mg/m3
Tetrachloroethylene	127-18-4	1.00 mg/m3	1.04 mg/m3

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PAGE: 3 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chlorobenzene	108-90-7	1.00 mg/m3	1.07 mg/m3
Ethylbenzene	100-41-4	1.00 mg/m3	1.07 mg/m3
p-xylene	106-42-3	1.00 mg/m3	1.07 mg/m3
m-xylene	108-38-3	1.00 mg/m3	1.07 mg/m3
Bromoform	75-25-2	1.00 mg/m3	1.07 mg/m3
Cyclohexanone	108-94-1	1.00 mg/m3	1.00 mg/m3
Styrene	100-42-5	1.00 mg/m3	1.06 mg/m3
o-xylene	95-47-6	1.00 mg/m3	1.07 mg/m3
1,1,2,2-Tetrachloroethane	79-34-5	1.00 mg/m3	1.07 mg/m3
Nonane	111-84-2	1.00 mg/m3	1.07 mg/m3
Isopropylbenzene	98-82-8	1.00 mg/m3	1.08 mg/m3
alpha-Pinene	80-56-8	1.00 mg/m3	1.07 mg/m3
n-Propylbenzene	103-65-1	1.00 mg/m3	1.08 mg/m3
3-Ethyltoluene	620-14-4	1.00 mg/m3	1.06 mg/m3
4-Ethyltoluene	622-96-8	1.00 mg/m3	1.08 mg/m3
2-Ethyltoluene	611-14-3	1.00 mg/m3	1.08 mg/m3
1,3,5-Trimethylbenzene	108-67-8	1.00 mg/m3	1.06 mg/m3
alpha-Methylstyrene	98-83-9	1.00 mg/m3	1.07 mg/m3
Tert-Butyl Benzene	98-06-6	1.00 mg/m3	1.07 mg/m3
1,2,4-Trimethylbenzene	95-63-6	1.00 mg/m3	1.07 mg/m3
1,3-Dichlorobenzene	541-73-1	1.00 mg/m3	1.07 mg/m3
Benzyl Chloride	100-44-7	1.00 mg/m3	1.08 mg/m3
n-Decane	124-18-5	1.00 mg/m3	1.07 mg/m3
1,4-Dichlorobenzene	106-46-7	1.00 mg/m3	1.07 mg/m3
Sec-Butyl Benzene	135-98-8	1.00 mg/m3	1.07 mg/m3
p-Isopropyltoluene	99-87-6	1.00 mg/m3	1.09 mg/m3
1,2,3-Trimethylbenzene	526-73-8	1.00 mg/m3	1.09 mg/m3
1,2-Dichlorobenzene	95-50-1	1.00 mg/m3	1.07 mg/m3

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ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
d-Limonene	5989-27-5	1.00 mg/m3	1.08 mg/m3
n-Butyl Benzene	104-51-8	1.00 mg/m3	1.07 mg/m3
1,2-Dibromo-3-Chloropropane	96-12-8	1.00 mg/m3	1.05 mg/m3
n-Undecane	1120-21-4	1.00 mg/m3	1.08 mg/m3
1,2,4-Trichlorobenzene	120-82-1	1.00 mg/m3	1.07 mg/m3
Naphthalene	91-20-3	1.00 mg/m3	1.03 mg/m3
n-Dodecane	112-40-3	1.00 mg/m3	1.04 mg/m3
Hexachloro-1,3-Butadiene	87-68-3	1.00 mg/m3	1.06 mg/m3
Nitrogen	7727-37-9	Balance	Balance

ANALYST: Lou Lorenzetti **DATE:** Sep-24-2019

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Secondary

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Propylene	115-07-1	1.00 mg/m3	1.05 mg/m3
Freon-12	75-71-8	1.00 mg/m3	1.05 mg/m3
Chloromethane	74-87-3	1.00 mg/m3	1.06 mg/m3
Freon-114	76-14-2	1.00 mg/m3	1.03 mg/m3
Vinyl Chloride	75-01-4	1.00 mg/m3	1.06 mg/m3
1,3-Butadiene	106-99-0	1.00 mg/m3	1.06 mg/m3
Bromomethane	74-83-9	1.00 mg/m3	1.06 mg/m3
Chloroethane	75-00-3	1.00 mg/m3	1.07 mg/m3
Ethanol	64-17-5	5.00 mg/m3	5.30 mg/m3
Acetonitrile	75-05-8	1.00 mg/m3	1.07 mg/m3
Acrolein	107-02-8	1.00 mg/m3	1.03 mg/m3
Acetone	67-64-1	5.00 mg/m3	5.34 mg/m3
Freon-11	75-69-4	1.00 mg/m3	1.06 mg/m3
Isopropyl Alcohol	67-63-0	2.00 mg/m3	2.11 mg/m3
Acrylonitrile	107-13-1	1.00 mg/m3	1.06 mg/m3
1,1-Dichloroethene	75-35-4	1.00 mg/m3	1.07 mg/m3
Carbon Disulfide	75-15-0	1.00 mg/m3	1.06 mg/m3
Methylene Chloride	75-09-2	1.00 mg/m3	1.05 mg/m3
Tert-Butanol	75-65-0	2.00 mg/m3	2.15 mg/m3
Allyl Chloride	107-05-1	1.00 mg/m3	1.07 mg/m3
Freon-113	76-13-1	1.00 mg/m3	1.08 mg/m3
Trans-1,2-Dichloroethene	156-60-5	1.00 mg/m3	1.07 mg/m3
1,1-Dichloroethane	75-34-3	1.00 mg/m3	1.06 mg/m3
Methyl Tert Butyl Ether	1634-04-4	1.00 mg/m3	1.07 mg/m3
Vinyl Acetate	108-05-4	5.00 mg/m3	5.33 mg/m3
Methacrylonitrile	126-98-7	1.00 mg/m3	1.06 mg/m3
Methyl Ethyl Ketone	78-93-3	1.00 mg/m3	1.06 mg/m3
Cis-1,2-Dichloroethene	156-59-2	1.00 mg/m3	1.06 mg/m3
Hexane	110-54-3	1.00 mg/m3	1.08 mg/m3
Di-isopropyl Ether	108-20-3	1.00 mg/m3	1.08 mg/m3

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ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chloroform	67-66-3	1.00 mg/m3	1.07 mg/m3
Ethyl Acetate	141-78-6	2.00 mg/m3	2.16 mg/m3
Tetrahydrofuran	109-99-9	1.00 mg/m3	1.10 mg/m3
Ethyl Tert-Butyl Ether	637-92-3	1.00 mg/m3	1.07 mg/m3
1,2-Dichloroethane	107-06-2	1.00 mg/m3	1.07 mg/m3
1,1,1-Trichloroethane	71-55-6	1.00 mg/m3	1.07 mg/m3
Benzene	71-43-2	1.00 mg/m3	1.05 mg/m3
Isopropyl Acetate	108-21-4	2.00 mg/m3	2.10 mg/m3
1-Butanol	71-36-3	2.00 mg/m3	2.13 mg/m3
Carbon Tetrachloride	56-23-5	1.00 mg/m3	1.04 mg/m3
Cyclohexane	110-82-7	2.00 mg/m3	2.11 mg/m3
Tert Amyl Methyl Ether	994-05-8	1.00 mg/m3	1.07 mg/m3
1,2-Dichloropropane	78-87-5	1.00 mg/m3	1.07 mg/m3
Trichloroethylene	79-01-6	1.00 mg/m3	1.08 mg/m3
Bromodichloromethane	75-27-4	1.00 mg/m3	1.09 mg/m3
1,4-Dioxane	123-91-1	1.00 mg/m3	1.08 mg/m3
Isooctane	540-84-1	1.00 mg/m3	1.07 mg/m3
Methyl Methacrylate	80-62-6	2.00 mg/m3	2.15 mg/m3
Heptane	142-82-5	1.00 mg/m3	1.07 mg/m3
Cis-1,3-Dichloropropene	10061-01-5	1.00 mg/m3	1.07 mg/m3
Methyl Isobutyl Ketone	108-10-1	1.00 mg/m3	1.06 mg/m3
Trans-1,3-Dichloropropene	10061-02-6	1.00 mg/m3	1.06 mg/m3
1,1,2-Trichloroethane	79-00-5	1.00 mg/m3	1.07 mg/m3
Toluene	108-88-3	1.00 mg/m3	1.06 mg/m3
Methyl Butyl Ketone	591-78-6	1.00 mg/m3	1.08 mg/m3
Dibromochloromethane	124-48-1	1.00 mg/m3	1.07 mg/m3
1,2-Dibromoethane	106-93-4	1.00 mg/m3	1.07 mg/m3
n-Butyl Acetate	123-86-4	1.00 mg/m3	1.09 mg/m3
n-Octane	111-65-9	1.00 mg/m3	1.08 mg/m3
Tetrachloroethylene	127-18-4	1.00 mg/m3	1.04 mg/m3

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ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chlorobenzene	108-90-7	1.00 mg/m3	1.07 mg/m3
Ethylbenzene	100-41-4	1.00 mg/m3	1.06 mg/m3
p-xylene	106-42-3	1.00 mg/m3	1.07 mg/m3
m-xylene	108-38-3	1.00 mg/m3	1.06 mg/m3
Bromoform	75-25-2	1.00 mg/m3	1.07 mg/m3
Cyclohexanone	108-94-1	1.00 mg/m3	1.01 mg/m3
Styrene	100-42-5	1.00 mg/m3	1.06 mg/m3
o-xylene	95-47-6	1.00 mg/m3	1.07 mg/m3
1,1,2,2-Tetrachloroethane	79-34-5	1.00 mg/m3	1.07 mg/m3
Nonane	111-84-2	1.00 mg/m3	1.07 mg/m3
Isopropylbenzene	98-82-8	1.00 mg/m3	1.07 mg/m3
alpha-Pinene	80-56-8	1.00 mg/m3	1.06 mg/m3
n-Propylbenzene	103-65-1	1.00 mg/m3	1.07 mg/m3
3-Ethyltoluene	620-14-4	1.00 mg/m3	1.07 mg/m3
4-Ethyltoluene	622-96-8	1.00 mg/m3	1.05 mg/m3
2-Ethyltoluene	611-14-3	1.00 mg/m3	1.07 mg/m3
1,3,5-Trimethylbenzene	108-67-8	1.00 mg/m3	1.06 mg/m3
alpha-Methylstyrene	98-83-9	1.00 mg/m3	1.06 mg/m3
Tert-Butyl Benzene	98-06-6	1.00 mg/m3	1.06 mg/m3
1,2,4-Trimethylbenzene	95-63-6	1.00 mg/m3	1.06 mg/m3
1,3-Dichlorobenzene	541-73-1	1.00 mg/m3	1.07 mg/m3
Benzyl Chloride	100-44-7	1.00 mg/m3	1.07 mg/m3
n-Decane	124-18-5	1.00 mg/m3	1.07 mg/m3
1,4-Dichlorobenzene	106-46-7	1.00 mg/m3	1.07 mg/m3
Sec-Butyl Benzene	135-98-8	1.00 mg/m3	1.06 mg/m3
p-Isopropyltoluene	99-87-6	1.00 mg/m3	1.09 mg/m3
1,2,3-Trimethylbenzene	526-73-8	1.00 mg/m3	1.08 mg/m3
1,2-Dichlorobenzene	95-50-1	1.00 mg/m3	1.07 mg/m3

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ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
d-Limonene	5989-27-5	1.00 mg/m3	1.06 mg/m3
n-Butyl Benzene	104-51-8	1.00 mg/m3	1.07 mg/m3
1,2-Dibromo-3-Chloropropane	96-12-8	1.00 mg/m3	1.07 mg/m3
n-Undecane	1120-21-4	1.00 mg/m3	1.08 mg/m3
1,2,4-Trichlorobenzene	120-82-1	1.00 mg/m3	1.08 mg/m3
Naphthalene	91-20-3	1.00 mg/m3	1.06 mg/m3
n-Dodecane	112-40-3	1.00 mg/m3	1.06 mg/m3
Hexachloro-1,3-Butadiene	87-68-3	1.00 mg/m3	1.07 mg/m3
Nitrogen	7727-37-9	Balance	Balance

ANALYST: _____
Lou Lorenzetti

DATE: Sep-24-2019

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1/6/20 LH

TO-15 MAPH STD				20ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of S31-11061903 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-01062006	20 ng/L	STD00164	1/6/20	3/4/20	LH

1/6/20 S31-01062007 TO-15 IS/SURR STD ~0.5 mg/m³

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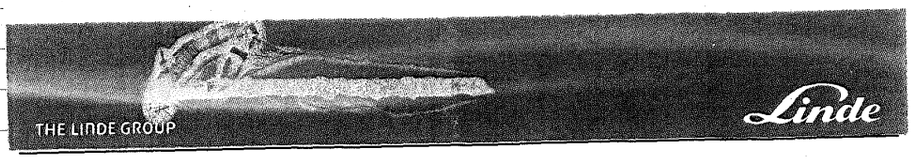

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S31-01062007 **ANALYSIS REPORT** IS/SURR STD.

Sales#:	117350975	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1502527	**Cylinder # :**	CC-430401
Report Date:	Dec-23-2019	**Cylinder Pressure:**	2000 psig
P.O.# :	SM003000	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24086333	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	4000 Liters
Expiration Date:	Dec-23-~~2020~~ 2021	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	10% Relative

LH 1/7/20

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Bromochloromethane	74-97-5	0.50 mg/m3	0.55 mg/m3
1,2-Dichloroethane-d4	17060-07-0	0.50 mg/m3	0.55 mg/m3
1,4-Difluorobenzene	540-36-3	0.50 mg/m3	0.55 mg/m3
Toluene-d8	2037-26-5	0.50 mg/m3	0.55 mg/m3
Chlorobenzene-d5	3114-55-4	0.50 mg/m3	0.55 mg/m3
4-Bromofluorobenzene	460-00-4	0.50 mg/m3	0.53 mg/m3
Nitrogen	7727-37-9	Balance	Balance

1/7/20 LH

EPA 325B STD	BTEX 1° Working Standard	200 µg/mL
S31-01072001	Expires:	1/21/2020
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 2000µg/mL BTEX stock standard S31-11271903 (expires 1/27/20).		

LH

EPA 325B STD	BTEX 2° Working Standard	200 µg/mL
S31-01072002	Expires:	1/21/2020
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 2000µg/mL BTEX stock standard S31-11271904 (expires 1/27/20).		

LH

297

2/5/2020 RVT

		TO-15 STD		4 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S31-01292007**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02052009	4 ng/L	STD00094	2/5/20	3/5/20	RVT

RVT

TO-15 STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111901**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02052010	200 ng/L	STD00224	2/5/20	3/5/20	RVT

2/6/2020 RVT

TO-15 STD **20 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S31-02052007**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02062001	20 ng/L	STD00064	2/6/20	3/6/20	RVT

RVT

TO-15 ICV/ LCS STD **20 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S31-02052002**
with HZA Lot # 70086915004 using 4700 diluter

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02062002	20 ng/L	STD00113	2/6/20	3/6/2020	RVT

RVT TO15 STD 1000 ng/L
S31-02062003
Filled Can STD00136 w/ S31-10111901 To ~ 5.61 psig
Exp. 3/6/2020

2/7/20 S31-02072001 Toluene-d8 2.0 µg/ml
Spiked 4.2 µl S29-04281601 into 2010 ml glass SDB
purged w/ helium. Exp. 3/7/20.
CK

02/11/20 S31-02112001 TO-15 IS/SURR 500 ng/L
VH FILLED CAN # STD00214 TO ~ 20 PSIG W/ S31-01062007
EXP 08/09/20

302

2/26/20 S31-02262002 TO15 1ng/L Secondar
Made 20x dil. of S31-02202001 into
can STD00092. Exp. 3/26/20

2/26/20 LH

		TO-15 STD		200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-10111901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02262003	200 ng/L	STD00180	2/26/20	**3/26/20**	LH
		TO-15 STD		**20 ng/L**	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of S31-02262003 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02262004	20 ng/L	STD00007	2/26/20	**3/26/20**	LH
		TO-15 STD		**4 ng/L**	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-02262004 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02262005	4 ng/L	STD00184	2/26/20	**3/26/20**	LH

2/26/20 LH

		TO-15 ICV/ LCS STD		200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-10111902 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02262006	200 ng/L	STD00~~063~~ 194	2/26/20	3/26/20	LH

LH 2/27/20

2/27/20 EP S31-02272001
Bis-2-chloroethyl Ether 1000 µg/ml in MeOH
Transferred entire contents of S31-06281903B into 1ml glass minivert vial. Exp. 4/27/20

CW S31-02278002 Bis-2-Chloroisopropyl ether 2000 µg/ml in MeOH
Transferred entire contents of S31-06281902B into 1ml glass minivert vial. Exp 4/27/20

2/27/20 RVT

3/9/20

TO-17 STD	LEED 1° Stock Standard	2000 µg/mL
S34-03092001		5/9/2020
Into 2mL mininert vial transferred contents of 2000µg/mL LEED stock ampul primary standard S31-01251906E (expires 1/17/21).		

TO-17 STD	LEED 2° Stock Standard	2000 µg/mL
S34-03092002		5/9/2020
Into 2mL mininert vial transferred contents of 2000µg/mL LEED stock ampul secondary standard S31-09111906B (expires 8/31/20).		

TO-17 STD	LEED 1° Working Standard	200 µg/mL
S34-03092003		5/9/2020
Into 1mL mininert vial with 900uL B&J P&T methanol, Lot # DL535, added 100µL 2000ng/mL LEED 1° Stock standard S34-03092001 (expires 5/9/20).		

TO-17 STD	LEED 2° Working Standard	200 µg/mL
S34-03092004		5/9/2020
Into 1mL mininert vial with 900uL B&J P&T methanol, Lot # DL535, added 100µL 2000ng/mL LEED 2° Stock standard S34-03092002 (expires 5/9/20).		

3/10/20
RVT

TO15 ICV/LCS STD 1000 ng/L
S34-03102001
Filled Can: STD00133 w/ S31-10111901 To ~ 7.4 PSIG
Exp. 4/10/20 RVT

3/10/20
LH

		TO-15 STD		200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-10111901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-03102002	200 ng/L	STD00201	3/10/20	4/8/20	LH
4 LH 3/11/20					
		TO-15 STD		20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of S31-03102002 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-03102003	20 ng/L	STD00217	3/10/20	4/8/20	LH
4 LH 3/11/20					
		TO-15 STD		4 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-03102003 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-03102004	4 ng/L	STD00131	3/10/20	4/8/20	LH

LH 3/11/20

RVT 3/11/20

6
3/17/20
RVT

TO-15 Custom STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-03172007	200 ng/L	STD00102	3/17/2020	**4/15/2020**	RVT
S34-03172008	200 ng/L	STD00192	3/17/2020	**4/15/2020**	RVT

A

EPA 325B STD **BTEX 1° Working Standard** **200 µg/mL**
S34-03172009 **Expires: 3/31/2020**
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 2000µg/mL BTEX stock standard S31-01212006 (expires 3/21/20).

MA

EPA 325B STD **BTEX 2° Working Standard** **200 µg/mL**
S34-03172010 **Expires: 3/31/2020**
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 2000µg/mL BTEX stock standard S31-02042012 (expires 4/4/20).

RVT

TO-15 Custom STD **20 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of S31-03172008 with HZA Lot # 70086915004 using 4700 diluter

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-03172011	20 ng/L	STD00177	3/17/2020	**4/15/2020**	RVT

RVT

TO-15 Custom STD **20 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of S31-03172007 with HZA Lot # 70086915004 using 4700 diluter

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-03172012	20 ng/L	STD00086	3/17/2020	**4/15/2020**	RVT

03/18/20
RVT

TO-15 STD **20 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S31-03172004** using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-03182001	20 ng/L	STD00061	3/18/20	**4/16/20**	RVT

RVT

TO-15 STD **1 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 20X dilution of **S34-03182001** using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-03182002	1 ng/L	STD00069	3/18/20	**4/16/20**	RVT

S34-03192001	TO-15 IS & Surr. STD	500 ng/L
Filled 6L CAN STD00154 with	S31-01062007 to ~80 psig.	Exp. 5/19/20 TD

TD 3/23/20

S34-03202001	TO-15 SIM IS/SURR	40 ng/L
Filled can STD00226	to (-7.46) psig with S31-01062007 then pressurized to 75.4 psig	
with HZA Lot #70086833701		
	Exp: 6/18/2020	RVT
DF = 14.7+ 61.80= 12.5X		
14.7+ (-8.58)		

3/20/20 RVT

TO-17 STD S34-03202002	PAH 1° Working Standard	2 µg/ml 5/20/2020
Into 1mL mininert vial with 9900µL B&J P&T methanol, Lot #DL535, added 10µL 200µg/mL PAH 1° stock standard S31-01222001 (Exp. 7/21/20)		

MA

TO-17 STD S34-03232001	RAD VOC 1° Stock Standard	2000ng/µL 5/23/2020
Transferred stock standard S31-09061901B (exp. 3/13/27) into glass vial with mininert valve cap.		

3/23/20 CV

TO-17 STD S34-03232002	RAD VOC 1° Working Standard	200ng/µL 5/23/2020
Into 1mL mininert vial with 900uL B&J P&T methanol, Lot # DL535, added 100uL 2000ng/µL Stock Standard S34-03232001 (expires 3/13/20)		

CV

TO-15 ICV/LCS STD	200 ng/L
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111902** with HZA Lot # 70086915004 using 4700 diluter	

3/25/20 RVT

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34 ~~S31~~-03252001	200 ng/L	STD00033	3/25/20	4/23/20	RVT
RVT S34 ~~S31~~-03252002	200 ng/L	STD00182	3/25/20	4/23/20	RVT
4/3/20 S34 ~~S31~~-03252003	200 ng/L	STD00132	3/25/20	4/23/20	RVT
S34 ~~S31~~-03252004	200 ng/L	STD00139	3/25/20	4/23/20	RVT

S34-03262001	TO-15 IS & Surr. STD	500 ng/L
Filled 15L CAN STD00219 with	S31-10111901 to ~80 psig.	Exp. 6/26/20 WA

3/26/20 WA

3/27/20 RVT

4/8/20 S34-~~03~~04082002 TO-17 IS/surr 50ng/ml
Spiked 23.5 µl S34-04072007 into can STDcc215 and
pressurized to 83.3 psig w/ HZA (Lot 7008600403).
Exp. 10/8/20

	TO-15 STD			200 ng/L	
4/10/20	Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111901**				
	using 4700 diluter	HZA Lot #70086915004			
RVT					
	Standard ID	Standard conc.	CAN I.D.	Prep. Date	**Exp. Date**	Initial
	S34-04102001	200 ng/L	STD00096	4/10/20	**5/9/20**	RVT
	S34-04102002	200 ng/L	STD00111	4/10/20	**5/9/20**	RVT
	S34-04102003	200 ng/L	STD00013	4/10/20	**5/9/20**	RVT
	S34-04102004	200 ng/L	STD00018	4/10/20	**5/9/20**	RVT

RVT S34-04102005 TO-15 STD 1000 ng/L
Pressurized Can: STD00056 w/S31-10111901 To. 16.61 psig
Exp. 9/24/20
RVT

	TO-15 STD			200 ng/L	
RVT	Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S34-04102005**				
	using 4700 diluter	HZA Lot #70086915004			
	Standard ID	Standard conc.	CAN I.D.	Prep. Date	**Exp. Date**	Initial
	S34-04102006	200 ng/L	STD00003	4/10/20	**5/9/20**	RVT

RVT S34-04102007 TO-15 STD 1000 ng/L
ICV/LCS
Pressurized Can: STD00136 w/S31-10111902 To ≈ 17 psig
Exp. 9/24/20
RVT

	TO-15 ICV/LCS STD			200 ng/L	
RVT	Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S34-04102007** with HZA Lot # 70086915004 using 4700 diluter				
	Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
	S34-04102008	200 ng/L	STD00158	4/10/20	**5/9/20**	RVT

	TO-15 STD			20 ng/L	
RVT	Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04102004**				
	using 4700 diluter	HZA Lot #70086915004			
	Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
	S34-04102009	20 ng/L	STD00145	4/10/20	**5/9/20**	RVT

2655 Park Center Dr., Suite A
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www.alsglobal.com

LABORATORY REPORT

April 30, 2020

Pamela Moss
EA Engineering, Science, and Technology, Inc.
7995 E. Prentice Ave, Suite 206E
Greenwood Village, CO 80111

RE: Kirtland AFB Bulk Fuels Facility / 62735DM02

Dear Pamela:

Enclosed are the results of the samples submitted to our laboratory on April 14, 2020. For your reference, these analyses have been assigned our service request number P2002032.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

Kate Kaneko
Apr 30, 2020, 2:57 pm

Kate Kaneko
Project Manager

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

Client: EA Engineering, Science, and Technology, Inc. Service Request No: P2002032
Project: Kirtland AFB Bulk Fuels Facility / 62735DM02

CASE NARRATIVE

The samples were received intact under chain of custody on April 14, 2020 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

Manual integrations were performed on the following samples and analytes. Refer to the raw data for additional information.

Sample Identifications	Analytes
P2002032-002, 004, 008, 009, 012	acetone
P2002032-002, 005, 011	propene

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.1 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

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Simi Valley, CA 93065
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www.alsglobal.com

ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1776326
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-007
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272019-10
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: EA Engineering, Science, and Technology, Inc. Service Request: P2002032

Project ID: Kirtland AFB Bulk Fuels Facility / 62735DM02

Date Received: 4/14/2020

Time Received: 10:45

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	TO-15 - VOC Cans
SV133-170-202	P2002032-001	Air	4/8/2020	08:38	1SS00861	-2.58	7.34	X
SV133-250-602	P2002032-002	Air	4/8/2020	08:43	1SC00346	-2.62	5.27	X
SV133-250-202	P2002032-003	Air	4/8/2020	08:43	1SS00528	-2.54	5.70	X
SV133-350-202	P2002032-004	Air	4/8/2020	08:48	1SC00472	-2.56	5.11	X
SV133-450-202	P2002032-005	Air	4/8/2020	08:58	1SC00007	-3.62	5.22	X
SV142-030-202	P2002032-006	Air	4/8/2020	13:41	1SS00820	-3.42	5.83	X
SV142-050-202	P2002032-007	Air	4/8/2020	13:44	1SC01381	-3.01	6.00	X
SV142-170-202	P2002032-008	Air	4/8/2020	13:54	1SC00782	-3.62	5.26	X
SV142-170-602	P2002032-009	Air	4/8/2020	13:54	1SC00193	-3.45	5.52	X
SV142-250-202	P2002032-010	Air	4/8/2020	13:57	1SC01171	-4.22	5.58	X
SV142-350-202	P2002032-011	Air	4/8/2020	14:00	1SC00894	-4.57	5.48	X
SV142-450-202	P2002032-012	Air	4/8/2020	14:09	1SS00064	-3.86	5.67	X

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

COC #: COC-SV202-06

Requested Turnaround Time in Business Days: 10 Day-Standard

ALS Project No. P1002032

Company Name & Address (Reporting Information)	Project Name	ALS Contact: Kate Kaneko 1 (805) 577-2089	Analysis Method	Comments e.g. Actual Preservative or specific instructions
EA Engineering, Science, and Technology, Inc., PBC 225 Schilling Circle Suite 400, Hunt Valley, MD (410) 584-7000	Kirtland AFB Bulk Fuels Facility Project Number: 62735DM02		TO-15 Project Specific List	
Project Manager / Project Chemist: Bernie Bockish (505) 234-1105 / Pam Moss (303) 590-9143	P.O. # / Billing Information: 17682			
Email Address for Result Reporting Tara Lamond: tlamond@eaest.com Amanda Smith: asmith@eaest.com Pam Moss: pmoss@eaest.com	Sampler (Print & Sign): Ryan Worthy			

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg	Sample Volume	TO-15 Project Specific List	Comments e.g. Actual Preservative or specific instructions
SV133-170-202		4/8/2020	0838	1SS00861	AVG04790	-27.0	-3.0	1L	X	None
SV133-250-602		4/8/2020	0843	1SC00346	NA	-25.5	-2.0	1L	X	None
SV133-250-202		4/8/2020	0843	1SS00528	AVG04203	-26.5	-3.0	1L	X	None
SV133-350-202		4/8/2020	0848	1SC00472	AVG#4320	-24.5	-1.0	1L	X	None
SV133-450-202		4/8/2020	0858	1SC00007	AVG04875	-26.0	-4.0	1L	X	None
SV142-030-202		4/8/2020	1341	1SS00820	NA	-23.0	-2.0	1L	X	None
SV142-050-202		4/8/2020	1344	1SC01381	NA	-25.0	-2.0	1L	X	None
SV142-170-202		4/8/2020	1354	1SC00782	AVG05090	-25.0	-2.0	1L	X	None
SV142-170-602		4/8/2020	1354	1SC00193	NA	-24.0	0.0	1L	X	None
SV142-250-202		4/8/2020	1357	1SC01171	NA	-24.0	-2.0	1L	X	None

FedEX Tracking Number: 1028 3396 5137

Associated with Trip blank: SVTB-202-01

Shipping information: Box number 3 of 3

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____ Tier III (Results + QC & Calibration Summaries) ____
Tier II (Results + QC Summaries) ____ Tier IV (Data Validation Package) X

EDD required: Yes
Type: ERPIMS / EQuIS

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements: QAPP

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	
	4/9/20	1300		4-14-20	1945	
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	Cooler / Blank Temperature NA °C

Air - Chain of Custody Record & Analytical Service Request

Page 2 of 2

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

COC #: COC-SV202-06

Requested Turnaround Time in Business Days: 10 Day-Standard

ALS Project No.: R2002032

Company Name & Address (Reporting Information): EA Engineering, Science, and Technology, Inc., PBC
225 Schilling Circle Suite 400, Hunt Valley, MD
(410) 584-7000

Project Name: Kirtland AFB Bulk Fuels Facility

Project Number: 62735DM02

Project Manager / Project Chemist: Bernie Bockish (505) 234-1105 / Pam Moss (303) 590-9143

P.O. # / Billing Information: 17682

Email Address for Result Reporting:
Tara Lamond: tlamond@eaest.com
Amanda Smith: asmith@eaest.com
Pam Moss: pmoss@eaest.com

Sampler (Print & Sign): Ryan Hartman

ALS Contact: Kate Kaneko
1 (805) 577-2089

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg	Sample Volume	Analysis Method: TO-15 Project Specific List	Comments e.g. Actual Preservative or specific instructions
SV142-350-202		4/8/2020	1400	1SC00894	AVG04788	-25.0	-3.0	1L	X	None
SV142-450-202		4/8/2020	1409	1SS00064	AVG04747	-25.0	-2.0	1L	X	None

4/9/20

FedEX Tracking Number: 1028 3396 5137

Associated with Trip blank: SVTB-202-01

Shipping Information: Box number 3 of 3

Report Tier Levels - please select
Tier I - Results (Default if not specified) ____ Tier III (Results + QC & Calibration Summaries) ____
Tier II (Results + QC Summaries) ____ Tier IV (Data Validation Package) X

EDD required: Yes
Type: ERPIMS / EQuIS

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements: QAPP

Relinquished by: (Signature)	Date: 4/9/20	Time: 1300	Received by: (Signature)	Date: 4-14-20	Time: 1045
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Cooler / Blank Temperature NA °C

ALS Environmental

Sample Acceptance Check Form

Client: EA Engineering, Science, and Technology, Inc. Work order: P2002032

Project: Kirtland AFB Bulk Fuels Facility / 62735DM02

Sample(s) received on: 04/14/20 Date opened: 04/14/20 by: DENISE.POSADA

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☒	☐	☐
	Location of seal(s)? _____ Sealing Lid?	☒	☐	☐
	Were signature and date included?	☒	☐	☐
	Were seals intact?	☒	☐	☐
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2002032-001.01	1.0 L Source Silonite Canister					
P2002032-002.01	1.0 L Source Can					
P2002032-003.01	1.0 L Source Silonite Canister					
P2002032-004.01	1.0 L Source Can					
P2002032-005.01	1.0 L Source Can					
P2002032-006.01	1.0 L Source Silonite Canister					
P2002032-007.01	1.0 L Source Can					
P2002032-008.01	1.0 L Source Can					
P2002032-009.01	1.0 L Source Can					
P2002032-010.01	1.0 L Source Can					
P2002032-011.01	1.0 L Source Can					
P2002032-012.01	1.0 L Source Silonite Canister					

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV133-170-202** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002032-001

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21 - 4/22/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00861

Initial Pressure (psig): -2.58 Final Pressure (psig): 7.34

Container Dilution Factor: 1.82

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	1.5	2.4	1.5	0.59	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**3.4**	2.4	1.5	0.40	
74-87-3	Chloromethane	1.5	2.4	1.5	0.39	**U**
75-01-4	Vinyl Chloride	0.77	2.5	0.77	0.26	**U**
106-99-0	1,3-Butadiene	1.5	2.4	1.5	0.40	**U**
75-00-3	Chloroethane	1.5	2.5	1.5	0.30	**U**
64-17-5	Ethanol	3.8	24	3.8	1.7	**U**
67-64-1	Acetone	**8.2**	24	12	5.5	**J**
75-69-4	Trichlorofluoromethane	**1.4**	2.4	1.5	0.37	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	2.9	9.6	2.9	1.0	**U**
75-09-2	Methylene Chloride	1.5	2.4	1.5	0.68	**U**
76-13-1	Trichlorotrifluoroethane	**14**	2.5	0.77	0.35	
75-15-0	Carbon Disulfide	**14**	5.0	2.5	0.73	
75-34-3	1,1-Dichloroethane	1.5	2.5	1.5	0.35	**U**
78-93-3	2-Butanone (MEK)	**1.3**	5.0	1.5	0.50	**J**
141-78-6	Ethyl Acetate	3.0	5.0	3.0	1.3	**U**
110-54-3	n-Hexane	1.5	2.5	1.5	0.50	**U**
67-66-3	Chloroform	**1.5**	2.5	0.77	0.32	**J**
109-99-9	Tetrahydrofuran (THF)	**17**	2.5	0.77	0.30	
107-06-2	1,2-Dichloroethane	0.77	2.5	0.77	0.27	**U**
71-43-2	Benzene	**0.53**	2.4	0.77	0.35	**J**
56-23-5	Carbon Tetrachloride	**4.1**	2.4	0.77	0.34	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV133-170-202** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002032-001

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21 - 4/22/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00861

Initial Pressure (psig): -2.58 Final Pressure (psig): 7.34

Container Dilution Factor: 1.82

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.5	5.0	1.5	0.68	**U**
75-27-4	Bromodichloromethane	0.77	2.5	0.77	0.35	**U**
79-01-6	Trichloroethene	**630**	25	7.7	3.3	**D**
123-91-1	1,4-Dioxane	0.77	2.5	0.77	0.29	**U**
142-82-5	n-Heptane	**1.5**	2.5	1.5	0.39	**J**
108-10-1	4-Methyl-2-pentanone	0.77	2.4	0.77	0.33	**U**
108-88-3	Toluene	**4.6**	2.5	0.77	0.30	
591-78-6	2-Hexanone	0.77	2.5	0.77	0.30	**U**
124-48-1	Dibromochloromethane	0.77	2.5	0.77	0.32	**U**
106-93-4	1,2-Dibromoethane	0.77	2.5	0.77	0.28	**U**
127-18-4	Tetrachloroethene	**24**	2.4	0.77	0.31	
100-41-4	Ethylbenzene	**0.98**	2.5	0.77	0.34	**J**
179601-23-1	m,p-Xylenes	**5.8**	5.0	1.5	0.64	
75-25-2	Bromoform	1.5	2.5	1.5	0.50	**U**
100-42-5	Styrene	1.5	2.4	1.5	0.39	**U**
95-47-6	o-Xylene	**1.9**	2.5	0.77	0.35	**J**
108-67-8	1,3,5-Trimethylbenzene	**2.7**	2.4	0.77	0.35	
95-63-6	1,2,4-Trimethylbenzene	**13**	2.5	0.77	0.34	
120-82-1	1,2,4-Trichlorobenzene	1.5	2.5	1.5	0.59	**U**
91-20-3	Naphthalene	**2.4**	2.4	1.4	0.59	
1330-20-7	Xylenes, Total	**7.7**	5.0	1.5	0.64	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV133-250-602** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002032-002

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21 - 4/22/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.025 Liter(s)
Container ID: 1SC00346

Initial Pressure (psig): -2.62 Final Pressure (psig): 5.27

Container Dilution Factor: 1.65

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.1**	2.2	1.3	0.54	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.2**	2.2	1.3	0.36	
74-87-3	Chloromethane	**0.44**	2.2	1.3	0.35	**J**
75-01-4	Vinyl Chloride	0.70	2.2	0.70	0.24	**U**
106-99-0	1,3-Butadiene	1.3	2.2	1.3	0.36	**U**
75-00-3	Chloroethane	1.3	2.2	1.3	0.27	**U**
64-17-5	Ethanol	**9.5**	21	3.4	1.5	**J, B**
67-64-1	Acetone	**18**	22	11	5.0	**J**
75-69-4	Trichlorofluoromethane	**1.0**	2.2	1.3	0.33	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.3**	8.7	2.6	0.91	**J**
75-09-2	Methylene Chloride	1.3	2.2	1.3	0.62	**U**
76-13-1	Trichlorotrifluoroethane	**13**	2.2	0.70	0.31	
75-15-0	Carbon Disulfide	**15**	4.5	2.2	0.66	
75-34-3	1,1-Dichloroethane	1.4	2.3	1.4	0.32	**U**
78-93-3	2-Butanone (MEK)	**4.2**	4.5	1.3	0.45	**J**
141-78-6	Ethyl Acetate	2.7	4.5	2.7	1.2	**U**
110-54-3	n-Hexane	**0.51**	2.2	1.3	0.45	**J**
67-66-3	Chloroform	**2.3**	2.2	0.70	0.29	
109-99-9	Tetrahydrofuran (THF)	**12**	2.3	0.70	0.28	
107-06-2	1,2-Dichloroethane	0.70	2.2	0.70	0.24	**U**
71-43-2	Benzene	**2.0**	2.2	0.70	0.32	**J**
56-23-5	Carbon Tetrachloride	**6.8**	2.2	0.70	0.31	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV133-250-602** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002032-002

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21 - 4/22/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.025 Liter(s)
Container ID: 1SC00346

Initial Pressure (psig): -2.62 Final Pressure (psig): 5.27

Container Dilution Factor: 1.65

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.4	4.5	1.4	0.62	**U**
75-27-4	Bromodichloromethane	0.70	2.2	0.70	0.32	**U**
79-01-6	Trichloroethene	**1,400**	36	11	4.8	**D**
123-91-1	1,4-Dioxane	**0.35**	2.2	0.70	0.26	**J**
142-82-5	n-Heptane	**2.8**	2.2	1.3	0.35	
108-10-1	4-Methyl-2-pentanone	**0.40**	2.2	0.70	0.30	**J**
108-88-3	Toluene	**8.0**	2.2	0.70	0.27	
591-78-6	2-Hexanone	**1.5**	2.2	0.70	0.27	**J**
124-48-1	Dibromochloromethane	0.70	2.2	0.70	0.29	**U**
106-93-4	1,2-Dibromoethane	0.70	2.2	0.70	0.26	**U**
127-18-4	Tetrachloroethene	**18**	2.1	0.70	0.28	
100-41-4	Ethylbenzene	**2.1**	2.2	0.70	0.31	**J**
179601-23-1	m,p-Xylenes	**13**	4.5	1.4	0.58	
75-25-2	Bromoform	1.3	2.2	1.3	0.45	**U**
100-42-5	Styrene	1.3	2.2	1.3	0.35	**U**
95-47-6	o-Xylene	**4.0**	2.2	0.70	0.32	
108-67-8	1,3,5-Trimethylbenzene	**6.7**	2.2	0.70	0.32	
95-63-6	1,2,4-Trimethylbenzene	**33**	2.2	0.70	0.31	
120-82-1	1,2,4-Trichlorobenzene	1.3	2.2	1.3	0.54	**U**
91-20-3	Naphthalene	**3.3**	2.1	1.3	0.54	
1330-20-7	Xylenes, Total	**17**	4.5	1.4	0.58	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV133-250-202** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002032-003

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21 - 4/22/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.025 Liter(s)
Container ID: 1SS00528

Initial Pressure (psig): -2.54 Final Pressure (psig): 5.70

Container Dilution Factor: 1.68

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**15**	2.2	1.3	0.55	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	2.2	1.3	0.37	
74-87-3	Chloromethane	1.3	2.2	1.3	0.36	**U**
75-01-4	Vinyl Chloride	0.71	2.3	0.71	0.24	**U**
106-99-0	1,3-Butadiene	1.3	2.2	1.3	0.37	**U**
75-00-3	Chloroethane	1.3	2.3	1.3	0.28	**U**
64-17-5	Ethanol	**85**	22	3.5	1.6	**B**
67-64-1	Acetone	**16**	22	11	5.0	**J**
75-69-4	Trichlorofluoromethane	**3.3**	2.2	1.3	0.34	
67-63-0	2-Propanol (Isopropyl Alcohol)	**58**	8.8	2.6	0.92	
75-09-2	Methylene Chloride	**1.2**	2.2	1.3	0.63	**J**
76-13-1	Trichlorotrifluoroethane	**13**	2.3	0.71	0.32	
75-15-0	Carbon Disulfide	**9.6**	4.6	2.3	0.67	
75-34-3	1,1-Dichloroethane	1.4	2.3	1.4	0.33	**U**
78-93-3	2-Butanone (MEK)	**2.1**	4.6	1.3	0.46	**J**
141-78-6	Ethyl Acetate	**9.6**	4.6	2.7	1.2	
110-54-3	n-Hexane	1.3	2.3	1.3	0.46	**U**
67-66-3	Chloroform	**2.4**	2.3	0.71	0.30	
109-99-9	Tetrahydrofuran (THF)	**5.8**	2.3	0.71	0.28	
107-06-2	1,2-Dichloroethane	0.71	2.3	0.71	0.25	**U**
71-43-2	Benzene	**1.6**	2.2	0.71	0.32	**J**
56-23-5	Carbon Tetrachloride	**7.6**	2.2	0.71	0.31	

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV133-250-202** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002032-003

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21 - 4/22/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.025 Liter(s)
Container ID: 1SS00528

Initial Pressure (psig): -2.54 Final Pressure (psig): 5.70

Container Dilution Factor: 1.68

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.4	4.6	1.4	0.63	**U**
75-27-4	Bromodichloromethane	0.71	2.3	0.71	0.32	**U**
79-01-6	Trichloroethene	**1,600**	36	11	4.8	**D**
123-91-1	1,4-Dioxane	0.71	2.3	0.71	0.26	**U**
142-82-5	n-Heptane	**2.2**	2.3	1.3	0.36	**J**
108-10-1	4-Methyl-2-pentanone	**1.1**	2.2	0.71	0.31	**J**
108-88-3	Toluene	**11**	2.3	0.71	0.27	
591-78-6	2-Hexanone	0.71	2.3	0.71	0.28	**U**
124-48-1	Dibromochloromethane	0.71	2.3	0.71	0.29	**U**
106-93-4	1,2-Dibromoethane	0.71	2.3	0.71	0.26	**U**
127-18-4	Tetrachloroethene	**18**	2.2	0.71	0.29	
100-41-4	Ethylbenzene	**0.72**	2.3	0.71	0.32	**J**
179601-23-1	m,p-Xylenes	**2.5**	4.6	1.4	0.59	**J**
75-25-2	Bromoform	1.3	2.3	1.3	0.46	**U**
100-42-5	Styrene	1.3	2.2	1.3	0.36	**U**
95-47-6	o-Xylene	**0.89**	2.3	0.71	0.32	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.72**	2.2	0.71	0.32	**J**
95-63-6	1,2,4-Trimethylbenzene	**3.9**	2.3	0.71	0.31	
120-82-1	1,2,4-Trichlorobenzene	1.3	2.3	1.3	0.55	**U**
91-20-3	Naphthalene	**1.3**	2.2	1.3	0.55	**J**
1330-20-7	Xylenes, Total	**3.4**	4.6	1.4	0.59	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV133-350-202** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002032-004

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21 - 4/22/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.025 Liter(s)
Container ID: 1SC00472

Initial Pressure (psig): -2.56 Final Pressure (psig): 5.11

Container Dilution Factor: 1.63

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**3.1**	2.2	1.3	0.53	
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.61**	2.2	1.3	0.35	**J**
74-87-3	Chloromethane	**0.92**	2.2	1.3	0.35	**J**
75-01-4	Vinyl Chloride	0.69	2.2	0.69	0.23	**U**
106-99-0	1,3-Butadiene	1.3	2.2	1.3	0.36	**U**
75-00-3	Chloroethane	1.3	2.2	1.3	0.27	**U**
64-17-5	Ethanol	**5.6**	21	3.4	1.5	**J, B**
67-64-1	Acetone	**14**	22	11	4.9	**J**
75-69-4	Trichlorofluoromethane	**0.40**	2.2	1.3	0.33	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	2.6	8.6	2.6	0.90	**U**
75-09-2	Methylene Chloride	1.3	2.2	1.3	0.61	**U**
76-13-1	Trichlorotrifluoroethane	**1.6**	2.2	0.69	0.31	**J**
75-15-0	Carbon Disulfide	**15**	4.5	2.2	0.65	
75-34-3	1,1-Dichloroethane	1.3	2.2	1.3	0.32	**U**
78-93-3	2-Butanone (MEK)	**3.3**	4.5	1.3	0.45	**J**
141-78-6	Ethyl Acetate	2.6	4.5	2.6	1.1	**U**
110-54-3	n-Hexane	1.3	2.2	1.3	0.45	**U**
67-66-3	Chloroform	**3.7**	2.2	0.69	0.29	
109-99-9	Tetrahydrofuran (THF)	**11**	2.2	0.69	0.27	
107-06-2	1,2-Dichloroethane	0.69	2.2	0.69	0.24	**U**
71-43-2	Benzene	**6.0**	2.2	0.69	0.31	
56-23-5	Carbon Tetrachloride	**1.7**	2.2	0.69	0.30	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV133-350-202** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002032-004

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21 - 4/22/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.025 Liter(s)
Container ID: 1SC00472

Initial Pressure (psig): -2.56 Final Pressure (psig): 5.11

Container Dilution Factor: 1.63

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.4	4.5	1.4	0.61	**U**
75-27-4	Bromodichloromethane	0.69	2.2	0.69	0.31	**U**
79-01-6	Trichloroethene	**380**	35	11	4.7	**D**
123-91-1	1,4-Dioxane	0.69	2.2	0.69	0.26	**U**
142-82-5	n-Heptane	**0.44**	2.2	1.3	0.35	**J**
108-10-1	4-Methyl-2-pentanone	**0.40**	2.2	0.69	0.30	**J**
108-88-3	Toluene	**2.4**	2.2	0.69	0.26	
591-78-6	2-Hexanone	**0.57**	2.2	0.69	0.27	**J**
124-48-1	Dibromochloromethane	0.69	2.2	0.69	0.29	**U**
106-93-4	1,2-Dibromoethane	0.69	2.2	0.69	0.25	**U**
127-18-4	Tetrachloroethene	**1.9**	2.1	0.69	0.28	**J**
100-41-4	Ethylbenzene	0.69	2.2	0.69	0.31	**U**
179601-23-1	m,p-Xylenes	**1.3**	4.5	1.4	0.57	**J**
75-25-2	Bromoform	1.3	2.2	1.3	0.45	**U**
100-42-5	Styrene	1.3	2.2	1.3	0.35	**U**
95-47-6	o-Xylene	**0.49**	2.2	0.69	0.31	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.62**	2.2	0.69	0.31	**J**
95-63-6	1,2,4-Trimethylbenzene	**3.0**	2.2	0.69	0.30	
120-82-1	1,2,4-Trichlorobenzene	1.3	2.2	1.3	0.53	**U**
91-20-3	Naphthalene	1.3	2.1	1.3	0.53	**U**
1330-20-7	Xylenes, Total	**1.8**	4.5	1.4	0.57	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV133-450-202** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002032-005

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/22/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.010 Liter(s)
Test Notes:
Container ID: 1SC00007

Initial Pressure (psig): -3.62 Final Pressure (psig): 5.22

Container Dilution Factor: 1.80

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**160**	95	58	23	
75-71-8	Dichlorodifluoromethane (CFC 12)	58	95	58	16	**U**
74-87-3	Chloromethane	**16**	95	58	15	**J**
75-01-4	Vinyl Chloride	31	97	31	10	**U**
106-99-0	1,3-Butadiene	58	95	58	16	**U**
75-00-3	Chloroethane	58	97	58	12	**U**
64-17-5	Ethanol	**92**	940	150	67	**J**
67-64-1	Acetone	490	950	490	220	**U**
75-69-4	Trichlorofluoromethane	58	95	58	15	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	110	380	110	40	**U**
75-09-2	Methylene Chloride	58	95	58	27	**U**
76-13-1	Trichlorotrifluoroethane	31	97	31	14	**U**
75-15-0	Carbon Disulfide	**100**	200	97	29	**J**
75-34-3	1,1-Dichloroethane	59	99	59	14	**U**
78-93-3	2-Butanone (MEK)	**150**	200	58	20	**J**
141-78-6	Ethyl Acetate	120	200	120	50	**U**
110-54-3	n-Hexane	**750**	97	58	20	
67-66-3	Chloroform	31	97	31	13	**U**
109-99-9	Tetrahydrofuran (THF)	**38**	99	31	12	**J**
107-06-2	1,2-Dichloroethane	31	97	31	11	**U**
71-43-2	Benzene	**1,100**	95	31	14	
56-23-5	Carbon Tetrachloride	31	95	31	13	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV133-450-202** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002032-005

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/22/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.010 Liter(s)
Test Notes:
Container ID: 1SC00007

Initial Pressure (psig): -3.62 Final Pressure (psig): 5.22

Container Dilution Factor: 1.80

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**1,500**	200	61	27	
75-27-4	Bromodichloromethane	31	97	31	14	**U**
79-01-6	Trichloroethene	**140**	97	31	13	
123-91-1	1,4-Dioxane	31	97	31	11	**U**
142-82-5	n-Heptane	**410**	97	58	15	
108-10-1	4-Methyl-2-pentanone	31	95	31	13	**U**
108-88-3	Toluene	**420**	97	31	12	
591-78-6	2-Hexanone	31	97	31	12	**U**
124-48-1	Dibromochloromethane	31	97	31	13	**U**
106-93-4	1,2-Dibromoethane	31	97	31	11	**U**
127-18-4	Tetrachloroethene	31	94	31	12	**U**
100-41-4	Ethylbenzene	**22**	97	31	14	**J**
179601-23-1	m,p-Xylenes	**37**	200	61	25	**J**
75-25-2	Bromoform	58	97	58	20	**U**
100-42-5	Styrene	58	95	58	15	**U**
95-47-6	o-Xylene	**24**	97	31	14	**J**
108-67-8	1,3,5-Trimethylbenzene	31	95	31	14	**U**
95-63-6	1,2,4-Trimethylbenzene	31	97	31	13	**U**
120-82-1	1,2,4-Trichlorobenzene	58	97	58	23	**U**
91-20-3	Naphthalene	56	94	56	23	**U**
1330-20-7	Xylenes, Total	**61**	200	61	25	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV142-030-202** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002032-006

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00820

Initial Pressure (psig): -3.42 Final Pressure (psig): 5.83

Container Dilution Factor: 1.82

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**5.1**	2.4	1.5	0.59	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.5**	2.4	1.5	0.40	
74-87-3	Chloromethane	1.5	2.4	1.5	0.39	**U**
75-01-4	Vinyl Chloride	0.77	2.5	0.77	0.26	**U**
106-99-0	1,3-Butadiene	1.5	2.4	1.5	0.40	**U**
75-00-3	Chloroethane	1.5	2.5	1.5	0.30	**U**
64-17-5	Ethanol	**47**	24	3.8	1.7	**B**
67-64-1	Acetone	**26**	24	12	5.5	
75-69-4	Trichlorofluoromethane	**2.1**	2.4	1.5	0.37	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**20**	9.6	2.9	1.0	
75-09-2	Methylene Chloride	1.5	2.4	1.5	0.68	**U**
76-13-1	Trichlorotrifluoroethane	**0.46**	2.5	0.77	0.35	**J**
75-15-0	Carbon Disulfide	**0.91**	5.0	2.5	0.73	**J**
75-34-3	1,1-Dichloroethane	1.5	2.5	1.5	0.35	**U**
78-93-3	2-Butanone (MEK)	**3.4**	5.0	1.5	0.50	**J**
141-78-6	Ethyl Acetate	**360**	5.0	3.0	1.3	
110-54-3	n-Hexane	1.5	2.5	1.5	0.50	**U**
67-66-3	Chloroform	**1.7**	2.5	0.77	0.32	**J**
109-99-9	Tetrahydrofuran (THF)	**0.35**	2.5	0.77	0.30	**J**
107-06-2	1,2-Dichloroethane	0.77	2.5	0.77	0.27	**U**
71-43-2	Benzene	**1.2**	2.4	0.77	0.35	**J**
56-23-5	Carbon Tetrachloride	0.77	2.4	0.77	0.34	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV142-030-202** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002032-006

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00820

Initial Pressure (psig): -3.42 Final Pressure (psig): 5.83

Container Dilution Factor: 1.82

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**2.6**	5.0	1.5	0.68	**J**
75-27-4	Bromodichloromethane	0.77	2.5	0.77	0.35	**U**
79-01-6	Trichloroethene	**0.71**	2.5	0.77	0.33	**J**
123-91-1	1,4-Dioxane	**0.92**	2.5	0.77	0.29	**J**
142-82-5	n-Heptane	**1.1**	2.5	1.5	0.39	**J**
108-10-1	4-Methyl-2-pentanone	**0.40**	2.4	0.77	0.33	**J**
108-88-3	Toluene	**13**	2.5	0.77	0.30	
591-78-6	2-Hexanone	0.77	2.5	0.77	0.30	**U**
124-48-1	Dibromochloromethane	0.77	2.5	0.77	0.32	**U**
106-93-4	1,2-Dibromoethane	0.77	2.5	0.77	0.28	**U**
127-18-4	Tetrachloroethene	**0.36**	2.4	0.77	0.31	**J**
100-41-4	Ethylbenzene	**0.36**	2.5	0.77	0.34	**J**
179601-23-1	m,p-Xylenes	**1.0**	5.0	1.5	0.64	**J**
75-25-2	Bromoform	1.5	2.5	1.5	0.50	**U**
100-42-5	Styrene	1.5	2.4	1.5	0.39	**U**
95-47-6	o-Xylene	**0.40**	2.5	0.77	0.35	**J**
108-67-8	1,3,5-Trimethylbenzene	0.77	2.4	0.77	0.35	**U**
95-63-6	1,2,4-Trimethylbenzene	0.77	2.5	0.77	0.34	**U**
120-82-1	1,2,4-Trichlorobenzene	1.5	2.5	1.5	0.59	**U**
91-20-3	Naphthalene	1.4	2.4	1.4	0.59	**U**
1330-20-7	Xylenes, Total	**1.4**	5.0	1.5	0.64	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV142-050-202** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002032-007

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01381

Initial Pressure (psig): -3.01 Final Pressure (psig): 6.00

Container Dilution Factor: 1.77

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	1.4	2.3	1.4	0.58	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.8**	2.3	1.4	0.38	
74-87-3	Chloromethane	1.4	2.3	1.4	0.38	**U**
75-01-4	Vinyl Chloride	0.75	2.4	0.75	0.25	**U**
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.39	**U**
75-00-3	Chloroethane	1.4	2.4	1.4	0.29	**U**
64-17-5	Ethanol	**3.4**	23	3.7	1.6	**J, B**
67-64-1	Acetone	**6.8**	23	12	5.3	**J**
75-69-4	Trichlorofluoromethane	**1.7**	2.3	1.4	0.36	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	2.8	9.3	2.8	0.97	**U**
75-09-2	Methylene Chloride	1.4	2.3	1.4	0.66	**U**
76-13-1	Trichlorotrifluoroethane	**0.47**	2.4	0.75	0.34	**J**
75-15-0	Carbon Disulfide	**1.1**	4.9	2.4	0.71	**J**
75-34-3	1,1-Dichloroethane	1.5	2.4	1.5	0.35	**U**
78-93-3	2-Butanone (MEK)	**0.97**	4.9	1.4	0.49	**J**
141-78-6	Ethyl Acetate	2.9	4.9	2.9	1.2	**U**
110-54-3	n-Hexane	1.4	2.4	1.4	0.49	**U**
67-66-3	Chloroform	**1.5**	2.4	0.75	0.31	**J**
109-99-9	Tetrahydrofuran (THF)	0.75	2.4	0.75	0.30	**U**
107-06-2	1,2-Dichloroethane	0.75	2.4	0.75	0.26	**U**
71-43-2	Benzene	**3.3**	2.3	0.75	0.34	
56-23-5	Carbon Tetrachloride	0.75	2.3	0.75	0.33	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV142-050-202** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002032-007

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01381

Initial Pressure (psig): -3.01 Final Pressure (psig): 6.00

Container Dilution Factor: 1.77

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.5	4.9	1.5	0.66	**U**
75-27-4	Bromodichloromethane	0.75	2.4	0.75	0.34	**U**
79-01-6	Trichloroethene	**0.35**	2.4	0.75	0.32	**J**
123-91-1	1,4-Dioxane	**0.42**	2.4	0.75	0.28	**J**
142-82-5	n-Heptane	1.4	2.4	1.4	0.38	**U**
108-10-1	4-Methyl-2-pentanone	0.75	2.3	0.75	0.32	**U**
108-88-3	Toluene	**0.50**	2.4	0.75	0.29	**J**
591-78-6	2-Hexanone	0.75	2.4	0.75	0.29	**U**
124-48-1	Dibromochloromethane	0.75	2.4	0.75	0.31	**U**
106-93-4	1,2-Dibromoethane	0.75	2.4	0.75	0.27	**U**
127-18-4	Tetrachloroethene	0.75	2.3	0.75	0.31	**U**
100-41-4	Ethylbenzene	0.75	2.4	0.75	0.33	**U**
179601-23-1	m,p-Xylenes	1.5	4.9	1.5	0.62	**U**
75-25-2	Bromoform	1.4	2.4	1.4	0.49	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.38	**U**
95-47-6	o-Xylene	0.75	2.4	0.75	0.34	**U**
108-67-8	1,3,5-Trimethylbenzene	0.75	2.3	0.75	0.34	**U**
95-63-6	1,2,4-Trimethylbenzene	0.75	2.4	0.75	0.33	**U**
120-82-1	1,2,4-Trichlorobenzene	1.4	2.4	1.4	0.58	**U**
91-20-3	Naphthalene	**0.94**	2.3	1.4	0.58	**J**
1330-20-7	Xylenes, Total	1.5	4.9	1.5	0.62	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV142-170-202** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002032-008

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/22/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00782

Initial Pressure (psig): -3.62 Final Pressure (psig): 5.26

Container Dilution Factor: 1.80

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.7**	2.4	1.4	0.59	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**29**	2.4	1.4	0.39	
74-87-3	Chloromethane	1.4	2.4	1.4	0.39	**U**
75-01-4	Vinyl Chloride	0.77	2.4	0.77	0.26	**U**
106-99-0	1,3-Butadiene	1.4	2.4	1.4	0.40	**U**
75-00-3	Chloroethane	1.4	2.4	1.4	0.30	**U**
64-17-5	Ethanol	**11**	23	3.7	1.7	**J**
67-64-1	Acetone	**27**	24	12	5.4	
75-69-4	Trichlorofluoromethane	**20**	2.4	1.4	0.36	
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.7**	9.5	2.8	0.99	**J**
75-09-2	Methylene Chloride	1.4	2.4	1.4	0.68	**U**
76-13-1	Trichlorotrifluoroethane	**0.66**	2.4	0.77	0.34	**J**
75-15-0	Carbon Disulfide	**2.0**	5.0	2.4	0.72	**J**
75-34-3	1,1-Dichloroethane	1.5	2.5	1.5	0.35	**U**
78-93-3	2-Butanone (MEK)	**10**	5.0	1.4	0.50	
141-78-6	Ethyl Acetate	2.9	5.0	2.9	1.3	**U**
110-54-3	n-Hexane	1.4	2.4	1.4	0.50	**U**
67-66-3	Chloroform	**0.74**	2.4	0.77	0.32	**J**
109-99-9	Tetrahydrofuran (THF)	**0.66**	2.5	0.77	0.30	**J**
107-06-2	1,2-Dichloroethane	0.77	2.4	0.77	0.27	**U**
71-43-2	Benzene	0.77	2.4	0.77	0.35	**U**
56-23-5	Carbon Tetrachloride	**1.3**	2.4	0.77	0.33	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV142-170-202** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002032-008

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/22/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00782

Initial Pressure (psig): -3.62 Final Pressure (psig): 5.26

Container Dilution Factor: 1.80

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.5	5.0	1.5	0.68	**U**
75-27-4	Bromodichloromethane	0.77	2.4	0.77	0.35	**U**
79-01-6	Trichloroethene	0.77	2.4	0.77	0.32	**U**
123-91-1	1,4-Dioxane	0.77	2.4	0.77	0.28	**U**
142-82-5	n-Heptane	1.4	2.4	1.4	0.38	**U**
108-10-1	4-Methyl-2-pentanone	**0.60**	2.4	0.77	0.33	**J**
108-88-3	Toluene	**0.53**	2.4	0.77	0.29	**J**
591-78-6	2-Hexanone	**3.1**	2.4	0.77	0.30	
124-48-1	Dibromochloromethane	0.77	2.4	0.77	0.32	**U**
106-93-4	1,2-Dibromoethane	0.77	2.4	0.77	0.28	**U**
127-18-4	Tetrachloroethene	**0.61**	2.3	0.77	0.31	**J**
100-41-4	Ethylbenzene	0.77	2.4	0.77	0.34	**U**
179601-23-1	m,p-Xylenes	1.5	5.0	1.5	0.63	**U**
75-25-2	Bromoform	1.4	2.4	1.4	0.50	**U**
100-42-5	Styrene	1.4	2.4	1.4	0.39	**U**
95-47-6	o-Xylene	0.77	2.4	0.77	0.35	**U**
108-67-8	1,3,5-Trimethylbenzene	0.77	2.4	0.77	0.35	**U**
95-63-6	1,2,4-Trimethylbenzene	0.77	2.4	0.77	0.33	**U**
120-82-1	1,2,4-Trichlorobenzene	1.4	2.4	1.4	0.59	**U**
91-20-3	Naphthalene	1.4	2.3	1.4	0.59	**U**
1330-20-7	Xylenes, Total	1.5	5.0	1.5	0.63	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV142-170-602** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002032-009

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/22/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00193

Initial Pressure (psig): -3.45 Final Pressure (psig): 5.52

Container Dilution Factor: 1.80

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.1**	2.4	1.4	0.59	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**29**	2.4	1.4	0.39	
74-87-3	Chloromethane	1.4	2.4	1.4	0.39	**U**
75-01-4	Vinyl Chloride	0.77	2.4	0.77	0.26	**U**
106-99-0	1,3-Butadiene	1.4	2.4	1.4	0.40	**U**
75-00-3	Chloroethane	1.4	2.4	1.4	0.30	**U**
64-17-5	Ethanol	**5.5**	23	3.7	1.7	**J, B**
67-64-1	Acetone	**15**	24	12	5.4	**J**
75-69-4	Trichlorofluoromethane	**19**	2.4	1.4	0.36	
67-63-0	2-Propanol (Isopropyl Alcohol)	2.8	9.5	2.8	0.99	**U**
75-09-2	Methylene Chloride	1.4	2.4	1.4	0.68	**U**
76-13-1	Trichlorotrifluoroethane	**0.65**	2.4	0.77	0.34	**J**
75-15-0	Carbon Disulfide	**3.9**	5.0	2.4	0.72	**J**
75-34-3	1,1-Dichloroethane	1.5	2.5	1.5	0.35	**U**
78-93-3	2-Butanone (MEK)	**2.9**	5.0	1.4	0.50	**J**
141-78-6	Ethyl Acetate	2.9	5.0	2.9	1.3	**U**
110-54-3	n-Hexane	1.4	2.4	1.4	0.50	**U**
67-66-3	Chloroform	**0.61**	2.4	0.77	0.32	**J**
109-99-9	Tetrahydrofuran (THF)	**0.83**	2.5	0.77	0.30	**J**
107-06-2	1,2-Dichloroethane	**0.49**	2.4	0.77	0.27	**J**
71-43-2	Benzene	**0.72**	2.4	0.77	0.35	**J**
56-23-5	Carbon Tetrachloride	**1.3**	2.4	0.77	0.33	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV142-170-602** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002032-009

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/22/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00193

Initial Pressure (psig): -3.45 Final Pressure (psig): 5.52

Container Dilution Factor: 1.80

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.5	5.0	1.5	0.68	**U**
75-27-4	Bromodichloromethane	0.77	2.4	0.77	0.35	**U**
79-01-6	Trichloroethene	0.77	2.4	0.77	0.32	**U**
123-91-1	1,4-Dioxane	0.77	2.4	0.77	0.28	**U**
142-82-5	n-Heptane	1.4	2.4	1.4	0.38	**U**
108-10-1	4-Methyl-2-pentanone	0.77	2.4	0.77	0.33	**U**
108-88-3	Toluene	**0.66**	2.4	0.77	0.29	**J**
591-78-6	2-Hexanone	**0.57**	2.4	0.77	0.30	**J**
124-48-1	Dibromochloromethane	0.77	2.4	0.77	0.32	**U**
106-93-4	1,2-Dibromoethane	0.77	2.4	0.77	0.28	**U**
127-18-4	Tetrachloroethene	**0.84**	2.3	0.77	0.31	**J**
100-41-4	Ethylbenzene	0.77	2.4	0.77	0.34	**U**
179601-23-1	m,p-Xylenes	1.5	5.0	1.5	0.63	**U**
75-25-2	Bromoform	1.4	2.4	1.4	0.50	**U**
100-42-5	Styrene	1.4	2.4	1.4	0.39	**U**
95-47-6	o-Xylene	0.77	2.4	0.77	0.35	**U**
108-67-8	1,3,5-Trimethylbenzene	0.77	2.4	0.77	0.35	**U**
95-63-6	1,2,4-Trimethylbenzene	0.77	2.4	0.77	0.33	**U**
120-82-1	1,2,4-Trichlorobenzene	1.4	2.4	1.4	0.59	**U**
91-20-3	Naphthalene	1.4	2.3	1.4	0.59	**U**
1330-20-7	Xylenes, Total	1.5	5.0	1.5	0.63	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV142-250-202** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002032-010

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/22/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01171

Initial Pressure (psig): -4.22 Final Pressure (psig): 5.58

Container Dilution Factor: 1.94

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	1.6	2.6	1.6	0.63	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**27**	2.6	1.6	0.42	
74-87-3	Chloromethane	1.6	2.6	1.6	0.42	**U**
75-01-4	Vinyl Chloride	0.82	2.6	0.82	0.28	**U**
106-99-0	1,3-Butadiene	1.6	2.6	1.6	0.43	**U**
75-00-3	Chloroethane	1.6	2.6	1.6	0.32	**U**
64-17-5	Ethanol	**3.6**	25	4.0	1.8	**J, B**
67-64-1	Acetone	**7.7**	26	13	5.8	**J**
75-69-4	Trichlorofluoromethane	**21**	2.6	1.6	0.39	
67-63-0	2-Propanol (Isopropyl Alcohol)	3.1	10	3.1	1.1	**U**
75-09-2	Methylene Chloride	1.6	2.6	1.6	0.73	**U**
76-13-1	Trichlorotrifluoroethane	**0.65**	2.6	0.82	0.37	**J**
75-15-0	Carbon Disulfide	**6.7**	5.3	2.6	0.78	
75-34-3	1,1-Dichloroethane	1.6	2.7	1.6	0.38	**U**
78-93-3	2-Butanone (MEK)	**0.69**	5.3	1.6	0.53	**J**
141-78-6	Ethyl Acetate	3.2	5.3	3.2	1.4	**U**
110-54-3	n-Hexane	**0.65**	2.6	1.6	0.53	**J**
67-66-3	Chloroform	**1.8**	2.6	0.82	0.34	**J**
109-99-9	Tetrahydrofuran (THF)	**3.6**	2.7	0.82	0.32	
107-06-2	1,2-Dichloroethane	0.82	2.6	0.82	0.29	**U**
71-43-2	Benzene	**0.41**	2.6	0.82	0.37	**J**
56-23-5	Carbon Tetrachloride	**1.9**	2.6	0.82	0.36	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV142-250-202** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002032-010

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/22/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01171

Initial Pressure (psig): -4.22 Final Pressure (psig): 5.58

Container Dilution Factor: 1.94

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.6	5.3	1.6	0.73	**U**
75-27-4	Bromodichloromethane	0.82	2.6	0.82	0.37	**U**
79-01-6	Trichloroethene	0.82	2.6	0.82	0.35	**U**
123-91-1	1,4-Dioxane	0.82	2.6	0.82	0.31	**U**
142-82-5	n-Heptane	**0.59**	2.6	1.6	0.41	**J**
108-10-1	4-Methyl-2-pentanone	0.82	2.6	0.82	0.35	**U**
108-88-3	Toluene	**1.6**	2.6	0.82	0.32	**J**
591-78-6	2-Hexanone	0.82	2.6	0.82	0.32	**U**
124-48-1	Dibromochloromethane	0.82	2.6	0.82	0.34	**U**
106-93-4	1,2-Dibromoethane	0.82	2.6	0.82	0.30	**U**
127-18-4	Tetrachloroethene	**2.4**	2.5	0.82	0.33	**J**
100-41-4	Ethylbenzene	0.82	2.6	0.82	0.36	**U**
179601-23-1	m,p-Xylenes	1.6	5.3	1.6	0.68	**U**
75-25-2	Bromoform	1.6	2.6	1.6	0.53	**U**
100-42-5	Styrene	1.6	2.6	1.6	0.42	**U**
95-47-6	o-Xylene	0.82	2.6	0.82	0.37	**U**
108-67-8	1,3,5-Trimethylbenzene	0.82	2.6	0.82	0.37	**U**
95-63-6	1,2,4-Trimethylbenzene	0.82	2.6	0.82	0.36	**U**
120-82-1	1,2,4-Trichlorobenzene	1.6	2.6	1.6	0.63	**U**
91-20-3	Naphthalene	1.5	2.5	1.5	0.63	**U**
1330-20-7	Xylenes, Total	1.6	5.3	1.6	0.68	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV142-350-202** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002032-011

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/22/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00894

Initial Pressure (psig): -4.57 Final Pressure (psig): 5.48

Container Dilution Factor: 1.99

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.2**	2.6	1.6	0.65	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**5.8**	2.6	1.6	0.43	
74-87-3	Chloromethane	1.6	2.6	1.6	0.43	**U**
75-01-4	Vinyl Chloride	0.85	2.7	0.85	0.28	**U**
106-99-0	1,3-Butadiene	1.6	2.6	1.6	0.44	**U**
75-00-3	Chloroethane	1.6	2.7	1.6	0.33	**U**
64-17-5	Ethanol	**8.1**	26	4.1	1.8	**J, B**
67-64-1	Acetone	**32**	26	13	6.0	
75-69-4	Trichlorofluoromethane	**7.8**	2.6	1.6	0.40	
67-63-0	2-Propanol (Isopropyl Alcohol)	**3.0**	10	3.1	1.1	**J**
75-09-2	Methylene Chloride	1.6	2.6	1.6	0.75	**U**
76-13-1	Trichlorotrifluoroethane	0.85	2.7	0.85	0.38	**U**
75-15-0	Carbon Disulfide	**9.6**	5.5	2.7	0.80	
75-34-3	1,1-Dichloroethane	1.6	2.7	1.6	0.39	**U**
78-93-3	2-Butanone (MEK)	**0.68**	5.5	1.6	0.55	**J**
141-78-6	Ethyl Acetate	**7.4**	5.5	3.2	1.4	
110-54-3	n-Hexane	1.6	2.7	1.6	0.55	**U**
67-66-3	Chloroform	**5.2**	2.7	0.85	0.35	
109-99-9	Tetrahydrofuran (THF)	**7.2**	2.7	0.85	0.33	
107-06-2	1,2-Dichloroethane	0.85	2.7	0.85	0.29	**U**
71-43-2	Benzene	0.85	2.6	0.85	0.38	**U**
56-23-5	Carbon Tetrachloride	**0.94**	2.6	0.85	0.37	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV142-350-202** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002032-011

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/22/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00894

Initial Pressure (psig): -4.57 Final Pressure (psig): 5.48

Container Dilution Factor: 1.99

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.7	5.5	1.7	0.75	**U**
75-27-4	Bromodichloromethane	0.85	2.7	0.85	0.38	**U**
79-01-6	Trichloroethene	0.85	2.7	0.85	0.36	**U**
123-91-1	1,4-Dioxane	0.85	2.7	0.85	0.31	**U**
142-82-5	n-Heptane	1.6	2.7	1.6	0.42	**U**
108-10-1	4-Methyl-2-pentanone	0.85	2.6	0.85	0.36	**U**
108-88-3	Toluene	**1.9**	2.7	0.85	0.32	**J**
591-78-6	2-Hexanone	0.85	2.7	0.85	0.33	**U**
124-48-1	Dibromochloromethane	0.85	2.7	0.85	0.35	**U**
106-93-4	1,2-Dibromoethane	0.85	2.7	0.85	0.31	**U**
127-18-4	Tetrachloroethene	**0.37**	2.6	0.85	0.34	**J**
100-41-4	Ethylbenzene	0.85	2.7	0.85	0.37	**U**
179601-23-1	m,p-Xylenes	1.7	5.5	1.7	0.70	**U**
75-25-2	Bromoform	1.6	2.7	1.6	0.55	**U**
100-42-5	Styrene	1.6	2.6	1.6	0.43	**U**
95-47-6	o-Xylene	0.85	2.7	0.85	0.38	**U**
108-67-8	1,3,5-Trimethylbenzene	0.85	2.6	0.85	0.38	**U**
95-63-6	1,2,4-Trimethylbenzene	0.85	2.7	0.85	0.37	**U**
120-82-1	1,2,4-Trichlorobenzene	1.6	2.7	1.6	0.65	**U**
91-20-3	Naphthalene	1.5	2.6	1.5	0.65	**U**
1330-20-7	Xylenes, Total	1.7	5.5	1.7	0.70	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV142-450-202** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002032-012

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/22/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.15 Liter(s)
Test Notes: 0.050 Liter(s)
Container ID: 1SS00064

Initial Pressure (psig): -3.86 Final Pressure (psig): 5.67

Container Dilution Factor: 1.88

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**9.5**	6.6	4.0	1.6	**M1**
75-71-8	Dichlorodifluoromethane (CFC 12)	**3.7**	6.6	4.0	1.1	**J**
74-87-3	Chloromethane	**2.1**	6.6	4.0	1.1	**J**
75-01-4	Vinyl Chloride	2.1	6.8	2.1	0.71	**U**
106-99-0	1,3-Butadiene	4.0	6.6	4.0	1.1	**U**
75-00-3	Chloroethane	4.0	6.8	4.0	0.83	**U**
64-17-5	Ethanol	**13**	65	10	4.6	**J**
67-64-1	Acetone	**34**	66	34	15	**J**
75-69-4	Trichlorofluoromethane	**4.1**	6.6	4.0	1.0	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**5.4**	26	7.9	2.8	**J**
75-09-2	Methylene Chloride	4.0	6.6	4.0	1.9	**U**
76-13-1	Trichlorotrifluoroethane	2.1	6.8	2.1	0.95	**U**
75-15-0	Carbon Disulfide	**26**	14	6.8	2.0	
75-34-3	1,1-Dichloroethane	4.1	6.9	4.1	0.98	**U**
78-93-3	2-Butanone (MEK)	**18**	14	4.0	1.4	
141-78-6	Ethyl Acetate	8.1	14	8.1	3.5	**U**
110-54-3	n-Hexane	**1,100**	20	12	4.1	**D**
67-66-3	Chloroform	**2.7**	6.8	2.1	0.89	**J**
109-99-9	Tetrahydrofuran (THF)	**6.7**	6.9	2.1	0.84	**J**
107-06-2	1,2-Dichloroethane	2.1	6.8	2.1	0.74	**U**
71-43-2	Benzene	**38**	6.6	2.1	0.97	
56-23-5	Carbon Tetrachloride	2.1	6.6	2.1	0.93	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.
M1 = Matrix interference due to coelution with a non-target compound; results may be biased high.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV142-450-202** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002032-012

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/22/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.15 Liter(s)
Test Notes: 0.050 Liter(s)
Container ID: 1SS00064

Initial Pressure (psig): -3.86 Final Pressure (psig): 5.67

Container Dilution Factor: 1.88

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**800**	14	4.3	1.9	
75-27-4	Bromodichloromethane	2.1	6.8	2.1	0.97	**U**
79-01-6	Trichloroethene	**1.1**	6.8	2.1	0.90	**J**
123-91-1	1,4-Dioxane	2.1	6.8	2.1	0.79	**U**
142-82-5	n-Heptane	**440**	6.8	4.0	1.1	
108-10-1	4-Methyl-2-pentanone	2.1	6.6	2.1	0.91	**U**
108-88-3	Toluene	**51**	6.8	2.1	0.81	
591-78-6	2-Hexanone	2.1	6.8	2.1	0.83	**U**
124-48-1	Dibromochloromethane	2.1	6.8	2.1	0.88	**U**
106-93-4	1,2-Dibromoethane	**2.4**	6.8	2.1	0.78	**J**
127-18-4	Tetrachloroethene	**4.2**	6.5	2.1	0.86	**J**
100-41-4	Ethylbenzene	**6.3**	6.8	2.1	0.94	**J**
179601-23-1	m,p-Xylenes	**9.3**	14	4.3	1.8	**J**
75-25-2	Bromoform	4.0	6.8	4.0	1.4	**U**
100-42-5	Styrene	4.0	6.6	4.0	1.1	**U**
95-47-6	o-Xylene	**58**	6.8	2.1	0.97	
108-67-8	1,3,5-Trimethylbenzene	**14**	6.6	2.1	0.97	
95-63-6	1,2,4-Trimethylbenzene	**2.4**	6.8	2.1	0.93	**J**
120-82-1	1,2,4-Trichlorobenzene	4.0	6.8	4.0	1.6	**U**
91-20-3	Naphthalene	3.9	6.5	3.9	1.6	**U**
1330-20-7	Xylenes, Total	**68**	14	4.3	1.8	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200421-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	0.32	0.53	0.32	0.13	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.32	0.53	0.32	0.087	**U**
74-87-3	Chloromethane	0.32	0.53	0.32	0.086	**U**
75-01-4	Vinyl Chloride	0.17	0.54	0.17	0.057	**U**
106-99-0	1,3-Butadiene	0.32	0.53	0.32	0.088	**U**
75-00-3	Chloroethane	0.32	0.54	0.32	0.066	**U**
64-17-5	Ethanol	**0.44**	5.2	0.83	0.37	**J**
67-64-1	Acetone	2.7	5.3	2.7	1.2	**U**
75-69-4	Trichlorofluoromethane	0.32	0.53	0.32	0.081	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.63	2.1	0.63	0.22	**U**
75-09-2	Methylene Chloride	0.32	0.53	0.32	0.15	**U**
76-13-1	Trichlorotrifluoroethane	0.17	0.54	0.17	0.076	**U**
75-15-0	Carbon Disulfide	0.54	1.1	0.54	0.16	**U**
75-34-3	1,1-Dichloroethane	0.33	0.55	0.33	0.078	**U**
78-93-3	2-Butanone (MEK)	0.32	1.1	0.32	0.11	**U**
141-78-6	Ethyl Acetate	0.65	1.1	0.65	0.28	**U**
110-54-3	n-Hexane	0.32	0.54	0.32	0.11	**U**
67-66-3	Chloroform	0.17	0.54	0.17	0.071	**U**
109-99-9	Tetrahydrofuran (THF)	0.17	0.55	0.17	0.067	**U**
107-06-2	1,2-Dichloroethane	0.17	0.54	0.17	0.059	**U**
71-43-2	Benzene	0.17	0.53	0.17	0.077	**U**
56-23-5	Carbon Tetrachloride	0.17	0.53	0.17	0.074	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200421-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	0.34	1.1	0.34	0.15	**U**
75-27-4	Bromodichloromethane	0.17	0.54	0.17	0.077	**U**
79-01-6	Trichloroethene	0.17	0.54	0.17	0.072	**U**
123-91-1	1,4-Dioxane	0.17	0.54	0.17	0.063	**U**
142-82-5	n-Heptane	0.32	0.54	0.32	0.085	**U**
108-10-1	4-Methyl-2-pentanone	0.17	0.53	0.17	0.073	**U**
108-88-3	Toluene	0.17	0.54	0.17	0.065	**U**
591-78-6	2-Hexanone	0.17	0.54	0.17	0.066	**U**
124-48-1	Dibromochloromethane	0.17	0.54	0.17	0.070	**U**
106-93-4	1,2-Dibromoethane	0.17	0.54	0.17	0.062	**U**
127-18-4	Tetrachloroethene	0.17	0.52	0.17	0.069	**U**
100-41-4	Ethylbenzene	0.17	0.54	0.17	0.075	**U**
179601-23-1	m,p-Xylenes	0.34	1.1	0.34	0.14	**U**
75-25-2	Bromoform	0.32	0.54	0.32	0.11	**U**
100-42-5	Styrene	0.32	0.53	0.32	0.086	**U**
95-47-6	o-Xylene	0.17	0.54	0.17	0.077	**U**
108-67-8	1,3,5-Trimethylbenzene	0.17	0.53	0.17	0.077	**U**
95-63-6	1,2,4-Trimethylbenzene	0.17	0.54	0.17	0.074	**U**
120-82-1	1,2,4-Trichlorobenzene	0.32	0.54	0.32	0.13	**U**
91-20-3	Naphthalene	0.31	0.52	0.31	0.13	**U**
1330-20-7	Xylenes, Total	0.34	1.1	0.34	0.14	**U**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200422-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 4/22/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	0.32	0.53	0.32	0.13	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.32	0.53	0.32	0.087	**U**
74-87-3	Chloromethane	0.32	0.53	0.32	0.086	**U**
75-01-4	Vinyl Chloride	0.17	0.54	0.17	0.057	**U**
106-99-0	1,3-Butadiene	0.32	0.53	0.32	0.088	**U**
75-00-3	Chloroethane	0.32	0.54	0.32	0.066	**U**
64-17-5	Ethanol	0.83	5.2	0.83	0.37	**U**
67-64-1	Acetone	2.7	5.3	2.7	1.2	**U**
75-69-4	Trichlorofluoromethane	0.32	0.53	0.32	0.081	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.63	2.1	0.63	0.22	**U**
75-09-2	Methylene Chloride	0.32	0.53	0.32	0.15	**U**
76-13-1	Trichlorotrifluoroethane	0.17	0.54	0.17	0.076	**U**
75-15-0	Carbon Disulfide	0.54	1.1	0.54	0.16	**U**
75-34-3	1,1-Dichloroethane	0.33	0.55	0.33	0.078	**U**
78-93-3	2-Butanone (MEK)	0.32	1.1	0.32	0.11	**U**
141-78-6	Ethyl Acetate	0.65	1.1	0.65	0.28	**U**
110-54-3	n-Hexane	0.32	0.54	0.32	0.11	**U**
67-66-3	Chloroform	0.17	0.54	0.17	0.071	**U**
109-99-9	Tetrahydrofuran (THF)	0.17	0.55	0.17	0.067	**U**
107-06-2	1,2-Dichloroethane	0.17	0.54	0.17	0.059	**U**
71-43-2	Benzene	0.17	0.53	0.17	0.077	**U**
56-23-5	Carbon Tetrachloride	0.17	0.53	0.17	0.074	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200422-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 4/22/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	0.34	1.1	0.34	0.15	U
75-27-4	Bromodichloromethane	0.17	0.54	0.17	0.077	U
79-01-6	Trichloroethene	0.17	0.54	0.17	0.072	U
123-91-1	1,4-Dioxane	0.17	0.54	0.17	0.063	U
142-82-5	n-Heptane	0.32	0.54	0.32	0.085	U
108-10-1	4-Methyl-2-pentanone	0.17	0.53	0.17	0.073	U
108-88-3	Toluene	0.17	0.54	0.17	0.065	U
591-78-6	2-Hexanone	0.17	0.54	0.17	0.066	U
124-48-1	Dibromochloromethane	0.17	0.54	0.17	0.070	U
106-93-4	1,2-Dibromoethane	0.17	0.54	0.17	0.062	U
127-18-4	Tetrachloroethene	0.17	0.52	0.17	0.069	U
100-41-4	Ethylbenzene	0.17	0.54	0.17	0.075	U
179601-23-1	m,p-Xylenes	0.34	1.1	0.34	0.14	U
75-25-2	Bromoform	0.32	0.54	0.32	0.11	U
100-42-5	Styrene	0.32	0.53	0.32	0.086	U
95-47-6	o-Xylene	0.17	0.54	0.17	0.077	U
108-67-8	1,3,5-Trimethylbenzene	0.17	0.53	0.17	0.077	U
95-63-6	1,2,4-Trimethylbenzene	0.17	0.54	0.17	0.074	U
120-82-1	1,2,4-Trichlorobenzene	0.32	0.54	0.32	0.13	U
91-20-3	Naphthalene	0.31	0.52	0.31	0.13	U
1330-20-7	Xylenes, Total	0.34	1.1	0.34	0.14	U

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Project ID: P2002032

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date(s) Collected: 4/8/20
Analyst: Lusine Hakobyan/Wida Ang Date(s) Received: 4/14/20
Sampling Media: 1.0 L Silonite Summa Canister(s) / 1.0 L Summa Canister(s) Date(s) Analyzed: 4/21 - 4/22/20
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P200421-MB	**99**	**98**	**93**	70-130	
Method Blank	P200422-MB	**100**	**98**	**90**	70-130	
Lab Control Sample	P200421-LCS	**94**	**96**	**102**	70-130	
Lab Control Sample	P200422-LCS	**95**	**98**	**100**	70-130	
Duplicate Lab Control Sample	P200421-DLCS	**93**	**96**	**104**	70-130	
Duplicate Lab Control Sample	P200422-DLCS	**94**	**97**	**102**	70-130	
SV133-170-202	P2002032-001	**101**	**95**	**94**	70-130	
SV133-250-602	P2002032-002	**100**	**94**	**95**	70-130	
SV133-250-202	P2002032-003	**100**	**95**	**93**	70-130	
SV133-350-202	P2002032-004	**100**	**94**	**93**	70-130	
SV133-450-202	P2002032-005	**99**	**100**	**94**	70-130	
SV142-030-202	P2002032-006	**99**	**93**	**93**	70-130	
SV142-050-202	P2002032-007	**100**	**95**	**92**	70-130	
SV142-170-202	P2002032-008	**100**	**96**	**92**	70-130	
SV142-170-602	P2002032-009	**100**	**95**	**92**	70-130	
SV142-250-202	P2002032-010	**100**	**96**	**91**	70-130	
SV142-350-202	P2002032-011	**100**	**97**	**90**	70-130	
SV142-450-202	P2002032-012	**100**	**98**	**96**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200421-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	210	204	207	**97**	**99**	57-136	2	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	183	192	**87**	**91**	59-128	4	25	
74-87-3	Chloromethane	212	166	172	**78**	**81**	59-132	4	25	
75-01-4	Vinyl Chloride	212	189	192	**89**	**91**	64-127	2	25	
106-99-0	1,3-Butadiene	212	172	180	**81**	**85**	66-134	5	25	
75-00-3	Chloroethane	214	191	198	**89**	**93**	63-127	4	25	
64-17-5	Ethanol	1,060	929	952	**88**	**90**	59-125	2	25	
67-64-1	Acetone	1,070	1010	1010	**94**	**94**	58-128	0	25	
75-69-4	Trichlorofluoromethane	212	188	190	**89**	**90**	62-126	1	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	422	409	415	**97**	**98**	52-125	1	25	
75-09-2	Methylene Chloride	210	196	199	**93**	**95**	62-115	2	25	
76-13-1	Trichlorotrifluoroethane	216	193	196	**89**	**91**	66-126	2	25	
75-15-0	Carbon Disulfide	212	201	202	**95**	**95**	57-134	0	25	
75-34-3	1,1-Dichloroethane	212	191	193	**90**	**91**	68-126	1	25	
78-93-3	2-Butanone (MEK)	212	212	207	**100**	**98**	67-130	2	25	
141-78-6	Ethyl Acetate	432	463	453	**107**	**105**	65-128	2	25	
110-54-3	n-Hexane	216	216	214	**100**	**99**	63-120	1	25	
67-66-3	Chloroform	214	193	191	**90**	**89**	68-123	1	25	
109-99-9	Tetrahydrofuran (THF)	220	199	199	**90**	**90**	64-123	0	25	
107-06-2	1,2-Dichloroethane	214	188	186	**88**	**87**	65-128	1	25	
71-43-2	Benzene	210	193	192	**92**	**91**	69-119	1	25	
56-23-5	Carbon Tetrachloride	208	199	199	**96**	**96**	68-132	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200421-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	422	402	403	**95**	**95**	70-117	0	25	
75-27-4	Bromodichloromethane	218	206	206	**94**	**94**	72-128	0	25	
79-01-6	Trichloroethene	216	183	182	**85**	**84**	71-123	1	25	
123-91-1	1,4-Dioxane	216	201	201	**93**	**93**	71-122	0	25	
142-82-5	n-Heptane	214	208	208	**97**	**97**	69-123	0	25	
108-10-1	4-Methyl-2-pentanone	212	218	219	**103**	**103**	67-130	0	25	
108-88-3	Toluene	212	194	194	**92**	**92**	66-119	0	25	
591-78-6	2-Hexanone	216	212	210	**98**	**97**	62-128	1	25	
124-48-1	Dibromochloromethane	214	221	223	**103**	**104**	70-130	1	25	
106-93-4	1,2-Dibromoethane	214	216	216	**101**	**101**	74-122	0	25	
127-18-4	Tetrachloroethene	208	195	196	**94**	**94**	66-124	0	25	
100-41-4	Ethylbenzene	212	208	207	**98**	**98**	70-124	0	25	
179601-23-1	m,p-Xylenes	426	412	409	**97**	**96**	61-134	1	25	
75-25-2	Bromoform	214	214	215	**100**	**100**	66-139	0	25	
100-42-5	Styrene	212	198	196	**93**	**92**	73-127	1	25	
95-47-6	o-Xylene	214	204	202	**95**	**94**	67-125	1	25	
108-67-8	1,3,5-Trimethylbenzene	212	199	197	**94**	**93**	67-130	1	25	
95-63-6	1,2,4-Trimethylbenzene	212	214	212	**101**	**100**	66-132	1	25	
120-82-1	1,2,4-Trichlorobenzene	216	247	247	**114**	**114**	55-142	0	25	
91-20-3	Naphthalene	212	228	227	**108**	**107**	57-138	0.9	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200422-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 4/22/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	210	213	218	**101**	**104**	57-136	3	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	190	195	**90**	**93**	59-128	3	25	
74-87-3	Chloromethane	212	176	177	**83**	**83**	59-132	0	25	
75-01-4	Vinyl Chloride	212	197	197	**93**	**93**	64-127	0	25	
106-99-0	1,3-Butadiene	212	178	183	**84**	**86**	66-134	2	25	
75-00-3	Chloroethane	214	198	205	**93**	**96**	63-127	3	25	
64-17-5	Ethanol	1,060	969	987	**91**	**93**	59-125	2	25	
67-64-1	Acetone	1,070	1060	1050	**99**	**98**	58-128	1	25	
75-69-4	Trichlorofluoromethane	212	193	195	**91**	**92**	62-126	1	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	422	427	426	**101**	**101**	52-125	0	25	
75-09-2	Methylene Chloride	210	204	204	**97**	**97**	62-115	0	25	
76-13-1	Trichlorotrifluoroethane	216	195	199	**90**	**92**	66-126	2	25	
75-15-0	Carbon Disulfide	212	208	209	**98**	**99**	57-134	1	25	
75-34-3	1,1-Dichloroethane	212	198	198	**93**	**93**	68-126	0	25	
78-93-3	2-Butanone (MEK)	212	220	214	**104**	**101**	67-130	3	25	
141-78-6	Ethyl Acetate	432	484	470	**112**	**109**	65-128	3	25	
110-54-3	n-Hexane	216	226	222	**105**	**103**	63-120	2	25	
67-66-3	Chloroform	214	199	197	**93**	**92**	68-123	1	25	
109-99-9	Tetrahydrofuran (THF)	220	206	204	**94**	**93**	64-123	1	25	
107-06-2	1,2-Dichloroethane	214	193	191	**90**	**89**	65-128	1	25	
71-43-2	Benzene	210	197	195	**94**	**93**	69-119	1	25	
56-23-5	Carbon Tetrachloride	208	200	199	**96**	**96**	68-132	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200422-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 4/22/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	422	411	409	**97**	**97**	70-117	0	25	
75-27-4	Bromodichloromethane	218	209	208	**96**	**95**	72-128	1	25	
79-01-6	Trichloroethene	216	185	184	**86**	**85**	71-123	1	25	
123-91-1	1,4-Dioxane	216	203	203	**94**	**94**	71-122	0	25	
142-82-5	n-Heptane	214	213	211	**100**	**99**	69-123	1	25	
108-10-1	4-Methyl-2-pentanone	212	223	224	**105**	**106**	67-130	0.9	25	
108-88-3	Toluene	212	201	199	**95**	**94**	66-119	1	25	
591-78-6	2-Hexanone	216	222	218	**103**	**101**	62-128	2	25	
124-48-1	Dibromochloromethane	214	228	227	**107**	**106**	70-130	0.9	25	
106-93-4	1,2-Dibromoethane	214	224	222	**105**	**104**	74-122	1	25	
127-18-4	Tetrachloroethene	208	200	199	**96**	**96**	66-124	0	25	
100-41-4	Ethylbenzene	212	216	213	**102**	**100**	70-124	2	25	
179601-23-1	m,p-Xylenes	426	429	422	**101**	**99**	61-134	2	25	
75-25-2	Bromoform	214	219	218	**102**	**102**	66-139	0	25	
100-42-5	Styrene	212	204	203	**96**	**96**	73-127	0	25	
95-47-6	o-Xylene	214	213	208	**100**	**97**	67-125	3	25	
108-67-8	1,3,5-Trimethylbenzene	212	208	204	**98**	**96**	67-130	2	25	
95-63-6	1,2,4-Trimethylbenzene	212	225	220	**106**	**104**	66-132	2	25	
120-82-1	1,2,4-Trichlorobenzene	216	250	251	**116**	**116**	55-142	0	25	
91-20-3	Naphthalene	212	235	232	**111**	**109**	57-138	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV133-170-202** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002032-001

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21 - 4/22/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00861

Initial Pressure (psig): -2.58 Final Pressure (psig): 7.34

Container Dilution Factor: 1.82

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.85	1.4	0.85	0.34	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.69**	0.49	0.29	0.080	
74-87-3	Chloromethane	0.71	1.2	0.71	0.19	**U**
75-01-4	Vinyl Chloride	0.30	0.96	0.30	0.10	**U**
106-99-0	1,3-Butadiene	0.66	1.1	0.66	0.18	**U**
75-00-3	Chloroethane	0.55	0.93	0.55	0.11	**U**
64-17-5	Ethanol	2.0	13	2.0	0.89	**U**
67-64-1	Acetone	**3.5**	10	5.2	2.3	**J**
75-69-4	Trichlorofluoromethane	**0.25**	0.43	0.26	0.066	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.2	3.9	1.2	0.41	**U**
75-09-2	Methylene Chloride	0.42	0.69	0.42	0.20	**U**
76-13-1	Trichlorotrifluoroethane	**1.9**	0.32	0.10	0.045	
75-15-0	Carbon Disulfide	**4.5**	1.6	0.79	0.23	
75-34-3	1,1-Dichloroethane	0.37	0.62	0.37	0.088	**U**
78-93-3	2-Butanone (MEK)	**0.44**	1.7	0.49	0.17	**J**
141-78-6	Ethyl Acetate	0.82	1.4	0.82	0.35	**U**
110-54-3	n-Hexane	0.41	0.70	0.41	0.14	**U**
67-66-3	Chloroform	**0.31**	0.50	0.16	0.066	**J**
109-99-9	Tetrahydrofuran (THF)	**5.6**	0.85	0.26	0.10	
107-06-2	1,2-Dichloroethane	0.19	0.61	0.19	0.066	**U**
71-43-2	Benzene	**0.17**	0.76	0.24	0.11	**J**
56-23-5	Carbon Tetrachloride	**0.66**	0.38	0.12	0.054	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV133-170-202** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002032-001

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21 - 4/22/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00861

Initial Pressure (psig): -2.58 Final Pressure (psig): 7.34

Container Dilution Factor: 1.82

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.45	1.5	0.45	0.20	**U**
75-27-4	Bromodichloromethane	0.12	0.37	0.12	0.052	**U**
79-01-6	Trichloroethene	**120**	4.6	1.4	0.61	**D**
123-91-1	1,4-Dioxane	0.21	0.68	0.21	0.080	**U**
142-82-5	n-Heptane	**0.36**	0.60	0.36	0.094	**J**
108-10-1	4-Methyl-2-pentanone	0.19	0.59	0.19	0.081	**U**
108-88-3	Toluene	**1.2**	0.65	0.21	0.079	
591-78-6	2-Hexanone	0.19	0.60	0.19	0.073	**U**
124-48-1	Dibromochloromethane	0.091	0.29	0.091	0.037	**U**
106-93-4	1,2-Dibromoethane	0.10	0.32	0.10	0.037	**U**
127-18-4	Tetrachloroethene	**3.6**	0.35	0.11	0.046	
100-41-4	Ethylbenzene	**0.23**	0.57	0.18	0.079	**J**
179601-23-1	m,p-Xylenes	**1.3**	1.2	0.36	0.15	
75-25-2	Bromoform	0.14	0.24	0.14	0.048	**U**
100-42-5	Styrene	0.34	0.57	0.34	0.092	**U**
95-47-6	o-Xylene	**0.43**	0.57	0.18	0.081	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.55**	0.49	0.16	0.071	
95-63-6	1,2,4-Trimethylbenzene	**2.6**	0.50	0.16	0.069	
120-82-1	1,2,4-Trichlorobenzene	0.20	0.33	0.20	0.080	**U**
91-20-3	Naphthalene	**0.45**	0.45	0.27	0.11	
1330-20-7	Xylenes, Total	**1.8**	1.2	0.36	0.15	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV133-250-602** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002032-002

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21 - 4/22/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.025 Liter(s)
Container ID: 1SC00346

Initial Pressure (psig): -2.62 Final Pressure (psig): 5.27

Container Dilution Factor: 1.65

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.62**	1.3	0.77	0.31	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.45**	0.44	0.27	0.073	
74-87-3	Chloromethane	**0.21**	1.1	0.64	0.17	**J**
75-01-4	Vinyl Chloride	0.27	0.87	0.27	0.092	**U**
106-99-0	1,3-Butadiene	0.60	0.99	0.60	0.16	**U**
75-00-3	Chloroethane	0.50	0.84	0.50	0.10	**U**
64-17-5	Ethanol	**5.1**	11	1.8	0.81	**J, B**
67-64-1	Acetone	**7.6**	9.2	4.7	2.1	**J**
75-69-4	Trichlorofluoromethane	**0.18**	0.39	0.23	0.059	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.52**	3.5	1.1	0.37	**J**
75-09-2	Methylene Chloride	0.38	0.63	0.38	0.18	**U**
76-13-1	Trichlorotrifluoroethane	**1.7**	0.29	0.092	0.041	
75-15-0	Carbon Disulfide	**4.7**	1.5	0.72	0.21	
75-34-3	1,1-Dichloroethane	0.34	0.56	0.34	0.080	**U**
78-93-3	2-Butanone (MEK)	**1.4**	1.5	0.45	0.15	**J**
141-78-6	Ethyl Acetate	0.74	1.3	0.74	0.32	**U**
110-54-3	n-Hexane	**0.14**	0.63	0.37	0.13	**J**
67-66-3	Chloroform	**0.48**	0.46	0.14	0.060	
109-99-9	Tetrahydrofuran (THF)	**3.9**	0.77	0.24	0.094	
107-06-2	1,2-Dichloroethane	0.17	0.55	0.17	0.060	**U**
71-43-2	Benzene	**0.63**	0.68	0.22	0.099	**J**
56-23-5	Carbon Tetrachloride	**1.1**	0.35	0.11	0.049	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV133-250-602** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002032-002

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21 - 4/22/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.025 Liter(s)
Container ID: 1SC00346

Initial Pressure (psig): -2.62 Final Pressure (psig): 5.27

Container Dilution Factor: 1.65

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.41	1.3	0.41	0.18	**U**
75-27-4	Bromodichloromethane	0.10	0.33	0.10	0.047	**U**
79-01-6	Trichloroethene	**260**	6.6	2.1	0.88	**D**
123-91-1	1,4-Dioxane	**0.097**	0.62	0.19	0.072	**J**
142-82-5	n-Heptane	**0.69**	0.54	0.32	0.086	
108-10-1	4-Methyl-2-pentanone	**0.098**	0.53	0.17	0.074	**J**
108-88-3	Toluene	**2.1**	0.59	0.19	0.071	
591-78-6	2-Hexanone	**0.38**	0.54	0.17	0.066	**J**
124-48-1	Dibromochloromethane	0.082	0.26	0.082	0.034	**U**
106-93-4	1,2-Dibromoethane	0.091	0.29	0.091	0.033	**U**
127-18-4	Tetrachloroethene	**2.6**	0.32	0.10	0.042	
100-41-4	Ethylbenzene	**0.49**	0.51	0.16	0.071	**J**
179601-23-1	m,p-Xylenes	**2.9**	1.0	0.32	0.13	
75-25-2	Bromoform	0.13	0.22	0.13	0.044	**U**
100-42-5	Styrene	0.31	0.51	0.31	0.083	**U**
95-47-6	o-Xylene	**0.91**	0.51	0.16	0.073	
108-67-8	1,3,5-Trimethylbenzene	**1.4**	0.44	0.14	0.065	
95-63-6	1,2,4-Trimethylbenzene	**6.8**	0.45	0.14	0.062	
120-82-1	1,2,4-Trichlorobenzene	0.18	0.30	0.18	0.072	**U**
91-20-3	Naphthalene	**0.64**	0.41	0.24	0.10	
1330-20-7	Xylenes, Total	**3.8**	1.0	0.32	0.13	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV133-250-202** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002032-003

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21 - 4/22/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.025 Liter(s)
Container ID: 1SS00528

Initial Pressure (psig): -2.54 Final Pressure (psig): 5.70

Container Dilution Factor: 1.68

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**8.9**	1.3	0.78	0.32	
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.46**	0.45	0.27	0.074	
74-87-3	Chloromethane	0.65	1.1	0.65	0.17	**U**
75-01-4	Vinyl Chloride	0.28	0.89	0.28	0.094	**U**
106-99-0	1,3-Butadiene	0.61	1.0	0.61	0.17	**U**
75-00-3	Chloroethane	0.51	0.86	0.51	0.11	**U**
64-17-5	Ethanol	**45**	12	1.9	0.83	**B**
67-64-1	Acetone	**6.6**	9.4	4.8	2.1	**J**
75-69-4	Trichlorofluoromethane	**0.58**	0.40	0.24	0.061	
67-63-0	2-Propanol (Isopropyl Alcohol)	**24**	3.6	1.1	0.38	
75-09-2	Methylene Chloride	**0.34**	0.64	0.39	0.18	**J**
76-13-1	Trichlorotrifluoroethane	**1.7**	0.30	0.093	0.042	
75-15-0	Carbon Disulfide	**3.1**	1.5	0.73	0.22	
75-34-3	1,1-Dichloroethane	0.34	0.57	0.34	0.081	**U**
78-93-3	2-Butanone (MEK)	**0.71**	1.6	0.46	0.16	**J**
141-78-6	Ethyl Acetate	**2.7**	1.3	0.76	0.33	
110-54-3	n-Hexane	0.38	0.64	0.38	0.13	**U**
67-66-3	Chloroform	**0.49**	0.46	0.15	0.061	
109-99-9	Tetrahydrofuran (THF)	**2.0**	0.78	0.24	0.095	
107-06-2	1,2-Dichloroethane	0.18	0.56	0.18	0.061	**U**
71-43-2	Benzene	**0.51**	0.70	0.22	0.10	**J**
56-23-5	Carbon Tetrachloride	**1.2**	0.35	0.11	0.049	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV133-250-202** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002032-003

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21 - 4/22/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.025 Liter(s)
Container ID: 1SS00528

Initial Pressure (psig): -2.54 Final Pressure (psig): 5.70

Container Dilution Factor: 1.68

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.42	1.3	0.42	0.18	**U**
75-27-4	Bromodichloromethane	0.11	0.34	0.11	0.048	**U**
79-01-6	Trichloroethene	**290**	6.8	2.1	0.90	**D**
123-91-1	1,4-Dioxane	0.20	0.63	0.20	0.073	**U**
142-82-5	n-Heptane	**0.53**	0.55	0.33	0.087	**J**
108-10-1	4-Methyl-2-pentanone	**0.26**	0.54	0.17	0.075	**J**
108-88-3	Toluene	**2.8**	0.60	0.19	0.072	
591-78-6	2-Hexanone	0.17	0.55	0.17	0.068	**U**
124-48-1	Dibromochloromethane	0.084	0.27	0.084	0.035	**U**
106-93-4	1,2-Dibromoethane	0.093	0.30	0.093	0.034	**U**
127-18-4	Tetrachloroethene	**2.7**	0.32	0.11	0.043	
100-41-4	Ethylbenzene	**0.17**	0.52	0.16	0.073	**J**
179601-23-1	m,p-Xylenes	**0.57**	1.1	0.33	0.14	**J**
75-25-2	Bromoform	0.13	0.22	0.13	0.045	**U**
100-42-5	Styrene	0.32	0.52	0.32	0.085	**U**
95-47-6	o-Xylene	**0.21**	0.52	0.16	0.074	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.15**	0.45	0.15	0.066	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.80**	0.46	0.15	0.063	
120-82-1	1,2,4-Trichlorobenzene	0.18	0.31	0.18	0.074	**U**
91-20-3	Naphthalene	**0.24**	0.42	0.25	0.10	**J**
1330-20-7	Xylenes, Total	**0.77**	1.1	0.33	0.14	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV133-350-202** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002032-004

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21 - 4/22/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.025 Liter(s)
Container ID: 1SC00472

Initial Pressure (psig): -2.56 Final Pressure (psig): 5.11

Container Dilution Factor: 1.63

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**1.8**	1.3	0.76	0.31	
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.12**	0.44	0.26	0.072	**J**
74-87-3	Chloromethane	**0.45**	1.0	0.63	0.17	**J**
75-01-4	Vinyl Chloride	0.27	0.86	0.27	0.091	**U**
106-99-0	1,3-Butadiene	0.59	0.98	0.59	0.16	**U**
75-00-3	Chloroethane	0.49	0.83	0.49	0.10	**U**
64-17-5	Ethanol	**3.0**	11	1.8	0.80	**J, B**
67-64-1	Acetone	**5.8**	9.1	4.6	2.1	**J**
75-69-4	Trichlorofluoromethane	**0.072**	0.38	0.23	0.059	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.0	3.5	1.0	0.36	**U**
75-09-2	Methylene Chloride	0.38	0.62	0.38	0.18	**U**
76-13-1	Trichlorotrifluoroethane	**0.21**	0.29	0.090	0.040	**J**
75-15-0	Carbon Disulfide	**4.8**	1.4	0.71	0.21	
75-34-3	1,1-Dichloroethane	0.33	0.55	0.33	0.079	**U**
78-93-3	2-Butanone (MEK)	**1.1**	1.5	0.44	0.15	**J**
141-78-6	Ethyl Acetate	0.74	1.2	0.74	0.32	**U**
110-54-3	n-Hexane	0.37	0.62	0.37	0.13	**U**
67-66-3	Chloroform	**0.76**	0.45	0.14	0.059	
109-99-9	Tetrahydrofuran (THF)	**3.6**	0.76	0.23	0.093	
107-06-2	1,2-Dichloroethane	0.17	0.54	0.17	0.059	**U**
71-43-2	Benzene	**1.9**	0.68	0.22	0.098	
56-23-5	Carbon Tetrachloride	**0.27**	0.34	0.11	0.048	**J**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV133-350-202** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002032-004

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21 - 4/22/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.025 Liter(s)
Container ID: 1SC00472

Initial Pressure (psig): -2.56 Final Pressure (psig): 5.11

Container Dilution Factor: 1.63

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.40	1.3	0.40	0.18	**U**
75-27-4	Bromodichloromethane	0.10	0.33	0.10	0.047	**U**
79-01-6	Trichloroethene	**70**	6.6	2.1	0.87	**D**
123-91-1	1,4-Dioxane	0.19	0.61	0.19	0.071	**U**
142-82-5	n-Heptane	**0.11**	0.54	0.32	0.085	**J**
108-10-1	4-Methyl-2-pentanone	**0.098**	0.53	0.17	0.073	**J**
108-88-3	Toluene	**0.64**	0.58	0.18	0.070	
591-78-6	2-Hexanone	**0.14**	0.54	0.17	0.066	**J**
124-48-1	Dibromochloromethane	0.081	0.26	0.081	0.033	**U**
106-93-4	1,2-Dibromoethane	0.090	0.29	0.090	0.033	**U**
127-18-4	Tetrachloroethene	**0.29**	0.31	0.10	0.041	**J**
100-41-4	Ethylbenzene	0.16	0.51	0.16	0.070	**U**
179601-23-1	m,p-Xylenes	**0.30**	1.0	0.32	0.13	**J**
75-25-2	Bromoform	0.13	0.21	0.13	0.043	**U**
100-42-5	Styrene	0.31	0.51	0.31	0.082	**U**
95-47-6	o-Xylene	**0.11**	0.51	0.16	0.072	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.13**	0.44	0.14	0.064	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.61**	0.45	0.14	0.061	
120-82-1	1,2,4-Trichlorobenzene	0.18	0.30	0.18	0.071	**U**
91-20-3	Naphthalene	0.24	0.40	0.24	0.10	**U**
1330-20-7	Xylenes, Total	**0.42**	1.0	0.32	0.13	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV133-450-202** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002032-005

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/22/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.010 Liter(s)
Test Notes:
Container ID: 1SC00007

Initial Pressure (psig): -3.62 Final Pressure (psig): 5.22

Container Dilution Factor: 1.80

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**92**	55	33	14	
75-71-8	Dichlorodifluoromethane (CFC 12)	12	19	12	3.2	**U**
74-87-3	Chloromethane	**7.6**	46	28	7.5	**J**
75-01-4	Vinyl Chloride	12	38	12	4.0	**U**
106-99-0	1,3-Butadiene	26	43	26	7.2	**U**
75-00-3	Chloroethane	22	37	22	4.5	**U**
64-17-5	Ethanol	**49**	500	79	35	**J**
67-64-1	Acetone	200	400	200	91	**U**
75-69-4	Trichlorofluoromethane	10	17	10	2.6	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	46	150	46	16	**U**
75-09-2	Methylene Chloride	17	27	17	7.8	**U**
76-13-1	Trichlorotrifluoroethane	4.0	13	4.0	1.8	**U**
75-15-0	Carbon Disulfide	**32**	64	31	9.3	**J**
75-34-3	1,1-Dichloroethane	15	24	15	3.5	**U**
78-93-3	2-Butanone (MEK)	**53**	67	20	6.7	**J**
141-78-6	Ethyl Acetate	32	55	32	14	**U**
110-54-3	n-Hexane	**210**	28	16	5.6	
67-66-3	Chloroform	6.3	20	6.3	2.6	**U**
109-99-9	Tetrahydrofuran (THF)	**13**	34	10	4.1	**J**
107-06-2	1,2-Dichloroethane	7.6	24	7.6	2.6	**U**
71-43-2	Benzene	**350**	30	9.6	4.3	
56-23-5	Carbon Tetrachloride	4.9	15	4.9	2.1	**U**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV133-450-202** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002032-005

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/22/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.010 Liter(s)
Test Notes:
Container ID: 1SC00007

Initial Pressure (psig): -3.62 Final Pressure (psig): 5.22

Container Dilution Factor: 1.80

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**430**	58	18	7.8	
75-27-4	Bromodichloromethane	4.6	15	4.6	2.1	**U**
79-01-6	Trichloroethene	**27**	18	5.7	2.4	
123-91-1	1,4-Dioxane	8.5	27	8.5	3.1	**U**
142-82-5	n-Heptane	**100**	24	14	3.7	
108-10-1	4-Methyl-2-pentanone	7.5	23	7.5	3.2	**U**
108-88-3	Toluene	**110**	26	8.1	3.1	
591-78-6	2-Hexanone	7.5	24	7.5	2.9	**U**
124-48-1	Dibromochloromethane	3.6	11	3.6	1.5	**U**
106-93-4	1,2-Dibromoethane	4.0	13	4.0	1.5	**U**
127-18-4	Tetrachloroethene	4.5	14	4.5	1.8	**U**
100-41-4	Ethylbenzene	**5.0**	22	7.0	3.1	**J**
179601-23-1	m,p-Xylenes	**8.6**	46	14	5.8	**J**
75-25-2	Bromoform	5.6	9.4	5.6	1.9	**U**
100-42-5	Styrene	14	22	14	3.6	**U**
95-47-6	o-Xylene	**5.5**	22	7.0	3.2	**J**
108-67-8	1,3,5-Trimethylbenzene	6.2	19	6.2	2.8	**U**
95-63-6	1,2,4-Trimethylbenzene	6.2	20	6.2	2.7	**U**
120-82-1	1,2,4-Trichlorobenzene	7.8	13	7.8	3.2	**U**
91-20-3	Naphthalene	11	18	11	4.5	**U**
1330-20-7	Xylenes, Total	**14**	46	14	5.8	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV142-030-202** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002032-006

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00820

Initial Pressure (psig): -3.42 Final Pressure (psig): 5.83

Container Dilution Factor: 1.82

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**3.0**	1.4	0.85	0.34	
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.51**	0.49	0.29	0.080	
74-87-3	Chloromethane	0.71	1.2	0.71	0.19	**U**
75-01-4	Vinyl Chloride	0.30	0.96	0.30	0.10	**U**
106-99-0	1,3-Butadiene	0.66	1.1	0.66	0.18	**U**
75-00-3	Chloroethane	0.55	0.93	0.55	0.11	**U**
64-17-5	Ethanol	**25**	13	2.0	0.89	**B**
67-64-1	Acetone	**11**	10	5.2	2.3	
75-69-4	Trichlorofluoromethane	**0.38**	0.43	0.26	0.066	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**8.0**	3.9	1.2	0.41	
75-09-2	Methylene Chloride	0.42	0.69	0.42	0.20	**U**
76-13-1	Trichlorotrifluoroethane	**0.060**	0.32	0.10	0.045	**J**
75-15-0	Carbon Disulfide	**0.29**	1.6	0.79	0.23	**J**
75-34-3	1,1-Dichloroethane	0.37	0.62	0.37	0.088	**U**
78-93-3	2-Butanone (MEK)	**1.1**	1.7	0.49	0.17	**J**
141-78-6	Ethyl Acetate	**99**	1.4	0.82	0.35	
110-54-3	n-Hexane	0.41	0.70	0.41	0.14	**U**
67-66-3	Chloroform	**0.34**	0.50	0.16	0.066	**J**
109-99-9	Tetrahydrofuran (THF)	**0.12**	0.85	0.26	0.10	**J**
107-06-2	1,2-Dichloroethane	0.19	0.61	0.19	0.066	**U**
71-43-2	Benzene	**0.38**	0.76	0.24	0.11	**J**
56-23-5	Carbon Tetrachloride	0.12	0.38	0.12	0.054	**U**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV142-030-202** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002032-006

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00820

Initial Pressure (psig): -3.42 Final Pressure (psig): 5.83

Container Dilution Factor: 1.82

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**0.74**	1.5	0.45	0.20	**J**
75-27-4	Bromodichloromethane	0.12	0.37	0.12	0.052	**U**
79-01-6	Trichloroethene	**0.13**	0.46	0.14	0.061	**J**
123-91-1	1,4-Dioxane	**0.26**	0.68	0.21	0.080	**J**
142-82-5	n-Heptane	**0.26**	0.60	0.36	0.094	**J**
108-10-1	4-Methyl-2-pentanone	**0.099**	0.59	0.19	0.081	**J**
108-88-3	Toluene	**3.5**	0.65	0.21	0.079	
591-78-6	2-Hexanone	0.19	0.60	0.19	0.073	**U**
124-48-1	Dibromochloromethane	0.091	0.29	0.091	0.037	**U**
106-93-4	1,2-Dibromoethane	0.10	0.32	0.10	0.037	**U**
127-18-4	Tetrachloroethene	**0.053**	0.35	0.11	0.046	**J**
100-41-4	Ethylbenzene	**0.083**	0.57	0.18	0.079	**J**
179601-23-1	m,p-Xylenes	**0.23**	1.2	0.36	0.15	**J**
75-25-2	Bromoform	0.14	0.24	0.14	0.048	**U**
100-42-5	Styrene	0.34	0.57	0.34	0.092	**U**
95-47-6	o-Xylene	**0.092**	0.57	0.18	0.081	**J**
108-67-8	1,3,5-Trimethylbenzene	0.16	0.49	0.16	0.071	**U**
95-63-6	1,2,4-Trimethylbenzene	0.16	0.50	0.16	0.069	**U**
120-82-1	1,2,4-Trichlorobenzene	0.20	0.33	0.20	0.080	**U**
91-20-3	Naphthalene	0.27	0.45	0.27	0.11	**U**
1330-20-7	Xylenes, Total	**0.32**	1.2	0.36	0.15	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV142-050-202** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002032-007

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01381

Initial Pressure (psig): -3.01 Final Pressure (psig): 6.00

Container Dilution Factor: 1.77

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.82	1.4	0.82	0.33	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.56**	0.47	0.29	0.078	
74-87-3	Chloromethane	0.69	1.1	0.69	0.18	**U**
75-01-4	Vinyl Chloride	0.29	0.94	0.29	0.099	**U**
106-99-0	1,3-Butadiene	0.64	1.1	0.64	0.18	**U**
75-00-3	Chloroethane	0.54	0.91	0.54	0.11	**U**
64-17-5	Ethanol	**1.8**	12	1.9	0.87	**J, B**
67-64-1	Acetone	**2.8**	9.9	5.0	2.2	**J**
75-69-4	Trichlorofluoromethane	**0.30**	0.42	0.25	0.064	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.1	3.8	1.1	0.40	**U**
75-09-2	Methylene Chloride	0.41	0.68	0.41	0.19	**U**
76-13-1	Trichlorotrifluoroethane	**0.061**	0.31	0.098	0.044	**J**
75-15-0	Carbon Disulfide	**0.34**	1.6	0.77	0.23	**J**
75-34-3	1,1-Dichloroethane	0.36	0.60	0.36	0.085	**U**
78-93-3	2-Butanone (MEK)	**0.33**	1.7	0.48	0.17	**J**
141-78-6	Ethyl Acetate	0.80	1.4	0.80	0.34	**U**
110-54-3	n-Hexane	0.40	0.68	0.40	0.14	**U**
67-66-3	Chloroform	**0.30**	0.49	0.15	0.064	**J**
109-99-9	Tetrahydrofuran (THF)	0.26	0.83	0.26	0.10	**U**
107-06-2	1,2-Dichloroethane	0.19	0.59	0.19	0.065	**U**
71-43-2	Benzene	**1.0**	0.73	0.24	0.11	
56-23-5	Carbon Tetrachloride	0.12	0.37	0.12	0.052	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV142-050-202** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002032-007

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/21/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01381

Initial Pressure (psig): -3.01 Final Pressure (psig): 6.00

Container Dilution Factor: 1.77

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.44	1.4	0.44	0.19	**U**
75-27-4	Bromodichloromethane	0.11	0.36	0.11	0.051	**U**
79-01-6	Trichloroethene	**0.064**	0.44	0.14	0.059	**J**
123-91-1	1,4-Dioxane	**0.12**	0.66	0.21	0.077	**J**
142-82-5	n-Heptane	0.35	0.58	0.35	0.092	**U**
108-10-1	4-Methyl-2-pentanone	0.18	0.57	0.18	0.079	**U**
108-88-3	Toluene	**0.13**	0.63	0.20	0.076	**J**
591-78-6	2-Hexanone	0.18	0.58	0.18	0.071	**U**
124-48-1	Dibromochloromethane	0.088	0.28	0.088	0.036	**U**
106-93-4	1,2-Dibromoethane	0.098	0.31	0.098	0.036	**U**
127-18-4	Tetrachloroethene	0.11	0.34	0.11	0.045	**U**
100-41-4	Ethylbenzene	0.17	0.55	0.17	0.076	**U**
179601-23-1	m,p-Xylenes	0.35	1.1	0.35	0.14	**U**
75-25-2	Bromoform	0.14	0.23	0.14	0.047	**U**
100-42-5	Styrene	0.33	0.55	0.33	0.089	**U**
95-47-6	o-Xylene	0.17	0.55	0.17	0.078	**U**
108-67-8	1,3,5-Trimethylbenzene	0.15	0.48	0.15	0.069	**U**
95-63-6	1,2,4-Trimethylbenzene	0.15	0.49	0.15	0.067	**U**
120-82-1	1,2,4-Trichlorobenzene	0.19	0.32	0.19	0.078	**U**
91-20-3	Naphthalene	**0.18**	0.44	0.26	0.11	**J**
1330-20-7	Xylenes, Total	0.35	1.1	0.35	0.14	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV142-170-202** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002032-008

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/22/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00782

Initial Pressure (psig): -3.62 Final Pressure (psig): 5.26

Container Dilution Factor: 1.80

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.97**	1.4	0.84	0.34	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**5.9**	0.48	0.29	0.079	
74-87-3	Chloromethane	0.70	1.2	0.70	0.19	**U**
75-01-4	Vinyl Chloride	0.30	0.95	0.30	0.10	**U**
106-99-0	1,3-Butadiene	0.65	1.1	0.65	0.18	**U**
75-00-3	Chloroethane	0.55	0.92	0.55	0.11	**U**
64-17-5	Ethanol	**5.9**	12	2.0	0.88	**J**
67-64-1	Acetone	**12**	10	5.1	2.3	
75-69-4	Trichlorofluoromethane	**3.5**	0.42	0.26	0.065	
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.69**	3.8	1.2	0.40	**J**
75-09-2	Methylene Chloride	0.41	0.69	0.41	0.19	**U**
76-13-1	Trichlorotrifluoroethane	**0.086**	0.32	0.10	0.045	**J**
75-15-0	Carbon Disulfide	**0.64**	1.6	0.78	0.23	**J**
75-34-3	1,1-Dichloroethane	0.37	0.61	0.37	0.087	**U**
78-93-3	2-Butanone (MEK)	**3.5**	1.7	0.49	0.17	
141-78-6	Ethyl Acetate	0.81	1.4	0.81	0.35	**U**
110-54-3	n-Hexane	0.41	0.69	0.41	0.14	**U**
67-66-3	Chloroform	**0.15**	0.50	0.16	0.065	**J**
109-99-9	Tetrahydrofuran (THF)	**0.22**	0.84	0.26	0.10	**J**
107-06-2	1,2-Dichloroethane	0.19	0.60	0.19	0.066	**U**
71-43-2	Benzene	0.24	0.75	0.24	0.11	**U**
56-23-5	Carbon Tetrachloride	**0.20**	0.38	0.12	0.053	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV142-170-202** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002032-008

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/22/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00782

Initial Pressure (psig): -3.62 Final Pressure (psig): 5.26

Container Dilution Factor: 1.80

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.44	1.4	0.44	0.20	**U**
75-27-4	Bromodichloromethane	0.11	0.36	0.11	0.052	**U**
79-01-6	Trichloroethene	0.14	0.45	0.14	0.060	**U**
123-91-1	1,4-Dioxane	0.21	0.67	0.21	0.079	**U**
142-82-5	n-Heptane	0.35	0.59	0.35	0.093	**U**
108-10-1	4-Methyl-2-pentanone	**0.15**	0.58	0.19	0.080	**J**
108-88-3	Toluene	**0.14**	0.65	0.20	0.078	**J**
591-78-6	2-Hexanone	**0.77**	0.59	0.19	0.073	
124-48-1	Dibromochloromethane	0.090	0.29	0.090	0.037	**U**
106-93-4	1,2-Dibromoethane	0.10	0.32	0.10	0.036	**U**
127-18-4	Tetrachloroethene	**0.090**	0.35	0.11	0.046	**J**
100-41-4	Ethylbenzene	0.18	0.56	0.18	0.078	**U**
179601-23-1	m,p-Xylenes	0.35	1.1	0.35	0.15	**U**
75-25-2	Bromoform	0.14	0.24	0.14	0.048	**U**
100-42-5	Styrene	0.34	0.56	0.34	0.091	**U**
95-47-6	o-Xylene	0.18	0.56	0.18	0.080	**U**
108-67-8	1,3,5-Trimethylbenzene	0.16	0.49	0.16	0.071	**U**
95-63-6	1,2,4-Trimethylbenzene	0.16	0.49	0.16	0.068	**U**
120-82-1	1,2,4-Trichlorobenzene	0.19	0.33	0.19	0.079	**U**
91-20-3	Naphthalene	0.27	0.45	0.27	0.11	**U**
1330-20-7	Xylenes, Total	0.35	1.1	0.35	0.15	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV142-170-602** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002032-009

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/22/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00193

Initial Pressure (psig): -3.45 Final Pressure (psig): 5.52

Container Dilution Factor: 1.80

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.64**	1.4	0.84	0.34	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**5.9**	0.48	0.29	0.079	
74-87-3	Chloromethane	0.70	1.2	0.70	0.19	**U**
75-01-4	Vinyl Chloride	0.30	0.95	0.30	0.10	**U**
106-99-0	1,3-Butadiene	0.65	1.1	0.65	0.18	**U**
75-00-3	Chloroethane	0.55	0.92	0.55	0.11	**U**
64-17-5	Ethanol	**2.9**	12	2.0	0.88	**J, B**
67-64-1	Acetone	**6.3**	10	5.1	2.3	**J**
75-69-4	Trichlorofluoromethane	**3.4**	0.42	0.26	0.065	
67-63-0	2-Propanol (Isopropyl Alcohol)	1.2	3.8	1.2	0.40	**U**
75-09-2	Methylene Chloride	0.41	0.69	0.41	0.19	**U**
76-13-1	Trichlorotrifluoroethane	**0.085**	0.32	0.10	0.045	**J**
75-15-0	Carbon Disulfide	**1.2**	1.6	0.78	0.23	**J**
75-34-3	1,1-Dichloroethane	0.37	0.61	0.37	0.087	**U**
78-93-3	2-Butanone (MEK)	**1.0**	1.7	0.49	0.17	**J**
141-78-6	Ethyl Acetate	0.81	1.4	0.81	0.35	**U**
110-54-3	n-Hexane	0.41	0.69	0.41	0.14	**U**
67-66-3	Chloroform	**0.12**	0.50	0.16	0.065	**J**
109-99-9	Tetrahydrofuran (THF)	**0.28**	0.84	0.26	0.10	**J**
107-06-2	1,2-Dichloroethane	**0.12**	0.60	0.19	0.066	**J**
71-43-2	Benzene	**0.23**	0.75	0.24	0.11	**J**
56-23-5	Carbon Tetrachloride	**0.21**	0.38	0.12	0.053	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV142-170-602** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002032-009

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/22/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00193

Initial Pressure (psig): -3.45 Final Pressure (psig): 5.52

Container Dilution Factor: 1.80

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.44	1.4	0.44	0.20	**U**
75-27-4	Bromodichloromethane	0.11	0.36	0.11	0.052	**U**
79-01-6	Trichloroethene	0.14	0.45	0.14	0.060	**U**
123-91-1	1,4-Dioxane	0.21	0.67	0.21	0.079	**U**
142-82-5	n-Heptane	0.35	0.59	0.35	0.093	**U**
108-10-1	4-Methyl-2-pentanone	0.19	0.58	0.19	0.080	**U**
108-88-3	Toluene	**0.18**	0.65	0.20	0.078	**J**
591-78-6	2-Hexanone	**0.14**	0.59	0.19	0.073	**J**
124-48-1	Dibromochloromethane	0.090	0.29	0.090	0.037	**U**
106-93-4	1,2-Dibromoethane	0.10	0.32	0.10	0.036	**U**
127-18-4	Tetrachloroethene	**0.12**	0.35	0.11	0.046	**J**
100-41-4	Ethylbenzene	0.18	0.56	0.18	0.078	**U**
179601-23-1	m,p-Xylenes	0.35	1.1	0.35	0.15	**U**
75-25-2	Bromoform	0.14	0.24	0.14	0.048	**U**
100-42-5	Styrene	0.34	0.56	0.34	0.091	**U**
95-47-6	o-Xylene	0.18	0.56	0.18	0.080	**U**
108-67-8	1,3,5-Trimethylbenzene	0.16	0.49	0.16	0.071	**U**
95-63-6	1,2,4-Trimethylbenzene	0.16	0.49	0.16	0.068	**U**
120-82-1	1,2,4-Trichlorobenzene	0.19	0.33	0.19	0.079	**U**
91-20-3	Naphthalene	0.27	0.45	0.27	0.11	**U**
1330-20-7	Xylenes, Total	0.35	1.1	0.35	0.15	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV142-250-202** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002032-010

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/22/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01171

Initial Pressure (psig): -4.22 Final Pressure (psig): 5.58

Container Dilution Factor: 1.94

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.90	1.5	0.90	0.37	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**5.5**	0.52	0.31	0.085	
74-87-3	Chloromethane	0.75	1.2	0.75	0.20	**U**
75-01-4	Vinyl Chloride	0.32	1.0	0.32	0.11	**U**
106-99-0	1,3-Butadiene	0.70	1.2	0.70	0.19	**U**
75-00-3	Chloroethane	0.59	0.99	0.59	0.12	**U**
64-17-5	Ethanol	**1.9**	13	2.1	0.95	**J, B**
67-64-1	Acetone	**3.2**	11	5.5	2.5	**J**
75-69-4	Trichlorofluoromethane	**3.8**	0.46	0.28	0.070	
67-63-0	2-Propanol (Isopropyl Alcohol)	1.2	4.1	1.2	0.43	**U**
75-09-2	Methylene Chloride	0.45	0.74	0.45	0.21	**U**
76-13-1	Trichlorotrifluoroethane	**0.085**	0.34	0.11	0.048	**J**
75-15-0	Carbon Disulfide	**2.2**	1.7	0.84	0.25	
75-34-3	1,1-Dichloroethane	0.40	0.66	0.40	0.094	**U**
78-93-3	2-Butanone (MEK)	**0.23**	1.8	0.53	0.18	**J**
141-78-6	Ethyl Acetate	0.88	1.5	0.88	0.38	**U**
110-54-3	n-Hexane	**0.19**	0.74	0.44	0.15	**J**
67-66-3	Chloroform	**0.37**	0.54	0.17	0.071	**J**
109-99-9	Tetrahydrofuran (THF)	**1.2**	0.90	0.28	0.11	
107-06-2	1,2-Dichloroethane	0.20	0.65	0.20	0.071	**U**
71-43-2	Benzene	**0.13**	0.80	0.26	0.12	**J**
56-23-5	Carbon Tetrachloride	**0.30**	0.41	0.13	0.057	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV142-250-202** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002032-010

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/22/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01171

Initial Pressure (psig): -4.22 Final Pressure (psig): 5.58

Container Dilution Factor: 1.94

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.48	1.6	0.48	0.21	**U**
75-27-4	Bromodichloromethane	0.12	0.39	0.12	0.056	**U**
79-01-6	Trichloroethene	0.15	0.49	0.15	0.065	**U**
123-91-1	1,4-Dioxane	0.23	0.73	0.23	0.085	**U**
142-82-5	n-Heptane	**0.14**	0.64	0.38	0.10	**J**
108-10-1	4-Methyl-2-pentanone	0.20	0.63	0.20	0.086	**U**
108-88-3	Toluene	**0.42**	0.70	0.22	0.084	**J**
591-78-6	2-Hexanone	0.20	0.64	0.20	0.078	**U**
124-48-1	Dibromochloromethane	0.097	0.31	0.097	0.040	**U**
106-93-4	1,2-Dibromoethane	0.11	0.34	0.11	0.039	**U**
127-18-4	Tetrachloroethene	**0.35**	0.37	0.12	0.049	**J**
100-41-4	Ethylbenzene	0.19	0.60	0.19	0.084	**U**
179601-23-1	m,p-Xylenes	0.38	1.2	0.38	0.16	**U**
75-25-2	Bromoform	0.15	0.25	0.15	0.052	**U**
100-42-5	Styrene	0.36	0.60	0.36	0.098	**U**
95-47-6	o-Xylene	0.19	0.60	0.19	0.086	**U**
108-67-8	1,3,5-Trimethylbenzene	0.17	0.52	0.17	0.076	**U**
95-63-6	1,2,4-Trimethylbenzene	0.17	0.53	0.17	0.073	**U**
120-82-1	1,2,4-Trichlorobenzene	0.21	0.35	0.21	0.085	**U**
91-20-3	Naphthalene	0.29	0.48	0.29	0.12	**U**
1330-20-7	Xylenes, Total	0.38	1.2	0.38	0.16	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV142-350-202** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002032-011

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/22/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00894

Initial Pressure (psig): -4.57 Final Pressure (psig): 5.48

Container Dilution Factor: 1.99

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.69**	1.5	0.93	0.38	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.2**	0.53	0.32	0.088	
74-87-3	Chloromethane	0.77	1.3	0.77	0.21	**U**
75-01-4	Vinyl Chloride	0.33	1.1	0.33	0.11	**U**
106-99-0	1,3-Butadiene	0.72	1.2	0.72	0.20	**U**
75-00-3	Chloroethane	0.60	1.0	0.60	0.12	**U**
64-17-5	Ethanol	**4.3**	14	2.2	0.98	**J, B**
67-64-1	Acetone	**14**	11	5.7	2.5	
75-69-4	Trichlorofluoromethane	**1.4**	0.47	0.28	0.072	
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.2**	4.3	1.3	0.45	**J**
75-09-2	Methylene Chloride	0.46	0.76	0.46	0.21	**U**
76-13-1	Trichlorotrifluoroethane	0.11	0.35	0.11	0.049	**U**
75-15-0	Carbon Disulfide	**3.1**	1.8	0.86	0.26	
75-34-3	1,1-Dichloroethane	0.41	0.68	0.41	0.096	**U**
78-93-3	2-Butanone (MEK)	**0.23**	1.9	0.54	0.19	**J**
141-78-6	Ethyl Acetate	**2.1**	1.5	0.90	0.39	
110-54-3	n-Hexane	0.45	0.76	0.45	0.16	**U**
67-66-3	Chloroform	**1.1**	0.55	0.17	0.072	
109-99-9	Tetrahydrofuran (THF)	**2.5**	0.93	0.29	0.11	
107-06-2	1,2-Dichloroethane	0.21	0.66	0.21	0.073	**U**
71-43-2	Benzene	0.26	0.83	0.26	0.12	**U**
56-23-5	Carbon Tetrachloride	**0.15**	0.42	0.13	0.059	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV142-350-202** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002032-011

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/22/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00894

Initial Pressure (psig): -4.57 Final Pressure (psig): 5.48

Container Dilution Factor: 1.99

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.49	1.6	0.49	0.22	**U**
75-27-4	Bromodichloromethane	0.13	0.40	0.13	0.057	**U**
79-01-6	Trichloroethene	0.16	0.50	0.16	0.067	**U**
123-91-1	1,4-Dioxane	0.23	0.75	0.23	0.087	**U**
142-82-5	n-Heptane	0.39	0.66	0.39	0.10	**U**
108-10-1	4-Methyl-2-pentanone	0.21	0.64	0.21	0.089	**U**
108-88-3	Toluene	**0.51**	0.71	0.22	0.086	**J**
591-78-6	2-Hexanone	0.21	0.66	0.21	0.080	**U**
124-48-1	Dibromochloromethane	0.099	0.32	0.099	0.041	**U**
106-93-4	1,2-Dibromoethane	0.11	0.35	0.11	0.040	**U**
127-18-4	Tetrachloroethene	**0.055**	0.38	0.12	0.051	**J**
100-41-4	Ethylbenzene	0.19	0.62	0.19	0.086	**U**
179601-23-1	m,p-Xylenes	0.39	1.3	0.39	0.16	**U**
75-25-2	Bromoform	0.15	0.26	0.15	0.053	**U**
100-42-5	Styrene	0.37	0.62	0.37	0.10	**U**
95-47-6	o-Xylene	0.19	0.62	0.19	0.088	**U**
108-67-8	1,3,5-Trimethylbenzene	0.17	0.54	0.17	0.078	**U**
95-63-6	1,2,4-Trimethylbenzene	0.17	0.55	0.17	0.075	**U**
120-82-1	1,2,4-Trichlorobenzene	0.21	0.36	0.21	0.087	**U**
91-20-3	Naphthalene	0.29	0.49	0.29	0.12	**U**
1330-20-7	Xylenes, Total	0.39	1.3	0.39	0.16	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV142-450-202** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002032-012

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/22/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.15 Liter(s)
Test Notes: 0.050 Liter(s)
Container ID: 1SS00064

Initial Pressure (psig): -3.86 Final Pressure (psig): 5.67

Container Dilution Factor: 1.88

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**5.5**	3.9	2.3	0.95	**M1**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.75**	1.3	0.81	0.22	**J**
74-87-3	Chloromethane	**1.0**	3.2	1.9	0.52	**J**
75-01-4	Vinyl Chloride	0.83	2.6	0.83	0.28	**U**
106-99-0	1,3-Butadiene	1.8	3.0	1.8	0.50	**U**
75-00-3	Chloroethane	1.5	2.6	1.5	0.31	**U**
64-17-5	Ethanol	**6.9**	35	5.5	2.5	**J**
67-64-1	Acetone	**14**	28	14	6.3	**J**
75-69-4	Trichlorofluoromethane	**0.74**	1.2	0.71	0.18	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**2.2**	11	3.2	1.1	**J**
75-09-2	Methylene Chloride	1.2	1.9	1.2	0.54	**U**
76-13-1	Trichlorotrifluoroethane	0.28	0.88	0.28	0.12	**U**
75-15-0	Carbon Disulfide	**8.4**	4.4	2.2	0.64	
75-34-3	1,1-Dichloroethane	1.0	1.7	1.0	0.24	**U**
78-93-3	2-Butanone (MEK)	**6.0**	4.7	1.4	0.47	
141-78-6	Ethyl Acetate	2.3	3.8	2.3	0.97	**U**
110-54-3	n-Hexane	**300**	5.8	3.4	1.2	**D**
67-66-3	Chloroform	**0.55**	1.4	0.44	0.18	**J**
109-99-9	Tetrahydrofuran (THF)	**2.3**	2.3	0.72	0.28	**J**
107-06-2	1,2-Dichloroethane	0.53	1.7	0.53	0.18	**U**
71-43-2	Benzene	**12**	2.1	0.67	0.30	
56-23-5	Carbon Tetrachloride	0.34	1.1	0.34	0.15	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.
M1 = Matrix interference due to coelution with a non-target compound; results may be biased high.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV142-450-202** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002032-012

Test Code: EPA TO-15 Date Collected: 4/8/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/14/20
Analyst: Wida Ang Date Analyzed: 4/22/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.15 Liter(s)
Test Notes: 0.050 Liter(s)
Container ID: 1SS00064

Initial Pressure (psig): -3.86 Final Pressure (psig): 5.67

Container Dilution Factor: 1.88

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**230**		4.0	1.2	0.55	
75-27-4	Bromodichloromethane		0.32	1.0	0.32	0.14	**U**
79-01-6	Trichloroethene	**0.20**		1.3	0.40	0.17	**J**
123-91-1	1,4-Dioxane		0.59	1.9	0.59	0.22	**U**
142-82-5	n-Heptane	**110**		1.7	0.98	0.26	
108-10-1	4-Methyl-2-pentanone		0.52	1.6	0.52	0.22	**U**
108-88-3	Toluene	**13**		1.8	0.57	0.22	
591-78-6	2-Hexanone		0.52	1.7	0.52	0.20	**U**
124-48-1	Dibromochloromethane		0.25	0.79	0.25	0.10	**U**
106-93-4	1,2-Dibromoethane	**0.32**		0.88	0.28	0.10	**J**
127-18-4	Tetrachloroethene	**0.62**		0.96	0.31	0.13	**J**
100-41-4	Ethylbenzene	**1.4**		1.6	0.49	0.22	**J**
179601-23-1	m,p-Xylenes	**2.1**		3.2	0.98	0.40	**J**
75-25-2	Bromoform		0.39	0.65	0.39	0.13	**U**
100-42-5	Styrene		0.94	1.6	0.94	0.25	**U**
95-47-6	o-Xylene	**13**		1.6	0.49	0.22	
108-67-8	1,3,5-Trimethylbenzene	**2.9**		1.4	0.43	0.20	
95-63-6	1,2,4-Trimethylbenzene	**0.49**		1.4	0.43	0.19	**J**
120-82-1	1,2,4-Trichlorobenzene		0.54	0.91	0.54	0.22	**U**
91-20-3	Naphthalene		0.74	1.2	0.74	0.31	**U**
1330-20-7	Xylenes, Total	**16**		3.2	0.98	0.40	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200421-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.19	0.31	0.19	0.076	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.065	0.11	0.065	0.018	**U**
74-87-3	Chloromethane	0.16	0.26	0.16	0.042	**U**
75-01-4	Vinyl Chloride	0.067	0.21	0.067	0.022	**U**
106-99-0	1,3-Butadiene	0.14	0.24	0.14	0.040	**U**
75-00-3	Chloroethane	0.12	0.20	0.12	0.025	**U**
64-17-5	Ethanol	**0.23**	2.8	0.44	0.20	**J**
67-64-1	Acetone	1.1	2.2	1.1	0.51	**U**
75-69-4	Trichlorofluoromethane	0.057	0.094	0.057	0.014	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.26	0.85	0.26	0.090	**U**
75-09-2	Methylene Chloride	0.092	0.15	0.092	0.043	**U**
76-13-1	Trichlorotrifluoroethane	0.022	0.070	0.022	0.0099	**U**
75-15-0	Carbon Disulfide	0.17	0.35	0.17	0.051	**U**
75-34-3	1,1-Dichloroethane	0.082	0.14	0.082	0.019	**U**
78-93-3	2-Butanone (MEK)	0.11	0.37	0.11	0.037	**U**
141-78-6	Ethyl Acetate	0.18	0.31	0.18	0.078	**U**
110-54-3	n-Hexane	0.091	0.15	0.091	0.031	**U**
67-66-3	Chloroform	0.035	0.11	0.035	0.015	**U**
109-99-9	Tetrahydrofuran (THF)	0.058	0.19	0.058	0.023	**U**
107-06-2	1,2-Dichloroethane	0.042	0.13	0.042	0.015	**U**
71-43-2	Benzene	0.053	0.17	0.053	0.024	**U**
56-23-5	Carbon Tetrachloride	0.027	0.084	0.027	0.012	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200421-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.099	0.32	0.099	0.044	**U**
75-27-4	Bromodichloromethane	0.025	0.081	0.025	0.011	**U**
79-01-6	Trichloroethene	0.032	0.10	0.032	0.013	**U**
123-91-1	1,4-Dioxane	0.047	0.15	0.047	0.017	**U**
142-82-5	n-Heptane	0.078	0.13	0.078	0.021	**U**
108-10-1	4-Methyl-2-pentanone	0.041	0.13	0.041	0.018	**U**
108-88-3	Toluene	0.045	0.14	0.045	0.017	**U**
591-78-6	2-Hexanone	0.042	0.13	0.042	0.016	**U**
124-48-1	Dibromochloromethane	0.020	0.063	0.020	0.0082	**U**
106-93-4	1,2-Dibromoethane	0.022	0.070	0.022	0.0081	**U**
127-18-4	Tetrachloroethene	0.025	0.077	0.025	0.010	**U**
100-41-4	Ethylbenzene	0.039	0.12	0.039	0.017	**U**
179601-23-1	m,p-Xylenes	0.078	0.25	0.078	0.032	**U**
75-25-2	Bromoform	0.031	0.052	0.031	0.011	**U**
100-42-5	Styrene	0.075	0.12	0.075	0.020	**U**
95-47-6	o-Xylene	0.039	0.12	0.039	0.018	**U**
108-67-8	1,3,5-Trimethylbenzene	0.035	0.11	0.035	0.016	**U**
95-63-6	1,2,4-Trimethylbenzene	0.035	0.11	0.035	0.015	**U**
120-82-1	1,2,4-Trichlorobenzene	0.043	0.073	0.043	0.018	**U**
91-20-3	Naphthalene	0.059	0.099	0.059	0.025	**U**
1330-20-7	Xylenes, Total	0.078	0.25	0.078	0.032	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200422-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 4/22/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.19	0.31	0.19	0.076	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.065	0.11	0.065	0.018	**U**
74-87-3	Chloromethane	0.16	0.26	0.16	0.042	**U**
75-01-4	Vinyl Chloride	0.067	0.21	0.067	0.022	**U**
106-99-0	1,3-Butadiene	0.14	0.24	0.14	0.040	**U**
75-00-3	Chloroethane	0.12	0.20	0.12	0.025	**U**
64-17-5	Ethanol	0.44	2.8	0.44	0.20	**U**
67-64-1	Acetone	1.1	2.2	1.1	0.51	**U**
75-69-4	Trichlorofluoromethane	0.057	0.094	0.057	0.014	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.26	0.85	0.26	0.090	**U**
75-09-2	Methylene Chloride	0.092	0.15	0.092	0.043	**U**
76-13-1	Trichlorotrifluoroethane	0.022	0.070	0.022	0.0099	**U**
75-15-0	Carbon Disulfide	0.17	0.35	0.17	0.051	**U**
75-34-3	1,1-Dichloroethane	0.082	0.14	0.082	0.019	**U**
78-93-3	2-Butanone (MEK)	0.11	0.37	0.11	0.037	**U**
141-78-6	Ethyl Acetate	0.18	0.31	0.18	0.078	**U**
110-54-3	n-Hexane	0.091	0.15	0.091	0.031	**U**
67-66-3	Chloroform	0.035	0.11	0.035	0.015	**U**
109-99-9	Tetrahydrofuran (THF)	0.058	0.19	0.058	0.023	**U**
107-06-2	1,2-Dichloroethane	0.042	0.13	0.042	0.015	**U**
71-43-2	Benzene	0.053	0.17	0.053	0.024	**U**
56-23-5	Carbon Tetrachloride	0.027	0.084	0.027	0.012	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200422-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 4/22/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.099	0.32	0.099	0.044	**U**
75-27-4	Bromodichloromethane	0.025	0.081	0.025	0.011	**U**
79-01-6	Trichloroethene	0.032	0.10	0.032	0.013	**U**
123-91-1	1,4-Dioxane	0.047	0.15	0.047	0.017	**U**
142-82-5	n-Heptane	0.078	0.13	0.078	0.021	**U**
108-10-1	4-Methyl-2-pentanone	0.041	0.13	0.041	0.018	**U**
108-88-3	Toluene	0.045	0.14	0.045	0.017	**U**
591-78-6	2-Hexanone	0.042	0.13	0.042	0.016	**U**
124-48-1	Dibromochloromethane	0.020	0.063	0.020	0.0082	**U**
106-93-4	1,2-Dibromoethane	0.022	0.070	0.022	0.0081	**U**
127-18-4	Tetrachloroethene	0.025	0.077	0.025	0.010	**U**
100-41-4	Ethylbenzene	0.039	0.12	0.039	0.017	**U**
179601-23-1	m,p-Xylenes	0.078	0.25	0.078	0.032	**U**
75-25-2	Bromoform	0.031	0.052	0.031	0.011	**U**
100-42-5	Styrene	0.075	0.12	0.075	0.020	**U**
95-47-6	o-Xylene	0.039	0.12	0.039	0.018	**U**
108-67-8	1,3,5-Trimethylbenzene	0.035	0.11	0.035	0.016	**U**
95-63-6	1,2,4-Trimethylbenzene	0.035	0.11	0.035	0.015	**U**
120-82-1	1,2,4-Trichlorobenzene	0.043	0.073	0.043	0.018	**U**
91-20-3	Naphthalene	0.059	0.099	0.059	0.025	**U**
1330-20-7	Xylenes, Total	0.078	0.25	0.078	0.032	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Project ID: P2002032

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date(s) Collected: 4/8/20
Analyst: Lusine Hakobyan/Wida Ang Date(s) Received: 4/14/20
Sampling Media: 1.0 L Silonite Summa Canister(s) / 1.0 L Summa Canister(s) Date(s) Analyzed: 4/21 - 4/22/20
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P200421-MB	**98**	**98**	**93**	70-130	
Method Blank	P200422-MB	**99**	**98**	**90**	70-130	
Lab Control Sample	P200421-LCS	**93**	**96**	**102**	70-130	
Lab Control Sample	P200422-LCS	**95**	**98**	**100**	70-130	
Duplicate Lab Control Sample	P200421-DLCS	**92**	**96**	**104**	70-130	
Duplicate Lab Control Sample	P200422-DLCS	**94**	**97**	**102**	70-130	
SV133-170-202	P2002032-001	**100**	**95**	**94**	70-130	
SV133-250-602	P2002032-002	**100**	**94**	**95**	70-130	
SV133-250-202	P2002032-003	**100**	**95**	**93**	70-130	
SV133-350-202	P2002032-004	**100**	**94**	**93**	70-130	
SV133-450-202	P2002032-005	**99**	**99**	**94**	70-130	
SV142-030-202	P2002032-006	**99**	**93**	**93**	70-130	
SV142-050-202	P2002032-007	**100**	**95**	**92**	70-130	
SV142-170-202	P2002032-008	**99**	**96**	**92**	70-130	
SV142-170-602	P2002032-009	**100**	**95**	**92**	70-130	
SV142-250-202	P2002032-010	**100**	**96**	**91**	70-130	
SV142-350-202	P2002032-011	**100**	**97**	**90**	70-130	
SV142-450-202	P2002032-012	**99**	**98**	**96**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200421-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	122	118	120	**97**	**98**	57-136	1	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	42.5	37.1	38.8	**87**	**91**	59-128	4	25	
74-87-3	Chloromethane	103	80.5	83.2	**78**	**81**	59-132	4	25	
75-01-4	Vinyl Chloride	83.0	74.1	75.2	**89**	**91**	64-127	2	25	
106-99-0	1,3-Butadiene	95.9	78.0	81.2	**81**	**85**	66-134	5	25	
75-00-3	Chloroethane	81.1	72.5	75.2	**89**	**93**	63-127	4	25	
64-17-5	Ethanol	563	493	505	**88**	**90**	59-125	2	25	
67-64-1	Acetone	450	424	424	**94**	**94**	58-128	0	25	
75-69-4	Trichlorofluoromethane	37.7	33.6	33.9	**89**	**90**	62-126	1	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	172	167	169	**97**	**98**	52-125	1	25	
75-09-2	Methylene Chloride	60.5	56.5	57.3	**93**	**95**	62-115	2	25	
76-13-1	Trichlorotrifluoroethane	28.2	25.2	25.5	**89**	**90**	66-126	1	25	
75-15-0	Carbon Disulfide	68.1	64.5	64.9	**95**	**95**	57-134	0	25	
75-34-3	1,1-Dichloroethane	52.4	47.3	47.7	**90**	**91**	68-126	1	25	
78-93-3	2-Butanone (MEK)	71.9	71.8	70.2	**100**	**98**	67-130	2	25	
141-78-6	Ethyl Acetate	120	129	126	**108**	**105**	65-128	3	25	
110-54-3	n-Hexane	61.3	61.3	60.8	**100**	**99**	63-120	1	25	
67-66-3	Chloroform	43.8	39.6	39.2	**90**	**89**	68-123	1	25	
109-99-9	Tetrahydrofuran (THF)	74.6	67.6	67.6	**91**	**91**	64-123	0	25	
107-06-2	1,2-Dichloroethane	52.9	46.4	46.0	**88**	**87**	65-128	1	25	
71-43-2	Benzene	65.8	60.4	60.2	**92**	**91**	69-119	1	25	
56-23-5	Carbon Tetrachloride	33.1	31.6	31.7	**95**	**96**	68-132	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200421-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	123	117	117	**95**	**95**	70-117	0	25	
75-27-4	Bromodichloromethane	32.6	30.7	30.7	**94**	**94**	72-128	0	25	
79-01-6	Trichloroethene	40.2	34.1	33.9	**85**	**84**	71-123	1	25	
123-91-1	1,4-Dioxane	60.0	55.8	55.8	**93**	**93**	71-122	0	25	
142-82-5	n-Heptane	52.2	50.7	50.7	**97**	**97**	69-123	0	25	
108-10-1	4-Methyl-2-pentanone	51.8	53.3	53.5	**103**	**103**	67-130	0	25	
108-88-3	Toluene	56.3	51.4	51.5	**91**	**91**	66-119	0	25	
591-78-6	2-Hexanone	52.7	51.7	51.2	**98**	**97**	62-128	1	25	
124-48-1	Dibromochloromethane	25.1	26.0	26.1	**104**	**104**	70-130	0	25	
106-93-4	1,2-Dibromoethane	27.9	28.1	28.2	**101**	**101**	74-122	0	25	
127-18-4	Tetrachloroethene	30.7	28.8	29.0	**94**	**94**	66-124	0	25	
100-41-4	Ethylbenzene	48.8	47.9	47.8	**98**	**98**	70-124	0	25	
179601-23-1	m,p-Xylenes	98.1	94.9	94.2	**97**	**96**	61-134	1	25	
75-25-2	Bromoform	20.7	20.7	20.8	**100**	**100**	66-139	0	25	
100-42-5	Styrene	49.8	46.5	46.1	**93**	**93**	73-127	0	25	
95-47-6	o-Xylene	49.3	47.1	46.5	**96**	**94**	67-125	2	25	
108-67-8	1,3,5-Trimethylbenzene	43.1	40.4	40.2	**94**	**93**	67-130	1	25	
95-63-6	1,2,4-Trimethylbenzene	43.1	43.5	43.2	**101**	**100**	66-132	1	25	
120-82-1	1,2,4-Trichlorobenzene	29.1	33.3	33.2	**114**	**114**	55-142	0	25	
91-20-3	Naphthalene	40.5	43.5	43.3	**107**	**107**	57-138	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200422-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 4/22/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	122	124	127	**102**	**104**	57-136	2	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	42.5	38.5	39.4	**91**	**93**	59-128	2	25	
74-87-3	Chloromethane	103	85.5	85.6	**83**	**83**	59-132	0	25	
75-01-4	Vinyl Chloride	83.0	77.0	77.3	**93**	**93**	64-127	0	25	
106-99-0	1,3-Butadiene	95.9	80.4	82.9	**84**	**86**	66-134	2	25	
75-00-3	Chloroethane	81.1	74.9	77.5	**92**	**96**	63-127	4	25	
64-17-5	Ethanol	563	515	524	**91**	**93**	59-125	2	25	
67-64-1	Acetone	450	445	440	**99**	**98**	58-128	1	25	
75-69-4	Trichlorofluoromethane	37.7	34.3	34.7	**91**	**92**	62-126	1	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	172	174	173	**101**	**101**	52-125	0	25	
75-09-2	Methylene Chloride	60.5	58.7	58.9	**97**	**97**	62-115	0	25	
76-13-1	Trichlorotrifluoroethane	28.2	25.4	26.0	**90**	**92**	66-126	2	25	
75-15-0	Carbon Disulfide	68.1	66.7	67.0	**98**	**98**	57-134	0	25	
75-34-3	1,1-Dichloroethane	52.4	49.0	48.9	**94**	**93**	68-126	1	25	
78-93-3	2-Butanone (MEK)	71.9	74.5	72.6	**104**	**101**	67-130	3	25	
141-78-6	Ethyl Acetate	120	134	131	**112**	**109**	65-128	3	25	
110-54-3	n-Hexane	61.3	64.2	63.1	**105**	**103**	63-120	2	25	
67-66-3	Chloroform	43.8	40.8	40.3	**93**	**92**	68-123	1	25	
109-99-9	Tetrahydrofuran (THF)	74.6	69.9	69.3	**94**	**93**	64-123	1	25	
107-06-2	1,2-Dichloroethane	52.9	47.7	47.2	**90**	**89**	65-128	1	25	
71-43-2	Benzene	65.8	61.6	61.1	**94**	**93**	69-119	1	25	
56-23-5	Carbon Tetrachloride	33.1	31.8	31.6	**96**	**95**	68-132	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200422-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 4/22/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	123	120	119	**98**	**97**	70-117	1	25	
75-27-4	Bromodichloromethane	32.6	31.3	31.0	**96**	**95**	72-128	1	25	
79-01-6	Trichloroethene	40.2	34.4	34.2	**86**	**85**	71-123	1	25	
123-91-1	1,4-Dioxane	60.0	56.3	56.2	**94**	**94**	71-122	0	25	
142-82-5	n-Heptane	52.2	52.1	51.5	**100**	**99**	69-123	1	25	
108-10-1	4-Methyl-2-pentanone	51.8	54.5	54.6	**105**	**105**	67-130	0	25	
108-88-3	Toluene	56.3	53.4	52.9	**95**	**94**	66-119	1	25	
591-78-6	2-Hexanone	52.7	54.1	53.2	**103**	**101**	62-128	2	25	
124-48-1	Dibromochloromethane	25.1	26.7	26.6	**106**	**106**	70-130	0	25	
106-93-4	1,2-Dibromoethane	27.9	29.1	28.9	**104**	**104**	74-122	0	25	
127-18-4	Tetrachloroethene	30.7	29.5	29.4	**96**	**96**	66-124	0	25	
100-41-4	Ethylbenzene	48.8	49.7	49.1	**102**	**101**	70-124	1	25	
179601-23-1	m,p-Xylenes	98.1	98.7	97.2	**101**	**99**	61-134	2	25	
75-25-2	Bromoform	20.7	21.2	21.1	**102**	**102**	66-139	0	25	
100-42-5	Styrene	49.8	48.0	47.6	**96**	**96**	73-127	0	25	
95-47-6	o-Xylene	49.3	48.9	48.0	**99**	**97**	67-125	2	25	
108-67-8	1,3,5-Trimethylbenzene	43.1	42.2	41.5	**98**	**96**	67-130	2	25	
95-63-6	1,2,4-Trimethylbenzene	43.1	45.7	44.7	**106**	**104**	66-132	2	25	
120-82-1	1,2,4-Trichlorobenzene	29.1	33.6	33.8	**115**	**116**	55-142	0.9	25	
91-20-3	Naphthalene	40.5	44.9	44.2	**111**	**109**	57-138	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: **EA Engineering, Science, and Technology, Inc.** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Lab File ID: 04212002.D
Analyst: Lusine Hakobyan Date Analyzed: 4/21/20
Sampling Media: 1.0 L Silonite Summa Canister(s) Time Analyzed: 08:32
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	378521		11.17	1629181		13.30		759188		17.61	
	Upper Limit	529929		11.50	2280853		13.63		1062863		17.94	
	Lower Limit	227113		10.84	977509		12.97		455513		17.28	
	Client Sample ID											
01	Method Blank	318885		11.16	1419150		13.29		670052		17.61	
02	Lab Control Sample	363394		11.17	1576079		13.30		748702		17.61	
03	Duplicate Lab Control Sample	375827		11.17	1618168		13.30		769606		17.61	
04	SV133-170-202	305656		11.16	1349969		13.29		665533		17.61	
05	SV133-250-602	309119		11.16	1369157		13.29		683322		17.61	
06	SV133-250-202	310495		11.16	1366926		13.29		673163		17.61	
07	SV133-350-202	315375		11.16	1393456		13.29		690932		17.61	
08	SV142-030-202	315758		11.16	1372928		13.29		686752		17.61	
09	SV142-050-202	305652		11.15	1348375		13.29		666074		17.61	
10	SV142-170-602	299640		11.16	1318261		13.29		650068		17.61	
11	SV142-250-202	290396		11.16	1291840		13.29		628065		17.61	
12	SV142-350-202	289492		11.16	1287151		13.29		627522		17.61	
13												
14												
15												
16												
17												
18												
19												
20												

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: **EA Engineering, Science, and Technology, Inc.** ALS Project ID: P2002032
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Lab File ID: 04222002.D
Analyst: Wida Ang Date Analyzed: 4/22/20
Sampling Media: 1.0 L Silonite Summa Canister(s) Time Analyzed: 03:04
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	343010		11.17	1495840		13.30		707924		17.61	
	Upper Limit	480214		11.50	2094176		13.63		991094		17.94	
	Lower Limit	205806		10.84	897504		12.97		424754		17.28	
	Client Sample ID											
01	Method Blank	294739		11.15	1324880		13.29		619085		17.61	
02	Lab Control Sample	337786		11.17	1480358		13.30		690558		17.61	
03	Duplicate Lab Control Sample	355277		11.17	1546594		13.30		723096		17.61	
04	SV133-250-602 (Dilution)	379225		11.16	1655392		13.29		774677		17.61	
05	SV133-170-202 (Dilution)	340147		11.16	1532734		13.29		719484		17.61	
06	SV133-250-202 (Dilution)	328328		11.16	1470800		13.29		701800		17.61	
07	SV133-350-202 (Dilution)	329602		11.16	1474628		13.29		694622		17.61	
08	SV133-450-202	309659		11.16	1402169		13.29		685286		17.61	
09	SV142-170-202	301347		11.16	1342434		13.29		652964		17.61	
10	SV142-450-202	310028		11.16	1424030		13.30		707574		17.61	
11	SV142-450-202 (Dilution)	346631		11.16	1575059		13.29		780178		17.61	
12												
13												
14												
15												
16												
17												
18												
19												
20												

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212021.D Vial: 8
Acq On : 21 Apr 2020 20:19 Operator: WA
Sample : P2002032-001 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 20:49:20 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/24/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	305656	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1349969	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	665533	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	532068	12.571	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.56%				
57) Toluene-d8 (SS2)	15.74	98	1398884	11.858	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.88%				
73) Bromofluorobenzene (SS3)	19.00	174	486985	11.690	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.52%				
Target Compounds							Qvalue
2) Propene	4.12	42	2049	0.064	ng		94
3) Dichlorodifluoromethan...	4.27	85	51476	0.746	ng		100
4) Chloromethane	4.56	50	2945	0.054	ng		72
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	729	N.D.			
6) Vinyl Chloride	4.98	62	510	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	6.00	64	111	N.D.			
10) Ethanol	6.35	45	8628	0.341	ng		83
11) Acetonitrile	6.63	41	2232	N.D.			
12) Acrolein	6.83	56	1819	0.098	ng		93
13) Acetone	7.03	58	45337	1.813	ng		94
14) Trichlorofluoromethane	7.26	101	19083	0.314	ng		100
15) 2-Propanol (Isopropanol)	7.56	45	5884	0.079	ng		69
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.49	59	1946	N.D.			
19) Methylene Chloride	8.44	84	1117	N.D.			
20) 3-Chloro-1-propene (Al...	8.53	41	380	N.D.			
21) Trichlorotrifluoroethane	8.86	151	92566	3.183	ng		93
22) Carbon Disulfide	8.70	76	358862	3.067	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.50	72	5995	0.288	ng	#	76
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.33	61	1061	0.086	ng		96
31) n-Hexane	11.28	57	3692	0.065	ng	#	95
32) Chloroform	11.33	83	20250	0.334	ng		99
34) Tetrahydrofuran (THF)	11.75	72	77899	3.638	ng		94
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.01	62	132	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.90	78	16210	0.116	ng		100
42) Carbon Tetrachloride	13.05	117	43600	0.910	ng		100
43) Cyclohexane	13.19	84	2536	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	13.54	63	1337	N.D.			
46) Bromodichloromethane	13.89	83	193	N.D.			
47) Trichloroethene	14.00	130	8752001	221.267	ng		99
48) 1,4-Dioxane	0.00	88	0	N.D.	d		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.14	100	214	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212021.D Vial: 8
Acq On : 21 Apr 2020 20:19 Operator: WA
Sample : P2002032-001 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 20:49:20 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

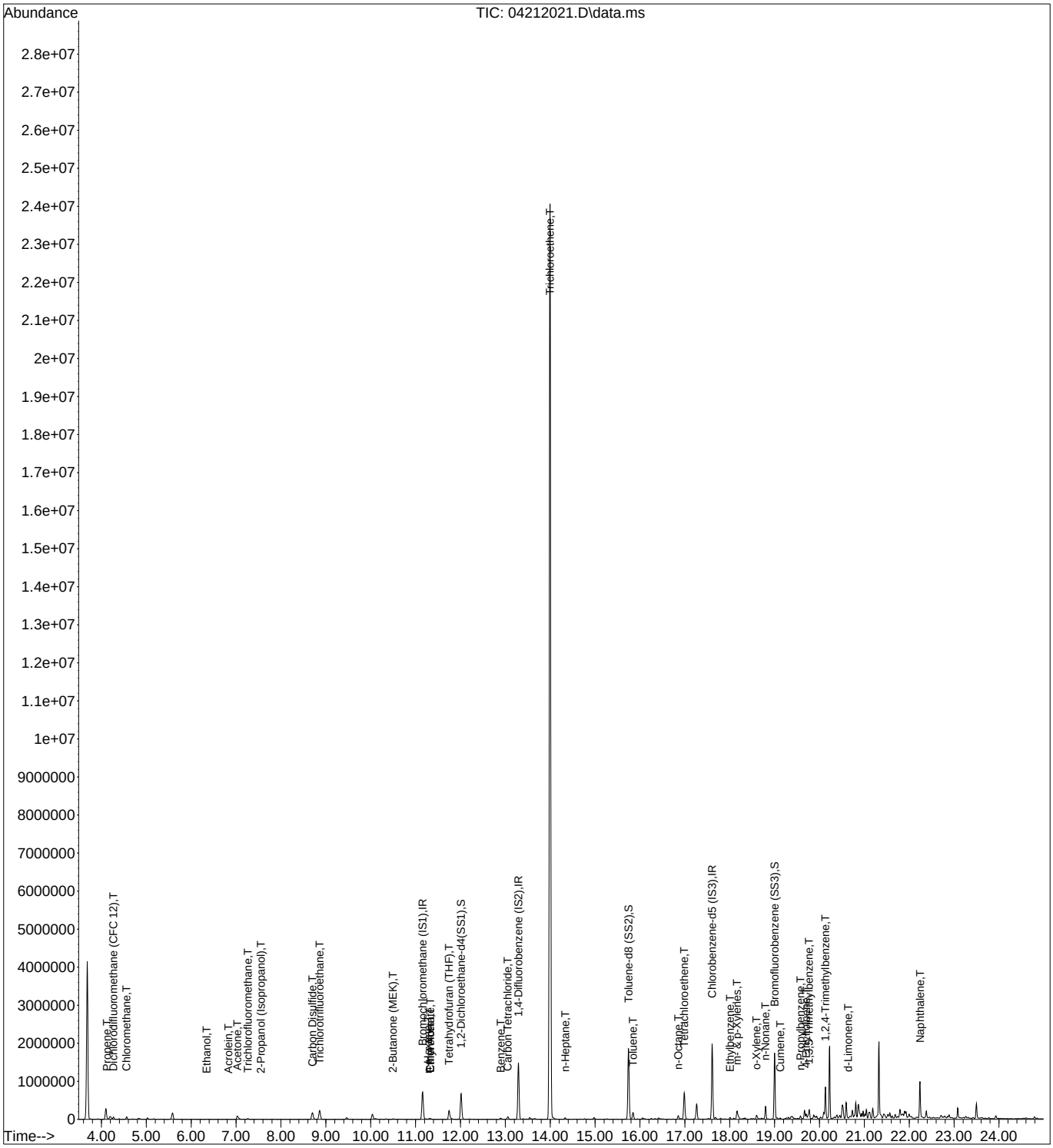
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.34	71	10451	0.321 ng	97
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.91	58	1055	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	15.57	97	216	N.D.	
58) Toluene	15.84	91	147840	1.014 ng	99
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.73	43	668	N.D.	
63) n-Octane	16.85	57	19159	0.662 ng	93
64) Tetrachloroethene	16.99	166	218410	5.374 ng	99
65) Chlorobenzene	17.69	112	3925	N.D.	
66) Ethylbenzene	18.01	91	34510	0.216 ng	99
67) m- & p-Xylenes	18.16	91	165286	1.270 ng	98
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.52	104	871	N.D.	
70) o-Xylene	18.60	91	54044	0.415 ng	98
71) n-Nonane	18.80	43	122047	1.876 ng	93
72) 1,1,2,2-Tetrachloroethane	18.60	83	315	N.D.	
74) Cumene	19.13	105	11434	0.069 ng	96
75) alpha-Pinene	19.48	93	543	N.D.	
76) n-Propylbenzene	19.58	91	58661	0.305 ng	95
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.70	105	68409	0.438 ng	98
79) 1,3,5-Trimethylbenzene	19.77	105	82804	0.595 ng	97
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.13	105	405031	2.811 ng	87
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.22	91	489	N.D.	
85) 1,3-Dichlorobenzene	20.33	146	319	N.D.	
86) 1,4-Dichlorobenzene	20.33	146	319	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.64	68	2959	0.053 ng	88
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.13	180	182	N.D.	
95) Naphthalene	22.24	128	84242	0.523 ng	97
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212021.D Vial: 8
Acq On : 21 Apr 2020 20:19 Operator: WA
Sample : P2002032-001 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 20:49:20 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212021.D Vial: 8
Acq On : 21 Apr 2020 20:19 Operator: WA
Sample : P2002032-001 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 20:49:20 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020 LH 4/22/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

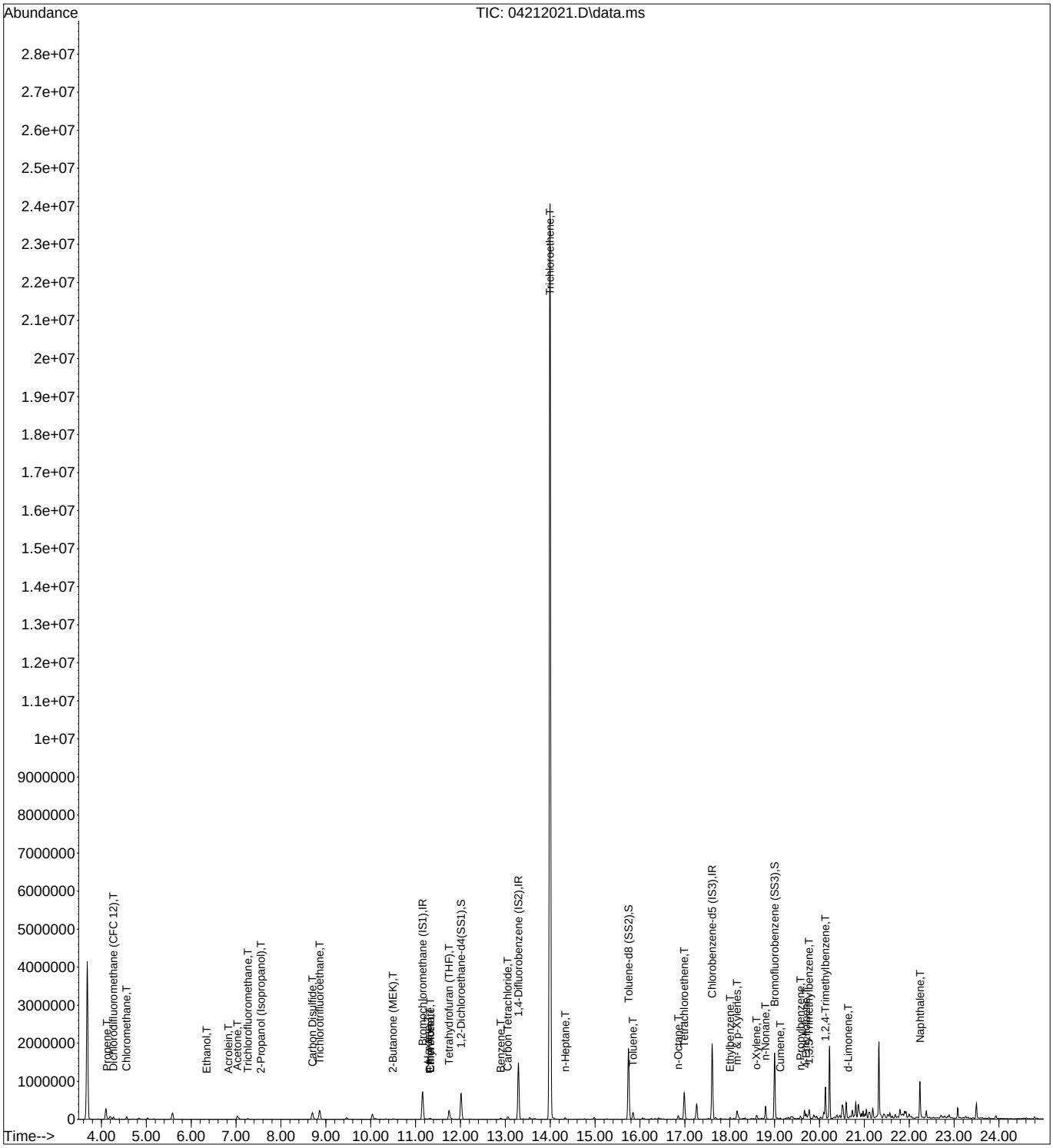
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	305656	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1349969	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	665533	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	532068	12.571	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.56%				
57) Toluene-d8 (SS2)	15.74	98	1398884	11.858	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.88%				
73) Bromofluorobenzene (SS3)	19.00	174	486985	11.690	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.52%				
Target Compounds							Qvalue
2) Propene	4.12	42	2049	0.064	ng		94
3) Dichlorodifluoromethan...	4.27	85	51476	0.746	ng		100
4) Chloromethane	4.56	50	2945	0.054	ng		72
10) Ethanol	6.35	45	8628	0.341	ng		83
12) Acrolein	6.83	56	1819	0.098	ng		93
13) Acetone	7.03	58	45337	1.813	ng		94
14) Trichlorofluoromethane	7.26	101	19083	0.314	ng		100
15) 2-Propanol (Isopropanol)	7.56	45	5884	0.079	ng		69
21) Trichlorotrifluoroethane	8.86	151	92566	3.183	ng		93
22) Carbon Disulfide	8.70	76	358862	3.067	ng		99
27) 2-Butanone (MEK)	10.50	72	5995	0.288	ng	#	76
30) Ethyl Acetate	11.33	61	1061	0.086	ng		96
31) n-Hexane	11.28	57	3692	0.065	ng	#	95
32) Chloroform	11.33	83	20250	0.334	ng		99
34) Tetrahydrofuran (THF)	11.75	72	77899	3.638	ng		94
41) Benzene	12.90	78	16210	0.116	ng		100
42) Carbon Tetrachloride	13.05	117	43600	0.910	ng		100
47) Trichloroethene	14.00	130	8752001	221.267	ng		99
51) n-Heptane	14.34	71	10451	0.321	ng		97
58) Toluene	15.84	91	147840	1.014	ng		99
63) n-Octane	16.85	57	19159	0.662	ng		93
64) Tetrachloroethene	16.99	166	218410	5.374	ng		99
66) Ethylbenzene	18.01	91	34510	0.216	ng		99
67) m- & p-Xylenes	18.16	91	165286	1.270	ng		98
70) o-Xylene	18.60	91	54044	0.415	ng		98
71) n-Nonane	18.80	43	122047	1.876	ng		93
74) Cumene	19.13	105	11434	0.069	ng		96
76) n-Propylbenzene	19.58	91	58661	0.305	ng		95
78) 4-Ethyltoluene	19.70	105	68409	0.438	ng		98
79) 1,3,5-Trimethylbenzene	19.77	105	82804	0.595	ng		97
82) 1,2,4-Trimethylbenzene	20.13	105	405031	2.811	ng		87
91) d-Limonene	20.64	68	2959	0.053	ng		88
95) Naphthalene	22.24	128	84242	0.523	ng		97

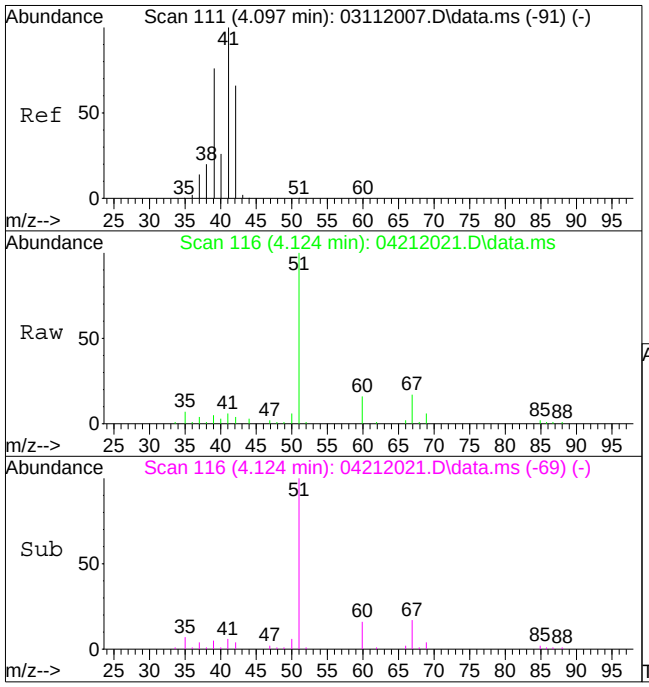
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212021.D Vial: 8
Acq On : 21 Apr 2020 20:19 Operator: WA
Sample : P2002032-001 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 20:49:20 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

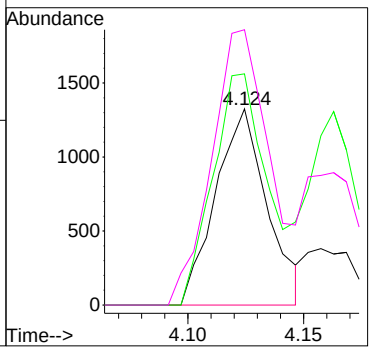


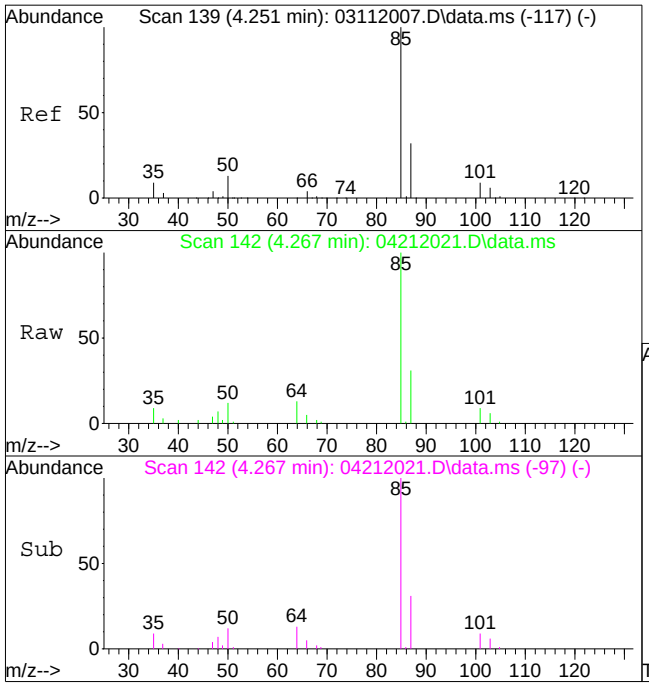


#2
Propene
Concen: 0.06 ng
RT: 4.12 min Scan# 116
Delta R.T. 0.010 min
Lab File: 04212021.D
Acq: 21 Apr 2020 20:19

Tgt Ion: 42 Resp: 2049

Ion	Ratio	Lower	Upper
42	100		
39	121.3	95.3	135.3
41	159.3	132.0	172.0

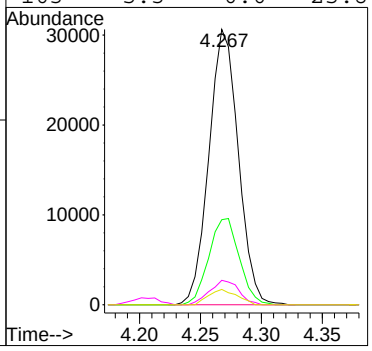


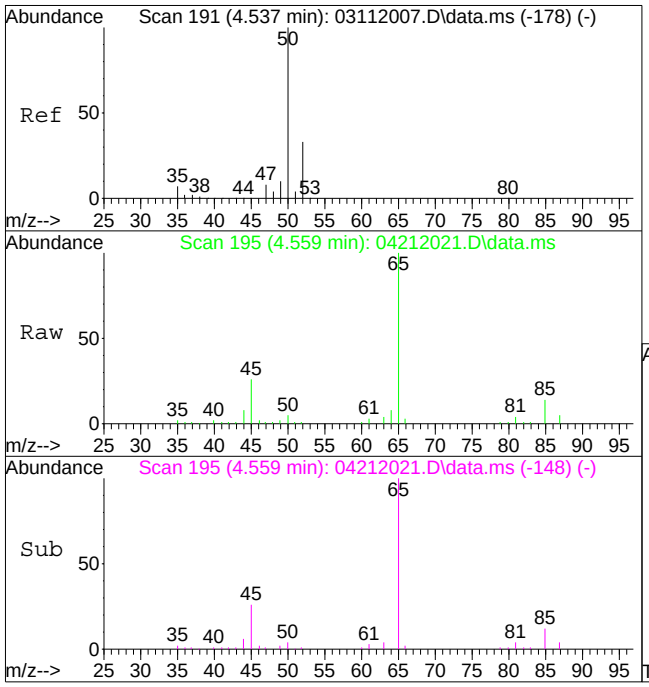


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.75 ng
RT: 4.27 min Scan# 142
Delta R.T. -0.001 min
Lab File: 04212021.D
Acq: 21 Apr 2020 20:19

Tgt Ion: 85 Resp: 51476

Ion	Ratio	Lower	Upper
85	100		
87	32.4	12.3	52.3
101	8.8	0.0	29.0
103	5.3	0.0	25.8

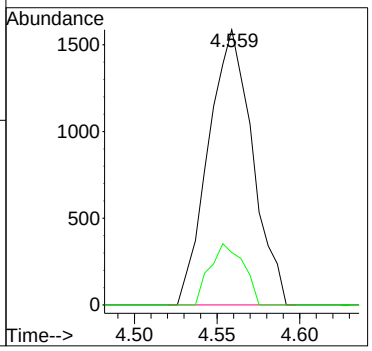


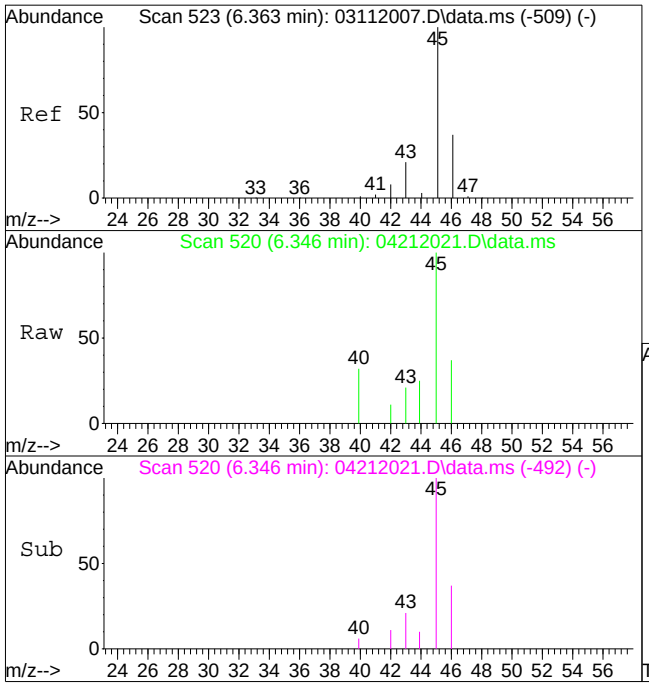


#4
Chloromethane
Concen: 0.05 ng
RT: 4.56 min Scan# 195
Delta R.T. 0.006 min
Lab File: 04212021.D
Acq: 21 Apr 2020 20:19

Tgt Ion: 50 Resp: 2945

Ion	Ratio	Lower	Upper
50	100		
52	17.0	12.8	52.8

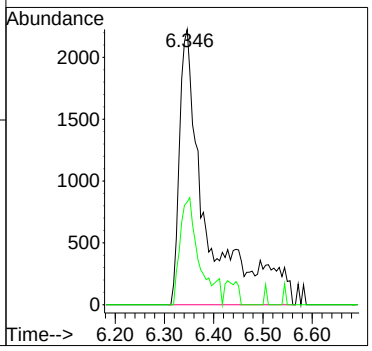


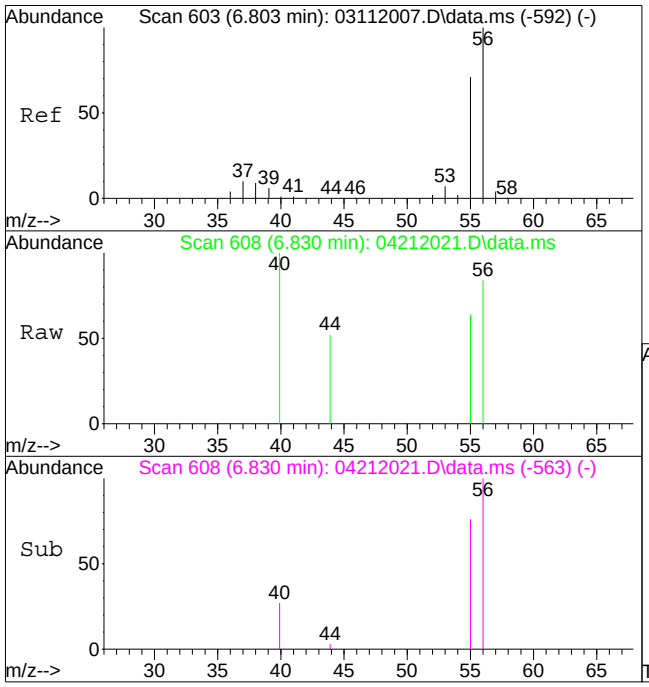


#10
Ethanol
Concen: 0.34 ng
RT: 6.35 min Scan# 520
Delta R.T. -0.094 min
Lab File: 04212021.D
Acq: 21 Apr 2020 20:19

Tgt Ion: 45 Resp: 8628

Ion	Ratio	Lower	Upper
45	100		
46	27.0	17.3	57.3

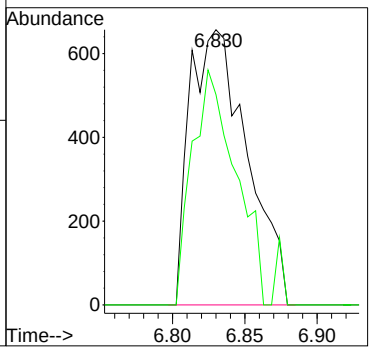


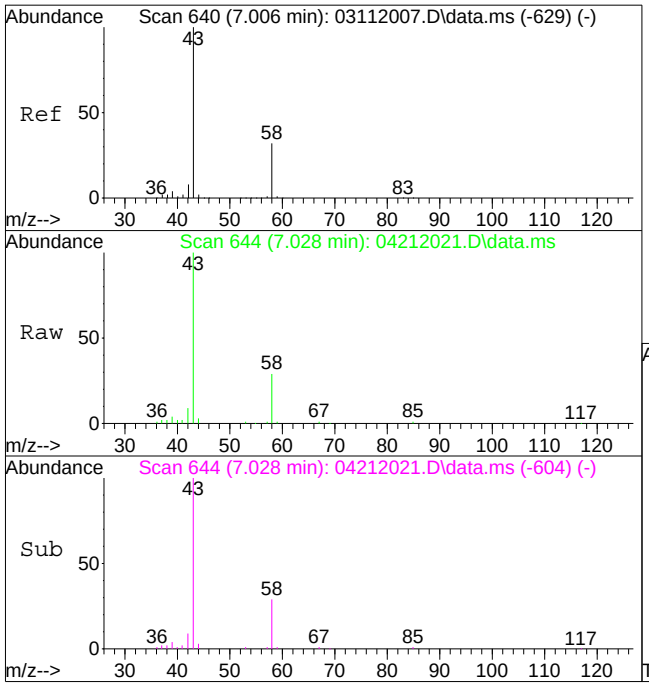


#12
Acrolein
Concen: 0.10 ng
RT: 6.83 min Scan# 608
Delta R.T. -0.000 min
Lab File: 04212021.D
Acq: 21 Apr 2020 20:19

Tgt Ion: 56 Resp: 1819

Ion	Ratio	Lower	Upper
56	100		
55	64.6	50.4	90.4

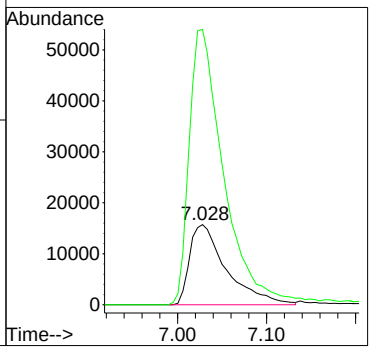


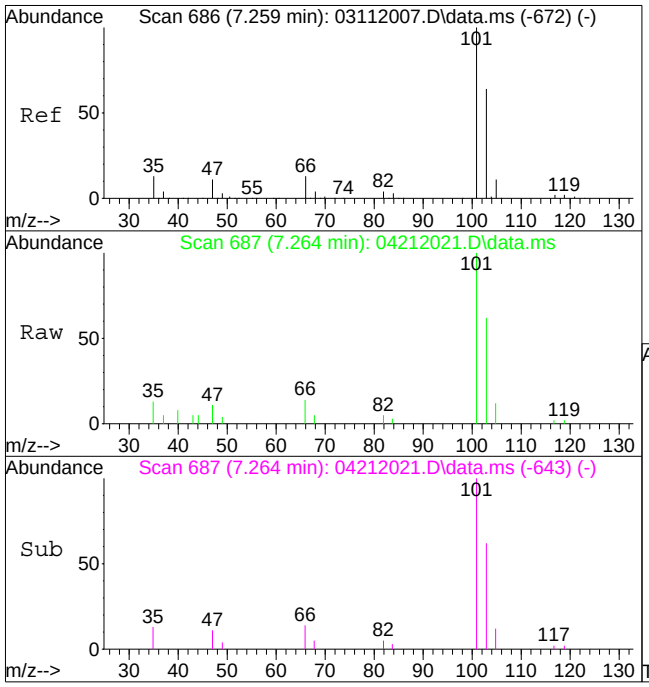


#13
Acetone
Concen: 1.81 ng
RT: 7.03 min Scan# 644
Delta R.T. -0.028 min
Lab File: 04212021.D
Acq: 21 Apr 2020 20:19

Tgt Ion: 58 Resp: 45337

Ion	Ratio	Lower	Upper
58	100		
43	330.0	287.3	347.3

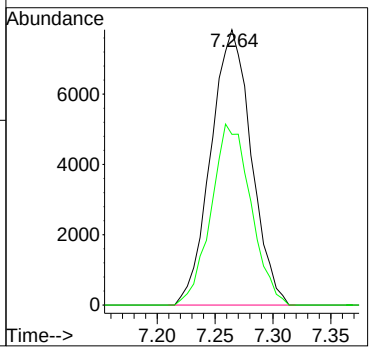


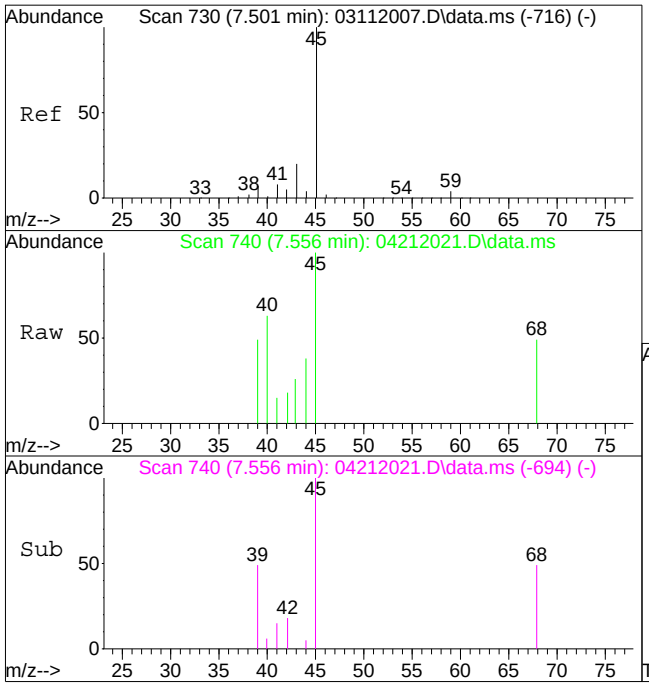


#14
Trichlorofluoromethane
Concen: 0.31 ng
RT: 7.26 min Scan# 687
Delta R.T. -0.011 min
Lab File: 04212021.D
Acq: 21 Apr 2020 20:19

Tgt Ion:101 Resp: 19083

Ion	Ratio	Lower	Upper
101	100		
103	64.5	44.6	84.6

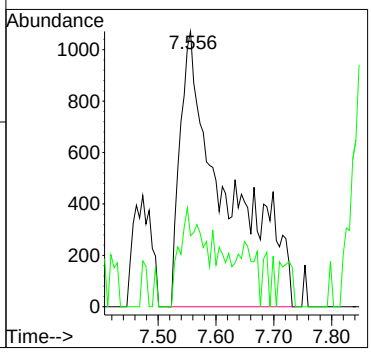


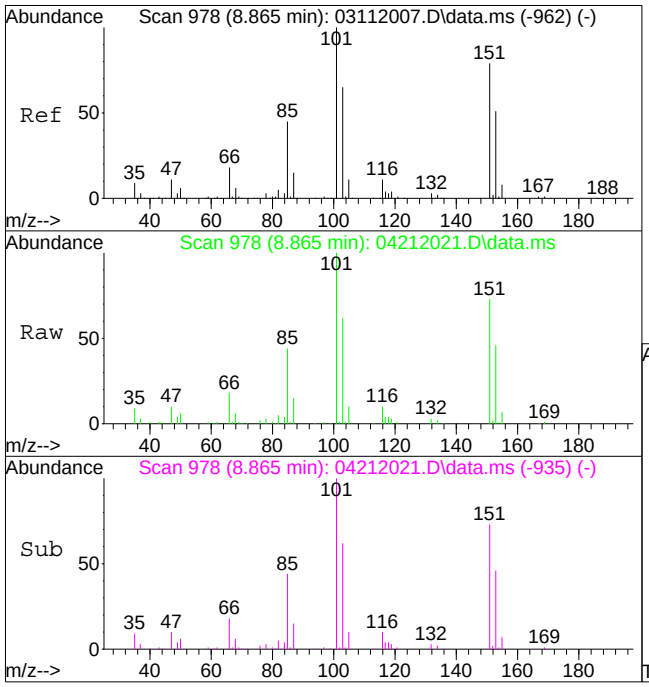


#15
2-Propanol (Isopropanol)
Concen: 0.08 ng
RT: 7.56 min Scan# 740
Delta R.T. 0.005 min
Lab File: 04212021.D
Acq: 21 Apr 2020 20:19

Tgt Ion: 45 Resp: 5884

Ion	Ratio	Lower	Upper
45	100		
43	34.6	0.3	40.3

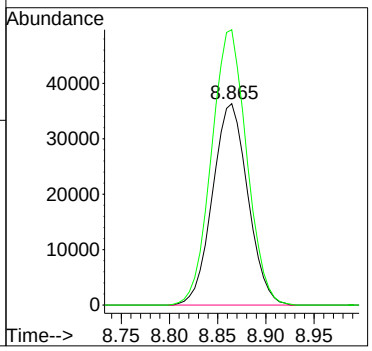


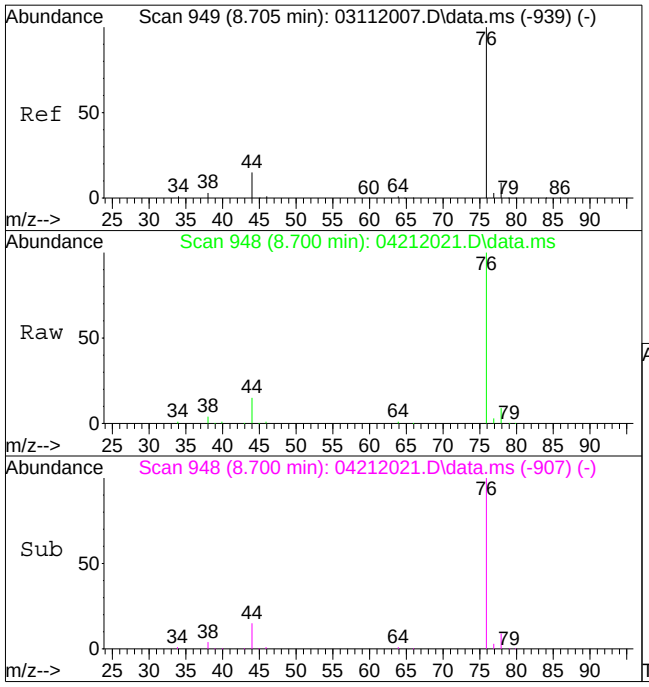


#21
Trichlorotrifluoroethane
Concen: 3.18 ng
RT: 8.86 min Scan# 978
Delta R.T. -0.011 min
Lab File: 04212021.D
Acq: 21 Apr 2020 20:19

Tgt Ion:151 Resp: 92566

Ion	Ratio	Lower	Upper
151	100		
101	136.4	108.4	148.4

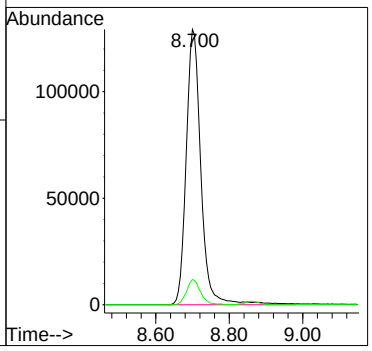


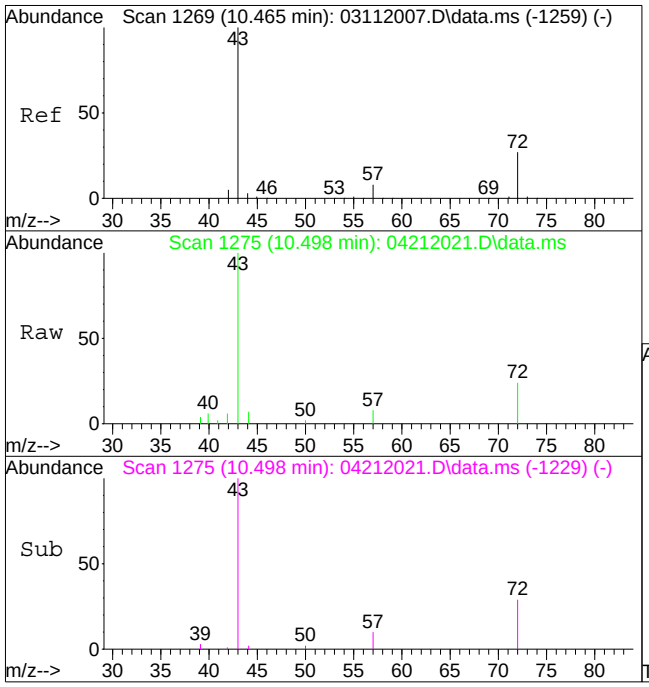


#22
Carbon Disulfide
Concen: 3.07 ng
RT: 8.70 min Scan# 948
Delta R.T. -0.022 min
Lab File: 04212021.D
Acq: 21 Apr 2020 20:19

Tgt Ion: 76 Resp: 358862

Ion	Ratio	Lower	Upper
76	100		
78	8.8	0.0	29.2

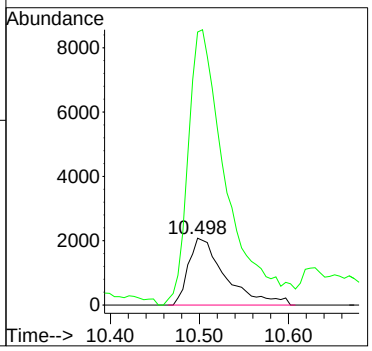


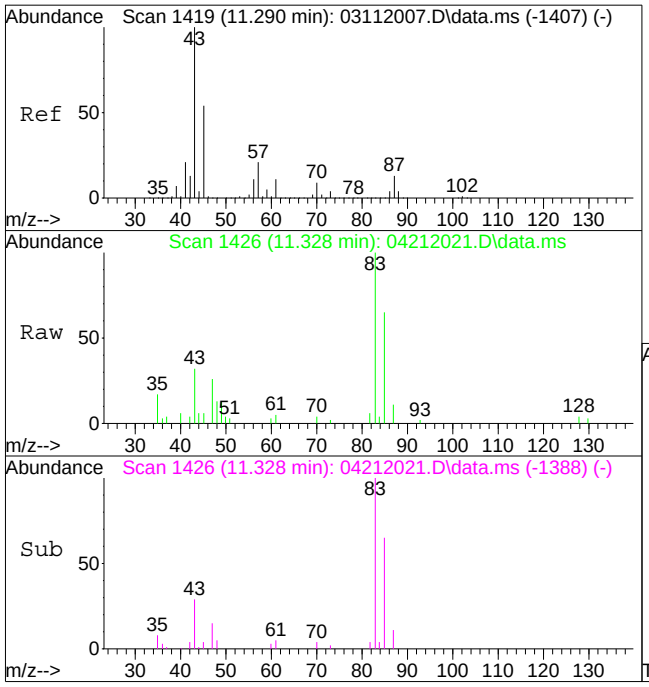


#27
2-Butanone (MEK)
Concen: 0.29 ng
RT: 10.50 min Scan# 1275
Delta R.T. 0.005 min
Lab File: 04212021.D
Acq: 21 Apr 2020 20:19

Tgt Ion: 72 Resp: 5995

Ion	Ratio	Lower	Upper
72	100		
43	428.3	353.4	393.4#

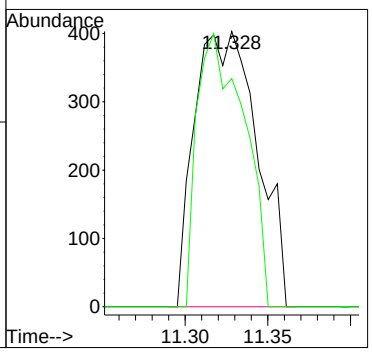


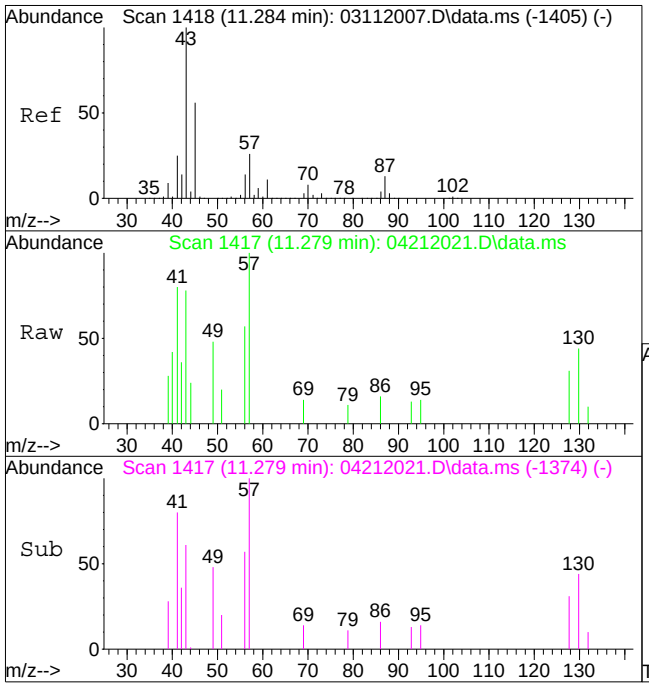


#30
Ethyl Acetate
Concen: 0.09 ng
RT: 11.33 min Scan# 1426
Delta R.T. 0.011 min
Lab File: 04212021.D
Acq: 21 Apr 2020 20:19

Tgt Ion: 61 Resp: 1061

Ion	Ratio	Lower	Upper
61	100		
70	75.2	59.1	99.1

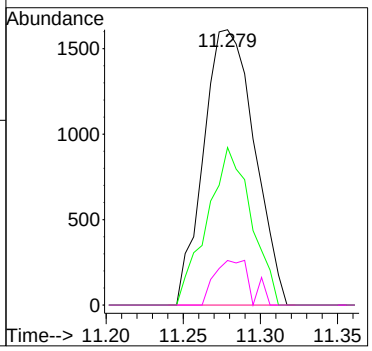


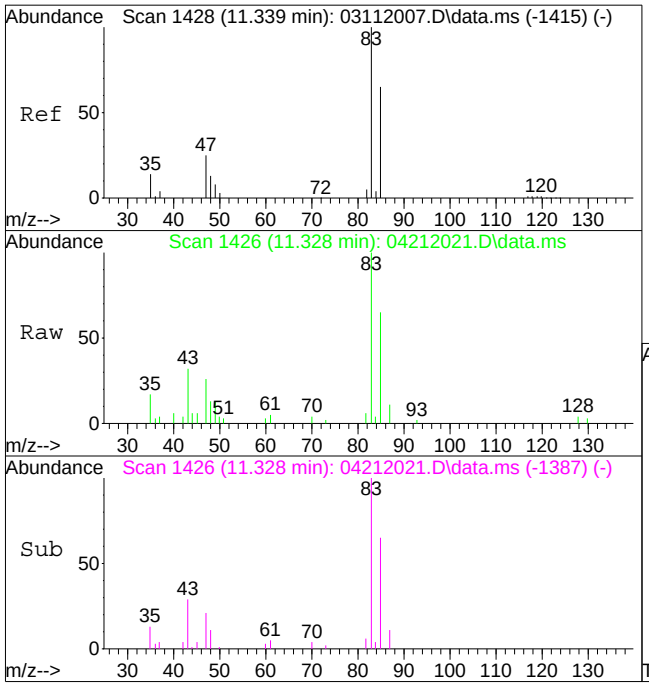


#31
n-Hexane
Concen: 0.06 ng
RT: 11.28 min Scan# 1417
Delta R.T. -0.011 min
Lab File: 04212021.D
Acq: 21 Apr 2020 20:19

Tgt Ion: 57 Resp: 3692

Ion	Ratio	Lower	Upper
57	100		
56	49.5	41.0	61.4
86	11.6	13.9	20.9#

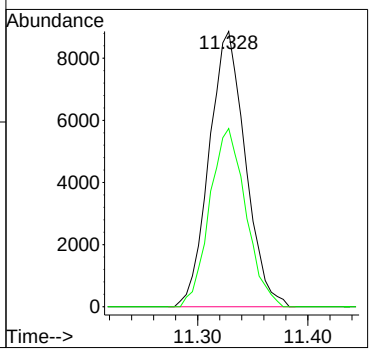


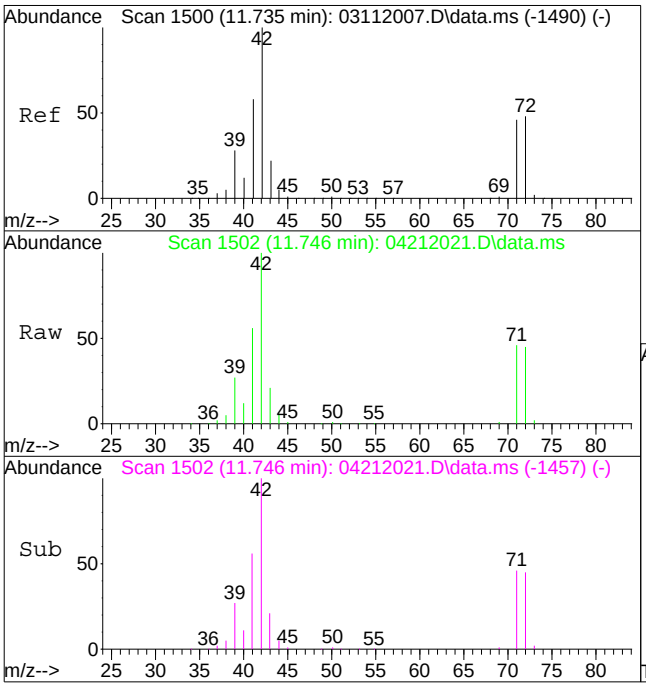


#32
Chloroform
Concen: 0.33 ng
RT: 11.33 min Scan# 1426
Delta R.T. -0.033 min
Lab File: 04212021.D
Acq: 21 Apr 2020 20:19

Tgt Ion: 83 Resp: 20250

Ion	Ratio	Lower	Upper
83	100		
85	64.6	45.5	85.5

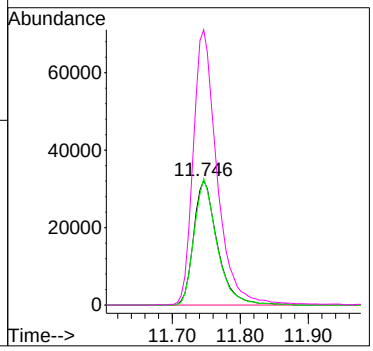


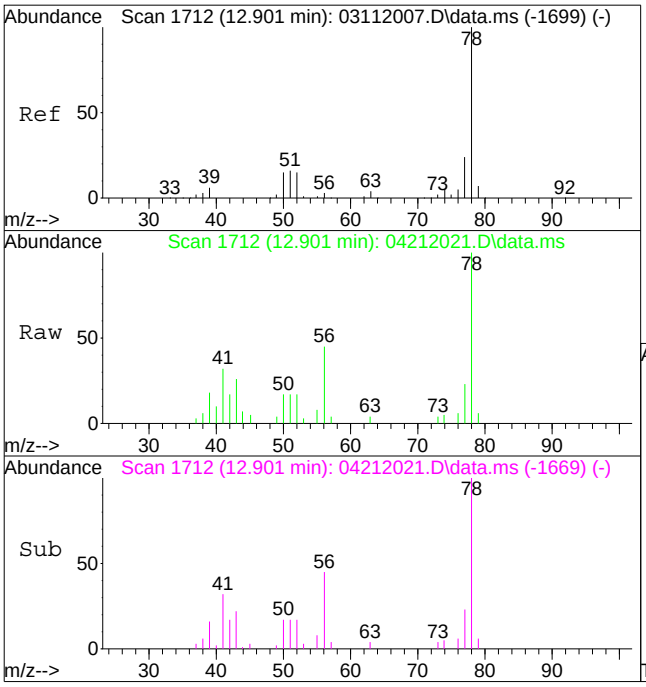


#34
Tetrahydrofuran (THF)
Concen: 3.64 ng
RT: 11.75 min Scan# 1502
Delta R.T. -0.000 min
Lab File: 04212021.D
Acq: 21 Apr 2020 20:19

Tgt Ion: 72 Resp: 77899

Ion	Ratio	Lower	Upper
72	100		
71	97.8	75.9	115.9
42	222.7	189.3	229.3

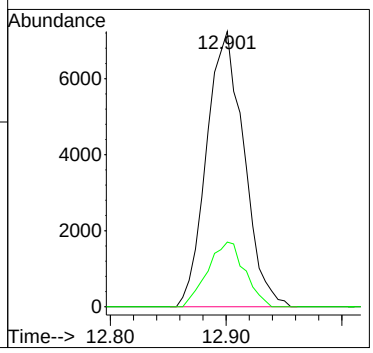


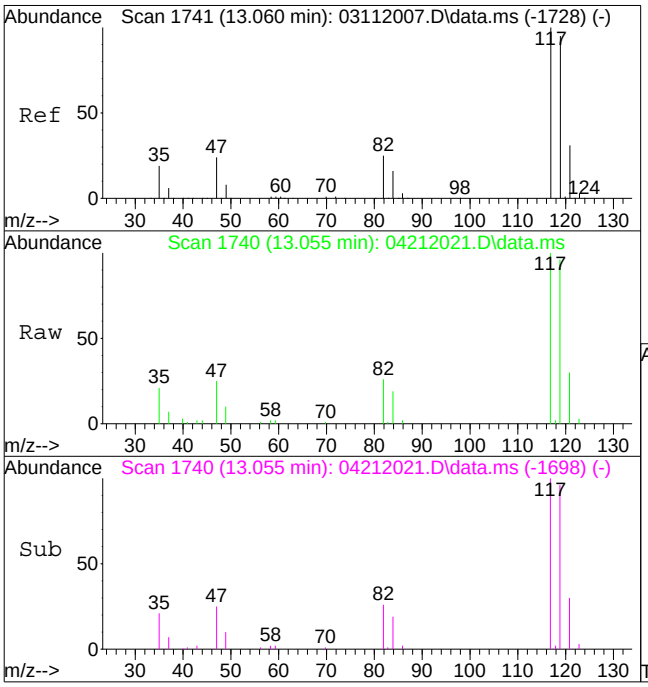


#41
Benzene
Concen: 0.12 ng
RT: 12.90 min Scan# 1712
Delta R.T. -0.011 min
Lab File: 04212021.D
Acq: 21 Apr 2020 20:19

Tgt Ion: 78 Resp: 16210

Ion	Ratio	Lower	Upper
78	100		
77	23.5	3.4	43.4

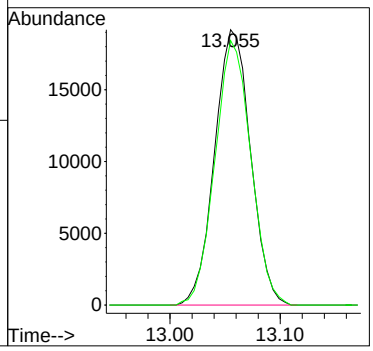


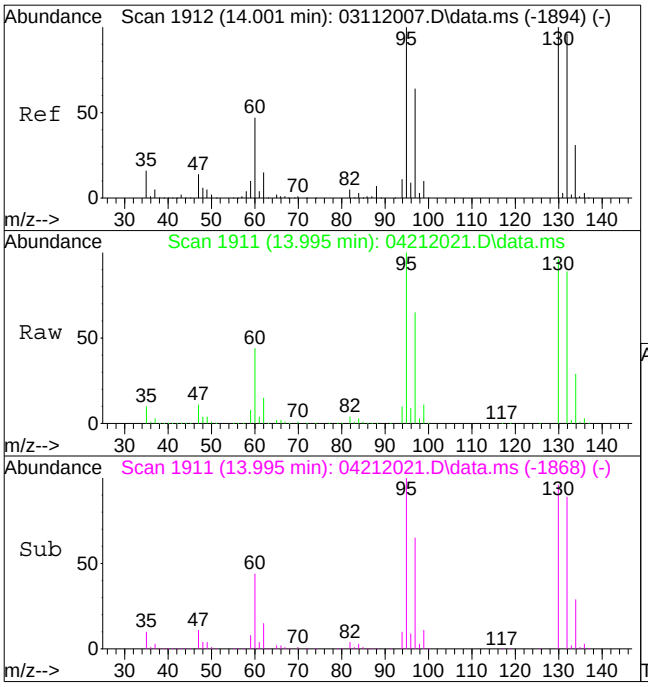


#42
Carbon Tetrachloride
Concen: 0.91 ng
RT: 13.05 min Scan# 1740
Delta R.T. -0.017 min
Lab File: 04212021.D
Acq: 21 Apr 2020 20:19

Tgt Ion:117 Resp: 43600

Ion	Ratio	Lower	Upper
117	100		
119	95.7	75.4	115.4

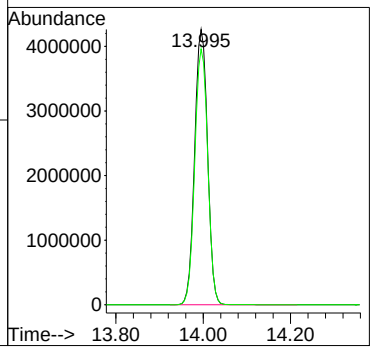


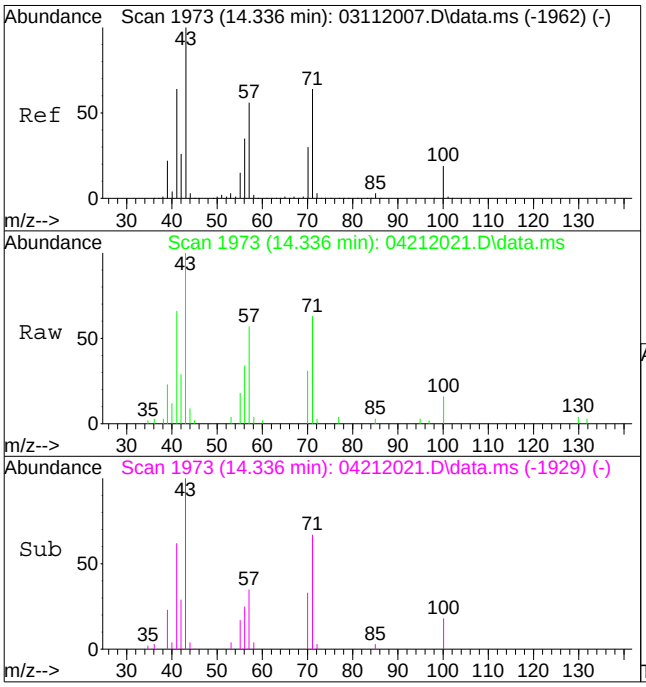


#47
Trichloroethene
Concen: 221.27 ng
RT: 14.00 min Scan# 1911
Delta R.T. -0.011 min
Lab File: 04212021.D
Acq: 21 Apr 2020 20:19

Tgt Ion:130 Resp: 8752001

Ion	Ratio	Lower	Upper
130	100		
132	93.6	74.7	114.7

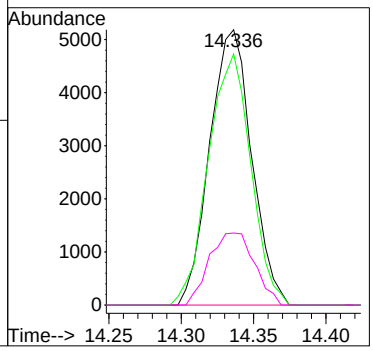


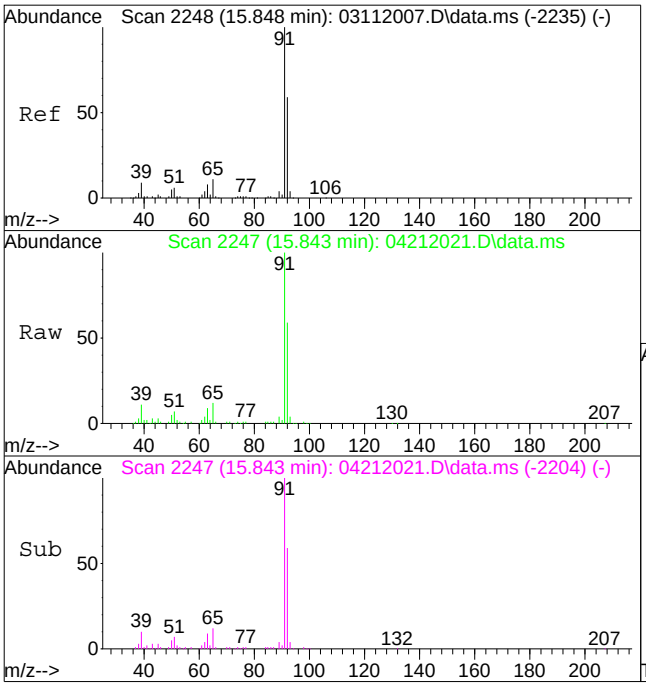


#51
n-Heptane
Concen: 0.32 ng
RT: 14.34 min Scan# 1973
Delta R.T. -0.006 min
Lab File: 04212021.D
Acq: 21 Apr 2020 20:19

Tgt Ion: 71 Resp: 10451

Ion	Ratio	Lower	Upper
71	100		
57	92.1	68.6	108.6
100	28.2	9.1	49.1

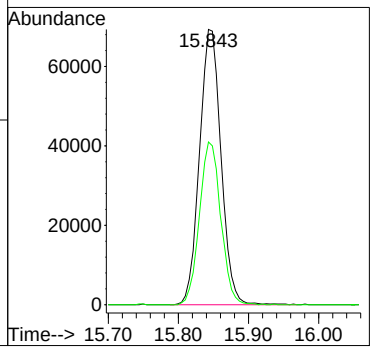


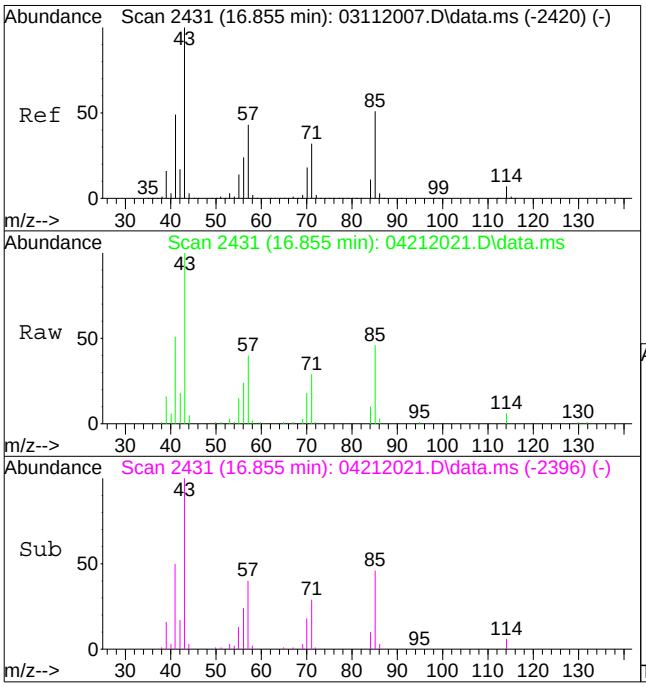


#58
Toluene
Concen: 1.01 ng
RT: 15.84 min Scan# 2247
Delta R.T. -0.011 min
Lab File: 04212021.D
Acq: 21 Apr 2020 20:19

Tgt Ion: 91 Resp: 147840

Ion	Ratio	Lower	Upper
91	100		
92	58.5	39.0	79.0

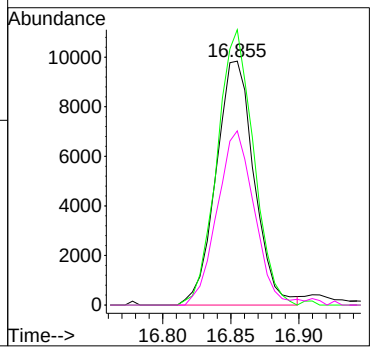


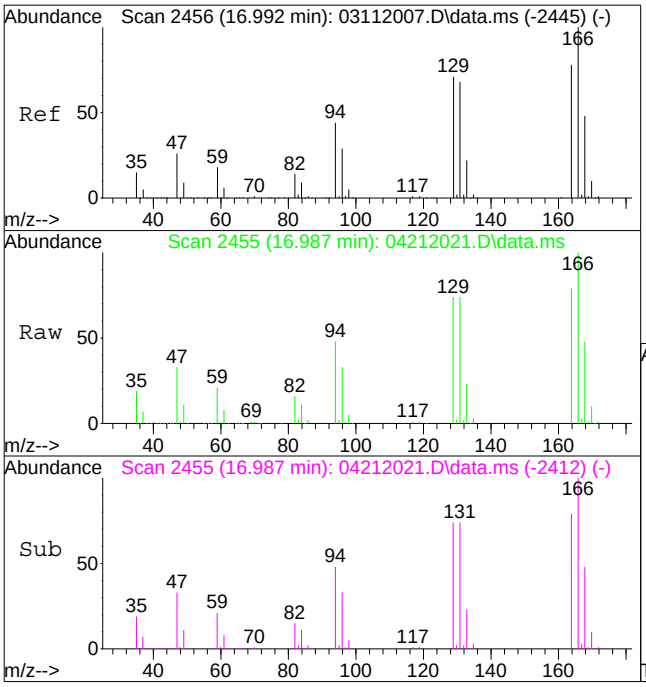


#63
n-Octane
Concen: 0.66 ng
RT: 16.85 min Scan# 2431
Delta R.T. -0.006 min
Lab File: 04212021.D
Acq: 21 Apr 2020 20:19

Tgt Ion: 57 Resp: 19159

Ion	Ratio	Lower	Upper
57	100		
85	108.0	95.1	142.7
71	70.6	58.2	87.4

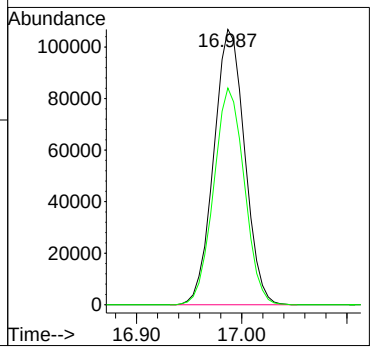


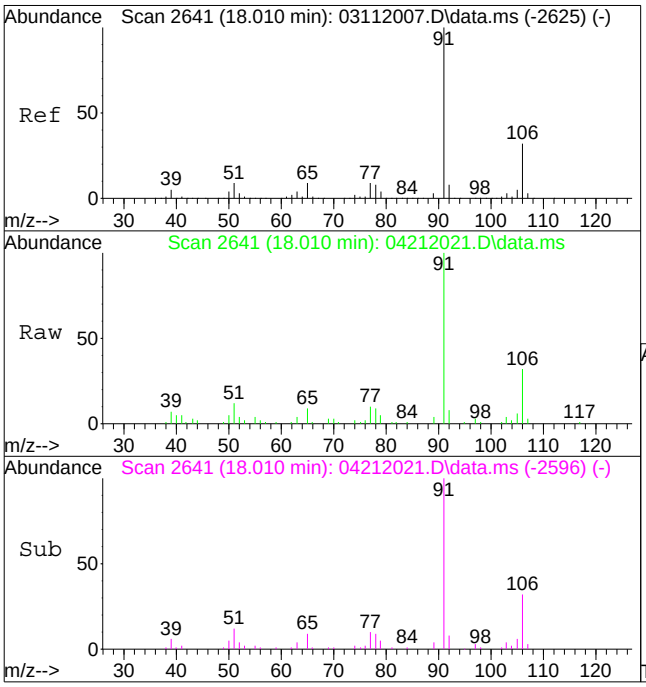


#64
Tetrachloroethene
Concen: 5.37 ng
RT: 16.99 min Scan# 2455
Delta R.T. -0.011 min
Lab File: 04212021.D
Acq: 21 Apr 2020 20:19

Tgt Ion:166 Resp: 218410

Ion	Ratio	Lower	Upper
166	100		
164	78.0	58.6	98.6

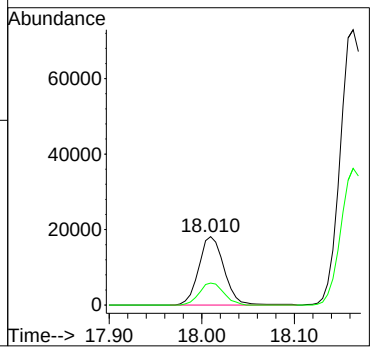


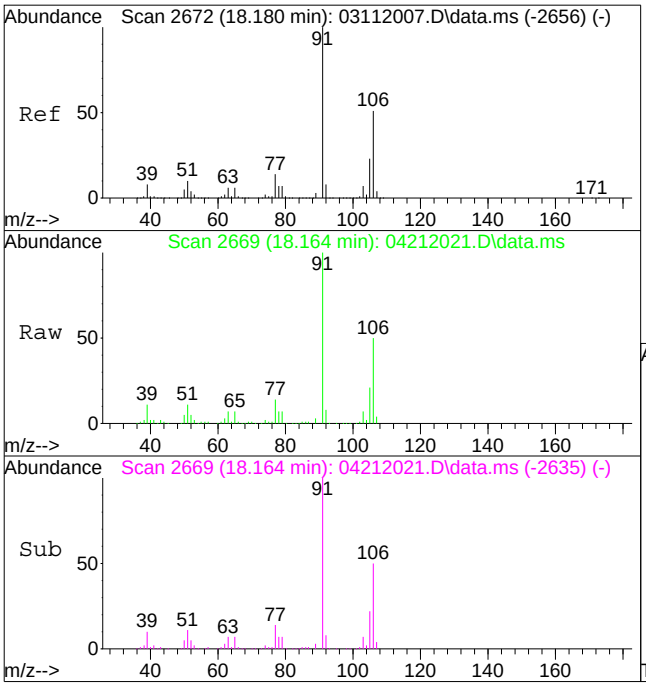


#66
Ethylbenzene
Concen: 0.22 ng
RT: 18.01 min Scan# 2641
Delta R.T. -0.000 min
Lab File: 04212021.D
Acq: 21 Apr 2020 20:19

Tgt Ion: 91 Resp: 34510

Ion	Ratio	Lower	Upper
91	100		
106	31.1	11.7	51.7

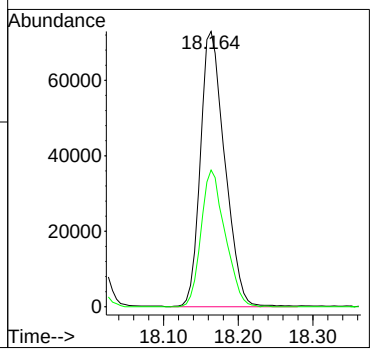


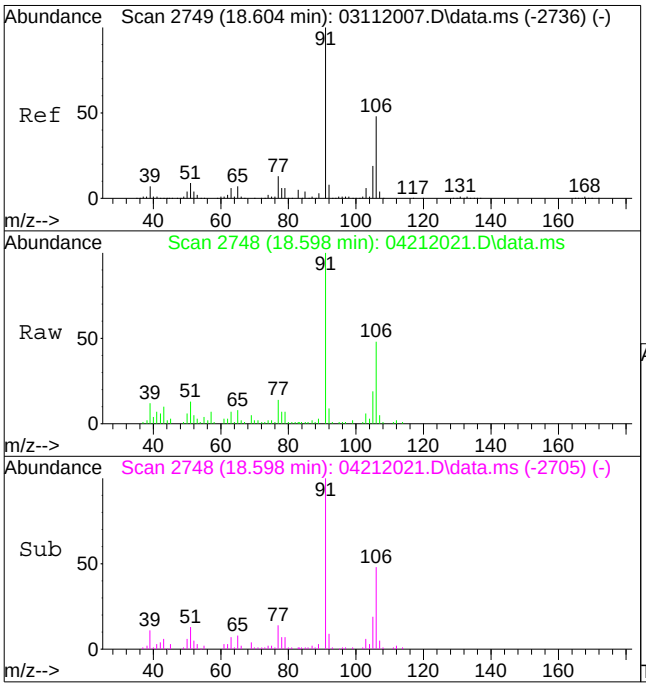


#67
m- & p-Xylenes
Concen: 1.27 ng
RT: 18.16 min Scan# 2669
Delta R.T. -0.011 min
Lab File: 04212021.D
Acq: 21 Apr 2020 20:19

Tgt Ion: 91 Resp: 165286

Ion	Ratio	Lower	Upper
91	100		
106	49.0	30.4	70.4

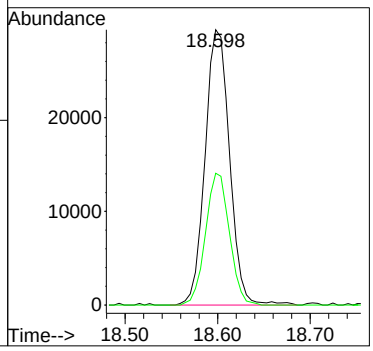


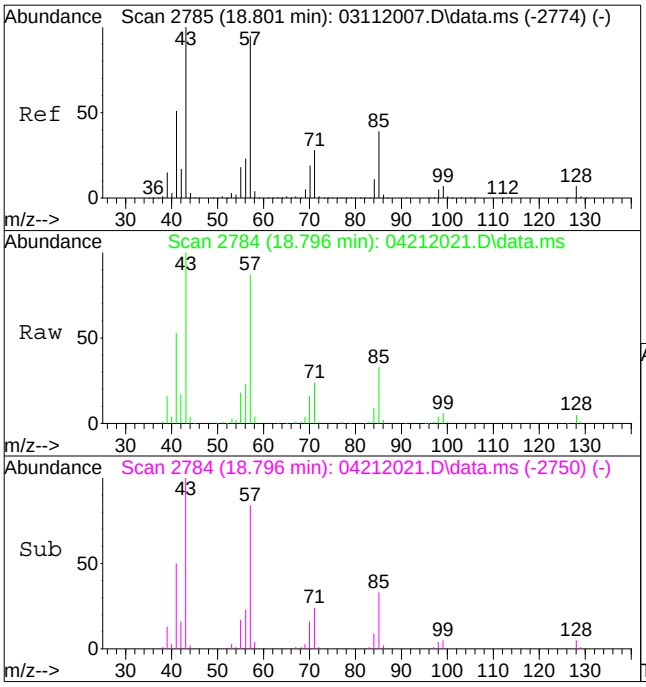


#70
o-Xylene
Concen: 0.42 ng
RT: 18.60 min Scan# 2748
Delta R.T. -0.011 min
Lab File: 04212021.D
Acq: 21 Apr 2020 20:19

Tgt Ion: 91 Resp: 54044

Ion	Ratio	Lower	Upper
91	100		
106	46.5	28.1	68.1

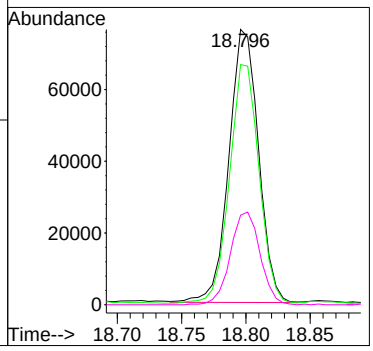


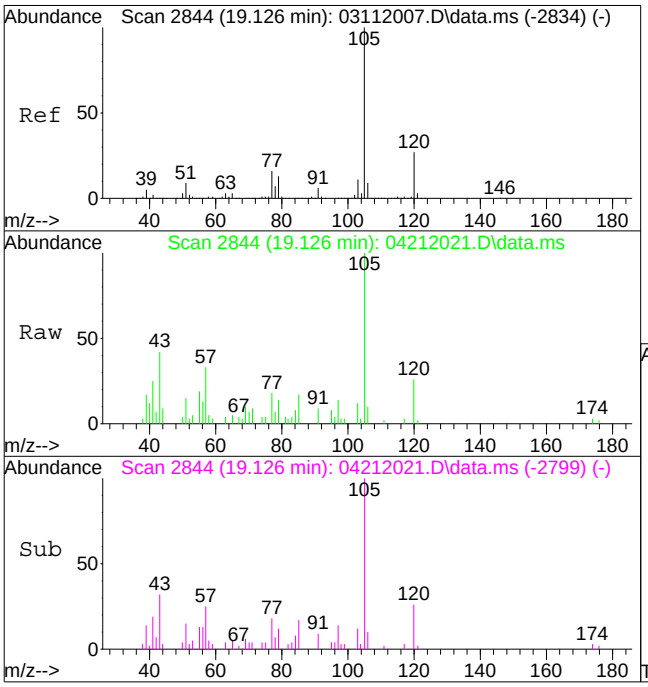


#71
n-Nonane
Concen: 1.88 ng
RT: 18.80 min Scan# 2784
Delta R.T. -0.011 min
Lab File: 04212021.D
Acq: 21 Apr 2020 20:19

Tgt Ion: 43 Resp: 122047

Ion	Ratio	Lower	Upper
43	100		
57	87.1	73.6	113.6
85	34.0	18.7	58.7

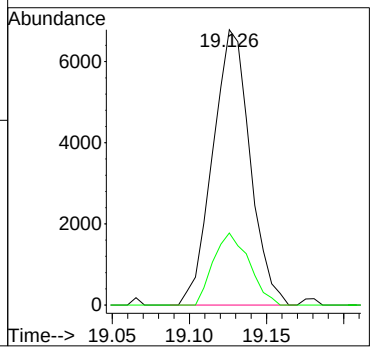


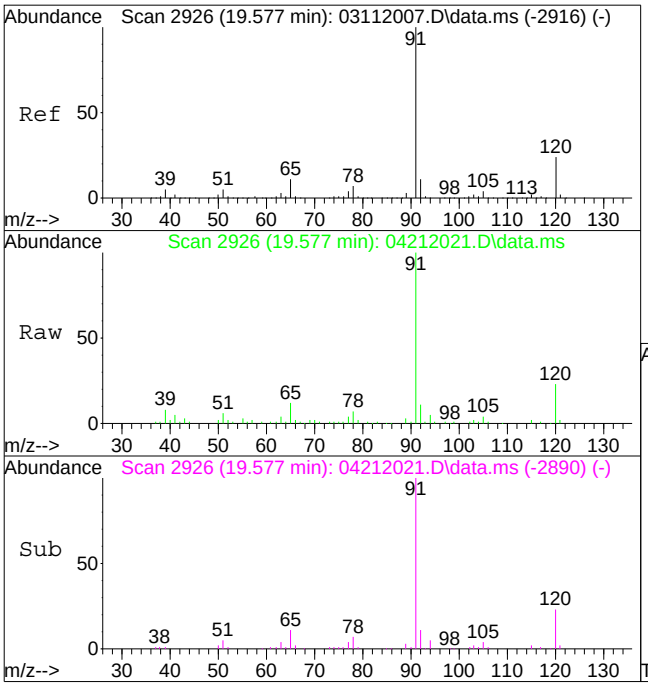


#74
Cumene
Concen: 0.07 ng
RT: 19.13 min Scan# 2844
Delta R.T. -0.000 min
Lab File: 04212021.D
Acq: 21 Apr 2020 20:19

Tgt Ion:105 Resp: 11434

Ion	Ratio	Lower	Upper
105	100		
120	25.1	7.2	47.2

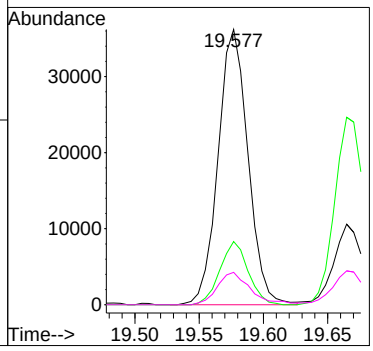


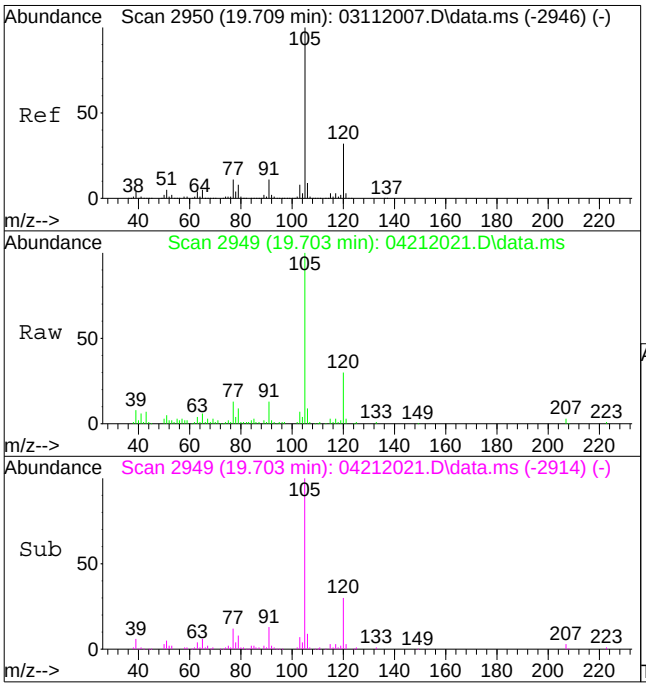


#76
n-Propylbenzene
Concen: 0.31 ng
RT: 19.58 min Scan# 2926
Delta R.T. -0.000 min
Lab File: 04212021.D
Acq: 21 Apr 2020 20:19

Tgt Ion: 91 Resp: 58661

Ion	Ratio	Lower	Upper
91	100		
120	21.6	3.9	43.9
65	13.1	0.0	30.5

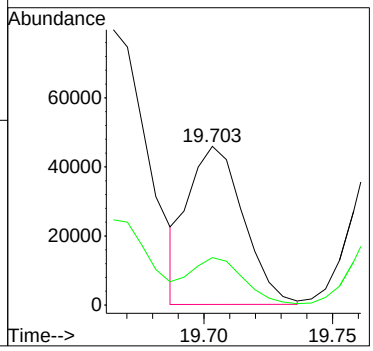


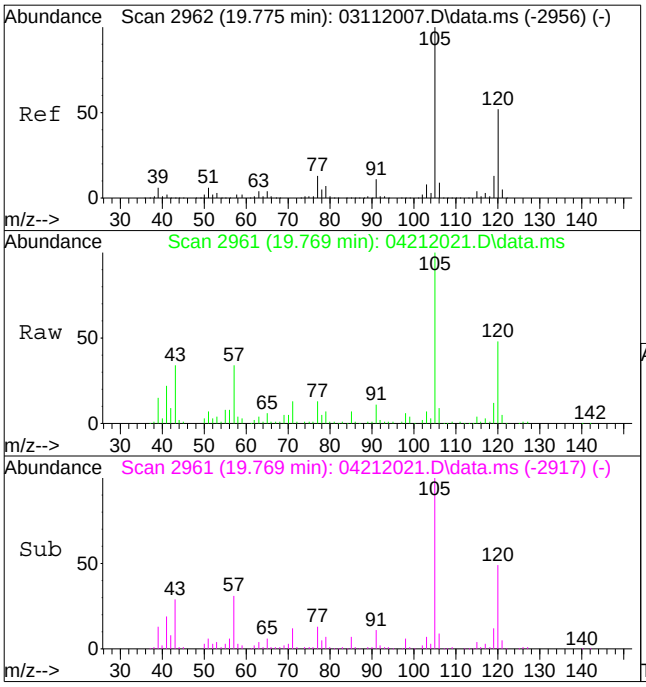


#78
4-Ethyltoluene
Concen: 0.44 ng
RT: 19.70 min Scan# 2949
Delta R.T. -0.006 min
Lab File: 04212021.D
Acq: 21 Apr 2020 20:19

Tgt Ion:105 Resp: 68409

Ion	Ratio	Lower	Upper
105	100		
120	30.0	11.1	51.1

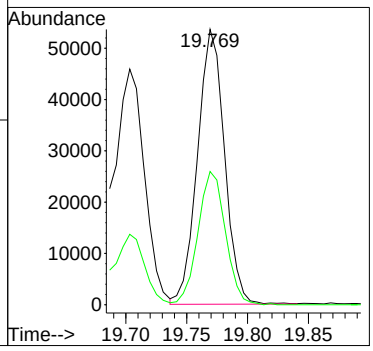


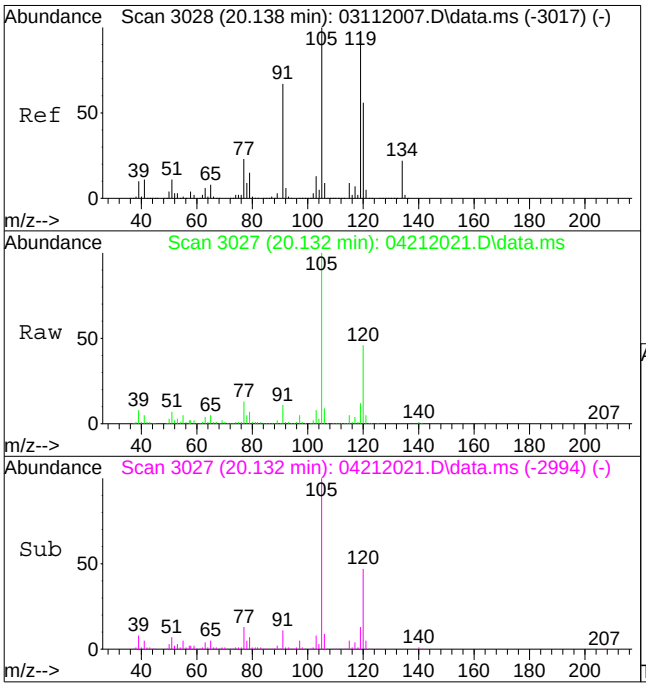


#79
1,3,5-Trimethylbenzene
Concen: 0.60 ng
RT: 19.77 min Scan# 2961
Delta R.T. -0.006 min
Lab File: 04212021.D
Acq: 21 Apr 2020 20:19

Tgt Ion:105 Resp: 82804

Ion	Ratio	Lower	Upper
105	100		
120	49.2	31.3	71.3

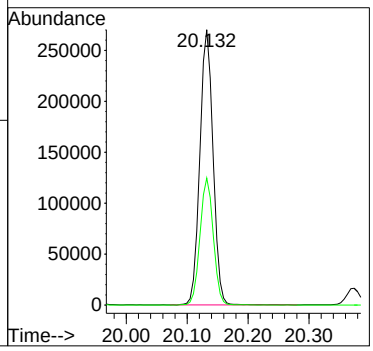


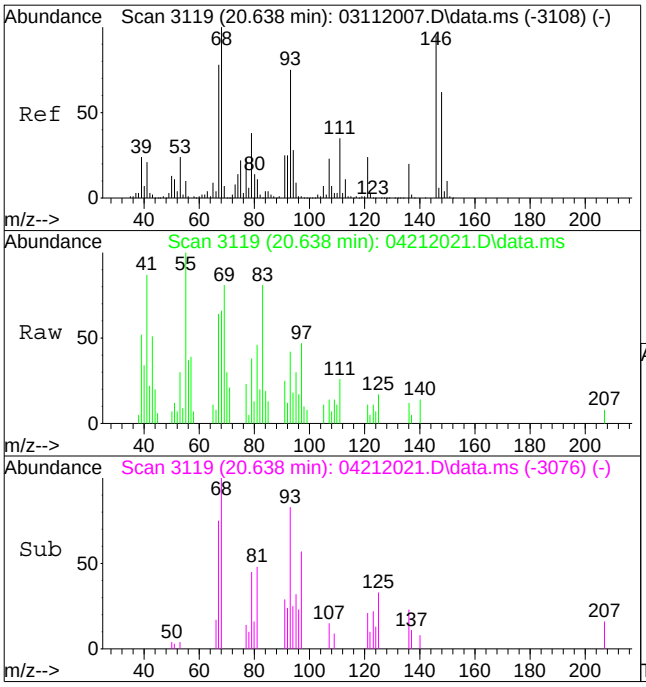


#82
1,2,4-Trimethylbenzene
Concen: 2.81 ng
RT: 20.13 min Scan# 3027
Delta R.T. -0.017 min
Lab File: 04212021.D
Acq: 21 Apr 2020 20:19

Tgt Ion:105 Resp: 405031

Ion	Ratio	Lower	Upper
105	100		
120	46.5	35.8	75.8

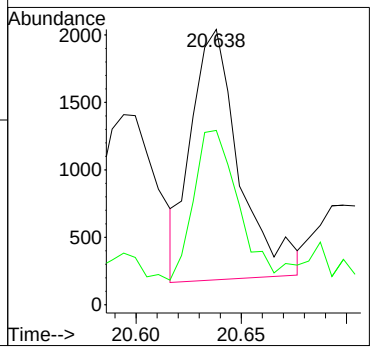


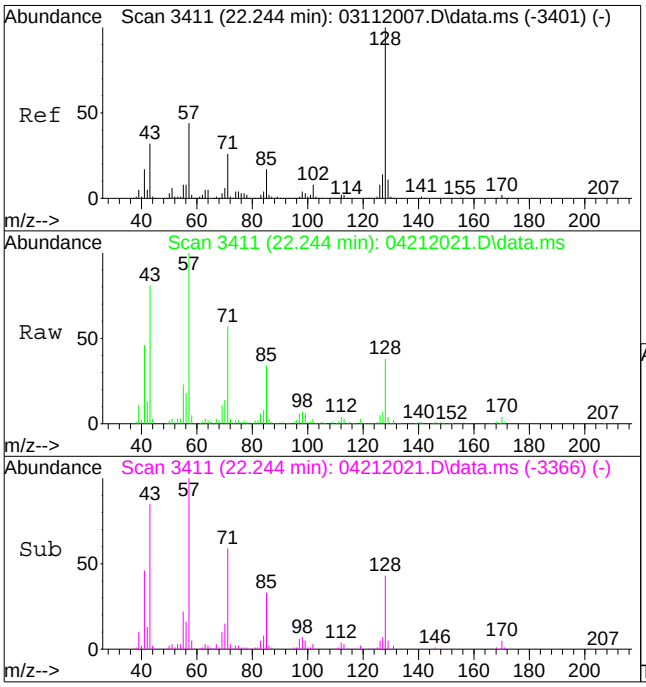


#91
d-Limonene
Concen: 0.05 ng
RT: 20.64 min Scan# 3119
Delta R.T. -0.011 min
Lab File: 04212021.D
Acq: 21 Apr 2020 20:19

Tgt Ion: 68 Resp: 2959

Ion	Ratio	Lower	Upper
68	100		
93	64.2	54.7	94.7

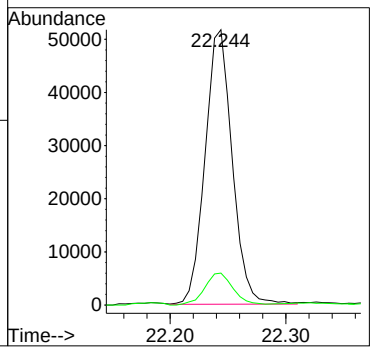




#95
Naphthalene
Concen: 0.52 ng
RT: 22.24 min Scan# 3411
Delta R.T. -0.005 min
Lab File: 04212021.D
Acq: 21 Apr 2020 20:19

Tgt Ion:128 Resp: 84242

Ion	Ratio	Lower	Upper
128	100		
129	12.3	0.0	31.1



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\22\04222008.D Vial: 8
Acq On : 22 Apr 2020 6:25 Operator: WA
Sample : P2002032-001dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 13:01:53 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/24/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	340147	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1532734	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	719484	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.02	65	595065	12.634	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.04%			
57) Toluene-d8 (SS2)	15.74	98	1550729	12.160	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.28%			
73) Bromofluorobenzene (SS3)	19.00	174	508757	11.297	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.40%			
Target Compounds						Qvalue
2) Propene	4.16	42	288	N.D.		
3) Dichlorodifluoromethan...	4.30	85	5006	0.065	ng	96
4) Chloromethane	4.58	50	581	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.37	45	7577	0.269	ng	85
11) Acetonitrile	6.64	41	2799	N.D.		
12) Acrolein	6.86	56	112	N.D.		
13) Acetone	7.07	58	6477	0.233	ng	91
14) Trichlorofluoromethane	7.28	101	1830	N.D.		
15) 2-Propanol (Isopropanol)	7.62	45	1141	N.D.		
16) Acrylonitrile	7.86	53	69	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	8.53	59	50	N.D.		
19) Methylene Chloride	8.45	84	297	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	8.87	151	8973	0.277	ng	96
22) Carbon Disulfide	8.72	76	32112	0.247	ng	100
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	10.56	72	104	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	11.30	57	360	N.D.		
32) Chloroform	11.33	83	1958	N.D.		
34) Tetrahydrofuran (THF)	11.78	72	7253	0.304	ng #	88
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.03	62	223	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D. d		
41) Benzene	12.90	78	2518	N.D.		
42) Carbon Tetrachloride	13.06	117	4097	0.075	ng	95
43) Cyclohexane	13.20	84	134	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D. d		
47) Trichloroethene	14.00	130	620888	13.825	ng	100
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	14.07	57	2575	N.D.		
50) Methyl Methacrylate	14.34	100	216	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\22\04222008.D Vial: 8
Acq On : 22 Apr 2020 6:25 Operator: WA
Sample : P2002032-001dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 13:01:53 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

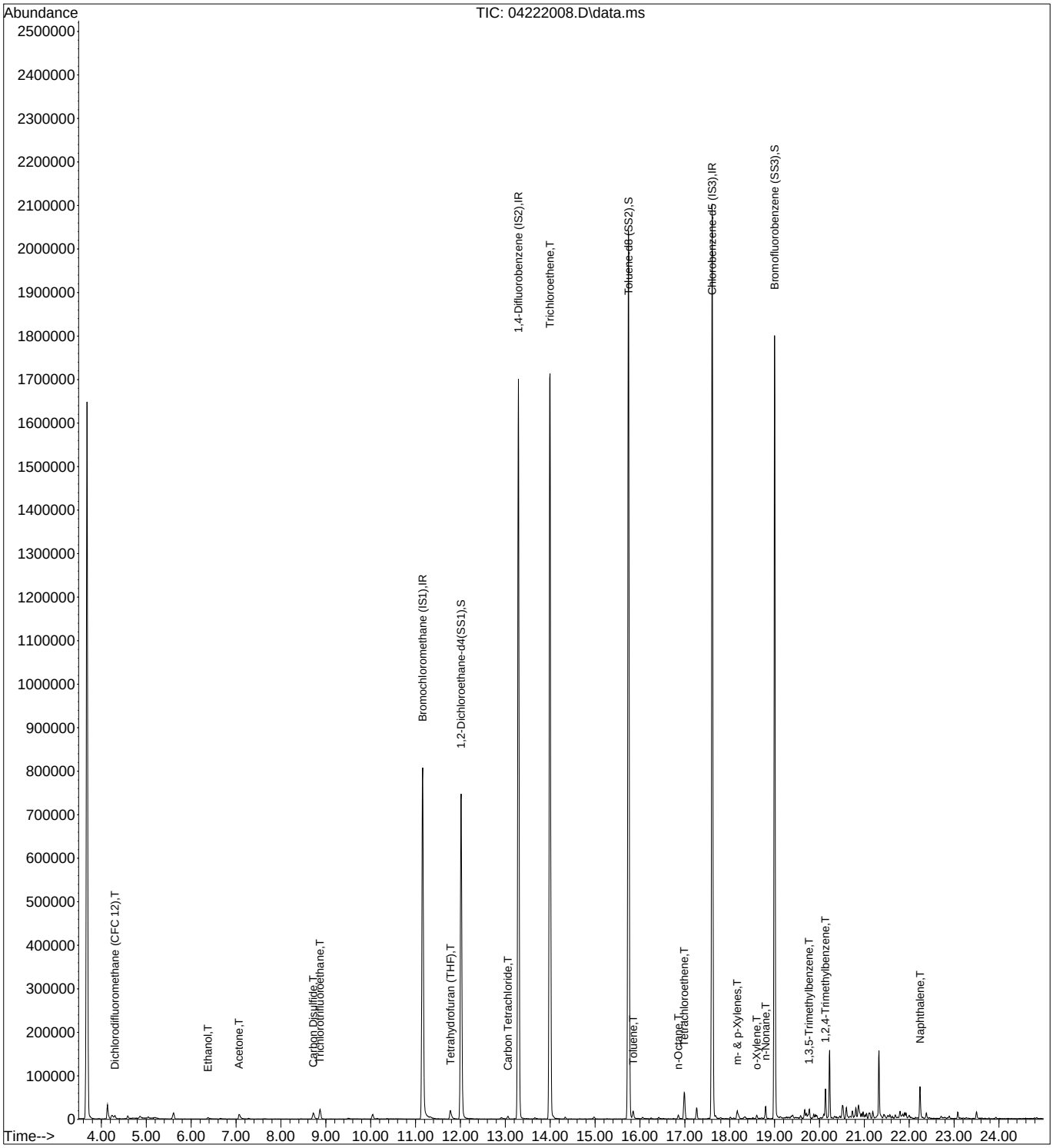
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.34	71	1114	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.85	91	16337	0.104 ng	91
59) 2-Hexanone	16.06	43	2213	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.76	43	245	N.D.	
63) n-Octane	16.86	57	1865	0.060 ng	86
64) Tetrachloroethene	16.99	166	20367	0.464 ng	99
65) Chlorobenzene	17.65	112	792	N.D.	
66) Ethylbenzene	18.02	91	4062	N.D.	
67) m- & p-Xylenes	18.17	91	17770	0.126 ng	89
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.51	104	589	N.D.	
70) o-Xylene	18.60	91	7255	0.052 ng	80
71) n-Nonane	18.80	43	10522	0.150 ng	91
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.13	105	1500	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	19.58	91	6561	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.71	105	6048	N.D.	
79) 1,3,5-Trimethylbenzene	19.77	105	7746	0.052 ng	96
80) alpha-Methylstyrene	19.91	118	2712	N.D.	
81) 2-Ethyltoluene	19.95	105	6068	N.D.	
82) 1,2,4-Trimethylbenzene	20.13	105	34667	0.223 ng	84
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.26	91	711	N.D.	
85) 1,3-Dichlorobenzene	20.28	146	988	N.D.	
86) 1,4-Dichlorobenzene	20.34	146	1348	N.D.	
87) sec-Butylbenzene	20.37	105	2626	N.D.	
88) 4-Isopropyltoluene (p-...	20.51	119	4352	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	20.63	146	752	N.D.	
91) d-Limonene	20.64	68	363	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.14	180	974	N.D.	
95) Naphthalene	22.24	128	11498	0.066 ng	98
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.31	55	1783	N.D.	
99) tert-Butylbenzene	20.13	119	5116	N.D.	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\22\04222008.D Vial: 8
Acq On : 22 Apr 2020 6:25 Operator: WA
Sample : P2002032-001dil (40mL) Inst : GCMS-16
Misc : S31-02112001

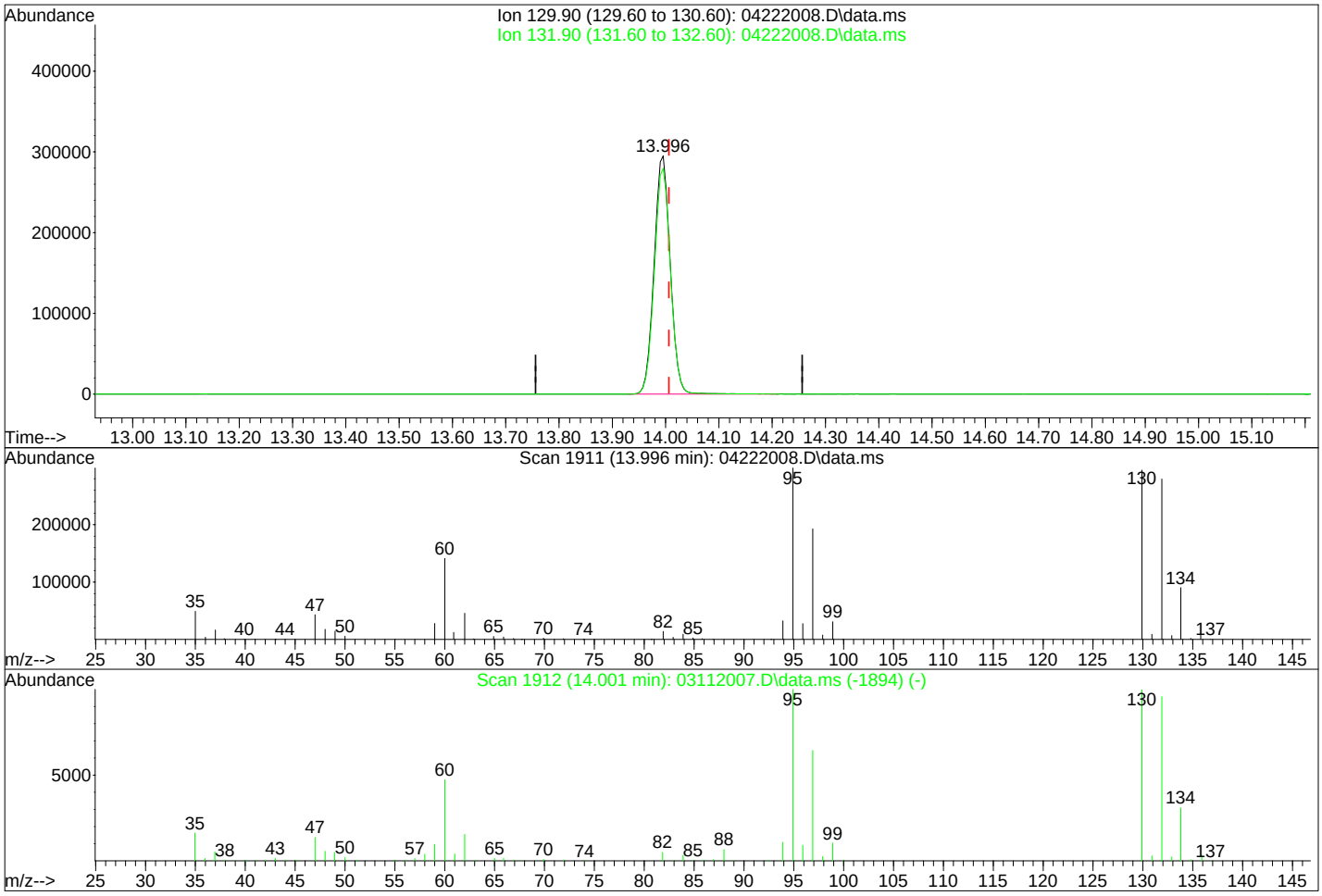
Quant Time: Apr 24 13:01:53 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\22\04222008.D Vial: 8
Acq On : 22 Apr 2020 6:25 Operator: WA
Sample : P2002032-001dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 09:11:32 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04222008.D\data.ms

(47) Trichloroethene (T)

13.996min (-0.011) 13.83ng

response 620888

Ion	Exp%	Act%
129.90	100	100
131.90	94.70	94.89
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212022.D Vial: 11
Acq On : 21 Apr 2020 20:53 Operator: WA
Sample : P2002032-002 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 12:29:28 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020 LH 4/24/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	309119	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1369157	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	683322	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	534823	12.495	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.92%				
57) Toluene-d8 (SS2)	15.74	98	1423989	11.757	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.08%				
73) Bromofluorobenzene (SS3)	19.00	174	506473	11.842	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.72%				
Target Compounds							Qvalue
2) Propene	4.12	42	8430m	0.260	ng		
3) Dichlorodifluoromethan...	4.27	85	37984	0.545	ng		98
4) Chloromethane	4.55	50	5860	0.106	ng		95
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	395	N.D.			
6) Vinyl Chloride	4.97	62	1175	N.D.			
7) 1,3-Butadiene	5.22	54	559	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.98	64	623	N.D.			
10) Ethanol	6.32	45	59199	2.310	ng		99
11) Acetonitrile	6.62	41	6177	0.110	ng	#	71
12) Acrolein	6.81	56	11442	0.607	ng		98
13) Acetone	7.02	58	111332m	4.403	ng		
14) Trichlorofluoromethane	7.25	101	14925	0.243	ng		99
15) 2-Propanol (Isopropanol)	7.52	45	23073	0.308	ng		75
16) Acrylonitrile	7.81	53	52	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.44	84	3254	0.099	ng		92
20) 3-Chloro-1-propene (Al...	8.51	41	1319	N.D.			
21) Trichlorotrifluoroethane	8.86	151	91258	3.103	ng		93
22) Carbon Disulfide	8.70	76	417574	3.529	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	10.12	63	549	N.D.			
25) Methyl tert-Butyl Ether	10.10	73	981	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.49	72	21673	1.030	ng		94
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.32	61	3318	0.267	ng		89
31) n-Hexane	11.28	57	7115	0.123	ng		96
32) Chloroform	11.33	83	34832	0.568	ng		99
34) Tetrahydrofuran (THF)	11.75	72	60991	2.816	ng		93
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.14	62	410	N.D.			
38) 1,1,1-Trichloroethane	12.42	97	365	N.D.			
39) Isopropyl Acetate	12.91	61	333	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.90	78	69583	0.491	ng		100
42) Carbon Tetrachloride	13.06	117	80401	1.654	ng		98
43) Cyclohexane	13.20	84	5202	0.096	ng	#	80
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	13.90	83	626	N.D.			
47) Trichloroethene	14.00	130	19550432	487.344	ng		100
48) 1,4-Dioxane	13.98	88	2324	0.085	ng	#	21
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.14	100	605	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212022.D Vial: 11
Acq On : 21 Apr 2020 20:53 Operator: WA
Sample : P2002032-002 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 12:29:28 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

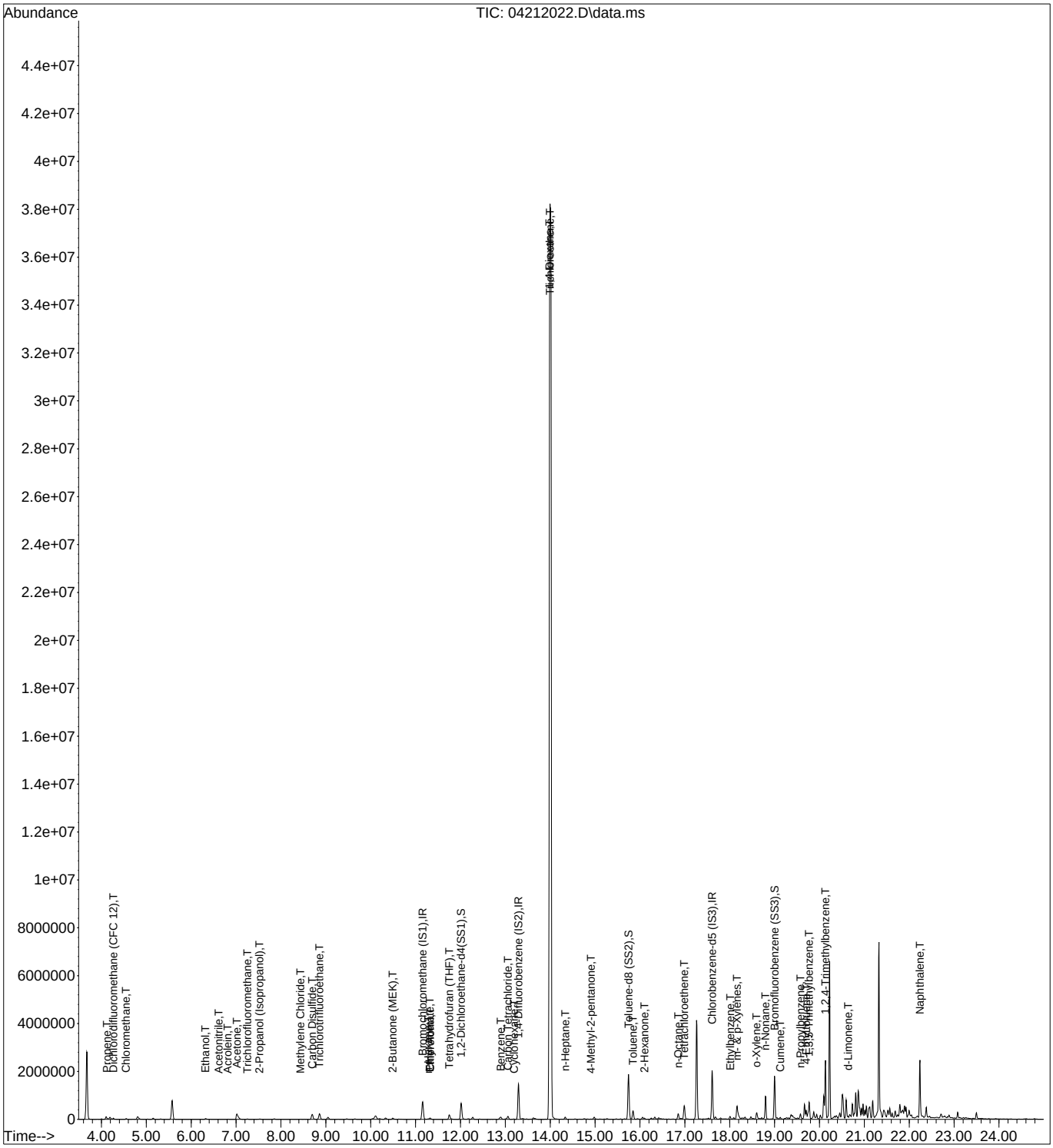
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.34	71	22766	0.689 ng	97
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.91	58	2869	0.097 ng	78
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	15.47	97	662	N.D.	
58) Toluene	15.84	91	292070	1.950 ng	100
59) 2-Hexanone	16.10	43	28079	0.375 ng	93
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	16.51	107	453	N.D.	
62) n-Butyl Acetate	16.74	43	2230	N.D.	
63) n-Octane	16.85	57	46461	1.563 ng	93
64) Tetrachloroethene	16.99	166	179855	4.310 ng	99
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	18.01	91	84096	0.512 ng	99
67) m- & p-Xylenes	18.16	91	410631	3.073 ng	98
68) Bromoform	18.24	173	1329	N.D.	
69) Styrene	18.50	104	1565	N.D.	
70) o-Xylene	18.60	91	128470	0.962 ng	98
71) n-Nonane	18.80	43	340585	5.098 ng	94
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	19.13	105	27869	0.165 ng	96
75) alpha-Pinene	19.48	93	1722	N.D.	
76) n-Propylbenzene	19.58	91	151934	0.770 ng	96
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.70	105	186349	1.161 ng	98
79) 1,3,5-Trimethylbenzene	19.77	105	233625	1.636 ng	97
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.13	105	1192718	8.061 ng	87
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.23	91	1619	N.D.	
85) 1,3-Dichlorobenzene	20.32	146	714	N.D.	
86) 1,4-Dichlorobenzene	20.32	146	714	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	20.62	146	199	N.D.	
91) d-Limonene	20.64	68	17043	0.298 ng	83
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.14	180	193	N.D.	
95) Naphthalene	22.24	128	133533	0.807 ng	96
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212022.D Vial: 11
Acq On : 21 Apr 2020 20:53 Operator: WA
Sample : P2002032-002 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 12:29:28 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212022.D Vial: 11
Acq On : 21 Apr 2020 20:53 Operator: WA
Sample : P2002032-002 (400mL) Inst : GCMS-16
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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/24/20

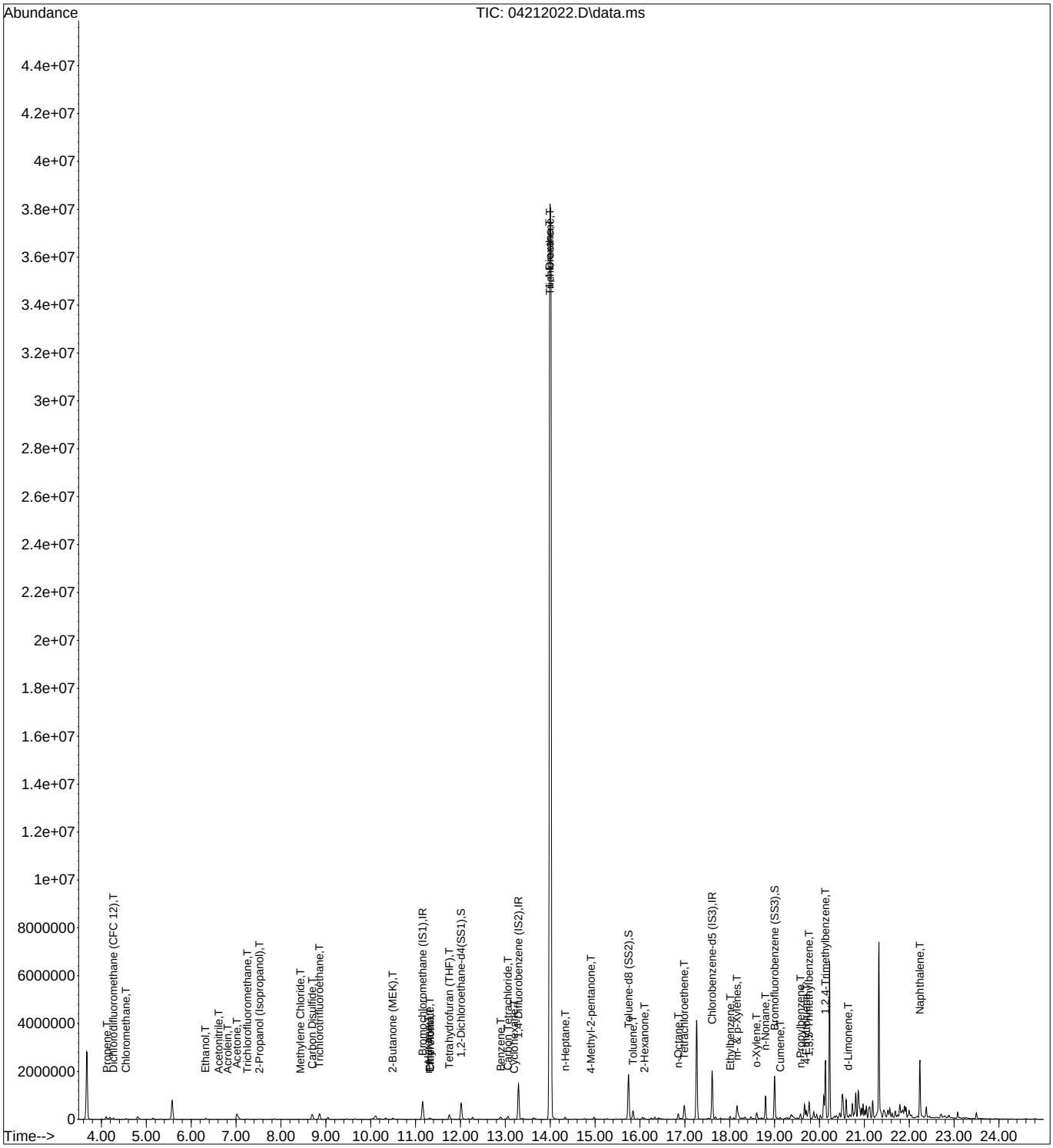
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	309119	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1369157	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	683322	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	534823	12.495	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.92%				
57) Toluene-d8 (SS2)	15.74	98	1423989	11.757	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.08%				
73) Bromofluorobenzene (SS3)	19.00	174	506473	11.842	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.72%				
Target Compounds							Qvalue
2) Propene	4.12	42	8430m	0.260	ng		
3) Dichlorodifluoromethan...	4.27	85	37984	0.545	ng		98
4) Chloromethane	4.55	50	5860	0.106	ng		95
10) Ethanol	6.32	45	59199	2.310	ng		99
11) Acetonitrile	6.62	41	6177	0.110	ng	#	71
12) Acrolein	6.81	56	11442	0.607	ng		98
13) Acetone	7.02	58	111332m	4.403	ng		
14) Trichlorofluoromethane	7.25	101	14925	0.243	ng		99
15) 2-Propanol (Isopropanol)	7.52	45	23073	0.308	ng		75
19) Methylene Chloride	8.44	84	3254	0.099	ng		92
21) Trichlorotrifluoroethane	8.86	151	91258	3.103	ng		93
22) Carbon Disulfide	8.70	76	417574	3.529	ng		99
27) 2-Butanone (MEK)	10.49	72	21673	1.030	ng		94
30) Ethyl Acetate	11.32	61	3318	0.267	ng		89
31) n-Hexane	11.28	57	7115	0.123	ng		96
32) Chloroform	11.33	83	34832	0.568	ng		99
34) Tetrahydrofuran (THF)	11.75	72	60991	2.816	ng		93
41) Benzene	12.90	78	69583	0.491	ng		100
42) Carbon Tetrachloride	13.06	117	80401	1.654	ng		98
43) Cyclohexane	13.20	84	5202	0.096	ng	#	80
47) Trichloroethene	14.00	130	19550432	487.344	ng		100
48) 1,4-Dioxane	13.98	88	2324	0.085	ng	#	21
51) n-Heptane	14.34	71	22766	0.689	ng		97
53) 4-Methyl-2-pentanone	14.91	58	2869	0.097	ng		78
58) Toluene	15.84	91	292070	1.950	ng		100
59) 2-Hexanone	16.10	43	28079	0.375	ng		93
63) n-Octane	16.85	57	46461	1.563	ng		93
64) Tetrachloroethene	16.99	166	179855	4.310	ng		99
66) Ethylbenzene	18.01	91	84096	0.512	ng		99
67) m- & p-Xylenes	18.16	91	410631	3.073	ng		98
70) o-Xylene	18.60	91	128470	0.962	ng		98
71) n-Nonane	18.80	43	340585	5.098	ng		94
74) Cumene	19.13	105	27869	0.165	ng		96
76) n-Propylbenzene	19.58	91	151934	0.770	ng		96
78) 4-Ethyltoluene	19.70	105	186349	1.161	ng		98
79) 1,3,5-Trimethylbenzene	19.77	105	233625	1.636	ng		97
82) 1,2,4-Trimethylbenzene	20.13	105	1192718	8.061	ng		87
91) d-Limonene	20.64	68	17043	0.298	ng		83
95) Naphthalene	22.24	128	133533	0.807	ng		96

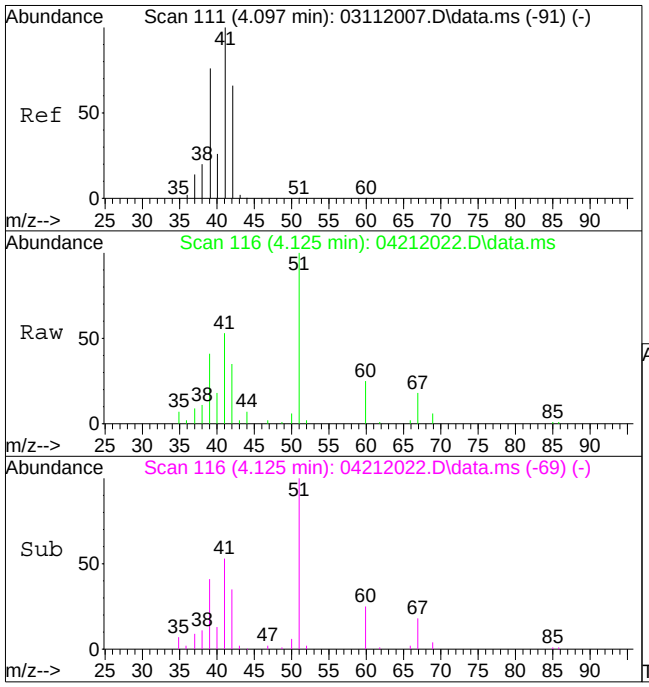
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212022.D Vial: 11
Acq On : 21 Apr 2020 20:53 Operator: WA
Sample : P2002032-002 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 12:29:28 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

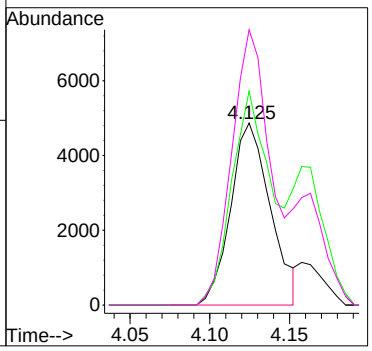


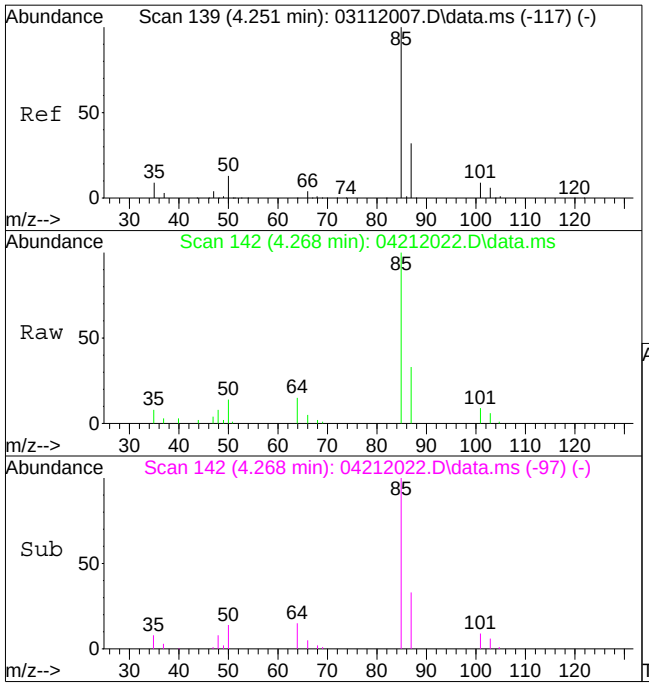


#2
Propene
Concen: 0.26 ng m
RT: 4.12 min Scan# 116
Delta R.T. 0.011 min
Lab File: 04212022.D
Acq: 21 Apr 2020 20:53

Tgt Ion: 42 Resp: 8430

Ion	Ratio	Lower	Upper
42	100		
39	116.6	95.3	135.3
41	194.5	132.0	172.0#

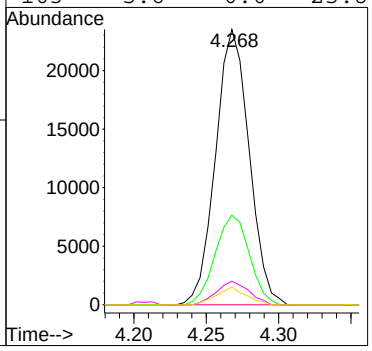


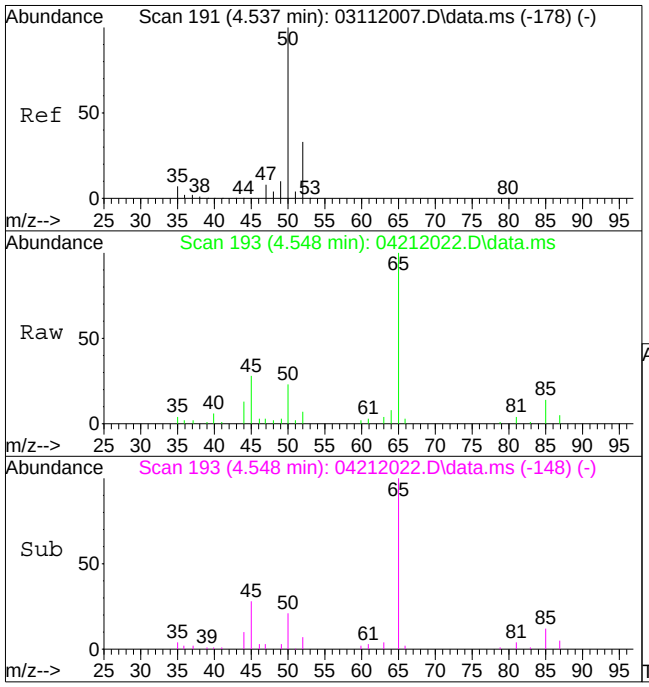


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.54 ng
RT: 4.27 min Scan# 142
Delta R.T. -0.000 min
Lab File: 04212022.D
Acq: 21 Apr 2020 20:53

Tgt Ion: 85 Resp: 37984

Ion	Ratio	Lower	Upper
85	100		
87	33.1	12.3	52.3
101	8.2	0.0	29.0
103	5.6	0.0	25.8

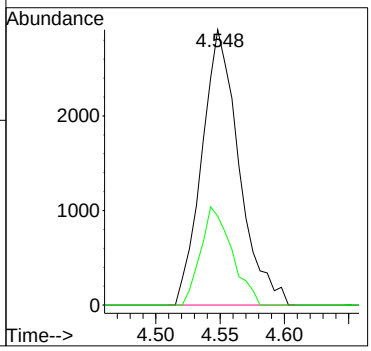


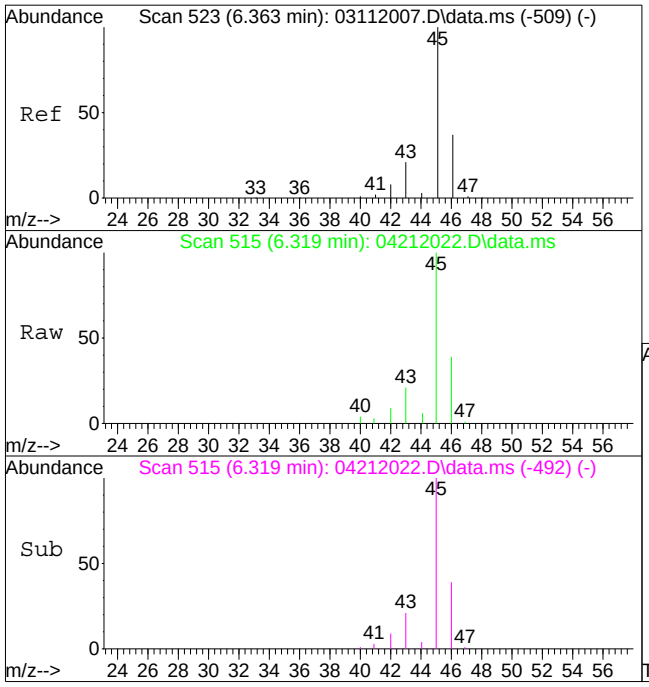


#4
Chloromethane
Concen: 0.11 ng
RT: 4.55 min Scan# 193
Delta R.T. -0.005 min
Lab File: 04212022.D
Acq: 21 Apr 2020 20:53

Tgt Ion: 50 Resp: 5860

Ion	Ratio	Lower	Upper
50	100		
52	29.9	12.8	52.8

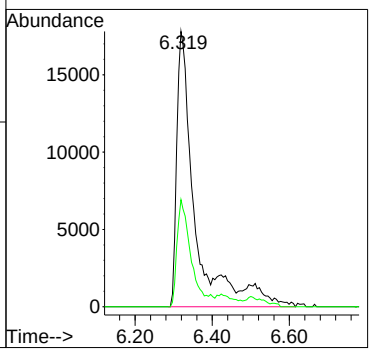


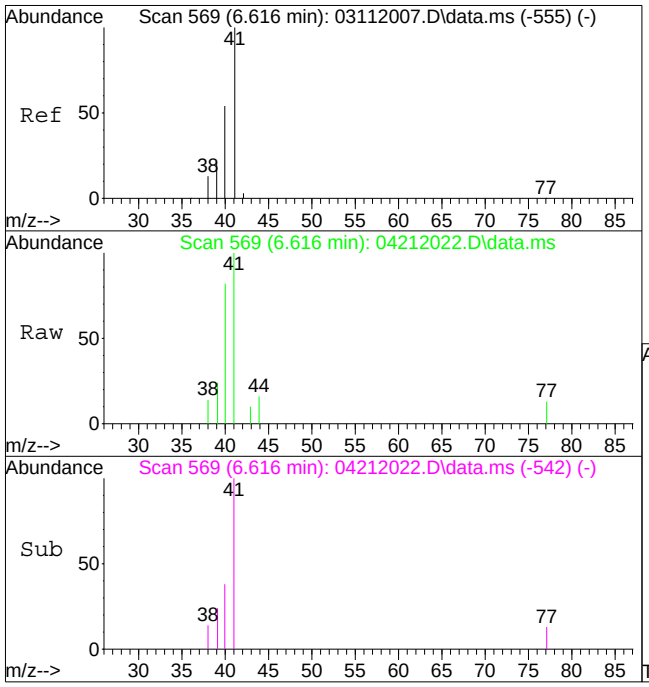


#10
Ethanol
Concen: 2.31 ng
RT: 6.32 min Scan# 515
Delta R.T. -0.121 min
Lab File: 04212022.D
Acq: 21 Apr 2020 20:53

Tgt Ion: 45 Resp: 59199

Ion	Ratio	Lower	Upper
45	100		
46	37.9	17.3	57.3

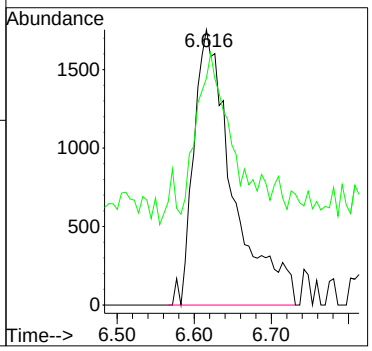


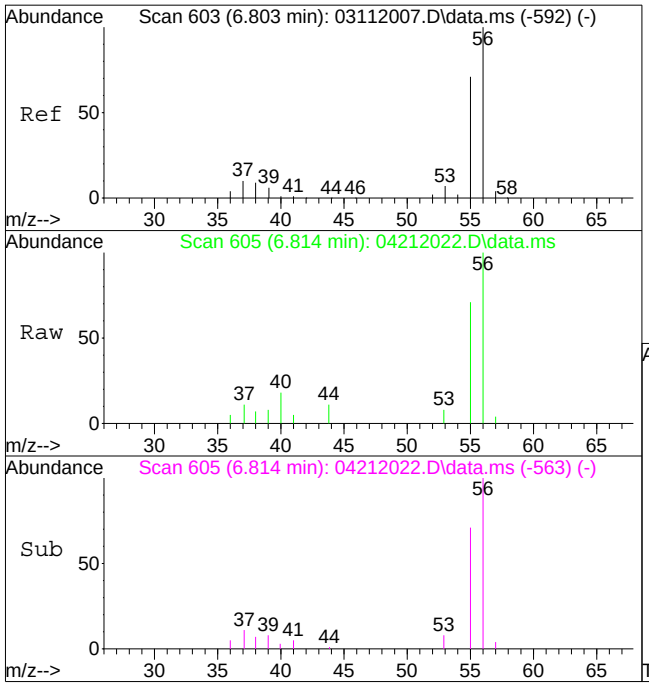


#11
Acetonitrile
Concen: 0.11 ng
RT: 6.62 min Scan# 569
Delta R.T. -0.049 min
Lab File: 04212022.D
Acq: 21 Apr 2020 20:53

Tgt Ion: 41 Resp: 6177

Ion	Ratio	Lower	Upper
41	100		
40	74.3	33.6	73.6#

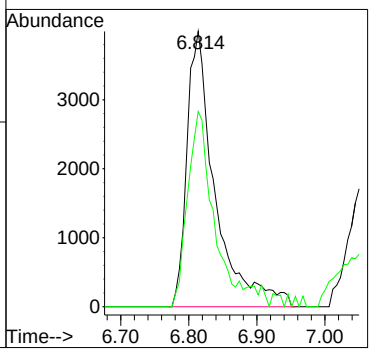


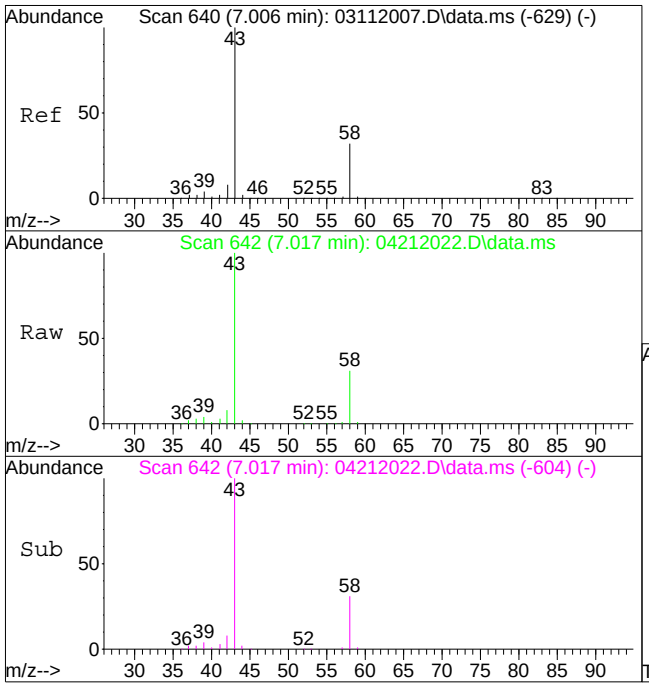


#12
Acrolein
Concen: 0.61 ng
RT: 6.81 min Scan# 605
Delta R.T. -0.016 min
Lab File: 04212022.D
Acq: 21 Apr 2020 20:53

Tgt Ion: 56 Resp: 11442

Ion	Ratio	Lower	Upper
56	100		
55	68.5	50.4	90.4

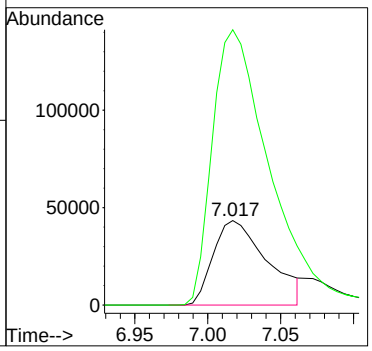


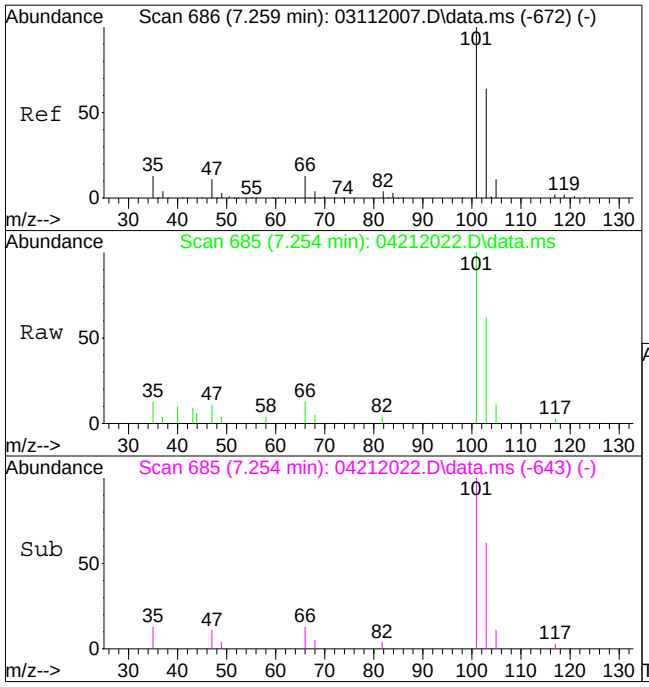


#13
Acetone
Concen: 4.40 ng m
RT: 7.02 min Scan# 642
Delta R.T. -0.039 min
Lab File: 04212022.D
Acq: 21 Apr 2020 20:53

Tgt Ion: 58 Resp: 111332

Ion	Ratio	Lower	Upper
58	100		
43	357.3	287.3	347.3#

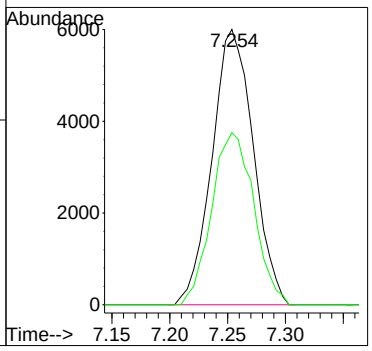


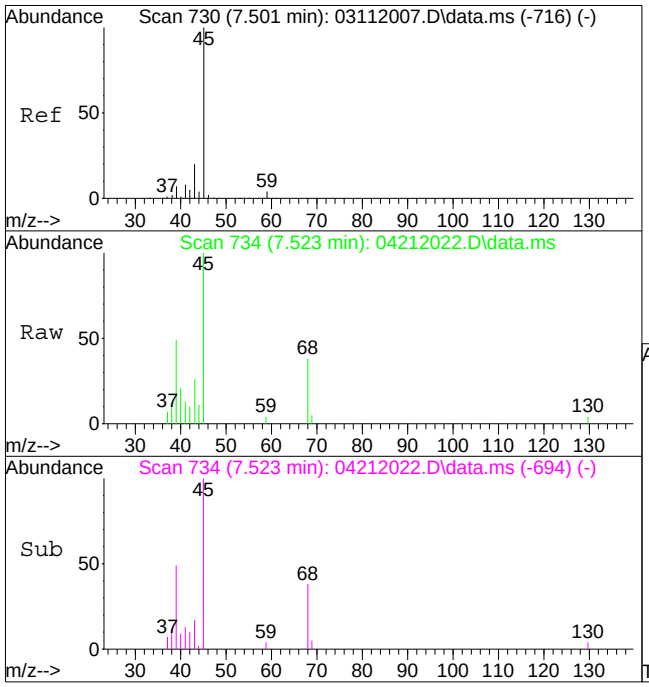


#14
Trichlorofluoromethane
Concen: 0.24 ng
RT: 7.25 min Scan# 685
Delta R.T. -0.021 min
Lab File: 04212022.D
Acq: 21 Apr 2020 20:53

Tgt Ion:101 Resp: 14925

Ion	Ratio	Lower	Upper
101	100		
103	63.7	44.6	84.6

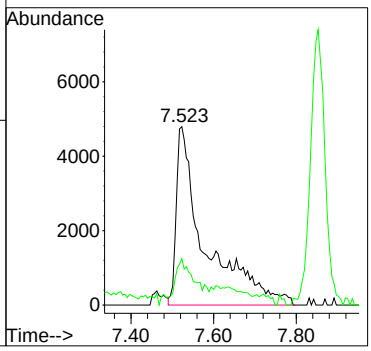


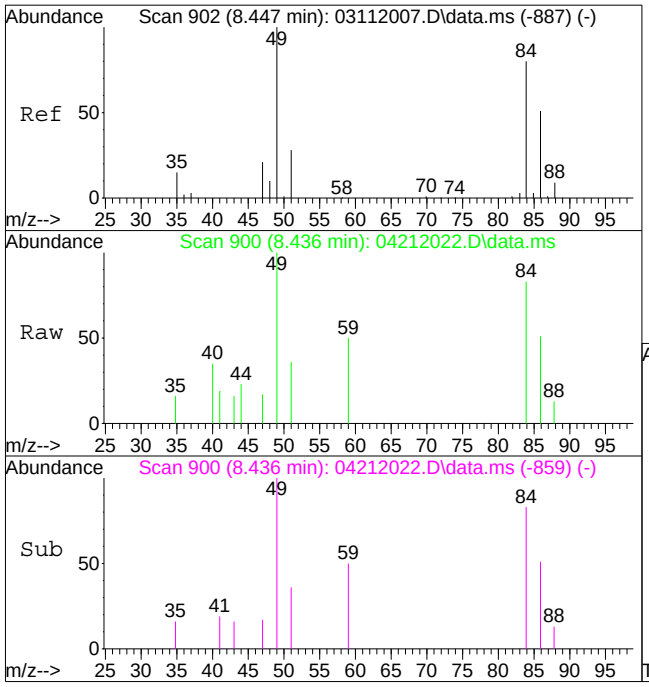


#15
2-Propanol (Isopropanol)
Concen: 0.31 ng
RT: 7.52 min Scan# 734
Delta R.T. -0.027 min
Lab File: 04212022.D
Acq: 21 Apr 2020 20:53

Tgt Ion: 45 Resp: 23073

Ion	Ratio	Lower	Upper
45	100		
43	31.7	0.3	40.3

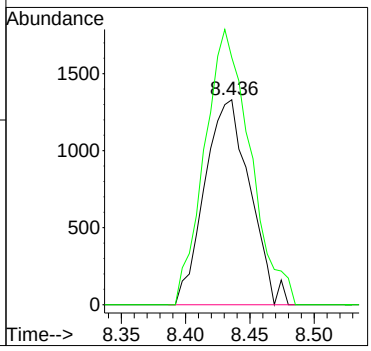


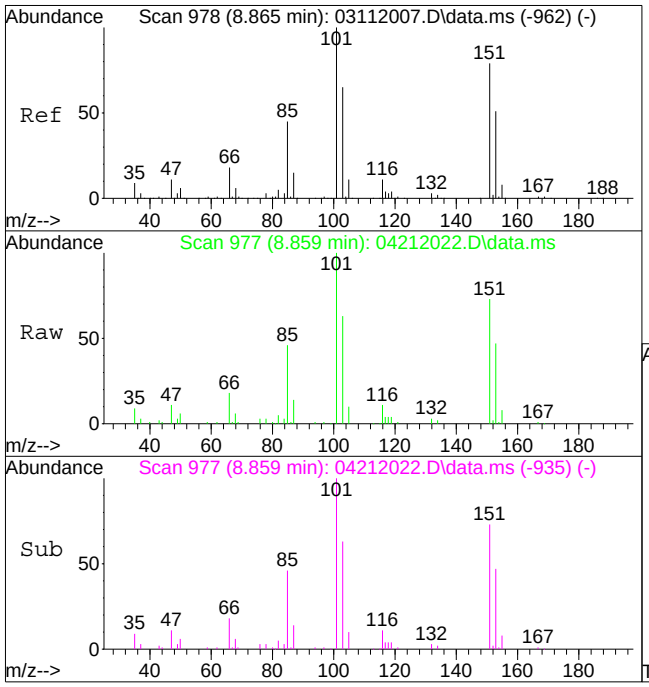


#19
Methylene Chloride
Concen: 0.10 ng
RT: 8.44 min Scan# 900
Delta R.T. -0.027 min
Lab File: 04212022.D
Acq: 21 Apr 2020 20:53

Tgt Ion: 84 Resp: 3254

Ion	Ratio	Lower	Upper
84	100		
49	136.2	102.2	152.2

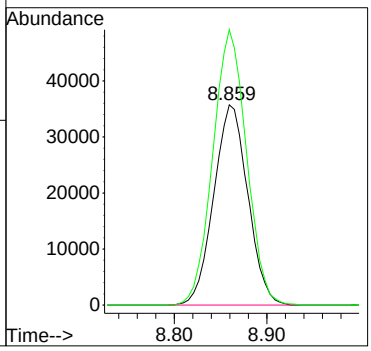


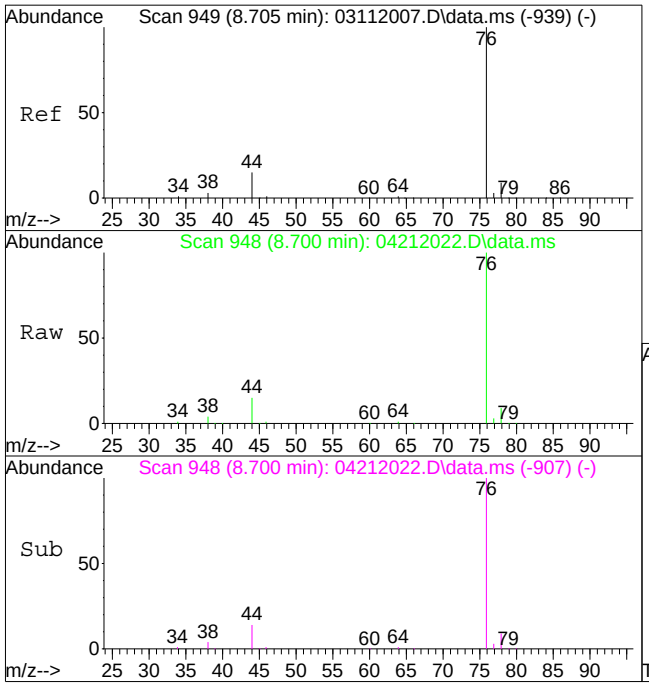


#21
Trichlorotrifluoroethane
Concen: 3.10 ng
RT: 8.86 min Scan# 977
Delta R.T. -0.017 min
Lab File: 04212022.D
Acq: 21 Apr 2020 20:53

Tgt Ion:151 Resp: 91258

Ion	Ratio	Lower	Upper
151	100		
101	136.1	108.4	148.4

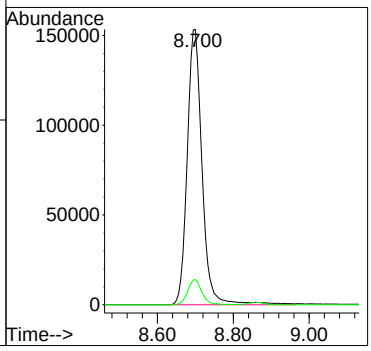


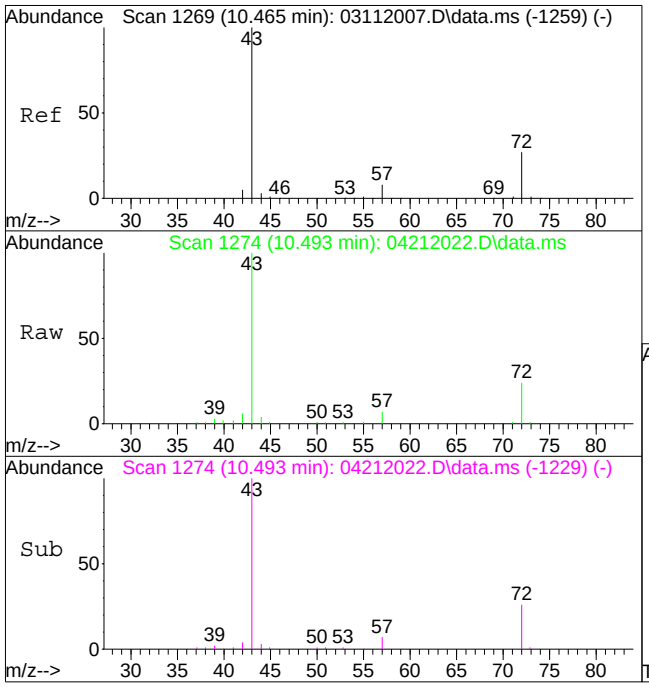


#22
Carbon Disulfide
Concen: 3.53 ng
RT: 8.70 min Scan# 948
Delta R.T. -0.022 min
Lab File: 04212022.D
Acq: 21 Apr 2020 20:53

Tgt Ion: 76 Resp: 417574

Ion	Ratio	Lower	Upper
76	100		
78	8.8	0.0	29.2

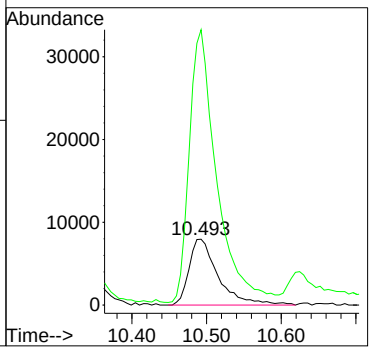


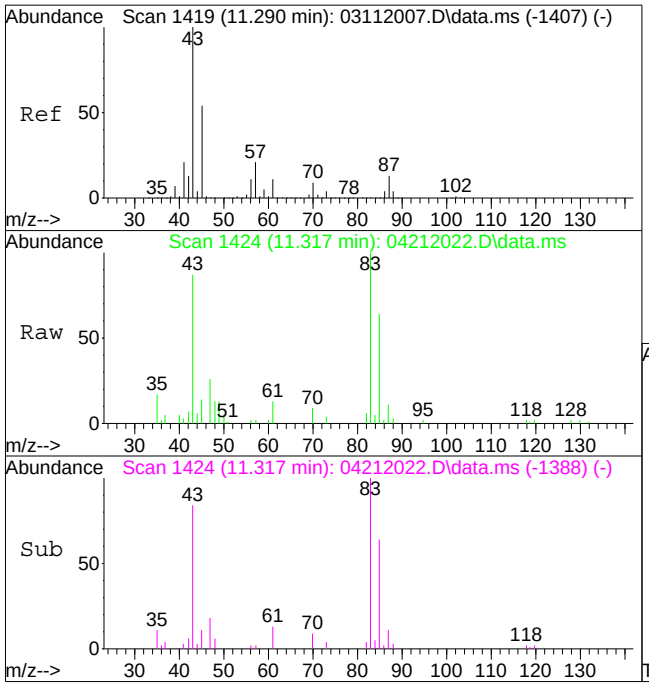


#27
2-Butanone (MEK)
Concen: 1.03 ng
RT: 10.49 min Scan# 1274
Delta R.T. 0.000 min
Lab File: 04212022.D
Acq: 21 Apr 2020 20:53

Tgt Ion: 72 Resp: 21673

Ion	Ratio	Lower	Upper
72	100		
43	387.2	353.4	393.4

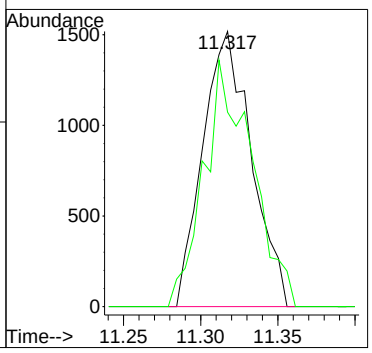


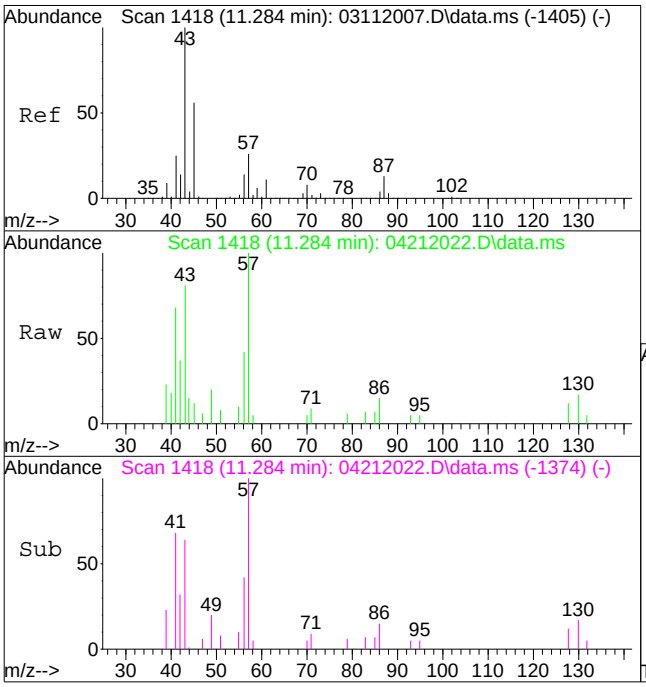


#30
Ethyl Acetate
Concen: 0.27 ng
RT: 11.32 min Scan# 1424
Delta R.T. 0.000 min
Lab File: 04212022.D
Acq: 21 Apr 2020 20:53

Tgt Ion: 61 Resp: 3318

Ion	Ratio	Lower	Upper
61	100		
70	88.9	59.1	99.1

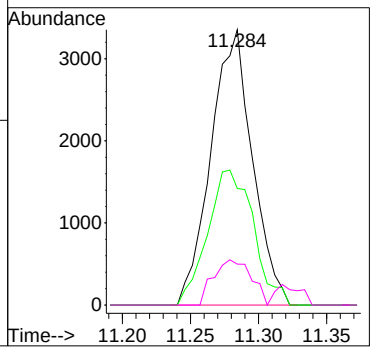


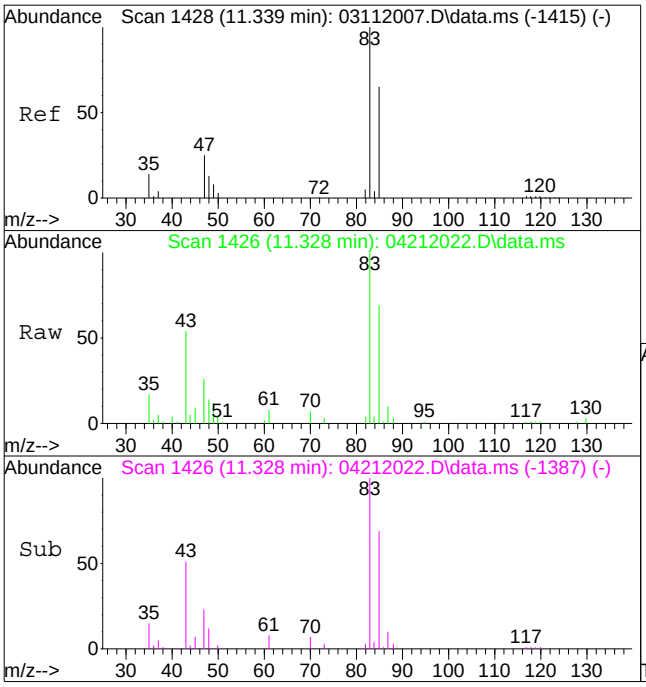


#31
n-Hexane
Concen: 0.12 ng
RT: 11.28 min Scan# 1418
Delta R.T. -0.005 min
Lab File: 04212022.D
Acq: 21 Apr 2020 20:53

Tgt Ion: 57 Resp: 7115

Ion	Ratio	Lower	Upper
57	100		
56	53.9	41.0	61.4
86	15.0	13.9	20.9

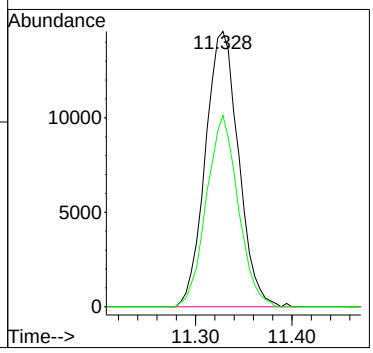


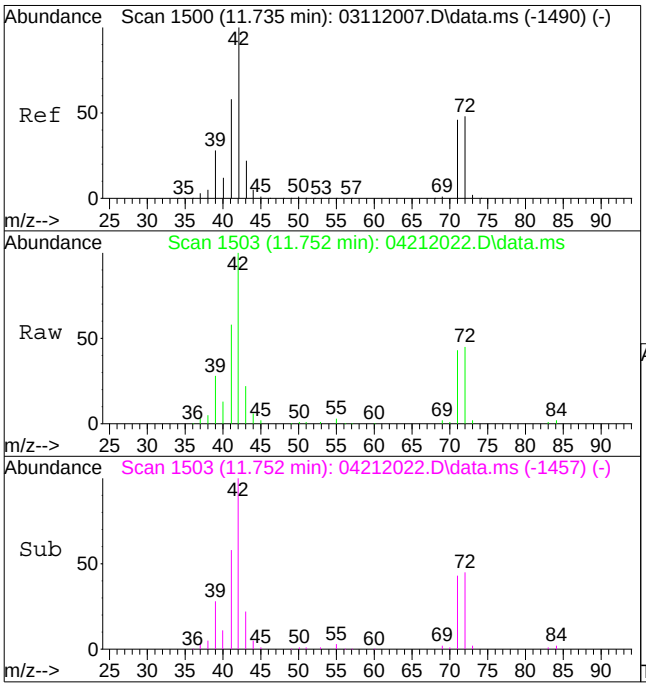


#32
Chloroform
Concen: 0.57 ng
RT: 11.33 min Scan# 1426
Delta R.T. -0.033 min
Lab File: 04212022.D
Acq: 21 Apr 2020 20:53

Tgt Ion: 83 Resp: 34832

Ion	Ratio	Lower	Upper
83	100		
85	66.5	45.5	85.5

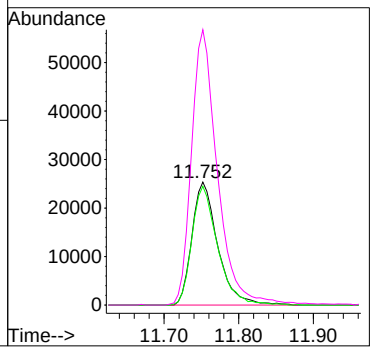


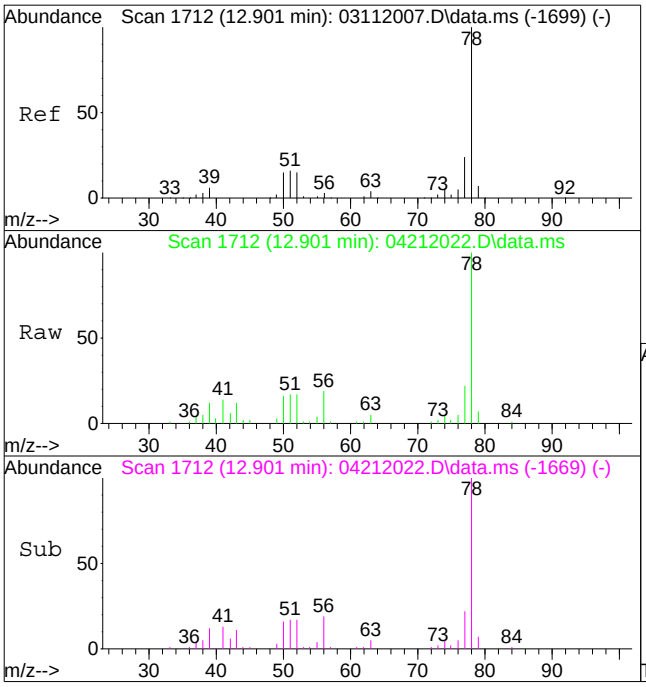


#34
Tetrahydrofuran (THF)
Concen: 2.82 ng
RT: 11.75 min Scan# 1503
Delta R.T. 0.006 min
Lab File: 04212022.D
Acq: 21 Apr 2020 20:53

Tgt Ion: 72 Resp: 60991

Ion	Ratio	Lower	Upper
72	100		
71	96.3	75.9	115.9
42	226.0	189.3	229.3

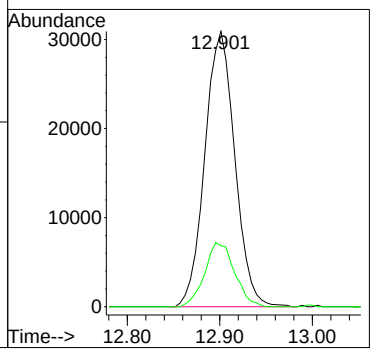


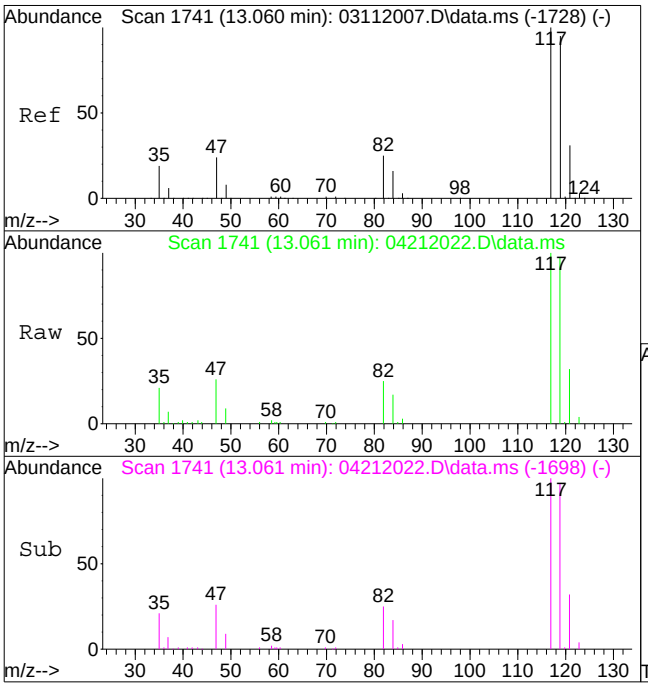


#41
Benzene
Concen: 0.49 ng
RT: 12.90 min Scan# 1712
Delta R.T. -0.011 min
Lab File: 04212022.D
Acq: 21 Apr 2020 20:53

Tgt Ion: 78 Resp: 69583

Ion	Ratio	Lower	Upper
78	100		
77	23.2	3.4	43.4

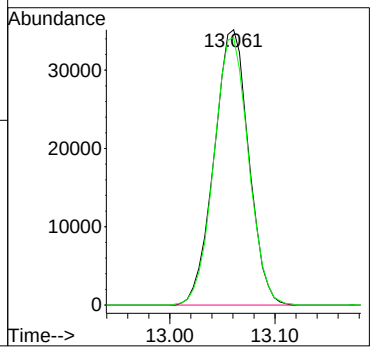


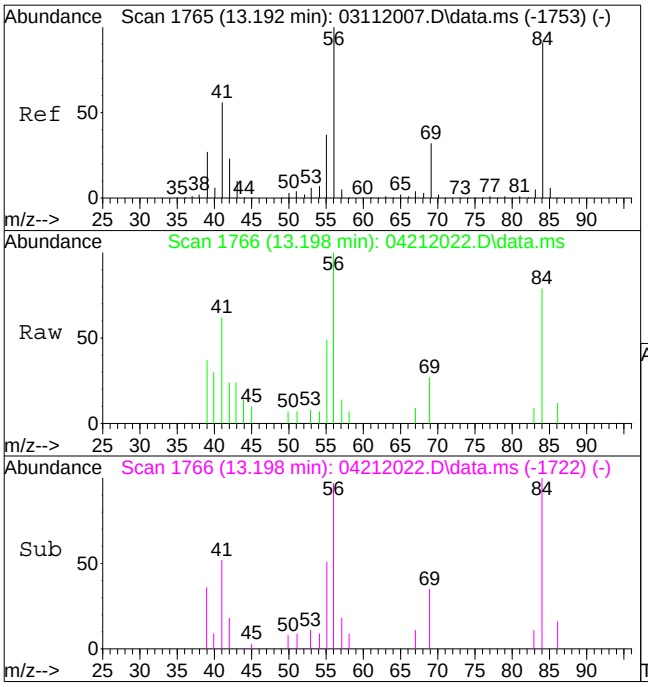


#42
Carbon Tetrachloride
Concen: 1.65 ng
RT: 13.06 min Scan# 1741
Delta R.T. -0.011 min
Lab File: 04212022.D
Acq: 21 Apr 2020 20:53

Tgt Ion:117 Resp: 80401

Ion	Ratio	Lower	Upper
117	100		
119	97.5	75.4	115.4

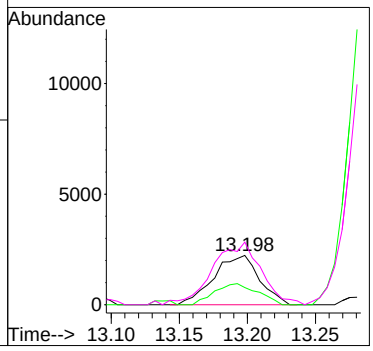


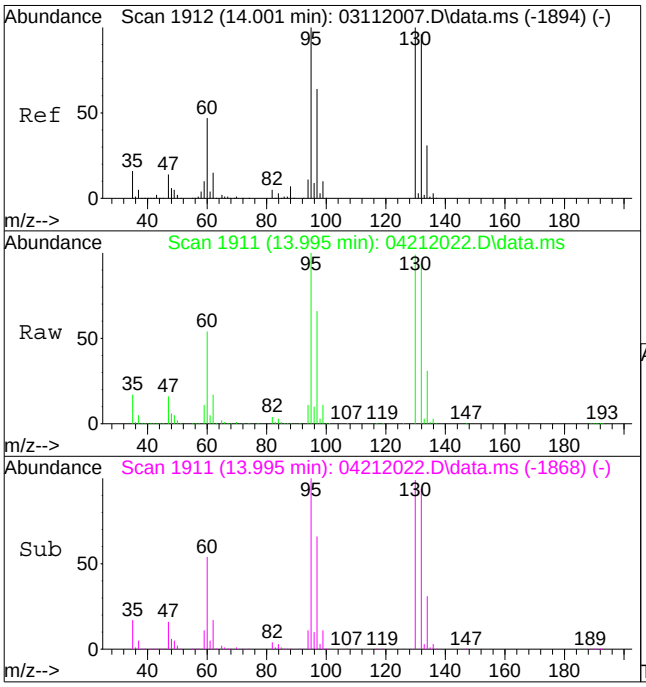


#43
Cyclohexane
Concen: 0.10 ng
RT: 13.20 min Scan# 1766
Delta R.T. -0.005 min
Lab File: 04212022.D
Acq: 21 Apr 2020 20:53

Tgt Ion: 84 Resp: 5202

Ion	Ratio	Lower	Upper
84	100		
69	40.5	15.3	55.3
56	135.5	90.5	130.5#

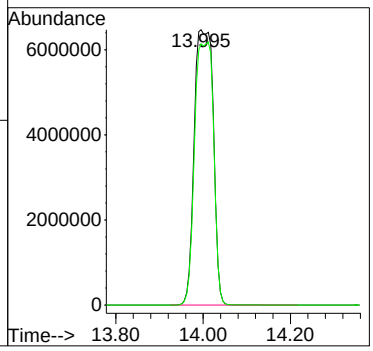


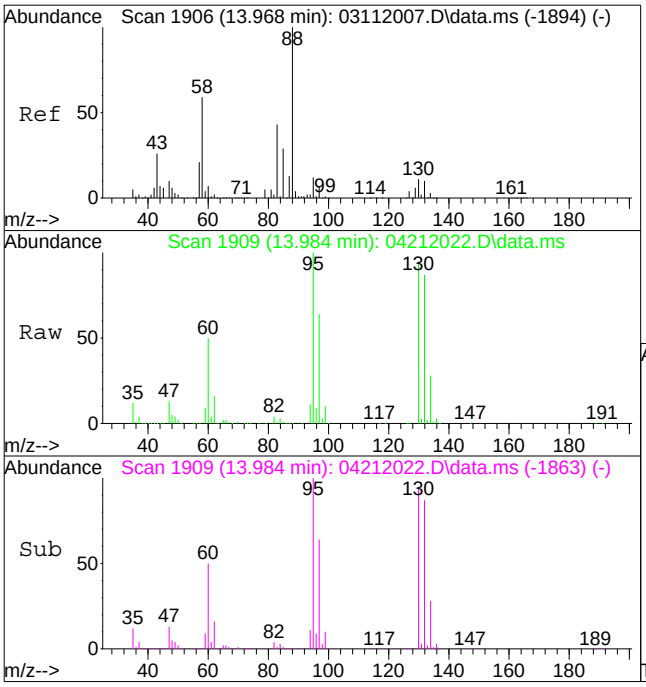


#47
Trichloroethene
Concen: 487.34 ng
RT: 14.00 min Scan# 1911
Delta R.T. -0.011 min
Lab File: 04212022.D
Acq: 21 Apr 2020 20:53

Tgt Ion:130 Resp:19550432

Ion	Ratio	Lower	Upper
130	100		
132	94.7	74.7	114.7

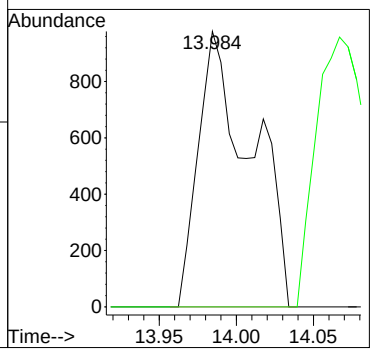


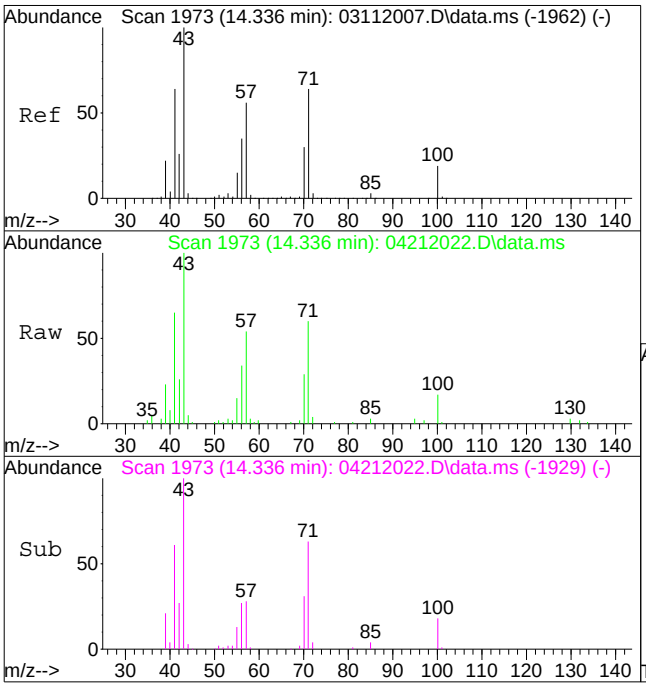


#48
1,4-Dioxane
Concen: 0.08 ng
RT: 13.98 min Scan# 1909
Delta R.T. 0.006 min
Lab File: 04212022.D
Acq: 21 Apr 2020 20:53

Tgt Ion: 88 Resp: 2324

Ion	Ratio	Lower	Upper
88	100		
58	0.0	39.5	79.5#

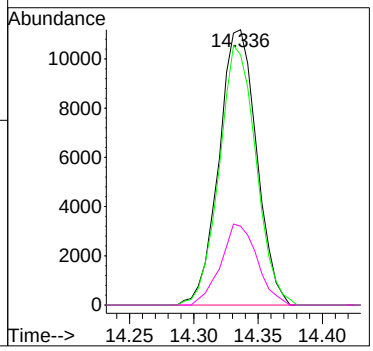


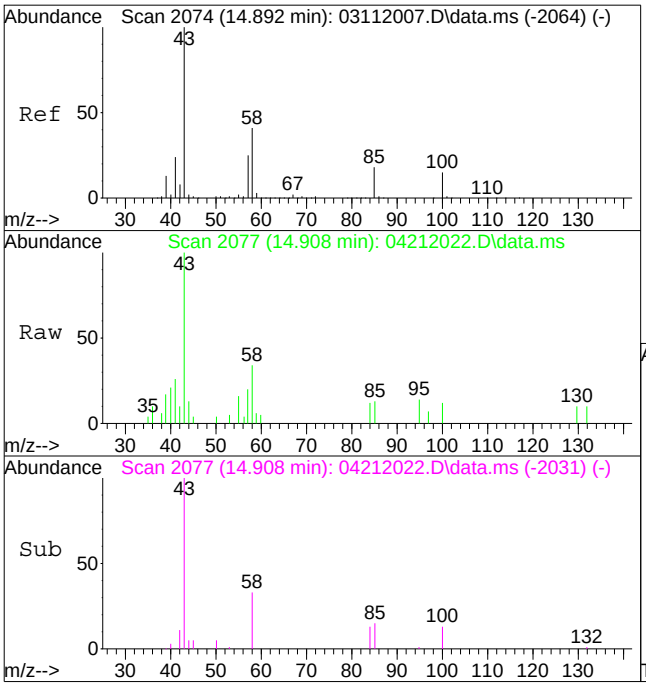


#51
n-Heptane
Concen: 0.69 ng
RT: 14.34 min Scan# 1973
Delta R.T. -0.005 min
Lab File: 04212022.D
Acq: 21 Apr 2020 20:53

Tgt Ion: 71 Resp: 22766

Ion	Ratio	Lower	Upper
71	100		
57	92.2	68.6	108.6
100	28.5	9.1	49.1

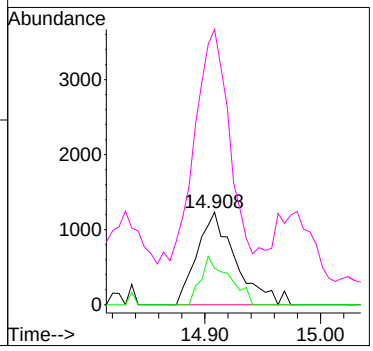


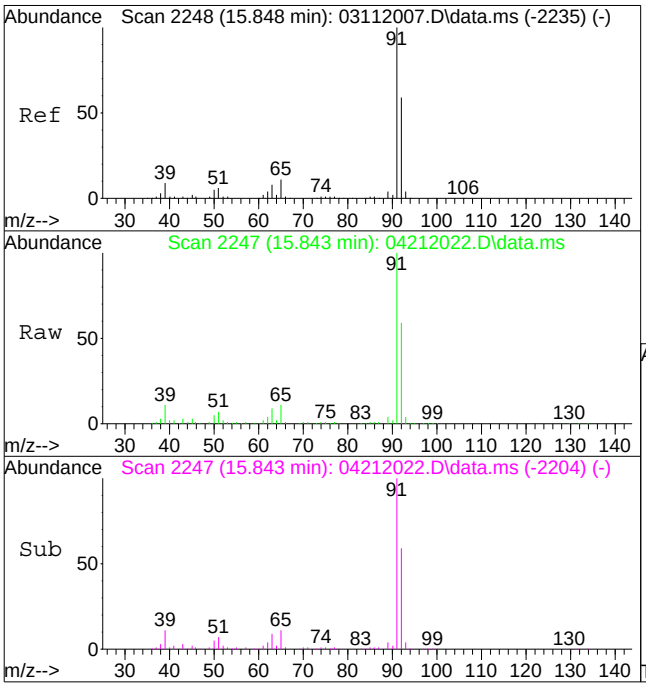


#53
4-Methyl-2-pentanone
Concen: 0.10 ng
RT: 14.91 min Scan# 2077
Delta R.T. 0.006 min
Lab File: 04212022.D
Acq: 21 Apr 2020 20:53

Tgt Ion: 58 Resp: 2869

Ion	Ratio	Lower	Upper
58	100		
85	38.0	37.0	55.4
43	286.2	196.3	294.5

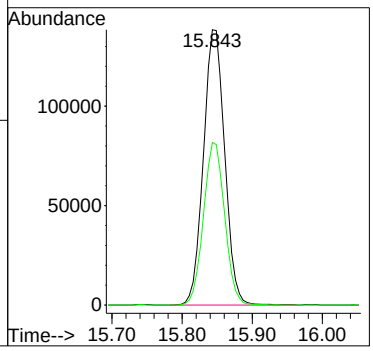


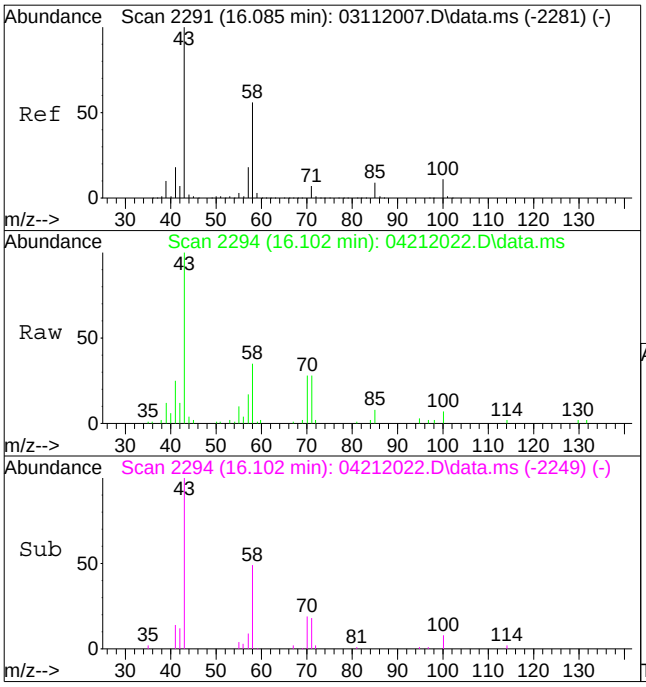


#58
Toluene
Concen: 1.95 ng
RT: 15.84 min Scan# 2247
Delta R.T. -0.011 min
Lab File: 04212022.D
Acq: 21 Apr 2020 20:53

Tgt Ion: 91 Resp: 292070

Ion	Ratio	Lower	Upper
91	100		
92	58.6	39.0	79.0

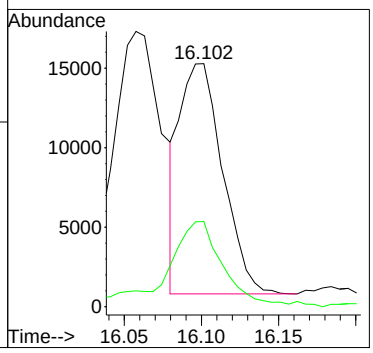


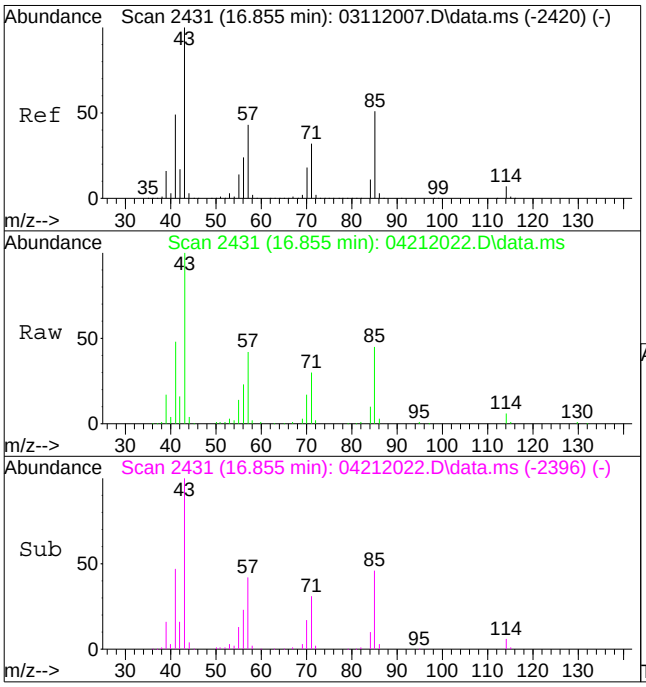


#59
2-Hexanone
Concen: 0.37 ng
RT: 16.10 min Scan# 2294
Delta R.T. 0.000 min
Lab File: 04212022.D
Acq: 21 Apr 2020 20:53

Tgt Ion: 43 Resp: 28079

Ion	Ratio	Lower	Upper
43	100		
58	51.5	36.5	76.5

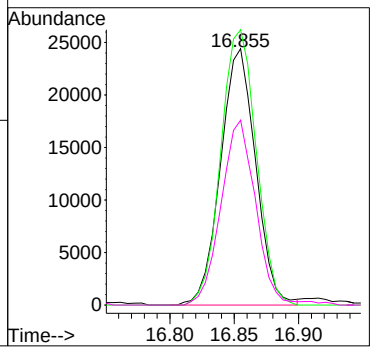


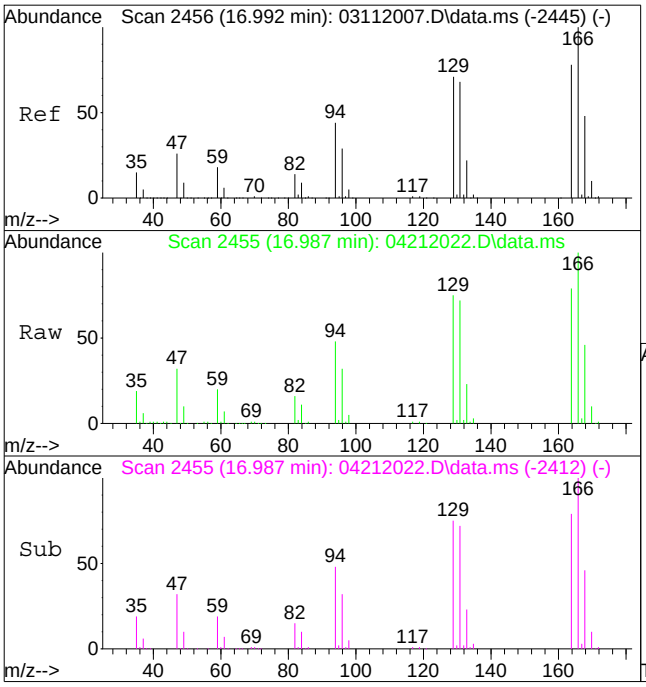


#63
n-Octane
Concen: 1.56 ng
RT: 16.85 min Scan# 2431
Delta R.T. -0.005 min
Lab File: 04212022.D
Acq: 21 Apr 2020 20:53

Tgt Ion: 57 Resp: 46461

Ion	Ratio	Lower	Upper
57	100		
85	108.1	95.1	142.7
71	71.3	58.2	87.4

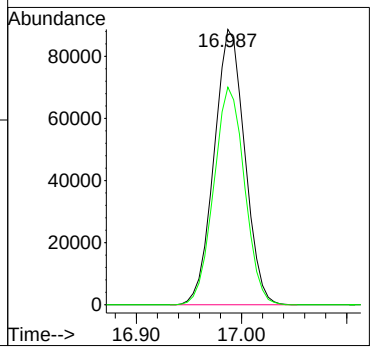


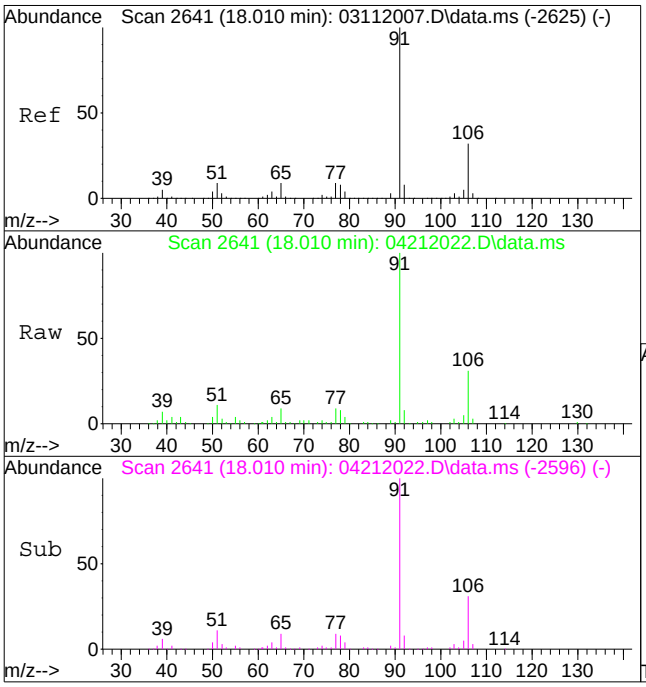


#64
Tetrachloroethene
Concen: 4.31 ng
RT: 16.99 min Scan# 2455
Delta R.T. -0.011 min
Lab File: 04212022.D
Acq: 21 Apr 2020 20:53

Tgt Ion:166 Resp: 179855

Ion	Ratio	Lower	Upper
166	100		
164	79.3	58.6	98.6

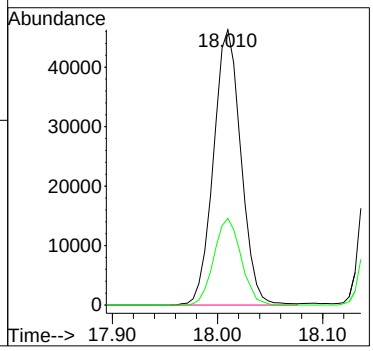


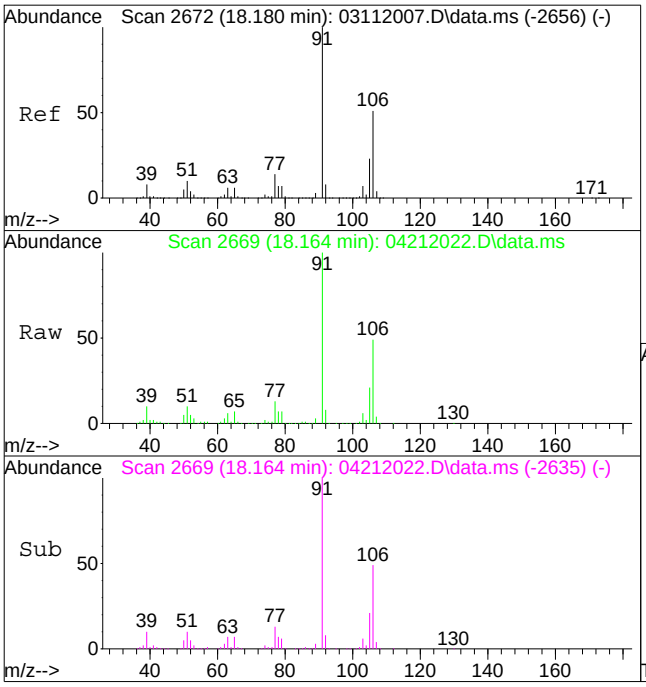


#66
Ethylbenzene
Concen: 0.51 ng
RT: 18.01 min Scan# 2641
Delta R.T. 0.000 min
Lab File: 04212022.D
Acq: 21 Apr 2020 20:53

Tgt Ion: 91 Resp: 84096

Ion	Ratio	Lower	Upper
91	100		
106	31.0	11.7	51.7

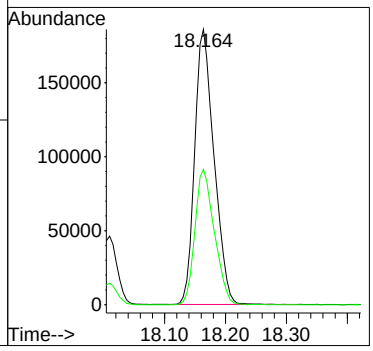


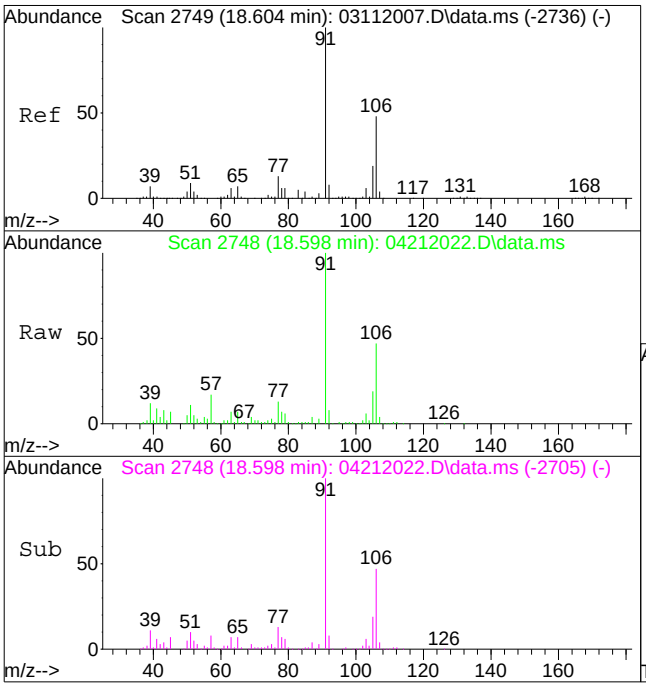


#67
m- & p-Xylenes
Concen: 3.07 ng
RT: 18.16 min Scan# 2669
Delta R.T. -0.011 min
Lab File: 04212022.D
Acq: 21 Apr 2020 20:53

Tgt Ion: 91 Resp: 410631

Ion	Ratio	Lower	Upper
91	100		
106	49.4	30.4	70.4

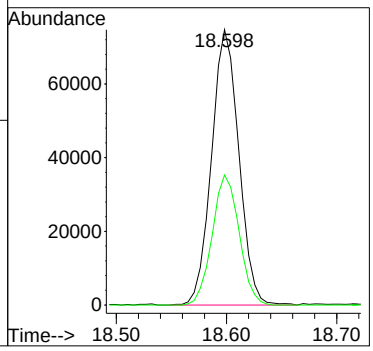


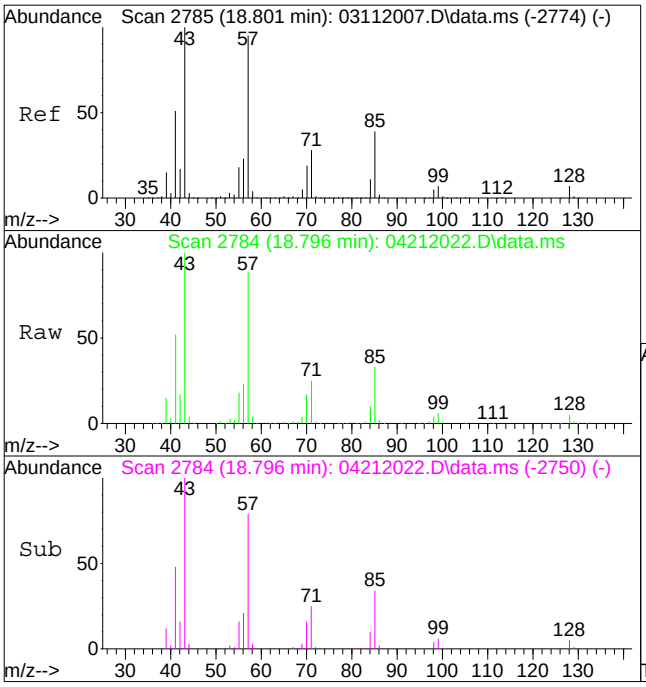


#70
o-Xylene
Concen: 0.96 ng
RT: 18.60 min Scan# 2748
Delta R.T. -0.011 min
Lab File: 04212022.D
Acq: 21 Apr 2020 20:53

Tgt Ion: 91 Resp: 128470

Ion	Ratio	Lower	Upper
91	100		
106	46.6	28.1	68.1

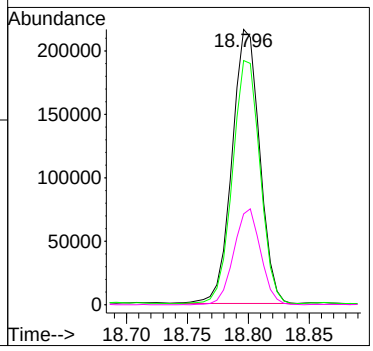


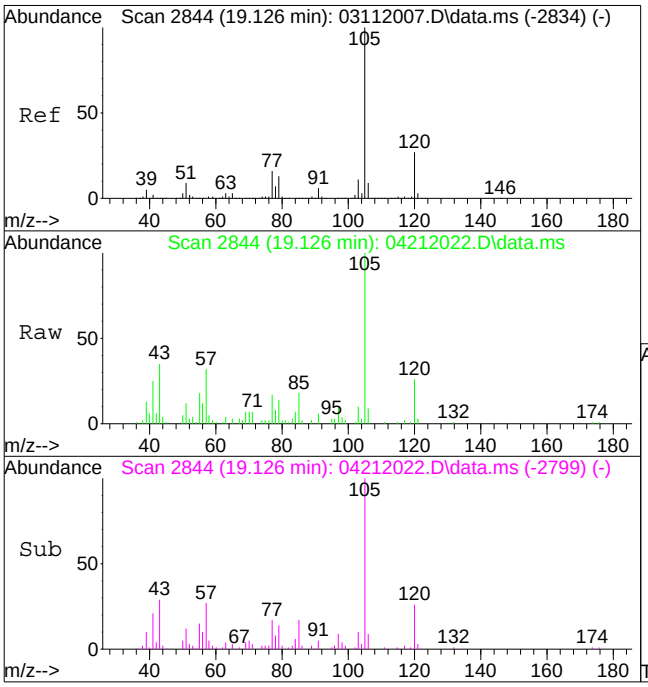


#71
n-Nonane
Concen: 5.10 ng
RT: 18.80 min Scan# 2784
Delta R.T. -0.011 min
Lab File: 04212022.D
Acq: 21 Apr 2020 20:53

Tgt Ion: 43 Resp: 340585

Ion	Ratio	Lower	Upper
43	100		
57	88.6	73.6	113.6
85	33.9	18.7	58.7

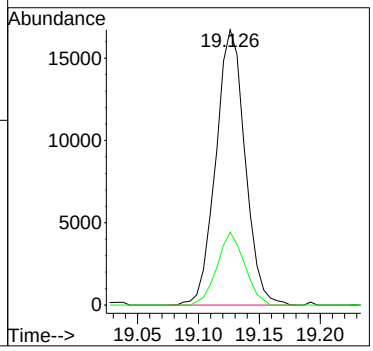


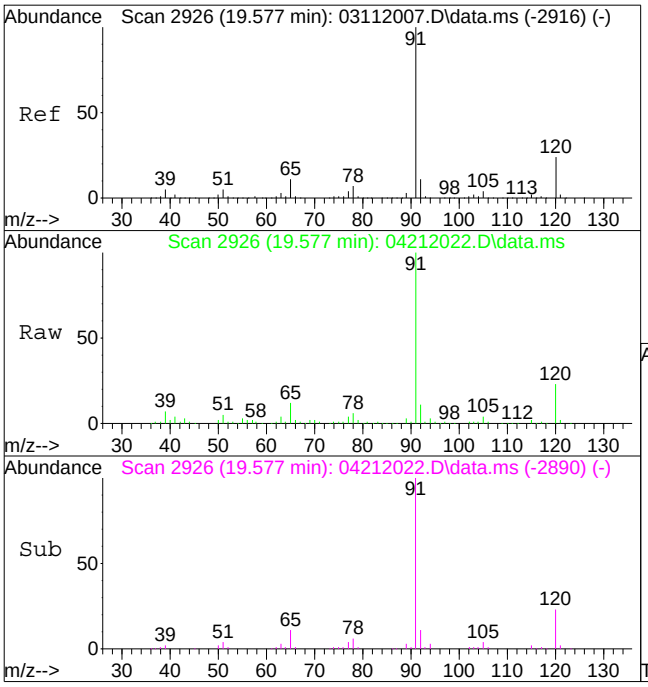


#74
Cumene
Concen: 0.16 ng
RT: 19.13 min Scan# 2844
Delta R.T. 0.000 min
Lab File: 04212022.D
Acq: 21 Apr 2020 20:53

Tgt Ion:105 Resp: 27869

Ion	Ratio	Lower	Upper
105	100		
120	25.0	7.2	47.2

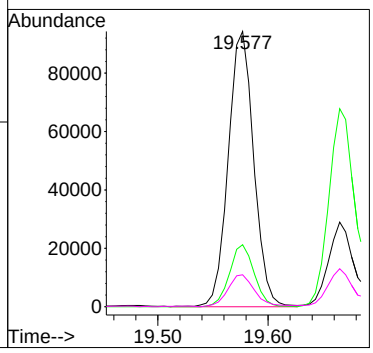


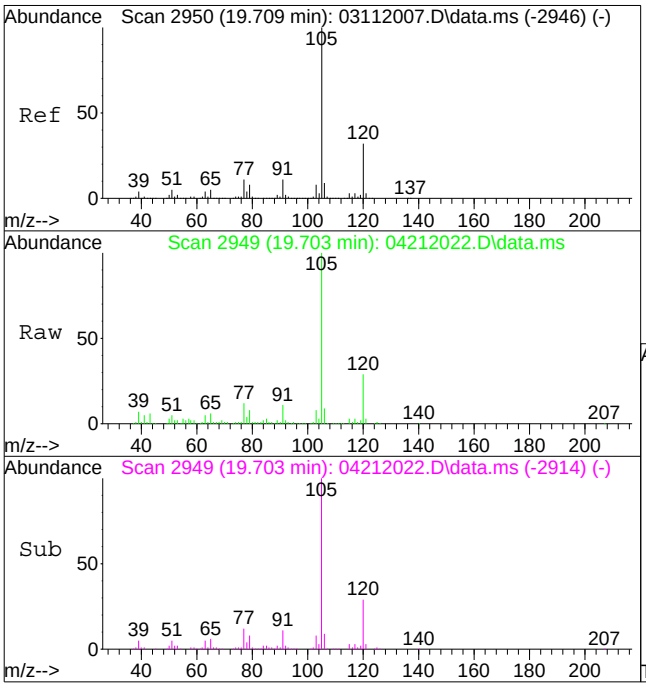


#76
n-Propylbenzene
Concen: 0.77 ng
RT: 19.58 min Scan# 2926
Delta R.T. -0.000 min
Lab File: 04212022.D
Acq: 21 Apr 2020 20:53

Tgt Ion: 91 Resp: 151934

Ion	Ratio	Lower	Upper
91	100		
120	21.8	3.9	43.9
65	12.4	0.0	30.5

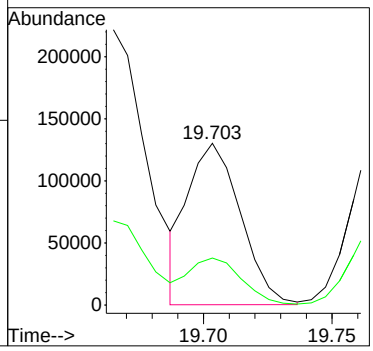


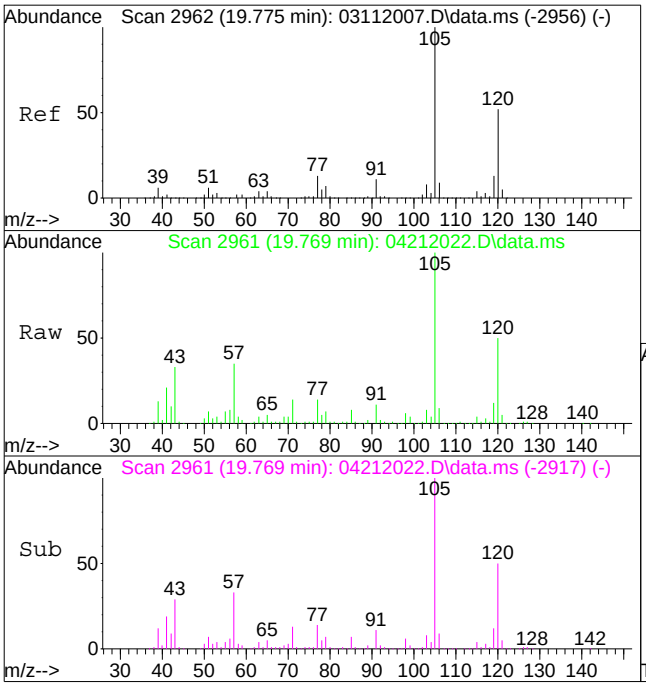


#78
4-Ethyltoluene
Concen: 1.16 ng
RT: 19.70 min Scan# 2949
Delta R.T. -0.006 min
Lab File: 04212022.D
Acq: 21 Apr 2020 20:53

Tgt Ion:105 Resp: 186349

Ion	Ratio	Lower	Upper
105	100		
120	29.9	11.1	51.1

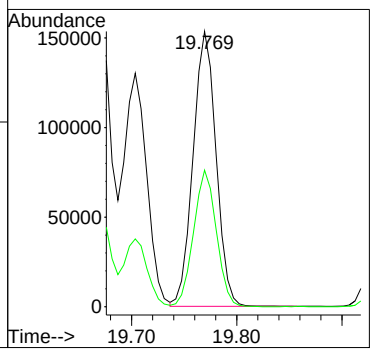


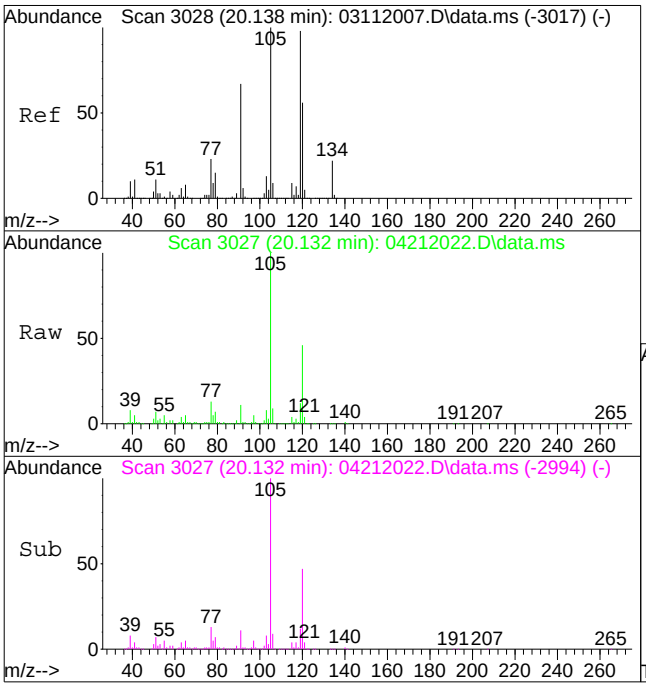


#79
1,3,5-Trimethylbenzene
Concen: 1.64 ng
RT: 19.77 min Scan# 2961
Delta R.T. -0.006 min
Lab File: 04212022.D
Acq: 21 Apr 2020 20:53

Tgt Ion:105 Resp: 233625

Ion	Ratio	Lower	Upper
105	100		
120	49.4	31.3	71.3

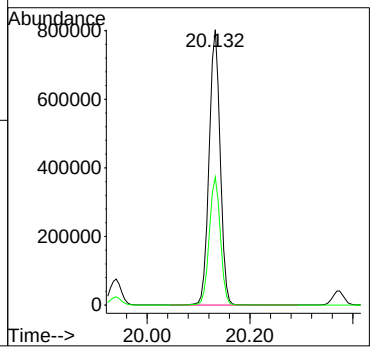


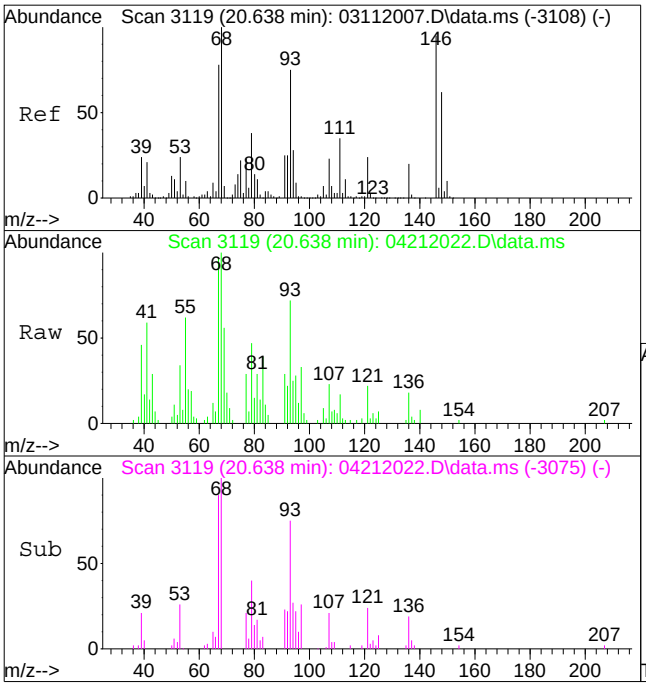


#82
1,2,4-Trimethylbenzene
Concen: 8.06 ng
RT: 20.13 min Scan# 3027
Delta R.T. -0.017 min
Lab File: 04212022.D
Acq: 21 Apr 2020 20:53

Tgt Ion:105 Resp: 1192718

Ion	Ratio	Lower	Upper
105	100		
120	46.7	35.8	75.8

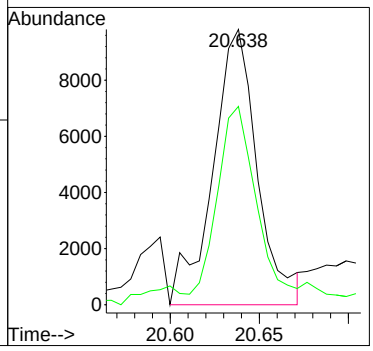


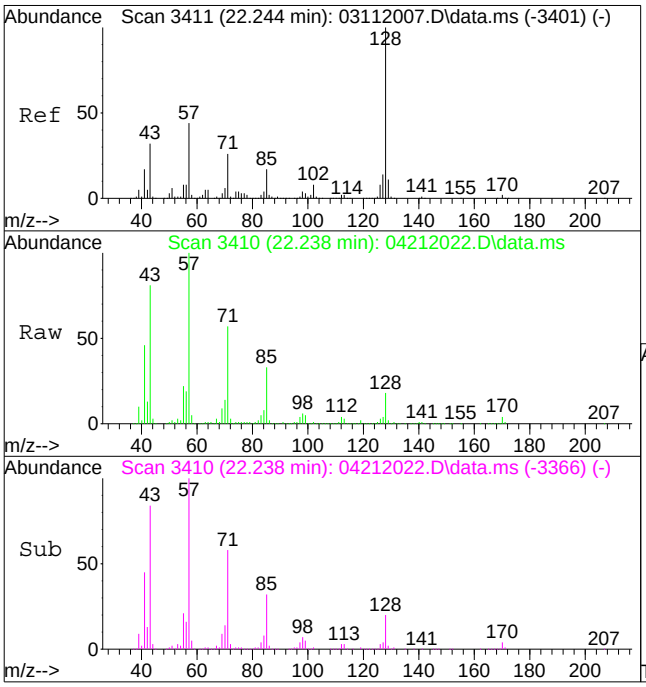


#91
d-Limonene
Concen: 0.30 ng
RT: 20.64 min Scan# 3119
Delta R.T. -0.011 min
Lab File: 04212022.D
Acq: 21 Apr 2020 20:53

Tgt Ion: 68 Resp: 17043

Ion	Ratio	Lower	Upper
68	100		
93	60.6	54.7	94.7

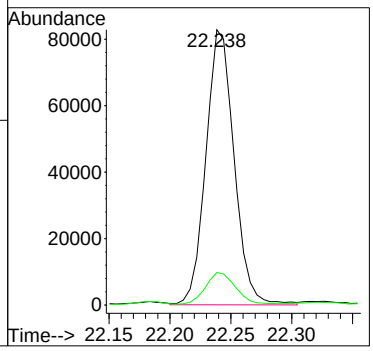




#95
Naphthalene
Concen: 0.81 ng
RT: 22.24 min Scan# 3410
Delta R.T. -0.011 min
Lab File: 04212022.D
Acq: 21 Apr 2020 20:53

Tgt Ion:128 Resp: 133533

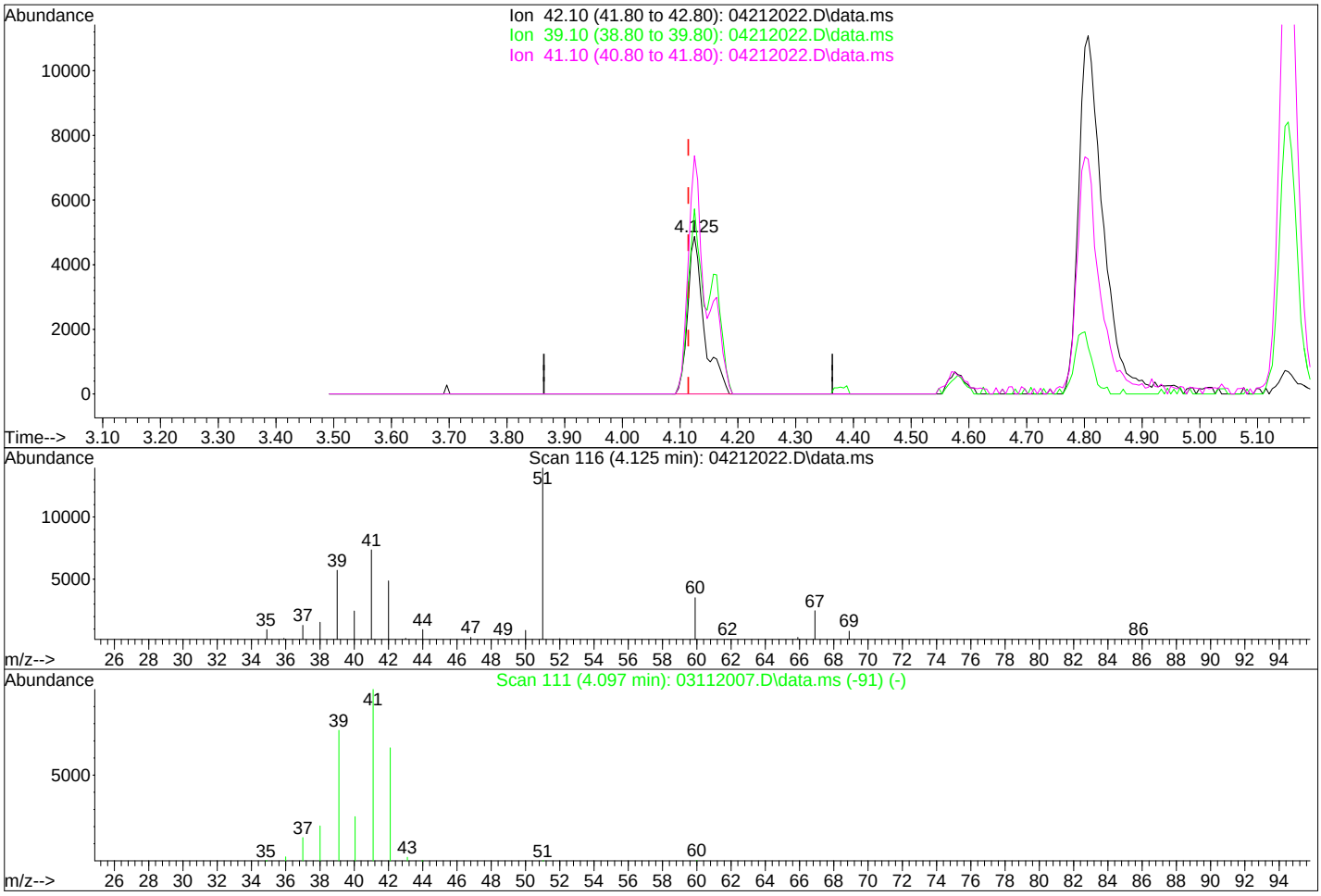
Ion	Ratio	Lower	Upper
128	100		
129	12.5	0.0	31.1



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\21\04212022.D Vial: 11
Acq On : 21 Apr 2020 20:53 Operator: WA
Sample : P2002032-002 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 03:15:15 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04212022.D\data.ms

(2) Propene (T)

4.125min (+0.011) 0.30ng

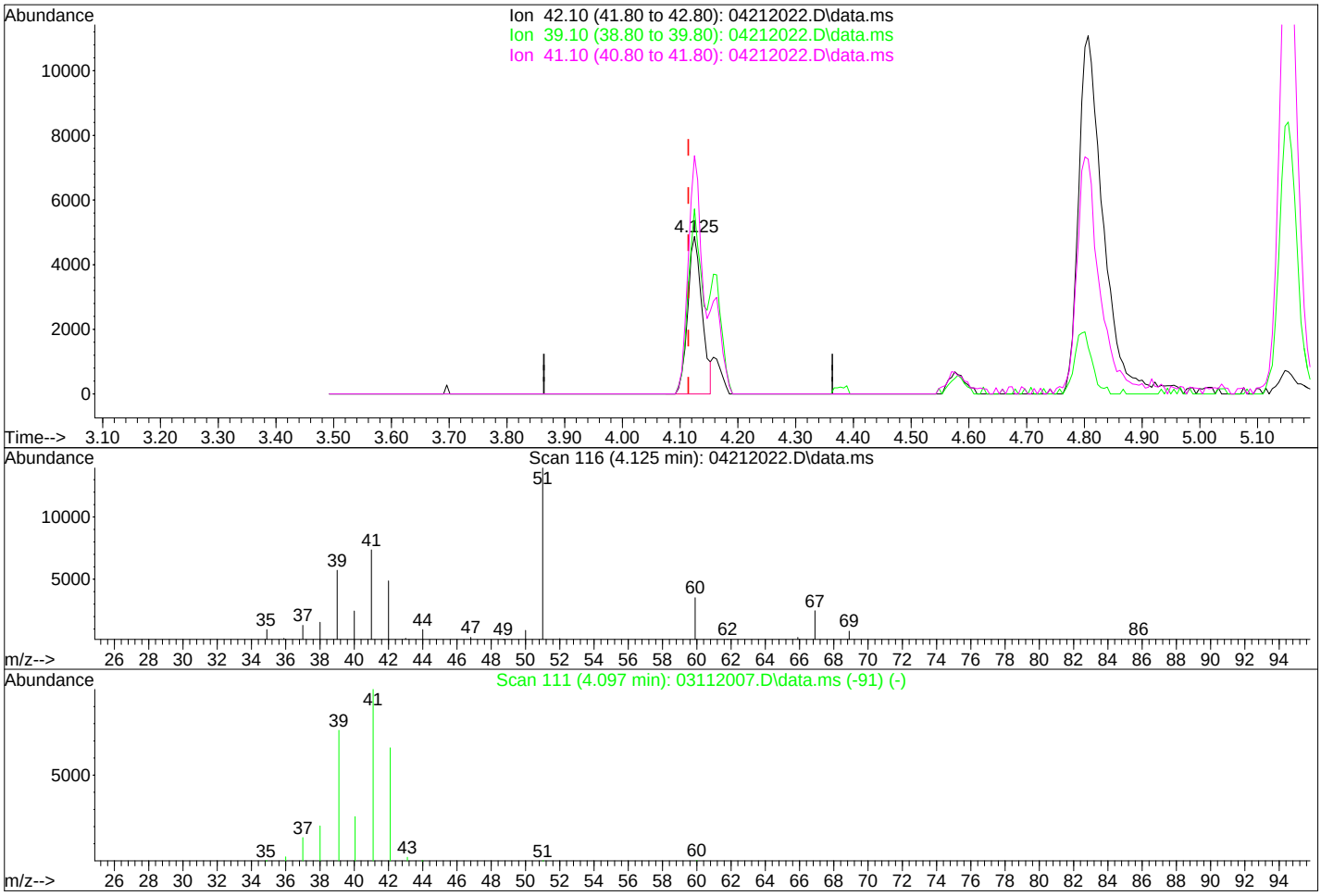
response 9676

Ion	Exp%	Act%
42.10	100	100
39.10	115.30	101.60
41.10	152.00	169.47
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\21\04212022.D Vial: 11
Acq On : 21 Apr 2020 20:53 Operator: WA
Sample : P2002032-002 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 03:15:15 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04212022.D\data.ms

(2) Propene (T)

4.125min (+0.011) 0.26ng m

response 8430

Ion	Exp%	Act%
42.10	100	100
39.10	115.30	116.62
41.10	152.00	194.52#
0.00	0.00	0.00

IPC

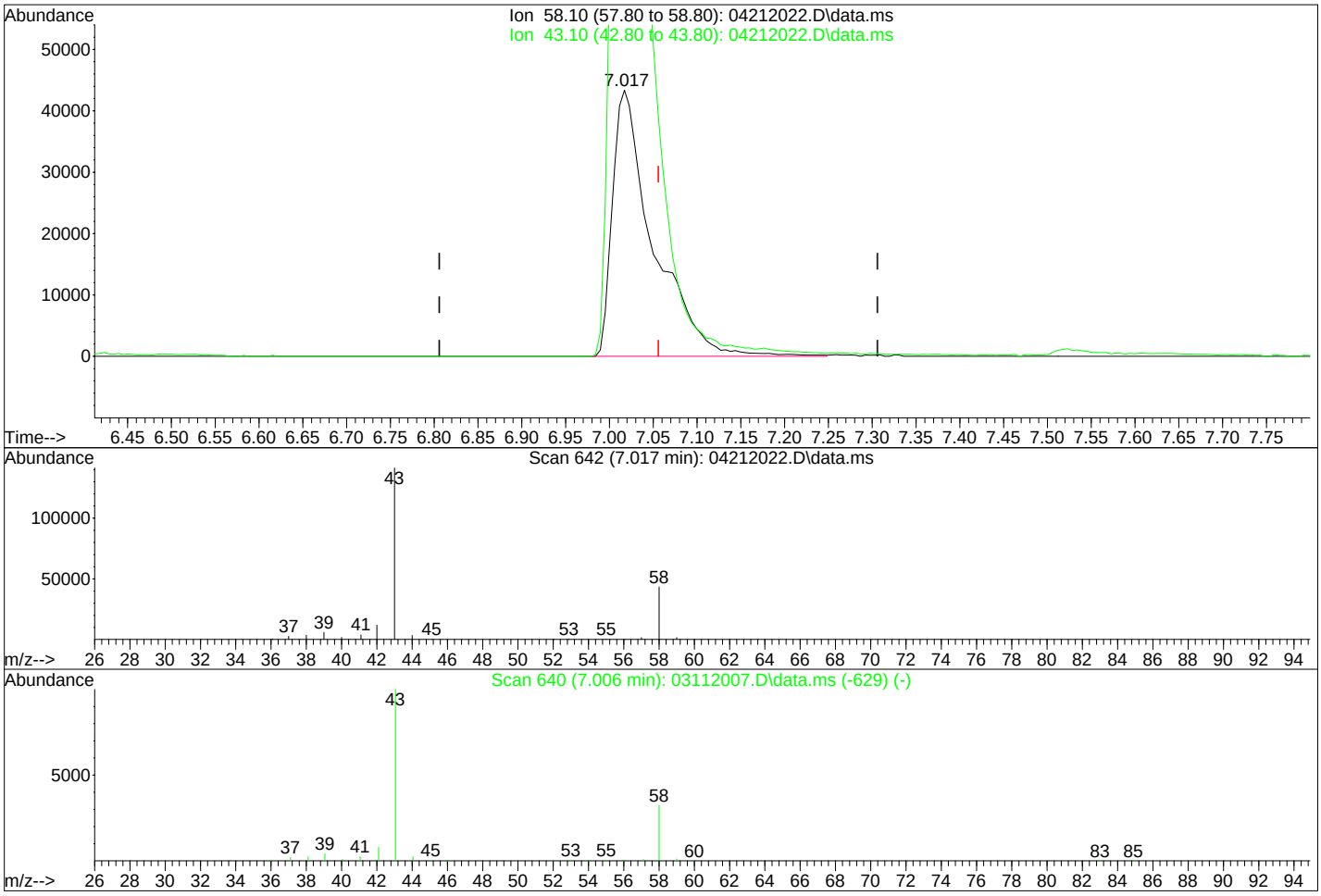
LH 4/24/20

TD 4/27/20

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\21\04212022.D Vial: 11
Acq On : 21 Apr 2020 20:53 Operator: WA
Sample : P2002032-002 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 03:15:15 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04212022.D\data.ms

(13) Acetone (T)

7.017min (-0.039) 5.54ng

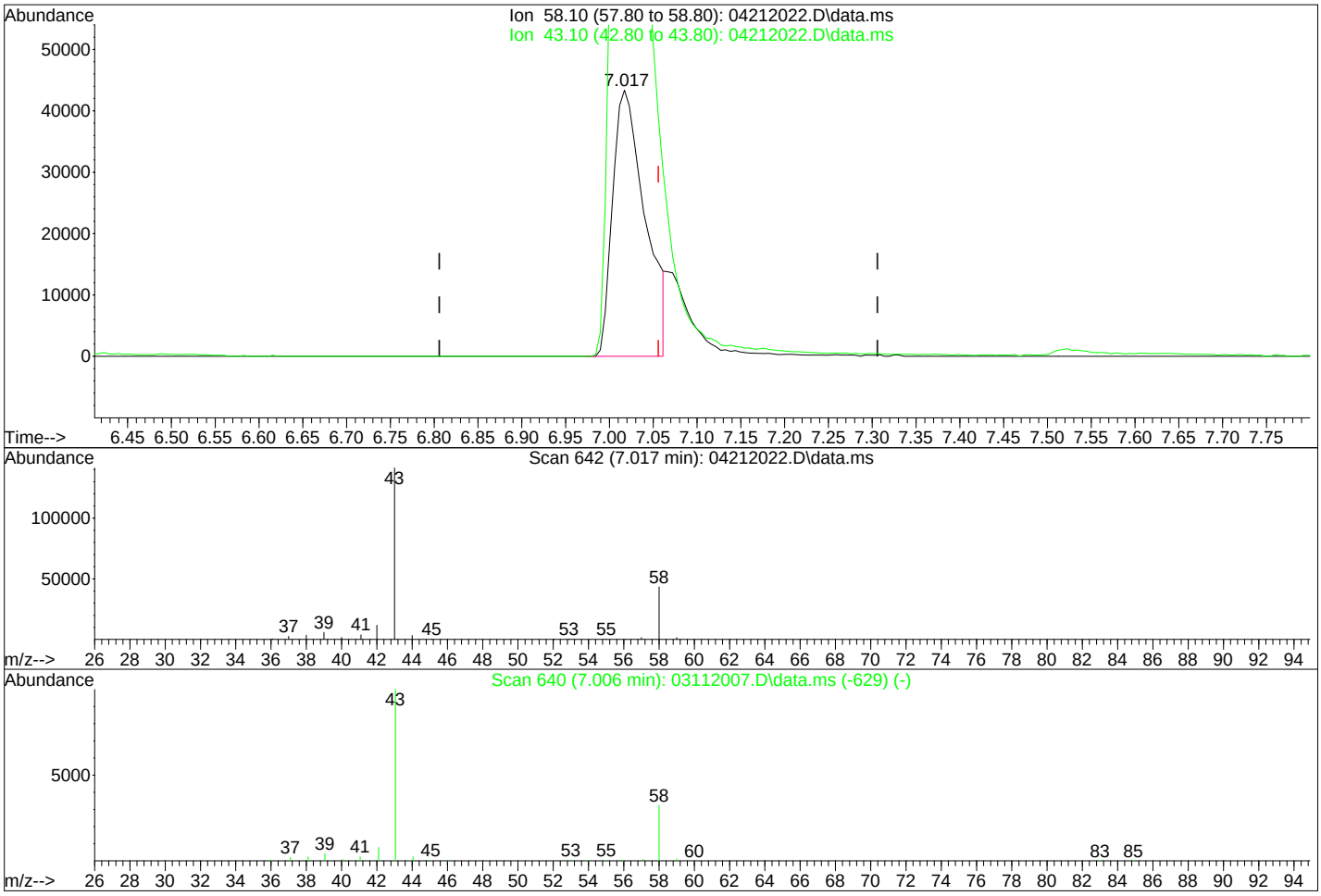
response 139983

Ion	Exp%	Act%
58.10	100	100
43.10	317.30	284.20#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\21\04212022.D Vial: 11
Acq On : 21 Apr 2020 20:53 Operator: WA
Sample : P2002032-002 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 03:15:15 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04212022.D\data.ms

(13) Acetone (T)

7.017min (-0.039) 4.40ng m

response 111332

Ion	Exp%	Act%
58.10	100	100
43.10	317.30	357.34#
0.00	0.00	0.00
0.00	0.00	0.00

IPC

LH 4/24/20

TD 4/27/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\22\04222007.D Vial: 11
Acq On : 22 Apr 2020 5:52 Operator: WA
Sample : P2002032-002dil (25mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 13:01:00 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020 LH 4/24/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	379225	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1655392	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	774677	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.01	65	633516	12.064	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.48%			
57) Toluene-d8 (SS2)	15.74	98	1669415	12.158	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.28%			
73) Bromofluorobenzene (SS3)	19.00	174	555365	11.454	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.60%			
Target Compounds						Qvalue
2) Propene	4.16	42	847	N.D.		
3) Dichlorodifluoromethan...	4.30	85	2108	N.D.		
4) Chloromethane	4.59	50	1049	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.36	45	15787	0.502	ng	87
11) Acetonitrile	6.65	41	5847	0.085	ng	86
12) Acrolein	6.85	56	699	N.D.		
13) Acetone	7.06	58	10551	0.340	ng	87
14) Trichlorofluoromethane	7.28	101	819	N.D.		
15) 2-Propanol (Isopropanol)	7.60	45	3139	N.D.		
16) Acrylonitrile	7.83	53	58	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	8.51	59	1089	N.D.		
19) Methylene Chloride	8.43	84	518	N.D.		
20) 3-Chloro-1-propene (Al...	8.52	41	529	N.D.		
21) Trichlorotrifluoroethane	8.86	151	4902	0.136	ng	96
22) Carbon Disulfide	8.73	76	20361	0.140	ng	99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	10.56	72	718	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	11.28	57	816	N.D.		
32) Chloroform	11.32	83	2059	N.D.		
34) Tetrahydrofuran (THF)	11.79	72	2881	0.108	ng #	73
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.03	62	123	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D. d		
41) Benzene	12.90	78	5713	N.D.		
42) Carbon Tetrachloride	13.06	117	3784	0.064	ng	97
43) Cyclohexane	13.20	84	259	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D. d		
47) Trichloroethene	13.99	130	1037772	21.396	ng	100
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	14.07	57	2976	N.D.		
50) Methyl Methacrylate	14.33	100	197	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\22\04222007.D Vial: 11
Acq On : 22 Apr 2020 5:52 Operator: WA
Sample : P2002032-002dil (25mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 13:01:00 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

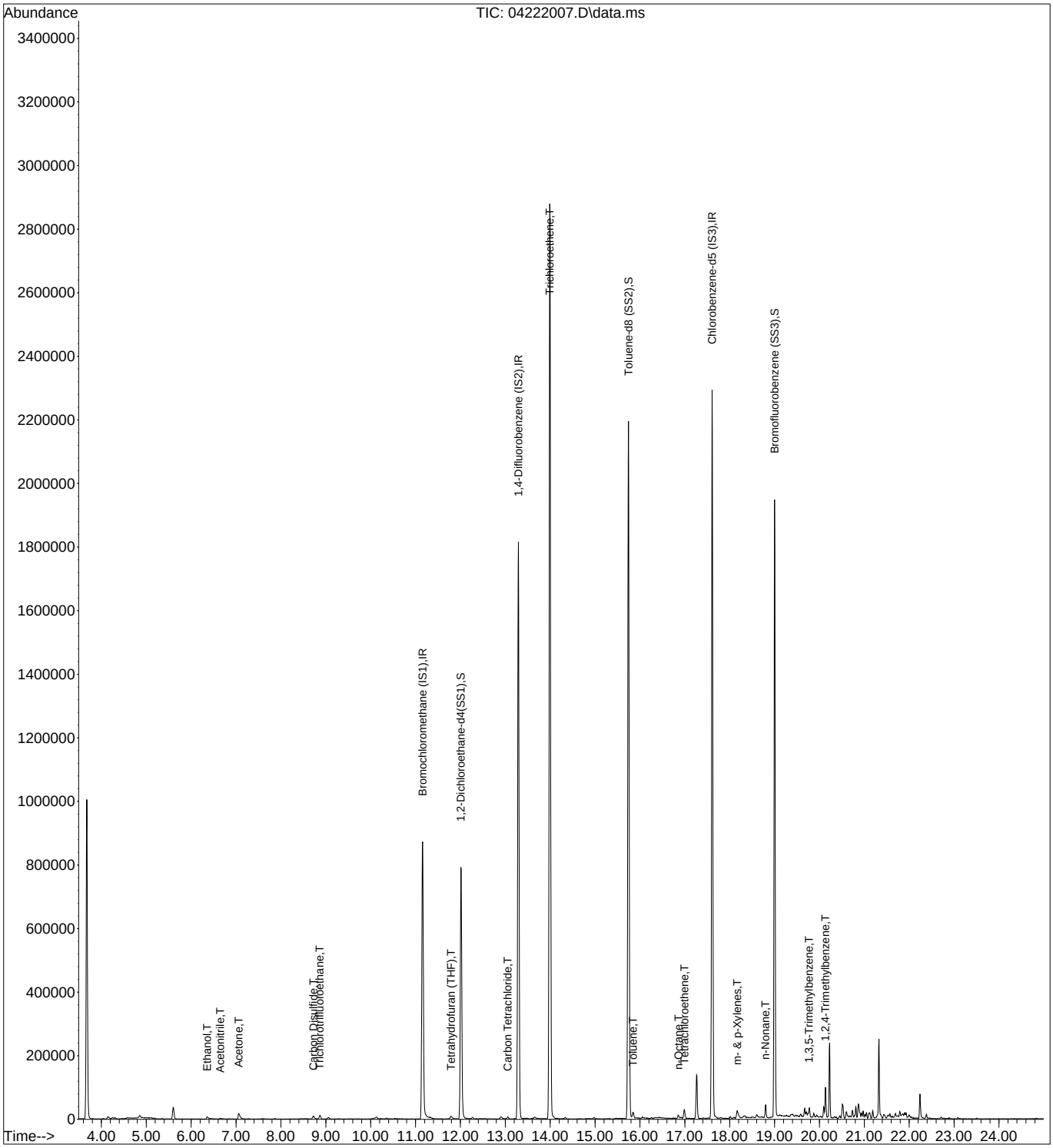
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.34	71	1247	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.84	91	16559	0.098 ng		93
59) 2-Hexanone	16.10	43	449	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.76	43	591	N.D.		
63) n-Octane	16.86	57	2857	0.085 ng	#	79
64) Tetrachloroethene	16.99	166	8685	0.184 ng		99
65) Chlorobenzene	17.66	112	231	N.D.		
66) Ethylbenzene	18.01	91	4968	N.D.		
67) m- & p-Xylenes	18.17	91	22598	0.149 ng		91
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.52	104	775	N.D.		
70) o-Xylene	18.60	91	6403	N.D.		
71) n-Nonane	18.80	43	14811	0.196 ng		92
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.12	105	1367	N.D.		
75) alpha-Pinene	19.48	93	303	N.D.		
76) n-Propylbenzene	19.58	91	7505	N.D.		
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.71	105	8035	N.D.		
79) 1,3,5-Trimethylbenzene	19.77	105	10203	0.063 ng		82
80) alpha-Methylstyrene	19.91	118	944	N.D.		
81) 2-Ethyltoluene	19.94	105	5404	N.D.		
82) 1,2,4-Trimethylbenzene	20.13	105	49124	0.293 ng		87
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.25	91	642	N.D.		
85) 1,3-Dichlorobenzene	20.28	146	888	N.D.		
86) 1,4-Dichlorobenzene	20.33	146	1083	N.D.		
87) sec-Butylbenzene	20.37	105	3189	N.D.		
88) 4-Isopropyltoluene (p-...	20.51	119	5829	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	20.64	146	316	N.D.		
91) d-Limonene	20.64	68	791	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.15	180	812	N.D.		
95) Naphthalene	22.25	128	8858	N.D.		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	22.38	225	102	N.D.		
98) Cyclohexanone	18.32	55	1820	N.D.		
99) tert-Butylbenzene	20.13	119	5427	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\22\04222007.D Vial: 11
Acq On : 22 Apr 2020 5:52 Operator: WA
Sample : P2002032-002dil (25mL) Inst : GCMS-16
Misc : S31-02112001

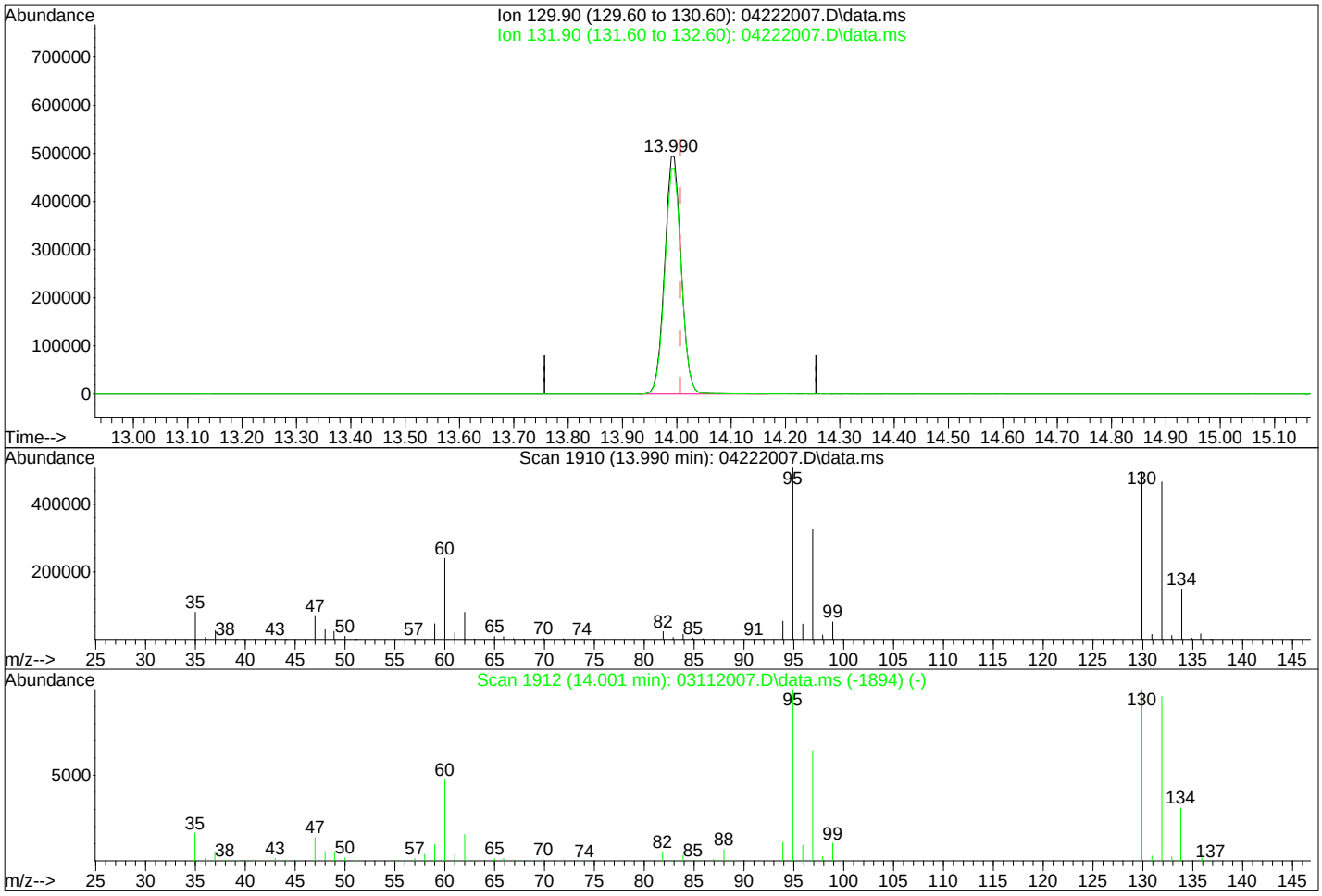
Quant Time: Apr 24 13:01:00 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\22\04222007.D Vial: 11
Acq On : 22 Apr 2020 5:52 Operator: WA
Sample : P2002032-002dil (25mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 09:11:30 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04222007.D\data.ms

(47) Trichloroethene (T)

13.990min (-0.016) 21.40ng

response 1037772

Ion	Exp%	Act%
129.90	100	100
131.90	94.70	95.09
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212023.D Vial: 12
Acq On : 21 Apr 2020 21:26 Operator: WA
Sample : P2002032-003 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 12:31:01 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/24/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	310495	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1366926	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	673163	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	537182	12.494	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.92%				
57) Toluene-d8 (SS2)	15.74	98	1421303	11.912	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.28%				
73) Bromofluorobenzene (SS3)	19.00	174	490576	11.643	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.12%				
Target Compounds							Qvalue
2) Propene	4.10	42	118746	3.647	ng		90
3) Dichlorodifluoromethan...	4.27	85	38205	0.545	ng		99
4) Chloromethane	4.55	50	4504	0.081	ng		90
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	5970	0.134	ng		98
6) Vinyl Chloride	4.96	62	709	N.D.			
7) 1,3-Butadiene	5.16	54	630	N.D.			
8) Bromomethane	5.67	94	349	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.32	45	519557	20.187	ng		100
11) Acetonitrile	6.62	41	3878	0.068	ng		94
12) Acrolein	6.82	56	1886	0.100	ng		94
13) Acetone	7.02	58	94591	3.724	ng	#	1
14) Trichlorofluoromethane	7.25	101	48055	0.778	ng		99
15) 2-Propanol (Isopropanol)	7.47	45	1041725	13.829	ng		100
16) Acrylonitrile	0.00	53	0	N.D. d			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d			
19) Methylene Chloride	8.43	84	9329	0.282	ng		99
20) 3-Chloro-1-propene (Al...	8.61	41	107	N.D.			
21) Trichlorotrifluoroethane	8.86	151	91636	3.102	ng		93
22) Carbon Disulfide	8.70	76	270887	2.279	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	10.12	63	633	N.D.			
25) Methyl tert-Butyl Ether	10.10	73	265	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	10.50	72	10474	0.495	ng		95
28) cis-1,2-Dichloroethene	10.99	61	236	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D. d			
30) Ethyl Acetate	11.30	61	28674	2.294	ng		90
31) n-Hexane	11.27	57	4537	0.078	ng	#	97
32) Chloroform	11.33	83	35281	0.572	ng		98
34) Tetrahydrofuran (THF)	11.76	72	30032	1.381	ng	#	90
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.15	62	693	N.D.			
38) 1,1,1-Trichloroethane	12.42	97	315	N.D.			
39) Isopropyl Acetate	12.90	61	310	N.D.			
40) 1-Butanol	0.00	56	0	N.D. d			
41) Benzene	12.90	78	55261	0.391	ng		99
42) Carbon Tetrachloride	13.06	117	88095	1.815	ng		99
43) Cyclohexane	13.19	84	6625	0.122	ng		92
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	13.53	63	1416	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D. d			
47) Trichloroethene	14.00	130	19406947	484.557	ng		100
48) 1,4-Dioxane	13.98	88	124	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d			
50) Methyl Methacrylate	14.24	100	103	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212023.D Vial: 12
Acq On : 21 Apr 2020 21:26 Operator: WA
Sample : P2002032-003 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 12:31:01 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

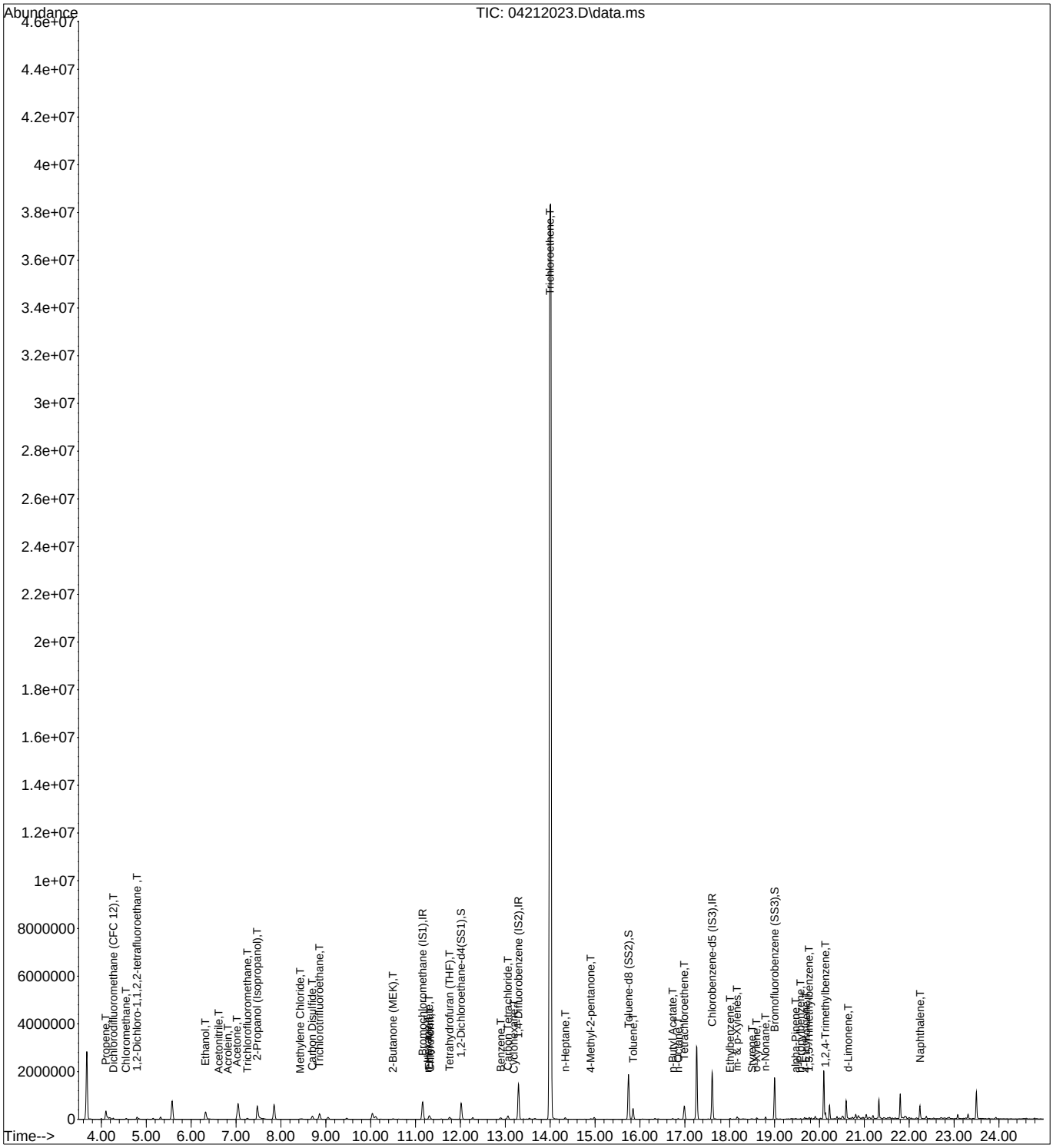
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.34	71	16926	0.513 ng	97
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.90	58	7477	0.252 ng	92
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	15.56	97	656	N.D.	
58) Toluene	15.85	91	376849	2.554 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.73	43	27200	0.345 ng	98
63) n-Octane	16.86	57	6450	0.220 ng	87
64) Tetrachloroethene	16.99	166	180437	4.389 ng	99
65) Chlorobenzene	17.69	112	1443	N.D.	
66) Ethylbenzene	18.01	91	27732	0.171 ng	100
67) m- & p-Xylenes	18.16	91	77252	0.587 ng	97
68) Bromoform	18.23	173	1301	N.D.	
69) Styrene	18.50	104	7157	0.069 ng	99
70) o-Xylene	18.60	91	27917	0.212 ng	97
71) n-Nonane	18.80	43	33556	0.510 ng	93
72) 1,1,2,2-Tetrachloroethane	18.61	83	287	N.D.	
74) Cumene	19.13	105	6325	N.D.	
75) alpha-Pinene	19.47	93	13874	0.165 ng	92
76) n-Propylbenzene	19.58	91	17822	0.092 ng	89
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.70	105	20871	0.132 ng	97
79) 1,3,5-Trimethylbenzene	19.77	105	24063	0.171 ng	96
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.13	105	135705	0.931 ng	86
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.34	91	3724	N.D.	
85) 1,3-Dichlorobenzene	20.33	146	488	N.D.	
86) 1,4-Dichlorobenzene	20.33	146	488	N.D.	
87) sec-Butylbenzene	20.37	105	8882	N.D.	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	20.63	146	134	N.D.	
91) d-Limonene	20.64	68	8905	0.158 ng	98
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.14	180	111	N.D.	
95) Naphthalene	22.24	128	48548	0.298 ng	97
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212023.D Vial: 12
Acq On : 21 Apr 2020 21:26 Operator: WA
Sample : P2002032-003 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 12:31:01 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212023.D Vial: 12
Acq On : 21 Apr 2020 21:26 Operator: WA
Sample : P2002032-003 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 12:31:01 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/24/20

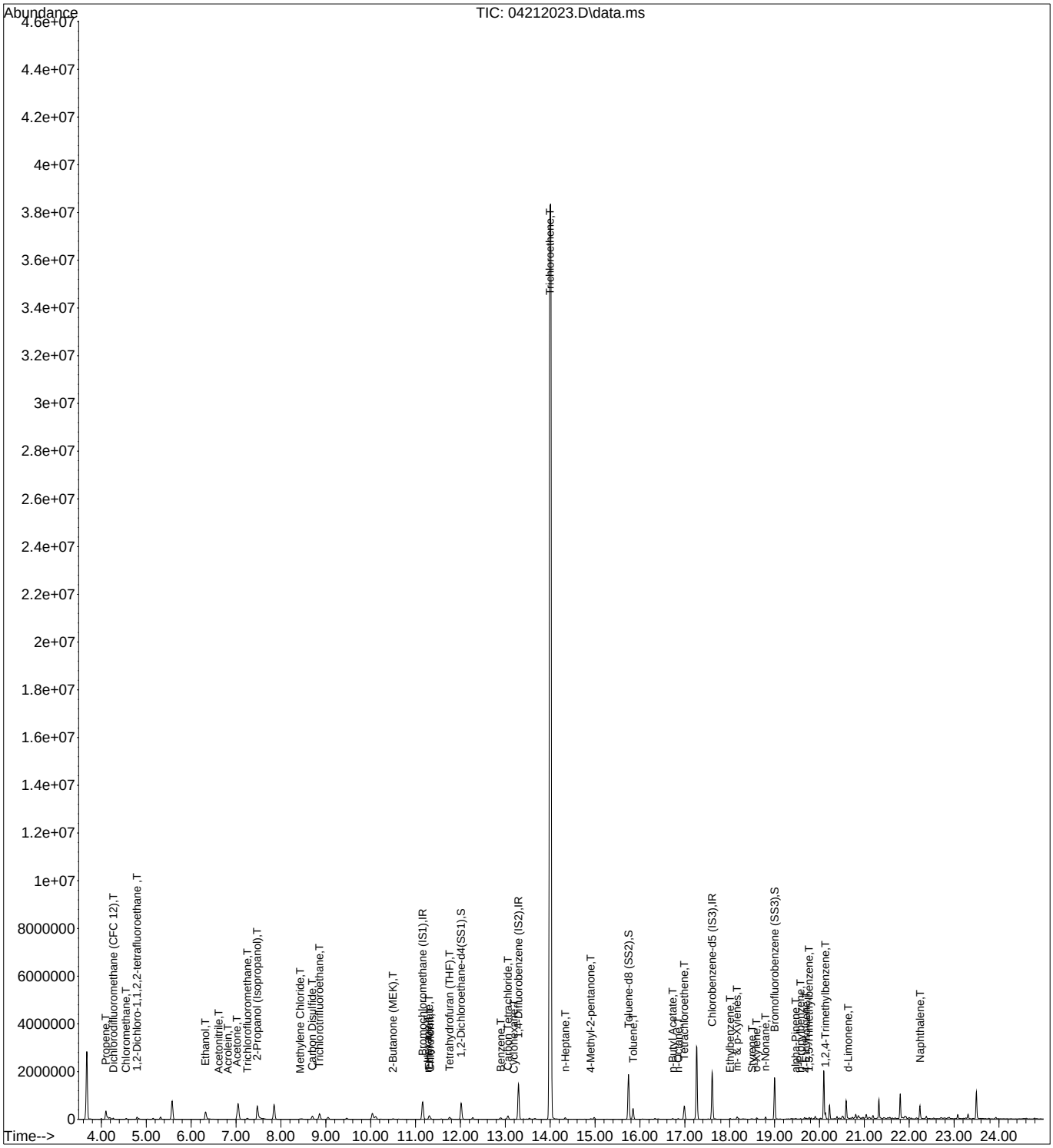
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	310495	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1366926	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	673163	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	537182	12.494	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.92%				
57) Toluene-d8 (SS2)	15.74	98	1421303	11.912	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.28%				
73) Bromofluorobenzene (SS3)	19.00	174	490576	11.643	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.12%				
Target Compounds							Qvalue
2) Propene	4.10	42	118746	3.647	ng		90
3) Dichlorodifluoromethan...	4.27	85	38205	0.545	ng		99
4) Chloromethane	4.55	50	4504	0.081	ng		90
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	5970	0.134	ng		98
10) Ethanol	6.32	45	519557	20.187	ng		100
11) Acetonitrile	6.62	41	3878	0.068	ng		94
12) Acrolein	6.82	56	1886	0.100	ng		94
13) Acetone	7.02	58	94591	3.724	ng	#	1
14) Trichlorofluoromethane	7.25	101	48055	0.778	ng		99
15) 2-Propanol (Isopropanol)	7.47	45	1041725	13.829	ng		100
19) Methylene Chloride	8.43	84	9329	0.282	ng		99
21) Trichlorotrifluoroethane	8.86	151	91636	3.102	ng		93
22) Carbon Disulfide	8.70	76	270887	2.279	ng		99
27) 2-Butanone (MEK)	10.50	72	10474	0.495	ng		95
30) Ethyl Acetate	11.30	61	28674	2.294	ng		90
31) n-Hexane	11.27	57	4537	0.078	ng	#	97
32) Chloroform	11.33	83	35281	0.572	ng		98
34) Tetrahydrofuran (THF)	11.76	72	30032	1.381	ng	#	90
41) Benzene	12.90	78	55261	0.391	ng		99
42) Carbon Tetrachloride	13.06	117	88095	1.815	ng		99
43) Cyclohexane	13.19	84	6625	0.122	ng		92
47) Trichloroethene	14.00	130	19406947	484.557	ng		100
51) n-Heptane	14.34	71	16926	0.513	ng		97
53) 4-Methyl-2-pentanone	14.90	58	7477	0.252	ng		92
58) Toluene	15.85	91	376849	2.554	ng		100
62) n-Butyl Acetate	16.73	43	27200	0.345	ng		98
63) n-Octane	16.86	57	6450	0.220	ng		87
64) Tetrachloroethene	16.99	166	180437	4.389	ng		99
66) Ethylbenzene	18.01	91	27732	0.171	ng		100
67) m- & p-Xylenes	18.16	91	77252	0.587	ng		97
69) Styrene	18.50	104	7157	0.069	ng		99
70) o-Xylene	18.60	91	27917	0.212	ng		97
71) n-Nonane	18.80	43	33556	0.510	ng		93
75) alpha-Pinene	19.47	93	13874	0.165	ng		92
76) n-Propylbenzene	19.58	91	17822	0.092	ng		89
78) 4-Ethyltoluene	19.70	105	20871	0.132	ng		97
79) 1,3,5-Trimethylbenzene	19.77	105	24063	0.171	ng		96
82) 1,2,4-Trimethylbenzene	20.13	105	135705	0.931	ng		86
91) d-Limonene	20.64	68	8905	0.158	ng		98
95) Naphthalene	22.24	128	48548	0.298	ng		97

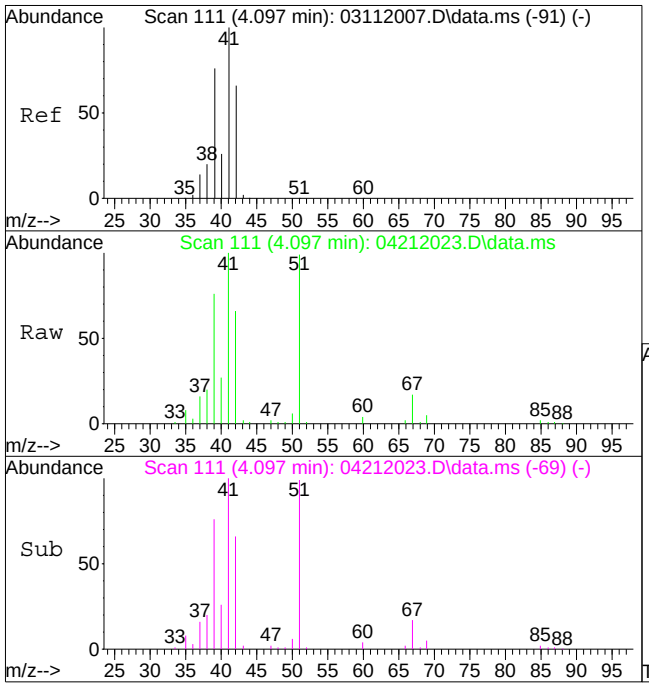
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212023.D Vial: 12
Acq On : 21 Apr 2020 21:26 Operator: WA
Sample : P2002032-003 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 12:31:01 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

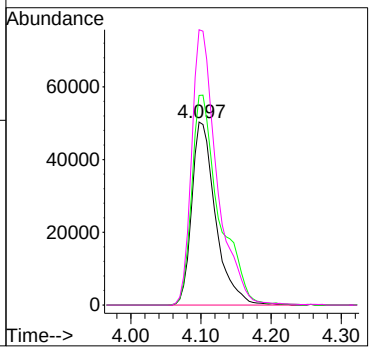


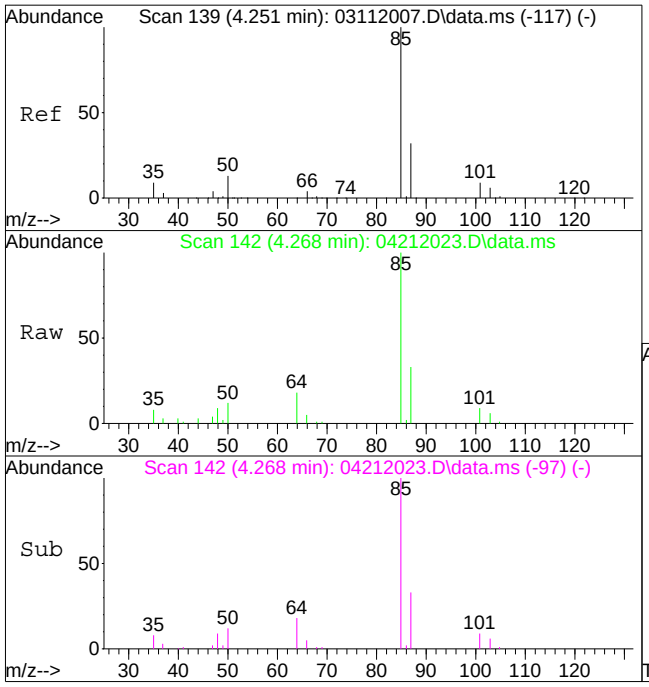


#2
Propene
Concen: 3.65 ng
RT: 4.10 min Scan# 111
Delta R.T. -0.017 min
Lab File: 04212023.D
Acq: 21 Apr 2020 21:26

Tgt Ion: 42 Resp: 118746

Ion	Ratio	Lower	Upper
42	100		
39	132.0	95.3	135.3
41	160.5	132.0	172.0

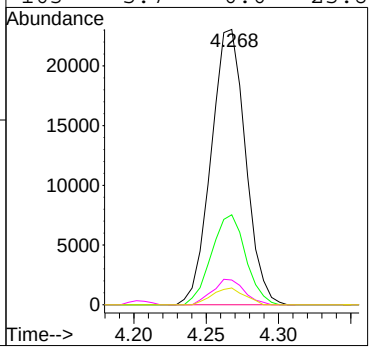


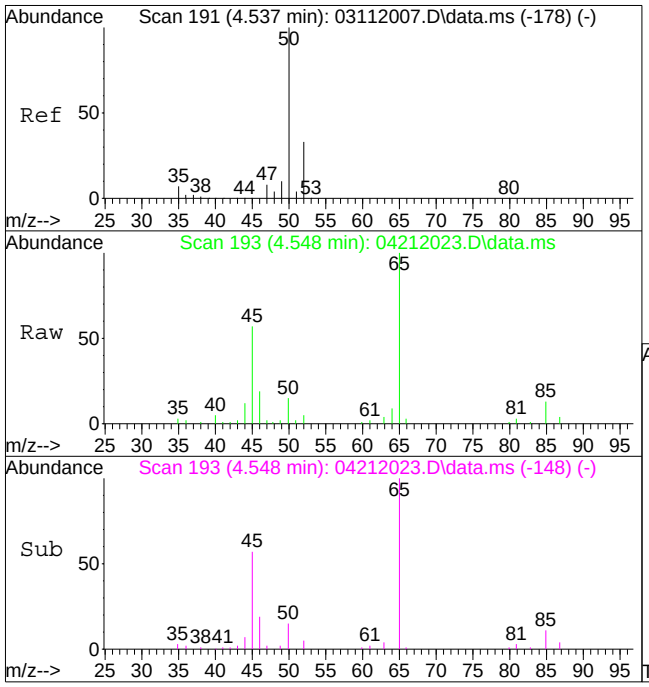


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.55 ng
RT: 4.27 min Scan# 142
Delta R.T. -0.000 min
Lab File: 04212023.D
Acq: 21 Apr 2020 21:26

Tgt Ion: 85 Resp: 38205

Ion	Ratio	Lower	Upper
85	100		
87	32.5	12.3	52.3
101	8.5	0.0	29.0
103	5.7	0.0	25.8

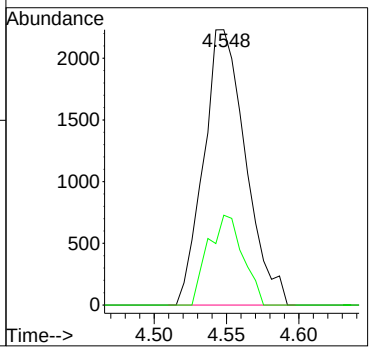


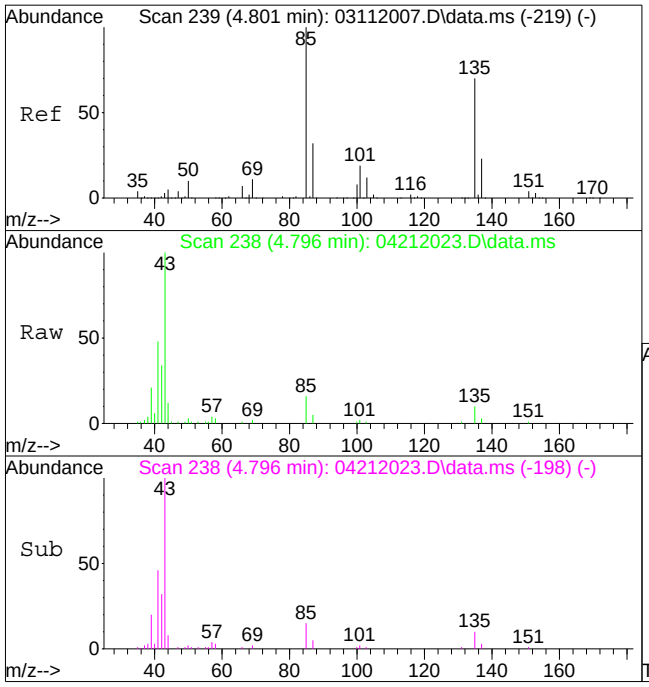


#4
Chloromethane
Concen: 0.08 ng
RT: 4.55 min Scan# 193
Delta R.T. -0.005 min
Lab File: 04212023.D
Acq: 21 Apr 2020 21:26

Tgt Ion: 50 Resp: 4504

Ion	Ratio	Lower	Upper
50	100		
52	27.1	12.8	52.8

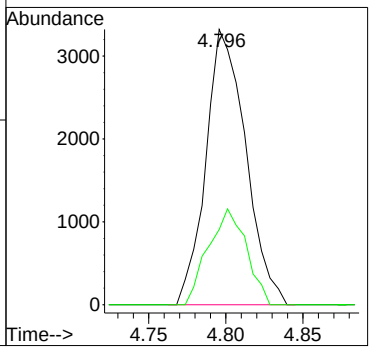


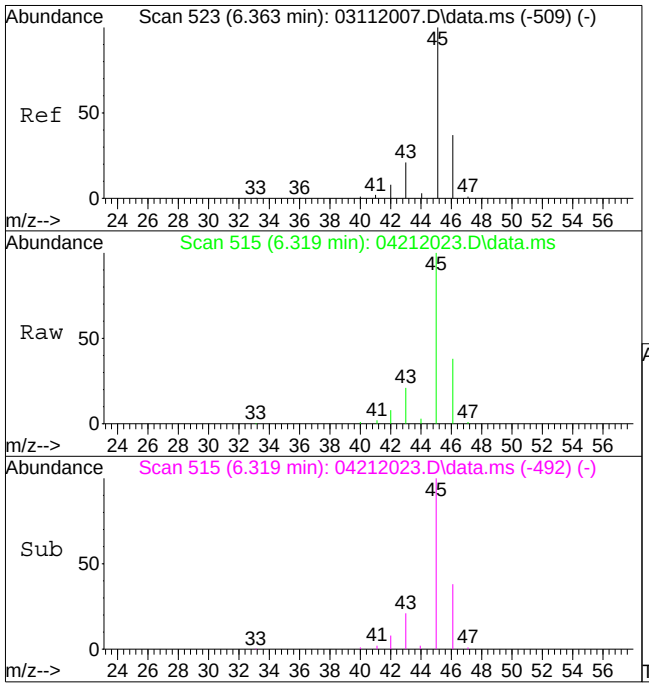


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 0.13 ng
RT: 4.80 min Scan# 238
Delta R.T. -0.027 min
Lab File: 04212023.D
Acq: 21 Apr 2020 21:26

Tgt Ion:135 Resp: 5970

Ion	Ratio	Lower	Upper
135	100		
137	33.2	12.3	52.3

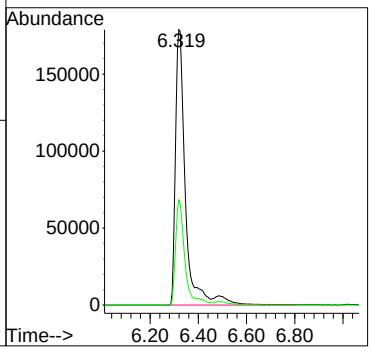


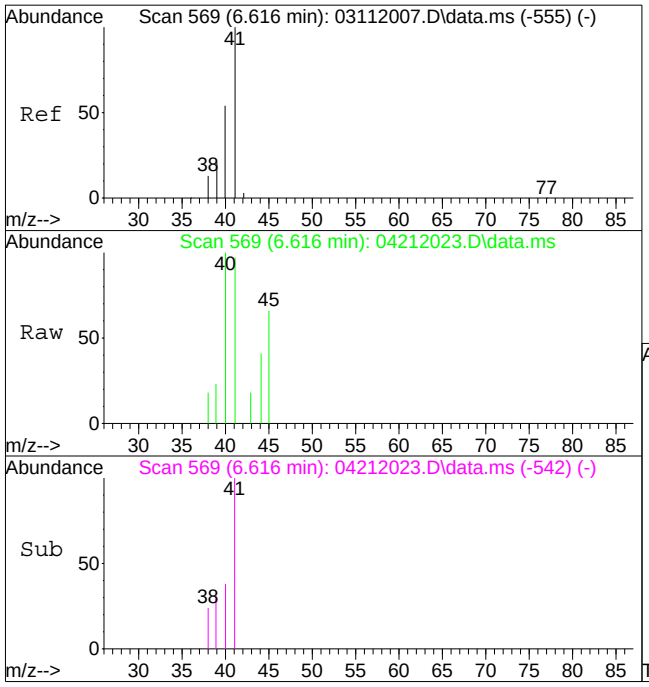


#10
Ethanol
Concen: 20.19 ng
RT: 6.32 min Scan# 515
Delta R.T. -0.121 min
Lab File: 04212023.D
Acq: 21 Apr 2020 21:26

Tgt Ion: 45 Resp: 519557

Ion	Ratio	Lower	Upper
45	100		
46	37.1	17.3	57.3

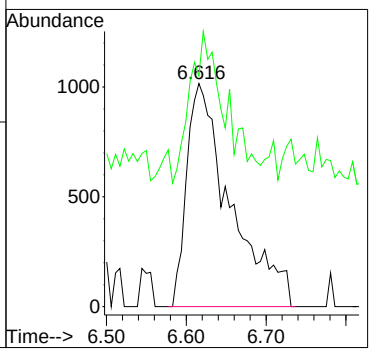


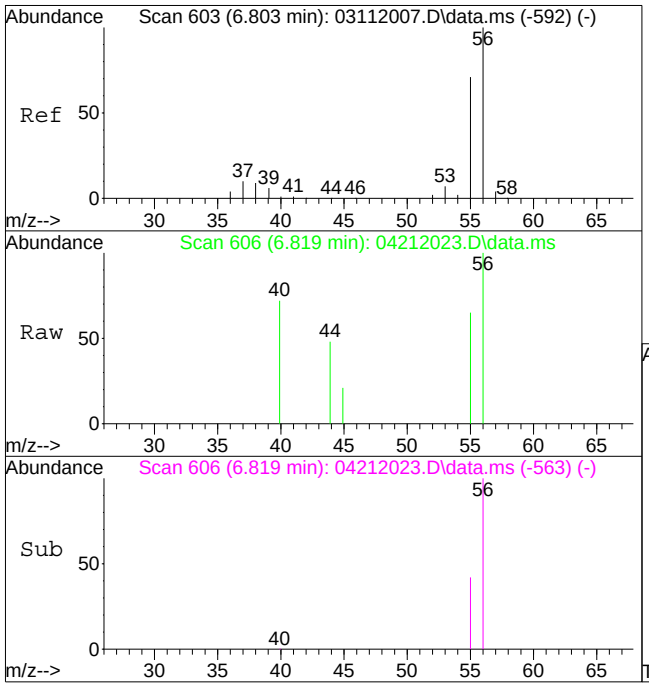


#11
Acetonitrile
Concen: 0.07 ng
RT: 6.62 min Scan# 569
Delta R.T. -0.049 min
Lab File: 04212023.D
Acq: 21 Apr 2020 21:26

Tgt Ion: 41 Resp: 3878

Ion	Ratio	Lower	Upper
41	100		
40	58.2	33.6	73.6

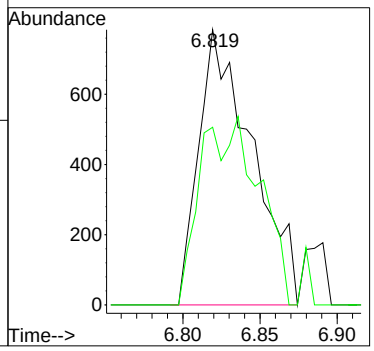


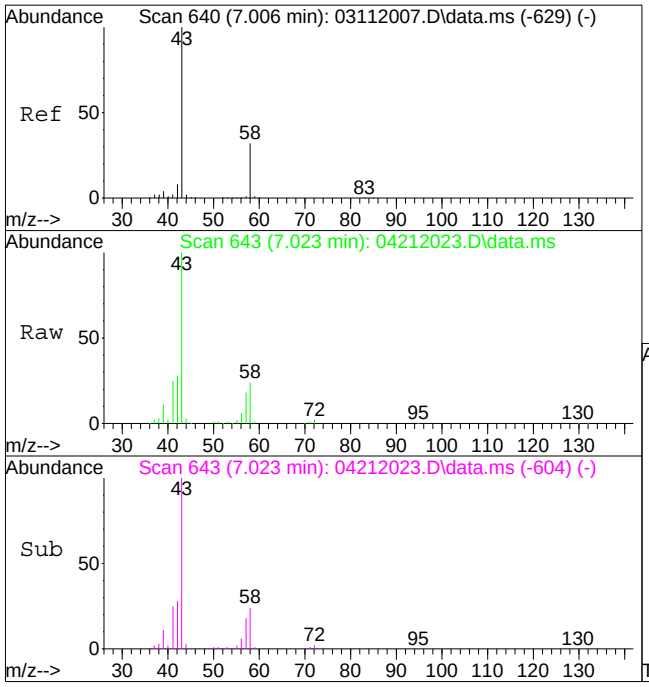


#12
Acrolein
Concen: 0.10 ng
RT: 6.82 min Scan# 606
Delta R.T. -0.011 min
Lab File: 04212023.D
Acq: 21 Apr 2020 21:26

Tgt Ion: 56 Resp: 1886

Ion	Ratio	Lower	Upper
56	100		
55	75.7	50.4	90.4

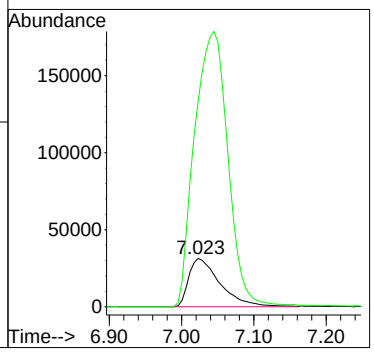


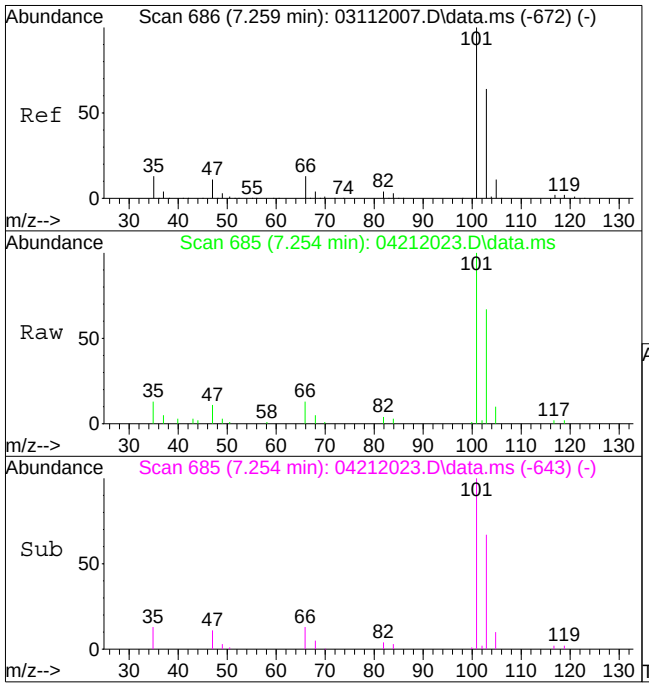


#13
Acetone
Concen: 3.72 ng
RT: 7.02 min Scan# 643
Delta R.T. -0.033 min
Lab File: 04212023.D
Acq: 21 Apr 2020 21:26

Tgt Ion: 58 Resp: 94591

Ion	Ratio	Lower	Upper
58	100		
43	609.8	287.3	347.3#

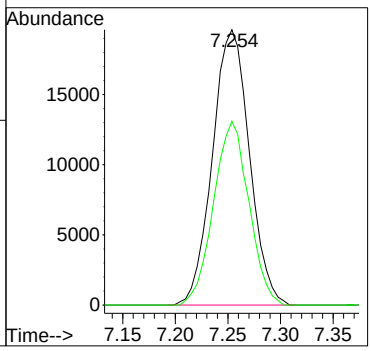


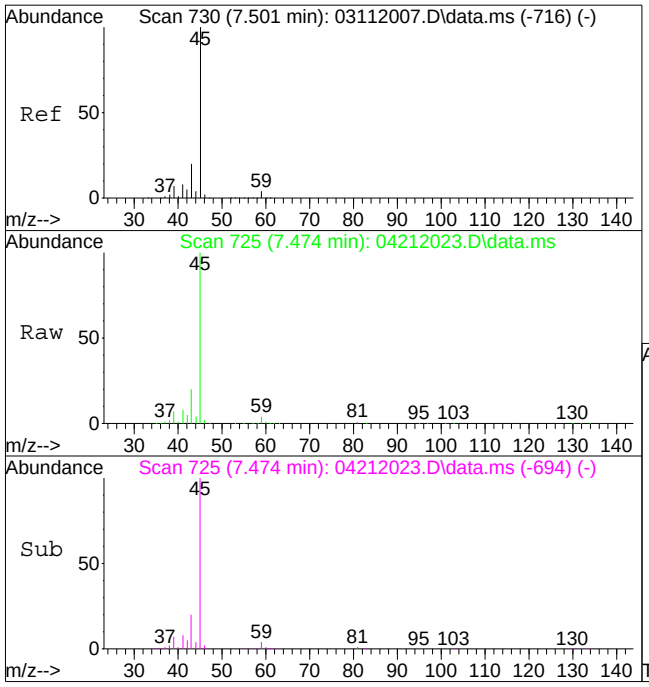


#14
Trichlorofluoromethane
Concen: 0.78 ng
RT: 7.25 min Scan# 685
Delta R.T. -0.021 min
Lab File: 04212023.D
Acq: 21 Apr 2020 21:26

Tgt Ion:101 Resp: 48055

Ion	Ratio	Lower	Upper
101	100		
103	63.7	44.6	84.6

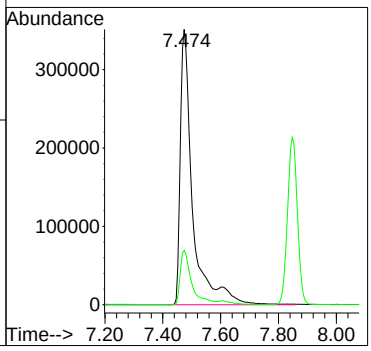


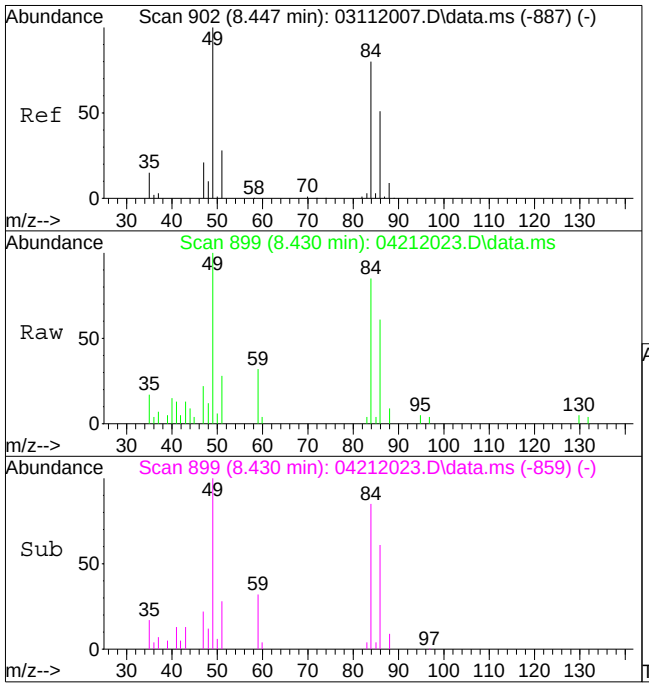


#15
2-Propanol (Isopropanol)
Concen: 13.83 ng
RT: 7.47 min Scan# 725
Delta R.T. -0.077 min
Lab File: 04212023.D
Acq: 21 Apr 2020 21:26

Tgt Ion: 45 Resp: 1041725

Ion	Ratio	Lower	Upper
45	100		
43	20.2	0.3	40.3

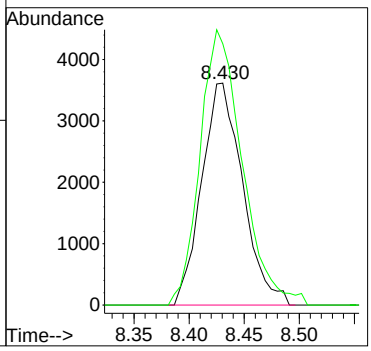


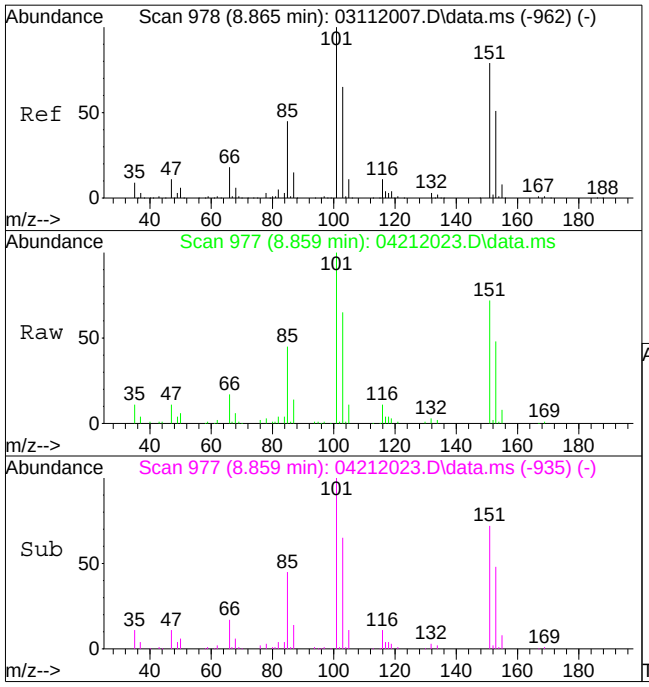


#19
Methylene Chloride
Concen: 0.28 ng
RT: 8.43 min Scan# 899
Delta R.T. -0.033 min
Lab File: 04212023.D
Acq: 21 Apr 2020 21:26

Tgt Ion: 84 Resp: 9329

Ion	Ratio	Lower	Upper
84	100		
49	128.1	102.2	152.2

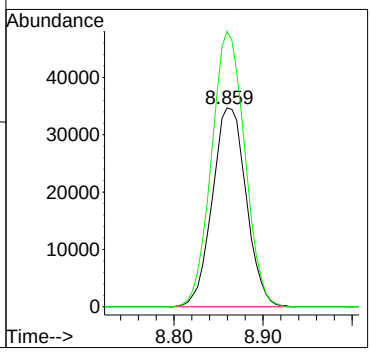


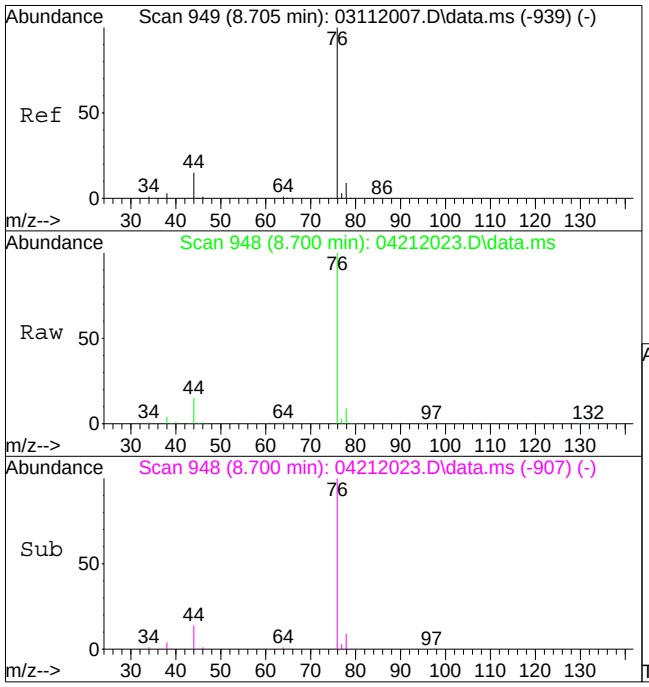


#21
Trichlorotrifluoroethane
Concen: 3.10 ng
RT: 8.86 min Scan# 977
Delta R.T. -0.017 min
Lab File: 04212023.D
Acq: 21 Apr 2020 21:26

Tgt Ion:151 Resp: 91636

Ion	Ratio	Lower	Upper
151	100		
101	136.0	108.4	148.4

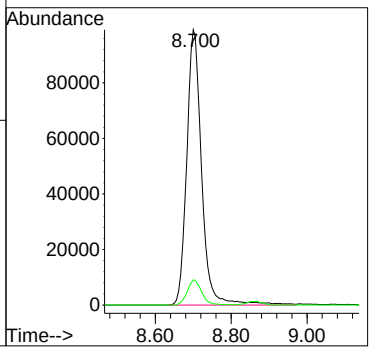


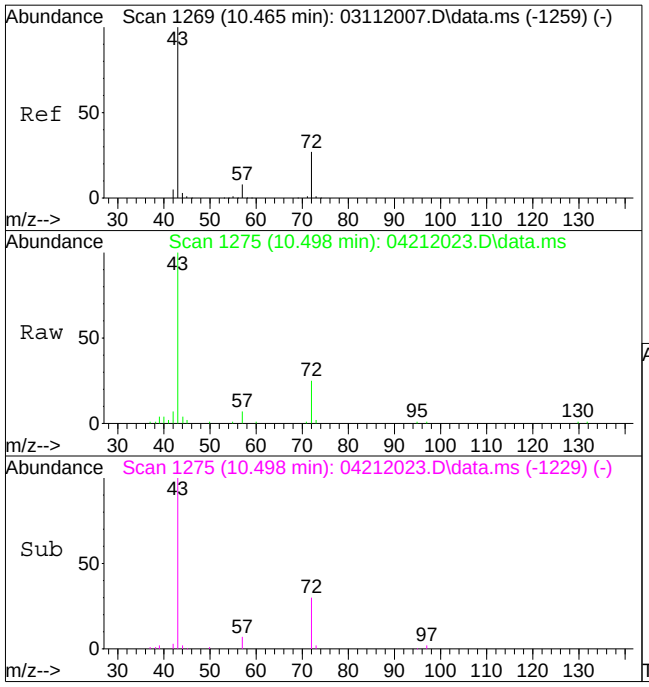


#22
Carbon Disulfide
Concen: 2.28 ng
RT: 8.70 min Scan# 948
Delta R.T. -0.022 min
Lab File: 04212023.D
Acq: 21 Apr 2020 21:26

Tgt Ion: 76 Resp: 270887

Ion	Ratio	Lower	Upper
76	100		
78	8.9	0.0	29.2

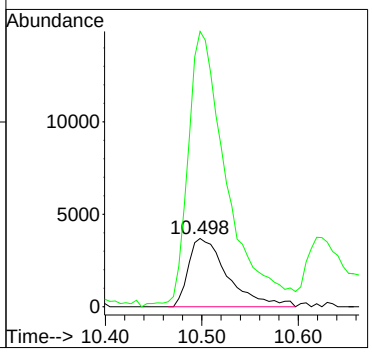


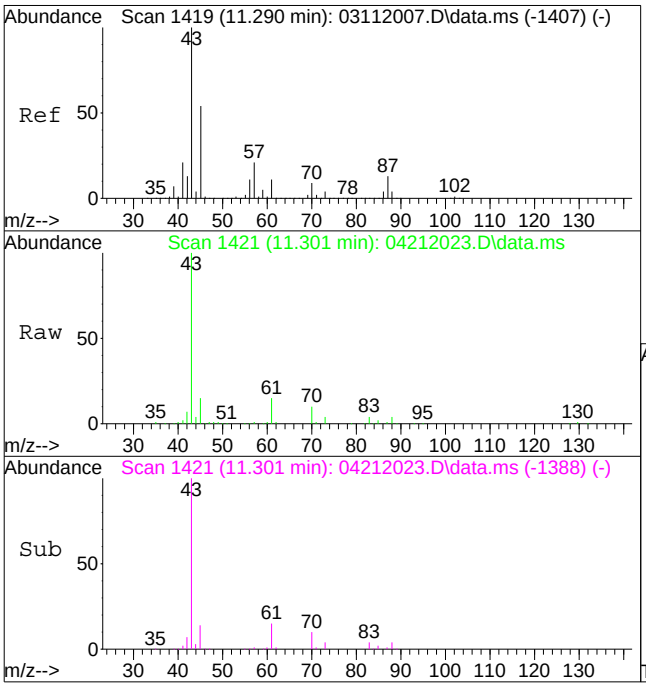


#27
2-Butanone (MEK)
Concen: 0.50 ng
RT: 10.50 min Scan# 1275
Delta R.T. 0.006 min
Lab File: 04212023.D
Acq: 21 Apr 2020 21:26

Tgt Ion: 72 Resp: 10474

Ion	Ratio	Lower	Upper
72	100		
43	385.2	353.4	393.4

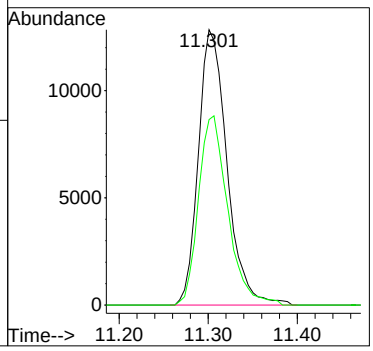


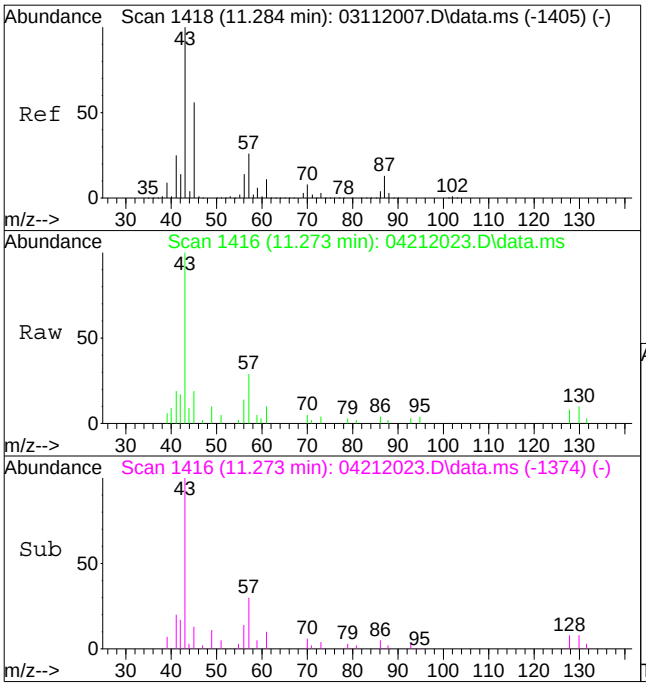


#30
Ethyl Acetate
Concen: 2.29 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.016 min
Lab File: 04212023.D
Acq: 21 Apr 2020 21:26

Tgt Ion: 61 Resp: 28674

Ion	Ratio	Lower	Upper
61	100		
70	70.2	59.1	99.1

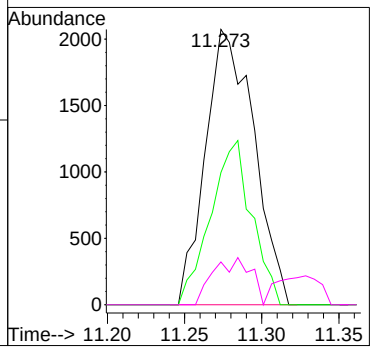


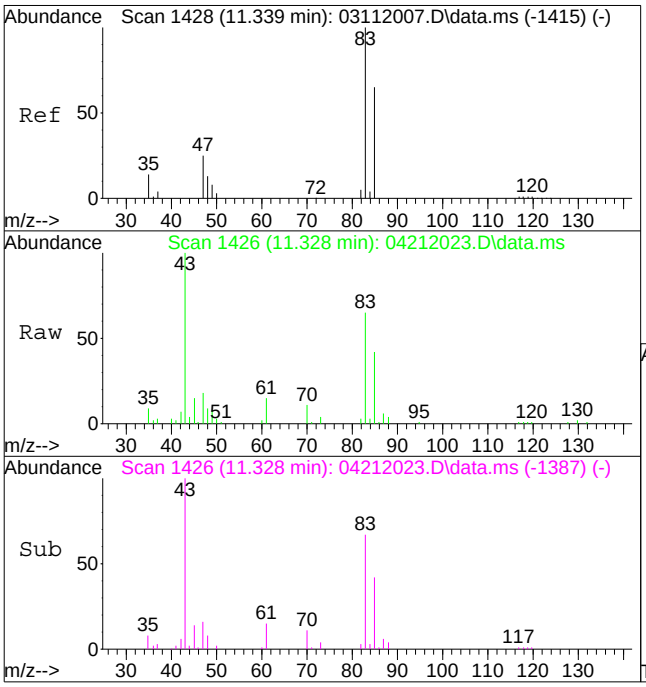


#31
n-Hexane
Concen: 0.08 ng
RT: 11.27 min Scan# 1416
Delta R.T. -0.016 min
Lab File: 04212023.D
Acq: 21 Apr 2020 21:26

Tgt Ion: 57 Resp: 4537

Ion	Ratio	Lower	Upper
57	100		
56	50.6	41.0	61.4
86	13.3	13.9	20.9#

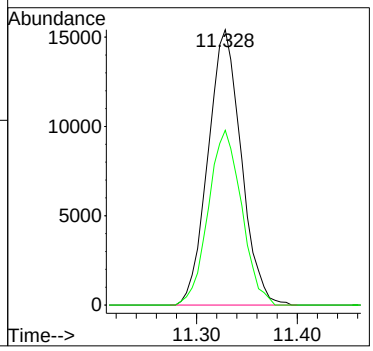


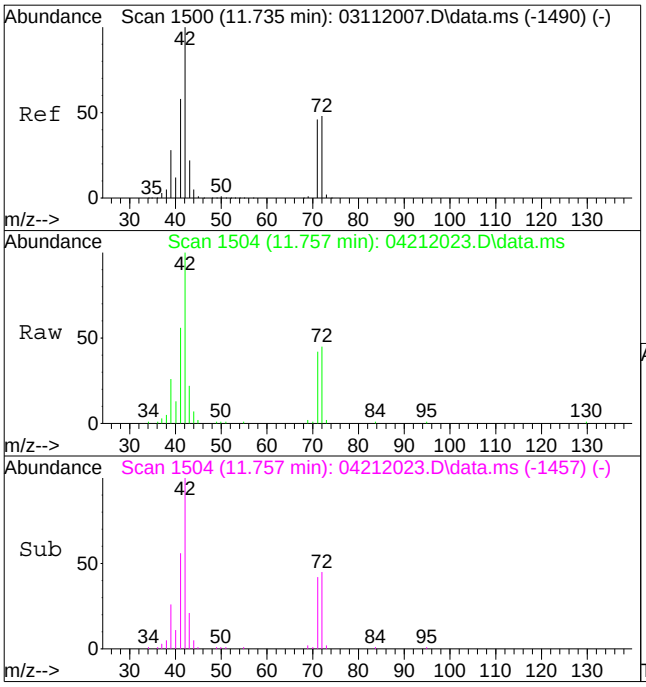


#32
Chloroform
Concen: 0.57 ng
RT: 11.33 min Scan# 1426
Delta R.T. -0.033 min
Lab File: 04212023.D
Acq: 21 Apr 2020 21:26

Tgt Ion: 83 Resp: 35281

Ion	Ratio	Lower	Upper
83	100		
85	63.7	45.5	85.5

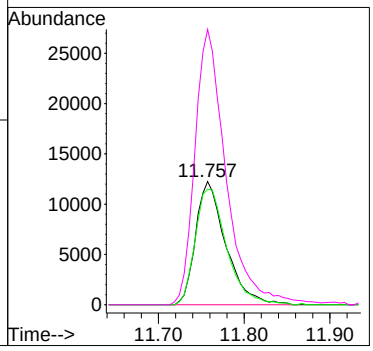


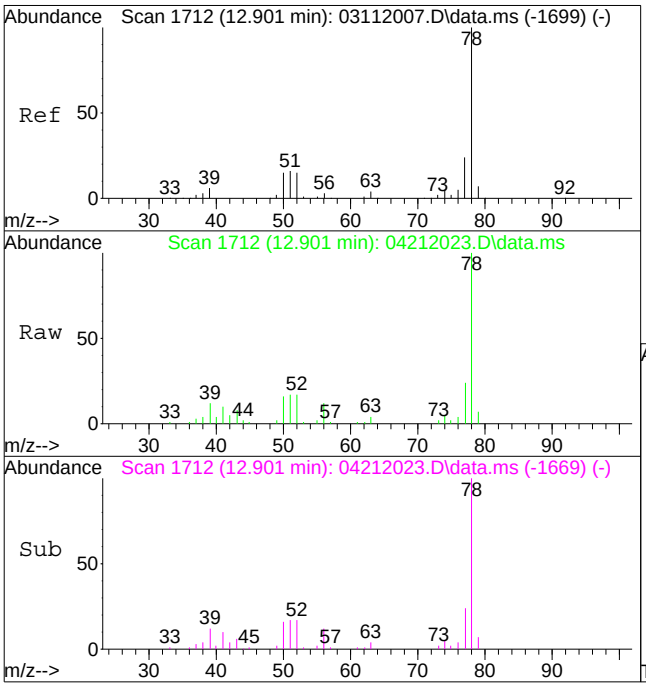


#34
Tetrahydrofuran (THF)
Concen: 1.38 ng
RT: 11.76 min Scan# 1504
Delta R.T. 0.011 min
Lab File: 04212023.D
Acq: 21 Apr 2020 21:26

Tgt Ion: 72 Resp: 30032

Ion	Ratio	Lower	Upper
72	100		
71	98.5	75.9	115.9
42	230.9	189.3	229.3#

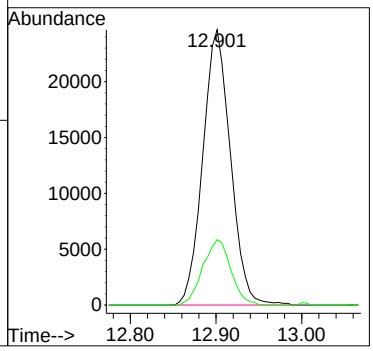


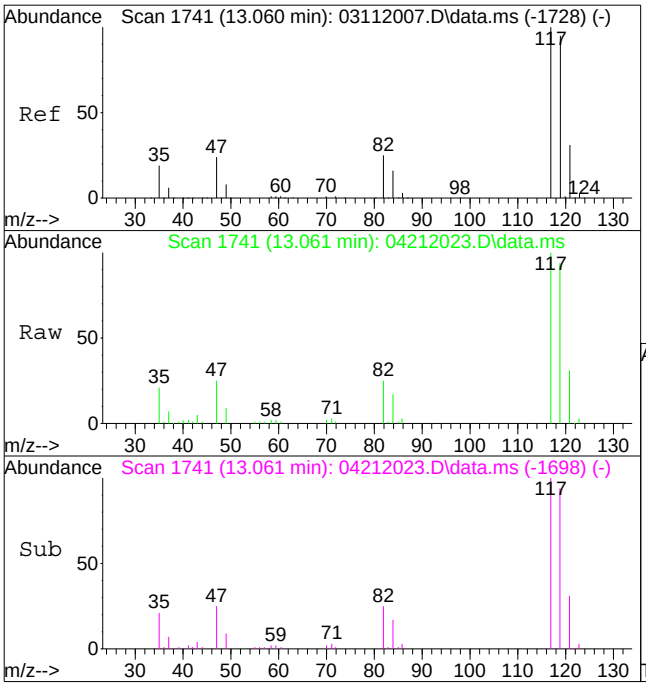


#41
Benzene
Concen: 0.39 ng
RT: 12.90 min Scan# 1712
Delta R.T. -0.011 min
Lab File: 04212023.D
Acq: 21 Apr 2020 21:26

Tgt Ion: 78 Resp: 55261

Ion	Ratio	Lower	Upper
78	100		
77	24.1	3.4	43.4

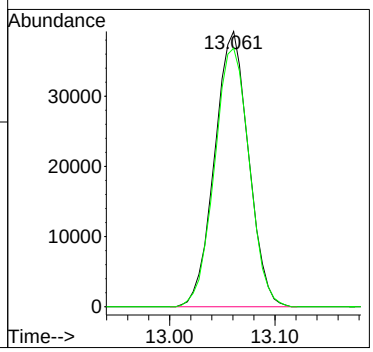


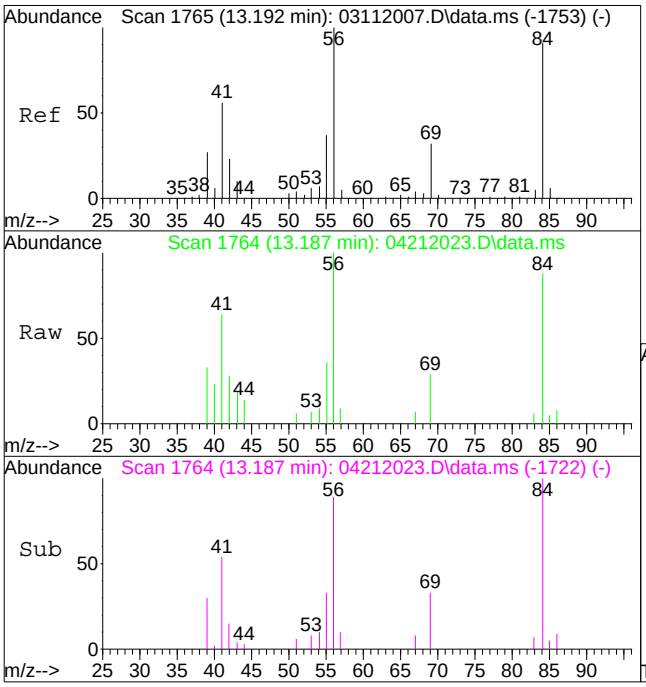


#42
Carbon Tetrachloride
Concen: 1.81 ng
RT: 13.06 min Scan# 1741
Delta R.T. -0.011 min
Lab File: 04212023.D
Acq: 21 Apr 2020 21:26

Tgt Ion:117 Resp: 88095

Ion	Ratio	Lower	Upper
117	100		
119	96.1	75.4	115.4

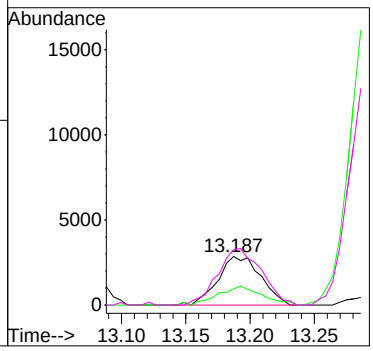


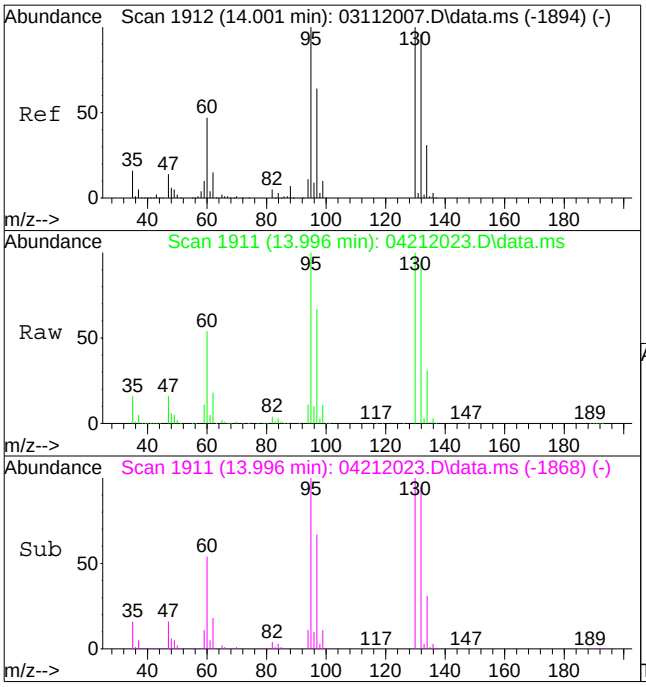


#43
Cyclohexane
Concen: 0.12 ng
RT: 13.19 min Scan# 1764
Delta R.T. -0.016 min
Lab File: 04212023.D
Acq: 21 Apr 2020 21:26

Tgt Ion: 84 Resp: 6625

Ion	Ratio	Lower	Upper
84	100		
69	39.8	15.3	55.3
56	119.0	90.5	130.5

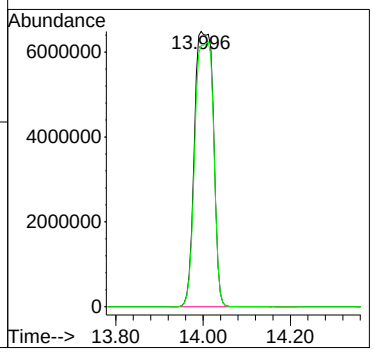


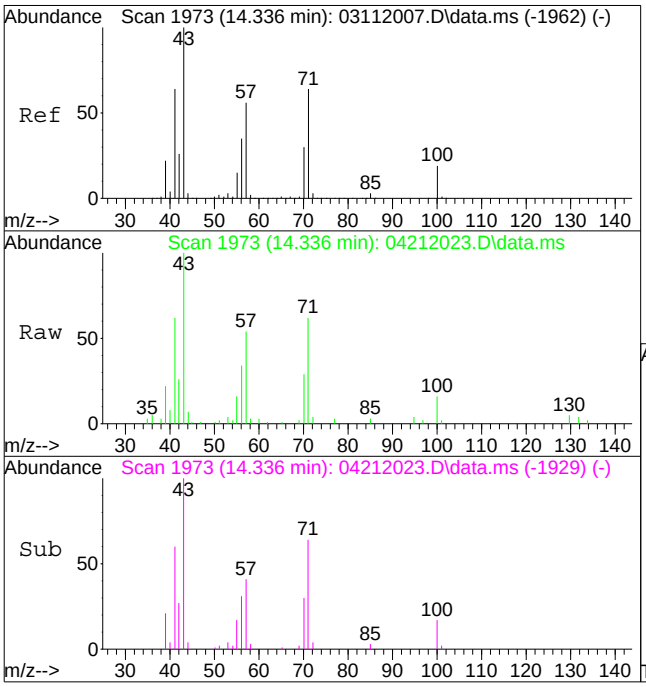


#47
Trichloroethene
Concen: 484.56 ng
RT: 14.00 min Scan# 1911
Delta R.T. -0.011 min
Lab File: 04212023.D
Acq: 21 Apr 2020 21:26

Tgt Ion:130 Resp:19406947

Ion	Ratio	Lower	Upper
130	100		
132	95.1	74.7	114.7

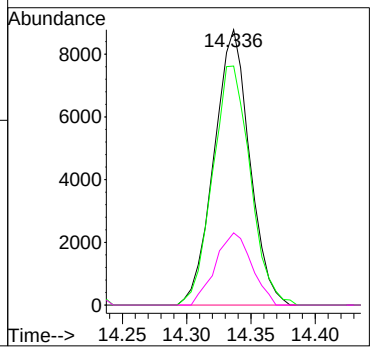


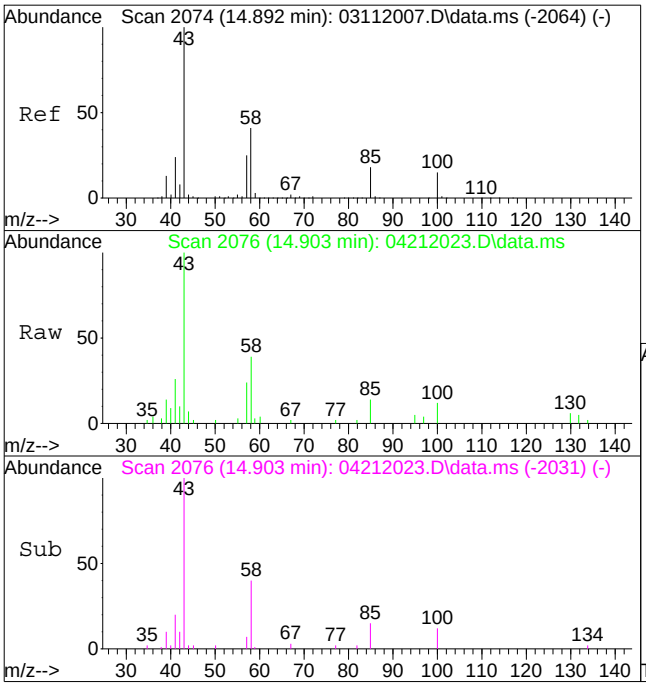


#51
n-Heptane
Concen: 0.51 ng
RT: 14.34 min Scan# 1973
Delta R.T. -0.005 min
Lab File: 04212023.D
Acq: 21 Apr 2020 21:26

Tgt Ion: 71 Resp: 16926

Ion	Ratio	Lower	Upper
71	100		
57	91.4	68.6	108.6
100	26.7	9.1	49.1

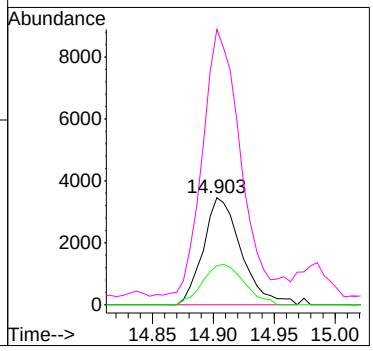


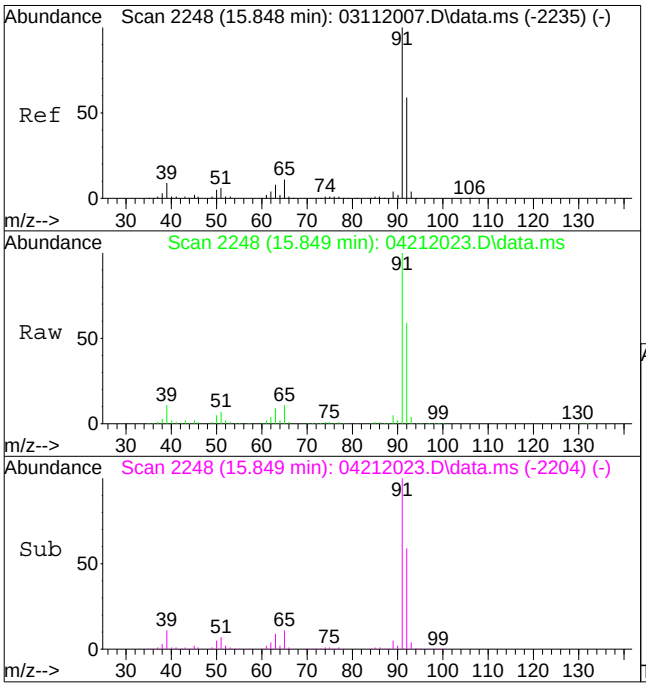


#53
4-Methyl-2-pentanone
Concen: 0.25 ng
RT: 14.90 min Scan# 2076
Delta R.T. 0.000 min
Lab File: 04212023.D
Acq: 21 Apr 2020 21:26

Tgt Ion: 58 Resp: 7477

Ion	Ratio	Lower	Upper
58	100		
85	41.3	37.0	55.4
43	260.1	196.3	294.5

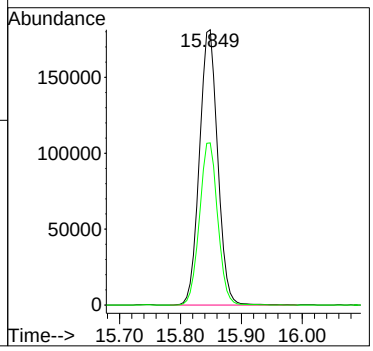


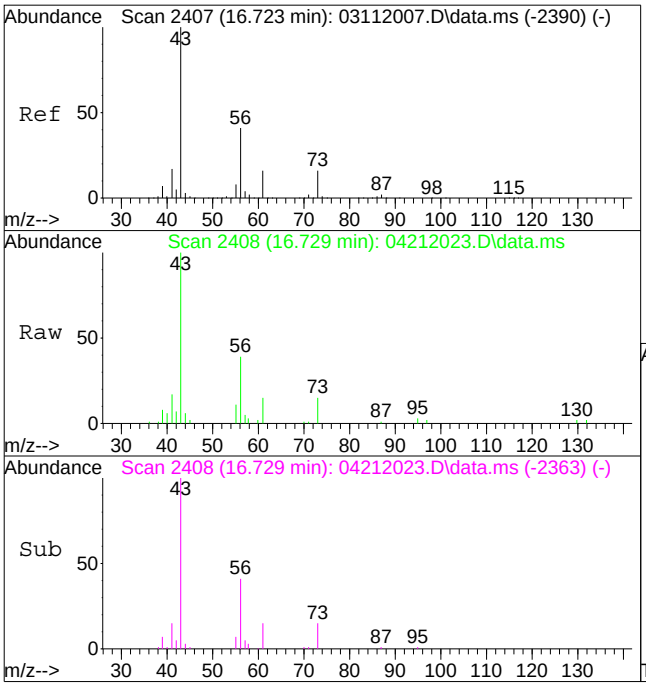


#58
Toluene
Concen: 2.55 ng
RT: 15.85 min Scan# 2248
Delta R.T. -0.005 min
Lab File: 04212023.D
Acq: 21 Apr 2020 21:26

Tgt Ion: 91 Resp: 376849

Ion	Ratio	Lower	Upper
91	100		
92	58.8	39.0	79.0

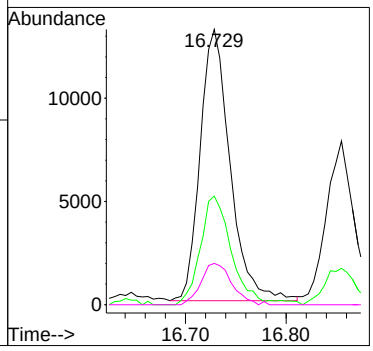


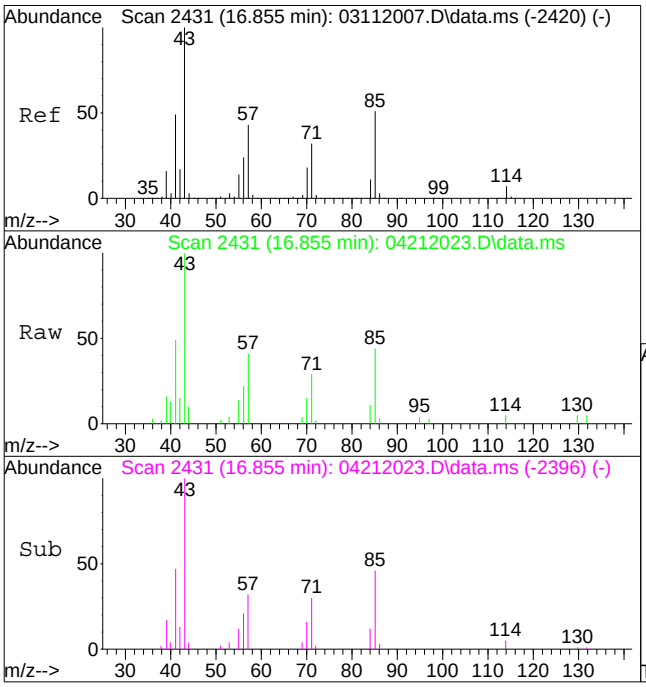


#62
n-Butyl Acetate
Concen: 0.34 ng
RT: 16.73 min Scan# 2408
Delta R.T. 0.000 min
Lab File: 04212023.D
Acq: 21 Apr 2020 21:26

Tgt Ion: 43 Resp: 27200

Ion	Ratio	Lower	Upper
43	100		
56	42.0	20.7	60.7
73	15.7	0.0	35.5

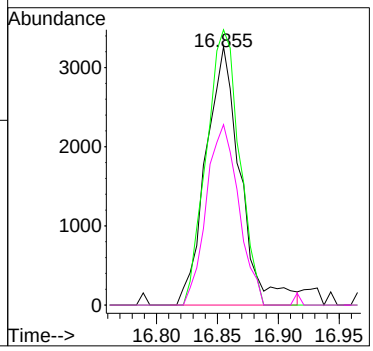


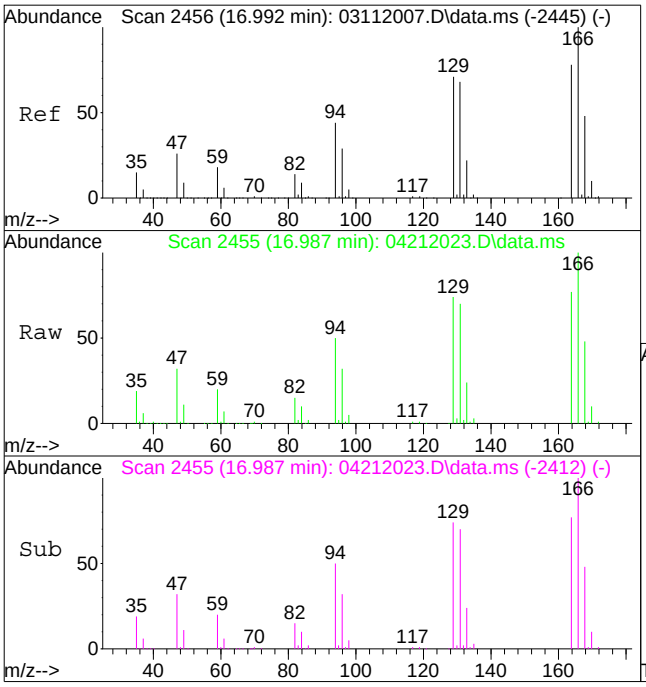


#63
n-Octane
Concen: 0.22 ng
RT: 16.86 min Scan# 2431
Delta R.T. -0.005 min
Lab File: 04212023.D
Acq: 21 Apr 2020 21:26

Tgt Ion: 57 Resp: 6450

Ion	Ratio	Lower	Upper
57	100		
85	101.5	95.1	142.7
71	65.3	58.2	87.4

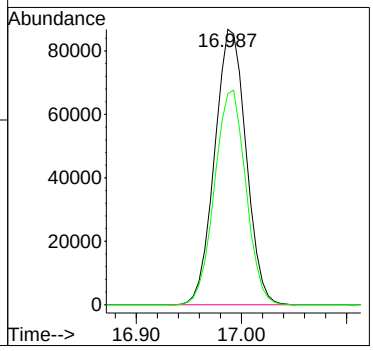


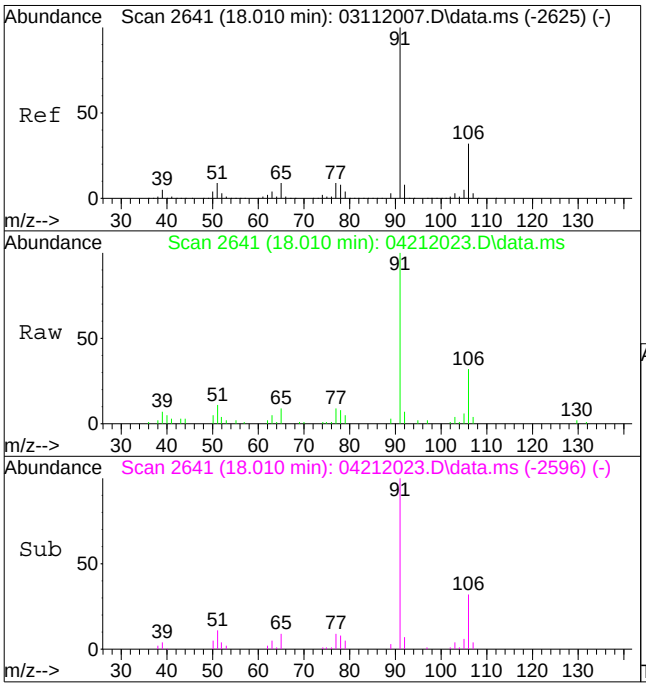


#64
Tetrachloroethene
Concen: 4.39 ng
RT: 16.99 min Scan# 2455
Delta R.T. -0.011 min
Lab File: 04212023.D
Acq: 21 Apr 2020 21:26

Tgt Ion:166 Resp: 180437

Ion	Ratio	Lower	Upper
166	100		
164	77.6	58.6	98.6

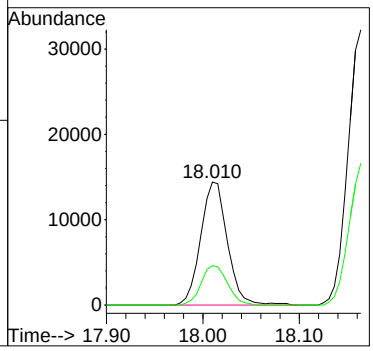


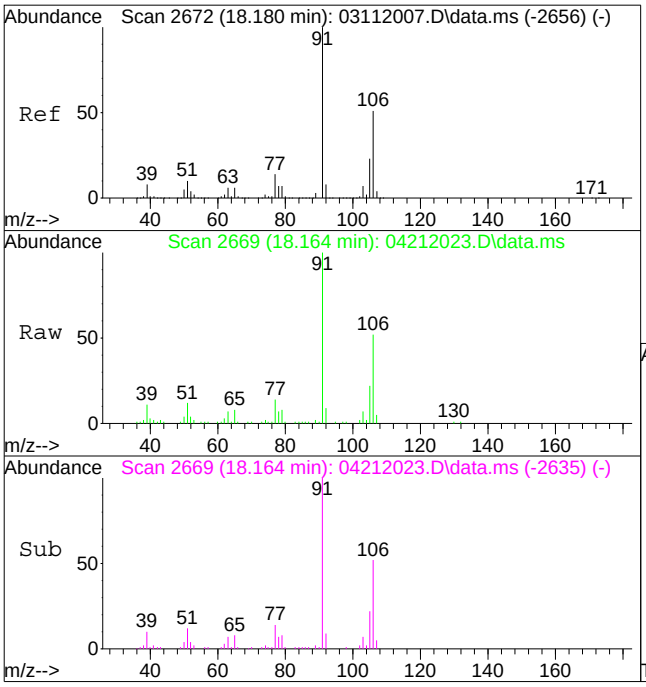


#66
Ethylbenzene
Concen: 0.17 ng
RT: 18.01 min Scan# 2641
Delta R.T. 0.000 min
Lab File: 04212023.D
Acq: 21 Apr 2020 21:26

Tgt Ion: 91 Resp: 27732

Ion	Ratio	Lower	Upper
91	100		
106	31.5	11.7	51.7

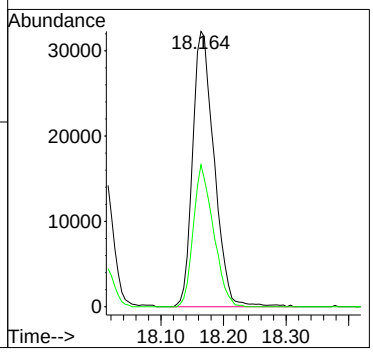


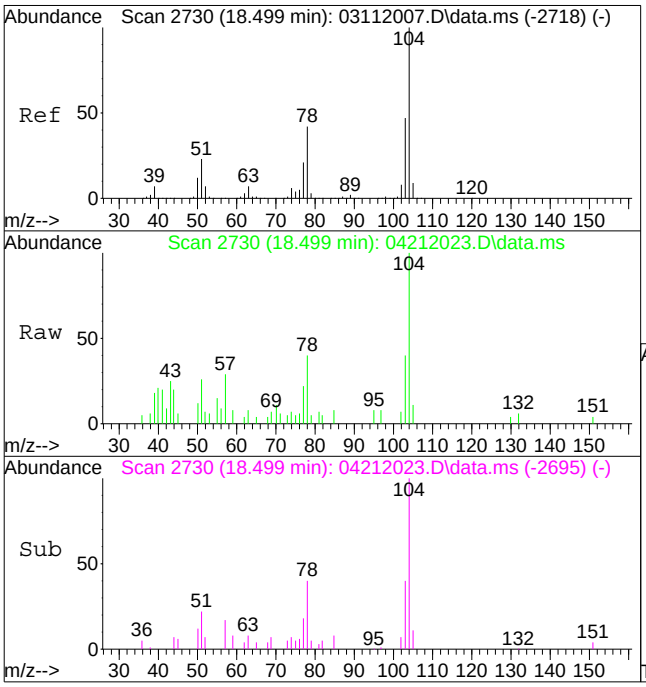


#67
m- & p-Xylenes
Concen: 0.59 ng
RT: 18.16 min Scan# 2669
Delta R.T. -0.011 min
Lab File: 04212023.D
Acq: 21 Apr 2020 21:26

Tgt Ion: 91 Resp: 77252

Ion	Ratio	Lower	Upper
91	100		
106	48.0	30.4	70.4

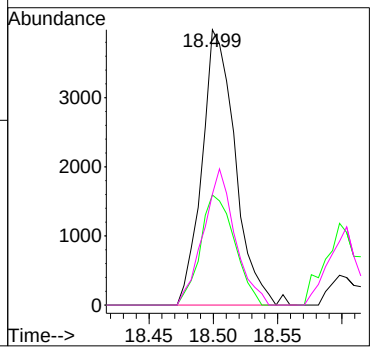


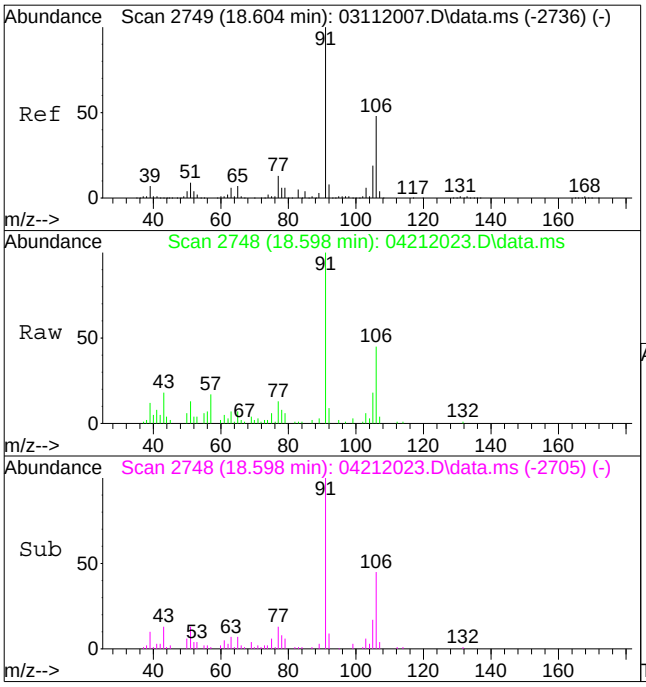


#69
Styrene
Concen: 0.07 ng
RT: 18.50 min Scan# 2730
Delta R.T. -0.006 min
Lab File: 04212023.D
Acq: 21 Apr 2020 21:26

Tgt Ion:104 Resp: 7157

Ion	Ratio	Lower	Upper
104	100		
78	41.3	20.9	60.9
103	47.1	27.4	67.4

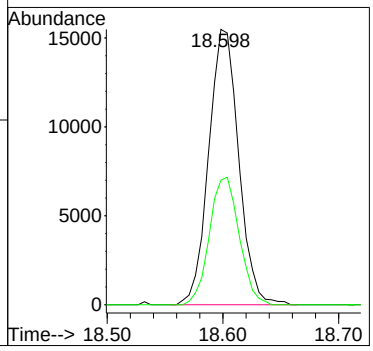


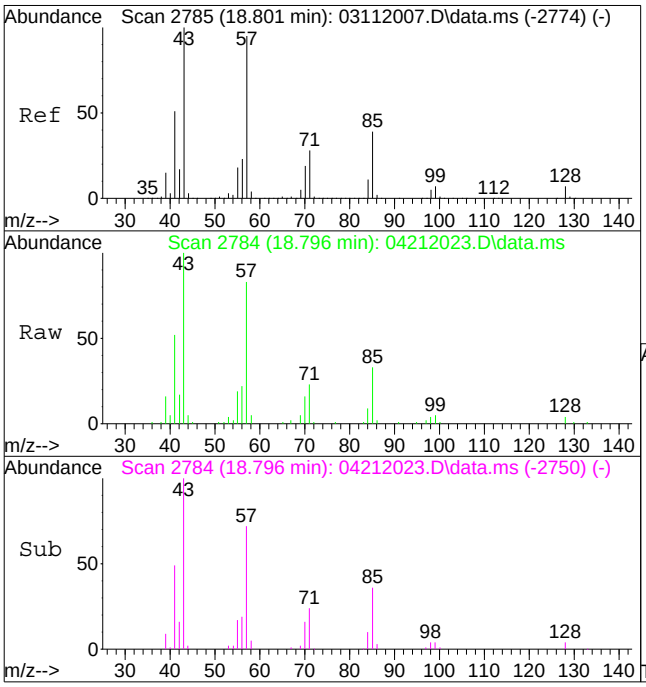


#70
o-Xylene
Concen: 0.21 ng
RT: 18.60 min Scan# 2748
Delta R.T. -0.011 min
Lab File: 04212023.D
Acq: 21 Apr 2020 21:26

Tgt Ion: 91 Resp: 27917

Ion	Ratio	Lower	Upper
91	100		
106	45.9	28.1	68.1

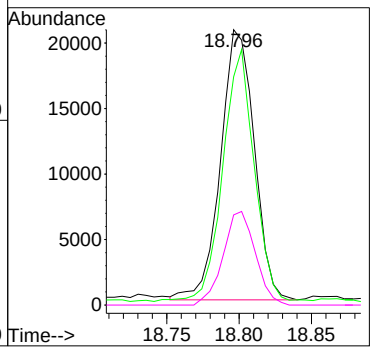


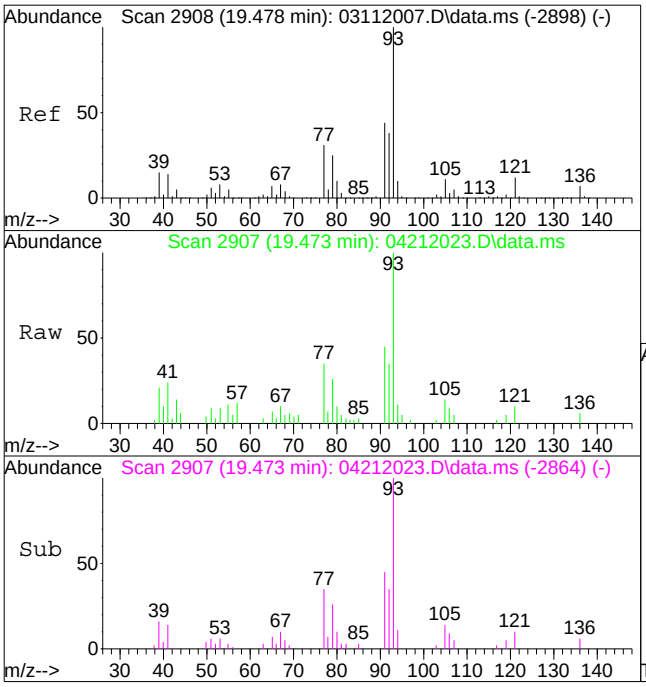


#71
n-Nonane
Concen: 0.51 ng
RT: 18.80 min Scan# 2784
Delta R.T. -0.011 min
Lab File: 04212023.D
Acq: 21 Apr 2020 21:26

Tgt Ion: 43 Resp: 33556

Ion	Ratio	Lower	Upper
43	100		
57	87.3	73.6	113.6
85	33.1	18.7	58.7

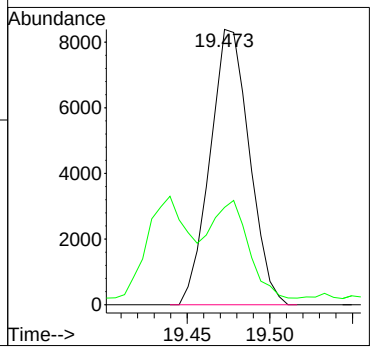


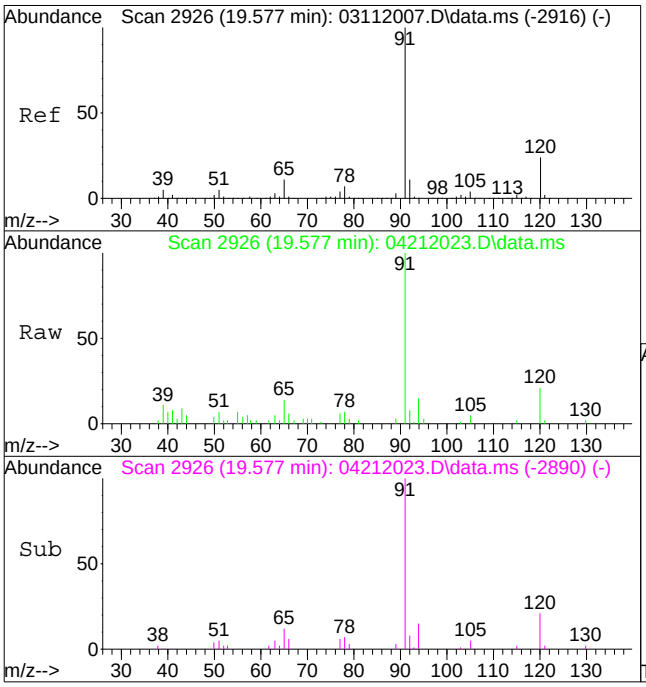


#75
alpha-Pinene
Concen: 0.16 ng
RT: 19.47 min Scan# 2907
Delta R.T. -0.011 min
Lab File: 04212023.D
Acq: 21 Apr 2020 21:26

Tgt Ion: 93 Resp: 13874

Ion	Ratio	Lower	Upper
93	100		
77	35.8	11.1	51.1

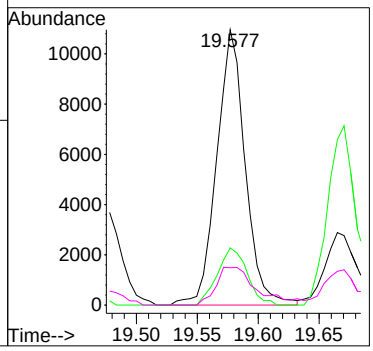


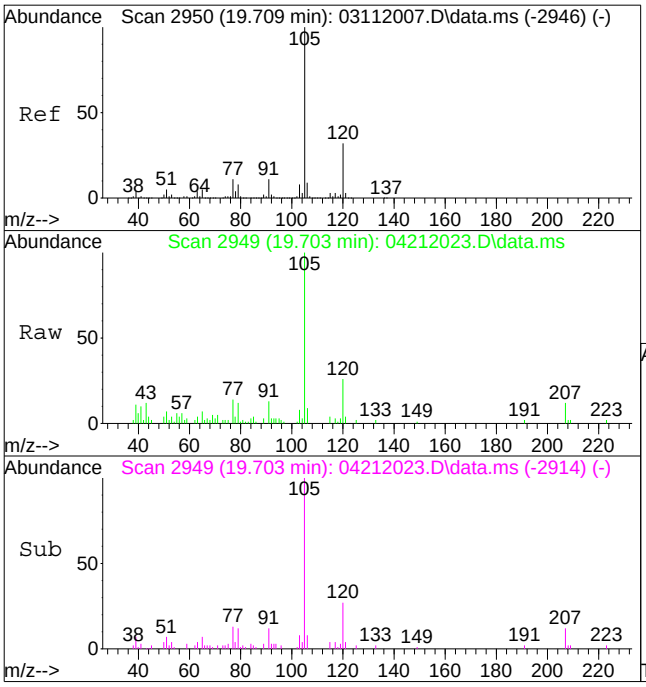


#76
n-Propylbenzene
Concen: 0.09 ng
RT: 19.58 min Scan# 2926
Delta R.T. 0.000 min
Lab File: 04212023.D
Acq: 21 Apr 2020 21:26

Tgt Ion: 91 Resp: 17822

Ion	Ratio	Lower	Upper
91	100		
120	21.7	3.9	43.9
65	19.6	0.0	30.5

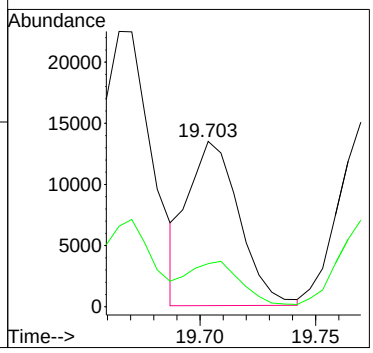


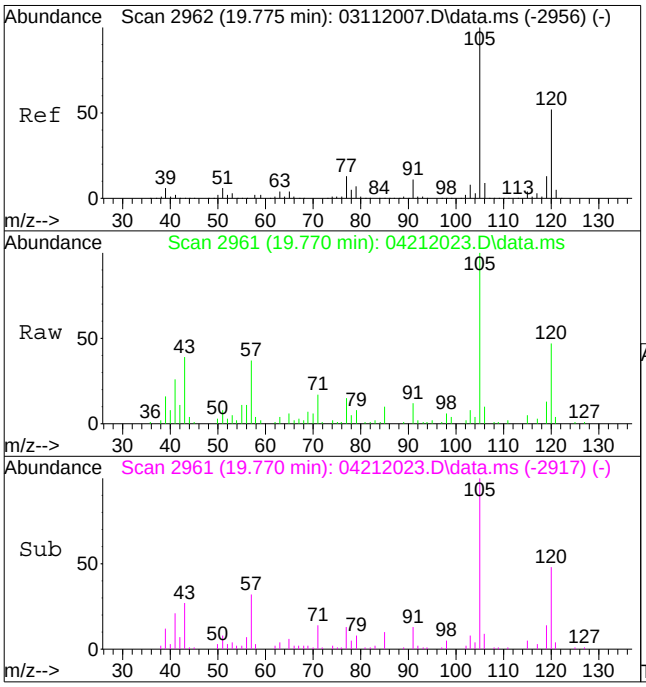


#78
4-Ethyltoluene
Concen: 0.13 ng
RT: 19.70 min Scan# 2949
Delta R.T. -0.006 min
Lab File: 04212023.D
Acq: 21 Apr 2020 21:26

Tgt Ion:105 Resp: 20871

Ion	Ratio	Lower	Upper
105	100		
120	29.6	11.1	51.1

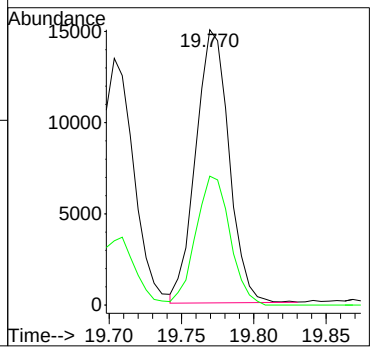


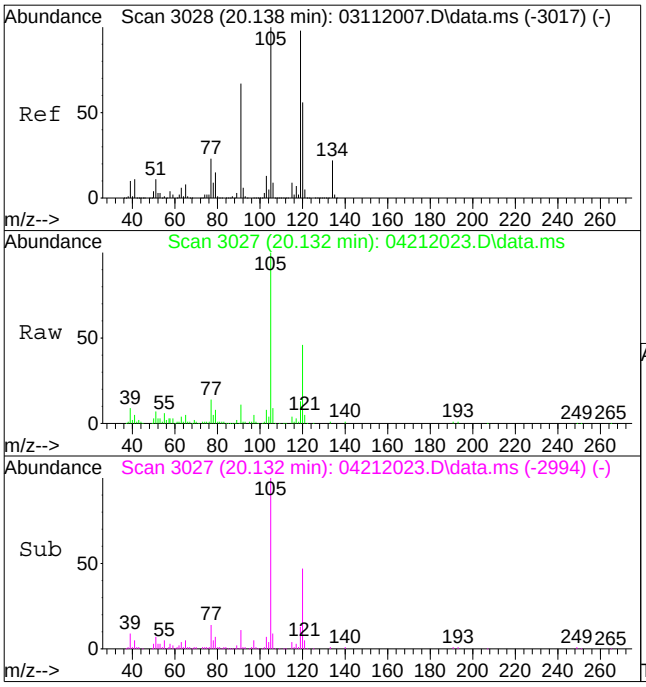


#79
1,3,5-Trimethylbenzene
Concen: 0.17 ng
RT: 19.77 min Scan# 2961
Delta R.T. -0.005 min
Lab File: 04212023.D
Acq: 21 Apr 2020 21:26

Tgt Ion:105 Resp: 24063

Ion	Ratio	Lower	Upper
105	100		
120	48.3	31.3	71.3

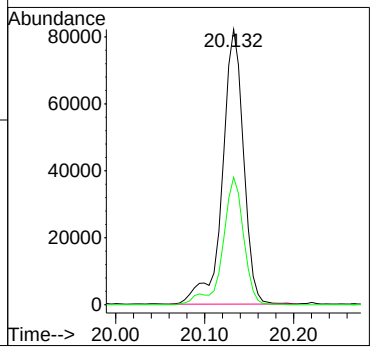


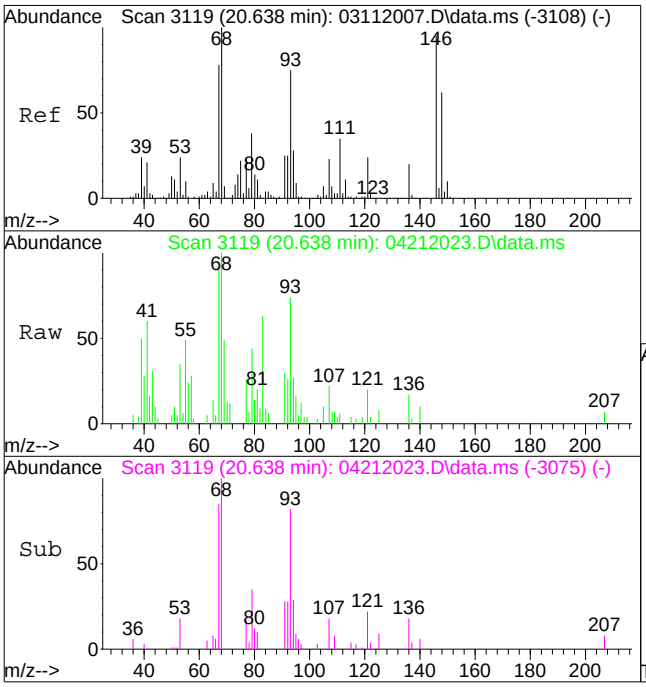


#82
1,2,4-Trimethylbenzene
Concen: 0.93 ng
RT: 20.13 min Scan# 3027
Delta R.T. -0.017 min
Lab File: 04212023.D
Acq: 21 Apr 2020 21:26

Tgt Ion:105 Resp: 135705

Ion	Ratio	Lower	Upper
105	100		
120	45.8	35.8	75.8

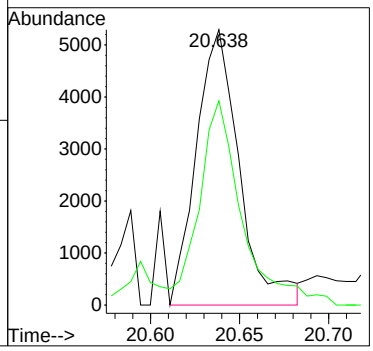


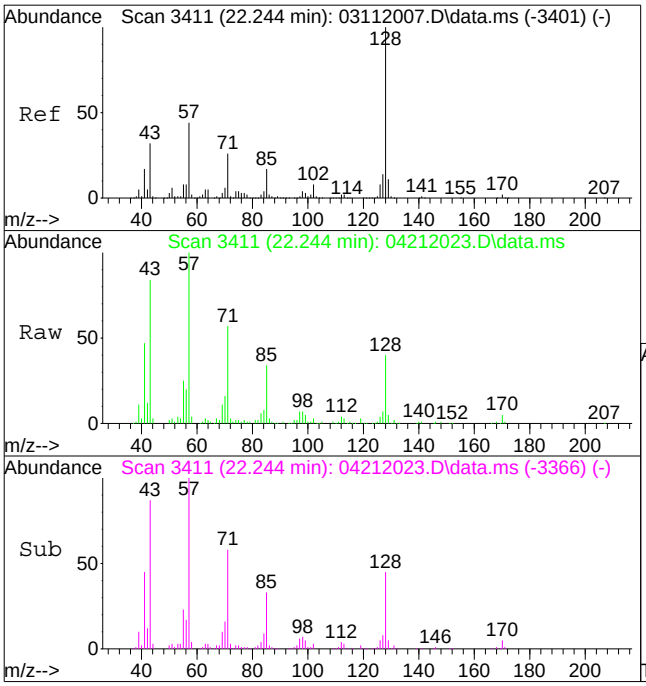


#91
d-Limonene
Concen: 0.16 ng
RT: 20.64 min Scan# 3119
Delta R.T. -0.011 min
Lab File: 04212023.D
Acq: 21 Apr 2020 21:26

Tgt Ion: 68 Resp: 8905

Ion	Ratio	Lower	Upper
68	100		
93	73.1	54.7	94.7

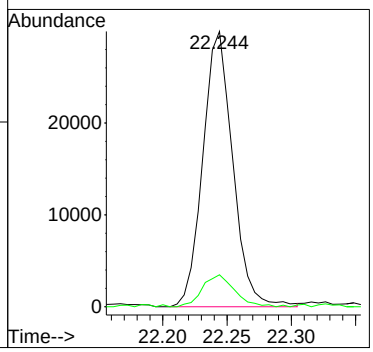




#95
Naphthalene
Concen: 0.30 ng
RT: 22.24 min Scan# 3411
Delta R.T. -0.005 min
Lab File: 04212023.D
Acq: 21 Apr 2020 21:26

Tgt Ion:128 Resp: 48548

Ion	Ratio	Lower	Upper
128	100		
129	12.4	0.0	31.1



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\22\04222009.D Vial: 12
Acq On : 22 Apr 2020 6:58 Operator: WA
Sample : P2002032-003dil (25mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 13:02:30 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020 LH 4/24/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	328328	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1470800	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	701800	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	571924	12.580	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.64%				
57) Toluene-d8 (SS2)	15.74	98	1511725	12.153	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.20%				
73) Bromofluorobenzene (SS3)	19.00	174	484753	11.035	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.32%				
Target Compounds							Qvalue
2) Propene	4.16	42	298	N.D.			
3) Dichlorodifluoromethan...	4.31	85	1915	N.D.			
4) Chloromethane	4.59	50	554	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.83	135	176	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.35	45	24493	0.900	ng		95
11) Acetonitrile	6.65	41	808	N.D.			
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	7.28	101	2198	N.D.			
15) 2-Propanol (Isopropanol)	7.52	45	58531	0.735	ng		93
16) Acrylonitrile	7.87	53	426	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.50	59	109	N.D.			
19) Methylene Chloride	8.45	84	575	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	8.88	151	4360	0.140	ng		91
22) Carbon Disulfide	8.73	76	12408	0.099	ng		94
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	0.00	72	0	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	11.33	61	884	0.067	ng	#	48
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	11.33	83	1618	N.D.			
34) Tetrahydrofuran (THF)	11.81	72	1515	0.066	ng	#	82
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.03	62	142	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	12.97	56	368	N.D.			
41) Benzene	12.90	78	3203	N.D.			
42) Carbon Tetrachloride	13.06	117	3767	0.072	ng		95
43) Cyclohexane	13.20	84	194	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	14.00	130	1002577	23.265	ng		100
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.07	57	1045	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\22\04222009.D Vial: 12
Acq On : 22 Apr 2020 6:58 Operator: WA
Sample : P2002032-003dil (25mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 13:02:30 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

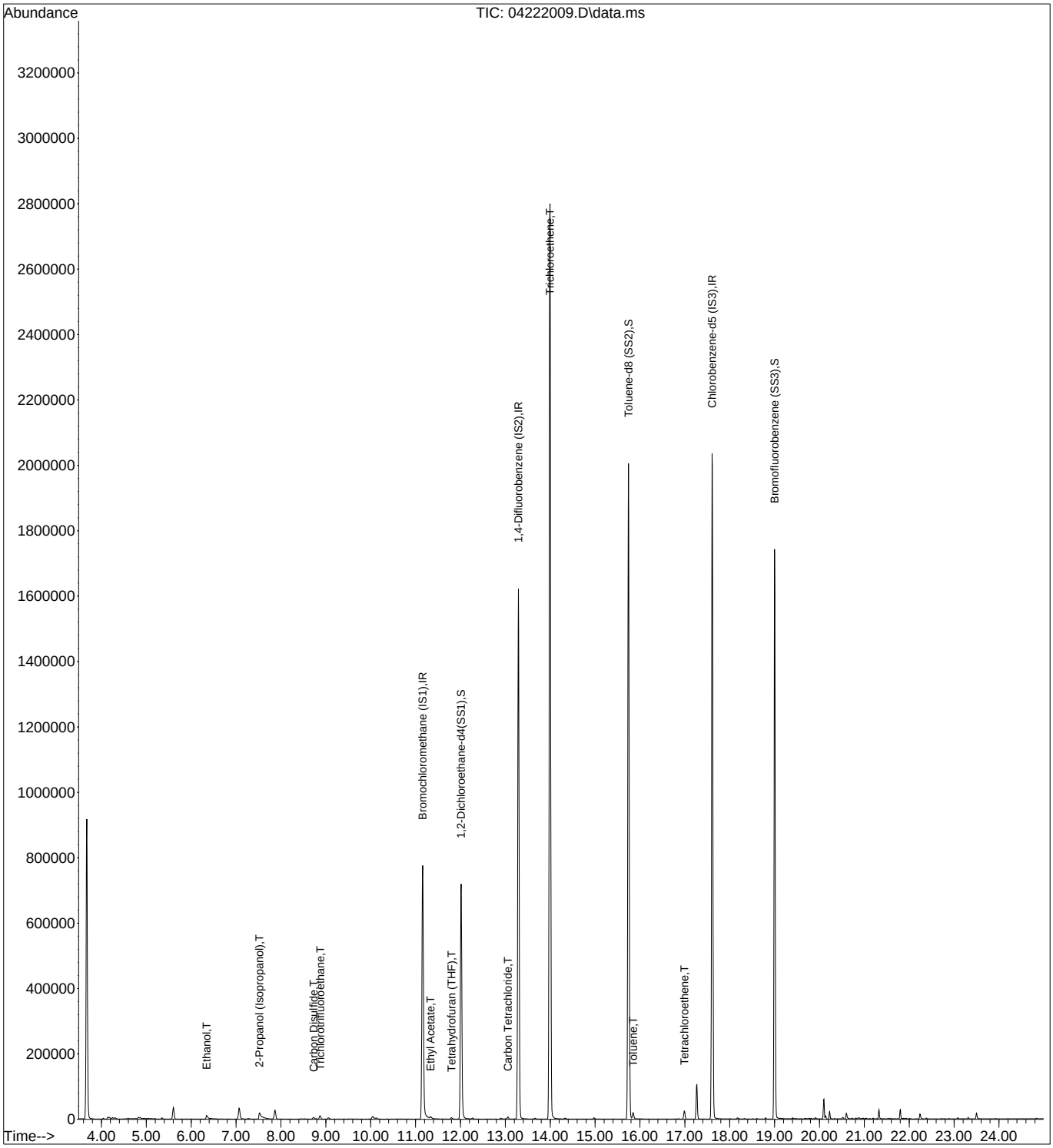
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.35	71	748	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.85	91	18545	0.121 ng	95
59) 2-Hexanone	0.00	43	0	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.77	43	1039	N.D.	
63) n-Octane	16.85	57	231	N.D.	
64) Tetrachloroethene	16.99	166	8334	0.194 ng	100
65) Chlorobenzene	17.65	112	182	N.D.	
66) Ethylbenzene	18.02	91	1375	N.D.	
67) m- & p-Xylenes	18.17	91	4368	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.52	104	425	N.D.	
70) o-Xylene	18.60	91	1676	N.D.	
71) n-Nonane	18.80	43	1427	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.13	105	766	N.D.	
75) alpha-Pinene	19.48	93	552	N.D.	
76) n-Propylbenzene	19.58	91	1308	N.D.	
77) 3-Ethyltoluene	19.67	105	2149	N.D.	
78) 4-Ethyltoluene	19.71	105	1417	N.D.	
79) 1,3,5-Trimethylbenzene	19.78	105	1662	N.D.	
80) alpha-Methylstyrene	19.92	118	1496	N.D.	
81) 2-Ethyltoluene	19.94	105	1046	N.D.	
82) 1,2,4-Trimethylbenzene	20.14	105	5658	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.35	91	125	N.D.	
85) 1,3-Dichlorobenzene	20.28	146	399	N.D.	
86) 1,4-Dichlorobenzene	20.34	146	749	N.D.	
87) sec-Butylbenzene	20.38	105	480	N.D.	
88) 4-Isopropyltoluene (p-...	20.51	119	917	N.D.	
89) 1,2,3-Trimethylbenzene	20.51	105	2046	N.D.	
90) 1,2-Dichlorobenzene	20.64	146	307	N.D.	
91) d-Limonene	20.64	68	267	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.14	180	454	N.D.	
95) Naphthalene	22.25	128	4504	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.33	55	709	N.D.	
99) tert-Butylbenzene	20.14	119	744	N.D.	
100) n-Butylbenzene	20.88	91	1795	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\22\04222009.D Vial: 12
Acq On : 22 Apr 2020 6:58 Operator: WA
Sample : P2002032-003dil (25mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 13:02:30 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

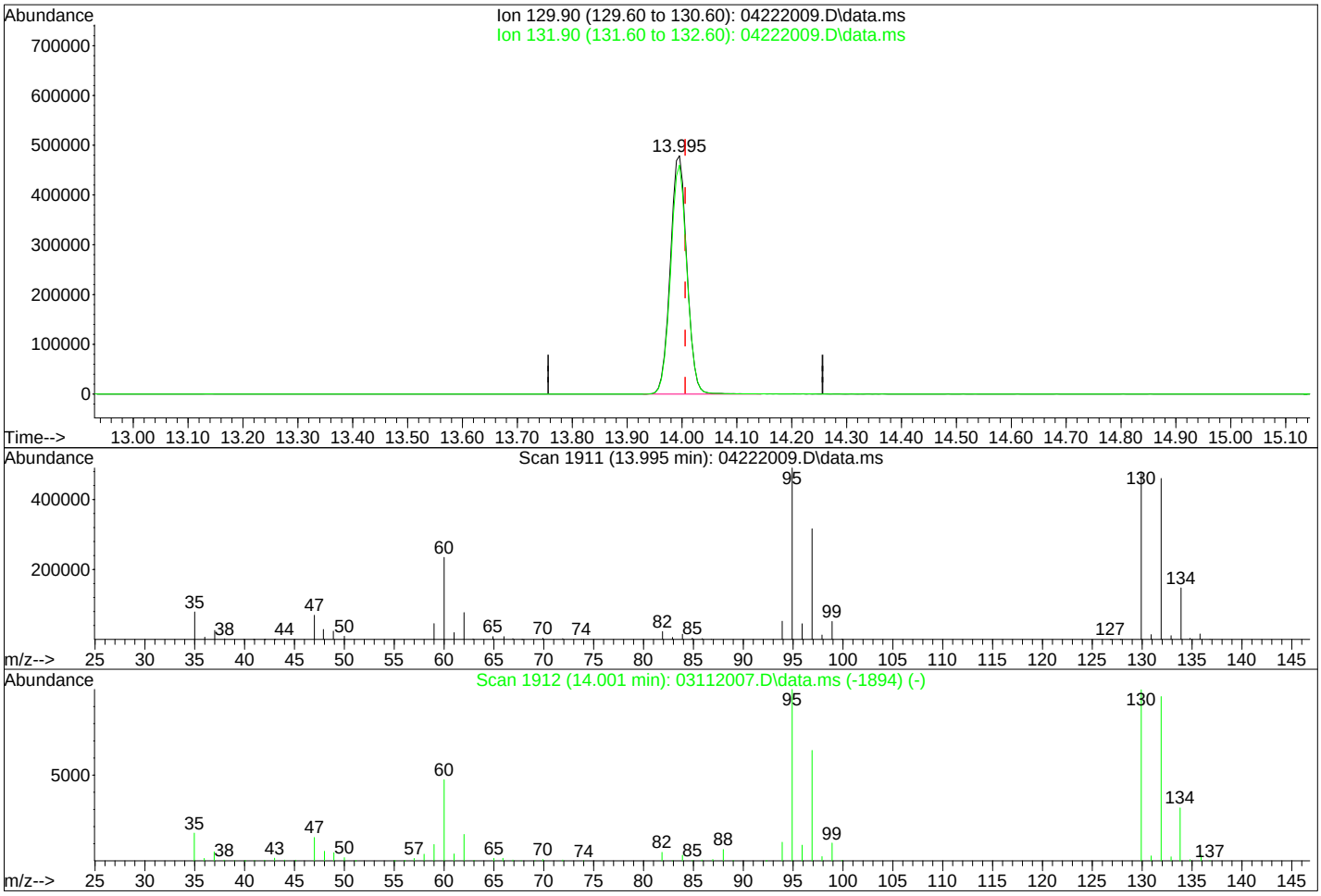


R16031120.M Fri Apr 24 13:02:36 2020

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\22\04222009.D Vial: 12
Acq On : 22 Apr 2020 6:58 Operator: WA
Sample : P2002032-003dil (25mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 09:11:34 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04222009.D\data.ms

(47) Trichloroethene (T)

13.995min (-0.011) 23.26ng

response 1002577

Ion	Exp%	Act%
129.90	100	100
131.90	94.70	94.84
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212024.D Vial: 13
Acq On : 21 Apr 2020 22:00 Operator: WA
Sample : P2002032-004 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 12:49:52 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/24/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	315375	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1393456	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	690932	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	547171	12.530	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.24%				
57) Toluene-d8 (SS2)	15.74	98	1436598	11.730	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.84%				
73) Bromofluorobenzene (SS3)	19.00	174	502279	11.614	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.88%				
Target Compounds							Qvalue
2) Propene	4.13	42	25478	0.770	ng	#	65
3) Dichlorodifluoromethan...	4.28	85	10682	0.150	ng		99
4) Chloromethane	4.56	50	12693	0.226	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	4.98	62	933	N.D.			
7) 1,3-Butadiene	5.25	54	191	N.D.			
8) Bromomethane	5.68	94	372	N.D.			
9) Chloroethane	5.99	64	1197	0.053	ng		71
10) Ethanol	6.33	45	35671	1.365	ng		99
11) Acetonitrile	6.62	41	7353	0.128	ng		81
12) Acrolein	6.81	56	8521	0.443	ng		99
13) Acetone	7.02	58	87844m	3.405	ng		
14) Trichlorofluoromethane	7.25	101	6197	0.099	ng		97
15) 2-Propanol (Isopropanol)	7.54	45	14082	0.184	ng	#	55
16) Acrylonitrile	7.86	53	625	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.44	84	3247	0.097	ng		96
20) 3-Chloro-1-propene (Al...	8.58	41	118	N.D.			
21) Trichlorotrifluoroethane	8.87	151	11673	0.389	ng		96
22) Carbon Disulfide	8.71	76	446157	3.696	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.11	73	571	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.49	72	17473	0.814	ng		98
28) cis-1,2-Dichloroethene	11.00	61	510	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.32	61	1424	0.112	ng		84
31) n-Hexane	11.28	57	4205	0.071	ng		94
32) Chloroform	11.33	83	56698	0.905	ng		99
34) Tetrahydrofuran (THF)	11.75	72	58269	2.637	ng		92
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.14	62	179	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.90	78	211237	1.466	ng		99
42) Carbon Tetrachloride	13.06	117	20541	0.415	ng		98
43) Cyclohexane	13.19	84	2505	N.D.			
44) tert-Amyl Methyl Ether	13.56	73	637	N.D.			
45) 1,2-Dichloropropane	13.54	63	686	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	14.00	130	6998912	171.423	ng		99
48) 1,4-Dioxane	0.00	88	0	N.D.	d		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212024.D Vial: 13
Acq On : 21 Apr 2020 22:00 Operator: WA
Sample : P2002032-004 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 12:49:52 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

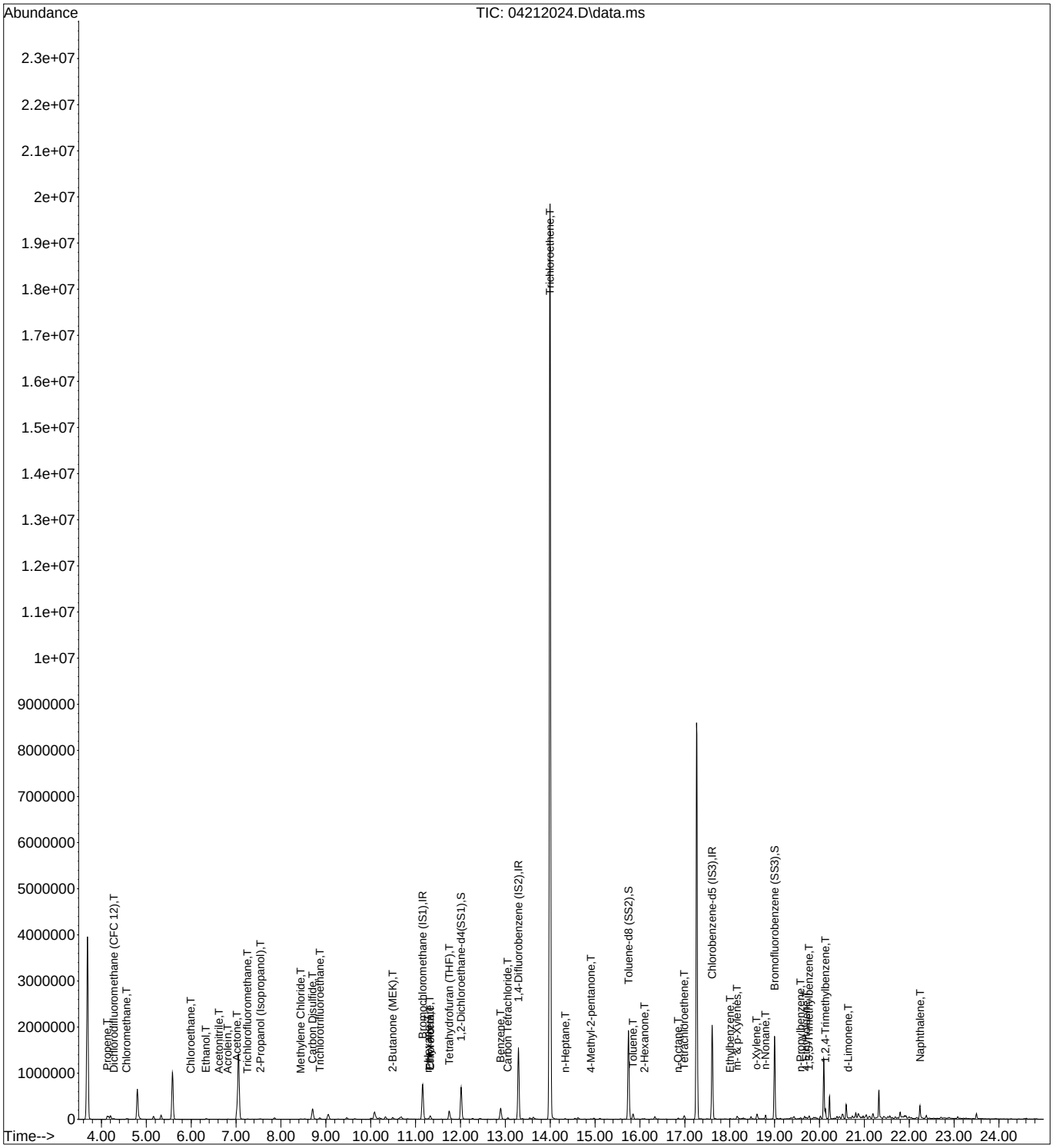
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.34	71	3587	0.107 ng		96
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.91	58	2993	0.099 ng	#	88
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.84	91	90201	0.596 ng		99
59) 2-Hexanone	16.10	43	10537	0.139 ng		91
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.73	43	1589	N.D.		
63) n-Octane	16.85	57	5291	0.176 ng		88
64) Tetrachloroethene	16.99	166	20185	0.478 ng		100
65) Chlorobenzene	17.68	112	997	N.D.		
66) Ethylbenzene	18.01	91	11738	0.071 ng		94
67) m- & p-Xylenes	18.16	91	43829	0.324 ng		99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.50	104	842	N.D.		
70) o-Xylene	18.60	91	16233	0.120 ng		96
71) n-Nonane	18.80	43	30976	0.459 ng		95
72) 1,1,2,2-Tetrachloroethane	18.58	83	365	N.D.		
74) Cumene	19.13	105	8255	N.D.		
75) alpha-Pinene	19.48	93	501	N.D.		
76) n-Propylbenzene	19.58	91	15159	0.076 ng		85
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.70	105	16731	0.103 ng		93
79) 1,3,5-Trimethylbenzene	19.77	105	21758	0.151 ng		96
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	20.13	105	110200	0.737 ng		87
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.26	91	1417	N.D.		
85) 1,3-Dichlorobenzene	20.33	146	223	N.D.		
86) 1,4-Dichlorobenzene	20.33	146	223	N.D.		
87) sec-Butylbenzene	20.37	105	7739	N.D.		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.64	68	3642	0.063 ng	#	67
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.14	180	101	N.D.		
95) Naphthalene	22.24	128	19401	0.116 ng		94
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212024.D Vial: 13
Acq On : 21 Apr 2020 22:00 Operator: WA
Sample : P2002032-004 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 12:49:52 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212024.D Vial: 13
Acq On : 21 Apr 2020 22:00 Operator: WA
Sample : P2002032-004 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 12:49:52 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020 LH 4/24/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

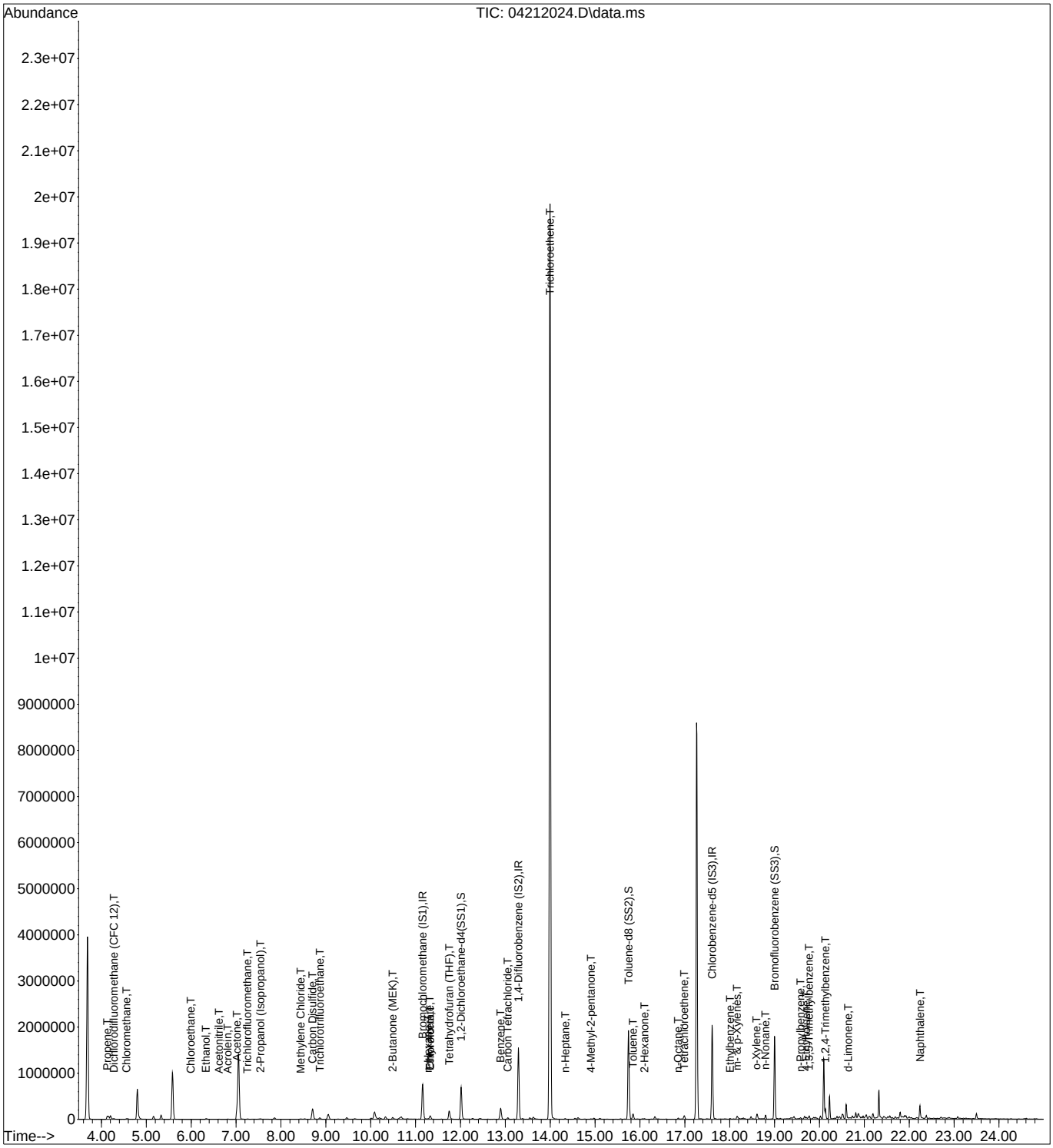
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	315375	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1393456	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	690932	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	547171	12.530	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.24%				
57) Toluene-d8 (SS2)	15.74	98	1436598	11.730	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.84%				
73) Bromofluorobenzene (SS3)	19.00	174	502279	11.614	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.88%				
Target Compounds							Qvalue
2) Propene	4.13	42	25478	0.770	ng	#	65
3) Dichlorodifluoromethan...	4.28	85	10682	0.150	ng		99
4) Chloromethane	4.56	50	12693	0.226	ng		99
9) Chloroethane	5.99	64	1197	0.053	ng		71
10) Ethanol	6.33	45	35671	1.365	ng		99
11) Acetonitrile	6.62	41	7353	0.128	ng		81
12) Acrolein	6.81	56	8521	0.443	ng		99
13) Acetone	7.02	58	87844m	3.405	ng		
14) Trichlorofluoromethane	7.25	101	6197	0.099	ng		97
15) 2-Propanol (Isopropanol)	7.54	45	14082	0.184	ng	#	55
19) Methylene Chloride	8.44	84	3247	0.097	ng		96
21) Trichlorotrifluoroethane	8.87	151	11673	0.389	ng		96
22) Carbon Disulfide	8.71	76	446157	3.696	ng		99
27) 2-Butanone (MEK)	10.49	72	17473	0.814	ng		98
30) Ethyl Acetate	11.32	61	1424	0.112	ng		84
31) n-Hexane	11.28	57	4205	0.071	ng		94
32) Chloroform	11.33	83	56698	0.905	ng		99
34) Tetrahydrofuran (THF)	11.75	72	58269	2.637	ng		92
41) Benzene	12.90	78	211237	1.466	ng		99
42) Carbon Tetrachloride	13.06	117	20541	0.415	ng		98
47) Trichloroethene	14.00	130	6998912	171.423	ng		99
51) n-Heptane	14.34	71	3587	0.107	ng		96
53) 4-Methyl-2-pentanone	14.91	58	2993	0.099	ng	#	88
58) Toluene	15.84	91	90201	0.596	ng		99
59) 2-Hexanone	16.10	43	10537	0.139	ng		91
63) n-Octane	16.85	57	5291	0.176	ng		88
64) Tetrachloroethene	16.99	166	20185	0.478	ng		100
66) Ethylbenzene	18.01	91	11738	0.071	ng		94
67) m- & p-Xylenes	18.16	91	43829	0.324	ng		99
70) o-Xylene	18.60	91	16233	0.120	ng		96
71) n-Nonane	18.80	43	30976	0.459	ng		95
76) n-Propylbenzene	19.58	91	15159	0.076	ng		85
78) 4-Ethyltoluene	19.70	105	16731	0.103	ng		93
79) 1,3,5-Trimethylbenzene	19.77	105	21758	0.151	ng		96
82) 1,2,4-Trimethylbenzene	20.13	105	110200	0.737	ng		87
91) d-Limonene	20.64	68	3642	0.063	ng	#	67
95) Naphthalene	22.24	128	19401	0.116	ng		94

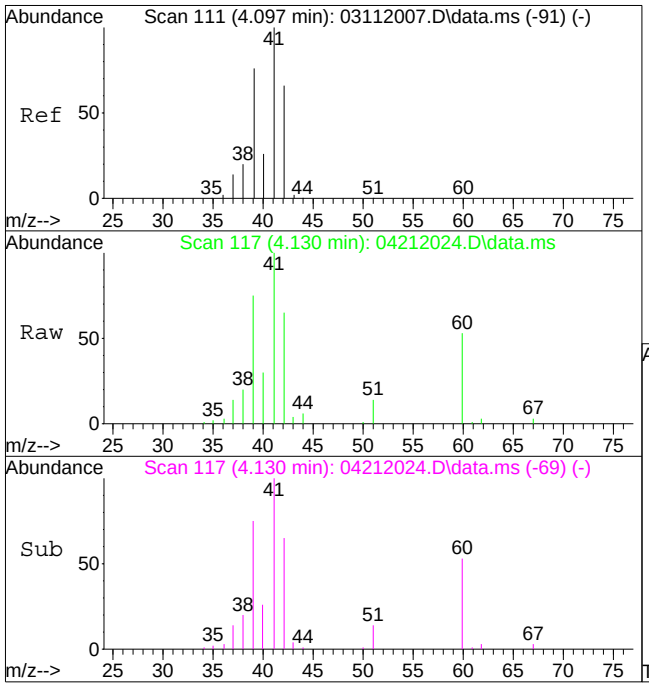
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212024.D Vial: 13
Acq On : 21 Apr 2020 22:00 Operator: WA
Sample : P2002032-004 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 12:49:52 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

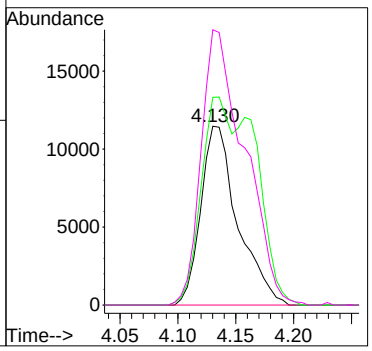


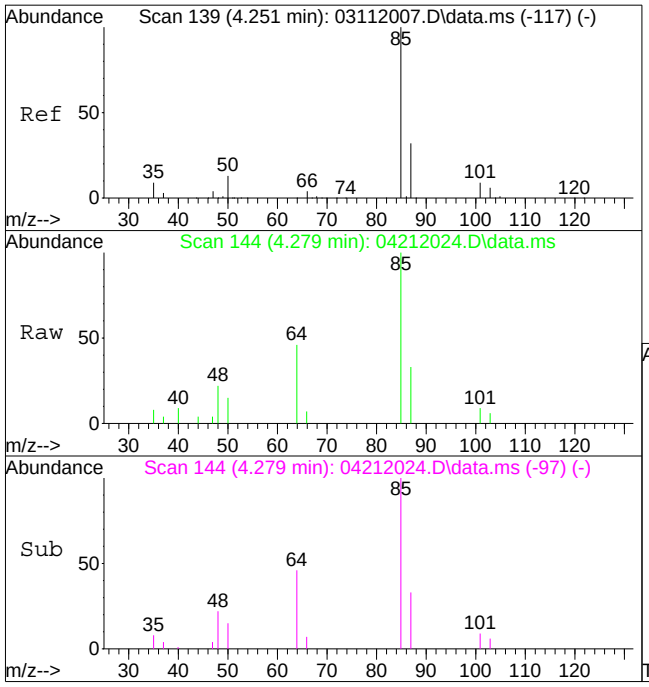


#2
Propene
Concen: 0.77 ng
RT: 4.13 min Scan# 117
Delta R.T. 0.016 min
Lab File: 04212024.D
Acq: 21 Apr 2020 22:00

Tgt Ion: 42 Resp: 25478

Ion	Ratio	Lower	Upper
42	100		
39	170.3	95.3	135.3#
41	181.2	132.0	172.0#

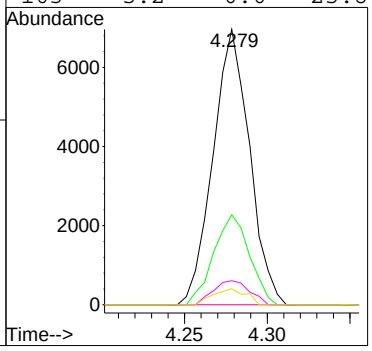


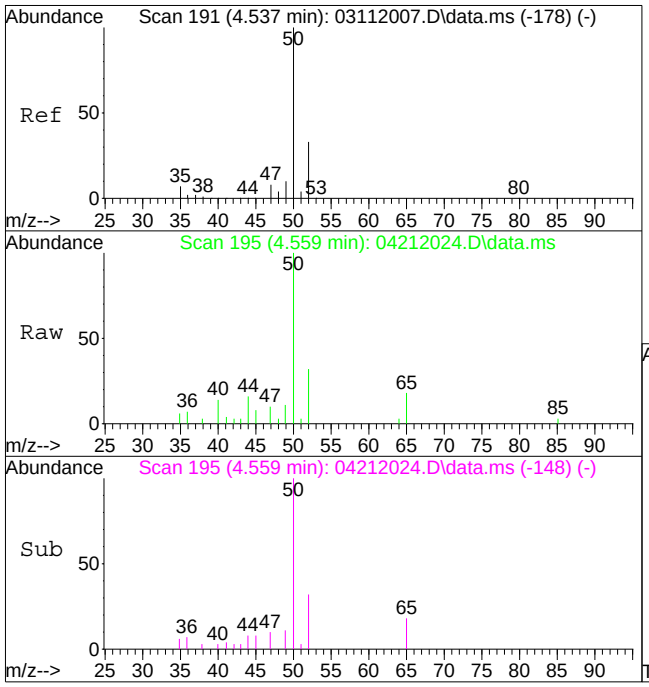


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.15 ng
RT: 4.28 min Scan# 144
Delta R.T. 0.011 min
Lab File: 04212024.D
Acq: 21 Apr 2020 22:00

Tgt Ion: 85 Resp: 10682

Ion	Ratio	Lower	Upper
85	100		
87	32.1	12.3	52.3
101	8.7	0.0	29.0
103	5.2	0.0	25.8

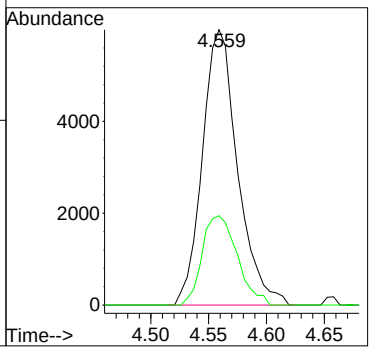


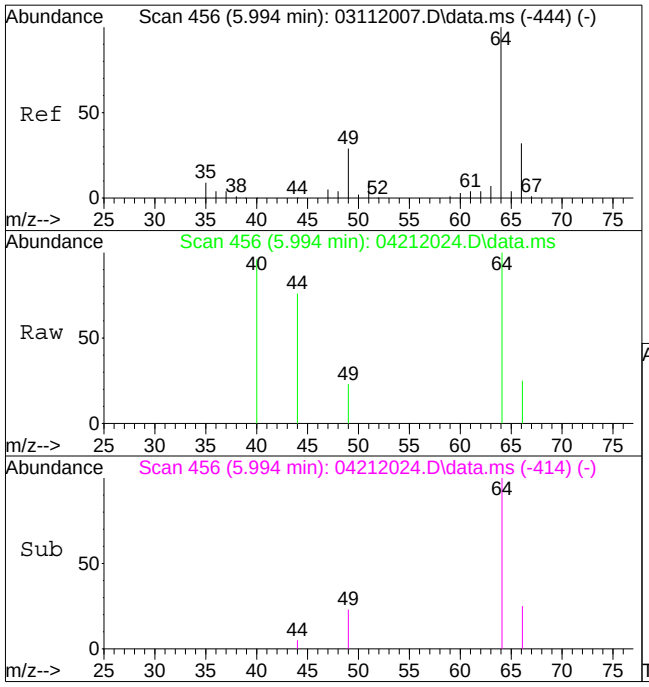


#4
Chloromethane
Concen: 0.23 ng
RT: 4.56 min Scan# 195
Delta R.T. 0.006 min
Lab File: 04212024.D
Acq: 21 Apr 2020 22:00

Tgt Ion: 50 Resp: 12693

Ion	Ratio	Lower	Upper
50	100		
52	32.3	12.8	52.8

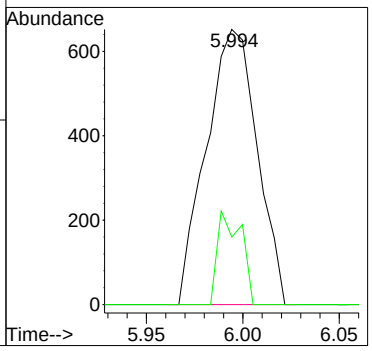


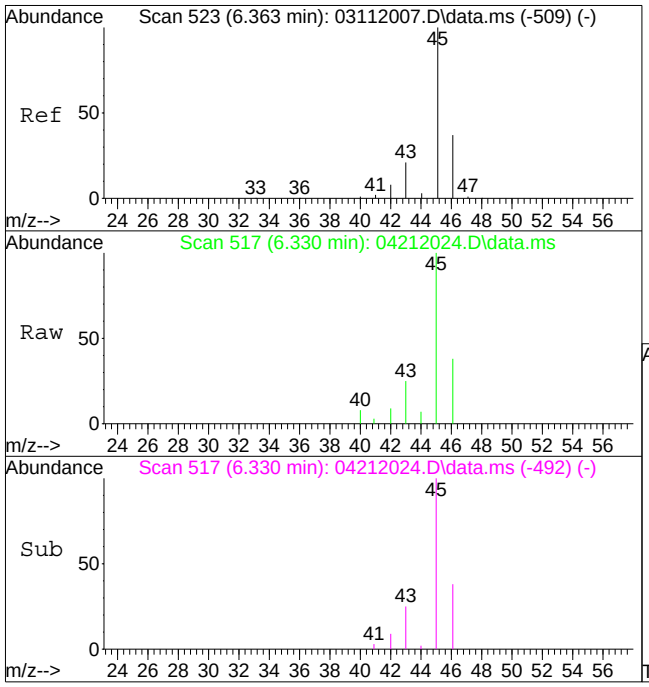


#9
Chloroethane
Concen: 0.05 ng
RT: 5.99 min Scan# 456
Delta R.T. -0.022 min
Lab File: 04212024.D
Acq: 21 Apr 2020 22:00

Tgt Ion: 64 Resp: 1197

Ion	Ratio	Lower	Upper
64	100		
66	15.8	11.7	51.7

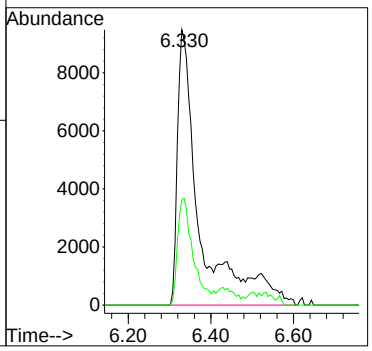


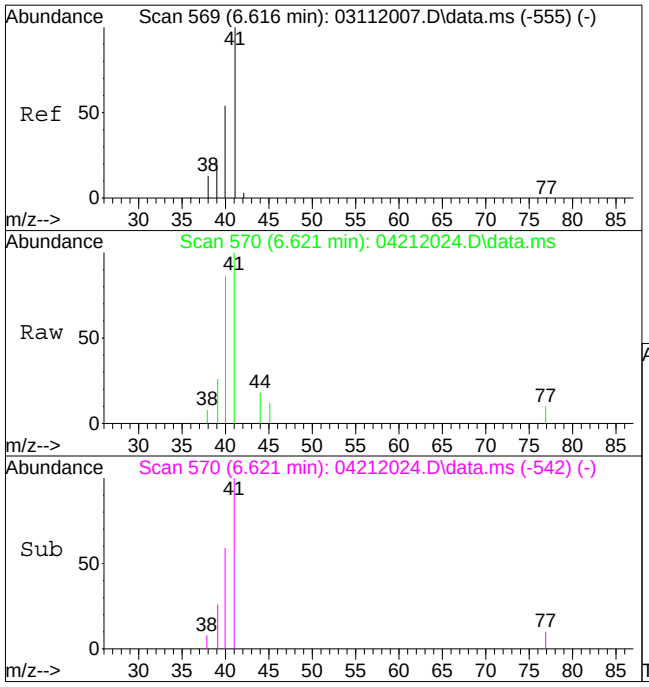


#10
Ethanol
Concen: 1.36 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.110 min
Lab File: 04212024.D
Acq: 21 Apr 2020 22:00

Tgt Ion: 45 Resp: 35671

Ion	Ratio	Lower	Upper
45	100		
46	37.8	17.3	57.3

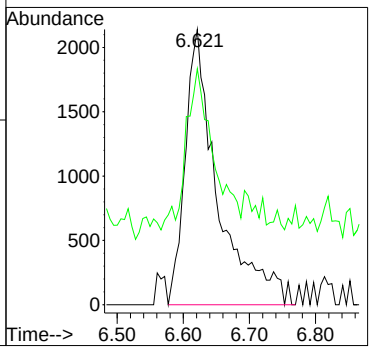


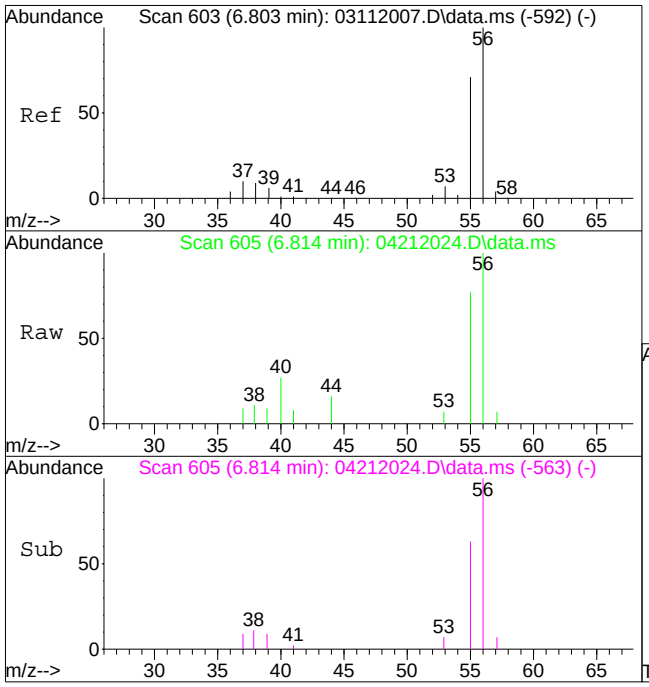


#11
Acetonitrile
Concen: 0.13 ng
RT: 6.62 min Scan# 570
Delta R.T. -0.044 min
Lab File: 04212024.D
Acq: 21 Apr 2020 22:00

Tgt Ion: 41 Resp: 7353

Ion	Ratio	Lower	Upper
41	100		
40	67.3	33.6	73.6

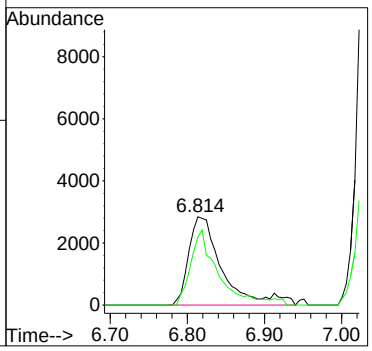


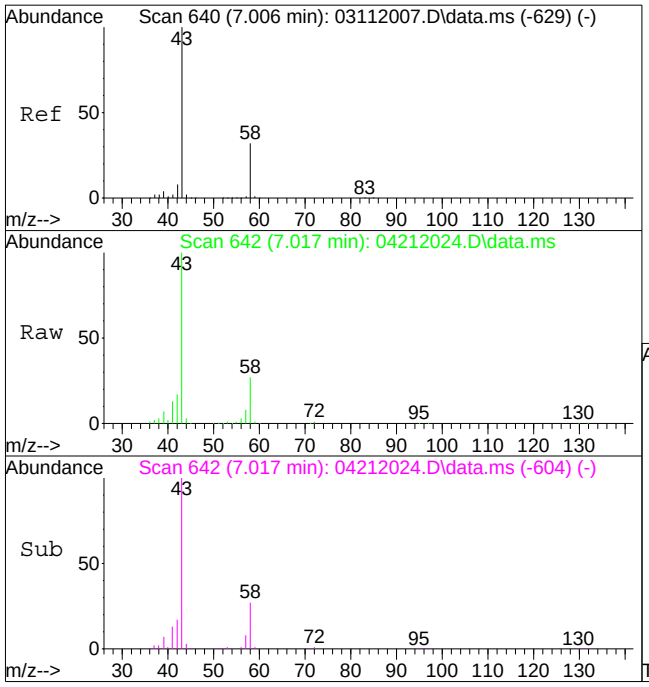


#12
Acrolein
Concen: 0.44 ng
RT: 6.81 min Scan# 605
Delta R.T. -0.016 min
Lab File: 04212024.D
Acq: 21 Apr 2020 22:00

Tgt Ion: 56 Resp: 8521

Ion	Ratio	Lower	Upper
56	100		
55	71.1	50.4	90.4

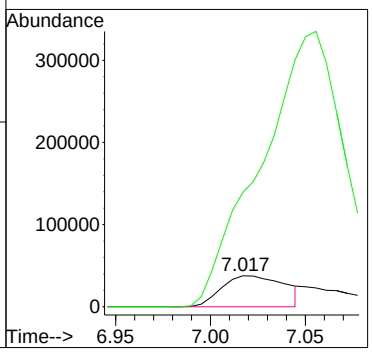


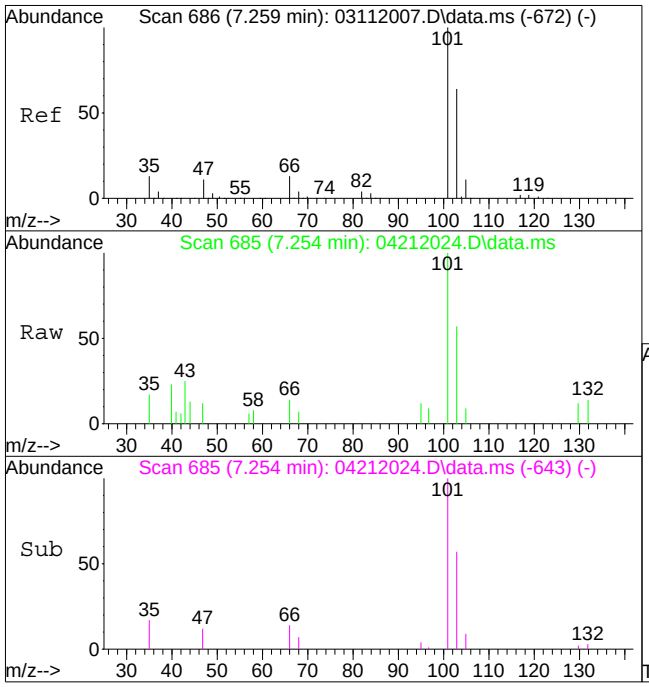


#13
Acetone
Concen: 3.41 ng m
RT: 7.02 min Scan# 642
Delta R.T. -0.039 min
Lab File: 04212024.D
Acq: 21 Apr 2020 22:00

Tgt Ion: 58 Resp: 87844

Ion	Ratio	Lower	Upper
58	100		
43	1184.2	287.3	347.3#

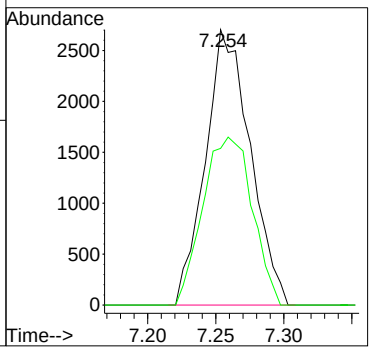


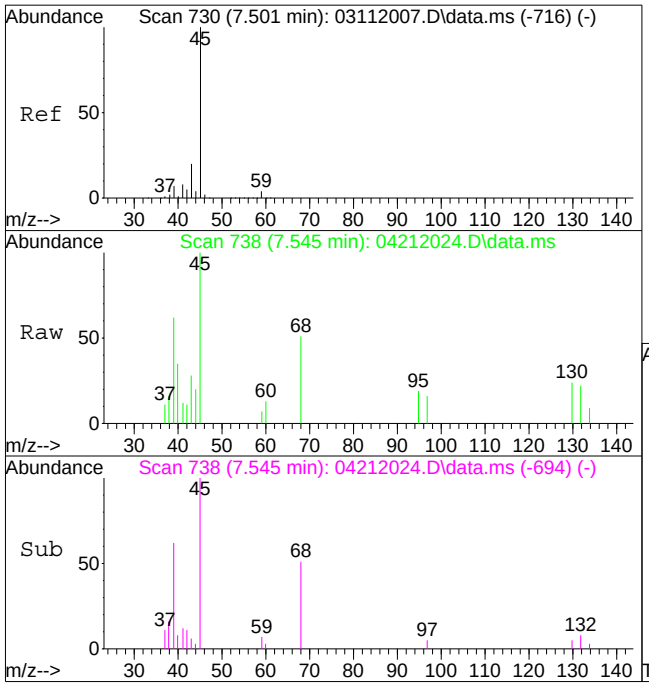


#14
Trichlorofluoromethane
Concen: 0.10 ng
RT: 7.25 min Scan# 685
Delta R.T. -0.021 min
Lab File: 04212024.D
Acq: 21 Apr 2020 22:00

Tgt Ion:101 Resp: 6197

Ion	Ratio	Lower	Upper
101	100		
103	67.2	44.6	84.6

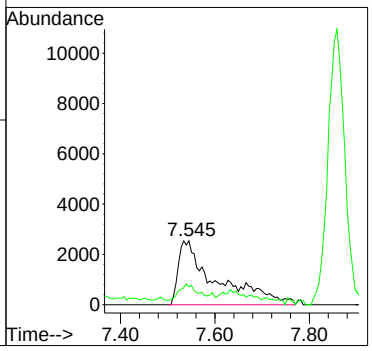


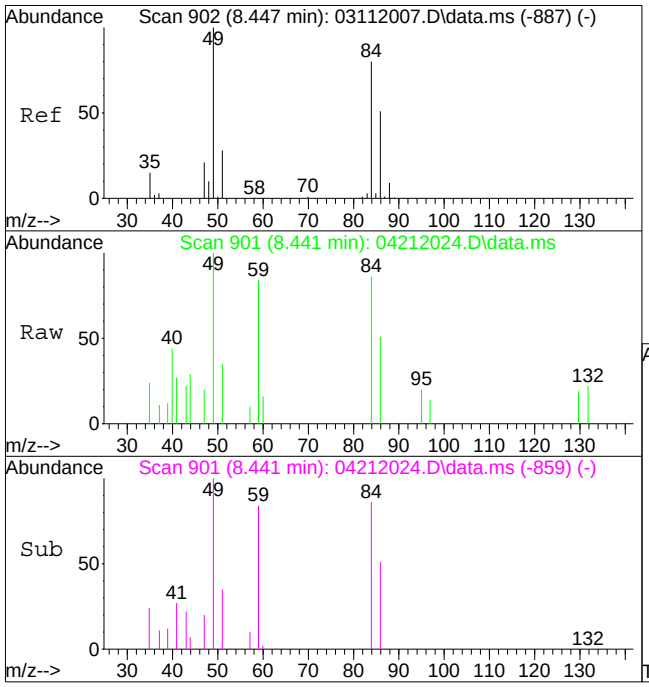


#15
2-Propanol (Isopropanol)
Concen: 0.18 ng
RT: 7.54 min Scan# 738
Delta R.T. -0.005 min
Lab File: 04212024.D
Acq: 21 Apr 2020 22:00

Tgt Ion: 45 Resp: 14082

Ion	Ratio	Lower	Upper
45	100		
43	41.1	0.3	40.3#

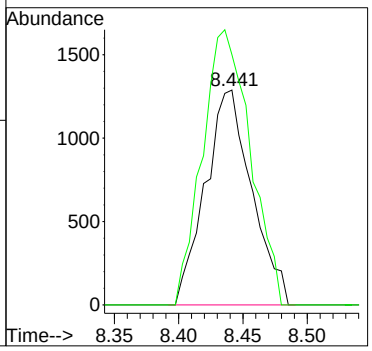


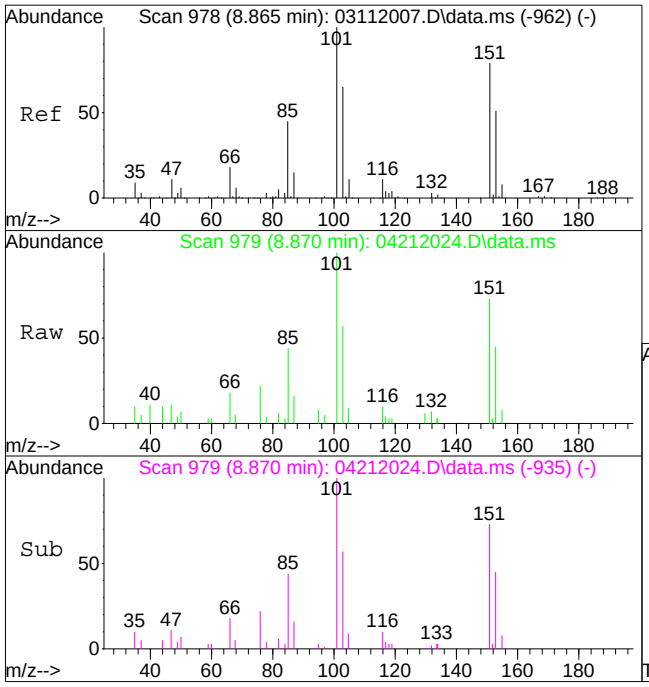


#19
Methylene Chloride
Concen: 0.10 ng
RT: 8.44 min Scan# 901
Delta R.T. -0.022 min
Lab File: 04212024.D
Acq: 21 Apr 2020 22:00

Tgt Ion: 84 Resp: 3247

Ion	Ratio	Lower	Upper
84	100		
49	131.8	102.2	152.2

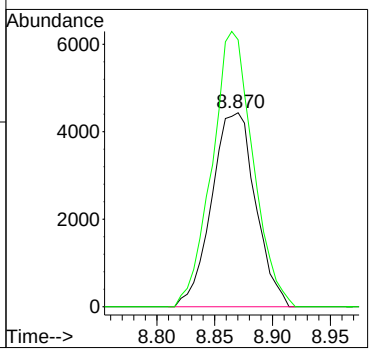


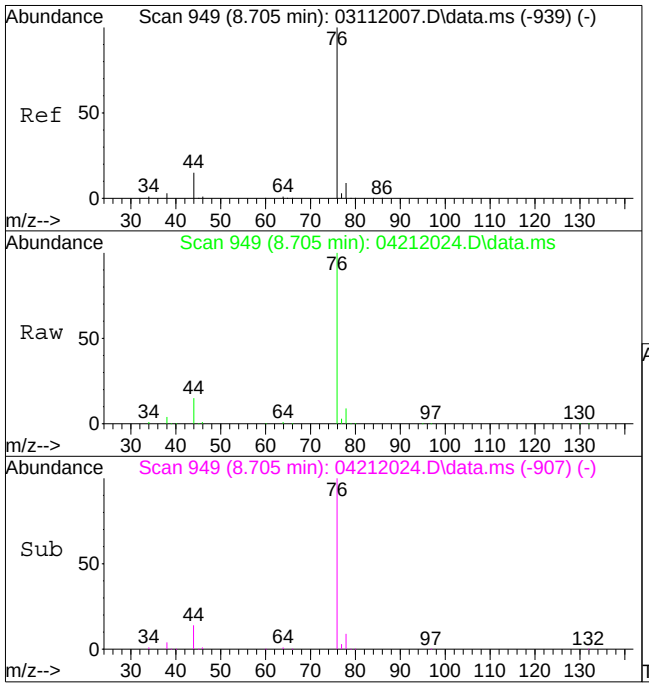


#21
Trichlorotrifluoroethane
Concen: 0.39 ng
RT: 8.87 min Scan# 979
Delta R.T. -0.006 min
Lab File: 04212024.D
Acq: 21 Apr 2020 22:00

Tgt Ion:151 Resp: 11673

Ion	Ratio	Lower	Upper
151	100		
101	133.0	108.4	148.4

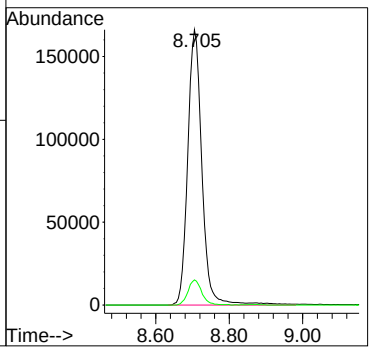


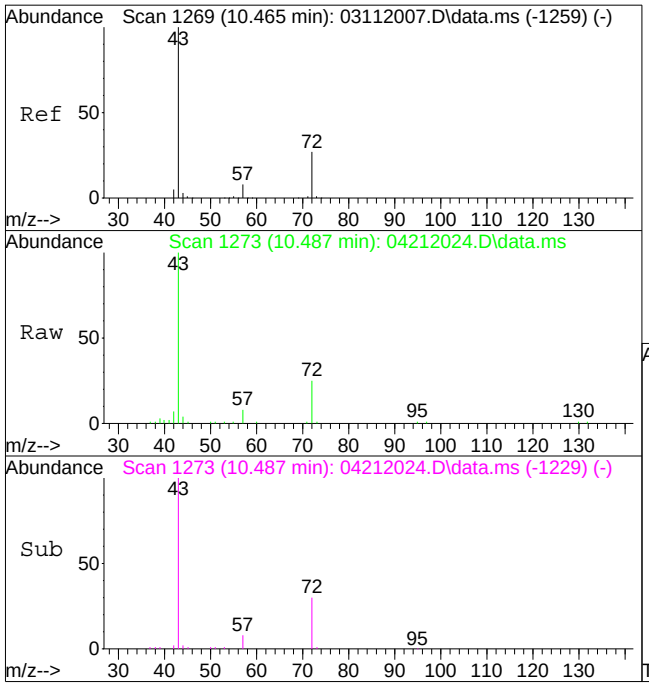


#22
Carbon Disulfide
Concen: 3.70 ng
RT: 8.71 min Scan# 949
Delta R.T. -0.016 min
Lab File: 04212024.D
Acq: 21 Apr 2020 22:00

Tgt Ion: 76 Resp: 446157

Ion	Ratio	Lower	Upper
76	100		
78	8.9	0.0	29.2

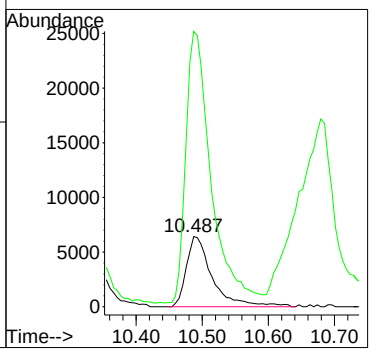


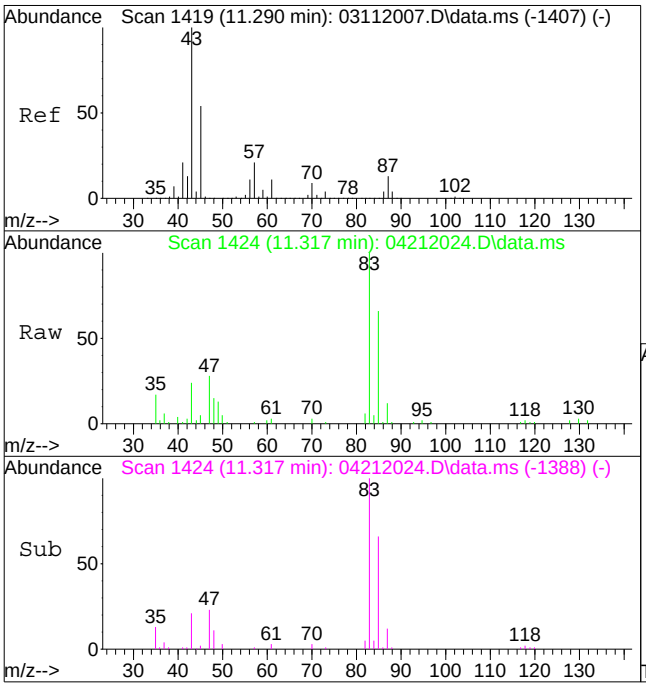


#27
2-Butanone (MEK)
Concen: 0.81 ng
RT: 10.49 min Scan# 1273
Delta R.T. -0.005 min
Lab File: 04212024.D
Acq: 21 Apr 2020 22:00

Tgt Ion: 72 Resp: 17473

Ion	Ratio	Lower	Upper
72	100		
43	377.9	353.4	393.4

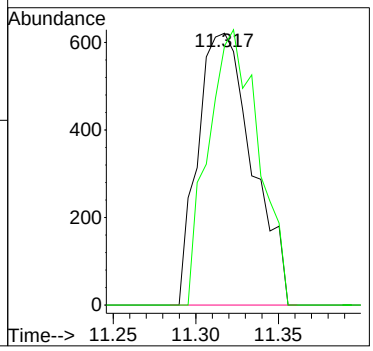


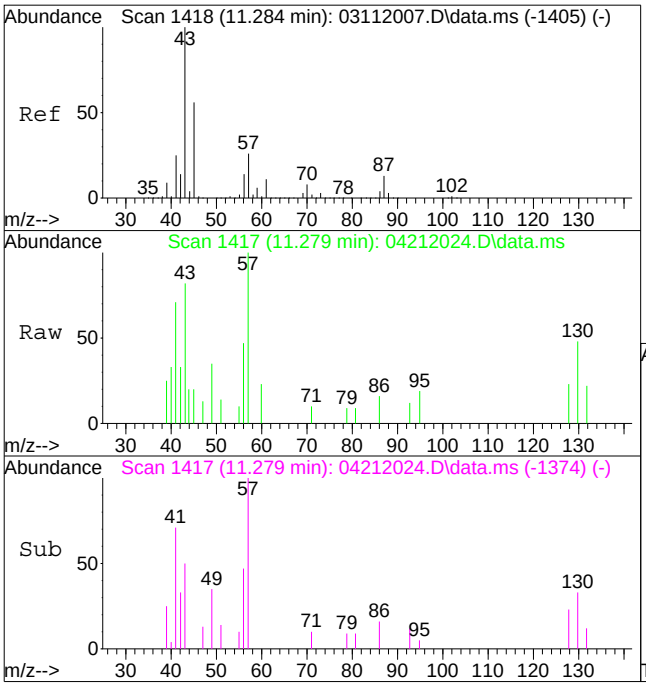


#30
Ethyl Acetate
Concen: 0.11 ng
RT: 11.32 min Scan# 1424
Delta R.T. 0.000 min
Lab File: 04212024.D
Acq: 21 Apr 2020 22:00

Tgt Ion: 61 Resp: 1424

Ion	Ratio	Lower	Upper
61	100		
70	93.5	59.1	99.1

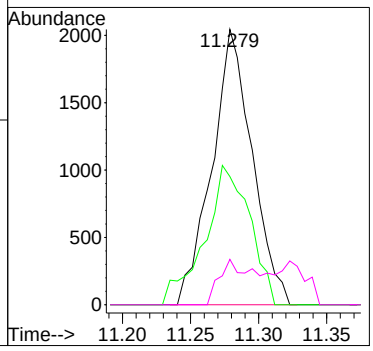


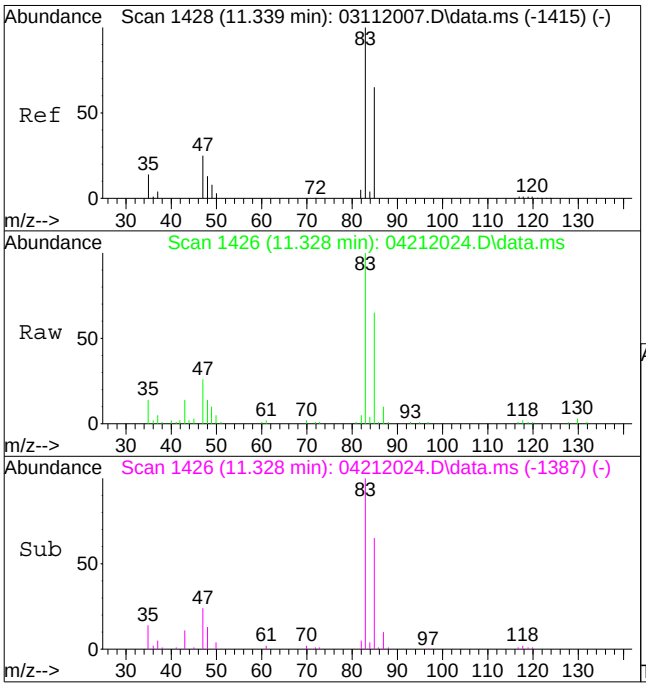


#31
n-Hexane
Concen: 0.07 ng
RT: 11.28 min Scan# 1417
Delta R.T. -0.011 min
Lab File: 04212024.D
Acq: 21 Apr 2020 22:00

Tgt Ion: 57 Resp: 4205

Ion	Ratio	Lower	Upper
57	100		
56	56.6	41.0	61.4
86	16.8	13.9	20.9

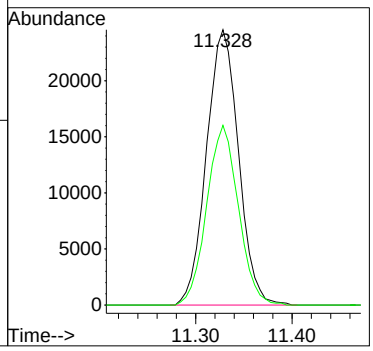


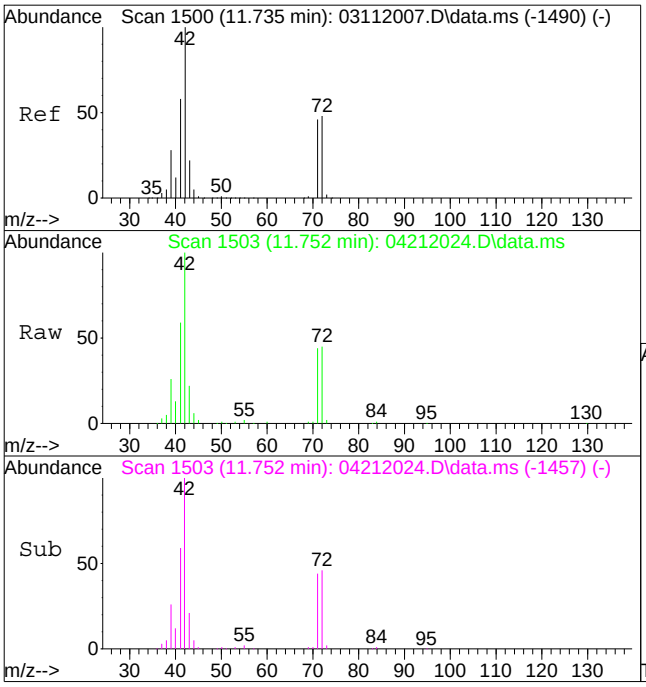


#32
Chloroform
Concen: 0.91 ng
RT: 11.33 min Scan# 1426
Delta R.T. -0.033 min
Lab File: 04212024.D
Acq: 21 Apr 2020 22:00

Tgt Ion: 83 Resp: 56698

Ion	Ratio	Lower	Upper
83	100		
85	64.5	45.5	85.5

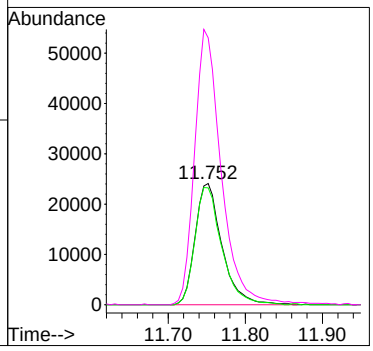


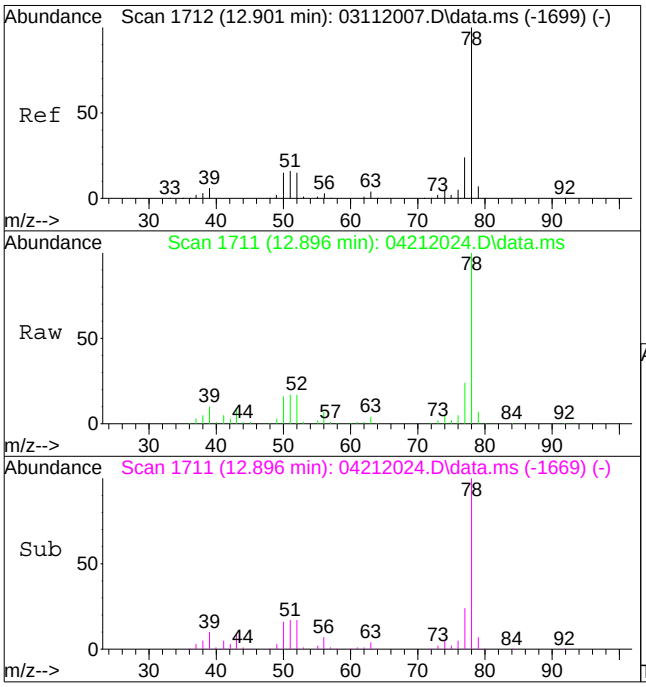


#34
Tetrahydrofuran (THF)
Concen: 2.64 ng
RT: 11.75 min Scan# 1503
Delta R.T. 0.006 min
Lab File: 04212024.D
Acq: 21 Apr 2020 22:00

Tgt Ion: 72 Resp: 58269

Ion	Ratio	Lower	Upper
72	100		
71	96.8	75.9	115.9
42	227.1	189.3	229.3

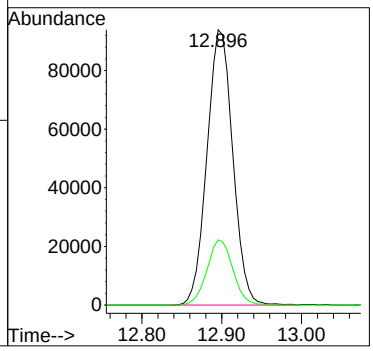


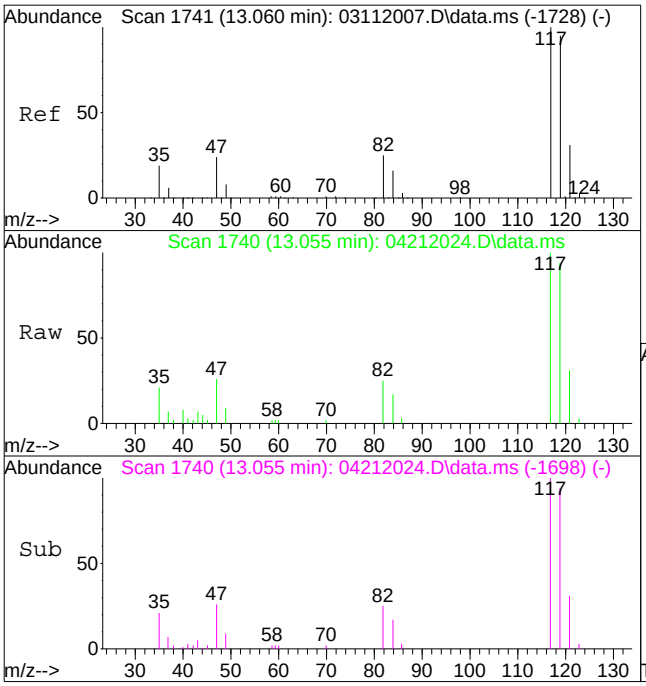


#41
Benzene
Concen: 1.47 ng
RT: 12.90 min Scan# 1711
Delta R.T. -0.016 min
Lab File: 04212024.D
Acq: 21 Apr 2020 22:00

Tgt Ion: 78 Resp: 211237

Ion	Ratio	Lower	Upper
78	100		
77	23.7	3.4	43.4

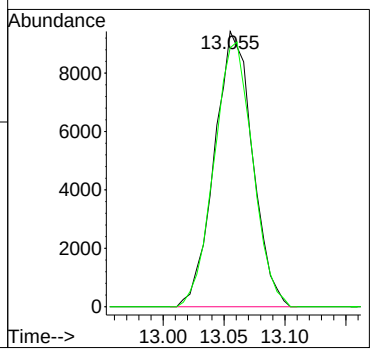


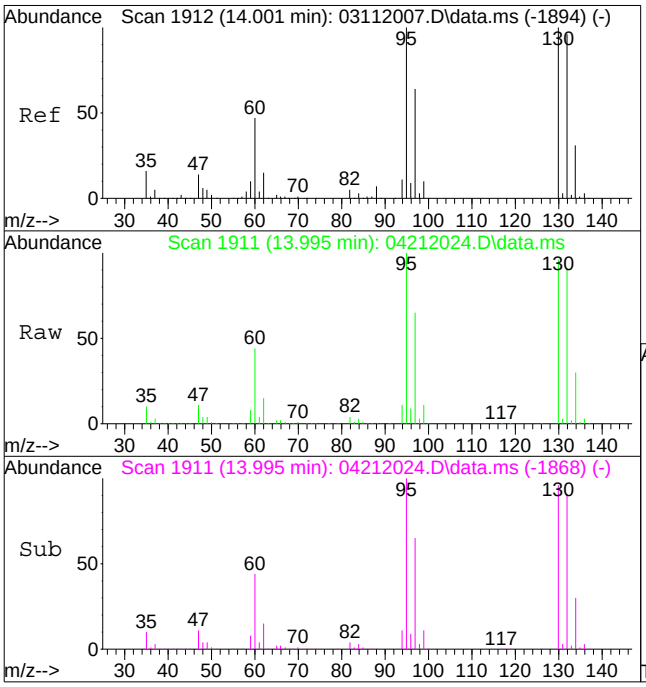


#42
Carbon Tetrachloride
Concen: 0.42 ng
RT: 13.06 min Scan# 1740
Delta R.T. -0.016 min
Lab File: 04212024.D
Acq: 21 Apr 2020 22:00

Tgt Ion:117 Resp: 20541

Ion	Ratio	Lower	Upper
117	100		
119	97.1	75.4	115.4

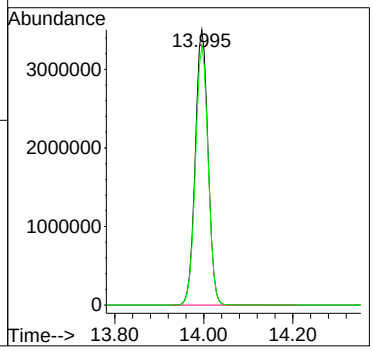


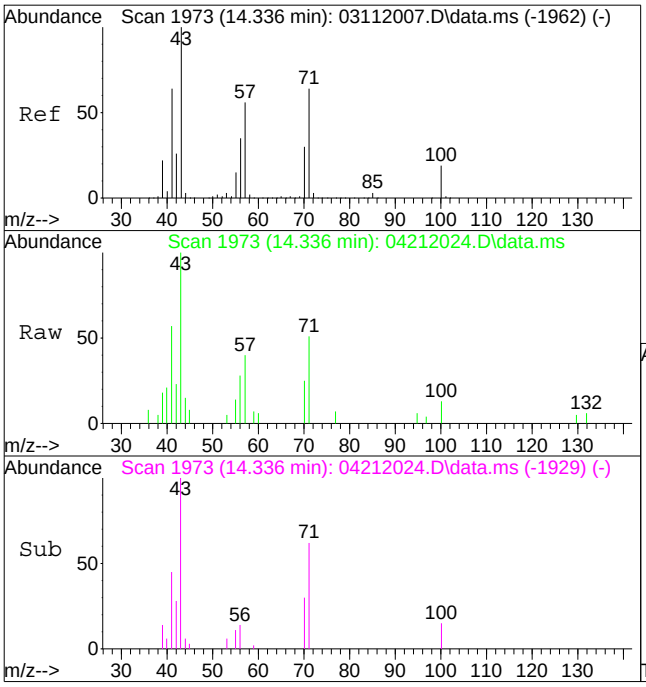


#47
Trichloroethene
Concen: 171.42 ng
RT: 14.00 min Scan# 1911
Delta R.T. -0.011 min
Lab File: 04212024.D
Acq: 21 Apr 2020 22:00

Tgt Ion:130 Resp: 6998912

Ion	Ratio	Lower	Upper
130	100		
132	94.0	74.7	114.7

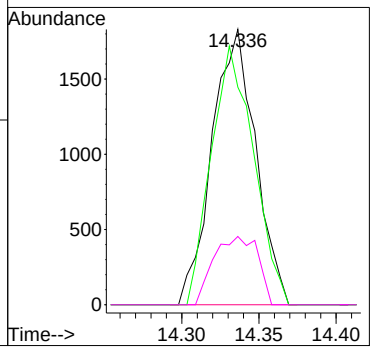


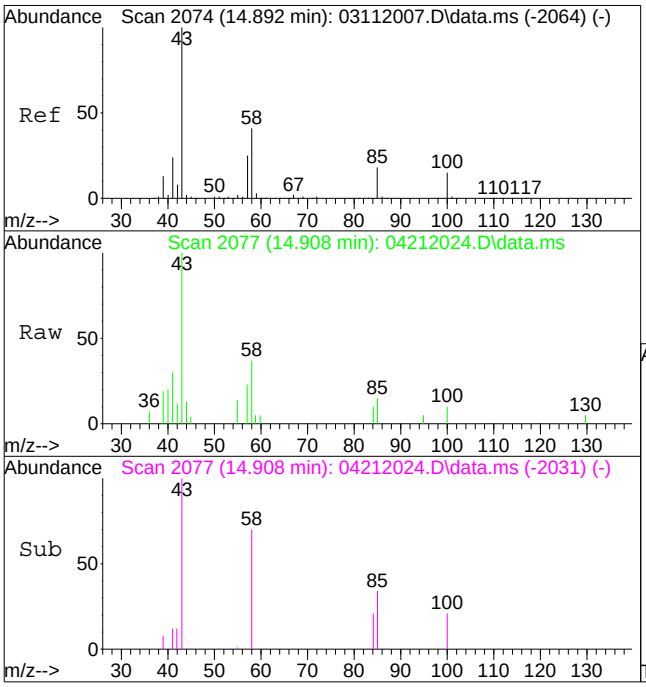


#51
n-Heptane
Concen: 0.11 ng
RT: 14.34 min Scan# 1973
Delta R.T. -0.005 min
Lab File: 04212024.D
Acq: 21 Apr 2020 22:00

Tgt Ion: 71 Resp: 3587

Ion	Ratio	Lower	Upper
71	100		
57	91.6	68.6	108.6
100	25.1	9.1	49.1

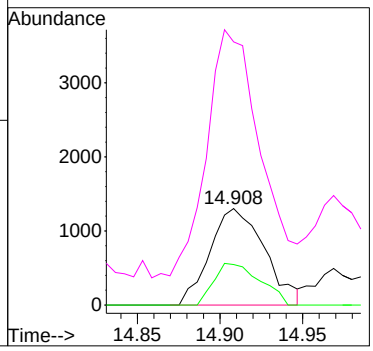


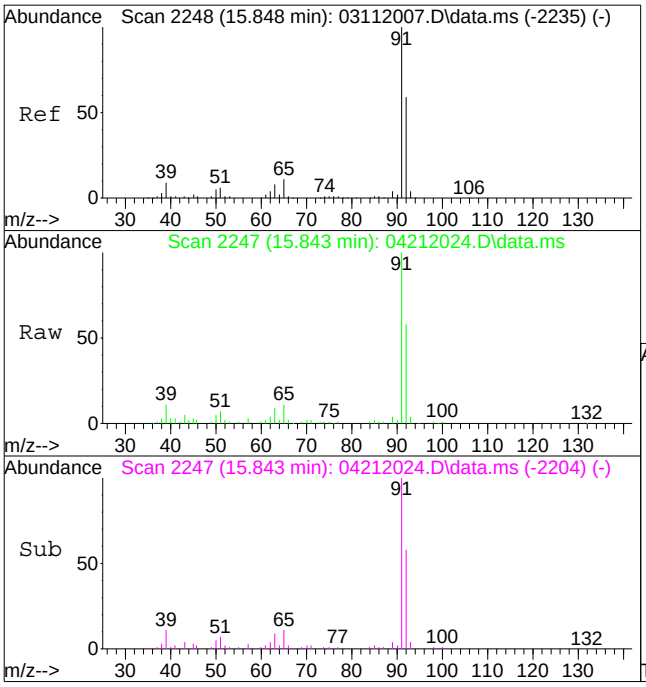


#53
4-Methyl-2-pentanone
Concen: 0.10 ng
RT: 14.91 min Scan# 2077
Delta R.T. 0.006 min
Lab File: 04212024.D
Acq: 21 Apr 2020 22:00

Tgt Ion: 58 Resp: 2993

Ion	Ratio	Lower	Upper
58	100		
85	36.5	37.0	55.4#
43	266.2	196.3	294.5

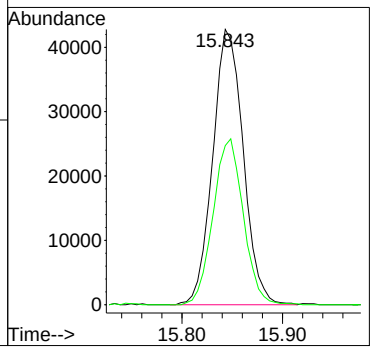


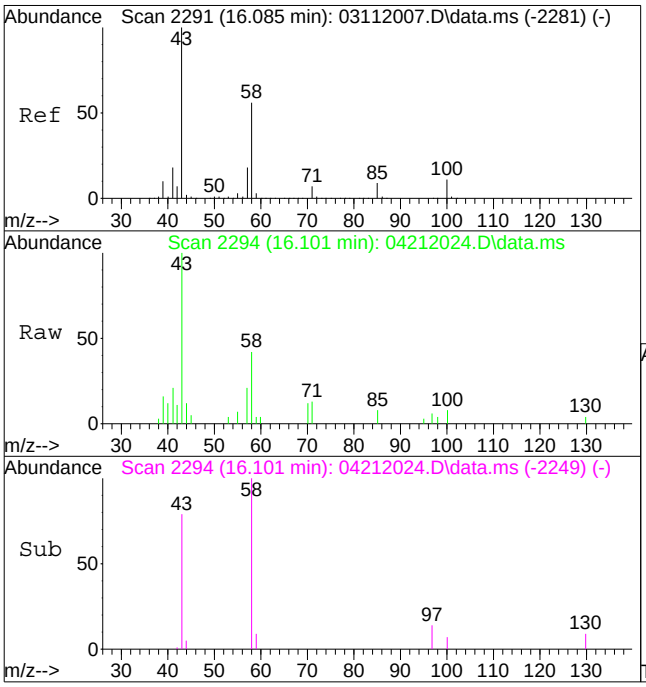


#58
Toluene
Concen: 0.60 ng
RT: 15.84 min Scan# 2247
Delta R.T. -0.011 min
Lab File: 04212024.D
Acq: 21 Apr 2020 22:00

Tgt Ion: 91 Resp: 90201

Ion	Ratio	Lower	Upper
91	100		
92	59.6	39.0	79.0

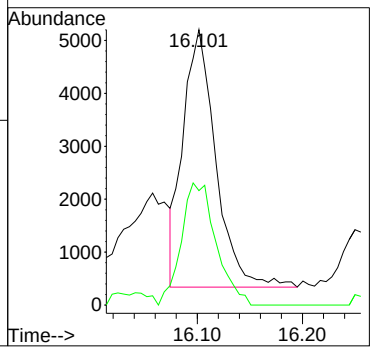


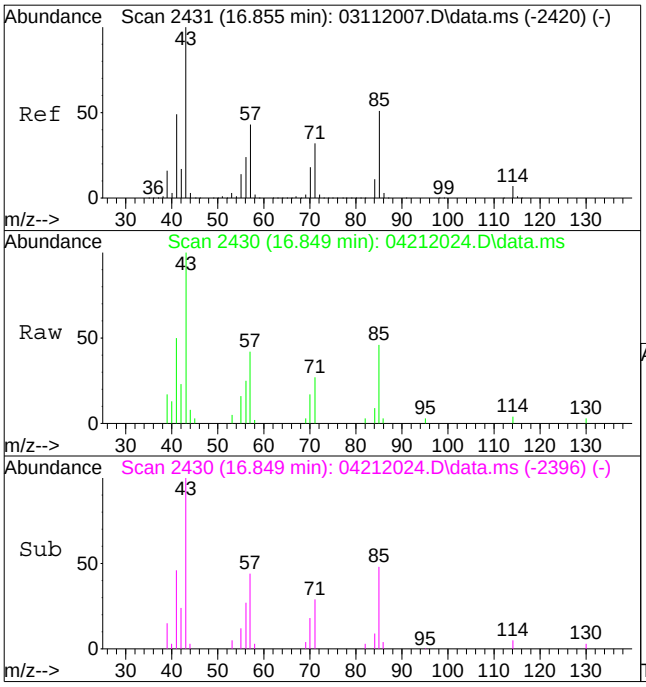


#59
2-Hexanone
Concen: 0.14 ng
RT: 16.10 min Scan# 2294
Delta R.T. 0.000 min
Lab File: 04212024.D
Acq: 21 Apr 2020 22:00

Tgt Ion: 43 Resp: 10537

Ion	Ratio	Lower	Upper
43	100		
58	50.3	36.5	76.5

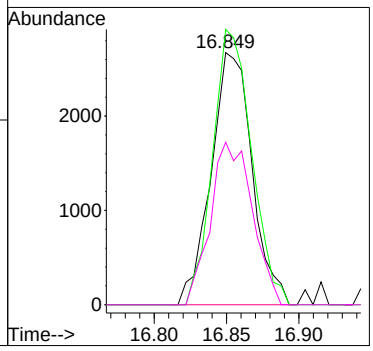


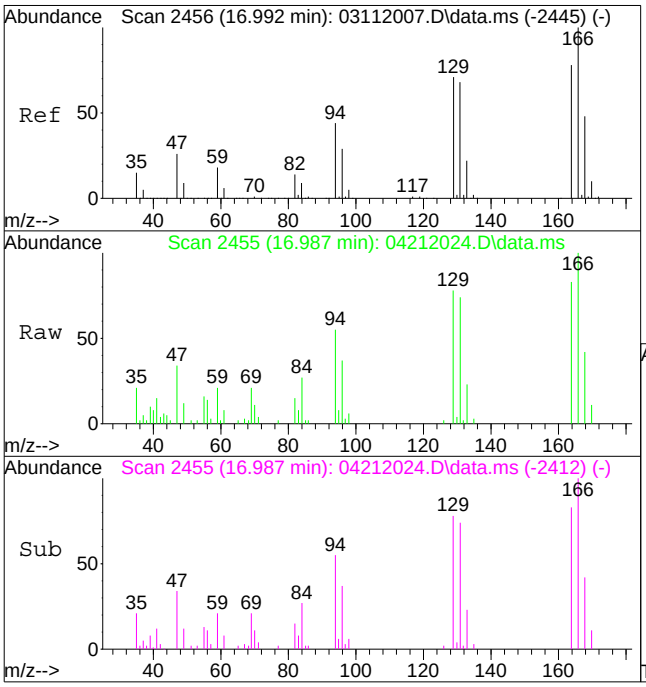


#63
n-Octane
Concen: 0.18 ng
RT: 16.85 min Scan# 2430
Delta R.T. -0.011 min
Lab File: 04212024.D
Acq: 21 Apr 2020 22:00

Tgt Ion: 57 Resp: 5291

Ion	Ratio	Lower	Upper
57	100		
85	103.4	95.1	142.7
71	65.6	58.2	87.4

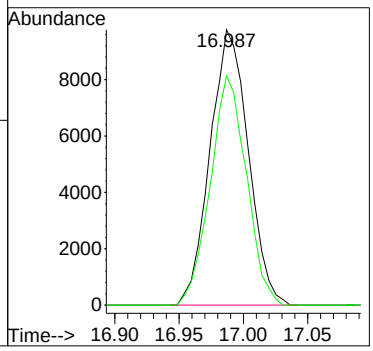


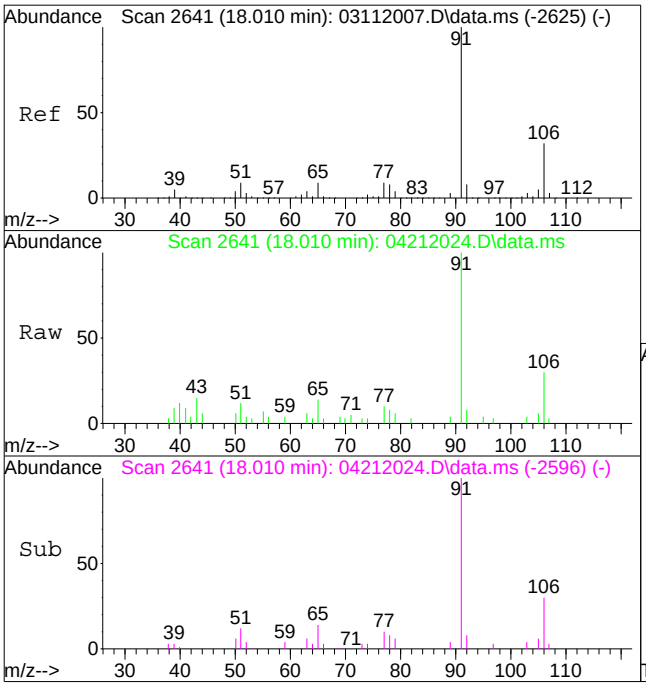


#64
Tetrachloroethene
Concen: 0.48 ng
RT: 16.99 min Scan# 2455
Delta R.T. -0.011 min
Lab File: 04212024.D
Acq: 21 Apr 2020 22:00

Tgt Ion:166 Resp: 20185

Ion	Ratio	Lower	Upper
166	100		
164	78.6	58.6	98.6

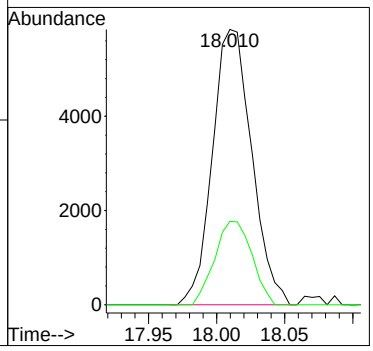


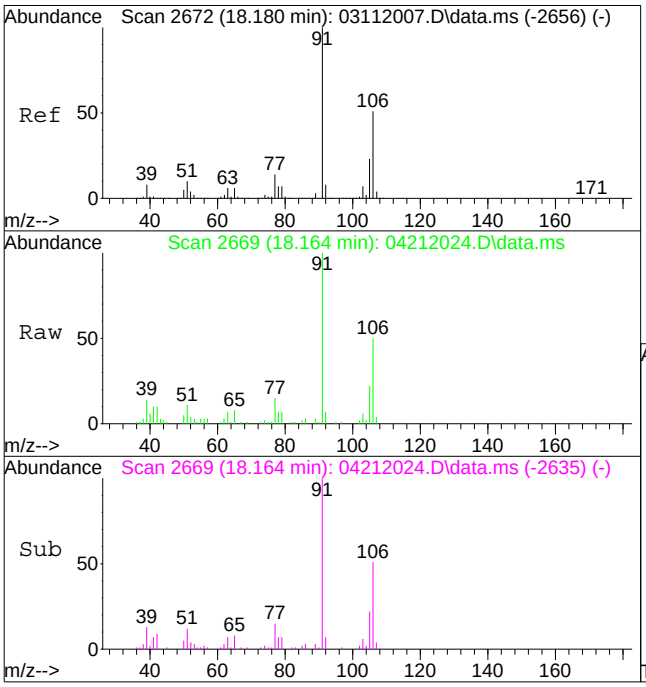


#66
Ethylbenzene
Concen: 0.07 ng
RT: 18.01 min Scan# 2641
Delta R.T. 0.000 min
Lab File: 04212024.D
Acq: 21 Apr 2020 22:00

Tgt Ion: 91 Resp: 11738

Ion	Ratio	Lower	Upper
91	100		
106	28.6	11.7	51.7

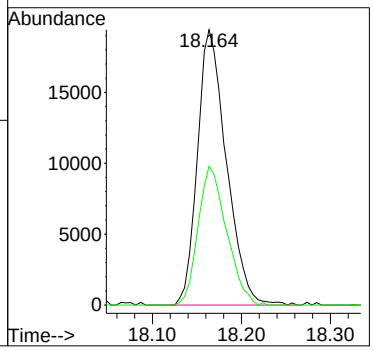


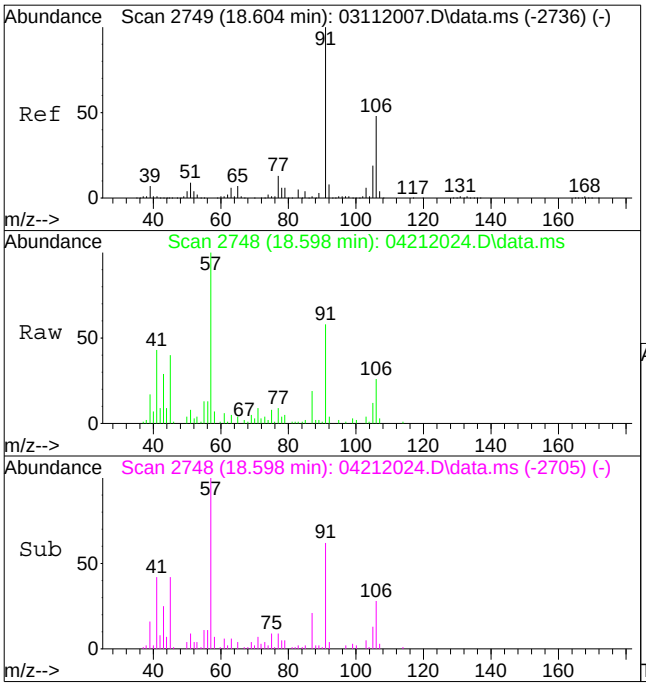


#67
m- & p-Xylenes
Concen: 0.32 ng
RT: 18.16 min Scan# 2669
Delta R.T. -0.011 min
Lab File: 04212024.D
Acq: 21 Apr 2020 22:00

Tgt Ion: 91 Resp: 43829

Ion	Ratio	Lower	Upper
91	100		
106	49.7	30.4	70.4

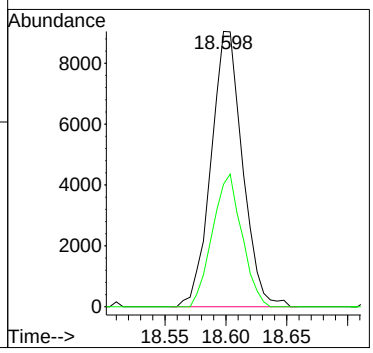


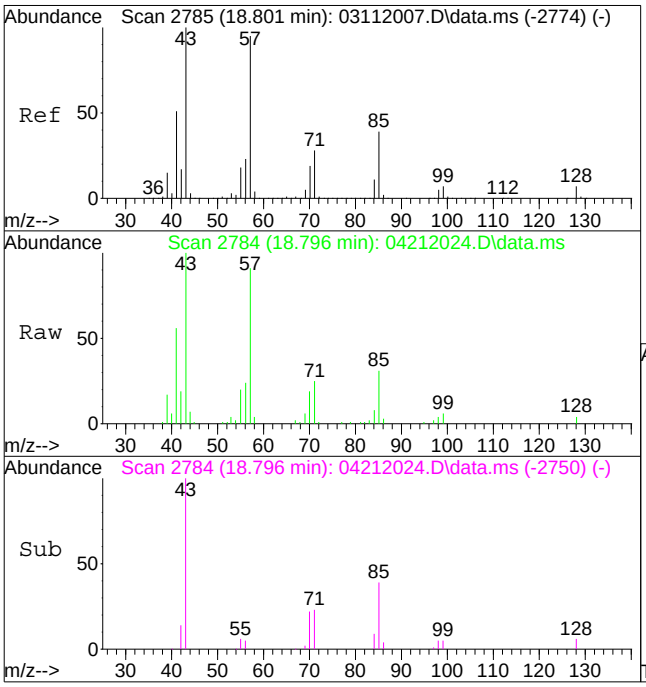


#70
o-Xylene
Concen: 0.12 ng
RT: 18.60 min Scan# 2748
Delta R.T. -0.011 min
Lab File: 04212024.D
Acq: 21 Apr 2020 22:00

Tgt Ion: 91 Resp: 16233

Ion	Ratio	Lower	Upper
91	100		
106	45.1	28.1	68.1

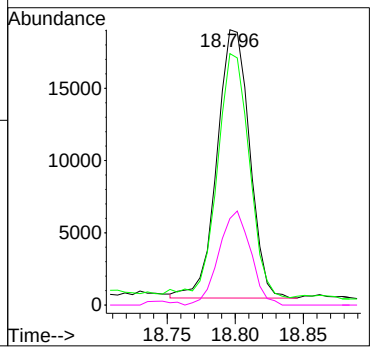


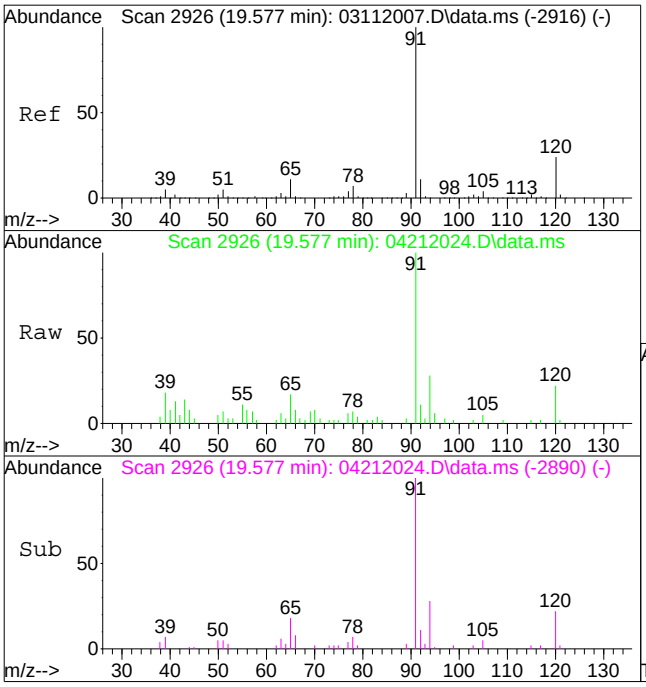


#71
n-Nonane
Concen: 0.46 ng
RT: 18.80 min Scan# 2784
Delta R.T. -0.011 min
Lab File: 04212024.D
Acq: 21 Apr 2020 22:00

Tgt Ion: 43 Resp: 30976

Ion	Ratio	Lower	Upper
43	100		
57	90.0	73.6	113.6
85	34.0	18.7	58.7

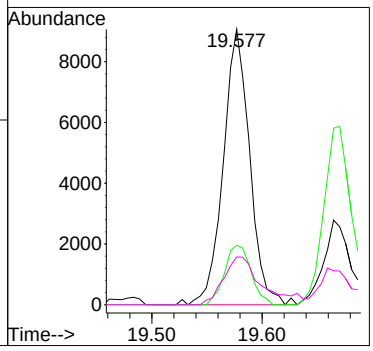


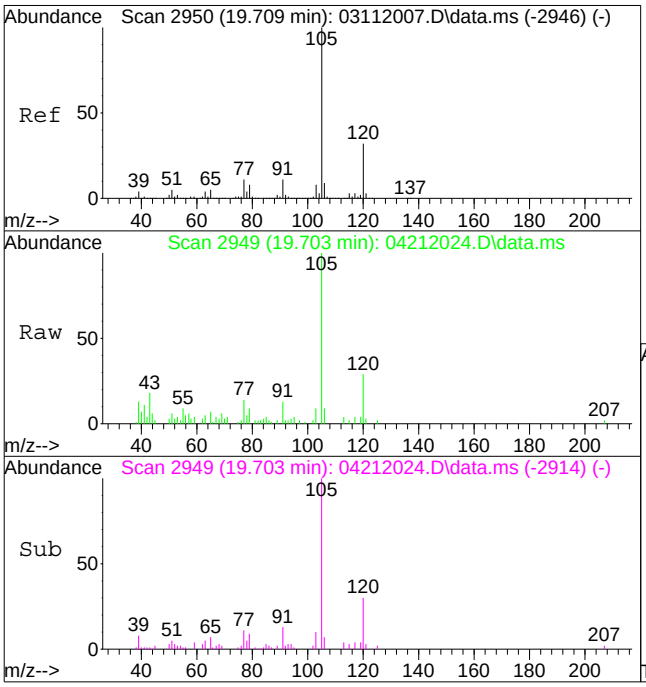


#76
n-Propylbenzene
Concen: 0.08 ng
RT: 19.58 min Scan# 2926
Delta R.T. -0.000 min
Lab File: 04212024.D
Acq: 21 Apr 2020 22:00

Tgt Ion: 91 Resp: 15159

Ion	Ratio	Lower	Upper
91	100		
120	21.6	3.9	43.9
65	25.2	0.0	30.5

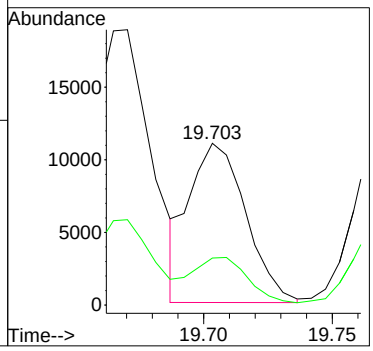


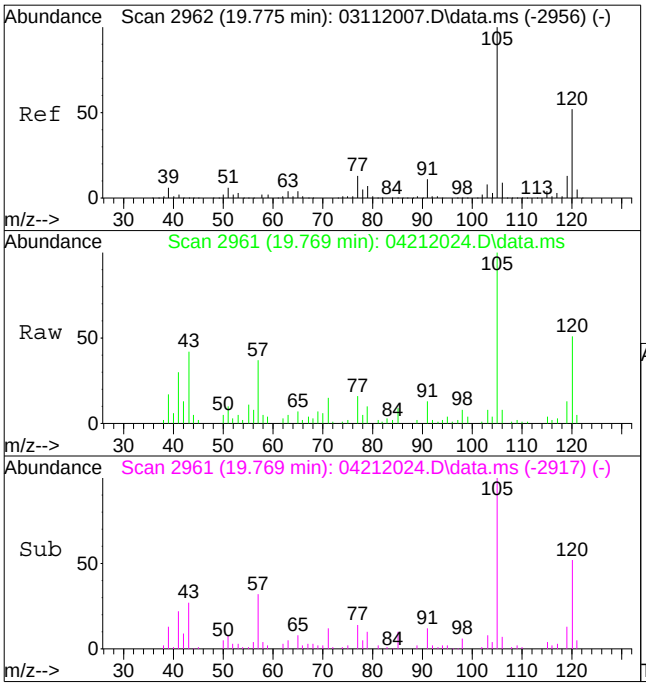


#78
4-Ethyltoluene
Concen: 0.10 ng
RT: 19.70 min Scan# 2949
Delta R.T. -0.006 min
Lab File: 04212024.D
Acq: 21 Apr 2020 22:00

Tgt Ion:105 Resp: 16731

Ion	Ratio	Lower	Upper
105	100		
120	27.5	11.1	51.1

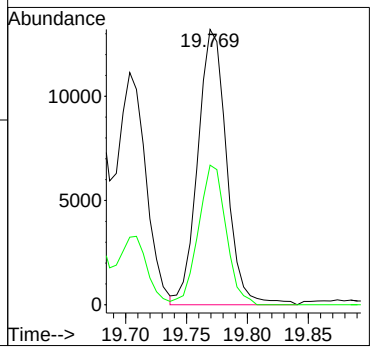


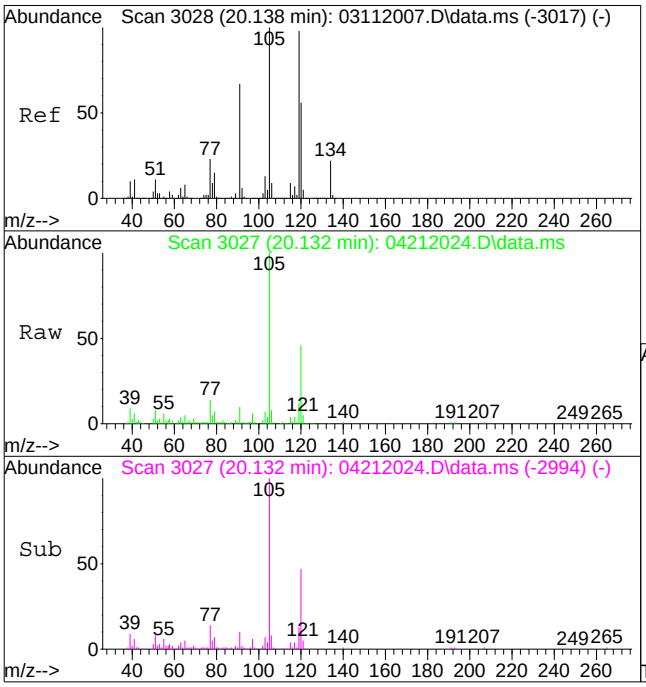


#79
1,3,5-Trimethylbenzene
Concen: 0.15 ng
RT: 19.77 min Scan# 2961
Delta R.T. -0.006 min
Lab File: 04212024.D
Acq: 21 Apr 2020 22:00

Tgt Ion:105 Resp: 21758

Ion	Ratio	Lower	Upper
105	100		
120	48.6	31.3	71.3

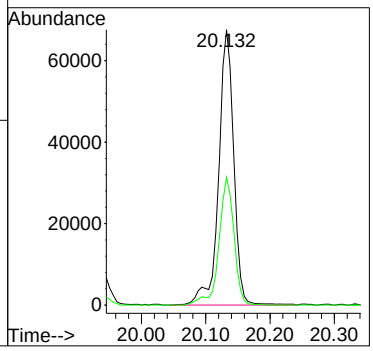


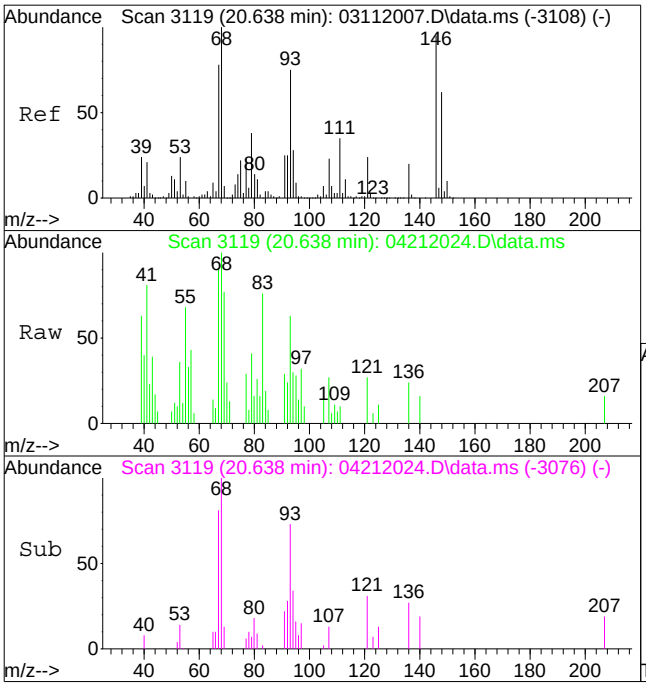


#82
1,2,4-Trimethylbenzene
Concen: 0.74 ng
RT: 20.13 min Scan# 3027
Delta R.T. -0.017 min
Lab File: 04212024.D
Acq: 21 Apr 2020 22:00

Tgt Ion:105 Resp: 110200

Ion	Ratio	Lower	Upper
105	100		
120	46.2	35.8	75.8

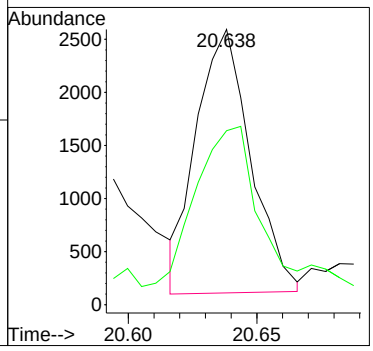


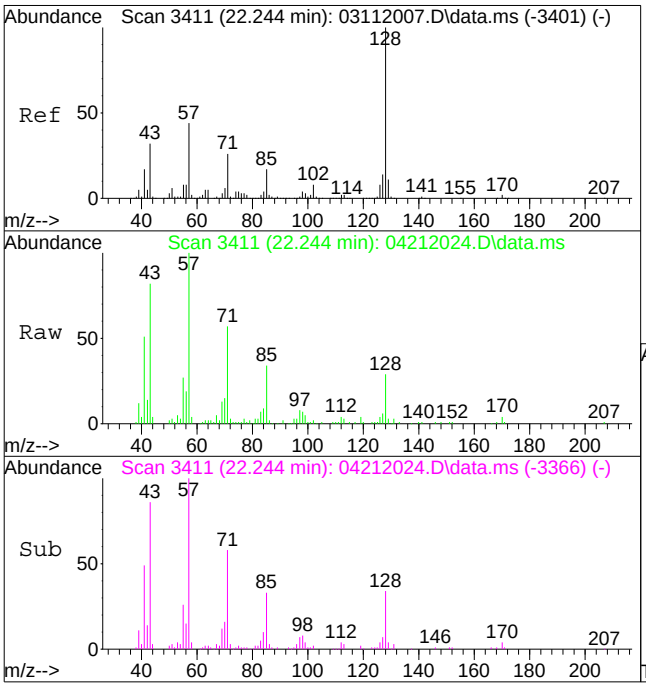


#91
d-Limonene
Concen: 0.06 ng
RT: 20.64 min Scan# 3119
Delta R.T. -0.011 min
Lab File: 04212024.D
Acq: 21 Apr 2020 22:00

Tgt Ion: 68 Resp: 3642

Ion	Ratio	Lower	Upper
68	100		
93	102.6	54.7	94.7#

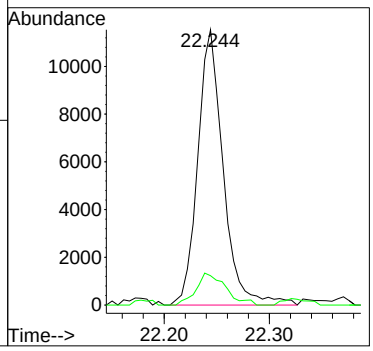




#95
Naphthalene
Concen: 0.12 ng
RT: 22.24 min Scan# 3411
Delta R.T. -0.005 min
Lab File: 04212024.D
Acq: 21 Apr 2020 22:00

Tgt Ion:128 Resp: 19401

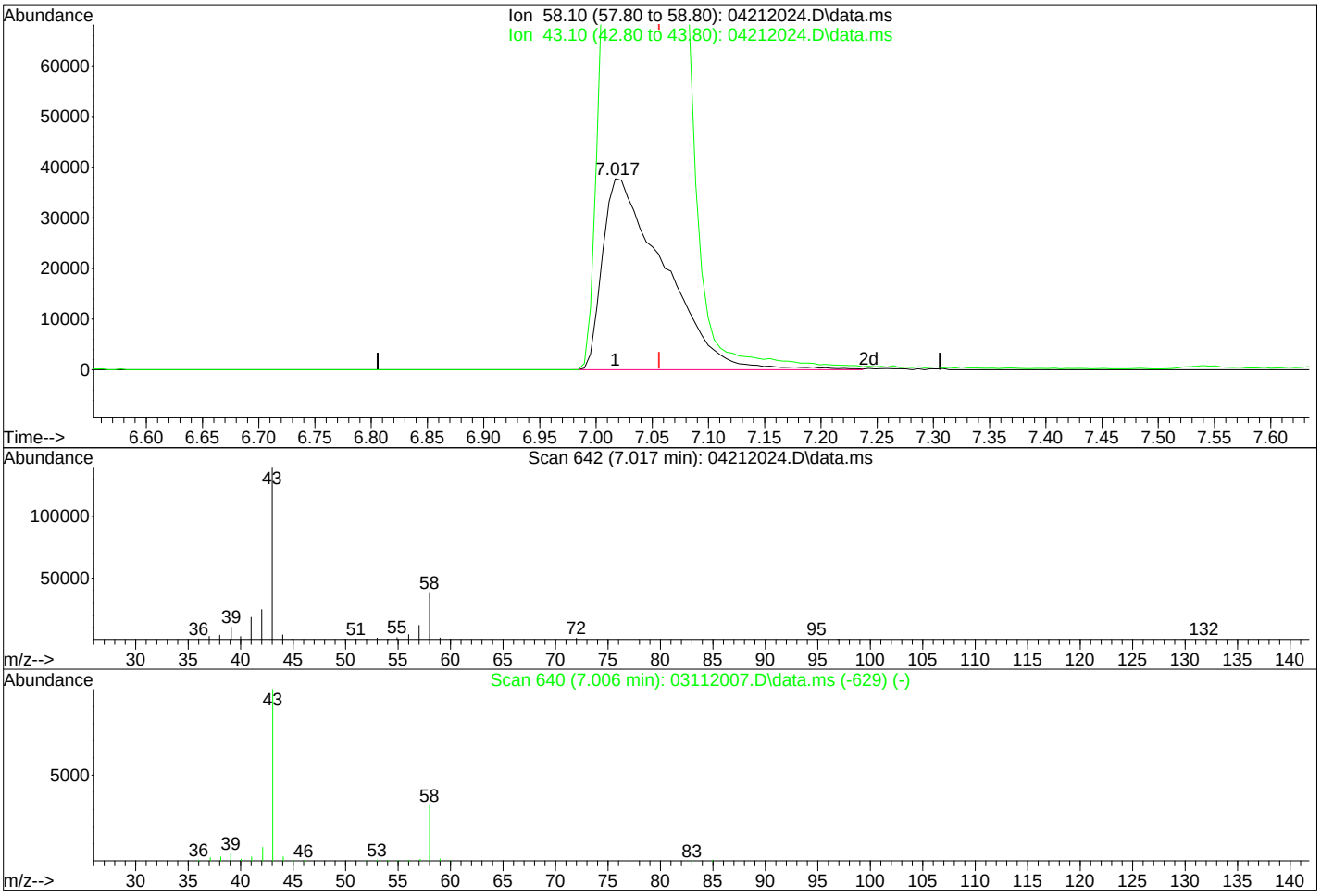
Ion	Ratio	Lower	Upper
128	100		
129	13.4	0.0	31.1



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\21\04212024.D Vial: 13
Acq On : 21 Apr 2020 22:00 Operator: WA
Sample : P2002032-004 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 03:15:19 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04212024.D\data.ms

(13) Acetone (T)

7.017min (-0.039) 5.59ng

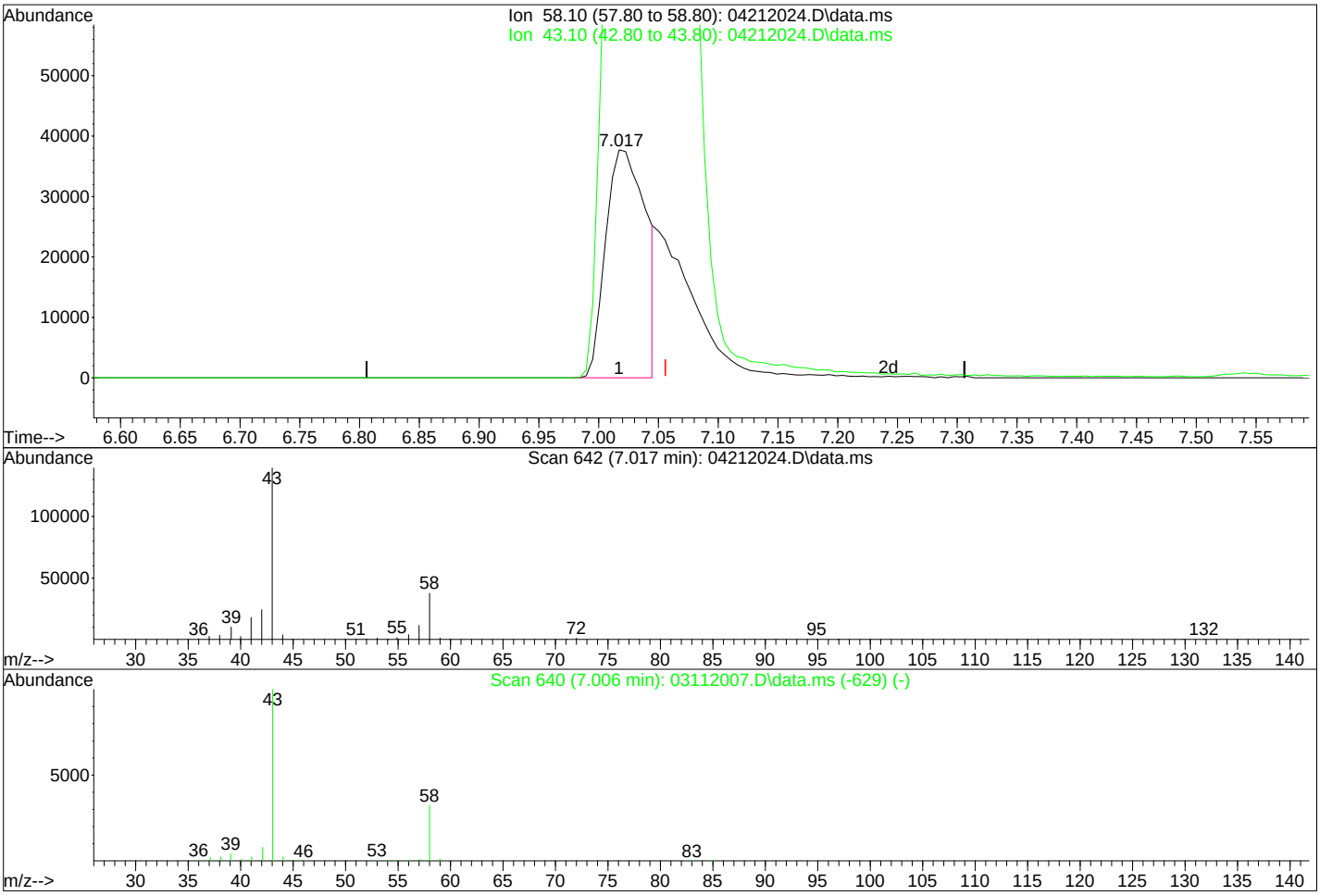
response 144122

Ion	Exp%	Act%
58.10	100	100
43.10	317.30	721.78#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\21\04212024.D Vial: 13
Acq On : 21 Apr 2020 22:00 Operator: WA
Sample : P2002032-004 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 03:15:19 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04212024.D\data.ms

(13) Acetone (T)

7.017min (-0.039) 3.41ng m

response 87844

Ion	Exp%	Act%
58.10	100	100
43.10	317.30	1184.19#
0.00	0.00	0.00
0.00	0.00	0.00

IPC

LH 4/24/20

TD 4/27/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\22\04222010.D Vial: 13
Acq On : 22 Apr 2020 7:32 Operator: WA
Sample : P2002032-004dil (25mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 13:03:07 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/24/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	329602	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1474628	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	694622	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.02	65	573133	12.558	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.48%			
57) Toluene-d8 (SS2)	15.74	98	1510601	12.269	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.16%			
73) Bromofluorobenzene (SS3)	19.00	174	482075	11.088	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.72%			
Target Compounds						Qvalue
2) Propene	4.16	42	1348	N.D.		
3) Dichlorodifluoromethan...	4.30	85	511	N.D.		
4) Chloromethane	4.59	50	1437	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.38	45	3127	0.114	ng	73
11) Acetonitrile	6.67	41	380	N.D.		
12) Acrolein	6.86	56	52	N.D.		
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	7.26	101	124	N.D.		
15) 2-Propanol (Isopropanol)	7.61	45	220	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	8.55	59	883	N.D.		
19) Methylene Chloride	8.43	84	241	N.D.		
20) 3-Chloro-1-propene (Al...	8.53	41	103	N.D.		
21) Trichlorotrifluoroethane	8.88	151	549	N.D.		
22) Carbon Disulfide	8.72	76	20995	0.166	ng	95
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	10.38	72	119	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	11.33	83	2568	N.D.		
34) Tetrahydrofuran (THF)	11.79	72	2825	0.122	ng #	87
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.04	62	105	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	12.94	56	598	N.D.		
41) Benzene	12.90	78	10264	0.067	ng	99
42) Carbon Tetrachloride	13.06	117	869	N.D.		
43) Cyclohexane	13.29	84	1134	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	14.00	130	248671	5.755	ng	100
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	14.07	57	1071	N.D.		
50) Methyl Methacrylate	13.98	100	558	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\22\04222010.D Vial: 13
Acq On : 22 Apr 2020 7:32 Operator: WA
Sample : P2002032-004dil (25mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 13:03:07 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

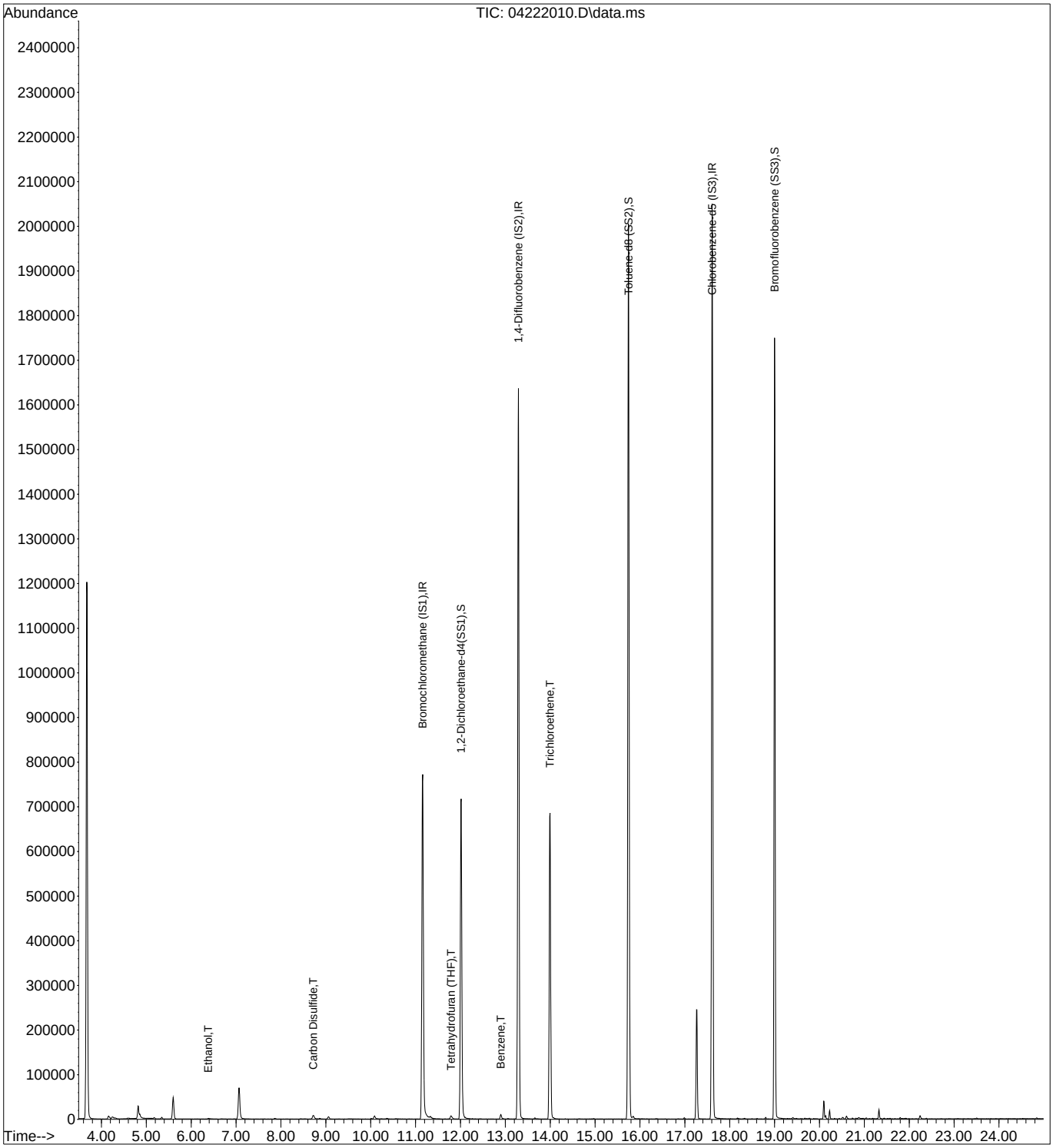
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.85	91	4733	N.D.		
59) 2-Hexanone	0.00	43	0	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.86	43	616	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	16.99	166	882	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	18.02	91	707	N.D.		
67) m- & p-Xylenes	18.17	91	2399	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	18.61	91	957	N.D.		
71) n-Nonane	18.80	43	1547	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.14	105	600	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	19.59	91	862	N.D.		
77) 3-Ethyltoluene	19.67	105	1507	N.D.		
78) 4-Ethyltoluene	19.71	105	1270	N.D.		
79) 1,3,5-Trimethylbenzene	19.77	105	1290	N.D.		
80) alpha-Methylstyrene	19.92	118	424	N.D.		
81) 2-Ethyltoluene	19.95	105	755	N.D.		
82) 1,2,4-Trimethylbenzene	20.14	105	4497	N.D.		
83) n-Decane	0.00	57	0	N.D.	d	
84) Benzyl Chloride	20.13	91	668	N.D.		
85) 1,3-Dichlorobenzene	20.28	146	201	N.D.		
86) 1,4-Dichlorobenzene	20.34	146	420	N.D.		
87) sec-Butylbenzene	20.37	105	427	N.D.		
88) 4-Isopropyltoluene (p-...	20.52	119	706	N.D.		
89) 1,2,3-Trimethylbenzene	20.51	105	1703	N.D.		
90) 1,2-Dichlorobenzene	20.63	146	195	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	22.16	180	315	N.D.		
95) Naphthalene	22.25	128	2400	N.D.		
96) n-Dodecane	22.24	57	2045	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.32	55	663	N.D.		
99) tert-Butylbenzene	20.14	119	738	N.D.		
100) n-Butylbenzene	20.88	91	1436	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\22\04222010.D Vial: 13
Acq On : 22 Apr 2020 7:32 Operator: WA
Sample : P2002032-004dil (25mL) Inst : GCMS-16
Misc : S31-02112001

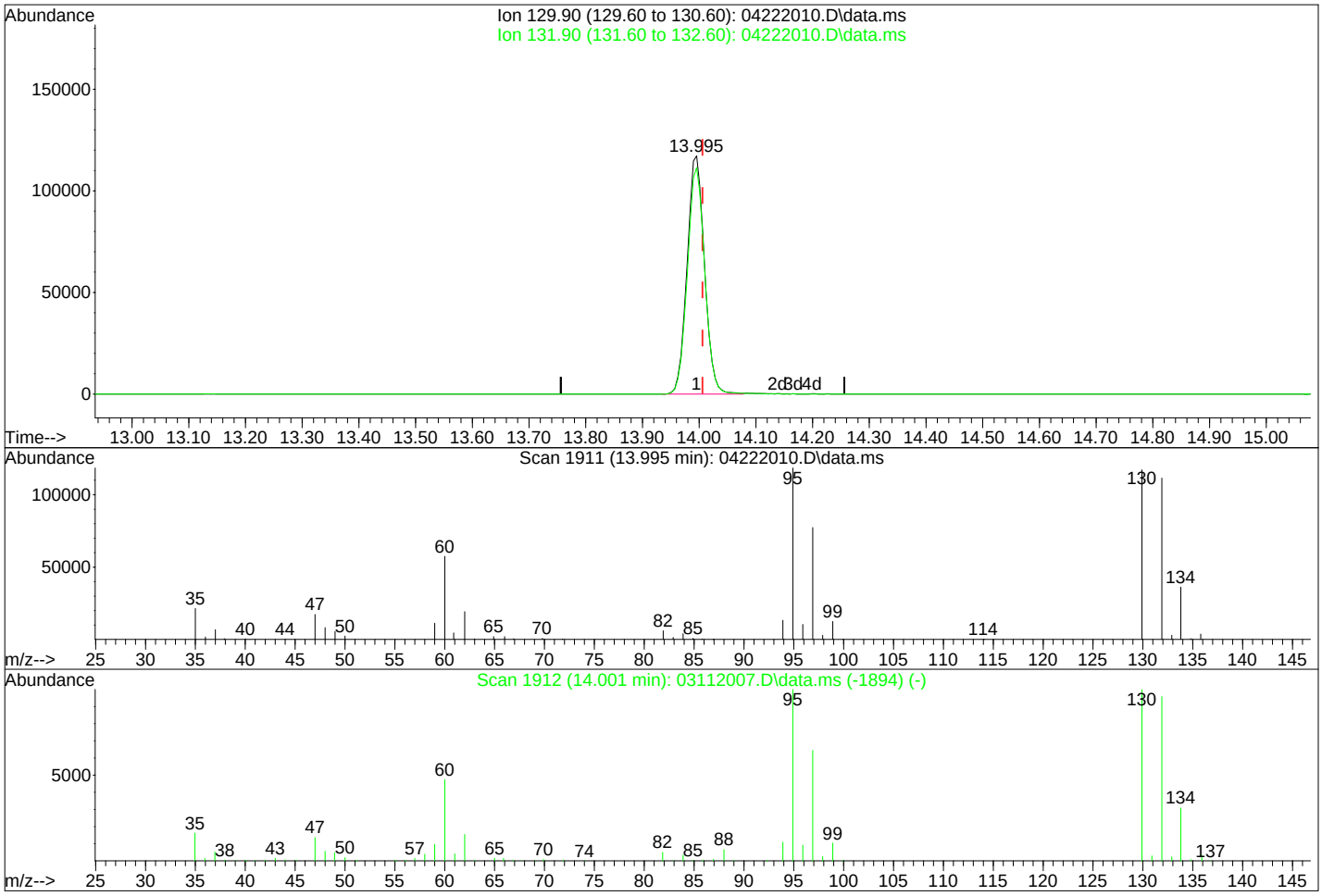
Quant Time: Apr 24 13:03:07 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\22\04222010.D Vial: 13
Acq On : 22 Apr 2020 7:32 Operator: WA
Sample : P2002032-004dil (25mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 13:03:07 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04222010.D\data.ms

(47) Trichloroethene (T)

13.995min (-0.011) 5.76ng

response 248671

Ion	Exp%	Act%
129.90	100	100
131.90	94.70	95.14
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\22\04222012.D Vial: 1
Acq On : 22 Apr 2020 8:55 Operator: WA
Sample : P2002032-005 (10mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 13:06:30 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/24/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	309659	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1402169	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	685286	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.02	65	532757	12.425	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.36%			
57) Toluene-d8 (SS2)	15.74	98	1510970	12.439	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.52%			
73) Bromofluorobenzene (SS3)	19.00	174	501386	11.689	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.52%			
Target Compounds						Qvalue
2) Propene	4.12	42	28666m	0.883	ng	
3) Dichlorodifluoromethan...	4.27	85	1276	N.D.		
4) Chloromethane	4.56	50	4774	0.087	ng	91
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	4.97	62	879	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.	d	
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	6.00	64	304	N.D.		
10) Ethanol	6.35	45	13084	0.510	ng	89
11) Acetonitrile	6.66	41	1050	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	7.26	101	660	N.D.		
15) 2-Propanol (Isopropanol)	7.56	45	9674	0.129	ng	59
16) Acrylonitrile	0.00	53	0	N.D.	d	
17) 1,1-Dichloroethene	8.23	96	1140	N.D.		
18) 2-Methyl-2-Propanol (t...	8.47	59	2560	N.D.		
19) Methylene Chloride	8.43	84	777	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d	
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	8.72	76	66029	0.557	ng	97
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	9.97	63	761	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	d	
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	10.49	72	18153	0.861	ng	92
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	0.00	61	0	N.D.	d	
31) n-Hexane	11.28	57	242225	4.193	ng	99
32) Chloroform	11.33	83	633	N.D.		
34) Tetrahydrofuran (THF)	11.78	72	4606	0.212	ng #	89
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.16	62	1837	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.	d	
40) 1-Butanol	12.92	56	1258	N.D.		
41) Benzene	12.90	78	891974	6.152	ng	100
42) Carbon Tetrachloride	13.06	117	111	N.D.		
43) Cyclohexane	13.20	84	458210	8.231	ng	95
44) tert-Amyl Methyl Ether	13.56	73	110	N.D.		
45) 1,2-Dichloropropane	13.66	63	765	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	14.00	130	32540	0.792	ng	98
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\22\04222012.D Vial: 1
Acq On : 22 Apr 2020 8:55 Operator: WA
Sample : P2002032-005 (10mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 13:06:30 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

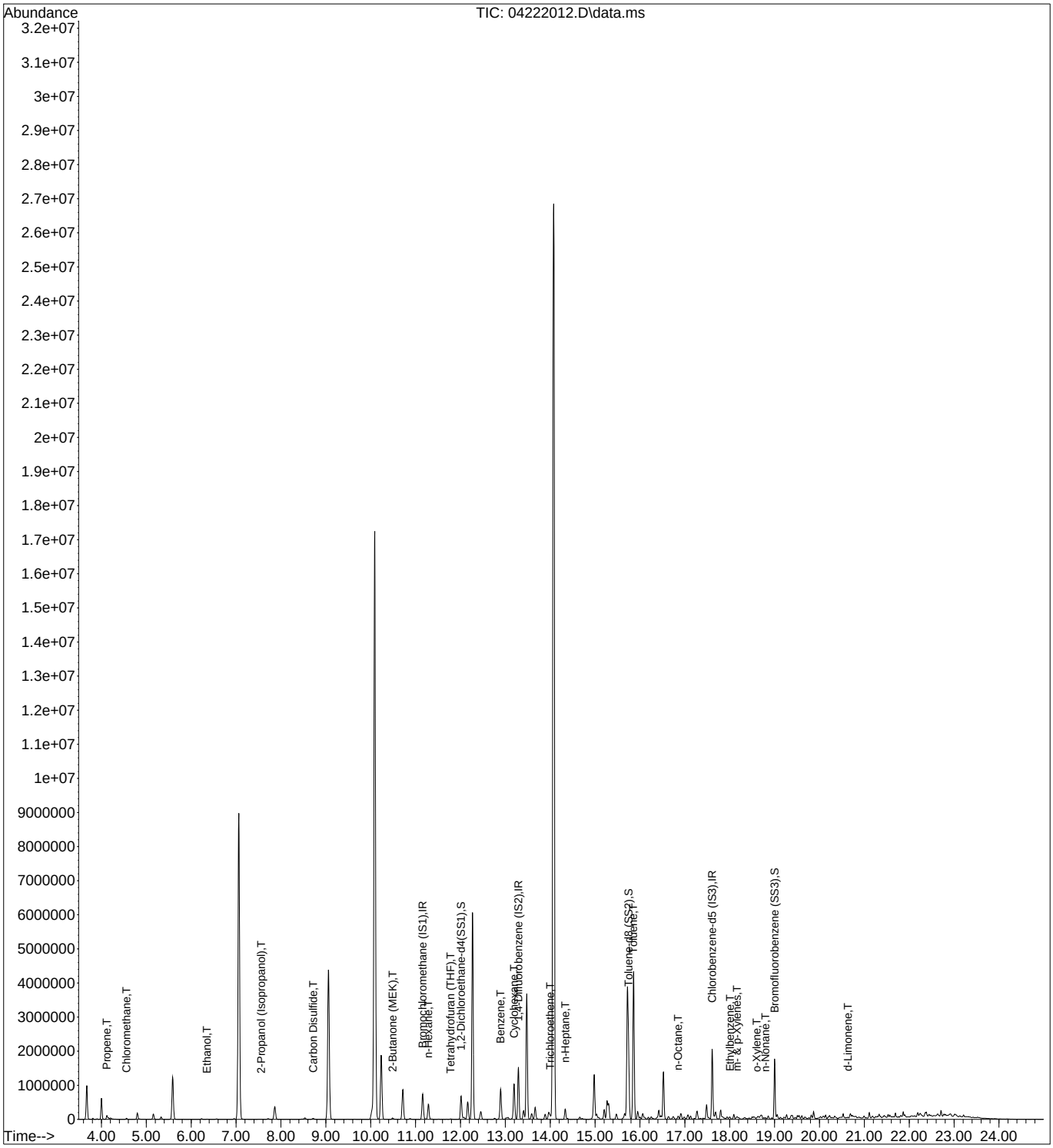
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.34	71	76827	2.269 ng		96
52) cis-1,3-Dichloropropene	14.99	75	209	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d		
54) trans-1,3-Dichloropropene	15.17	75	1509	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d		
58) Toluene	15.85	91	350843	2.336 ng		100
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	16.51	107	319	N.D.		
62) n-Butyl Acetate	16.73	43	3990	N.D.		
63) n-Octane	16.85	57	15336	0.515 ng		84
64) Tetrachloroethene	16.99	166	668	N.D.		
65) Chlorobenzene	0.00	112	0	N.D. d		
66) Ethylbenzene	18.01	91	19697	0.120 ng		97
67) m- & p-Xylenes	18.16	91	27870	0.208 ng		93
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.52	104	683	N.D.		
70) o-Xylene	18.60	91	17779	0.133 ng		92
71) n-Nonane	18.80	43	13448	0.201 ng		89
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d		
74) Cumene	19.13	105	5407	N.D.		
75) alpha-Pinene	19.47	93	1799	N.D.		
76) n-Propylbenzene	0.00	91	0	N.D. d		
77) 3-Ethyltoluene	19.67	105	4488	N.D.		
78) 4-Ethyltoluene	19.71	105	2730	N.D.		
79) 1,3,5-Trimethylbenzene	19.77	105	4571	N.D.		
80) alpha-Methylstyrene	19.91	118	1207	N.D.		
81) 2-Ethyltoluene	19.95	105	3335	N.D.		
82) 1,2,4-Trimethylbenzene	20.13	105	7023	N.D.		
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.25	91	957	N.D.		
85) 1,3-Dichlorobenzene	20.27	146	505	N.D.		
86) 1,4-Dichlorobenzene	20.33	146	834	N.D.		
87) sec-Butylbenzene	20.37	105	5023	N.D.		
88) 4-Isopropyltoluene (p-...	20.51	119	2786	N.D.		
89) 1,2,3-Trimethylbenzene	20.51	105	5026	N.D.		
90) 1,2-Dichlorobenzene	20.63	146	416	N.D.		
91) d-Limonene	20.63	68	3724	0.065 ng	#	58
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.14	180	909	N.D.		
95) Naphthalene	22.25	128	5227	N.D.		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	20.13	119	1795	N.D.		
100) n-Butylbenzene	20.87	91	2610	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\22\04222012.D Vial: 1
Acq On : 22 Apr 2020 8:55 Operator: WA
Sample : P2002032-005 (10mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 13:06:30 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\22\04222012.D Vial: 1
Acq On : 22 Apr 2020 8:55 Operator: WA
Sample : P2002032-005 (10mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 13:06:30 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/24/20

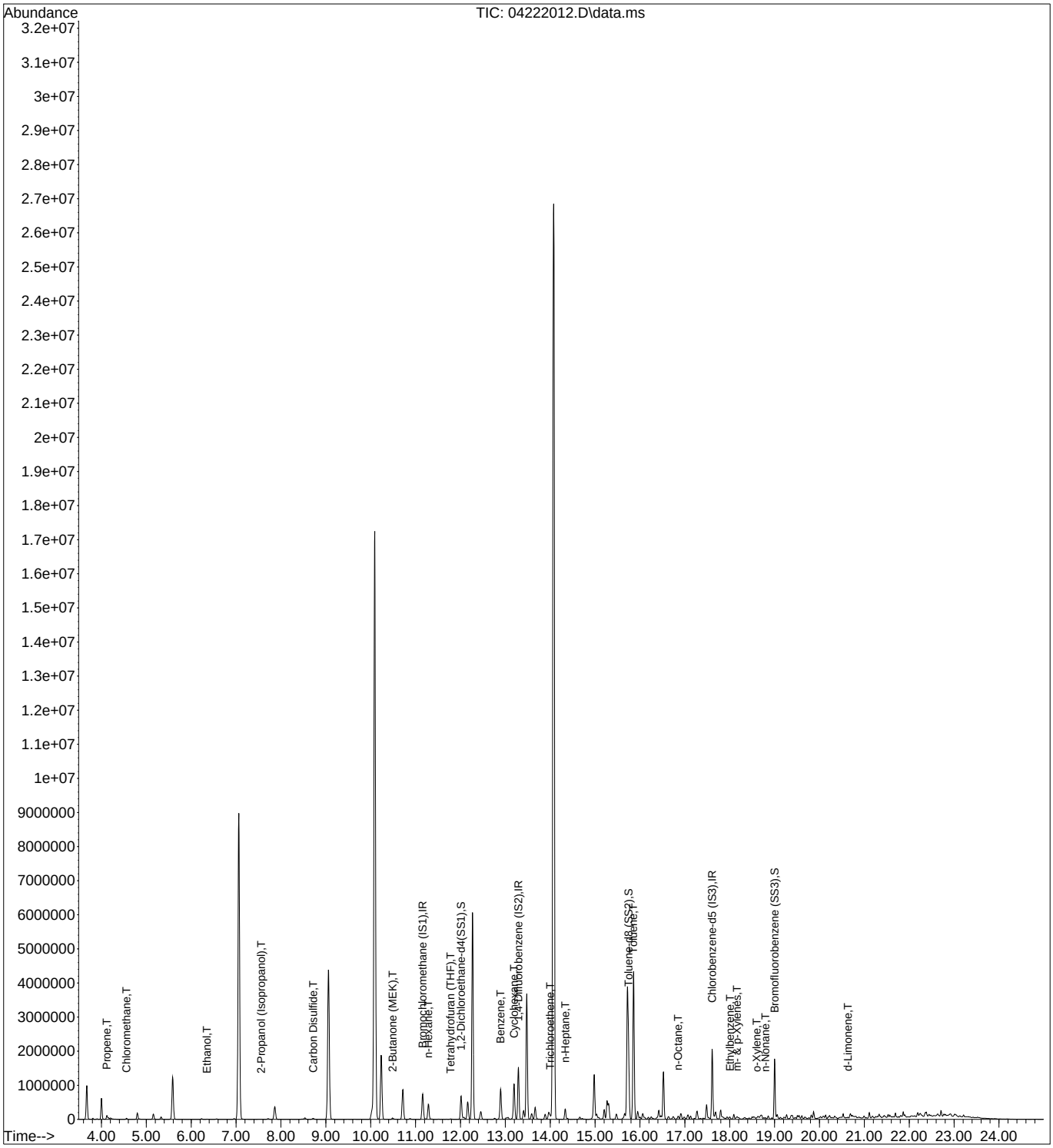
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	309659	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1402169	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	685286	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	532757	12.425	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.36%				
57) Toluene-d8 (SS2)	15.74	98	1510970	12.439	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.52%				
73) Bromofluorobenzene (SS3)	19.00	174	501386	11.689	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.52%				
Target Compounds							Qvalue
2) Propene	4.12	42	28666m	0.883	ng		
4) Chloromethane	4.56	50	4774	0.087	ng		91
10) Ethanol	6.35	45	13084	0.510	ng		89
15) 2-Propanol (Isopropanol)	7.56	45	9674	0.129	ng		59
22) Carbon Disulfide	8.72	76	66029	0.557	ng		97
27) 2-Butanone (MEK)	10.49	72	18153	0.861	ng		92
31) n-Hexane	11.28	57	242225	4.193	ng		99
34) Tetrahydrofuran (THF)	11.78	72	4606	0.212	ng	#	89
41) Benzene	12.90	78	891974	6.152	ng		100
43) Cyclohexane	13.20	84	458210	8.231	ng		95
47) Trichloroethene	14.00	130	32540	0.792	ng		98
51) n-Heptane	14.34	71	76827	2.269	ng		96
58) Toluene	15.85	91	350843	2.336	ng		100
63) n-Octane	16.85	57	15336	0.515	ng		84
66) Ethylbenzene	18.01	91	19697	0.120	ng		97
67) m- & p-Xylenes	18.16	91	27870	0.208	ng		93
70) o-Xylene	18.60	91	17779	0.133	ng		92
71) n-Nonane	18.80	43	13448	0.201	ng		89
91) d-Limonene	20.63	68	3724	0.065	ng	#	58

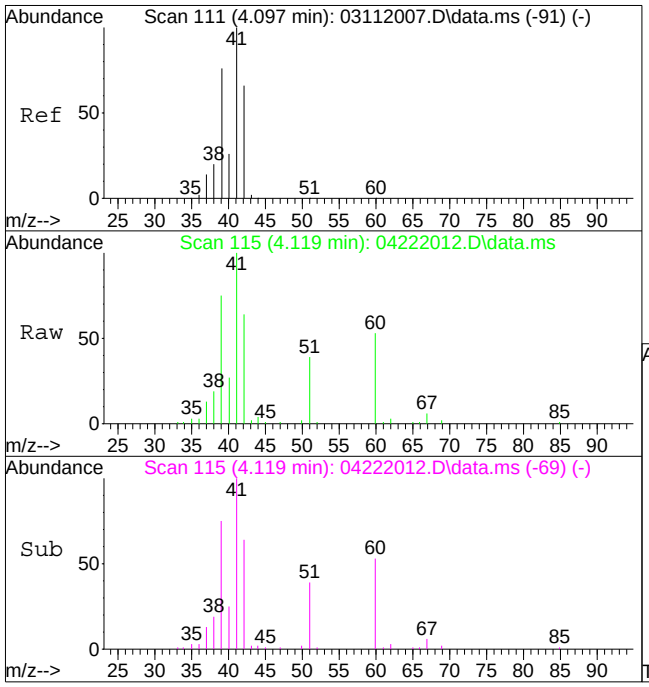
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\22\04222012.D Vial: 1
Acq On : 22 Apr 2020 8:55 Operator: WA
Sample : P2002032-005 (10mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 13:06:30 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

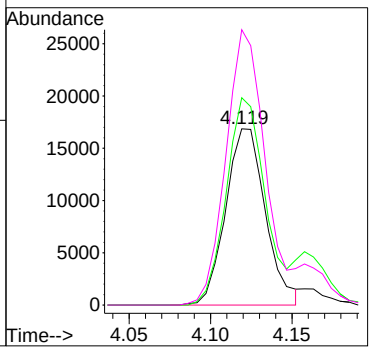


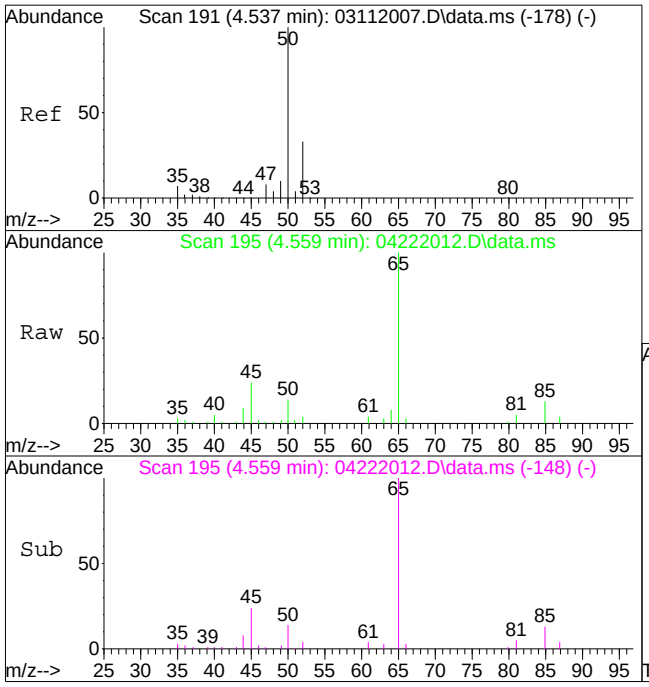


#2
Propene
Concen: 0.88 ng m
RT: 4.12 min Scan# 115
Delta R.T. 0.005 min
Lab File: 04222012.D
Acq: 22 Apr 2020 8:55

Tgt Ion: 42 Resp: 28666

Ion	Ratio	Lower	Upper
42	100		
39	114.8	95.3	135.3
41	171.2	132.0	172.0

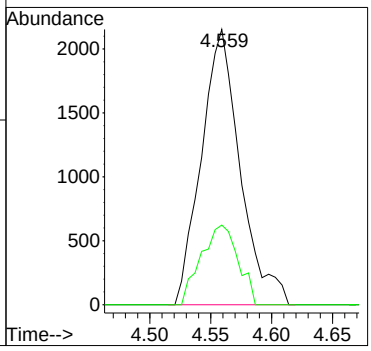


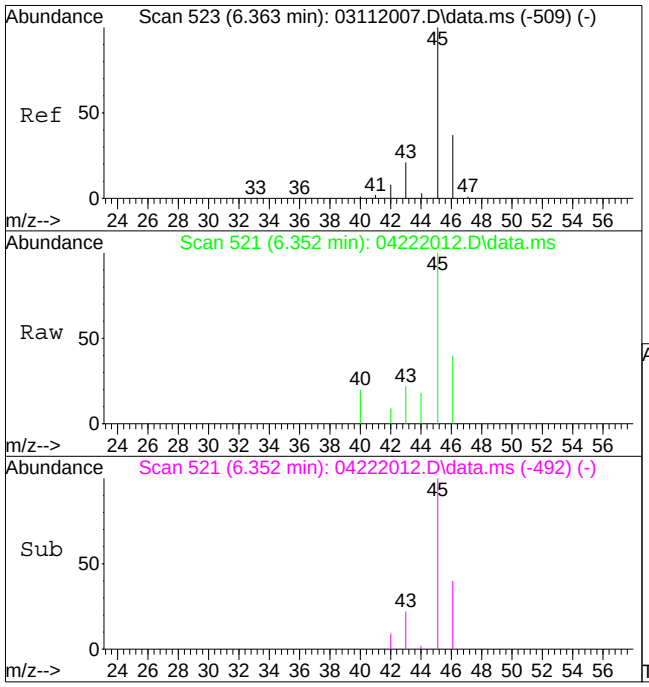


#4
Chloromethane
Concen: 0.09 ng
RT: 4.56 min Scan# 195
Delta R.T. 0.006 min
Lab File: 04222012.D
Acq: 22 Apr 2020 8:55

Tgt Ion: 50 Resp: 4774

Ion	Ratio	Lower	Upper
50	100		
52	27.5	12.8	52.8

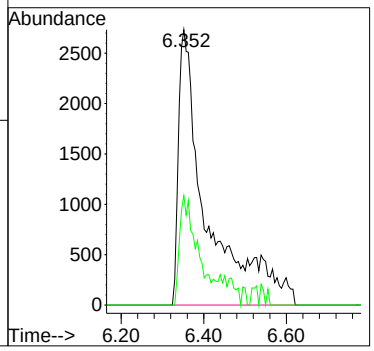


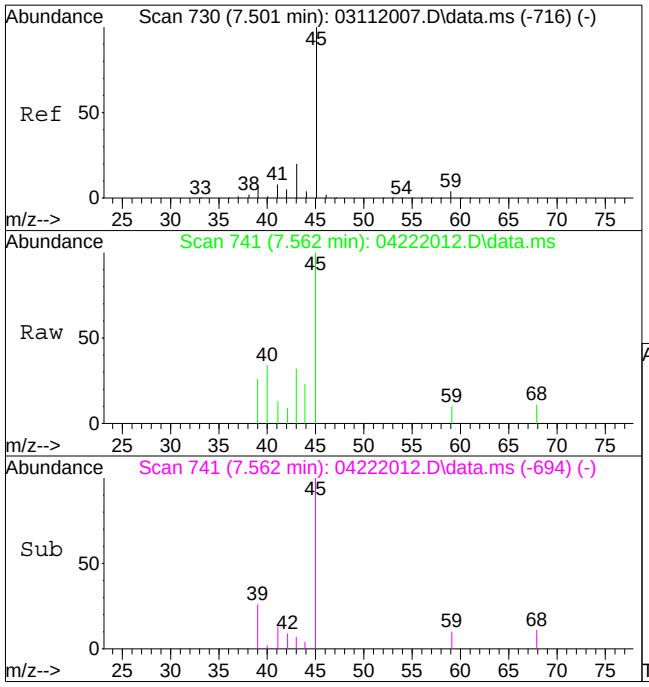


#10
Ethanol
Concen: 0.51 ng
RT: 6.35 min Scan# 521
Delta R.T. -0.088 min
Lab File: 04222012.D
Acq: 22 Apr 2020 8:55

Tgt Ion: 45 Resp: 13084

Ion	Ratio	Lower	Upper
45	100		
46	30.9	17.3	57.3

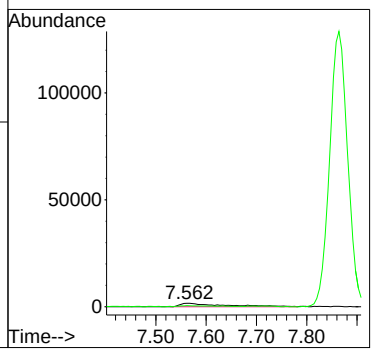


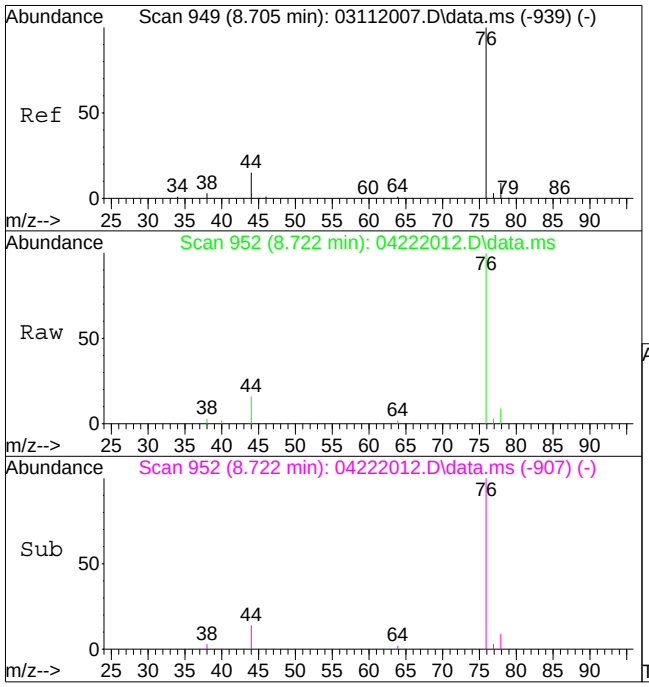


#15
2-Propanol (Isopropanol)
Concen: 0.13 ng
RT: 7.56 min Scan# 741
Delta R.T. 0.011 min
Lab File: 04222012.D
Acq: 22 Apr 2020 8:55

Tgt Ion: 45 Resp: 9674

Ion	Ratio	Lower	Upper
45	100		
43	39.2	0.3	40.3

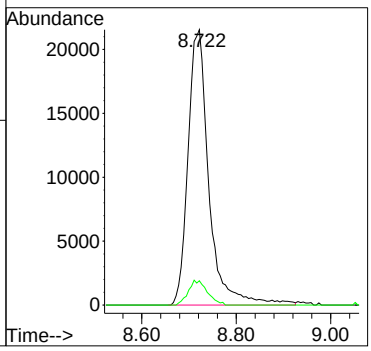


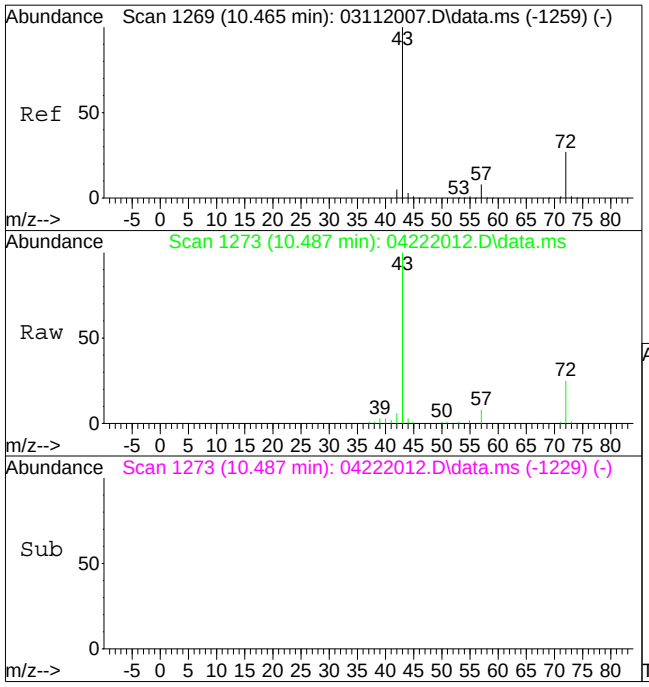


#22
Carbon Disulfide
Concen: 0.56 ng
RT: 8.72 min Scan# 952
Delta R.T. 0.000 min
Lab File: 04222012.D
Acq: 22 Apr 2020 8:55

Tgt Ion: 76 Resp: 66029

Ion	Ratio	Lower	Upper
76	100		
78	8.2	0.0	29.2

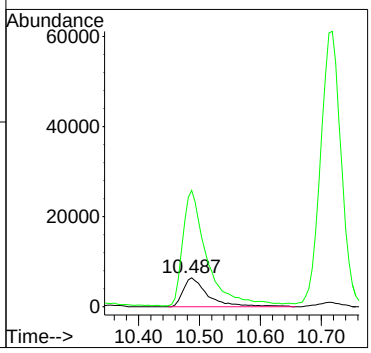


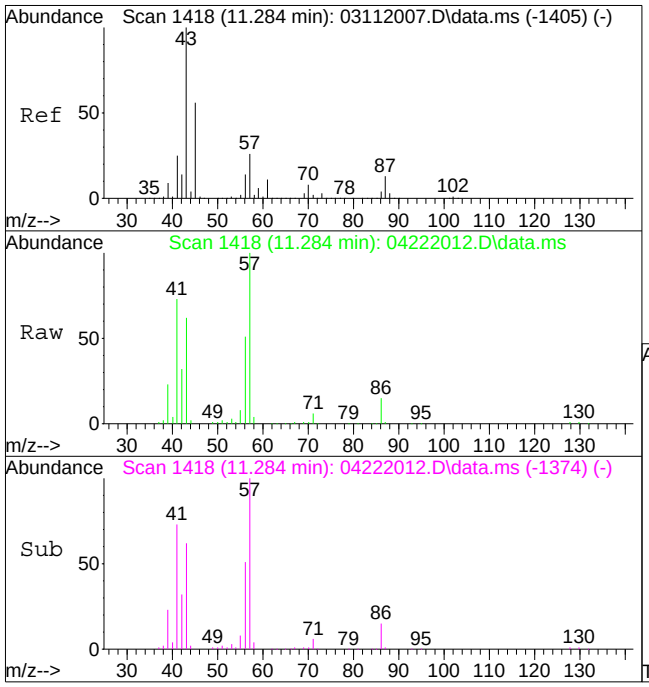


#27
2-Butanone (MEK)
Concen: 0.86 ng
RT: 10.49 min Scan# 1273
Delta R.T. -0.005 min
Lab File: 04222012.D
Acq: 22 Apr 2020 8:55

Tgt Ion: 72 Resp: 18153

Ion	Ratio	Lower	Upper
72	100		
43	390.6	353.4	393.4

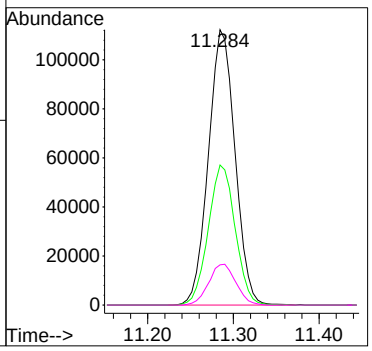


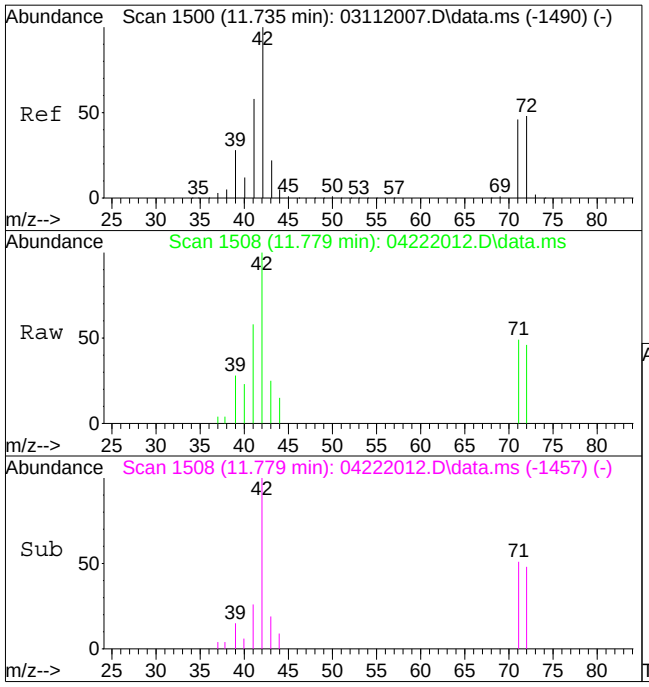


#31
n-Hexane
Concen: 4.19 ng
RT: 11.28 min Scan# 1418
Delta R.T. -0.005 min
Lab File: 04222012.D
Acq: 22 Apr 2020 8:55

Tgt Ion: 57 Resp: 242225

Ion	Ratio	Lower	Upper
57	100		
56	51.3	41.0	61.4
86	15.1	13.9	20.9

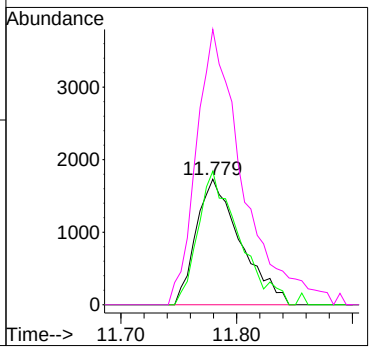


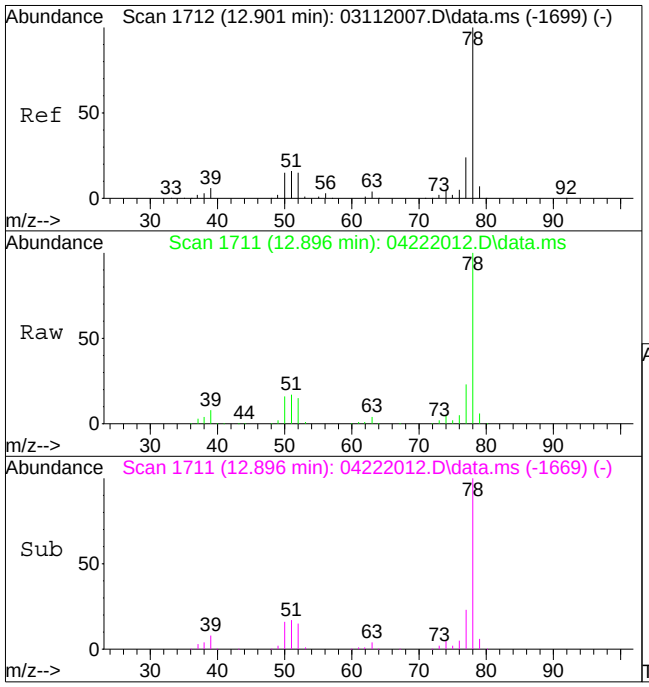


#34
Tetrahydrofuran (THF)
Concen: 0.21 ng
RT: 11.78 min Scan# 1508
Delta R.T. 0.033 min
Lab File: 04222012.D
Acq: 22 Apr 2020 8:55

Tgt Ion: 72 Resp: 4606

Ion	Ratio	Lower	Upper
72	100		
71	98.8	75.9	115.9
42	232.2	189.3	229.3#

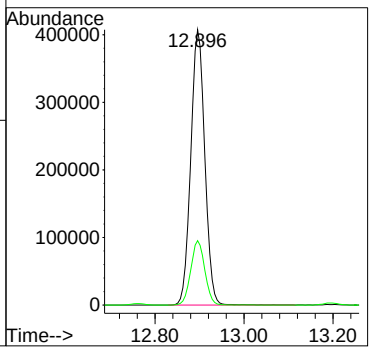


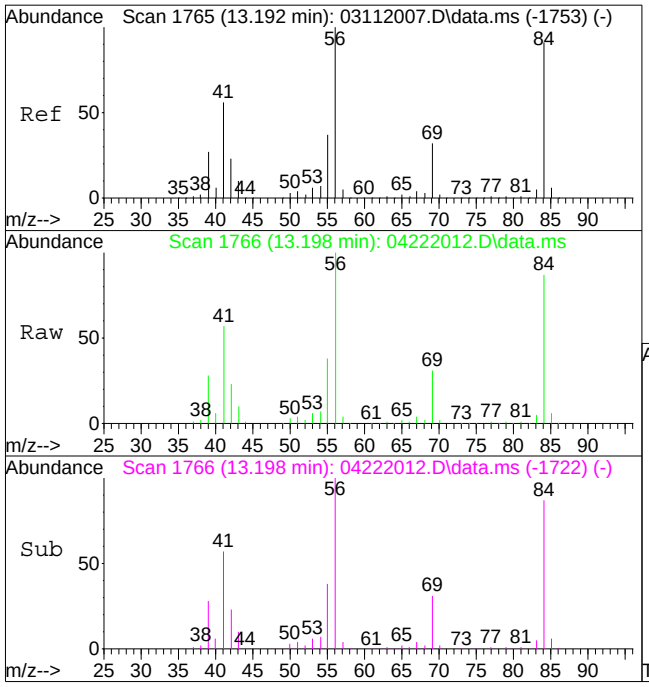


#41
Benzene
Concen: 6.15 ng
RT: 12.90 min Scan# 1711
Delta R.T. -0.016 min
Lab File: 04222012.D
Acq: 22 Apr 2020 8:55

Tgt Ion: 78 Resp: 891974

Ion	Ratio	Lower	Upper
78	100		
77	23.4	3.4	43.4

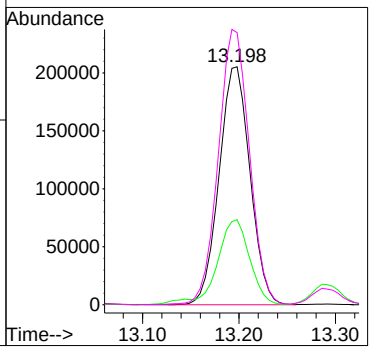


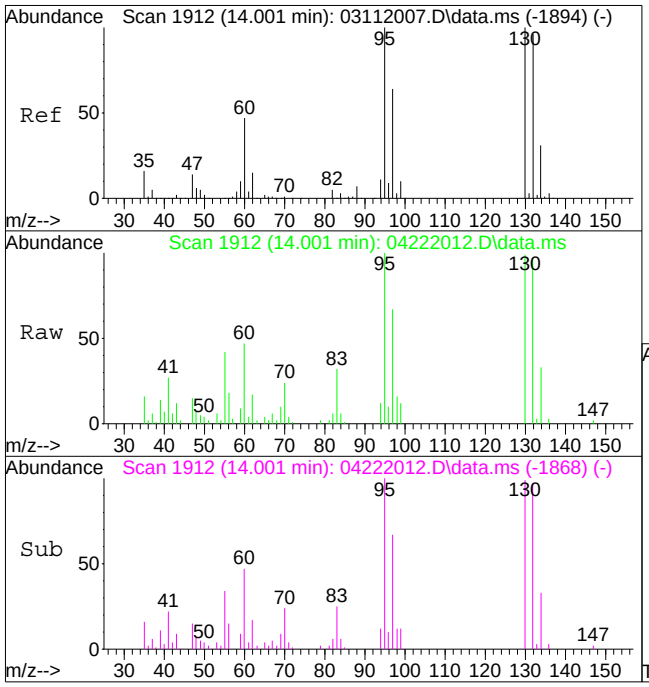


#43
Cyclohexane
Concen: 8.23 ng
RT: 13.20 min Scan# 1766
Delta R.T. -0.005 min
Lab File: 04222012.D
Acq: 22 Apr 2020 8:55

Tgt Ion: 84 Resp: 458210

Ion	Ratio	Lower	Upper
84	100		
69	37.8	15.3	55.3
56	115.9	90.5	130.5

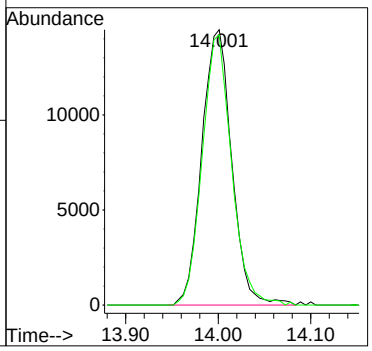


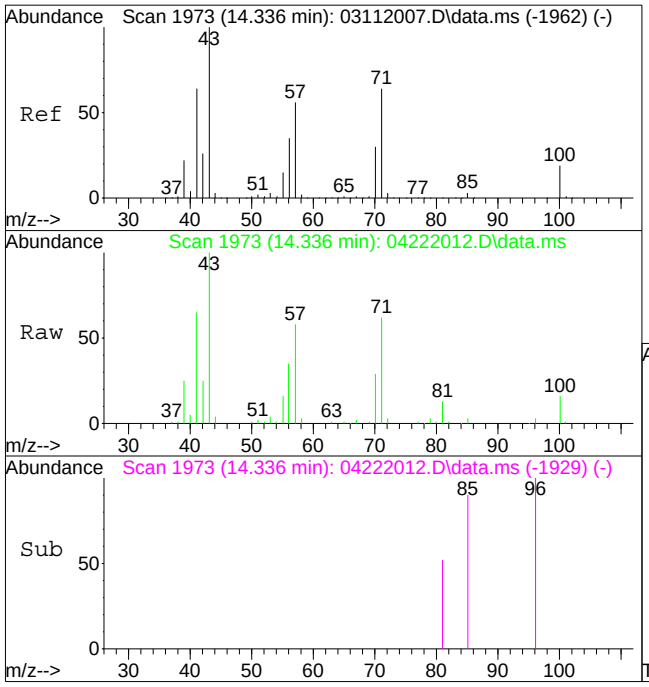


#47
Trichloroethene
Concen: 0.79 ng
RT: 14.00 min Scan# 1912
Delta R.T. -0.005 min
Lab File: 04222012.D
Acq: 22 Apr 2020 8:55

Tgt Ion:130 Resp: 32540

Ion	Ratio	Lower	Upper
130	100		
132	96.2	74.7	114.7

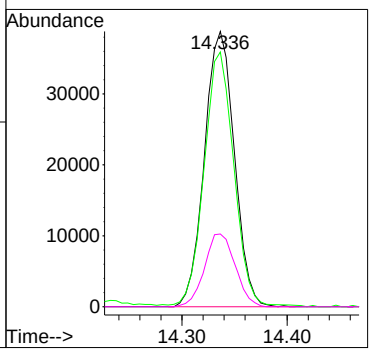


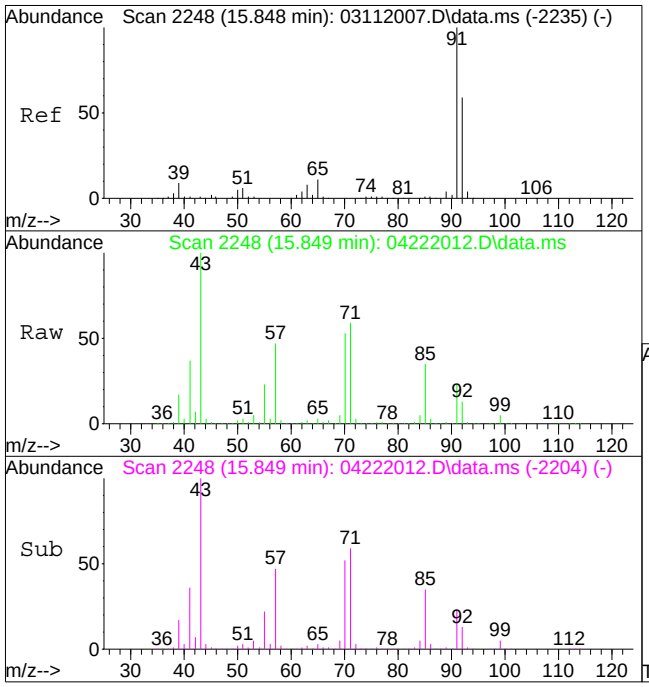


#51
n-Heptane
Concen: 2.27 ng
RT: 14.34 min Scan# 1973
Delta R.T. -0.005 min
Lab File: 04222012.D
Acq: 22 Apr 2020 8:55

Tgt Ion: 71 Resp: 76827

Ion	Ratio	Lower	Upper
71	100		
57	92.4	68.6	108.6
100	27.1	9.1	49.1

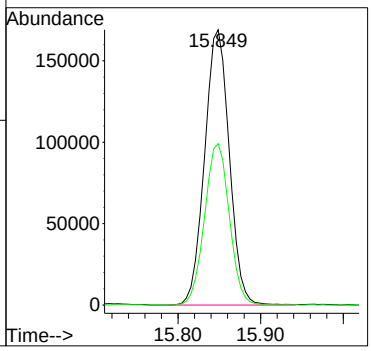


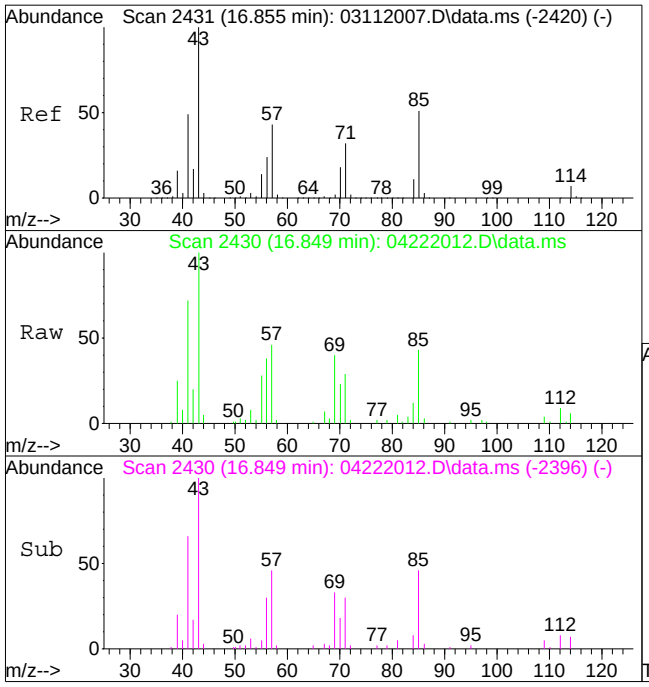


#58
Toluene
Concen: 2.34 ng
RT: 15.85 min Scan# 2248
Delta R.T. -0.005 min
Lab File: 04222012.D
Acq: 22 Apr 2020 8:55

Tgt Ion: 91 Resp: 350843

Ion	Ratio	Lower	Upper
91	100		
92	58.8	39.0	79.0

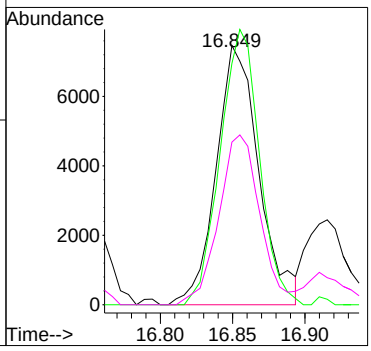


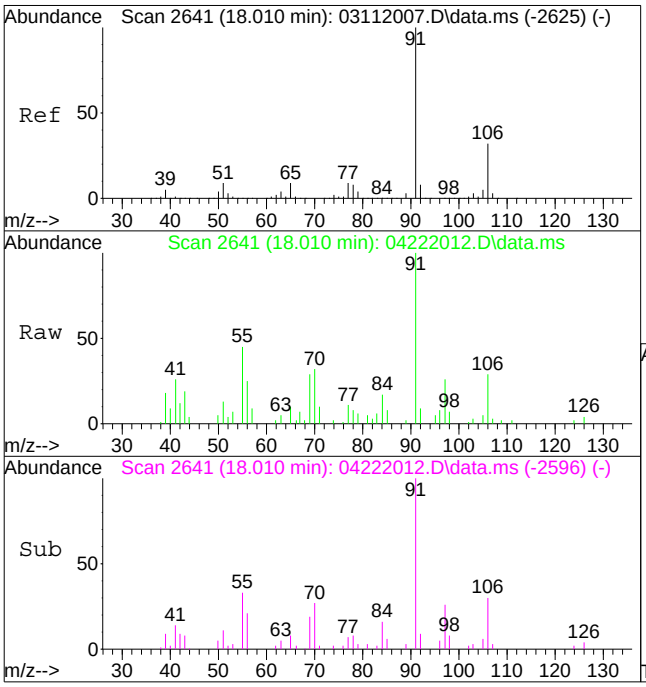


#63
n-Octane
Concen: 0.51 ng
RT: 16.85 min Scan# 2430
Delta R.T. -0.011 min
Lab File: 04222012.D
Acq: 22 Apr 2020 8:55

Tgt Ion: 57 Resp: 15336

Ion	Ratio	Lower	Upper
57	100		
85	97.8	95.1	142.7
71	62.6	58.2	87.4

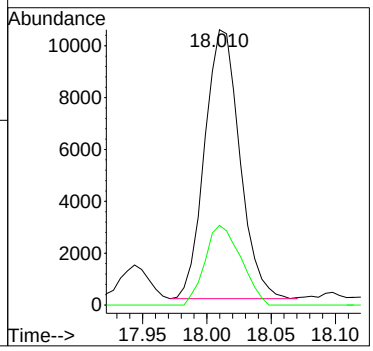


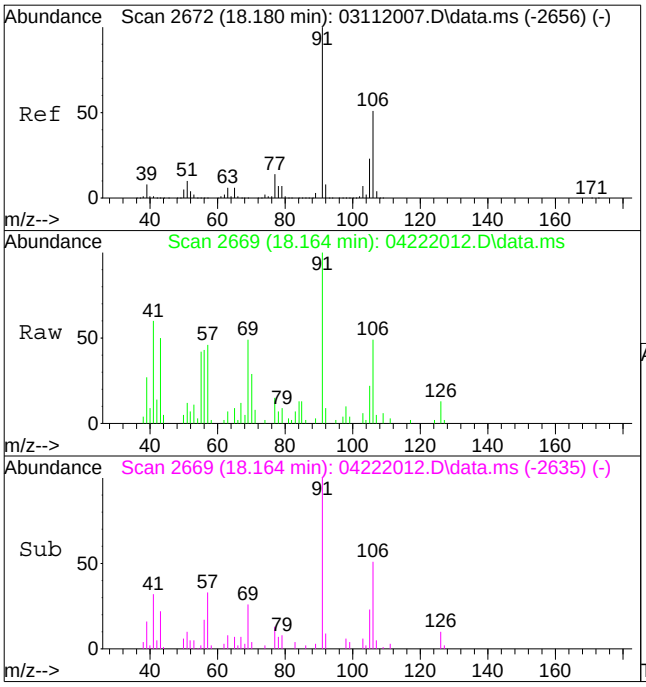


#66
Ethylbenzene
Concen: 0.12 ng
RT: 18.01 min Scan# 2641
Delta R.T. 0.000 min
Lab File: 04222012.D
Acq: 22 Apr 2020 8:55

Tgt Ion: 91 Resp: 19697

Ion	Ratio	Lower	Upper
91	100		
106	30.3	11.7	51.7

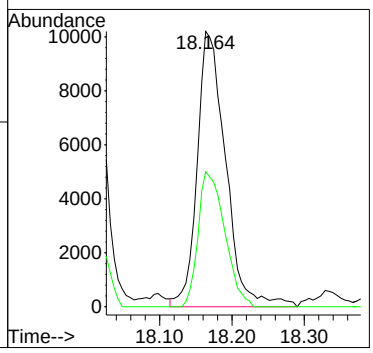


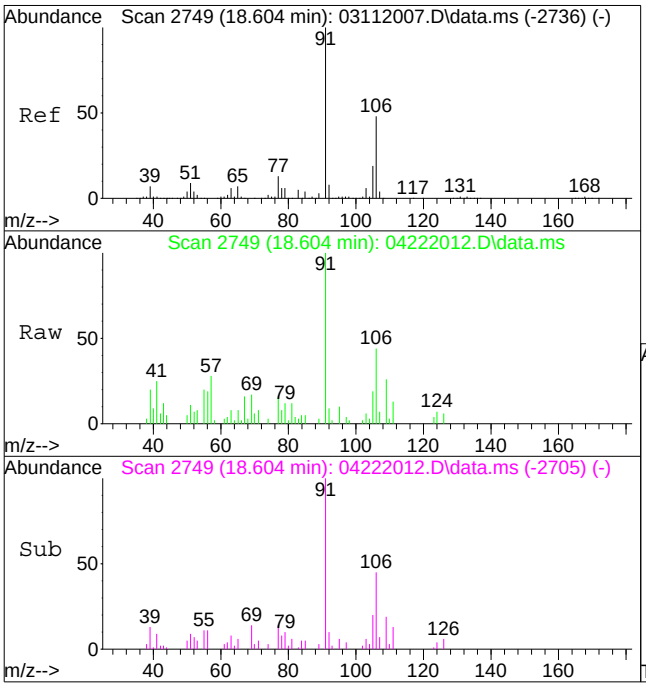


#67
m- & p-Xylenes
Concen: 0.21 ng
RT: 18.16 min Scan# 2669
Delta R.T. -0.011 min
Lab File: 04222012.D
Acq: 22 Apr 2020 8:55

Tgt Ion: 91 Resp: 27870

Ion	Ratio	Lower	Upper
91	100		
106	45.7	30.4	70.4

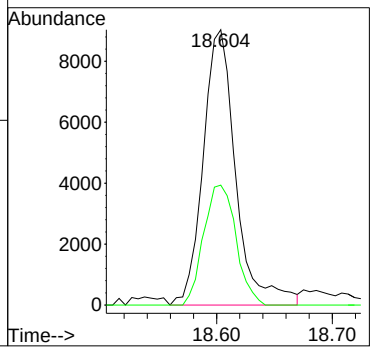


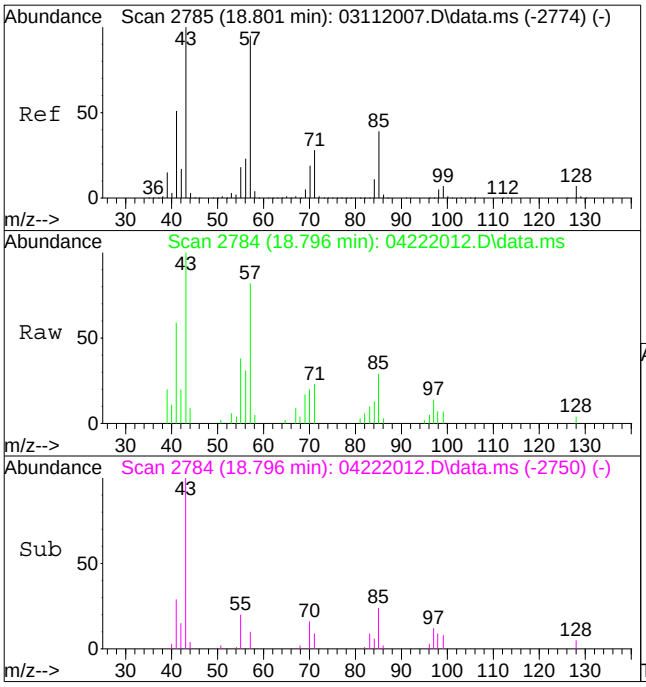


#70
o-Xylene
Concen: 0.13 ng
RT: 18.60 min Scan# 2749
Delta R.T. -0.005 min
Lab File: 04222012.D
Acq: 22 Apr 2020 8:55

Tgt Ion: 91 Resp: 17779

Ion	Ratio	Lower	Upper
91	100		
106	42.9	28.1	68.1

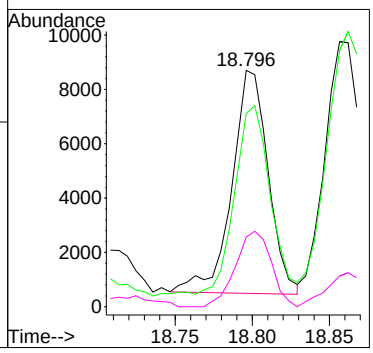


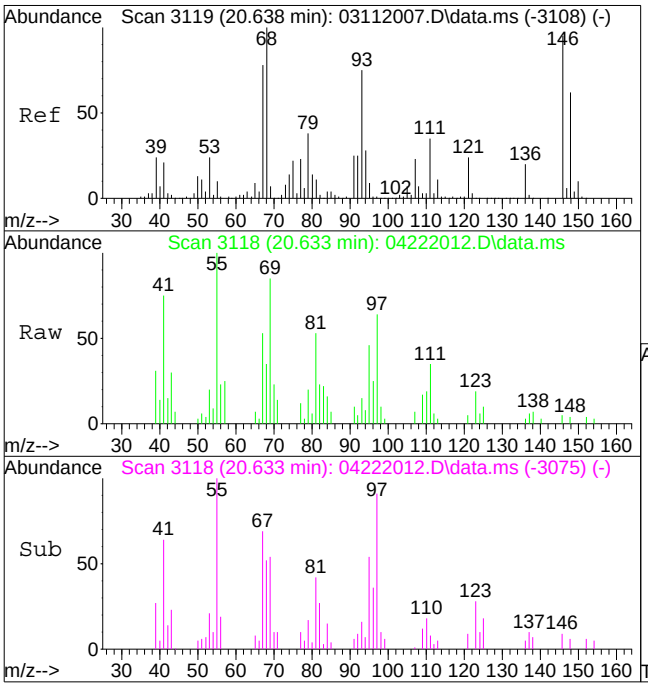


#71
n-Nonane
Concen: 0.20 ng
RT: 18.80 min Scan# 2784
Delta R.T. -0.011 min
Lab File: 04222012.D
Acq: 22 Apr 2020 8:55

Tgt Ion: 43 Resp: 13448

Ion	Ratio	Lower	Upper
43	100		
57	81.8	73.6	113.6
85	33.1	18.7	58.7

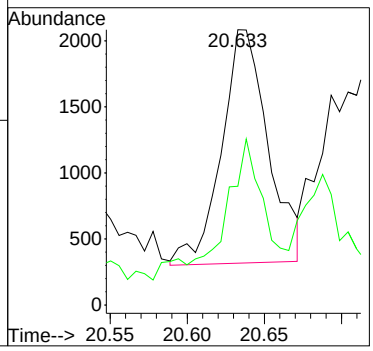




#91
d-Limonene
Concen: 0.06 ng
RT: 20.63 min Scan# 3118
Delta R.T. -0.016 min
Lab File: 04222012.D
Acq: 22 Apr 2020 8:55

Tgt Ion: 68 Resp: 3724

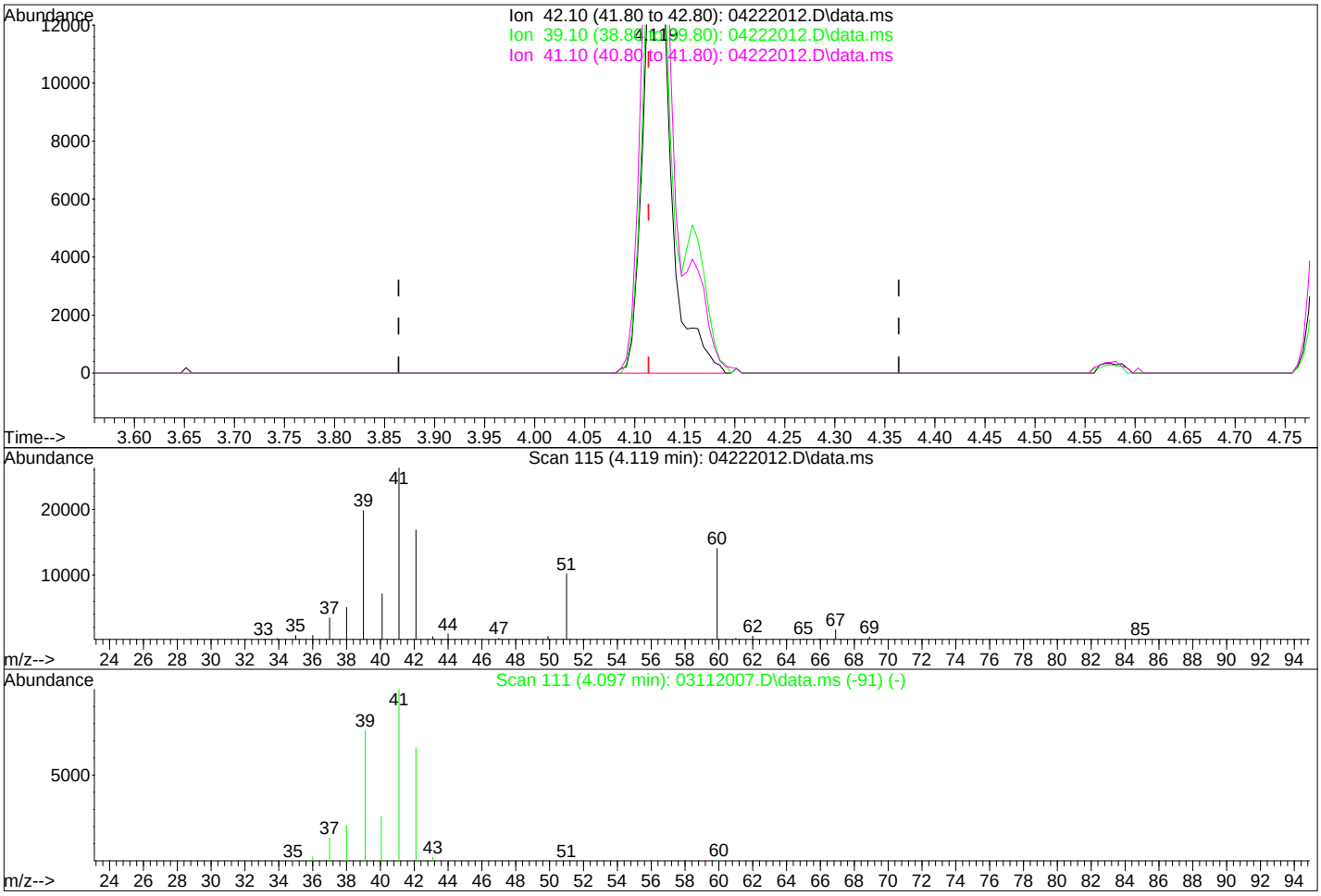
Ion	Ratio	Lower	Upper
68	100		
93	38.8	54.7	94.7#



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\22\04222012.D Vial: 1
Acq On : 22 Apr 2020 8:55 Operator: WA
Sample : P2002032-005 (10mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 09:30:15 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04222012.D\data.ms

(2) Propene (T)

4.119min (+0.005) 0.94ng

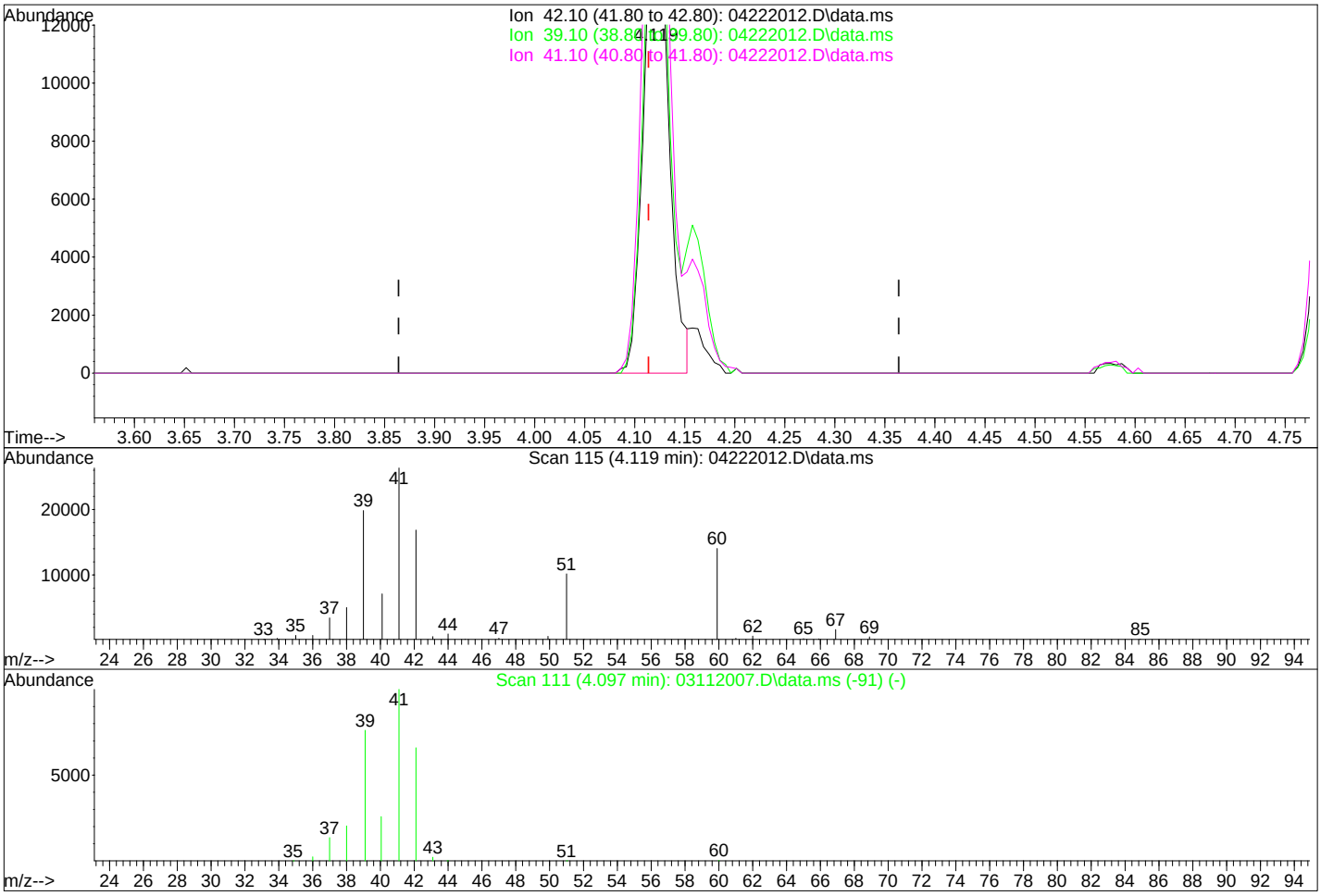
response 30409

Ion	Exp%	Act%
42.10	100	100
39.10	115.30	108.19
41.10	152.00	161.42
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\22\04222012.D Vial: 1
Acq On : 22 Apr 2020 8:55 Operator: WA
Sample : P2002032-005 (10mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 09:30:15 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04222012.D\data.ms

(2) Propene (T)

4.119min (+0.005) 0.88ng m

response 28666

Ion	Exp%	Act%
42.10	100	100
39.10	115.30	114.77
41.10	152.00	171.23
0.00	0.00	0.00

IPC

LH 4/24/20

TD 4/27/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212025.D Vial: 15
Acq On : 21 Apr 2020 22:34 Operator: WA
Sample : P2002032-006 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 12:51:05 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/24/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	315758	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1372928	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	686752	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	542090	12.398	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.20%				
57) Toluene-d8 (SS2)	15.74	98	1412473	11.604	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.80%				
73) Bromofluorobenzene (SS3)	19.00	174	498990	11.608	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.88%				
Target Compounds							Qvalue
2) Propene	4.10	42	37036	1.118	ng	#	86
3) Dichlorodifluoromethan...	4.26	85	39237	0.551	ng		99
4) Chloromethane	4.54	50	4600	0.082	ng		97
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	2567	0.057	ng		97
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.15	54	390	N.D.			
8) Bromomethane	5.66	94	1458	N.D.			
9) Chloroethane	5.98	64	621	N.D.			
10) Ethanol	6.32	45	272481	10.411	ng		100
11) Acetonitrile	6.59	41	55779	0.969	ng		100
12) Acrolein	6.81	56	6684	0.347	ng		98
13) Acetone	7.00	58	145052	5.616	ng	#	61
14) Trichlorofluoromethane	7.25	101	29405	0.468	ng		99
15) 2-Propanol (Isopropanol)	7.48	45	328963	4.294	ng		100
16) Acrylonitrile	7.78	53	714	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.43	84	3784	0.113	ng		95
20) 3-Chloro-1-propene (Al...	8.44	41	332	N.D.			
21) Trichlorotrifluoroethane	8.86	151	3024	0.101	ng		94
22) Carbon Disulfide	8.69	76	24087	0.199	ng		99
23) trans-1,2-Dichloroethene	9.70	61	370	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.10	73	1453	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.48	72	16001	0.744	ng	#	89
28) cis-1,2-Dichloroethene	10.99	61	672	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.28	61	992530	78.090	ng		91
31) n-Hexane	11.28	57	6052	0.103	ng	#	66
32) Chloroform	11.33	83	23015	0.367	ng		98
34) Tetrahydrofuran (THF)	11.77	72	1734	0.078	ng	#	73
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.13	62	220	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	12.88	61	523	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.89	78	37454	0.264	ng		100
42) Carbon Tetrachloride	13.06	117	3385	0.069	ng		98
43) Cyclohexane	13.19	84	30663	0.563	ng		94
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.	d		
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	13.95	83	2280	N.D.			
47) Trichloroethene	14.00	130	6321	0.157	ng		98
48) 1,4-Dioxane	13.98	88	5569	0.203	ng		92
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212025.D Vial: 15
Acq On : 21 Apr 2020 22:34 Operator: WA
Sample : P2002032-006 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 12:51:05 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

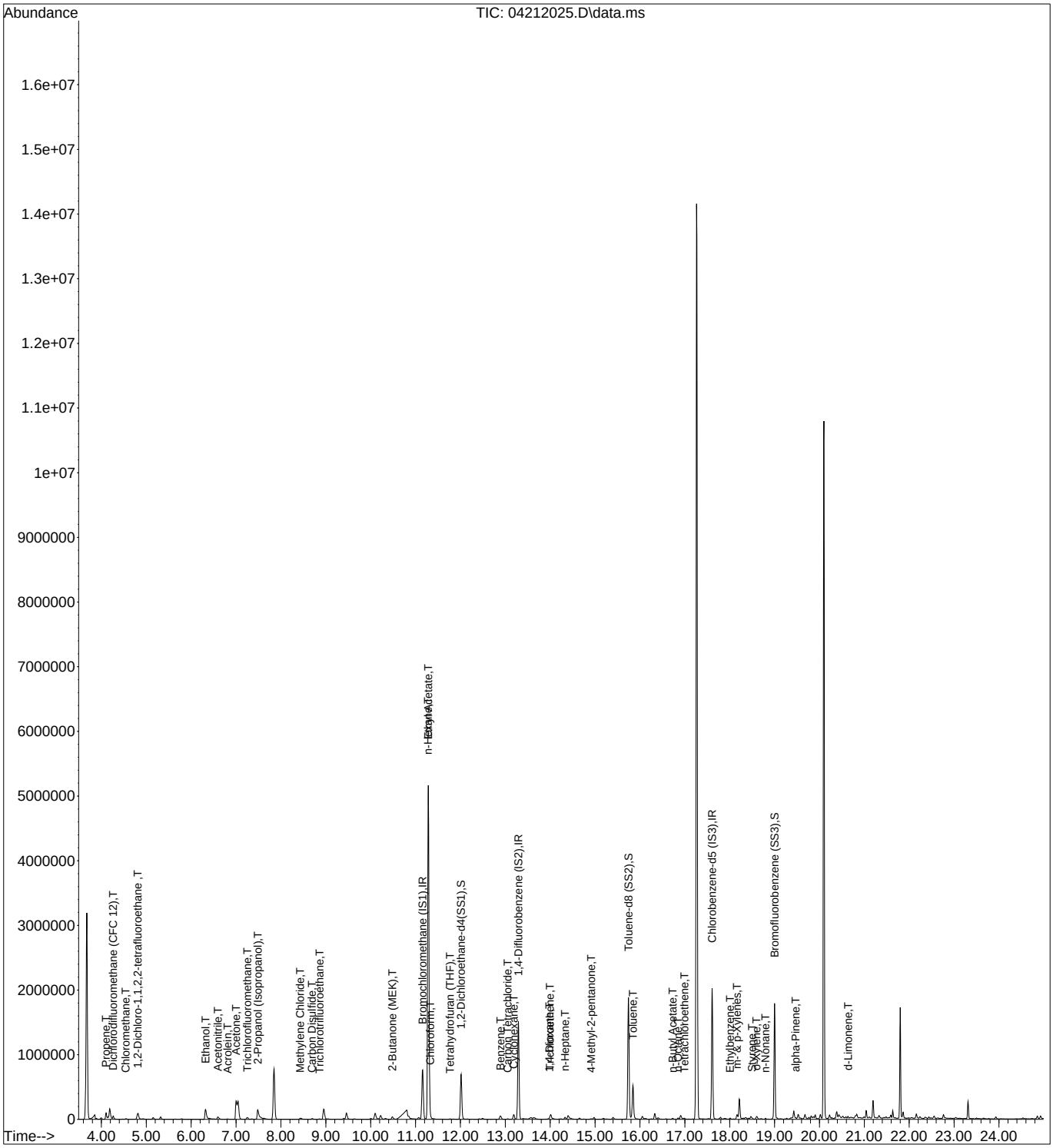
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.33	71	7678	0.232 ng		94
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.91	58	2661	0.089 ng		84
54) trans-1,3-Dichloropropene	15.41	75	574	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.84	91	435721	2.895 ng		100
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	16.26	129	177	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.73	43	13151	0.163 ng		98
63) n-Octane	16.85	57	4032	0.135 ng		88
64) Tetrachloroethene	16.99	166	3304	0.079 ng		93
65) Chlorobenzene	17.65	112	554	N.D.		
66) Ethylbenzene	18.01	91	13026	0.079 ng		99
67) m- & p-Xylenes	18.16	91	29698	0.221 ng		99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.50	104	6268	0.060 ng		100
70) o-Xylene	18.60	91	11826	0.088 ng		97
71) n-Nonane	18.80	43	4549	0.068 ng		97
72) 1,1,2,2-Tetrachloroethane	18.61	83	560	N.D.		
74) Cumene	19.12	105	1480	N.D.		
75) alpha-Pinene	19.47	93	4750	0.055 ng	#	1
76) n-Propylbenzene	19.57	91	3557	N.D.		
77) 3-Ethyltoluene	19.67	105	4516	N.D.		
78) 4-Ethyltoluene	19.71	105	2504	N.D.		
79) 1,3,5-Trimethylbenzene	19.77	105	2462	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	19.93	105	2124	N.D.		
82) 1,2,4-Trimethylbenzene	20.14	105	6479	N.D.		
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.25	91	1166	N.D.		
85) 1,3-Dichlorobenzene	20.26	146	144	N.D.		
86) 1,4-Dichlorobenzene	20.32	146	385	N.D.		
87) sec-Butylbenzene	20.37	105	1186	N.D.		
88) 4-Isopropyltoluene (p-...	20.51	119	8650	N.D.		
89) 1,2,3-Trimethylbenzene	20.51	105	2872	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.64	68	4924	0.086 ng		94
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.13	180	167	N.D.		
95) Naphthalene	22.25	128	3540	N.D.		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	22.76	225	117	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	20.17	119	198	N.D.		
100) n-Butylbenzene	20.87	91	3810	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212025.D Vial: 15
Acq On : 21 Apr 2020 22:34 Operator: WA
Sample : P2002032-006 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 12:51:05 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212025.D Vial: 15
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QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/24/20

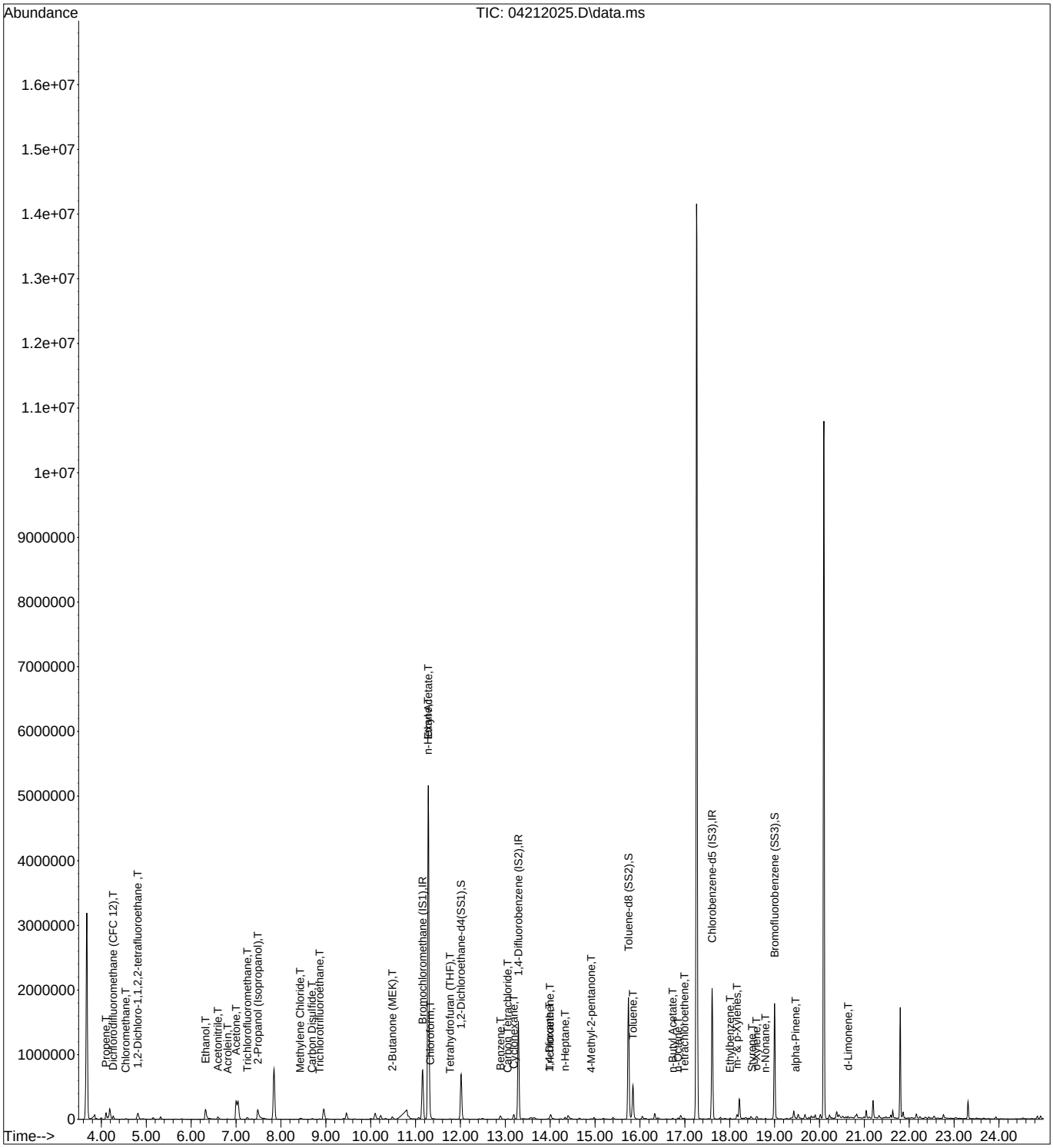
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	315758	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1372928	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	686752	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	542090	12.398	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.20%				
57) Toluene-d8 (SS2)	15.74	98	1412473	11.604	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.80%				
73) Bromofluorobenzene (SS3)	19.00	174	498990	11.608	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.88%				
Target Compounds							Qvalue
2) Propene	4.10	42	37036	1.118	ng	#	86
3) Dichlorodifluoromethan...	4.26	85	39237	0.551	ng		99
4) Chloromethane	4.54	50	4600	0.082	ng		97
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	2567	0.057	ng		97
10) Ethanol	6.32	45	272481	10.411	ng		100
11) Acetonitrile	6.59	41	55779	0.969	ng		100
12) Acrolein	6.81	56	6684	0.347	ng		98
13) Acetone	7.00	58	145052	5.616	ng	#	61
14) Trichlorofluoromethane	7.25	101	29405	0.468	ng		99
15) 2-Propanol (Isopropanol)	7.48	45	328963	4.294	ng		100
19) Methylene Chloride	8.43	84	3784	0.113	ng		95
21) Trichlorotrifluoroethane	8.86	151	3024	0.101	ng		94
22) Carbon Disulfide	8.69	76	24087	0.199	ng		99
27) 2-Butanone (MEK)	10.48	72	16001	0.744	ng	#	89
30) Ethyl Acetate	11.28	61	992530	78.090	ng		91
31) n-Hexane	11.28	57	6052	0.103	ng	#	66
32) Chloroform	11.33	83	23015	0.367	ng		98
34) Tetrahydrofuran (THF)	11.77	72	1734	0.078	ng	#	73
41) Benzene	12.89	78	37454	0.264	ng		100
42) Carbon Tetrachloride	13.06	117	3385	0.069	ng		98
43) Cyclohexane	13.19	84	30663	0.563	ng		94
47) Trichloroethene	14.00	130	6321	0.157	ng		98
48) 1,4-Dioxane	13.98	88	5569	0.203	ng		92
51) n-Heptane	14.33	71	7678	0.232	ng		94
53) 4-Methyl-2-pentanone	14.91	58	2661	0.089	ng		84
58) Toluene	15.84	91	435721	2.895	ng		100
62) n-Butyl Acetate	16.73	43	13151	0.163	ng		98
63) n-Octane	16.85	57	4032	0.135	ng		88
64) Tetrachloroethene	16.99	166	3304	0.079	ng		93
66) Ethylbenzene	18.01	91	13026	0.079	ng		99
67) m- & p-Xylenes	18.16	91	29698	0.221	ng		99
69) Styrene	18.50	104	6268	0.060	ng		100
70) o-Xylene	18.60	91	11826	0.088	ng		97
71) n-Nonane	18.80	43	4549	0.068	ng		97
75) alpha-Pinene	19.47	93	4750	0.055	ng	#	1
91) d-Limonene	20.64	68	4924	0.086	ng		94

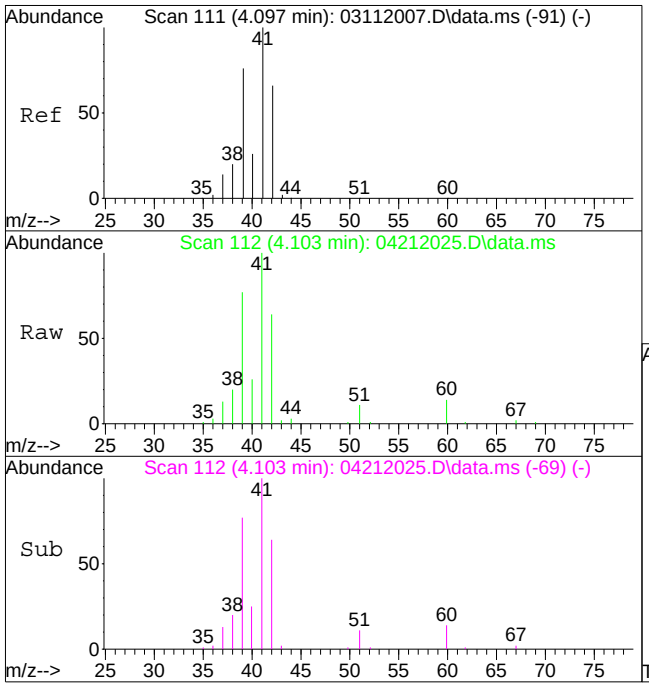
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212025.D Vial: 15
Acq On : 21 Apr 2020 22:34 Operator: WA
Sample : P2002032-006 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 12:51:05 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

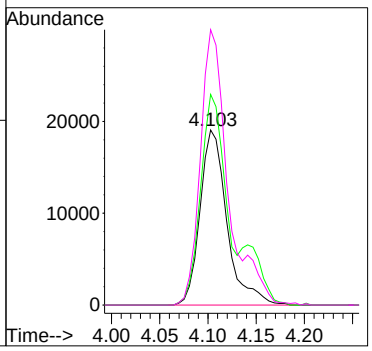


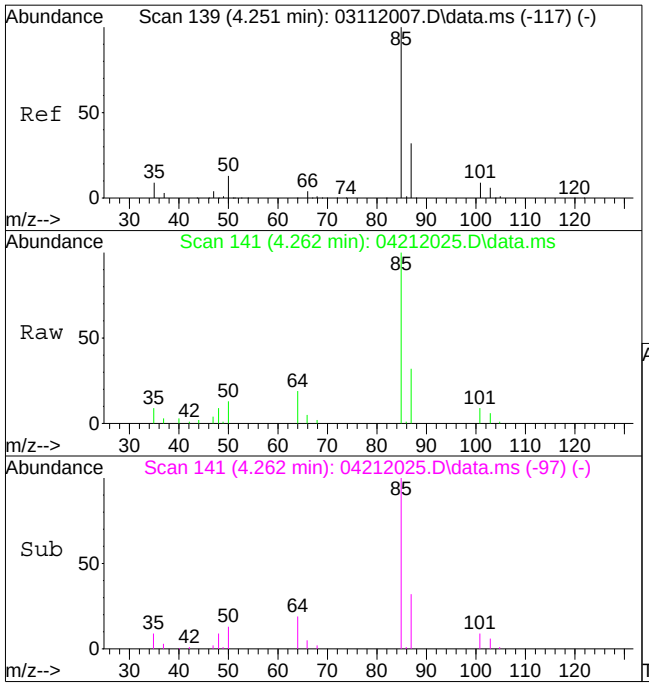


#2
Propene
Concen: 1.12 ng
RT: 4.10 min Scan# 112
Delta R.T. -0.011 min
Lab File: 04212025.D
Acq: 21 Apr 2020 22:34

Tgt Ion: 42 Resp: 37036

Ion	Ratio	Lower	Upper
42	100		
39	137.3	95.3	135.3#
41	163.1	132.0	172.0

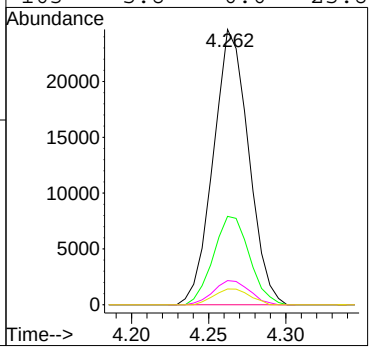


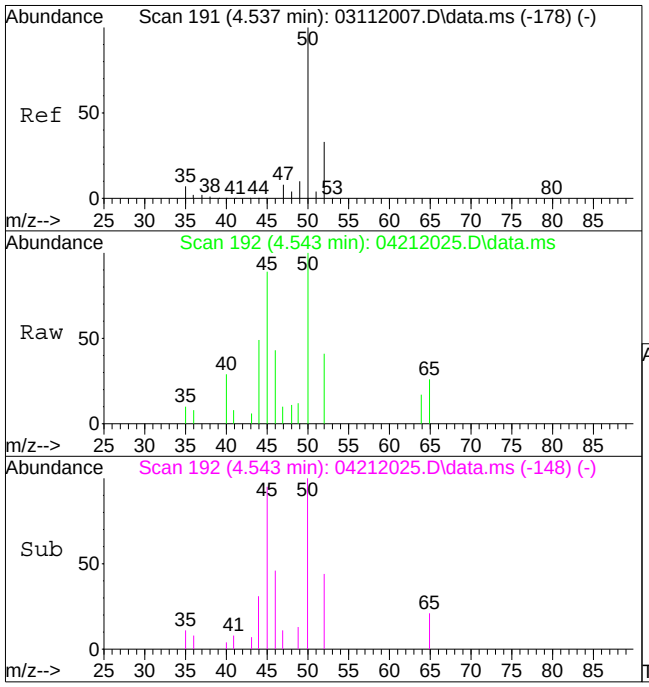


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.55 ng
RT: 4.26 min Scan# 141
Delta R.T. -0.006 min
Lab File: 04212025.D
Acq: 21 Apr 2020 22:34

Tgt Ion: 85 Resp: 39237

Ion	Ratio	Lower	Upper
85	100		
87	32.9	12.3	52.3
101	9.0	0.0	29.0
103	5.8	0.0	25.8

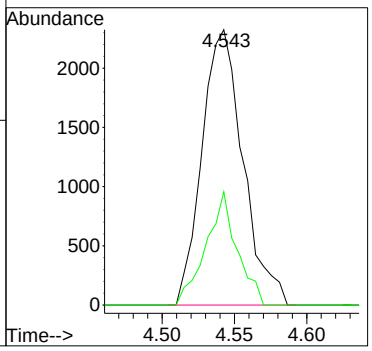


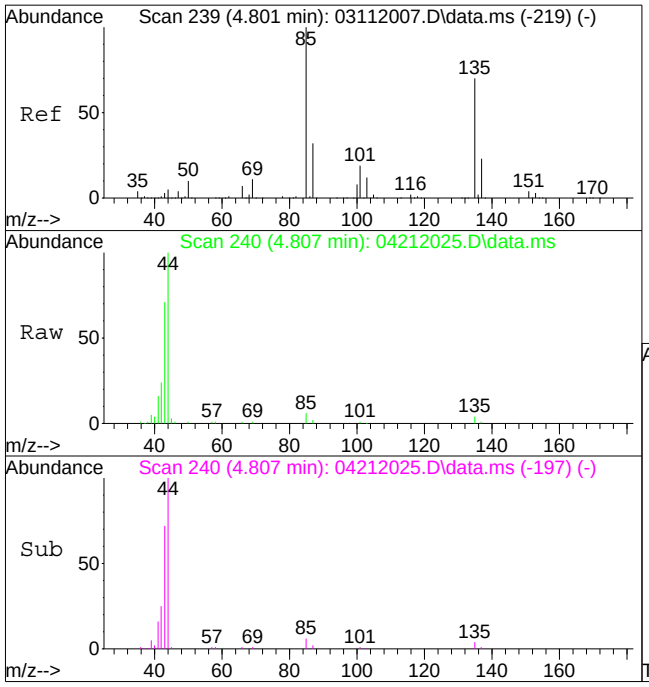


#4
Chloromethane
Concen: 0.08 ng
RT: 4.54 min Scan# 192
Delta R.T. -0.010 min
Lab File: 04212025.D
Acq: 21 Apr 2020 22:34

Tgt Ion: 50 Resp: 4600

Ion	Ratio	Lower	Upper
50	100		
52	31.0	12.8	52.8

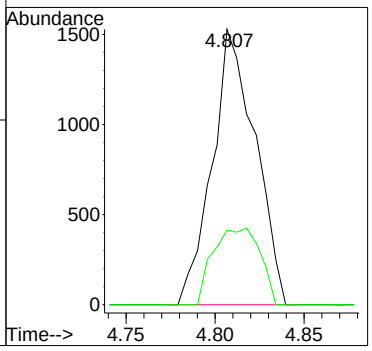


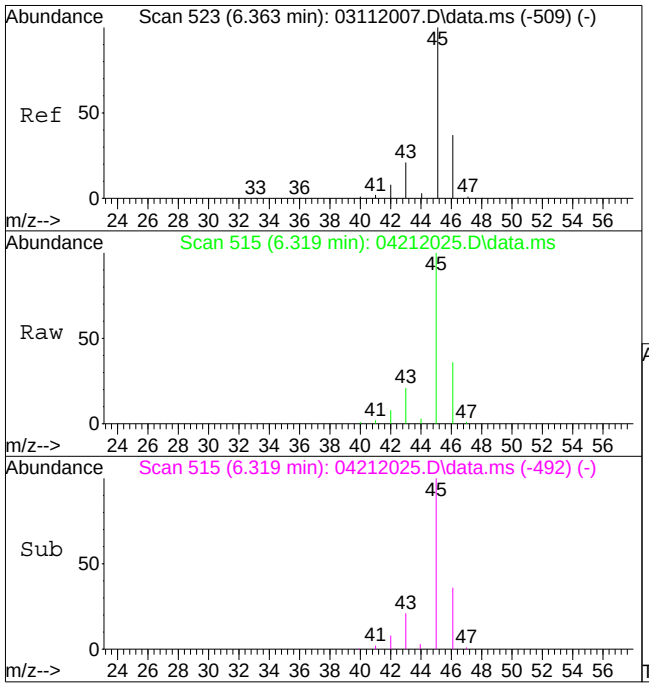


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 0.06 ng
RT: 4.81 min Scan# 240
Delta R.T. -0.016 min
Lab File: 04212025.D
Acq: 21 Apr 2020 22:34

Tgt Ion:135 Resp: 2567

Ion	Ratio	Lower	Upper
135	100		
137	30.4	12.3	52.3

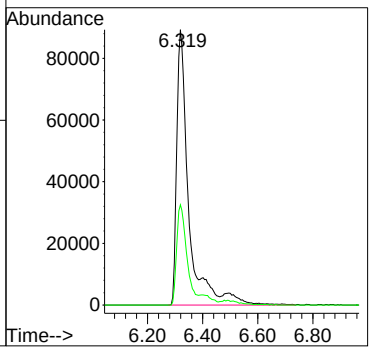


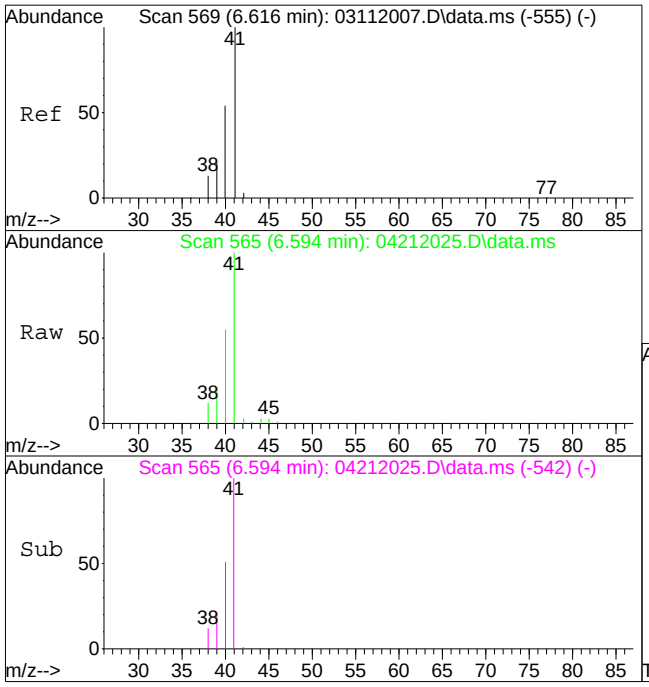


#10
Ethanol
Concen: 10.41 ng
RT: 6.32 min Scan# 515
Delta R.T. -0.121 min
Lab File: 04212025.D
Acq: 21 Apr 2020 22:34

Tgt Ion: 45 Resp: 272481

Ion	Ratio	Lower	Upper
45	100		
46	37.1	17.3	57.3

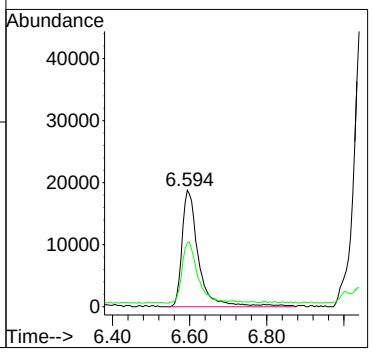


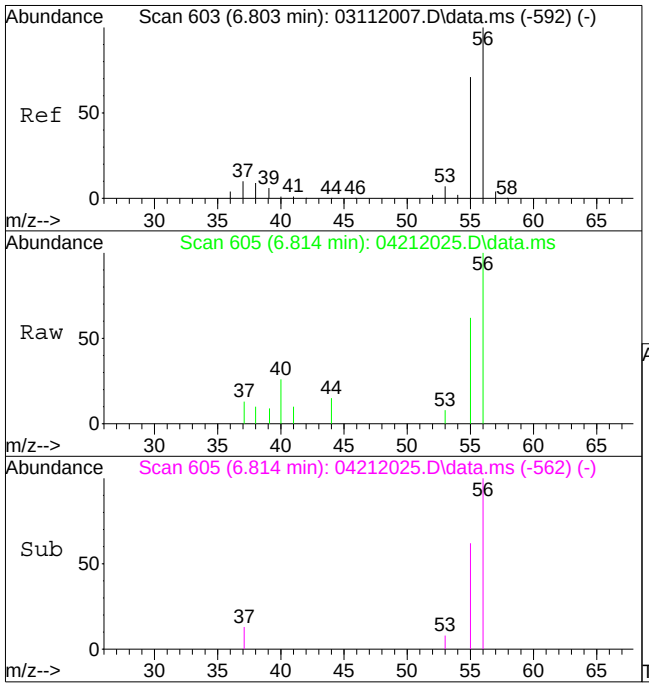


#11
Acetonitrile
Concen: 0.97 ng
RT: 6.59 min Scan# 565
Delta R.T. -0.071 min
Lab File: 04212025.D
Acq: 21 Apr 2020 22:34

Tgt Ion: 41 Resp: 55779

Ion	Ratio	Lower	Upper
41	100		
40	53.9	33.6	73.6

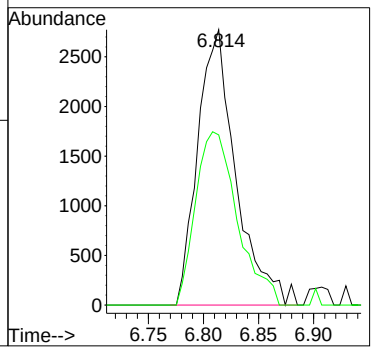


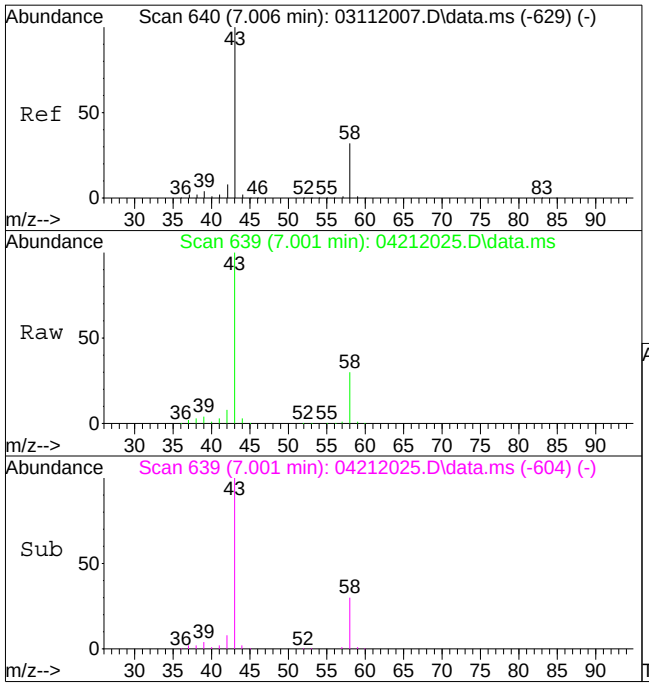


#12
Acrolein
Concen: 0.35 ng
RT: 6.81 min Scan# 605
Delta R.T. -0.016 min
Lab File: 04212025.D
Acq: 21 Apr 2020 22:34

Tgt Ion: 56 Resp: 6684

Ion	Ratio	Lower	Upper
56	100		
55	69.0	50.4	90.4

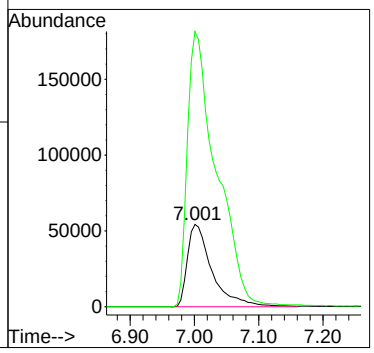


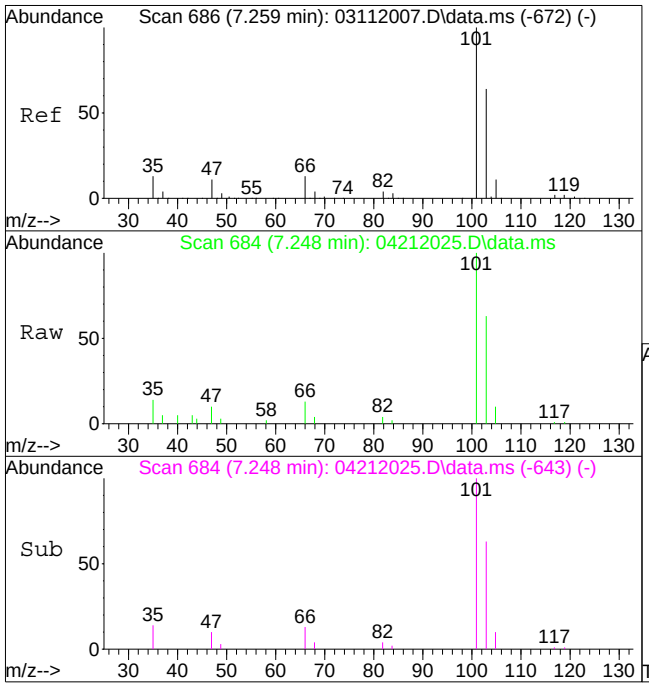


#13
Acetone
Concen: 5.62 ng
RT: 7.00 min Scan# 639
Delta R.T. -0.055 min
Lab File: 04212025.D
Acq: 21 Apr 2020 22:34

Tgt Ion: 58 Resp: 145052

Ion	Ratio	Lower	Upper
58	100		
43	397.5	287.3	347.3#

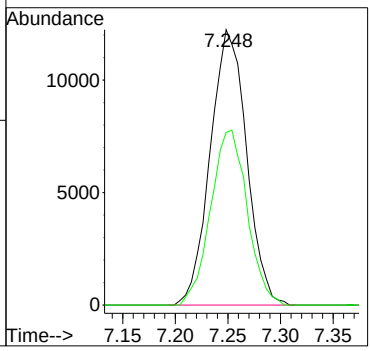


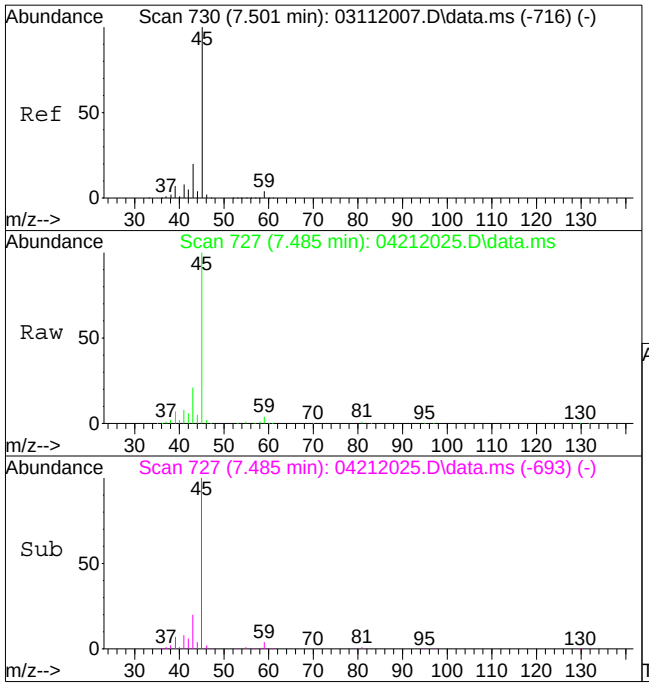


#14
Trichlorofluoromethane
Concen: 0.47 ng
RT: 7.25 min Scan# 684
Delta R.T. -0.027 min
Lab File: 04212025.D
Acq: 21 Apr 2020 22:34

Tgt Ion:101 Resp: 29405

Ion	Ratio	Lower	Upper
101	100		
103	63.9	44.6	84.6

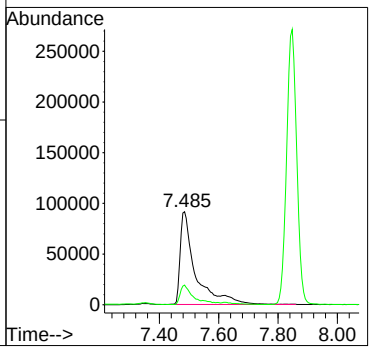


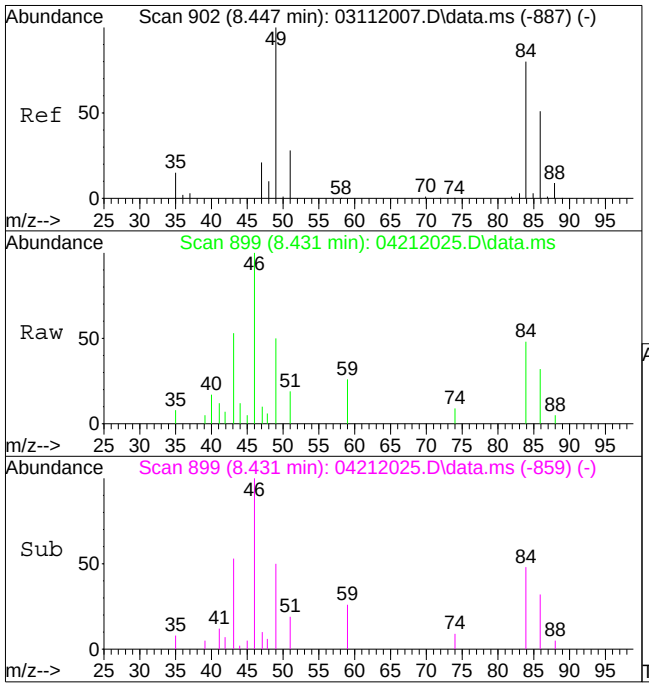


#15
2-Propanol (Isopropanol)
Concen: 4.29 ng
RT: 7.48 min Scan# 727
Delta R.T. -0.066 min
Lab File: 04212025.D
Acq: 21 Apr 2020 22:34

Tgt Ion: 45 Resp: 328963

Ion	Ratio	Lower	Upper
45	100		
43	20.4	0.3	40.3

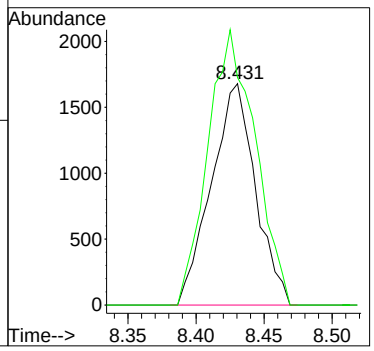


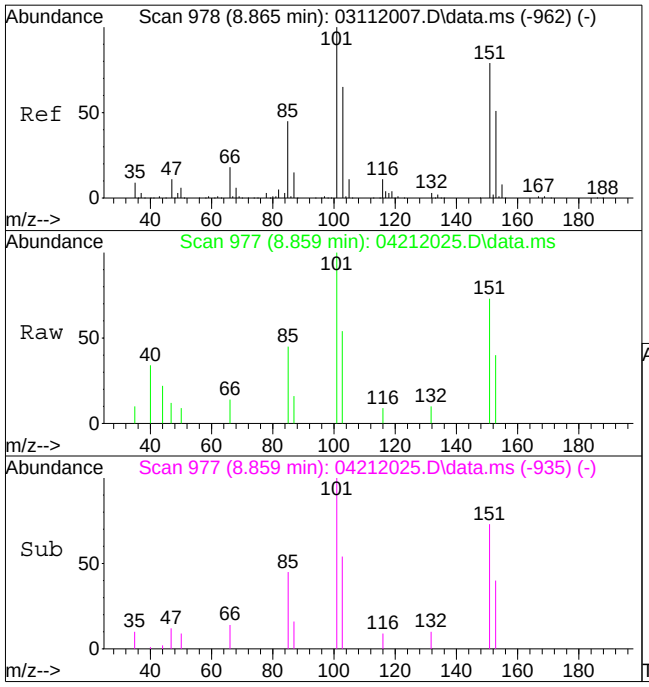


#19
Methylene Chloride
Concen: 0.11 ng
RT: 8.43 min Scan# 899
Delta R.T. -0.032 min
Lab File: 04212025.D
Acq: 21 Apr 2020 22:34

Tgt Ion: 84 Resp: 3784

Ion	Ratio	Lower	Upper
84	100		
49	133.3	102.2	152.2

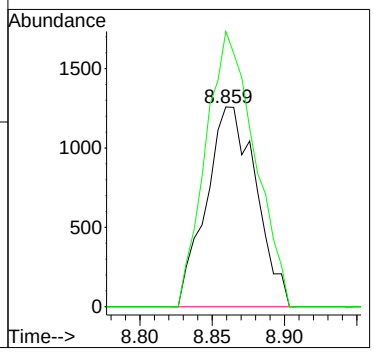


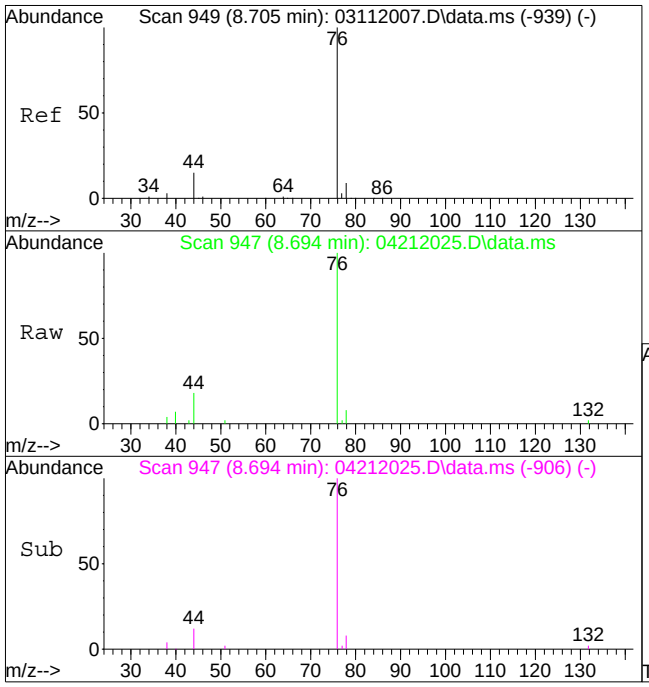


#21
Trichlorotrifluoroethane
Concen: 0.10 ng
RT: 8.86 min Scan# 977
Delta R.T. -0.017 min
Lab File: 04212025.D
Acq: 21 Apr 2020 22:34

Tgt Ion:151 Resp: 3024

Ion	Ratio	Lower	Upper
151	100		
101	135.4	108.4	148.4

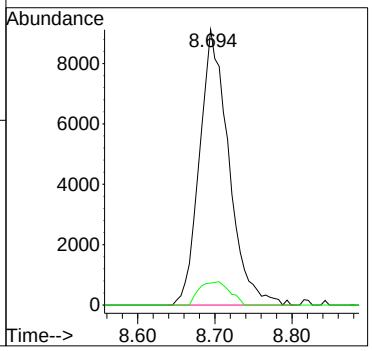


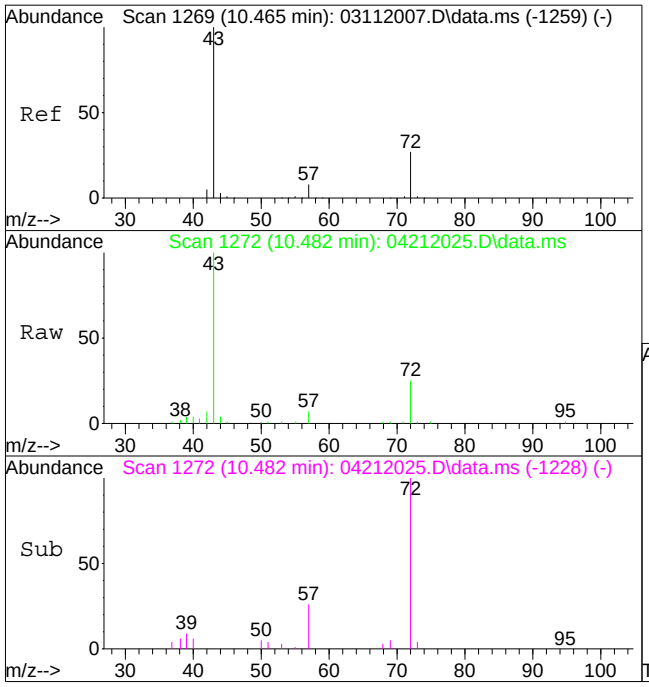


#22
Carbon Disulfide
Concen: 0.20 ng
RT: 8.69 min Scan# 947
Delta R.T. -0.027 min
Lab File: 04212025.D
Acq: 21 Apr 2020 22:34

Tgt Ion: 76 Resp: 24087

Ion	Ratio	Lower	Upper
76	100		
78	8.8	0.0	29.2

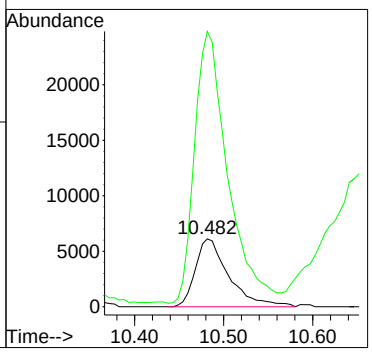


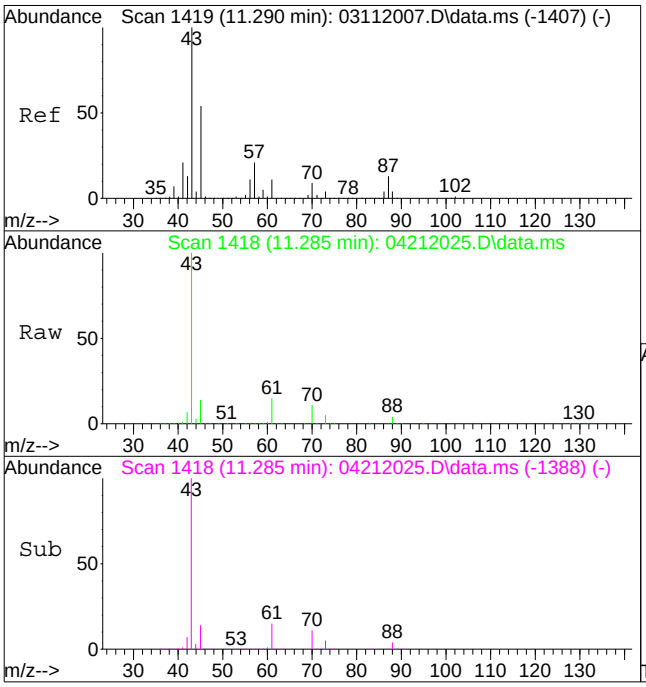


#27
2-Butanone (MEK)
Concen: 0.74 ng
RT: 10.48 min Scan# 1272
Delta R.T. -0.011 min
Lab File: 04212025.D
Acq: 21 Apr 2020 22:34

Tgt Ion: 72 Resp: 16001

Ion	Ratio	Lower	Upper
72	100		
43	397.4	353.4	393.4#

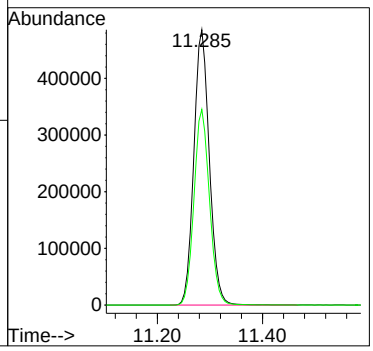


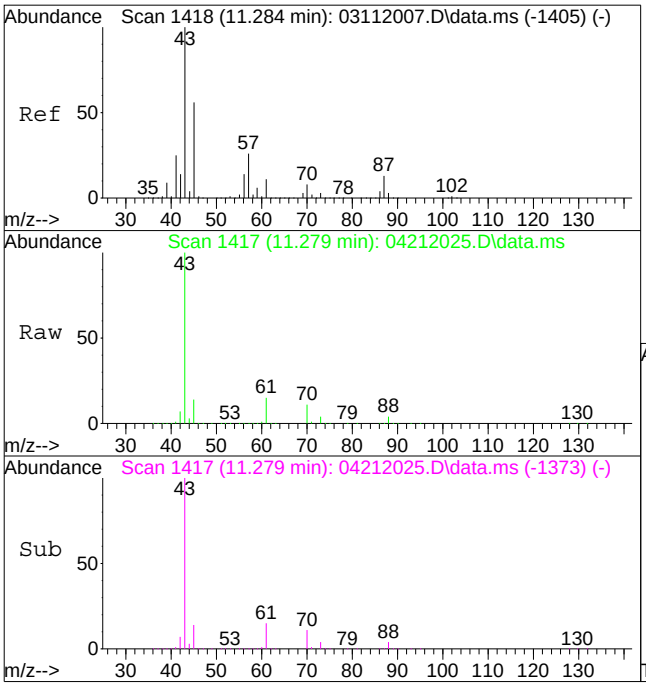


#30
Ethyl Acetate
Concen: 78.09 ng
RT: 11.28 min Scan# 1418
Delta R.T. -0.033 min
Lab File: 04212025.D
Acq: 21 Apr 2020 22:34

Tgt Ion: 61 Resp: 992530

Ion	Ratio	Lower	Upper
61	100		
70	71.3	59.1	99.1

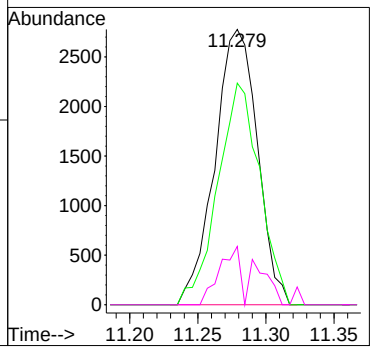


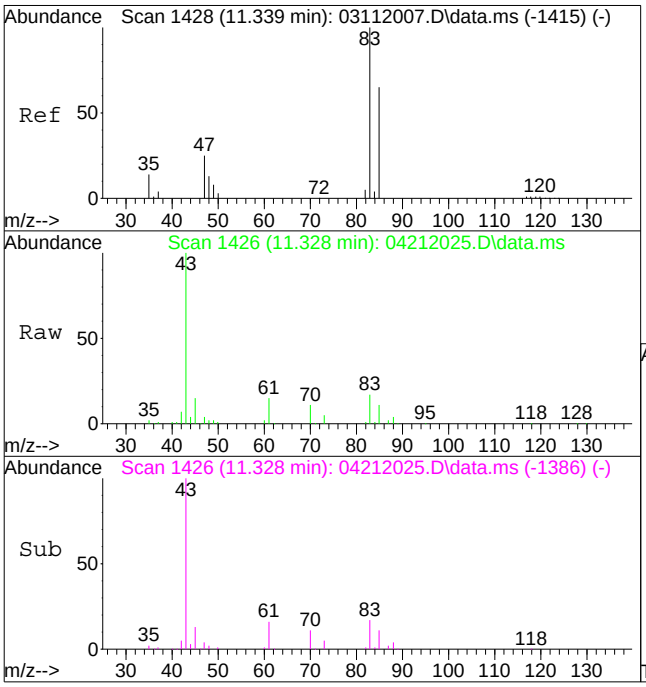


#31
n-Hexane
Concen: 0.10 ng
RT: 11.28 min Scan# 1417
Delta R.T. -0.011 min
Lab File: 04212025.D
Acq: 21 Apr 2020 22:34

Tgt Ion: 57 Resp: 6052

Ion	Ratio	Lower	Upper
57	100		
56	78.8	41.0	61.4#
86	10.2	13.9	20.9#

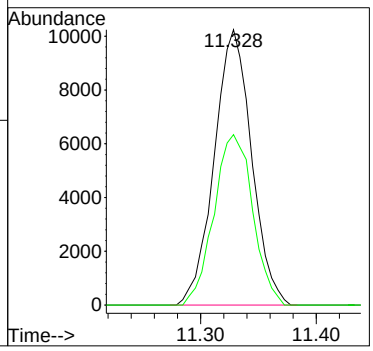


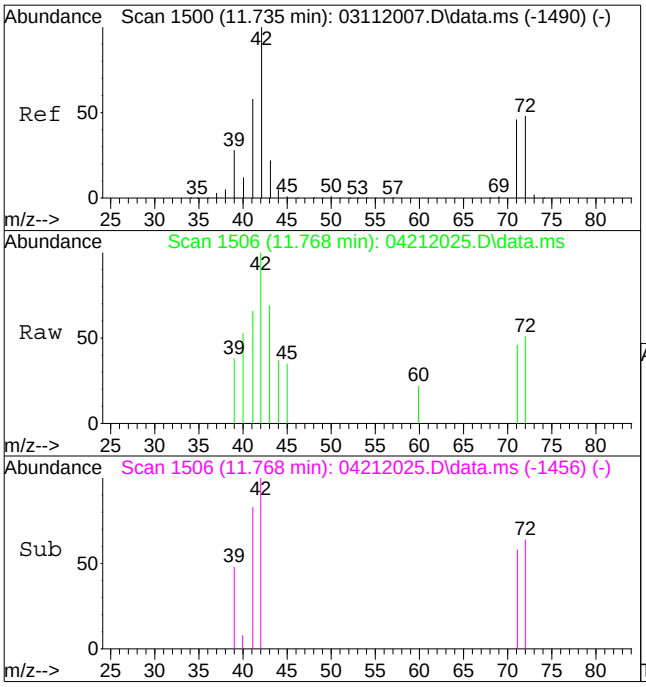


#32
Chloroform
Concen: 0.37 ng
RT: 11.33 min Scan# 1426
Delta R.T. -0.033 min
Lab File: 04212025.D
Acq: 21 Apr 2020 22:34

Tgt Ion: 83 Resp: 23015

Ion	Ratio	Lower	Upper
83	100		
85	64.1	45.5	85.5

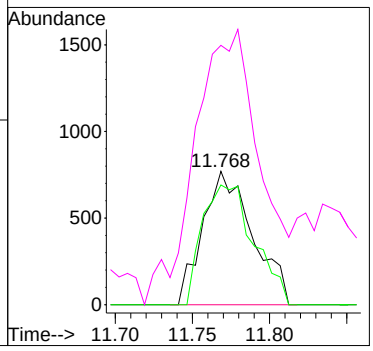


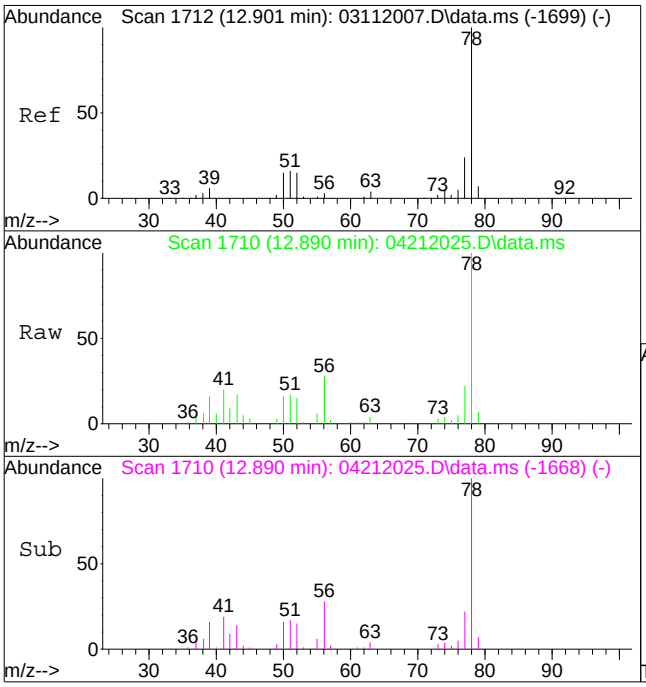


#34
Tetrahydrofuran (THF)
Concen: 0.08 ng
RT: 11.77 min Scan# 1506
Delta R.T. 0.022 min
Lab File: 04212025.D
Acq: 21 Apr 2020 22:34

Tgt Ion: 72 Resp: 1734

Ion	Ratio	Lower	Upper
72	100		
71	92.7	75.9	115.9
42	268.9	189.3	229.3#

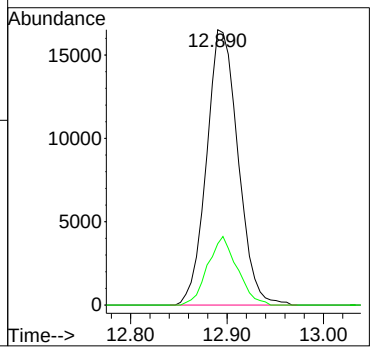


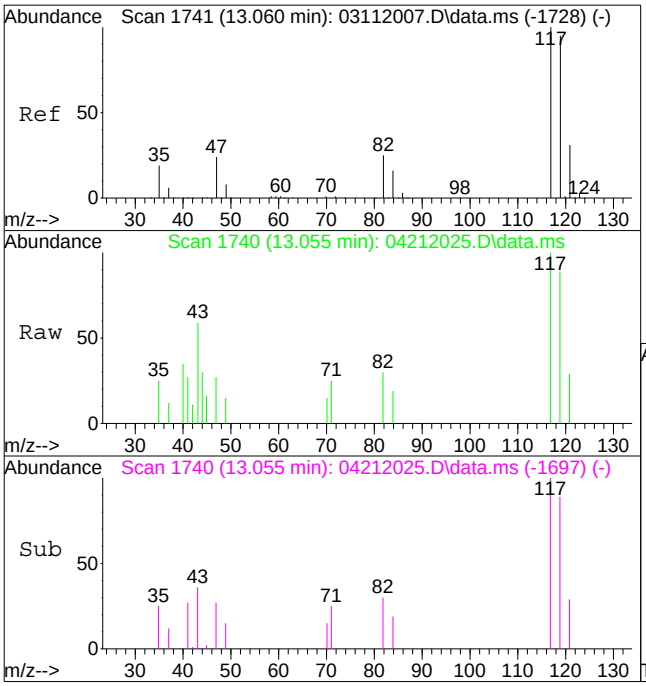


#41
Benzene
Concen: 0.26 ng
RT: 12.89 min Scan# 1710
Delta R.T. -0.022 min
Lab File: 04212025.D
Acq: 21 Apr 2020 22:34

Tgt Ion: 78 Resp: 37454

Ion	Ratio	Lower	Upper
78	100		
77	23.4	3.4	43.4

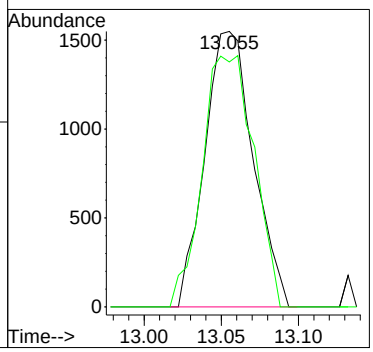


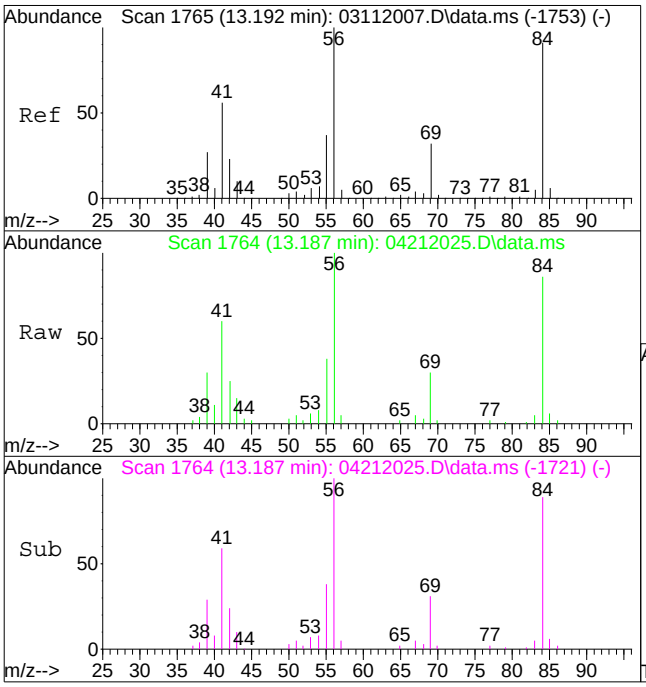


#42
Carbon Tetrachloride
Concen: 0.07 ng
RT: 13.06 min Scan# 1740
Delta R.T. -0.016 min
Lab File: 04212025.D
Acq: 21 Apr 2020 22:34

Tgt Ion:117 Resp: 3385

Ion	Ratio	Lower	Upper
117	100		
119	97.0	75.4	115.4

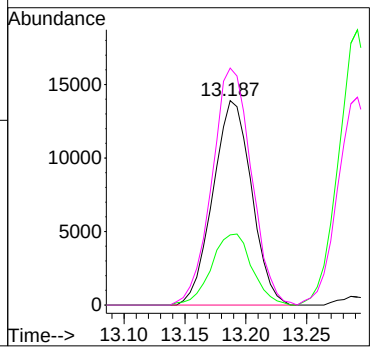


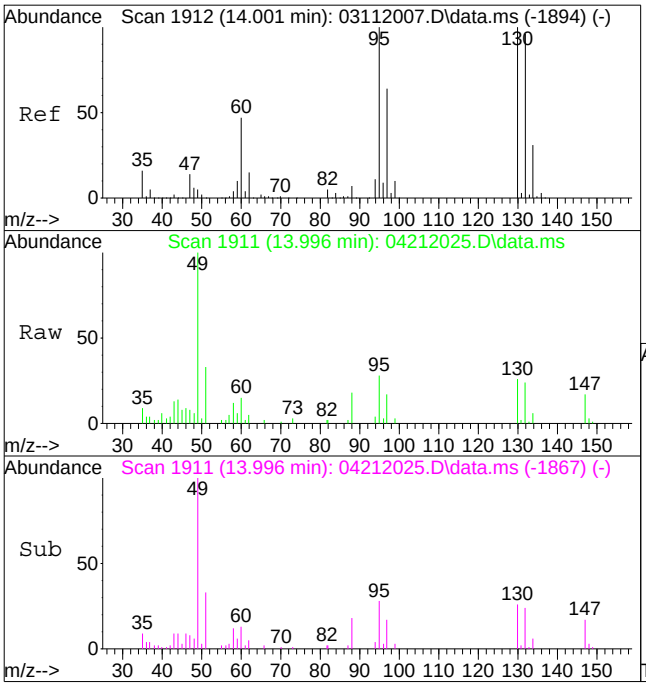


#43
Cyclohexane
Concen: 0.56 ng
RT: 13.19 min Scan# 1764
Delta R.T. -0.016 min
Lab File: 04212025.D
Acq: 21 Apr 2020 22:34

Tgt Ion: 84 Resp: 30663

Ion	Ratio	Lower	Upper
84	100		
69	36.5	15.3	55.3
56	118.6	90.5	130.5

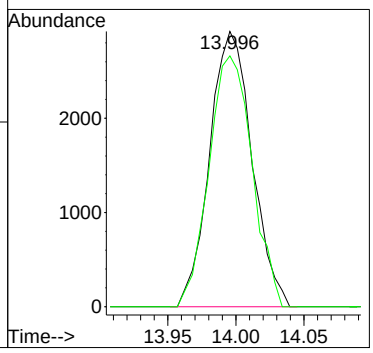


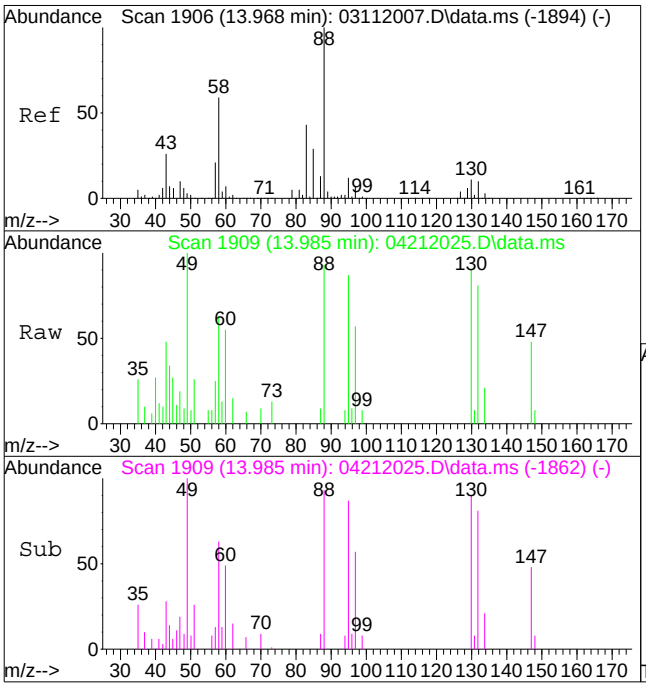


#47
Trichloroethene
Concen: 0.16 ng
RT: 14.00 min Scan# 1911
Delta R.T. -0.011 min
Lab File: 04212025.D
Acq: 21 Apr 2020 22:34

Tgt Ion:130 Resp: 6321

Ion	Ratio	Lower	Upper
130	100		
132	92.6	74.7	114.7

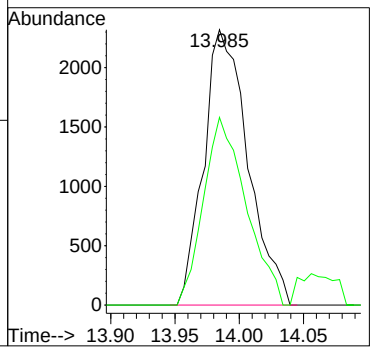


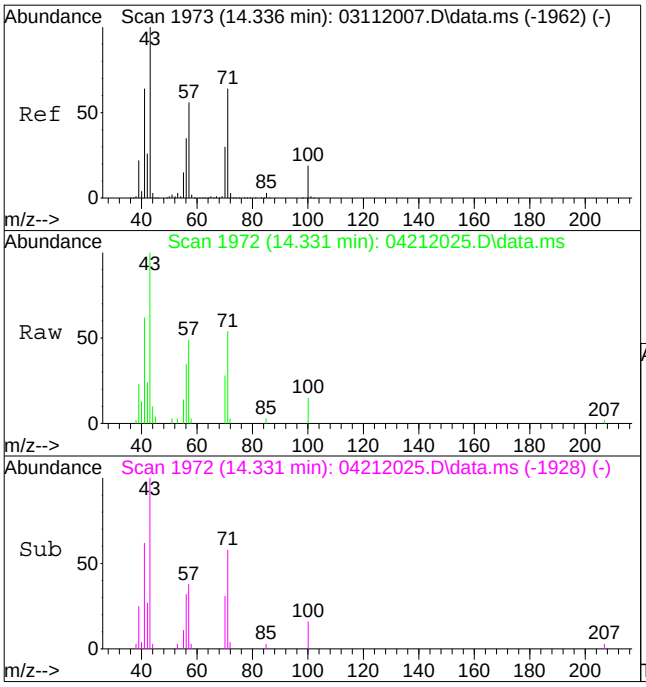


#48
1,4-Dioxane
Concen: 0.20 ng
RT: 13.98 min Scan# 1909
Delta R.T. 0.006 min
Lab File: 04212025.D
Acq: 21 Apr 2020 22:34

Tgt Ion: 88 Resp: 5569

Ion	Ratio	Lower	Upper
88	100		
58	65.5	39.5	79.5

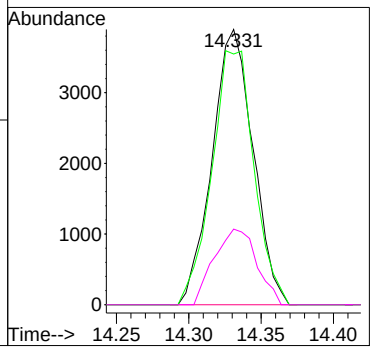


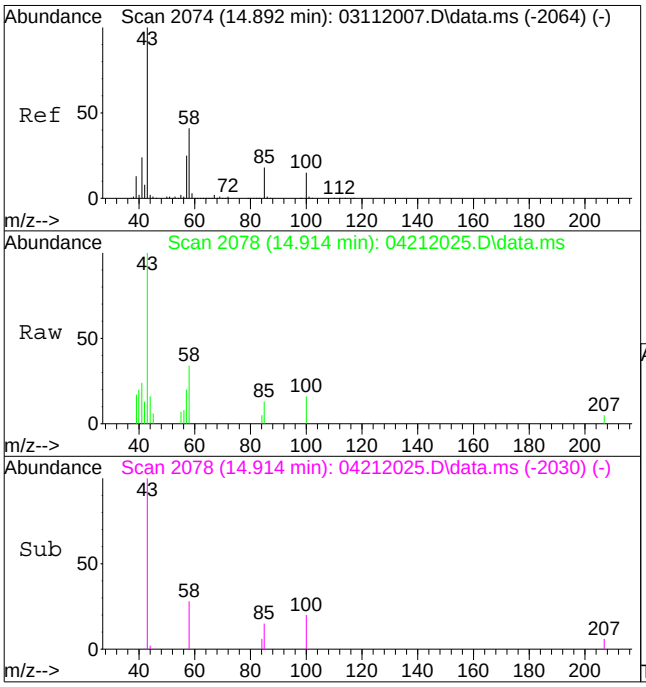


#51
n-Heptane
Concen: 0.23 ng
RT: 14.33 min Scan# 1972
Delta R.T. -0.011 min
Lab File: 04212025.D
Acq: 21 Apr 2020 22:34

Tgt Ion: 71 Resp: 7678

Ion	Ratio	Lower	Upper
71	100		
57	95.2	68.6	108.6
100	28.5	9.1	49.1

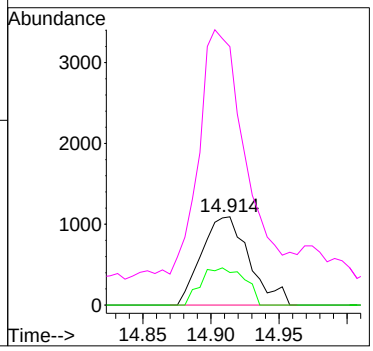


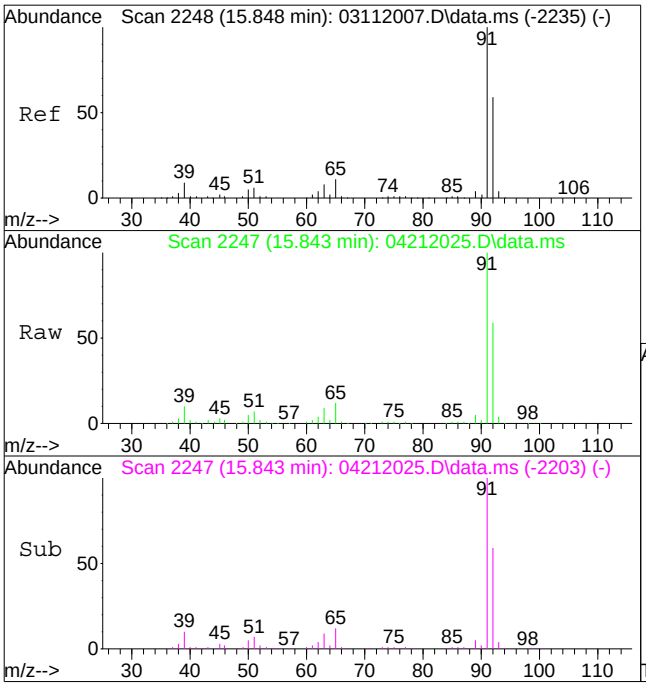


#53
4-Methyl-2-pentanone
Concen: 0.09 ng
RT: 14.91 min Scan# 2078
Delta R.T. 0.011 min
Lab File: 04212025.D
Acq: 21 Apr 2020 22:34

Tgt Ion: 58 Resp: 2661

Ion	Ratio	Lower	Upper
58	100		
85	38.7	37.0	55.4
43	275.5	196.3	294.5

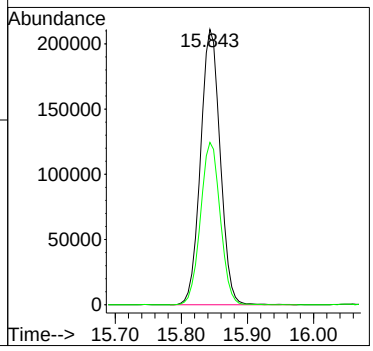


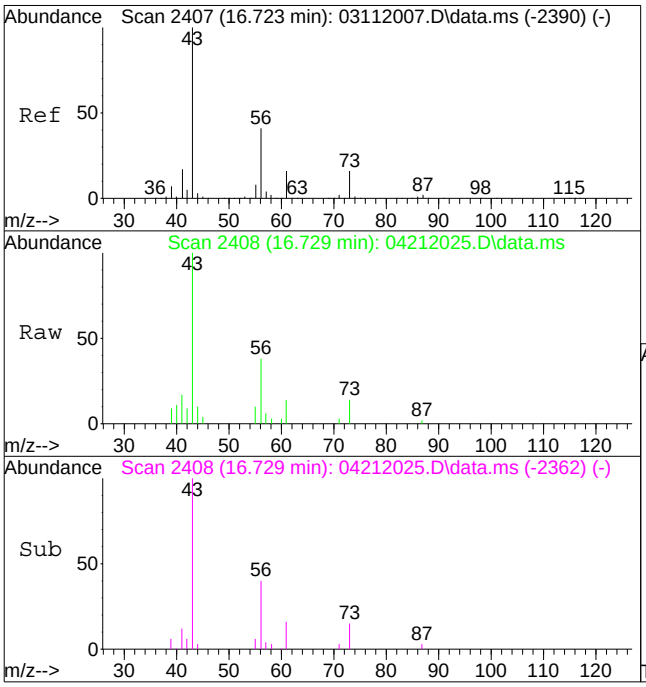


#58
Toluene
Concen: 2.89 ng
RT: 15.84 min Scan# 2247
Delta R.T. -0.011 min
Lab File: 04212025.D
Acq: 21 Apr 2020 22:34

Tgt Ion: 91 Resp: 435721

Ion	Ratio	Lower	Upper
91	100		
92	59.2	39.0	79.0

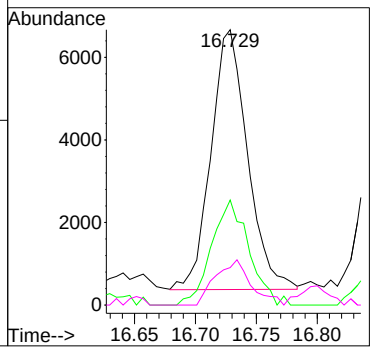


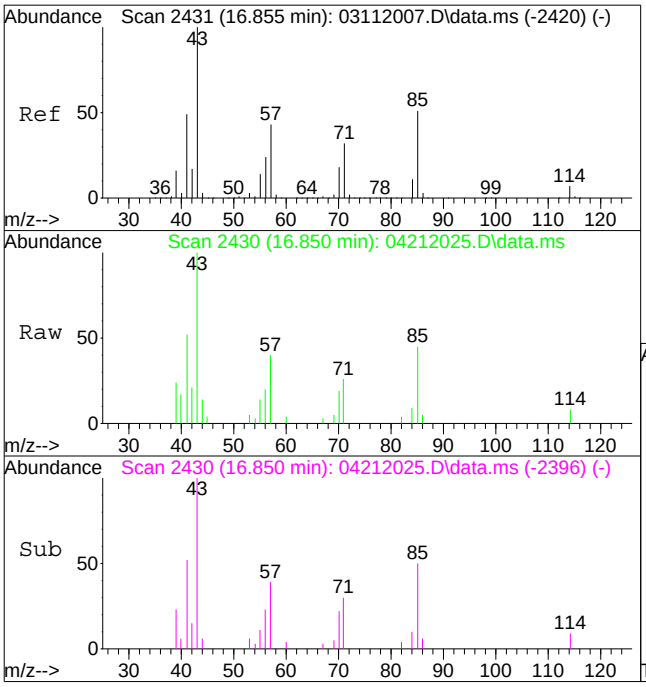


#62
n-Butyl Acetate
Concen: 0.16 ng
RT: 16.73 min Scan# 2408
Delta R.T. 0.000 min
Lab File: 04212025.D
Acq: 21 Apr 2020 22:34

Tgt Ion: 43 Resp: 13151

Ion	Ratio	Lower	Upper
43	100		
56	41.3	20.7	60.7
73	16.8	0.0	35.5

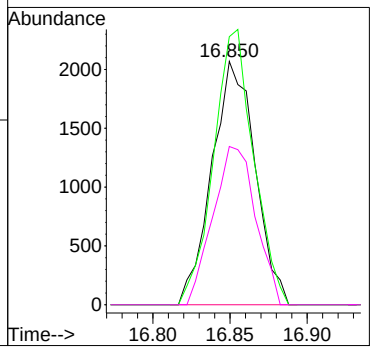


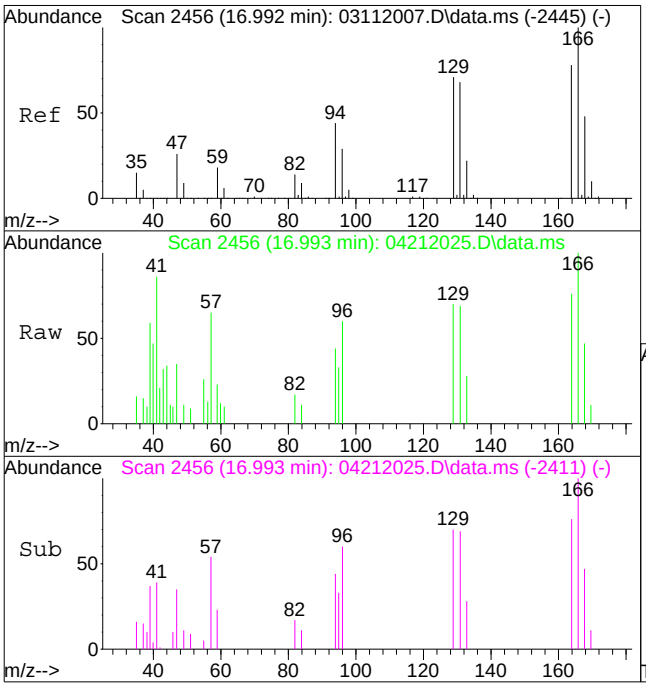


#63
n-Octane
Concen: 0.14 ng
RT: 16.85 min Scan# 2430
Delta R.T. -0.011 min
Lab File: 04212025.D
Acq: 21 Apr 2020 22:34

Tgt Ion: 57 Resp: 4032

Ion	Ratio	Lower	Upper
57	100		
85	105.0	95.1	142.7
71	64.1	58.2	87.4

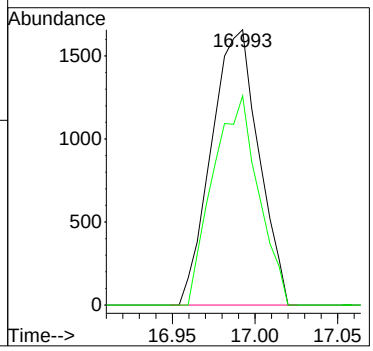


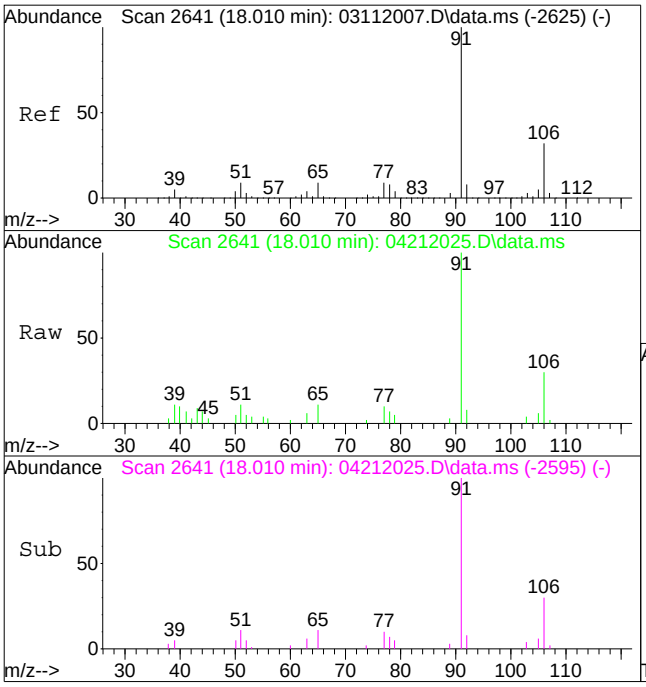


#64
Tetrachloroethene
Concen: 0.08 ng
RT: 16.99 min Scan# 2456
Delta R.T. -0.005 min
Lab File: 04212025.D
Acq: 21 Apr 2020 22:34

Tgt Ion:166 Resp: 3304

Ion	Ratio	Lower	Upper
166	100		
164	72.8	58.6	98.6

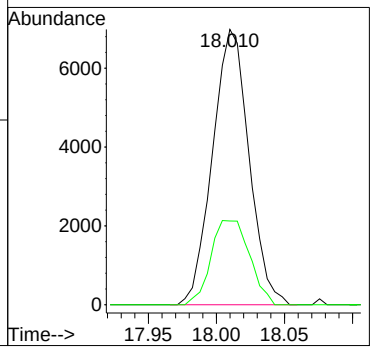


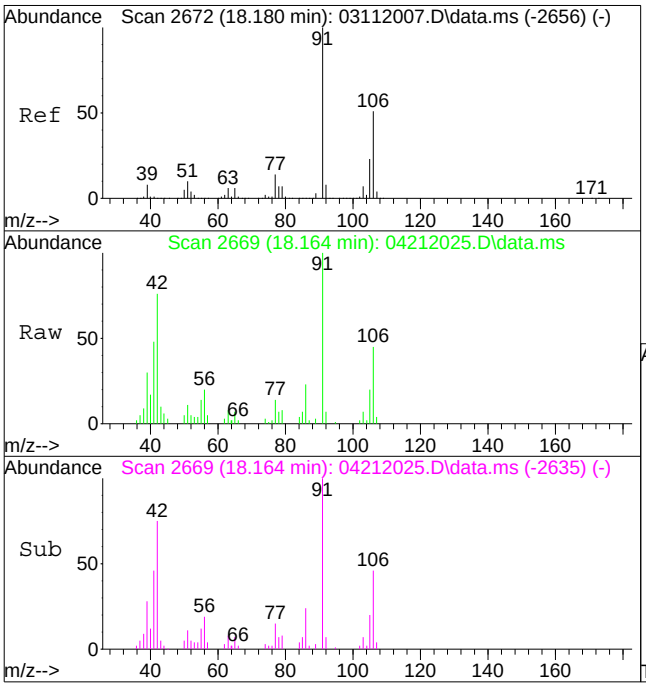


#66
Ethylbenzene
Concen: 0.08 ng
RT: 18.01 min Scan# 2641
Delta R.T. 0.000 min
Lab File: 04212025.D
Acq: 21 Apr 2020 22:34

Tgt Ion: 91 Resp: 13026

Ion	Ratio	Lower	Upper
91	100		
106	32.4	11.7	51.7

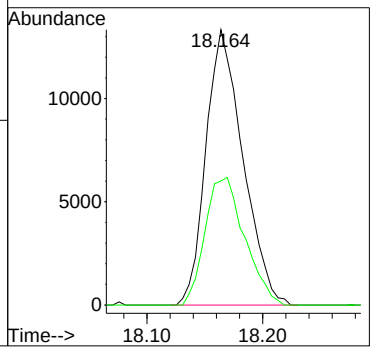


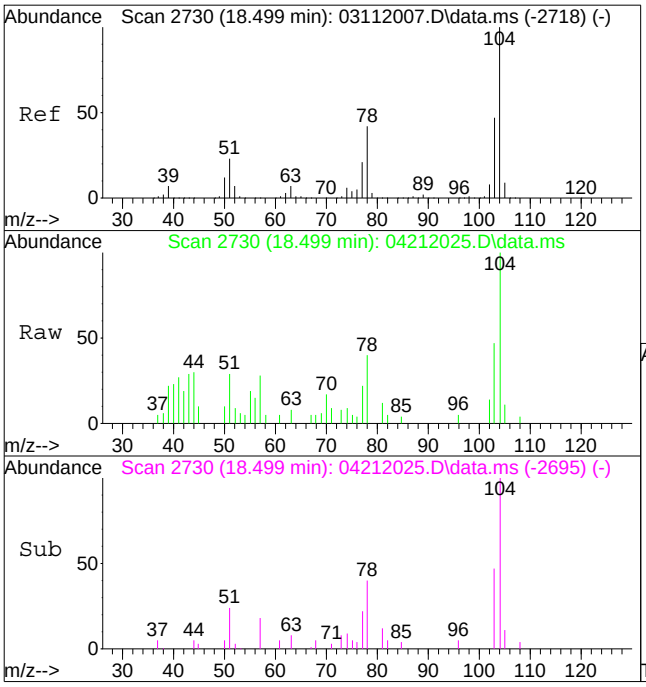


#67
m- & p-Xylenes
Concen: 0.22 ng
RT: 18.16 min Scan# 2669
Delta R.T. -0.011 min
Lab File: 04212025.D
Acq: 21 Apr 2020 22:34

Tgt Ion: 91 Resp: 29698

Ion	Ratio	Lower	Upper
91	100		
106	49.5	30.4	70.4

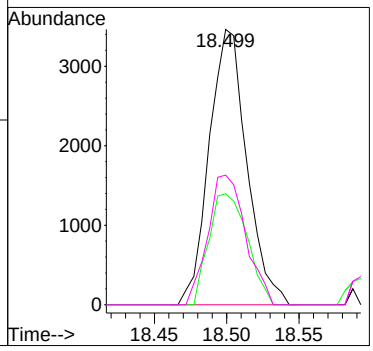


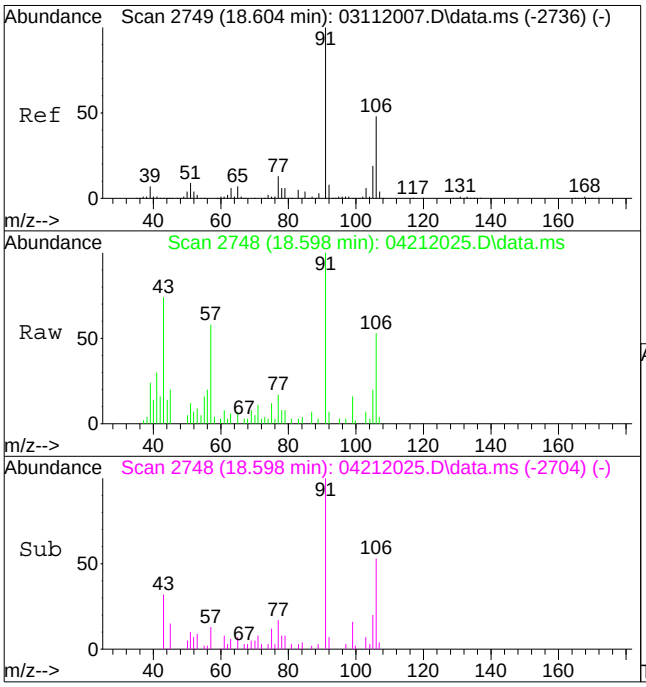


#69
Styrene
Concen: 0.06 ng
RT: 18.50 min Scan# 2730
Delta R.T. -0.006 min
Lab File: 04212025.D
Acq: 21 Apr 2020 22:34

Tgt Ion:104 Resp: 6268

Ion	Ratio	Lower	Upper
104	100		
78	41.3	20.9	60.9
103	47.3	27.4	67.4

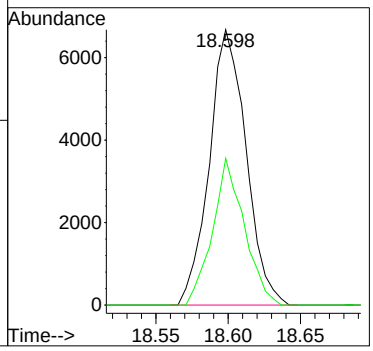


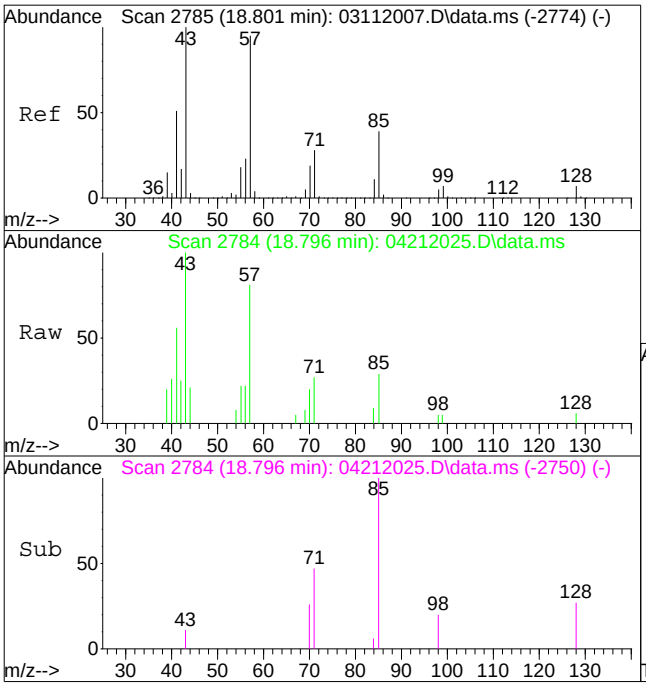


#70
o-Xylene
Concen: 0.09 ng
RT: 18.60 min Scan# 2748
Delta R.T. -0.011 min
Lab File: 04212025.D
Acq: 21 Apr 2020 22:34

Tgt Ion: 91 Resp: 11826

Ion	Ratio	Lower	Upper
91	100		
106	46.0	28.1	68.1

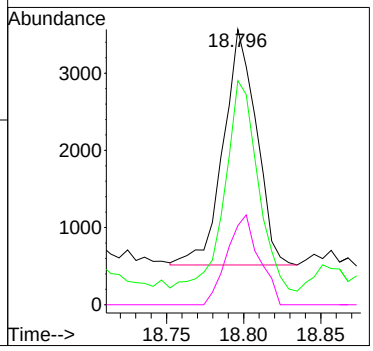


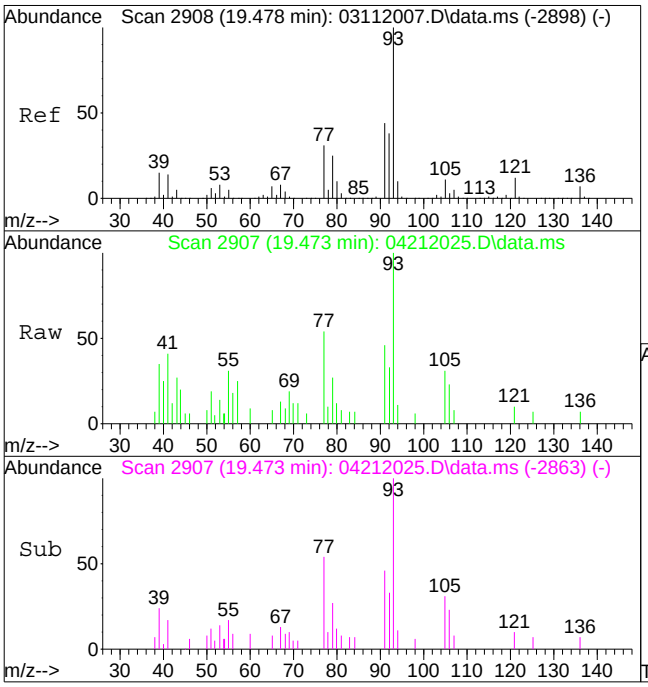


#71
n-Nonane
Concen: 0.07 ng
RT: 18.80 min Scan# 2784
Delta R.T. -0.011 min
Lab File: 04212025.D
Acq: 21 Apr 2020 22:34

Tgt Ion: 43 Resp: 4549

Ion	Ratio	Lower	Upper
43	100		
57	90.7	73.6	113.6
85	36.7	18.7	58.7

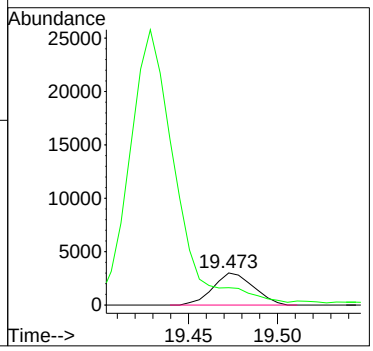


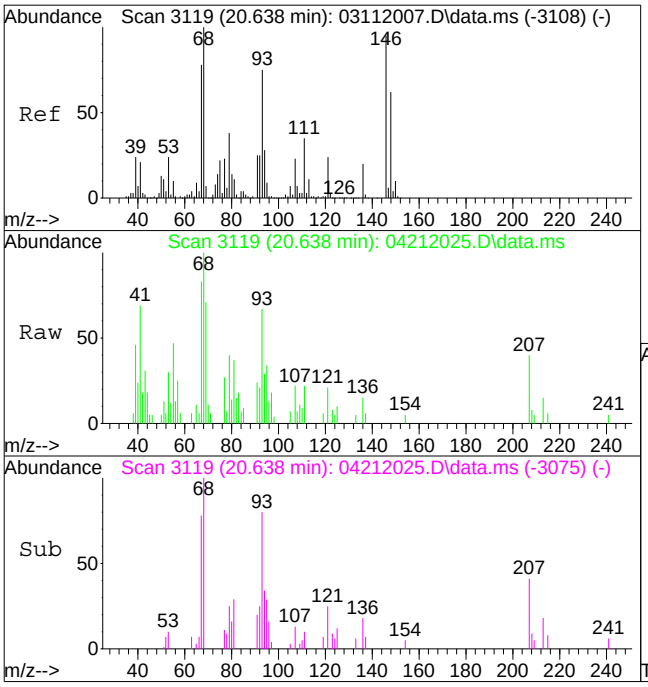


#75
alpha-Pinene
Concen: 0.06 ng
RT: 19.47 min Scan# 2907
Delta R.T. -0.011 min
Lab File: 04212025.D
Acq: 21 Apr 2020 22:34

Tgt Ion: 93 Resp: 4750

Ion	Ratio	Lower	Upper
93	100		
77	978.0	11.1	51.1#

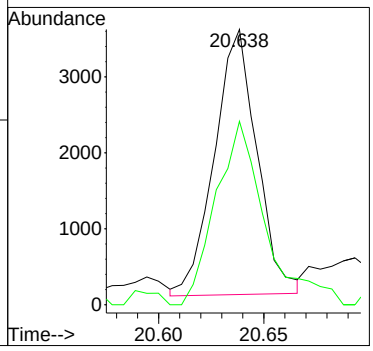




#91
d-Limonene
Concen: 0.09 ng
RT: 20.64 min Scan# 3119
Delta R.T. -0.011 min
Lab File: 04212025.D
Acq: 21 Apr 2020 22:34

Tgt Ion: 68 Resp: 4924

Ion	Ratio	Lower	Upper
68	100		
93	79.9	54.7	94.7



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212026.D Vial: 16
Acq On : 21 Apr 2020 23:08 Operator: WA
Sample : P2002032-007 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 12:51:51 2020
Quant Method : I:\MS16\METHODS\R16031120.M LH 4/24/20
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	305652	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1348375	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	666074	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.01	65	530790	12.541	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.32%				
57) Toluene-d8 (SS2)	15.74	98	1397842	11.840	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.72%				
73) Bromofluorobenzene (SS3)	19.00	174	478039	11.466	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.76%				
Target Compounds							Qvalue
2) Propene	4.14	42	2544	0.079	ng	#	81
3) Dichlorodifluoromethan...	4.28	85	43465	0.630	ng		99
4) Chloromethane	4.56	50	1880	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	1021	N.D.			
6) Vinyl Chloride	4.97	62	100	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.34	45	19663	0.776	ng		89
11) Acetonitrile	6.62	41	5167	0.093	ng		90
12) Acrolein	6.82	56	3232	0.173	ng		99
13) Acetone	7.02	58	38226	1.529	ng		96
14) Trichlorofluoromethane	7.26	101	23010	0.378	ng		99
15) 2-Propanol (Isopropanol)	7.56	45	3404	N.D.			
16) Acrylonitrile	7.81	53	593	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.49	59	210	N.D.			
19) Methylene Chloride	8.44	84	779	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	8.87	151	3073	0.106	ng		89
22) Carbon Disulfide	8.71	76	27967	0.239	ng		99
23) trans-1,2-Dichloroethene	9.71	61	240	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.50	72	4580	0.220	ng	#	90
28) cis-1,2-Dichloroethene	10.98	61	425	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.31	61	1436	0.117	ng		95
31) n-Hexane	11.28	57	711	N.D.			
32) Chloroform	11.32	83	19882	0.328	ng		98
34) Tetrahydrofuran (THF)	11.80	72	565	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.14	62	355	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	12.88	61	621	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.90	78	102573	0.736	ng		100
42) Carbon Tetrachloride	13.06	117	2787	0.058	ng		96
43) Cyclohexane	13.29	84	1117	N.D.			
44) tert-Amyl Methyl Ether	13.57	73	791	N.D.			
45) 1,2-Dichloropropane	13.56	63	600	N.D.			
46) Bromodichloromethane	13.94	83	1830	N.D.			
47) Trichloroethene	14.00	130	3080	0.078	ng		99
48) 1,4-Dioxane	14.00	88	2525	0.094	ng		99
49) 2,2,4-Trimethylpentane...	14.07	57	1089	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212026.D Vial: 16
Acq On : 21 Apr 2020 23:08 Operator: WA
Sample : P2002032-007 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 12:51:51 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

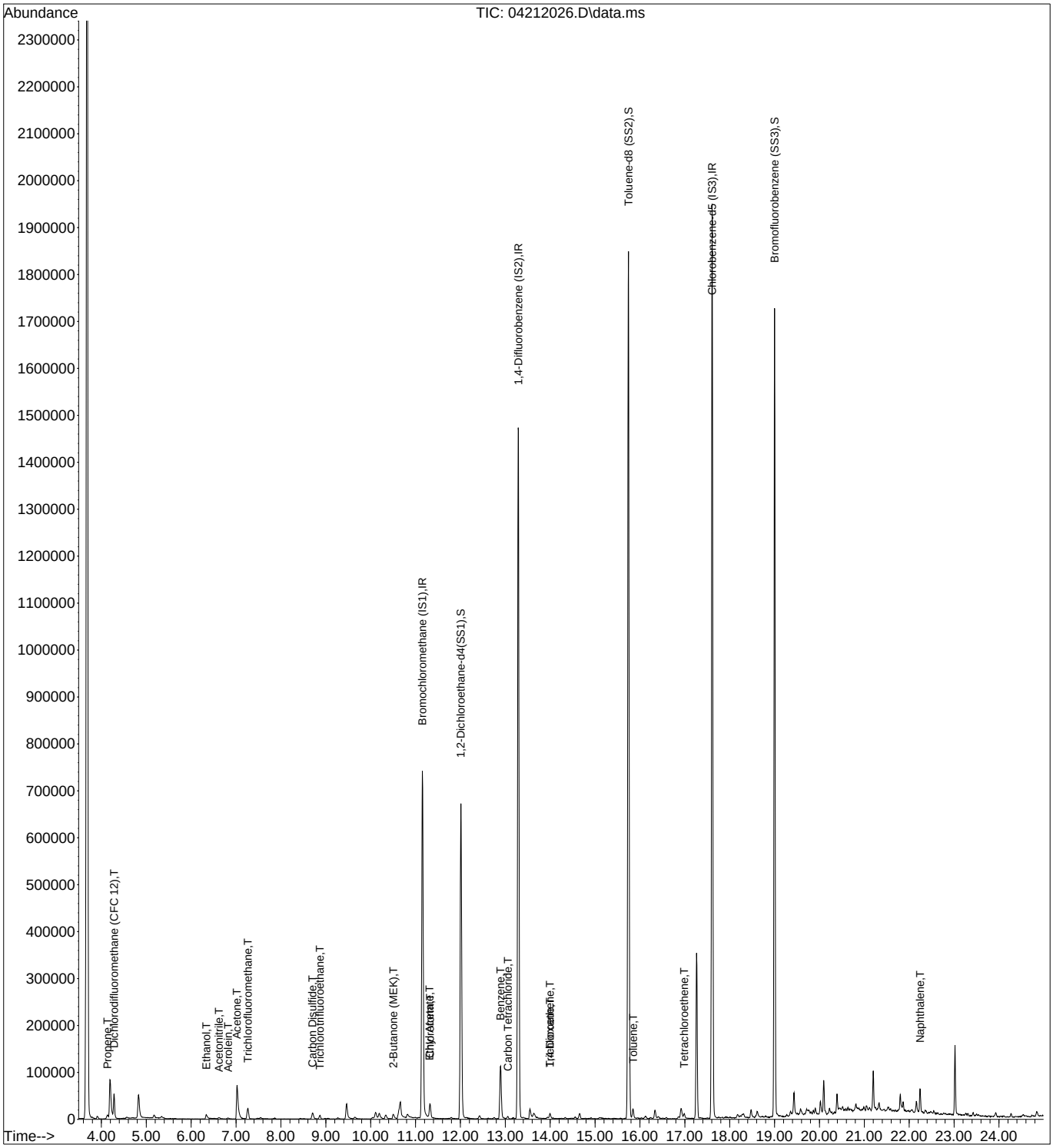
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.33	71	344	N.D.	
52) cis-1,3-Dichloropropene	14.86	75	444	N.D.	
53) 4-Methyl-2-pentanone	14.92	58	347	N.D.	
54) trans-1,3-Dichloropropene	15.40	75	408	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.85	91	16471	0.113 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	16.52	107	277	N.D.	
62) n-Butyl Acetate	16.73	43	539	N.D.	
63) n-Octane	16.86	57	758	N.D.	
64) Tetrachloroethene	16.99	166	2455	0.060 ng	96
65) Chlorobenzene	17.65	112	1337	N.D.	
66) Ethylbenzene	18.02	91	1652	N.D.	
67) m- & p-Xylenes	18.17	91	4027	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.51	104	650	N.D.	
70) o-Xylene	18.61	91	1685	N.D.	
71) n-Nonane	18.80	43	1228	N.D.	
72) 1,1,2,2-Tetrachloroethane	18.58	83	493	N.D.	
74) Cumene	19.13	105	718	N.D.	
75) alpha-Pinene	19.48	93	1706	N.D.	
76) n-Propylbenzene	19.58	91	2403	N.D.	
77) 3-Ethyltoluene	19.66	105	1357	N.D.	
78) 4-Ethyltoluene	19.71	105	816	N.D.	
79) 1,3,5-Trimethylbenzene	19.77	105	896	N.D.	
80) alpha-Methylstyrene	19.91	118	3788	N.D.	
81) 2-Ethyltoluene	19.95	105	1287	N.D.	
82) 1,2,4-Trimethylbenzene	20.14	105	2585	N.D.	
83) n-Decane	20.22	57	3018	N.D.	
84) Benzyl Chloride	20.25	91	836	N.D.	
85) 1,3-Dichlorobenzene	20.28	146	583	N.D.	
86) 1,4-Dichlorobenzene	20.33	146	880	N.D.	
87) sec-Butylbenzene	20.38	105	1216	N.D.	
88) 4-Isopropyltoluene (p-...	20.51	119	2654	N.D.	
89) 1,2,3-Trimethylbenzene	20.51	105	2634	N.D.	
90) 1,2-Dichlorobenzene	20.63	146	511	N.D.	
91) d-Limonene	20.64	68	1977	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.33	57	2985	N.D.	
94) 1,2,4-Trichlorobenzene	22.14	180	618	N.D.	
95) Naphthalene	22.24	128	34159	0.212 ng	100
96) n-Dodecane	22.24	57	3048	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.14	119	566	N.D.	
100) n-Butylbenzene	20.86	91	1128	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212026.D Vial: 16
Acq On : 21 Apr 2020 23:08 Operator: WA
Sample : P2002032-007 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 12:51:51 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212026.D Vial: 16
Acq On : 21 Apr 2020 23:08 Operator: WA
Sample : P2002032-007 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 12:51:51 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/24/20

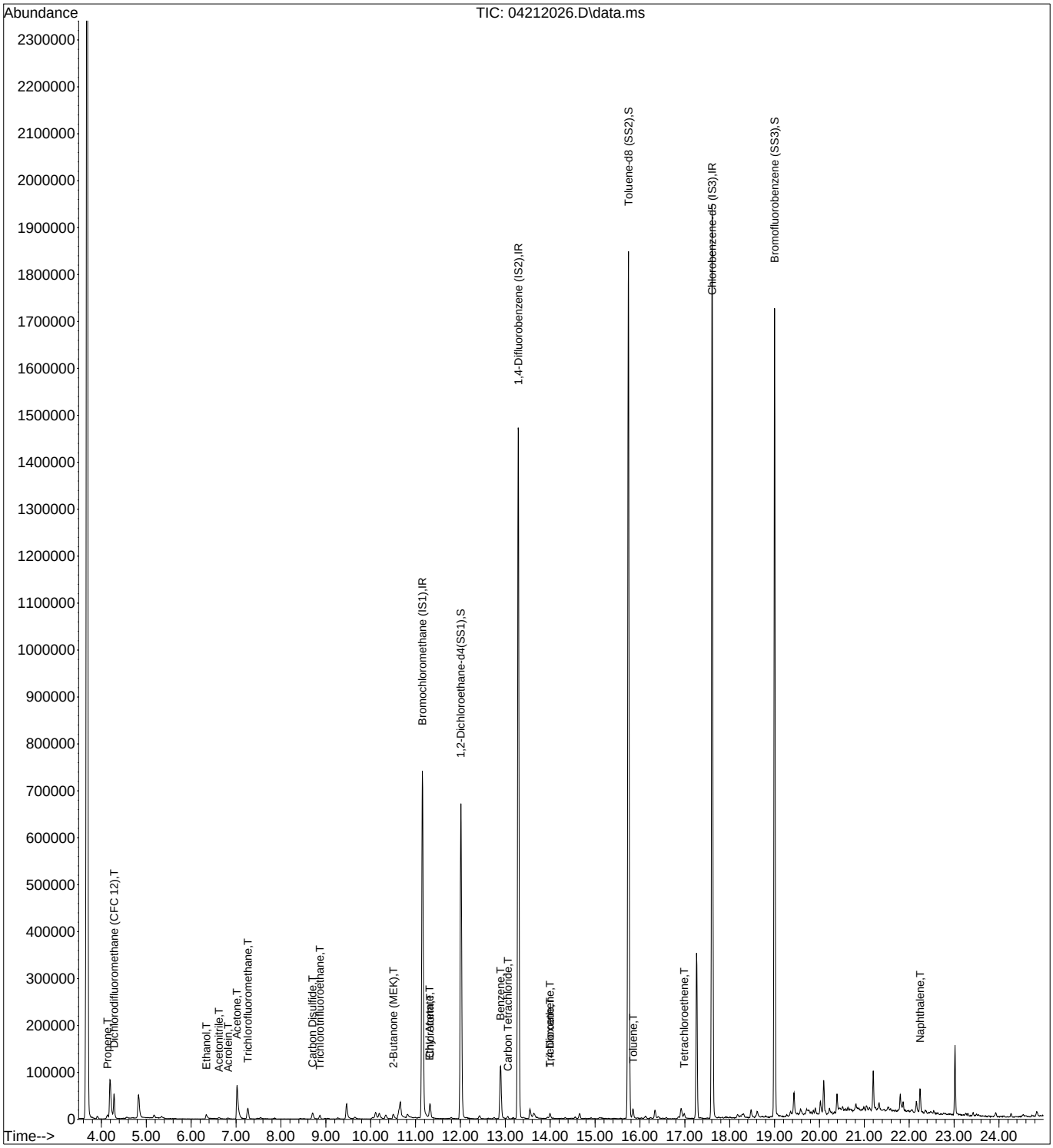
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	305652	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1348375	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	666074	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.01	65	530790	12.541	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.32%			
57) Toluene-d8 (SS2)	15.74	98	1397842	11.840	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.72%			
73) Bromofluorobenzene (SS3)	19.00	174	478039	11.466	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.76%			
Target Compounds						Qvalue
2) Propene	4.14	42	2544	0.079	ng	# 81
3) Dichlorodifluoromethan...	4.28	85	43465	0.630	ng	99
10) Ethanol	6.34	45	19663	0.776	ng	89
11) Acetonitrile	6.62	41	5167	0.093	ng	90
12) Acrolein	6.82	56	3232	0.173	ng	99
13) Acetone	7.02	58	38226	1.529	ng	96
14) Trichlorofluoromethane	7.26	101	23010	0.378	ng	99
21) Trichlorotrifluoroethane	8.87	151	3073	0.106	ng	89
22) Carbon Disulfide	8.71	76	27967	0.239	ng	99
27) 2-Butanone (MEK)	10.50	72	4580	0.220	ng	# 90
30) Ethyl Acetate	11.31	61	1436	0.117	ng	95
32) Chloroform	11.32	83	19882	0.328	ng	98
41) Benzene	12.90	78	102573	0.736	ng	100
42) Carbon Tetrachloride	13.06	117	2787	0.058	ng	96
47) Trichloroethene	14.00	130	3080	0.078	ng	99
48) 1,4-Dioxane	14.00	88	2525	0.094	ng	99
58) Toluene	15.85	91	16471	0.113	ng	100
64) Tetrachloroethene	16.99	166	2455	0.060	ng	96
95) Naphthalene	22.24	128	34159	0.212	ng	100

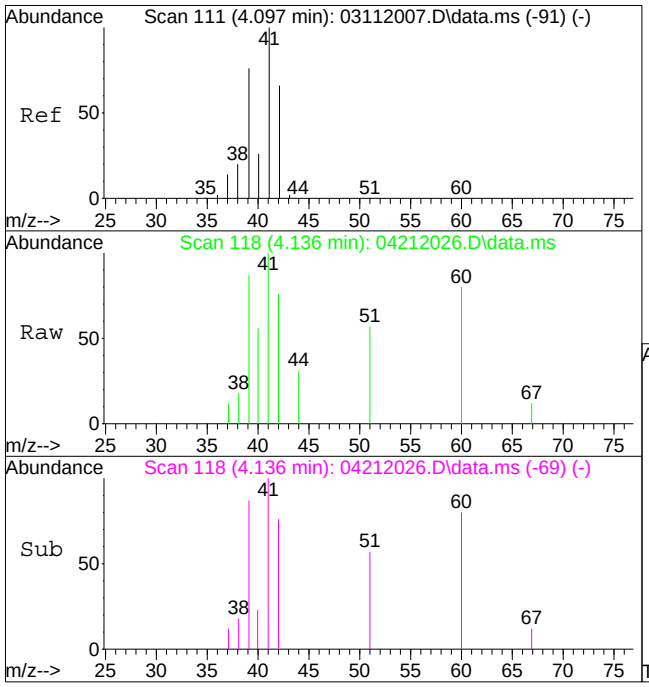
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212026.D Vial: 16
Acq On : 21 Apr 2020 23:08 Operator: WA
Sample : P2002032-007 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 12:51:51 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

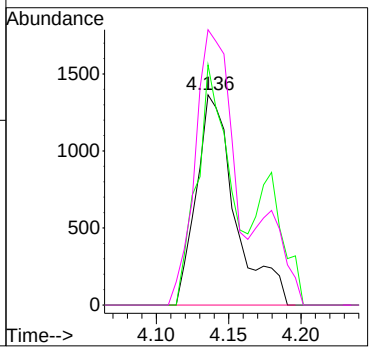


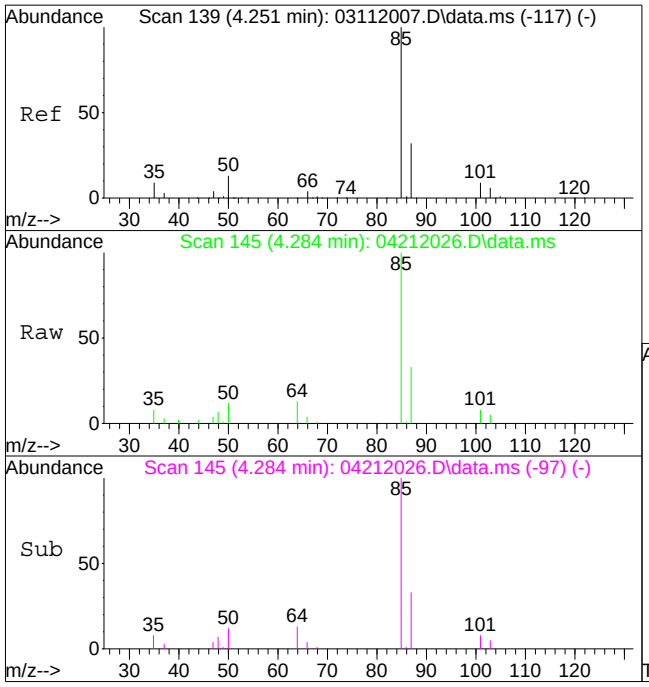


#2
Propene
Concen: 0.08 ng
RT: 4.14 min Scan# 118
Delta R.T. 0.022 min
Lab File: 04212026.D
Acq: 21 Apr 2020 23:08

Tgt Ion: 42 Resp: 2544

Ion	Ratio	Lower	Upper
42	100		
39	97.4	95.3	135.3
41	125.9	132.0	172.0#

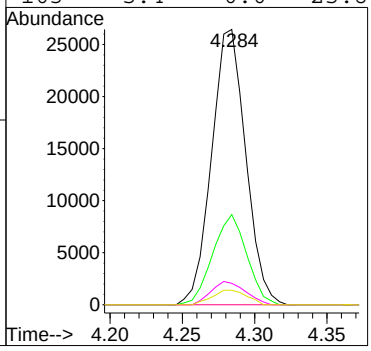


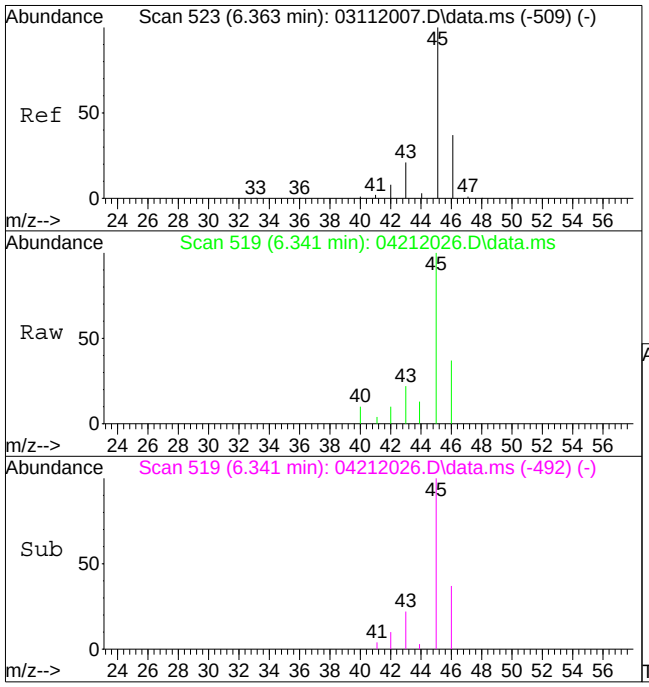


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.63 ng
RT: 4.28 min Scan# 145
Delta R.T. 0.016 min
Lab File: 04212026.D
Acq: 21 Apr 2020 23:08

Tgt Ion: 85 Resp: 43465

Ion	Ratio	Lower	Upper
85	100		
87	32.6	12.3	52.3
101	8.5	0.0	29.0
103	5.4	0.0	25.8

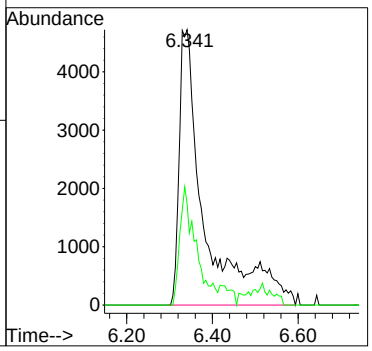


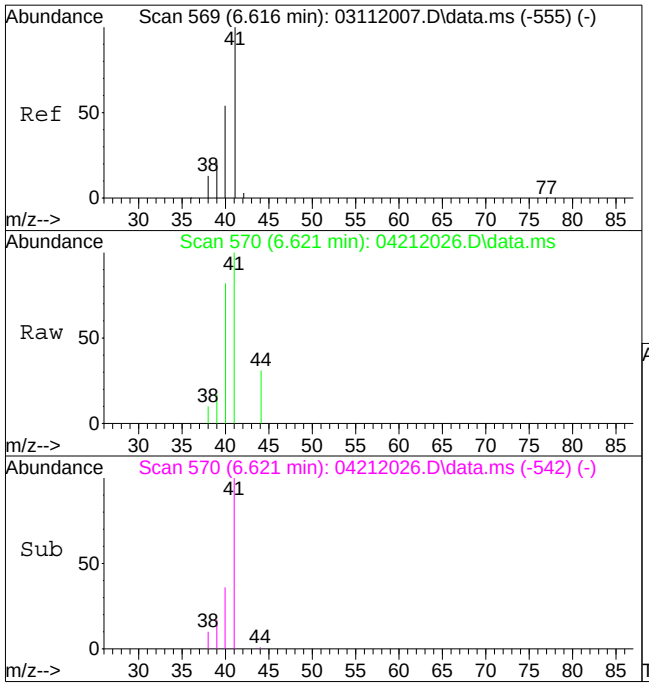


#10
Ethanol
Concen: 0.78 ng
RT: 6.34 min Scan# 519
Delta R.T. -0.099 min
Lab File: 04212026.D
Acq: 21 Apr 2020 23:08

Tgt Ion: 45 Resp: 19663

Ion	Ratio	Lower	Upper
45	100		
46	30.5	17.3	57.3

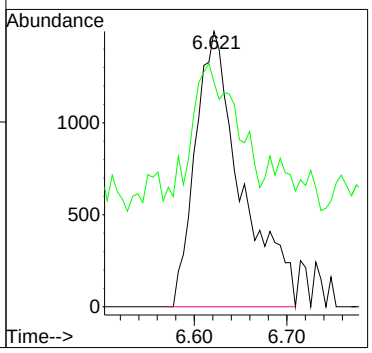


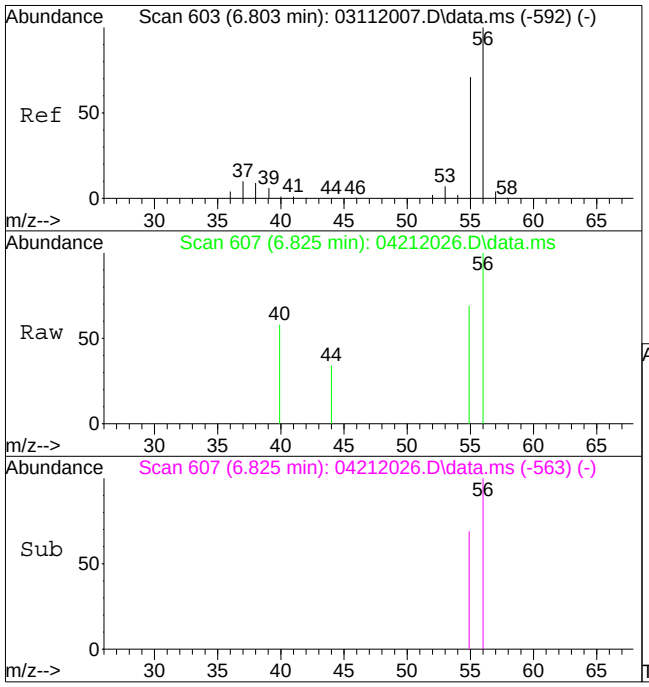


#11
Acetonitrile
Concen: 0.09 ng
RT: 6.62 min Scan# 570
Delta R.T. -0.044 min
Lab File: 04212026.D
Acq: 21 Apr 2020 23:08

Tgt Ion: 41 Resp: 5167

Ion	Ratio	Lower	Upper
41	100		
40	60.9	33.6	73.6

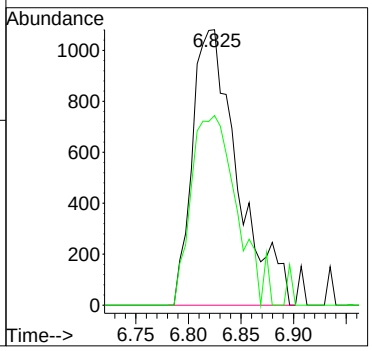


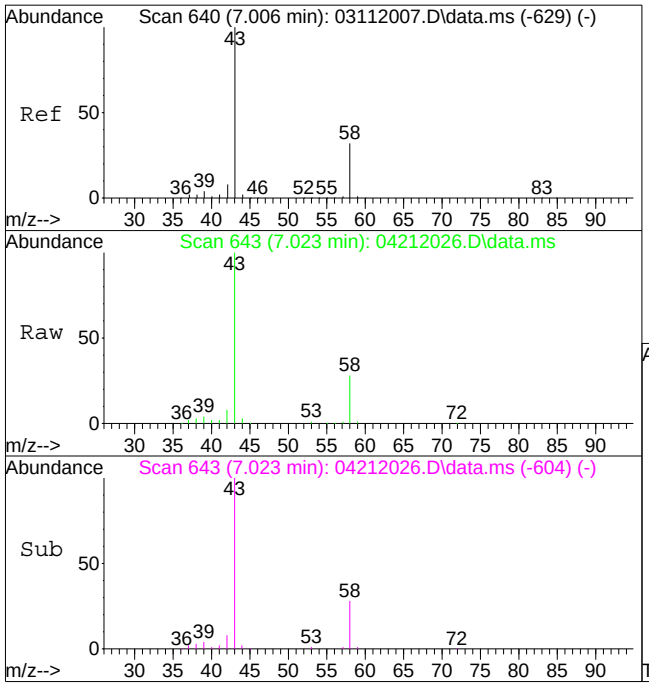


#12
Acrolein
Concen: 0.17 ng
RT: 6.82 min Scan# 607
Delta R.T. -0.005 min
Lab File: 04212026.D
Acq: 21 Apr 2020 23:08

Tgt Ion: 56 Resp: 3232

Ion	Ratio	Lower	Upper
56	100		
55	69.2	50.4	90.4

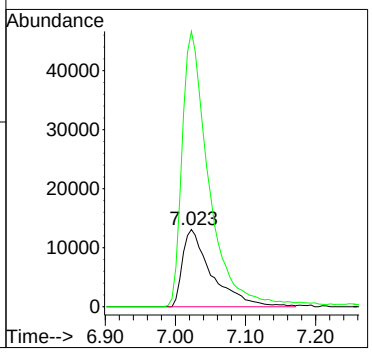


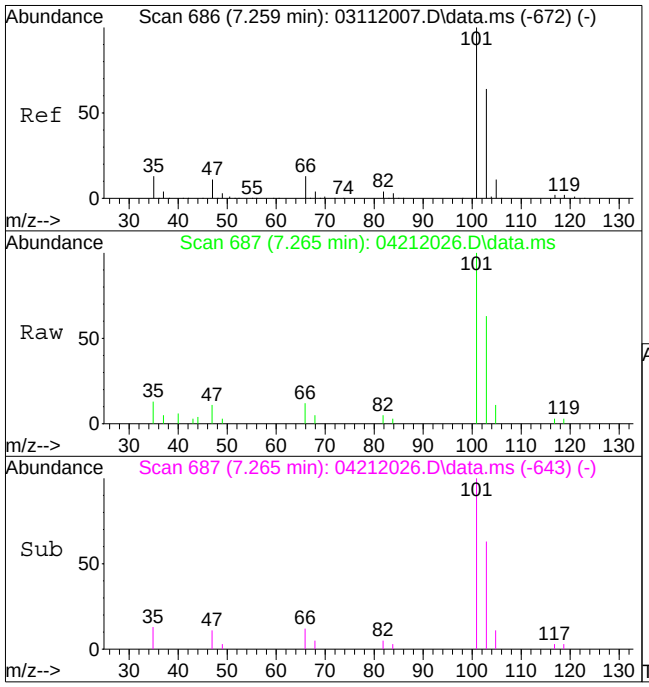


#13
Acetone
Concen: 1.53 ng
RT: 7.02 min Scan# 643
Delta R.T. -0.033 min
Lab File: 04212026.D
Acq: 21 Apr 2020 23:08

Tgt Ion: 58 Resp: 38226

Ion	Ratio	Lower	Upper
58	100		
43	326.3	287.3	347.3

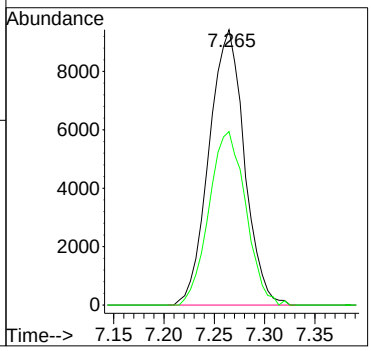


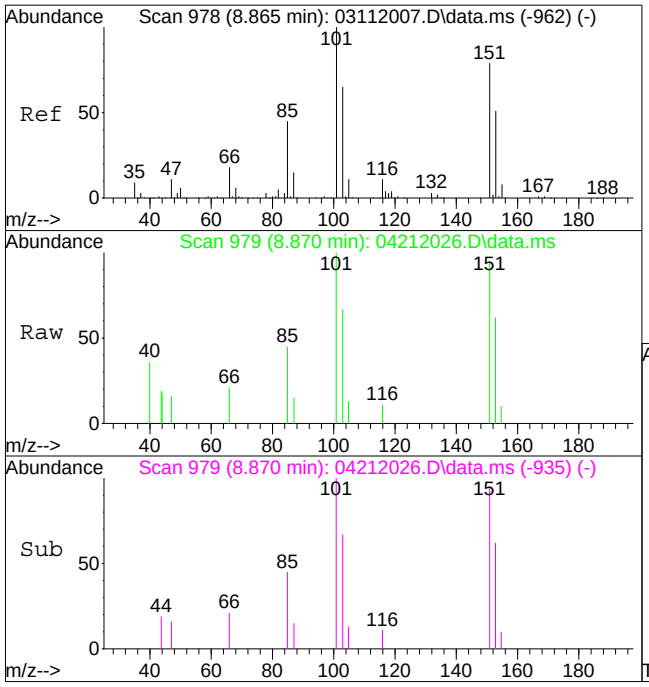


#14
Trichlorofluoromethane
Concen: 0.38 ng
RT: 7.26 min Scan# 687
Delta R.T. -0.010 min
Lab File: 04212026.D
Acq: 21 Apr 2020 23:08

Tgt Ion:101 Resp: 23010

Ion	Ratio	Lower	Upper
101	100		
103	65.6	44.6	84.6

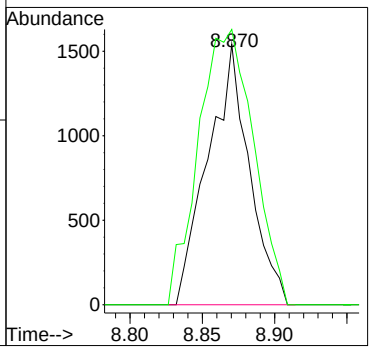


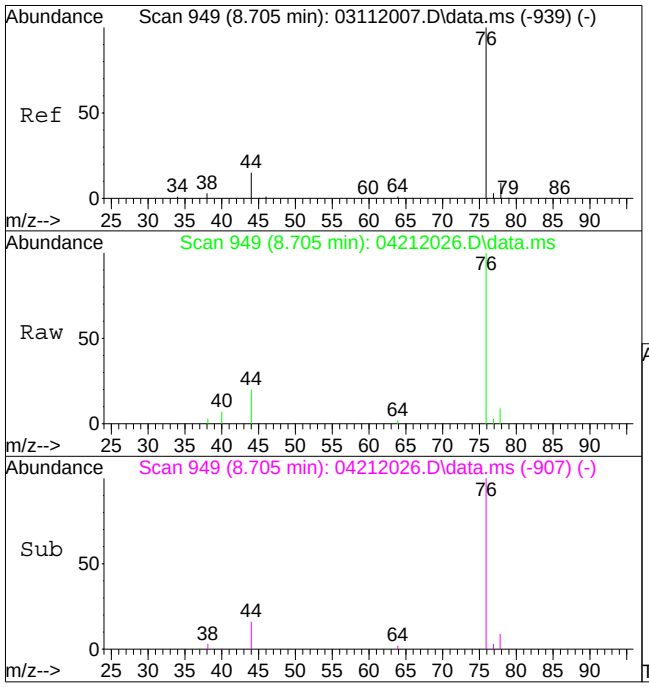


#21
Trichlorotrifluoroethane
Concen: 0.11 ng
RT: 8.87 min Scan# 979
Delta R.T. -0.006 min
Lab File: 04212026.D
Acq: 21 Apr 2020 23:08

Tgt Ion:151 Resp: 3073

Ion	Ratio	Lower	Upper
151	100		
101	140.6	108.4	148.4

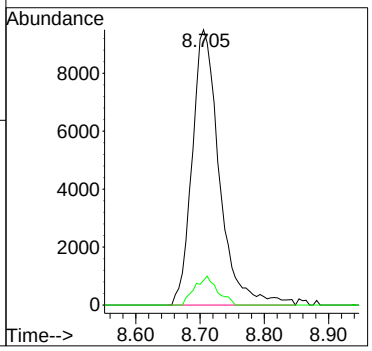


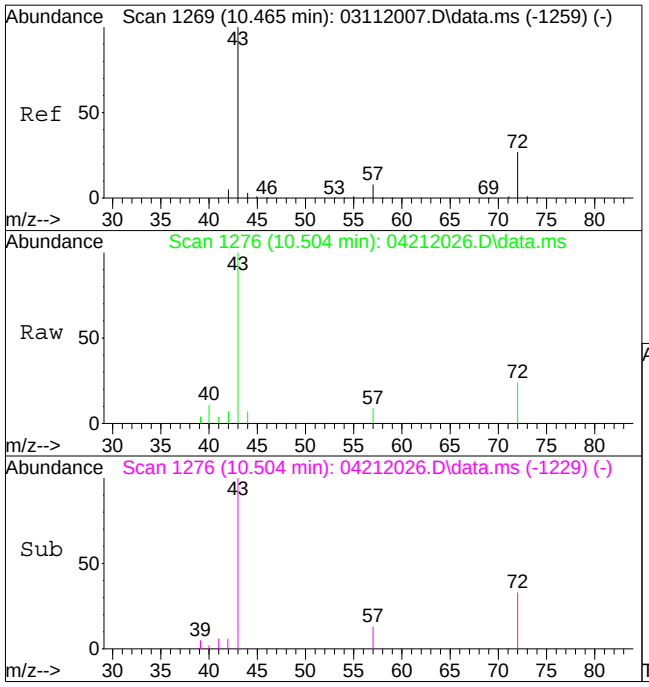


#22
Carbon Disulfide
Concen: 0.24 ng
RT: 8.71 min Scan# 949
Delta R.T. -0.016 min
Lab File: 04212026.D
Acq: 21 Apr 2020 23:08

Tgt Ion: 76 Resp: 27967

Ion	Ratio	Lower	Upper
76	100		
78	8.8	0.0	29.2

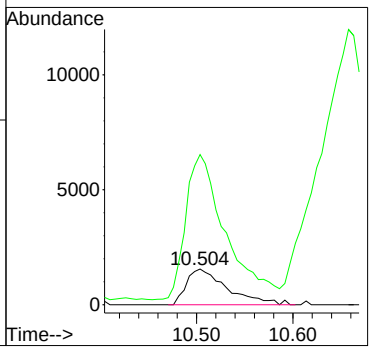


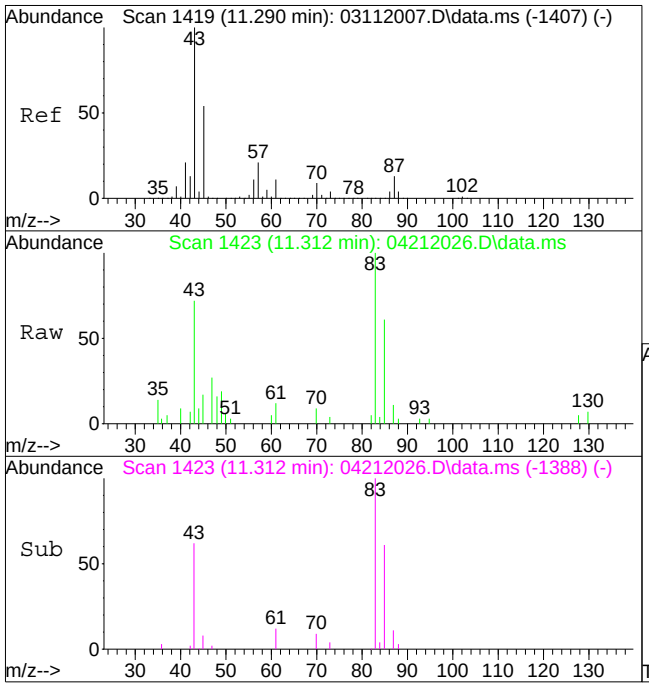


#27
2-Butanone (MEK)
Concen: 0.22 ng
RT: 10.50 min Scan# 1276
Delta R.T. 0.011 min
Lab File: 04212026.D
Acq: 21 Apr 2020 23:08

Tgt Ion: 72 Resp: 4580

Ion	Ratio	Lower	Upper
72	100		
43	396.5	353.4	393.4#

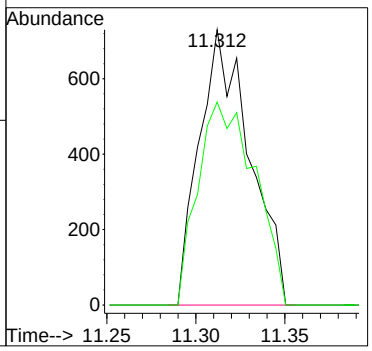


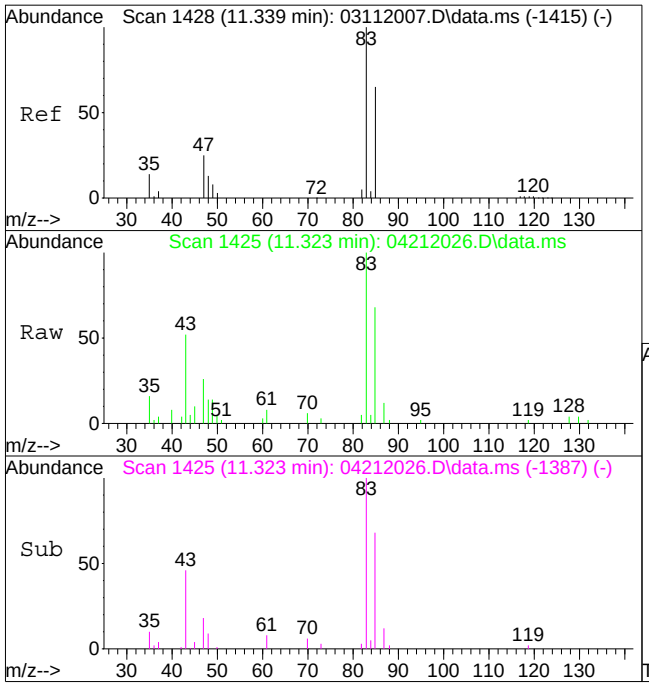


#30
Ethyl Acetate
Concen: 0.12 ng
RT: 11.31 min Scan# 1423
Delta R.T. -0.005 min
Lab File: 04212026.D
Acq: 21 Apr 2020 23:08

Tgt Ion: 61 Resp: 1436

Ion	Ratio	Lower	Upper
61	100		
70	83.5	59.1	99.1

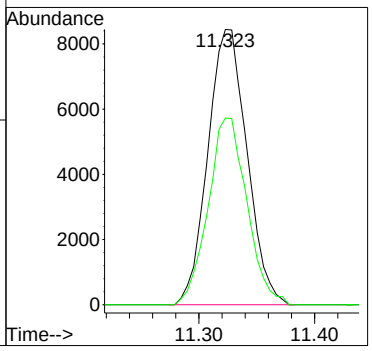


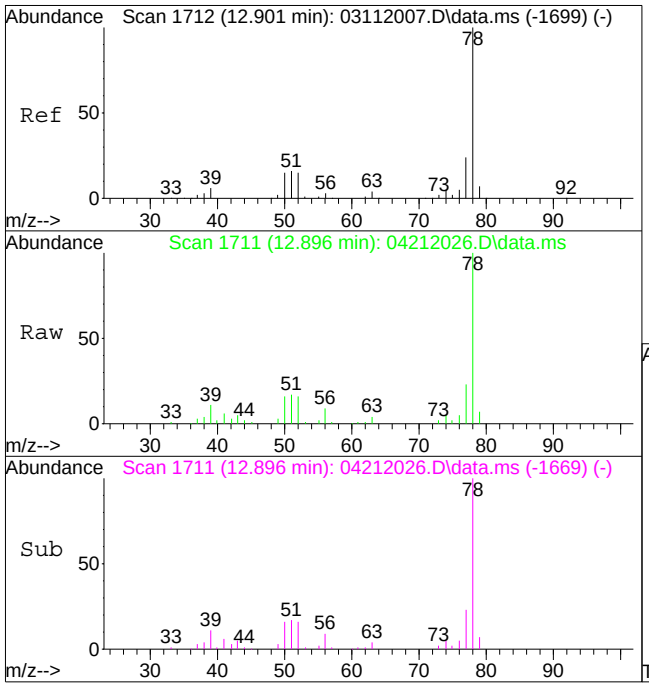


#32
Chloroform
Concen: 0.33 ng
RT: 11.32 min Scan# 1425
Delta R.T. -0.038 min
Lab File: 04212026.D
Acq: 21 Apr 2020 23:08

Tgt Ion: 83 Resp: 19882

Ion	Ratio	Lower	Upper
83	100		
85	67.1	45.5	85.5

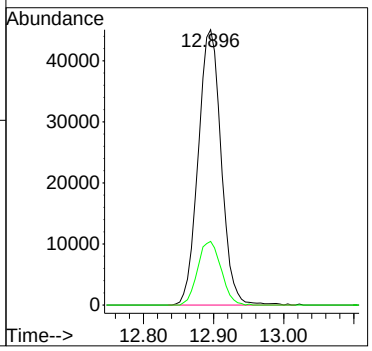


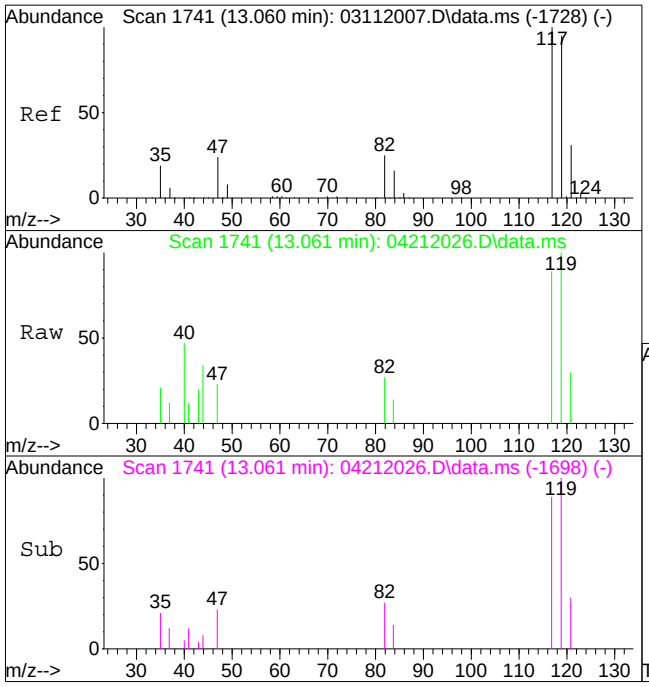


#41
Benzene
Concen: 0.74 ng
RT: 12.90 min Scan# 1711
Delta R.T. -0.016 min
Lab File: 04212026.D
Acq: 21 Apr 2020 23:08

Tgt Ion: 78 Resp: 102573

Ion	Ratio	Lower	Upper
78	100		
77	23.6	3.4	43.4

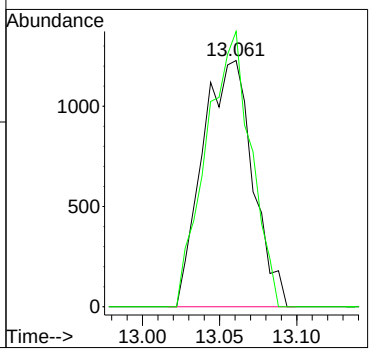


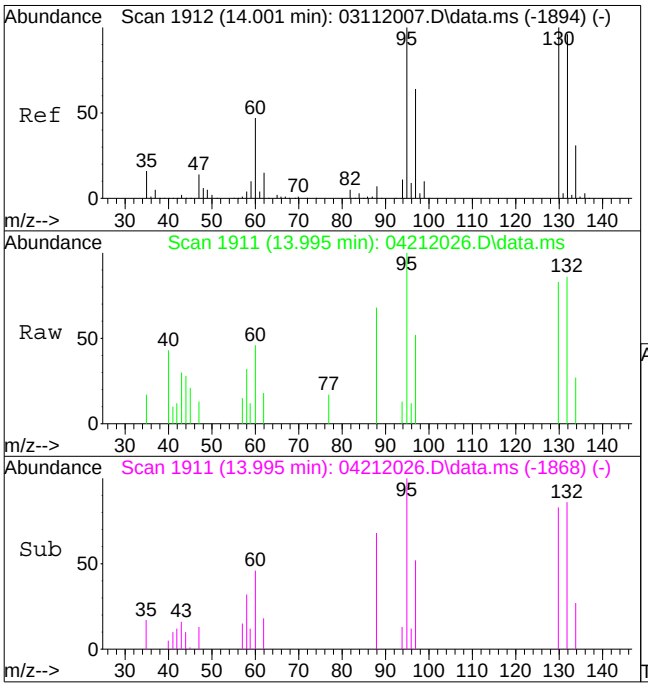


#42
Carbon Tetrachloride
Concen: 0.06 ng
RT: 13.06 min Scan# 1741
Delta R.T. -0.011 min
Lab File: 04212026.D
Acq: 21 Apr 2020 23:08

Tgt Ion:117 Resp: 2787

Ion	Ratio	Lower	Upper
117	100		
119	99.5	75.4	115.4

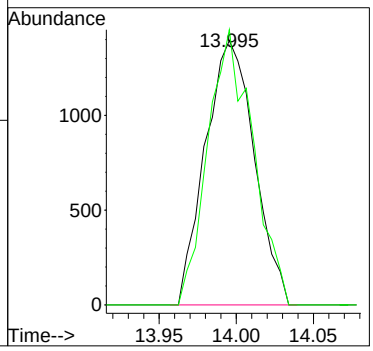


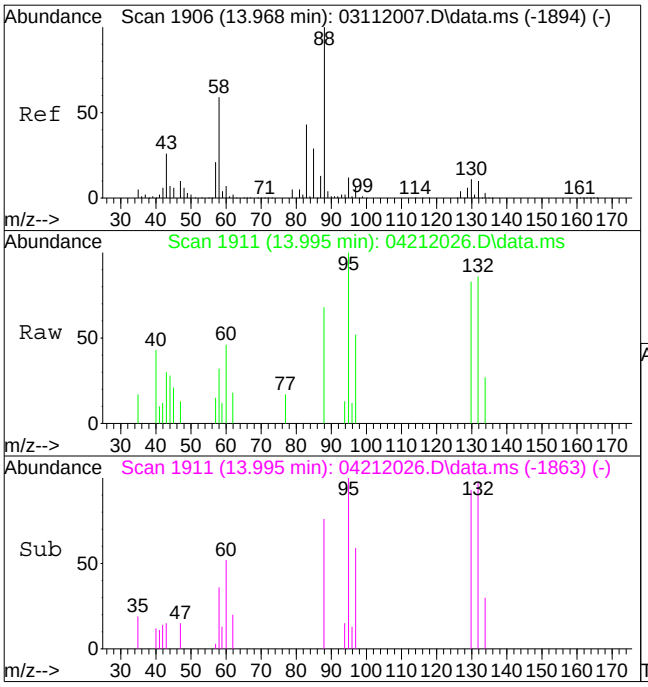


#47
Trichloroethene
Concen: 0.08 ng
RT: 14.00 min Scan# 1911
Delta R.T. -0.011 min
Lab File: 04212026.D
Acq: 21 Apr 2020 23:08

Tgt Ion:130 Resp: 3080

Ion	Ratio	Lower	Upper
130	100		
132	95.6	74.7	114.7

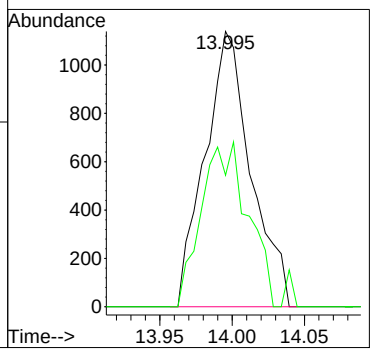


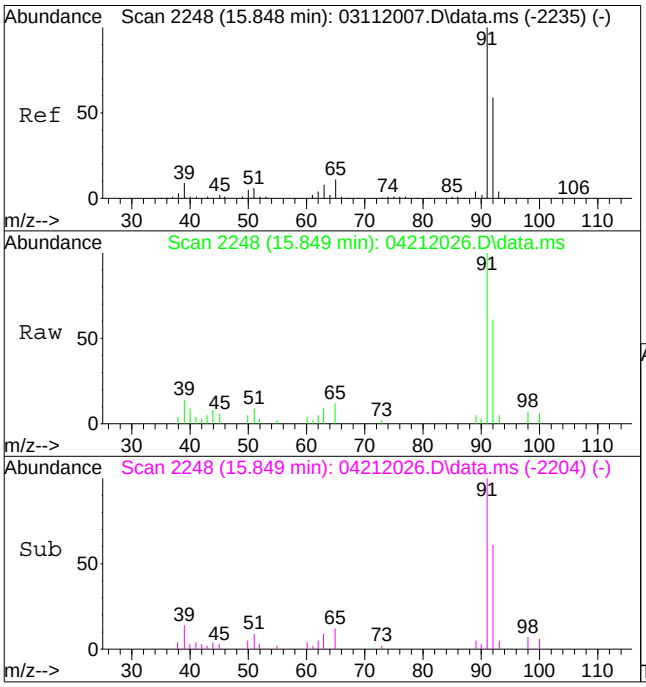


#48
1,4-Dioxane
Concen: 0.09 ng
RT: 14.00 min Scan# 1911
Delta R.T. 0.017 min
Lab File: 04212026.D
Acq: 21 Apr 2020 23:08

Tgt Ion: 88 Resp: 2525

Ion	Ratio	Lower	Upper
88	100		
58	60.2	39.5	79.5

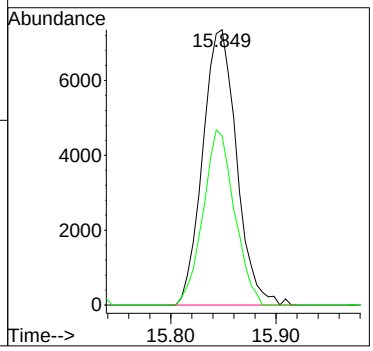


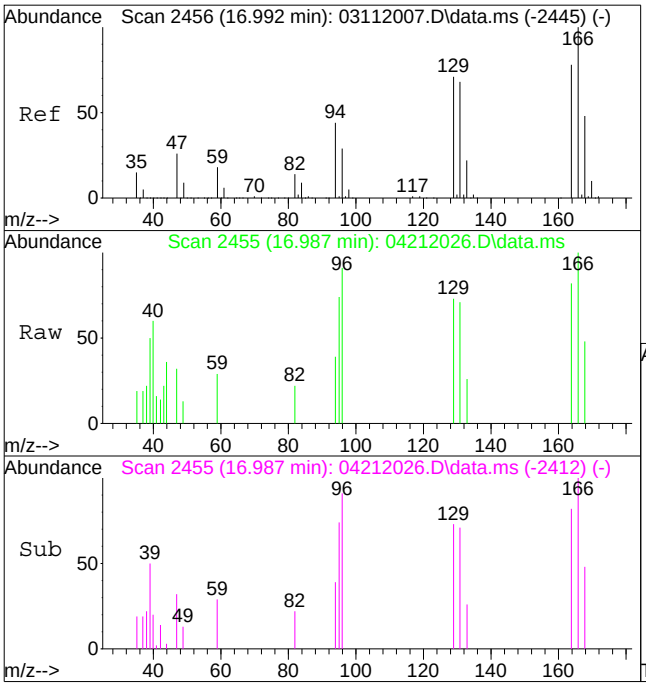


#58
Toluene
Concen: 0.11 ng
RT: 15.85 min Scan# 2248
Delta R.T. -0.005 min
Lab File: 04212026.D
Acq: 21 Apr 2020 23:08

Tgt Ion: 91 Resp: 16471

Ion	Ratio	Lower	Upper
91	100		
92	58.8	39.0	79.0

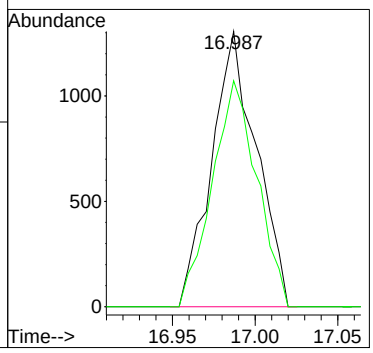


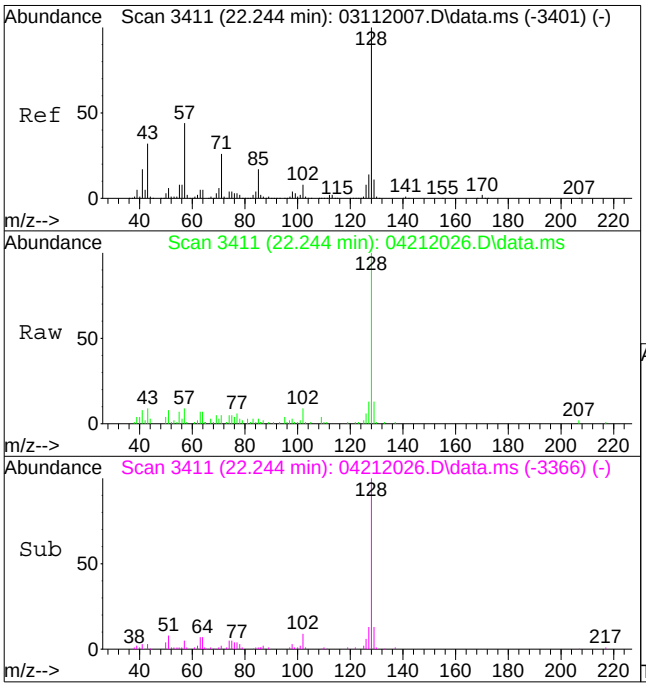


#64
Tetrachloroethene
Concen: 0.06 ng
RT: 16.99 min Scan# 2455
Delta R.T. -0.011 min
Lab File: 04212026.D
Acq: 21 Apr 2020 23:08

Tgt Ion:166 Resp: 2455

Ion	Ratio	Lower	Upper
166	100		
164	81.9	58.6	98.6

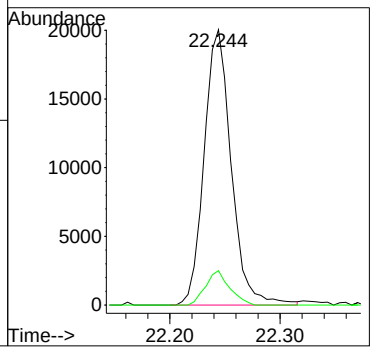




#95
Naphthalene
Concen: 0.21 ng
RT: 22.24 min Scan# 3411
Delta R.T. -0.005 min
Lab File: 04212026.D
Acq: 21 Apr 2020 23:08

Tgt Ion:128 Resp: 34159

Ion	Ratio	Lower	Upper
128	100		
129	11.0	0.0	31.1



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\22\04222013.D Vial: 9
Acq On : 22 Apr 2020 9:28 Operator: WA
Sample : P2002032-008 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 13:07:45 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020 LH 4/24/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	301347	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1342434	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	652964	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	519584	12.452	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.60%				
57) Toluene-d8 (SS2)	15.74	98	1385212	11.968	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.76%				
73) Bromofluorobenzene (SS3)	19.00	174	470113	11.503	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.00%				
Target Compounds							Qvalue
2) Propene	4.13	42	11680	0.370	ng		98
3) Dichlorodifluoromethan...	4.28	85	441639	6.495	ng		100
4) Chloromethane	4.57	50	3431	0.064	ng		78
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	1189	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.25	54	1004	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.99	64	894	N.D.			
10) Ethanol	6.34	45	61551	2.464	ng		100
11) Acetonitrile	6.62	41	4649	0.085	ng		80
12) Acrolein	6.81	56	30760	1.673	ng		100
13) Acetone	7.01	58	150284m	6.097	ng		
14) Trichlorofluoromethane	7.26	101	260371	4.343	ng		99
15) 2-Propanol (Isopropanol)	7.53	45	27399	0.375	ng		87
16) Acrylonitrile	7.81	53	54	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.44	84	491	N.D.			
20) 3-Chloro-1-propene (Al...	8.61	41	488	N.D.			
21) Trichlorotrifluoroethane	8.88	151	4201	0.147	ng		96
22) Carbon Disulfide	8.71	76	51451	0.446	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.10	73	1166	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.48	72	47100	2.295	ng	#	86
28) cis-1,2-Dichloroethene	10.99	61	276	N.D.			
29) Diisopropyl Ether	11.34	87	897	N.D.			
30) Ethyl Acetate	11.32	61	783	0.065	ng		87
31) n-Hexane	11.29	57	3212	0.057	ng	#	82
32) Chloroform	11.33	83	9836	0.164	ng		98
34) Tetrahydrofuran (THF)	11.78	72	3081	0.146	ng	#	24
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.90	78	4198	N.D.			
42) Carbon Tetrachloride	13.06	117	13528	0.284	ng		97
43) Cyclohexane	13.17	84	1722	N.D.			
44) tert-Amyl Methyl Ether	13.58	73	474	N.D.			
45) 1,2-Dichloropropane	13.62	63	176	N.D.			
46) Bromodichloromethane	13.94	83	360	N.D.			
47) Trichloroethene	14.00	130	2034	0.052	ng		91
48) 1,4-Dioxane	14.00	88	452	N.D.			
49) 2,2,4-Trimethylpentane...	14.06	57	6215	N.D.			
50) Methyl Methacrylate	14.34	100	152	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\22\04222013.D Vial: 9
Acq On : 22 Apr 2020 9:28 Operator: WA
Sample : P2002032-008 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 13:07:45 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.34	71	1219	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.91	58	3911	0.134 ng #	54
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.85	91	16901	0.118 ng	100
59) 2-Hexanone	16.10	43	49927	0.697 ng	98
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.74	43	2285	N.D.	
63) n-Octane	16.85	57	1021	N.D.	
64) Tetrachloroethene	16.99	166	5429	0.136 ng	97
65) Chlorobenzene	17.65	112	231	N.D.	
66) Ethylbenzene	18.02	91	1505	N.D.	
67) m- & p-Xylenes	18.17	91	3957	N.D.	
68) Bromoform	18.22	173	309	N.D.	
69) Styrene	18.50	104	1227	N.D.	
70) o-Xylene	18.61	91	1492	N.D.	
71) n-Nonane	18.81	43	2196	N.D.	
72) 1,1,2,2-Tetrachloroethane	18.61	83	1160	N.D.	
74) Cumene	19.14	105	514	N.D.	
75) alpha-Pinene	19.48	93	260	N.D.	
76) n-Propylbenzene	19.55	91	5039	N.D.	
77) 3-Ethyltoluene	19.67	105	1047	N.D.	
78) 4-Ethyltoluene	19.70	105	850	N.D.	
79) 1,3,5-Trimethylbenzene	19.77	105	882	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	19.95	105	615	N.D.	
82) 1,2,4-Trimethylbenzene	20.13	105	2058	N.D.	
83) n-Decane	20.23	57	3337	N.D.	
84) Benzyl Chloride	20.25	91	755	N.D.	
85) 1,3-Dichlorobenzene	20.27	146	136	N.D.	
86) 1,4-Dichlorobenzene	20.34	146	491	N.D.	
87) sec-Butylbenzene	20.37	105	289	N.D.	
88) 4-Isopropyltoluene (p-...	20.51	119	2128	N.D.	
89) 1,2,3-Trimethylbenzene	20.51	105	966	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.64	68	2589	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.33	57	2618	N.D.	
94) 1,2,4-Trichlorobenzene	22.15	180	256	N.D.	
95) Naphthalene	22.25	128	2555	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	20.86	91	5104	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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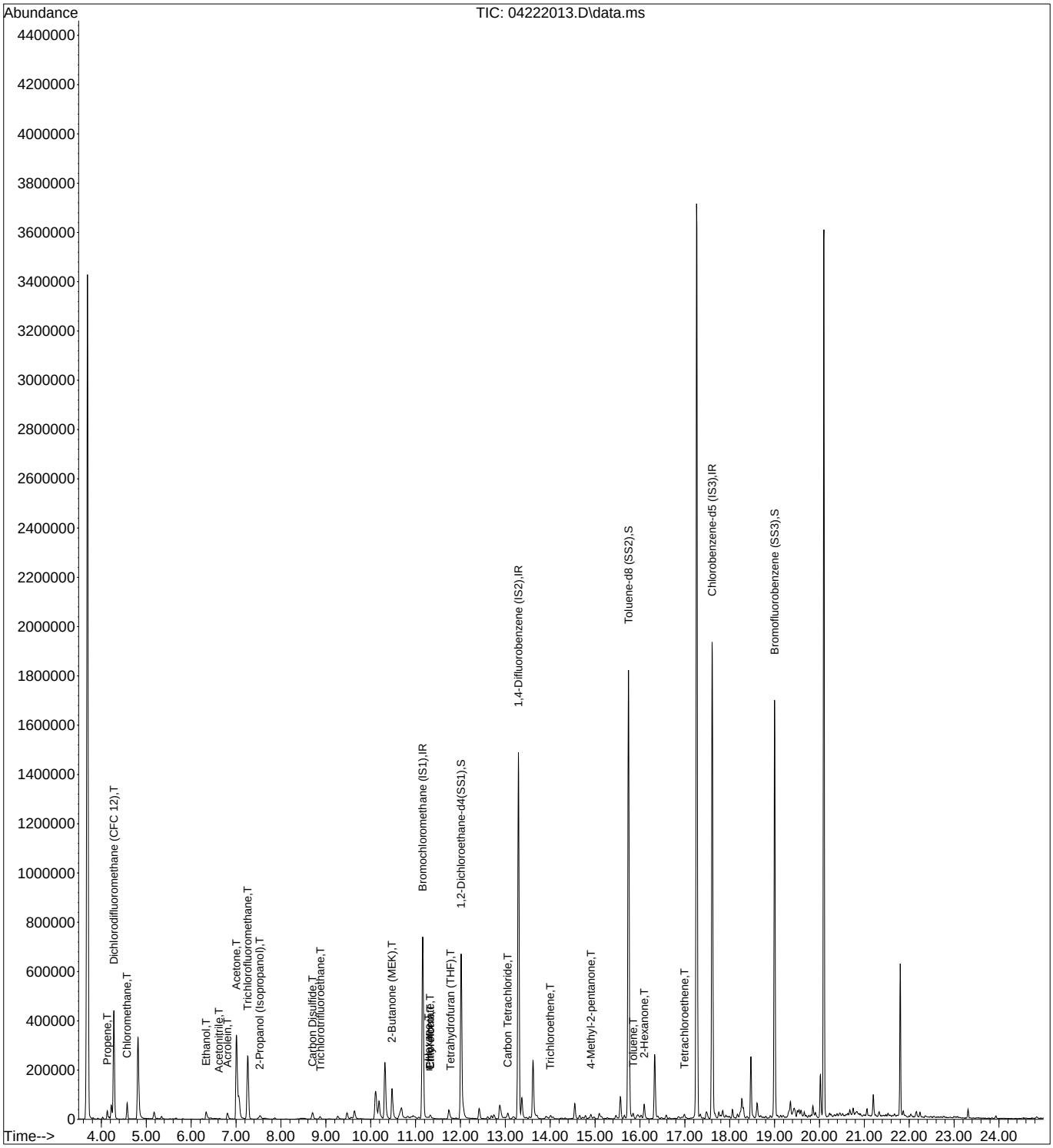
Sample : P2002032-008 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 13:07:45 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\22\04222013.D Vial: 9
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QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/24/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	301347	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1342434	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	652964	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	519584	12.452	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.60%				
57) Toluene-d8 (SS2)	15.74	98	1385212	11.968	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.76%				
73) Bromofluorobenzene (SS3)	19.00	174	470113	11.503	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.00%				
Target Compounds							Qvalue
2) Propene	4.13	42	11680	0.370	ng		98
3) Dichlorodifluoromethan...	4.28	85	441639	6.495	ng		100
4) Chloromethane	4.57	50	3431	0.064	ng		78
10) Ethanol	6.34	45	61551	2.464	ng		100
11) Acetonitrile	6.62	41	4649	0.085	ng		80
12) Acrolein	6.81	56	30760	1.673	ng		100
13) Acetone	7.01	58	150284m	6.097	ng		
14) Trichlorofluoromethane	7.26	101	260371	4.343	ng		99
15) 2-Propanol (Isopropanol)	7.53	45	27399	0.375	ng		87
21) Trichlorotrifluoroethane	8.88	151	4201	0.147	ng		96
22) Carbon Disulfide	8.71	76	51451	0.446	ng		99
27) 2-Butanone (MEK)	10.48	72	47100	2.295	ng	#	86
30) Ethyl Acetate	11.32	61	783	0.065	ng		87
31) n-Hexane	11.29	57	3212	0.057	ng	#	82
32) Chloroform	11.33	83	9836	0.164	ng		98
34) Tetrahydrofuran (THF)	11.78	72	3081	0.146	ng	#	24
42) Carbon Tetrachloride	13.06	117	13528	0.284	ng		97
47) Trichloroethene	14.00	130	2034	0.052	ng		91
53) 4-Methyl-2-pentanone	14.91	58	3911	0.134	ng	#	54
58) Toluene	15.85	91	16901	0.118	ng		100
59) 2-Hexanone	16.10	43	49927	0.697	ng		98
64) Tetrachloroethene	16.99	166	5429	0.136	ng		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\22\04222013.D Vial: 9
Acq On : 22 Apr 2020 9:28 Operator: WA
Sample : P2002032-008 (400mL) Inst : GCMS-16
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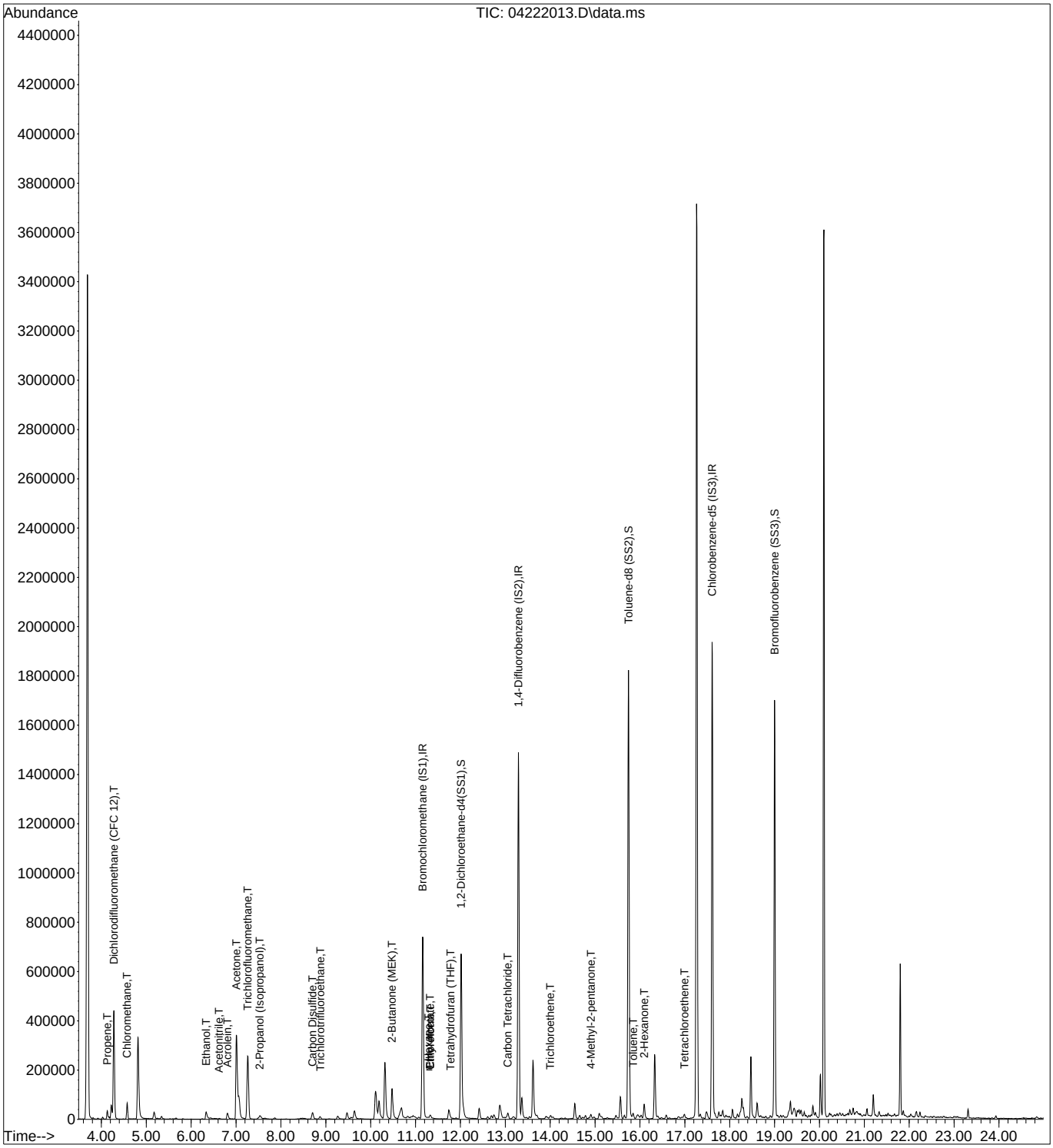
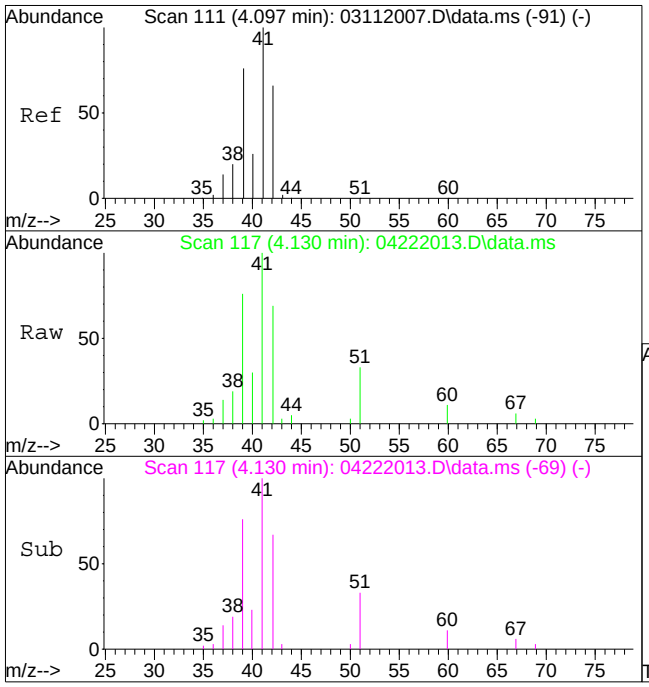
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

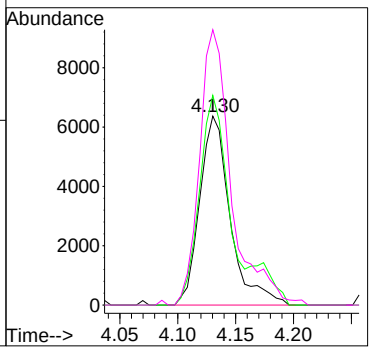


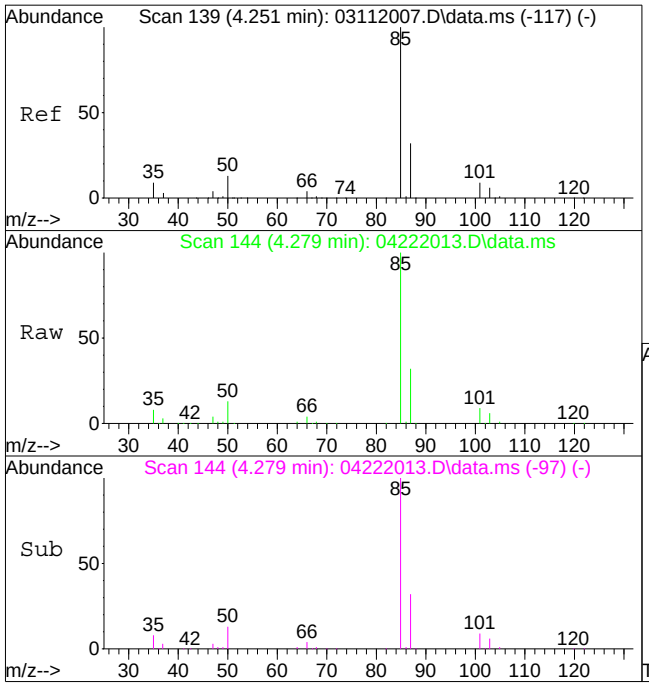


#2
Propene
Concen: 0.37 ng
RT: 4.13 min Scan# 117
Delta R.T. 0.016 min
Lab File: 04222013.D
Acq: 22 Apr 2020 9:28

Tgt Ion: 42 Resp: 11680

Ion	Ratio	Lower	Upper
42	100		
39	119.4	95.3	135.3
41	152.7	132.0	172.0

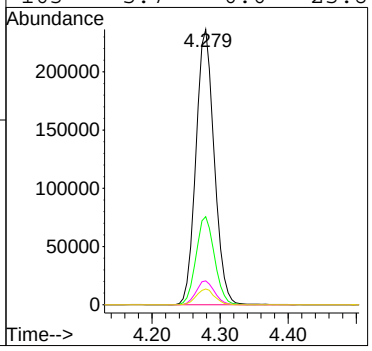


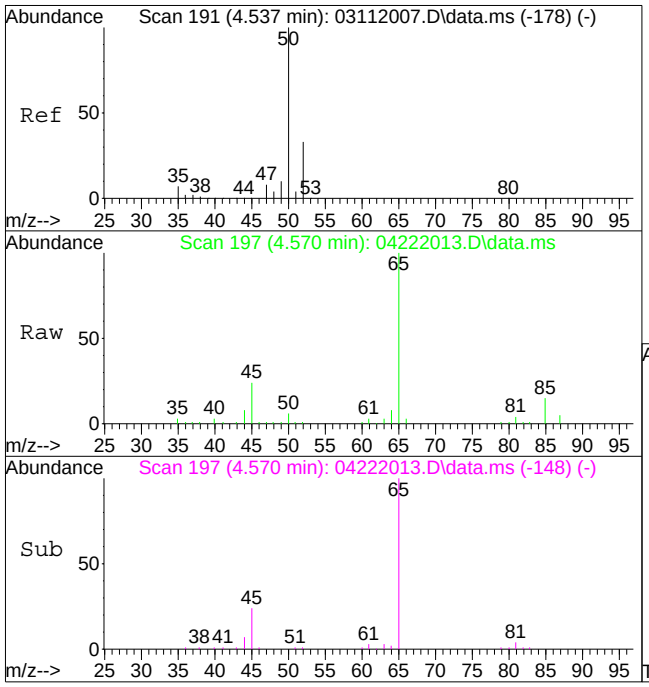


#3
Dichlorodifluoromethane (CFC 12)
Concen: 6.49 ng
RT: 4.28 min Scan# 144
Delta R.T. 0.011 min
Lab File: 04222013.D
Acq: 22 Apr 2020 9:28

Tgt Ion: 85 Resp: 441639

Ion	Ratio	Lower	Upper
85	100		
87	32.3	12.3	52.3
101	8.7	0.0	29.0
103	5.7	0.0	25.8

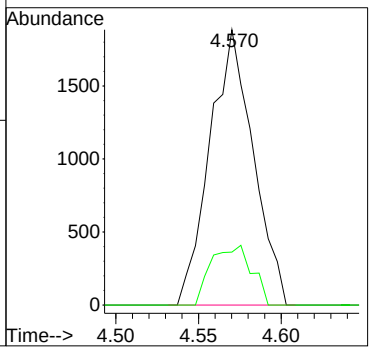


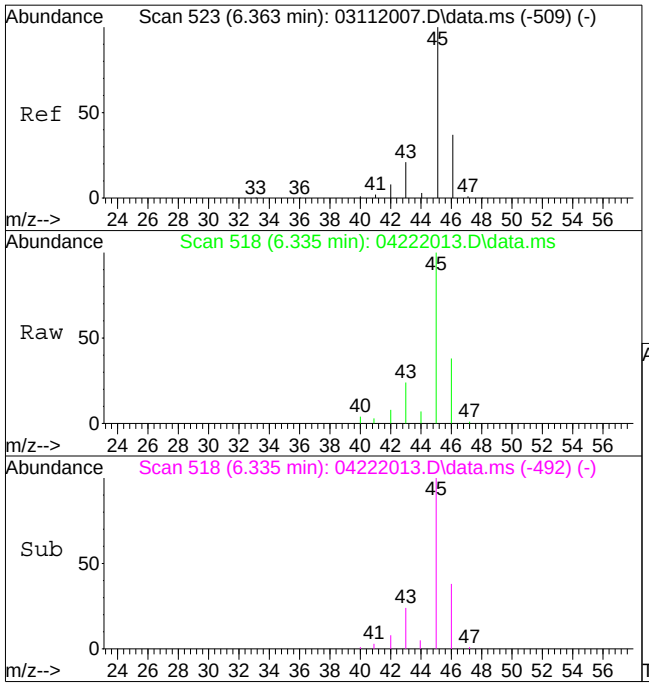


#4
Chloromethane
Concen: 0.06 ng
RT: 4.57 min Scan# 197
Delta R.T. 0.017 min
Lab File: 04222013.D
Acq: 22 Apr 2020 9:28

Tgt Ion: 50 Resp: 3431

Ion	Ratio	Lower	Upper
50	100		
52	20.2	12.8	52.8

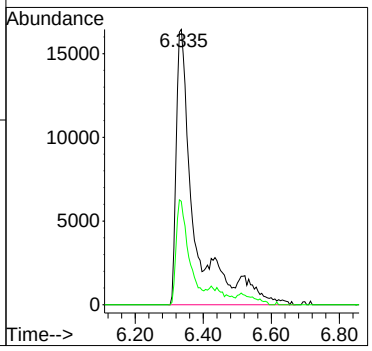


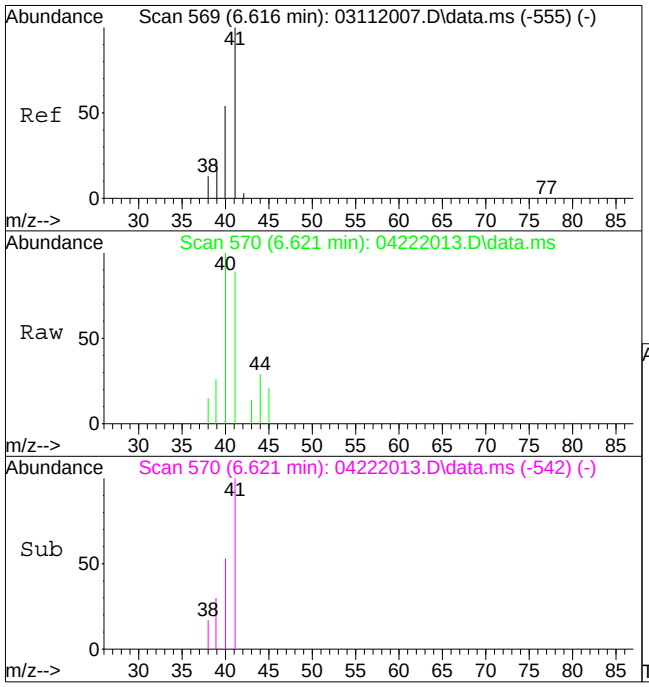


#10
Ethanol
Concen: 2.46 ng
RT: 6.34 min Scan# 518
Delta R.T. -0.105 min
Lab File: 04222013.D
Acq: 22 Apr 2020 9:28

Tgt Ion: 45 Resp: 61551

Ion	Ratio	Lower	Upper
45	100		
46	37.2	17.3	57.3

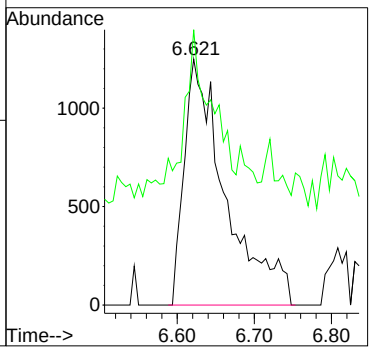


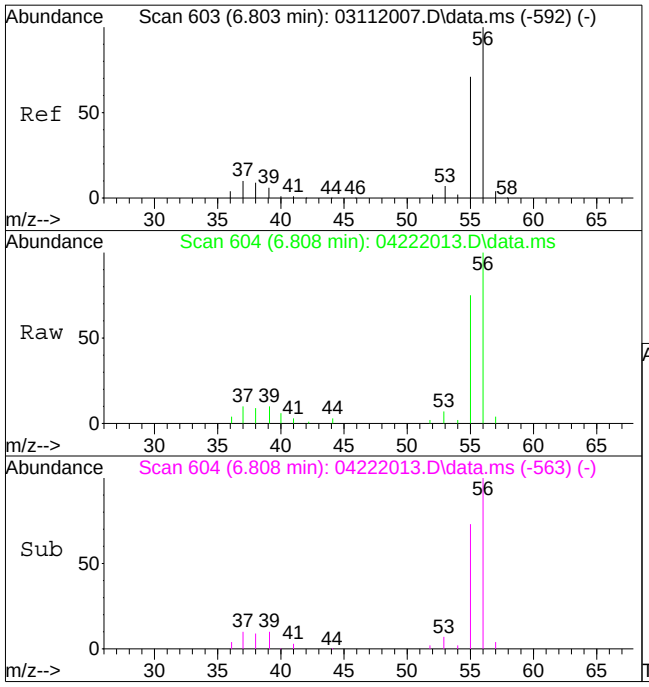


#11
Acetonitrile
Concen: 0.08 ng
RT: 6.62 min Scan# 570
Delta R.T. -0.044 min
Lab File: 04222013.D
Acq: 22 Apr 2020 9:28

Tgt Ion: 41 Resp: 4649

Ion	Ratio	Lower	Upper
41	100		
40	67.6	33.6	73.6

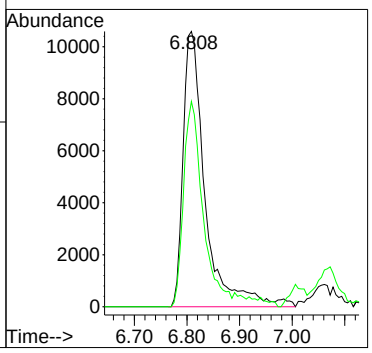


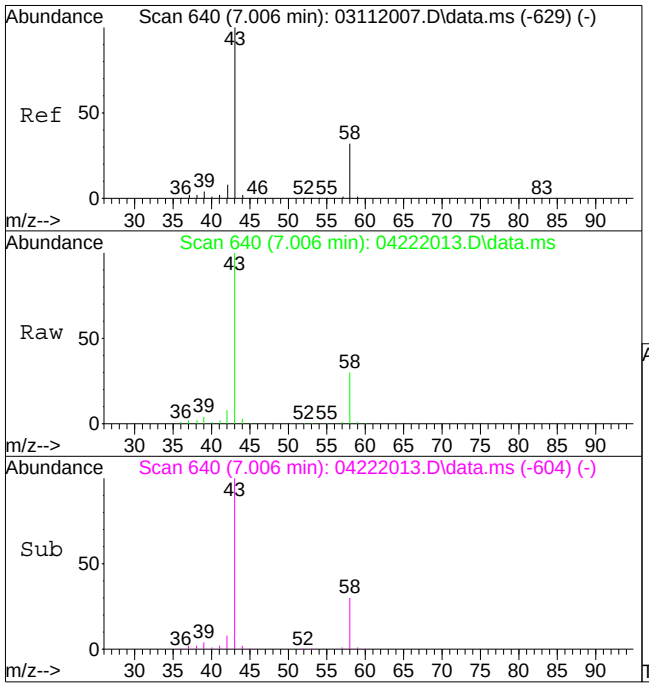


#12
Acrolein
Concen: 1.67 ng
RT: 6.81 min Scan# 604
Delta R.T. -0.022 min
Lab File: 04222013.D
Acq: 22 Apr 2020 9:28

Tgt Ion: 56 Resp: 30760

Ion	Ratio	Lower	Upper
56	100		
55	70.2	50.4	90.4

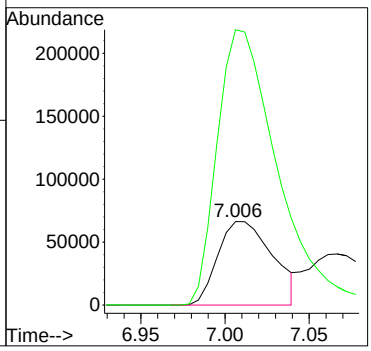


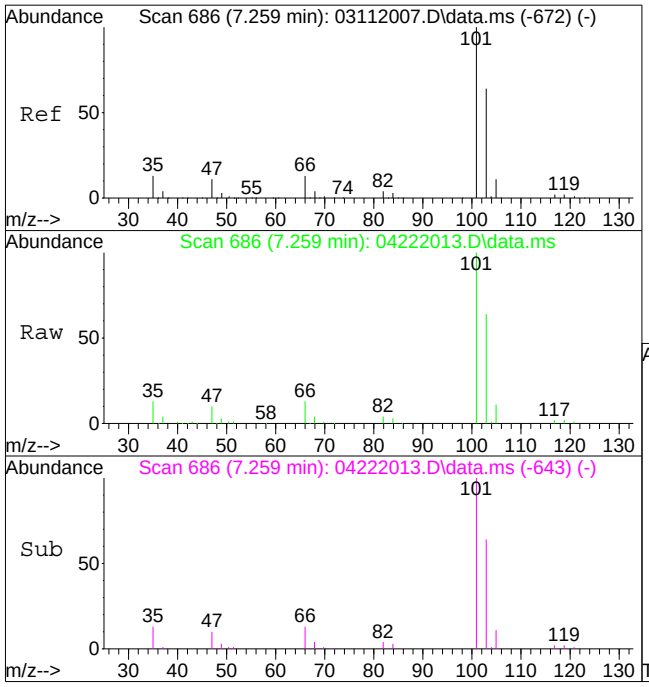


#13
Acetone
Concen: 6.10 ng m
RT: 7.01 min Scan# 640
Delta R.T. -0.050 min
Lab File: 04222013.D
Acq: 22 Apr 2020 9:28

Tgt Ion: 58 Resp: 150284

Ion	Ratio	Lower	Upper
58	100		
43	0.0	287.3	347.3#

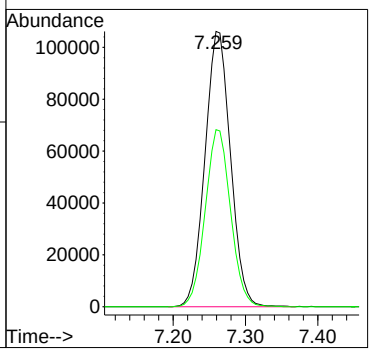


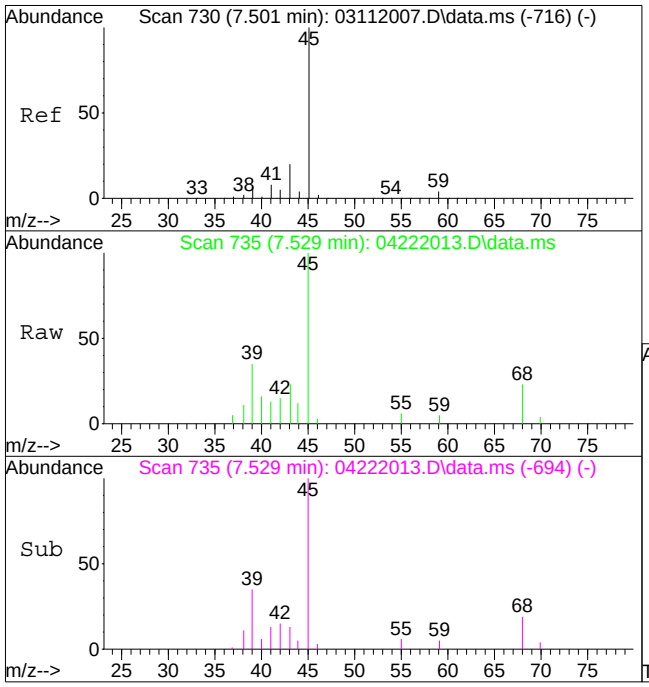


#14
Trichlorofluoromethane
Concen: 4.34 ng
RT: 7.26 min Scan# 686
Delta R.T. -0.016 min
Lab File: 04222013.D
Acq: 22 Apr 2020 9:28

Tgt Ion:101 Resp: 260371

Ion	Ratio	Lower	Upper
101	100		
103	63.8	44.6	84.6

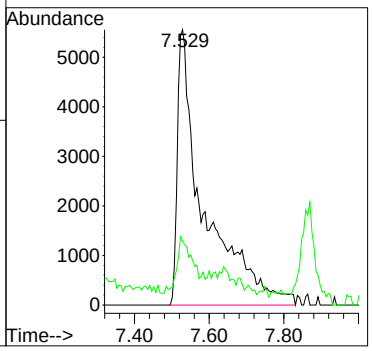


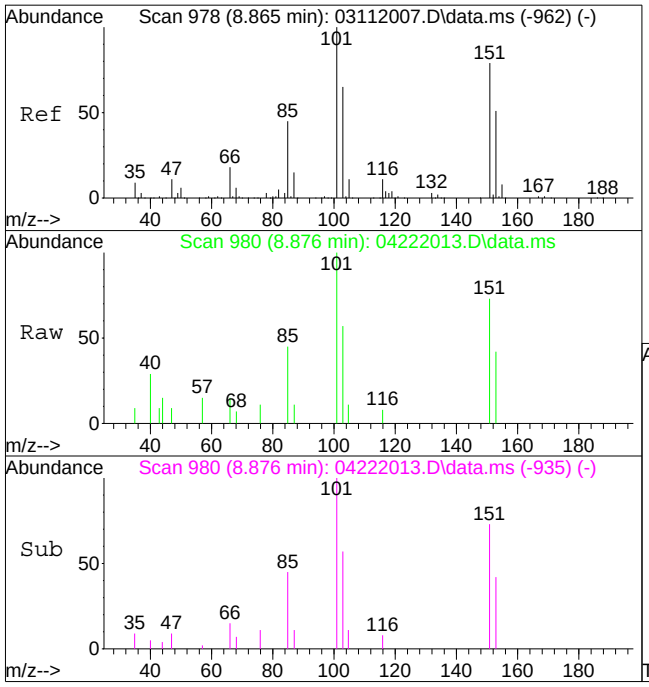


#15
2-Propanol (Isopropanol)
Concen: 0.37 ng
RT: 7.53 min Scan# 735
Delta R.T. -0.022 min
Lab File: 04222013.D
Acq: 22 Apr 2020 9:28

Tgt Ion: 45 Resp: 27399

Ion	Ratio	Lower	Upper
45	100		
43	26.2	0.3	40.3

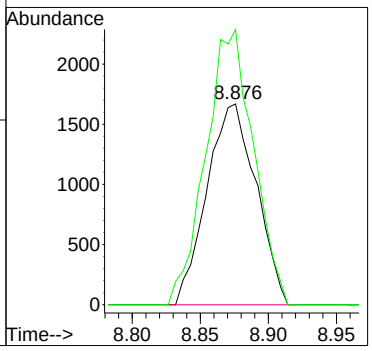


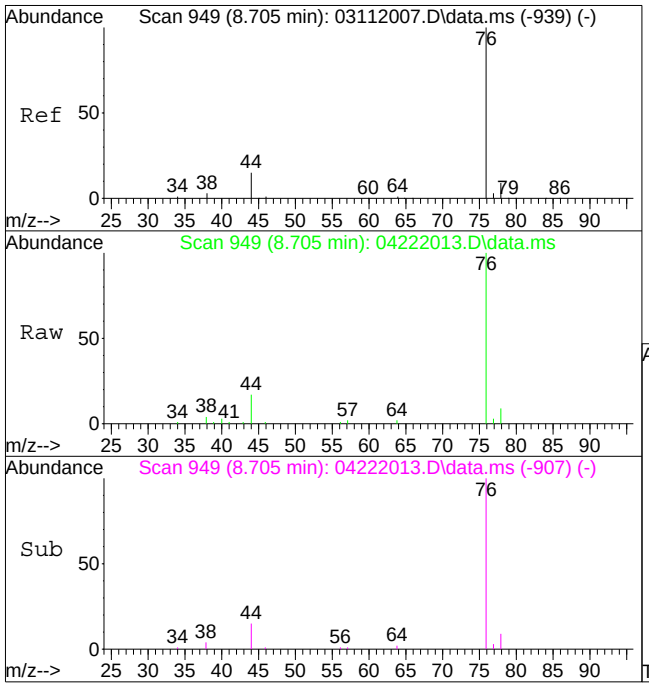


#21
Trichlorotrifluoroethane
Concen: 0.15 ng
RT: 8.88 min Scan# 980
Delta R.T. -0.000 min
Lab File: 04222013.D
Acq: 22 Apr 2020 9:28

Tgt Ion:151 Resp: 4201

Ion	Ratio	Lower	Upper
151	100		
101	133.1	108.4	148.4

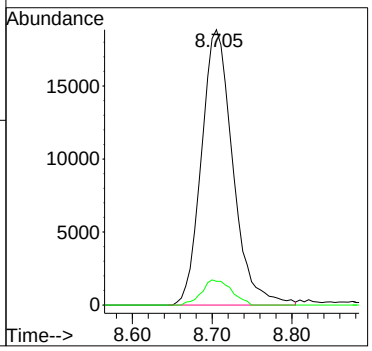


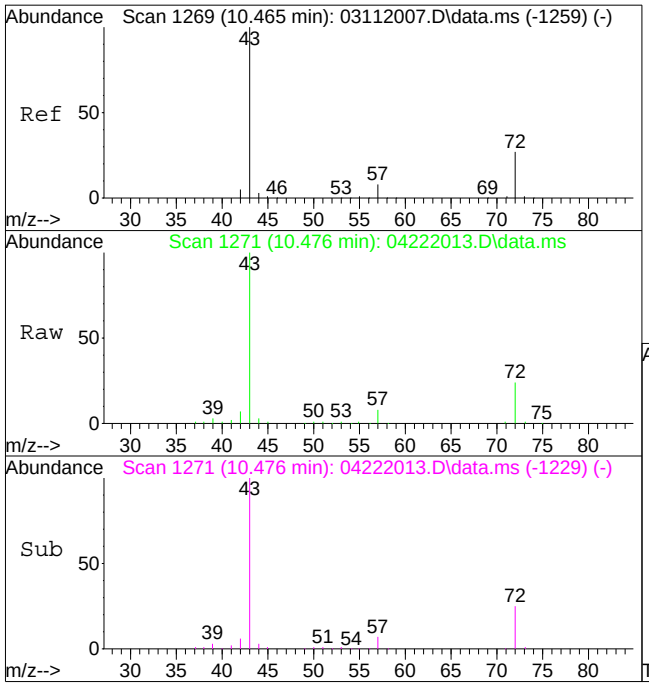


#22
Carbon Disulfide
Concen: 0.45 ng
RT: 8.71 min Scan# 949
Delta R.T. -0.016 min
Lab File: 04222013.D
Acq: 22 Apr 2020 9:28

Tgt Ion: 76 Resp: 51451

Ion	Ratio	Lower	Upper
76	100		
78	8.7	0.0	29.2

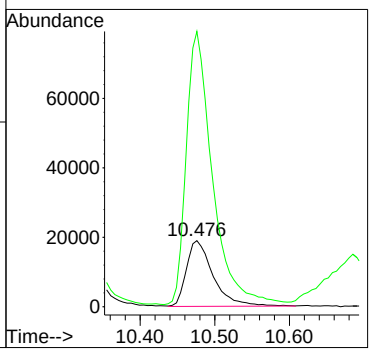


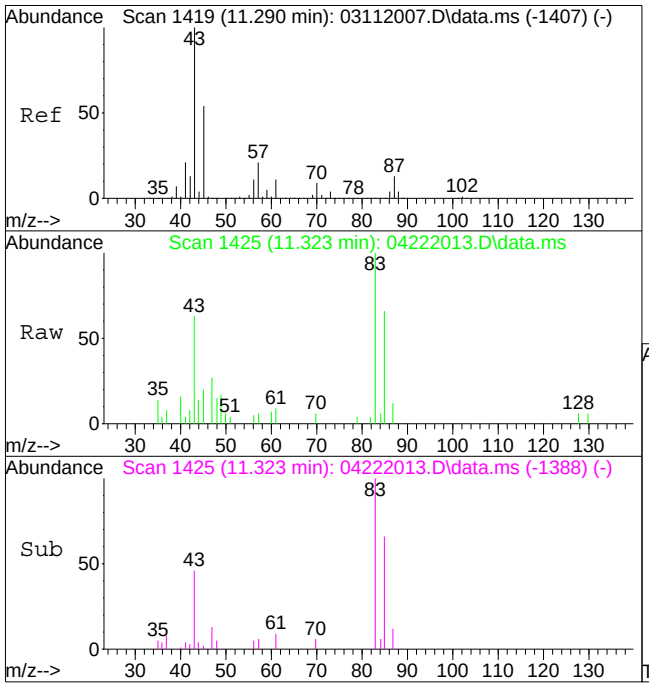


#27
2-Butanone (MEK)
Concen: 2.30 ng
RT: 10.48 min Scan# 1271
Delta R.T. -0.016 min
Lab File: 04222013.D
Acq: 22 Apr 2020 9:28

Tgt Ion: 72 Resp: 47100

Ion	Ratio	Lower	Upper
72	100		
43	405.9	353.4	393.4#

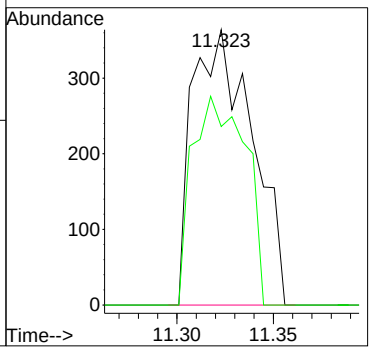


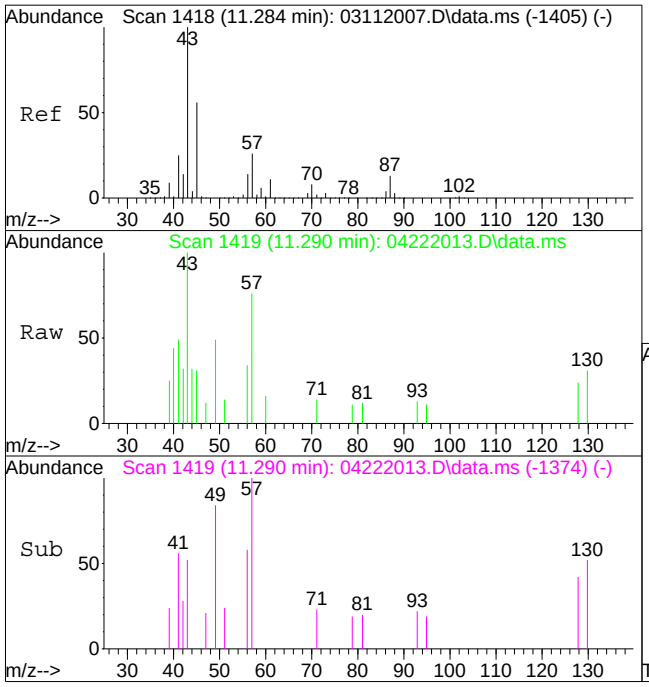


#30
Ethyl Acetate
Concen: 0.06 ng
RT: 11.32 min Scan# 1425
Delta R.T. 0.006 min
Lab File: 04222013.D
Acq: 22 Apr 2020 9:28

Tgt Ion: 61 Resp: 783

Ion	Ratio	Lower	Upper
61	100		
70	67.7	59.1	99.1

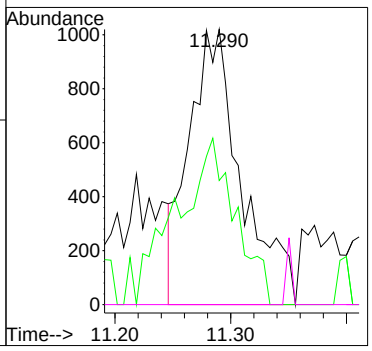


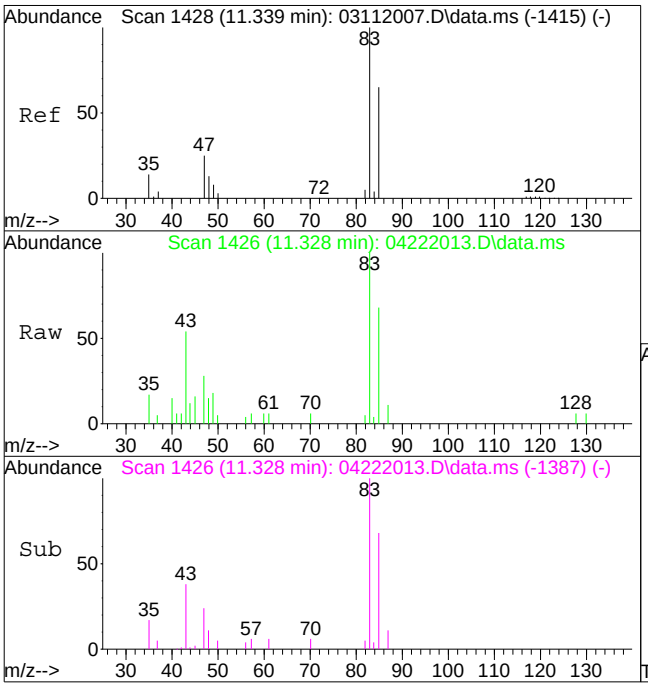


#31
n-Hexane
Concen: 0.06 ng
RT: 11.29 min Scan# 1419
Delta R.T. 0.000 min
Lab File: 04222013.D
Acq: 22 Apr 2020 9:28

Tgt Ion: 57 Resp: 3212

Ion	Ratio	Lower	Upper
57	100		
56	44.2	41.0	61.4
86	0.0	13.9	20.9#

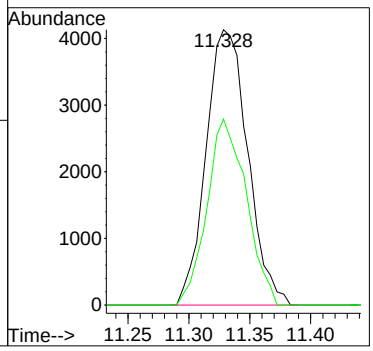


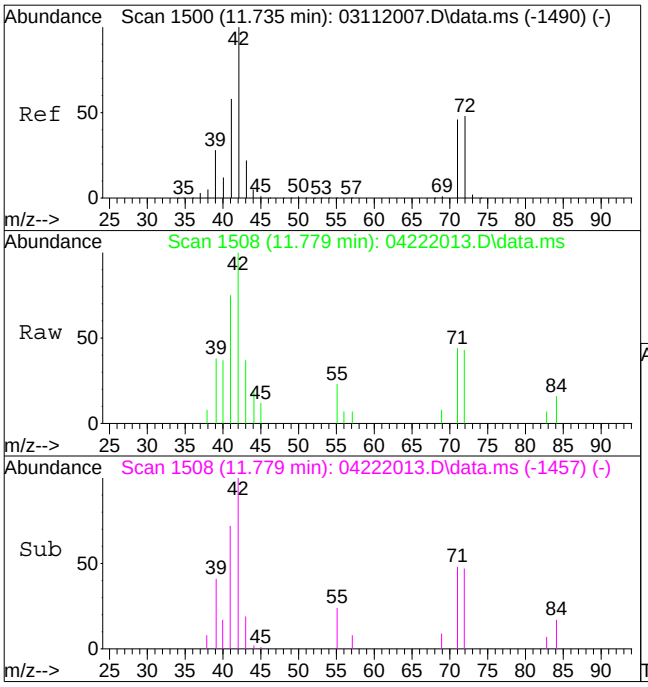


#32
Chloroform
Concen: 0.16 ng
RT: 11.33 min Scan# 1426
Delta R.T. -0.033 min
Lab File: 04222013.D
Acq: 22 Apr 2020 9:28

Tgt Ion: 83 Resp: 9836

Ion	Ratio	Lower	Upper
83	100		
85	63.6	45.5	85.5

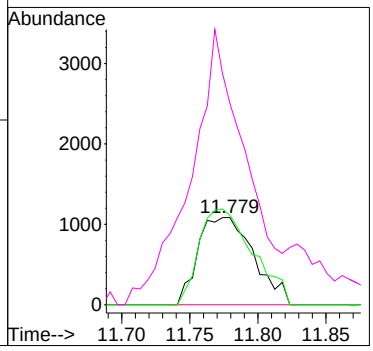


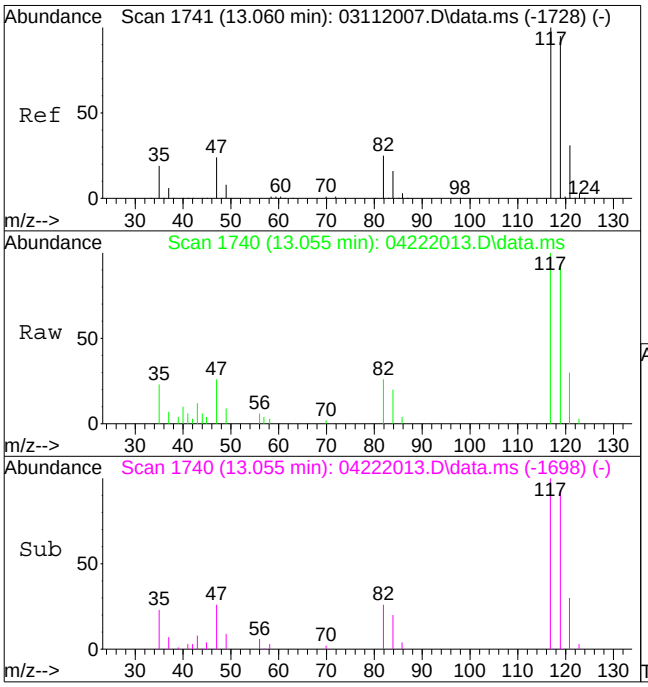


#34
Tetrahydrofuran (THF)
Concen: 0.15 ng
RT: 11.78 min Scan# 1508
Delta R.T. 0.033 min
Lab File: 04222013.D
Acq: 22 Apr 2020 9:28

Tgt Ion: 72 Resp: 3081

Ion	Ratio	Lower	Upper
72	100		
71	106.1	75.9	115.9
42	375.0	189.3	229.3#

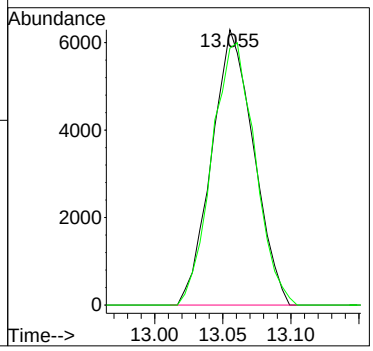


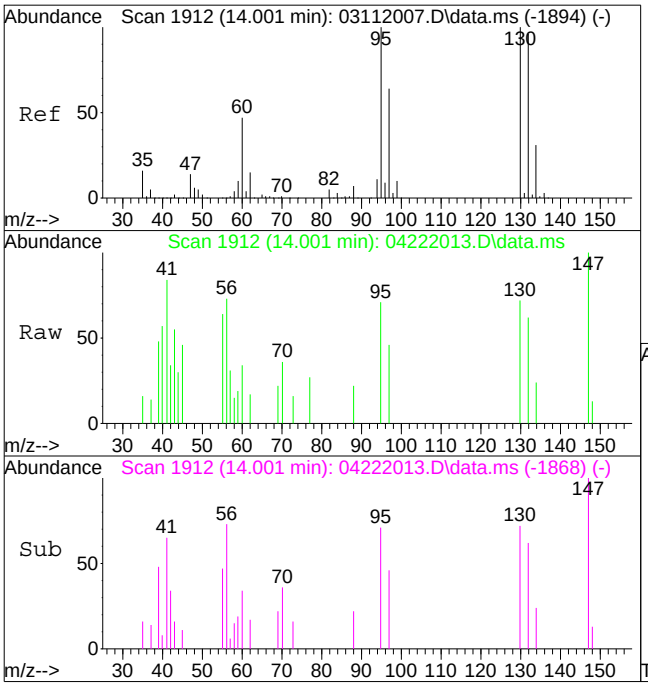


#42
Carbon Tetrachloride
Concen: 0.28 ng
RT: 13.06 min Scan# 1740
Delta R.T. -0.016 min
Lab File: 04222013.D
Acq: 22 Apr 2020 9:28

Tgt Ion:117 Resp: 13528

Ion	Ratio	Lower	Upper
117	100		
119	98.0	75.4	115.4

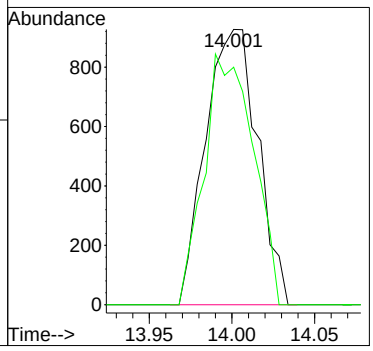


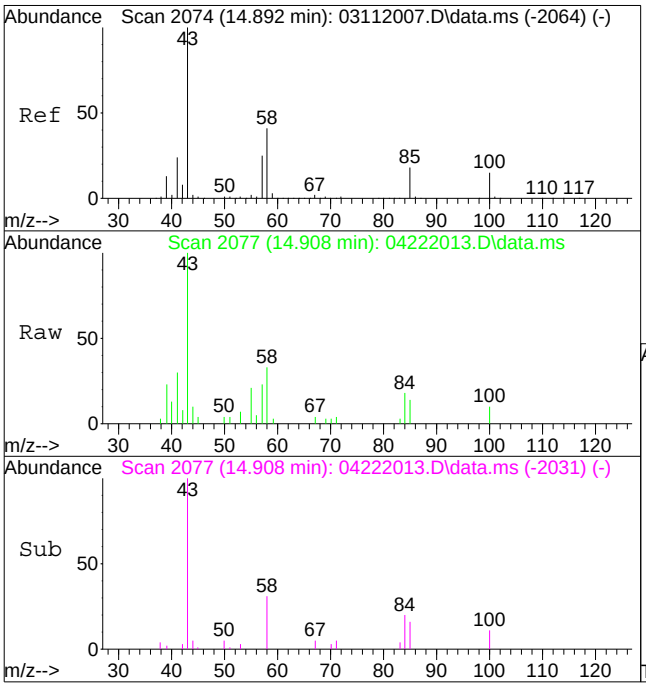


#47
Trichloroethene
Concen: 0.05 ng
RT: 14.00 min Scan# 1912
Delta R.T. -0.005 min
Lab File: 04222013.D
Acq: 22 Apr 2020 9:28

Tgt Ion:130 Resp: 2034

Ion	Ratio	Lower	Upper
130	100		
132	85.9	74.7	114.7

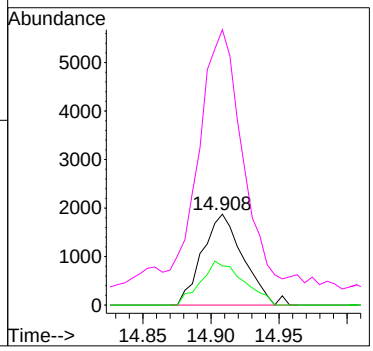


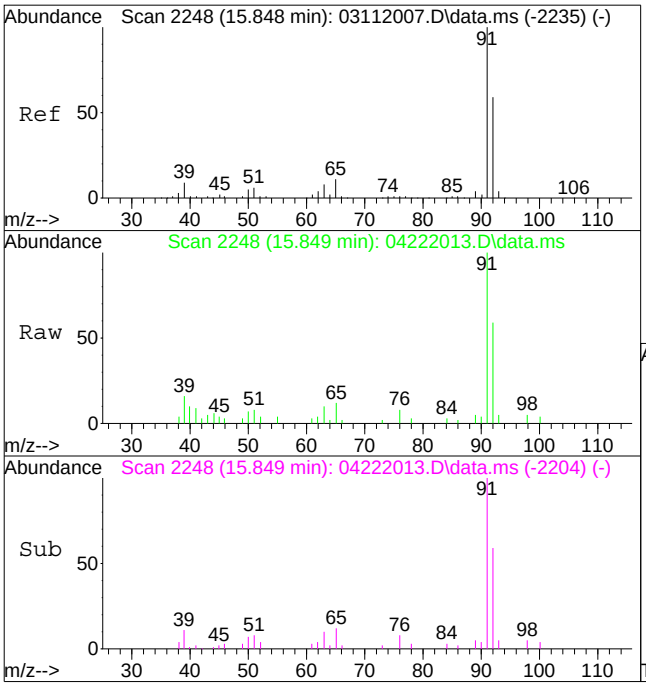


#53
4-Methyl-2-pentanone
Concen: 0.13 ng
RT: 14.91 min Scan# 2077
Delta R.T. 0.006 min
Lab File: 04222013.D
Acq: 22 Apr 2020 9:28

Tgt Ion: 58 Resp: 3911

Ion	Ratio	Lower	Upper
58	100		
85	50.3	37.0	55.4
43	337.7	196.3	294.5#

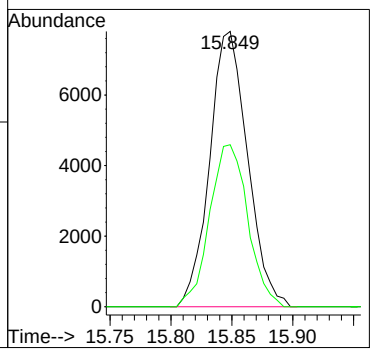


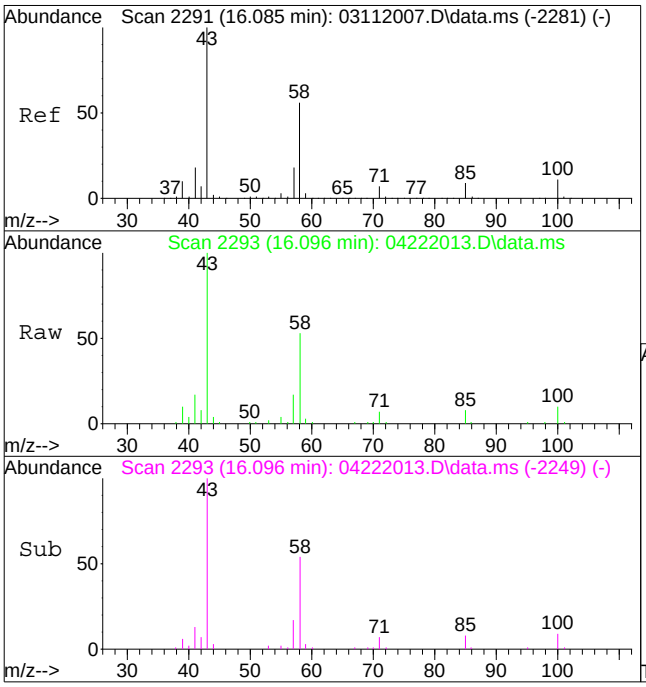


#58
Toluene
Concen: 0.12 ng
RT: 15.85 min Scan# 2248
Delta R.T. -0.005 min
Lab File: 04222013.D
Acq: 22 Apr 2020 9:28

Tgt Ion: 91 Resp: 16901

Ion	Ratio	Lower	Upper
91	100		
92	59.2	39.0	79.0

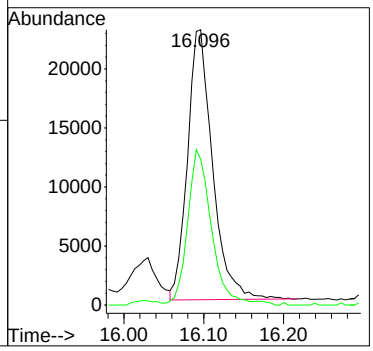


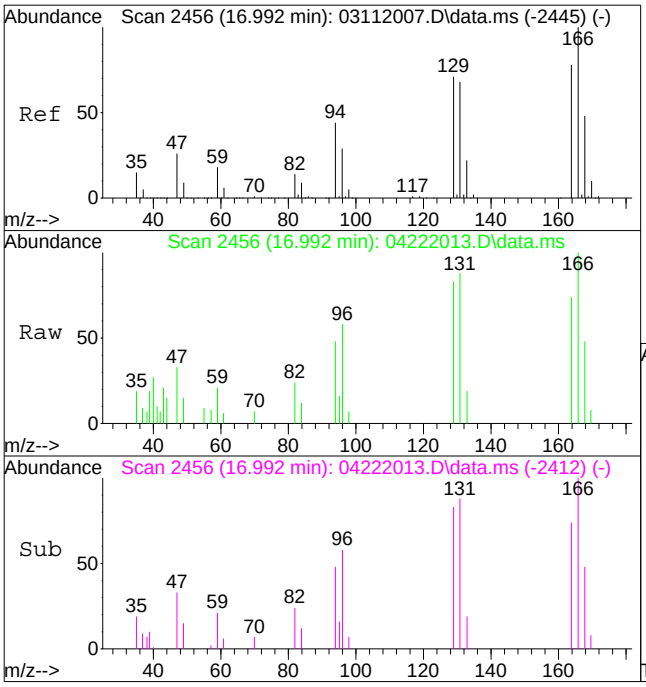


#59
2-Hexanone
Concen: 0.70 ng
RT: 16.10 min Scan# 2293
Delta R.T. -0.005 min
Lab File: 04222013.D
Acq: 22 Apr 2020 9:28

Tgt Ion: 43 Resp: 49927

Ion	Ratio	Lower	Upper
43	100		
58	54.9	36.5	76.5

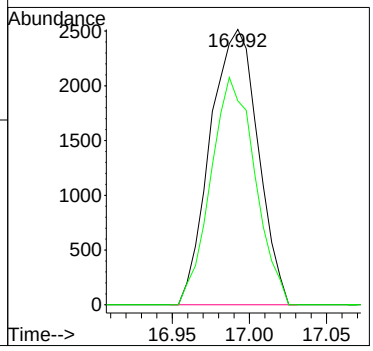




#64
Tetrachloroethene
Concen: 0.14 ng
RT: 16.99 min Scan# 2456
Delta R.T. -0.005 min
Lab File: 04222013.D
Acq: 22 Apr 2020 9:28

Tgt Ion:166 Resp: 5429

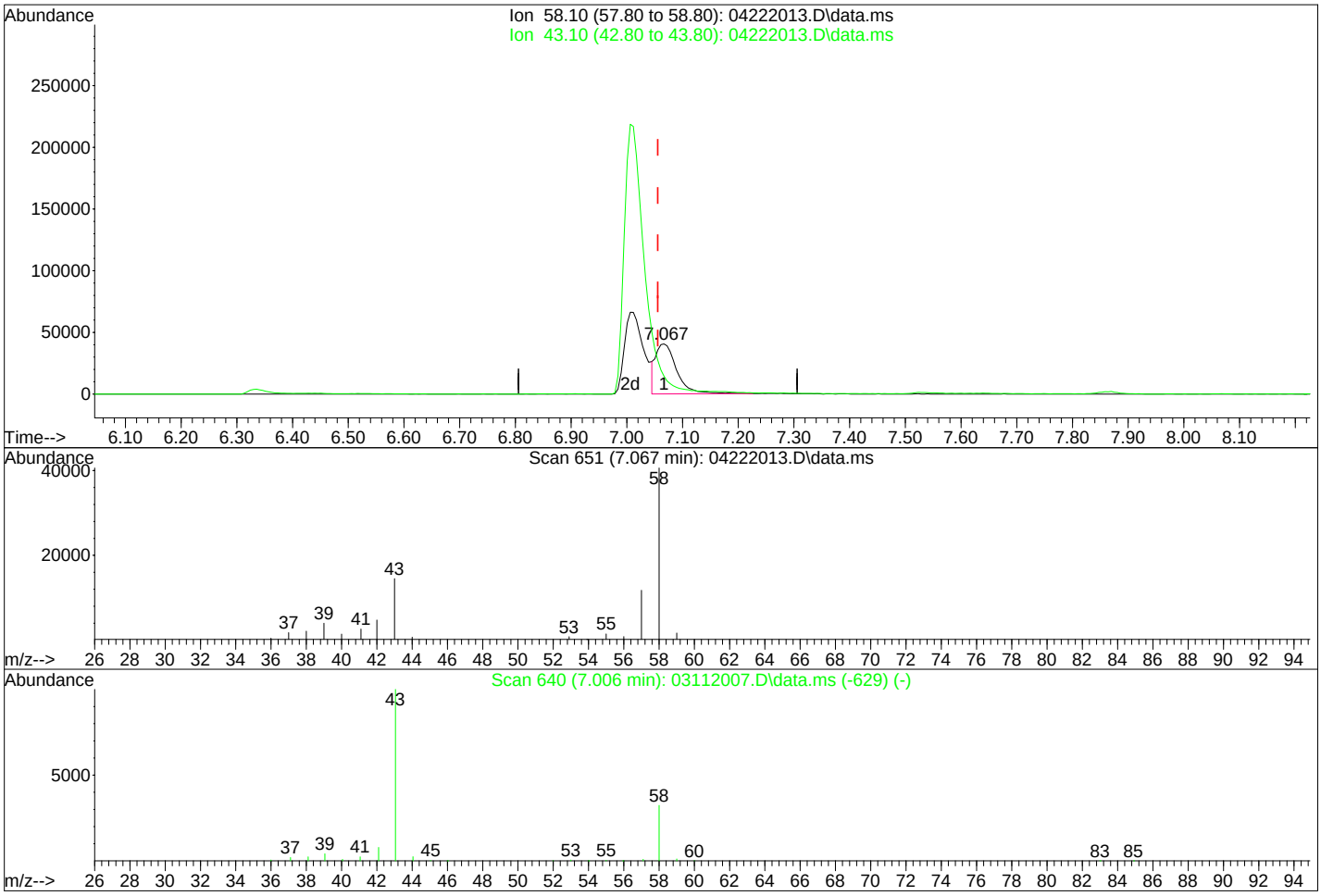
Ion	Ratio	Lower	Upper
166	100		
164	76.3	58.6	98.6



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\22\04222013.D Vial: 9
Acq On : 22 Apr 2020 9:28 Operator: WA
Sample : P2002032-008 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 10:56:41 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04222013.D\data.ms

(13) Acetone (T)

7.067min (+0.011) 4.30ng

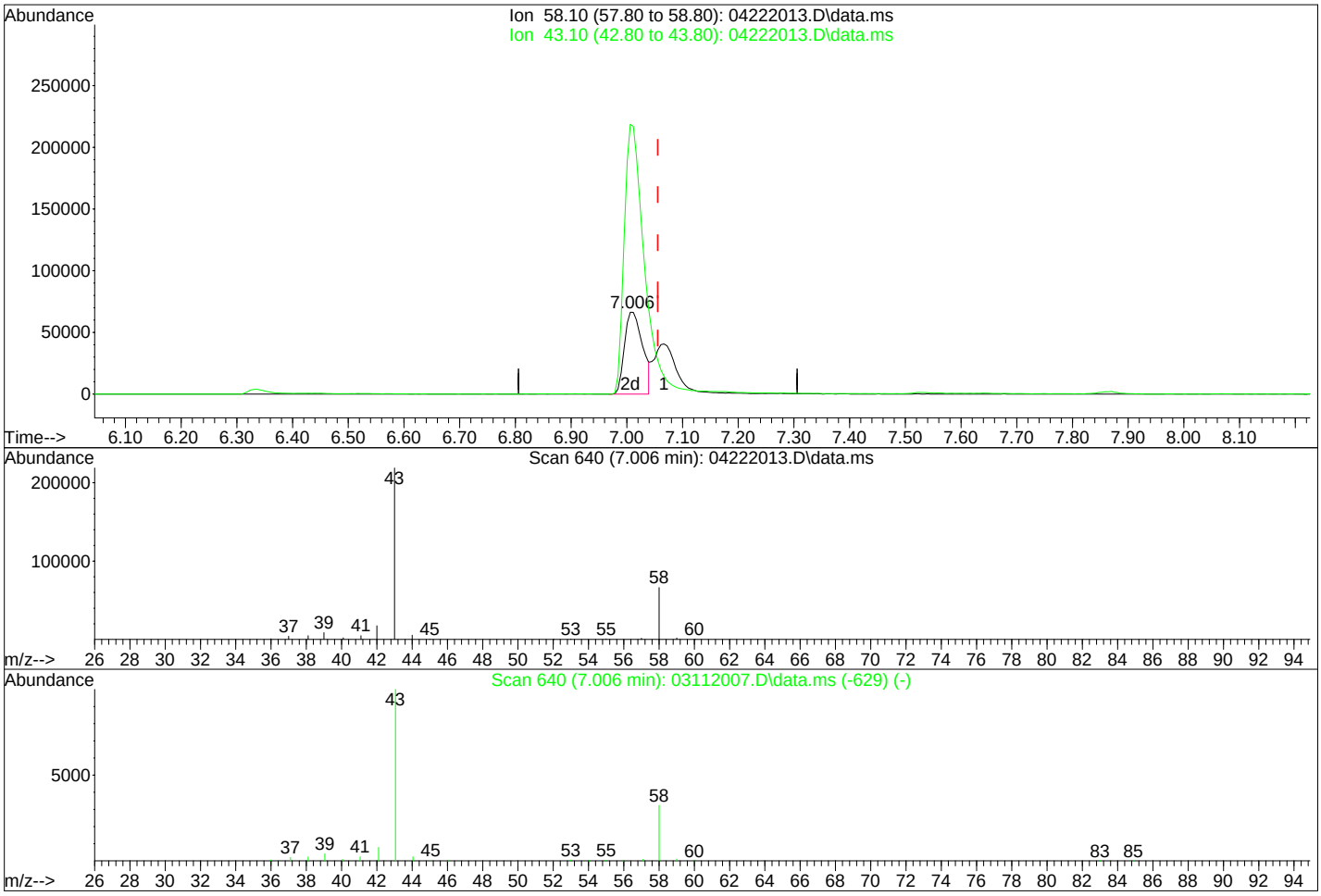
response 105964

Ion	Exp%	Act%
58.10	100	100
43.10	317.30	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\22\04222013.D Vial: 9
Acq On : 22 Apr 2020 9:28 Operator: WA
Sample : P2002032-008 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 10:56:41 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04222013.D\data.ms

(13) Acetone (T)

7.006min (-0.050) 6.10ng m

response 150284

Ion	Exp%	Act%
58.10	100	100
43.10	317.30	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

WP

LH 4/24/20

TD 4/27/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212028.D Vial: 10
Acq On : 22 Apr 2020 00:15 Operator: WA
Sample : P2002032-009 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 12:53:06 2020
Quant Method : I:\MS16\METHODS\R16031120.M LH 4/24/20
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	299640	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1318261	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	650068	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.01	65	519327	12.517	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.16%				
57) Toluene-d8 (SS2)	15.74	98	1367457	11.868	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.96%				
73) Bromofluorobenzene (SS3)	19.00	174	469054	11.528	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.24%				
Target Compounds							Qvalue
2) Propene	4.13	42	7723	0.246	ng		91
3) Dichlorodifluoromethan...	4.27	85	436745	6.460	ng		100
4) Chloromethane	4.56	50	3361	0.063	ng		85
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	1135	N.D.			
6) Vinyl Chloride	4.98	62	102	N.D.			
7) 1,3-Butadiene	5.25	54	222	N.D.			
8) Bromomethane	5.67	94	652	N.D.			
9) Chloroethane	5.99	64	263	N.D.			
10) Ethanol	6.34	45	30589	1.232	ng		98
11) Acetonitrile	6.62	41	3966	0.073	ng	#	10
12) Acrolein	6.80	56	28025	1.533	ng		100
13) Acetone	7.01	58	81548m	3.327	ng		
14) Trichlorofluoromethane	7.26	101	256631	4.305	ng		99
15) 2-Propanol (Isopropanol)	7.54	45	10103	0.139	ng		63
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.47	59	2040	N.D.			
19) Methylene Chloride	8.43	84	964	N.D.			
20) 3-Chloro-1-propene (Al...	8.61	41	698	N.D.			
21) Trichlorotrifluoroethane	8.87	151	4114	0.144	ng		94
22) Carbon Disulfide	8.70	76	98994	0.863	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.10	73	1203	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.49	72	13367	0.655	ng		98
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.32	87	722	N.D.			
30) Ethyl Acetate	11.33	61	1318	0.109	ng		82
31) n-Hexane	11.27	57	1677	N.D.			
32) Chloroform	11.33	83	8051	0.135	ng		92
34) Tetrahydrofuran (THF)	11.77	72	3858	0.184	ng	#	73
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.14	62	5035	0.108	ng		95
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	12.98	61	120	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.90	78	21826	0.160	ng		97
42) Carbon Tetrachloride	13.06	117	13683	0.292	ng		97
43) Cyclohexane	13.18	84	934	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	13.75	63	114	N.D.			
46) Bromodichloromethane	13.70	83	186	N.D.			
47) Trichloroethene	14.00	130	1789	N.D.			
48) 1,4-Dioxane	14.00	88	1538	0.058	ng	#	69
49) 2,2,4-Trimethylpentane...	14.07	57	1636	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212028.D Vial: 10
Acq On : 22 Apr 2020 00:15 Operator: WA
Sample : P2002032-009 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 12:53:06 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

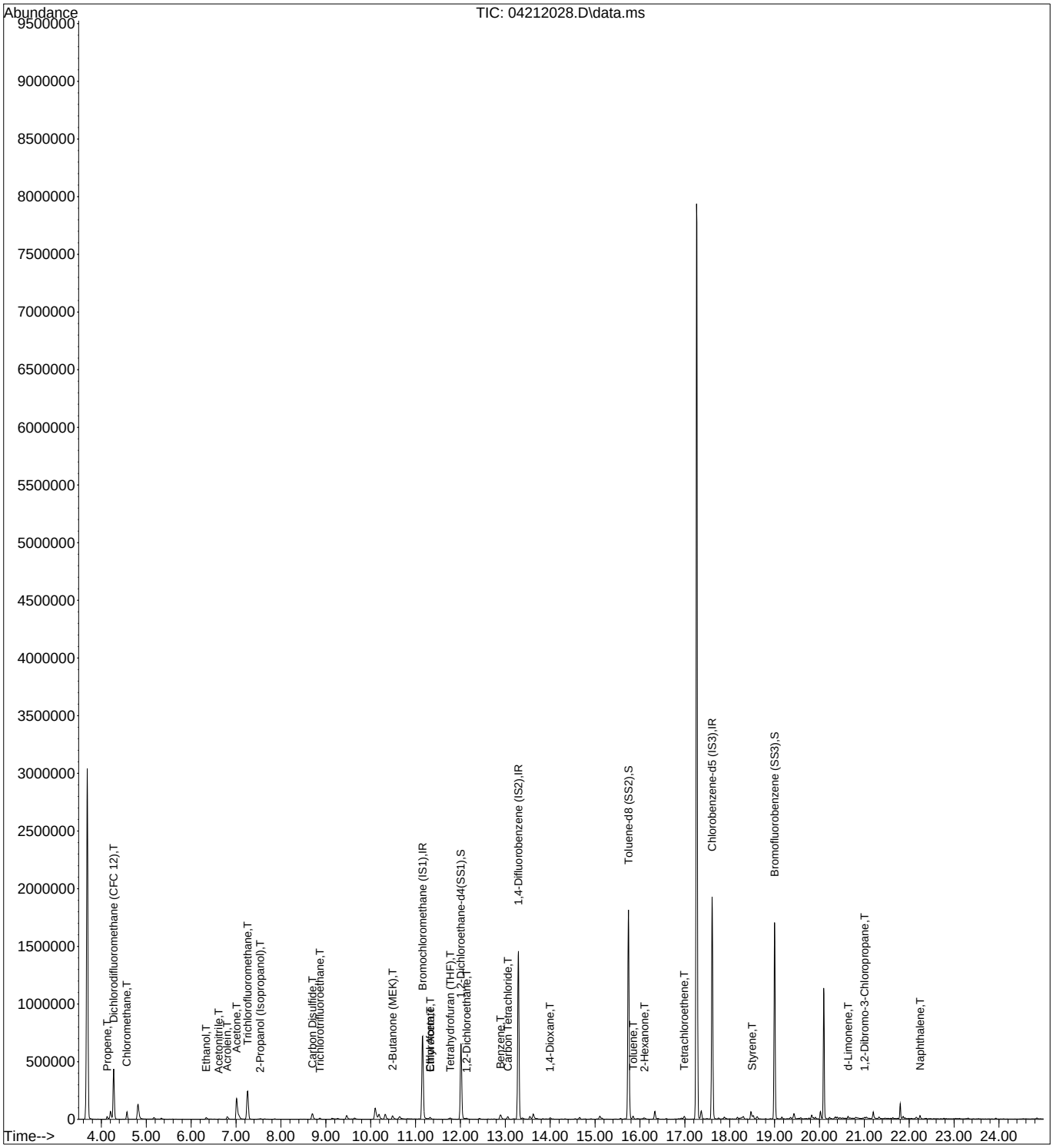
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.34	71	649	N.D.			
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
53) 4-Methyl-2-pentanone	14.91	58	1007	N.D.			
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.			
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.			
58) Toluene	15.85	91	20877	0.147	ng		97
59) 2-Hexanone	16.10	43	9003	0.126	ng		92
60) Dibromochloromethane	0.00	129	0	N.D.			
61) 1,2-Dibromoethane	0.00	107	0	N.D.			
62) n-Butyl Acetate	16.76	43	2394	N.D.			
63) n-Octane	16.85	57	1107	N.D.			
64) Tetrachloroethene	16.99	166	7395	0.186	ng		99
65) Chlorobenzene	17.65	112	2082	N.D.			
66) Ethylbenzene	18.01	91	2086	N.D.			
67) m- & p-Xylenes	18.17	91	4055	N.D.			
68) Bromoform	18.23	173	588	N.D.			
69) Styrene	18.50	104	8387	0.084	ng		95
70) o-Xylene	18.60	91	1610	N.D.			
71) n-Nonane	18.80	43	2138	N.D.			
72) 1,1,2,2-Tetrachloroethane	18.61	83	544	N.D.			
74) Cumene	19.13	105	656	N.D.			
75) alpha-Pinene	19.48	93	272	N.D.			
76) n-Propylbenzene	19.57	91	1133	N.D.			
77) 3-Ethyltoluene	19.67	105	1276	N.D.			
78) 4-Ethyltoluene	19.71	105	734	N.D.			
79) 1,3,5-Trimethylbenzene	19.77	105	899	N.D.			
80) alpha-Methylstyrene	0.00	118	0	N.D.	d		
81) 2-Ethyltoluene	19.93	105	803	N.D.			
82) 1,2,4-Trimethylbenzene	20.13	105	2331	N.D.			
83) n-Decane	20.23	57	3062	N.D.			
84) Benzyl Chloride	20.25	91	575	N.D.			
85) 1,3-Dichlorobenzene	20.27	146	111	N.D.			
86) 1,4-Dichlorobenzene	20.33	146	1233	N.D.			
87) sec-Butylbenzene	20.37	105	388	N.D.			
88) 4-Isopropyltoluene (p-...	20.51	119	1860	N.D.			
89) 1,2,3-Trimethylbenzene	20.51	105	1012	N.D.			
90) 1,2-Dichlorobenzene	20.63	146	382	N.D.			
91) d-Limonene	20.64	68	5225	0.096	ng		88
92) 1,2-Dibromo-3-Chloropr...	21.01	157	2646	0.102	ng	#	57
93) n-Undecane	21.33	57	2214	N.D.			
94) 1,2,4-Trichlorobenzene	22.14	180	125	N.D.			
95) Naphthalene	22.24	128	8648	0.055	ng		99
96) n-Dodecane	0.00	57	0	N.D.	d		
97) Hexachlorobutadiene	0.00	225	0	N.D.			
98) Cyclohexanone	0.00	55	0	N.D.	d		
99) tert-Butylbenzene	0.00	119	0	N.D.	d		
100) n-Butylbenzene	20.86	91	2854	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212028.D Vial: 10
Acq On : 22 Apr 2020 00:15 Operator: WA
Sample : P2002032-009 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 12:53:06 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212028.D Vial: 10
Acq On : 22 Apr 2020 00:15 Operator: WA
Sample : P2002032-009 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 12:53:06 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020 LH 4/24/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

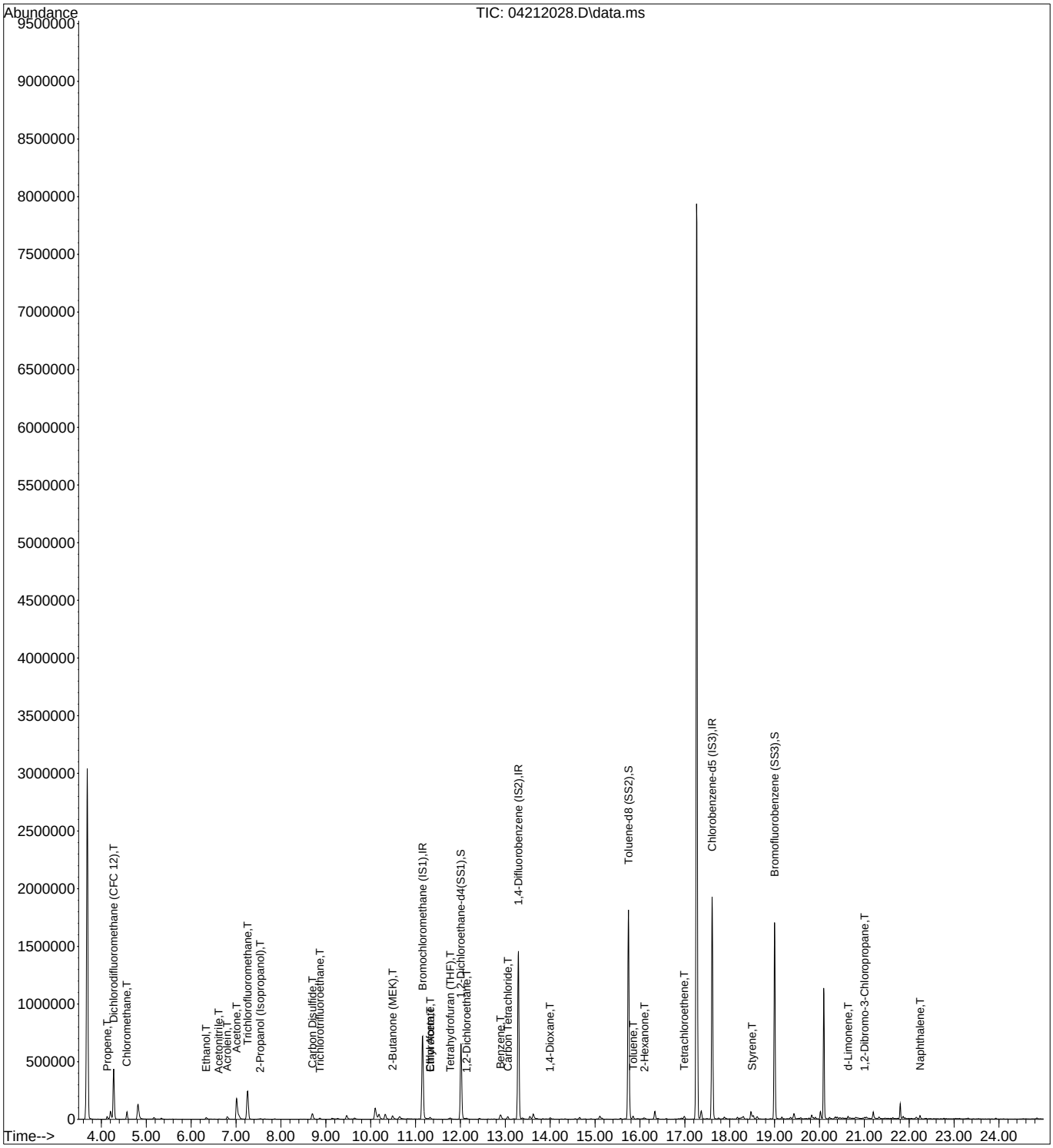
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	299640	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1318261	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	650068	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.01	65	519327	12.517	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.16%				
57) Toluene-d8 (SS2)	15.74	98	1367457	11.868	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.96%				
73) Bromofluorobenzene (SS3)	19.00	174	469054	11.528	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.24%				
Target Compounds							Qvalue
2) Propene	4.13	42	7723	0.246	ng		91
3) Dichlorodifluoromethan...	4.27	85	436745	6.460	ng		100
4) Chloromethane	4.56	50	3361	0.063	ng		85
10) Ethanol	6.34	45	30589	1.232	ng		98
11) Acetonitrile	6.62	41	3966	0.073	ng	#	10
12) Acrolein	6.80	56	28025	1.533	ng		100
13) Acetone	7.01	58	81548m	3.327	ng		
14) Trichlorofluoromethane	7.26	101	256631	4.305	ng		99
15) 2-Propanol (Isopropanol)	7.54	45	10103	0.139	ng		63
21) Trichlorotrifluoroethane	8.87	151	4114	0.144	ng		94
22) Carbon Disulfide	8.70	76	98994	0.863	ng		99
27) 2-Butanone (MEK)	10.49	72	13367	0.655	ng		98
30) Ethyl Acetate	11.33	61	1318	0.109	ng		82
32) Chloroform	11.33	83	8051	0.135	ng		92
34) Tetrahydrofuran (THF)	11.77	72	3858	0.184	ng	#	73
36) 1,2-Dichloroethane	12.14	62	5035	0.108	ng		95
41) Benzene	12.90	78	21826	0.160	ng		97
42) Carbon Tetrachloride	13.06	117	13683	0.292	ng		97
48) 1,4-Dioxane	14.00	88	1538	0.058	ng	#	69
58) Toluene	15.85	91	20877	0.147	ng		97
59) 2-Hexanone	16.10	43	9003	0.126	ng		92
64) Tetrachloroethene	16.99	166	7395	0.186	ng		99
69) Styrene	18.50	104	8387	0.084	ng		95
91) d-Limonene	20.64	68	5225	0.096	ng		88
92) 1,2-Dibromo-3-Chloropr...	21.01	157	2646	0.102	ng	#	57
95) Naphthalene	22.24	128	8648	0.055	ng		99

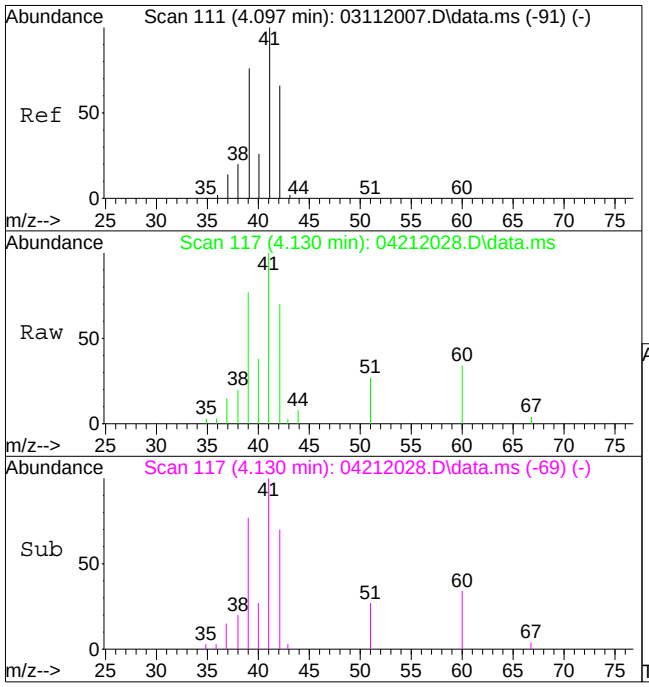
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212028.D Vial: 10
Acq On : 22 Apr 2020 00:15 Operator: WA
Sample : P2002032-009 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 12:53:06 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

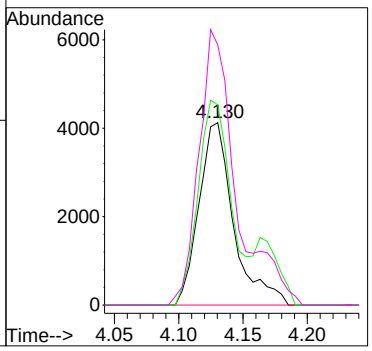


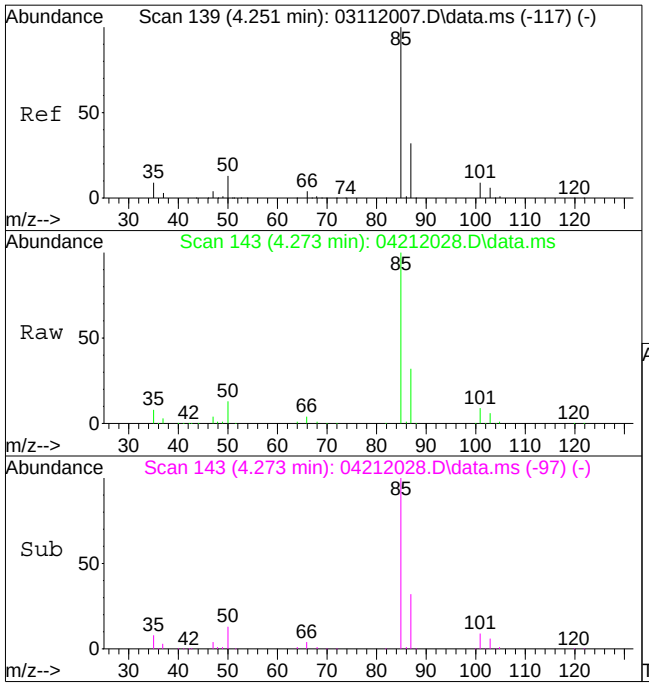


#2
Propene
Concen: 0.25 ng
RT: 4.13 min Scan# 117
Delta R.T. 0.016 min
Lab File: 04212028.D
Acq: 22 Apr 2020 00:15

Tgt Ion: 42 Resp: 7723

Ion	Ratio	Lower	Upper
42	100		
39	105.3	95.3	135.3
41	162.4	132.0	172.0

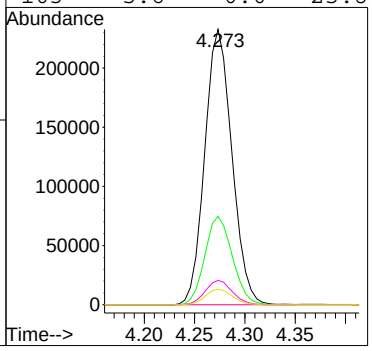


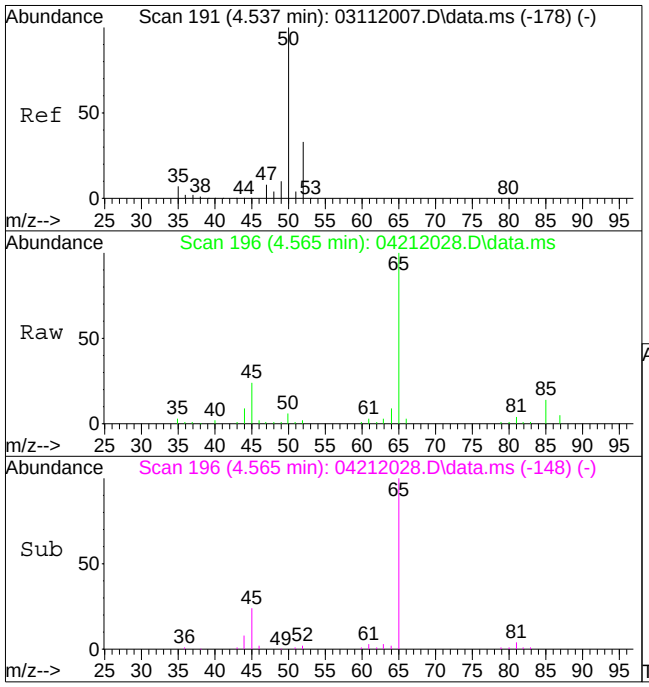


#3
Dichlorodifluoromethane (CFC 12)
Concen: 6.46 ng
RT: 4.27 min Scan# 143
Delta R.T. 0.005 min
Lab File: 04212028.D
Acq: 22 Apr 2020 00:15

Tgt Ion: 85 Resp: 436745

Ion	Ratio	Lower	Upper
85	100		
87	32.4	12.3	52.3
101	8.8	0.0	29.0
103	5.6	0.0	25.8

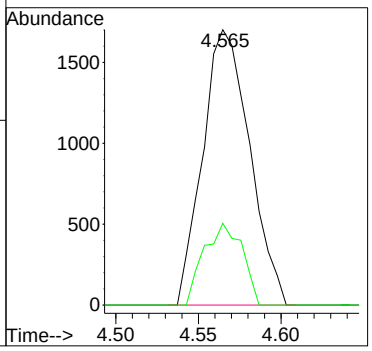


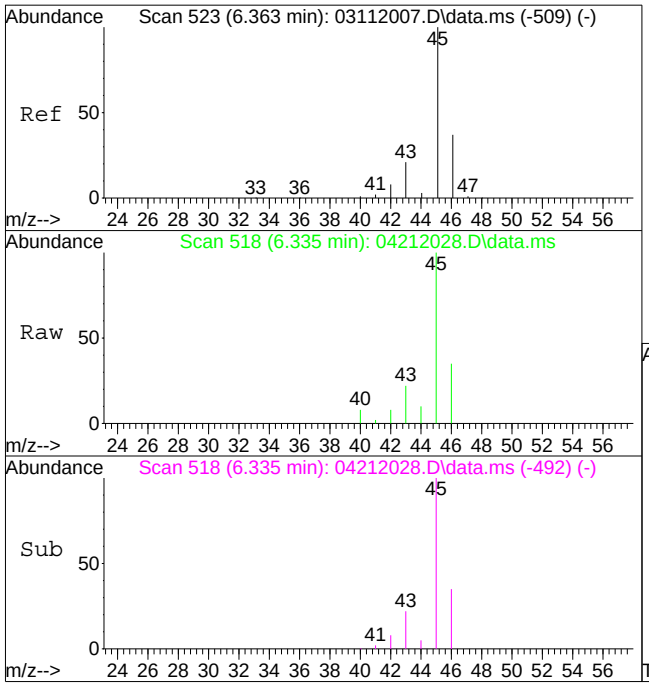


#4
Chloromethane
Concen: 0.06 ng
RT: 4.56 min Scan# 196
Delta R.T. 0.012 min
Lab File: 04212028.D
Acq: 22 Apr 2020 00:15

Tgt Ion: 50 Resp: 3361

Ion	Ratio	Lower	Upper
50	100		
52	24.2	12.8	52.8

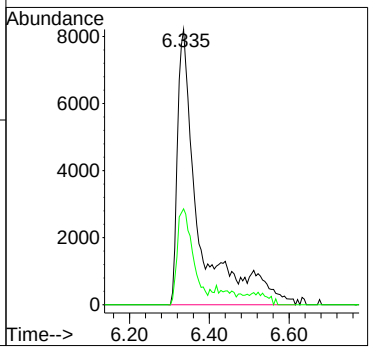


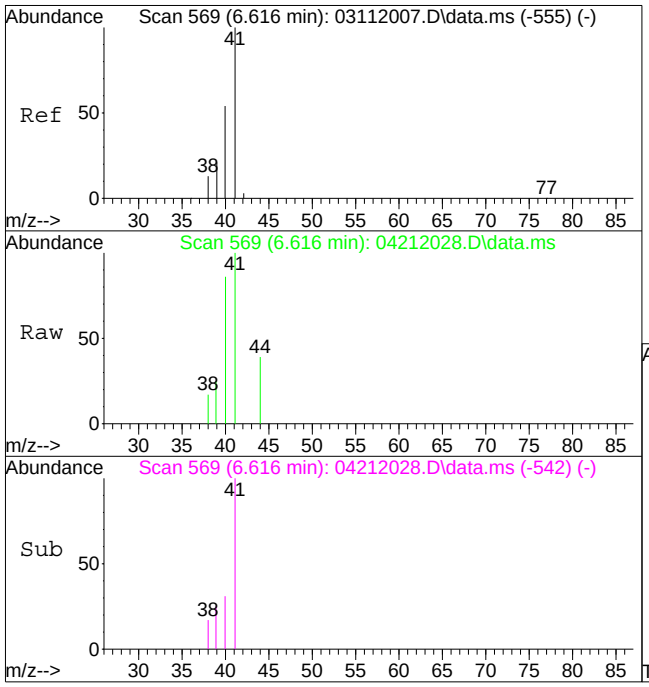


#10
Ethanol
Concen: 1.23 ng
RT: 6.34 min Scan# 518
Delta R.T. -0.105 min
Lab File: 04212028.D
Acq: 22 Apr 2020 00:15

Tgt Ion: 45 Resp: 30589

Ion	Ratio	Lower	Upper
45	100		
46	36.3	17.3	57.3

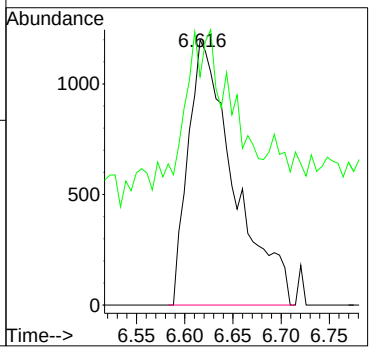


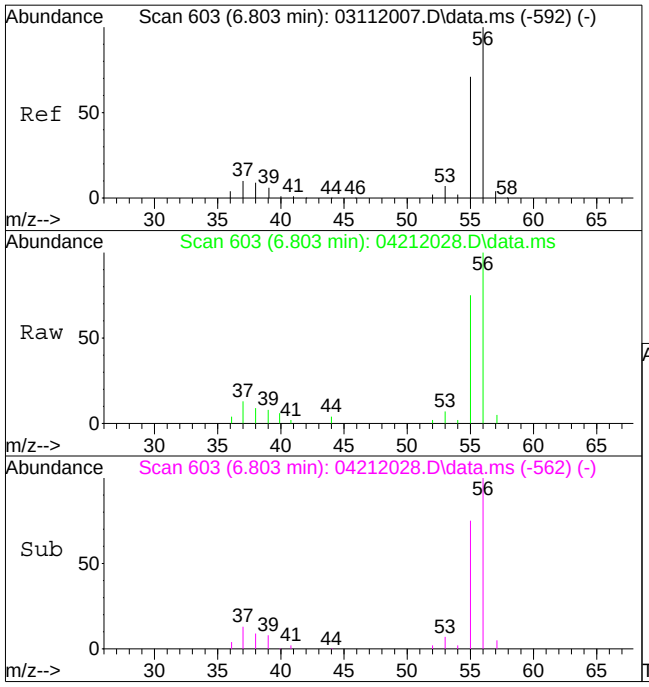


#11
Acetonitrile
Concen: 0.07 ng
RT: 6.62 min Scan# 569
Delta R.T. -0.049 min
Lab File: 04212028.D
Acq: 22 Apr 2020 00:15

Tgt Ion: 41 Resp: 3966

Ion	Ratio	Lower	Upper
41	100		
40	117.5	33.6	73.6#

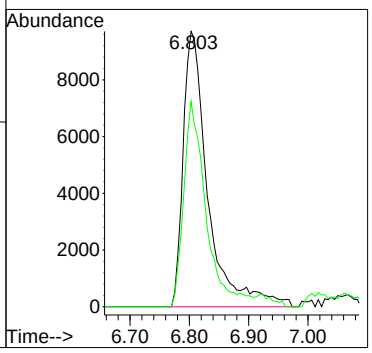


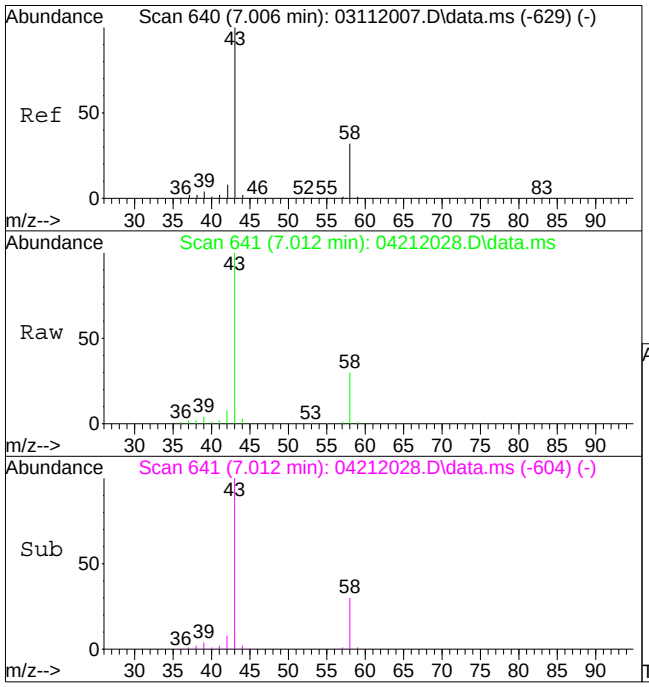


#12
Acrolein
Concen: 1.53 ng
RT: 6.80 min Scan# 603
Delta R.T. -0.027 min
Lab File: 04212028.D
Acq: 22 Apr 2020 00:15

Tgt Ion: 56 Resp: 28025

Ion	Ratio	Lower	Upper
56	100		
55	70.4	50.4	90.4

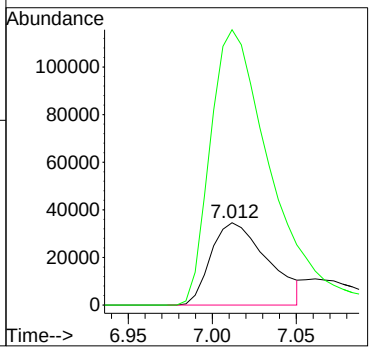


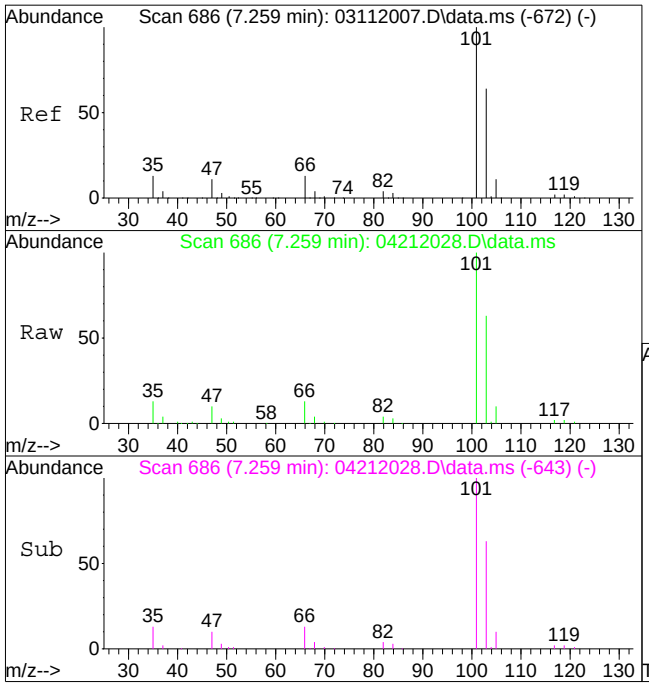


#13
Acetone
Concen: 3.33 ng m
RT: 7.01 min Scan# 641
Delta R.T. -0.044 min
Lab File: 04212028.D
Acq: 22 Apr 2020 00:15

Tgt Ion: 58 Resp: 81548

Ion	Ratio	Lower	Upper
58	100		
43	370.9	287.3	347.3#

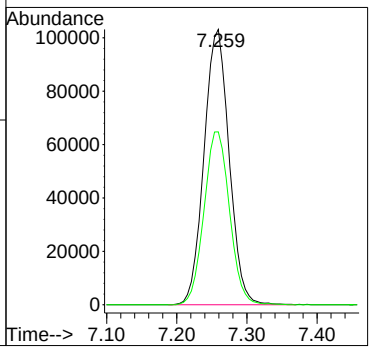


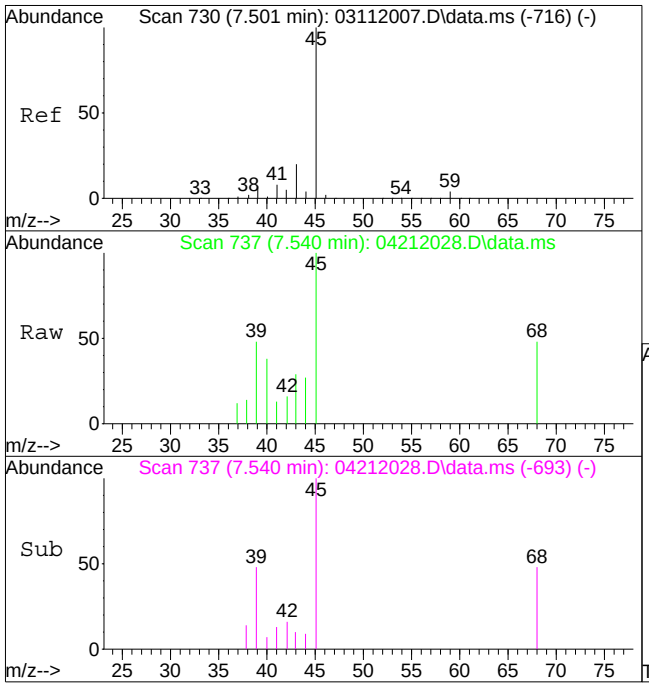


#14
Trichlorofluoromethane
Concen: 4.30 ng
RT: 7.26 min Scan# 686
Delta R.T. -0.016 min
Lab File: 04212028.D
Acq: 22 Apr 2020 00:15

Tgt Ion:101 Resp: 256631

Ion	Ratio	Lower	Upper
101	100		
103	63.9	44.6	84.6

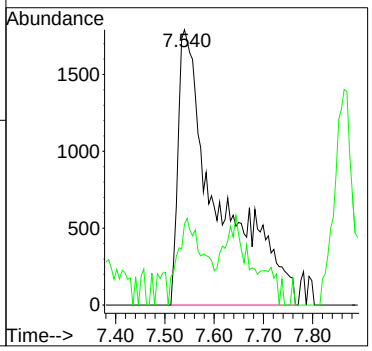


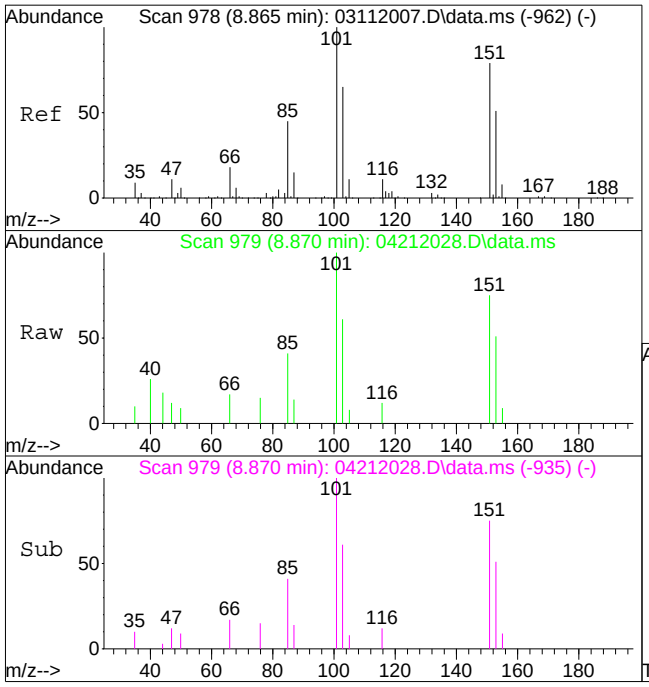


#15
2-Propanol (Isopropanol)
Concen: 0.14 ng
RT: 7.54 min Scan# 737
Delta R.T. -0.011 min
Lab File: 04212028.D
Acq: 22 Apr 2020 00:15

Tgt Ion: 45 Resp: 10103

Ion	Ratio	Lower	Upper
45	100		
43	3.3	0.3	40.3

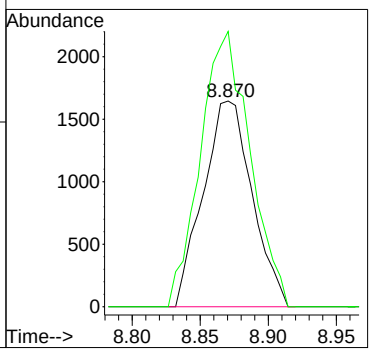


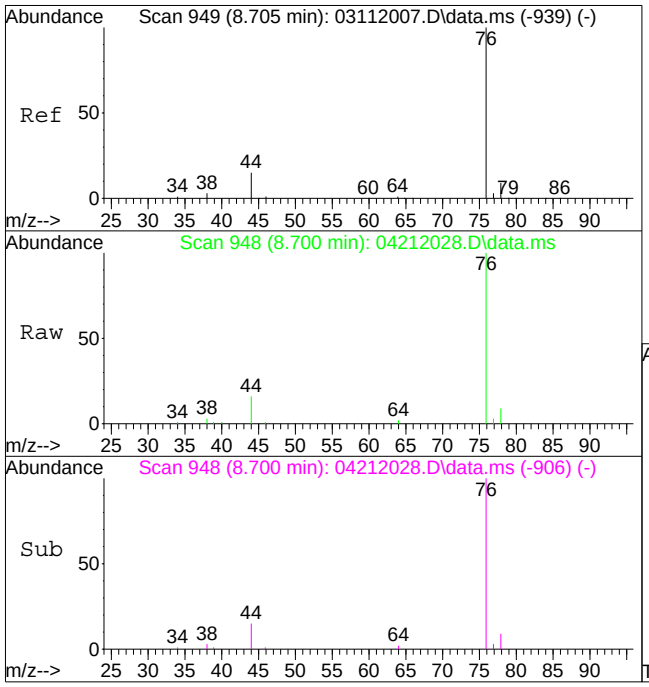


#21
Trichlorotrifluoroethane
Concen: 0.14 ng
RT: 8.87 min Scan# 979
Delta R.T. -0.006 min
Lab File: 04212028.D
Acq: 22 Apr 2020 00:15

Tgt Ion:151 Resp: 4114

Ion	Ratio	Lower	Upper
151	100		
101	135.6	108.4	148.4

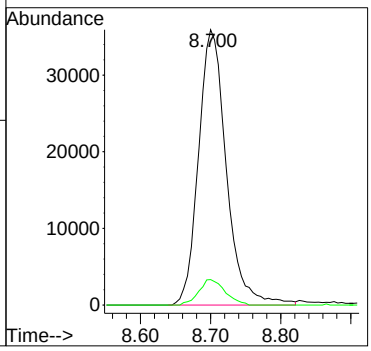


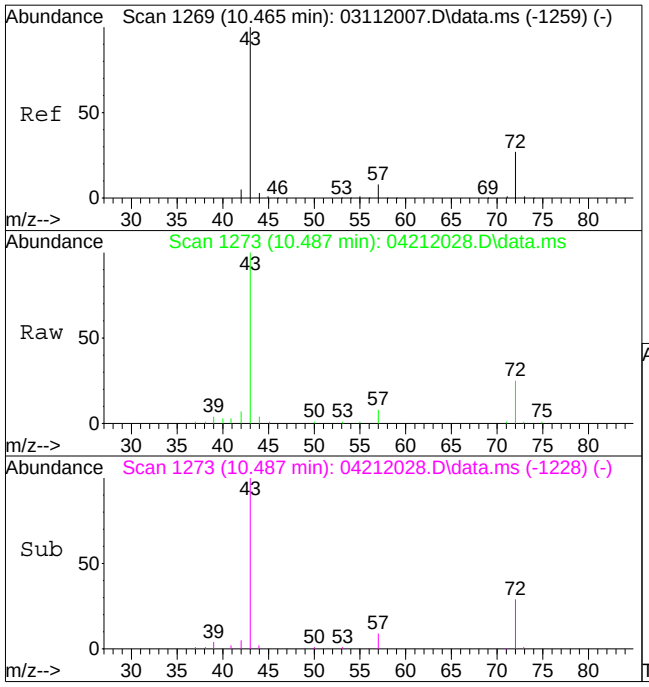


#22
Carbon Disulfide
Concen: 0.86 ng
RT: 8.70 min Scan# 948
Delta R.T. -0.022 min
Lab File: 04212028.D
Acq: 22 Apr 2020 00:15

Tgt Ion: 76 Resp: 98994

Ion	Ratio	Lower	Upper
76	100		
78	8.7	0.0	29.2

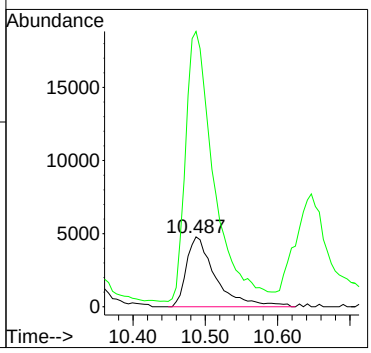


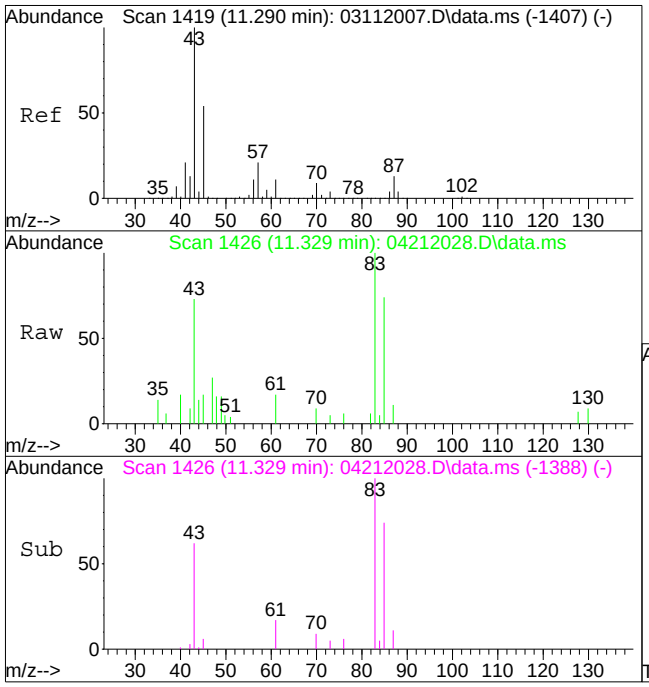


#27
2-Butanone (MEK)
Concen: 0.66 ng
RT: 10.49 min Scan# 1273
Delta R.T. -0.005 min
Lab File: 04212028.D
Acq: 22 Apr 2020 00:15

Tgt Ion: 72 Resp: 13367

Ion	Ratio	Lower	Upper
72	100		
43	378.2	353.4	393.4

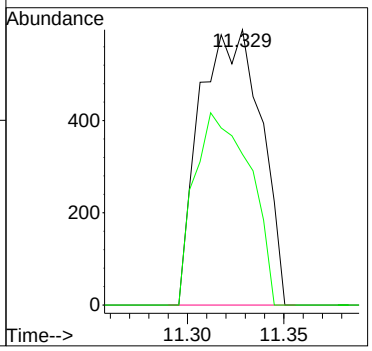


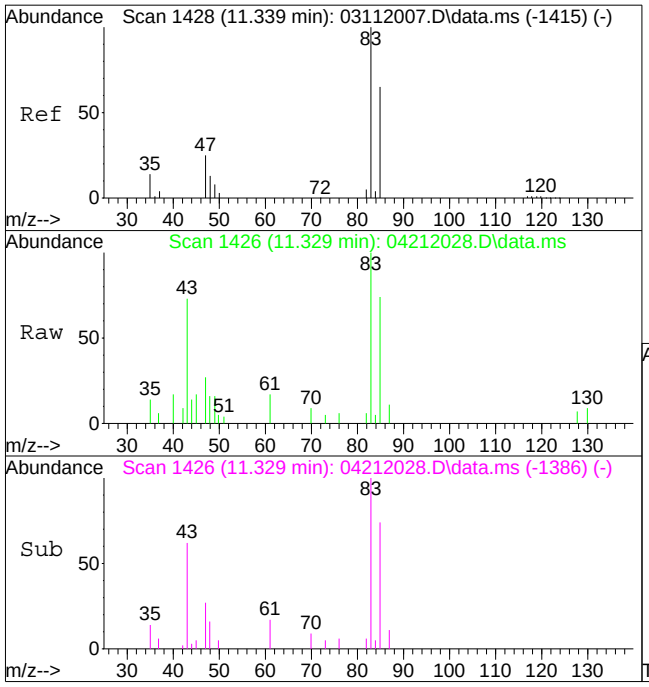


#30
Ethyl Acetate
Concen: 0.11 ng
RT: 11.33 min Scan# 1426
Delta R.T. 0.011 min
Lab File: 04212028.D
Acq: 22 Apr 2020 00:15

Tgt Ion: 61 Resp: 1318

Ion	Ratio	Lower	Upper
61	100		
70	63.4	59.1	99.1

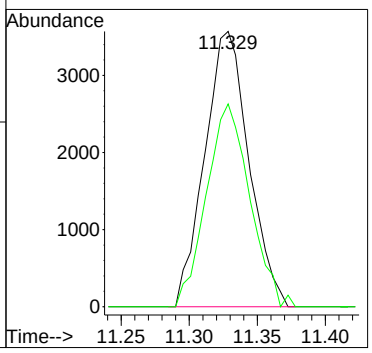


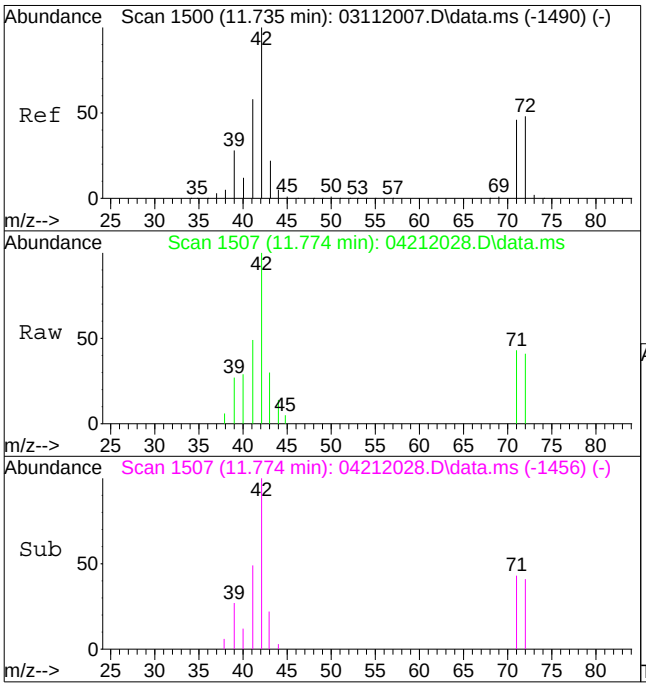


#32
Chloroform
Concen: 0.14 ng
RT: 11.33 min Scan# 1426
Delta R.T. -0.033 min
Lab File: 04212028.D
Acq: 22 Apr 2020 00:15

Tgt Ion: 83 Resp: 8051

Ion	Ratio	Lower	Upper
83	100		
85	72.1	45.5	85.5

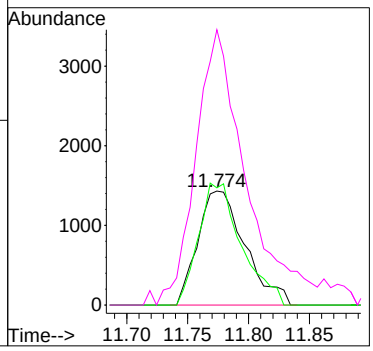


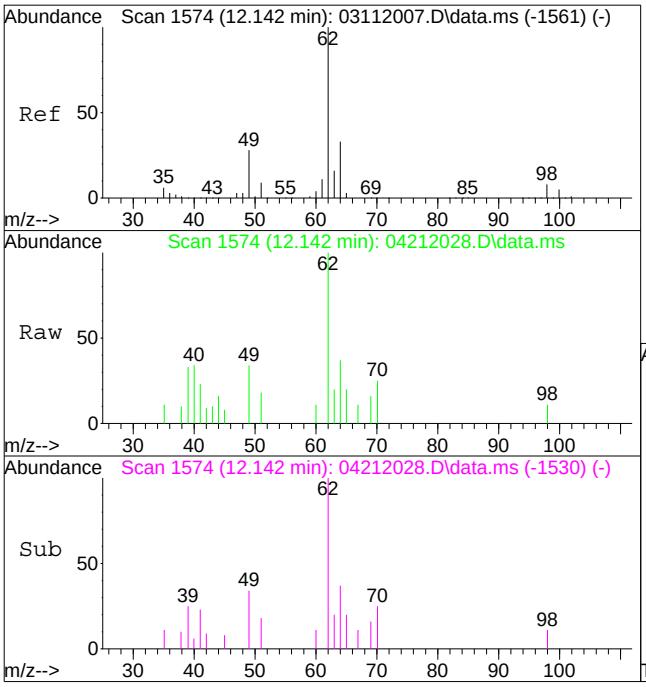


#34
Tetrahydrofuran (THF)
Concen: 0.18 ng
RT: 11.77 min Scan# 1507
Delta R.T. 0.028 min
Lab File: 04212028.D
Acq: 22 Apr 2020 00:15

Tgt Ion: 72 Resp: 3858

Ion	Ratio	Lower	Upper
72	100		
71	97.4	75.9	115.9
42	270.2	189.3	229.3#

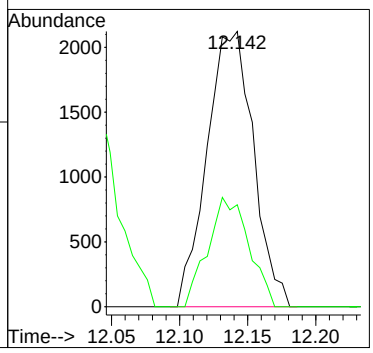


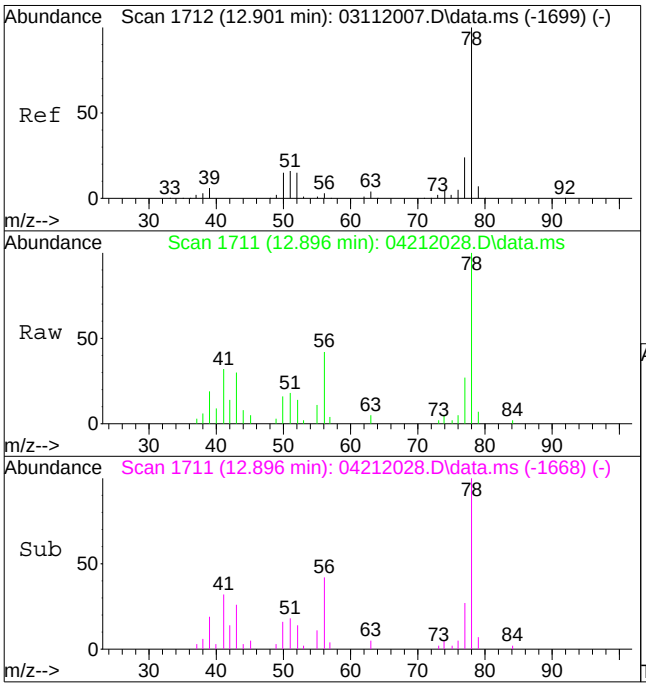


#36
1,2-Dichloroethane
Concen: 0.11 ng
RT: 12.14 min Scan# 1574
Delta R.T. -0.011 min
Lab File: 04212028.D
Acq: 22 Apr 2020 00:15

Tgt Ion: 62 Resp: 5035

Ion	Ratio	Lower	Upper
62	100		
64	35.0	12.4	52.4

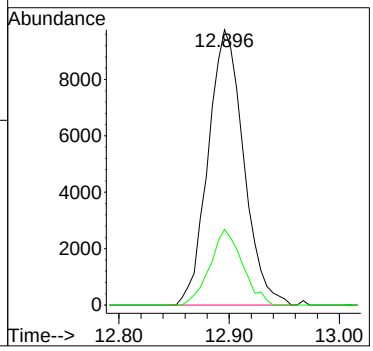


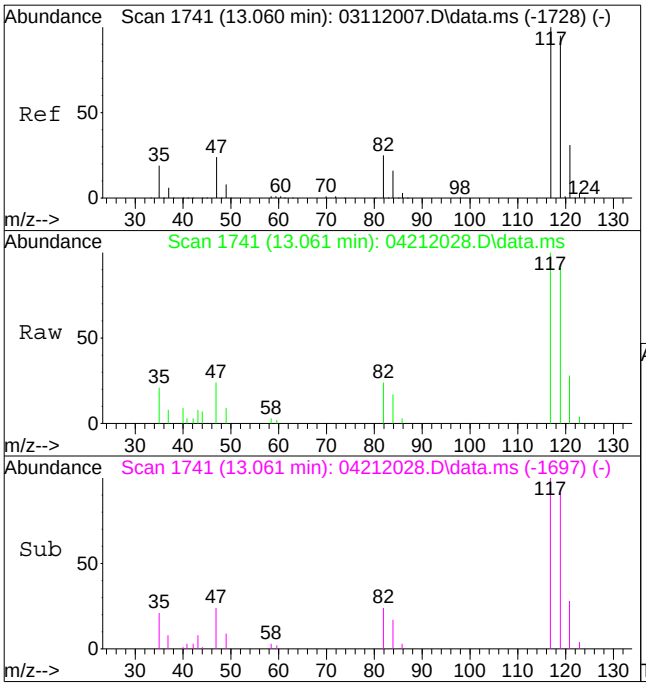


#41
Benzene
Concen: 0.16 ng
RT: 12.90 min Scan# 1711
Delta R.T. -0.016 min
Lab File: 04212028.D
Acq: 22 Apr 2020 00:15

Tgt Ion: 78 Resp: 21826

Ion	Ratio	Lower	Upper
78	100		
77	25.1	3.4	43.4

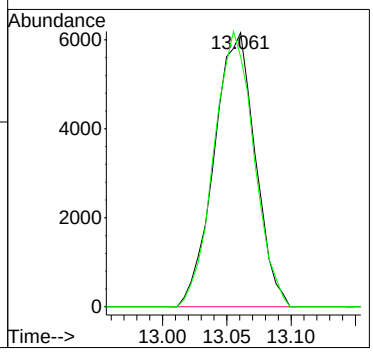


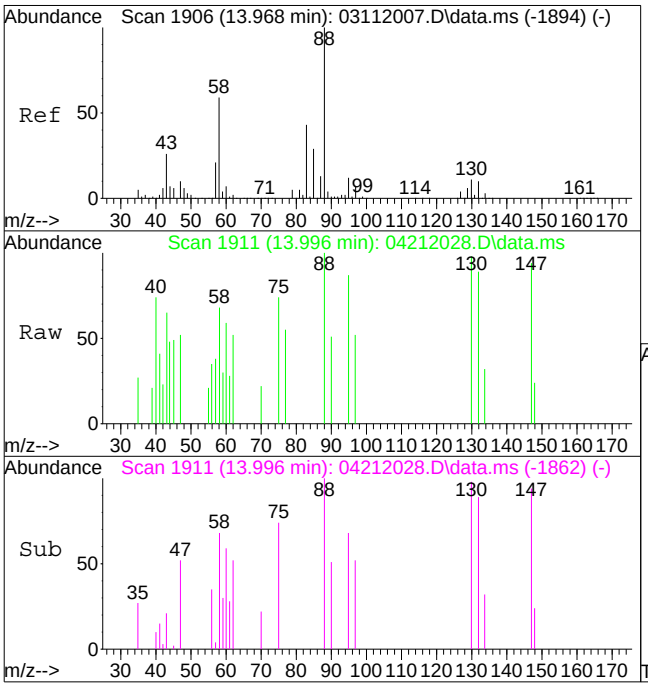


#42
Carbon Tetrachloride
Concen: 0.29 ng
RT: 13.06 min Scan# 1741
Delta R.T. -0.011 min
Lab File: 04212028.D
Acq: 22 Apr 2020 00:15

Tgt Ion:117 Resp: 13683

Ion	Ratio	Lower	Upper
117	100		
119	98.1	75.4	115.4

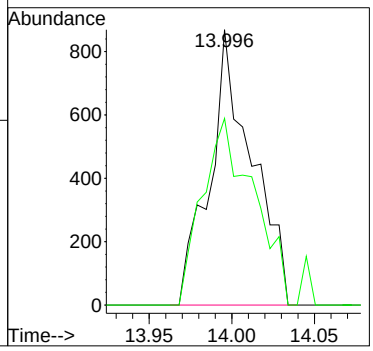


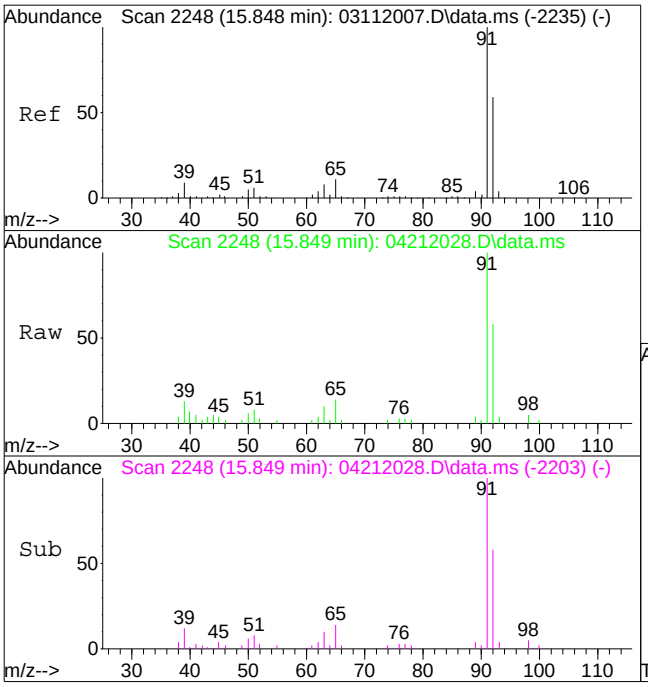


#48
1,4-Dioxane
Concen: 0.06 ng
RT: 14.00 min Scan# 1911
Delta R.T. 0.017 min
Lab File: 04212028.D
Acq: 22 Apr 2020 00:15

Tgt Ion: 88 Resp: 1538

Ion	Ratio	Lower	Upper
88	100		
58	82.8	39.5	79.5#

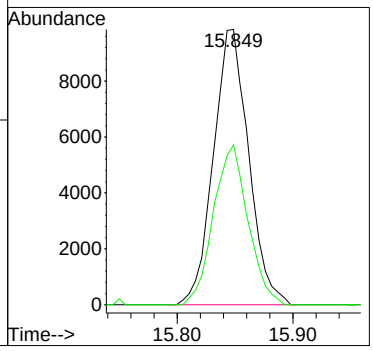


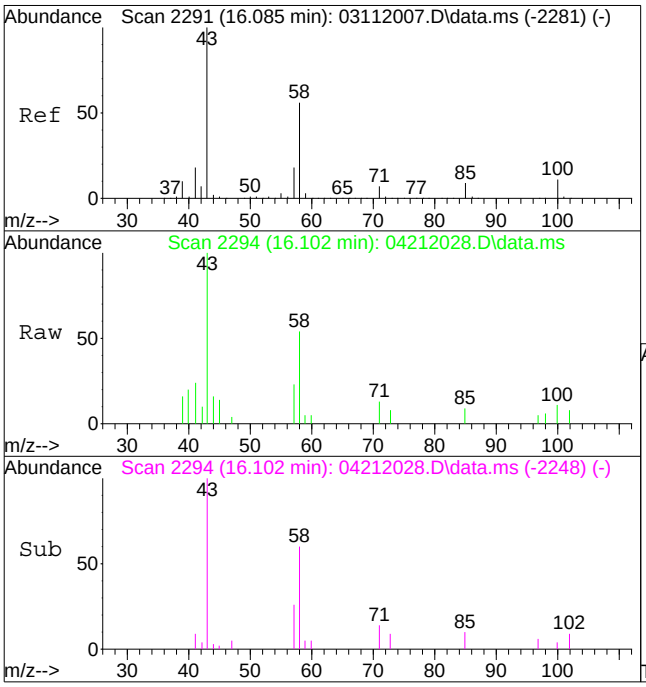


#58
Toluene
Concen: 0.15 ng
RT: 15.85 min Scan# 2248
Delta R.T. -0.005 min
Lab File: 04212028.D
Acq: 22 Apr 2020 00:15

Tgt Ion: 91 Resp: 20877

Ion	Ratio	Lower	Upper
91	100		
92	56.9	39.0	79.0

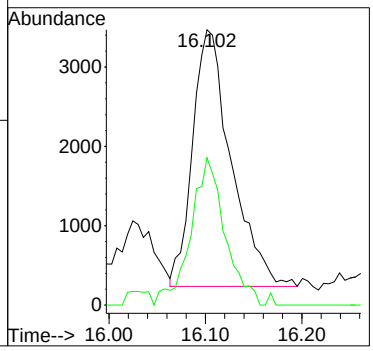


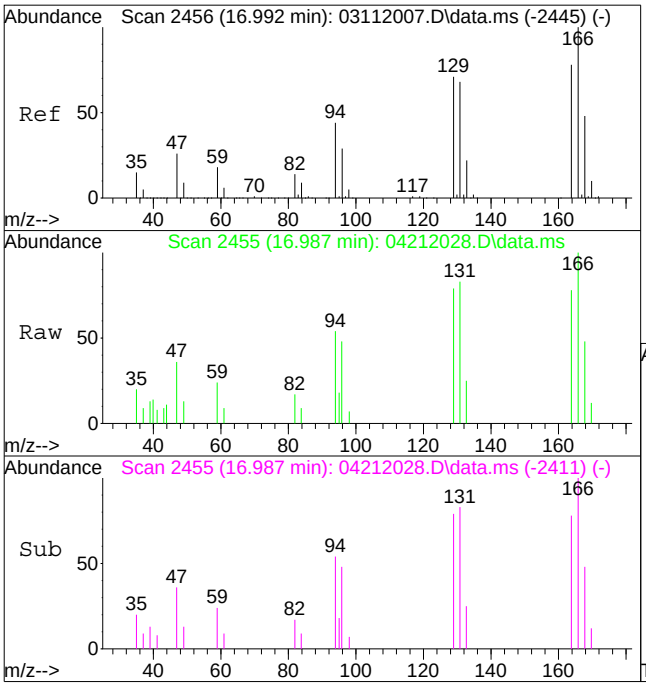


#59
2-Hexanone
Concen: 0.13 ng
RT: 16.10 min Scan# 2294
Delta R.T. 0.000 min
Lab File: 04212028.D
Acq: 22 Apr 2020 00:15

Tgt Ion: 43 Resp: 9003

Ion	Ratio	Lower	Upper
43	100		
58	51.0	36.5	76.5

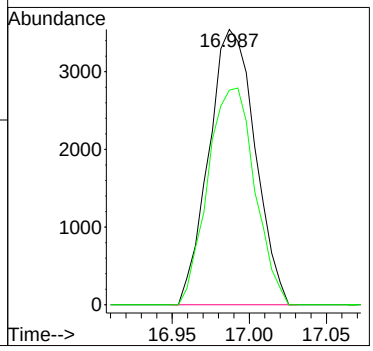


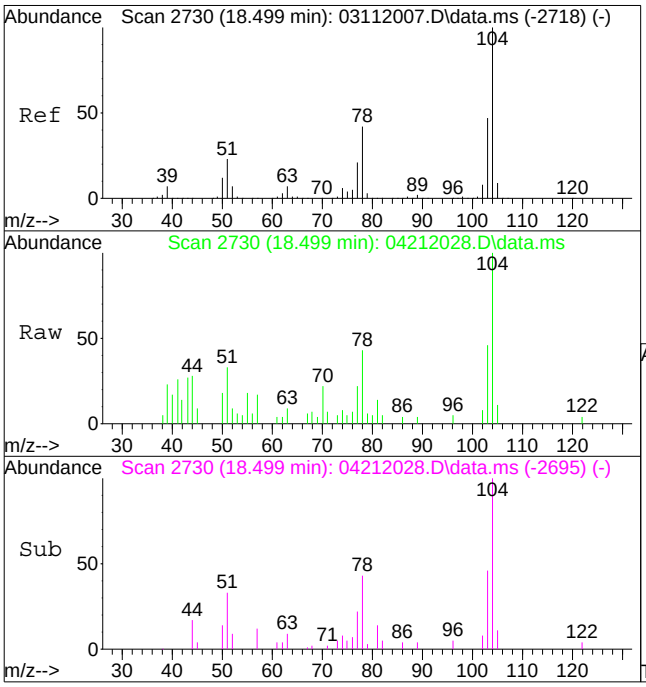


#64
Tetrachloroethene
Concen: 0.19 ng
RT: 16.99 min Scan# 2455
Delta R.T. -0.011 min
Lab File: 04212028.D
Acq: 22 Apr 2020 00:15

Tgt Ion:166 Resp: 7395

Ion	Ratio	Lower	Upper
166	100		
164	79.7	58.6	98.6

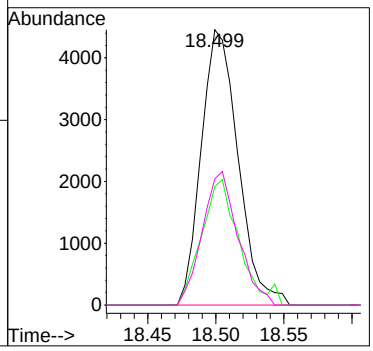


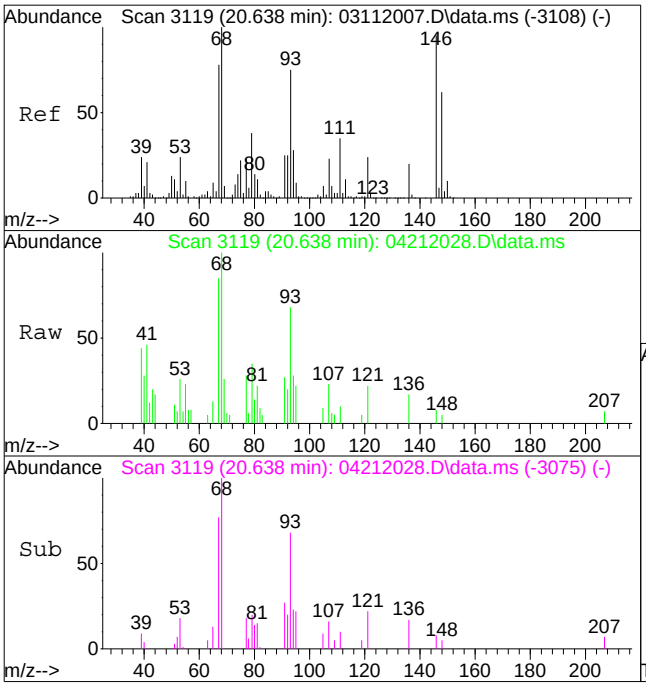


#69
Styrene
Concen: 0.08 ng
RT: 18.50 min Scan# 2730
Delta R.T. -0.006 min
Lab File: 04212028.D
Acq: 22 Apr 2020 00:15

Tgt Ion:104 Resp: 8387

Ion	Ratio	Lower	Upper
104	100		
78	46.5	20.9	60.9
103	46.9	27.4	67.4

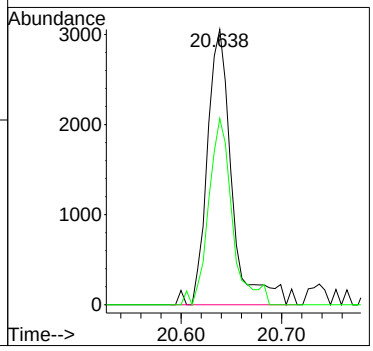


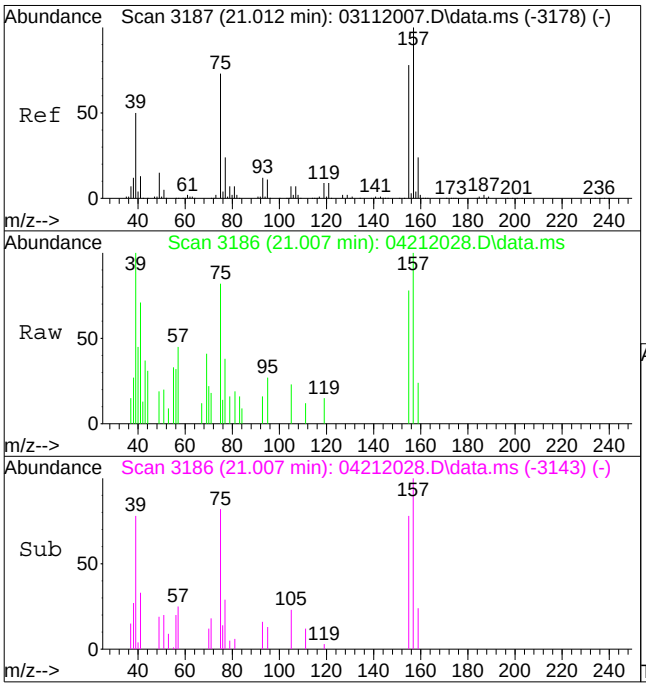


#91
d-Limonene
Concen: 0.10 ng
RT: 20.64 min Scan# 3119
Delta R.T. -0.011 min
Lab File: 04212028.D
Acq: 22 Apr 2020 00:15

Tgt Ion: 68 Resp: 5225

Ion	Ratio	Lower	Upper
68	100		
93	64.6	54.7	94.7

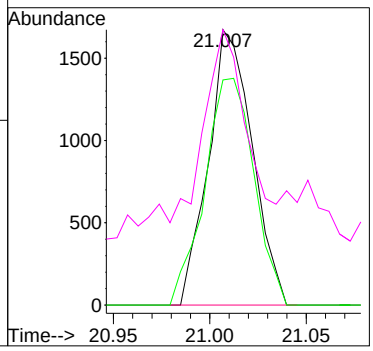


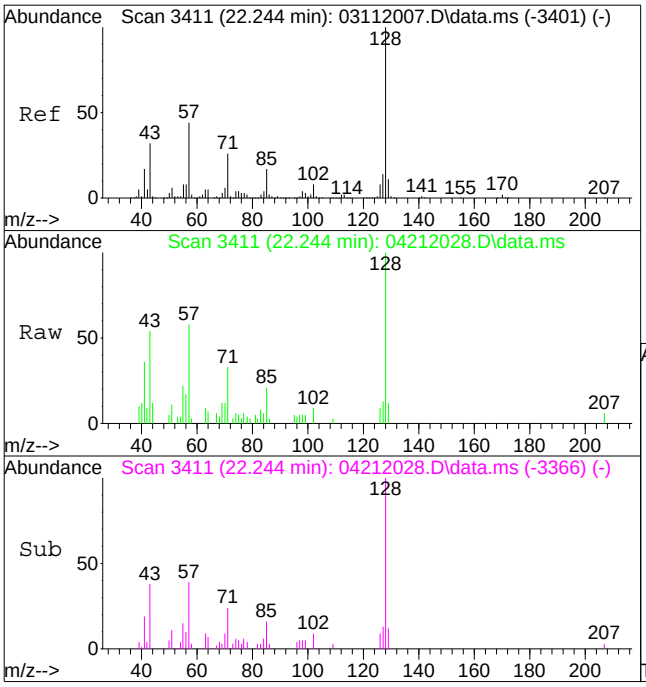


#92
1,2-Dibromo-3-Chloropropane
Concen: 0.10 ng
RT: 21.01 min Scan# 3186
Delta R.T. -0.011 min
Lab File: 04212028.D
Acq: 22 Apr 2020 00:15

Tgt Ion:157 Resp: 2646

Ion	Ratio	Lower	Upper
157	100		
75	92.4	55.5	95.5
39	107.0	32.9	72.9#

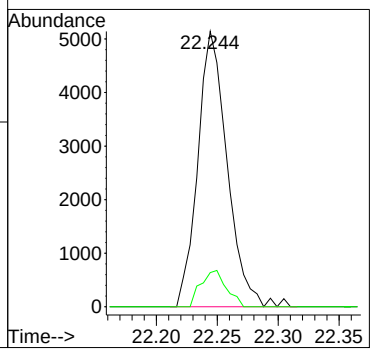




#95
Naphthalene
Concen: 0.05 ng
RT: 22.24 min Scan# 3411
Delta R.T. -0.005 min
Lab File: 04212028.D
Acq: 22 Apr 2020 00:15

Tgt Ion:128 Resp: 8648

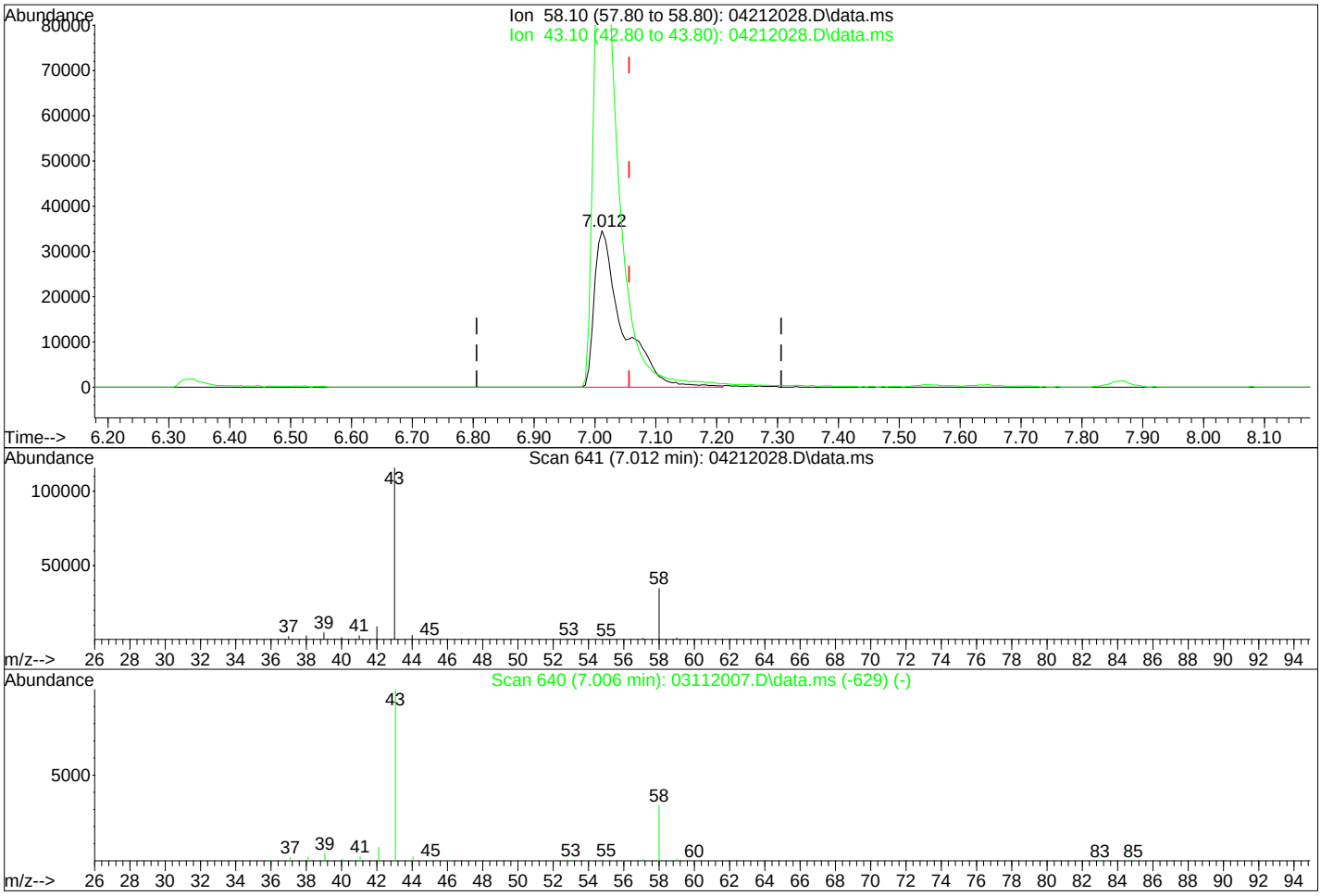
Ion	Ratio	Lower	Upper
128	100		
129	11.4	0.0	31.1



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\21\04212028.D Vial: 10
Acq On : 22 Apr 2020 00:15 Operator: WA
Sample : P2002032-009 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 03:15:27 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04212028.D\data.ms

(13) Acetone (T)

7.012min (-0.044) 4.52ng

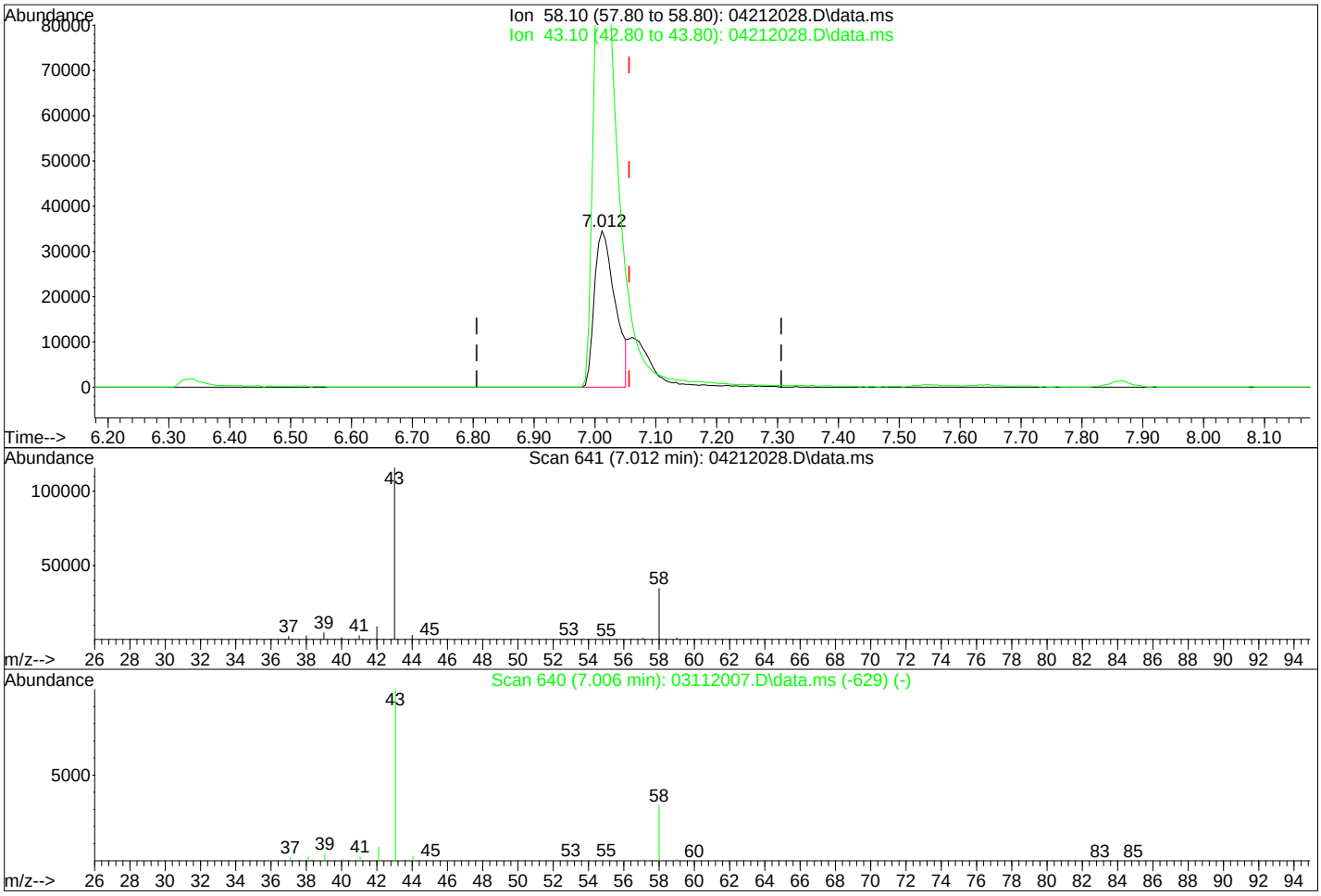
response 110788

Ion	Exp%	Act%
58.10	100	100
43.10	317.30	273.03#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\21\04212028.D Vial: 10
Acq On : 22 Apr 2020 00:15 Operator: WA
Sample : P2002032-009 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 03:15:27 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04212028.D\data.ms

(13) Acetone (T)

7.012min (-0.044) 3.33ng m

response 81548

Ion	Exp%	Act%
58.10	100	100
43.10	317.30	370.93#
0.00	0.00	0.00
0.00	0.00	0.00

IPC

LH 4/24/20

TD 4/27/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212029.D Vial: 14
Acq On : 22 Apr 2020 00:49 Operator: WA
Sample : P2002032-010 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 12:54:00 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/24/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	290396	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1291840	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	628065	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.01	65	505050	12.560	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.48%				
57) Toluene-d8 (SS2)	15.74	98	1334892	11.991	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.92%				
73) Bromofluorobenzene (SS3)	19.00	174	446798	11.366	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.96%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	4.28	85	364491	5.563	ng		100
4) Chloromethane	4.56	50	3544	0.068	ng		86
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	1031	N.D.			
6) Vinyl Chloride	4.98	62	419	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	6.01	64	169	N.D.			
10) Ethanol	6.35	45	17842	0.741	ng		97
11) Acetonitrile	6.63	41	1470	N.D.			
12) Acrolein	6.82	56	1987	0.112	ng		87
13) Acetone	7.03	58	37728	1.588	ng		98
14) Trichlorofluoromethane	7.26	101	251700	4.356	ng		100
15) 2-Propanol (Isopropanol)	7.56	45	5675	0.081	ng		67
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.49	59	676	N.D.			
19) Methylene Chloride	8.44	84	434	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	8.88	151	3722	0.135	ng		93
22) Carbon Disulfide	8.71	76	154141	1.387	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.51	72	2802	0.142	ng	#	61
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.32	61	660	0.056	ng		90
31) n-Hexane	11.28	57	7334	0.135	ng		99
32) Chloroform	11.33	83	21207	0.368	ng		97
34) Tetrahydrofuran (THF)	11.76	72	15301	0.752	ng	#	90
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.03	62	185	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.90	78	11380	0.085	ng		99
42) Carbon Tetrachloride	13.06	117	17804	0.388	ng		100
43) Cyclohexane	13.20	84	603	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	13.56	63	250	N.D.			
46) Bromodichloromethane	13.95	83	289	N.D.			
47) Trichloroethene	14.00	130	2429	0.064	ng		97
48) 1,4-Dioxane	14.01	88	479	N.D.			
49) 2,2,4-Trimethylpentane...	14.07	57	2265	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212029.D Vial: 14
Acq On : 22 Apr 2020 00:49 Operator: WA
Sample : P2002032-010 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 12:54:00 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

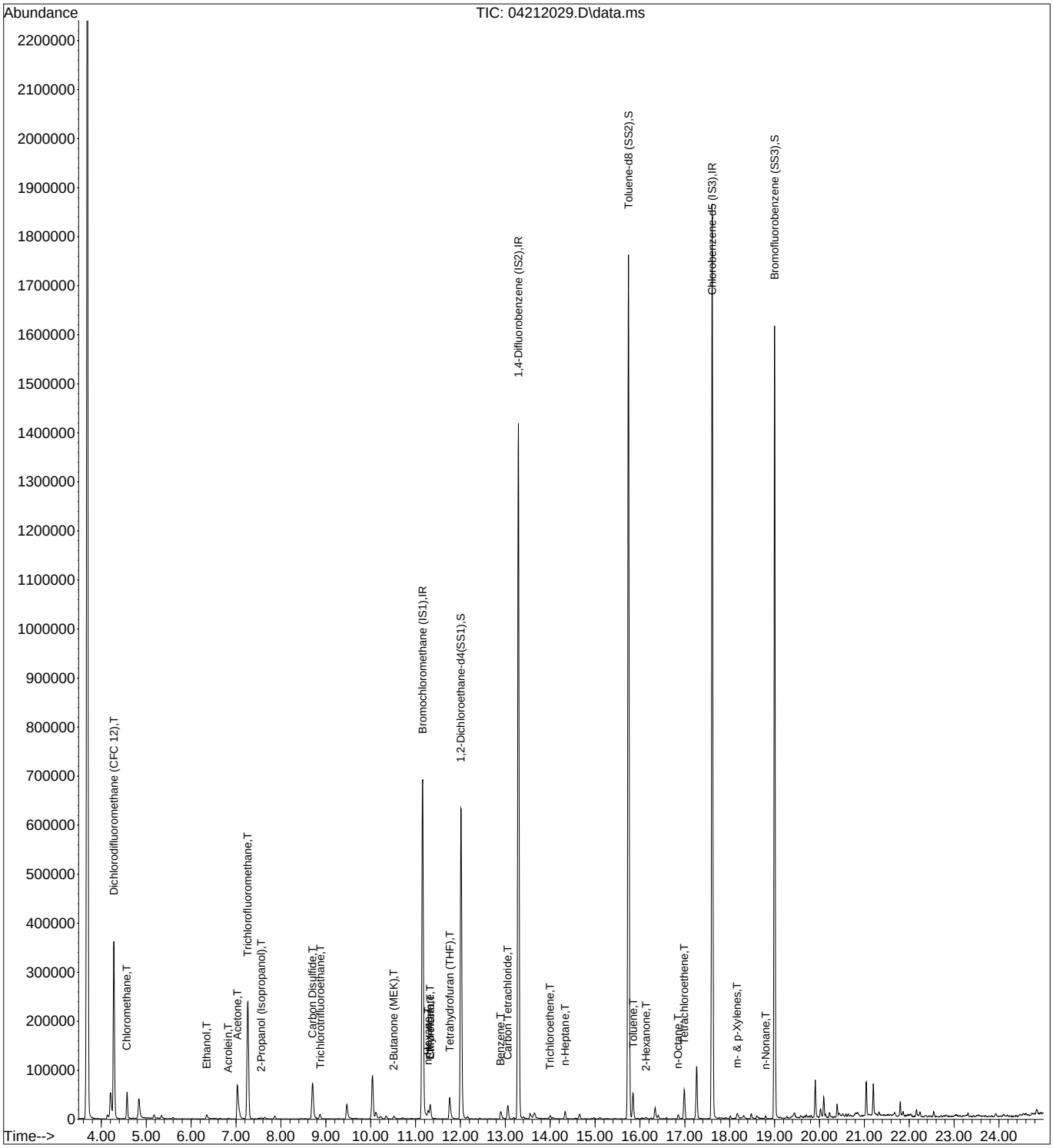
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.33	71	3773	0.121 ng		95
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.92	58	116	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.85	91	44818	0.326 ng		100
59) 2-Hexanone	16.13	43	3557	0.052 ng	#	40
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.75	43	759	N.D.		
63) n-Octane	16.85	57	1608	0.059 ng		98
64) Tetrachloroethene	16.99	166	18941	0.494 ng		99
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	18.02	91	5265	N.D.		
67) m- & p-Xylenes	18.16	91	9880	0.080 ng		94
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.50	104	536	N.D.		
70) o-Xylene	18.60	91	2590	N.D.		
71) n-Nonane	18.80	43	3269	0.053 ng		77
72) 1,1,2,2-Tetrachloroethane	18.60	83	105	N.D.		
74) Cumene	19.13	105	1102	N.D.		
75) alpha-Pinene	19.47	93	113	N.D.		
76) n-Propylbenzene	19.58	91	2718	N.D.		
77) 3-Ethyltoluene	19.67	105	2372	N.D.		
78) 4-Ethyltoluene	19.71	105	1472	N.D.		
79) 1,3,5-Trimethylbenzene	19.78	105	1130	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	19.93	105	1227	N.D.		
82) 1,2,4-Trimethylbenzene	20.14	105	3195	N.D.		
83) n-Decane	20.23	57	2981	N.D.		
84) Benzyl Chloride	20.24	91	452	N.D.		
85) 1,3-Dichlorobenzene	20.33	146	122	N.D.		
86) 1,4-Dichlorobenzene	20.33	146	122	N.D.		
87) sec-Butylbenzene	20.37	105	477	N.D.		
88) 4-Isopropyltoluene (p-...	20.52	119	980	N.D.		
89) 1,2,3-Trimethylbenzene	20.51	105	1562	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.64	68	1235	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.33	57	1945	N.D.		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	22.25	128	2170	N.D.		
96) n-Dodecane	22.24	57	2309	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	20.13	119	449	N.D.		
100) n-Butylbenzene	20.87	91	2486	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212029.D Vial: 14
Acq On : 22 Apr 2020 00:49 Operator: WA
Sample : P2002032-010 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 12:54:00 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

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Acq On : 22 Apr 2020 00:49 Operator: WA
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QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/24/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	290396	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1291840	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	628065	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.01	65	505050	12.560	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.48%				
57) Toluene-d8 (SS2)	15.74	98	1334892	11.991	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.92%				
73) Bromofluorobenzene (SS3)	19.00	174	446798	11.366	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.96%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.28	85	364491	5.563	ng		100
4) Chloromethane	4.56	50	3544	0.068	ng		86
10) Ethanol	6.35	45	17842	0.741	ng		97
12) Acrolein	6.82	56	1987	0.112	ng		87
13) Acetone	7.03	58	37728	1.588	ng		98
14) Trichlorofluoromethane	7.26	101	251700	4.356	ng		100
15) 2-Propanol (Isopropanol)	7.56	45	5675	0.081	ng		67
21) Trichlorotrifluoroethane	8.88	151	3722	0.135	ng		93
22) Carbon Disulfide	8.71	76	154141	1.387	ng		99
27) 2-Butanone (MEK)	10.51	72	2802	0.142	ng	#	61
30) Ethyl Acetate	11.32	61	660	0.056	ng		90
31) n-Hexane	11.28	57	7334	0.135	ng		99
32) Chloroform	11.33	83	21207	0.368	ng		97
34) Tetrahydrofuran (THF)	11.76	72	15301	0.752	ng	#	90
41) Benzene	12.90	78	11380	0.085	ng		99
42) Carbon Tetrachloride	13.06	117	17804	0.388	ng		100
47) Trichloroethene	14.00	130	2429	0.064	ng		97
51) n-Heptane	14.33	71	3773	0.121	ng		95
58) Toluene	15.85	91	44818	0.326	ng		100
59) 2-Hexanone	16.13	43	3557	0.052	ng	#	40
63) n-Octane	16.85	57	1608	0.059	ng		98
64) Tetrachloroethene	16.99	166	18941	0.494	ng		99
67) m- & p-Xylenes	18.16	91	9880	0.080	ng		94
71) n-Nonane	18.80	43	3269	0.053	ng		77

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212029.D Vial: 14
Acq On : 22 Apr 2020 00:49 Operator: WA
Sample : P2002032-010 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 12:54:00 2020
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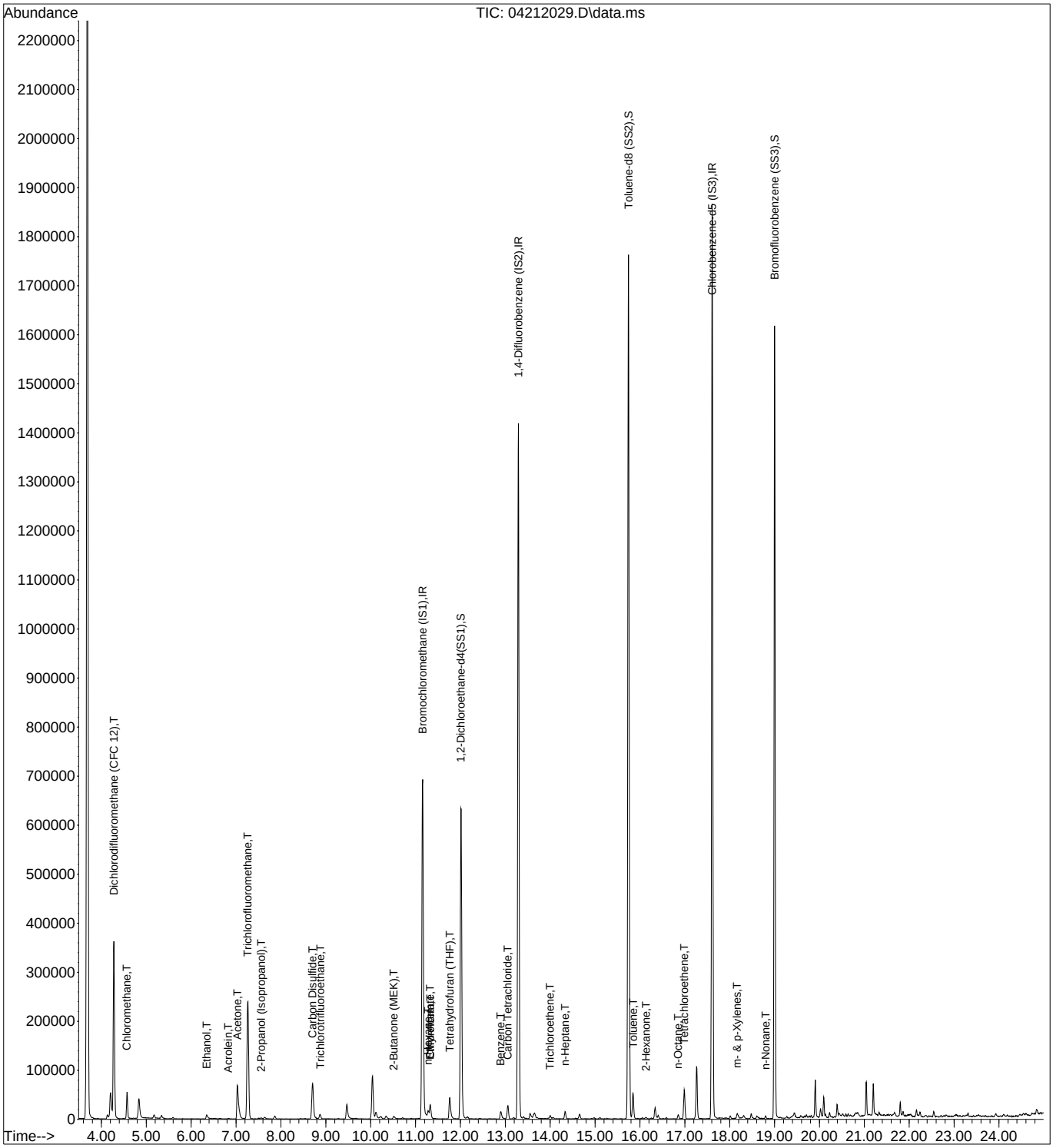
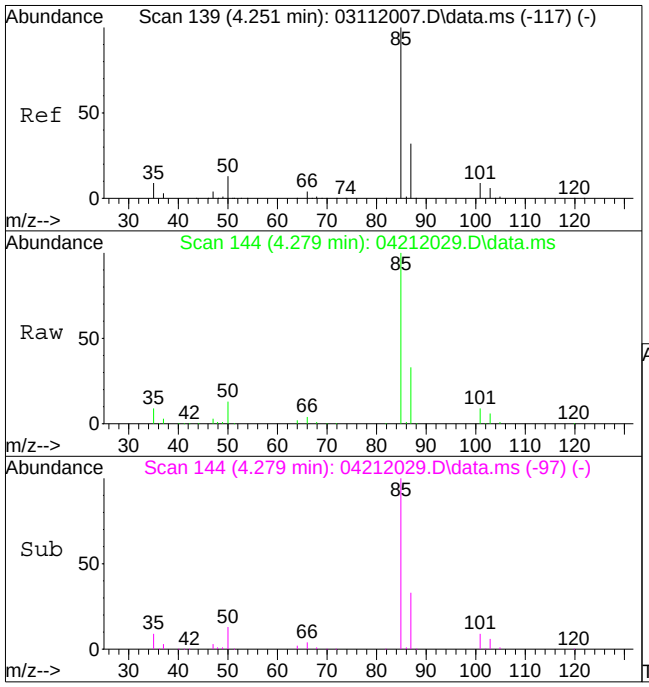
Response via : Initial Calibration
DataAcq Meth:TO15.M

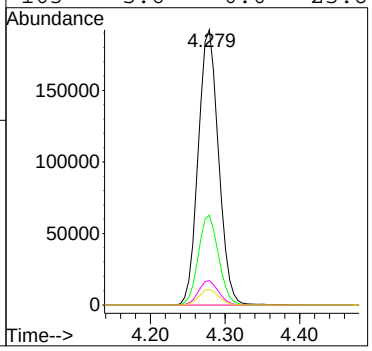


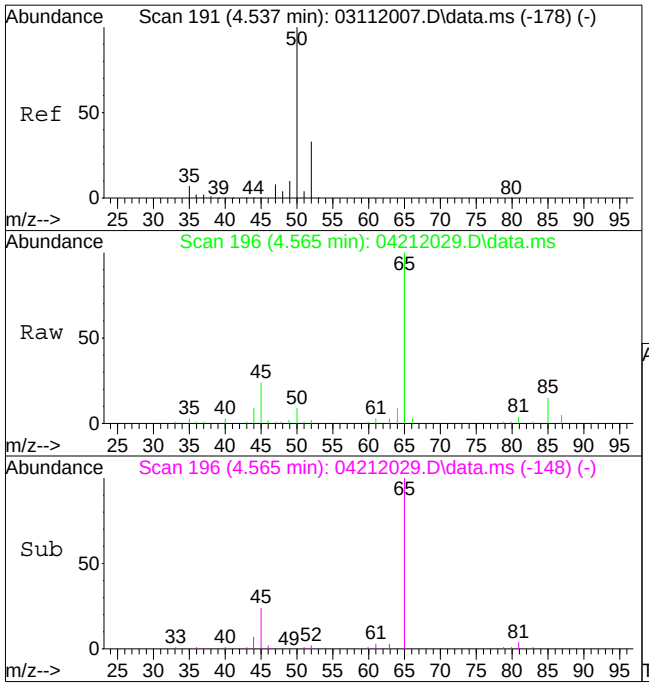


#3
Dichlorodifluoromethane (CFC 12)
Concen: 5.56 ng
RT: 4.28 min Scan# 144
Delta R.T. 0.011 min
Lab File: 04212029.D
Acq: 22 Apr 2020 00:49

Tgt Ion: 85 Resp: 364491

Ion	Ratio	Lower	Upper
85	100		
87	32.5	12.3	52.3
101	8.8	0.0	29.0
103	5.6	0.0	25.8

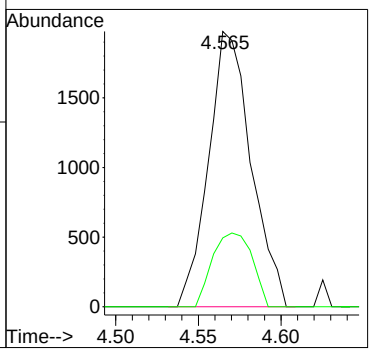


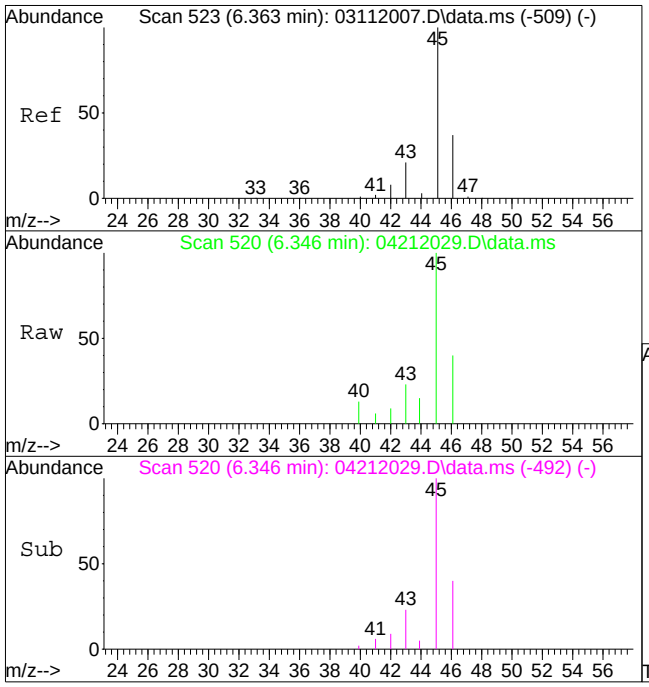


#4
Chloromethane
Concen: 0.07 ng
RT: 4.56 min Scan# 196
Delta R.T. 0.012 min
Lab File: 04212029.D
Acq: 22 Apr 2020 00:49

Tgt Ion: 50 Resp: 3544

Ion	Ratio	Lower	Upper
50	100		
52	25.0	12.8	52.8

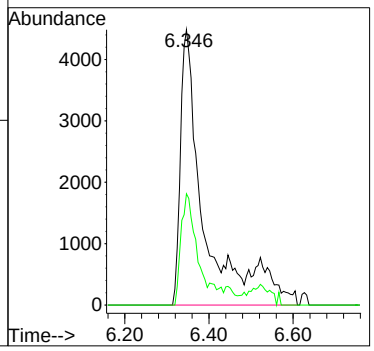


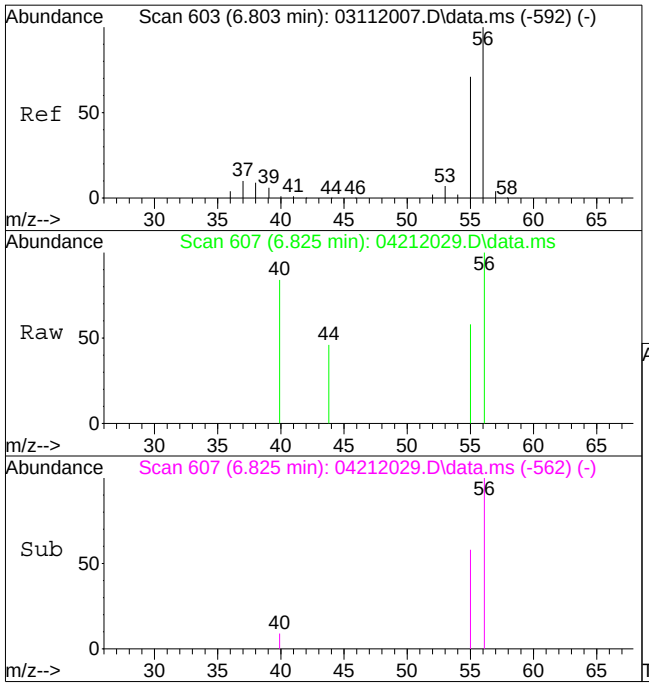


#10
Ethanol
Concen: 0.74 ng
RT: 6.35 min Scan# 520
Delta R.T. -0.094 min
Lab File: 04212029.D
Acq: 22 Apr 2020 00:49

Tgt Ion: 45 Resp: 17842

Ion	Ratio	Lower	Upper
45	100		
46	38.9	17.3	57.3

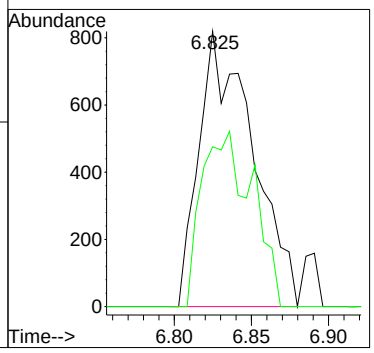


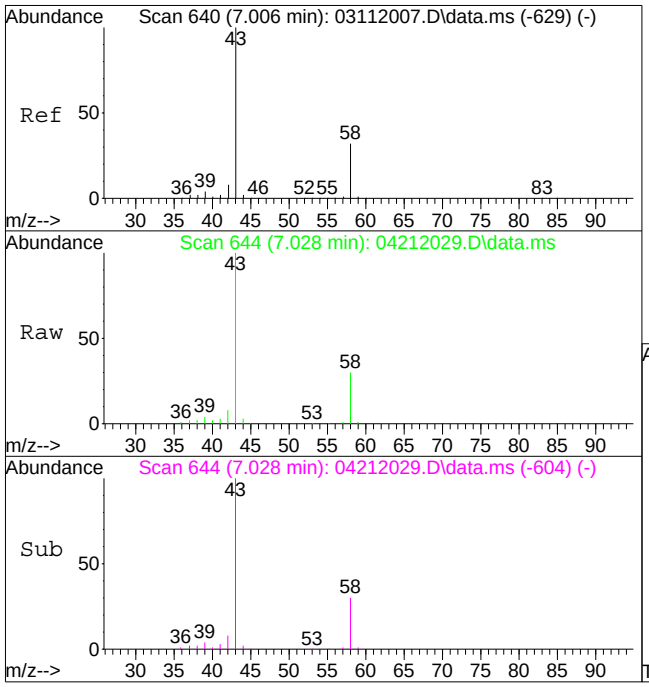


#12
Acrolein
Concen: 0.11 ng
RT: 6.82 min Scan# 607
Delta R.T. -0.005 min
Lab File: 04212029.D
Acq: 22 Apr 2020 00:49

Tgt Ion: 56 Resp: 1987

Ion	Ratio	Lower	Upper
56	100		
55	59.9	50.4	90.4

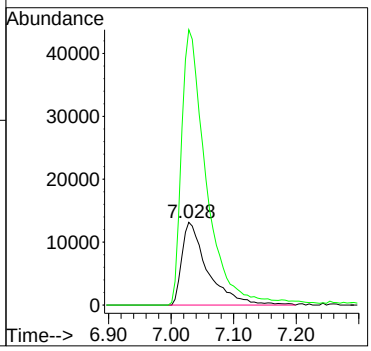


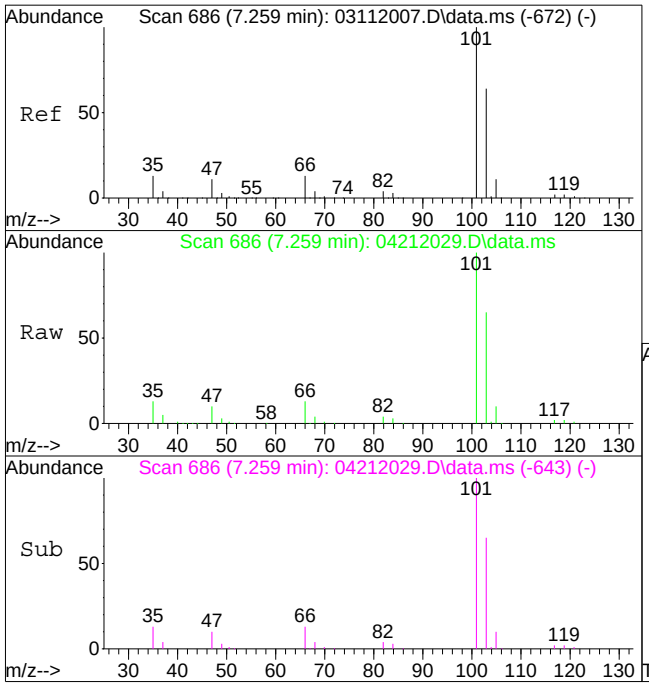


#13
Acetone
Concen: 1.59 ng
RT: 7.03 min Scan# 644
Delta R.T. -0.028 min
Lab File: 04212029.D
Acq: 22 Apr 2020 00:49

Tgt Ion: 58 Resp: 37728

Ion	Ratio	Lower	Upper
58	100		
43	322.0	287.3	347.3

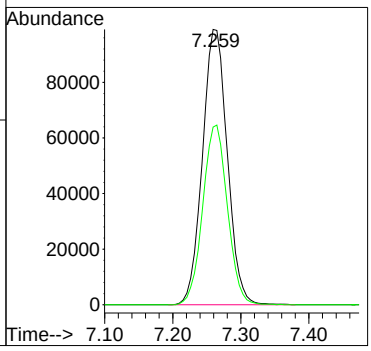


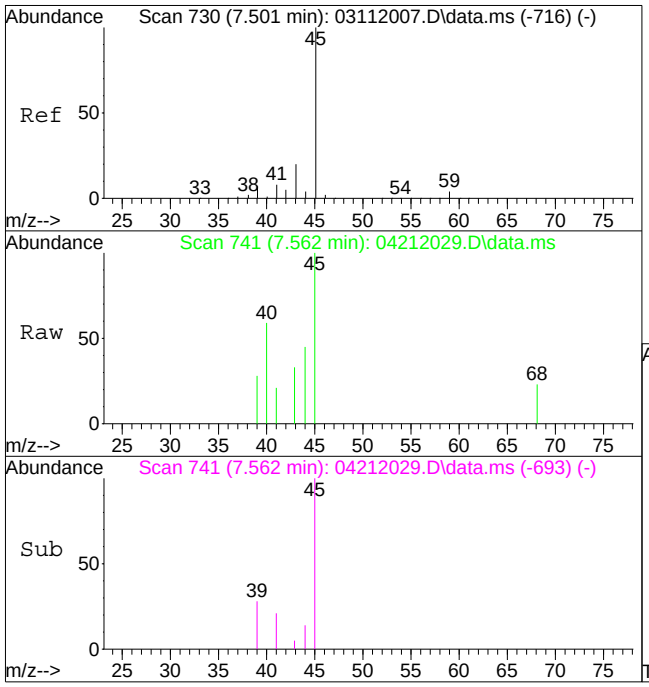


#14
Trichlorofluoromethane
Concen: 4.36 ng
RT: 7.26 min Scan# 686
Delta R.T. -0.016 min
Lab File: 04212029.D
Acq: 22 Apr 2020 00:49

Tgt Ion:101 Resp: 251700

Ion	Ratio	Lower	Upper
101	100		
103	64.6	44.6	84.6

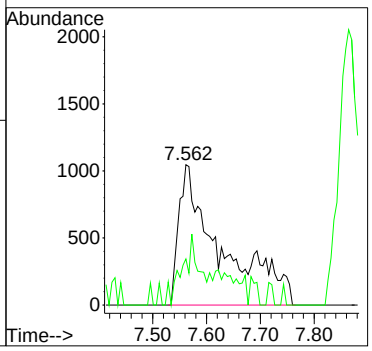


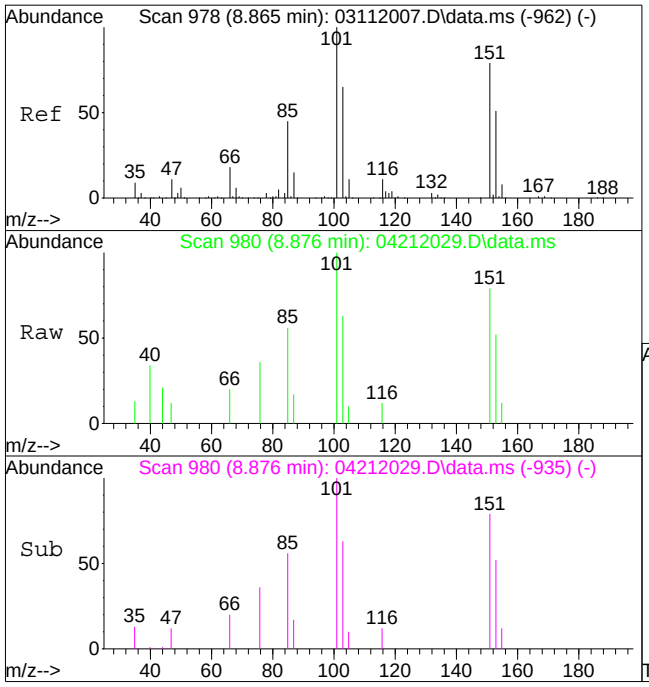


#15
2-Propanol (Isopropanol)
Concen: 0.08 ng
RT: 7.56 min Scan# 741
Delta R.T. 0.011 min
Lab File: 04212029.D
Acq: 22 Apr 2020 00:49

Tgt Ion: 45 Resp: 5675

Ion	Ratio	Lower	Upper
45	100		
43	35.7	0.3	40.3

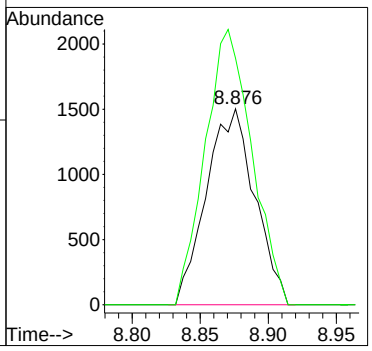


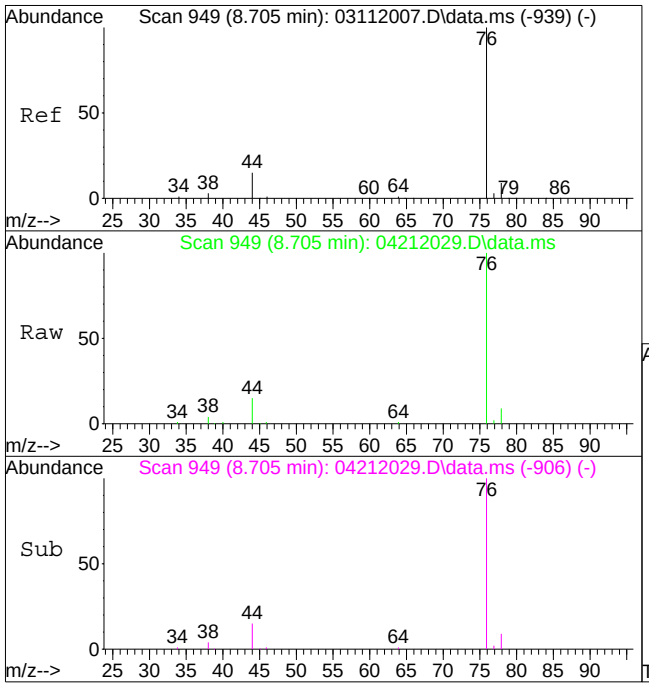


#21
Trichlorotrifluoroethane
Concen: 0.13 ng
RT: 8.88 min Scan# 980
Delta R.T. -0.000 min
Lab File: 04212029.D
Acq: 22 Apr 2020 00:49

Tgt Ion:151 Resp: 3722

Ion	Ratio	Lower	Upper
151	100		
101	136.0	108.4	148.4

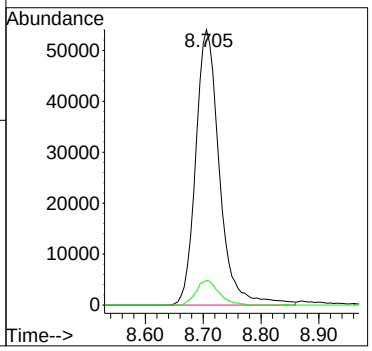


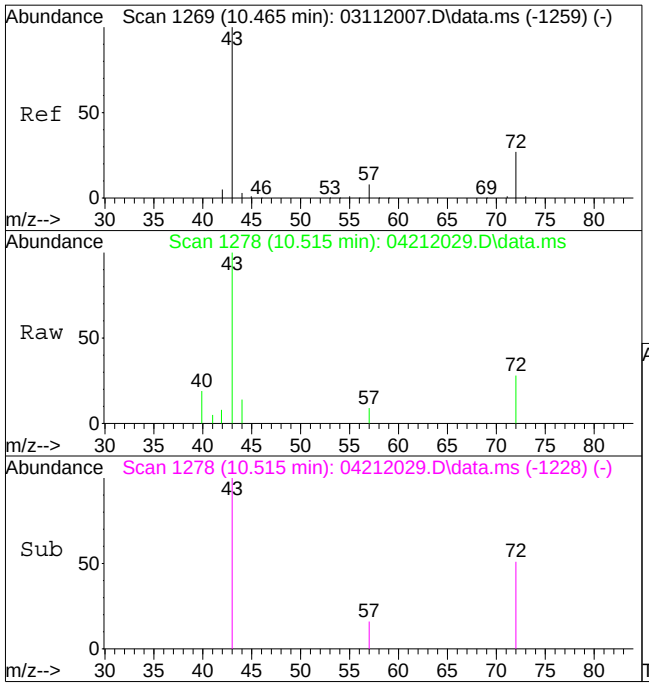


#22
Carbon Disulfide
Concen: 1.39 ng
RT: 8.71 min Scan# 949
Delta R.T. -0.016 min
Lab File: 04212029.D
Acq: 22 Apr 2020 00:49

Tgt Ion: 76 Resp: 154141

Ion	Ratio	Lower	Upper
76	100		
78	8.7	0.0	29.2

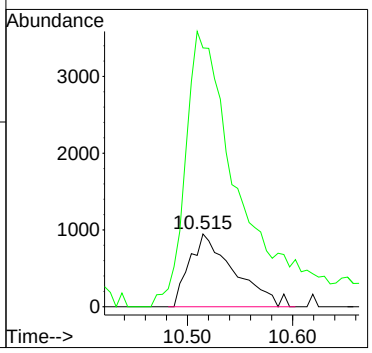


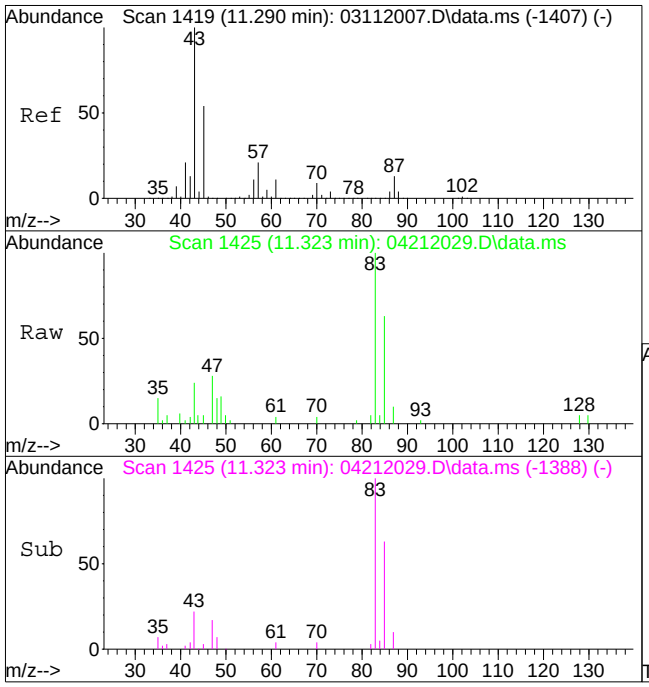


#27
2-Butanone (MEK)
Concen: 0.14 ng
RT: 10.51 min Scan# 1278
Delta R.T. 0.022 min
Lab File: 04212029.D
Acq: 22 Apr 2020 00:49

Tgt Ion: 72 Resp: 2802

Ion	Ratio	Lower	Upper
72	100		
43	461.1	353.4	393.4#

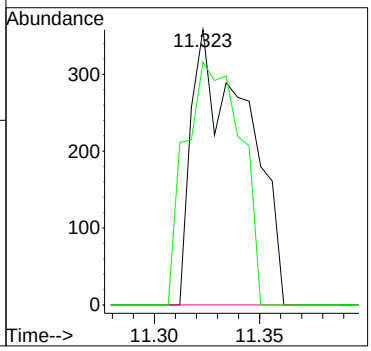


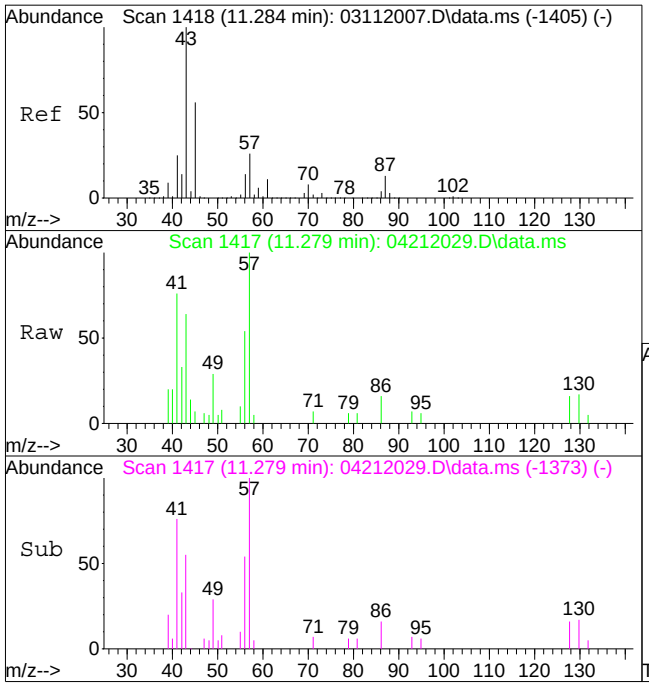


#30
Ethyl Acetate
Concen: 0.06 ng
RT: 11.32 min Scan# 1425
Delta R.T. 0.006 min
Lab File: 04212029.D
Acq: 22 Apr 2020 00:49

Tgt Ion: 61 Resp: 660

Ion	Ratio	Lower	Upper
61	100		
70	87.9	59.1	99.1

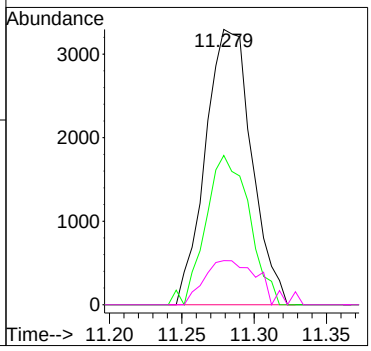


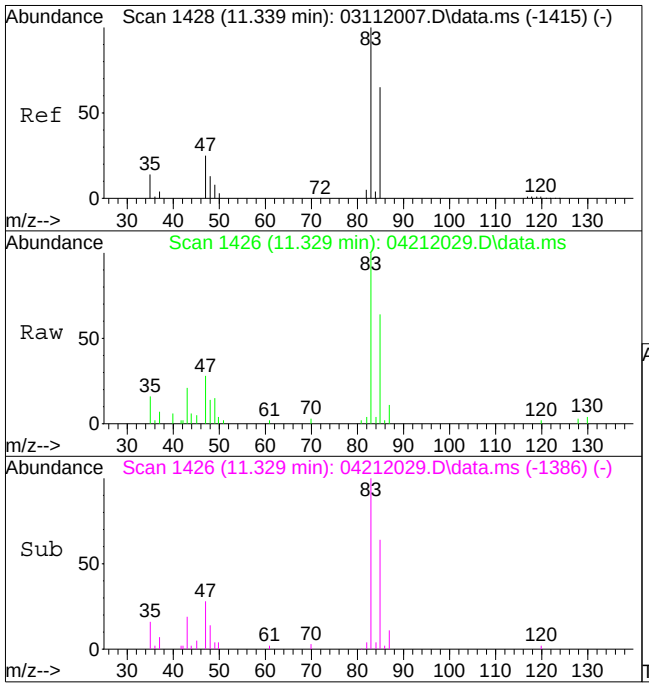


#31
n-Hexane
Concen: 0.14 ng
RT: 11.28 min Scan# 1417
Delta R.T. -0.011 min
Lab File: 04212029.D
Acq: 22 Apr 2020 00:49

Tgt Ion: 57 Resp: 7334

Ion	Ratio	Lower	Upper
57	100		
56	51.3	41.0	61.4
86	19.1	13.9	20.9

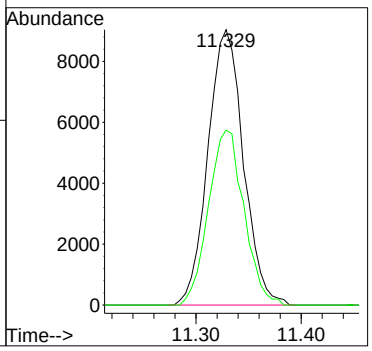


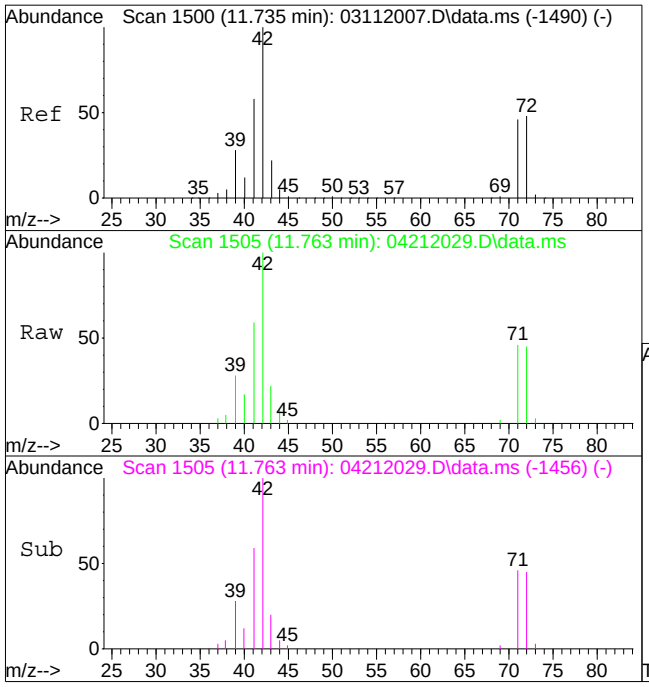


#32
Chloroform
Concen: 0.37 ng
RT: 11.33 min Scan# 1426
Delta R.T. -0.033 min
Lab File: 04212029.D
Acq: 22 Apr 2020 00:49

Tgt Ion: 83 Resp: 21207

Ion	Ratio	Lower	Upper
83	100		
85	63.4	45.5	85.5

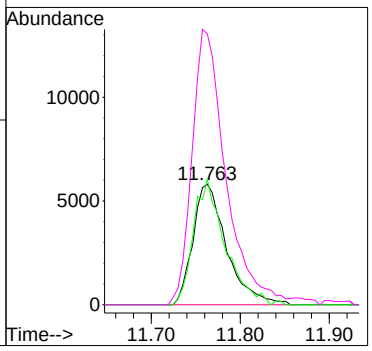


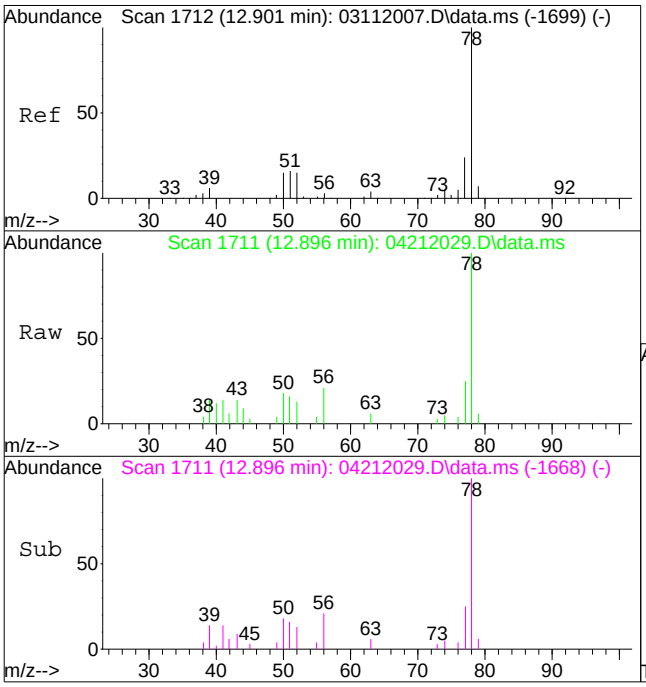


#34
Tetrahydrofuran (THF)
Concen: 0.75 ng
RT: 11.76 min Scan# 1505
Delta R.T. 0.017 min
Lab File: 04212029.D
Acq: 22 Apr 2020 00:49

Tgt Ion: 72 Resp: 15301

Ion	Ratio	Lower	Upper
72	100		
71	97.4	75.9	115.9
42	231.1	189.3	229.3#

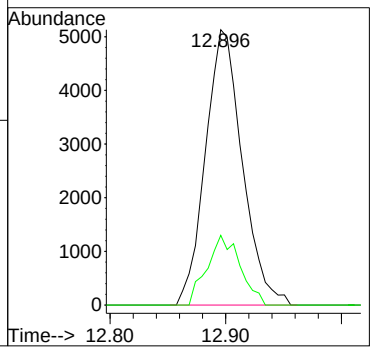


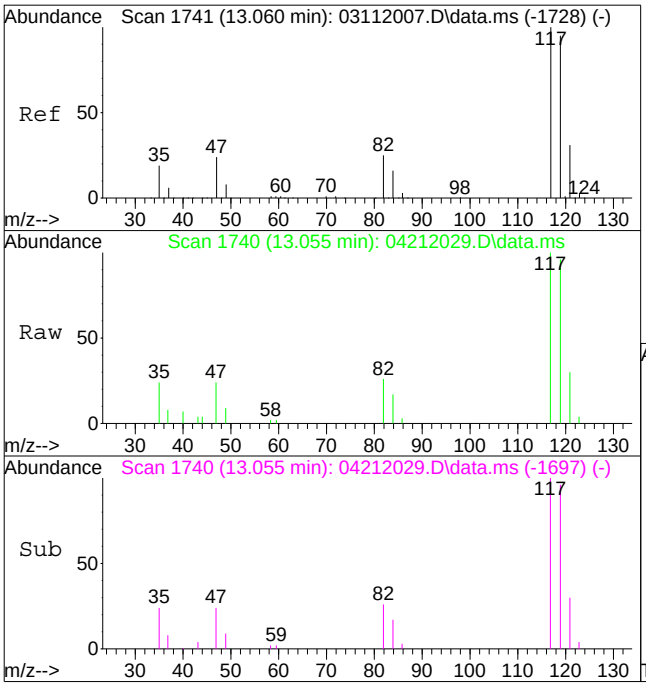


#41
Benzene
Concen: 0.09 ng
RT: 12.90 min Scan# 1711
Delta R.T. -0.016 min
Lab File: 04212029.D
Acq: 22 Apr 2020 00:49

Tgt Ion: 78 Resp: 11380

Ion	Ratio	Lower	Upper
78	100		
77	22.7	3.4	43.4

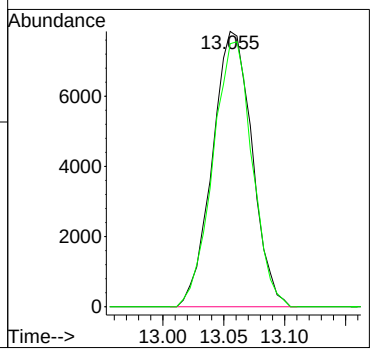


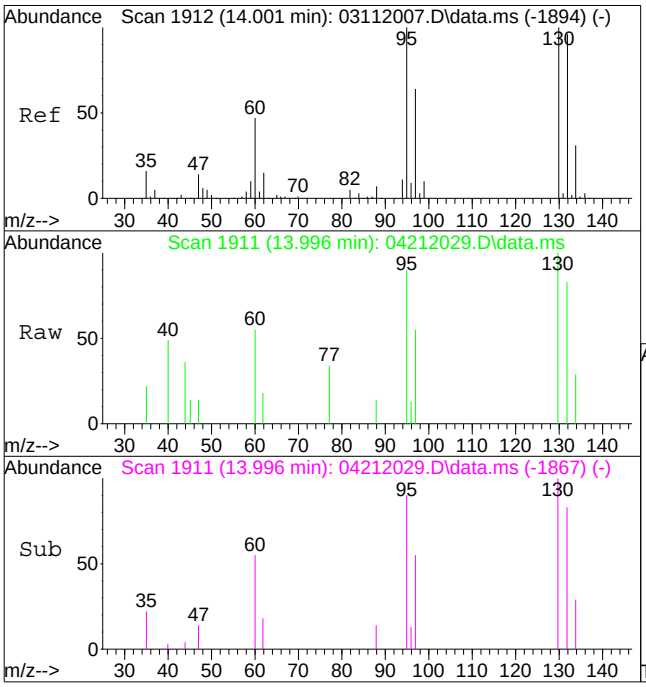


#42
Carbon Tetrachloride
Concen: 0.39 ng
RT: 13.06 min Scan# 1740
Delta R.T. -0.016 min
Lab File: 04212029.D
Acq: 22 Apr 2020 00:49

Tgt Ion:117 Resp: 17804

Ion	Ratio	Lower	Upper
117	100		
119	95.3	75.4	115.4

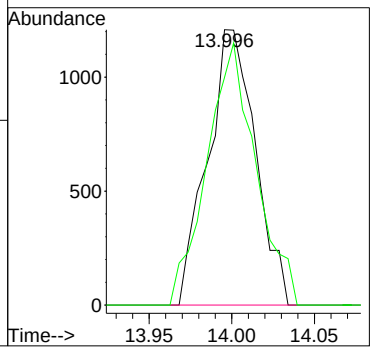


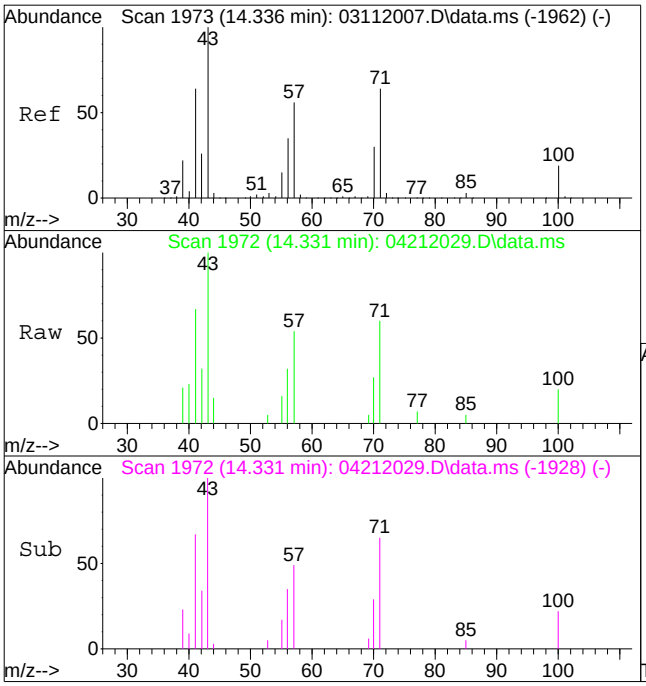


#47
Trichloroethene
Concen: 0.06 ng
RT: 14.00 min Scan# 1911
Delta R.T. -0.011 min
Lab File: 04212029.D
Acq: 22 Apr 2020 00:49

Tgt Ion:130 Resp: 2429

Ion	Ratio	Lower	Upper
130	100		
132	97.8	74.7	114.7

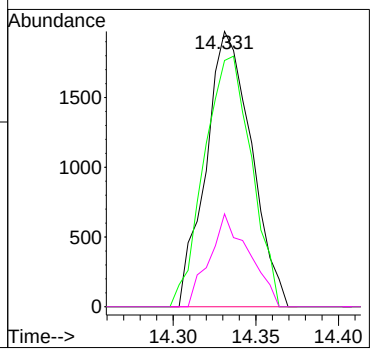


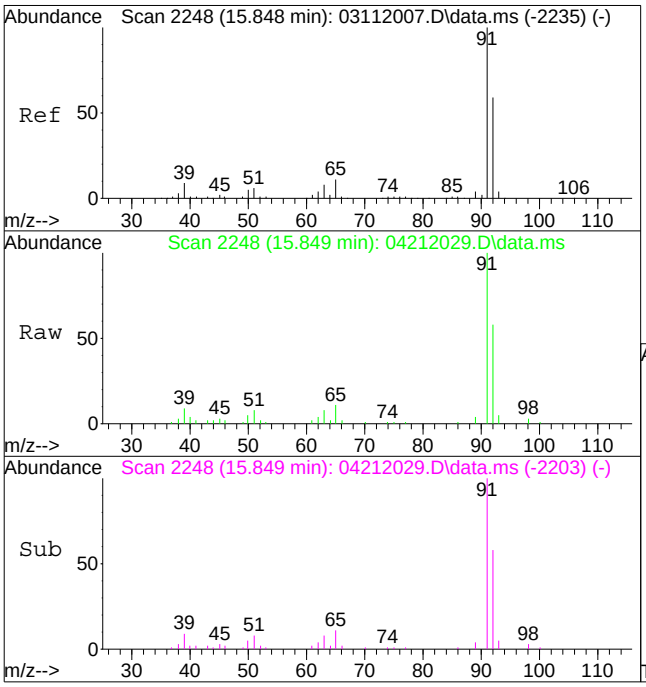


#51
n-Heptane
Concen: 0.12 ng
RT: 14.33 min Scan# 1972
Delta R.T. -0.011 min
Lab File: 04212029.D
Acq: 22 Apr 2020 00:49

Tgt Ion: 71 Resp: 3773

Ion	Ratio	Lower	Upper
71	100		
57	94.4	68.6	108.6
100	29.2	9.1	49.1

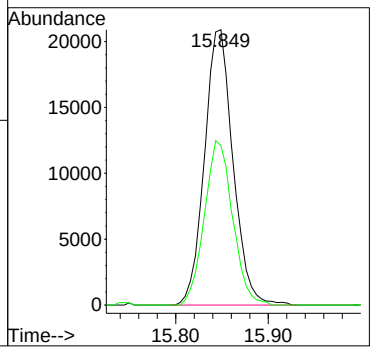


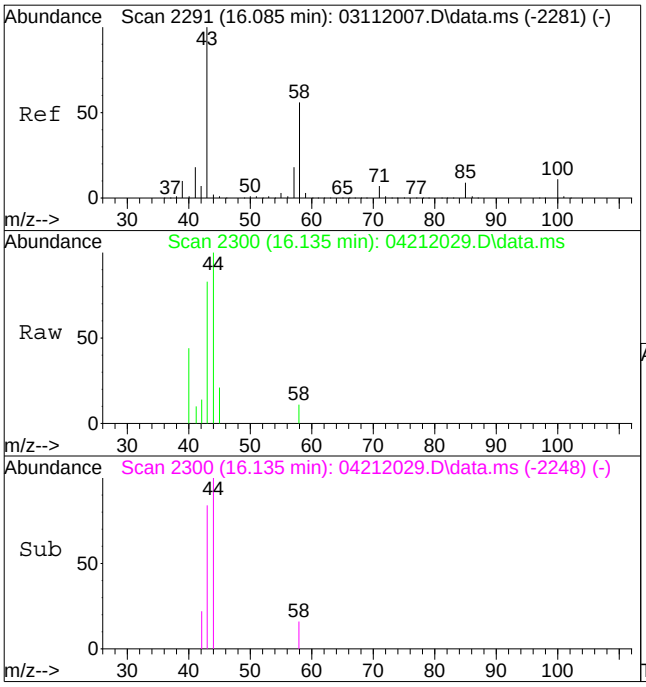


#58
Toluene
Concen: 0.33 ng
RT: 15.85 min Scan# 2248
Delta R.T. -0.005 min
Lab File: 04212029.D
Acq: 22 Apr 2020 00:49

Tgt Ion: 91 Resp: 44818

Ion	Ratio	Lower	Upper
91	100		
92	58.8	39.0	79.0

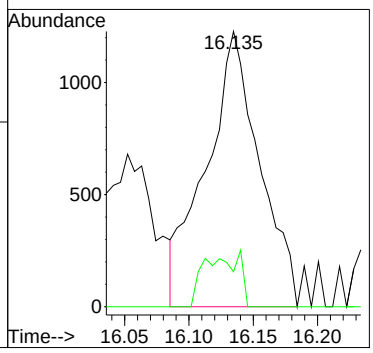


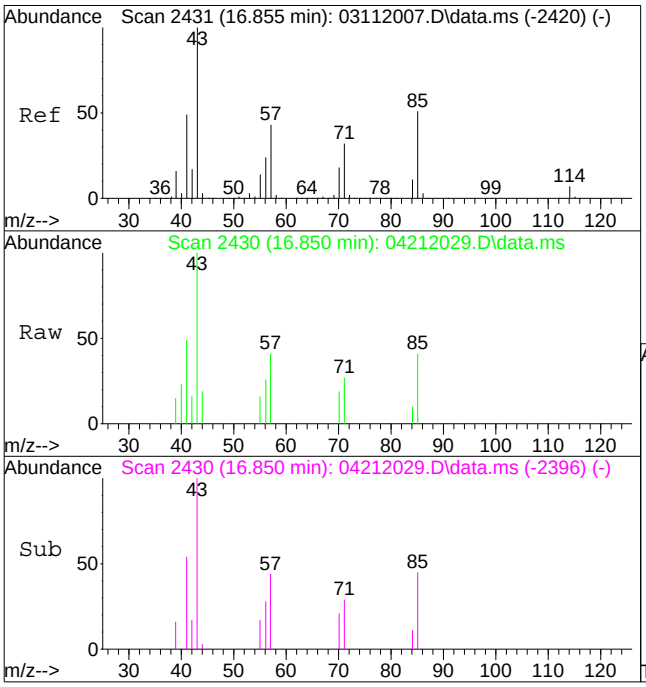


#59
2-Hexanone
Concen: 0.05 ng
RT: 16.13 min Scan# 2300
Delta R.T. 0.033 min
Lab File: 04212029.D
Acq: 22 Apr 2020 00:49

Tgt Ion: 43 Resp: 3557

Ion	Ratio	Lower	Upper
43	100		
58	12.8	36.5	76.5#

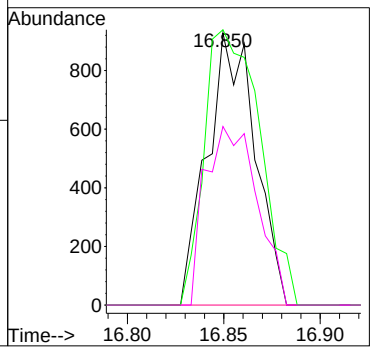


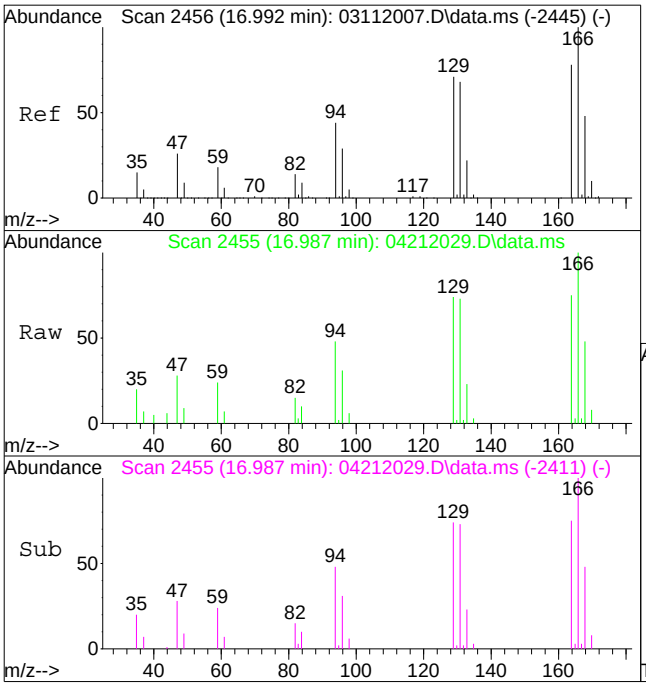


#63
n-Octane
Concen: 0.06 ng
RT: 16.85 min Scan# 2430
Delta R.T. -0.011 min
Lab File: 04212029.D
Acq: 22 Apr 2020 00:49

Tgt Ion: 57 Resp: 1608

Ion	Ratio	Lower	Upper
57	100		
85	117.0	95.1	142.7
71	71.1	58.2	87.4

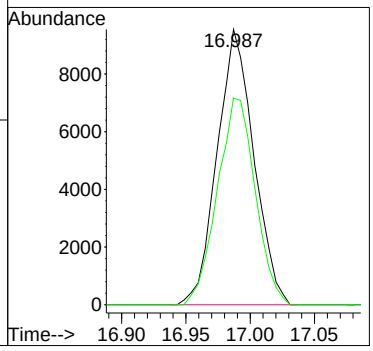


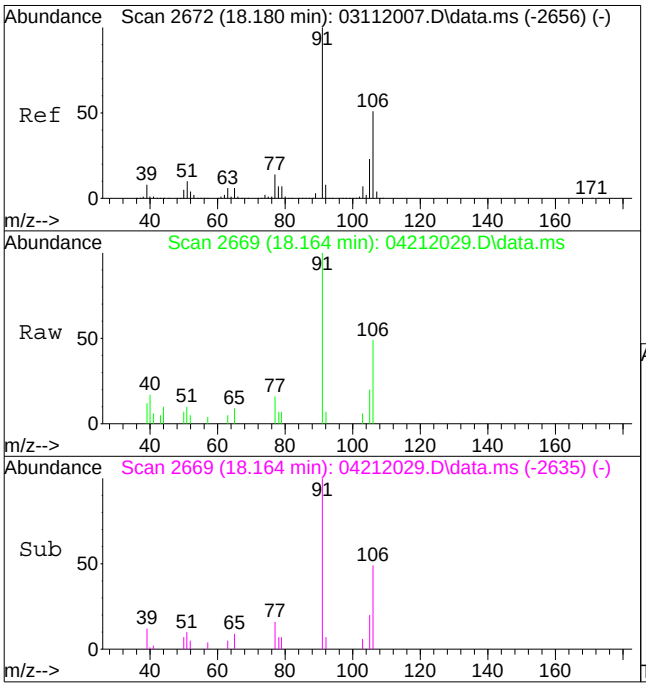


#64
Tetrachloroethene
Concen: 0.49 ng
RT: 16.99 min Scan# 2455
Delta R.T. -0.011 min
Lab File: 04212029.D
Acq: 22 Apr 2020 00:49

Tgt Ion:166 Resp: 18941

Ion	Ratio	Lower	Upper
166	100		
164	77.5	58.6	98.6

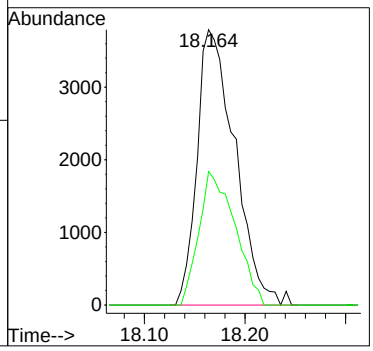


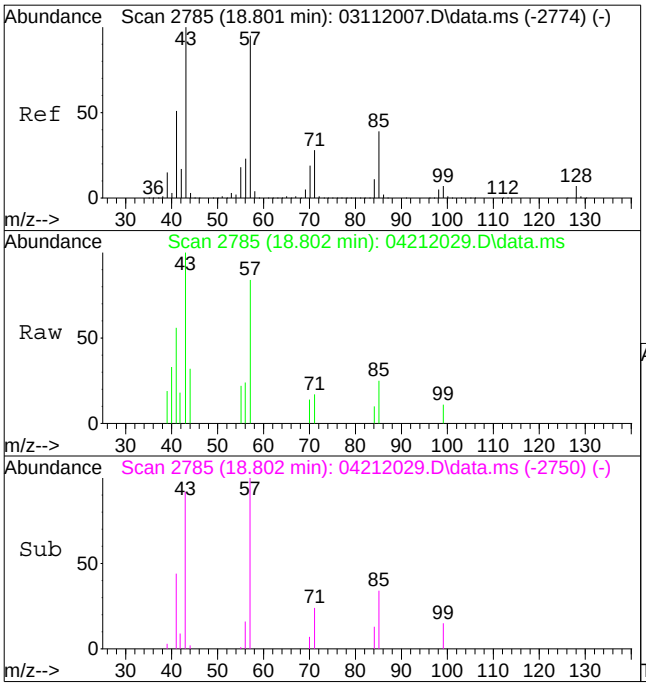


#67
m- & p-Xylenes
Concen: 0.08 ng
RT: 18.16 min Scan# 2669
Delta R.T. -0.011 min
Lab File: 04212029.D
Acq: 22 Apr 2020 00:49

Tgt Ion: 91 Resp: 9880

Ion	Ratio	Lower	Upper
91	100		
106	46.4	30.4	70.4

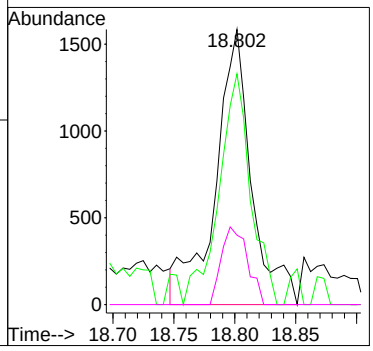




#71
n-Nonane
Concen: 0.05 ng
RT: 18.80 min Scan# 2785
Delta R.T. -0.005 min
Lab File: 04212029.D
Acq: 22 Apr 2020 00:49

Tgt Ion: 43 Resp: 3269

Ion	Ratio	Lower	Upper
43	100		
57	73.6	73.6	113.6
85	20.5	18.7	58.7



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212030.D Vial: 4
Acq On : 22 Apr 2020 1:23 Operator: WA
Sample : P2002032-011 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 12:55:09 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020 LH 4/24/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	289492	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1287151	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	627522	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.01	65	501577	12.513	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.08%				
57) Toluene-d8 (SS2)	15.74	98	1342414	12.069	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.56%				
73) Bromofluorobenzene (SS3)	19.00	174	442784	11.273	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.16%				
Target Compounds							Qvalue
2) Propene	4.14	42	7299m	0.240	ng		
3) Dichlorodifluoromethan...	4.28	85	76164	1.166	ng		99
4) Chloromethane	4.56	50	3327	0.065	ng		90
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	930	N.D.			
6) Vinyl Chloride	4.98	62	552	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.33	45	38925	1.622	ng		99
11) Acetonitrile	6.63	41	1126	N.D.			
12) Acrolein	6.84	56	1130	0.064	ng		93
13) Acetone	7.01	58	154415	6.521	ng	#	83
14) Trichlorofluoromethane	7.26	101	90604	1.573	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	42557	0.606	ng		95
16) Acrylonitrile	7.81	53	223	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.49	59	1040	N.D.			
19) Methylene Chloride	8.44	84	824	N.D.			
20) 3-Chloro-1-propene (Al...	8.53	41	175	N.D.			
21) Trichlorotrifluoroethane	8.86	151	1874	0.068	ng	#	81
22) Carbon Disulfide	8.71	76	212721	1.920	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	9.97	63	141	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.50	72	2688	0.136	ng	#	29
28) cis-1,2-Dichloroethene	11.00	61	317	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.30	61	17401	1.493	ng		92
31) n-Hexane	11.29	57	1493	N.D.			
32) Chloroform	11.33	83	59675	1.038	ng		99
34) Tetrahydrofuran (THF)	11.75	72	29562	1.457	ng		90
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.13	62	399	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.90	78	6681	0.050	ng		98
42) Carbon Tetrachloride	13.06	117	8636	0.189	ng		96
43) Cyclohexane	13.18	84	1383	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	13.55	63	124	N.D.			
46) Bromodichloromethane	13.95	83	3028	0.067	ng		94
47) Trichloroethene	14.00	130	2663	0.071	ng		98
48) 1,4-Dioxane	14.01	88	222	N.D.			
49) 2,2,4-Trimethylpentane...	14.07	57	2175	N.D.			
50) Methyl Methacrylate	14.33	100	260	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212030.D Vial: 4
Acq On : 22 Apr 2020 1:23 Operator: WA
Sample : P2002032-011 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 12:55:09 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

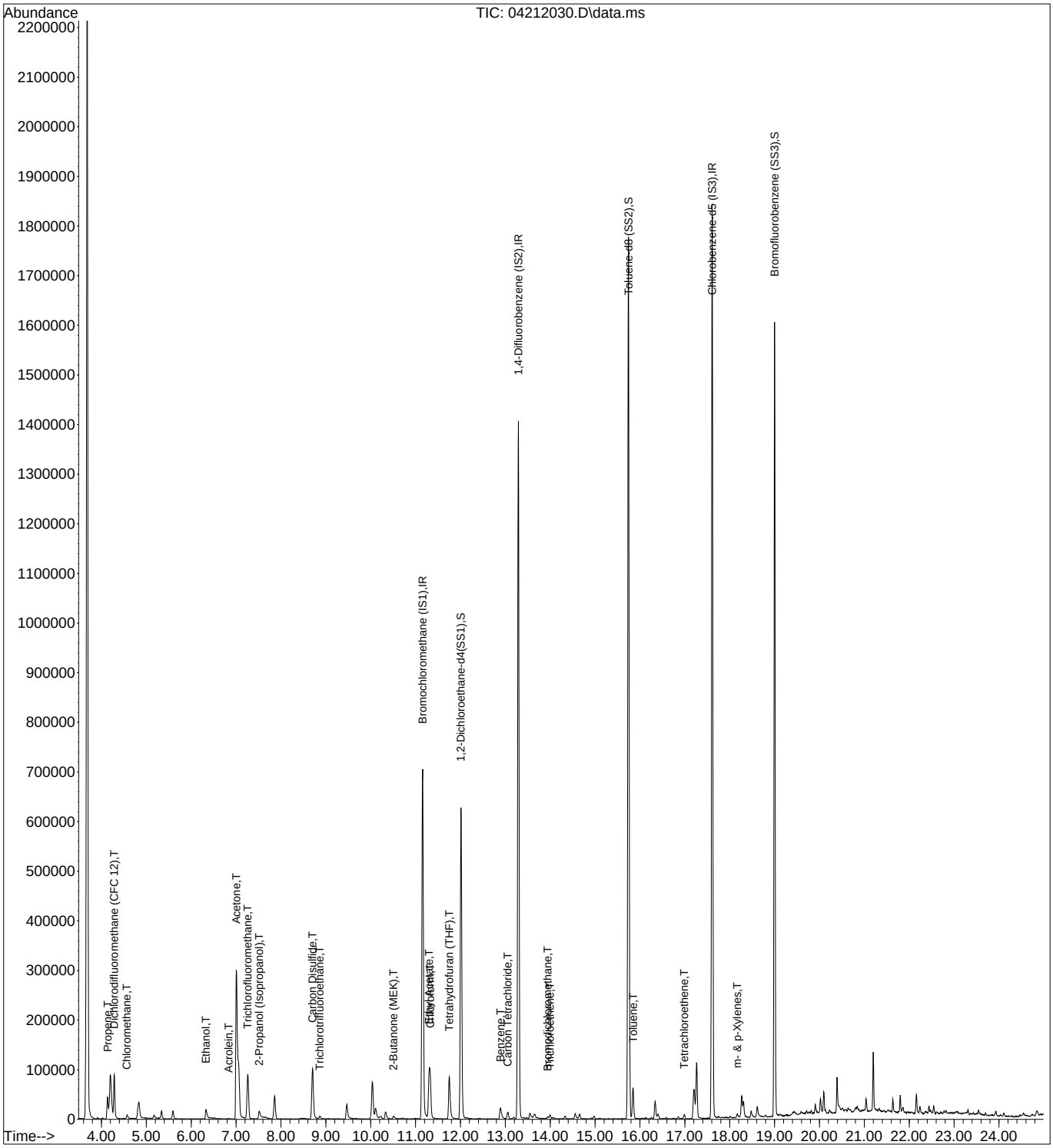
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.33	71	1393	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.92	58	615	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.85	91	53169	0.387 ng	100
59) 2-Hexanone	16.14	43	3245	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.73	43	1114	N.D.	
63) n-Octane	16.85	57	856	N.D.	
64) Tetrachloroethene	16.99	166	2877	0.075 ng	99
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	18.02	91	2733	N.D.	
67) m- & p-Xylenes	18.17	91	7243	0.059 ng	96
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.51	104	996	N.D.	
70) o-Xylene	18.60	91	3807	N.D.	
71) n-Nonane	18.80	43	1545	N.D.	
72) 1,1,2,2-Tetrachloroethane	18.60	83	1028	N.D.	
74) Cumene	19.13	105	1720	N.D.	
75) alpha-Pinene	19.48	93	2266	N.D.	
76) n-Propylbenzene	19.55	91	1603	N.D.	
77) 3-Ethyltoluene	19.66	105	1320	N.D.	
78) 4-Ethyltoluene	19.71	105	1034	N.D.	
79) 1,3,5-Trimethylbenzene	19.76	105	2029	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	19.94	105	1583	N.D.	
82) 1,2,4-Trimethylbenzene	20.14	105	1952	N.D.	
83) n-Decane	20.22	57	2216	N.D.	
84) Benzyl Chloride	20.25	91	415	N.D.	
85) 1,3-Dichlorobenzene	20.27	146	113	N.D.	
86) 1,4-Dichlorobenzene	20.34	146	240	N.D.	
87) sec-Butylbenzene	20.37	105	1056	N.D.	
88) 4-Isopropyltoluene (p-...	20.51	119	1210	N.D.	
89) 1,2,3-Trimethylbenzene	20.51	105	1250	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.64	68	1431	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.33	57	1699	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.25	128	2366	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.14	119	575	N.D.	
100) n-Butylbenzene	20.87	91	1819	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212030.D Vial: 4
Acq On : 22 Apr 2020 1:23 Operator: WA
Sample : P2002032-011 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 12:55:09 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212030.D Vial: 4
Acq On : 22 Apr 2020 1:23 Operator: WA
Sample : P2002032-011 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 12:55:09 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/24/20

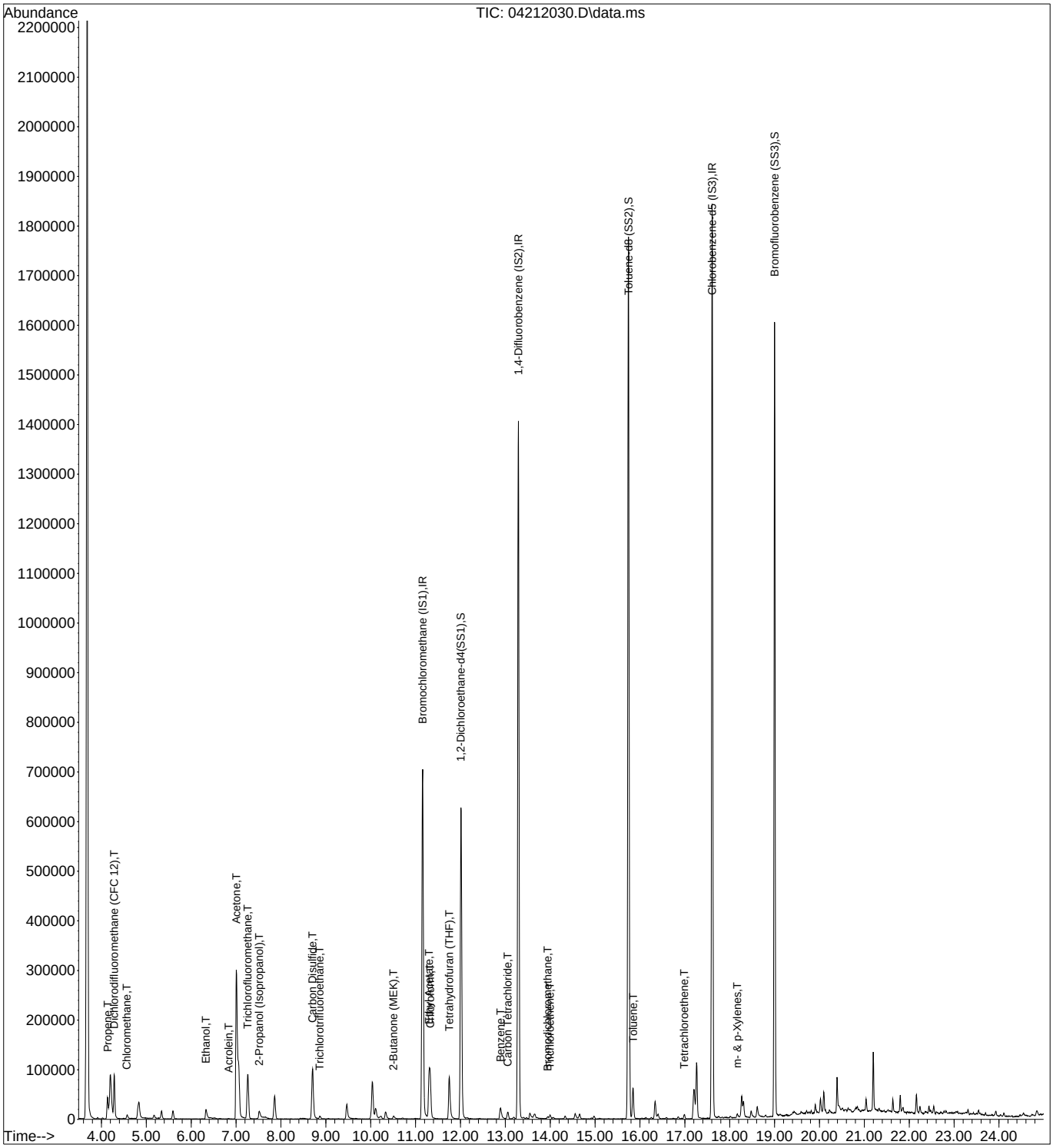
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	289492	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1287151	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	627522	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.01	65	501577	12.513	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.08%				
57) Toluene-d8 (SS2)	15.74	98	1342414	12.069	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.56%				
73) Bromofluorobenzene (SS3)	19.00	174	442784	11.273	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.16%				
Target Compounds							Qvalue
2) Propene	4.14	42	7299m	0.240	ng		
3) Dichlorodifluoromethan...	4.28	85	76164	1.166	ng		99
4) Chloromethane	4.56	50	3327	0.065	ng		90
10) Ethanol	6.33	45	38925	1.622	ng		99
12) Acrolein	6.84	56	1130	0.064	ng		93
13) Acetone	7.01	58	154415	6.521	ng	#	83
14) Trichlorofluoromethane	7.26	101	90604	1.573	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	42557	0.606	ng		95
21) Trichlorotrifluoroethane	8.86	151	1874	0.068	ng	#	81
22) Carbon Disulfide	8.71	76	212721	1.920	ng		99
27) 2-Butanone (MEK)	10.50	72	2688	0.136	ng	#	29
30) Ethyl Acetate	11.30	61	17401	1.493	ng		92
32) Chloroform	11.33	83	59675	1.038	ng		99
34) Tetrahydrofuran (THF)	11.75	72	29562	1.457	ng		90
41) Benzene	12.90	78	6681	0.050	ng		98
42) Carbon Tetrachloride	13.06	117	8636	0.189	ng		96
46) Bromodichloromethane	13.95	83	3028	0.067	ng		94
47) Trichloroethene	14.00	130	2663	0.071	ng		98
58) Toluene	15.85	91	53169	0.387	ng		100
64) Tetrachloroethene	16.99	166	2877	0.075	ng		99
67) m- & p-Xylenes	18.17	91	7243	0.059	ng		96

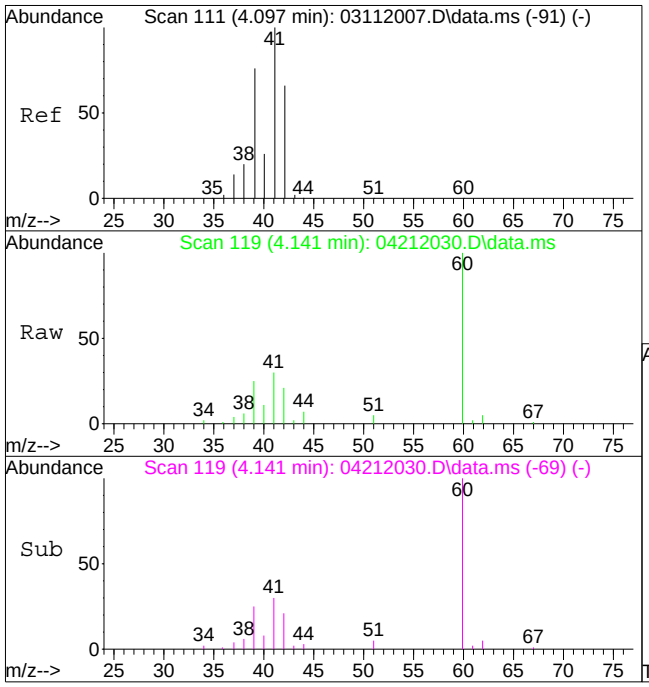
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212030.D Vial: 4
Acq On : 22 Apr 2020 1:23 Operator: WA
Sample : P2002032-011 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 12:55:09 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

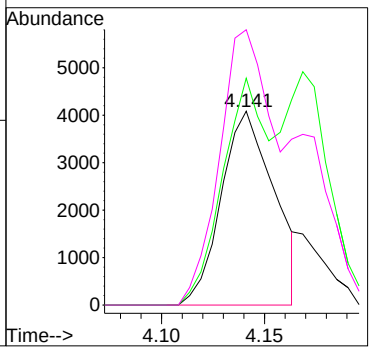


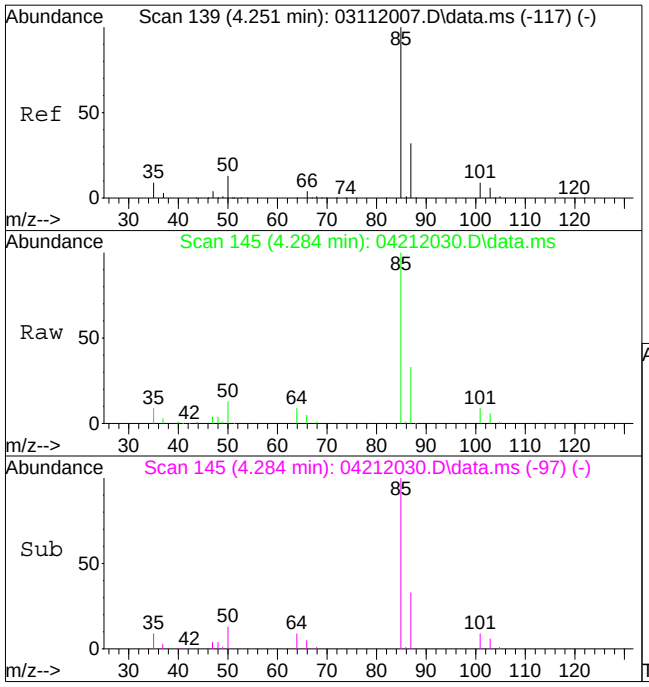


#2
Propene
Concen: 0.24 ng m
RT: 4.14 min Scan# 119
Delta R.T. 0.027 min
Lab File: 04212030.D
Acq: 22 Apr 2020 1:23

Tgt Ion: 42 Resp: 7299

Ion	Ratio	Lower	Upper
42	100		
39	97.3	95.3	135.3
41	211.5	132.0	172.0#

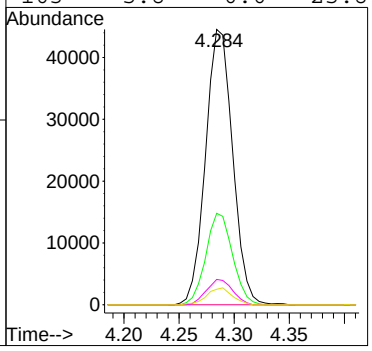


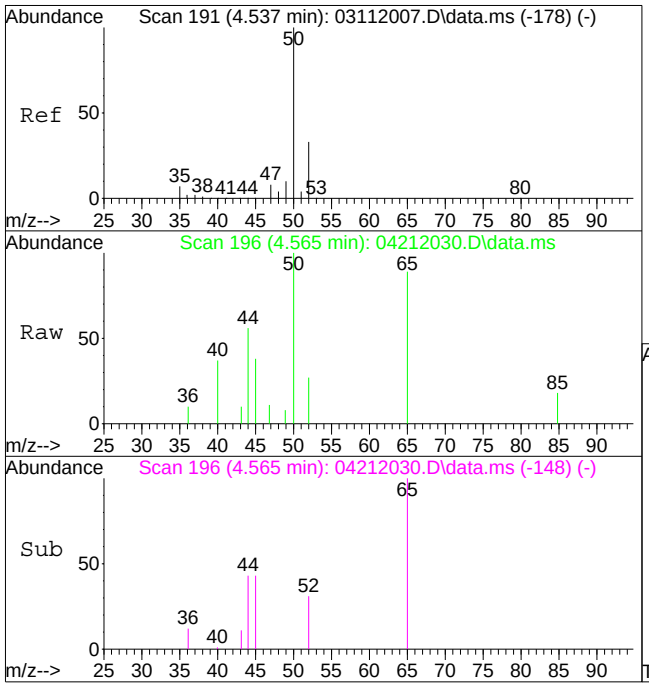


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.17 ng
RT: 4.28 min Scan# 145
Delta R.T. 0.016 min
Lab File: 04212030.D
Acq: 22 Apr 2020 1:23

Tgt Ion: 85 Resp: 76164

Ion	Ratio	Lower	Upper
85	100		
87	32.6	12.3	52.3
101	8.9	0.0	29.0
103	5.8	0.0	25.8

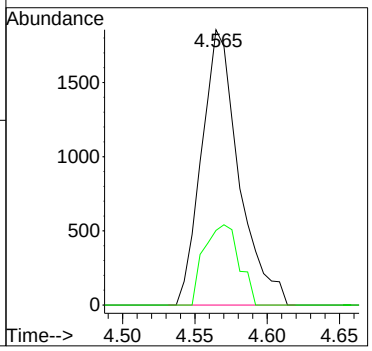


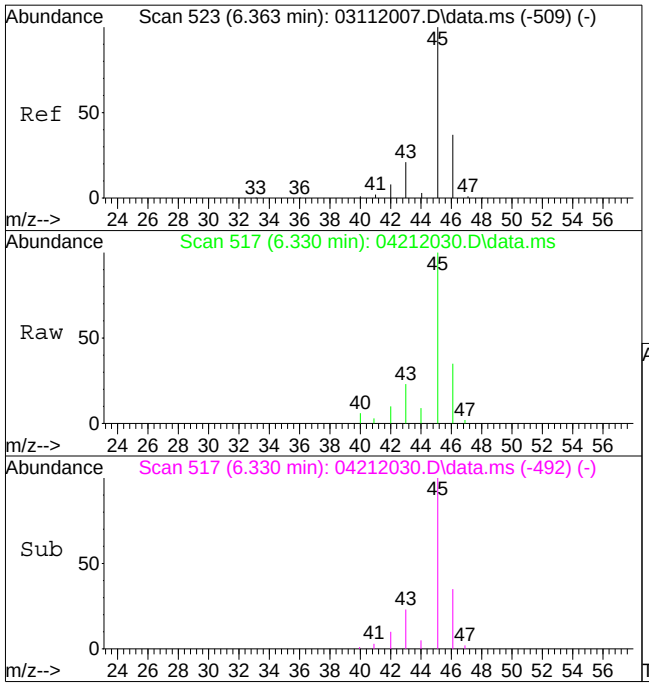


#4
Chloromethane
Concen: 0.06 ng
RT: 4.56 min Scan# 196
Delta R.T. 0.012 min
Lab File: 04212030.D
Acq: 22 Apr 2020 1:23

Tgt Ion: 50 Resp: 3327

Ion	Ratio	Lower	Upper
50	100		
52	27.4	12.8	52.8

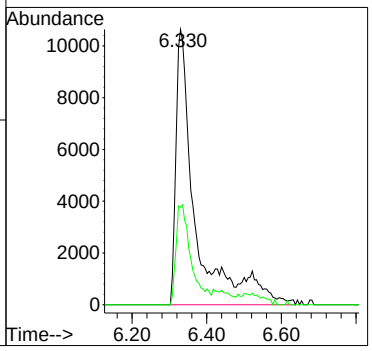


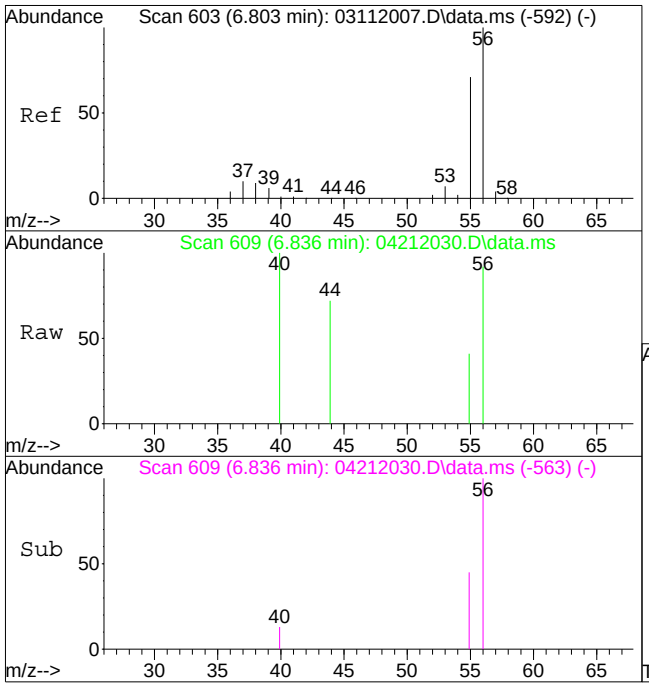


#10
Ethanol
Concen: 1.62 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.110 min
Lab File: 04212030.D
Acq: 22 Apr 2020 1:23

Tgt Ion: 45 Resp: 38925

Ion	Ratio	Lower	Upper
45	100		
46	37.7	17.3	57.3

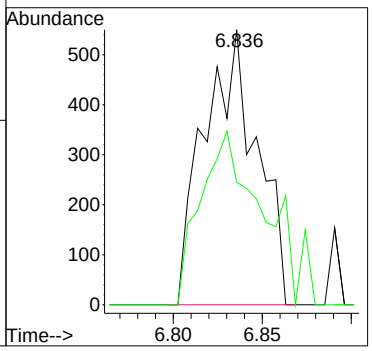


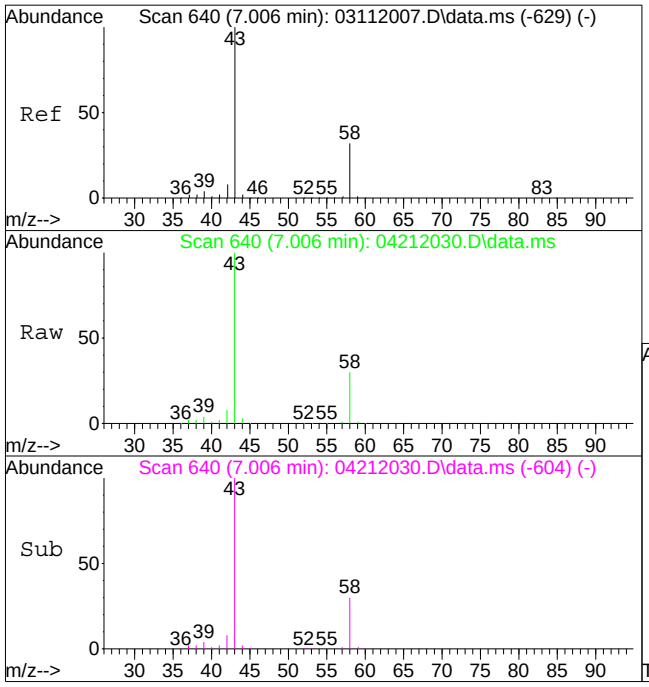


#12
Acrolein
Concen: 0.06 ng
RT: 6.84 min Scan# 609
Delta R.T. 0.006 min
Lab File: 04212030.D
Acq: 22 Apr 2020 1:23

Tgt Ion: 56 Resp: 1130

Ion	Ratio	Lower	Upper
56	100		
55	76.5	50.4	90.4

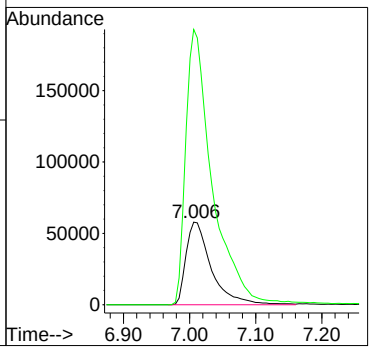


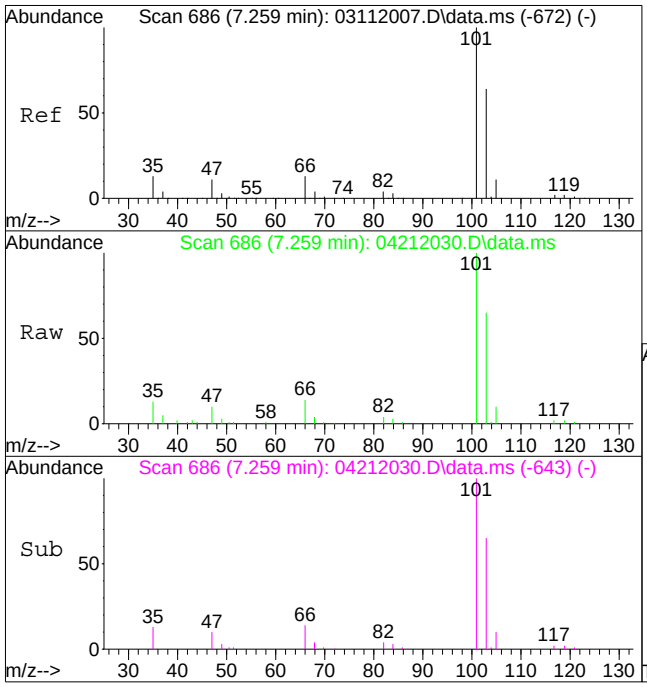


#13
Acetone
Concen: 6.52 ng
RT: 7.01 min Scan# 640
Delta R.T. -0.050 min
Lab File: 04212030.D
Acq: 22 Apr 2020 1:23

Tgt Ion: 58 Resp: 154415

Ion	Ratio	Lower	Upper
58	100		
43	351.8	287.3	347.3#

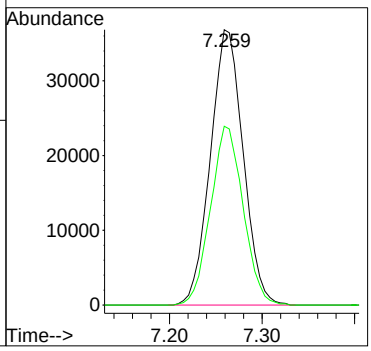


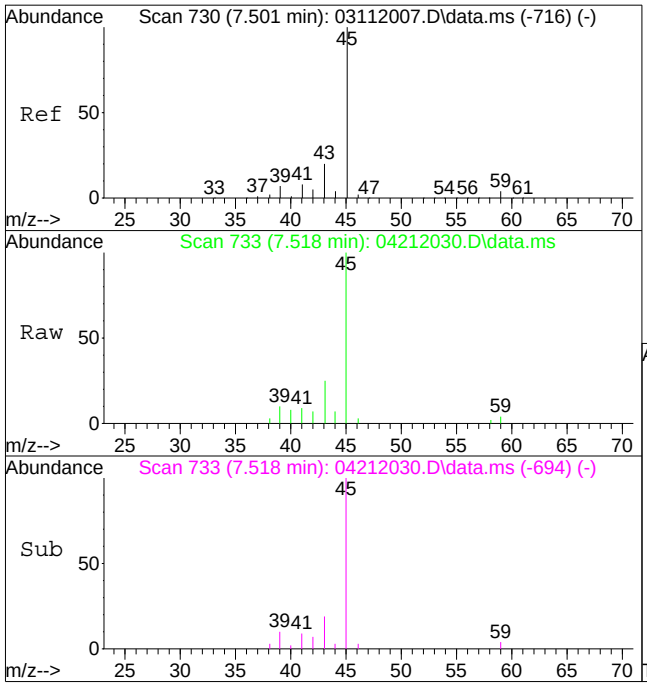


#14
Trichlorofluoromethane
Concen: 1.57 ng
RT: 7.26 min Scan# 686
Delta R.T. -0.016 min
Lab File: 04212030.D
Acq: 22 Apr 2020 1:23

Tgt Ion:101 Resp: 90604

Ion	Ratio	Lower	Upper
101	100		
103	64.5	44.6	84.6

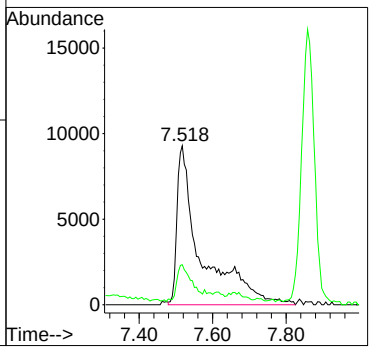


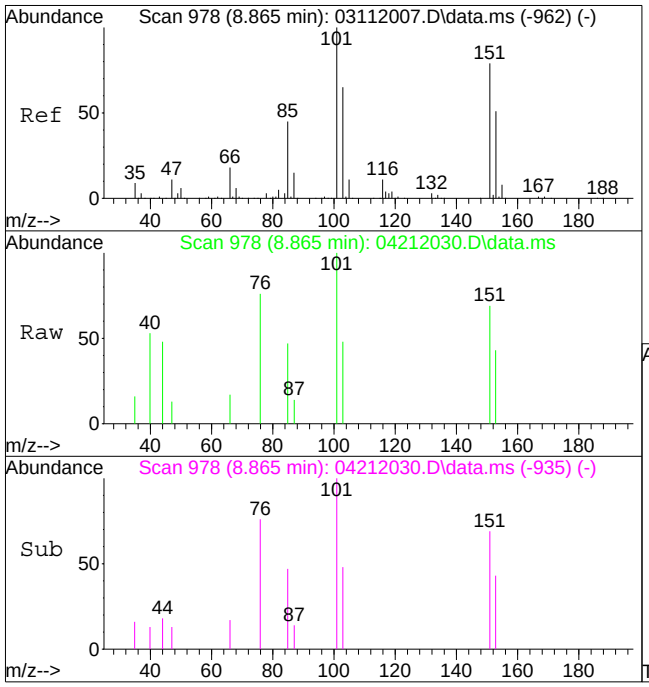


#15
2-Propanol (Isopropanol)
Concen: 0.61 ng
RT: 7.52 min Scan# 733
Delta R.T. -0.033 min
Lab File: 04212030.D
Acq: 22 Apr 2020 1:23

Tgt Ion: 45 Resp: 42557

Ion	Ratio	Lower	Upper
45	100		
43	22.8	0.3	40.3

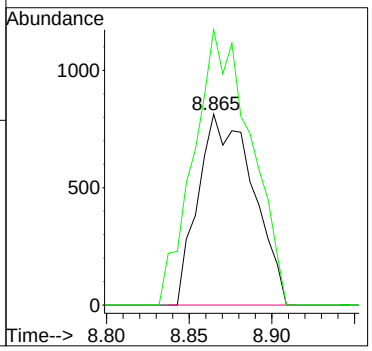


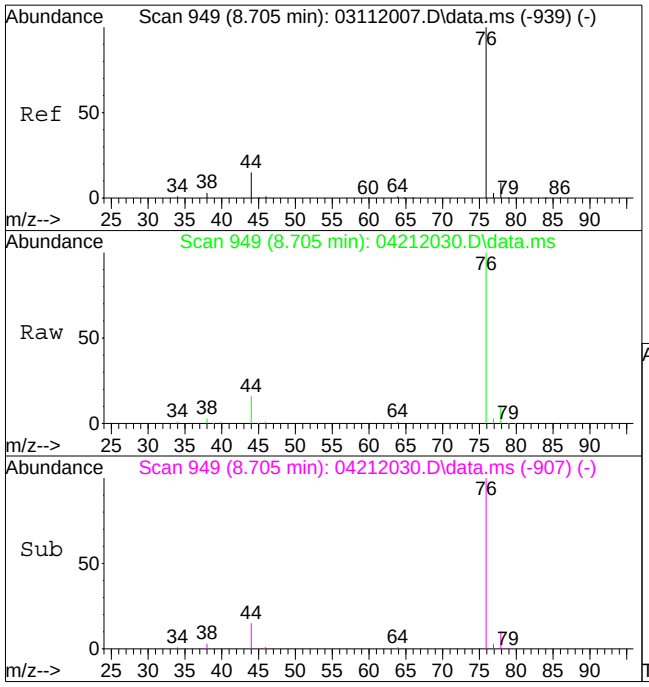


#21
Trichlorotrifluoroethane
Concen: 0.07 ng
RT: 8.86 min Scan# 978
Delta R.T. -0.011 min
Lab File: 04212030.D
Acq: 22 Apr 2020 1:23

Tgt Ion:151 Resp: 1874

Ion	Ratio	Lower	Upper
151	100		
101	150.9	108.4	148.4#

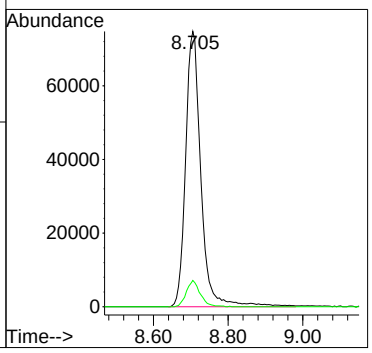


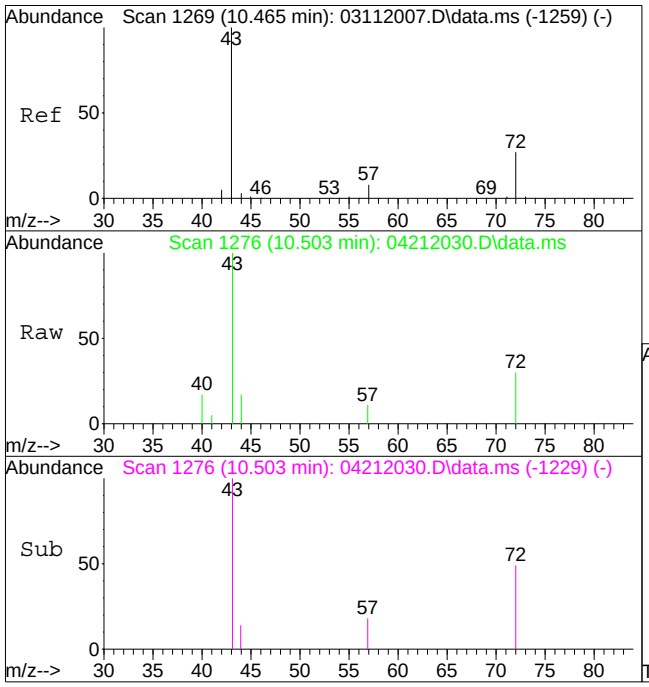


#22
Carbon Disulfide
Concen: 1.92 ng
RT: 8.71 min Scan# 949
Delta R.T. -0.016 min
Lab File: 04212030.D
Acq: 22 Apr 2020 1:23

Tgt Ion: 76 Resp: 212721

Ion	Ratio	Lower	Upper
76	100		
78	8.7	0.0	29.2

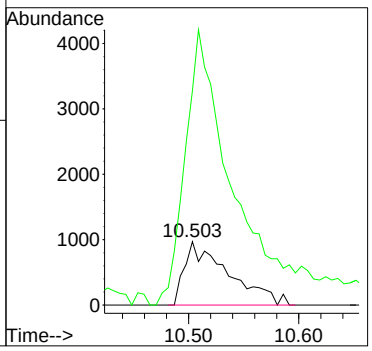


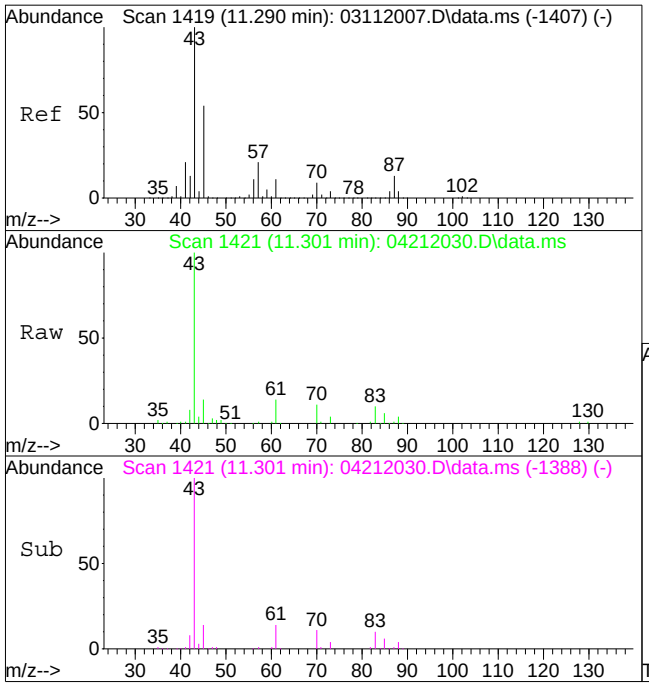


#27
2-Butanone (MEK)
Concen: 0.14 ng
RT: 10.50 min Scan# 1276
Delta R.T. 0.011 min
Lab File: 04212030.D
Acq: 22 Apr 2020 1:23

Tgt Ion: 72 Resp: 2688

Ion	Ratio	Lower	Upper
72	100		
43	534.4	353.4	393.4#

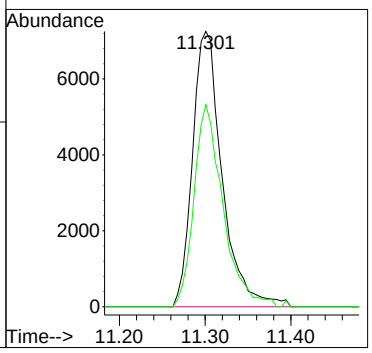


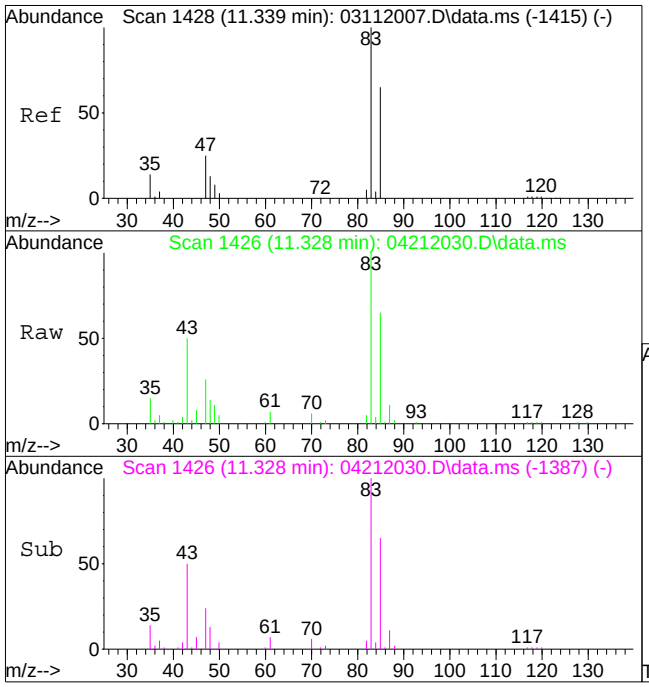


#30
Ethyl Acetate
Concen: 1.49 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.016 min
Lab File: 04212030.D
Acq: 22 Apr 2020 1:23

Tgt Ion: 61 Resp: 17401

Ion	Ratio	Lower	Upper
61	100		
70	71.7	59.1	99.1

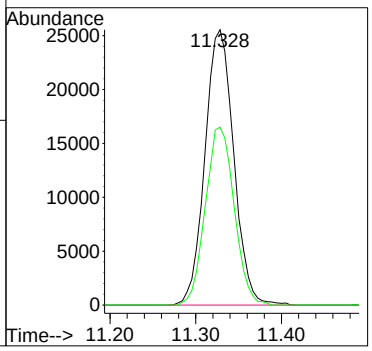


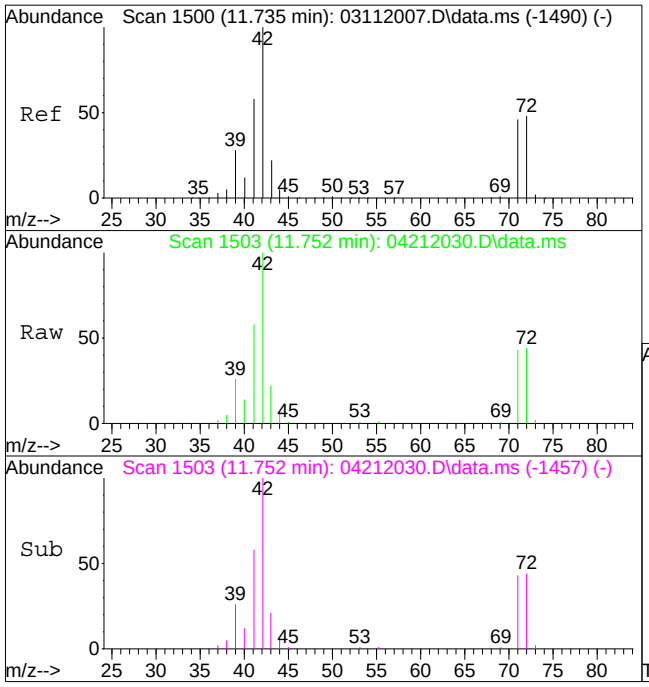


#32
Chloroform
Concen: 1.04 ng
RT: 11.33 min Scan# 1426
Delta R.T. -0.033 min
Lab File: 04212030.D
Acq: 22 Apr 2020 1:23

Tgt Ion: 83 Resp: 59675

Ion	Ratio	Lower	Upper
83	100		
85	64.6	45.5	85.5

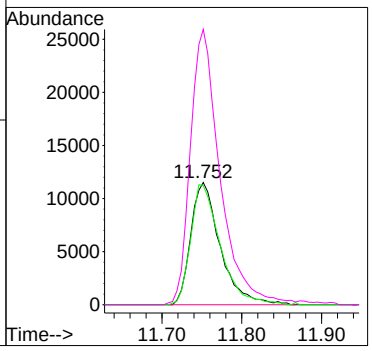


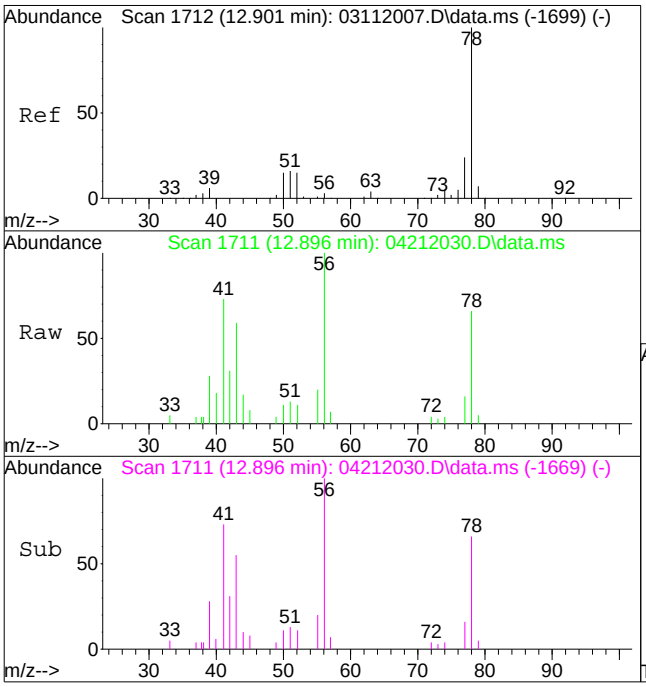


#34
Tetrahydrofuran (THF)
Concen: 1.46 ng
RT: 11.75 min Scan# 1503
Delta R.T. 0.006 min
Lab File: 04212030.D
Acq: 22 Apr 2020 1:23

Tgt Ion: 72 Resp: 29562

Ion	Ratio	Lower	Upper
72	100		
71	98.9	75.9	115.9
42	229.2	189.3	229.3

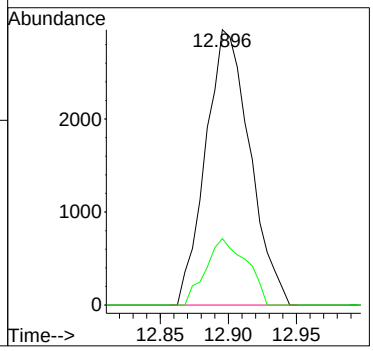


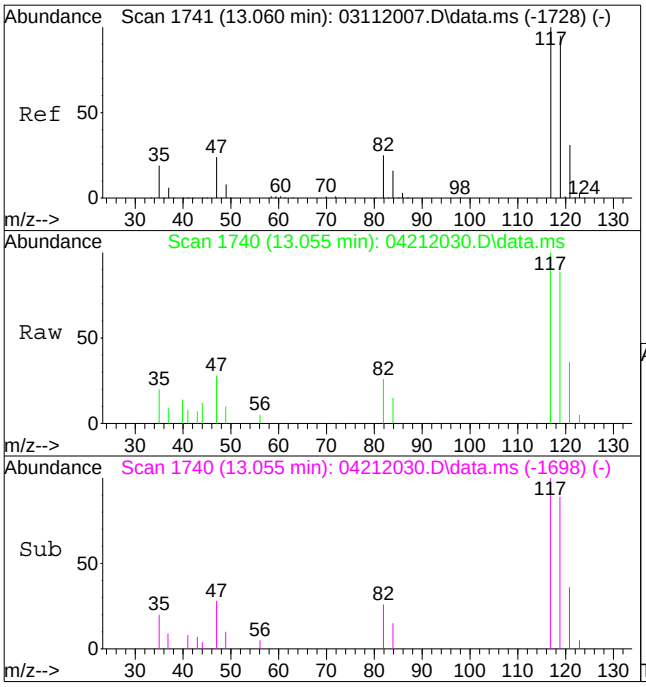


#41
Benzene
Concen: 0.05 ng
RT: 12.90 min Scan# 1711
Delta R.T. -0.016 min
Lab File: 04212030.D
Acq: 22 Apr 2020 1:23

Tgt Ion: 78 Resp: 6681

Ion	Ratio	Lower	Upper
78	100		
77	22.2	3.4	43.4

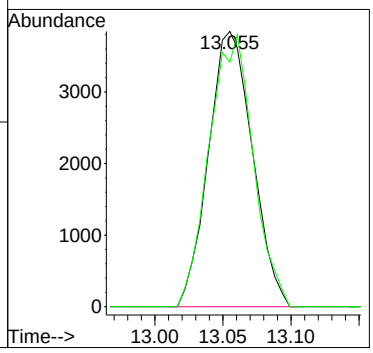


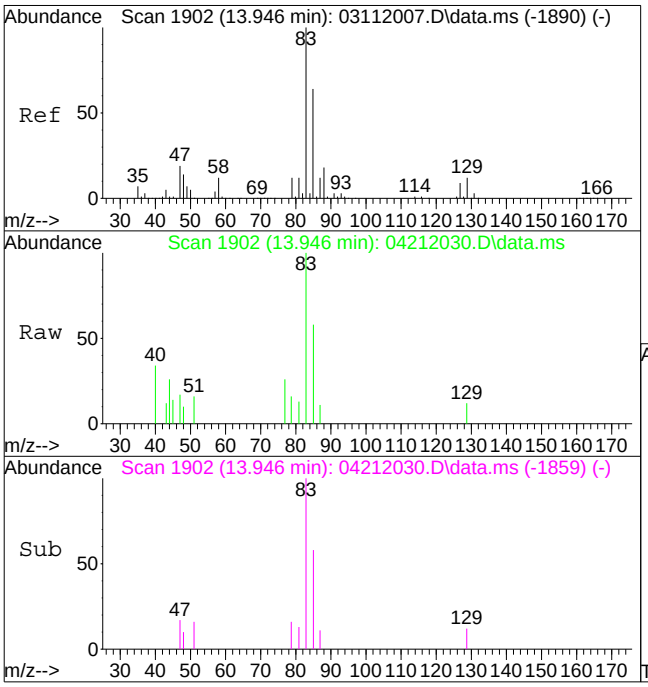


#42
Carbon Tetrachloride
Concen: 0.19 ng
RT: 13.06 min Scan# 1740
Delta R.T. -0.016 min
Lab File: 04212030.D
Acq: 22 Apr 2020 1:23

Tgt Ion:117 Resp: 8636

Ion	Ratio	Lower	Upper
117	100		
119	99.1	75.4	115.4

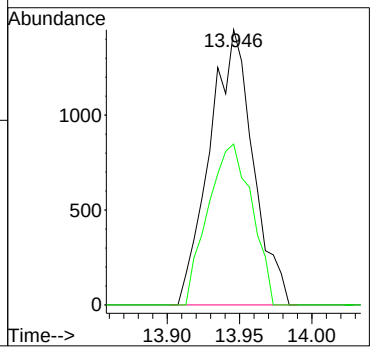


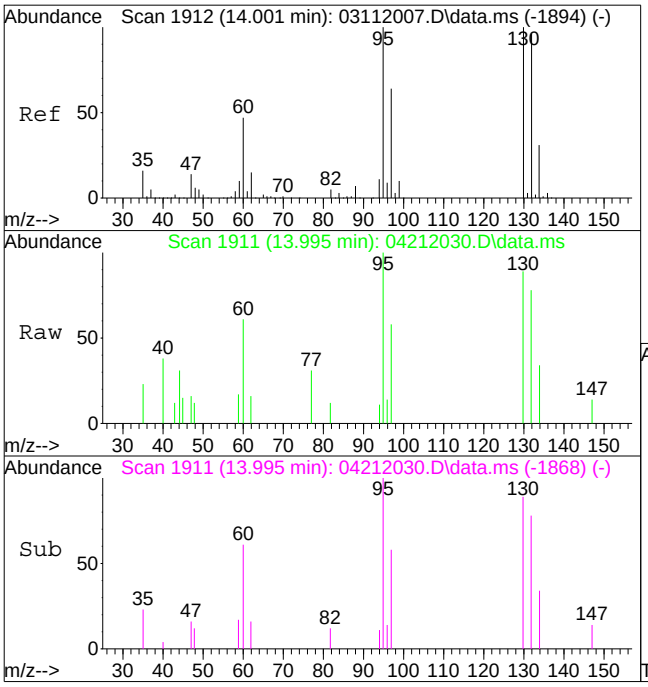


#46
Bromodichloromethane
Concen: 0.07 ng
RT: 13.95 min Scan# 1902
Delta R.T. -0.011 min
Lab File: 04212030.D
Acq: 22 Apr 2020 1:23

Tgt Ion: 83 Resp: 3028

Ion	Ratio	Lower	Upper
83	100		
85	59.1	44.0	84.0

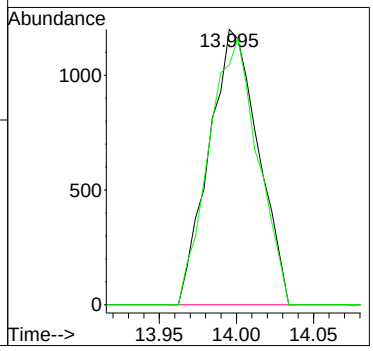


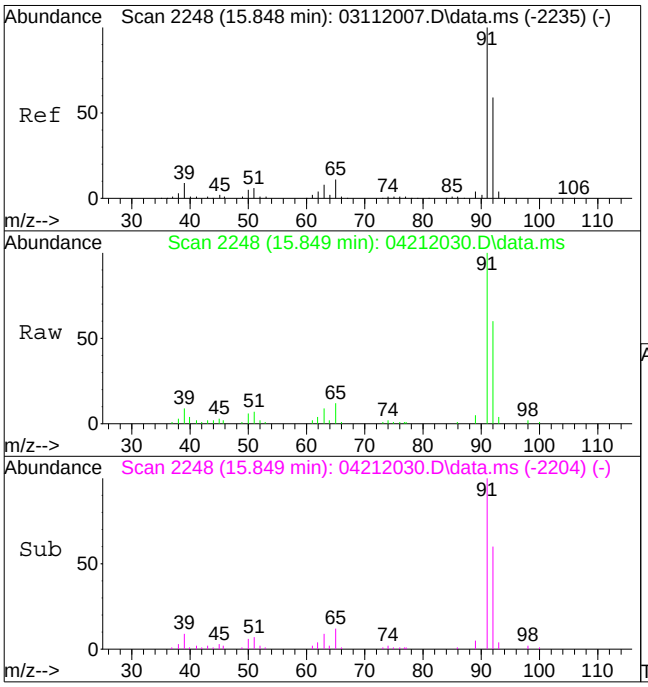


#47
Trichloroethene
Concen: 0.07 ng
RT: 14.00 min Scan# 1911
Delta R.T. -0.011 min
Lab File: 04212030.D
Acq: 22 Apr 2020 1:23

Tgt Ion:130 Resp: 2663

Ion	Ratio	Lower	Upper
130	100		
132	96.3	74.7	114.7

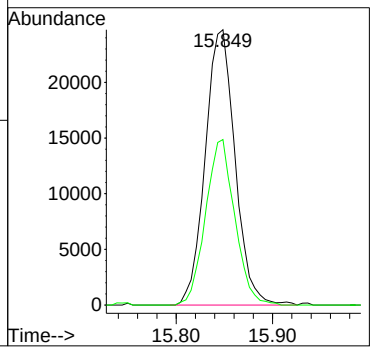


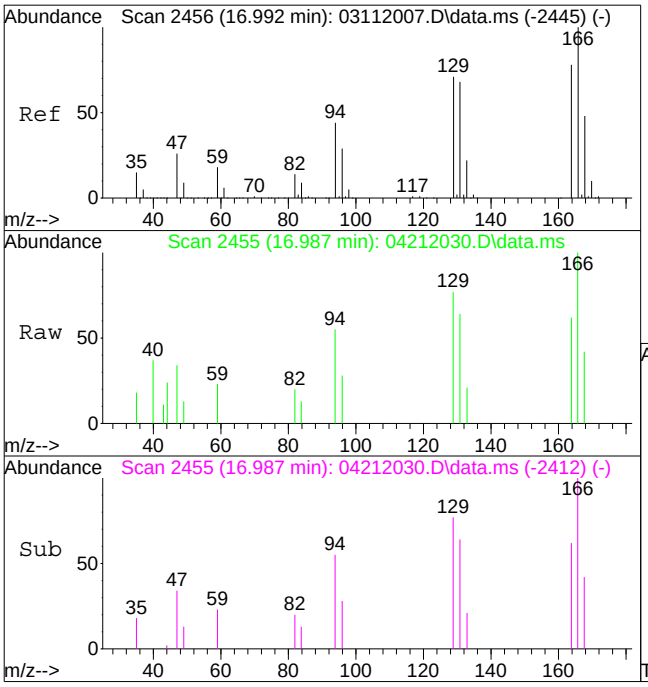


#58
Toluene
Concen: 0.39 ng
RT: 15.85 min Scan# 2248
Delta R.T. -0.005 min
Lab File: 04212030.D
Acq: 22 Apr 2020 1:23

Tgt Ion: 91 Resp: 53169

Ion	Ratio	Lower	Upper
91	100		
92	58.8	39.0	79.0

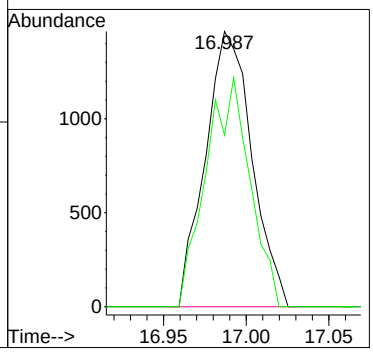


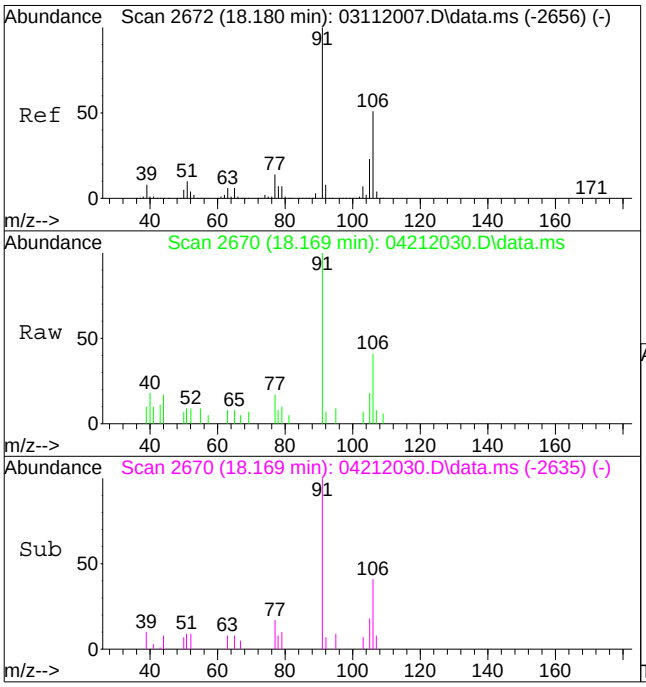


#64
Tetrachloroethene
Concen: 0.08 ng
RT: 16.99 min Scan# 2455
Delta R.T. -0.011 min
Lab File: 04212030.D
Acq: 22 Apr 2020 1:23

Tgt Ion:166 Resp: 2877

Ion	Ratio	Lower	Upper
166	100		
164	78.1	58.6	98.6

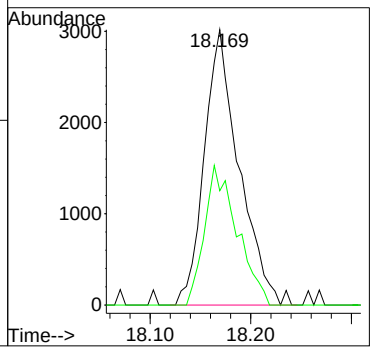




#67
m- & p-Xylenes
Concen: 0.06 ng
RT: 18.17 min Scan# 2670
Delta R.T. -0.005 min
Lab File: 04212030.D
Acq: 22 Apr 2020 1:23

Tgt Ion: 91 Resp: 7243

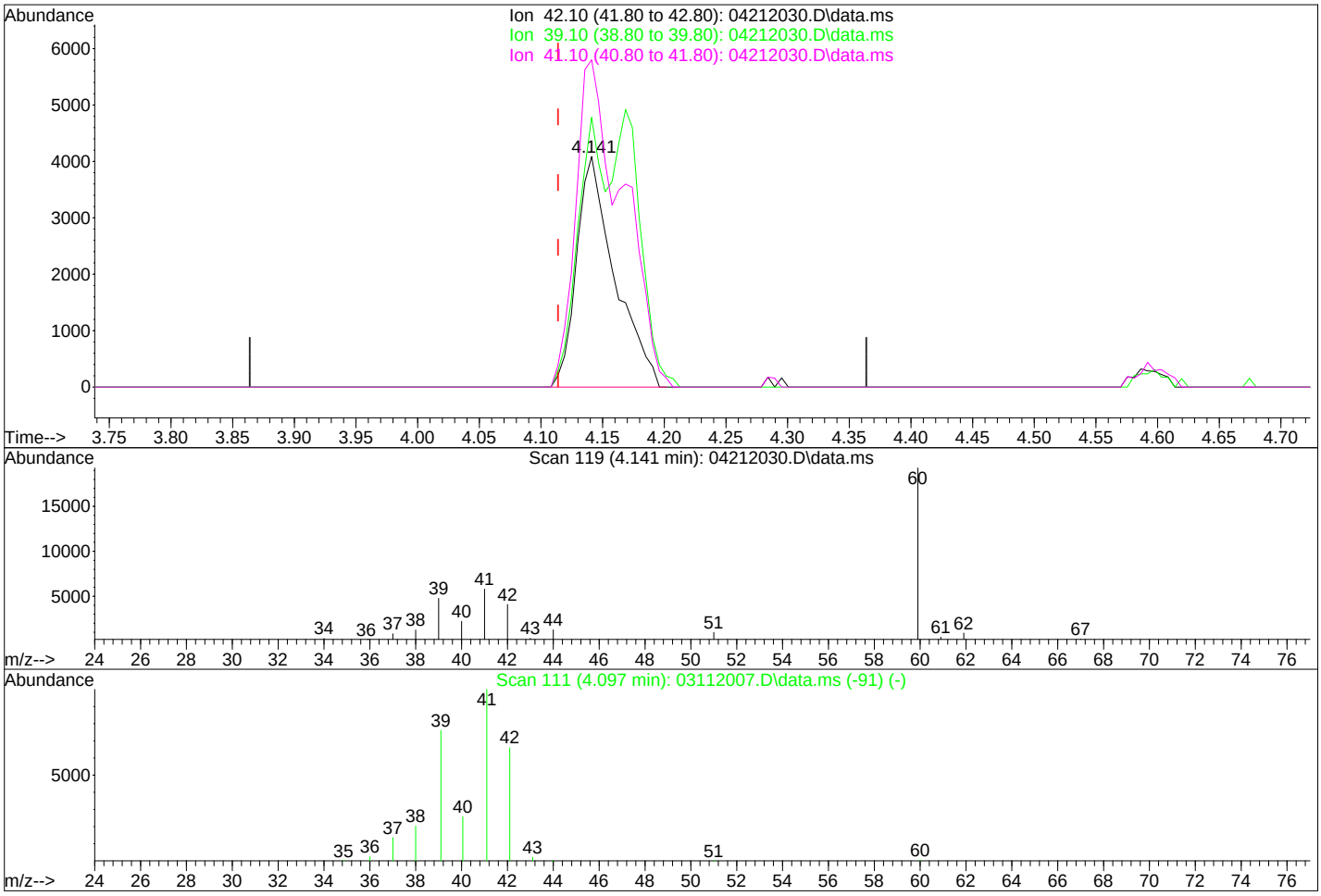
Ion	Ratio	Lower	Upper
91	100		
106	47.4	30.4	70.4



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\21\04212030.D Vial: 4
Acq On : 22 Apr 2020 1:23 Operator: WA
Sample : P2002032-011 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 03:15:31 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04212030.D\data.ms

(2) Propene (T)

4.141min (+0.027) 0.29ng

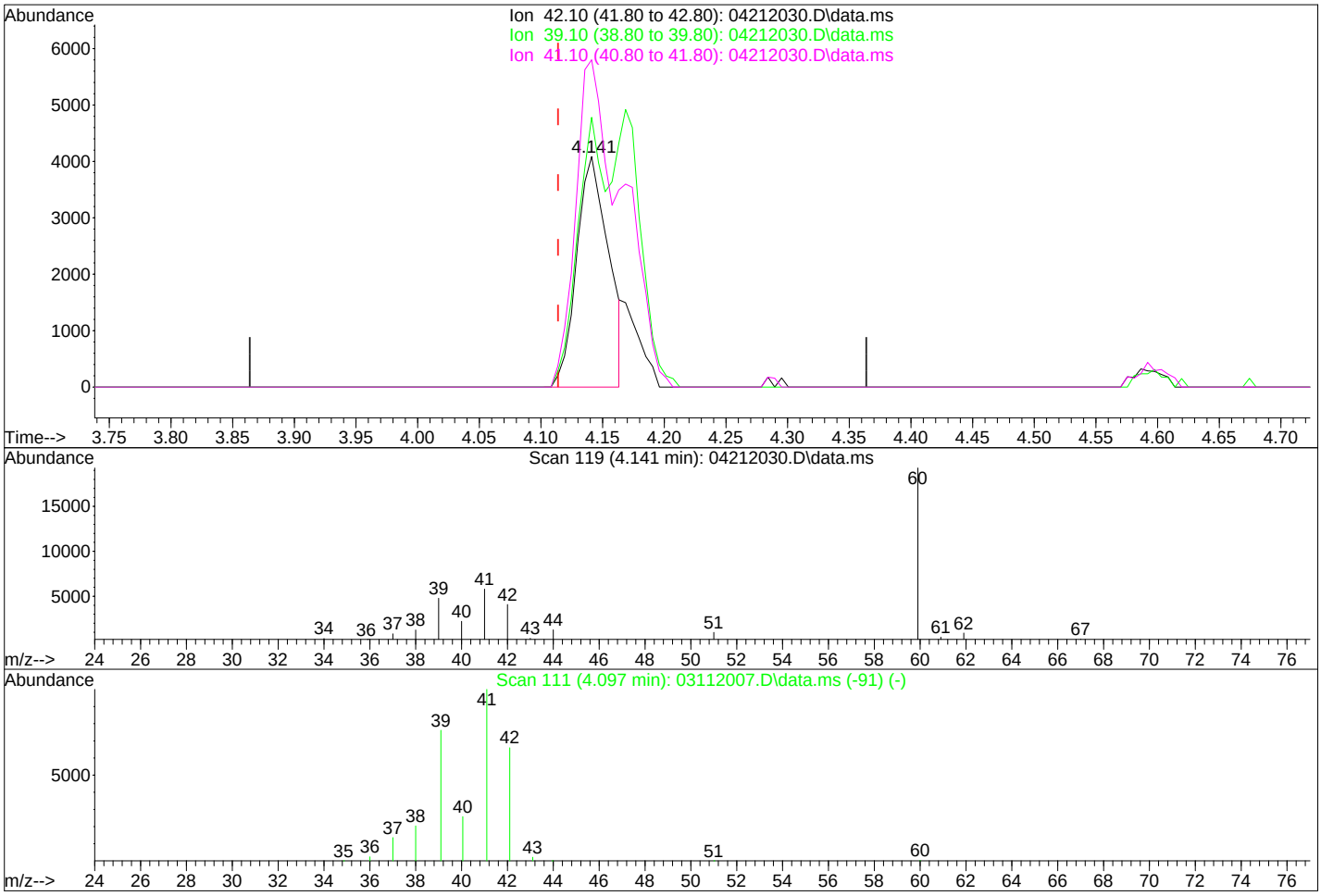
response 8763

Ion	Exp%	Act%
42.10	100	100
39.10	115.30	81.01#
41.10	152.00	176.18#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\21\04212030.D Vial: 4
Acq On : 22 Apr 2020 1:23 Operator: WA
Sample : P2002032-011 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 03:15:31 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04212030.D\data.ms

(2) Propene (T)

4.141min (+0.027) 0.24ng m

response 7299

Ion	Exp%	Act%
42.10	100	100
39.10	115.30	97.26
41.10	152.00	211.52#
0.00	0.00	0.00

IPC

LH 4/24/20

TD 4/27/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\22\04222014.D Vial: 4
Acq On : 22 Apr 2020 10:01 Operator: WA
Sample : P2002032-012 (150mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 13:12:23 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 4/24/20
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	310028	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.30	114	1424030	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.61	82	707574	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	534285	12.446	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.60%				
57) Toluene-d8 (SS2)	15.74	98	1535507	12.243	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.92%				
73) Bromofluorobenzene (SS3)	19.00	174	532943	12.034	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.24%				
Target Compounds							Qvalue
2) Propene	4.14	42	24743	0.761	ng	M #	44
3) Dichlorodifluoromethan...	4.28	85	20771	0.297	ng		99
4) Chloromethane	4.56	50	9087	0.165	ng		94
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	230	N.D.			
6) Vinyl Chloride	4.98	62	1319	N.D.			
7) 1,3-Butadiene	5.25	54	118	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	6.01	64	417	N.D.			
10) Ethanol	6.34	45	26482	1.031	ng		93
11) Acetonitrile	6.63	41	9234	0.163	ng		96
12) Acrolein	6.82	56	2746	0.145	ng		93
13) Acetone	7.01	58	67924m	2.678	ng		
14) Trichlorofluoromethane	7.26	101	20339	0.330	ng		98
15) 2-Propanol (Isopropanol)	7.52	45	32207	0.428	ng		77
16) Acrylonitrile	7.80	53	107	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.44	84	557	N.D.			
20) 3-Chloro-1-propene (Al...	8.63	41	115	N.D.			
21) Trichlorotrifluoroethane	8.88	151	757	N.D.			
22) Carbon Disulfide	8.72	76	247825	2.088	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	9.99	63	1515	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	d		
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.48	72	29567	1.400	ng	#	87
28) cis-1,2-Dichloroethene	11.00	61	540	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	11.29	57	6506116	112.490	ng		98
32) Chloroform	11.33	83	13095	0.213	ng	#	1
34) Tetrahydrofuran (THF)	11.77	72	11589	0.534	ng	#	87
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.90	78	443996	3.015	ng		99
42) Carbon Tetrachloride	13.07	117	2527	N.D.			
43) Cyclohexane	13.20	84	3599910	63.671	ng		95
44) tert-Amyl Methyl Ether	13.56	73	2093	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	14.00	130	3514	0.084	ng		98
48) 1,4-Dioxane	14.00	88	495	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\22\04222014.D Vial: 4
Acq On : 22 Apr 2020 10:01 Operator: WA
Sample : P2002032-012 (150mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 13:12:23 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

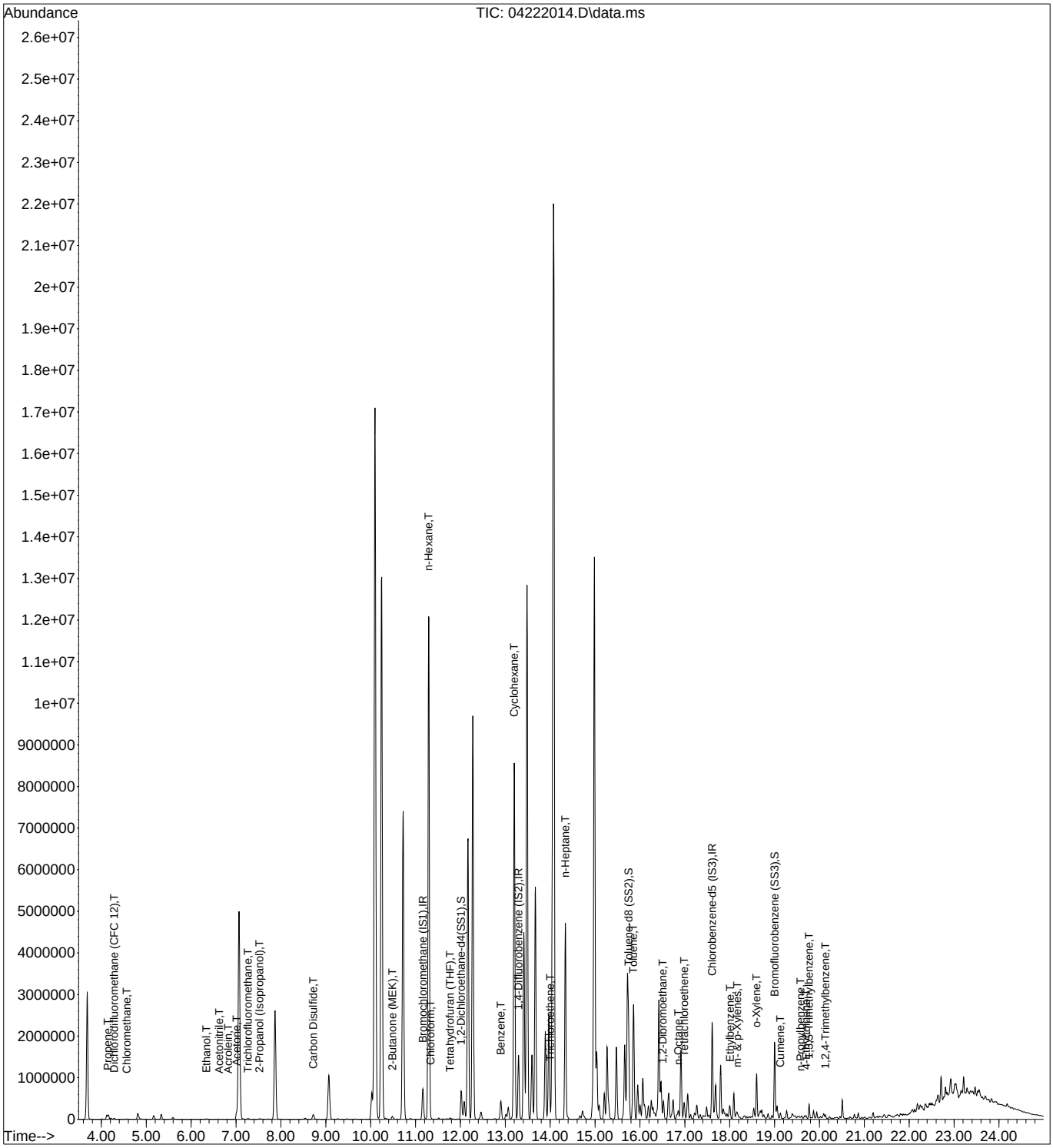
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.34	71	1197513	34.830 ng	97
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	15.17	75	583	N.D.	
55) 1,1,2-Trichloroethane	15.55	97	365	N.D.	
58) Toluene	15.85	91	625851	4.036 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	16.51	107	7710	0.194 ng	98
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	16.86	57	40120	1.304 ng	95
64) Tetrachloroethene	16.99	166	14399	0.333 ng	96
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	18.01	91	85468	0.502 ng	99
67) m- & p-Xylenes	18.17	91	102229	0.739 ng	99
68) Bromoform	18.24	173	129	N.D.	
69) Styrene	18.50	104	888	N.D.	
70) o-Xylene	18.60	91	645216	4.664 ng	99
71) n-Nonane	0.00	43	0	N.D. d	
72) 1,1,2,2-Tetrachloroethane	18.60	83	416	N.D.	
74) Cumene	19.13	105	62693	0.358 ng	96
75) alpha-Pinene	19.54	93	549	N.D.	
76) n-Propylbenzene	19.58	91	24174	0.118 ng	81
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.70	105	22498	0.135 ng	98
79) 1,3,5-Trimethylbenzene	19.77	105	166151	1.123 ng	98
80) alpha-Methylstyrene	19.91	118	3496	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.13	105	29323	0.191 ng	90
83) n-Decane	20.23	57	3128	N.D.	
84) Benzyl Chloride	20.26	91	808	N.D.	
85) 1,3-Dichlorobenzene	20.27	146	221	N.D.	
86) 1,4-Dichlorobenzene	20.34	146	462	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	20.64	146	160	N.D.	
91) d-Limonene	20.64	68	1613	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.33	57	3214	N.D.	
94) 1,2,4-Trichlorobenzene	22.15	180	2033	N.D.	
95) Naphthalene	0.00	128	0	N.D. d	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.09	119	1910	N.D.	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\22\04222014.D Vial: 4
Acq On : 22 Apr 2020 10:01 Operator: WA
Sample : P2002032-012 (150mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 13:12:23 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\22\04222014.D Vial: 4
Acq On : 22 Apr 2020 10:01 Operator: WA
Sample : P2002032-012 (150mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 13:12:23 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 4/24/20

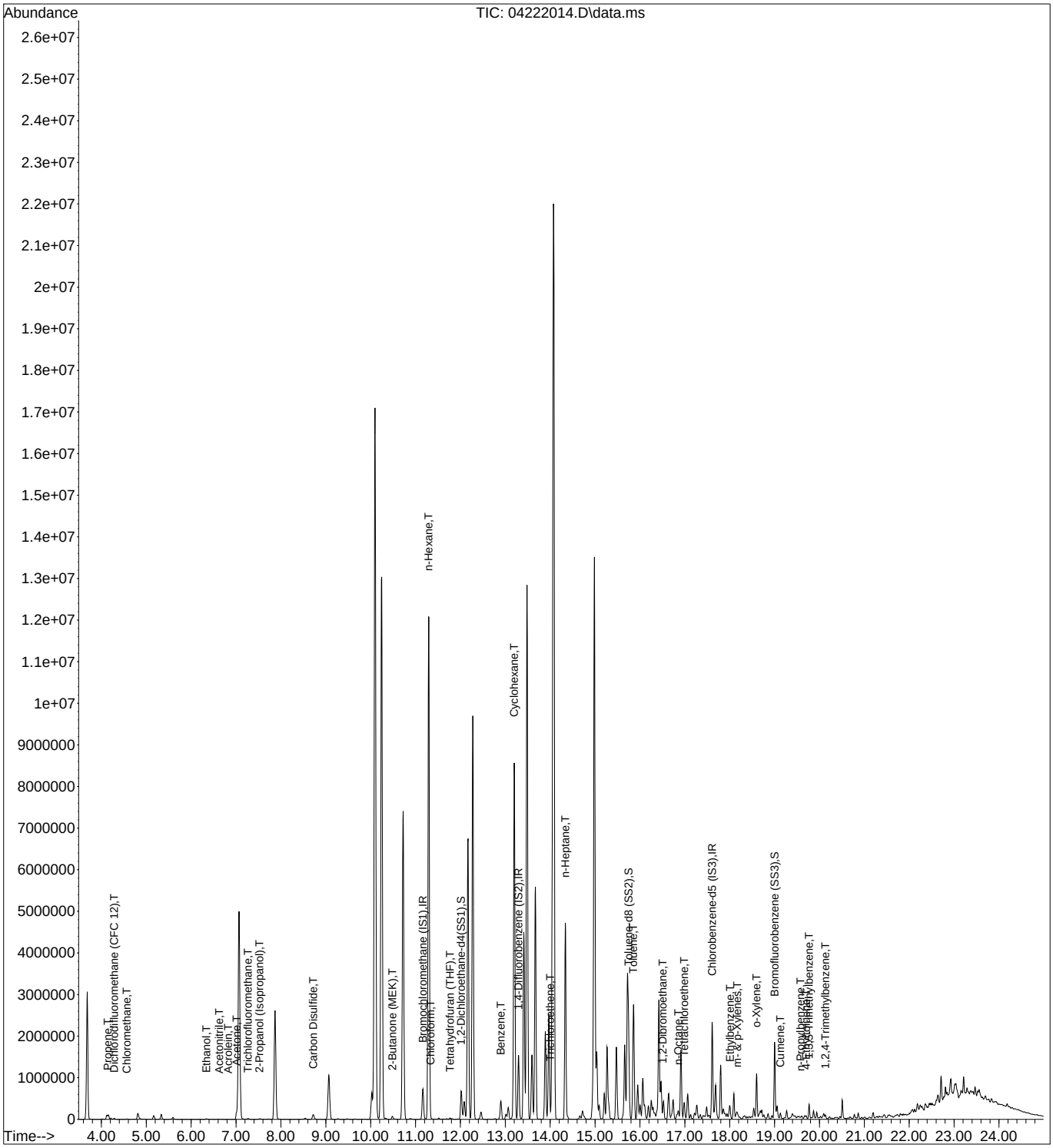
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	310028	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.30	114	1424030	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.61	82	707574	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	534285	12.446	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.60%				
57) Toluene-d8 (SS2)	15.74	98	1535507	12.243	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.92%				
73) Bromofluorobenzene (SS3)	19.00	174	532943	12.034	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.24%				
Target Compounds							Qvalue
2) Propene	4.14	42	24743	0.761	ng	M #	44
3) Dichlorodifluoromethan...	4.28	85	20771	0.297	ng		99
4) Chloromethane	4.56	50	9087	0.165	ng		94
10) Ethanol	6.34	45	26482	1.031	ng		93
11) Acetonitrile	6.63	41	9234	0.163	ng		96
12) Acrolein	6.82	56	2746	0.145	ng		93
13) Acetone	7.01	58	67924m	2.678	ng		
14) Trichlorofluoromethane	7.26	101	20339	0.330	ng		98
15) 2-Propanol (Isopropanol)	7.52	45	32207	0.428	ng		77
22) Carbon Disulfide	8.72	76	247825	2.088	ng		99
27) 2-Butanone (MEK)	10.48	72	29567	1.400	ng	#	87
31) n-Hexane	11.29	57	6506116	112.490	ng		98
32) Chloroform	11.33	83	13095	0.213	ng	#	1
34) Tetrahydrofuran (THF)	11.77	72	11589	0.534	ng	#	87
41) Benzene	12.90	78	443996	3.015	ng		99
43) Cyclohexane	13.20	84	3599910	63.671	ng		95
47) Trichloroethene	14.00	130	3514	0.084	ng		98
51) n-Heptane	14.34	71	1197513	34.830	ng		97
58) Toluene	15.85	91	625851	4.036	ng		100
61) 1,2-Dibromoethane	16.51	107	7710	0.194	ng		98
63) n-Octane	16.86	57	40120	1.304	ng		95
64) Tetrachloroethene	16.99	166	14399	0.333	ng		96
66) Ethylbenzene	18.01	91	85468	0.502	ng		99
67) m- & p-Xylenes	18.17	91	102229	0.739	ng		99
70) o-Xylene	18.60	91	645216	4.664	ng		99
74) Cumene	19.13	105	62693	0.358	ng		96
76) n-Propylbenzene	19.58	91	24174	0.118	ng		81
78) 4-Ethyltoluene	19.70	105	22498	0.135	ng		98
79) 1,3,5-Trimethylbenzene	19.77	105	166151	1.123	ng		98
82) 1,2,4-Trimethylbenzene	20.13	105	29323	0.191	ng		90

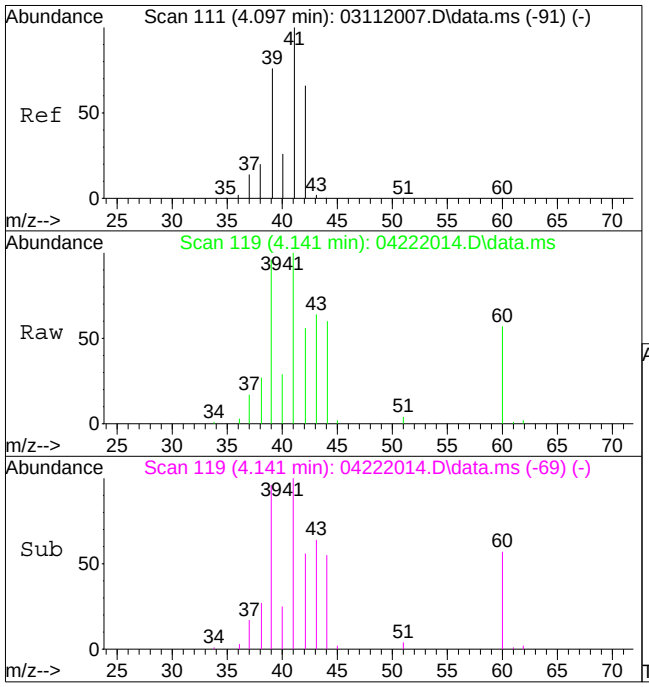
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\22\04222014.D Vial: 4
Acq On : 22 Apr 2020 10:01 Operator: WA
Sample : P2002032-012 (150mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 13:12:23 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

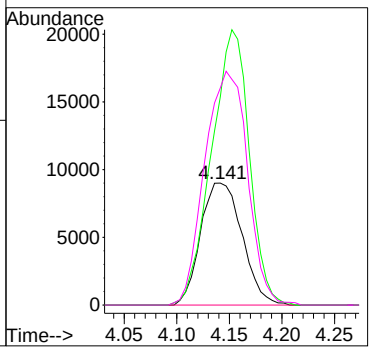


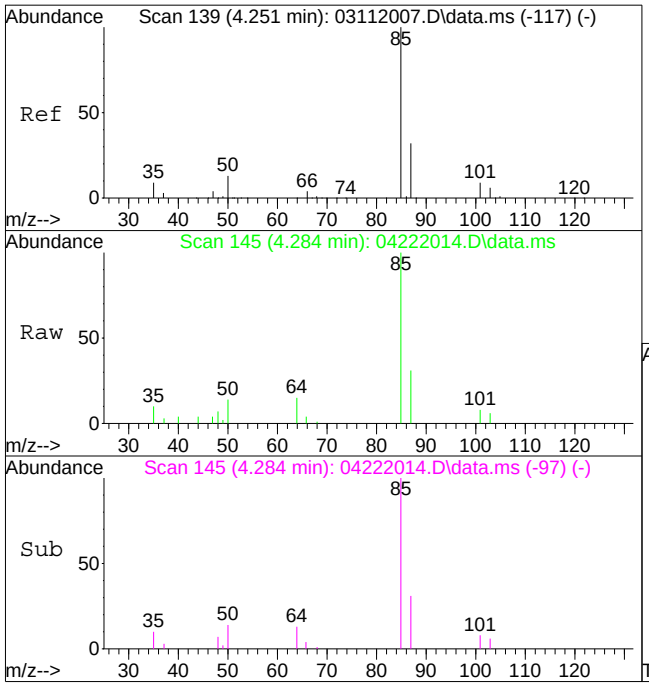


#2
Propene
Concen: 0.76 ng
RT: 4.14 min Scan# 119
Delta R.T. 0.027 min
Lab File: 04222014.D
Acq: 22 Apr 2020 10:01

Tgt Ion: 42 Resp: 24743

Ion	Ratio	Lower	Upper
42	100		
39	205.8	95.3	135.3#
41	197.9	132.0	172.0#

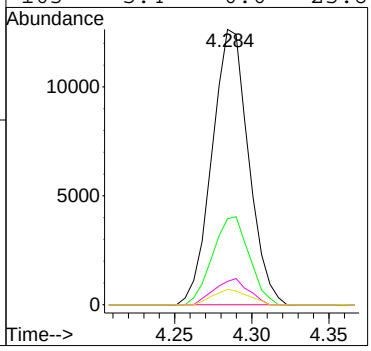


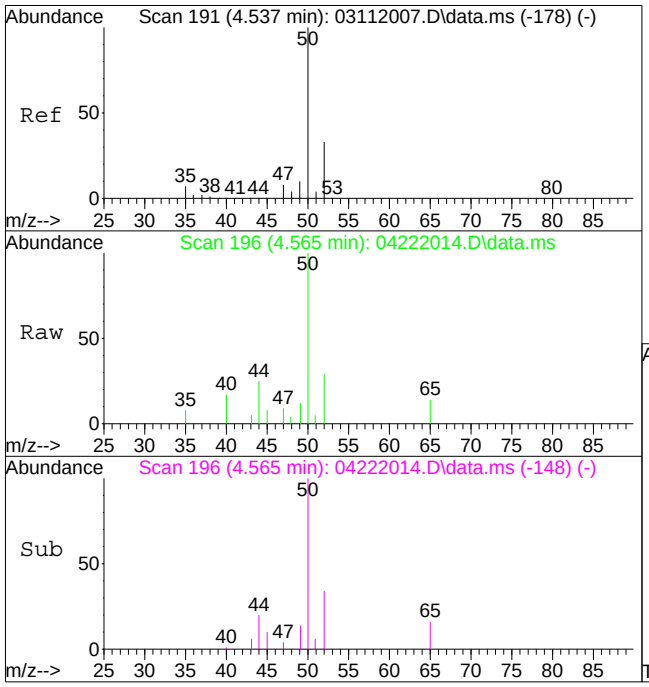


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.30 ng
RT: 4.28 min Scan# 145
Delta R.T. 0.016 min
Lab File: 04222014.D
Acq: 22 Apr 2020 10:01

Tgt Ion: 85 Resp: 20771

Ion	Ratio	Lower	Upper
85	100		
87	32.0	12.3	52.3
101	8.7	0.0	29.0
103	5.4	0.0	25.8

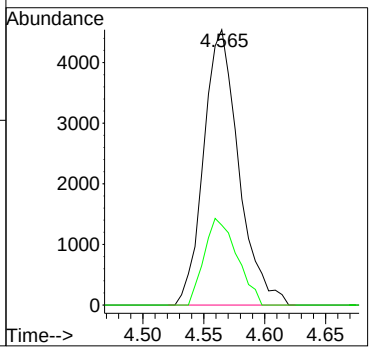


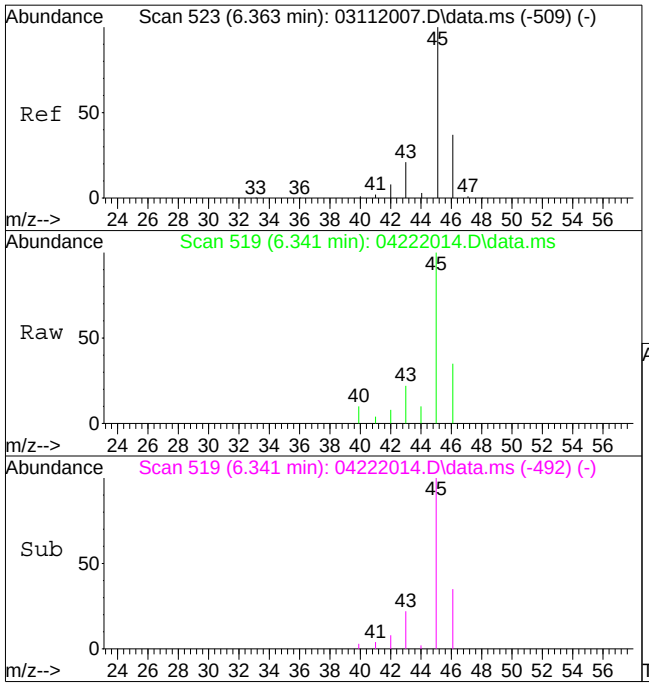


#4
Chloromethane
Concen: 0.16 ng
RT: 4.56 min Scan# 196
Delta R.T. 0.012 min
Lab File: 04222014.D
Acq: 22 Apr 2020 10:01

Tgt Ion: 50 Resp: 9087

Ion	Ratio	Lower	Upper
50	100		
52	29.5	12.8	52.8

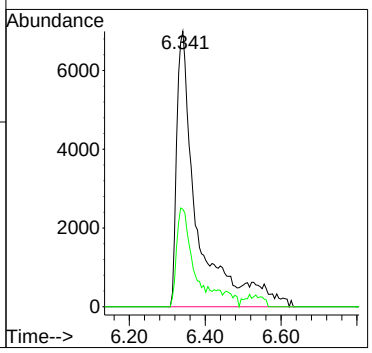


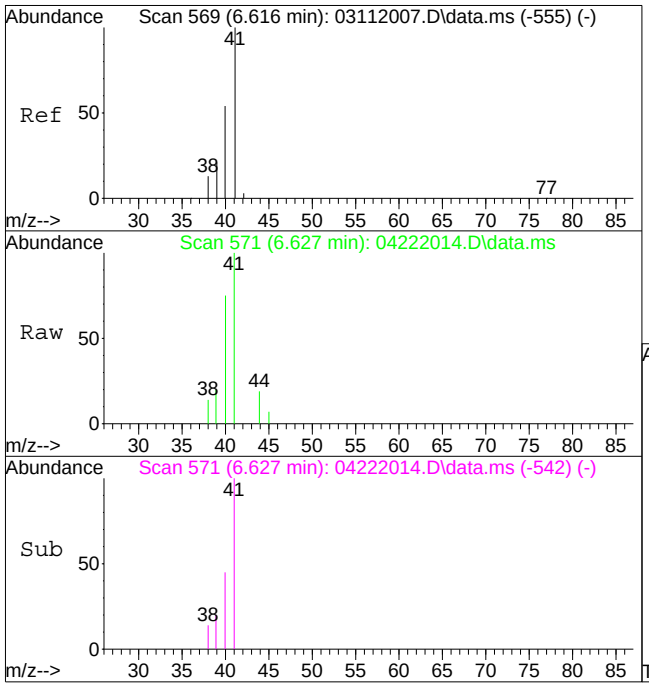


#10
Ethanol
Concen: 1.03 ng
RT: 6.34 min Scan# 519
Delta R.T. -0.099 min
Lab File: 04222014.D
Acq: 22 Apr 2020 10:01

Tgt Ion: 45 Resp: 26482

Ion	Ratio	Lower	Upper
45	100		
46	33.2	17.3	57.3

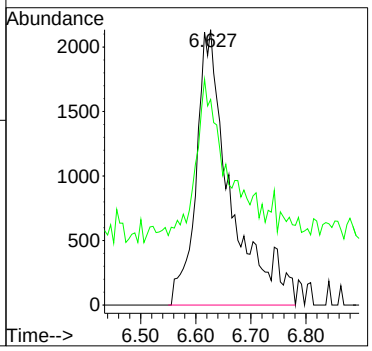


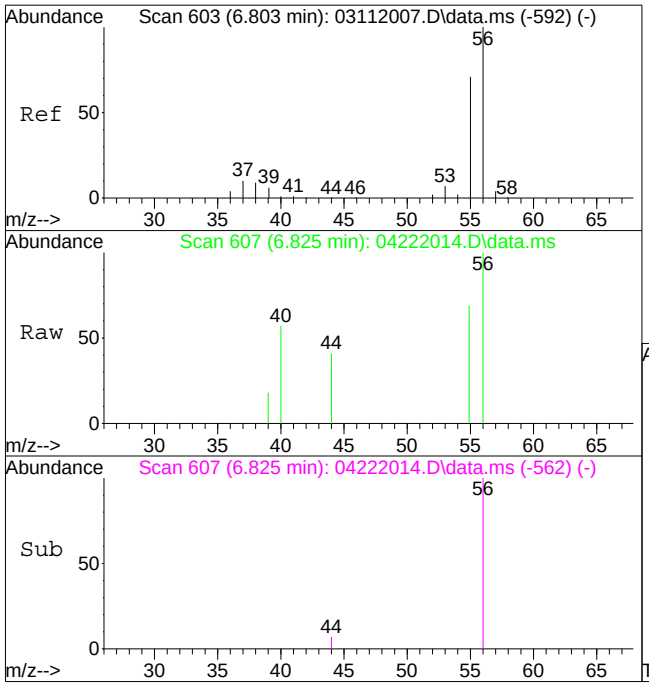


#11
Acetonitrile
Concen: 0.16 ng
RT: 6.63 min Scan# 571
Delta R.T. -0.038 min
Lab File: 04222014.D
Acq: 22 Apr 2020 10:01

Tgt Ion: 41 Resp: 9234

Ion	Ratio	Lower	Upper
41	100		
40	56.1	33.6	73.6

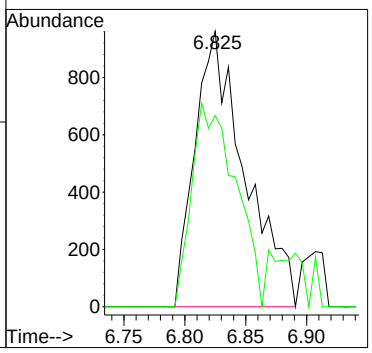


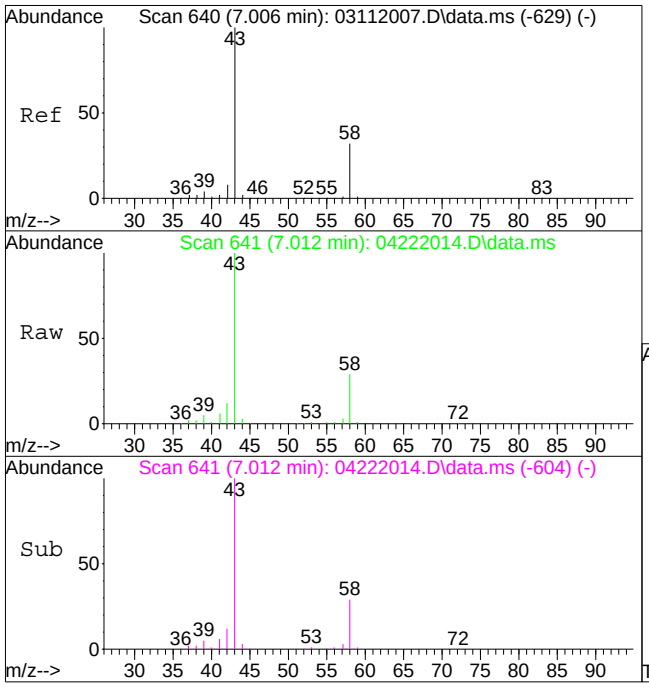


#12
Acrolein
Concen: 0.15 ng
RT: 6.82 min Scan# 607
Delta R.T. -0.005 min
Lab File: 04222014.D
Acq: 22 Apr 2020 10:01

Tgt Ion: 56 Resp: 2746

Ion	Ratio	Lower	Upper
56	100		
55	64.7	50.4	90.4

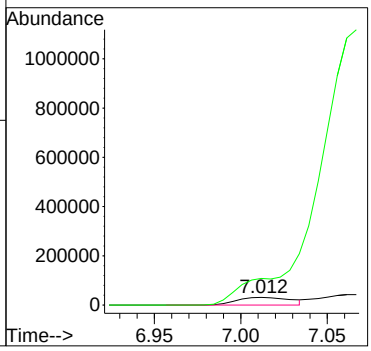


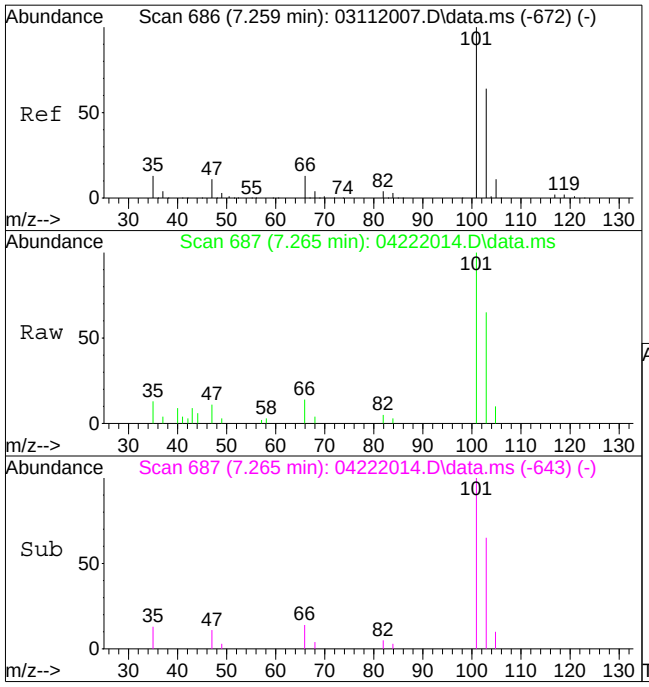


#13
Acetone
Concen: 2.68 ng m
RT: 7.01 min Scan# 641
Delta R.T. -0.044 min
Lab File: 04222014.D
Acq: 22 Apr 2020 10:01

Tgt Ion: 58 Resp: 67924

Ion	Ratio	Lower	Upper
58	100		
43	4619.2	287.3	347.3#

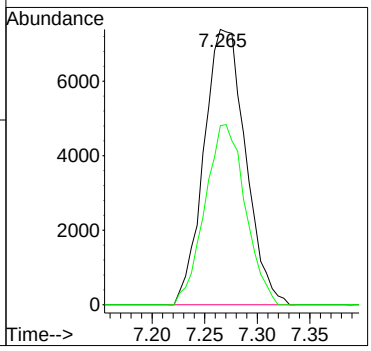


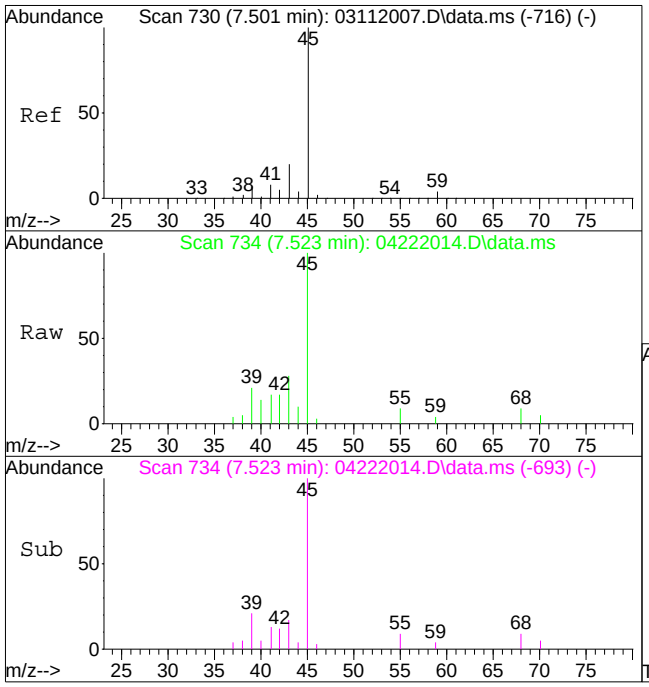


#14
Trichlorofluoromethane
Concen: 0.33 ng
RT: 7.26 min Scan# 687
Delta R.T. -0.010 min
Lab File: 04222014.D
Acq: 22 Apr 2020 10:01

Tgt Ion:101 Resp: 20339

Ion	Ratio	Lower	Upper
101	100		
103	63.3	44.6	84.6

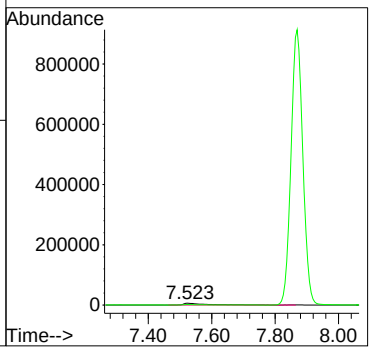


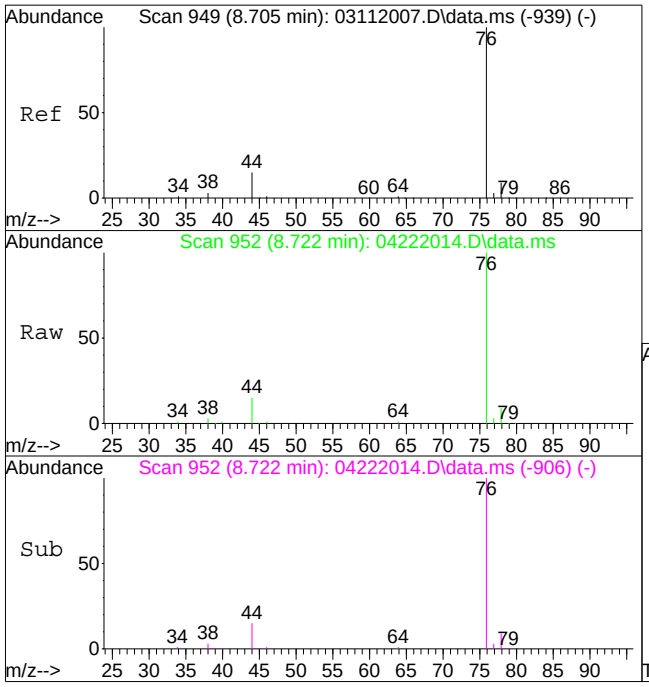


#15
2-Propanol (Isopropanol)
Concen: 0.43 ng
RT: 7.52 min Scan# 734
Delta R.T. -0.027 min
Lab File: 04222014.D
Acq: 22 Apr 2020 10:01

Tgt Ion: 45 Resp: 32207

Ion	Ratio	Lower	Upper
45	100		
43	31.1	0.3	40.3

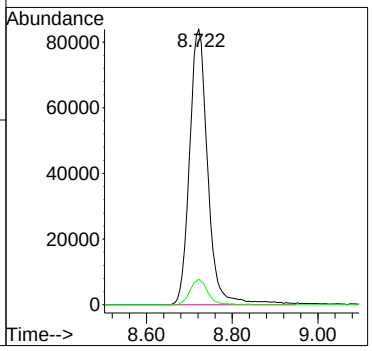


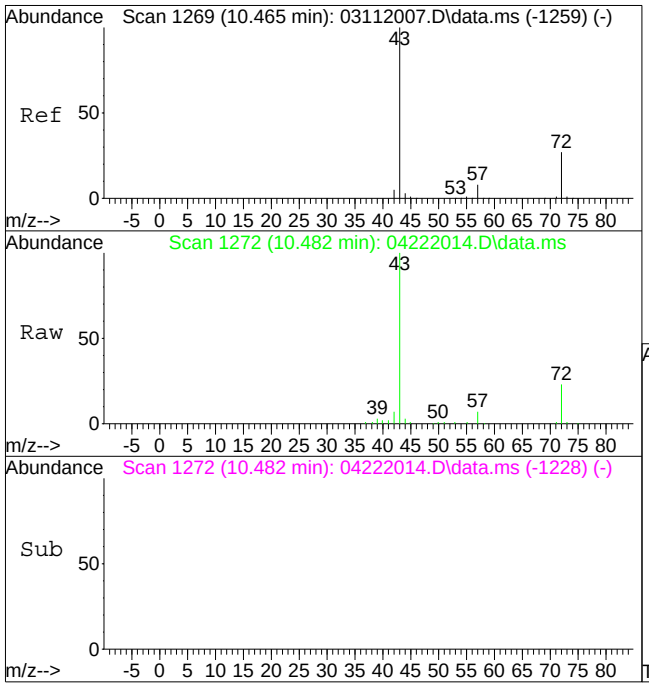


#22
Carbon Disulfide
Concen: 2.09 ng
RT: 8.72 min Scan# 952
Delta R.T. 0.000 min
Lab File: 04222014.D
Acq: 22 Apr 2020 10:01

Tgt Ion: 76 Resp: 247825

Ion	Ratio	Lower	Upper
76	100		
78	8.9	0.0	29.2

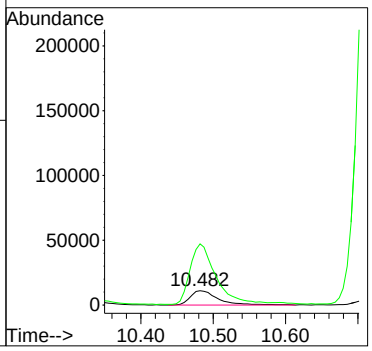


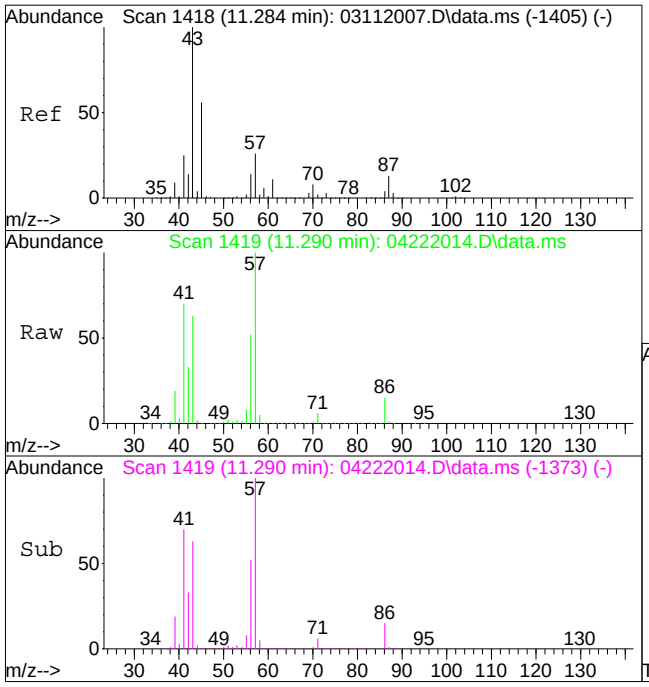


#27
2-Butanone (MEK)
Concen: 1.40 ng
RT: 10.48 min Scan# 1272
Delta R.T. -0.011 min
Lab File: 04222014.D
Acq: 22 Apr 2020 10:01

Tgt Ion: 72 Resp: 29567

Ion	Ratio	Lower	Upper
72	100		
43	401.9	353.4	393.4#

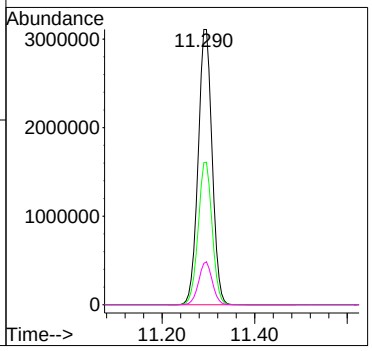


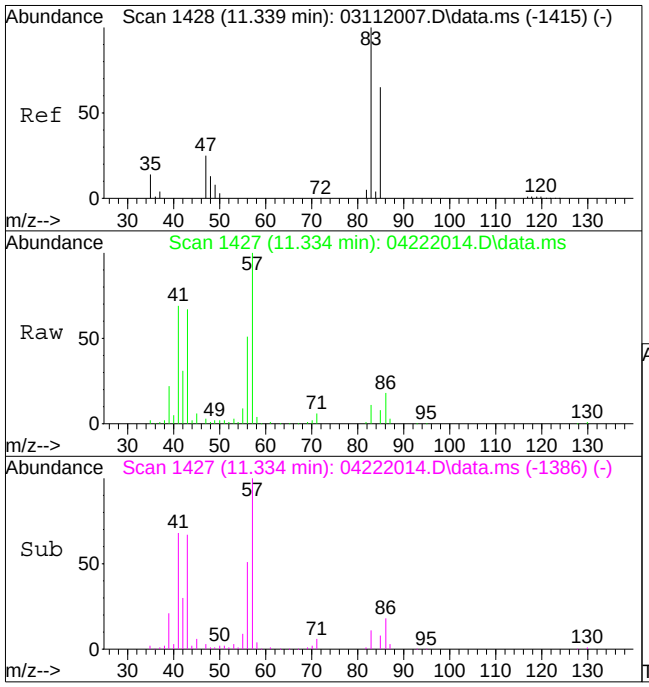


#31
n-Hexane
Concen: 112.49 ng
RT: 11.29 min Scan# 1419
Delta R.T. 0.000 min
Lab File: 04222014.D
Acq: 22 Apr 2020 10:01

Tgt Ion: 57 Resp: 6506116

Ion	Ratio	Lower	Upper
57	100		
56	51.6	41.0	61.4
86	15.2	13.9	20.9

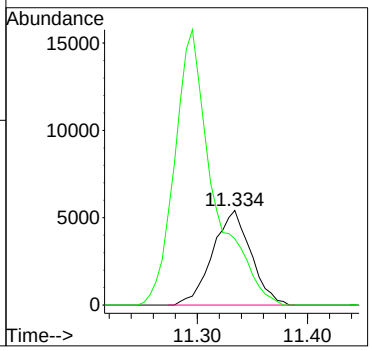


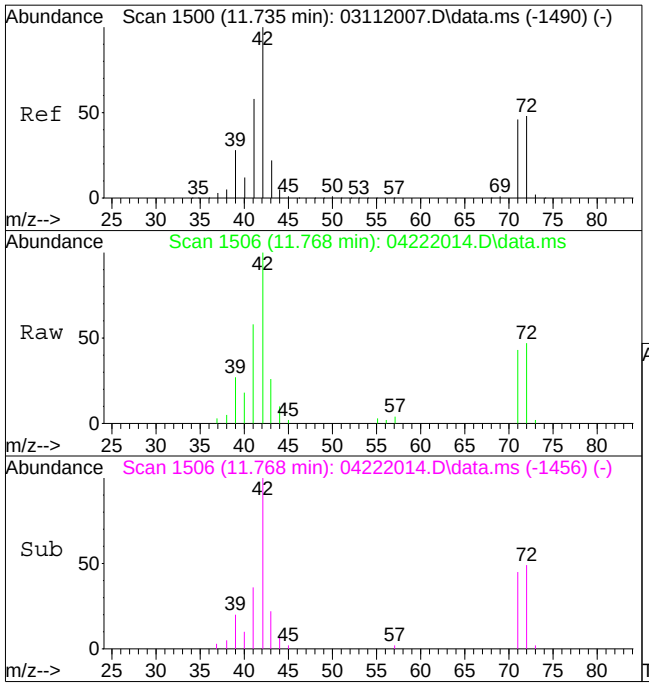


#32
Chloroform
Concen: 0.21 ng
RT: 11.33 min Scan# 1427
Delta R.T. -0.027 min
Lab File: 04222014.D
Acq: 22 Apr 2020 10:01

Tgt Ion: 83 Resp: 13095

Ion	Ratio	Lower	Upper
83	100		
85	295.2	45.5	85.5#

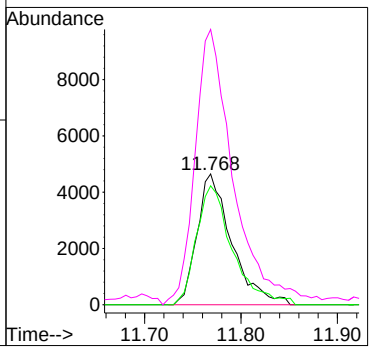


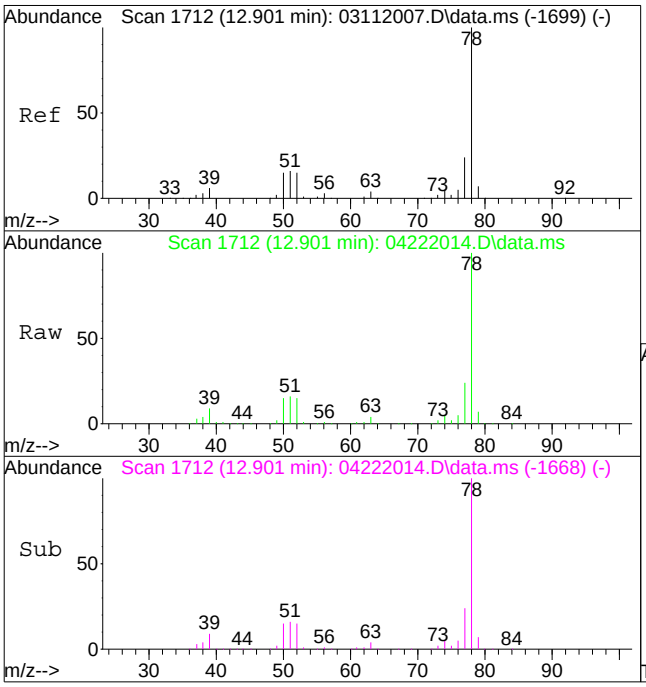


#34
Tetrahydrofuran (THF)
Concen: 0.53 ng
RT: 11.77 min Scan# 1506
Delta R.T. 0.022 min
Lab File: 04222014.D
Acq: 22 Apr 2020 10:01

Tgt Ion: 72 Resp: 11589

Ion	Ratio	Lower	Upper
72	100		
71	94.8	75.9	115.9
42	238.4	189.3	229.3#

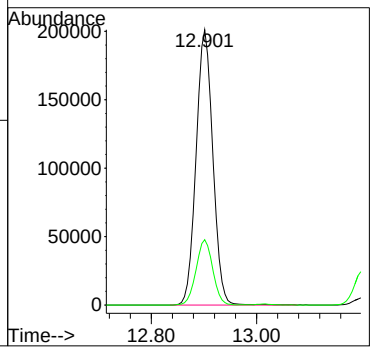


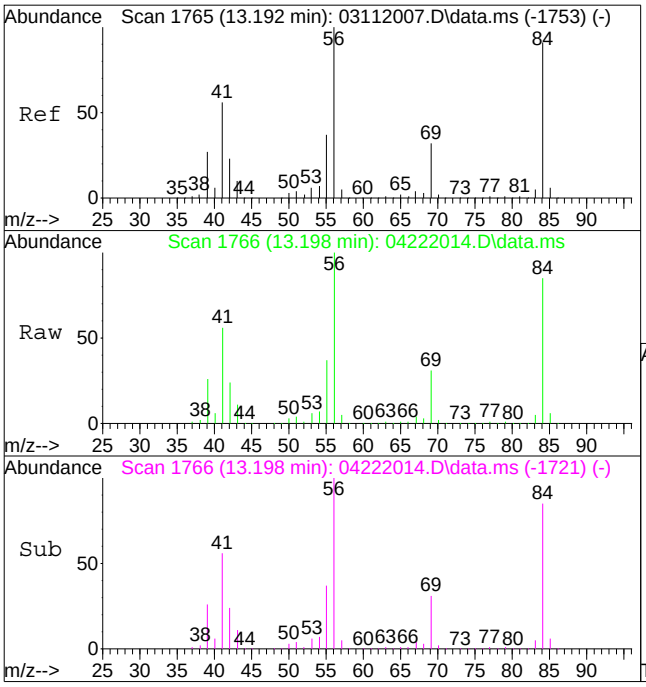


#41
Benzene
Concen: 3.02 ng
RT: 12.90 min Scan# 1712
Delta R.T. -0.011 min
Lab File: 04222014.D
Acq: 22 Apr 2020 10:01

Tgt Ion: 78 Resp: 443996

Ion	Ratio	Lower	Upper
78	100		
77	23.6	3.4	43.4

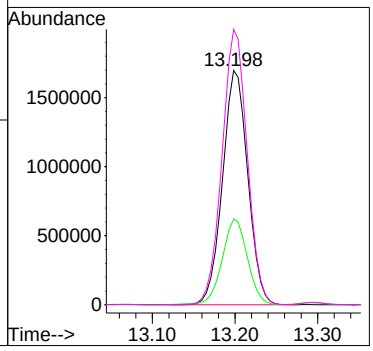


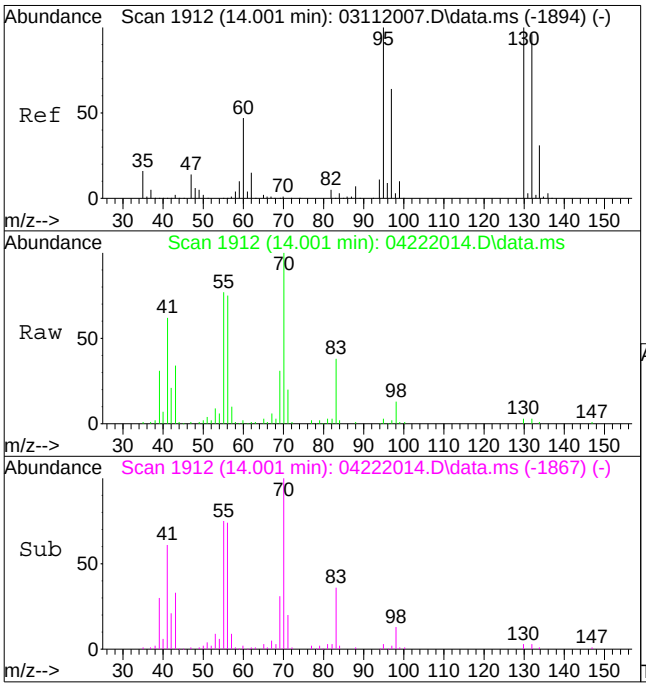


#43
Cyclohexane
Concen: 63.67 ng
RT: 13.20 min Scan# 1766
Delta R.T. -0.005 min
Lab File: 04222014.D
Acq: 22 Apr 2020 10:01

Tgt Ion: 84 Resp: 3599910

Ion	Ratio	Lower	Upper
84	100		
69	36.6	15.3	55.3
56	117.1	90.5	130.5

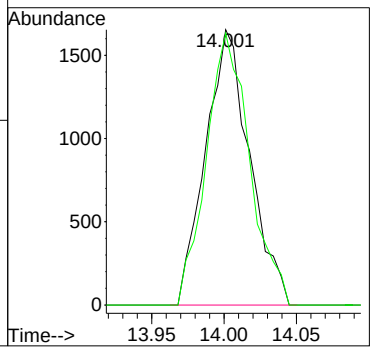


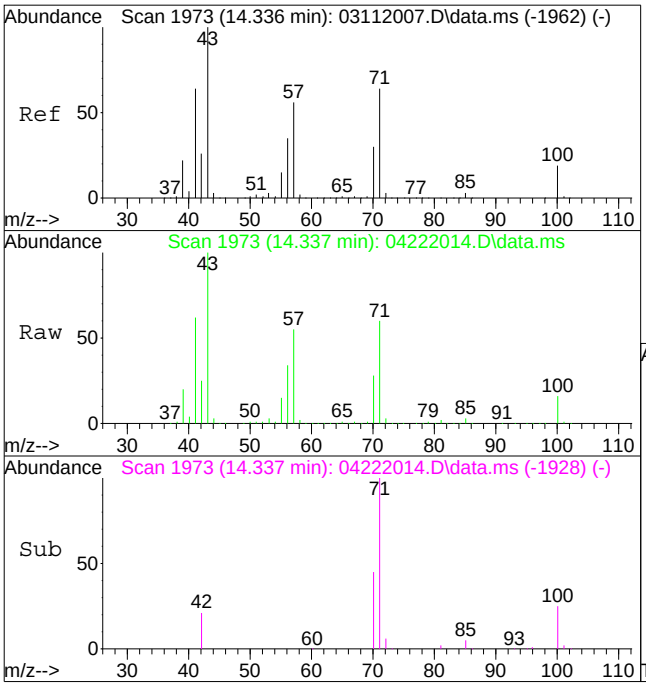


#47
Trichloroethene
Concen: 0.08 ng
RT: 14.00 min Scan# 1912
Delta R.T. -0.005 min
Lab File: 04222014.D
Acq: 22 Apr 2020 10:01

Tgt Ion:130 Resp: 3514

Ion	Ratio	Lower	Upper
130	100		
132	97.0	74.7	114.7

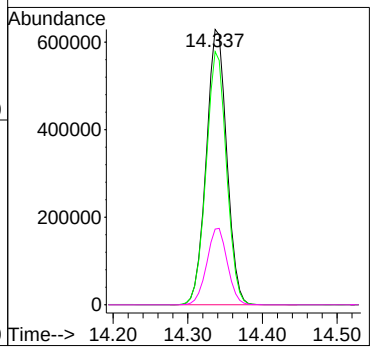


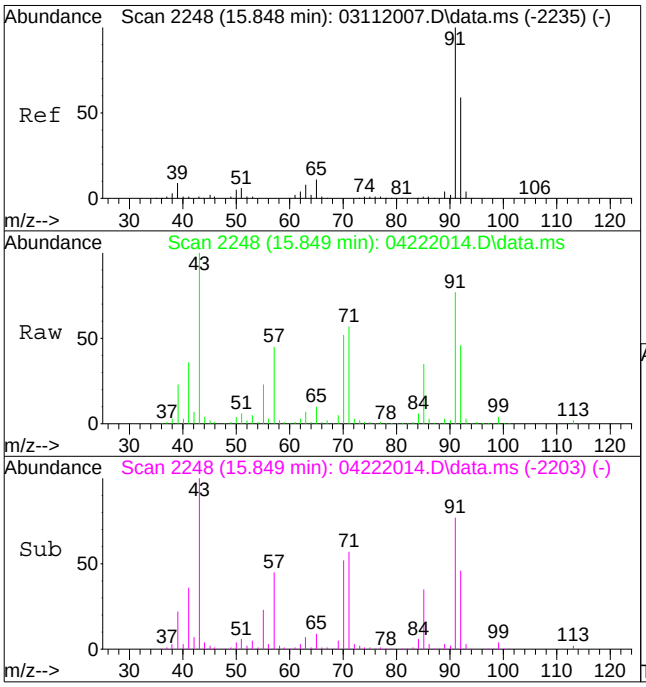


#51
n-Heptane
Concen: 34.83 ng
RT: 14.34 min Scan# 1973
Delta R.T. -0.005 min
Lab File: 04222014.D
Acq: 22 Apr 2020 10:01

Tgt Ion: 71 Resp: 1197513

Ion	Ratio	Lower	Upper
71	100		
57	91.5	68.6	108.6
100	27.9	9.1	49.1

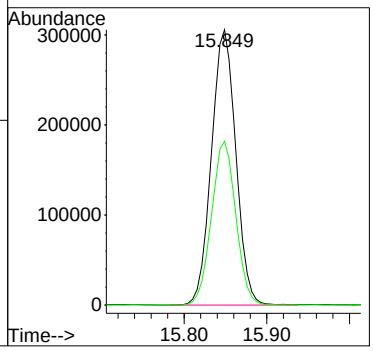


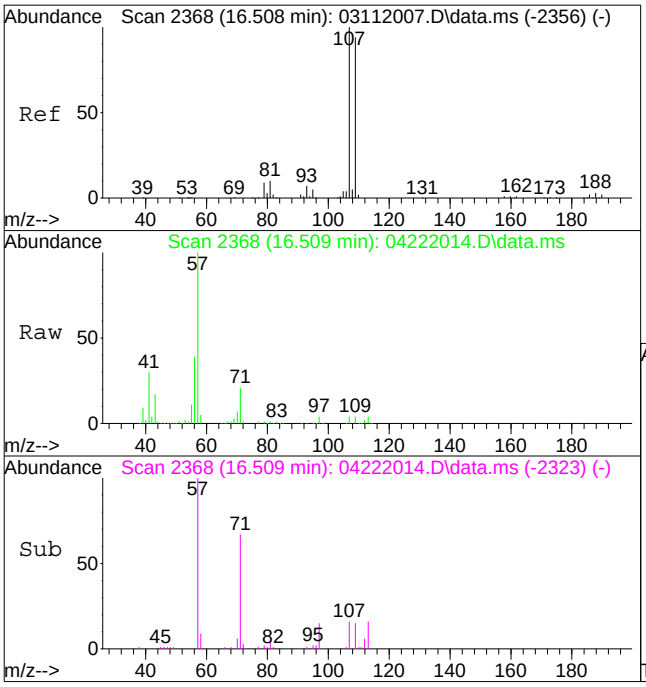


#58
Toluene
Concen: 4.04 ng
RT: 15.85 min Scan# 2248
Delta R.T. -0.005 min
Lab File: 04222014.D
Acq: 22 Apr 2020 10:01

Tgt Ion: 91 Resp: 625851

Ion	Ratio	Lower	Upper
91	100		
92	59.4	39.0	79.0

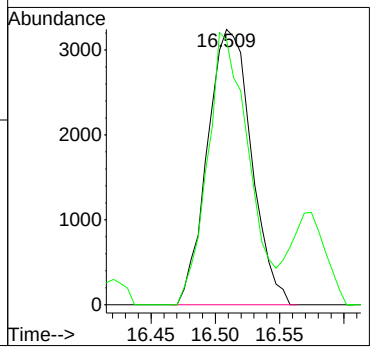


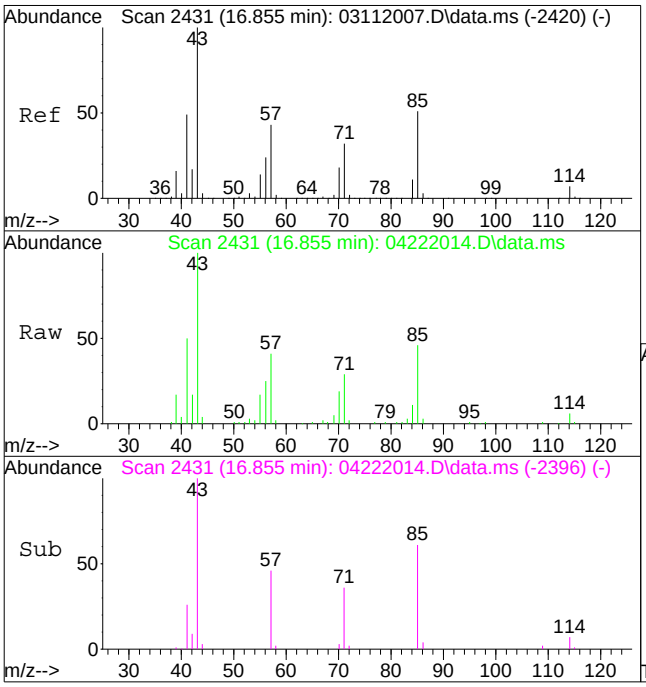


#61
1,2-Dibromoethane
Concen: 0.19 ng
RT: 16.51 min Scan# 2368
Delta R.T. -0.005 min
Lab File: 04222014.D
Acq: 22 Apr 2020 10:01

Tgt Ion:107 Resp: 7710

Ion	Ratio	Lower	Upper
107	100		
109	92.2	74.1	114.1

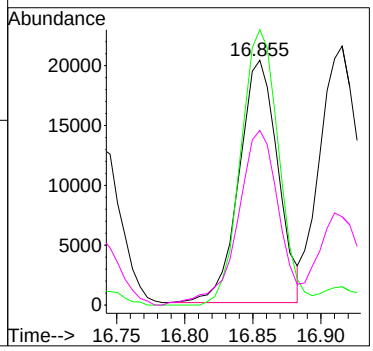


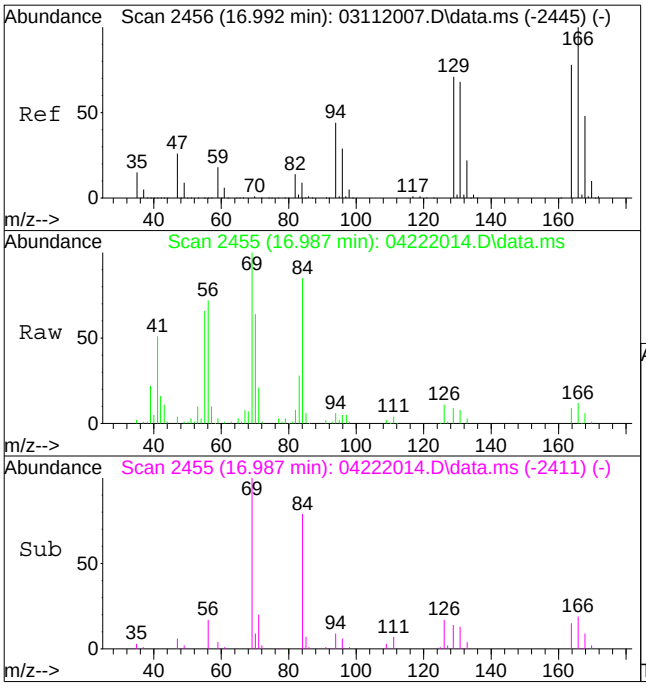


#63
n-Octane
Concen: 1.30 ng
RT: 16.86 min Scan# 2431
Delta R.T. -0.005 min
Lab File: 04222014.D
Acq: 22 Apr 2020 10:01

Tgt Ion: 57 Resp: 40120

Ion	Ratio	Lower	Upper
57	100		
85	111.0	95.1	142.7
71	74.9	58.2	87.4

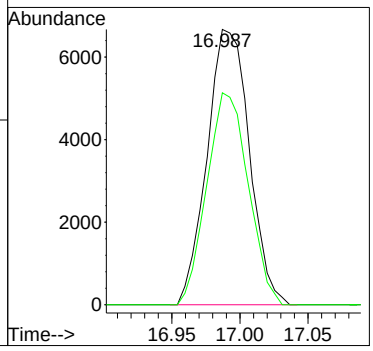


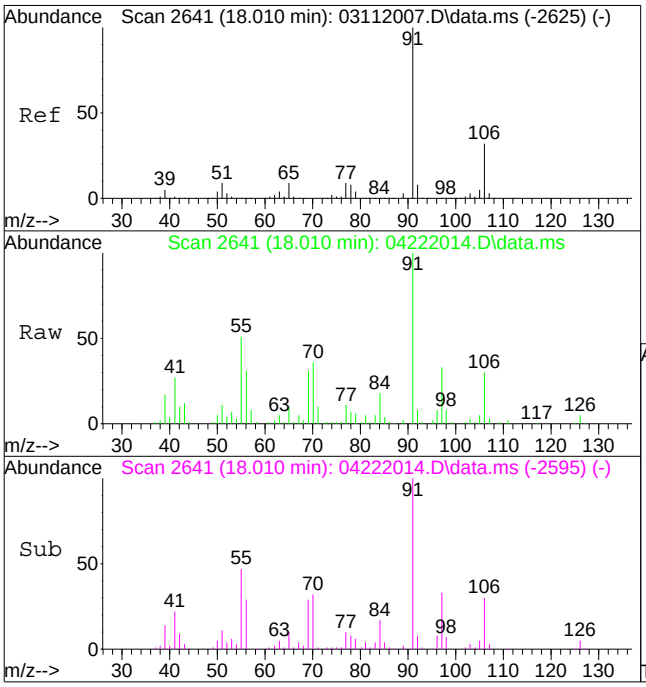


#64
Tetrachloroethene
Concen: 0.33 ng
RT: 16.99 min Scan# 2455
Delta R.T. -0.011 min
Lab File: 04222014.D
Acq: 22 Apr 2020 10:01

Tgt Ion:166 Resp: 14399

Ion	Ratio	Lower	Upper
166	100		
164	75.4	58.6	98.6

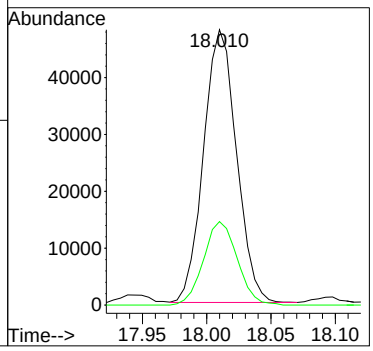


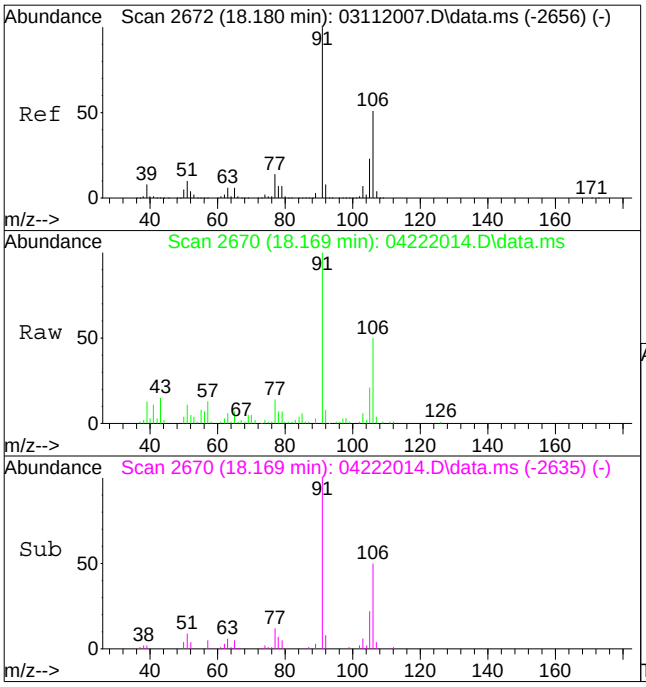


#66
Ethylbenzene
Concen: 0.50 ng
RT: 18.01 min Scan# 2641
Delta R.T. 0.000 min
Lab File: 04222014.D
Acq: 22 Apr 2020 10:01

Tgt Ion: 91 Resp: 85468

Ion	Ratio	Lower	Upper
91	100		
106	31.4	11.7	51.7

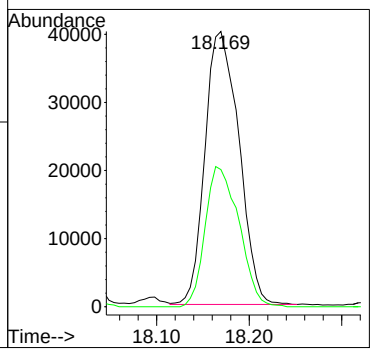


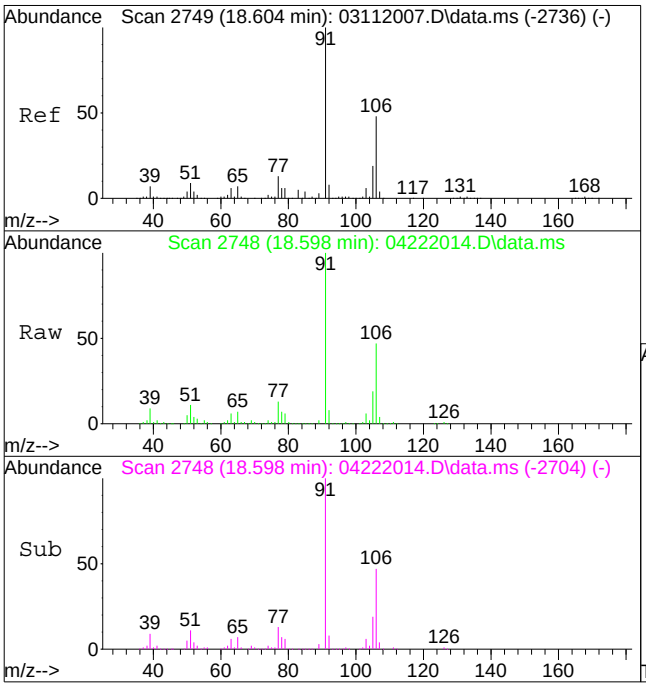


#67
m- & p-Xylenes
Concen: 0.74 ng
RT: 18.17 min Scan# 2670
Delta R.T. -0.005 min
Lab File: 04222014.D
Acq: 22 Apr 2020 10:01

Tgt Ion: 91 Resp: 102229

Ion	Ratio	Lower	Upper
91	100		
106	51.0	30.4	70.4

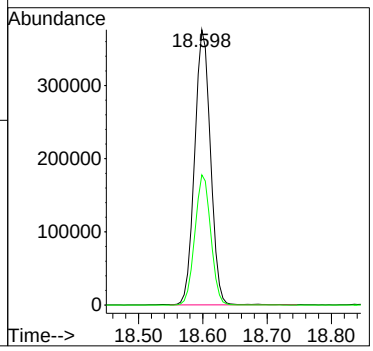


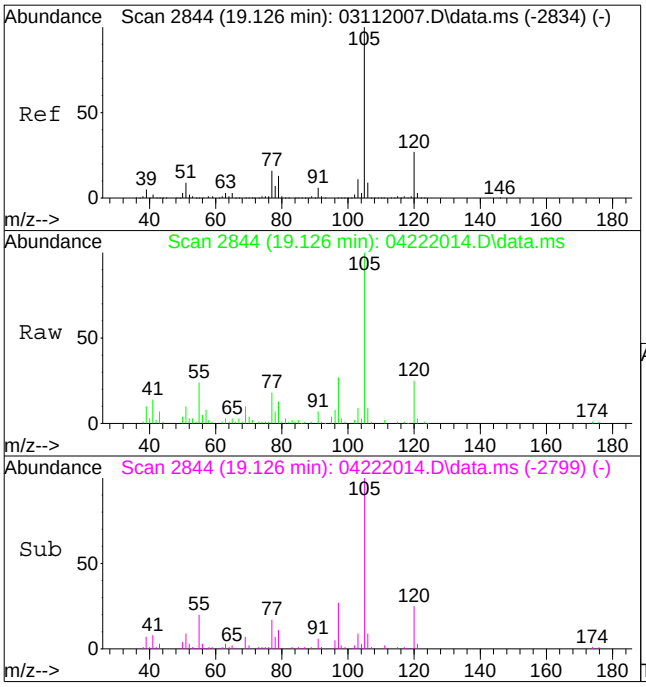


#70
o-Xylene
Concen: 4.66 ng
RT: 18.60 min Scan# 2748
Delta R.T. -0.011 min
Lab File: 04222014.D
Acq: 22 Apr 2020 10:01

Tgt Ion: 91 Resp: 645216

Ion	Ratio	Lower	Upper
91	100		
106	47.3	28.1	68.1

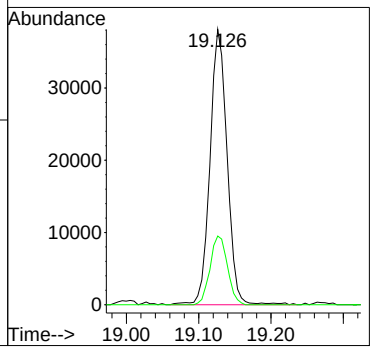


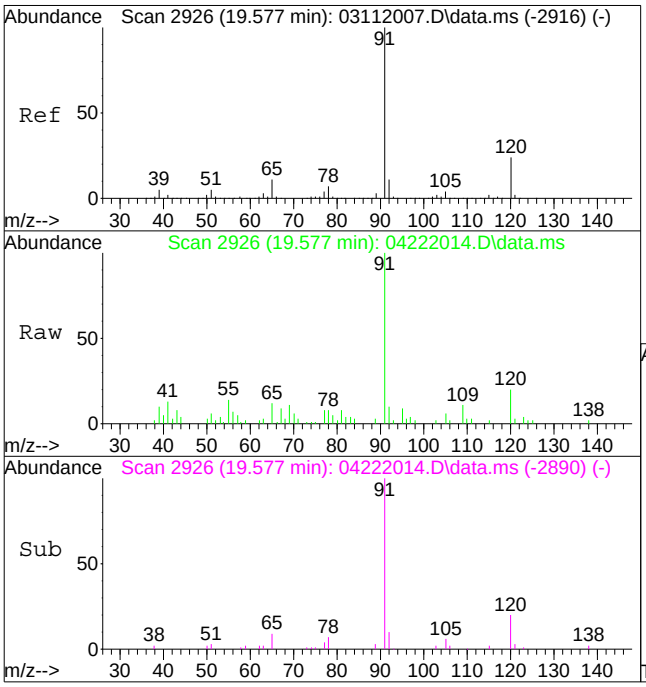


#74
Cumene
Concen: 0.36 ng
RT: 19.13 min Scan# 2844
Delta R.T. 0.000 min
Lab File: 04222014.D
Acq: 22 Apr 2020 10:01

Tgt Ion:105 Resp: 62693

Ion	Ratio	Lower	Upper
105	100		
120	25.3	7.2	47.2

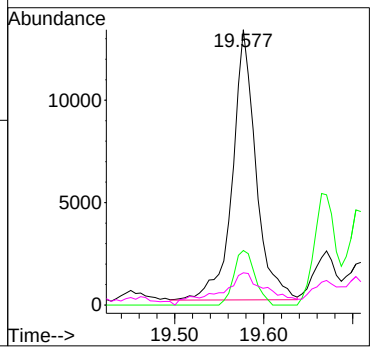


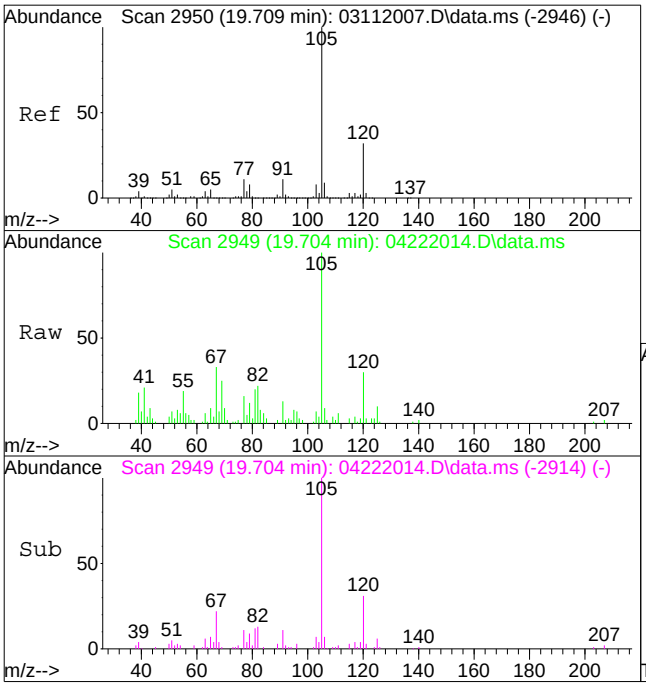


#76
n-Propylbenzene
Concen: 0.12 ng
RT: 19.58 min Scan# 2926
Delta R.T. 0.000 min
Lab File: 04222014.D
Acq: 22 Apr 2020 10:01

Tgt Ion: 91 Resp: 24174

Ion	Ratio	Lower	Upper
91	100		
120	18.1	3.9	43.9
65	23.3	0.0	30.5

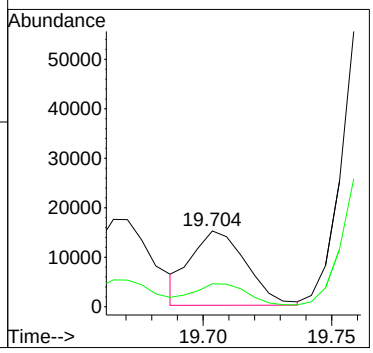


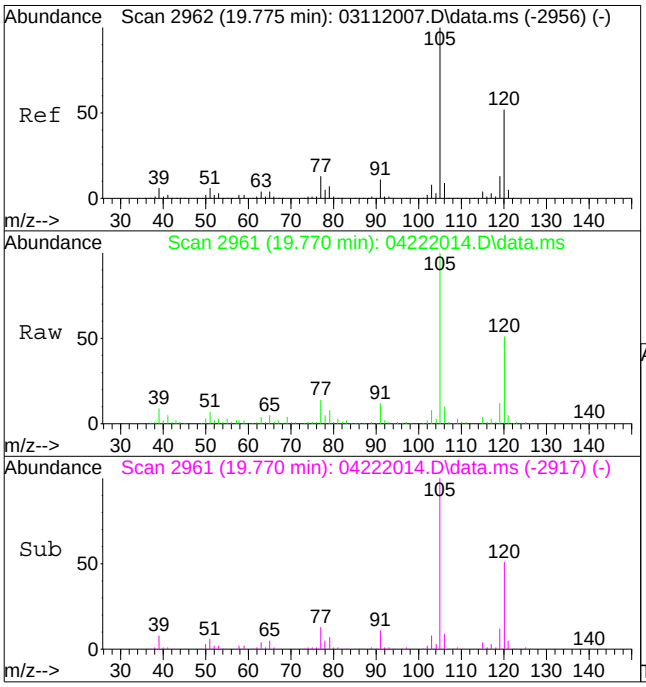


#78
4-Ethyltoluene
Concen: 0.14 ng
RT: 19.70 min Scan# 2949
Delta R.T. -0.005 min
Lab File: 04222014.D
Acq: 22 Apr 2020 10:01

Tgt Ion:105 Resp: 22498

Ion	Ratio	Lower	Upper
105	100		
120	32.2	11.1	51.1

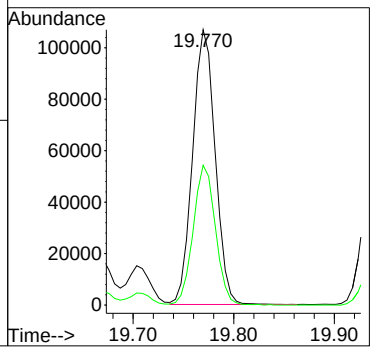


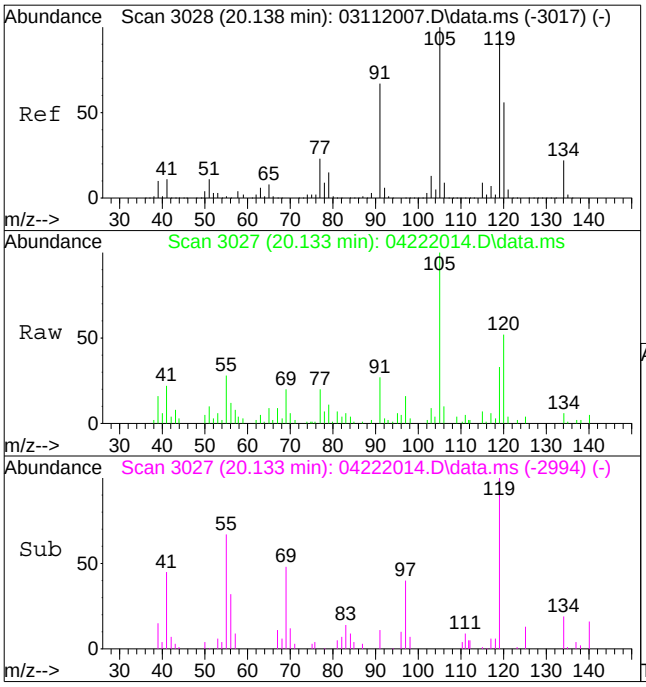


#79
1,3,5-Trimethylbenzene
Concen: 1.12 ng
RT: 19.77 min Scan# 2961
Delta R.T. -0.005 min
Lab File: 04222014.D
Acq: 22 Apr 2020 10:01

Tgt Ion:105 Resp: 166151

Ion	Ratio	Lower	Upper
105	100		
120	50.2	31.3	71.3

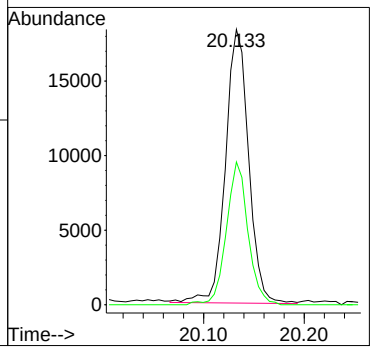




#82
1,2,4-Trimethylbenzene
Concen: 0.19 ng
RT: 20.13 min Scan# 3027
Delta R.T. -0.017 min
Lab File: 04222014.D
Acq: 22 Apr 2020 10:01

Tgt Ion:105 Resp: 29323

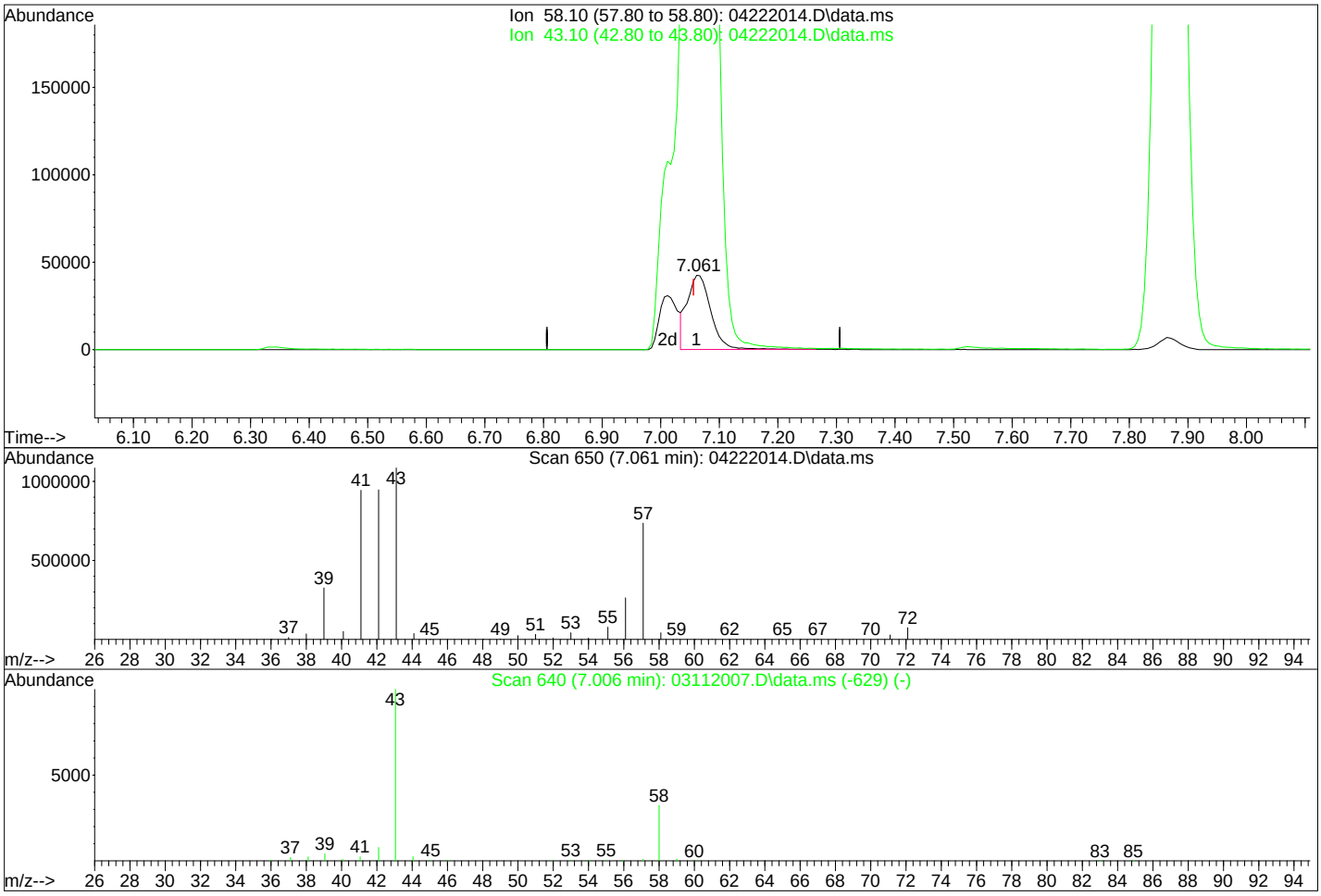
Ion	Ratio	Lower	Upper
105	100		
120	48.8	35.8	75.8



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\22\04222014.D Vial: 4
Acq On : 22 Apr 2020 10:01 Operator: WA
Sample : P2002032-012 (150mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 10:56:49 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04222014.D\data.ms

(13) Acetone (T)

7.061min (+0.005) 4.66ng

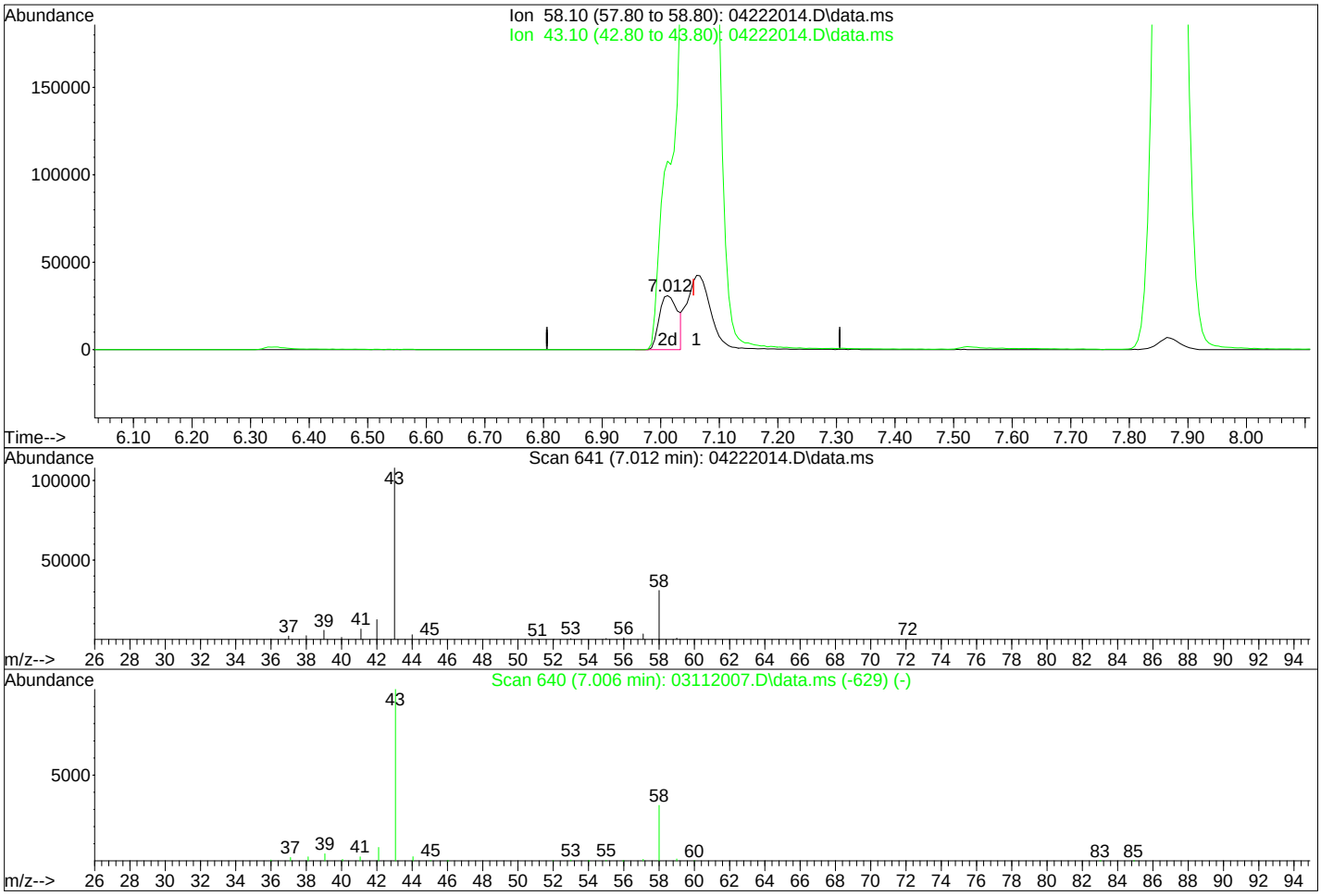
response 118114

Ion	Exp%	Act%
58.10	100	100
43.10	317.30	2656.38#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\22\04222014.D Vial: 4
Acq On : 22 Apr 2020 10:01 Operator: WA
Sample : P2002032-012 (150mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 10:56:49 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04222014.D\data.ms

(13) Acetone (T)

7.012min (-0.044) 2.68ng m

response 67924

Ion	Exp%	Act%
58.10	100	100
43.10	317.30	4619.21#
0.00	0.00	0.00
0.00	0.00	0.00

WP

LH 4/24/20

TD 4/27/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\22\04222017.D Vial: 4
Acq On : 22 Apr 2020 11:41 Operator: WA
Sample : P2002032-012dil (50mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 13:13:50 2020
Quant Method : I:\MS16\METHODS\R16031120.M LH 4/24/20
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	346631	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1575059	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	780178	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	596069	12.419	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.36%				
57) Toluene-d8 (SS2)	15.74	98	1657496	11.986	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.92%				
73) Bromofluorobenzene (SS3)	19.00	174	564414	11.558	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.48%				
Target Compounds							Qvalue
2) Propene	4.14	42	8321	0.229	ng	#	43
3) Dichlorodifluoromethan...	4.28	85	6965	0.089	ng		98
4) Chloromethane	4.56	50	3833	0.062	ng		94
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	4.98	62	378	N.D.			
7) 1,3-Butadiene	5.17	54	467	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.34	45	10247	0.357	ng		88
11) Acetonitrile	6.63	41	3172	0.050	ng		80
12) Acrolein	6.82	56	828	N.D.			
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	7.26	101	6993	0.101	ng		97
15) 2-Propanol (Isopropanol)	7.53	45	12738	0.151	ng		70
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.45	59	2451	N.D.			
19) Methylene Chloride	8.44	84	354	N.D.			
20) 3-Chloro-1-propene (Al...	8.52	41	2113	N.D.			
21) Trichlorotrifluoroethane	8.88	151	110	N.D.			
22) Carbon Disulfide	8.71	76	83102	0.626	ng		98
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	9.96	63	456	N.D.			
25) Methyl tert-Butyl Ether	10.10	73	1741	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.49	72	9728	0.412	ng	#	73
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	11.28	57	1838029	28.424	ng		98
32) Chloroform	11.32	83	4125	0.060	ng	#	1
34) Tetrahydrofuran (THF)	11.77	72	3896	0.160	ng	#	80
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	12.90	61	966	N.D.			
40) 1-Butanol	12.92	56	1895	N.D.			
41) Benzene	12.90	78	144392	0.887	ng		99
42) Carbon Tetrachloride	13.06	117	762	N.D.			
43) Cyclohexane	13.19	84	1057769	16.915	ng		95
44) tert-Amyl Methyl Ether	13.58	73	636	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	14.00	130	1284	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\22\04222017.D Vial: 4
Acq On : 22 Apr 2020 11:41 Operator: WA
Sample : P2002032-012dil (50mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 24 13:13:50 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

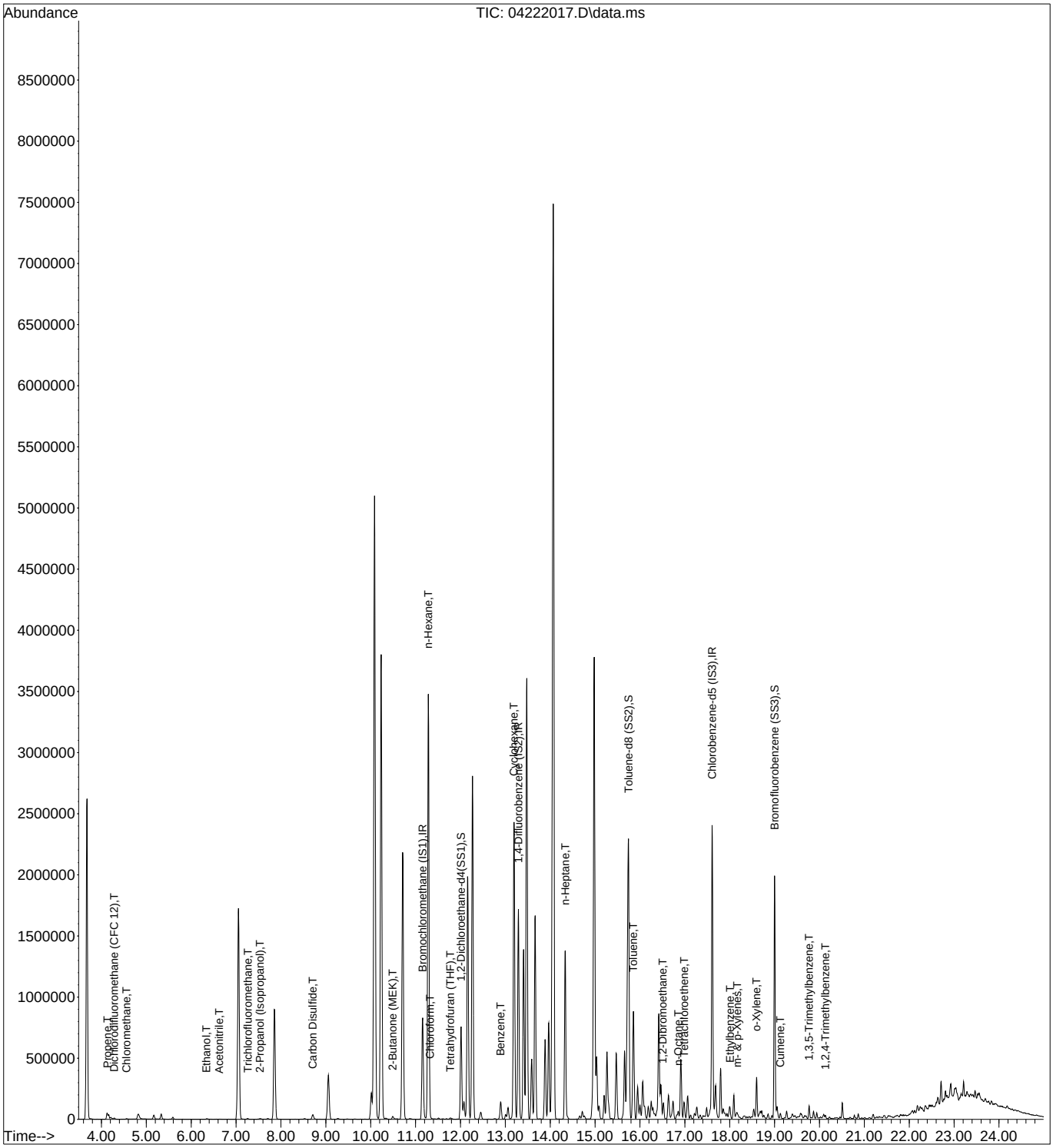
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.34	71	359316	9.449 ng	97
52) cis-1,3-Dichloropropene	14.97	75	988	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	15.85	91	196349	1.148 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	16.51	107	2203	0.050 ng	91
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	16.85	57	13064	0.385 ng	91
64) Tetrachloroethene	16.99	166	8181	0.172 ng	100
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	18.01	91	27683	0.148 ng	99
67) m- & p-Xylenes	18.17	91	33369	0.219 ng	97
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.50	104	377	N.D.	
70) o-Xylene	18.60	91	201717	1.322 ng	98
71) n-Nonane	0.00	43	0	N.D. d	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	19.13	105	19490	0.101 ng	96
75) alpha-Pinene	19.55	93	123	N.D.	
76) n-Propylbenzene	19.58	91	8576	N.D.	
77) 3-Ethyltoluene	19.67	105	8808	N.D.	
78) 4-Ethyltoluene	19.70	105	7265	N.D.	
79) 1,3,5-Trimethylbenzene	19.77	105	51955	0.319 ng	96
80) alpha-Methylstyrene	19.91	118	1040	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.13	105	9093	0.054 ng	87
83) n-Decane	20.23	57	1041	N.D.	
84) Benzyl Chloride	20.25	91	409	N.D.	
85) 1,3-Dichlorobenzene	20.32	146	140	N.D.	
86) 1,4-Dichlorobenzene	20.32	146	140	N.D.	
87) sec-Butylbenzene	20.37	105	3847	N.D.	
88) 4-Isopropyltoluene (p-...	20.51	119	8622	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.64	68	704	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.33	57	885	N.D.	
94) 1,2,4-Trichlorobenzene	22.15	180	321	N.D.	
95) Naphthalene	22.25	128	3867	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.09	119	615	N.D.	
100) n-Butylbenzene	20.86	91	5448	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\22\04222017.D Vial: 4
Acq On : 22 Apr 2020 11:41 Operator: WA
Sample : P2002032-012dil (50mL) Inst : GCMS-16
Misc : S31-02112001

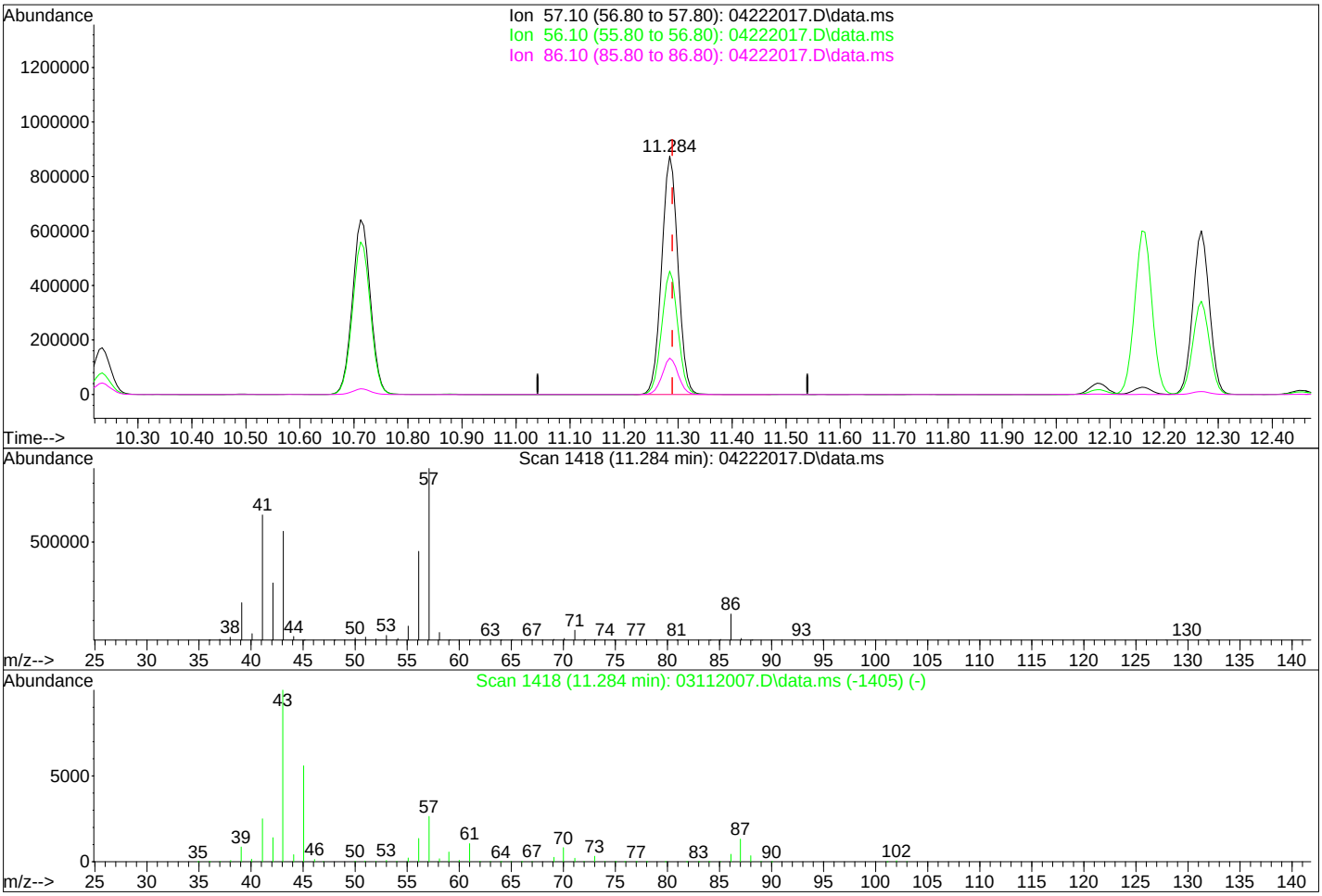
Quant Time: Apr 24 13:13:50 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_04\22\04222017.D Vial: 4
Acq On : 22 Apr 2020 11:41 Operator: WA
Sample : P2002032-012dil (50mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: Apr 22 13:42:12 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04222017.D\data.ms

(31) n-Hexane (T)

11.284min (-0.005) 28.42ng

response 1838029

Ion	Exp%	Act%
57.10	100	100
56.10	51.20	51.41
86.10	17.40	14.97
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212004.D Vial: 2
Acq On : 21 Apr 2020 9:39 Operator: LH
Sample : MB R16042120_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: Apr 21 12:27:27 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 4/21/20
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	318885	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1419150	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	670052	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.01	65	544907	12.341	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.72%				
57) Toluene-d8 (SS2)	15.74	98	1455585	12.256	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.08%				
73) Bromofluorobenzene (SS3)	19.00	174	487846	11.632	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.04%				
Target Compounds							Qvalue
2) Propene	4.15	42	674	N.D.			
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	4.56	50	215	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.36	45	11645	0.441	ng		90
11) Acetonitrile	6.67	41	5734	0.099	ng		90
12) Acrolein	6.85	56	165	N.D.			
13) Acetone	7.08	58	3953	0.152	ng	#	80
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	7.62	45	1600	N.D.			
16) Acrylonitrile	7.84	53	713	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	8.45	84	128	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.72	76	15171	0.124	ng		96
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	0.00	72	0	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	11.82	72	325	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	12.93	56	2149	0.058	ng		96
41) Benzene	12.90	78	1271	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	13.29	84	1050	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.07	57	236	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212004.D Vial: 2
Acq On : 21 Apr 2020 9:39 Operator: LH
Sample : MB R16042120_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: Apr 21 12:27:27 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

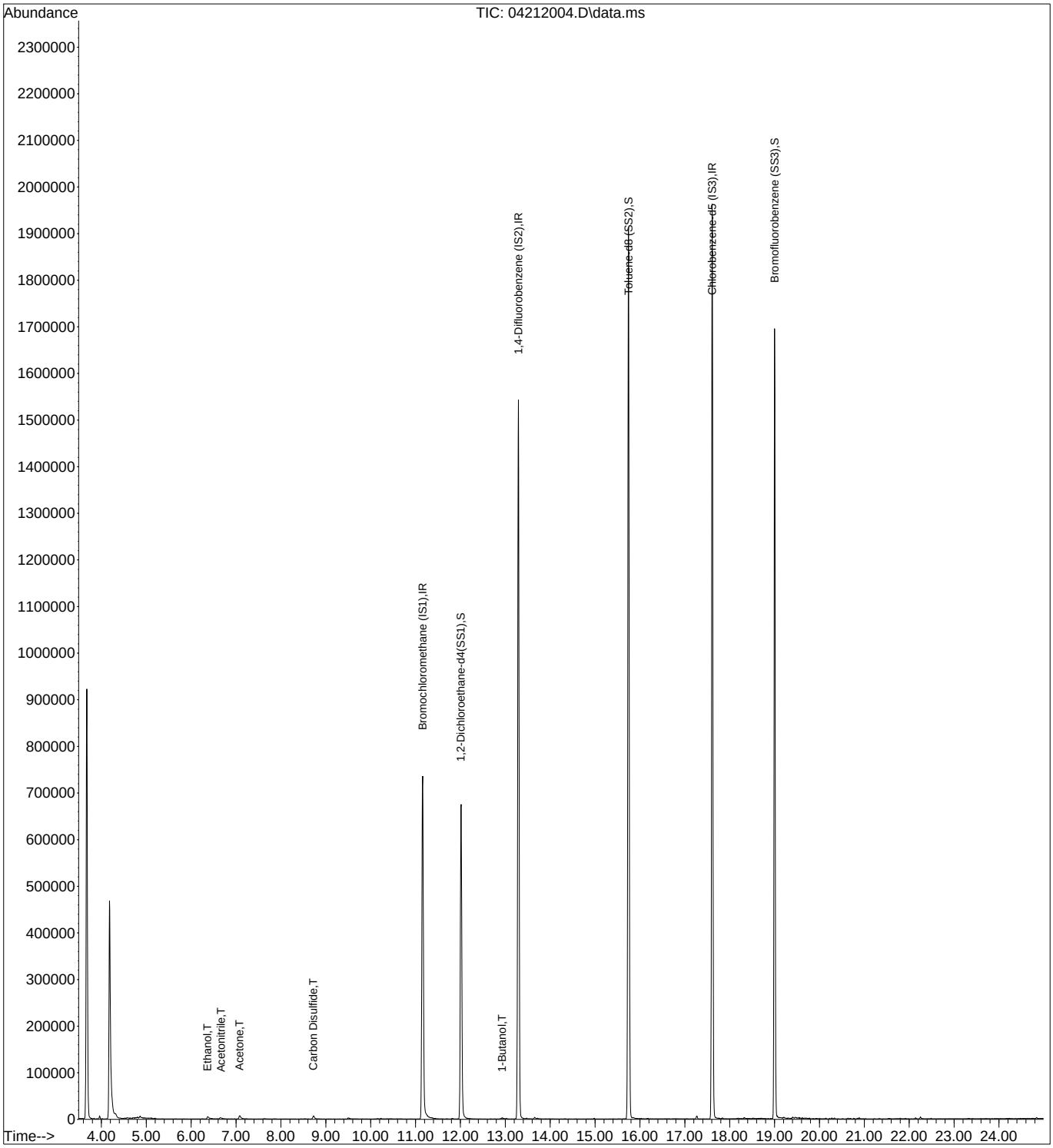
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.85	91	3291	N.D.		
59) 2-Hexanone	16.16	43	376	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.77	43	541	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	17.66	112	531	N.D.		
66) Ethylbenzene	18.02	91	1217	N.D.		
67) m- & p-Xylenes	18.17	91	698	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.52	104	612	N.D.		
70) o-Xylene	18.61	91	361	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.13	105	424	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	19.58	91	1096	N.D.		
77) 3-Ethyltoluene	19.68	105	694	N.D.		
78) 4-Ethyltoluene	19.71	105	770	N.D.		
79) 1,3,5-Trimethylbenzene	19.78	105	369	N.D.		
80) alpha-Methylstyrene	19.92	118	323	N.D.		
81) 2-Ethyltoluene	19.95	105	1028	N.D.		
82) 1,2,4-Trimethylbenzene	20.14	105	1169	N.D.		
83) n-Decane	20.23	57	184	N.D.		
84) Benzyl Chloride	20.26	91	791	N.D.		
85) 1,3-Dichlorobenzene	20.28	146	957	N.D.		
86) 1,4-Dichlorobenzene	20.34	146	1214	N.D.		
87) sec-Butylbenzene	20.37	105	269	N.D.		
88) 4-Isopropyltoluene (p-...	20.51	119	414	N.D.		
89) 1,2,3-Trimethylbenzene	20.52	105	424	N.D.		
90) 1,2-Dichlorobenzene	20.63	146	793	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.32	57	265	N.D.		
94) 1,2,4-Trichlorobenzene	22.15	180	922	N.D.		
95) Naphthalene	22.25	128	4948	N.D.		
96) n-Dodecane	0.00	57	0	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.32	55	802	N.D.		
99) tert-Butylbenzene	20.14	119	340	N.D.		
100) n-Butylbenzene	20.89	91	863	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212004.D Vial: 2
Acq On : 21 Apr 2020 9:39 Operator: LH
Sample : MB R16042120_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: Apr 21 12:27:27 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\22\04222004.D Vial: 2
Acq On : 22 Apr 2020 4:11 Operator: WA
Sample : MB R16042220_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: Apr 22 09:09:04 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 4/22/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	294739	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.29	114	1324880	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.61	82	619085	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.01	65	508843	12.468	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.76%				
57) Toluene-d8 (SS2)	15.74	98	1349342	12.297	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.40%				
73) Bromofluorobenzene (SS3)	19.00	174	438172	11.308	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.48%				
Target Compounds							Qvalue
2) Propene	4.15	42	460	N.D.			
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.37	45	6675	0.273	ng		79
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	7.09	58	2810	0.117	ng	#	59
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	7.63	45	691	N.D.			
16) Acrylonitrile	7.88	53	54	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.73	76	4115	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	0.00	72	0	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	11.82	72	214	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.01	62	121	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	12.95	56	1006	N.D.			
41) Benzene	12.90	78	1078	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	13.29	84	1049	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\22\04222004.D Vial: 2
Acq On : 22 Apr 2020 4:11 Operator: WA
Sample : MB R16042220_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: Apr 22 09:09:04 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

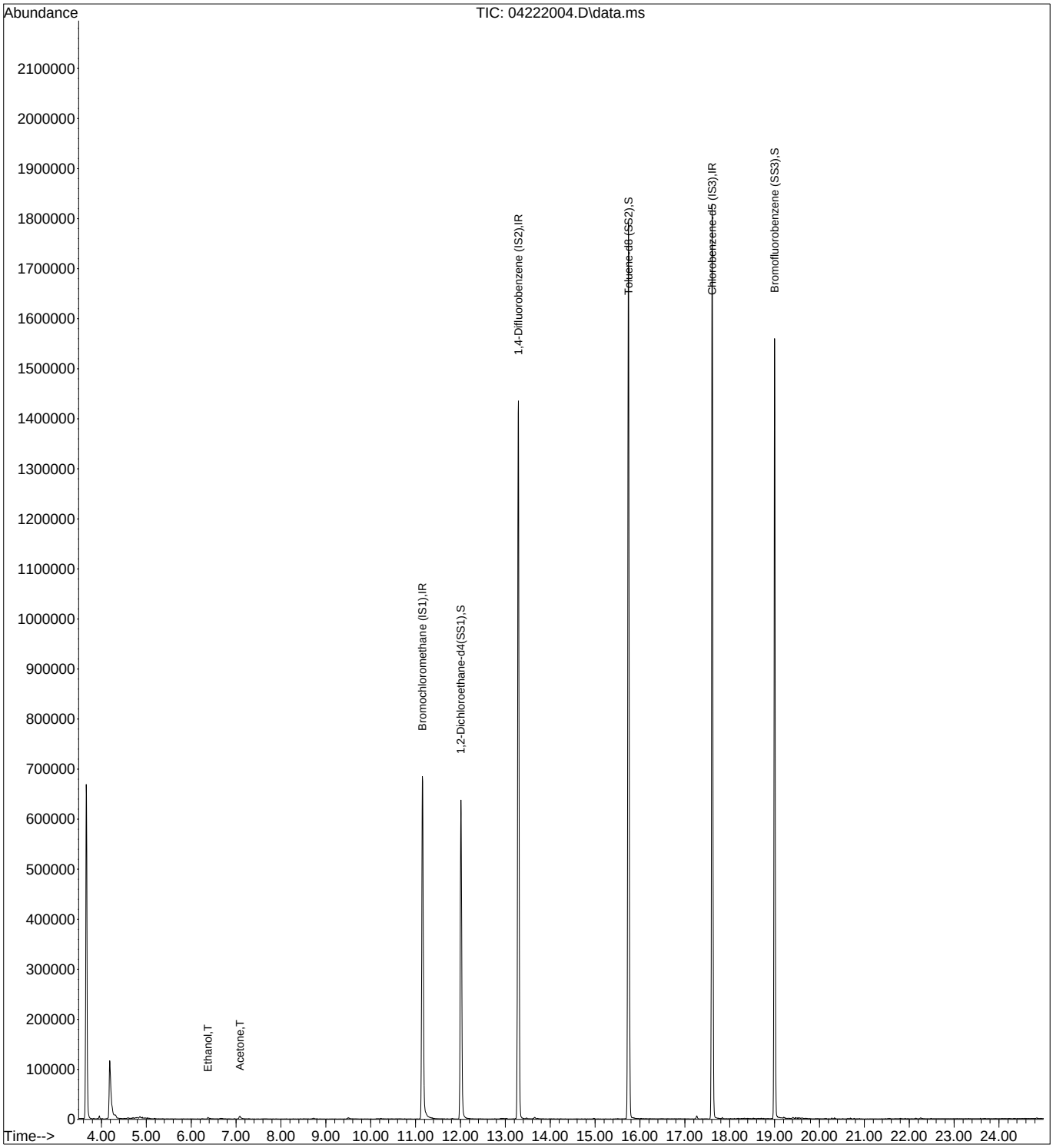
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.86	91	1187	N.D.	
59) 2-Hexanone	16.19	43	105	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.76	43	500	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	17.65	112	366	N.D.	
66) Ethylbenzene	18.03	91	801	N.D.	
67) m- & p-Xylenes	18.19	91	1486	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.52	104	478	N.D.	
70) o-Xylene	18.61	91	1317	N.D.	
71) n-Nonane	18.81	43	104	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.14	105	636	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	19.55	91	1626	N.D.	
77) 3-Ethyltoluene	19.68	105	611	N.D.	
78) 4-Ethyltoluene	19.71	105	833	N.D.	
79) 1,3,5-Trimethylbenzene	19.77	105	1128	N.D.	
80) alpha-Methylstyrene	19.92	118	122	N.D.	
81) 2-Ethyltoluene	19.95	105	689	N.D.	
82) 1,2,4-Trimethylbenzene	20.15	105	670	N.D.	
83) n-Decane	0.00	57	0	N.D.	
84) Benzyl Chloride	20.28	91	777	N.D.	
85) 1,3-Dichlorobenzene	20.28	146	773	N.D.	
86) 1,4-Dichlorobenzene	20.34	146	1227	N.D.	
87) sec-Butylbenzene	20.37	105	126	N.D.	
88) 4-Isopropyltoluene (p-...	20.51	119	339	N.D.	
89) 1,2,3-Trimethylbenzene	20.52	105	266	N.D.	
90) 1,2-Dichlorobenzene	20.64	146	586	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D.	
94) 1,2,4-Trichlorobenzene	22.15	180	718	N.D.	
95) Naphthalene	22.25	128	3838	N.D.	
96) n-Dodecane	0.00	57	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.33	55	534	N.D.	
99) tert-Butylbenzene	20.14	119	173	N.D.	
100) n-Butylbenzene	20.89	91	691	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\22\04222004.D Vial: 2
Acq On : 22 Apr 2020 4:11 Operator: WA
Sample : MB R16042220_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: Apr 22 09:09:04 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



R16031120.M Wed Apr 22 09:09:17 2020 Page: 3

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212005.D Vial: 2
Acq On : 21 Apr 2020 10:12 Operator: LH
Sample : LCS R16042120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-03252003 (4/23)

Quant Time: Apr 21 12:27:29 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020 4/21/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	363394	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.30	114	1576079	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.61	82	748702	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	589695	11.719	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.76%				
57) Toluene-d8 (SS2)	15.75	98	1593232	12.006	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.08%				
73) Bromofluorobenzene (SS3)	19.01	174	597862	12.758	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.08%				
Target Compounds							Qvalue
2) Propene	4.10	42	969497	25.438	ng		99
3) Dichlorodifluoromethan...	4.26	85	1878881	22.914	ng		100
4) Chloromethane	4.54	50	1345214	20.777	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	1102718	21.115	ng		99
6) Vinyl Chloride	4.97	62	1618147	23.678	ng		99
7) 1,3-Butadiene	5.23	54	1066969	21.551	ng		99
8) Bromomethane	5.67	94	810423	23.672	ng		100
9) Chloroethane	6.00	64	626729	23.899	ng		100
10) Ethanol	6.37	45	3499621	116.183	ng		100
11) Acetonitrile	6.62	41	1565015	23.618	ng		100
12) Acrolein	6.81	56	542000	24.452	ng		100
13) Acetone	7.01	58	3741448	125.863	ng		99
14) Trichlorofluoromethane	7.26	101	1703258	23.558	ng		100
15) 2-Propanol (Isopropanol)	7.51	45	4509227	51.148	ng		98
16) Acrylonitrile	7.77	53	1210108	27.129	ng		100
17) 1,1-Dichloroethene	8.22	96	913659	25.551	ng		98
18) 2-Methyl-2-Propanol (t...	8.38	59	4111110	51.964	ng		99
19) Methylene Chloride	8.45	84	949378	24.545	ng		99
20) 3-Chloro-1-propene (Al...	8.61	41	1262314	25.188	ng		98
21) Trichlorotrifluoroethane	8.86	151	833939	24.118	ng		100
22) Carbon Disulfide	8.71	76	3493706	25.115	ng		100
23) trans-1,2-Dichloroethene	9.72	61	1349078	25.993	ng		99
24) 1,1-Dichloroethane	9.98	63	1582937	23.898	ng		99
25) Methyl tert-Butyl Ether	10.07	73	2468289	23.021	ng		99
26) Vinyl Acetate	10.23	86	1291052	126.564	ng	#	84
27) 2-Butanone (MEK)	10.47	72	654833	26.461	ng		93
28) cis-1,2-Dichloroethene	11.00	61	1326242	24.595	ng		100
29) Diisopropyl Ether	11.29	87	1081843	27.416	ng	#	85
30) Ethyl Acetate	11.30	61	846773	57.889	ng		98
31) n-Hexane	11.28	57	1828913	26.978	ng		99
32) Chloroform	11.34	83	1742855	24.156	ng		100
34) Tetrahydrofuran (THF)	11.74	72	634234	24.910	ng		96
35) Ethyl tert-Butyl Ether	11.88	87	1155771	25.079	ng		97
36) 1,2-Dichloroethane	12.14	62	1321169	23.474	ng		100
38) 1,1,1-Trichloroethane	12.42	97	1548353	25.035	ng		100
39) Isopropyl Acetate	12.85	61	1420728	55.523	ng		98
40) 1-Butanol	12.87	56	1990635	48.617	ng		94
41) Benzene	12.90	78	3926683	24.093	ng		100
42) Carbon Tetrachloride	13.06	117	1389290	24.824	ng		99
43) Cyclohexane	13.20	84	3147539	50.299	ng		97
44) tert-Amyl Methyl Ether	13.54	73	2788933	26.454	ng		99
45) 1,2-Dichloropropane	13.75	63	967827	25.968	ng		100
46) Bromodichloromethane	13.95	83	1417313	25.729	ng		99
47) Trichloroethene	14.00	130	1056328	22.875	ng		100
48) 1,4-Dioxane	13.97	88	792298	25.110	ng		98
49) 2,2,4-Trimethylpentane...	14.07	57	3953004	25.526	ng		98
50) Methyl Methacrylate	14.20	100	860558	54.623	ng		94

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212005.D Vial: 2
Acq On : 21 Apr 2020 10:12 Operator: LH
Sample : LCS R16042120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-03252003 (4/23)

Quant Time: Apr 21 12:27:29 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

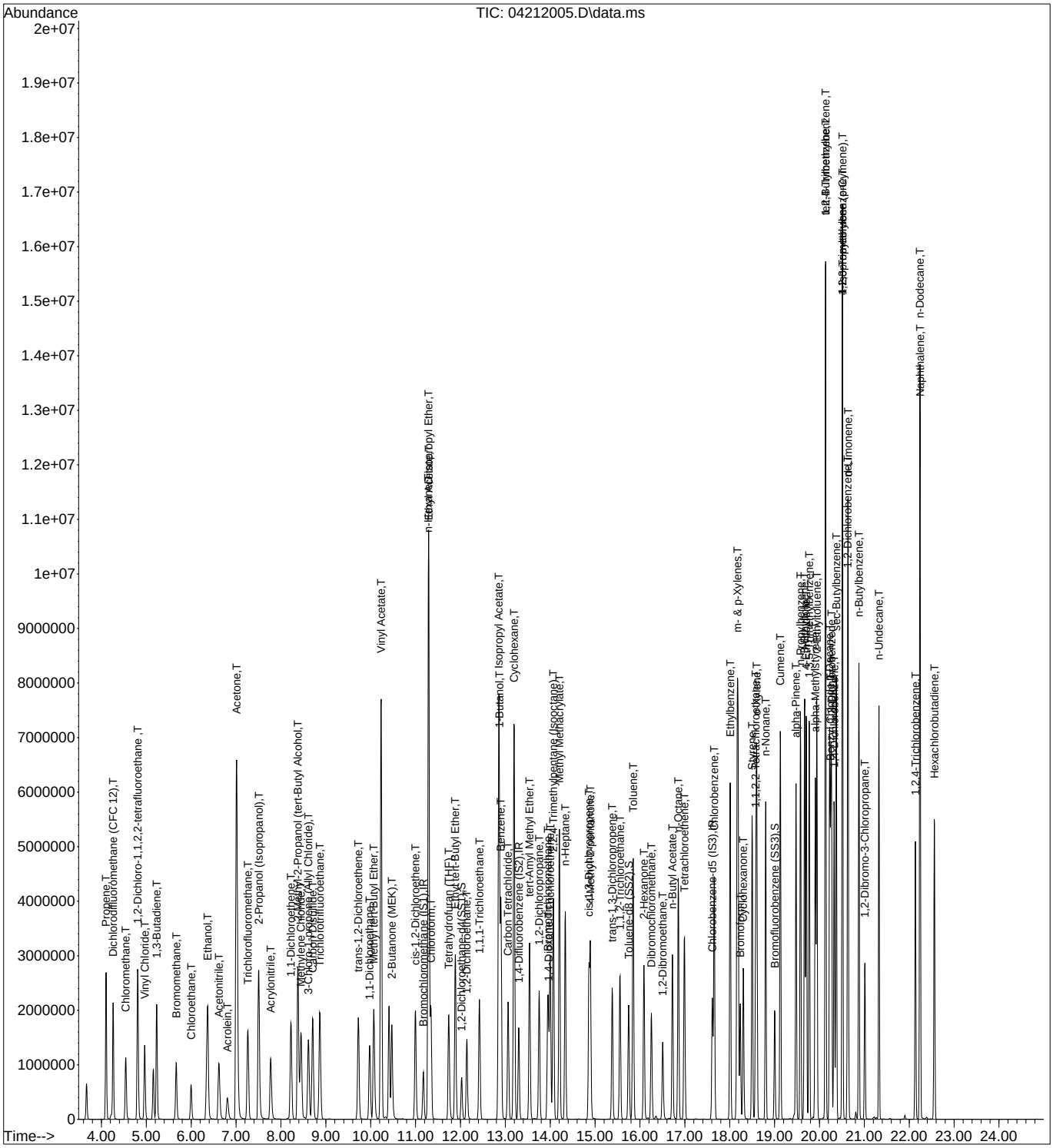
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.34	71	987348	25.947	ng	98
52) cis-1,3-Dichloropropene	14.86	75	1746957	29.038	ng	100
53) 4-Methyl-2-pentanone	14.90	58	932309	27.293	ng	98
54) trans-1,3-Dichloropropene	15.38	75	1492520	26.705	ng	100
55) 1,1,2-Trichloroethane	15.56	97	967986	25.730	ng	100
58) Toluene	15.85	91	3974246	24.221	ng	100
59) 2-Hexanone	16.09	43	2174352	26.481	ng	99
60) Dibromochloromethane	16.26	129	1209005	27.678	ng	100
61) 1,2-Dibromoethane	16.51	107	1134596	27.017	ng	99
62) n-Butyl Acetate	16.72	43	2475596	28.192	ng	99
63) n-Octane	16.85	57	846764	26.006	ng	97
64) Tetrachloroethene	16.99	166	1115264	24.392	ng	100
65) Chlorobenzene	17.65	112	2700380	24.459	ng	100
66) Ethylbenzene	18.01	91	4682459	26.011	ng	100
67) m- & p-Xylenes	18.17	91	7543693	51.523	ng	99
68) Bromoform	18.24	173	1053419	26.708	ng	99
69) Styrene	18.50	104	2840389	24.732	ng	99
70) o-Xylene	18.60	91	3738898	25.540	ng	99
71) n-Nonane	18.80	43	1920575	26.240	ng	97
72) 1,1,2,2-Tetrachloroethane	18.58	83	1877425	26.688	ng	100
74) Cumene	19.13	105	4697606	25.375	ng	99
75) alpha-Pinene	19.48	93	2331752	24.858	ng	97
76) n-Propylbenzene	19.58	91	5715587	26.437	ng	99
77) 3-Ethyltoluene	19.67	105	4763142	25.928	ng	99
78) 4-Ethyltoluene	19.70	105	4461783	25.377	ng	99
79) 1,3,5-Trimethylbenzene	19.77	105	3884240	24.822	ng	99
80) alpha-Methylstyrene	19.91	118	1847303	21.599	ng	92
81) 2-Ethyltoluene	19.94	105	4634542	25.555	ng	99
82) 1,2,4-Trimethylbenzene	20.14	105	4327463	26.694	ng	98
83) n-Decane	20.23	57	2084183	26.602	ng	98
84) Benzyl Chloride	20.25	91	3203875	25.498	ng	98
85) 1,3-Dichlorobenzene	20.27	146	2384043	27.407	ng	100
86) 1,4-Dichlorobenzene	20.33	146	2368975	27.422	ng	99
87) sec-Butylbenzene	20.37	105	5189239	25.738	ng	99
88) 4-Isopropyltoluene (p-...	20.51	119	5119785	26.559	ng	99
89) 1,2,3-Trimethylbenzene	20.51	105	4251401	26.126	ng	99
90) 1,2-Dichlorobenzene	20.63	146	2344416	26.371	ng	100
91) d-Limonene	20.64	68	1478638	23.586	ng	98
92) 1,2-Dibromo-3-Chloropr...	21.01	157	796125	26.683	ng	97
93) n-Undecane	21.33	57	2129937	26.351	ng	98
94) 1,2,4-Trichlorobenzene	22.14	180	1598115	30.844	ng	99
95) Naphthalene	22.24	128	5168458	28.504	ng	100
96) n-Dodecane	22.24	57	2021416	25.168	ng	98
97) Hexachlorobutadiene	22.56	225	1010877	24.471	ng	100
98) Cyclohexanone	18.30	55	1229236	21.658	ng	98
99) tert-Butylbenzene	20.14	119	4105178	25.824	ng	99
100) n-Butylbenzene	20.88	91	4244173	26.045	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212005.D Vial: 2
Acq On : 21 Apr 2020 10:12 Operator: LH
Sample : LCS R16042120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-03252003 (4/23)

Quant Time: Apr 21 12:27:29 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\22\04222005.D Vial: 2
Acq On : 22 Apr 2020 4:44 Operator: WA
Sample : LCS R16042220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-03252003 (4/23)

Quant Time: Apr 22 05:14:09 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020 4/22/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	337786	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.30	114	1480358	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.61	82	690558	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	555616	11.879	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.04%				
57) Toluene-d8 (SS2)	15.75	98	1492247	12.191	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.52%				
73) Bromofluorobenzene (SS3)	19.00	174	538713	12.464	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.68%				
Target Compounds							Qvalue
2) Propene	4.10	42	944799	26.669	ng		99
3) Dichlorodifluoromethan...	4.26	85	1810877	23.759	ng		100
4) Chloromethane	4.54	50	1327512	22.058	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	1041002	21.444	ng		99
6) Vinyl Chloride	4.97	62	1561611	24.583	ng		100
7) 1,3-Butadiene	5.23	54	1023389	22.238	ng		100
8) Bromomethane	5.66	94	771998	24.259	ng		100
9) Chloroethane	6.00	64	601862	24.691	ng		99
10) Ethanol	6.36	45	3393043	121.185	ng		100
11) Acetonitrile	6.62	41	1533714	24.901	ng		100
12) Acrolein	6.81	56	525061	25.484	ng		100
13) Acetone	7.01	58	3650063	132.098	ng		100
14) Trichlorofluoromethane	7.26	101	1619050	24.091	ng		100
15) 2-Propanol (Isopropanol)	7.50	45	4371443	53.344	ng		98
16) Acrylonitrile	7.77	53	1173745	28.308	ng		100
17) 1,1-Dichloroethene	8.22	96	873061	26.266	ng		99
18) 2-Methyl-2-Propanol (t...	8.38	59	3945289	53.649	ng		99
19) Methylene Chloride	8.45	84	915666	25.468	ng		98
20) 3-Chloro-1-propene (Al...	8.61	41	1219579	26.181	ng		98
21) Trichlorotrifluoroethane	8.86	151	783060	24.363	ng		98
22) Carbon Disulfide	8.71	76	3357731	25.967	ng		100
23) trans-1,2-Dichloroethene	9.72	61	1298597	26.918	ng		99
24) 1,1-Dichloroethane	9.98	63	1526078	24.786	ng		100
25) Methyl tert-Butyl Ether	10.07	73	2371326	23.794	ng		99
26) Vinyl Acetate	10.23	86	1230255	129.747	ng	#	78
27) 2-Butanone (MEK)	10.47	72	631538	27.455	ng		91
28) cis-1,2-Dichloroethene	10.99	61	1267835	25.294	ng		100
29) Diisopropyl Ether	11.29	87	897451	24.467	ng	#	84
30) Ethyl Acetate	11.30	61	822428	60.487	ng		98
31) n-Hexane	11.28	57	1781876	28.277	ng		99
32) Chloroform	11.34	83	1671032	24.916	ng		100
34) Tetrahydrofuran (THF)	11.74	72	609978	25.774	ng		95
35) Ethyl tert-Butyl Ether	11.88	87	1100450	25.689	ng		96
36) 1,2-Dichloroethane	12.14	62	1261867	24.120	ng		100
38) 1,1,1-Trichloroethane	12.42	97	1470527	25.314	ng		100
39) Isopropyl Acetate	12.85	61	1373476	57.147	ng		100
40) 1-Butanol	12.86	56	1900198	49.409	ng		92
41) Benzene	12.90	78	3763440	24.585	ng		100
42) Carbon Tetrachloride	13.06	117	1314952	25.015	ng		100
43) Cyclohexane	13.19	84	3022978	51.432	ng		96
44) tert-Amyl Methyl Ether	13.54	73	2663866	26.901	ng		99
45) 1,2-Dichloropropane	13.75	63	930584	26.583	ng		99
46) Bromodichloromethane	13.95	83	1354824	26.185	ng		100
47) Trichloroethene	14.00	130	1003201	23.129	ng		100
48) 1,4-Dioxane	13.97	88	751016	25.341	ng		97
49) 2,2,4-Trimethylpentane...	14.07	57	3832154	26.346	ng		98
50) Methyl Methacrylate	14.20	100	819988	55.413	ng		93

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\22\04222005.D Vial: 2
Acq On : 22 Apr 2020 4:44 Operator: WA
Sample : LCS R16042220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-03252003 (4/23)

Quant Time: Apr 22 05:14:09 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

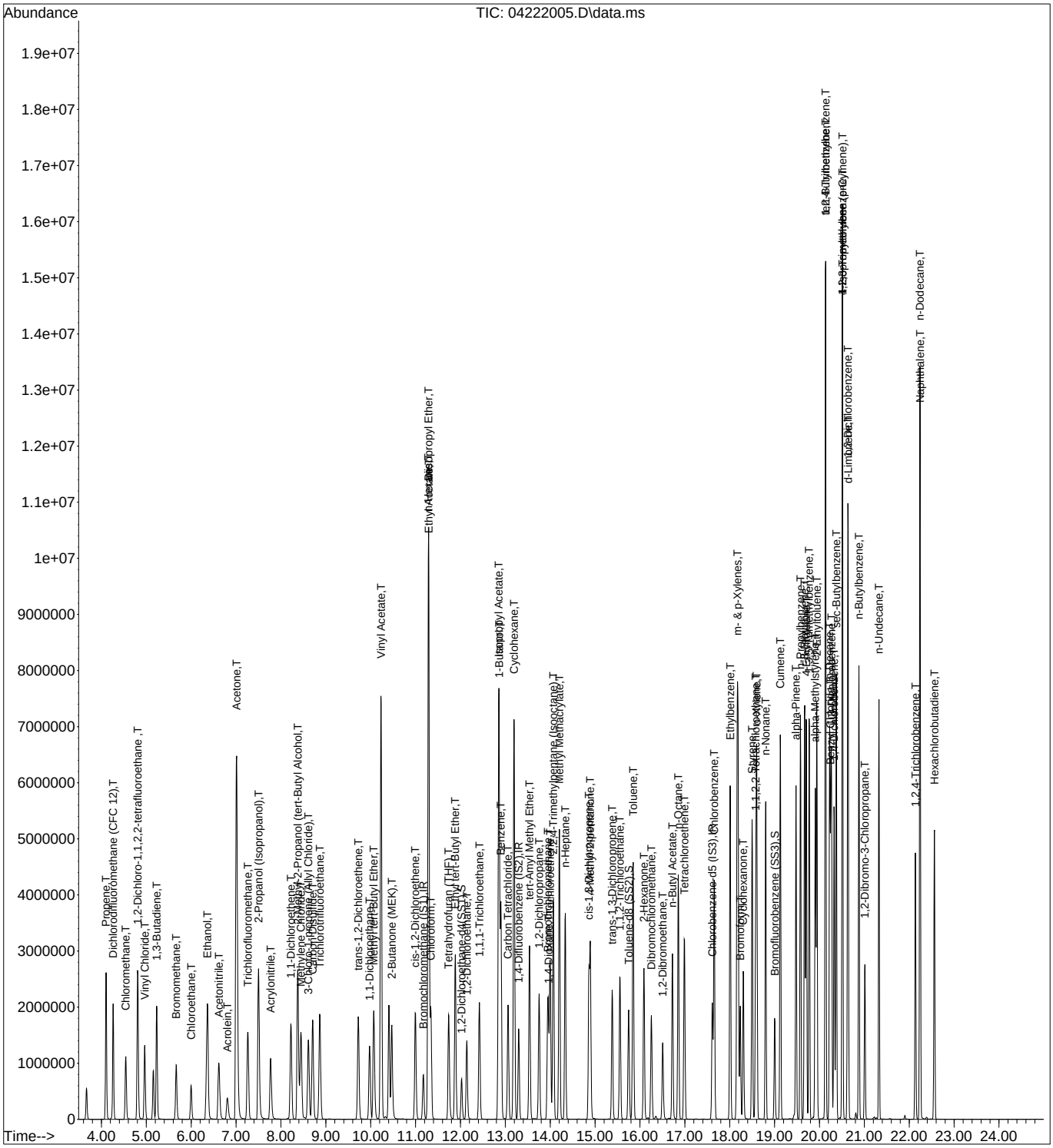
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.34	71	952711	26.656	ng	98
52) cis-1,3-Dichloropropene	14.86	75	1671870	29.587	ng	99
53) 4-Methyl-2-pentanone	14.89	58	895666	27.916	ng	97
54) trans-1,3-Dichloropropene	15.38	75	1430433	27.249	ng	100
55) 1,1,2-Trichloroethane	15.55	97	922868	26.117	ng	99
58) Toluene	15.85	91	3808213	25.163	ng	100
59) 2-Hexanone	16.09	43	2097309	27.693	ng	99
60) Dibromochloromethane	16.26	129	1146792	28.464	ng	100
61) 1,2-Dibromoethane	16.51	107	1083100	27.963	ng	100
62) n-Butyl Acetate	16.72	43	2386663	29.468	ng	100
63) n-Octane	16.85	57	826335	27.515	ng	96
64) Tetrachloroethene	16.99	166	1054033	24.994	ng	100
65) Chlorobenzene	17.65	112	2581600	25.352	ng	100
66) Ethylbenzene	18.01	91	4481092	26.988	ng	100
67) m- & p-Xylenes	18.17	91	7233913	53.567	ng	99
68) Bromoform	18.24	173	997493	27.420	ng	100
69) Styrene	18.50	104	2703961	25.527	ng	99
70) o-Xylene	18.60	91	3587057	26.566	ng	99
71) n-Nonane	18.80	43	1893171	28.043	ng	96
72) 1,1,2,2-Tetrachloroethane	18.58	83	1801237	27.761	ng	100
74) Cumene	19.13	105	4509753	26.411	ng	99
75) alpha-Pinene	19.48	93	2242100	25.915	ng	97
76) n-Propylbenzene	19.58	91	5477740	27.470	ng	99
77) 3-Ethyltoluene	19.67	105	4575781	27.005	ng	100
78) 4-Ethyltoluene	19.71	105	4297568	26.502	ng	99
79) 1,3,5-Trimethylbenzene	19.77	105	3745640	25.952	ng	99
80) alpha-Methylstyrene	19.91	118	1763074	22.350	ng	92
81) 2-Ethyltoluene	19.94	105	4457734	26.650	ng	99
82) 1,2,4-Trimethylbenzene	20.14	105	4198984	28.083	ng	98
83) n-Decane	20.23	57	2032919	28.133	ng	98
84) Benzyl Chloride	20.25	91	3058006	26.387	ng	98
85) 1,3-Dichlorobenzene	20.27	146	2271825	28.316	ng	99
86) 1,4-Dichlorobenzene	20.32	146	2245826	28.186	ng	100
87) sec-Butylbenzene	20.37	105	5021799	27.004	ng	99
88) 4-Isopropyltoluene (p-...	20.51	119	4952711	27.856	ng	98
89) 1,2,3-Trimethylbenzene	20.51	105	4115457	27.420	ng	98
90) 1,2-Dichlorobenzene	20.63	146	2242910	27.354	ng	99
91) d-Limonene	20.64	68	1436961	24.851	ng	97
92) 1,2-Dibromo-3-Chloropr...	21.01	157	751485	27.308	ng	96
93) n-Undecane	21.33	57	2060836	27.643	ng	98
94) 1,2,4-Trichlorobenzene	22.14	180	1490671	31.193	ng	99
95) Naphthalene	22.24	128	4915568	29.391	ng	100
96) n-Dodecane	22.24	57	1962088	26.486	ng	97
97) Hexachlorobutadiene	22.56	225	935342	24.549	ng	100
98) Cyclohexanone	18.30	55	1170311	22.356	ng	97
99) tert-Butylbenzene	20.14	119	3968231	27.065	ng	99
100) n-Butylbenzene	20.88	91	4069776	27.077	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\22\04222005.D Vial: 2
Acq On : 22 Apr 2020 4:44 Operator: WA
Sample : LCS R16042220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-03252003 (4/23)

Quant Time: Apr 22 05:14:09 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212006.D Vial: 2
Acq On : 21 Apr 2020 10:45 Operator: LH
Sample : LCSD R16042120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-03252003 (4/23)

Quant Time: Apr 21 12:27:31 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 4/21/20
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	375827	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.30	114	1618168	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.61	82	769606	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	603824	11.603	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.80%				
57) Toluene-d8 (SS2)	15.75	98	1636782	11.999	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.00%				
73) Bromofluorobenzene (SS3)	19.01	174	623635	12.946	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.60%				
Target Compounds							Qvalue
2) Propene	4.11	42	1018947	25.851	ng		99
3) Dichlorodifluoromethan...	4.26	85	2035104	23.998	ng		100
4) Chloromethane	4.54	50	1437986	21.475	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	1163389	21.539	ng		99
6) Vinyl Chloride	4.97	62	1698649	24.033	ng		100
7) 1,3-Butadiene	5.24	54	1149489	22.450	ng		99
8) Bromomethane	5.67	94	883855	24.963	ng		100
9) Chloroethane	6.00	64	672581	24.799	ng		99
10) Ethanol	6.37	45	3705441	118.947	ng		100
11) Acetonitrile	6.62	41	1684771	24.584	ng		99
12) Acrolein	6.81	56	576315	25.140	ng		99
13) Acetone	7.02	58	3870486	125.897	ng		100
14) Trichlorofluoromethane	7.26	101	1777648	23.773	ng		100
15) 2-Propanol (Isopropanol)	7.51	45	4730203	51.879	ng		98
16) Acrylonitrile	7.78	53	1264547	27.411	ng		100
17) 1,1-Dichloroethene	8.23	96	956784	25.871	ng		97
18) 2-Methyl-2-Propanol (t...	8.38	59	4336147	52.995	ng		98
19) Methylene Chloride	8.45	84	994552	24.862	ng		100
20) 3-Chloro-1-propene (Al...	8.61	41	1308945	25.255	ng		98
21) Trichlorotrifluoroethane	8.87	151	874310	24.449	ng		99
22) Carbon Disulfide	8.71	76	3630299	25.234	ng		100
23) trans-1,2-Dichloroethene	9.72	61	1419609	26.447	ng		99
24) 1,1-Dichloroethane	9.98	63	1653879	24.143	ng		99
25) Methyl tert-Butyl Ether	10.07	73	2578110	23.250	ng		99
26) Vinyl Acetate	10.23	86	1319359	125.060	ng	#	85
27) 2-Butanone (MEK)	10.47	72	662317	25.878	ng		94
28) cis-1,2-Dichloroethene	11.00	61	1371815	24.598	ng		100
29) Diisopropyl Ether	11.29	87	1108421	27.160	ng	#	84
30) Ethyl Acetate	11.30	61	855807	56.571	ng		99
31) n-Hexane	11.28	57	1878743	26.796	ng		99
32) Chloroform	11.34	83	1784824	23.919	ng		99
34) Tetrahydrofuran (THF)	11.74	72	655871	24.908	ng		96
35) Ethyl tert-Butyl Ether	11.89	87	1188548	24.937	ng		97
36) 1,2-Dichloroethane	12.14	62	1354923	23.277	ng		100
38) 1,1,1-Trichloroethane	12.42	97	1604337	25.265	ng		99
39) Isopropyl Acetate	12.85	61	1458029	55.498	ng		97
40) 1-Butanol	12.87	56	2021997	48.099	ng		94
41) Benzene	12.90	78	4021997	24.036	ng		100
42) Carbon Tetrachloride	13.06	117	1430871	24.902	ng		100
43) Cyclohexane	13.20	84	3238046	50.399	ng		96
44) tert-Amyl Methyl Ether	13.54	73	2847635	26.308	ng		99
45) 1,2-Dichloropropane	13.75	63	996339	26.038	ng		100
46) Bromodichloromethane	13.95	83	1454068	25.710	ng		99
47) Trichloroethene	14.00	130	1080206	22.783	ng		99
48) 1,4-Dioxane	13.97	88	814256	25.135	ng		98
49) 2,2,4-Trimethylpentane...	14.07	57	4081925	25.673	ng		98
50) Methyl Methacrylate	14.20	100	882096	54.534	ng		95

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212006.D Vial: 2
Acq On : 21 Apr 2020 10:45 Operator: LH
Sample : LCSD R16042120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-03252003 (4/23)

Quant Time: Apr 21 12:27:31 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

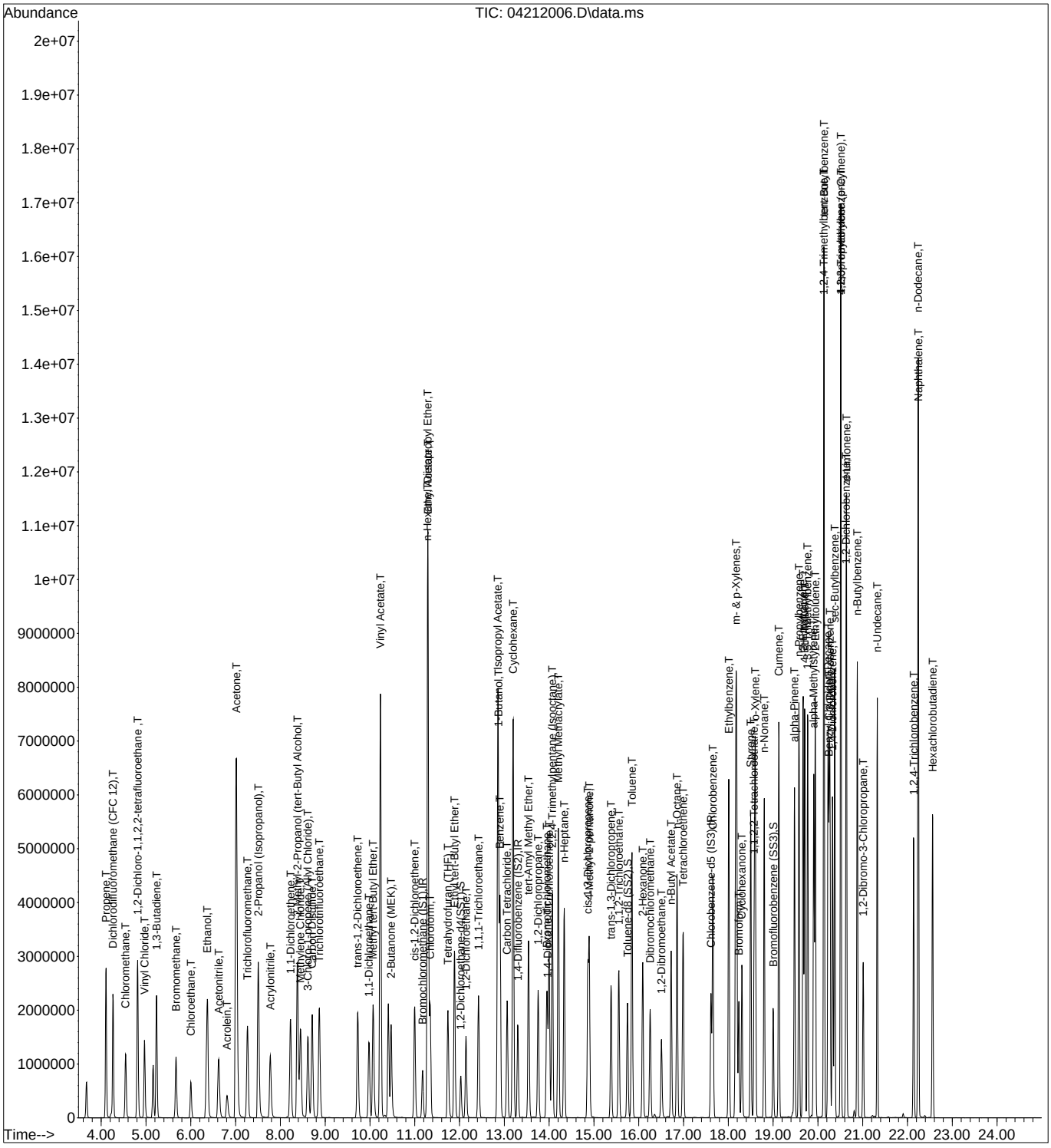
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.34	71	1013615	25.944	ng	99
52) cis-1,3-Dichloropropene	14.86	75	1797130	29.095	ng	100
53) 4-Methyl-2-pentanone	14.90	58	960704	27.393	ng	98
54) trans-1,3-Dichloropropene	15.38	75	1536735	26.780	ng	100
55) 1,1,2-Trichloroethane	15.56	97	994516	25.748	ng	99
58) Toluene	15.85	91	4088652	24.241	ng	100
59) 2-Hexanone	16.09	43	2213006	26.219	ng	99
60) Dibromochloromethane	16.26	129	1248832	27.813	ng	100
61) 1,2-Dibromoethane	16.51	107	1167581	27.048	ng	100
62) n-Butyl Acetate	16.72	43	2531361	28.044	ng	99
63) n-Octane	16.86	57	862314	25.764	ng	98
64) Tetrachloroethene	16.99	166	1153984	24.553	ng	100
65) Chlorobenzene	17.65	112	2778824	24.486	ng	100
66) Ethylbenzene	18.01	91	4797329	25.925	ng	100
67) m- & p-Xylenes	18.17	91	7692051	51.109	ng	99
68) Bromoform	18.24	173	1089037	26.861	ng	100
69) Styrene	18.50	104	2896007	24.532	ng	99
70) o-Xylene	18.60	91	3800160	25.253	ng	99
71) n-Nonane	18.80	43	1954864	25.983	ng	97
72) 1,1,2,2-Tetrachloroethane	18.58	83	1905672	26.354	ng	100
74) Cumene	19.13	105	4795968	25.203	ng	99
75) alpha-Pinene	19.48	93	2375362	24.635	ng	97
76) n-Propylbenzene	19.58	91	5815773	26.170	ng	99
77) 3-Ethyltoluene	19.67	105	4867934	25.778	ng	100
78) 4-Ethyltoluene	19.70	105	4532635	25.080	ng	99
79) 1,3,5-Trimethylbenzene	19.77	105	3969040	24.675	ng	99
80) alpha-Methylstyrene	19.91	118	1887270	21.467	ng	92
81) 2-Ethyltoluene	19.94	105	4703520	25.231	ng	99
82) 1,2,4-Trimethylbenzene	20.13	105	4418663	26.517	ng	98
83) n-Decane	20.23	57	2135041	26.511	ng	98
84) Benzyl Chloride	20.25	91	3300040	25.550	ng	98
85) 1,3-Dichlorobenzene	20.27	146	2428442	27.159	ng	99
86) 1,4-Dichlorobenzene	20.32	146	2412619	27.169	ng	100
87) sec-Butylbenzene	20.37	105	5288883	25.519	ng	99
88) 4-Isopropyltoluene (p-...	20.51	119	5192127	26.203	ng	99
89) 1,2,3-Trimethylbenzene	20.51	105	4316297	25.804	ng	98
90) 1,2-Dichlorobenzene	20.63	146	2375031	25.990	ng	99
91) d-Limonene	20.64	68	1506502	23.378	ng	98
92) 1,2-Dibromo-3-Chloropr...	21.01	157	804901	26.244	ng	96
93) n-Undecane	21.33	57	2170133	26.119	ng	98
94) 1,2,4-Trichlorobenzene	22.14	180	1642469	30.839	ng	99
95) Naphthalene	22.24	128	5280454	28.330	ng	100
96) n-Dodecane	22.24	57	2061104	24.965	ng	98
97) Hexachlorobutadiene	22.56	225	1050184	24.732	ng	100
98) Cyclohexanone	18.30	55	1250699	21.437	ng	98
99) tert-Butylbenzene	20.14	119	4176922	25.562	ng	99
100) n-Butylbenzene	20.88	91	4298181	25.660	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212006.D Vial: 2
Acq On : 21 Apr 2020 10:45 Operator: LH
Sample : LCSD R16042120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-03252003 (4/23)

Quant Time: Apr 21 12:27:31 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\22\04222006.D Vial: 2
Acq On : 22 Apr 2020 5:18 Operator: WA
Sample : LCSD R16042220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-03252003 (4/23)

Quant Time: Apr 22 09:11:27 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 4/22/20
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	355277	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.30	114	1546594	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.61	82	723096	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	577849	11.746	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.00%				
57) Toluene-d8 (SS2)	15.75	98	1549909	12.093	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.72%				
73) Bromofluorobenzene (SS3)	19.00	174	575201	12.709	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.68%				
Target Compounds							Qvalue
2) Propene	4.11	42	1016658	27.285	ng		99
3) Dichlorodifluoromethan...	4.27	85	1952587	24.357	ng		100
4) Chloromethane	4.55	50	1398506	22.093	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	1113865	21.815	ng		100
6) Vinyl Chloride	4.97	62	1649111	24.682	ng		99
7) 1,3-Butadiene	5.24	54	1109381	22.920	ng		100
8) Bromomethane	5.67	94	847835	25.331	ng		100
9) Chloroethane	6.00	64	655532	25.569	ng		99
10) Ethanol	6.37	45	3635018	123.435	ng		100
11) Acetonitrile	6.62	41	1655026	25.547	ng		99
12) Acrolein	6.81	56	558356	25.766	ng		100
13) Acetone	7.01	58	3797187	130.657	ng		100
14) Trichlorofluoromethane	7.26	101	1721903	24.360	ng		100
15) 2-Propanol (Isopropanol)	7.51	45	4588501	53.236	ng		98
16) Acrylonitrile	7.78	53	1238261	28.394	ng		100
17) 1,1-Dichloroethene	8.23	96	926876	26.512	ng		98
18) 2-Methyl-2-Propanol (t...	8.38	59	4007177	51.808	ng		98
19) Methylene Chloride	8.45	84	966136	25.549	ng		99
20) 3-Chloro-1-propene (Al...	8.61	41	1292128	26.372	ng		98
21) Trichlorotrifluoroethane	8.87	151	842129	24.911	ng		100
22) Carbon Disulfide	8.71	76	3547986	26.088	ng		100
23) trans-1,2-Dichloroethene	9.72	61	1373544	27.069	ng		99
24) 1,1-Dichloroethane	9.98	63	1600348	24.713	ng		100
25) Methyl tert-Butyl Ether	10.07	73	2503370	23.882	ng		99
26) Vinyl Acetate	10.23	86	1271325	127.477	ng	#	80
27) 2-Butanone (MEK)	10.47	72	646887	26.737	ng		92
28) cis-1,2-Dichloroethene	11.00	61	1328193	25.194	ng		99
29) Diisopropyl Ether	11.29	87	1069149	27.713	ng	#	88
30) Ethyl Acetate	11.30	61	840624	58.782	ng		99
31) n-Hexane	11.28	57	1841631	27.786	ng		99
32) Chloroform	11.34	83	1733940	24.581	ng		100
34) Tetrahydrofuran (THF)	11.74	72	636099	25.554	ng		96
35) Ethyl tert-Butyl Ether	11.88	87	1146075	25.437	ng		96
36) 1,2-Dichloroethane	12.14	62	1313206	23.866	ng		100
38) 1,1,1-Trichloroethane	12.42	97	1536341	25.314	ng		100
39) Isopropyl Acetate	12.85	61	1422945	56.669	ng		98
40) 1-Butanol	12.87	56	1950866	48.554	ng		92
41) Benzene	12.90	78	3898595	24.377	ng		100
42) Carbon Tetrachloride	13.06	117	1366128	24.875	ng		100
43) Cyclohexane	13.19	84	3141190	51.155	ng		96
44) tert-Amyl Methyl Ether	13.54	73	2758424	26.663	ng		99
45) 1,2-Dichloropropane	13.75	63	968173	26.472	ng		99
46) Bromodichloromethane	13.95	83	1404575	25.984	ng		100
47) Trichloroethene	14.00	130	1040513	22.962	ng		100
48) 1,4-Dioxane	13.97	88	783918	25.318	ng		97
49) 2,2,4-Trimethylpentane...	14.07	57	3981762	26.202	ng		98
50) Methyl Methacrylate	14.20	100	851681	55.090	ng		94

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\22\04222006.D Vial: 2
Acq On : 22 Apr 2020 5:18 Operator: WA
Sample : LCSD R16042220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-03252003 (4/23)

Quant Time: Apr 22 09:11:27 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

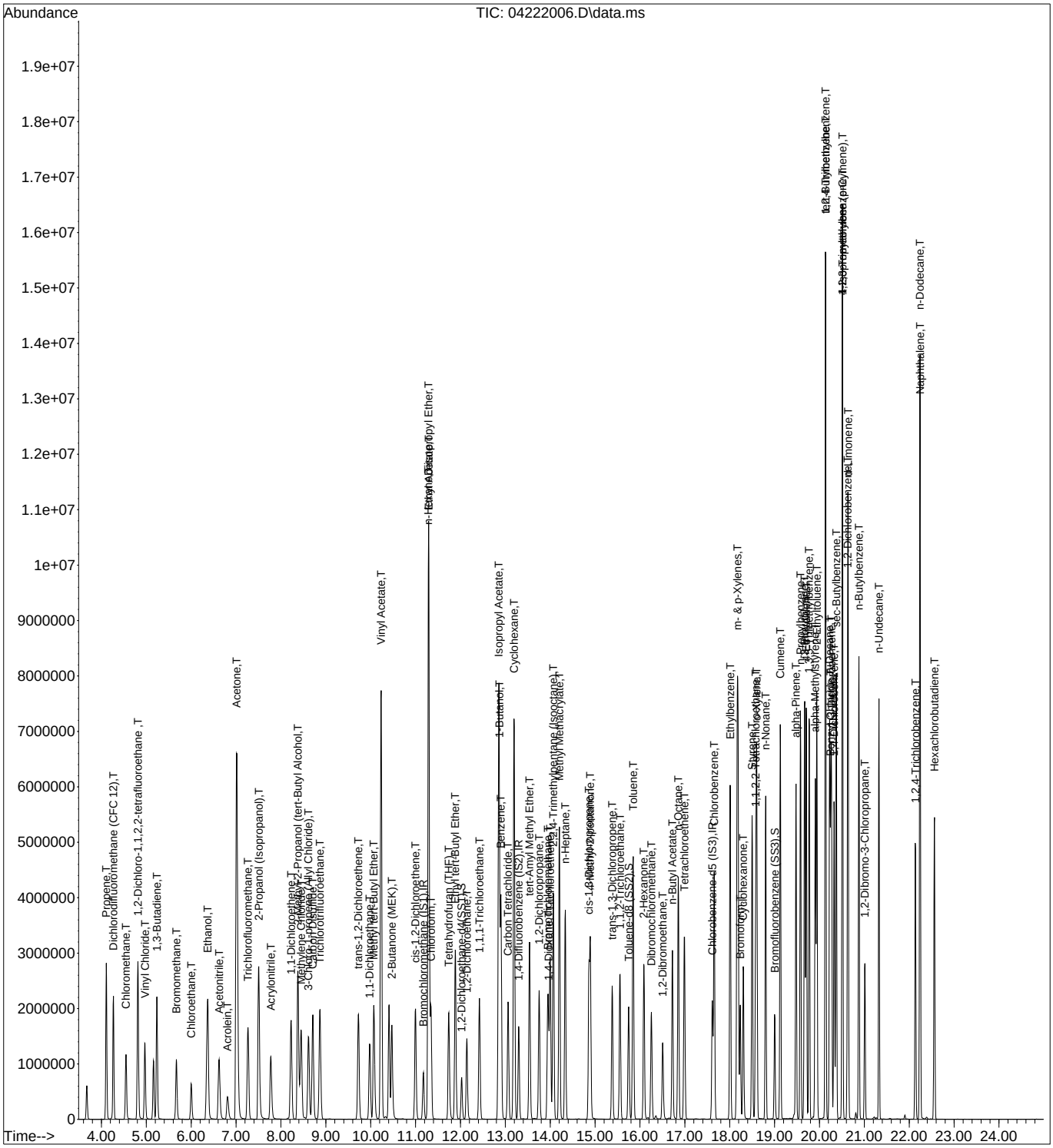
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.34	71	984225	26.358	ng	98
52) cis-1,3-Dichloropropene	14.86	75	1741780	29.504	ng	100
53) 4-Methyl-2-pentanone	14.89	58	936604	27.942	ng	97
54) trans-1,3-Dichloropropene	15.38	75	1486352	27.101	ng	100
55) 1,1,2-Trichloroethane	15.56	97	957609	25.939	ng	99
58) Toluene	15.85	91	3948619	24.917	ng	100
59) 2-Hexanone	16.08	43	2157736	27.209	ng	99
60) Dibromochloromethane	16.26	129	1194910	28.324	ng	100
61) 1,2-Dibromoethane	16.51	107	1126800	27.782	ng	100
62) n-Butyl Acetate	16.72	43	2477376	29.212	ng	99
63) n-Octane	16.85	57	840631	26.732	ng	98
64) Tetrachloroethene	16.99	166	1100224	24.915	ng	100
65) Chlorobenzene	17.65	112	2686027	25.191	ng	100
66) Ethylbenzene	18.01	91	4628834	26.623	ng	100
67) m- & p-Xylenes	18.17	91	7455906	52.726	ng	99
68) Bromoform	18.24	173	1039775	27.296	ng	100
69) Styrene	18.50	104	2807972	25.316	ng	99
70) o-Xylene	18.60	91	3680243	26.030	ng	99
71) n-Nonane	18.80	43	1930094	27.303	ng	97
72) 1,1,2,2-Tetrachloroethane	18.58	83	1854187	27.291	ng	100
74) Cumene	19.13	105	4631373	25.903	ng	99
75) alpha-Pinene	19.48	93	2306540	25.460	ng	97
76) n-Propylbenzene	19.58	91	5641512	27.018	ng	99
77) 3-Ethyltoluene	19.67	105	4702143	26.502	ng	100
78) 4-Ethyltoluene	19.70	105	4394763	25.881	ng	99
79) 1,3,5-Trimethylbenzene	19.77	105	3853987	25.501	ng	99
80) alpha-Methylstyrene	19.91	118	1809887	21.911	ng	92
81) 2-Ethyltoluene	19.94	105	4575172	26.121	ng	99
82) 1,2,4-Trimethylbenzene	20.14	105	4297835	27.450	ng	97
83) n-Decane	20.23	57	2093192	27.663	ng	98
84) Benzyl Chloride	20.25	91	3165416	26.084	ng	99
85) 1,3-Dichlorobenzene	20.27	146	2322248	27.642	ng	100
86) 1,4-Dichlorobenzene	20.32	146	2310328	27.690	ng	99
87) sec-Butylbenzene	20.37	105	5138780	26.390	ng	99
88) 4-Isopropyltoluene (p-...	20.51	119	5060222	27.180	ng	98
89) 1,2,3-Trimethylbenzene	20.51	105	4216010	26.826	ng	98
90) 1,2-Dichlorobenzene	20.63	146	2298738	26.773	ng	99
91) d-Limonene	20.64	68	1482324	24.482	ng	97
92) 1,2-Dibromo-3-Chloropr...	21.01	157	770278	26.731	ng	95
93) n-Undecane	21.33	57	2114303	27.084	ng	98
94) 1,2,4-Trichlorobenzene	22.14	180	1570031	31.375	ng	99
95) Naphthalene	22.24	128	5072562	28.965	ng	100
96) n-Dodecane	22.24	57	2015903	25.988	ng	98
97) Hexachlorobutadiene	22.56	225	1000093	25.067	ng	100
98) Cyclohexanone	18.30	55	1210240	22.078	ng	98
99) tert-Butylbenzene	20.14	119	4062453	26.460	ng	99
100) n-Butylbenzene	20.88	91	4195302	26.657	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\22\04222006.D Vial: 2
Acq On : 22 Apr 2020 5:18 Operator: WA
Sample : LCSD R16042220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-03252003 (4/23)

Quant Time: Apr 22 09:11:27 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Response Factor Report GCMS-16

Method Path : I:\MS16\METHODS\
Method File : R16031120.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Mar 11 10:42:05 2020
Response Via : Initial Calibration

LH 3/11/20

Calibration Files
0.1 =03112002.D 0.2 =03112003.D 0.5 =03112004.D 1.0 =03112005.D 5.0 =03112006.D 25 =03112
100 =03112009.D

		Compound	0.1	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------			ISTD	----------					
2)	T	Propene	1.484	1.302	1.317	1.227	1.437	1.254	1.320	1.147	1.311	8.32
3)	T	Dichlorodifluo...	3.312	2.974	3.197	2.868	2.801	2.658	2.501	2.254	2.821	12.42
4)	T	Chloromethane	2.766	2.486	2.617	2.409	2.072	2.149	1.957	1.361	2.227	20.05
5)	T	1,2-Dichloro-1...	2.087	1.848	1.942	1.791	1.754	1.694	1.649	1.607	1.796	8.88
6)	T	Vinyl Chloride	2.581	2.415	2.582	2.394	2.357	2.248	2.160	2.069	2.351	7.86
7)	T	1,3-Butadiene	1.731	1.774	1.731	1.783	1.791	1.445	1.708	1.660	1.703	6.63
8)	T	Bromomethane	1.312	1.126	1.231	1.136	1.109	1.139	1.178	1.190	1.178	5.70
9)	T	Chloroethane	1.027	0.877	0.949	0.879	0.853	0.867	0.878	0.887	0.902	6.41
10)	T	Ethanol	1.336	1.017	0.987	0.910	0.929	1.005	1.058	1.046	1.036	12.73
11)	T	Acetonitrile	2.985	2.385	2.317	2.132	2.155	2.110	2.109	2.042	2.279	13.49
12)	T	Acrolein	0.742	0.697	0.781	0.723	0.776	0.804	0.806	0.770	0.762	5.05
13)	T	Acetone	1.084	0.936	0.961	0.904	0.948	1.096	1.138	1.113	1.023	9.15
14)	T	Trichlorofluor...	2.643	2.472	2.635	2.414	2.412	2.465	2.434	2.421	2.487	3.88
15)	T	2-Propanol (Is...	3.445	2.983	3.234	3.064	2.717	3.293	2.967	2.557	3.033	9.75
16)	T	Acrylonitrile	1.236	1.318	1.523	1.527	1.622	1.703	1.693	1.654	1.534	11.33
17)	T	1,1-Dichloroet...	1.216	1.148	1.286	1.172	1.196	1.259	1.267	1.297	1.230	4.50
18)	T	2-Methyl-2-Pro...	3.082	2.861	3.144	2.953	2.636	3.323	2.587	1.185	2.721	24.57
19)	T	Methylene Chlo...	1.393	1.290	1.345	1.250	1.286	1.366	1.358	1.356	1.330	3.68
20)	T	3-Chloro-1-pro...	1.835	1.602	1.748	1.648	1.638	1.800	1.773	1.746	1.724	4.88
21)	T	Trichlorotrifl...	1.319	1.142	1.223	1.121	1.111	1.171	1.183	1.246	1.189	5.90
22)	T	Carbon Disulfide	5.167	4.610	4.865	4.604	4.601	4.942	4.834	4.656	4.785	4.28
23)	T	trans-1,2-Dich...	1.668	1.663	1.842	1.771	1.782	1.854	1.844	1.858	1.785	4.51
24)	T	1,1-Dichloroet...	2.451	2.234	2.370	2.236	2.226	2.286	2.223	2.202	2.278	3.85
25)	T	Methyl tert-Bu...	4.103	3.758	4.015	3.718	3.660	3.737	3.495	3.018	3.688	9.01
26)	T	Vinyl Acetate			0.274	0.271	0.305	0.409	0.435	0.412	0.351	21.56
27)	T	2-Butanone (MEK)	0.688	0.692	0.835	0.819	0.887	0.984	0.961	0.944	0.851	13.55
28)	T	cis-1,2-Dichlo...	2.026	1.746	1.922	1.770	1.803	1.880	1.848	1.846	1.855	4.84
29)	T	Diisopropyl Ether	1.390	1.199	1.373	1.249	1.344	1.426	1.526	1.353	1.357	7.45
30)	T	Ethyl Acetate	0.404	0.382	0.446	0.455	0.493	0.622	0.657	0.567	0.503	20.16
31)	T	n-Hexane	2.432	2.073	2.248	2.068	2.186	2.599	2.698	2.351	2.332	10.00
32)	T	Chloroform	2.556	2.409	2.583	2.408	2.438	2.536	2.500	2.425	2.482	2.84
33)	S	1,2-Dichloroet...	1.826	1.819	1.808	1.793	1.747	1.676	1.639	1.538	1.731	5.99
34)	T	Tetrahydrofura...	0.966	0.833	0.871	0.818	0.853	0.893	0.889	0.885	0.876	5.18
35)	T	Ethyl tert-But...	1.615	1.426	1.538	1.444	1.511	1.660	1.716	1.772	1.585	7.96
36)	T	1,2-Dichloroet...	2.197	1.920	1.993	1.859	1.883	1.925	1.882	1.830	1.936	6.01
37)	IR	1,4-Difluorobenzen...	----------			ISTD	----------					
38)	T	1,1,1-Trichlor...	0.516	0.450	0.502	0.458	0.473	0.507	0.507	0.511	0.491	5.30
39)	T	Isopropyl Acetate	0.177	0.165	0.182	0.168	0.193	0.240	0.252	0.247	0.203	18.23
40)	T	1-Butanol	0.273	0.256	0.255	0.264	0.323	0.398	0.425	0.405	0.325	22.66
41)	T	Benzene	1.300	1.174	1.231	1.155	1.222	1.396	1.462	1.400	1.293	8.91
42)	T	Carbon Tetrach...	0.434	0.393	0.435	0.402	0.431	0.476	0.483	0.496	0.444	8.51
43)	T	Cyclohexane	0.485	0.436	0.479	0.442	0.467	0.538	0.571	0.553	0.496	10.31
44)	T	tert-Amyl Meth...	0.827	0.747	0.803	0.752	0.801	0.905	0.931	0.923	0.836	8.88
45)	T	1,2-Dichloropr...	0.311	0.286	0.296	0.274	0.287	0.304	0.304	0.303	0.296	4.18
46)	T	Bromodichlorom...	0.417	0.384	0.432	0.398	0.426	0.475	0.483	0.480	0.437	8.75
47)	T	Trichloroethene	0.500	0.365	0.336	0.302	0.311	0.351	0.370	0.396	0.366	16.97
48)	T	1,4-Dioxane	0.231	0.209	0.238	0.223	0.236	0.273	0.287	0.303	0.250	13.41
49)	T	2,2,4-Trimethy...	1.323	1.153	1.245	1.138	1.186	1.269	1.281	1.231	1.228	5.26
50)	T	Methyl Methacr...	0.097	0.091	0.110	0.108	0.122	0.151	0.159	0.161	0.125	22.71
51)	T	n-Heptane	0.297	0.278	0.290	0.269	0.289	0.319	0.330	0.342	0.302	8.54
52)	T	cis-1,3-Dichlo...	0.412	0.375	0.433	0.423	0.481	0.552	0.569	0.572	0.477	16.37
53)	T	4-Methyl-2-pen...	0.230	0.222	0.254	0.256	0.290	0.309	0.314	0.318	0.271	14.17
54)	T	trans-1,3-Dich...			0.360	0.370	0.430	0.492	0.502	0.506	0.443	15.04

55)	T	1,1,2-Trichlor...	0.300	0.278	0.289	0.280	0.286	0.314	0.319	0.323	0.298	6.01
56)	IR	Chlorobenzene-d5 (...	----------ISTD----------									
57)	S	Toluene-d8 (SS2)	2.224	2.231	2.228	2.206	2.233	2.208	2.210	2.186	2.216	0.72
58)	T	Toluene	3.188	2.597	2.661	2.468	2.577	2.844	2.838	2.744	2.739	8.14
59)	T	2-Hexanone	1.344	1.187	1.308	1.219	1.376	1.518	1.500	1.515	1.371	9.58
60)	T	Dibromochlorom...	0.607	0.586	0.655	0.644	0.731	0.836	0.866	0.909	0.729	17.23
61)	T	1,2-Dibromoethane	0.642	0.600	0.651	0.643	0.702	0.773	0.789	0.809	0.701	11.35
62)	T	n-Butyl Acetate	1.326	1.218	1.335	1.334	1.502	1.678	1.664	1.671	1.466	12.70
63)	T	n-Octane	0.570	0.489	0.521	0.487	0.514	0.566	0.582	0.620	0.544	8.83
64)	T	Tetrachloroethene	0.748	0.691	0.722	0.660	0.702	0.799	0.853	0.931	0.763	12.04
65)	T	Chlorobenzene	1.793	1.598	1.697	1.605	1.687	1.897	2.447	2.020	1.843	15.40
66)	T	Ethylbenzene	3.073	2.711	2.899	2.705	2.950	3.381	3.368	2.958	3.006	8.62
67)	T	m- & p-Xylenes	2.543	2.158	2.327	2.182	2.402	2.780	2.800	2.363	2.444	10.05
68)	T	Bromoform			0.478	0.490	0.595	0.762	0.797	0.828	0.659	23.88
69)	T	Styrene			1.609	1.553	1.828	2.191	2.185	2.138	1.917	15.31
70)	T	o-Xylene	2.371	2.166	2.324	2.165	2.398	2.762	2.780	2.586	2.444	9.91
71)	T	n-Nonane	1.219	1.101	1.183	1.119	1.196	1.313	1.340	1.306	1.222	7.38
72)	T	1,1,2,2-Tetrac...	1.059	1.027	1.114	1.050	1.180	1.319	1.321	1.325	1.174	11.11
73)	S	Bromofluoroben...	0.743	0.748	0.753	0.751	0.780	0.795	0.841	0.849	0.782	5.43
74)	T	Cumene			2.982	2.731	3.023	3.494	3.484	2.830	3.091	10.54
75)	T	alpha-Pinene	1.350	1.301	1.396	1.346	1.551	1.833	1.894	1.856	1.566	16.32
76)	T	n-Propylbenzene			3.518	3.281	3.690	4.174	4.031	2.964	3.610	12.61
77)	T	3-Ethyltoluene			2.831	2.679	3.086	3.503	3.406	2.897	3.067	10.72
78)	T	4-Ethyltoluene			2.643	2.493	2.900	3.445	3.493	2.637	2.935	14.78
79)	T	1,3,5-Trimethy...			2.423	2.203	2.569	2.947	2.972	2.561	2.613	11.48
80)	T	alpha-Methylst...			1.108	1.104	1.371	1.652	1.683	1.649	1.428	19.16
81)	T	2-Ethyltoluene			2.809	2.635	3.049	3.457	3.421	2.796	3.028	11.40
82)	T	1,2,4-Trimethy...			2.362	2.209	2.683	3.339	3.250	2.397	2.707	17.77
83)	T	n-Decane	1.136	1.085	1.203	1.134	1.314	1.500	1.577	1.515	1.308	15.07
84)	T	Benzyl Chloride				1.161	1.874	2.432	2.608	2.413	2.098	28.19
85)	T	1,3-Dichlorobe...	1.181	1.158	1.267	1.203	1.458	1.772	1.813	1.766	1.452	19.94
86)	T	1,4-Dichlorobe...	1.266	1.183	1.289	1.216	1.450	1.719	1.723	1.693	1.442	16.40
87)	T	sec-Butylbenzene			3.138	3.009	3.510	3.921	3.800	2.818	3.366	13.26
88)	T	4-Isopropyltol...			2.848	2.695	3.352	4.073	3.754	2.590	3.218	18.86
89)	T	1,2,3-Trimethy...			2.353	2.258	2.755	3.372	3.240	2.323	2.717	18.05
90)	T	1,2-Dichlorobe...			1.215	1.180	1.427	1.763	1.807	1.513	1.484	17.88
91)	T	d-Limonene			0.841	0.845	1.040	1.224	1.274	1.057	1.047	17.42
92)	T	1,2-Dibromo-3-...			0.383	0.385	0.494	0.560	0.572	0.595	0.498	18.98
93)	T	n-Undecane			1.124	1.103	1.293	1.504	1.576	1.496	1.349	15.23
94)	T	1,2,4-Trichlor...			0.701	0.705	0.833	0.871	1.001	1.078	0.865	17.72
95)	T	Naphthalene			2.445	2.470	3.115	3.634	3.705	2.796	3.027	18.33
96)	T	n-Dodecane			1.008	1.033	1.294	1.619	1.716	1.375	1.341	21.78
97)	T	Hexachlorobuta...			0.525	0.508	0.590	0.723	0.865	0.927	0.690	25.74
98)	T	Cyclohexanone	1.010	0.820	0.842	0.804	0.915	1.059	1.051	1.079	0.948	12.20
99)	T	tert-Butylbenzene			2.327	2.182	2.625	3.293	3.145	2.351	2.654	17.44
100)	T	n-Butylbenzene			2.541	2.386	2.836	3.070	3.019	2.471	2.721	10.79

(#) = Out of Range

R16031120.M Wed Mar 11 14:09:31 2020

Primary Source Standards Concentrations (Working & Initial Calibration)

LH 3/13/20

1ng/L Std. ID:
4ng/L Std. ID: S34-03102004
20ng/L Std. ID: S34-03102003
40ng/L Std. ID:
200ng/L Std. ID: S34-03102002
1000ng/L Std. ID:

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	4	20	200	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.1250	0.050	0.025	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
Propene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Dichlorodifluoromethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Chloromethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Freon-114	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Vinyl Chloride	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3-Butadiene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Bromomethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Chloroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Ethanol	5.21	5210	1042	208.4	104.2	20.84	5.21		0.521	1.042	2.605	5.21	26.05	130.25	260.5	521
Acetonitrile	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Acrolein	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Acetone	5.33	5330	1066	213.2	106.6	21.32	5.33		0.533	1.066	2.665	5.33	26.65	133.25	266.5	533
Trichlorofluoromethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Isopropanol	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
Acrylonitrile	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,1-Dichloroethene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
tert-Butanol	2.16	2160	432	86.4	43.2	8.64	2.16		0.216	0.432	1.080	2.16	10.80	54.00	108.0	216
Methylene Chloride	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Allyl Chloride	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Dichlorotrifluoroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Carbon Disulfide	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
trans-1,2-Dichloroethene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1-Dichloroethane	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
Methyl tert-Butyl Ether	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Vinyl Acetate	5.35	5350	1070	214.0	107.0	21.40	5.35		0.535	1.070	2.675	5.35	26.75	133.75	267.5	535
2-Butanone	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
cis-1,2-Dichloroethene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Diisopropyl Ether	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Ethyl Acetate	2.17	2170	434	86.8	43.4	8.68	2.17		0.217	0.434	1.085	2.17	10.85	54.25	108.5	217
n-Hexane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Chloroform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Tetrahydrofuran	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
Ethyl tert-Butyl Ether	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dichloroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1,1-Trichloroethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Isopropyl Acetate	2.11	2110	422	84.4	42.2	8.44	2.11		0.211	0.422	1.055	2.11	10.55	52.75	105.5	211
1-Butanol	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
Benzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Carbon Tetrachloride	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Cyclohexane	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
tert-Amyl Methyl Ether	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dichloropropane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Bromodichloromethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Trichloroethene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,4-Dioxane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Isooctane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Methyl Methacrylate	2.15	2150	430	86.0	43.0	8.60	2.15		0.215	0.430	1.075	2.15	10.75	53.75	107.5	215
n-Heptane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108

Q:\TO15 Std. Concentrations\MS16 Std. Conc\2020\R16031120\ICAL Conc. (Primary Source)

Date Updated: 03/10/20
Version: 2

Primary Source Standards Concentrations (Working & Initial Calibration)

LH 3/13/20

1ng/L Std. ID:
4ng/L Std. ID: S34-03102004
20ng/L Std. ID: S34-03102003
40ng/L Std. ID:
200ng/L Std. ID: S34-03102002
1000ng/L Std. ID:

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	4	20	200	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.1250	0.050	0.025	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
cis-1,3-Dichloropropene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
4-Methyl-2-pentanone	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
trans-1,3-Dichloropropene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1,2-Trichloroethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Toluene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
2-Hexanone	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Dibromochloromethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,2-Dibromoethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Butyl Acetate	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
n-Octane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Tetrachloroethene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Chlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Ethylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
m-&p-Xylene	2.14	2140	428	85.6	42.8	8.56	2.14		0.214	0.428	1.070	2.14	10.70	53.50	107.0	214
Bromoform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Styrene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
o-Xylene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Nonane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,1,2,2-Tetrachloroethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Cumene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
alpha-Pinene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Propylbenzene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
3-Ethyltoluene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
4-Ethyltoluene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3,5-Trimethylbenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
alpha-Methylstyrene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
2-Ethyltoluene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2,4-Trimethylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Decane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Benzyl Chloride	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3-Dichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,4-Dichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
sec-Butylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
p-Isopropyltoluene	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
1,2,3-Trimethylbenzene	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
1,2-Dichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
d-Limonene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dibromo-3-chloropropane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
n-Undecane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2,4-Trichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Naphthalene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
n-Dodecane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Hexachloro-1,3-butadiene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Methacrylonitrile	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Cyclohexanone	1.00	1000	200	40.0	20.0	4.00	1.00		0.100	0.200	0.500	1.00	5.00	25.00	50.0	100
tert-Butylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Butylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107

Calibration Status Report GCMS-16

Method : I:\MS16\METHODS\R16031120.M (RTE Integrator)
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	0.1	0	13	I:\MS16\DATA\2020_03\11\03112002.D
2	0.2	0	13	I:\MS16\DATA\2020_03\11\03112003.D
3	0.5	1	13	I:\MS16\DATA\2020_03\11\03112004.D
4	1.0	1	13	I:\MS16\DATA\2020_03\11\03112005.D
5	5.0	5	13	I:\MS16\DATA\2020_03\11\03112006.D
6	25	27	13	I:\MS16\DATA\2020_03\11\03112007.D
7	50	53	13	I:\MS16\DATA\2020_03\11\03112008.D
8	100	106	13	I:\MS16\DATA\2020_03\11\03112009.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.1	Mar 11 10:40 2020	Mar 11 10:34 2020	11 Mar 2020 00:59
2	0.2	Mar 11 10:40 2020	Mar 11 10:34 2020	11 Mar 2020 1:32
3	0.5	Mar 11 10:41 2020	Mar 11 10:34 2020	11 Mar 2020 2:05
4	1.0	Mar 11 10:41 2020	Mar 11 10:34 2020	11 Mar 2020 2:38
5	5.0	Mar 11 10:41 2020	Mar 11 10:34 2020	11 Mar 2020 3:12
6	25	Mar 11 10:41 2020	Mar 11 10:34 2020	11 Mar 2020 3:45
7	50	Mar 11 10:41 2020	Mar 11 10:34 2020	11 Mar 2020 4:18
8	100	Mar 11 10:42 2020	Mar 11 10:34 2020	11 Mar 2020 4:52

R16031120.M Wed Mar 11 14:10:31 2020

LH 3/11/20

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112002.D
Acq On : 11 Mar 2020 00:59 Operator: LH
Sample : 0.1ng TO15 ICAL STD
Misc : S31-02112001/S34-03102004 (4/8)
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 11 10:34:43 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 3/11/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	256423	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.29	114	1153081	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.61	82	557196	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.01	65	468187	13.481	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.84%				
57) Toluene-d8 (SS2)	15.74	98	1238985	12.458	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.68%				
73) Bromofluorobenzene (SS3)	19.00	174	413930	11.789	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.32%				
Target Compounds							Qvalue
2) Propene	4.15	42	3227	0.114	ng		96
3) Dichlorodifluoromethan...	4.30	85	7202	0.124	ng		99
4) Chloromethane	4.58	50	6014	0.130	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.83	135	4495	0.123	ng		94
6) Vinyl Chloride	4.99	62	5719	0.116	ng		98
7) 1,3-Butadiene	5.25	54	3763	0.104	ng		89
8) Bromomethane	5.68	94	2906	0.119	ng		97
9) Chloroethane	6.02	64	2275	0.122	ng		87
10) Ethanol	6.34	45	14284	0.701	ng		94
11) Acetonitrile	6.63	41	6430	0.140	ng		75
12) Acrolein	6.82	56	1568	0.102	ng		98
13) Acetone	7.03	58	11847	0.542	ng	#	77
14) Trichlorofluoromethane	7.27	101	5747	0.112	ng		99
15) 2-Propanol (Isopropanol)	7.54	45	14841	0.238	ng		84
16) Acrylonitrile	7.79	53	2662	0.082	ng		97
17) 1,1-Dichloroethene	8.23	96	2694	0.105	ng	#	82
18) 2-Methyl-2-Propanol (t...	8.44	59	13657	0.249	ng		90
19) Methylene Chloride	8.44	84	3029	0.110	ng		88
20) 3-Chloro-1-propene (Al...	8.61	41	4066	0.112	ng		87
21) Trichlorotrifluoroethane	8.86	151	2922	0.119	ng		97
22) Carbon Disulfide	8.72	76	11342	0.112	ng		95
23) trans-1,2-Dichloroethene	9.72	61	3696	0.099	ng		96
24) 1,1-Dichloroethane	9.96	63	5480	0.116	ng		100
25) Methyl tert-Butyl Ether	10.11	73	9090	0.118	ng		99
26) Vinyl Acetate	10.23	86	2373	0.418	ng	#	23
27) 2-Butanone (MEK)	10.51	72	1495	0.084	ng	#	59
28) cis-1,2-Dichloroethene	10.99	61	4405	0.116	ng		97
29) Diisopropyl Ether	11.31	87	3079	0.107	ng	#	90
30) Ethyl Acetate	11.31	61	1797	0.168	ng		91
31) n-Hexane	11.28	57	5388	0.111	ng		97
32) Chloroform	11.33	83	5610	0.112	ng		98
34) Tetrahydrofuran (THF)	11.78	72	2160	0.119	ng	#	85
35) Ethyl tert-Butyl Ether	11.91	87	3579	0.110	ng		99
36) 1,2-Dichloroethane	12.13	62	4868	0.125	ng		96
38) 1,1,1-Trichloroethane	12.41	97	5097	0.115	ng		98
39) Isopropyl Acetate	12.87	61	3445	0.184	ng	#	64
40) 1-Butanol	12.91	56	5234	0.219	ng		91
41) Benzene	12.90	78	12713	0.108	ng		99
42) Carbon Tetrachloride	13.06	117	4204	0.102	ng		99
43) Cyclohexane	13.19	84	9486	0.207	ng		97
44) tert-Amyl Methyl Ether	13.55	73	8242	0.105	ng		88
45) 1,2-Dichloropropane	13.75	63	3100	0.113	ng		98
46) Bromodichloromethane	13.93	83	4151	0.103	ng		91
47) Trichloroethene	14.00	130	4931	0.159	ng		97
48) 1,4-Dioxane	14.00	88	2301	0.097	ng		91
49) 2,2,4-Trimethylpentane...	14.07	57	13059	0.115	ng		89

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112002.D
Acq On : 11 Mar 2020 00:59 Operator: LH
Sample : 0.1ng TO15 ICAL STD
Misc : S31-02112001/S34-03102004 (4/8)
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 11 10:34:43 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

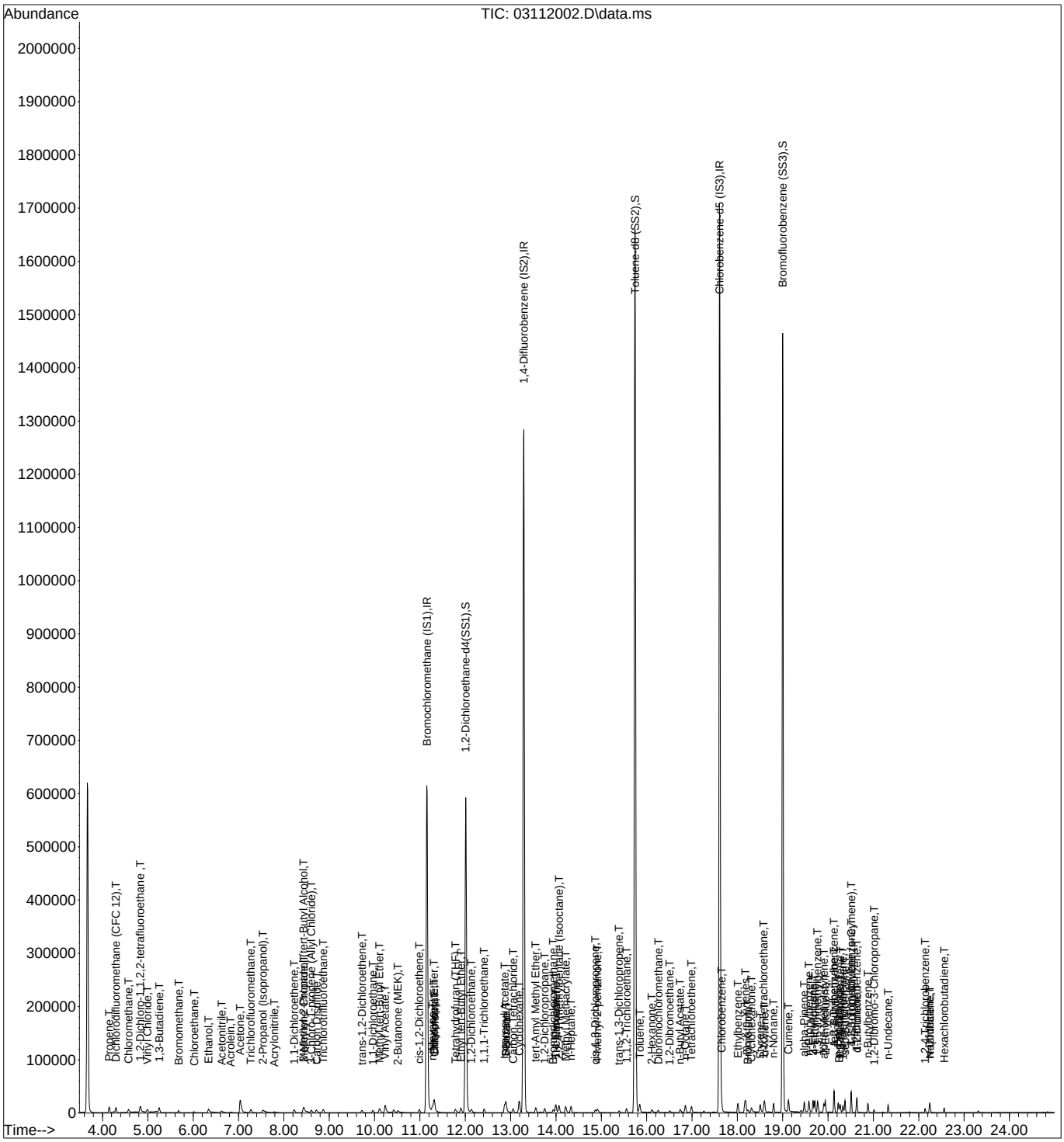
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
50) Methyl Methacrylate	14.22	100	1926	0.166 ng	#	79
51) n-Heptane	14.33	71	2960	0.106 ng		91
52) cis-1,3-Dichloropropene	14.87	75	3951	0.089 ng		98
53) 4-Methyl-2-pentanone	14.91	58	2251	0.089 ng	#	39
54) trans-1,3-Dichloropropene	15.39	75	2694	0.072 ng		98
55) 1,1,2-Trichloroethane	15.56	97	2957	0.107 ng		98
58) Toluene	15.85	91	15204	0.128 ng		92
59) 2-Hexanone	16.11	43	6411	0.109 ng		82
60) Dibromochloromethane	16.26	129	2896	0.087 ng		98
61) 1,2-Dibromoethane	16.51	107	3061	0.098 ng		92
62) n-Butyl Acetate	16.73	43	6445	0.099 ng		92
63) n-Octane	16.85	57	2743	0.114 ng		88
64) Tetrachloroethene	16.99	166	3469	0.102 ng		100
65) Chlorobenzene	17.65	112	8554	0.104 ng		91
66) Ethylbenzene	18.02	91	14658	0.112 ng		97
67) m- & p-Xylenes	18.18	91	24259	0.234 ng		91
68) Bromoform	18.23	173	2174	0.077 ng		99
69) Styrene	18.50	104	7283	0.095 ng		95
70) o-Xylene	18.60	91	11310	0.107 ng		98
71) n-Nonane	18.80	43	5813	0.107 ng		93
72) 1,1,2,2-Tetrachloroethane	18.58	83	5053	0.096 ng		94
74) Cumene	19.13	105	14205	0.108 ng		93
75) alpha-Pinene	19.48	93	6441	0.095 ng	#	59
76) n-Propylbenzene	19.58	91	17060	0.112 ng		99
77) 3-Ethyltoluene	19.67	105	13172	0.104 ng		98
78) 4-Ethyltoluene	19.71	105	12527	0.102 ng		97
79) 1,3,5-Trimethylbenzene	19.77	105	10857	0.100 ng		96
80) alpha-Methylstyrene	19.91	118	4616	0.086 ng		86
81) 2-Ethyltoluene	19.94	105	13003	0.103 ng		98
82) 1,2,4-Trimethylbenzene	20.13	105	11799	0.106 ng		91
83) n-Decane	20.23	57	5420	0.095 ng		93
84) Benzyl Chloride	20.25	91	4881	0.071 ng		81
85) 1,3-Dichlorobenzene	20.27	146	5633	0.088 ng		97
86) 1,4-Dichlorobenzene	20.33	146	6038	0.098 ng		98
87) sec-Butylbenzene	20.37	105	14623	0.103 ng		95
88) 4-Isopropyltoluene (p-...	20.51	119	12617	0.095 ng		92
89) 1,2,3-Trimethylbenzene	20.51	105	10649	0.095 ng		98
90) 1,2-Dichlorobenzene	20.63	146	5386	0.086 ng		98
91) d-Limonene	20.64	68	3716	0.090 ng		90
92) 1,2-Dibromo-3-Chloropr...	21.02	157	1237	0.058 ng	#	39
93) n-Undecane	21.33	57	4032	0.079 ng		95
94) 1,2,4-Trichlorobenzene	22.14	180	2790	0.059 ng		97
95) Naphthalene	22.25	128	10472	0.073 ng		95
96) n-Dodecane	22.24	57	2583	0.046 ng		93
97) Hexachlorobutadiene	22.56	225	1668	0.057 ng		98
98) Cyclohexanone	18.31	55	4503	0.115 ng	#	93
99) tert-Butylbenzene	20.13	119	11295	0.101 ng		99
100) n-Butylbenzene	20.88	91	10167	0.093 ng		94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112002.D
Acq On : 11 Mar 2020 00:59 Operator: LH
Sample : 0.1ng TO15 ICAL STD
Misc : S31-02112001/S34-03102004 (4/8)
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 11 10:34:43 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112003.D
Acq On : 11 Mar 2020 1:32 Operator: LH
Sample : 0.2ng TO15 ICAL STD
Misc : S31-02112001/S34-03102004 (4/8)
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 11 10:34:46 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 3/11/20
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	249384	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.29	114	1122523	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.61	82	545376	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	453537	13.428	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.44%				
57) Toluene-d8 (SS2)	15.74	98	1216540	12.497	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.00%				
73) Bromofluorobenzene (SS3)	19.00	174	407799	11.866	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.96%				
Target Compounds							Qvalue
2) Propene	4.15	42	5507	0.200	ng		96
3) Dichlorodifluoromethan...	4.30	85	12579	0.222	ng		98
4) Chloromethane	4.58	50	10516	0.233	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.83	135	7744	0.217	ng		97
6) Vinyl Chloride	4.99	62	10406	0.217	ng		99
7) 1,3-Butadiene	5.25	54	7505	0.213	ng		95
8) Bromomethane	5.68	94	4852	0.204	ng		99
9) Chloroethane	6.02	64	3780	0.208	ng		96
10) Ethanol	6.34	45	21141	1.067	ng		98
11) Acetonitrile	6.62	41	9992	0.224	ng		93
12) Acrolein	6.82	56	2866	0.192	ng		91
13) Acetone	7.03	58	19909	0.937	ng	#	80
14) Trichlorofluoromethane	7.28	101	10457	0.209	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	24992	0.412	ng		86
16) Acrylonitrile	7.78	53	5522	0.176	ng		97
17) 1,1-Dichloroethene	8.23	96	4945	0.198	ng		92
18) 2-Methyl-2-Propanol (t...	8.43	59	24656	0.461	ng		93
19) Methylene Chloride	8.43	84	5458	0.203	ng		95
20) 3-Chloro-1-propene (Al...	8.61	41	6905	0.196	ng		88
21) Trichlorotrifluoroethane	8.88	151	4920	0.205	ng		98
22) Carbon Disulfide	8.72	76	19683	0.199	ng		99
23) trans-1,2-Dichloroethene	9.72	61	7168	0.198	ng		94
24) 1,1-Dichloroethane	9.96	63	9716	0.211	ng		98
25) Methyl tert-Butyl Ether	10.10	73	16195	0.217	ng		99
26) Vinyl Acetate	10.24	86	4334	0.786	ng	#	18
27) 2-Butanone (MEK)	10.51	72	2928	0.169	ng	#	80
28) cis-1,2-Dichloroethene	10.99	61	7384	0.201	ng		98
29) Diisopropyl Ether	11.31	87	5165	0.185	ng	#	94
30) Ethyl Acetate	11.31	61	3304	0.318	ng		96
31) n-Hexane	11.28	57	8933	0.189	ng		96
32) Chloroform	11.33	83	10286	0.212	ng		96
34) Tetrahydrofuran (THF)	11.78	72	3622	0.206	ng		93
35) Ethyl tert-Butyl Ether	11.91	87	6143	0.194	ng		95
36) 1,2-Dichloroethane	12.14	62	8272	0.219	ng		99
38) 1,1,1-Trichloroethane	12.42	97	8643	0.200	ng		97
39) Isopropyl Acetate	12.86	61	6247	0.343	ng	#	77
40) 1-Butanol	12.90	56	9557	0.412	ng	#	77
41) Benzene	12.90	78	22360	0.196	ng		99
42) Carbon Tetrachloride	13.06	117	7406	0.185	ng		99
43) Cyclohexane	13.19	84	16591	0.372	ng		96
44) tert-Amyl Methyl Ether	13.55	73	14491	0.190	ng		92
45) 1,2-Dichloropropane	13.75	63	5545	0.208	ng		96
46) Bromodichloromethane	13.95	83	7450	0.189	ng		99
47) Trichloroethene	14.00	130	7011	0.232	ng		99
48) 1,4-Dioxane	13.99	88	4052	0.176	ng		92
49) 2,2,4-Trimethylpentane...	14.07	57	22167	0.200	ng		94

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112003.D
Acq On : 11 Mar 2020 1:32 Operator: LH
Sample : 0.2ng TO15 ICAL STD
Misc : S31-02112001/S34-03102004 (4/8)
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 11 10:34:46 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

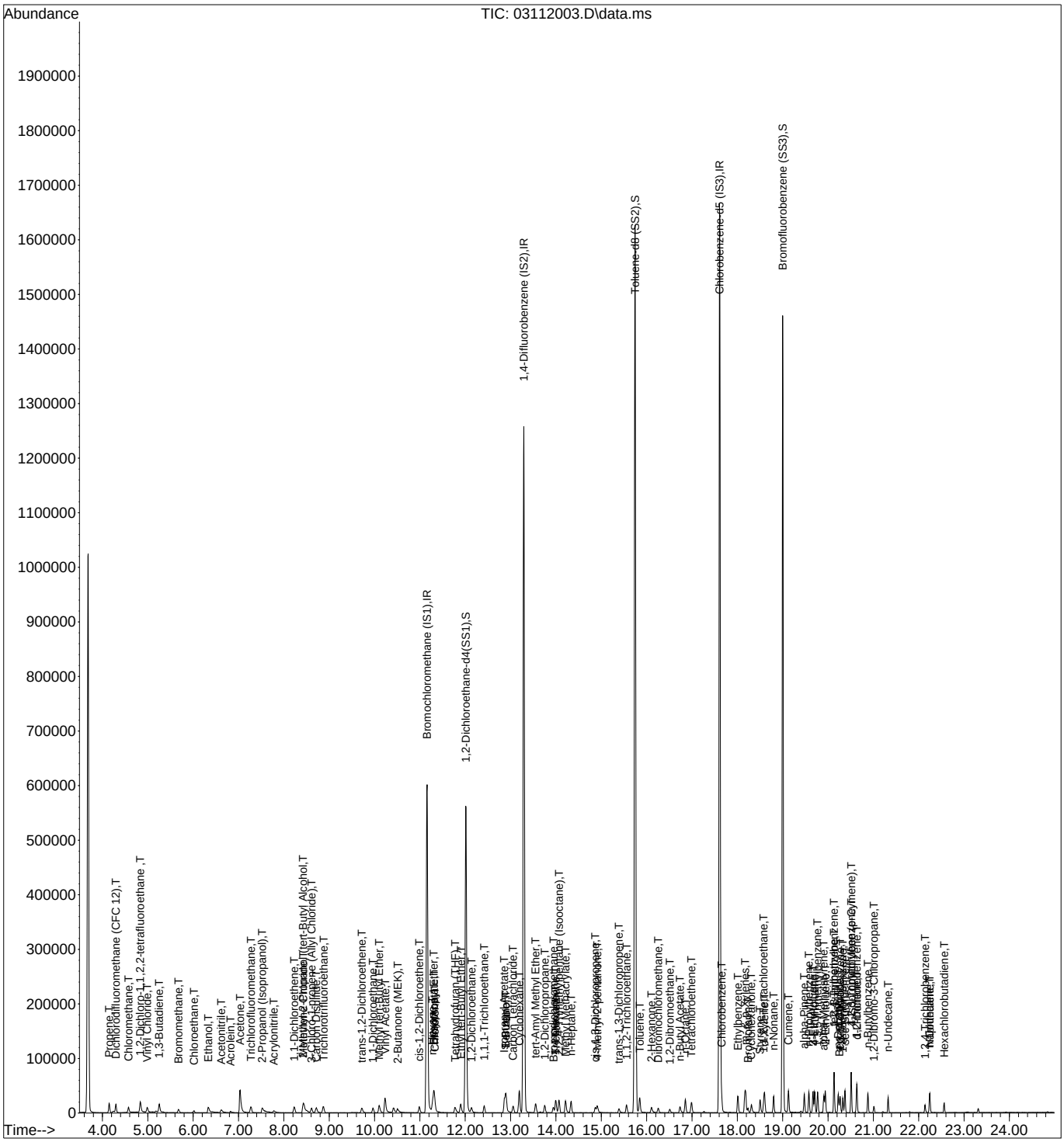
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
50) Methyl Methacrylate	14.22	100	3495	0.310 ng	#	75
51) n-Heptane	14.34	71	5388	0.198 ng		97
52) cis-1,3-Dichloropropene	14.87	75	6997	0.162 ng		98
53) 4-Methyl-2-pentanone	14.91	58	4222	0.172 ng	#	68
54) trans-1,3-Dichloropropene	15.39	75	5897	0.163 ng		96
55) 1,1,2-Trichloroethane	15.56	97	5337	0.199 ng		97
58) Toluene	15.85	91	24251	0.209 ng		96
59) 2-Hexanone	16.11	43	11087	0.193 ng		92
60) Dibromochloromethane	16.26	129	5472	0.168 ng		98
61) 1,2-Dibromoethane	16.51	107	5601	0.184 ng		99
62) n-Butyl Acetate	16.73	43	11589	0.182 ng		93
63) n-Octane	16.86	57	4604	0.195 ng		94
64) Tetrachloroethene	16.99	166	6268	0.189 ng		97
65) Chlorobenzene	17.65	112	14924	0.185 ng		99
66) Ethylbenzene	18.01	91	25310	0.198 ng		97
67) m- & p-Xylenes	18.17	91	40300	0.397 ng		96
68) Bromoform	18.24	173	4169	0.152 ng		96
69) Styrene	18.50	104	13038	0.173 ng		97
70) o-Xylene	18.60	91	20227	0.195 ng		94
71) n-Nonane	18.80	43	10276	0.193 ng		94
72) 1,1,2,2-Tetrachloroethane	18.58	83	9592	0.187 ng		95
74) Cumene	19.13	105	27547	0.213 ng		95
75) alpha-Pinene	19.48	93	12148	0.183 ng		87
76) n-Propylbenzene	19.58	91	30547	0.205 ng		97
77) 3-Ethyltoluene	19.67	105	24120	0.195 ng		97
78) 4-Ethyltoluene	19.70	105	23329	0.194 ng		98
79) 1,3,5-Trimethylbenzene	19.77	105	21310	0.200 ng		93
80) alpha-Methylstyrene	19.91	118	8867	0.168 ng		88
81) 2-Ethyltoluene	19.94	105	24804	0.200 ng		95
82) 1,2,4-Trimethylbenzene	20.13	105	19961	0.183 ng		96
83) n-Decane	20.23	57	10132	0.182 ng		96
84) Benzyl Chloride	20.25	91	8029	0.119 ng		90
85) 1,3-Dichlorobenzene	20.27	146	10812	0.173 ng		98
86) 1,4-Dichlorobenzene	20.32	146	11042	0.183 ng		100
87) sec-Butylbenzene	20.37	105	26898	0.193 ng		96
88) 4-Isopropyltoluene (p-...	20.51	119	23895	0.184 ng		94
89) 1,2,3-Trimethylbenzene	20.51	105	19484	0.178 ng		99
90) 1,2-Dichlorobenzene	20.63	146	9907	0.161 ng		98
91) d-Limonene	20.64	68	6944	0.172 ng		94
92) 1,2-Dibromo-3-Chloropr...	21.01	157	2830	0.136 ng	#	63
93) n-Undecane	21.33	57	7977	0.160 ng		95
94) 1,2,4-Trichlorobenzene	22.14	180	4672	0.101 ng		97
95) Naphthalene	22.24	128	17152	0.122 ng		97
96) n-Dodecane	22.24	57	5207	0.095 ng		95
97) Hexachlorobutadiene	22.56	225	3175	0.111 ng		98
98) Cyclohexanone	18.31	55	7157	0.186 ng		94
99) tert-Butylbenzene	20.13	119	20125	0.185 ng		99
100) n-Butylbenzene	20.88	91	19916	0.185 ng		94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112003.D
Acq On : 11 Mar 2020 1:32 Operator: LH
Sample : 0.2ng TO15 ICAL STD
Misc : S31-02112001/S34-03102004 (4/8)
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 11 10:34:46 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112004.D
Acq On : 11 Mar 2020 2:05 Operator: LH
Sample : 0.5ng TO15 ICAL STD
Misc : S31-02112001/S34-03102003 (4/8)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 11 10:34:48 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 3/11/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	250199	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.29	114	1119180	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.61	82	536851	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	452455	13.352	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.80%				
57) Toluene-d8 (SS2)	15.74	98	1195902	12.480	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.84%				
73) Bromofluorobenzene (SS3)	19.00	174	404242	11.950	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.60%				
Target Compounds							Qvalue
2) Propene	4.14	42	13970	0.506	ng		99
3) Dichlorodifluoromethan...	4.28	85	33913	0.597	ng		98
4) Chloromethane	4.56	50	27759	0.613	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	20406	0.570	ng		99
6) Vinyl Chloride	4.98	62	27909	0.580	ng		100
7) 1,3-Butadiene	5.24	54	18365	0.520	ng		95
8) Bromomethane	5.67	94	13307	0.557	ng		98
9) Chloroethane	6.01	64	10253	0.562	ng		96
10) Ethanol	6.32	45	51461	2.589	ng		98
11) Acetonitrile	6.60	41	24346	0.543	ng		92
12) Acrolein	6.81	56	8055	0.539	ng		99
13) Acetone	7.01	58	51278	2.406	ng	#	83
14) Trichlorofluoromethane	7.27	101	27953	0.556	ng		99
15) 2-Propanol (Isopropanol)	7.50	45	67976	1.118	ng		88
16) Acrylonitrile	7.77	53	16002	0.508	ng		99
17) 1,1-Dichloroethene	8.22	96	13904	0.556	ng		96
18) 2-Methyl-2-Propanol (t...	8.39	59	67959	1.268	ng		94
19) Methylene Chloride	8.44	84	14269	0.529	ng		91
20) 3-Chloro-1-propene (Al...	8.60	41	18896	0.534	ng		92
21) Trichlorotrifluoroethane	8.87	151	13215	0.550	ng		99
22) Carbon Disulfide	8.71	76	52101	0.525	ng		99
23) trans-1,2-Dichloroethene	9.72	61	19907	0.548	ng		96
24) 1,1-Dichloroethane	9.96	63	25859	0.560	ng		99
25) Methyl tert-Butyl Ether	10.09	73	43396	0.579	ng		98
26) Vinyl Acetate	10.22	86	14652	2.648	ng	#	56
27) 2-Butanone (MEK)	10.49	72	8854	0.511	ng	#	90
28) cis-1,2-Dichloroethene	10.99	61	20385	0.552	ng		95
29) Diisopropyl Ether	11.30	87	14836	0.530	ng	#	82
30) Ethyl Acetate	11.30	61	9693	0.931	ng		97
31) n-Hexane	11.28	57	24296	0.511	ng		100
32) Chloroform	11.33	83	27661	0.568	ng		99
34) Tetrahydrofuran (THF)	11.76	72	9497	0.538	ng		95
35) Ethyl tert-Butyl Ether	11.89	87	16627	0.522	ng		96
36) 1,2-Dichloroethane	12.13	62	21537	0.568	ng		100
38) 1,1,1-Trichloroethane	12.42	97	24045	0.557	ng		98
39) Isopropyl Acetate	12.86	61	17229	0.949	ng	#	84
40) 1-Butanol	12.88	56	23731	1.025	ng	#	72
41) Benzene	12.90	78	58428	0.513	ng		99
42) Carbon Tetrachloride	13.06	117	20467	0.512	ng		99
43) Cyclohexane	13.19	84	45418	1.022	ng		96
44) tert-Amyl Methyl Ether	13.54	73	38832	0.511	ng		95
45) 1,2-Dichloropropane	13.75	63	14304	0.538	ng		98
46) Bromodichloromethane	13.94	83	20909	0.532	ng		97
47) Trichloroethene	14.00	130	16071	0.534	ng		100
48) 1,4-Dioxane	13.98	88	11529	0.502	ng		96
49) 2,2,4-Trimethylpentane...	14.07	57	59617	0.539	ng		96

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112004.D
Acq On : 11 Mar 2020 2:05 Operator: LH
Sample : 0.5ng TO15 ICAL STD
Misc : S31-02112001/S34-03102003 (4/8)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 11 10:34:48 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

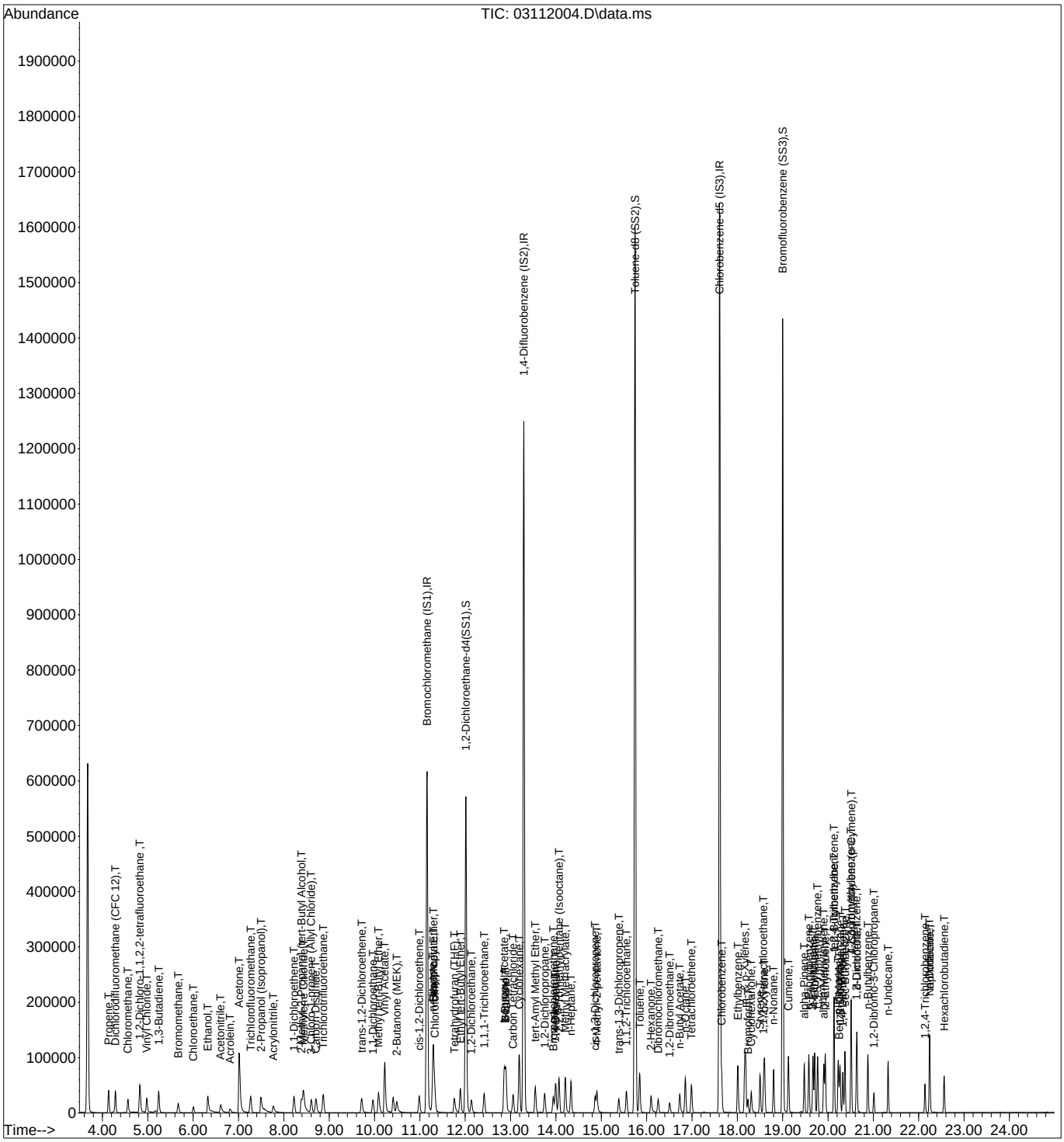
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
50) Methyl Methacrylate	14.21	100	10577	0.941 ng	#	88
51) n-Heptane	14.33	71	14039	0.517 ng		96
52) cis-1,3-Dichloropropene	14.86	75	20178	0.469 ng		98
53) 4-Methyl-2-pentanone	14.90	58	12063	0.492 ng		92
54) trans-1,3-Dichloropropene	15.39	75	17101	0.473 ng		100
55) 1,1,2-Trichloroethane	15.55	97	13848	0.518 ng		99
58) Toluene	15.85	91	61148	0.534 ng		99
59) 2-Hexanone	16.10	43	30048	0.532 ng		91
60) Dibromochloromethane	16.26	129	15049	0.468 ng		99
61) 1,2-Dibromoethane	16.51	107	14951	0.498 ng		98
62) n-Butyl Acetate	16.73	43	31247	0.498 ng		97
63) n-Octane	16.85	57	12094	0.521 ng		95
64) Tetrachloroethene	16.99	166	16134	0.494 ng		99
65) Chlorobenzene	17.65	112	39003	0.491 ng		96
66) Ethylbenzene	18.01	91	66620	0.529 ng		99
67) m- & p-Xylenes	18.17	91	106916	1.069 ng		95
68) Bromoform	18.24	173	10990	0.406 ng		98
69) Styrene	18.50	104	36622	0.495 ng		98
70) o-Xylene	18.60	91	53400	0.523 ng		96
71) n-Nonane	18.80	43	27192	0.520 ng		95
72) 1,1,2,2-Tetrachloroethane	18.58	83	25596	0.506 ng		100
74) Cumene	19.13	105	69162	0.543 ng		96
75) alpha-Pinene	19.48	93	32085	0.492 ng		92
76) n-Propylbenzene	19.58	91	81587	0.555 ng		97
77) 3-Ethyltoluene	19.66	105	64446	0.528 ng		97
78) 4-Ethyltoluene	19.70	105	61305	0.518 ng		98
79) 1,3,5-Trimethylbenzene	19.77	105	55163	0.525 ng		95
80) alpha-Methylstyrene	19.91	118	25464	0.491 ng		95
81) 2-Ethyltoluene	19.94	105	65146	0.534 ng		97
82) 1,2,4-Trimethylbenzene	20.13	105	54274	0.506 ng		96
83) n-Decane	20.23	57	27650	0.506 ng		97
84) Benzyl Chloride	20.25	91	25179	0.380 ng		93
85) 1,3-Dichlorobenzene	20.27	146	29123	0.474 ng		99
86) 1,4-Dichlorobenzene	20.32	146	29617	0.499 ng		99
87) sec-Butylbenzene	20.37	105	72113	0.527 ng		97
88) 4-Isopropyltoluene (p-...	20.51	119	66651	0.521 ng		97
89) 1,2,3-Trimethylbenzene	20.51	105	55067	0.511 ng		98
90) 1,2-Dichlorobenzene	20.63	146	27907	0.461 ng		99
91) d-Limonene	20.64	68	19496	0.491 ng		97
92) 1,2-Dibromo-3-Chloropr...	21.01	157	8646	0.422 ng	#	70
93) n-Undecane	21.33	57	26079	0.533 ng		95
94) 1,2,4-Trichlorobenzene	22.14	180	16118	0.353 ng		99
95) Naphthalene	22.24	128	54073	0.391 ng		98
96) n-Dodecane	22.24	57	22522	0.418 ng		94
97) Hexachlorobutadiene	22.56	225	11961	0.425 ng		98
98) Cyclohexanone	18.31	55	18072	0.478 ng		94
99) tert-Butylbenzene	20.13	119	53477	0.499 ng		98
100) n-Butylbenzene	20.88	91	58386	0.552 ng		94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112004.D
Acq On : 11 Mar 2020 2:05 Operator: LH
Sample : 0.5ng TO15 ICAL STD
Misc : S31-02112001/S34-03102003 (4/8)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 11 10:34:48 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112005.D
Acq On : 11 Mar 2020 2:38 Operator: LH
Sample : 1.0ng TO15 ICAL STD
Misc : S31-02112001/S34-03102003 (4/8)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 11 10:34:50 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 3/11/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	252175	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.29	114	1130413	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.61	82	545964	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	452154	13.238	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.92%				
57) Toluene-d8 (SS2)	15.74	98	1204259	12.358	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.88%				
73) Bromofluorobenzene (SS3)	19.00	174	410040	11.919	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.36%				
Target Compounds							Qvalue
2) Propene	4.13	42	26239	0.944	ng		99
3) Dichlorodifluoromethan...	4.28	85	61335	1.072	ng		99
4) Chloromethane	4.56	50	51518	1.129	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	37929	1.052	ng		99
6) Vinyl Chloride	4.97	62	52171	1.075	ng		99
7) 1,3-Butadiene	5.24	54	38124	1.072	ng		99
8) Bromomethane	5.67	94	24756	1.028	ng		100
9) Chloroethane	6.01	64	19155	1.041	ng		98
10) Ethanol	6.32	45	95679	4.776	ng		99
11) Acetonitrile	6.60	41	45165	0.999	ng		93
12) Acrolein	6.81	56	15031	0.998	ng		96
13) Acetone	7.01	58	97221	4.525	ng	#	85
14) Trichlorofluoromethane	7.26	101	51616	1.019	ng		99
15) 2-Propanol (Isopropanol)	7.48	45	129808	2.119	ng		91
16) Acrylonitrile	7.76	53	32346	1.019	ng		100
17) 1,1-Dichloroethene	8.22	96	25530	1.012	ng		95
18) 2-Methyl-2-Propanol (t...	8.37	59	128678	2.381	ng		95
19) Methylene Chloride	8.43	84	26734	0.984	ng		93
20) 3-Chloro-1-propene (Al...	8.61	41	35910	1.006	ng		95
21) Trichlorotrifluoroethane	8.86	151	24428	1.008	ng		97
22) Carbon Disulfide	8.71	76	99387	0.994	ng		99
23) trans-1,2-Dichloroethene	9.72	61	38578	1.055	ng		97
24) 1,1-Dichloroethane	9.96	63	49172	1.057	ng		100
25) Methyl tert-Butyl Ether	10.08	73	81018	1.072	ng		100
26) Vinyl Acetate	10.22	86	29241	5.243	ng	#	63
27) 2-Butanone (MEK)	10.48	72	17507	1.002	ng	#	89
28) cis-1,2-Dichloroethene	10.99	61	37840	1.017	ng		97
29) Diisopropyl Ether	11.30	87	27212	0.964	ng	#	87
30) Ethyl Acetate	11.30	61	19931	1.899	ng		96
31) n-Hexane	11.28	57	45051	0.941	ng		98
32) Chloroform	11.33	83	51974	1.058	ng		97
34) Tetrahydrofuran (THF)	11.75	72	17985	1.011	ng		96
35) Ethyl tert-Butyl Ether	11.89	87	31469	0.981	ng		96
36) 1,2-Dichloroethane	12.14	62	40493	1.059	ng		99
38) 1,1,1-Trichloroethane	12.42	97	44354	1.018	ng		98
39) Isopropyl Acetate	12.85	61	31963	1.743	ng	#	78
40) 1-Butanol	12.87	56	49627	2.123	ng		82
41) Benzene	12.90	78	110674	0.962	ng		99
42) Carbon Tetrachloride	13.06	117	38200	0.946	ng		98
43) Cyclohexane	13.19	84	84782	1.888	ng		97
44) tert-Amyl Methyl Ether	13.54	73	73466	0.957	ng		95
45) 1,2-Dichloropropane	13.75	63	26752	0.995	ng		99
46) Bromodichloromethane	13.94	83	38892	0.981	ng		100
47) Trichloroethene	14.00	130	29217	0.961	ng		100
48) 1,4-Dioxane	13.97	88	21827	0.942	ng		100
49) 2,2,4-Trimethylpentane...	14.07	57	110125	0.985	ng		96

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112005.D
Acq On : 11 Mar 2020 2:38 Operator: LH
Sample : 1.0ng TO15 ICAL STD
Misc : S31-02112001/S34-03102003 (4/8)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 11 10:34:50 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

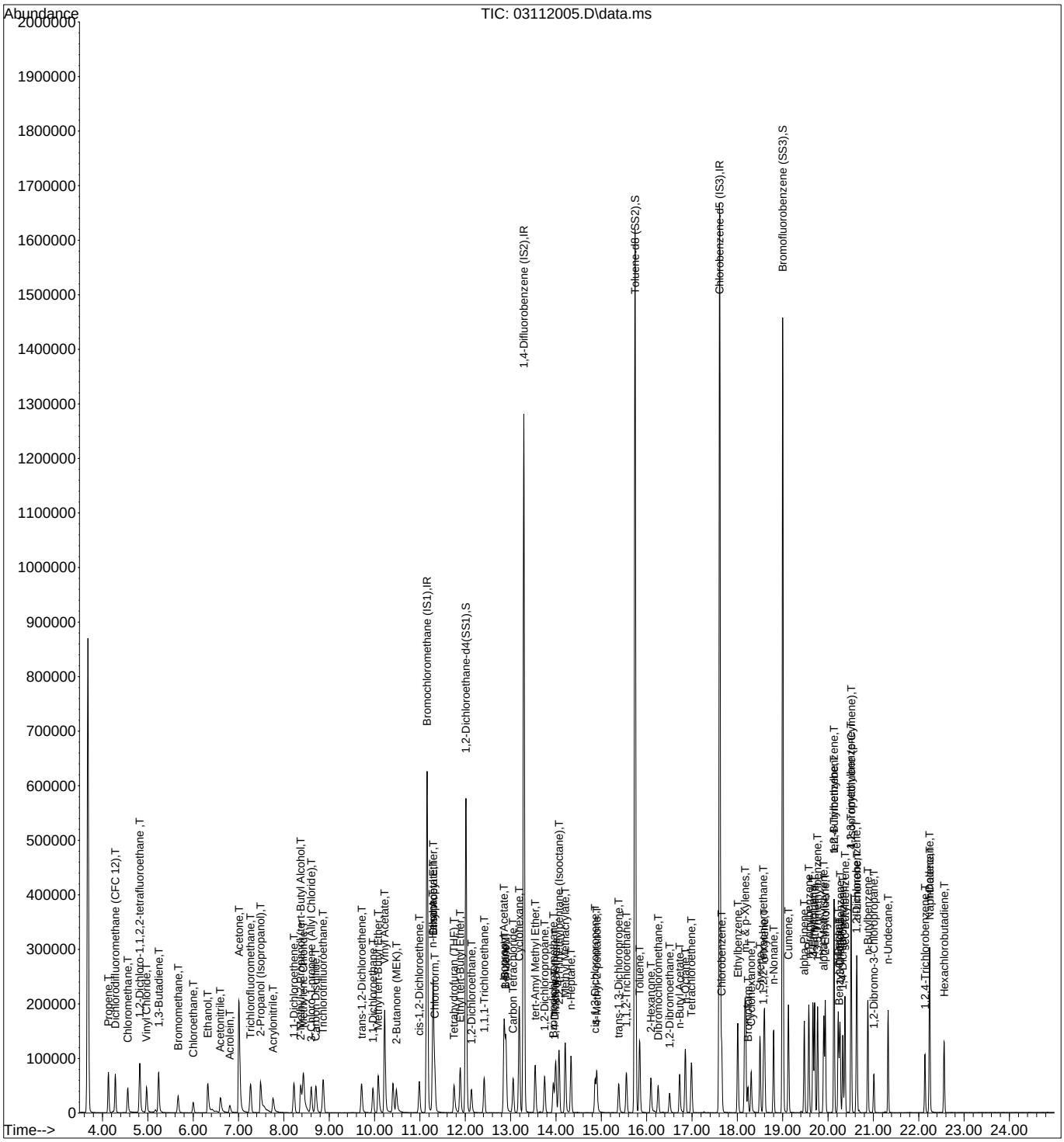
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
50) Methyl Methacrylate	14.20	100	21083	1.856 ng		93
51) n-Heptane	14.33	71	26321	0.960 ng		96
52) cis-1,3-Dichloropropene	14.86	75	39790	0.916 ng		99
53) 4-Methyl-2-pentanone	14.90	58	23994	0.968 ng		90
54) trans-1,3-Dichloropropene	15.38	75	35431	0.970 ng		98
55) 1,1,2-Trichloroethane	15.55	97	27091	1.003 ng		98
58) Toluene	15.84	91	115334	0.991 ng		99
59) 2-Hexanone	16.10	43	56954	0.991 ng		96
60) Dibromochloromethane	16.26	129	30105	0.921 ng		99
61) 1,2-Dibromoethane	16.50	107	30054	0.985 ng		98
62) n-Butyl Acetate	16.73	43	63513	0.994 ng		97
63) n-Octane	16.85	57	22966	0.972 ng		93
64) Tetrachloroethene	16.99	166	29989	0.904 ng		100
65) Chlorobenzene	17.65	112	74997	0.928 ng		99
66) Ethylbenzene	18.01	91	126409	0.987 ng		99
67) m- & p-Xylenes	18.17	91	203937	2.004 ng		95
68) Bromoform	18.24	173	22899	0.832 ng		99
69) Styrene	18.50	104	71908	0.955 ng		98
70) o-Xylene	18.60	91	101189	0.975 ng		98
71) n-Nonane	18.80	43	52281	0.983 ng		93
72) 1,1,2,2-Tetrachloroethane	18.58	83	49059	0.953 ng		100
74) Cumene	19.13	105	128846	0.995 ng		97
75) alpha-Pinene	19.48	93	62905	0.948 ng		95
76) n-Propylbenzene	19.58	91	154753	1.035 ng		97
77) 3-Ethyltoluene	19.66	105	124019	0.999 ng		97
78) 4-Ethyltoluene	19.70	105	117611	0.978 ng		98
79) 1,3,5-Trimethylbenzene	19.77	105	101971	0.954 ng		96
80) alpha-Methylstyrene	19.91	118	51608	0.978 ng		91
81) 2-Ethyltoluene	19.94	105	124284	1.002 ng		97
82) 1,2,4-Trimethylbenzene	20.13	105	103254	0.946 ng		98
83) n-Decane	20.23	57	53015	0.953 ng		97
84) Benzyl Chloride	20.25	91	54780	0.812 ng		94
85) 1,3-Dichlorobenzene	20.27	146	56239	0.900 ng		100
86) 1,4-Dichlorobenzene	20.32	146	56816	0.942 ng		100
87) sec-Butylbenzene	20.37	105	140647	1.010 ng		97
88) 4-Isopropyltoluene (p-...	20.51	119	128282	0.987 ng		97
89) 1,2,3-Trimethylbenzene	20.51	105	107501	0.981 ng		97
90) 1,2-Dichlorobenzene	20.63	146	55130	0.896 ng		99
91) d-Limonene	20.64	68	39857	0.986 ng		96
92) 1,2-Dibromo-3-Chloropr...	21.01	157	17644	0.846 ng	#	74
93) n-Undecane	21.33	57	52052	1.045 ng		95
94) 1,2,4-Trichlorobenzene	22.14	180	32927	0.709 ng		98
95) Naphthalene	22.24	128	111106	0.791 ng		98
96) n-Dodecane	22.24	57	46935	0.858 ng		93
97) Hexachlorobutadiene	22.56	225	23529	0.821 ng		100
98) Cyclohexanone	18.31	55	35128	0.914 ng		95
99) tert-Butylbenzene	20.13	119	101979	0.935 ng		98
100) n-Butylbenzene	20.88	91	111526	1.037 ng		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112005.D
Acq On : 11 Mar 2020 2:38 Operator: LH
Sample : 1.0ng TO15 ICAL STD
Misc : S31-02112001/S34-03102003 (4/8)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 11 10:34:50 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112006.D
Acq On : 11 Mar 2020 3:12 Operator: LH
Sample : 5.0ng TO15 ICAL STD
Misc : S31-02112001/S34-03102003 (4/8)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 11 10:34:52 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 3/11/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	238218	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.30	114	1069189	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.61	82	507258	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	416208	12.900	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.20%				
57) Toluene-d8 (SS2)	15.74	98	1132691	12.510	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.08%				
73) Bromofluorobenzene (SS3)	19.00	174	395620	12.377	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.04%				
Target Compounds							Qvalue
2) Propene	4.12	42	145141	5.525	ng		99
3) Dichlorodifluoromethan...	4.27	85	282879	5.232	ng		100
4) Chloromethane	4.55	50	209292	4.855	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	175446	5.151	ng		99
6) Vinyl Chloride	4.97	62	242569	5.292	ng		99
7) 1,3-Butadiene	5.24	54	180943	5.386	ng		100
8) Bromomethane	5.66	94	114126	5.017	ng		99
9) Chloroethane	6.00	64	87740	5.048	ng		100
10) Ethanol	6.34	45	461152	24.367	ng		99
11) Acetonitrile	6.60	41	215596	5.049	ng		100
12) Acrolein	6.80	56	76151	5.353	ng		100
13) Acetone	7.01	58	481629	23.731	ng		90
14) Trichlorofluoromethane	7.26	101	243627	5.091	ng		100
15) 2-Propanol (Isopropanol)	7.48	45	543655	9.393	ng		97
16) Acrylonitrile	7.76	53	162242	5.412	ng		99
17) 1,1-Dichloroethene	8.22	96	123062	5.165	ng		98
18) 2-Methyl-2-Propanol (t...	8.36	59	542601	10.630	ng		97
19) Methylene Chloride	8.44	84	129883	5.059	ng		96
20) 3-Chloro-1-propene (Al...	8.61	41	168559	4.999	ng		98
21) Trichlorotrifluoroethane	8.87	151	114355	4.995	ng		99
22) Carbon Disulfide	8.71	76	469089	4.968	ng		100
23) trans-1,2-Dichloroethene	9.72	61	183436	5.308	ng		98
24) 1,1-Dichloroethane	9.97	63	231228	5.261	ng		100
25) Methyl tert-Butyl Ether	10.07	73	376696	5.278	ng		100
26) Vinyl Acetate	10.22	86	155488	29.512	ng	#	72
27) 2-Butanone (MEK)	10.47	72	89640	5.432	ng		92
28) cis-1,2-Dichloroethene	10.99	61	182067	5.179	ng		99
29) Diisopropyl Ether	11.29	87	138319	5.189	ng	#	84
30) Ethyl Acetate	11.29	61	101949	10.281	ng		98
31) n-Hexane	11.28	57	225009	4.975	ng		99
32) Chloroform	11.33	83	248621	5.359	ng		100
34) Tetrahydrofuran (THF)	11.74	72	88587	5.273	ng		99
35) Ethyl tert-Butyl Ether	11.88	87	155453	5.130	ng		97
36) 1,2-Dichloroethane	12.14	62	193754	5.365	ng		99
38) 1,1,1-Trichloroethane	12.42	97	216619	5.257	ng		99
39) Isopropyl Acetate	12.85	61	174388	10.052	ng	#	89
40) 1-Butanol	12.86	56	287057	12.983	ng		93
41) Benzene	12.90	78	553925	5.093	ng		99
42) Carbon Tetrachloride	13.06	117	193610	5.071	ng		99
43) Cyclohexane	13.19	84	423719	9.977	ng		99
44) tert-Amyl Methyl Ether	13.54	73	369982	5.098	ng		98
45) 1,2-Dichloropropane	13.75	63	132658	5.219	ng		99
46) Bromodichloromethane	13.94	83	196821	5.247	ng		100
47) Trichloroethene	14.00	130	142319	4.947	ng		100
48) 1,4-Dioxane	13.97	88	108996	4.973	ng		100
49) 2,2,4-Trimethylpentane...	14.07	57	542593	5.131	ng		98

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112006.D
Acq On : 11 Mar 2020 3:12 Operator: LH
Sample : 5.0ng TO15 ICAL STD
Misc : S31-02112001/S34-03102003 (4/8)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 11 10:34:52 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

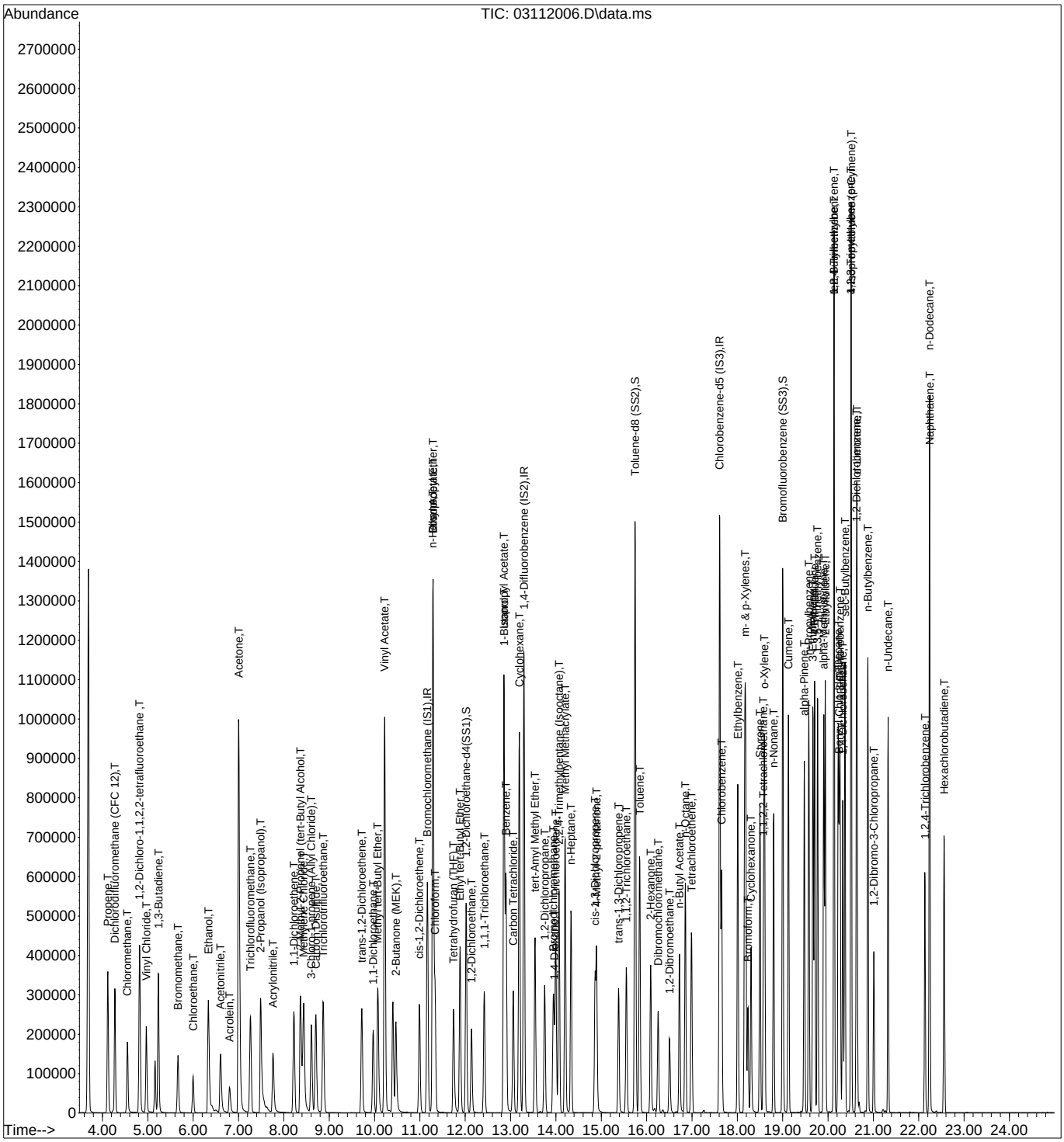
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
50) Methyl Methacrylate	14.20	100	112455	10.468 ng	93
51) n-Heptane	14.33	71	133327	5.140 ng	98
52) cis-1,3-Dichloropropene	14.86	75	213998	5.208 ng	99
53) 4-Methyl-2-pentanone	14.90	58	122251	5.214 ng	95
54) trans-1,3-Dichloropropene	15.38	75	194822	5.637 ng	99
55) 1,1,2-Trichloroethane	15.55	97	130704	5.115 ng	100
58) Toluene	15.85	91	559389	5.173 ng	100
59) 2-Hexanone	16.09	43	298789	5.598 ng	98
60) Dibromochloromethane	16.26	129	158717	5.225 ng	99
61) 1,2-Dibromoethane	16.51	107	152463	5.379 ng	100
62) n-Butyl Acetate	16.72	43	332169	5.597 ng	99
63) n-Octane	16.85	57	112712	5.136 ng	97
64) Tetrachloroethene	16.99	166	148052	4.801 ng	100
65) Chlorobenzene	17.65	112	366324	4.878 ng	100
66) Ethylbenzene	18.01	91	640484	5.385 ng	98
67) m- & p-Xylenes	18.17	91	1043063	11.034 ng	96
68) Bromoform	18.24	173	129238	5.055 ng	100
69) Styrene	18.50	104	393265	5.623 ng	98
70) o-Xylene	18.60	91	520597	5.398 ng	98
71) n-Nonane	18.80	43	259617	5.253 ng	97
72) 1,1,2,2-Tetrachloroethane	18.58	83	256262	5.360 ng	99
74) Cumene	19.13	105	662458	5.508 ng	98
75) alpha-Pinene	19.48	93	336768	5.460 ng	97
76) n-Propylbenzene	19.58	91	808635	5.821 ng	97
77) 3-Ethyltoluene	19.66	105	663831	5.758 ng	97
78) 4-Ethyltoluene	19.70	105	635592	5.687 ng	98
79) 1,3,5-Trimethylbenzene	19.77	105	552584	5.566 ng	97
80) alpha-Methylstyrene	19.91	118	297603	6.068 ng	92
81) 2-Ethyltoluene	19.94	105	668088	5.800 ng	98
82) 1,2,4-Trimethylbenzene	20.13	105	582401	5.743 ng	98
83) n-Decane	20.23	57	285221	5.520 ng	98
84) Benzyl Chloride	20.25	91	410724	6.555 ng	96
85) 1,3-Dichlorobenzene	20.26	146	316489	5.453 ng	100
86) 1,4-Dichlorobenzene	20.32	146	314824	5.617 ng	100
87) sec-Butylbenzene	20.37	105	761982	5.890 ng	98
88) 4-Isopropyltoluene (p-...	20.51	119	741313	6.137 ng	98
89) 1,2,3-Trimethylbenzene	20.51	105	609414	5.988 ng	99
90) 1,2-Dichlorobenzene	20.63	146	309829	5.420 ng	100
91) d-Limonene	20.64	68	227926	6.071 ng	99
92) 1,2-Dibromo-3-Chloropr...	21.01	157	105153	5.429 ng	83
93) n-Undecane	21.33	57	283261	6.122 ng	98
94) 1,2,4-Trichlorobenzene	22.14	180	180953	4.197 ng	99
95) Naphthalene	22.24	128	650949	4.985 ng	99
96) n-Dodecane	22.24	57	273009	5.369 ng	97
97) Hexachlorobutadiene	22.56	225	126999	4.771 ng	99
98) Cyclohexanone	18.30	55	185637	5.200 ng	96
99) tert-Butylbenzene	20.13	119	569860	5.624 ng	98
100) n-Butylbenzene	20.88	91	615822	6.160 ng	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112006.D
Acq On : 11 Mar 2020 3:12 Operator: LH
Sample : 5.0ng TO15 ICAL STD
Misc : S31-02112001/S34-03102003 (4/8)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 11 10:34:52 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112007.D
Acq On : 11 Mar 2020 3:45 Operator: LH
Sample : 25ng TO15 ICAL STD
Misc : S31-02112001/S34-03102002 (4/8)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 11 10:34:54 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 3/11/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	275523	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	13.30	114	1204193	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.61	82	580422	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.03	65	461792	12.375	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.96%			
57) Toluene-d8 (SS2)	15.75	98	1281620	12.371	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.96%			
73) Bromofluorobenzene (SS3)	19.00	174	461189	12.610	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.88%			
Target Compounds						Qvalue
2) Propene	4.10	42	732648	24.115	ng	100
3) Dichlorodifluoromethan...	4.25	85	1552346	24.824	ng	100
4) Chloromethane	4.54	50	1255490	25.180	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	980363	24.884	ng	100
6) Vinyl Chloride	4.95	62	1337587	25.228	ng	100
7) 1,3-Butadiene	5.22	54	844167	21.726	ng	100
8) Bromomethane	5.66	94	678029	25.771	ng	100
9) Chloroethane	5.99	64	515740	25.654	ng	100
10) Ethanol	6.36	45	2885969	131.847	ng	100
11) Acetonitrile	6.62	41	1220644	24.714	ng	100
12) Acrolein	6.80	56	456386	27.736	ng	100
13) Acetone	7.01	58	3219201	137.142	ng	100
14) Trichlorofluoromethane	7.26	101	1439835	26.015	ng	100
15) 2-Propanol (Isopropanol)	7.50	45	3810750	56.924	ng	100
16) Acrylonitrile	7.76	53	985120	28.412	ng	100
17) 1,1-Dichloroethene	8.22	96	749018	27.182	ng	100
18) 2-Methyl-2-Propanol (t...	8.38	59	3954797	66.986	ng	100
19) Methylene Chloride	8.45	84	798032	26.873	ng	100
20) 3-Chloro-1-propene (Al...	8.61	41	1071292	27.471	ng	100
21) Trichlorotrifluoroethane	8.86	151	696620	26.307	ng	100
22) Carbon Disulfide	8.71	76	2914068	26.683	ng	100
23) trans-1,2-Dichloroethene	9.72	61	1103619	27.611	ng	100
24) 1,1-Dichloroethane	9.98	63	1372815	27.005	ng	100
25) Methyl tert-Butyl Ether	10.07	73	2223740	26.939	ng	100
26) Vinyl Acetate	10.23	86	1204502	197.665	ng	100
27) 2-Butanone (MEK)	10.46	72	575007	30.127	ng	100
28) cis-1,2-Dichloroethene	10.99	61	1098112	27.010	ng	100
29) Diisopropyl Ether	11.29	87	848476	27.520	ng	100
30) Ethyl Acetate	11.29	61	744039	64.873	ng	100
31) n-Hexane	11.28	57	1547007	29.571	ng	100
32) Chloroform	11.34	83	1495177	27.865	ng	100
34) Tetrahydrofuran (THF)	11.74	72	536090	27.588	ng	100
35) Ethyl tert-Butyl Ether	11.88	87	987864	28.186	ng	100
36) 1,2-Dichloroethane	12.14	62	1145801	27.434	ng	100
38) 1,1,1-Trichloroethane	12.42	97	1305781	28.136	ng	100
39) Isopropyl Acetate	12.85	61	1219183	62.396	ng	100
40) 1-Butanol	12.87	56	1995046	80.114	ng	100
41) Benzene	12.90	78	3564123	29.097	ng	100
42) Carbon Tetrachloride	13.06	117	1204113	28.001	ng	100
43) Cyclohexane	13.19	84	2746994	57.427	ng	100
44) tert-Amyl Methyl Ether	13.54	73	2354204	28.803	ng	100
45) 1,2-Dichloropropane	13.75	63	790482	27.611	ng	100
46) Bromodichloromethane	13.95	83	1235596	29.245	ng	100
47) Trichloroethene	14.00	130	904618	27.918	ng	100
48) 1,4-Dioxane	13.97	88	711385	28.817	ng	100
49) 2,2,4-Trimethylpentane...	14.07	57	3271244	27.468	ng	100

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112007.D
Acq On : 11 Mar 2020 3:45 Operator: LH
Sample : 25ng TO15 ICAL STD
Misc : S31-02112001/S34-03102002 (4/8)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 11 10:34:54 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

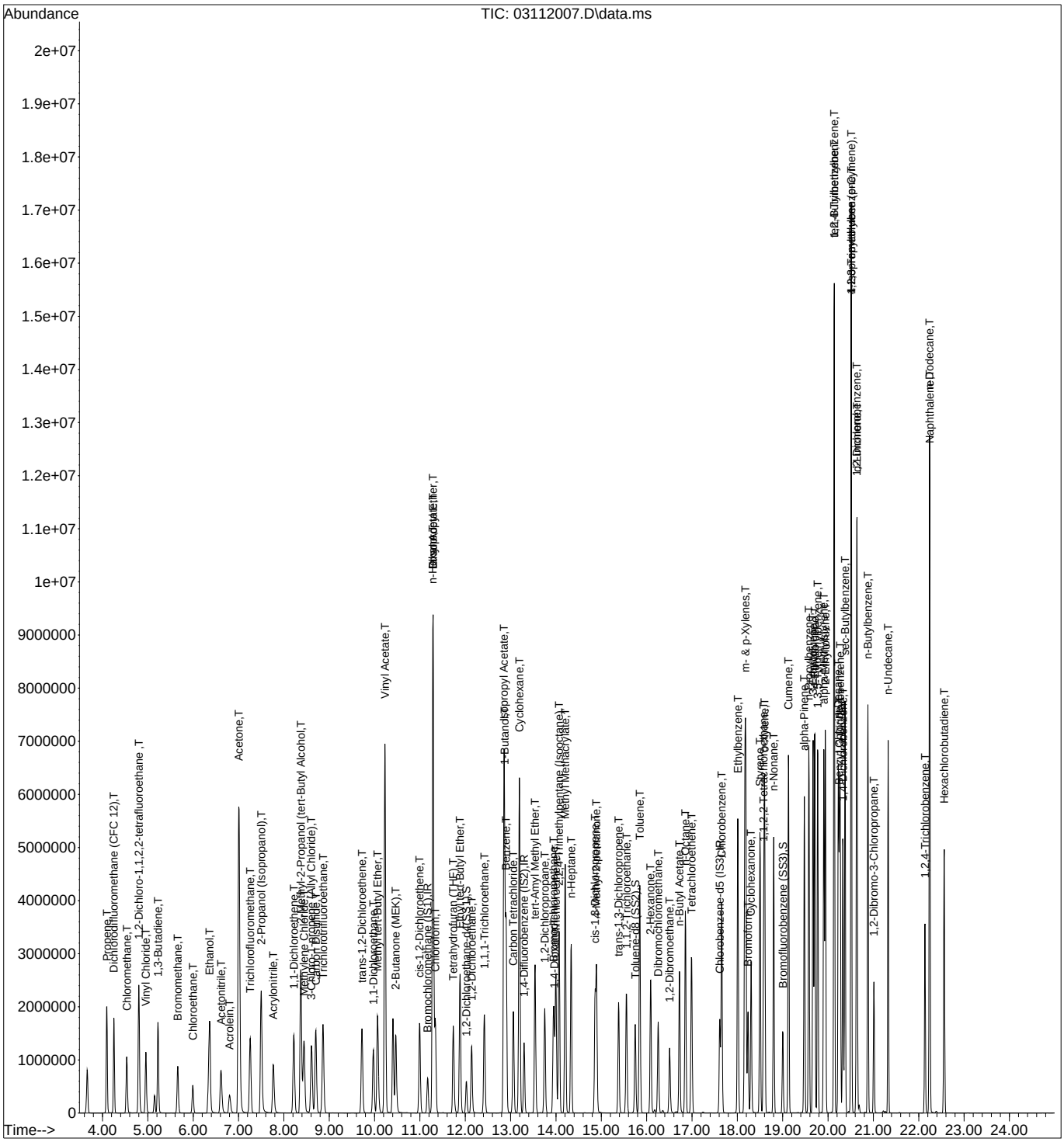
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
50) Methyl Methacrylate	14.20	100	780154	64.478 ng	100
51) n-Heptane	14.34	71	829035	28.376 ng	100
52) cis-1,3-Dichloropropene	14.86	75	1383086	29.887 ng	100
53) 4-Methyl-2-pentanone	14.89	58	789437	29.897 ng	100
54) trans-1,3-Dichloropropene	15.38	75	1255465	32.252 ng	100
55) 1,1,2-Trichloroethane	15.56	97	807884	28.073 ng	100
58) Toluene	15.85	91	3531977	28.542 ng	100
59) 2-Hexanone	16.08	43	1885972	30.881 ng	100
60) Dibromochloromethane	16.26	129	1038566	29.882 ng	100
61) 1,2-Dibromoethane	16.51	107	959746	29.594 ng	100
62) n-Butyl Acetate	16.72	43	2123196	31.268 ng	100
63) n-Octane	16.85	57	709225	28.246 ng	100
64) Tetrachloroethene	16.99	166	965213	27.354 ng	100
65) Chlorobenzene	17.65	112	2356552	27.425 ng	100
66) Ethylbenzene	18.01	91	4199242	30.853 ng	100
67) m- & p-Xylenes	18.18	91	6906672	63.854 ng	100
68) Bromoform	18.24	173	946147	32.345 ng	100
69) Styrene	18.50	104	2696459	33.694 ng	100
70) o-Xylene	18.60	91	3430407	31.083 ng	100
71) n-Nonane	18.80	43	1630756	28.839 ng	100
72) 1,1,2,2-Tetrachloroethane	18.58	83	1638552	29.952 ng	100
74) Cumene	19.13	105	4380463	31.830 ng	100
75) alpha-Pinene	19.48	93	2277036	32.265 ng	100
76) n-Propylbenzene	19.58	91	5233241	32.926 ng	100
77) 3-Ethyltoluene	19.67	105	4310331	32.672 ng	100
78) 4-Ethyltoluene	19.71	105	4319137	33.776 ng	100
79) 1,3,5-Trimethylbenzene	19.77	105	3626127	31.919 ng	100
80) alpha-Methylstyrene	19.91	118	2051941	36.564 ng	100
81) 2-Ethyltoluene	19.94	105	4334620	32.887 ng	100
82) 1,2,4-Trimethylbenzene	20.14	105	4147203	35.743 ng	100
83) n-Decane	20.23	57	1863375	31.518 ng	100
84) Benzyl Chloride	20.25	91	3048474	42.517 ng	100
85) 1,3-Dichlorobenzene	20.27	146	2201522	33.151 ng	100
86) 1,4-Dichlorobenzene	20.33	146	2135420	33.295 ng	100
87) sec-Butylbenzene	20.37	105	4870061	32.899 ng	100
88) 4-Isopropyltoluene (p-...	20.51	119	5153039	37.282 ng	100
89) 1,2,3-Trimethylbenzene	20.51	105	4266734	36.640 ng	100
90) 1,2-Dichlorobenzene	20.63	146	2190113	33.480 ng	100
91) d-Limonene	20.64	68	1534676	35.726 ng	100
92) 1,2-Dibromo-3-Chloropr...	21.01	157	682932	30.815 ng	100
93) n-Undecane	21.33	57	1886046	35.623 ng	100
94) 1,2,4-Trichlorobenzene	22.14	180	1082289	21.936 ng	100
95) Naphthalene	22.24	128	4345162	29.082 ng	100
96) n-Dodecane	22.24	57	1954797	33.596 ng	100
97) Hexachlorobutadiene	22.56	225	889484	29.204 ng	100
98) Cyclohexanone	18.30	55	1229074	30.090 ng	100
99) tert-Butylbenzene	20.14	119	4090534	35.282 ng	100
100) n-Butylbenzene	20.88	91	3813717	33.340 ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112007.D
Acq On : 11 Mar 2020 3:45 Operator: LH
Sample : 25ng TO15 ICAL STD
Misc : S31-02112001/S34-03102002 (4/8)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 11 10:34:54 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112008.D
Acq On : 11 Mar 2020 4:18 Operator: LH
Sample : 50ng TO15 ICAL STD
Misc : S31-02112001/S34-03102002 (4/8)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 11 10:34:56 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 3/11/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	302425	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.30	114	1314811	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.61	82	630918	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	495825	12.105	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.80%				
57) Toluene-d8 (SS2)	15.75	98	1394388	12.382	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.04%				
73) Bromofluorobenzene (SS3)	19.01	174	530896	13.354	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.80%				
Target Compounds							Qvalue
2) Propene	4.10	42	1692785	50.761	ng		100
3) Dichlorodifluoromethan...	4.26	85	3206981	46.722	ng		100
4) Chloromethane	4.54	50	2509316	45.851	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	2094249	48.429	ng		100
6) Vinyl Chloride	4.97	62	2821519	48.483	ng		100
7) 1,3-Butadiene	5.24	54	2190012	51.350	ng		98
8) Bromomethane	5.67	94	1538413	53.272	ng		100
9) Chloroethane	6.00	64	1147102	51.983	ng		99
10) Ethanol	6.40	45	6666384	277.466	ng		100
11) Acetonitrile	6.63	41	2678665	49.410	ng		100
12) Acrolein	6.81	56	1003673	55.571	ng		100
13) Acetone	7.02	58	7337698	284.788	ng		86
14) Trichlorofluoromethane	7.26	101	3121030	51.374	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	7537150	102.573	ng		99
16) Acrylonitrile	7.78	53	2150296	56.500	ng		99
17) 1,1-Dichloroethene	8.23	96	1655606	54.737	ng		96
18) 2-Methyl-2-Propanol (t...	8.39	59	6760531	104.324	ng		99
19) Methylene Chloride	8.45	84	1740731	53.402	ng		97
20) 3-Chloro-1-propene (Al...	8.62	41	2315969	54.106	ng		99
21) Trichlorotrifluoroethane	8.87	151	1545999	53.189	ng		98
22) Carbon Disulfide	8.71	76	6257317	52.198	ng		100
23) trans-1,2-Dichloroethene	9.73	61	2408745	54.902	ng		99
24) 1,1-Dichloroethane	9.98	63	2930829	52.524	ng		100
25) Methyl tert-Butyl Ether	10.07	73	4565915	50.392	ng		100
26) Vinyl Acetate	10.24	86	2813224	420.597	ng	#	59
27) 2-Butanone (MEK)	10.48	72	1232226	58.818	ng		98
28) cis-1,2-Dichloroethene	11.00	61	2369751	53.102	ng		98
29) Diisopropyl Ether	11.30	87	1993471	58.906	ng	#	80
30) Ethyl Acetate	11.30	61	1723440	136.900	ng		97
31) n-Hexane	11.28	57	3524401	61.376	ng		100
32) Chloroform	11.34	83	3235940	54.942	ng		100
34) Tetrahydrofuran (THF)	11.74	72	1171746	54.935	ng		99
35) Ethyl tert-Butyl Ether	11.89	87	2241467	58.265	ng		97
36) 1,2-Dichloroethane	12.14	62	2458246	53.622	ng		100
38) 1,1,1-Trichloroethane	12.42	97	2852203	56.287	ng		99
39) Isopropyl Acetate	12.86	61	2795121	131.015	ng	#	89
40) 1-Butanol	12.88	56	4648415	170.959	ng		93
41) Benzene	12.90	78	8151984	60.952	ng		100
42) Carbon Tetrachloride	13.07	117	2665844	56.776	ng		100
43) Cyclohexane	13.20	84	6365480	121.877	ng		98
44) tert-Amyl Methyl Ether	13.54	73	5286234	59.234	ng		99
45) 1,2-Dichloropropane	13.75	63	1726847	55.243	ng		100
46) Bromodichloromethane	13.95	83	2741579	59.430	ng		99
47) Trichloroethene	14.00	130	2083094	58.880	ng		100
48) 1,4-Dioxane	13.97	88	1631988	60.547	ng		100
49) 2,2,4-Trimethylpentane...	14.07	57	7207940	55.432	ng		98

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112008.D
Acq On : 11 Mar 2020 4:18 Operator: LH
Sample : 50ng TO15 ICAL STD
Misc : S31-02112001/S34-03102002 (4/8)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 11 10:34:56 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

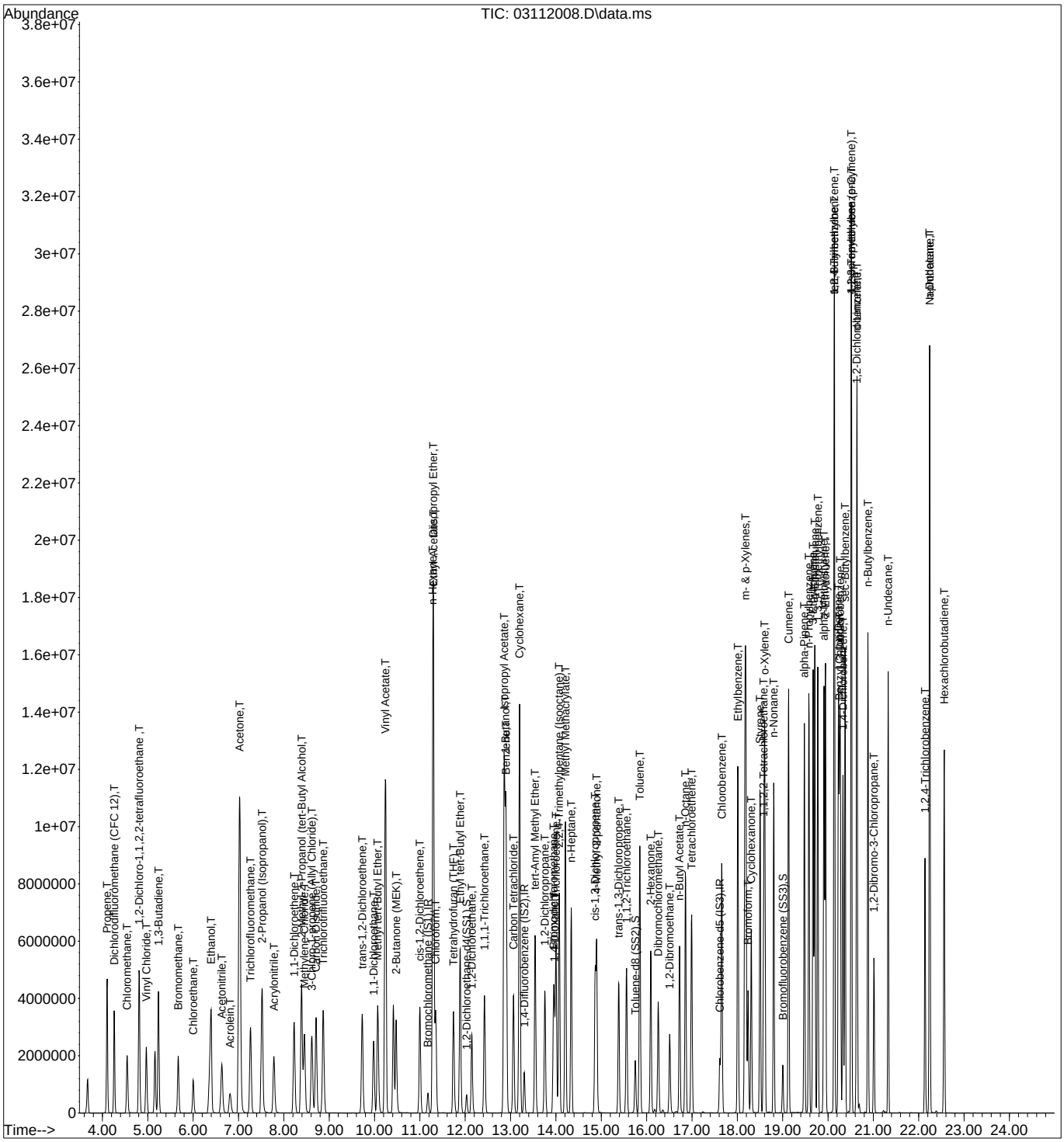
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
50) Methyl Methacrylate	14.21	100	1801367	136.354 ng	96
51) n-Heptane	14.34	71	1877124	58.844 ng	99
52) cis-1,3-Dichloropropene	14.86	75	3113121	61.611 ng	100
53) 4-Methyl-2-pentanone	14.90	58	1750395	60.712 ng	97
54) trans-1,3-Dichloropropene	15.38	75	2800588	65.893 ng	100
55) 1,1,2-Trichloroethane	15.56	97	1794492	57.110 ng	99
58) Toluene	15.85	91	7662489	56.966 ng	99
59) 2-Hexanone	16.09	43	4050093	61.008 ng	98
60) Dibromochloromethane	16.26	129	2338701	61.905 ng	100
61) 1,2-Dibromoethane	16.51	107	2131582	60.468 ng	100
62) n-Butyl Acetate	16.72	43	4577516	62.017 ng	98
63) n-Octane	16.86	57	1586200	58.117 ng	98
64) Tetrachloroethene	16.99	166	2239126	58.377 ng	99
65) Chlorobenzene	17.66	112	5372885	57.524 ng	100
66) Ethylbenzene	18.01	91	9093466	61.465 ng	98
67) m- & p-Xylenes	18.18	91	15123656	128.631 ng	98
68) Bromoform	18.24	173	2153059	67.713 ng	100
69) Styrene	18.50	104	5844983	67.190 ng	99
70) o-Xylene	18.60	91	7507257	62.579 ng	99
71) n-Nonane	18.80	43	3619496	58.886 ng	98
72) 1,1,2,2-Tetrachloroethane	18.58	83	3566640	59.978 ng	100
74) Cumene	19.13	105	9495400	63.474 ng	98
75) alpha-Pinene	19.48	93	5115469	66.684 ng	100
76) n-Propylbenzene	19.58	91	10986096	63.588 ng	97
77) 3-Ethyltoluene	19.67	105	9112158	63.541 ng	93
78) 4-Ethyltoluene	19.71	105	9520256	68.491 ng	98
79) 1,3,5-Trimethylbenzene	19.77	105	7951249	64.390 ng	99
80) alpha-Methylstyrene	19.91	118	4544511	74.499 ng	93
81) 2-Ethyltoluene	19.95	105	9323235	65.075 ng	98
82) 1,2,4-Trimethylbenzene	20.14	105	8775163	69.577 ng	100
83) n-Decane	20.23	57	4257106	66.243 ng	99
84) Benzyl Chloride	20.25	91	7109228	91.217 ng	98
85) 1,3-Dichlorobenzene	20.27	146	4895322	67.815 ng	100
86) 1,4-Dichlorobenzene	20.33	146	4651609	66.721 ng	100
87) sec-Butylbenzene	20.37	105	10262187	63.776 ng	98
88) 4-Isopropyltoluene (p-...	20.51	119	10327338	68.737 ng	97
89) 1,2,3-Trimethylbenzene	20.51	105	8911811	70.404 ng	99
90) 1,2-Dichlorobenzene	20.63	146	4880829	68.642 ng	99
91) d-Limonene	20.64	68	3471524	74.347 ng	99
92) 1,2-Dibromo-3-Chloropr...	21.01	157	1516018	62.930 ng	97
93) n-Undecane	21.33	57	4295149	74.631 ng	99
94) 1,2,4-Trichlorobenzene	22.14	180	2703404	50.407 ng	100
95) Naphthalene	22.24	128	9631249	59.303 ng	99
96) n-Dodecane	22.24	57	4503023	71.196 ng	98
97) Hexachlorobutadiene	22.56	225	2312637	69.853 ng	100
98) Cyclohexanone	18.31	55	2653569	59.765 ng	99
99) tert-Butylbenzene	20.14	119	8493187	67.393 ng	98
100) n-Butylbenzene	20.88	91	8151772	65.560 ng	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112008.D
Acq On : 11 Mar 2020 4:18 Operator: LH
Sample : 50ng TO15 ICAL STD
Misc : S31-02112001/S34-03102002 (4/8)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 11 10:34:56 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112009.D
Acq On : 11 Mar 2020 4:52 Operator: LH
Sample : 100ng TO15 ICAL STD
Misc : S31-02112001/S34-03102002 (4/8)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 11 10:34:58 2020
Quant Method : I:\MS16\METHODS\R16031120.M LH 3/11/20
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.19	130	340305	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	13.31	114	1483064	12.500	ng		0.01
56) Chlorobenzene-d5 (IS3)	17.61	82	685836	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.04	65	523523	11.358	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.88%				
57) Toluene-d8 (SS2)	15.75	98	1499466	12.249	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.00%				
73) Bromofluorobenzene (SS3)	19.00	174	581970	13.466	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.76%				
Target Compounds							Qvalue
2) Propene	4.11	42	3308592	88.171	ng		98
3) Dichlorodifluoromethan...	4.27	85	6504336	84.212	ng		99
4) Chloromethane	4.55	50	3927058	63.769	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	4594070	94.411	ng		100
6) Vinyl Chloride	4.98	62	6083796	92.902	ng		100
7) 1,3-Butadiene	5.25	54	4791631	99.845	ng		95
8) Bromomethane	5.69	94	3499486	107.691	ng		100
9) Chloroethane	6.02	64	2609147	105.078	ng		99
10) Ethanol	6.44	45	14841917	548.982	ng		99
11) Acetonitrile	6.67	41	5837097	95.684	ng		100
12) Acrolein	6.83	56	2158760	106.220	ng		100
13) Acetone	7.06	58	16145799	556.891	ng	#	54
14) Trichlorofluoromethane	7.28	101	6986424	102.200	ng		99
15) 2-Propanol (Isopropanol)	7.55	45	14621518	176.835	ng		98
16) Acrylonitrile	7.80	53	4728655	110.418	ng		99
17) 1,1-Dichloroethene	8.24	96	3813459	112.045	ng		92
18) 2-Methyl-2-Propanol (t...	8.41	59	6968956	95.570	ng		99
19) Methylene Chloride	8.46	84	3911789	106.648	ng		94
20) 3-Chloro-1-propene (Al...	8.63	41	5133890	106.587	ng		98
21) Trichlorotrifluoroethane	8.88	151	3662961	111.993	ng		93
22) Carbon Disulfide	8.72	76	13562562	100.545	ng		99
23) trans-1,2-Dichloroethene	9.73	61	5462056	110.638	ng		96
24) 1,1-Dichloroethane	9.99	63	6532991	104.046	ng		99
25) Methyl tert-Butyl Ether	10.08	73	8874667	87.044	ng		100
26) Vinyl Acetate	10.26	86	6007925	798.244	ng	#	1
27) 2-Butanone (MEK)	10.49	72	2724115	115.556	ng		94
28) cis-1,2-Dichloroethene	11.01	61	5326062	106.064	ng		96
29) Diisopropyl Ether	11.30	87	3979432	104.501	ng	#	60
30) Ethyl Acetate	11.32	61	3347027	236.273	ng		94
31) n-Hexane	11.29	57	6913854	107.000	ng		100
32) Chloroform	11.36	83	7063197	106.575	ng		100
34) Tetrahydrofuran (THF)	11.75	72	2626150	109.417	ng		97
35) Ethyl tert-Butyl Ether	11.89	87	5210458	120.364	ng		92
36) 1,2-Dichloroethane	12.15	62	5381589	104.322	ng		99
38) 1,1,1-Trichloroethane	12.43	97	6484249	113.446	ng		98
39) Isopropyl Acetate	12.86	61	6177142	256.691	ng	#	62
40) 1-Butanol	12.91	56	9988032	325.665	ng		86
41) Benzene	12.91	78	17606253	116.706	ng		98
42) Carbon Tetrachloride	13.07	117	6184539	116.773	ng		100
43) Cyclohexane	13.20	84	13898242	235.915	ng		96
44) tert-Amyl Methyl Ether	13.55	73	11823139	117.452	ng		97
45) 1,2-Dichloropropane	13.76	63	3880134	110.046	ng		100
46) Bromodichloromethane	13.96	83	6148658	118.166	ng		99
47) Trichloroethene	14.01	130	5026454	125.957	ng		100
48) 1,4-Dioxane	13.98	88	3887727	127.871	ng		99
49) 2,2,4-Trimethylpentane...	14.08	57	15623076	106.517	ng		96

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112009.D
Acq On : 11 Mar 2020 4:52 Operator: LH
Sample : 100ng TO15 ICAL STD
Misc : S31-02112001/S34-03102002 (4/8)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 11 10:34:58 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

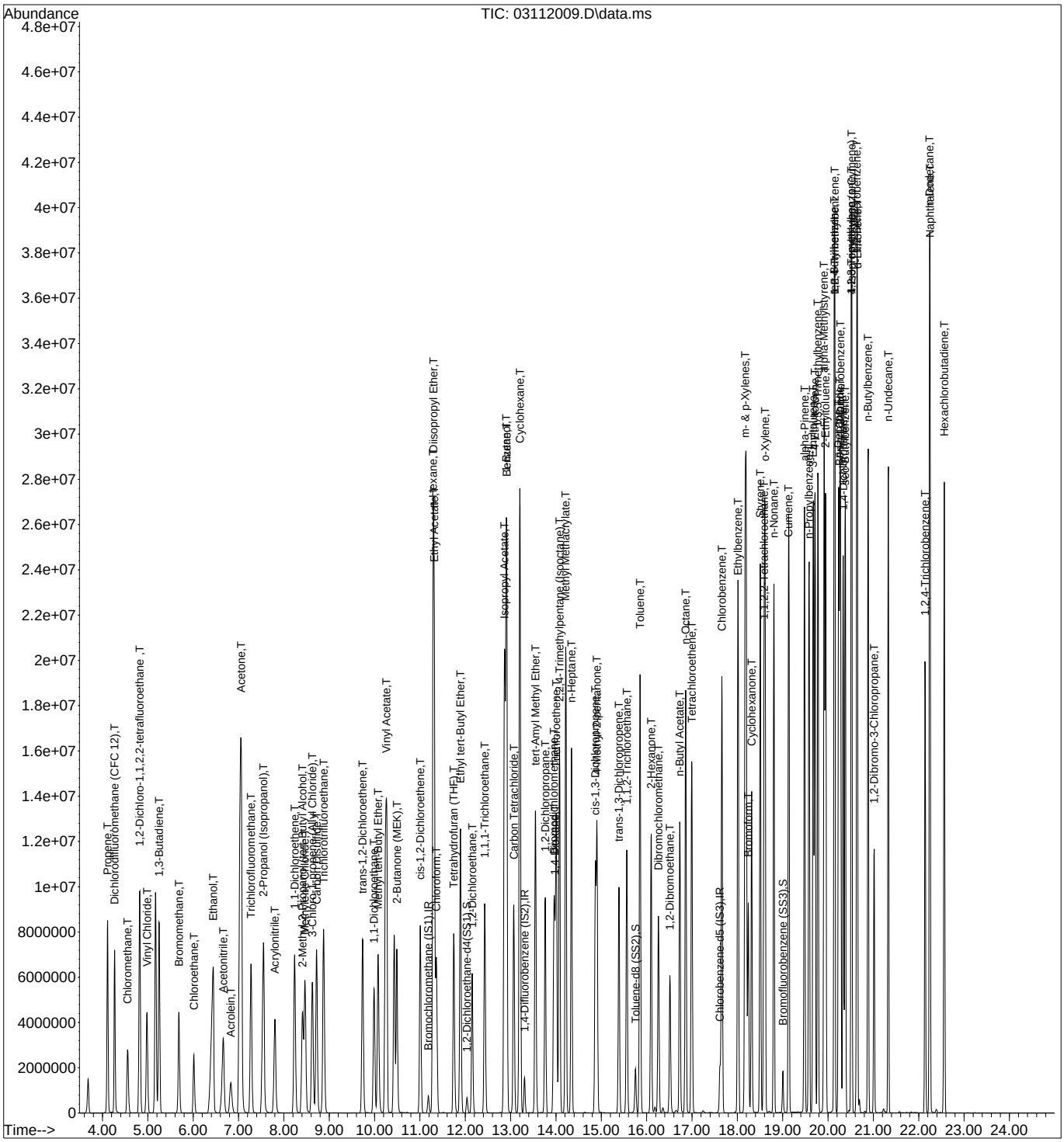
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
50) Methyl Methacrylate	14.22	100	4116642	276.256 ng		93
51) n-Heptane	14.34	71	4379355	121.709 ng		98
52) cis-1,3-Dichloropropene	14.87	75	7054768	123.779 ng		99
53) 4-Methyl-2-pentanone	14.90	58	3998874	122.965 ng		92
54) trans-1,3-Dichloropropene	15.39	75	6360167	132.667 ng		99
55) 1,1,2-Trichloroethane	15.56	97	4095708	115.559 ng		99
58) Toluene	15.85	91	16109947	110.177 ng		95
59) 2-Hexanone	16.10	43	8892572	123.226 ng		95
60) Dibromochloromethane	16.26	129	5334635	129.899 ng		99
61) 1,2-Dibromoethane	16.51	107	4751430	123.994 ng		100
62) n-Butyl Acetate	16.73	43	9990678	124.518 ng		95
63) n-Octane	16.86	57	3675490	123.883 ng		96
64) Tetrachloroethene	17.00	166	5313256	127.431 ng		98
65) Chlorobenzene	17.66	112	11859997	116.809 ng		98
66) Ethylbenzene	18.01	91	17363471	107.965 ng		87
67) m- & p-Xylenes	18.17	91	27751033	217.130 ng		89
68) Bromoform	18.24	173	4863241	140.699 ng		99
69) Styrene	18.50	104	12431681	131.464 ng		96
70) o-Xylene	18.61	91	15183937	116.436 ng		93
71) n-Nonane	18.81	43	7664626	114.712 ng		93
72) 1,1,2,2-Tetrachloroethane	18.59	83	7778557	120.334 ng		99
74) Cumene	19.13	105	16771442	103.135 ng		85
75) alpha-Pinene	19.48	93	10896652	130.672 ng		99
76) n-Propylbenzene	19.58	91	17561192	93.506 ng		81
77) 3-Ethyltoluene	19.67	105	16849385	108.086 ng		86
78) 4-Ethyltoluene	19.71	105	15626045	103.415 ng		82
79) 1,3,5-Trimethylbenzene	19.77	105	14895394	110.965 ng		90
80) alpha-Methylstyrene	19.91	118	9682152	146.011 ng		98
81) 2-Ethyltoluene	19.95	105	16569621	106.393 ng		85
82) 1,2,4-Trimethylbenzene	20.15	105	14070480	102.629 ng		98
83) n-Decane	20.23	57	8891803	127.283 ng		97
84) Benzyl Chloride	20.26	91	14301238	168.803 ng		92
85) 1,3-Dichlorobenzene	20.28	146	10365398	132.094 ng		99
86) 1,4-Dichlorobenzene	20.34	146	9941138	131.175 ng		99
87) sec-Butylbenzene	20.37	105	16544733	94.587 ng		83
88) 4-Isopropyltoluene (p-...	20.52	119	15487849	94.830 ng		93
89) 1,2,3-Trimethylbenzene	20.51	105	13892984	100.967 ng		99
90) 1,2-Dichlorobenzene	20.63	146	8884885	114.947 ng		100
91) d-Limonene	20.65	68	6260753	123.346 ng		99
92) 1,2-Dibromo-3-Chloropr...	21.02	157	3425810	130.819 ng		93
93) n-Undecane	21.33	57	8865627	141.712 ng		96
94) 1,2,4-Trichlorobenzene	22.14	180	6330456	108.584 ng		99
95) Naphthalene	22.25	128	15799261	89.492 ng		97
96) n-Dodecane	22.24	57	7848075	114.148 ng		97
97) Hexachlorobutadiene	22.56	225	5388871	149.737 ng		100
98) Cyclohexanone	18.32	55	5922169	122.701 ng		97
99) tert-Butylbenzene	20.14	119	13804796	100.769 ng		97
100) n-Butylbenzene	20.88	91	14505586	107.319 ng	#	86

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112009.D
Acq On : 11 Mar 2020 4:52 Operator: LH
Sample : 100ng TO15 ICAL STD
Misc : S31-02112001/S34-03102002 (4/8)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 11 10:34:58 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:34:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112010.D
Acq On : 11 Mar 2020 5:25 Operator: LH
Sample : 25ng TO15 ICV STD
Misc : S31-02112001/S31-02262006 (3/26)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 11 10:56:51 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 3/11/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	355611	12.500	ng	-0.01
37) 1,4-Difluorobenzene (IS2)	13.30	114	1527052	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.61	82	684548	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.03	65	538729	10.941	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.52%			
57) Toluene-d8 (SS2)	15.75	98	1547325	12.752	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.00%			
73) Bromofluorobenzene (SS3)	19.01	174	582961	13.606	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.88%			
Target Compounds						Qvalue
2) Propene	4.10	42	862551	23.127	ng	100
3) Dichlorodifluoromethan...	4.26	85	1856195	23.133	ng	100
4) Chloromethane	4.54	50	1381695	21.807	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	1141380	22.333	ng	100
6) Vinyl Chloride	4.97	62	1520058	22.729	ng	100
7) 1,3-Butadiene	5.23	54	1020011	21.054	ng	99
8) Bromomethane	5.66	94	824075	24.598	ng	99
9) Chloroethane	6.00	64	609554	23.753	ng	99
10) Ethanol	6.37	45	3340839	113.339	ng	100
11) Acetonitrile	6.62	41	1469354	22.660	ng	100
12) Acrolein	6.81	56	521559	24.045	ng	100
13) Acetone	7.01	58	3600757	123.782	ng	97
14) Trichlorofluoromethane	7.26	101	1663600	23.513	ng	100
15) 2-Propanol (Isopropanol)	7.51	45	4265842	49.446	ng	99
16) Acrylonitrile	7.77	53	1135244	26.007	ng	100
17) 1,1-Dichloroethene	8.22	96	897050	25.635	ng	92
18) 2-Methyl-2-Propanol (t...	8.38	59	4419701	57.087	ng	99
19) Methylene Chloride	8.45	84	931250	24.603	ng	95
20) 3-Chloro-1-propene (Al...	8.61	41	1158146	23.616	ng	98
21) Trichlorotrifluoroethane	8.87	151	873168	25.805	ng	93
22) Carbon Disulfide	8.71	76	3295065	24.206	ng	100
23) trans-1,2-Dichloroethene	9.72	61	1283815	25.277	ng	96
24) 1,1-Dichloroethane	9.98	63	1505850	23.232	ng	99
25) Methyl tert-Butyl Ether	10.07	73	2557821	24.378	ng	99
26) Vinyl Acetate	10.23	86	1265244	126.748	ng	99
27) 2-Butanone (MEK)	10.47	72	625851	25.844	ng	99
28) cis-1,2-Dichloroethene	10.99	61	1237482	23.451	ng	96
29) Diisopropyl Ether	11.29	87	909931	23.564	ng	97
30) Ethyl Acetate	11.30	61	795072	55.544	ng	98
31) n-Hexane	11.28	57	1669683	25.168	ng	100
32) Chloroform	11.34	83	1678465	23.772	ng	100
34) Tetrahydrofuran (THF)	11.74	72	614462	24.662	ng	97
35) Ethyl tert-Butyl Ether	11.88	87	1123408	24.910	ng	97
36) 1,2-Dichloroethane	12.14	62	1258333	22.847	ng	100
38) 1,1,1-Trichloroethane	12.42	97	1517992	25.332	ng	99
39) Isopropyl Acetate	12.85	61	1321796	53.315	ng	95
40) 1-Butanol	12.87	56	2113360	53.272	ng	100
41) Benzene	12.90	78	3776411	23.915	ng	100
42) Carbon Tetrachloride	13.06	117	1356485	25.016	ng	100
43) Cyclohexane	13.20	84	3055382	50.394	ng	98
44) tert-Amyl Methyl Ether	13.54	73	2623216	25.681	ng	99
45) 1,2-Dichloropropane	13.75	63	890161	24.651	ng	100
46) Bromodichloromethane	13.95	83	1367552	25.623	ng	100
47) Trichloroethene	14.00	130	1077020	24.071	ng	100
48) 1,4-Dioxane	13.97	88	827725	27.075	ng	98
49) 2,2,4-Trimethylpentane...	14.07	57	3608118	24.047	ng	98

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112010.D
Acq On : 11 Mar 2020 5:25 Operator: LH
Sample : 25ng TO15 ICV STD
Misc : S31-02112001/S31-02262006 (3/26)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 11 10:56:51 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

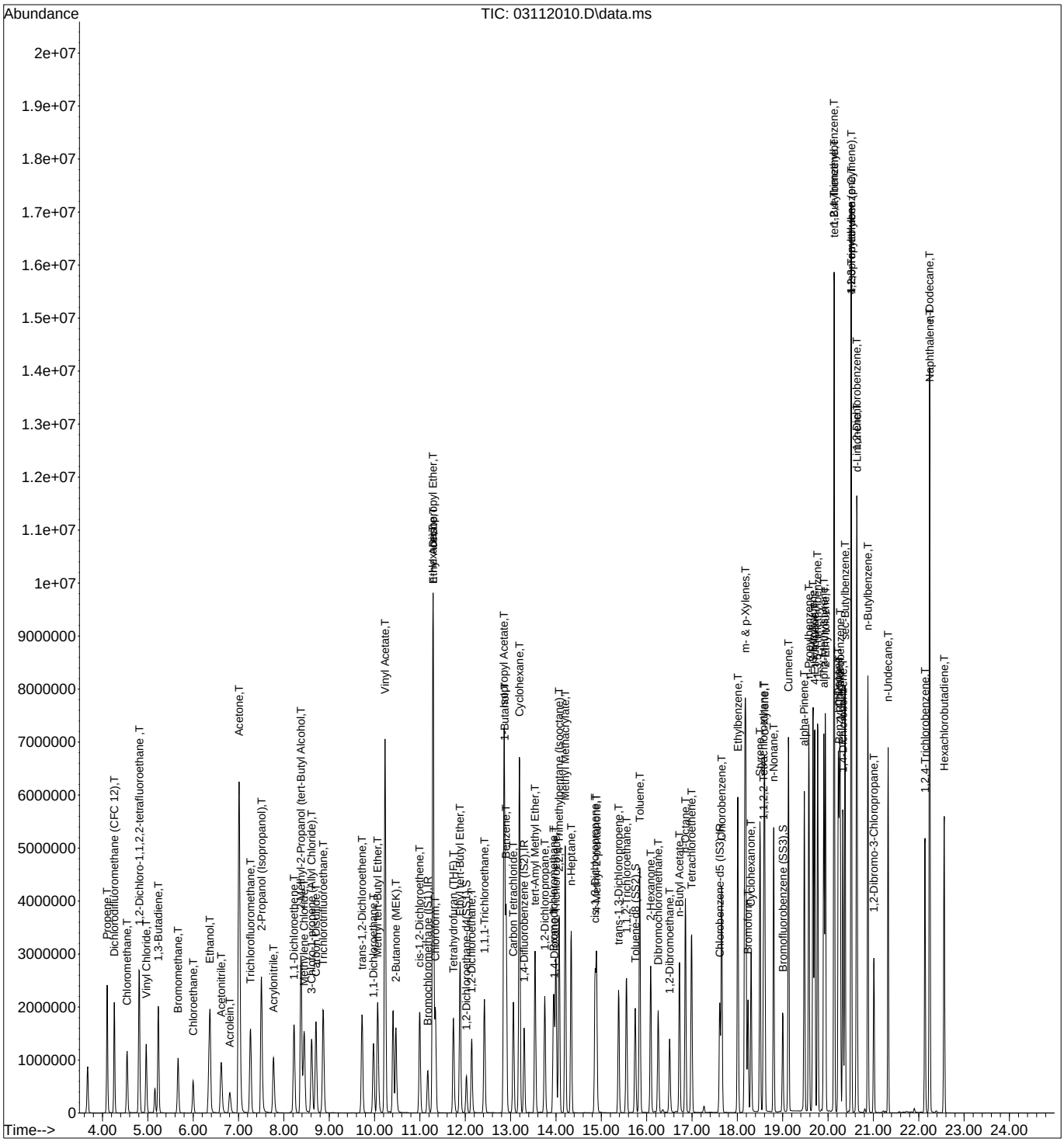
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
50) Methyl Methacrylate	14.20	100	863790	56.588 ng	96
51) n-Heptane	14.34	71	913344	24.773 ng	99
52) cis-1,3-Dichloropropene	14.86	75	1658900	28.460 ng	100
53) 4-Methyl-2-pentanone	14.90	58	870419	26.299 ng	98
54) trans-1,3-Dichloropropene	15.38	75	1423525	26.288 ng	100
55) 1,1,2-Trichloroethane	15.56	97	939017	25.761 ng	98
58) Toluene	15.85	91	3866473	25.772 ng	100
59) 2-Hexanone	16.09	43	2041667	27.195 ng	99
60) Dibromochloromethane	16.26	129	1202505	30.109 ng	100
61) 1,2-Dibromoethane	16.51	107	1109710	28.901 ng	99
62) n-Butyl Acetate	16.72	43	2253362	28.066 ng	98
63) n-Octane	16.85	57	762661	25.618 ng	98
64) Tetrachloroethene	16.99	166	1157710	27.693 ng	100
65) Chlorobenzene	17.65	112	2682704	26.577 ng	100
66) Ethylbenzene	18.01	91	4512452	27.416 ng	99
67) m- & p-Xylenes	18.18	91	7345655	54.872 ng	100
68) Bromoform	18.24	173	1087333	30.152 ng	99
69) Styrene	18.50	104	2875489	27.385 ng	100
70) o-Xylene	18.60	91	3617042	27.023 ng	100
71) n-Nonane	18.80	43	1721846	25.729 ng	100
72) 1,1,2,2-Tetrachloroethane	18.58	83	1781192	27.693 ng	100
74) Cumene	19.13	105	4614166	27.260 ng	100
75) alpha-Pinene	19.48	93	2328963	27.155 ng	99
76) n-Propylbenzene	19.58	91	5481109	27.728 ng	100
77) 3-Ethyltoluene	19.67	105	4700952	27.987 ng	100
78) 4-Ethyltoluene	19.71	105	4371195	27.192 ng	100
79) 1,3,5-Trimethylbenzene	19.77	105	3849300	26.904 ng	100
80) alpha-Methylstyrene	19.91	118	2108810	26.968 ng	91
81) 2-Ethyltoluene	19.94	105	4578575	27.613 ng	100
82) 1,2,4-Trimethylbenzene	20.13	105	4393633	29.643 ng	99
83) n-Decane	20.23	57	1945135	27.154 ng	100
84) Benzyl Chloride	20.25	91	3479562	30.288 ng	100
85) 1,3-Dichlorobenzene	20.27	146	2423133	30.467 ng	100
86) 1,4-Dichlorobenzene	20.33	146	2365608	29.950 ng	100
87) sec-Butylbenzene	20.37	105	5109372	27.716 ng	100
88) 4-Isopropyltoluene (p-...	20.51	119	5256318	29.823 ng	100
89) 1,2,3-Trimethylbenzene	20.51	105	4300815	28.906 ng	100
90) 1,2-Dichlorobenzene	20.63	146	2408869	29.636 ng	100
91) d-Limonene	20.64	68	1519103	26.502 ng	100
92) 1,2-Dibromo-3-Chloropr...	21.01	157	824904	30.239 ng	99
93) n-Undecane	21.33	57	1922457	26.013 ng	100
94) 1,2,4-Trichlorobenzene	22.14	180	1654245	34.919 ng	99
95) Naphthalene	22.24	128	5657733	34.126 ng	100
96) n-Dodecane	22.24	57	1873801	25.516 ng	100
97) Hexachlorobutadiene	22.56	225	1057194	27.990 ng	100
98) Cyclohexanone	18.30	55	1297660	25.006 ng	100
99) tert-Butylbenzene	20.14	119	4200985	28.904 ng	100
100) n-Butylbenzene	20.88	91	4108973	27.578 ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File: I:\MS16\DATA\2020_03\11\03112010.D
Acq On : 11 Mar 2020 5:25 Operator: LH
Sample : 25ng TO15 ICV STD
Misc : S31-02112001/S31-02262006 (3/26)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 11 10:56:51 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



LH 3/11/20

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **03112010.D**
Data File Path: **I:\MS16\DATA\2020_03\11**
Operator: **LH**
Date Acquired: **3/11/20** **5:25**

Acq. Method File: **TO15.M**
Sample Name: **25ng TO15 ICV STD**
Misc Info: **S31-02112001/S31-02262006 (**
Instrument Name: **GCMS-16**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
2)	**Propene**	**4.10**	**23.1**	26.25	88	**51**	**133**	*	*
3)	**Dichlorodifluoromethane (CFC 1**	**4.26**	**23.1**	**26.25**	88	**64**	**115**	*	*
4)	**Chloromethane**	**4.54**	**21.8**	**26.50**	82	**49**	**127**	*	*
5)	**1,2-Dichloro-1,1,2,2-tetrafluoroet**	**4.81**	**22.3**	**25.75**	87	**65**	**114**	*	*
6)	**Vinyl Chloride**	**4.97**	**22.7**	**26.50**	86	**61**	**129**	*	*
7)	**1,3-Butadiene**	**5.23**	**21.1**	**26.50**	80	**54**	**140**	*	*
8)	**Bromomethane**	**5.66**	**24.6**	**26.50**	93	**68**	**120**	*	*
9)	**Chloroethane**	**6.00**	**23.8**	**26.75**	89	**63**	**123**	*	*
10)	**Ethanol**	**6.37**	**113**	**132.50**	85	**49**	**134**	*	*
11)	**Acetonitrile**	**6.62**	**22.7**	**26.75**	85	**50**	**137**	*	*
12)	**Acrolein**	**6.81**	**24.0**	**25.75**	93	**62**	**128**	*	*
13)	**Acetone**	**7.01**	**124**	**133.50**	93	**56**	**125**	*	*
14)	**Trichlorofluoromethane**	**7.26**	**23.5**	**26.50**	89	**64**	**115**	*	*
15)	**2-Propanol (Isopropanol)**	**7.51**	**49.4**	**52.75**	94	**57**	**133**	*	*
16)	**Acrylonitrile**	**7.77**	**26.0**	**26.50**	98	**64**	**136**	*	*
17)	**1,1-Dichloroethene**	**8.22**	**25.6**	**26.75**	96	**68**	**115**	*	*
18)	2-Methyl-2-Propanol (tert-Butyl Alc	8.38	57.1	53.75	106	56	132	*	*
19)	**Methylene Chloride**	**8.45**	**24.6**	**26.25**	94	**68**	**114**	*	*
20)	**3-Chloro-1-propene (Allyl Chloric**	**8.61**	**23.6**	**26.75**	88	**55**	**139**	*	*
21)	**Trichlorotrifluoroethane**	**8.87**	**25.8**	**27.00**	96	**65**	**115**	*	*
22)	**Carbon Disulfide**	**8.71**	**24.2**	**26.50**	91	**68**	**113**	*	*
23)	**trans-1,2-Dichloroethene**	**9.72**	**25.3**	**26.75**	95	**65**	**122**	*	*
24)	**1,1-Dichloroethane**	**9.98**	**23.2**	**26.50**	88	**63**	**118**	*	*
25)	**Methyl tert-Butyl Ether**	**10.07**	**24.4**	**26.75**	91	**57**	**131**	*	*
26)	**Vinyl Acetate**	**10.23**	**127**	**133.25**	95	**71**	**128**	*	*
27)	**2-Butanone (MEK)**	**10.47**	**25.8**	**26.50**	97	**67**	**123**	*	*
28)	**cis-1,2-Dichloroethene**	**10.99**	**23.5**	**26.50**	89	**64**	**120**	*	*
29)	Diisopropyl Ether	11.29	23.6	27.00	87	62	121	*	*
30)	**Ethyl Acetate**	**11.30**	**55.5**	**54.00**	103	**64**	**131**	*	*
31)	**n-Hexane**	**11.28**	**25.2**	**27.00**	93	**58**	**125**	*	*
32)	**Chloroform**	**11.34**	**23.8**	**26.75**	89	**65**	**114**	*	*
34)	**Tetrahydrofuran (THF)**	**11.74**	**24.7**	**27.50**	90	**65**	**115**	*	*
35)	Ethyl tert-Butyl Ether	11.88	24.9	26.75	93	61	130	*	*
36)	**1,2-Dichloroethane**	**12.14**	**22.8**	**26.75**	85	**59**	**120**	*	*
38)	**1,1,1-Trichloroethane**	**12.42**	**25.3**	**26.75**	95	**66**	**115**	*	*
39)	Isopropyl Acetate	12.85	53.3	52.50	102	65	129	*	*
40)	1-Butanol	12.87	53.3	53.25	100	58	140	*	*
41)	**Benzene**	**12.90**	**23.9**	**26.25**	91	**66**	**109**	*	*
42)	**Carbon Tetrachloride**	**13.06**	**25.0**	**26.00**	96	**66**	**119**	*	*
43)	**Cyclohexane**	**13.20**	**50.4**	**52.75**	96	**67**	**117**	*	*
44)	tert-Amyl Methyl Ether	13.54	25.7	**26.75**	96	62	133	*	*
45)	**1,2-Dichloropropane**	**13.75**	**24.7**	**26.75**	92	**66**	**119**	*	*
46)	**Bromodichloromethane**	**13.95**	**25.6**	**27.25**	94	**71**	**119**	*	*
47)	**Trichloroethene**	**14.00**	**24.1**	**27.00**	89	**70**	**114**	*	*
48)	**1,4-Dioxane**	**13.97**	**27.1**	**27.00**	100	**71**	**117**	*	*
49)	2,2,4-Trimethylpentane (Isooctane)	14.07	24.0	26.75	90	61	122	*	*

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **03112010.D** **TO15.M**
Data File Path: **I:\MS16\DATA\2020_03\11** Sample Name: **25ng TO15 ICV STD**
Operator: **LH** Misc Info: **S31-02112001/S31-02262006 (**
Date Acquired: **3/11/20** **5:25** Instrument Name: **GCMS-16**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
50)	**Methyl Methacrylate**	**14.20**	**56.6**	**53.75**	105	**76**	**121**	*	*
51)	**n-Heptane**	**14.34**	**24.8**	**26.75**	93	**66**	**119**	*	*
52)	**cis-1,3-Dichloropropene**	**14.86**	**28.5**	**26.75**	107	**72**	**125**	*	*
53)	**4-Methyl-2-pentanone**	**14.90**	**26.3**	**26.50**	99	**68**	**130**	*	*
54)	**trans-1,3-Dichloropropene**	**15.38**	**26.3**	**26.50**	99	**71**	**132**	*	*
55)	**1,1,2-Trichloroethane**	**15.56**	**25.8**	**26.75**	96	**70**	**117**	*	*
58)	**Toluene**	**15.85**	**25.8**	**26.50**	97	**67**	**113**	*	*
59)	**2-Hexanone**	**16.09**	**27.2**	**27.00**	101	**62**	**135**	*	*
60)	**Dibromochloromethane**	**16.26**	**30.1**	**26.75**	113	**73**	**126**	*	*
61)	**1,2-Dibromoethane**	**16.51**	**28.9**	**26.75**	108	**71**	**122**	*	*
62)	**n-Butyl Acetate**	**16.72**	**28.1**	**27.25**	103	**65**	**134**	*	*
63)	**n-Octane**	**16.85**	**25.6**	**27.00**	95	**63**	**120**	*	*
64)	**Tetrachloroethene**	**16.99**	**27.7**	**26.00**	107	**64**	**120**	*	*
65)	**Chlorobenzene**	**17.65**	**26.6**	**26.75**	99	**65**	**116**	*	*
66)	**Ethylbenzene**	**18.01**	**27.4**	**26.50**	103	**65**	**117**	*	*
67)	**m- & p-Xylenes**	**18.18**	**54.9**	**53.25**	103	**64**	**121**	*	*
68)	**Bromoform**	**18.24**	**30.2**	**26.75**	113	**72**	**130**	*	*
69)	**Styrene**	**18.50**	**27.4**	**26.50**	103	**72**	**126**	*	*
70)	**o-Xylene**	**18.60**	**27.0**	**26.75**	101	**64**	**120**	*	*
71)	**n-Nonane**	**18.80**	**25.7**	**26.75**	96	**56**	**132**	*	*
72)	**1,1,2,2-Tetrachloroethane**	**18.58**	**27.7**	**26.75**	104	**66**	**122**	*	*
74)	**Cumene**	**19.13**	**27.3**	**26.75**	102	**64**	**121**	*	*
75)	**alpha-Pinene**	**19.48**	**27.2**	**26.50**	103	**62**	**136**	*	*
76)	**n-Propylbenzene**	**19.58**	**27.7**	**26.75**	104	**65**	**123**	*	*
77)	3-Ethyltoluene	19.67	28.0	26.75	105	62	123	*	*
78)	**4-Ethyltoluene**	**19.71**	**27.2**	**26.25**	**104**	**71**	**126**	*	*
79)	**1,3,5-Trimethylbenzene**	**19.77**	**26.9**	**26.50**	**102**	**65**	**120**	*	*
80)	alpha-Methylstyrene	19.91	27.0	26.50	**102**	70	132	*	*
81)	2-Ethyltoluene	19.94	27.6	26.75	**103**	66	121	*	*
82)	**1,2,4-Trimethylbenzene**	**20.13**	**29.6**	**26.50**	**112**	**63**	**129**	*	*
83)	n-Decane	20.23	27.2	26.75	**102**	61	131	*	*
84)	**Benzyl Chloride**	**20.25**	**30.3**	**26.75**	**113**	**66**	**138**	*	*
85)	**1,3-Dichlorobenzene**	**20.27**	**30.5**	**26.75**	**114**	**65**	**127**	*	*
86)	**1,4-Dichlorobenzene**	**20.33**	**29.9**	**26.75**	**112**	**66**	**125**	*	*
87)	sec-Butylbenzene	20.37	27.7	26.50	**105**	68	123	*	*
88)	4-Isopropyltoluene (p-Cymene)	20.51	29.8	27.25	**109**	61	129	*	*
89)	1,2,3-Trimethylbenzene	20.51	28.9	27.00	**107**	60	134	*	*
90)	**1,2-Dichlorobenzene**	**20.63**	**29.6**	**26.75**	**111**	**67**	**128**	*	*
91)	**d-Limonene**	**20.64**	**26.5**	**26.50**	**100**	**65**	**136**	*	*
92)	**1,2-Dibromo-3-Chloropropane**	**21.01**	**30.2**	**26.75**	**113**	**73**	**133**	*	*
93)	n-Undecane	21.33	26.0	27.00	**96**	64	131	*	*
94)	**1,2,4-Trichlorobenzene**	**22.14**	**34.9**	**27.00**	**129**	**62**	**140**	*	*
95)	**Naphthalene**	**22.24**	**34.1**	**26.50**	**129**	**57**	**149**	*	*
96)	n-Dodecane	22.24	25.5	26.50	**96**	41	181	*	*
97)	**Hexachlorobutadiene**	**22.56**	**28.0**	**26.75**	**105**	57	129	*	*
98)	Cyclohexanone	18.31	25.0	25.25	99	61	131	*	*
99)	tert-Butylbenzene	20.14	28.9	26.50	109	62	130	*	*
100)	n-Butylbenzene	20.88	27.6	26.75	103	67	124	*	*

Bold = 75 Compound List

 *** = Pass** **I:\MS16\0-Instrument Info\0-Security Certificates\ICV_LCS_2019_10111902.CRT** 3/11/20 10:58 AM

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_04\21\04212002.D Vial: 2
Acq On : 21 Apr 2020 8:32 Operator: LH
Sample : CCV R16042120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 21 12:27:23 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/21/20

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	137	-0.01
2	T	Propene	1.311	1.390	-6.0	152	-0.02
3	T	Dichlorodifluoromethane (CF	2.821	2.755	2.3	142	-0.01
4	T	Chloromethane	2.227	2.234	-0.3	143	-0.01
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.796	1.657	7.7	134	-0.02
6	T	Vinyl Chloride	2.351	2.324	1.1	142	-0.02
7	T	1,3-Butadiene	1.703	1.557	8.6	148	-0.02
8	T	Bromomethane	1.178	1.233	-4.7	149	-0.02
9	T	Chloroethane	0.902	0.932	-3.3	148	-0.02
10	T	Ethanol	1.036	1.028	0.8	140	-0.07
11	T	Acetonitrile	2.279	2.261	0.8	147	-0.04
12	T	Acrolein	0.762	0.847	-11.2	145	-0.02
13	T	Acetone	1.023	1.057	-3.3	133	-0.04
14	T	Trichlorofluoromethane	2.487	2.458	1.2	137	-0.01
15	T	2-Propanol (Isopropanol)	3.033	3.337	-10.0	139	-0.04
16	T	Acrylonitrile	1.534	1.728	-12.6	139	-0.03
17	T	1,1-Dichloroethene	1.230	1.297	-5.4	142	-0.01
18	T	2-Methyl-2-Propanol (tert-B	2.721	3.222	-18.4	133	-0.03
19	T	Methylene Chloride	1.330	1.378	-3.6	139	-0.01
20	T	3-Chloro-1-propene (Allyl C	1.724	1.829	-6.1	140	-0.02
21	T	Trichlorotrifluoroethane	1.189	1.201	-1.0	141	0.00
22	T	Carbon Disulfide	4.785	4.985	-4.2	139	-0.01
23	T	trans-1,2-Dichloroethene	1.785	1.897	-6.3	141	-0.01
24	T	1,1-Dichloroethane	2.278	2.282	-0.2	137	-0.01
25	T	Methyl tert-Butyl Ether	3.688	3.413	7.5	125	-0.01
26	T	Vinyl Acetate	0.351	0.365	-4.0	123	-0.03
27	T	2-Butanone (MEK)	0.851	0.924	-8.6	129	-0.02
28	T	cis-1,2-Dichloroethene	1.855	1.864	-0.5	136	-0.01
29	T	Diisopropyl Ether	1.357	1.494	-10.1	144	-0.01
30	T	Ethyl Acetate	0.503	0.576	-14.5	127	-0.02
31	T	n-Hexane	2.332	2.502	-7.3	132	0.00
32	T	Chloroform	2.482	2.419	2.5	131	-0.02
33	S	1,2-Dichloroethane-d4(SS1)	1.731	1.592	8.0	130	-0.01
34	T	Tetrahydrofuran (THF)	0.876	0.878	-0.2	135	0.00
35	T	Ethyl tert-Butyl Ether	1.585	1.613	-1.8	133	-0.01
36	T	1,2-Dichloroethane	1.936	1.827	5.6	130	-0.01
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	135	0.00
38	T	1,1,1-Trichloroethane	0.491	0.498	-1.4	133	0.00
39	T	Isopropyl Acetate	0.203	0.233	-14.8	132	-0.01
40	T	1-Butanol	0.325	0.363	-11.7	123	-0.04
41	T	Benzene	1.293	1.302	-0.7	126	-0.01
42	T	Carbon Tetrachloride	0.444	0.465	-4.7	132	-0.01
43	T	Cyclohexane	0.496	0.519	-4.6	130	0.00
44	T	tert-Amyl Methyl Ether	0.836	0.898	-7.4	134	-0.01
45	T	1,2-Dichloropropane	0.296	0.309	-4.4	138	-0.01
46	T	Bromodichloromethane	0.437	0.457	-4.6	130	-0.01
47	T	Trichloroethene	0.366	0.346	5.5	133	0.00
48	T	1,4-Dioxane	0.250	0.269	-7.6	133	-0.01
49	T	2,2,4-Trimethylpentane (Iso	1.228	1.288	-4.9	137	0.00
50	T	Methyl Methacrylate	0.125	0.140	-12.0	125	-0.01
51	T	n-Heptane	0.302	0.315	-4.3	134	0.00
52	T	cis-1,3-Dichloropropene	0.477	0.549	-15.1	135	0.00
53	T	4-Methyl-2-pentanone	0.271	0.307	-13.3	134	0.00
54	T	trans-1,3-Dichloropropene	0.443	0.489	-10.4	135	0.00
55	T	1,1,2-Trichloroethane	0.298	0.313	-5.0	135	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_04\21\04212002.D Vial: 2
Acq On : 21 Apr 2020 8:32 Operator: LH
Sample : CCV R16042120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 21 12:27:23 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	131	0.00
57	S	Toluene-d8 (SS2)	2.216	2.148	3.1	127	0.00
58	T	Toluene	2.739	2.733	0.2	126	0.00
59	T	2-Hexanone	1.371	1.544	-12.6	133	-0.01
60	T	Dibromochloromethane	0.729	0.852	-16.9	133	0.00
61	T	1,2-Dibromoethane	0.701	0.791	-12.8	134	0.00
62	T	n-Butyl Acetate	1.466	1.720	-17.3	134	0.00
63	T	n-Octane	0.544	0.569	-4.6	132	0.00
64	T	Tetrachloroethene	0.763	0.810	-6.2	133	0.00
65	T	Chlorobenzene	1.843	1.887	-2.4	130	0.00
66	T	Ethylbenzene	3.006	3.238	-7.7	125	0.00
67	T	m- & p-Xylenes	2.444	2.591	-6.0	122	0.00
68	T	Bromoform	0.659	0.742	-12.6	127	0.00
69	T	Styrene	1.917	2.028	-5.8	121	0.00
70	T	o-Xylene	2.444	2.577	-5.4	122	0.00
71	T	n-Nonane	1.222	1.310	-7.2	131	0.00
72	T	1,1,2,2-Tetrachloroethane	1.174	1.283	-9.3	127	0.00
73	S	Bromofluorobenzene (SS3)	0.782	0.813	-4.0	134	0.00
74	T	Cumene	3.091	3.254	-5.3	122	0.00
75	T	alpha-Pinene	1.566	1.690	-7.9	121	0.00
76	T	n-Propylbenzene	3.610	3.912	-8.4	123	0.00
77	T	3-Ethyltoluene	3.067	3.235	-5.5	121	0.00
78	T	4-Ethyltoluene	2.935	3.152	-7.4	120	0.00
79	T	1,3,5-Trimethylbenzene	2.613	2.682	-2.6	119	0.00
80	T	alpha-Methylstyrene	1.428	1.451	-1.6	115	0.00
81	T	2-Ethyltoluene	3.028	3.140	-3.7	119	0.00
82	T	1,2,4-Trimethylbenzene	2.707	2.945	-8.8	115	-0.01
83	T	n-Decane	1.308	1.327	-1.5	116	0.00
84	T	Benzyl Chloride	2.098	2.402	-14.5	129	-0.01
85	T	1,3-Dichlorobenzene	1.452	1.633	-12.5	121	0.00
86	T	1,4-Dichlorobenzene	1.442	1.602	-11.1	122	-0.01
87	T	sec-Butylbenzene	3.366	3.579	-6.3	119	0.00
88	T	4-Isopropyltoluene (p-Cymen	3.218	3.495	-8.6	112	-0.01
89	T	1,2,3-Trimethylbenzene	2.717	2.928	-7.8	114	0.00
90	T	1,2-Dichlorobenzene	1.484	1.624	-9.4	120	0.00
91	T	d-Limonene	1.047	1.104	-5.4	118	-0.01
92	T	1,2-Dibromo-3-Chloropropane	0.498	0.592	-18.9	138	0.00
93	T	n-Undecane	1.349	0.876	35.1#	76	0.00
94	T	1,2,4-Trichlorobenzene	0.865	0.987	-14.1	148	0.00
95	T	Naphthalene	3.027	2.995	1.1	108	0.00
96	T	n-Dodecane	1.341	0.318	76.3#	26#	0.00
97	T	Hexachlorobutadiene	0.690	0.712	-3.2	129	0.00
98	T	Cyclohexanone	0.948	1.032	-8.9	127	-0.02
99	T	tert-Butylbenzene	2.654	2.837	-6.9	113	0.00
100	T	n-Butylbenzene	2.721	2.858	-5.0	122	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212002.D Vial: 2
Acq On : 21 Apr 2020 8:32 Operator: LH
Sample : CCV R16042120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 21 12:27:23 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/21/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	378521	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.30	114	1629181	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.61	82	759188	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	602434	11.494	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.92%				
57) Toluene-d8 (SS2)	15.75	98	1630763	12.119	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.96%				
73) Bromofluorobenzene (SS3)	19.01	174	617082	12.986	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.92%				
Target Compounds							Qvalue
2) Propene	4.10	42	1115560	28.101	ng		98
3) Dichlorodifluoromethan...	4.26	85	2210406	25.880	ng		100
4) Chloromethane	4.54	50	1792748	26.582	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	1317381	24.217	ng		100
6) Vinyl Chloride	4.96	62	1899851	26.689	ng		100
7) 1,3-Butadiene	5.23	54	1249383	24.227	ng		99
8) Bromomethane	5.66	94	1007976	28.266	ng		100
9) Chloroethane	6.00	64	762157	27.902	ng		100
10) Ethanol	6.37	45	4054527	129.226	ng		100
11) Acetonitrile	6.62	41	1797224	26.039	ng		100
12) Acrolein	6.81	56	660349	28.601	ng		99
13) Acetone	7.02	58	4265910	137.771	ng		98
14) Trichlorofluoromethane	7.26	101	1972579	26.193	ng		100
15) 2-Propanol (Isopropanol)	7.51	45	5304819	57.767	ng		97
16) Acrylonitrile	7.78	53	1373775	29.567	ng		100
17) 1,1-Dichloroethene	8.23	96	1060708	28.477	ng		97
18) 2-Methyl-2-Propanol (t...	8.38	59	5268323	63.930	ng		98
19) Methylene Chloride	8.45	84	1106194	27.456	ng		99
20) 3-Chloro-1-propene (Al...	8.61	41	1495366	28.646	ng		99
21) Trichlorotrifluoroethane	8.87	151	982239	27.271	ng		98
22) Carbon Disulfide	8.71	76	4037948	27.867	ng		100
23) trans-1,2-Dichloroethene	9.72	61	1550744	28.685	ng		100
24) 1,1-Dichloroethane	9.98	63	1882781	27.289	ng		100
25) Methyl tert-Butyl Ether	10.07	73	2790793	24.989	ng		99
26) Vinyl Acetate	10.23	86	1479969	139.285	ng	#	89
27) 2-Butanone (MEK)	10.47	72	741342	28.760	ng		95
28) cis-1,2-Dichloroethene	11.00	61	1495844	26.631	ng		100
29) Diisopropyl Ether	11.29	87	1221478	29.717	ng	#	82
30) Ethyl Acetate	11.30	61	945959	62.086	ng		100
31) n-Hexane	11.28	57	2045322	28.965	ng		100
32) Chloroform	11.35	83	1959200	26.069	ng		100
34) Tetrahydrofuran (THF)	11.74	72	724554	27.321	ng		97
35) Ethyl tert-Butyl Ether	11.88	87	1318522	27.467	ng		98
36) 1,2-Dichloroethane	12.14	62	1493643	25.478	ng		100
38) 1,1,1-Trichloroethane	12.42	97	1736039	27.154	ng		99
39) Isopropyl Acetate	12.85	61	1603479	60.622	ng		98
40) 1-Butanol	12.87	56	2458986	58.098	ng		98
41) Benzene	12.90	78	4496079	26.688	ng		100
42) Carbon Tetrachloride	13.06	117	1589790	27.481	ng		100
43) Cyclohexane	13.20	84	3582296	55.381	ng		97
44) tert-Amyl Methyl Ether	13.54	73	3160842	29.004	ng		99
45) 1,2-Dichloropropane	13.75	63	1087376	28.225	ng		100
46) Bromodichloromethane	13.95	83	1607124	28.224	ng		100
47) Trichloroethene	14.00	130	1207184	25.289	ng		100
48) 1,4-Dioxane	13.97	88	946518	29.020	ng		98
49) 2,2,4-Trimethylpentane...	14.07	57	4492255	28.062	ng		98
50) Methyl Methacrylate	14.20	100	978341	60.075	ng		97

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212002.D Vial: 2
Acq On : 21 Apr 2020 8:32 Operator: LH
Sample : CCV R16042120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 21 12:27:23 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

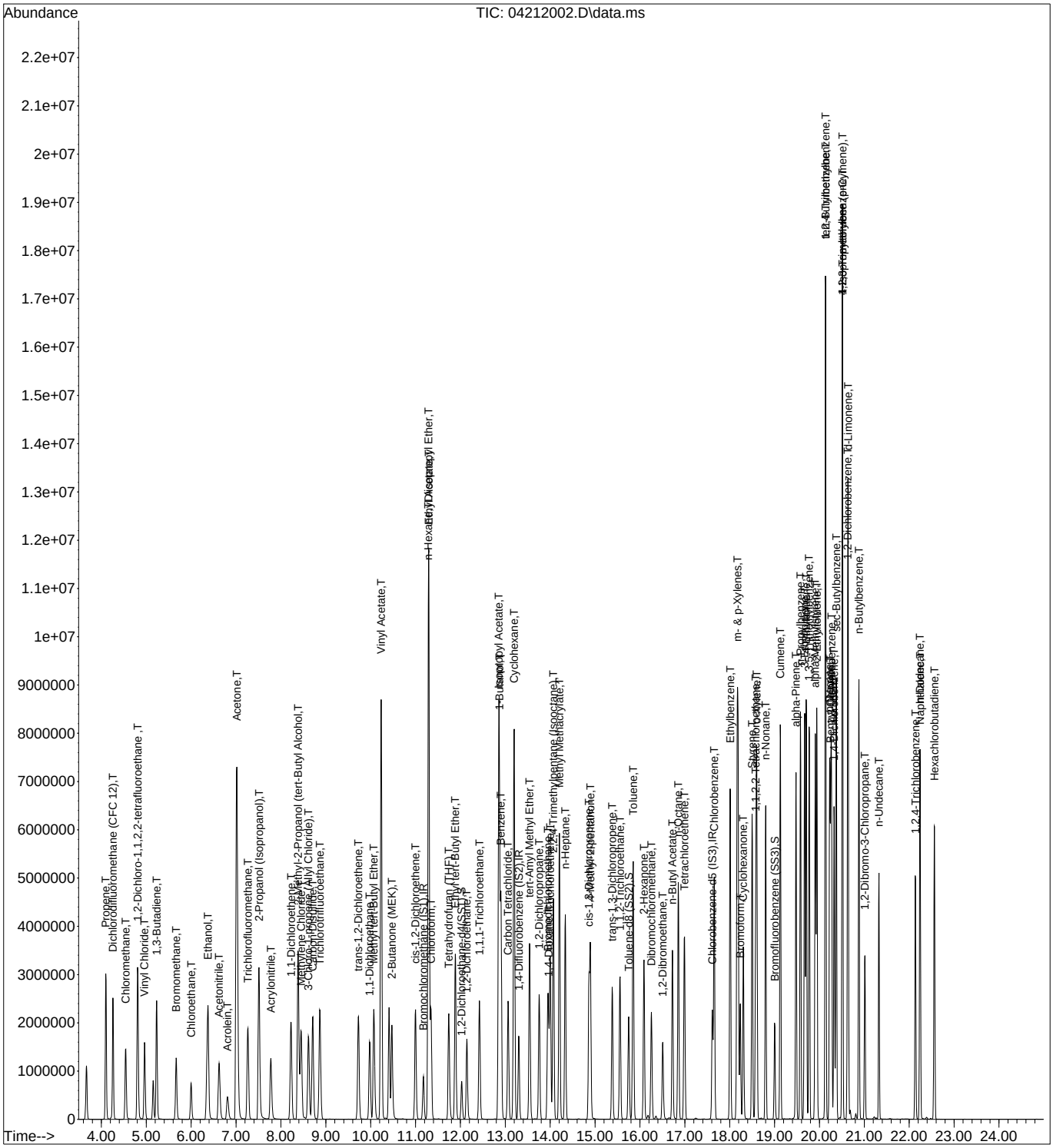
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.34	71	1109984	28.219	ng	99
52) cis-1,3-Dichloropropene	14.86	75	1860309	29.914	ng	99
53) 4-Methyl-2-pentanone	14.90	58	1059146	29.996	ng	99
54) trans-1,3-Dichloropropene	15.38	75	1689527	29.244	ng	100
55) 1,1,2-Trichloroethane	15.56	97	1092342	28.089	ng	100
58) Toluene	15.85	91	4440931	26.691	ng	100
59) 2-Hexanone	16.09	43	2508662	30.130	ng	99
60) Dibromochloromethane	16.26	129	1384618	31.260	ng	100
61) 1,2-Dibromoethane	16.51	107	1285552	30.189	ng	100
62) n-Butyl Acetate	16.72	43	2846691	31.971	ng	100
63) n-Octane	16.86	57	933306	28.268	ng	99
64) Tetrachloroethene	16.99	166	1279863	27.605	ng	100
65) Chlorobenzene	17.65	112	3066237	27.390	ng	100
66) Ethylbenzene	18.01	91	5261423	28.823	ng	100
67) m- & p-Xylenes	18.17	91	8420288	56.715	ng	99
68) Bromoform	18.24	173	1204708	30.122	ng	100
69) Styrene	18.50	104	3263375	28.023	ng	99
70) o-Xylene	18.60	91	4186107	28.200	ng	100
71) n-Nonane	18.80	43	2128357	28.677	ng	98
72) 1,1,2,2-Tetrachloroethane	18.58	83	2083982	29.215	ng	100
74) Cumene	19.13	105	5335594	28.423	ng	100
75) alpha-Pinene	19.48	93	2745515	28.865	ng	99
76) n-Propylbenzene	19.58	91	6415150	29.263	ng	99
77) 3-Ethyltoluene	19.67	105	5207150	27.953	ng	100
78) 4-Ethyltoluene	19.70	105	5168712	28.992	ng	99
79) 1,3,5-Trimethylbenzene	19.77	105	4317264	27.208	ng	99
80) alpha-Methylstyrene	19.91	118	2358071	27.191	ng	99
81) 2-Ethyltoluene	19.94	105	5148963	28.000	ng	99
82) 1,2,4-Trimethylbenzene	20.14	105	4785052	29.109	ng	98
83) n-Decane	20.23	57	2156224	27.142	ng	98
84) Benzyl Chloride	20.25	91	3938102	30.909	ng	99
85) 1,3-Dichlorobenzene	20.27	146	2652928	30.076	ng	100
86) 1,4-Dichlorobenzene	20.32	146	2602498	29.709	ng	100
87) sec-Butylbenzene	20.37	105	5814418	28.440	ng	99
88) 4-Isopropyltoluene (p-...	20.51	119	5783659	29.588	ng	99
89) 1,2,3-Trimethylbenzene	20.51	105	4846673	29.373	ng	98
90) 1,2-Dichlorobenzene	20.63	146	2638198	29.266	ng	99
91) d-Limonene	20.64	68	1810796	28.485	ng	98
92) 1,2-Dibromo-3-Chloropr...	21.01	157	943655	31.191	ng	97
93) n-Undecane	21.33	57	1436773	17.530	ng	98
94) 1,2,4-Trichlorobenzene	22.14	180	1602884	30.509	ng	100
95) Naphthalene	22.24	128	4683334	25.471	ng	100
96) n-Dodecane	22.24	57	502882	6.175	ng	98
97) Hexachlorobutadiene	22.56	225	1145727	27.352	ng	100
98) Cyclohexanone	18.30	55	1566844	27.225	ng	98
99) tert-Butylbenzene	20.14	119	4608413	28.589	ng	99
100) n-Butylbenzene	20.88	91	4642508	28.096	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212002.D Vial: 2
Acq On : 21 Apr 2020 8:32 Operator: LH
Sample : CCV R16042120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 21 12:27:23 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_04\21\04212031.D Vial: 2
Acq On : 22 Apr 2020 1:56 Operator: WA
Sample : CCV2end R16042120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 22 03:15:33 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 4/22/20

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	120	-0.01
2	T	Propene	1.311	1.468	-12.0	140	-0.01
3	T	Dichlorodifluoromethane (CF	2.821	2.875	-1.9	129	0.00
4	T	Chloromethane	2.227	2.446	-9.8	136	-0.01
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.796	1.693	5.7	120	-0.02
6	T	Vinyl Chloride	2.351	2.477	-5.4	132	-0.02
7	T	1,3-Butadiene	1.703	1.629	4.3	135	-0.02
8	T	Bromomethane	1.178	1.241	-5.3	130	-0.02
9	T	Chloroethane	0.902	0.954	-5.8	132	-0.02
10	T	Ethanol	1.036	1.109	-7.0	132	-0.07
11	T	Acetonitrile	2.279	2.412	-5.8	137	-0.04
12	T	Acrolein	0.762	0.896	-17.6	133	-0.02
13	T	Acetone	1.023	1.152	-12.6	126	-0.04
14	T	Trichlorofluoromethane	2.487	2.509	-0.9	122	-0.01
15	T	2-Propanol (Isopropanol)	3.033	3.625	-19.5	132	-0.04
16	T	Acrylonitrile	1.534	1.867	-21.7	131	-0.03
17	T	1,1-Dichloroethene	1.230	1.327	-7.9	126	-0.02
18	T	2-Methyl-2-Propanol (tert-B	2.721	3.457	-27.0	124	-0.03
19	T	Methylene Chloride	1.330	1.437	-8.0	126	-0.02
20	T	3-Chloro-1-propene (Allyl C	1.724	1.949	-13.1	129	-0.02
21	T	Trichlorotrifluoroethane	1.189	1.194	-0.4	122	-0.01
22	T	Carbon Disulfide	4.785	5.201	-8.7	126	-0.02
23	T	trans-1,2-Dichloroethene	1.785	1.987	-11.3	128	-0.01
24	T	1,1-Dichloroethane	2.278	2.401	-5.4	126	-0.01
25	T	Methyl tert-Butyl Ether	3.688	3.605	2.3	115	-0.01
26	T	Vinyl Acetate	0.351	0.392	-11.7	115	-0.03
27	T	2-Butanone (MEK)	0.851	0.996	-17.0	121	-0.02
28	T	cis-1,2-Dichloroethene	1.855	1.976	-6.5	126	-0.01
29	T	Diisopropyl Ether	1.357	1.383	-1.9	116	-0.01
30	T	Ethyl Acetate	0.503	0.638	-26.8	123	-0.02
31	T	n-Hexane	2.332	2.737	-17.4	126	0.00
32	T	Chloroform	2.482	2.566	-3.4	121	-0.02
33	S	1,2-Dichloroethane-d4(SS1)	1.731	1.649	4.7	118	-0.01
34	T	Tetrahydrofuran (THF)	0.876	0.932	-6.4	125	0.00
35	T	Ethyl tert-Butyl Ether	1.585	1.689	-6.6	122	-0.01
36	T	1,2-Dichloroethane	1.936	1.935	0.1	120	-0.01
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	119	-0.01
38	T	1,1,1-Trichloroethane	0.491	0.514	-4.7	121	0.00
39	T	Isopropyl Acetate	0.203	0.251	-23.6	125	-0.01
40	T	1-Butanol	0.325	0.389	-19.7	116	-0.04
41	T	Benzene	1.293	1.381	-6.8	118	-0.01
42	T	Carbon Tetrachloride	0.444	0.474	-6.8	119	-0.01
43	T	Cyclohexane	0.496	0.540	-8.9	120	0.00
44	T	tert-Amyl Methyl Ether	0.836	0.939	-12.3	124	-0.01
45	T	1,2-Dichloropropane	0.296	0.325	-9.8	128	-0.01
46	T	Bromodichloromethane	0.437	0.480	-9.8	121	-0.01
47	T	Trichloroethene	0.366	0.353	3.6	120	0.00
48	T	1,4-Dioxane	0.250	0.281	-12.4	123	-0.01
49	T	2,2,4-Trimethylpentane (Iso	1.228	1.357	-10.5	128	-0.01
50	T	Methyl Methacrylate	0.125	0.146	-16.8	116	-0.01
51	T	n-Heptane	0.302	0.333	-10.3	125	0.00
52	T	cis-1,3-Dichloropropene	0.477	0.576	-20.8	125	0.00
53	T	4-Methyl-2-pentanone	0.271	0.327	-20.7	126	0.00
54	T	trans-1,3-Dichloropropene	0.443	0.512	-15.6	124	0.00
55	T	1,1,2-Trichloroethane	0.298	0.325	-9.1	124	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_04\21\04212031.D Vial: 2
Acq On : 22 Apr 2020 1:56 Operator: WA
Sample : CCV2end R16042120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 22 03:15:33 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	119	0.00
57	S	Toluene-d8 (SS2)	2.216	2.115	4.6	114	0.00
58	T	Toluene	2.739	2.807	-2.5	117	0.00
59	T	2-Hexanone	1.371	1.626	-18.6	127	-0.02
60	T	Dibromochloromethane	0.729	0.849	-16.5	120	0.00
61	T	1,2-Dibromoethane	0.701	0.795	-13.4	122	0.00
62	T	n-Butyl Acetate	1.466	1.811	-23.5	128	0.00
63	T	n-Octane	0.544	0.604	-11.0	126	0.00
64	T	Tetrachloroethene	0.763	0.795	-4.2	118	0.00
65	T	Chlorobenzene	1.843	1.890	-2.6	118	0.00
66	T	Ethylbenzene	3.006	3.325	-10.6	117	0.00
67	T	m- & p-Xylenes	2.444	2.686	-9.9	115	0.00
68	T	Bromoform	0.659	0.732	-11.1	114	0.00
69	T	Styrene	1.917	2.080	-8.5	113	0.00
70	T	o-Xylene	2.444	2.671	-9.3	115	0.00
71	T	n-Nonane	1.222	1.390	-13.7	125	0.00
72	T	1,1,2,2-Tetrachloroethane	1.174	1.340	-14.1	120	0.00
73	S	Bromofluorobenzene (SS3)	0.782	0.778	0.5	116	0.00
74	T	Cumene	3.091	3.349	-8.3	114	0.00
75	T	alpha-Pinene	1.566	1.756	-12.1	114	0.00
76	T	n-Propylbenzene	3.610	4.071	-12.8	116	0.00
77	T	3-Ethyltoluene	3.067	3.360	-9.6	114	0.00
78	T	4-Ethyltoluene	2.935	3.264	-11.2	112	0.00
79	T	1,3,5-Trimethylbenzene	2.613	2.771	-6.0	111	0.00
80	T	alpha-Methylstyrene	1.428	1.492	-4.5	107	0.00
81	T	2-Ethyltoluene	3.028	3.253	-7.4	112	0.00
82	T	1,2,4-Trimethylbenzene	2.707	3.069	-13.4	109	-0.01
83	T	n-Decane	1.308	1.393	-6.5	110	0.00
84	T	Benzyl Chloride	2.098	2.487	-18.5	121	-0.01
85	T	1,3-Dichlorobenzene	1.452	1.687	-16.2	113	0.00
86	T	1,4-Dichlorobenzene	1.442	1.648	-14.3	114	-0.01
87	T	sec-Butylbenzene	3.366	3.715	-10.4	112	0.00
88	T	4-Isopropyltoluene (p-Cymen	3.218	3.649	-13.4	106	-0.01
89	T	1,2,3-Trimethylbenzene	2.717	3.056	-12.5	107	0.00
90	T	1,2-Dichlorobenzene	1.484	1.673	-12.7	112	0.00
91	T	d-Limonene	1.047	1.158	-10.6	112	-0.01
92	T	1,2-Dibromo-3-Chloropropane	0.498	0.602	-20.9	127	0.00
93	T	n-Undecane	1.349	0.930	31.1#	73	0.00
94	T	1,2,4-Trichlorobenzene	0.865	0.982	-13.5	134	0.00
95	T	Naphthalene	3.027	3.104	-2.5	101	0.00
96	T	n-Dodecane	1.341	0.343	74.4#	25#	0.00
97	T	Hexachlorobutadiene	0.690	0.687	0.4	113	0.00
98	T	Cyclohexanone	0.948	1.089	-14.9	122	-0.02
99	T	tert-Butylbenzene	2.654	2.957	-11.4	106	0.00
100	T	n-Butylbenzene	2.721	2.975	-9.3	115	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212031.D Vial: 2
Acq On : 22 Apr 2020 1:56 Operator: WA
Sample : CCV2end R16042120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 22 03:15:33 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 4/22/20
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	329507	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.30	114	1437860	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.61	82	687913	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	543507	11.912	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.28%				
57) Toluene-d8 (SS2)	15.75	98	1455268	11.935	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.44%				
73) Bromofluorobenzene (SS3)	19.01	174	534857	12.422	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.36%				
Target Compounds							Qvalue
2) Propene	4.10	42	1025819	29.684	ng		99
3) Dichlorodifluoromethan...	4.26	85	2008078	27.008	ng		100
4) Chloromethane	4.54	50	1708792	29.106	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	1171761	24.744	ng		99
6) Vinyl Chloride	4.97	62	1763244	28.454	ng		100
7) 1,3-Butadiene	5.23	54	1138287	25.356	ng		100
8) Bromomethane	5.66	94	883000	28.445	ng		100
9) Chloroethane	6.00	64	678939	28.553	ng		99
10) Ethanol	6.37	45	3809243	139.468	ng		100
11) Acetonitrile	6.62	41	1669032	27.778	ng		100
12) Acrolein	6.81	56	607921	30.247	ng		99
13) Acetone	7.01	58	4044840	150.063	ng		100
14) Trichlorofluoromethane	7.26	101	1752994	26.739	ng		100
15) 2-Propanol (Isopropanol)	7.51	45	5016691	62.756	ng		98
16) Acrylonitrile	7.77	53	1291741	31.937	ng		100
17) 1,1-Dichloroethene	8.22	96	944355	29.125	ng		99
18) 2-Methyl-2-Propanol (t...	8.38	59	4921250	68.601	ng		98
19) Methylene Chloride	8.45	84	1003773	28.620	ng		98
20) 3-Chloro-1-propene (Al...	8.61	41	1386983	30.522	ng		98
21) Trichlorotrifluoroethane	8.86	151	849915	27.107	ng		98
22) Carbon Disulfide	8.71	76	3667492	29.076	ng		100
23) trans-1,2-Dichloroethene	9.72	61	1414232	30.051	ng		99
24) 1,1-Dichloroethane	9.98	63	1725050	28.722	ng		100
25) Methyl tert-Butyl Ether	10.07	73	2565882	26.393	ng		99
26) Vinyl Acetate	10.23	86	1380845	149.287	ng	#	79
27) 2-Butanone (MEK)	10.47	72	695969	31.016	ng	#	90
28) cis-1,2-Dichloroethene	11.00	61	1380202	28.228	ng		99
29) Diisopropyl Ether	11.29	87	984065	27.503	ng	#	82
30) Ethyl Acetate	11.30	61	912073	68.766	ng		97
31) n-Hexane	11.28	57	1948095	31.691	ng		99
32) Chloroform	11.34	83	1809739	27.662	ng		100
34) Tetrahydrofuran (THF)	11.74	72	669314	28.992	ng		95
35) Ethyl tert-Butyl Ether	11.88	87	1202380	28.774	ng		96
36) 1,2-Dichloroethane	12.14	62	1377483	26.992	ng		100
38) 1,1,1-Trichloroethane	12.42	97	1580780	28.016	ng		100
39) Isopropyl Acetate	12.85	61	1524104	65.288	ng		98
40) 1-Butanol	12.87	56	2324069	62.217	ng		97
41) Benzene	12.90	78	4208629	28.306	ng		100
42) Carbon Tetrachloride	13.06	117	1430237	28.012	ng		99
43) Cyclohexane	13.20	84	3291573	57.657	ng		95
44) tert-Amyl Methyl Ether	13.54	73	2916045	30.318	ng		99
45) 1,2-Dichloropropane	13.75	63	1010761	29.727	ng		99
46) Bromodichloromethane	13.95	83	1490062	29.650	ng		99
47) Trichloroethene	14.00	130	1085494	25.766	ng		100
48) 1,4-Dioxane	13.97	88	873967	30.361	ng		97
49) 2,2,4-Trimethylpentane...	14.07	57	4176772	29.563	ng		98
50) Methyl Methacrylate	14.20	100	903417	62.856	ng		92

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212031.D Vial: 2
Acq On : 22 Apr 2020 1:56 Operator: WA
Sample : CCV2end R16042120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 22 03:15:33 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

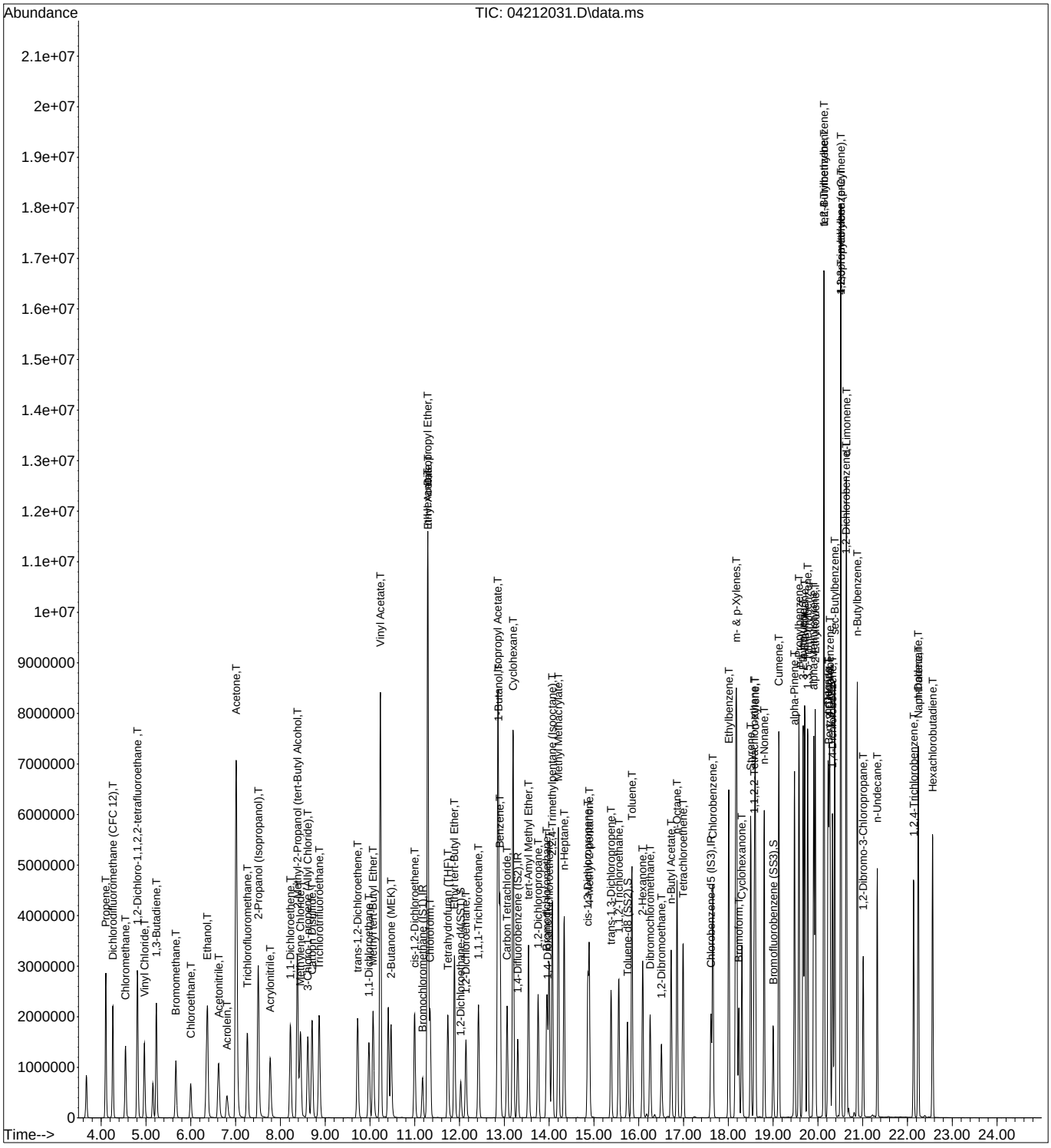
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.34	71	1034034	29.786	ng	98
52) cis-1,3-Dichloropropene	14.86	75	1723475	31.402	ng	100
53) 4-Methyl-2-pentanone	14.90	58	996839	31.988	ng	97
54) trans-1,3-Dichloropropene	15.38	75	1559206	30.579	ng	99
55) 1,1,2-Trichloroethane	15.56	97	1000824	29.160	ng	99
58) Toluene	15.85	91	4132937	27.414	ng	100
59) 2-Hexanone	16.09	43	2393749	31.729	ng	99
60) Dibromochloromethane	16.26	129	1249996	31.145	ng	100
61) 1,2-Dibromoethane	16.51	107	1171001	30.348	ng	100
62) n-Butyl Acetate	16.72	43	2716322	33.667	ng	99
63) n-Octane	16.86	57	897079	29.986	ng	96
64) Tetrachloroethene	16.99	166	1137636	27.080	ng	100
65) Chlorobenzene	17.65	112	2782661	27.432	ng	100
66) Ethylbenzene	18.01	91	4894638	29.592	ng	100
67) m- & p-Xylenes	18.18	91	7908998	58.791	ng	99
68) Bromoform	18.24	173	1077377	29.730	ng	100
69) Styrene	18.50	104	3033596	28.749	ng	99
70) o-Xylene	18.60	91	3932016	29.233	ng	99
71) n-Nonane	18.80	43	2046479	30.430	ng	96
72) 1,1,2,2-Tetrachloroethane	18.58	83	1972371	30.516	ng	100
74) Cumene	19.13	105	4976121	29.255	ng	99
75) alpha-Pinene	19.48	93	2584858	29.991	ng	99
76) n-Propylbenzene	19.58	91	6048498	30.449	ng	99
77) 3-Ethyltoluene	19.67	105	4900777	29.034	ng	99
78) 4-Ethyltoluene	19.70	105	4849299	30.019	ng	99
79) 1,3,5-Trimethylbenzene	19.77	105	4041044	28.106	ng	99
80) alpha-Methylstyrene	19.91	118	2196902	27.957	ng	92
81) 2-Ethyltoluene	19.94	105	4833213	29.006	ng	99
82) 1,2,4-Trimethylbenzene	20.14	105	4517843	30.331	ng	98
83) n-Decane	20.23	57	2051174	28.494	ng	98
84) Benzyl Chloride	20.25	91	3695288	32.008	ng	98
85) 1,3-Dichlorobenzene	20.27	146	2482967	31.066	ng	99
86) 1,4-Dichlorobenzene	20.32	146	2426272	30.567	ng	99
87) sec-Butylbenzene	20.37	105	5468440	29.519	ng	99
88) 4-Isopropyltoluene (p-...	20.51	119	5471737	30.893	ng	98
89) 1,2,3-Trimethylbenzene	20.51	105	4583034	30.653	ng	98
90) 1,2-Dichlorobenzene	20.63	146	2462703	30.150	ng	100
91) d-Limonene	20.64	68	1720130	29.863	ng	97
92) 1,2-Dibromo-3-Chloropr...	21.01	157	870112	31.740	ng	96
93) n-Undecane	21.33	57	1381815	18.606	ng	98
94) 1,2,4-Trichlorobenzene	22.14	180	1444990	30.353	ng	99
95) Naphthalene	22.24	128	4398493	26.401	ng	100
96) n-Dodecane	22.24	57	490843	6.651	ng	98
97) Hexachlorobutadiene	22.56	225	1001777	26.393	ng	100
98) Cyclohexanone	18.30	55	1498562	28.736	ng	97
99) tert-Butylbenzene	20.14	119	4352896	29.802	ng	99
100) n-Butylbenzene	20.88	91	4379992	29.253	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\21\04212031.D Vial: 2
Acq On : 22 Apr 2020 1:56 Operator: WA
Sample : CCV2end R16042120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 22 03:15:33 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_04\22\04222002.D Vial: 2
Acq On : 22 Apr 2020 3:04 Operator: WA
Sample : CCV R16042220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 22 05:14:03 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 4/22/20

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	124	-0.01
2	T	Propene	1.311	1.457	-11.1	145	-0.01
3	T	Dichlorodifluoromethane (CF	2.821	2.866	-1.6	134	0.00
4	T	Chloromethane	2.227	2.427	-9.0	141	-0.01
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.796	1.681	6.4	124	-0.01
6	T	Vinyl Chloride	2.351	2.448	-4.1	136	-0.02
7	T	1,3-Butadiene	1.703	1.617	5.0	139	-0.02
8	T	Bromomethane	1.178	1.252	-6.3	137	-0.02
9	T	Chloroethane	0.902	0.965	-7.0	139	-0.02
10	T	Ethanol	1.036	1.101	-6.3	136	-0.07
11	T	Acetonitrile	2.279	2.400	-5.3	142	-0.04
12	T	Acrolein	0.762	0.892	-17.1	138	-0.02
13	T	Acetone	1.023	1.130	-10.5	128	-0.04
14	T	Trichlorofluoromethane	2.487	2.525	-1.5	128	-0.01
15	T	2-Propanol (Isopropanol)	3.033	3.570	-17.7	135	-0.04
16	T	Acrylonitrile	1.534	1.839	-19.9	134	-0.03
17	T	1,1-Dichloroethene	1.230	1.330	-8.1	132	-0.01
18	T	2-Methyl-2-Propanol (tert-B	2.721	3.400	-25.0	127	-0.03
19	T	Methylene Chloride	1.330	1.425	-7.1	130	-0.01
20	T	3-Chloro-1-propene (Allyl C	1.724	1.943	-12.7	134	-0.02
21	T	Trichlorotrifluoroethane	1.189	1.202	-1.1	128	0.00
22	T	Carbon Disulfide	4.785	5.190	-8.5	131	-0.01
23	T	trans-1,2-Dichloroethene	1.785	1.975	-10.6	133	-0.01
24	T	1,1-Dichloroethane	2.278	2.388	-4.8	130	-0.01
25	T	Methyl tert-Butyl Ether	3.688	3.566	3.3	119	-0.01
26	T	Vinyl Acetate	0.351	0.381	-8.5	116	-0.03
27	T	2-Butanone (MEK)	0.851	0.981	-15.3	124	-0.02
28	T	cis-1,2-Dichloroethene	1.855	1.945	-4.9	129	-0.01
29	T	Diisopropyl Ether	1.357	1.568	-15.5	137	-0.01
30	T	Ethyl Acetate	0.503	0.624	-24.1	125	-0.02
31	T	n-Hexane	2.332	2.686	-15.2	129	0.00
32	T	Chloroform	2.482	2.525	-1.7	124	-0.02
33	S	1,2-Dichloroethane-d4(SS1)	1.731	1.644	5.0	122	-0.01
34	T	Tetrahydrofuran (THF)	0.876	0.916	-4.6	128	0.00
35	T	Ethyl tert-Butyl Ether	1.585	1.668	-5.2	125	-0.01
36	T	1,2-Dichloroethane	1.936	1.901	1.8	123	-0.01
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	124	-0.01
38	T	1,1,1-Trichloroethane	0.491	0.505	-2.9	124	0.00
39	T	Isopropyl Acetate	0.203	0.246	-21.2	128	-0.01
40	T	1-Butanol	0.325	0.382	-17.5	119	-0.04
41	T	Benzene	1.293	1.353	-4.6	120	-0.01
42	T	Carbon Tetrachloride	0.444	0.470	-5.9	123	-0.01
43	T	Cyclohexane	0.496	0.532	-7.3	123	0.00
44	T	tert-Amyl Methyl Ether	0.836	0.927	-10.9	127	-0.01
45	T	1,2-Dichloropropane	0.296	0.322	-8.8	132	-0.01
46	T	Bromodichloromethane	0.437	0.474	-8.5	124	-0.01
47	T	Trichloroethene	0.366	0.349	4.6	124	0.00
48	T	1,4-Dioxane	0.250	0.279	-11.6	127	-0.01
49	T	2,2,4-Trimethylpentane (Iso	1.228	1.344	-9.4	131	0.00
50	T	Methyl Methacrylate	0.125	0.144	-15.2	119	-0.01
51	T	n-Heptane	0.302	0.328	-8.6	128	0.00
52	T	cis-1,3-Dichloropropene	0.477	0.571	-19.7	128	0.00
53	T	4-Methyl-2-pentanone	0.271	0.321	-18.5	129	-0.01
54	T	trans-1,3-Dichloropropene	0.443	0.508	-14.7	128	0.00
55	T	1,1,2-Trichloroethane	0.298	0.321	-7.7	127	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_04\22\04222002.D Vial: 2
Acq On : 22 Apr 2020 3:04 Operator: WA
Sample : CCV R16042220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 22 05:14:03 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	122	0.00
57	S	Toluene-d8 (SS2)	2.216	2.143	3.3	118	0.00
58	T	Toluene	2.739	2.785	-1.7	119	0.00
59	T	2-Hexanone	1.371	1.613	-17.7	130	-0.02
60	T	Dibromochloromethane	0.729	0.849	-16.5	124	0.00
61	T	1,2-Dibromoethane	0.701	0.796	-13.6	126	0.00
62	T	n-Butyl Acetate	1.466	1.800	-22.8	131	0.00
63	T	n-Octane	0.544	0.601	-10.5	130	0.00
64	T	Tetrachloroethene	0.763	0.797	-4.5	122	0.00
65	T	Chlorobenzene	1.843	1.898	-3.0	122	0.00
66	T	Ethylbenzene	3.006	3.295	-9.6	119	0.00
67	T	m- & p-Xylenes	2.444	2.649	-8.4	116	0.00
68	T	Bromoform	0.659	0.733	-11.2	117	0.00
69	T	Styrene	1.917	2.046	-6.7	114	0.00
70	T	o-Xylene	2.444	2.631	-7.7	116	0.00
71	T	n-Nonane	1.222	1.371	-12.2	127	0.00
72	T	1,1,2,2-Tetrachloroethane	1.174	1.311	-11.7	121	0.00
73	S	Bromofluorobenzene (SS3)	0.782	0.786	-0.5	121	0.00
74	T	Cumene	3.091	3.305	-6.9	115	0.00
75	T	alpha-Pinene	1.566	1.730	-10.5	115	0.00
76	T	n-Propylbenzene	3.610	4.004	-10.9	117	0.00
77	T	3-Ethyltoluene	3.067	3.299	-7.6	115	0.00
78	T	4-Ethyltoluene	2.935	3.207	-9.3	114	0.00
79	T	1,3,5-Trimethylbenzene	2.613	2.726	-4.3	113	0.00
80	T	alpha-Methylstyrene	1.428	1.468	-2.8	108	0.00
81	T	2-Ethyltoluene	3.028	3.200	-5.7	113	0.00
82	T	1,2,4-Trimethylbenzene	2.707	3.012	-11.3	110	-0.01
83	T	n-Decane	1.308	1.370	-4.7	111	0.00
84	T	Benzyl Chloride	2.098	2.458	-17.2	123	-0.01
85	T	1,3-Dichlorobenzene	1.452	1.655	-14.0	114	0.00
86	T	1,4-Dichlorobenzene	1.442	1.621	-12.4	115	0.00
87	T	sec-Butylbenzene	3.366	3.652	-8.5	114	0.00
88	T	4-Isopropyltoluene (p-Cymen	3.218	3.580	-11.2	107	-0.01
89	T	1,2,3-Trimethylbenzene	2.717	3.000	-10.4	109	0.00
90	T	1,2-Dichlorobenzene	1.484	1.649	-11.1	114	0.00
91	T	d-Limonene	1.047	1.139	-8.8	113	-0.01
92	T	1,2-Dibromo-3-Chloropropane	0.498	0.594	-19.3	129	0.00
93	T	n-Undecane	1.349	0.915	32.2#	74	0.00
94	T	1,2,4-Trichlorobenzene	0.865	0.983	-13.6	138	0.00
95	T	Naphthalene	3.027	3.052	-0.8	102	0.00
96	T	n-Dodecane	1.341	0.334	75.1#	25#	0.00
97	T	Hexachlorobutadiene	0.690	0.688	0.3	116	0.00
98	T	Cyclohexanone	0.948	1.067	-12.6	123	-0.02
99	T	tert-Butylbenzene	2.654	2.902	-9.3	107	0.00
100	T	n-Butylbenzene	2.721	2.923	-7.4	116	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\22\04222002.D Vial: 2
Acq On : 22 Apr 2020 3:04 Operator: WA
Sample : CCV R16042220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 22 05:14:03 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 4/22/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	343010	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.30	114	1495840	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.61	82	707924	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	563758	11.869	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.96%				
57) Toluene-d8 (SS2)	15.75	98	1517168	12.091	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.72%				
73) Bromofluorobenzene (SS3)	19.00	174	556134	12.551	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.40%				
Target Compounds							Qvalue
2) Propene	4.10	42	1059813	29.460	ng		99
3) Dichlorodifluoromethan...	4.26	85	2083918	26.925	ng		100
4) Chloromethane	4.54	50	1764765	28.876	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	1211046	24.567	ng		100
6) Vinyl Chloride	4.97	62	1813625	28.115	ng		100
7) 1,3-Butadiene	5.23	54	1176019	25.166	ng		100
8) Bromomethane	5.67	94	927916	28.715	ng		100
9) Chloroethane	6.00	64	715275	28.897	ng		100
10) Ethanol	6.37	45	3935966	138.435	ng		100
11) Acetonitrile	6.62	41	1728418	27.634	ng		100
12) Acrolein	6.81	56	630159	30.119	ng		99
13) Acetone	7.02	58	4130894	147.223	ng		99
14) Trichlorofluoromethane	7.26	101	1836461	26.910	ng		100
15) 2-Propanol (Isopropanol)	7.51	45	5143505	61.809	ng		98
16) Acrylonitrile	7.78	53	1324396	31.455	ng		100
17) 1,1-Dichloroethene	8.23	96	985052	29.184	ng		99
18) 2-Methyl-2-Propanol (t...	8.38	59	5037870	67.463	ng		98
19) Methylene Chloride	8.45	84	1036057	28.378	ng		98
20) 3-Chloro-1-propene (Al...	8.61	41	1439624	30.434	ng		97
21) Trichlorotrifluoroethane	8.87	151	890599	27.287	ng		99
22) Carbon Disulfide	8.71	76	3810015	29.017	ng		100
23) trans-1,2-Dichloroethene	9.72	61	1463530	29.874	ng		99
24) 1,1-Dichloroethane	9.98	63	1785993	28.566	ng		100
25) Methyl tert-Butyl Ether	10.07	73	2642380	26.109	ng		99
26) Vinyl Acetate	10.23	86	1396951	145.083	ng	#	81
27) 2-Butanone (MEK)	10.47	72	713421	30.542	ng	#	91
28) cis-1,2-Dichloroethene	11.00	61	1414022	27.781	ng		99
29) Diisopropyl Ether	11.29	87	1161869	31.193	ng	#	89
30) Ethyl Acetate	11.30	61	928191	67.226	ng		98
31) n-Hexane	11.28	57	1990431	31.105	ng		99
32) Chloroform	11.34	83	1853738	27.219	ng		100
34) Tetrahydrofuran (THF)	11.74	72	685121	28.508	ng		95
35) Ethyl tert-Butyl Ether	11.88	87	1236136	28.417	ng		96
36) 1,2-Dichloroethane	12.14	62	1408794	26.519	ng		100
38) 1,1,1-Trichloroethane	12.42	97	1617672	27.559	ng		100
39) Isopropyl Acetate	12.85	61	1554567	64.012	ng		99
40) 1-Butanol	12.87	56	2374138	61.094	ng		97
41) Benzene	12.90	78	4289462	27.731	ng		100
42) Carbon Tetrachloride	13.06	117	1476708	27.801	ng		100
43) Cyclohexane	13.20	84	3371675	56.771	ng		95
44) tert-Amyl Methyl Ether	13.54	73	2995679	29.939	ng		99
45) 1,2-Dichloropropane	13.75	63	1041543	29.445	ng		100
46) Bromodichloromethane	13.95	83	1530836	29.281	ng		100
47) Trichloroethene	14.00	130	1117608	25.500	ng		100
48) 1,4-Dioxane	13.97	88	900010	30.054	ng		97
49) 2,2,4-Trimethylpentane...	14.07	57	4301633	29.267	ng		98
50) Methyl Methacrylate	14.20	100	927848	62.053	ng		94

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\22\04222002.D Vial: 2
Acq On : 22 Apr 2020 3:04 Operator: WA
Sample : CCV R16042220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 22 05:14:03 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

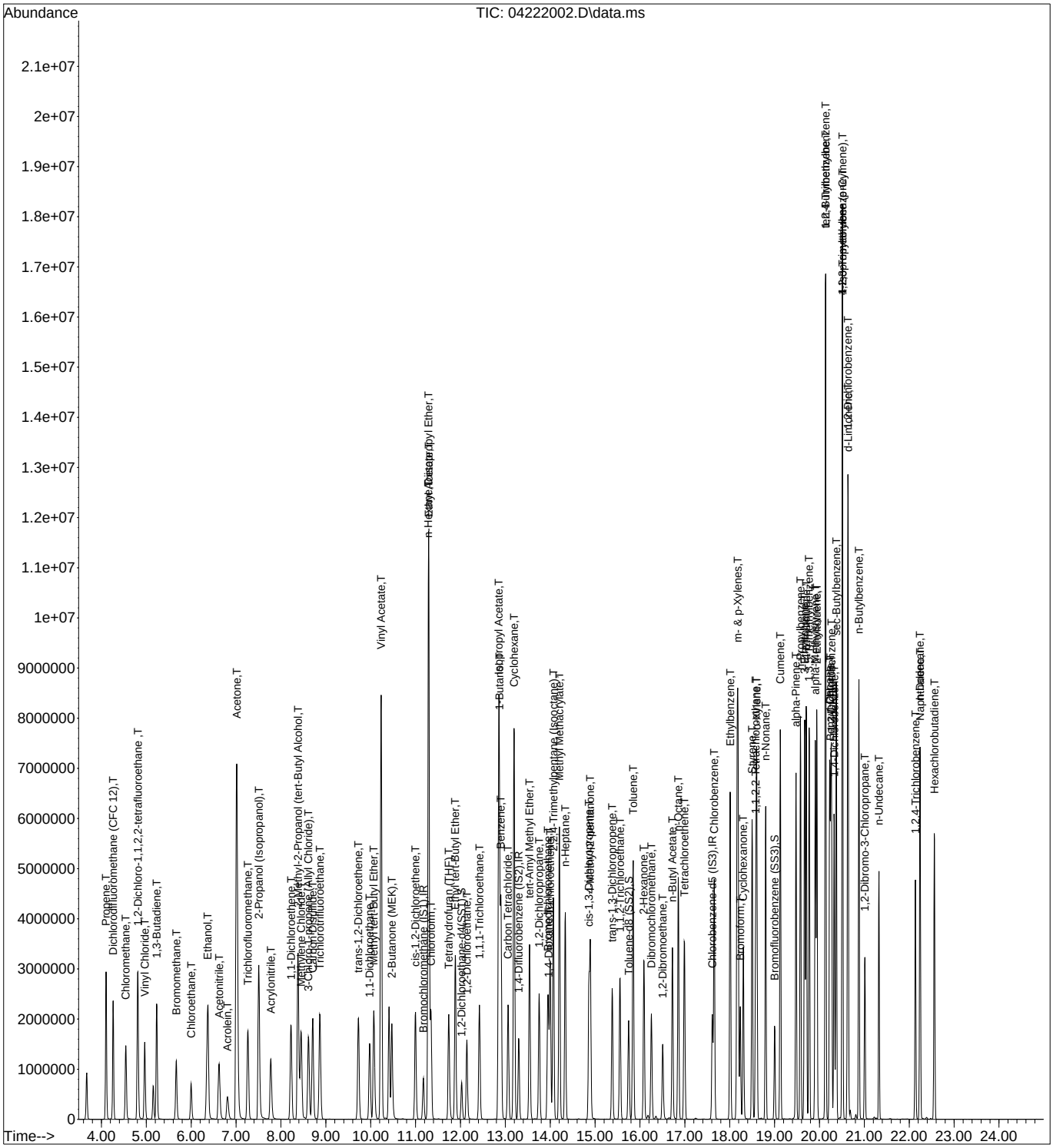
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.34	71	1059625	29.340	ng	97
52) cis-1,3-Dichloropropene	14.86	75	1775898	31.103	ng	100
53) 4-Methyl-2-pentanone	14.89	58	1017564	31.387	ng	97
54) trans-1,3-Dichloropropene	15.38	75	1610979	30.370	ng	100
55) 1,1,2-Trichloroethane	15.56	97	1026890	28.760	ng	99
58) Toluene	15.85	91	4219168	27.194	ng	100
59) 2-Hexanone	16.09	43	2443492	31.472	ng	99
60) Dibromochloromethane	16.26	129	1286291	31.143	ng	100
61) 1,2-Dibromoethane	16.51	107	1205988	30.371	ng	100
62) n-Butyl Acetate	16.72	43	2777886	33.457	ng	99
63) n-Octane	16.85	57	918463	29.833	ng	97
64) Tetrachloroethene	16.99	166	1173130	27.135	ng	100
65) Chlorobenzene	17.65	112	2874777	27.539	ng	100
66) Ethylbenzene	18.01	91	4992524	29.331	ng	99
67) m- & p-Xylenes	18.18	91	8026395	57.977	ng	99
68) Bromoform	18.24	173	1110539	29.778	ng	100
69) Styrene	18.50	104	3070343	28.275	ng	99
70) o-Xylene	18.60	91	3986328	28.799	ng	99
71) n-Nonane	18.80	43	2077499	30.018	ng	96
72) 1,1,2,2-Tetrachloroethane	18.58	83	1986196	29.861	ng	100
74) Cumene	19.13	105	5054193	28.874	ng	99
75) alpha-Pinene	19.48	93	2621129	29.552	ng	99
76) n-Propylbenzene	19.58	91	6122286	29.949	ng	99
77) 3-Ethyltoluene	19.67	105	4950570	28.500	ng	99
78) 4-Ethyltoluene	19.70	105	4903898	29.499	ng	99
79) 1,3,5-Trimethylbenzene	19.77	105	4091018	27.649	ng	99
80) alpha-Methylstyrene	19.91	118	2223733	27.498	ng	92
81) 2-Ethyltoluene	19.94	105	4893164	28.535	ng	99
82) 1,2,4-Trimethylbenzene	20.14	105	4562444	29.765	ng	98
83) n-Decane	20.23	57	2076223	28.027	ng	98
84) Benzyl Chloride	20.25	91	3758623	31.637	ng	98
85) 1,3-Dichlorobenzene	20.27	146	2507862	30.491	ng	100
86) 1,4-Dichlorobenzene	20.33	146	2456501	30.073	ng	99
87) sec-Butylbenzene	20.37	105	5532110	29.019	ng	99
88) 4-Isopropyltoluene (p-...	20.51	119	5524752	30.311	ng	98
89) 1,2,3-Trimethylbenzene	20.51	105	4630556	30.095	ng	98
90) 1,2-Dichlorobenzene	20.63	146	2497858	29.716	ng	99
91) d-Limonene	20.64	68	1741543	29.380	ng	97
92) 1,2-Dibromo-3-Chloropr...	21.01	157	882325	31.276	ng	95
93) n-Undecane	21.33	57	1399744	18.315	ng	98
94) 1,2,4-Trichlorobenzene	22.14	180	1488918	30.392	ng	99
95) Naphthalene	22.24	128	4451344	25.963	ng	100
96) n-Dodecane	22.24	57	491605	6.473	ng	98
97) Hexachlorobutadiene	22.56	225	1031828	26.417	ng	100
98) Cyclohexanone	18.30	55	1511373	28.163	ng	97
99) tert-Butylbenzene	20.14	119	4395804	29.245	ng	99
100) n-Butylbenzene	20.88	91	4427822	28.737	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\22\04222002.D Vial: 2
Acq On : 22 Apr 2020 3:04 Operator: WA
Sample : CCV R16042220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 22 05:14:03 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_04\22\04222039.D Vial: 2
Acq On : 23 Apr 2020 00:31 Operator: LH
Sample : CCVend R16042220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 23 07:14:07 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 4/23/20

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	139	-0.01
2	T	Propene	1.311	1.325	-1.1	147	-0.02
3	T	Dichlorodifluoromethane (CF	2.821	2.693	4.5	141	-0.01
4	T	Chloromethane	2.227	2.239	-0.5	145	-0.02
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.796	1.646	8.4	135	-0.02
6	T	Vinyl Chloride	2.351	2.265	3.7	140	-0.02
7	T	1,3-Butadiene	1.703	1.537	9.7	148	-0.02
8	T	Bromomethane	1.178	1.256	-6.6	153	-0.02
9	T	Chloroethane	0.902	0.930	-3.1	149	-0.02
10	T	Ethanol	1.036	1.029	0.7	143	-0.08
11	T	Acetonitrile	2.279	2.234	2.0	147	-0.05
12	T	Acrolein	0.762	0.829	-8.8	144	-0.03
13	T	Acetone	1.023	1.056	-3.2	134	-0.05
14	T	Trichlorofluoromethane	2.487	2.435	2.1	138	-0.02
15	T	2-Propanol (Isopropanol)	3.033	3.310	-9.1	140	-0.05
16	T	Acrylonitrile	1.534	1.721	-12.2	141	-0.03
17	T	1,1-Dichloroethene	1.230	1.296	-5.4	143	-0.02
18	T	2-Methyl-2-Propanol (tert-B	2.721	3.190	-17.2	134	-0.03
19	T	Methylene Chloride	1.330	1.372	-3.2	140	-0.02
20	T	3-Chloro-1-propene (Allyl C	1.724	1.799	-4.4	139	-0.02
21	T	Trichlorotrifluoroethane	1.189	1.219	-2.5	145	-0.01
22	T	Carbon Disulfide	4.785	4.951	-3.5	139	-0.02
23	T	trans-1,2-Dichloroethene	1.785	1.891	-5.9	142	-0.01
24	T	1,1-Dichloroethane	2.278	2.278	0.0	139	-0.01
25	T	Methyl tert-Butyl Ether	3.688	3.411	7.5	127	-0.02
26	T	Vinyl Acetate	0.351	0.359	-2.3	122	-0.03
27	T	2-Butanone (MEK)	0.851	0.918	-7.9	130	-0.02
28	T	cis-1,2-Dichloroethene	1.855	1.845	0.5	137	-0.02
29	T	Diisopropyl Ether	1.357	1.289	5.0	126	-0.01
30	T	Ethyl Acetate	0.503	0.573	-13.9	128	-0.03
31	T	n-Hexane	2.332	2.478	-6.3	133	0.00
32	T	Chloroform	2.482	2.388	3.8	131	-0.02
33	S	1,2-Dichloroethane-d4(SS1)	1.731	1.588	8.3	132	-0.01
34	T	Tetrahydrofuran (THF)	0.876	0.866	1.1	135	-0.01
35	T	Ethyl tert-Butyl Ether	1.585	1.588	-0.2	133	-0.01
36	T	1,2-Dichloroethane	1.936	1.809	6.6	131	-0.01
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	136	-0.01
38	T	1,1,1-Trichloroethane	0.491	0.496	-1.0	133	0.00
39	T	Isopropyl Acetate	0.203	0.232	-14.3	132	-0.01
40	T	1-Butanol	0.325	0.361	-11.1	123	-0.04
41	T	Benzene	1.293	1.286	0.5	126	-0.01
42	T	Carbon Tetrachloride	0.444	0.462	-4.1	132	-0.01
43	T	Cyclohexane	0.496	0.514	-3.6	130	-0.01
44	T	tert-Amyl Methyl Ether	0.836	0.893	-6.8	134	-0.01
45	T	1,2-Dichloropropane	0.296	0.309	-4.4	138	-0.01
46	T	Bromodichloromethane	0.437	0.460	-5.3	132	-0.01
47	T	Trichloroethene	0.366	0.345	5.7	134	0.00
48	T	1,4-Dioxane	0.250	0.272	-8.8	135	-0.01
49	T	2,2,4-Trimethylpentane (Iso	1.228	1.278	-4.1	137	-0.01
50	T	Methyl Methacrylate	0.125	0.139	-11.2	126	-0.01
51	T	n-Heptane	0.302	0.312	-3.3	133	0.00
52	T	cis-1,3-Dichloropropene	0.477	0.549	-15.1	136	0.00
53	T	4-Methyl-2-pentanone	0.271	0.307	-13.3	135	-0.01
54	T	trans-1,3-Dichloropropene	0.443	0.491	-10.8	136	0.00
55	T	1,1,2-Trichloroethane	0.298	0.315	-5.7	137	-0.01

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_04\22\04222039.D Vial: 2
Acq On : 23 Apr 2020 00:31 Operator: LH
Sample : CCVend R16042220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 23 07:14:07 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	135	0.00
57	S	Toluene-d8 (SS2)	2.216	2.093	5.6	128	-0.01
58	T	Toluene	2.739	2.648	3.3	126	0.00
59	T	2-Hexanone	1.371	1.509	-10.1	135	-0.02
60	T	Dibromochloromethane	0.729	0.820	-12.5	133	0.00
61	T	1,2-Dibromoethane	0.701	0.768	-9.6	135	0.00
62	T	n-Butyl Acetate	1.466	1.676	-14.3	135	0.00
63	T	n-Octane	0.544	0.554	-1.8	133	0.00
64	T	Tetrachloroethene	0.763	0.799	-4.7	135	0.00
65	T	Chlorobenzene	1.843	1.822	1.1	130	0.00
66	T	Ethylbenzene	3.006	3.127	-4.0	125	0.00
67	T	m- & p-Xylenes	2.444	2.494	-2.0	122	0.00
68	T	Bromoform	0.659	0.701	-6.4	125	0.00
69	T	Styrene	1.917	1.958	-2.1	121	0.00
70	T	o-Xylene	2.444	2.489	-1.8	122	0.00
71	T	n-Nonane	1.222	1.277	-4.5	132	0.00
72	T	1,1,2,2-Tetrachloroethane	1.174	1.240	-5.6	127	-0.01
73	S	Bromofluorobenzene (SS3)	0.782	0.836	-6.9	143	0.00
74	T	Cumene	3.091	3.131	-1.3	121	0.00
75	T	alpha-Pinene	1.566	1.625	-3.8	120	0.00
76	T	n-Propylbenzene	3.610	3.765	-4.3	122	0.00
77	T	3-Ethyltoluene	3.067	3.154	-2.8	122	0.00
78	T	4-Ethyltoluene	2.935	3.015	-2.7	119	0.00
79	T	1,3,5-Trimethylbenzene	2.613	2.599	0.5	119	0.00
80	T	alpha-Methylstyrene	1.428	1.385	3.0	114	0.00
81	T	2-Ethyltoluene	3.028	2.997	1.0	117	0.00
82	T	1,2,4-Trimethylbenzene	2.707	2.820	-4.2	114	-0.01
83	T	n-Decane	1.308	1.286	1.7	116	0.00
84	T	Benzyl Chloride	2.098	2.290	-9.2	128	-0.01
85	T	1,3-Dichlorobenzene	1.452	1.560	-7.4	119	0.00
86	T	1,4-Dichlorobenzene	1.442	1.537	-6.6	121	-0.01
87	T	sec-Butylbenzene	3.366	3.452	-2.6	119	0.00
88	T	4-Isopropyltoluene (p-Cymen	3.218	3.364	-4.5	112	-0.01
89	T	1,2,3-Trimethylbenzene	2.717	2.822	-3.9	113	0.00
90	T	1,2-Dichlorobenzene	1.484	1.550	-4.4	119	0.00
91	T	d-Limonene	1.047	1.069	-2.1	118	-0.01
92	T	1,2-Dibromo-3-Chloropropane	0.498	0.566	-13.7	137	0.00
93	T	n-Undecane	1.349	0.875	35.1#	79	0.00
94	T	1,2,4-Trichlorobenzene	0.865	0.967	-11.8	150	0.00
95	T	Naphthalene	3.027	2.933	3.1	109	0.00
96	T	n-Dodecane	1.341	0.323	75.9#	27#	0.00
97	T	Hexachlorobutadiene	0.690	0.701	-1.6	131	0.00
98	T	Cyclohexanone	0.948	1.002	-5.7	128	-0.02
99	T	tert-Butylbenzene	2.654	2.724	-2.6	112	0.00
100	T	n-Butylbenzene	2.721	2.757	-1.3	122	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\22\04222039.D Vial: 2
Acq On : 23 Apr 2020 00:31 Operator: LH
Sample : CCVend R16042220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 23 07:14:07 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/23/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	383620	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.30	114	1640478	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.61	82	786350	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.03	65	609306	11.470	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.76%				
57) Toluene-d8 (SS2)	15.74	98	1645886	11.809	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.48%				
73) Bromofluorobenzene (SS3)	19.00	174	657290	13.354	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.80%				
Target Compounds							Qvalue
2) Propene	4.10	42	1077294	26.776	ng		99
3) Dichlorodifluoromethan...	4.26	85	2190285	25.303	ng		100
4) Chloromethane	4.54	50	1820839	26.640	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	1325841	24.048	ng		99
6) Vinyl Chloride	4.96	62	1876464	26.010	ng		100
7) 1,3-Butadiene	5.22	54	1250129	23.919	ng		99
8) Bromomethane	5.66	94	1040629	28.794	ng		100
9) Chloroethane	5.99	64	770849	27.845	ng		99
10) Ethanol	6.36	45	4112616	129.335	ng		100
11) Acetonitrile	6.61	41	1799902	25.731	ng		100
12) Acrolein	6.80	56	654918	27.989	ng		100
13) Acetone	7.01	58	4316868	137.564	ng		99
14) Trichlorofluoromethane	7.26	101	1980390	25.947	ng		100
15) 2-Propanol (Isopropanol)	7.50	45	5333307	57.306	ng		98
16) Acrylonitrile	7.77	53	1386119	29.436	ng		100
17) 1,1-Dichloroethene	8.22	96	1073904	28.448	ng		95
18) 2-Methyl-2-Propanol (t...	8.38	59	5286536	63.298	ng		98
19) Methylene Chloride	8.45	84	1115454	27.318	ng		98
20) 3-Chloro-1-propene (Al...	8.61	41	1490874	28.181	ng		98
21) Trichlorotrifluoroethane	8.86	151	1010104	27.672	ng		96
22) Carbon Disulfide	8.71	76	4064391	27.677	ng		100
23) trans-1,2-Dichloroethene	9.72	61	1566664	28.594	ng		100
24) 1,1-Dichloroethane	9.98	63	1904877	27.242	ng		100
25) Methyl tert-Butyl Ether	10.06	73	2826302	24.970	ng		99
26) Vinyl Acetate	10.23	86	1473943	136.874	ng	#	87
27) 2-Butanone (MEK)	10.47	72	746186	28.563	ng		93
28) cis-1,2-Dichloroethene	10.99	61	1500224	26.354	ng		99
29) Diisopropyl Ether	11.29	87	1067903	25.636	ng	#	91
30) Ethyl Acetate	11.29	61	953529	61.751	ng		100
31) n-Hexane	11.28	57	2053620	28.695	ng		99
32) Chloroform	11.34	83	1960781	25.743	ng		99
34) Tetrahydrofuran (THF)	11.74	72	724407	26.952	ng		96
35) Ethyl tert-Butyl Ether	11.88	87	1315516	27.040	ng		98
36) 1,2-Dichloroethane	12.14	62	1498587	25.223	ng		100
38) 1,1,1-Trichloroethane	12.42	97	1739928	27.028	ng		99
39) Isopropyl Acetate	12.85	61	1608578	60.396	ng		99
40) 1-Butanol	12.87	56	2462099	57.771	ng		98
41) Benzene	12.90	78	4474055	26.374	ng		100
42) Carbon Tetrachloride	13.06	117	1590518	27.304	ng		100
43) Cyclohexane	13.19	84	3575583	54.896	ng		97
44) tert-Amyl Methyl Ether	13.54	73	3164182	28.835	ng		99
45) 1,2-Dichloropropane	13.75	63	1094310	28.209	ng		100
46) Bromodichloromethane	13.95	83	1631182	28.449	ng		100
47) Trichloroethene	14.00	130	1209477	25.163	ng		100
48) 1,4-Dioxane	13.97	88	962720	29.313	ng		97
49) 2,2,4-Trimethylpentane...	14.07	57	4488009	27.843	ng		98
50) Methyl Methacrylate	14.20	100	983730	59.990	ng		95

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\22\04222039.D Vial: 2
Acq On : 23 Apr 2020 00:31 Operator: LH
Sample : CCVend R16042220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 23 07:14:07 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

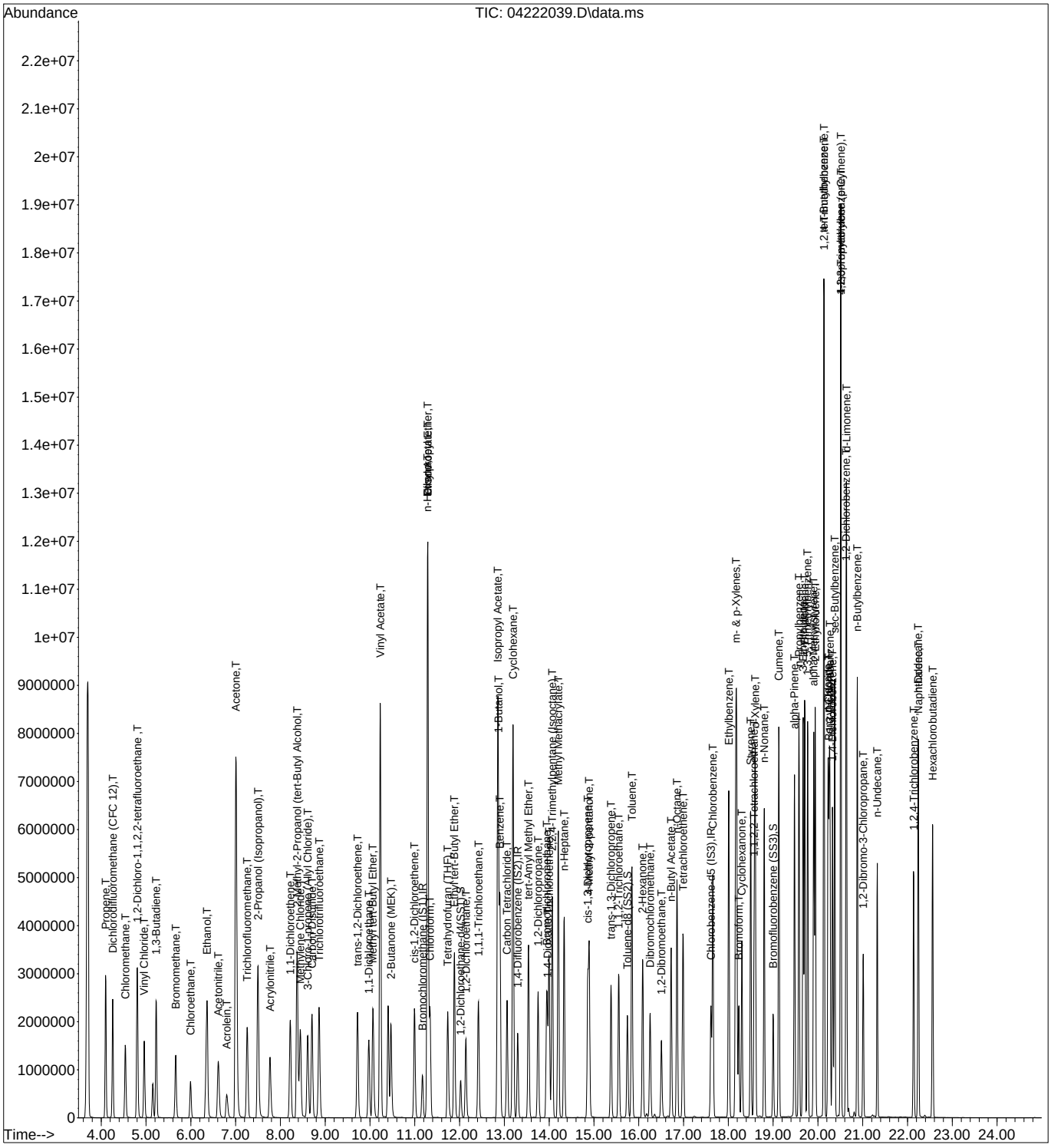
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.34	71	1105545	27.913	ng	99
52) cis-1,3-Dichloropropene	14.86	75	1874444	29.934	ng	100
53) 4-Methyl-2-pentanone	14.89	58	1067786	30.032	ng	99
54) trans-1,3-Dichloropropene	15.38	75	1706056	29.327	ng	100
55) 1,1,2-Trichloroethane	15.55	97	1106872	28.267	ng	100
58) Toluene	15.85	91	4455987	25.856	ng	100
59) 2-Hexanone	16.09	43	2539365	29.445	ng	99
60) Dibromochloromethane	16.26	129	1379440	30.067	ng	100
61) 1,2-Dibromoethane	16.51	107	1292634	29.307	ng	99
62) n-Butyl Acetate	16.72	43	2873101	31.153	ng	99
63) n-Octane	16.85	57	941802	27.540	ng	99
64) Tetrachloroethene	16.99	166	1307067	27.218	ng	100
65) Chlorobenzene	17.65	112	3065670	26.439	ng	100
66) Ethylbenzene	18.01	91	5262548	27.834	ng	100
67) m- & p-Xylenes	18.17	91	8392624	54.576	ng	99
68) Bromoform	18.24	173	1179674	28.477	ng	100
69) Styrene	18.50	104	3264040	27.061	ng	99
70) o-Xylene	18.60	91	4189038	27.245	ng	99
71) n-Nonane	18.80	43	2148903	27.953	ng	97
72) 1,1,2,2-Tetrachloroethane	18.58	83	2086241	28.237	ng	100
74) Cumene	19.13	105	5318680	27.354	ng	100
75) alpha-Pinene	19.48	93	2735089	27.762	ng	99
76) n-Propylbenzene	19.58	91	6395658	28.166	ng	99
77) 3-Ethyltoluene	19.67	105	5258555	27.254	ng	100
78) 4-Ethyltoluene	19.70	105	5121549	27.735	ng	99
79) 1,3,5-Trimethylbenzene	19.77	105	4332062	26.358	ng	99
80) alpha-Methylstyrene	19.91	118	2330227	25.941	ng	92
81) 2-Ethyltoluene	19.94	105	5090938	26.728	ng	99
82) 1,2,4-Trimethylbenzene	20.14	105	4745769	27.873	ng	98
83) n-Decane	20.23	57	2163359	26.291	ng	98
84) Benzyl Chloride	20.25	91	3889680	29.474	ng	99
85) 1,3-Dichlorobenzene	20.27	146	2624764	28.729	ng	99
86) 1,4-Dichlorobenzene	20.32	146	2586097	28.502	ng	100
87) sec-Butylbenzene	20.37	105	5808403	27.429	ng	99
88) 4-Isopropyltoluene (p-...	20.51	119	5767518	28.487	ng	98
89) 1,2,3-Trimethylbenzene	20.51	105	4837616	28.305	ng	98
90) 1,2-Dichlorobenzene	20.63	146	2608904	27.941	ng	99
91) d-Limonene	20.64	68	1816186	27.583	ng	98
92) 1,2-Dibromo-3-Chloropr...	21.01	157	934127	29.809	ng	96
93) n-Undecane	21.33	57	1486332	17.508	ng	98
94) 1,2,4-Trichlorobenzene	22.14	180	1627800	29.913	ng	100
95) Naphthalene	22.24	128	4750335	24.943	ng	100
96) n-Dodecane	22.24	57	528200	6.262	ng	98
97) Hexachlorobutadiene	22.56	225	1168197	26.925	ng	100
98) Cyclohexanone	18.30	55	1576154	26.441	ng	98
99) tert-Butylbenzene	20.13	119	4583081	27.450	ng	99
100) n-Butylbenzene	20.88	91	4639564	27.108	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_04\22\04222039.D Vial: 2
Acq On : 23 Apr 2020 00:31 Operator: LH
Sample : CCVend R16042220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04102001 (5/9)

Quant Time: Apr 23 07:14:07 2020
Quant Method : I:\MS16\METHODS\R16031120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Mar 11 10:42:05 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

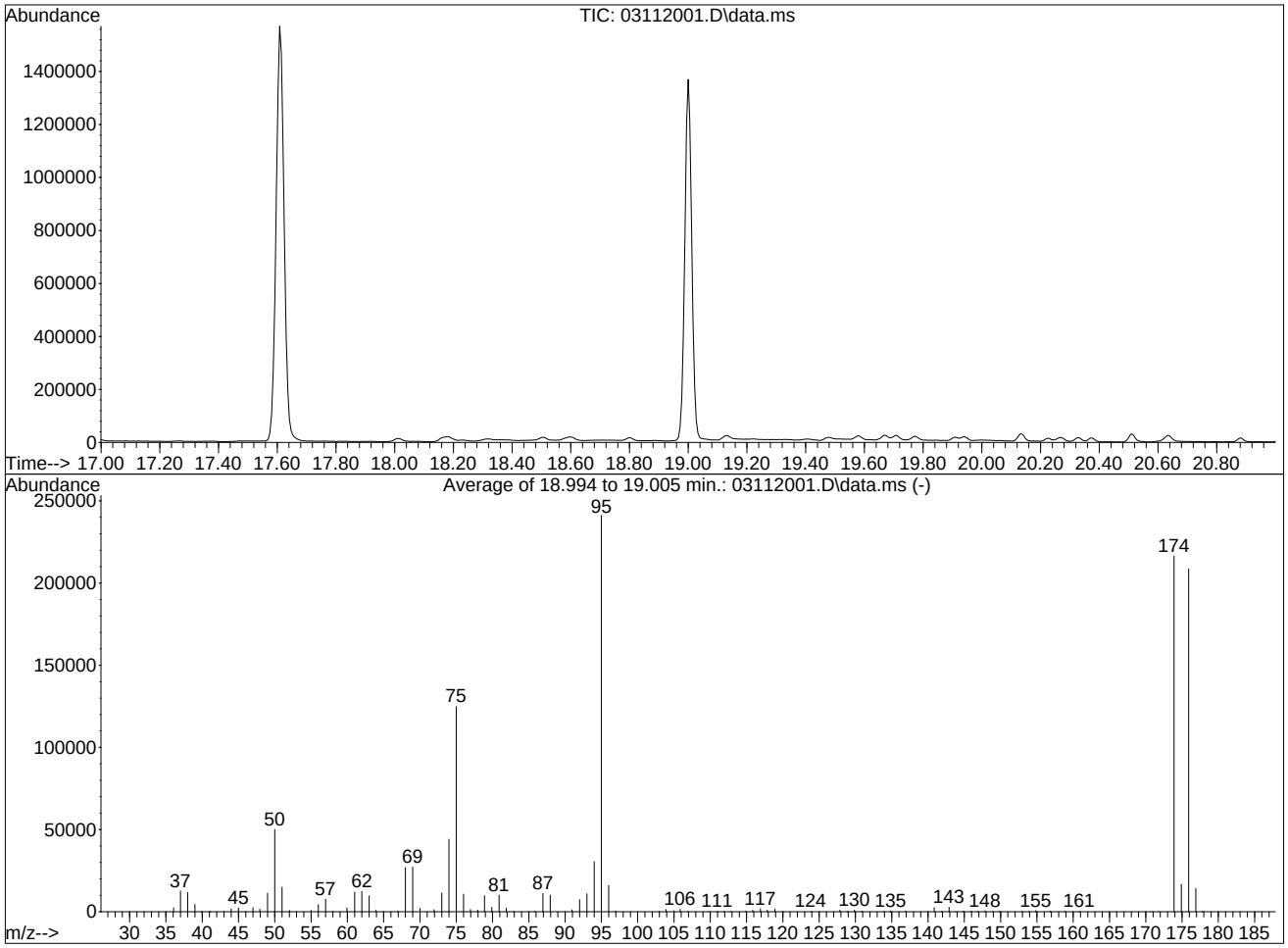


BFB

Data Path : I:\MS16\DATA\2020_03\11\
Data File : 03112001.D
Acq On : 11 Mar 2020 00:26
Operator : LH
Sample : 12.5ng TO15 BFB
Misc : S31-02112001
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16031120.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Mar 11 10:34:22 2020



AutoFind: Scans 2820, 2821, 2822; Background Corrected with Scan 2812

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	20.8	50085	PASS
75	95	30	66	51.8	124832	PASS
95	95	100	100	100.0	241195	PASS
96	95	5	9	6.6	15976	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	89.7	216448	PASS
175	174	4	9	7.7	16698	PASS
176	174	93	101	96.4	208661	PASS
177	176	5	9	6.7	14072	PASS

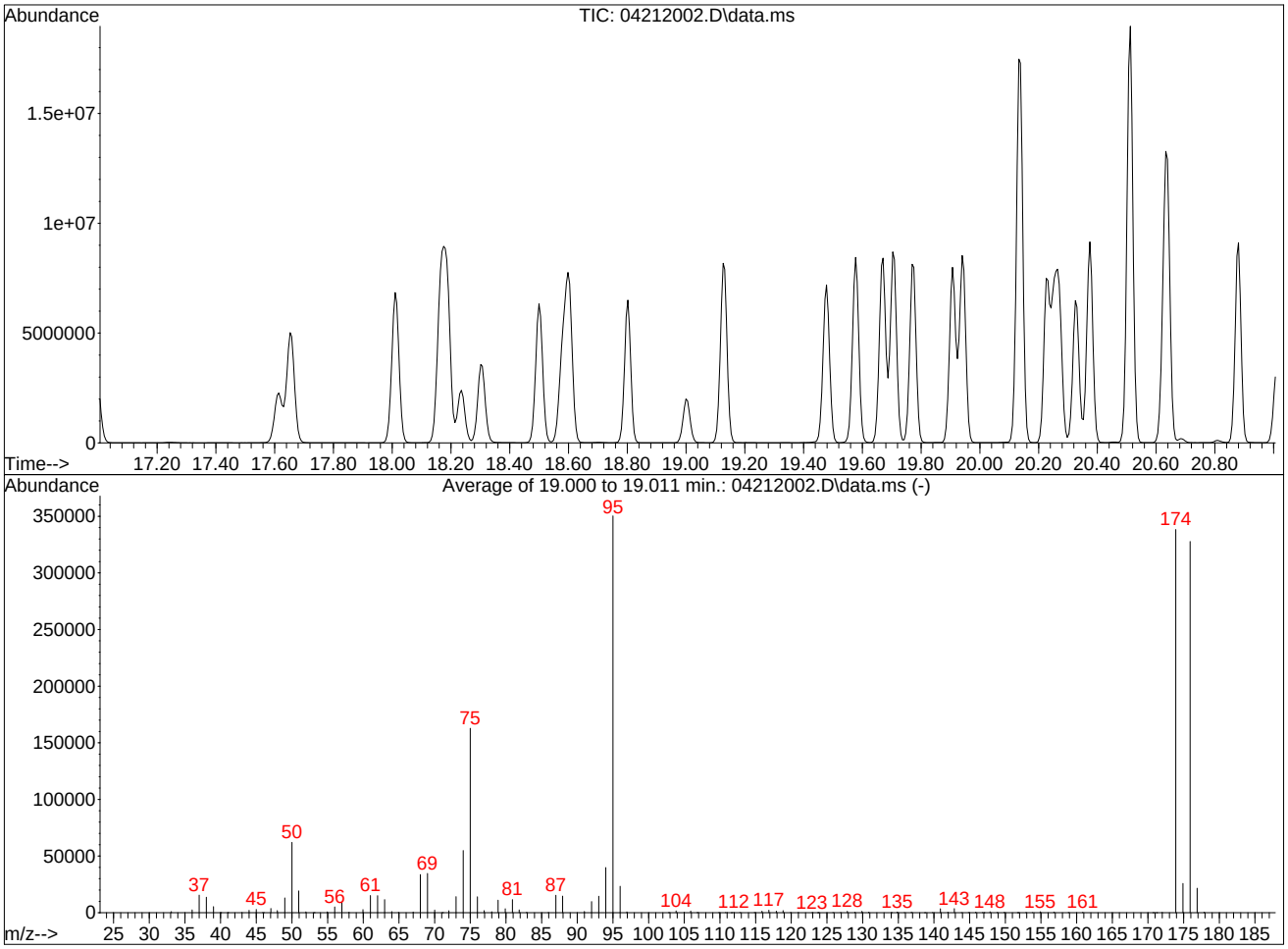
LH 3/11/20

BFB

Data Path : I:\MS16\DATA\2020_04\21\
Data File : 04212002.D
Acq On : 21 Apr 2020 8:32
Operator : LH
Sample : CCV R16042120_25ng
Misc : S31-02112001/S34-04102001 (5/9)
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16031120.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Mar 11 10:42:05 2020



AutoFind: Scans 2821, 2822, 2823; Background Corrected with Scan 2812

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	17.7	62151	PASS
75	95	30	66	46.5	162872	PASS
95	95	100	100	100.0	350336	PASS
96	95	5	9	6.7	23352	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	96.5	338240	PASS
175	174	4	9	7.6	25779	PASS
176	174	93	101	96.9	327744	PASS
177	176	5	9	6.6	21581	PASS

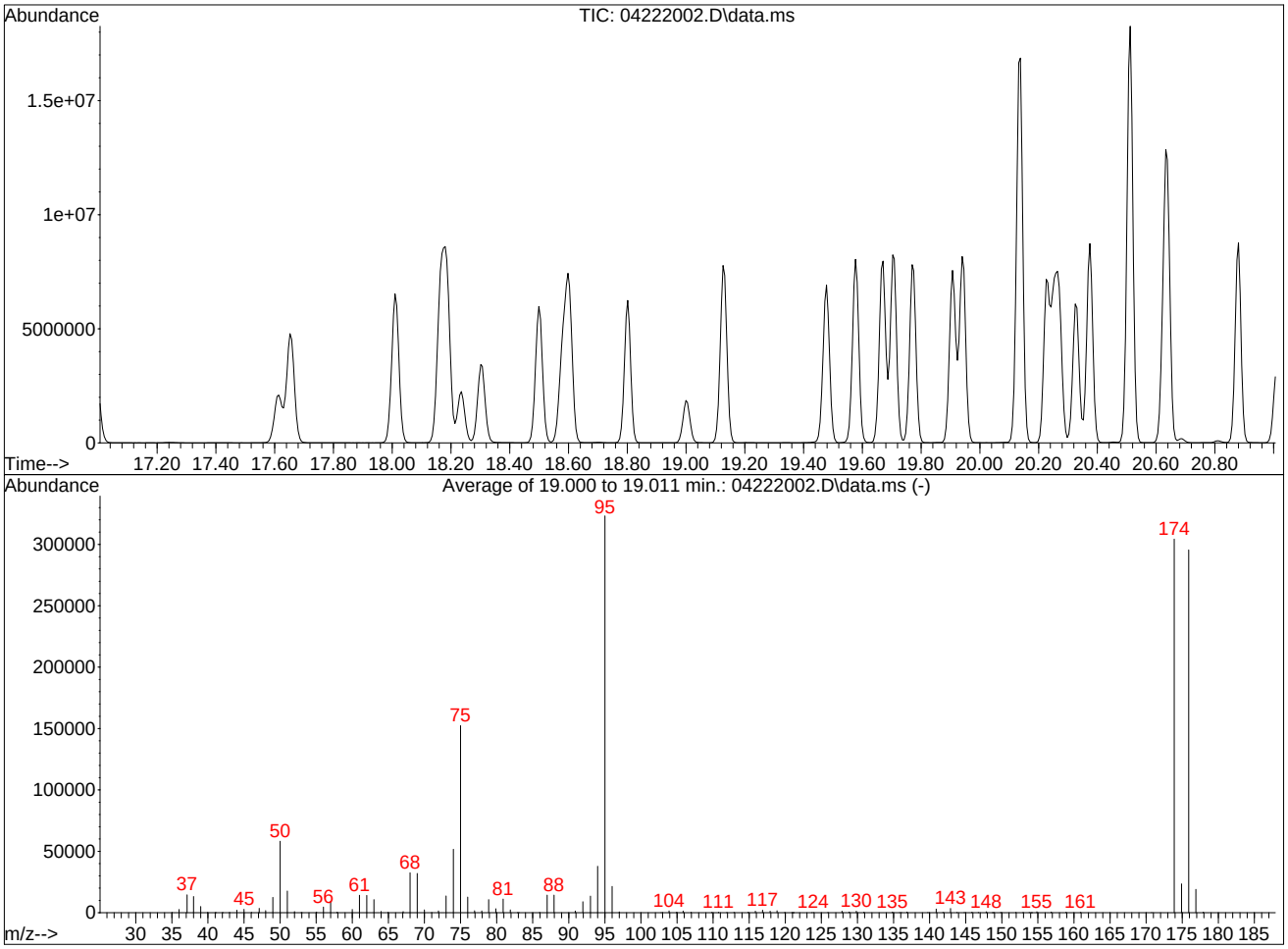
4/21/20

BFB

Data Path : I:\MS16\DATA\2020_04\22\
Data File : 04222002.D
Acq On : 22 Apr 2020 3:04
Operator : WA
Sample : CCV R16042220_25ng
Misc : S31-02112001/S34-04102001 (5/9)
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16031120.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Mar 11 10:42:05 2020



AutoFind: Scans 2821, 2822, 2823; Background Corrected with Scan 2812

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	18.0	58163	PASS
75	95	30	66	47.1	152389	PASS
95	95	100	100	100.0	323221	PASS
96	95	5	9	6.6	21422	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	94.1	304277	PASS
175	174	4	9	7.7	23512	PASS
176	174	93	101	97.1	295531	PASS
177	176	5	9	6.5	19084	PASS

4/22/20

Injection Log

Directory: J:\MS16\DATA\2020_03\11\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	3/11/20 0:26	03112001.D	12.5ng TO15 BFB	S31-02112001	LH	2	passed
2	3/11/20 0:59	03112002.D	0.1ng TO15 ICAL STD	S31-02112001/S34-03102004 (4/8)	LH	3	
3	3/11/20 1:32	03112003.D	0.2ng TO15 ICAL STD	S31-02112001/S34-03102004 (4/8)	LH	3	
4	3/11/20 2:05	03112004.D	0.5ng TO15 ICAL STD	S31-02112001/S34-03102003 (4/8)	LH	4	
5	3/11/20 2:38	03112005.D	1.0ng TO15 ICAL STD	S31-02112001/S34-03102003 (4/8)	LH	4	
6	3/11/20 3:12	03112006.D	5.0ng TO15 ICAL STD	S31-02112001/S34-03102003 (4/8)	LH	4	
7	3/11/20 3:45	03112007.D	25ng TO15 ICAL STD	S31-02112001/S34-03102002 (4/8)	LH	2	**R16031120.M**
8	3/11/20 4:18	03112008.D	50ng TO15 ICAL STD	S31-02112001/S34-03102002 (4/8)	LH	2	
9	3/11/20 4:52	03112009.D	100ng TO15 ICAL STD	S31-02112001/S34-03102002 (4/8)	LH	2	
10	3/11/20 5:25	03112010.D	25ng TO15 ICV STD	S31-02112001/S31-02262006 (3/26)	LH	2	passed

ICAL R16031120.M passed for all compounds.

LH *3/13/20*

Injection Log

Directory: I:\MS16\DATA\2020_04\21\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	4/21/20 7:58	04212001.D	CCV C16042120_25ng	S31-02112001/S34-03172008 (4/29)	LH	3	
2	4/21/20 8:32	04212002.D	CCV R16042120_25ng	S31-02112001/S34-04102001 (5/9)	LH	2	Passed
3	4/21/20 9:05	04212003.D	Blank (100mL)	S31-02112001	LH	2	
4	4/21/20 9:39	04212004.D	MB R16042120_1000mL	S31-02112001/AS01319	LH	2	Passed
5	4/21/20 10:12	04212005.D	LCS R16042120_25ng	S31-02112001/S34-03252003 (4/23)	LH	2	Passed
6	4/21/20 10:45	04212006.D	LCSD R16042120_25ng	S31-02112001/S34-03252003 (4/23)	LH	2	Passed
7	4/21/20 11:19	04212007.D	Blank (100mL)	S31-02112001	LH	2	
8	4/21/20 12:44	04212008.D	P2002031-005 (1.5mL)	S31-02112001	WA	1	
9	4/21/20 13:18	04212009.D	P2002031-011 (2.5mL)	S31-02112001	WA	1	
10	4/21/20 14:26	04212010.D	P2002031-018 (4.0mL)	S31-02112001	WA	1	
11	4/21/20 15:00	04212011.D	P2002031-016 (400mL)	S31-02112001	WA	4	
12	4/21/20 15:33	04212012.D	P2002031-007dil (40mL)	S31-02112001	WA	9	
13	4/21/20 16:07	04212013.D	P2002031-008dil (40mL)	S31-02112001	WA	10	
14	4/21/20 16:41	04212014.D	P2002031-013dil (40mL)	S31-02112001	WA	14	
15	4/21/20 17:33	04212015.D	Blank	S31-02112001	WA	1	
16	4/21/20 18:06	04212016.D	P2002031-017 (160mL)	S31-02112001	WA	5	
17	4/21/20 18:39	04212017.D	P2002031-017dup (160mL)	S31-02112001	WA	5	Passed
18	4/21/20 19:12	04212019.D	P2002031-019 (400mL)	S31-02112001	WA	6	
19	4/21/20 19:46	04212020.D	P2002031-020 (400mL)	S31-02112001	WA	7	
20	4/21/20 20:19	04212021.D	P2002032-001 (400mL)	S31-02112001	WA	8	need dil
21	4/21/20 20:53	04212022.D	P2002032-002 (400mL)	S31-02112001	WA	11	need dil
22	4/21/20 21:26	04212023.D	P2002032-003 (400mL)	S31-02112001	WA	12	need dil
23	4/21/20 22:00	04212024.D	P2002032-004 (400mL)	S31-02112001	WA	13	need dil
24	4/21/20 22:34	04212025.D	P2002032-006 (400mL)	S31-02112001	WA	15	
25	4/21/20 23:08	04212026.D	P2002032-007 (400mL)	S31-02112001	WA	16	
26	4/21/20 23:41	04212027.D	P2002032-008 (400mL)	S31-02112001	WA	9	closed
27	4/22/20 0:15	04212028.D	P2002032-009 (400mL)	S31-02112001	WA	10	
28	4/22/20 0:49	04212029.D	P2002032-010 (400mL)	S31-02112001	WA	14	
29	4/22/20 1:23	04212030.D	P2002032-011 (400mL)	S31-02112001	WA	4	
30	4/22/20 1:56	04212031.D	CCV2end R16042120_25ng	S31-02112001/S34-04102001 (5/9)	WA	2	Passed
							WA 4/22/20

Injection Log

Directory: I:\MS16\DATA\2020_04\22\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	4/22/20 2:30	04222001.D	CCV C16042220_25ng	S31-02112001/S34-03172008 (4/29)	WA	3	
2	4/22/20 3:04	04222002.D	CCV R16042220_25ng	S31-02112001/S34-04102001 (5/9)	WA	2	Passed
3	4/22/20 3:37	04222003.D	Blank (100mL)	S31-02112001	WA	2	
4	4/22/20 4:11	04222004.D	MB R16042220_1000mL	S31-02112001/AS01319	WA	2	Passed
5	4/22/20 4:44	04222005.D	LCS R16042220_25ng	S31-02112001/S34-03252003 (4/23)	WA	2	Passed
6	4/22/20 5:18	04222006.D	LCSD R16042220_25ng	S31-02112001/S34-03252003 (4/23)	WA	2	Passed
7	4/22/20 5:52	04222007.D	P2002032-002dil (25mL)	S31-02112001	WA	11	
8	4/22/20 6:25	04222008.D	P2002032-001dil (40mL)	S31-02112001	WA	8	
9	4/22/20 6:58	04222009.D	P2002032-003dil (25mL)	S31-02112001	WA	12	
10	4/22/20 7:32	04222010.D	P2002032-004dil (25mL)	S31-02112001	WA	13	
11	4/22/20 8:04	04222011.D	P2002032-005 (1.0mL)	S31-02112001	WA	1	
12	4/22/20 8:55	04222012.D	P2002032-005 (10mL)	S31-02112001	WA	1	
13	4/22/20 9:28	04222013.D	P2002032-008 (400mL)	S31-02112001	WA	9	
14	4/22/20 10:01	04222014.D	P2002032-012 (150mL)	S31-02112001	WA	4	
15	4/22/20 10:34	04222015.D	P2002154-002dil (35mL)	S31-02112001	WA	5	
16	4/22/20 11:08	04222016.D	P2002154-003 (30mL)	S31-02112001	WA	6	
17	4/22/20 11:41	04222017.D	P2002032-012dil (50mL)	S31-02112001	WA	4	
18	4/22/20 12:15	04222018.D	P2002154-004 (100mL)	S31-02112001	WA	7	
19	4/22/20 12:48	04222019.D	LCS Check_25ng	S31-02112001/S34-04102007 (5/9)	WA	2	
20	4/22/20 13:21	04222020.D	P2002154-005 (100mL)	S31-02112001	WA	8	
21	4/22/20 14:30	04222021.D	P2002154-001 (100mL)	S31-02112001	LH	4	
22	4/22/20 15:03	04222022.D	P2002154-002 (65mL)	S31-02112001	LH	5	IS3-failed
23	4/22/20 15:36	04222023.D	P2002154-003 (60mL)	S31-02112001	LH	6	IS3-failed
24	4/22/20 16:10	04222024.D	P2002154-003dup (60mL)	S31-02112001	LH	6	Passed
25	4/22/20 16:43	04222025.D	P2002154-003 dil (30mL)	S31-02112001	LH	6	
26	4/22/20 17:16	04222026.D	P2002071-001 (20mL)	S31-02112001	LH	15	
27	4/22/20 17:49	04222027.D	P2002154-006 (100mL)	S31-02112001	LH	7	
28	4/22/20 18:22	04222028.D	P2002154-007 (100mL)	S31-02112001	LH	8	
29	4/22/20 18:55	04222029.D	P2002154-008 (100mL)	S31-02112001	LH	9	
30	4/22/20 19:29	04222030.D	P2002154-009 (100mL)	S31-02112001	LH	10	
31	4/22/20 20:02	04222031.D	P2002154-010 (100mL)	S31-02112001	LH	11	
32	4/22/20 20:36	04222032.D	P2002100-002 (0.3mL)	S31-02112001	LH	1	
33	4/22/20 21:10	04222033.D	P2002154-011 (100mL)	S31-02112001	LH	12	IS3-failed
34	4/22/20 21:43	04222034.D	P2002154-012 (100mL)	S31-02112001	LH	13	
35	4/22/20 22:17	04222035.D	Blank (100mL)	S31-02112001	LH	2	
36	4/22/20 22:50	04222036.D	P2002070-001 (400mL)	S31-02112001	LH	14	
37	4/22/20 23:24	04222037.D	P2002099-001 (400mL)	S31-02112001	LH	15	
38	4/22/20 23:57	04222038.D	P2002071-002 (20mL)	S31-02112001	LH	16	
39	4/23/20 0:31	04222039.D	CCVend R16042220_25ng	S31-02112001/S34-04102001 (5/9)	LH	2	Passed

224

6/24/19

TO-17 STD	PAH 1° Stock Standard	200 µg/ml
S31-06241903		12/24/2019
Into 1mL mininert vial, directly transfered entire contents 200µg/mL PAH 1° stock standard S31-01181908B (expires 1/17/22).		

TO-17 STD	PAH 1° Working Standard	20 µg/mL
S31-06241904		12/24/2019
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 200µg/mL PAH 1° stock standard S31-06241903 (Exp. 12/24/19)		

TO-17 STD	PAH 1° Working Standard	2 µg/ml
S31-06241905 6/24/19		12/24/2019
Into 1mL mininert vial with 9900µL B&J P&T methanol, Lot #DL535, added 10µL 200µg/mL PAH 1° stock standard S31-06241903 (Exp. 12/24/19)		

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Primary STD

S31-06251901 **CERTIFICATE OF ANALYSIS**

Sales#:	117209081	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1490293	**Cylinder # :**	CC-106678
Certification Date:	Jun-13-2019	**Cylinder Pressure:**	1500 psig
P.O.# :	SM002804	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	CERTIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24106776	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	3000 Liters
Expiration Date:	Jun-13-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	10% Relative

Rcvd 6/25/19

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Secondary STD

S31-06251902 **CERTIFICATE OF ANALYSIS**

Sales#:	117209081	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1490294	**Cylinder # :**	CC-94582
Certification Date:	Jun-13-2019	**Cylinder Pressure:**	1400 psig
P.O.# :	SM002804	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	CERTIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24106776	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2800 Liters
Expiration Date:	Jun-13-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	10% Relative

Rcvd 6/25/19

259

11/19

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S31-10111901 TO-15 stock std (Primary)

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PAGE: 1 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

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S31-10111902 TO-15 stock std (Secondary)

CA

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ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

10/11/19
LH

TO-15 STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-10111901 with HZA Lot # 70086915004 using 4700 diluter

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-10111903	200 ng/L	STD00139	10/11/19	**11/9/19**	LH
S31-10111904	200 ng/L	STD00120	10/11/19	**11/9/19**	LH
S31-10111905	200 ng/L	STD00110	10/11/19	**11/9/19**	LH

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S31-1011901

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PAGE: 1 of 4

Primary

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Propylene	115-07-1	1.00 mg/m3	1.06 mg/m3
Freon-12	75-71-8	1.00 mg/m3	1.06 mg/m3
Chloromethane	74-87-3	1.00 mg/m3	1.06 mg/m3
Freon-114	76-14-2	1.00 mg/m3	1.05 mg/m3
Vinyl Chloride	75-01-4	1.00 mg/m3	1.08 mg/m3
1,3-Butadiene	106-99-0	1.00 mg/m3	1.06 mg/m3
Bromomethane	74-83-9	1.00 mg/m3	1.08 mg/m3
Chloroethane	75-00-3	1.00 mg/m3	1.08 mg/m3
Ethanol	64-17-5	5.00 mg/m3	5.21 mg/m3
Acetonitrile	75-05-8	1.00 mg/m3	1.05 mg/m3
Acrolein	107-02-8	1.00 mg/m3	1.03 mg/m3
Acetone	67-64-1	5.00 mg/m3	5.33 mg/m3
Freon-11	75-69-4	1.00 mg/m3	1.06 mg/m3
Isopropyl Alcohol	67-63-0	2.00 mg/m3	2.10 mg/m3
Acrylonitrile	107-13-1	1.00 mg/m3	1.05 mg/m3
1,1-Dichloroethene	75-35-4	1.00 mg/m3	1.08 mg/m3
Carbon Disulfide	75-15-0	1.00 mg/m3	1.07 mg/m3
Methylene Chloride	75-09-2	1.00 mg/m3	1.06 mg/m3
Tert-Butanol	75-65-0	2.00 mg/m3	2.16 mg/m3
Allyl Chloride	107-05-1	1.00 mg/m3	1.08 mg/m3
Freon-113	76-13-1	1.00 mg/m3	1.08 mg/m3
Trans-1,2-Dichloroethene	156-60-5	1.00 mg/m3	1.08 mg/m3
1,1-Dichloroethane	75-34-3	1.00 mg/m3	1.09 mg/m3
Methyl Tert Butyl Ether	1634-04-4	1.00 mg/m3	1.08 mg/m3
Vinyl Acetate	108-05-4	5.00 mg/m3	5.35 mg/m3
Methacrylonitrile	126-98-7	1.00 mg/m3	1.06 mg/m3
Methyl Ethyl Ketone	78-93-3	1.00 mg/m3	1.06 mg/m3
Cis-1,2-Dichloroethene	156-59-2	1.00 mg/m3	1.06 mg/m3
Hexane	110-54-3	1.00 mg/m3	1.08 mg/m3
Di-isopropyl Ether	108-20-3	1.00 mg/m3	1.08 mg/m3

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PAGE: 2 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chloroform	67-66-3	1.00 mg/m3	1.07 mg/m3
Ethyl Acetate	141-78-6	2.00 mg/m3	2.17 mg/m3
Tetrahydrofuran	109-99-9	1.00 mg/m3	1.09 mg/m3
Ethyl Tert-Butyl Ether	637-92-3	1.00 mg/m3	1.08 mg/m3
1,2-Dichloroethane	107-06-2	1.00 mg/m3	1.08 mg/m3
1,1,1-Trichloroethane	71-55-6	1.00 mg/m3	1.07 mg/m3
Benzene	71-43-2	1.00 mg/m3	1.06 mg/m3
Isopropyl Acetate	108-21-4	2.00 mg/m3	2.11 mg/m3
1-Butanol	71-36-3	2.00 mg/m3	2.08 mg/m3
Carbon Tetrachloride	56-23-5	1.00 mg/m3	1.05 mg/m3
Cyclohexane	110-82-7	2.00 mg/m3	2.12 mg/m3
Tert Amyl Methyl Ether	994-05-8	1.00 mg/m3	1.08 mg/m3
1,2-Dichloropropane	78-87-5	1.00 mg/m3	1.08 mg/m3
Trichloroethylene	79-01-6	1.00 mg/m3	1.07 mg/m3
Bromodichloromethane	75-27-4	1.00 mg/m3	1.08 mg/m3
1,4-Dioxane	123-91-1	1.00 mg/m3	1.08 mg/m3
Isooctane	540-84-1	1.00 mg/m3	1.07 mg/m3
Methyl Methacrylate	80-62-6	2.00 mg/m3	2.15 mg/m3
Heptane	142-82-5	1.00 mg/m3	1.08 mg/m3
Cis-1,3-Dichloropropene	10061-01-5	1.00 mg/m3	1.04 mg/m3
Methyl Isobutyl Ketone	108-10-1	1.00 mg/m3	1.06 mg/m3
Trans-1,3-Dichloropropene	10061-02-6	1.00 mg/m3	1.06 mg/m3
1,1,2-Trichloroethane	79-00-5	1.00 mg/m3	1.07 mg/m3
Toluene	108-88-3	1.00 mg/m3	1.07 mg/m3
Methyl Butyl Ketone	591-78-6	1.00 mg/m3	1.07 mg/m3
Dibromochloromethane	124-48-1	1.00 mg/m3	1.07 mg/m3
1,2-Dibromoethane	106-93-4	1.00 mg/m3	1.07 mg/m3
n-Butyl Acetate	123-86-4	1.00 mg/m3	1.09 mg/m3
n-Octane	111-65-9	1.00 mg/m3	1.08 mg/m3
Tetrachloroethylene	127-18-4	1.00 mg/m3	1.04 mg/m3

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ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chlorobenzene	108-90-7	1.00 mg/m3	1.07 mg/m3
Ethylbenzene	100-41-4	1.00 mg/m3	1.07 mg/m3
p-xylene	106-42-3	1.00 mg/m3	1.07 mg/m3
m-xylene	108-38-3	1.00 mg/m3	1.07 mg/m3
Bromoform	75-25-2	1.00 mg/m3	1.07 mg/m3
Cyclohexanone	108-94-1	1.00 mg/m3	1.00 mg/m3
Styrene	100-42-5	1.00 mg/m3	1.06 mg/m3
o-xylene	95-47-6	1.00 mg/m3	1.07 mg/m3
1,1,2,2-Tetrachloroethane	79-34-5	1.00 mg/m3	1.07 mg/m3
Nonane	111-84-2	1.00 mg/m3	1.07 mg/m3
Isopropylbenzene	98-82-8	1.00 mg/m3	1.08 mg/m3
alpha-Pinene	80-56-8	1.00 mg/m3	1.07 mg/m3
n-Propylbenzene	103-65-1	1.00 mg/m3	1.08 mg/m3
3-Ethyltoluene	620-14-4	1.00 mg/m3	1.06 mg/m3
4-Ethyltoluene	622-96-8	1.00 mg/m3	1.08 mg/m3
2-Ethyltoluene	611-14-3	1.00 mg/m3	1.08 mg/m3
1,3,5-Trimethylbenzene	108-67-8	1.00 mg/m3	1.06 mg/m3
alpha-Methylstyrene	98-83-9	1.00 mg/m3	1.07 mg/m3
Tert-Butyl Benzene	98-06-6	1.00 mg/m3	1.07 mg/m3
1,2,4-Trimethylbenzene	95-63-6	1.00 mg/m3	1.07 mg/m3
1,3-Dichlorobenzene	541-73-1	1.00 mg/m3	1.07 mg/m3
Benzyl Chloride	100-44-7	1.00 mg/m3	1.08 mg/m3
n-Decane	124-18-5	1.00 mg/m3	1.07 mg/m3
1,4-Dichlorobenzene	106-46-7	1.00 mg/m3	1.07 mg/m3
Sec-Butyl Benzene	135-98-8	1.00 mg/m3	1.07 mg/m3
p-Isopropyltoluene	99-87-6	1.00 mg/m3	1.09 mg/m3
1,2,3-Trimethylbenzene	526-73-8	1.00 mg/m3	1.09 mg/m3
1,2-Dichlorobenzene	95-50-1	1.00 mg/m3	1.07 mg/m3

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PAGE: 4 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
d-Limonene	5989-27-5	1.00 mg/m3	1.08 mg/m3
n-Butyl Benzene	104-51-8	1.00 mg/m3	1.07 mg/m3
1,2-Dibromo-3-Chloropropane	96-12-8	1.00 mg/m3	1.05 mg/m3
n-Undecane	1120-21-4	1.00 mg/m3	1.08 mg/m3
1,2,4-Trichlorobenzene	120-82-1	1.00 mg/m3	1.07 mg/m3
Naphthalene	91-20-3	1.00 mg/m3	1.03 mg/m3
n-Dodecane	112-40-3	1.00 mg/m3	1.04 mg/m3
Hexachloro-1,3-Butadiene	87-68-3	1.00 mg/m3	1.06 mg/m3
Nitrogen	7727-37-9	Balance	Balance

ANALYST: Lou Lorenzetti **DATE:** Sep-24-2019

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S31-1011902

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PAGE: 1 of 4

Secondary

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Propylene	115-07-1	1.00 mg/m3	1.05 mg/m3
Freon-12	75-71-8	1.00 mg/m3	1.05 mg/m3
Chloromethane	74-87-3	1.00 mg/m3	1.06 mg/m3
Freon-114	76-14-2	1.00 mg/m3	1.03 mg/m3
Vinyl Chloride	75-01-4	1.00 mg/m3	1.06 mg/m3
1,3-Butadiene	106-99-0	1.00 mg/m3	1.06 mg/m3
Bromomethane	74-83-9	1.00 mg/m3	1.06 mg/m3
Chloroethane	75-00-3	1.00 mg/m3	1.07 mg/m3
Ethanol	64-17-5	5.00 mg/m3	5.30 mg/m3
Acetonitrile	75-05-8	1.00 mg/m3	1.07 mg/m3
Acrolein	107-02-8	1.00 mg/m3	1.03 mg/m3
Acetone	67-64-1	5.00 mg/m3	5.34 mg/m3
Freon-11	75-69-4	1.00 mg/m3	1.06 mg/m3
Isopropyl Alcohol	67-63-0	2.00 mg/m3	2.11 mg/m3
Acrylonitrile	107-13-1	1.00 mg/m3	1.06 mg/m3
1,1-Dichloroethene	75-35-4	1.00 mg/m3	1.07 mg/m3
Carbon Disulfide	75-15-0	1.00 mg/m3	1.06 mg/m3
Methylene Chloride	75-09-2	1.00 mg/m3	1.05 mg/m3
Tert-Butanol	75-65-0	2.00 mg/m3	2.15 mg/m3
Allyl Chloride	107-05-1	1.00 mg/m3	1.07 mg/m3
Freon-113	76-13-1	1.00 mg/m3	1.08 mg/m3
Trans-1,2-Dichloroethene	156-60-5	1.00 mg/m3	1.07 mg/m3
1,1-Dichloroethane	75-34-3	1.00 mg/m3	1.06 mg/m3
Methyl Tert Butyl Ether	1634-04-4	1.00 mg/m3	1.07 mg/m3
Vinyl Acetate	108-05-4	5.00 mg/m3	5.33 mg/m3
Methacrylonitrile	126-98-7	1.00 mg/m3	1.06 mg/m3
Methyl Ethyl Ketone	78-93-3	1.00 mg/m3	1.06 mg/m3
Cis-1,2-Dichloroethene	156-59-2	1.00 mg/m3	1.06 mg/m3
Hexane	110-54-3	1.00 mg/m3	1.08 mg/m3
Di-isopropyl Ether	108-20-3	1.00 mg/m3	1.08 mg/m3

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PAGE: 2 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chloroform	67-66-3	1.00 mg/m3	1.07 mg/m3
Ethyl Acetate	141-78-6	2.00 mg/m3	2.16 mg/m3
Tetrahydrofuran	109-99-9	1.00 mg/m3	1.10 mg/m3
Ethyl Tert-Butyl Ether	637-92-3	1.00 mg/m3	1.07 mg/m3
1,2-Dichloroethane	107-06-2	1.00 mg/m3	1.07 mg/m3
1,1,1-Trichloroethane	71-55-6	1.00 mg/m3	1.07 mg/m3
Benzene	71-43-2	1.00 mg/m3	1.05 mg/m3
Isopropyl Acetate	108-21-4	2.00 mg/m3	2.10 mg/m3
1-Butanol	71-36-3	2.00 mg/m3	2.13 mg/m3
Carbon Tetrachloride	56-23-5	1.00 mg/m3	1.04 mg/m3
Cyclohexane	110-82-7	2.00 mg/m3	2.11 mg/m3
Tert Amyl Methyl Ether	994-05-8	1.00 mg/m3	1.07 mg/m3
1,2-Dichloropropane	78-87-5	1.00 mg/m3	1.07 mg/m3
Trichloroethylene	79-01-6	1.00 mg/m3	1.08 mg/m3
Bromodichloromethane	75-27-4	1.00 mg/m3	1.09 mg/m3
1,4-Dioxane	123-91-1	1.00 mg/m3	1.08 mg/m3
Isooctane	540-84-1	1.00 mg/m3	1.07 mg/m3
Methyl Methacrylate	80-62-6	2.00 mg/m3	2.15 mg/m3
Heptane	142-82-5	1.00 mg/m3	1.07 mg/m3
Cis-1,3-Dichloropropene	10061-01-5	1.00 mg/m3	1.07 mg/m3
Methyl Isobutyl Ketone	108-10-1	1.00 mg/m3	1.06 mg/m3
Trans-1,3-Dichloropropene	10061-02-6	1.00 mg/m3	1.06 mg/m3
1,1,2-Trichloroethane	79-00-5	1.00 mg/m3	1.07 mg/m3
Toluene	108-88-3	1.00 mg/m3	1.06 mg/m3
Methyl Butyl Ketone	591-78-6	1.00 mg/m3	1.08 mg/m3
Dibromochloromethane	124-48-1	1.00 mg/m3	1.07 mg/m3
1,2-Dibromoethane	106-93-4	1.00 mg/m3	1.07 mg/m3
n-Butyl Acetate	123-86-4	1.00 mg/m3	1.09 mg/m3
n-Octane	111-65-9	1.00 mg/m3	1.08 mg/m3
Tetrachloroethylene	127-18-4	1.00 mg/m3	1.04 mg/m3

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PAGE: 3 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chlorobenzene	108-90-7	1.00 mg/m3	1.07 mg/m3
Ethylbenzene	100-41-4	1.00 mg/m3	1.06 mg/m3
p-xylene	106-42-3	1.00 mg/m3	1.07 mg/m3
m-xylene	108-38-3	1.00 mg/m3	1.06 mg/m3
Bromoform	75-25-2	1.00 mg/m3	1.07 mg/m3
Cyclohexanone	108-94-1	1.00 mg/m3	1.01 mg/m3
Styrene	100-42-5	1.00 mg/m3	1.06 mg/m3
o-xylene	95-47-6	1.00 mg/m3	1.07 mg/m3
1,1,2,2-Tetrachloroethane	79-34-5	1.00 mg/m3	1.07 mg/m3
Nonane	111-84-2	1.00 mg/m3	1.07 mg/m3
Isopropylbenzene	98-82-8	1.00 mg/m3	1.07 mg/m3
alpha-Pinene	80-56-8	1.00 mg/m3	1.06 mg/m3
n-Propylbenzene	103-65-1	1.00 mg/m3	1.07 mg/m3
3-Ethyltoluene	620-14-4	1.00 mg/m3	1.07 mg/m3
4-Ethyltoluene	622-96-8	1.00 mg/m3	1.05 mg/m3
2-Ethyltoluene	611-14-3	1.00 mg/m3	1.07 mg/m3
1,3,5-Trimethylbenzene	108-67-8	1.00 mg/m3	1.06 mg/m3
alpha-Methylstyrene	98-83-9	1.00 mg/m3	1.06 mg/m3
Tert-Butyl Benzene	98-06-6	1.00 mg/m3	1.06 mg/m3
1,2,4-Trimethylbenzene	95-63-6	1.00 mg/m3	1.06 mg/m3
1,3-Dichlorobenzene	541-73-1	1.00 mg/m3	1.07 mg/m3
Benzyl Chloride	100-44-7	1.00 mg/m3	1.07 mg/m3
n-Decane	124-18-5	1.00 mg/m3	1.07 mg/m3
1,4-Dichlorobenzene	106-46-7	1.00 mg/m3	1.07 mg/m3
Sec-Butyl Benzene	135-98-8	1.00 mg/m3	1.06 mg/m3
p-Isopropyltoluene	99-87-6	1.00 mg/m3	1.09 mg/m3
1,2,3-Trimethylbenzene	526-73-8	1.00 mg/m3	1.08 mg/m3
1,2-Dichlorobenzene	95-50-1	1.00 mg/m3	1.07 mg/m3

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PAGE: 4 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
d-Limonene	5989-27-5	1.00 mg/m3	1.06 mg/m3
n-Butyl Benzene	104-51-8	1.00 mg/m3	1.07 mg/m3
1,2-Dibromo-3-Chloropropane	96-12-8	1.00 mg/m3	1.07 mg/m3
n-Undecane	1120-21-4	1.00 mg/m3	1.08 mg/m3
1,2,4-Trichlorobenzene	120-82-1	1.00 mg/m3	1.08 mg/m3
Naphthalene	91-20-3	1.00 mg/m3	1.06 mg/m3
n-Dodecane	112-40-3	1.00 mg/m3	1.06 mg/m3
Hexachloro-1,3-Butadiene	87-68-3	1.00 mg/m3	1.07 mg/m3
Nitrogen	7727-37-9	Balance	Balance

ANALYST: _____
Lou Lorenzetti

DATE: Sep-24-2019

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1/6/20 VH

TO-15 MAPH STD				20ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of S31-11061903 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-01062006	20 ng/L	STD00164	1/6/20	**3/4/20**	LH

1/6/20 S31-01062007 TO-15 IS/SURR STD ~0,5 mg/m³

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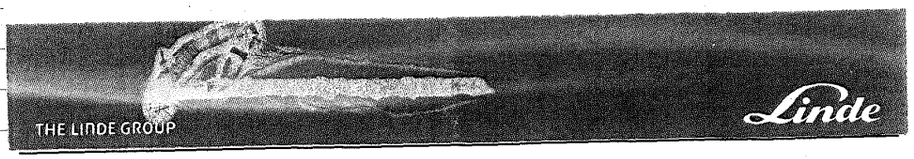

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PAGE: 1 of 1

S31-01062007 **ANALYSIS REPORT** IS/SURR STD.

Sales#:	117350975	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1502527	**Cylinder # :**	CC-430401
Report Date:	Dec-23-2019	**Cylinder Pressure:**	2000 psig
P.O.# :	SM003000	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24086333	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	4000 Liters
Expiration Date:	Dec-23-~~2020~~ 2021	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	10% Relative

VH 1/7/20

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Bromochloromethane	74-97-5	0.50 mg/m3	0.55 mg/m3
1,2-Dichloroethane-d4	17060-07-0	0.50 mg/m3	0.55 mg/m3
1,4-Difluorobenzene	540-36-3	0.50 mg/m3	0.55 mg/m3
Toluene-d8	2037-26-5	0.50 mg/m3	0.55 mg/m3
Chlorobenzene-d5	3114-55-4	0.50 mg/m3	0.55 mg/m3
4-Bromofluorobenzene	460-00-4	0.50 mg/m3	0.53 mg/m3
Nitrogen	7727-37-9	Balance	Balance

1/7/20 MA

EPA 325B STD	BTEX 1° Working Standard	200 µg/mL
S31-01072001	Expires:	1/21/2020
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 2000µg/mL BTEX stock standard S31-11271903 (expires 1/27/20).		

MA

EPA 325B STD	BTEX 2° Working Standard	200 µg/mL
S31-01072002	Expires:	1/21/2020
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 2000µg/mL BTEX stock standard S31-11271904 (expires 1/27/20).		

2/5/2020
RVT

		TO-15 STD		4 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S31-01292007**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02052009	4 ng/L	STD00094	2/5/20	3/5/20	RVT

RVT

TO-15 STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111901**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02052010	200 ng/L	STD00224	2/5/20	3/5/20	RVT

2/6/2020
RVT

TO-15 STD **20 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S31-02052007**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02062001	20 ng/L	STD00064	2/6/20	3/6/20	RVT

RVT

TO-15 ICV/ LCS STD **20 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S31-02052002**
with HZA Lot # 70086915004 using 4700 diluter

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02062002	20 ng/L	STD00113	2/6/20	3/6/2020	RVT

RVT

TO15 STD 1000 ng/L
S31-02062003
Filled Can STD00136 w/ S31-10111901 To ~ 5.61 psig
Exp. 3/6/2020

2/7/20

S31-02072001 Toluene-d8 2.0 µg/ml
Spiked 4.2 µl S29-04281601 into 2010 ml glass SDB
purged w/ helium. Exp. 3/7/20.

CV

02/11/20
VH

S31-02112001 TO-15 IS/SURR 500 ng/L
FILLED CAN # STD00214 TO ~ 20 PSIG W/ S31-01062007
EXP 08/09/20

302

2/26/20 S31-02262002 TO15 1ng/L Secondar
Made 20x dil. of S31-02202001 into
Can STD00092. Exp. 3/26/20

2/26/20 LH

		TO-15 STD		**200 ng/L**	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-10111901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02262003	200 ng/L	STD00180	2/26/20	**3/26/20**	LH
		TO-15 STD		**20 ng/L**	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of S31-02262003 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02262004	20 ng/L	STD00007	2/26/20	**3/26/20**	LH
		TO-15 STD		**4 ng/L**	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-02262004 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02262005	4 ng/L	STD00184	2/26/20	**3/26/20**	LH

2/26/20 LH

		TO-15 ICV/ LCS STD	**200 ng/L**		
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-10111902 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02262006	200 ng/L	STD00~~063~~ 194	2/26/20	3/26/20	LH

LH 2/27/20

S31-02272001
2/27/20 Bis-2-chloroethyl Ether 1000 µg/ml in MeOH
Transferred entire contents of S31-06281903B into 1ml
glass minivert vial. Exp. 4/27/20
EP

S31-02278002 Bis-2-Chloroisopropyl ether 2000 µg/ml in MeOH
Transferred entire contents of S31-06281902B into 1ml
glass minivert vial. Exp 4/27/20
EP

2/27/20
RVT

3/9/20

TO-17 STD	LEED 1° Stock Standard	2000 µg/mL
S34-03092001		5/9/2020
Into 2mL mininert vial transferred contents of 2000µg/mL LEED stock ampul primary standard S31-01251906E (expires 1/17/21).		

TO-17 STD	LEED 2° Stock Standard	2000 µg/mL
S34-03092002		5/9/2020
Into 2mL mininert vial transferred contents of 2000µg/mL LEED stock ampul secondary standard S31-09111906B (expires 8/31/20).		

TO-17 STD	LEED 1° Working Standard	200 µg/mL
S34-03092003		5/9/2020
Into 1mL mininert vial with 900uL B&J P&T methanol, Lot # DL535, added 100µL 2000ng/mL LEED 1° Stock standard S34-03092001 (expires 5/9/20).		

TO-17 STD	LEED 2° Working Standard	200 µg/mL
S34-03092004		5/9/2020
Into 1mL mininert vial with 900uL B&J P&T methanol, Lot # DL535, added 100µL 2000ng/mL LEED 2° Stock standard S34-03092002 (expires 5/9/20).		

3/10/20
RVT

TO15 ICV/LCS STD 1000 ng/L
S34-03102001
Filled Can: STD00133 w/ S31-10111901 To ~ 7.4 PSIG
Exp. 4/10/20 RVT

3/10/20
LH

		TO-15 STD		200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-10111901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-03102002	200 ng/L	STD00201	3/10/20	4/8/20	LH
4 LH 3/11/20					
		TO-15 STD		20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of S31-03102002 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-03102003	20 ng/L	STD00217	3/10/20	4/8/20	LH
4 LH 3/11/20					
		TO-15 STD		4 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-03102003 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-03102004	4 ng/L	STD00131	3/10/20	4/8/20	LH

LH 3/11/20

RVT 3/11/20

6

3/17/20

RVT

TO-15 Custom STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-03172007	200 ng/L	STD00102	3/17/2020	**4/15/2020**	RVT
S34-03172008	200 ng/L	STD00192	3/17/2020	**4/15/2020**	RVT

A

EPA 325B STD **BTEX 1° Working Standard** **200 µg/mL**

S34-03172009 **Expires: 3/31/2020**

Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 2000µg/mL BTEX stock standard S31-01212006 (expires 3/21/20).

MA

EPA 325B STD **BTEX 2° Working Standard** **200 µg/mL**

S34-03172010 **Expires: 3/31/2020**

Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 2000µg/mL BTEX stock standard S31-02042012 (expires 4/4/20).

RVT

TO-15 Custom STD **20 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of S31-03172008 with HZA Lot # 70086915004 using 4700 diluter

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-03172011	20 ng/L	STD00177	3/17/2020	**4/15/2020**	RVT

RVT

TO-15 Custom STD **20 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of S31-03172007 with HZA Lot # 70086915004 using 4700 diluter

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-03172012	20 ng/L	STD00086	3/17/2020	**4/15/2020**	RVT

03/18/20

RVT

TO-15 STD **20 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S31-03172004** using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-03182001	20 ng/L	STD00061	3/18/20	**4/16/20**	RVT

RVT

TO-15 STD **1 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 20X dilution of **S34-03182001** using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-03182002	1 ng/L	STD00069	3/18/20	**4/16/20**	RVT

S34-03192001	TO-15 IS & Surr. STD	500 ng/L
Filled 6L CAN STD00154 with	S31-01062007 to ~80 psig.	Exp. 5/19/20 TD

TD 3/19/20

S34-03202001	TO-15 SIM IS/SURR	40 ng/L
Filled can STD00226	to (-7.46) psig with S31-01062007 then pressurized to 75.4 psig	
with HZA Lot #70086833701		
	Exp: 6/18/2020	RVT
DF = 14.7+ 61.80= 12.5X		
14.7+ (-8.58)		

3/20/20 RVT

TO-17 STD S34-03202002	PAH 1° Working Standard	2 µg/ml 5/20/2020
Into 1mL mininert vial with 9900µL B&J P&T methanol, Lot #DL535, added 10µL 200µg/mL PAH 1° stock standard S31-01222001 (Exp. 7/21/20)		

MA

TO-17 STD S34-03232001	RAD VOC 1° Stock Standard	2000ng/µL 5/23/2020
Transferred stock standard S31-09061901B (exp. 3/13/27) into glass vial with mininert valve cap.		

3/23/20 CV

TO-17 STD S34-03232002	RAD VOC 1° Working Standard	200ng/µL 5/23/2020
Into 1mL mininert vial with 900uL B&J P&T methanol, Lot # DL535, added 100uL 2000ng/µL Stock Standard S34-03232001 (expires 3/13/20)		

CV

TO-15 ICV/LCS STD	200 ng/L
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-10111902 with HZA Lot # 70086915004 using 4700 diluter	

3/25/20

RVT

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34 ~~S31~~-03252001	200 ng/L	STD00033	3/25/20	4/23/20	RVT
RVT S34 ~~S31~~-03252002	200 ng/L	STD00182	3/25/20	4/23/20	RVT
4/3/20 S34 ~~S31~~-03252003	200 ng/L	STD00132	3/25/20	4/23/20	RVT
S34 ~~S31~~-03252004	200 ng/L	STD00139	3/25/20	4/23/20	RVT

S34-03262001	TO-15 IS & Surr. STD	500 ng/L
Filled 15L CAN STD00219 with	S31-10111901 to ~80 psig.	Exp. 6/26/20 WA

3/26/20 WA

3/27/20 RVT

4/8/20 S34-~~03~~04082002 TO-17 IS/surr 50ng/ml
Spiked 23.5 µl S34-04072007 into can STD00215 and
pressurized to 83.3 psig w/ HZA (Lot 7008600403).
Exp. 10/8/20

	TO-15 STD			200 ng/L	
4/10/20	Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111901**				
	using 4700 diluter	HZA Lot #70086915004			
RVT					
	Standard ID	Standard conc.	CAN I.D.	Prep. Date	**Exp. Date**	Initial
	S34-04102001	200 ng/L	STD00096	4/10/20	**5/9/20**	RVT
	S34-04102002	200 ng/L	STD00111	4/10/20	**5/9/20**	RVT
	S34-04102003	200 ng/L	STD00013	4/10/20	**5/9/20**	RVT
	S34-04102004	200 ng/L	STD00018	4/10/20	**5/9/20**	RVT

RVT S34-04102005 TO-15 STD 1000 ng/L
Pressurized Can: STD00056 w/S31-10111901 To. 16.61 psig
Exp. 9/24/20
RVT

	TO-15 STD			200 ng/L	
RVT	Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S34-04102005**				
	using 4700 diluter	HZA Lot #70086915004			
	Standard ID	Standard conc.	CAN I.D.	Prep. Date	**Exp. Date**	Initial
	S34-04102006	200 ng/L	STD00003	4/10/20	**5/9/20**	RVT

RVT S34-04102007 TO-15 STD 1000 ng/L
ICV/LCS
Pressurized Can: STD00136 w/S31-10111902 To ≈ 17 psig
Exp. 9/24/20
RVT

	TO-15 ICV/LCS STD			200 ng/L	
RVT	Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S34-04102007** with HZA Lot # 70086915004 using 4700 diluter				
	Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
	S34-04102008	200 ng/L	STD00158	4/10/20	**5/9/20**	RVT

	TO-15 STD			20 ng/L	
RVT	Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04102004**				
	using 4700 diluter	HZA Lot #70086915004			
	Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
	S34-04102009	20 ng/L	STD00145	4/10/20	**5/9/20**	RVT

2655 Park Center Dr., Suite A
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www.alsglobal.com

LABORATORY REPORT

May 11, 2020

Pamela Moss
EA Engineering, Science, and Technology, Inc.
7995 E. Prentice Ave, Suite 206E
Greenwood Village, CO 80111

RE: Kirtland AFB Bulk Fuels Facility / 62735DM02

Dear Pamela:

Enclosed are the results of the samples submitted to our laboratory on April 20, 2020. For your reference, these analyses have been assigned our service request number P2002103.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

Kate Kaneko
May 11, 2020, 1:41 pm

Kate Kaneko
Project Manager

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

Client: EA Engineering, Science, and Technology, Inc. Service Request No: P2002103
Project: Kirtland AFB Bulk Fuels Facility / 62735DM02

CASE NARRATIVE

The samples were received intact under chain of custody on April 20, 2020 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

Manual integrations were performed on the following sample(s) and analyte(s). Refer to the raw data for additional information.

Sample Identifications	Analyte
P2002103-002,004	1,2,4-Trimethylbenzene
P2002103-004,010,013, 013dup	Propene
P2002103-005,009	Acetone
P2002103-012dil	n-Hexane
P2002103-015	Ethanol

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.1 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

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Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1776326
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-007
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272019-10
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: EA Engineering, Science, and Technology, Inc. Service Request: P2002103
Project ID: Kirtland AFB Bulk Fuels Facility / 62735DM02

Date Received: 4/20/2020
Time Received: 12:20

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	TO-15 - VOC Cans
SV109-025-202	P2002103-001	Air	4/15/2020	07:55	1SC00442	-2.57	5.50	X
SV109-050-202	P2002103-002	Air	4/15/2020	07:58	1SC00196	-2.16	5.14	X
SV109-150-202	P2002103-003	Air	4/15/2020	08:01	1SC01158	-2.40	6.27	X
SV109-250-202	P2002103-004	Air	4/15/2020	08:04	1SS00079	-3.51	3.24	X
SV109-350-202	P2002103-005	Air	4/15/2020	08:07	1SC00876	-2.56	7.44	X
SV109-450-602	P2002103-006	Air	4/15/2020	08:16	1SS00181	-3.13	5.28	X
SV109-450-202	P2002103-007	Air	4/15/2020	08:16	1SC00368	-3.31	5.50	X
SV110-025-202	P2002103-008	Air	4/15/2020	08:46	1SS00221	-1.93	5.62	X
SV110-050-202	P2002103-009	Air	4/15/2020	08:49	1SC00010	-3.13	5.49	X
SV110-150-202	P2002103-010	Air	4/15/2020	08:52	1SC00054	-3.05	5.32	X
SV110-250-602	P2002103-011	Air	4/15/2020	08:55	1SC00982	-3.39	6.21	X
SV110-250-202	P2002103-012	Air	4/15/2020	08:55	1SC01011	-2.32	6.31	X
SV110-350-202	P2002103-013	Air	4/15/2020	09:04	1SS00226	-2.98	5.40	X
SV110-450-202	P2002103-014	Air	4/15/2020	09:14	1SC00079	-3.66	5.42	X
SV113-020-202	P2002103-015	Air	4/15/2020	10:21	1SC00280	-3.66	6.95	X
SV113-050-202	P2002103-016	Air	4/15/2020	10:27	1SC01189	-4.57	5.99	X
SV113-150-202	P2002103-017	Air	4/15/2020	10:30	1SC00707	-2.44	6.11	X
SV113-250-202	P2002103-018	Air	4/15/2020	10:34	1SC01195	-3.27	5.68	X
SV113-350-202	P2002103-019	Air	4/15/2020	10:37	1SS00906	-3.74	6.87	X
SV113-450-202	P2002103-020	Air	4/15/2020	10:46	1SS00533	-2.62	6.23	X

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

COC #: **COC-SV202-07**

Requested Turnaround Time in Business Days
10 Day-Standard

ALS Project No. P2002103

Company Name & Address (Reporting Information)	EA Engineering, Science, and Technology, Inc., PBC 225 Schilling Circle Suite 400, Hunt Valley, MD (410) 584-7000
Project Name	Kirtland AFB Bulk Fuels Facility
Project Number	62735DM02
Project Manager / Project Chemist	Bernie Bockish (505) 234-1105 / Pam Moss (303) 590-9143
P.O. # / Billing Information	17682
Email Address for Result Reporting	Tara Lamond: tlamond@eaest.com Amanda Smith: asmith@eaest.com Pam Moss: pmoss@eaest.com
Sampler (Print & Sign)	Ryan Wortman

ALS Contact: Kate Kaneko
1 (805) 577-2089

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg	Sample Volume	Analysis Method: TO-15 Project Specific List	Comments e.g. Actual Preservative or specific instructions
SV109-025-202		4/15/2020	0755	1SC00442	NA	-24.0	-2.0	1L	X	None
SV109-050-202		4/15/2020	0758	1SC00196	AVG03802	-27.0	-2.0	1L	X	None
SV109-150-202		4/15/2020	0801	1SC01158	AVG05144	-27.0	-1.5	1L	X	None
SV109-250-202		4/15/2020	0804	1SS00079	AVG05125	-24.0	-4.0	1L	X	None
SV109-350-202		4/15/2020	0807	1SC00876	NA	-24.0	-2.0	1L	X	None
SV109-450-602		4/15/2020	0816	1SS00181	AVG04#27	-26.0	-4.0	1L	X	None
SV109-450-202		4/15/2020	0816	1SC00368	NA	-24.5	-3.0	1L	X	None
SV110-025-202		4/15/2020	0846	1SS00221	NA	-25.0	-2.0	1L	X	None
SV110-050-202		4/15/2020	0849	1SC00010	NA	-25.0	-3.0	1L	X	None
SV110-150-202		4/15/2020	0852	1SC00054	AVG#5157	-25.0	-2.0	1L	X	None

FedEX Tracking Number: 1028 3396 5148

Associated with Trip blank: SVTB-202-02

Shipping information: Box number 1 of 6

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____
Tier II (Results + QC Summaries) ____
Tier III (Results + QC & Calibration Summaries) ____
Tier IV (Data Validation Package) X

EDD required: **Yes**
Type: ERPIMS / EQuIS

Chain of Custody Seal: (Circle)
INTACT BROKEN ABSENT

Project Requirements: QAPP

Relinquished by: (Signature)	Date: 4/16/20	Time: 1100	Received by: (Signature)	Date: 4/10/20	Time: 1220	
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	Cooler / Blank Temperature NA °C

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

COC #: COC-SV202-07

Requested Turnaround Time in Business Days: 10 Day-Standard

ALS Project No. P2002103

Company Name & Address (Reporting Information)	Project Name	ALS Contact: Kate Kaneko 1 (805) 577-2089
EA Engineering, Science, and Technology, Inc., PBC 225 Schilling Circle Suite 400, Hunt Valley, MD (410) 584-7000	Kirtland AFB Bulk Fuels Facility	**Analysis Method**
Project Manager / Project Chemist: Bernie Bockish (505) 234-1105 / Pam Moss (303) 590-9143	Project Number: 62735DM02	TO-15 Project Specific List
Email Address for Result Reporting Tara Lamond: tlamond@eaest.com Amanda Smith: asmith@eaest.com Pam Moss: pmoss@eaest.com	P.O. # / Billing Information: 17682 Sampler (Print & Sign): Ryan Whitman	**Comments** e.g. Actual Preservative or specific instructions

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg	Sample Volume	TO-15 Project Specific List	Comments e.g. Actual Preservative or specific instructions
SV110-250-602		4/15/2020	0855	1SC00982	AVG04866	-24.0	-2.0	1L	X	None
SV110-250-202		4/15/2020	0855	1SC01011	NA	-26.0	-2.0	1L	X	None
SV110-350-202		4/15/2020	0904	1SS00226	AVG04775	-27.0	-4.0	1L	X	None
SV110-450-202		4/15/2020	0914	1SC00079	NA	-24.0	-3.0	1L	X	None
SV113-020-202		4/15/2020	1021	1SC00280	NA	-27.0	-5.0	1L	X	None
SV113-050-202		4/15/2020	1027	1SC01189	NA	-25.0	-5.0	1L	X	None
SV113-150-202		4/15/2020	1030	1SC00707	NA	-26.0	-1.0	1L	X	None
SV113-250-202		4/15/2020	1034	1SC01195	NA	-25.0	-2.0	1L	X	None
SV113-350-202		4/15/2020	1037	1SS00906	NA	-26.0	-4.0	1L	X	None
SV113-450-202		4/15/2020	1046	1SS00533	NA	-25.0	-1.5	1L	X	None

FedEX Tracking Number: 1028 3396 5148

Associated with Trip blank: SVTB-202-02

Shipping information: Box number 1 of 6

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____ Tier III (Results + QC & Calibration Summaries) ____
Tier II (Results + QC Summaries) ____ Tier IV (Data Validation Package) X

EDD required: **Yes**
Type: ERPIMS / EQuIS

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements: QAPP

Relinquished by: (Signature)	Date: 4/16/20	Time: 1100	Received by: (Signature)	Date: 4/17/20	Time: 1626
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Cooler / Blank Temperature NA °C

ALS Environmental

Sample Acceptance Check Form

Client: EA Engineering, Science, and Technology, Inc. Work order: P2002103

Project: Kirtland AFB Bulk Fuels Facility / 62735DM02

Sample(s) received on: 04/20/20 Date opened: 04/20/20 by: ADAVID

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☒	☐	☐
	Location of seal(s)? _____ Sealing Lid?	☒	☐	☐
	Were signature and date included?	☒	☐	☐
	Were seals intact?	☒	☐	☐
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2002103-001.01	1.0 L Source Can					
P2002103-002.01	1.0 L Source Can					
P2002103-003.01	1.0 L Source Can					
P2002103-004.01	1.0 L Source Silonite Canister					
P2002103-005.01	1.0 L Source Can					
P2002103-006.01	1.0 L Source Silonite Canister					
P2002103-007.01	1.0 L Source Can					
P2002103-008.01	1.0 L Source Silonite Canister					
P2002103-009.01	1.0 L Source Can					
P2002103-010.01	1.0 L Source Can					
P2002103-011.01	1.0 L Source Can					
P2002103-012.01	1.0 L Source Can					
P2002103-013.01	1.0 L Source Silonite Canister					
P2002103-014.01	1.0 L Source Can					
P2002103-015.01	1.0 L Source Can					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS Environmental

Sample Acceptance Check Form

Client: EA Engineering, Science, and Technology, Inc. Work order: P2002103

Project: Kirtland AFB Bulk Fuels Facility / 62735DM02

Sample(s) received on: 04/20/20 Date opened: 04/20/20 by: ADAVID

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2002103-016.01	1.0 L Source Can					
P2002103-017.01	1.0 L Source Can					
P2002103-018.01	1.0 L Source Can					
P2002103-019.01	1.0 L Source Silonite Canister					
P2002103-020.01	1.0 L Source Silonite Canister					

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV109-025-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-001

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00442

Initial Pressure (psig): -2.57 Final Pressure (psig): 5.50

Container Dilution Factor: 1.67

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.84**	1.3	0.78	0.32	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.55**	0.45	0.27	0.073	
74-87-3	Chloromethane	0.65	1.1	0.65	0.17	**U**
75-01-4	Vinyl Chloride	0.28	0.88	0.28	0.093	**U**
106-99-0	1,3-Butadiene	0.60	1.0	0.60	0.17	**U**
75-00-3	Chloroethane	0.51	0.85	0.51	0.10	**U**
64-17-5	Ethanol	**12**	12	1.8	0.82	
67-64-1	Acetone	**5.6**	9.3	4.7	2.1	**J**
75-69-4	Trichlorofluoromethane	**0.25**	0.39	0.24	0.060	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.40**	3.6	1.1	0.37	**J**
75-09-2	Methylene Chloride	**0.39**	0.64	0.38	0.18	**J**
76-13-1	Trichlorotrifluoroethane	**1.1**	0.29	0.093	0.041	
75-15-0	Carbon Disulfide	0.72	1.5	0.72	0.21	**U**
75-34-3	1,1-Dichloroethane	0.34	0.57	0.34	0.080	**U**
78-93-3	2-Butanone (MEK)	**0.57**	1.6	0.45	0.16	**J**
141-78-6	Ethyl Acetate	**5.1**	1.3	0.75	0.32	
110-54-3	n-Hexane	**0.66**	0.64	0.38	0.13	
67-66-3	Chloroform	0.15	0.46	0.15	0.061	**U**
109-99-9	Tetrahydrofuran (THF)	**0.32**	0.78	0.24	0.095	**J**
107-06-2	1,2-Dichloroethane	0.18	0.56	0.18	0.061	**U**
71-43-2	Benzene	**0.18**	0.69	0.22	0.10	**J**
56-23-5	Carbon Tetrachloride	**0.060**	0.35	0.11	0.049	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV109-025-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-001

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00442

Initial Pressure (psig): -2.57 Final Pressure (psig): 5.50

Container Dilution Factor: 1.67

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**0.83**	1.3	0.41	0.18	**J**
75-27-4	Bromodichloromethane	0.11	0.34	0.11	0.048	**U**
79-01-6	Trichloroethene	0.13	0.42	0.13	0.056	**U**
123-91-1	1,4-Dioxane	0.20	0.63	0.20	0.073	**U**
142-82-5	n-Heptane	0.33	0.55	0.33	0.087	**U**
108-10-1	4-Methyl-2-pentanone	0.17	0.54	0.17	0.074	**U**
108-88-3	Toluene	**0.81**	0.60	0.19	0.072	
591-78-6	2-Hexanone	0.17	0.55	0.17	0.067	**U**
124-48-1	Dibromochloromethane	0.083	0.26	0.083	0.034	**U**
106-93-4	1,2-Dibromoethane	0.092	0.29	0.092	0.034	**U**
127-18-4	Tetrachloroethene	**0.051**	0.32	0.10	0.042	**J**
100-41-4	Ethylbenzene	**0.075**	0.52	0.16	0.072	**J**
179601-23-1	m,p-Xylenes	**0.37**	1.1	0.33	0.13	**J**
75-25-2	Bromoform	0.13	0.22	0.13	0.044	**U**
100-42-5	Styrene	0.31	0.52	0.31	0.084	**U**
95-47-6	o-Xylene	**0.14**	0.52	0.16	0.074	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.19**	0.45	0.14	0.065	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.97**	0.46	0.14	0.063	
120-82-1	1,2,4-Trichlorobenzene	0.18	0.30	0.18	0.073	**U**
91-20-3	Naphthalene	**0.19**	0.41	0.25	0.10	**J**
1330-20-7	Xylenes, Total	**0.51**	1.1	0.33	0.13	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV109-050-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-002

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00196

Initial Pressure (psig): -2.16 Final Pressure (psig): 5.14

Container Dilution Factor: 1.58

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.96**	1.2	0.73	0.30	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.63**	0.42	0.26	0.070	
74-87-3	Chloromethane	0.61	1.0	0.61	0.16	**U**
75-01-4	Vinyl Chloride	0.26	0.83	0.26	0.088	**U**
106-99-0	1,3-Butadiene	0.57	0.95	0.57	0.16	**U**
75-00-3	Chloroethane	0.48	0.81	0.48	0.099	**U**
64-17-5	Ethanol	**6.6**	11	1.7	0.78	**J**
67-64-1	Acetone	**11**	8.8	4.5	2.0	
75-69-4	Trichlorofluoromethane	**0.35**	0.37	0.23	0.057	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.66**	3.4	1.0	0.35	**J**
75-09-2	Methylene Chloride	0.36	0.60	0.36	0.17	**U**
76-13-1	Trichlorotrifluoroethane	**3.3**	0.28	0.088	0.039	
75-15-0	Carbon Disulfide	**3.1**	1.4	0.69	0.20	
75-34-3	1,1-Dichloroethane	0.32	0.54	0.32	0.076	**U**
78-93-3	2-Butanone (MEK)	**1.8**	1.5	0.43	0.15	
141-78-6	Ethyl Acetate	**2.9**	1.2	0.71	0.31	
110-54-3	n-Hexane	**0.16**	0.61	0.36	0.12	**J**
67-66-3	Chloroform	0.14	0.44	0.14	0.057	**U**
109-99-9	Tetrahydrofuran (THF)	**0.33**	0.74	0.23	0.090	**J**
107-06-2	1,2-Dichloroethane	0.17	0.53	0.17	0.058	**U**
71-43-2	Benzene	**0.13**	0.66	0.21	0.095	**J**
56-23-5	Carbon Tetrachloride	**0.16**	0.33	0.11	0.046	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV109-050-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-002

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00196

Initial Pressure (psig): -2.16 Final Pressure (psig): 5.14

Container Dilution Factor: 1.58

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.39	1.3	0.39	0.17	**U**
75-27-4	Bromodichloromethane	0.10	0.32	0.10	0.045	**U**
79-01-6	Trichloroethene	0.12	0.40	0.12	0.053	**U**
123-91-1	1,4-Dioxane	**1.1**	0.59	0.19	0.069	
142-82-5	n-Heptane	0.31	0.52	0.31	0.082	**U**
108-10-1	4-Methyl-2-pentanone	**0.090**	0.51	0.16	0.070	**J**
108-88-3	Toluene	**0.33**	0.57	0.18	0.068	**J**
591-78-6	2-Hexanone	**0.26**	0.52	0.16	0.064	**J**
124-48-1	Dibromochloromethane	0.079	0.25	0.079	0.032	**U**
106-93-4	1,2-Dibromoethane	0.087	0.28	0.087	0.032	**U**
127-18-4	Tetrachloroethene	**0.10**	0.30	0.099	0.040	**J**
100-41-4	Ethylbenzene	0.15	0.49	0.15	0.068	**U**
179601-23-1	m,p-Xylenes	**0.24**	1.0	0.31	0.13	**J**
75-25-2	Bromoform	0.12	0.21	0.12	0.042	**U**
100-42-5	Styrene	0.30	0.49	0.30	0.080	**U**
95-47-6	o-Xylene	**0.090**	0.49	0.15	0.070	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.12**	0.43	0.14	0.062	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.53**	0.43	0.14	0.059	
120-82-1	1,2,4-Trichlorobenzene	0.17	0.29	0.17	0.069	**U**
91-20-3	Naphthalene	0.23	0.39	0.23	0.098	**U**
1330-20-7	Xylenes, Total	**0.33**	1.0	0.31	0.13	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV109-150-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-003

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01158

Initial Pressure (psig): -2.40 Final Pressure (psig): 6.27

Container Dilution Factor: 1.70

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**2.1**	1.3	0.79	0.32	
75-71-8	Dichlorodifluoromethane (CFC 12)	**11**	0.46	0.28	0.075	
74-87-3	Chloromethane	0.66	1.1	0.66	0.18	**U**
75-01-4	Vinyl Chloride	0.28	0.90	0.28	0.095	**U**
106-99-0	1,3-Butadiene	0.62	1.0	0.62	0.17	**U**
75-00-3	Chloroethane	0.52	0.87	0.52	0.11	**U**
64-17-5	Ethanol	**1.8**	12	1.9	0.83	**J**
67-64-1	Acetone	**3.3**	9.5	4.8	2.1	**J**
75-69-4	Trichlorofluoromethane	**0.74**	0.40	0.24	0.061	
67-63-0	2-Propanol (Isopropyl Alcohol)	1.1	3.6	1.1	0.38	**U**
75-09-2	Methylene Chloride	0.39	0.65	0.39	0.18	**U**
76-13-1	Trichlorotrifluoroethane	**14**	0.30	0.094	0.042	
75-15-0	Carbon Disulfide	0.74	1.5	0.74	0.22	**U**
75-34-3	1,1-Dichloroethane	0.35	0.58	0.35	0.082	**U**
78-93-3	2-Butanone (MEK)	**0.23**	1.6	0.46	0.16	**J**
141-78-6	Ethyl Acetate	0.77	1.3	0.77	0.33	**U**
110-54-3	n-Hexane	0.39	0.65	0.39	0.13	**U**
67-66-3	Chloroform	**0.14**	0.47	0.15	0.062	**J**
109-99-9	Tetrahydrofuran (THF)	**1.3**	0.79	0.25	0.097	
107-06-2	1,2-Dichloroethane	0.18	0.57	0.18	0.062	**U**
71-43-2	Benzene	**0.32**	0.71	0.23	0.10	**J**
56-23-5	Carbon Tetrachloride	**2.9**	0.36	0.11	0.050	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV109-150-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-003

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01158

Initial Pressure (psig): -2.40 Final Pressure (psig): 6.27

Container Dilution Factor: 1.70

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.42	1.4	0.42	0.19	**U**
75-27-4	Bromodichloromethane	0.11	0.34	0.11	0.049	**U**
79-01-6	Trichloroethene	**45**	0.43	0.13	0.057	
123-91-1	1,4-Dioxane	0.20	0.64	0.20	0.074	**U**
142-82-5	n-Heptane	0.33	0.56	0.33	0.088	**U**
108-10-1	4-Methyl-2-pentanone	0.18	0.55	0.18	0.076	**U**
108-88-3	Toluene	**0.35**	0.61	0.19	0.073	**J**
591-78-6	2-Hexanone	0.18	0.56	0.18	0.069	**U**
124-48-1	Dibromochloromethane	0.085	0.27	0.085	0.035	**U**
106-93-4	1,2-Dibromoethane	0.094	0.30	0.094	0.034	**U**
127-18-4	Tetrachloroethene	**2.7**	0.33	0.11	0.043	
100-41-4	Ethylbenzene	0.17	0.53	0.17	0.073	**U**
179601-23-1	m,p-Xylenes	**0.36**	1.1	0.33	0.14	**J**
75-25-2	Bromoform	0.13	0.22	0.13	0.045	**U**
100-42-5	Styrene	0.32	0.53	0.32	0.086	**U**
95-47-6	o-Xylene	**0.13**	0.53	0.17	0.075	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.11**	0.46	0.15	0.067	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.47**	0.47	0.15	0.064	
120-82-1	1,2,4-Trichlorobenzene	0.18	0.31	0.18	0.074	**U**
91-20-3	Naphthalene	0.25	0.42	0.25	0.11	**U**
1330-20-7	Xylenes, Total	**0.49**	1.1	0.33	0.14	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV109-250-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-004

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00079

Initial Pressure (psig): -3.51 Final Pressure (psig): 3.24

Container Dilution Factor: 1.60

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**1.1**	1.2	0.74	0.30	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**4.7**	0.43	0.26	0.070	
74-87-3	Chloromethane	0.62	1.0	0.62	0.17	**U**
75-01-4	Vinyl Chloride	0.27	0.85	0.27	0.089	**U**
106-99-0	1,3-Butadiene	0.58	0.96	0.58	0.16	**U**
75-00-3	Chloroethane	0.49	0.82	0.49	0.10	**U**
64-17-5	Ethanol	1.8	11	1.8	0.79	**U**
67-64-1	Acetone	4.5	8.9	4.5	2.0	**U**
75-69-4	Trichlorofluoromethane	**0.53**	0.38	0.23	0.058	
67-63-0	2-Propanol (Isopropyl Alcohol)	1.0	3.4	1.0	0.36	**U**
75-09-2	Methylene Chloride	0.37	0.61	0.37	0.17	**U**
76-13-1	Trichlorotrifluoroethane	**24**	0.28	0.089	0.040	
75-15-0	Carbon Disulfide	0.69	1.4	0.69	0.21	**U**
75-34-3	1,1-Dichloroethane	0.33	0.54	0.33	0.077	**U**
78-93-3	2-Butanone (MEK)	**0.21**	1.5	0.43	0.15	**J**
141-78-6	Ethyl Acetate	0.72	1.2	0.72	0.31	**U**
110-54-3	n-Hexane	0.36	0.61	0.36	0.12	**U**
67-66-3	Chloroform	**0.49**	0.44	0.14	0.058	
109-99-9	Tetrahydrofuran (THF)	**7.4**	0.75	0.23	0.091	
107-06-2	1,2-Dichloroethane	0.17	0.53	0.17	0.058	**U**
71-43-2	Benzene	**0.96**	0.66	0.21	0.096	
56-23-5	Carbon Tetrachloride	**3.3**	0.34	0.11	0.047	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV109-250-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-004

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00079

Initial Pressure (psig): -3.51 Final Pressure (psig): 3.24

Container Dilution Factor: 1.60

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**0.90**	1.3	0.40	0.17	**J**
75-27-4	Bromodichloromethane	0.10	0.32	0.10	0.046	**U**
79-01-6	Trichloroethene	**24**	0.40	0.13	0.054	
123-91-1	1,4-Dioxane	0.19	0.60	0.19	0.070	**U**
142-82-5	n-Heptane	0.31	0.53	0.31	0.083	**U**
108-10-1	4-Methyl-2-pentanone	0.17	0.52	0.17	0.071	**U**
108-88-3	Toluene	**0.26**	0.57	0.18	0.069	**J**
591-78-6	2-Hexanone	0.17	0.53	0.17	0.064	**U**
124-48-1	Dibromochloromethane	0.080	0.25	0.080	0.033	**U**
106-93-4	1,2-Dibromoethane	0.089	0.28	0.089	0.032	**U**
127-18-4	Tetrachloroethene	**2.1**	0.31	0.10	0.041	
100-41-4	Ethylbenzene	0.16	0.50	0.16	0.069	**U**
179601-23-1	m,p-Xylenes	**0.19**	1.0	0.31	0.13	**J**
75-25-2	Bromoform	0.12	0.21	0.12	0.043	**U**
100-42-5	Styrene	0.30	0.50	0.30	0.081	**U**
95-47-6	o-Xylene	**0.078**	0.50	0.16	0.071	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.079**	0.43	0.14	0.063	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.38**	0.44	0.14	0.060	**J**
120-82-1	1,2,4-Trichlorobenzene	0.17	0.29	0.17	0.070	**U**
91-20-3	Naphthalene	0.24	0.40	0.24	0.099	**U**
1330-20-7	Xylenes, Total	**0.27**	1.0	0.31	0.13	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV109-350-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-005

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00876

Initial Pressure (psig): -2.56 Final Pressure (psig): 7.44

Container Dilution Factor: 1.82

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**2.7**	1.4	0.85	0.34	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.1**	0.49	0.29	0.080	
74-87-3	Chloromethane	**0.23**	1.2	0.71	0.19	**J**
75-01-4	Vinyl Chloride	0.30	0.96	0.30	0.10	**U**
106-99-0	1,3-Butadiene	0.66	1.1	0.66	0.18	**U**
75-00-3	Chloroethane	0.55	0.93	0.55	0.11	**U**
64-17-5	Ethanol	**4.7**	13	2.0	0.89	**J**
67-64-1	Acetone	**11**	10	5.2	2.3	
75-69-4	Trichlorofluoromethane	**0.24**	0.43	0.26	0.066	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.2	3.9	1.2	0.41	**U**
75-09-2	Methylene Chloride	0.42	0.69	0.42	0.20	**U**
76-13-1	Trichlorotrifluoroethane	**28**	0.32	0.10	0.045	
75-15-0	Carbon Disulfide	**2.6**	1.6	0.79	0.23	
75-34-3	1,1-Dichloroethane	0.37	0.62	0.37	0.088	**U**
78-93-3	2-Butanone (MEK)	**3.2**	1.7	0.49	0.17	
141-78-6	Ethyl Acetate	0.82	1.4	0.82	0.35	**U**
110-54-3	n-Hexane	0.41	0.70	0.41	0.14	**U**
67-66-3	Chloroform	**0.35**	0.50	0.16	0.066	**J**
109-99-9	Tetrahydrofuran (THF)	**7.2**	0.85	0.26	0.10	
107-06-2	1,2-Dichloroethane	0.19	0.61	0.19	0.066	**U**
71-43-2	Benzene	**3.8**	0.76	0.24	0.11	
56-23-5	Carbon Tetrachloride	**1.5**	0.38	0.12	0.054	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV109-350-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-005

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00876

Initial Pressure (psig): -2.56 Final Pressure (psig): 7.44

Container Dilution Factor: 1.82

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**1.2**	1.5	0.45	0.20	**J**
75-27-4	Bromodichloromethane	0.12	0.37	0.12	0.052	**U**
79-01-6	Trichloroethene	**28**	0.46	0.14	0.061	
123-91-1	1,4-Dioxane	0.21	0.68	0.21	0.080	**U**
142-82-5	n-Heptane	0.36	0.60	0.36	0.094	**U**
108-10-1	4-Methyl-2-pentanone	**0.097**	0.59	0.19	0.081	**J**
108-88-3	Toluene	**0.36**	0.65	0.21	0.079	**J**
591-78-6	2-Hexanone	**0.57**	0.60	0.19	0.073	**J**
124-48-1	Dibromochloromethane	0.091	0.29	0.091	0.037	**U**
106-93-4	1,2-Dibromoethane	0.10	0.32	0.10	0.037	**U**
127-18-4	Tetrachloroethene	**0.74**	0.35	0.11	0.046	
100-41-4	Ethylbenzene	0.18	0.57	0.18	0.079	**U**
179601-23-1	m,p-Xylenes	**0.18**	1.2	0.36	0.15	**J**
75-25-2	Bromoform	0.14	0.24	0.14	0.048	**U**
100-42-5	Styrene	0.34	0.57	0.34	0.092	**U**
95-47-6	o-Xylene	0.18	0.57	0.18	0.081	**U**
108-67-8	1,3,5-Trimethylbenzene	0.16	0.49	0.16	0.071	**U**
95-63-6	1,2,4-Trimethylbenzene	**0.26**	0.50	0.16	0.069	**J**
120-82-1	1,2,4-Trichlorobenzene	0.20	0.33	0.20	0.080	**U**
91-20-3	Naphthalene	0.27	0.45	0.27	0.11	**U**
1330-20-7	Xylenes, Total	**0.18**	1.2	0.36	0.15	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV109-450-602** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-006

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00181

Initial Pressure (psig): -3.13 Final Pressure (psig): 5.28

Container Dilution Factor: 1.73

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**4.7**	1.3	0.80	0.33	
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.44**	0.46	0.28	0.076	**J**
74-87-3	Chloromethane	**16**	1.1	0.67	0.18	
75-01-4	Vinyl Chloride	**4.1**	0.91	0.29	0.096	
106-99-0	1,3-Butadiene	**0.23**	1.0	0.63	0.17	**J**
75-00-3	Chloroethane	**3.0**	0.89	0.52	0.11	
64-17-5	Ethanol	**10**	12	1.9	0.85	**J**
67-64-1	Acetone	4.9	9.7	4.9	2.2	**U**
75-69-4	Trichlorofluoromethane	**0.14**	0.41	0.25	0.062	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**2.2**	3.7	1.1	0.39	**J**
75-09-2	Methylene Chloride	**1.3**	0.66	0.40	0.19	
76-13-1	Trichlorotrifluoroethane	**0.69**	0.30	0.096	0.043	
75-15-0	Carbon Disulfide	**38**	1.5	0.75	0.22	
75-34-3	1,1-Dichloroethane	**1.5**	0.59	0.35	0.083	
78-93-3	2-Butanone (MEK)	**0.93**	1.6	0.47	0.16	**J**
141-78-6	Ethyl Acetate	**14**	1.3	0.78	0.34	
110-54-3	n-Hexane	**4.1**	0.66	0.39	0.14	
67-66-3	Chloroform	**0.082**	0.48	0.15	0.063	**J**
109-99-9	Tetrahydrofuran (THF)	**16**	0.81	0.25	0.098	
107-06-2	1,2-Dichloroethane	**0.69**	0.58	0.18	0.063	
71-43-2	Benzene	**2.9**	0.72	0.23	0.10	
56-23-5	Carbon Tetrachloride	**0.19**	0.36	0.12	0.051	**J**

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV109-450-602** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-006

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00181

Initial Pressure (psig): -3.13 Final Pressure (psig): 5.28

Container Dilution Factor: 1.73

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**4.7**		1.4	0.43	0.19	
75-27-4	Bromodichloromethane		0.11	0.35	0.11	0.050	**U**
79-01-6	Trichloroethene	**2.5**		0.43	0.14	0.058	
123-91-1	1,4-Dioxane		0.20	0.65	0.20	0.076	**U**
142-82-5	n-Heptane	**0.44**		0.57	0.34	0.090	**J**
108-10-1	4-Methyl-2-pentanone	**0.14**		0.56	0.18	0.077	**J**
108-88-3	Toluene	**8.3**		0.62	0.20	0.075	
591-78-6	2-Hexanone		0.18	0.57	0.18	0.070	**U**
124-48-1	Dibromochloromethane		0.086	0.27	0.086	0.036	**U**
106-93-4	1,2-Dibromoethane		0.096	0.30	0.096	0.035	**U**
127-18-4	Tetrachloroethene	**0.19**		0.33	0.11	0.044	**J**
100-41-4	Ethylbenzene	**0.33**		0.54	0.17	0.075	**J**
179601-23-1	m,p-Xylenes	**1.6**		1.1	0.34	0.14	
75-25-2	Bromoform		0.13	0.23	0.13	0.046	**U**
100-42-5	Styrene	**0.089**		0.54	0.33	0.087	**J**
95-47-6	o-Xylene	**0.48**		0.54	0.17	0.077	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.48**		0.47	0.15	0.068	
95-63-6	1,2,4-Trimethylbenzene	**2.3**		0.48	0.15	0.065	
120-82-1	1,2,4-Trichlorobenzene		0.19	0.31	0.19	0.076	**U**
91-20-3	Naphthalene	**0.24**		0.43	0.26	0.11	**J**
1330-20-7	Xylenes, Total	**2.0**		1.1	0.34	0.14	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV109-450-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-007

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00368

Initial Pressure (psig): -3.31 Final Pressure (psig): 5.50

Container Dilution Factor: 1.77

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.82	1.4	0.82	0.33	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.44**	0.47	0.29	0.078	**J**
74-87-3	Chloromethane	**17**	1.1	0.69	0.18	
75-01-4	Vinyl Chloride	**4.2**	0.94	0.29	0.099	
106-99-0	1,3-Butadiene	**0.21**	1.1	0.64	0.18	**J**
75-00-3	Chloroethane	**3.1**	0.91	0.54	0.11	
64-17-5	Ethanol	**6.9**	12	1.9	0.87	**J**
67-64-1	Acetone	**9.6**	9.9	5.0	2.2	**J**
75-69-4	Trichlorofluoromethane	**0.15**	0.42	0.25	0.064	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.2**	3.8	1.1	0.40	**J**
75-09-2	Methylene Chloride	**0.37**	0.68	0.41	0.19	**J**
76-13-1	Trichlorotrifluoroethane	**0.68**	0.31	0.098	0.044	
75-15-0	Carbon Disulfide	**39**	1.6	0.77	0.23	
75-34-3	1,1-Dichloroethane	**1.5**	0.60	0.36	0.085	
78-93-3	2-Butanone (MEK)	**1.7**	1.7	0.48	0.17	
141-78-6	Ethyl Acetate	**14**	1.4	0.80	0.34	
110-54-3	n-Hexane	**1.4**	0.68	0.40	0.14	
67-66-3	Chloroform	**0.078**	0.49	0.15	0.064	**J**
109-99-9	Tetrahydrofuran (THF)	**18**	0.83	0.26	0.10	
107-06-2	1,2-Dichloroethane	**0.70**	0.59	0.19	0.065	
71-43-2	Benzene	**2.5**	0.73	0.24	0.11	
56-23-5	Carbon Tetrachloride	**0.18**	0.37	0.12	0.052	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV109-450-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-007

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00368

Initial Pressure (psig): -3.31 Final Pressure (psig): 5.50

Container Dilution Factor: 1.77

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**1.3**	1.4	0.44	0.19	**J**
75-27-4	Bromodichloromethane	0.11	0.36	0.11	0.051	**U**
79-01-6	Trichloroethene	**2.4**	0.44	0.14	0.059	
123-91-1	1,4-Dioxane	0.21	0.66	0.21	0.077	**U**
142-82-5	n-Heptane	**0.31**	0.58	0.35	0.092	**J**
108-10-1	4-Methyl-2-pentanone	**0.16**	0.57	0.18	0.079	**J**
108-88-3	Toluene	**6.6**	0.63	0.20	0.076	
591-78-6	2-Hexanone	**0.29**	0.58	0.18	0.071	**J**
124-48-1	Dibromochloromethane	0.088	0.28	0.088	0.036	**U**
106-93-4	1,2-Dibromoethane	0.098	0.31	0.098	0.036	**U**
127-18-4	Tetrachloroethene	**0.16**	0.34	0.11	0.045	**J**
100-41-4	Ethylbenzene	**0.20**	0.55	0.17	0.076	**J**
179601-23-1	m,p-Xylenes	**0.71**	1.1	0.35	0.14	**J**
75-25-2	Bromoform	0.14	0.23	0.14	0.047	**U**
100-42-5	Styrene	0.33	0.55	0.33	0.089	**U**
95-47-6	o-Xylene	**0.23**	0.55	0.17	0.078	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.11**	0.48	0.15	0.069	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.47**	0.49	0.15	0.067	**J**
120-82-1	1,2,4-Trichlorobenzene	0.19	0.32	0.19	0.078	**U**
91-20-3	Naphthalene	0.26	0.44	0.26	0.11	**U**
1330-20-7	Xylenes, Total	**0.94**	1.1	0.35	0.14	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV110-025-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-008

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00221

Initial Pressure (psig): -1.93 Final Pressure (psig): 5.62

Container Dilution Factor: 1.59

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.77**	1.2	0.74	0.30	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.8**	0.43	0.26	0.070	
74-87-3	Chloromethane	**0.27**	1.0	0.62	0.17	**J**
75-01-4	Vinyl Chloride	0.26	0.84	0.26	0.089	**U**
106-99-0	1,3-Butadiene	0.58	0.95	0.58	0.16	**U**
75-00-3	Chloroethane	0.48	0.81	0.48	0.099	**U**
64-17-5	Ethanol	**4.6**	11	1.8	0.78	**J**
67-64-1	Acetone	**4.8**	8.9	4.5	2.0	**J**
75-69-4	Trichlorofluoromethane	**0.32**	0.38	0.23	0.057	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.58**	3.4	1.0	0.36	**J**
75-09-2	Methylene Chloride	0.37	0.61	0.37	0.17	**U**
76-13-1	Trichlorotrifluoroethane	**3.1**	0.28	0.088	0.039	
75-15-0	Carbon Disulfide	**0.59**	1.4	0.69	0.20	**J**
75-34-3	1,1-Dichloroethane	0.32	0.54	0.32	0.077	**U**
78-93-3	2-Butanone (MEK)	**0.46**	1.5	0.43	0.15	**J**
141-78-6	Ethyl Acetate	**8.0**	1.2	0.72	0.31	
110-54-3	n-Hexane	0.36	0.61	0.36	0.12	**U**
67-66-3	Chloroform	**0.12**	0.44	0.14	0.058	**J**
109-99-9	Tetrahydrofuran (THF)	**0.57**	0.74	0.23	0.090	**J**
107-06-2	1,2-Dichloroethane	0.17	0.53	0.17	0.058	**U**
71-43-2	Benzene	0.21	0.66	0.21	0.096	**U**
56-23-5	Carbon Tetrachloride	**2.4**	0.34	0.11	0.047	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV110-025-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-008

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00221

Initial Pressure (psig): -1.93 Final Pressure (psig): 5.62

Container Dilution Factor: 1.59

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.39	1.3	0.39	0.17	**U**
75-27-4	Bromodichloromethane	0.10	0.32	0.10	0.046	**U**
79-01-6	Trichloroethene	0.13	0.40	0.13	0.053	**U**
123-91-1	1,4-Dioxane	0.19	0.60	0.19	0.070	**U**
142-82-5	n-Heptane	0.31	0.52	0.31	0.082	**U**
108-10-1	4-Methyl-2-pentanone	0.16	0.51	0.16	0.071	**U**
108-88-3	Toluene	**0.80**	0.57	0.18	0.069	
591-78-6	2-Hexanone	0.17	0.52	0.17	0.064	**U**
124-48-1	Dibromochloromethane	0.079	0.25	0.079	0.033	**U**
106-93-4	1,2-Dibromoethane	0.088	0.28	0.088	0.032	**U**
127-18-4	Tetrachloroethene	**0.39**	0.30	0.10	0.040	
100-41-4	Ethylbenzene	0.16	0.49	0.16	0.069	**U**
179601-23-1	m,p-Xylenes	**0.39**	1.0	0.31	0.13	**J**
75-25-2	Bromoform	0.12	0.21	0.12	0.042	**U**
100-42-5	Styrene	0.30	0.50	0.30	0.080	**U**
95-47-6	o-Xylene	**0.13**	0.49	0.16	0.070	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.20**	0.43	0.14	0.062	**J**
95-63-6	1,2,4-Trimethylbenzene	**1.1**	0.44	0.14	0.060	
120-82-1	1,2,4-Trichlorobenzene	0.17	0.29	0.17	0.070	**U**
91-20-3	Naphthalene	**0.14**	0.39	0.24	0.099	**J**
1330-20-7	Xylenes, Total	**0.52**	1.0	0.31	0.13	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV110-050-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-009

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00010

Initial Pressure (psig): -3.13 Final Pressure (psig): 5.49

Container Dilution Factor: 1.75

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.95**	1.3	0.81	0.33	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**3.9**	0.47	0.28	0.077	
74-87-3	Chloromethane	**0.29**	1.1	0.68	0.18	**J**
75-01-4	Vinyl Chloride	0.29	0.92	0.29	0.098	**U**
106-99-0	1,3-Butadiene	0.63	1.0	0.63	0.17	**U**
75-00-3	Chloroethane	0.53	0.90	0.53	0.11	**U**
64-17-5	Ethanol	**4.5**	12	1.9	0.86	**J**
67-64-1	Acetone	**5.5**	9.8	5.0	2.2	**J**
75-69-4	Trichlorofluoromethane	**0.49**	0.41	0.25	0.063	
67-63-0	2-Propanol (Isopropyl Alcohol)	1.1	3.7	1.1	0.39	**U**
75-09-2	Methylene Chloride	0.40	0.67	0.40	0.19	**U**
76-13-1	Trichlorotrifluoroethane	**7.0**	0.31	0.097	0.043	
75-15-0	Carbon Disulfide	**1.3**	1.5	0.76	0.22	**J**
75-34-3	1,1-Dichloroethane	0.36	0.59	0.36	0.084	**U**
78-93-3	2-Butanone (MEK)	**0.86**	1.6	0.47	0.16	**J**
141-78-6	Ethyl Acetate	**2.6**	1.3	0.79	0.34	
110-54-3	n-Hexane	0.40	0.67	0.40	0.14	**U**
67-66-3	Chloroform	**0.14**	0.48	0.15	0.064	**J**
109-99-9	Tetrahydrofuran (THF)	**1.4**	0.82	0.25	0.099	
107-06-2	1,2-Dichloroethane	0.18	0.58	0.18	0.064	**U**
71-43-2	Benzene	0.23	0.73	0.23	0.11	**U**
56-23-5	Carbon Tetrachloride	**4.3**	0.37	0.12	0.051	

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV110-050-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-009

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00010

Initial Pressure (psig): -3.13 Final Pressure (psig): 5.49

Container Dilution Factor: 1.75

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.43	1.4	0.43	0.19	**U**
75-27-4	Bromodichloromethane	0.11	0.35	0.11	0.050	**U**
79-01-6	Trichloroethene	**0.074**	0.44	0.14	0.059	**J**
123-91-1	1,4-Dioxane	0.21	0.66	0.21	0.077	**U**
142-82-5	n-Heptane	0.34	0.58	0.34	0.091	**U**
108-10-1	4-Methyl-2-pentanone	0.18	0.57	0.18	0.078	**U**
108-88-3	Toluene	**0.23**	0.63	0.20	0.075	**J**
591-78-6	2-Hexanone	**0.13**	0.58	0.18	0.071	**J**
124-48-1	Dibromochloromethane	0.087	0.28	0.087	0.036	**U**
106-93-4	1,2-Dibromoethane	0.097	0.31	0.097	0.035	**U**
127-18-4	Tetrachloroethene	**0.55**	0.34	0.11	0.045	
100-41-4	Ethylbenzene	0.17	0.54	0.17	0.076	**U**
179601-23-1	m,p-Xylenes	**0.16**	1.1	0.34	0.14	**J**
75-25-2	Bromoform	0.14	0.23	0.14	0.047	**U**
100-42-5	Styrene	0.33	0.54	0.33	0.088	**U**
95-47-6	o-Xylene	0.17	0.54	0.17	0.078	**U**
108-67-8	1,3,5-Trimethylbenzene	**0.082**	0.47	0.15	0.069	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.39**	0.48	0.15	0.066	**J**
120-82-1	1,2,4-Trichlorobenzene	0.19	0.32	0.19	0.077	**U**
91-20-3	Naphthalene	0.26	0.43	0.26	0.11	**U**
1330-20-7	Xylenes, Total	**0.16**	1.1	0.34	0.14	**J**

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV110-150-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-010

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0070 Liter(s)
Test Notes:
Container ID: 1SC00054

Initial Pressure (psig): -3.05 Final Pressure (psig): 5.32

Container Dilution Factor: 1.72

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**370**	76	46	19	
75-71-8	Dichlorodifluoromethane (CFC 12)	**9.5**	26	16	4.3	**J**
74-87-3	Chloromethane	38	63	38	10	**U**
75-01-4	Vinyl Chloride	16	52	16	5.5	**U**
106-99-0	1,3-Butadiene	36	59	36	9.8	**U**
75-00-3	Chloroethane	30	50	30	6.1	**U**
64-17-5	Ethanol	110	680	110	48	**U**
67-64-1	Acetone	280	550	280	120	**U**
75-69-4	Trichlorofluoromethane	14	23	14	3.5	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	63	210	63	22	**U**
75-09-2	Methylene Chloride	**32**	38	23	11	**J**
76-13-1	Trichlorotrifluoroethane	**53**	17	5.5	2.4	
75-15-0	Carbon Disulfide	43	87	43	13	**U**
75-34-3	1,1-Dichloroethane	20	33	20	4.7	**U**
78-93-3	2-Butanone (MEK)	27	92	27	9.2	**U**
141-78-6	Ethyl Acetate	44	75	44	19	**U**
110-54-3	n-Hexane	**5,000**	38	22	7.7	
67-66-3	Chloroform	8.6	27	8.6	3.6	**U**
109-99-9	Tetrahydrofuran (THF)	14	46	14	5.6	**U**
107-06-2	1,2-Dichloroethane	10	33	10	3.6	**U**
71-43-2	Benzene	**360**	41	13	5.9	
56-23-5	Carbon Tetrachloride	6.6	21	6.6	2.9	**U**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV110-150-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-010

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0070 Liter(s)
Test Notes:
Container ID: 1SC00054

Initial Pressure (psig): -3.05 Final Pressure (psig): 5.32

Container Dilution Factor: 1.72

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**8,700**	79	24	11	
75-27-4	Bromodichloromethane	6.2	20	6.2	2.8	**U**
79-01-6	Trichloroethene	**16**	25	7.8	3.3	**J**
123-91-1	1,4-Dioxane	12	37	12	4.3	**U**
142-82-5	n-Heptane	**1,400**	32	19	5.1	
108-10-1	4-Methyl-2-pentanone	**52**	32	10	4.4	
108-88-3	Toluene	**44**	35	11	4.2	
591-78-6	2-Hexanone	10	32	10	4.0	**U**
124-48-1	Dibromochloromethane	4.9	16	4.9	2.0	**U**
106-93-4	1,2-Dibromoethane	5.4	17	5.4	2.0	**U**
127-18-4	Tetrachloroethene	**14**	19	6.2	2.5	**J**
100-41-4	Ethylbenzene	9.6	31	9.6	4.2	**U**
179601-23-1	m,p-Xylenes	**17**	62	19	7.9	**J**
75-25-2	Bromoform	7.6	13	7.6	2.6	**U**
100-42-5	Styrene	18	31	18	5.0	**U**
95-47-6	o-Xylene	**15**	31	9.6	4.4	**J**
108-67-8	1,3,5-Trimethylbenzene	**4.7**	27	8.5	3.9	**J**
95-63-6	1,2,4-Trimethylbenzene	**4.0**	27	8.5	3.7	**J**
120-82-1	1,2,4-Trichlorobenzene	11	18	11	4.3	**U**
91-20-3	Naphthalene	15	24	15	6.1	**U**
1330-20-7	Xylenes, Total	**32**	62	19	7.9	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV110-250-602** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-011

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00015 Liter(s)
Test Notes:
Container ID: 1SC00982

Initial Pressure (psig): -3.39 Final Pressure (psig): 6.21

Container Dilution Factor: 1.85

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**11,000**		3,800	2,300	930	
75-71-8	Dichlorodifluoromethane (CFC 12)		800	1,300	800	220	**U**
74-87-3	Chloromethane		1,900	3,200	1,900	510	**U**
75-01-4	Vinyl Chloride		820	2,600	820	280	**U**
106-99-0	1,3-Butadiene		1,800	3,000	1,800	490	**U**
75-00-3	Chloroethane		1,500	2,500	1,500	310	**U**
64-17-5	Ethanol		5,400	34,000	5,400	2,400	**U**
67-64-1	Acetone		14,000	28,000	14,000	6,200	**U**
75-69-4	Trichlorofluoromethane		700	1,200	700	180	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)		3,200	11,000	3,200	1,100	**U**
75-09-2	Methylene Chloride	**1,100**		1,900	1,100	530	**J**
76-13-1	Trichlorotrifluoroethane	**1,400**		870	270	120	
75-15-0	Carbon Disulfide		2,100	4,400	2,100	630	**U**
75-34-3	1,1-Dichloroethane		1,000	1,700	1,000	240	**U**
78-93-3	2-Butanone (MEK)		1,300	4,600	1,300	460	**U**
141-78-6	Ethyl Acetate		2,200	3,800	2,200	960	**U**
110-54-3	n-Hexane	**320,000**		1,900	1,100	390	
67-66-3	Chloroform		430	1,400	430	180	**U**
109-99-9	Tetrahydrofuran (THF)		710	2,300	710	280	**U**
107-06-2	1,2-Dichloroethane		520	1,600	520	180	**U**
71-43-2	Benzene	**10,000**		2,000	660	300	
56-23-5	Carbon Tetrachloride		330	1,000	330	150	**U**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV110-250-602** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-011

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00015 Liter(s)
Test Notes:
Container ID: 1SC00982

Initial Pressure (psig): -3.39 Final Pressure (psig): 6.21

Container Dilution Factor: 1.85

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**250,000**		3,900	1,200	540	
75-27-4	Bromodichloromethane		310	990	310	140	**U**
79-01-6	Trichloroethene		390	1,200	390	170	**U**
123-91-1	1,4-Dioxane		580	1,800	580	220	**U**
142-82-5	n-Heptane	**260,000**		1,600	960	260	
108-10-1	4-Methyl-2-pentanone		510	1,600	510	220	**U**
108-88-3	Toluene	**15,000**		1,800	560	210	
591-78-6	2-Hexanone		510	1,600	510	200	**U**
124-48-1	Dibromochloromethane		250	780	250	100	**U**
106-93-4	1,2-Dibromoethane		270	870	270	100	**U**
127-18-4	Tetrachloroethene	**440**		950	310	130	**J**
100-41-4	Ethylbenzene		480	1,500	480	210	**U**
179601-23-1	m,p-Xylenes	**2,600**		3,100	970	400	**J**
75-25-2	Bromoform		380	640	380	130	**U**
100-42-5	Styrene		930	1,500	930	250	**U**
95-47-6	o-Xylene	**590**		1,500	480	220	**J**
108-67-8	1,3,5-Trimethylbenzene		430	1,300	430	190	**U**
95-63-6	1,2,4-Trimethylbenzene		430	1,400	430	190	**U**
120-82-1	1,2,4-Trichlorobenzene		530	900	530	220	**U**
91-20-3	Naphthalene		730	1,200	730	310	**U**
1330-20-7	Xylenes, Total	**3,200**		3,100	970	400	

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV110-250-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-012

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00017 Liter(s)
Test Notes: 0.00010 Liter(s)
Container ID: 1SC01011

Initial Pressure (psig): -2.32 Final Pressure (psig): 6.31

Container Dilution Factor: 1.70

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**12,000**	3,100	1,900	760	
75-71-8	Dichlorodifluoromethane (CFC 12)	650	1,100	650	180	**U**
74-87-3	Chloromethane	1,600	2,600	1,600	420	**U**
75-01-4	Vinyl Chloride	670	2,100	670	220	**U**
106-99-0	1,3-Butadiene	1,400	2,400	1,400	400	**U**
75-00-3	Chloroethane	1,200	2,000	1,200	250	**U**
64-17-5	Ethanol	4,400	28,000	4,400	2,000	**U**
67-64-1	Acetone	11,000	22,000	11,000	5,100	**U**
75-69-4	Trichlorofluoromethane	570	940	570	140	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	2,600	8,500	2,600	900	**U**
75-09-2	Methylene Chloride	**910**	1,500	920	430	**J**
76-13-1	Trichlorotrifluoroethane	**1,100**	700	220	99	
75-15-0	Carbon Disulfide	1,700	3,500	1,700	510	**U**
75-34-3	1,1-Dichloroethane	820	1,400	820	190	**U**
78-93-3	2-Butanone (MEK)	1,100	3,700	1,100	370	**U**
141-78-6	Ethyl Acetate	1,800	3,100	1,800	780	**U**
110-54-3	n-Hexane	**390,000**	2,600	1,500	530	**D**
67-66-3	Chloroform	350	1,100	350	150	**U**
109-99-9	Tetrahydrofuran (THF)	580	1,900	580	230	**U**
107-06-2	1,2-Dichloroethane	420	1,300	420	150	**U**
71-43-2	Benzene	**13,000**	1,700	530	240	
56-23-5	Carbon Tetrachloride	270	840	270	120	**U**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV110-250-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-012

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00017 Liter(s)
Test Notes: 0.00010 Liter(s)
Container ID: 1SC01011

Initial Pressure (psig): -2.32 Final Pressure (psig): 6.31

Container Dilution Factor: 1.70

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**290,000**		3,200	990	440	
75-27-4	Bromodichloromethane		250	810	250	110	**U**
79-01-6	Trichloroethene		320	1,000	320	130	**U**
123-91-1	1,4-Dioxane		470	1,500	470	170	**U**
142-82-5	n-Heptane	**310,000**		2,200	1,300	350	**D**
108-10-1	4-Methyl-2-pentanone		410	1,300	410	180	**U**
108-88-3	Toluene	**17,000**		1,400	450	170	
591-78-6	2-Hexanone		420	1,300	420	160	**U**
124-48-1	Dibromochloromethane		200	630	200	82	**U**
106-93-4	1,2-Dibromoethane		220	700	220	81	**U**
127-18-4	Tetrachloroethene	**340**		770	250	100	**J**
100-41-4	Ethylbenzene		390	1,200	390	170	**U**
179601-23-1	m,p-Xylenes	**2,300**		2,500	780	320	**J**
75-25-2	Bromoform		310	520	310	110	**U**
100-42-5	Styrene		750	1,200	750	200	**U**
95-47-6	o-Xylene	**500**		1,200	390	180	**J**
108-67-8	1,3,5-Trimethylbenzene		350	1,100	350	160	**U**
95-63-6	1,2,4-Trimethylbenzene		350	1,100	350	150	**U**
120-82-1	1,2,4-Trichlorobenzene		430	730	430	180	**U**
91-20-3	Naphthalene		590	990	590	250	**U**
1330-20-7	Xylenes, Total	**2,800**		2,500	780	320	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV110-350-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-013

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.015 Liter(s)
Test Notes:
Container ID: 1SS00226

Initial Pressure (psig): -2.98 Final Pressure (psig): 5.40

Container Dilution Factor: 1.72

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**170**	35	21	8.7	
75-71-8	Dichlorodifluoromethane (CFC 12)	**61**	12	7.4	2.0	
74-87-3	Chloromethane	18	29	18	4.8	**U**
75-01-4	Vinyl Chloride	7.6	24	7.6	2.6	**U**
106-99-0	1,3-Butadiene	17	27	17	4.6	**U**
75-00-3	Chloroethane	14	23	14	2.9	**U**
64-17-5	Ethanol	51	320	51	23	**U**
67-64-1	Acetone	130	260	130	58	**U**
75-69-4	Trichlorofluoromethane	**4.3**	11	6.5	1.7	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	29	98	29	10	**U**
75-09-2	Methylene Chloride	11	18	11	5.0	**U**
76-13-1	Trichlorotrifluoroethane	**17**	8.1	2.5	1.1	
75-15-0	Carbon Disulfide	20	41	20	5.9	**U**
75-34-3	1,1-Dichloroethane	9.4	16	9.4	2.2	**U**
78-93-3	2-Butanone (MEK)	12	43	12	4.3	**U**
141-78-6	Ethyl Acetate	21	35	21	8.9	**U**
110-54-3	n-Hexane	**1,100**	18	10	3.6	
67-66-3	Chloroform	4.0	13	4.0	1.7	**U**
109-99-9	Tetrahydrofuran (THF)	6.6	21	6.6	2.6	**U**
107-06-2	1,2-Dichloroethane	4.8	15	4.8	1.7	**U**
71-43-2	Benzene	6.1	19	6.1	2.8	**U**
56-23-5	Carbon Tetrachloride	3.1	9.7	3.1	1.3	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV110-350-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-013

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.015 Liter(s)
Test Notes:
Container ID: 1SS00226

Initial Pressure (psig): -2.98 Final Pressure (psig): 5.40

Container Dilution Factor: 1.72

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**5,200**	37	11	5.0	
75-27-4	Bromodichloromethane	2.9	9.2	2.9	1.3	**U**
79-01-6	Trichloroethene	**10**	12	3.6	1.5	**J**
123-91-1	1,4-Dioxane	5.4	17	5.4	2.0	**U**
142-82-5	n-Heptane	**15**	15	9.0	2.4	
108-10-1	4-Methyl-2-pentanone	4.8	15	4.8	2.0	**U**
108-88-3	Toluene	5.2	16	5.2	2.0	**U**
591-78-6	2-Hexanone	4.8	15	4.8	1.8	**U**
124-48-1	Dibromochloromethane	2.3	7.3	2.3	0.94	**U**
106-93-4	1,2-Dibromoethane	2.5	8.1	2.5	0.93	**U**
127-18-4	Tetrachloroethene	**2.0**	8.8	2.9	1.2	**J**
100-41-4	Ethylbenzene	4.5	14	4.5	2.0	**U**
179601-23-1	m,p-Xylenes	9.0	29	9.0	3.7	**U**
75-25-2	Bromoform	3.6	6.0	3.6	1.2	**U**
100-42-5	Styrene	8.6	14	8.6	2.3	**U**
95-47-6	o-Xylene	**3.1**	14	4.5	2.0	**J**
108-67-8	1,3,5-Trimethylbenzene	4.0	12	4.0	1.8	**U**
95-63-6	1,2,4-Trimethylbenzene	4.0	13	4.0	1.7	**U**
120-82-1	1,2,4-Trichlorobenzene	4.9	8.3	4.9	2.0	**U**
91-20-3	Naphthalene	6.8	11	6.8	2.8	**U**
1330-20-7	Xylenes, Total	9.0	29	9.0	3.7	**U**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV110-450-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-014

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.040 Liter(s)
Test Notes:
Container ID: 1SC00079

Initial Pressure (psig): -3.66 Final Pressure (psig): 5.42

Container Dilution Factor: 1.82

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**54**	14	8.5	3.4	
75-71-8	Dichlorodifluoromethane (CFC 12)	**7.2**	4.9	2.9	0.80	
74-87-3	Chloromethane	**26**	12	7.1	1.9	
75-01-4	Vinyl Chloride	**3.7**	9.6	3.0	1.0	**J**
106-99-0	1,3-Butadiene	6.6	11	6.6	1.8	**U**
75-00-3	Chloroethane	**3.4**	9.3	5.5	1.1	**J**
64-17-5	Ethanol	20	130	20	8.9	**U**
67-64-1	Acetone	52	100	52	23	**U**
75-69-4	Trichlorofluoromethane	2.6	4.3	2.6	0.66	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	12	39	12	4.1	**U**
75-09-2	Methylene Chloride	4.2	6.9	4.2	2.0	**U**
76-13-1	Trichlorotrifluoroethane	**1.9**	3.2	1.0	0.45	**J**
75-15-0	Carbon Disulfide	**87**	16	7.9	2.3	
75-34-3	1,1-Dichloroethane	**1.7**	6.2	3.7	0.88	**J**
78-93-3	2-Butanone (MEK)	**5.9**	17	4.9	1.7	**J**
141-78-6	Ethyl Acetate	8.2	14	8.2	3.5	**U**
110-54-3	n-Hexane	**1,000**	7.0	4.1	1.4	
67-66-3	Chloroform	1.6	5.0	1.6	0.66	**U**
109-99-9	Tetrahydrofuran (THF)	**31**	8.5	2.6	1.0	
107-06-2	1,2-Dichloroethane	1.9	6.1	1.9	0.66	**U**
71-43-2	Benzene	**140**	7.6	2.4	1.1	
56-23-5	Carbon Tetrachloride	**1.1**	3.8	1.2	0.54	**J**

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV110-450-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-014

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.040 Liter(s)
Test Notes:
Container ID: 1SC00079

Initial Pressure (psig): -3.66 Final Pressure (psig): 5.42

Container Dilution Factor: 1.82

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**920**		15	4.5	2.0	
75-27-4	Bromodichloromethane		1.2	3.7	1.2	0.52	**U**
79-01-6	Trichloroethene	**1.5**		4.6	1.4	0.61	**J**
123-91-1	1,4-Dioxane		2.1	6.8	2.1	0.80	**U**
142-82-5	n-Heptane	**820**		6.0	3.6	0.94	
108-10-1	4-Methyl-2-pentanone		1.9	5.9	1.9	0.81	**U**
108-88-3	Toluene	**270**		6.5	2.1	0.79	
591-78-6	2-Hexanone		1.9	6.0	1.9	0.73	**U**
124-48-1	Dibromochloromethane		0.91	2.9	0.91	0.37	**U**
106-93-4	1,2-Dibromoethane		1.0	3.2	1.0	0.37	**U**
127-18-4	Tetrachloroethene		1.1	3.5	1.1	0.46	**U**
100-41-4	Ethylbenzene	**9.2**		5.7	1.8	0.79	
179601-23-1	m,p-Xylenes	**25**		12	3.6	1.5	
75-25-2	Bromoform		1.4	2.4	1.4	0.48	**U**
100-42-5	Styrene		3.4	5.7	3.4	0.92	**U**
95-47-6	o-Xylene	**6.4**		5.7	1.8	0.81	
108-67-8	1,3,5-Trimethylbenzene	**0.89**		4.9	1.6	0.71	**J**
95-63-6	1,2,4-Trimethylbenzene		1.6	5.0	1.6	0.69	**U**
120-82-1	1,2,4-Trichlorobenzene		2.0	3.3	2.0	0.80	**U**
91-20-3	Naphthalene		2.7	4.5	2.7	1.1	**U**
1330-20-7	Xylenes, Total	**32**		12	3.6	1.5	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV113-020-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-015

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00280

Initial Pressure (psig): -3.66 Final Pressure (psig): 6.95

Container Dilution Factor: 1.96

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**1.2**	1.5	0.91	0.37	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.75**	0.53	0.32	0.086	
74-87-3	Chloromethane	**0.23**	1.3	0.76	0.20	**J**
75-01-4	Vinyl Chloride	**1.2**	1.0	0.33	0.11	
106-99-0	1,3-Butadiene	0.71	1.2	0.71	0.19	**U**
75-00-3	Chloroethane	0.59	1.0	0.59	0.12	**U**
64-17-5	Ethanol	**7.2**	14	2.2	0.96	**J**
67-64-1	Acetone	**14**	11	5.6	2.5	
75-69-4	Trichlorofluoromethane	**0.21**	0.46	0.28	0.071	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.4**	4.2	1.3	0.44	**J**
75-09-2	Methylene Chloride	0.45	0.75	0.45	0.21	**U**
76-13-1	Trichlorotrifluoroethane	**0.18**	0.35	0.11	0.049	**J**
75-15-0	Carbon Disulfide	**2.1**	1.7	0.85	0.25	
75-34-3	1,1-Dichloroethane	0.40	0.67	0.40	0.094	**U**
78-93-3	2-Butanone (MEK)	**1.8**	1.8	0.53	0.18	
141-78-6	Ethyl Acetate	0.88	1.5	0.88	0.38	**U**
110-54-3	n-Hexane	0.45	0.75	0.45	0.15	**U**
67-66-3	Chloroform	**0.11**	0.54	0.17	0.071	**J**
109-99-9	Tetrahydrofuran (THF)	**0.25**	0.91	0.28	0.11	**J**
107-06-2	1,2-Dichloroethane	**20**	0.65	0.21	0.071	
71-43-2	Benzene	0.26	0.81	0.26	0.12	**U**
56-23-5	Carbon Tetrachloride	**0.43**	0.41	0.13	0.058	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV113-020-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-015

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00280

Initial Pressure (psig): -3.66 Final Pressure (psig): 6.95

Container Dilution Factor: 1.96

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.48	1.6	0.48	0.21	**U**
75-27-4	Bromodichloromethane	0.12	0.40	0.12	0.056	**U**
79-01-6	Trichloroethene	0.16	0.49	0.16	0.066	**U**
123-91-1	1,4-Dioxane	**0.35**	0.73	0.23	0.086	**J**
142-82-5	n-Heptane	0.38	0.65	0.38	0.10	**U**
108-10-1	4-Methyl-2-pentanone	**0.35**	0.63	0.20	0.087	**J**
108-88-3	Toluene	**0.17**	0.70	0.22	0.085	**J**
591-78-6	2-Hexanone	**1.8**	0.65	0.20	0.079	
124-48-1	Dibromochloromethane	0.098	0.31	0.098	0.040	**U**
106-93-4	1,2-Dibromoethane	**64**	0.34	0.11	0.040	
127-18-4	Tetrachloroethene	**0.12**	0.38	0.12	0.050	**J**
100-41-4	Ethylbenzene	0.19	0.61	0.19	0.085	**U**
179601-23-1	m,p-Xylenes	0.38	1.2	0.38	0.16	**U**
75-25-2	Bromoform	0.15	0.26	0.15	0.052	**U**
100-42-5	Styrene	0.37	0.61	0.37	0.099	**U**
95-47-6	o-Xylene	0.19	0.61	0.19	0.087	**U**
108-67-8	1,3,5-Trimethylbenzene	**0.11**	0.53	0.17	0.077	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.32**	0.54	0.17	0.074	**J**
120-82-1	1,2,4-Trichlorobenzene	0.21	0.36	0.21	0.086	**U**
91-20-3	Naphthalene	0.29	0.49	0.29	0.12	**U**
1330-20-7	Xylenes, Total	0.38	1.2	0.38	0.16	**U**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV113-050-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-016

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01189

Initial Pressure (psig): -4.57 Final Pressure (psig): 5.99

Container Dilution Factor: 2.04

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.95	1.6	0.95	0.39	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.3**	0.55	0.33	0.090	
74-87-3	Chloromethane	0.79	1.3	0.79	0.21	**U**
75-01-4	Vinyl Chloride	0.34	1.1	0.34	0.11	**U**
106-99-0	1,3-Butadiene	0.74	1.2	0.74	0.20	**U**
75-00-3	Chloroethane	0.62	1.0	0.62	0.13	**U**
64-17-5	Ethanol	2.2	14	2.2	1.0	**U**
67-64-1	Acetone	5.8	11	5.8	2.6	**U**
75-69-4	Trichlorofluoromethane	**0.21**	0.48	0.29	0.074	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.3	4.4	1.3	0.46	**U**
75-09-2	Methylene Chloride	0.47	0.78	0.47	0.22	**U**
76-13-1	Trichlorotrifluoroethane	**0.39**	0.36	0.11	0.051	
75-15-0	Carbon Disulfide	0.88	1.8	0.88	0.26	**U**
75-34-3	1,1-Dichloroethane	0.42	0.69	0.42	0.098	**U**
78-93-3	2-Butanone (MEK)	0.55	1.9	0.55	0.19	**U**
141-78-6	Ethyl Acetate	0.92	1.6	0.92	0.40	**U**
110-54-3	n-Hexane	0.46	0.78	0.46	0.16	**U**
67-66-3	Chloroform	**5.7**	0.56	0.18	0.074	
109-99-9	Tetrahydrofuran (THF)	**0.96**	0.95	0.29	0.12	
107-06-2	1,2-Dichloroethane	0.21	0.68	0.21	0.074	**U**
71-43-2	Benzene	0.27	0.85	0.27	0.12	**U**
56-23-5	Carbon Tetrachloride	**2.3**	0.43	0.14	0.060	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV113-050-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-016

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01189

Initial Pressure (psig): -4.57 Final Pressure (psig): 5.99

Container Dilution Factor: 2.04

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.50	1.6	0.50	0.22	**U**
75-27-4	Bromodichloromethane	**0.33**	0.41	0.13	0.059	**J**
79-01-6	Trichloroethene	0.16	0.51	0.16	0.068	**U**
123-91-1	1,4-Dioxane	0.24	0.76	0.24	0.089	**U**
142-82-5	n-Heptane	0.40	0.67	0.40	0.11	**U**
108-10-1	4-Methyl-2-pentanone	0.21	0.66	0.21	0.091	**U**
108-88-3	Toluene	**0.37**	0.73	0.23	0.088	**J**
591-78-6	2-Hexanone	0.21	0.67	0.21	0.082	**U**
124-48-1	Dibromochloromethane	0.10	0.32	0.10	0.042	**U**
106-93-4	1,2-Dibromoethane	0.11	0.36	0.11	0.041	**U**
127-18-4	Tetrachloroethene	**0.56**	0.39	0.13	0.052	
100-41-4	Ethylbenzene	0.20	0.63	0.20	0.088	**U**
179601-23-1	m,p-Xylenes	**0.55**	1.3	0.40	0.16	**J**
75-25-2	Bromoform	0.16	0.27	0.16	0.054	**U**
100-42-5	Styrene	0.38	0.64	0.38	0.10	**U**
95-47-6	o-Xylene	**0.20**	0.63	0.20	0.090	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.13**	0.55	0.18	0.080	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.50**	0.56	0.18	0.077	**J**
120-82-1	1,2,4-Trichlorobenzene	0.22	0.37	0.22	0.089	**U**
91-20-3	Naphthalene	0.30	0.51	0.30	0.13	**U**
1330-20-7	Xylenes, Total	**0.76**	1.3	0.40	0.16	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV113-150-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-017

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00707

Initial Pressure (psig): -2.44 Final Pressure (psig): 6.11

Container Dilution Factor: 1.70

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.56**	1.3	0.79	0.32	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.9**	0.46	0.28	0.075	
74-87-3	Chloromethane	**0.22**	1.1	0.66	0.18	**J**
75-01-4	Vinyl Chloride	0.28	0.90	0.28	0.095	**U**
106-99-0	1,3-Butadiene	0.62	1.0	0.62	0.17	**U**
75-00-3	Chloroethane	0.52	0.87	0.52	0.11	**U**
64-17-5	Ethanol	**2.9**	12	1.9	0.83	**J**
67-64-1	Acetone	**8.2**	9.5	4.8	2.1	**J**
75-69-4	Trichlorofluoromethane	**0.20**	0.40	0.24	0.061	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.1	3.6	1.1	0.38	**U**
75-09-2	Methylene Chloride	0.39	0.65	0.39	0.18	**U**
76-13-1	Trichlorotrifluoroethane	**0.31**	0.30	0.094	0.042	
75-15-0	Carbon Disulfide	**8.9**	1.5	0.74	0.22	
75-34-3	1,1-Dichloroethane	0.35	0.58	0.35	0.082	**U**
78-93-3	2-Butanone (MEK)	0.46	1.6	0.46	0.16	**U**
141-78-6	Ethyl Acetate	0.77	1.3	0.77	0.33	**U**
110-54-3	n-Hexane	0.39	0.65	0.39	0.13	**U**
67-66-3	Chloroform	**0.65**	0.47	0.15	0.062	
109-99-9	Tetrahydrofuran (THF)	**22**	0.79	0.25	0.097	
107-06-2	1,2-Dichloroethane	0.18	0.57	0.18	0.062	**U**
71-43-2	Benzene	**0.18**	0.71	0.23	0.10	**J**
56-23-5	Carbon Tetrachloride	**3.0**	0.36	0.11	0.050	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV113-150-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-017

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00707

Initial Pressure (psig): -2.44 Final Pressure (psig): 6.11

Container Dilution Factor: 1.70

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.42	1.4	0.42	0.19	**U**
75-27-4	Bromodichloromethane	0.11	0.34	0.11	0.049	**U**
79-01-6	Trichloroethene	0.13	0.43	0.13	0.057	**U**
123-91-1	1,4-Dioxane	0.20	0.64	0.20	0.074	**U**
142-82-5	n-Heptane	**0.091**	0.56	0.33	0.088	**J**
108-10-1	4-Methyl-2-pentanone	0.18	0.55	0.18	0.076	**U**
108-88-3	Toluene	**0.27**	0.61	0.19	0.073	**J**
591-78-6	2-Hexanone	**0.20**	0.56	0.18	0.069	**J**
124-48-1	Dibromochloromethane	0.085	0.27	0.085	0.035	**U**
106-93-4	1,2-Dibromoethane	**0.035**	0.30	0.094	0.034	**J**
127-18-4	Tetrachloroethene	**0.41**	0.33	0.11	0.043	
100-41-4	Ethylbenzene	0.17	0.53	0.17	0.073	**U**
179601-23-1	m,p-Xylenes	0.33	1.1	0.33	0.14	**U**
75-25-2	Bromoform	0.13	0.22	0.13	0.045	**U**
100-42-5	Styrene	0.32	0.53	0.32	0.086	**U**
95-47-6	o-Xylene	0.17	0.53	0.17	0.075	**U**
108-67-8	1,3,5-Trimethylbenzene	0.15	0.46	0.15	0.067	**U**
95-63-6	1,2,4-Trimethylbenzene	0.15	0.47	0.15	0.064	**U**
120-82-1	1,2,4-Trichlorobenzene	0.18	0.31	0.18	0.074	**U**
91-20-3	Naphthalene	0.25	0.42	0.25	0.11	**U**
1330-20-7	Xylenes, Total	0.33	1.1	0.33	0.14	**U**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV113-250-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-018

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01195

Initial Pressure (psig): -3.27 Final Pressure (psig): 5.68

Container Dilution Factor: 1.78

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**1.1**	1.4	0.83	0.34	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**5.1**	0.48	0.29	0.078	
74-87-3	Chloromethane	**0.46**	1.1	0.69	0.19	**J**
75-01-4	Vinyl Chloride	0.30	0.94	0.30	0.099	**U**
106-99-0	1,3-Butadiene	0.64	1.1	0.64	0.18	**U**
75-00-3	Chloroethane	0.54	0.91	0.54	0.11	**U**
64-17-5	Ethanol	**5.8**	12	2.0	0.87	**J**
67-64-1	Acetone	**7.2**	9.9	5.1	2.2	**J**
75-69-4	Trichlorofluoromethane	**0.36**	0.42	0.25	0.064	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.1	3.8	1.1	0.40	**U**
75-09-2	Methylene Chloride	0.41	0.68	0.41	0.19	**U**
76-13-1	Trichlorotrifluoroethane	**0.38**	0.31	0.099	0.044	
75-15-0	Carbon Disulfide	**3.1**	1.6	0.77	0.23	
75-34-3	1,1-Dichloroethane	0.36	0.60	0.36	0.086	**U**
78-93-3	2-Butanone (MEK)	**1.4**	1.7	0.48	0.17	**J**
141-78-6	Ethyl Acetate	**5.9**	1.4	0.80	0.35	
110-54-3	n-Hexane	**1.2**	0.68	0.40	0.14	
67-66-3	Chloroform	**0.48**	0.49	0.15	0.065	**J**
109-99-9	Tetrahydrofuran (THF)	**6.3**	0.83	0.26	0.10	
107-06-2	1,2-Dichloroethane	0.19	0.59	0.19	0.065	**U**
71-43-2	Benzene	**0.43**	0.74	0.24	0.11	**J**
56-23-5	Carbon Tetrachloride	**2.7**	0.38	0.12	0.052	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV113-250-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-018

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01195

Initial Pressure (psig): -3.27 Final Pressure (psig): 5.68

Container Dilution Factor: 1.78

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**1.2**	1.4	0.44	0.19	**J**
75-27-4	Bromodichloromethane	0.11	0.36	0.11	0.051	**U**
79-01-6	Trichloroethene	0.14	0.45	0.14	0.060	**U**
123-91-1	1,4-Dioxane	0.21	0.67	0.21	0.078	**U**
142-82-5	n-Heptane	**0.77**	0.59	0.35	0.092	
108-10-1	4-Methyl-2-pentanone	0.18	0.58	0.18	0.079	**U**
108-88-3	Toluene	**1.2**	0.64	0.20	0.077	
591-78-6	2-Hexanone	0.18	0.59	0.18	0.072	**U**
124-48-1	Dibromochloromethane	0.089	0.28	0.089	0.037	**U**
106-93-4	1,2-Dibromoethane	0.098	0.31	0.098	0.036	**U**
127-18-4	Tetrachloroethene	**0.12**	0.34	0.11	0.045	**J**
100-41-4	Ethylbenzene	**0.081**	0.55	0.17	0.077	**J**
179601-23-1	m,p-Xylenes	**0.31**	1.1	0.35	0.14	**J**
75-25-2	Bromoform	0.14	0.23	0.14	0.047	**U**
100-42-5	Styrene	0.33	0.55	0.33	0.090	**U**
95-47-6	o-Xylene	**0.091**	0.55	0.17	0.079	**J**
108-67-8	1,3,5-Trimethylbenzene	0.15	0.48	0.15	0.070	**U**
95-63-6	1,2,4-Trimethylbenzene	0.15	0.49	0.15	0.067	**U**
120-82-1	1,2,4-Trichlorobenzene	0.19	0.32	0.19	0.078	**U**
91-20-3	Naphthalene	0.26	0.44	0.26	0.11	**U**
1330-20-7	Xylenes, Total	**0.40**	1.1	0.35	0.14	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV113-350-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-019

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.015 Liter(s)
Test Notes:
Container ID: 1SS00906

Initial Pressure (psig): -3.74 Final Pressure (psig): 6.87

Container Dilution Factor: 1.97

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**390**	40	24	9.9	
75-71-8	Dichlorodifluoromethane (CFC 12)	**30**	14	8.5	2.3	
74-87-3	Chloromethane	20	34	20	5.5	**U**
75-01-4	Vinyl Chloride	8.7	28	8.7	2.9	**U**
106-99-0	1,3-Butadiene	19	31	19	5.2	**U**
75-00-3	Chloroethane	16	27	16	3.3	**U**
64-17-5	Ethanol	58	360	58	26	**U**
67-64-1	Acetone	150	290	150	66	**U**
75-69-4	Trichlorofluoromethane	**3.1**	12	7.5	1.9	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	34	110	34	12	**U**
75-09-2	Methylene Chloride	12	20	12	5.7	**U**
76-13-1	Trichlorotrifluoroethane	2.9	9.3	2.9	1.3	**U**
75-15-0	Carbon Disulfide	23	46	23	6.8	**U**
75-34-3	1,1-Dichloroethane	11	18	11	2.5	**U**
78-93-3	2-Butanone (MEK)	14	49	14	4.9	**U**
141-78-6	Ethyl Acetate	24	40	24	10	**U**
110-54-3	n-Hexane	**280**	20	12	4.1	
67-66-3	Chloroform	4.6	15	4.6	1.9	**U**
109-99-9	Tetrahydrofuran (THF)	7.6	25	7.6	3.0	**U**
107-06-2	1,2-Dichloroethane	5.5	18	5.5	1.9	**U**
71-43-2	Benzene	**490**	22	7.0	3.2	
56-23-5	Carbon Tetrachloride	3.6	11	3.6	1.5	**U**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV113-350-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-019

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.015 Liter(s)
Test Notes:
Container ID: 1SS00906

Initial Pressure (psig): -3.74 Final Pressure (psig): 6.87

Container Dilution Factor: 1.97

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**1,400**	42	13	5.7	
75-27-4	Bromodichloromethane	3.3	11	3.3	1.5	**U**
79-01-6	Trichloroethene	4.2	13	4.2	1.8	**U**
123-91-1	1,4-Dioxane	6.2	20	6.2	2.3	**U**
142-82-5	n-Heptane	10	17	10	2.7	**U**
108-10-1	4-Methyl-2-pentanone	5.5	17	5.5	2.3	**U**
108-88-3	Toluene	**220**	19	5.9	2.3	
591-78-6	2-Hexanone	5.5	17	5.5	2.1	**U**
124-48-1	Dibromochloromethane	2.6	8.3	2.6	1.1	**U**
106-93-4	1,2-Dibromoethane	2.9	9.2	2.9	1.1	**U**
127-18-4	Tetrachloroethene	3.3	10	3.3	1.3	**U**
100-41-4	Ethylbenzene	**2.7**	16	5.1	2.3	**J**
179601-23-1	m,p-Xylenes	**15**	33	10	4.2	**J**
75-25-2	Bromoform	4.1	6.9	4.1	1.4	**U**
100-42-5	Styrene	9.9	16	9.9	2.7	**U**
95-47-6	o-Xylene	**21**	16	5.1	2.3	
108-67-8	1,3,5-Trimethylbenzene	**8.8**	14	4.5	2.1	**J**
95-63-6	1,2,4-Trimethylbenzene	4.5	14	4.5	2.0	**U**
120-82-1	1,2,4-Trichlorobenzene	5.7	9.6	5.7	2.3	**U**
91-20-3	Naphthalene	7.8	13	7.8	3.3	**U**
1330-20-7	Xylenes, Total	**36**	33	10	4.2	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV113-450-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-020

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao/Topacio De Leon Date Analyzed: 5/1/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0030 Liter(s)
Test Notes:
Container ID: 1SS00533

Initial Pressure (psig): -2.62 Final Pressure (psig): 6.23

Container Dilution Factor: 1.73

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**3,800**	180	110	44	
75-71-8	Dichlorodifluoromethane (CFC 12)	**63**	62	37	10	
74-87-3	Chloromethane	89	150	89	24	**U**
75-01-4	Vinyl Chloride	38	120	38	13	**U**
106-99-0	1,3-Butadiene	83	140	83	23	**U**
75-00-3	Chloroethane	70	120	70	14	**U**
64-17-5	Ethanol	250	1,600	250	110	**U**
67-64-1	Acetone	660	1,300	660	290	**U**
75-69-4	Trichlorofluoromethane	33	54	33	8.3	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	150	490	150	52	**U**
75-09-2	Methylene Chloride	**52**	88	53	25	**J**
76-13-1	Trichlorotrifluoroethane	**64**	41	13	5.7	
75-15-0	Carbon Disulfide	**40**	200	100	30	**J**
75-34-3	1,1-Dichloroethane	47	78	47	11	**U**
78-93-3	2-Butanone (MEK)	63	220	63	22	**U**
141-78-6	Ethyl Acetate	100	180	100	45	**U**
110-54-3	n-Hexane	**13,000**	88	52	18	
67-66-3	Chloroform	20	64	20	8.4	**U**
109-99-9	Tetrahydrofuran (THF)	**20**	110	33	13	**J**
107-06-2	1,2-Dichloroethane	24	77	24	8.4	**U**
71-43-2	Benzene	**10,000**	96	31	14	
56-23-5	Carbon Tetrachloride	16	49	16	6.8	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV113-450-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-020

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao/Topacio De Leon Date Analyzed: 5/1/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0030 Liter(s)
Test Notes:
Container ID: 1SS00533

Initial Pressure (psig): -2.62 Final Pressure (psig): 6.23

Container Dilution Factor: 1.73

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**13,000**		180	57	25	
75-27-4	Bromodichloromethane		15	47	15	6.6	**U**
79-01-6	Trichloroethene		18	58	18	7.7	**U**
123-91-1	1,4-Dioxane		27	86	27	10	**U**
142-82-5	n-Heptane	**9,100**		76	45	12	
108-10-1	4-Methyl-2-pentanone		24	75	24	10	**U**
108-88-3	Toluene	**16,000**		83	26	10	
591-78-6	2-Hexanone		24	76	24	9.3	**U**
124-48-1	Dibromochloromethane		12	37	12	4.7	**U**
106-93-4	1,2-Dibromoethane		13	41	13	4.7	**U**
127-18-4	Tetrachloroethene	**19**		44	14	5.9	**J**
100-41-4	Ethylbenzene	**890**		72	23	10	
179601-23-1	m,p-Xylenes	**3,600**		150	45	19	
75-25-2	Bromoform		18	30	18	6.1	**U**
100-42-5	Styrene		43	72	43	12	**U**
95-47-6	o-Xylene	**1,600**		72	23	10	
108-67-8	1,3,5-Trimethylbenzene	**660**		62	20	9.0	
95-63-6	1,2,4-Trimethylbenzene	**690**		63	20	8.7	
120-82-1	1,2,4-Trichlorobenzene		25	42	25	10	**U**
91-20-3	Naphthalene		34	57	34	14	**U**
1330-20-7	Xylenes, Total	**5,200**		150	45	19	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200501-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.19	0.31	0.19	0.076	U
75-71-8	Dichlorodifluoromethane (CFC 12)	0.065	0.11	0.065	0.018	U
74-87-3	Chloromethane	0.16	0.26	0.16	0.042	U
75-01-4	Vinyl Chloride	0.067	0.21	0.067	0.022	U
106-99-0	1,3-Butadiene	0.14	0.24	0.14	0.040	U
75-00-3	Chloroethane	0.12	0.20	0.12	0.025	U
64-17-5	Ethanol	0.44	2.8	0.44	0.20	U
67-64-1	Acetone	1.1	2.2	1.1	0.51	U
75-69-4	Trichlorofluoromethane	0.057	0.094	0.057	0.014	U
67-63-0	2-Propanol (Isopropyl Alcohol)	0.26	0.85	0.26	0.090	U
75-09-2	Methylene Chloride	0.092	0.15	0.092	0.043	U
76-13-1	Trichlorotrifluoroethane	0.022	0.070	0.022	0.0099	U
75-15-0	Carbon Disulfide	0.17	0.35	0.17	0.051	U
75-34-3	1,1-Dichloroethane	0.082	0.14	0.082	0.019	U
78-93-3	2-Butanone (MEK)	0.11	0.37	0.11	0.037	U
141-78-6	Ethyl Acetate	0.18	0.31	0.18	0.078	U
110-54-3	n-Hexane	0.091	0.15	0.091	0.031	U
67-66-3	Chloroform	0.035	0.11	0.035	0.015	U
109-99-9	Tetrahydrofuran (THF)	0.058	0.19	0.058	0.023	U
107-06-2	1,2-Dichloroethane	0.042	0.13	0.042	0.015	U
71-43-2	Benzene	0.053	0.17	0.053	0.024	U
56-23-5	Carbon Tetrachloride	0.027	0.084	0.027	0.012	U

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200501-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.099	0.32	0.099	0.044	**U**
75-27-4	Bromodichloromethane	0.025	0.081	0.025	0.011	**U**
79-01-6	Trichloroethene	0.032	0.10	0.032	0.013	**U**
123-91-1	1,4-Dioxane	0.047	0.15	0.047	0.017	**U**
142-82-5	n-Heptane	0.078	0.13	0.078	0.021	**U**
108-10-1	4-Methyl-2-pentanone	0.041	0.13	0.041	0.018	**U**
108-88-3	Toluene	0.045	0.14	0.045	0.017	**U**
591-78-6	2-Hexanone	0.042	0.13	0.042	0.016	**U**
124-48-1	Dibromochloromethane	0.020	0.063	0.020	0.0082	**U**
106-93-4	1,2-Dibromoethane	0.022	0.070	0.022	0.0081	**U**
127-18-4	Tetrachloroethene	0.025	0.077	0.025	0.010	**U**
100-41-4	Ethylbenzene	0.039	0.12	0.039	0.017	**U**
179601-23-1	m,p-Xylenes	0.078	0.25	0.078	0.032	**U**
75-25-2	Bromoform	0.031	0.052	0.031	0.011	**U**
100-42-5	Styrene	0.075	0.12	0.075	0.020	**U**
95-47-6	o-Xylene	0.039	0.12	0.039	0.018	**U**
108-67-8	1,3,5-Trimethylbenzene	0.035	0.11	0.035	0.016	**U**
95-63-6	1,2,4-Trimethylbenzene	0.035	0.11	0.035	0.015	**U**
120-82-1	1,2,4-Trichlorobenzene	0.043	0.073	0.043	0.018	**U**
91-20-3	Naphthalene	0.059	0.099	0.059	0.025	**U**
1330-20-7	Xylenes, Total	0.078	0.25	0.078	0.032	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Project ID: P2002103

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date(s) Collected: 4/15/20
Analyst: Simon Cao Date(s) Received: 4/20/20
Sampling Media: 1.0 L Summa Canister(s) / 1.0 L Silonite Summa Canister(s) Date(s) Analyzed: 5/1/20
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P200501-MB	**92**	**103**	**101**	70-130	
Lab Control Sample	P200501-LCS	**92**	**102**	**101**	70-130	
Duplicate Lab Control Sample	P200501-DLCS	**93**	**102**	**101**	70-130	
SV109-025-202	P2002103-001	**92**	**102**	**100**	70-130	
SV109-050-202	P2002103-002	**92**	**103**	**100**	70-130	
SV109-150-202	P2002103-003	**92**	**103**	**100**	70-130	
SV109-250-202	P2002103-004	**92**	**103**	**99**	70-130	
SV109-350-202	P2002103-005	**92**	**103**	**100**	70-130	
SV109-450-602	P2002103-006	**91**	**103**	**99**	70-130	
SV109-450-202	P2002103-007	**92**	**102**	**99**	70-130	
SV110-025-202	P2002103-008	**92**	**103**	**98**	70-130	
SV110-050-202	P2002103-009	**92**	**102**	**99**	70-130	
SV110-150-202	P2002103-010	**92**	**98**	**96**	70-130	
SV110-250-602	P2002103-011	**92**	**102**	**98**	70-130	
SV110-250-202	P2002103-012	**92**	**102**	**97**	70-130	
SV110-350-202	P2002103-013	**97**	**98**	**92**	70-130	
SV110-350-202	P2002103-013DUP	**92**	**100**	**96**	70-130	
SV110-450-202	P2002103-014	**92**	**98**	**93**	70-130	
SV113-020-202	P2002103-015	**92**	**103**	**100**	70-130	
SV113-050-202	P2002103-016	**93**	**102**	**99**	70-130	
SV113-150-202	P2002103-017	**92**	**102**	**100**	70-130	
SV113-250-202	P2002103-018	**92**	**103**	**101**	70-130	
SV113-350-202	P2002103-019	**92**	**102**	**98**	70-130	
SV113-450-202	P2002103-020	**92**	**100**	**99**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200501-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	122	145	141	**119**	**116**	57-136	3	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	42.5	42.3	41.7	**100**	**98**	59-128	2	25	
74-87-3	Chloromethane	103	122	122	**118**	**118**	59-132	0	25	
75-01-4	Vinyl Chloride	83.0	92.4	90.2	**111**	**109**	64-127	2	25	
106-99-0	1,3-Butadiene	95.9	114	113	**119**	**118**	66-134	0.8	25	
75-00-3	Chloroethane	81.1	82.4	81.9	**102**	**101**	63-127	1	25	
64-17-5	Ethanol	563	583	587	**104**	**104**	59-125	0	25	
67-64-1	Acetone	450	456	451	**101**	**100**	58-128	1	25	
75-69-4	Trichlorofluoromethane	37.7	36.5	35.6	**97**	**94**	62-126	3	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	172	174	176	**101**	**102**	52-125	1	25	
75-09-2	Methylene Chloride	60.5	64.2	63.4	**106**	**105**	62-115	0.9	25	
76-13-1	Trichlorotrifluoroethane	28.2	28.2	27.5	**100**	**98**	66-126	2	25	
75-15-0	Carbon Disulfide	68.1	74.3	72.2	**109**	**106**	57-134	3	25	
75-34-3	1,1-Dichloroethane	52.4	52.5	52.0	**100**	**99**	68-126	1	25	
78-93-3	2-Butanone (MEK)	71.9	81.0	80.5	**113**	**112**	67-130	0.9	25	
141-78-6	Ethyl Acetate	120	135	136	**113**	**113**	65-128	0	25	
110-54-3	n-Hexane	61.3	65.7	64.6	**107**	**105**	63-120	2	25	
67-66-3	Chloroform	43.8	44.0	43.2	**100**	**99**	68-123	1	25	
109-99-9	Tetrahydrofuran (THF)	74.6	80.5	78.2	**108**	**105**	64-123	3	25	
107-06-2	1,2-Dichloroethane	52.9	52.6	51.9	**99**	**98**	65-128	1	25	
71-43-2	Benzene	65.8	68.0	66.4	**103**	**101**	69-119	2	25	
56-23-5	Carbon Tetrachloride	33.1	32.7	31.6	**99**	**95**	68-132	4	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200501-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	123	129	126	**105**	**102**	70-117	3	25	
75-27-4	Bromodichloromethane	32.6	31.9	31.1	**98**	**95**	72-128	3	25	
79-01-6	Trichloroethene	40.2	41.7	40.7	**104**	**101**	71-123	3	25	
123-91-1	1,4-Dioxane	60.0	67.8	66.2	**113**	**110**	71-122	3	25	
142-82-5	n-Heptane	52.2	56.1	54.9	**107**	**105**	69-123	2	25	
108-10-1	4-Methyl-2-pentanone	51.8	59.5	58.3	**115**	**113**	67-130	2	25	
108-88-3	Toluene	56.3	60.7	59.9	**108**	**106**	66-119	2	25	
591-78-6	2-Hexanone	52.7	66.8	66.6	**127**	**126**	62-128	0.8	25	
124-48-1	Dibromochloromethane	25.1	27.8	27.2	**111**	**108**	70-130	3	25	
106-93-4	1,2-Dibromoethane	27.9	31.6	30.9	**113**	**111**	74-122	2	25	
127-18-4	Tetrachloroethene	30.7	32.2	31.6	**105**	**103**	66-124	2	25	
100-41-4	Ethylbenzene	48.8	52.7	51.8	**108**	**106**	70-124	2	25	
179601-23-1	m,p-Xylenes	98.1	104	102	**106**	**104**	61-134	2	25	
75-25-2	Bromoform	20.7	23.5	23.1	**114**	**112**	66-139	2	25	
100-42-5	Styrene	49.8	57.4	56.3	**115**	**113**	73-127	2	25	
95-47-6	o-Xylene	49.3	51.9	50.8	**105**	**103**	67-125	2	25	
108-67-8	1,3,5-Trimethylbenzene	43.1	44.9	45.6	**104**	**106**	67-130	2	25	
95-63-6	1,2,4-Trimethylbenzene	43.1	45.5	46.2	**106**	**107**	66-132	0.9	25	
120-82-1	1,2,4-Trichlorobenzene	29.1	30.8	32.2	**106**	**111**	55-142	5	25	
91-20-3	Naphthalene	40.5	40.0	42.0	**99**	**104**	57-138	5	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV110-350-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-013DUP

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.015 Liter(s)
Test Notes:
Container ID: 1SS00226

Initial Pressure (psig): -2.98 Final Pressure (psig): 5.40

Container Dilution Factor: 1.72

Compound	Sample Result ppbV	Duplicate Sample Result ppbV	Average ppbV	% RPD	RPD Limit	Data Qualifier
Propene	170	170	170	**0**	25	
Dichlorodifluoromethane (CFC 12)	61	61	61	**0**	25	
Chloromethane	ND	ND	-	-	25	
Vinyl Chloride	ND	ND	-	-	25	
1,3-Butadiene	ND	ND	-	-	25	
Chloroethane	ND	ND	-	-	25	
Ethanol	ND	ND	-	-	25	
Acetone	ND	ND	-	-	25	
Trichlorofluoromethane	4.3	4.6	4.45	**7**	25	**J**
2-Propanol (Isopropyl Alcohol)	ND	ND	-	-	25	
Methylene Chloride	ND	ND	-	-	25	
Trichlorotrifluoroethane	17	17	17	**0**	25	
Carbon Disulfide	ND	ND	-	-	25	
1,1-Dichloroethane	ND	ND	-	-	25	
2-Butanone (MEK)	ND	ND	-	-	25	
Ethyl Acetate	ND	ND	-	-	25	
n-Hexane	1,100	1,100	1100	**0**	25	
Chloroform	ND	ND	-	-	25	
Tetrahydrofuran (THF)	ND	ND	-	-	25	
1,2-Dichloroethane	ND	ND	-	-	25	
Benzene	ND	ND	-	-	25	
Carbon Tetrachloride	ND	6.7	-	-	25	**J**

ND = Compound was analyzed for, but not detected.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV110-350-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-013DUP

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.015 Liter(s)
Test Notes:
Container ID: 1SS00226

Initial Pressure (psig): -2.98 Final Pressure (psig): 5.40

Container Dilution Factor: 1.72

Compound	Sample Result ppbV	Duplicate Sample Result ppbV	Average ppbV	% RPD	RPD Limit	Data Qualifier
Cyclohexane	5,200	5,300	5250	**2**	25	
Bromodichloromethane	ND	ND	-	-	25	
Trichloroethene	10	11	10.5	**10**	25	**J**
1,4-Dioxane	ND	ND	-	-	25	
n-Heptane	15	14	14.5	**7**	25	**J**
4-Methyl-2-pentanone	ND	ND	-	-	25	
Toluene	ND	ND	-	-	25	
2-Hexanone	ND	ND	-	-	25	
Dibromochloromethane	ND	ND	-	-	25	
1,2-Dibromoethane	ND	ND	-	-	25	
Tetrachloroethene	2.0	2.2	2.1	**10**	25	**J**
Ethylbenzene	ND	ND	-	-	25	
m,p-Xylenes	ND	ND	-	-	25	
Bromoform	ND	ND	-	-	25	
Styrene	ND	ND	-	-	25	
o-Xylene	3.1	3.3	3.2	**6**	25	**J**
1,3,5-Trimethylbenzene	ND	ND	-	-	25	
1,2,4-Trimethylbenzene	ND	ND	-	-	25	
1,2,4-Trichlorobenzene	ND	ND	-	-	25	
Naphthalene	ND	ND	-	-	25	
Xylenes, Total	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV109-025-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-001

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00442

Initial Pressure (psig): -2.57 Final Pressure (psig): 5.50

Container Dilution Factor: 1.67

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.4**	2.2	1.3	0.54	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.7**	2.2	1.3	0.36	
74-87-3	Chloromethane	1.3	2.2	1.3	0.36	**U**
75-01-4	Vinyl Chloride	0.71	2.3	0.71	0.24	**U**
106-99-0	1,3-Butadiene	1.3	2.2	1.3	0.37	**U**
75-00-3	Chloroethane	1.3	2.3	1.3	0.28	**U**
64-17-5	Ethanol	**23**	22	3.5	1.5	
67-64-1	Acetone	**13**	22	11	5.0	**J**
75-69-4	Trichlorofluoromethane	**1.4**	2.2	1.3	0.34	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.98**	8.8	2.6	0.92	**J**
75-09-2	Methylene Chloride	**1.4**	2.2	1.3	0.63	**J**
76-13-1	Trichlorotrifluoroethane	**8.8**	2.3	0.71	0.32	
75-15-0	Carbon Disulfide	2.3	4.6	2.3	0.67	**U**
75-34-3	1,1-Dichloroethane	1.4	2.3	1.4	0.33	**U**
78-93-3	2-Butanone (MEK)	**1.7**	4.6	1.3	0.46	**J**
141-78-6	Ethyl Acetate	**18**	4.6	2.7	1.2	
110-54-3	n-Hexane	**2.3**	2.3	1.3	0.46	
67-66-3	Chloroform	0.71	2.3	0.71	0.30	**U**
109-99-9	Tetrahydrofuran (THF)	**0.94**	2.3	0.71	0.28	**J**
107-06-2	1,2-Dichloroethane	0.71	2.3	0.71	0.25	**U**
71-43-2	Benzene	**0.58**	2.2	0.71	0.32	**J**
56-23-5	Carbon Tetrachloride	**0.38**	2.2	0.71	0.31	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV109-025-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-001

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00442

Initial Pressure (psig): -2.57 Final Pressure (psig): 5.50

Container Dilution Factor: 1.67

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**2.9**	4.6	1.4	0.63	**J**
75-27-4	Bromodichloromethane	0.71	2.3	0.71	0.32	**U**
79-01-6	Trichloroethene	0.71	2.3	0.71	0.30	**U**
123-91-1	1,4-Dioxane	0.71	2.3	0.71	0.26	**U**
142-82-5	n-Heptane	1.3	2.3	1.3	0.35	**U**
108-10-1	4-Methyl-2-pentanone	0.71	2.2	0.71	0.30	**U**
108-88-3	Toluene	**3.0**	2.3	0.71	0.27	
591-78-6	2-Hexanone	0.71	2.3	0.71	0.28	**U**
124-48-1	Dibromochloromethane	0.71	2.3	0.71	0.29	**U**
106-93-4	1,2-Dibromoethane	0.71	2.3	0.71	0.26	**U**
127-18-4	Tetrachloroethene	**0.34**	2.2	0.71	0.29	**J**
100-41-4	Ethylbenzene	**0.33**	2.3	0.71	0.31	**J**
179601-23-1	m,p-Xylenes	**1.6**	4.6	1.4	0.58	**J**
75-25-2	Bromoform	1.3	2.3	1.3	0.46	**U**
100-42-5	Styrene	1.3	2.2	1.3	0.36	**U**
95-47-6	o-Xylene	**0.61**	2.3	0.71	0.32	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.95**	2.2	0.71	0.32	**J**
95-63-6	1,2,4-Trimethylbenzene	**4.8**	2.3	0.71	0.31	
120-82-1	1,2,4-Trichlorobenzene	1.3	2.3	1.3	0.54	**U**
91-20-3	Naphthalene	**1.0**	2.2	1.3	0.54	**J**
1330-20-7	Xylenes, Total	**2.2**	4.6	1.4	0.58	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV109-050-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-002

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00196

Initial Pressure (psig): -2.16 Final Pressure (psig): 5.14

Container Dilution Factor: 1.58

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.6**	2.1	1.3	0.51	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**3.1**	2.1	1.3	0.34	
74-87-3	Chloromethane	1.3	2.1	1.3	0.34	**U**
75-01-4	Vinyl Chloride	0.67	2.1	0.67	0.23	**U**
106-99-0	1,3-Butadiene	1.3	2.1	1.3	0.35	**U**
75-00-3	Chloroethane	1.3	2.1	1.3	0.26	**U**
64-17-5	Ethanol	**12**	21	3.3	1.5	**J**
67-64-1	Acetone	**27**	21	11	4.7	
75-69-4	Trichlorofluoromethane	**2.0**	2.1	1.3	0.32	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.6**	8.3	2.5	0.87	**J**
75-09-2	Methylene Chloride	1.3	2.1	1.3	0.59	**U**
76-13-1	Trichlorotrifluoroethane	**25**	2.1	0.67	0.30	
75-15-0	Carbon Disulfide	**9.7**	4.3	2.1	0.63	
75-34-3	1,1-Dichloroethane	1.3	2.2	1.3	0.31	**U**
78-93-3	2-Butanone (MEK)	**5.2**	4.3	1.3	0.43	
141-78-6	Ethyl Acetate	**10**	4.3	2.6	1.1	
110-54-3	n-Hexane	**0.55**	2.1	1.3	0.43	**J**
67-66-3	Chloroform	0.67	2.1	0.67	0.28	**U**
109-99-9	Tetrahydrofuran (THF)	**0.98**	2.2	0.67	0.26	**J**
107-06-2	1,2-Dichloroethane	0.67	2.1	0.67	0.23	**U**
71-43-2	Benzene	**0.42**	2.1	0.67	0.30	**J**
56-23-5	Carbon Tetrachloride	**0.99**	2.1	0.67	0.29	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV109-050-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-002

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00196

Initial Pressure (psig): -2.16 Final Pressure (psig): 5.14

Container Dilution Factor: 1.58

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.3	4.3	1.3	0.59	**U**
75-27-4	Bromodichloromethane	0.67	2.1	0.67	0.30	**U**
79-01-6	Trichloroethene	0.67	2.1	0.67	0.28	**U**
123-91-1	1,4-Dioxane	**4.1**	2.1	0.67	0.25	
142-82-5	n-Heptane	1.3	2.1	1.3	0.34	**U**
108-10-1	4-Methyl-2-pentanone	**0.37**	2.1	0.67	0.29	**J**
108-88-3	Toluene	**1.2**	2.1	0.67	0.26	**J**
591-78-6	2-Hexanone	**1.1**	2.1	0.67	0.26	**J**
124-48-1	Dibromochloromethane	0.67	2.1	0.67	0.28	**U**
106-93-4	1,2-Dibromoethane	0.67	2.1	0.67	0.24	**U**
127-18-4	Tetrachloroethene	**0.70**	2.1	0.67	0.27	**J**
100-41-4	Ethylbenzene	0.67	2.1	0.67	0.30	**U**
179601-23-1	m,p-Xylenes	**1.0**	4.3	1.3	0.55	**J**
75-25-2	Bromoform	1.3	2.1	1.3	0.43	**U**
100-42-5	Styrene	1.3	2.1	1.3	0.34	**U**
95-47-6	o-Xylene	**0.39**	2.1	0.67	0.30	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.60**	2.1	0.67	0.30	**J**
95-63-6	1,2,4-Trimethylbenzene	**2.6**	2.1	0.67	0.29	
120-82-1	1,2,4-Trichlorobenzene	1.3	2.1	1.3	0.51	**U**
91-20-3	Naphthalene	1.2	2.1	1.2	0.51	**U**
1330-20-7	Xylenes, Total	**1.4**	4.3	1.3	0.55	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV109-150-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-003

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01158

Initial Pressure (psig): -2.40 Final Pressure (psig): 6.27

Container Dilution Factor: 1.70

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**3.7**	2.3	1.4	0.55	
75-71-8	Dichlorodifluoromethane (CFC 12)	**56**	2.3	1.4	0.37	
74-87-3	Chloromethane	1.4	2.3	1.4	0.37	**U**
75-01-4	Vinyl Chloride	0.72	2.3	0.72	0.24	**U**
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.37	**U**
75-00-3	Chloroethane	1.4	2.3	1.4	0.28	**U**
64-17-5	Ethanol	**3.4**	22	3.5	1.6	**J**
67-64-1	Acetone	**7.9**	23	11	5.1	**J**
75-69-4	Trichlorofluoromethane	**4.1**	2.3	1.4	0.34	
67-63-0	2-Propanol (Isopropyl Alcohol)	2.7	8.9	2.7	0.94	**U**
75-09-2	Methylene Chloride	1.4	2.3	1.4	0.64	**U**
76-13-1	Trichlorotrifluoroethane	**110**	2.3	0.72	0.32	
75-15-0	Carbon Disulfide	2.3	4.7	2.3	0.68	**U**
75-34-3	1,1-Dichloroethane	1.4	2.3	1.4	0.33	**U**
78-93-3	2-Butanone (MEK)	**0.69**	4.7	1.4	0.47	**J**
141-78-6	Ethyl Acetate	2.8	4.7	2.8	1.2	**U**
110-54-3	n-Hexane	1.4	2.3	1.4	0.47	**U**
67-66-3	Chloroform	**0.68**	2.3	0.72	0.30	**J**
109-99-9	Tetrahydrofuran (THF)	**3.7**	2.3	0.72	0.28	
107-06-2	1,2-Dichloroethane	0.72	2.3	0.72	0.25	**U**
71-43-2	Benzene	**1.0**	2.3	0.72	0.33	**J**
56-23-5	Carbon Tetrachloride	**18**	2.3	0.72	0.31	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV109-150-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-003

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01158

Initial Pressure (psig): -2.40 Final Pressure (psig): 6.27

Container Dilution Factor: 1.70

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.4	4.7	1.4	0.64	**U**
75-27-4	Bromodichloromethane	0.72	2.3	0.72	0.33	**U**
79-01-6	Trichloroethene	**240**	2.3	0.72	0.31	
123-91-1	1,4-Dioxane	0.72	2.3	0.72	0.27	**U**
142-82-5	n-Heptane	1.4	2.3	1.4	0.36	**U**
108-10-1	4-Methyl-2-pentanone	0.72	2.3	0.72	0.31	**U**
108-88-3	Toluene	**1.3**	2.3	0.72	0.28	**J**
591-78-6	2-Hexanone	0.72	2.3	0.72	0.28	**U**
124-48-1	Dibromochloromethane	0.72	2.3	0.72	0.30	**U**
106-93-4	1,2-Dibromoethane	0.72	2.3	0.72	0.26	**U**
127-18-4	Tetrachloroethene	**18**	2.2	0.72	0.29	
100-41-4	Ethylbenzene	0.72	2.3	0.72	0.32	**U**
179601-23-1	m,p-Xylenes	**1.5**	4.7	1.4	0.60	**J**
75-25-2	Bromoform	1.4	2.3	1.4	0.47	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.37	**U**
95-47-6	o-Xylene	**0.56**	2.3	0.72	0.33	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.56**	2.3	0.72	0.33	**J**
95-63-6	1,2,4-Trimethylbenzene	**2.3**	2.3	0.72	0.31	
120-82-1	1,2,4-Trichlorobenzene	1.4	2.3	1.4	0.55	**U**
91-20-3	Naphthalene	1.3	2.2	1.3	0.55	**U**
1330-20-7	Xylenes, Total	**2.1**	4.7	1.4	0.60	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV109-250-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-004

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00079

Initial Pressure (psig): -3.51 Final Pressure (psig): 3.24

Container Dilution Factor: 1.60

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**2.0**	2.1	1.3	0.52	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**23**	2.1	1.3	0.35	
74-87-3	Chloromethane	1.3	2.1	1.3	0.34	**U**
75-01-4	Vinyl Chloride	0.68	2.2	0.68	0.23	**U**
106-99-0	1,3-Butadiene	1.3	2.1	1.3	0.35	**U**
75-00-3	Chloroethane	1.3	2.2	1.3	0.26	**U**
64-17-5	Ethanol	3.3	21	3.3	1.5	**U**
67-64-1	Acetone	11	21	11	4.8	**U**
75-69-4	Trichlorofluoromethane	**3.0**	2.1	1.3	0.32	
67-63-0	2-Propanol (Isopropyl Alcohol)	2.5	8.4	2.5	0.88	**U**
75-09-2	Methylene Chloride	1.3	2.1	1.3	0.60	**U**
76-13-1	Trichlorotrifluoroethane	**180**	2.2	0.68	0.30	
75-15-0	Carbon Disulfide	2.2	4.4	2.2	0.64	**U**
75-34-3	1,1-Dichloroethane	1.3	2.2	1.3	0.31	**U**
78-93-3	2-Butanone (MEK)	**0.63**	4.4	1.3	0.44	**J**
141-78-6	Ethyl Acetate	2.6	4.4	2.6	1.1	**U**
110-54-3	n-Hexane	1.3	2.2	1.3	0.44	**U**
67-66-3	Chloroform	**2.4**	2.2	0.68	0.28	
109-99-9	Tetrahydrofuran (THF)	**22**	2.2	0.68	0.27	
107-06-2	1,2-Dichloroethane	0.68	2.2	0.68	0.24	**U**
71-43-2	Benzene	**3.1**	2.1	0.68	0.31	
56-23-5	Carbon Tetrachloride	**21**	2.1	0.68	0.30	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV109-250-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-004

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00079

Initial Pressure (psig): -3.51 Final Pressure (psig): 3.24

Container Dilution Factor: 1.60

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**3.1**	4.4	1.4	0.60	**J**
75-27-4	Bromodichloromethane	0.68	2.2	0.68	0.31	**U**
79-01-6	Trichloroethene	**130**	2.2	0.68	0.29	
123-91-1	1,4-Dioxane	0.68	2.2	0.68	0.25	**U**
142-82-5	n-Heptane	1.3	2.2	1.3	0.34	**U**
108-10-1	4-Methyl-2-pentanone	0.68	2.1	0.68	0.29	**U**
108-88-3	Toluene	**0.99**	2.2	0.68	0.26	**J**
591-78-6	2-Hexanone	0.68	2.2	0.68	0.26	**U**
124-48-1	Dibromochloromethane	0.68	2.2	0.68	0.28	**U**
106-93-4	1,2-Dibromoethane	0.68	2.2	0.68	0.25	**U**
127-18-4	Tetrachloroethene	**14**	2.1	0.68	0.28	
100-41-4	Ethylbenzene	0.68	2.2	0.68	0.30	**U**
179601-23-1	m,p-Xylenes	**0.83**	4.4	1.4	0.56	**J**
75-25-2	Bromoform	1.3	2.2	1.3	0.44	**U**
100-42-5	Styrene	1.3	2.1	1.3	0.34	**U**
95-47-6	o-Xylene	**0.34**	2.2	0.68	0.31	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.39**	2.1	0.68	0.31	**J**
95-63-6	1,2,4-Trimethylbenzene	**1.9**	2.2	0.68	0.30	**J**
120-82-1	1,2,4-Trichlorobenzene	1.3	2.2	1.3	0.52	**U**
91-20-3	Naphthalene	1.2	2.1	1.2	0.52	**U**
1330-20-7	Xylenes, Total	**1.2**	4.4	1.4	0.56	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV109-350-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-005

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00876

Initial Pressure (psig): -2.56 Final Pressure (psig): 7.44

Container Dilution Factor: 1.82

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**4.7**	2.4	1.5	0.59	
75-71-8	Dichlorodifluoromethane (CFC 12)	**11**	2.4	1.5	0.40	
74-87-3	Chloromethane	**0.48**	2.4	1.5	0.39	**J**
75-01-4	Vinyl Chloride	0.77	2.5	0.77	0.26	**U**
106-99-0	1,3-Butadiene	1.5	2.4	1.5	0.40	**U**
75-00-3	Chloroethane	1.5	2.5	1.5	0.30	**U**
64-17-5	Ethanol	**8.8**	24	3.8	1.7	**J**
67-64-1	Acetone	**26**	24	12	5.5	
75-69-4	Trichlorofluoromethane	**1.4**	2.4	1.5	0.37	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	2.9	9.6	2.9	1.0	**U**
75-09-2	Methylene Chloride	1.5	2.4	1.5	0.68	**U**
76-13-1	Trichlorotrifluoroethane	**210**	2.5	0.77	0.35	
75-15-0	Carbon Disulfide	**7.9**	5.0	2.5	0.73	
75-34-3	1,1-Dichloroethane	1.5	2.5	1.5	0.35	**U**
78-93-3	2-Butanone (MEK)	**9.5**	5.0	1.5	0.50	
141-78-6	Ethyl Acetate	3.0	5.0	3.0	1.3	**U**
110-54-3	n-Hexane	1.5	2.5	1.5	0.50	**U**
67-66-3	Chloroform	**1.7**	2.5	0.77	0.32	**J**
109-99-9	Tetrahydrofuran (THF)	**21**	2.5	0.77	0.30	
107-06-2	1,2-Dichloroethane	0.77	2.5	0.77	0.27	**U**
71-43-2	Benzene	**12**	2.4	0.77	0.35	
56-23-5	Carbon Tetrachloride	**9.5**	2.4	0.77	0.34	

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV109-350-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-005

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00876

Initial Pressure (psig): -2.56 Final Pressure (psig): 7.44

Container Dilution Factor: 1.82

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**4.2**	5.0	1.5	0.68	**J**
75-27-4	Bromodichloromethane	0.77	2.5	0.77	0.35	**U**
79-01-6	Trichloroethene	**150**	2.5	0.77	0.33	
123-91-1	1,4-Dioxane	0.77	2.5	0.77	0.29	**U**
142-82-5	n-Heptane	1.5	2.5	1.5	0.39	**U**
108-10-1	4-Methyl-2-pentanone	**0.40**	2.4	0.77	0.33	**J**
108-88-3	Toluene	**1.4**	2.5	0.77	0.30	**J**
591-78-6	2-Hexanone	**2.3**	2.5	0.77	0.30	**J**
124-48-1	Dibromochloromethane	0.77	2.5	0.77	0.32	**U**
106-93-4	1,2-Dibromoethane	0.77	2.5	0.77	0.28	**U**
127-18-4	Tetrachloroethene	**5.0**	2.4	0.77	0.31	
100-41-4	Ethylbenzene	0.77	2.5	0.77	0.34	**U**
179601-23-1	m,p-Xylenes	**0.79**	5.0	1.5	0.64	**J**
75-25-2	Bromoform	1.5	2.5	1.5	0.50	**U**
100-42-5	Styrene	1.5	2.4	1.5	0.39	**U**
95-47-6	o-Xylene	0.77	2.5	0.77	0.35	**U**
108-67-8	1,3,5-Trimethylbenzene	0.77	2.4	0.77	0.35	**U**
95-63-6	1,2,4-Trimethylbenzene	**1.3**	2.5	0.77	0.34	**J**
120-82-1	1,2,4-Trichlorobenzene	1.5	2.5	1.5	0.59	**U**
91-20-3	Naphthalene	1.4	2.4	1.4	0.59	**U**
1330-20-7	Xylenes, Total	**0.79**	5.0	1.5	0.64	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV109-450-602** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-006

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00181

Initial Pressure (psig): -3.13 Final Pressure (psig): 5.28

Container Dilution Factor: 1.73

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**8.0**	2.3	1.4	0.56	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.2**	2.3	1.4	0.38	**J**
74-87-3	Chloromethane	**33**	2.3	1.4	0.37	
75-01-4	Vinyl Chloride	**10**	2.3	0.74	0.25	
106-99-0	1,3-Butadiene	**0.51**	2.3	1.4	0.38	**J**
75-00-3	Chloroethane	**7.9**	2.3	1.4	0.29	
64-17-5	Ethanol	**20**	22	3.6	1.6	**J**
67-64-1	Acetone	12	23	12	5.2	**U**
75-69-4	Trichlorofluoromethane	**0.80**	2.3	1.4	0.35	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**5.4**	9.1	2.7	0.95	**J**
75-09-2	Methylene Chloride	**4.6**	2.3	1.4	0.65	
76-13-1	Trichlorotrifluoroethane	**5.3**	2.3	0.74	0.33	
75-15-0	Carbon Disulfide	**120**	4.8	2.3	0.69	
75-34-3	1,1-Dichloroethane	**6.1**	2.4	1.4	0.34	
78-93-3	2-Butanone (MEK)	**2.8**	4.8	1.4	0.48	**J**
141-78-6	Ethyl Acetate	**51**	4.8	2.8	1.2	
110-54-3	n-Hexane	**14**	2.3	1.4	0.48	
67-66-3	Chloroform	**0.40**	2.3	0.74	0.31	**J**
109-99-9	Tetrahydrofuran (THF)	**49**	2.4	0.74	0.29	
107-06-2	1,2-Dichloroethane	**2.8**	2.3	0.74	0.26	
71-43-2	Benzene	**9.2**	2.3	0.74	0.33	
56-23-5	Carbon Tetrachloride	**1.2**	2.3	0.74	0.32	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV109-450-602** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-006

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00181

Initial Pressure (psig): -3.13 Final Pressure (psig): 5.28

Container Dilution Factor: 1.73

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**16**	4.8	1.5	0.65	
75-27-4	Bromodichloromethane	0.74	2.3	0.74	0.33	**U**
79-01-6	Trichloroethene	**13**	2.3	0.74	0.31	
123-91-1	1,4-Dioxane	0.74	2.3	0.74	0.27	**U**
142-82-5	n-Heptane	**1.8**	2.3	1.4	0.37	**J**
108-10-1	4-Methyl-2-pentanone	**0.58**	2.3	0.74	0.32	**J**
108-88-3	Toluene	**31**	2.3	0.74	0.28	
591-78-6	2-Hexanone	0.74	2.3	0.74	0.29	**U**
124-48-1	Dibromochloromethane	0.74	2.3	0.74	0.30	**U**
106-93-4	1,2-Dibromoethane	0.74	2.3	0.74	0.27	**U**
127-18-4	Tetrachloroethene	**1.3**	2.2	0.74	0.30	**J**
100-41-4	Ethylbenzene	**1.5**	2.3	0.74	0.32	**J**
179601-23-1	m,p-Xylenes	**6.8**	4.8	1.5	0.61	
75-25-2	Bromoform	1.4	2.3	1.4	0.48	**U**
100-42-5	Styrene	**0.38**	2.3	1.4	0.37	**J**
95-47-6	o-Xylene	**2.1**	2.3	0.74	0.33	**J**
108-67-8	1,3,5-Trimethylbenzene	**2.3**	2.3	0.74	0.33	
95-63-6	1,2,4-Trimethylbenzene	**12**	2.3	0.74	0.32	
120-82-1	1,2,4-Trichlorobenzene	1.4	2.3	1.4	0.56	**U**
91-20-3	Naphthalene	**1.2**	2.2	1.3	0.56	**J**
1330-20-7	Xylenes, Total	**8.9**	4.8	1.5	0.61	

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV109-450-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-007

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00368

Initial Pressure (psig): -3.31 Final Pressure (psig): 5.50

Container Dilution Factor: 1.77

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	1.4	2.3	1.4	0.58	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.2**	2.3	1.4	0.38	**J**
74-87-3	Chloromethane	**35**	2.3	1.4	0.38	
75-01-4	Vinyl Chloride	**11**	2.4	0.75	0.25	
106-99-0	1,3-Butadiene	**0.46**	2.3	1.4	0.39	**J**
75-00-3	Chloroethane	**8.1**	2.4	1.4	0.29	
64-17-5	Ethanol	**13**	23	3.7	1.6	**J**
67-64-1	Acetone	**23**	23	12	5.3	**J**
75-69-4	Trichlorofluoromethane	**0.84**	2.3	1.4	0.36	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**2.9**	9.3	2.8	0.97	**J**
75-09-2	Methylene Chloride	**1.3**	2.3	1.4	0.66	**J**
76-13-1	Trichlorotrifluoroethane	**5.2**	2.4	0.75	0.34	
75-15-0	Carbon Disulfide	**120**	4.9	2.4	0.71	
75-34-3	1,1-Dichloroethane	**6.0**	2.4	1.5	0.35	
78-93-3	2-Butanone (MEK)	**5.1**	4.9	1.4	0.49	
141-78-6	Ethyl Acetate	**50**	4.9	2.9	1.2	
110-54-3	n-Hexane	**4.9**	2.4	1.4	0.49	
67-66-3	Chloroform	**0.38**	2.4	0.75	0.31	**J**
109-99-9	Tetrahydrofuran (THF)	**52**	2.4	0.75	0.30	
107-06-2	1,2-Dichloroethane	**2.8**	2.4	0.75	0.26	
71-43-2	Benzene	**7.9**	2.3	0.75	0.34	
56-23-5	Carbon Tetrachloride	**1.1**	2.3	0.75	0.33	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV109-450-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-007

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00368

Initial Pressure (psig): -3.31 Final Pressure (psig): 5.50

Container Dilution Factor: 1.77

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**4.6**	4.9	1.5	0.66	**J**
75-27-4	Bromodichloromethane	0.75	2.4	0.75	0.34	**U**
79-01-6	Trichloroethene	**13**	2.4	0.75	0.32	
123-91-1	1,4-Dioxane	0.75	2.4	0.75	0.28	**U**
142-82-5	n-Heptane	**1.3**	2.4	1.4	0.38	**J**
108-10-1	4-Methyl-2-pentanone	**0.67**	2.3	0.75	0.32	**J**
108-88-3	Toluene	**25**	2.4	0.75	0.29	
591-78-6	2-Hexanone	**1.2**	2.4	0.75	0.29	**J**
124-48-1	Dibromochloromethane	0.75	2.4	0.75	0.31	**U**
106-93-4	1,2-Dibromoethane	0.75	2.4	0.75	0.27	**U**
127-18-4	Tetrachloroethene	**1.1**	2.3	0.75	0.31	**J**
100-41-4	Ethylbenzene	**0.87**	2.4	0.75	0.33	**J**
179601-23-1	m,p-Xylenes	**3.1**	4.9	1.5	0.62	**J**
75-25-2	Bromoform	1.4	2.4	1.4	0.49	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.38	**U**
95-47-6	o-Xylene	**1.0**	2.4	0.75	0.34	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.53**	2.3	0.75	0.34	**J**
95-63-6	1,2,4-Trimethylbenzene	**2.3**	2.4	0.75	0.33	**J**
120-82-1	1,2,4-Trichlorobenzene	1.4	2.4	1.4	0.58	**U**
91-20-3	Naphthalene	1.4	2.3	1.4	0.58	**U**
1330-20-7	Xylenes, Total	**4.1**	4.9	1.5	0.62	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV110-025-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-008

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00221

Initial Pressure (psig): -1.93 Final Pressure (psig): 5.62

Container Dilution Factor: 1.59

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.3**	2.1	1.3	0.52	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**8.9**	2.1	1.3	0.35	
74-87-3	Chloromethane	**0.56**	2.1	1.3	0.34	**J**
75-01-4	Vinyl Chloride	0.68	2.1	0.68	0.23	**U**
106-99-0	1,3-Butadiene	1.3	2.1	1.3	0.35	**U**
75-00-3	Chloroethane	1.3	2.1	1.3	0.26	**U**
64-17-5	Ethanol	**8.7**	21	3.3	1.5	**J**
67-64-1	Acetone	**11**	21	11	4.8	**J**
75-69-4	Trichlorofluoromethane	**1.8**	2.1	1.3	0.32	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.4**	8.3	2.5	0.87	**J**
75-09-2	Methylene Chloride	1.3	2.1	1.3	0.60	**U**
76-13-1	Trichlorotrifluoroethane	**24**	2.1	0.68	0.30	
75-15-0	Carbon Disulfide	**1.8**	4.4	2.1	0.64	**J**
75-34-3	1,1-Dichloroethane	1.3	2.2	1.3	0.31	**U**
78-93-3	2-Butanone (MEK)	**1.3**	4.4	1.3	0.44	**J**
141-78-6	Ethyl Acetate	**29**	4.4	2.6	1.1	
110-54-3	n-Hexane	1.3	2.1	1.3	0.44	**U**
67-66-3	Chloroform	**0.57**	2.1	0.68	0.28	**J**
109-99-9	Tetrahydrofuran (THF)	**1.7**	2.2	0.68	0.27	**J**
107-06-2	1,2-Dichloroethane	0.68	2.1	0.68	0.23	**U**
71-43-2	Benzene	0.68	2.1	0.68	0.31	**U**
56-23-5	Carbon Tetrachloride	**15**	2.1	0.68	0.29	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV110-025-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-008

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00221

Initial Pressure (psig): -1.93 Final Pressure (psig): 5.62

Container Dilution Factor: 1.59

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.4	4.4	1.4	0.60	**U**
75-27-4	Bromodichloromethane	0.68	2.1	0.68	0.31	**U**
79-01-6	Trichloroethene	0.68	2.1	0.68	0.29	**U**
123-91-1	1,4-Dioxane	0.68	2.1	0.68	0.25	**U**
142-82-5	n-Heptane	1.3	2.1	1.3	0.34	**U**
108-10-1	4-Methyl-2-pentanone	0.68	2.1	0.68	0.29	**U**
108-88-3	Toluene	**3.0**	2.1	0.68	0.26	
591-78-6	2-Hexanone	0.68	2.1	0.68	0.26	**U**
124-48-1	Dibromochloromethane	0.68	2.1	0.68	0.28	**U**
106-93-4	1,2-Dibromoethane	0.68	2.1	0.68	0.25	**U**
127-18-4	Tetrachloroethene	**2.7**	2.1	0.68	0.27	
100-41-4	Ethylbenzene	0.68	2.1	0.68	0.30	**U**
179601-23-1	m,p-Xylenes	**1.7**	4.4	1.4	0.56	**J**
75-25-2	Bromoform	1.3	2.1	1.3	0.44	**U**
100-42-5	Styrene	1.3	2.1	1.3	0.34	**U**
95-47-6	o-Xylene	**0.56**	2.1	0.68	0.31	**J**
108-67-8	1,3,5-Trimethylbenzene	**1.0**	2.1	0.68	0.31	**J**
95-63-6	1,2,4-Trimethylbenzene	**5.3**	2.1	0.68	0.29	
120-82-1	1,2,4-Trichlorobenzene	1.3	2.1	1.3	0.52	**U**
91-20-3	Naphthalene	**0.74**	2.1	1.2	0.52	**J**
1330-20-7	Xylenes, Total	**2.3**	4.4	1.4	0.56	**J**

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV110-050-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-009

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00010

Initial Pressure (psig): -3.13 Final Pressure (psig): 5.49

Container Dilution Factor: 1.75

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.6**	2.3	1.4	0.57	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**19**	2.3	1.4	0.38	
74-87-3	Chloromethane	**0.60**	2.3	1.4	0.38	**J**
75-01-4	Vinyl Chloride	0.74	2.4	0.74	0.25	**U**
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.39	**U**
75-00-3	Chloroethane	1.4	2.4	1.4	0.29	**U**
64-17-5	Ethanol	**8.4**	23	3.6	1.6	**J**
67-64-1	Acetone	**13**	23	12	5.3	**J**
75-69-4	Trichlorofluoromethane	**2.7**	2.3	1.4	0.35	
67-63-0	2-Propanol (Isopropyl Alcohol)	2.8	9.2	2.8	0.96	**U**
75-09-2	Methylene Chloride	1.4	2.3	1.4	0.66	**U**
76-13-1	Trichlorotrifluoroethane	**53**	2.4	0.74	0.33	
75-15-0	Carbon Disulfide	**4.0**	4.8	2.4	0.70	**J**
75-34-3	1,1-Dichloroethane	1.4	2.4	1.4	0.34	**U**
78-93-3	2-Butanone (MEK)	**2.5**	4.8	1.4	0.48	**J**
141-78-6	Ethyl Acetate	**9.2**	4.8	2.8	1.2	
110-54-3	n-Hexane	1.4	2.4	1.4	0.48	**U**
67-66-3	Chloroform	**0.70**	2.4	0.74	0.31	**J**
109-99-9	Tetrahydrofuran (THF)	**4.0**	2.4	0.74	0.29	
107-06-2	1,2-Dichloroethane	0.74	2.4	0.74	0.26	**U**
71-43-2	Benzene	0.74	2.3	0.74	0.34	**U**
56-23-5	Carbon Tetrachloride	**27**	2.3	0.74	0.32	

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV110-050-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-009

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00010

Initial Pressure (psig): -3.13 Final Pressure (psig): 5.49

Container Dilution Factor: 1.75

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.5	4.8	1.5	0.66	**U**
75-27-4	Bromodichloromethane	0.74	2.4	0.74	0.34	**U**
79-01-6	Trichloroethene	**0.40**	2.4	0.74	0.32	**J**
123-91-1	1,4-Dioxane	0.74	2.4	0.74	0.28	**U**
142-82-5	n-Heptane	1.4	2.4	1.4	0.37	**U**
108-10-1	4-Methyl-2-pentanone	0.74	2.3	0.74	0.32	**U**
108-88-3	Toluene	**0.87**	2.4	0.74	0.28	**J**
591-78-6	2-Hexanone	**0.53**	2.4	0.74	0.29	**J**
124-48-1	Dibromochloromethane	0.74	2.4	0.74	0.31	**U**
106-93-4	1,2-Dibromoethane	0.74	2.4	0.74	0.27	**U**
127-18-4	Tetrachloroethene	**3.7**	2.3	0.74	0.30	
100-41-4	Ethylbenzene	0.74	2.4	0.74	0.33	**U**
179601-23-1	m,p-Xylenes	**0.71**	4.8	1.5	0.61	**J**
75-25-2	Bromoform	1.4	2.4	1.4	0.48	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.38	**U**
95-47-6	o-Xylene	0.74	2.4	0.74	0.34	**U**
108-67-8	1,3,5-Trimethylbenzene	**0.40**	2.3	0.74	0.34	**J**
95-63-6	1,2,4-Trimethylbenzene	**1.9**	2.4	0.74	0.32	**J**
120-82-1	1,2,4-Trichlorobenzene	1.4	2.4	1.4	0.57	**U**
91-20-3	Naphthalene	1.4	2.3	1.4	0.57	**U**
1330-20-7	Xylenes, Total	**0.71**	4.8	1.5	0.61	**J**

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV110-150-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-010

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0070 Liter(s)
Test Notes:
Container ID: 1SC00054

Initial Pressure (psig): -3.05 Final Pressure (psig): 5.32

Container Dilution Factor: 1.72

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**630**	130	79	32	
75-71-8	Dichlorodifluoromethane (CFC 12)	**47**	130	79	21	**J**
74-87-3	Chloromethane	79	130	79	21	**U**
75-01-4	Vinyl Chloride	42	130	42	14	**U**
106-99-0	1,3-Butadiene	79	130	79	22	**U**
75-00-3	Chloroethane	79	130	79	16	**U**
64-17-5	Ethanol	200	1,300	200	91	**U**
67-64-1	Acetone	660	1,300	660	290	**U**
75-69-4	Trichlorofluoromethane	79	130	79	20	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	150	520	150	54	**U**
75-09-2	Methylene Chloride	**110**	130	79	37	**J**
76-13-1	Trichlorotrifluoroethane	**410**	130	42	19	
75-15-0	Carbon Disulfide	130	270	130	39	**U**
75-34-3	1,1-Dichloroethane	81	140	81	19	**U**
78-93-3	2-Butanone (MEK)	79	270	79	27	**U**
141-78-6	Ethyl Acetate	160	270	160	69	**U**
110-54-3	n-Hexane	**18,000**	130	79	27	
67-66-3	Chloroform	42	130	42	17	**U**
109-99-9	Tetrahydrofuran (THF)	42	140	42	16	**U**
107-06-2	1,2-Dichloroethane	42	130	42	14	**U**
71-43-2	Benzene	**1,200**	130	42	19	
56-23-5	Carbon Tetrachloride	42	130	42	18	**U**

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV110-150-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-010

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0070 Liter(s)
Test Notes:
Container ID: 1SC00054

Initial Pressure (psig): -3.05 Final Pressure (psig): 5.32

Container Dilution Factor: 1.72

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**30,000**	270	84	37	
75-27-4	Bromodichloromethane	42	130	42	19	**U**
79-01-6	Trichloroethene	**88**	130	42	18	**J**
123-91-1	1,4-Dioxane	42	130	42	15	**U**
142-82-5	n-Heptane	**5,700**	130	79	21	
108-10-1	4-Methyl-2-pentanone	**210**	130	42	18	
108-88-3	Toluene	**160**	130	42	16	
591-78-6	2-Hexanone	42	130	42	16	**U**
124-48-1	Dibromochloromethane	42	130	42	17	**U**
106-93-4	1,2-Dibromoethane	42	130	42	15	**U**
127-18-4	Tetrachloroethene	**95**	130	42	17	**J**
100-41-4	Ethylbenzene	42	130	42	18	**U**
179601-23-1	m,p-Xylenes	**73**	270	84	34	**J**
75-25-2	Bromoform	79	130	79	27	**U**
100-42-5	Styrene	79	130	79	21	**U**
95-47-6	o-Xylene	**66**	130	42	19	**J**
108-67-8	1,3,5-Trimethylbenzene	**23**	130	42	19	**J**
95-63-6	1,2,4-Trimethylbenzene	**19**	130	42	18	**J**
120-82-1	1,2,4-Trichlorobenzene	79	130	79	32	**U**
91-20-3	Naphthalene	76	130	76	32	**U**
1330-20-7	Xylenes, Total	**140**	270	84	34	**J**

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV110-250-602** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-011

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00015 Liter(s)
Test Notes:
Container ID: 1SC00982

Initial Pressure (psig): -3.39 Final Pressure (psig): 6.21

Container Dilution Factor: 1.85

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**19,000**	6,500	3,900	1,600	
75-71-8	Dichlorodifluoromethane (CFC 12)	3,900	6,500	3,900	1,100	**U**
74-87-3	Chloromethane	3,900	6,500	3,900	1,100	**U**
75-01-4	Vinyl Chloride	2,100	6,700	2,100	700	**U**
106-99-0	1,3-Butadiene	3,900	6,500	3,900	1,100	**U**
75-00-3	Chloroethane	3,900	6,700	3,900	810	**U**
64-17-5	Ethanol	10,000	64,000	10,000	4,600	**U**
67-64-1	Acetone	33,000	65,000	33,000	15,000	**U**
75-69-4	Trichlorofluoromethane	3,900	6,500	3,900	1,000	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	7,800	26,000	7,800	2,700	**U**
75-09-2	Methylene Chloride	**3,700**	6,500	3,900	1,900	**J**
76-13-1	Trichlorotrifluoroethane	**10,000**	6,700	2,100	940	
75-15-0	Carbon Disulfide	6,700	14,000	6,700	2,000	**U**
75-34-3	1,1-Dichloroethane	4,100	6,800	4,100	960	**U**
78-93-3	2-Butanone (MEK)	3,900	14,000	3,900	1,400	**U**
141-78-6	Ethyl Acetate	8,000	14,000	8,000	3,500	**U**
110-54-3	n-Hexane	**1,100,000**	6,700	3,900	1,400	
67-66-3	Chloroform	2,100	6,700	2,100	880	**U**
109-99-9	Tetrahydrofuran (THF)	2,100	6,800	2,100	830	**U**
107-06-2	1,2-Dichloroethane	2,100	6,700	2,100	730	**U**
71-43-2	Benzene	**33,000**	6,500	2,100	950	
56-23-5	Carbon Tetrachloride	2,100	6,500	2,100	910	**U**

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV110-250-602** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-011

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00015 Liter(s)
Test Notes:
Container ID: 1SC00982

Initial Pressure (psig): -3.39 Final Pressure (psig): 6.21

Container Dilution Factor: 1.85

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**850,000**	14,000	4,200	1,900	
75-27-4	Bromodichloromethane	2,100	6,700	2,100	950	**U**
79-01-6	Trichloroethene	2,100	6,700	2,100	890	**U**
123-91-1	1,4-Dioxane	2,100	6,700	2,100	780	**U**
142-82-5	n-Heptane	**1,100,000**	6,700	3,900	1,000	
108-10-1	4-Methyl-2-pentanone	2,100	6,500	2,100	900	**U**
108-88-3	Toluene	**58,000**	6,700	2,100	800	
591-78-6	2-Hexanone	2,100	6,700	2,100	810	**U**
124-48-1	Dibromochloromethane	2,100	6,700	2,100	860	**U**
106-93-4	1,2-Dibromoethane	2,100	6,700	2,100	760	**U**
127-18-4	Tetrachloroethene	**3,000**	6,400	2,100	850	**J**
100-41-4	Ethylbenzene	2,100	6,700	2,100	930	**U**
179601-23-1	m,p-Xylenes	**11,000**	14,000	4,200	1,700	**J**
75-25-2	Bromoform	3,900	6,700	3,900	1,400	**U**
100-42-5	Styrene	3,900	6,500	3,900	1,100	**U**
95-47-6	o-Xylene	**2,500**	6,700	2,100	950	**J**
108-67-8	1,3,5-Trimethylbenzene	2,100	6,500	2,100	950	**U**
95-63-6	1,2,4-Trimethylbenzene	2,100	6,700	2,100	910	**U**
120-82-1	1,2,4-Trichlorobenzene	3,900	6,700	3,900	1,600	**U**
91-20-3	Naphthalene	3,800	6,400	3,800	1,600	**U**
1330-20-7	Xylenes, Total	**14,000**	14,000	4,200	1,700	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV110-250-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-012

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00017 Liter(s)
Test Notes: 0.00010 Liter(s)
Container ID: 1SC01011

Initial Pressure (psig): -2.32 Final Pressure (psig): 6.31

Container Dilution Factor: 1.70

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**21,000**	5,300	3,200	1,300	
75-71-8	Dichlorodifluoromethane (CFC 12)	3,200	5,300	3,200	870	**U**
74-87-3	Chloromethane	3,200	5,300	3,200	860	**U**
75-01-4	Vinyl Chloride	1,700	5,400	1,700	570	**U**
106-99-0	1,3-Butadiene	3,200	5,300	3,200	880	**U**
75-00-3	Chloroethane	3,200	5,400	3,200	660	**U**
64-17-5	Ethanol	8,300	52,000	8,300	3,700	**U**
67-64-1	Acetone	27,000	53,000	27,000	12,000	**U**
75-69-4	Trichlorofluoromethane	3,200	5,300	3,200	810	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	6,300	21,000	6,300	2,200	**U**
75-09-2	Methylene Chloride	**3,200**	5,300	3,200	1,500	**J**
76-13-1	Trichlorotrifluoroethane	**8,600**	5,400	1,700	760	
75-15-0	Carbon Disulfide	5,400	11,000	5,400	1,600	**U**
75-34-3	1,1-Dichloroethane	3,300	5,500	3,300	780	**U**
78-93-3	2-Butanone (MEK)	3,200	11,000	3,200	1,100	**U**
141-78-6	Ethyl Acetate	6,500	11,000	6,500	2,800	**U**
110-54-3	n-Hexane	**1,400,000**	9,200	5,400	1,900	**D**
67-66-3	Chloroform	1,700	5,400	1,700	710	**U**
109-99-9	Tetrahydrofuran (THF)	1,700	5,500	1,700	670	**U**
107-06-2	1,2-Dichloroethane	1,700	5,400	1,700	590	**U**
71-43-2	Benzene	**40,000**	5,300	1,700	770	
56-23-5	Carbon Tetrachloride	1,700	5,300	1,700	740	**U**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV110-250-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-012

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00017 Liter(s)
Test Notes: 0.00010 Liter(s)
Container ID: 1SC01011

Initial Pressure (psig): -2.32 Final Pressure (psig): 6.31

Container Dilution Factor: 1.70

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**1,000,000**	11,000	3,400	1,500	
75-27-4	Bromodichloromethane	1,700	5,400	1,700	770	**U**
79-01-6	Trichloroethene	1,700	5,400	1,700	720	**U**
123-91-1	1,4-Dioxane	1,700	5,400	1,700	630	**U**
142-82-5	n-Heptane	**1,300,000**	9,200	5,400	1,400	**D**
108-10-1	4-Methyl-2-pentanone	1,700	5,300	1,700	730	**U**
108-88-3	Toluene	**63,000**	5,400	1,700	650	
591-78-6	2-Hexanone	1,700	5,400	1,700	660	**U**
124-48-1	Dibromochloromethane	1,700	5,400	1,700	700	**U**
106-93-4	1,2-Dibromoethane	1,700	5,400	1,700	620	**U**
127-18-4	Tetrachloroethene	**2,300**	5,200	1,700	690	**J**
100-41-4	Ethylbenzene	1,700	5,400	1,700	750	**U**
179601-23-1	m,p-Xylenes	**10,000**	11,000	3,400	1,400	**J**
75-25-2	Bromoform	3,200	5,400	3,200	1,100	**U**
100-42-5	Styrene	3,200	5,300	3,200	860	**U**
95-47-6	o-Xylene	**2,200**	5,400	1,700	770	**J**
108-67-8	1,3,5-Trimethylbenzene	1,700	5,300	1,700	770	**U**
95-63-6	1,2,4-Trimethylbenzene	1,700	5,400	1,700	740	**U**
120-82-1	1,2,4-Trichlorobenzene	3,200	5,400	3,200	1,300	**U**
91-20-3	Naphthalene	3,100	5,200	3,100	1,300	**U**
1330-20-7	Xylenes, Total	**12,000**	11,000	3,400	1,400	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV110-350-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-013

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.015 Liter(s)
Test Notes:
Container ID: 1SS00226

Initial Pressure (psig): -2.98 Final Pressure (psig): 5.40

Container Dilution Factor: 1.72

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**290**	61	37	15	
75-71-8	Dichlorodifluoromethane (CFC 12)	**300**	61	37	10	
74-87-3	Chloromethane	37	61	37	9.9	**U**
75-01-4	Vinyl Chloride	19	62	19	6.5	**U**
106-99-0	1,3-Butadiene	37	61	37	10	**U**
75-00-3	Chloroethane	37	62	37	7.6	**U**
64-17-5	Ethanol	95	600	95	42	**U**
67-64-1	Acetone	310	610	310	140	**U**
75-69-4	Trichlorofluoromethane	**24**	61	37	9.3	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	72	240	72	25	**U**
75-09-2	Methylene Chloride	37	61	37	17	**U**
76-13-1	Trichlorotrifluoroethane	**130**	62	19	8.7	
75-15-0	Carbon Disulfide	62	130	62	18	**U**
75-34-3	1,1-Dichloroethane	38	63	38	8.9	**U**
78-93-3	2-Butanone (MEK)	37	130	37	13	**U**
141-78-6	Ethyl Acetate	75	130	75	32	**U**
110-54-3	n-Hexane	**3,800**	62	37	13	
67-66-3	Chloroform	19	62	19	8.1	**U**
109-99-9	Tetrahydrofuran (THF)	19	63	19	7.7	**U**
107-06-2	1,2-Dichloroethane	19	62	19	6.8	**U**
71-43-2	Benzene	19	61	19	8.8	**U**
56-23-5	Carbon Tetrachloride	19	61	19	8.5	**U**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV110-350-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-013

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.015 Liter(s)
Test Notes:
Container ID: 1SS00226

Initial Pressure (psig): -2.98 Final Pressure (psig): 5.40

Container Dilution Factor: 1.72

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**18,000**	130	39	17	
75-27-4	Bromodichloromethane	19	62	19	8.8	**U**
79-01-6	Trichloroethene	**54**	62	19	8.3	**J**
123-91-1	1,4-Dioxane	19	62	19	7.2	**U**
142-82-5	n-Heptane	**62**	62	37	9.7	
108-10-1	4-Methyl-2-pentanone	19	61	19	8.4	**U**
108-88-3	Toluene	19	62	19	7.5	**U**
591-78-6	2-Hexanone	19	62	19	7.6	**U**
124-48-1	Dibromochloromethane	19	62	19	8.0	**U**
106-93-4	1,2-Dibromoethane	19	62	19	7.1	**U**
127-18-4	Tetrachloroethene	**14**	60	19	7.9	**J**
100-41-4	Ethylbenzene	19	62	19	8.6	**U**
179601-23-1	m,p-Xylenes	39	130	39	16	**U**
75-25-2	Bromoform	37	62	37	13	**U**
100-42-5	Styrene	37	61	37	9.9	**U**
95-47-6	o-Xylene	**14**	62	19	8.8	**J**
108-67-8	1,3,5-Trimethylbenzene	19	61	19	8.8	**U**
95-63-6	1,2,4-Trimethylbenzene	19	62	19	8.5	**U**
120-82-1	1,2,4-Trichlorobenzene	37	62	37	15	**U**
91-20-3	Naphthalene	36	60	36	15	**U**
1330-20-7	Xylenes, Total	39	130	39	16	**U**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV110-450-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-014

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.040 Liter(s)
Test Notes:
Container ID: 1SC00079

Initial Pressure (psig): -3.66 Final Pressure (psig): 5.42

Container Dilution Factor: 1.82

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**93**	24	15	5.9	
75-71-8	Dichlorodifluoromethane (CFC 12)	**36**	24	15	4.0	
74-87-3	Chloromethane	**54**	24	15	3.9	
75-01-4	Vinyl Chloride	**9.5**	25	7.7	2.6	**J**
106-99-0	1,3-Butadiene	15	24	15	4.0	**U**
75-00-3	Chloroethane	**8.9**	25	15	3.0	**J**
64-17-5	Ethanol	38	240	38	17	**U**
67-64-1	Acetone	120	240	120	55	**U**
75-69-4	Trichlorofluoromethane	15	24	15	3.7	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	29	96	29	10	**U**
75-09-2	Methylene Chloride	15	24	15	6.8	**U**
76-13-1	Trichlorotrifluoroethane	**14**	25	7.7	3.5	**J**
75-15-0	Carbon Disulfide	**270**	50	25	7.3	
75-34-3	1,1-Dichloroethane	**6.9**	25	15	3.5	**J**
78-93-3	2-Butanone (MEK)	**17**	50	15	5.0	**J**
141-78-6	Ethyl Acetate	30	50	30	13	**U**
110-54-3	n-Hexane	**3,700**	25	15	5.0	
67-66-3	Chloroform	7.7	25	7.7	3.2	**U**
109-99-9	Tetrahydrofuran (THF)	**93**	25	7.7	3.0	
107-06-2	1,2-Dichloroethane	7.7	25	7.7	2.7	**U**
71-43-2	Benzene	**440**	24	7.7	3.5	
56-23-5	Carbon Tetrachloride	**7.0**	24	7.7	3.4	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV110-450-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-014

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.040 Liter(s)
Test Notes:
Container ID: 1SC00079

Initial Pressure (psig): -3.66 Final Pressure (psig): 5.42

Container Dilution Factor: 1.82

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**3,200**	50	15	6.8	
75-27-4	Bromodichloromethane	7.7	25	7.7	3.5	**U**
79-01-6	Trichloroethene	**8.1**	25	7.7	3.3	**J**
123-91-1	1,4-Dioxane	7.7	25	7.7	2.9	**U**
142-82-5	n-Heptane	**3,400**	25	15	3.9	
108-10-1	4-Methyl-2-pentanone	7.7	24	7.7	3.3	**U**
108-88-3	Toluene	**1,000**	25	7.7	3.0	
591-78-6	2-Hexanone	7.7	25	7.7	3.0	**U**
124-48-1	Dibromochloromethane	7.7	25	7.7	3.2	**U**
106-93-4	1,2-Dibromoethane	7.7	25	7.7	2.8	**U**
127-18-4	Tetrachloroethene	7.7	24	7.7	3.1	**U**
100-41-4	Ethylbenzene	**40**	25	7.7	3.4	
179601-23-1	m,p-Xylenes	**110**	50	15	6.4	
75-25-2	Bromoform	15	25	15	5.0	**U**
100-42-5	Styrene	15	24	15	3.9	**U**
95-47-6	o-Xylene	**28**	25	7.7	3.5	
108-67-8	1,3,5-Trimethylbenzene	**4.4**	24	7.7	3.5	**J**
95-63-6	1,2,4-Trimethylbenzene	7.7	25	7.7	3.4	**U**
120-82-1	1,2,4-Trichlorobenzene	15	25	15	5.9	**U**
91-20-3	Naphthalene	14	24	14	5.9	**U**
1330-20-7	Xylenes, Total	**140**	50	15	6.4	

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV113-020-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-015

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00280

Initial Pressure (psig): -3.66 Final Pressure (psig): 6.95

Container Dilution Factor: 1.96

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**2.1**	2.6	1.6	0.64	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**3.7**	2.6	1.6	0.43	
74-87-3	Chloromethane	**0.48**	2.6	1.6	0.42	**J**
75-01-4	Vinyl Chloride	**3.2**	2.6	0.83	0.28	
106-99-0	1,3-Butadiene	1.6	2.6	1.6	0.43	**U**
75-00-3	Chloroethane	1.6	2.6	1.6	0.32	**U**
64-17-5	Ethanol	**14**	25	4.1	1.8	**J**
67-64-1	Acetone	**32**	26	13	5.9	
75-69-4	Trichlorofluoromethane	**1.2**	2.6	1.6	0.40	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**3.4**	10	3.1	1.1	**J**
75-09-2	Methylene Chloride	1.6	2.6	1.6	0.74	**U**
76-13-1	Trichlorotrifluoroethane	**1.4**	2.6	0.83	0.37	**J**
75-15-0	Carbon Disulfide	**6.4**	5.4	2.6	0.78	
75-34-3	1,1-Dichloroethane	1.6	2.7	1.6	0.38	**U**
78-93-3	2-Butanone (MEK)	**5.4**	5.4	1.6	0.54	
141-78-6	Ethyl Acetate	3.2	5.4	3.2	1.4	**U**
110-54-3	n-Hexane	1.6	2.6	1.6	0.54	**U**
67-66-3	Chloroform	**0.53**	2.6	0.83	0.35	**J**
109-99-9	Tetrahydrofuran (THF)	**0.74**	2.7	0.83	0.33	**J**
107-06-2	1,2-Dichloroethane	**83**	2.6	0.83	0.29	
71-43-2	Benzene	0.83	2.6	0.83	0.38	**U**
56-23-5	Carbon Tetrachloride	**2.7**	2.6	0.83	0.36	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV113-020-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-015

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00280

Initial Pressure (psig): -3.66 Final Pressure (psig): 6.95

Container Dilution Factor: 1.96

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.7	5.4	1.7	0.74	**U**
75-27-4	Bromodichloromethane	0.83	2.6	0.83	0.38	**U**
79-01-6	Trichloroethene	0.83	2.6	0.83	0.35	**U**
123-91-1	1,4-Dioxane	**1.2**	2.6	0.83	0.31	**J**
142-82-5	n-Heptane	1.6	2.6	1.6	0.42	**U**
108-10-1	4-Methyl-2-pentanone	**1.4**	2.6	0.83	0.36	**J**
108-88-3	Toluene	**0.65**	2.6	0.83	0.32	**J**
591-78-6	2-Hexanone	**7.5**	2.6	0.83	0.32	
124-48-1	Dibromochloromethane	0.83	2.6	0.83	0.34	**U**
106-93-4	1,2-Dibromoethane	**490**	2.6	0.83	0.30	
127-18-4	Tetrachloroethene	**0.81**	2.5	0.83	0.34	**J**
100-41-4	Ethylbenzene	0.83	2.6	0.83	0.37	**U**
179601-23-1	m,p-Xylenes	1.7	5.4	1.7	0.69	**U**
75-25-2	Bromoform	1.6	2.6	1.6	0.54	**U**
100-42-5	Styrene	1.6	2.6	1.6	0.42	**U**
95-47-6	o-Xylene	0.83	2.6	0.83	0.38	**U**
108-67-8	1,3,5-Trimethylbenzene	**0.53**	2.6	0.83	0.38	**J**
95-63-6	1,2,4-Trimethylbenzene	**1.6**	2.6	0.83	0.36	**J**
120-82-1	1,2,4-Trichlorobenzene	1.6	2.6	1.6	0.64	**U**
91-20-3	Naphthalene	1.5	2.5	1.5	0.64	**U**
1330-20-7	Xylenes, Total	1.7	5.4	1.7	0.69	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV113-050-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-016

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01189

Initial Pressure (psig): -4.57 Final Pressure (psig): 5.99

Container Dilution Factor: 2.04

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	1.6	2.7	1.6	0.66	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**6.4**	2.7	1.6	0.44	
74-87-3	Chloromethane	1.6	2.7	1.6	0.44	**U**
75-01-4	Vinyl Chloride	0.87	2.8	0.87	0.29	**U**
106-99-0	1,3-Butadiene	1.6	2.7	1.6	0.45	**U**
75-00-3	Chloroethane	1.6	2.8	1.6	0.34	**U**
64-17-5	Ethanol	4.2	27	4.2	1.9	**U**
67-64-1	Acetone	14	27	14	6.1	**U**
75-69-4	Trichlorofluoromethane	**1.2**	2.7	1.6	0.41	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	3.2	11	3.2	1.1	**U**
75-09-2	Methylene Chloride	1.6	2.7	1.6	0.77	**U**
76-13-1	Trichlorotrifluoroethane	**3.0**	2.8	0.87	0.39	
75-15-0	Carbon Disulfide	2.8	5.6	2.8	0.82	**U**
75-34-3	1,1-Dichloroethane	1.7	2.8	1.7	0.40	**U**
78-93-3	2-Butanone (MEK)	1.6	5.6	1.6	0.56	**U**
141-78-6	Ethyl Acetate	3.3	5.6	3.3	1.4	**U**
110-54-3	n-Hexane	1.6	2.8	1.6	0.56	**U**
67-66-3	Chloroform	**28**	2.8	0.87	0.36	
109-99-9	Tetrahydrofuran (THF)	**2.8**	2.8	0.87	0.34	
107-06-2	1,2-Dichloroethane	0.87	2.8	0.87	0.30	**U**
71-43-2	Benzene	0.87	2.7	0.87	0.39	**U**
56-23-5	Carbon Tetrachloride	**15**	2.7	0.87	0.38	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV113-050-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-016

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01189

Initial Pressure (psig): -4.57 Final Pressure (psig): 5.99

Container Dilution Factor: 2.04

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.7	5.6	1.7	0.77	**U**
75-27-4	Bromodichloromethane	**2.2**	2.8	0.87	0.39	**J**
79-01-6	Trichloroethene	0.87	2.8	0.87	0.37	**U**
123-91-1	1,4-Dioxane	0.87	2.8	0.87	0.32	**U**
142-82-5	n-Heptane	1.6	2.8	1.6	0.43	**U**
108-10-1	4-Methyl-2-pentanone	0.87	2.7	0.87	0.37	**U**
108-88-3	Toluene	**1.4**	2.8	0.87	0.33	**J**
591-78-6	2-Hexanone	0.87	2.8	0.87	0.34	**U**
124-48-1	Dibromochloromethane	0.87	2.8	0.87	0.36	**U**
106-93-4	1,2-Dibromoethane	0.87	2.8	0.87	0.32	**U**
127-18-4	Tetrachloroethene	**3.8**	2.7	0.87	0.35	
100-41-4	Ethylbenzene	0.87	2.8	0.87	0.38	**U**
179601-23-1	m,p-Xylenes	**2.4**	5.6	1.7	0.71	**J**
75-25-2	Bromoform	1.6	2.8	1.6	0.56	**U**
100-42-5	Styrene	1.6	2.7	1.6	0.44	**U**
95-47-6	o-Xylene	**0.89**	2.8	0.87	0.39	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.66**	2.7	0.87	0.39	**J**
95-63-6	1,2,4-Trimethylbenzene	**2.4**	2.8	0.87	0.38	**J**
120-82-1	1,2,4-Trichlorobenzene	1.6	2.8	1.6	0.66	**U**
91-20-3	Naphthalene	1.6	2.7	1.6	0.66	**U**
1330-20-7	Xylenes, Total	**3.3**	5.6	1.7	0.71	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV113-150-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-017

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00707

Initial Pressure (psig): -2.44 Final Pressure (psig): 6.11

Container Dilution Factor: 1.70

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**0.97**	2.3	1.4	0.55	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**9.3**	2.3	1.4	0.37	
74-87-3	Chloromethane	**0.45**	2.3	1.4	0.37	**J**
75-01-4	Vinyl Chloride	0.72	2.3	0.72	0.24	**U**
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.37	**U**
75-00-3	Chloroethane	1.4	2.3	1.4	0.28	**U**
64-17-5	Ethanol	**5.5**	22	3.5	1.6	**J**
67-64-1	Acetone	**19**	23	11	5.1	**J**
75-69-4	Trichlorofluoromethane	**1.1**	2.3	1.4	0.34	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	2.7	8.9	2.7	0.94	**U**
75-09-2	Methylene Chloride	1.4	2.3	1.4	0.64	**U**
76-13-1	Trichlorotrifluoroethane	**2.4**	2.3	0.72	0.32	
75-15-0	Carbon Disulfide	**28**	4.7	2.3	0.68	
75-34-3	1,1-Dichloroethane	1.4	2.3	1.4	0.33	**U**
78-93-3	2-Butanone (MEK)	1.4	4.7	1.4	0.47	**U**
141-78-6	Ethyl Acetate	2.8	4.7	2.8	1.2	**U**
110-54-3	n-Hexane	1.4	2.3	1.4	0.47	**U**
67-66-3	Chloroform	**3.2**	2.3	0.72	0.30	
109-99-9	Tetrahydrofuran (THF)	**64**	2.3	0.72	0.28	
107-06-2	1,2-Dichloroethane	0.72	2.3	0.72	0.25	**U**
71-43-2	Benzene	**0.57**	2.3	0.72	0.33	**J**
56-23-5	Carbon Tetrachloride	**19**	2.3	0.72	0.31	

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV113-150-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-017

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00707

Initial Pressure (psig): -2.44 Final Pressure (psig): 6.11

Container Dilution Factor: 1.70

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.4	4.7	1.4	0.64	**U**
75-27-4	Bromodichloromethane	0.72	2.3	0.72	0.33	**U**
79-01-6	Trichloroethene	0.72	2.3	0.72	0.31	**U**
123-91-1	1,4-Dioxane	0.72	2.3	0.72	0.27	**U**
142-82-5	n-Heptane	**0.37**	2.3	1.4	0.36	**J**
108-10-1	4-Methyl-2-pentanone	0.72	2.3	0.72	0.31	**U**
108-88-3	Toluene	**1.0**	2.3	0.72	0.28	**J**
591-78-6	2-Hexanone	**0.80**	2.3	0.72	0.28	**J**
124-48-1	Dibromochloromethane	0.72	2.3	0.72	0.30	**U**
106-93-4	1,2-Dibromoethane	**0.27**	2.3	0.72	0.26	**J**
127-18-4	Tetrachloroethene	**2.8**	2.2	0.72	0.29	
100-41-4	Ethylbenzene	0.72	2.3	0.72	0.32	**U**
179601-23-1	m,p-Xylenes	1.4	4.7	1.4	0.60	**U**
75-25-2	Bromoform	1.4	2.3	1.4	0.47	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.37	**U**
95-47-6	o-Xylene	0.72	2.3	0.72	0.33	**U**
108-67-8	1,3,5-Trimethylbenzene	0.72	2.3	0.72	0.33	**U**
95-63-6	1,2,4-Trimethylbenzene	0.72	2.3	0.72	0.31	**U**
120-82-1	1,2,4-Trichlorobenzene	1.4	2.3	1.4	0.55	**U**
91-20-3	Naphthalene	1.3	2.2	1.3	0.55	**U**
1330-20-7	Xylenes, Total	1.4	4.7	1.4	0.60	**U**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV113-250-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-018

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01195

Initial Pressure (psig): -3.27 Final Pressure (psig): 5.68

Container Dilution Factor: 1.78

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.9**	2.4	1.4	0.58	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**25**	2.4	1.4	0.39	
74-87-3	Chloromethane	**0.94**	2.4	1.4	0.38	**J**
75-01-4	Vinyl Chloride	0.76	2.4	0.76	0.25	**U**
106-99-0	1,3-Butadiene	1.4	2.4	1.4	0.39	**U**
75-00-3	Chloroethane	1.4	2.4	1.4	0.29	**U**
64-17-5	Ethanol	**11**	23	3.7	1.6	**J**
67-64-1	Acetone	**17**	24	12	5.3	**J**
75-69-4	Trichlorofluoromethane	**2.0**	2.4	1.4	0.36	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	2.8	9.3	2.8	0.98	**U**
75-09-2	Methylene Chloride	1.4	2.4	1.4	0.67	**U**
76-13-1	Trichlorotrifluoroethane	**2.9**	2.4	0.76	0.34	
75-15-0	Carbon Disulfide	**9.7**	4.9	2.4	0.71	
75-34-3	1,1-Dichloroethane	1.5	2.4	1.5	0.35	**U**
78-93-3	2-Butanone (MEK)	**4.2**	4.9	1.4	0.49	**J**
141-78-6	Ethyl Acetate	**21**	4.9	2.9	1.2	
110-54-3	n-Hexane	**4.1**	2.4	1.4	0.49	
67-66-3	Chloroform	**2.3**	2.4	0.76	0.32	**J**
109-99-9	Tetrahydrofuran (THF)	**19**	2.4	0.76	0.30	
107-06-2	1,2-Dichloroethane	0.76	2.4	0.76	0.26	**U**
71-43-2	Benzene	**1.4**	2.4	0.76	0.34	**J**
56-23-5	Carbon Tetrachloride	**17**	2.4	0.76	0.33	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV113-250-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-018

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01195

Initial Pressure (psig): -3.27 Final Pressure (psig): 5.68

Container Dilution Factor: 1.78

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**4.1**	4.9	1.5	0.67	**J**
75-27-4	Bromodichloromethane	0.76	2.4	0.76	0.34	**U**
79-01-6	Trichloroethene	0.76	2.4	0.76	0.32	**U**
123-91-1	1,4-Dioxane	0.76	2.4	0.76	0.28	**U**
142-82-5	n-Heptane	**3.1**	2.4	1.4	0.38	
108-10-1	4-Methyl-2-pentanone	0.76	2.4	0.76	0.32	**U**
108-88-3	Toluene	**4.6**	2.4	0.76	0.29	
591-78-6	2-Hexanone	0.76	2.4	0.76	0.29	**U**
124-48-1	Dibromochloromethane	0.76	2.4	0.76	0.31	**U**
106-93-4	1,2-Dibromoethane	0.76	2.4	0.76	0.28	**U**
127-18-4	Tetrachloroethene	**0.79**	2.3	0.76	0.31	**J**
100-41-4	Ethylbenzene	**0.35**	2.4	0.76	0.33	**J**
179601-23-1	m,p-Xylenes	**1.4**	4.9	1.5	0.62	**J**
75-25-2	Bromoform	1.4	2.4	1.4	0.49	**U**
100-42-5	Styrene	1.4	2.4	1.4	0.38	**U**
95-47-6	o-Xylene	**0.40**	2.4	0.76	0.34	**J**
108-67-8	1,3,5-Trimethylbenzene	0.76	2.4	0.76	0.34	**U**
95-63-6	1,2,4-Trimethylbenzene	0.76	2.4	0.76	0.33	**U**
120-82-1	1,2,4-Trichlorobenzene	1.4	2.4	1.4	0.58	**U**
91-20-3	Naphthalene	1.4	2.3	1.4	0.58	**U**
1330-20-7	Xylenes, Total	**1.8**	4.9	1.5	0.62	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV113-350-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-019

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.015 Liter(s)
Test Notes:
Container ID: 1SS00906

Initial Pressure (psig): -3.74 Final Pressure (psig): 6.87

Container Dilution Factor: 1.97

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**670**	70	42	17	
75-71-8	Dichlorodifluoromethane (CFC 12)	**150**	70	42	11	
74-87-3	Chloromethane	42	70	42	11	**U**
75-01-4	Vinyl Chloride	22	71	22	7.5	**U**
106-99-0	1,3-Butadiene	42	70	42	12	**U**
75-00-3	Chloroethane	42	71	42	8.7	**U**
64-17-5	Ethanol	110	680	110	49	**U**
67-64-1	Acetone	350	700	350	160	**U**
75-69-4	Trichlorofluoromethane	**17**	70	42	11	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	83	280	83	29	**U**
75-09-2	Methylene Chloride	42	70	42	20	**U**
76-13-1	Trichlorotrifluoroethane	22	71	22	10	**U**
75-15-0	Carbon Disulfide	71	140	71	21	**U**
75-34-3	1,1-Dichloroethane	43	72	43	10	**U**
78-93-3	2-Butanone (MEK)	42	140	42	14	**U**
141-78-6	Ethyl Acetate	85	140	85	37	**U**
110-54-3	n-Hexane	**980**	71	42	14	
67-66-3	Chloroform	22	71	22	9.3	**U**
109-99-9	Tetrahydrofuran (THF)	22	72	22	8.8	**U**
107-06-2	1,2-Dichloroethane	22	71	22	7.7	**U**
71-43-2	Benzene	**1,600**	70	22	10	
56-23-5	Carbon Tetrachloride	22	70	22	9.7	**U**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV113-350-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-019

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.015 Liter(s)
Test Notes:
Container ID: 1SS00906

Initial Pressure (psig): -3.74 Final Pressure (psig): 6.87

Container Dilution Factor: 1.97

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**4,800**	140	45	20	
75-27-4	Bromodichloromethane	22	71	22	10	**U**
79-01-6	Trichloroethene	22	71	22	9.5	**U**
123-91-1	1,4-Dioxane	22	71	22	8.3	**U**
142-82-5	n-Heptane	42	71	42	11	**U**
108-10-1	4-Methyl-2-pentanone	22	70	22	9.6	**U**
108-88-3	Toluene	**830**	71	22	8.5	
591-78-6	2-Hexanone	22	71	22	8.7	**U**
124-48-1	Dibromochloromethane	22	71	22	9.2	**U**
106-93-4	1,2-Dibromoethane	22	71	22	8.1	**U**
127-18-4	Tetrachloroethene	22	68	22	9.1	**U**
100-41-4	Ethylbenzene	**12**	71	22	9.9	**J**
179601-23-1	m,p-Xylenes	**63**	140	45	18	**J**
75-25-2	Bromoform	42	71	42	14	**U**
100-42-5	Styrene	42	70	42	11	**U**
95-47-6	o-Xylene	**92**	71	22	10	
108-67-8	1,3,5-Trimethylbenzene	**43**	70	22	10	**J**
95-63-6	1,2,4-Trimethylbenzene	22	71	22	9.7	**U**
120-82-1	1,2,4-Trichlorobenzene	42	71	42	17	**U**
91-20-3	Naphthalene	41	68	41	17	**U**
1330-20-7	Xylenes, Total	**160**	140	45	18	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV113-450-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-020

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao/Topacio De Leon Date Analyzed: 5/1/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0030 Liter(s)
Test Notes:
Container ID: 1SS00533

Initial Pressure (psig): -2.62 Final Pressure (psig): 6.23

Container Dilution Factor: 1.73

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**6,500**	310	180	75	
75-71-8	Dichlorodifluoromethane (CFC 12)	**310**	310	180	50	
74-87-3	Chloromethane	180	310	180	50	**U**
75-01-4	Vinyl Chloride	98	310	98	33	**U**
106-99-0	1,3-Butadiene	180	310	180	51	**U**
75-00-3	Chloroethane	180	310	180	38	**U**
64-17-5	Ethanol	480	3,000	480	210	**U**
67-64-1	Acetone	1,600	3,100	1,600	690	**U**
75-69-4	Trichlorofluoromethane	180	310	180	47	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	360	1,200	360	130	**U**
75-09-2	Methylene Chloride	**180**	310	180	87	**J**
76-13-1	Trichlorotrifluoroethane	**490**	310	98	44	
75-15-0	Carbon Disulfide	**130**	630	310	92	**J**
75-34-3	1,1-Dichloroethane	190	320	190	45	**U**
78-93-3	2-Butanone (MEK)	180	630	180	63	**U**
141-78-6	Ethyl Acetate	370	630	370	160	**U**
110-54-3	n-Hexane	**45,000**	310	180	63	
67-66-3	Chloroform	98	310	98	41	**U**
109-99-9	Tetrahydrofuran (THF)	**59**	320	98	39	**J**
107-06-2	1,2-Dichloroethane	98	310	98	34	**U**
71-43-2	Benzene	**33,000**	310	98	44	
56-23-5	Carbon Tetrachloride	98	310	98	43	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV113-450-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-020

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao/Topacio De Leon Date Analyzed: 5/1/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0030 Liter(s)
Test Notes:
Container ID: 1SS00533

Initial Pressure (psig): -2.62 Final Pressure (psig): 6.23

Container Dilution Factor: 1.73

CAS #	Compound	Result µg/m³		LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**45,000**		630	200	87	
75-27-4	Bromodichloromethane		98	310	98	44	**U**
79-01-6	Trichloroethene		98	310	98	42	**U**
123-91-1	1,4-Dioxane		98	310	98	36	**U**
142-82-5	n-Heptane	**37,000**		310	180	49	
108-10-1	4-Methyl-2-pentanone		98	310	98	42	**U**
108-88-3	Toluene	**60,000**		310	98	37	
591-78-6	2-Hexanone		98	310	98	38	**U**
124-48-1	Dibromochloromethane		98	310	98	40	**U**
106-93-4	1,2-Dibromoethane		98	310	98	36	**U**
127-18-4	Tetrachloroethene	**130**		300	98	40	**J**
100-41-4	Ethylbenzene	**3,800**		310	98	43	
179601-23-1	m,p-Xylenes	**16,000**		630	200	81	
75-25-2	Bromoform		180	310	180	63	**U**
100-42-5	Styrene		180	310	180	50	**U**
95-47-6	o-Xylene	**7,000**		310	98	44	
108-67-8	1,3,5-Trimethylbenzene	**3,200**		310	98	44	
95-63-6	1,2,4-Trimethylbenzene	**3,400**		310	98	43	
120-82-1	1,2,4-Trichlorobenzene		180	310	180	75	**U**
91-20-3	Naphthalene		180	300	180	75	**U**
1330-20-7	Xylenes, Total	**23,000**		630	200	81	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200501-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	0.32	0.53	0.32	0.13	U
75-71-8	Dichlorodifluoromethane (CFC 12)	0.32	0.53	0.32	0.087	U
74-87-3	Chloromethane	0.32	0.53	0.32	0.086	U
75-01-4	Vinyl Chloride	0.17	0.54	0.17	0.057	U
106-99-0	1,3-Butadiene	0.32	0.53	0.32	0.088	U
75-00-3	Chloroethane	0.32	0.54	0.32	0.066	U
64-17-5	Ethanol	0.83	5.2	0.83	0.37	U
67-64-1	Acetone	2.7	5.3	2.7	1.2	U
75-69-4	Trichlorofluoromethane	0.32	0.53	0.32	0.081	U
67-63-0	2-Propanol (Isopropyl Alcohol)	0.63	2.1	0.63	0.22	U
75-09-2	Methylene Chloride	0.32	0.53	0.32	0.15	U
76-13-1	Trichlorotrifluoroethane	0.17	0.54	0.17	0.076	U
75-15-0	Carbon Disulfide	0.54	1.1	0.54	0.16	U
75-34-3	1,1-Dichloroethane	0.33	0.55	0.33	0.078	U
78-93-3	2-Butanone (MEK)	0.32	1.1	0.32	0.11	U
141-78-6	Ethyl Acetate	0.65	1.1	0.65	0.28	U
110-54-3	n-Hexane	0.32	0.54	0.32	0.11	U
67-66-3	Chloroform	0.17	0.54	0.17	0.071	U
109-99-9	Tetrahydrofuran (THF)	0.17	0.55	0.17	0.067	U
107-06-2	1,2-Dichloroethane	0.17	0.54	0.17	0.059	U
71-43-2	Benzene	0.17	0.53	0.17	0.077	U
56-23-5	Carbon Tetrachloride	0.17	0.53	0.17	0.074	U

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200501-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	0.34	1.1	0.34	0.15	U
75-27-4	Bromodichloromethane	0.17	0.54	0.17	0.077	U
79-01-6	Trichloroethene	0.17	0.54	0.17	0.072	U
123-91-1	1,4-Dioxane	0.17	0.54	0.17	0.063	U
142-82-5	n-Heptane	0.32	0.54	0.32	0.085	U
108-10-1	4-Methyl-2-pentanone	0.17	0.53	0.17	0.073	U
108-88-3	Toluene	0.17	0.54	0.17	0.065	U
591-78-6	2-Hexanone	0.17	0.54	0.17	0.066	U
124-48-1	Dibromochloromethane	0.17	0.54	0.17	0.070	U
106-93-4	1,2-Dibromoethane	0.17	0.54	0.17	0.062	U
127-18-4	Tetrachloroethene	0.17	0.52	0.17	0.069	U
100-41-4	Ethylbenzene	0.17	0.54	0.17	0.075	U
179601-23-1	m,p-Xylenes	0.34	1.1	0.34	0.14	U
75-25-2	Bromoform	0.32	0.54	0.32	0.11	U
100-42-5	Styrene	0.32	0.53	0.32	0.086	U
95-47-6	o-Xylene	0.17	0.54	0.17	0.077	U
108-67-8	1,3,5-Trimethylbenzene	0.17	0.53	0.17	0.077	U
95-63-6	1,2,4-Trimethylbenzene	0.17	0.54	0.17	0.074	U
120-82-1	1,2,4-Trichlorobenzene	0.32	0.54	0.32	0.13	U
91-20-3	Naphthalene	0.31	0.52	0.31	0.13	U
1330-20-7	Xylenes, Total	0.34	1.1	0.34	0.14	U

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Project ID: P2002103

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date(s) Collected: 4/15/20
Analyst: Simon Cao Date(s) Received: 4/20/20
Sampling Media: 1.0 L Summa Canister(s) / 1.0 L Silonite Summa Canister(s) Date(s) Analyzed: 5/1/20
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P200501-MB	**93**	**103**	**101**	70-130	
Lab Control Sample	P200501-LCS	**93**	**102**	**101**	70-130	
Duplicate Lab Control Sample	P200501-DLCS	**94**	**102**	**101**	70-130	
SV109-025-202	P2002103-001	**92**	**102**	**101**	70-130	
SV109-050-202	P2002103-002	**92**	**103**	**100**	70-130	
SV109-150-202	P2002103-003	**93**	**103**	**100**	70-130	
SV109-250-202	P2002103-004	**92**	**104**	**99**	70-130	
SV109-350-202	P2002103-005	**92**	**104**	**100**	70-130	
SV109-450-602	P2002103-006	**91**	**104**	**99**	70-130	
SV109-450-202	P2002103-007	**93**	**103**	**99**	70-130	
SV110-025-202	P2002103-008	**92**	**103**	**98**	70-130	
SV110-050-202	P2002103-009	**93**	**102**	**99**	70-130	
SV110-150-202	P2002103-010	**93**	**98**	**97**	70-130	
SV110-250-602	P2002103-011	**92**	**102**	**98**	70-130	
SV110-250-202	P2002103-012	**93**	**102**	**97**	70-130	
SV110-350-202	P2002103-013	**97**	**97**	**92**	70-130	
SV110-350-202	P2002103-013DUP	**93**	**100**	**96**	70-130	
SV110-450-202	P2002103-014	**92**	**98**	**93**	70-130	
SV113-020-202	P2002103-015	**93**	**103**	**100**	70-130	
SV113-050-202	P2002103-016	**94**	**103**	**99**	70-130	
SV113-150-202	P2002103-017	**93**	**102**	**100**	70-130	
SV113-250-202	P2002103-018	**93**	**103**	**101**	70-130	
SV113-350-202	P2002103-019	**93**	**102**	**98**	70-130	
SV113-450-202	P2002103-020	**93**	**100**	**99**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200501-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	210	250	243	**119**	**116**	57-136	3	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	209	206	**100**	**98**	59-128	2	25	
74-87-3	Chloromethane	212	251	252	**118**	**119**	59-132	0.8	25	
75-01-4	Vinyl Chloride	212	236	230	**111**	**108**	64-127	3	25	
106-99-0	1,3-Butadiene	212	253	250	**119**	**118**	66-134	0.8	25	
75-00-3	Chloroethane	214	217	216	**101**	**101**	63-127	0	25	
64-17-5	Ethanol	1,060	1100	1110	**104**	**105**	59-125	1	25	
67-64-1	Acetone	1,070	1080	1070	**101**	**100**	58-128	1	25	
75-69-4	Trichlorofluoromethane	212	205	200	**97**	**94**	62-126	3	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	422	428	432	**101**	**102**	52-125	1	25	
75-09-2	Methylene Chloride	210	223	220	**106**	**105**	62-115	0.9	25	
76-13-1	Trichlorotrifluoroethane	216	216	211	**100**	**98**	66-126	2	25	
75-15-0	Carbon Disulfide	212	231	225	**109**	**106**	57-134	3	25	
75-34-3	1,1-Dichloroethane	212	212	210	**100**	**99**	68-126	1	25	
78-93-3	2-Butanone (MEK)	212	239	237	**113**	**112**	67-130	0.9	25	
141-78-6	Ethyl Acetate	432	485	489	**112**	**113**	65-128	0.9	25	
110-54-3	n-Hexane	216	232	227	**107**	**105**	63-120	2	25	
67-66-3	Chloroform	214	215	211	**100**	**99**	68-123	1	25	
109-99-9	Tetrahydrofuran (THF)	220	237	231	**108**	**105**	64-123	3	25	
107-06-2	1,2-Dichloroethane	214	213	210	**100**	**98**	65-128	2	25	
71-43-2	Benzene	210	217	212	**103**	**101**	69-119	2	25	
56-23-5	Carbon Tetrachloride	208	206	198	**99**	**95**	68-132	4	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200501-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	422	445	432	**105**	**102**	70-117	3	25	
75-27-4	Bromodichloromethane	218	213	208	**98**	**95**	72-128	3	25	
79-01-6	Trichloroethene	216	224	219	**104**	**101**	71-123	3	25	
123-91-1	1,4-Dioxane	216	244	238	**113**	**110**	71-122	3	25	
142-82-5	n-Heptane	214	230	225	**107**	**105**	69-123	2	25	
108-10-1	4-Methyl-2-pentanone	212	244	239	**115**	**113**	67-130	2	25	
108-88-3	Toluene	212	229	226	**108**	**107**	66-119	0.9	25	
591-78-6	2-Hexanone	216	273	273	**126**	**126**	62-128	0	25	
124-48-1	Dibromochloromethane	214	237	232	**111**	**108**	70-130	3	25	
106-93-4	1,2-Dibromoethane	214	243	237	**114**	**111**	74-122	3	25	
127-18-4	Tetrachloroethene	208	218	214	**105**	**103**	66-124	2	25	
100-41-4	Ethylbenzene	212	229	225	**108**	**106**	70-124	2	25	
179601-23-1	m,p-Xylenes	426	450	442	**106**	**104**	61-134	2	25	
75-25-2	Bromoform	214	243	238	**114**	**111**	66-139	3	25	
100-42-5	Styrene	212	244	240	**115**	**113**	73-127	2	25	
95-47-6	o-Xylene	214	225	221	**105**	**103**	67-125	2	25	
108-67-8	1,3,5-Trimethylbenzene	212	221	224	**104**	**106**	67-130	2	25	
95-63-6	1,2,4-Trimethylbenzene	212	223	227	**105**	**107**	66-132	2	25	
120-82-1	1,2,4-Trichlorobenzene	216	228	239	**106**	**111**	55-142	5	25	
91-20-3	Naphthalene	212	209	220	**99**	**104**	57-138	5	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV110-350-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-013DUP

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.015 Liter(s)
Test Notes:
Container ID: 1SS00226

Initial Pressure (psig): -2.98 Final Pressure (psig): 5.40

Container Dilution Factor: 1.72

Compound	Sample Result µg/m³	Duplicate Sample Result µg/m³	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Propene	290	300	295	**3**	25	
Dichlorodifluoromethane (CFC 12)	300	300	300	**0**	25	
Chloromethane	ND	ND	-	-	25	
Vinyl Chloride	ND	ND	-	-	25	
1,3-Butadiene	ND	ND	-	-	25	
Chloroethane	ND	ND	-	-	25	
Ethanol	ND	ND	-	-	25	
Acetone	ND	ND	-	-	25	
Trichlorofluoromethane	24	26	25	**8**	25	**J**
2-Propanol (Isopropyl Alcohol)	ND	ND	-	-	25	
Methylene Chloride	ND	ND	-	-	25	
Trichlorotrifluoroethane	130	130	130	**0**	25	
Carbon Disulfide	ND	ND	-	-	25	
1,1-Dichloroethane	ND	ND	-	-	25	
2-Butanone (MEK)	ND	ND	-	-	25	
Ethyl Acetate	ND	ND	-	-	25	
n-Hexane	3,800	3,800	3800	**0**	25	
Chloroform	ND	ND	-	-	25	
Tetrahydrofuran (THF)	ND	ND	-	-	25	
1,2-Dichloroethane	ND	ND	-	-	25	
Benzene	ND	ND	-	-	25	
Carbon Tetrachloride	ND	42	-	-	25	**J**

ND = Compound was analyzed for, but not detected.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV110-350-202** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002103-013DUP

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.015 Liter(s)
Test Notes:
Container ID: 1SS00226

Initial Pressure (psig): -2.98 Final Pressure (psig): 5.40

Container Dilution Factor: 1.72

Compound	Sample Result µg/m³	Duplicate Sample Result µg/m³	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Cyclohexane	18,000	18,000	18000	**0**	25	
Bromodichloromethane	ND	ND	-	-	25	
Trichloroethene	54	58	56	**7**	25	**J**
1,4-Dioxane	ND	ND	-	-	25	
n-Heptane	62	59	60.5	**5**	25	**J**
4-Methyl-2-pentanone	ND	ND	-	-	25	
Toluene	ND	ND	-	-	25	
2-Hexanone	ND	ND	-	-	25	
Dibromochloromethane	ND	ND	-	-	25	
1,2-Dibromoethane	ND	ND	-	-	25	
Tetrachloroethene	14	15	14.5	**7**	25	**J**
Ethylbenzene	ND	ND	-	-	25	
m,p-Xylenes	ND	ND	-	-	25	
Bromoform	ND	ND	-	-	25	
Styrene	ND	ND	-	-	25	
o-Xylene	14	14	14	**0**	25	**J**
1,3,5-Trimethylbenzene	ND	ND	-	-	25	
1,2,4-Trimethylbenzene	ND	ND	-	-	25	
1,2,4-Trichlorobenzene	ND	ND	-	-	25	
Naphthalene	ND	ND	-	-	25	
Xylenes, Total	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 04302036.D
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister(s) Time Analyzed: 00:45
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	AREA	#	RT	AREA	#	RT
	24 Hour Standard	158233		9.16	667552		11.12	295601		15.46
	Upper Limit	221526		9.49	934573		11.45	413841		15.79
	Lower Limit	94940		8.83	400531		10.79	177361		15.13
	Client Sample ID									
01	Method Blank	144311		9.13	608429		11.11	267976		15.46
02	Lab Control Sample	149167		9.16	623025		11.12	276302		15.46
03	Duplicate Lab Control Sample	153268		9.16	645072		11.12	283370		15.46
04	SV109-025-202	146280		9.13	617073		11.11	272506		15.46
05	SV109-050-202	146603		9.13	615888		11.10	270949		15.46
06	SV109-150-202	144243		9.13	613214		11.11	268854		15.46
07	SV109-250-202	148247		9.13	622854		11.11	272635		15.46
08	SV109-350-202	147533		9.13	622438		11.11	271160		15.46
09	SV109-450-602	148542		9.13	618782		11.11	270714		15.46
10	SV109-450-202	148237		9.14	627398		11.11	276109		15.46
11	SV110-025-202	148461		9.13	625573		11.11	274974		15.46
12	SV110-050-202	147724		9.13	625329		11.11	276013		15.46
13	SV110-150-202	155493		9.13	652739		11.11	300898		15.46
14	SV110-250-602	154053		9.13	649790		11.11	287161		15.46
15	SV110-250-202	156236		9.13	658354		11.11	293806		15.46
16	SV110-250-202 (Dilution)	154574		9.13	651863		11.11	287361		15.46
17	SV113-450-202	157099		9.13	658274		11.11	297653		15.46
18	SV110-350-202	156836		9.13	653887		11.11	306031		15.46
19	SV113-050-202	148489		9.13	629490		11.11	278087		15.46
20	SV113-020-202	149825		9.13	630005		11.11	279512		15.46

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.** ALS Project ID: P2002103
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 04302036.D
Analyst: Simon Cao Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister(s) Time Analyzed: 00:45
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	#	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	158233		9.16		667552		11.12		295601		15.46	
	Upper Limit	221526		9.49		934573		11.45		413841		15.79	
	Lower Limit	94940		8.83		400531		10.79		177361		15.13	
	Client Sample ID												
21	SV113-150-202	151754		9.13		638480		11.11		281821		15.46	
22	SV110-350-202 (Lab Duplicate)	152425		9.13		639064		11.11		288519		15.46	
23	SV113-250-202	157779		9.13		666626		11.11		293628		15.46	
24	SV113-350-202	154938		9.14		653291		11.11		285326		15.46	
25	SV110-450-202	158453		9.13		679541		11.11		305884		15.46	
26													
27													
28													
29													
30													
31													
32													
33													
34													
35													
36													
37													
38													
39													
40													

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
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# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302042.D Vial: 7
Acq On : 1 May 2020 4:07 Operator: SC
Sample : P2002103-001 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 14:33:04 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/1/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	146280	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	617073	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	272506	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	218847	11.547	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.40%				
57) Toluene-d8 (SS2)	13.54	98	669165	12.718	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.76%				
73) Bromofluorobenzene (SS3)	17.05	174	265693	12.564	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.48%				
Target Compounds							Qvalue
2) Propene	3.89	42	2142	0.345	ng	#	77
3) Dichlorodifluoromethan...	3.99	85	15489	0.656	ng		99
4) Chloromethane	4.19	50	277	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	368	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.34	45	26321	5.593	ng		100
11) Acetonitrile	5.58	41	2537	0.228	ng	#	43
12) Acrolein	5.71	56	926	0.215	ng		92
13) Acetone	5.84	58	18074	3.199	ng		99
14) Trichlorofluoromethane	6.02	101	7989	0.340	ng		99
15) 2-Propanol (Isopropanol)	6.17	45	4209	0.235	ng		99
16) Acrylonitrile	6.39	53	40	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	6.86	84	3242	0.327	ng		96
20) 3-Chloro-1-propene (Al...	6.86	41	477	N.D.			
21) Trichlorotrifluoroethane	7.18	151	25722	2.104	ng		100
22) Carbon Disulfide	0.00	76	0	N.D.	d		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	8.53	72	2359	0.406	ng	#	73
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	9.22	87	164	N.D.			
30) Ethyl Acetate	9.22	61	11360	4.398	ng		96
31) n-Hexane	9.22	57	6985	0.557	ng		98
32) Chloroform	9.28	83	508	N.D.			
34) Tetrahydrofuran (THF)	9.71	72	1331	0.226	ng	#	76
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.75	78	5594	0.139	ng		97
42) Carbon Tetrachloride	10.90	117	1901	0.091	ng		96
43) Cyclohexane	11.02	84	10781	0.684	ng		95
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	11.81	130	289	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.	d		
49) 2,2,4-Trimethylpentane...	11.86	57	911	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302042.D Vial: 7
Acq On : 1 May 2020 4:07 Operator: SC
Sample : P2002103-001 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 14:33:04 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

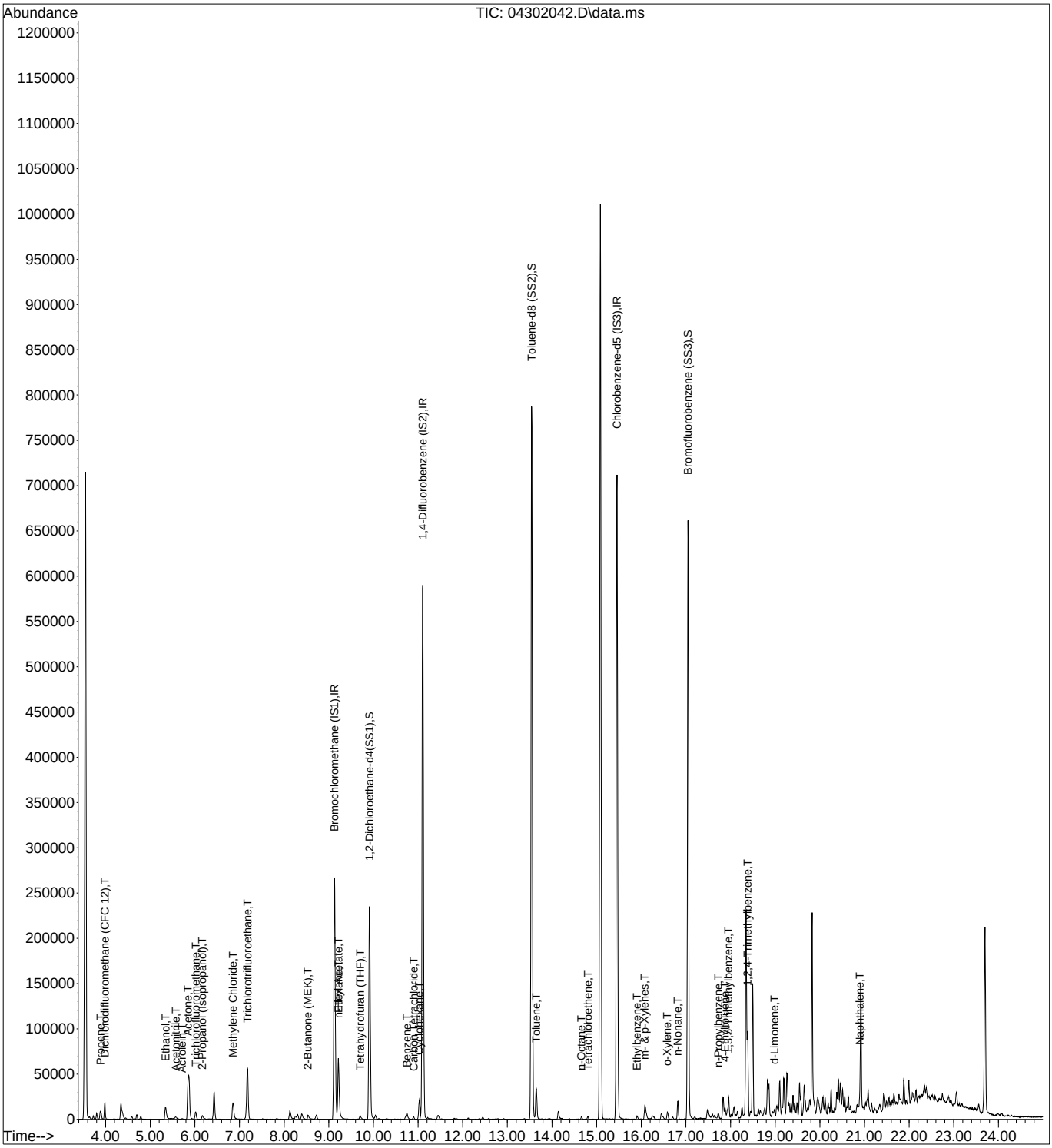
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.11	71	357	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	12.72	58	113	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.65	91	32266	0.730 ng	98
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	14.56	43	145	N.D.	
63) n-Octane	14.66	57	517	0.074 ng	87
64) Tetrachloroethene	14.81	166	1357	0.082 ng	97
65) Chlorobenzene	15.51	112	310	N.D.	
66) Ethylbenzene	15.90	91	4038	0.078 ng	100
67) m- & p-Xylenes	16.08	91	16489	0.380 ng	98
68) Bromoform	16.16	173	100	N.D.	
69) Styrene	16.48	104	984	N.D.	
70) o-Xylene	16.58	91	6224	0.146 ng	96
71) n-Nonane	16.82	43	6467	0.470 ng	96
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	17.20	105	1729	N.D.	
75) alpha-Pinene	17.60	93	927	N.D.	
76) n-Propylbenzene	17.73	91	6488	0.107 ng	97
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	8382	0.158 ng	95
79) 1,3,5-Trimethylbenzene	17.95	105	11120	0.228 ng	95
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	53851	1.140 ng	89
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.53	91	556	N.D.	
85) 1,3-Dichlorobenzene	18.55	146	311	N.D.	
86) 1,4-Dichlorobenzene	18.62	146	566	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	18.97	146	248	N.D.	
91) d-Limonene	18.99	68	1700	0.127 ng	92
92) 1,2-Dibromo-3-Chloropr...	19.44	157	227	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	20.77	180	633	N.D.	
95) Naphthalene	20.90	128	14674	0.241 ng	99
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	21.26	225	168	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302042.D Vial: 7
Acq On : 1 May 2020 4:07 Operator: SC
Sample : P2002103-001 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 14:33:04 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



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Acq On : 1 May 2020 4:07 Operator: SC
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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/1/20

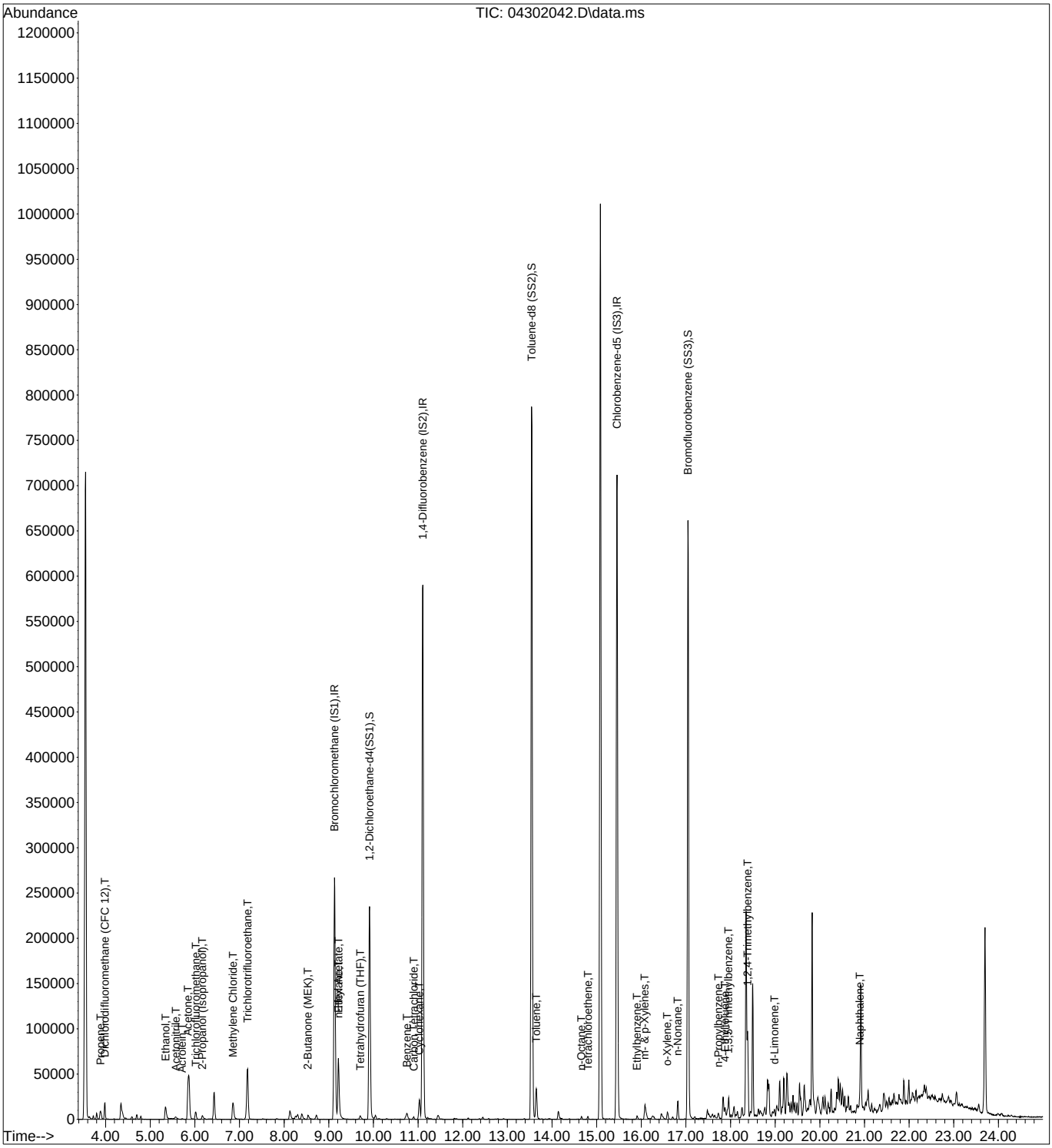
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	146280	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	617073	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	272506	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	218847	11.547	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.40%				
57) Toluene-d8 (SS2)	13.54	98	669165	12.718	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.76%				
73) Bromofluorobenzene (SS3)	17.05	174	265693	12.564	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.48%				
Target Compounds							Qvalue
2) Propene	3.89	42	2142	0.345	ng	#	77
3) Dichlorodifluoromethan...	3.99	85	15489	0.656	ng		99
10) Ethanol	5.34	45	26321	5.593	ng		100
11) Acetonitrile	5.58	41	2537	0.228	ng	#	43
12) Acrolein	5.71	56	926	0.215	ng		92
13) Acetone	5.84	58	18074	3.199	ng		99
14) Trichlorofluoromethane	6.02	101	7989	0.340	ng		99
15) 2-Propanol (Isopropanol)	6.17	45	4209	0.235	ng		99
19) Methylene Chloride	6.86	84	3242	0.327	ng		96
21) Trichlorotrifluoroethane	7.18	151	25722	2.104	ng		100
27) 2-Butanone (MEK)	8.53	72	2359	0.406	ng	#	73
30) Ethyl Acetate	9.22	61	11360	4.398	ng		96
31) n-Hexane	9.22	57	6985	0.557	ng		98
34) Tetrahydrofuran (THF)	9.71	72	1331	0.226	ng	#	76
41) Benzene	10.75	78	5594	0.139	ng		97
42) Carbon Tetrachloride	10.90	117	1901	0.091	ng		96
43) Cyclohexane	11.02	84	10781	0.684	ng		95
58) Toluene	13.65	91	32266	0.730	ng		98
63) n-Octane	14.66	57	517	0.074	ng		87
64) Tetrachloroethene	14.81	166	1357	0.082	ng		97
66) Ethylbenzene	15.90	91	4038	0.078	ng		100
67) m- & p-Xylenes	16.08	91	16489	0.380	ng		98
70) o-Xylene	16.58	91	6224	0.146	ng		96
71) n-Nonane	16.82	43	6467	0.470	ng		96
76) n-Propylbenzene	17.73	91	6488	0.107	ng		97
78) 4-Ethyltoluene	17.88	105	8382	0.158	ng		95
79) 1,3,5-Trimethylbenzene	17.95	105	11120	0.228	ng		95
82) 1,2,4-Trimethylbenzene	18.38	105	53851	1.140	ng		89
91) d-Limonene	18.99	68	1700	0.127	ng		92
95) Naphthalene	20.90	128	14674	0.241	ng		99

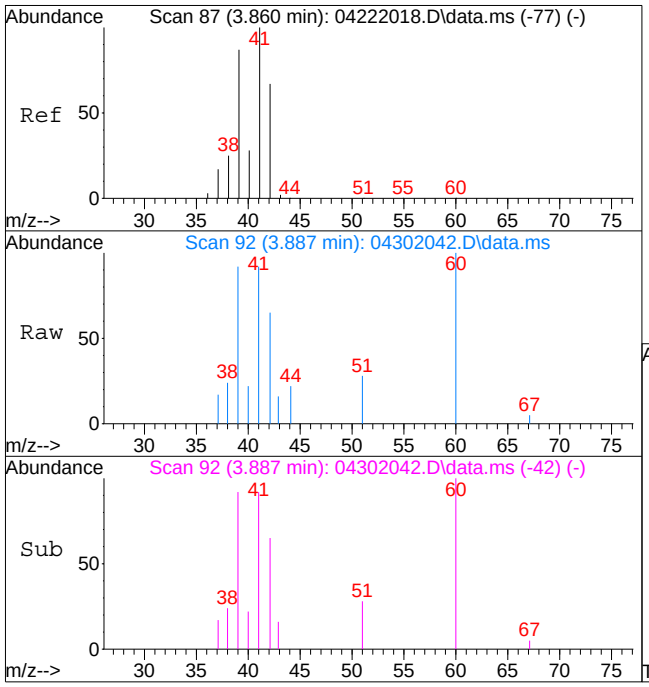
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302042.D Vial: 7
Acq On : 1 May 2020 4:07 Operator: SC
Sample : P2002103-001 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 14:33:04 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

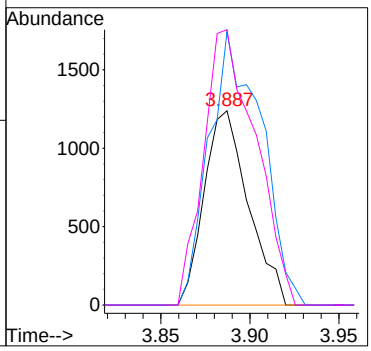


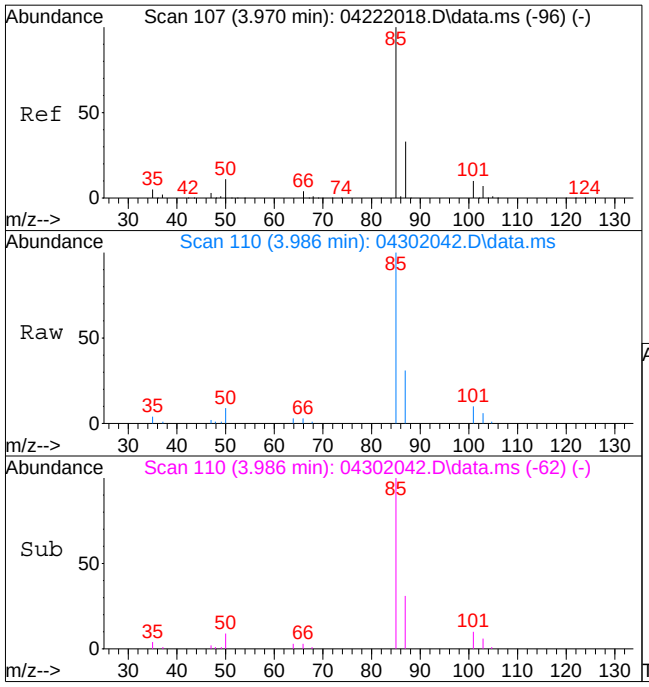


#2
Propene
Concen: 0.34 ng
RT: 3.89 min Scan# 92
Delta R.T. 0.027 min
Lab File: 04302042.D
Acq: 1 May 2020 4:07

Tgt Ion: 42 Resp: 2142

Ion	Ratio	Lower	Upper
42	100		
39	165.8	106.4	146.4#
41	166.3	128.8	168.8

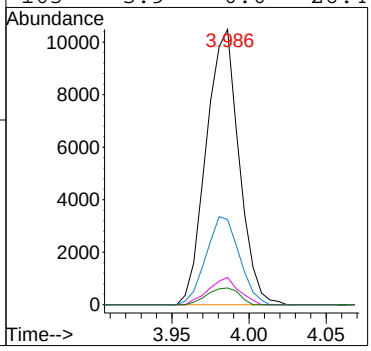


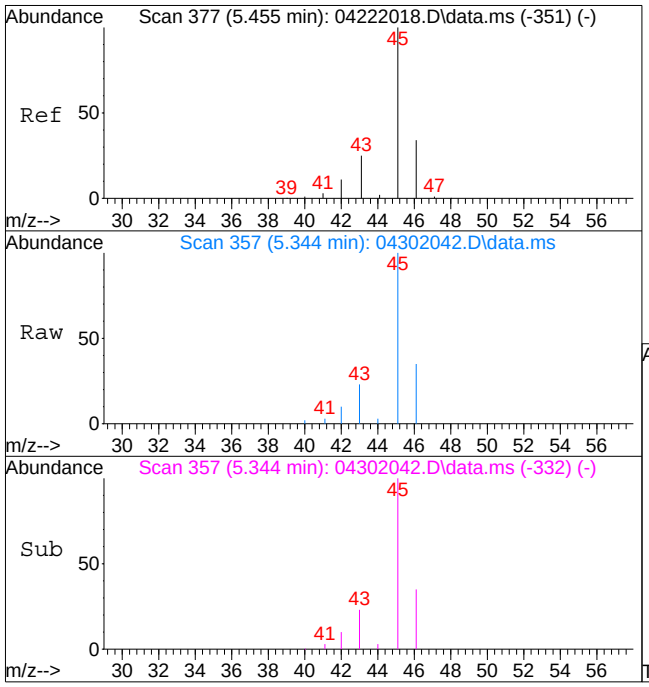


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.66 ng
RT: 3.99 min Scan# 110
Delta R.T. 0.016 min
Lab File: 04302042.D
Acq: 1 May 2020 4:07

Tgt Ion: 85 Resp: 15489

Ion	Ratio	Lower	Upper
85	100		
87	32.5	12.4	52.4
101	9.2	0.0	29.9
103	5.9	0.0	26.4

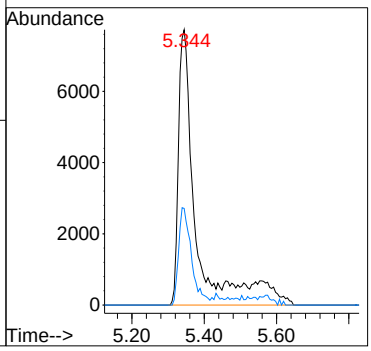


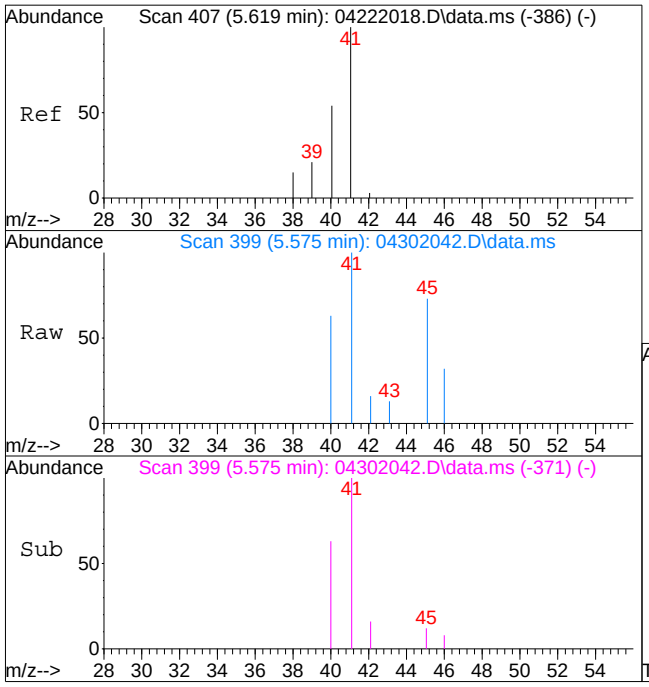


#10
Ethanol
Concen: 5.59 ng
RT: 5.34 min Scan# 357
Delta R.T. -0.110 min
Lab File: 04302042.D
Acq: 1 May 2020 4:07

Tgt Ion: 45 Resp: 26321

Ion	Ratio	Lower	Upper
45	100		
46	33.9	14.0	54.0

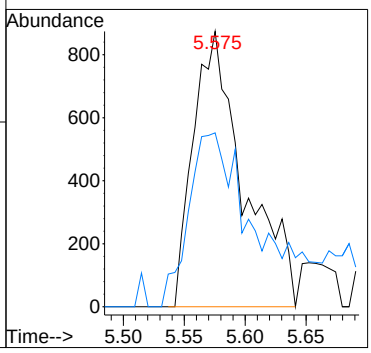


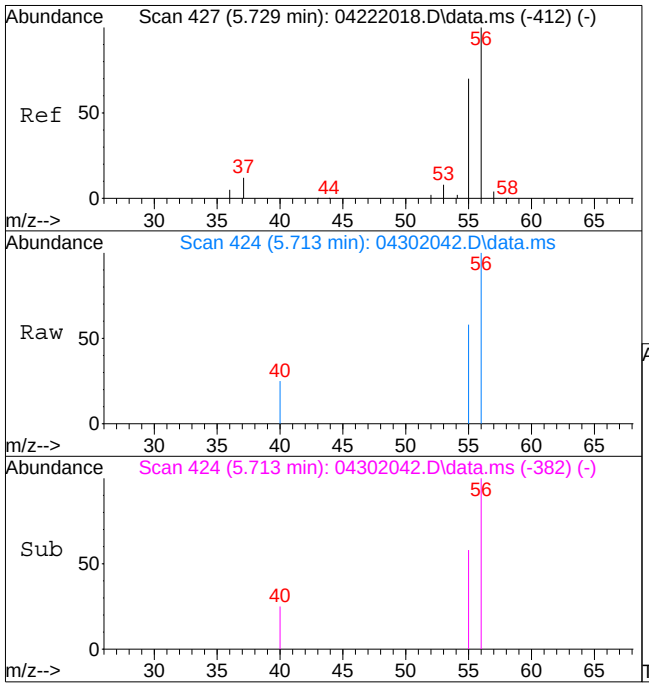


#11
Acetonitrile
Concen: 0.23 ng
RT: 5.58 min Scan# 399
Delta R.T. -0.044 min
Lab File: 04302042.D
Acq: 1 May 2020 4:07

Tgt Ion: 41 Resp: 2537

Ion	Ratio	Lower	Upper
41	100		
40	96.0	34.8	74.8#

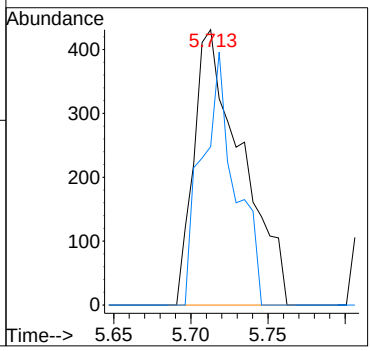


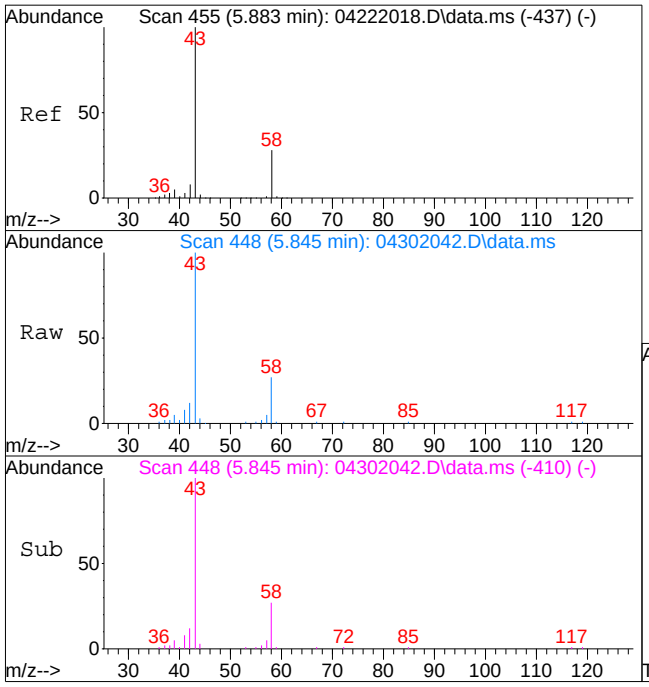


#12
Acrolein
Concen: 0.22 ng
RT: 5.71 min Scan# 424
Delta R.T. -0.017 min
Lab File: 04302042.D
Acq: 1 May 2020 4:07

Tgt Ion: 56 Resp: 926

Ion	Ratio	Lower	Upper
56	100		
55	63.6	50.4	90.4

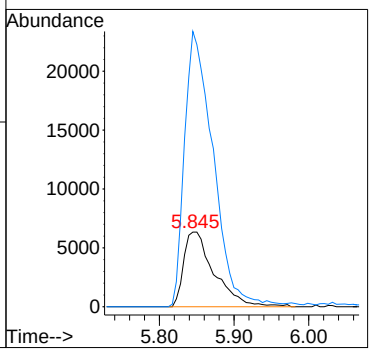


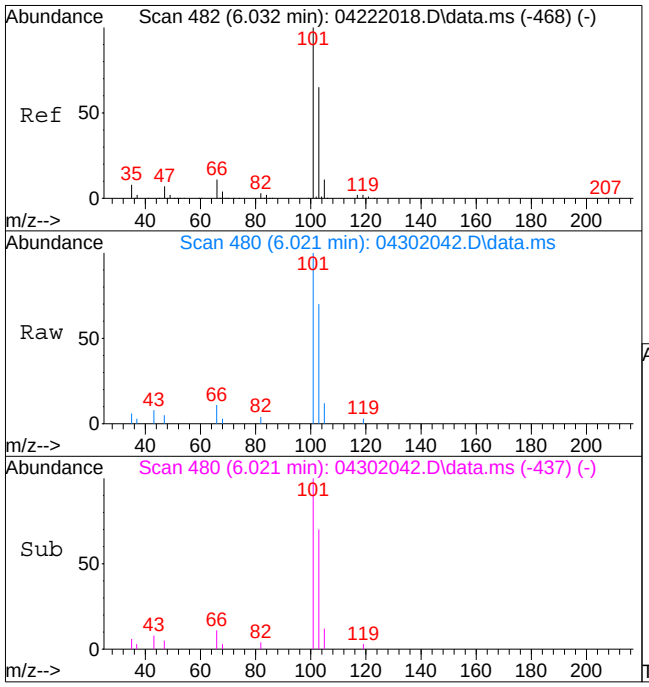


#13
Acetone
Concen: 3.20 ng
RT: 5.84 min Scan# 448
Delta R.T. -0.039 min
Lab File: 04302042.D
Acq: 1 May 2020 4:07

Tgt Ion: 58 Resp: 18074

Ion	Ratio	Lower	Upper
58	100		
43	347.6	319.3	379.3

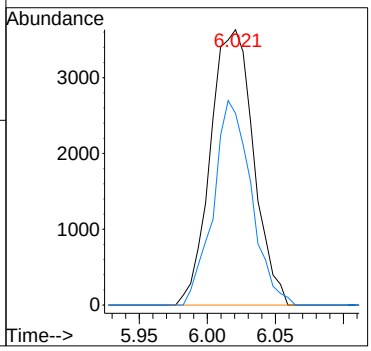


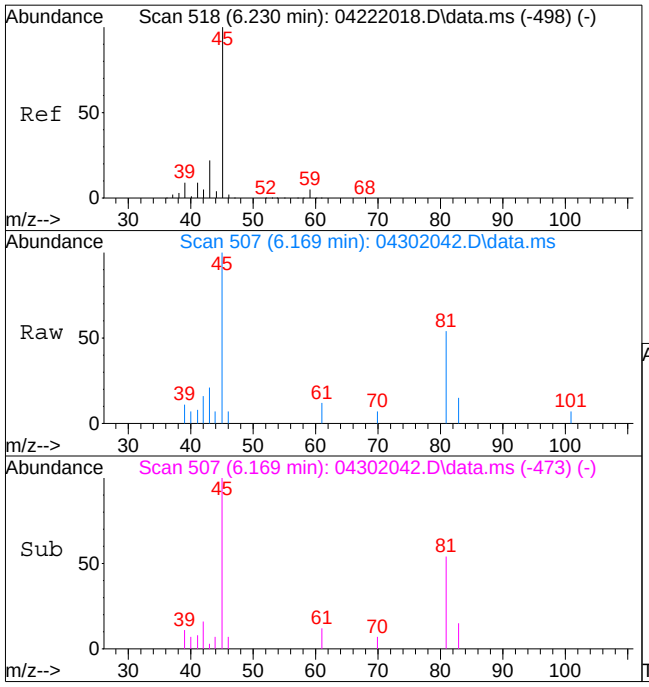


#14
Trichlorofluoromethane
Concen: 0.34 ng
RT: 6.02 min Scan# 480
Delta R.T. -0.011 min
Lab File: 04302042.D
Acq: 1 May 2020 4:07

Tgt Ion:101 Resp: 7989

Ion	Ratio	Lower	Upper
101	100		
103	65.3	44.7	84.7

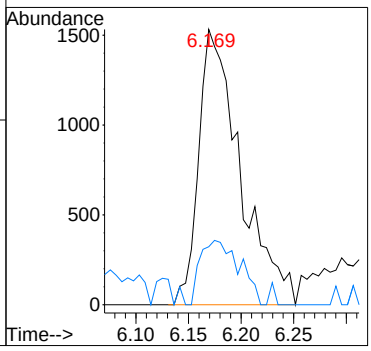


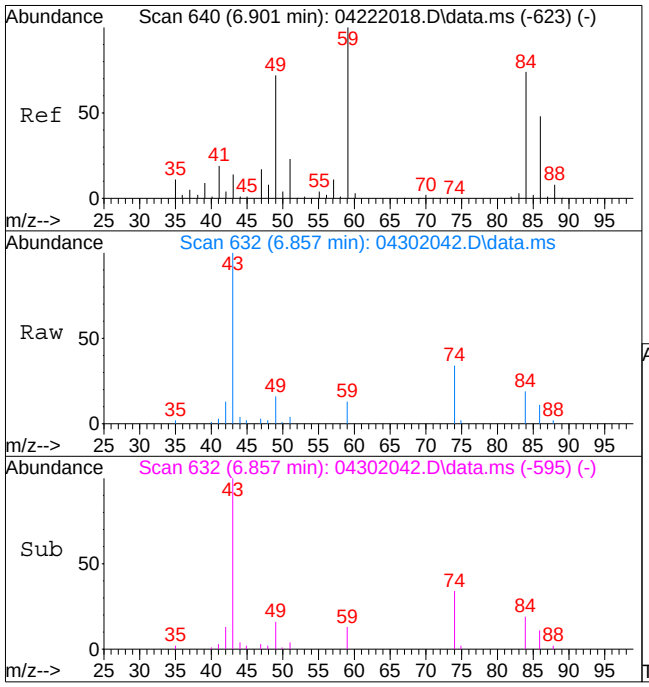


#15
2-Propanol (Isopropanol)
Concen: 0.23 ng
RT: 6.17 min Scan# 507
Delta R.T. -0.061 min
Lab File: 04302042.D
Acq: 1 May 2020 4:07

Tgt Ion: 45 Resp: 4209

Ion	Ratio	Lower	Upper
45	100		
43	22.1	2.6	42.6

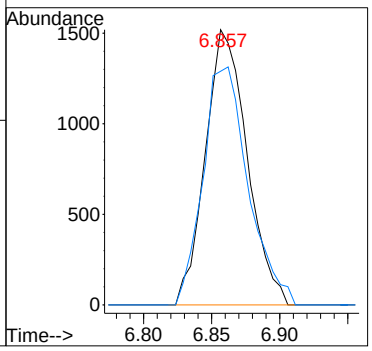


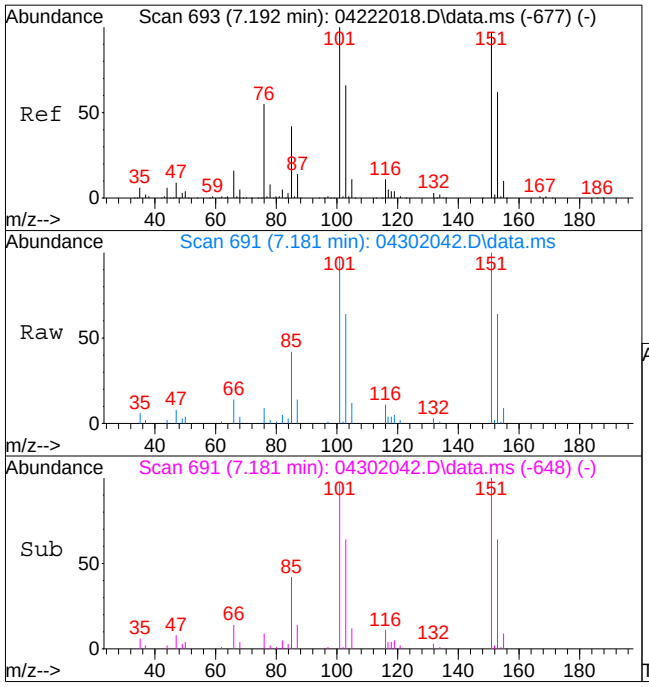


#19
Methylene Chloride
Concen: 0.33 ng
RT: 6.86 min Scan# 632
Delta R.T. -0.044 min
Lab File: 04302042.D
Acq: 1 May 2020 4:07

Tgt Ion: 84 Resp: 3242

Ion	Ratio	Lower	Upper
84	100		
49	93.7	73.0	123.0

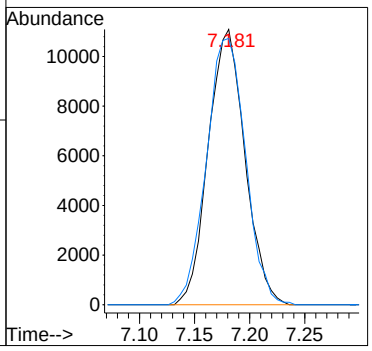


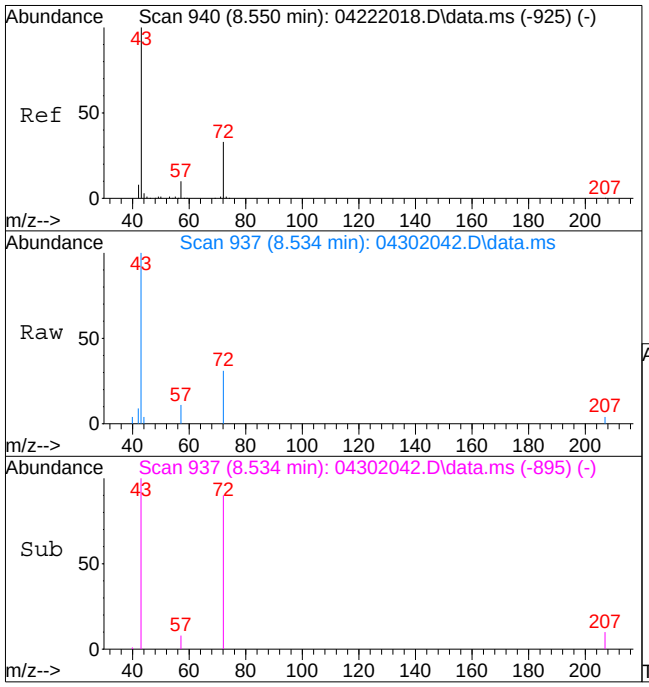


#21
Trichlorotrifluoroethane
Concen: 2.10 ng
RT: 7.18 min Scan# 691
Delta R.T. -0.011 min
Lab File: 04302042.D
Acq: 1 May 2020 4:07

Tgt Ion:151 Resp: 25722

Ion	Ratio	Lower	Upper
151	100		
101	103.0	82.9	122.9

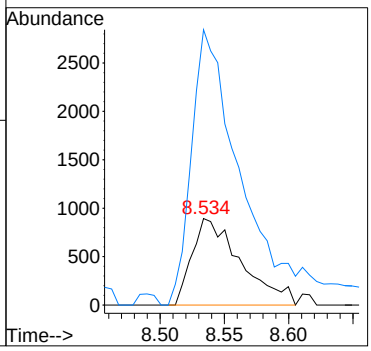


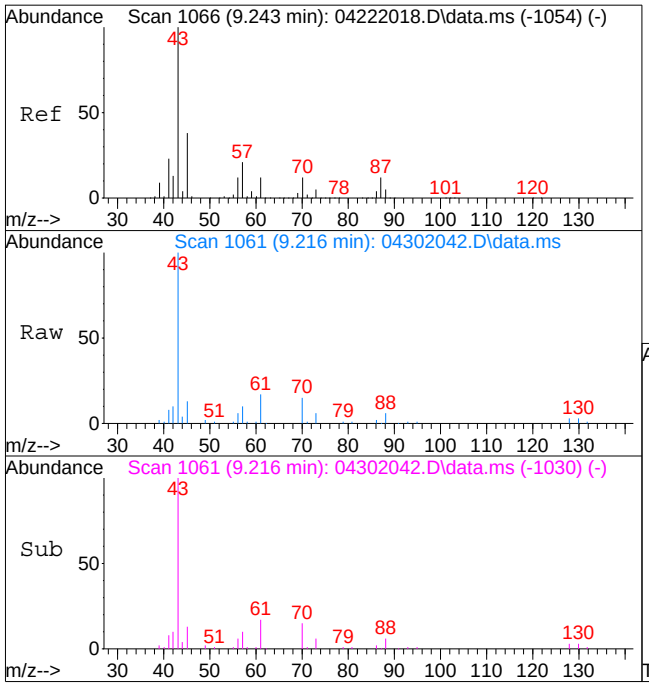


#27
2-Butanone (MEK)
Concen: 0.41 ng
RT: 8.53 min Scan# 937
Delta R.T. -0.017 min
Lab File: 04302042.D
Acq: 1 May 2020 4:07

Tgt Ion: 72 Resp: 2359

Ion	Ratio	Lower	Upper
72	100		
43	352.4	278.8	318.8#

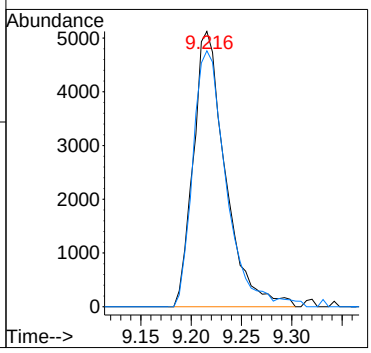


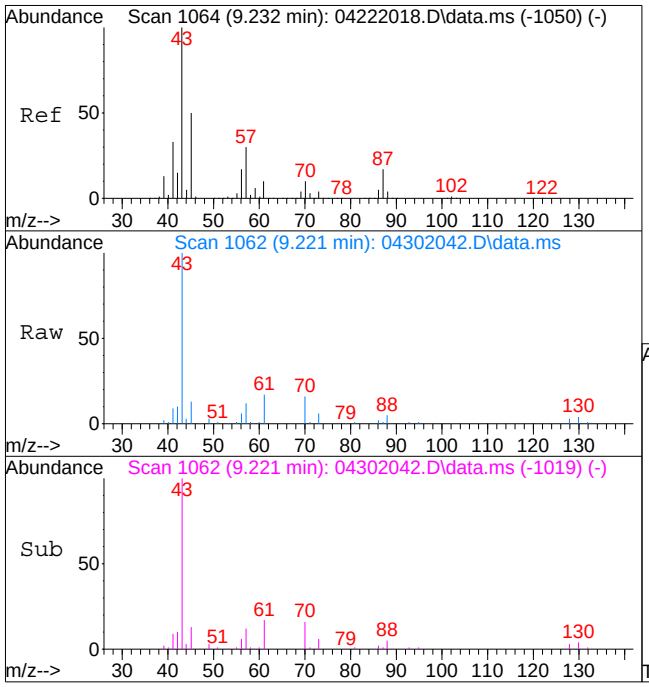


#30
Ethyl Acetate
Concen: 4.40 ng
RT: 9.22 min Scan# 1061
Delta R.T. -0.028 min
Lab File: 04302042.D
Acq: 1 May 2020 4:07

Tgt Ion: 61 Resp: 11360

Ion	Ratio	Lower	Upper
61	100		
70	96.9	80.6	120.6

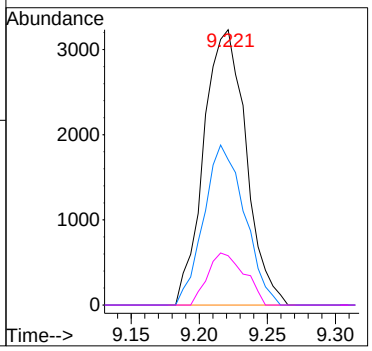


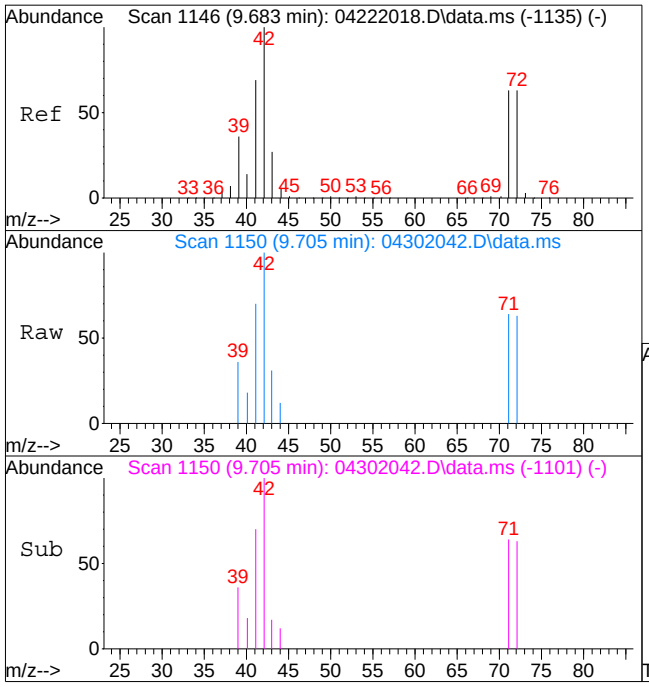


#31
n-Hexane
Concen: 0.56 ng
RT: 9.22 min Scan# 1062
Delta R.T. -0.011 min
Lab File: 04302042.D
Acq: 1 May 2020 4:07

Tgt Ion: 57 Resp: 6985

Ion	Ratio	Lower	Upper
57	100		
56	56.2	44.0	66.0
86	16.5	15.0	22.4

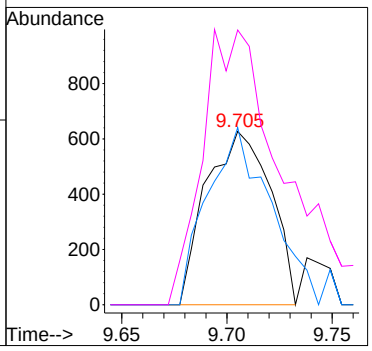


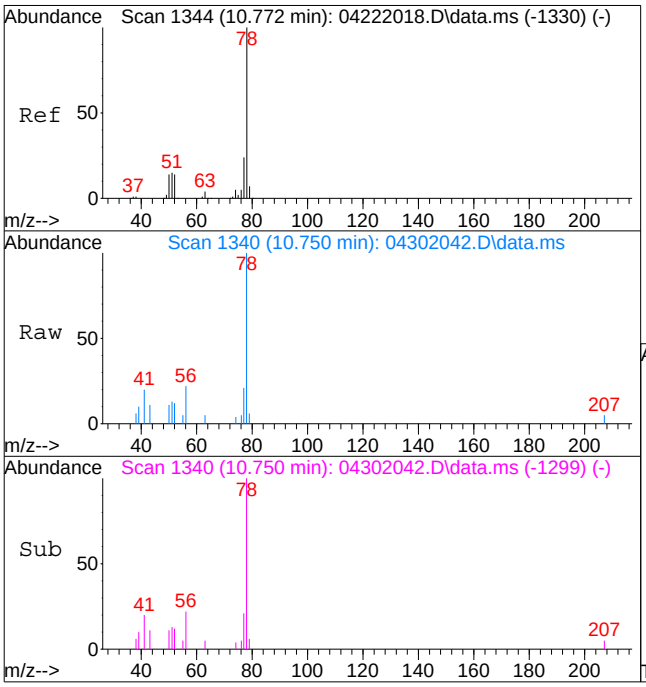


#34
Tetrahydrofuran (THF)
Concen: 0.23 ng
RT: 9.71 min Scan# 1150
Delta R.T. 0.022 min
Lab File: 04302042.D
Acq: 1 May 2020 4:07

Tgt Ion: 72 Resp: 1331

Ion	Ratio	Lower	Upper
72	100		
71	103.4	77.9	117.9
42	199.4	133.9	173.9#

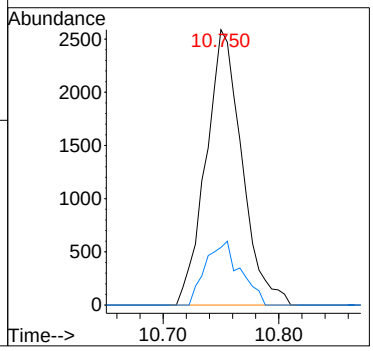


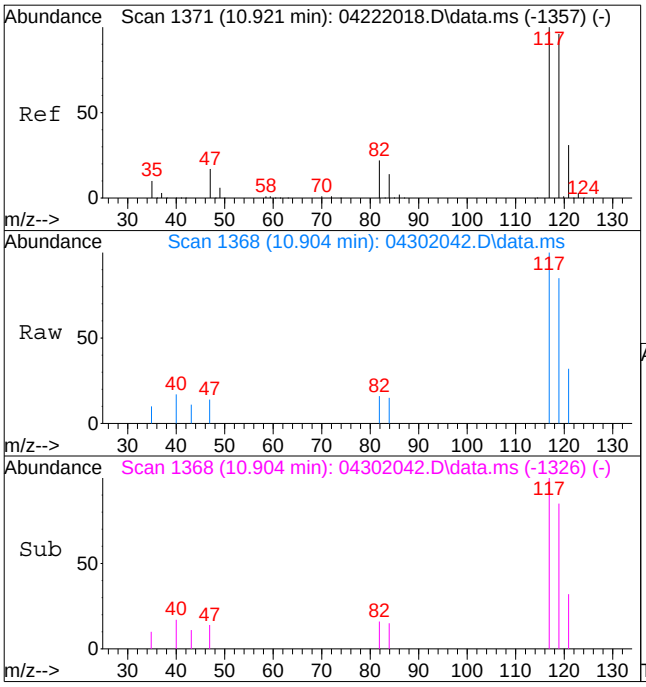


#41
Benzene
Concen: 0.14 ng
RT: 10.75 min Scan# 1340
Delta R.T. -0.022 min
Lab File: 04302042.D
Acq: 1 May 2020 4:07

Tgt Ion: 78 Resp: 5594

Ion	Ratio	Lower	Upper
78	100		
77	22.4	3.6	43.6

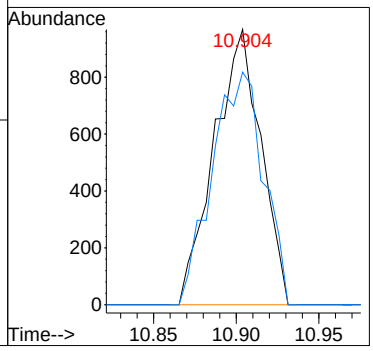


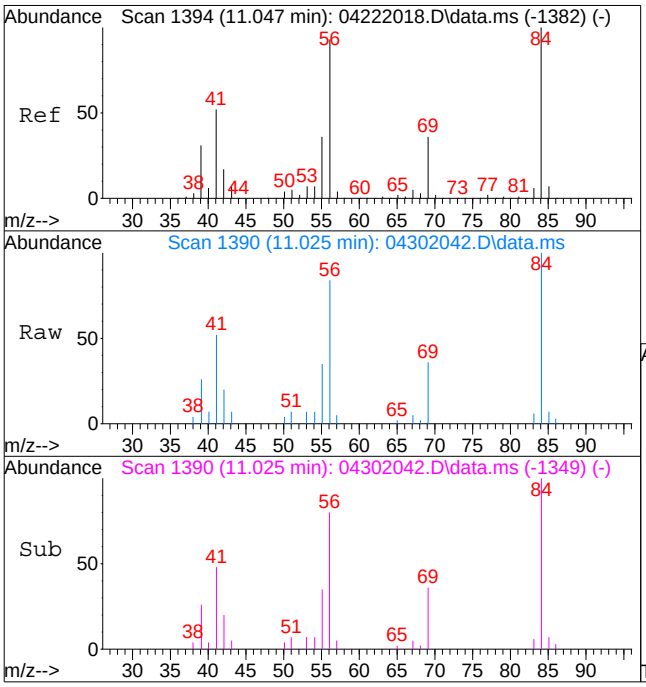


#42
Carbon Tetrachloride
Concen: 0.09 ng
RT: 10.90 min Scan# 1368
Delta R.T. -0.017 min
Lab File: 04302042.D
Acq: 1 May 2020 4:07

Tgt Ion:117 Resp: 1901

Ion	Ratio	Lower	Upper
117	100		
119	93.1	76.5	116.5

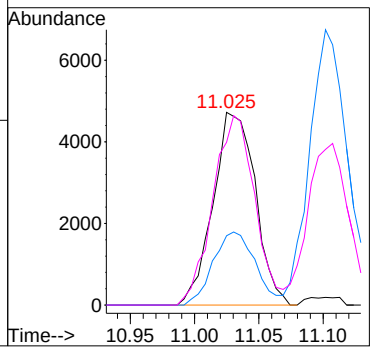


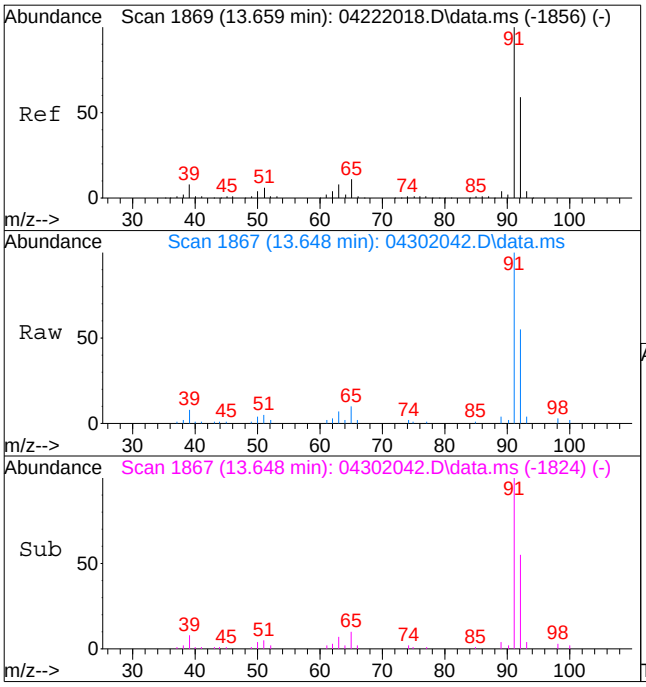


#43
Cyclohexane
Concen: 0.68 ng
RT: 11.02 min Scan# 1390
Delta R.T. -0.022 min
Lab File: 04302042.D
Acq: 1 May 2020 4:07

Tgt Ion: 84 Resp: 10781

Ion	Ratio	Lower	Upper
84	100		
69	37.6	15.8	55.8
56	97.5	72.0	112.0

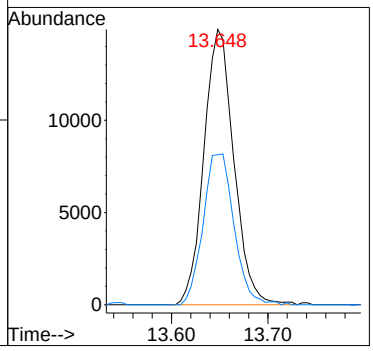


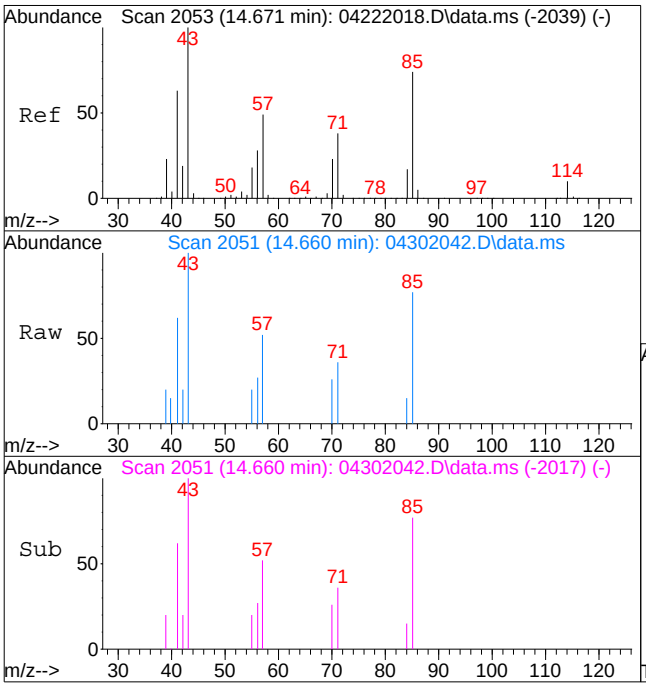


#58
Toluene
Concen: 0.73 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.011 min
Lab File: 04302042.D
Acq: 1 May 2020 4:07

Tgt Ion: 91 Resp: 32266

Ion	Ratio	Lower	Upper
91	100		
92	56.4	38.2	78.2

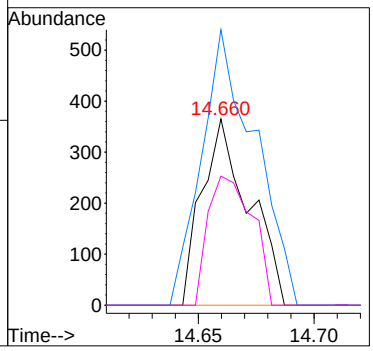


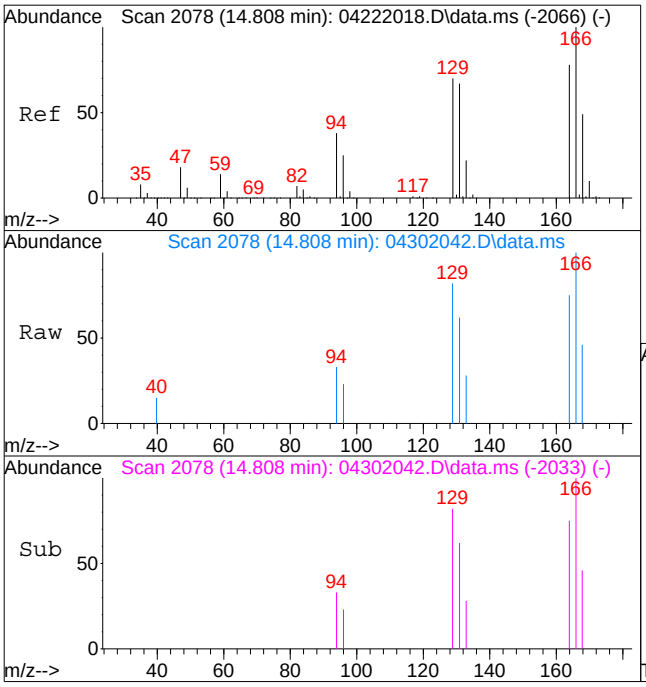


#63
n-Octane
Concen: 0.07 ng
RT: 14.66 min Scan# 2051
Delta R.T. -0.011 min
Lab File: 04302042.D
Acq: 1 May 2020 4:07

Tgt Ion: 57 Resp: 517

Ion	Ratio	Lower	Upper
57	100		
85	168.1	120.7	181.1
71	65.4	61.1	91.7

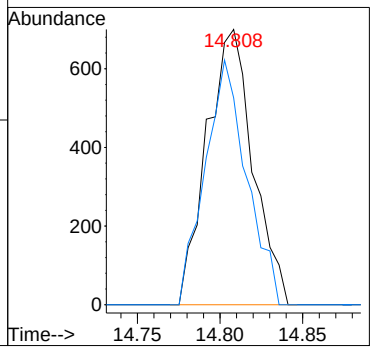


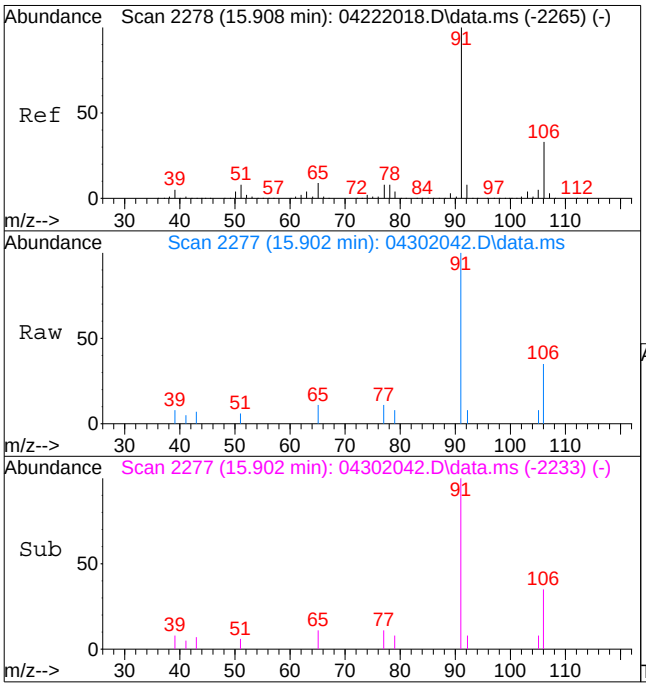


#64
Tetrachloroethene
Concen: 0.08 ng
RT: 14.81 min Scan# 2078
Delta R.T. -0.000 min
Lab File: 04302042.D
Acq: 1 May 2020 4:07

Tgt Ion:166 Resp: 1357

Ion	Ratio	Lower	Upper
166	100		
164	80.1	57.7	97.7

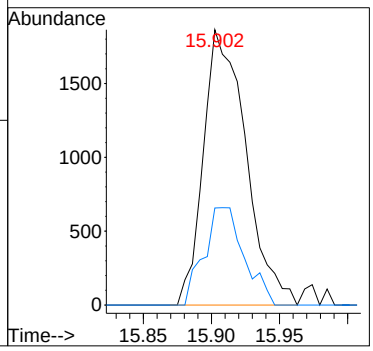


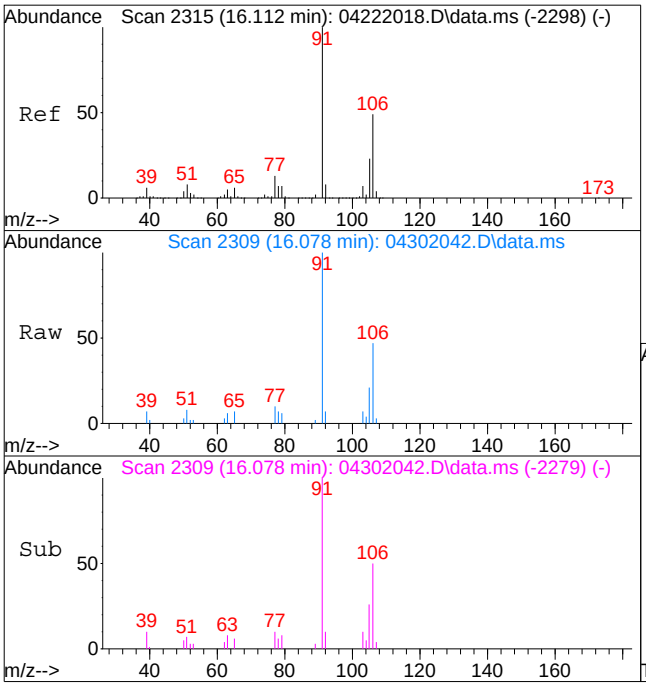


#66
Ethylbenzene
Concen: 0.08 ng
RT: 15.90 min Scan# 2277
Delta R.T. -0.006 min
Lab File: 04302042.D
Acq: 1 May 2020 4:07

Tgt Ion: 91 Resp: 4038

Ion	Ratio	Lower	Upper
91	100		
106	33.4	13.4	53.4

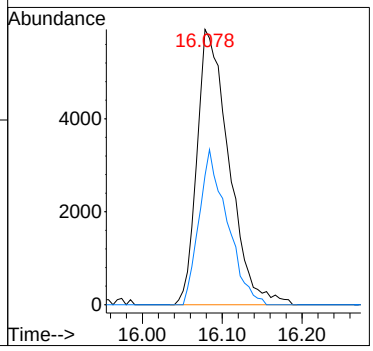


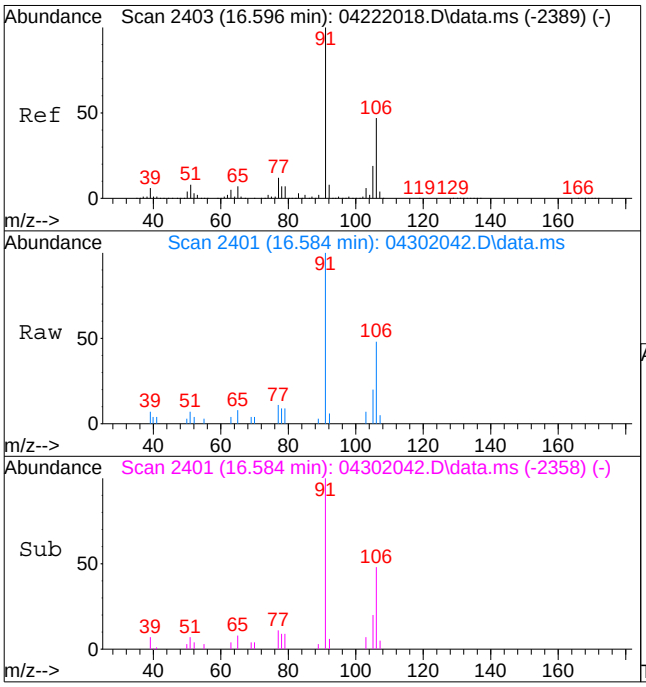


#67
m- & p-Xylenes
Concen: 0.38 ng
RT: 16.08 min Scan# 2309
Delta R.T. -0.033 min
Lab File: 04302042.D
Acq: 1 May 2020 4:07

Tgt Ion: 91 Resp: 16489

Ion	Ratio	Lower	Upper
91	100		
106	49.7	28.3	68.3

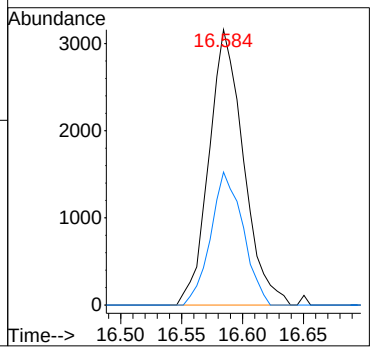


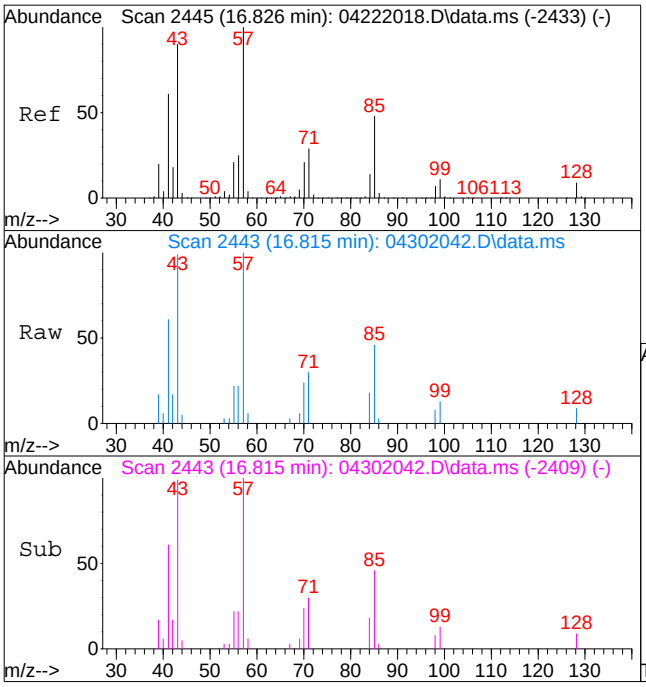


#70
o-Xylene
Concen: 0.15 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 04302042.D
Acq: 1 May 2020 4:07

Tgt Ion: 91 Resp: 6224

Ion	Ratio	Lower	Upper
91	100		
106	45.1	27.5	67.5

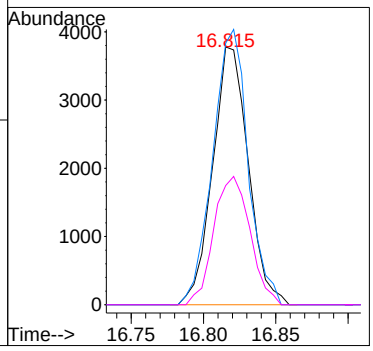


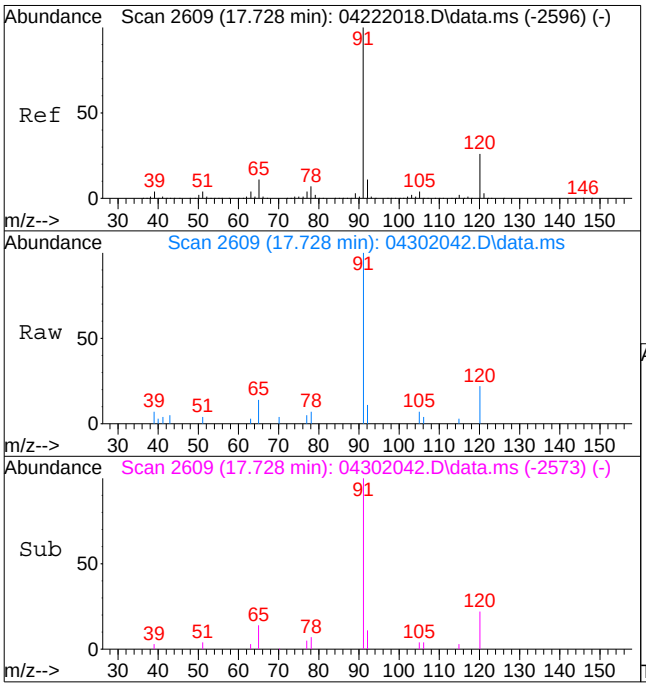


#71
n-Nonane
Concen: 0.47 ng
RT: 16.82 min Scan# 2443
Delta R.T. -0.011 min
Lab File: 04302042.D
Acq: 1 May 2020 4:07

Tgt Ion: 43 Resp: 6467

Ion	Ratio	Lower	Upper
43	100		
57	106.0	90.8	130.8
85	50.7	32.1	72.1

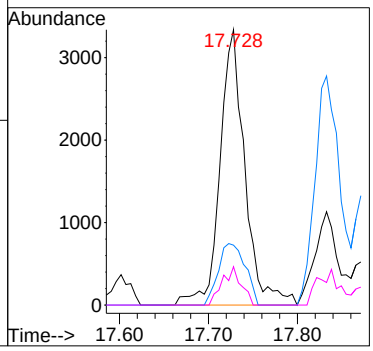


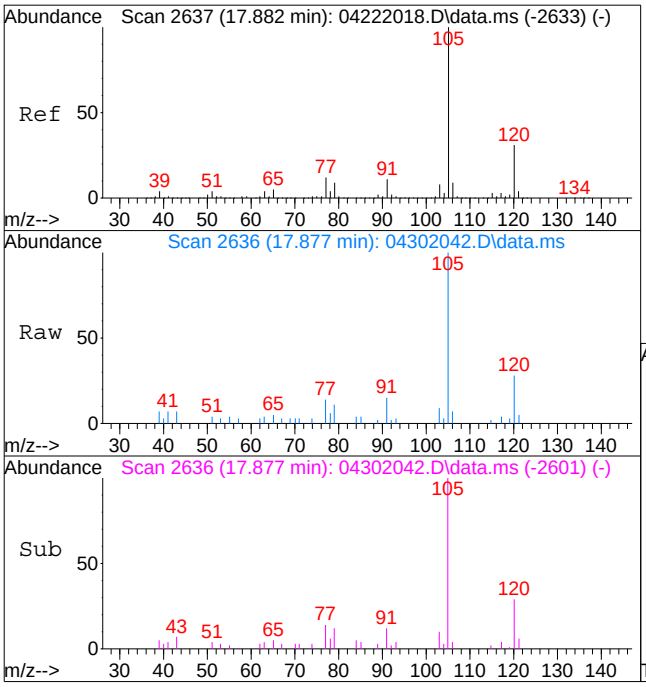


#76
n-Propylbenzene
Concen: 0.11 ng
RT: 17.73 min Scan# 2609
Delta R.T. -0.000 min
Lab File: 04302042.D
Acq: 1 May 2020 4:07

Tgt Ion: 91 Resp: 6488

Ion	Ratio	Lower	Upper
91	100		
120	24.1	6.1	46.1
65	10.6	0.0	30.7

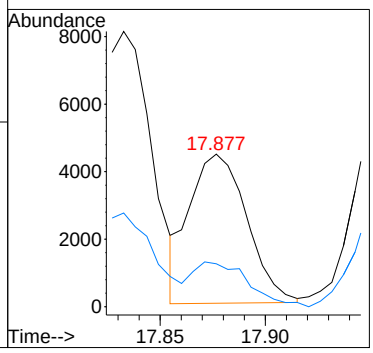


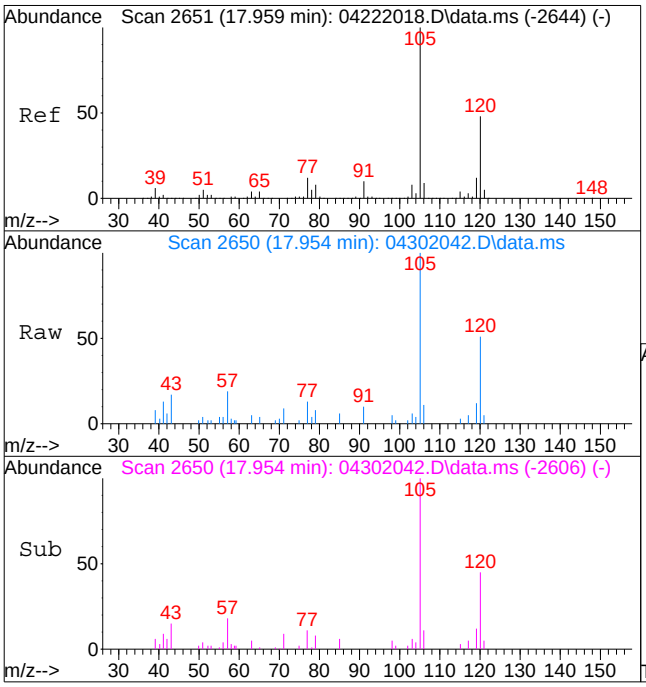


#78
4-Ethyltoluene
Concen: 0.16 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 04302042.D
Acq: 1 May 2020 4:07

Tgt Ion:105 Resp: 8382

Ion	Ratio	Lower	Upper
105	100		
120	28.9	11.4	51.4

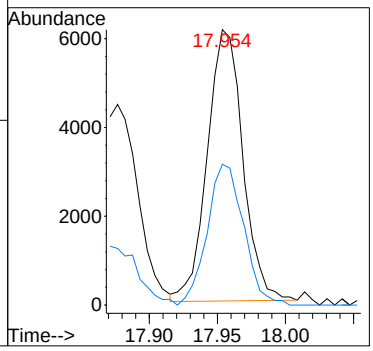


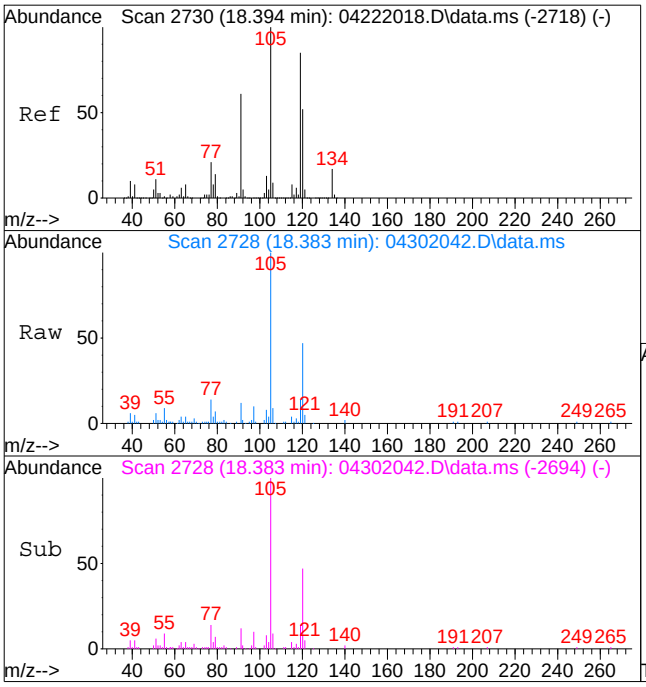


#79
1,3,5-Trimethylbenzene
Concen: 0.23 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 04302042.D
Acq: 1 May 2020 4:07

Tgt Ion:105 Resp: 11120

Ion	Ratio	Lower	Upper
105	100		
120	53.0	29.5	69.5

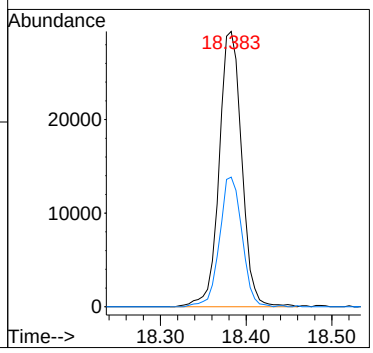


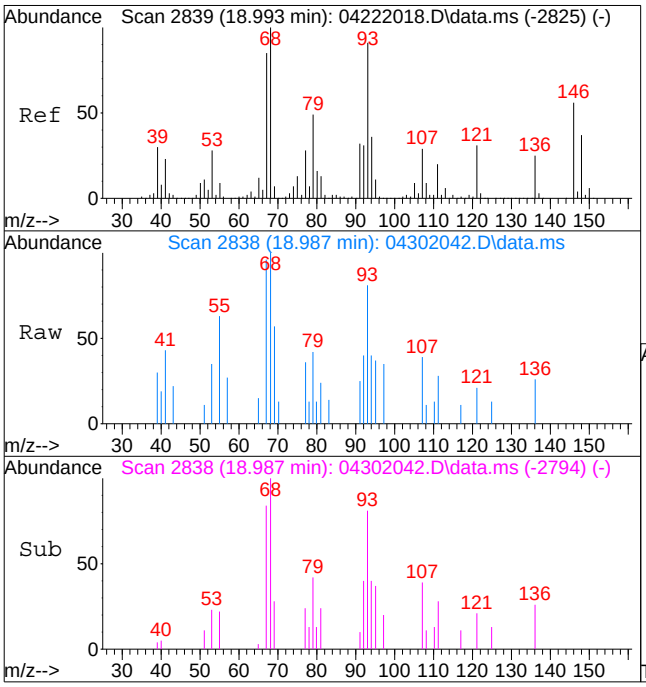


#82
1,2,4-Trimethylbenzene
Concen: 1.14 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 04302042.D
Acq: 1 May 2020 4:07

Tgt Ion:105 Resp: 53851

Ion	Ratio	Lower	Upper
105	100		
120	46.9	34.5	74.5

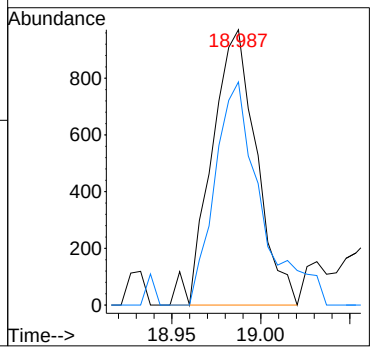


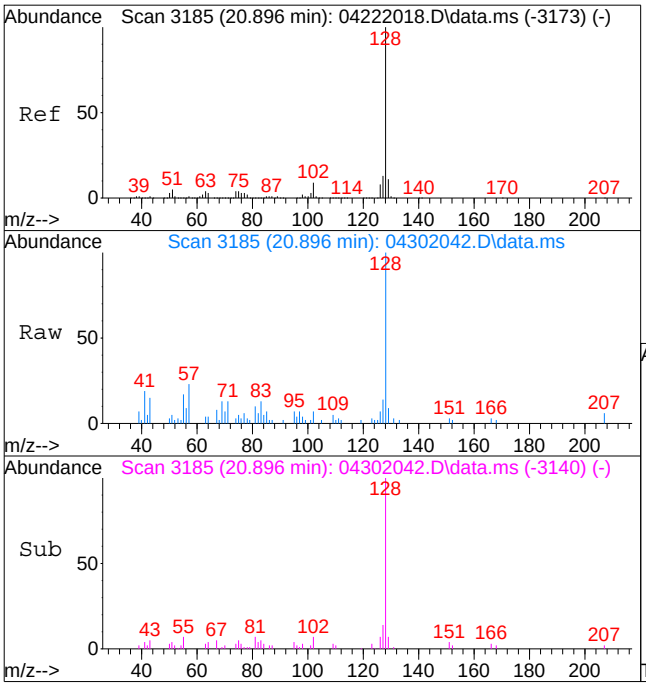


#91
d-Limonene
Concen: 0.13 ng
RT: 18.99 min Scan# 2838
Delta R.T. -0.006 min
Lab File: 04302042.D
Acq: 1 May 2020 4:07

Tgt Ion: 68 Resp: 1700

Ion	Ratio	Lower	Upper
68	100		
93	83.5	71.6	111.6

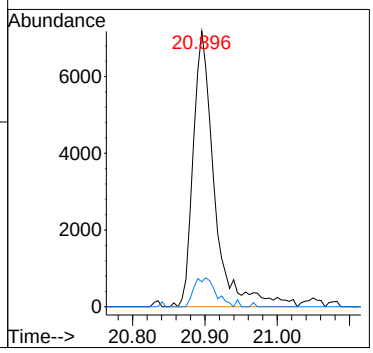




#95
Naphthalene
Concen: 0.24 ng
RT: 20.90 min Scan# 3185
Delta R.T. -0.000 min
Lab File: 04302042.D
Acq: 1 May 2020 4:07

Tgt Ion:128 Resp: 14674

Ion	Ratio	Lower	Upper
128	100		
129	10.6	0.0	30.9



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302043.D Vial: 8
Acq On : 1 May 2020 4:41 Operator: SC
Sample : P2002103-002 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 14:37:22 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/1/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	146603	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.10	114	615888	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	15.46	82	270949	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	219486	11.555	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.48%				
57) Toluene-d8 (SS2)	13.54	98	674188	12.887	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.12%				
73) Bromofluorobenzene (SS3)	17.05	174	263928	12.553	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.40%				
Target Compounds							Qvalue
2) Propene	3.88	42	2595	0.417	ng		94
3) Dichlorodifluoromethan...	3.98	85	18616	0.787	ng		98
4) Chloromethane	4.18	50	712	0.082	ng		78
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	317	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.14	64	144	N.D.			
10) Ethanol	5.34	45	14888	3.157	ng		88
11) Acetonitrile	5.58	41	1568	0.140	ng	#	30
12) Acrolein	5.70	56	2523	0.585	ng		95
13) Acetone	5.83	58	38726	6.839	ng	#	64
14) Trichlorofluoromethane	6.02	101	11791	0.501	ng		99
15) 2-Propanol (Isopropanol)	6.16	45	7368	0.410	ng		90
16) Acrylonitrile	6.42	53	35	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	6.85	84	602	0.061	ng		94
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	7.17	151	78082	6.374	ng		100
22) Carbon Disulfide	7.14	76	81297	2.462	ng		96
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	8.25	86	5302	2.566	ng	#	30
27) 2-Butanone (MEK)	8.52	72	7645	1.314	ng	#	41
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	9.22	61	6771	2.616	ng		95
31) n-Hexane	9.21	57	1752	0.139	ng	#	94
32) Chloroform	9.27	83	504	N.D.			
34) Tetrahydrofuran (THF)	9.69	72	1467	0.249	ng	#	82
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.75	78	4236	0.106	ng		99
42) Carbon Tetrachloride	10.90	117	5187	0.250	ng		99
43) Cyclohexane	11.03	84	2296	0.146	ng		87
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.	d		
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	11.81	130	120	N.D.			
48) 1,4-Dioxane	11.79	88	8412	1.042	ng		95
49) 2,2,4-Trimethylpentane...	11.86	57	939	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302043.D Vial: 8
Acq On : 1 May 2020 4:41 Operator: SC
Sample : P2002103-002 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 14:37:22 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

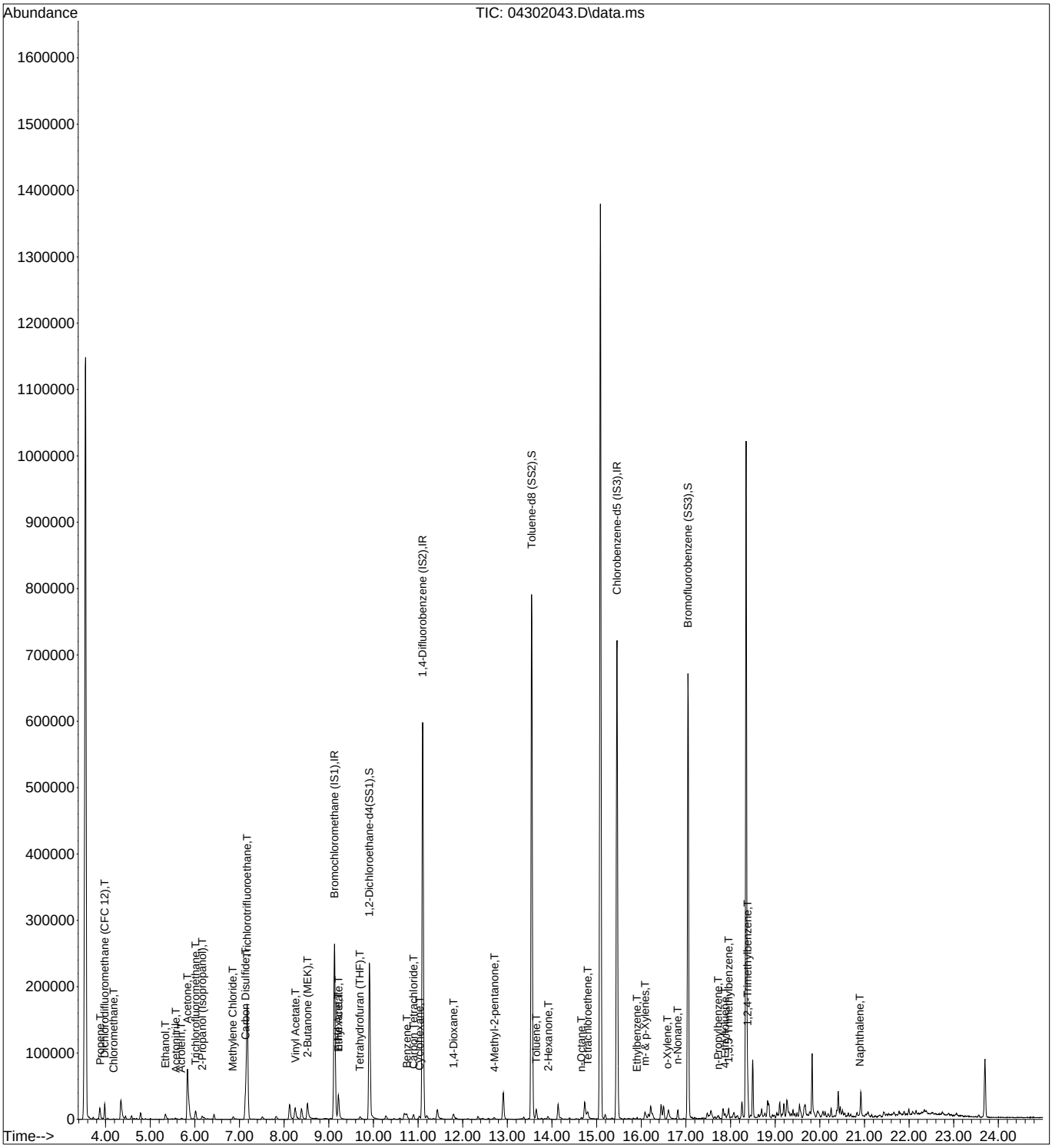
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	12.11	71	328	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	12.71	58	650	0.093 ng	#	21
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	13.65	91	13792	0.314 ng		97
59) 2-Hexanone	13.92	43	3558	0.272 ng		83
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D. d		
63) n-Octane	14.66	57	548	0.078 ng	#	82
64) Tetrachloroethene	14.80	166	2909	0.176 ng		98
65) Chlorobenzene	15.51	112	171	N.D.		
66) Ethylbenzene	15.90	91	2656	0.052 ng		90
67) m- & p-Xylenes	16.08	91	11227	0.260 ng		95
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.47	104	497	N.D.		
70) o-Xylene	16.59	91	4208	0.099 ng		96
71) n-Nonane	16.82	43	5422	0.396 ng		88
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	17.20	105	922	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	17.72	91	4647	0.077 ng		89
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	17.88	105	5228	0.099 ng		96
79) 1,3,5-Trimethylbenzene	17.96	105	7395	0.152 ng		99
80) alpha-Methylstyrene	18.12	118	1166	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	18.38	105	31250m	0.665 ng		
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	18.52	91	567	N.D.		
85) 1,3-Dichlorobenzene	18.54	146	231	N.D.		
86) 1,4-Dichlorobenzene	18.61	146	376	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D. d		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	18.97	146	179	N.D.		
91) d-Limonene	18.98	68	638	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	20.79	180	460	N.D.		
95) Naphthalene	20.90	128	4788	0.079 ng		97
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302043.D Vial: 8
Acq On : 1 May 2020 4:41 Operator: SC
Sample : P2002103-002 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 14:37:22 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302043.D Vial: 8
Acq On : 1 May 2020 4:41 Operator: SC
Sample : P2002103-002 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 14:37:22 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/1/20

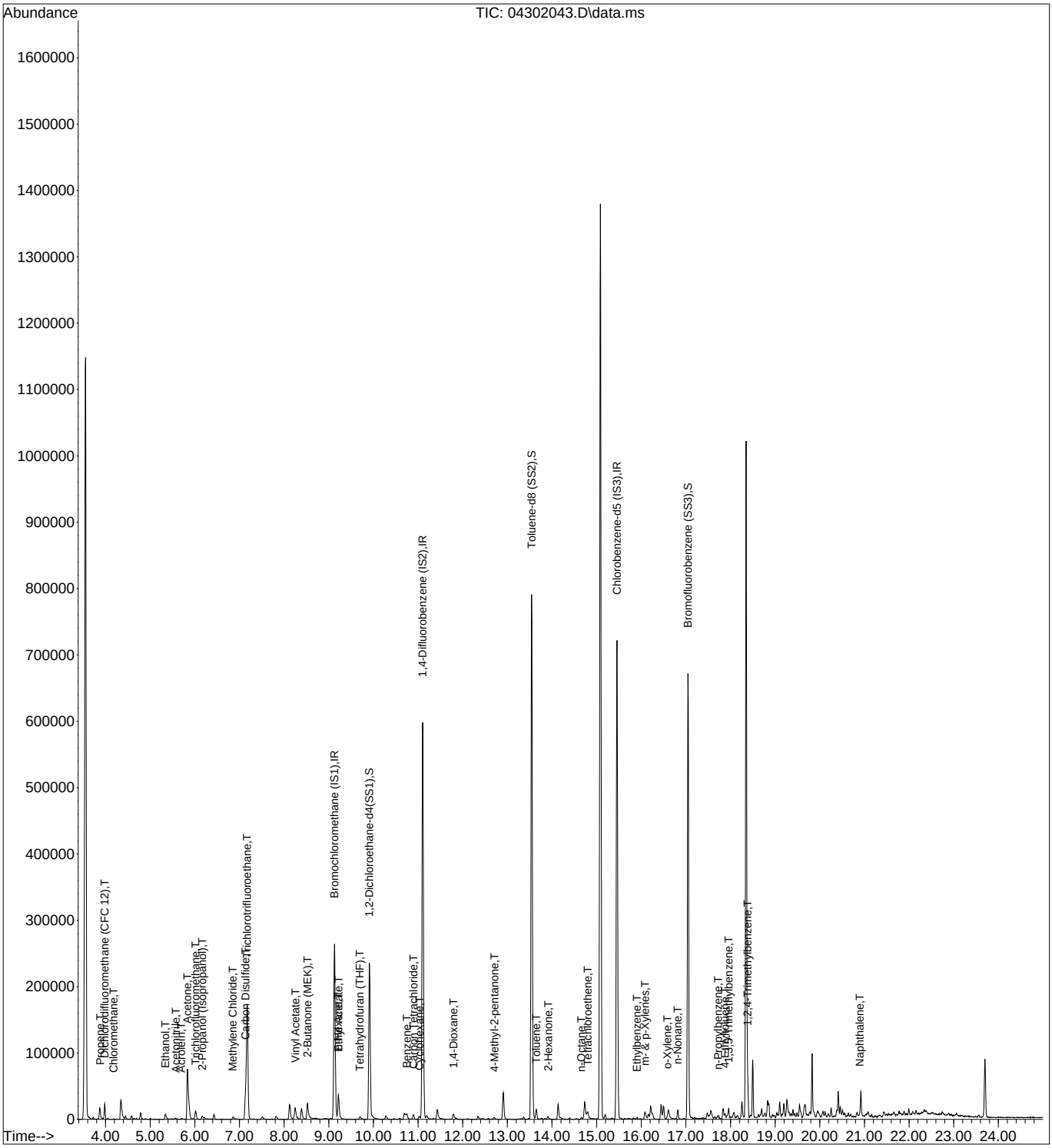
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	146603	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.10	114	615888	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	15.46	82	270949	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	219486	11.555	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.48%				
57) Toluene-d8 (SS2)	13.54	98	674188	12.887	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.12%				
73) Bromofluorobenzene (SS3)	17.05	174	263928	12.553	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.40%				
Target Compounds							Qvalue
2) Propene	3.88	42	2595	0.417	ng		94
3) Dichlorodifluoromethan...	3.98	85	18616	0.787	ng		98
4) Chloromethane	4.18	50	712	0.082	ng		78
10) Ethanol	5.34	45	14888	3.157	ng		88
11) Acetonitrile	5.58	41	1568	0.140	ng	#	30
12) Acrolein	5.70	56	2523	0.585	ng		95
13) Acetone	5.83	58	38726	6.839	ng	#	64
14) Trichlorofluoromethane	6.02	101	11791	0.501	ng		99
15) 2-Propanol (Isopropanol)	6.16	45	7368	0.410	ng		90
19) Methylene Chloride	6.85	84	602	0.061	ng		94
21) Trichlorotrifluoroethane	7.17	151	78082	6.374	ng		100
22) Carbon Disulfide	7.14	76	81297	2.462	ng		96
26) Vinyl Acetate	8.25	86	5302	2.566	ng	#	30
27) 2-Butanone (MEK)	8.52	72	7645	1.314	ng	#	41
30) Ethyl Acetate	9.22	61	6771	2.616	ng		95
31) n-Hexane	9.21	57	1752	0.139	ng	#	94
34) Tetrahydrofuran (THF)	9.69	72	1467	0.249	ng	#	82
41) Benzene	10.75	78	4236	0.106	ng		99
42) Carbon Tetrachloride	10.90	117	5187	0.250	ng		99
43) Cyclohexane	11.03	84	2296	0.146	ng		87
48) 1,4-Dioxane	11.79	88	8412	1.042	ng		95
53) 4-Methyl-2-pentanone	12.71	58	650	0.093	ng	#	21
58) Toluene	13.65	91	13792	0.314	ng		97
59) 2-Hexanone	13.92	43	3558	0.272	ng		83
63) n-Octane	14.66	57	548	0.078	ng	#	82
64) Tetrachloroethene	14.80	166	2909	0.176	ng		98
66) Ethylbenzene	15.90	91	2656	0.052	ng		90
67) m- & p-Xylenes	16.08	91	11227	0.260	ng		95
70) o-Xylene	16.59	91	4208	0.099	ng		96
71) n-Nonane	16.82	43	5422	0.396	ng		88
76) n-Propylbenzene	17.72	91	4647	0.077	ng		89
78) 4-Ethyltoluene	17.88	105	5228	0.099	ng		96
79) 1,3,5-Trimethylbenzene	17.96	105	7395	0.152	ng		99
82) 1,2,4-Trimethylbenzene	18.38	105	31250m	0.665	ng		
95) Naphthalene	20.90	128	4788	0.079	ng		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

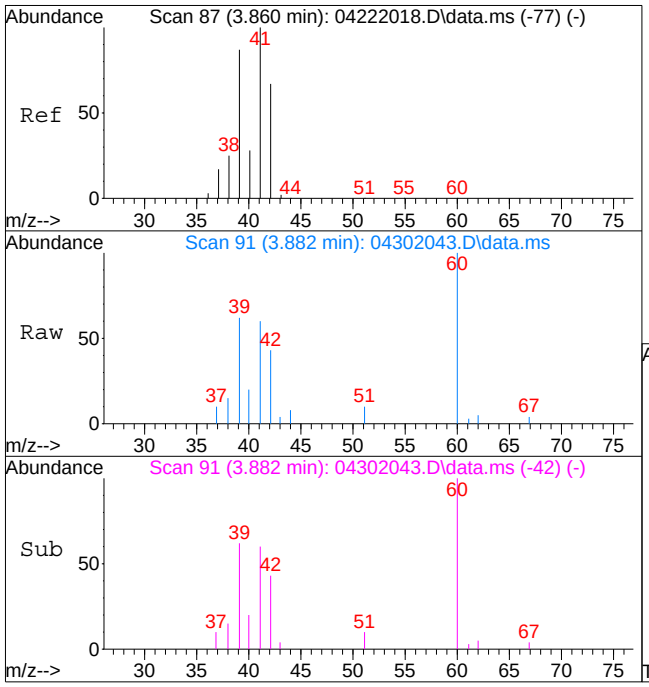
Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302043.D Vial: 8
Acq On : 1 May 2020 4:41 Operator: SC
Sample : P2002103-002 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 14:37:22 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



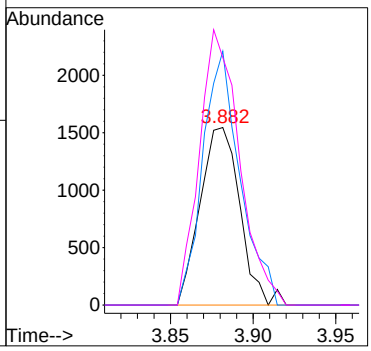
R9042220.M Fri May 01 14:37:35 2020 Page: 2

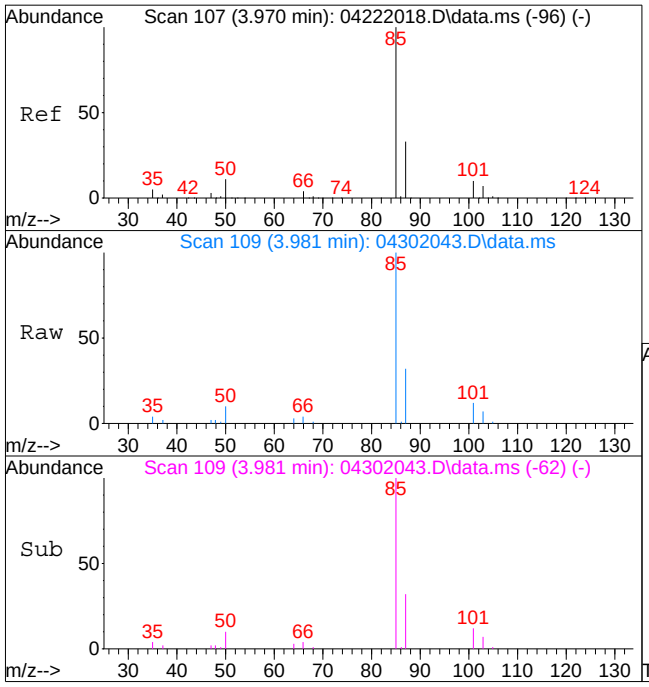


#2
Propene
Concen: 0.42 ng
RT: 3.88 min Scan# 91
Delta R.T. 0.022 min
Lab File: 04302043.D
Acq: 1 May 2020 4:41

Tgt Ion: 42 Resp: 2595

Ion	Ratio	Lower	Upper
42	100		
39	133.6	106.4	146.4
41	156.0	128.8	168.8

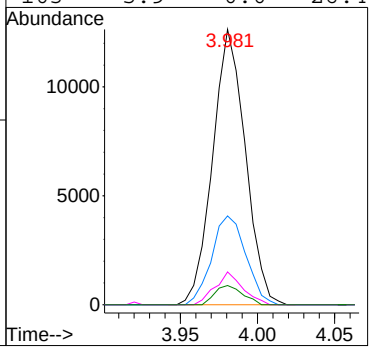


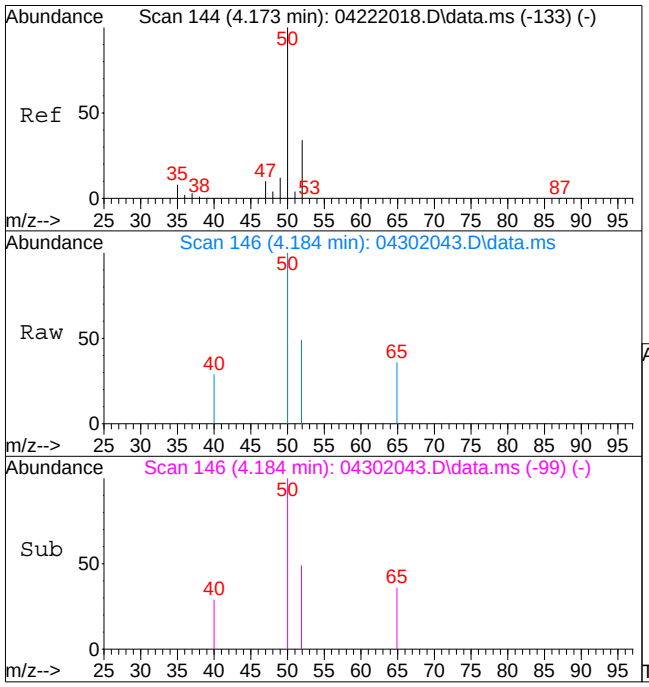


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.79 ng
RT: 3.98 min Scan# 109
Delta R.T. 0.011 min
Lab File: 04302043.D
Acq: 1 May 2020 4:41

Tgt Ion: 85 Resp: 18616

Ion	Ratio	Lower	Upper
85	100		
87	33.7	12.4	52.4
101	10.0	0.0	29.9
103	5.9	0.0	26.4

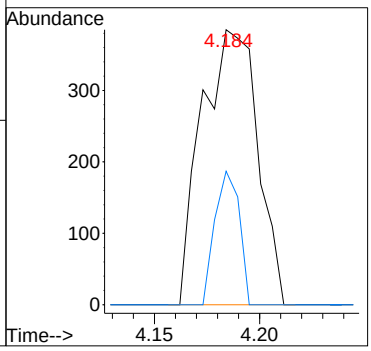


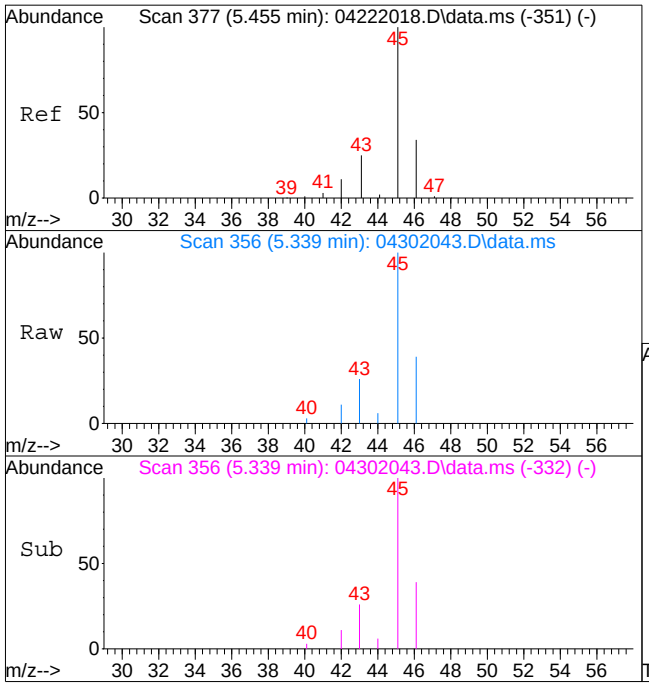


#4
Chloromethane
Concen: 0.08 ng
RT: 4.18 min Scan# 146
Delta R.T. 0.011 min
Lab File: 04302043.D
Acq: 1 May 2020 4:41

Tgt Ion: 50 Resp: 712

Ion	Ratio	Lower	Upper
50	100		
52	21.2	13.7	53.7

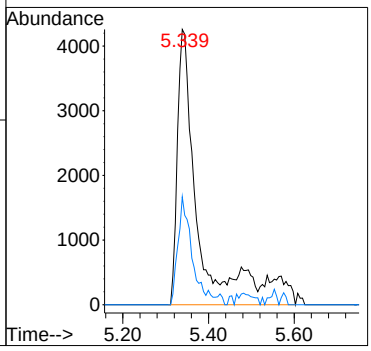


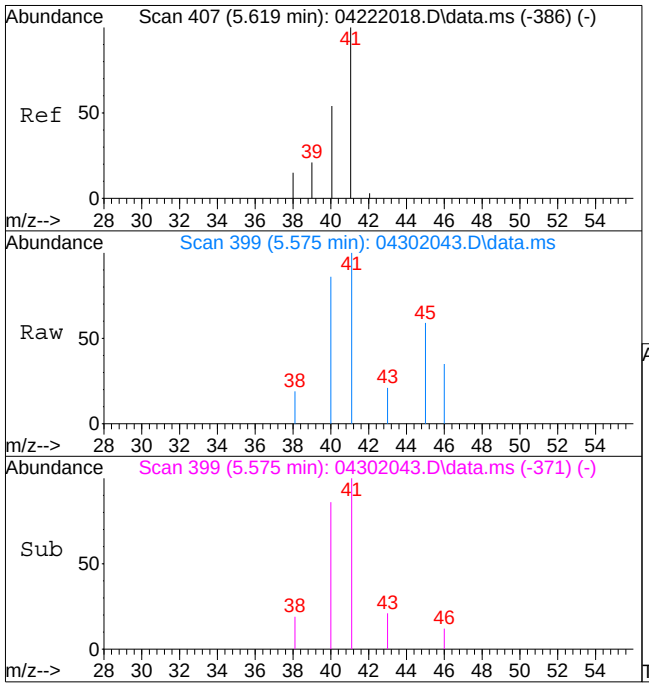


#10
Ethanol
Concen: 3.16 ng
RT: 5.34 min Scan# 356
Delta R.T. -0.116 min
Lab File: 04302043.D
Acq: 1 May 2020 4:41

Tgt Ion: 45 Resp: 14888

Ion	Ratio	Lower	Upper
45	100		
46	26.8	14.0	54.0

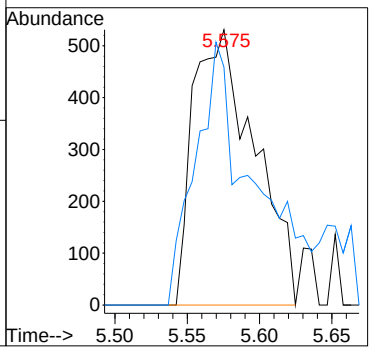


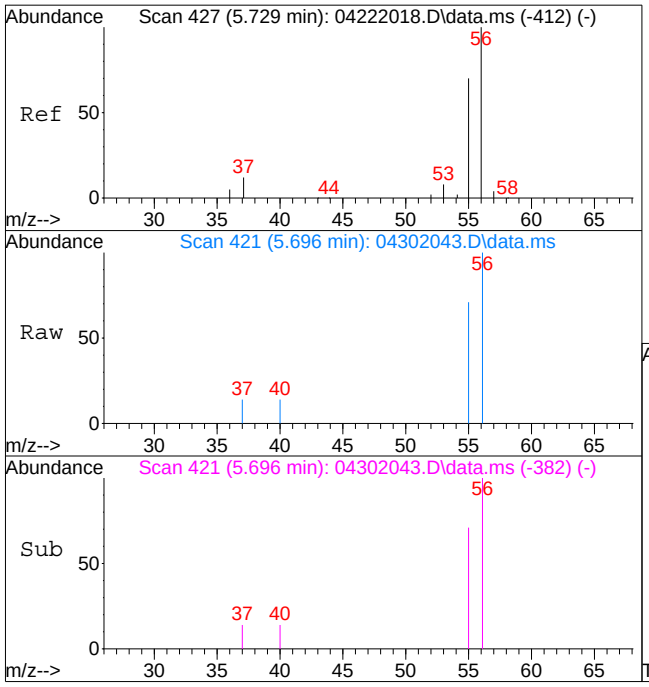


#11
Acetonitrile
Concen: 0.14 ng
RT: 5.58 min Scan# 399
Delta R.T. -0.044 min
Lab File: 04302043.D
Acq: 1 May 2020 4:41

Tgt Ion: 41 Resp: 1568

Ion	Ratio	Lower	Upper
41	100		
40	105.1	34.8	74.8#

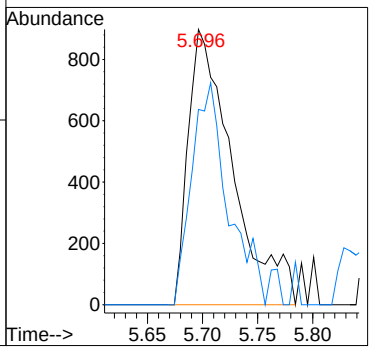


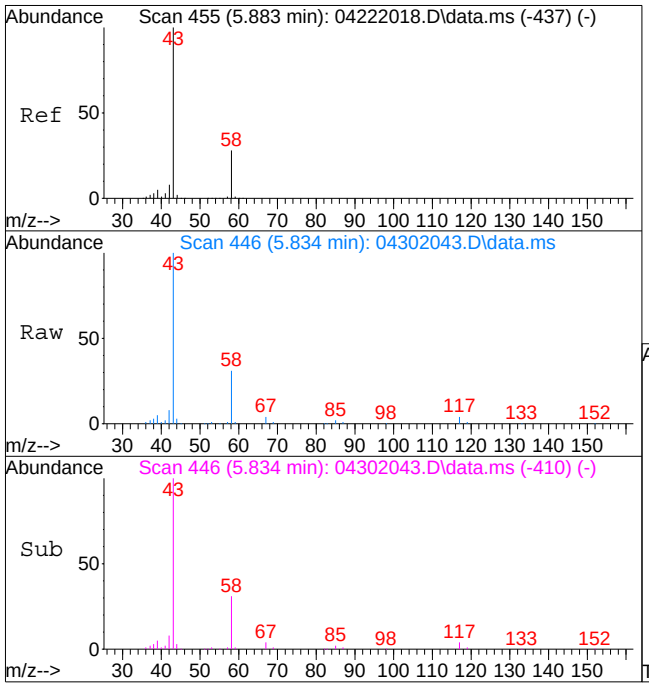


#12
Acrolein
Concen: 0.59 ng
RT: 5.70 min Scan# 421
Delta R.T. -0.033 min
Lab File: 04302043.D
Acq: 1 May 2020 4:41

Tgt Ion: 56 Resp: 2523

Ion	Ratio	Lower	Upper
56	100		
55	66.1	50.4	90.4

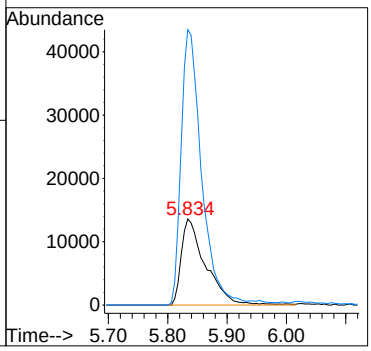


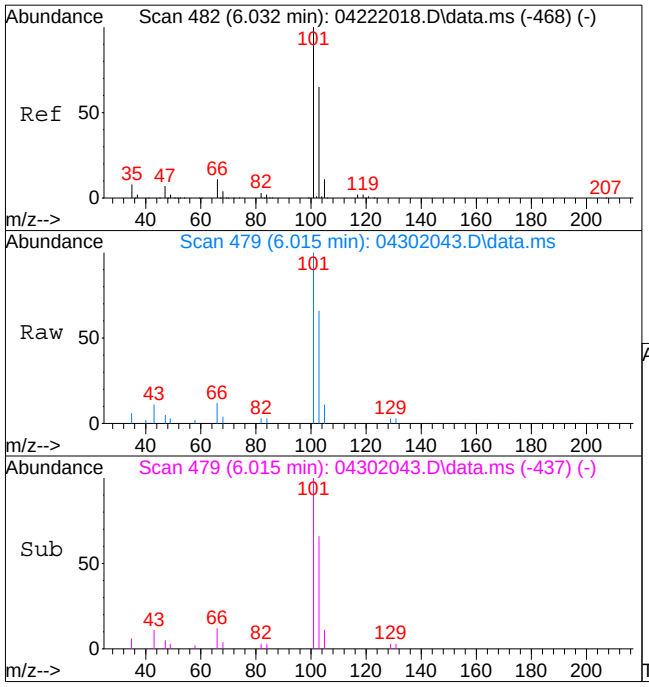


#13
Acetone
Concen: 6.84 ng
RT: 5.83 min Scan# 446
Delta R.T. -0.050 min
Lab File: 04302043.D
Acq: 1 May 2020 4:41

Tgt Ion: 58 Resp: 38726

Ion	Ratio	Lower	Upper
58	100		
43	271.6	319.3	379.3#

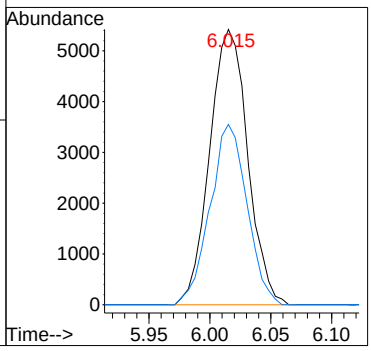


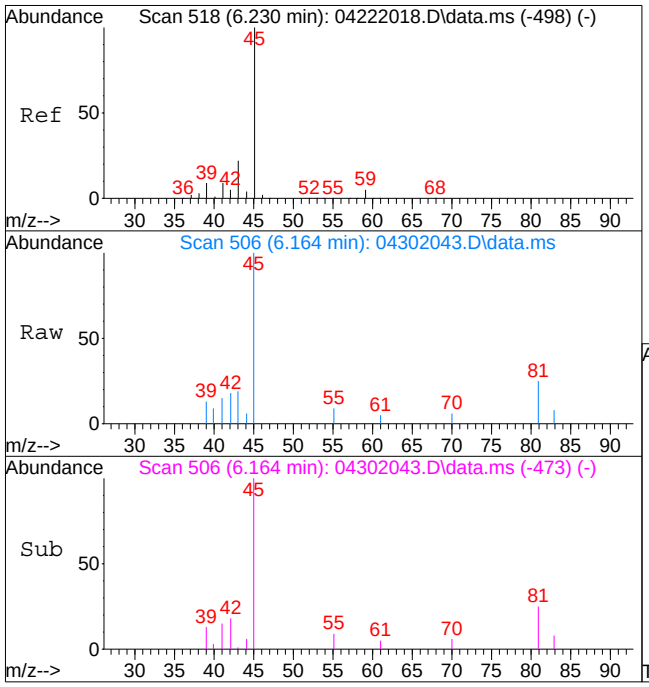


#14
Trichlorofluoromethane
Concen: 0.50 ng
RT: 6.02 min Scan# 479
Delta R.T. -0.017 min
Lab File: 04302043.D
Acq: 1 May 2020 4:41

Tgt Ion:101 Resp: 11791

Ion	Ratio	Lower	Upper
101	100		
103	63.7	44.7	84.7

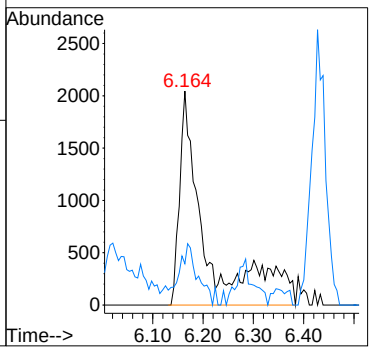


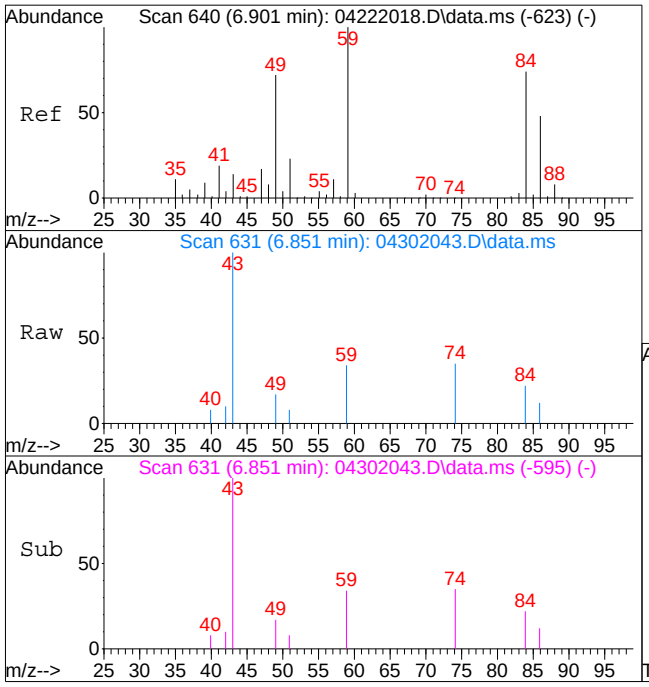


#15
2-Propanol (Isopropanol)
Concen: 0.41 ng
RT: 6.16 min Scan# 506
Delta R.T. -0.066 min
Lab File: 04302043.D
Acq: 1 May 2020 4:41

Tgt Ion: 45 Resp: 7368

Ion	Ratio	Lower	Upper
45	100		
43	17.6	2.6	42.6

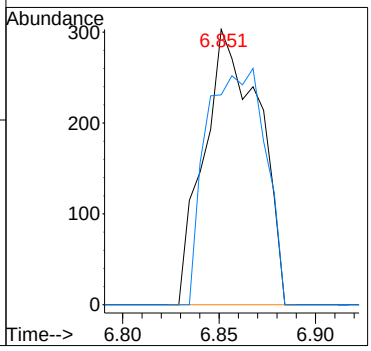


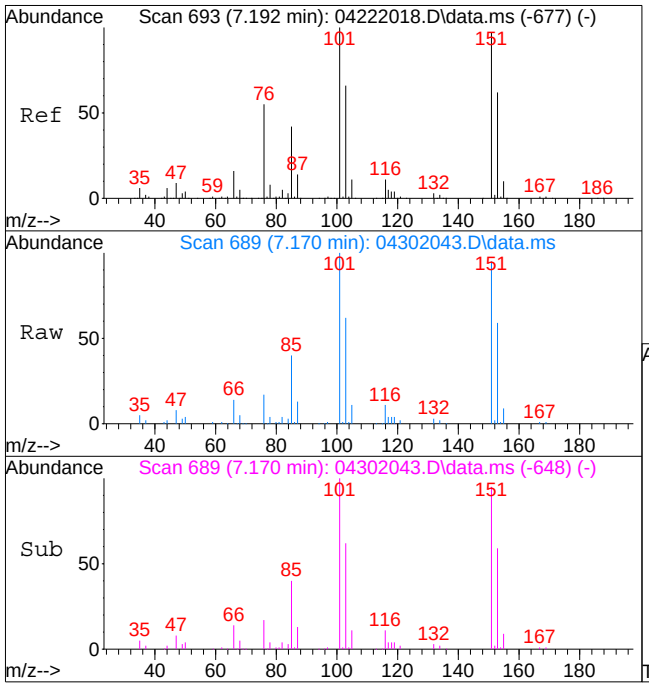


#19
Methylene Chloride
Concen: 0.06 ng
RT: 6.85 min Scan# 631
Delta R.T. -0.050 min
Lab File: 04302043.D
Acq: 1 May 2020 4:41

Tgt Ion: 84 Resp: 602

Ion	Ratio	Lower	Upper
84	100		
49	91.7	73.0	123.0

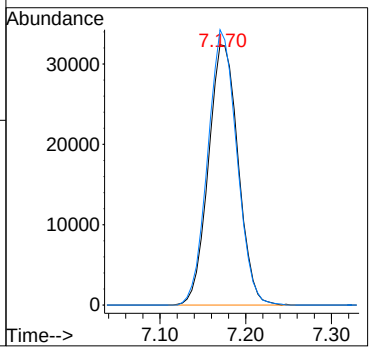


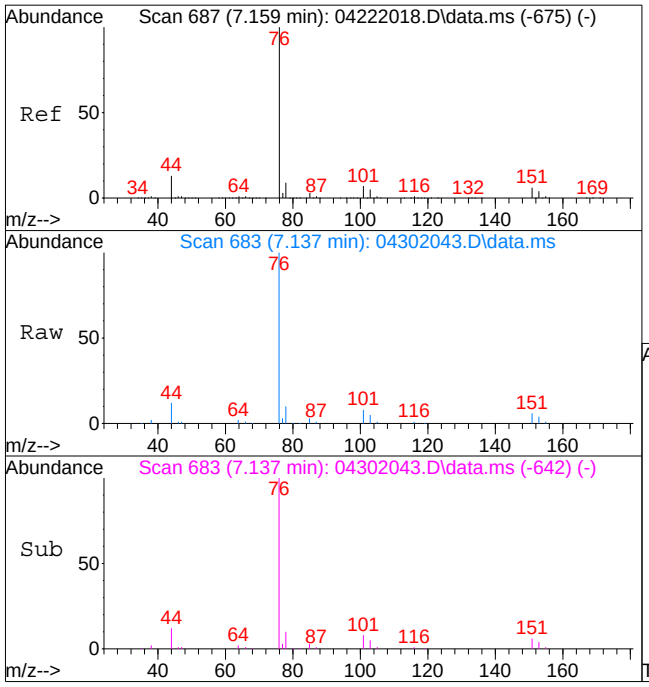


#21
Trichlorotrifluoroethane
Concen: 6.37 ng
RT: 7.17 min Scan# 689
Delta R.T. -0.022 min
Lab File: 04302043.D
Acq: 1 May 2020 4:41

Tgt Ion:151 Resp: 78082

Ion	Ratio	Lower	Upper
151	100		
101	103.3	82.9	122.9

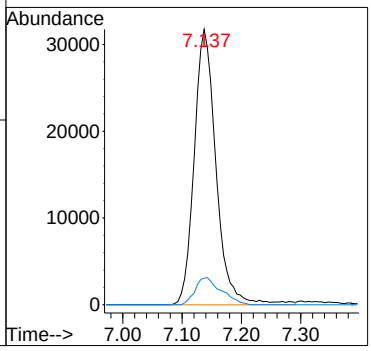


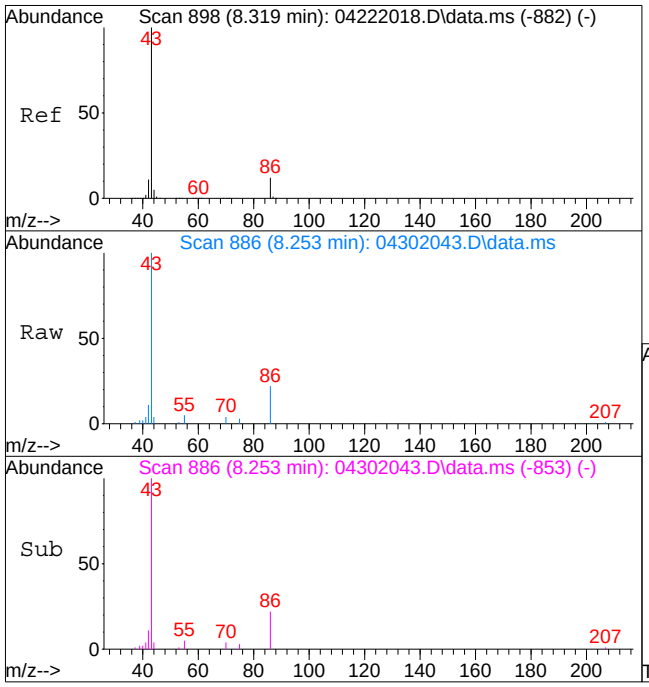


#22
Carbon Disulfide
Concen: 2.46 ng
RT: 7.14 min Scan# 683
Delta R.T. -0.022 min
Lab File: 04302043.D
Acq: 1 May 2020 4:41

Tgt Ion: 76 Resp: 81297

Ion	Ratio	Lower	Upper
76	100		
78	11.7	0.0	30.2

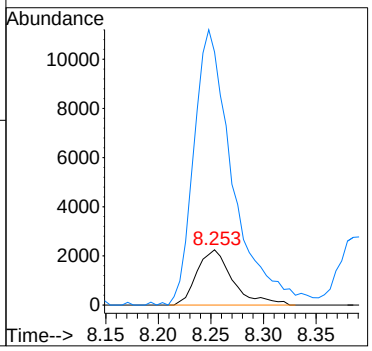


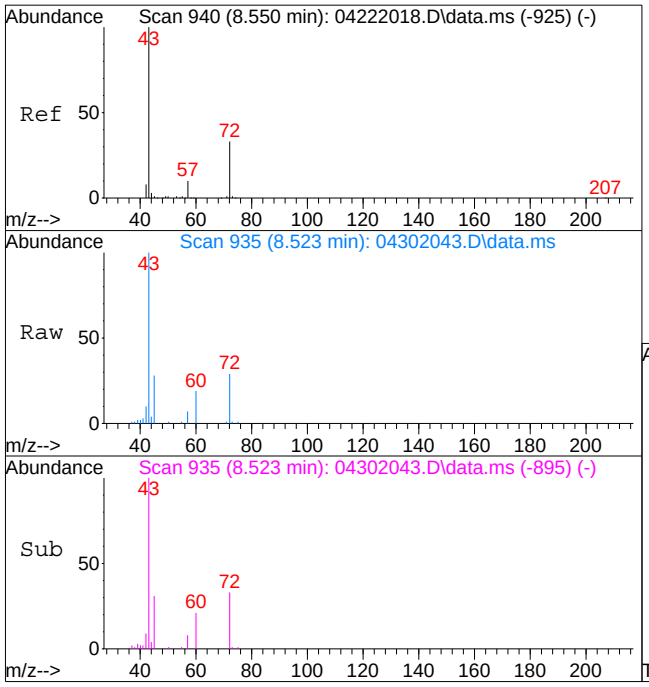


#26
Vinyl Acetate
Concen: 2.57 ng
RT: 8.25 min Scan# 886
Delta R.T. -0.066 min
Lab File: 04302043.D
Acq: 1 May 2020 4:41

Tgt Ion: 86 Resp: 5302

Ion	Ratio	Lower	Upper
86	100		
43	549.4	803.0	843.0#

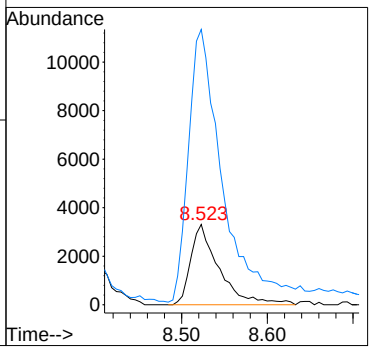


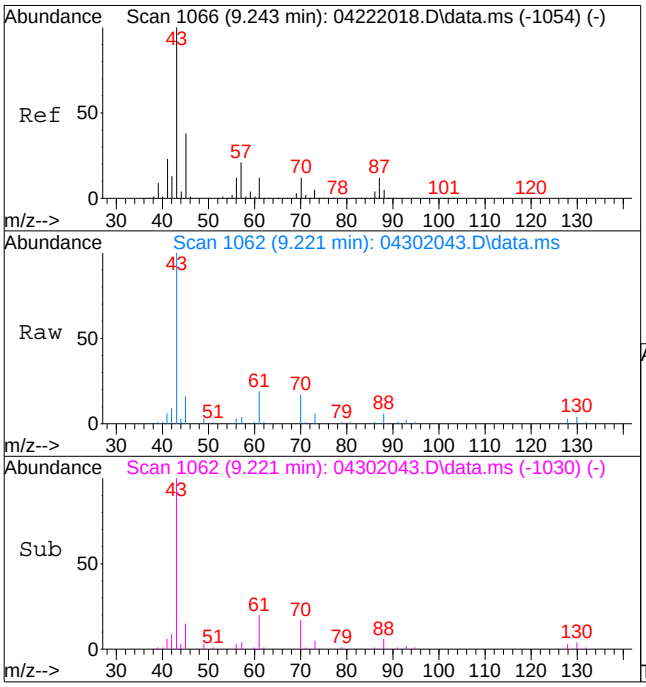


#27
2-Butanone (MEK)
Concen: 1.31 ng
RT: 8.52 min Scan# 935
Delta R.T. -0.028 min
Lab File: 04302043.D
Acq: 1 May 2020 4:41

Tgt Ion: 72 Resp: 7645

Ion	Ratio	Lower	Upper
72	100		
43	414.0	278.8	318.8#

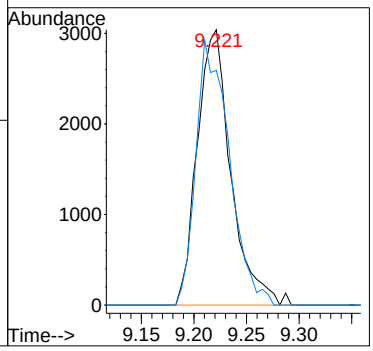


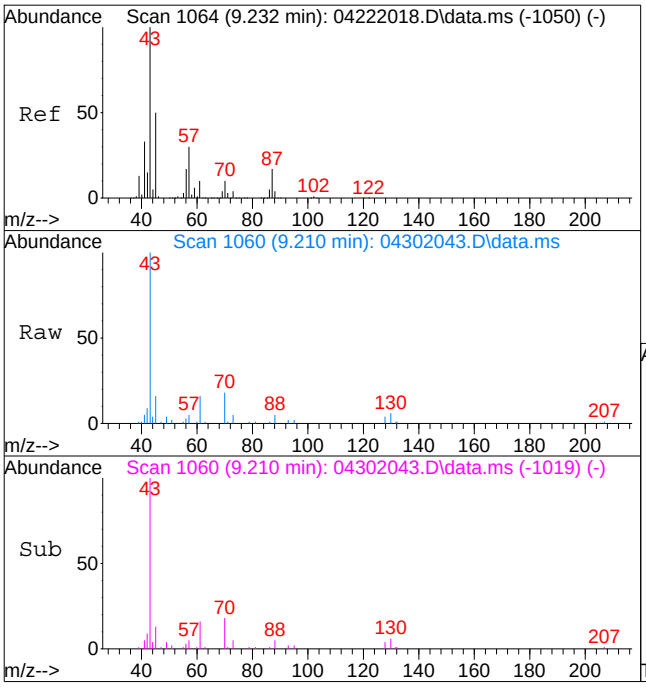


#30
Ethyl Acetate
Concen: 2.62 ng
RT: 9.22 min Scan# 1062
Delta R.T. -0.022 min
Lab File: 04302043.D
Acq: 1 May 2020 4:41

Tgt Ion: 61 Resp: 6771

Ion	Ratio	Lower	Upper
61	100		
70	95.3	80.6	120.6

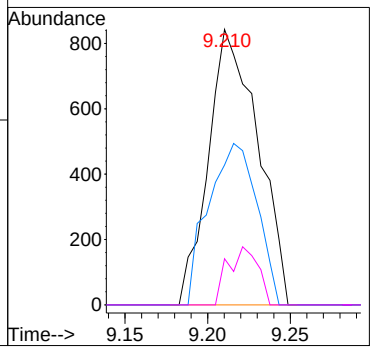


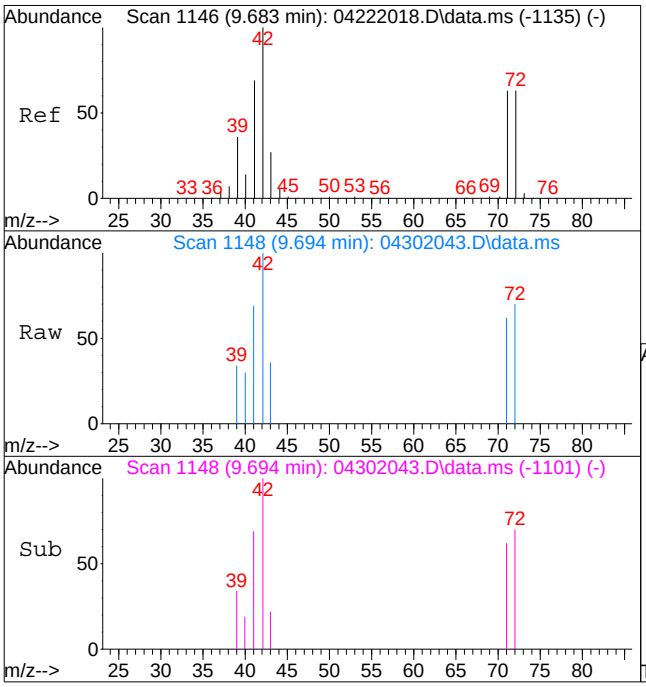


#31
n-Hexane
Concen: 0.14 ng
RT: 9.21 min Scan# 1060
Delta R.T. -0.022 min
Lab File: 04302043.D
Acq: 1 May 2020 4:41

Tgt Ion: 57 Resp: 1752

Ion	Ratio	Lower	Upper
57	100		
56	57.6	44.0	66.0
86	12.8	15.0	22.4#

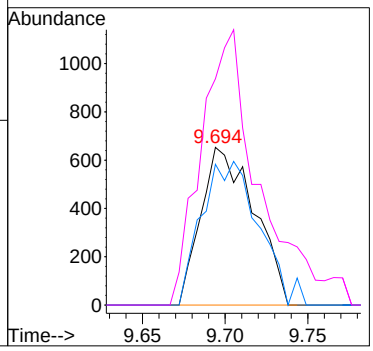


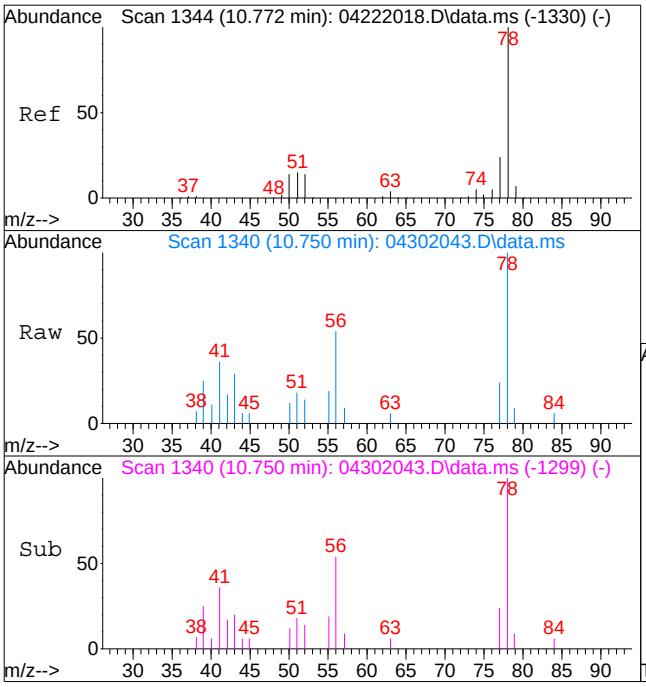


#34
Tetrahydrofuran (THF)
Concen: 0.25 ng
RT: 9.69 min Scan# 1148
Delta R.T. 0.011 min
Lab File: 04302043.D
Acq: 1 May 2020 4:41

Tgt Ion: 72 Resp: 1467

Ion	Ratio	Lower	Upper
72	100		
71	98.0	77.9	117.9
42	191.8	133.9	173.9#

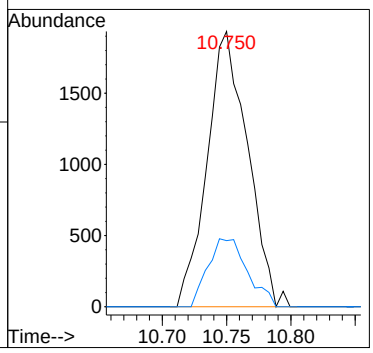


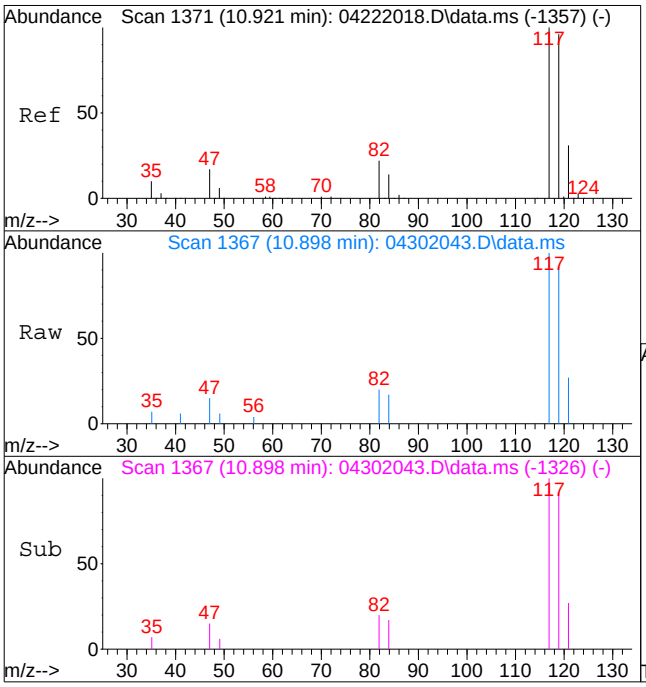


#41
Benzene
Concen: 0.11 ng
RT: 10.75 min Scan# 1340
Delta R.T. -0.022 min
Lab File: 04302043.D
Acq: 1 May 2020 4:41

Tgt Ion: 78 Resp: 4236

Ion	Ratio	Lower	Upper
78	100		
77	24.0	3.6	43.6

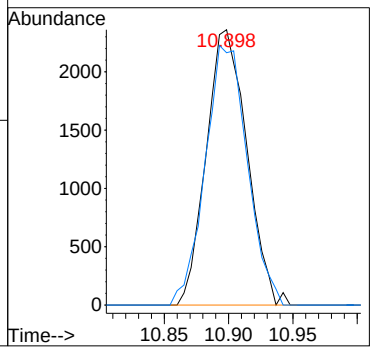


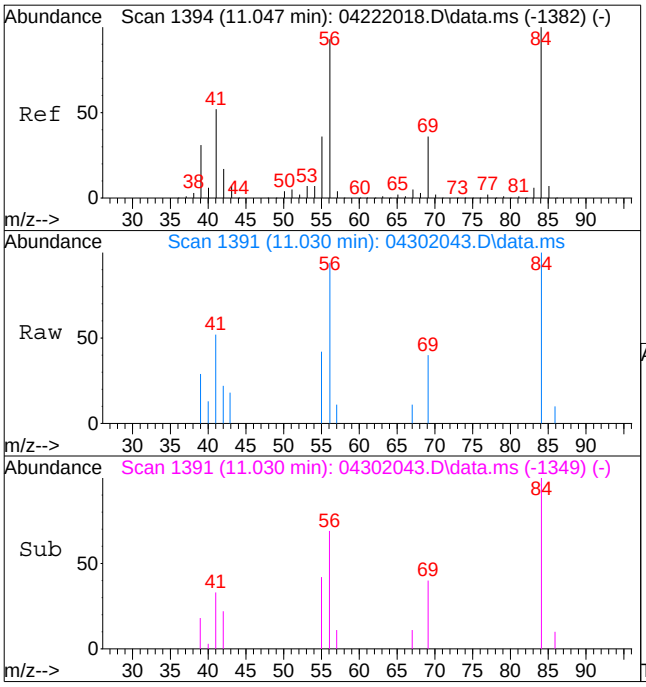


#42
Carbon Tetrachloride
Concen: 0.25 ng
RT: 10.90 min Scan# 1367
Delta R.T. -0.022 min
Lab File: 04302043.D
Acq: 1 May 2020 4:41

Tgt Ion:117 Resp: 5187

Ion	Ratio	Lower	Upper
117	100		
119	97.8	76.5	116.5

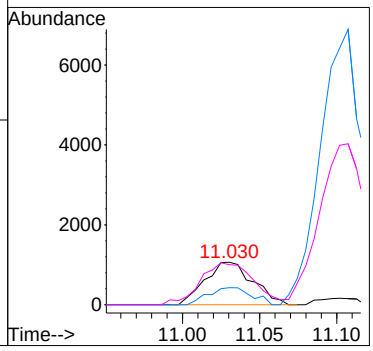


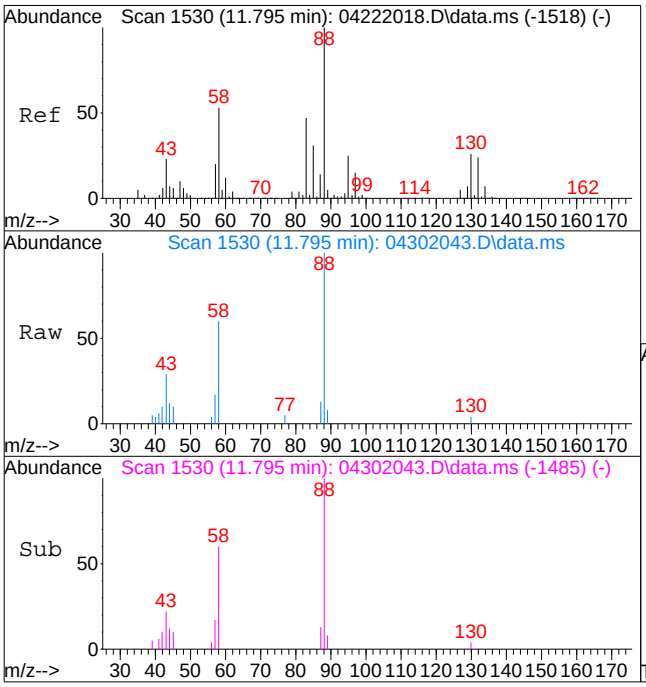


#43
Cyclohexane
Concen: 0.15 ng
RT: 11.03 min Scan# 1391
Delta R.T. -0.017 min
Lab File: 04302043.D
Acq: 1 May 2020 4:41

Tgt Ion: 84 Resp: 2296

Ion	Ratio	Lower	Upper
84	100		
69	36.3	15.8	55.8
56	109.1	72.0	112.0

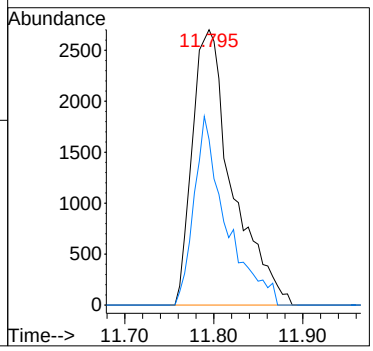


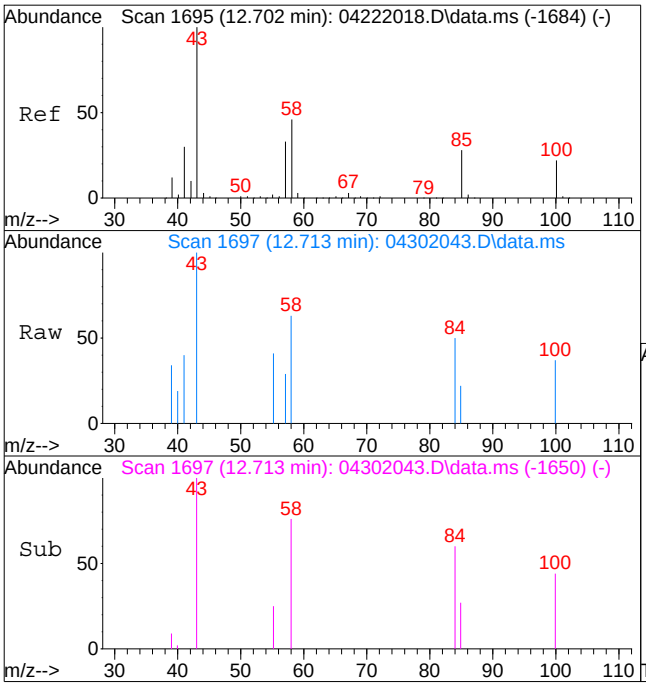


#48
1,4-Dioxane
Concen: 1.04 ng
RT: 11.79 min Scan# 1530
Delta R.T. -0.000 min
Lab File: 04302043.D
Acq: 1 May 2020 4:41

Tgt Ion: 88 Resp: 8412

Ion	Ratio	Lower	Upper
88	100		
58	54.8	31.1	71.1

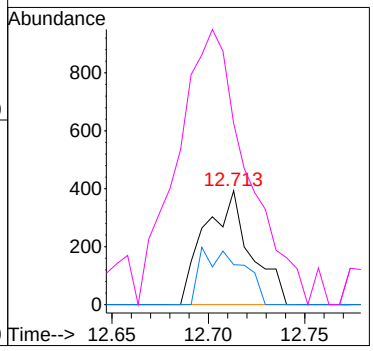


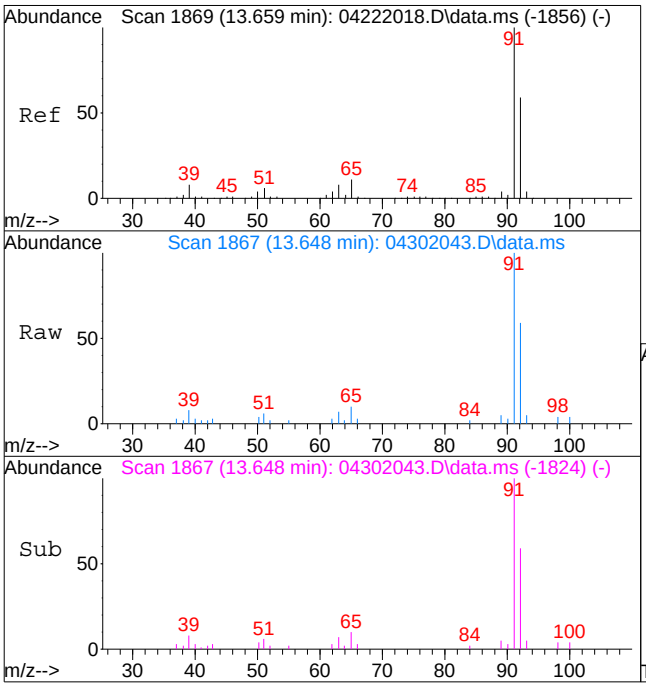


#53
4-Methyl-2-pentanone
Concen: 0.09 ng
RT: 12.71 min Scan# 1697
Delta R.T. 0.011 min
Lab File: 04302043.D
Acq: 1 May 2020 4:41

Tgt Ion: 58 Resp: 650

Ion	Ratio	Lower	Upper
58	100		
85	45.5	52.2	78.2#
43	374.0	176.2	264.4#

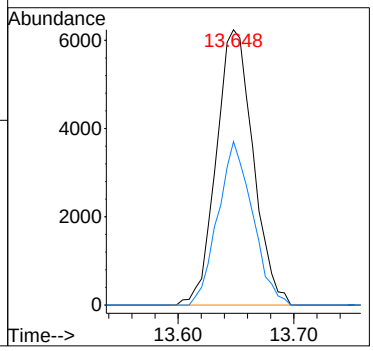


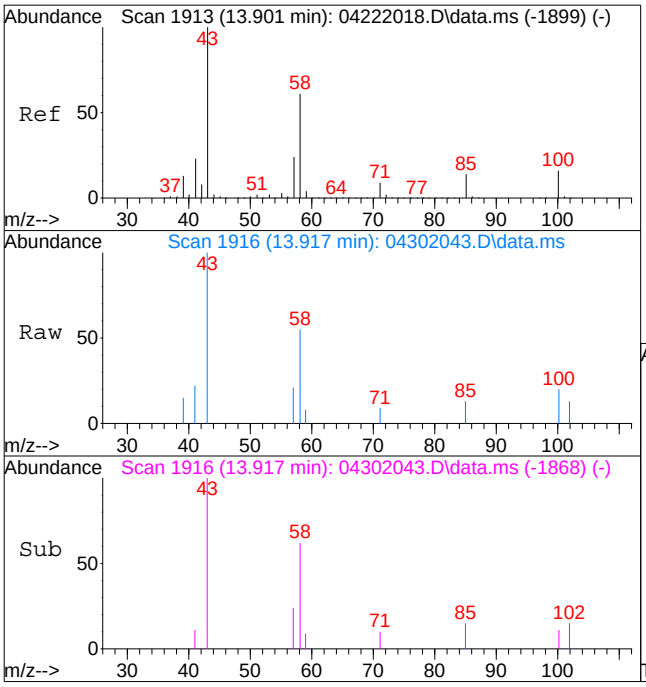


#58
Toluene
Concen: 0.31 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.011 min
Lab File: 04302043.D
Acq: 1 May 2020 4:41

Tgt Ion: 91 Resp: 13792

Ion	Ratio	Lower	Upper
91	100		
92	55.9	38.2	78.2

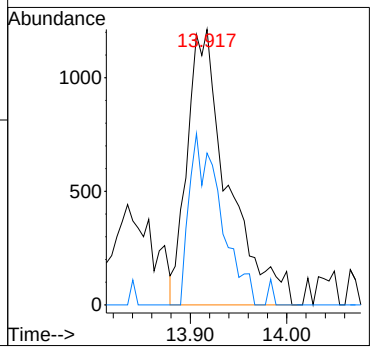


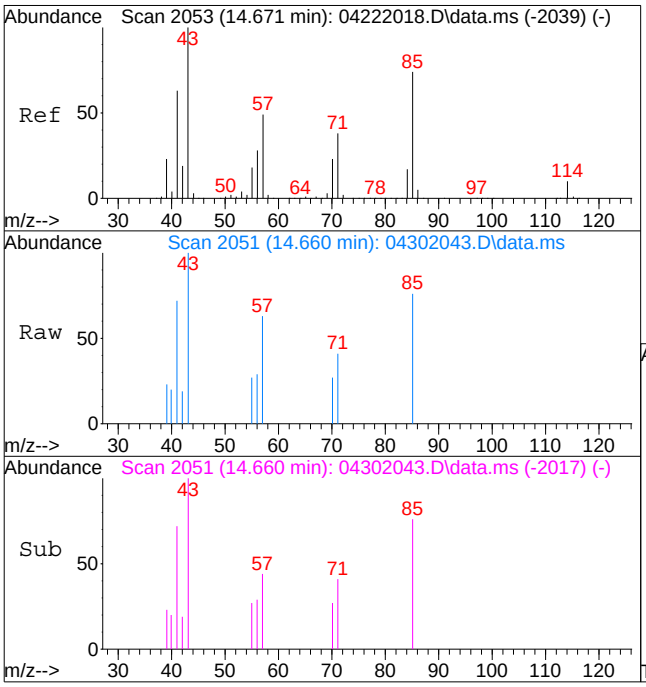


#59
2-Hexanone
Concen: 0.27 ng
RT: 13.92 min Scan# 1916
Delta R.T. 0.016 min
Lab File: 04302043.D
Acq: 1 May 2020 4:41

Tgt Ion: 43 Resp: 3558

Ion	Ratio	Lower	Upper
43	100		
58	48.0	41.1	81.1

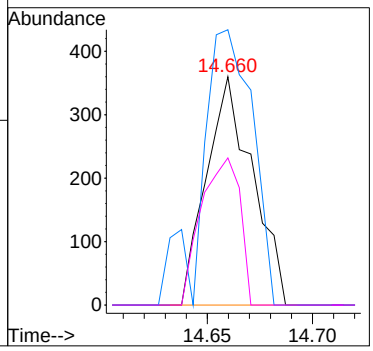


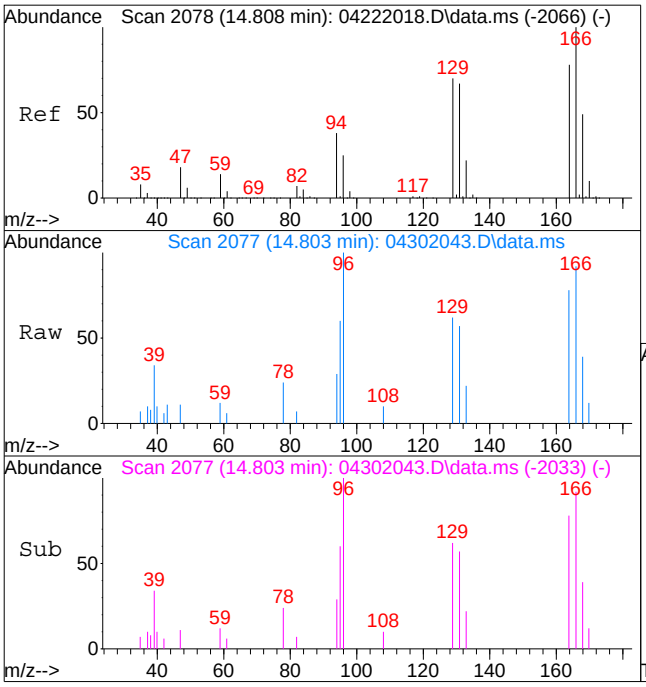


#63
n-Octane
Concen: 0.08 ng
RT: 14.66 min Scan# 2051
Delta R.T. -0.011 min
Lab File: 04302043.D
Acq: 1 May 2020 4:41

Tgt Ion: 57 Resp: 548

Ion	Ratio	Lower	Upper
57	100		
85	133.4	120.7	181.1
71	54.4	61.1	91.7#

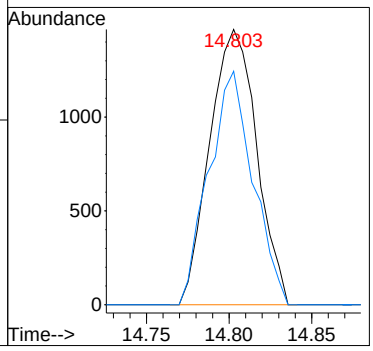


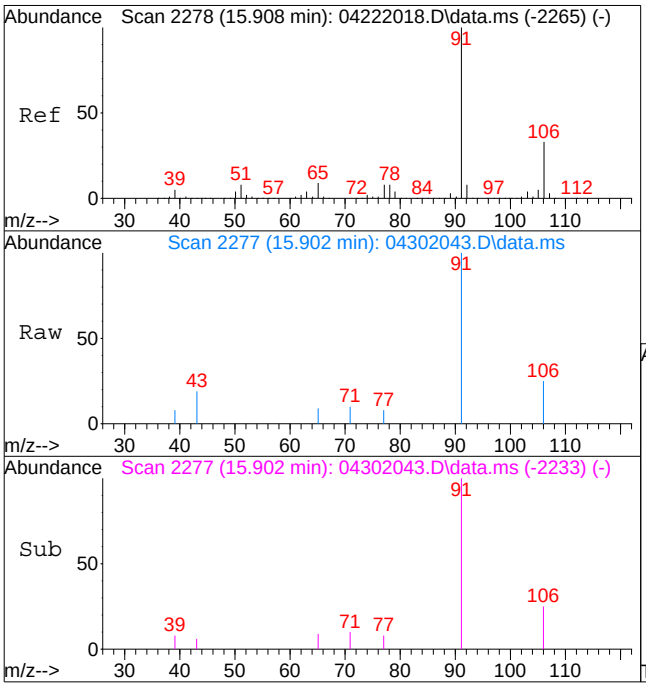


#64
Tetrachloroethene
Concen: 0.18 ng
RT: 14.80 min Scan# 2077
Delta R.T. -0.006 min
Lab File: 04302043.D
Acq: 1 May 2020 4:41

Tgt Ion:166 Resp: 2909

Ion	Ratio	Lower	Upper
166	100		
164	79.6	57.7	97.7

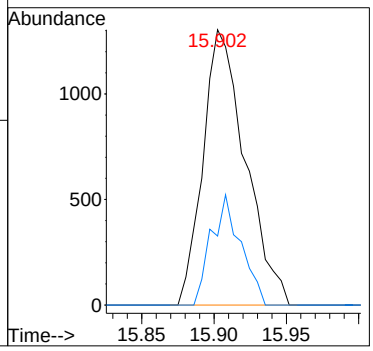


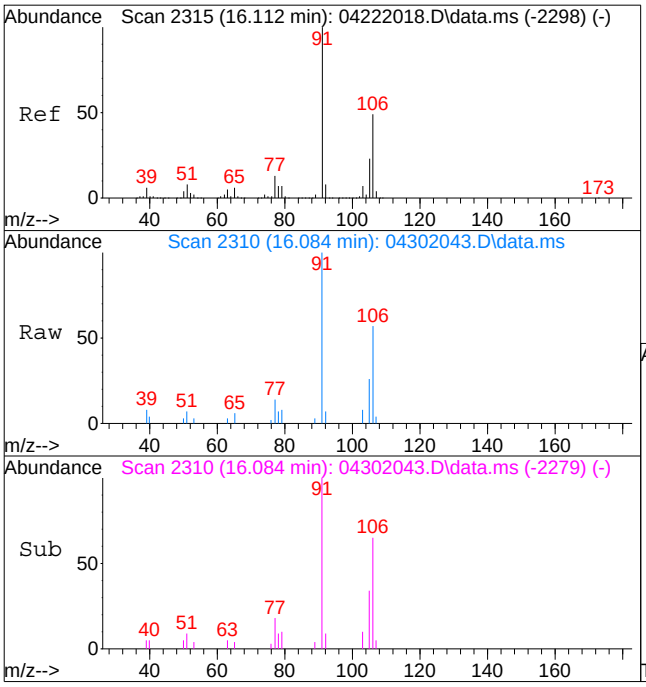


#66
Ethylbenzene
Concen: 0.05 ng
RT: 15.90 min Scan# 2277
Delta R.T. -0.006 min
Lab File: 04302043.D
Acq: 1 May 2020 4:41

Tgt Ion: 91 Resp: 2656

Ion	Ratio	Lower	Upper
91	100		
106	27.9	13.4	53.4

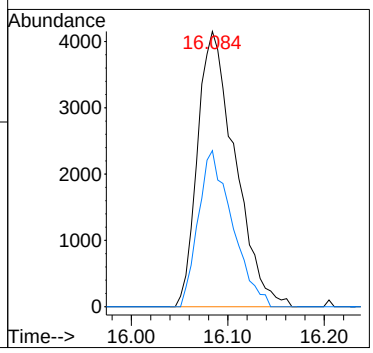


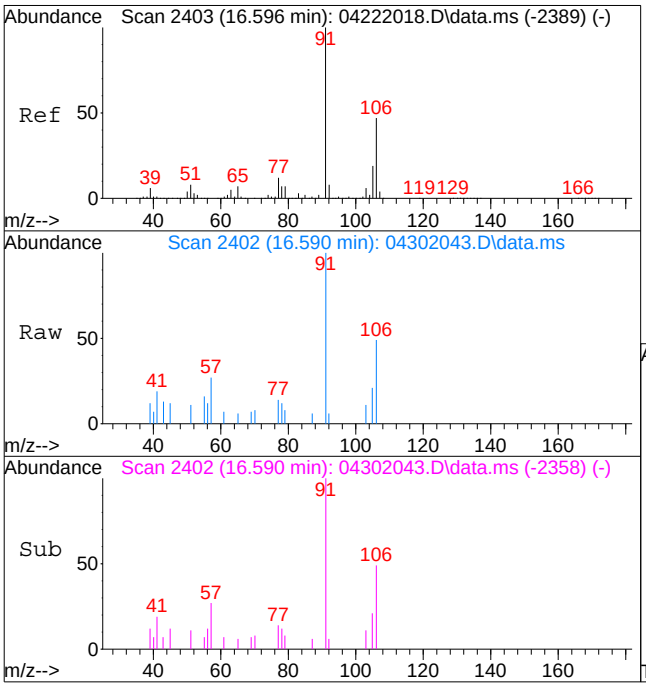


#67
m- & p-Xylenes
Concen: 0.26 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.028 min
Lab File: 04302043.D
Acq: 1 May 2020 4:41

Tgt Ion: 91 Resp: 11227

Ion	Ratio	Lower	Upper
91	100		
106	51.4	28.3	68.3

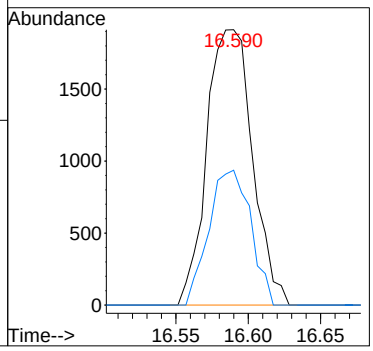


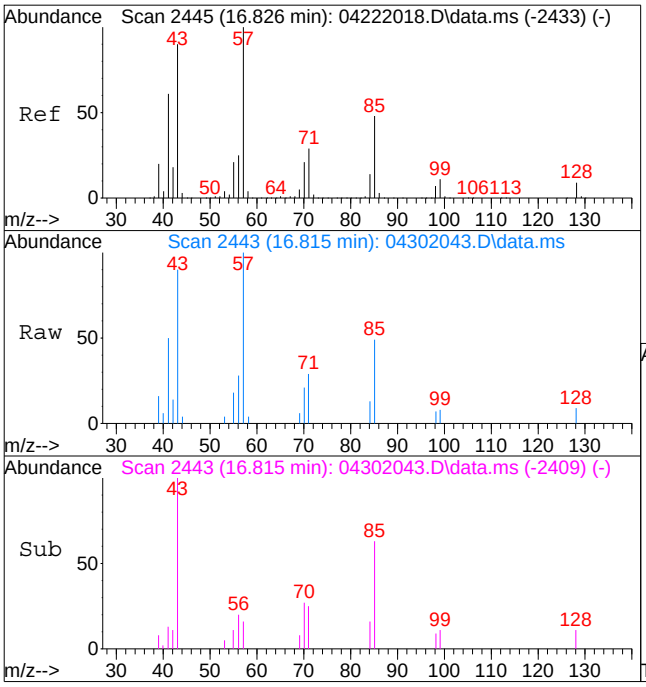


#70
o-Xylene
Concen: 0.10 ng
RT: 16.59 min Scan# 2402
Delta R.T. -0.006 min
Lab File: 04302043.D
Acq: 1 May 2020 4:41

Tgt Ion: 91 Resp: 4208

Ion	Ratio	Lower	Upper
91	100		
106	44.9	27.5	67.5

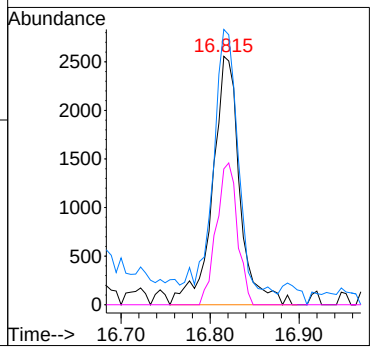


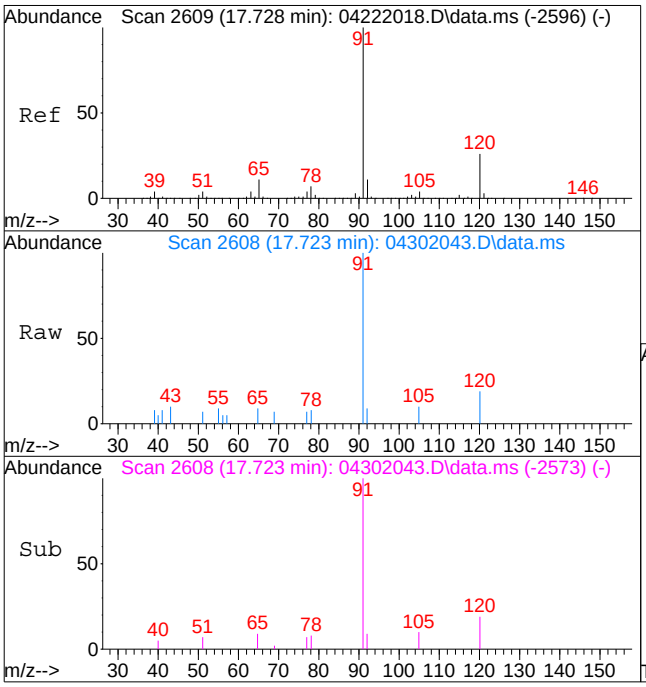


#71
n-Nonane
Concen: 0.40 ng
RT: 16.82 min Scan# 2443
Delta R.T. -0.011 min
Lab File: 04302043.D
Acq: 1 May 2020 4:41

Tgt Ion: 43 Resp: 5422

Ion	Ratio	Lower	Upper
43	100		
57	97.6	90.8	130.8
85	44.2	32.1	72.1

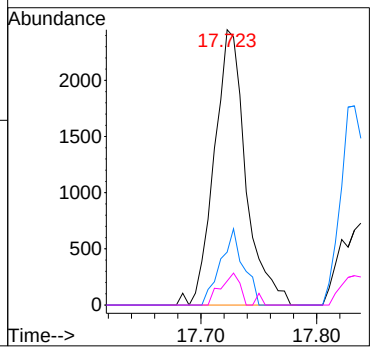


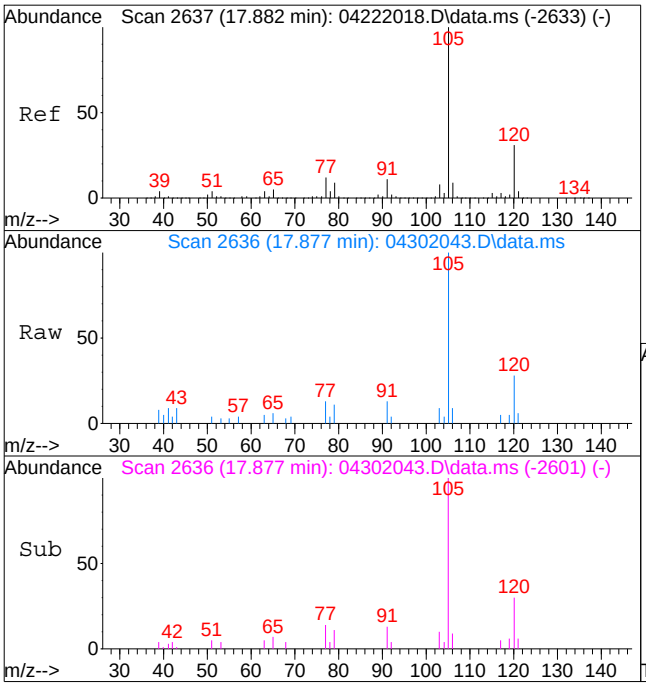


#76
n-Propylbenzene
Concen: 0.08 ng
RT: 17.72 min Scan# 2608
Delta R.T. -0.006 min
Lab File: 04302043.D
Acq: 1 May 2020 4:41

Tgt Ion: 91 Resp: 4647

Ion	Ratio	Lower	Upper
91	100		
120	20.2	6.1	46.1
65	7.0	0.0	30.7

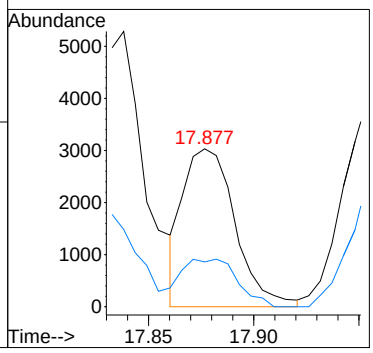


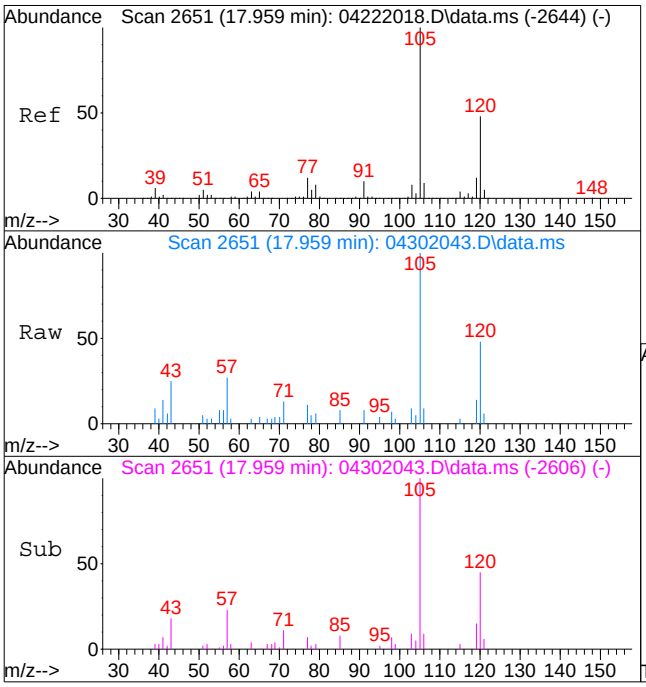


#78
4-Ethyltoluene
Concen: 0.10 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 04302043.D
Acq: 1 May 2020 4:41

Tgt Ion:105 Resp: 5228

Ion	Ratio	Lower	Upper
105	100		
120	33.9	11.4	51.4

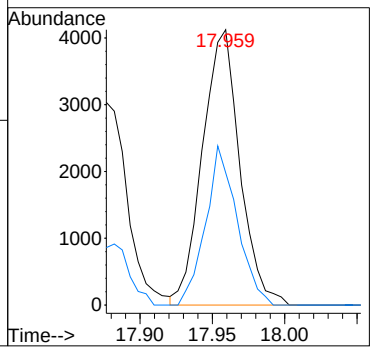


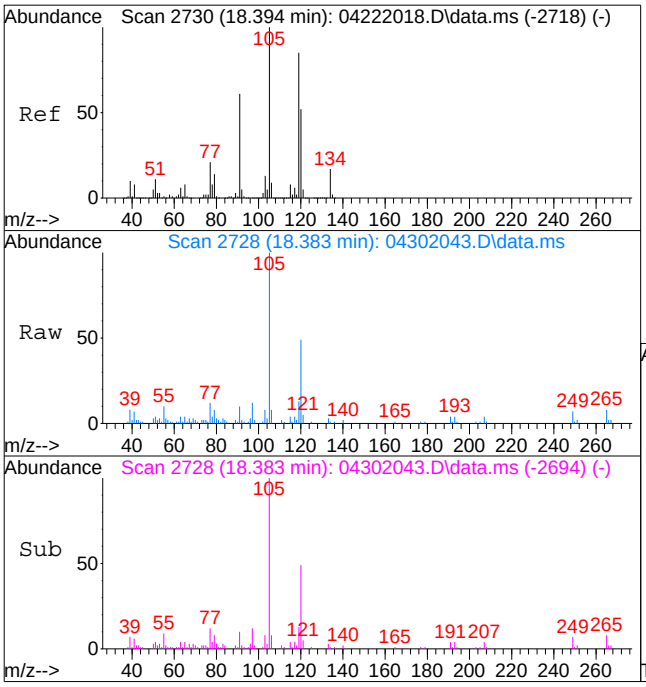


#79
1,3,5-Trimethylbenzene
Concen: 0.15 ng
RT: 17.96 min Scan# 2651
Delta R.T. -0.000 min
Lab File: 04302043.D
Acq: 1 May 2020 4:41

Tgt Ion:105 Resp: 7395

Ion	Ratio	Lower	Upper
105	100		
120	48.8	29.5	69.5

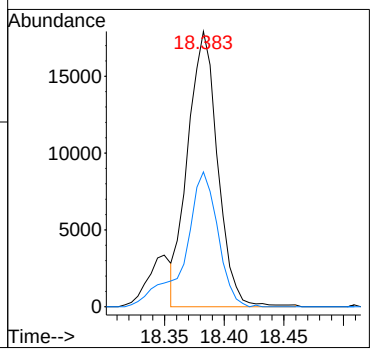


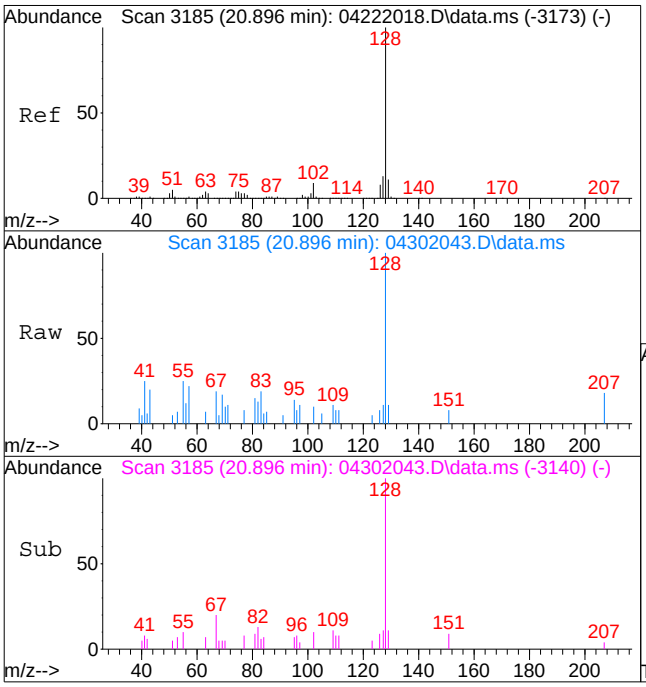


#82
1,2,4-Trimethylbenzene
Concen: 0.67 ng m
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 04302043.D
Acq: 1 May 2020 4:41

Tgt Ion:105 Resp: 31250

Ion	Ratio	Lower	Upper
105	100		
120	54.1	34.5	74.5

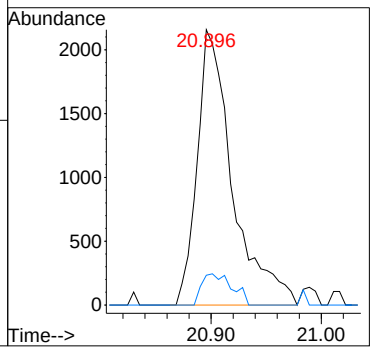




#95
Naphthalene
Concen: 0.08 ng
RT: 20.90 min Scan# 3185
Delta R.T. -0.000 min
Lab File: 04302043.D
Acq: 1 May 2020 4:41

Tgt Ion:128 Resp: 4788

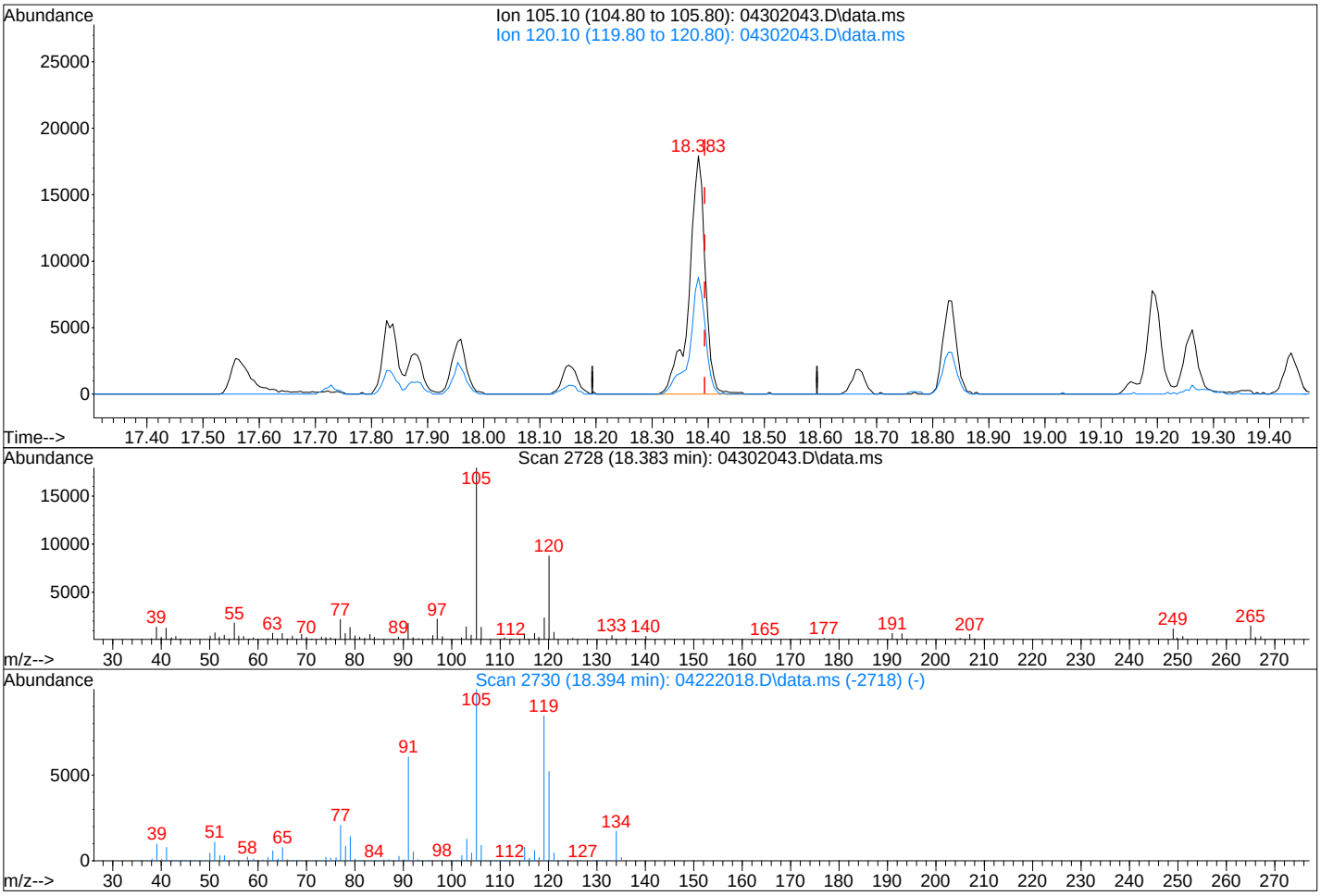
Ion	Ratio	Lower	Upper
128	100		
129	9.8	0.0	30.9



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\30\04302043.D Vial: 8
Acq On : 1 May 2020 4:41 Operator: SC
Sample : P2002103-002 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 06:24:07 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04302043.D\data.ms

(82) 1,2,4-Trimethylbenzene (T)

18.383min (-0.011) 0.76ng

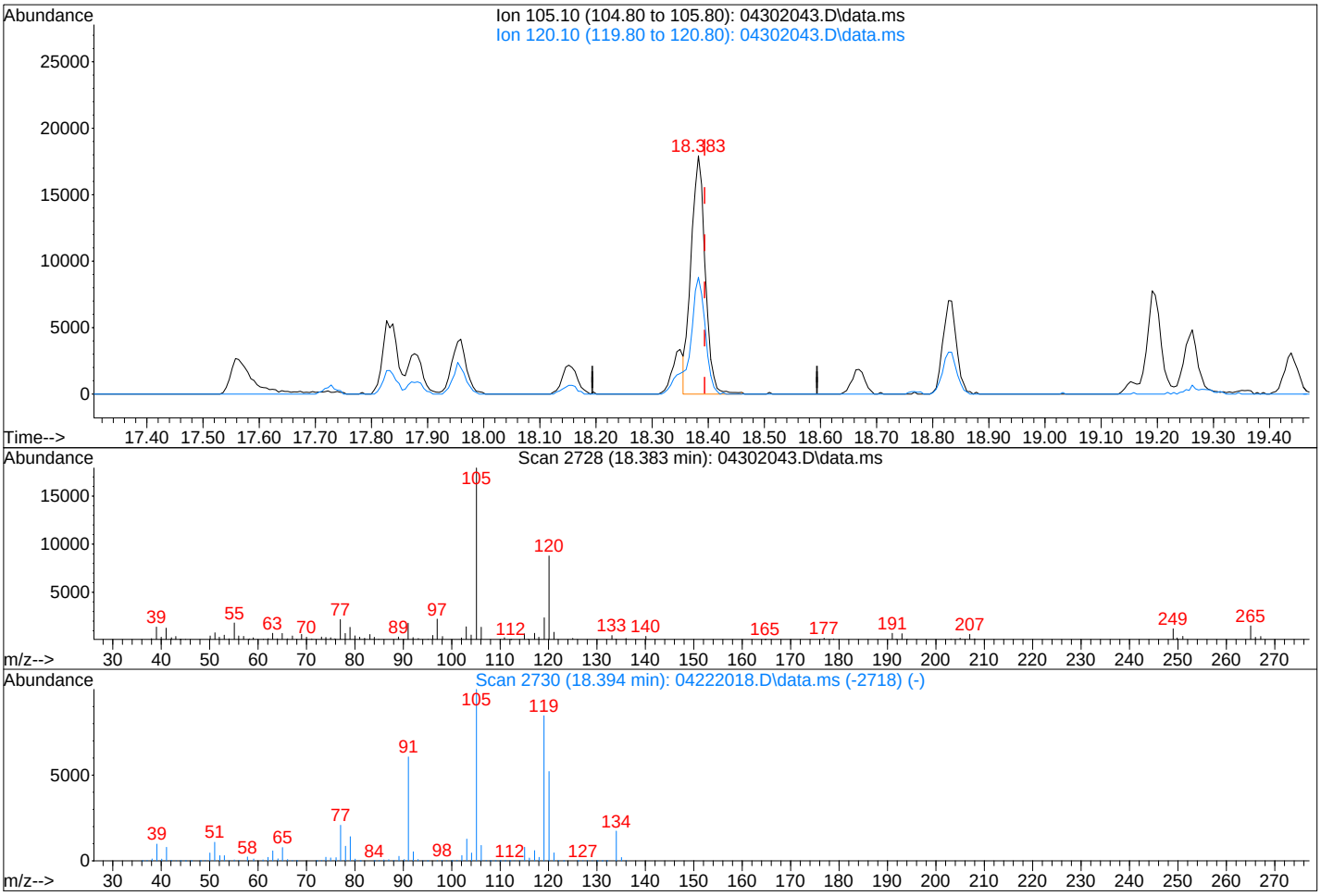
response 35898

Ion	Exp%	Act%
105.10	100	100
120.10	54.50	47.07
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\30\04302043.D Vial: 8
Acq On : 1 May 2020 4:41 Operator: SC
Sample : P2002103-002 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 06:24:07 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04302043.D\data.ms

(82) 1,2,4-Trimethylbenzene (T)

18.383min (-0.011) 0.67ng m

response 31250

Ion	Exp%	Act%
105.10	100	100
120.10	54.50	54.07
0.00	0.00	0.00
0.00	0.00	0.00

IPC

5/1/20

5/4/20

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302044.D Vial: 9
Acq On : 1 May 2020 5:15 Operator: SC
Sample : P2002103-003 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 14:45:44 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/1/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	144243	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	613214	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	268854	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	216740	11.598	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.80%				
57) Toluene-d8 (SS2)	13.54	98	668256	12.873	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.96%				
73) Bromofluorobenzene (SS3)	17.05	174	260176	12.471	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.76%				
Target Compounds							Qvalue
2) Propene	3.87	42	5260	0.859	ng		90
3) Dichlorodifluoromethan...	3.96	85	308838	13.268	ng		99
4) Chloromethane	0.00	50	0	N.D.	d		
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	188	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.36	45	3749	0.808	ng		76
11) Acetonitrile	5.60	41	277	N.D.			
12) Acrolein	5.72	56	136	N.D.			
13) Acetone	5.86	58	10389	1.865	ng	#	84
14) Trichlorofluoromethane	6.03	101	22609	0.976	ng		100
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.	d		
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	6.89	59	199	N.D.			
19) Methylene Chloride	6.86	84	272	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	7.18	151	303645	25.193	ng		100
22) Carbon Disulfide	0.00	76	0	N.D.	d		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	8.23	73	421	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	8.56	72	933	0.163	ng	#	54
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	9.28	87	240	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	9.22	57	255	N.D.			
32) Chloroform	9.28	83	3152	0.159	ng		99
34) Tetrahydrofuran (THF)	9.70	72	5101	0.880	ng		97
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	10.28	97	772	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.76	78	9765	0.244	ng		99
42) Carbon Tetrachloride	10.90	117	87658	4.241	ng		100
43) Cyclohexane	11.03	84	253	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	11.81	130	783348	56.583	ng		99
48) 1,4-Dioxane	0.00	88	0	N.D.	d		
49) 2,2,4-Trimethylpentane...	11.87	57	1348	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302044.D Vial: 9
Acq On : 1 May 2020 5:15 Operator: SC
Sample : P2002103-003 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 14:45:44 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.12	71	305	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.65	91	13443	0.308 ng	100
59) 2-Hexanone	13.86	43	235	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.66	57	348	0.050 ng	90
64) Tetrachloroethene	14.80	166	70828	4.314 ng	100
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.91	91	3073	0.061 ng	92
67) m- & p-Xylenes	16.08	91	15595	0.364 ng	99
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.58	91	5534	0.132 ng	100
71) n-Nonane	16.82	43	3516	0.259 ng	92
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	17.20	105	900	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.72	91	3640	0.061 ng	94
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	5224	0.100 ng	98
79) 1,3,5-Trimethylbenzene	17.96	105	6327	0.131 ng	95
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	25541	0.548 ng	91
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.62	91	461	N.D.	
85) 1,3-Dichlorobenzene	18.54	146	193	N.D.	
86) 1,4-Dichlorobenzene	18.62	146	349	N.D.	
87) sec-Butylbenzene	18.66	105	1904	N.D.	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	18.99	68	313	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	20.79	180	118	N.D.	
95) Naphthalene	20.91	128	3661	0.061 ng	99
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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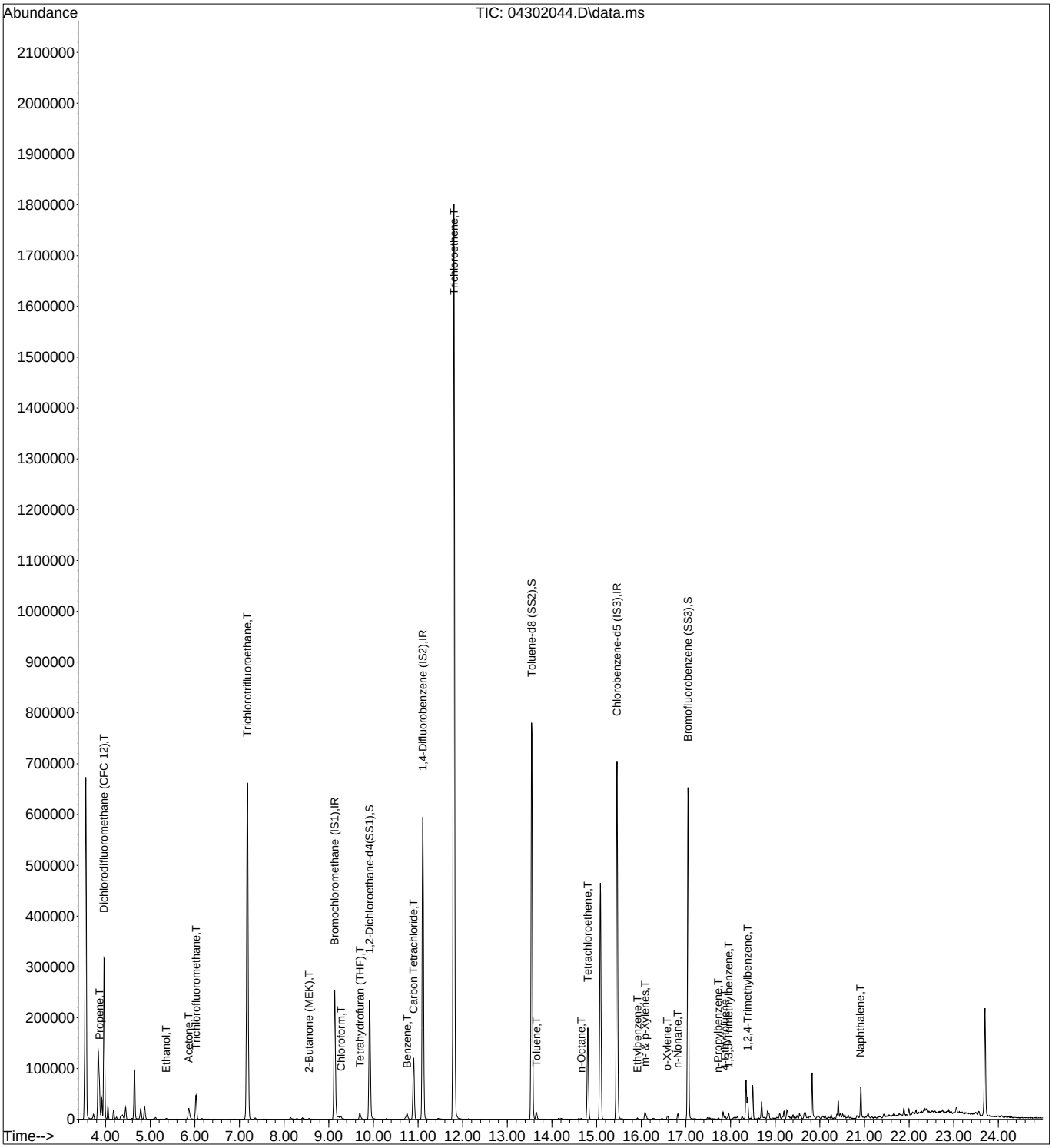
Acq On : 1 May 2020 5:15 Operator: SC
Sample : P2002103-003 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 14:45:44 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302044.D Vial: 9
Acq On : 1 May 2020 5:15 Operator: SC
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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/1/20

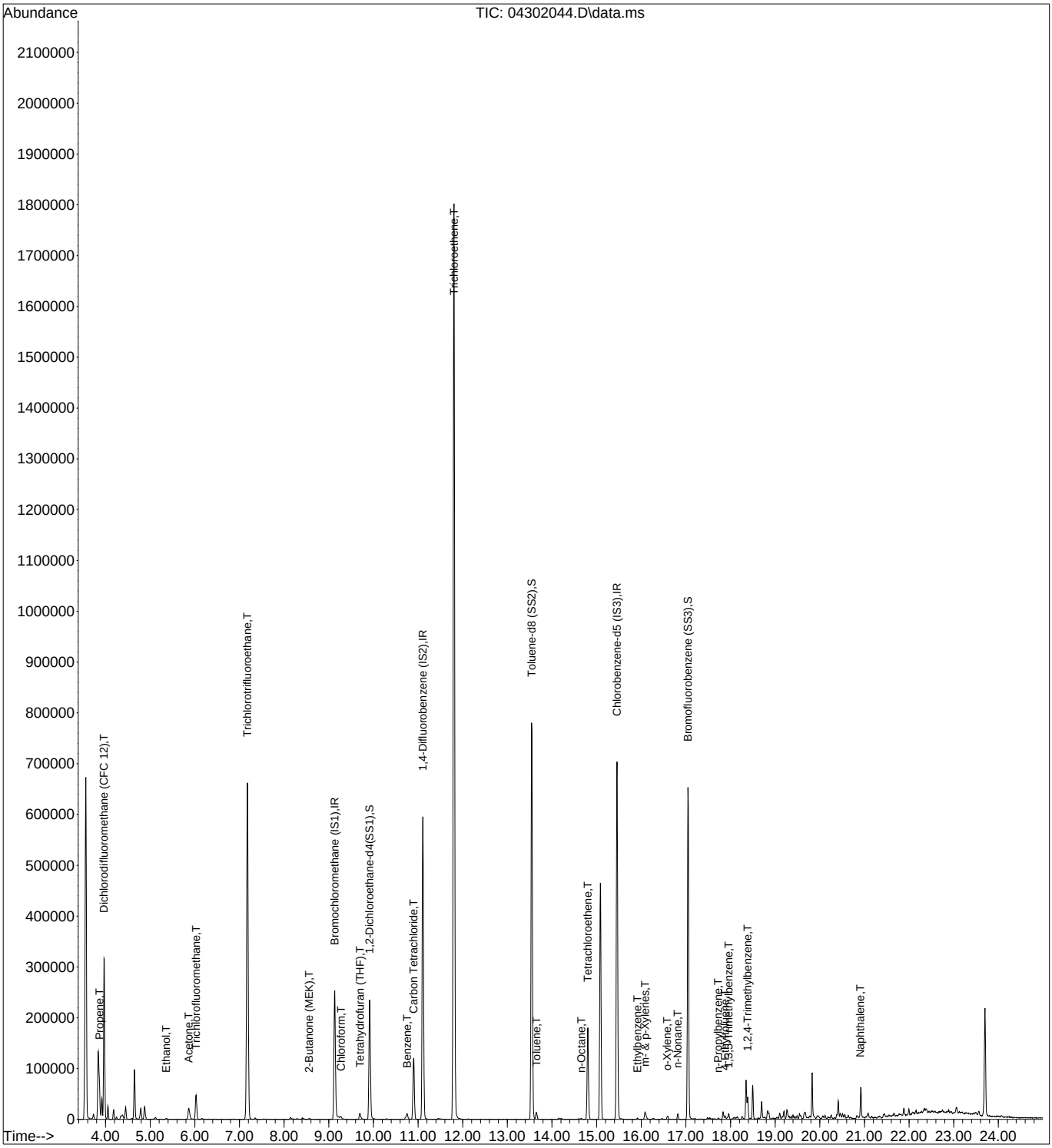
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	144243	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	613214	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	268854	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	216740	11.598	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.80%				
57) Toluene-d8 (SS2)	13.54	98	668256	12.873	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.96%				
73) Bromofluorobenzene (SS3)	17.05	174	260176	12.471	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.76%				
Target Compounds							Qvalue
2) Propene	3.87	42	5260	0.859	ng		90
3) Dichlorodifluoromethan...	3.96	85	308838	13.268	ng		99
10) Ethanol	5.36	45	3749	0.808	ng		76
13) Acetone	5.86	58	10389	1.865	ng	#	84
14) Trichlorofluoromethane	6.03	101	22609	0.976	ng		100
21) Trichlorotrifluoroethane	7.18	151	303645	25.193	ng		100
27) 2-Butanone (MEK)	8.56	72	933	0.163	ng	#	54
32) Chloroform	9.28	83	3152	0.159	ng		99
34) Tetrahydrofuran (THF)	9.70	72	5101	0.880	ng		97
41) Benzene	10.76	78	9765	0.244	ng		99
42) Carbon Tetrachloride	10.90	117	87658	4.241	ng		100
47) Trichloroethene	11.81	130	783348	56.583	ng		99
58) Toluene	13.65	91	13443	0.308	ng		100
63) n-Octane	14.66	57	348	0.050	ng		90
64) Tetrachloroethene	14.80	166	70828	4.314	ng		100
66) Ethylbenzene	15.91	91	3073	0.061	ng		92
67) m- & p-Xylenes	16.08	91	15595	0.364	ng		99
70) o-Xylene	16.58	91	5534	0.132	ng		100
71) n-Nonane	16.82	43	3516	0.259	ng		92
76) n-Propylbenzene	17.72	91	3640	0.061	ng		94
78) 4-Ethyltoluene	17.88	105	5224	0.100	ng		98
79) 1,3,5-Trimethylbenzene	17.96	105	6327	0.131	ng		95
82) 1,2,4-Trimethylbenzene	18.38	105	25541	0.548	ng		91
95) Naphthalene	20.91	128	3661	0.061	ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

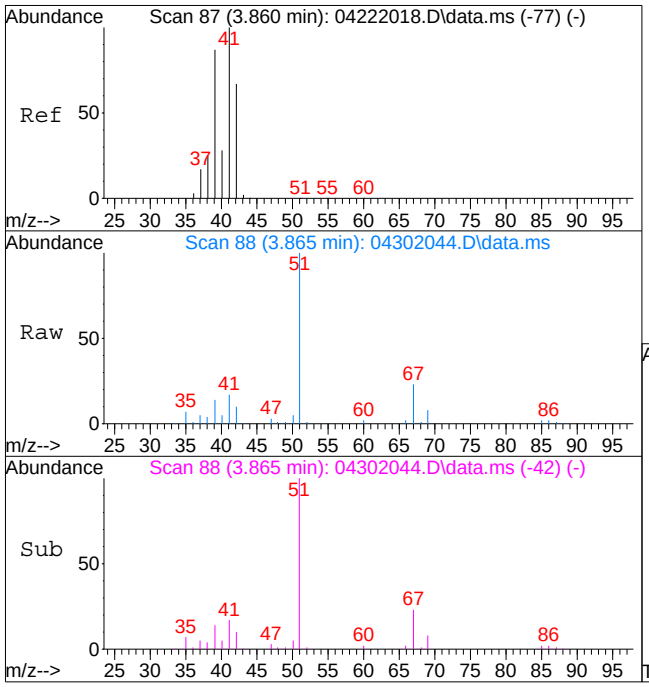
Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302044.D Vial: 9
Acq On : 1 May 2020 5:15 Operator: SC
Sample : P2002103-003 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 14:45:44 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



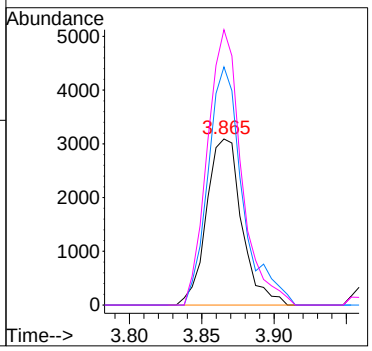
R9042220.M Fri May 01 14:45:57 2020 Page: 2

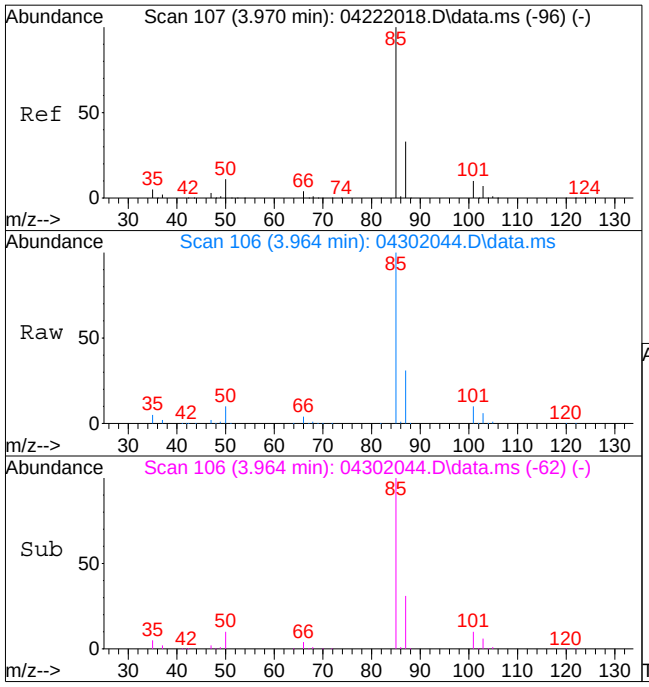


#2
Propene
Concen: 0.86 ng
RT: 3.87 min Scan# 88
Delta R.T. 0.006 min
Lab File: 04302044.D
Acq: 1 May 2020 5:15

Tgt Ion: 42 Resp: 5260

Ion	Ratio	Lower	Upper
42	100		
39	140.5	106.4	146.4
41	159.9	128.8	168.8

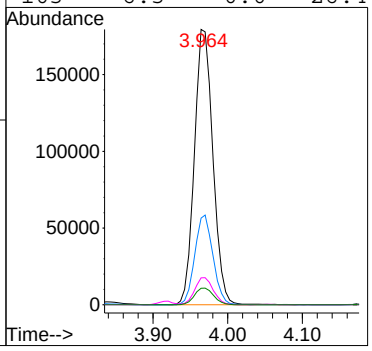


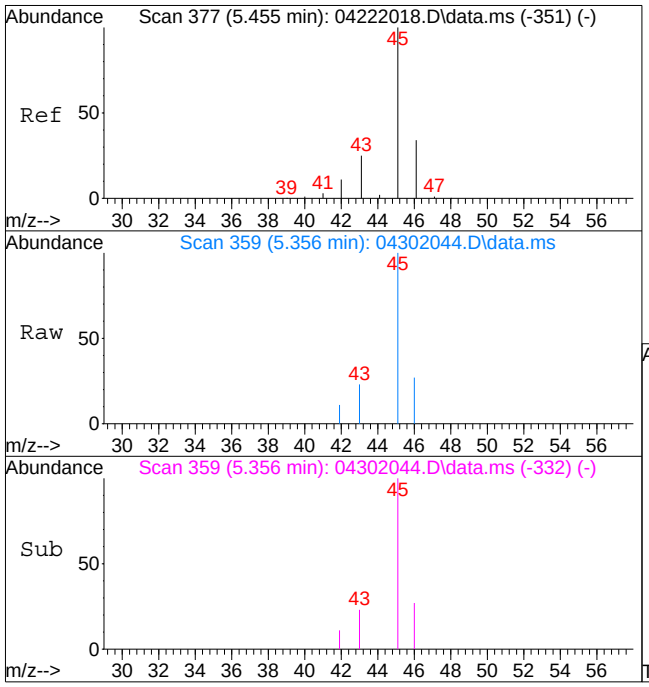


#3
Dichlorodifluoromethane (CFC 12)
Concen: 13.27 ng
RT: 3.96 min Scan# 106
Delta R.T. -0.006 min
Lab File: 04302044.D
Acq: 1 May 2020 5:15

Tgt Ion: 85 Resp: 308838

Ion	Ratio	Lower	Upper
85	100		
87	31.9	12.4	52.4
101	9.8	0.0	29.9
103	6.3	0.0	26.4

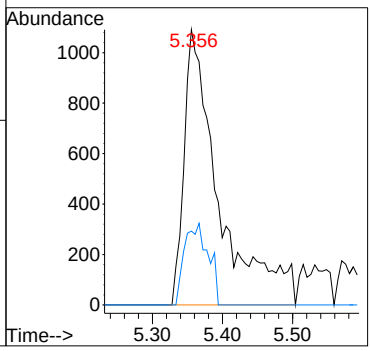


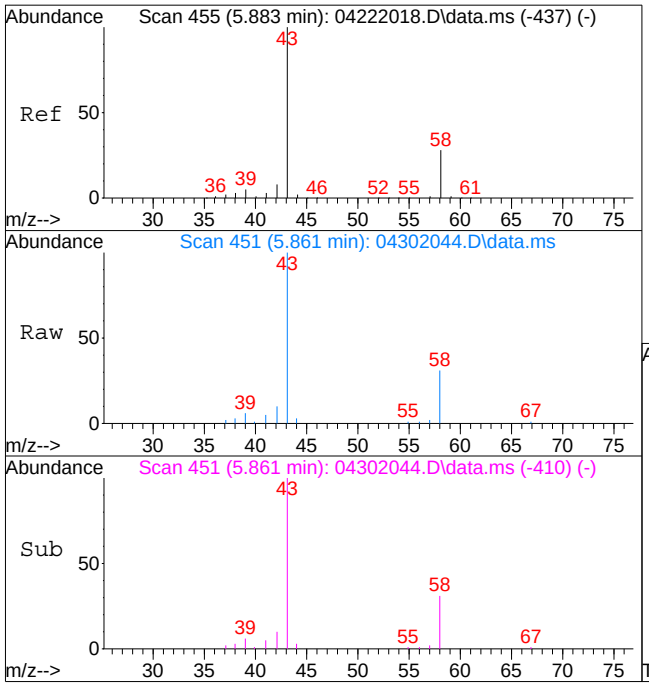


#10
Ethanol
Concen: 0.81 ng
RT: 5.36 min Scan# 359
Delta R.T. -0.099 min
Lab File: 04302044.D
Acq: 1 May 2020 5:15

Tgt Ion: 45 Resp: 3749

Ion	Ratio	Lower	Upper
45	100		
46	20.3	14.0	54.0

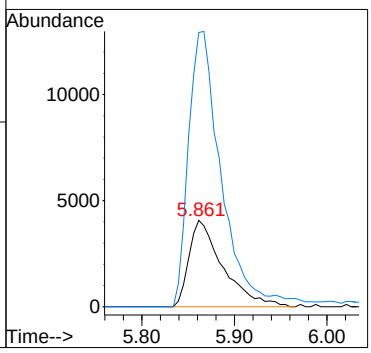


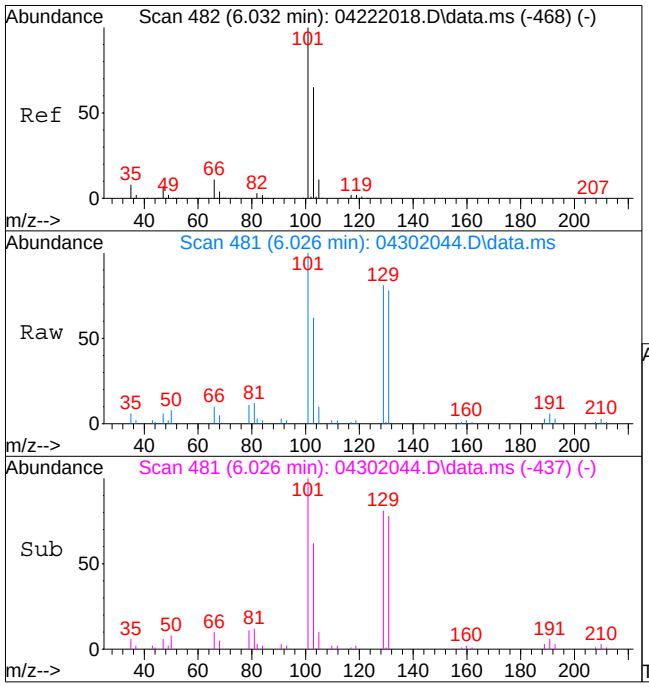


#13
Acetone
Concen: 1.86 ng
RT: 5.86 min Scan# 451
Delta R.T. -0.022 min
Lab File: 04302044.D
Acq: 1 May 2020 5:15

Tgt Ion: 58 Resp: 10389

Ion	Ratio	Lower	Upper
58	100		
43	313.9	319.3	379.3#

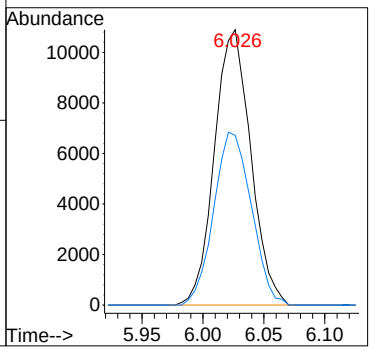


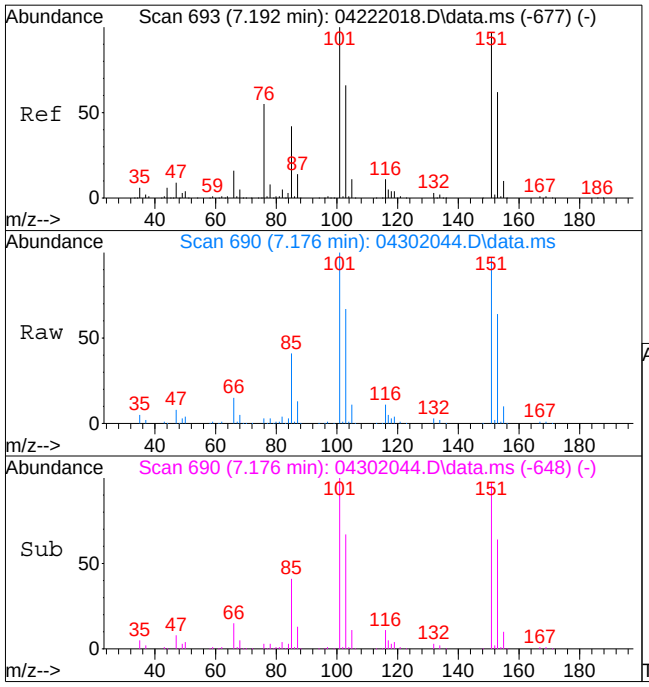


#14
Trichlorofluoromethane
Concen: 0.98 ng
RT: 6.03 min Scan# 481
Delta R.T. -0.006 min
Lab File: 04302044.D
Acq: 1 May 2020 5:15

Tgt Ion:101 Resp: 22609

Ion	Ratio	Lower	Upper
101	100		
103	65.0	44.7	84.7

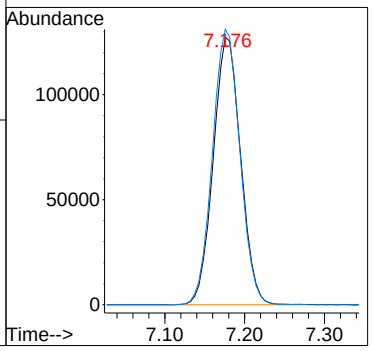


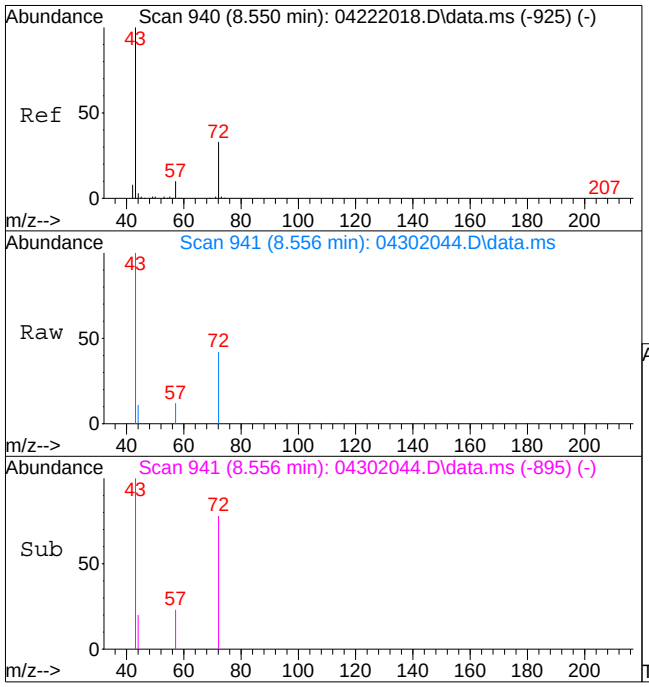


#21
Trichlorotrifluoroethane
Concen: 25.19 ng
RT: 7.18 min Scan# 690
Delta R.T. -0.016 min
Lab File: 04302044.D
Acq: 1 May 2020 5:15

Tgt Ion:151 Resp: 303645

Ion	Ratio	Lower	Upper
151	100		
101	103.3	82.9	122.9

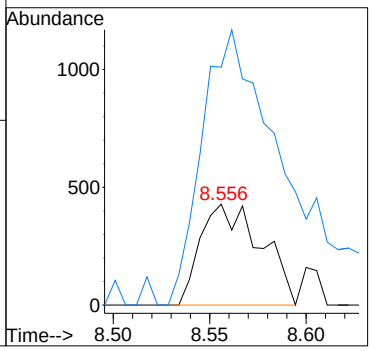


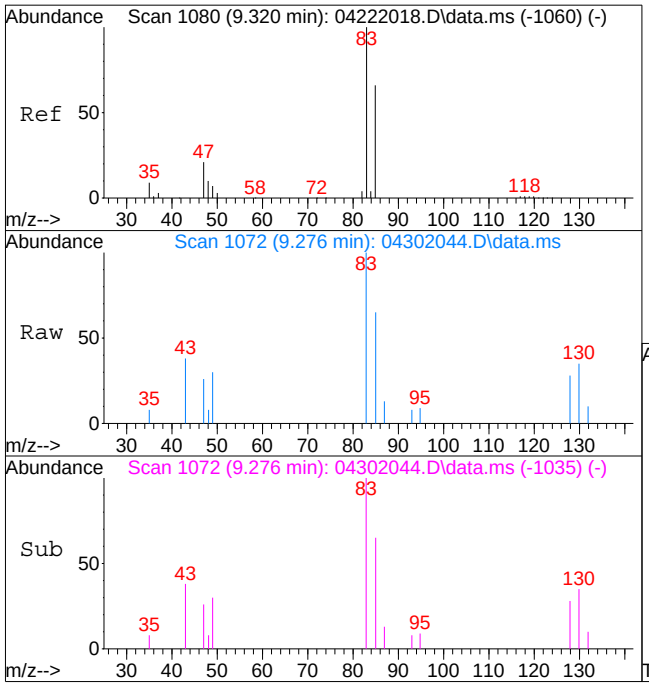


#27
2-Butanone (MEK)
Concen: 0.16 ng
RT: 8.56 min Scan# 941
Delta R.T. 0.005 min
Lab File: 04302044.D
Acq: 1 May 2020 5:15

Tgt Ion: 72 Resp: 933

Ion	Ratio	Lower	Upper
72	100		
43	389.0	278.8	318.8#

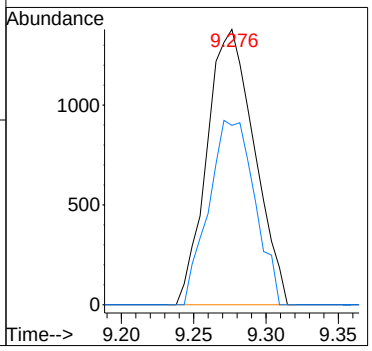


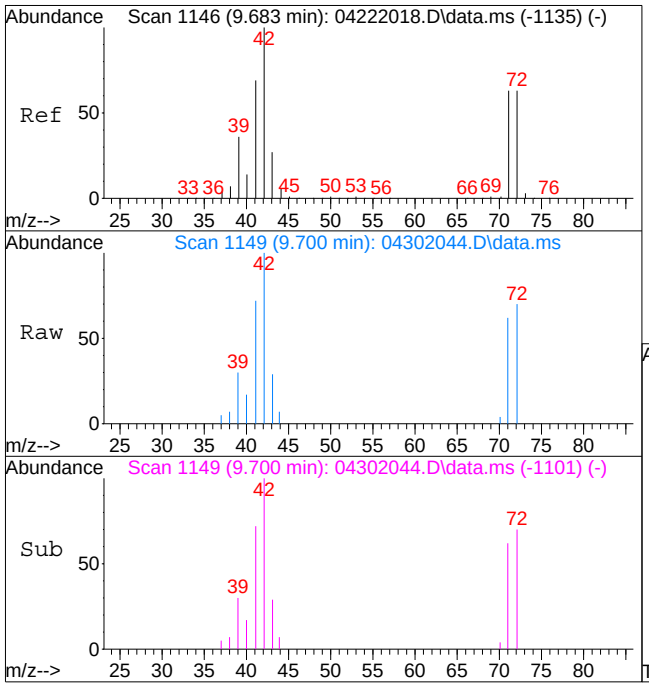


#32
Chloroform
Concen: 0.16 ng
RT: 9.28 min Scan# 1072
Delta R.T. -0.044 min
Lab File: 04302044.D
Acq: 1 May 2020 5:15

Tgt Ion: 83 Resp: 3152

Ion	Ratio	Lower	Upper
83	100		
85	64.8	45.8	85.8

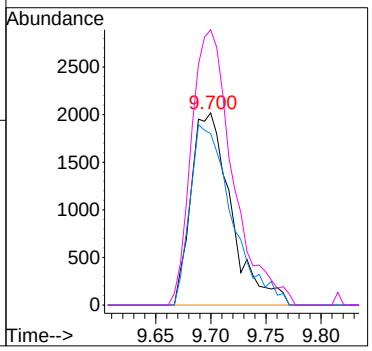


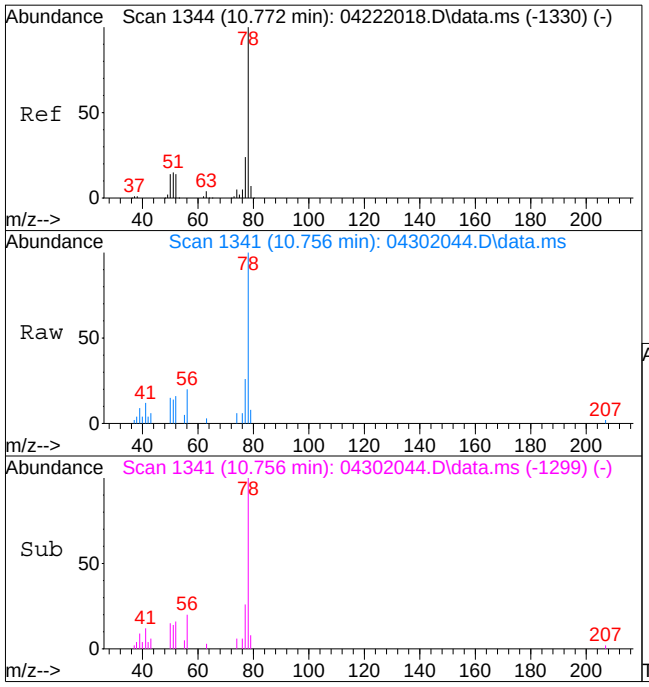


#34
Tetrahydrofuran (THF)
Concen: 0.88 ng
RT: 9.70 min Scan# 1149
Delta R.T. 0.016 min
Lab File: 04302044.D
Acq: 1 May 2020 5:15

Tgt Ion: 72 Resp: 5101

Ion	Ratio	Lower	Upper
72	100		
71	97.8	77.9	117.9
42	148.2	133.9	173.9

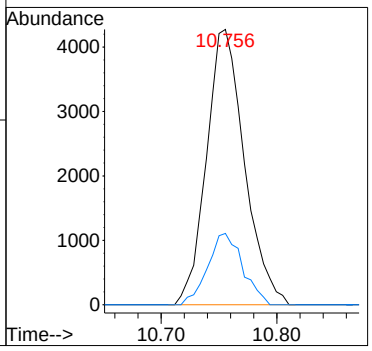


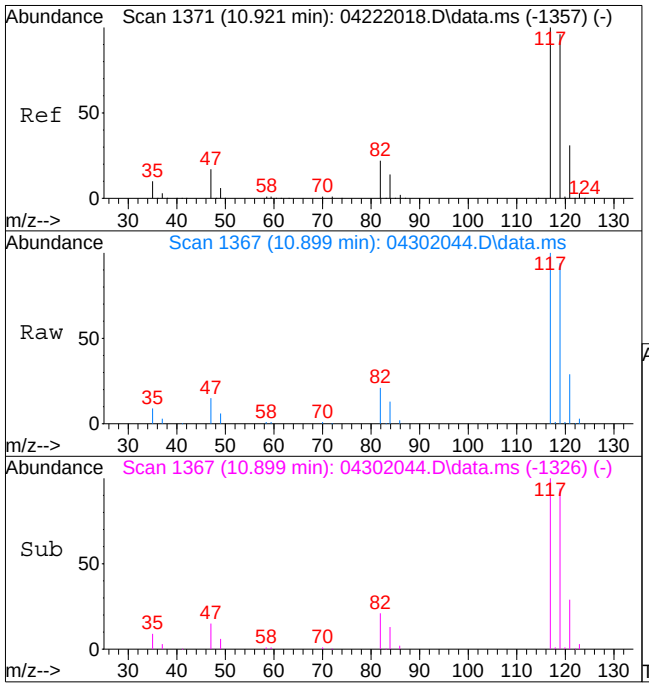


#41
Benzene
Concen: 0.24 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.017 min
Lab File: 04302044.D
Acq: 1 May 2020 5:15

Tgt Ion: 78 Resp: 9765

Ion	Ratio	Lower	Upper
78	100		
77	23.9	3.6	43.6

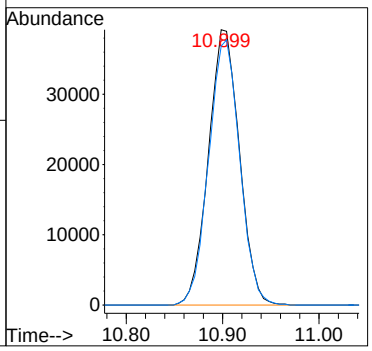


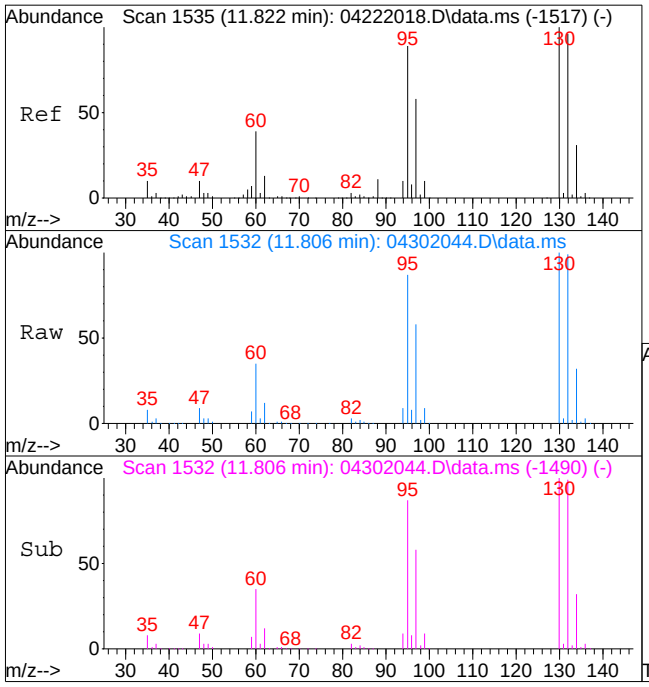


#42
Carbon Tetrachloride
Concen: 4.24 ng
RT: 10.90 min Scan# 1367
Delta R.T. -0.022 min
Lab File: 04302044.D
Acq: 1 May 2020 5:15

Tgt Ion:117 Resp: 87658

Ion	Ratio	Lower	Upper
117	100		
119	96.4	76.5	116.5

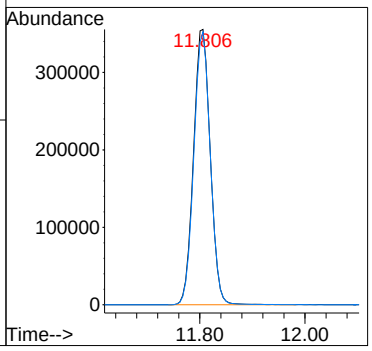


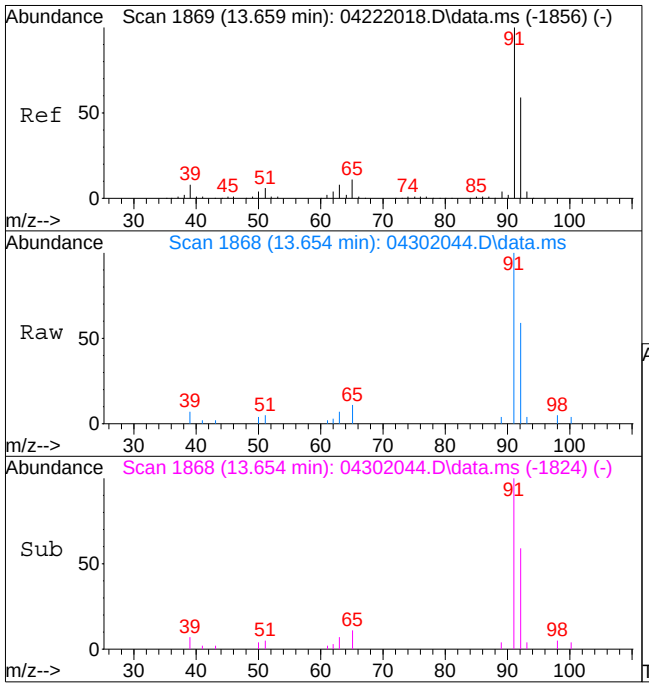


#47
Trichloroethene
Concen: 56.58 ng
RT: 11.81 min Scan# 1532
Delta R.T. -0.016 min
Lab File: 04302044.D
Acq: 1 May 2020 5:15

Tgt Ion:130 Resp: 783348

Ion	Ratio	Lower	Upper
130	100		
132	97.5	76.4	116.4

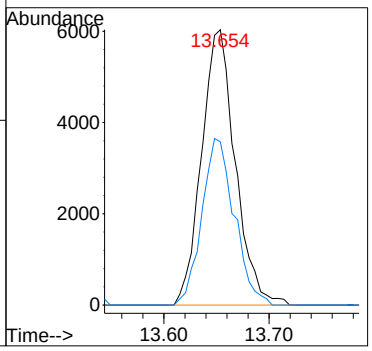


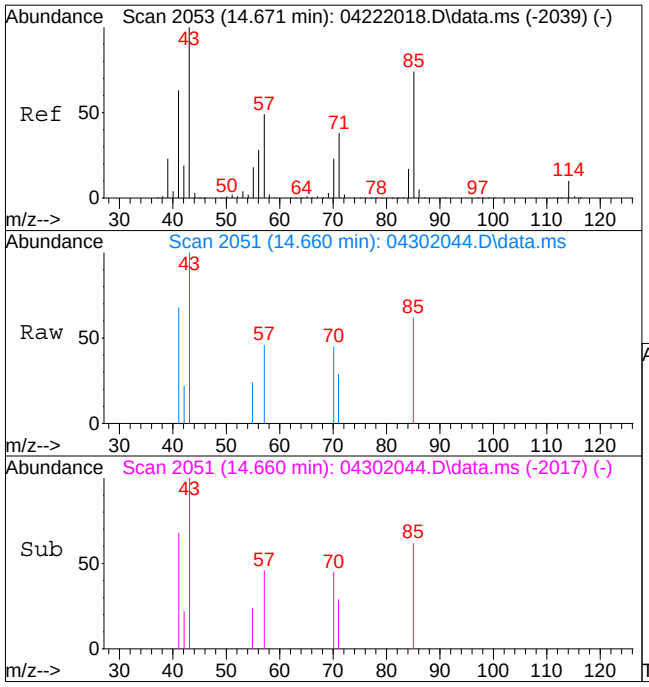


#58
Toluene
Concen: 0.31 ng
RT: 13.65 min Scan# 1868
Delta R.T. -0.005 min
Lab File: 04302044.D
Acq: 1 May 2020 5:15

Tgt Ion: 91 Resp: 13443

Ion	Ratio	Lower	Upper
91	100		
92	58.3	38.2	78.2

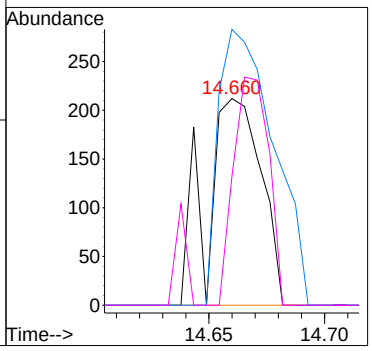


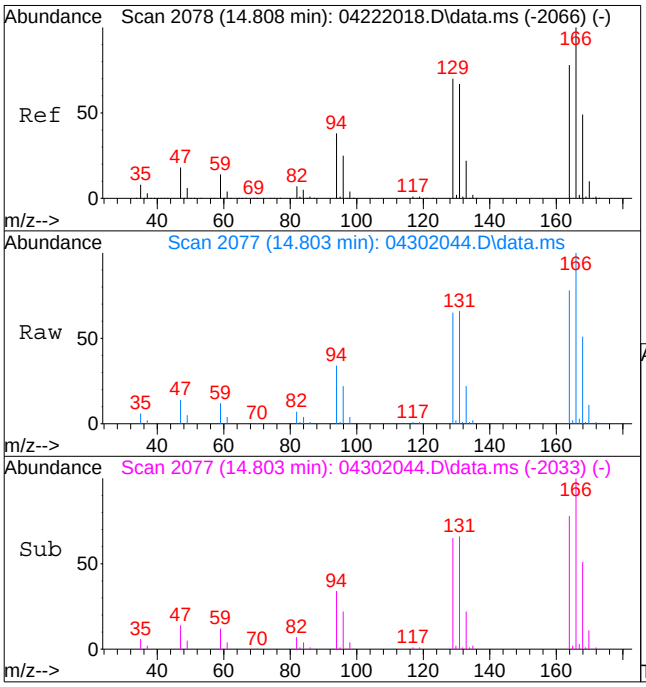


#63
n-Octane
Concen: 0.05 ng
RT: 14.66 min Scan# 2051
Delta R.T. -0.011 min
Lab File: 04302044.D
Acq: 1 May 2020 5:15

Tgt Ion: 57 Resp: 348

Ion	Ratio	Lower	Upper
57	100		
85	135.6	120.7	181.1
71	71.3	61.1	91.7

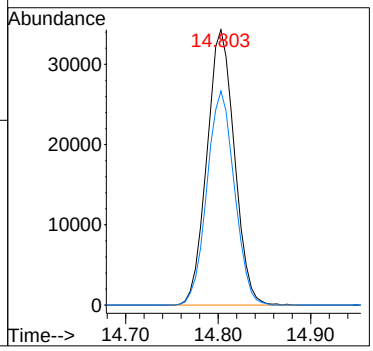


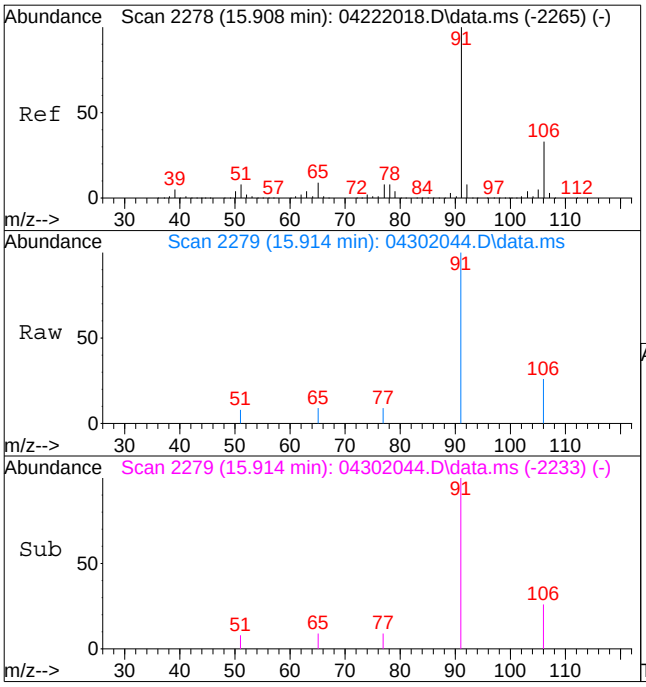


#64
Tetrachloroethene
Concen: 4.31 ng
RT: 14.80 min Scan# 2077
Delta R.T. -0.005 min
Lab File: 04302044.D
Acq: 1 May 2020 5:15

Tgt Ion:166 Resp: 70828

Ion	Ratio	Lower	Upper
166	100		
164	77.5	57.7	97.7

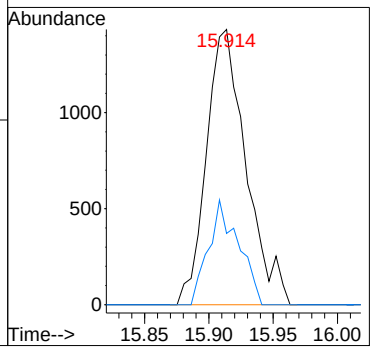


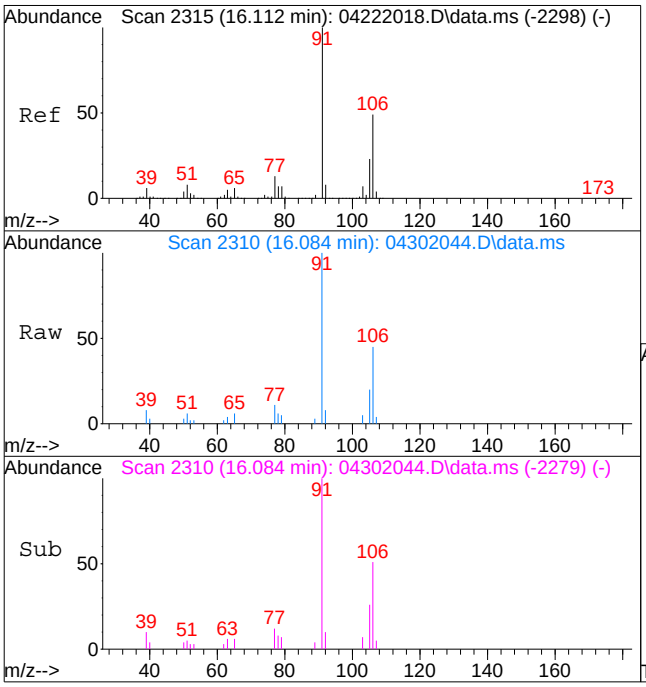


#66
Ethylbenzene
Concen: 0.06 ng
RT: 15.91 min Scan# 2279
Delta R.T. 0.005 min
Lab File: 04302044.D
Acq: 1 May 2020 5:15

Tgt Ion: 91 Resp: 3073

Ion	Ratio	Lower	Upper
91	100		
106	28.9	13.4	53.4

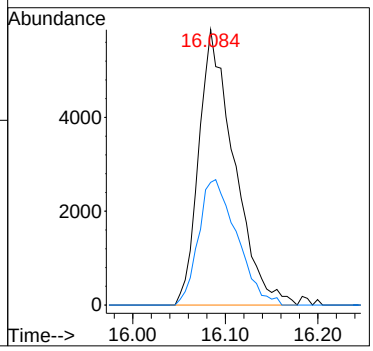


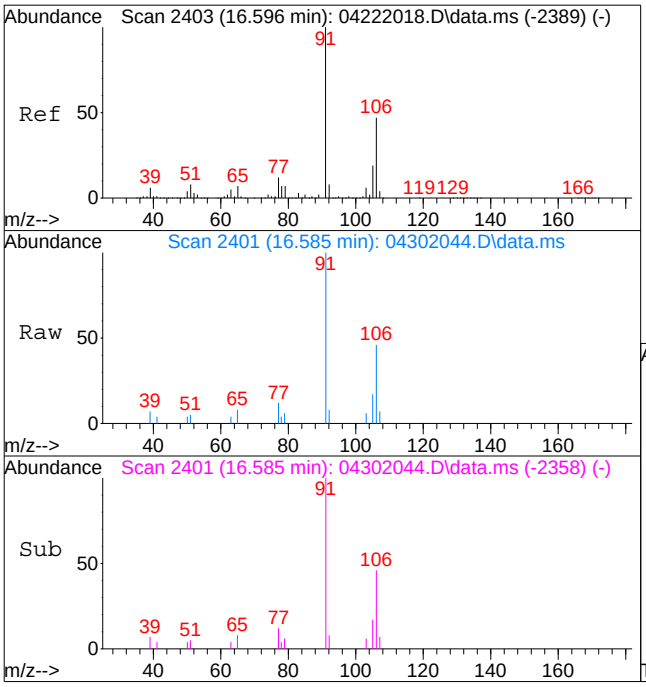


#67
m- & p-Xylenes
Concen: 0.36 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.027 min
Lab File: 04302044.D
Acq: 1 May 2020 5:15

Tgt Ion: 91 Resp: 15595

Ion	Ratio	Lower	Upper
91	100		
106	49.2	28.3	68.3

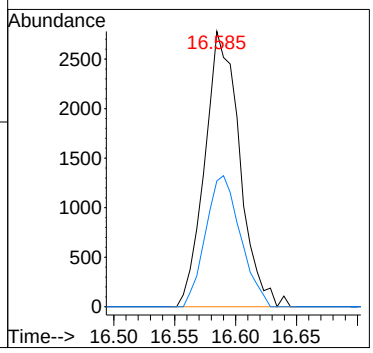


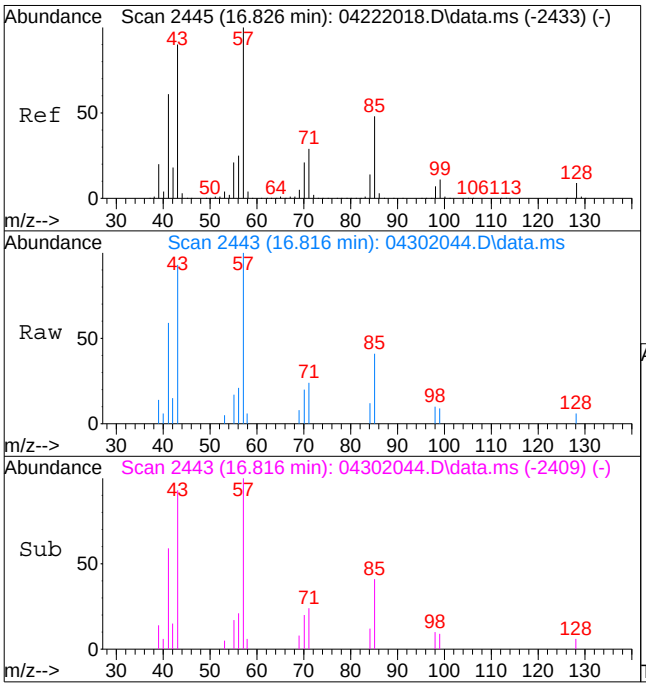


#70
o-Xylene
Concen: 0.13 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 04302044.D
Acq: 1 May 2020 5:15

Tgt Ion: 91 Resp: 5534

Ion	Ratio	Lower	Upper
91	100		
106	47.6	27.5	67.5

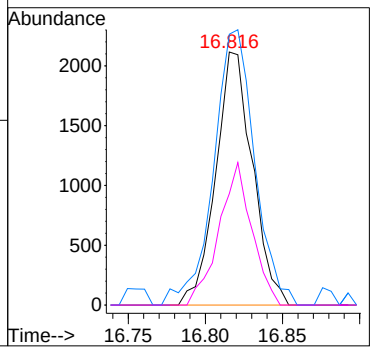


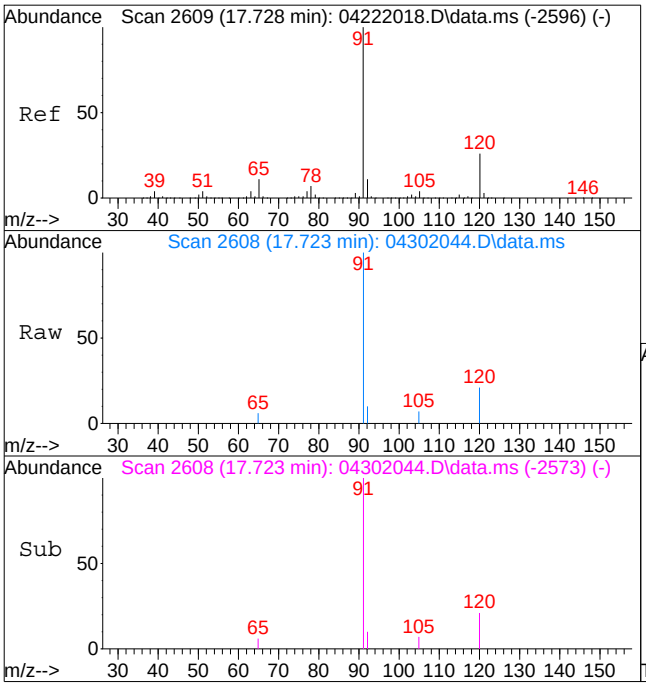


#71
n-Nonane
Concen: 0.26 ng
RT: 16.82 min Scan# 2443
Delta R.T. -0.011 min
Lab File: 04302044.D
Acq: 1 May 2020 5:15

Tgt Ion: 43 Resp: 3516

Ion	Ratio	Lower	Upper
43	100		
57	121.3	90.8	130.8
85	50.0	32.1	72.1

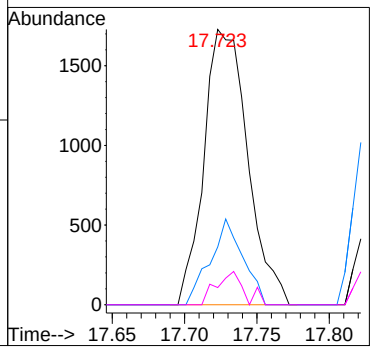


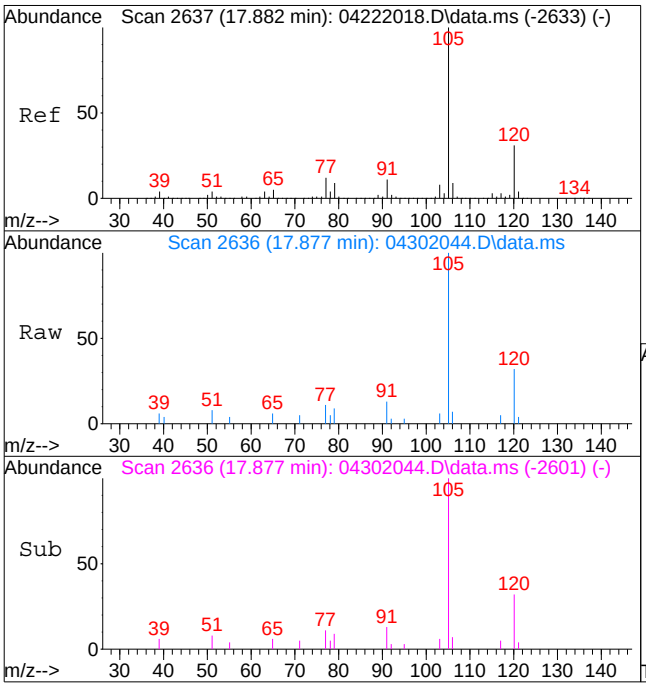


#76
n-Propylbenzene
Concen: 0.06 ng
RT: 17.72 min Scan# 2608
Delta R.T. -0.005 min
Lab File: 04302044.D
Acq: 1 May 2020 5:15

Tgt Ion: 91 Resp: 3640

Ion	Ratio	Lower	Upper
91	100		
120	23.4	6.1	46.1
65	7.6	0.0	30.7

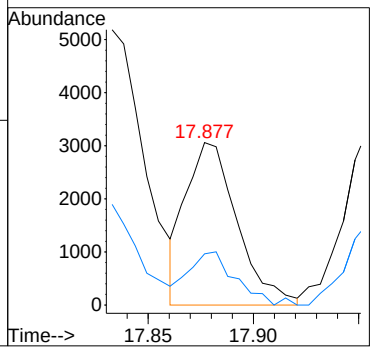


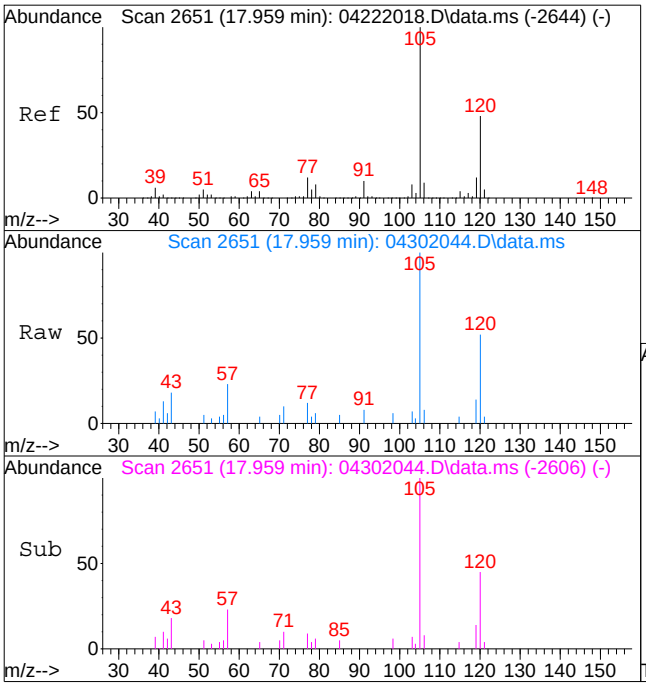


#78
4-Ethyltoluene
Concen: 0.10 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 04302044.D
Acq: 1 May 2020 5:15

Tgt Ion:105 Resp: 5224

Ion	Ratio	Lower	Upper
105	100		
120	30.3	11.4	51.4

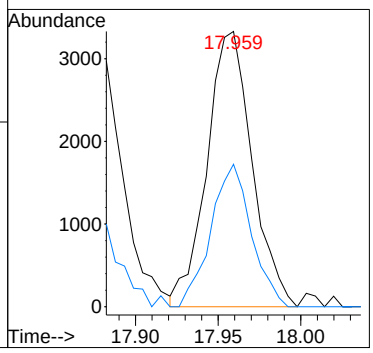


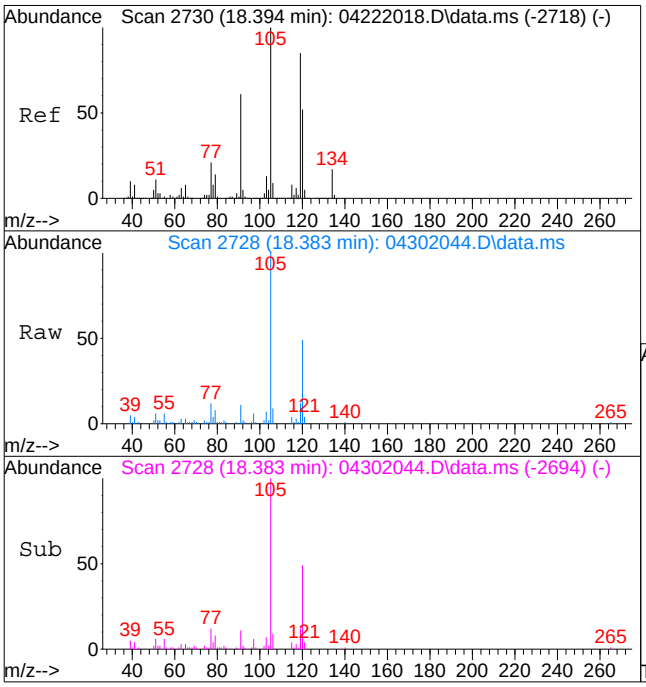


#79
1,3,5-Trimethylbenzene
Concen: 0.13 ng
RT: 17.96 min Scan# 2651
Delta R.T. -0.000 min
Lab File: 04302044.D
Acq: 1 May 2020 5:15

Tgt Ion:105 Resp: 6327

Ion	Ratio	Lower	Upper
105	100		
120	46.4	29.5	69.5

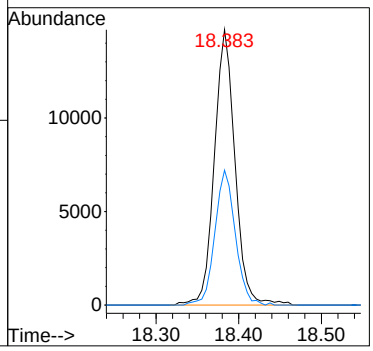


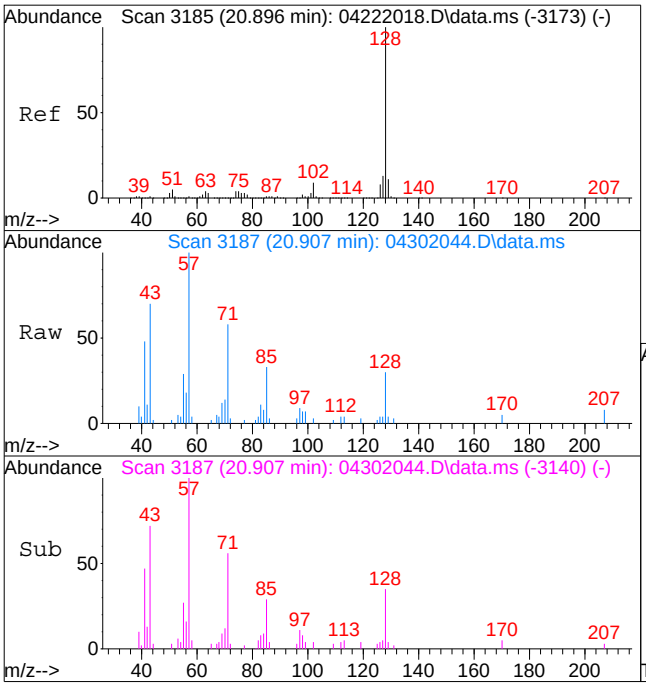


#82
1,2,4-Trimethylbenzene
Concen: 0.55 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 04302044.D
Acq: 1 May 2020 5:15

Tgt Ion:105 Resp: 25541

Ion	Ratio	Lower	Upper
105	100		
120	48.4	34.5	74.5

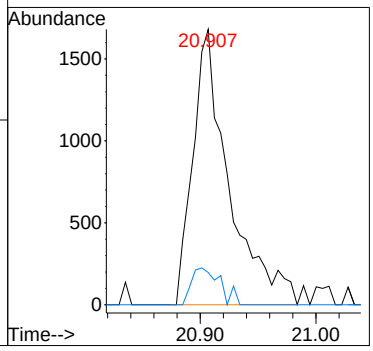




#95
Naphthalene
Concen: 0.06 ng
RT: 20.91 min Scan# 3187
Delta R.T. 0.011 min
Lab File: 04302044.D
Acq: 1 May 2020 5:15

Tgt Ion:128 Resp: 3661

Ion	Ratio	Lower	Upper
128	100		
129	10.6	0.0	30.9



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302045.D Vial: 10
Acq On : 1 May 2020 5:48 Operator: SC
Sample : P2002103-004 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 14:50:00 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/1/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	148247	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	622854	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	272635	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	221812	11.548	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.40%				
57) Toluene-d8 (SS2)	13.54	98	681810	12.952	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.60%				
73) Bromofluorobenzene (SS3)	17.05	174	263131	12.437	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.52%				
Target Compounds							Qvalue
2) Propene	3.87	42	3111m	0.494	ng		
3) Dichlorodifluoromethan...	3.97	85	137574	5.751	ng		99
4) Chloromethane	0.00	50	0	N.D.	d		
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	278	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.49	45	124	N.D.			
11) Acetonitrile	5.60	41	203	N.D.			
12) Acrolein	5.73	56	75	N.D.			
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	6.02	101	17839	0.749	ng		96
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.	d		
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	6.86	84	135	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	7.18	151	562562	45.415	ng		99
22) Carbon Disulfide	0.00	76	0	N.D.	d		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	8.20	63	259	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	8.56	72	924	0.157	ng	#	72
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	9.22	57	420	N.D.			
32) Chloroform	9.28	83	12033	0.592	ng		98
34) Tetrahydrofuran (THF)	9.68	72	32336	5.427	ng		98
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	10.30	97	742	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.75	78	31053	0.765	ng		99
42) Carbon Tetrachloride	10.90	117	107910	5.140	ng		99
43) Cyclohexane	11.03	84	12309	0.774	ng		96
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	11.35	63	157	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	11.81	130	445371	31.672	ng		99
48) 1,4-Dioxane	11.83	88	251	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302045.D Vial: 10
Acq On : 1 May 2020 5:48 Operator: SC
Sample : P2002103-004 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 14:50:00 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

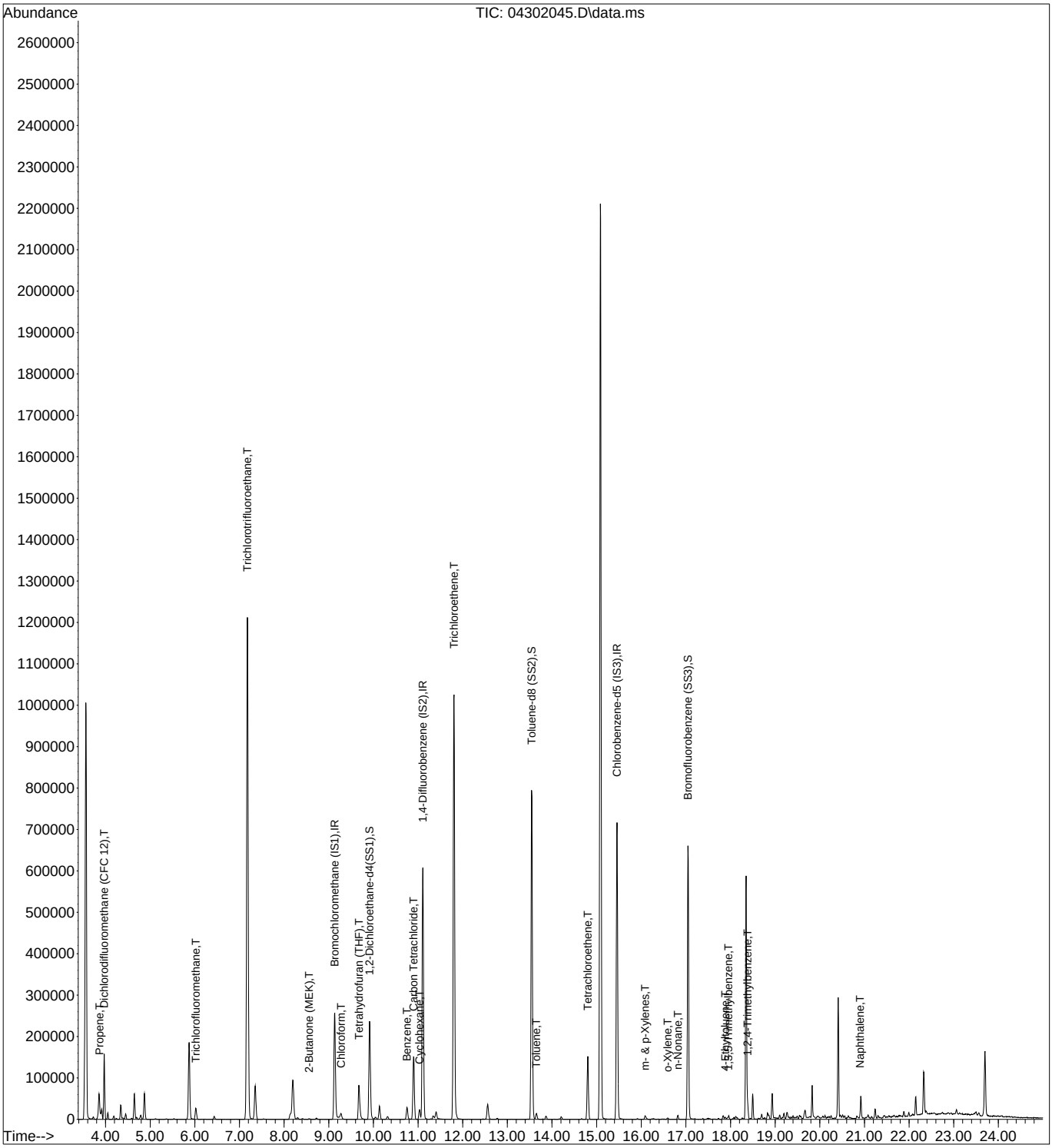
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.65	91	10939	0.248 ng	99
59) 2-Hexanone	13.86	43	236	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.66	57	292	N.D.	
64) Tetrachloroethene	14.80	166	58339	3.504 ng	100
65) Chlorobenzene	15.50	112	113	N.D.	
66) Ethylbenzene	15.91	91	2509	N.D.	
67) m- & p-Xylenes	16.08	91	9016	0.208 ng	96
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.59	91	3640	0.085 ng	95
71) n-Nonane	16.82	43	3070	0.223 ng	95
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	17.20	105	976	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.73	91	2628	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	3966	0.075 ng	97
79) 1,3,5-Trimethylbenzene	17.95	105	4723	0.097 ng	99
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	18.15	105	2667	N.D.	
82) 1,2,4-Trimethylbenzene	18.38	105	22025m	0.466 ng	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.53	91	108	N.D.	
85) 1,3-Dichlorobenzene	18.63	146	151	N.D.	
86) 1,4-Dichlorobenzene	18.63	146	151	N.D.	
87) sec-Butylbenzene	18.67	105	1671	N.D.	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	18.99	68	415	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	20.79	180	120	N.D.	
95) Naphthalene	20.90	128	4697	0.077 ng	96
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302045.D Vial: 10
Acq On : 1 May 2020 5:48 Operator: SC
Sample : P2002103-004 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 14:50:00 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302045.D Vial: 10
Acq On : 1 May 2020 5:48 Operator: SC
Sample : P2002103-004 (400mL) Inst : MS09
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QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/1/20

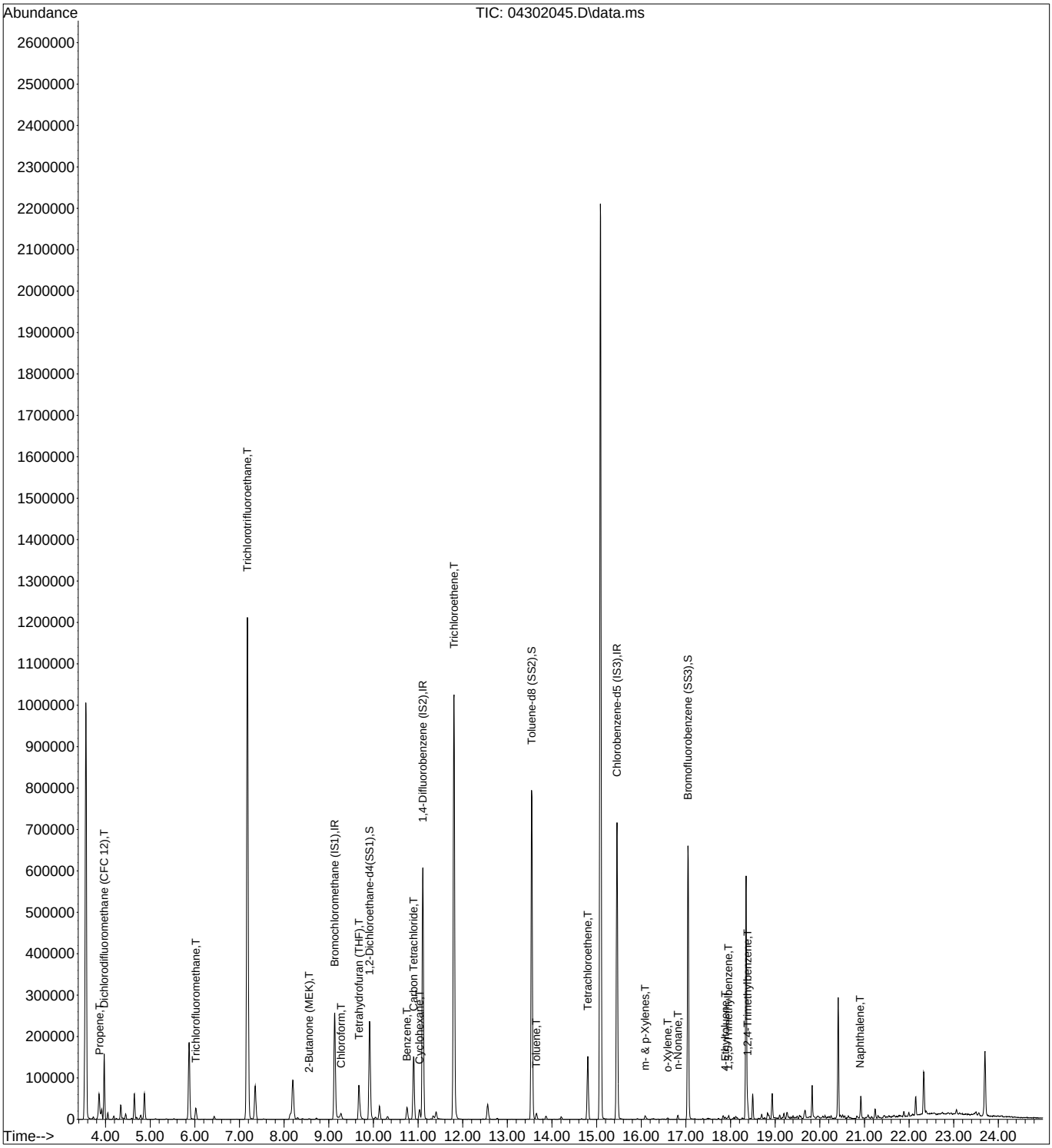
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	148247	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	622854	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	272635	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	221812	11.548	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.40%				
57) Toluene-d8 (SS2)	13.54	98	681810	12.952	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.60%				
73) Bromofluorobenzene (SS3)	17.05	174	263131	12.437	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.52%				
Target Compounds							Qvalue
2) Propene	3.87	42	3111m	0.494	ng		
3) Dichlorodifluoromethan...	3.97	85	137574	5.751	ng		99
14) Trichlorofluoromethane	6.02	101	17839	0.749	ng		96
21) Trichlorotrifluoroethane	7.18	151	562562	45.415	ng		99
27) 2-Butanone (MEK)	8.56	72	924	0.157	ng	#	72
32) Chloroform	9.28	83	12033	0.592	ng		98
34) Tetrahydrofuran (THF)	9.68	72	32336	5.427	ng		98
41) Benzene	10.75	78	31053	0.765	ng		99
42) Carbon Tetrachloride	10.90	117	107910	5.140	ng		99
43) Cyclohexane	11.03	84	12309	0.774	ng		96
47) Trichloroethene	11.81	130	445371	31.672	ng		99
58) Toluene	13.65	91	10939	0.248	ng		99
64) Tetrachloroethene	14.80	166	58339	3.504	ng		100
67) m- & p-Xylenes	16.08	91	9016	0.208	ng		96
70) o-Xylene	16.59	91	3640	0.085	ng		95
71) n-Nonane	16.82	43	3070	0.223	ng		95
78) 4-Ethyltoluene	17.88	105	3966	0.075	ng		97
79) 1,3,5-Trimethylbenzene	17.95	105	4723	0.097	ng		99
82) 1,2,4-Trimethylbenzene	18.38	105	22025m	0.466	ng		
95) Naphthalene	20.90	128	4697	0.077	ng		96

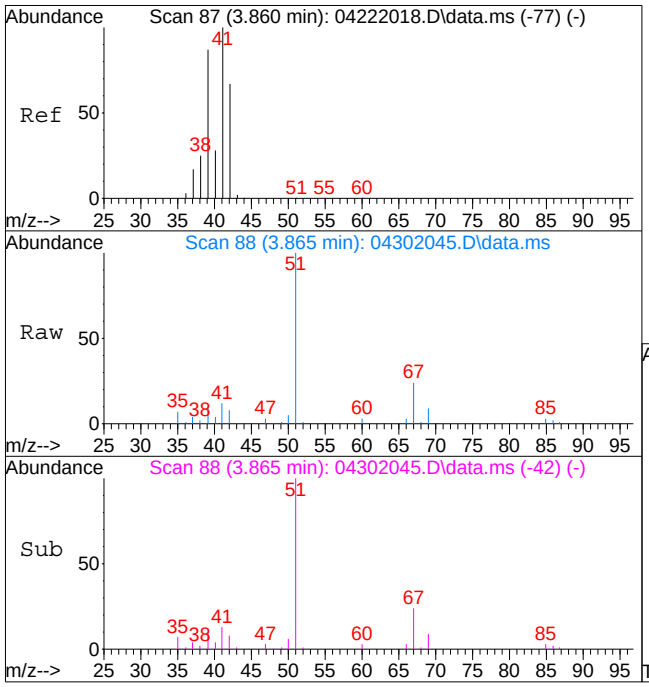
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302045.D Vial: 10
Acq On : 1 May 2020 5:48 Operator: SC
Sample : P2002103-004 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 14:50:00 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

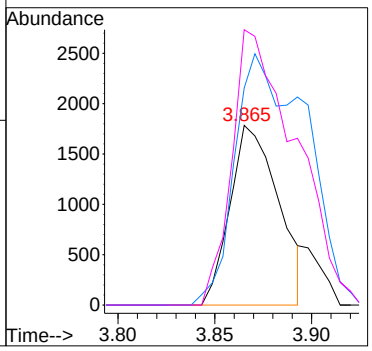


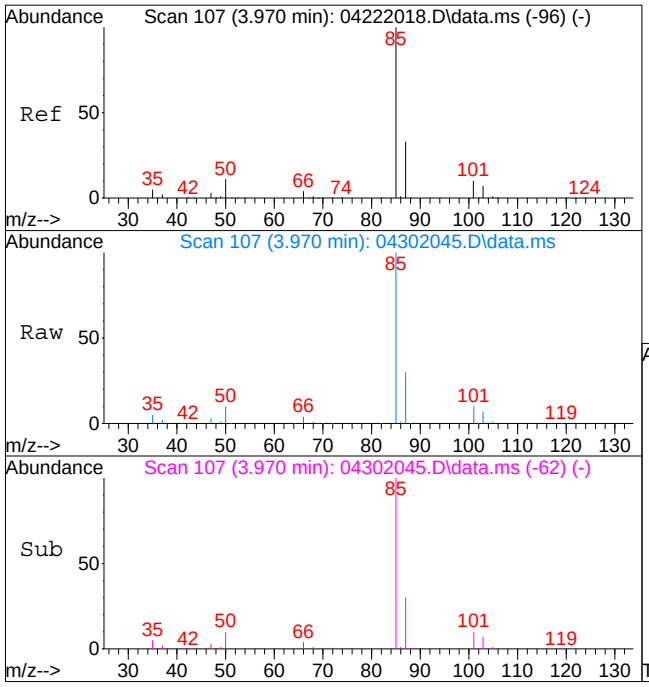


#2
Propene
Concen: 0.49 ng m
RT: 3.87 min Scan# 88
Delta R.T. 0.005 min
Lab File: 04302045.D
Acq: 1 May 2020 5:48

Tgt Ion: 42 Resp: 3111

Ion	Ratio	Lower	Upper
42	100		
39	206.5	106.4	146.4#
41	201.4	128.8	168.8#

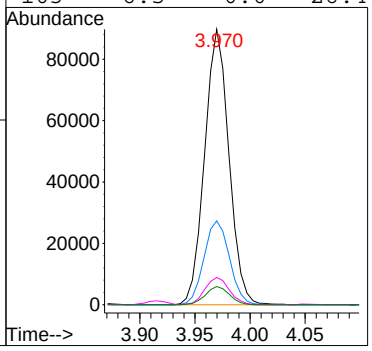


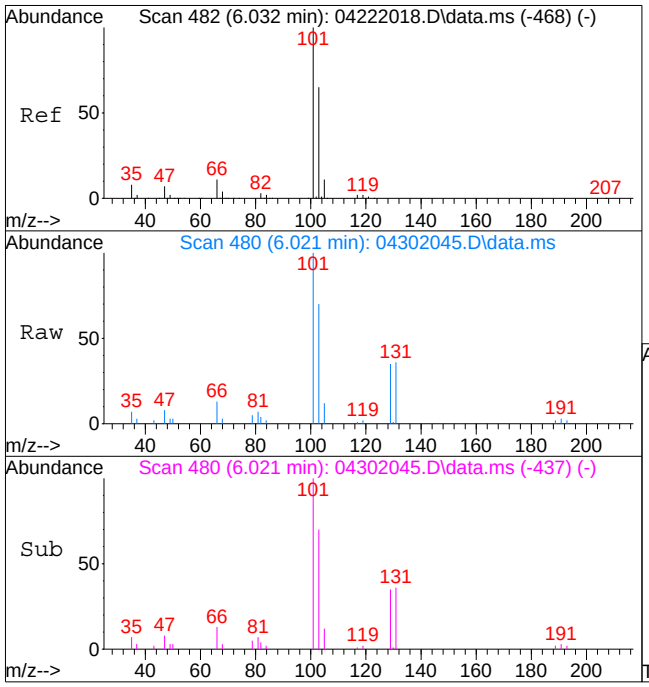


#3
Dichlorodifluoromethane (CFC 12)
Concen: 5.75 ng
RT: 3.97 min Scan# 107
Delta R.T. -0.000 min
Lab File: 04302045.D
Acq: 1 May 2020 5:48

Tgt Ion: 85 Resp: 137574

Ion	Ratio	Lower	Upper
85	100		
87	31.9	12.4	52.4
101	9.9	0.0	29.9
103	6.5	0.0	26.4

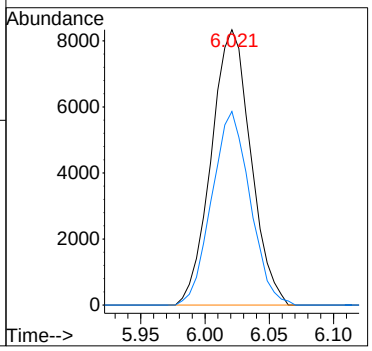


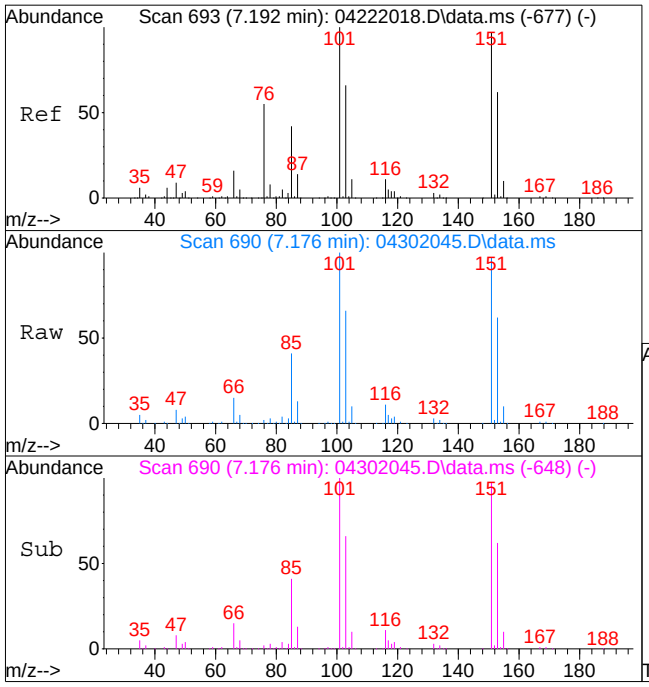


#14
Trichlorofluoromethane
Concen: 0.75 ng
RT: 6.02 min Scan# 480
Delta R.T. -0.011 min
Lab File: 04302045.D
Acq: 1 May 2020 5:48

Tgt Ion:101 Resp: 17839

Ion	Ratio	Lower	Upper
101	100		
103	67.9	44.7	84.7

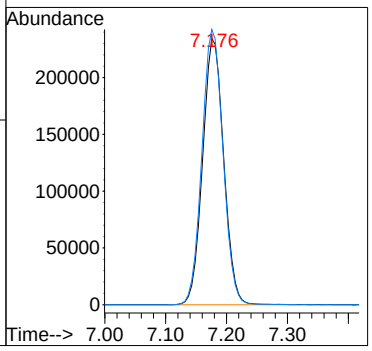


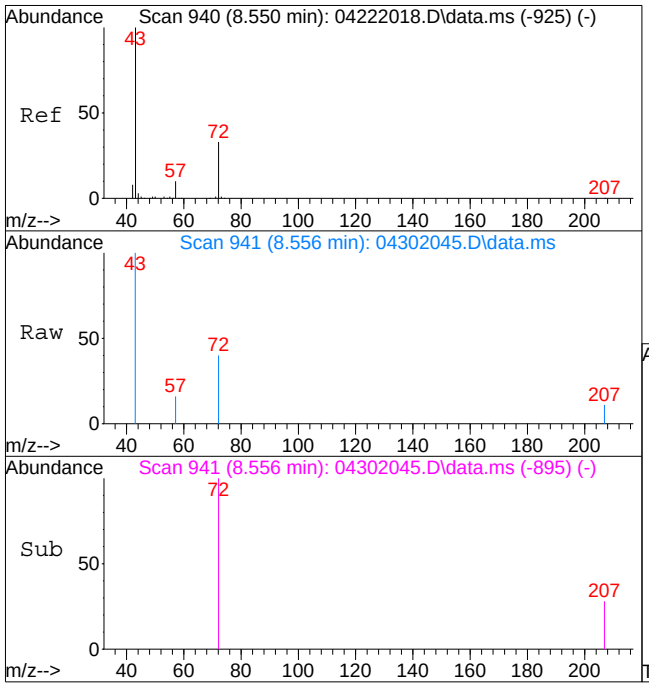


#21
Trichlorotrifluoroethane
Concen: 45.42 ng
RT: 7.18 min Scan# 690
Delta R.T. -0.017 min
Lab File: 04302045.D
Acq: 1 May 2020 5:48

Tgt Ion:151 Resp: 562562

Ion	Ratio	Lower	Upper
151	100		
101	103.7	82.9	122.9

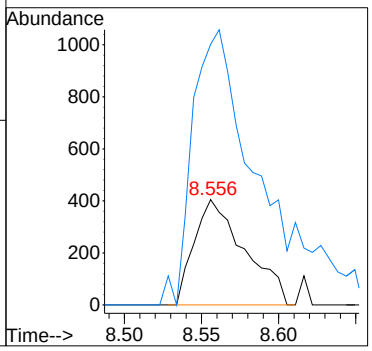


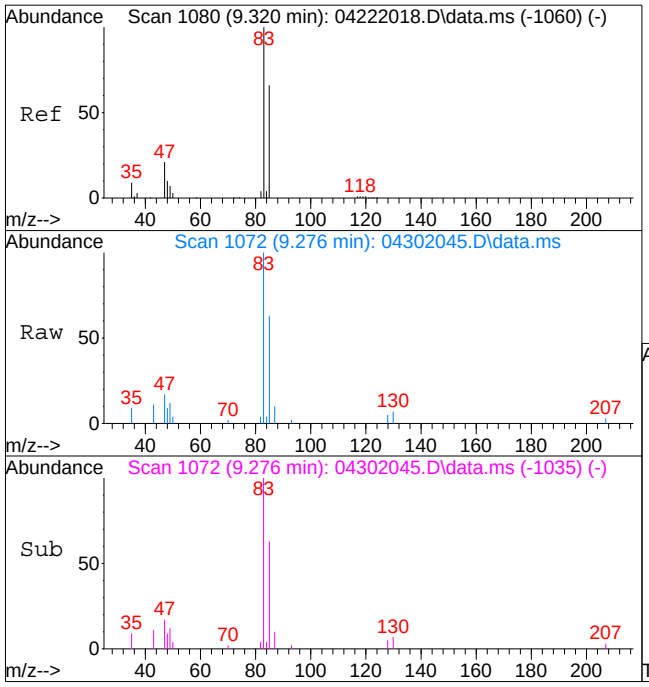


#27
2-Butanone (MEK)
Concen: 0.16 ng
RT: 8.56 min Scan# 941
Delta R.T. 0.005 min
Lab File: 04302045.D
Acq: 1 May 2020 5:48

Tgt Ion: 72 Resp: 924

Ion	Ratio	Lower	Upper
72	100		
43	352.8	278.8	318.8#

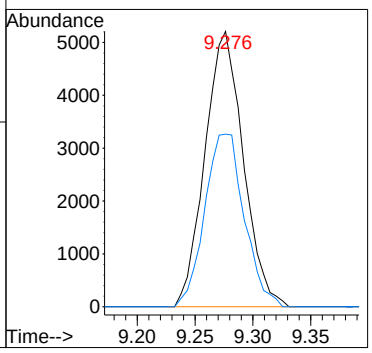


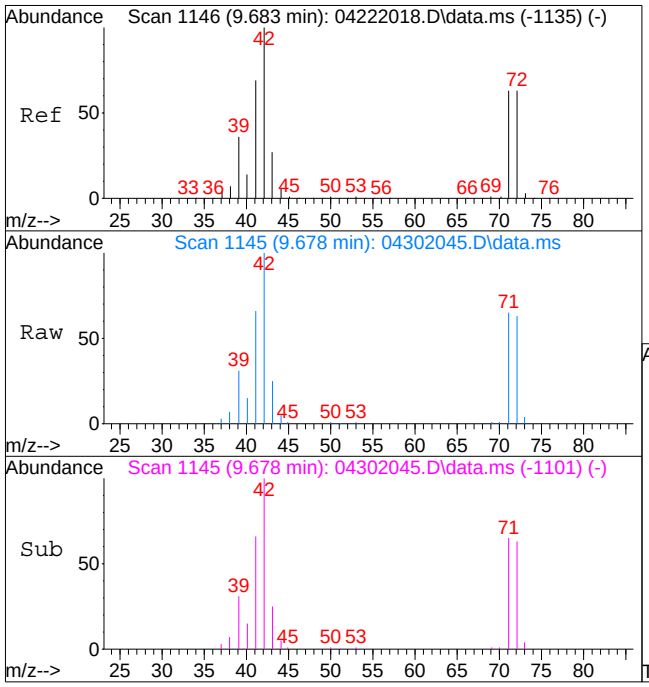


#32
Chloroform
Concen: 0.59 ng
RT: 9.28 min Scan# 1072
Delta R.T. -0.044 min
Lab File: 04302045.D
Acq: 1 May 2020 5:48

Tgt Ion: 83 Resp: 12033

Ion	Ratio	Lower	Upper
83	100		
85	64.5	45.8	85.8

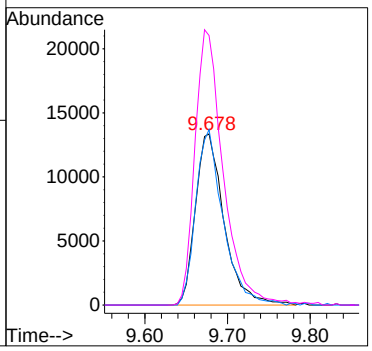


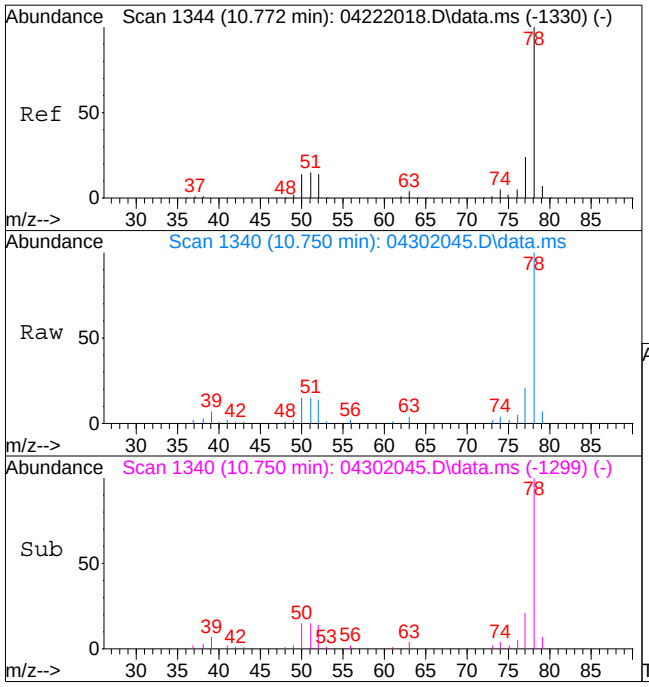


#34
Tetrahydrofuran (THF)
Concen: 5.43 ng
RT: 9.68 min Scan# 1145
Delta R.T. -0.006 min
Lab File: 04302045.D
Acq: 1 May 2020 5:48

Tgt Ion: 72 Resp: 32336

Ion	Ratio	Lower	Upper
72	100		
71	97.9	77.9	117.9
42	158.9	133.9	173.9

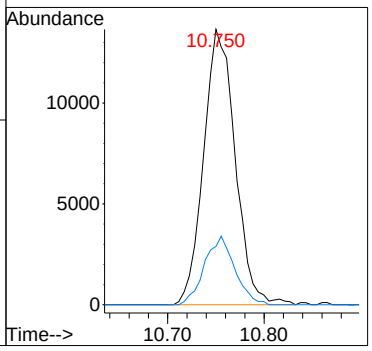


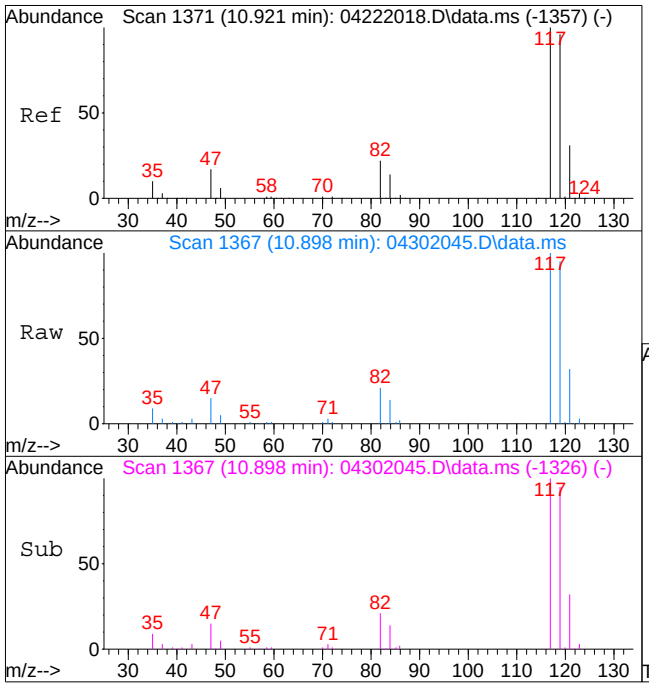


#41
Benzene
Concen: 0.76 ng
RT: 10.75 min Scan# 1340
Delta R.T. -0.022 min
Lab File: 04302045.D
Acq: 1 May 2020 5:48

Tgt Ion: 78 Resp: 31053

Ion	Ratio	Lower	Upper
78	100		
77	23.9	3.6	43.6

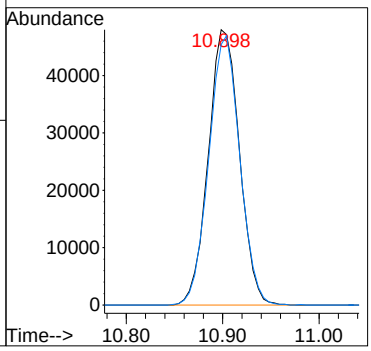


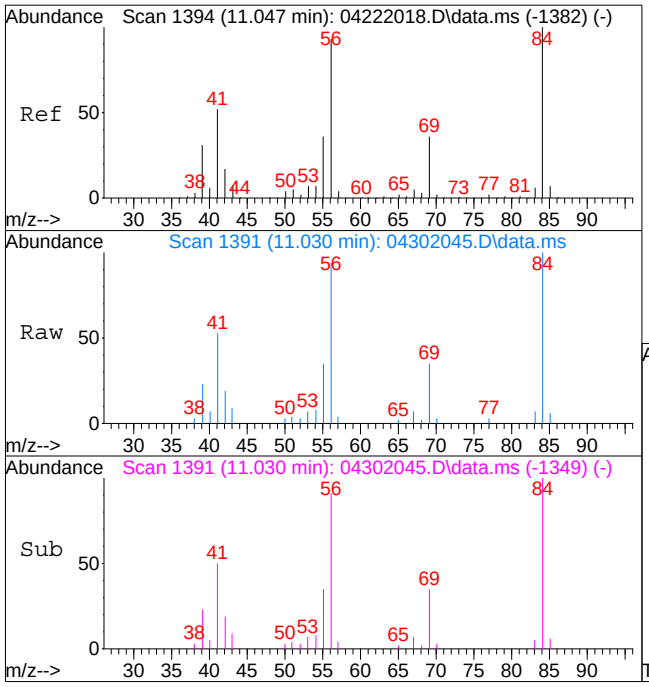


#42
Carbon Tetrachloride
Concen: 5.14 ng
RT: 10.90 min Scan# 1367
Delta R.T. -0.022 min
Lab File: 04302045.D
Acq: 1 May 2020 5:48

Tgt Ion:117 Resp: 107910

Ion	Ratio	Lower	Upper
117	100		
119	97.1	76.5	116.5

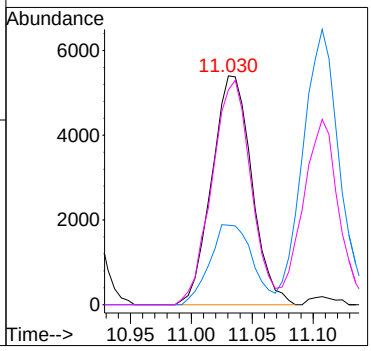


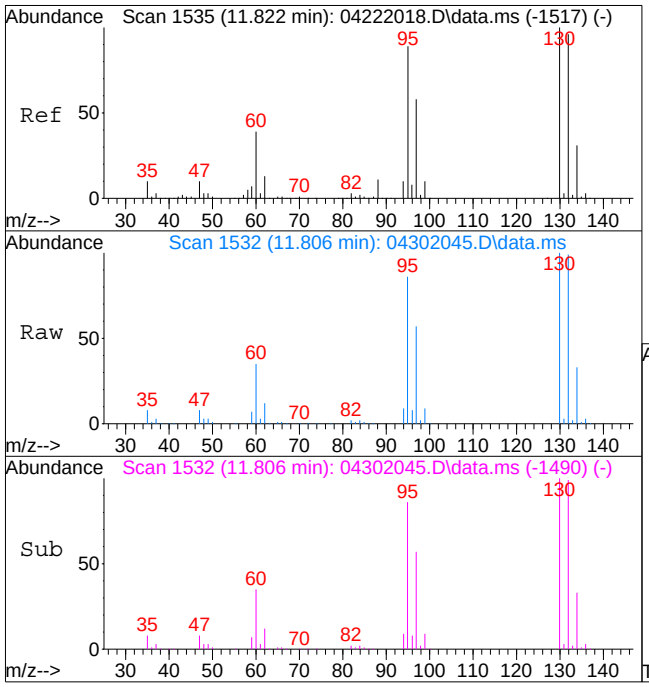


#43
Cyclohexane
Concen: 0.77 ng
RT: 11.03 min Scan# 1391
Delta R.T. -0.017 min
Lab File: 04302045.D
Acq: 1 May 2020 5:48

Tgt Ion: 84 Resp: 12309

Ion	Ratio	Lower	Upper
84	100		
69	37.6	15.8	55.8
56	95.7	72.0	112.0

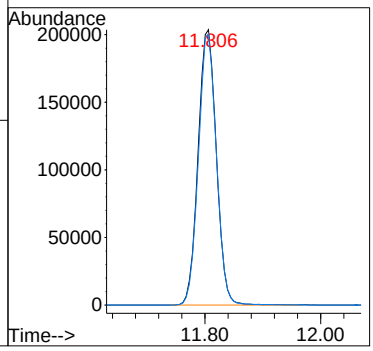


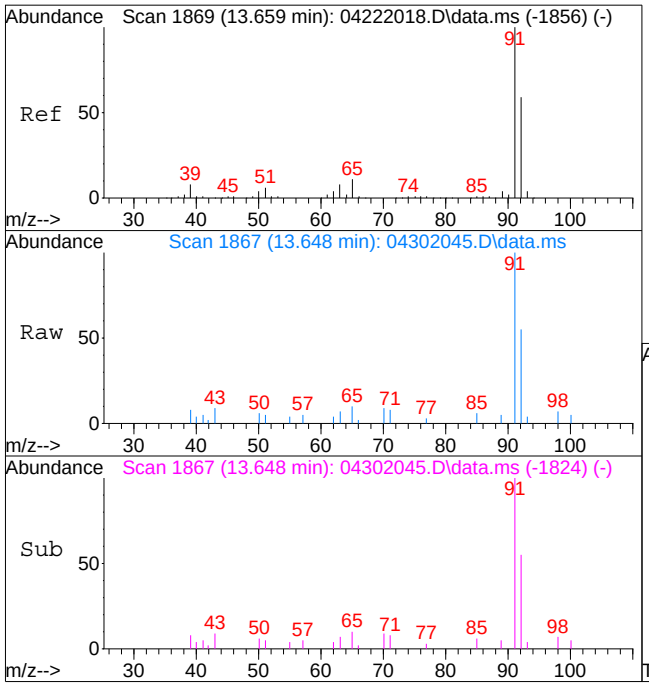


#47
Trichloroethene
Concen: 31.67 ng
RT: 11.81 min Scan# 1532
Delta R.T. -0.017 min
Lab File: 04302045.D
Acq: 1 May 2020 5:48

Tgt Ion:130 Resp: 445371

Ion	Ratio	Lower	Upper
130	100		
132	97.2	76.4	116.4

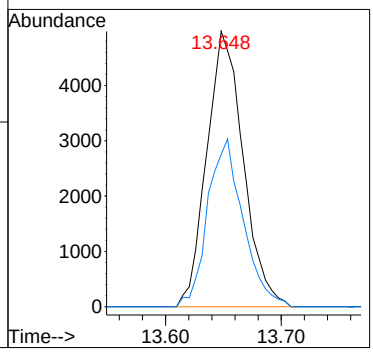


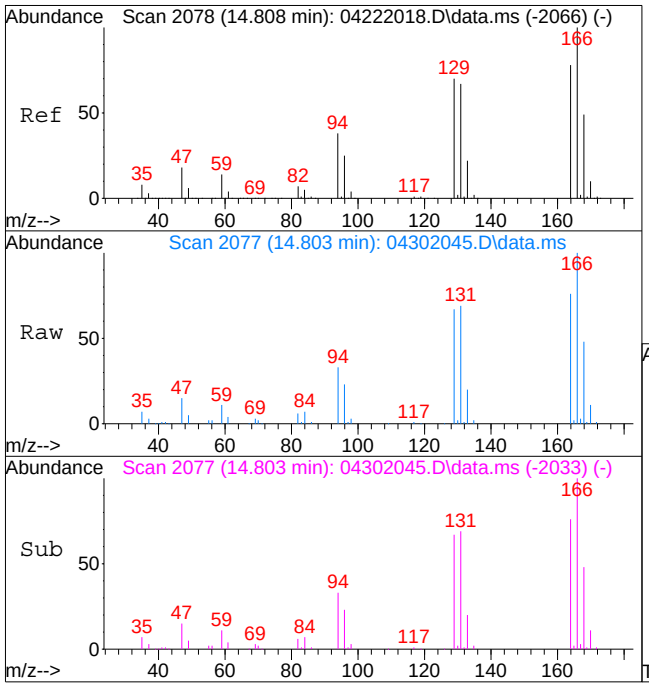


#58
Toluene
Concen: 0.25 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.011 min
Lab File: 04302045.D
Acq: 1 May 2020 5:48

Tgt Ion: 91 Resp: 10939

Ion	Ratio	Lower	Upper
91	100		
92	59.2	38.2	78.2

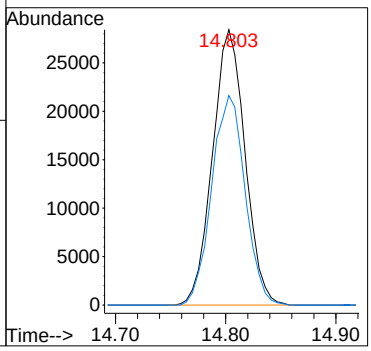


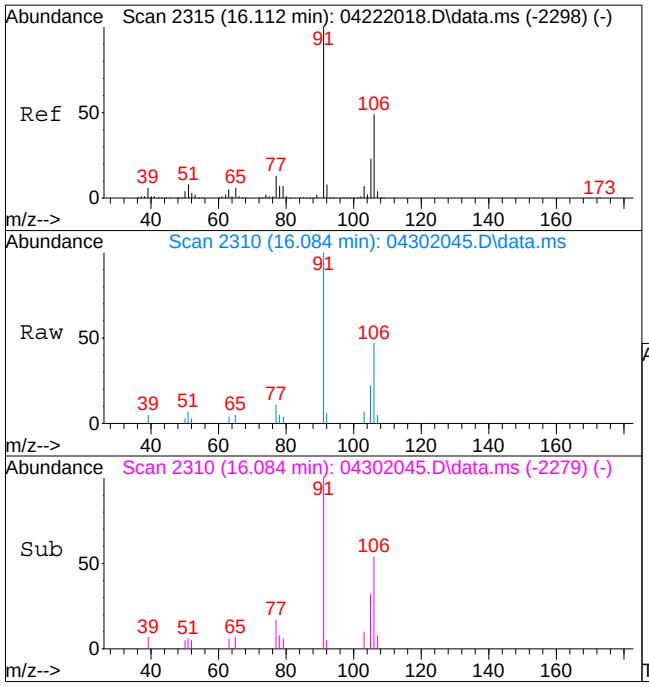


#64
Tetrachloroethene
Concen: 3.50 ng
RT: 14.80 min Scan# 2077
Delta R.T. -0.006 min
Lab File: 04302045.D
Acq: 1 May 2020 5:48

Tgt Ion:166 Resp: 58339

Ion	Ratio	Lower	Upper
166	100		
164	77.9	57.7	97.7

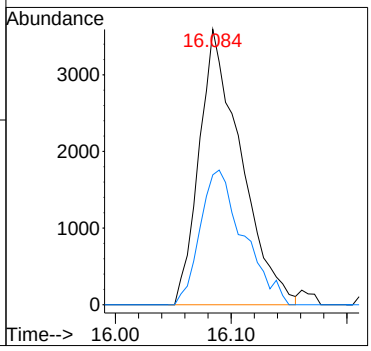


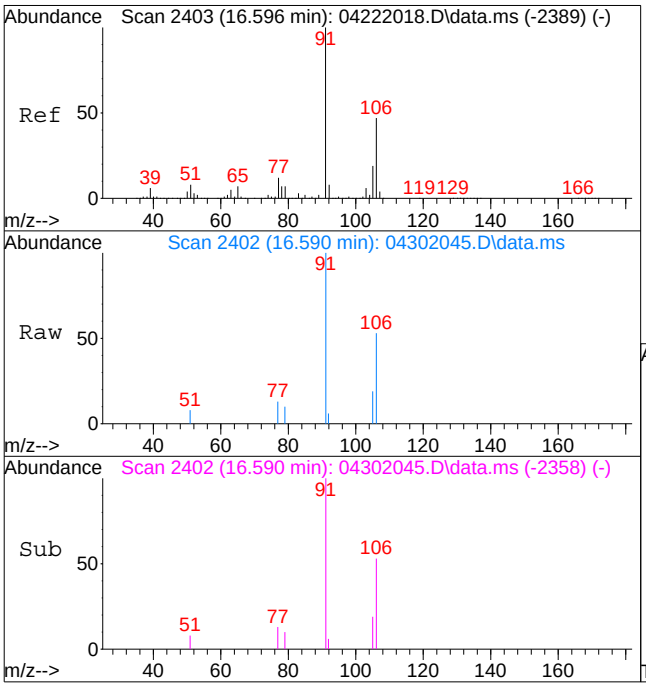


#67
m- & p-Xylenes
Concen: 0.21 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.028 min
Lab File: 04302045.D
Acq: 1 May 2020 5:48

Tgt Ion: 91 Resp: 9016

Ion	Ratio	Lower	Upper
91	100		
106	50.9	28.3	68.3

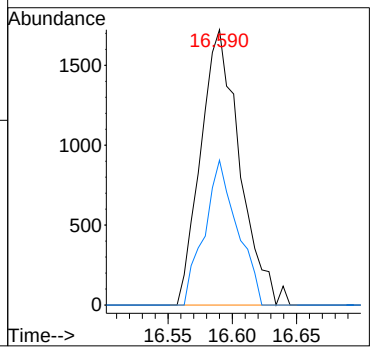


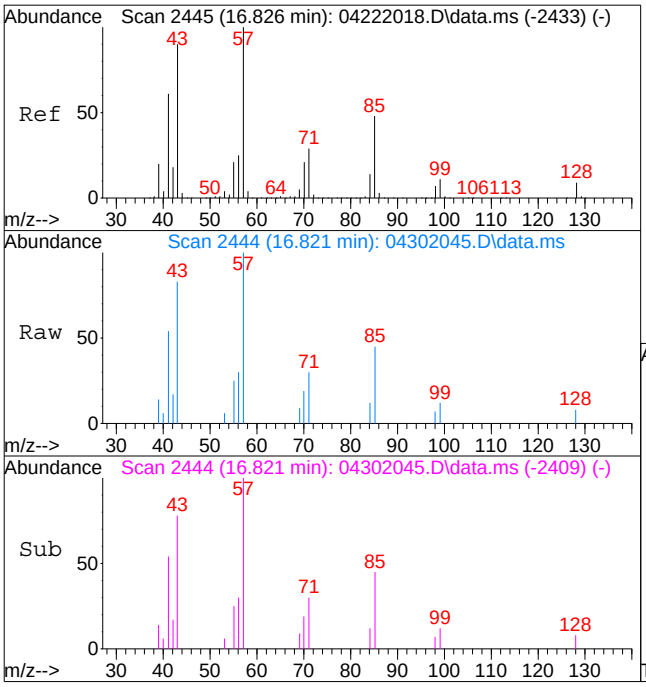


#70
o-Xylene
Concen: 0.09 ng
RT: 16.59 min Scan# 2402
Delta R.T. -0.006 min
Lab File: 04302045.D
Acq: 1 May 2020 5:48

Tgt Ion: 91 Resp: 3640

Ion	Ratio	Lower	Upper
91	100		
106	44.3	27.5	67.5

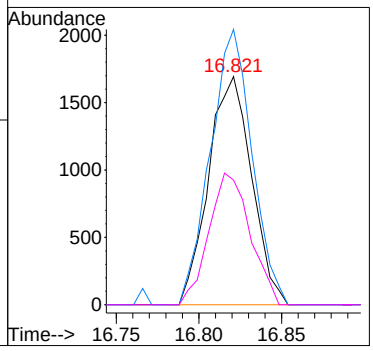


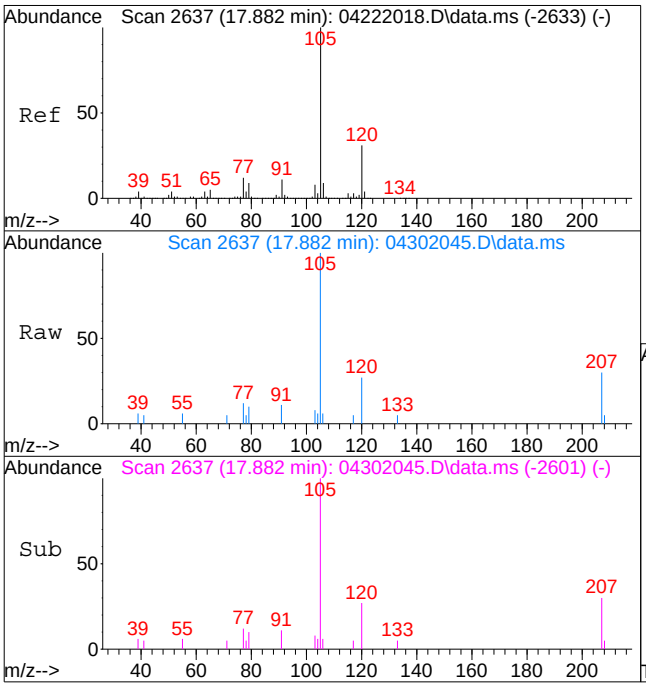


#71
n-Nonane
Concen: 0.22 ng
RT: 16.82 min Scan# 2444
Delta R.T. -0.006 min
Lab File: 04302045.D
Acq: 1 May 2020 5:48

Tgt Ion: 43 Resp: 3070

Ion	Ratio	Lower	Upper
43	100		
57	116.9	90.8	130.8
85	55.2	32.1	72.1

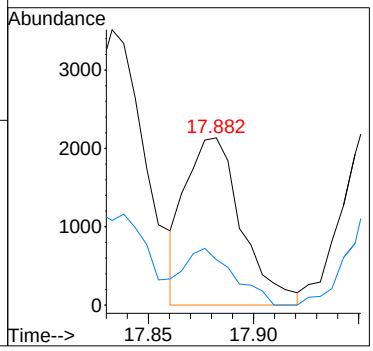


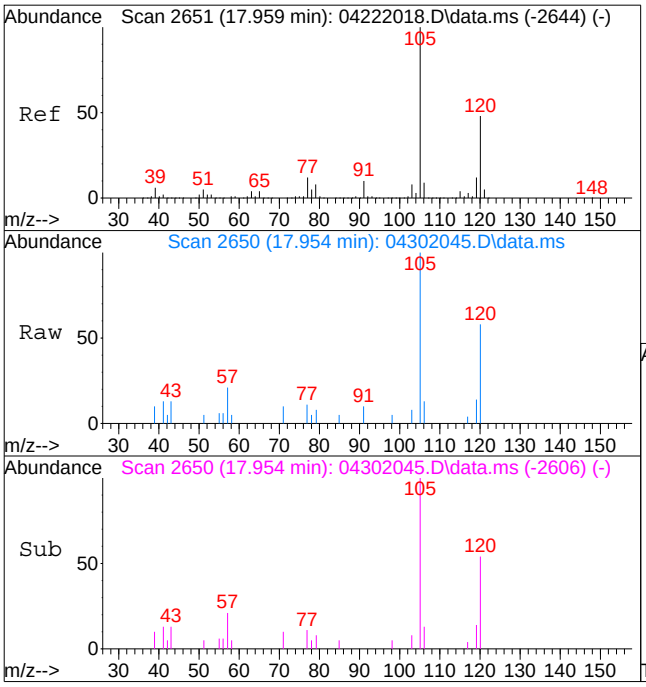


#78
4-Ethyltoluene
Concen: 0.07 ng
RT: 17.88 min Scan# 2637
Delta R.T. -0.000 min
Lab File: 04302045.D
Acq: 1 May 2020 5:48

Tgt Ion:105 Resp: 3966

Ion	Ratio	Lower	Upper
105	100		
120	29.8	11.4	51.4

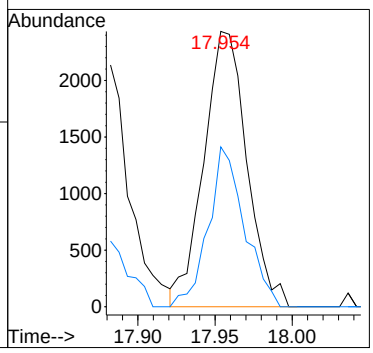


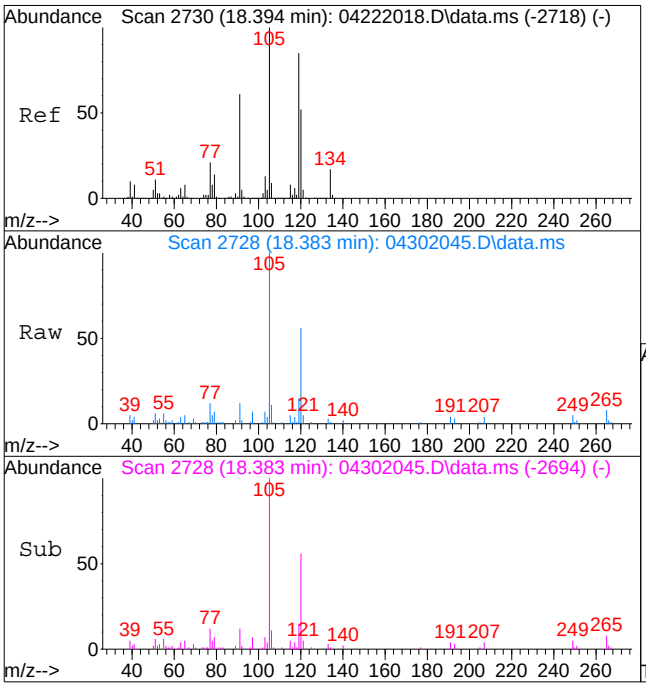


#79
1,3,5-Trimethylbenzene
Concen: 0.10 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 04302045.D
Acq: 1 May 2020 5:48

Tgt Ion:105 Resp: 4723

Ion	Ratio	Lower	Upper
105	100		
120	48.8	29.5	69.5

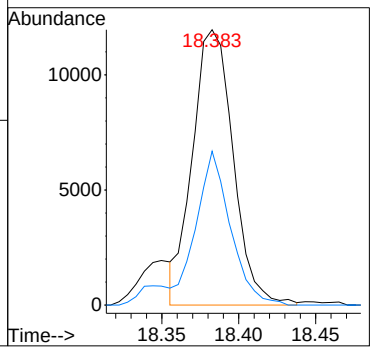


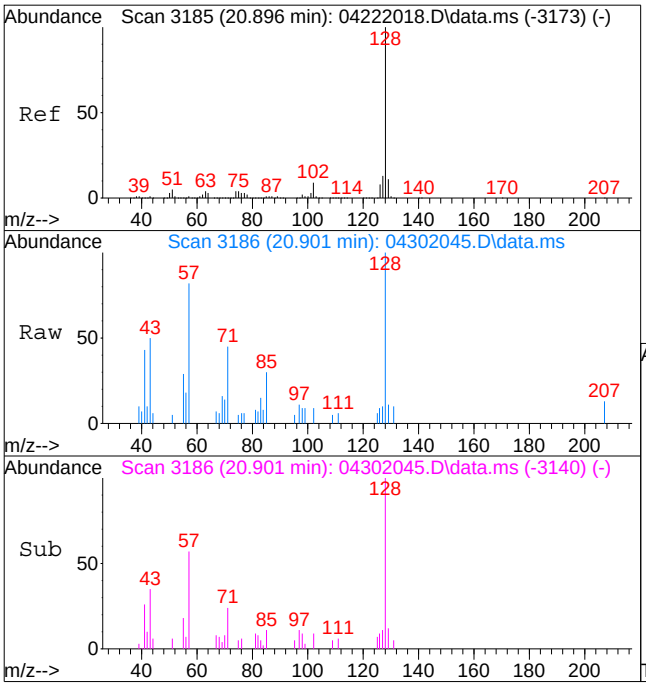


#82
1,2,4-Trimethylbenzene
Concen: 0.47 ng m
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 04302045.D
Acq: 1 May 2020 5:48

Tgt Ion:105 Resp: 22025

Ion	Ratio	Lower	Upper
105	100		
120	47.1	34.5	74.5

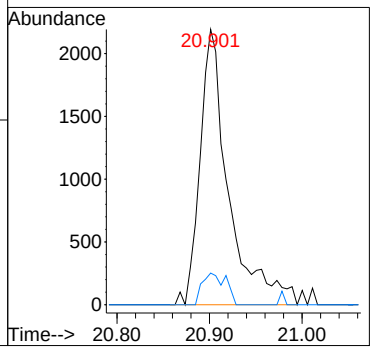




#95
Naphthalene
Concen: 0.08 ng
RT: 20.90 min Scan# 3186
Delta R.T. 0.005 min
Lab File: 04302045.D
Acq: 1 May 2020 5:48

Tgt Ion:128 Resp: 4697

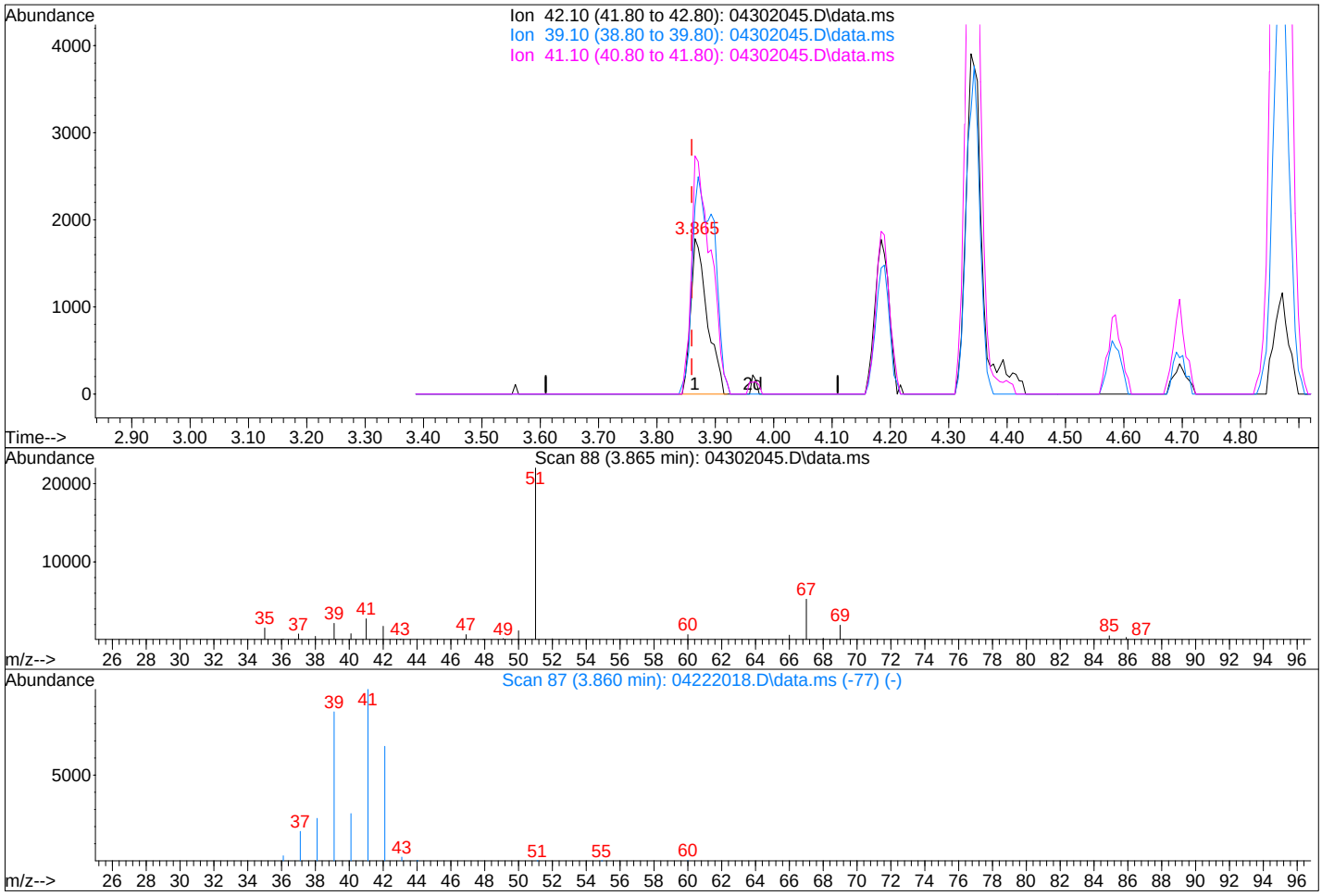
Ion	Ratio	Lower	Upper
128	100		
129	9.5	0.0	30.9



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\30\04302045.D Vial: 10
Acq On : 1 May 2020 5:48 Operator: SC
Sample : P2002103-004 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 06:24:11 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04302045.D\data.ms

(2) Propene (T)

3.865min (+0.005) 0.56ng

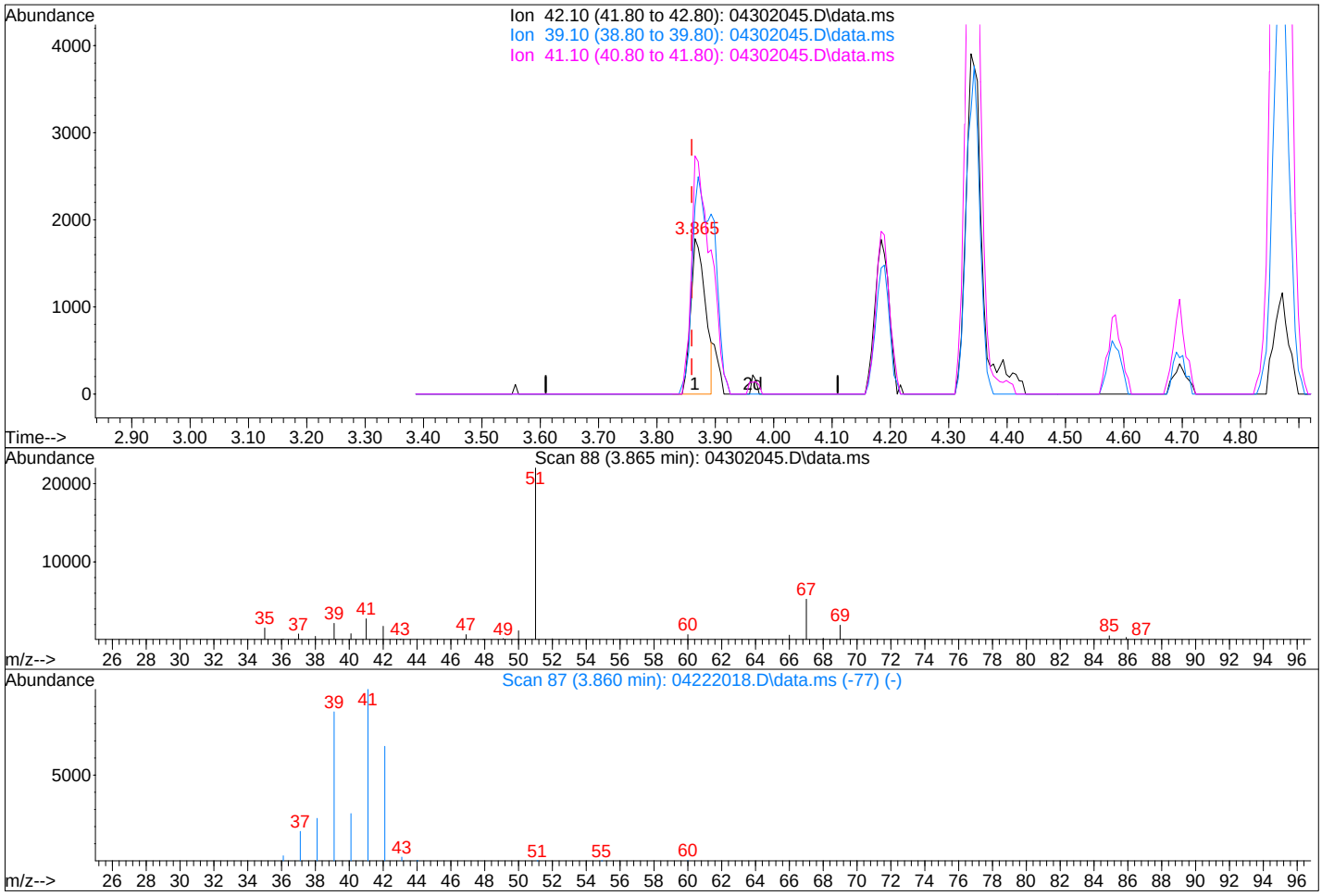
response 3508

Ion	Exp%	Act%
42.10	100	100
39.10	126.40	183.15#
41.10	148.80	178.59#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\30\04302045.D Vial: 10
Acq On : 1 May 2020 5:48 Operator: SC
Sample : P2002103-004 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 06:24:11 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04302045.D\data.ms

(2) Propene (T)

3.865min (+0.005) 0.49ng m

response 3111

Ion	Exp%	Act%
42.10	100	100
39.10	126.40	206.53#
41.10	148.80	201.38#
0.00	0.00	0.00

IPC

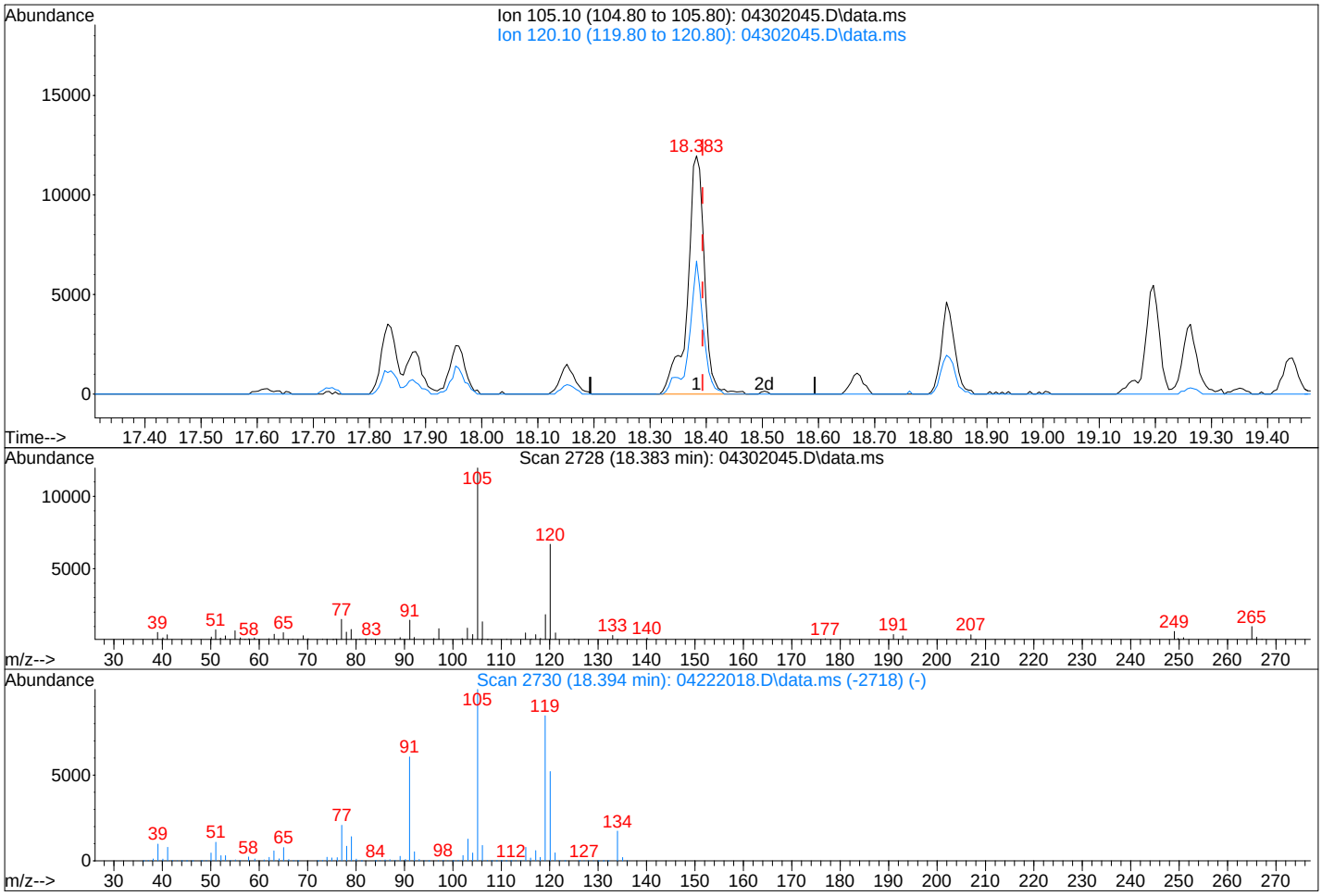
5/1/20

5/4/20

Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\30\04302045.D Vial: 10
Acq On : 1 May 2020 5:48 Operator: SC
Sample : P2002103-004 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 06:24:11 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04302045.D\data.ms

(82) 1,2,4-Trimethylbenzene (T)

18.383min (-0.011) 0.53ng

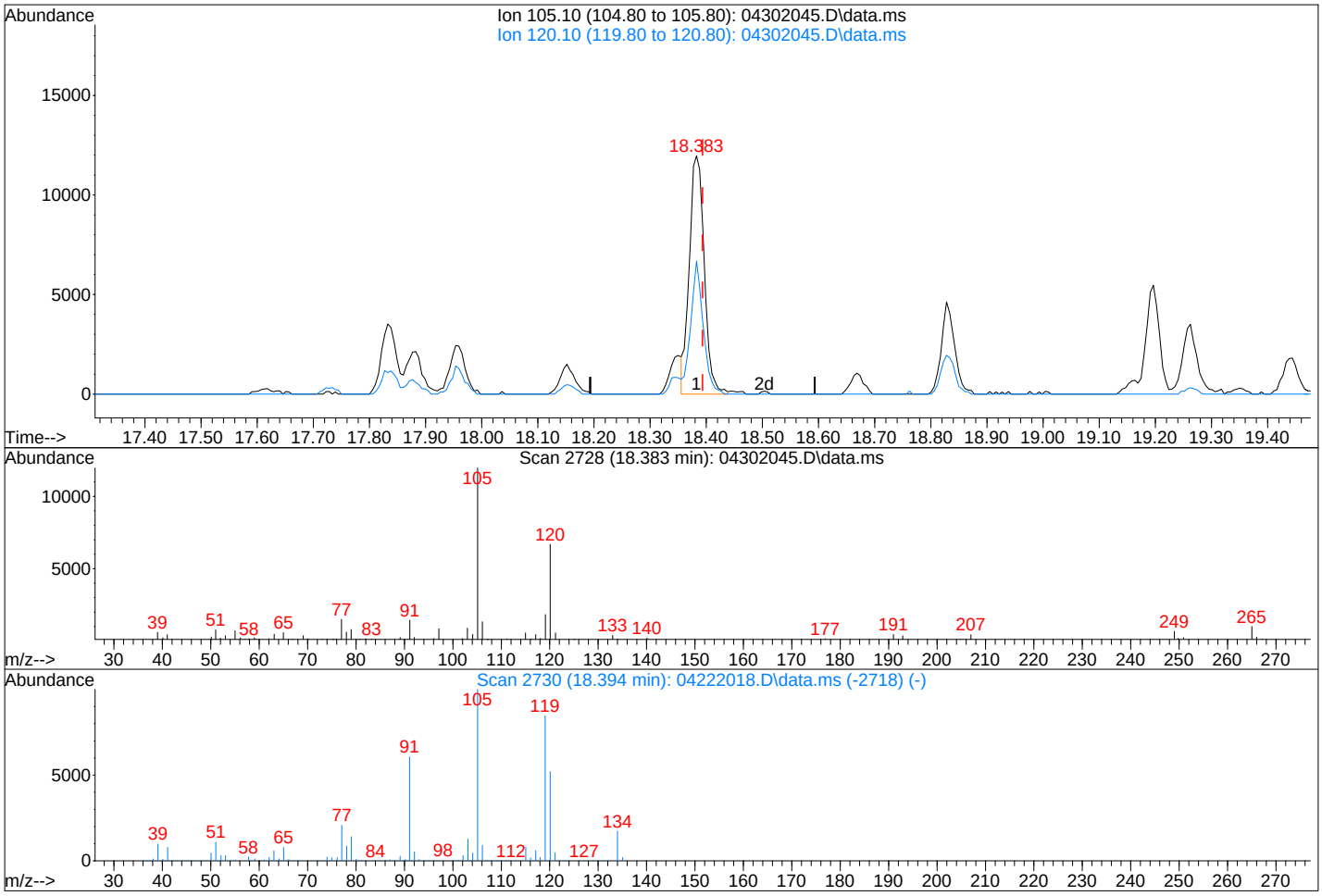
response 25081

Ion	Exp%	Act%
105.10	100	100
120.10	54.50	41.34
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\30\04302045.D Vial: 10
Acq On : 1 May 2020 5:48 Operator: SC
Sample : P2002103-004 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 06:24:11 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04302045.D\data.ms

(82) 1,2,4-Trimethylbenzene (T)

18.383min (-0.011) 0.47ng m

response 22025

Ion	Exp%	Act%
105.10	100	100
120.10	54.50	47.08
0.00	0.00	0.00
0.00	0.00	0.00

IPC

5/1/20

5/4/20

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302046.D Vial: 11
Acq On : 1 May 2020 6:22 Operator: SC
Sample : P2002103-005 (400mL) Inst : MS09
Misc : S34-04212006

5/1/20

Quant Time: May 01 15:06:24 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	147533	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	622438	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	271160	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	220871	11.555	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.48%				
57) Toluene-d8 (SS2)	13.54	98	677729	12.944	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.52%				
73) Bromofluorobenzene (SS3)	17.05	174	263000	12.499	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.00%				
Target Compounds							Qvalue
2) Propene	3.88	42	6414	1.024	ng	#	60
3) Dichlorodifluoromethan...	3.98	85	54989	2.310	ng		100
4) Chloromethane	4.18	50	923	0.105	ng		88
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	366	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	4.69	54	121	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.34	45	9150	1.928	ng		84
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	5.70	56	4578	1.055	ng		95
13) Acetone	5.84	58	32813m	5.758	ng		
14) Trichlorofluoromethane	6.02	101	7138	0.301	ng		97
15) 2-Propanol (Isopropanol)	6.17	45	3219	0.178	ng		68
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	6.87	84	121	N.D.			
20) 3-Chloro-1-propene (Al...	6.92	41	500	N.D.			
21) Trichlorotrifluoroethane	7.18	151	572320	46.426	ng		100
22) Carbon Disulfide	7.15	76	58032	1.746	ng	#	36
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	8.19	63	464	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	8.53	72	12246	2.092	ng	#	89
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	9.22	57	1033	0.082	ng	#	87
32) Chloroform	9.28	83	7568	0.374	ng		98
34) Tetrahydrofuran (THF)	9.67	72	27627	4.659	ng		97
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	10.30	97	159	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.75	78	108896	2.684	ng		100
42) Carbon Tetrachloride	10.90	117	43785	2.087	ng		99
43) Cyclohexane	11.03	84	14669	0.923	ng		99
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	11.80	130	463093	32.955	ng		99
48) 1,4-Dioxane	11.83	88	169	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302046.D Vial: 11
Acq On : 1 May 2020 6:22 Operator: SC
Sample : P2002103-005 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 15:06:24 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

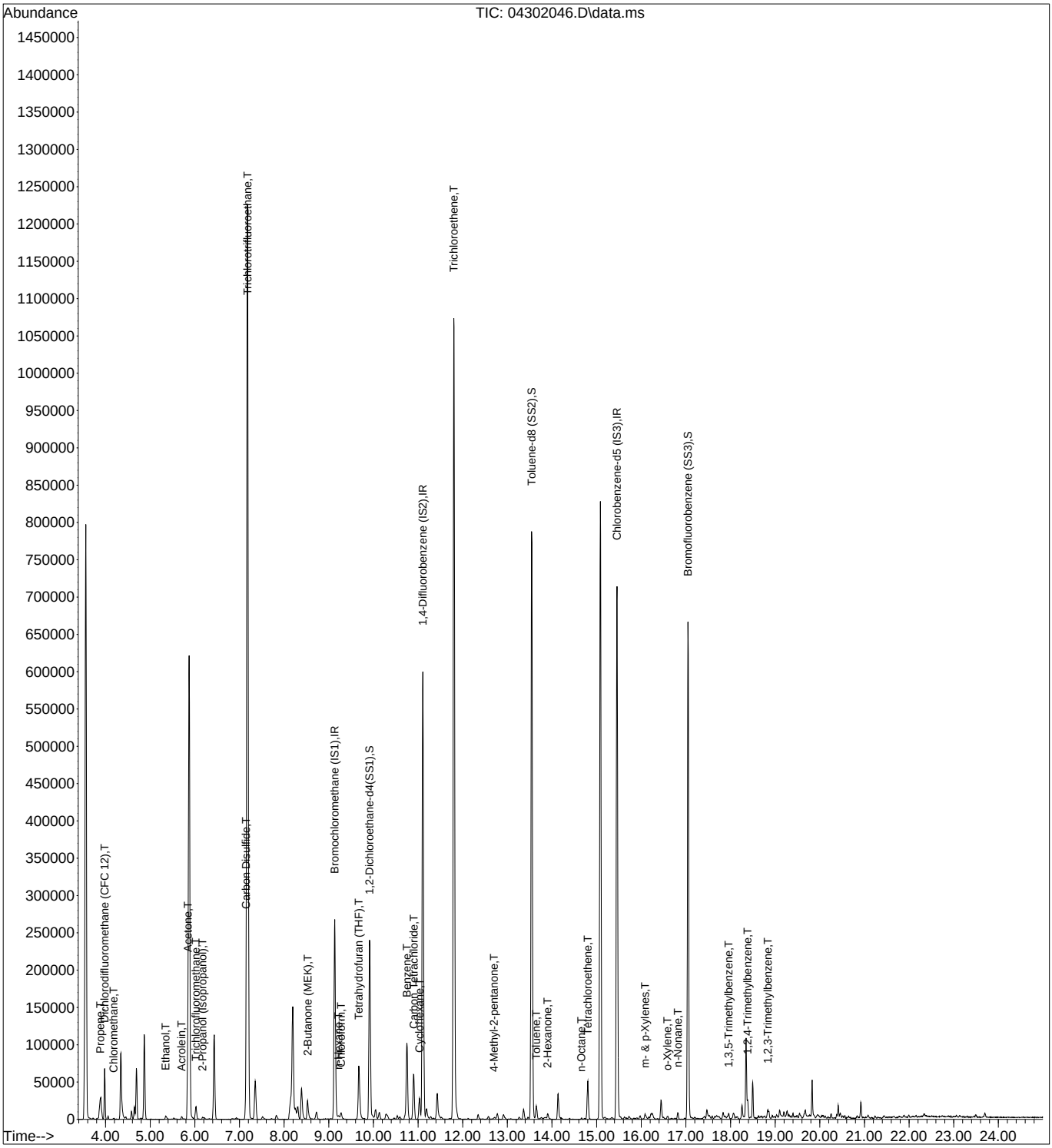
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	12.11	71	111	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	12.70	58	615	0.087 ng	#	22
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	13.65	91	13142	0.299 ng		100
59) 2-Hexanone	13.90	43	6762	0.516 ng		95
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D. d		
63) n-Octane	14.66	57	416	0.059 ng		81
64) Tetrachloroethene	14.80	166	18303	1.105 ng		96
65) Chlorobenzene	15.50	112	175	N.D.		
66) Ethylbenzene	15.91	91	1820	N.D.		
67) m- & p-Xylenes	16.08	91	7478	0.173 ng		95
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	16.58	91	3038	0.072 ng		95
71) n-Nonane	16.82	43	3334	0.244 ng		91
72) 1,1,2,2-Tetrachloroethane	16.68	83	231	N.D.		
74) Cumene	17.20	105	781	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	17.72	91	2157	N.D.		
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	17.87	105	2488	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	3657	0.075 ng		99
80) alpha-Methylstyrene	18.12	118	1019	N.D.		
81) 2-Ethyltoluene	18.15	105	1776	N.D.		
82) 1,2,4-Trimethylbenzene	18.38	105	13385	0.285 ng		88
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	18.62	91	461	N.D.		
85) 1,3-Dichlorobenzene	18.55	146	111	N.D.		
86) 1,4-Dichlorobenzene	18.62	146	119	N.D.		
87) sec-Butylbenzene	18.67	105	1501	N.D.		
88) 4-Isopropyltoluene (p-...	18.83	119	2276	N.D.		
89) 1,2,3-Trimethylbenzene	18.83	105	4958	0.105 ng		89
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	18.99	68	253	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	20.91	128	1007	N.D.		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	18.38	119	1619	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302046.D Vial: 11
Acq On : 1 May 2020 6:22 Operator: SC
Sample : P2002103-005 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 15:06:24 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302046.D Vial: 11
Acq On : 1 May 2020 6:22 Operator: SC
Sample : P2002103-005 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 15:06:24 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/1/20

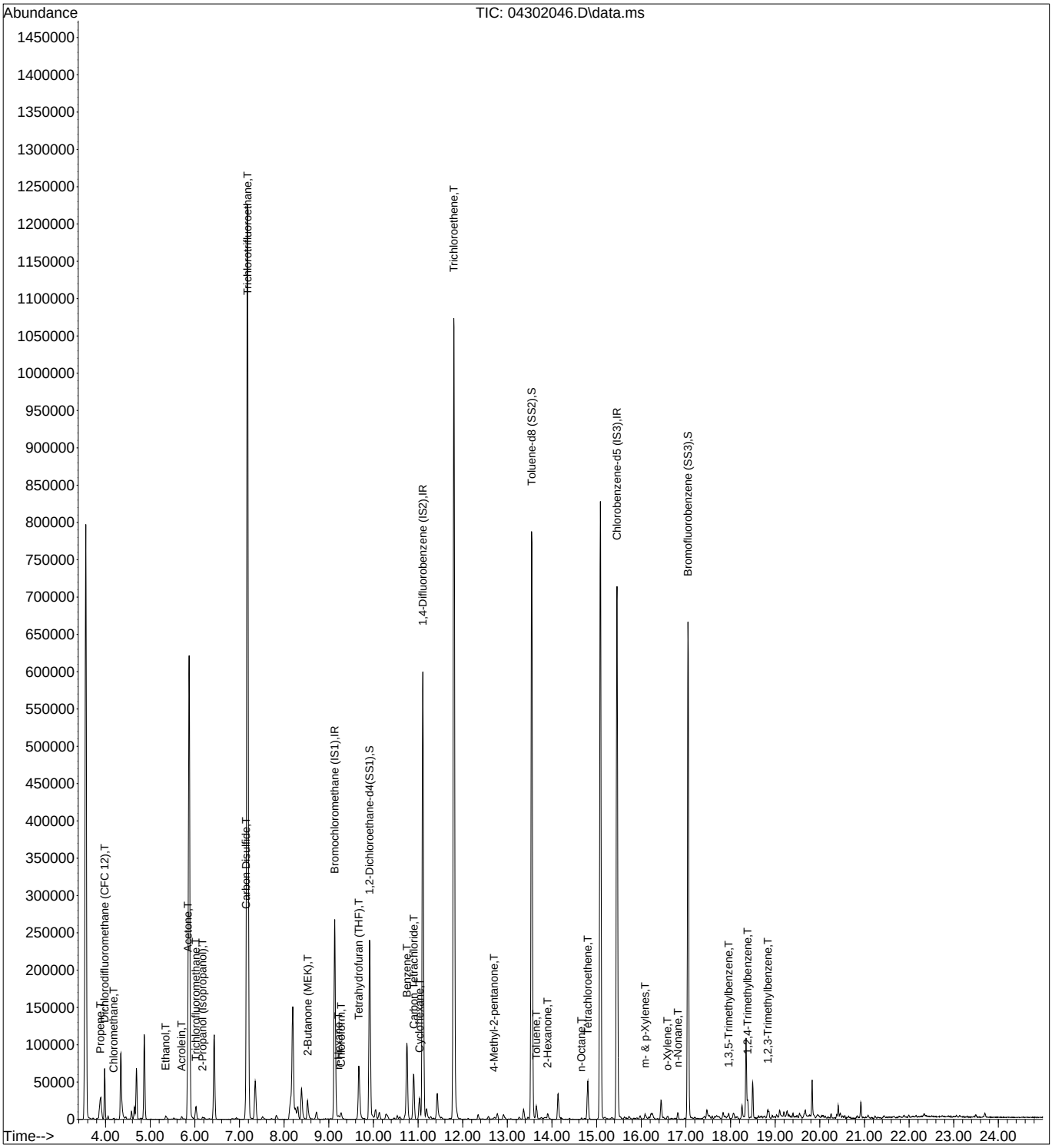
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	147533	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	622438	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	271160	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	220871	11.555	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.48%				
57) Toluene-d8 (SS2)	13.54	98	677729	12.944	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.52%				
73) Bromofluorobenzene (SS3)	17.05	174	263000	12.499	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.00%				
Target Compounds							Qvalue
2) Propene	3.88	42	6414	1.024	ng	#	60
3) Dichlorodifluoromethan...	3.98	85	54989	2.310	ng		100
4) Chloromethane	4.18	50	923	0.105	ng		88
10) Ethanol	5.34	45	9150	1.928	ng		84
12) Acrolein	5.70	56	4578	1.055	ng		95
13) Acetone	5.84	58	32813m	5.758	ng		
14) Trichlorofluoromethane	6.02	101	7138	0.301	ng		97
15) 2-Propanol (Isopropanol)	6.17	45	3219	0.178	ng		68
21) Trichlorotrifluoroethane	7.18	151	572320	46.426	ng		100
22) Carbon Disulfide	7.15	76	58032	1.746	ng	#	36
27) 2-Butanone (MEK)	8.53	72	12246	2.092	ng	#	89
31) n-Hexane	9.22	57	1033	0.082	ng	#	87
32) Chloroform	9.28	83	7568	0.374	ng		98
34) Tetrahydrofuran (THF)	9.67	72	27627	4.659	ng		97
41) Benzene	10.75	78	108896	2.684	ng		100
42) Carbon Tetrachloride	10.90	117	43785	2.087	ng		99
43) Cyclohexane	11.03	84	14669	0.923	ng		99
47) Trichloroethene	11.80	130	463093	32.955	ng		99
53) 4-Methyl-2-pentanone	12.70	58	615	0.087	ng	#	22
58) Toluene	13.65	91	13142	0.299	ng		100
59) 2-Hexanone	13.90	43	6762	0.516	ng		95
63) n-Octane	14.66	57	416	0.059	ng		81
64) Tetrachloroethene	14.80	166	18303	1.105	ng		96
67) m- & p-Xylenes	16.08	91	7478	0.173	ng		95
70) o-Xylene	16.58	91	3038	0.072	ng		95
71) n-Nonane	16.82	43	3334	0.244	ng		91
79) 1,3,5-Trimethylbenzene	17.96	105	3657	0.075	ng		99
82) 1,2,4-Trimethylbenzene	18.38	105	13385	0.285	ng		88
89) 1,2,3-Trimethylbenzene	18.83	105	4958	0.105	ng		89

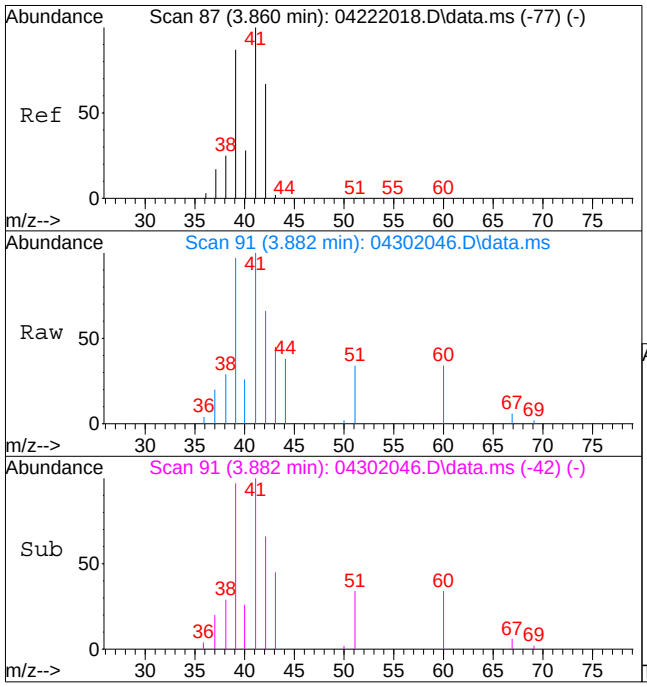
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302046.D Vial: 11
Acq On : 1 May 2020 6:22 Operator: SC
Sample : P2002103-005 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 15:06:24 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

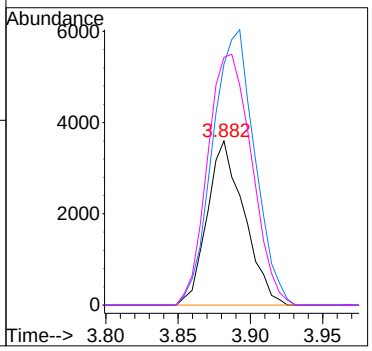


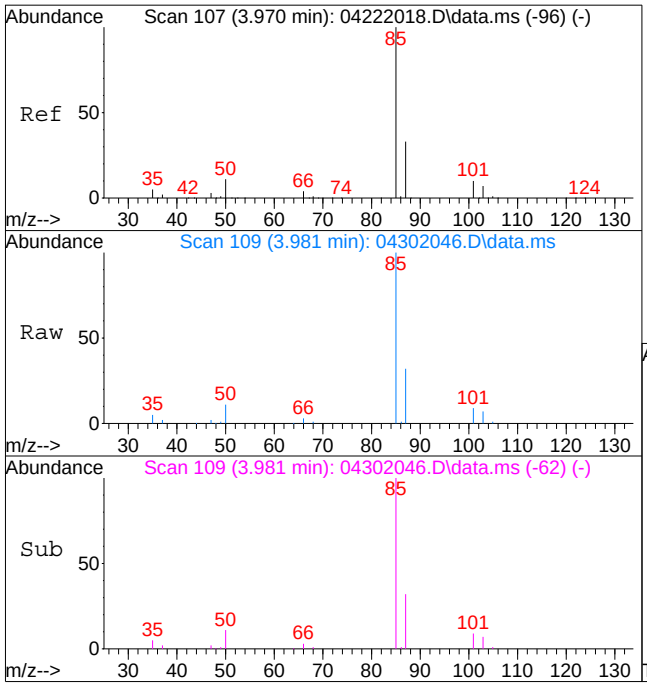


#2
Propene
Concen: 1.02 ng
RT: 3.88 min Scan# 91
Delta R.T. 0.022 min
Lab File: 04302046.D
Acq: 1 May 2020 6:22

Tgt Ion: 42 Resp: 6414

Ion	Ratio	Lower	Upper
42	100		
39	191.4	106.4	146.4#
41	182.2	128.8	168.8#

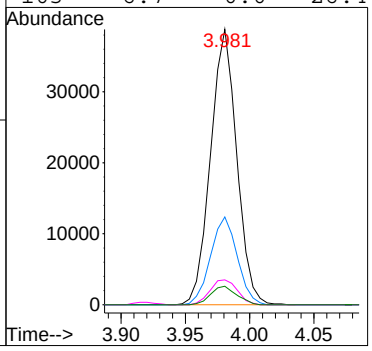


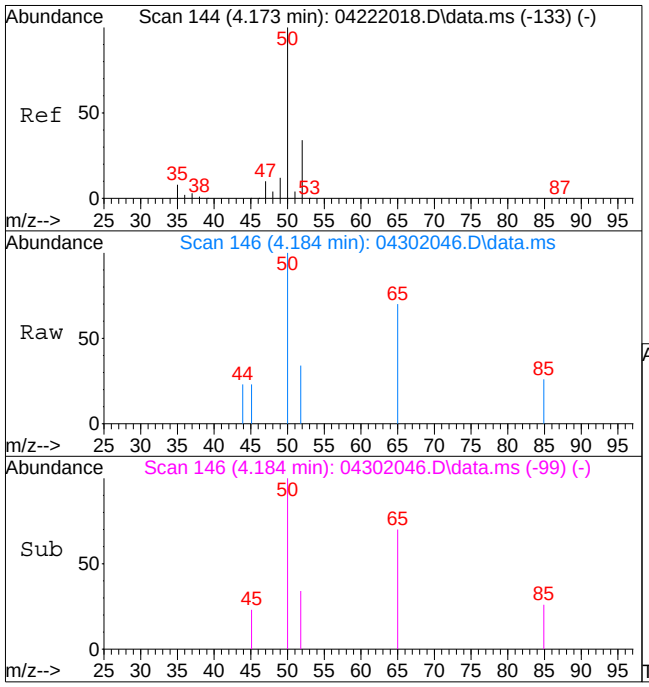


#3
Dichlorodifluoromethane (CFC 12)
Concen: 2.31 ng
RT: 3.98 min Scan# 109
Delta R.T. 0.011 min
Lab File: 04302046.D
Acq: 1 May 2020 6:22

Tgt Ion: 85 Resp: 54989

Ion	Ratio	Lower	Upper
85	100		
87	32.5	12.4	52.4
101	9.5	0.0	29.9
103	6.7	0.0	26.4

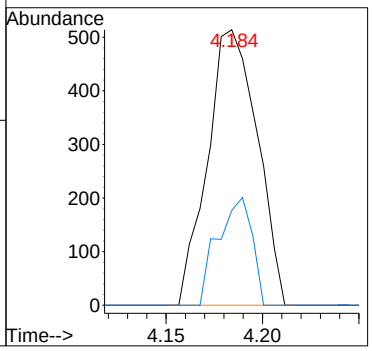


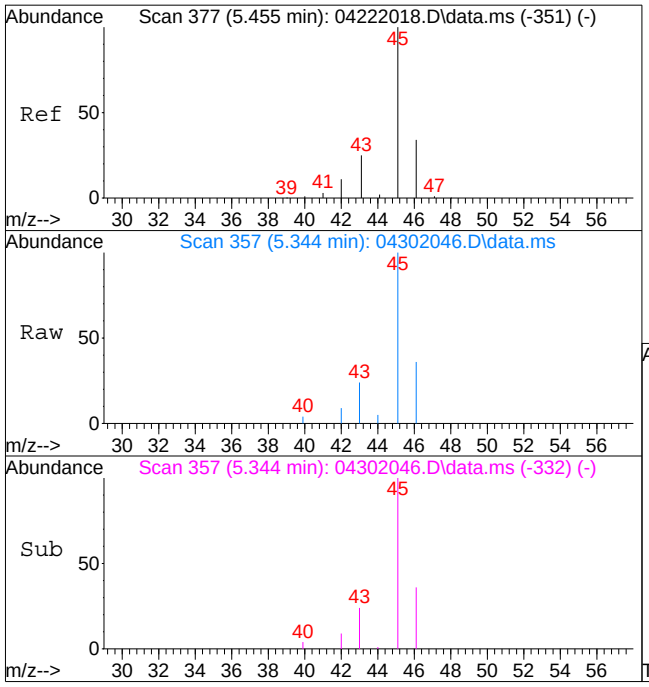


#4
Chloromethane
Concen: 0.11 ng
RT: 4.18 min Scan# 146
Delta R.T. 0.011 min
Lab File: 04302046.D
Acq: 1 May 2020 6:22

Tgt Ion: 50 Resp: 923

Ion	Ratio	Lower	Upper
50	100		
52	26.9	13.7	53.7

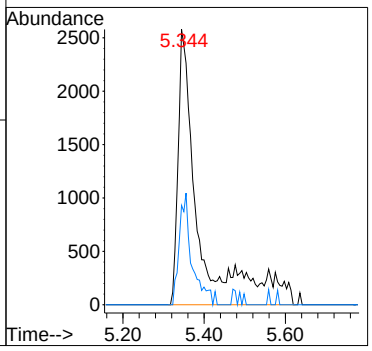


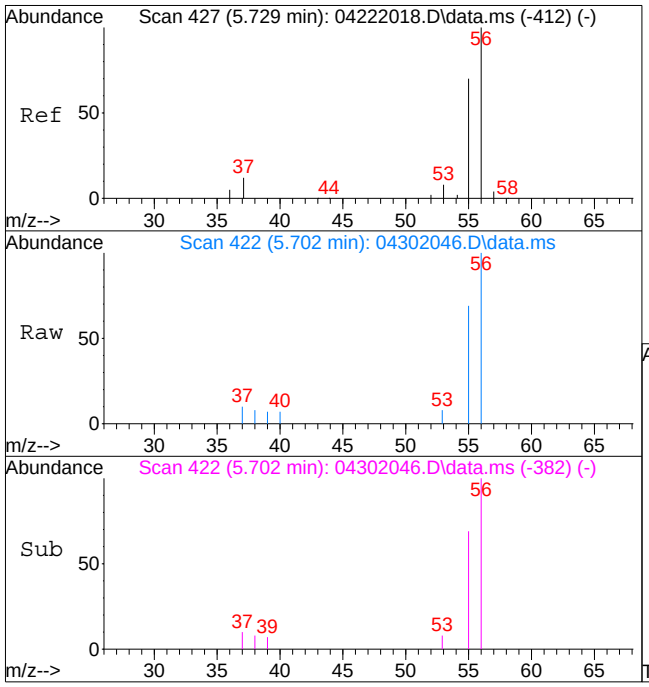


#10
Ethanol
Concen: 1.93 ng
RT: 5.34 min Scan# 357
Delta R.T. -0.110 min
Lab File: 04302046.D
Acq: 1 May 2020 6:22

Tgt Ion: 45 Resp: 9150

Ion	Ratio	Lower	Upper
45	100		
46	25.1	14.0	54.0

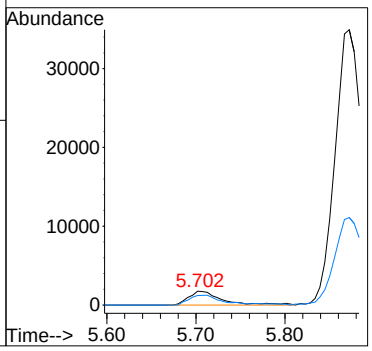


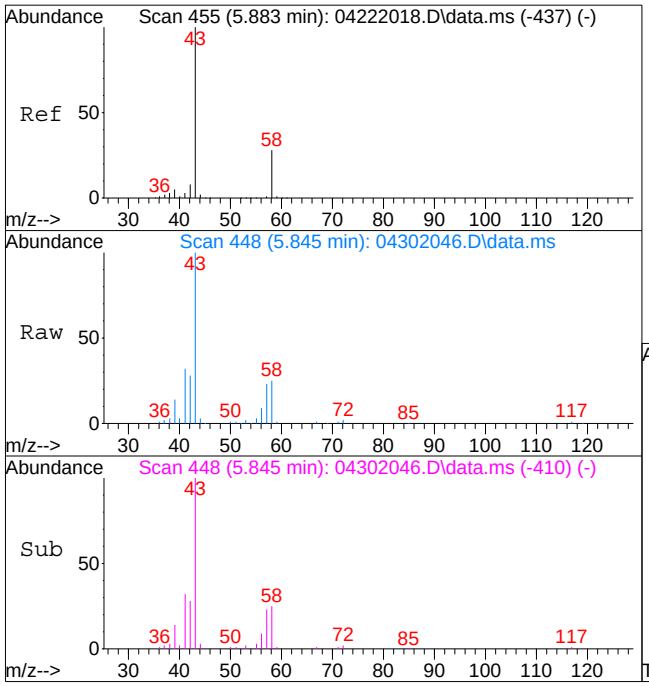


#12
Acrolein
Concen: 1.06 ng
RT: 5.70 min Scan# 422
Delta R.T. -0.028 min
Lab File: 04302046.D
Acq: 1 May 2020 6:22

Tgt Ion: 56 Resp: 4578

Ion	Ratio	Lower	Upper
56	100		
55	74.7	50.4	90.4

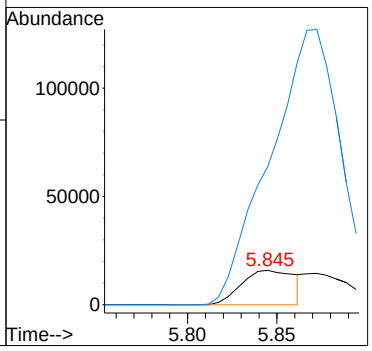


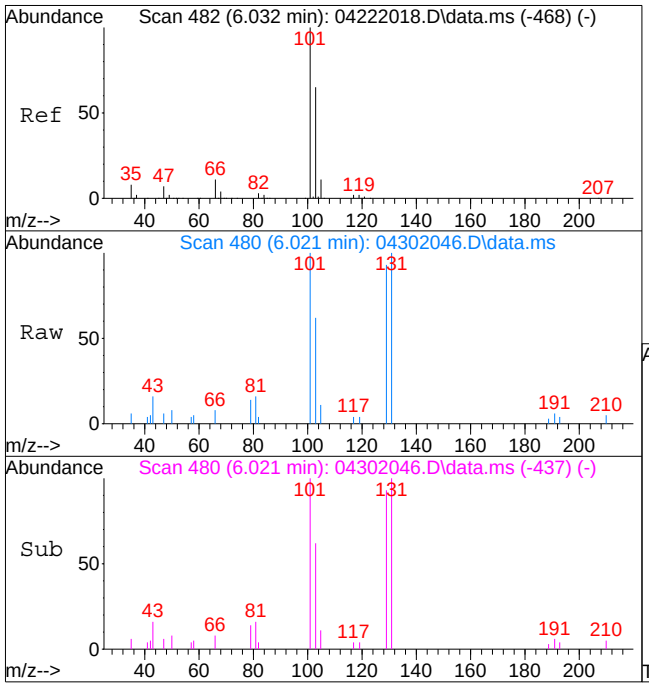


#13
Acetone
Concen: 5.76 ng m
RT: 5.84 min Scan# 448
Delta R.T. -0.039 min
Lab File: 04302046.D
Acq: 1 May 2020 6:22

Tgt Ion: 58 Resp: 32813

Ion	Ratio	Lower	Upper
58	100		
43	1080.8	319.3	379.3#

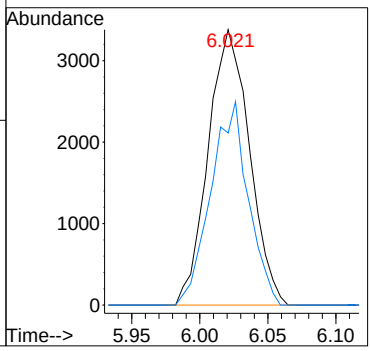


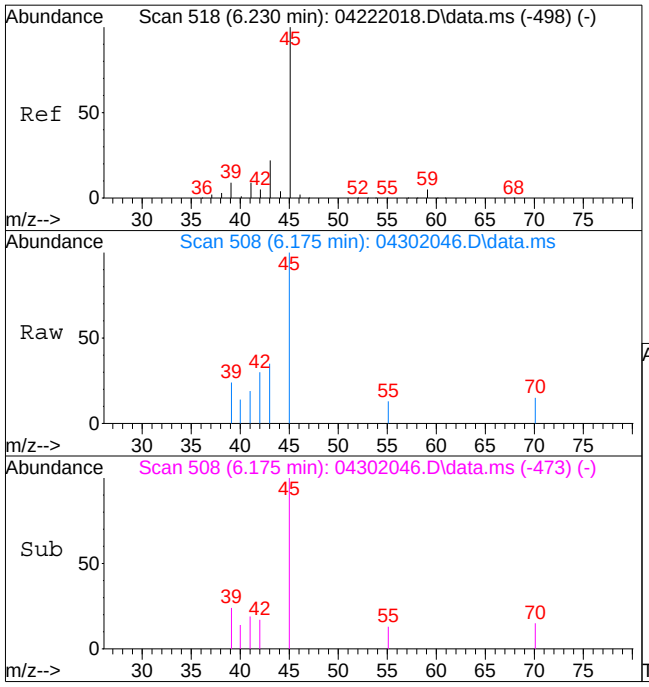


#14
Trichlorofluoromethane
Concen: 0.30 ng
RT: 6.02 min Scan# 480
Delta R.T. -0.011 min
Lab File: 04302046.D
Acq: 1 May 2020 6:22

Tgt Ion:101 Resp: 7138

Ion	Ratio	Lower	Upper
101	100		
103	67.1	44.7	84.7

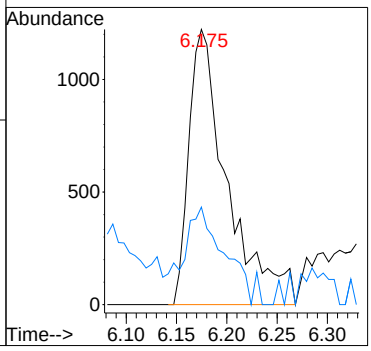


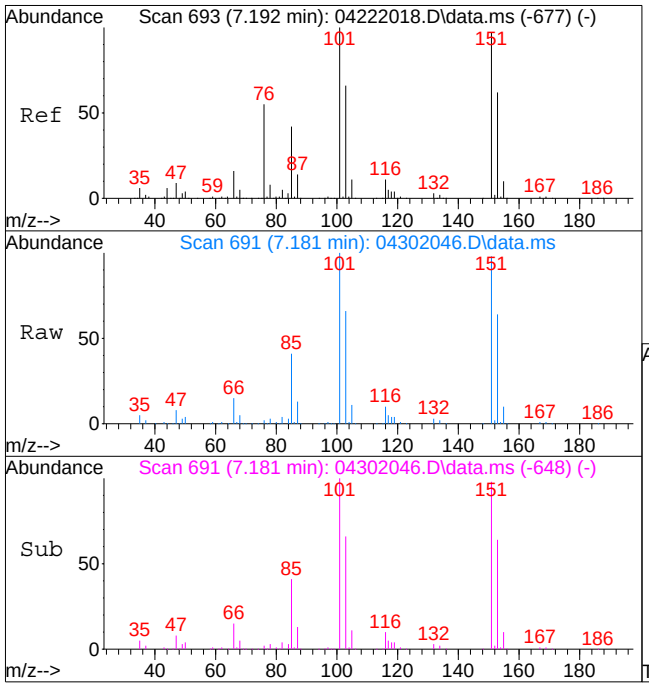


#15
2-Propanol (Isopropanol)
Concen: 0.18 ng
RT: 6.17 min Scan# 508
Delta R.T. -0.055 min
Lab File: 04302046.D
Acq: 1 May 2020 6:22

Tgt Ion: 45 Resp: 3219

Ion	Ratio	Lower	Upper
45	100		
43	38.1	2.6	42.6

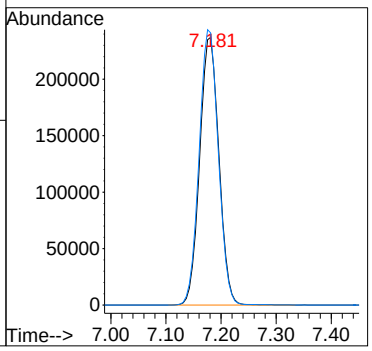


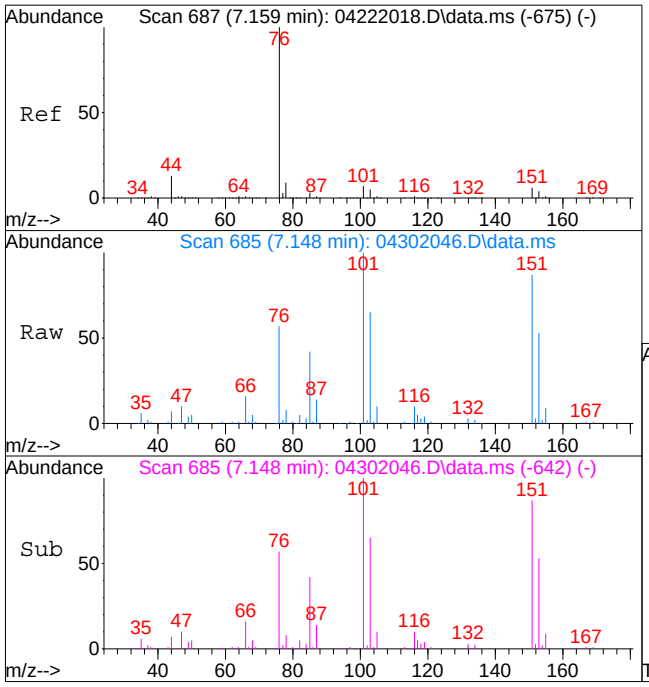


#21
Trichlorotrifluoroethane
Concen: 46.43 ng
RT: 7.18 min Scan# 691
Delta R.T. -0.011 min
Lab File: 04302046.D
Acq: 1 May 2020 6:22

Tgt Ion:151 Resp: 572320

Ion	Ratio	Lower	Upper
151	100		
101	102.8	82.9	122.9

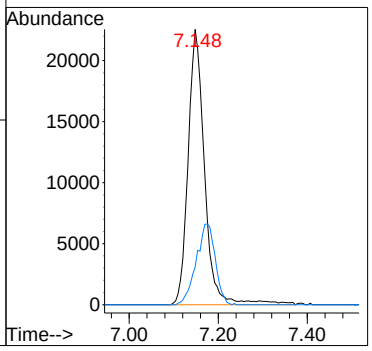


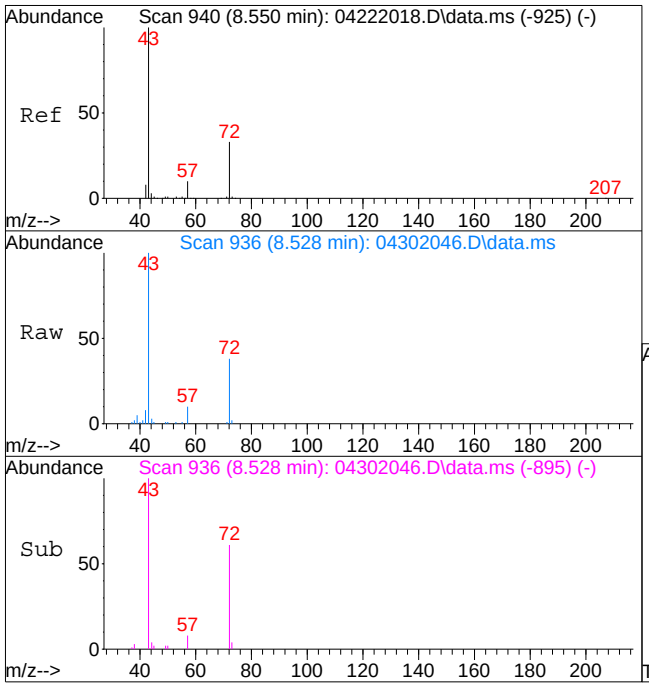


#22
Carbon Disulfide
Concen: 1.75 ng
RT: 7.15 min Scan# 685
Delta R.T. -0.011 min
Lab File: 04302046.D
Acq: 1 May 2020 6:22

Tgt Ion: 76 Resp: 58032

Ion	Ratio	Lower	Upper
76	100		
78	34.0	0.0	30.2#

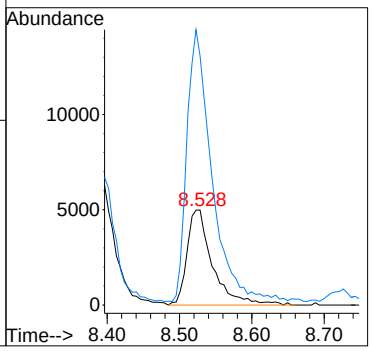


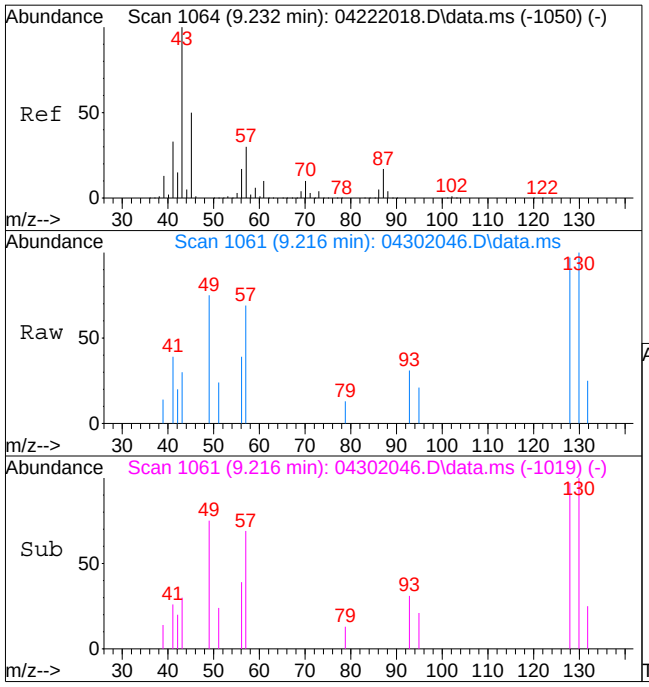


#27
2-Butanone (MEK)
Concen: 2.09 ng
RT: 8.53 min Scan# 936
Delta R.T. -0.022 min
Lab File: 04302046.D
Acq: 1 May 2020 6:22

Tgt Ion: 72 Resp: 12246

Ion	Ratio	Lower	Upper
72	100		
43	277.4	278.8	318.8#

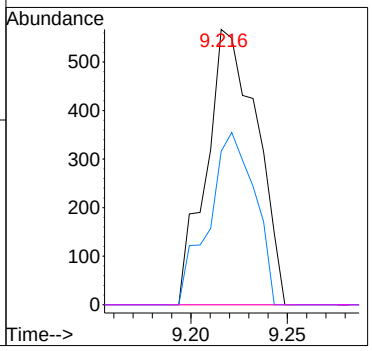


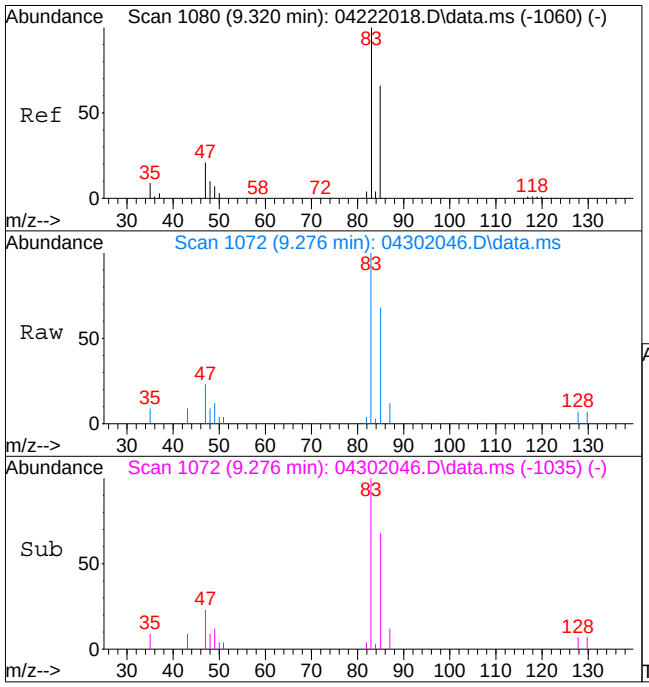


#31
n-Hexane
Concen: 0.08 ng
RT: 9.22 min Scan# 1061
Delta R.T. -0.017 min
Lab File: 04302046.D
Acq: 1 May 2020 6:22

Tgt Ion: 57 Resp: 1033

Ion	Ratio	Lower	Upper
57	100		
56	57.0	44.0	66.0
86	0.0	15.0	22.4#

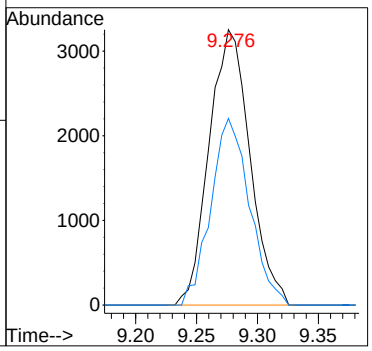


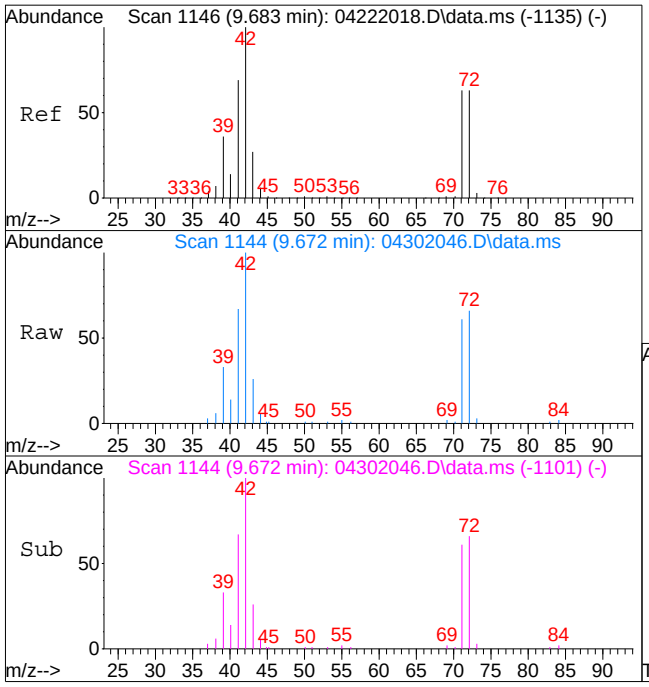


#32
Chloroform
Concen: 0.37 ng
RT: 9.28 min Scan# 1072
Delta R.T. -0.044 min
Lab File: 04302046.D
Acq: 1 May 2020 6:22

Tgt Ion: 83 Resp: 7568

Ion	Ratio	Lower	Upper
83	100		
85	64.6	45.8	85.8

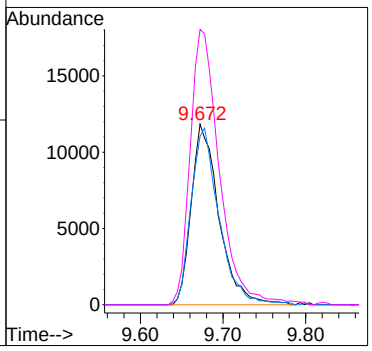


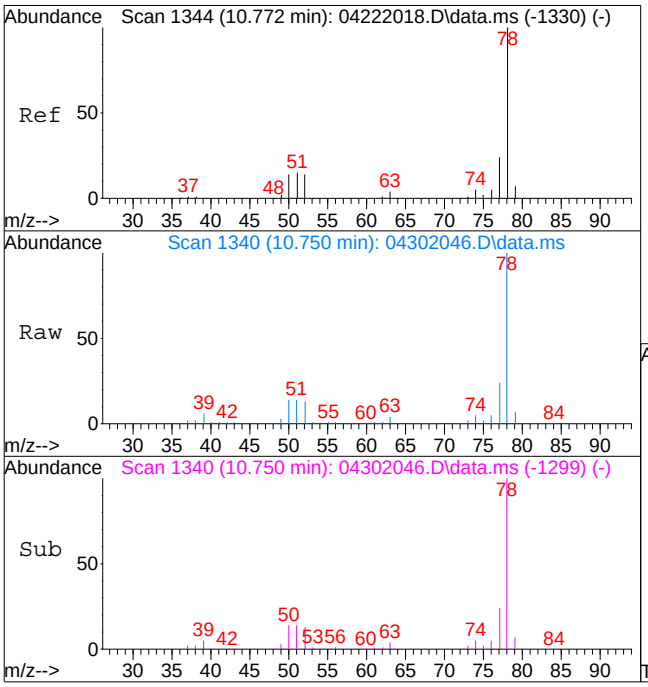


#34
Tetrahydrofuran (THF)
Concen: 4.66 ng
RT: 9.67 min Scan# 1144
Delta R.T. -0.011 min
Lab File: 04302046.D
Acq: 1 May 2020 6:22

Tgt Ion: 72 Resp: 27627

Ion	Ratio	Lower	Upper
72	100		
71	98.6	77.9	117.9
42	160.5	133.9	173.9

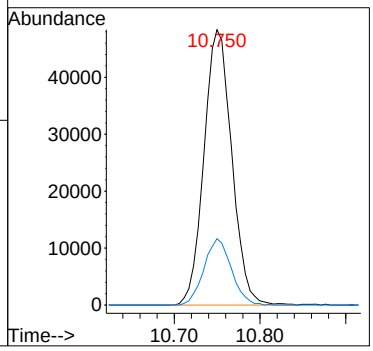


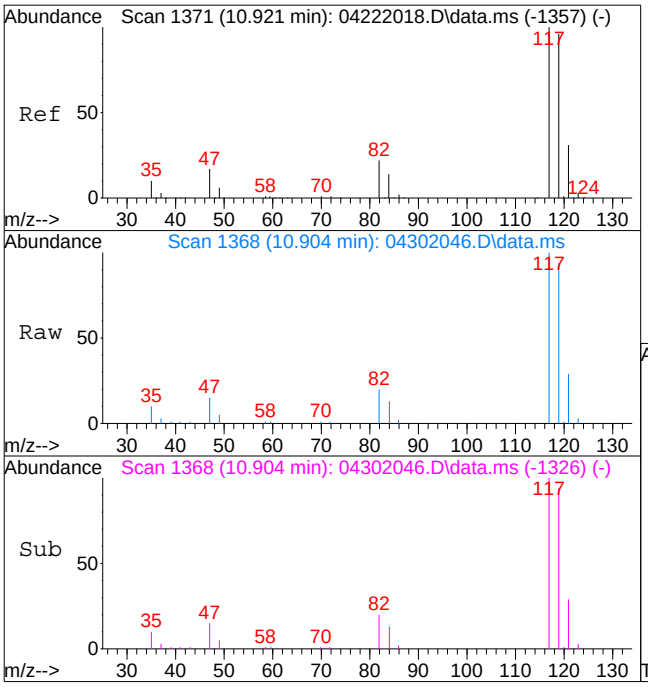


#41
Benzene
Concen: 2.68 ng
RT: 10.75 min Scan# 1340
Delta R.T. -0.022 min
Lab File: 04302046.D
Acq: 1 May 2020 6:22

Tgt Ion: 78 Resp: 108896

Ion	Ratio	Lower	Upper
78	100		
77	23.7	3.6	43.6

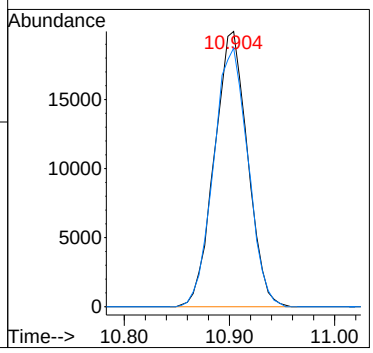


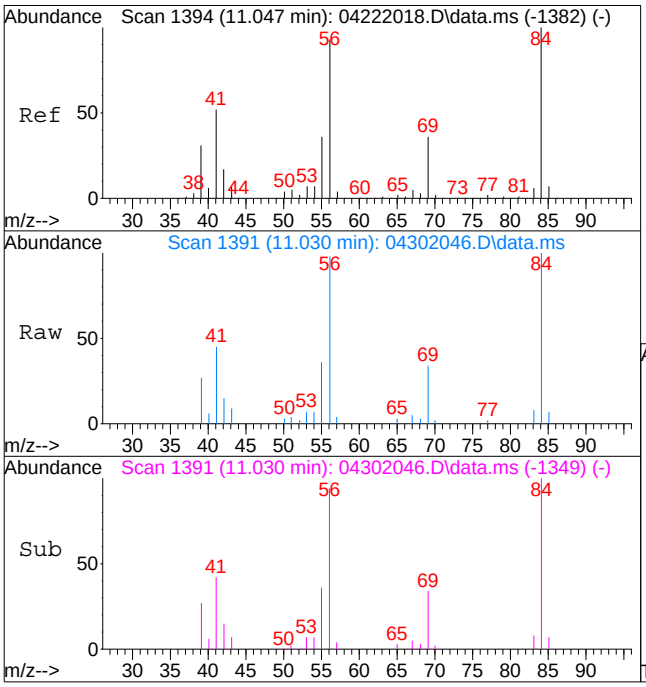


#42
Carbon Tetrachloride
Concen: 2.09 ng
RT: 10.90 min Scan# 1368
Delta R.T. -0.017 min
Lab File: 04302046.D
Acq: 1 May 2020 6:22

Tgt Ion:117 Resp: 43785

Ion	Ratio	Lower	Upper
117	100		
119	97.5	76.5	116.5

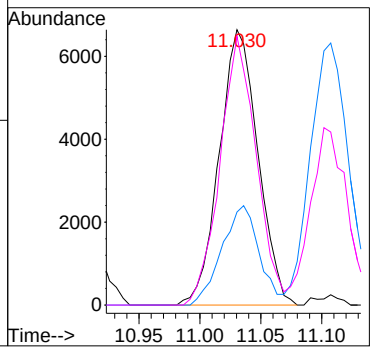


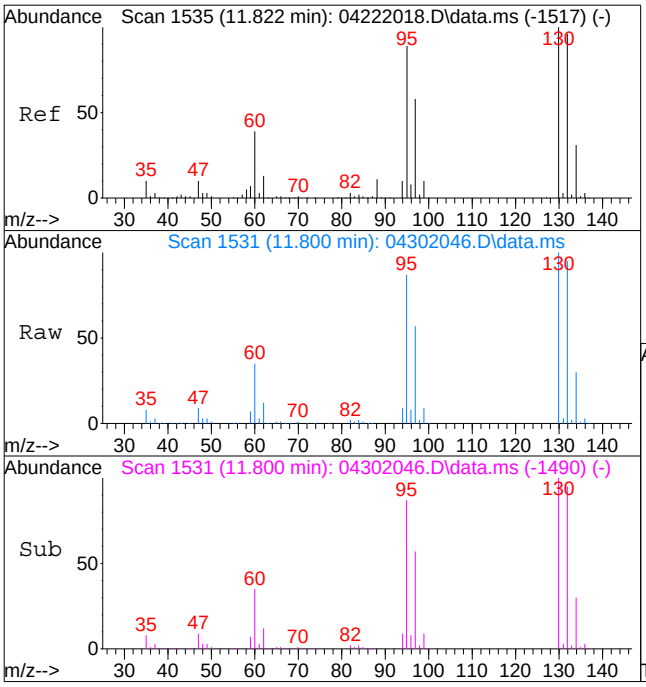


#43
Cyclohexane
Concen: 0.92 ng
RT: 11.03 min Scan# 1391
Delta R.T. -0.017 min
Lab File: 04302046.D
Acq: 1 May 2020 6:22

Tgt Ion: 84 Resp: 14669

Ion	Ratio	Lower	Upper
84	100		
69	34.5	15.8	55.8
56	91.5	72.0	112.0

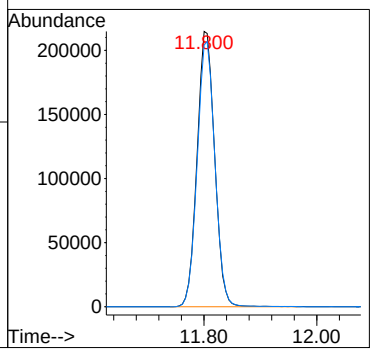


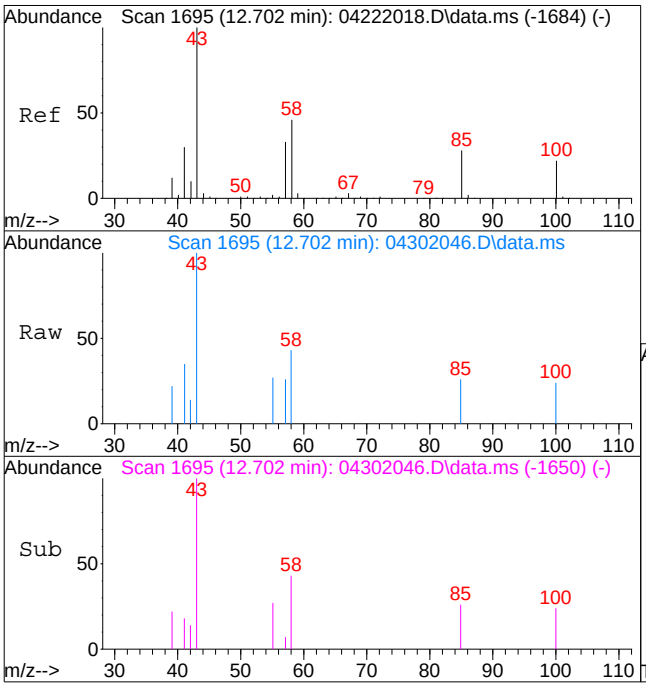


#47
Trichloroethene
Concen: 32.95 ng
RT: 11.80 min Scan# 1531
Delta R.T. -0.022 min
Lab File: 04302046.D
Acq: 1 May 2020 6:22

Tgt Ion:130 Resp: 463093

Ion	Ratio	Lower	Upper
130	100		
132	97.3	76.4	116.4

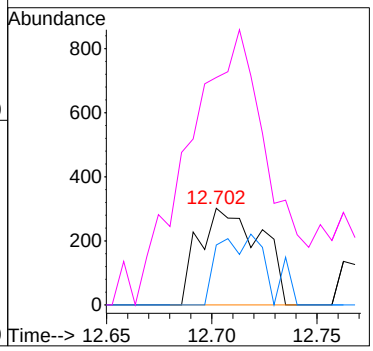


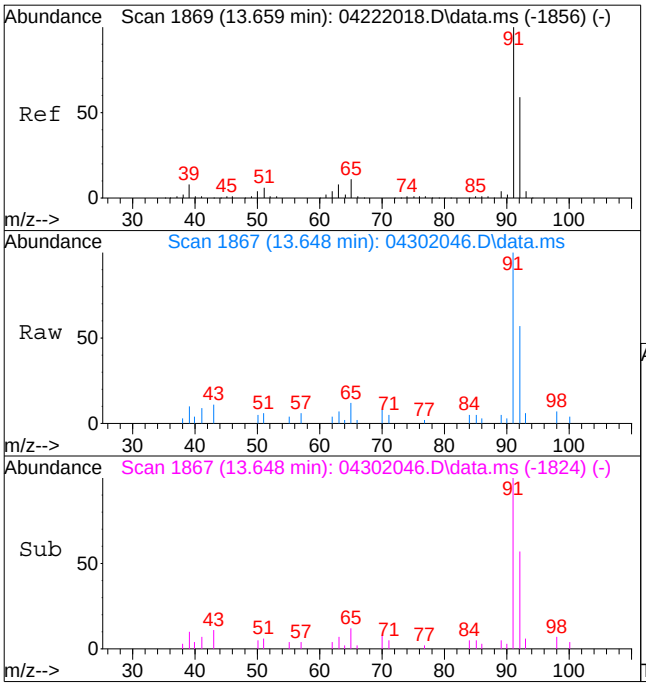


#53
4-Methyl-2-pentanone
Concen: 0.09 ng
RT: 12.70 min Scan# 1695
Delta R.T. -0.000 min
Lab File: 04302046.D
Acq: 1 May 2020 6:22

Tgt Ion: 58 Resp: 615

Ion	Ratio	Lower	Upper
58	100		
85	59.2	52.2	78.2
43	380.3	176.2	264.4#

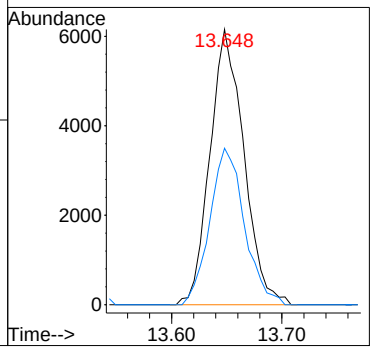


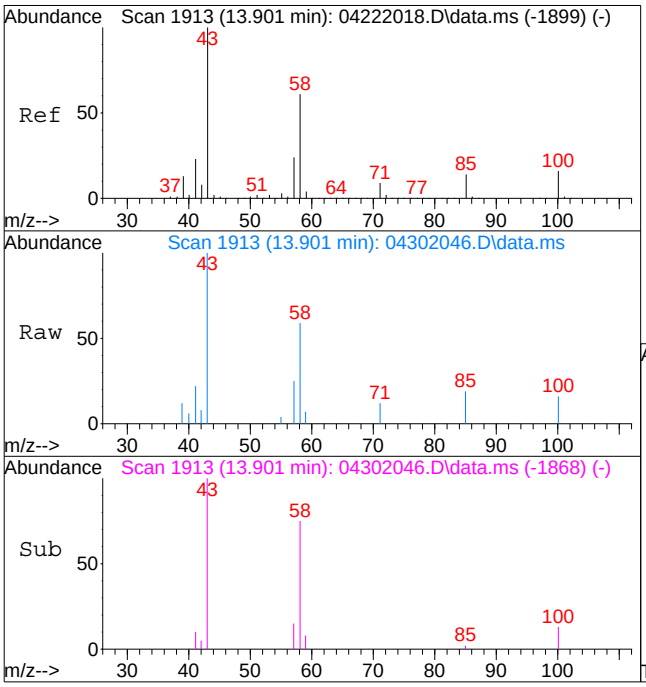


#58
Toluene
Concen: 0.30 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.011 min
Lab File: 04302046.D
Acq: 1 May 2020 6:22

Tgt Ion: 91 Resp: 13142

Ion	Ratio	Lower	Upper
91	100		
92	58.1	38.2	78.2

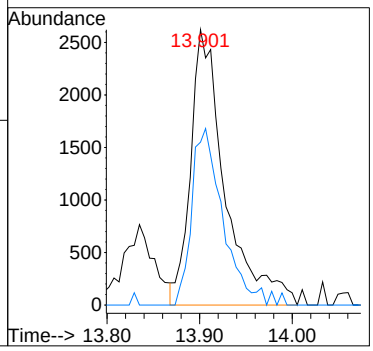


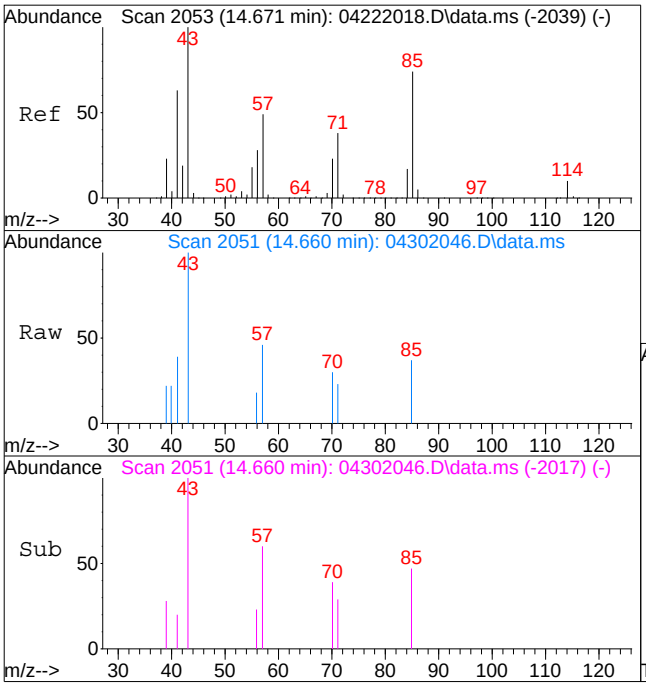


#59
2-Hexanone
Concen: 0.52 ng
RT: 13.90 min Scan# 1913
Delta R.T. -0.000 min
Lab File: 04302046.D
Acq: 1 May 2020 6:22

Tgt Ion: 43 Resp: 6762

Ion	Ratio	Lower	Upper
43	100		
58	57.7	41.1	81.1

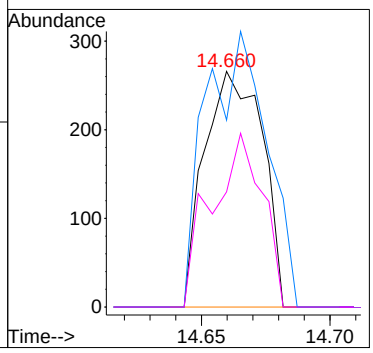


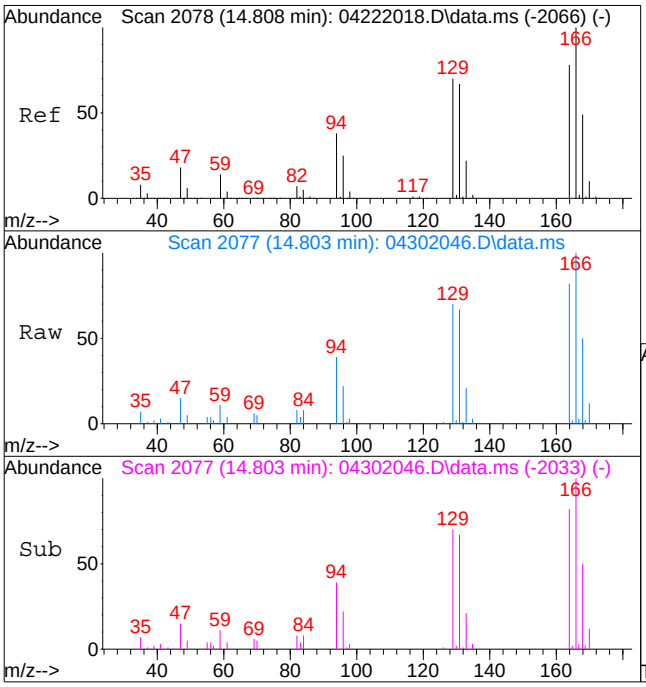


#63
n-Octane
Concen: 0.06 ng
RT: 14.66 min Scan# 2051
Delta R.T. -0.011 min
Lab File: 04302046.D
Acq: 1 May 2020 6:22

Tgt Ion: 57 Resp: 416

Ion	Ratio	Lower	Upper
57	100		
85	122.8	120.7	181.1
71	64.9	61.1	91.7

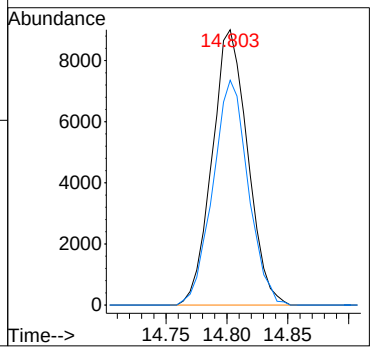


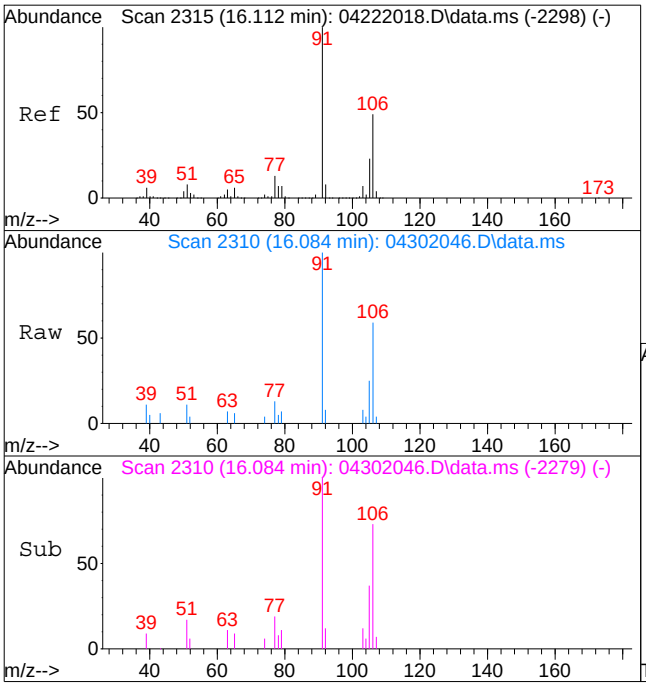


#64
Tetrachloroethene
Concen: 1.11 ng
RT: 14.80 min Scan# 2077
Delta R.T. -0.006 min
Lab File: 04302046.D
Acq: 1 May 2020 6:22

Tgt Ion:166 Resp: 18303

Ion	Ratio	Lower	Upper
166	100		
164	80.9	57.7	97.7

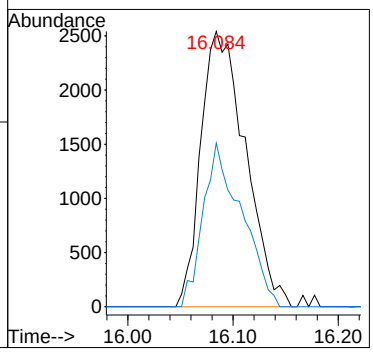


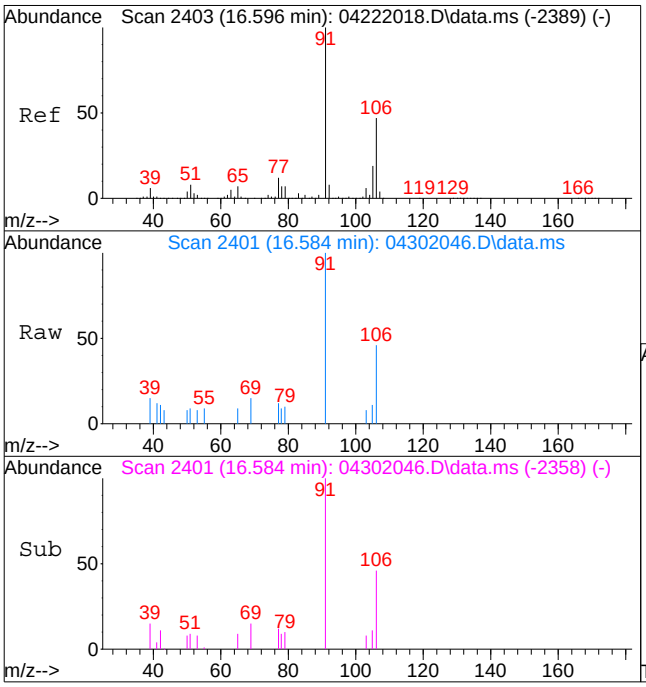


#67
m- & p-Xylenes
Concen: 0.17 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.028 min
Lab File: 04302046.D
Acq: 1 May 2020 6:22

Tgt Ion: 91 Resp: 7478

Ion	Ratio	Lower	Upper
91	100		
106	51.6	28.3	68.3

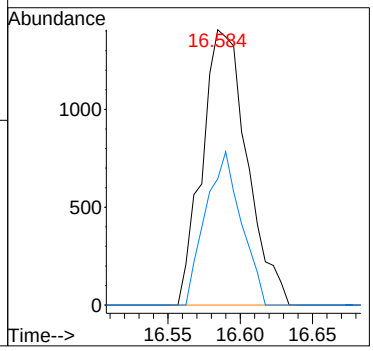


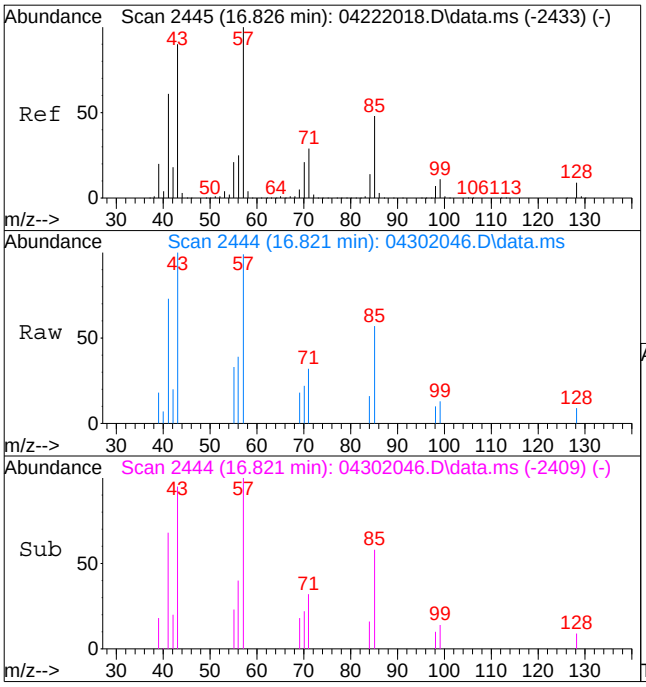


#70
o-Xylene
Concen: 0.07 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 04302046.D
Acq: 1 May 2020 6:22

Tgt Ion: 91 Resp: 3038

Ion	Ratio	Lower	Upper
91	100		
106	44.3	27.5	67.5

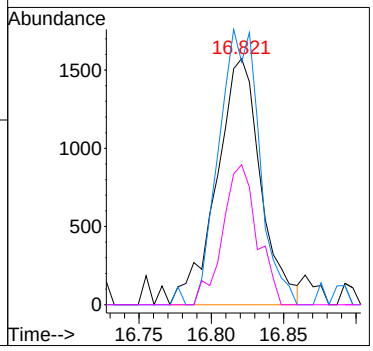


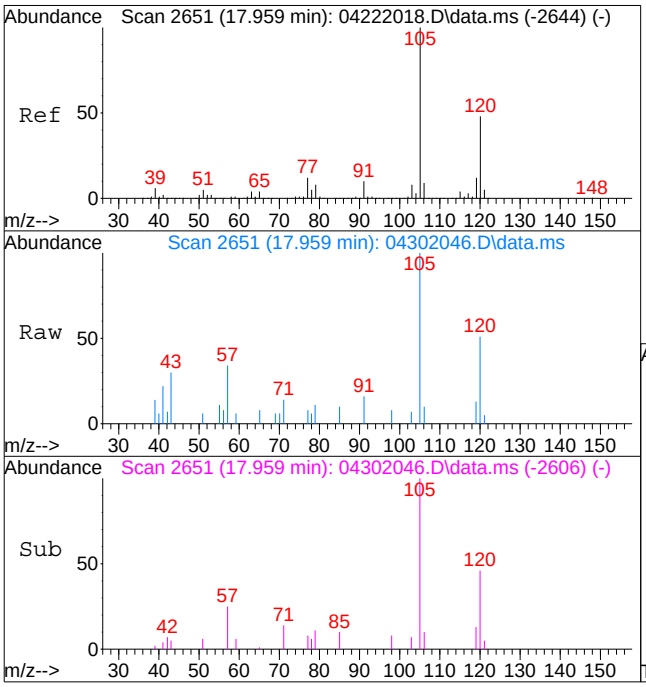


#71
n-Nonane
Concen: 0.24 ng
RT: 16.82 min Scan# 2444
Delta R.T. -0.006 min
Lab File: 04302046.D
Acq: 1 May 2020 6:22

Tgt Ion: 43 Resp: 3334

Ion	Ratio	Lower	Upper
43	100		
57	102.7	90.8	130.8
85	44.6	32.1	72.1

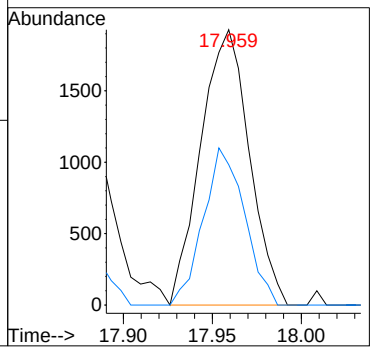


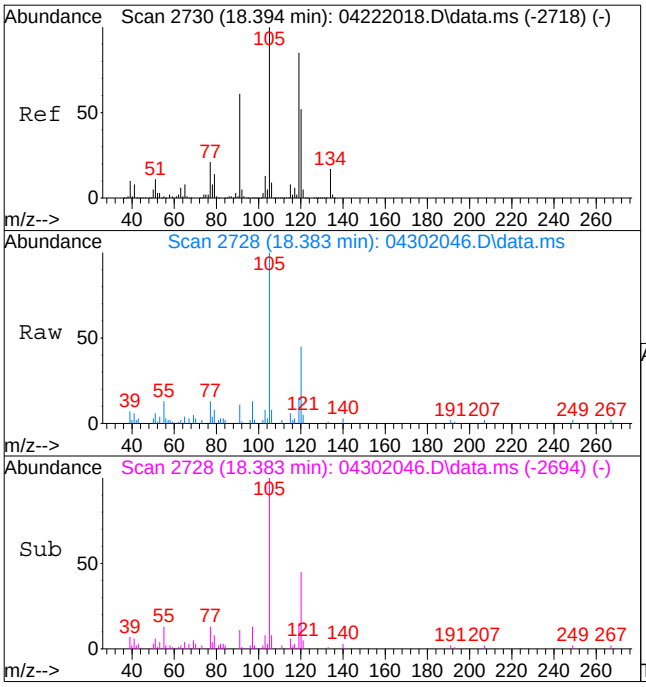


#79
1,3,5-Trimethylbenzene
Concen: 0.08 ng
RT: 17.96 min Scan# 2651
Delta R.T. -0.000 min
Lab File: 04302046.D
Acq: 1 May 2020 6:22

Tgt Ion:105 Resp: 3657

Ion	Ratio	Lower	Upper
105	100		
120	48.5	29.5	69.5

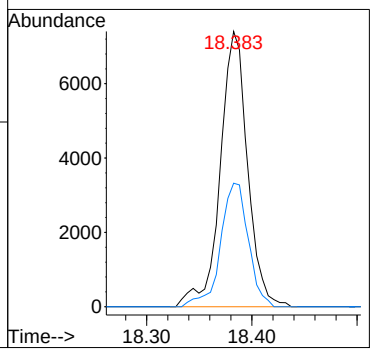


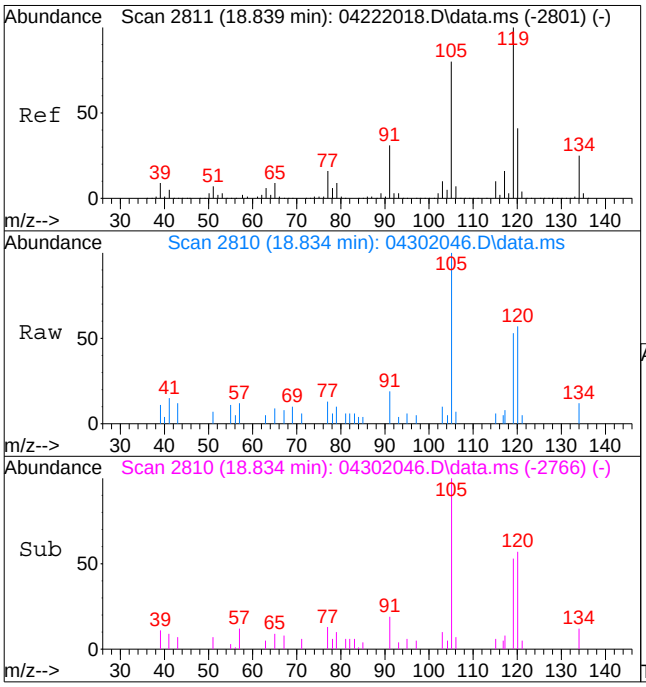


#82
1,2,4-Trimethylbenzene
Concen: 0.28 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 04302046.D
Acq: 1 May 2020 6:22

Tgt Ion:105 Resp: 13385

Ion	Ratio	Lower	Upper
105	100		
120	45.6	34.5	74.5

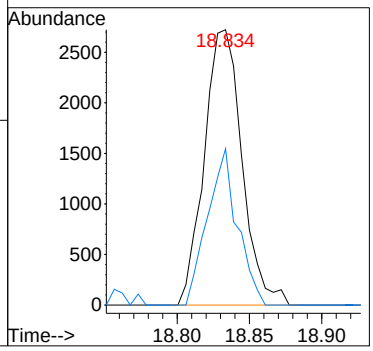




#89
1,2,3-Trimethylbenzene
Concen: 0.11 ng
RT: 18.83 min Scan# 2810
Delta R.T. -0.006 min
Lab File: 04302046.D
Acq: 1 May 2020 6:22

Tgt Ion:105 Resp: 4958

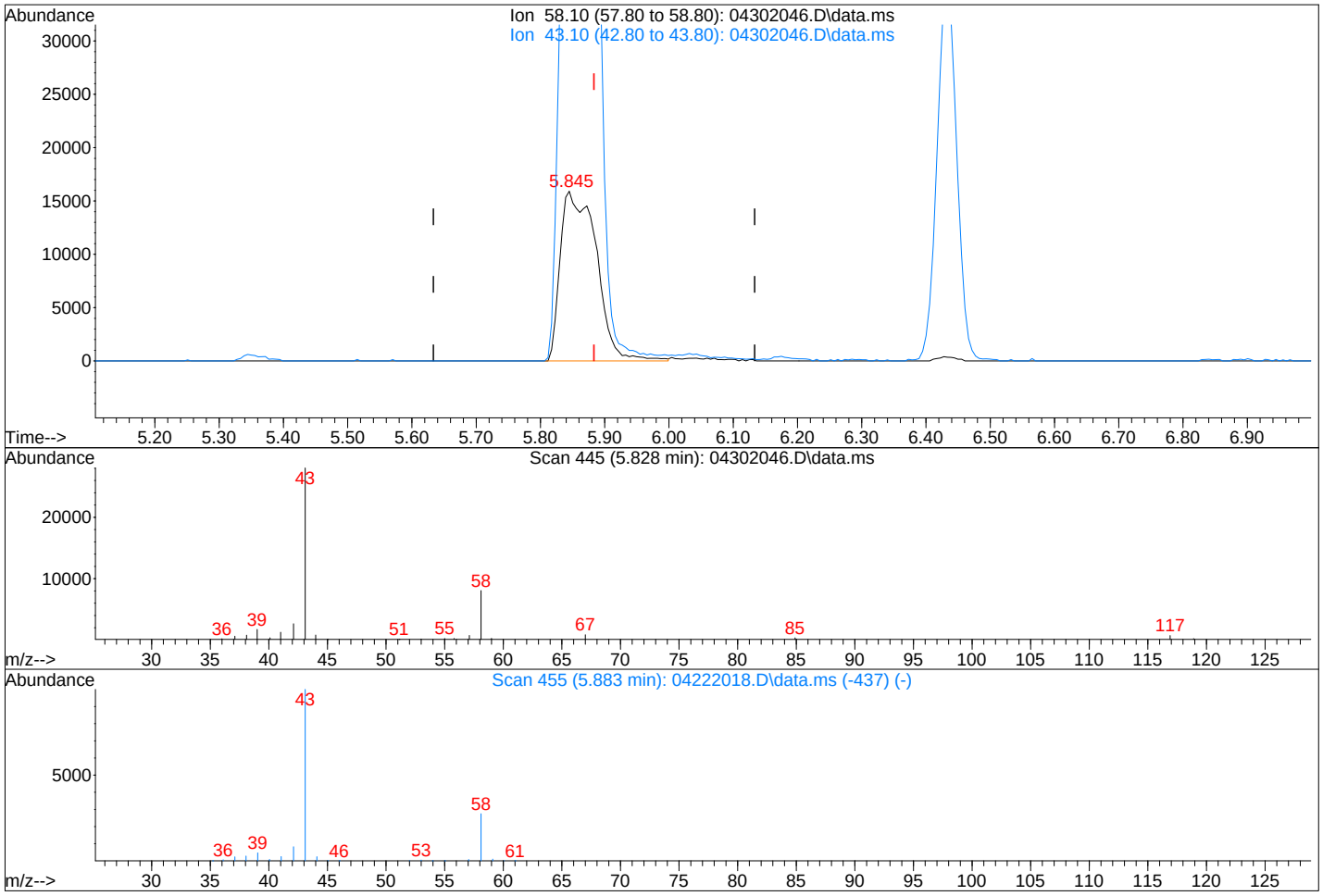
Ion	Ratio	Lower	Upper
105	100		
120	45.0	32.5	72.5



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\30\04302046.D Vial: 11
Acq On : 1 May 2020 6:22 Operator: SC
Sample : P2002103-005 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 09:52:37 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04302046.D\data.ms

(13) Acetone (T)

5.845min (-0.039) 10.86ng

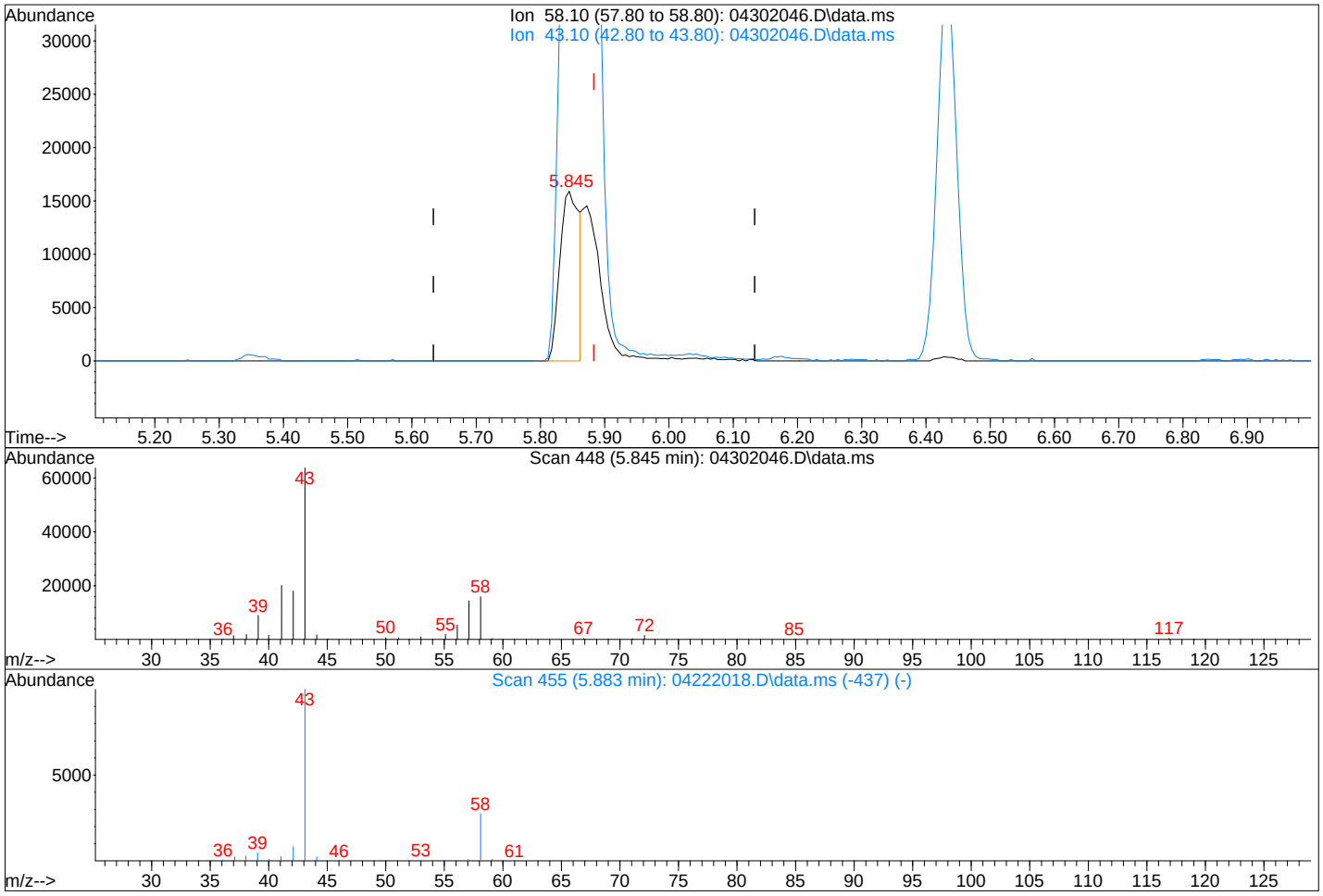
response 61900

Ion	Exp%	Act%
58.10	100	100
43.10	349.30	572.95#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\30\04302046.D Vial: 11
Acq On : 1 May 2020 6:22 Operator: SC
Sample : P2002103-005 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 09:52:37 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04302046.D\data.ms

(13) Acetone (T)

5.845min (-0.039) 5.76ng m

response 32813

Ion	Exp%	Act%
58.10	100	100
43.10	349.30	1080.84#
0.00	0.00	0.00
0.00	0.00	0.00

IPC

5/1/20

5/4/20

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302047.D Vial: 12
Acq On : 1 May 2020 6:56 Operator: SC
Sample : P2002103-006 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 15:26:39 2020 5/1/20
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	148542	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	618782	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	270714	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	219612	11.411	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.28%			
57) Toluene-d8 (SS2)	13.54	98	676602	12.944	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.52%			
73) Bromofluorobenzene (SS3)	17.05	174	260234	12.388	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.12%			
Target Compounds						Qvalue
2) Propene	3.87	42	11693	1.853	ng	# 73
3) Dichlorodifluoromethan...	3.97	85	12119	0.506	ng	99
4) Chloromethane	4.16	50	67972	7.685	ng	99
5) 1,2-Dichloro-1,1,2,2-t...	4.32	135	189	N.D.		
6) Vinyl Chloride	4.44	62	27777	2.395	ng	98
7) 1,3-Butadiene	4.62	54	878	0.119	ng	# 7
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	5.15	64	10710	1.825	ng	98
10) Ethanol	5.35	45	21740	4.549	ng	94
11) Acetonitrile	5.59	41	308	N.D.		
12) Acrolein	5.72	56	368	0.084	ng	94
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	6.02	101	4439	0.186	ng	96
15) 2-Propanol (Isopropanol)	6.16	45	22694	1.245	ng	87
16) Acrylonitrile	0.00	53	0	N.D.	d	
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d	
19) Methylene Chloride	6.86	84	10784	1.072	ng	95
20) 3-Chloro-1-propene (Al...	6.98	41	531	N.D.		
21) Trichlorotrifluoroethane	7.18	151	15062	1.214	ng	99
22) Carbon Disulfide	7.15	76	905910	27.077	ng	97
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	8.10	63	23225	1.405	ng	99
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	8.54	72	3750	0.636	ng	96
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	9.22	61	30741	11.721	ng	99
31) n-Hexane	9.22	57	42416	3.332	ng	99
32) Chloroform	9.28	83	1881	0.092	ng	97
34) Tetrahydrofuran (THF)	9.67	72	67019	11.226	ng	96
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	10.03	62	10850	0.648	ng	98
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.	d	
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	10.76	78	85606	2.122	ng	99
42) Carbon Tetrachloride	10.91	117	5694	0.273	ng	99
43) Cyclohexane	11.03	84	59059	3.737	ng	98
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	11.79	83	372	N.D.		
47) Trichloroethene	11.81	130	43203	3.093	ng	99
48) 1,4-Dioxane	0.00	88	0	N.D.	d	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	12.04	100	209	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302047.D Vial: 12
Acq On : 1 May 2020 6:56 Operator: SC
Sample : P2002103-006 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 15:26:39 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

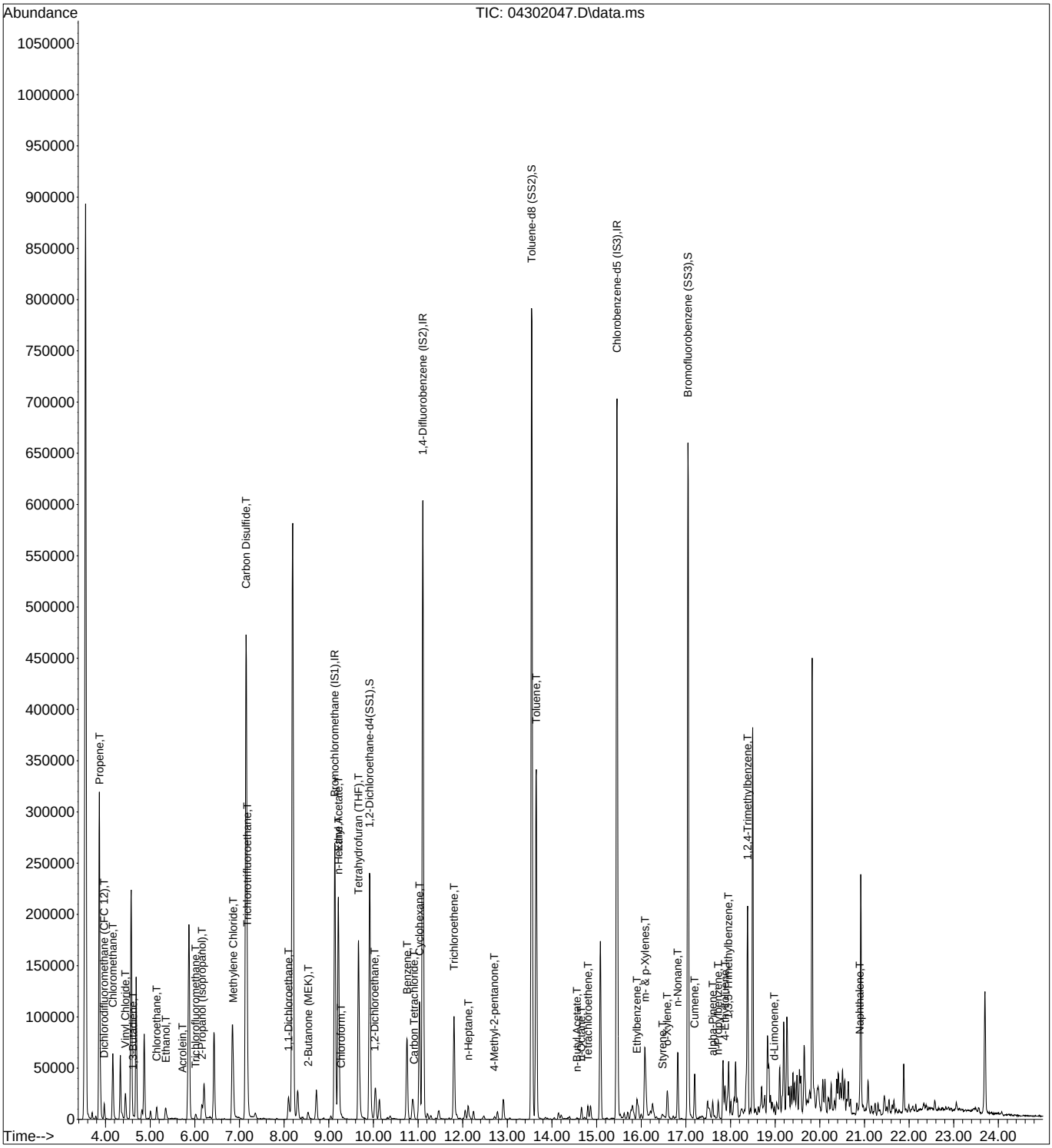
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.12	71	3884	0.414 ng	97
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	12.71	58	940	0.133 ng	91
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.65	91	317930	7.245 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	14.56	43	1741	0.119 ng	87
63) n-Octane	14.66	57	2291	0.328 ng	99
64) Tetrachloroethene	14.81	166	4990	0.302 ng	93
65) Chlorobenzene	15.50	112	209	N.D.	
66) Ethylbenzene	15.90	91	17174	0.336 ng	98
67) m- & p-Xylenes	16.08	91	67365	1.562 ng	97
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.48	104	2748	0.088 ng	94
70) o-Xylene	16.58	91	20581	0.486 ng	99
71) n-Nonane	16.82	43	20542	1.503 ng	98
72) 1,1,2,2-Tetrachloroethane	16.56	83	318	N.D.	
74) Cumene	17.19	105	33056	0.598 ng	99
75) alpha-Pinene	17.60	93	6791	0.270 ng	87
76) n-Propylbenzene	17.72	91	15579	0.259 ng	97
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	21817	0.415 ng	97
79) 1,3,5-Trimethylbenzene	17.95	105	26197	0.540 ng	98
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	125362	2.670 ng	90
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	0.00	91	0	N.D. d	
85) 1,3-Dichlorobenzene	18.62	146	273	N.D.	
86) 1,4-Dichlorobenzene	18.62	146	273	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	18.98	68	1851	0.140 ng	97
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.90	128	17350	0.287 ng	95
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302047.D Vial: 12
Acq On : 1 May 2020 6:56 Operator: SC
Sample : P2002103-006 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 15:26:39 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302047.D Vial: 12
Acq On : 1 May 2020 6:56 Operator: SC
Sample : P2002103-006 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 15:26:39 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/1/20

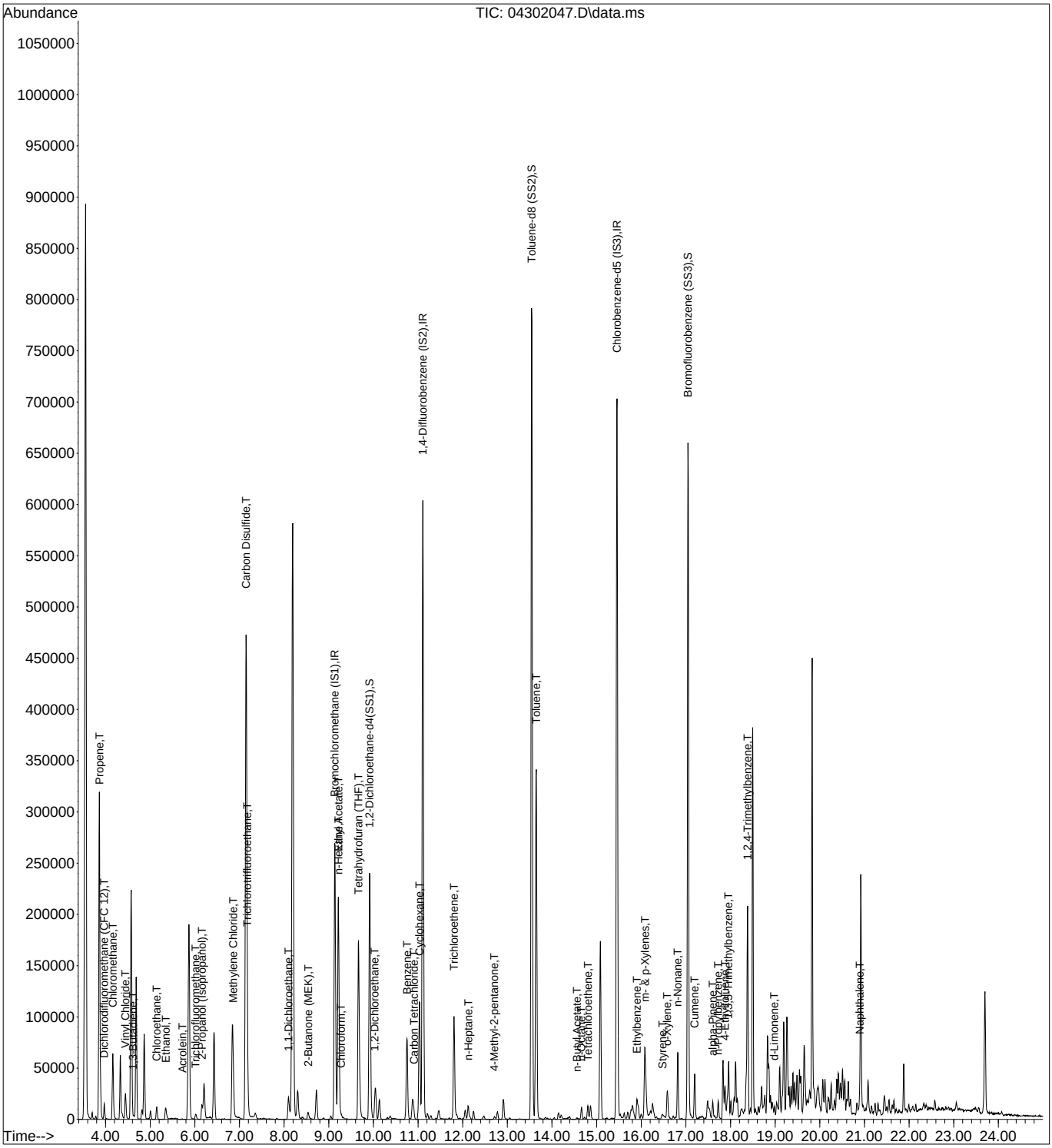
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	148542	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	618782	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	270714	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	219612	11.411	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.28%			
57) Toluene-d8 (SS2)	13.54	98	676602	12.944	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.52%			
73) Bromofluorobenzene (SS3)	17.05	174	260234	12.388	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.12%			
Target Compounds						Qvalue
2) Propene	3.87	42	11693	1.853	ng	# 73
3) Dichlorodifluoromethan...	3.97	85	12119	0.506	ng	99
4) Chloromethane	4.16	50	67972	7.685	ng	99
6) Vinyl Chloride	4.44	62	27777	2.395	ng	98
7) 1,3-Butadiene	4.62	54	878	0.119	ng	# 7
9) Chloroethane	5.15	64	10710	1.825	ng	98
10) Ethanol	5.35	45	21740	4.549	ng	94
12) Acrolein	5.72	56	368	0.084	ng	94
14) Trichlorofluoromethane	6.02	101	4439	0.186	ng	96
15) 2-Propanol (Isopropanol)	6.16	45	22694	1.245	ng	87
19) Methylene Chloride	6.86	84	10784	1.072	ng	95
21) Trichlorotrifluoroethane	7.18	151	15062	1.214	ng	99
22) Carbon Disulfide	7.15	76	905910	27.077	ng	97
24) 1,1-Dichloroethane	8.10	63	23225	1.405	ng	99
27) 2-Butanone (MEK)	8.54	72	3750	0.636	ng	96
30) Ethyl Acetate	9.22	61	30741	11.721	ng	99
31) n-Hexane	9.22	57	42416	3.332	ng	99
32) Chloroform	9.28	83	1881	0.092	ng	97
34) Tetrahydrofuran (THF)	9.67	72	67019	11.226	ng	96
36) 1,2-Dichloroethane	10.03	62	10850	0.648	ng	98
41) Benzene	10.76	78	85606	2.122	ng	99
42) Carbon Tetrachloride	10.91	117	5694	0.273	ng	99
43) Cyclohexane	11.03	84	59059	3.737	ng	98
47) Trichloroethene	11.81	130	43203	3.093	ng	99
51) n-Heptane	12.12	71	3884	0.414	ng	97
53) 4-Methyl-2-pentanone	12.71	58	940	0.133	ng	91
58) Toluene	13.65	91	317930	7.245	ng	100
62) n-Butyl Acetate	14.56	43	1741	0.119	ng	87
63) n-Octane	14.66	57	2291	0.328	ng	99
64) Tetrachloroethene	14.81	166	4990	0.302	ng	93
66) Ethylbenzene	15.90	91	17174	0.336	ng	98
67) m- & p-Xylenes	16.08	91	67365	1.562	ng	97
69) Styrene	16.48	104	2748	0.088	ng	94
70) o-Xylene	16.58	91	20581	0.486	ng	99
71) n-Nonane	16.82	43	20542	1.503	ng	98
74) Cumene	17.19	105	33056	0.598	ng	99
75) alpha-Pinene	17.60	93	6791	0.270	ng	87
76) n-Propylbenzene	17.72	91	15579	0.259	ng	97
78) 4-Ethyltoluene	17.88	105	21817	0.415	ng	97
79) 1,3,5-Trimethylbenzene	17.95	105	26197	0.540	ng	98
82) 1,2,4-Trimethylbenzene	18.38	105	125362	2.670	ng	90
91) d-Limonene	18.98	68	1851	0.140	ng	97
95) Naphthalene	20.90	128	17350	0.287	ng	95

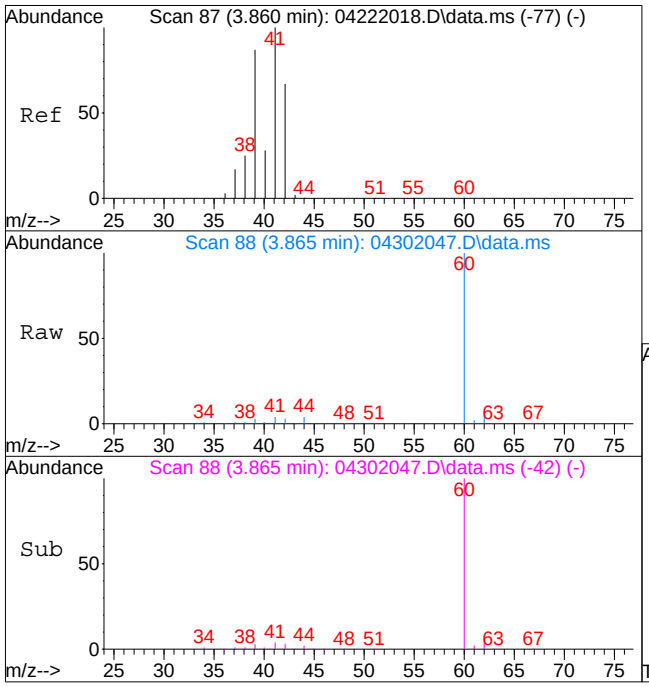
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302047.D Vial: 12
Acq On : 1 May 2020 6:56 Operator: SC
Sample : P2002103-006 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 15:26:39 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

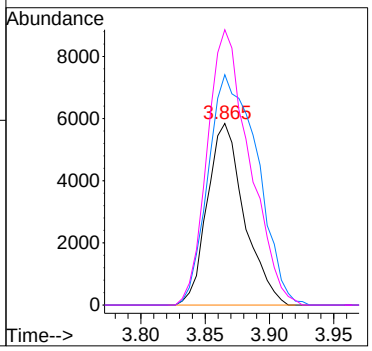


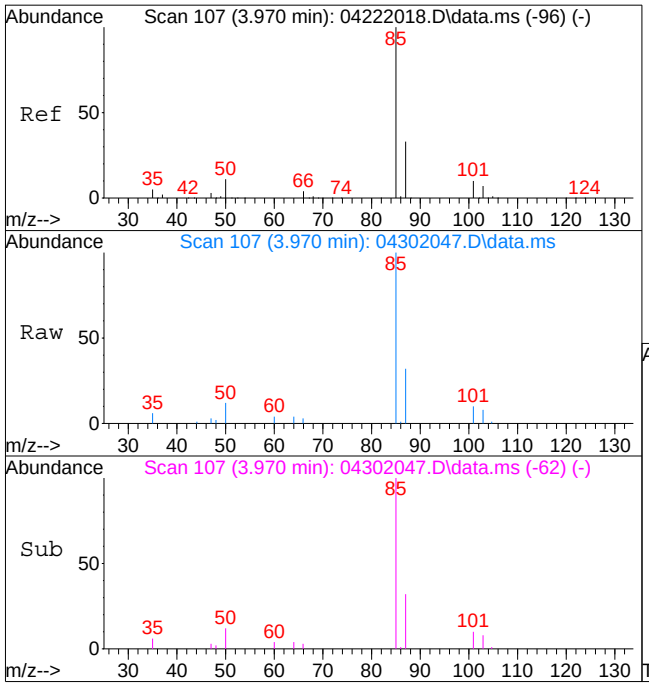


#2
Propene
Concen: 1.85 ng
RT: 3.87 min Scan# 88
Delta R.T. 0.005 min
Lab File: 04302047.D
Acq: 1 May 2020 6:56

Tgt Ion: 42 Resp: 11693

Ion	Ratio	Lower	Upper
42	100		
39	168.9	106.4	146.4#
41	173.2	128.8	168.8#

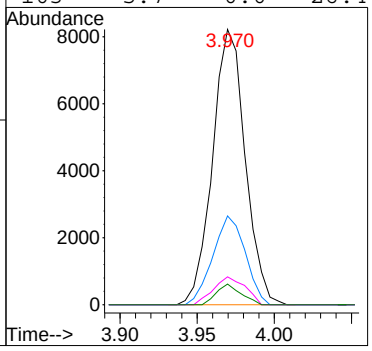


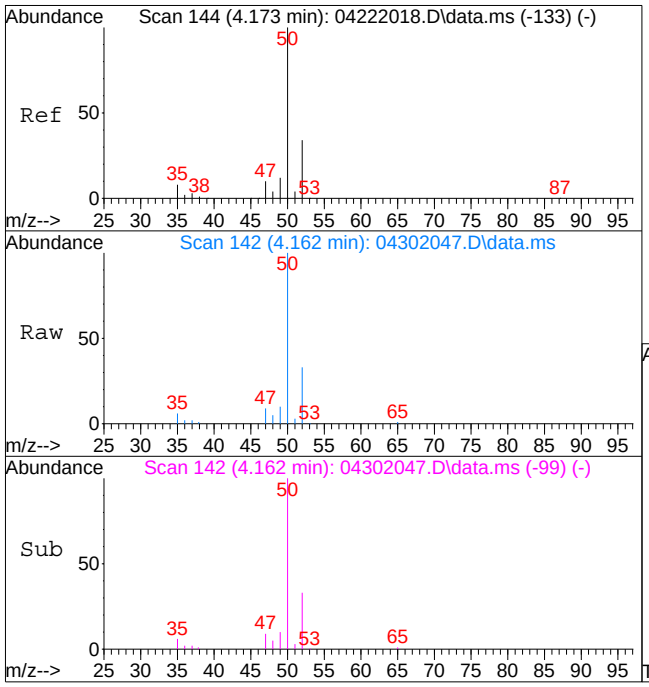


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.51 ng
RT: 3.97 min Scan# 107
Delta R.T. -0.000 min
Lab File: 04302047.D
Acq: 1 May 2020 6:56

Tgt Ion: 85 Resp: 12119

Ion	Ratio	Lower	Upper
85	100		
87	32.0	12.4	52.4
101	9.8	0.0	29.9
103	5.7	0.0	26.4

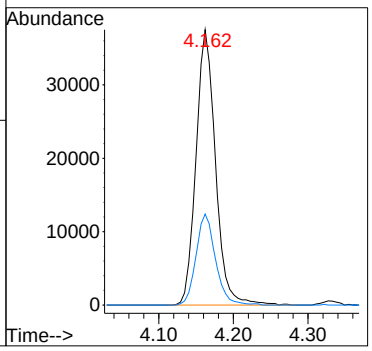


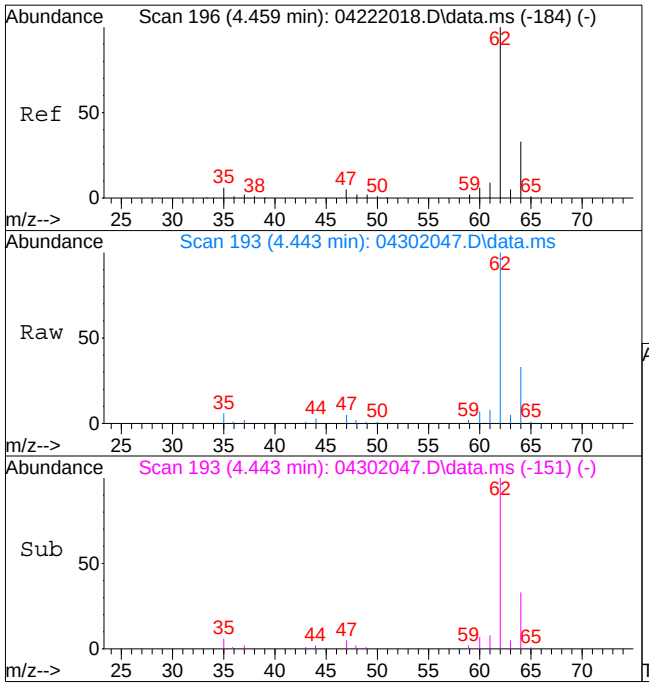


#4
Chloromethane
Concen: 7.69 ng
RT: 4.16 min Scan# 142
Delta R.T. -0.011 min
Lab File: 04302047.D
Acq: 1 May 2020 6:56

Tgt Ion: 50 Resp: 67972

Ion	Ratio	Lower	Upper
50	100		
52	33.0	13.7	53.7

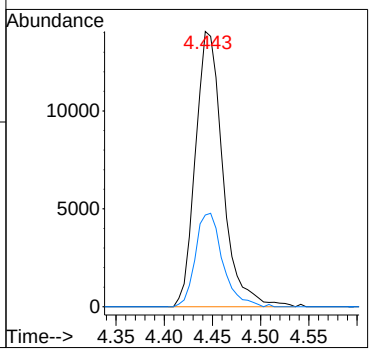


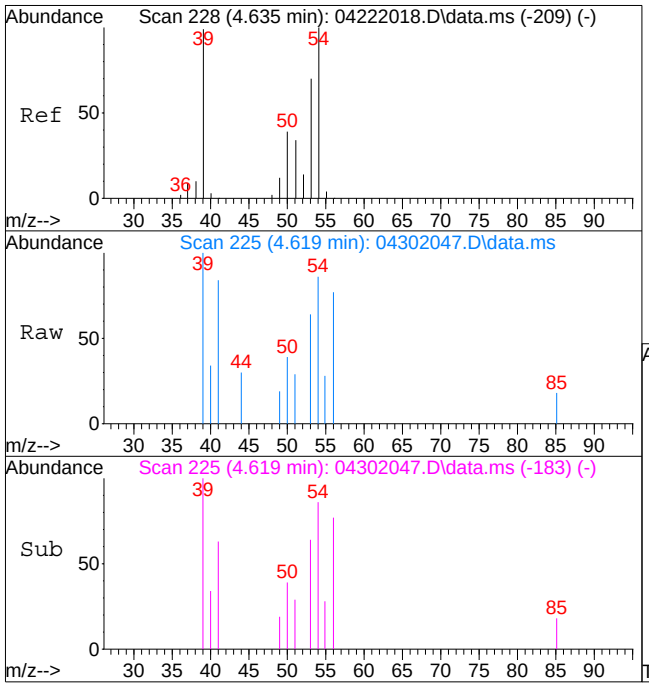


#6
Vinyl Chloride
Concen: 2.39 ng
RT: 4.44 min Scan# 193
Delta R.T. -0.017 min
Lab File: 04302047.D
Acq: 1 May 2020 6:56

Tgt Ion: 62 Resp: 27777

Ion	Ratio	Lower	Upper
62	100		
64	33.9	12.7	52.7

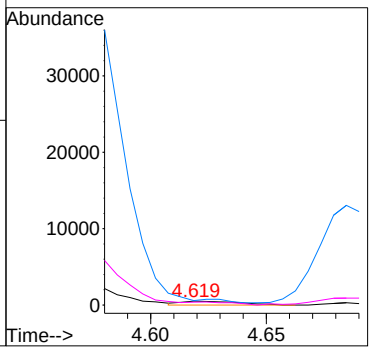


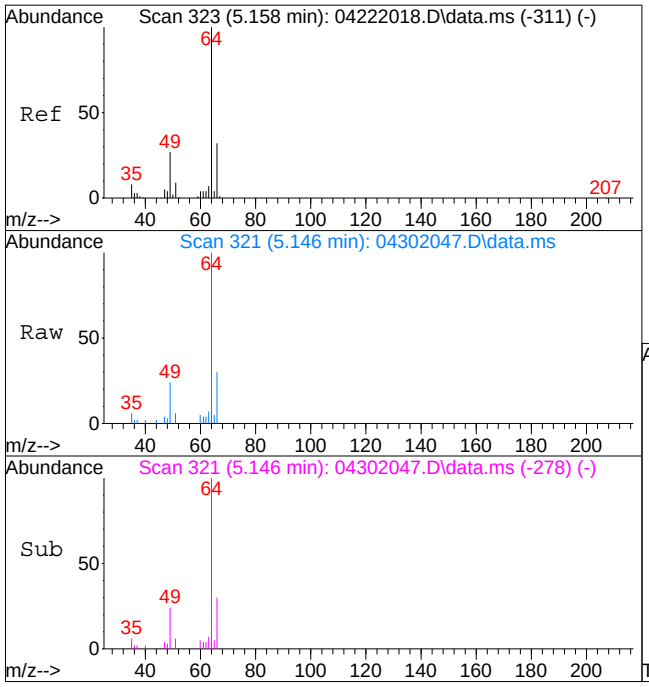


#7
1,3-Butadiene
Concen: 0.12 ng
RT: 4.62 min Scan# 225
Delta R.T. -0.017 min
Lab File: 04302047.D
Acq: 1 May 2020 6:56

Tgt Ion: 54 Resp: 878

Ion	Ratio	Lower	Upper
54	100		
39	0.0	75.4	115.4#
53	0.0	49.6	89.6#

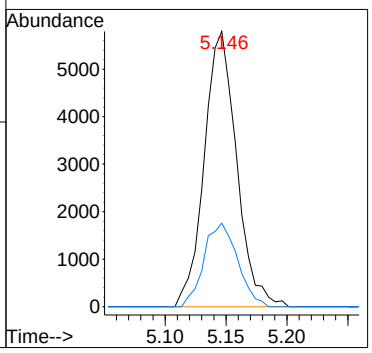


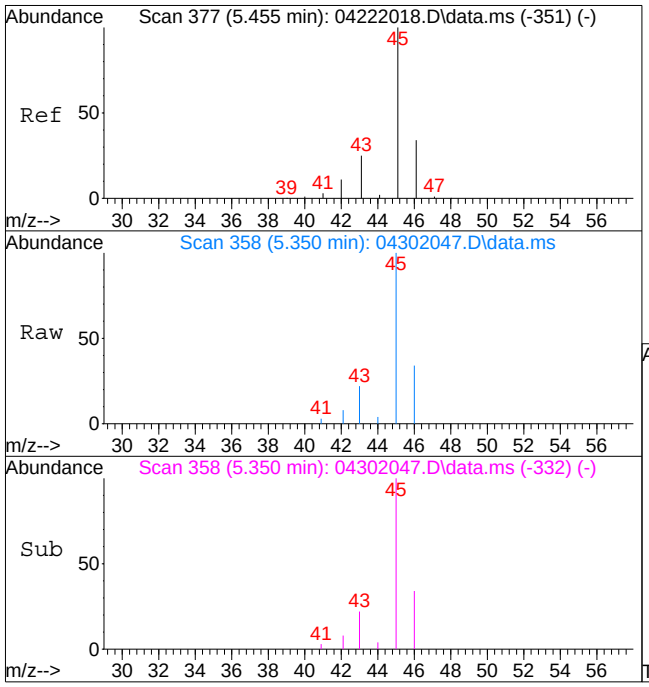


#9
Chloroethane
Concen: 1.83 ng
RT: 5.15 min Scan# 321
Delta R.T. -0.011 min
Lab File: 04302047.D
Acq: 1 May 2020 6:56

Tgt Ion: 64 Resp: 10710

Ion	Ratio	Lower	Upper
64	100		
66	31.5	12.7	52.7

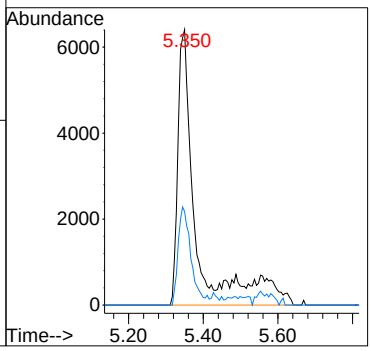


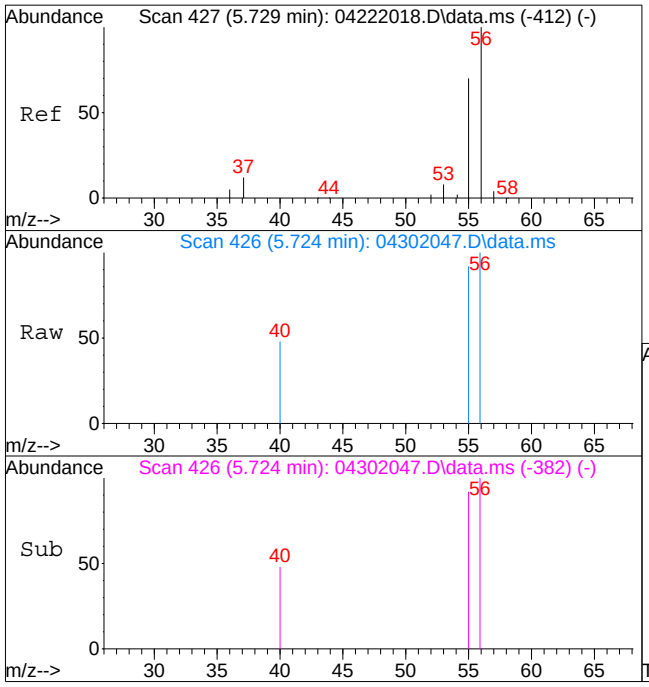


#10
Ethanol
Concen: 4.55 ng
RT: 5.35 min Scan# 358
Delta R.T. -0.105 min
Lab File: 04302047.D
Acq: 1 May 2020 6:56

Tgt Ion: 45 Resp: 21740

Ion	Ratio	Lower	Upper
45	100		
46	30.8	14.0	54.0

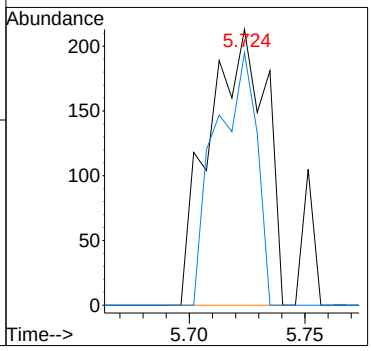


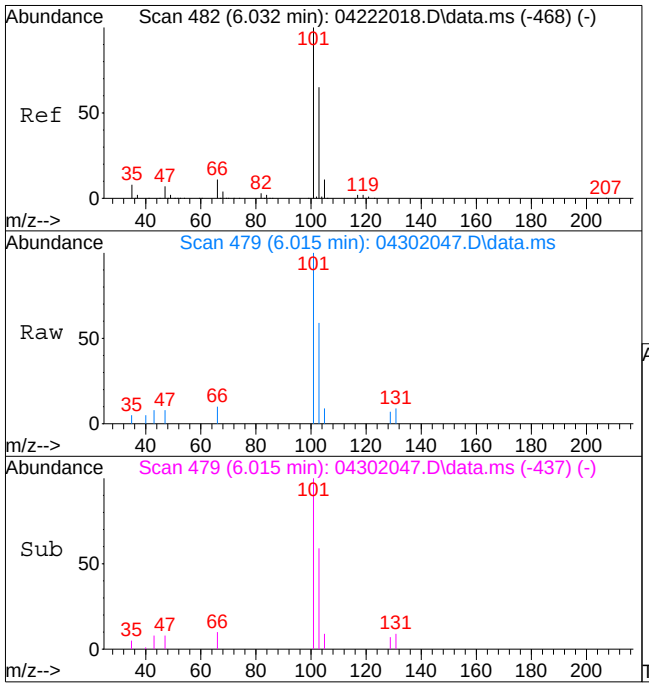


#12
Acrolein
Concen: 0.08 ng
RT: 5.72 min Scan# 426
Delta R.T. -0.006 min
Lab File: 04302047.D
Acq: 1 May 2020 6:56

Tgt Ion: 56 Resp: 368

Ion	Ratio	Lower	Upper
56	100		
55	65.5	50.4	90.4

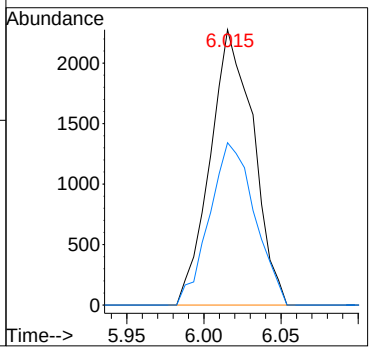


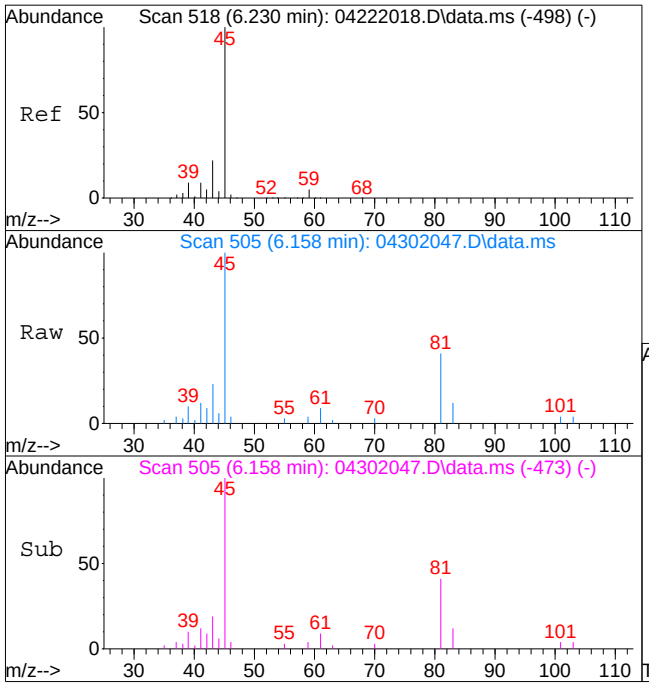


#14
Trichlorofluoromethane
Concen: 0.19 ng
RT: 6.02 min Scan# 479
Delta R.T. -0.017 min
Lab File: 04302047.D
Acq: 1 May 2020 6:56

Tgt Ion:101 Resp: 4439

Ion	Ratio	Lower	Upper
101	100		
103	61.8	44.7	84.7

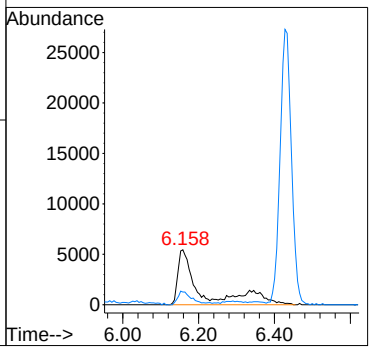


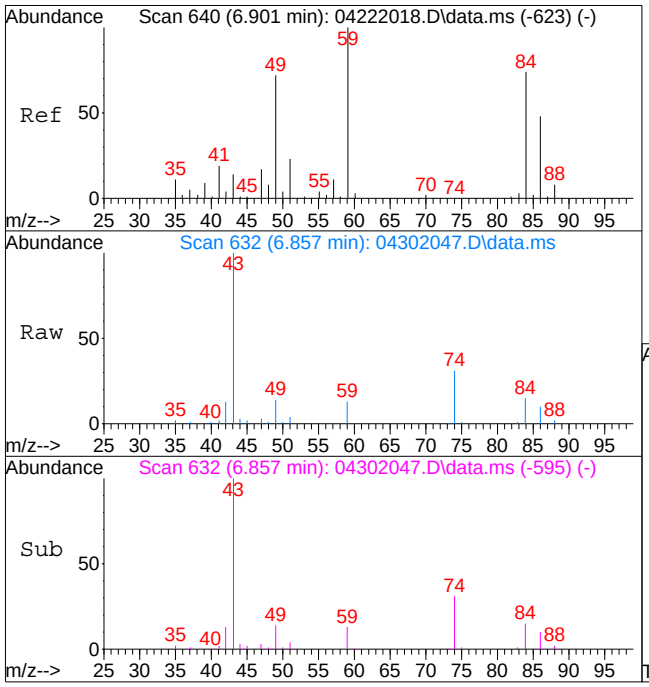


#15
2-Propanol (Isopropanol)
Concen: 1.25 ng
RT: 6.16 min Scan# 505
Delta R.T. -0.072 min
Lab File: 04302047.D
Acq: 1 May 2020 6:56

Tgt Ion: 45 Resp: 22694

Ion	Ratio	Lower	Upper
45	100		
43	16.6	2.6	42.6

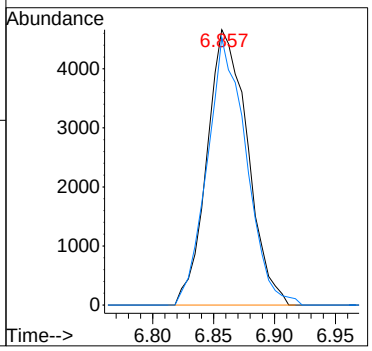


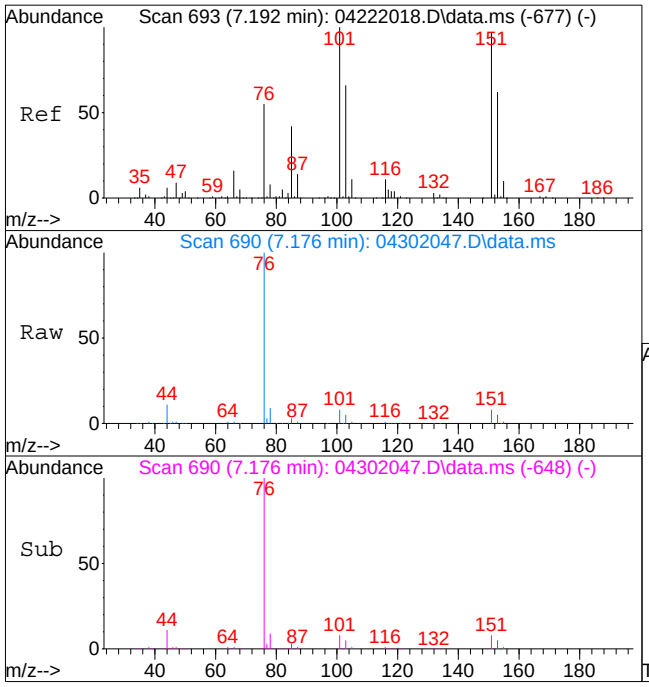


#19
Methylene Chloride
Concen: 1.07 ng
RT: 6.86 min Scan# 632
Delta R.T. -0.044 min
Lab File: 04302047.D
Acq: 1 May 2020 6:56

Tgt Ion: 84 Resp: 10784

Ion	Ratio	Lower	Upper
84	100		
49	93.5	73.0	123.0

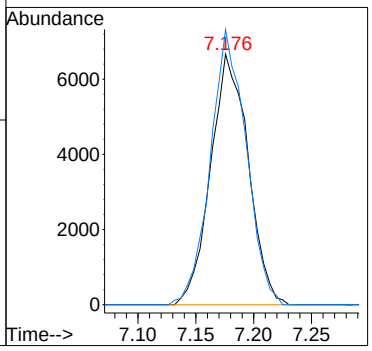


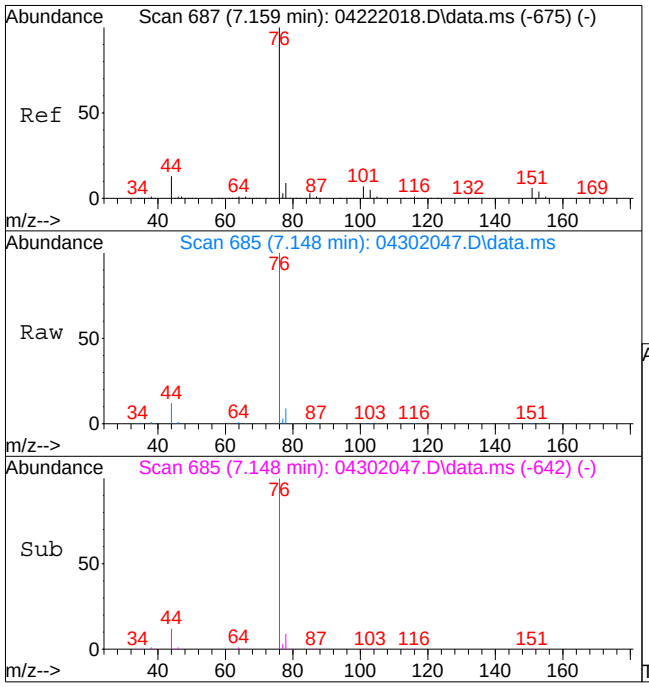


#21
Trichlorotrifluoroethane
Concen: 1.21 ng
RT: 7.18 min Scan# 690
Delta R.T. -0.017 min
Lab File: 04302047.D
Acq: 1 May 2020 6:56

Tgt Ion:151 Resp: 15062

Ion	Ratio	Lower	Upper
151	100		
101	104.4	82.9	122.9

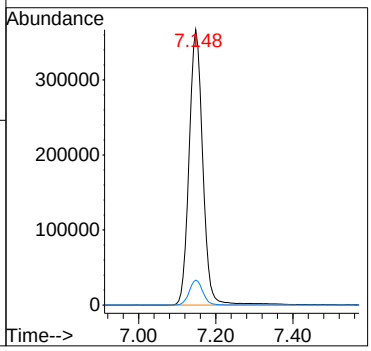


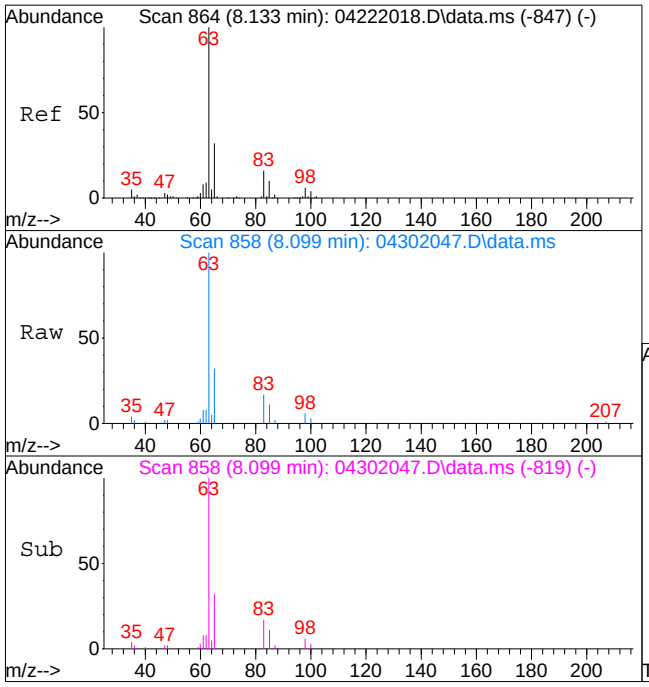


#22
Carbon Disulfide
Concen: 27.08 ng
RT: 7.15 min Scan# 685
Delta R.T. -0.011 min
Lab File: 04302047.D
Acq: 1 May 2020 6:56

Tgt Ion: 76 Resp: 905910

Ion	Ratio	Lower	Upper
76	100		
78	8.9	0.0	30.2

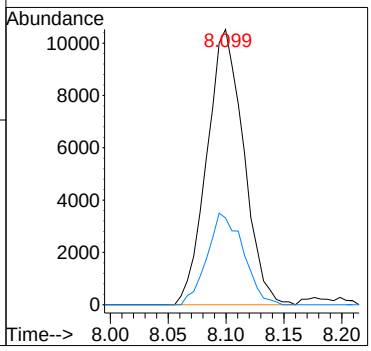


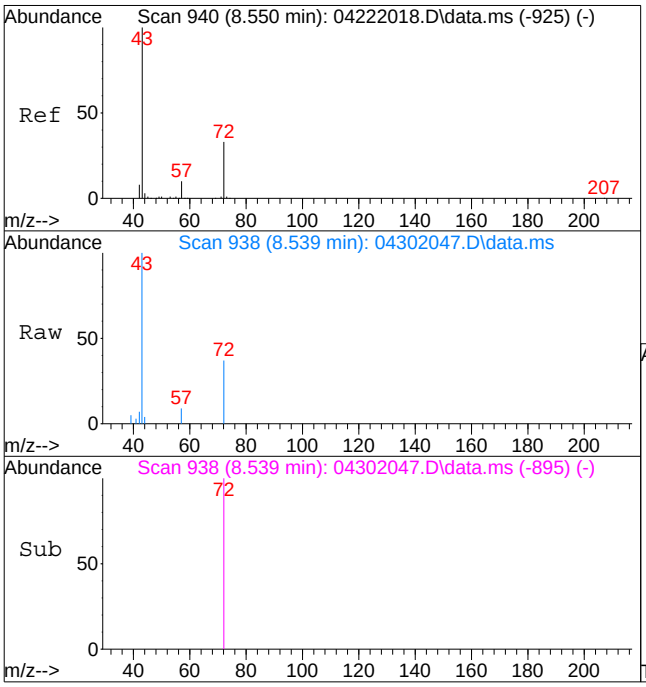


#24
1,1-Dichloroethane
Concen: 1.40 ng
RT: 8.10 min Scan# 858
Delta R.T. -0.033 min
Lab File: 04302047.D
Acq: 1 May 2020 6:56

Tgt Ion: 63 Resp: 23225

Ion	Ratio	Lower	Upper
63	100		
65	32.8	12.1	52.1

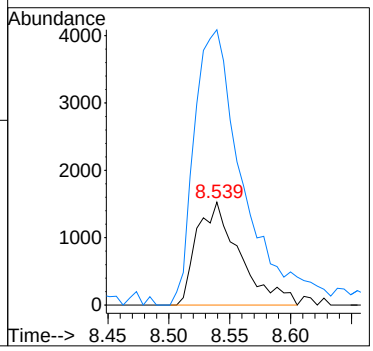


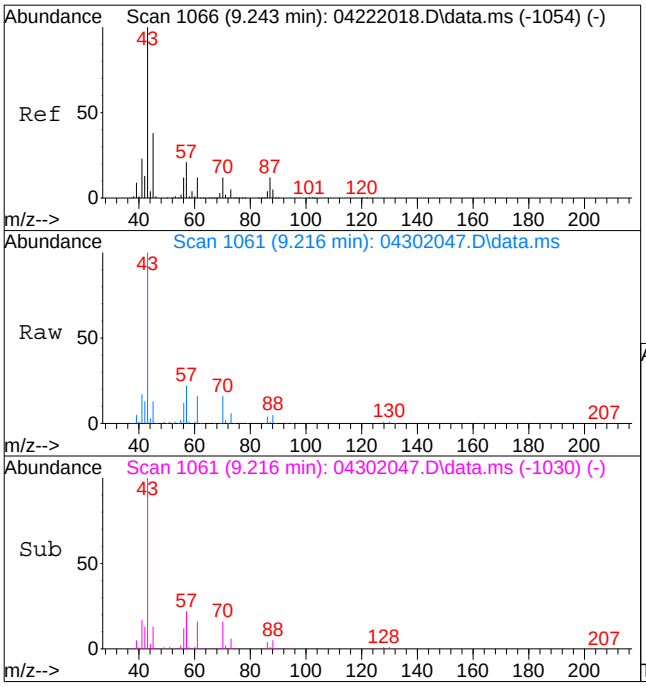


#27
2-Butanone (MEK)
Concen: 0.64 ng
RT: 8.54 min Scan# 938
Delta R.T. -0.011 min
Lab File: 04302047.D
Acq: 1 May 2020 6:56

Tgt Ion: 72 Resp: 3750

Ion	Ratio	Lower	Upper
72	100		
43	306.9	278.8	318.8

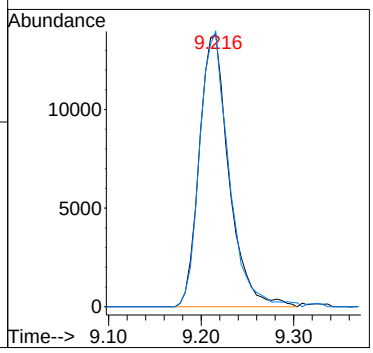


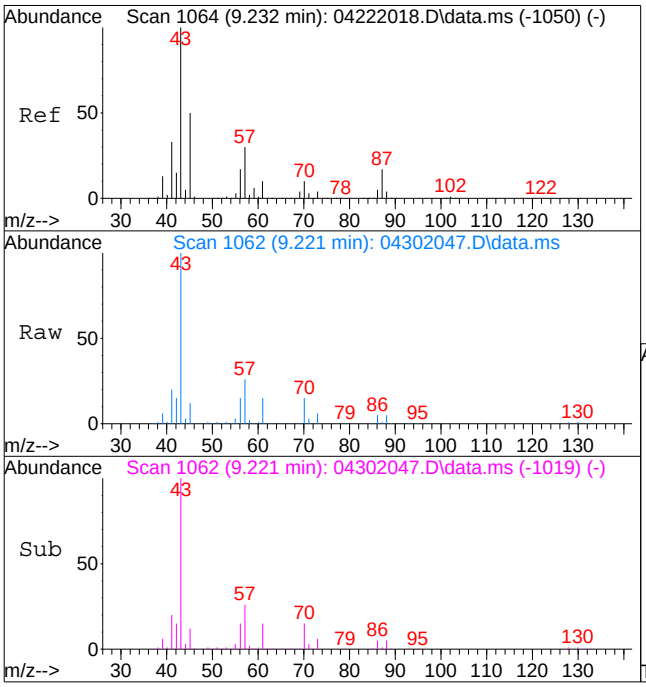


#30
Ethyl Acetate
Concen: 11.72 ng
RT: 9.22 min Scan# 1061
Delta R.T. -0.028 min
Lab File: 04302047.D
Acq: 1 May 2020 6:56

Tgt Ion: 61 Resp: 30741

Ion	Ratio	Lower	Upper
61	100		
70	99.5	80.6	120.6

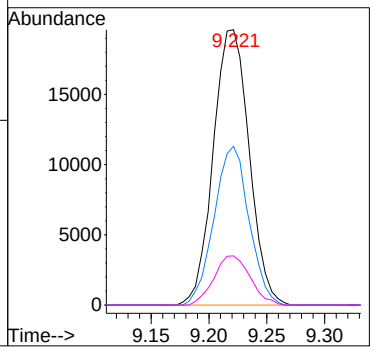


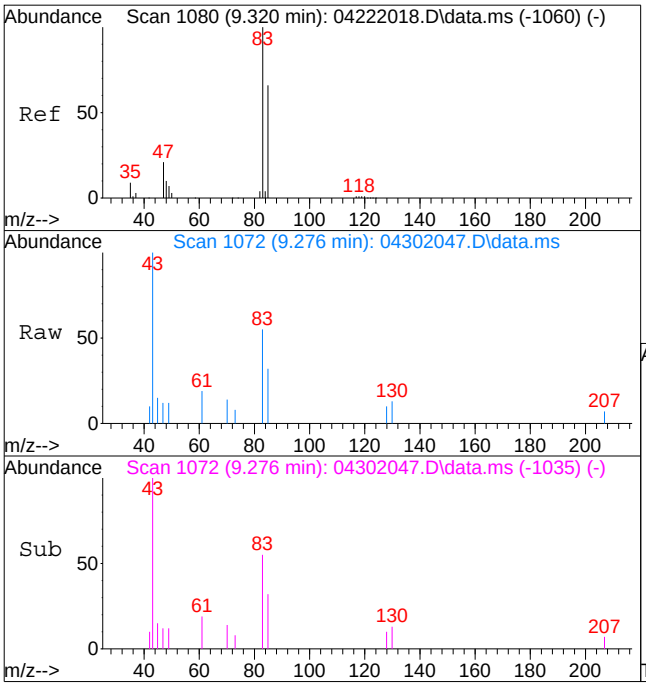


#31
n-Hexane
Concen: 3.33 ng
RT: 9.22 min Scan# 1062
Delta R.T. -0.011 min
Lab File: 04302047.D
Acq: 1 May 2020 6:56

Tgt Ion: 57 Resp: 42416

Ion	Ratio	Lower	Upper
57	100		
56	56.0	44.0	66.0
86	18.0	15.0	22.4

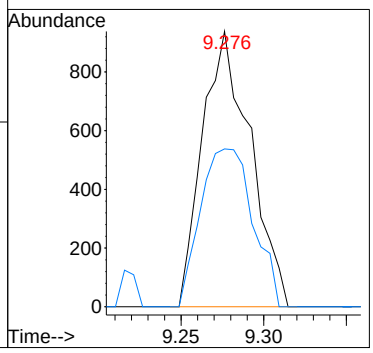


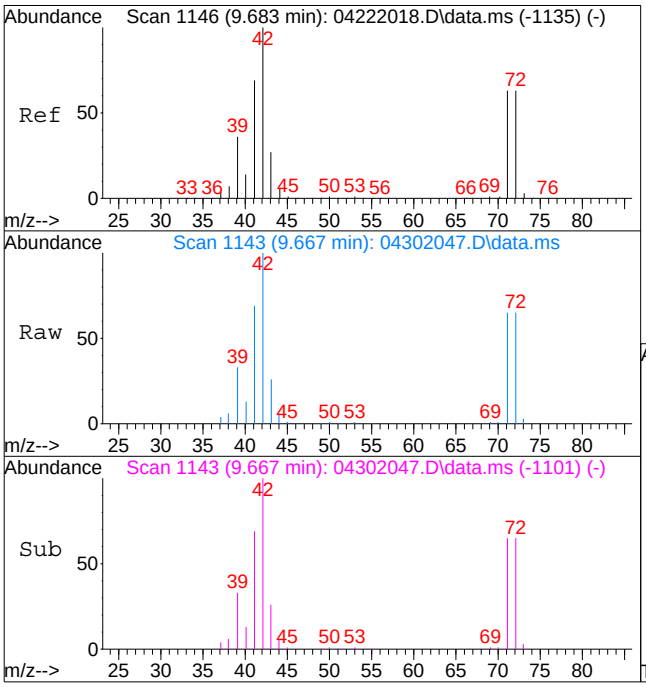


#32
Chloroform
Concen: 0.09 ng
RT: 9.28 min Scan# 1072
Delta R.T. -0.044 min
Lab File: 04302047.D
Acq: 1 May 2020 6:56

Tgt Ion: 83 Resp: 1881

Ion	Ratio	Lower	Upper
83	100		
85	63.1	45.8	85.8

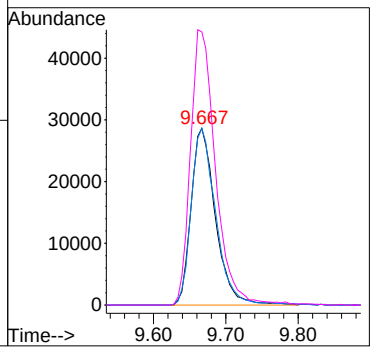


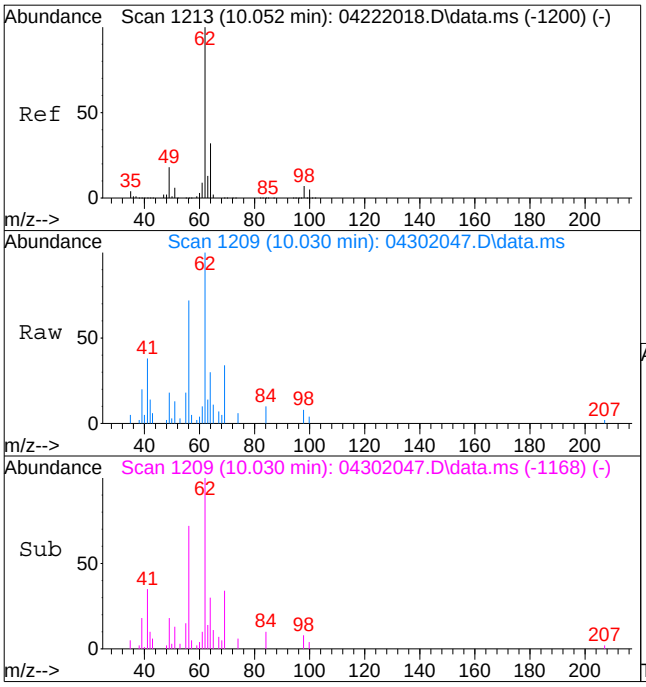


#34
Tetrahydrofuran (THF)
Concen: 11.23 ng
RT: 9.67 min Scan# 1143
Delta R.T. -0.017 min
Lab File: 04302047.D
Acq: 1 May 2020 6:56

Tgt Ion: 72 Resp: 67019

Ion	Ratio	Lower	Upper
72	100		
71	100.9	77.9	117.9
42	160.5	133.9	173.9

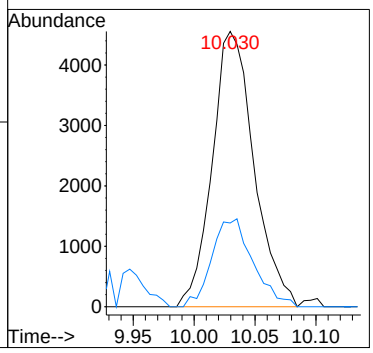


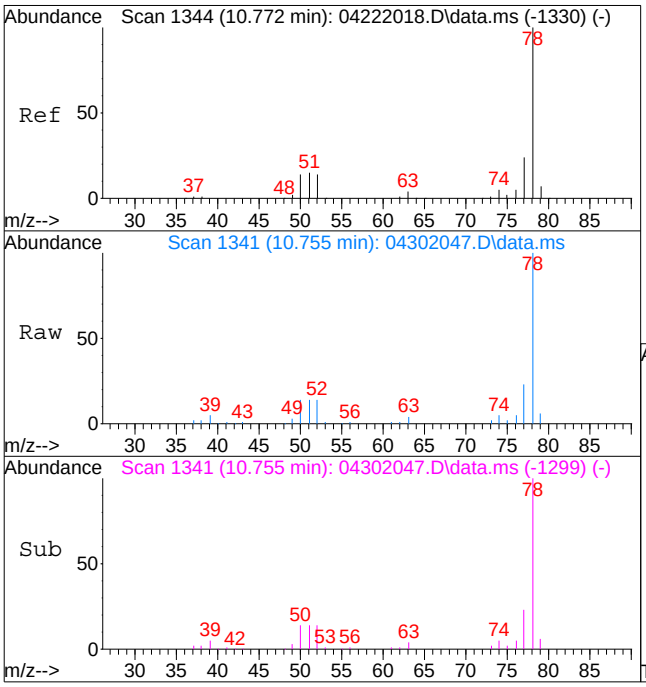


#36
1,2-Dichloroethane
Concen: 0.65 ng
RT: 10.03 min Scan# 1209
Delta R.T. -0.022 min
Lab File: 04302047.D
Acq: 1 May 2020 6:56

Tgt Ion: 62 Resp: 10850

Ion	Ratio	Lower	Upper
62	100		
64	31.5	12.7	52.7

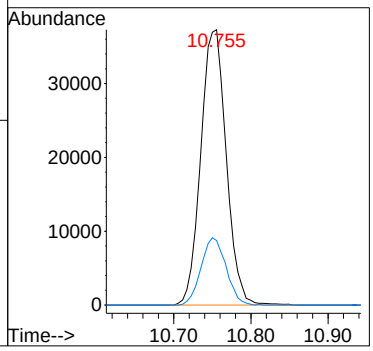


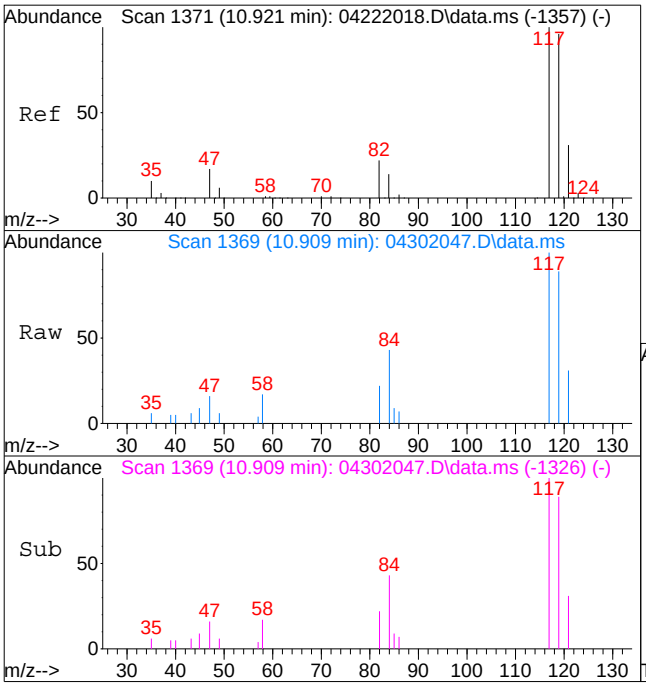


#41
Benzene
Concen: 2.12 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.017 min
Lab File: 04302047.D
Acq: 1 May 2020 6:56

Tgt Ion: 78 Resp: 85606

Ion	Ratio	Lower	Upper
78	100		
77	24.0	3.6	43.6

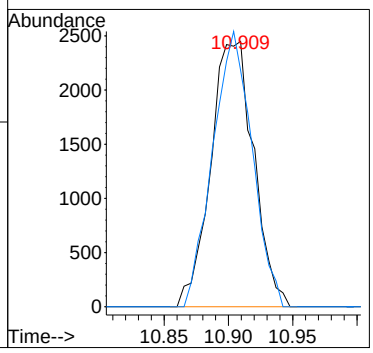


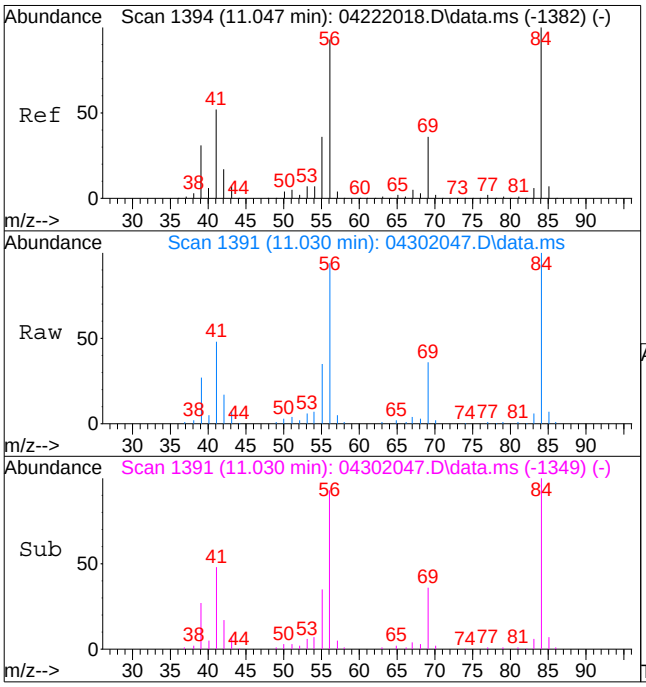


#42
Carbon Tetrachloride
Concen: 0.27 ng
RT: 10.91 min Scan# 1369
Delta R.T. -0.011 min
Lab File: 04302047.D
Acq: 1 May 2020 6:56

Tgt Ion:117 Resp: 5694

Ion	Ratio	Lower	Upper
117	100		
119	95.2	76.5	116.5

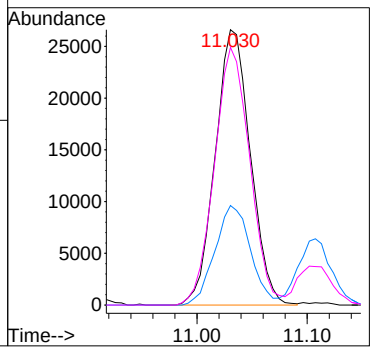


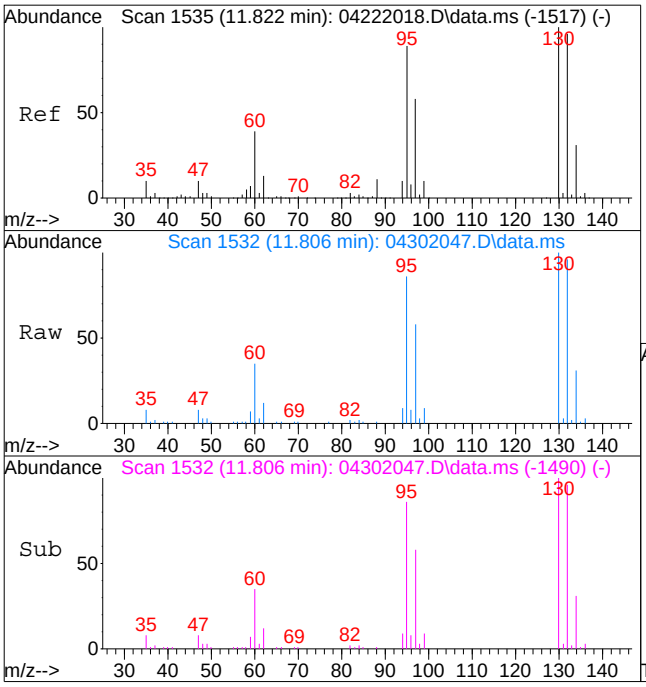


#43
Cyclohexane
Concen: 3.74 ng
RT: 11.03 min Scan# 1391
Delta R.T. -0.017 min
Lab File: 04302047.D
Acq: 1 May 2020 6:56

Tgt Ion: 84 Resp: 59059

Ion	Ratio	Lower	Upper
84	100		
69	36.5	15.8	55.8
56	94.5	72.0	112.0

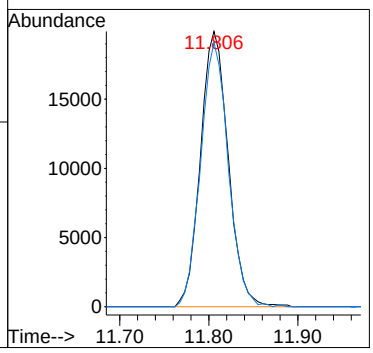


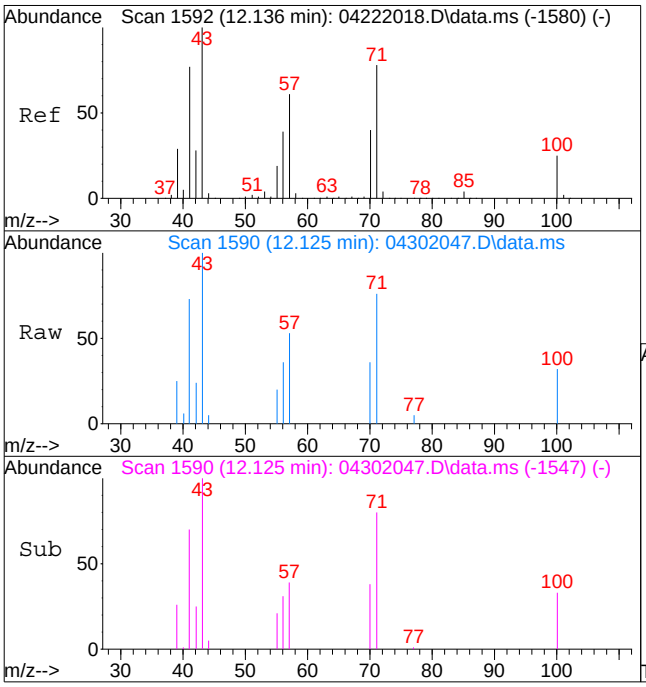


#47
Trichloroethene
Concen: 3.09 ng
RT: 11.81 min Scan# 1532
Delta R.T. -0.017 min
Lab File: 04302047.D
Acq: 1 May 2020 6:56

Tgt Ion:130 Resp: 43203

Ion	Ratio	Lower	Upper
130	100		
132	95.4	76.4	116.4

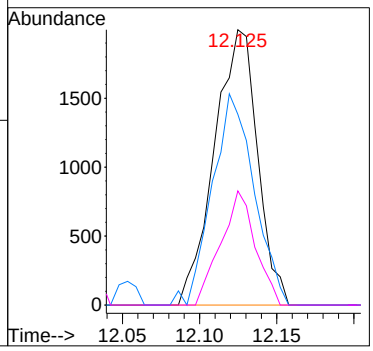


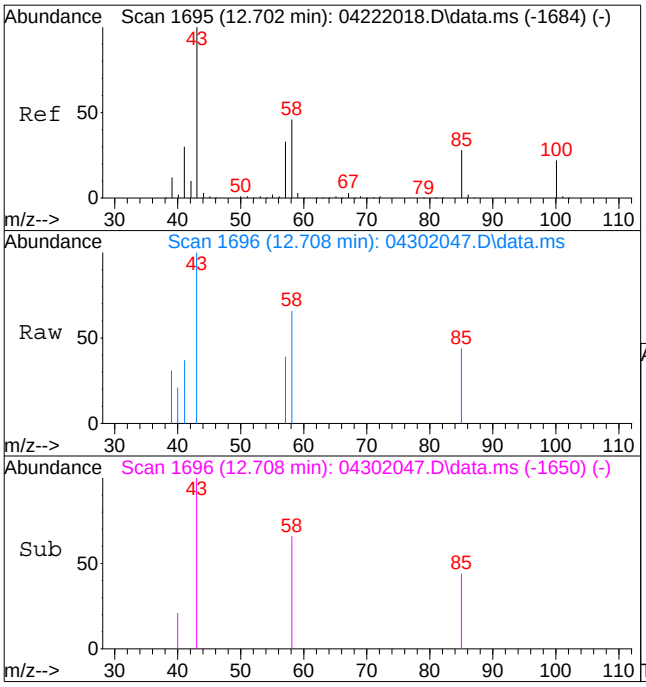


#51
n-Heptane
Concen: 0.41 ng
RT: 12.12 min Scan# 1590
Delta R.T. -0.011 min
Lab File: 04302047.D
Acq: 1 May 2020 6:56

Tgt Ion: 71 Resp: 3884

Ion	Ratio	Lower	Upper
71	100		
57	74.6	57.4	97.4
100	33.1	12.0	52.0

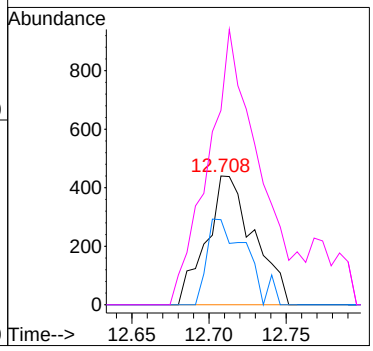


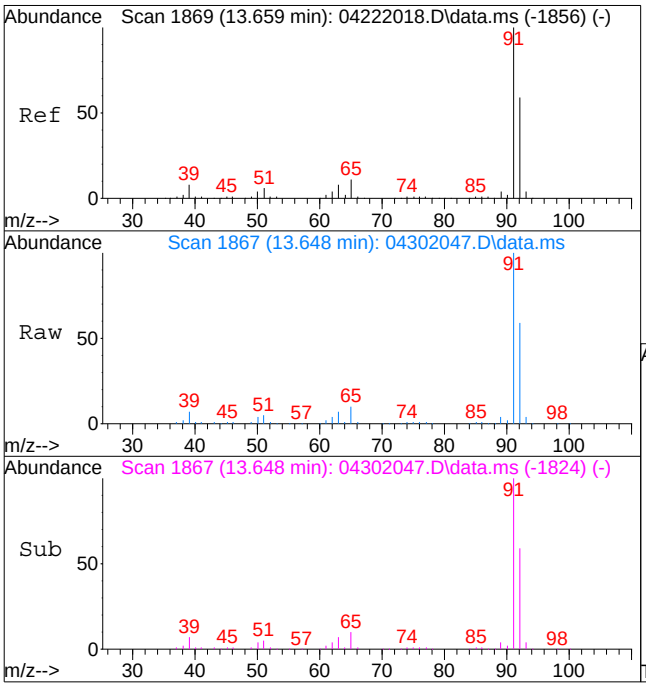


#53
4-Methyl-2-pentanone
Concen: 0.13 ng
RT: 12.71 min Scan# 1696
Delta R.T. 0.005 min
Lab File: 04302047.D
Acq: 1 May 2020 6:56

Tgt Ion: 58 Resp: 940

Ion	Ratio	Lower	Upper
58	100		
85	55.1	52.2	78.2
43	233.8	176.2	264.4

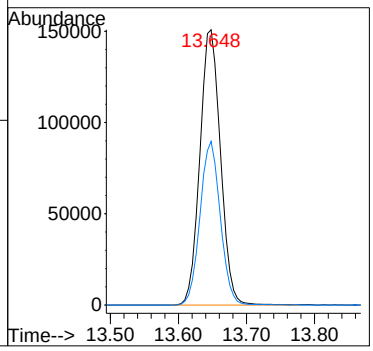


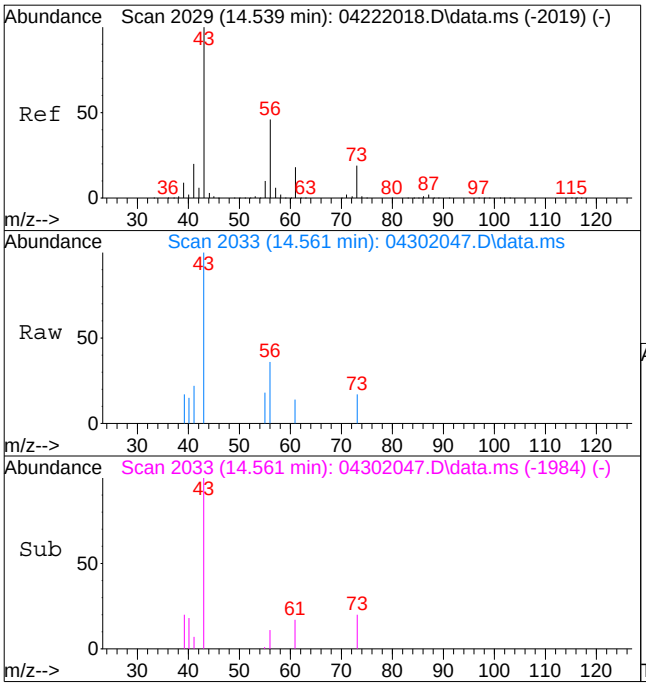


#58
Toluene
Concen: 7.24 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.011 min
Lab File: 04302047.D
Acq: 1 May 2020 6:56

Tgt Ion: 91 Resp: 317930

Ion	Ratio	Lower	Upper
91	100		
92	58.4	38.2	78.2

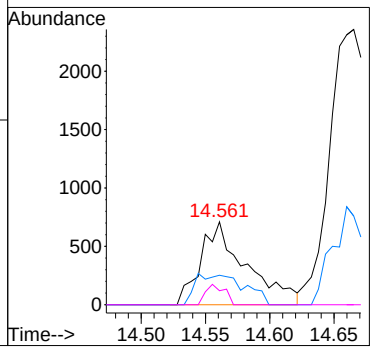


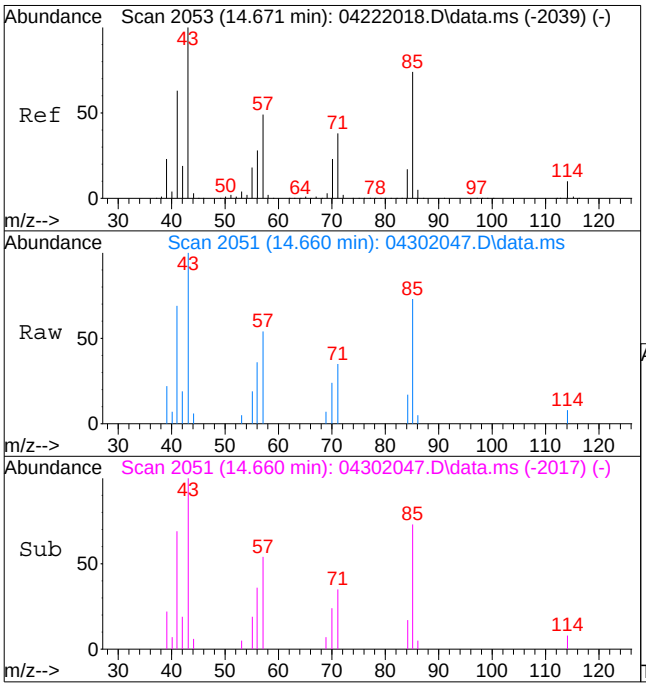


#62
n-Butyl Acetate
Concen: 0.12 ng
RT: 14.56 min Scan# 2033
Delta R.T. 0.022 min
Lab File: 04302047.D
Acq: 1 May 2020 6:56

Tgt Ion: 43 Resp: 1741

Ion	Ratio	Lower	Upper
43	100		
56	39.5	26.6	66.6
73	10.2	0.0	39.3

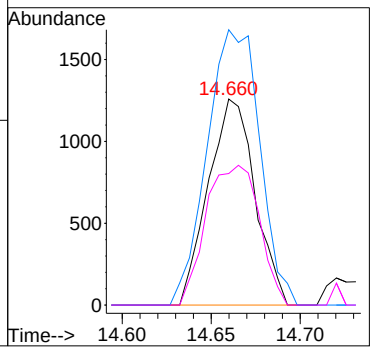


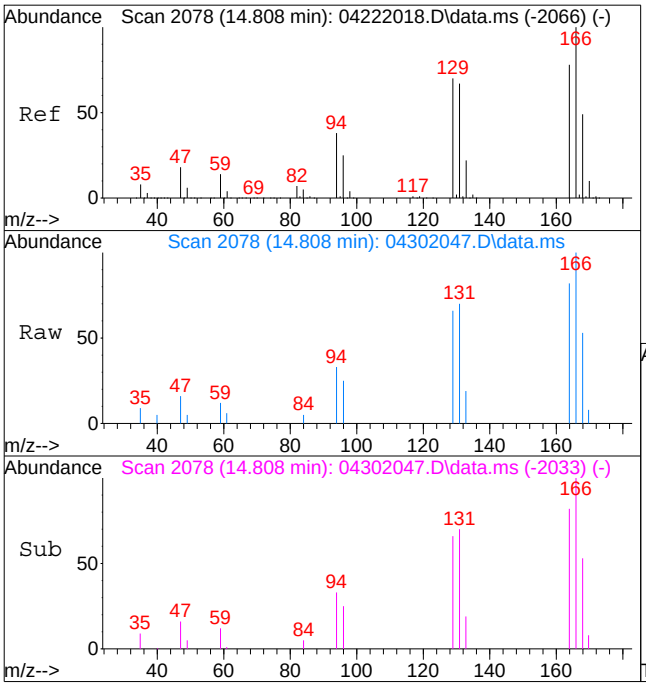


#63
n-Octane
Concen: 0.33 ng
RT: 14.66 min Scan# 2051
Delta R.T. -0.011 min
Lab File: 04302047.D
Acq: 1 May 2020 6:56

Tgt Ion: 57 Resp: 2291

Ion	Ratio	Lower	Upper
57	100		
85	151.4	120.7	181.1
71	77.5	61.1	91.7

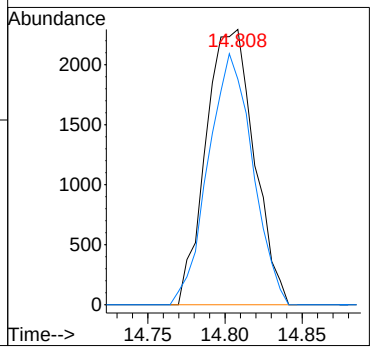


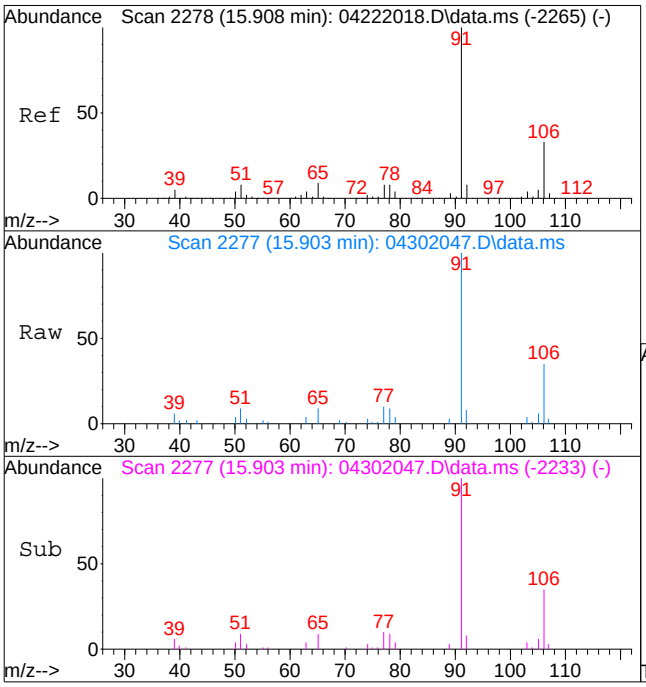


#64
Tetrachloroethene
Concen: 0.30 ng
RT: 14.81 min Scan# 2078
Delta R.T. -0.000 min
Lab File: 04302047.D
Acq: 1 May 2020 6:56

Tgt Ion:166 Resp: 4990

Ion	Ratio	Lower	Upper
166	100		
164	84.0	57.7	97.7

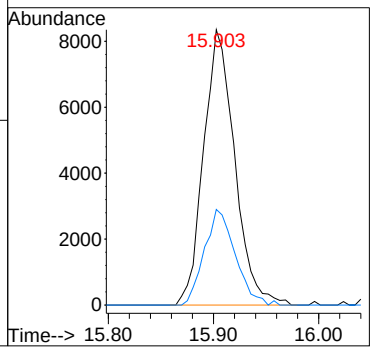


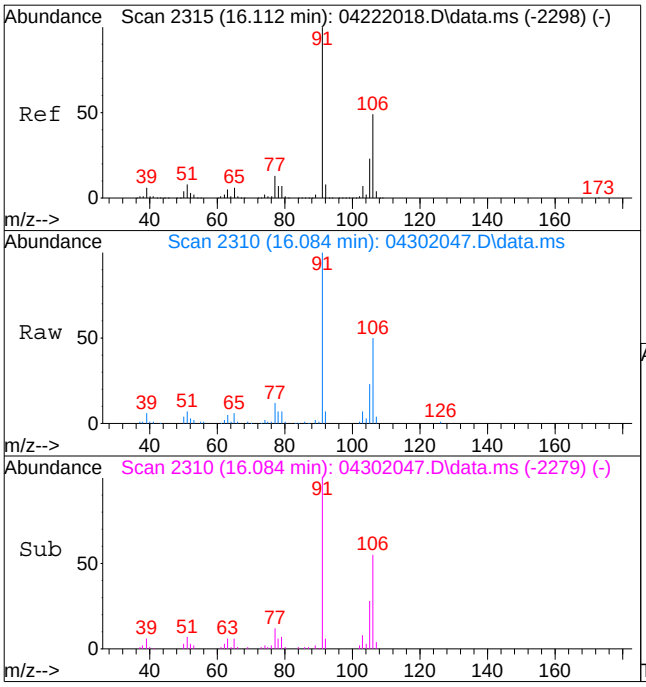


#66
Ethylbenzene
Concen: 0.34 ng
RT: 15.90 min Scan# 2277
Delta R.T. -0.006 min
Lab File: 04302047.D
Acq: 1 May 2020 6:56

Tgt Ion: 91 Resp: 17174

Ion	Ratio	Lower	Upper
91	100		
106	34.5	13.4	53.4

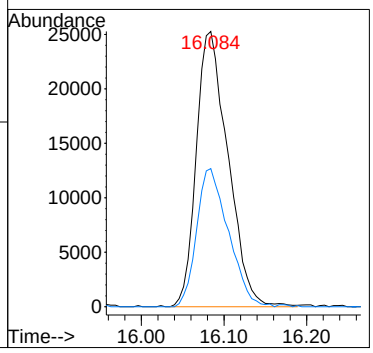


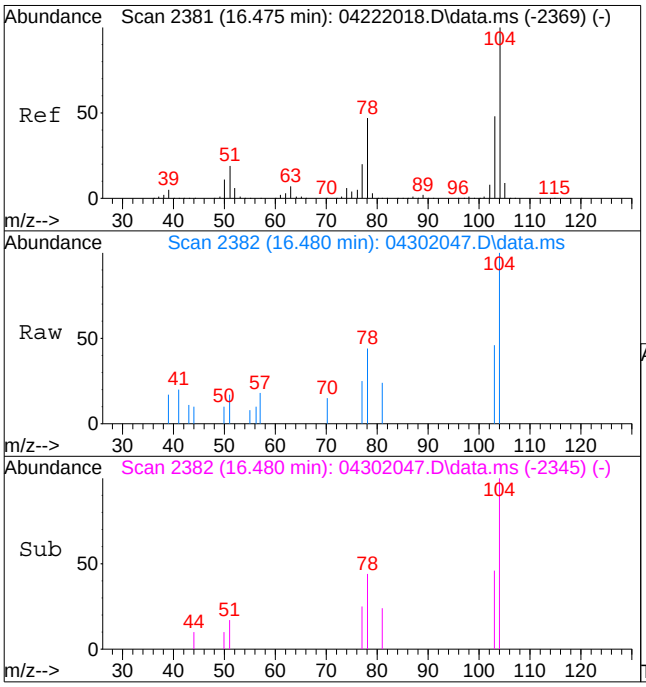


#67
m- & p-Xylenes
Concen: 1.56 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.028 min
Lab File: 04302047.D
Acq: 1 May 2020 6:56

Tgt Ion: 91 Resp: 67365

Ion	Ratio	Lower	Upper
91	100		
106	50.1	28.3	68.3

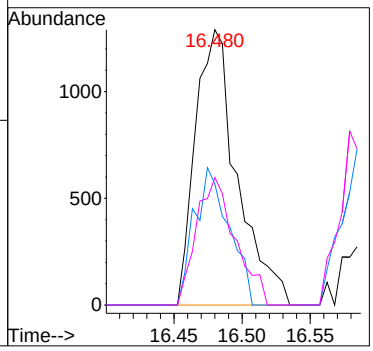


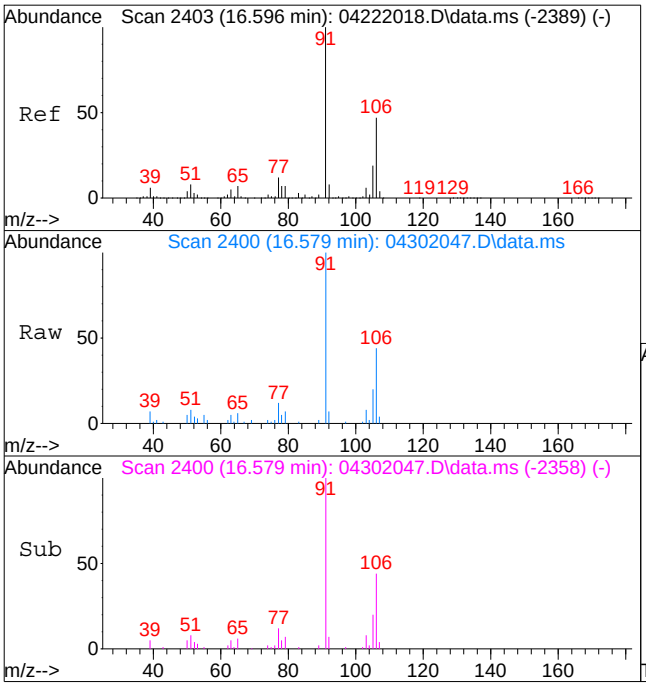


#69
Styrene
Concen: 0.09 ng
RT: 16.48 min Scan# 2382
Delta R.T. 0.005 min
Lab File: 04302047.D
Acq: 1 May 2020 6:56

Tgt Ion:104 Resp: 2748

Ion	Ratio	Lower	Upper
104	100		
78	41.6	24.8	64.8
103	43.1	27.3	67.3

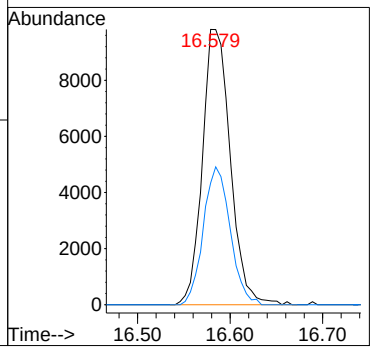


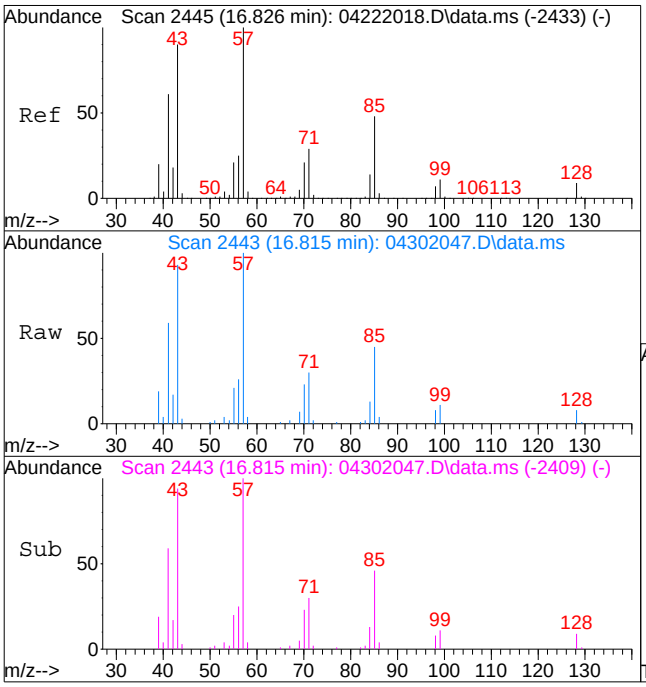


#70
o-Xylene
Concen: 0.49 ng
RT: 16.58 min Scan# 2400
Delta R.T. -0.017 min
Lab File: 04302047.D
Acq: 1 May 2020 6:56

Tgt Ion: 91 Resp: 20581

Ion	Ratio	Lower	Upper
91	100		
106	48.1	27.5	67.5

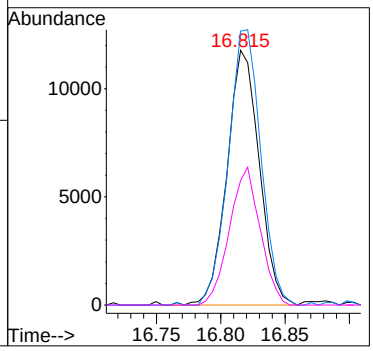


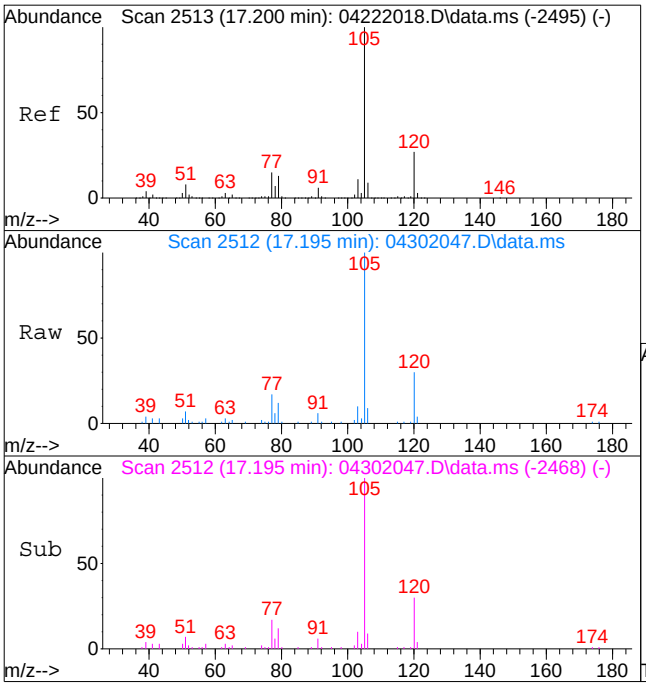


#71
n-Nonane
Concen: 1.50 ng
RT: 16.82 min Scan# 2443
Delta R.T. -0.011 min
Lab File: 04302047.D
Acq: 1 May 2020 6:56

Tgt Ion: 43 Resp: 20542

Ion	Ratio	Lower	Upper
43	100		
57	108.8	90.8	130.8
85	51.5	32.1	72.1

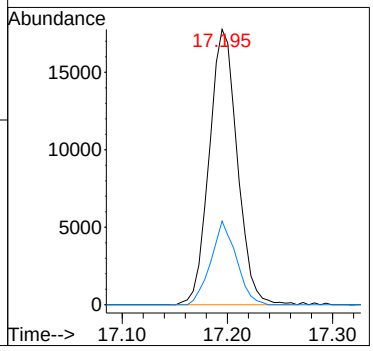


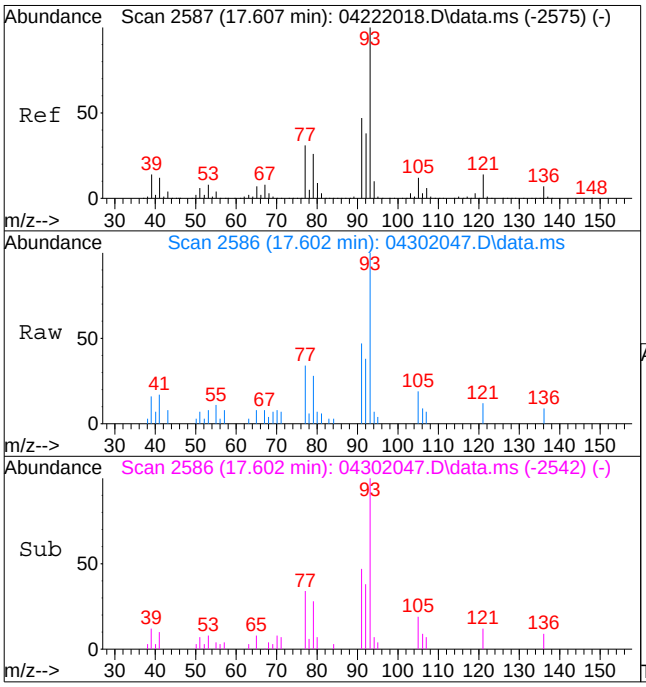


#74
Cumene
Concen: 0.60 ng
RT: 17.19 min Scan# 2512
Delta R.T. -0.006 min
Lab File: 04302047.D
Acq: 1 May 2020 6:56

Tgt Ion:105 Resp: 33056

Ion	Ratio	Lower	Upper
105	100		
120	27.7	7.3	47.3

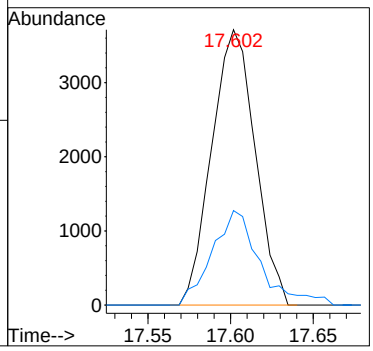


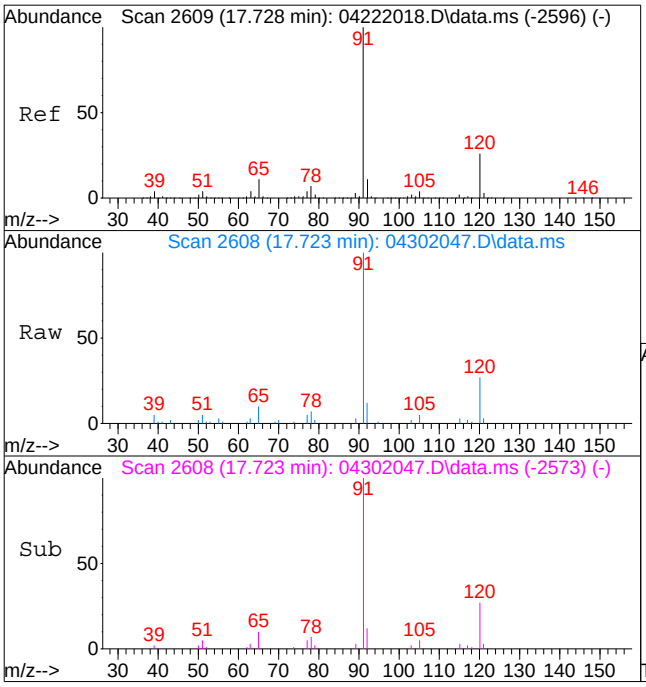


#75
alpha-Pinene
Concen: 0.27 ng
RT: 17.60 min Scan# 2586
Delta R.T. -0.006 min
Lab File: 04302047.D
Acq: 1 May 2020 6:56

Tgt Ion: 93 Resp: 6791

Ion	Ratio	Lower	Upper
93	100		
77	37.7	10.6	50.6

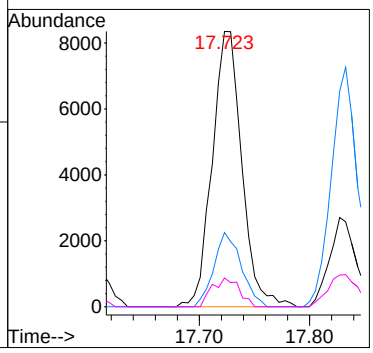


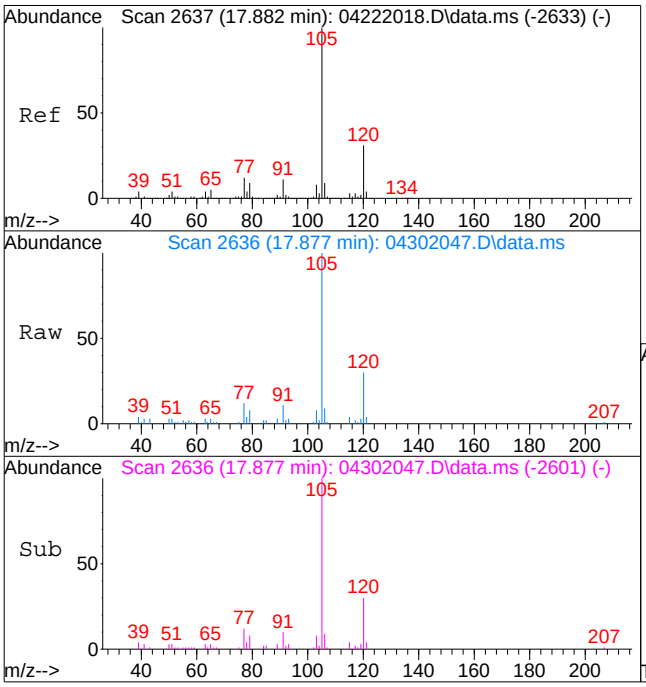


#76
n-Propylbenzene
Concen: 0.26 ng
RT: 17.72 min Scan# 2608
Delta R.T. -0.006 min
Lab File: 04302047.D
Acq: 1 May 2020 6:56

Tgt Ion: 91 Resp: 15579

Ion	Ratio	Lower	Upper
91	100		
120	24.9	6.1	46.1
65	9.5	0.0	30.7

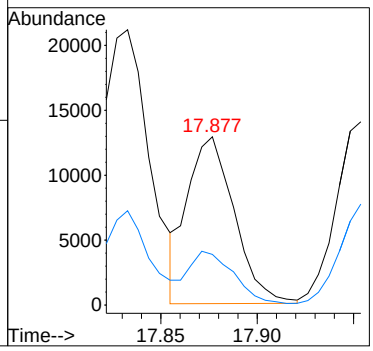


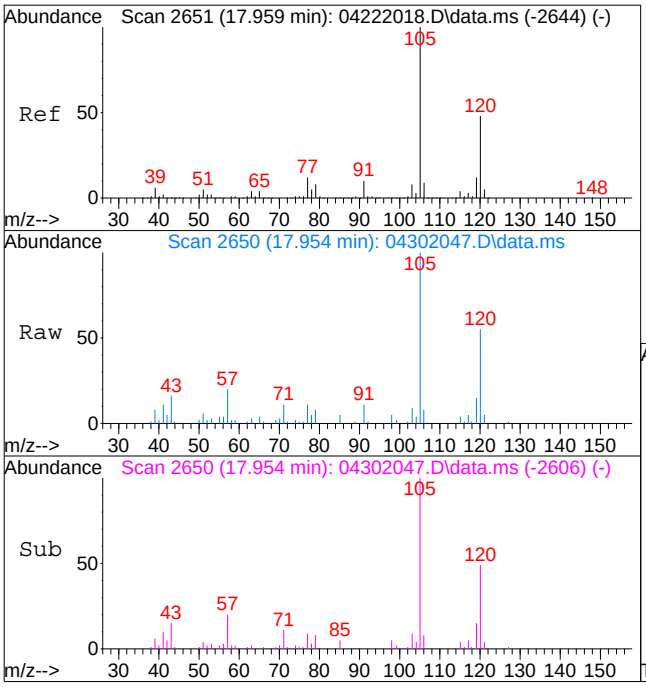


#78
4-Ethyltoluene
Concen: 0.42 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 04302047.D
Acq: 1 May 2020 6:56

Tgt Ion:105 Resp: 21817

Ion	Ratio	Lower	Upper
105	100		
120	29.8	11.4	51.4

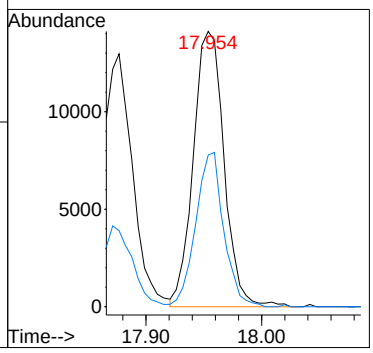


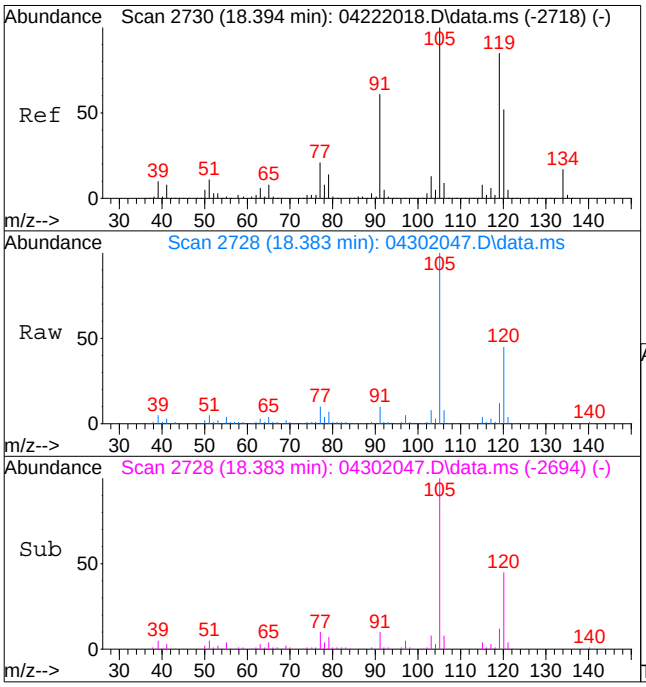


#79
1,3,5-Trimethylbenzene
Concen: 0.54 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 04302047.D
Acq: 1 May 2020 6:56

Tgt Ion:105 Resp: 26197

Ion	Ratio	Lower	Upper
105	100		
120	51.1	29.5	69.5

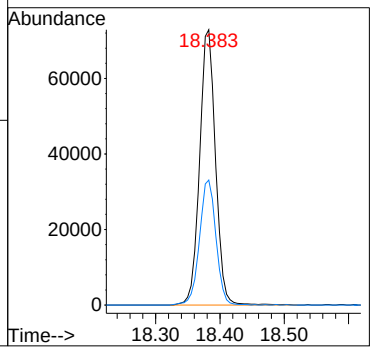


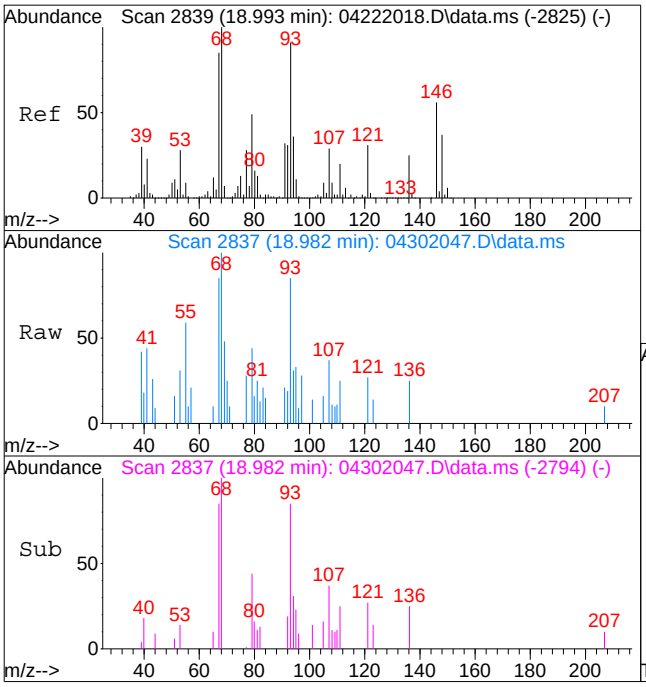


#82
1,2,4-Trimethylbenzene
Concen: 2.67 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 04302047.D
Acq: 1 May 2020 6:56

Tgt Ion:105 Resp: 125362

Ion	Ratio	Lower	Upper
105	100		
120	47.0	34.5	74.5

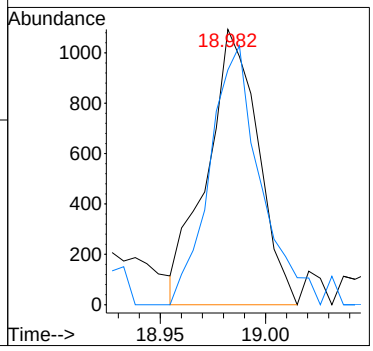


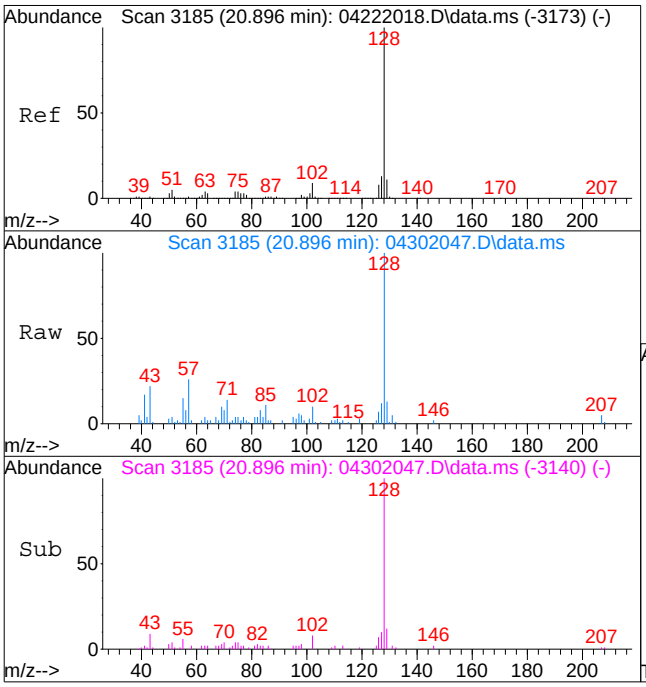


#91
d-Limonene
Concen: 0.14 ng
RT: 18.98 min Scan# 2837
Delta R.T. -0.011 min
Lab File: 04302047.D
Acq: 1 May 2020 6:56

Tgt Ion: 68 Resp: 1851

Ion	Ratio	Lower	Upper
68	100		
93	94.8	71.6	111.6

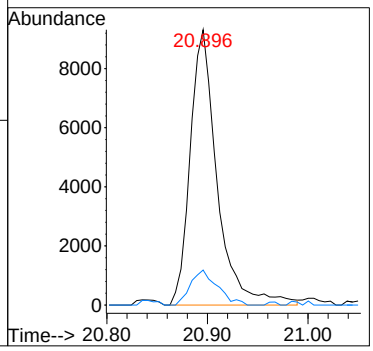




#95
Naphthalene
Concen: 0.29 ng
RT: 20.90 min Scan# 3185
Delta R.T. -0.000 min
Lab File: 04302047.D
Acq: 1 May 2020 6:56

Tgt Ion:128 Resp: 17350

Ion	Ratio	Lower	Upper
128	100		
129	12.7	0.0	30.9



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302048.D Vial: 13
Acq On : 1 May 2020 7:29 Operator: SC
Sample : P2002103-007 (400mL) Inst : MS09
Misc : S34-04212006

5/1/20

Quant Time: May 01 15:48:00 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.14	130	148237	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	11.11	114	627398	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	276109	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.92	65	222154	11.567	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.56%				
57) Toluene-d8 (SS2)	13.54	98	683846	12.827	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.64%				
73) Bromofluorobenzene (SS3)	17.05	174	264585	12.349	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.80%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	3.98	85	11659	0.487	ng		97
4) Chloromethane	4.17	50	69758	7.903	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	123	N.D.			
6) Vinyl Chloride	4.45	62	27930	2.413	ng		99
7) 1,3-Butadiene	4.63	54	775	0.105	ng	#	7
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.15	64	10685	1.825	ng		98
10) Ethanol	5.35	45	13946	2.924	ng		79
11) Acetonitrile	5.58	41	454	N.D.			
12) Acrolein	5.71	56	1487	0.341	ng		89
13) Acetone	5.84	58	29497	5.152	ng		99
14) Trichlorofluoromethane	6.02	101	4507	0.189	ng		96
15) 2-Propanol (Isopropanol)	6.16	45	11740	0.645	ng		89
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	6.87	84	2945	0.293	ng		94
20) 3-Chloro-1-propene (Al...	6.99	41	490	N.D.			
21) Trichlorotrifluoroethane	7.19	151	14616	1.180	ng		99
22) Carbon Disulfide	7.15	76	905493	27.121	ng		96
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.	d		
24) 1,1-Dichloroethane	8.10	63	22526	1.365	ng		100
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	8.53	72	6720	1.142	ng		95
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	9.22	61	29702	11.349	ng		98
31) n-Hexane	9.22	57	14203	1.118	ng		100
32) Chloroform	9.28	83	1748	0.086	ng		95
34) Tetrahydrofuran (THF)	9.67	72	69907	11.733	ng		98
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	10.04	62	10632	0.636	ng		98
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.75	78	73437	1.796	ng		100
42) Carbon Tetrachloride	10.91	117	5344	0.253	ng		98
43) Cyclohexane	11.04	84	16653	1.039	ng		98
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	11.81	83	612	N.D.			
47) Trichloroethene	11.81	130	41488	2.929	ng		99
48) 1,4-Dioxane	0.00	88	0	N.D.	d		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302048.D Vial: 13
Acq On : 1 May 2020 7:29 Operator: SC
Sample : P2002103-007 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 15:48:00 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

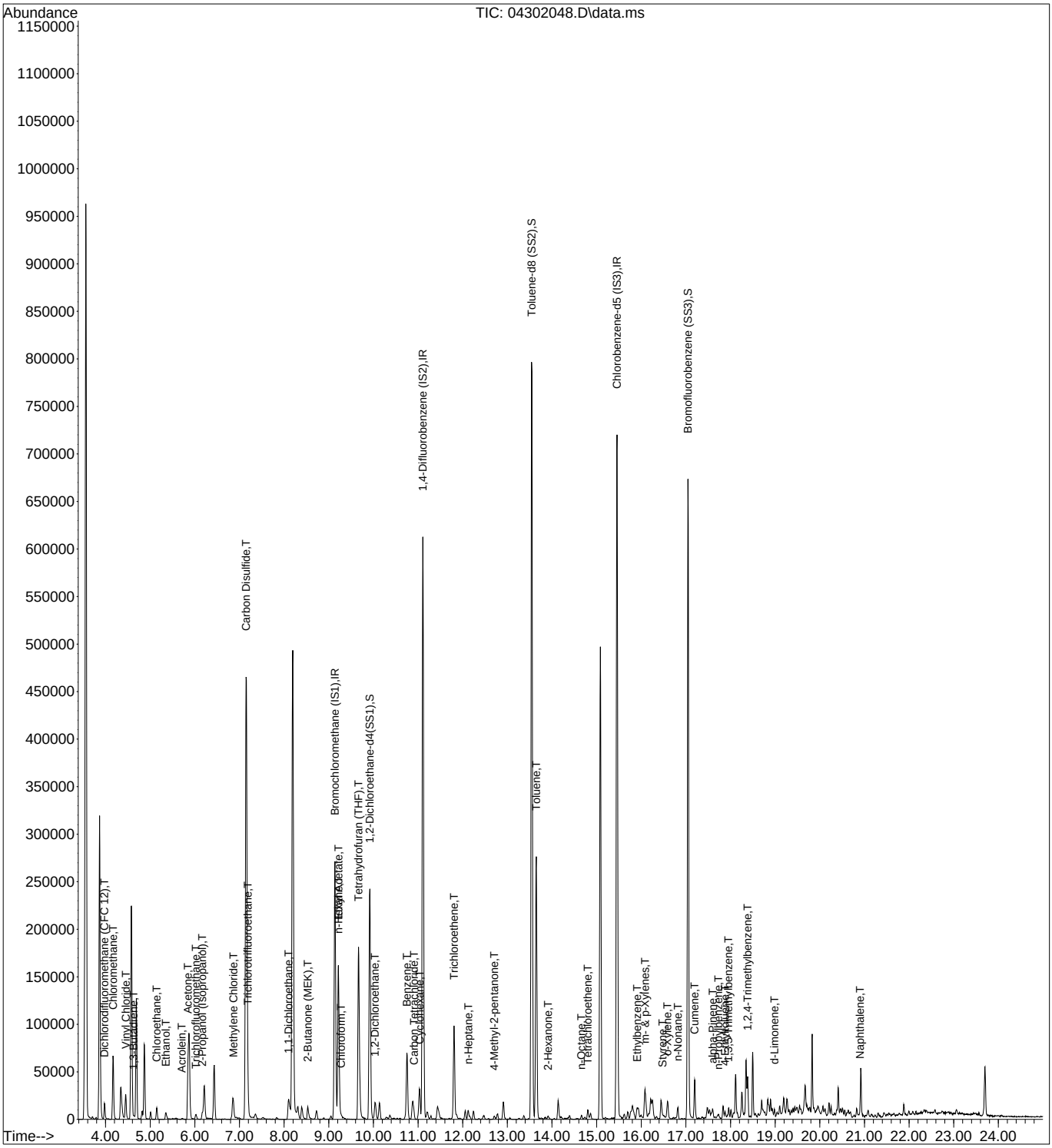
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	12.12	71	2768	0.291 ng		96
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	12.71	58	1086	0.152 ng	#	65
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	13.65	91	250926	5.606 ng		100
59) 2-Hexanone	13.91	43	3592	0.269 ng		80
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	14.55	43	691	N.D.		
63) n-Octane	14.66	57	909	0.128 ng	#	80
64) Tetrachloroethene	14.80	166	4157	0.247 ng		99
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	15.91	91	10242	0.196 ng		100
67) m- & p-Xylenes	16.08	91	30664	0.697 ng		97
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.47	104	1777	0.055 ng		91
70) o-Xylene	16.59	91	9870	0.228 ng		99
71) n-Nonane	16.82	43	4354	0.312 ng		92
72) 1,1,2,2-Tetrachloroethane	16.56	83	555	N.D.		
74) Cumene	17.19	105	30899	0.548 ng		100
75) alpha-Pinene	17.60	93	3136	0.122 ng	#	1
76) n-Propylbenzene	17.73	91	4379	0.071 ng		93
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	17.88	105	4739	0.088 ng		98
79) 1,3,5-Trimethylbenzene	17.95	105	5901	0.119 ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	18.38	105	24955	0.521 ng		92
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	18.53	91	248	N.D.		
85) 1,3-Dichlorobenzene	18.61	146	189	N.D.		
86) 1,4-Dichlorobenzene	18.61	146	189	N.D.		
87) sec-Butylbenzene	18.67	105	1687	N.D.		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	18.99	68	1570	0.116 ng		97
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	20.90	128	4190	0.068 ng		99
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302048.D Vial: 13
Acq On : 1 May 2020 7:29 Operator: SC
Sample : P2002103-007 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 15:48:00 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302048.D Vial: 13
Acq On : 1 May 2020 7:29 Operator: SC
Sample : P2002103-007 (400mL) Inst : MS09
Misc : S34-04212006

5/1/20

Quant Time: May 01 15:48:00 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

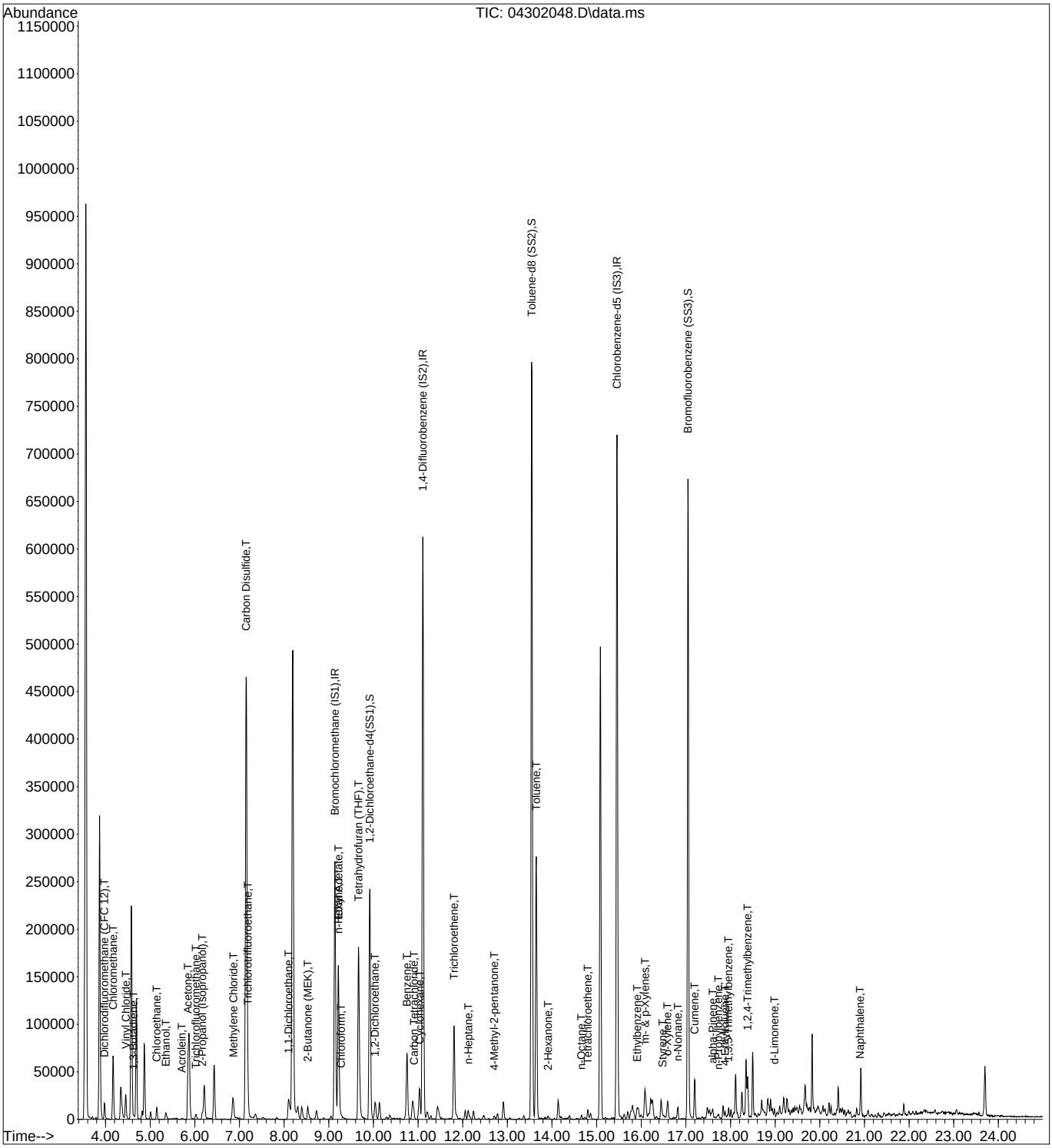
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.14	130	148237	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	11.11	114	627398	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	276109	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.92	65	222154	11.567	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.56%				
57) Toluene-d8 (SS2)	13.54	98	683846	12.827	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.64%				
73) Bromofluorobenzene (SS3)	17.05	174	264585	12.349	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.80%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.98	85	11659	0.487	ng		97
4) Chloromethane	4.17	50	69758	7.903	ng		99
6) Vinyl Chloride	4.45	62	27930	2.413	ng		99
7) 1,3-Butadiene	4.63	54	775	0.105	ng	#	7
9) Chloroethane	5.15	64	10685	1.825	ng		98
10) Ethanol	5.35	45	13946	2.924	ng		79
12) Acrolein	5.71	56	1487	0.341	ng		89
13) Acetone	5.84	58	29497	5.152	ng		99
14) Trichlorofluoromethane	6.02	101	4507	0.189	ng		96
15) 2-Propanol (Isopropanol)	6.16	45	11740	0.645	ng		89
19) Methylene Chloride	6.87	84	2945	0.293	ng		94
21) Trichlorotrifluoroethane	7.19	151	14616	1.180	ng		99
22) Carbon Disulfide	7.15	76	905493	27.121	ng		96
24) 1,1-Dichloroethane	8.10	63	22526	1.365	ng		100
27) 2-Butanone (MEK)	8.53	72	6720	1.142	ng		95
30) Ethyl Acetate	9.22	61	29702	11.349	ng		98
31) n-Hexane	9.22	57	14203	1.118	ng		100
32) Chloroform	9.28	83	1748	0.086	ng		95
34) Tetrahydrofuran (THF)	9.67	72	69907	11.733	ng		98
36) 1,2-Dichloroethane	10.04	62	10632	0.636	ng		98
41) Benzene	10.75	78	73437	1.796	ng		100
42) Carbon Tetrachloride	10.91	117	5344	0.253	ng		98
43) Cyclohexane	11.04	84	16653	1.039	ng		98
47) Trichloroethene	11.81	130	41488	2.929	ng		99
51) n-Heptane	12.12	71	2768	0.291	ng		96
53) 4-Methyl-2-pentanone	12.71	58	1086	0.152	ng	#	65
58) Toluene	13.65	91	250926	5.606	ng		100
59) 2-Hexanone	13.91	43	3592	0.269	ng		80
63) n-Octane	14.66	57	909	0.128	ng	#	80
64) Tetrachloroethene	14.80	166	4157	0.247	ng		99
66) Ethylbenzene	15.91	91	10242	0.196	ng		100
67) m- & p-Xylenes	16.08	91	30664	0.697	ng		97
69) Styrene	16.47	104	1777	0.055	ng		91
70) o-Xylene	16.59	91	9870	0.228	ng		99
71) n-Nonane	16.82	43	4354	0.312	ng		92
74) Cumene	17.19	105	30899	0.548	ng		100
75) alpha-Pinene	17.60	93	3136	0.122	ng	#	1
76) n-Propylbenzene	17.73	91	4379	0.071	ng		93
78) 4-Ethyltoluene	17.88	105	4739	0.088	ng		98
79) 1,3,5-Trimethylbenzene	17.95	105	5901	0.119	ng		99
82) 1,2,4-Trimethylbenzene	18.38	105	24955	0.521	ng		92
91) d-Limonene	18.99	68	1570	0.116	ng		97
95) Naphthalene	20.90	128	4190	0.068	ng		99

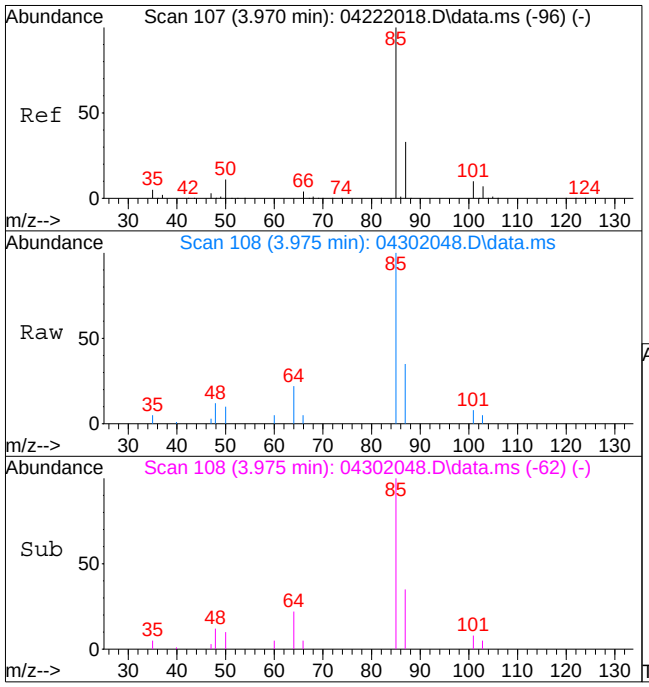
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302048.D Vial: 13
Acq On : 1 May 2020 7:29 Operator: SC
Sample : P2002103-007 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 15:48:00 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

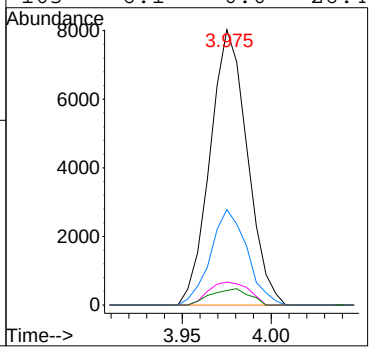


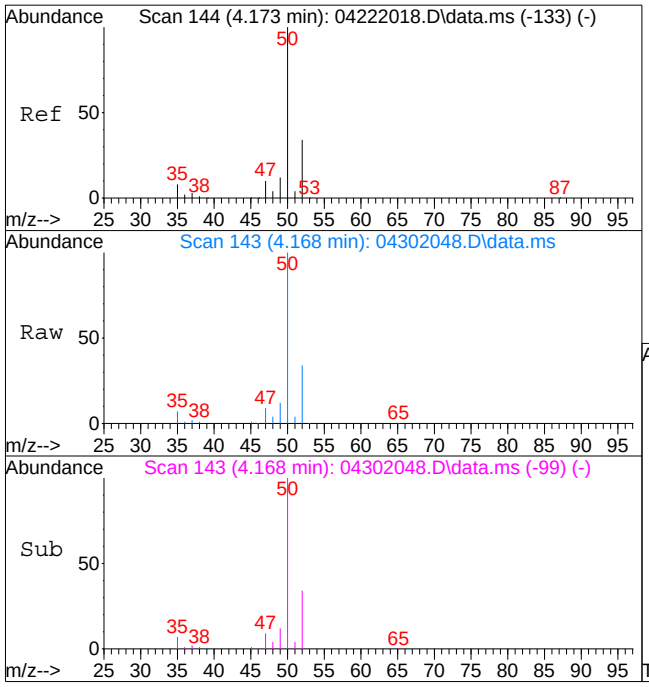


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.49 ng
RT: 3.98 min Scan# 108
Delta R.T. 0.005 min
Lab File: 04302048.D
Acq: 1 May 2020 7:29

Tgt Ion: 85 Resp: 11659

Ion	Ratio	Lower	Upper
85	100		
87	34.1	12.4	52.4
101	9.0	0.0	29.9
103	6.1	0.0	26.4

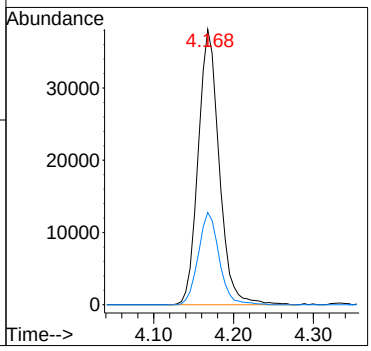


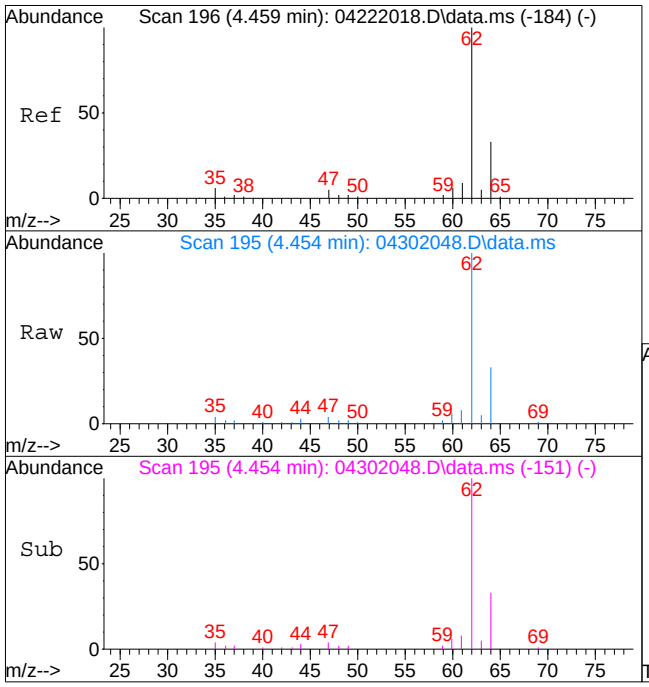


#4
Chloromethane
Concen: 7.90 ng
RT: 4.17 min Scan# 143
Delta R.T. -0.006 min
Lab File: 04302048.D
Acq: 1 May 2020 7:29

Tgt Ion: 50 Resp: 69758

Ion	Ratio	Lower	Upper
50	100		
52	33.2	13.7	53.7

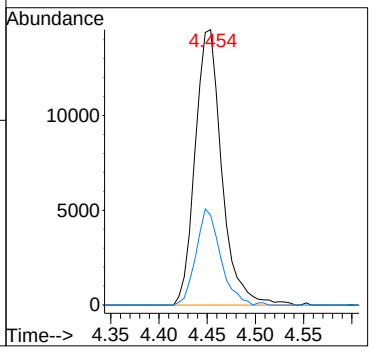


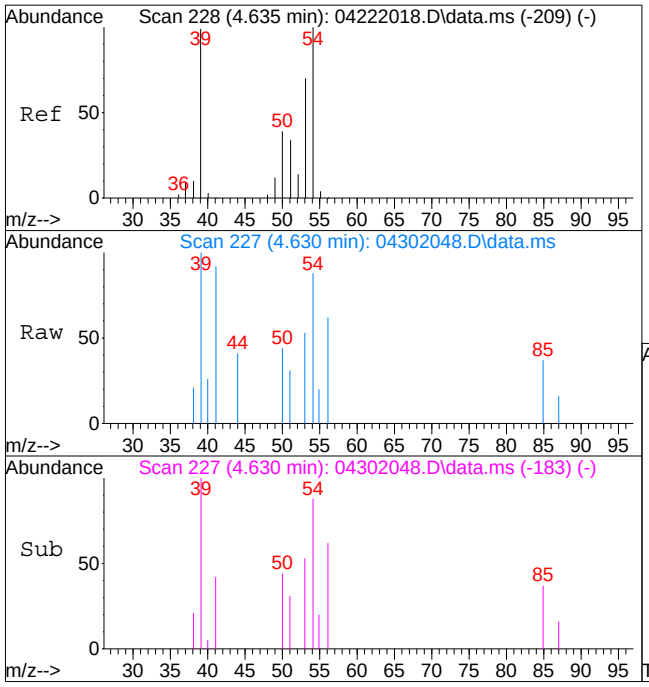


#6
Vinyl Chloride
Concen: 2.41 ng
RT: 4.45 min Scan# 195
Delta R.T. -0.006 min
Lab File: 04302048.D
Acq: 1 May 2020 7:29

Tgt Ion: 62 Resp: 27930

Ion	Ratio	Lower	Upper
62	100		
64	32.3	12.7	52.7

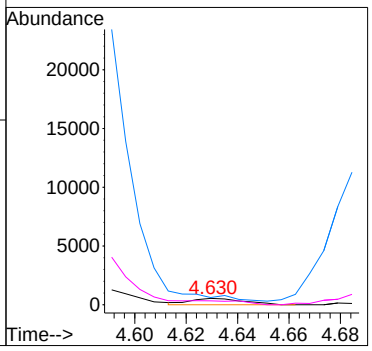


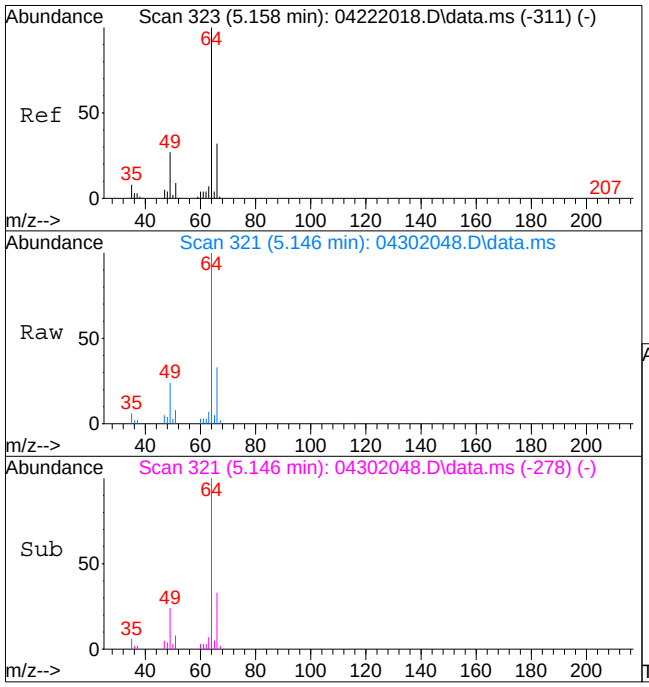


#7
1,3-Butadiene
Concen: 0.10 ng
RT: 4.63 min Scan# 227
Delta R.T. -0.006 min
Lab File: 04302048.D
Acq: 1 May 2020 7:29

Tgt Ion: 54 Resp: 775

Ion	Ratio	Lower	Upper
54	100		
39	0.0	75.4	115.4#
53	0.0	49.6	89.6#

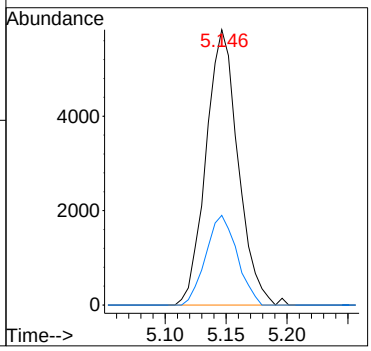


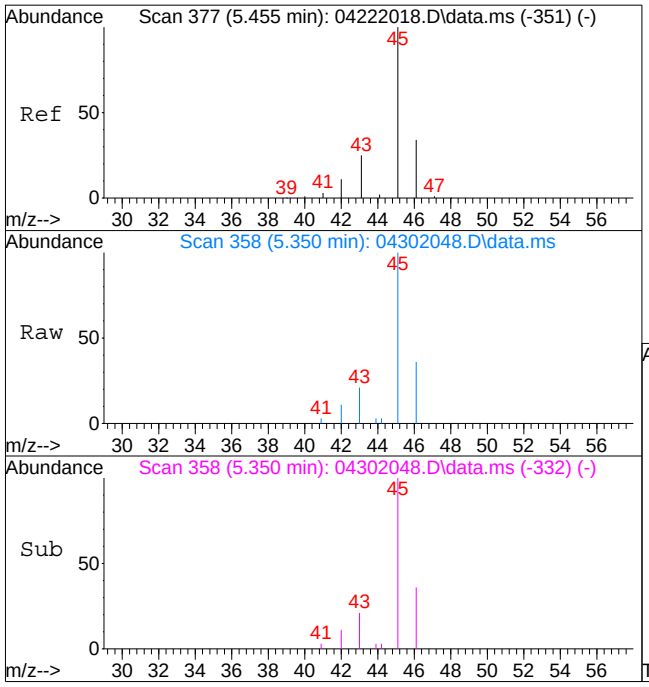


#9
Chloroethane
Concen: 1.82 ng
RT: 5.15 min Scan# 321
Delta R.T. -0.011 min
Lab File: 04302048.D
Acq: 1 May 2020 7:29

Tgt Ion: 64 Resp: 10685

Ion	Ratio	Lower	Upper
64	100		
66	31.7	12.7	52.7

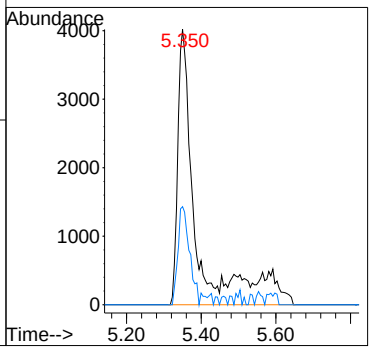


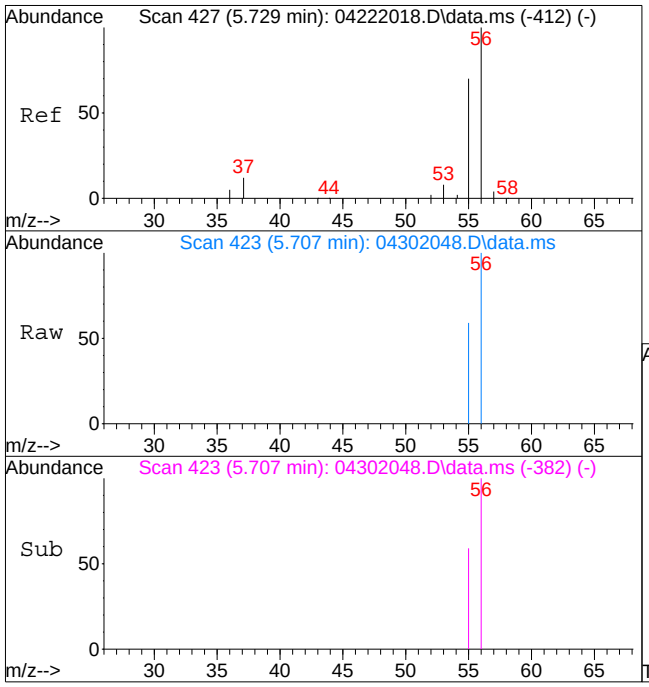


#10
Ethanol
Concen: 2.92 ng
RT: 5.35 min Scan# 358
Delta R.T. -0.105 min
Lab File: 04302048.D
Acq: 1 May 2020 7:29

Tgt Ion: 45 Resp: 13946

Ion	Ratio	Lower	Upper
45	100		
46	22.2	14.0	54.0

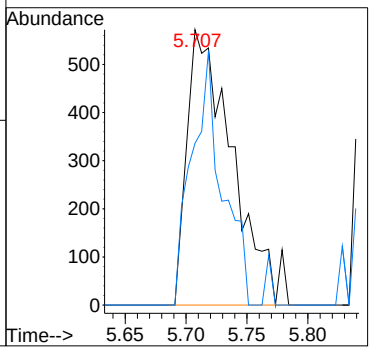


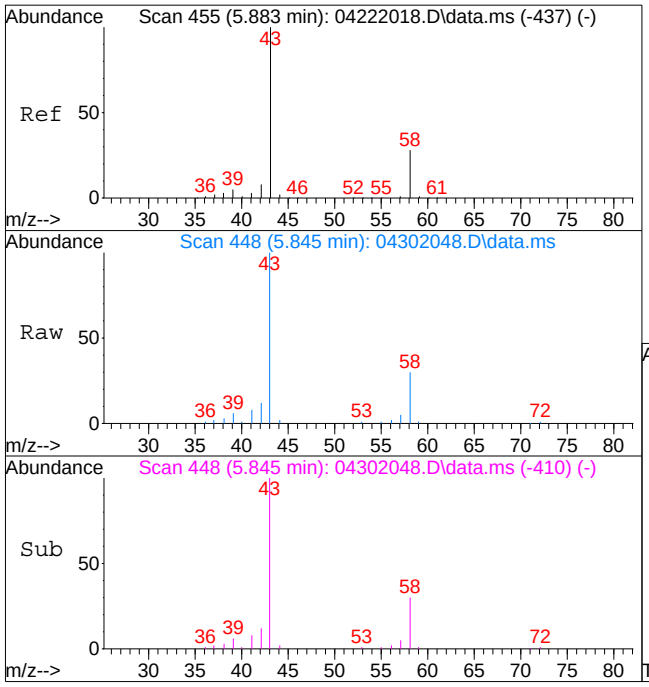


#12
Acrolein
Concen: 0.34 ng
RT: 5.71 min Scan# 423
Delta R.T. -0.022 min
Lab File: 04302048.D
Acq: 1 May 2020 7:29

Tgt Ion: 56 Resp: 1487

Ion	Ratio	Lower	Upper
56	100		
55	61.7	50.4	90.4

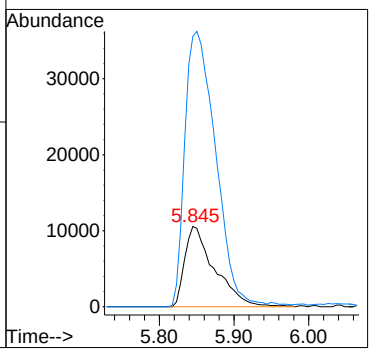


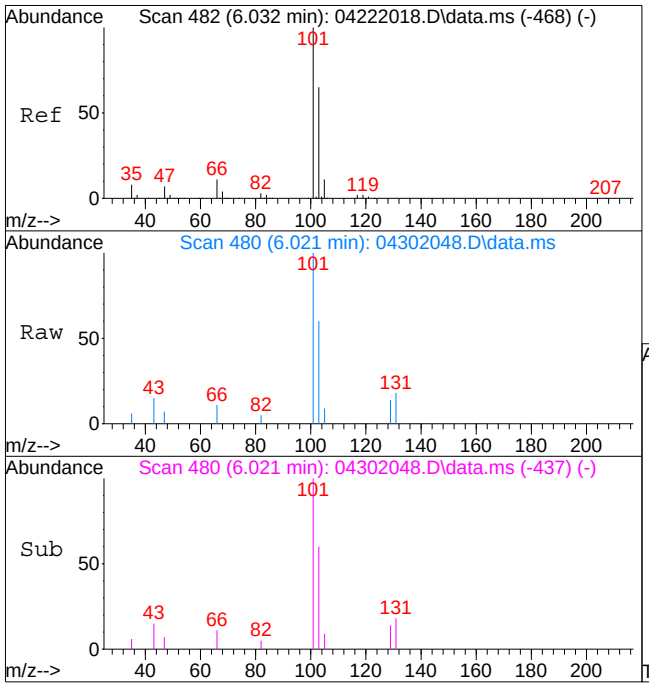


#13
Acetone
Concen: 5.15 ng
RT: 5.84 min Scan# 448
Delta R.T. -0.039 min
Lab File: 04302048.D
Acq: 1 May 2020 7:29

Tgt Ion: 58 Resp: 29497

Ion	Ratio	Lower	Upper
58	100		
43	350.9	319.3	379.3

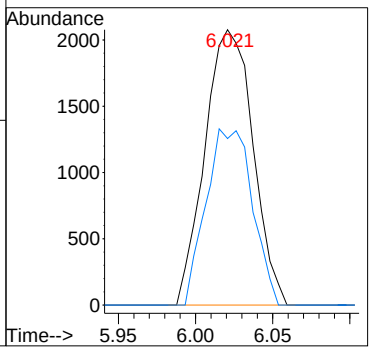


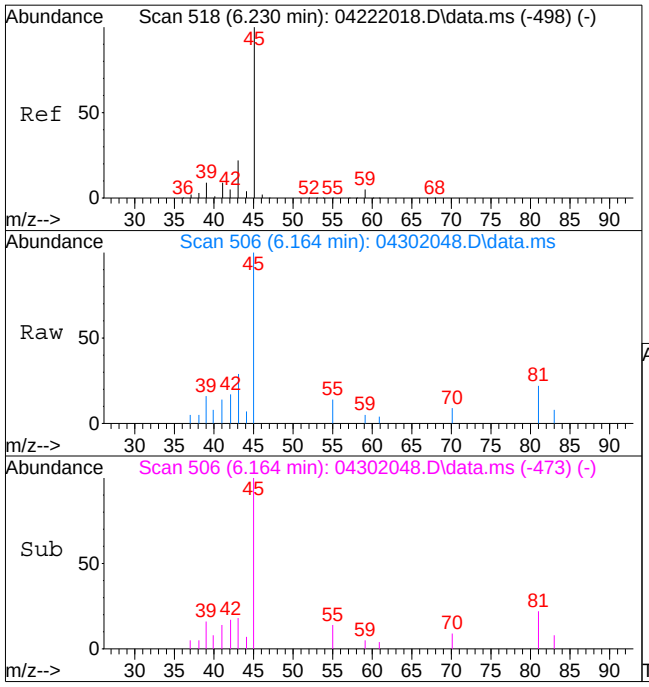


#14
Trichlorofluoromethane
Concen: 0.19 ng
RT: 6.02 min Scan# 480
Delta R.T. -0.011 min
Lab File: 04302048.D
Acq: 1 May 2020 7:29

Tgt Ion:101 Resp: 4507

Ion	Ratio	Lower	Upper
101	100		
103	61.4	44.7	84.7

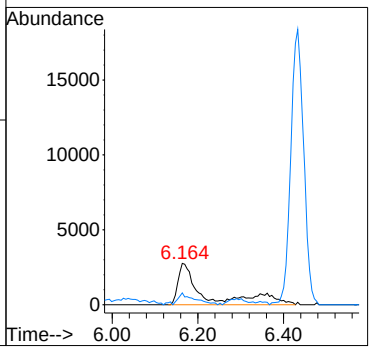


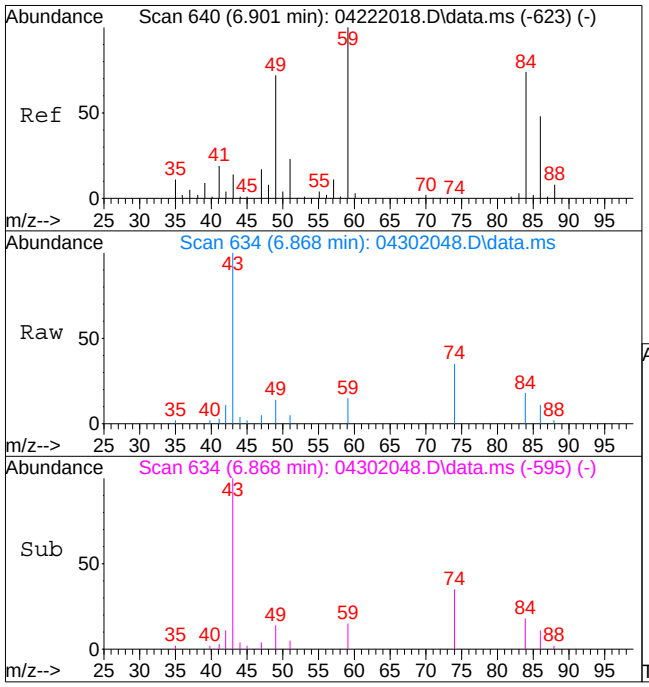


#15
2-Propanol (Isopropanol)
Concen: 0.65 ng
RT: 6.16 min Scan# 506
Delta R.T. -0.066 min
Lab File: 04302048.D
Acq: 1 May 2020 7:29

Tgt Ion: 45 Resp: 11740

Ion	Ratio	Lower	Upper
45	100		
43	17.3	2.6	42.6

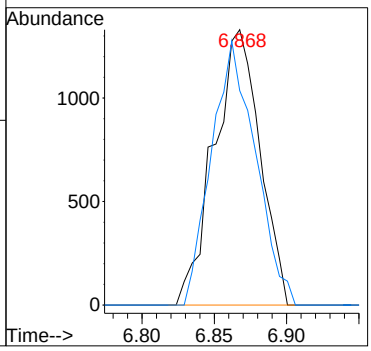


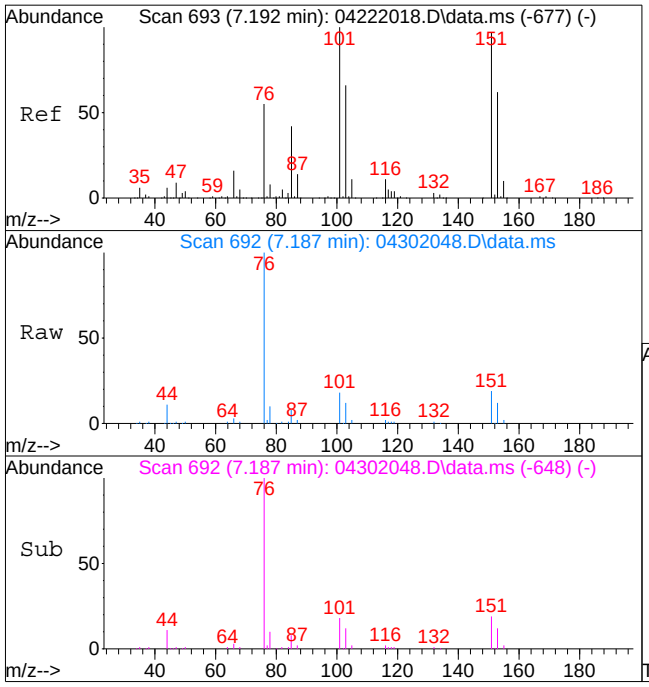


#19
Methylene Chloride
Concen: 0.29 ng
RT: 6.87 min Scan# 634
Delta R.T. -0.033 min
Lab File: 04302048.D
Acq: 1 May 2020 7:29

Tgt Ion: 84 Resp: 2945

Ion	Ratio	Lower	Upper
84	100		
49	91.9	73.0	123.0

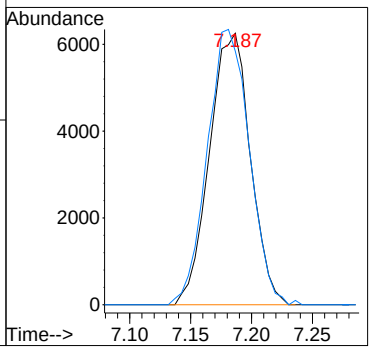


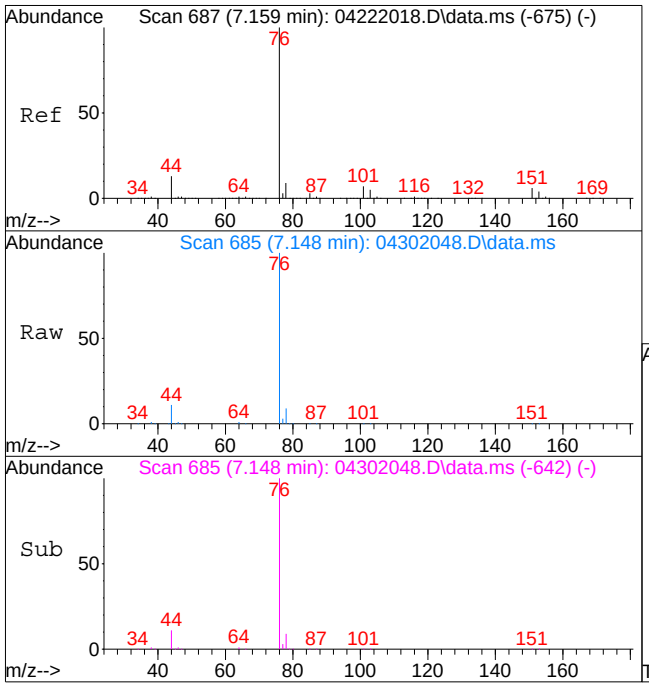


#21
Trichlorotrifluoroethane
Concen: 1.18 ng
RT: 7.19 min Scan# 692
Delta R.T. -0.006 min
Lab File: 04302048.D
Acq: 1 May 2020 7:29

Tgt Ion:151 Resp: 14616

Ion	Ratio	Lower	Upper
151	100		
101	104.2	82.9	122.9

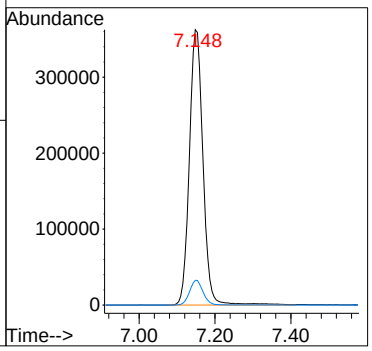


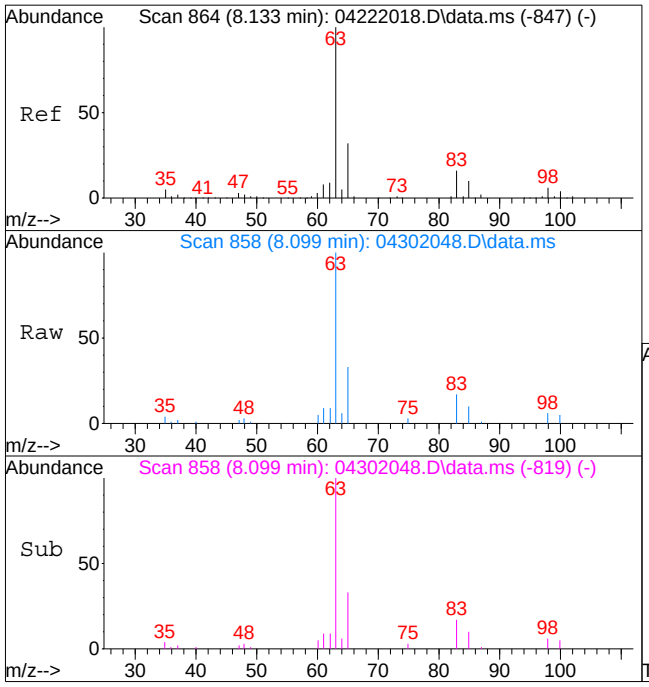


#22
Carbon Disulfide
Concen: 27.12 ng
RT: 7.15 min Scan# 685
Delta R.T. -0.011 min
Lab File: 04302048.D
Acq: 1 May 2020 7:29

Tgt Ion: 76 Resp: 905493

Ion	Ratio	Lower	Upper
76	100		
78	8.9	0.0	30.2

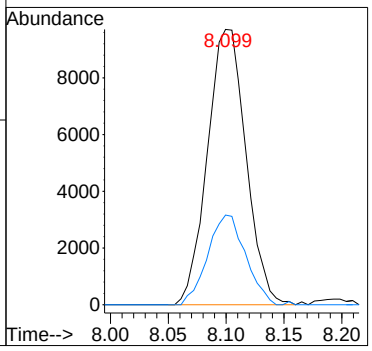


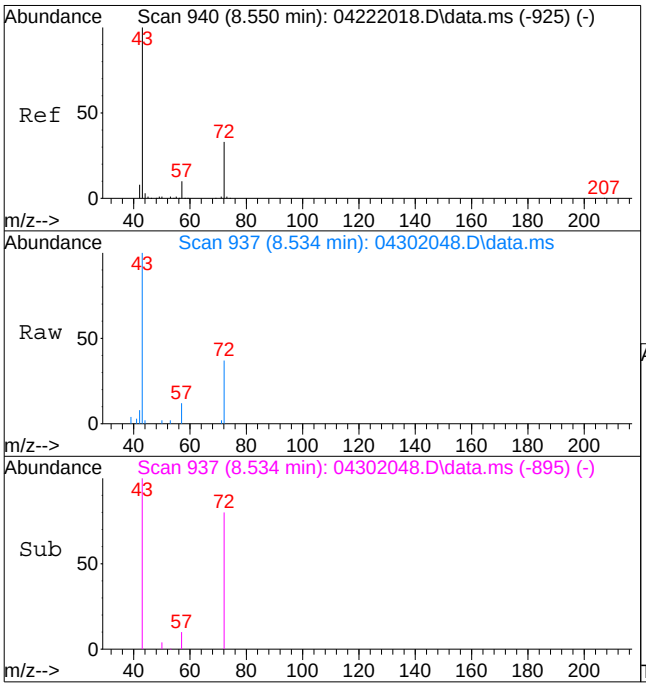


#24
1,1-Dichloroethane
Concen: 1.37 ng
RT: 8.10 min Scan# 858
Delta R.T. -0.033 min
Lab File: 04302048.D
Acq: 1 May 2020 7:29

Tgt Ion: 63 Resp: 22526

Ion	Ratio	Lower	Upper
63	100		
65	32.0	12.1	52.1

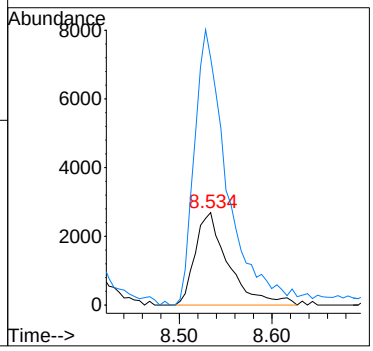


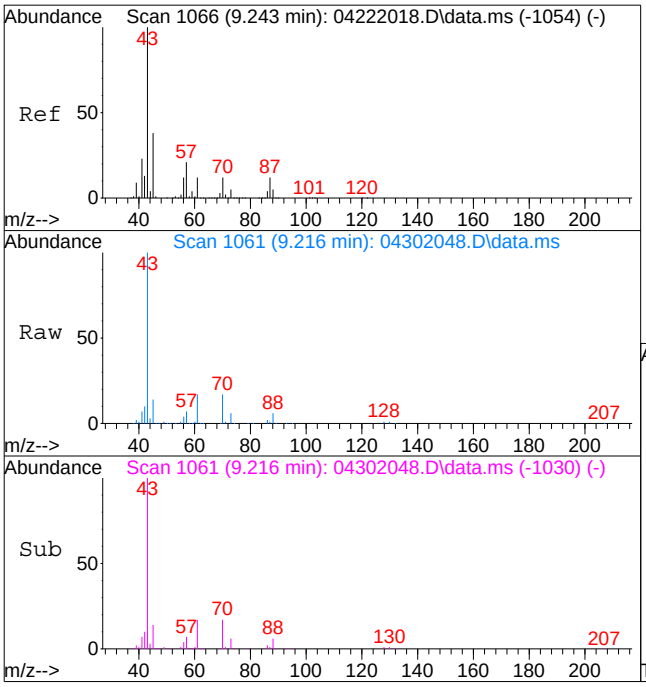


#27
2-Butanone (MEK)
Concen: 1.14 ng
RT: 8.53 min Scan# 937
Delta R.T. -0.017 min
Lab File: 04302048.D
Acq: 1 May 2020 7:29

Tgt Ion: 72 Resp: 6720

Ion	Ratio	Lower	Upper
72	100		
43	309.5	278.8	318.8

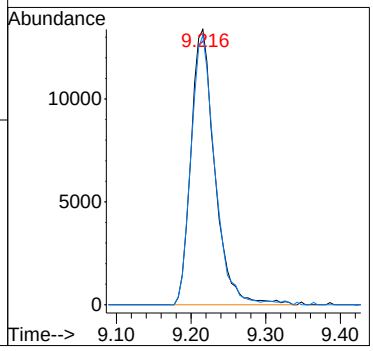


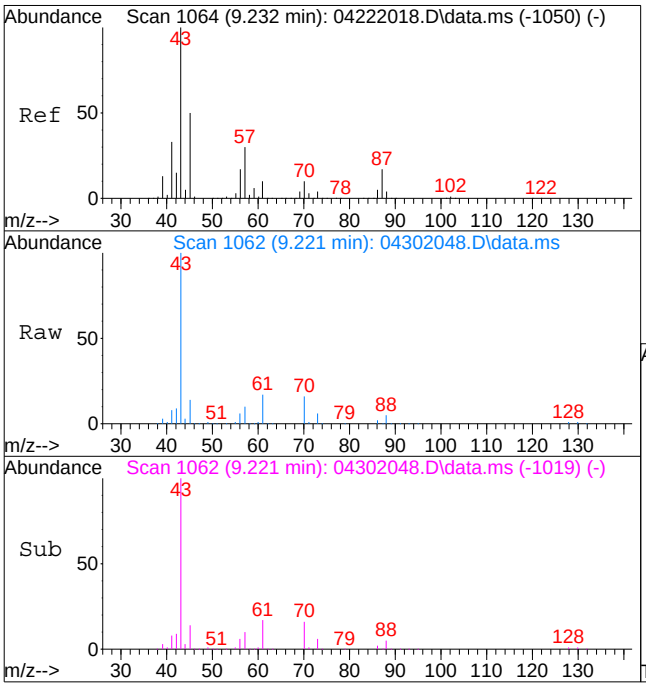


#30
Ethyl Acetate
Concen: 11.35 ng
RT: 9.22 min Scan# 1061
Delta R.T. -0.028 min
Lab File: 04302048.D
Acq: 1 May 2020 7:29

Tgt Ion: 61 Resp: 29702

Ion	Ratio	Lower	Upper
61	100		
70	98.4	80.6	120.6

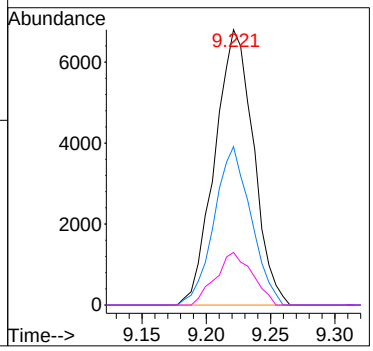


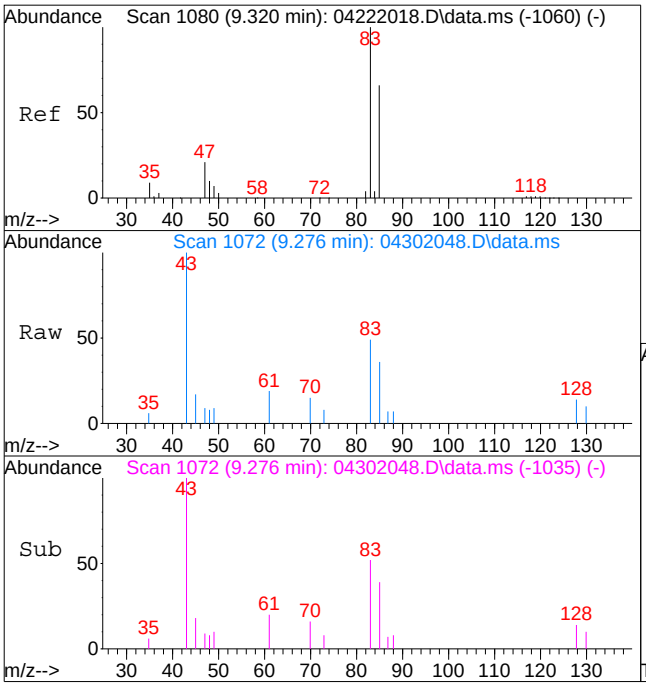


#31
n-Hexane
Concen: 1.12 ng
RT: 9.22 min Scan# 1062
Delta R.T. -0.011 min
Lab File: 04302048.D
Acq: 1 May 2020 7:29

Tgt Ion: 57 Resp: 14203

Ion	Ratio	Lower	Upper
57	100		
56	54.9	44.0	66.0
86	18.1	15.0	22.4

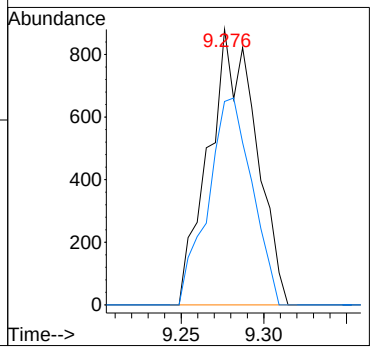


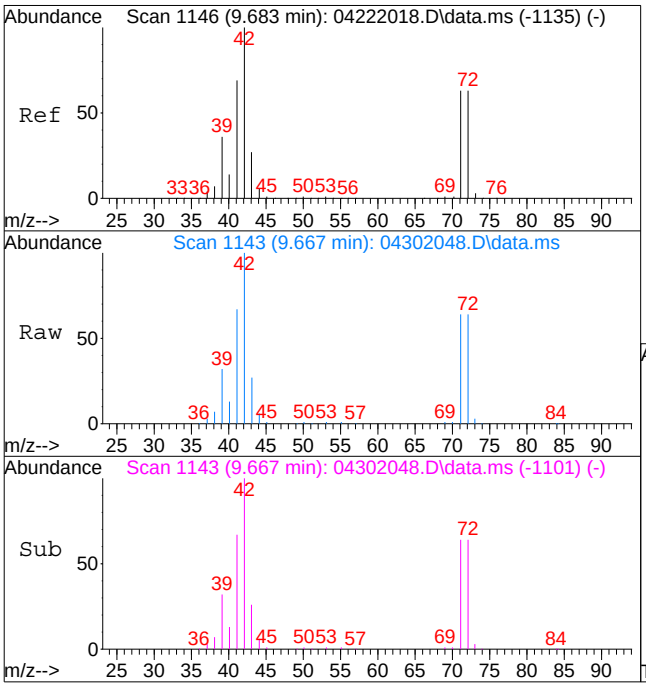


#32
Chloroform
Concen: 0.09 ng
RT: 9.28 min Scan# 1072
Delta R.T. -0.044 min
Lab File: 04302048.D
Acq: 1 May 2020 7:29

Tgt Ion: 83 Resp: 1748

Ion	Ratio	Lower	Upper
83	100		
85	70.1	45.8	85.8

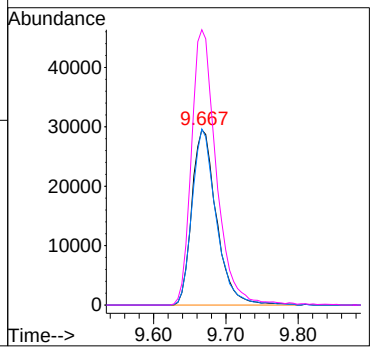


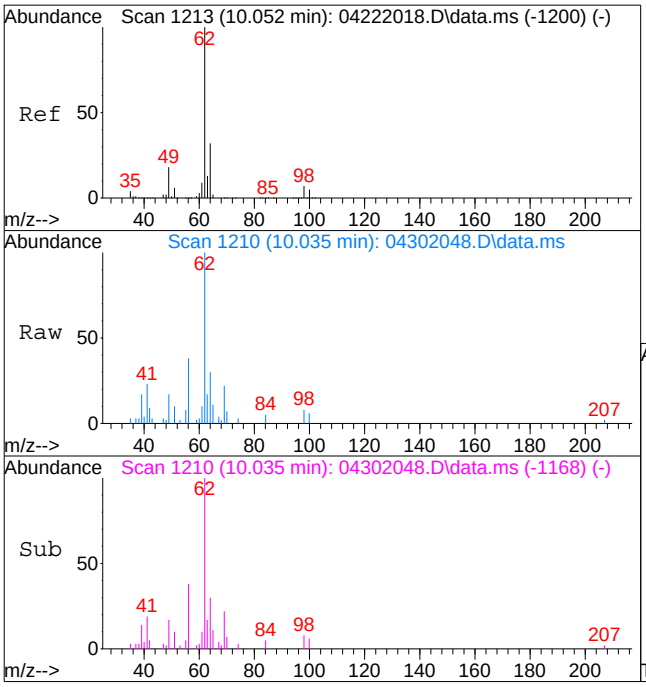


#34
Tetrahydrofuran (THF)
Concen: 11.73 ng
RT: 9.67 min Scan# 1143
Delta R.T. -0.017 min
Lab File: 04302048.D
Acq: 1 May 2020 7:29

Tgt Ion: 72 Resp: 69907

Ion	Ratio	Lower	Upper
72	100		
71	98.3	77.9	117.9
42	158.7	133.9	173.9

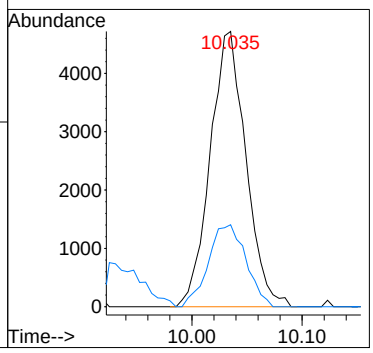


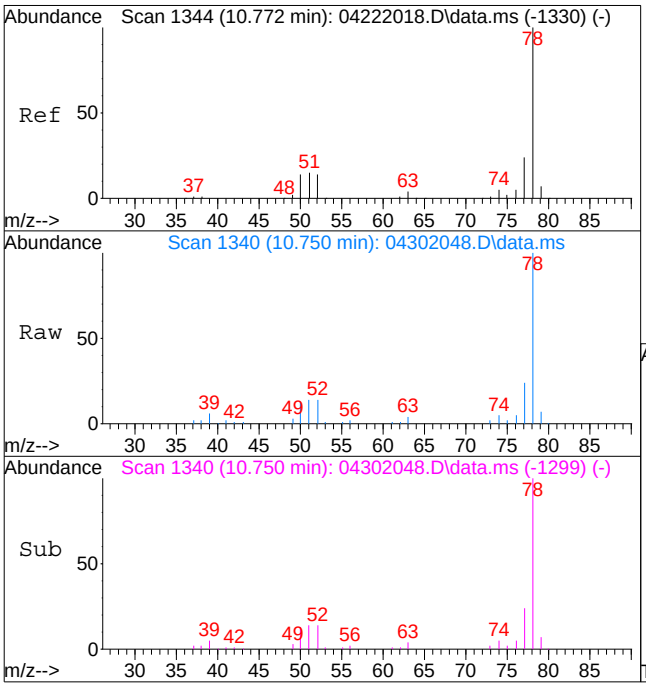


#36
1,2-Dichloroethane
Concen: 0.64 ng
RT: 10.04 min Scan# 1210
Delta R.T. -0.017 min
Lab File: 04302048.D
Acq: 1 May 2020 7:29

Tgt Ion: 62 Resp: 10632

Ion	Ratio	Lower	Upper
62	100		
64	31.3	12.7	52.7

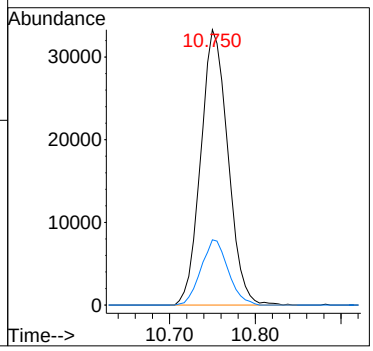


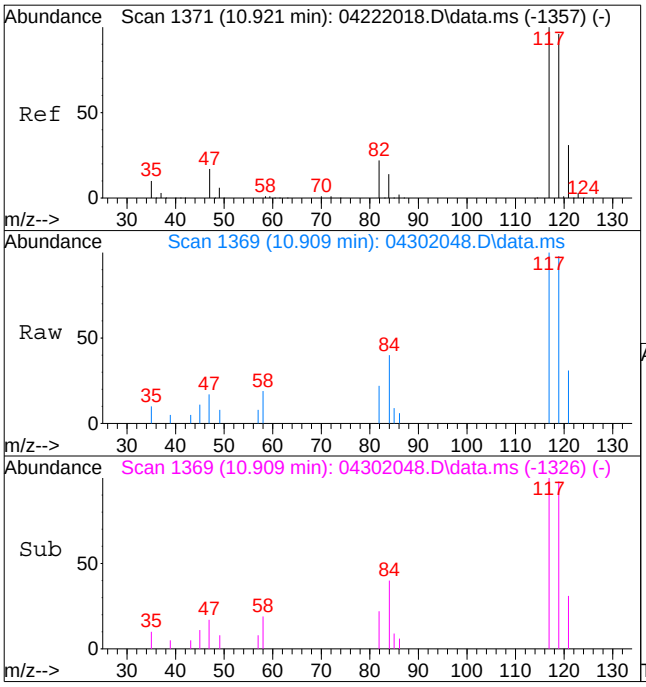


#41
Benzene
Concen: 1.80 ng
RT: 10.75 min Scan# 1340
Delta R.T. -0.022 min
Lab File: 04302048.D
Acq: 1 May 2020 7:29

Tgt Ion: 78 Resp: 73437

Ion	Ratio	Lower	Upper
78	100		
77	23.7	3.6	43.6

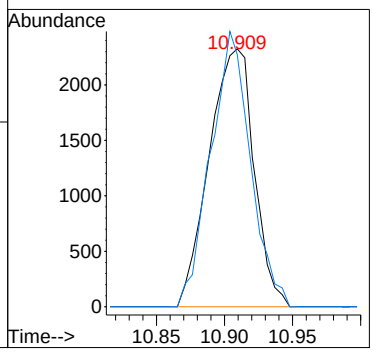


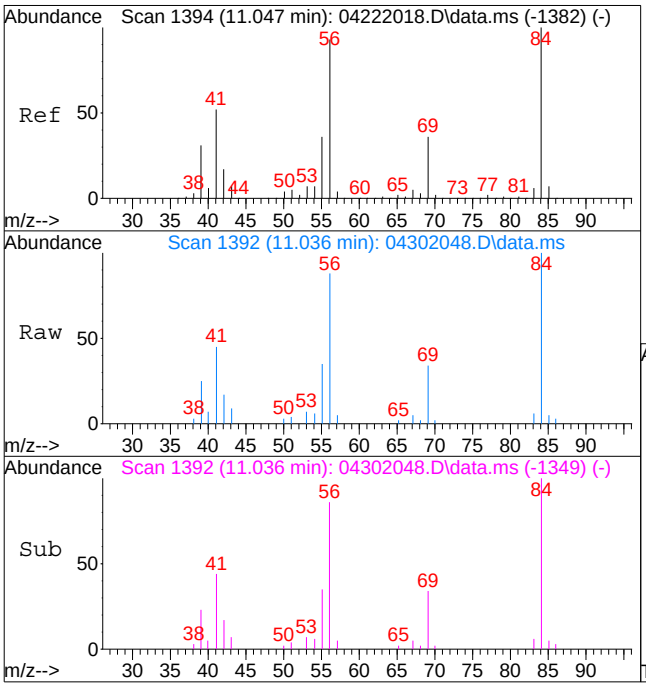


#42
Carbon Tetrachloride
Concen: 0.25 ng
RT: 10.91 min Scan# 1369
Delta R.T. -0.011 min
Lab File: 04302048.D
Acq: 1 May 2020 7:29

Tgt Ion:117 Resp: 5344

Ion	Ratio	Lower	Upper
117	100		
119	94.5	76.5	116.5

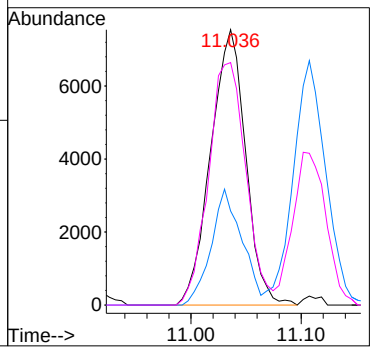


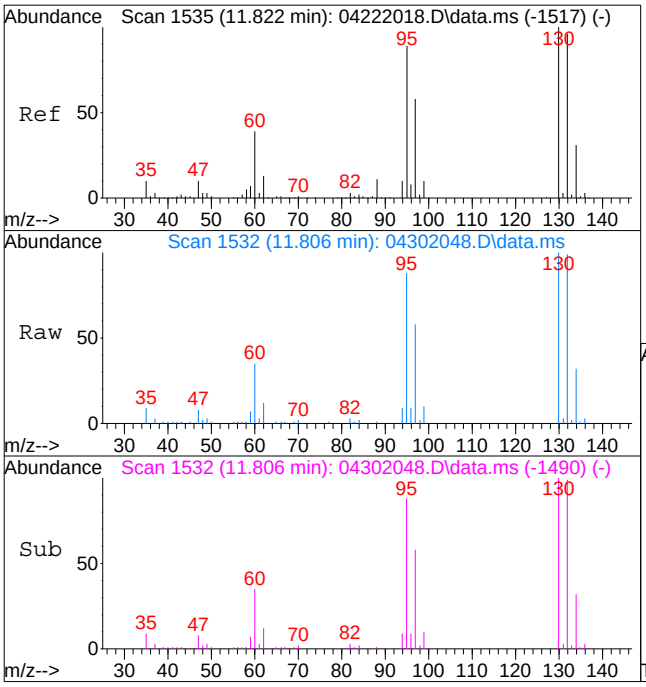


#43
Cyclohexane
Concen: 1.04 ng
RT: 11.04 min Scan# 1392
Delta R.T. -0.011 min
Lab File: 04302048.D
Acq: 1 May 2020 7:29

Tgt Ion: 84 Resp: 16653

Ion	Ratio	Lower	Upper
84	100		
69	37.0	15.8	55.8
56	94.0	72.0	112.0

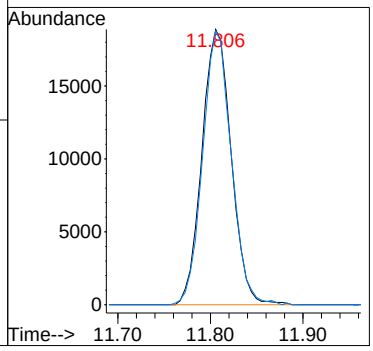


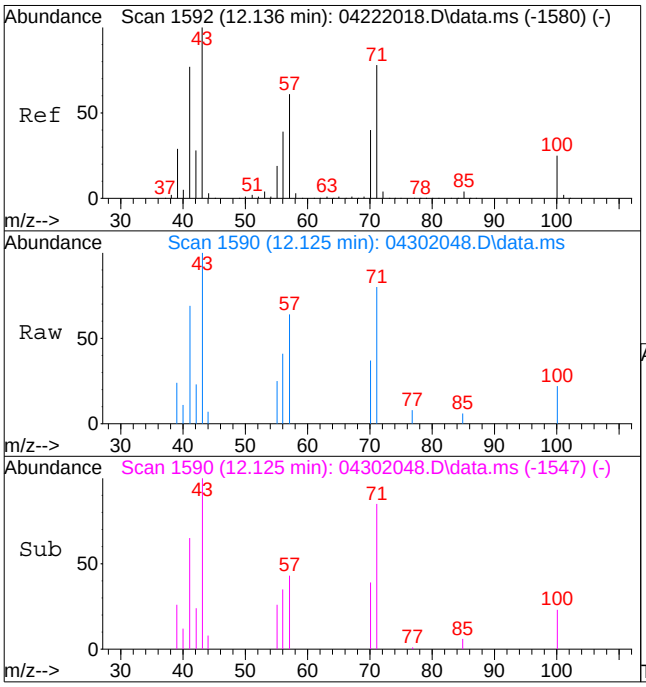


#47
Trichloroethene
Concen: 2.93 ng
RT: 11.81 min Scan# 1532
Delta R.T. -0.017 min
Lab File: 04302048.D
Acq: 1 May 2020 7:29

Tgt Ion:130 Resp: 41488

Ion	Ratio	Lower	Upper
130	100		
132	97.2	76.4	116.4

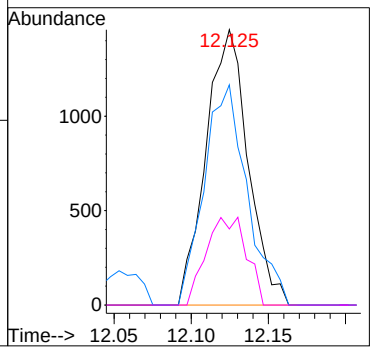


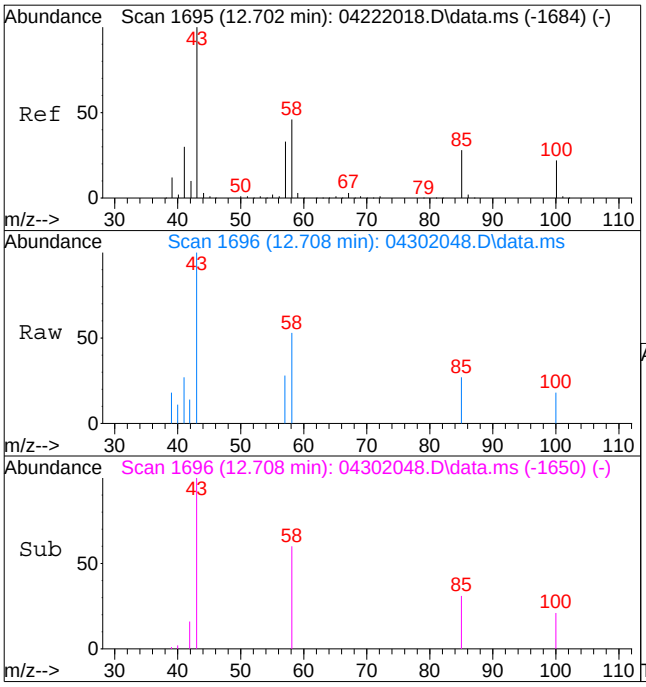


#51
n-Heptane
Concen: 0.29 ng
RT: 12.12 min Scan# 1590
Delta R.T. -0.011 min
Lab File: 04302048.D
Acq: 1 May 2020 7:29

Tgt Ion: 71 Resp: 2768

Ion	Ratio	Lower	Upper
71	100		
57	81.8	57.4	97.4
100	30.5	12.0	52.0

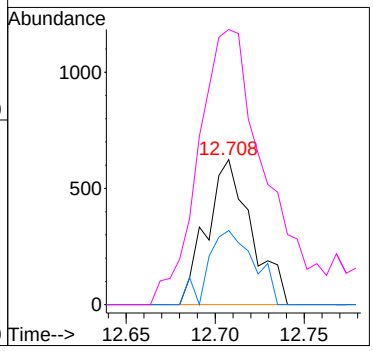


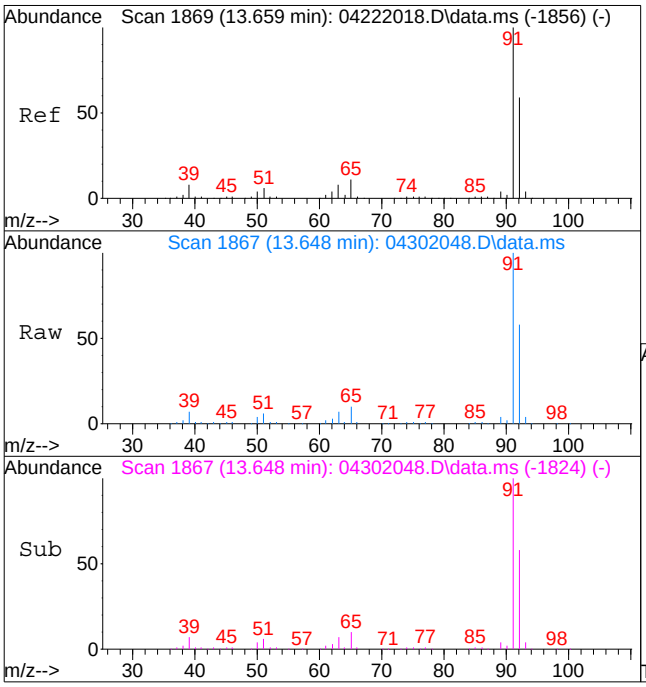


#53
4-Methyl-2-pentanone
Concen: 0.15 ng
RT: 12.71 min Scan# 1696
Delta R.T. 0.005 min
Lab File: 04302048.D
Acq: 1 May 2020 7:29

Tgt Ion: 58 Resp: 1086

Ion	Ratio	Lower	Upper
58	100		
85	52.9	52.2	78.2
43	286.5	176.2	264.4#

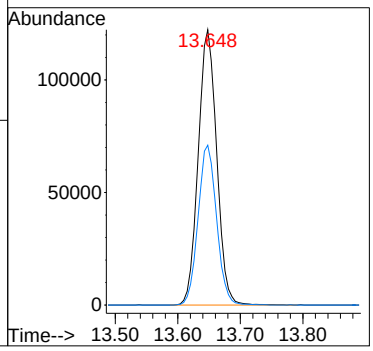


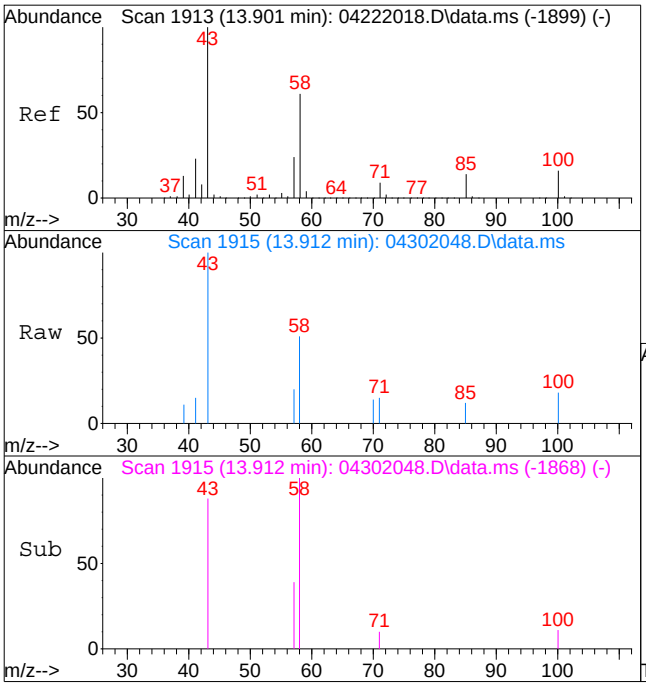


#58
Toluene
Concen: 5.61 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.011 min
Lab File: 04302048.D
Acq: 1 May 2020 7:29

Tgt Ion: 91 Resp: 250926

Ion	Ratio	Lower	Upper
91	100		
92	58.2	38.2	78.2

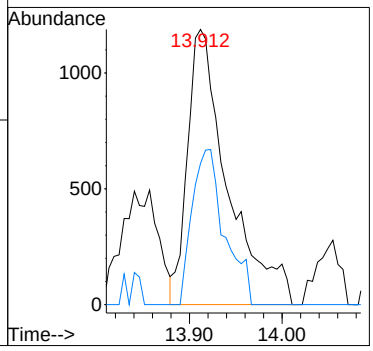


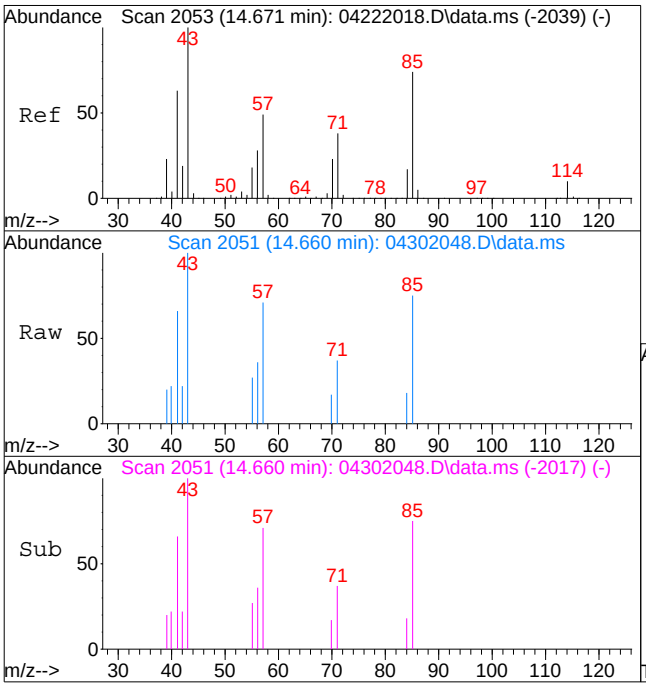


#59
2-Hexanone
Concen: 0.27 ng
RT: 13.91 min Scan# 1915
Delta R.T. 0.011 min
Lab File: 04302048.D
Acq: 1 May 2020 7:29

Tgt Ion: 43 Resp: 3592

Ion	Ratio	Lower	Upper
43	100		
58	45.5	41.1	81.1

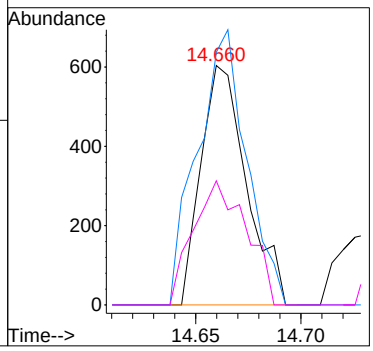


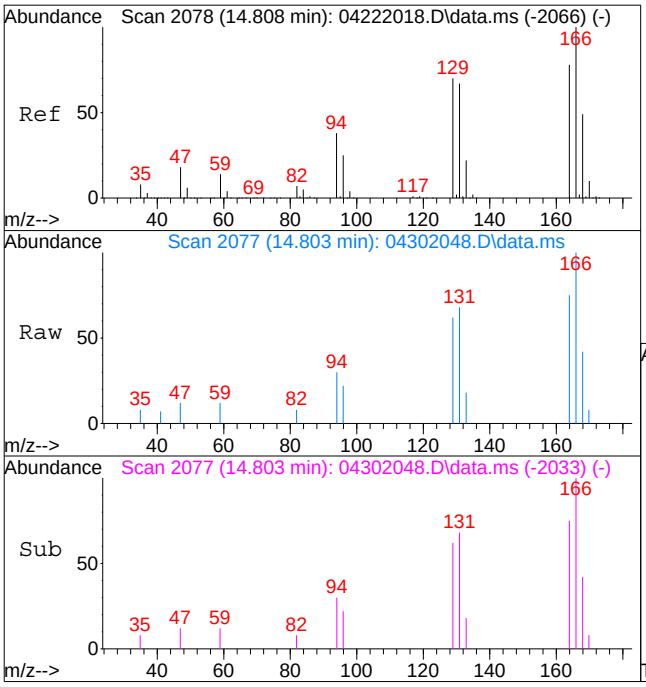


#63
n-Octane
Concen: 0.13 ng
RT: 14.66 min Scan# 2051
Delta R.T. -0.011 min
Lab File: 04302048.D
Acq: 1 May 2020 7:29

Tgt Ion: 57 Resp: 909

Ion	Ratio	Lower	Upper
57	100		
85	124.2	120.7	181.1
71	60.8	61.1	91.7#

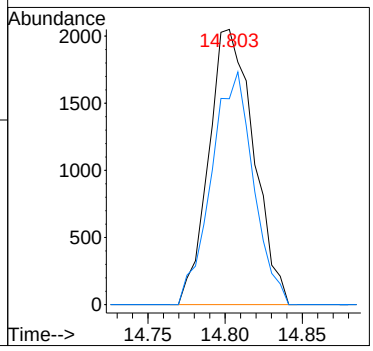


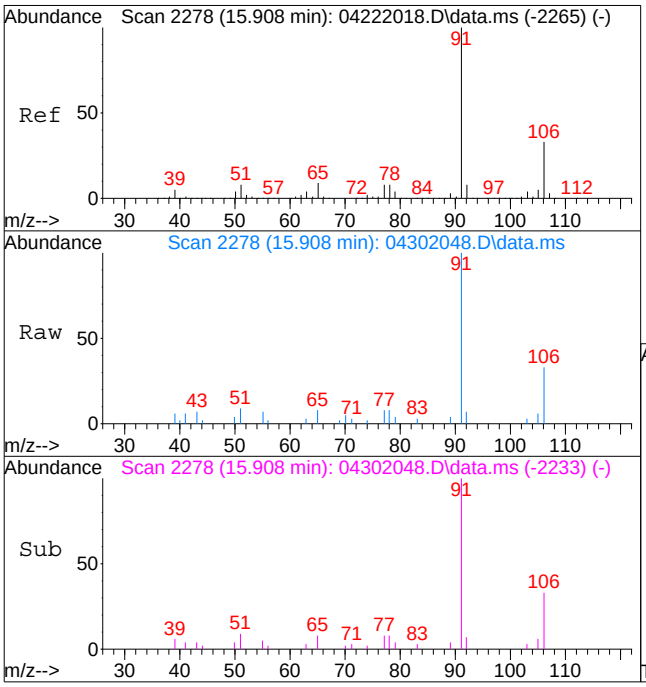


#64
Tetrachloroethene
Concen: 0.25 ng
RT: 14.80 min Scan# 2077
Delta R.T. -0.006 min
Lab File: 04302048.D
Acq: 1 May 2020 7:29

Tgt Ion:166 Resp: 4157

Ion	Ratio	Lower	Upper
166	100		
164	79.0	57.7	97.7

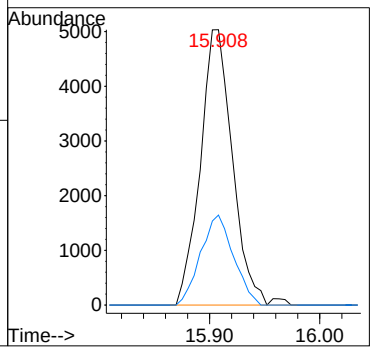


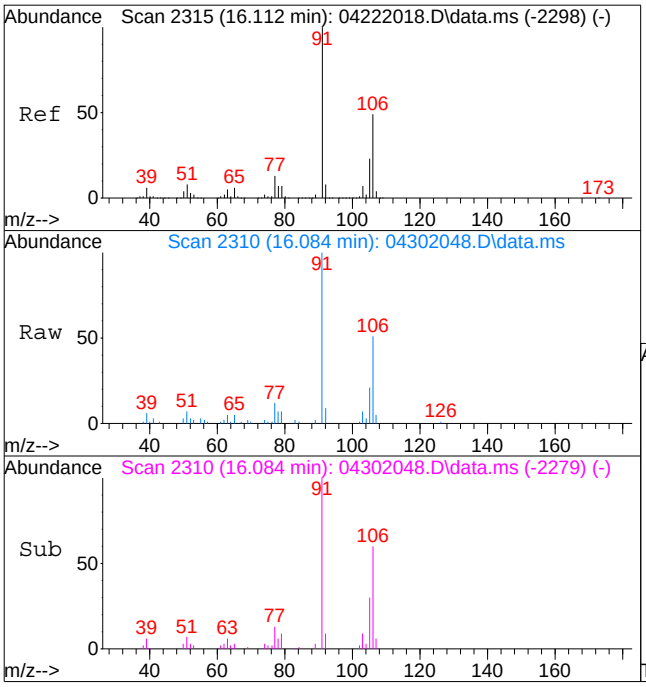


#66
Ethylbenzene
Concen: 0.20 ng
RT: 15.91 min Scan# 2278
Delta R.T. -0.000 min
Lab File: 04302048.D
Acq: 1 May 2020 7:29

Tgt Ion: 91 Resp: 10242

Ion	Ratio	Lower	Upper
91	100		
106	33.2	13.4	53.4

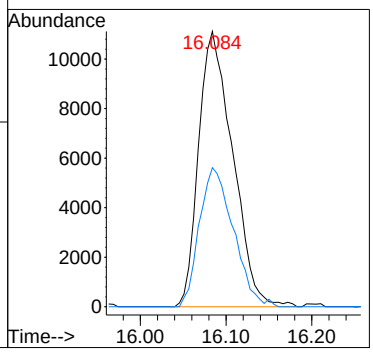


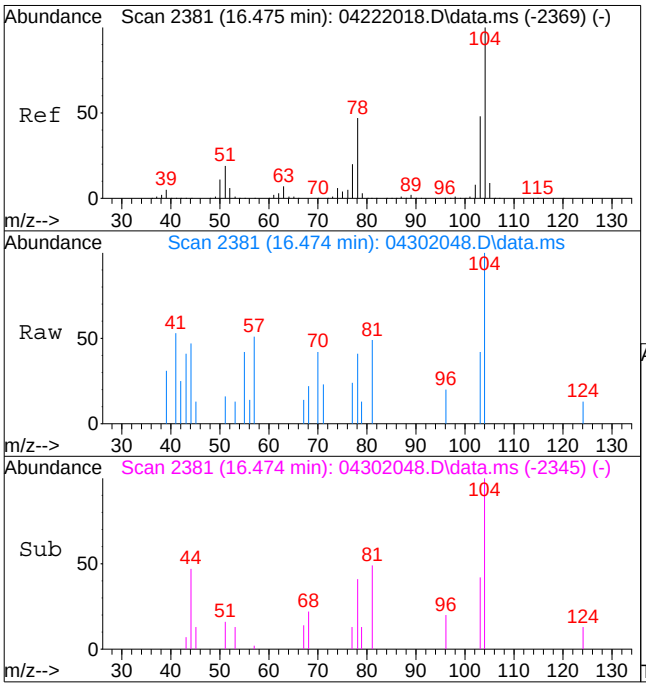


#67
m- & p-Xylenes
Concen: 0.70 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.028 min
Lab File: 04302048.D
Acq: 1 May 2020 7:29

Tgt Ion: 91 Resp: 30664

Ion	Ratio	Lower	Upper
91	100		
106	50.4	28.3	68.3

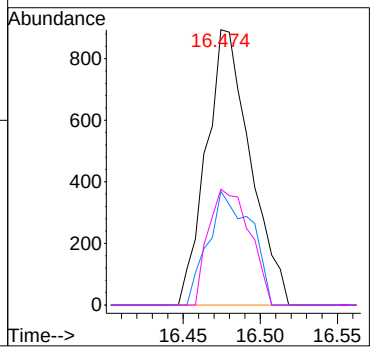


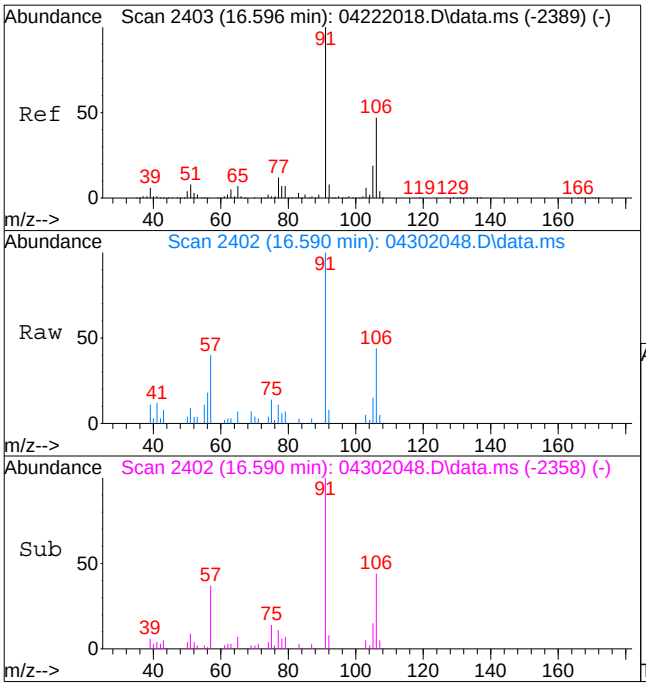


#69
Styrene
Concen: 0.06 ng
RT: 16.47 min Scan# 2381
Delta R.T. -0.000 min
Lab File: 04302048.D
Acq: 1 May 2020 7:29

Tgt Ion:104 Resp: 1777

Ion	Ratio	Lower	Upper
104	100		
78	40.2	24.8	64.8
103	39.5	27.3	67.3

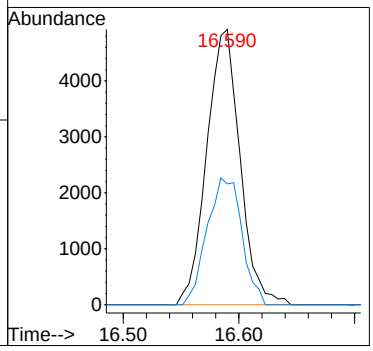


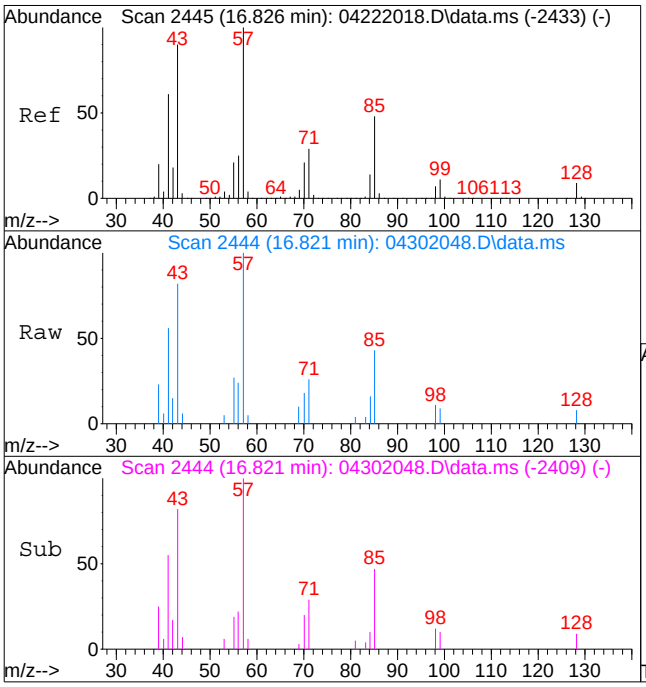


#70
o-Xylene
Concen: 0.23 ng
RT: 16.59 min Scan# 2402
Delta R.T. -0.006 min
Lab File: 04302048.D
Acq: 1 May 2020 7:29

Tgt Ion: 91 Resp: 9870

Ion	Ratio	Lower	Upper
91	100		
106	48.0	27.5	67.5

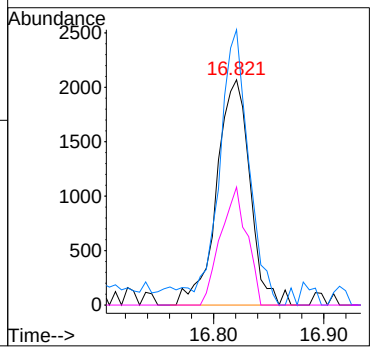


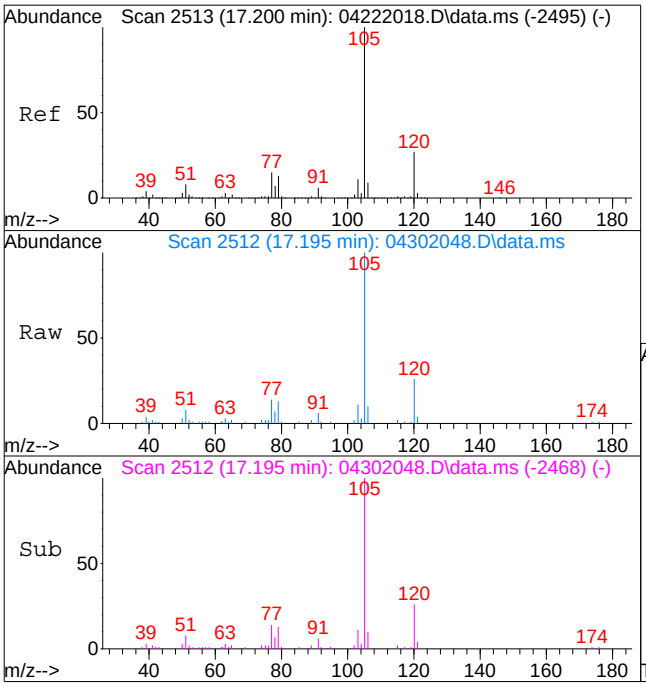


#71
n-Nonane
Concen: 0.31 ng
RT: 16.82 min Scan# 2444
Delta R.T. -0.006 min
Lab File: 04302048.D
Acq: 1 May 2020 7:29

Tgt Ion: 43 Resp: 4354

Ion	Ratio	Lower	Upper
43	100		
57	106.1	90.8	130.8
85	41.4	32.1	72.1

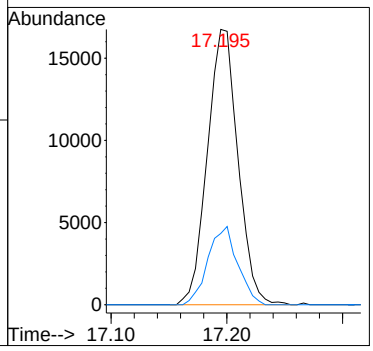


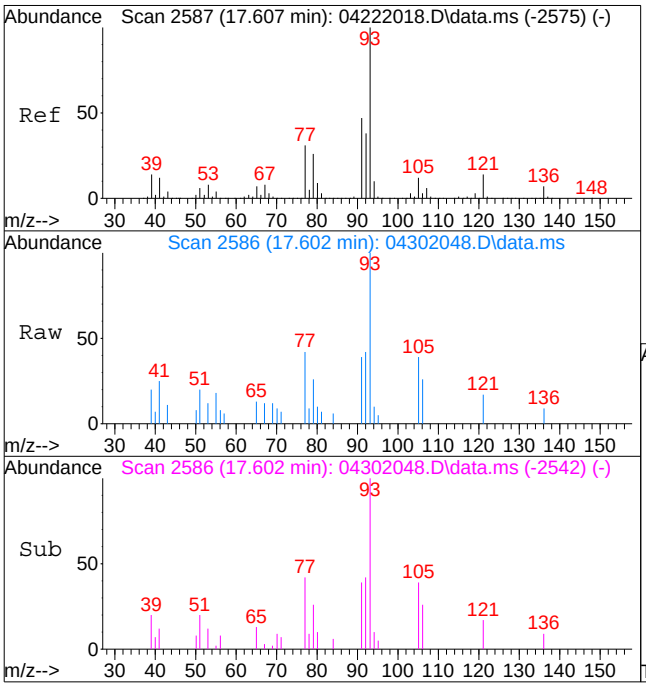


#74
Cumene
Concen: 0.55 ng
RT: 17.19 min Scan# 2512
Delta R.T. -0.006 min
Lab File: 04302048.D
Acq: 1 May 2020 7:29

Tgt Ion:105 Resp: 30899

Ion	Ratio	Lower	Upper
105	100		
120	27.5	7.3	47.3

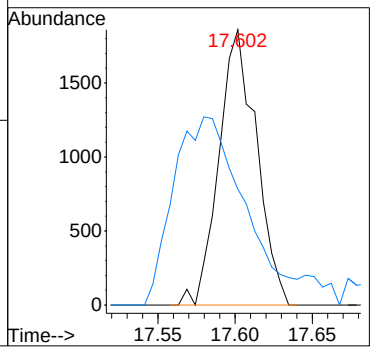


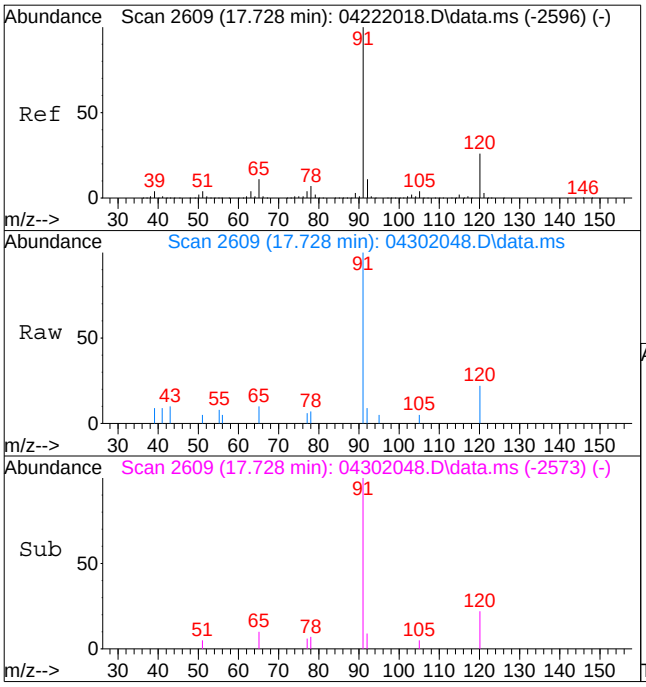


#75
alpha-Pinene
Concen: 0.12 ng
RT: 17.60 min Scan# 2586
Delta R.T. -0.006 min
Lab File: 04302048.D
Acq: 1 May 2020 7:29

Tgt Ion: 93 Resp: 3136

Ion	Ratio	Lower	Upper
93	100		
77	136.3	10.6	50.6#

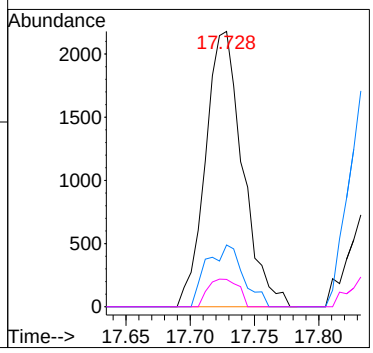


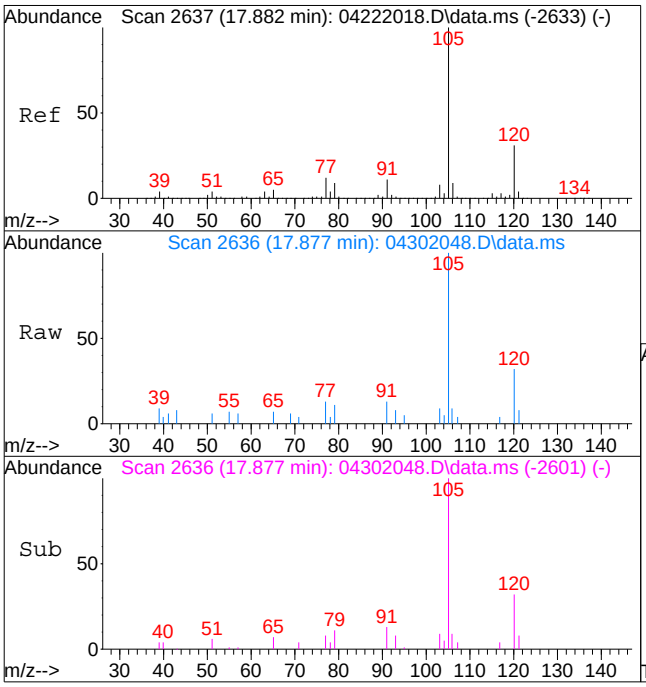


#76
n-Propylbenzene
Concen: 0.07 ng
RT: 17.73 min Scan# 2609
Delta R.T. -0.000 min
Lab File: 04302048.D
Acq: 1 May 2020 7:29

Tgt Ion: 91 Resp: 4379

Ion	Ratio	Lower	Upper
91	100		
120	22.1	6.1	46.1
65	8.3	0.0	30.7

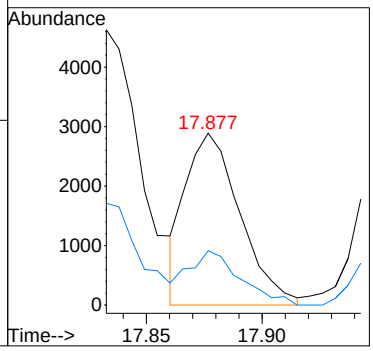


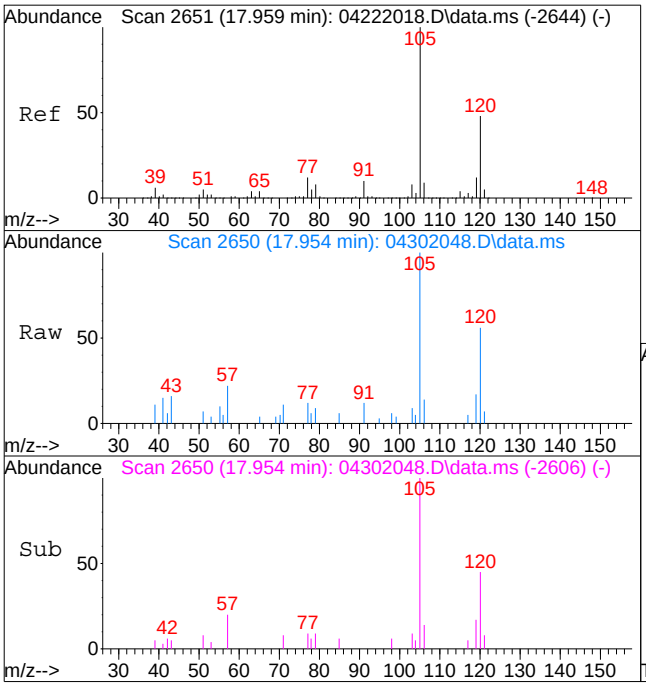


#78
4-Ethyltoluene
Concen: 0.09 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 04302048.D
Acq: 1 May 2020 7:29

Tgt Ion:105 Resp: 4739

Ion	Ratio	Lower	Upper
105	100		
120	30.4	11.4	51.4

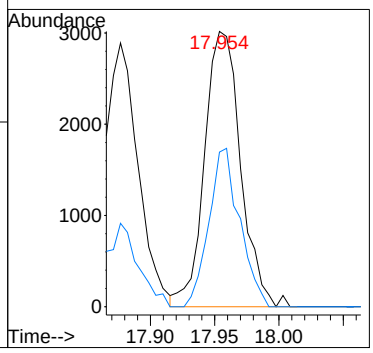


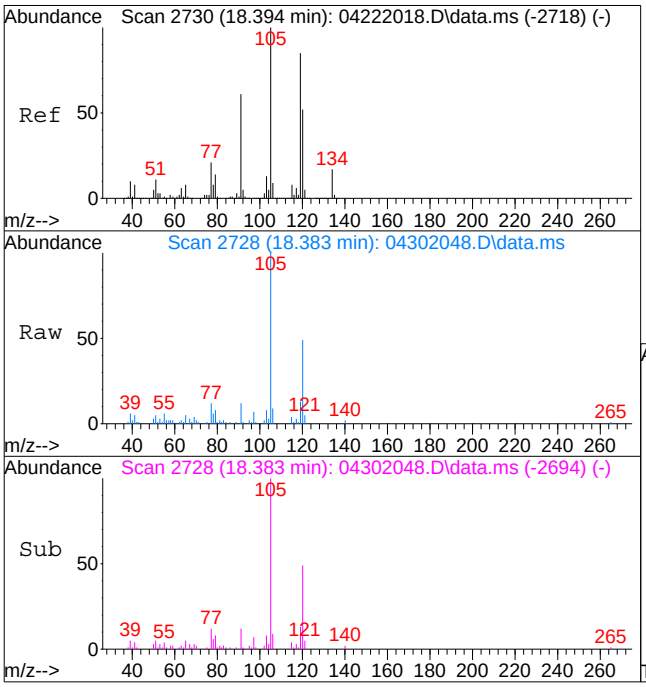


#79
1,3,5-Trimethylbenzene
Concen: 0.12 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 04302048.D
Acq: 1 May 2020 7:29

Tgt Ion:105 Resp: 5901

Ion	Ratio	Lower	Upper
105	100		
120	49.1	29.5	69.5

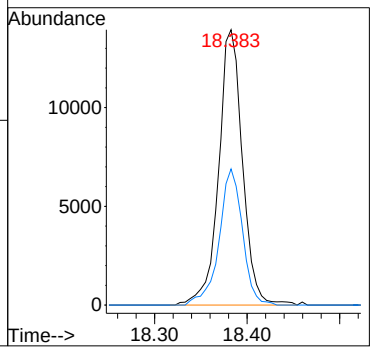


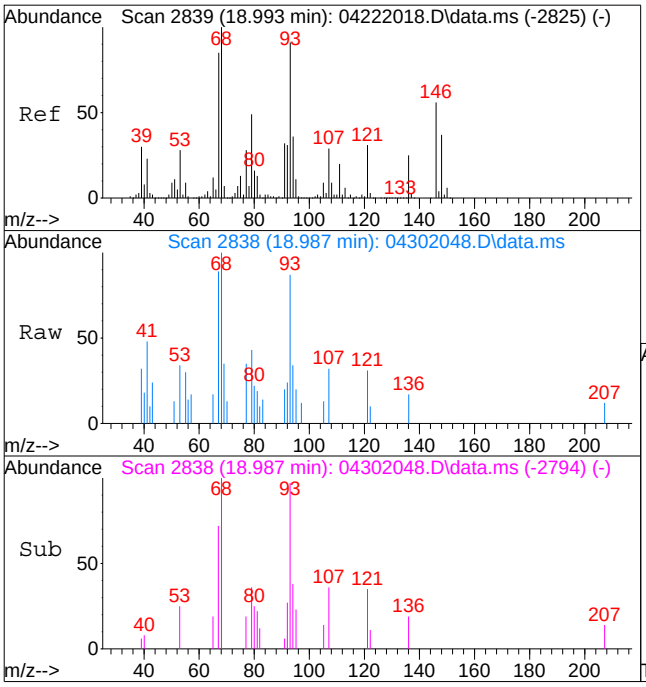


#82
1,2,4-Trimethylbenzene
Concen: 0.52 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 04302048.D
Acq: 1 May 2020 7:29

Tgt Ion:105 Resp: 24955

Ion	Ratio	Lower	Upper
105	100		
120	48.5	34.5	74.5

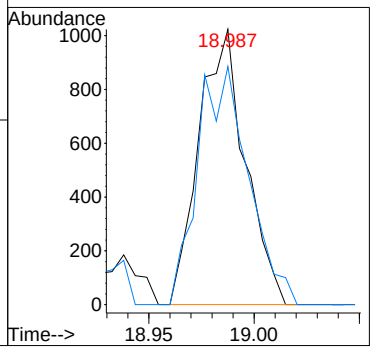


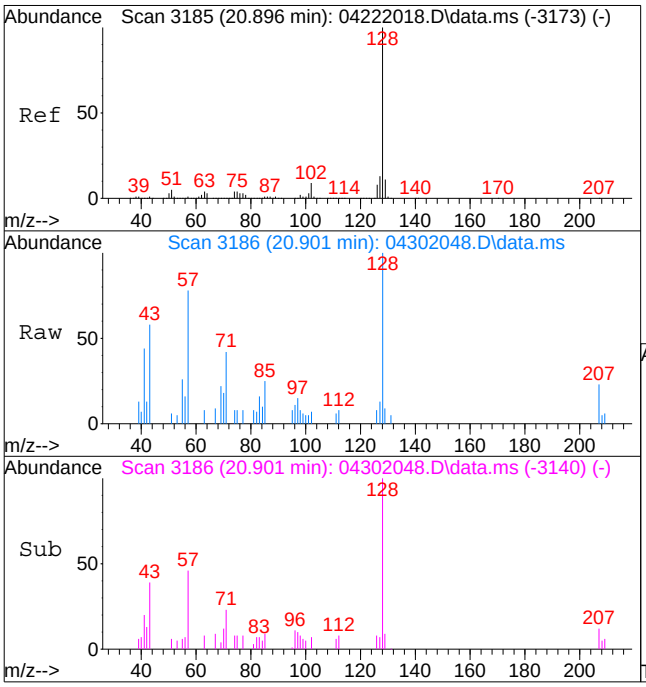


#91
d-Limonene
Concen: 0.12 ng
RT: 18.99 min Scan# 2838
Delta R.T. -0.006 min
Lab File: 04302048.D
Acq: 1 May 2020 7:29

Tgt Ion: 68 Resp: 1570

Ion	Ratio	Lower	Upper
68	100		
93	94.6	71.6	111.6

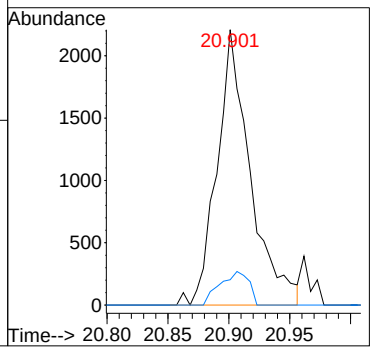




#95
Naphthalene
Concen: 0.07 ng
RT: 20.90 min Scan# 3186
Delta R.T. 0.005 min
Lab File: 04302048.D
Acq: 1 May 2020 7:29

Tgt Ion:128 Resp: 4190

Ion	Ratio	Lower	Upper
128	100		
129	10.6	0.0	30.9



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302049.D Vial: 14
Acq On : 1 May 2020 8:03 Operator: SC
Sample : P2002103-008 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 15:57:07 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/1/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	148461	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	625573	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	274974	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	221308	11.505	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.08%				
57) Toluene-d8 (SS2)	13.54	98	683503	12.874	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.96%				
73) Bromofluorobenzene (SS3)	17.05	174	262682	12.311	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.48%				
Target Compounds							Qvalue
2) Propene	3.88	42	2099	0.333	ng		92
3) Dichlorodifluoromethan...	3.99	85	53532	2.235	ng		99
4) Chloromethane	4.20	50	1247	0.141	ng		85
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	1127	0.087	ng		88
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.35	45	10493	2.197	ng		82
11) Acetonitrile	5.59	41	314	N.D.			
12) Acrolein	5.73	56	318	0.073	ng		82
13) Acetone	5.85	58	16473	2.873	ng		93
14) Trichlorofluoromethane	6.03	101	10874	0.456	ng		99
15) 2-Propanol (Isopropanol)	6.18	45	6572	0.361	ng		83
16) Acrylonitrile	6.43	53	178	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d			
19) Methylene Chloride	6.86	84	295	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	7.18	151	73659	5.938	ng		99
22) Carbon Disulfide	7.15	76	15488	0.463	ng		72
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	8.54	72	1990	0.338	ng	#	75
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	9.21	87	300	N.D.			
30) Ethyl Acetate	9.22	61	18925	7.220	ng		98
31) n-Hexane	9.23	57	679	0.053	ng	#	83
32) Chloroform	9.28	83	2918	0.143	ng		99
34) Tetrahydrofuran (THF)	9.70	72	2509	0.420	ng	#	81
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D. d			
41) Benzene	10.76	78	2775	0.068	ng		97
42) Carbon Tetrachloride	10.90	117	81119	3.847	ng		100
43) Cyclohexane	11.04	84	955	0.060	ng		87
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	11.76	83	419	N.D.			
47) Trichloroethene	11.82	130	933	0.066	ng		97
48) 1,4-Dioxane	11.82	88	324	N.D.			
49) 2,2,4-Trimethylpentane...	11.87	57	612	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302049.D Vial: 14
Acq On : 1 May 2020 8:03 Operator: SC
Sample : P2002103-008 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 15:57:07 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

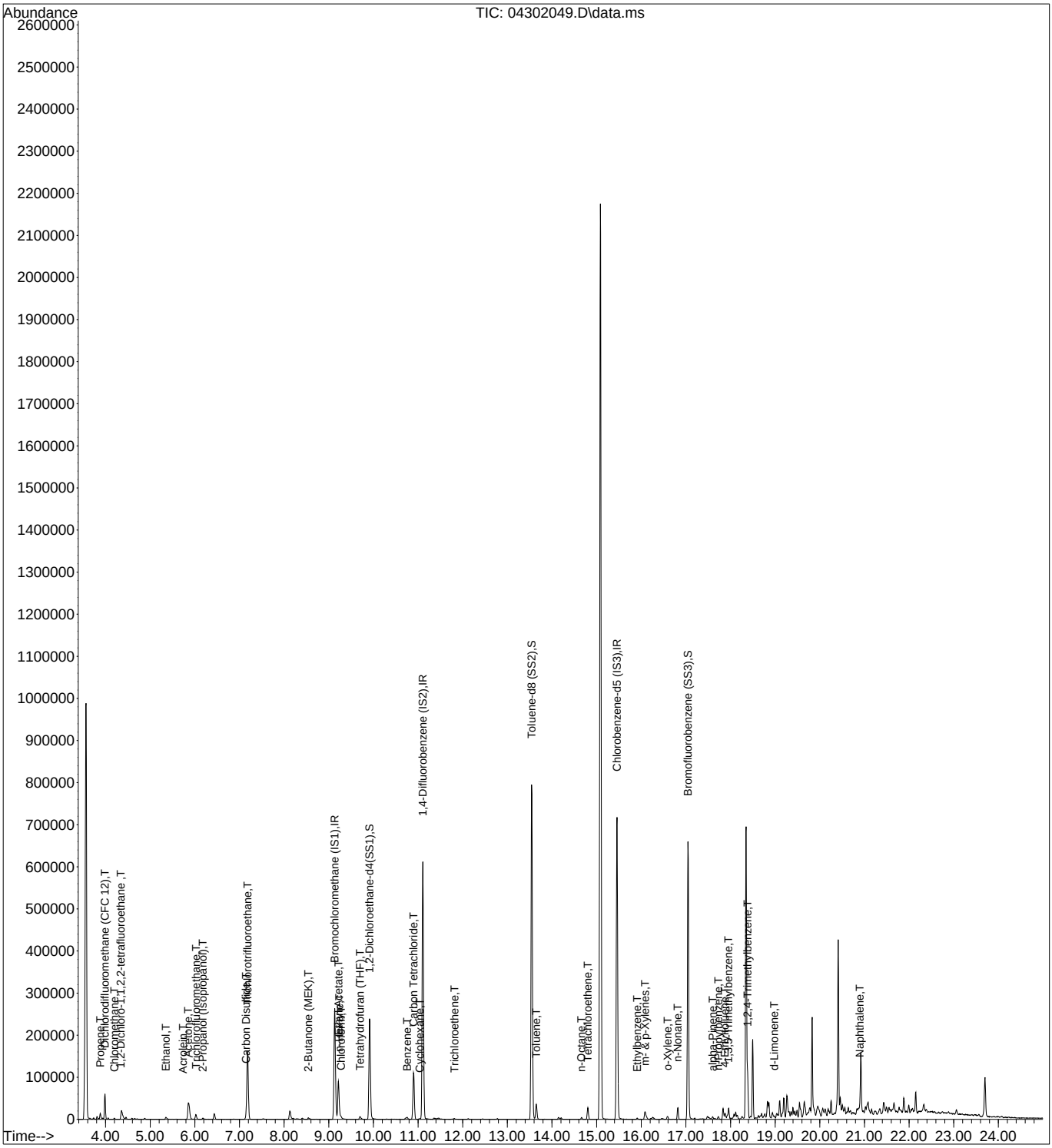
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	12.12	71	429	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	13.65	91	33674	0.755 ng		100
59) 2-Hexanone	13.86	43	407	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	14.33	107	257	N.D.		
62) n-Butyl Acetate	14.58	43	147	N.D.		
63) n-Octane	14.66	57	816	0.115 ng		90
64) Tetrachloroethene	14.80	166	11212	0.668 ng		99
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	15.91	91	3731	0.072 ng		94
67) m- & p-Xylenes	16.08	91	18802	0.429 ng		99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.49	104	666	N.D.		
70) o-Xylene	16.59	91	6016	0.140 ng		99
71) n-Nonane	16.82	43	8907	0.642 ng		99
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	17.20	105	1434	N.D.		
75) alpha-Pinene	17.60	93	1744	0.068 ng	#	1
76) n-Propylbenzene	17.73	91	6953	0.114 ng		96
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	17.87	105	10098	0.189 ng		100
79) 1,3,5-Trimethylbenzene	17.95	105	12462	0.253 ng		98
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	18.38	105	63181	1.325 ng		91
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	18.62	91	1498	N.D.		
85) 1,3-Dichlorobenzene	18.35	146	359	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D. d		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	18.98	68	1159	0.086 ng	#	72
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	20.90	128	11364	0.185 ng		95
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302049.D Vial: 14
Acq On : 1 May 2020 8:03 Operator: SC
Sample : P2002103-008 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 15:57:07 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

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Acq On : 1 May 2020 8:03 Operator: SC
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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
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Response via : Initial Calibration
DataAcq Meth:TO15.M

5/1/20

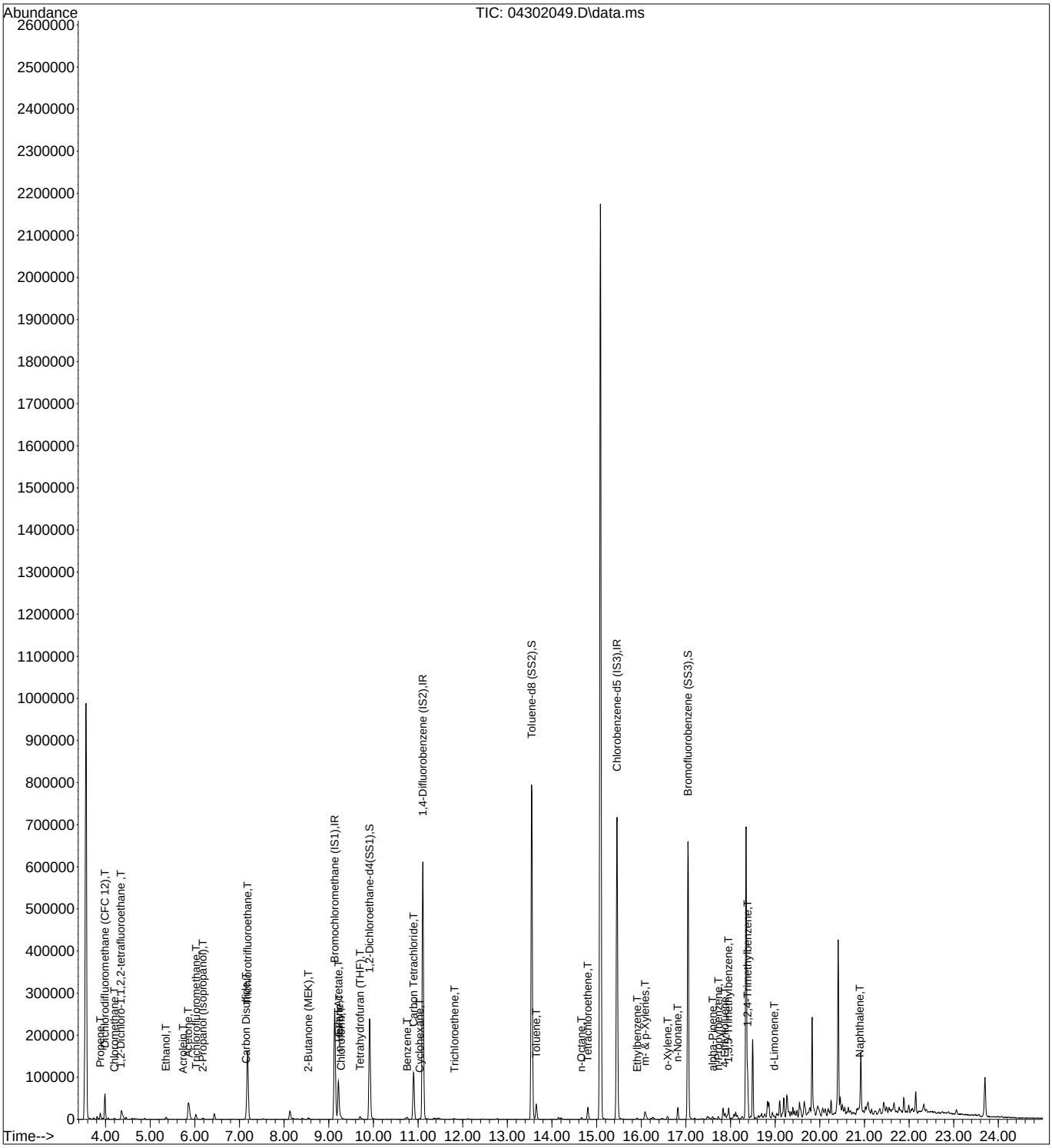
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	148461	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	625573	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	274974	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	221308	11.505	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.08%				
57) Toluene-d8 (SS2)	13.54	98	683503	12.874	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.96%				
73) Bromofluorobenzene (SS3)	17.05	174	262682	12.311	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.48%				
Target Compounds							Qvalue
2) Propene	3.88	42	2099	0.333	ng		92
3) Dichlorodifluoromethan...	3.99	85	53532	2.235	ng		99
4) Chloromethane	4.20	50	1247	0.141	ng		85
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	1127	0.087	ng		88
10) Ethanol	5.35	45	10493	2.197	ng		82
12) Acrolein	5.73	56	318	0.073	ng		82
13) Acetone	5.85	58	16473	2.873	ng		93
14) Trichlorofluoromethane	6.03	101	10874	0.456	ng		99
15) 2-Propanol (Isopropanol)	6.18	45	6572	0.361	ng		83
21) Trichlorotrifluoroethane	7.18	151	73659	5.938	ng		99
22) Carbon Disulfide	7.15	76	15488	0.463	ng		72
27) 2-Butanone (MEK)	8.54	72	1990	0.338	ng	#	75
30) Ethyl Acetate	9.22	61	18925	7.220	ng		98
31) n-Hexane	9.23	57	679	0.053	ng	#	83
32) Chloroform	9.28	83	2918	0.143	ng		99
34) Tetrahydrofuran (THF)	9.70	72	2509	0.420	ng	#	81
41) Benzene	10.76	78	2775	0.068	ng		97
42) Carbon Tetrachloride	10.90	117	81119	3.847	ng		100
43) Cyclohexane	11.04	84	955	0.060	ng		87
47) Trichloroethene	11.82	130	933	0.066	ng		97
58) Toluene	13.65	91	33674	0.755	ng		100
63) n-Octane	14.66	57	816	0.115	ng		90
64) Tetrachloroethene	14.80	166	11212	0.668	ng		99
66) Ethylbenzene	15.91	91	3731	0.072	ng		94
67) m- & p-Xylenes	16.08	91	18802	0.429	ng		99
70) o-Xylene	16.59	91	6016	0.140	ng		99
71) n-Nonane	16.82	43	8907	0.642	ng		99
75) alpha-Pinene	17.60	93	1744	0.068	ng	#	1
76) n-Propylbenzene	17.73	91	6953	0.114	ng		96
78) 4-Ethyltoluene	17.87	105	10098	0.189	ng		100
79) 1,3,5-Trimethylbenzene	17.95	105	12462	0.253	ng		98
82) 1,2,4-Trimethylbenzene	18.38	105	63181	1.325	ng		91
91) d-Limonene	18.98	68	1159	0.086	ng	#	72
95) Naphthalene	20.90	128	11364	0.185	ng		95

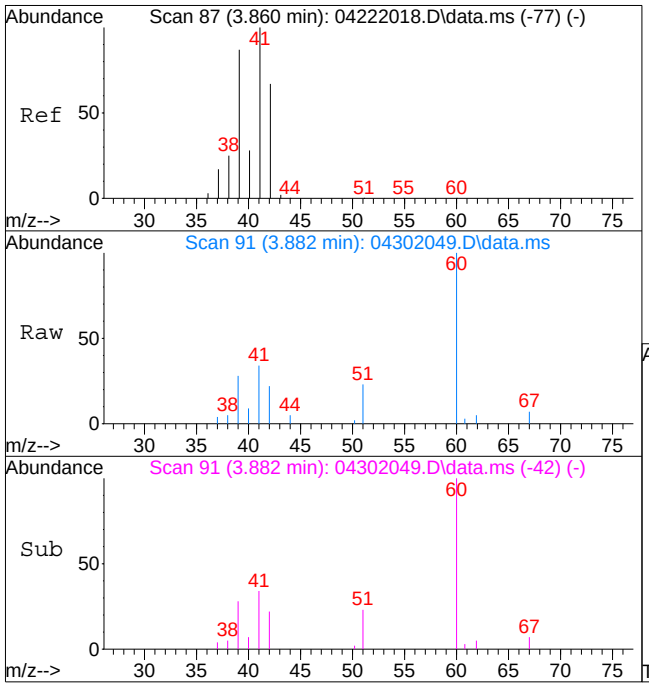
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302049.D Vial: 14
Acq On : 1 May 2020 8:03 Operator: SC
Sample : P2002103-008 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 15:57:07 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

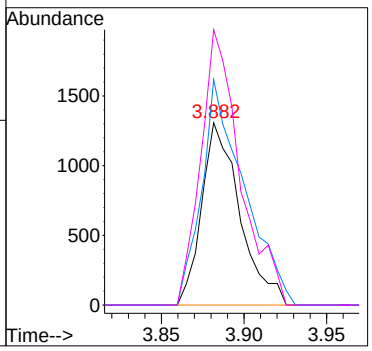


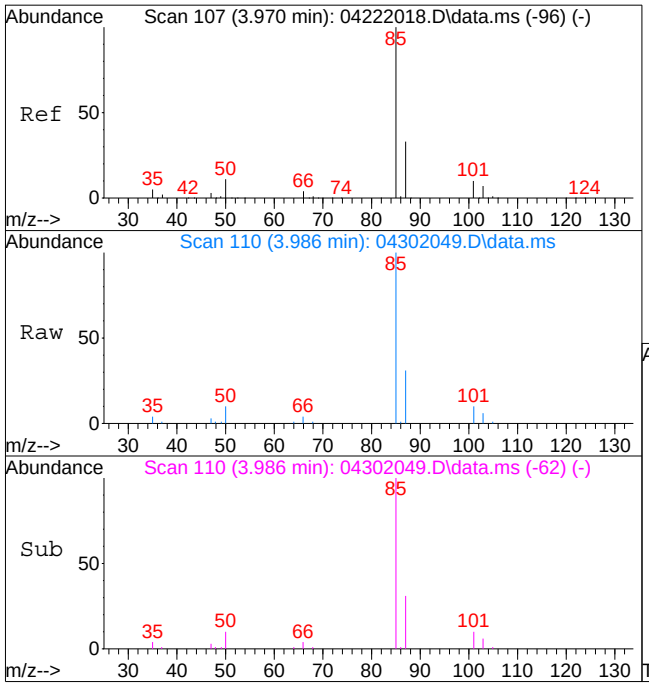


#2
Propene
Concen: 0.33 ng
RT: 3.88 min Scan# 91
Delta R.T. 0.022 min
Lab File: 04302049.D
Acq: 1 May 2020 8:03

Tgt Ion: 42 Resp: 2099

Ion	Ratio	Lower	Upper
42	100		
39	137.5	106.4	146.4
41	156.6	128.8	168.8

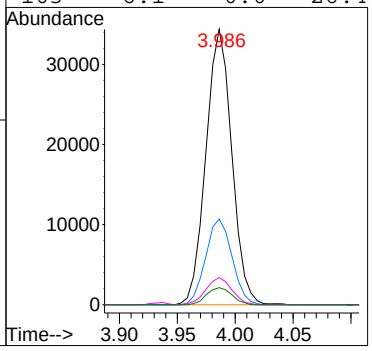


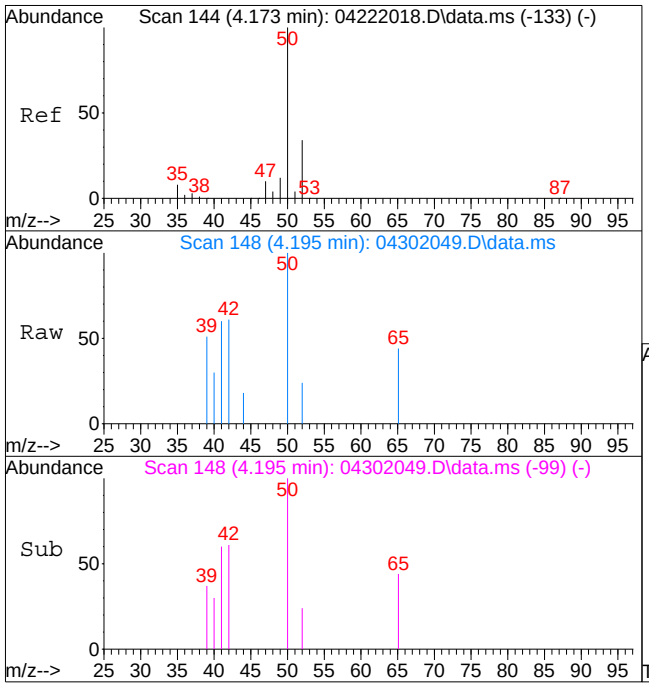


#3
Dichlorodifluoromethane (CFC 12)
Concen: 2.23 ng
RT: 3.99 min Scan# 110
Delta R.T. 0.016 min
Lab File: 04302049.D
Acq: 1 May 2020 8:03

Tgt Ion: 85 Resp: 53532

Ion	Ratio	Lower	Upper
85	100		
87	31.6	12.4	52.4
101	9.9	0.0	29.9
103	6.1	0.0	26.4

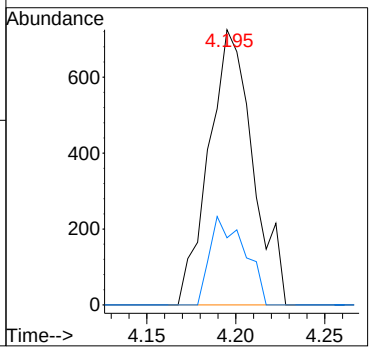


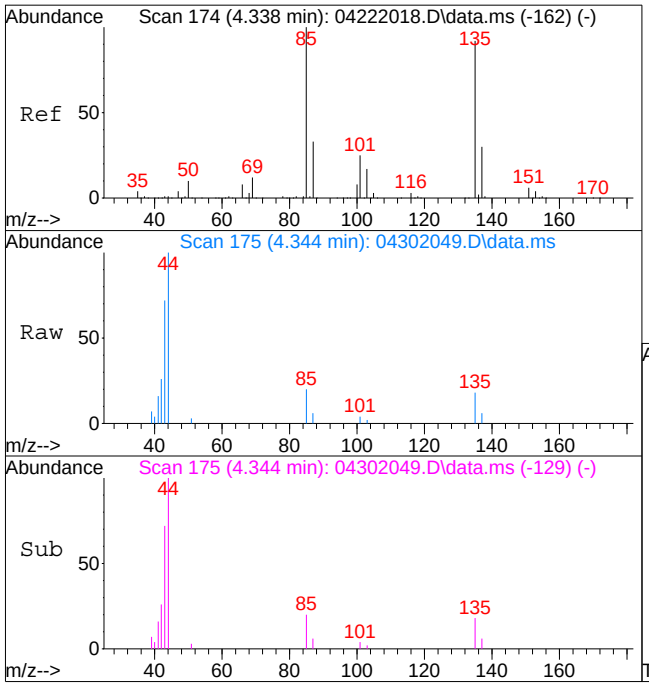


#4
Chloromethane
Concen: 0.14 ng
RT: 4.20 min Scan# 148
Delta R.T. 0.022 min
Lab File: 04302049.D
Acq: 1 May 2020 8:03

Tgt Ion: 50 Resp: 1247

Ion	Ratio	Lower	Upper
50	100		
52	25.3	13.7	53.7

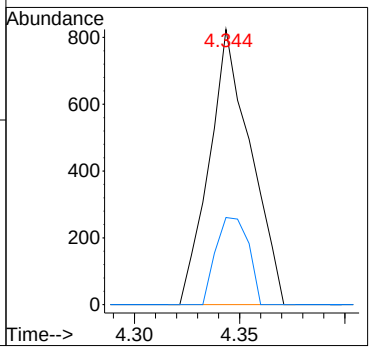


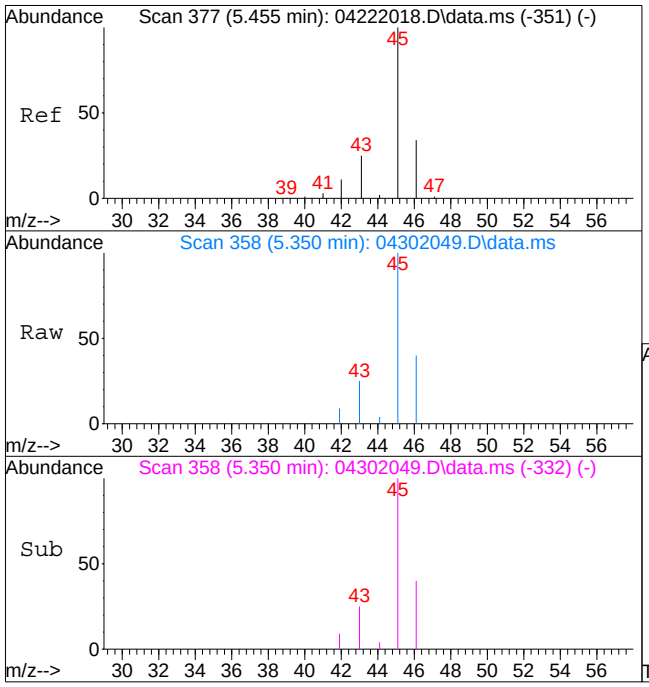


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 0.09 ng
RT: 4.34 min Scan# 175
Delta R.T. 0.005 min
Lab File: 04302049.D
Acq: 1 May 2020 8:03

Tgt Ion:135 Resp: 1127

Ion	Ratio	Lower	Upper
135	100		
137	25.0	11.9	51.9

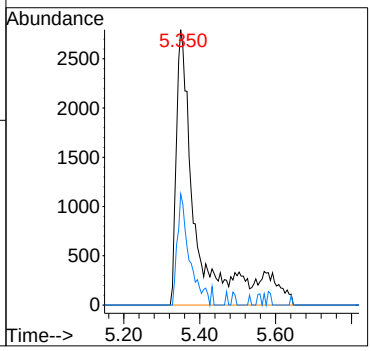


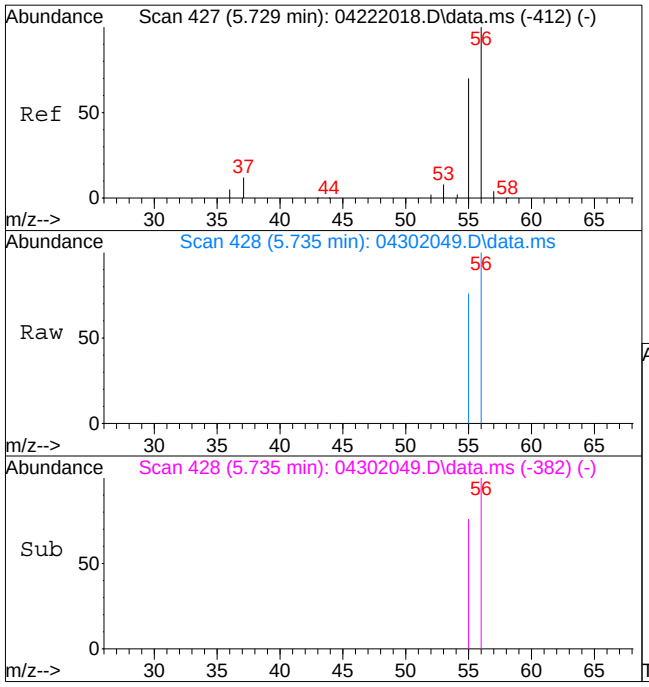


#10
Ethanol
Concen: 2.20 ng
RT: 5.35 min Scan# 358
Delta R.T. -0.105 min
Lab File: 04302049.D
Acq: 1 May 2020 8:03

Tgt Ion: 45 Resp: 10493

Ion	Ratio	Lower	Upper
45	100		
46	23.8	14.0	54.0

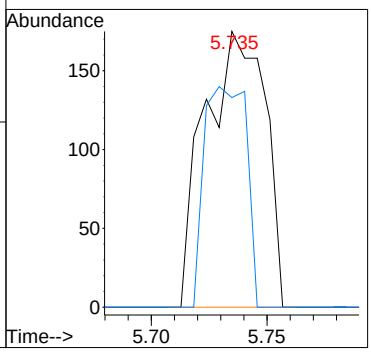


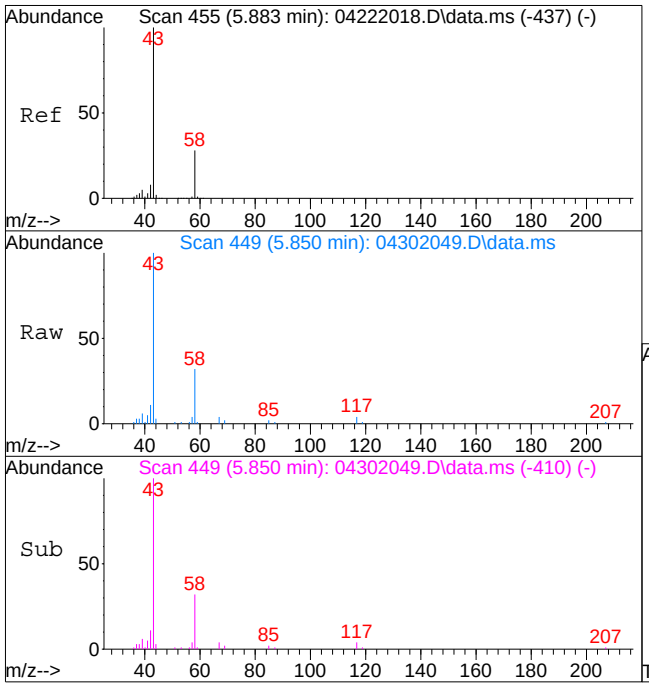


#12
Acrolein
Concen: 0.07 ng
RT: 5.73 min Scan# 428
Delta R.T. 0.005 min
Lab File: 04302049.D
Acq: 1 May 2020 8:03

Tgt Ion: 56 Resp: 318

Ion	Ratio	Lower	Upper
56	100		
55	56.0	50.4	90.4

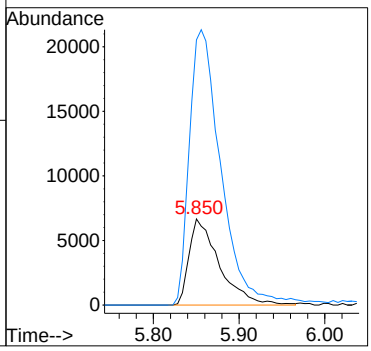


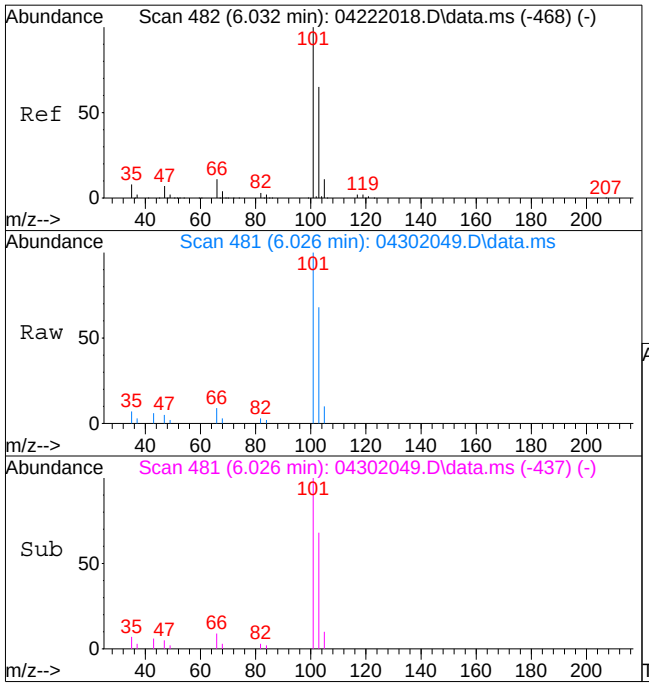


#13
Acetone
Concen: 2.87 ng
RT: 5.85 min Scan# 449
Delta R.T. -0.033 min
Lab File: 04302049.D
Acq: 1 May 2020 8:03

Tgt Ion: 58 Resp: 16473

Ion	Ratio	Lower	Upper
58	100		
43	334.6	319.3	379.3

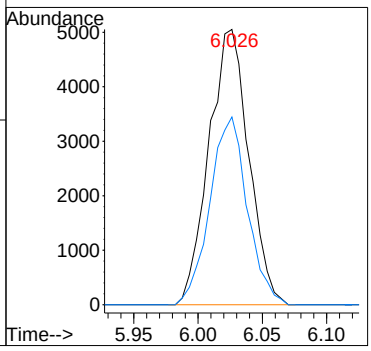


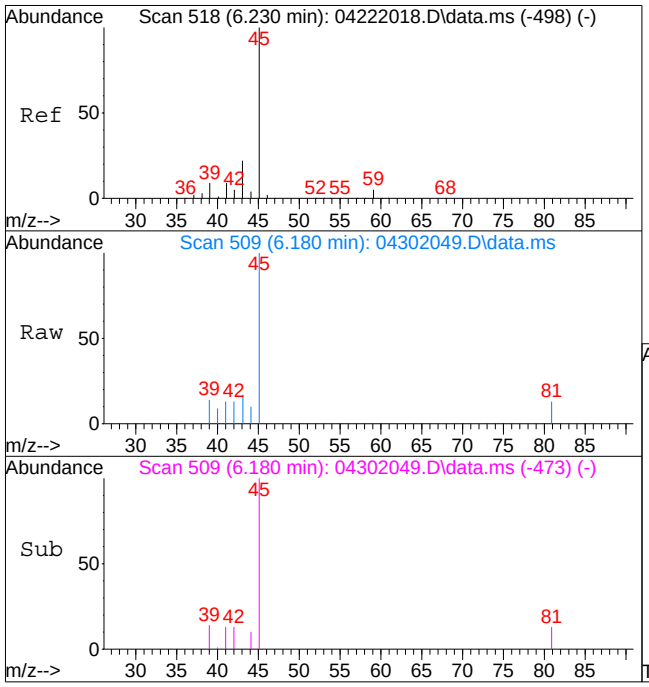


#14
Trichlorofluoromethane
Concen: 0.46 ng
RT: 6.03 min Scan# 481
Delta R.T. -0.006 min
Lab File: 04302049.D
Acq: 1 May 2020 8:03

Tgt Ion:101 Resp: 10874

Ion	Ratio	Lower	Upper
101	100		
103	64.2	44.7	84.7

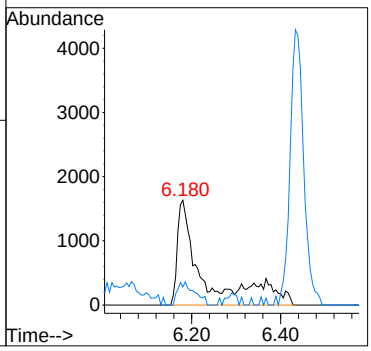


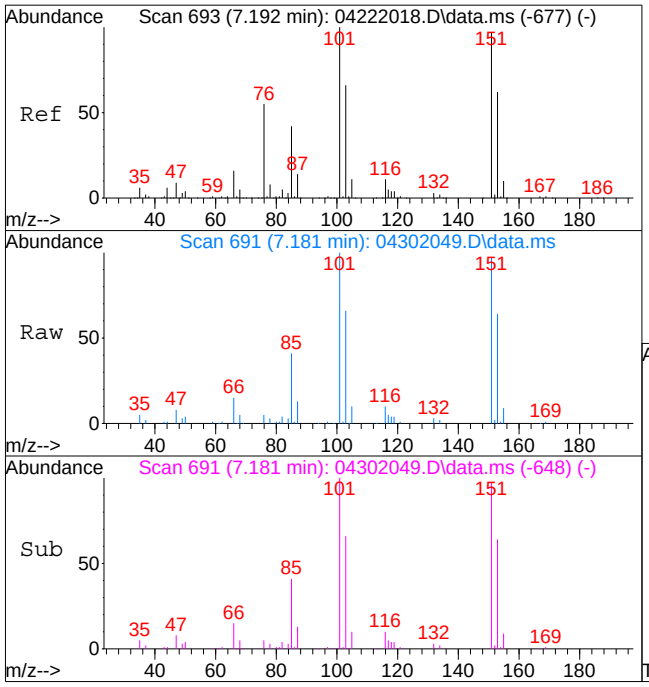


#15
2-Propanol (Isopropanol)
Concen: 0.36 ng
RT: 6.18 min Scan# 509
Delta R.T. -0.050 min
Lab File: 04302049.D
Acq: 1 May 2020 8:03

Tgt Ion: 45 Resp: 6572

Ion	Ratio	Lower	Upper
45	100		
43	14.4	2.6	42.6

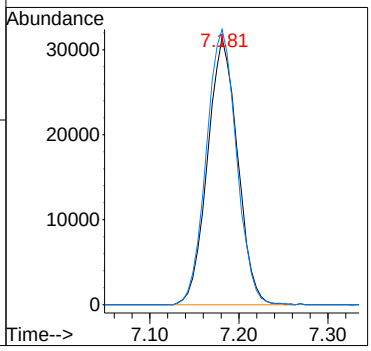


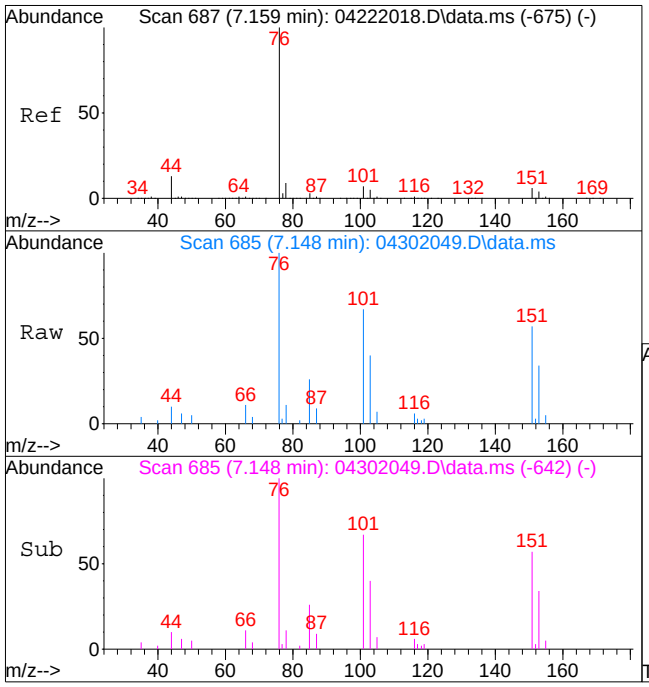


#21
Trichlorotrifluoroethane
Concen: 5.94 ng
RT: 7.18 min Scan# 691
Delta R.T. -0.011 min
Lab File: 04302049.D
Acq: 1 May 2020 8:03

Tgt Ion:151 Resp: 73659

Ion	Ratio	Lower	Upper
151	100		
101	103.7	82.9	122.9

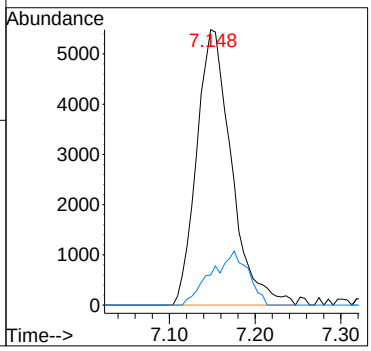


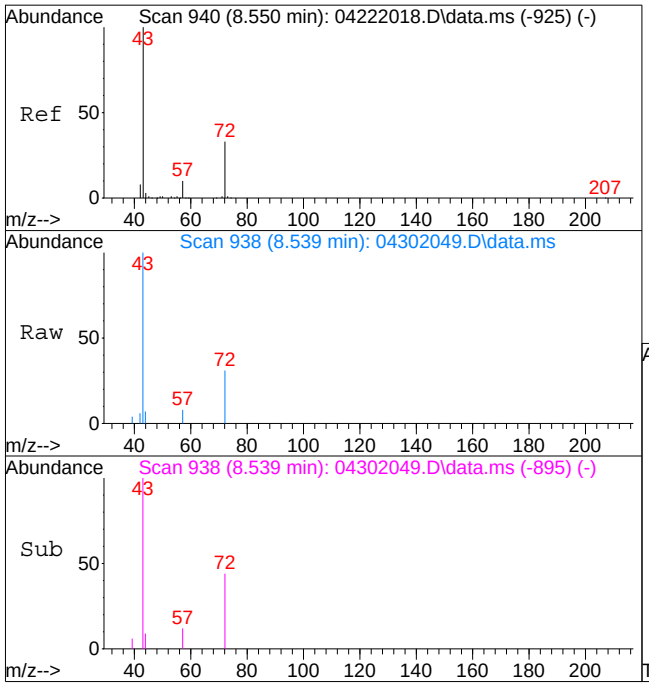


#22
Carbon Disulfide
Concen: 0.46 ng
RT: 7.15 min Scan# 685
Delta R.T. -0.011 min
Lab File: 04302049.D
Acq: 1 May 2020 8:03

Tgt Ion: 76 Resp: 15488

Ion	Ratio	Lower	Upper
76	100		
78	20.7	0.0	30.2

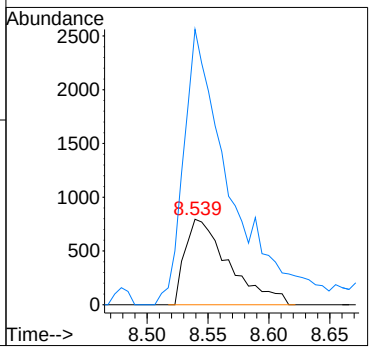


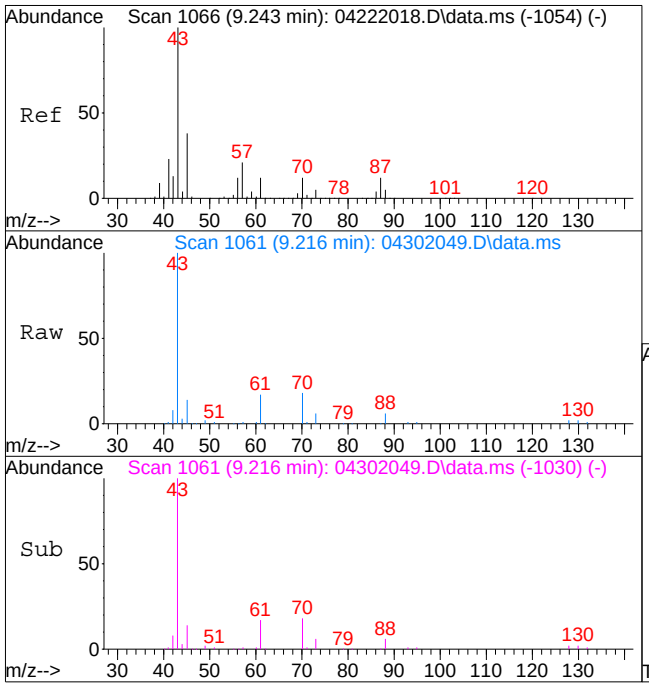


#27
2-Butanone (MEK)
Concen: 0.34 ng
RT: 8.54 min Scan# 938
Delta R.T. -0.011 min
Lab File: 04302049.D
Acq: 1 May 2020 8:03

Tgt Ion: 72 Resp: 1990

Ion	Ratio	Lower	Upper
72	100		
43	348.1	278.8	318.8#

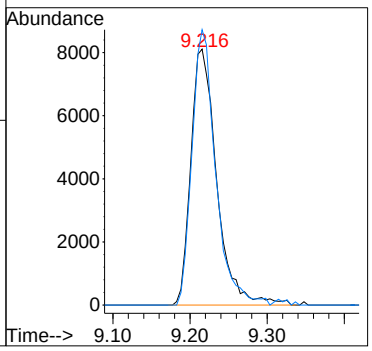


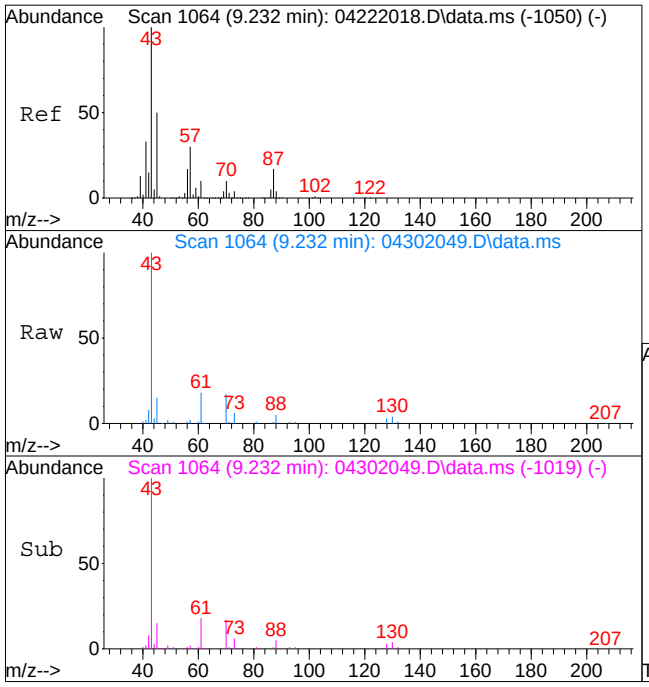


#30
Ethyl Acetate
Concen: 7.22 ng
RT: 9.22 min Scan# 1061
Delta R.T. -0.028 min
Lab File: 04302049.D
Acq: 1 May 2020 8:03

Tgt Ion: 61 Resp: 18925

Ion	Ratio	Lower	Upper
61	100		
70	98.2	80.6	120.6

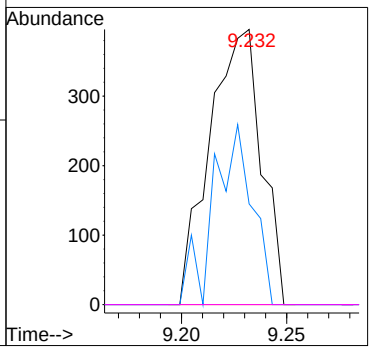


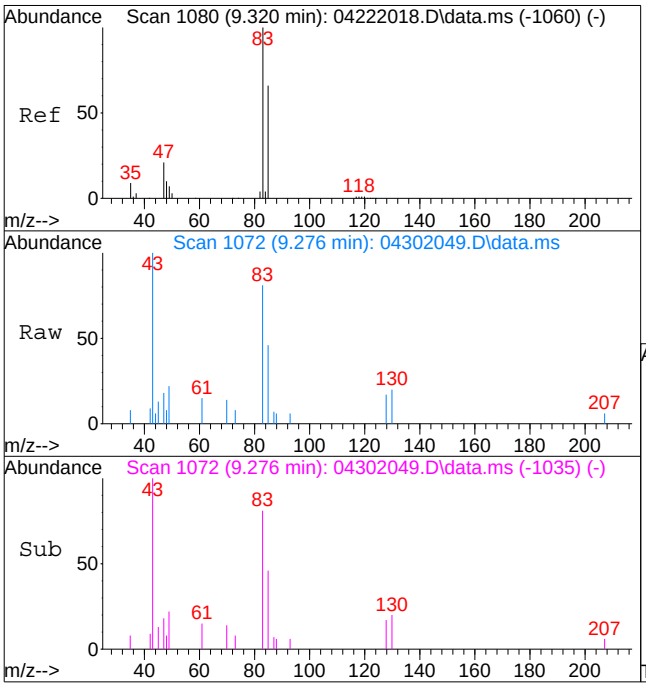


#31
n-Hexane
Concen: 0.05 ng
RT: 9.23 min Scan# 1064
Delta R.T. -0.000 min
Lab File: 04302049.D
Acq: 1 May 2020 8:03

Tgt Ion: 57 Resp: 679

Ion	Ratio	Lower	Upper
57	100		
56	49.0	44.0	66.0
86	0.0	15.0	22.4#

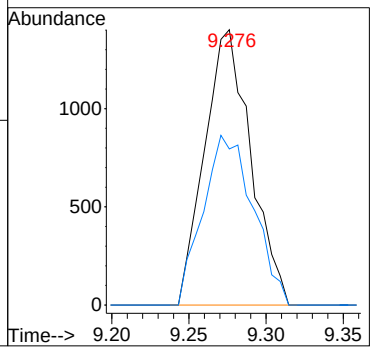


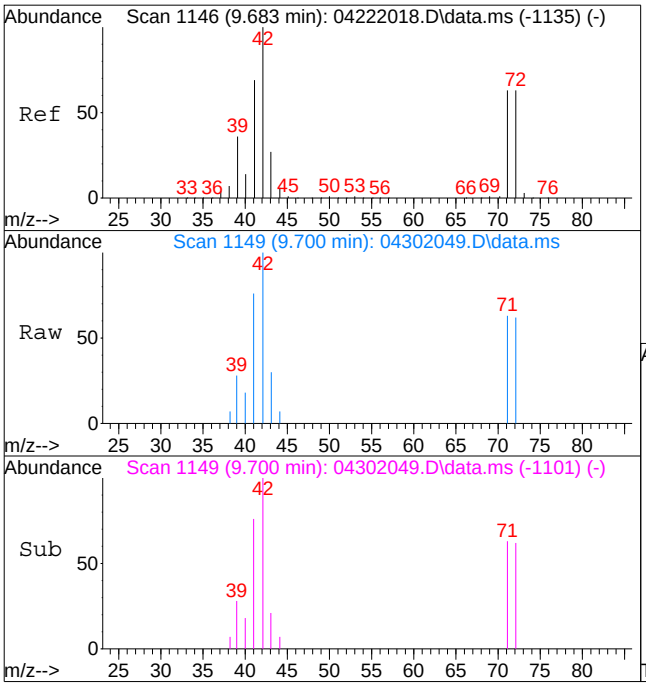


#32
Chloroform
Concen: 0.14 ng
RT: 9.28 min Scan# 1072
Delta R.T. -0.044 min
Lab File: 04302049.D
Acq: 1 May 2020 8:03

Tgt Ion: 83 Resp: 2918

Ion	Ratio	Lower	Upper
83	100		
85	67.0	45.8	85.8

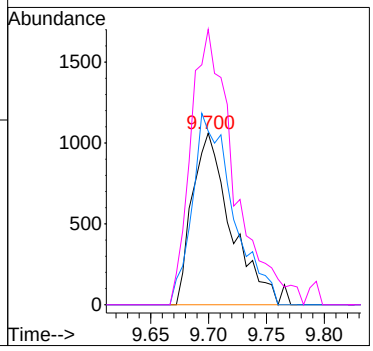


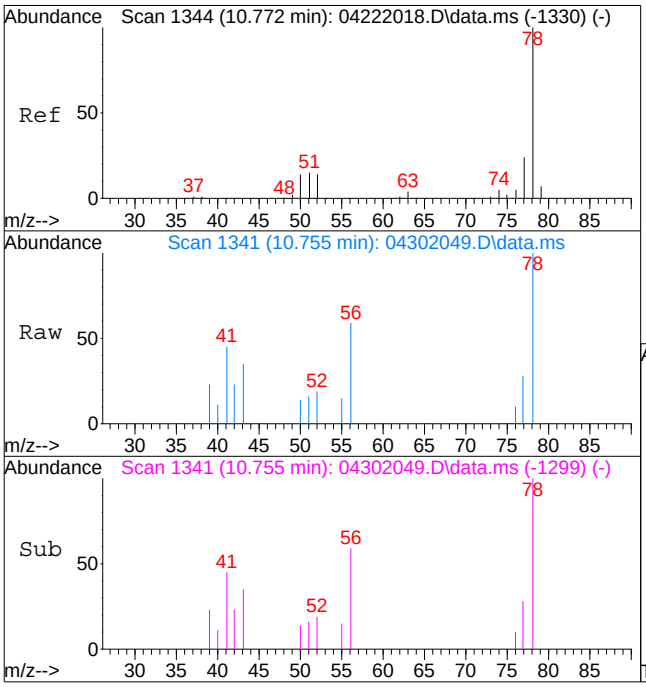


#34
Tetrahydrofuran (THF)
Concen: 0.42 ng
RT: 9.70 min Scan# 1149
Delta R.T. 0.016 min
Lab File: 04302049.D
Acq: 1 May 2020 8:03

Tgt Ion: 72 Resp: 2509

Ion	Ratio	Lower	Upper
72	100		
71	115.5	77.9	117.9
42	178.6	133.9	173.9#

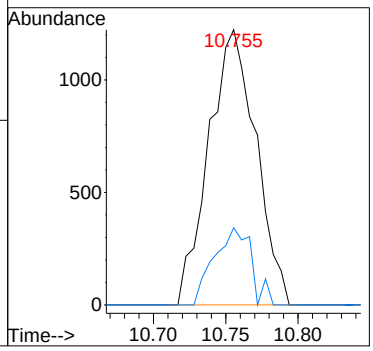


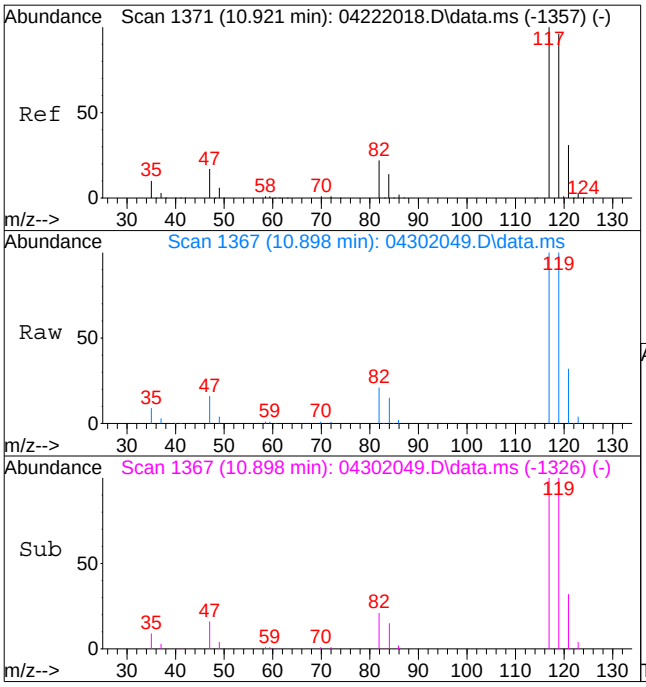


#41
Benzene
Concen: 0.07 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.017 min
Lab File: 04302049.D
Acq: 1 May 2020 8:03

Tgt Ion: 78 Resp: 2775

Ion	Ratio	Lower	Upper
78	100		
77	22.1	3.6	43.6

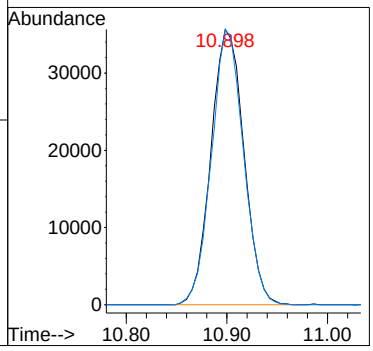


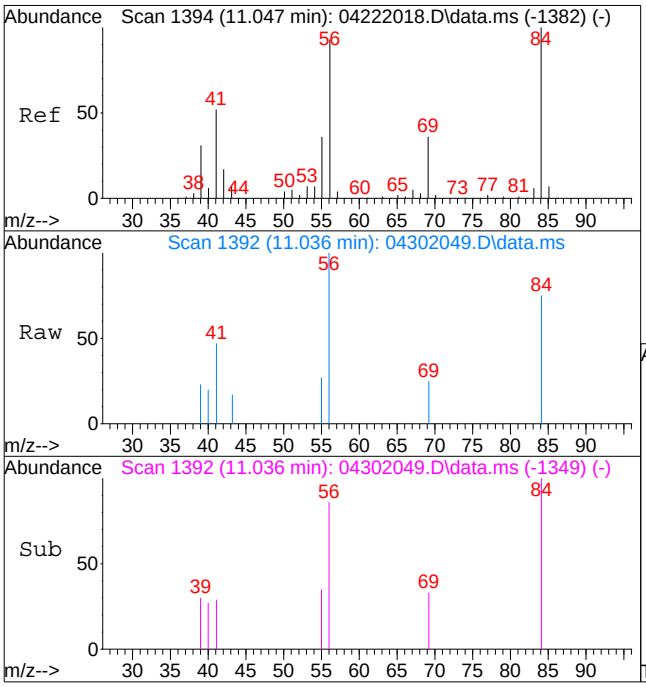


#42
Carbon Tetrachloride
Concen: 3.85 ng
RT: 10.90 min Scan# 1367
Delta R.T. -0.022 min
Lab File: 04302049.D
Acq: 1 May 2020 8:03

Tgt Ion:117 Resp: 81119

Ion	Ratio	Lower	Upper
117	100		
119	97.0	76.5	116.5

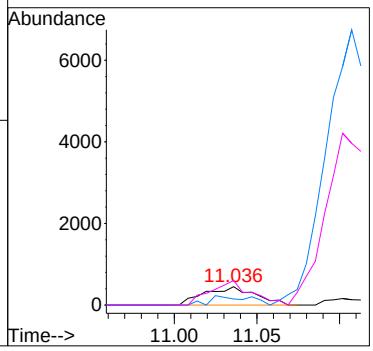


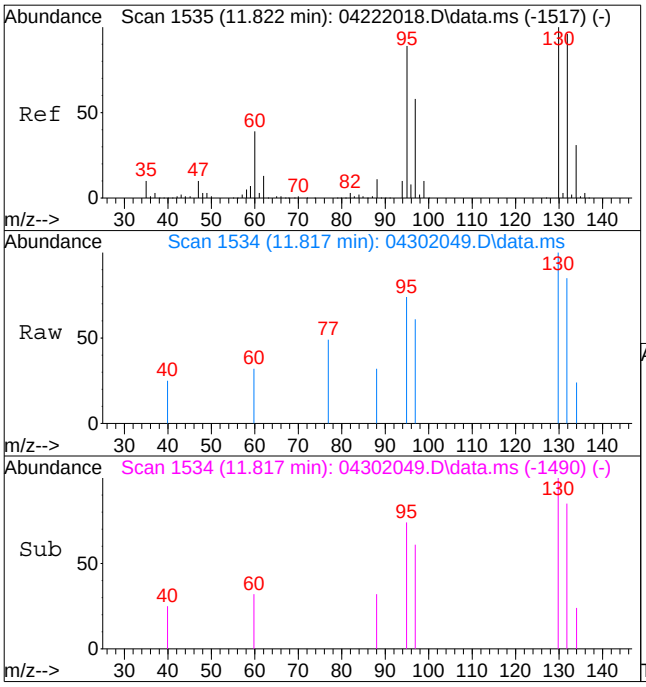


#43
Cyclohexane
Concen: 0.06 ng
RT: 11.04 min Scan# 1392
Delta R.T. -0.011 min
Lab File: 04302049.D
Acq: 1 May 2020 8:03

Tgt Ion: 84 Resp: 955

Ion	Ratio	Lower	Upper
84	100		
69	39.0	15.8	55.8
56	106.9	72.0	112.0

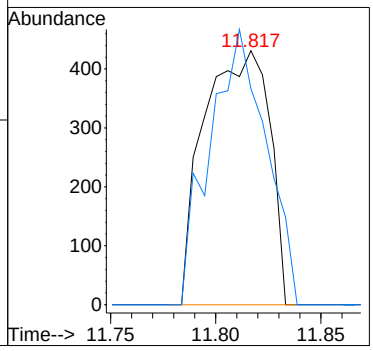


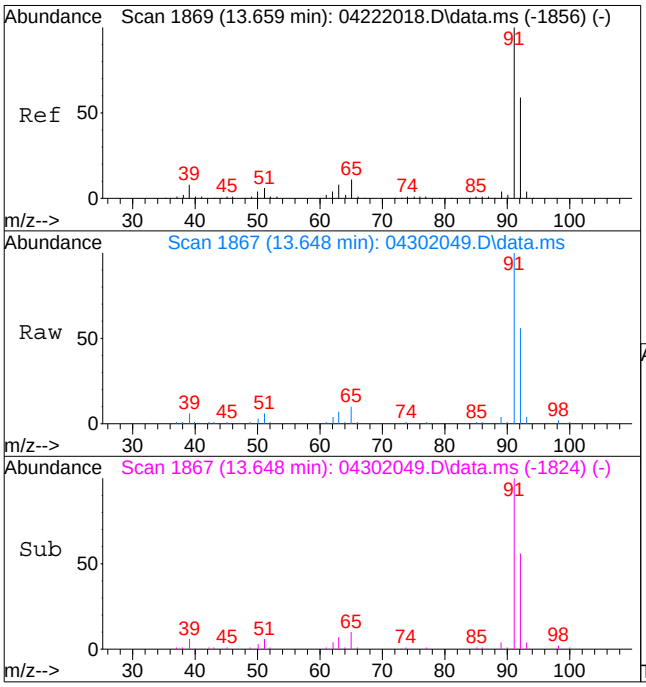


#47
Trichloroethene
Concen: 0.07 ng
RT: 11.82 min Scan# 1534
Delta R.T. -0.006 min
Lab File: 04302049.D
Acq: 1 May 2020 8:03

Tgt Ion:130 Resp: 933

Ion	Ratio	Lower	Upper
130	100		
132	93.2	76.4	116.4

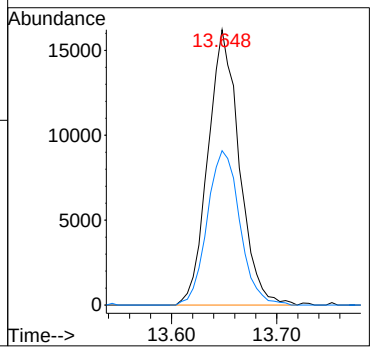


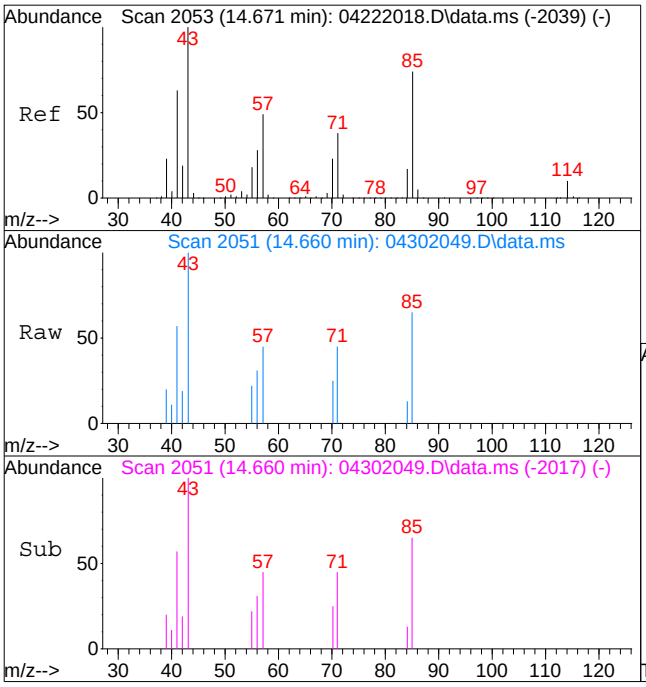


#58
Toluene
Concen: 0.76 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.011 min
Lab File: 04302049.D
Acq: 1 May 2020 8:03

Tgt Ion: 91 Resp: 33674

Ion	Ratio	Lower	Upper
91	100		
92	58.4	38.2	78.2

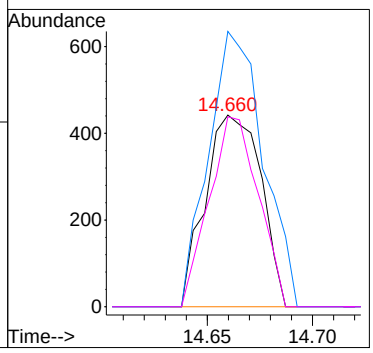


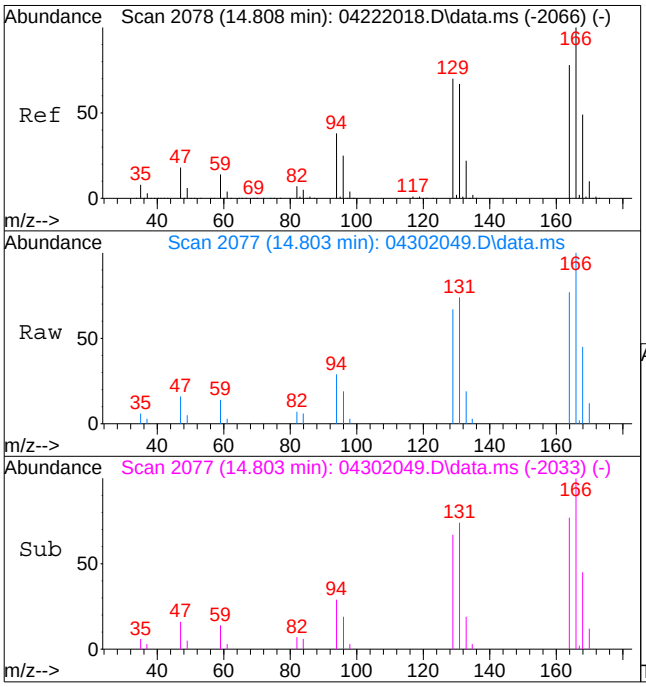


#63
n-Octane
Concen: 0.11 ng
RT: 14.66 min Scan# 2051
Delta R.T. -0.011 min
Lab File: 04302049.D
Acq: 1 May 2020 8:03

Tgt Ion: 57 Resp: 816

Ion	Ratio	Lower	Upper
57	100		
85	140.7	120.7	181.1
71	87.4	61.1	91.7

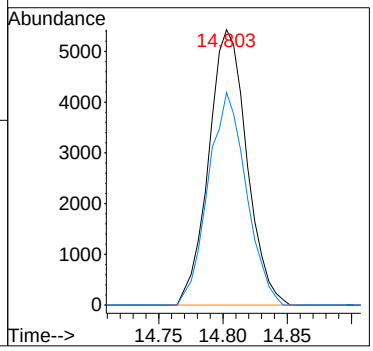


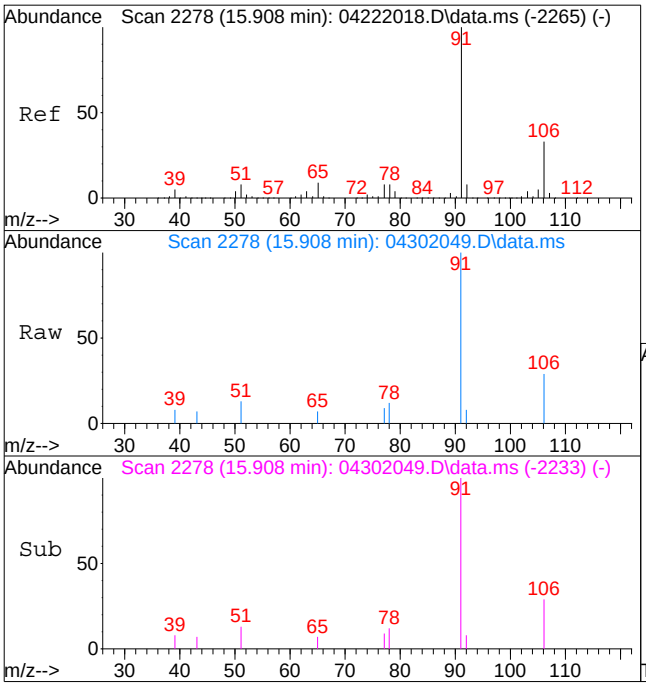


#64
Tetrachloroethene
Concen: 0.67 ng
RT: 14.80 min Scan# 2077
Delta R.T. -0.006 min
Lab File: 04302049.D
Acq: 1 May 2020 8:03

Tgt Ion:166 Resp: 11212

Ion	Ratio	Lower	Upper
166	100		
164	76.9	57.7	97.7

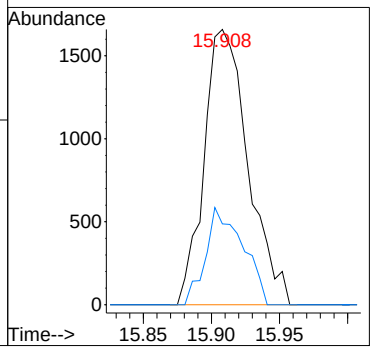


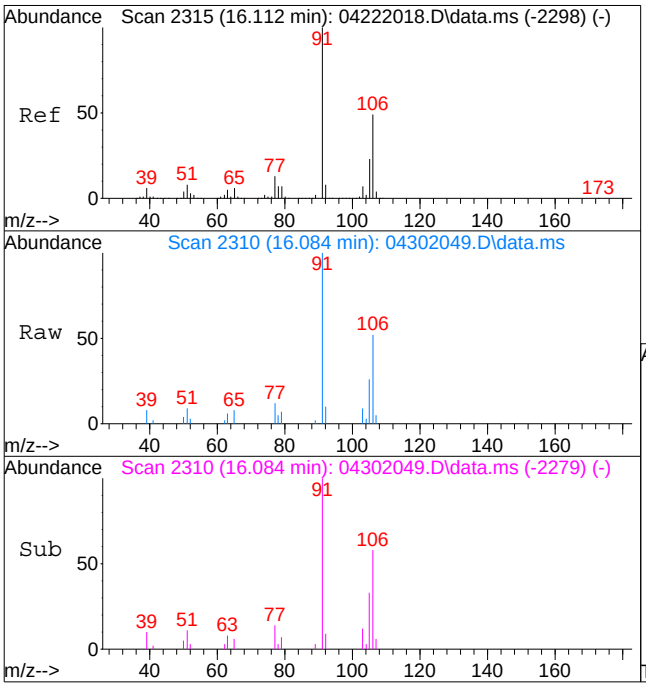


#66
Ethylbenzene
Concen: 0.07 ng
RT: 15.91 min Scan# 2278
Delta R.T. -0.000 min
Lab File: 04302049.D
Acq: 1 May 2020 8:03

Tgt Ion: 91 Resp: 3731

Ion	Ratio	Lower	Upper
91	100		
106	29.8	13.4	53.4

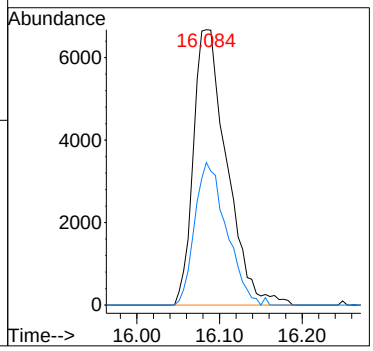


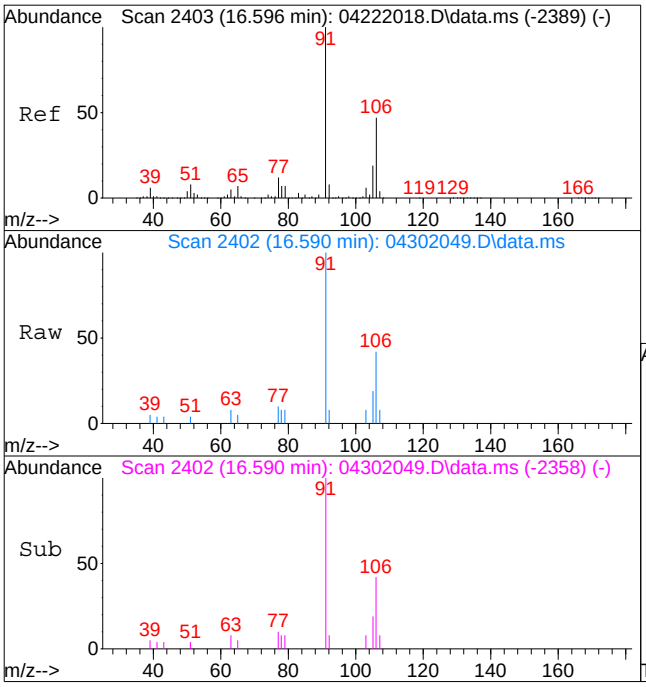


#67
m- & p-Xylenes
Concen: 0.43 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.028 min
Lab File: 04302049.D
Acq: 1 May 2020 8:03

Tgt Ion: 91 Resp: 18802

Ion	Ratio	Lower	Upper
91	100		
106	49.0	28.3	68.3

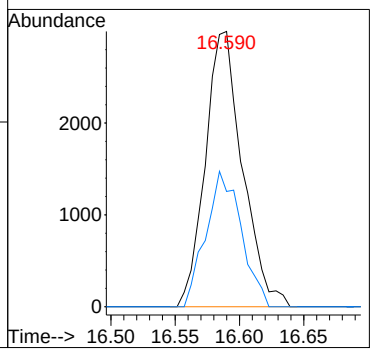


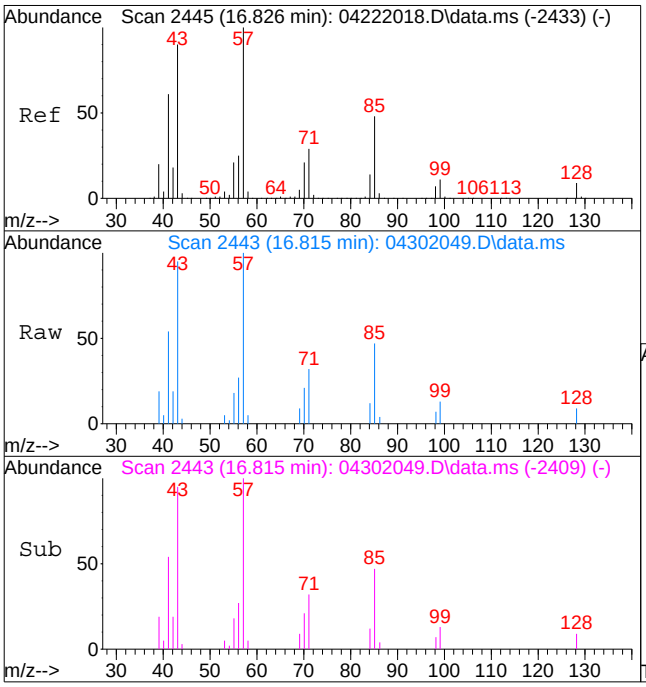


#70
o-Xylene
Concen: 0.14 ng
RT: 16.59 min Scan# 2402
Delta R.T. -0.006 min
Lab File: 04302049.D
Acq: 1 May 2020 8:03

Tgt Ion: 91 Resp: 6016

Ion	Ratio	Lower	Upper
91	100		
106	46.8	27.5	67.5

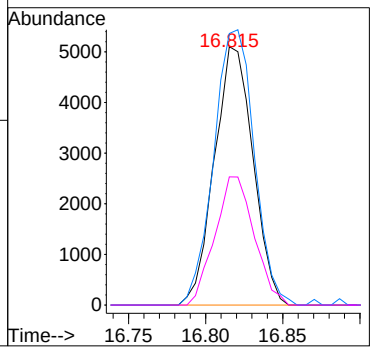


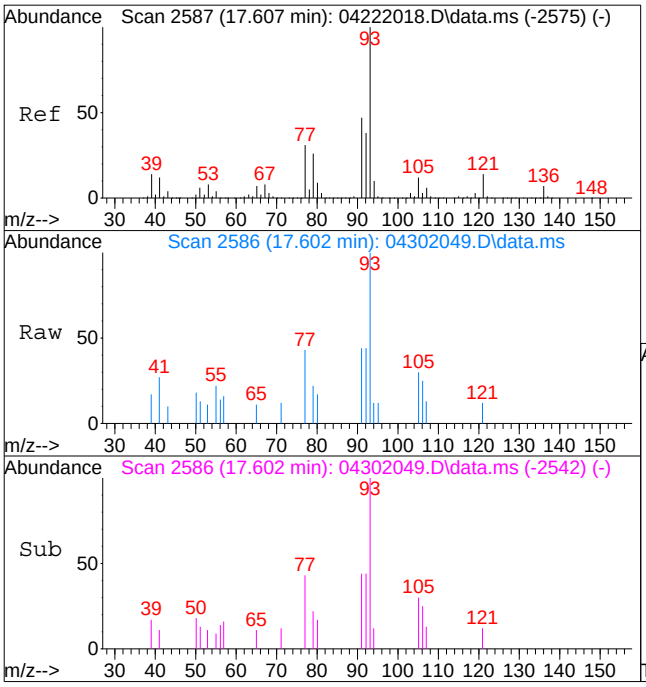


#71
n-Nonane
Concen: 0.64 ng
RT: 16.82 min Scan# 2443
Delta R.T. -0.011 min
Lab File: 04302049.D
Acq: 1 May 2020 8:03

Tgt Ion: 43 Resp: 8907

Ion	Ratio	Lower	Upper
43	100		
57	111.2	90.8	130.8
85	50.4	32.1	72.1

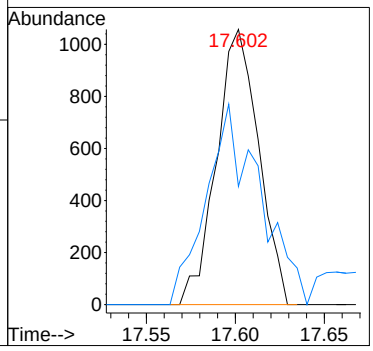


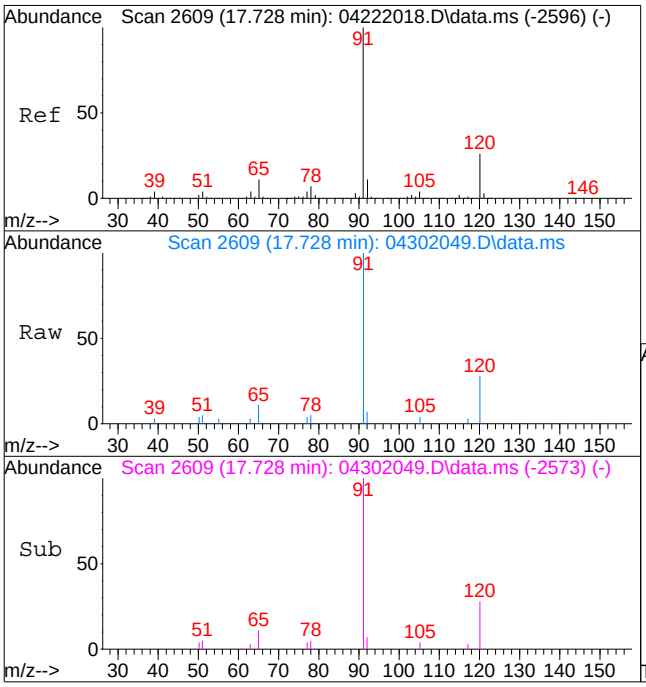


#75
alpha-Pinene
Concen: 0.07 ng
RT: 17.60 min Scan# 2586
Delta R.T. -0.006 min
Lab File: 04302049.D
Acq: 1 May 2020 8:03

Tgt Ion: 93 Resp: 1744

Ion	Ratio	Lower	Upper
93	100		
77	92.8	10.6	50.6#

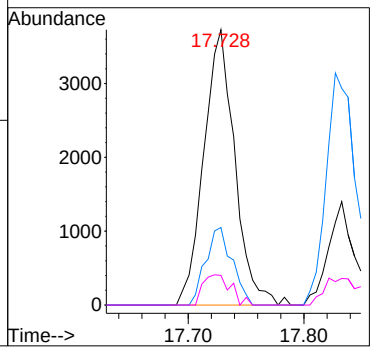


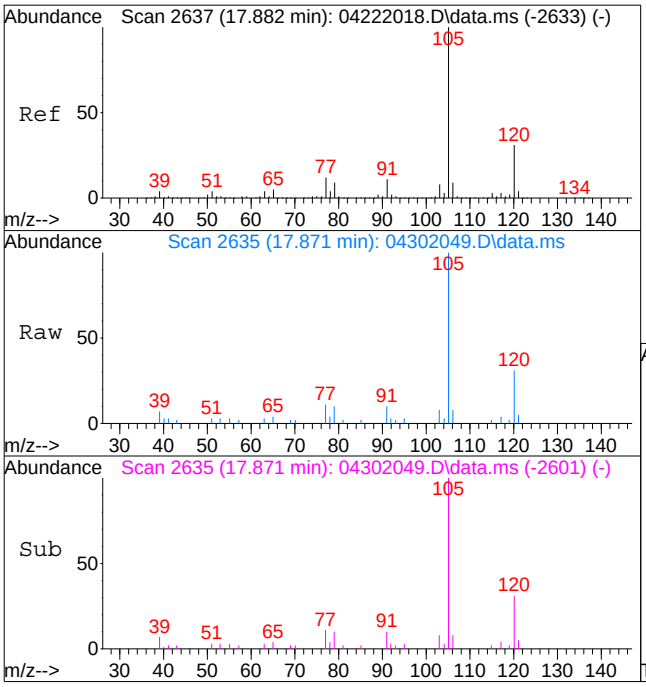


#76
n-Propylbenzene
Concen: 0.11 ng
RT: 17.73 min Scan# 2609
Delta R.T. -0.000 min
Lab File: 04302049.D
Acq: 1 May 2020 8:03

Tgt Ion: 91 Resp: 6953

Ion	Ratio	Lower	Upper
91	100		
120	24.0	6.1	46.1
65	9.8	0.0	30.7

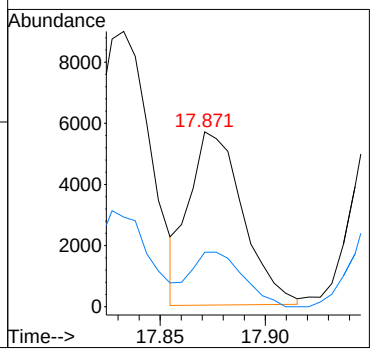


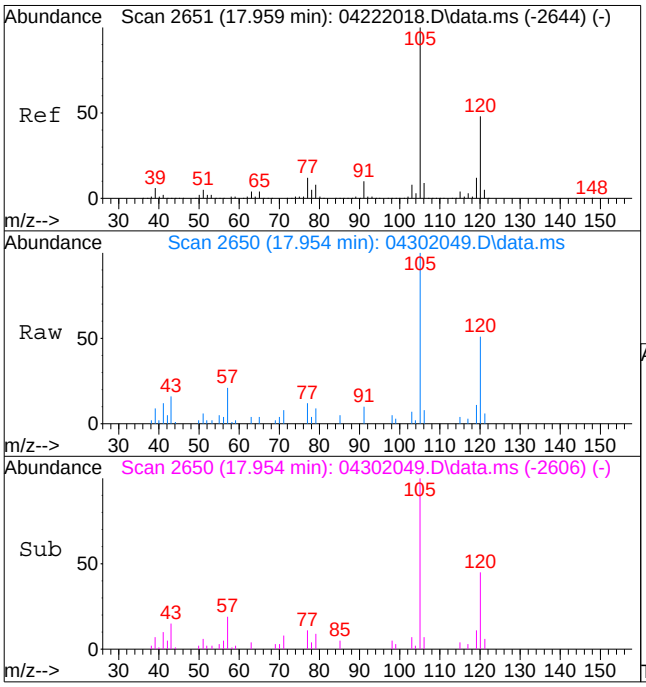


#78
4-Ethyltoluene
Concen: 0.19 ng
RT: 17.87 min Scan# 2635
Delta R.T. -0.011 min
Lab File: 04302049.D
Acq: 1 May 2020 8:03

Tgt Ion:105 Resp: 10098

Ion	Ratio	Lower	Upper
105	100		
120	31.5	11.4	51.4

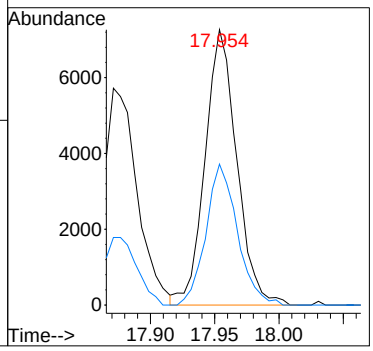


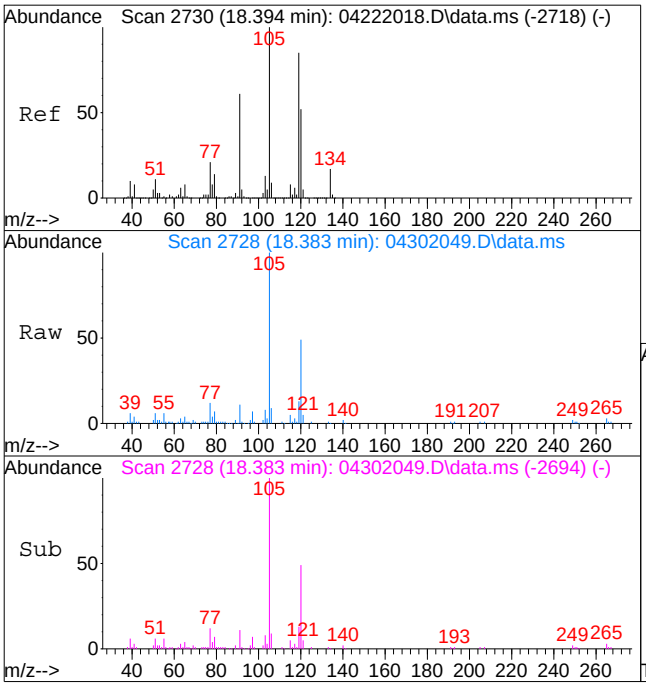


#79
1,3,5-Trimethylbenzene
Concen: 0.25 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 04302049.D
Acq: 1 May 2020 8:03

Tgt Ion:105 Resp: 12462

Ion	Ratio	Lower	Upper
105	100		
120	50.8	29.5	69.5

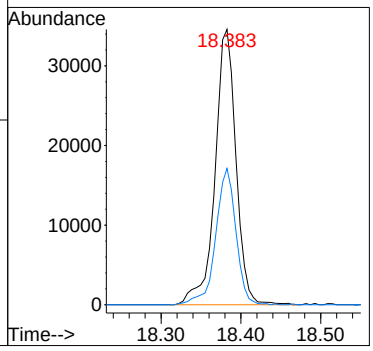


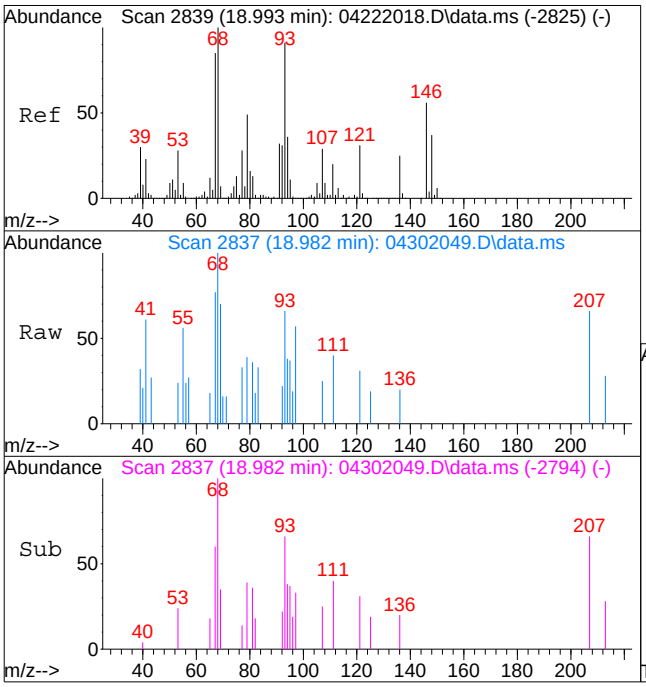


#82
1,2,4-Trimethylbenzene
Concen: 1.32 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 04302049.D
Acq: 1 May 2020 8:03

Tgt Ion:105 Resp: 63181

Ion	Ratio	Lower	Upper
105	100		
120	47.8	34.5	74.5

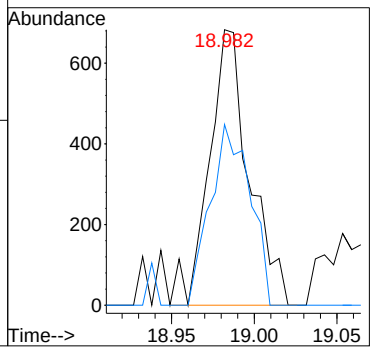


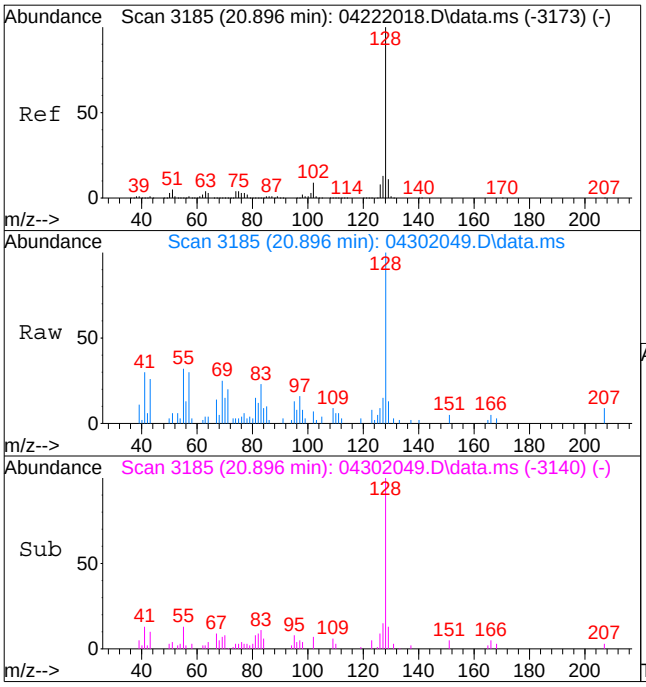


#91
d-Limonene
Concen: 0.09 ng
RT: 18.98 min Scan# 2837
Delta R.T. -0.011 min
Lab File: 04302049.D
Acq: 1 May 2020 8:03

Tgt Ion: 68 Resp: 1159

Ion	Ratio	Lower	Upper
68	100		
93	65.1	71.6	111.6#

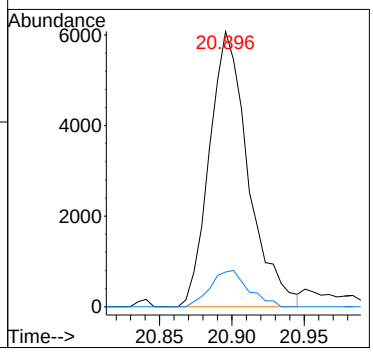




#95
Naphthalene
Concen: 0.19 ng
RT: 20.90 min Scan# 3185
Delta R.T. -0.000 min
Lab File: 04302049.D
Acq: 1 May 2020 8:03

Tgt Ion:128 Resp: 11364

Ion	Ratio	Lower	Upper
128	100		
129	12.9	0.0	30.9



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302050.D Vial: 15
Acq On : 1 May 2020 8:37 Operator: SC
Sample : P2002103-009 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 16:07:12 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/1/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	147724	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	625329	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	276013	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	221546	11.575	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.64%				
57) Toluene-d8 (SS2)	13.54	98	682311	12.803	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.40%				
73) Bromofluorobenzene (SS3)	17.05	174	265666	12.404	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.20%				
Target Compounds							Qvalue
2) Propene	3.87	42	2346	0.374	ng	#	79
3) Dichlorodifluoromethan...	3.98	85	104262	4.374	ng		100
4) Chloromethane	4.19	50	1196	0.136	ng		79
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.	d		
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	4.94	94	123	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.35	45	9147	1.925	ng		81
11) Acetonitrile	5.58	41	862	0.077	ng	#	8
12) Acrolein	5.71	56	1674	0.385	ng		96
13) Acetone	5.85	58	16997m	2.979	ng		
14) Trichlorofluoromethane	6.02	101	14861	0.627	ng		99
15) 2-Propanol (Isopropanol)	6.18	45	1790	0.099	ng		97
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	6.85	59	767	N.D.			
19) Methylene Chloride	6.88	84	270	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	7.18	151	150310	12.177	ng		100
22) Carbon Disulfide	7.14	76	30271	0.910	ng		71
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	8.26	86	3802	1.826	ng	#	38
27) 2-Butanone (MEK)	8.53	72	3391	0.578	ng	#	77
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	9.28	87	289	N.D.			
30) Ethyl Acetate	9.23	61	5491	2.105	ng		95
31) n-Hexane	9.22	57	288	N.D.			
32) Chloroform	9.28	83	3246	0.160	ng		96
34) Tetrahydrofuran (THF)	9.69	72	5491	0.925	ng		98
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	10.29	97	131	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.76	78	1795	N.D.			
42) Carbon Tetrachloride	10.90	117	130909	6.211	ng		99
43) Cyclohexane	11.03	84	429	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	11.76	83	280	N.D.			
47) Trichloroethene	11.80	130	1285	0.091	ng		94
48) 1,4-Dioxane	0.00	88	0	N.D.	d		
49) 2,2,4-Trimethylpentane...	11.87	57	711	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302050.D Vial: 15
Acq On : 1 May 2020 8:37 Operator: SC
Sample : P2002103-009 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 16:07:12 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

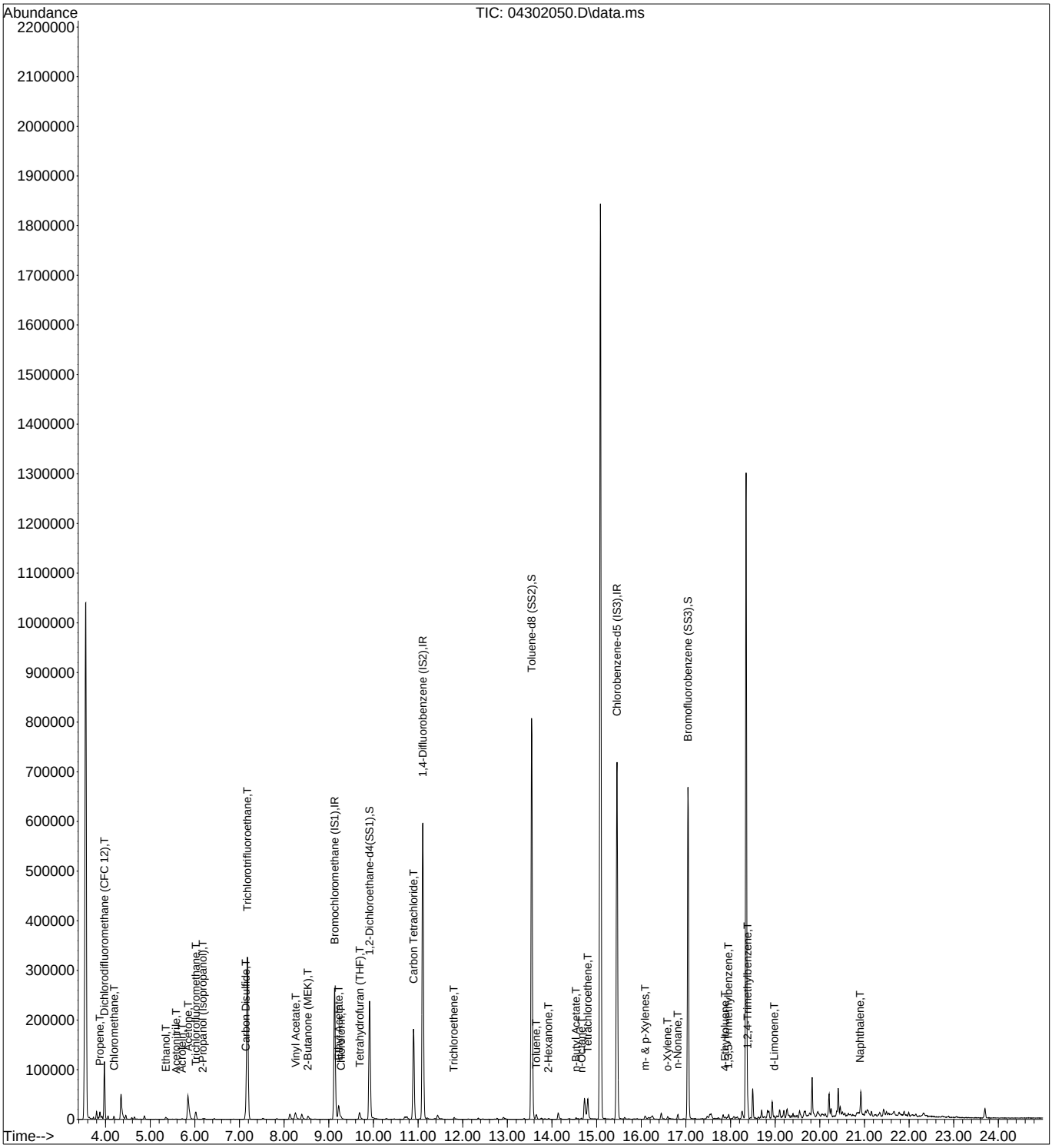
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	12.12	71	161	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	13.65	91	8920	0.199 ng		99
59) 2-Hexanone	13.92	43	1601	0.120 ng		81
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	14.54	43	2445	0.164 ng		92
63) n-Octane	14.67	57	387	0.054 ng	#	71
64) Tetrachloroethene	14.80	166	14428	0.856 ng		97
65) Chlorobenzene	15.51	112	161	N.D.		
66) Ethylbenzene	15.91	91	1709	N.D.		
67) m- & p-Xylenes	16.09	91	7144	0.162 ng		95
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.49	104	462	N.D.		
70) o-Xylene	16.59	91	2545	0.059 ng		97
71) n-Nonane	16.82	43	3368	0.242 ng		96
72) 1,1,2,2-Tetrachloroethane	16.60	83	104	N.D.		
74) Cumene	17.20	105	666	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	17.72	91	2743	N.D.		
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	17.88	105	3835	0.072 ng		93
79) 1,3,5-Trimethylbenzene	17.95	105	4531	0.092 ng		94
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	18.16	105	2516	N.D.		
82) 1,2,4-Trimethylbenzene	18.38	105	21009	0.439 ng		86
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	18.52	91	171	N.D.		
85) 1,3-Dichlorobenzene	18.55	146	114	N.D.		
86) 1,4-Dichlorobenzene	18.62	146	403	N.D.		
87) sec-Butylbenzene	18.67	105	2112	N.D.		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	18.98	68	715	0.053 ng		84
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	20.90	128	3752	0.061 ng		94
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302050.D Vial: 15
Acq On : 1 May 2020 8:37 Operator: SC
Sample : P2002103-009 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 16:07:12 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302050.D Vial: 15
Acq On : 1 May 2020 8:37 Operator: SC
Sample : P2002103-009 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 16:07:12 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/1/20

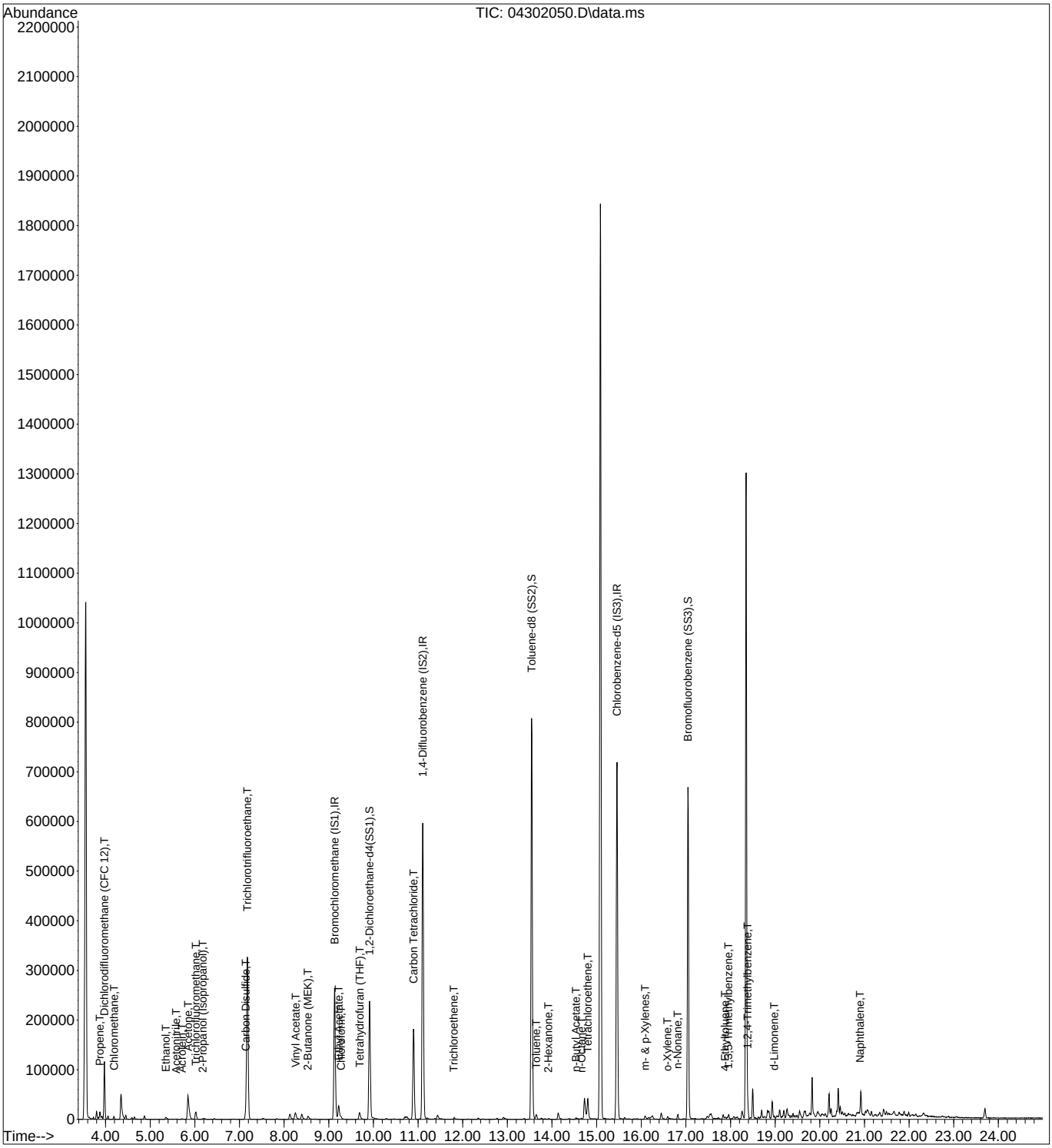
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	147724	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	625329	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	276013	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	221546	11.575	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.64%				
57) Toluene-d8 (SS2)	13.54	98	682311	12.803	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.40%				
73) Bromofluorobenzene (SS3)	17.05	174	265666	12.404	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.20%				
Target Compounds							Qvalue
2) Propene	3.87	42	2346	0.374	ng	#	79
3) Dichlorodifluoromethan...	3.98	85	104262	4.374	ng		100
4) Chloromethane	4.19	50	1196	0.136	ng		79
10) Ethanol	5.35	45	9147	1.925	ng		81
11) Acetonitrile	5.58	41	862	0.077	ng	#	8
12) Acrolein	5.71	56	1674	0.385	ng		96
13) Acetone	5.85	58	16997m	2.979	ng		
14) Trichlorofluoromethane	6.02	101	14861	0.627	ng		99
15) 2-Propanol (Isopropanol)	6.18	45	1790	0.099	ng		97
21) Trichlorotrifluoroethane	7.18	151	150310	12.177	ng		100
22) Carbon Disulfide	7.14	76	30271	0.910	ng		71
26) Vinyl Acetate	8.26	86	3802	1.826	ng	#	38
27) 2-Butanone (MEK)	8.53	72	3391	0.578	ng	#	77
30) Ethyl Acetate	9.23	61	5491	2.105	ng		95
32) Chloroform	9.28	83	3246	0.160	ng		96
34) Tetrahydrofuran (THF)	9.69	72	5491	0.925	ng		98
42) Carbon Tetrachloride	10.90	117	130909	6.211	ng		99
47) Trichloroethene	11.80	130	1285	0.091	ng		94
58) Toluene	13.65	91	8920	0.199	ng		99
59) 2-Hexanone	13.92	43	1601	0.120	ng		81
62) n-Butyl Acetate	14.54	43	2445	0.164	ng		92
63) n-Octane	14.67	57	387	0.054	ng	#	71
64) Tetrachloroethene	14.80	166	14428	0.856	ng		97
67) m- & p-Xylenes	16.09	91	7144	0.162	ng		95
70) o-Xylene	16.59	91	2545	0.059	ng		97
71) n-Nonane	16.82	43	3368	0.242	ng		96
78) 4-Ethyltoluene	17.88	105	3835	0.072	ng		93
79) 1,3,5-Trimethylbenzene	17.95	105	4531	0.092	ng		94
82) 1,2,4-Trimethylbenzene	18.38	105	21009	0.439	ng		86
91) d-Limonene	18.98	68	715	0.053	ng		84
95) Naphthalene	20.90	128	3752	0.061	ng		94

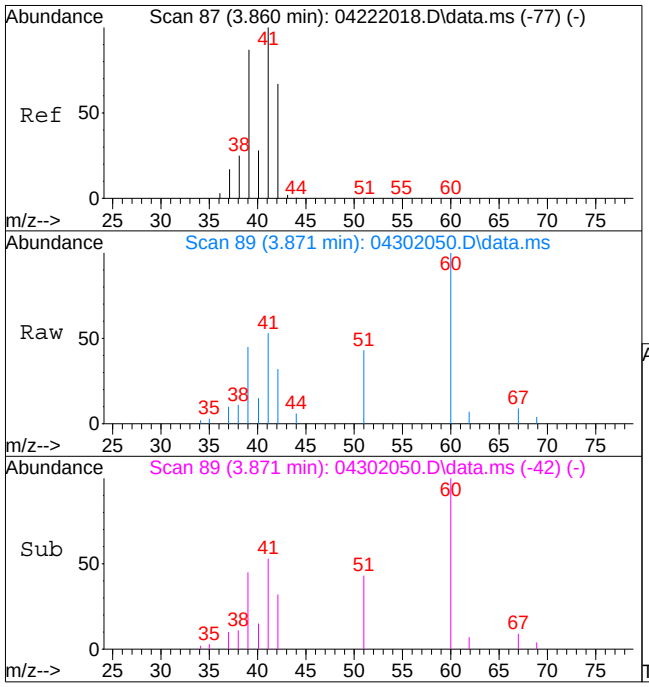
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302050.D Vial: 15
Acq On : 1 May 2020 8:37 Operator: SC
Sample : P2002103-009 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 16:07:12 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

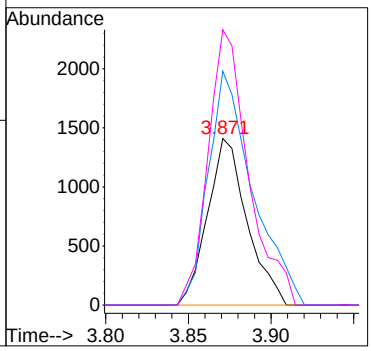


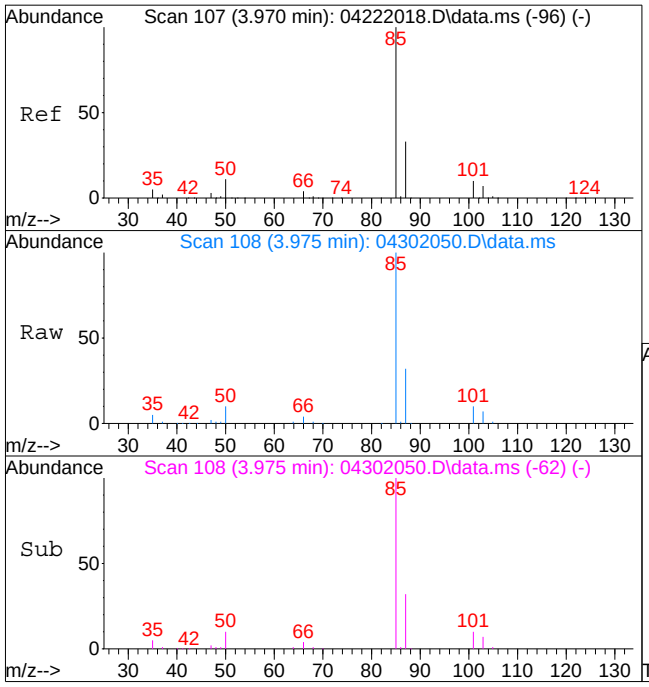


#2
Propene
Concen: 0.37 ng
RT: 3.87 min Scan# 89
Delta R.T. 0.011 min
Lab File: 04302050.D
Acq: 1 May 2020 8:37

Tgt Ion: 42 Resp: 2346

Ion	Ratio	Lower	Upper
42	100		
39	158.1	106.4	146.4#
41	169.1	128.8	168.8#

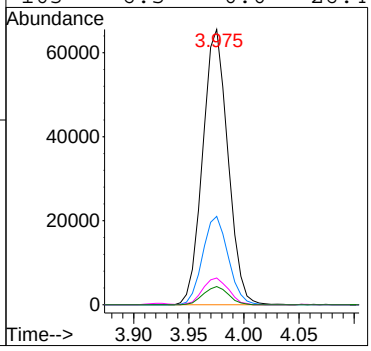


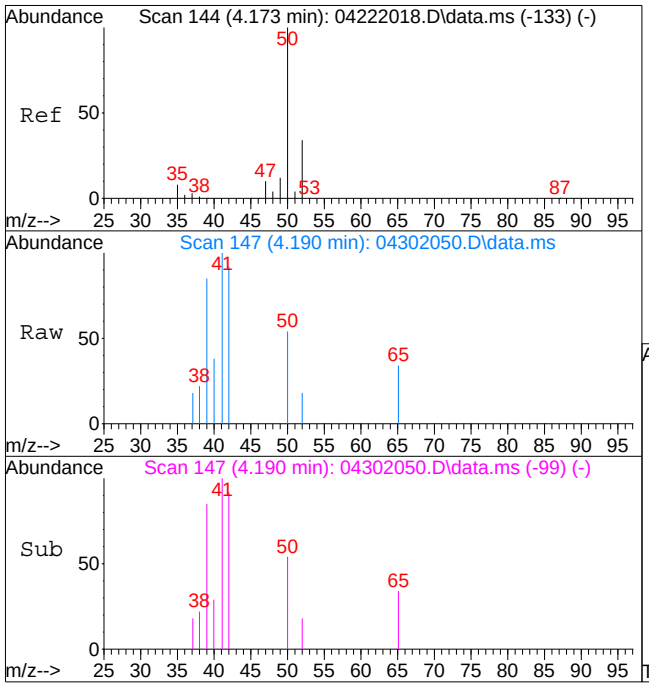


#3
Dichlorodifluoromethane (CFC 12)
Concen: 4.37 ng
RT: 3.98 min Scan# 108
Delta R.T. 0.005 min
Lab File: 04302050.D
Acq: 1 May 2020 8:37

Tgt Ion: 85 Resp: 104262

Ion	Ratio	Lower	Upper
85	100		
87	32.4	12.4	52.4
101	9.9	0.0	29.9
103	6.5	0.0	26.4

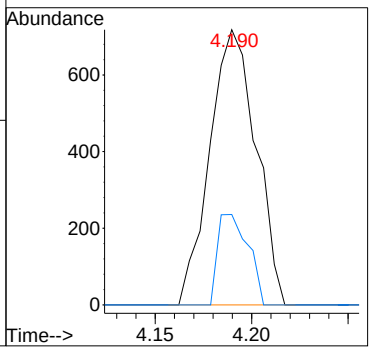


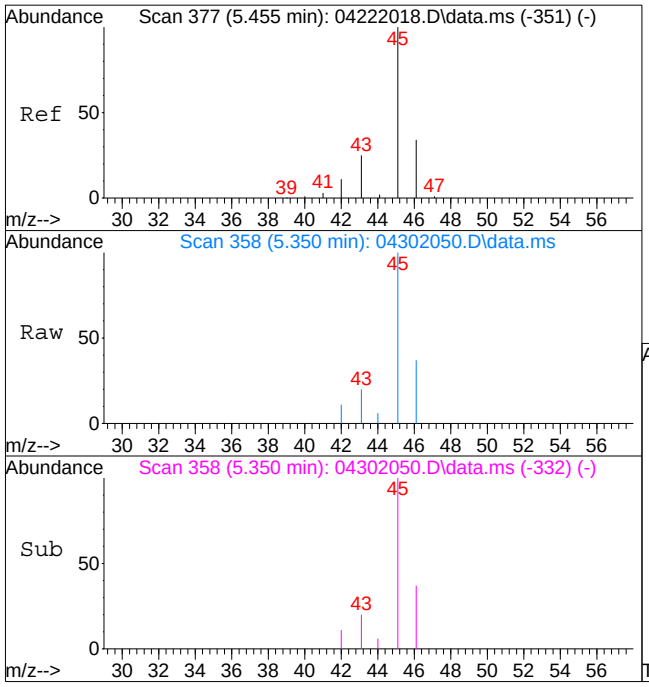


#4
Chloromethane
Concen: 0.14 ng
RT: 4.19 min Scan# 147
Delta R.T. 0.016 min
Lab File: 04302050.D
Acq: 1 May 2020 8:37

Tgt Ion: 50 Resp: 1196

Ion	Ratio	Lower	Upper
50	100		
52	21.7	13.7	53.7

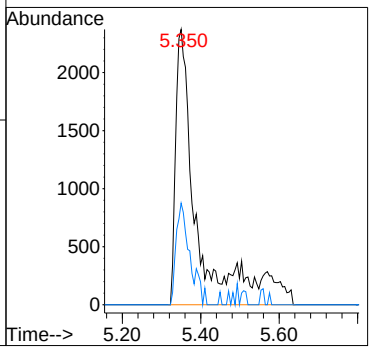


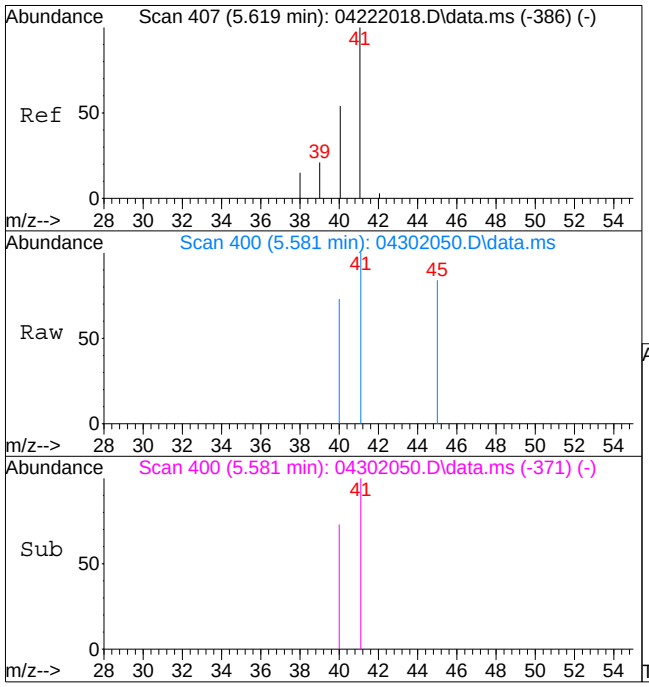


#10
Ethanol
Concen: 1.92 ng
RT: 5.35 min Scan# 358
Delta R.T. -0.105 min
Lab File: 04302050.D
Acq: 1 May 2020 8:37

Tgt Ion: 45 Resp: 9147

Ion	Ratio	Lower	Upper
45	100		
46	23.4	14.0	54.0

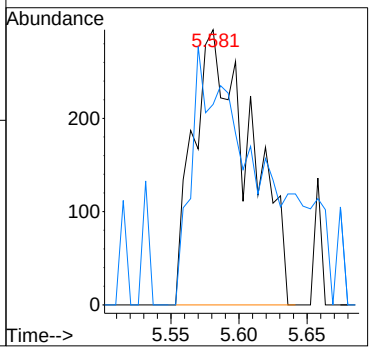


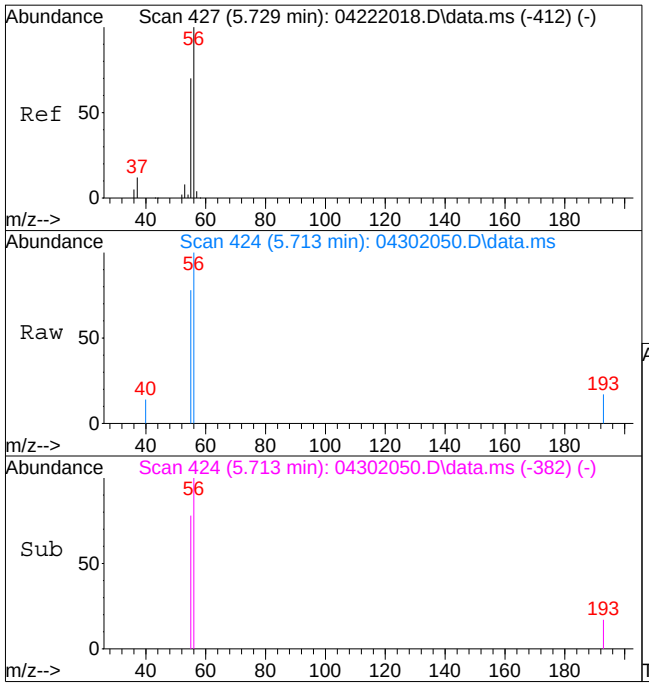


#11
Acetonitrile
Concen: 0.08 ng
RT: 5.58 min Scan# 400
Delta R.T. -0.038 min
Lab File: 04302050.D
Acq: 1 May 2020 8:37

Tgt Ion: 41 Resp: 862

Ion	Ratio	Lower	Upper
41	100		
40	121.0	34.8	74.8#

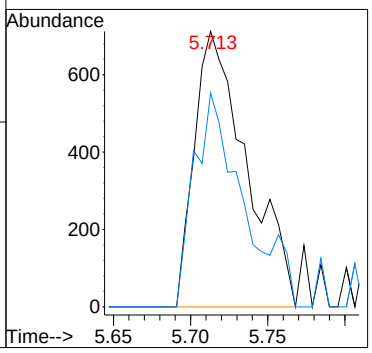


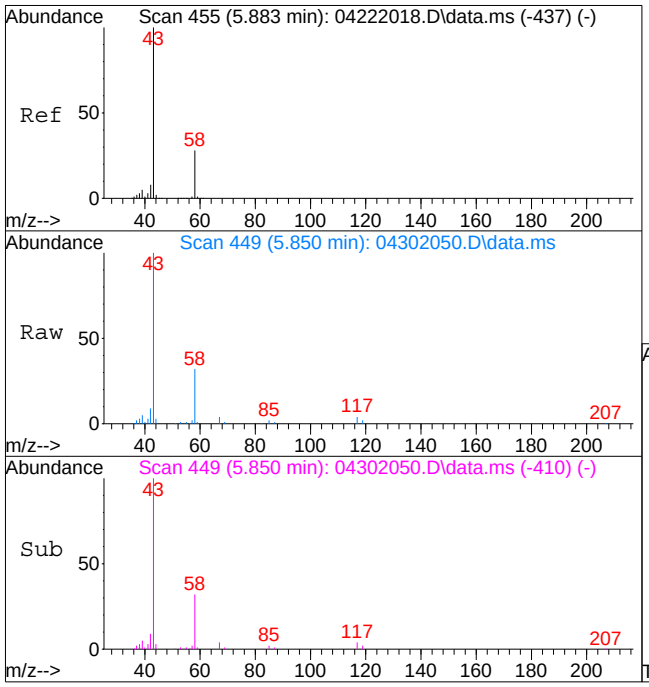


#12
Acrolein
Concen: 0.39 ng
RT: 5.71 min Scan# 424
Delta R.T. -0.017 min
Lab File: 04302050.D
Acq: 1 May 2020 8:37

Tgt Ion: 56 Resp: 1674

Ion	Ratio	Lower	Upper
56	100		
55	73.4	50.4	90.4

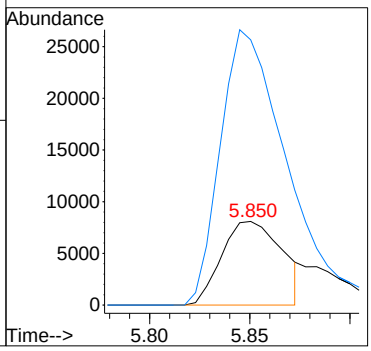


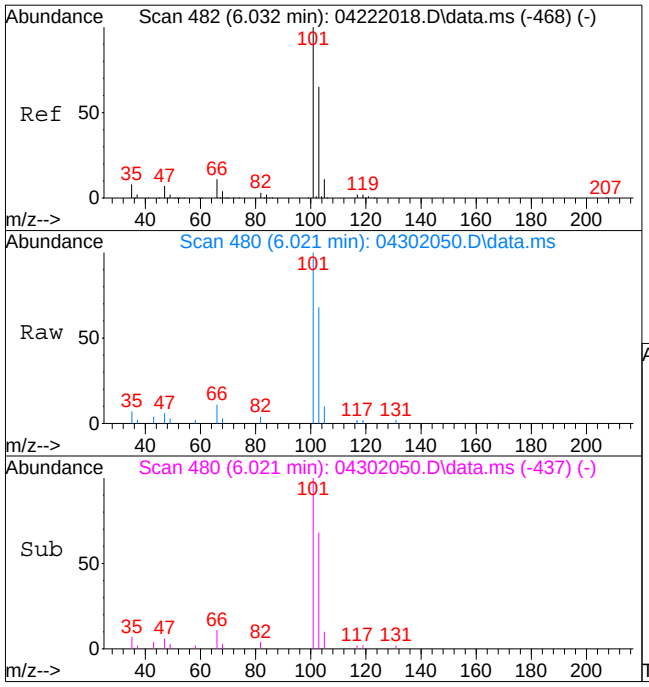


#13
Acetone
Concen: 2.98 ng m
RT: 5.85 min Scan# 449
Delta R.T. -0.033 min
Lab File: 04302050.D
Acq: 1 May 2020 8:37

Tgt Ion: 58 Resp: 16997

Ion	Ratio	Lower	Upper
58	100		
43	374.9	319.3	379.3

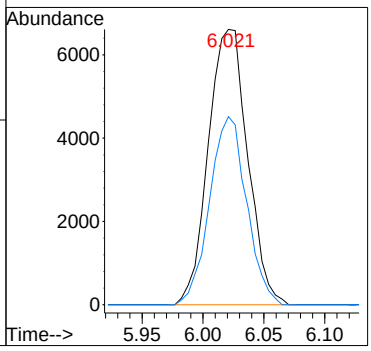


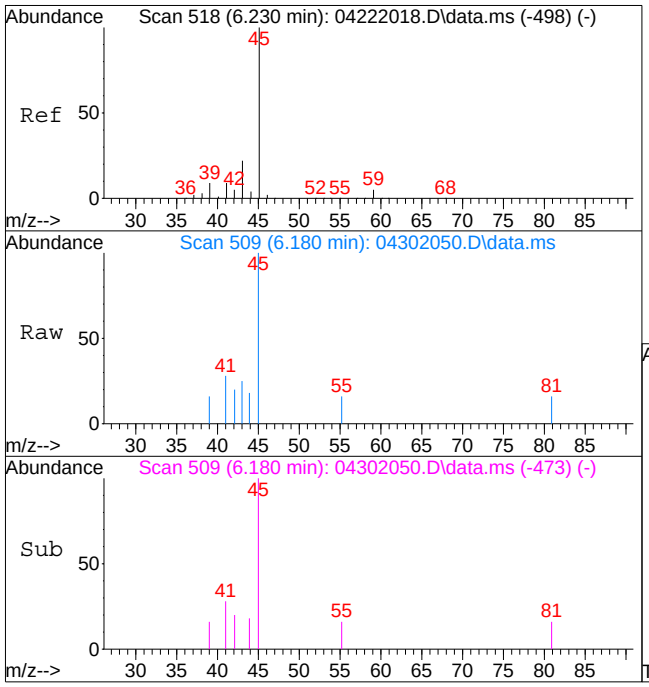


#14
Trichlorofluoromethane
Concen: 0.63 ng
RT: 6.02 min Scan# 480
Delta R.T. -0.011 min
Lab File: 04302050.D
Acq: 1 May 2020 8:37

Tgt Ion:101 Resp: 14861

Ion	Ratio	Lower	Upper
101	100		
103	64.0	44.7	84.7

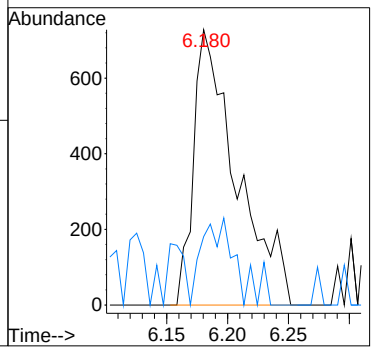


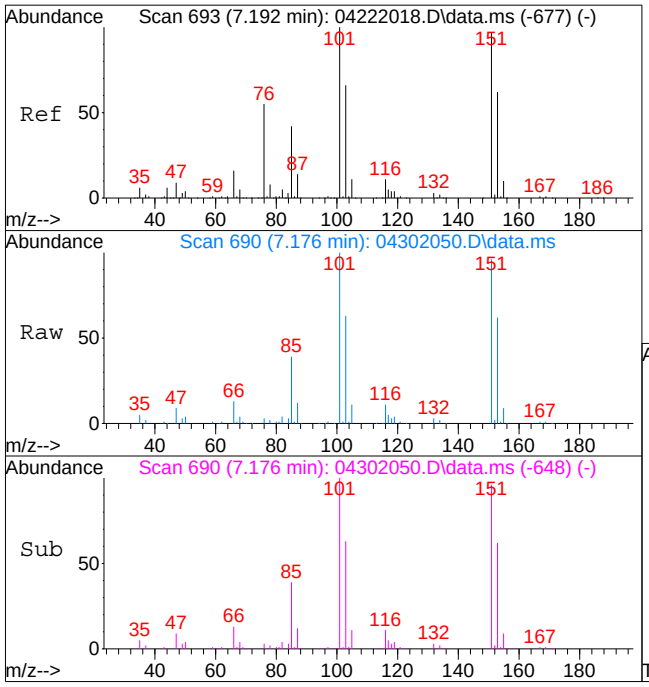


#15
2-Propanol (Isopropanol)
Concen: 0.10 ng
RT: 6.18 min Scan# 509
Delta R.T. -0.050 min
Lab File: 04302050.D
Acq: 1 May 2020 8:37

Tgt Ion: 45 Resp: 1790

Ion	Ratio	Lower	Upper
45	100		
43	21.3	2.6	42.6

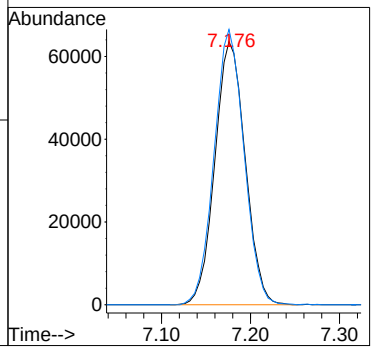


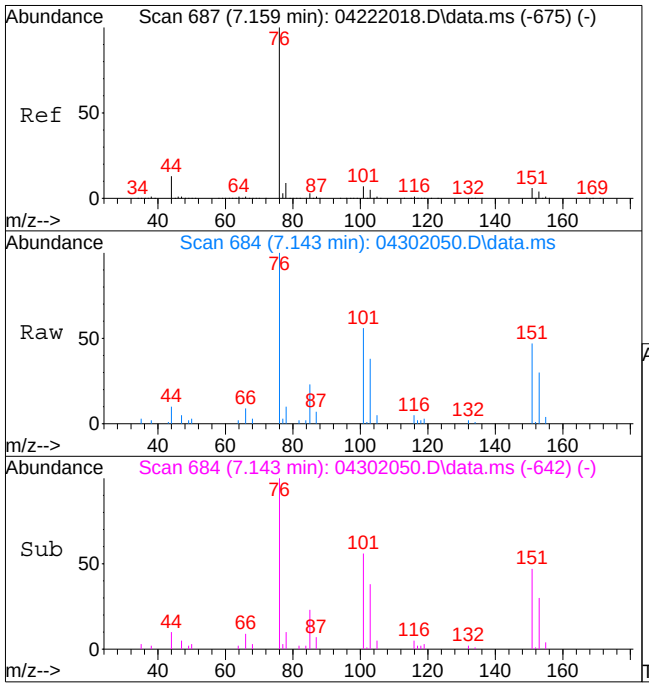


#21
Trichlorotrifluoroethane
Concen: 12.18 ng
RT: 7.18 min Scan# 690
Delta R.T. -0.017 min
Lab File: 04302050.D
Acq: 1 May 2020 8:37

Tgt Ion:151 Resp: 150310

Ion	Ratio	Lower	Upper
151	100		
101	103.4	82.9	122.9

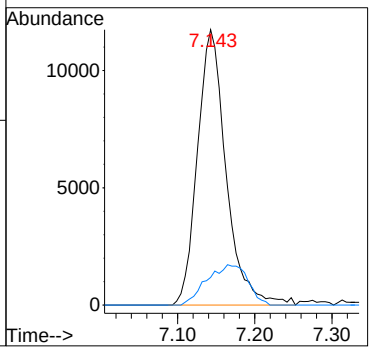


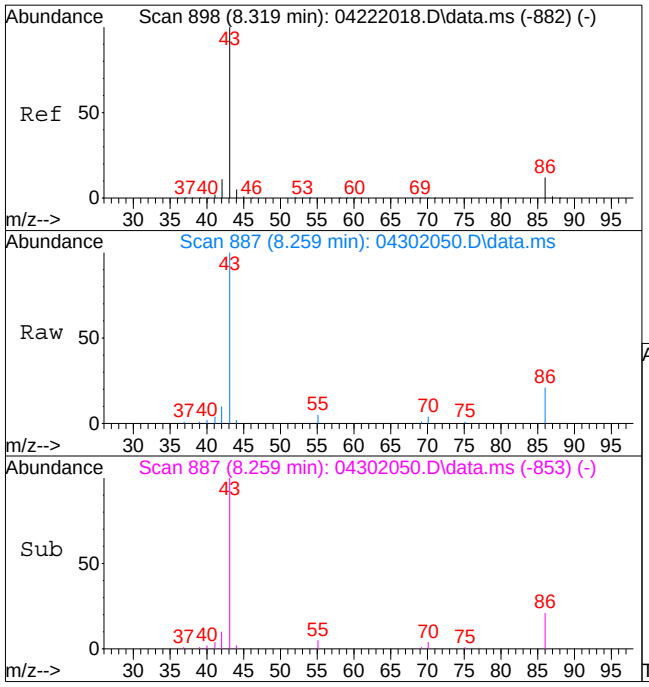


#22
Carbon Disulfide
Concen: 0.91 ng
RT: 7.14 min Scan# 684
Delta R.T. -0.017 min
Lab File: 04302050.D
Acq: 1 May 2020 8:37

Tgt Ion: 76 Resp: 30271

Ion	Ratio	Lower	Upper
76	100		
78	20.9	0.0	30.2

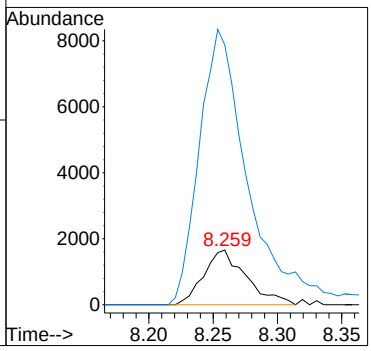


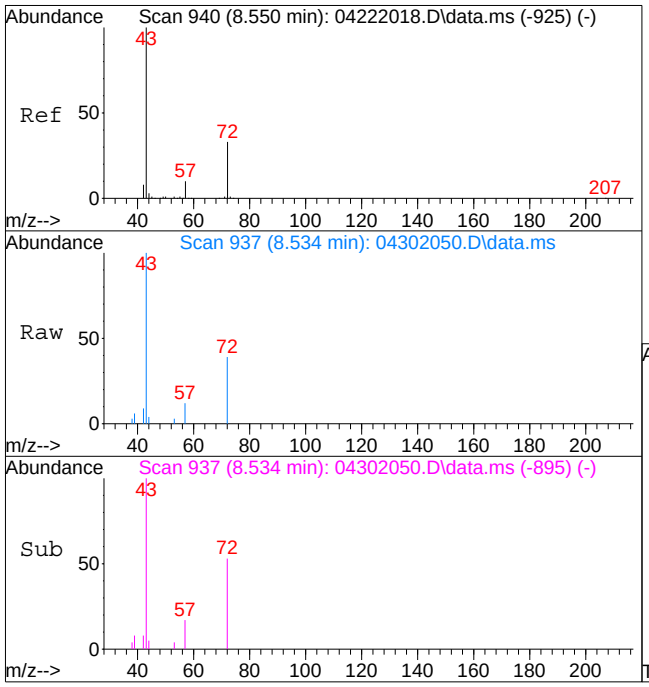


#26
Vinyl Acetate
Concen: 1.83 ng
RT: 8.26 min Scan# 887
Delta R.T. -0.060 min
Lab File: 04302050.D
Acq: 1 May 2020 8:37

Tgt Ion: 86 Resp: 3802

Ion	Ratio	Lower	Upper
86	100		
43	583.7	803.0	843.0#

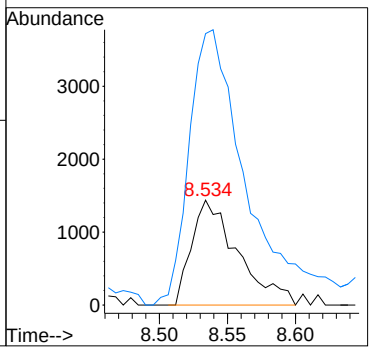


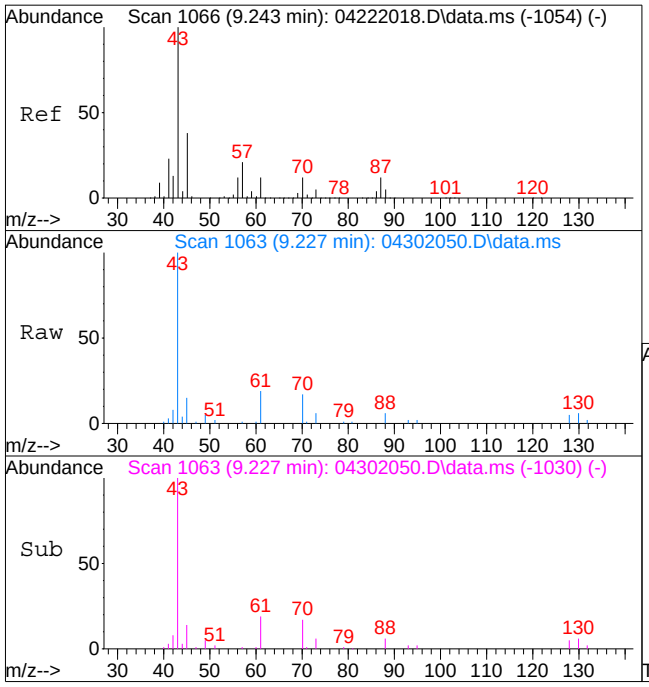


#27
2-Butanone (MEK)
Concen: 0.58 ng
RT: 8.53 min Scan# 937
Delta R.T. -0.016 min
Lab File: 04302050.D
Acq: 1 May 2020 8:37

Tgt Ion: 72 Resp: 3391

Ion	Ratio	Lower	Upper
72	100		
43	344.7	278.8	318.8#

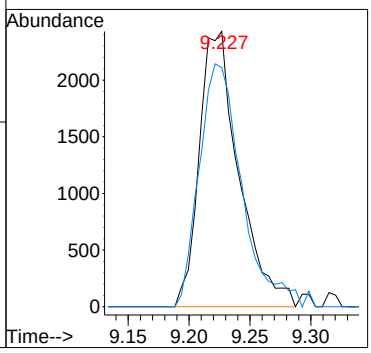


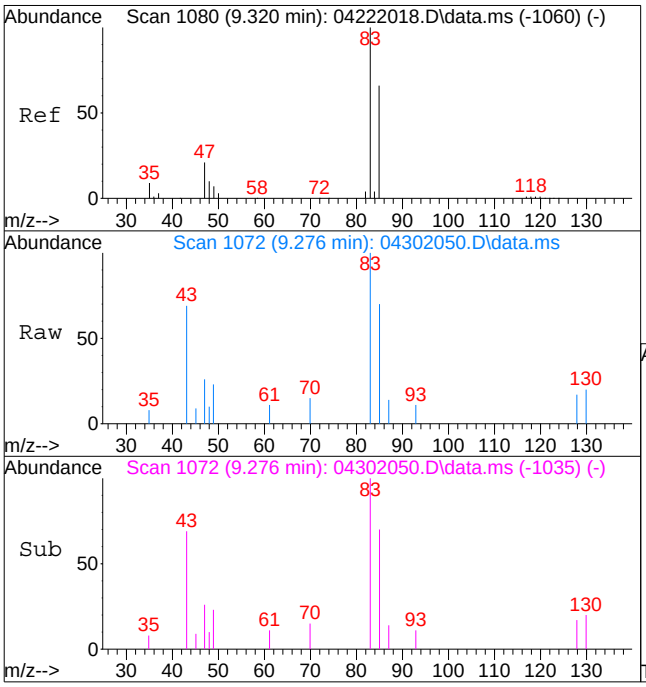


#30
Ethyl Acetate
Concen: 2.11 ng
RT: 9.23 min Scan# 1063
Delta R.T. -0.017 min
Lab File: 04302050.D
Acq: 1 May 2020 8:37

Tgt Ion: 61 Resp: 5491

Ion	Ratio	Lower	Upper
61	100		
70	95.4	80.6	120.6

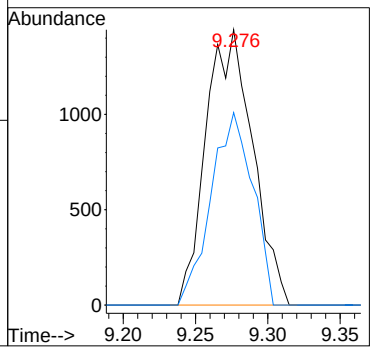


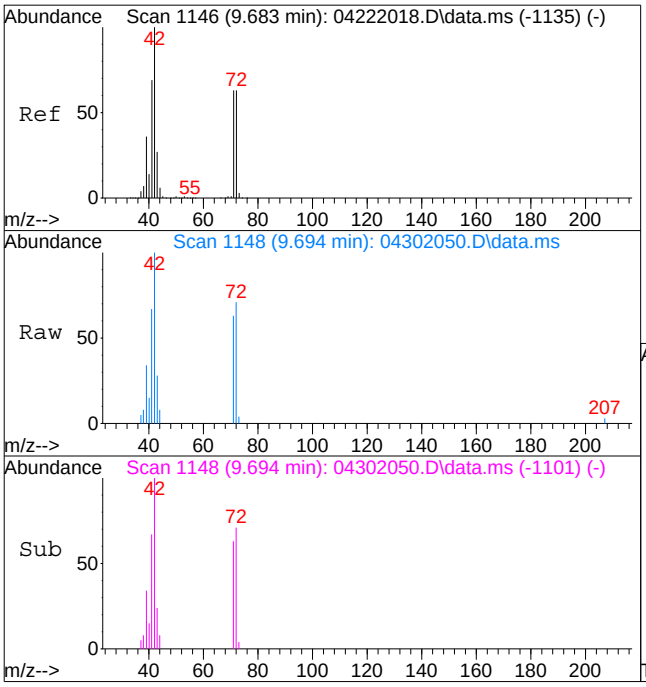


#32
Chloroform
Concen: 0.16 ng
RT: 9.28 min Scan# 1072
Delta R.T. -0.044 min
Lab File: 04302050.D
Acq: 1 May 2020 8:37

Tgt Ion: 83 Resp: 3246

Ion	Ratio	Lower	Upper
83	100		
85	62.5	45.8	85.8

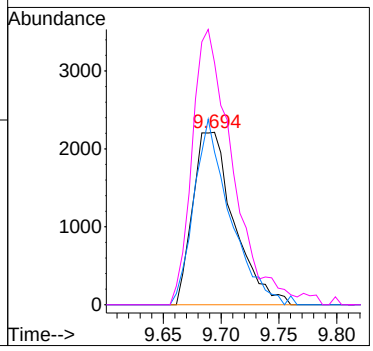


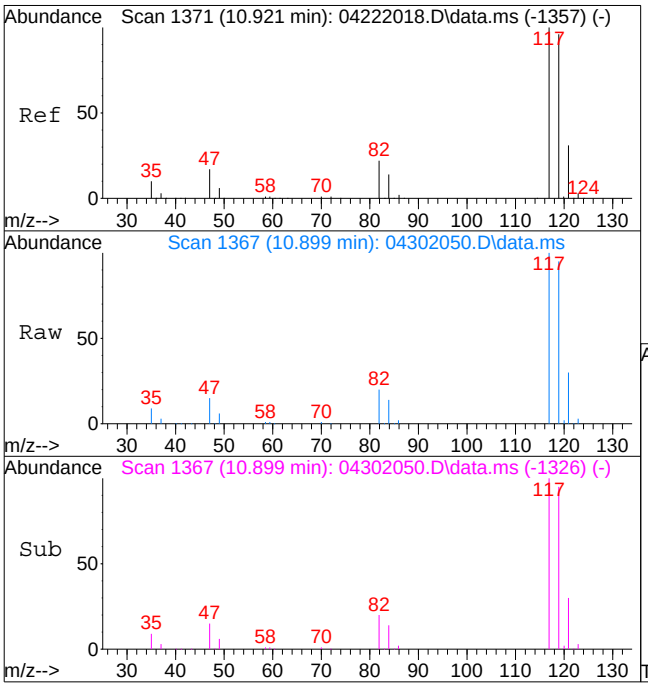


#34
Tetrahydrofuran (THF)
Concen: 0.92 ng
RT: 9.69 min Scan# 1148
Delta R.T. 0.011 min
Lab File: 04302050.D
Acq: 1 May 2020 8:37

Tgt Ion: 72 Resp: 5491

Ion	Ratio	Lower	Upper
72	100		
71	95.1	77.9	117.9
42	156.6	133.9	173.9

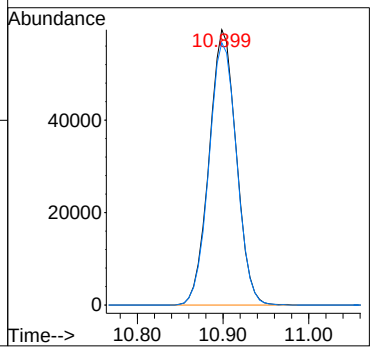


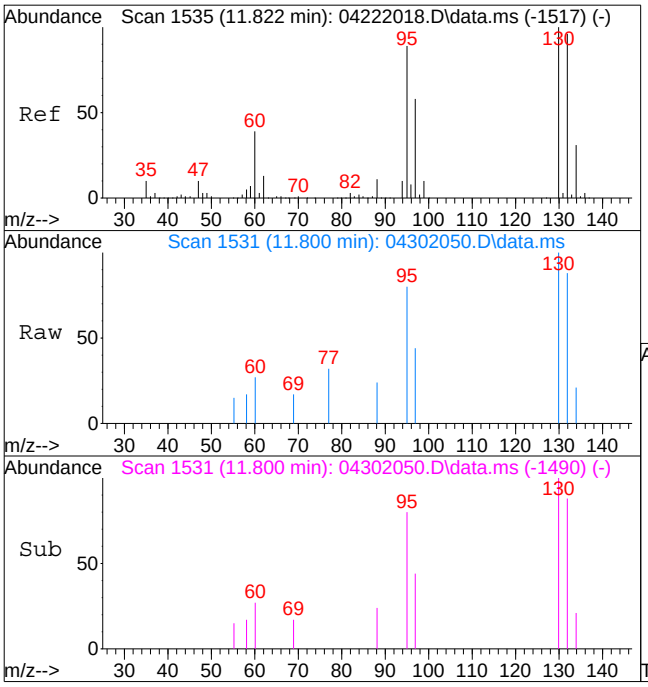


#42
Carbon Tetrachloride
Concen: 6.21 ng
RT: 10.90 min Scan# 1367
Delta R.T. -0.022 min
Lab File: 04302050.D
Acq: 1 May 2020 8:37

Tgt Ion:117 Resp: 130909

Ion	Ratio	Lower	Upper
117	100		
119	97.2	76.5	116.5

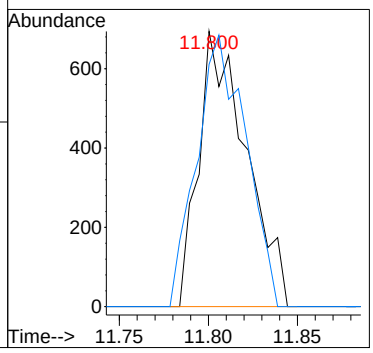


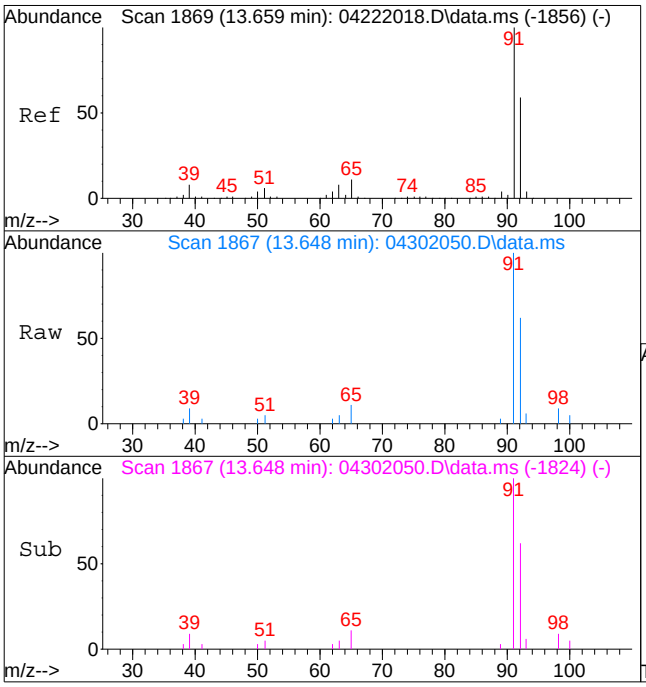


#47
Trichloroethene
Concen: 0.09 ng
RT: 11.80 min Scan# 1531
Delta R.T. -0.022 min
Lab File: 04302050.D
Acq: 1 May 2020 8:37

Tgt Ion:130 Resp: 1285

Ion	Ratio	Lower	Upper
130	100		
132	102.6	76.4	116.4

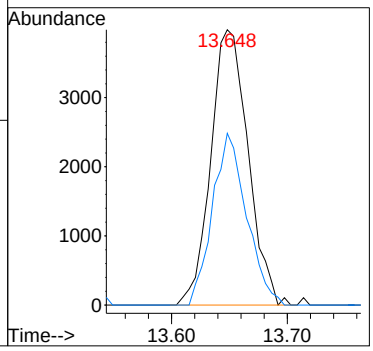


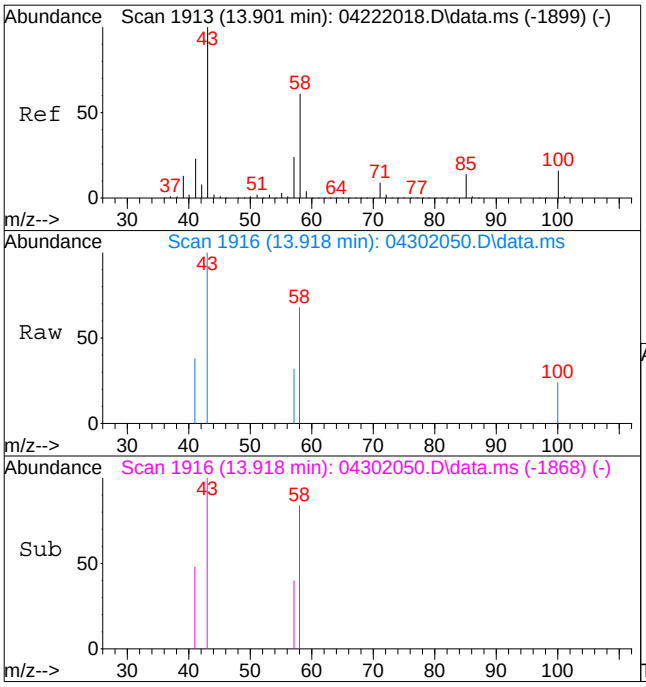


#58
Toluene
Concen: 0.20 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.011 min
Lab File: 04302050.D
Acq: 1 May 2020 8:37

Tgt Ion: 91 Resp: 8920

Ion	Ratio	Lower	Upper
91	100		
92	57.1	38.2	78.2

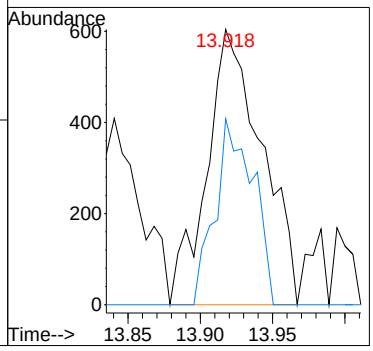


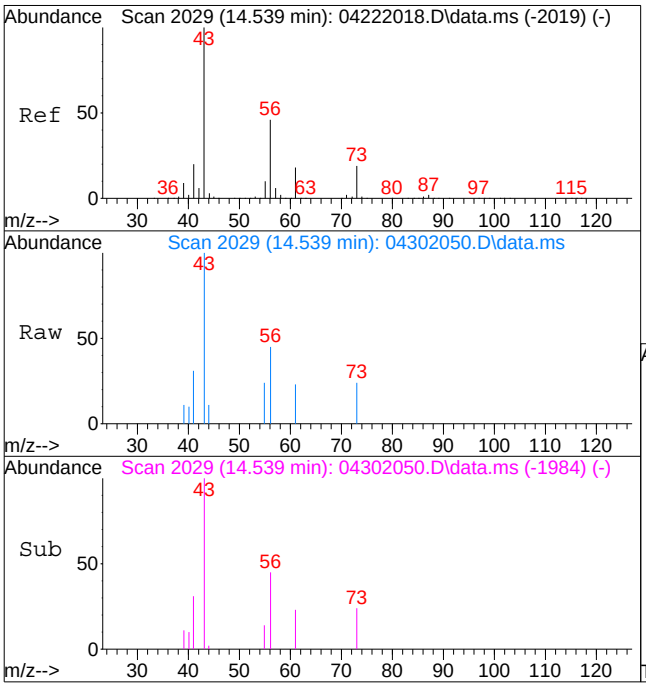


#59
2-Hexanone
Concen: 0.12 ng
RT: 13.92 min Scan# 1916
Delta R.T. 0.016 min
Lab File: 04302050.D
Acq: 1 May 2020 8:37

Tgt Ion: 43 Resp: 1601

Ion	Ratio	Lower	Upper
43	100		
58	46.8	41.1	81.1

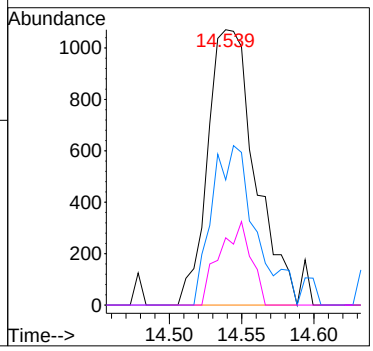


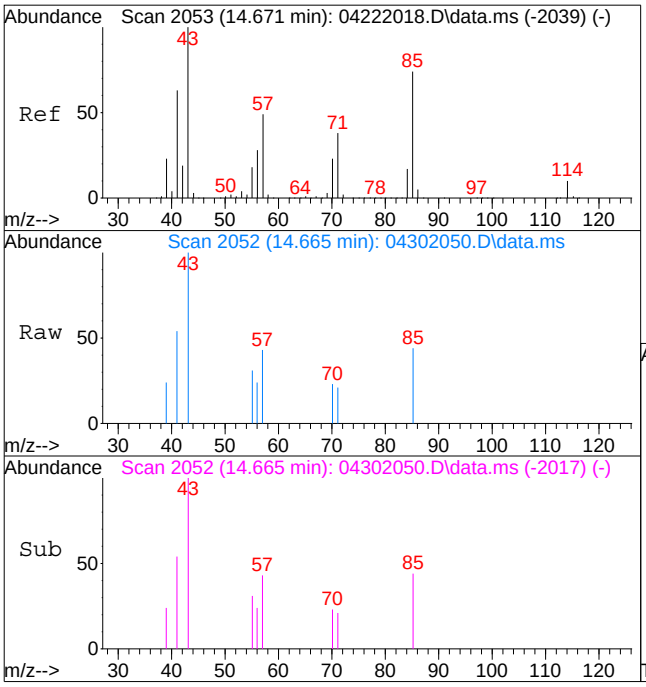


#62
n-Butyl Acetate
Concen: 0.16 ng
RT: 14.54 min Scan# 2029
Delta R.T. 0.000 min
Lab File: 04302050.D
Acq: 1 May 2020 8:37

Tgt Ion: 43 Resp: 2445

Ion	Ratio	Lower	Upper
43	100		
56	53.4	26.6	66.6
73	20.0	0.0	39.3

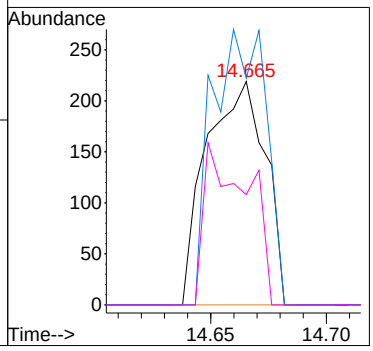


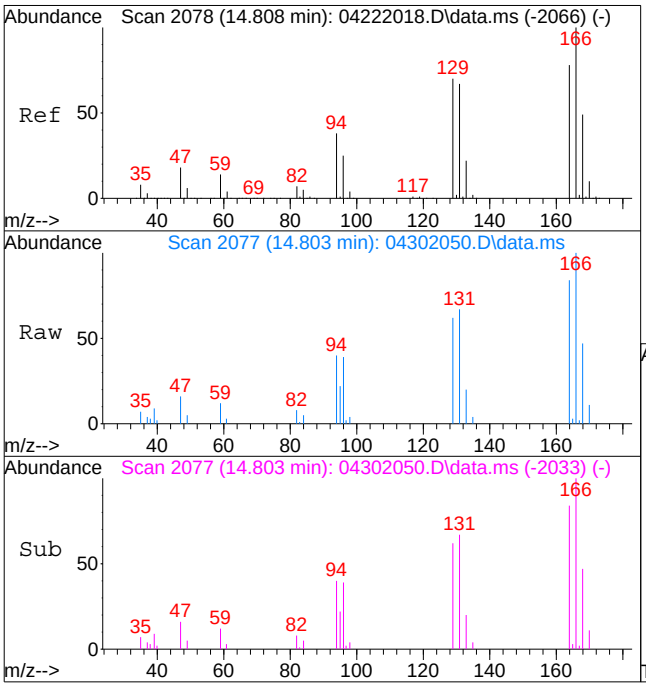


#63
n-Octane
Concen: 0.05 ng
RT: 14.67 min Scan# 2052
Delta R.T. -0.006 min
Lab File: 04302050.D
Acq: 1 May 2020 8:37

Tgt Ion: 57 Resp: 387

Ion	Ratio	Lower	Upper
57	100		
85	112.1	120.7	181.1#
71	54.0	61.1	91.7#

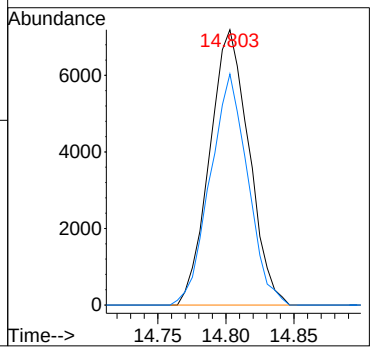


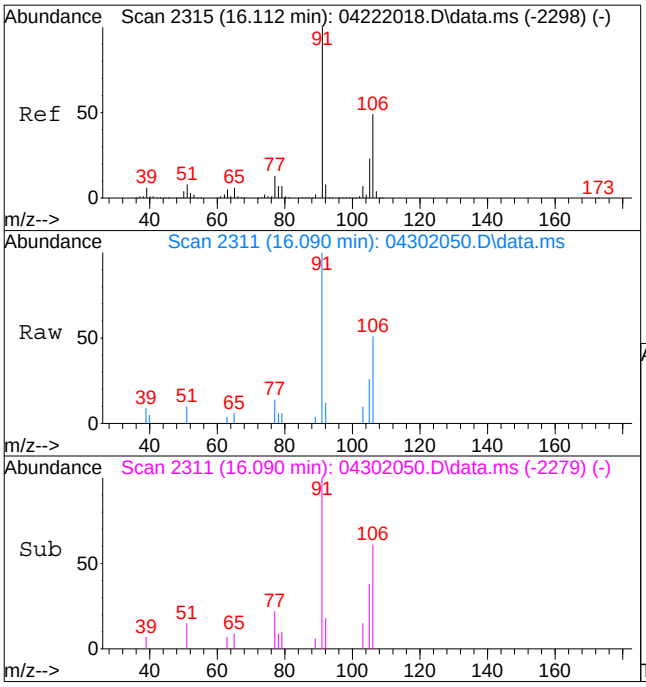


#64
Tetrachloroethene
Concen: 0.86 ng
RT: 14.80 min Scan# 2077
Delta R.T. -0.006 min
Lab File: 04302050.D
Acq: 1 May 2020 8:37

Tgt Ion:166 Resp: 14428

Ion	Ratio	Lower	Upper
166	100		
164	80.3	57.7	97.7

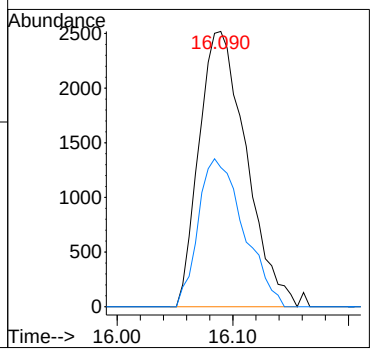


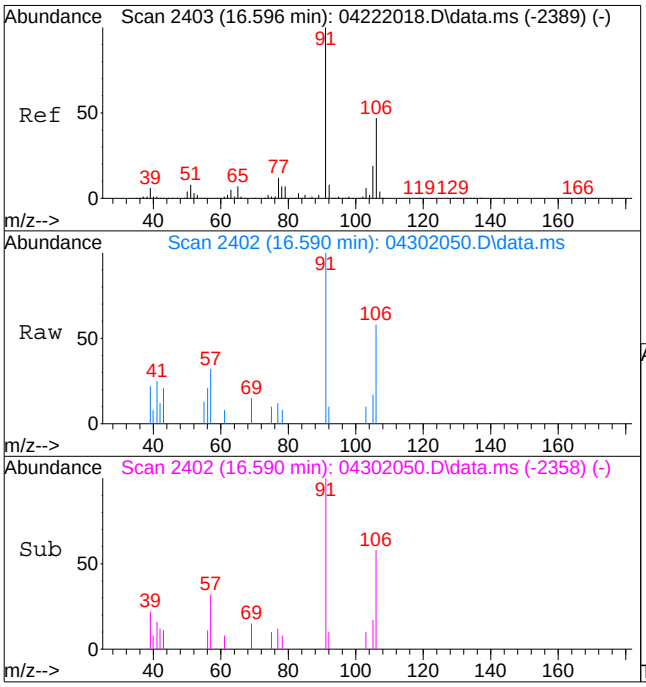


#67
m- & p-Xylenes
Concen: 0.16 ng
RT: 16.09 min Scan# 2311
Delta R.T. -0.022 min
Lab File: 04302050.D
Acq: 1 May 2020 8:37

Tgt Ion: 91 Resp: 7144

Ion	Ratio	Lower	Upper
91	100		
106	51.7	28.3	68.3

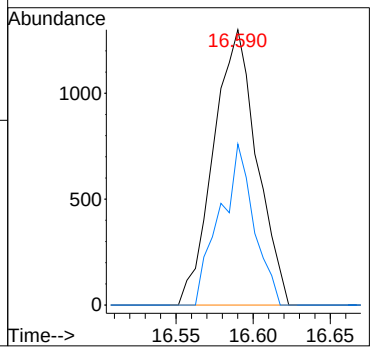


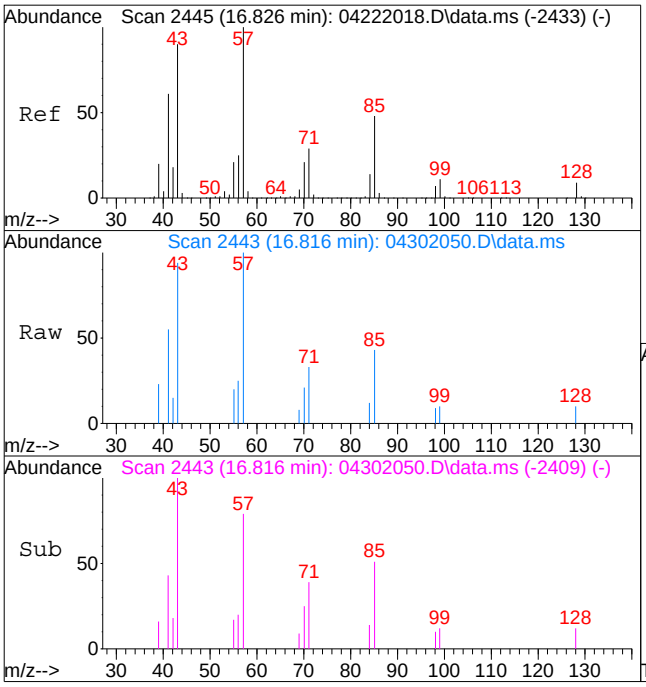


#70
o-Xylene
Concen: 0.06 ng
RT: 16.59 min Scan# 2402
Delta R.T. -0.006 min
Lab File: 04302050.D
Acq: 1 May 2020 8:37

Tgt Ion: 91 Resp: 2545

Ion	Ratio	Lower	Upper
91	100		
106	45.7	27.5	67.5

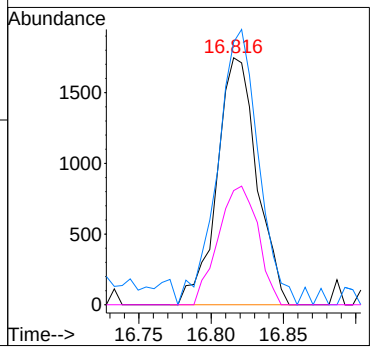


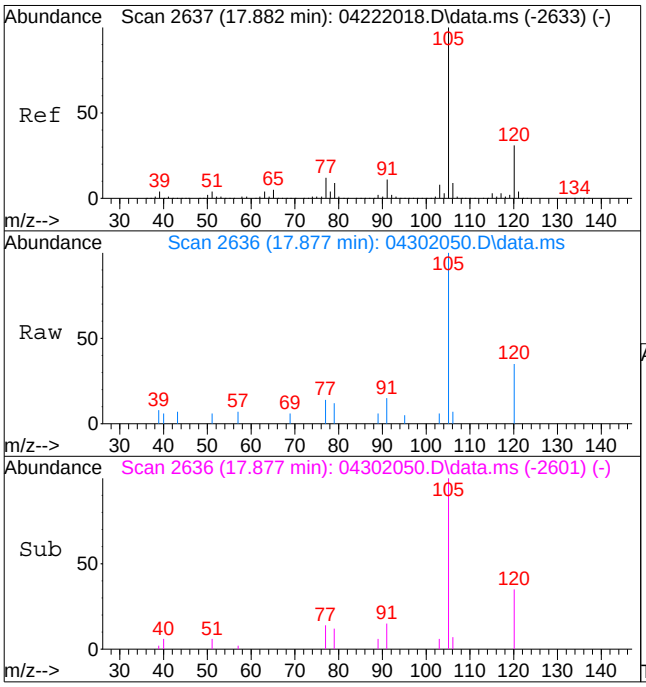


#71
n-Nonane
Concen: 0.24 ng
RT: 16.82 min Scan# 2443
Delta R.T. -0.011 min
Lab File: 04302050.D
Acq: 1 May 2020 8:37

Tgt Ion: 43 Resp: 3368

Ion	Ratio	Lower	Upper
43	100		
57	113.3	90.8	130.8
85	47.8	32.1	72.1

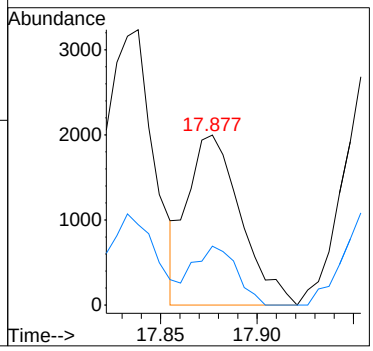


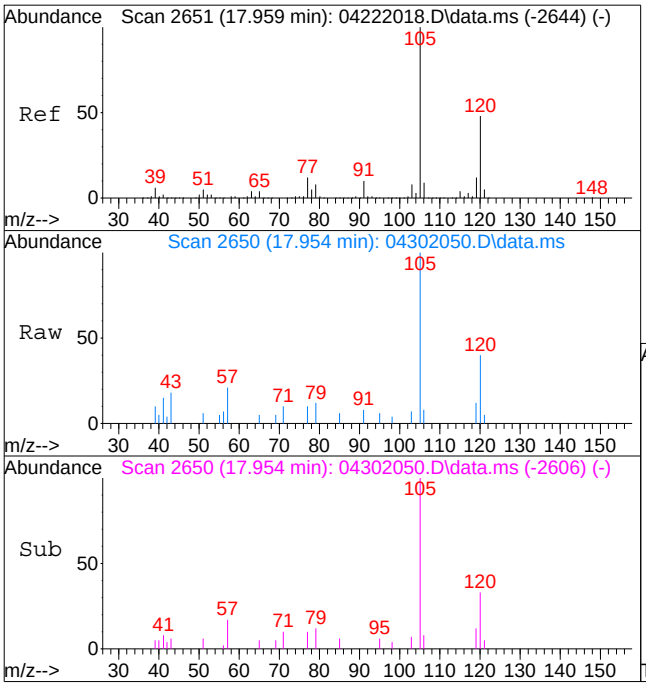


#78
4-Ethyltoluene
Concen: 0.07 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 04302050.D
Acq: 1 May 2020 8:37

Tgt Ion:105 Resp: 3835

Ion	Ratio	Lower	Upper
105	100		
120	27.4	11.4	51.4

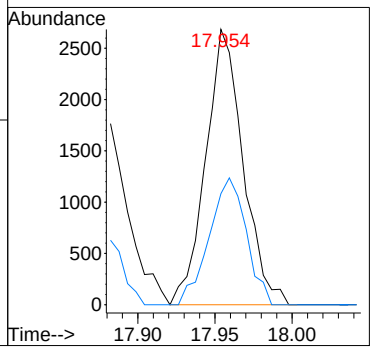


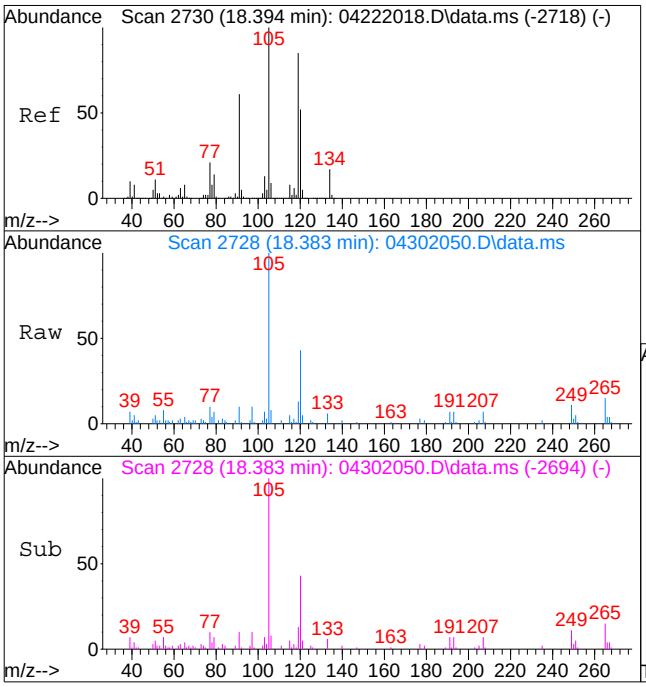


#79
1,3,5-Trimethylbenzene
Concen: 0.09 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 04302050.D
Acq: 1 May 2020 8:37

Tgt Ion:105 Resp: 4531

Ion	Ratio	Lower	Upper
105	100		
120	45.6	29.5	69.5

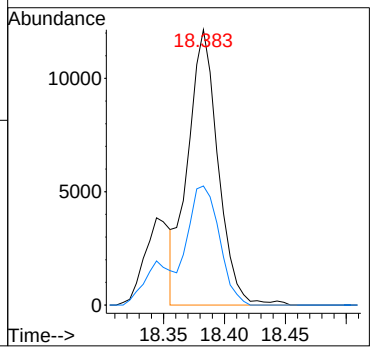


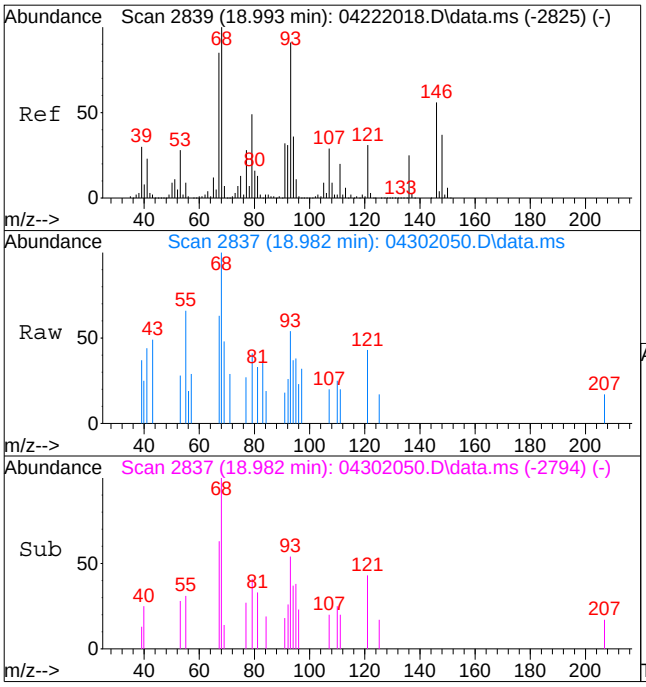


#82
1,2,4-Trimethylbenzene
Concen: 0.44 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 04302050.D
Acq: 1 May 2020 8:37

Tgt Ion:105 Resp: 21009

Ion	Ratio	Lower	Upper
105	100		
120	44.3	34.5	74.5

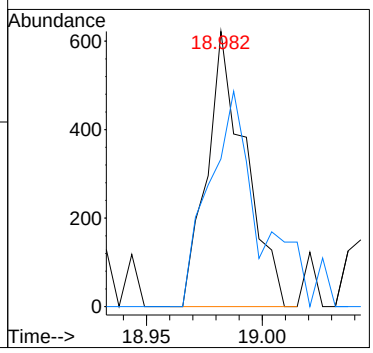


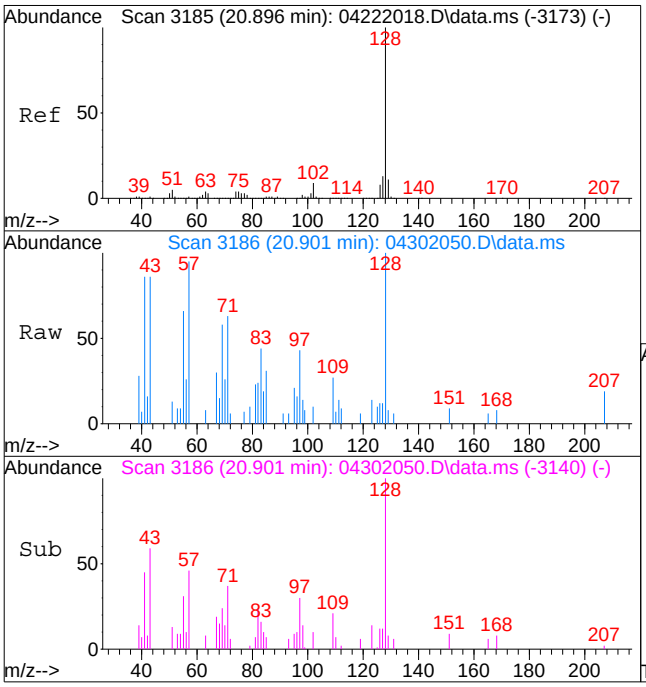


#91
d-Limonene
Concen: 0.05 ng
RT: 18.98 min Scan# 2837
Delta R.T. -0.011 min
Lab File: 04302050.D
Acq: 1 May 2020 8:37

Tgt Ion: 68 Resp: 715

Ion	Ratio	Lower	Upper
68	100		
93	106.4	71.6	111.6

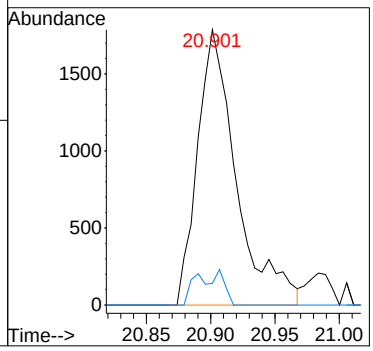




#95
Naphthalene
Concen: 0.06 ng
RT: 20.90 min Scan# 3186
Delta R.T. 0.005 min
Lab File: 04302050.D
Acq: 1 May 2020 8:37

Tgt Ion:128 Resp: 3752

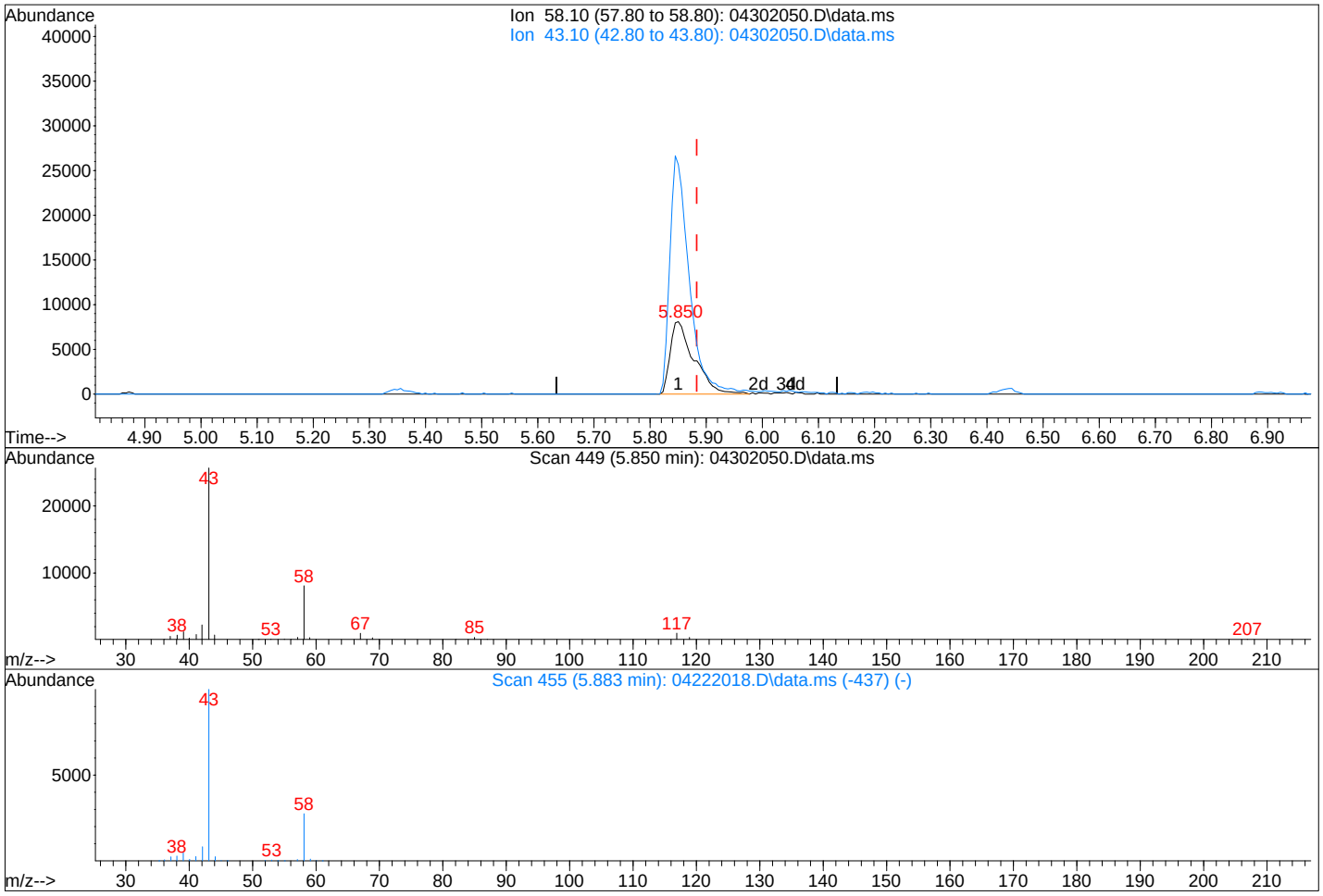
Ion	Ratio	Lower	Upper
128	100		
129	8.6	0.0	30.9



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\30\04302050.D Vial: 15
Acq On : 1 May 2020 8:37 Operator: SC
Sample : P2002103-009 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 09:52:46 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04302050.D\data.ms

(13) Acetone (T)

5.850min (-0.033) 4.17ng

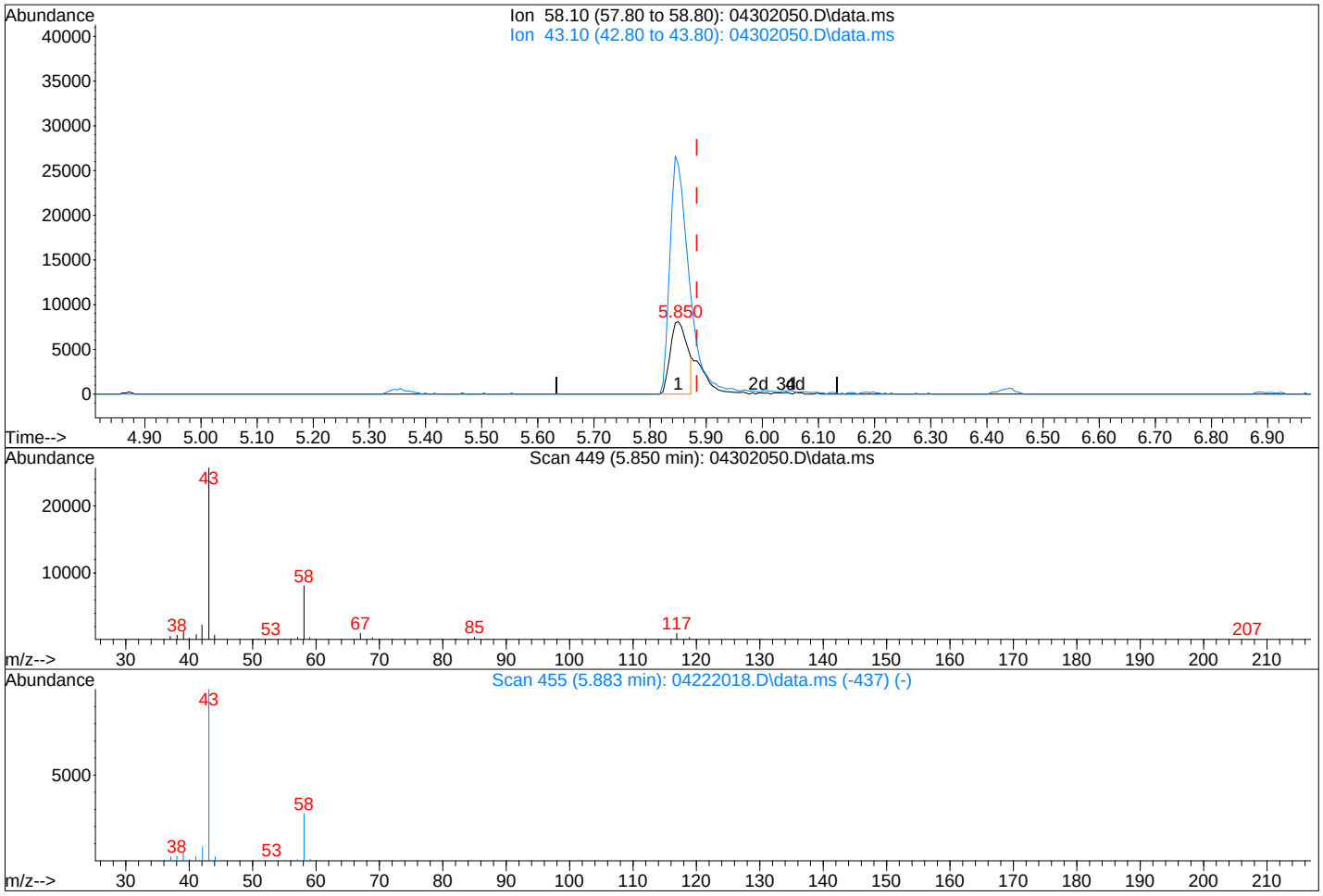
response 23790

Ion	Exp%	Act%
58.10	100	100
43.10	349.30	267.88#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\30\04302050.D Vial: 15
Acq On : 1 May 2020 8:37 Operator: SC
Sample : P2002103-009 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 09:52:46 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04302050.D\data.ms

IPC

(13) Acetone (T)

5.850min (-0.033) 2.98ng m

response 16997

Ion	Exp%	Act%
58.10	100	100
43.10	349.30	374.94
0.00	0.00	0.00
0.00	0.00	0.00

5/1/20

5/4/20

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302051.D Vial: 1
Acq On : 1 May 2020 9:09 Operator: TD
Sample : P2002103-010 (7.0mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 14:20:57 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/1/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	155493	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	652739	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	300898	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	233071	11.569	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.56%			
57) Toluene-d8 (SS2)	13.55	98	711688	12.250	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.00%			
73) Bromofluorobenzene (SS3)	17.05	174	281682	12.064	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.48%			
Target Compounds						Qvalue
2) Propene	3.85	42	16891m	2.558	ng	
3) Dichlorodifluoromethan...	3.98	85	4786	0.191	ng	96
4) Chloromethane	4.18	50	120	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.	d	
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	0.00	45	0	N.D.	d	
11) Acetonitrile	0.00	41	0	N.D.		
12) Acrolein	0.00	56	0	N.D.	d	
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	6.02	101	826	N.D.		
15) 2-Propanol (Isopropanol)	6.21	45	41	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.	d	
17) 1,1-Dichloroethene	6.72	96	1667	0.152	ng	99
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d	
19) Methylene Chloride	6.86	84	4706	0.447	ng	96
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d	
21) Trichlorotrifluoroethane	7.19	151	21537	1.658	ng	99
22) Carbon Disulfide	0.00	76	0	N.D.	d	
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	8.10	63	553	N.D.		
25) Methyl tert-Butyl Ether	8.19	73	238	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	0.00	72	0	N.D.	d	
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.	d	
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	0.00	61	0	N.D.	d	
31) n-Hexane	9.24	57	957471	71.849	ng	99
32) Chloroform	0.00	83	0	N.D.	d	
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	9.97	62	536	N.D.		
38) 1,1,1-Trichloroethane	10.30	97	18643	0.831	ng	99
39) Isopropyl Acetate	0.00	61	0	N.D.	d	
40) 1-Butanol	10.63	56	308	N.D.		
41) Benzene	10.76	78	201048	4.725	ng	100
42) Carbon Tetrachloride	0.00	117	0	N.D.	d	
43) Cyclohexane	11.05	84	2040557	122.409	ng	98
44) tert-Amyl Methyl Ether	11.29	73	931	N.D.		
45) 1,2-Dichloropropane	11.58	63	397	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	11.81	130	5269	0.358	ng	99
48) 1,4-Dioxane	0.00	88	0	N.D.	d	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302051.D Vial: 1
Acq On : 1 May 2020 9:09 Operator: TD
Sample : P2002103-010 (7.0mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 14:20:57 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

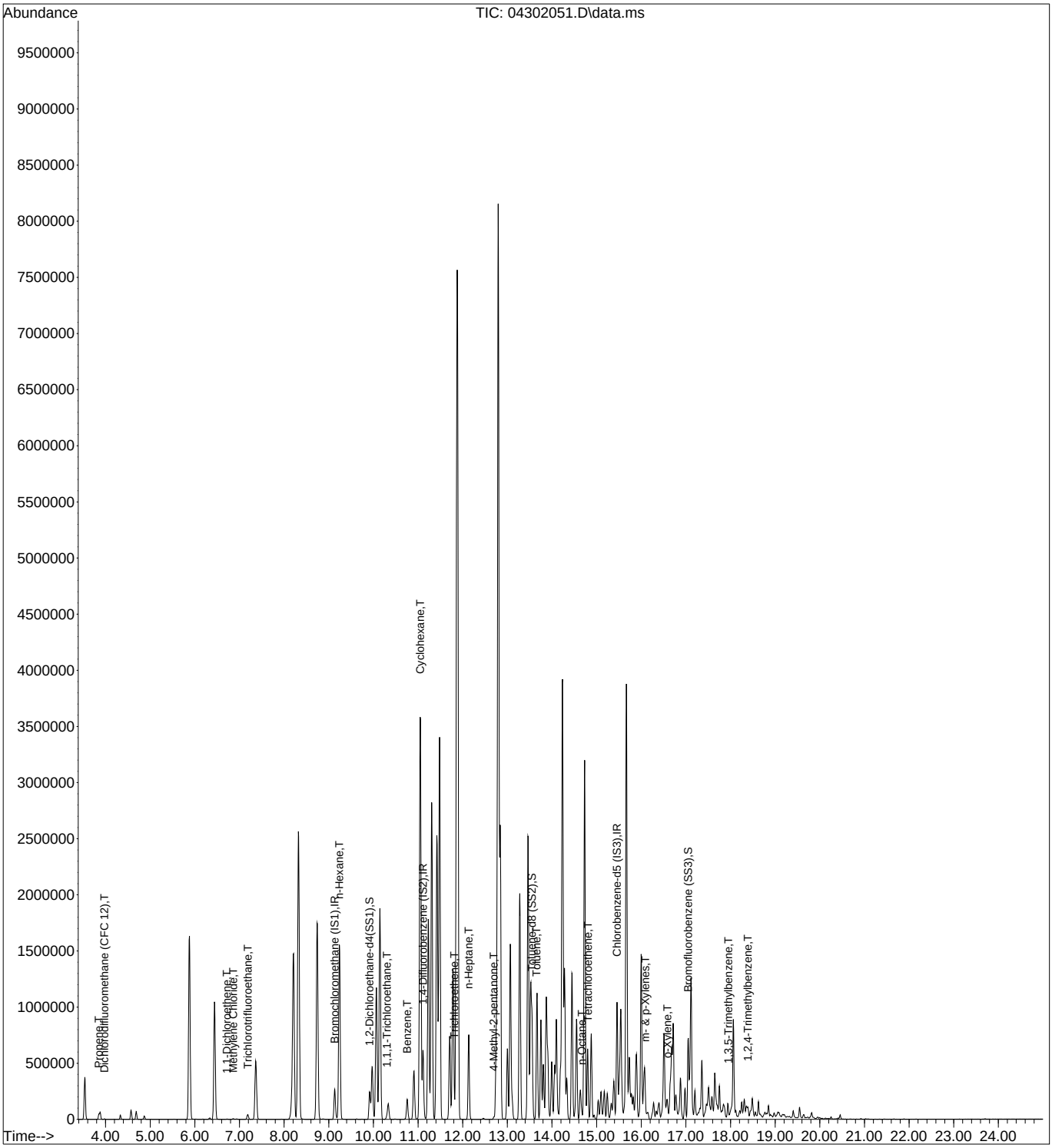
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	12.14	71	229140	23.177 ng		99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d		
53) 4-Methyl-2-pentanone	12.70	58	6470	0.869 ng		95
54) trans-1,3-Dichloropropene	13.07	75	113	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d		
58) Toluene	13.65	91	32624	0.669 ng		98
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D. d		
63) n-Octane	14.67	57	15184	1.955 ng	#	79
64) Tetrachloroethene	14.81	166	7091	0.386 ng		98
65) Chlorobenzene	0.00	112	0	N.D. d		
66) Ethylbenzene	0.00	91	0	N.D. d		
67) m- & p-Xylenes	16.09	91	14295	0.298 ng		97
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.60	104	172	N.D.		
70) o-Xylene	16.59	91	12733	0.270 ng		93
71) n-Nonane	0.00	43	0	N.D. d		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d		
74) Cumene	17.21	105	1664	N.D.		
75) alpha-Pinene	0.00	93	0	N.D. d		
76) n-Propylbenzene	0.00	91	0	N.D. d		
77) 3-Ethyltoluene	17.83	105	2676	N.D.		
78) 4-Ethyltoluene	17.88	105	1411	N.D.		
79) 1,3,5-Trimethylbenzene	17.95	105	5061	0.094 ng		94
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	18.16	105	1531	N.D.		
82) 1,2,4-Trimethylbenzene	18.39	105	4115	0.079 ng		84
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	18.48	91	1336	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	18.67	105	1116	N.D.		
88) 4-Isopropyltoluene (p-...	18.83	119	1304	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	18.98	146	688	N.D.		
91) d-Limonene	0.00	68	0	N.D. d		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	20.94	128	221	N.D.		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	18.38	119	1041	N.D.		
100) n-Butylbenzene	19.28	91	886	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302051.D Vial: 1
Acq On : 1 May 2020 9:09 Operator: TD
Sample : P2002103-010 (7.0mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 14:20:57 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302051.D Vial: 1
Acq On : 1 May 2020 9:09 Operator: TD
Sample : P2002103-010 (7.0mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 14:20:57 2020 5/1/20
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

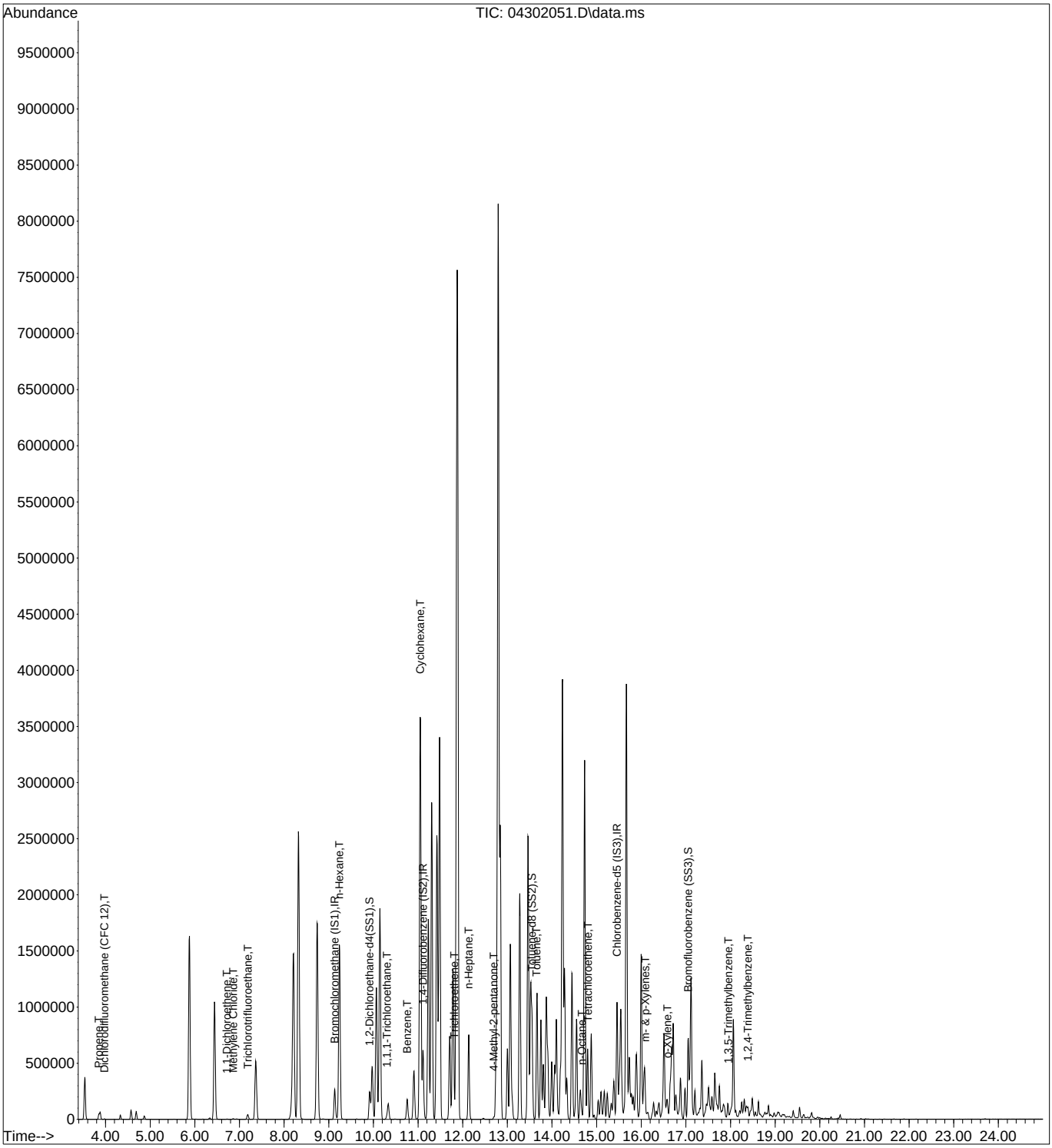
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	155493	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	652739	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	300898	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	233071	11.569	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.56%				
57) Toluene-d8 (SS2)	13.55	98	711688	12.250	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.00%				
73) Bromofluorobenzene (SS3)	17.05	174	281682	12.064	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.48%				
Target Compounds							Qvalue
2) Propene	3.85	42	16891m	2.558	ng		
3) Dichlorodifluoromethan...	3.98	85	4786	0.191	ng		96
17) 1,1-Dichloroethene	6.72	96	1667	0.152	ng		99
19) Methylene Chloride	6.86	84	4706	0.447	ng		96
21) Trichlorotrifluoroethane	7.19	151	21537	1.658	ng		99
31) n-Hexane	9.24	57	957471	71.849	ng		99
38) 1,1,1-Trichloroethane	10.30	97	18643	0.831	ng		99
41) Benzene	10.76	78	201048	4.725	ng		100
43) Cyclohexane	11.05	84	2040557	122.409	ng		98
47) Trichloroethene	11.81	130	5269	0.358	ng		99
51) n-Heptane	12.14	71	229140	23.177	ng		99
53) 4-Methyl-2-pentanone	12.70	58	6470	0.869	ng		95
58) Toluene	13.65	91	32624	0.669	ng		98
63) n-Octane	14.67	57	15184	1.955	ng	#	79
64) Tetrachloroethene	14.81	166	7091	0.386	ng		98
67) m- & p-Xylenes	16.09	91	14295	0.298	ng		97
70) o-Xylene	16.59	91	12733	0.270	ng		93
79) 1,3,5-Trimethylbenzene	17.95	105	5061	0.094	ng		94
82) 1,2,4-Trimethylbenzene	18.39	105	4115	0.079	ng		84

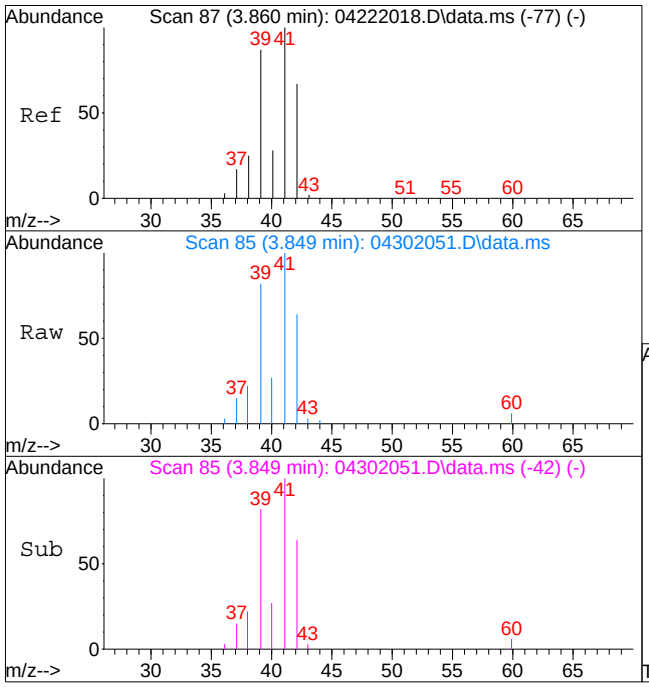
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302051.D Vial: 1
Acq On : 1 May 2020 9:09 Operator: TD
Sample : P2002103-010 (7.0mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 14:20:57 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

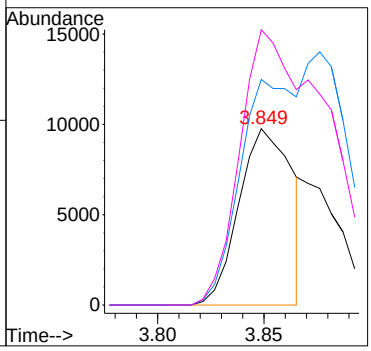


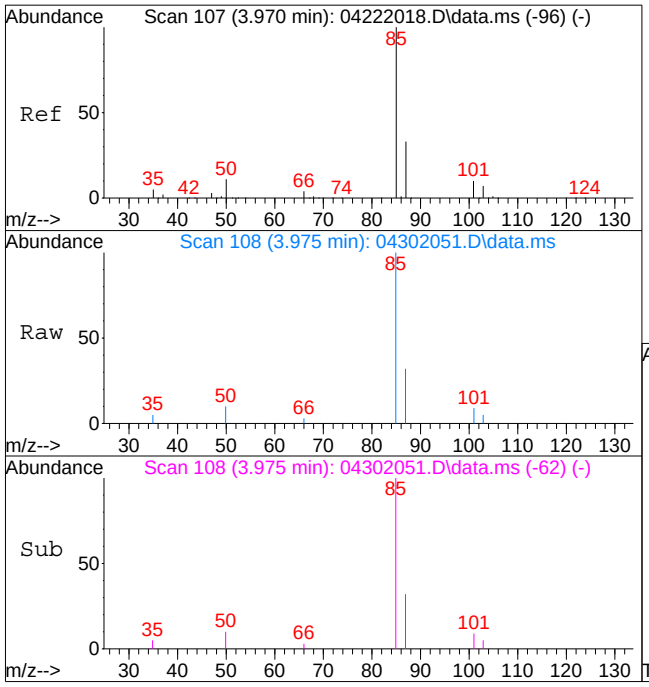


#2
Propene
Concen: 2.56 ng m
RT: 3.85 min Scan# 85
Delta R.T. -0.011 min
Lab File: 04302051.D
Acq: 1 May 2020 9:09

Tgt Ion: 42 Resp: 16891

Ion	Ratio	Lower	Upper
42	100		
39	136.5	106.4	146.4
41	261.8	128.8	168.8#

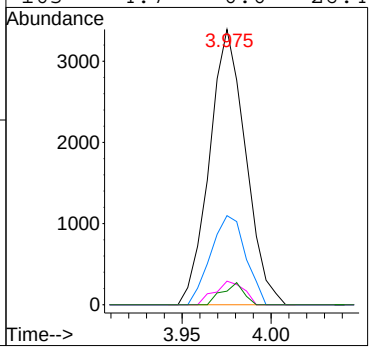


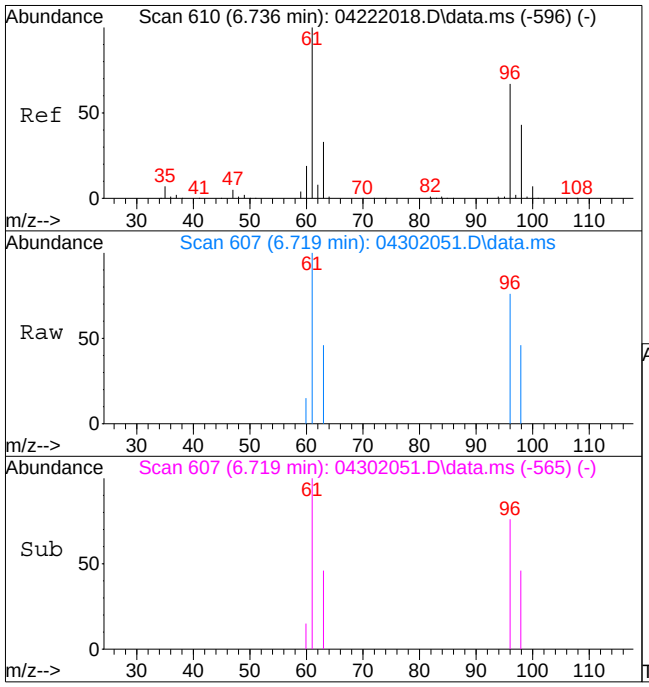


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.19 ng
RT: 3.98 min Scan# 108
Delta R.T. 0.005 min
Lab File: 04302051.D
Acq: 1 May 2020 9:09

Tgt Ion: 85 Resp: 4786

Ion	Ratio	Lower	Upper
85	100		
87	31.3	12.4	52.4
101	6.9	0.0	29.9
103	4.7	0.0	26.4

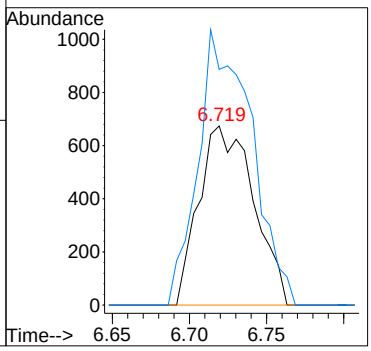


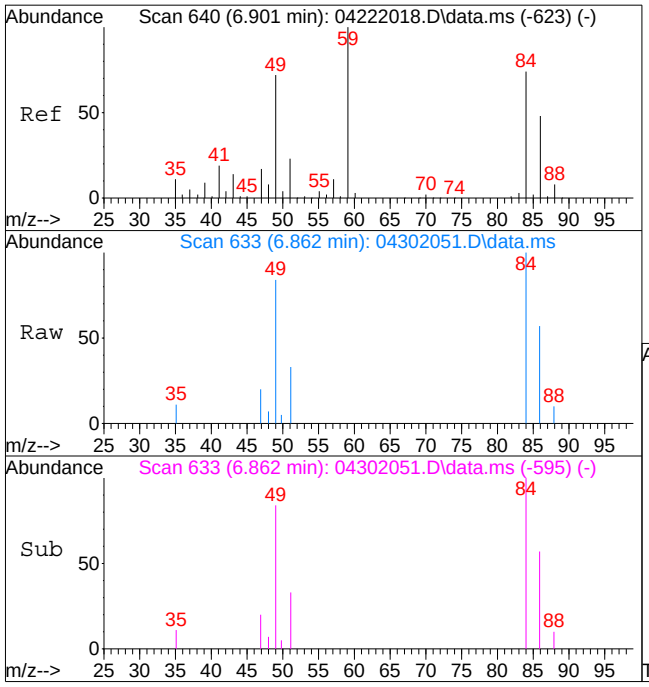


#17
1,1-Dichloroethene
Concen: 0.15 ng
RT: 6.72 min Scan# 607
Delta R.T. -0.017 min
Lab File: 04302051.D
Acq: 1 May 2020 9:09

Tgt Ion: 96 Resp: 1667

Ion	Ratio	Lower	Upper
96	100		
61	148.8	129.8	169.8

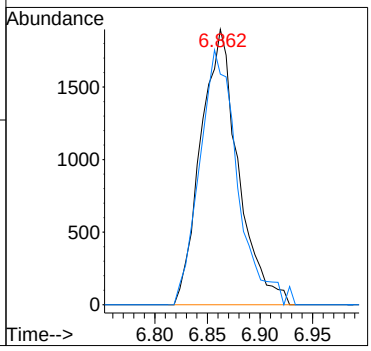


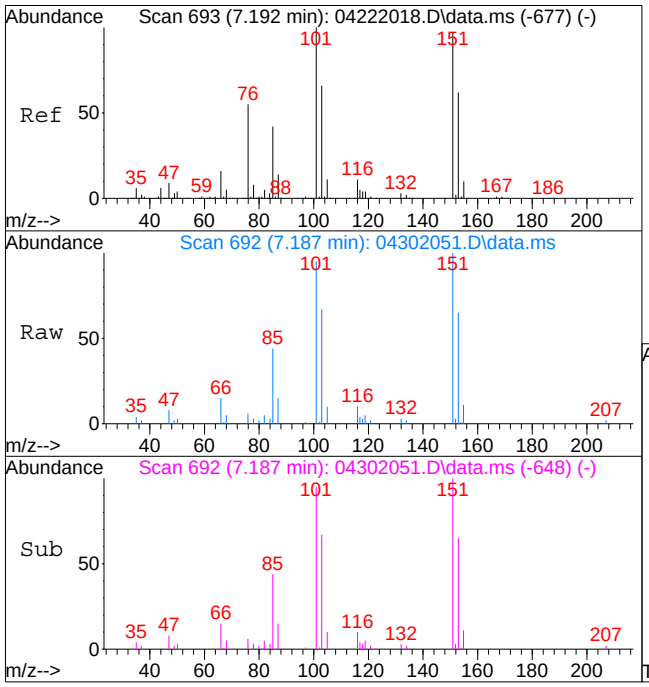


#19
Methylene Chloride
Concen: 0.45 ng
RT: 6.86 min Scan# 633
Delta R.T. -0.039 min
Lab File: 04302051.D
Acq: 1 May 2020 9:09

Tgt Ion: 84 Resp: 4706

Ion	Ratio	Lower	Upper
84	100		
49	93.8	73.0	123.0

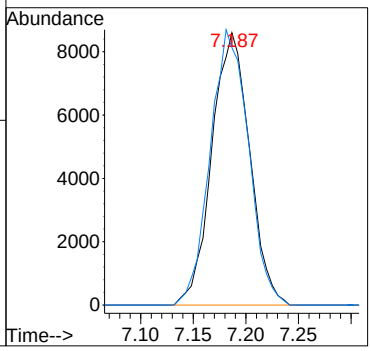


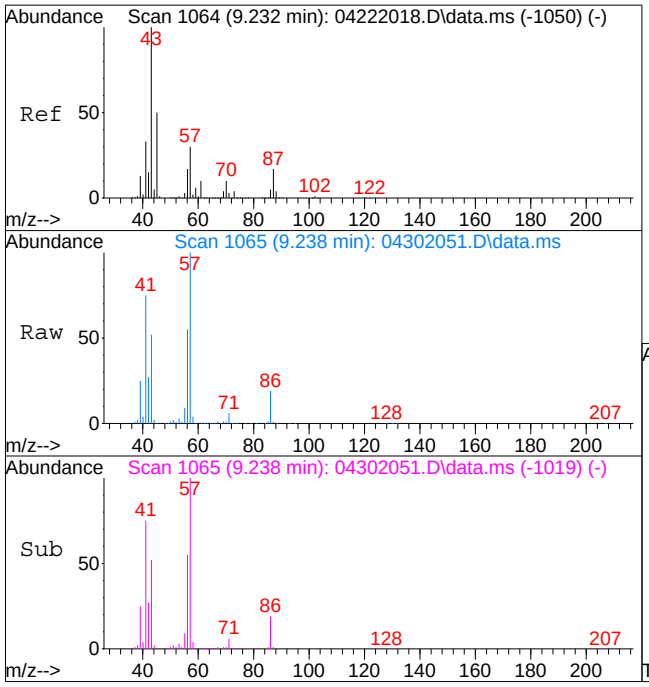


#21
Trichlorotrifluoroethane
Concen: 1.66 ng
RT: 7.19 min Scan# 692
Delta R.T. -0.006 min
Lab File: 04302051.D
Acq: 1 May 2020 9:09

Tgt Ion:151 Resp: 21537

Ion	Ratio	Lower	Upper
151	100		
101	102.0	82.9	122.9

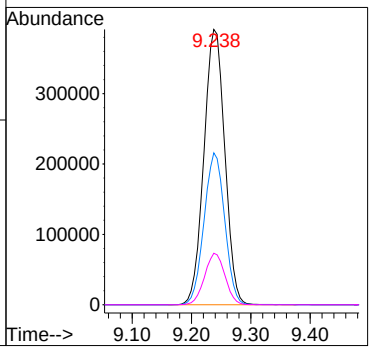


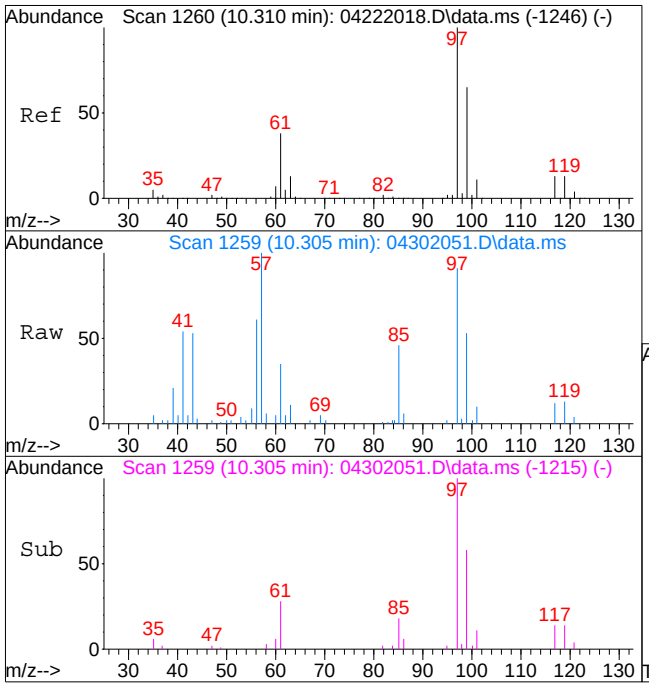


#31
n-Hexane
Concen: 71.85 ng
RT: 9.24 min Scan# 1065
Delta R.T. 0.005 min
Lab File: 04302051.D
Acq: 1 May 2020 9:09

Tgt Ion: 57 Resp: 957471

Ion	Ratio	Lower	Upper
57	100		
56	54.5	44.0	66.0
86	18.3	15.0	22.4

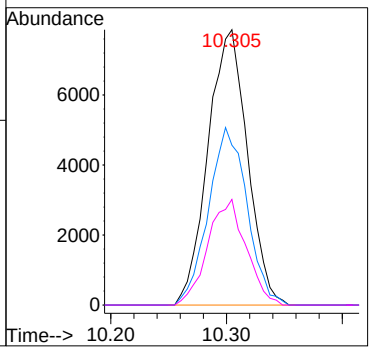


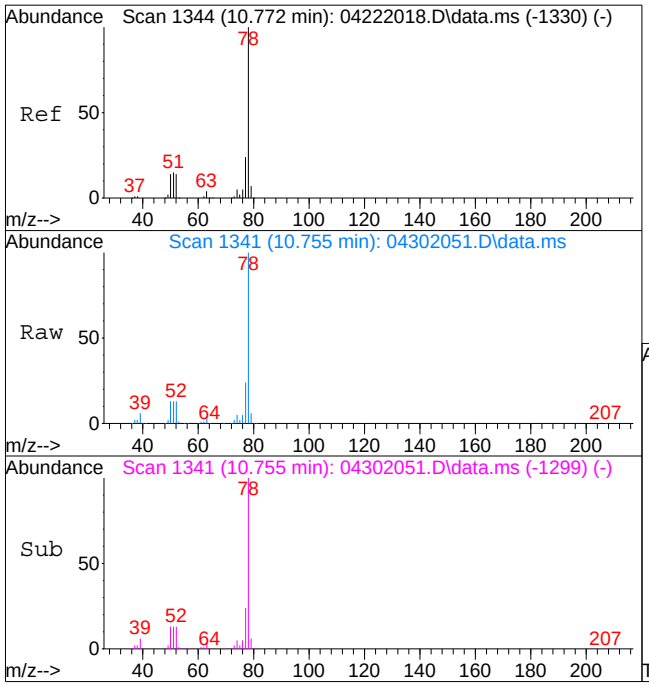


#38
1,1,1-Trichloroethane
Concen: 0.83 ng
RT: 10.30 min Scan# 1259
Delta R.T. -0.006 min
Lab File: 04302051.D
Acq: 1 May 2020 9:09

Tgt Ion: 97 Resp: 18643

Ion	Ratio	Lower	Upper
97	100		
99	63.1	44.7	84.7
61	37.2	17.2	57.2

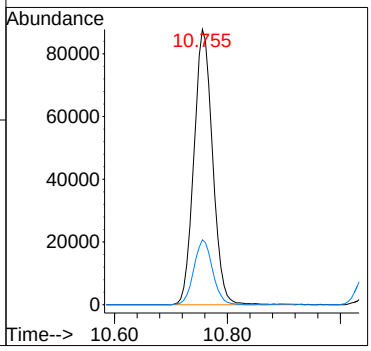


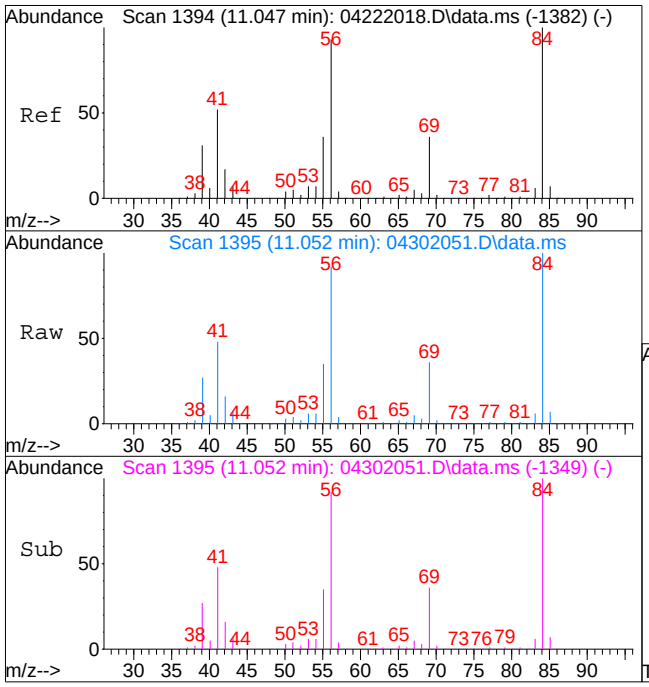


#41
Benzene
Concen: 4.72 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.017 min
Lab File: 04302051.D
Acq: 1 May 2020 9:09

Tgt Ion: 78 Resp: 201048

Ion	Ratio	Lower	Upper
78	100		
77	23.7	3.6	43.6

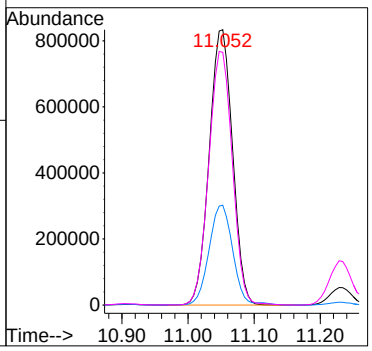


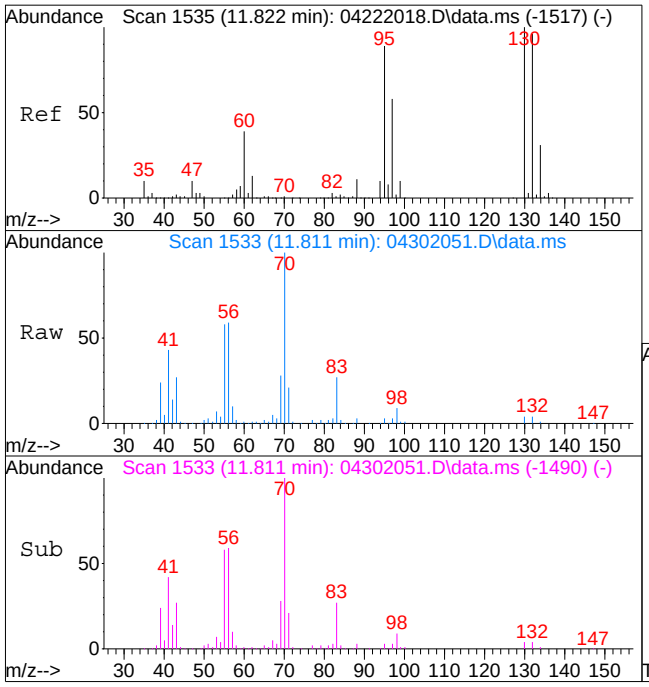


#43
Cyclohexane
Concen: 122.41 ng
RT: 11.05 min Scan# 1395
Delta R.T. 0.005 min
Lab File: 04302051.D
Acq: 1 May 2020 9:09

Tgt Ion: 84 Resp: 2040557

Ion	Ratio	Lower	Upper
84	100		
69	37.0	15.8	55.8
56	93.4	72.0	112.0

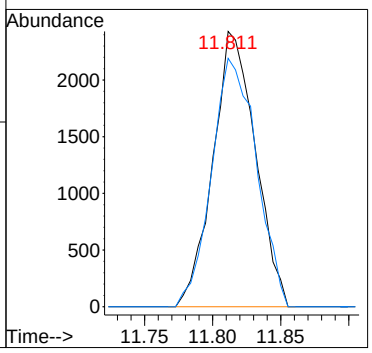


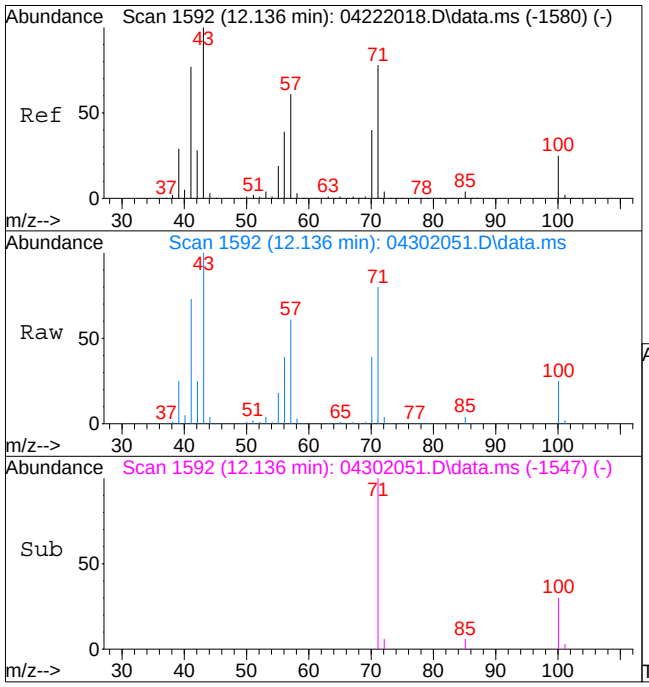


#47
Trichloroethene
Concen: 0.36 ng
RT: 11.81 min Scan# 1533
Delta R.T. -0.011 min
Lab File: 04302051.D
Acq: 1 May 2020 9:09

Tgt Ion:130 Resp: 5269

Ion	Ratio	Lower	Upper
130	100		
132	95.3	76.4	116.4

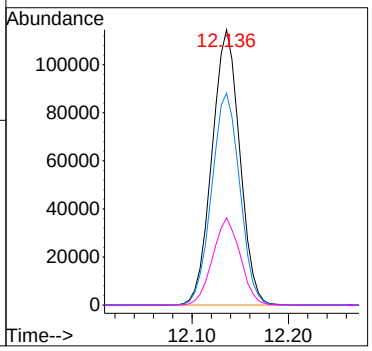


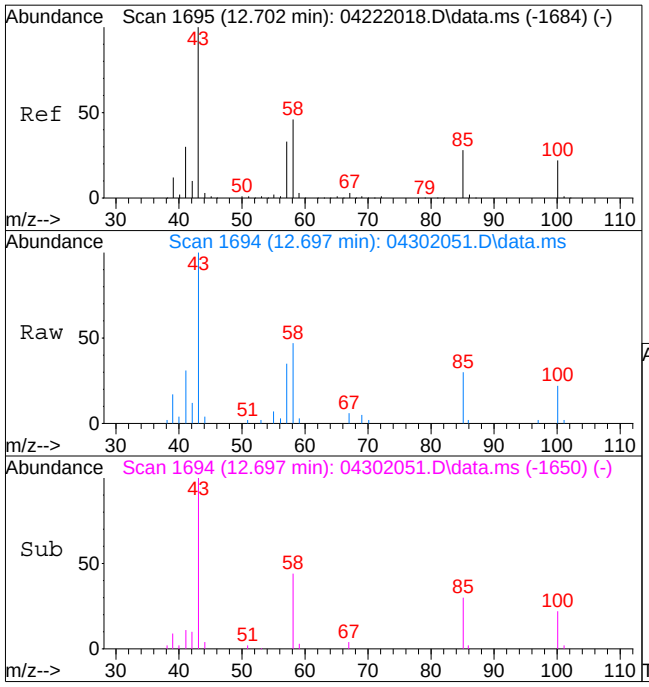


#51
n-Heptane
Concen: 23.18 ng
RT: 12.14 min Scan# 1592
Delta R.T. -0.000 min
Lab File: 04302051.D
Acq: 1 May 2020 9:09

Tgt Ion: 71 Resp: 229140

Ion	Ratio	Lower	Upper
71	100		
57	78.0	57.4	97.4
100	31.3	12.0	52.0

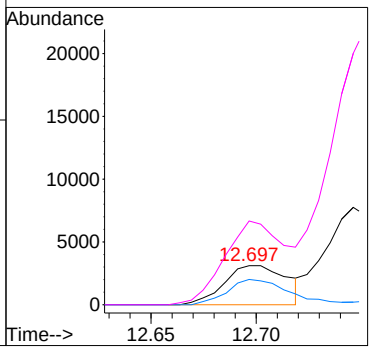


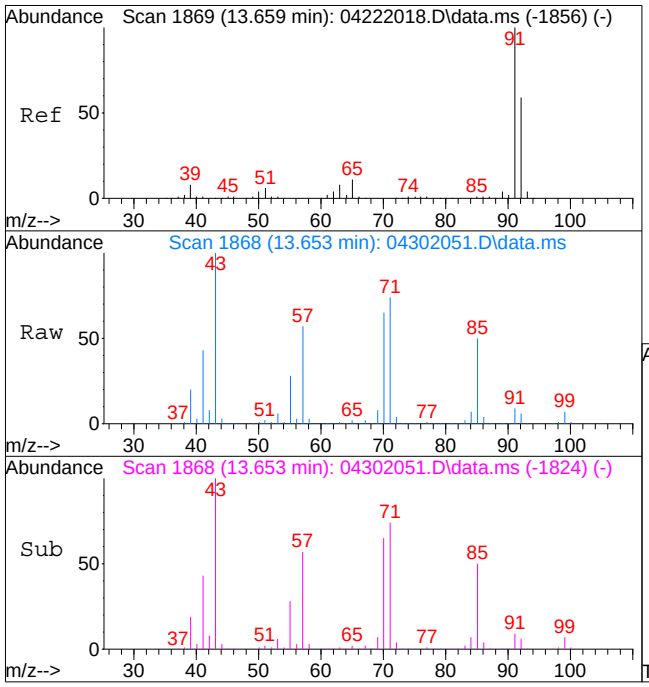


#53
4-Methyl-2-pentanone
Concen: 0.87 ng
RT: 12.70 min Scan# 1694
Delta R.T. -0.006 min
Lab File: 04302051.D
Acq: 1 May 2020 9:09

Tgt Ion: 58 Resp: 6470

Ion	Ratio	Lower	Upper
58	100		
85	63.5	52.2	78.2
43	210.9	176.2	264.4

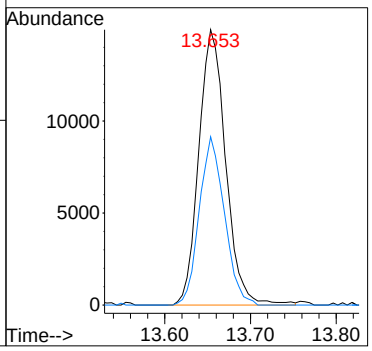


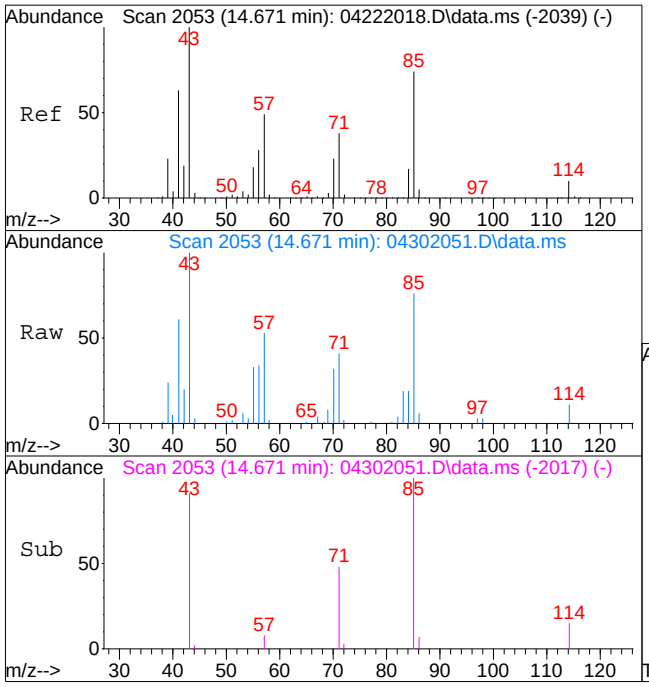


#58
Toluene
Concen: 0.67 ng
RT: 13.65 min Scan# 1868
Delta R.T. -0.006 min
Lab File: 04302051.D
Acq: 1 May 2020 9:09

Tgt Ion: 91 Resp: 32624

Ion	Ratio	Lower	Upper
91	100		
92	57.0	38.2	78.2

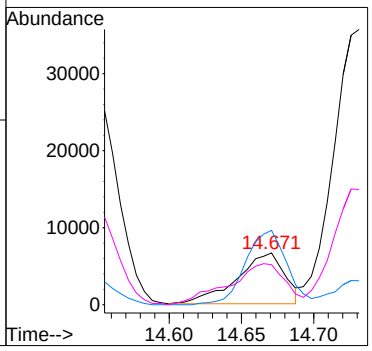


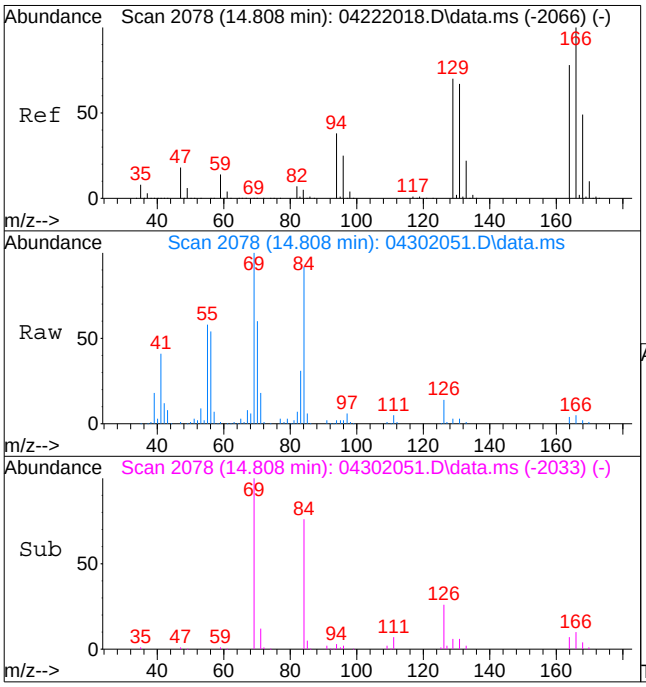


#63
n-Octane
Concen: 1.96 ng
RT: 14.67 min Scan# 2053
Delta R.T. -0.000 min
Lab File: 04302051.D
Acq: 1 May 2020 9:09

Tgt Ion: 57 Resp: 15184

Ion	Ratio	Lower	Upper
57	100		
85	126.1	120.7	181.1
71	95.8	61.1	91.7#

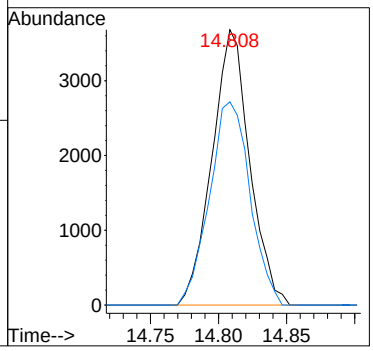


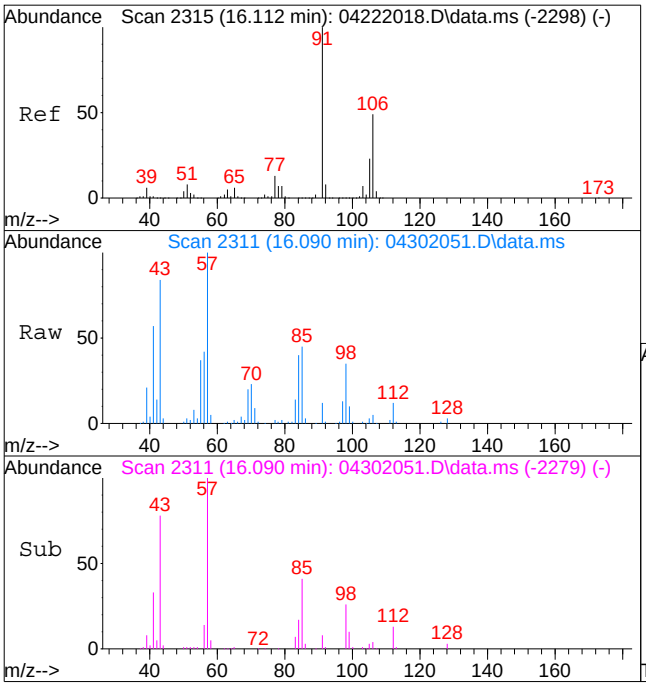


#64
Tetrachloroethene
Concen: 0.39 ng
RT: 14.81 min Scan# 2078
Delta R.T. -0.000 min
Lab File: 04302051.D
Acq: 1 May 2020 9:09

Tgt Ion:166 Resp: 7091

Ion	Ratio	Lower	Upper
166	100		
164	79.3	57.7	97.7

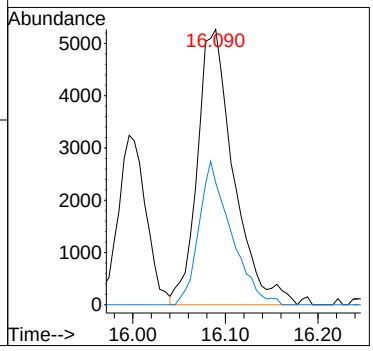


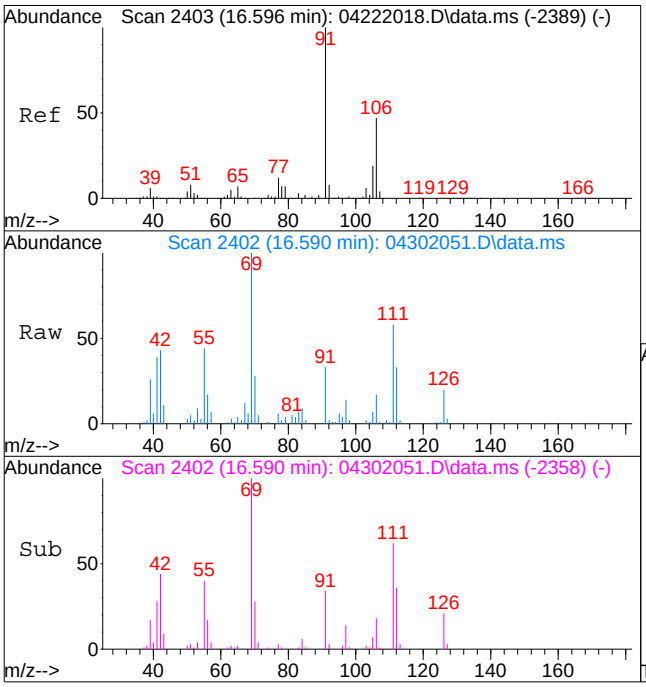


#67
m- & p-Xylenes
Concen: 0.30 ng
RT: 16.09 min Scan# 2311
Delta R.T. -0.022 min
Lab File: 04302051.D
Acq: 1 May 2020 9:09

Tgt Ion: 91 Resp: 14295

Ion	Ratio	Lower	Upper
91	100		
106	46.3	28.3	68.3

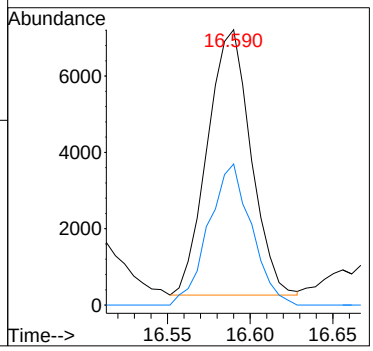


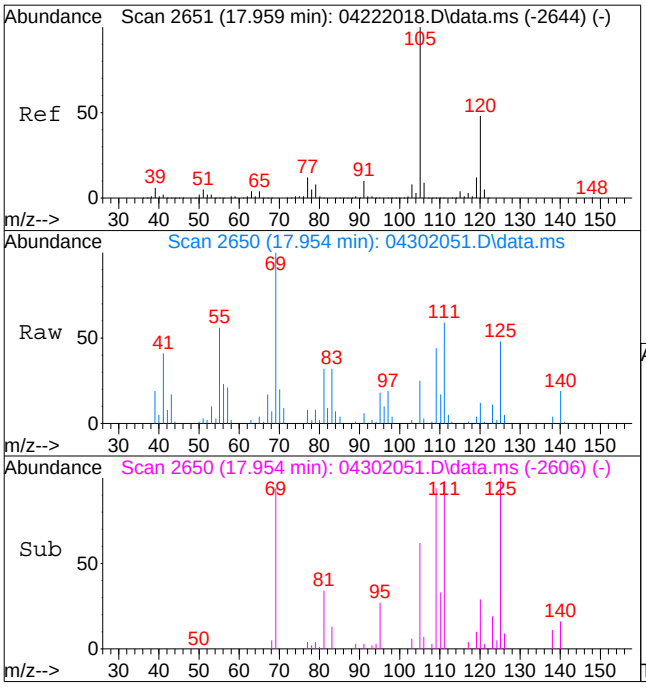


#70
o-Xylene
Concen: 0.27 ng
RT: 16.59 min Scan# 2402
Delta R.T. -0.006 min
Lab File: 04302051.D
Acq: 1 May 2020 9:09

Tgt Ion: 91 Resp: 12733

Ion	Ratio	Lower	Upper
91	100		
106	52.3	27.5	67.5

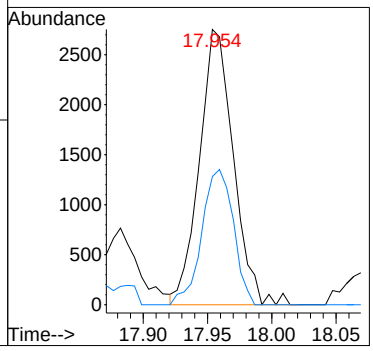


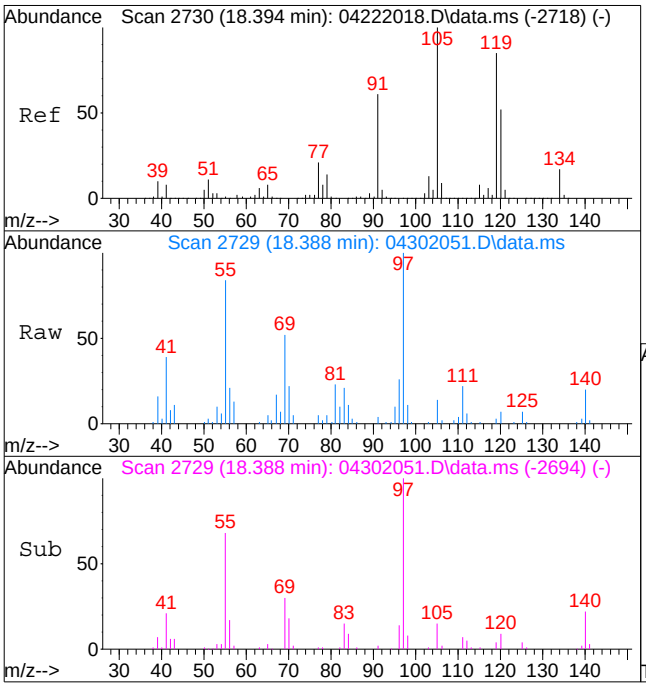


#79
1,3,5-Trimethylbenzene
Concen: 0.09 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 04302051.D
Acq: 1 May 2020 9:09

Tgt Ion:105 Resp: 5061

Ion	Ratio	Lower	Upper
105	100		
120	45.7	29.5	69.5

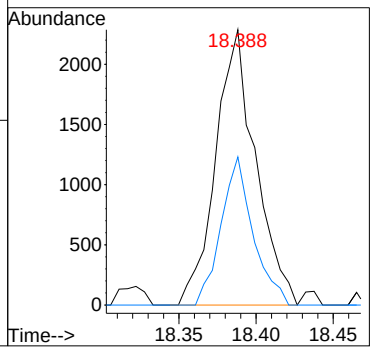




#82
1,2,4-Trimethylbenzene
Concen: 0.08 ng
RT: 18.39 min Scan# 2729
Delta R.T. -0.006 min
Lab File: 04302051.D
Acq: 1 May 2020 9:09

Tgt Ion:105 Resp: 4115

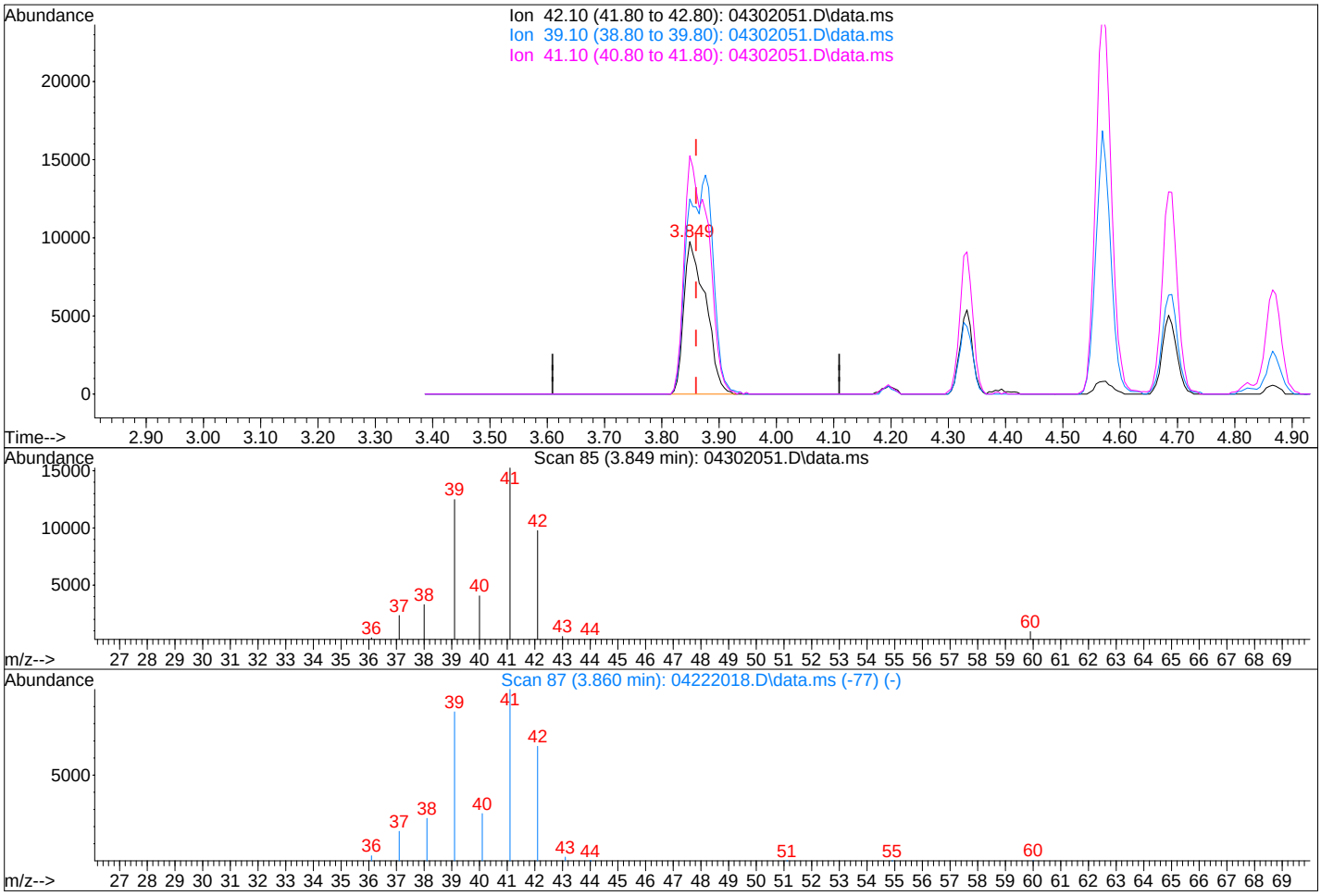
Ion	Ratio	Lower	Upper
105	100		
120	43.1	34.5	74.5



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\30\04302051.D Vial: 1
Acq On : 1 May 2020 9:09 Operator: TD
Sample : P2002103-010 (7.0mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 09:52:48 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04302051.D\data.ms

(2) Propene (T)

3.849min (-0.011) 3.90ng

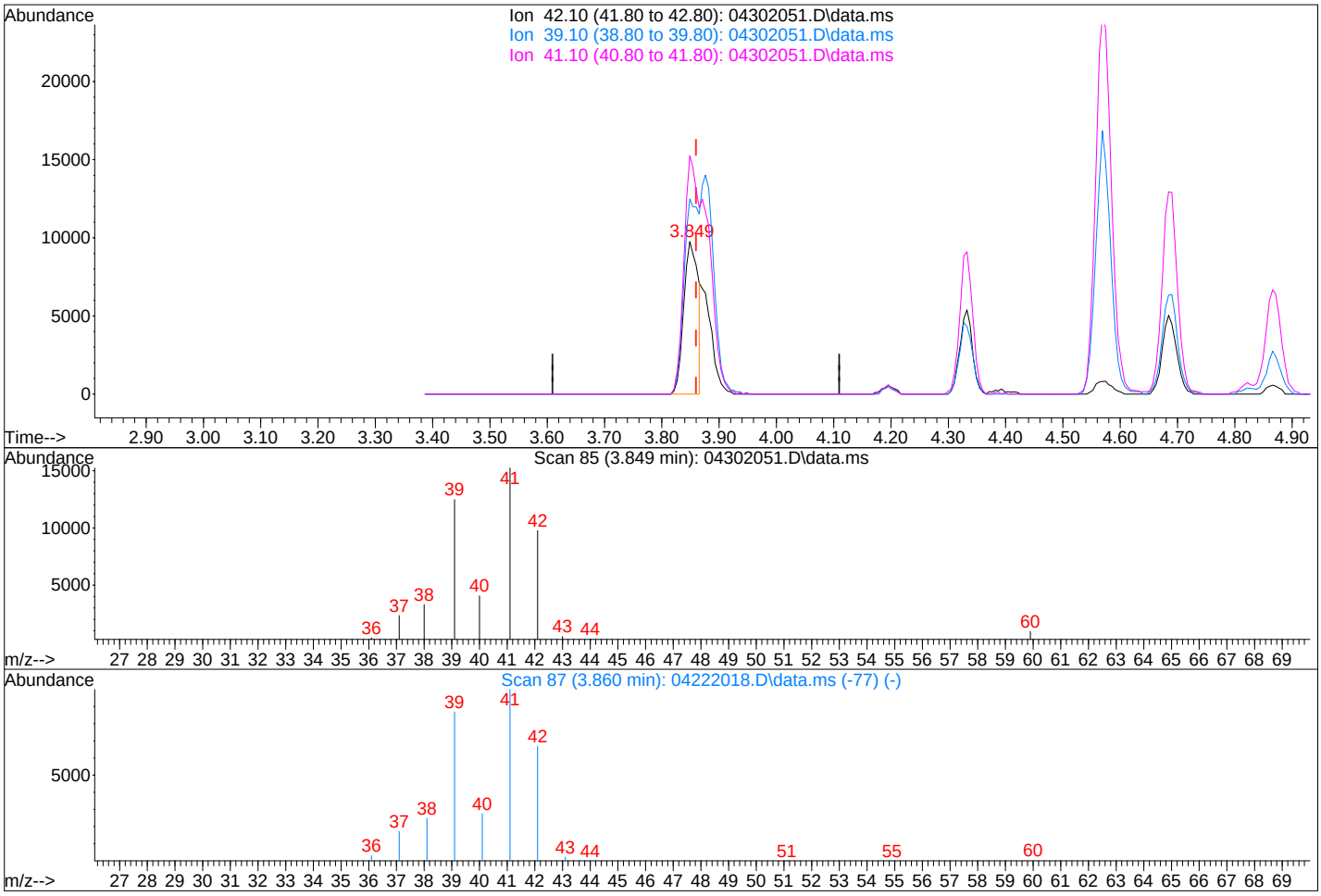
response 25786

Ion	Exp%	Act%
42.10	100	100
39.10	126.40	89.40#
41.10	148.80	171.52#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\30\04302051.D Vial: 1
Acq On : 1 May 2020 9:09 Operator: TD
Sample : P2002103-010 (7.0mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 09:52:48 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04302051.D\data.ms

(2) Propene (T)

3.849min (-0.011) 2.56ng m

response 16891

Ion	Exp%	Act%
42.10	100	100
39.10	126.40	136.48
41.10	148.80	261.84#
0.00	0.00	0.00

IPC

5/1/20

5/4/20

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302053.D Vial: 1
Acq On : 1 May 2020 10:17 Operator: TD
Sample : P2002103-011 (0.15mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 14:15:47 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/1/20

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	154053	12.500 ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	649790	12.500 ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	287161	12.500 ng	0.00
System Monitoring Compounds					
33) 1,2-Dichloroethane-d4(...	9.91	65	228871	11.467 ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.76%		
57) Toluene-d8 (SS2)	13.55	98	710359	12.812 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.48%		
73) Bromofluorobenzene (SS3)	17.05	174	272568	12.232 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.84%		
Target Compounds					Qvalue
2) Propene	3.88	42	10049	1.536 ng	87
3) Dichlorodifluoromethan...	3.99	85	331	N.D.	
4) Chloromethane	0.00	50	0	N.D.	
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.	
6) Vinyl Chloride	0.00	62	0	N.D.	
7) 1,3-Butadiene	0.00	54	0	N.D. d	
8) Bromomethane	0.00	94	0	N.D.	
9) Chloroethane	0.00	64	0	N.D.	
10) Ethanol	5.42	45	34	N.D.	
11) Acetonitrile	0.00	41	0	N.D.	
12) Acrolein	0.00	56	0	N.D. d	
13) Acetone	0.00	58	0	N.D. d	
14) Trichlorofluoromethane	6.02	101	294	N.D.	
15) 2-Propanol (Isopropanol)	6.42	45	35	N.D.	
16) Acrylonitrile	0.00	53	0	N.D. d	
17) 1,1-Dichloroethene	6.73	96	1306	0.120 ng	86
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	
19) Methylene Chloride	6.86	84	3142	0.301 ng	100
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D. d	
21) Trichlorotrifluoroethane	7.19	151	10952	0.851 ng	98
22) Carbon Disulfide	7.17	76	562	N.D.	
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.	
24) 1,1-Dichloroethane	8.11	63	449	N.D.	
25) Methyl tert-Butyl Ether	8.20	73	110	N.D.	
26) Vinyl Acetate	0.00	86	0	N.D. d	
27) 2-Butanone (MEK)	0.00	72	0	N.D. d	
28) cis-1,2-Dichloroethene	8.73	61	430	N.D.	
29) Diisopropyl Ether	0.00	87	0	N.D. d	
30) Ethyl Acetate	0.00	61	0	N.D. d	
31) n-Hexane	9.23	57	1199184	90.829 ng	100
32) Chloroform	9.25	83	107	N.D.	
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.	
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.	
36) 1,2-Dichloroethane	0.00	62	0	N.D. d	
38) 1,1,1-Trichloroethane	10.30	97	12677	0.567 ng	99
39) Isopropyl Acetate	0.00	61	0	N.D. d	
40) 1-Butanol	0.00	56	0	N.D. d	
41) Benzene	10.76	78	112080	2.646 ng	100
42) Carbon Tetrachloride	0.00	117	0	N.D.	
43) Cyclohexane	11.05	84	1142910	68.872 ng	98
44) tert-Amyl Methyl Ether	11.46	73	299	N.D.	
45) 1,2-Dichloropropane	11.57	63	355	N.D.	
46) Bromodichloromethane	0.00	83	0	N.D. d	
47) Trichloroethene	11.81	130	867	0.059 ng	90
48) 1,4-Dioxane	0.00	88	0	N.D. d	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d	
50) Methyl Methacrylate	0.00	100	0	N.D. d	

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302053.D Vial: 1
Acq On : 1 May 2020 10:17 Operator: TD
Sample : P2002103-011 (0.15mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 14:15:47 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

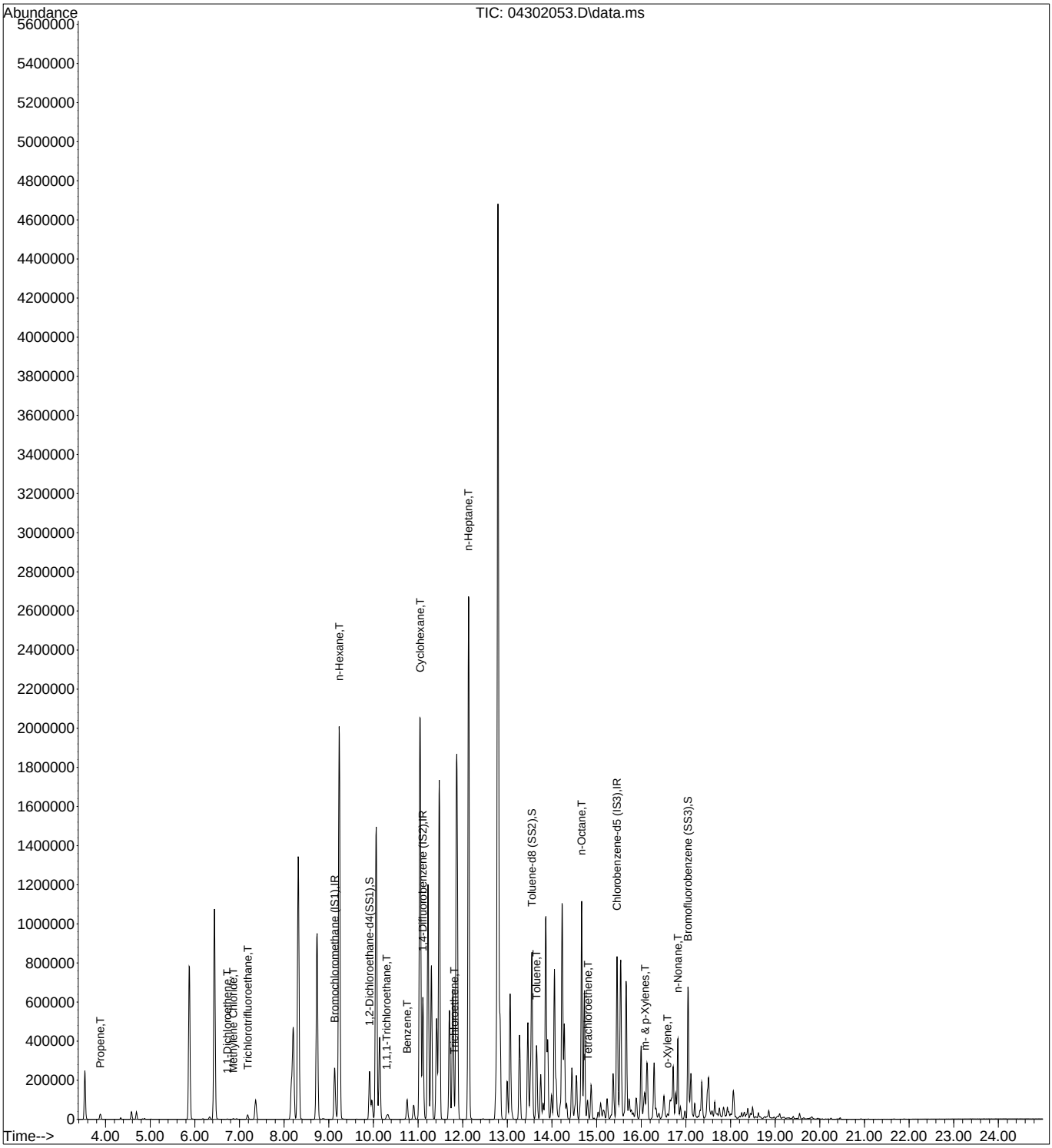
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.13	71	842248	85.578 ng	100
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	13.65	91	218157	4.686 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.67	57	215741	29.113 ng	99
64) Tetrachloroethene	14.81	166	4231	0.241 ng	94
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.91	91	2565	N.D.	
67) m- & p-Xylenes	16.08	91	41736	0.912 ng	98
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.59	104	161	N.D.	
70) o-Xylene	16.59	91	9276	0.206 ng	100
71) n-Nonane	16.82	43	128822	8.886 ng	99
72) 1,1,2,2-Tetrachloroethane	16.58	83	134	N.D.	
74) Cumene	17.19	105	302	N.D.	
75) alpha-Pinene	17.61	93	576	N.D.	
76) n-Propylbenzene	17.74	91	1368	N.D.	
77) 3-Ethyltoluene	17.84	105	1581	N.D.	
78) 4-Ethyltoluene	17.88	105	748	N.D.	
79) 1,3,5-Trimethylbenzene	17.95	105	1917	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	18.16	105	989	N.D.	
82) 1,2,4-Trimethylbenzene	18.39	105	2100	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.62	91	224	N.D.	
85) 1,3-Dichlorobenzene	18.64	146	105	N.D.	
86) 1,4-Dichlorobenzene	18.64	146	105	N.D.	
87) sec-Butylbenzene	18.67	105	672	N.D.	
88) 4-Isopropyltoluene (p-...	18.84	119	1000	N.D.	
89) 1,2,3-Trimethylbenzene	18.83	105	1021	N.D.	
90) 1,2-Dichlorobenzene	18.98	146	434	N.D.	
91) d-Limonene	18.98	68	616	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	0.00	128	0	N.D.	
96) n-Dodecane	20.92	57	765	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	18.38	119	548	N.D.	
100) n-Butylbenzene	19.30	91	459	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302053.D Vial: 1
Acq On : 1 May 2020 10:17 Operator: TD
Sample : P2002103-011 (0.15mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 14:15:47 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302053.D Vial: 1
Acq On : 1 May 2020 10:17 Operator: TD
Sample : P2002103-011 (0.15mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 14:15:47 2020 5/1/20
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

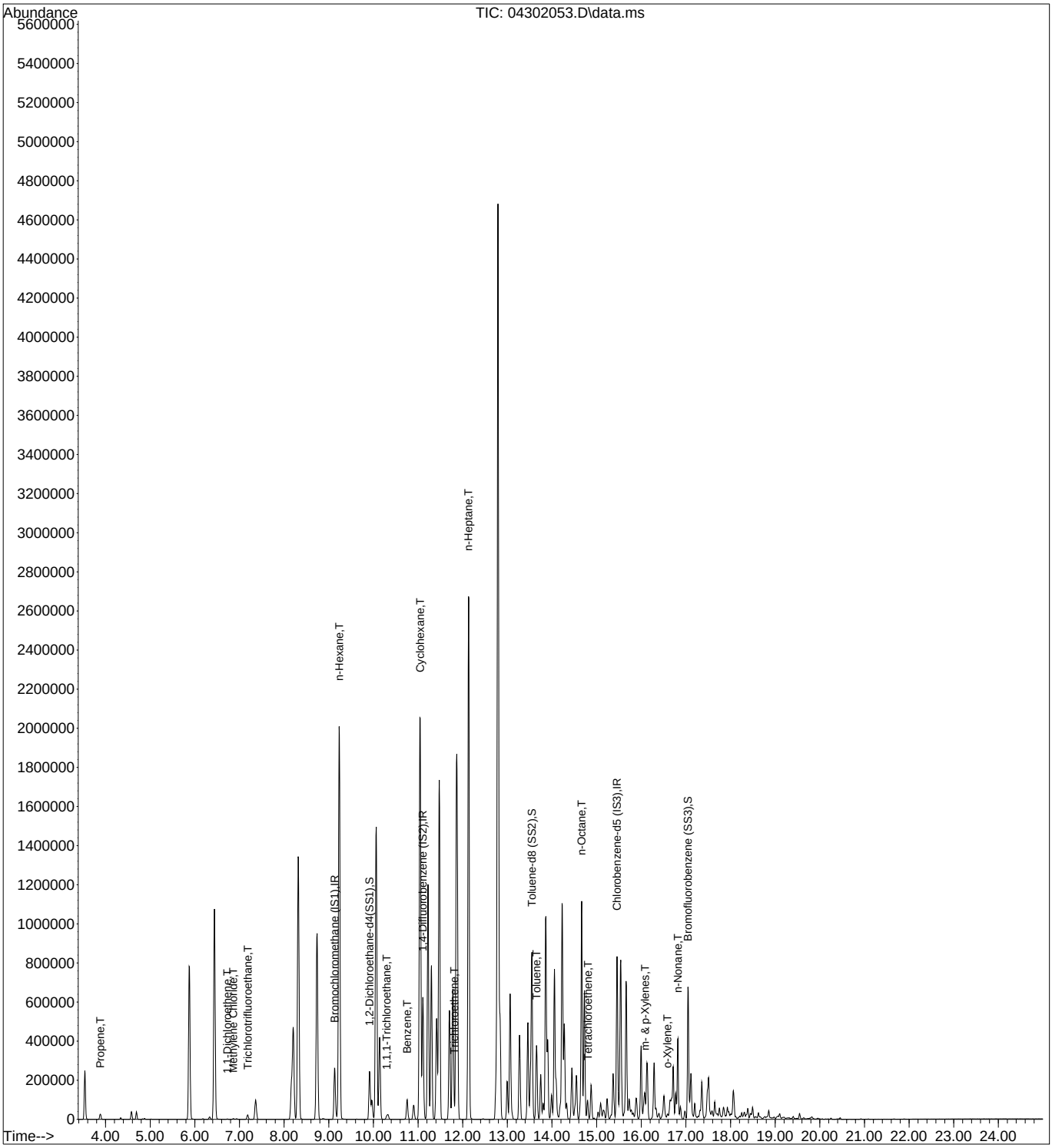
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	154053	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	649790	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	287161	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	228871	11.467	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.76%			
57) Toluene-d8 (SS2)	13.55	98	710359	12.812	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.48%			
73) Bromofluorobenzene (SS3)	17.05	174	272568	12.232	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.84%			
Target Compounds						Qvalue
2) Propene	3.88	42	10049	1.536	ng	87
17) 1,1-Dichloroethene	6.73	96	1306	0.120	ng	86
19) Methylene Chloride	6.86	84	3142	0.301	ng	100
21) Trichlorotrifluoroethane	7.19	151	10952	0.851	ng	98
31) n-Hexane	9.23	57	1199184	90.829	ng	100
38) 1,1,1-Trichloroethane	10.30	97	12677	0.567	ng	99
41) Benzene	10.76	78	112080	2.646	ng	100
43) Cyclohexane	11.05	84	1142910	68.872	ng	98
47) Trichloroethene	11.81	130	867	0.059	ng	90
51) n-Heptane	12.13	71	842248	85.578	ng	100
58) Toluene	13.65	91	218157	4.686	ng	100
63) n-Octane	14.67	57	215741	29.113	ng	99
64) Tetrachloroethene	14.81	166	4231	0.241	ng	94
67) m- & p-Xylenes	16.08	91	41736	0.912	ng	98
70) o-Xylene	16.59	91	9276	0.206	ng	100
71) n-Nonane	16.82	43	128822	8.886	ng	99

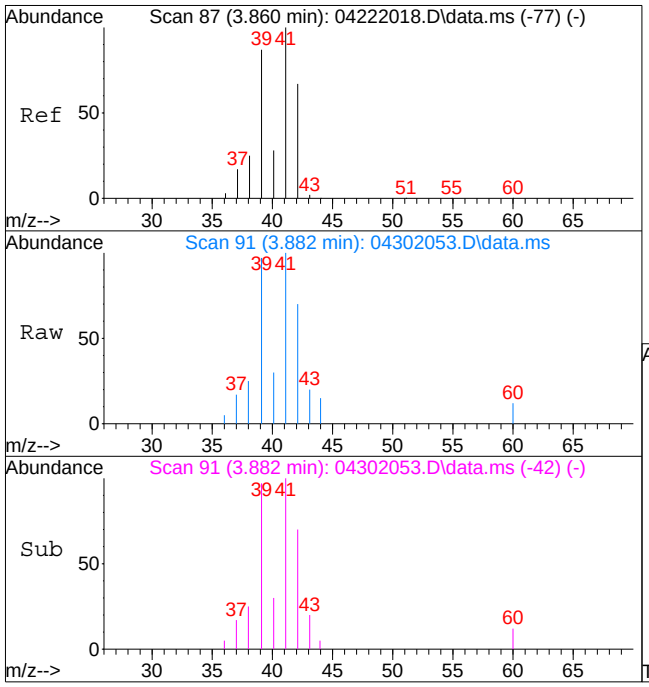
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302053.D Vial: 1
Acq On : 1 May 2020 10:17 Operator: TD
Sample : P2002103-011 (0.15mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 14:15:47 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

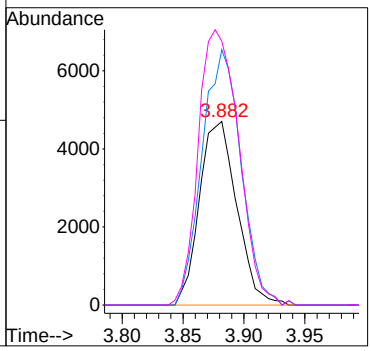


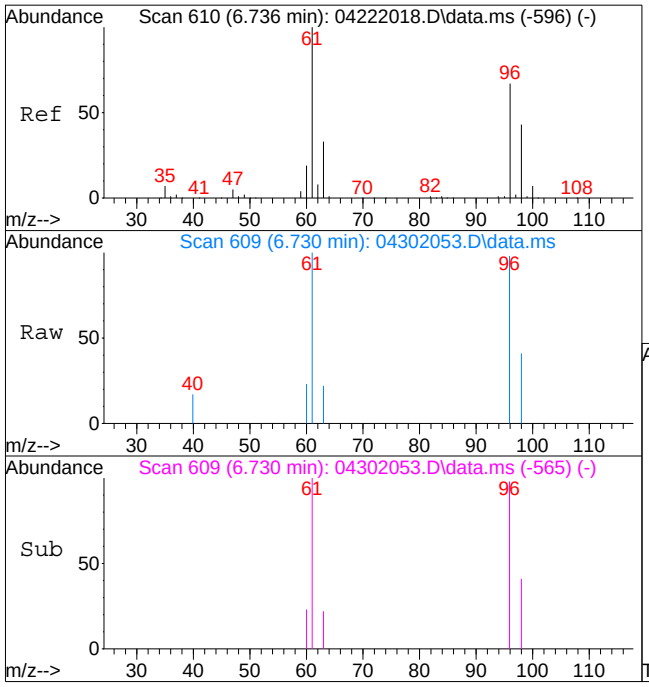


#2
Propene
Concen: 1.54 ng
RT: 3.88 min Scan# 91
Delta R.T. 0.022 min
Lab File: 04302053.D
Acq: 1 May 2020 10:17

Tgt Ion: 42 Resp: 10049

Ion	Ratio	Lower	Upper
42	100		
39	145.2	106.4	146.4
41	162.7	128.8	168.8

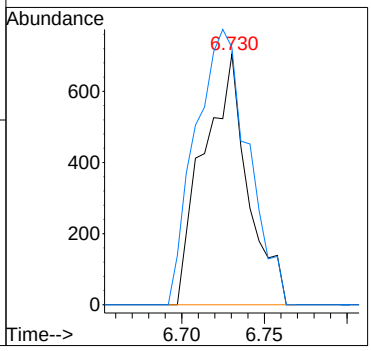


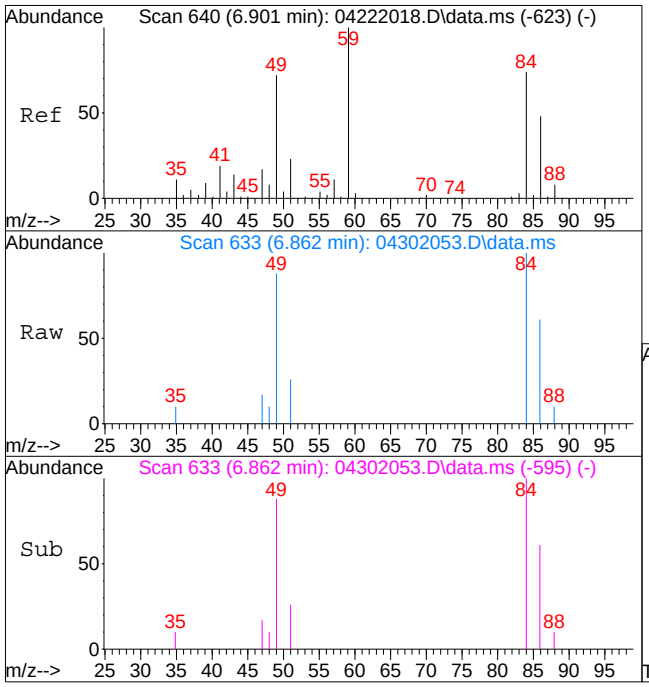


#17
1,1-Dichloroethene
Concen: 0.12 ng
RT: 6.73 min Scan# 609
Delta R.T. -0.005 min
Lab File: 04302053.D
Acq: 1 May 2020 10:17

Tgt Ion: 96 Resp: 1306

Ion	Ratio	Lower	Upper
96	100		
61	131.9	129.8	169.8

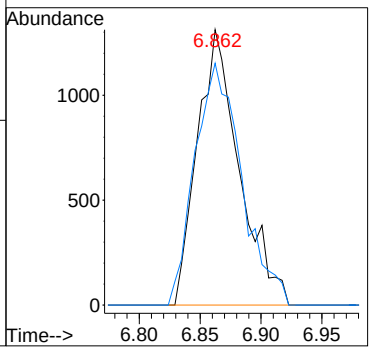


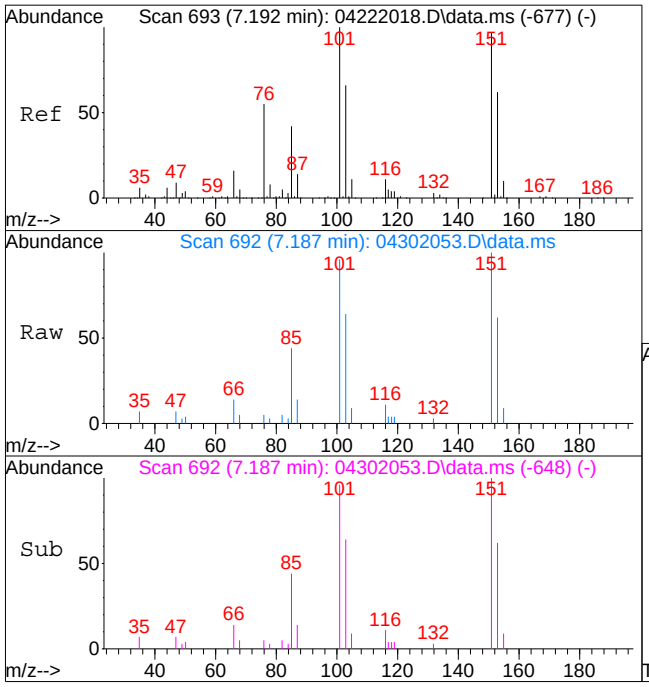


#19
Methylene Chloride
Concen: 0.30 ng
RT: 6.86 min Scan# 633
Delta R.T. -0.038 min
Lab File: 04302053.D
Acq: 1 May 2020 10:17

Tgt Ion: 84 Resp: 3142

Ion	Ratio	Lower	Upper
84	100		
49	97.9	73.0	123.0

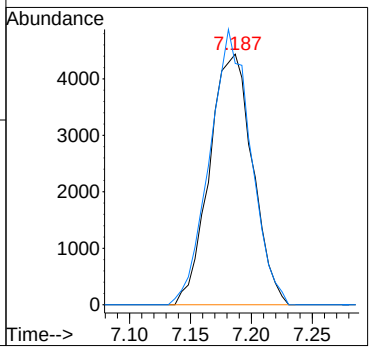


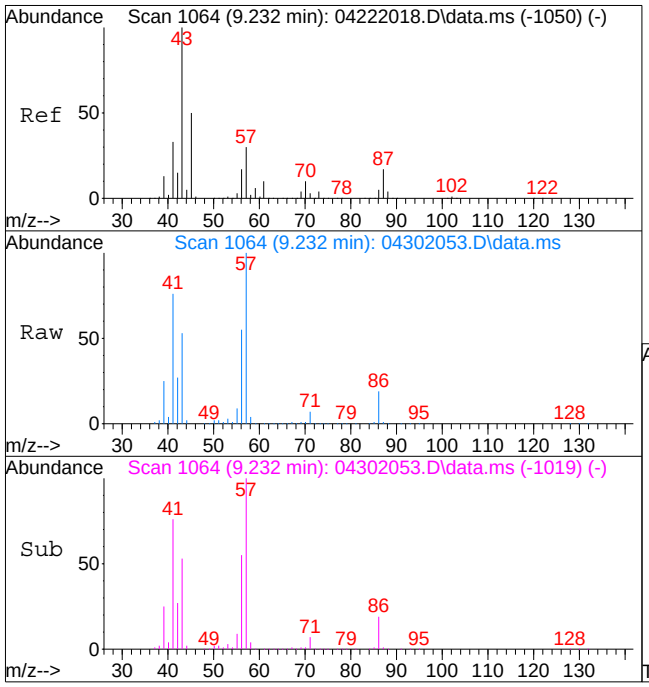


#21
Trichlorotrifluoroethane
Concen: 0.85 ng
RT: 7.19 min Scan# 692
Delta R.T. -0.005 min
Lab File: 04302053.D
Acq: 1 May 2020 10:17

Tgt Ion:151 Resp: 10952

Ion	Ratio	Lower	Upper
151	100		
101	104.8	82.9	122.9

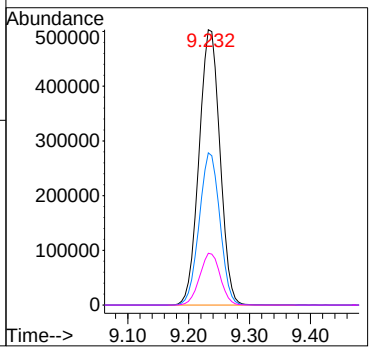


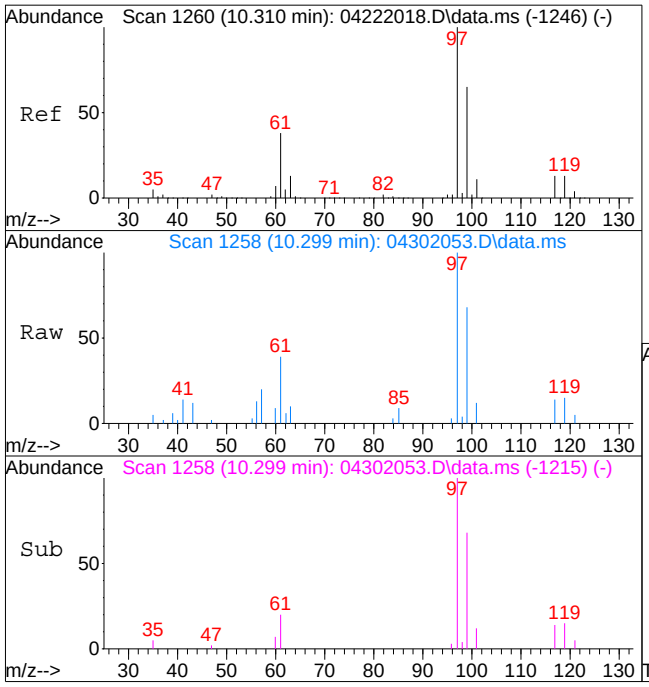


#31
n-Hexane
Concen: 90.83 ng
RT: 9.23 min Scan# 1064
Delta R.T. 0.000 min
Lab File: 04302053.D
Acq: 1 May 2020 10:17

Tgt Ion: 57 Resp: 1199184

Ion	Ratio	Lower	Upper
57	100		
56	54.7	44.0	66.0
86	18.5	15.0	22.4

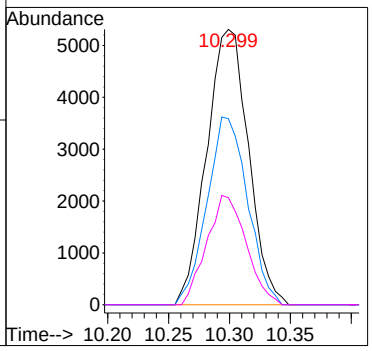


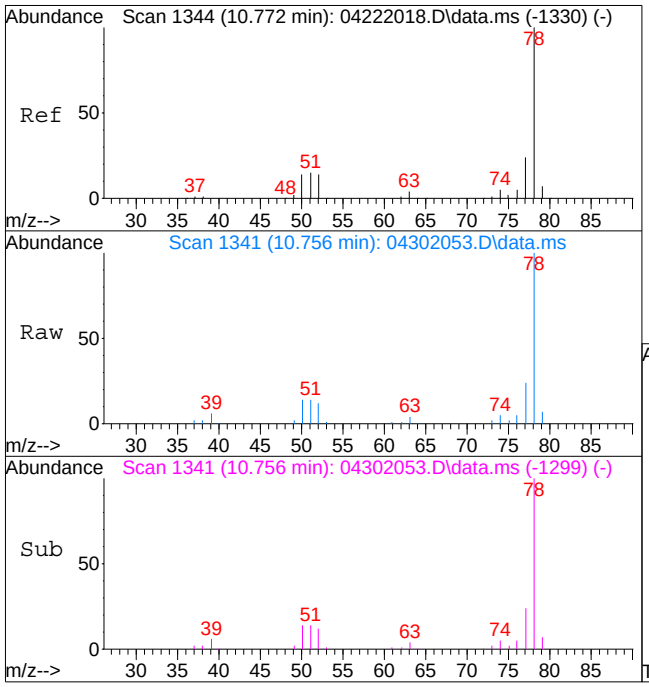


#38
1,1,1-Trichloroethane
Concen: 0.57 ng
RT: 10.30 min Scan# 1258
Delta R.T. -0.011 min
Lab File: 04302053.D
Acq: 1 May 2020 10:17

Tgt Ion: 97 Resp: 12677

Ion	Ratio	Lower	Upper
97	100		
99	66.1	44.7	84.7
61	37.4	17.2	57.2

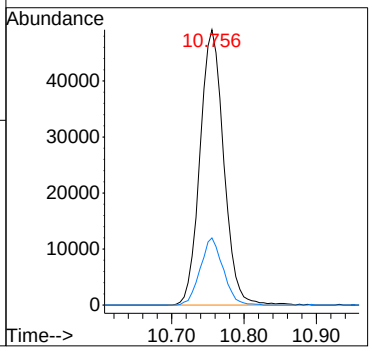


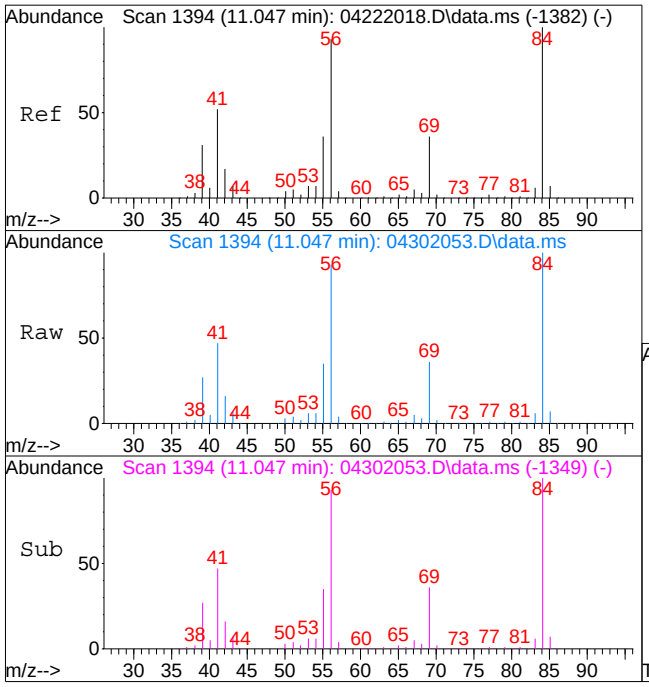


#41
Benzene
Concen: 2.65 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.017 min
Lab File: 04302053.D
Acq: 1 May 2020 10:17

Tgt Ion: 78 Resp: 112080

Ion	Ratio	Lower	Upper
78	100		
77	23.4	3.6	43.6

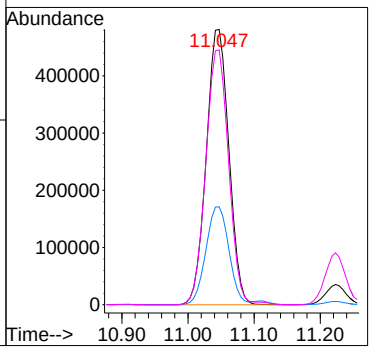


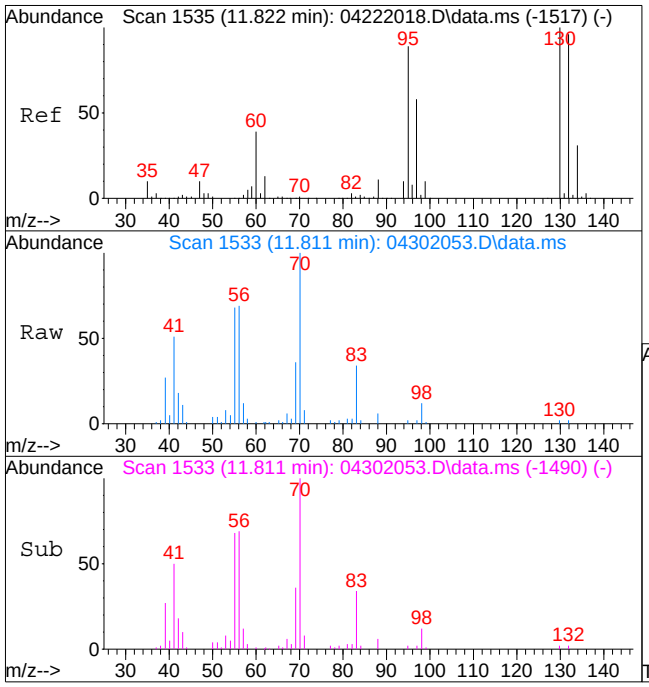


#43
Cyclohexane
Concen: 68.87 ng
RT: 11.05 min Scan# 1394
Delta R.T. 0.000 min
Lab File: 04302053.D
Acq: 1 May 2020 10:17

Tgt Ion: 84 Resp: 1142910

Ion	Ratio	Lower	Upper
84	100		
69	36.5	15.8	55.8
56	93.8	72.0	112.0

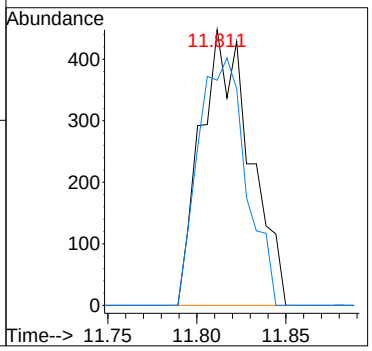


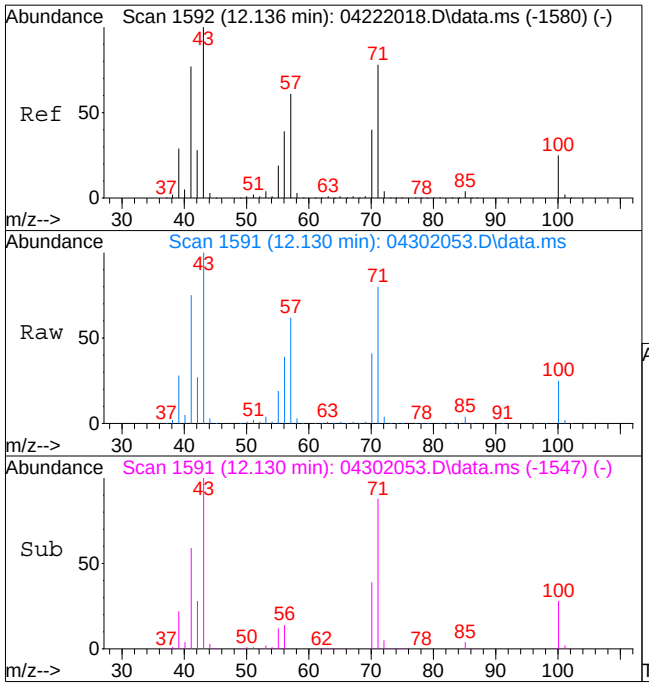


#47
Trichloroethene
Concen: 0.06 ng
RT: 11.81 min Scan# 1533
Delta R.T. -0.011 min
Lab File: 04302053.D
Acq: 1 May 2020 10:17

Tgt Ion:130 Resp: 867

Ion	Ratio	Lower	Upper
130	100		
132	86.9	76.4	116.4

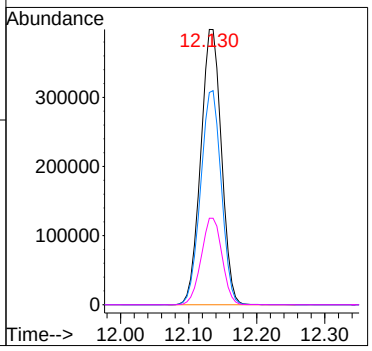


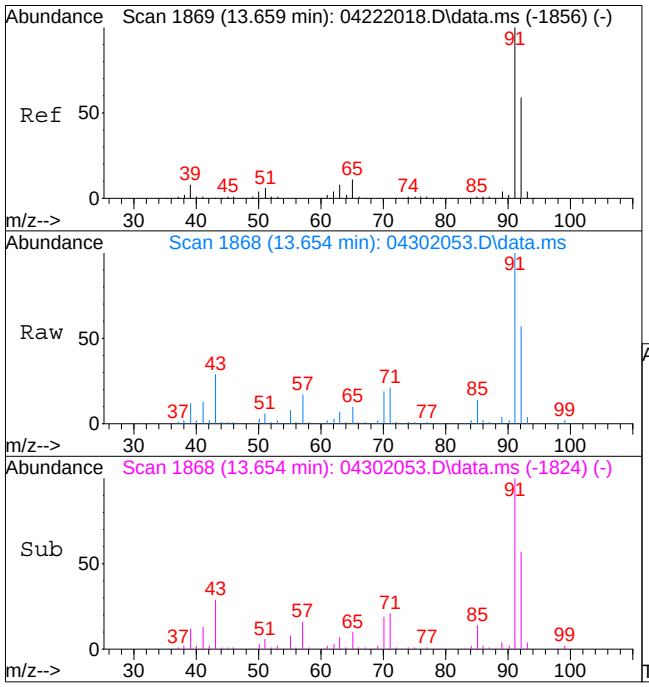


#51
n-Heptane
Concen: 85.58 ng
RT: 12.13 min Scan# 1591
Delta R.T. -0.006 min
Lab File: 04302053.D
Acq: 1 May 2020 10:17

Tgt Ion: 71 Resp: 842248

Ion	Ratio	Lower	Upper
71	100		
57	77.6	57.4	97.4
100	31.7	12.0	52.0

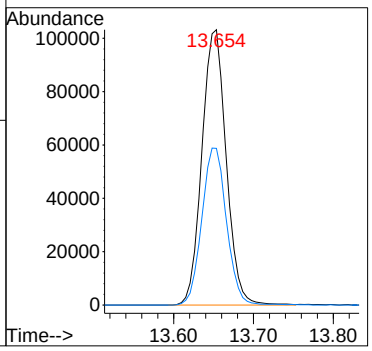


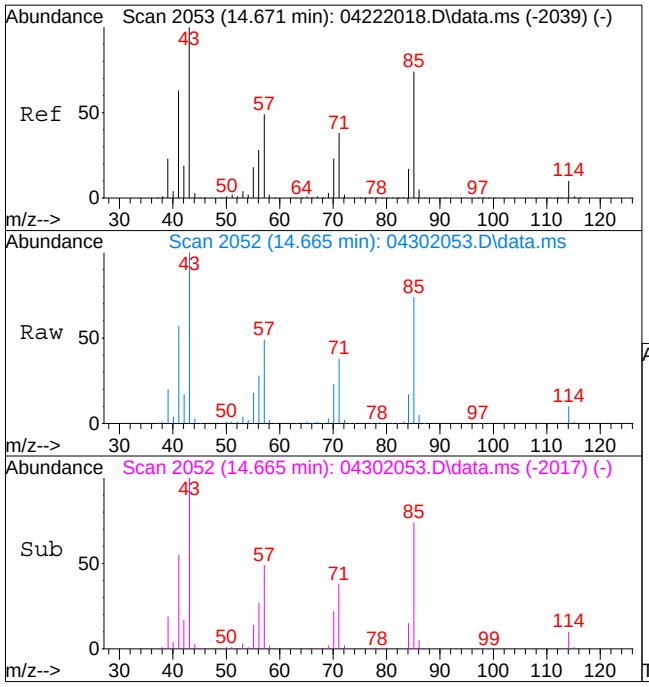


#58
Toluene
Concen: 4.69 ng
RT: 13.65 min Scan# 1868
Delta R.T. -0.005 min
Lab File: 04302053.D
Acq: 1 May 2020 10:17

Tgt Ion: 91 Resp: 218157

Ion	Ratio	Lower	Upper
91	100		
92	58.0	38.2	78.2

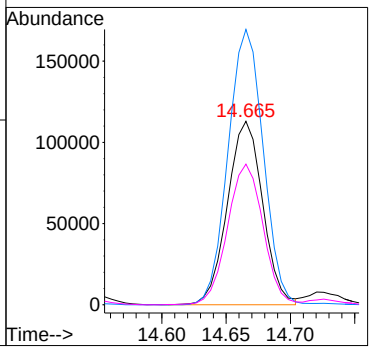


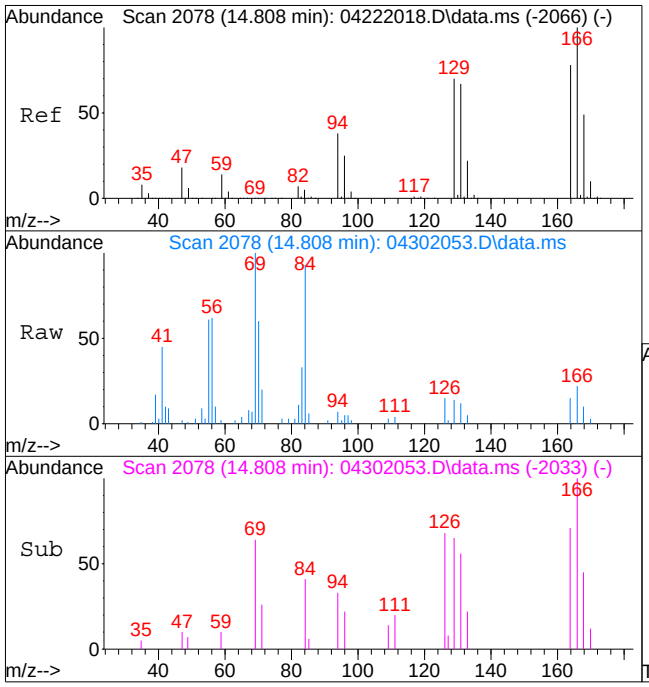


#63
n-Octane
Concen: 29.11 ng
RT: 14.67 min Scan# 2052
Delta R.T. -0.006 min
Lab File: 04302053.D
Acq: 1 May 2020 10:17

Tgt Ion: 57 Resp: 215741

Ion	Ratio	Lower	Upper
57	100		
85	149.9	120.7	181.1
71	77.2	61.1	91.7

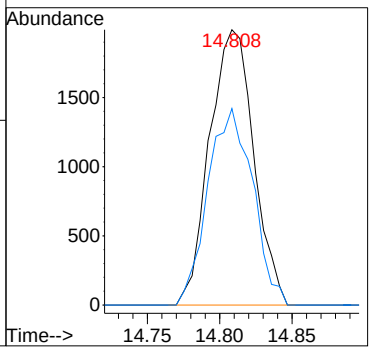


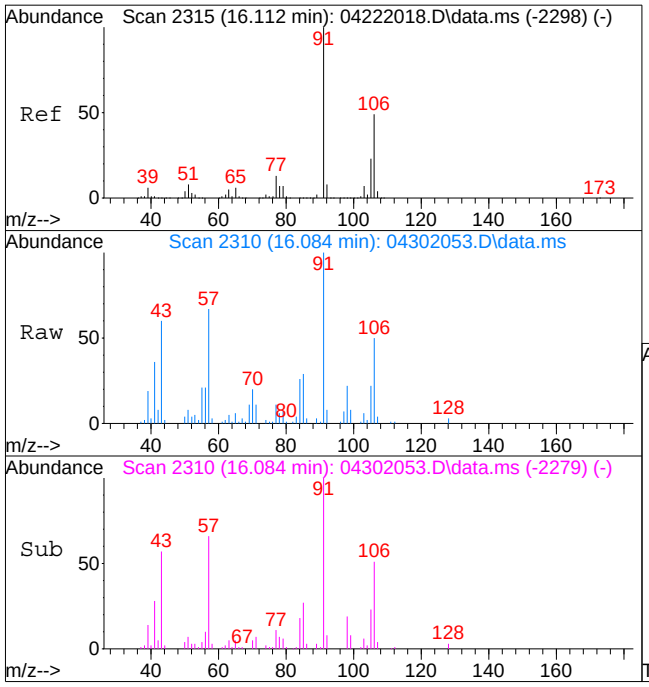


#64
Tetrachloroethene
Concen: 0.24 ng
RT: 14.81 min Scan# 2078
Delta R.T. 0.000 min
Lab File: 04302053.D
Acq: 1 May 2020 10:17

Tgt Ion:166 Resp: 4231

Ion	Ratio	Lower	Upper
166	100		
164	72.5	57.7	97.7

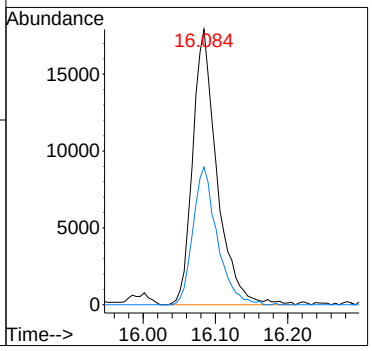


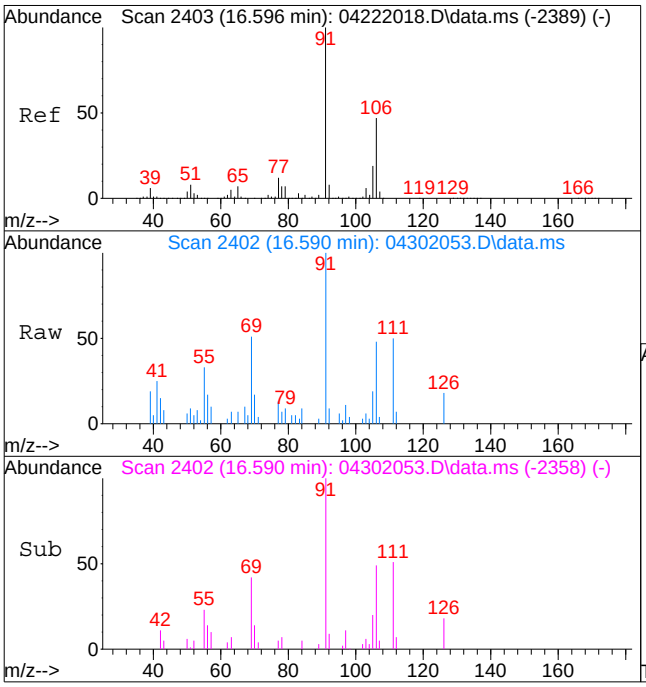


#67
m- & p-Xylenes
Concen: 0.91 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.027 min
Lab File: 04302053.D
Acq: 1 May 2020 10:17

Tgt Ion: 91 Resp: 41736

Ion	Ratio	Lower	Upper
91	100		
106	49.8	28.3	68.3

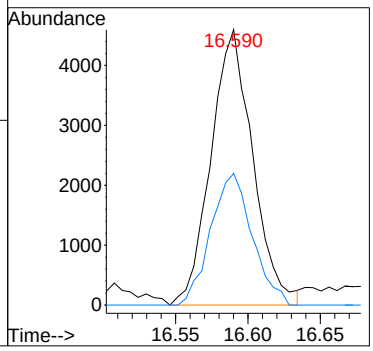


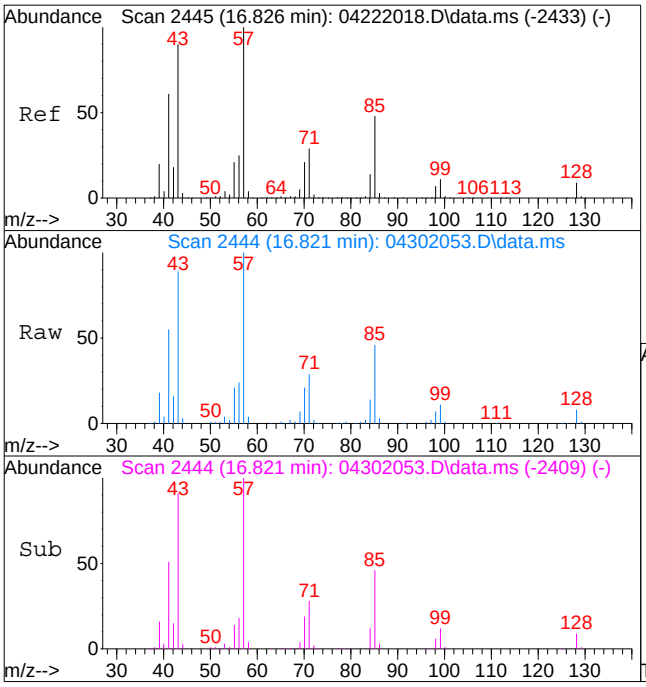


#70
o-Xylene
Concen: 0.21 ng
RT: 16.59 min Scan# 2402
Delta R.T. -0.005 min
Lab File: 04302053.D
Acq: 1 May 2020 10:17

Tgt Ion: 91 Resp: 9276

Ion	Ratio	Lower	Upper
91	100		
106	47.3	27.5	67.5

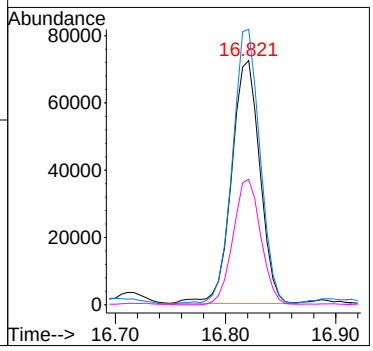




#71
n-Nonane
Concen: 8.89 ng
RT: 16.82 min Scan# 2444
Delta R.T. -0.005 min
Lab File: 04302053.D
Acq: 1 May 2020 10:17

Tgt Ion: 43 Resp: 128822

Ion	Ratio	Lower	Upper
43	100		
57	110.5	90.8	130.8
85	50.7	32.1	72.1



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302054.D Vial: 1
Acq On : 1 May 2020 10:57 Operator: TD
Sample : P2002103-012 (0.17mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 14:12:35 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/1/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	156236	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	658354	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	293806	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	234483	11.584	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.64%			
57) Toluene-d8 (SS2)	13.55	98	722013	12.727	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.84%			
73) Bromofluorobenzene (SS3)	17.05	174	275191	12.070	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.56%			
Target Compounds						Qvalue
2) Propene	3.88	42	13610	2.051	ng	89
3) Dichlorodifluoromethan...	4.00	85	346	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.	d	
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	0.00	45	0	N.D.		
11) Acetonitrile	0.00	41	0	N.D.		
12) Acrolein	0.00	56	0	N.D.	d	
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	6.02	101	331	N.D.		
15) 2-Propanol (Isopropanol)	6.43	45	453	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.	d	
17) 1,1-Dichloroethene	6.73	96	1235	0.112	ng	100
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	6.86	84	3360	0.317	ng	90
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d	
21) Trichlorotrifluoroethane	7.19	151	11217	0.859	ng	99
22) Carbon Disulfide	7.16	76	635	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	8.10	63	420	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	d	
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	0.00	72	0	N.D.	d	
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.	d	
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	0.00	61	0	N.D.	d	
31) n-Hexane	9.24	57	1776802	132.698	ng	99
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d	
38) 1,1,1-Trichloroethane	10.30	97	12700	0.561	ng	98
39) Isopropyl Acetate	0.00	61	0	N.D.	d	
40) 1-Butanol	10.61	56	192	N.D.		
41) Benzene	10.76	78	172306	4.015	ng	100
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	11.05	84	1676430	99.708	ng	98
44) tert-Amyl Methyl Ether	11.30	73	346	N.D.		
45) 1,2-Dichloropropane	11.58	63	196	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	11.83	130	777	0.052	ng	95
48) 1,4-Dioxane	0.00	88	0	N.D.	d	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302054.D Vial: 1
Acq On : 1 May 2020 10:57 Operator: TD
Sample : P2002103-012 (0.17mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 14:12:35 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

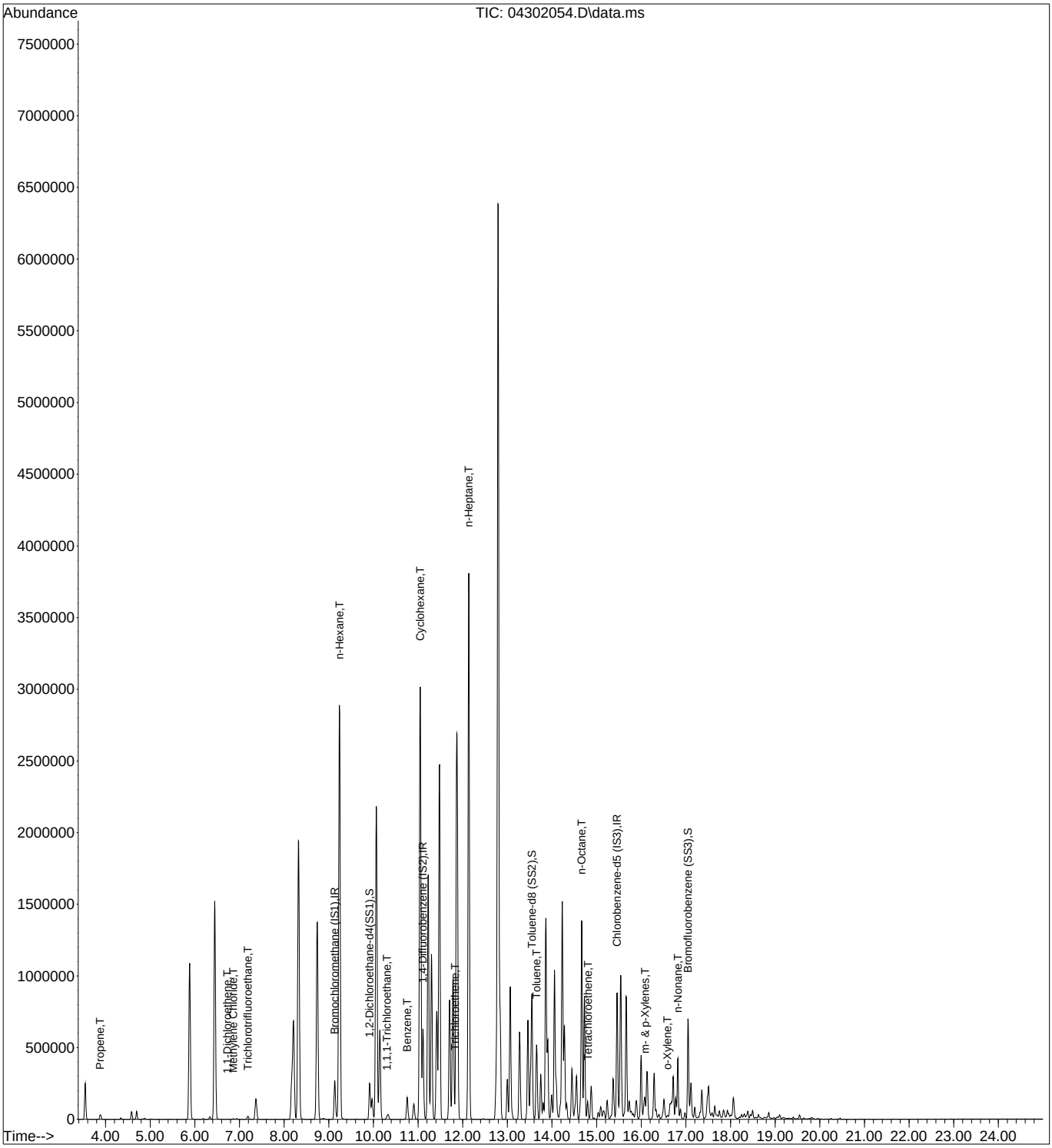
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.14	71	1187103	119.049 ng	99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	13.65	91	299775	6.294 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.67	57	269087	35.491 ng	99
64) Tetrachloroethene	14.81	166	4135	0.230 ng	96
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.92	91	2666	N.D.	
67) m- & p-Xylenes	16.08	91	47567	1.016 ng	97
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.58	104	113	N.D.	
70) o-Xylene	16.58	91	9890	0.215 ng	98
71) n-Nonane	16.82	43	132490	8.932 ng	99
72) 1,1,2,2-Tetrachloroethane	16.58	83	141	N.D.	
74) Cumene	17.21	105	393	N.D.	
75) alpha-Pinene	17.62	93	548	N.D.	
76) n-Propylbenzene	17.74	91	1369	N.D.	
77) 3-Ethyltoluene	17.84	105	1698	N.D.	
78) 4-Ethyltoluene	17.89	105	639	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	1975	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	18.17	105	932	N.D.	
82) 1,2,4-Trimethylbenzene	18.39	105	2077	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.44	91	110	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	18.67	105	656	N.D.	
88) 4-Isopropyltoluene (p-...	18.84	119	875	N.D.	
89) 1,2,3-Trimethylbenzene	18.83	105	1099	N.D.	
90) 1,2-Dichlorobenzene	18.98	146	483	N.D.	
91) d-Limonene	18.98	68	568	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	0.00	128	0	N.D.	
96) n-Dodecane	20.93	57	813	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	18.39	119	582	N.D.	
100) n-Butylbenzene	19.30	91	513	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302054.D Vial: 1
Acq On : 1 May 2020 10:57 Operator: TD
Sample : P2002103-012 (0.17mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 14:12:35 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302054.D Vial: 1
Acq On : 1 May 2020 10:57 Operator: TD
Sample : P2002103-012 (0.17mL) Inst : MS09
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QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/1/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	156236	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	658354	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	293806	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	234483	11.584	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.64%			
57) Toluene-d8 (SS2)	13.55	98	722013	12.727	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.84%			
73) Bromofluorobenzene (SS3)	17.05	174	275191	12.070	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.56%			
Target Compounds						Qvalue
2) Propene	3.88	42	13610	2.051	ng	89
17) 1,1-Dichloroethene	6.73	96	1235	0.112	ng	100
19) Methylene Chloride	6.86	84	3360	0.317	ng	90
21) Trichlorotrifluoroethane	7.19	151	11217	0.859	ng	99
31) n-Hexane	9.24	57	1776802	132.698	ng	99
38) 1,1,1-Trichloroethane	10.30	97	12700	0.561	ng	98
41) Benzene	10.76	78	172306	4.015	ng	100
43) Cyclohexane	11.05	84	1676430	99.708	ng	98
47) Trichloroethene	11.83	130	777	0.052	ng	95
51) n-Heptane	12.14	71	1187103	119.049	ng	99
58) Toluene	13.65	91	299775	6.294	ng	100
63) n-Octane	14.67	57	269087	35.491	ng	99
64) Tetrachloroethene	14.81	166	4135	0.230	ng	96
67) m- & p-Xylenes	16.08	91	47567	1.016	ng	97
70) o-Xylene	16.58	91	9890	0.215	ng	98
71) n-Nonane	16.82	43	132490	8.932	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302054.D Vial: 1
Acq On : 1 May 2020 10:57 Operator: TD
Sample : P2002103-012 (0.17mL) Inst : MS09
Misc : S34-04212006

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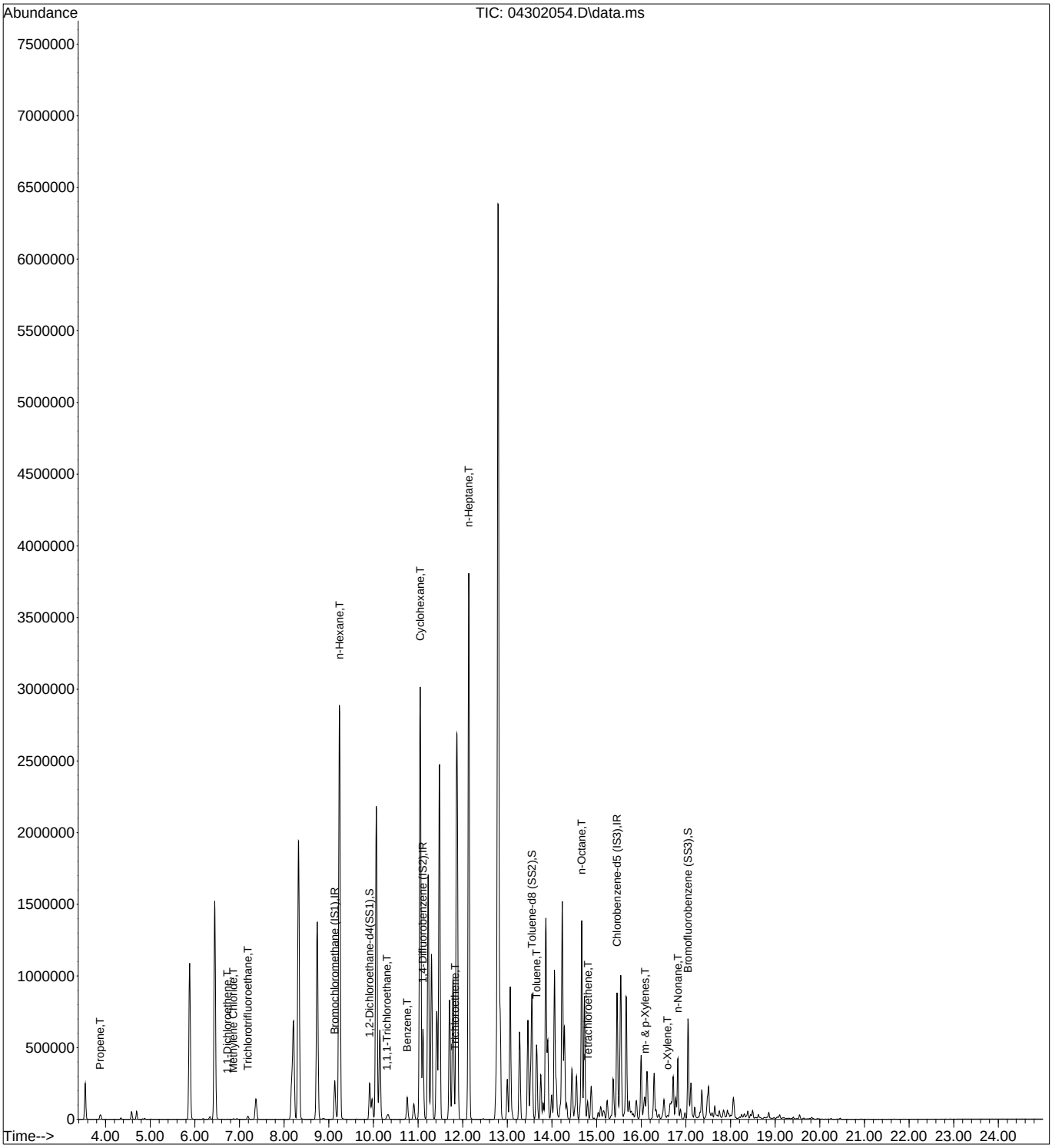
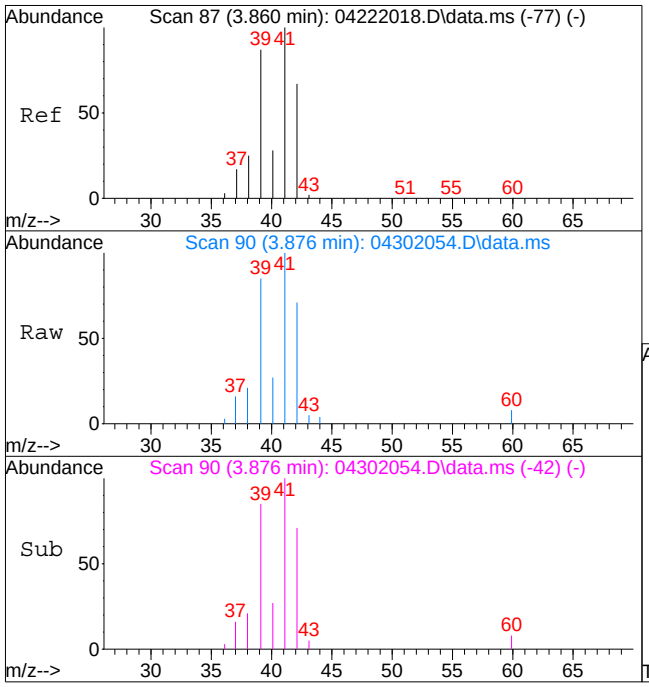
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

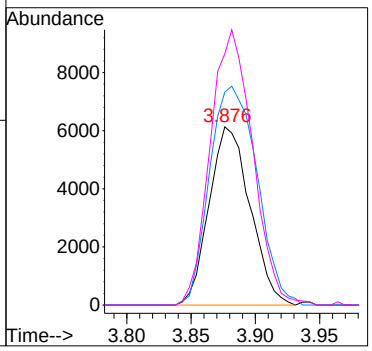


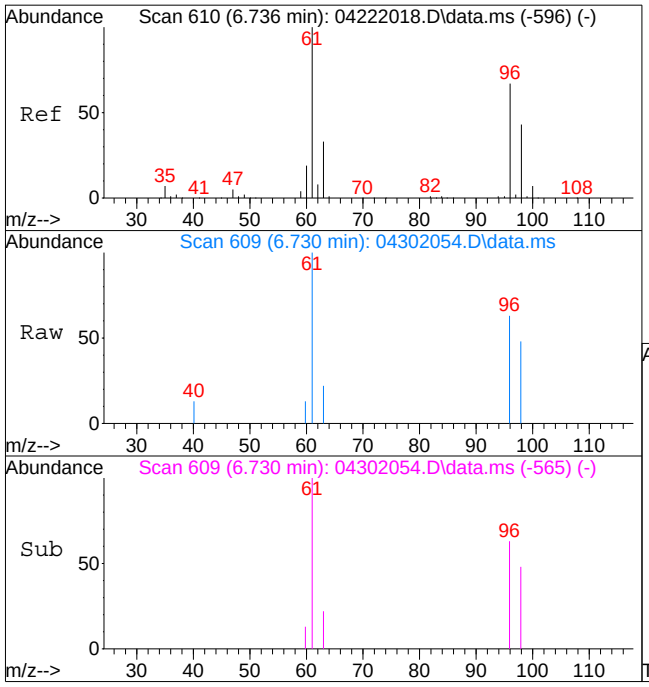


#2
Propene
Concen: 2.05 ng
RT: 3.88 min Scan# 90
Delta R.T. 0.016 min
Lab File: 04302054.D
Acq: 1 May 2020 10:57

Tgt Ion: 42 Resp: 13610

Ion	Ratio	Lower	Upper
42	100		
39	142.2	106.4	146.4
41	159.8	128.8	168.8

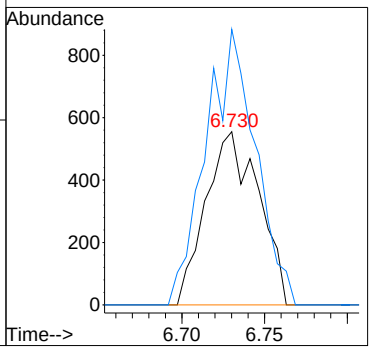


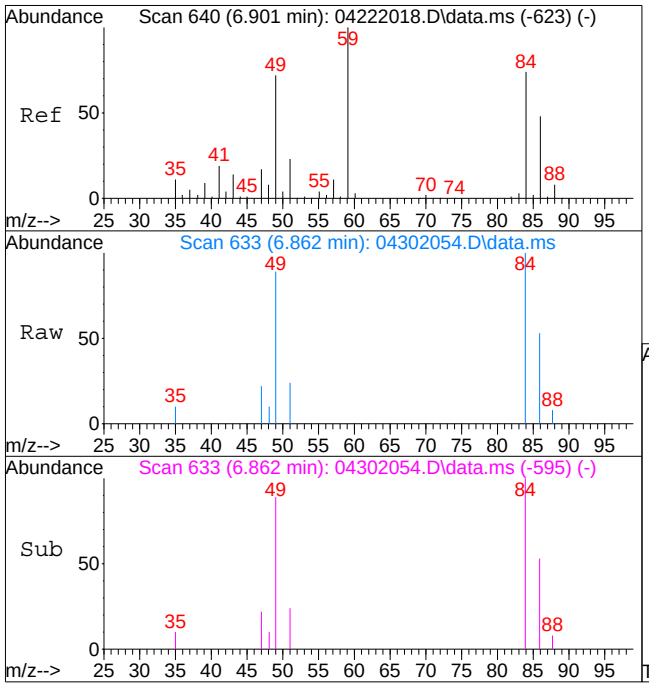


#17
1,1-Dichloroethene
Concen: 0.11 ng
RT: 6.73 min Scan# 609
Delta R.T. -0.006 min
Lab File: 04302054.D
Acq: 1 May 2020 10:57

Tgt Ion: 96 Resp: 1235

Ion	Ratio	Lower	Upper
96	100		
61	149.9	129.8	169.8

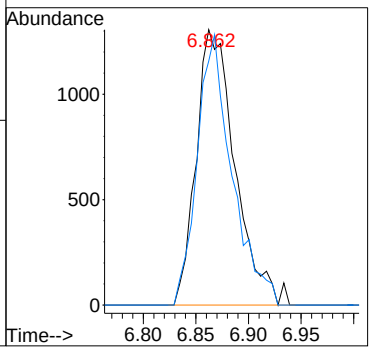


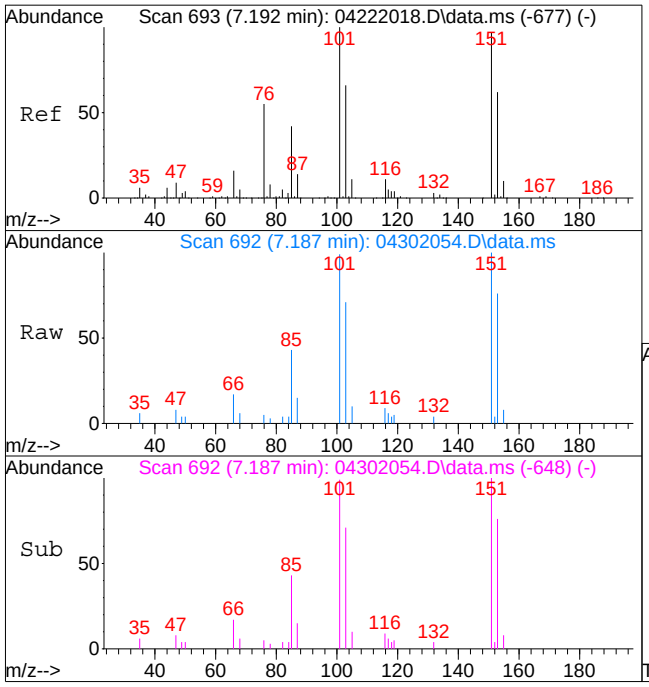


#19
Methylene Chloride
Concen: 0.32 ng
RT: 6.86 min Scan# 633
Delta R.T. -0.039 min
Lab File: 04302054.D
Acq: 1 May 2020 10:57

Tgt Ion: 84 Resp: 3360

Ion	Ratio	Lower	Upper
84	100		
49	87.8	73.0	123.0

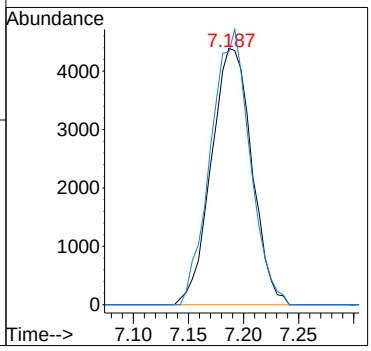


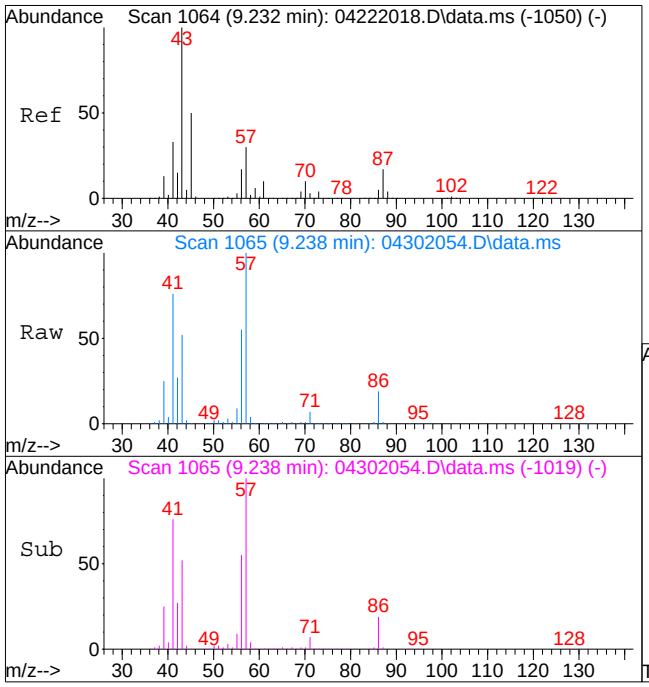


#21
Trichlorotrifluoroethane
Concen: 0.86 ng
RT: 7.19 min Scan# 692
Delta R.T. -0.006 min
Lab File: 04302054.D
Acq: 1 May 2020 10:57

Tgt Ion:151 Resp: 11217

Ion	Ratio	Lower	Upper
151	100		
101	104.1	82.9	122.9

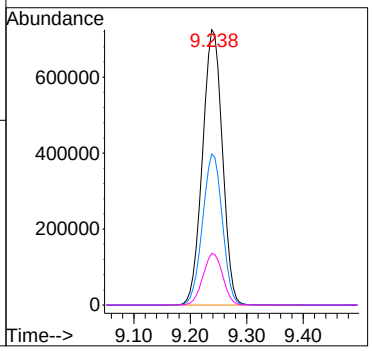


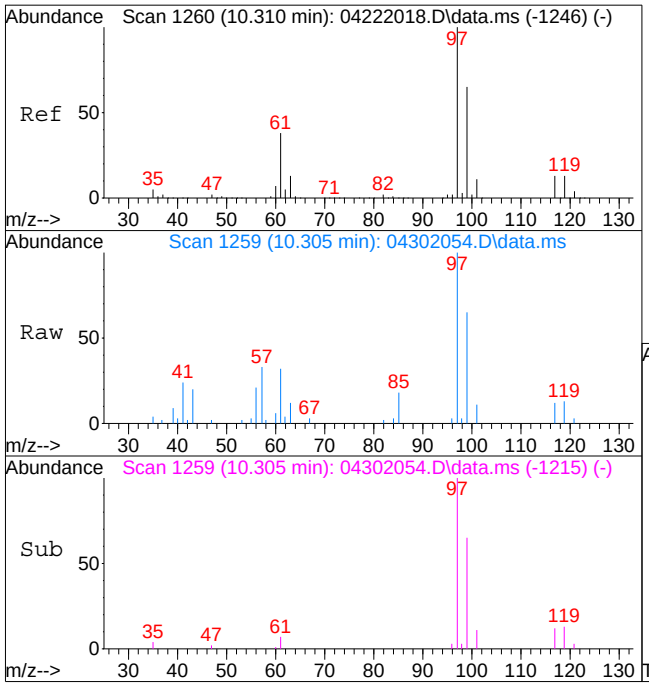


#31
n-Hexane
Concen: 132.70 ng
RT: 9.24 min Scan# 1065
Delta R.T. 0.005 min
Lab File: 04302054.D
Acq: 1 May 2020 10:57

Tgt Ion: 57 Resp: 1776802

Ion	Ratio	Lower	Upper
57	100		
56	54.5	44.0	66.0
86	18.6	15.0	22.4

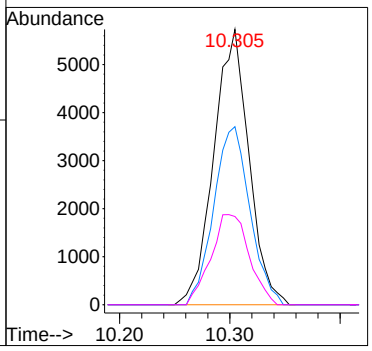


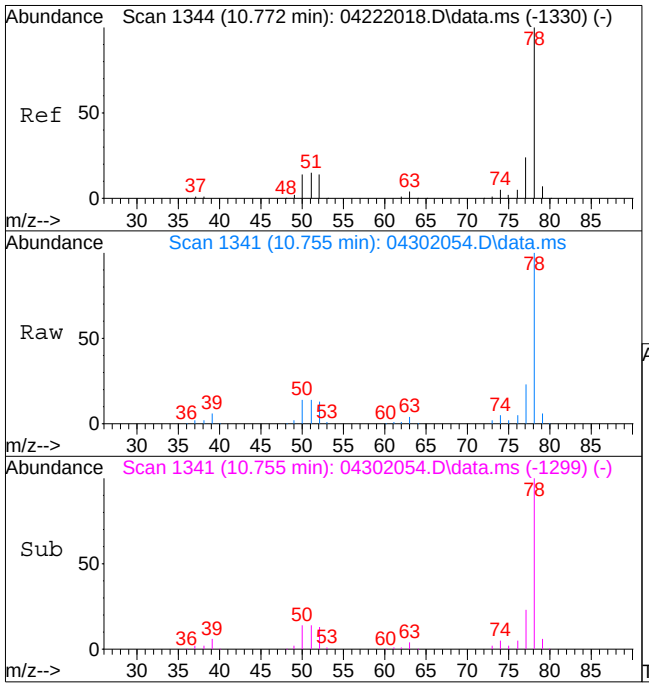


#38
1,1,1-Trichloroethane
Concen: 0.56 ng
RT: 10.30 min Scan# 1259
Delta R.T. -0.006 min
Lab File: 04302054.D
Acq: 1 May 2020 10:57

Tgt Ion: 97 Resp: 12700

Ion	Ratio	Lower	Upper
97	100		
99	66.5	44.7	84.7
61	35.7	17.2	57.2

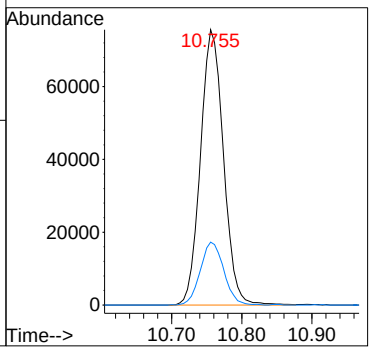


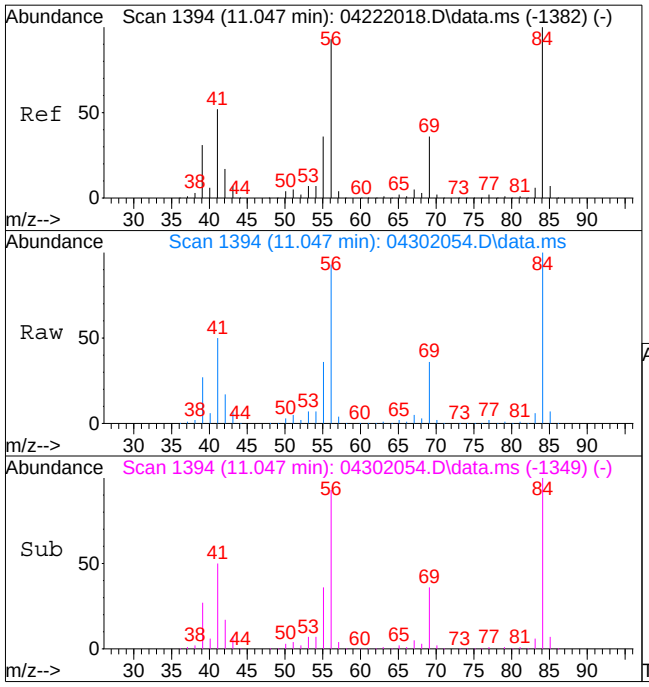


#41
Benzene
Concen: 4.01 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.017 min
Lab File: 04302054.D
Acq: 1 May 2020 10:57

Tgt Ion: 78 Resp: 172306

Ion	Ratio	Lower	Upper
78	100		
77	23.4	3.6	43.6

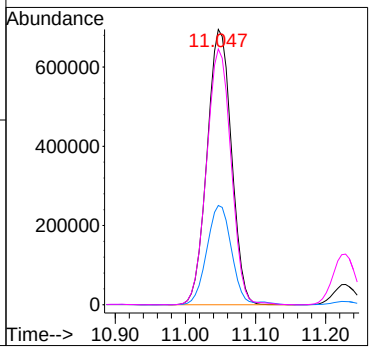


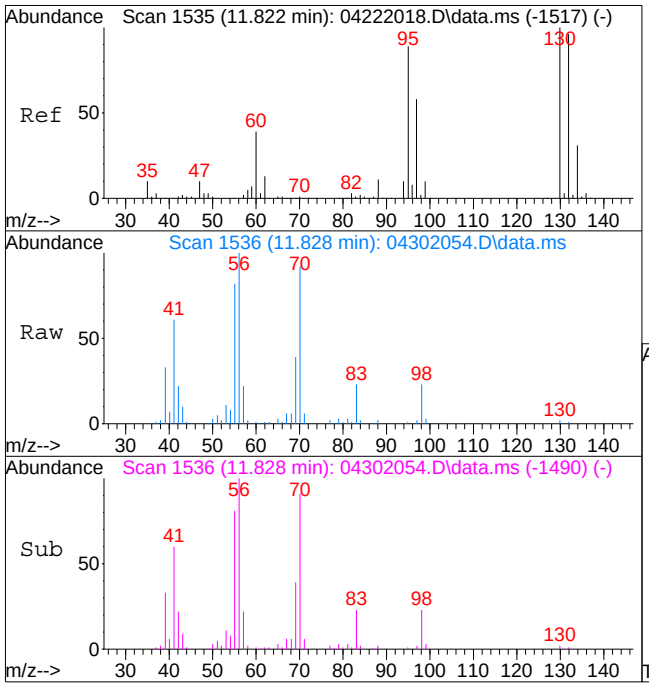


#43
Cyclohexane
Concen: 99.71 ng
RT: 11.05 min Scan# 1394
Delta R.T. -0.000 min
Lab File: 04302054.D
Acq: 1 May 2020 10:57

Tgt Ion: 84 Resp: 1676430

Ion	Ratio	Lower	Upper
84	100		
69	37.0	15.8	55.8
56	93.7	72.0	112.0

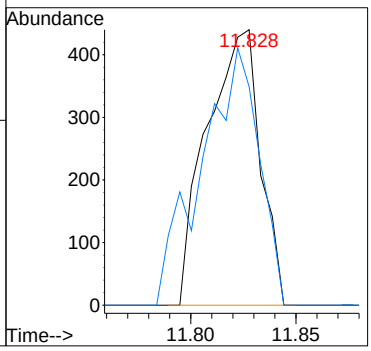


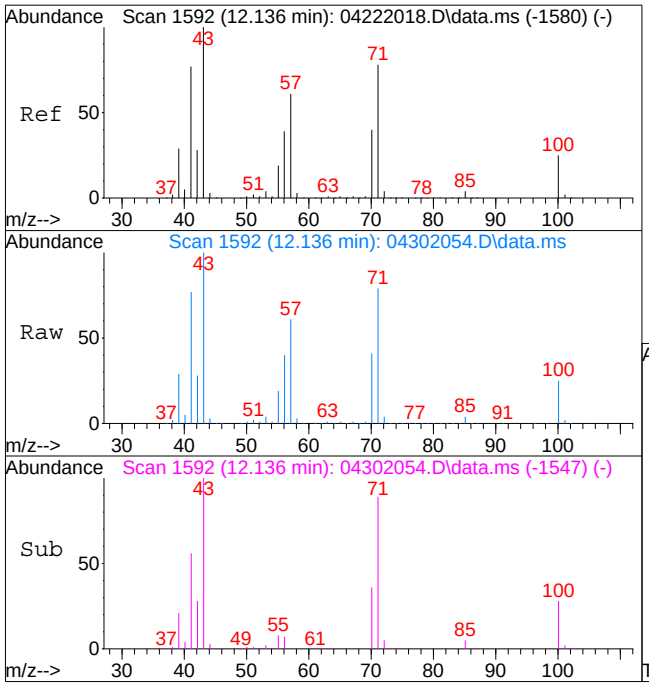


#47
Trichloroethene
Concen: 0.05 ng
RT: 11.83 min Scan# 1536
Delta R.T. 0.005 min
Lab File: 04302054.D
Acq: 1 May 2020 10:57

Tgt Ion:130 Resp: 777

Ion	Ratio	Lower	Upper
130	100		
132	101.0	76.4	116.4

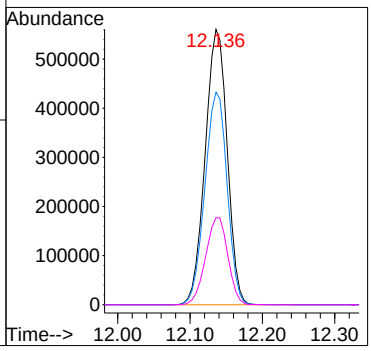


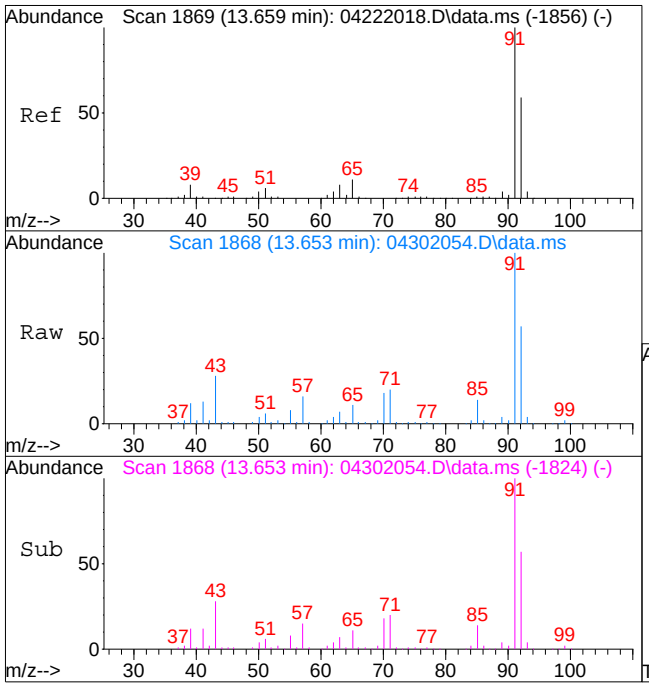


#51
n-Heptane
Concen: 119.05 ng
RT: 12.14 min Scan# 1592
Delta R.T. -0.000 min
Lab File: 04302054.D
Acq: 1 May 2020 10:57

Tgt Ion: 71 Resp: 1187103

Ion	Ratio	Lower	Upper
71	100		
57	78.0	57.4	97.4
100	31.9	12.0	52.0

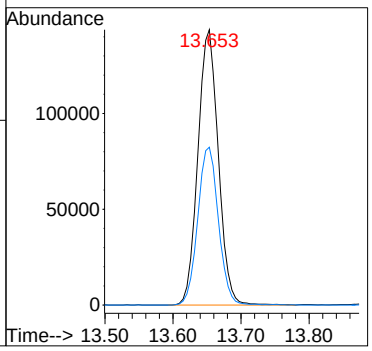


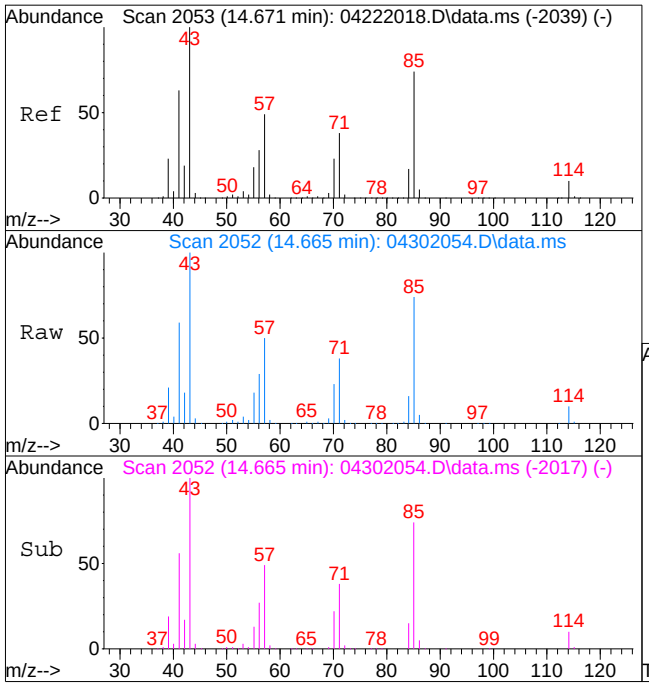


#58
Toluene
Concen: 6.29 ng
RT: 13.65 min Scan# 1868
Delta R.T. -0.006 min
Lab File: 04302054.D
Acq: 1 May 2020 10:57

Tgt Ion: 91 Resp: 299775

Ion	Ratio	Lower	Upper
91	100		
92	58.1	38.2	78.2

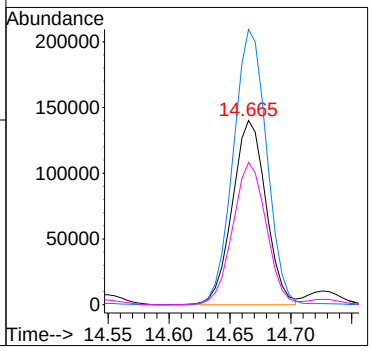


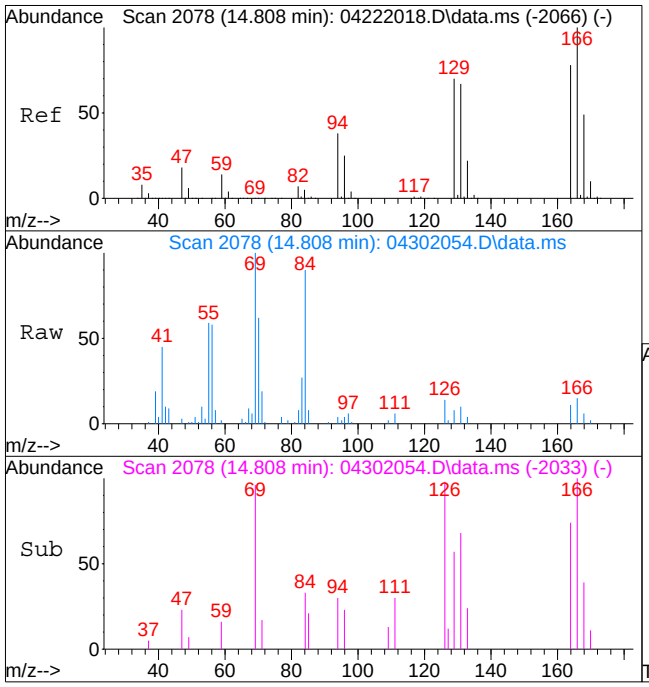


#63
n-Octane
Concen: 35.49 ng
RT: 14.67 min Scan# 2052
Delta R.T. -0.006 min
Lab File: 04302054.D
Acq: 1 May 2020 10:57

Tgt Ion: 57 Resp: 269087

Ion	Ratio	Lower	Upper
57	100		
85	149.1	120.7	181.1
71	77.1	61.1	91.7

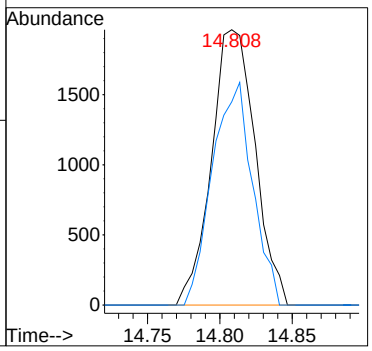


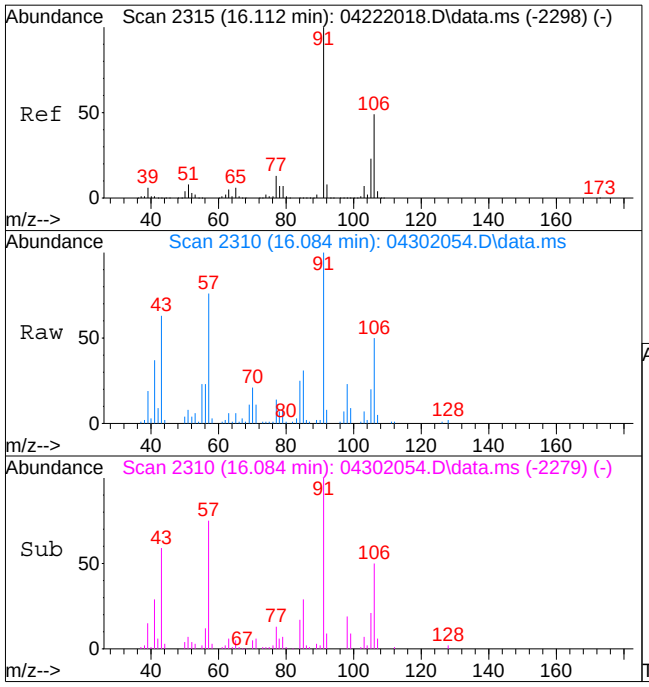


#64
Tetrachloroethene
Concen: 0.23 ng
RT: 14.81 min Scan# 2078
Delta R.T. -0.000 min
Lab File: 04302054.D
Acq: 1 May 2020 10:57

Tgt Ion:166 Resp: 4135

Ion	Ratio	Lower	Upper
166	100		
164	74.4	57.7	97.7

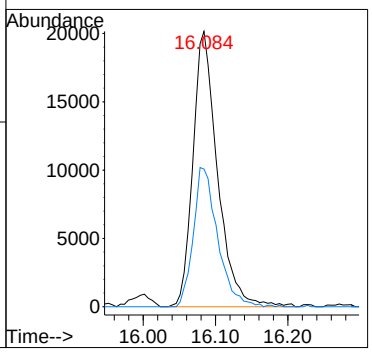


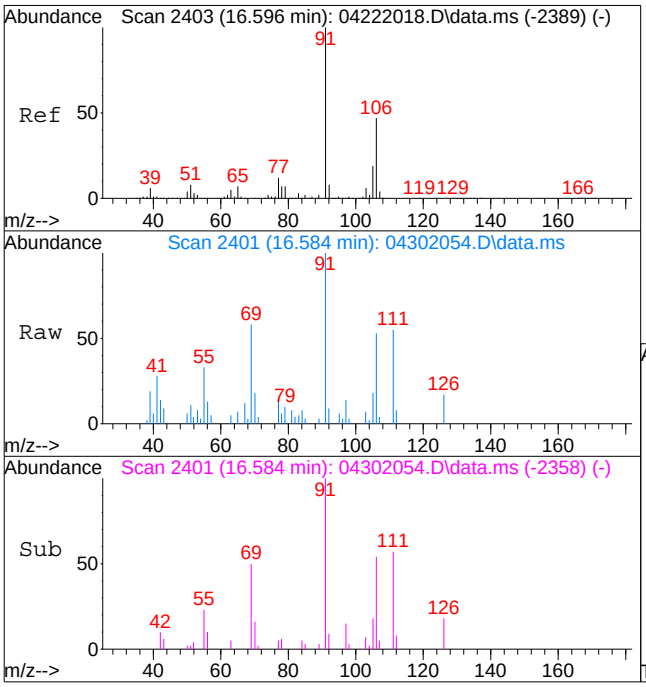


#67
m- & p-Xylenes
Concen: 1.02 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.028 min
Lab File: 04302054.D
Acq: 1 May 2020 10:57

Tgt Ion: 91 Resp: 47567

Ion	Ratio	Lower	Upper
91	100		
106	50.1	28.3	68.3

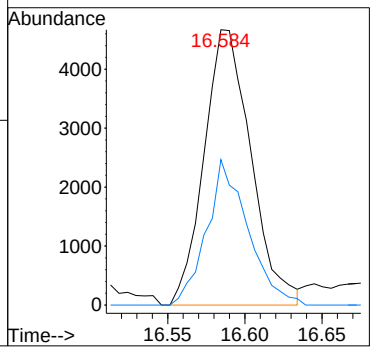


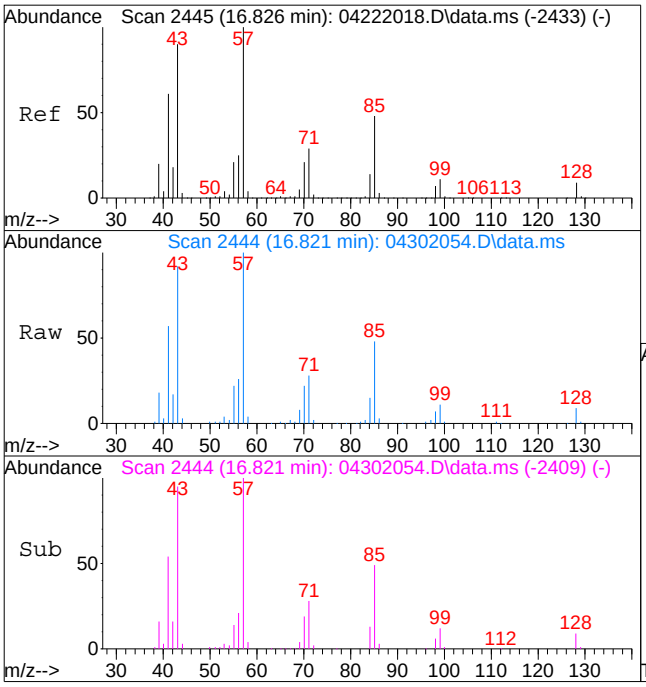


#70
o-Xylene
Concen: 0.22 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 04302054.D
Acq: 1 May 2020 10:57

Tgt Ion: 91 Resp: 9890

Ion	Ratio	Lower	Upper
91	100		
106	46.3	27.5	67.5

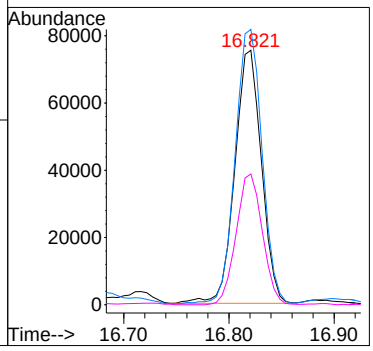




#71
n-Nonane
Concen: 8.93 ng
RT: 16.82 min Scan# 2444
Delta R.T. -0.006 min
Lab File: 04302054.D
Acq: 1 May 2020 10:57

Tgt Ion: 43 Resp: 132490

Ion	Ratio	Lower	Upper
43	100		
57	109.8	90.8	130.8
85	51.0	32.1	72.1



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302055.D Vial: 1
Acq On : 1 May 2020 11:38 Operator: TD
Sample : P2002103-012dil (0.1mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 14:09:54 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/1/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	154574	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	651863	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	287361	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	232273	11.598	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.80%			
57) Toluene-d8 (SS2)	13.55	98	717877	12.938	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.52%			
73) Bromofluorobenzene (SS3)	17.05	174	273870	12.282	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.24%			
Target Compounds						Qvalue
2) Propene	3.89	42	8778	1.337	ng	# 86
3) Dichlorodifluoromethan...	3.99	85	293	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.	d	
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	0.00	45	0	N.D.		
11) Acetonitrile	0.00	41	0	N.D.		
12) Acrolein	0.00	56	0	N.D.	d	
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	6.02	101	260	N.D.		
15) 2-Propanol (Isopropanol)	6.44	45	193	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.	d	
17) 1,1-Dichloroethene	6.73	96	1256	0.115	ng	94
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	6.87	84	3172	0.303	ng	97
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d	
21) Trichlorotrifluoroethane	7.19	151	11075	0.857	ng	98
22) Carbon Disulfide	7.16	76	544	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	8.09	63	422	N.D.		
25) Methyl tert-Butyl Ether	8.31	73	670	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	0.00	72	0	N.D.	d	
28) cis-1,2-Dichloroethene	8.74	61	344	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	0.00	61	0	N.D.	d	
31) n-Hexane	9.24	57	1064564	80.361	ng	99
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d	
38) 1,1,1-Trichloroethane	10.30	97	12632	0.564	ng	99
39) Isopropyl Acetate	0.00	61	0	N.D.	d	
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	10.76	78	99897	2.351	ng	100
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	11.05	84	1016180	61.041	ng	99
44) tert-Amyl Methyl Ether	11.29	73	127	N.D.		
45) 1,2-Dichloropropane	11.58	63	252	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	11.81	130	793	0.054	ng	84
48) 1,4-Dioxane	0.00	88	0	N.D.	d	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302055.D Vial: 1
Acq On : 1 May 2020 11:38 Operator: TD
Sample : P2002103-012dil (0.1mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 14:09:54 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

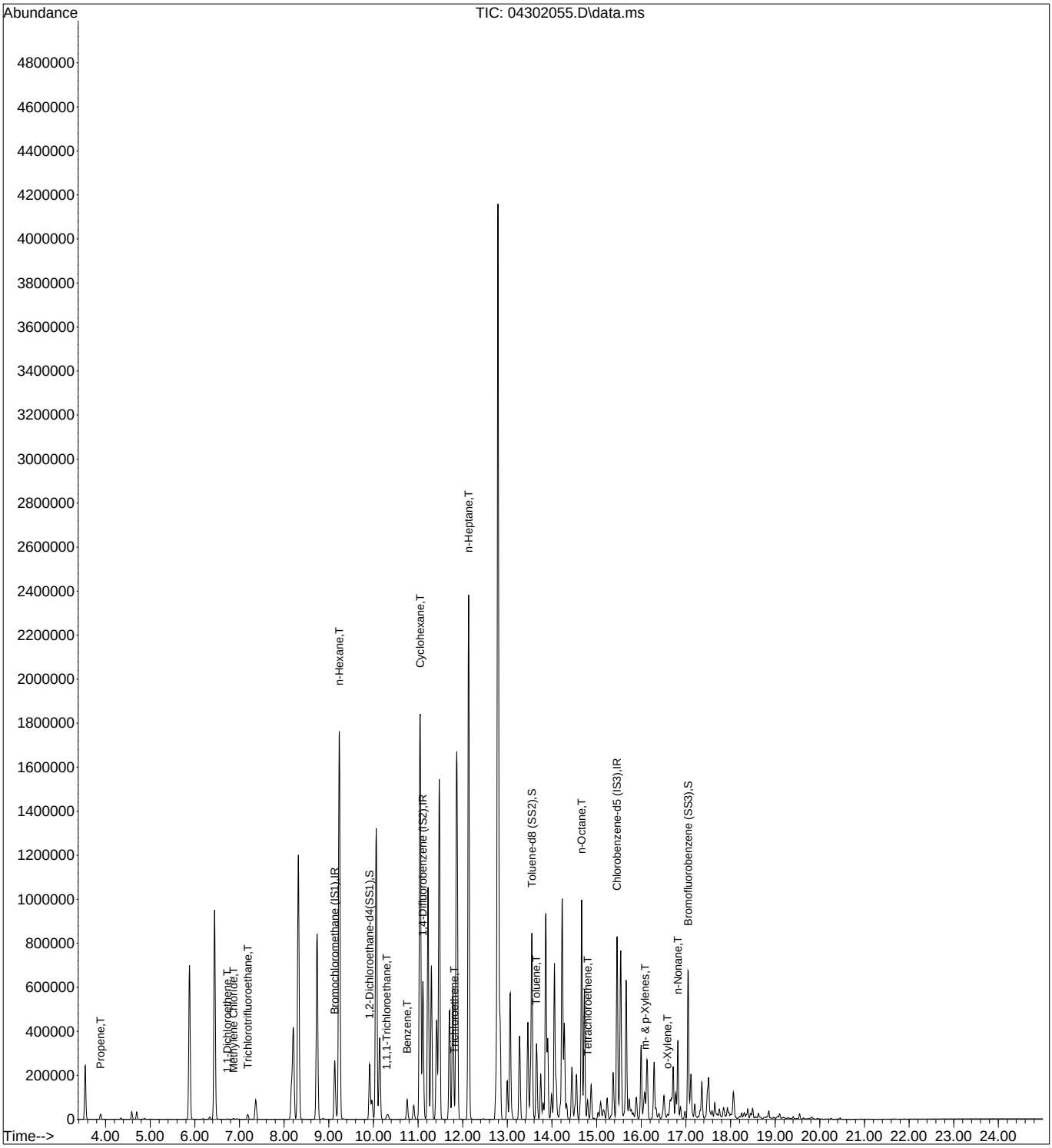
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.14	71	743074	75.261 ng	99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	13.65	91	198657	4.264 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.67	57	193798	26.134 ng	99
64) Tetrachloroethene	14.80	166	3931	0.224 ng	97
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.91	91	2374	N.D.	
67) m- & p-Xylenes	16.08	91	39420	0.861 ng	99
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.59	91	8785	0.195 ng	95
71) n-Nonane	16.82	43	110221	7.598 ng	99
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	17.20	105	415	N.D.	
75) alpha-Pinene	17.60	93	443	N.D.	
76) n-Propylbenzene	17.73	91	1168	N.D.	
77) 3-Ethyltoluene	17.84	105	1800	N.D.	
78) 4-Ethyltoluene	17.89	105	485	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	1891	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	18.16	105	751	N.D.	
82) 1,2,4-Trimethylbenzene	18.39	105	1896	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.64	91	160	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	18.67	105	596	N.D.	
88) 4-Isopropyltoluene (p-...	18.84	119	1116	N.D.	
89) 1,2,3-Trimethylbenzene	18.83	105	945	N.D.	
90) 1,2-Dichlorobenzene	18.98	146	306	N.D.	
91) d-Limonene	18.98	68	522	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	0.00	128	0	N.D.	
96) n-Dodecane	20.92	57	687	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	18.38	119	574	N.D.	
100) n-Butylbenzene	19.29	91	432	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302055.D Vial: 1
Acq On : 1 May 2020 11:38 Operator: TD
Sample : P2002103-012dil (0.1mL) Inst : MS09
Misc : S34-04212006

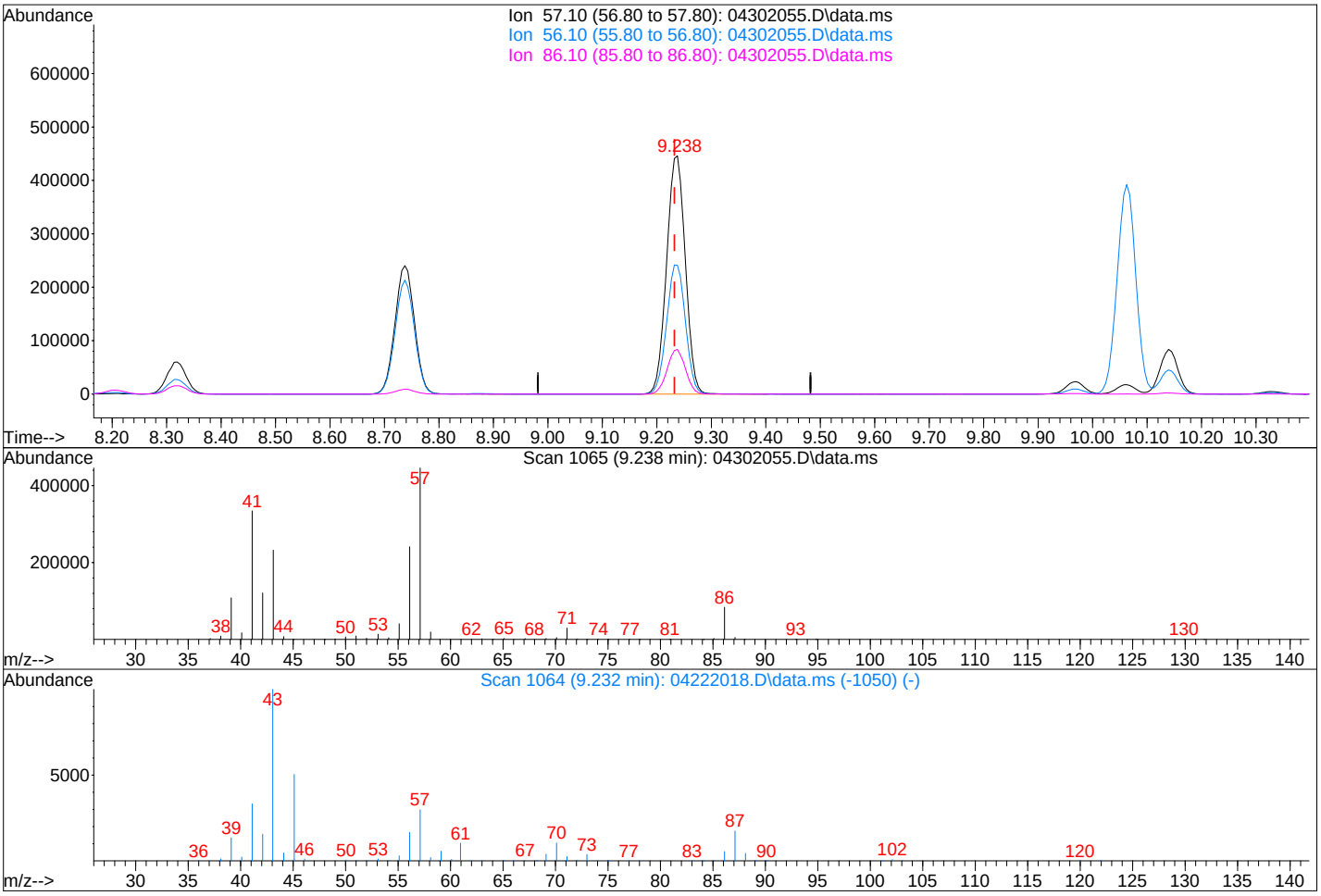
Quant Time: May 01 14:09:54 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\30\04302055.D Vial: 1
Acq On : 1 May 2020 11:38 Operator: TD
Sample : P2002103-012dil (0.1mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 13:37:15 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04302055.D\data.ms

(31) n-Hexane (T)

9.238min (+0.005) 80.36ng

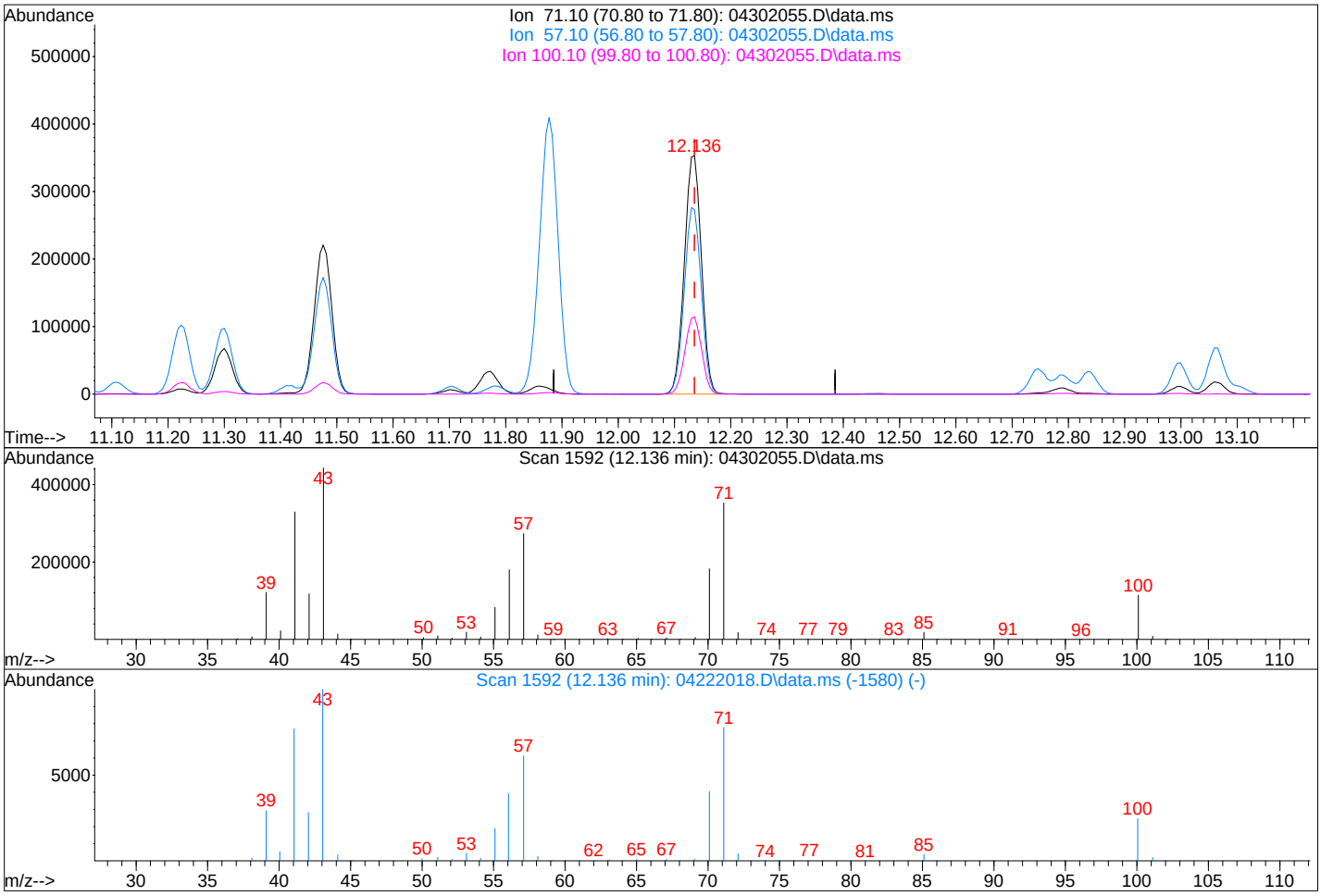
response 1064564

Ion	Exp%	Act%
57.10	100	100
56.10	55.00	54.59
86.10	18.70	18.32
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\30\04302055.D Vial: 1
Acq On : 1 May 2020 11:38 Operator: TD
Sample : P2002103-012dil (0.1mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 13:37:15 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04302055.D\data.ms

(51) n-Heptane (T)

12.136min (-0.000) 75.26ng

response 743074

Ion	Exp%	Act%
71.10	100	100
57.10	77.40	78.16
100.10	32.00	31.95
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302059.D Vial: 16
Acq On : 1 May 2020 13:58 Operator: SC
Sample : P2002103-013 (15mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 14:26:51 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/1/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	156836	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	653887	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	306031	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	247085	12.160	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.28%			
57) Toluene-d8 (SS2)	13.55	98	717170	12.137	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.12%			
73) Bromofluorobenzene (SS3)	17.05	174	274040	11.540	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.32%			
Target Compounds						Qvalue
2) Propene	3.86	42	17009m	2.553	ng	
3) Dichlorodifluoromethan...	3.98	85	66981	2.647	ng	100
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.	d	
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.	d	
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.43	45	95	N.D.		
11) Acetonitrile	0.00	41	0	N.D.		
12) Acrolein	0.00	56	0	N.D.	d	
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	6.03	101	5350	0.212	ng	97
15) 2-Propanol (Isopropanol)	6.44	45	598	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.	d	
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	0.00	84	0	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d	
21) Trichlorotrifluoroethane	7.19	151	14944	1.140	ng	100
22) Carbon Disulfide	7.18	76	960	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	8.11	63	231	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	d	
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	0.00	72	0	N.D.	d	
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.	d	
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	0.00	61	0	N.D.	d	
31) n-Hexane	9.24	57	444844	33.096	ng	100
32) Chloroform	9.27	83	662	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d	
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	10.72	78	114	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.	d	
43) Cyclohexane	11.05	84	2615313	156.612	ng	99
44) tert-Amyl Methyl Ether	11.31	73	919	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d	
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	11.81	130	6983	0.473	ng	100
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302059.D Vial: 16
Acq On : 1 May 2020 13:58 Operator: SC
Sample : P2002103-013 (15mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 14:26:51 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

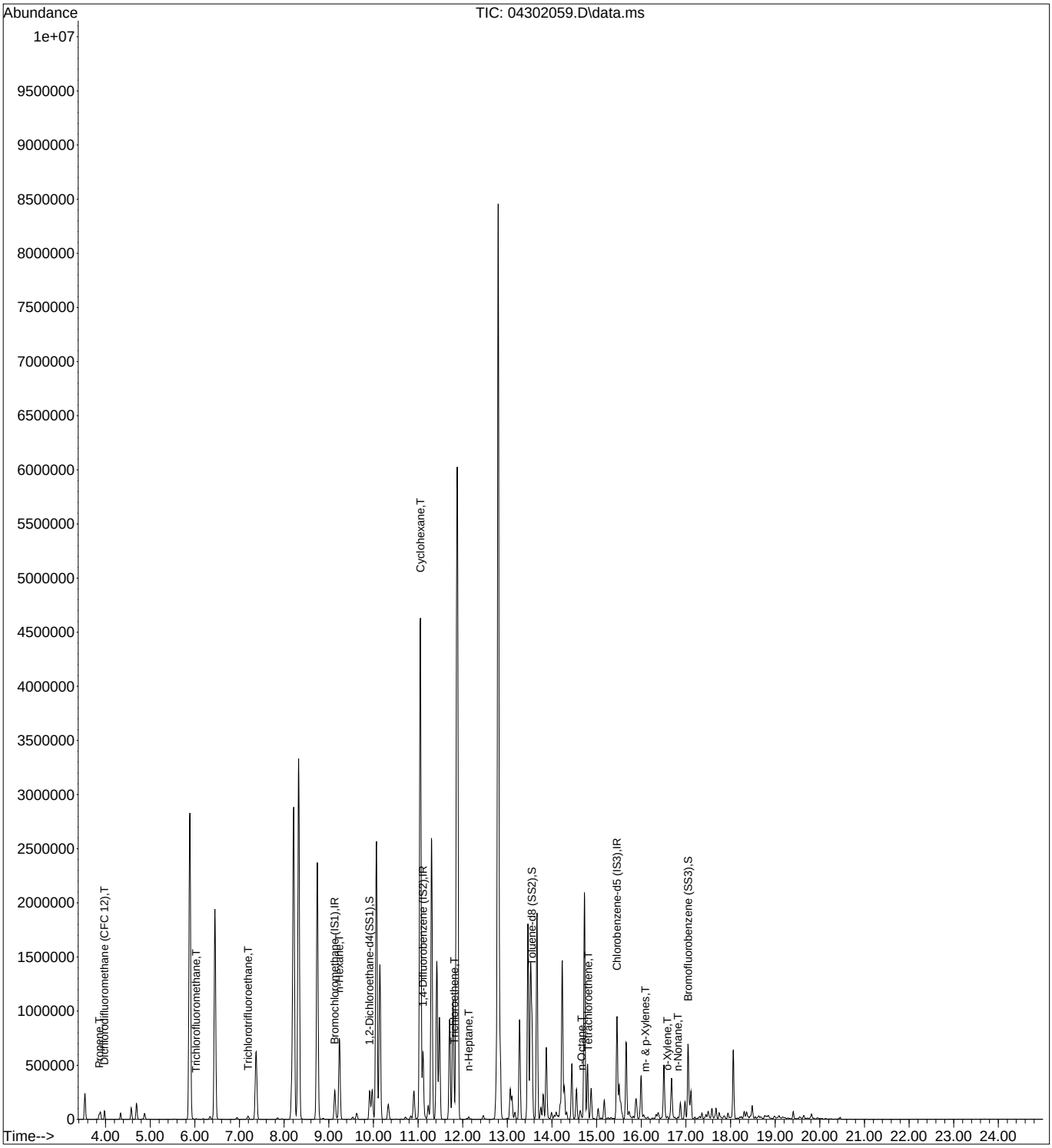
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	12.14	71	5349	0.540 ng		96
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d		
54) trans-1,3-Dichloropropene	13.28	75	161	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d		
58) Toluene	0.00	91	0	N.D. d		
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D. d		
63) n-Octane	14.67	57	5658	0.716 ng	#	73
64) Tetrachloroethene	14.81	166	2203	0.118 ng		92
65) Chlorobenzene	0.00	112	0	N.D. d		
66) Ethylbenzene	15.90	91	2488	N.D.		
67) m- & p-Xylenes	16.09	91	4190	0.086 ng		93
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	16.59	91	5629	0.118 ng		93
71) n-Nonane	16.82	43	5675	0.367 ng		95
72) 1,1,2,2-Tetrachloroethane	16.58	83	360	N.D.		
74) Cumene	17.21	105	326	N.D.		
75) alpha-Pinene	17.59	93	147	N.D.		
76) n-Propylbenzene	17.74	91	1228	N.D.		
77) 3-Ethyltoluene	17.84	105	221	N.D.		
78) 4-Ethyltoluene	17.89	105	175	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	466	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	18.17	105	234	N.D.		
82) 1,2,4-Trimethylbenzene	18.40	105	541	N.D.		
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	18.48	91	1702	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	18.67	105	287	N.D.		
88) 4-Isopropyltoluene (p-...	18.84	119	190	N.D.		
89) 1,2,3-Trimethylbenzene	18.84	105	400	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	0.00	68	0	N.D. d		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	0.00	128	0	N.D.		
96) n-Dodecane	20.92	57	312	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D.		
100) n-Butylbenzene	19.27	91	233	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302059.D Vial: 16
Acq On : 1 May 2020 13:58 Operator: SC
Sample : P2002103-013 (15mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 14:26:51 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

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Acq On : 1 May 2020 13:58 Operator: SC
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Response via : Initial Calibration
DataAcq Meth:TO15.M

5/1/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	156836	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	653887	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	306031	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	247085	12.160	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.28%				
57) Toluene-d8 (SS2)	13.55	98	717170	12.137	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.12%				
73) Bromofluorobenzene (SS3)	17.05	174	274040	11.540	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.32%				
Target Compounds							Qvalue
2) Propene	3.86	42	17009m	2.553	ng		
3) Dichlorodifluoromethan...	3.98	85	66981	2.647	ng		100
14) Trichlorofluoromethane	6.03	101	5350	0.212	ng		97
21) Trichlorotrifluoroethane	7.19	151	14944	1.140	ng		100
31) n-Hexane	9.24	57	444844	33.096	ng		100
43) Cyclohexane	11.05	84	2615313	156.612	ng		99
47) Trichloroethene	11.81	130	6983	0.473	ng		100
51) n-Heptane	12.14	71	5349	0.540	ng		96
63) n-Octane	14.67	57	5658	0.716	ng	#	73
64) Tetrachloroethene	14.81	166	2203	0.118	ng		92
67) m- & p-Xylenes	16.09	91	4190	0.086	ng		93
70) o-Xylene	16.59	91	5629	0.118	ng		93
71) n-Nonane	16.82	43	5675	0.367	ng		95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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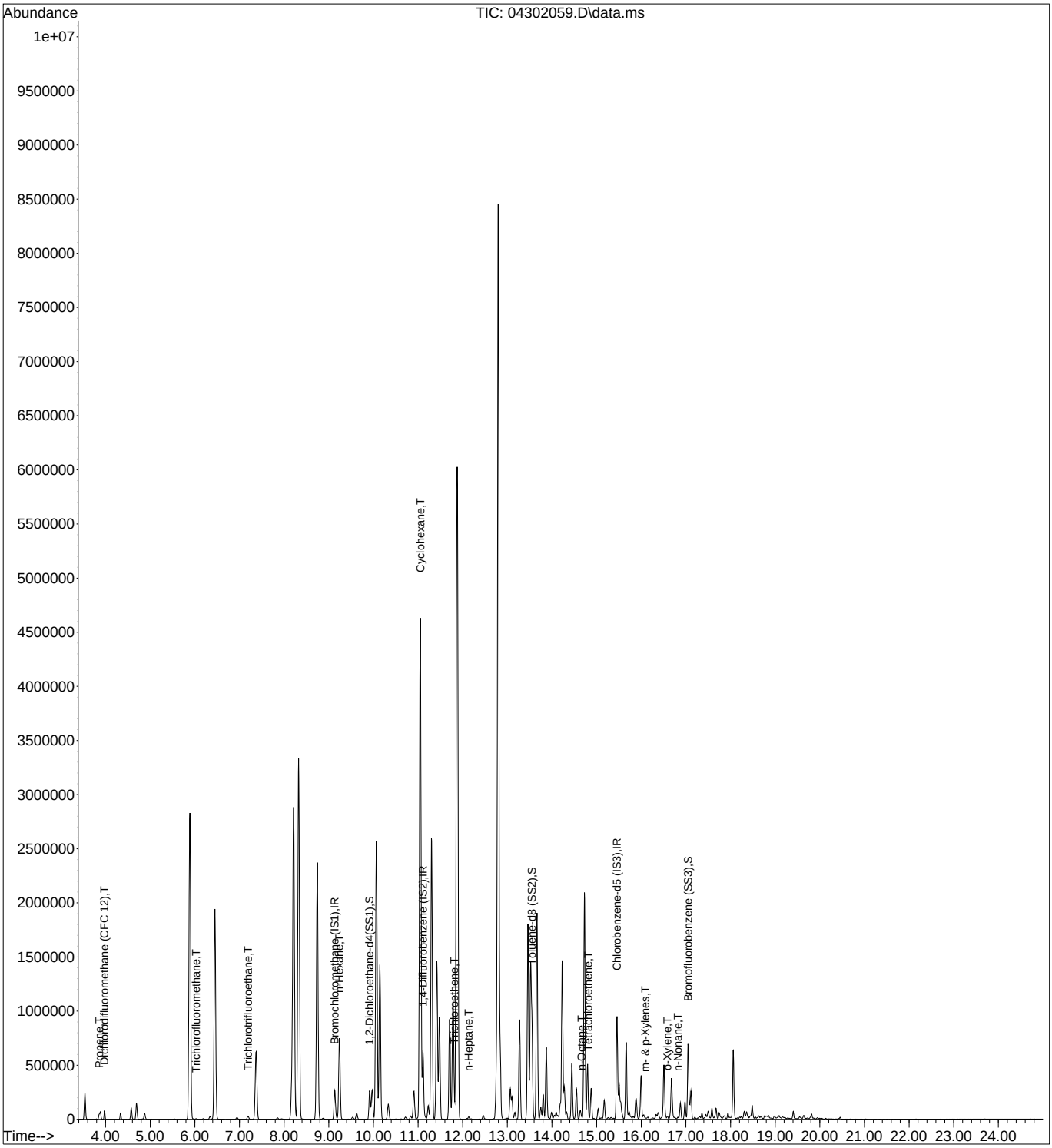
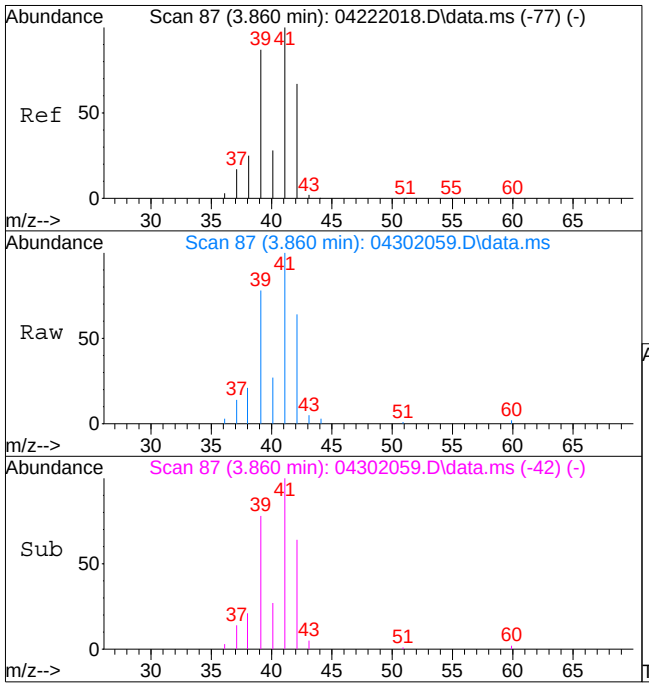
DataAcq Meth:TO15.M

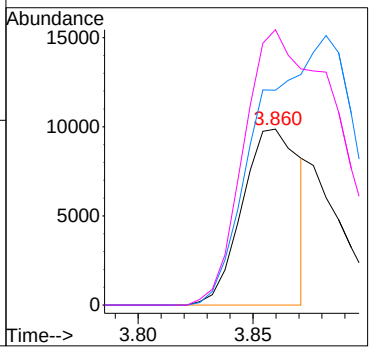


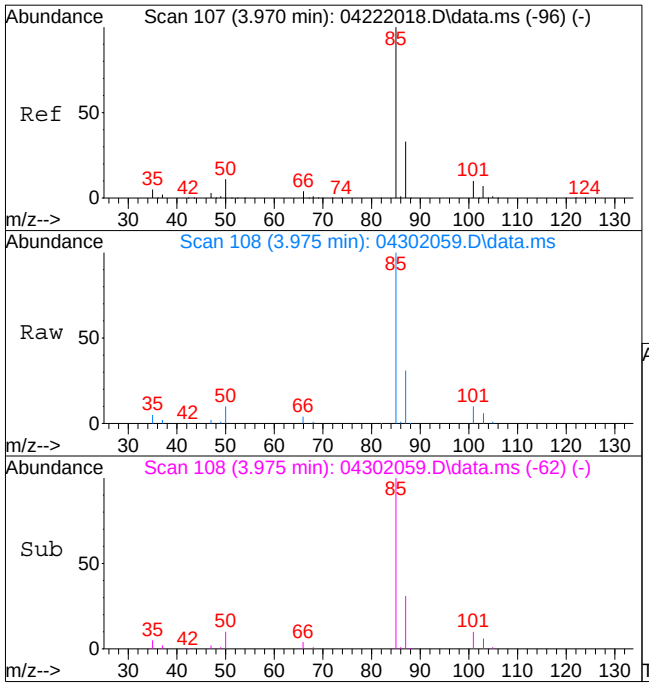


#2
Propene
Concen: 2.55 ng m
RT: 3.86 min Scan# 87
Delta R.T. 0.000 min
Lab File: 04302059.D
Acq: 1 May 2020 13:58

Tgt Ion: 42 Resp: 17009

Ion	Ratio	Lower	Upper
42	100		
39	263.2	106.4	146.4#
41	262.1	128.8	168.8#

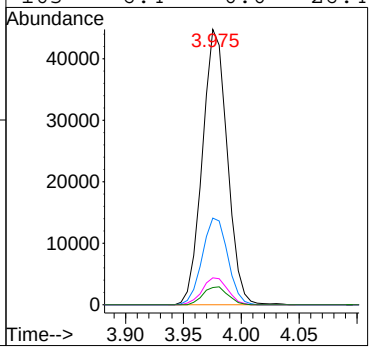


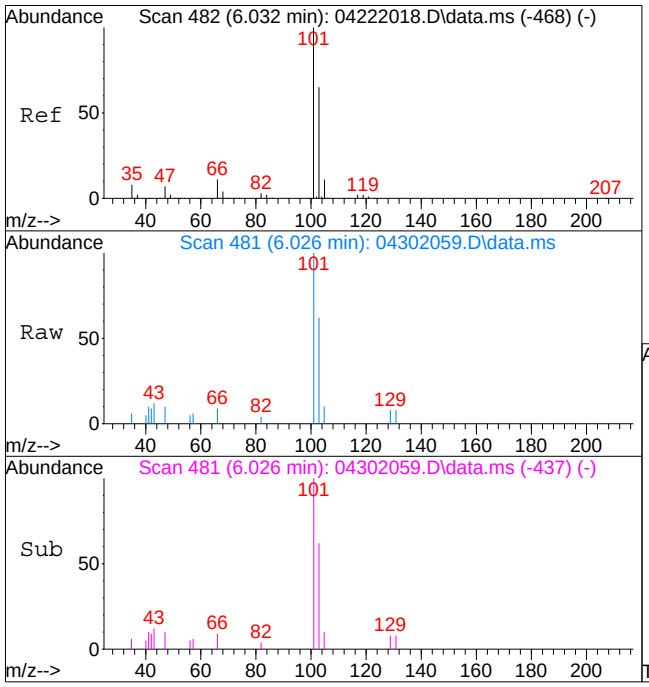


#3
Dichlorodifluoromethane (CFC 12)
Concen: 2.65 ng
RT: 3.98 min Scan# 108
Delta R.T. 0.006 min
Lab File: 04302059.D
Acq: 1 May 2020 13:58

Tgt Ion: 85 Resp: 66981

Ion	Ratio	Lower	Upper
85	100		
87	32.2	12.4	52.4
101	10.0	0.0	29.9
103	6.4	0.0	26.4

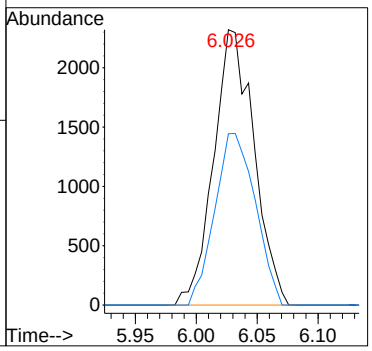


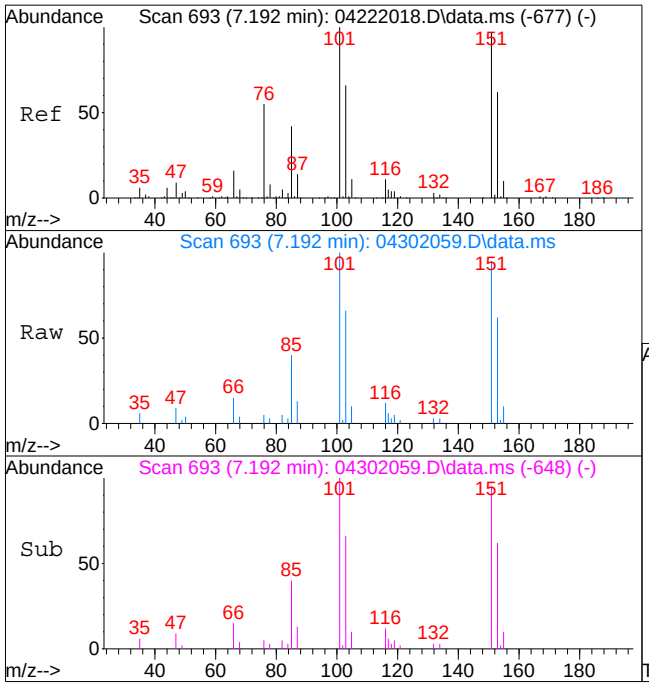


#14
Trichlorofluoromethane
Concen: 0.21 ng
RT: 6.03 min Scan# 481
Delta R.T. -0.005 min
Lab File: 04302059.D
Acq: 1 May 2020 13:58

Tgt Ion:101 Resp: 5350

Ion	Ratio	Lower	Upper
101	100		
103	62.6	44.7	84.7

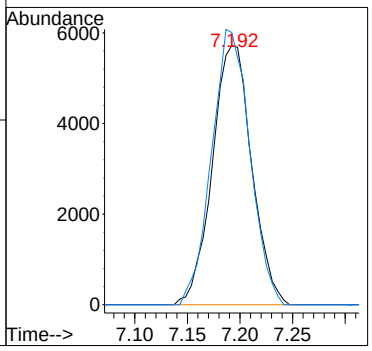


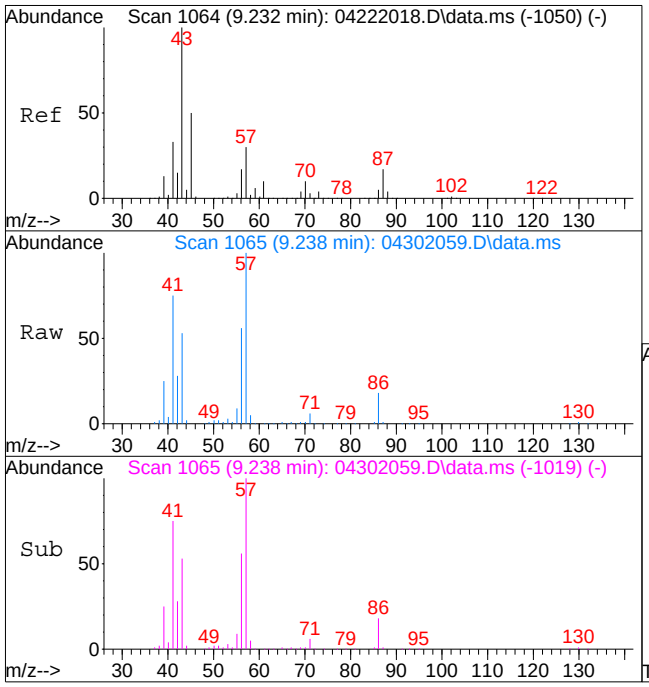


#21
Trichlorotrifluoroethane
Concen: 1.14 ng
RT: 7.19 min Scan# 693
Delta R.T. 0.000 min
Lab File: 04302059.D
Acq: 1 May 2020 13:58

Tgt Ion:151 Resp: 14944

Ion	Ratio	Lower	Upper
151	100		
101	103.0	82.9	122.9

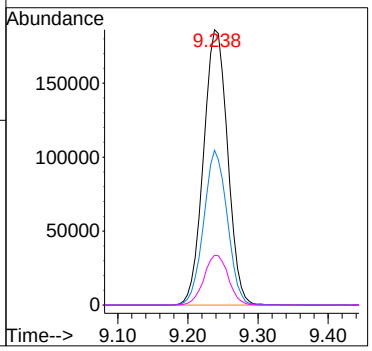


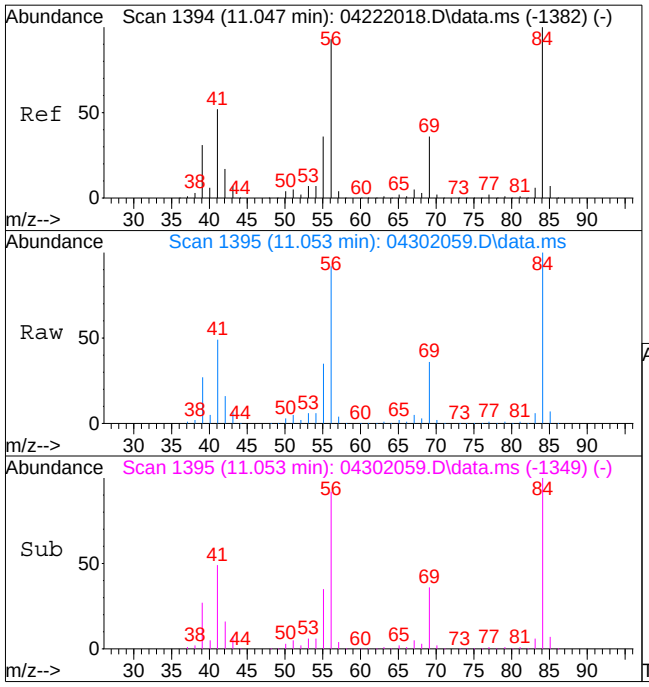


#31
n-Hexane
Concen: 33.10 ng
RT: 9.24 min Scan# 1065
Delta R.T. 0.006 min
Lab File: 04302059.D
Acq: 1 May 2020 13:58

Tgt Ion: 57 Resp: 444844

Ion	Ratio	Lower	Upper
57	100		
56	54.9	44.0	66.0
86	18.2	15.0	22.4

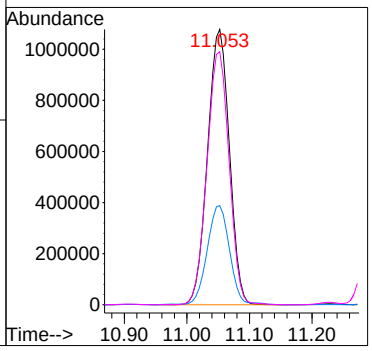


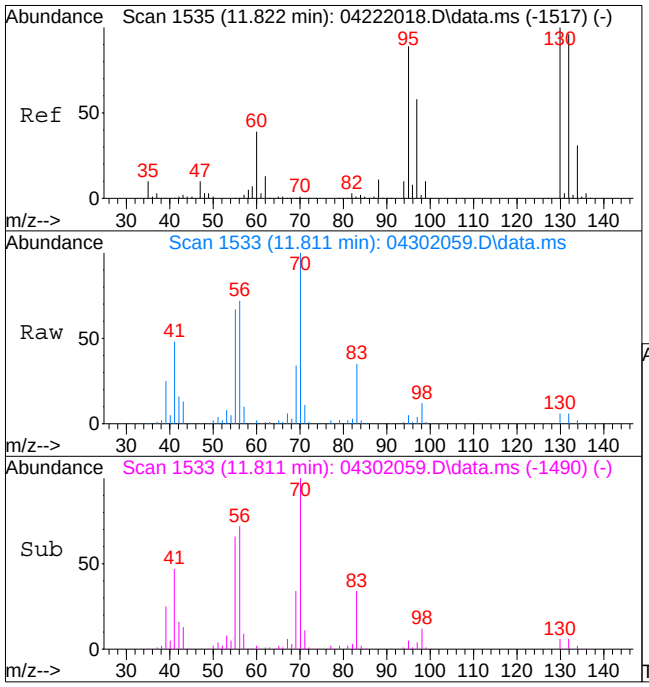


#43
Cyclohexane
Concen: 156.61 ng
RT: 11.05 min Scan# 1395
Delta R.T. 0.006 min
Lab File: 04302059.D
Acq: 1 May 2020 13:58

Tgt Ion: 84 Resp: 2615313

Ion	Ratio	Lower	Upper
84	100		
69	36.9	15.8	55.8
56	93.3	72.0	112.0

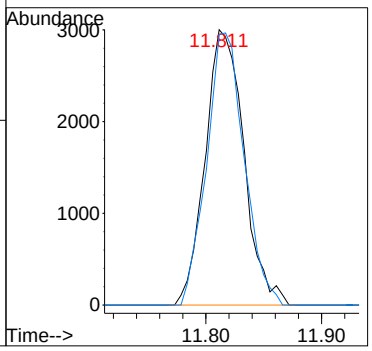


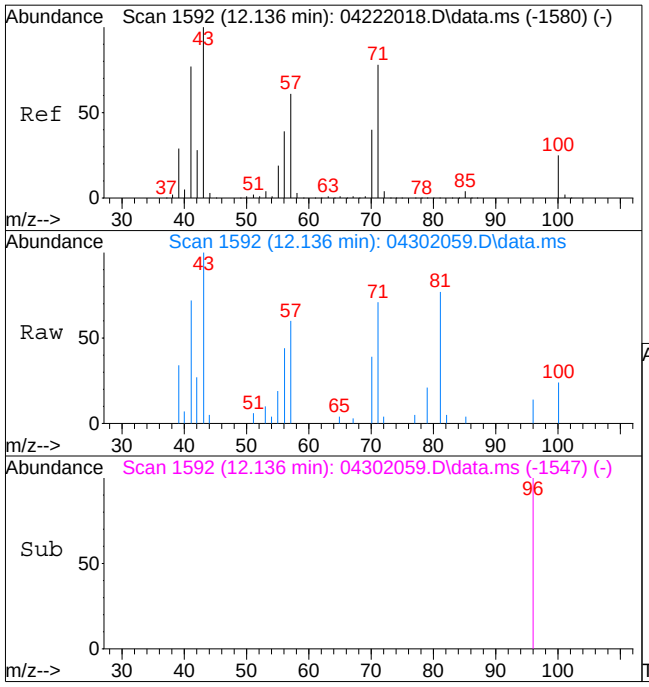


#47
Trichloroethene
Concen: 0.47 ng
RT: 11.81 min Scan# 1533
Delta R.T. -0.011 min
Lab File: 04302059.D
Acq: 1 May 2020 13:58

Tgt Ion:130 Resp: 6983

Ion	Ratio	Lower	Upper
130	100		
132	96.0	76.4	116.4

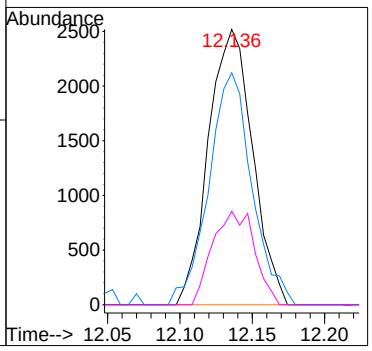


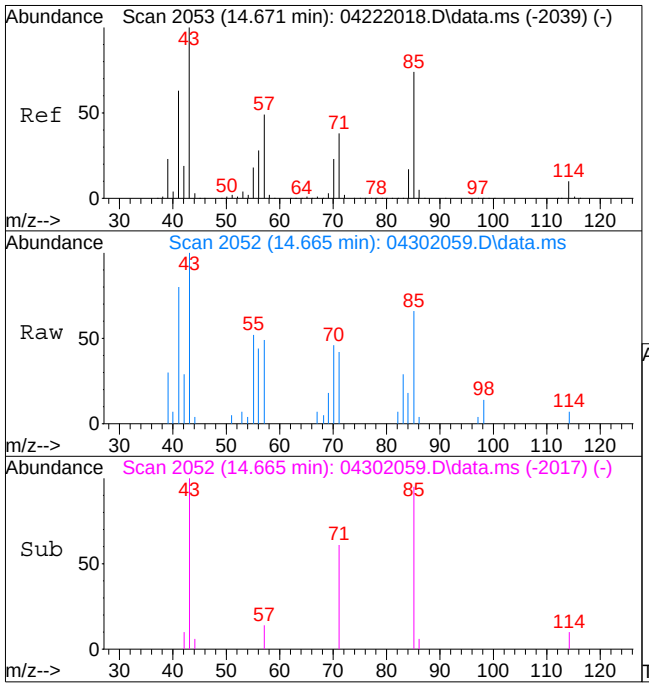


#51
n-Heptane
Concen: 0.54 ng
RT: 12.14 min Scan# 1592
Delta R.T. 0.000 min
Lab File: 04302059.D
Acq: 1 May 2020 13:58

Tgt Ion: 71 Resp: 5349

Ion	Ratio	Lower	Upper
71	100		
57	82.2	57.4	97.4
100	32.2	12.0	52.0

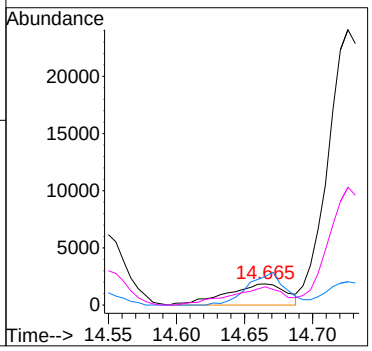


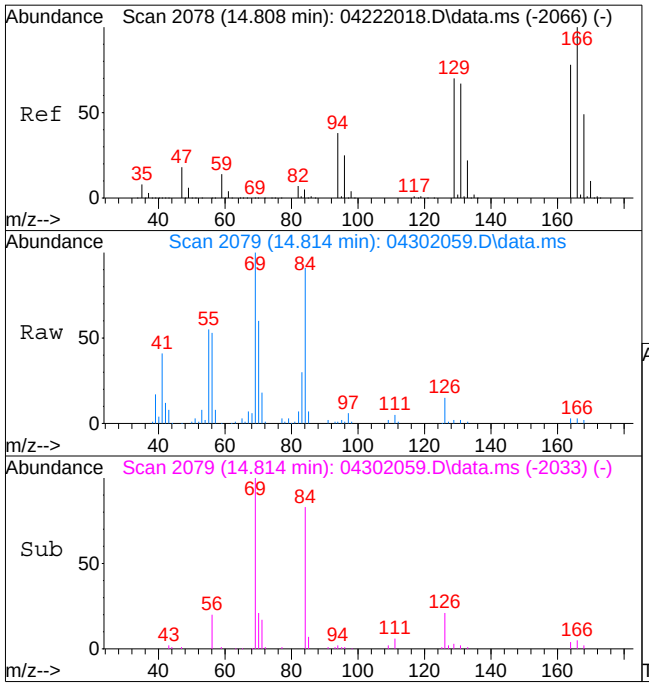


#63
n-Octane
Concen: 0.72 ng
RT: 14.67 min Scan# 2052
Delta R.T. -0.005 min
Lab File: 04302059.D
Acq: 1 May 2020 13:58

Tgt Ion: 57 Resp: 5658

Ion	Ratio	Lower	Upper
57	100		
85	98.9	120.7	181.1#
71	76.5	61.1	91.7

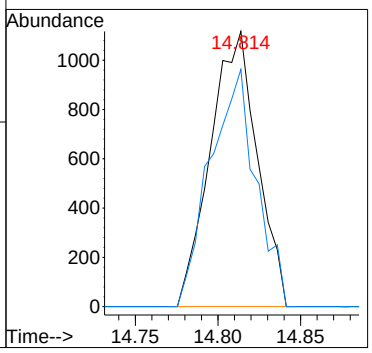


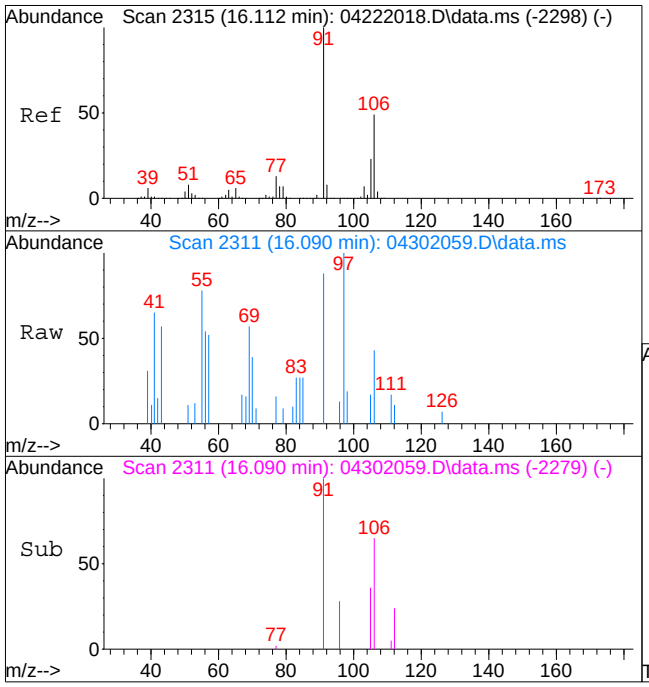


#64
Tetrachloroethene
Concen: 0.12 ng
RT: 14.81 min Scan# 2079
Delta R.T. 0.005 min
Lab File: 04302059.D
Acq: 1 May 2020 13:58

Tgt Ion:166 Resp: 2203

Ion	Ratio	Lower	Upper
166	100		
164	84.6	57.7	97.7

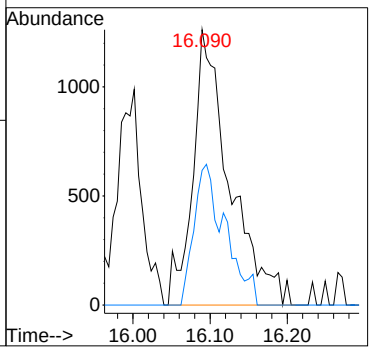


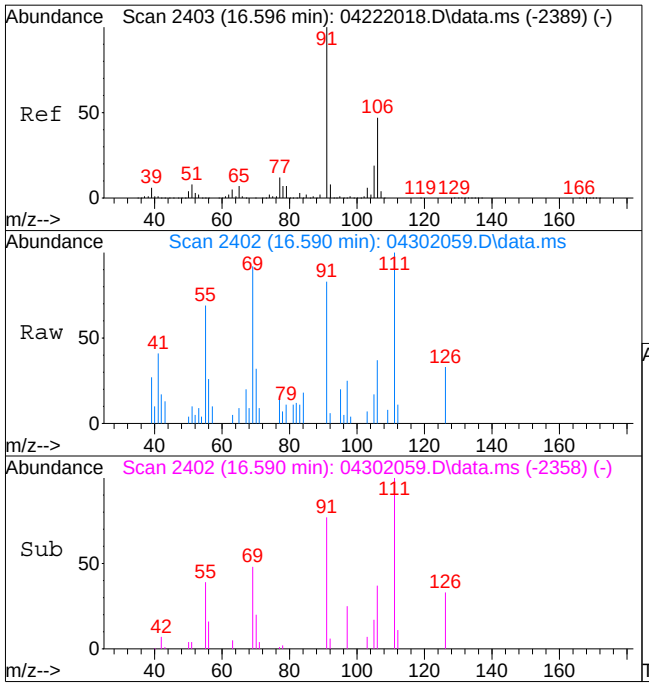


#67
m- & p-Xylenes
Concen: 0.09 ng
RT: 16.09 min Scan# 2311
Delta R.T. -0.022 min
Lab File: 04302059.D
Acq: 1 May 2020 13:58

Tgt Ion: 91 Resp: 4190

Ion	Ratio	Lower	Upper
91	100		
106	43.3	28.3	68.3

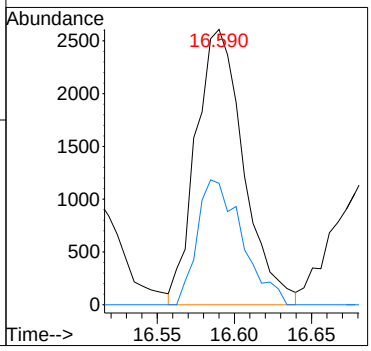


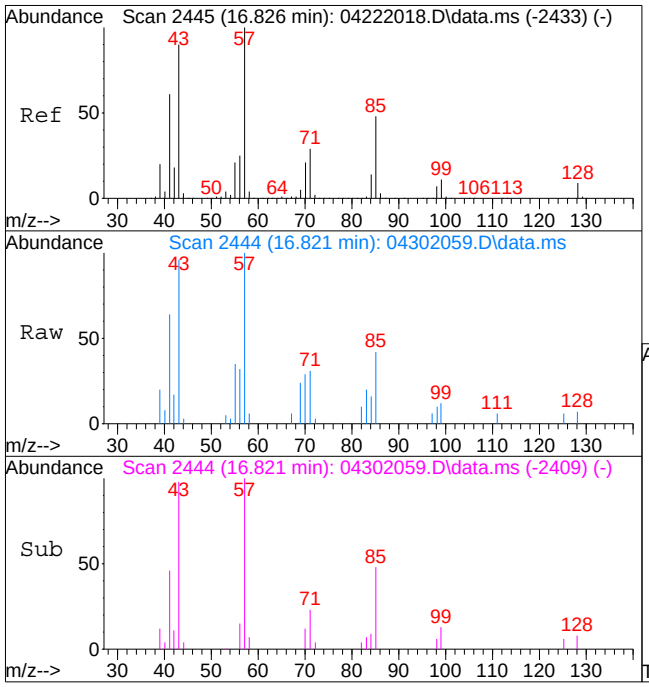


#70
o-Xylene
Concen: 0.12 ng
RT: 16.59 min Scan# 2402
Delta R.T. -0.005 min
Lab File: 04302059.D
Acq: 1 May 2020 13:58

Tgt Ion: 91 Resp: 5629

Ion	Ratio	Lower	Upper
91	100		
106	42.6	27.5	67.5

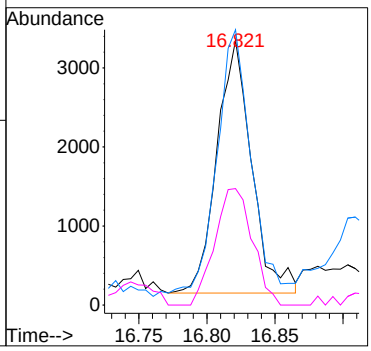




#71
n-Nonane
Concen: 0.37 ng
RT: 16.82 min Scan# 2444
Delta R.T. -0.005 min
Lab File: 04302059.D
Acq: 1 May 2020 13:58

Tgt Ion: 43 Resp: 5675

Ion	Ratio	Lower	Upper
43	100		
57	105.1	90.8	130.8
85	49.9	32.1	72.1



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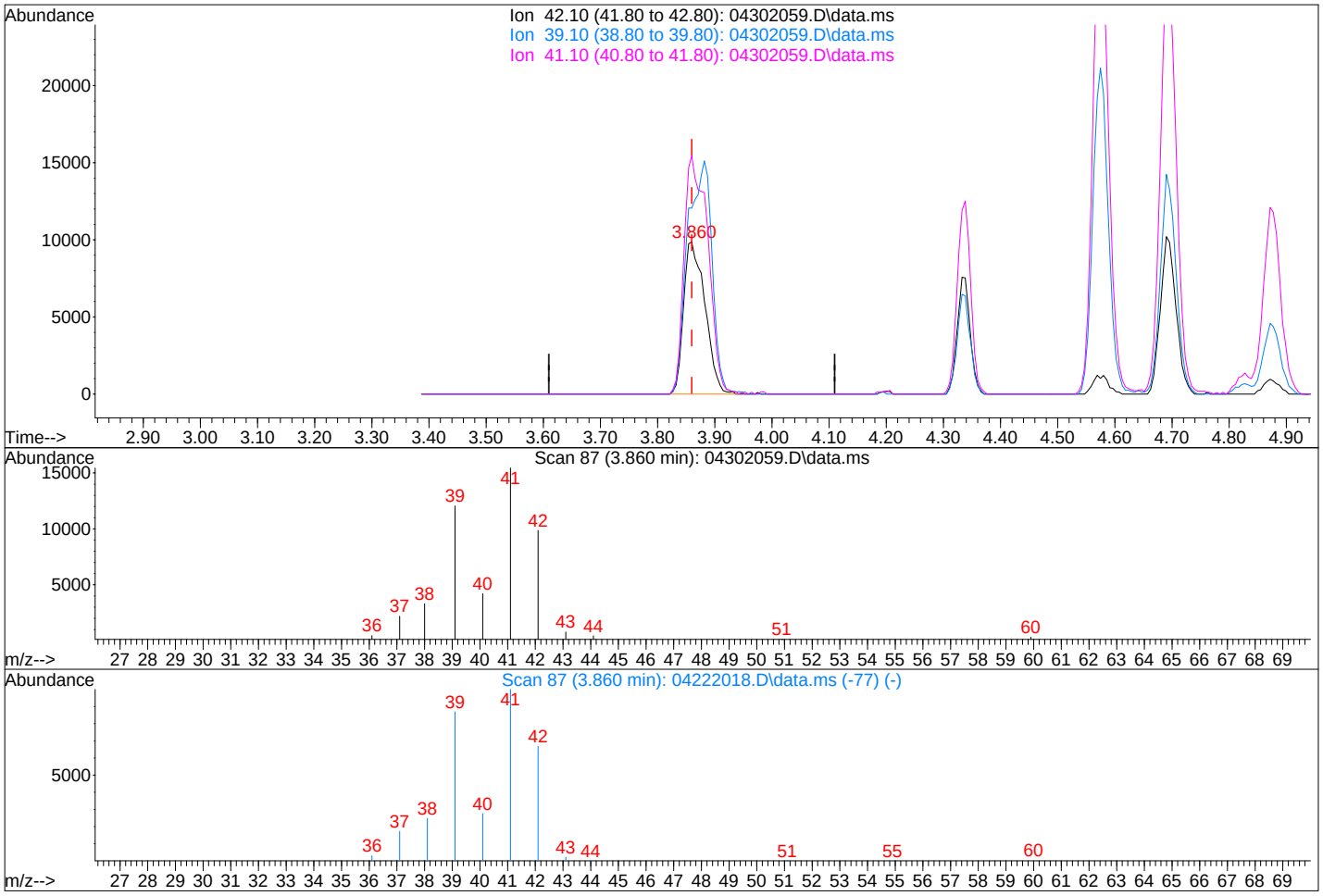
Data File : I:\MS09\Data\2020_04\30\04302059.D Vial: 16
Acq On : 1 May 2020 13:58 Operator: SC
Sample : P2002103-013 (15mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 14:24:01 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04302059.D\data.ms

(2) Propene (T)

3.860min (0.000) 3.84ng

response 25608

Ion	Exp%	Act%
42.10	100	100
39.10	126.40	174.82#
41.10	148.80	174.09#
0.00	0.00	0.00

Quantitation Report (Qedit)

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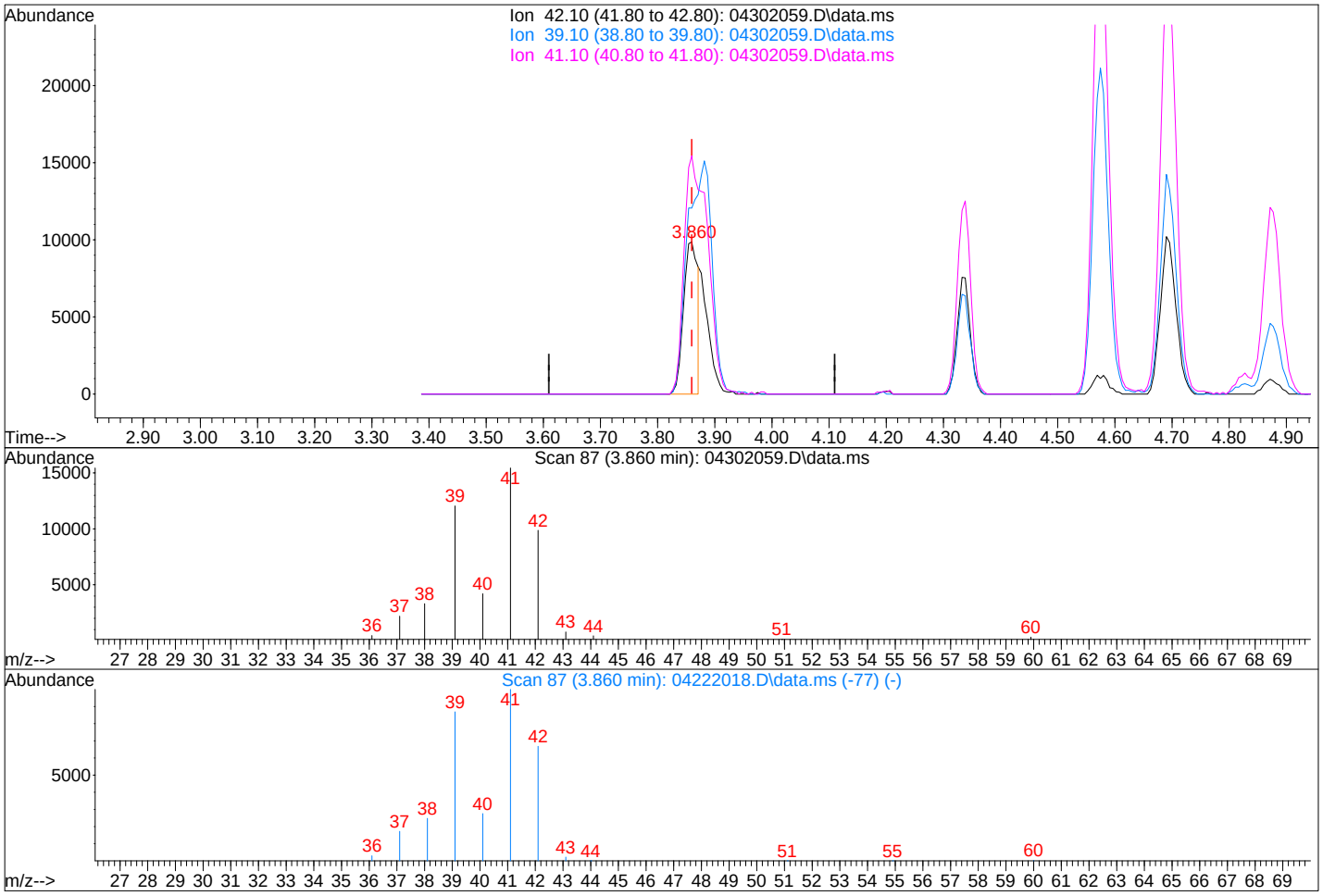

TIC: 04302059.D\data.ms

(2) Propene (T)

3.860min (0.000) 2.55ng m

response 17009

Ion	Exp%	Act%
42.10	100	100
39.10	126.40	263.20#
41.10	148.80	262.11#
0.00	0.00	0.00

IPC

5/1/20

5/4/20

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302067.D Vial: 9
Acq On : 1 May 2020 18:29 Operator: SC
Sample : P2002103-014 (40mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 19:02:48 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/1/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	158453	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	679541	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	305884	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	235989	11.495	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.00%				
57) Toluene-d8 (SS2)	13.55	98	724741	12.271	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.16%				
73) Bromofluorobenzene (SS3)	17.05	174	274630	11.570	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.56%				
Target Compounds							Qvalue
2) Propene	3.87	42	13789	2.049	ng	#	86
3) Dichlorodifluoromethan...	3.97	85	20001	0.782	ng		100
4) Chloromethane	4.17	50	11167	1.184	ng		96
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	315	N.D.			
6) Vinyl Chloride	4.46	62	2585	0.209	ng		95
7) 1,3-Butadiene	0.00	54	0	N.D.	d		
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.16	64	1223	0.195	ng		83
10) Ethanol	5.42	45	154	N.D.			
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	0.00	56	0	N.D.	d		
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	6.03	101	1096	N.D.			
15) 2-Propanol (Isopropanol)	6.24	45	41	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	6.95	59	811	N.D.			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	7.18	151	4138	0.313	ng		98
22) Carbon Disulfide	7.16	76	212795	5.963	ng		96
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	8.10	63	2685	0.152	ng		92
25) Methyl tert-Butyl Ether	8.20	73	440	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	8.55	72	2413	0.384	ng	#	90
28) cis-1,2-Dichloroethene	8.74	61	481	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	9.24	57	1101222	81.093	ng		100
32) Chloroform	9.29	83	477	N.D.			
34) Tetrahydrofuran (THF)	9.68	72	12992	2.040	ng		97
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	10.79	56	117	N.D.			
41) Benzene	10.76	78	425452	9.604	ng		100
42) Carbon Tetrachloride	10.91	117	3498	0.153	ng		95
43) Cyclohexane	11.05	84	1204809	69.423	ng		98
44) tert-Amyl Methyl Ether	11.29	73	173	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	11.81	130	2725	0.178	ng		97
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

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Misc : S34-04212006

Quant Time: May 01 19:02:48 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.14	71	762617	74.095 ng	99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	12.96	75	196	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	13.65	91	1092794	22.038 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.67	57	137284	17.392 ng	98
64) Tetrachloroethene	14.81	166	894	N.D.	
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.90	91	50892	0.881 ng	99
67) m- & p-Xylenes	16.08	91	117619	2.413 ng	99
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.58	104	612	N.D.	
70) o-Xylene	16.58	91	29016	0.606 ng	98
71) n-Nonane	16.82	43	27979	1.812 ng	98
72) 1,1,2,2-Tetrachloroethane	16.58	83	136	N.D.	
74) Cumene	17.19	105	7380	0.118 ng	97
75) alpha-Pinene	17.74	93	207	N.D.	
76) n-Propylbenzene	17.73	91	6699	0.098 ng	87
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	2931	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	5266	0.096 ng	93
80) alpha-Methylstyrene	18.12	118	618	N.D.	
81) 2-Ethyltoluene	18.16	105	2091	N.D.	
82) 1,2,4-Trimethylbenzene	18.39	105	2950	0.056 ng	87
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.62	91	208	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	18.67	105	630	N.D.	
88) 4-Isopropyltoluene (p-...	18.84	119	524	N.D.	
89) 1,2,3-Trimethylbenzene	18.84	105	808	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	18.99	68	393	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	19.82	57	847	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	0.00	128	0	N.D.	
96) n-Dodecane	0.00	57	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	18.39	119	521	N.D.	
100) n-Butylbenzene	19.28	91	464	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

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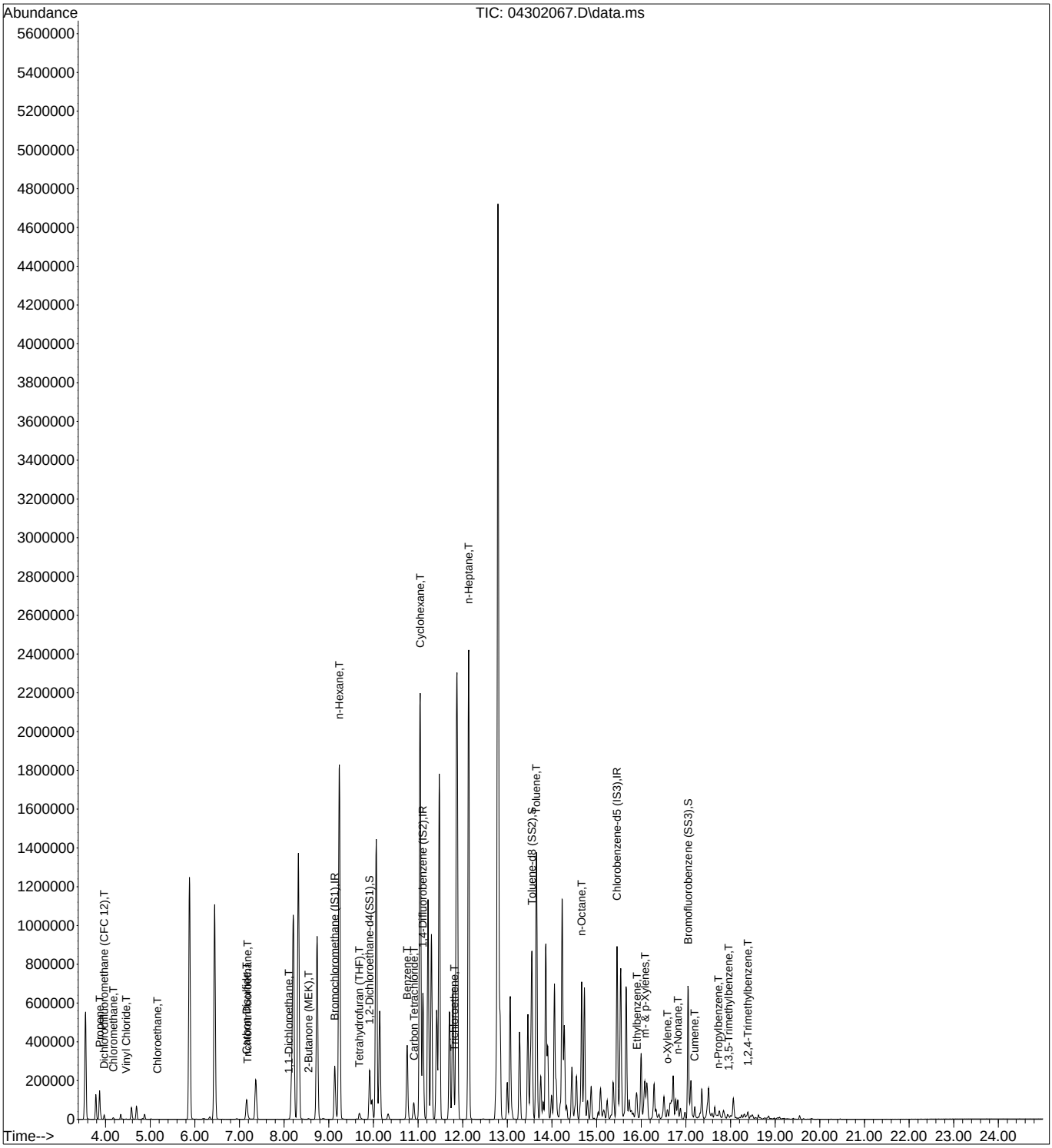

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Spiked Amount 12.500	Range 70 - 130		Recovery = 98.16%				
73) Bromofluorobenzene (SS3)	17.05	174	274630	11.570	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.56%				
Target Compounds							Qvalue
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3) Dichlorodifluoromethan...	3.97	85	20001	0.782	ng		100
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31) n-Hexane	9.24	57	1101222	81.093	ng		100
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47) Trichloroethene	11.81	130	2725	0.178	ng		97
51) n-Heptane	12.14	71	762617	74.095	ng		99
58) Toluene	13.65	91	1092794	22.038	ng		100
63) n-Octane	14.67	57	137284	17.392	ng		98
66) Ethylbenzene	15.90	91	50892	0.881	ng		99
67) m- & p-Xylenes	16.08	91	117619	2.413	ng		99
70) o-Xylene	16.58	91	29016	0.606	ng		98
71) n-Nonane	16.82	43	27979	1.812	ng		98
74) Cumene	17.19	105	7380	0.118	ng		97
76) n-Propylbenzene	17.73	91	6699	0.098	ng		87
79) 1,3,5-Trimethylbenzene	17.96	105	5266	0.096	ng		93
82) 1,2,4-Trimethylbenzene	18.39	105	2950	0.056	ng		87

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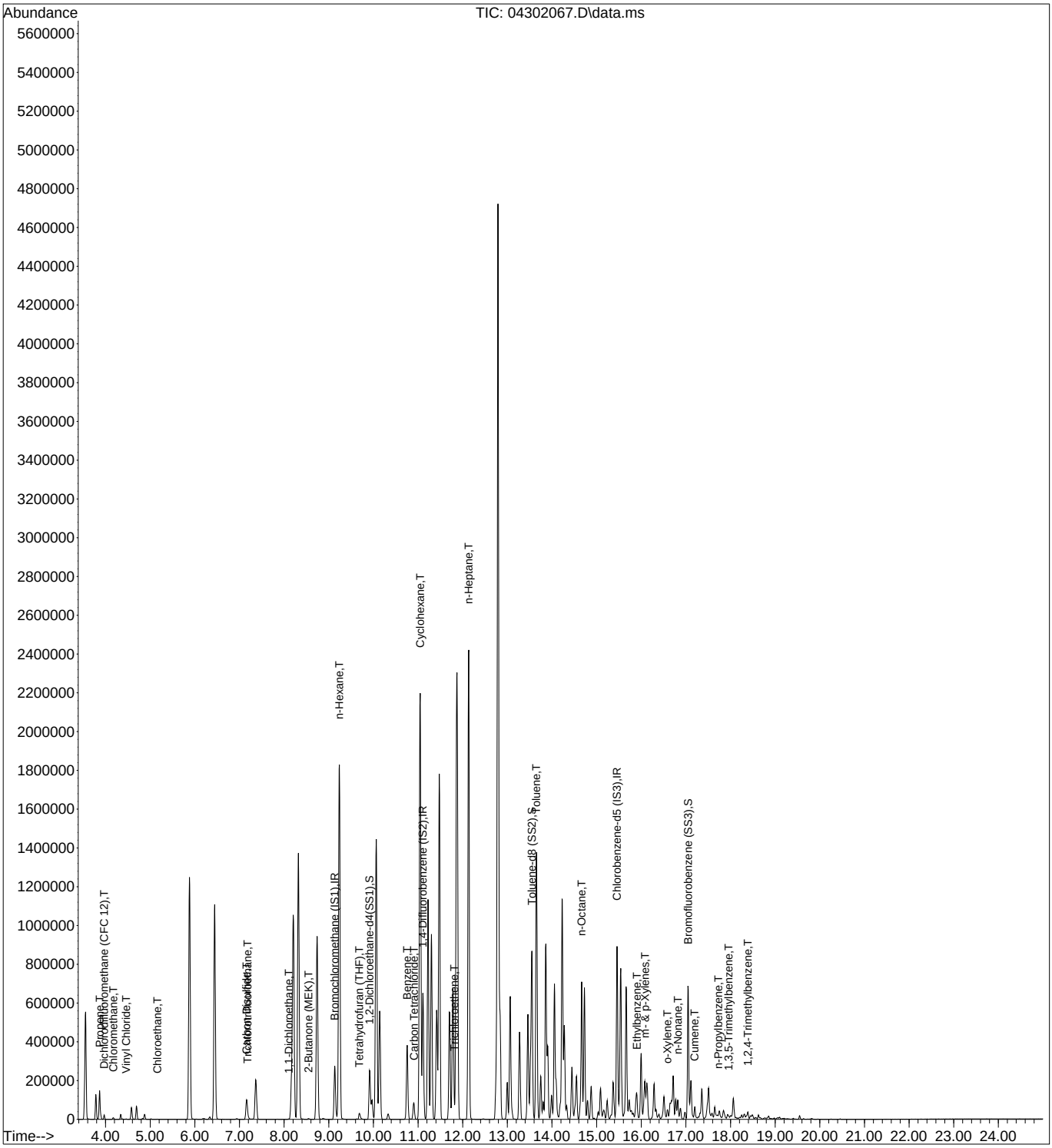
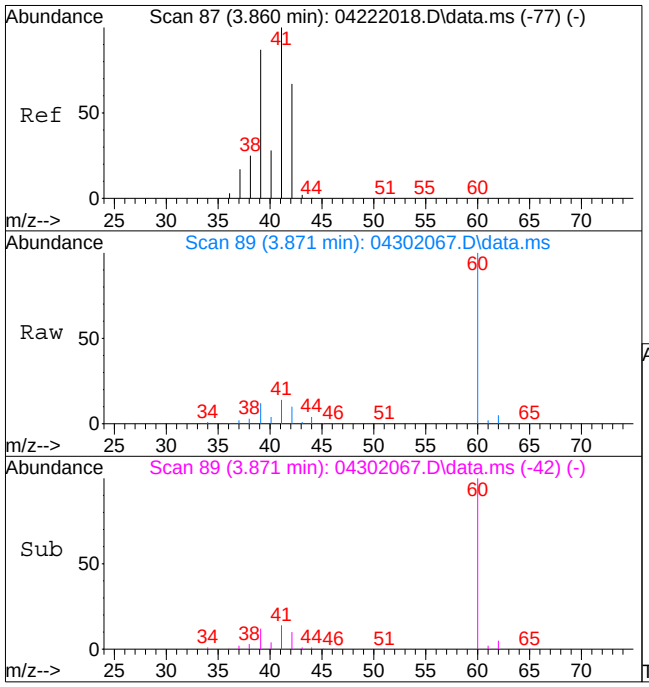
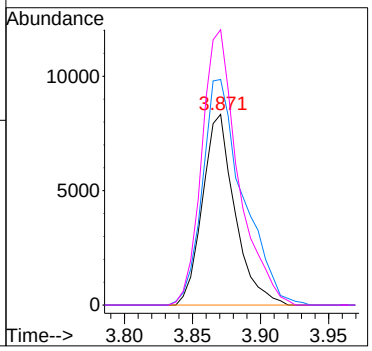


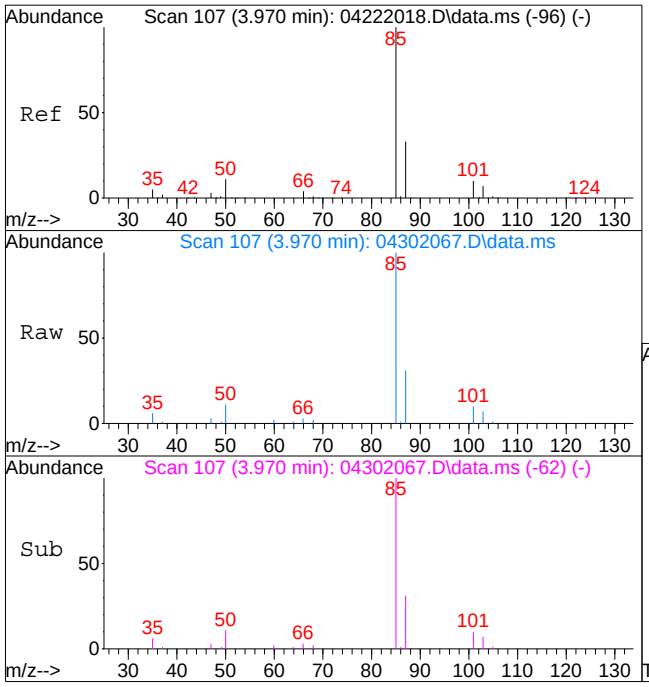


#2
Propene
Concen: 2.05 ng
RT: 3.87 min Scan# 89
Delta R.T. 0.011 min
Lab File: 04302067.D
Acq: 1 May 2020 18:29

Tgt Ion: 42 Resp: 13789

Ion	Ratio	Lower	Upper
42	100		
39	148.3	106.4	146.4#
41	162.2	128.8	168.8

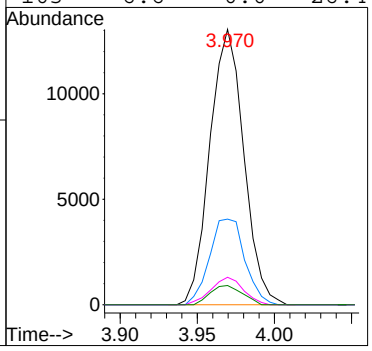


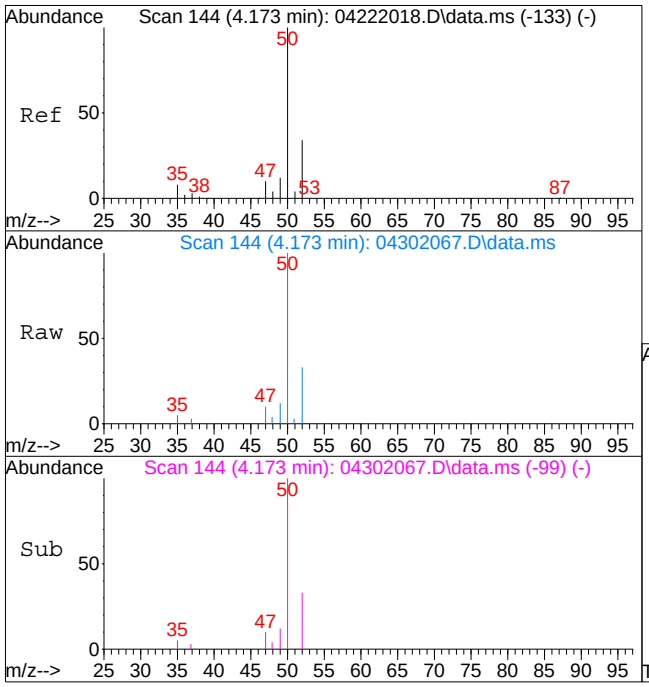


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.78 ng
RT: 3.97 min Scan# 107
Delta R.T. -0.000 min
Lab File: 04302067.D
Acq: 1 May 2020 18:29

Tgt Ion: 85 Resp: 20001

Ion	Ratio	Lower	Upper
85	100		
87	32.4	12.4	52.4
101	9.5	0.0	29.9
103	6.6	0.0	26.4

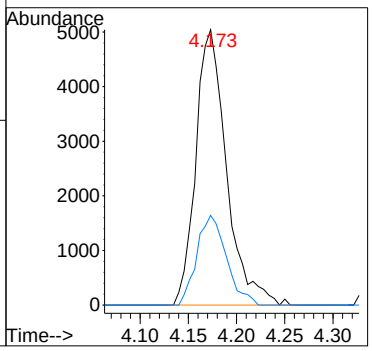


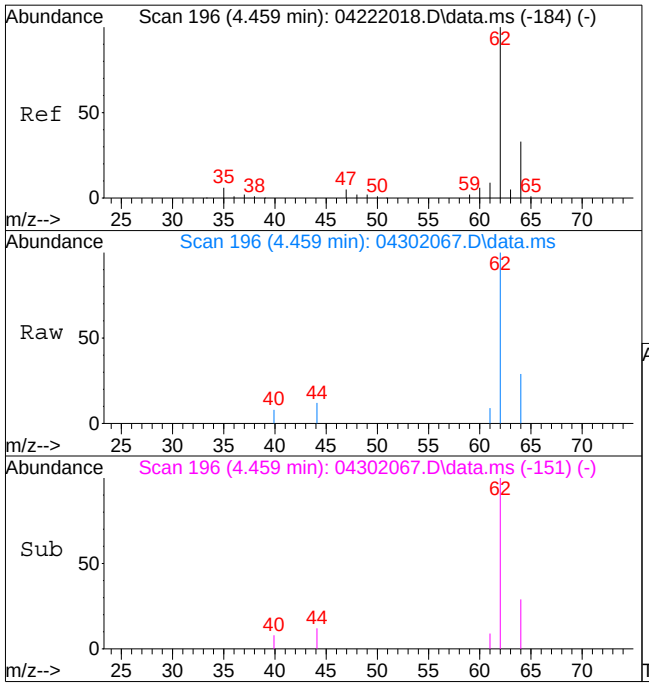


#4
Chloromethane
Concen: 1.18 ng
RT: 4.17 min Scan# 144
Delta R.T. -0.000 min
Lab File: 04302067.D
Acq: 1 May 2020 18:29

Tgt Ion: 50 Resp: 11167

Ion	Ratio	Lower	Upper
50	100		
52	31.3	13.7	53.7

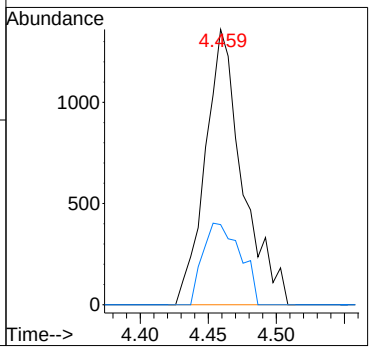


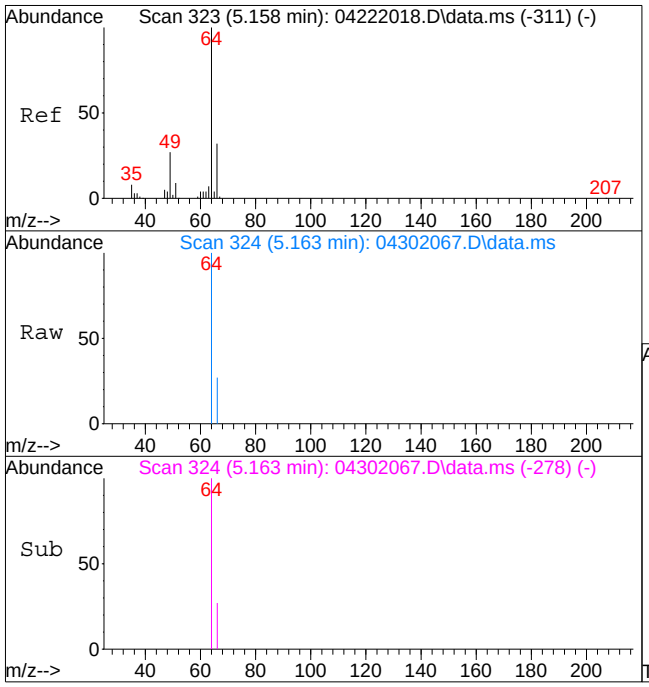


#6
Vinyl Chloride
Concen: 0.21 ng
RT: 4.46 min Scan# 196
Delta R.T. -0.000 min
Lab File: 04302067.D
Acq: 1 May 2020 18:29

Tgt Ion: 62 Resp: 2585

Ion	Ratio	Lower	Upper
62	100		
64	29.9	12.7	52.7

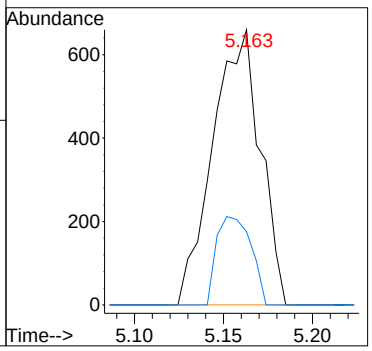


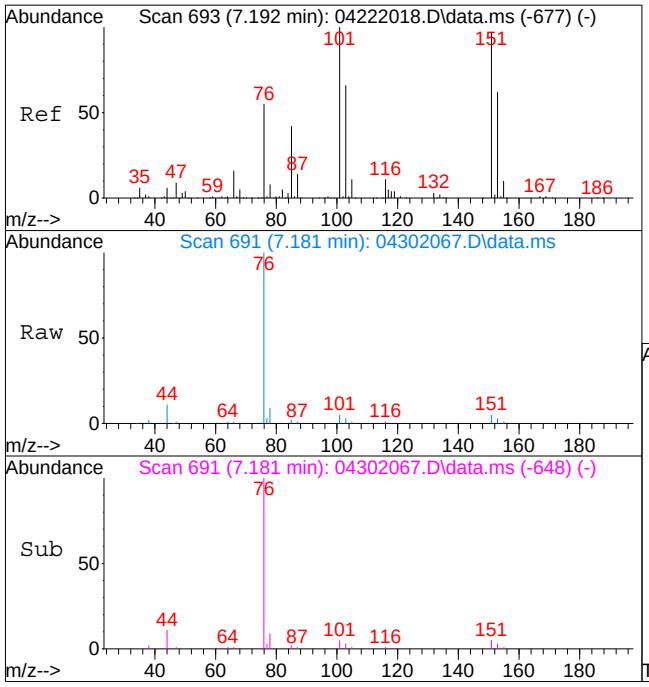


#9
Chloroethane
Concen: 0.20 ng
RT: 5.16 min Scan# 324
Delta R.T. 0.005 min
Lab File: 04302067.D
Acq: 1 May 2020 18:29

Tgt Ion: 64 Resp: 1223

Ion	Ratio	Lower	Upper
64	100		
66	23.4	12.7	52.7

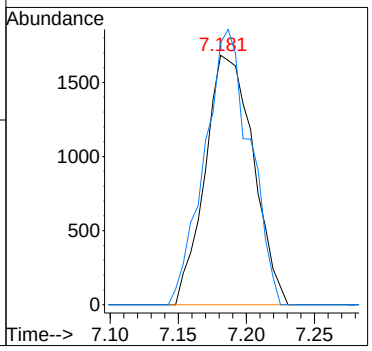


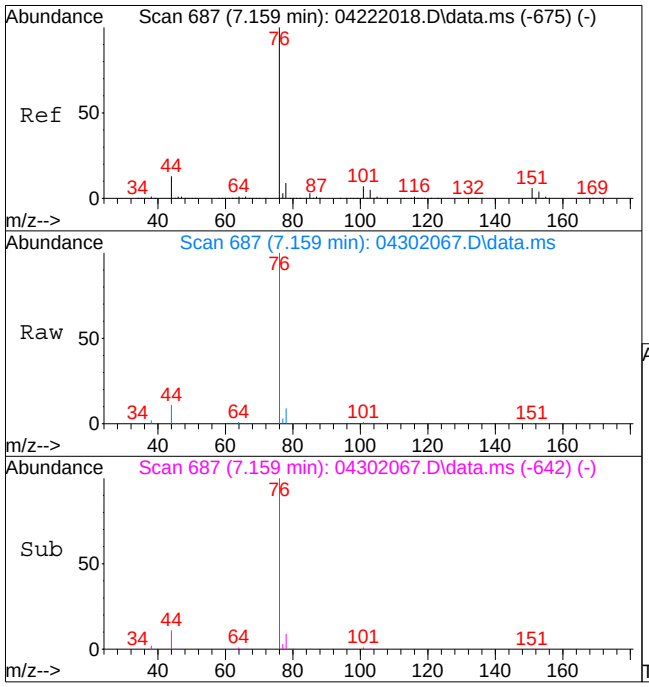


#21
Trichlorotrifluoroethane
Concen: 0.31 ng
RT: 7.18 min Scan# 691
Delta R.T. -0.011 min
Lab File: 04302067.D
Acq: 1 May 2020 18:29

Tgt Ion:151 Resp: 4138

Ion	Ratio	Lower	Upper
151	100		
101	104.5	82.9	122.9

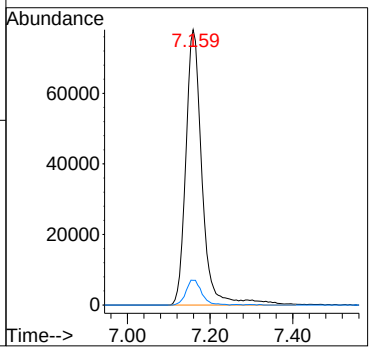


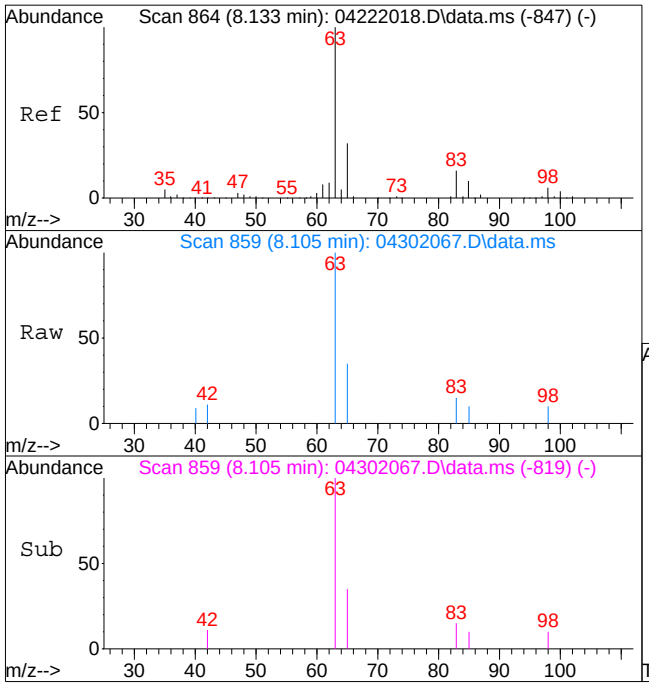


#22
Carbon Disulfide
Concen: 5.96 ng
RT: 7.16 min Scan# 687
Delta R.T. -0.000 min
Lab File: 04302067.D
Acq: 1 May 2020 18:29

Tgt Ion: 76 Resp: 212795

Ion	Ratio	Lower	Upper
76	100		
78	8.8	0.0	30.2

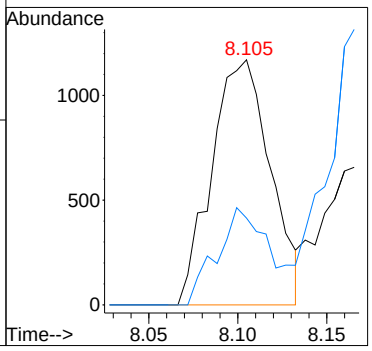


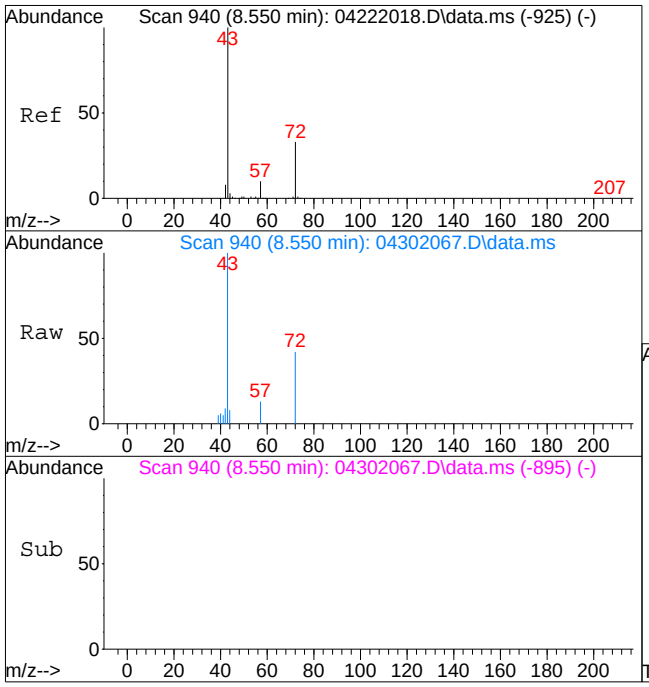


#24
1,1-Dichloroethane
Concen: 0.15 ng
RT: 8.10 min Scan# 859
Delta R.T. -0.028 min
Lab File: 04302067.D
Acq: 1 May 2020 18:29

Tgt Ion: 63 Resp: 2685

Ion	Ratio	Lower	Upper
63	100		
65	36.8	12.1	52.1

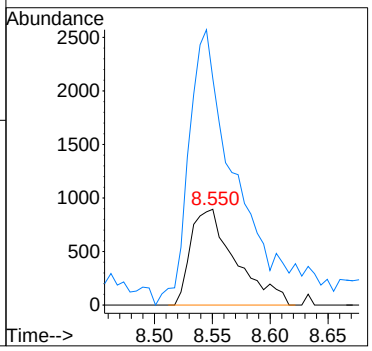


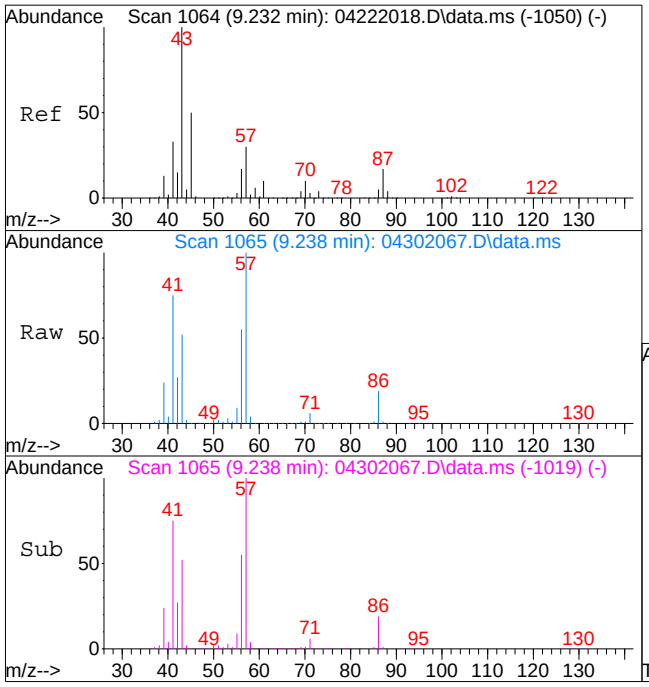


#27
2-Butanone (MEK)
Concen: 0.38 ng
RT: 8.55 min Scan# 940
Delta R.T. -0.000 min
Lab File: 04302067.D
Acq: 1 May 2020 18:29

Tgt Ion: 72 Resp: 2413

Ion	Ratio	Lower	Upper
72	100		
43	318.9	278.8	318.8#

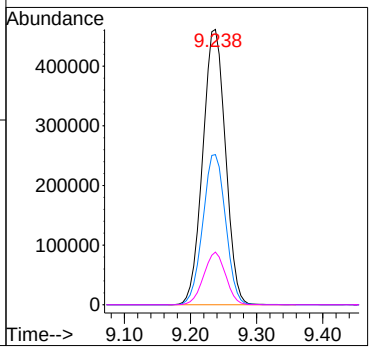


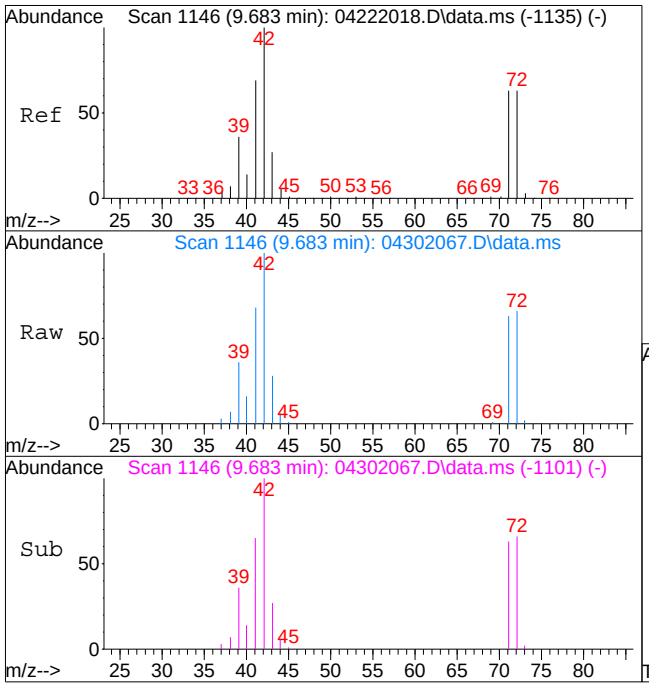


#31
n-Hexane
Concen: 81.09 ng
RT: 9.24 min Scan# 1065
Delta R.T. 0.005 min
Lab File: 04302067.D
Acq: 1 May 2020 18:29

Tgt Ion: 57 Resp: 1101222

Ion	Ratio	Lower	Upper
57	100		
56	54.7	44.0	66.0
86	18.5	15.0	22.4

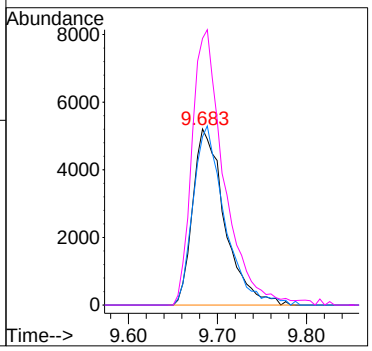


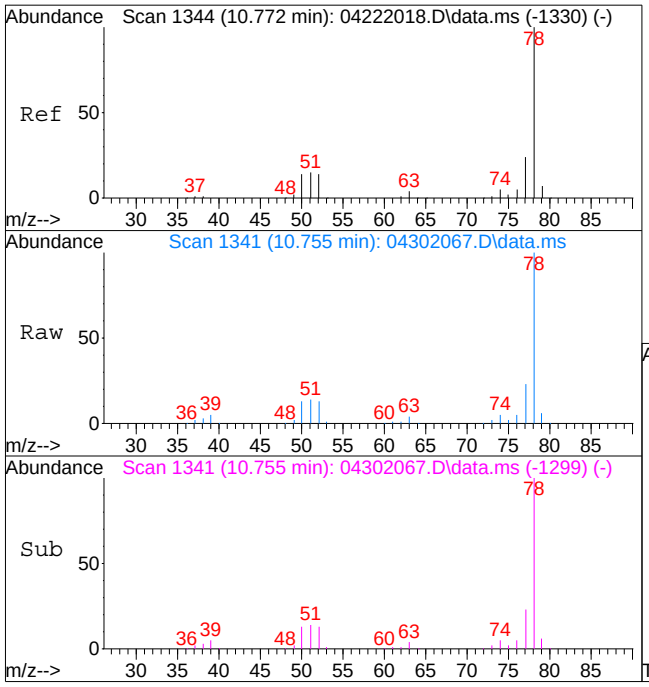


#34
Tetrahydrofuran (THF)
Concen: 2.04 ng
RT: 9.68 min Scan# 1146
Delta R.T. -0.000 min
Lab File: 04302067.D
Acq: 1 May 2020 18:29

Tgt Ion: 72 Resp: 12992

Ion	Ratio	Lower	Upper
72	100		
71	101.3	77.9	117.9
42	157.5	133.9	173.9

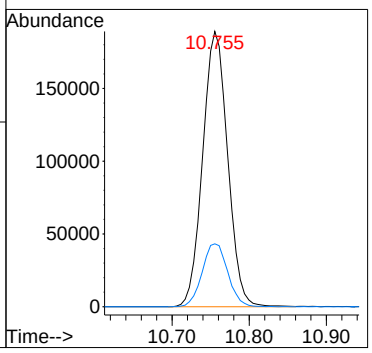


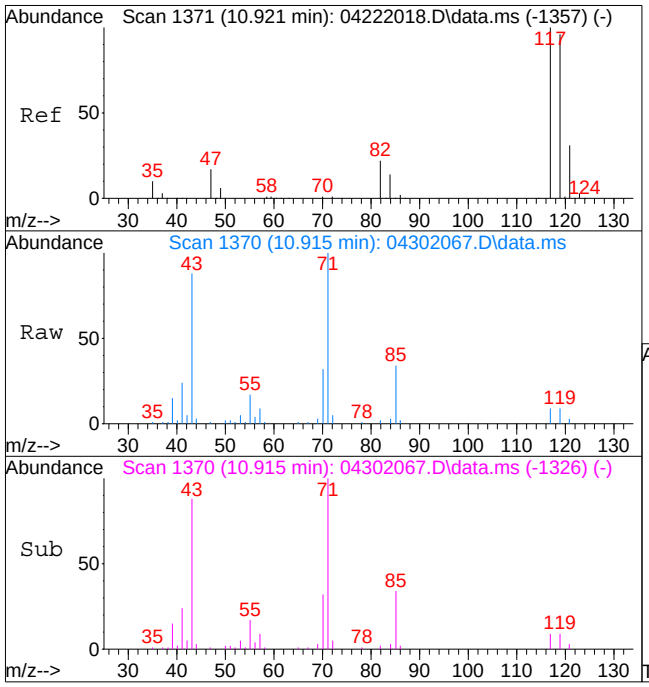


#41
Benzene
Concen: 9.60 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.017 min
Lab File: 04302067.D
Acq: 1 May 2020 18:29

Tgt Ion: 78 Resp: 425452

Ion	Ratio	Lower	Upper
78	100		
77	23.5	3.6	43.6

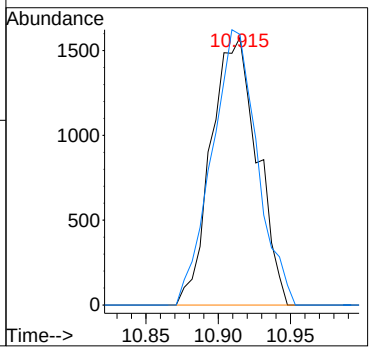


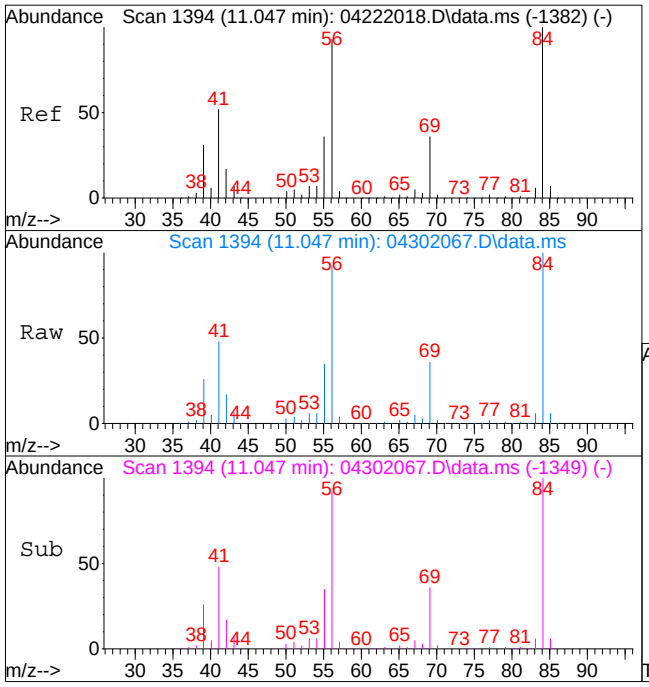


#42
Carbon Tetrachloride
Concen: 0.15 ng
RT: 10.91 min Scan# 1370
Delta R.T. -0.006 min
Lab File: 04302067.D
Acq: 1 May 2020 18:29

Tgt Ion:117 Resp: 3498

Ion	Ratio	Lower	Upper
117	100		
119	101.3	76.5	116.5

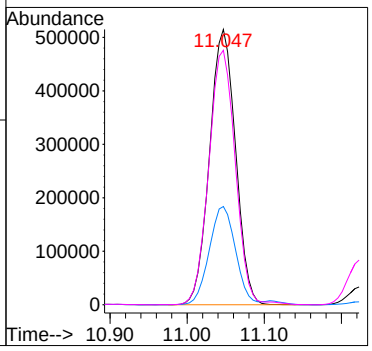


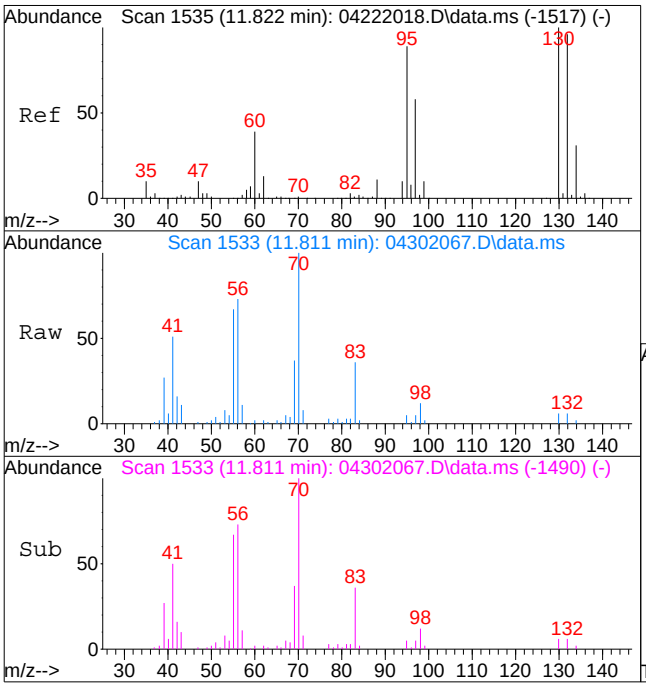


#43
Cyclohexane
Concen: 69.42 ng
RT: 11.05 min Scan# 1394
Delta R.T. -0.000 min
Lab File: 04302067.D
Acq: 1 May 2020 18:29

Tgt Ion: 84 Resp: 1204809

Ion	Ratio	Lower	Upper
84	100		
69	36.3	15.8	55.8
56	94.4	72.0	112.0

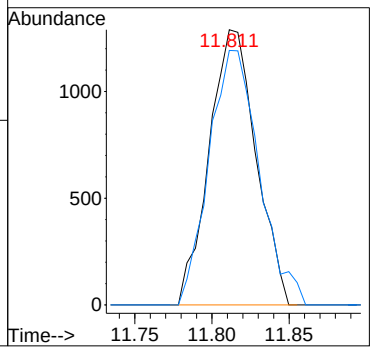


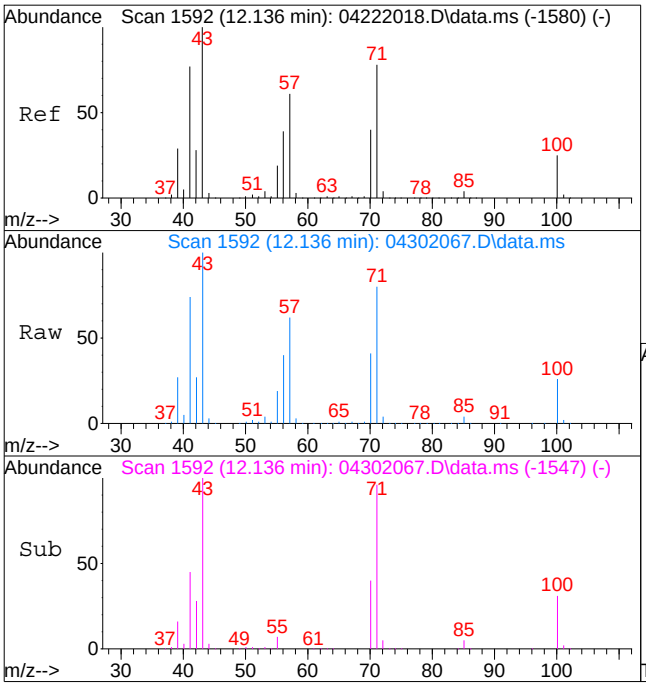


#47
Trichloroethene
Concen: 0.18 ng
RT: 11.81 min Scan# 1533
Delta R.T. -0.011 min
Lab File: 04302067.D
Acq: 1 May 2020 18:29

Tgt Ion:130 Resp: 2725

Ion	Ratio	Lower	Upper
130	100		
132	98.9	76.4	116.4

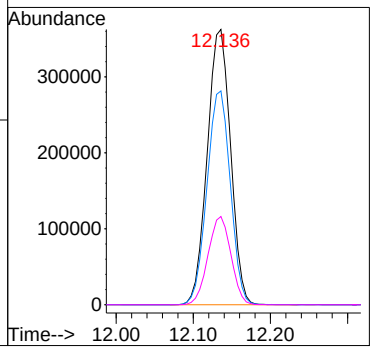


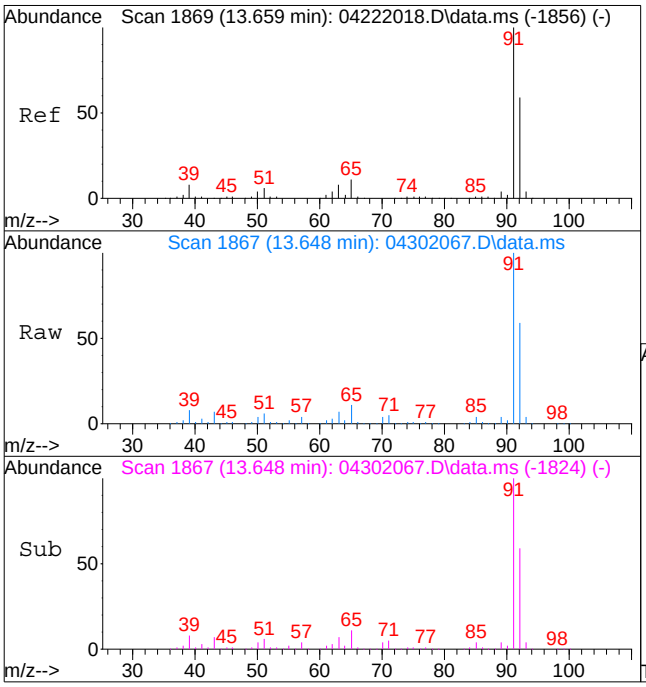


#51
n-Heptane
Concen: 74.09 ng
RT: 12.14 min Scan# 1592
Delta R.T. -0.000 min
Lab File: 04302067.D
Acq: 1 May 2020 18:29

Tgt Ion: 71 Resp: 762617

Ion	Ratio	Lower	Upper
71	100		
57	77.8	57.4	97.4
100	31.5	12.0	52.0

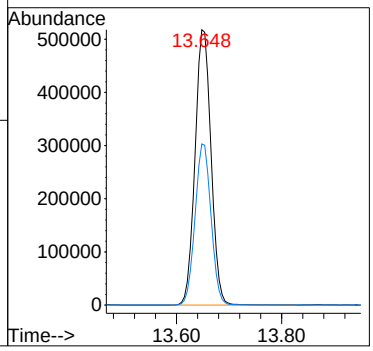


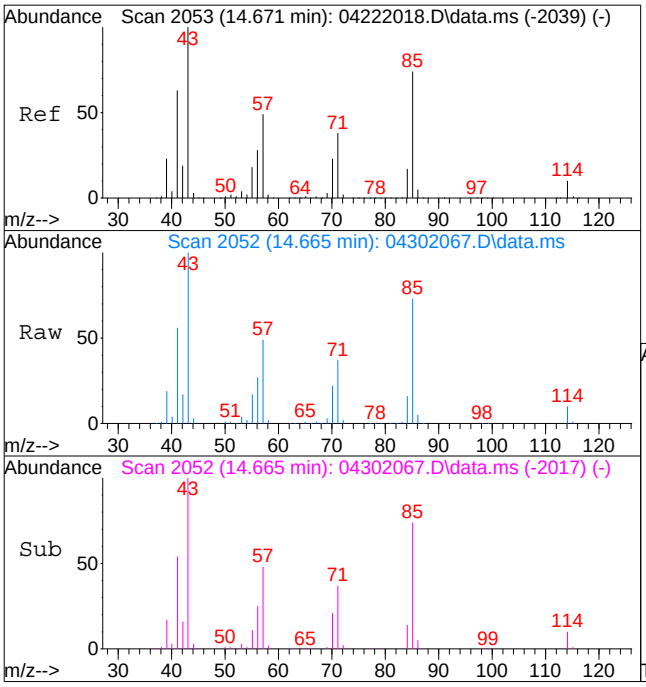


#58
Toluene
Concen: 22.04 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.011 min
Lab File: 04302067.D
Acq: 1 May 2020 18:29

Tgt Ion: 91 Resp: 1092794

Ion	Ratio	Lower	Upper
91	100		
92	58.4	38.2	78.2

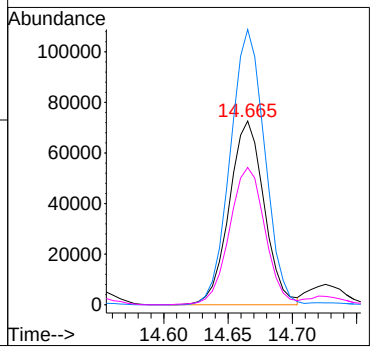


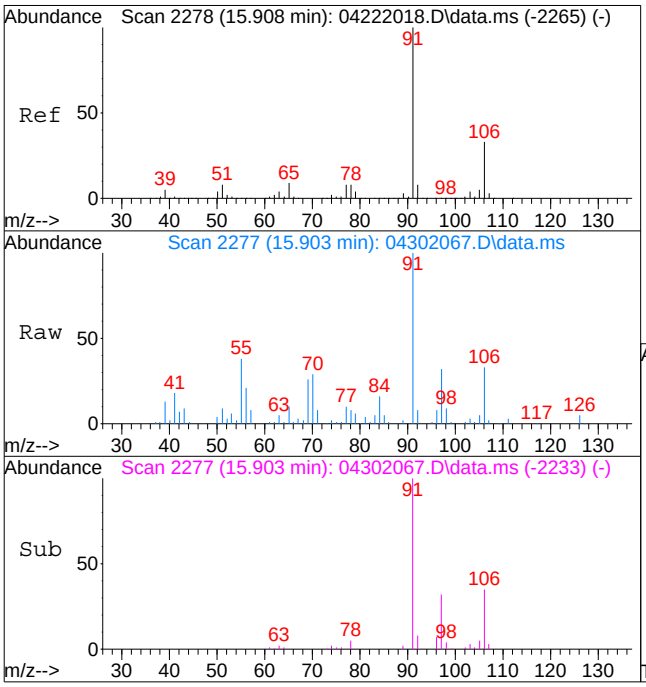


#63
n-Octane
Concen: 17.39 ng
RT: 14.67 min Scan# 2052
Delta R.T. -0.006 min
Lab File: 04302067.D
Acq: 1 May 2020 18:29

Tgt Ion: 57 Resp: 137284

Ion	Ratio	Lower	Upper
57	100		
85	147.9	120.7	181.1
71	76.0	61.1	91.7

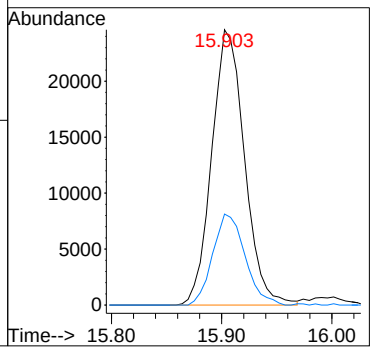


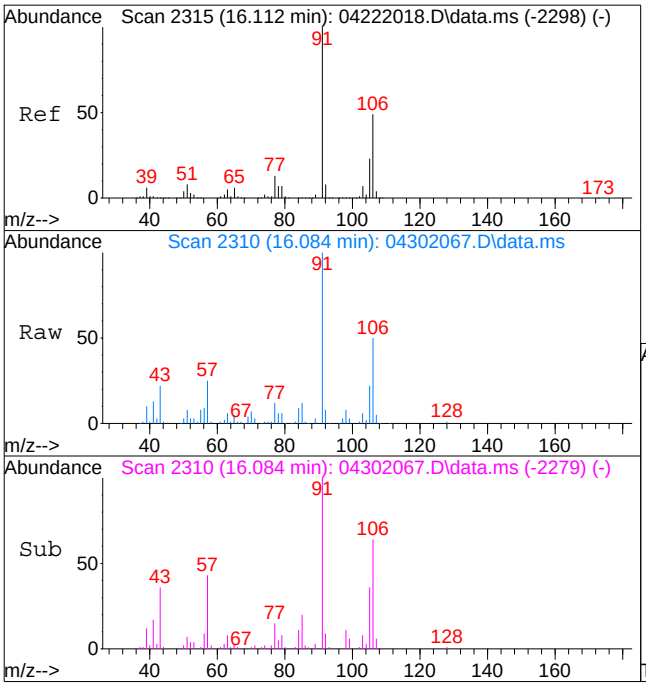


#66
Ethylbenzene
Concen: 0.88 ng
RT: 15.90 min Scan# 2277
Delta R.T. -0.006 min
Lab File: 04302067.D
Acq: 1 May 2020 18:29

Tgt Ion: 91 Resp: 50892

Ion	Ratio	Lower	Upper
91	100		
106	32.6	13.4	53.4

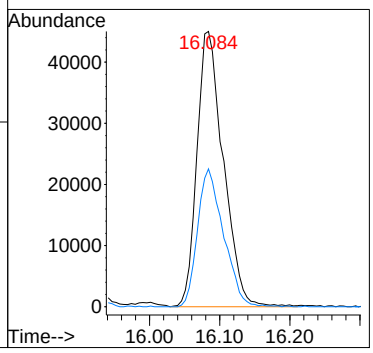


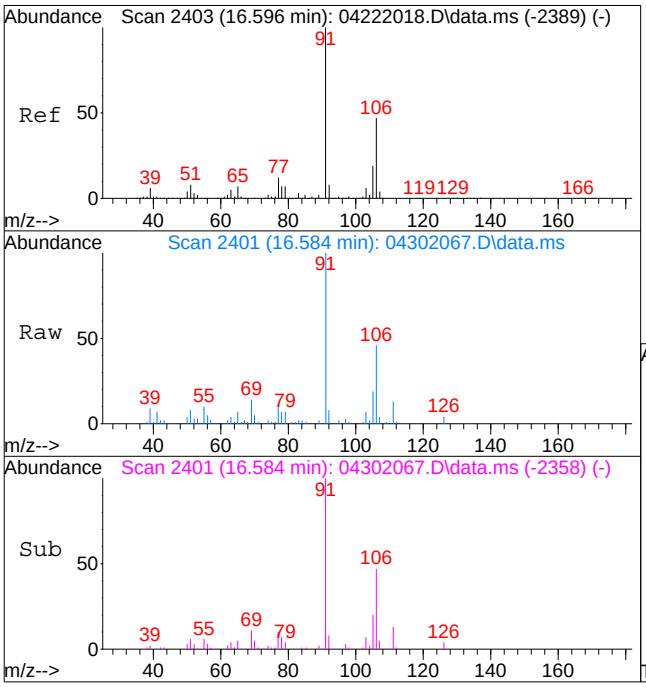


#67
m- & p-Xylenes
Concen: 2.41 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.028 min
Lab File: 04302067.D
Acq: 1 May 2020 18:29

Tgt Ion: 91 Resp: 117619

Ion	Ratio	Lower	Upper
91	100		
106	49.3	28.3	68.3

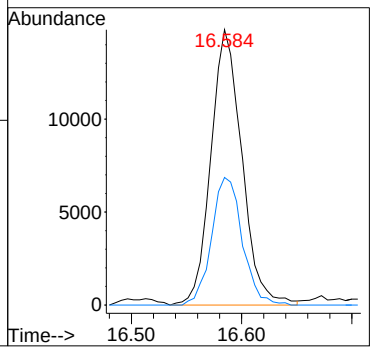


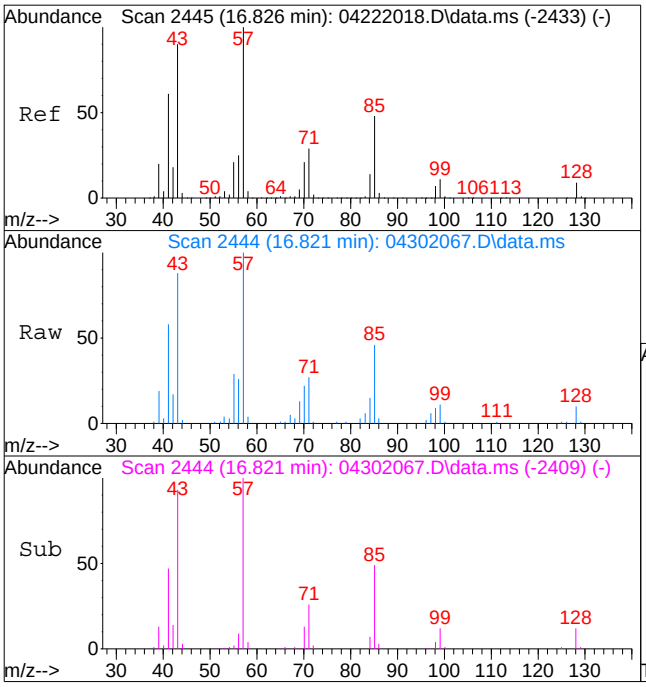


#70
o-Xylene
Concen: 0.61 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 04302067.D
Acq: 1 May 2020 18:29

Tgt Ion: 91 Resp: 29016

Ion	Ratio	Lower	Upper
91	100		
106	45.9	27.5	67.5

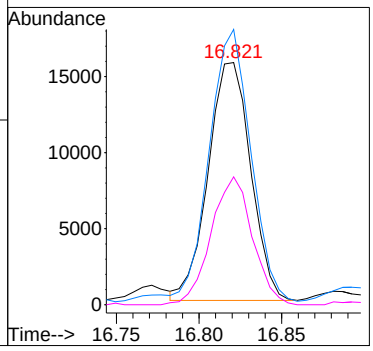


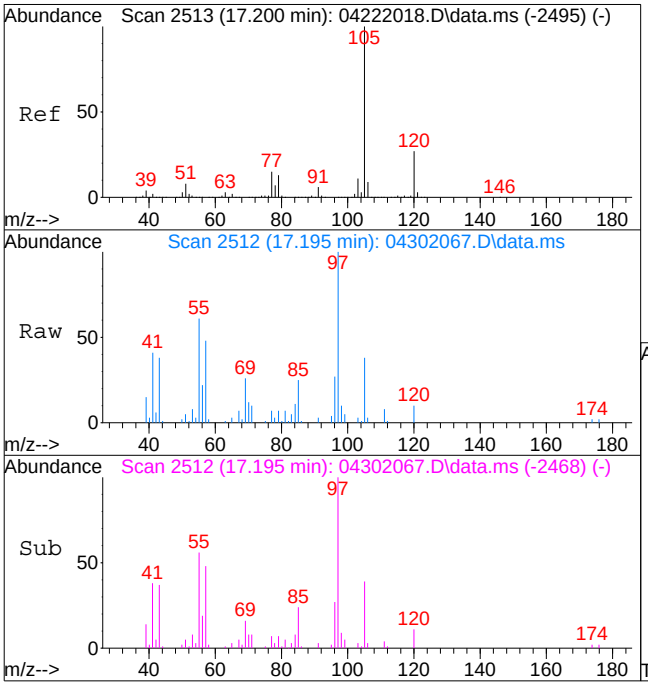


#71
n-Nonane
Concen: 1.81 ng
RT: 16.82 min Scan# 2444
Delta R.T. -0.006 min
Lab File: 04302067.D
Acq: 1 May 2020 18:29

Tgt Ion: 43 Resp: 27979

Ion	Ratio	Lower	Upper
43	100		
57	114.0	90.8	130.8
85	52.2	32.1	72.1

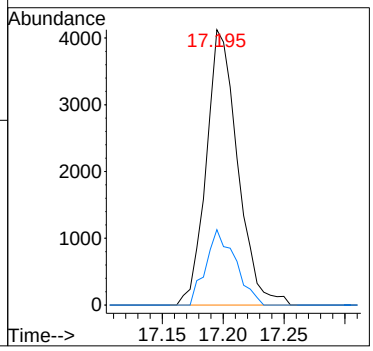


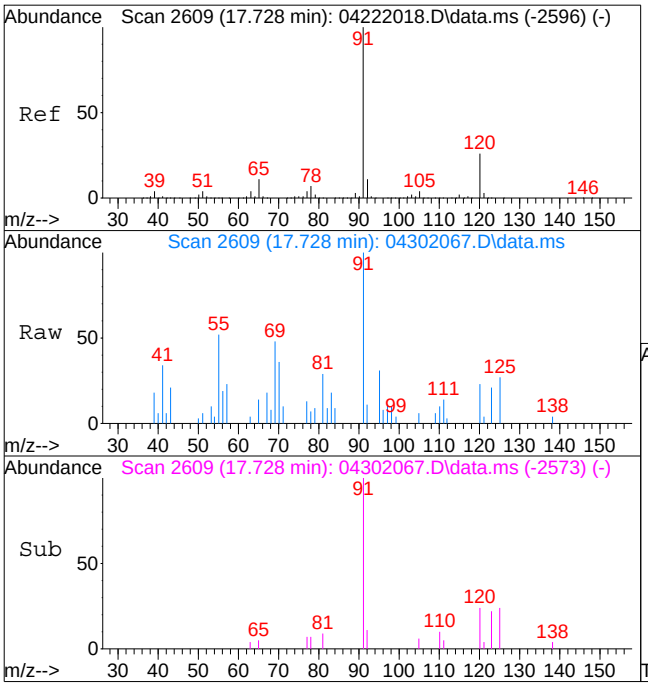


#74
Cumene
Concen: 0.12 ng
RT: 17.19 min Scan# 2512
Delta R.T. -0.006 min
Lab File: 04302067.D
Acq: 1 May 2020 18:29

Tgt Ion:105 Resp: 7380

Ion	Ratio	Lower	Upper
105	100		
120	25.8	7.3	47.3

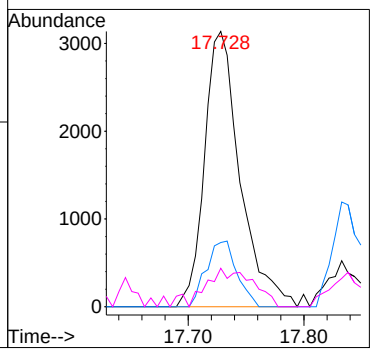


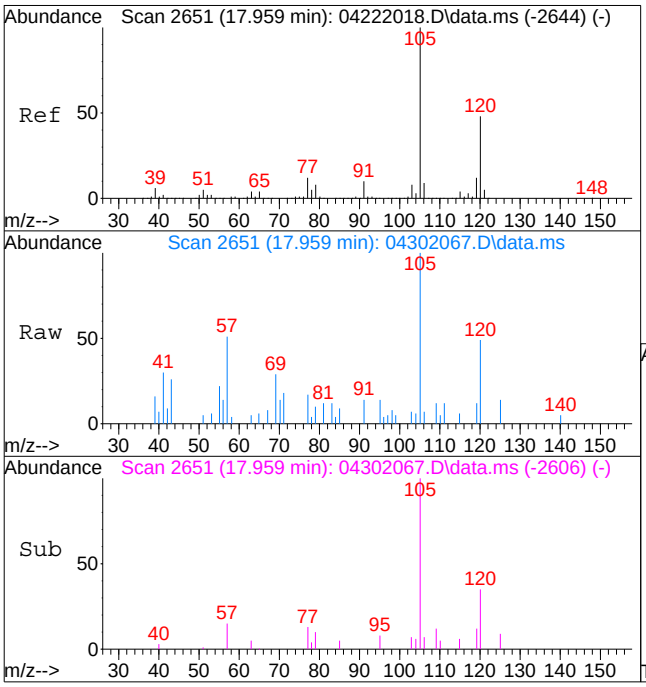


#76
n-Propylbenzene
Concen: 0.10 ng
RT: 17.73 min Scan# 2609
Delta R.T. -0.000 min
Lab File: 04302067.D
Acq: 1 May 2020 18:29

Tgt Ion: 91 Resp: 6699

Ion	Ratio	Lower	Upper
91	100		
120	20.5	6.1	46.1
65	17.6	0.0	30.7

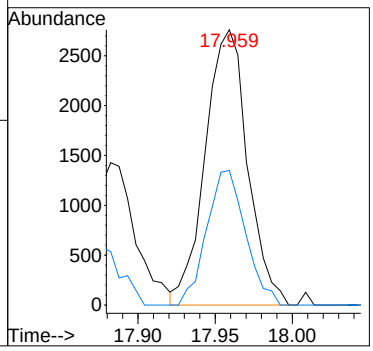


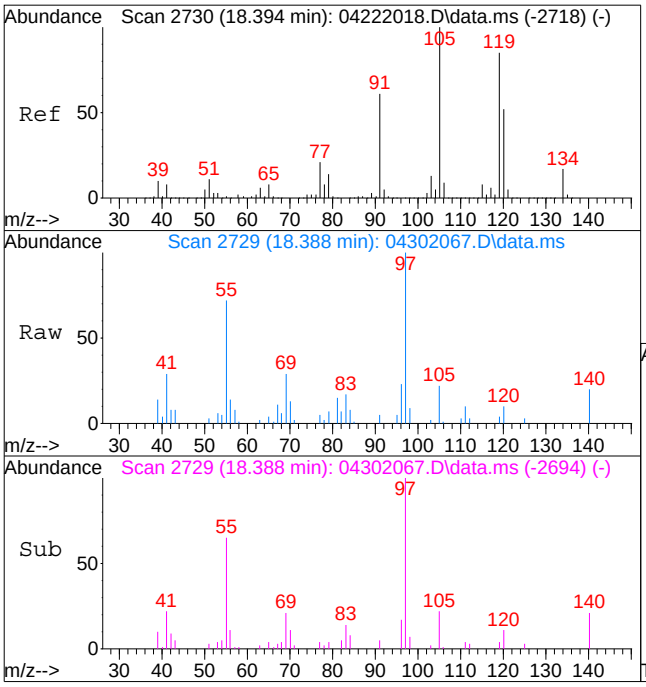


#79
1,3,5-Trimethylbenzene
Concen: 0.10 ng
RT: 17.96 min Scan# 2651
Delta R.T. -0.000 min
Lab File: 04302067.D
Acq: 1 May 2020 18:29

Tgt Ion:105 Resp: 5266

Ion	Ratio	Lower	Upper
105	100		
120	44.9	29.5	69.5

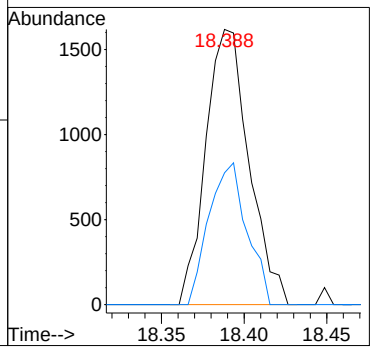




#82
1,2,4-Trimethylbenzene
Concen: 0.06 ng
RT: 18.39 min Scan# 2729
Delta R.T. -0.006 min
Lab File: 04302067.D
Acq: 1 May 2020 18:29

Tgt Ion:105 Resp: 2950

Ion	Ratio	Lower	Upper
105	100		
120	45.2	34.5	74.5



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302061.D Vial: 5
Acq On : 1 May 2020 15:05 Operator: SC
Sample : P2002103-015 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 16:17:31 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/1/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	149825	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	630005	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	279512	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	224801	11.581	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.64%				
57) Toluene-d8 (SS2)	13.54	98	694432	12.867	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.96%				
73) Bromofluorobenzene (SS3)	17.05	174	270206	12.458	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.68%				
Target Compounds							Qvalue
2) Propene	3.89	42	2749	0.432	ng		87
3) Dichlorodifluoromethan...	3.99	85	18376	0.760	ng		98
4) Chloromethane	4.18	50	867	0.097	ng		79
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	410	N.D.			
6) Vinyl Chloride	4.46	62	7540	0.645	ng		100
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	4.94	94	1019	0.111	ng		98
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.35	45	13339m	2.767	ng		
11) Acetonitrile	5.59	41	537	N.D.			
12) Acrolein	5.72	56	2225	0.505	ng		93
13) Acetone	5.85	58	38138	6.590	ng	#	66
14) Trichlorofluoromethane	6.03	101	5667	0.236	ng		99
15) 2-Propanol (Isopropanol)	6.17	45	12840	0.698	ng		90
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d			
19) Methylene Chloride	6.86	84	235	N.D.			
20) 3-Chloro-1-propene (Al...	6.99	41	120	N.D.			
21) Trichlorotrifluoroethane	7.19	151	3540	0.283	ng		95
22) Carbon Disulfide	7.14	76	44076	1.306	ng		98
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	8.14	73	120	N.D.			
26) Vinyl Acetate	8.26	86	4425	2.095	ng	#	41
27) 2-Butanone (MEK)	8.53	72	6538	1.100	ng		90
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D. d			
32) Chloroform	9.28	83	2223	0.108	ng		99
34) Tetrahydrofuran (THF)	9.72	72	917	0.152	ng	#	73
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	10.02	62	285570	16.900	ng		99
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D. d			
41) Benzene	10.76	78	1569	N.D.			
42) Carbon Tetrachloride	10.90	117	11848	0.558	ng		99
43) Cyclohexane	11.04	84	1313	0.082	ng		97
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	11.81	130	210	N.D.			
48) 1,4-Dioxane	11.80	88	2098	0.254	ng		98
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302061.D Vial: 5
Acq On : 1 May 2020 15:05 Operator: SC
Sample : P2002103-015 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 16:17:31 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

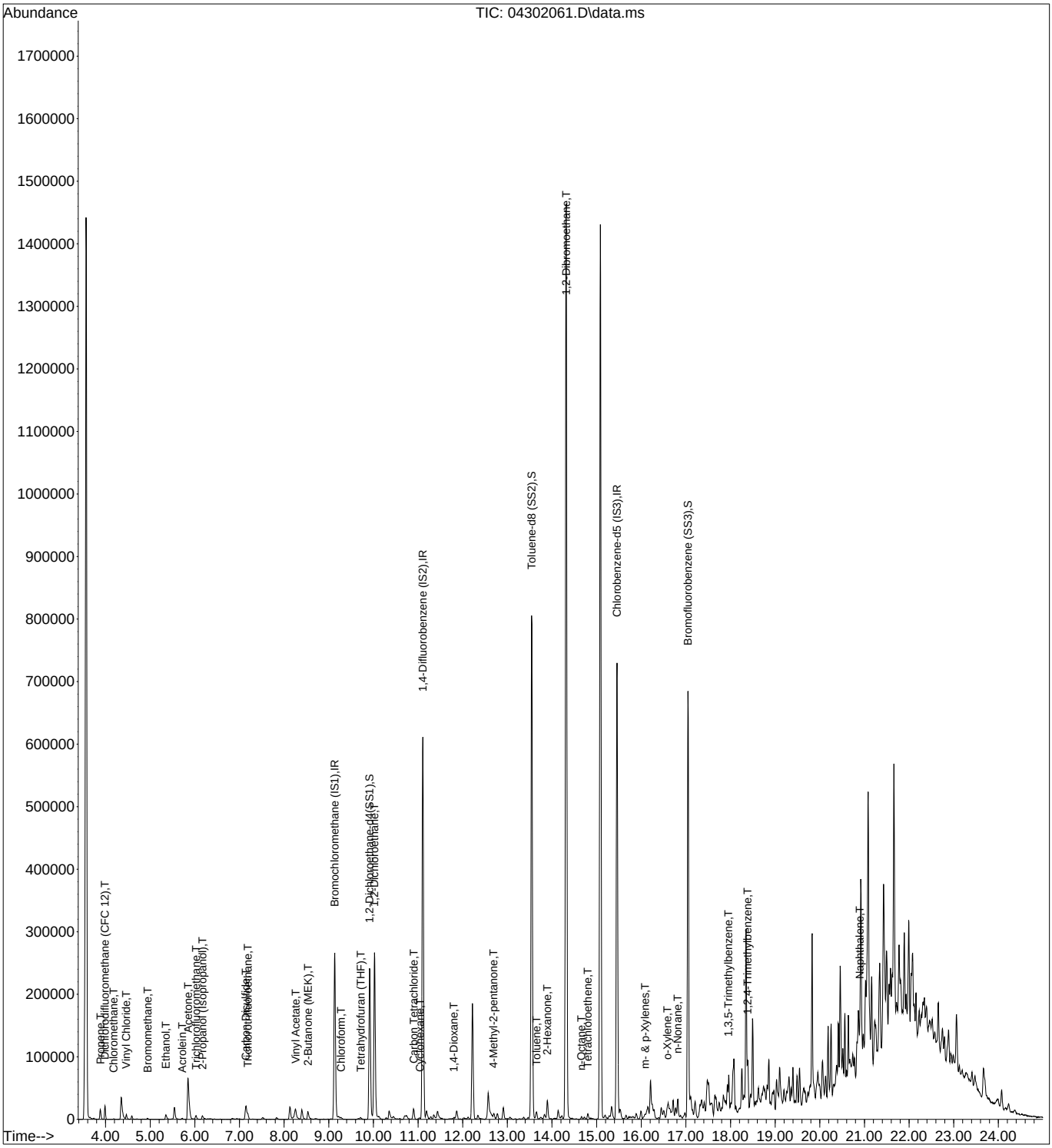
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	d		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
53) 4-Methyl-2-pentanone	12.69	58	2096	0.292	ng	#	68
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.			
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.			
58) Toluene	13.65	91	6032	0.133	ng		99
59) 2-Hexanone	13.90	43	20752	1.536	ng		97
60) Dibromochloromethane	0.00	129	0	N.D.			
61) 1,2-Dibromoethane	14.32	107	1264076	100.096	ng		100
62) n-Butyl Acetate	14.47	43	438	N.D.			
63) n-Octane	14.66	57	809	0.112	ng	#	90
64) Tetrachloroethene	14.80	166	2828	0.166	ng		98
65) Chlorobenzene	15.53	112	1167	N.D.			
66) Ethylbenzene	15.91	91	1614	N.D.			
67) m- & p-Xylenes	16.09	91	5209	0.117	ng		98
68) Bromoform	0.00	173	0	N.D.			
69) Styrene	16.49	104	157	N.D.			
70) o-Xylene	16.59	91	2848	0.065	ng		92
71) n-Nonane	16.82	43	9984	0.708	ng		98
72) 1,1,2,2-Tetrachloroethane	16.58	83	613	N.D.			
74) Cumene	17.20	105	746	N.D.			
75) alpha-Pinene	0.00	93	0	N.D.			
76) n-Propylbenzene	17.72	91	3060	N.D.			
77) 3-Ethyltoluene	0.00	105	0	N.D.	d		
78) 4-Ethyltoluene	17.88	105	2240	N.D.			
79) 1,3,5-Trimethylbenzene	17.95	105	5430	0.108	ng		93
80) alpha-Methylstyrene	0.00	118	0	N.D.	d		
81) 2-Ethyltoluene	18.15	105	1948	N.D.			
82) 1,2,4-Trimethylbenzene	18.38	105	15725	0.324	ng		92
83) n-Decane	0.00	57	0	N.D.	d		
84) Benzyl Chloride	18.51	91	730	N.D.			
85) 1,3-Dichlorobenzene	18.62	146	171	N.D.			
86) 1,4-Dichlorobenzene	18.62	146	171	N.D.			
87) sec-Butylbenzene	0.00	105	0	N.D.	d		
88) 4-Isopropyltoluene (p-...	18.83	119	1806	N.D.			
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.			
91) d-Limonene	0.00	68	0	N.D.	d		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.			
93) n-Undecane	0.00	57	0	N.D.	d		
94) 1,2,4-Trichlorobenzene	20.78	180	205	N.D.			
95) Naphthalene	20.90	128	3903	0.063	ng		97
96) n-Dodecane	0.00	57	0	N.D.	d		
97) Hexachlorobutadiene	0.00	225	0	N.D.			
98) Cyclohexanone	0.00	55	0	N.D.	d		
99) tert-Butylbenzene	0.00	119	0	N.D.	d		
100) n-Butylbenzene	0.00	91	0	N.D.	d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302061.D Vial: 5
Acq On : 1 May 2020 15:05 Operator: SC
Sample : P2002103-015 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 16:17:31 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

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Acq On : 1 May 2020 15:05 Operator: SC
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Response via : Initial Calibration
DataAcq Meth:TO15.M

5/1/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	149825	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	630005	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	279512	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	224801	11.581	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.64%				
57) Toluene-d8 (SS2)	13.54	98	694432	12.867	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.96%				
73) Bromofluorobenzene (SS3)	17.05	174	270206	12.458	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.68%				
Target Compounds							Qvalue
2) Propene	3.89	42	2749	0.432	ng		87
3) Dichlorodifluoromethan...	3.99	85	18376	0.760	ng		98
4) Chloromethane	4.18	50	867	0.097	ng		79
6) Vinyl Chloride	4.46	62	7540	0.645	ng		100
8) Bromomethane	4.94	94	1019	0.111	ng		98
10) Ethanol	5.35	45	13339m	2.767	ng		
12) Acrolein	5.72	56	2225	0.505	ng		93
13) Acetone	5.85	58	38138	6.590	ng	#	66
14) Trichlorofluoromethane	6.03	101	5667	0.236	ng		99
15) 2-Propanol (Isopropanol)	6.17	45	12840	0.698	ng		90
21) Trichlorotrifluoroethane	7.19	151	3540	0.283	ng		95
22) Carbon Disulfide	7.14	76	44076	1.306	ng		98
26) Vinyl Acetate	8.26	86	4425	2.095	ng	#	41
27) 2-Butanone (MEK)	8.53	72	6538	1.100	ng		90
32) Chloroform	9.28	83	2223	0.108	ng		99
34) Tetrahydrofuran (THF)	9.72	72	917	0.152	ng	#	73
36) 1,2-Dichloroethane	10.02	62	285570	16.900	ng		99
42) Carbon Tetrachloride	10.90	117	11848	0.558	ng		99
43) Cyclohexane	11.04	84	1313	0.082	ng		97
48) 1,4-Dioxane	11.80	88	2098	0.254	ng		98
53) 4-Methyl-2-pentanone	12.69	58	2096	0.292	ng	#	68
58) Toluene	13.65	91	6032	0.133	ng		99
59) 2-Hexanone	13.90	43	20752	1.536	ng		97
61) 1,2-Dibromoethane	14.32	107	1264076	100.096	ng		100
63) n-Octane	14.66	57	809	0.112	ng	#	90
64) Tetrachloroethene	14.80	166	2828	0.166	ng		98
67) m- & p-Xylenes	16.09	91	5209	0.117	ng		98
70) o-Xylene	16.59	91	2848	0.065	ng		92
71) n-Nonane	16.82	43	9984	0.708	ng		98
79) 1,3,5-Trimethylbenzene	17.95	105	5430	0.108	ng		93
82) 1,2,4-Trimethylbenzene	18.38	105	15725	0.324	ng		92
95) Naphthalene	20.90	128	3903	0.063	ng		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
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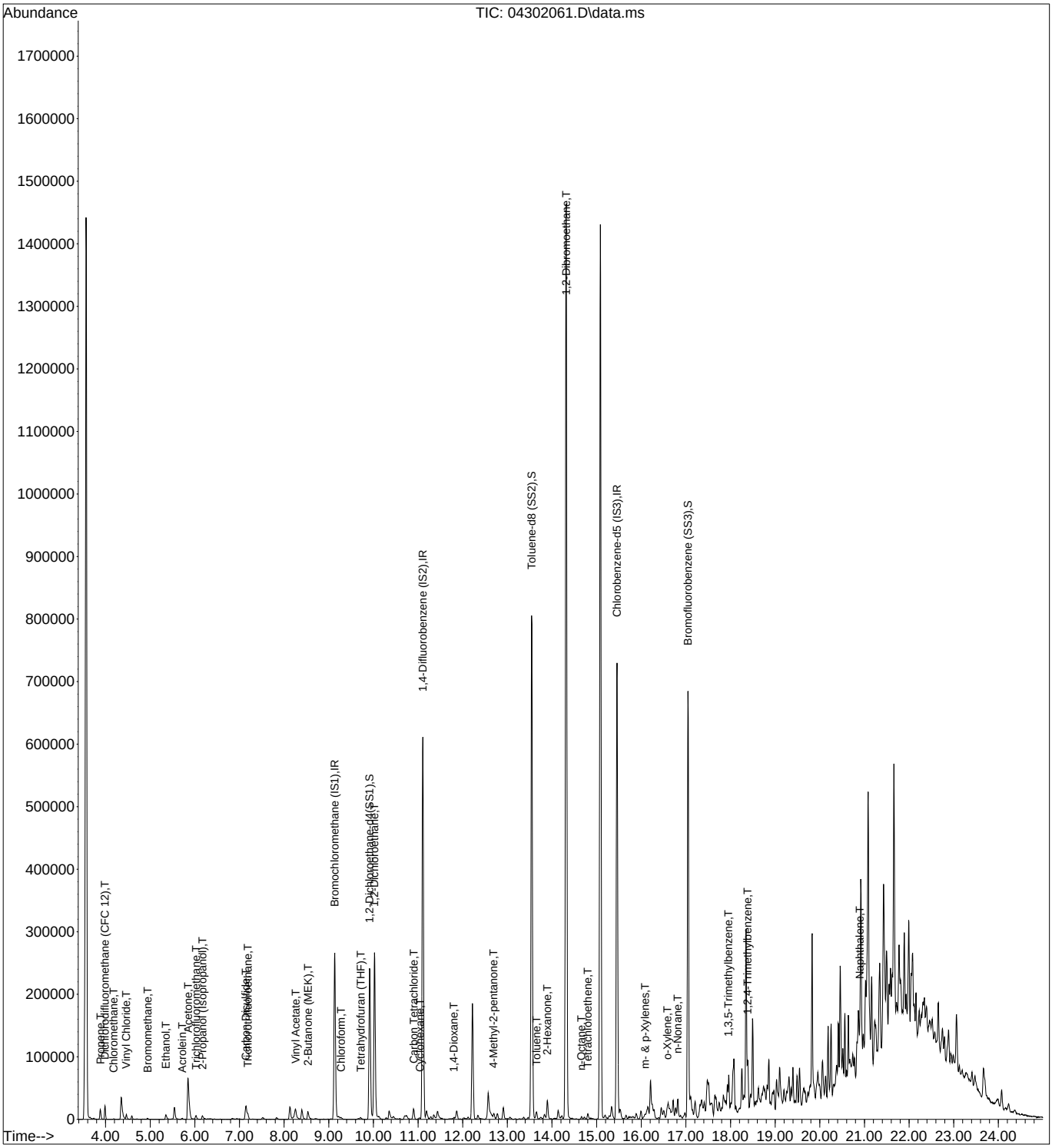
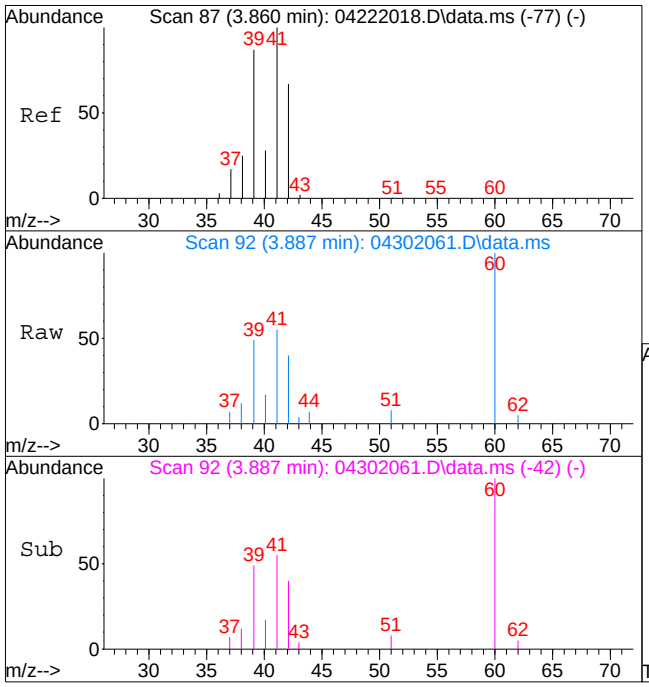
Response via : Initial Calibration
DataAcq Meth:TO15.M



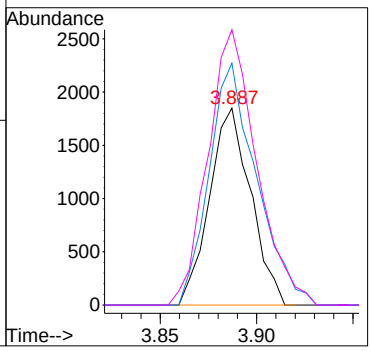
R9042220.M Fri May 01 16:17:45 2020 Page: 2

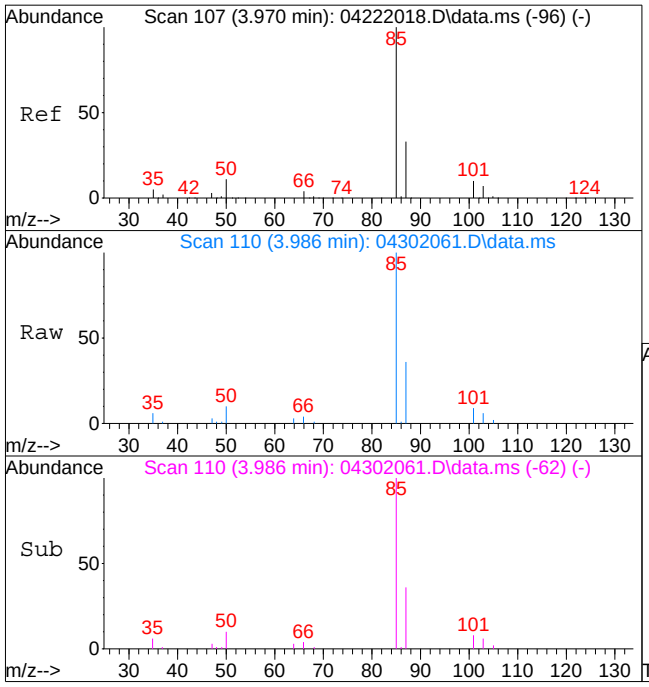


#2
Propene
Concen: 0.43 ng
RT: 3.89 min Scan# 92
Delta R.T. 0.027 min
Lab File: 04302061.D
Acq: 1 May 2020 15:05

Tgt Ion: 42 Resp: 2749

Ion	Ratio	Lower	Upper
42	100		
39	141.8	106.4	146.4
41	165.6	128.8	168.8

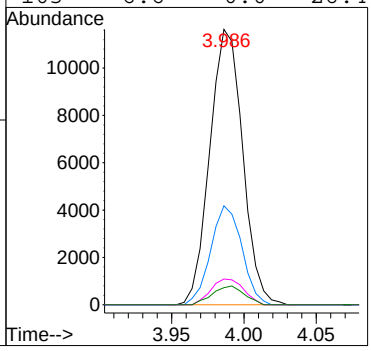


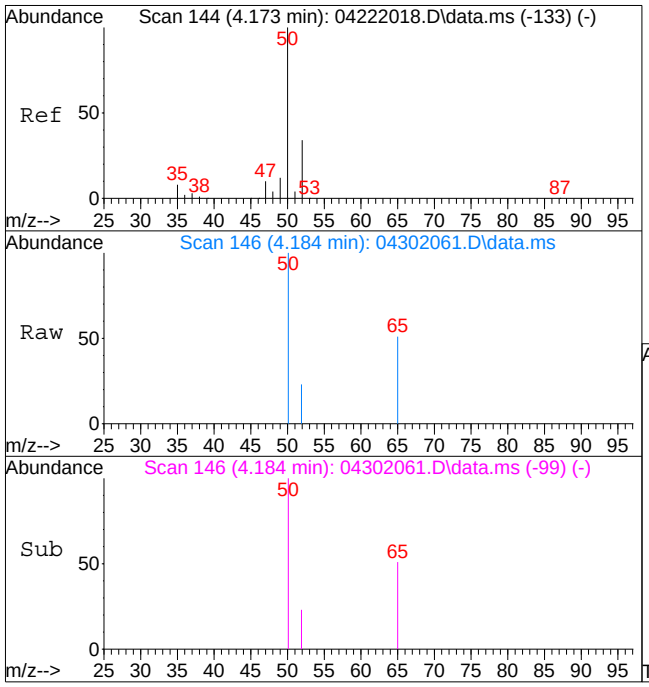


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.76 ng
RT: 3.99 min Scan# 110
Delta R.T. 0.016 min
Lab File: 04302061.D
Acq: 1 May 2020 15:05

Tgt Ion: 85 Resp: 18376

Ion	Ratio	Lower	Upper
85	100		
87	34.0	12.4	52.4
101	9.3	0.0	29.9
103	6.6	0.0	26.4

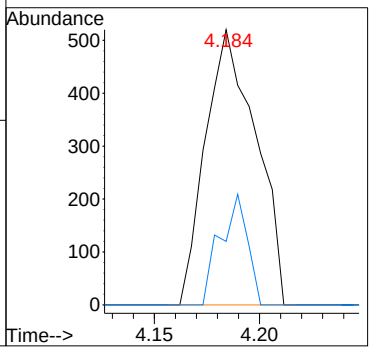


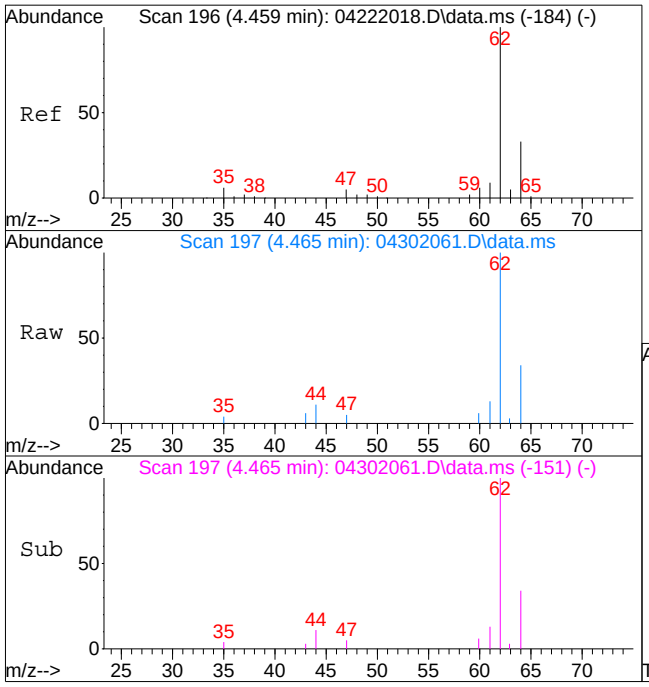


#4
Chloromethane
Concen: 0.10 ng
RT: 4.18 min Scan# 146
Delta R.T. 0.011 min
Lab File: 04302061.D
Acq: 1 May 2020 15:05

Tgt Ion: 50 Resp: 867

Ion	Ratio	Lower	Upper
50	100		
52	21.8	13.7	53.7

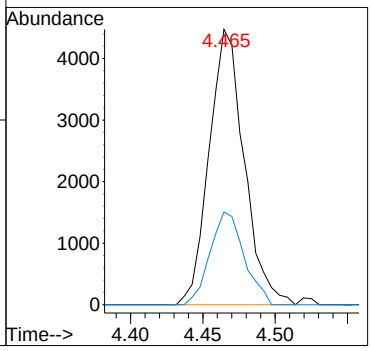


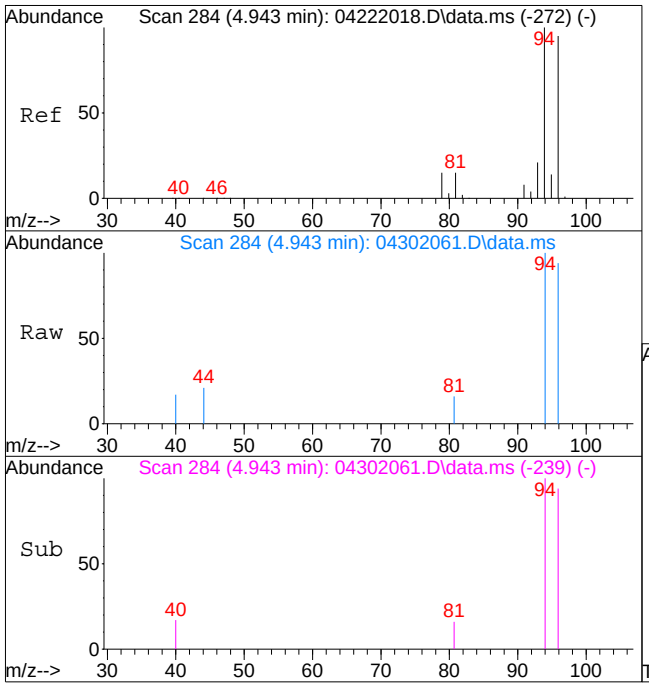


#6
Vinyl Chloride
Concen: 0.64 ng
RT: 4.46 min Scan# 197
Delta R.T. 0.005 min
Lab File: 04302061.D
Acq: 1 May 2020 15:05

Tgt Ion: 62 Resp: 7540

Ion	Ratio	Lower	Upper
62	100		
64	32.7	12.7	52.7

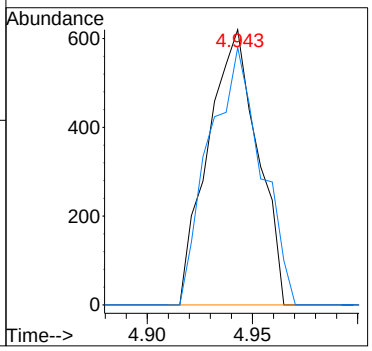


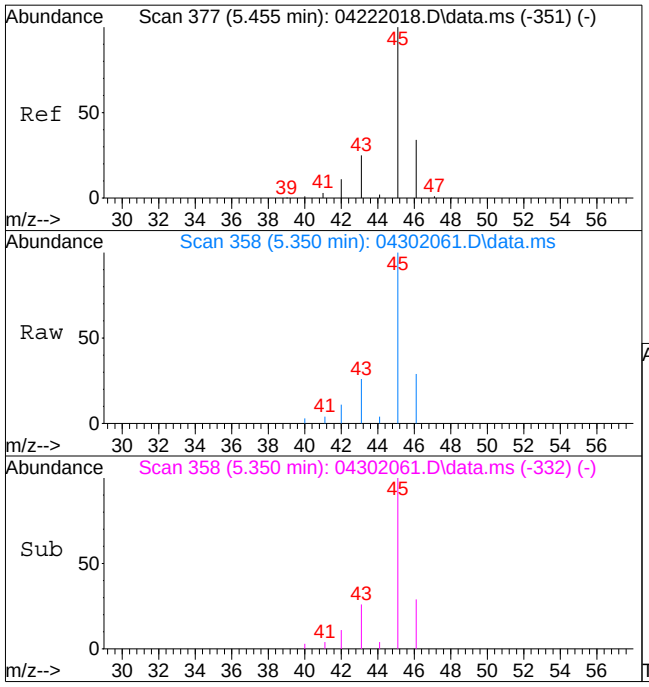


#8
Bromomethane
Concen: 0.11 ng
RT: 4.94 min Scan# 284
Delta R.T. -0.000 min
Lab File: 04302061.D
Acq: 1 May 2020 15:05

Tgt Ion: 94 Resp: 1019

Ion	Ratio	Lower	Upper
94	100		
96	98.0	76.3	116.3

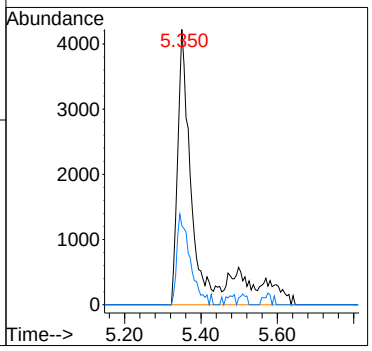


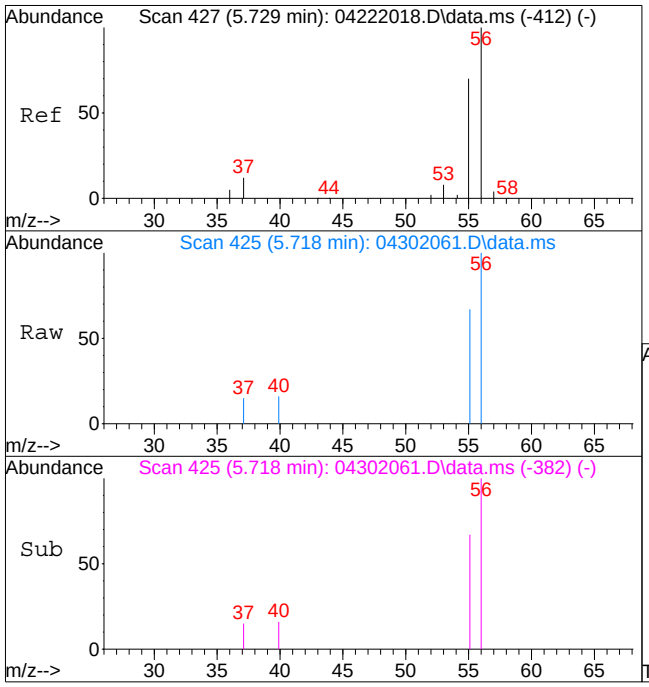


#10
Ethanol
Concen: 2.77 ng m
RT: 5.35 min Scan# 358
Delta R.T. -0.105 min
Lab File: 04302061.D
Acq: 1 May 2020 15:05

Tgt Ion: 45 Resp: 13339

Ion	Ratio	Lower	Upper
45	100		
46	0.0	14.0	54.0#

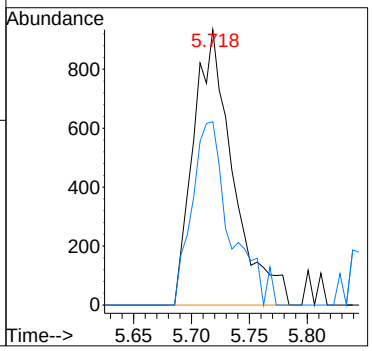


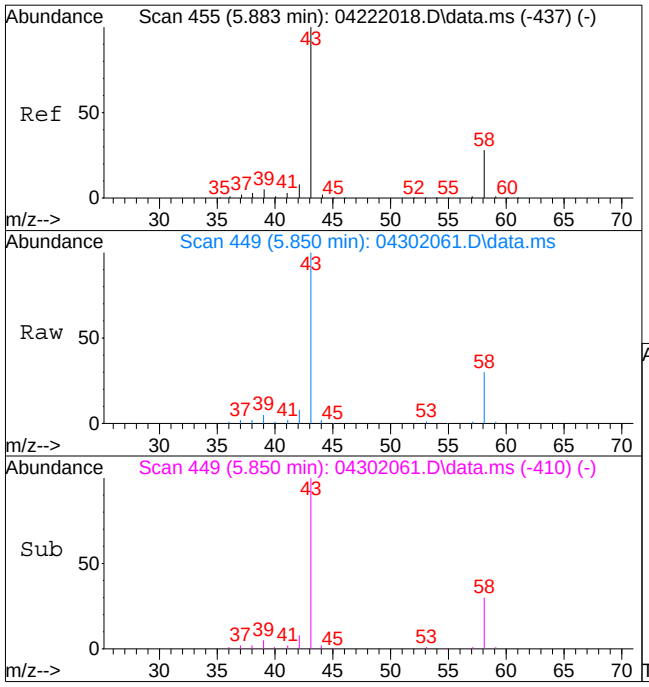


#12
Acrolein
Concen: 0.51 ng
RT: 5.72 min Scan# 425
Delta R.T. -0.011 min
Lab File: 04302061.D
Acq: 1 May 2020 15:05

Tgt Ion: 56 Resp: 2225

Ion	Ratio	Lower	Upper
56	100		
55	64.3	50.4	90.4

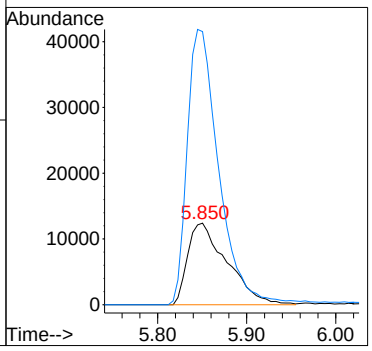


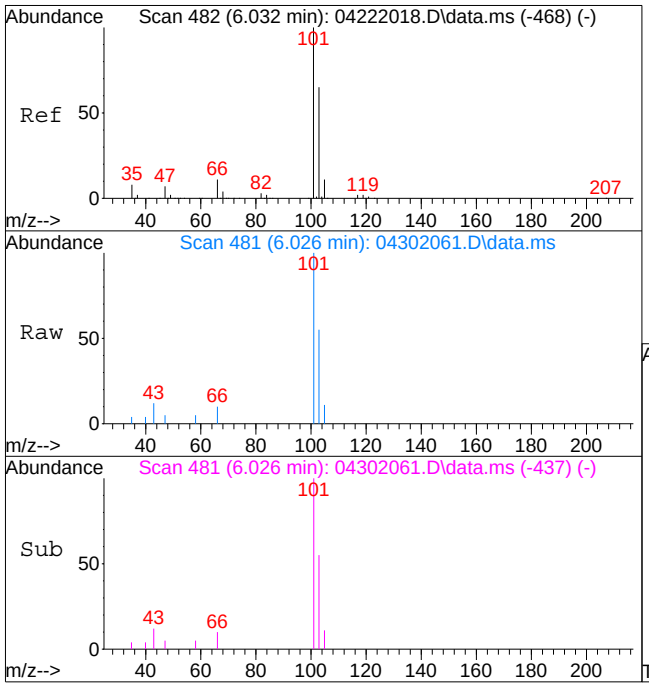


#13
Acetone
Concen: 6.59 ng
RT: 5.85 min Scan# 449
Delta R.T. -0.033 min
Lab File: 04302061.D
Acq: 1 May 2020 15:05

Tgt Ion: 58 Resp: 38138

Ion	Ratio	Lower	Upper
58	100		
43	274.8	319.3	379.3#

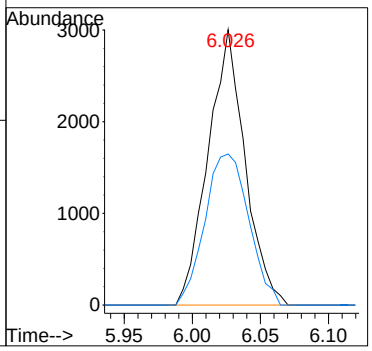


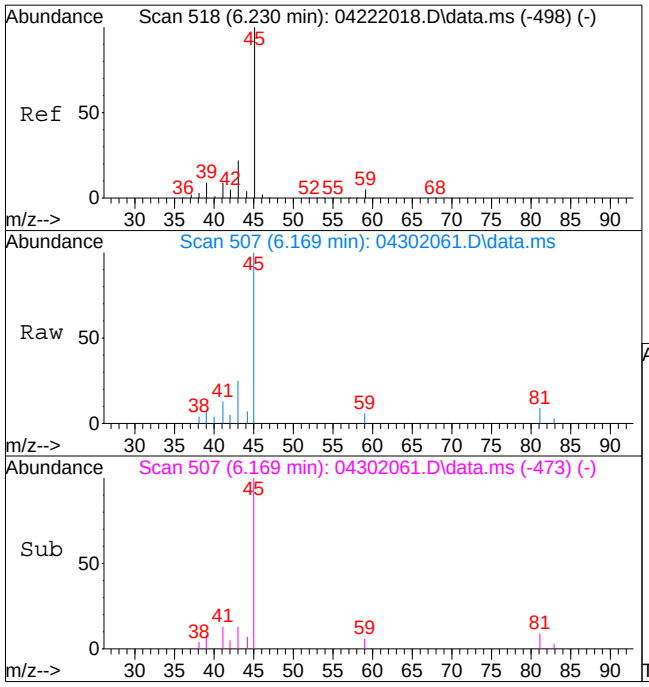


#14
Trichlorofluoromethane
Concen: 0.24 ng
RT: 6.03 min Scan# 481
Delta R.T. -0.006 min
Lab File: 04302061.D
Acq: 1 May 2020 15:05

Tgt Ion:101 Resp: 5667

Ion	Ratio	Lower	Upper
101	100		
103	65.2	44.7	84.7

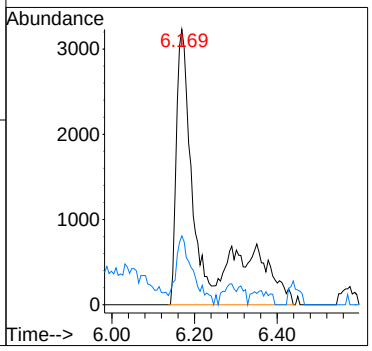


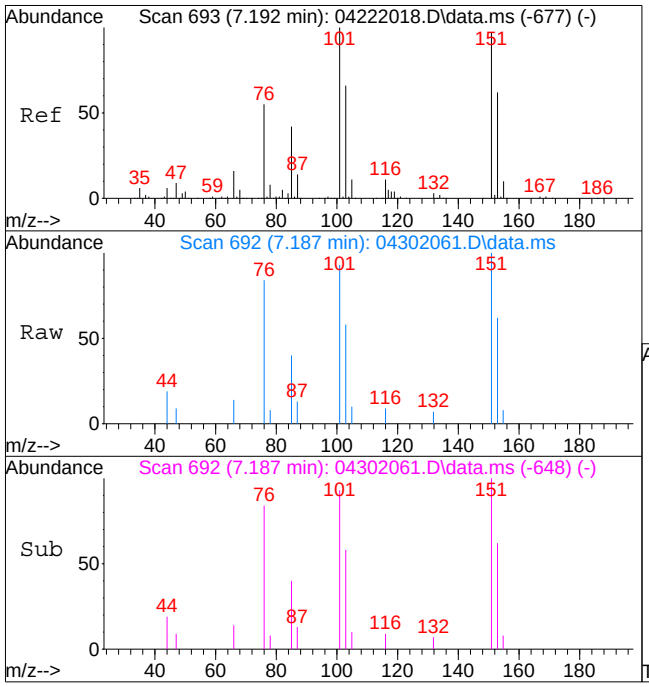


#15
2-Propanol (Isopropanol)
Concen: 0.70 ng
RT: 6.17 min Scan# 507
Delta R.T. -0.061 min
Lab File: 04302061.D
Acq: 1 May 2020 15:05

Tgt Ion: 45 Resp: 12840

Ion	Ratio	Lower	Upper
45	100		
43	17.6	2.6	42.6

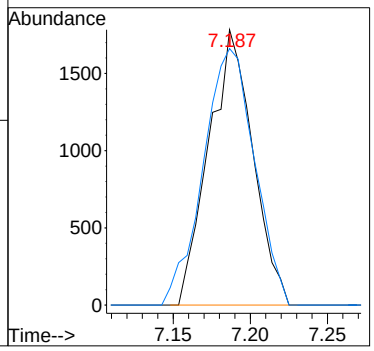


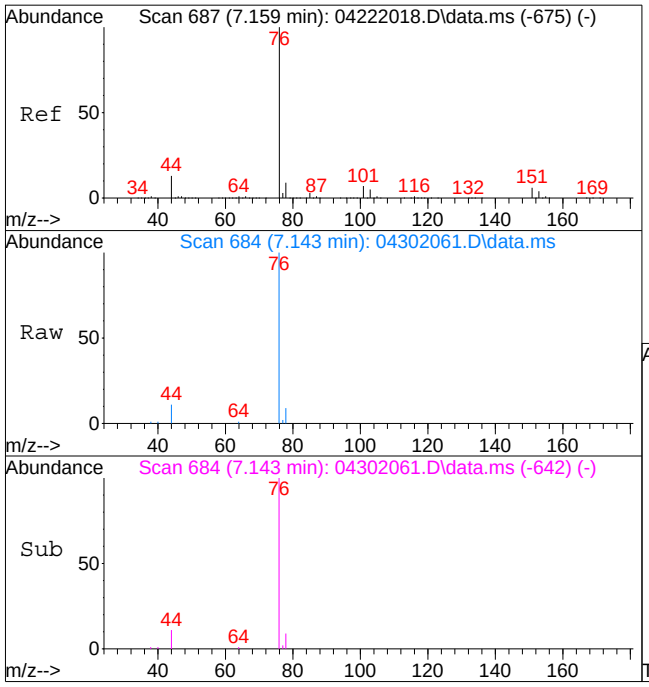


#21
Trichlorotrifluoroethane
Concen: 0.28 ng
RT: 7.19 min Scan# 692
Delta R.T. -0.006 min
Lab File: 04302061.D
Acq: 1 May 2020 15:05

Tgt Ion:151 Resp: 3540

Ion	Ratio	Lower	Upper
151	100		
101	108.4	82.9	122.9

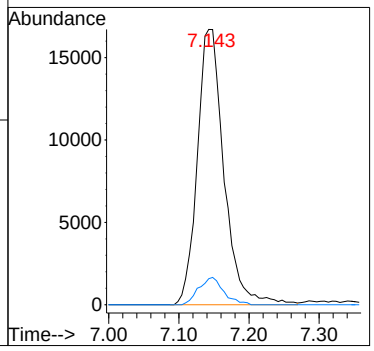


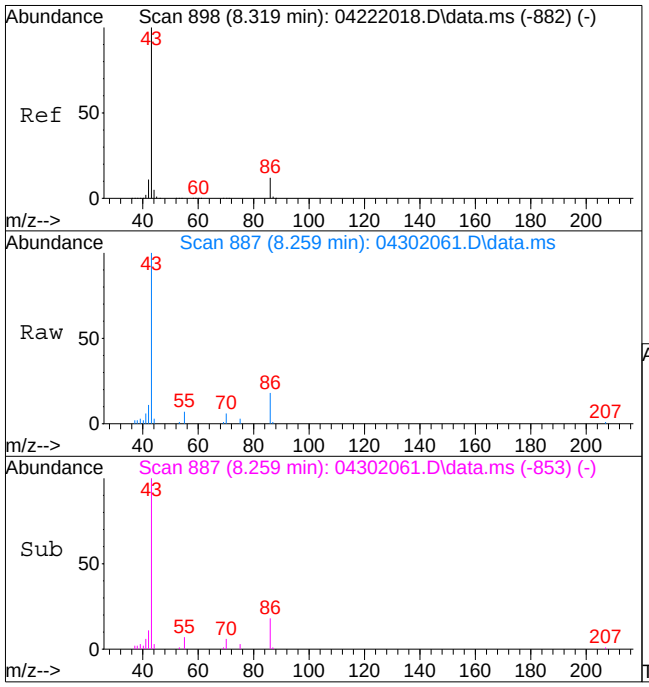


#22
Carbon Disulfide
Concen: 1.31 ng
RT: 7.14 min Scan# 684
Delta R.T. -0.017 min
Lab File: 04302061.D
Acq: 1 May 2020 15:05

Tgt Ion: 76 Resp: 44076

Ion	Ratio	Lower	Upper
76	100		
78	9.3	0.0	30.2

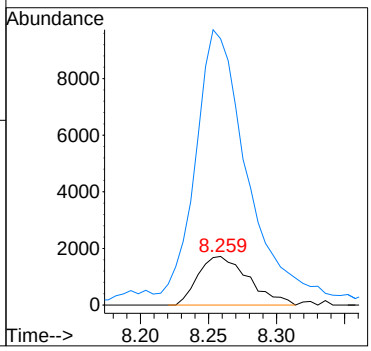


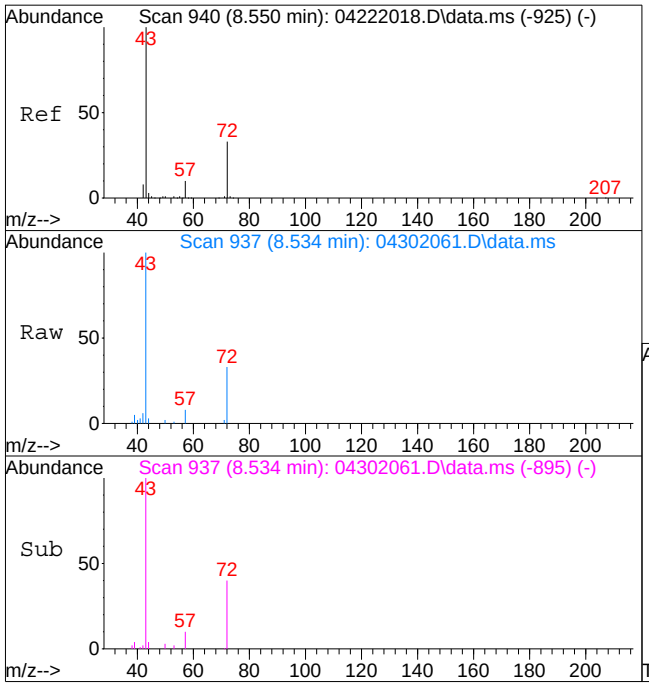


#26
Vinyl Acetate
Concen: 2.10 ng
RT: 8.26 min Scan# 887
Delta R.T. -0.061 min
Lab File: 04302061.D
Acq: 1 May 2020 15:05

Tgt Ion: 86 Resp: 4425

Ion	Ratio	Lower	Upper
86	100		
43	593.6	803.0	843.0#

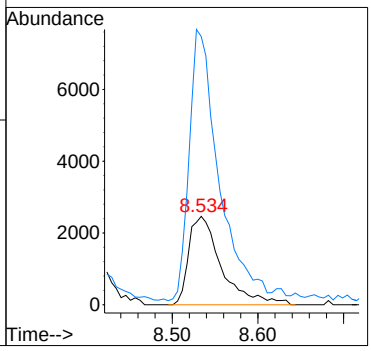


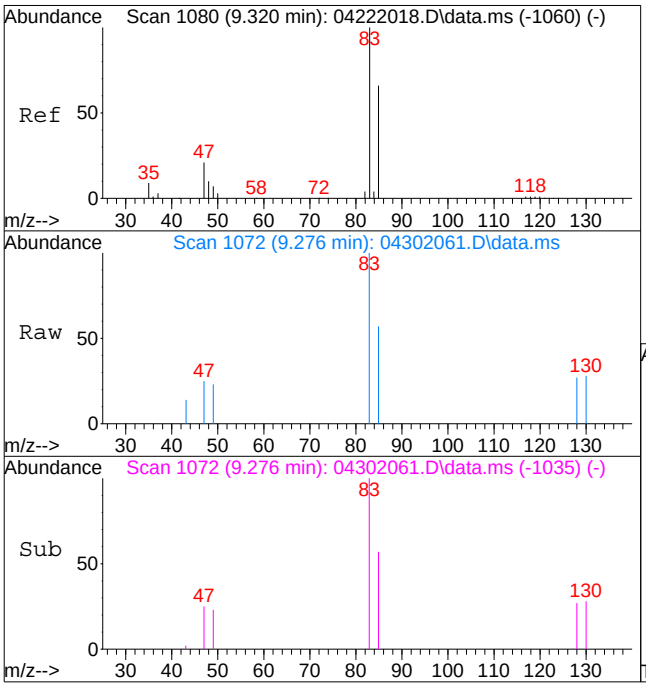


#27
2-Butanone (MEK)
Concen: 1.10 ng
RT: 8.53 min Scan# 937
Delta R.T. -0.017 min
Lab File: 04302061.D
Acq: 1 May 2020 15:05

Tgt Ion: 72 Resp: 6538

Ion	Ratio	Lower	Upper
72	100		
43	279.2	278.8	318.8

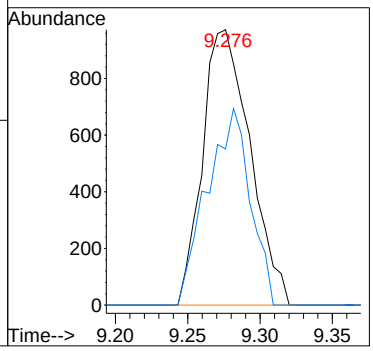


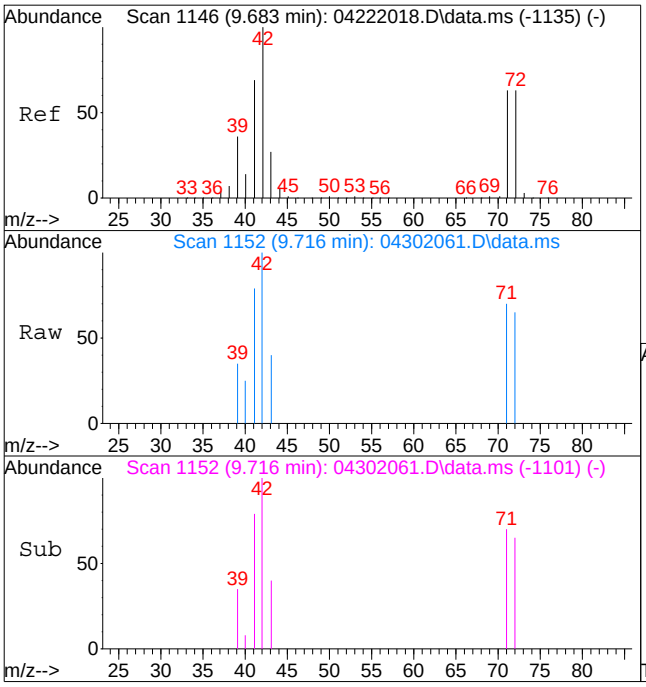


#32
Chloroform
Concen: 0.11 ng
RT: 9.28 min Scan# 1072
Delta R.T. -0.044 min
Lab File: 04302061.D
Acq: 1 May 2020 15:05

Tgt Ion: 83 Resp: 2223

Ion	Ratio	Lower	Upper
83	100		
85	64.8	45.8	85.8

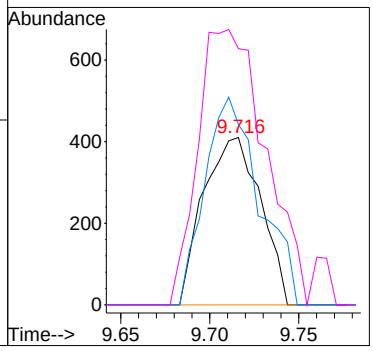


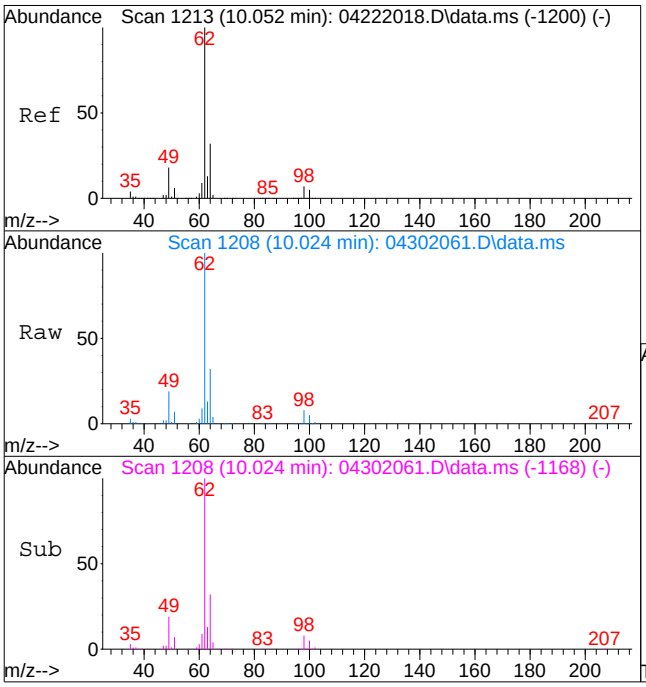


#34
Tetrahydrofuran (THF)
Concen: 0.15 ng
RT: 9.72 min Scan# 1152
Delta R.T. 0.033 min
Lab File: 04302061.D
Acq: 1 May 2020 15:05

Tgt Ion: 72 Resp: 917

Ion	Ratio	Lower	Upper
72	100		
71	118.4	77.9	117.9#
42	194.4	133.9	173.9#

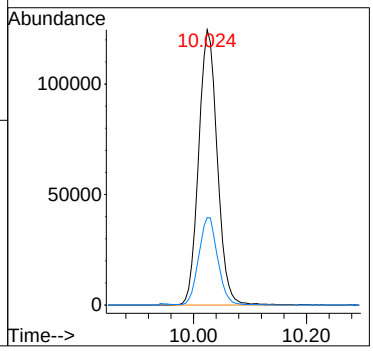


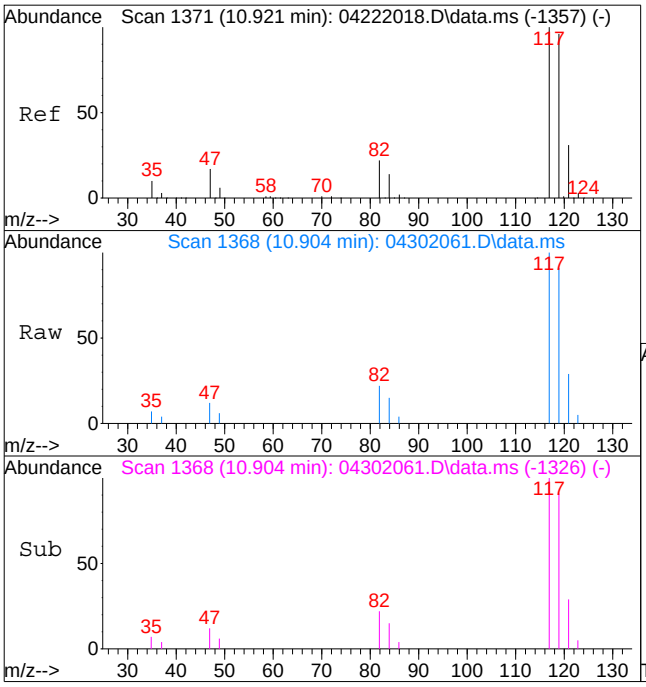


#36
1,2-Dichloroethane
Concen: 16.90 ng
RT: 10.02 min Scan# 1208
Delta R.T. -0.028 min
Lab File: 04302061.D
Acq: 1 May 2020 15:05

Tgt Ion: 62 Resp: 285570

Ion	Ratio	Lower	Upper
62	100		
64	32.4	12.7	52.7

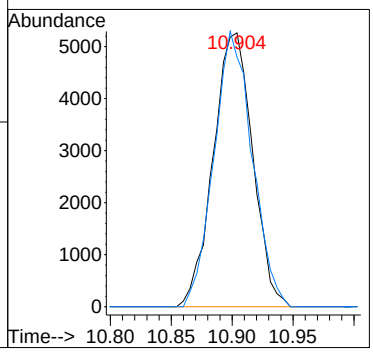


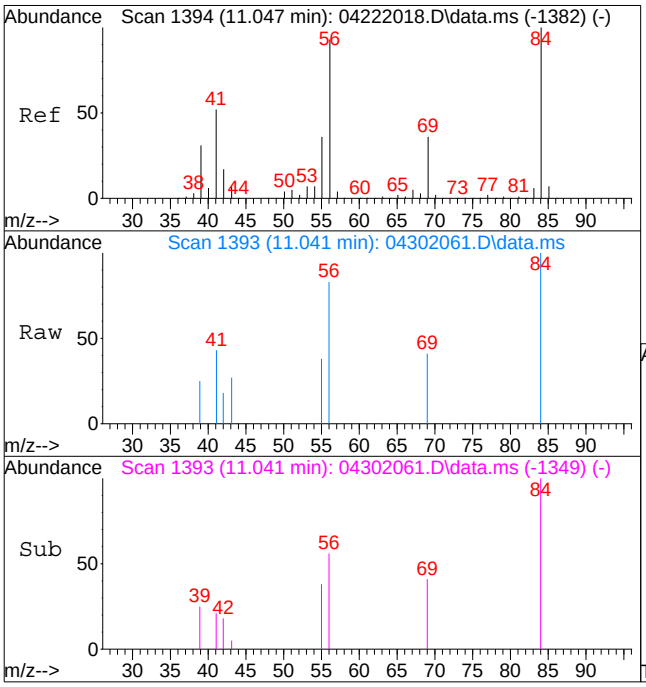


#42
Carbon Tetrachloride
Concen: 0.56 ng
RT: 10.90 min Scan# 1368
Delta R.T. -0.017 min
Lab File: 04302061.D
Acq: 1 May 2020 15:05

Tgt Ion:117 Resp: 11848

Ion	Ratio	Lower	Upper
117	100		
119	97.5	76.5	116.5

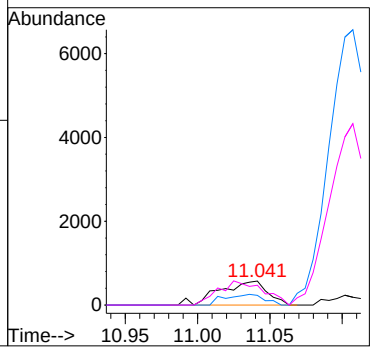


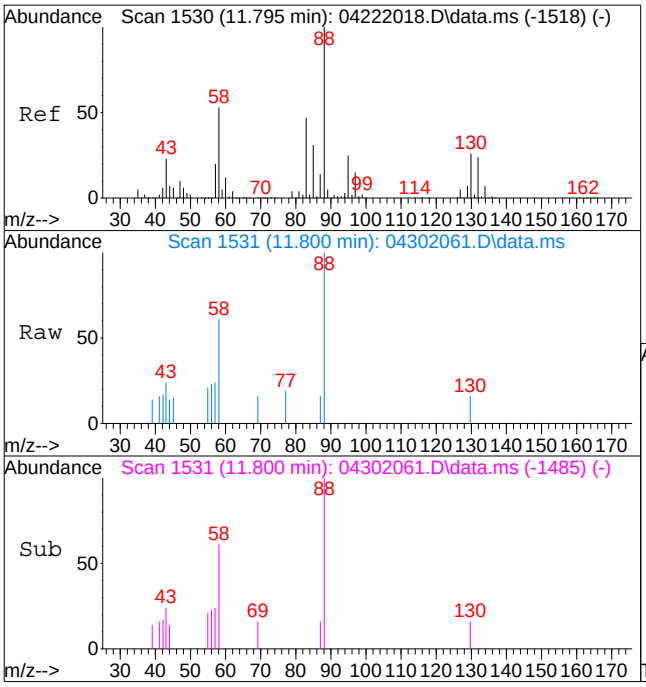


#43
Cyclohexane
Concen: 0.08 ng
RT: 11.04 min Scan# 1393
Delta R.T. -0.006 min
Lab File: 04302061.D
Acq: 1 May 2020 15:05

Tgt Ion: 84 Resp: 1313

Ion	Ratio	Lower	Upper
84	100		
69	37.2	15.8	55.8
56	95.2	72.0	112.0

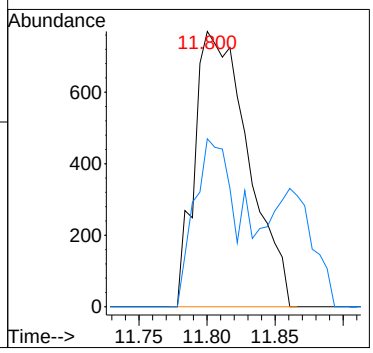


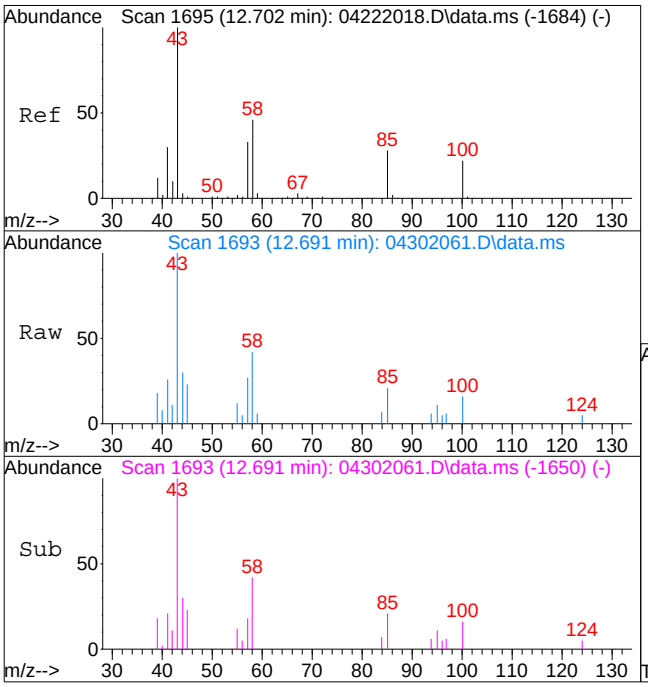


#48
1,4-Dioxane
Concen: 0.25 ng
RT: 11.80 min Scan# 1531
Delta R.T. 0.005 min
Lab File: 04302061.D
Acq: 1 May 2020 15:05

Tgt Ion: 88 Resp: 2098

Ion	Ratio	Lower	Upper
88	100		
58	52.8	31.1	71.1

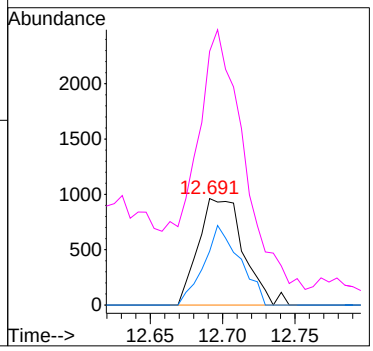


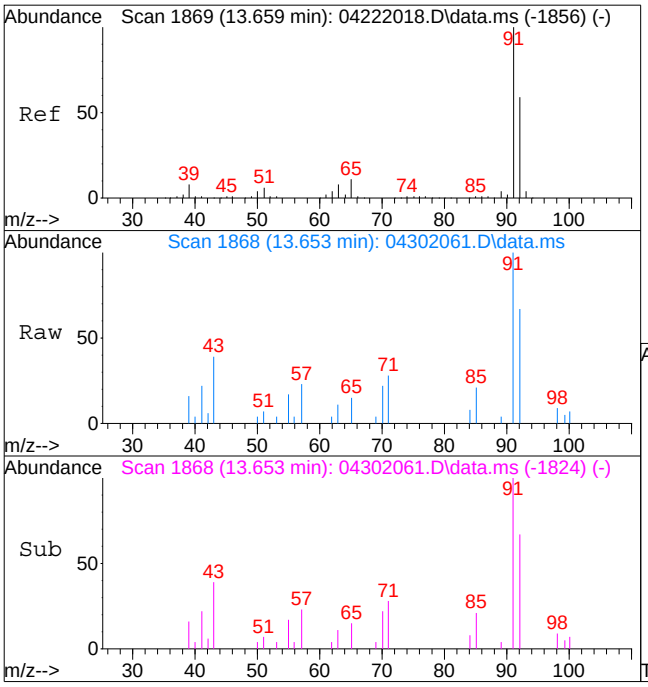


#53
4-Methyl-2-pentanone
Concen: 0.29 ng
RT: 12.69 min Scan# 1693
Delta R.T. -0.011 min
Lab File: 04302061.D
Acq: 1 May 2020 15:05

Tgt Ion: 58 Resp: 2096

Ion	Ratio	Lower	Upper
58	100		
85	59.3	52.2	78.2
43	283.6	176.2	264.4#

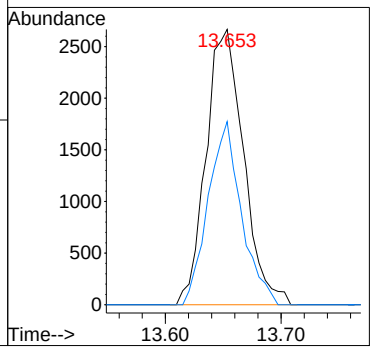


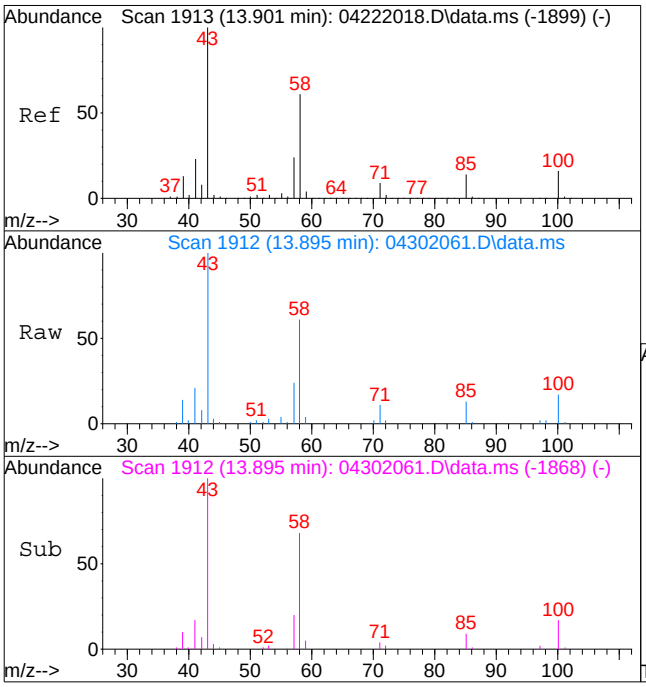


#58
Toluene
Concen: 0.13 ng
RT: 13.65 min Scan# 1868
Delta R.T. -0.006 min
Lab File: 04302061.D
Acq: 1 May 2020 15:05

Tgt Ion: 91 Resp: 6032

Ion	Ratio	Lower	Upper
91	100		
92	58.8	38.2	78.2

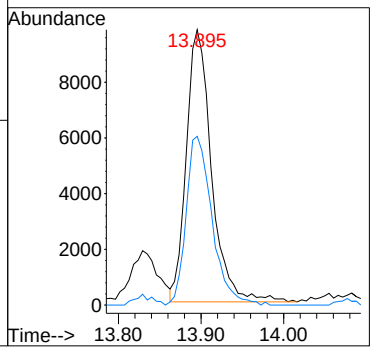


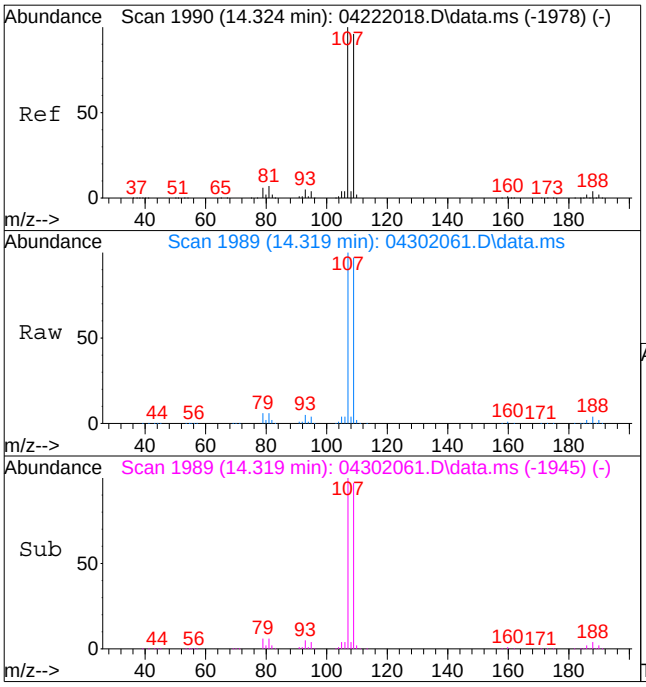


#59
2-Hexanone
Concen: 1.54 ng
RT: 13.90 min Scan# 1912
Delta R.T. -0.006 min
Lab File: 04302061.D
Acq: 1 May 2020 15:05

Tgt Ion: 43 Resp: 20752

Ion	Ratio	Lower	Upper
43	100		
58	63.7	41.1	81.1

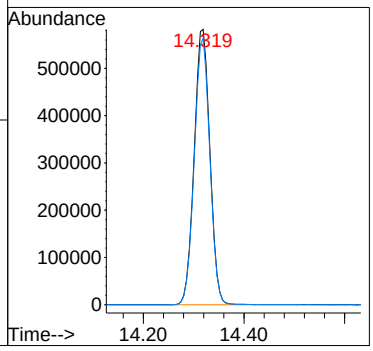


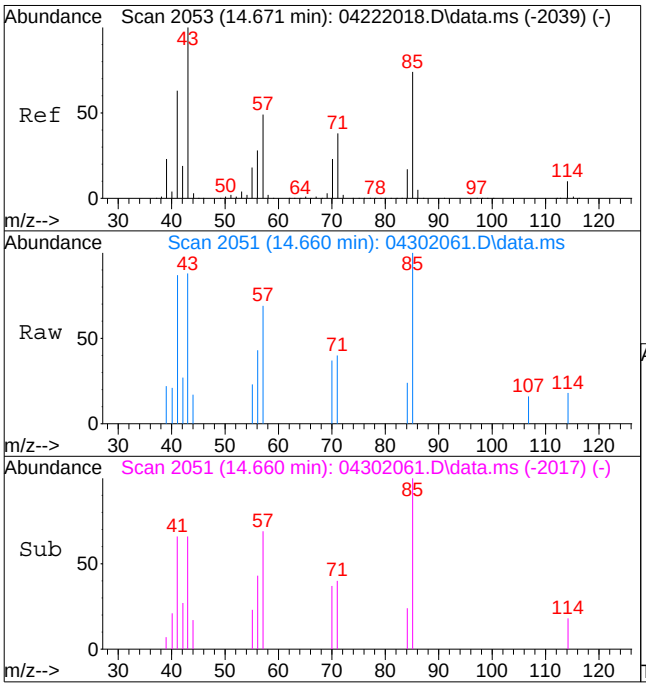


#61
1,2-Dibromoethane
Concen: 100.10 ng
RT: 14.32 min Scan# 1989
Delta R.T. -0.006 min
Lab File: 04302061.D
Acq: 1 May 2020 15:05

Tgt Ion:107 Resp: 1264076

Ion	Ratio	Lower	Upper
107	100		
109	95.9	75.5	115.5

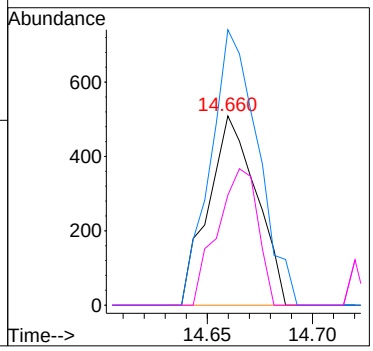


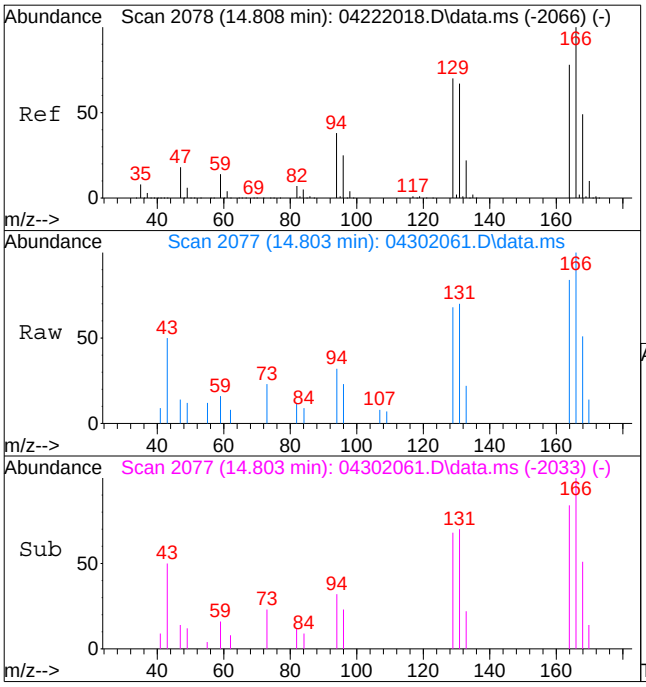


#63
n-Octane
Concen: 0.11 ng
RT: 14.66 min Scan# 2051
Delta R.T. -0.011 min
Lab File: 04302061.D
Acq: 1 May 2020 15:05

Tgt Ion: 57 Resp: 809

Ion	Ratio	Lower	Upper
57	100		
85	143.6	120.7	181.1
71	60.8	61.1	91.7#

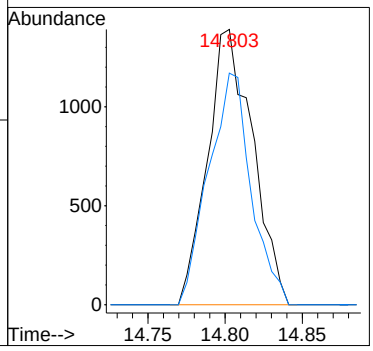


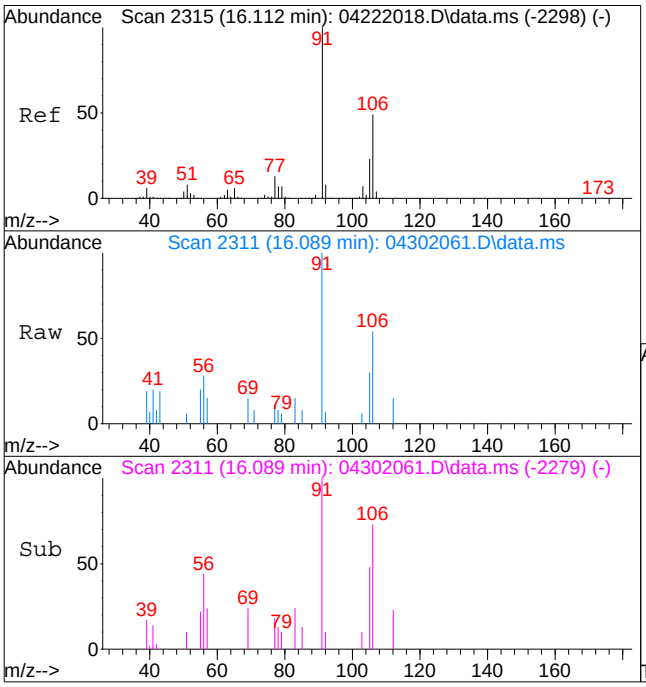


#64
Tetrachloroethene
Concen: 0.17 ng
RT: 14.80 min Scan# 2077
Delta R.T. -0.006 min
Lab File: 04302061.D
Acq: 1 May 2020 15:05

Tgt Ion:166 Resp: 2828

Ion	Ratio	Lower	Upper
166	100		
164	79.3	57.7	97.7

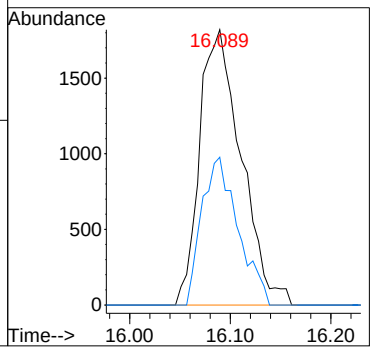


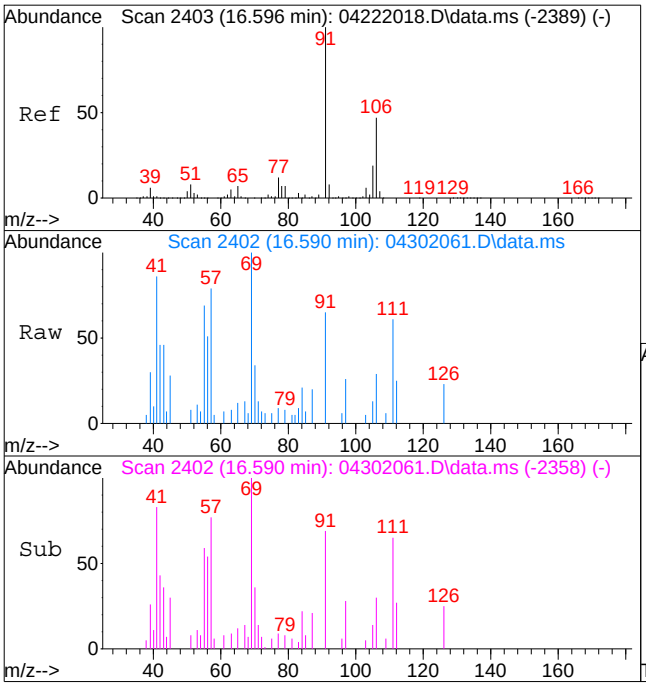


#67
m- & p-Xylenes
Concen: 0.12 ng
RT: 16.09 min Scan# 2311
Delta R.T. -0.022 min
Lab File: 04302061.D
Acq: 1 May 2020 15:05

Tgt Ion: 91 Resp: 5209

Ion	Ratio	Lower	Upper
91	100		
106	46.9	28.3	68.3

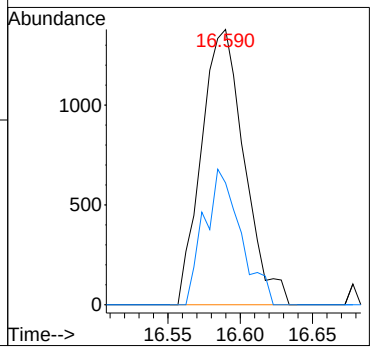


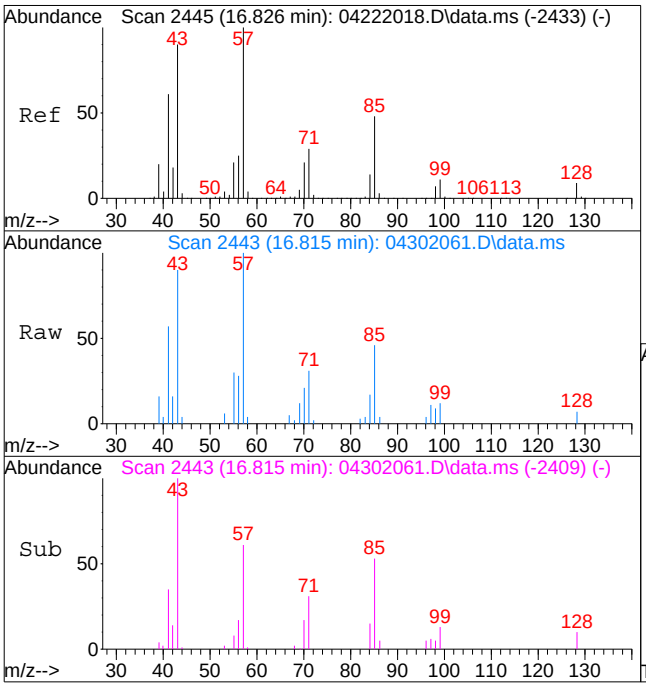


#70
o-Xylene
Concen: 0.07 ng
RT: 16.59 min Scan# 2402
Delta R.T. -0.006 min
Lab File: 04302061.D
Acq: 1 May 2020 15:05

Tgt Ion: 91 Resp: 2848

Ion	Ratio	Lower	Upper
91	100		
106	41.9	27.5	67.5

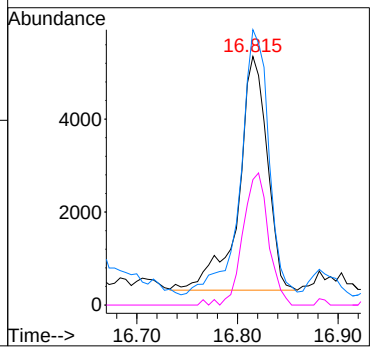


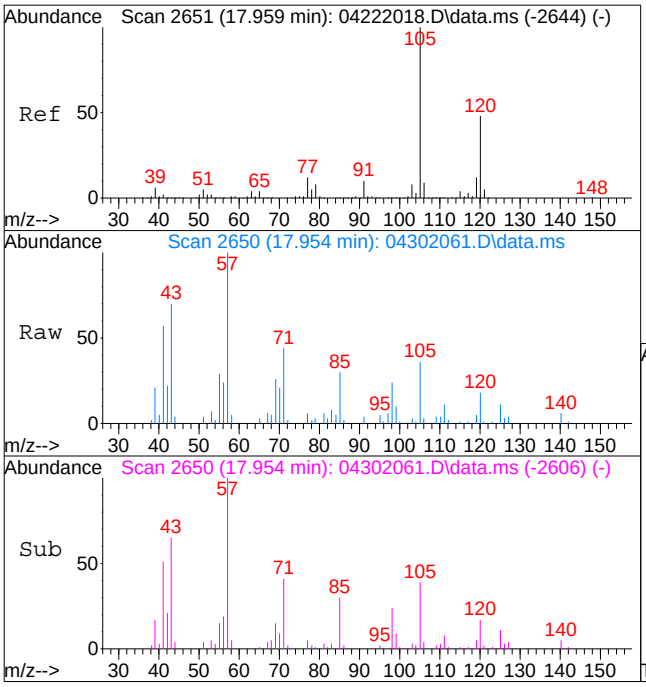


#71
n-Nonane
Concen: 0.71 ng
RT: 16.82 min Scan# 2443
Delta R.T. -0.011 min
Lab File: 04302061.D
Acq: 1 May 2020 15:05

Tgt Ion: 43 Resp: 9984

Ion	Ratio	Lower	Upper
43	100		
57	112.2	90.8	130.8
85	49.9	32.1	72.1

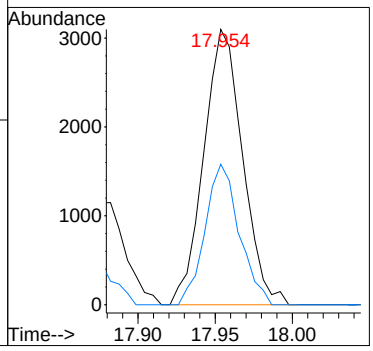


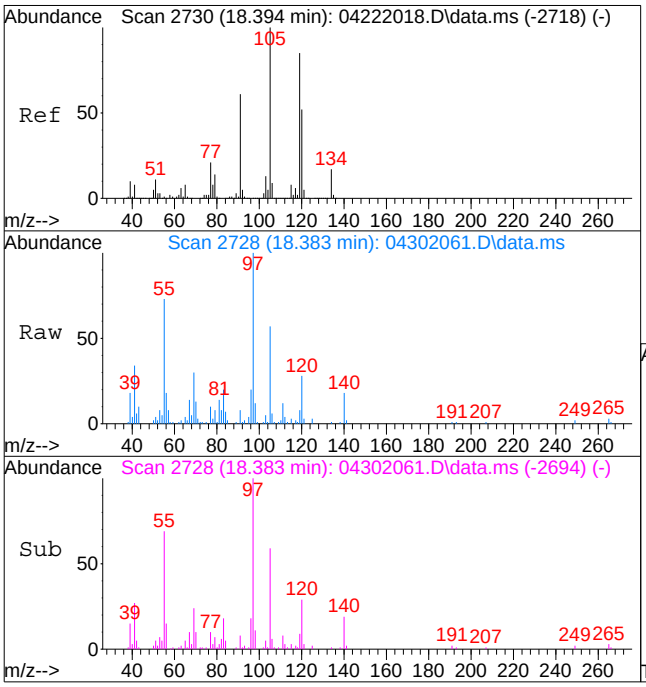


#79
1,3,5-Trimethylbenzene
Concen: 0.11 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 04302061.D
Acq: 1 May 2020 15:05

Tgt Ion:105 Resp: 5430

Ion	Ratio	Lower	Upper
105	100		
120	45.0	29.5	69.5

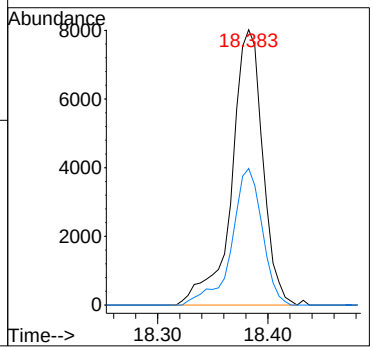


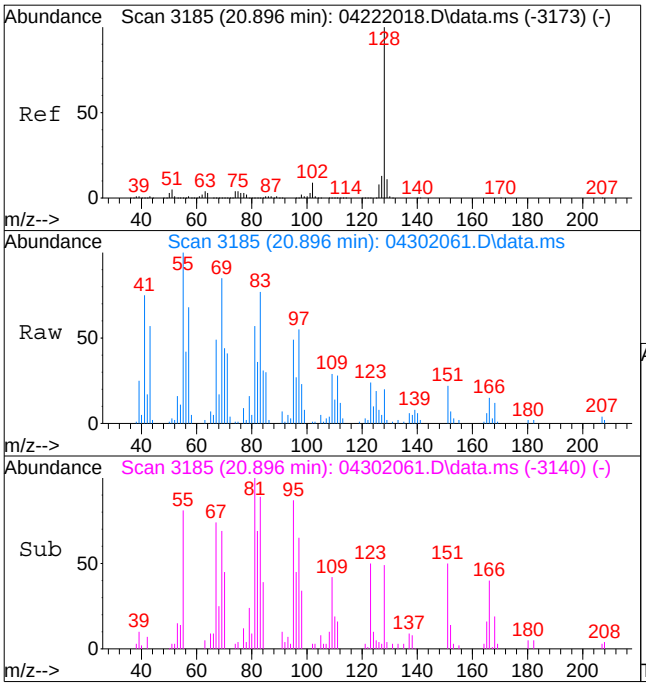


#82
1,2,4-Trimethylbenzene
Concen: 0.32 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 04302061.D
Acq: 1 May 2020 15:05

Tgt Ion:105 Resp: 15725

Ion	Ratio	Lower	Upper
105	100		
120	48.8	34.5	74.5

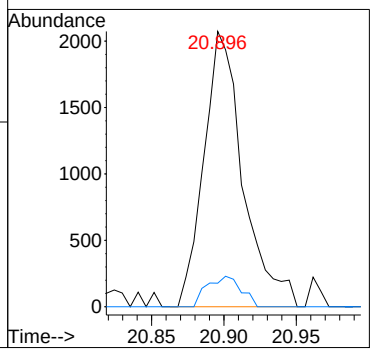




#95
Naphthalene
Concen: 0.06 ng
RT: 20.90 min Scan# 3185
Delta R.T. -0.000 min
Lab File: 04302061.D
Acq: 1 May 2020 15:05

Tgt Ion:128 Resp: 3903

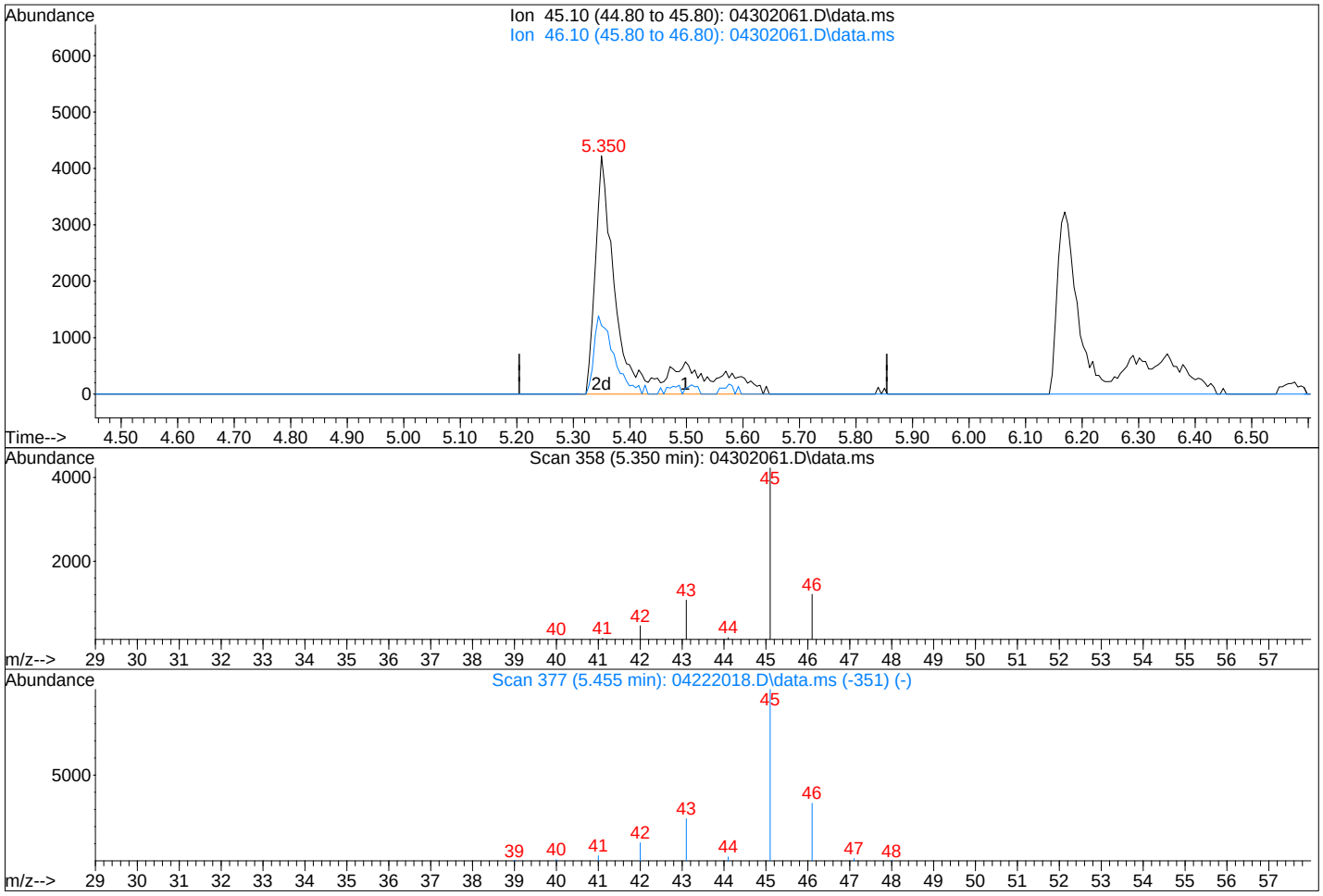
Ion	Ratio	Lower	Upper
128	100		
129	9.7	0.0	30.9



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\30\04302061.D Vial: 5
Acq On : 1 May 2020 15:05 Operator: SC
Sample : P2002103-015 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 16:11:49 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04302061.D\data.ms

(10) Ethanol (T)

5.350min (-0.105) 2.77ng m

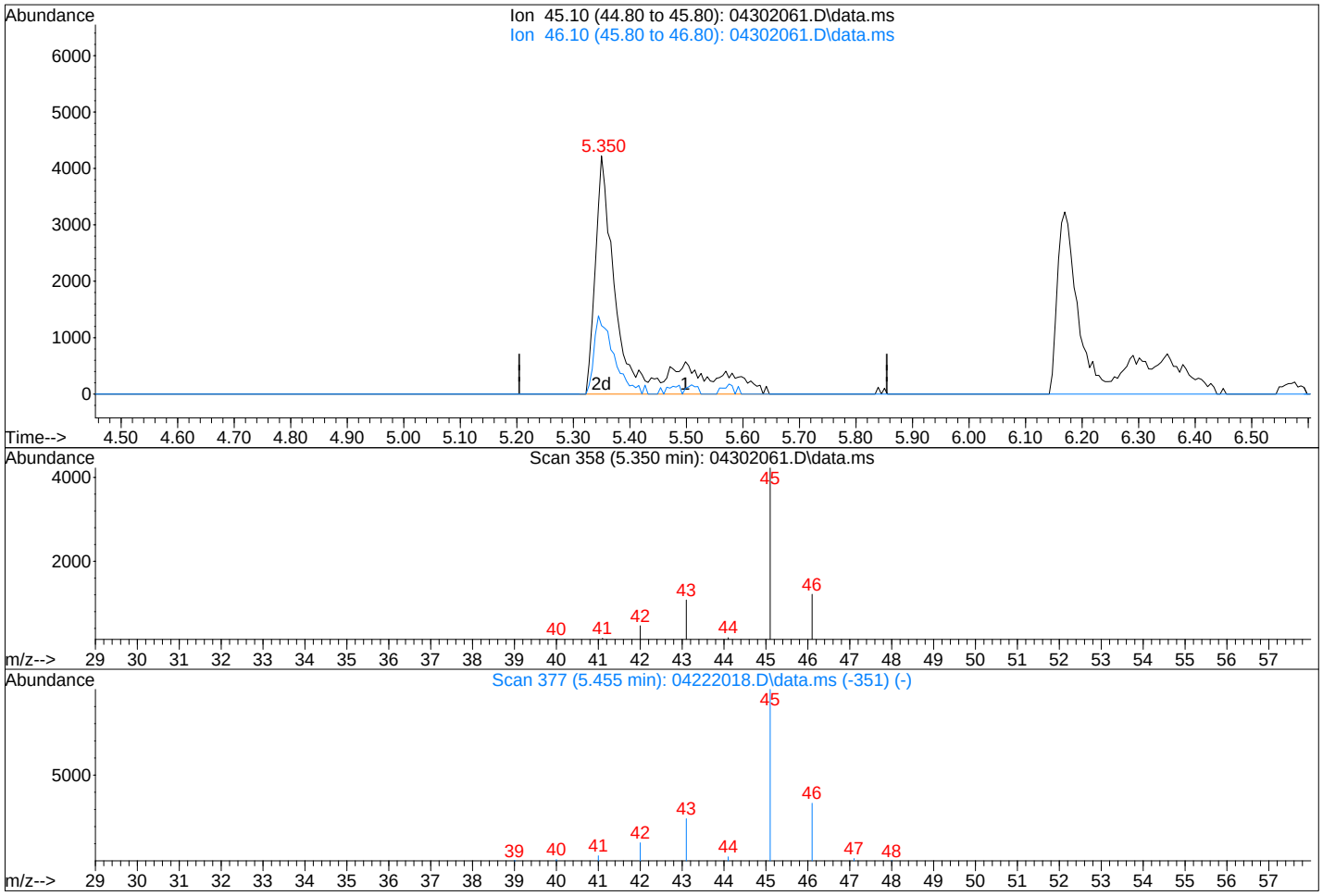
response 13339

Ion	Exp%	Act%
45.10	100	100
46.10	34.00	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\30\04302061.D Vial: 5
Acq On : 1 May 2020 15:05 Operator: SC
Sample : P2002103-015 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 16:11:49 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04302061.D\data.ms

(10) Ethanol (T)

5.350min (-0.105) 2.77ng m

response 13339

Ion	Exp%	Act%
45.10	100	100
46.10	34.00	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

IPC

5/1/20

5/4/20

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302060.D Vial: 4
Acq On : 1 May 2020 14:32 Operator: SC
Sample : P2002103-016 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 16:23:01 2020 5/1/20
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	148489	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	629490	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	278087	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	225090	11.700	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.60%				
57) Toluene-d8 (SS2)	13.54	98	688899	12.830	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.64%				
73) Bromofluorobenzene (SS3)	17.05	174	266830	12.365	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.88%				
Target Compounds							Qvalue
2) Propene	3.89	42	701	0.111	ng	#	67
3) Dichlorodifluoromethan...	3.98	85	30031	1.253	ng		99
4) Chloromethane	4.19	50	259	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	615	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.36	45	1677	0.351	ng		66
11) Acetonitrile	5.63	41	75	N.D.			
12) Acrolein	0.00	56	0	N.D.	d		
13) Acetone	5.87	58	5264	0.918	ng	#	79
14) Trichlorofluoromethane	6.03	101	5510	0.231	ng		98
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.	d		
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	6.86	59	623	N.D.			
19) Methylene Chloride	6.86	84	370	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	7.18	151	7288	0.587	ng		97
22) Carbon Disulfide	7.16	76	4886	0.146	ng		93
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	8.21	73	2753	0.129	ng		68
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	8.58	72	414	0.070	ng	#	1
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.	d		
32) Chloroform	9.27	83	111438	5.473	ng		99
34) Tetrahydrofuran (THF)	9.70	72	3301	0.553	ng		87
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.75	78	2345	0.057	ng		94
42) Carbon Tetrachloride	10.90	117	61290	2.889	ng		100
43) Cyclohexane	11.04	84	839	0.052	ng	#	74
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	11.76	83	7393	0.438	ng		98
47) Trichloroethene	11.80	130	773	0.054	ng		94
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302060.D Vial: 4
Acq On : 1 May 2020 14:32 Operator: SC
Sample : P2002103-016 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 16:23:01 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

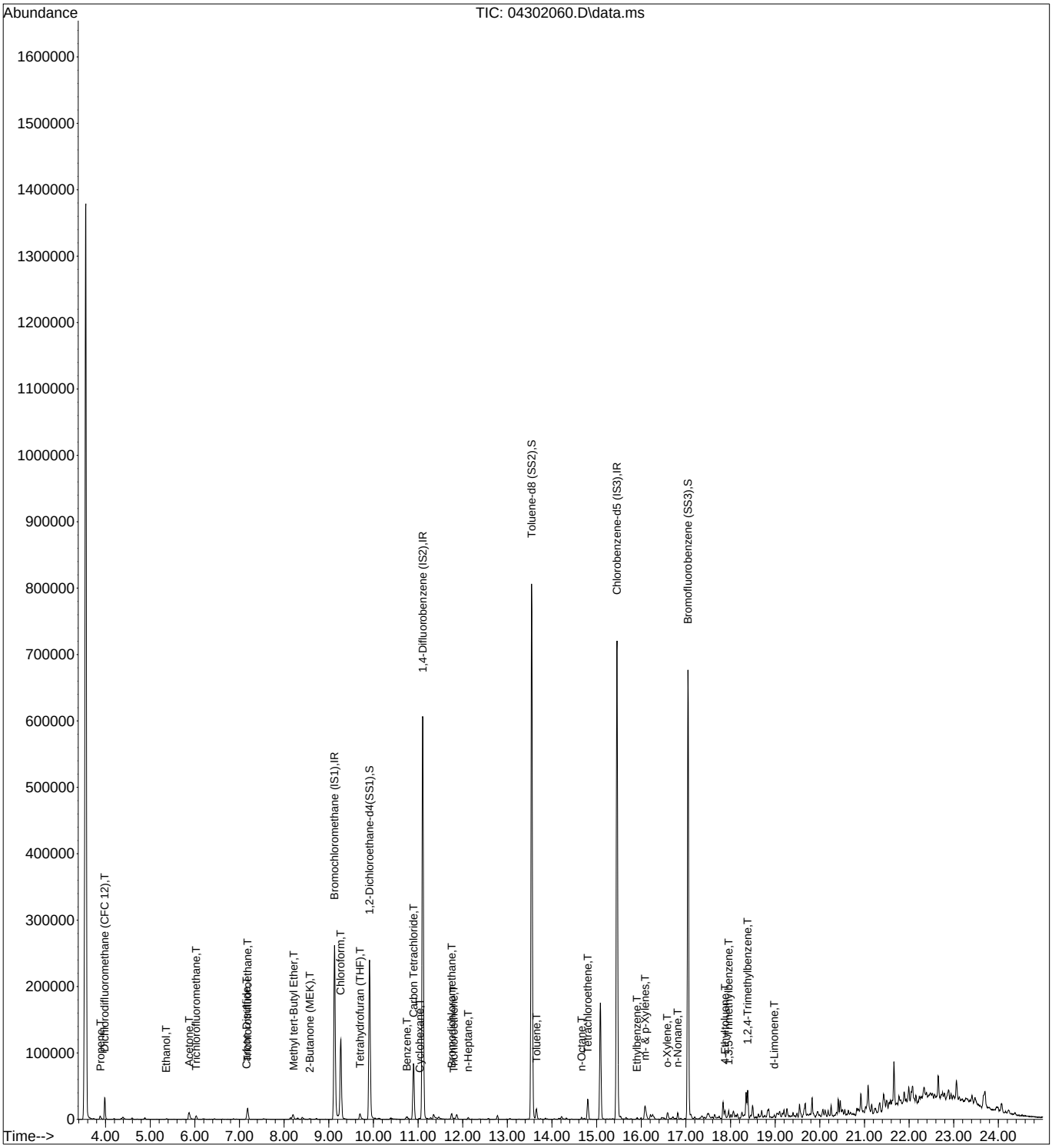
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.12	71	721	0.076 ng	96
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.65	91	12316	0.273 ng	98
59) 2-Hexanone	13.90	43	295	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.67	57	629	0.088 ng	89
64) Tetrachloroethene	14.80	166	12671	0.746 ng	100
65) Chlorobenzene	15.53	112	261	N.D.	
66) Ethylbenzene	15.90	91	2737	0.052 ng	99
67) m- & p-Xylenes	16.08	91	20827	0.470 ng	99
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.58	91	7589	0.174 ng	100
71) n-Nonane	16.82	43	3051	0.217 ng	91
72) 1,1,2,2-Tetrachloroethane	16.64	83	192	N.D.	
74) Cumene	17.20	105	495	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.73	91	2364	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	9029	0.167 ng	98
79) 1,3,5-Trimethylbenzene	17.96	105	6485	0.130 ng	96
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	22986	0.477 ng	89
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.63	91	534	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	18.66	105	1351	N.D.	
88) 4-Isopropyltoluene (p-...	18.83	119	1398	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	18.98	68	700	0.051 ng	88
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.91	128	1265	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	18.34	119	622	N.D.	
100) n-Butylbenzene	19.27	91	2237	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302060.D Vial: 4
Acq On : 1 May 2020 14:32 Operator: SC
Sample : P2002103-016 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 16:23:01 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302060.D Vial: 4
Acq On : 1 May 2020 14:32 Operator: SC
Sample : P2002103-016 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 16:23:01 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/1/20

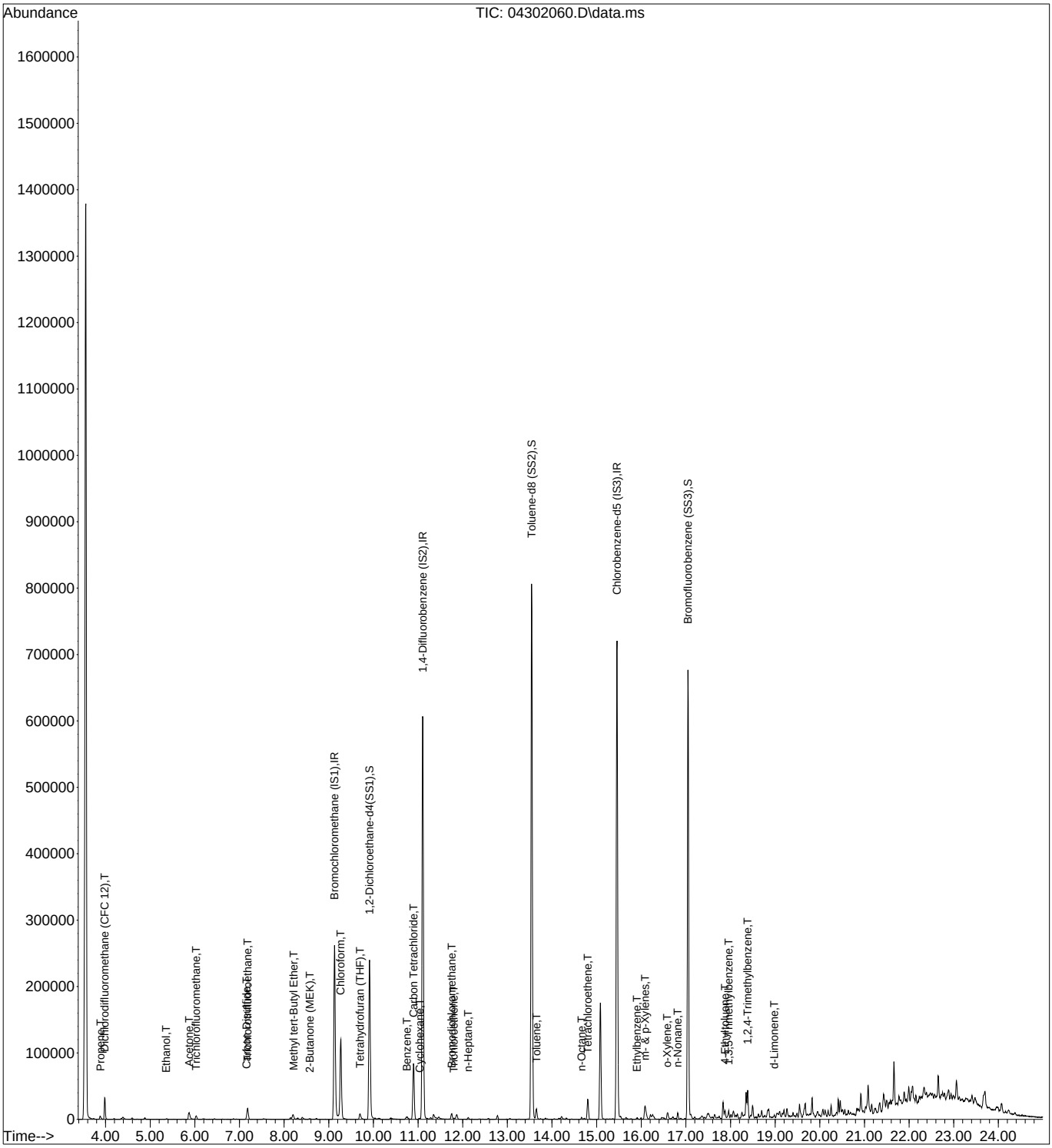
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	148489	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	629490	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	278087	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	225090	11.700	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.60%				
57) Toluene-d8 (SS2)	13.54	98	688899	12.830	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.64%				
73) Bromofluorobenzene (SS3)	17.05	174	266830	12.365	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.88%				
Target Compounds							Qvalue
2) Propene	3.89	42	701	0.111	ng	#	67
3) Dichlorodifluoromethan...	3.98	85	30031	1.253	ng		99
10) Ethanol	5.36	45	1677	0.351	ng		66
13) Acetone	5.87	58	5264	0.918	ng	#	79
14) Trichlorofluoromethane	6.03	101	5510	0.231	ng		98
21) Trichlorotrifluoroethane	7.18	151	7288	0.587	ng		97
22) Carbon Disulfide	7.16	76	4886	0.146	ng		93
25) Methyl tert-Butyl Ether	8.21	73	2753	0.129	ng		68
27) 2-Butanone (MEK)	8.58	72	414	0.070	ng	#	1
32) Chloroform	9.27	83	111438	5.473	ng		99
34) Tetrahydrofuran (THF)	9.70	72	3301	0.553	ng		87
41) Benzene	10.75	78	2345	0.057	ng		94
42) Carbon Tetrachloride	10.90	117	61290	2.889	ng		100
43) Cyclohexane	11.04	84	839	0.052	ng	#	74
46) Bromodichloromethane	11.76	83	7393	0.438	ng		98
47) Trichloroethene	11.80	130	773	0.054	ng		94
51) n-Heptane	12.12	71	721	0.076	ng		96
58) Toluene	13.65	91	12316	0.273	ng		98
63) n-Octane	14.67	57	629	0.088	ng		89
64) Tetrachloroethene	14.80	166	12671	0.746	ng		100
66) Ethylbenzene	15.90	91	2737	0.052	ng		99
67) m- & p-Xylenes	16.08	91	20827	0.470	ng		99
70) o-Xylene	16.58	91	7589	0.174	ng		100
71) n-Nonane	16.82	43	3051	0.217	ng		91
78) 4-Ethyltoluene	17.88	105	9029	0.167	ng		98
79) 1,3,5-Trimethylbenzene	17.96	105	6485	0.130	ng		96
82) 1,2,4-Trimethylbenzene	18.38	105	22986	0.477	ng		89
91) d-Limonene	18.98	68	700	0.051	ng		88

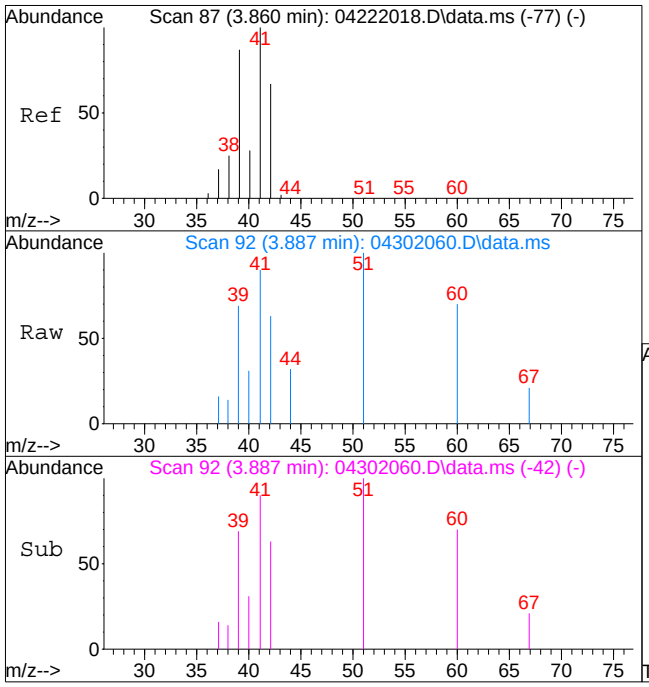
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302060.D Vial: 4
Acq On : 1 May 2020 14:32 Operator: SC
Sample : P2002103-016 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 16:23:01 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

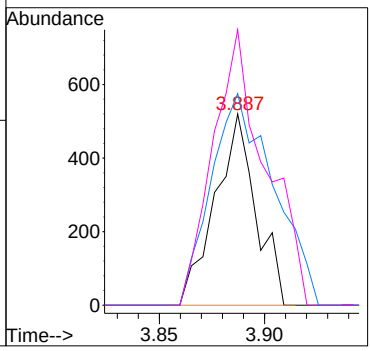


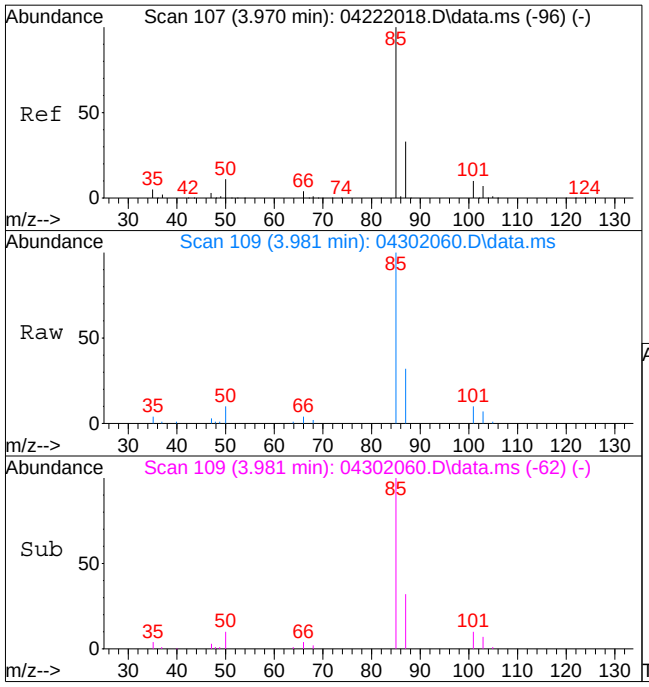


#2
Propene
Concen: 0.11 ng
RT: 3.89 min Scan# 92
Delta R.T. 0.027 min
Lab File: 04302060.D
Acq: 1 May 2020 14:32

Tgt Ion: 42 Resp: 701

Ion	Ratio	Lower	Upper
42	100		
39	170.2	106.4	146.4#
41	185.9	128.8	168.8#

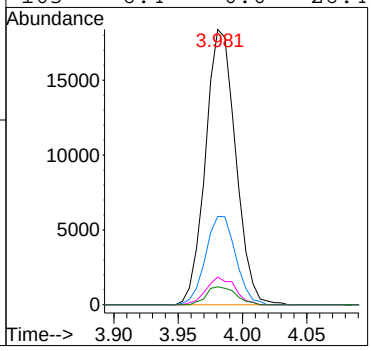


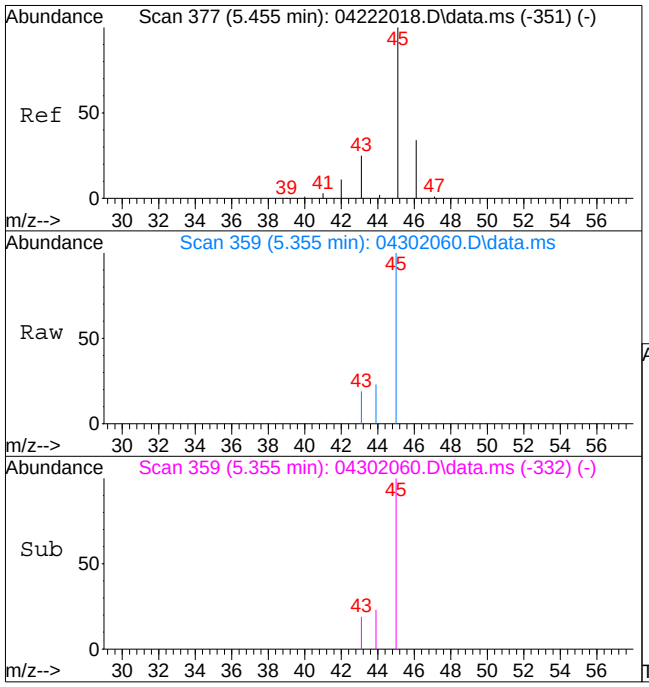


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.25 ng
RT: 3.98 min Scan# 109
Delta R.T. 0.011 min
Lab File: 04302060.D
Acq: 1 May 2020 14:32

Tgt Ion: 85 Resp: 30031

Ion	Ratio	Lower	Upper
85	100		
87	32.0	12.4	52.4
101	9.6	0.0	29.9
103	6.4	0.0	26.4

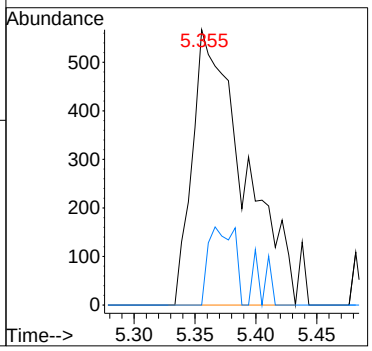


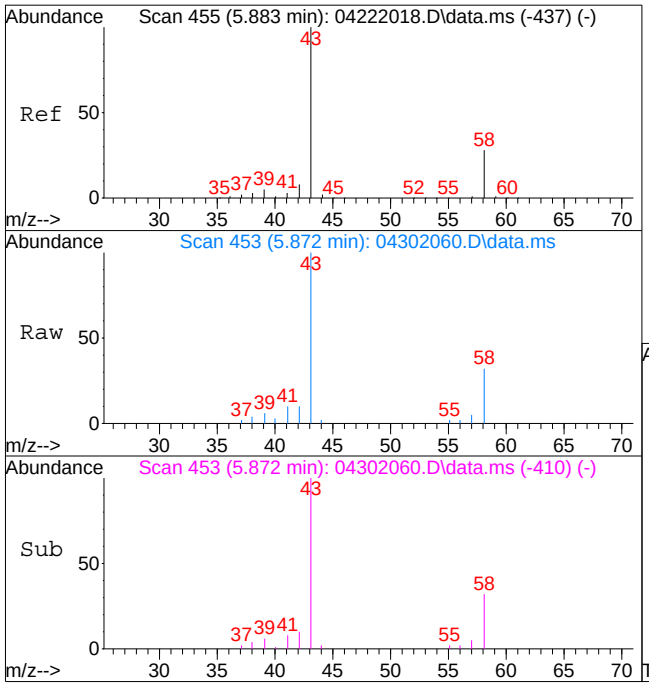


#10
Ethanol
Concen: 0.35 ng
RT: 5.36 min Scan# 359
Delta R.T. -0.099 min
Lab File: 04302060.D
Acq: 1 May 2020 14:32

Tgt Ion: 45 Resp: 1677

Ion	Ratio	Lower	Upper
45	100		
46	14.3	14.0	54.0

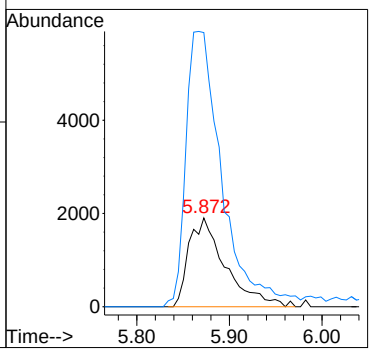


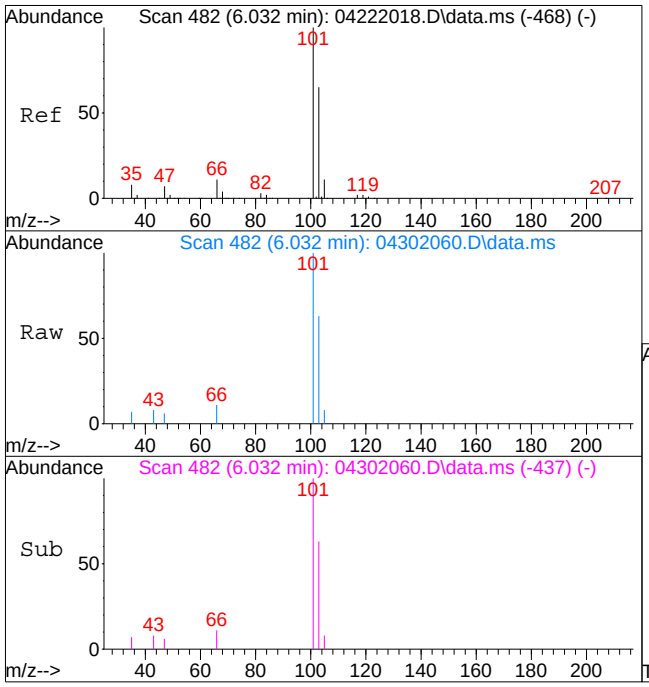


#13
Acetone
Concen: 0.92 ng
RT: 5.87 min Scan# 453
Delta R.T. -0.011 min
Lab File: 04302060.D
Acq: 1 May 2020 14:32

Tgt Ion: 58 Resp: 5264

Ion	Ratio	Lower	Upper
58	100		
43	303.7	319.3	379.3#

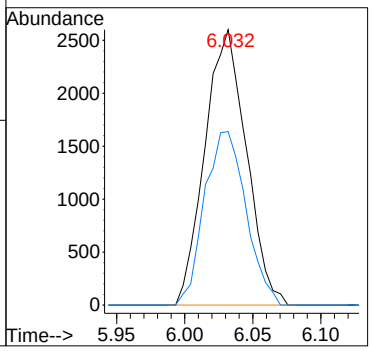


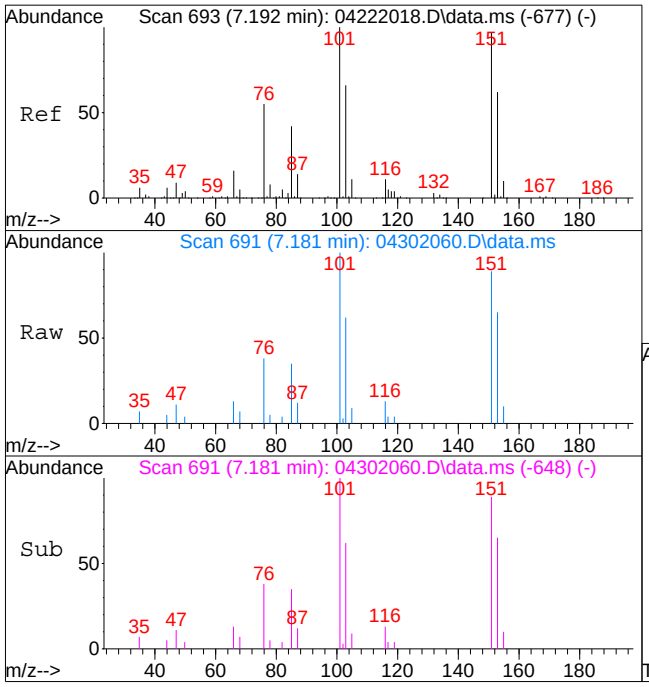


#14
Trichlorofluoromethane
Concen: 0.23 ng
RT: 6.03 min Scan# 482
Delta R.T. -0.000 min
Lab File: 04302060.D
Acq: 1 May 2020 14:32

Tgt Ion:101 Resp: 5510

Ion	Ratio	Lower	Upper
101	100		
103	63.0	44.7	84.7

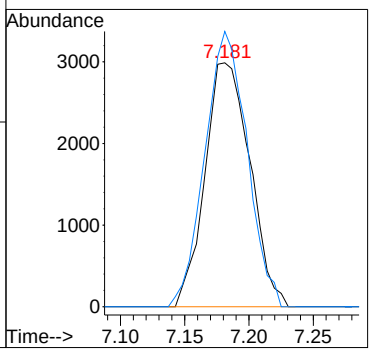


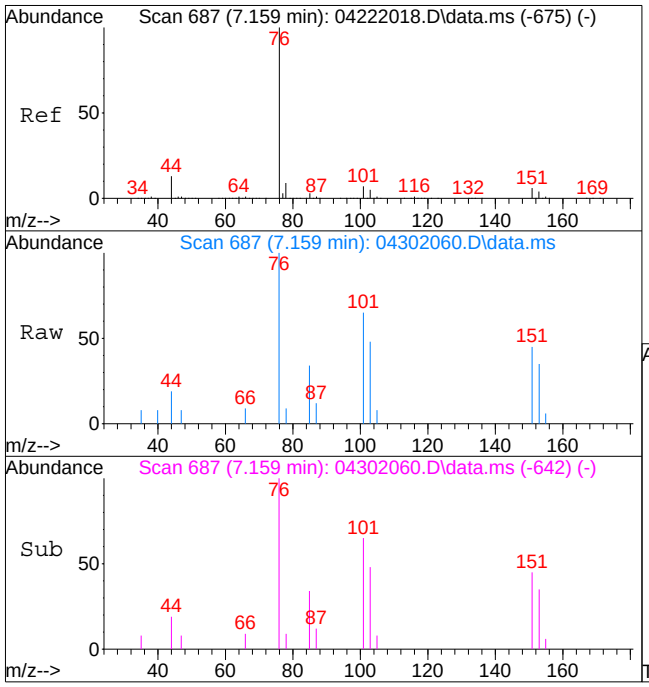


#21
Trichlorotrifluoroethane
Concen: 0.59 ng
RT: 7.18 min Scan# 691
Delta R.T. -0.011 min
Lab File: 04302060.D
Acq: 1 May 2020 14:32

Tgt Ion:151 Resp: 7288

Ion	Ratio	Lower	Upper
151	100		
101	106.0	82.9	122.9

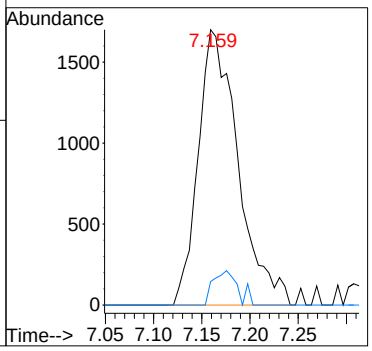


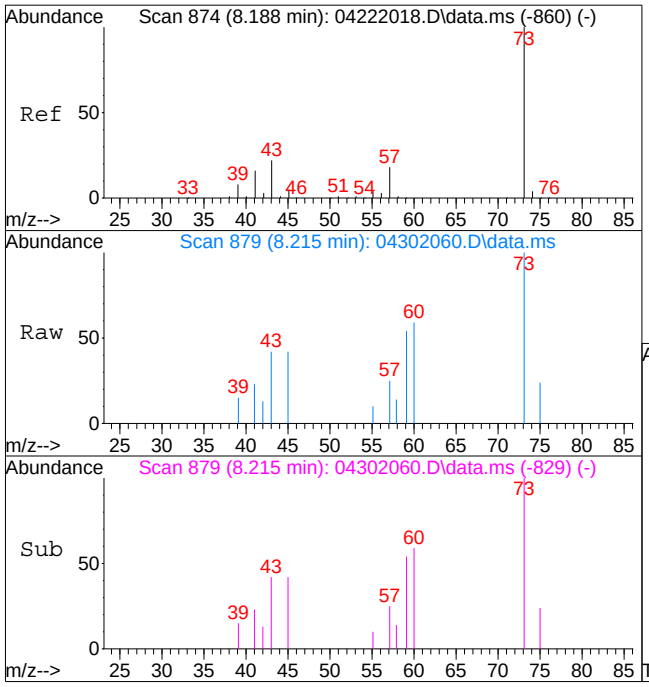


#22
Carbon Disulfide
Concen: 0.15 ng
RT: 7.16 min Scan# 687
Delta R.T. -0.000 min
Lab File: 04302060.D
Acq: 1 May 2020 14:32

Tgt Ion: 76 Resp: 4886

Ion	Ratio	Lower	Upper
76	100		
78	7.7	0.0	30.2

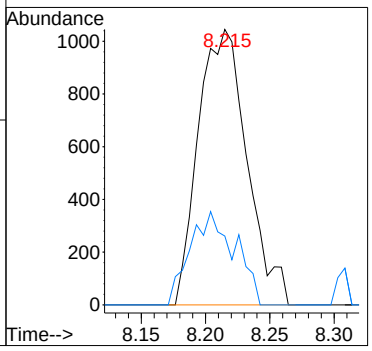


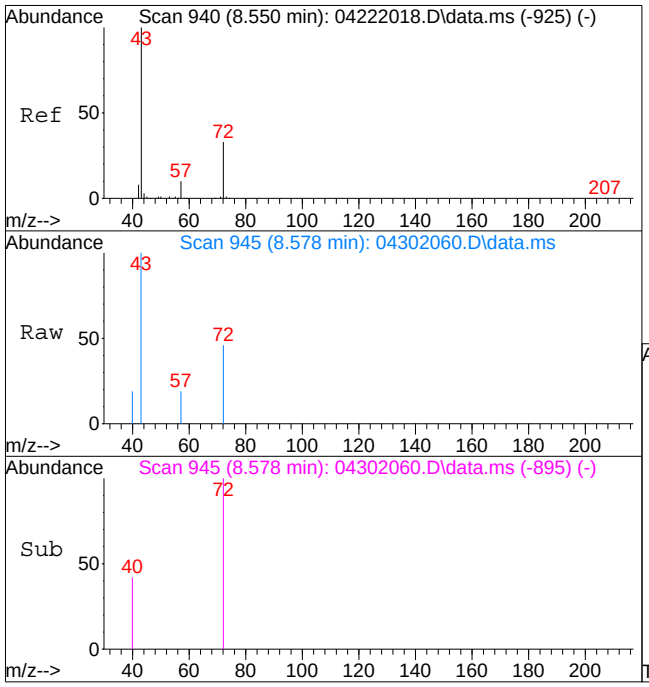


#25
Methyl tert-Butyl Ether
Concen: 0.13 ng
RT: 8.21 min Scan# 879
Delta R.T. 0.027 min
Lab File: 04302060.D
Acq: 1 May 2020 14:32

Tgt Ion: 73 Resp: 2753

Ion	Ratio	Lower	Upper
73	100		
57	31.2	0.0	37.3

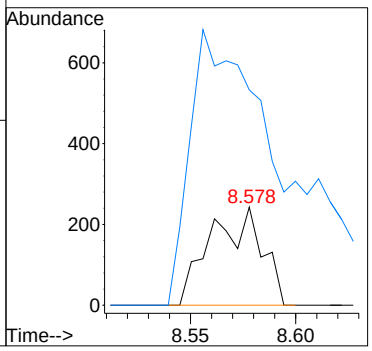


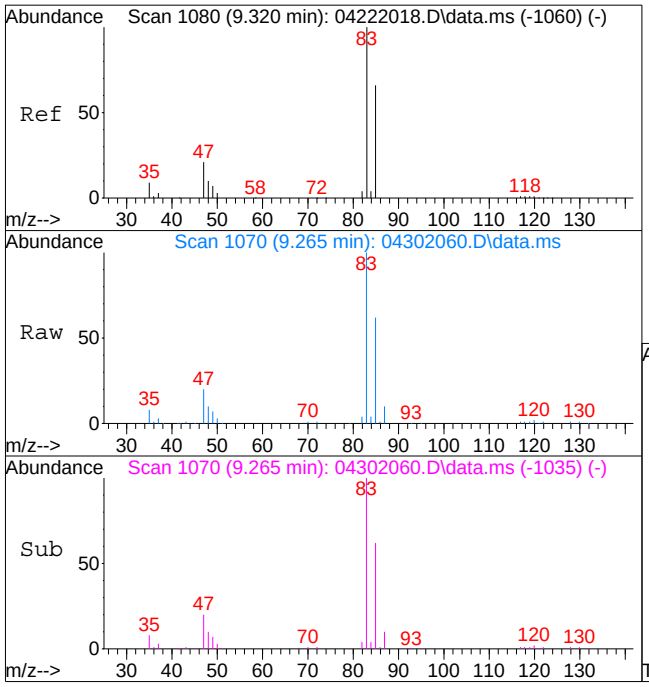


#27
2-Butanone (MEK)
Concen: 0.07 ng
RT: 8.58 min Scan# 945
Delta R.T. 0.027 min
Lab File: 04302060.D
Acq: 1 May 2020 14:32

Tgt Ion: 72 Resp: 414

Ion	Ratio	Lower	Upper
72	100		
43	577.8	278.8	318.8#

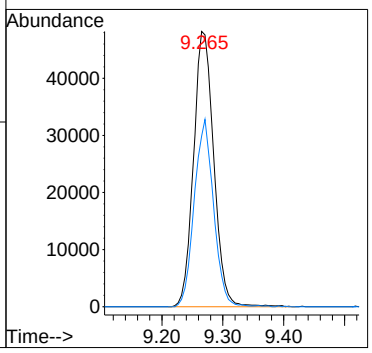


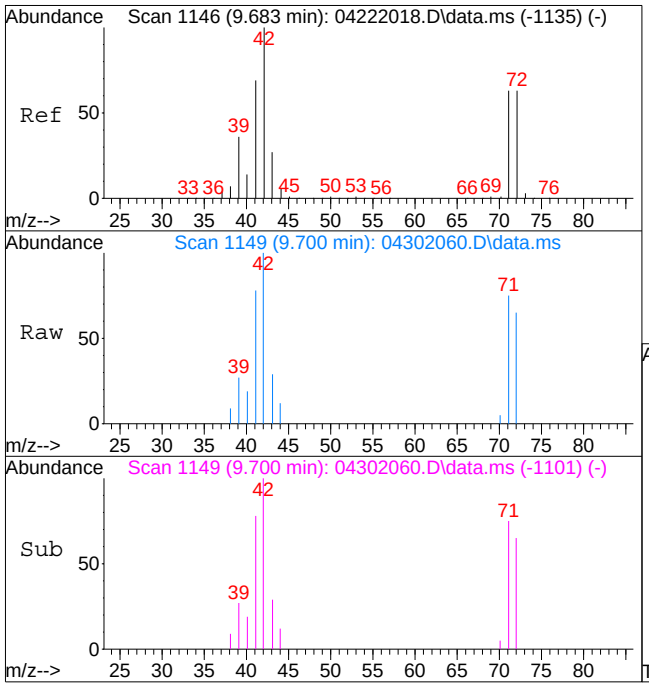


#32
Chloroform
Concen: 5.47 ng
RT: 9.27 min Scan# 1070
Delta R.T. -0.055 min
Lab File: 04302060.D
Acq: 1 May 2020 14:32

Tgt Ion: 83 Resp: 111438

Ion	Ratio	Lower	Upper
83	100		
85	64.8	45.8	85.8

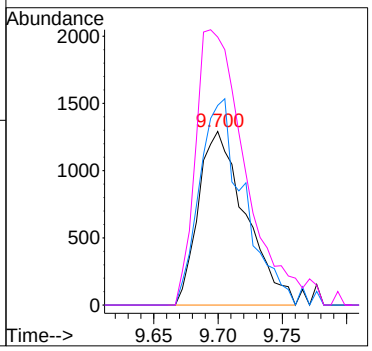


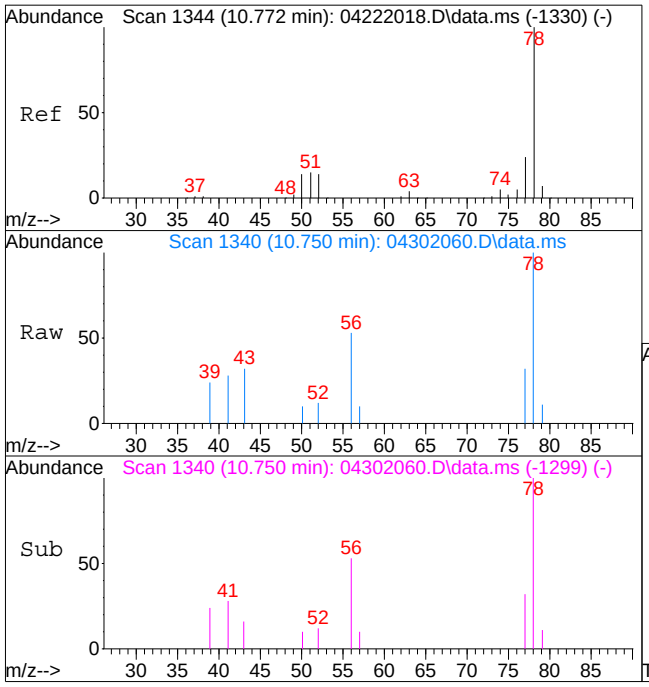


#34
Tetrahydrofuran (THF)
Concen: 0.55 ng
RT: 9.70 min Scan# 1149
Delta R.T. 0.016 min
Lab File: 04302060.D
Acq: 1 May 2020 14:32

Tgt Ion: 72 Resp: 3301

Ion	Ratio	Lower	Upper
72	100		
71	111.6	77.9	117.9
42	169.5	133.9	173.9

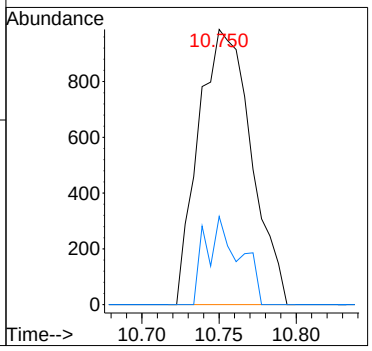


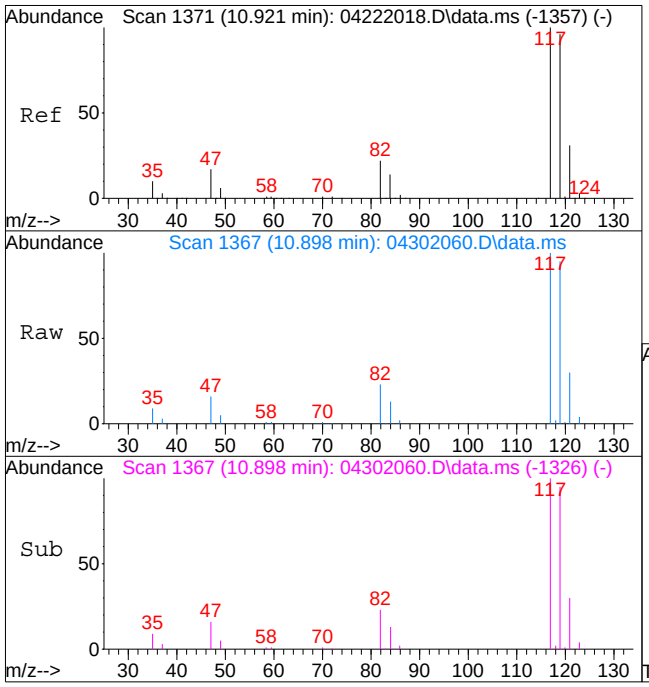


#41
Benzene
Concen: 0.06 ng
RT: 10.75 min Scan# 1340
Delta R.T. -0.022 min
Lab File: 04302060.D
Acq: 1 May 2020 14:32

Tgt Ion: 78 Resp: 2345

Ion	Ratio	Lower	Upper
78	100		
77	20.7	3.6	43.6

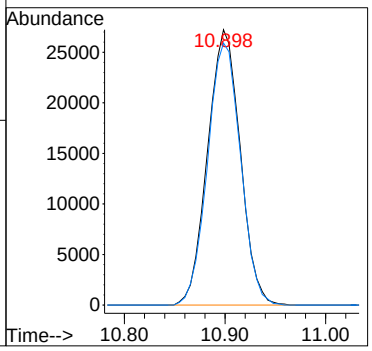


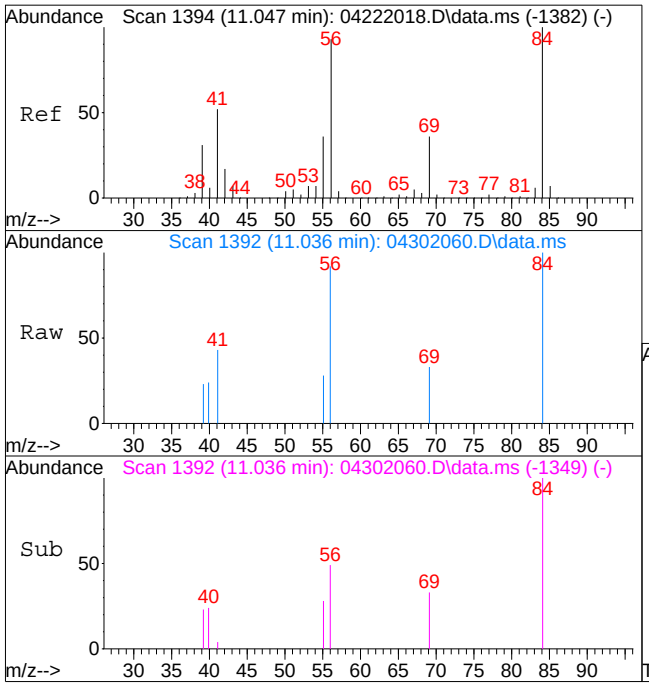


#42
Carbon Tetrachloride
Concen: 2.89 ng
RT: 10.90 min Scan# 1367
Delta R.T. -0.022 min
Lab File: 04302060.D
Acq: 1 May 2020 14:32

Tgt Ion:117 Resp: 61290

Ion	Ratio	Lower	Upper
117	100		
119	96.1	76.5	116.5

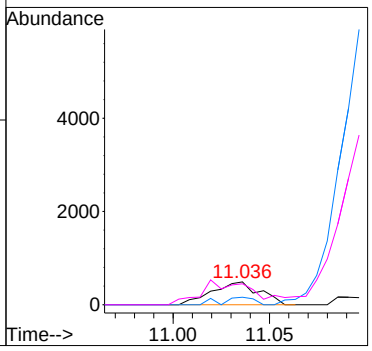


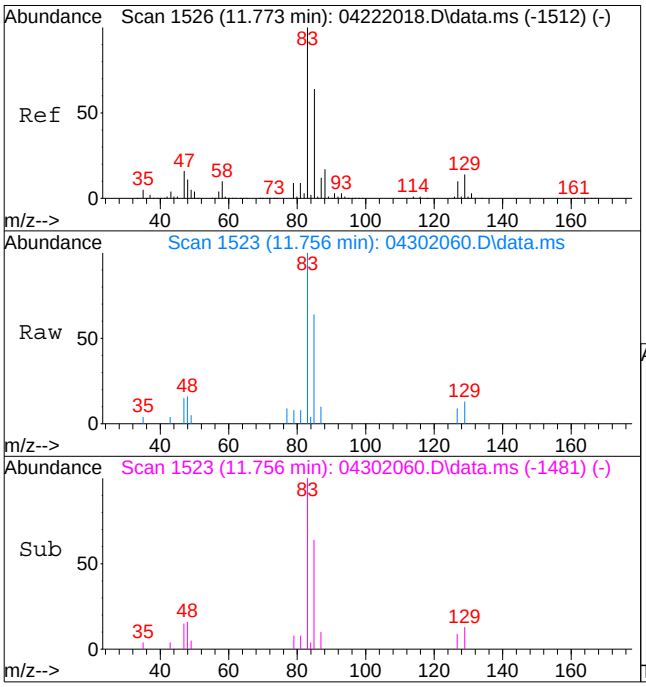


#43
Cyclohexane
Concen: 0.05 ng
RT: 11.04 min Scan# 1392
Delta R.T. -0.011 min
Lab File: 04302060.D
Acq: 1 May 2020 14:32

Tgt Ion: 84 Resp: 839

Ion	Ratio	Lower	Upper
84	100		
69	22.4	15.8	55.8
56	117.6	72.0	112.0#

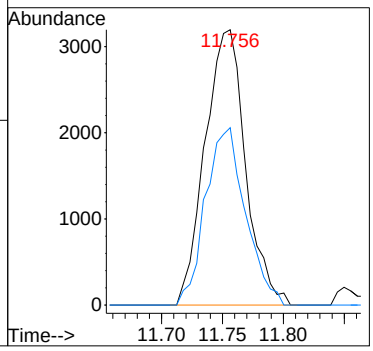


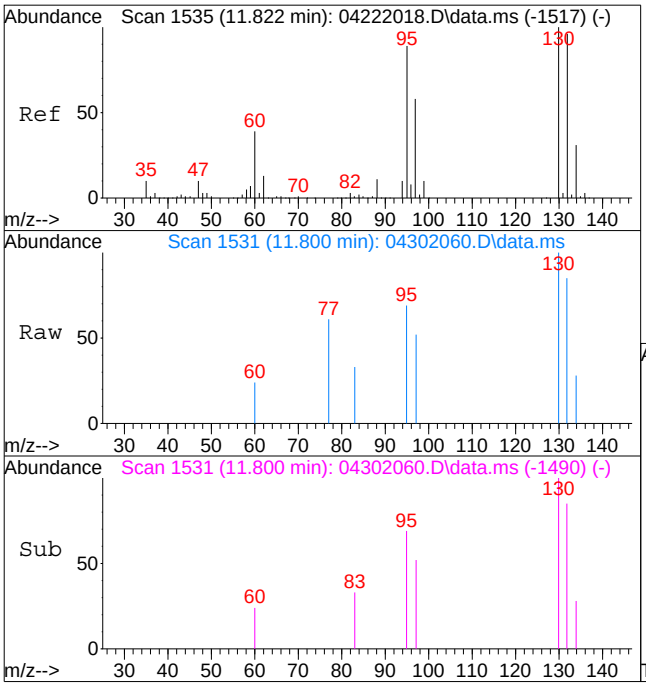


#46
Bromodichloromethane
Concen: 0.44 ng
RT: 11.76 min Scan# 1523
Delta R.T. -0.017 min
Lab File: 04302060.D
Acq: 1 May 2020 14:32

Tgt Ion: 83 Resp: 7393

Ion	Ratio	Lower	Upper
83	100		
85	63.5	44.9	84.9

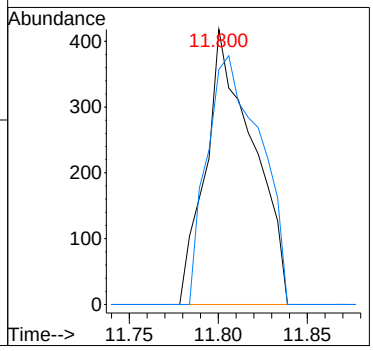


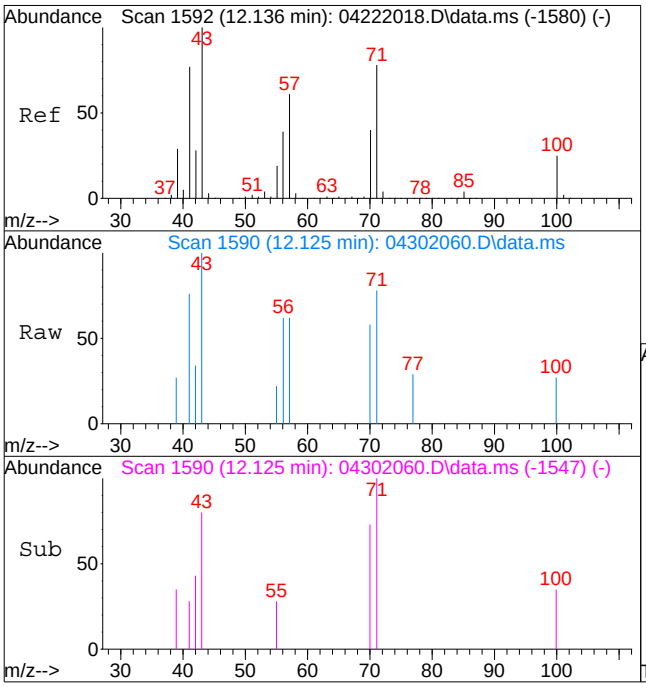


#47
Trichloroethene
Concen: 0.05 ng
RT: 11.80 min Scan# 1531
Delta R.T. -0.022 min
Lab File: 04302060.D
Acq: 1 May 2020 14:32

Tgt Ion:130 Resp: 773

Ion	Ratio	Lower	Upper
130	100		
132	102.1	76.4	116.4

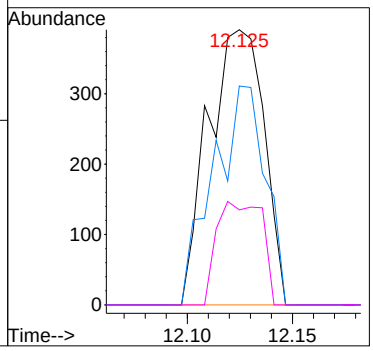


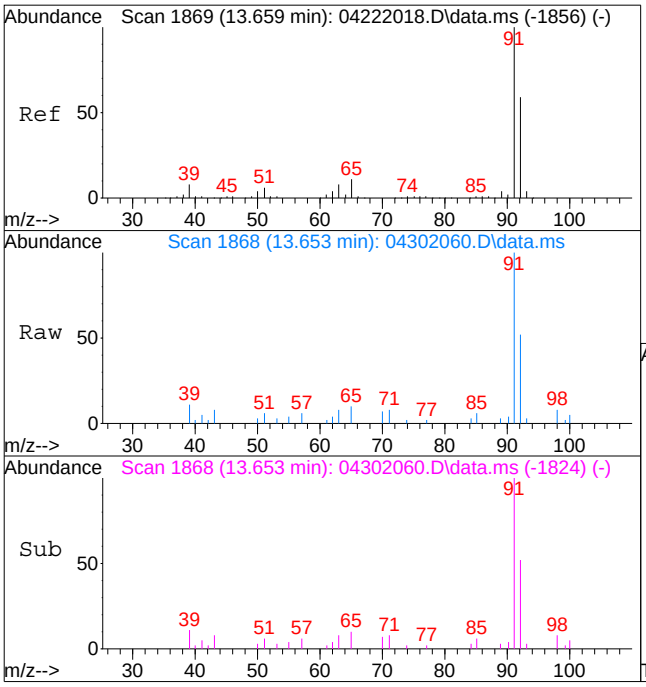


#51
n-Heptane
Concen: 0.08 ng
RT: 12.12 min Scan# 1590
Delta R.T. -0.011 min
Lab File: 04302060.D
Acq: 1 May 2020 14:32

Tgt Ion: 71 Resp: 721

Ion	Ratio	Lower	Upper
71	100		
57	73.9	57.4	97.4
100	30.5	12.0	52.0

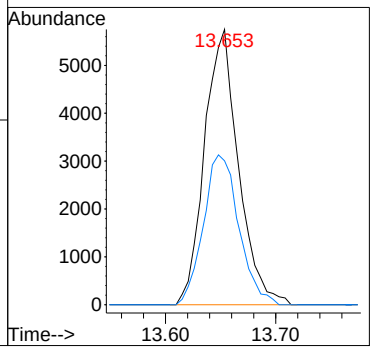


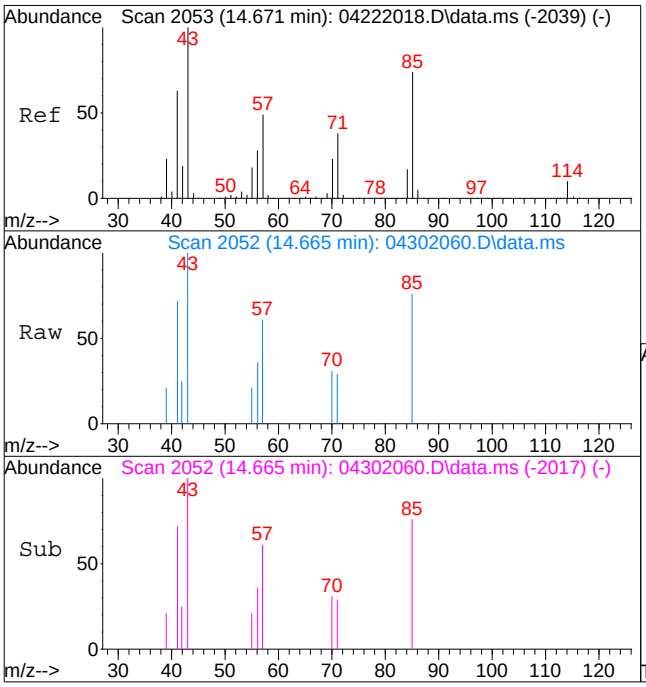


#58
Toluene
Concen: 0.27 ng
RT: 13.65 min Scan# 1868
Delta R.T. -0.006 min
Lab File: 04302060.D
Acq: 1 May 2020 14:32

Tgt Ion: 91 Resp: 12316

Ion	Ratio	Lower	Upper
91	100		
92	56.8	38.2	78.2

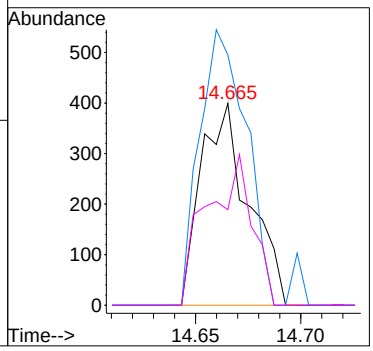


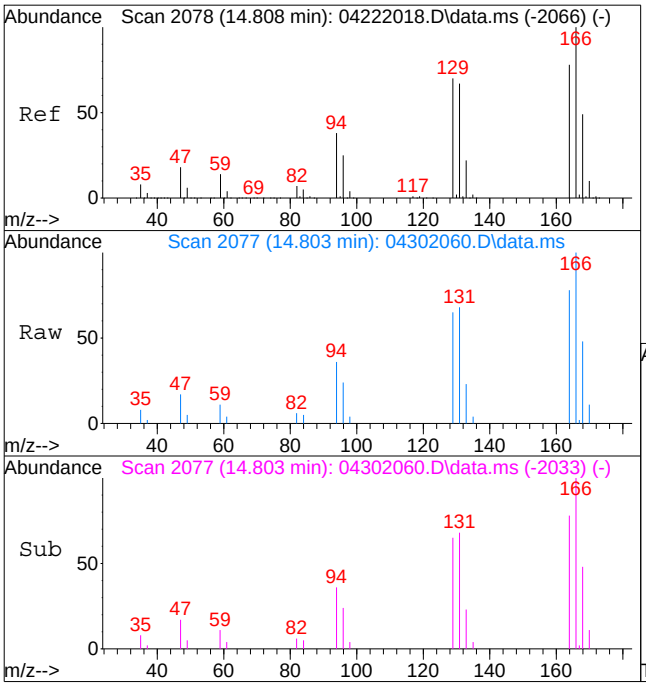


#63
n-Octane
Concen: 0.09 ng
RT: 14.67 min Scan# 2052
Delta R.T. -0.006 min
Lab File: 04302060.D
Acq: 1 May 2020 14:32

Tgt Ion: 57 Resp: 629

Ion	Ratio	Lower	Upper
57	100		
85	133.5	120.7	181.1
71	70.4	61.1	91.7

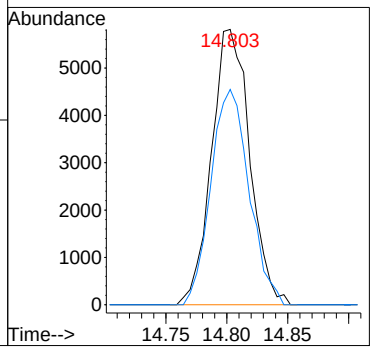


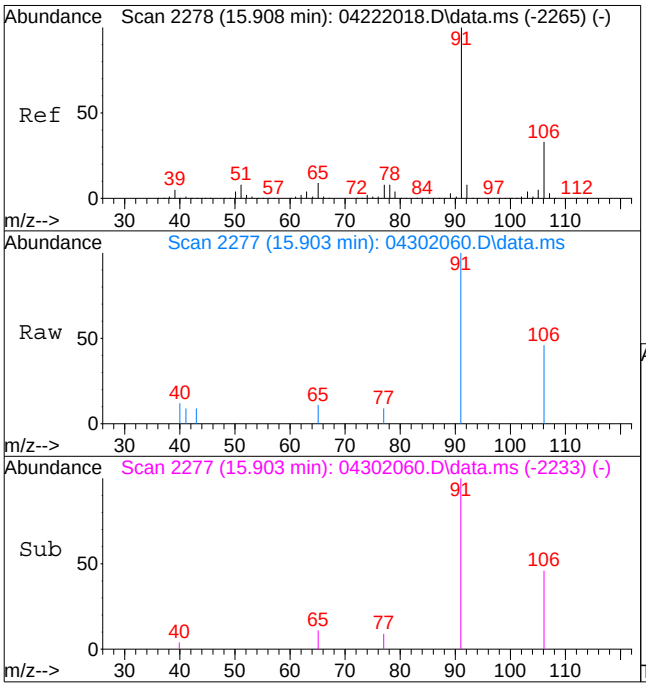


#64
Tetrachloroethene
Concen: 0.75 ng
RT: 14.80 min Scan# 2077
Delta R.T. -0.006 min
Lab File: 04302060.D
Acq: 1 May 2020 14:32

Tgt Ion:166 Resp: 12671

Ion	Ratio	Lower	Upper
166	100		
164	78.1	57.7	97.7

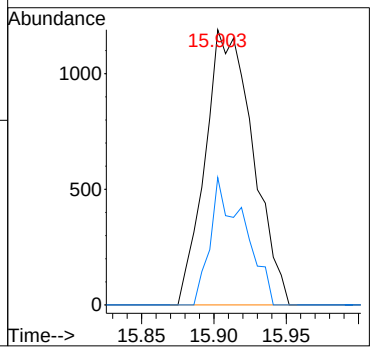


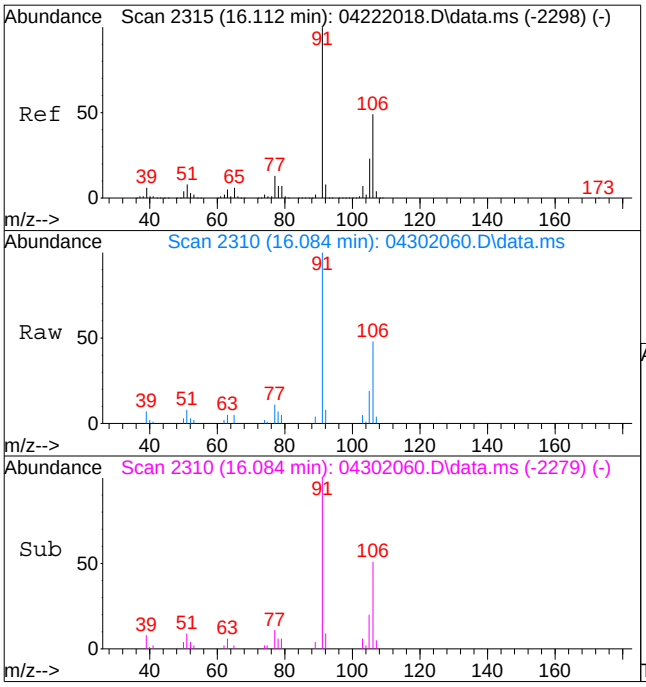


#66
Ethylbenzene
Concen: 0.05 ng
RT: 15.90 min Scan# 2277
Delta R.T. -0.006 min
Lab File: 04302060.D
Acq: 1 May 2020 14:32

Tgt Ion: 91 Resp: 2737

Ion	Ratio	Lower	Upper
91	100		
106	33.0	13.4	53.4

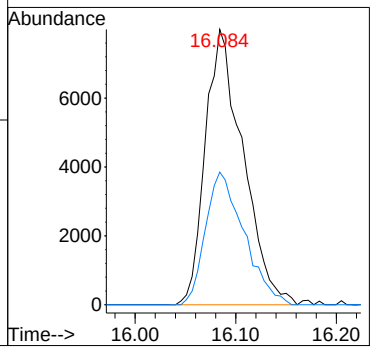


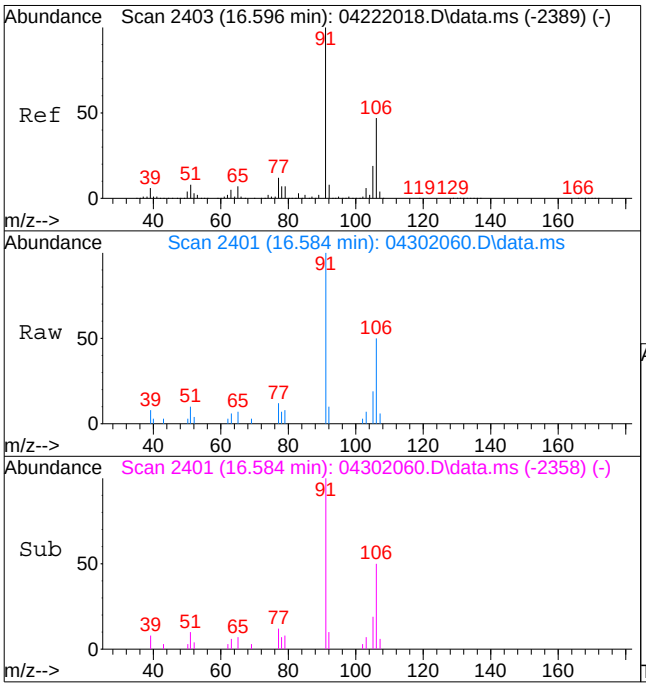


#67
m- & p-Xylenes
Concen: 0.47 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.028 min
Lab File: 04302060.D
Acq: 1 May 2020 14:32

Tgt Ion: 91 Resp: 20827

Ion	Ratio	Lower	Upper
91	100		
106	49.1	28.3	68.3

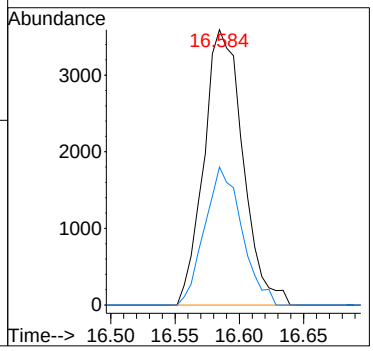


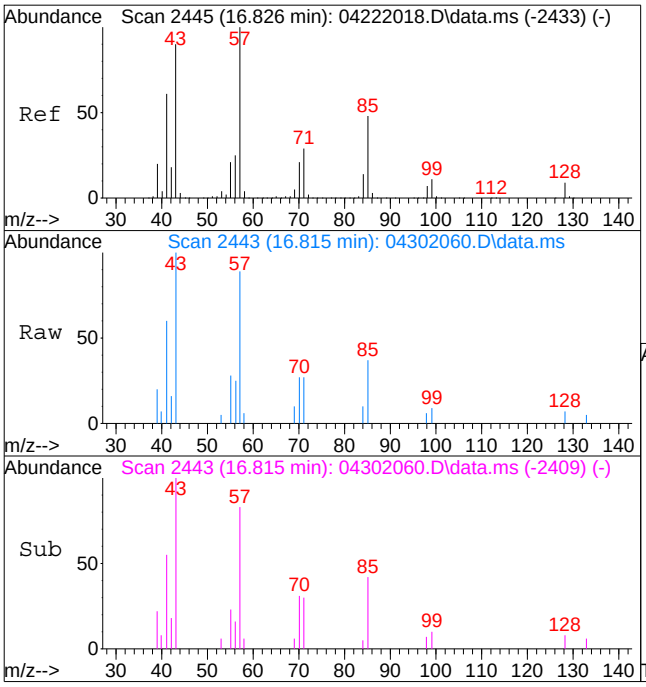


#70
o-Xylene
Concen: 0.17 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 04302060.D
Acq: 1 May 2020 14:32

Tgt Ion: 91 Resp: 7589

Ion	Ratio	Lower	Upper
91	100		
106	47.7	27.5	67.5

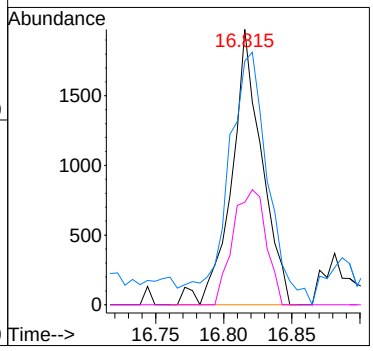


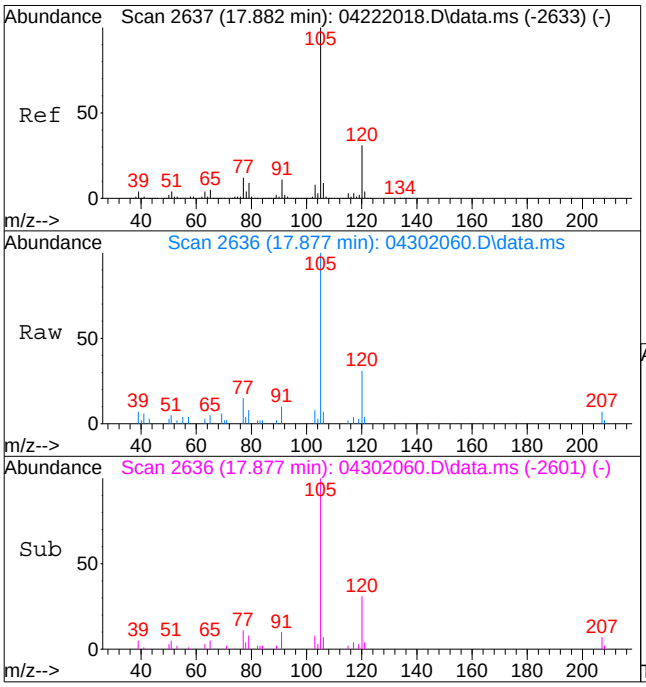


#71
n-Nonane
Concen: 0.22 ng
RT: 16.82 min Scan# 2443
Delta R.T. -0.011 min
Lab File: 04302060.D
Acq: 1 May 2020 14:32

Tgt Ion: 43 Resp: 3051

Ion	Ratio	Lower	Upper
43	100		
57	119.9	90.8	130.8
85	46.1	32.1	72.1

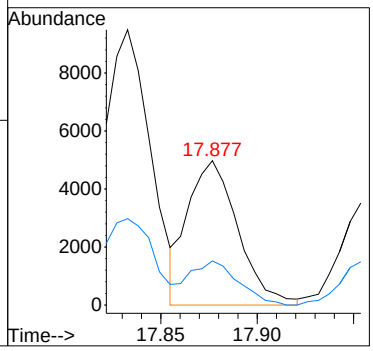


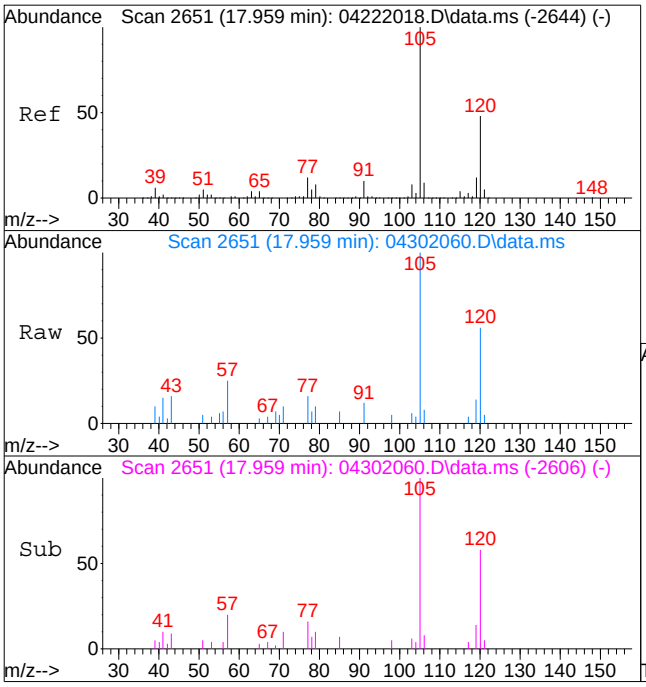


#78
4-Ethyltoluene
Concen: 0.17 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 04302060.D
Acq: 1 May 2020 14:32

Tgt Ion:105 Resp: 9029

Ion	Ratio	Lower	Upper
105	100		
120	30.3	11.4	51.4

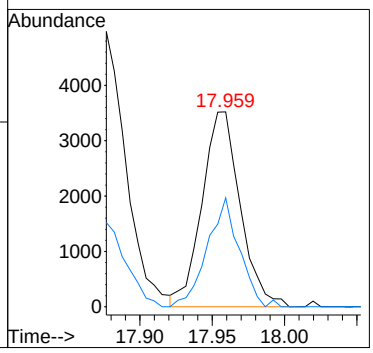


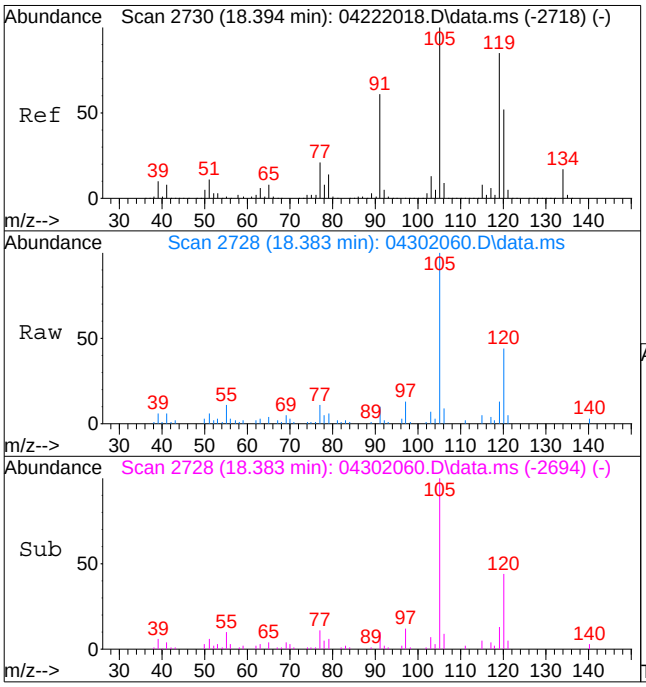


#79
1,3,5-Trimethylbenzene
Concen: 0.13 ng
RT: 17.96 min Scan# 2651
Delta R.T. -0.000 min
Lab File: 04302060.D
Acq: 1 May 2020 14:32

Tgt Ion:105 Resp: 6485

Ion	Ratio	Lower	Upper
105	100		
120	46.8	29.5	69.5

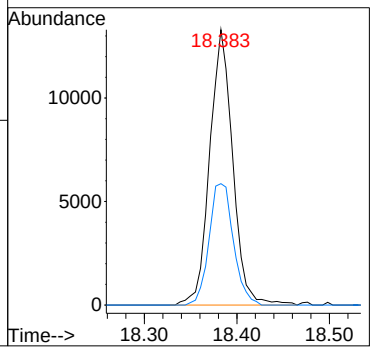


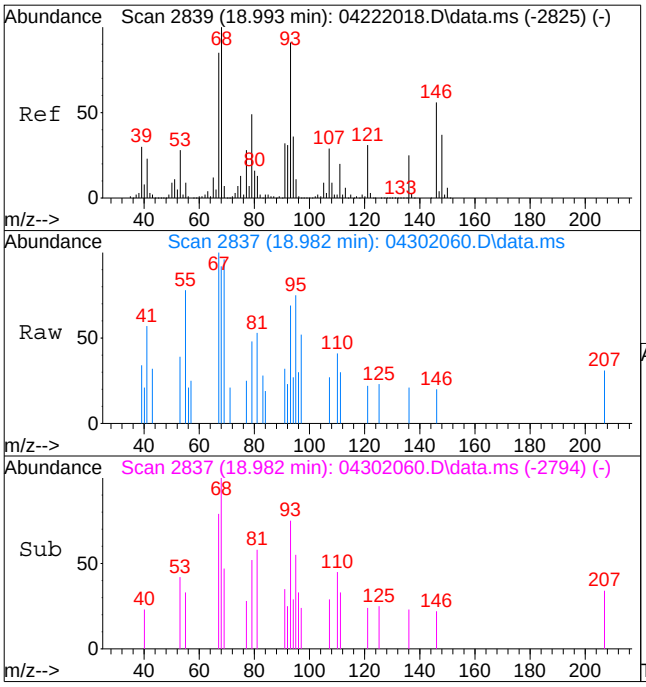


#82
1,2,4-Trimethylbenzene
Concen: 0.48 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 04302060.D
Acq: 1 May 2020 14:32

Tgt Ion:105 Resp: 22986

Ion	Ratio	Lower	Upper
105	100		
120	46.6	34.5	74.5

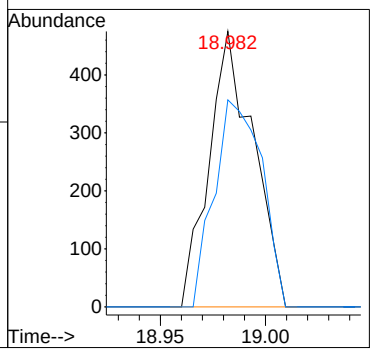




#91
d-Limonene
Concen: 0.05 ng
RT: 18.98 min Scan# 2837
Delta R.T. -0.011 min
Lab File: 04302060.D
Acq: 1 May 2020 14:32

Tgt Ion: 68 Resp: 700

Ion	Ratio	Lower	Upper
68	100		
93	80.4	71.6	111.6



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302062.D Vial: 6
Acq On : 1 May 2020 15:38 Operator: SC
Sample : P2002103-017 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 16:10:42 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/1/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	151754	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	638480	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	281821	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	228353	11.614	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.88%				
57) Toluene-d8 (SS2)	13.54	98	696681	12.803	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.40%				
73) Bromofluorobenzene (SS3)	17.05	174	272642	12.467	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.76%				
Target Compounds							Qvalue
2) Propene	3.88	42	1467	0.228	ng		94
3) Dichlorodifluoromethan...	3.98	85	53346	2.178	ng		100
4) Chloromethane	4.19	50	948	0.105	ng		71
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	1035	0.078	ng		97
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.36	45	6353	1.301	ng		80
11) Acetonitrile	5.58	41	473	N.D.			
12) Acrolein	5.70	56	2083	0.467	ng		87
13) Acetone	5.84	58	26856	4.582	ng	#	75
14) Trichlorofluoromethane	6.02	101	6292	0.258	ng		98
15) 2-Propanol (Isopropanol)	6.19	45	2252	0.121	ng		82
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	6.86	41	111	N.D.			
21) Trichlorotrifluoroethane	7.18	151	7135	0.563	ng		94
22) Carbon Disulfide	7.14	76	223571	6.541	ng		97
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	8.12	73	189	N.D.			
26) Vinyl Acetate	8.26	86	6436	3.009	ng	#	39
27) 2-Butanone (MEK)	0.00	72	0	N.D. d			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D. d			
30) Ethyl Acetate	9.23	61	658	0.246	ng		91
31) n-Hexane	9.22	57	664	0.051	ng	#	83
32) Chloroform	9.28	83	15505	0.745	ng		99
34) Tetrahydrofuran (THF)	9.67	72	91336	14.975	ng		97
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D. d			
41) Benzene	10.76	78	5545	0.133	ng		97
42) Carbon Tetrachloride	10.90	117	94556	4.394	ng		99
43) Cyclohexane	11.02	84	1113	0.068	ng		90
44) tert-Amyl Methyl Ether	11.36	73	346	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	11.76	83	391	N.D.			
47) Trichloroethene	11.82	130	444	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D. d			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d			
50) Methyl Methacrylate	12.12	100	154	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302062.D Vial: 6
Acq On : 1 May 2020 15:38 Operator: SC
Sample : P2002103-017 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 16:10:42 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

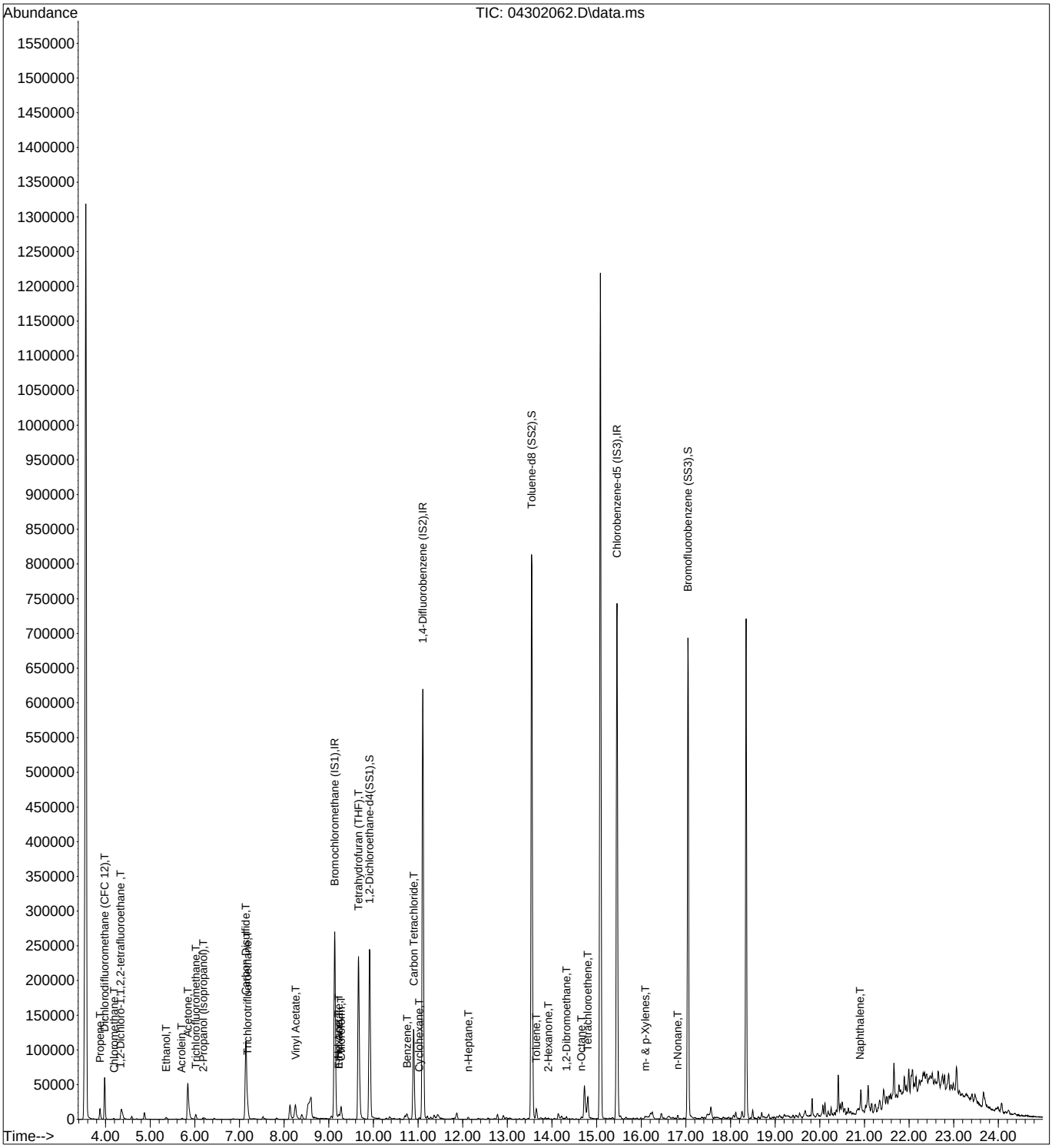
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	12.13	71	850	0.088 ng		90
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	12.72	58	194	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	13.65	91	11048	0.242 ng		98
59) 2-Hexanone	13.92	43	2574	0.189 ng	#	62
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	14.32	107	800	0.063 ng		98
62) n-Butyl Acetate	14.46	43	460	N.D.		
63) n-Octane	14.66	57	644	0.089 ng		96
64) Tetrachloroethene	14.80	166	11270	0.655 ng		100
65) Chlorobenzene	15.55	112	475	N.D.		
66) Ethylbenzene	15.91	91	1596	N.D.		
67) m- & p-Xylenes	16.09	91	4497	0.100 ng		97
68) Bromoform	16.17	173	360	N.D.		
69) Styrene	16.49	104	100	N.D.		
70) o-Xylene	16.58	91	1672	N.D.		
71) n-Nonane	16.82	43	1988	0.140 ng		89
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	17.20	105	918	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	17.72	91	1291	N.D.		
77) 3-Ethyltoluene	17.84	105	1219	N.D.		
78) 4-Ethyltoluene	17.88	105	601	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	967	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	18.16	105	546	N.D.		
82) 1,2,4-Trimethylbenzene	18.39	105	1609	N.D.		
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	18.62	91	225	N.D.		
85) 1,3-Dichlorobenzene	18.62	146	124	N.D.		
86) 1,4-Dichlorobenzene	18.62	146	124	N.D.		
87) sec-Butylbenzene	18.67	105	814	N.D.		
88) 4-Isopropyltoluene (p-...	18.83	119	1037	N.D.		
89) 1,2,3-Trimethylbenzene	18.83	105	1032	N.D.		
90) 1,2-Dichlorobenzene	18.97	146	112	N.D.		
91) d-Limonene	18.99	68	337	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	20.90	128	3655	0.058 ng		91
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	19.27	91	2111	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302062.D Vial: 6
Acq On : 1 May 2020 15:38 Operator: SC
Sample : P2002103-017 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 16:10:42 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

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Acq On : 1 May 2020 15:38 Operator: SC
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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/1/20

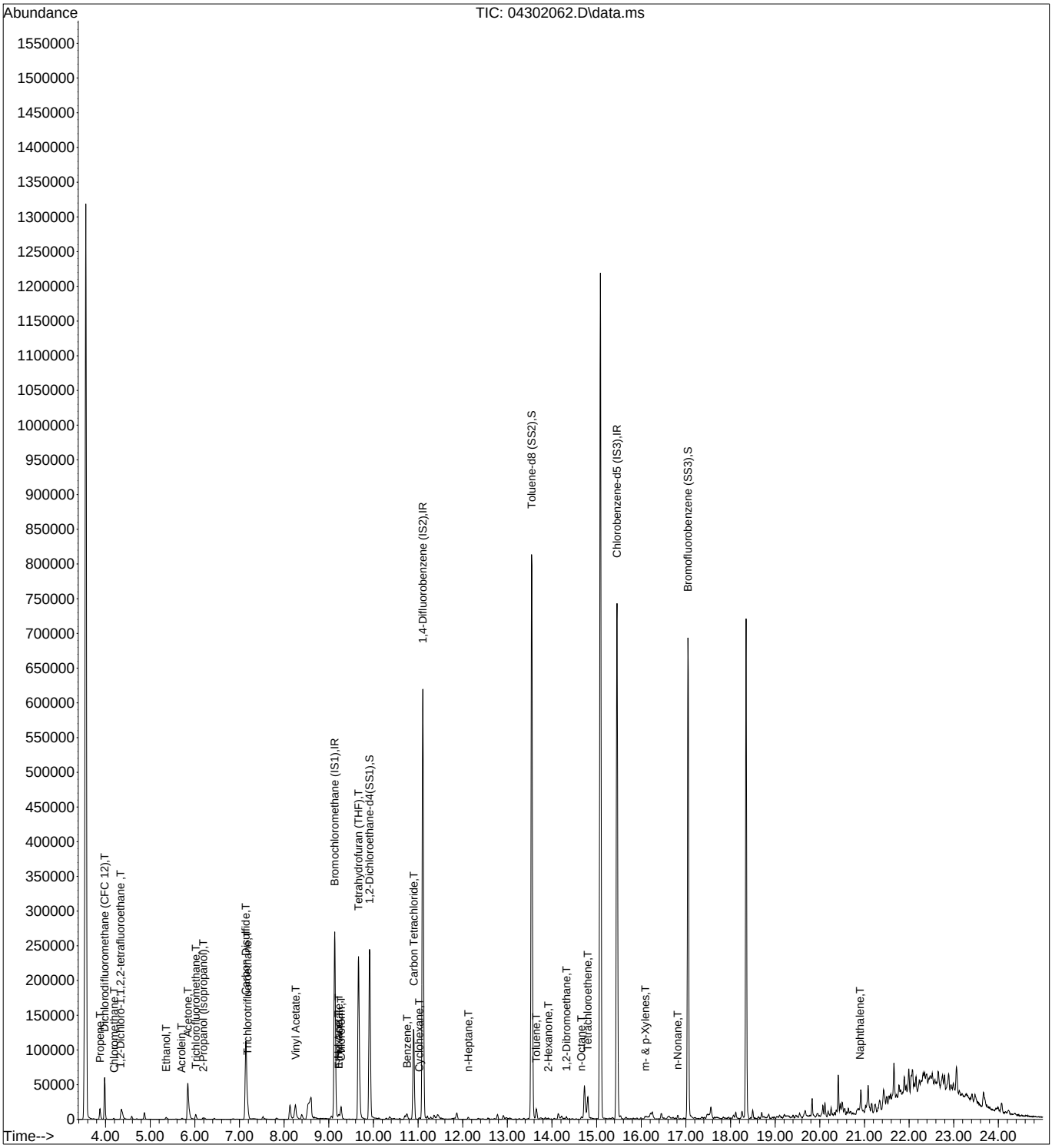
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	151754	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	638480	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	281821	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	228353	11.614	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.88%				
57) Toluene-d8 (SS2)	13.54	98	696681	12.803	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.40%				
73) Bromofluorobenzene (SS3)	17.05	174	272642	12.467	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.76%				
Target Compounds							Qvalue
2) Propene	3.88	42	1467	0.228	ng		94
3) Dichlorodifluoromethan...	3.98	85	53346	2.178	ng		100
4) Chloromethane	4.19	50	948	0.105	ng		71
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	1035	0.078	ng		97
10) Ethanol	5.36	45	6353	1.301	ng		80
12) Acrolein	5.70	56	2083	0.467	ng		87
13) Acetone	5.84	58	26856	4.582	ng	#	75
14) Trichlorofluoromethane	6.02	101	6292	0.258	ng		98
15) 2-Propanol (Isopropanol)	6.19	45	2252	0.121	ng		82
21) Trichlorotrifluoroethane	7.18	151	7135	0.563	ng		94
22) Carbon Disulfide	7.14	76	223571	6.541	ng		97
26) Vinyl Acetate	8.26	86	6436	3.009	ng	#	39
30) Ethyl Acetate	9.23	61	658	0.246	ng		91
31) n-Hexane	9.22	57	664	0.051	ng	#	83
32) Chloroform	9.28	83	15505	0.745	ng		99
34) Tetrahydrofuran (THF)	9.67	72	91336	14.975	ng		97
41) Benzene	10.76	78	5545	0.133	ng		97
42) Carbon Tetrachloride	10.90	117	94556	4.394	ng		99
43) Cyclohexane	11.02	84	1113	0.068	ng		90
51) n-Heptane	12.13	71	850	0.088	ng		90
58) Toluene	13.65	91	11048	0.242	ng		98
59) 2-Hexanone	13.92	43	2574	0.189	ng	#	62
61) 1,2-Dibromoethane	14.32	107	800	0.063	ng		98
63) n-Octane	14.66	57	644	0.089	ng		96
64) Tetrachloroethene	14.80	166	11270	0.655	ng		100
67) m- & p-Xylenes	16.09	91	4497	0.100	ng		97
71) n-Nonane	16.82	43	1988	0.140	ng		89
95) Naphthalene	20.90	128	3655	0.058	ng		91

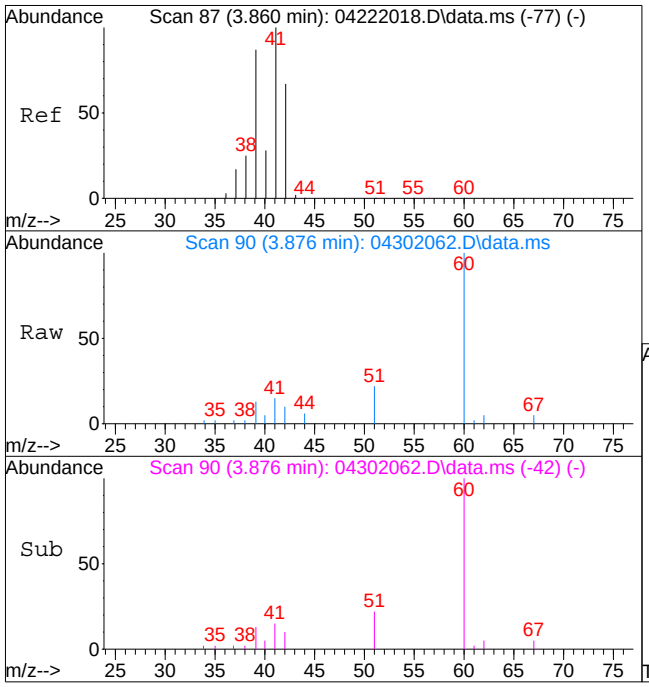
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302062.D Vial: 6
Acq On : 1 May 2020 15:38 Operator: SC
Sample : P2002103-017 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 16:10:42 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

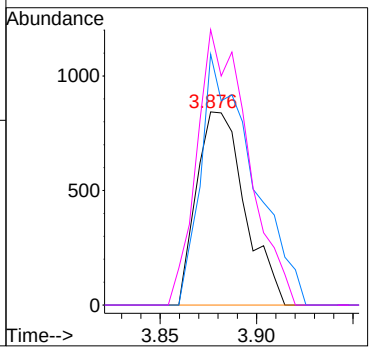


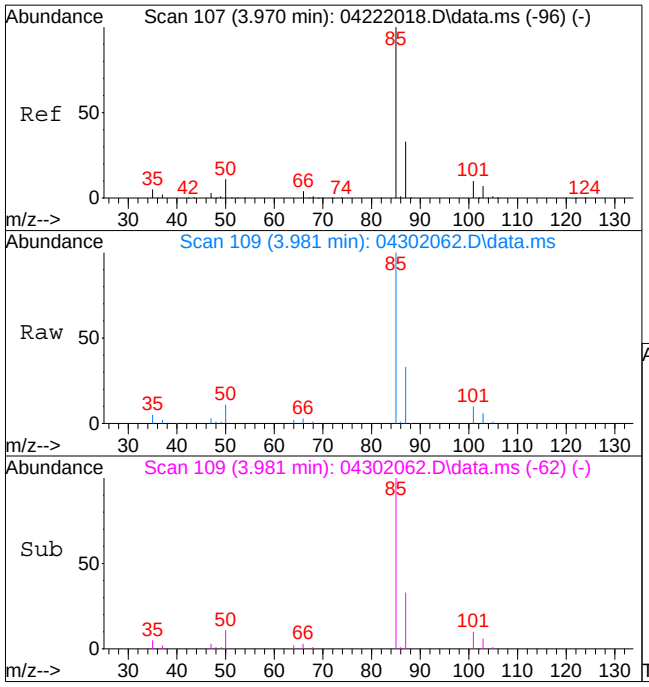


#2
Propene
Concen: 0.23 ng
RT: 3.88 min Scan# 90
Delta R.T. 0.016 min
Lab File: 04302062.D
Acq: 1 May 2020 15:38

Tgt Ion: 42 Resp: 1467

Ion	Ratio	Lower	Upper
42	100		
39	139.2	106.4	146.4
41	150.6	128.8	168.8

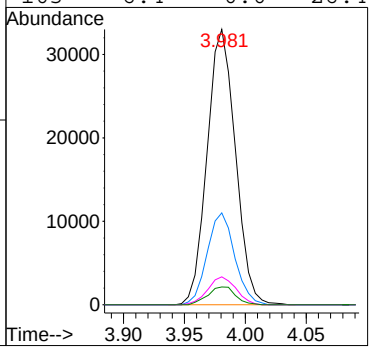


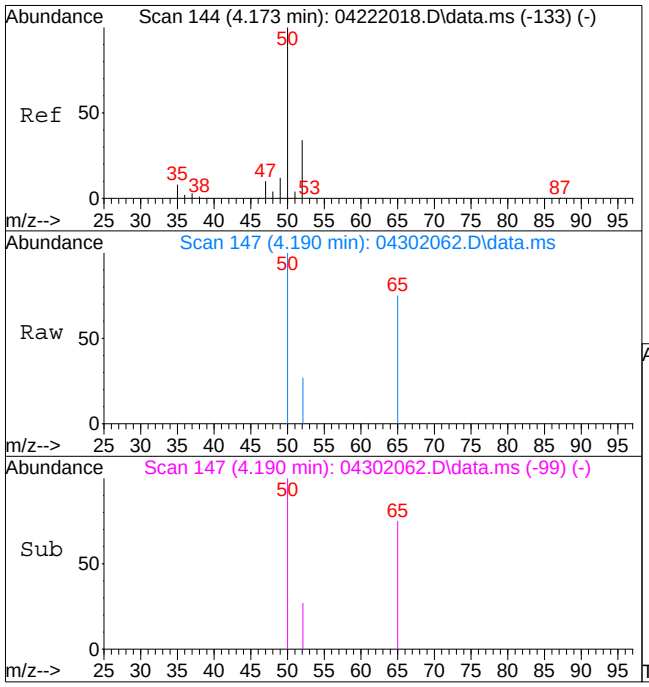


#3
Dichlorodifluoromethane (CFC 12)
Concen: 2.18 ng
RT: 3.98 min Scan# 109
Delta R.T. 0.011 min
Lab File: 04302062.D
Acq: 1 May 2020 15:38

Tgt Ion: 85 Resp: 53346

Ion	Ratio	Lower	Upper
85	100		
87	32.4	12.4	52.4
101	10.1	0.0	29.9
103	6.4	0.0	26.4

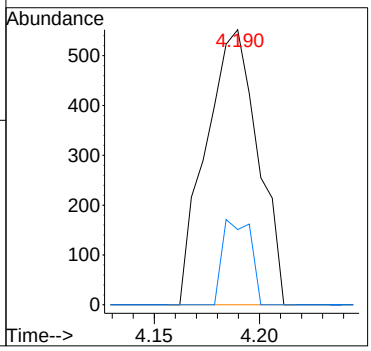


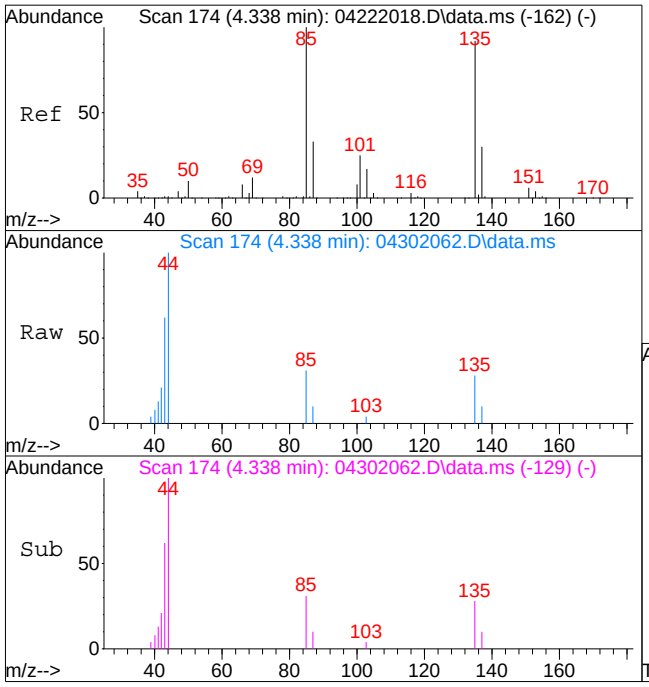


#4
Chloromethane
Concen: 0.10 ng
RT: 4.19 min Scan# 147
Delta R.T. 0.016 min
Lab File: 04302062.D
Acq: 1 May 2020 15:38

Tgt Ion: 50 Resp: 948

Ion	Ratio	Lower	Upper
50	100		
52	16.9	13.7	53.7

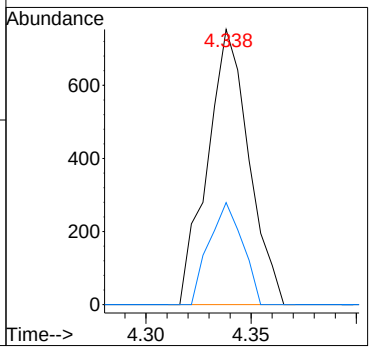


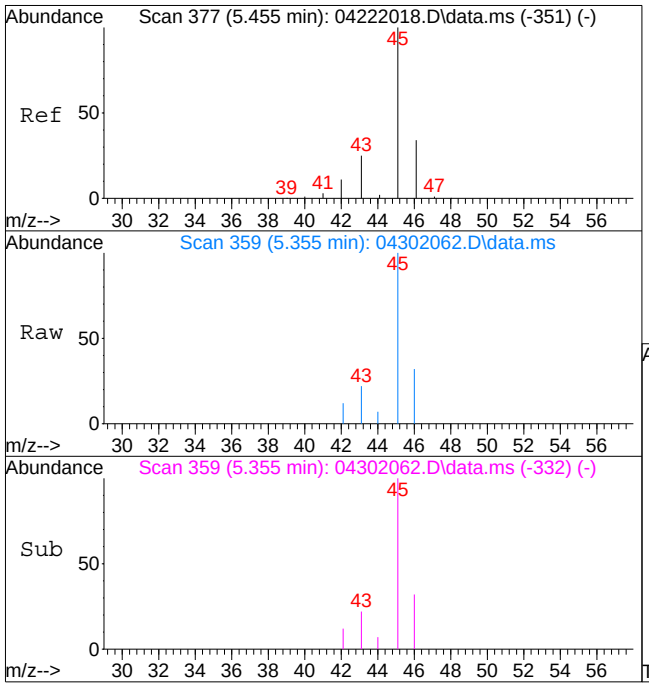


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 0.08 ng
RT: 4.34 min Scan# 174
Delta R.T. -0.000 min
Lab File: 04302062.D
Acq: 1 May 2020 15:38

Tgt Ion:135 Resp: 1035

Ion	Ratio	Lower	Upper
135	100		
137	30.0	11.9	51.9

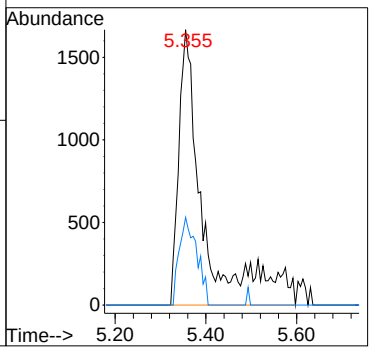


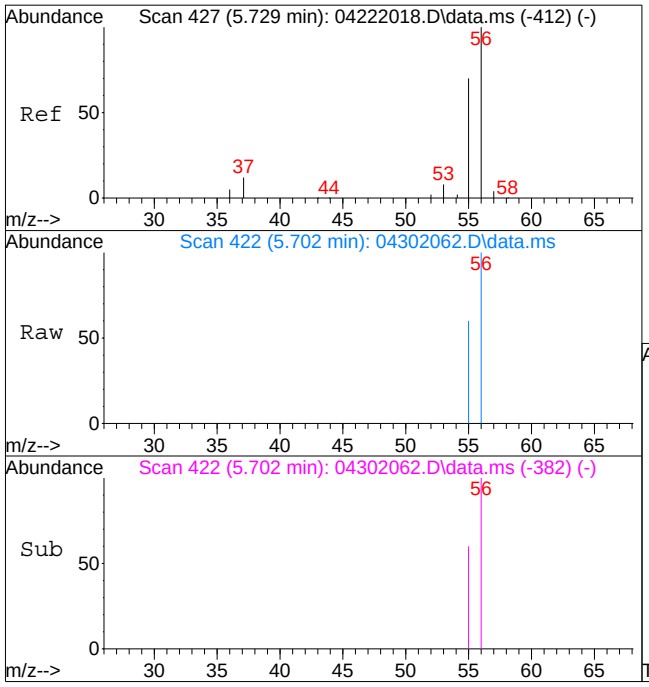


#10
Ethanol
Concen: 1.30 ng
RT: 5.36 min Scan# 359
Delta R.T. -0.099 min
Lab File: 04302062.D
Acq: 1 May 2020 15:38

Tgt Ion: 45 Resp: 6353

Ion	Ratio	Lower	Upper
45	100		
46	22.7	14.0	54.0

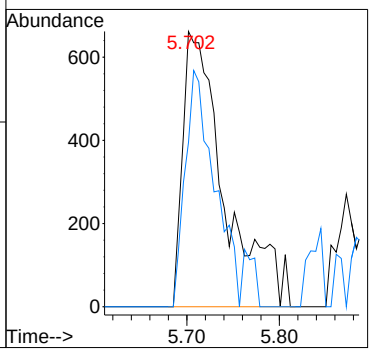


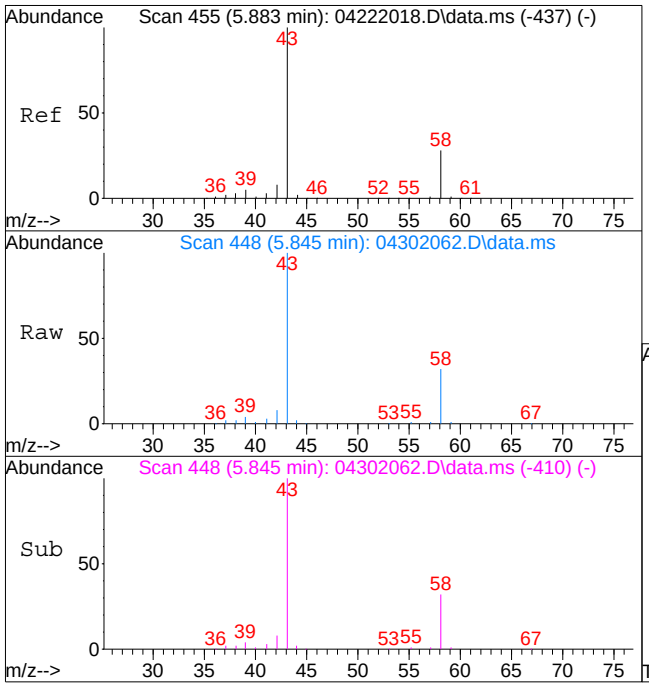


#12
Acrolein
Concen: 0.47 ng
RT: 5.70 min Scan# 422
Delta R.T. -0.028 min
Lab File: 04302062.D
Acq: 1 May 2020 15:38

Tgt Ion: 56 Resp: 2083

Ion	Ratio	Lower	Upper
56	100		
55	60.1	50.4	90.4

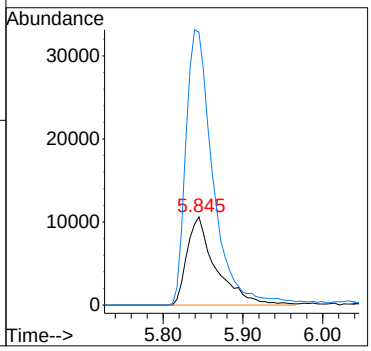


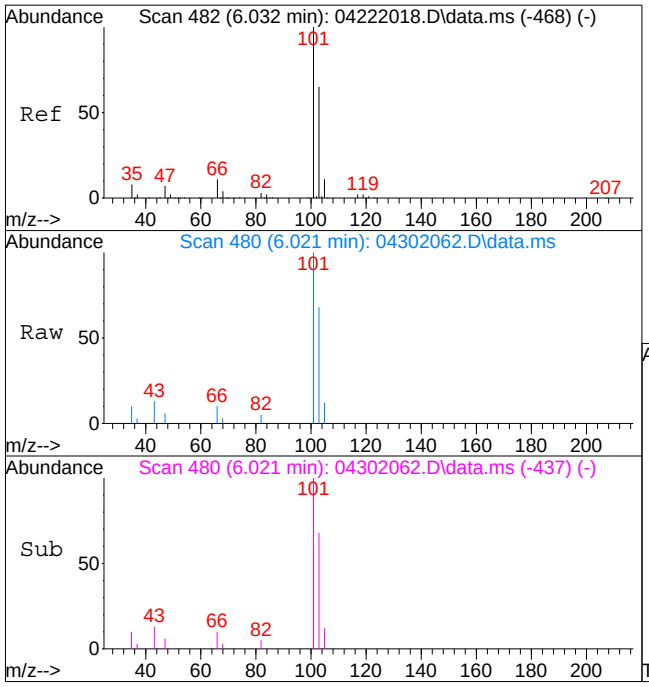


#13
Acetone
Concen: 4.58 ng
RT: 5.84 min Scan# 448
Delta R.T. -0.039 min
Lab File: 04302062.D
Acq: 1 May 2020 15:38

Tgt Ion: 58 Resp: 26856

Ion	Ratio	Lower	Upper
58	100		
43	295.8	319.3	379.3#

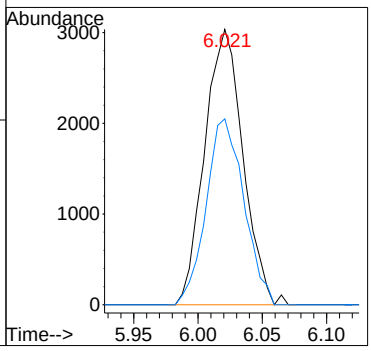


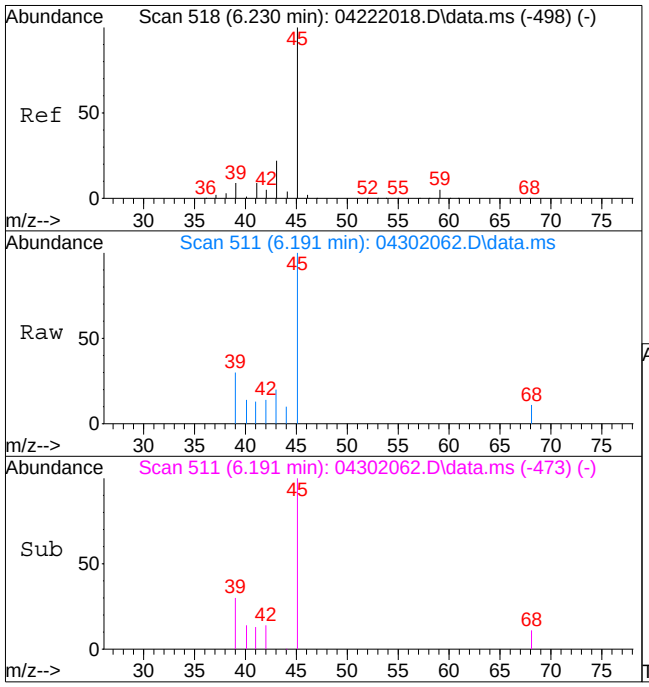


#14
Trichlorofluoromethane
Concen: 0.26 ng
RT: 6.02 min Scan# 480
Delta R.T. -0.011 min
Lab File: 04302062.D
Acq: 1 May 2020 15:38

Tgt Ion:101 Resp: 6292

Ion	Ratio	Lower	Upper
101	100		
103	66.6	44.7	84.7

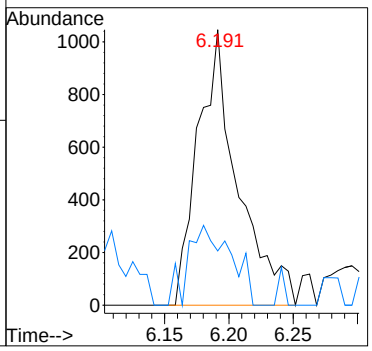


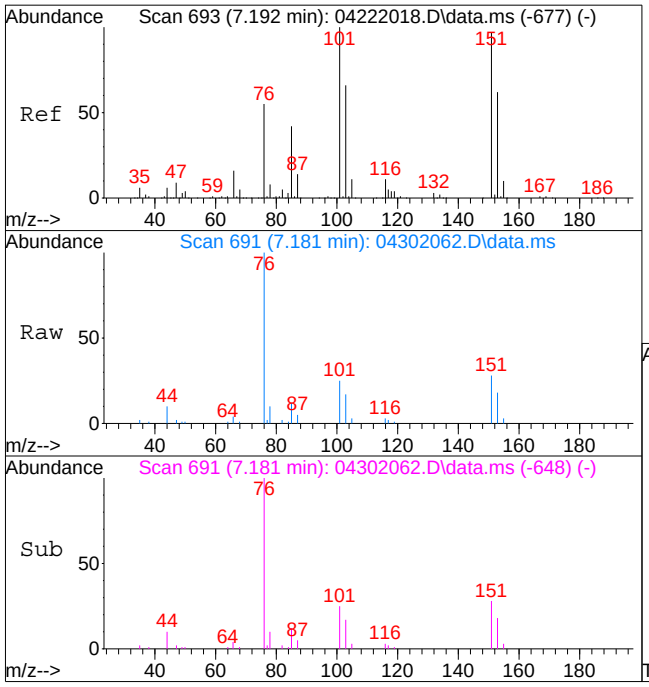


#15
2-Propanol (Isopropanol)
Concen: 0.12 ng
RT: 6.19 min Scan# 511
Delta R.T. -0.039 min
Lab File: 04302062.D
Acq: 1 May 2020 15:38

Tgt Ion: 45 Resp: 2252

Ion	Ratio	Lower	Upper
45	100		
43	31.3	2.6	42.6

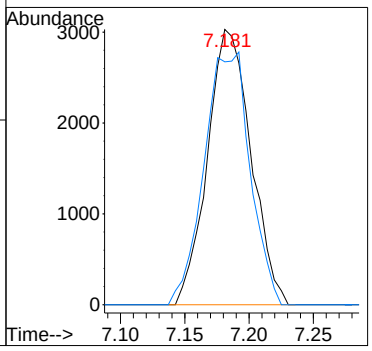


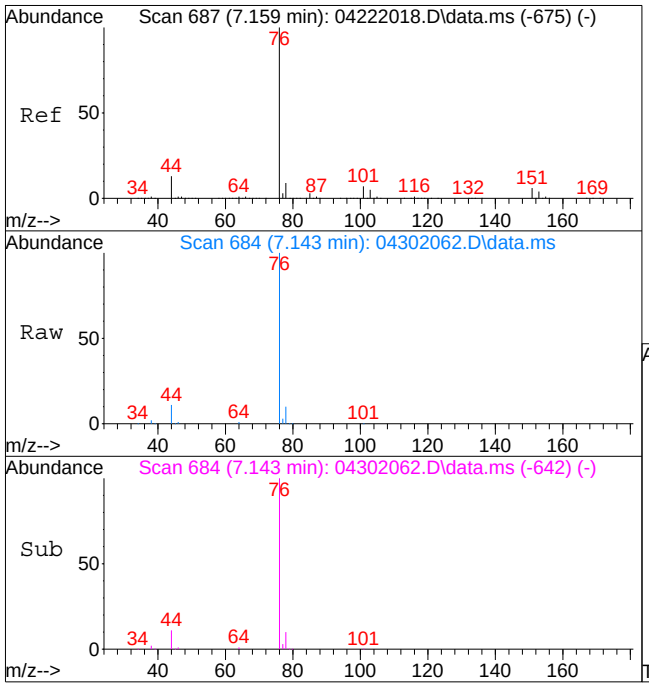


#21
Trichlorotrifluoroethane
Concen: 0.56 ng
RT: 7.18 min Scan# 691
Delta R.T. -0.011 min
Lab File: 04302062.D
Acq: 1 May 2020 15:38

Tgt Ion:151 Resp: 7135

Ion	Ratio	Lower	Upper
151	100		
101	96.7	82.9	122.9

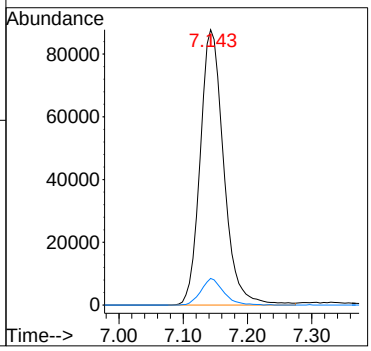


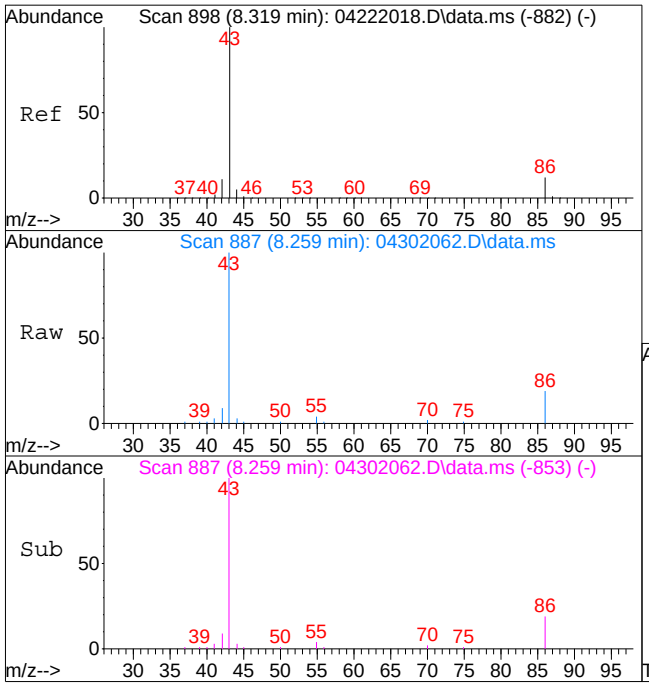


#22
Carbon Disulfide
Concen: 6.54 ng
RT: 7.14 min Scan# 684
Delta R.T. -0.017 min
Lab File: 04302062.D
Acq: 1 May 2020 15:38

Tgt Ion: 76 Resp: 223571

Ion	Ratio	Lower	Upper
76	100		
78	9.2	0.0	30.2

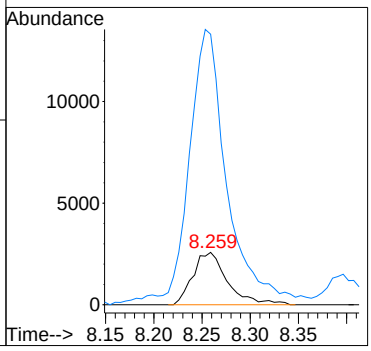


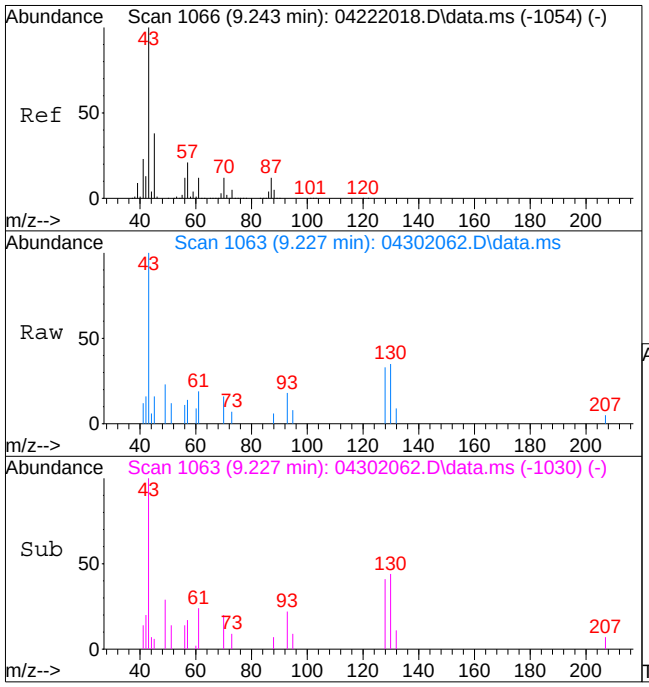


#26
Vinyl Acetate
Concen: 3.01 ng
RT: 8.26 min Scan# 887
Delta R.T. -0.061 min
Lab File: 04302062.D
Acq: 1 May 2020 15:38

Tgt Ion: 86 Resp: 6436

Ion	Ratio	Lower	Upper
86	100		
43	584.8	803.0	843.0#

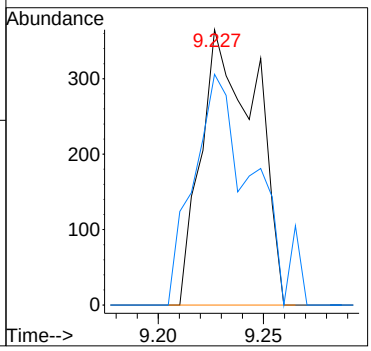


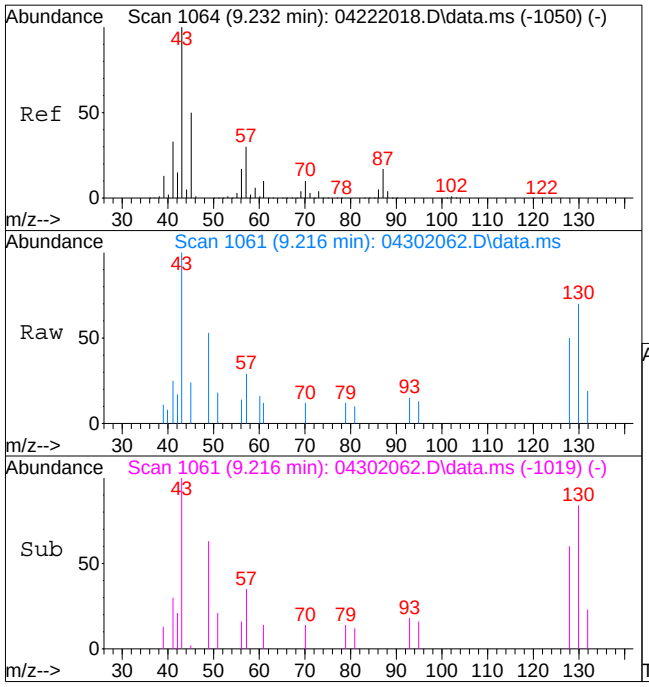


#30
Ethyl Acetate
Concen: 0.25 ng
RT: 9.23 min Scan# 1063
Delta R.T. -0.017 min
Lab File: 04302062.D
Acq: 1 May 2020 15:38

Tgt Ion: 61 Resp: 658

Ion	Ratio	Lower	Upper
61	100		
70	91.6	80.6	120.6

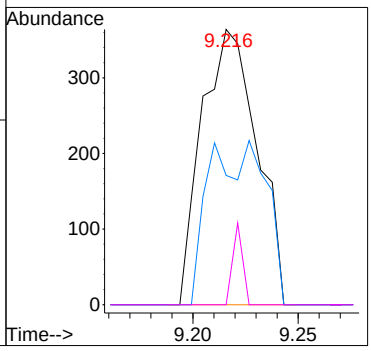


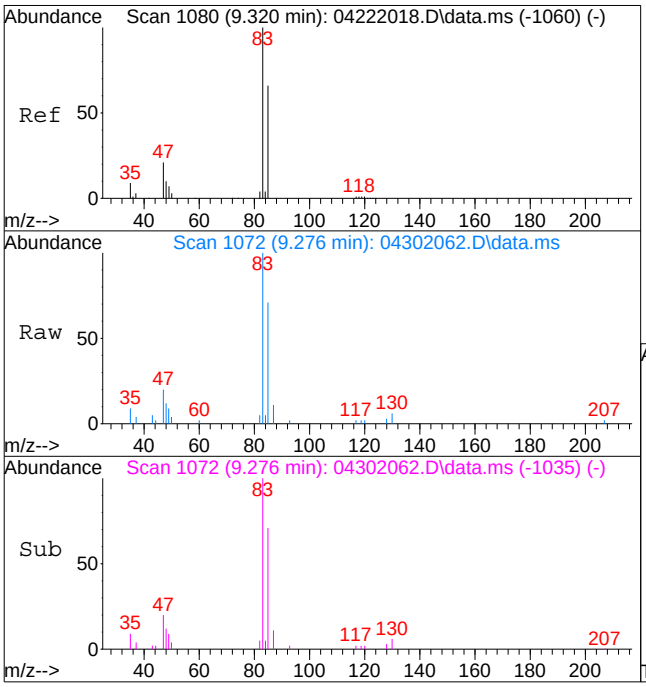


#31
n-Hexane
Concen: 0.05 ng
RT: 9.22 min Scan# 1061
Delta R.T. -0.017 min
Lab File: 04302062.D
Acq: 1 May 2020 15:38

Tgt Ion: 57 Resp: 664

Ion	Ratio	Lower	Upper
57	100		
56	61.3	44.0	66.0
86	0.0	15.0	22.4#

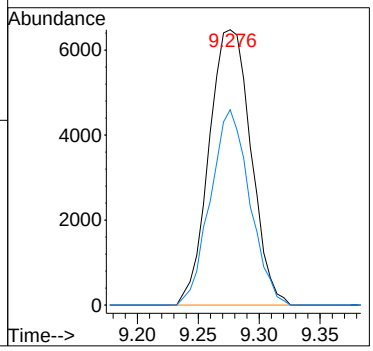


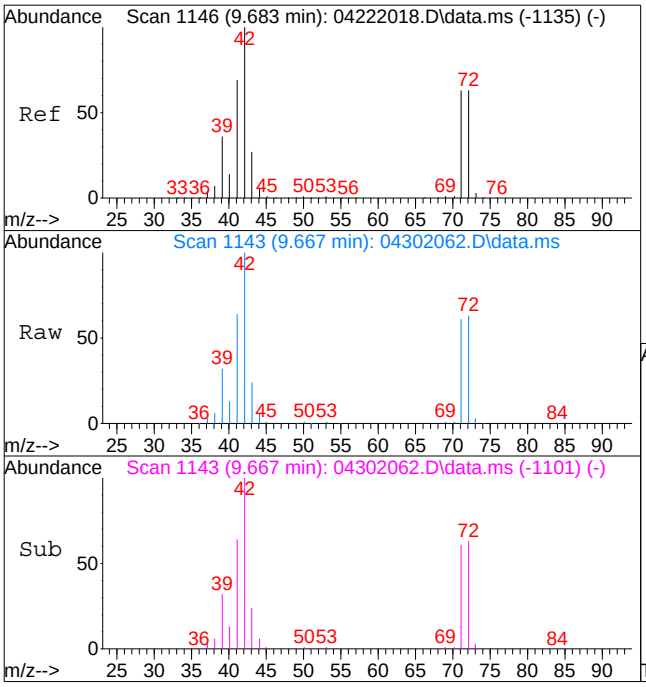


#32
Chloroform
Concen: 0.75 ng
RT: 9.28 min Scan# 1072
Delta R.T. -0.044 min
Lab File: 04302062.D
Acq: 1 May 2020 15:38

Tgt Ion: 83 Resp: 15505

Ion	Ratio	Lower	Upper
83	100		
85	66.6	45.8	85.8

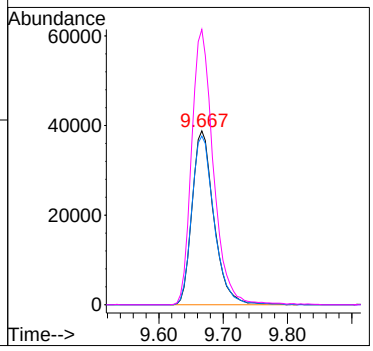


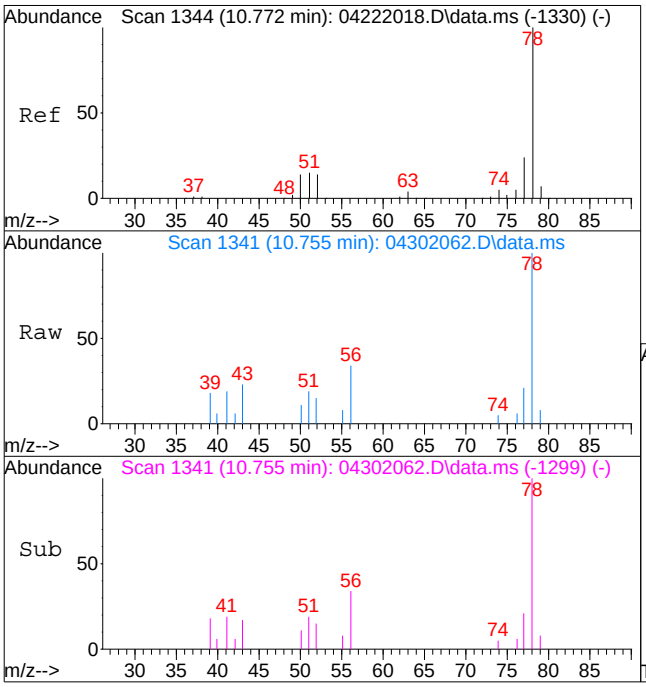


#34
Tetrahydrofuran (THF)
Concen: 14.97 ng
RT: 9.67 min Scan# 1143
Delta R.T. -0.017 min
Lab File: 04302062.D
Acq: 1 May 2020 15:38

Tgt Ion: 72 Resp: 91336

Ion	Ratio	Lower	Upper
72	100		
71	99.4	77.9	117.9
42	158.6	133.9	173.9

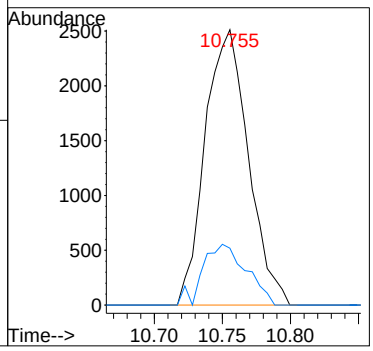


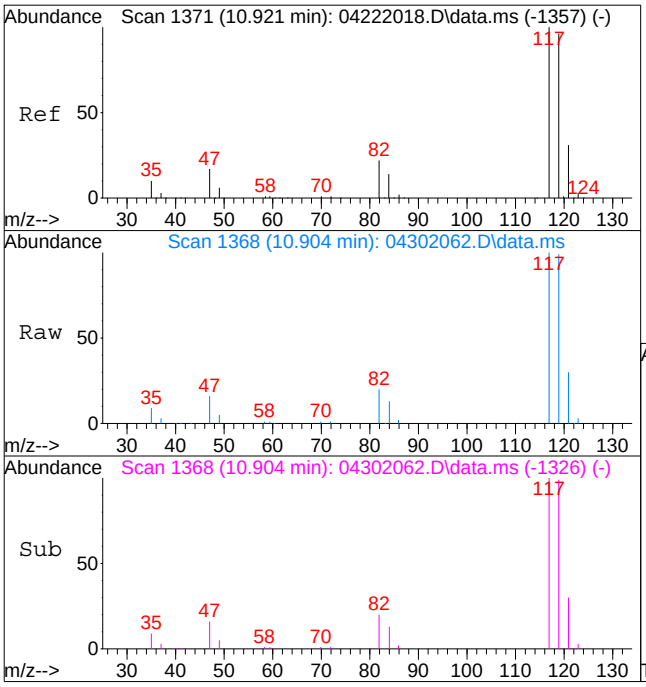


#41
Benzene
Concen: 0.13 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.017 min
Lab File: 04302062.D
Acq: 1 May 2020 15:38

Tgt Ion: 78 Resp: 5545

Ion	Ratio	Lower	Upper
78	100		
77	22.3	3.6	43.6

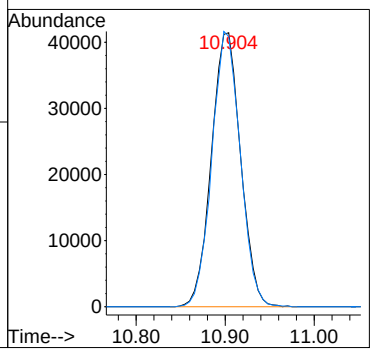


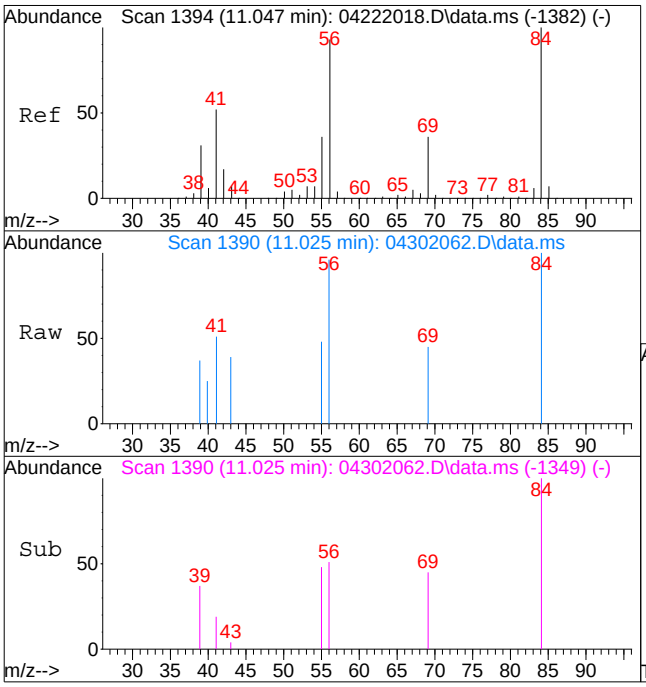


#42
Carbon Tetrachloride
Concen: 4.39 ng
RT: 10.90 min Scan# 1368
Delta R.T. -0.017 min
Lab File: 04302062.D
Acq: 1 May 2020 15:38

Tgt Ion:117 Resp: 94556

Ion	Ratio	Lower	Upper
117	100		
119	97.4	76.5	116.5

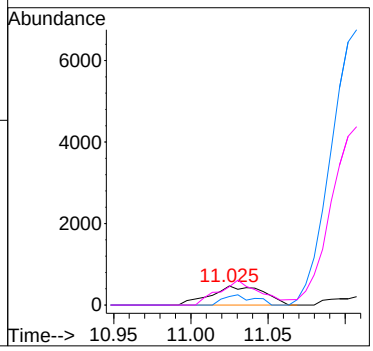


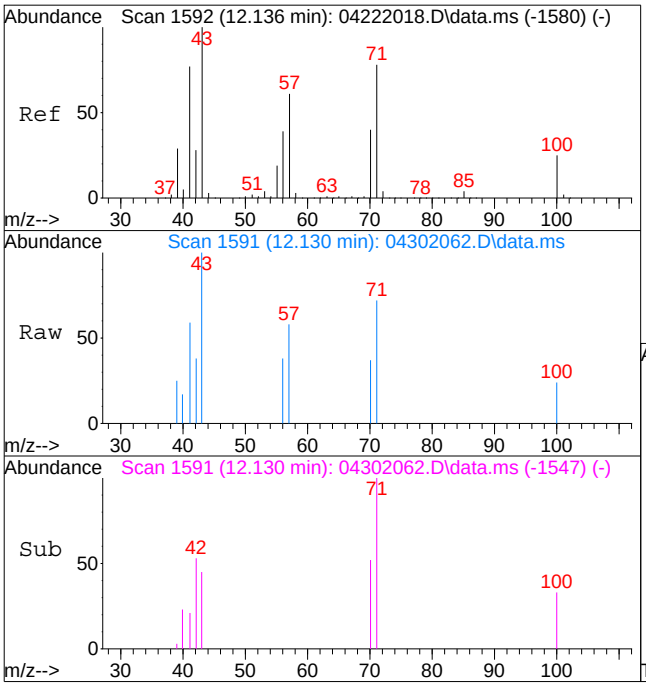


#43
Cyclohexane
Concen: 0.07 ng
RT: 11.02 min Scan# 1390
Delta R.T. -0.022 min
Lab File: 04302062.D
Acq: 1 May 2020 15:38

Tgt Ion: 84 Resp: 1113

Ion	Ratio	Lower	Upper
84	100		
69	30.9	15.8	55.8
56	102.7	72.0	112.0

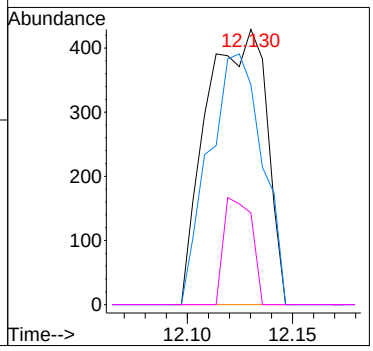


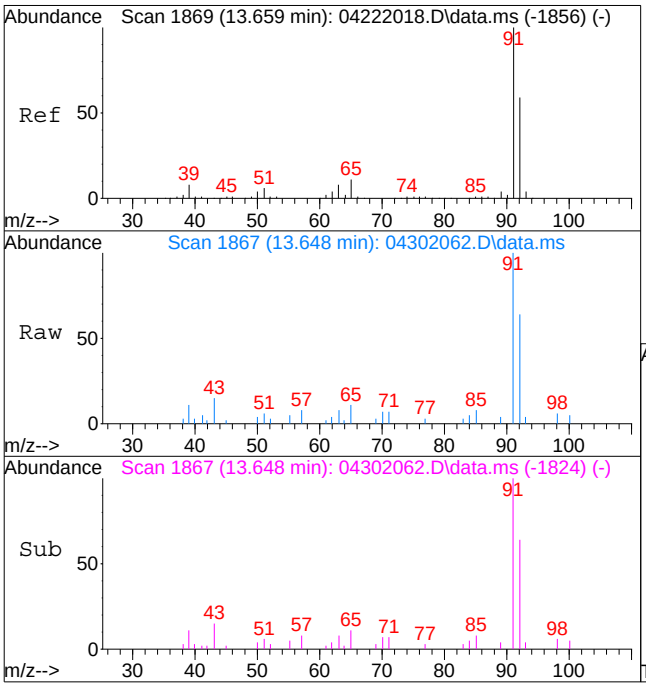


#51
n-Heptane
Concen: 0.09 ng
RT: 12.13 min Scan# 1591
Delta R.T. -0.006 min
Lab File: 04302062.D
Acq: 1 May 2020 15:38

Tgt Ion: 71 Resp: 850

Ion	Ratio	Lower	Upper
71	100		
57	81.2	57.4	97.4
100	18.1	12.0	52.0

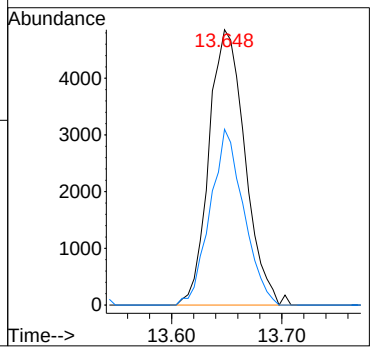


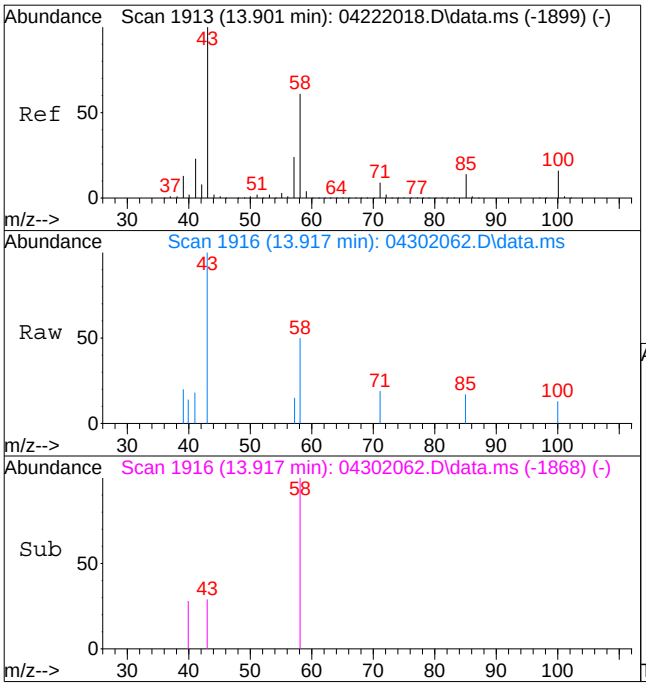


#58
Toluene
Concen: 0.24 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.011 min
Lab File: 04302062.D
Acq: 1 May 2020 15:38

Tgt Ion: 91 Resp: 11048

Ion	Ratio	Lower	Upper
91	100		
92	59.4	38.2	78.2

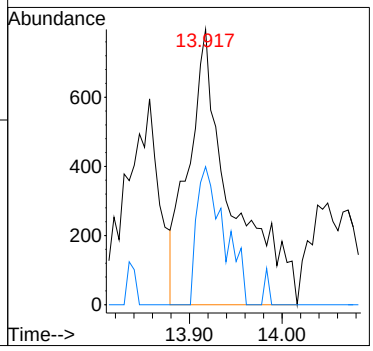


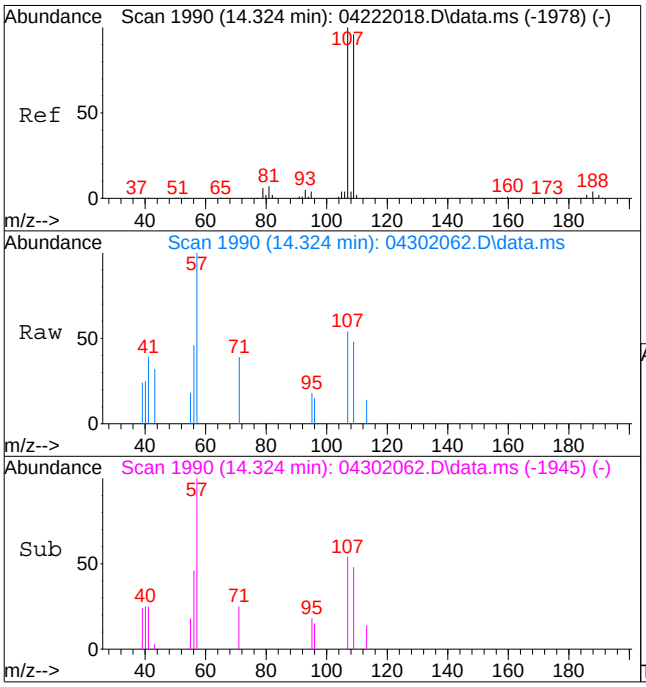


#59
2-Hexanone
Concen: 0.19 ng
RT: 13.92 min Scan# 1916
Delta R.T. 0.016 min
Lab File: 04302062.D
Acq: 1 May 2020 15:38

Tgt Ion: 43 Resp: 2574

Ion	Ratio	Lower	Upper
43	100		
58	31.9	41.1	81.1#

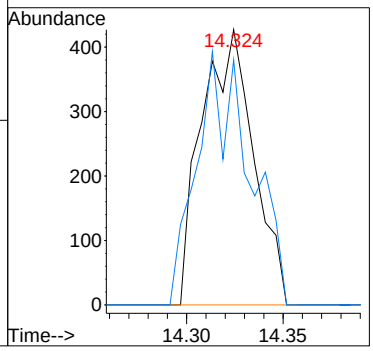


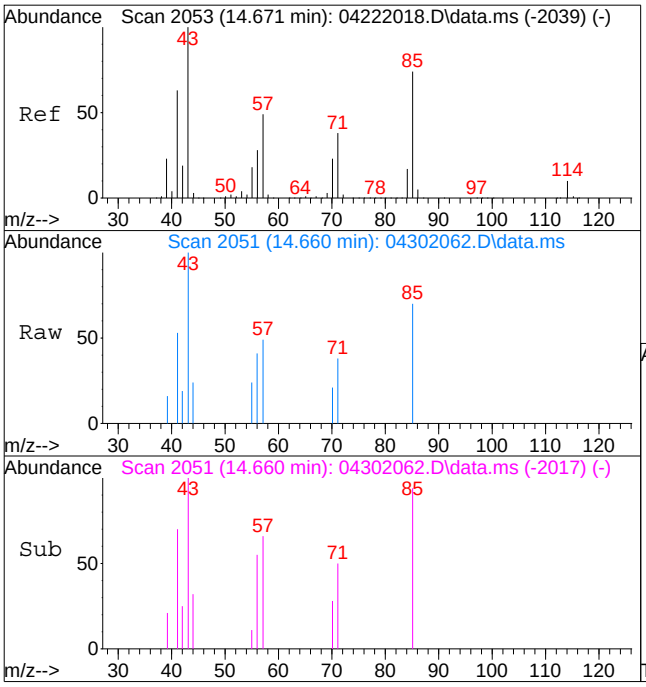


#61
1,2-Dibromoethane
Concen: 0.06 ng
RT: 14.32 min Scan# 1990
Delta R.T. -0.000 min
Lab File: 04302062.D
Acq: 1 May 2020 15:38

Tgt Ion:107 Resp: 800

Ion	Ratio	Lower	Upper
107	100		
109	93.1	75.5	115.5

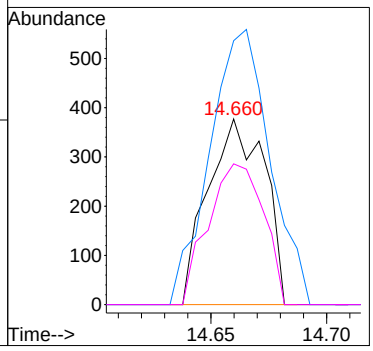


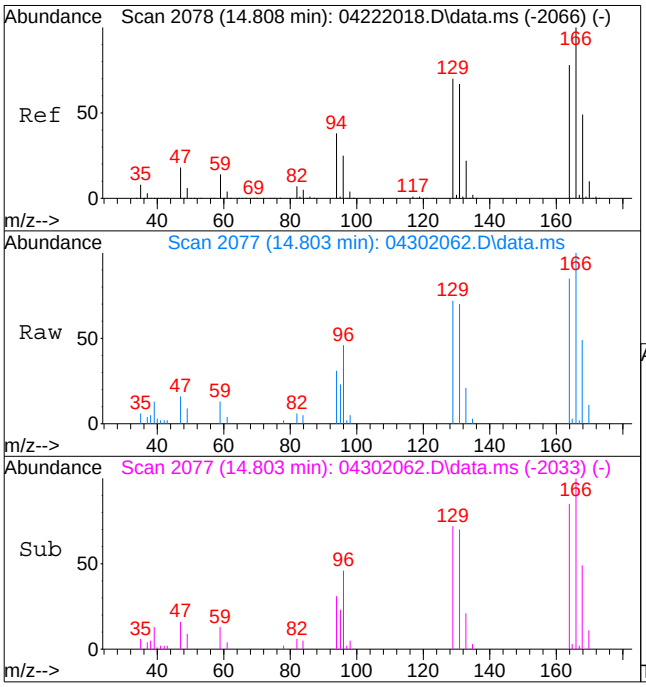


#63
n-Octane
Concen: 0.09 ng
RT: 14.66 min Scan# 2051
Delta R.T. -0.011 min
Lab File: 04302062.D
Acq: 1 May 2020 15:38

Tgt Ion: 57 Resp: 644

Ion	Ratio	Lower	Upper
57	100		
85	157.1	120.7	181.1
71	73.9	61.1	91.7

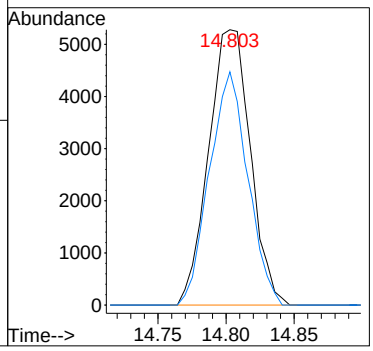


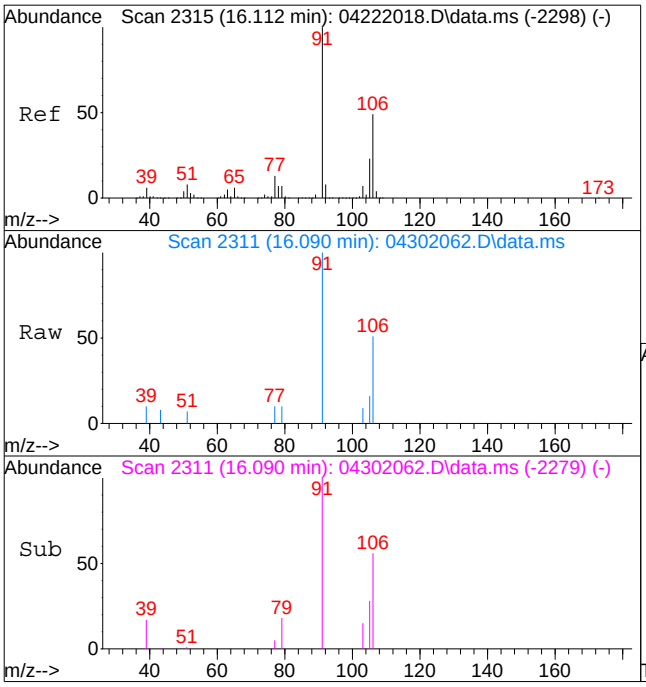


#64
Tetrachloroethene
Concen: 0.65 ng
RT: 14.80 min Scan# 2077
Delta R.T. -0.006 min
Lab File: 04302062.D
Acq: 1 May 2020 15:38

Tgt Ion:166 Resp: 11270

Ion	Ratio	Lower	Upper
166	100		
164	78.0	57.7	97.7

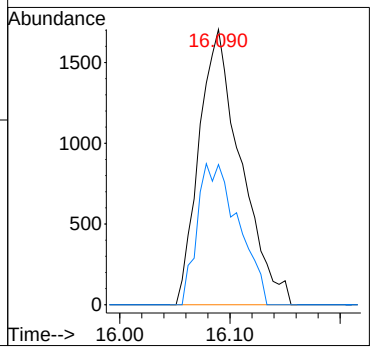


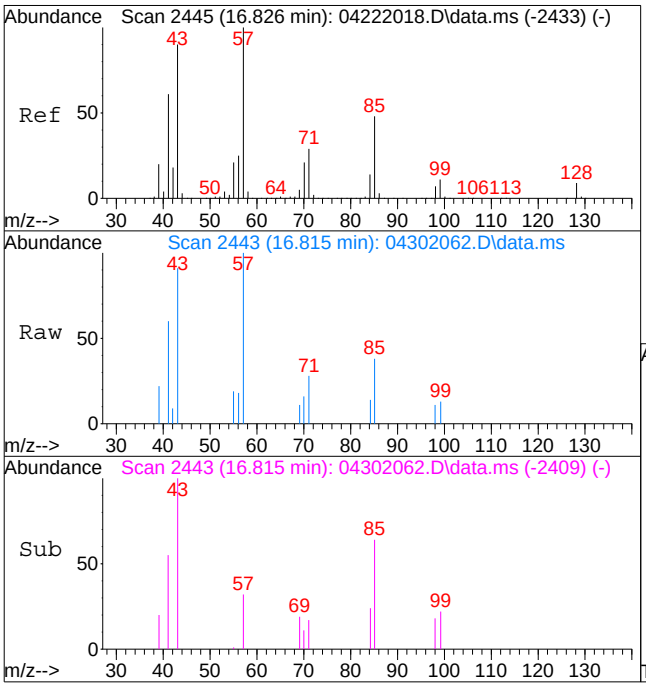


#67
m- & p-Xylenes
Concen: 0.10 ng
RT: 16.09 min Scan# 2311
Delta R.T. -0.022 min
Lab File: 04302062.D
Acq: 1 May 2020 15:38

Tgt Ion: 91 Resp: 4497

Ion	Ratio	Lower	Upper
91	100		
106	50.3	28.3	68.3

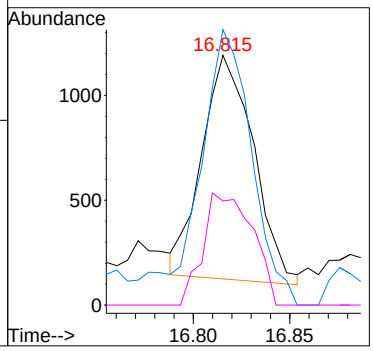


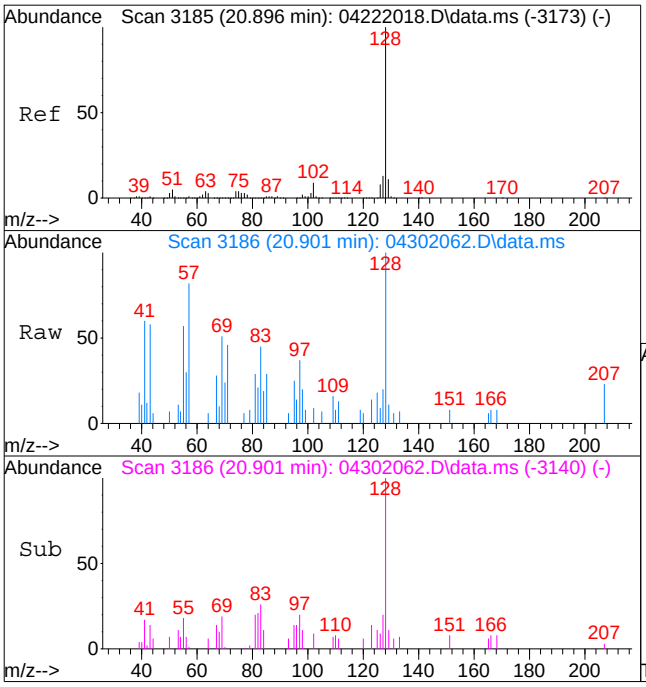


#71
n-Nonane
Concen: 0.14 ng
RT: 16.82 min Scan# 2443
Delta R.T. -0.011 min
Lab File: 04302062.D
Acq: 1 May 2020 15:38

Tgt Ion: 43 Resp: 1988

Ion	Ratio	Lower	Upper
43	100		
57	124.9	90.8	130.8
85	47.8	32.1	72.1

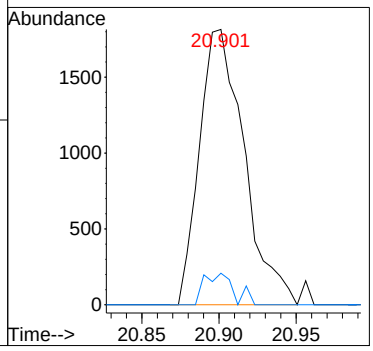




#95
Naphthalene
Concen: 0.06 ng
RT: 20.90 min Scan# 3186
Delta R.T. 0.005 min
Lab File: 04302062.D
Acq: 1 May 2020 15:38

Tgt Ion:128 Resp: 3655

Ion	Ratio	Lower	Upper
128	100		
129	7.7	0.0	30.9



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302064.D Vial: 7
Acq On : 1 May 2020 16:49 Operator: SC
Sample : P2002103-018 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 17:53:37 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/1/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	157779	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	666626	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	293628	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	236838	11.586	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.72%				
57) Toluene-d8 (SS2)	13.54	98	731295	12.899	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.20%				
73) Bromofluorobenzene (SS3)	17.05	174	286681	12.582	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.64%				
Target Compounds							Qvalue
2) Propene	3.87	42	2840	0.424	ng	#	87
3) Dichlorodifluoromethan...	3.97	85	145213	5.703	ng		100
4) Chloromethane	4.17	50	1989	0.212	ng		90
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	3781	0.275	ng		100
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	4.95	94	225	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.35	45	12472	2.457	ng		79
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	5.71	56	1114	0.240	ng		95
13) Acetone	5.84	58	23416	3.842	ng	#	69
14) Trichlorofluoromethane	6.02	101	11396	0.450	ng		99
15) 2-Propanol (Isopropanol)	6.18	45	2360	0.122	ng		86
16) Acrylonitrile	6.43	53	596	0.062	ng	#	26
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	6.86	59	1771	0.100	ng	#	1
19) Methylene Chloride	6.86	84	942	0.088	ng		89
20) 3-Chloro-1-propene (Al...	6.94	41	340	N.D.			
21) Trichlorotrifluoroethane	7.18	151	8666	0.657	ng		100
22) Carbon Disulfide	7.15	76	77414	2.178	ng		98
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	8.21	63	831	N.D.			
25) Methyl tert-Butyl Ether	8.13	73	145	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	8.53	72	5845	0.934	ng		98
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	9.22	61	13283	4.768	ng		98
31) n-Hexane	9.22	57	12399	0.917	ng		98
32) Chloroform	9.28	83	11344	0.524	ng		98
34) Tetrahydrofuran (THF)	9.67	72	26561	4.188	ng		96
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	10.13	62	653	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.75	78	13511	0.311	ng		99
42) Carbon Tetrachloride	10.90	117	84396	3.756	ng		99
43) Cyclohexane	11.04	84	15725	0.924	ng		98
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	11.81	130	392	N.D.			
48) 1,4-Dioxane	11.82	88	163	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302064.D Vial: 7
Acq On : 1 May 2020 16:49 Operator: SC
Sample : P2002103-018 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 17:53:37 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

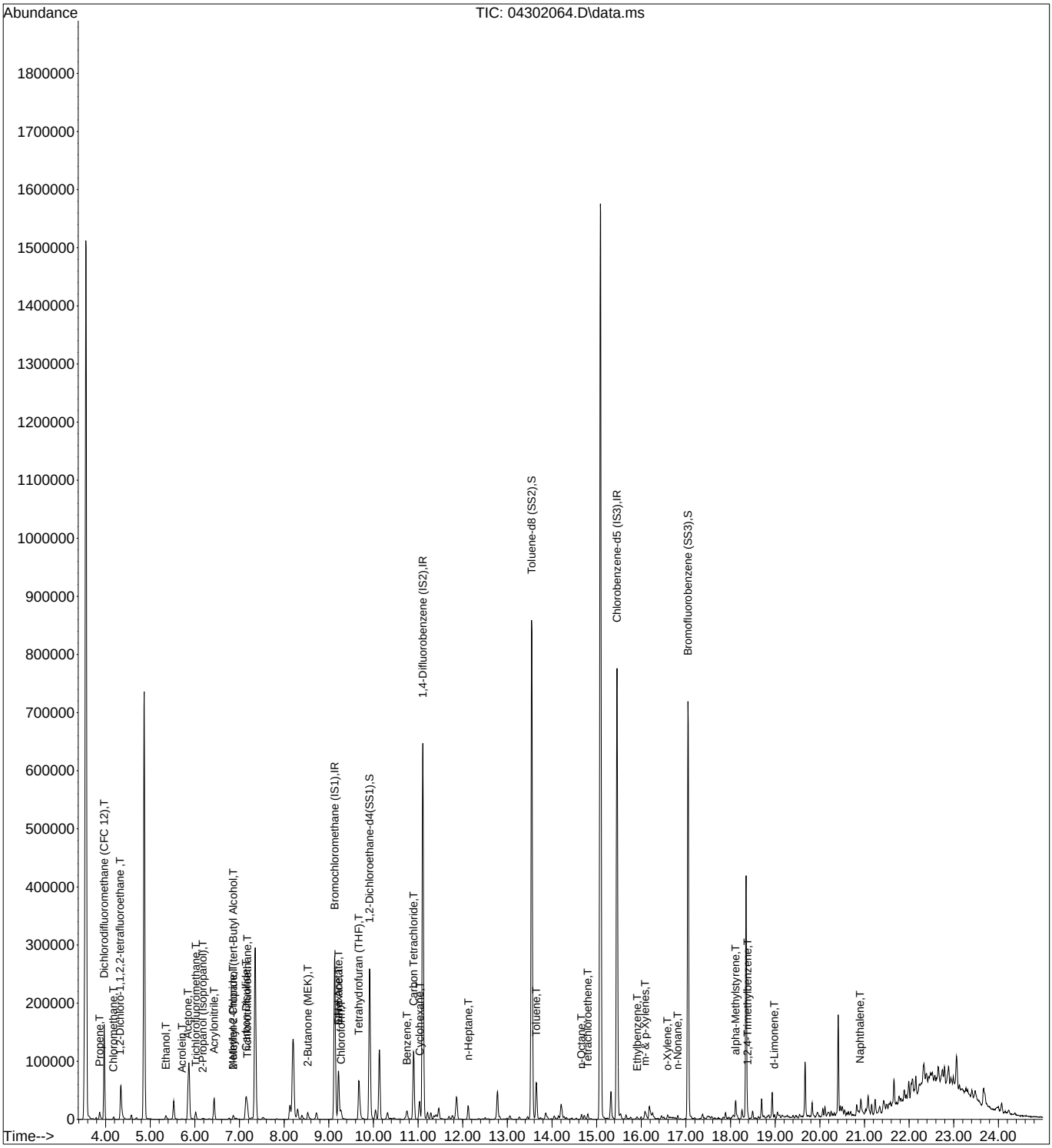
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.12	71	7132	0.706 ng	97
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.65	91	49640	1.043 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	14.32	107	600	N.D.	
62) n-Butyl Acetate	14.56	43	180	N.D.	
63) n-Octane	14.66	57	1682	0.222 ng	87
64) Tetrachloroethene	14.80	166	3166	0.177 ng	95
65) Chlorobenzene	15.54	112	1092	N.D.	
66) Ethylbenzene	15.91	91	4384	0.079 ng	98
67) m- & p-Xylenes	16.08	91	14324	0.306 ng	100
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.50	104	584	N.D.	
70) o-Xylene	16.58	91	4100	0.089 ng	94
71) n-Nonane	16.82	43	2327	0.157 ng	93
72) 1,1,2,2-Tetrachloroethane	16.60	83	226	N.D.	
74) Cumene	17.20	105	1025	N.D.	
75) alpha-Pinene	17.60	93	212	N.D.	
76) n-Propylbenzene	17.73	91	1970	N.D.	
77) 3-Ethyltoluene	17.83	105	2217	N.D.	
78) 4-Ethyltoluene	17.88	105	1082	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	1174	N.D.	
80) alpha-Methylstyrene	18.11	118	12353	0.469 ng	97
81) 2-Ethyltoluene	18.16	105	811	N.D.	
82) 1,2,4-Trimethylbenzene	18.38	105	3449	0.068 ng	94
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.54	91	287	N.D.	
85) 1,3-Dichlorobenzene	18.62	146	266	N.D.	
86) 1,4-Dichlorobenzene	18.62	146	266	N.D.	
87) sec-Butylbenzene	18.67	105	638	N.D.	
88) 4-Isopropyltoluene (p-...	18.83	119	911	N.D.	
89) 1,2,3-Trimethylbenzene	18.83	105	1446	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	18.98	68	890	0.062 ng	95
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.90	128	3402	0.052 ng	86
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	19.28	91	1307	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302064.D Vial: 7
Acq On : 1 May 2020 16:49 Operator: SC
Sample : P2002103-018 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 17:53:37 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302064.D Vial: 7
Acq On : 1 May 2020 16:49 Operator: SC
Sample : P2002103-018 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 17:53:37 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/1/20

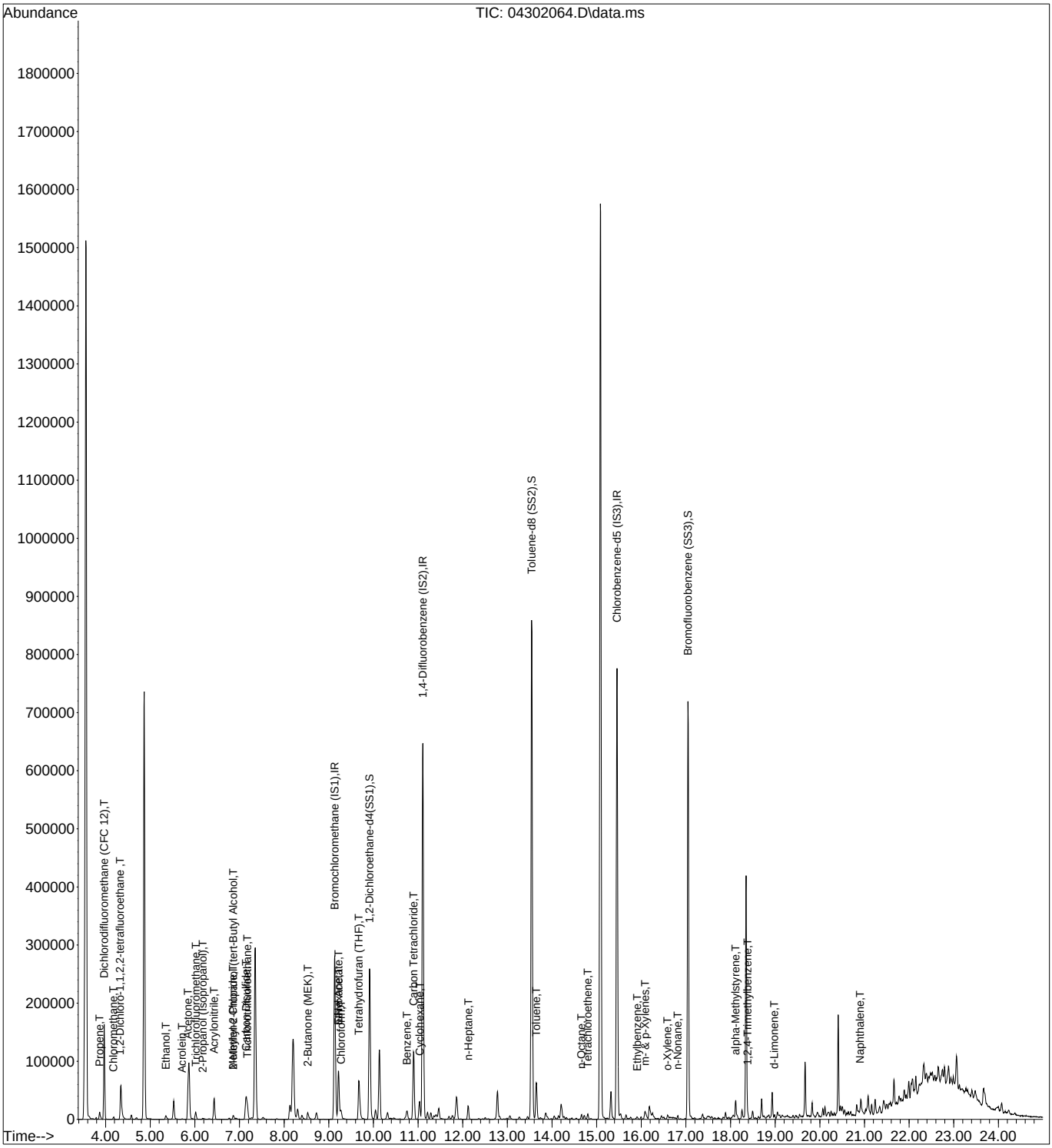
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	157779	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	666626	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	293628	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	236838	11.586	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.72%			
57) Toluene-d8 (SS2)	13.54	98	731295	12.899	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.20%			
73) Bromofluorobenzene (SS3)	17.05	174	286681	12.582	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.64%			
Target Compounds						Qvalue
2) Propene	3.87	42	2840	0.424	ng	# 87
3) Dichlorodifluoromethan...	3.97	85	145213	5.703	ng	100
4) Chloromethane	4.17	50	1989	0.212	ng	90
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	3781	0.275	ng	100
10) Ethanol	5.35	45	12472	2.457	ng	79
12) Acrolein	5.71	56	1114	0.240	ng	95
13) Acetone	5.84	58	23416	3.842	ng	# 69
14) Trichlorofluoromethane	6.02	101	11396	0.450	ng	99
15) 2-Propanol (Isopropanol)	6.18	45	2360	0.122	ng	86
16) Acrylonitrile	6.43	53	596	0.062	ng	# 26
18) 2-Methyl-2-Propanol (t...	6.86	59	1771	0.100	ng	# 1
19) Methylene Chloride	6.86	84	942	0.088	ng	89
21) Trichlorotrifluoroethane	7.18	151	8666	0.657	ng	100
22) Carbon Disulfide	7.15	76	77414	2.178	ng	98
27) 2-Butanone (MEK)	8.53	72	5845	0.934	ng	98
30) Ethyl Acetate	9.22	61	13283	4.768	ng	98
31) n-Hexane	9.22	57	12399	0.917	ng	98
32) Chloroform	9.28	83	11344	0.524	ng	98
34) Tetrahydrofuran (THF)	9.67	72	26561	4.188	ng	96
41) Benzene	10.75	78	13511	0.311	ng	99
42) Carbon Tetrachloride	10.90	117	84396	3.756	ng	99
43) Cyclohexane	11.04	84	15725	0.924	ng	98
51) n-Heptane	12.12	71	7132	0.706	ng	97
58) Toluene	13.65	91	49640	1.043	ng	100
63) n-Octane	14.66	57	1682	0.222	ng	87
64) Tetrachloroethene	14.80	166	3166	0.177	ng	95
66) Ethylbenzene	15.91	91	4384	0.079	ng	98
67) m- & p-Xylenes	16.08	91	14324	0.306	ng	100
70) o-Xylene	16.58	91	4100	0.089	ng	94
71) n-Nonane	16.82	43	2327	0.157	ng	93
80) alpha-Methylstyrene	18.11	118	12353	0.469	ng	97
82) 1,2,4-Trimethylbenzene	18.38	105	3449	0.068	ng	94
91) d-Limonene	18.98	68	890	0.062	ng	95
95) Naphthalene	20.90	128	3402	0.052	ng	86

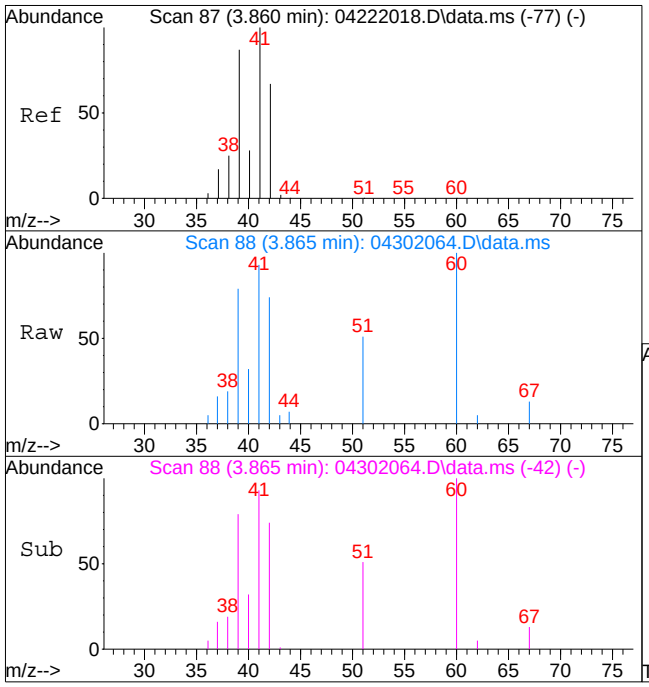
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302064.D Vial: 7
Acq On : 1 May 2020 16:49 Operator: SC
Sample : P2002103-018 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 17:53:37 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

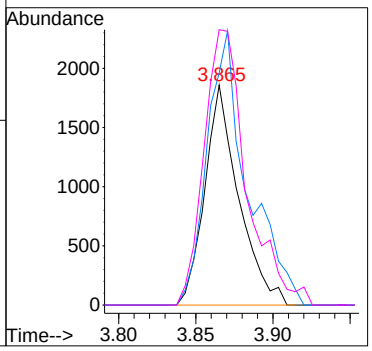


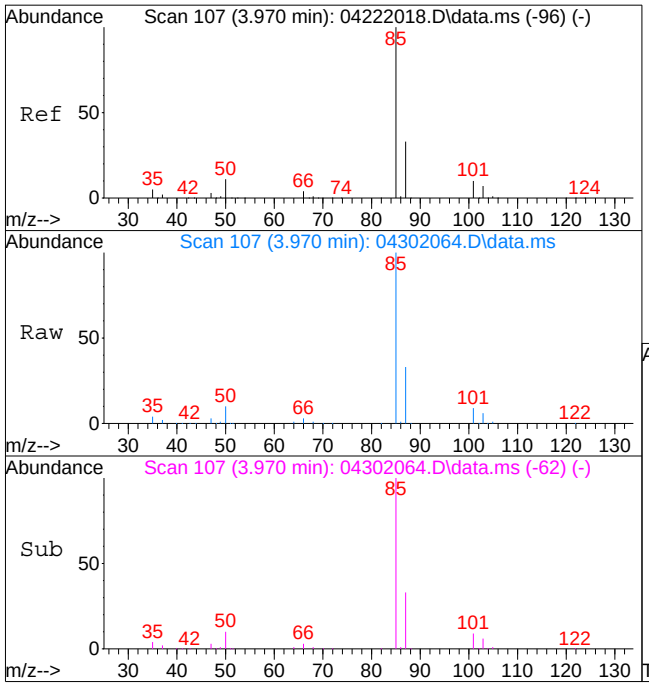


#2
Propene
Concen: 0.42 ng
RT: 3.87 min Scan# 88
Delta R.T. 0.005 min
Lab File: 04302064.D
Acq: 1 May 2020 16:49

Tgt Ion: 42 Resp: 2840

Ion	Ratio	Lower	Upper
42	100		
39	148.7	106.4	146.4#
41	157.9	128.8	168.8

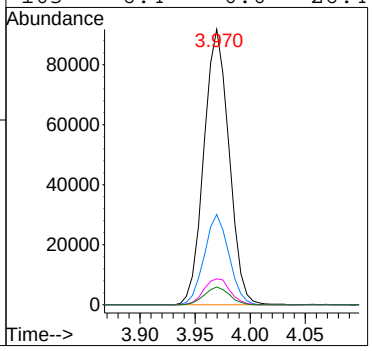


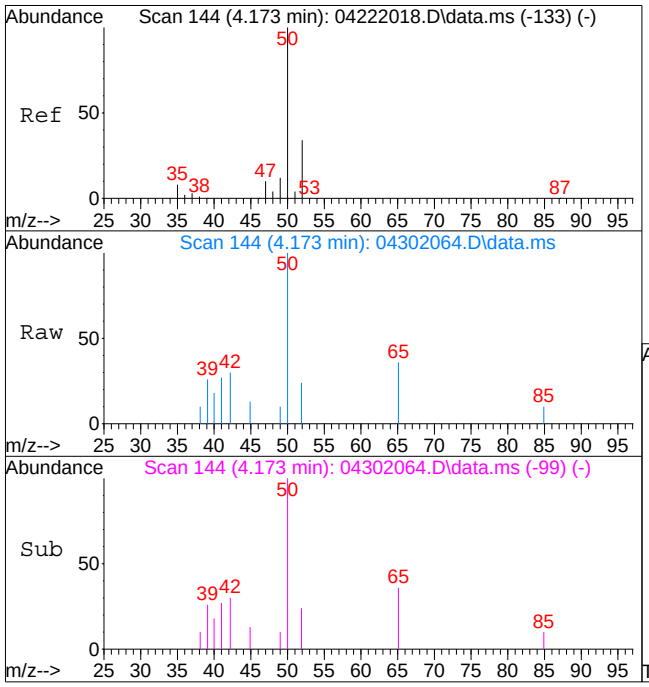


#3
Dichlorodifluoromethane (CFC 12)
Concen: 5.70 ng
RT: 3.97 min Scan# 107
Delta R.T. -0.000 min
Lab File: 04302064.D
Acq: 1 May 2020 16:49

Tgt Ion: 85 Resp: 145213

Ion	Ratio	Lower	Upper
85	100		
87	32.2	12.4	52.4
101	9.8	0.0	29.9
103	6.4	0.0	26.4

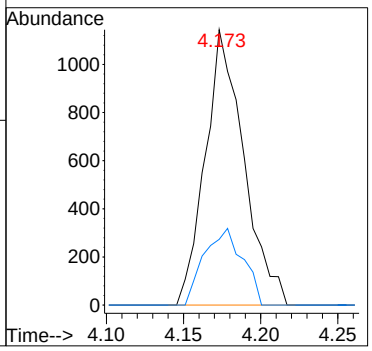


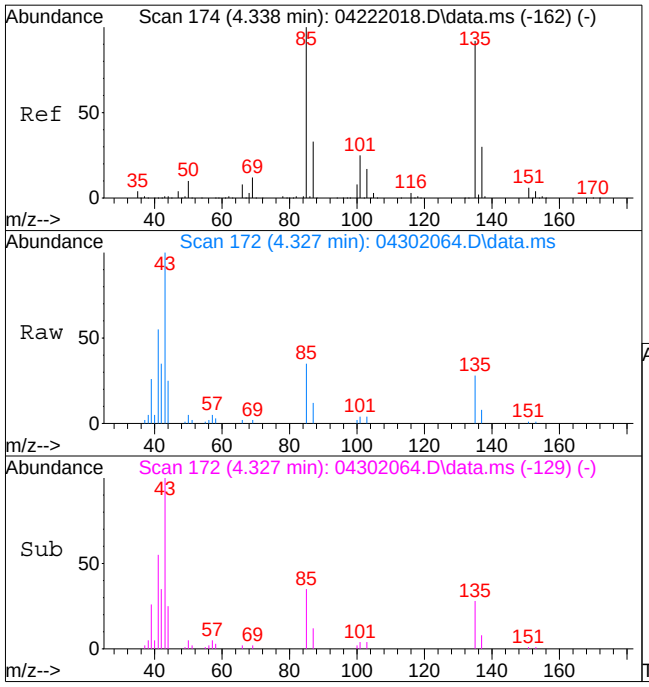


#4
Chloromethane
Concen: 0.21 ng
RT: 4.17 min Scan# 144
Delta R.T. -0.000 min
Lab File: 04302064.D
Acq: 1 May 2020 16:49

Tgt Ion: 50 Resp: 1989

Ion	Ratio	Lower	Upper
50	100		
52	27.9	13.7	53.7

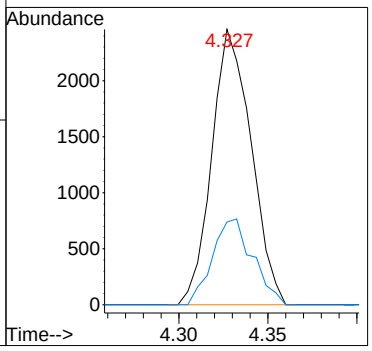


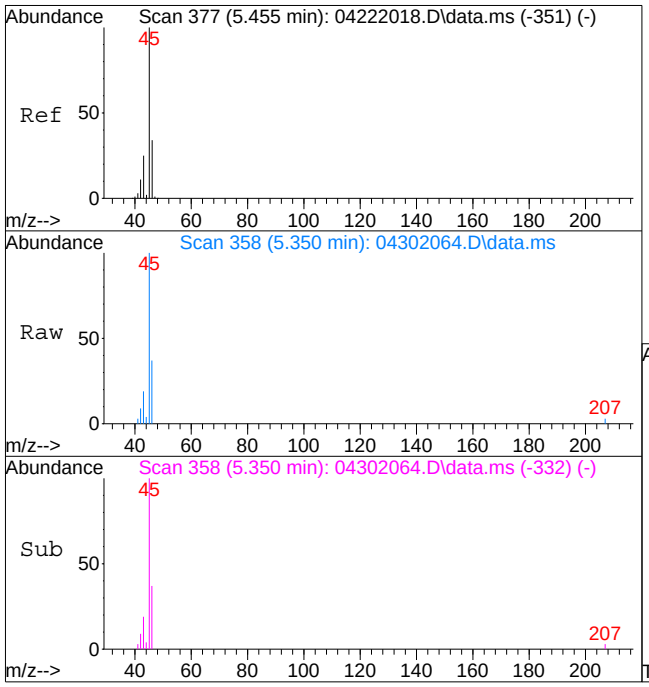


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 0.27 ng
RT: 4.33 min Scan# 172
Delta R.T. -0.011 min
Lab File: 04302064.D
Acq: 1 May 2020 16:49

Tgt Ion:135 Resp: 3781

Ion	Ratio	Lower	Upper
135	100		
137	31.8	11.9	51.9

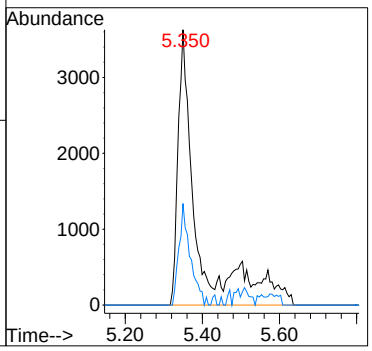


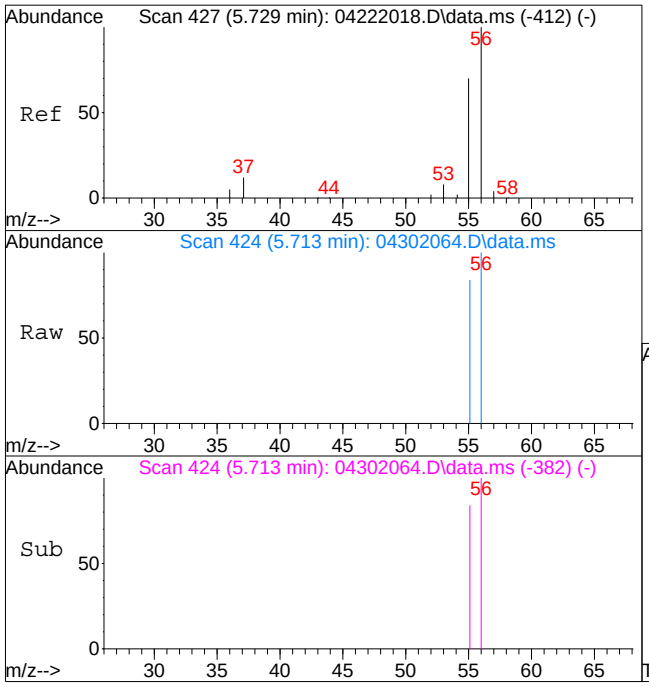


#10
Ethanol
Concen: 2.46 ng
RT: 5.35 min Scan# 358
Delta R.T. -0.105 min
Lab File: 04302064.D
Acq: 1 May 2020 16:49

Tgt Ion: 45 Resp: 12472

Ion	Ratio	Lower	Upper
45	100		
46	22.1	14.0	54.0

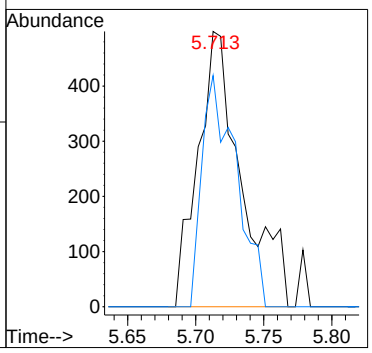


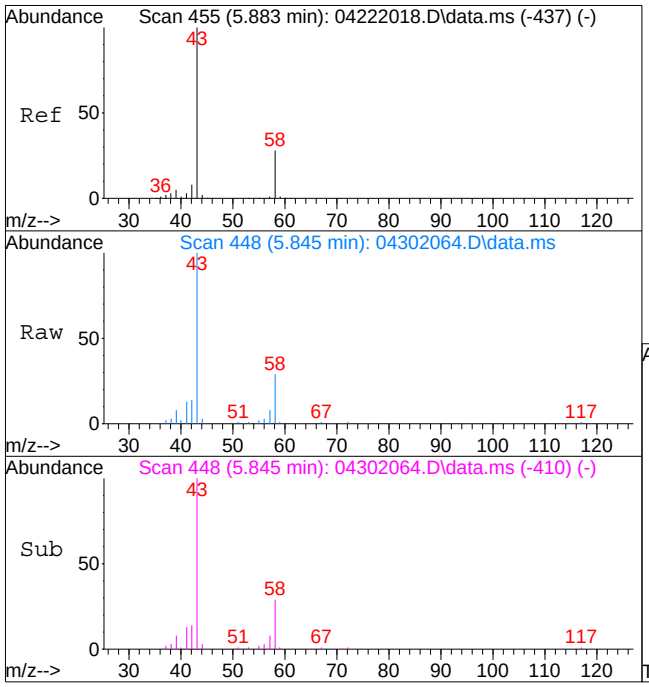


#12
Acrolein
Concen: 0.24 ng
RT: 5.71 min Scan# 424
Delta R.T. -0.017 min
Lab File: 04302064.D
Acq: 1 May 2020 16:49

Tgt Ion: 56 Resp: 1114

Ion	Ratio	Lower	Upper
56	100		
55	66.0	50.4	90.4

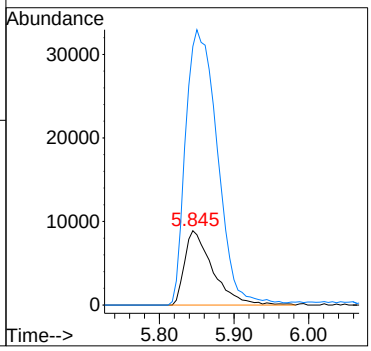


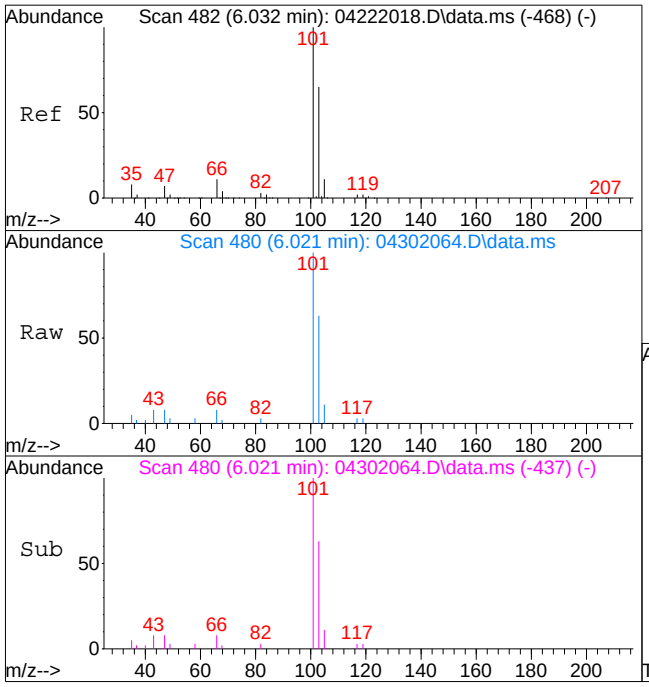


#13
Acetone
Concen: 3.84 ng
RT: 5.84 min Scan# 448
Delta R.T. -0.039 min
Lab File: 04302064.D
Acq: 1 May 2020 16:49

Tgt Ion: 58 Resp: 23416

Ion	Ratio	Lower	Upper
58	100		
43	416.9	319.3	379.3#

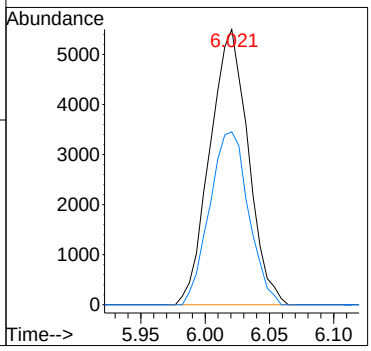


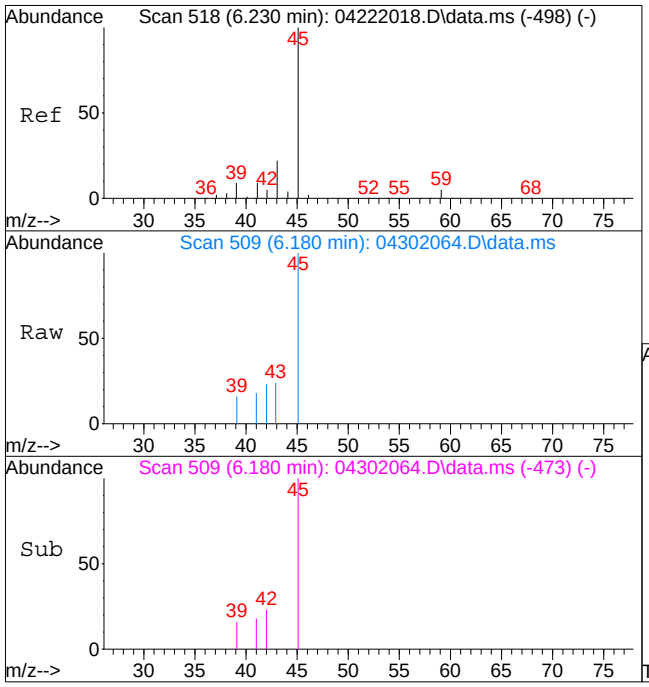


#14
Trichlorofluoromethane
Concen: 0.45 ng
RT: 6.02 min Scan# 480
Delta R.T. -0.011 min
Lab File: 04302064.D
Acq: 1 May 2020 16:49

Tgt Ion:101 Resp: 11396

Ion	Ratio	Lower	Upper
101	100		
103	63.9	44.7	84.7

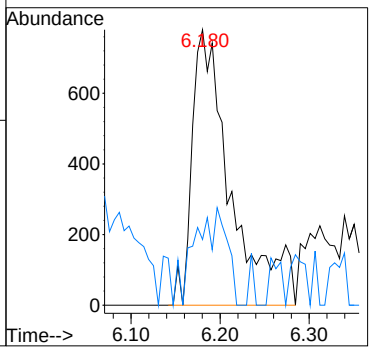


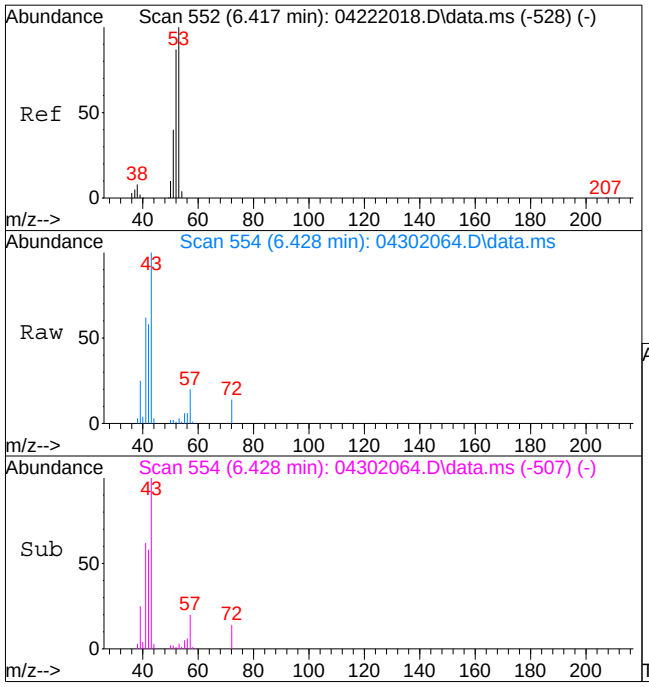


#15
2-Propanol (Isopropanol)
Concen: 0.12 ng
RT: 6.18 min Scan# 509
Delta R.T. -0.050 min
Lab File: 04302064.D
Acq: 1 May 2020 16:49

Tgt Ion: 45 Resp: 2360

Ion	Ratio	Lower	Upper
45	100		
43	29.3	2.6	42.6

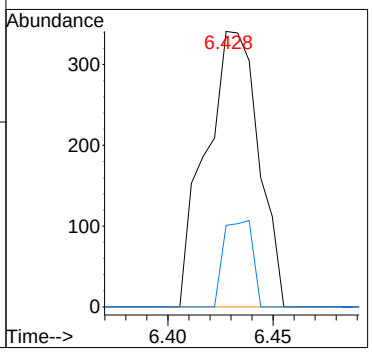


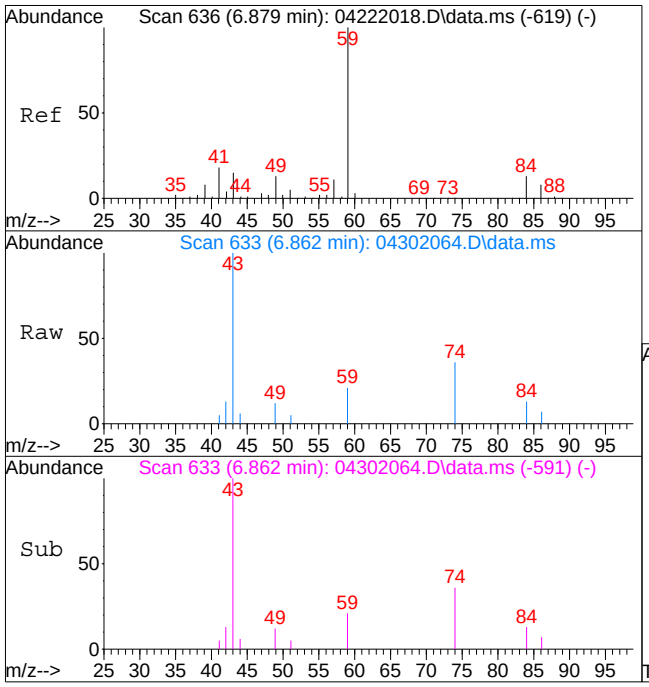


#16
Acrylonitrile
Concen: 0.06 ng
RT: 6.43 min Scan# 554
Delta R.T. 0.011 min
Lab File: 04302064.D
Acq: 1 May 2020 16:49

Tgt Ion: 53 Resp: 596

Ion	Ratio	Lower	Upper
53	100		
52	17.3	64.4	104.4#

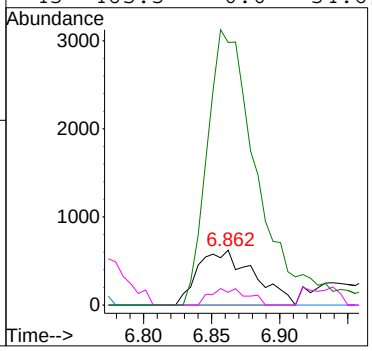


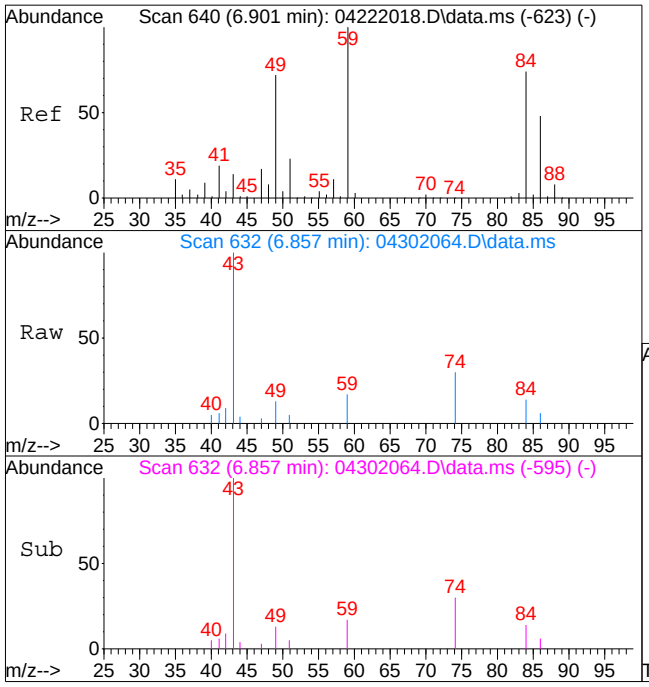


#18
2-Methyl-2-Propanol (tert-Butyl Alcohol
Concen: 0.10 ng
RT: 6.86 min Scan# 633
Delta R.T. -0.017 min
Lab File: 04302064.D
Acq: 1 May 2020 16:49

Tgt Ion: 59 Resp: 1771

Ion	Ratio	Lower	Upper
59	100		
57	0.0	0.0	30.4
41	19.9	0.0	40.0
43	465.3	0.0	34.6#

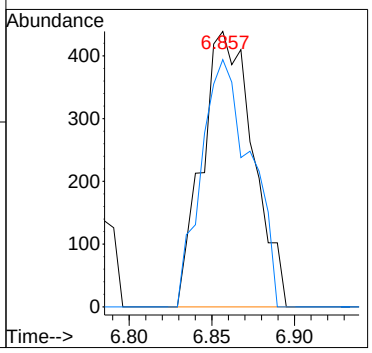


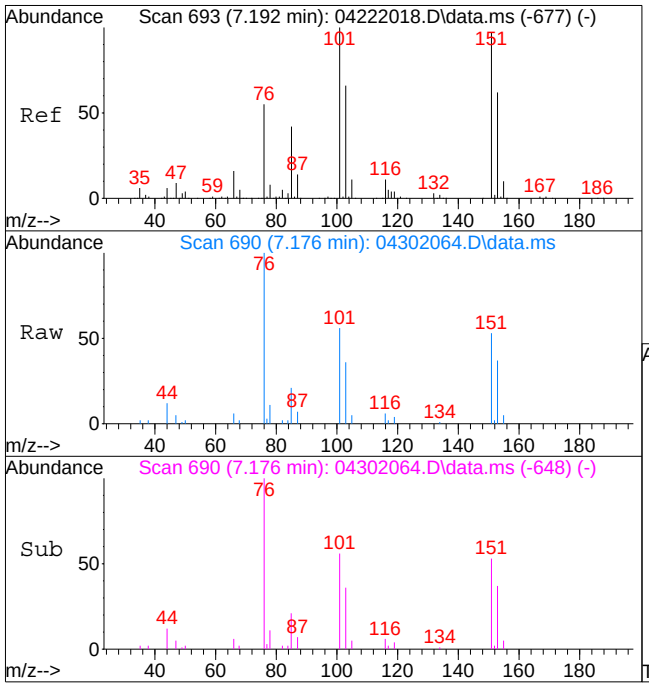


#19
Methylene Chloride
Concen: 0.09 ng
RT: 6.86 min Scan# 632
Delta R.T. -0.044 min
Lab File: 04302064.D
Acq: 1 May 2020 16:49

Tgt Ion: 84 Resp: 942

Ion	Ratio	Lower	Upper
84	100		
49	86.9	73.0	123.0

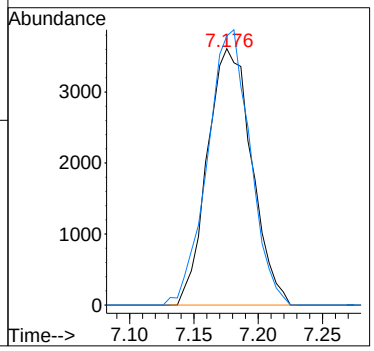


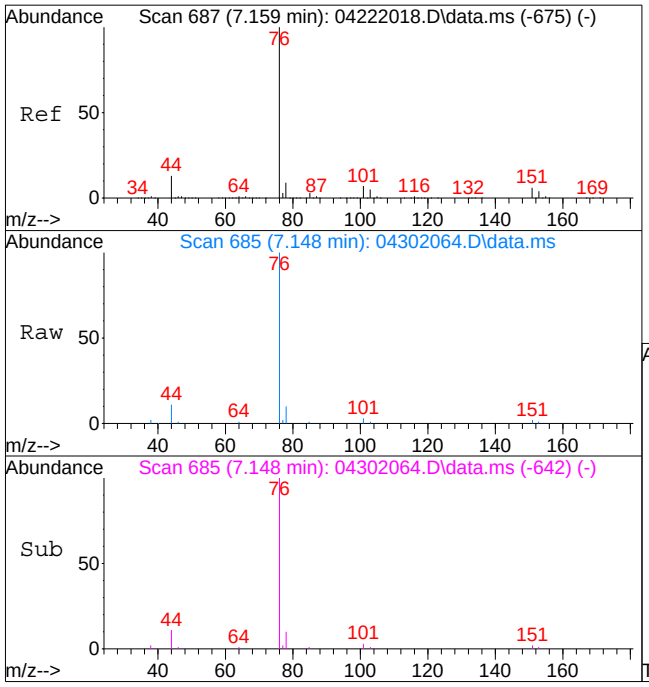


#21
Trichlorotrifluoroethane
Concen: 0.66 ng
RT: 7.18 min Scan# 690
Delta R.T. -0.017 min
Lab File: 04302064.D
Acq: 1 May 2020 16:49

Tgt Ion:151 Resp: 8666

Ion	Ratio	Lower	Upper
151	100		
101	103.4	82.9	122.9

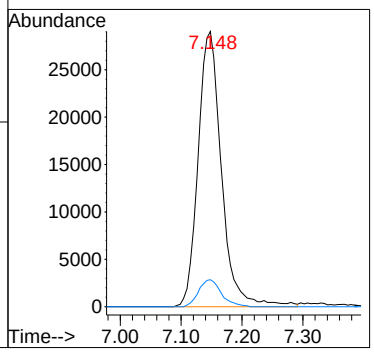


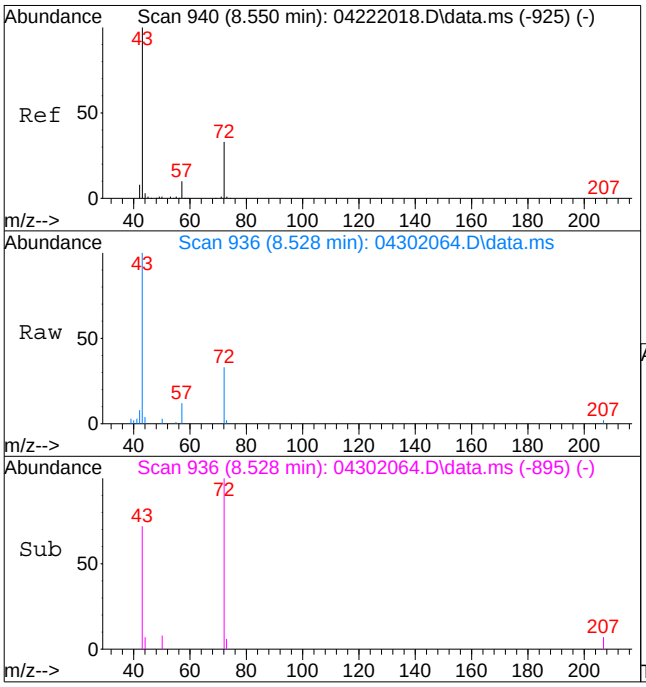


#22
Carbon Disulfide
Concen: 2.18 ng
RT: 7.15 min Scan# 685
Delta R.T. -0.011 min
Lab File: 04302064.D
Acq: 1 May 2020 16:49

Tgt Ion: 76 Resp: 77414

Ion	Ratio	Lower	Upper
76	100		
78	9.6	0.0	30.2

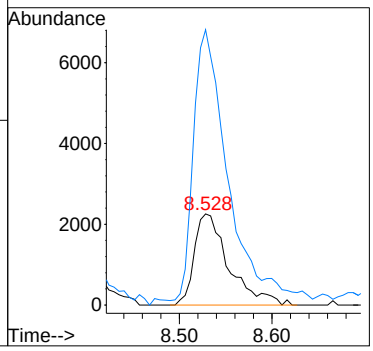


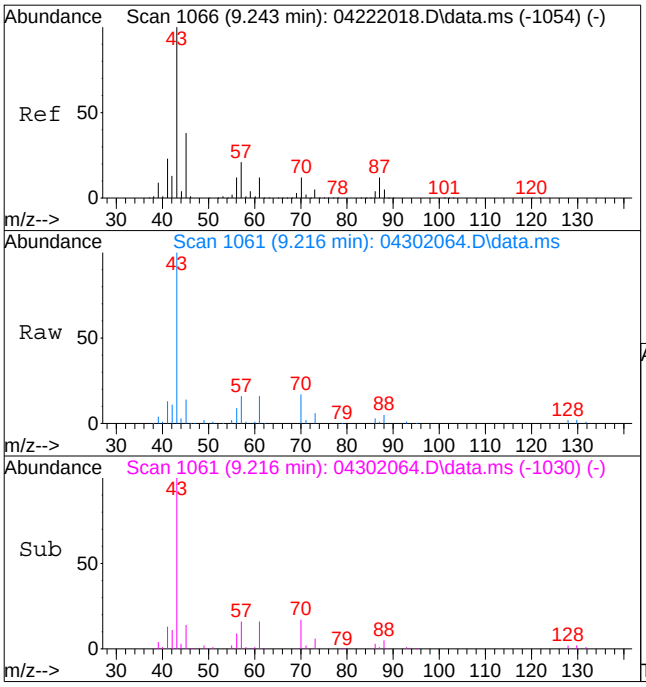


#27
2-Butanone (MEK)
Concen: 0.93 ng
RT: 8.53 min Scan# 936
Delta R.T. -0.022 min
Lab File: 04302064.D
Acq: 1 May 2020 16:49

Tgt Ion: 72 Resp: 5845

Ion	Ratio	Lower	Upper
72	100		
43	295.2	278.8	318.8

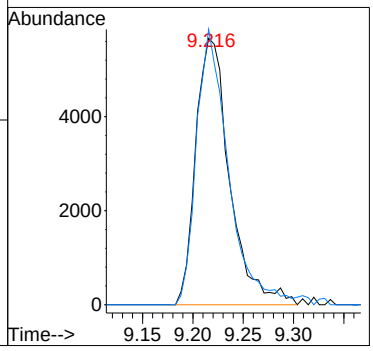


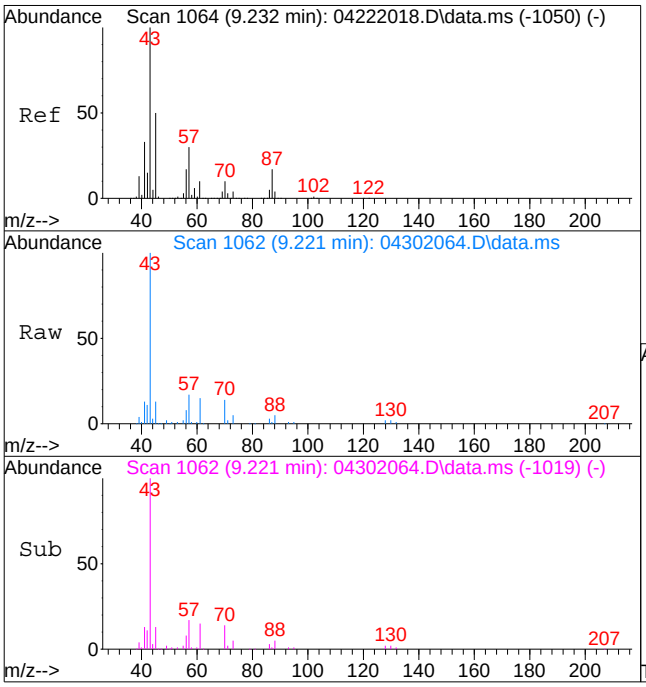


#30
Ethyl Acetate
Concen: 4.77 ng
RT: 9.22 min Scan# 1061
Delta R.T. -0.028 min
Lab File: 04302064.D
Acq: 1 May 2020 16:49

Tgt Ion: 61 Resp: 13283

Ion	Ratio	Lower	Upper
61	100		
70	98.8	80.6	120.6

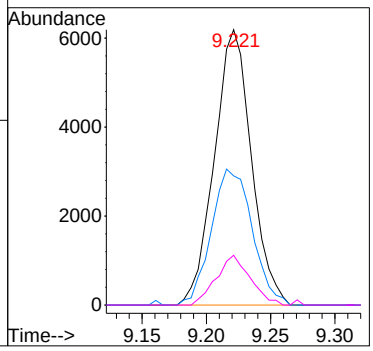


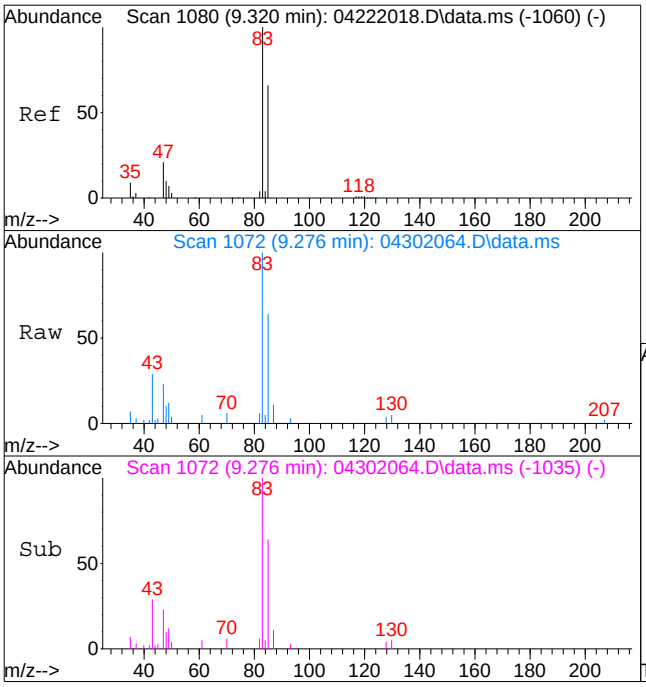


#31
n-Hexane
Concen: 0.92 ng
RT: 9.22 min Scan# 1062
Delta R.T. -0.011 min
Lab File: 04302064.D
Acq: 1 May 2020 16:49

Tgt Ion: 57 Resp: 12399

Ion	Ratio	Lower	Upper
57	100		
56	54.4	44.0	66.0
86	16.6	15.0	22.4

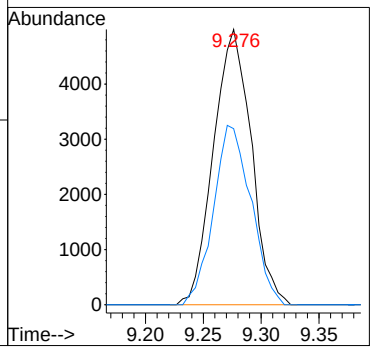


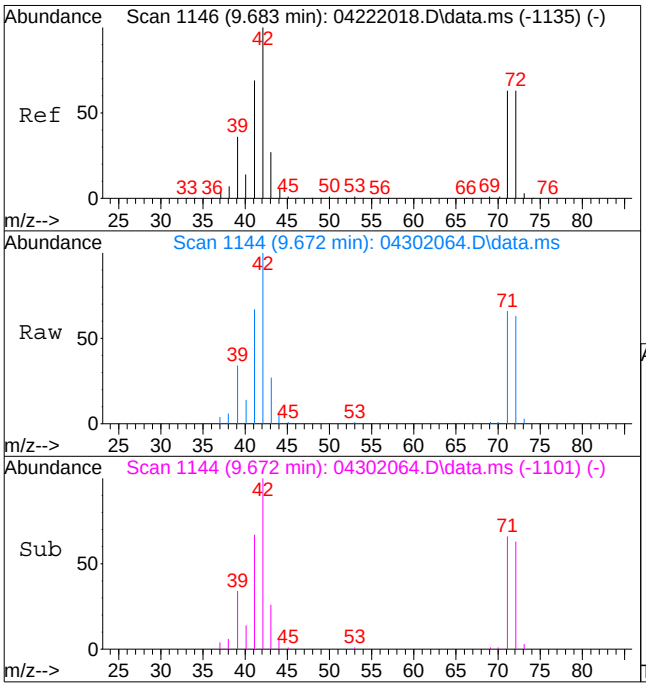


#32
Chloroform
Concen: 0.52 ng
RT: 9.28 min Scan# 1072
Delta R.T. -0.044 min
Lab File: 04302064.D
Acq: 1 May 2020 16:49

Tgt Ion: 83 Resp: 11344

Ion	Ratio	Lower	Upper
83	100		
85	64.6	45.8	85.8

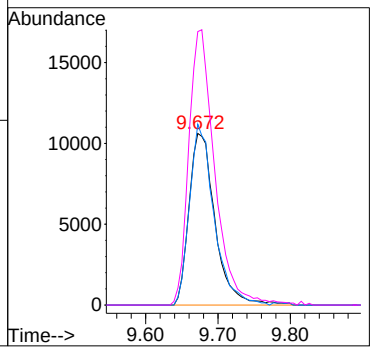


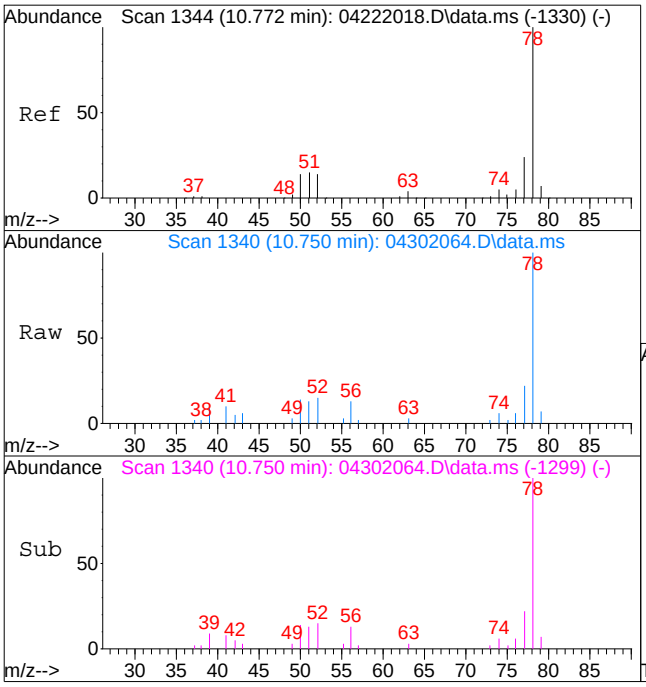


#34
Tetrahydrofuran (THF)
Concen: 4.19 ng
RT: 9.67 min Scan# 1144
Delta R.T. -0.011 min
Lab File: 04302064.D
Acq: 1 May 2020 16:49

Tgt Ion: 72 Resp: 26561

Ion	Ratio	Lower	Upper
72	100		
71	99.5	77.9	117.9
42	160.3	133.9	173.9

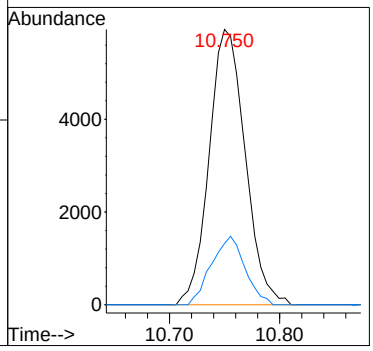


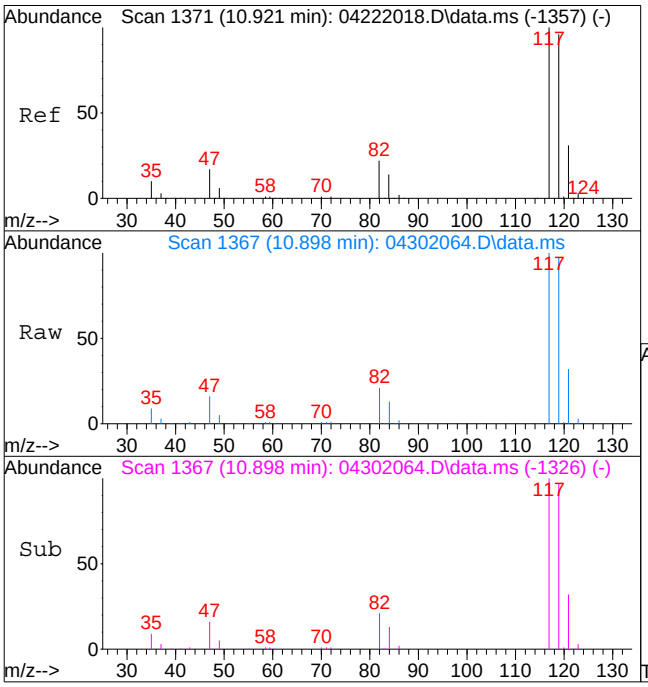


#41
Benzene
Concen: 0.31 ng
RT: 10.75 min Scan# 1340
Delta R.T. -0.022 min
Lab File: 04302064.D
Acq: 1 May 2020 16:49

Tgt Ion: 78 Resp: 13511

Ion	Ratio	Lower	Upper
78	100		
77	23.2	3.6	43.6

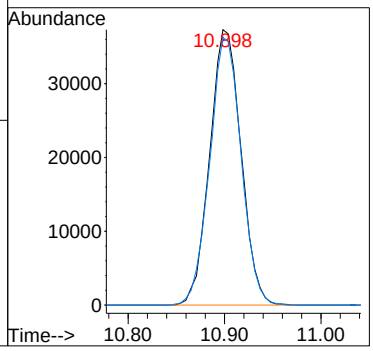


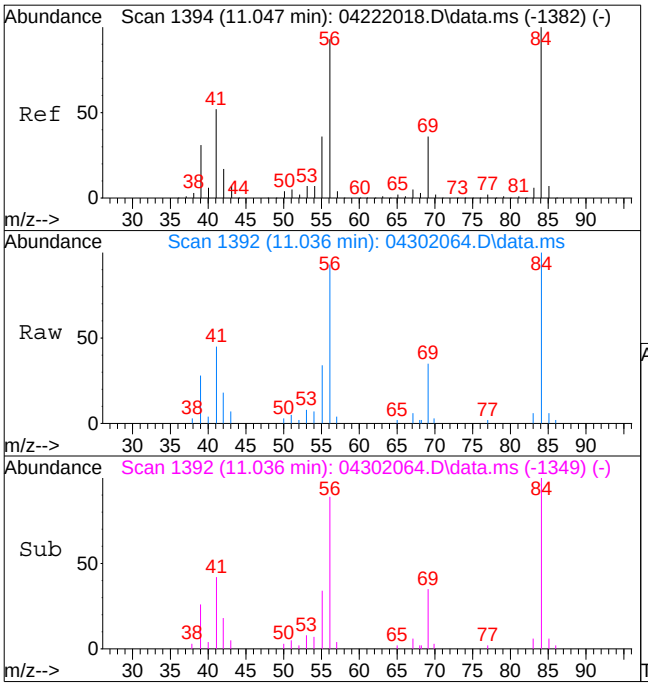


#42
Carbon Tetrachloride
Concen: 3.76 ng
RT: 10.90 min Scan# 1367
Delta R.T. -0.022 min
Lab File: 04302064.D
Acq: 1 May 2020 16:49

Tgt Ion:117 Resp: 84396

Ion	Ratio	Lower	Upper
117	100		
119	97.2	76.5	116.5

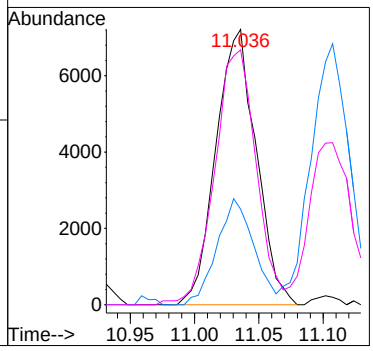


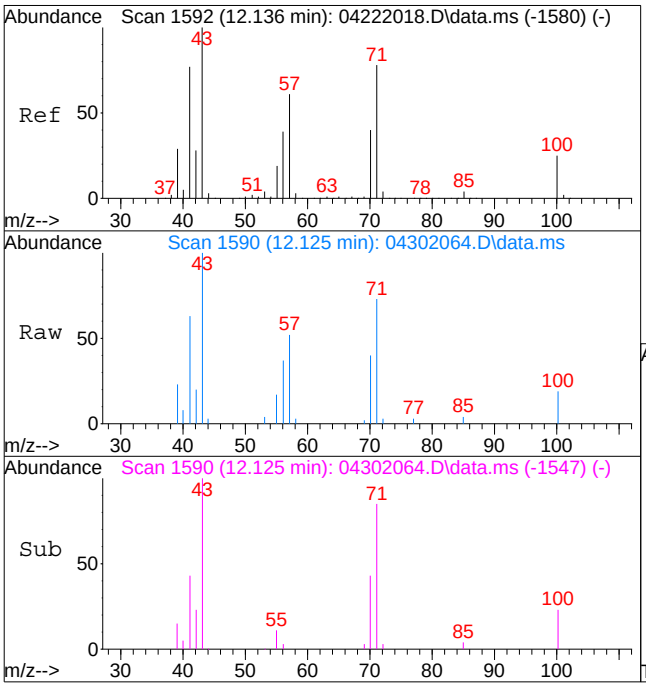


#43
Cyclohexane
Concen: 0.92 ng
RT: 11.04 min Scan# 1392
Delta R.T. -0.011 min
Lab File: 04302064.D
Acq: 1 May 2020 16:49

Tgt Ion: 84 Resp: 15725

Ion	Ratio	Lower	Upper
84	100		
69	35.3	15.8	55.8
56	94.8	72.0	112.0

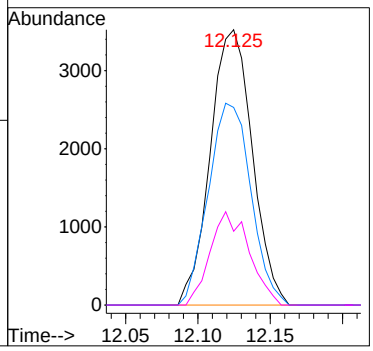


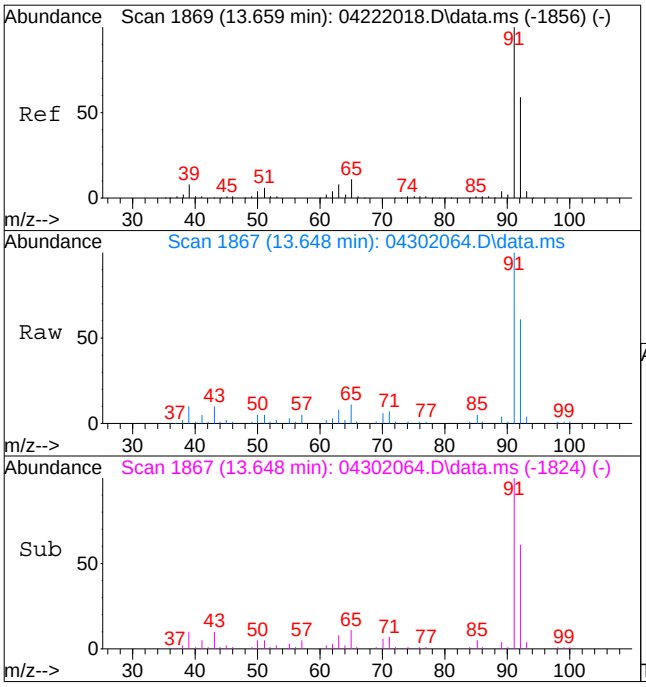


#51
n-Heptane
Concen: 0.71 ng
RT: 12.12 min Scan# 1590
Delta R.T. -0.011 min
Lab File: 04302064.D
Acq: 1 May 2020 16:49

Tgt Ion: 71 Resp: 7132

Ion	Ratio	Lower	Upper
71	100		
57	74.3	57.4	97.4
100	31.5	12.0	52.0

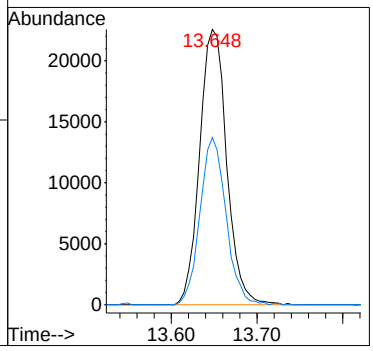


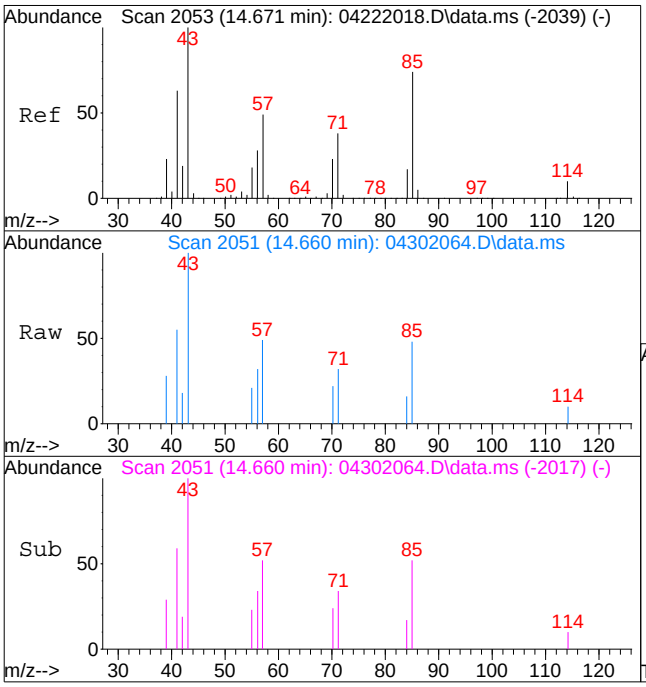


#58
Toluene
Concen: 1.04 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.011 min
Lab File: 04302064.D
Acq: 1 May 2020 16:49

Tgt Ion: 91 Resp: 49640

Ion	Ratio	Lower	Upper
91	100		
92	58.3	38.2	78.2

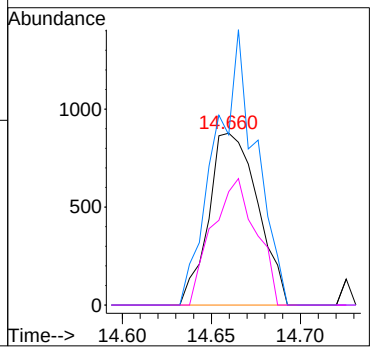


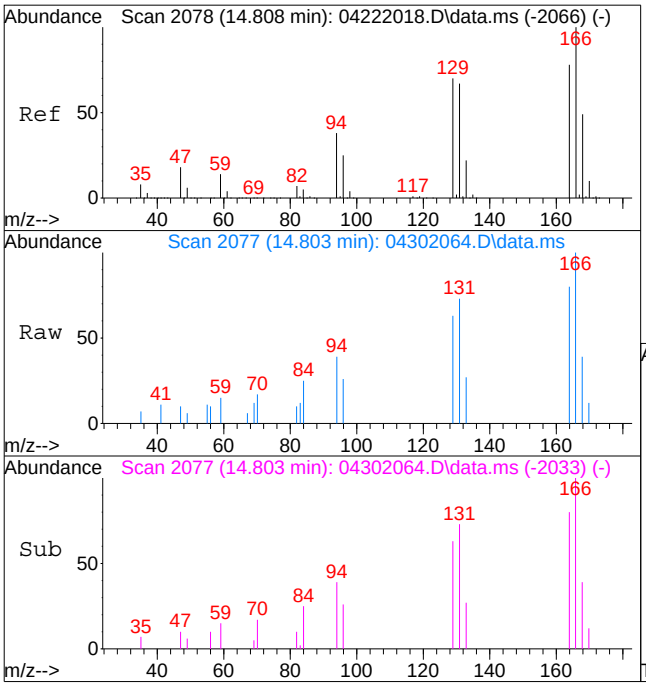


#63
n-Octane
Concen: 0.22 ng
RT: 14.66 min Scan# 2051
Delta R.T. -0.011 min
Lab File: 04302064.D
Acq: 1 May 2020 16:49

Tgt Ion: 57 Resp: 1682

Ion	Ratio	Lower	Upper
57	100		
85	133.8	120.7	181.1
71	65.5	61.1	91.7

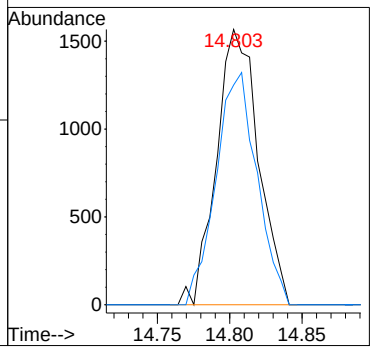


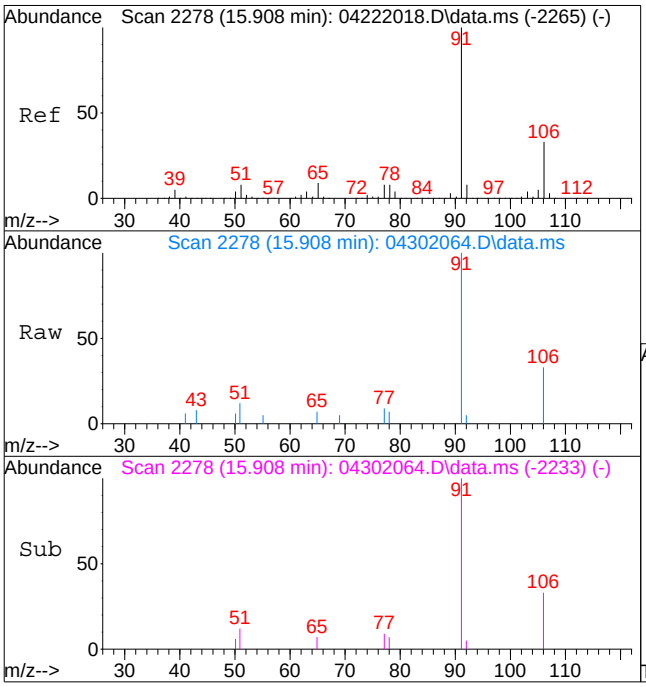


#64
Tetrachloroethene
Concen: 0.18 ng
RT: 14.80 min Scan# 2077
Delta R.T. -0.006 min
Lab File: 04302064.D
Acq: 1 May 2020 16:49

Tgt Ion:166 Resp: 3166

Ion	Ratio	Lower	Upper
166	100		
164	82.4	57.7	97.7

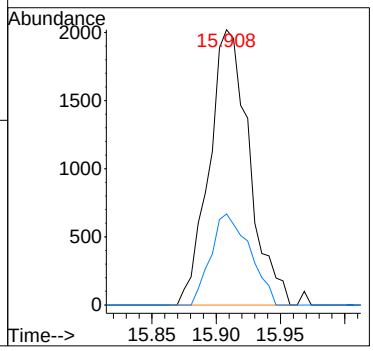


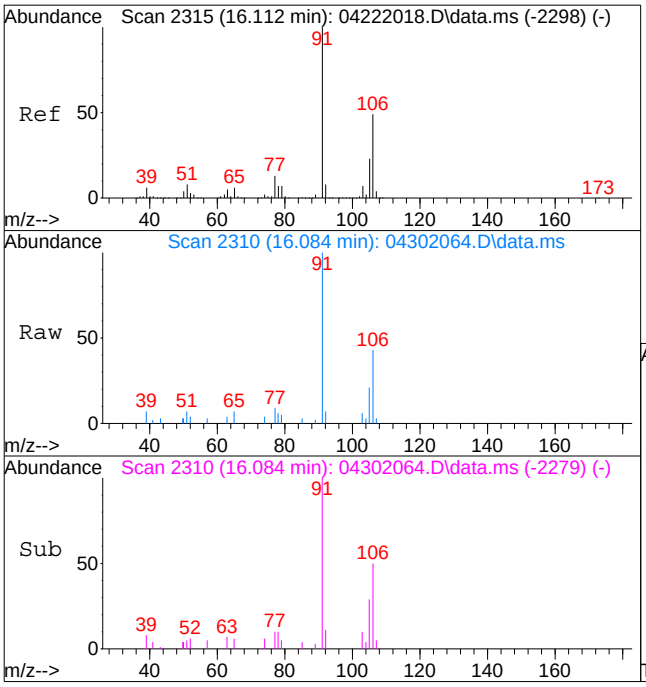


#66
Ethylbenzene
Concen: 0.08 ng
RT: 15.91 min Scan# 2278
Delta R.T. -0.000 min
Lab File: 04302064.D
Acq: 1 May 2020 16:49

Tgt Ion: 91 Resp: 4384

Ion	Ratio	Lower	Upper
91	100		
106	32.2	13.4	53.4

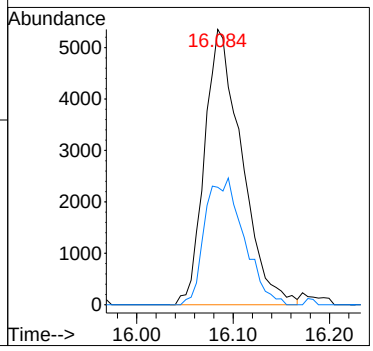


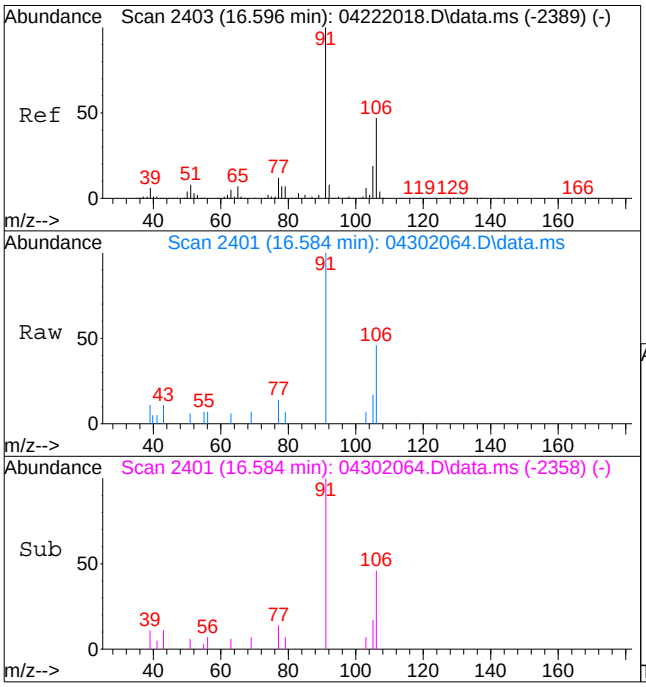


#67
m- & p-Xylenes
Concen: 0.31 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.028 min
Lab File: 04302064.D
Acq: 1 May 2020 16:49

Tgt Ion: 91 Resp: 14324

Ion	Ratio	Lower	Upper
91	100		
106	48.1	28.3	68.3

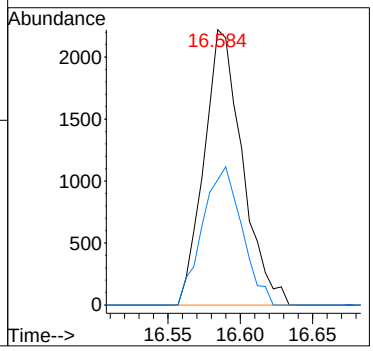


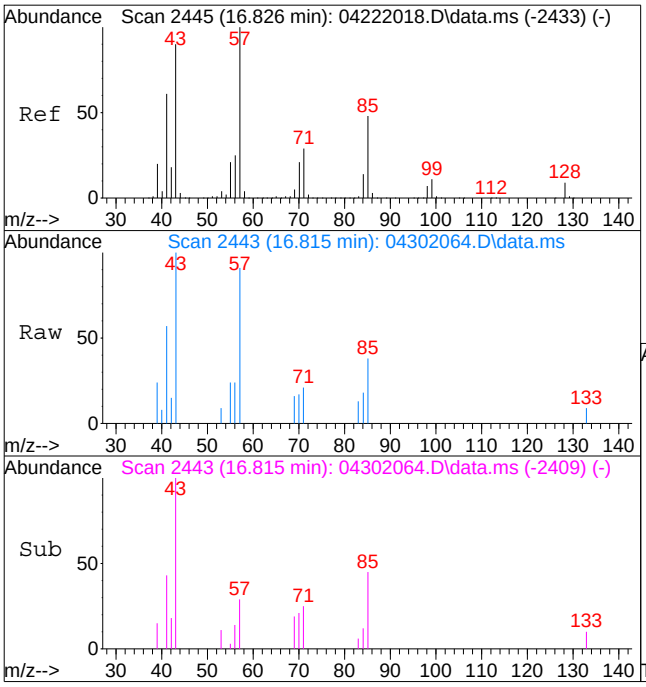


#70
o-Xylene
Concen: 0.09 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 04302064.D
Acq: 1 May 2020 16:49

Tgt Ion: 91 Resp: 4100

Ion	Ratio	Lower	Upper
91	100		
106	51.5	27.5	67.5

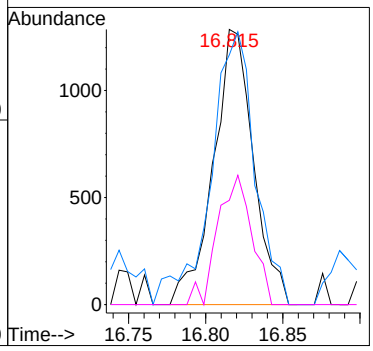


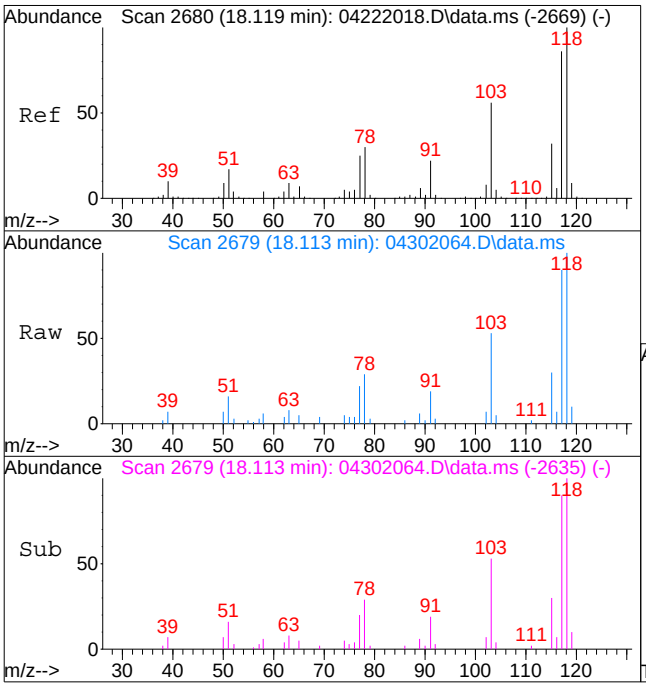


#71
n-Nonane
Concen: 0.16 ng
RT: 16.82 min Scan# 2443
Delta R.T. -0.011 min
Lab File: 04302064.D
Acq: 1 May 2020 16:49

Tgt Ion: 43 Resp: 2327

Ion	Ratio	Lower	Upper
43	100		
57	108.8	90.8	130.8
85	39.9	32.1	72.1

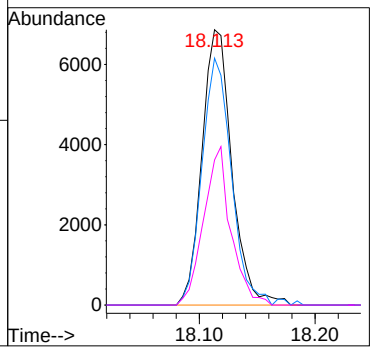


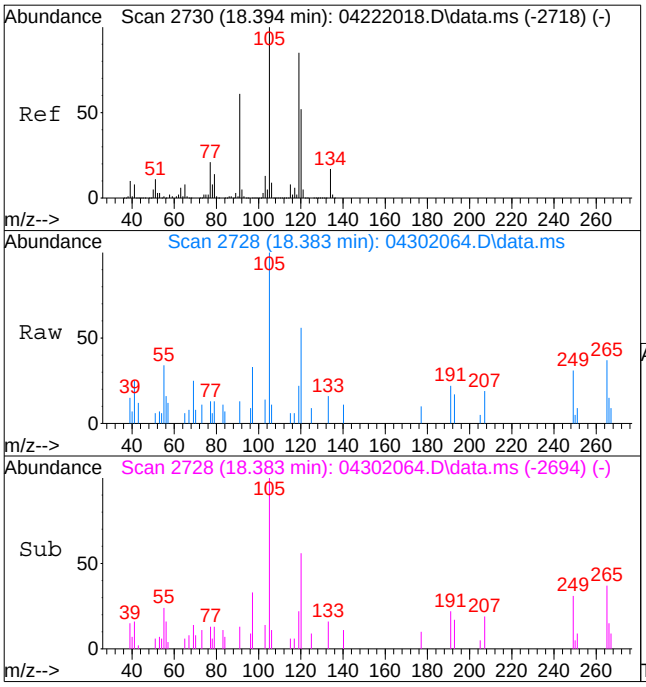


#80
alpha-Methylstyrene
Concen: 0.47 ng
RT: 18.11 min Scan# 2679
Delta R.T. -0.006 min
Lab File: 04302064.D
Acq: 1 May 2020 16:49

Tgt Ion:118 Resp: 12353

Ion	Ratio	Lower	Upper
118	100		
117	89.1	70.2	110.2
103	52.1	36.8	76.8

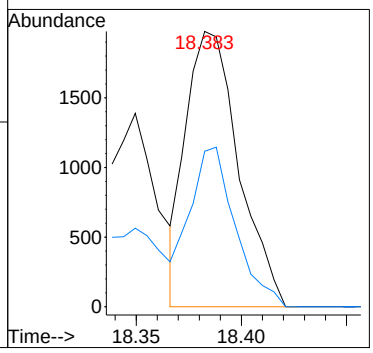


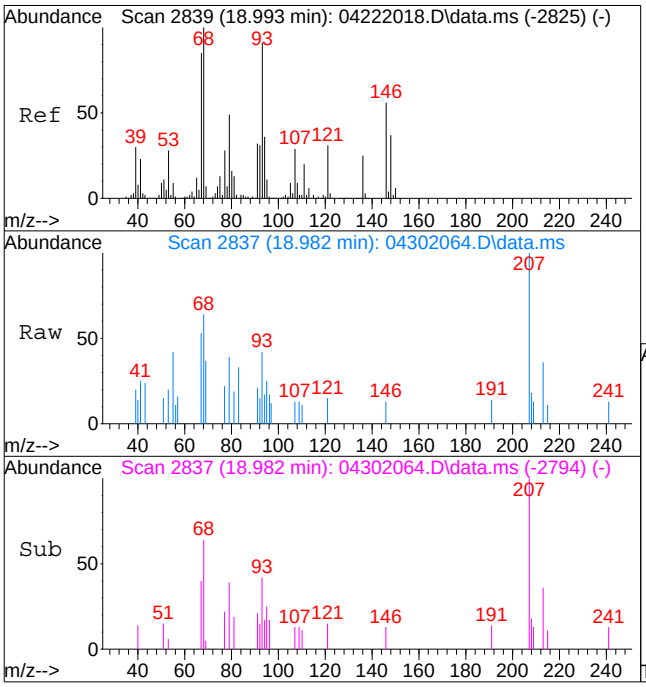


#82
1,2,4-Trimethylbenzene
Concen: 0.07 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 04302064.D
Acq: 1 May 2020 16:49

Tgt Ion:105 Resp: 3449

Ion	Ratio	Lower	Upper
105	100		
120	50.4	34.5	74.5

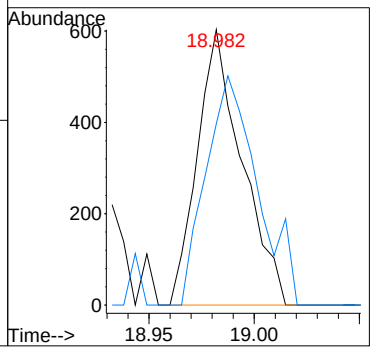


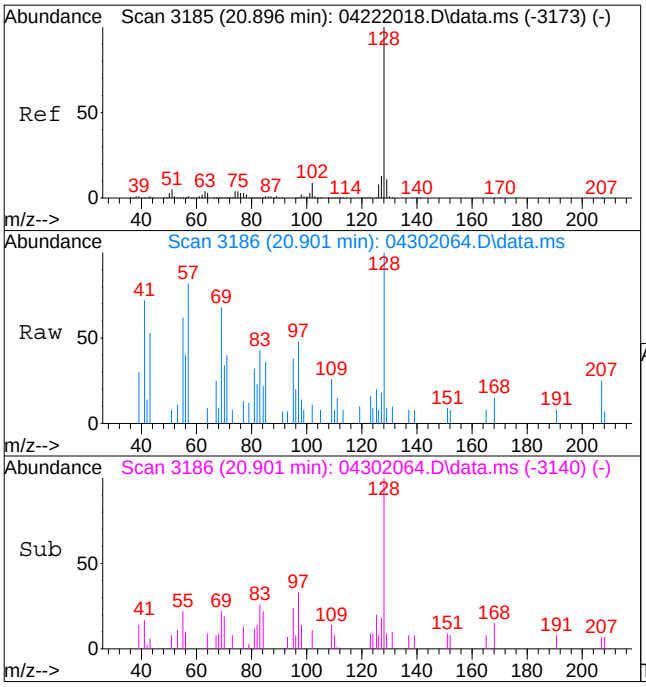


#91
d-Limonene
Concen: 0.06 ng
RT: 18.98 min Scan# 2837
Delta R.T. -0.011 min
Lab File: 04302064.D
Acq: 1 May 2020 16:49

Tgt Ion: 68 Resp: 890

Ion	Ratio	Lower	Upper
68	100		
93	96.3	71.6	111.6

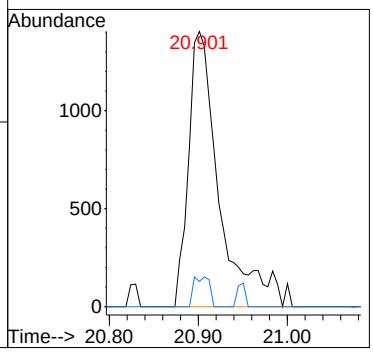




#95
Naphthalene
Concen: 0.05 ng
RT: 20.90 min Scan# 3186
Delta R.T. 0.005 min
Lab File: 04302064.D
Acq: 1 May 2020 16:49

Tgt Ion:128 Resp: 3402

Ion	Ratio	Lower	Upper
128	100		
129	5.6	0.0	30.9



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302065.D Vial: 8
Acq On : 1 May 2020 17:22 Operator: SC
Sample : P2002103-019 (15mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 18:06:17 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/1/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.14	130	154938	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	11.11	114	653291	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	285326	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.92	65	233148	11.614	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.88%			
57) Toluene-d8 (SS2)	13.55	98	701716	12.737	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.92%			
73) Bromofluorobenzene (SS3)	17.05	174	271936	12.282	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.24%			
Target Compounds						Qvalue
2) Propene	3.86	42	33487	5.089	ng #	85
3) Dichlorodifluoromethan...	3.99	85	27931	1.117	ng	99
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	634	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D. d		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.41	45	39	N.D.		
11) Acetonitrile	0.00	41	0	N.D.		
12) Acrolein	0.00	56	0	N.D. d		
13) Acetone	0.00	58	0	N.D. d		
14) Trichlorofluoromethane	6.05	101	3286	0.132	ng	97
15) 2-Propanol (Isopropanol)	6.28	45	37	N.D.		
16) Acrylonitrile	0.00	53	0	N.D. d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	0.00	84	0	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D. d		
21) Trichlorotrifluoroethane	7.21	151	416	N.D.		
22) Carbon Disulfide	7.19	76	3883	0.111	ng	94
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D. d		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D. d		
26) Vinyl Acetate	0.00	86	0	N.D. d		
27) 2-Butanone (MEK)	0.00	72	0	N.D. d		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D. d		
29) Diisopropyl Ether	0.00	87	0	N.D. d		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	9.24	57	99368	7.483	ng	99
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	9.73	72	266	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D. d		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D. d		
40) 1-Butanol	0.00	56	0	N.D. d		
41) Benzene	10.76	78	505284	11.865	ng	100
42) Carbon Tetrachloride	10.92	117	164	N.D.		
43) Cyclohexane	11.05	84	607243	36.397	ng	97
44) tert-Amyl Methyl Ether	0.00	73	0	N.D. d		
45) 1,2-Dichloropropane	0.00	63	0	N.D. d		
46) Bromodichloromethane	0.00	83	0	N.D. d		
47) Trichloroethene	11.82	130	279	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d		
50) Methyl Methacrylate	0.00	100	0	N.D. d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302065.D Vial: 8
Acq On : 1 May 2020 17:22 Operator: SC
Sample : P2002103-019 (15mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 18:06:17 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

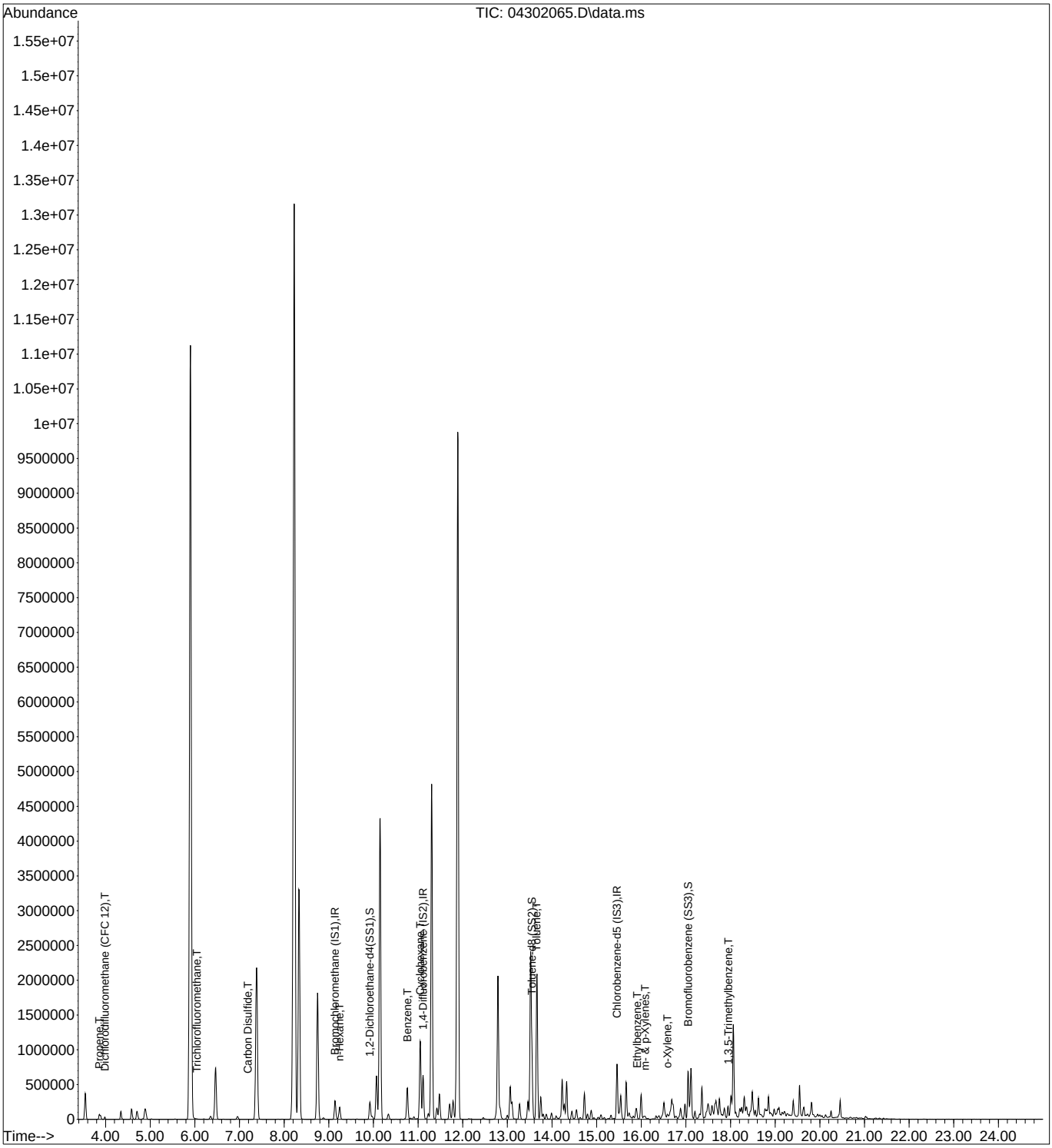
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.13	71	280	N.D.	
52) cis-1,3-Dichloropropene	12.80	75	626	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	12.96	75	785	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	13.65	91	290987	6.291 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	0.00	57	0	N.D. d	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.91	91	4822	0.089 ng	88
67) m- & p-Xylenes	16.08	91	21859	0.481 ng	100
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.59	104	622	N.D.	
70) o-Xylene	16.58	91	31452	0.704 ng	99
71) n-Nonane	0.00	43	0	N.D. d	
72) 1,1,2,2-Tetrachloroethane	16.58	83	359	N.D.	
74) Cumene	17.19	105	1617	N.D.	
75) alpha-Pinene	17.57	93	830	N.D.	
76) n-Propylbenzene	0.00	91	0	N.D. d	
77) 3-Ethyltoluene	17.84	105	2097	N.D.	
78) 4-Ethyltoluene	17.88	105	289	N.D.	
79) 1,3,5-Trimethylbenzene	17.95	105	16957	0.331 ng	98
80) alpha-Methylstyrene	18.13	118	489	N.D.	
81) 2-Ethyltoluene	18.15	105	2687	N.D.	
82) 1,2,4-Trimethylbenzene	18.39	105	926	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.55	91	1028	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	18.67	105	1891	N.D.	
88) 4-Isopropyltoluene (p-...	18.84	119	617	N.D.	
89) 1,2,3-Trimethylbenzene	18.83	105	2324	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	20.92	180	370	N.D.	
95) Naphthalene	0.00	128	0	N.D.	
96) n-Dodecane	20.93	57	666	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	18.38	119	1460	N.D.	
100) n-Butylbenzene	19.27	91	662	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302065.D Vial: 8
Acq On : 1 May 2020 17:22 Operator: SC
Sample : P2002103-019 (15mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 18:06:17 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302065.D Vial: 8
Acq On : 1 May 2020 17:22 Operator: SC
Sample : P2002103-019 (15mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 18:06:17 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/1/20

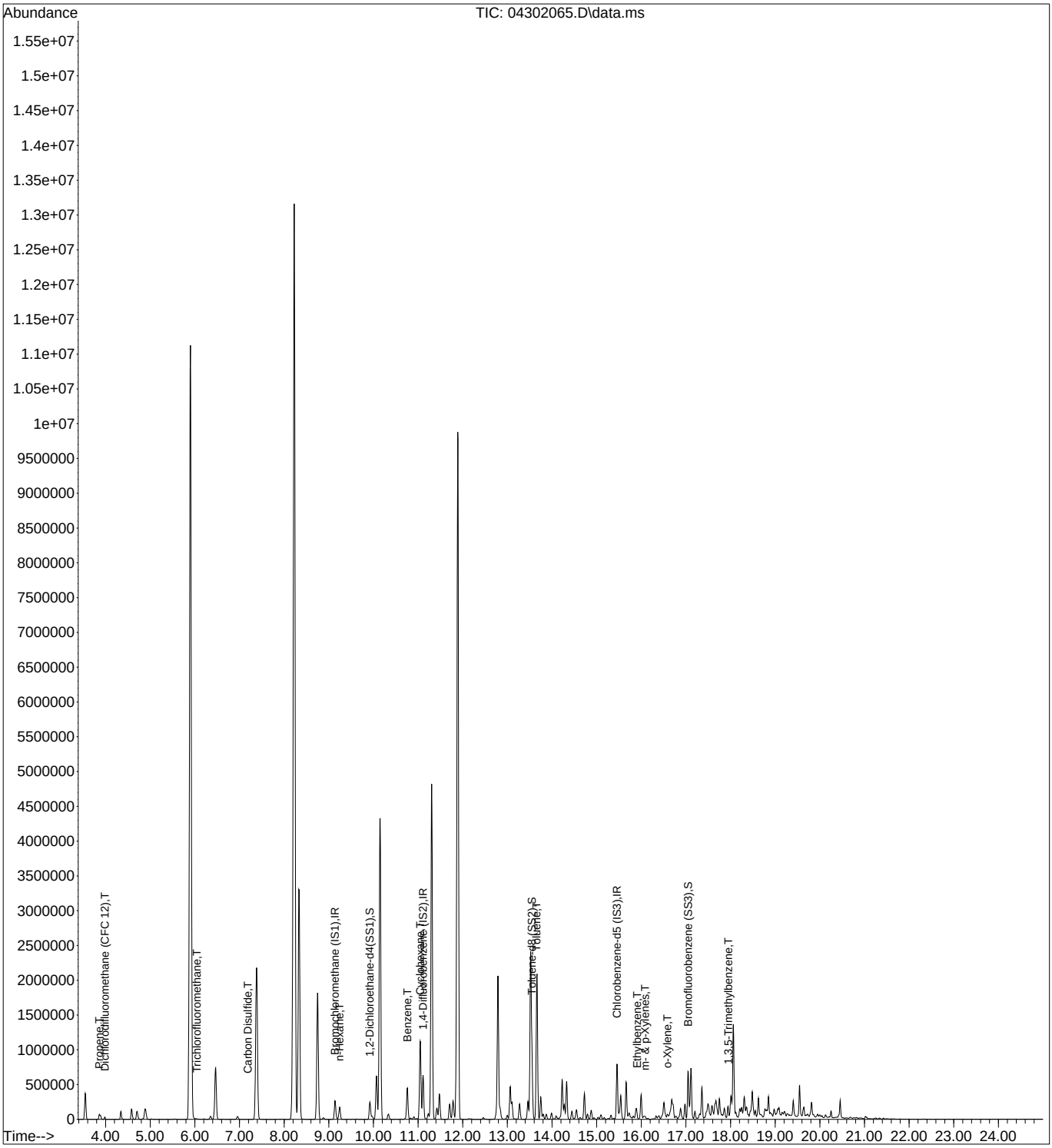
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.14	130	154938	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	11.11	114	653291	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	285326	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.92	65	233148	11.614	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.88%			
57) Toluene-d8 (SS2)	13.55	98	701716	12.737	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.92%			
73) Bromofluorobenzene (SS3)	17.05	174	271936	12.282	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.24%			
Target Compounds						Qvalue
2) Propene	3.86	42	33487	5.089	ng	# 85
3) Dichlorodifluoromethan...	3.99	85	27931	1.117	ng	99
14) Trichlorofluoromethane	6.05	101	3286	0.132	ng	97
22) Carbon Disulfide	7.19	76	3883	0.111	ng	94
31) n-Hexane	9.24	57	99368	7.483	ng	99
41) Benzene	10.76	78	505284	11.865	ng	100
43) Cyclohexane	11.05	84	607243	36.397	ng	97
58) Toluene	13.65	91	290987	6.291	ng	100
66) Ethylbenzene	15.91	91	4822	0.089	ng	88
67) m- & p-Xylenes	16.08	91	21859	0.481	ng	100
70) o-Xylene	16.58	91	31452	0.704	ng	99
79) 1,3,5-Trimethylbenzene	17.95	105	16957	0.331	ng	98

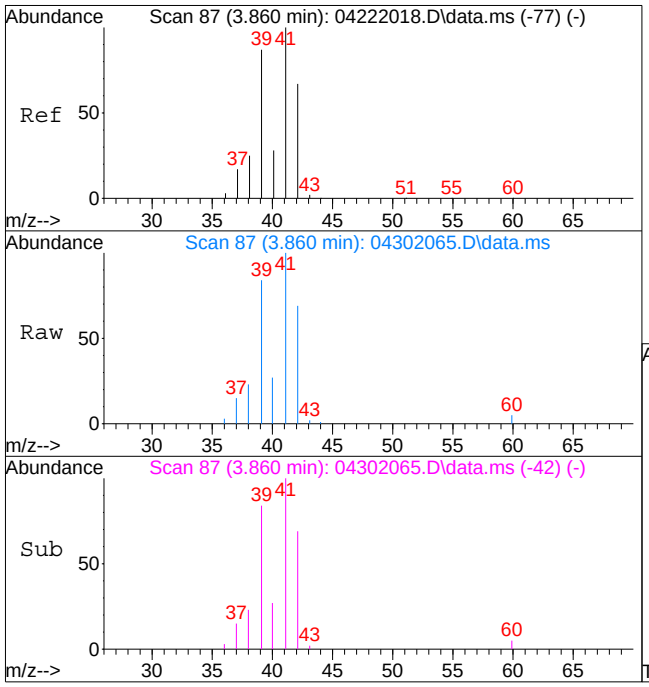
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302065.D Vial: 8
Acq On : 1 May 2020 17:22 Operator: SC
Sample : P2002103-019 (15mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 18:06:17 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

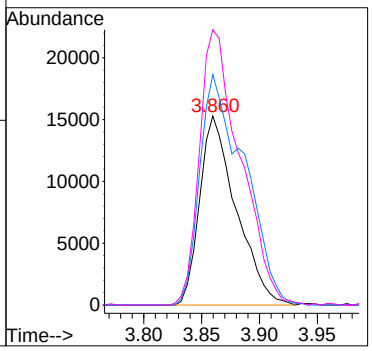


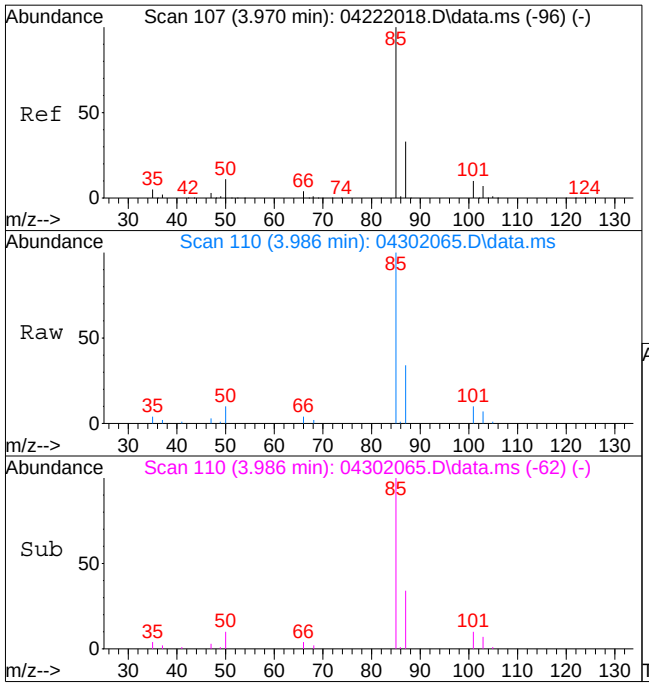


#2
Propene
Concen: 5.09 ng
RT: 3.86 min Scan# 87
Delta R.T. -0.000 min
Lab File: 04302065.D
Acq: 1 May 2020 17:22

Tgt Ion: 42 Resp: 33487

Ion	Ratio	Lower	Upper
42	100		
39	148.7	106.4	146.4#
41	162.9	128.8	168.8

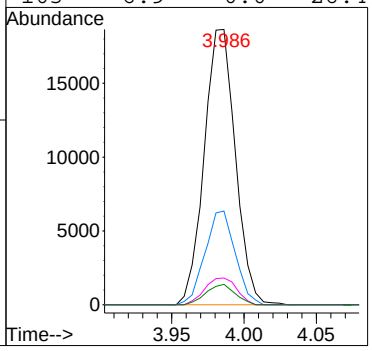


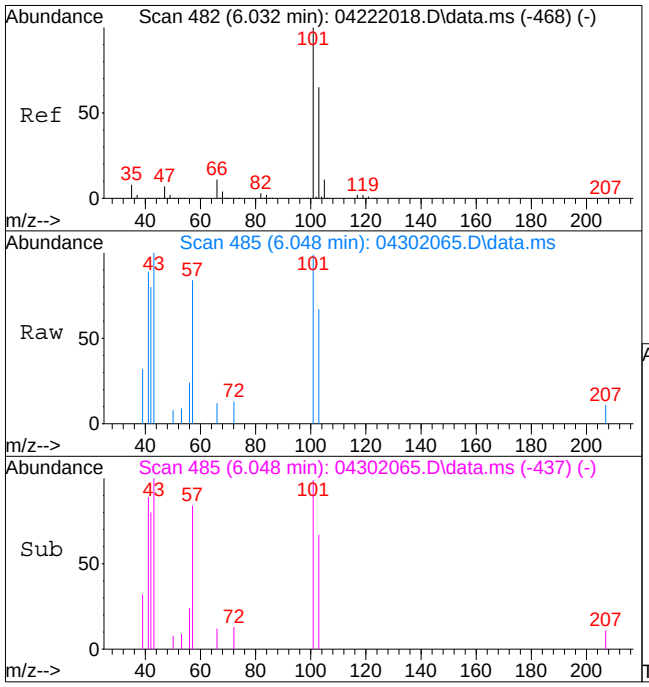


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.12 ng
RT: 3.99 min Scan# 110
Delta R.T. 0.016 min
Lab File: 04302065.D
Acq: 1 May 2020 17:22

Tgt Ion: 85 Resp: 27931

Ion	Ratio	Lower	Upper
85	100		
87	32.9	12.4	52.4
101	10.0	0.0	29.9
103	6.9	0.0	26.4

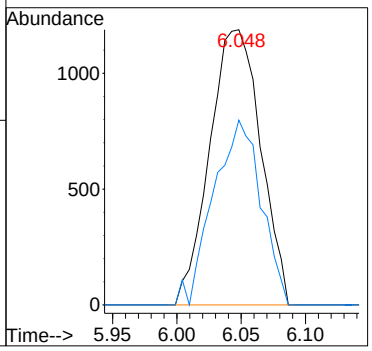


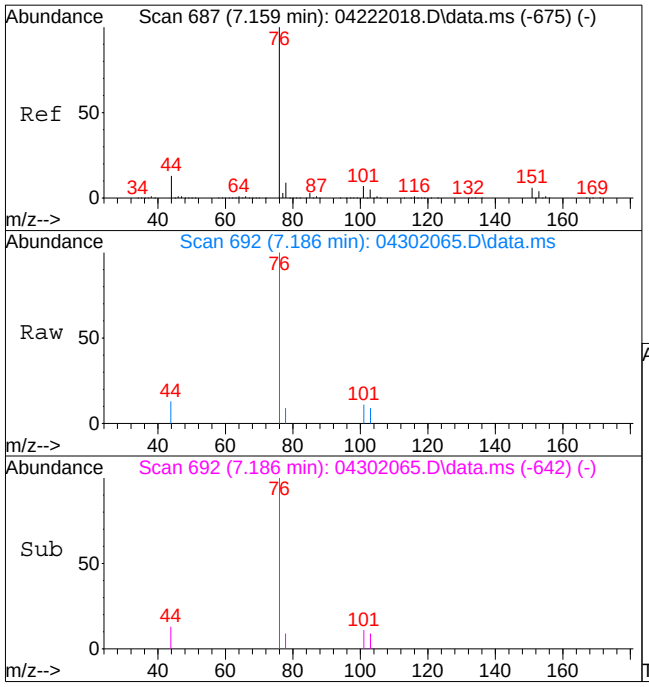


#14
Trichlorofluoromethane
Concen: 0.13 ng
RT: 6.05 min Scan# 485
Delta R.T. 0.016 min
Lab File: 04302065.D
Acq: 1 May 2020 17:22

Tgt Ion:101 Resp: 3286

Ion	Ratio	Lower	Upper
101	100		
103	62.7	44.7	84.7

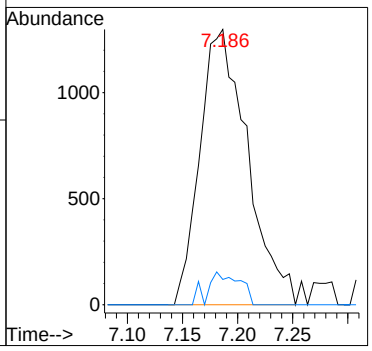


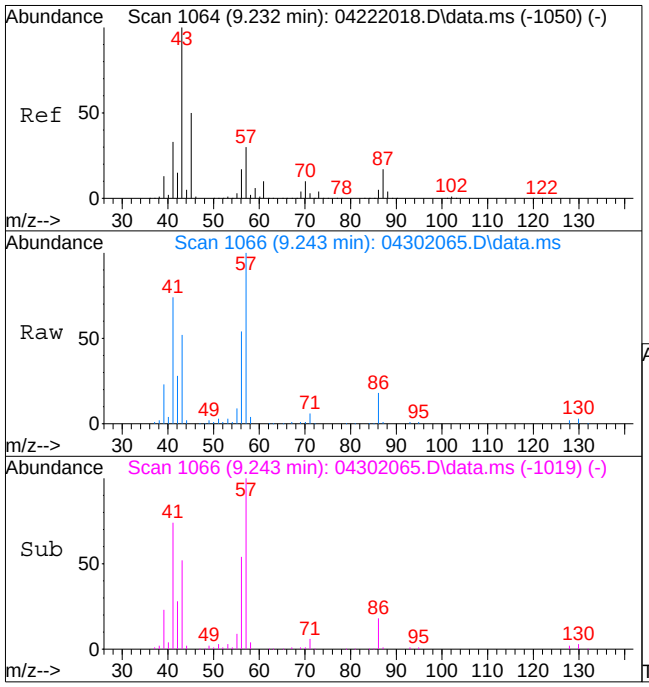


#22
Carbon Disulfide
Concen: 0.11 ng
RT: 7.19 min Scan# 692
Delta R.T. 0.027 min
Lab File: 04302065.D
Acq: 1 May 2020 17:22

Tgt Ion: 76 Resp: 3883

Ion	Ratio	Lower	Upper
76	100		
78	8.0	0.0	30.2

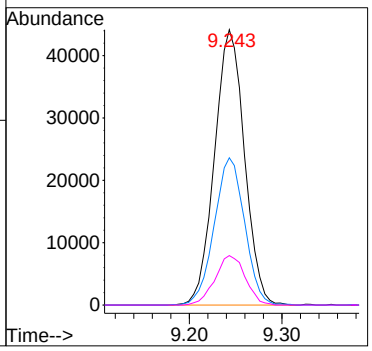


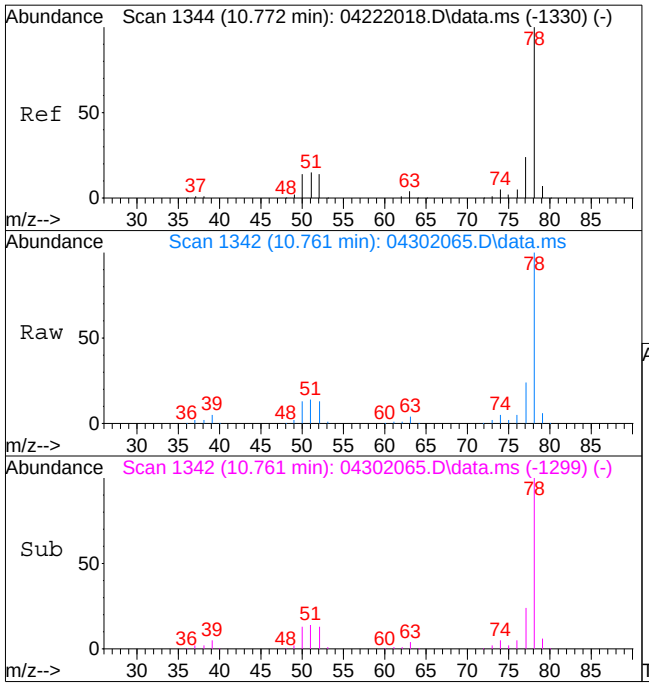


#31
n-Hexane
Concen: 7.48 ng
RT: 9.24 min Scan# 1066
Delta R.T. 0.011 min
Lab File: 04302065.D
Acq: 1 May 2020 17:22

Tgt Ion: 57 Resp: 99368

Ion	Ratio	Lower	Upper
57	100		
56	54.3	44.0	66.0
86	18.1	15.0	22.4

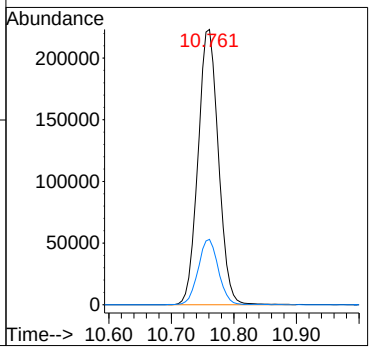


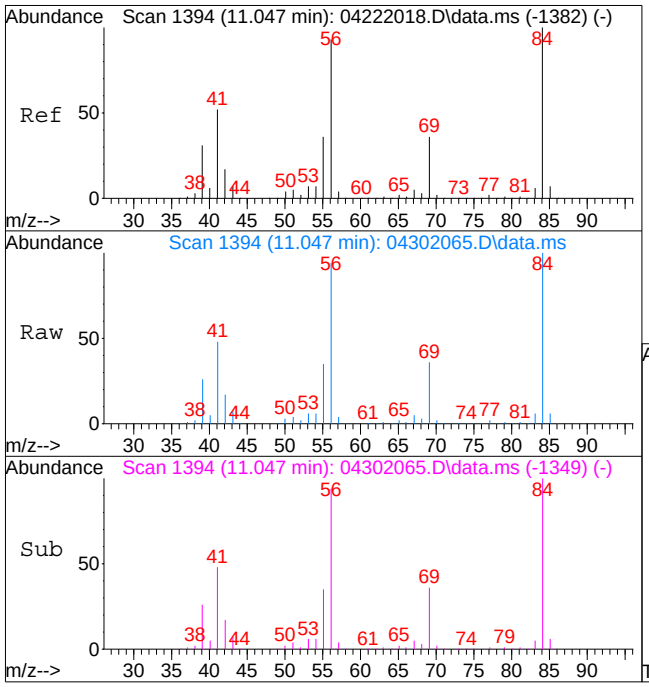


#41
Benzene
Concen: 11.86 ng
RT: 10.76 min Scan# 1342
Delta R.T. -0.011 min
Lab File: 04302065.D
Acq: 1 May 2020 17:22

Tgt Ion: 78 Resp: 505284

Ion	Ratio	Lower	Upper
78	100		
77	23.6	3.6	43.6

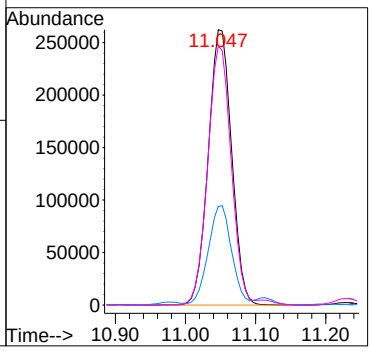


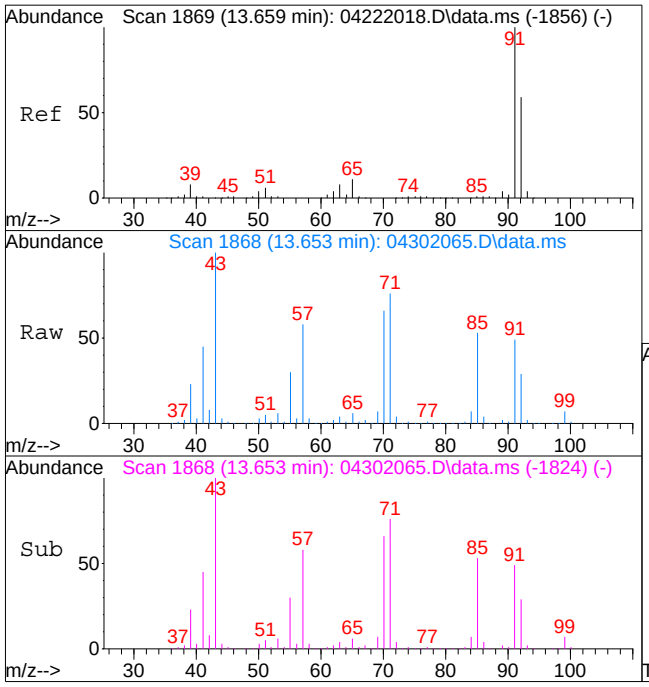


#43
Cyclohexane
Concen: 36.40 ng
RT: 11.05 min Scan# 1394
Delta R.T. -0.000 min
Lab File: 04302065.D
Acq: 1 May 2020 17:22

Tgt Ion: 84 Resp: 607243

Ion	Ratio	Lower	Upper
84	100		
69	36.1	15.8	55.8
56	95.7	72.0	112.0

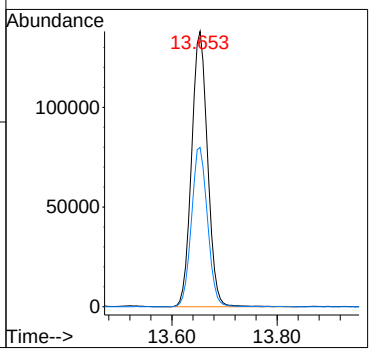


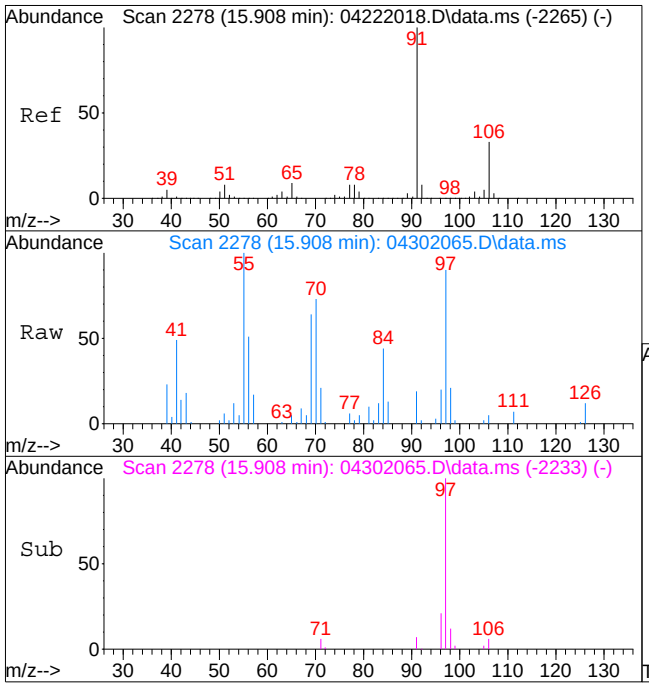


#58
Toluene
Concen: 6.29 ng
RT: 13.65 min Scan# 1868
Delta R.T. -0.006 min
Lab File: 04302065.D
Acq: 1 May 2020 17:22

Tgt Ion: 91 Resp: 290987

Ion	Ratio	Lower	Upper
91	100		
92	58.2	38.2	78.2

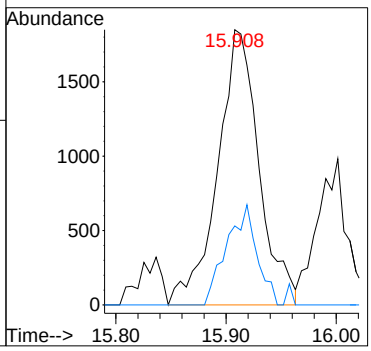


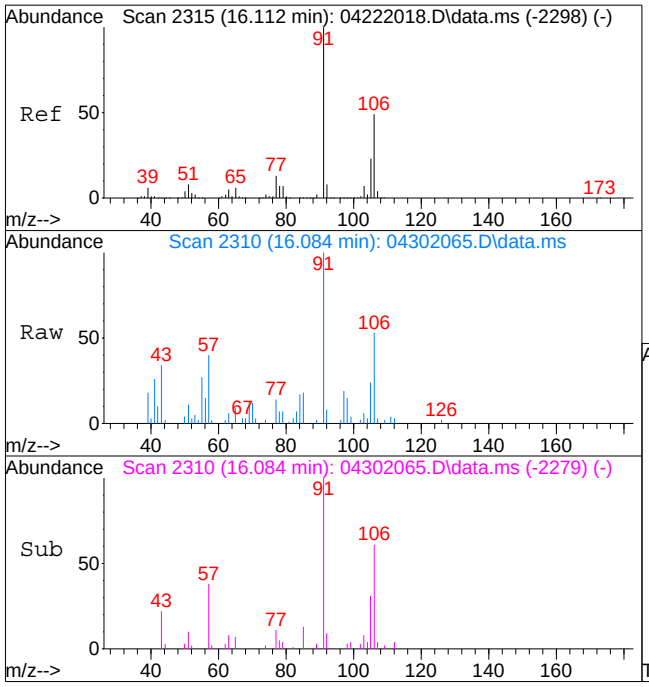


#66
Ethylbenzene
Concen: 0.09 ng
RT: 15.91 min Scan# 2278
Delta R.T. -0.000 min
Lab File: 04302065.D
Acq: 1 May 2020 17:22

Tgt Ion: 91 Resp: 4822

Ion	Ratio	Lower	Upper
91	100		
106	26.7	13.4	53.4

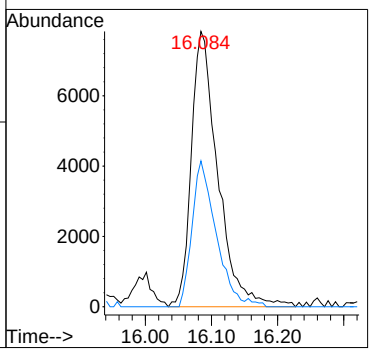


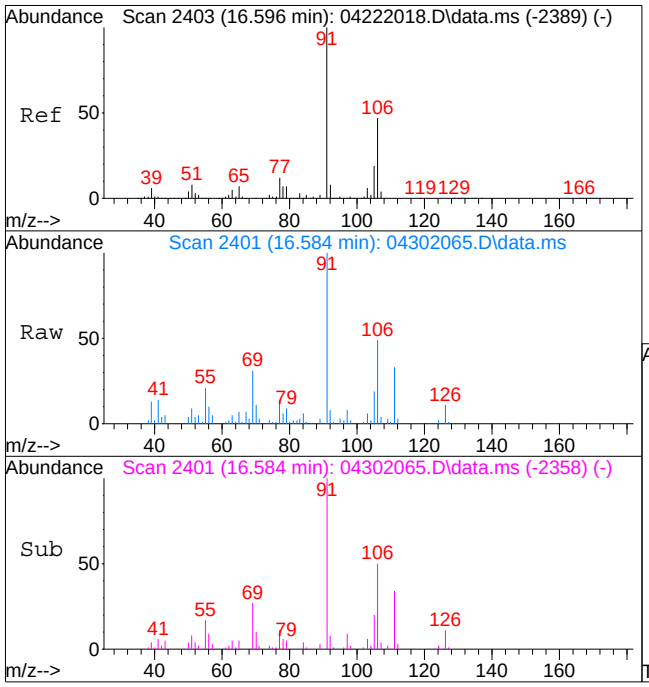


#67
m- & p-Xylenes
Concen: 0.48 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.028 min
Lab File: 04302065.D
Acq: 1 May 2020 17:22

Tgt Ion: 91 Resp: 21859

Ion	Ratio	Lower	Upper
91	100		
106	48.3	28.3	68.3

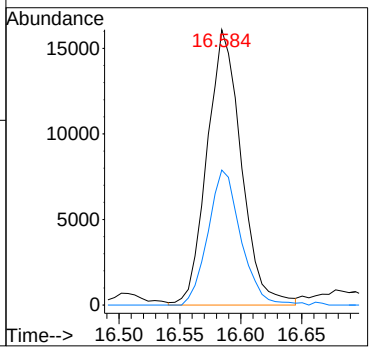


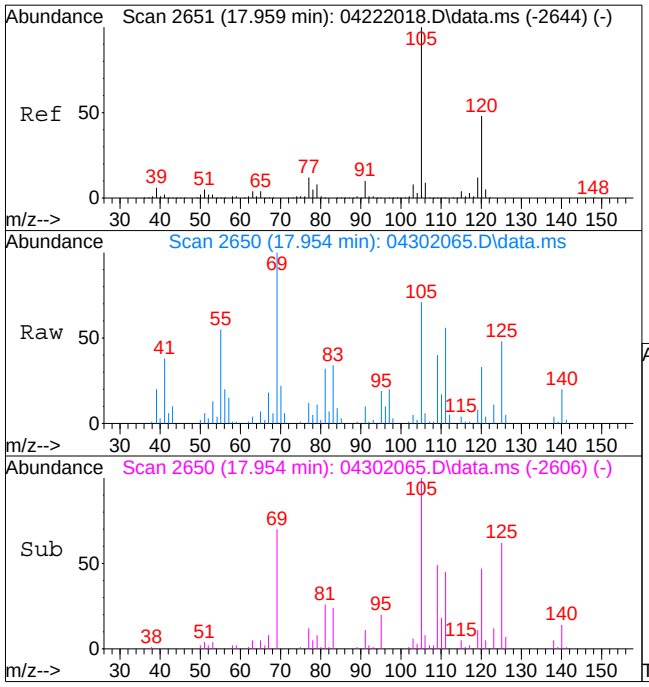


#70
o-Xylene
Concen: 0.70 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 04302065.D
Acq: 1 May 2020 17:22

Tgt Ion: 91 Resp: 31452

Ion	Ratio	Lower	Upper
91	100		
106	47.0	27.5	67.5

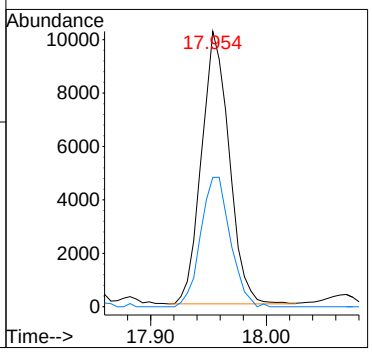




#79
1,3,5-Trimethylbenzene
Concen: 0.33 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 04302065.D
Acq: 1 May 2020 17:22

Tgt Ion:105 Resp: 16957

Ion	Ratio	Lower	Upper
105	100		
120	50.8	29.5	69.5



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302057.D Vial: 1
Acq On : 1 May 2020 12:49 Operator: TD
Sample : P2002103-020 (3.0mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 13:49:29 2020 5/1/20
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	157099	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	658274	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	297653	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.92	65	236665	11.627	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.04%				
57) Toluene-d8 (SS2)	13.55	98	717724	12.488	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.92%				
73) Bromofluorobenzene (SS3)	17.05	174	286479	12.403	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.20%				
Target Compounds							Qvalue
2) Propene	3.84	42	74859	11.219	ng		88
3) Dichlorodifluoromethan...	3.98	85	13688	0.540	ng		98
4) Chloromethane	4.18	50	729	0.078	ng		82
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	400	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.	d		
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.40	45	40	N.D.			
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	0.00	56	0	N.D.	d		
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	6.04	101	1782	0.071	ng		97
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.	d		
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	6.74	96	1282	0.116	ng		90
18) 2-Methyl-2-Propanol (t...	6.87	59	188	N.D.			
19) Methylene Chloride	6.86	84	3362	0.316	ng		93
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	7.20	151	11085	0.844	ng		95
22) Carbon Disulfide	7.17	76	7711	0.218	ng		98
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	8.10	63	522	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	d		
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	8.57	72	495	0.079	ng	#	34
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.	d		
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	9.24	57	1048219	77.855	ng		100
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	9.72	72	643	0.102	ng	#	55
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d		
38) 1,1,1-Trichloroethane	10.30	97	12475	0.551	ng		99
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.76	78	2475828	57.695	ng		99
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	11.05	84	1310725	77.967	ng		98
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.	d		
45) 1,2-Dichloropropane	11.58	63	194	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	11.82	130	774	0.052	ng		99
48) 1,4-Dioxane	0.00	88	0	N.D.	d		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302057.D Vial: 1
Acq On : 1 May 2020 12:49 Operator: TD
Sample : P2002103-020 (3.0mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 13:49:29 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

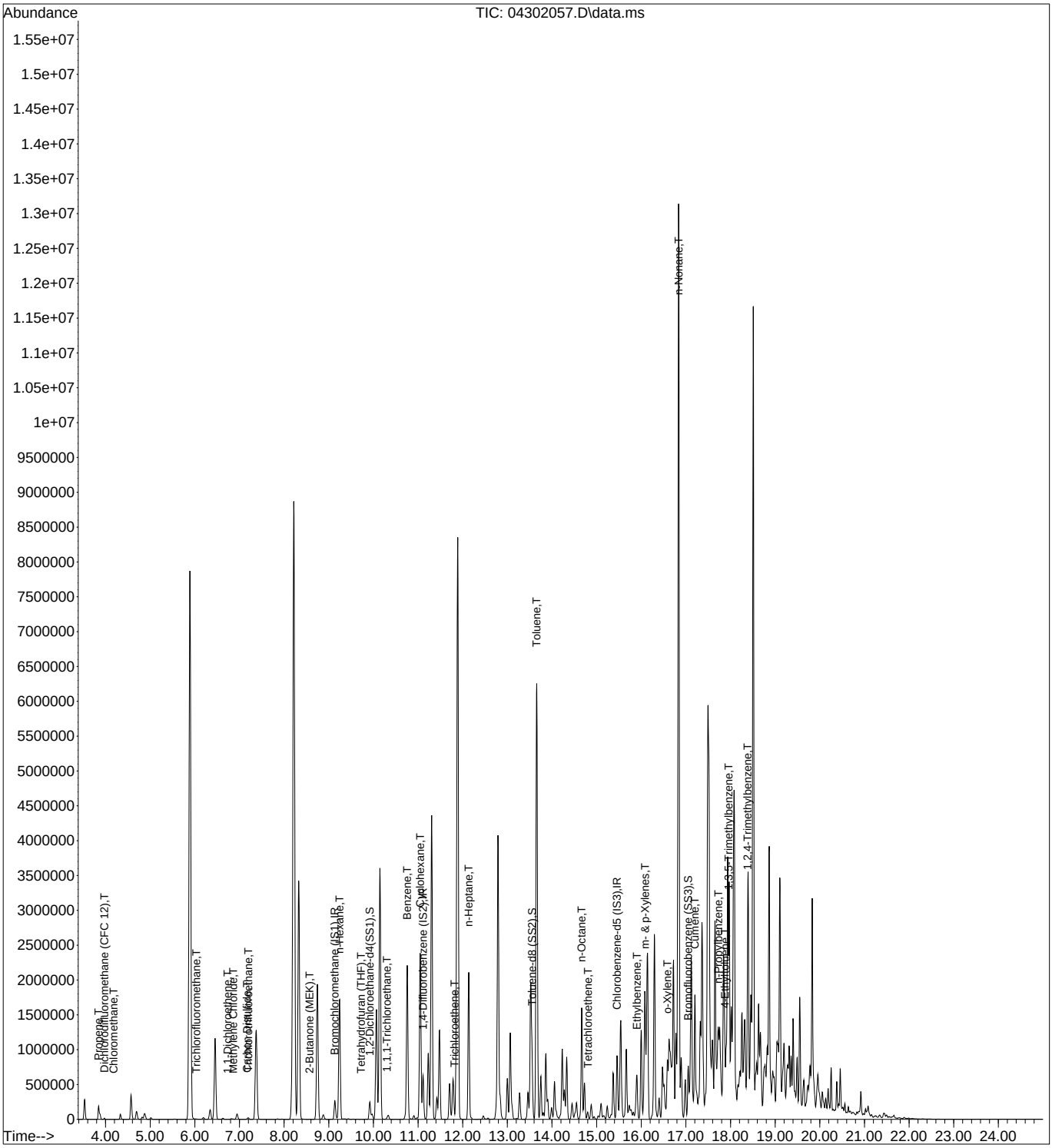
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.14	71	643799	64.571 ng	99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	12.96	75	671	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	13.65	91	5021120	104.060 ng	99
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D. d	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.67	57	313782	40.851 ng	99
64) Tetrachloroethene	14.81	166	4060	0.223 ng	95
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.90	91	375048	6.671 ng	100
67) m- & p-Xylenes	16.08	91	1301677	27.443 ng	97
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.49	104	265	N.D.	
70) o-Xylene	16.58	91	562129	12.067 ng	99
71) n-Nonane	16.84	43	4503999	299.731 ng	99
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	17.20	105	139285	2.292 ng	99
75) alpha-Pinene	17.60	93	1339	N.D.	
76) n-Propylbenzene	17.73	91	634846	9.591 ng	98
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	46169	0.799 ng	100
79) 1,3,5-Trimethylbenzene	17.96	105	300720	5.633 ng	100
80) alpha-Methylstyrene	18.11	118	573	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	303310	5.876 ng	91
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	0.00	91	0	N.D. d	
85) 1,3-Dichlorobenzene	18.54	146	201	N.D.	
86) 1,4-Dichlorobenzene	18.61	146	269	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	18.97	146	653	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	19.41	157	273	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	20.77	180	184	N.D.	
95) Naphthalene	0.00	128	0	N.D. d	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302057.D Vial: 1
Acq On : 1 May 2020 12:49 Operator: TD
Sample : P2002103-020 (3.0mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 13:49:29 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302057.D Vial: 1
Acq On : 1 May 2020 12:49 Operator: TD
Sample : P2002103-020 (3.0mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 13:49:29 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/1/20

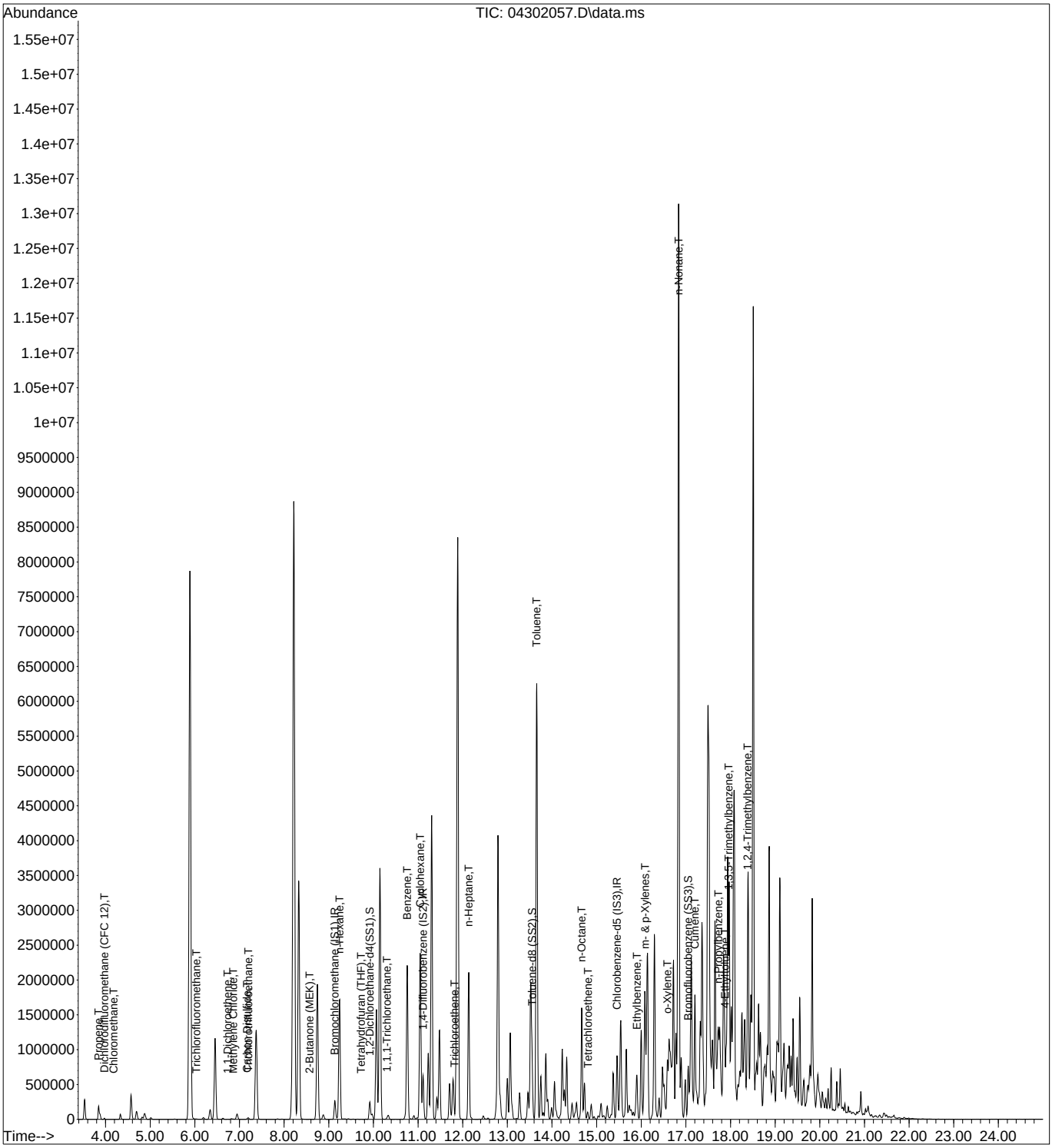
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	157099	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	658274	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	297653	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.92	65	236665	11.627	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.04%				
57) Toluene-d8 (SS2)	13.55	98	717724	12.488	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.92%				
73) Bromofluorobenzene (SS3)	17.05	174	286479	12.403	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.20%				
Target Compounds							Qvalue
2) Propene	3.84	42	74859	11.219	ng		88
3) Dichlorodifluoromethan...	3.98	85	13688	0.540	ng		98
4) Chloromethane	4.18	50	729	0.078	ng		82
14) Trichlorofluoromethane	6.04	101	1782	0.071	ng		97
17) 1,1-Dichloroethene	6.74	96	1282	0.116	ng		90
19) Methylene Chloride	6.86	84	3362	0.316	ng		93
21) Trichlorotrifluoroethane	7.20	151	11085	0.844	ng		95
22) Carbon Disulfide	7.17	76	7711	0.218	ng		98
27) 2-Butanone (MEK)	8.57	72	495	0.079	ng	#	34
31) n-Hexane	9.24	57	1048219	77.855	ng		100
34) Tetrahydrofuran (THF)	9.72	72	643	0.102	ng	#	55
38) 1,1,1-Trichloroethane	10.30	97	12475	0.551	ng		99
41) Benzene	10.76	78	2475828	57.695	ng		99
43) Cyclohexane	11.05	84	1310725	77.967	ng		98
47) Trichloroethene	11.82	130	774	0.052	ng		99
51) n-Heptane	12.14	71	643799	64.571	ng		99
58) Toluene	13.65	91	5021120	104.060	ng		99
63) n-Octane	14.67	57	313782	40.851	ng		99
64) Tetrachloroethene	14.81	166	4060	0.223	ng		95
66) Ethylbenzene	15.90	91	375048	6.671	ng		100
67) m- & p-Xylenes	16.08	91	1301677	27.443	ng		97
70) o-Xylene	16.58	91	562129	12.067	ng		99
71) n-Nonane	16.84	43	4503999	299.731	ng		99
74) Cumene	17.20	105	139285	2.292	ng		99
76) n-Propylbenzene	17.73	91	634846	9.591	ng		98
78) 4-Ethyltoluene	17.88	105	46169	0.799	ng		100
79) 1,3,5-Trimethylbenzene	17.96	105	300720	5.633	ng		100
82) 1,2,4-Trimethylbenzene	18.38	105	303310	5.876	ng		91

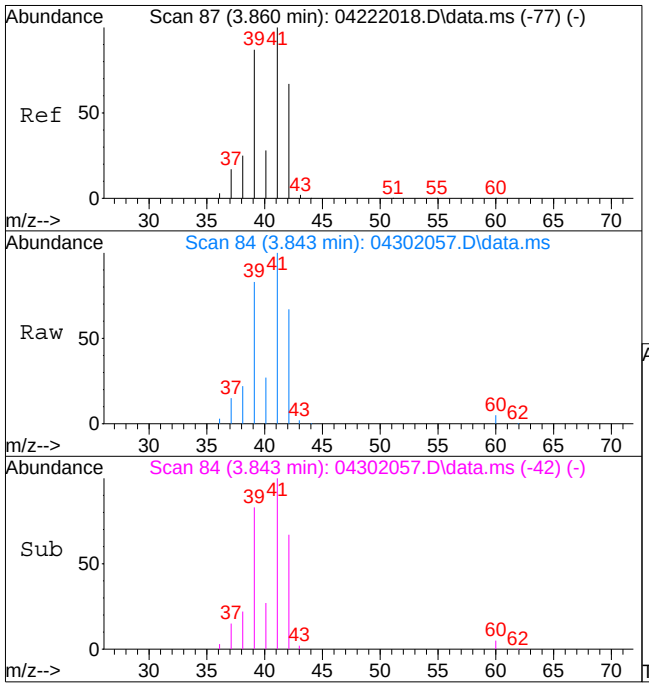
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302057.D Vial: 1
Acq On : 1 May 2020 12:49 Operator: TD
Sample : P2002103-020 (3.0mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 13:49:29 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

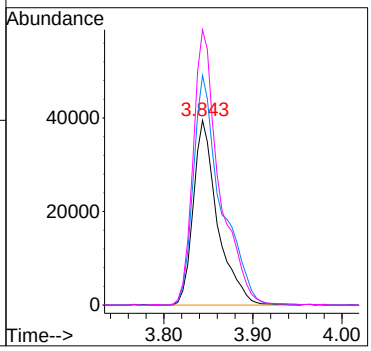


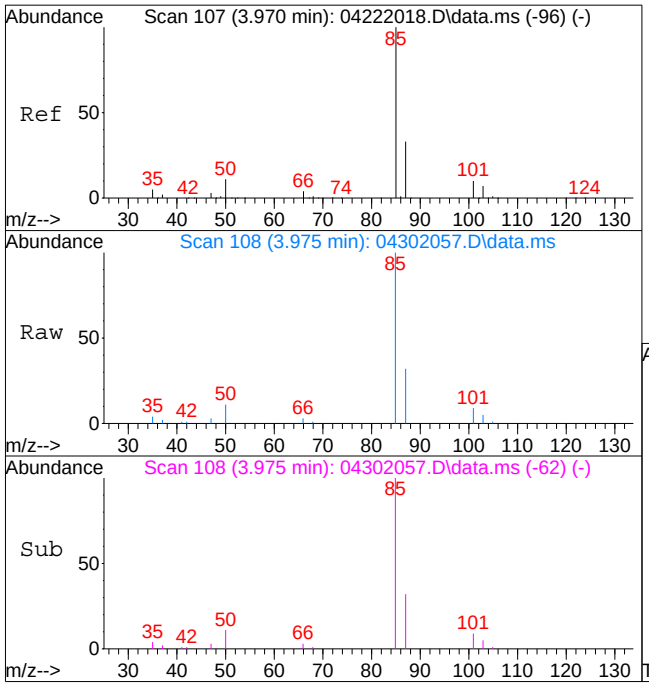


#2
Propene
Concen: 11.22 ng
RT: 3.84 min Scan# 84
Delta R.T. -0.016 min
Lab File: 04302057.D
Acq: 1 May 2020 12:49

Tgt Ion: 42 Resp: 74859

Ion	Ratio	Lower	Upper
42	100		
39	142.8	106.4	146.4
41	160.9	128.8	168.8

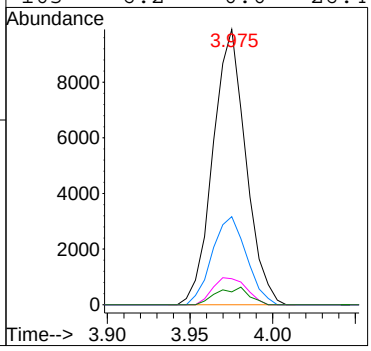


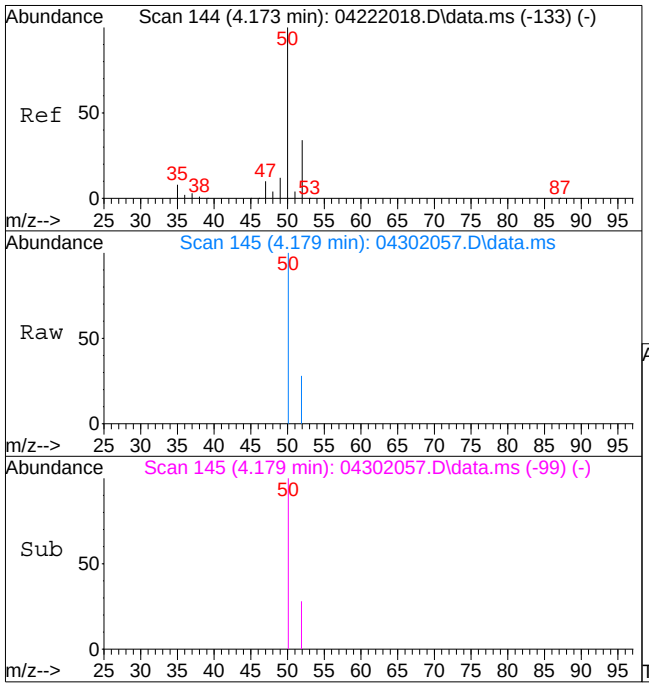


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.54 ng
RT: 3.98 min Scan# 108
Delta R.T. 0.006 min
Lab File: 04302057.D
Acq: 1 May 2020 12:49

Tgt Ion: 85 Resp: 13688

Ion	Ratio	Lower	Upper
85	100		
87	33.6	12.4	52.4
101	10.1	0.0	29.9
103	6.2	0.0	26.4

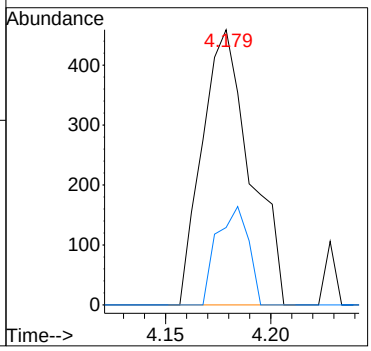


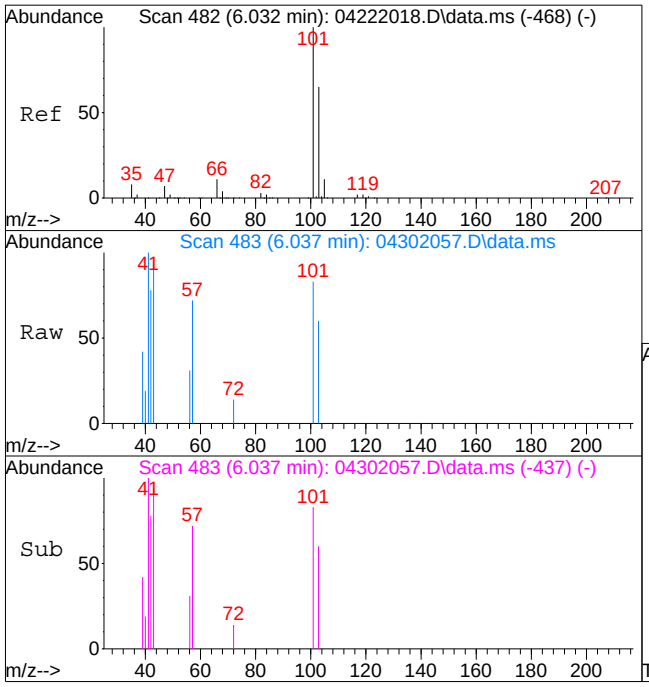


#4
Chloromethane
Concen: 0.08 ng
RT: 4.18 min Scan# 145
Delta R.T. 0.006 min
Lab File: 04302057.D
Acq: 1 May 2020 12:49

Tgt Ion: 50 Resp: 729

Ion	Ratio	Lower	Upper
50	100		
52	23.5	13.7	53.7

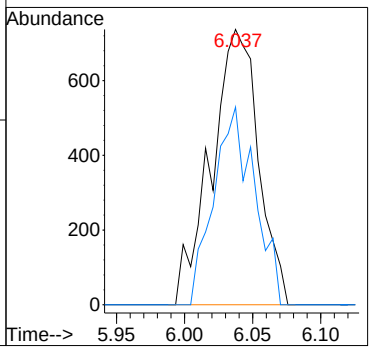


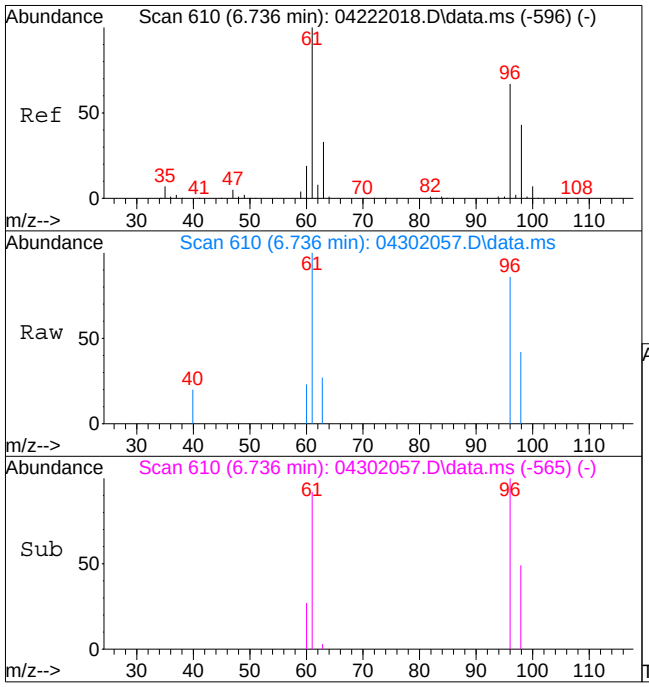


#14
Trichlorofluoromethane
Concen: 0.07 ng
RT: 6.04 min Scan# 483
Delta R.T. 0.005 min
Lab File: 04302057.D
Acq: 1 May 2020 12:49

Tgt Ion:101 Resp: 1782

Ion	Ratio	Lower	Upper
101	100		
103	62.0	44.7	84.7

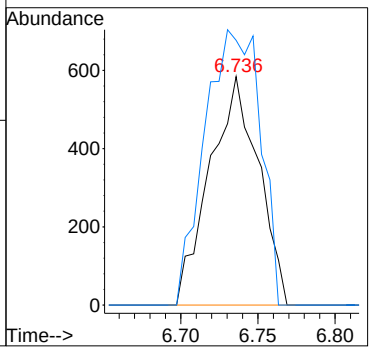


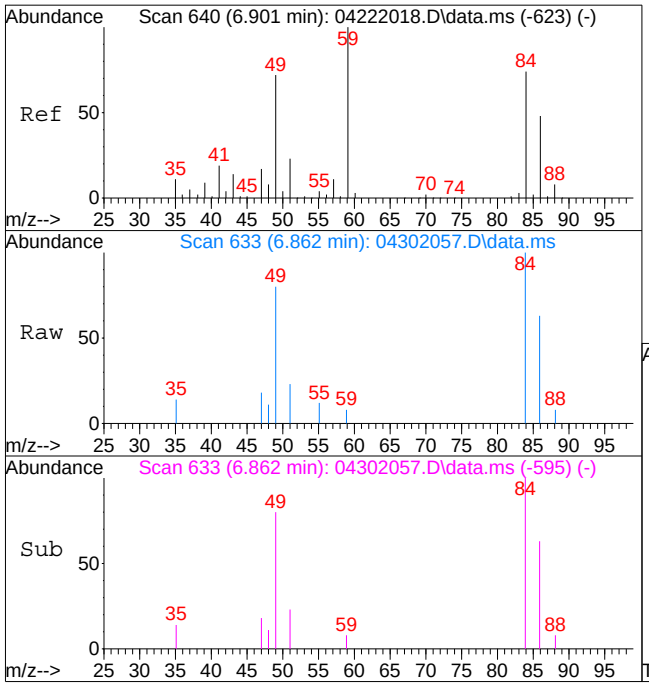


#17
1,1-Dichloroethene
Concen: 0.12 ng
RT: 6.74 min Scan# 610
Delta R.T. 0.000 min
Lab File: 04302057.D
Acq: 1 May 2020 12:49

Tgt Ion: 96 Resp: 1282

Ion	Ratio	Lower	Upper
96	100		
61	137.2	129.8	169.8

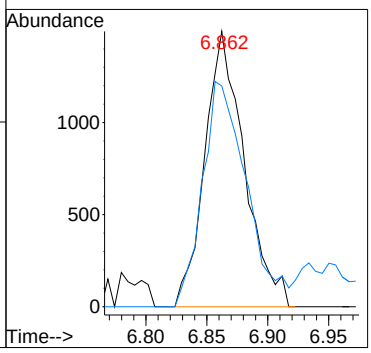


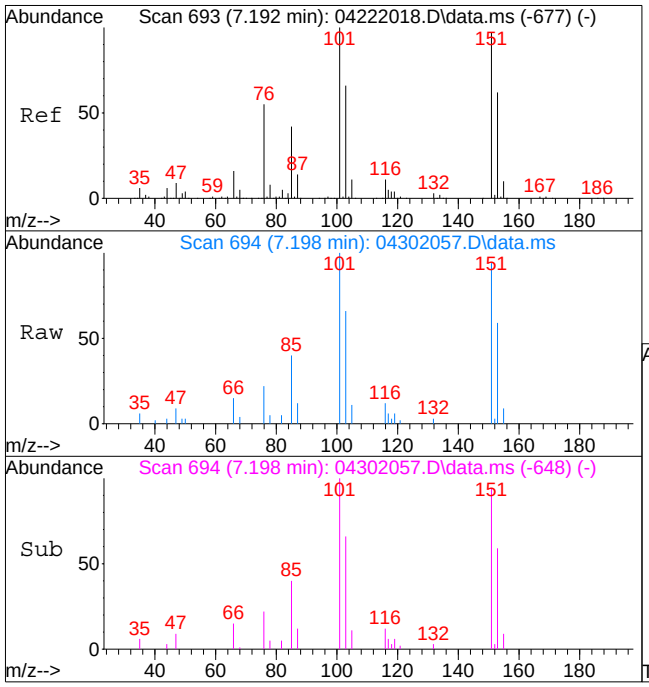


#19
Methylene Chloride
Concen: 0.32 ng
RT: 6.86 min Scan# 633
Delta R.T. -0.038 min
Lab File: 04302057.D
Acq: 1 May 2020 12:49

Tgt Ion: 84 Resp: 3362

Ion	Ratio	Lower	Upper
84	100		
49	91.3	73.0	123.0

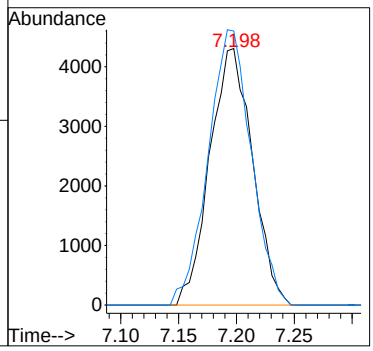


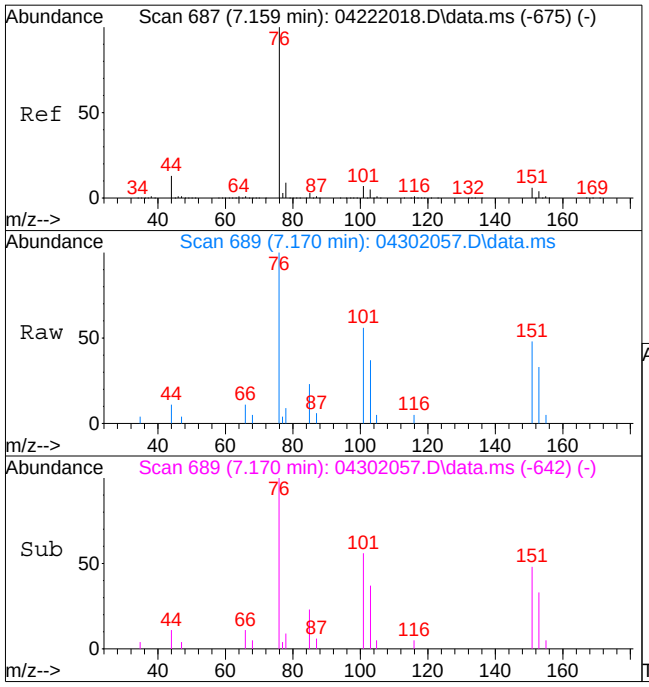


#21
Trichlorotrifluoroethane
Concen: 0.84 ng
RT: 7.20 min Scan# 694
Delta R.T. 0.006 min
Lab File: 04302057.D
Acq: 1 May 2020 12:49

Tgt Ion:151 Resp: 11085

Ion	Ratio	Lower	Upper
151	100		
101	108.1	82.9	122.9

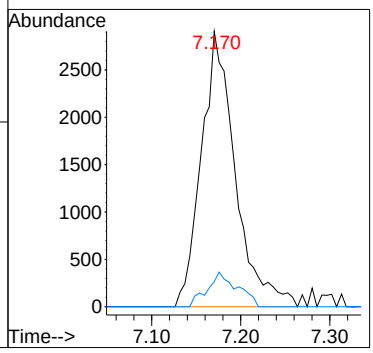


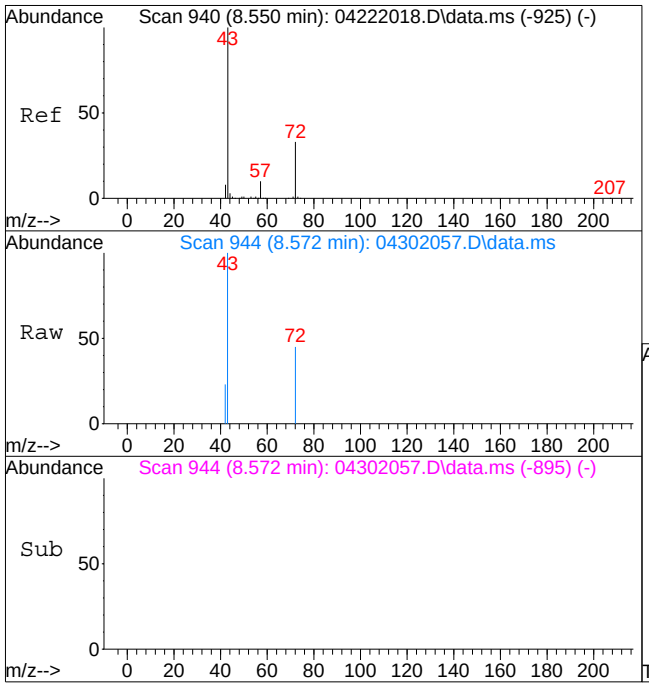


#22
Carbon Disulfide
Concen: 0.22 ng
RT: 7.17 min Scan# 689
Delta R.T. 0.011 min
Lab File: 04302057.D
Acq: 1 May 2020 12:49

Tgt Ion: 76 Resp: 7711

Ion	Ratio	Lower	Upper
76	100		
78	11.1	0.0	30.2

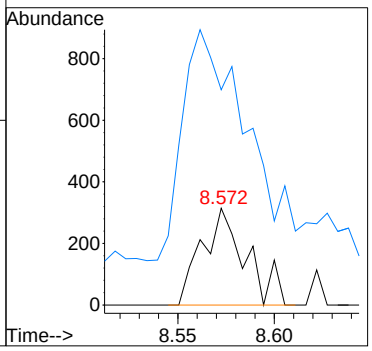


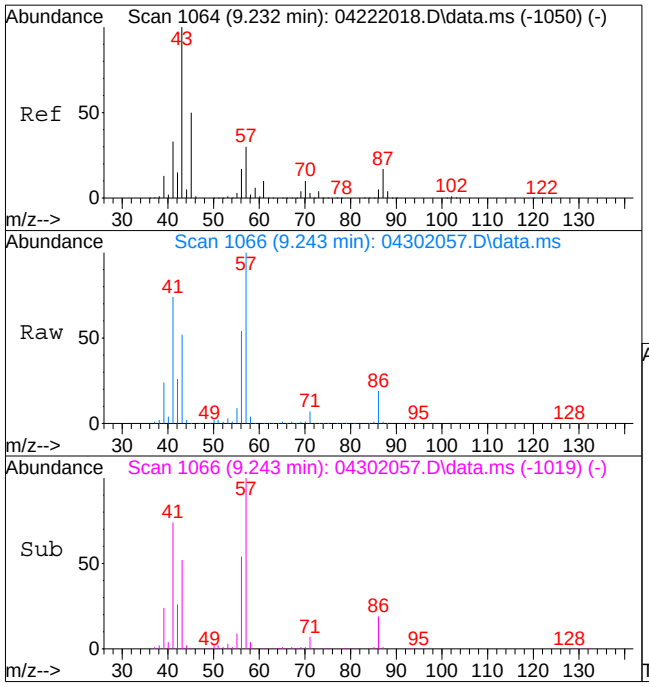


#27
2-Butanone (MEK)
Concen: 0.08 ng
RT: 8.57 min Scan# 944
Delta R.T. 0.022 min
Lab File: 04302057.D
Acq: 1 May 2020 12:49

Tgt Ion: 72 Resp: 495

Ion	Ratio	Lower	Upper
72	100		
43	427.9	278.8	318.8#

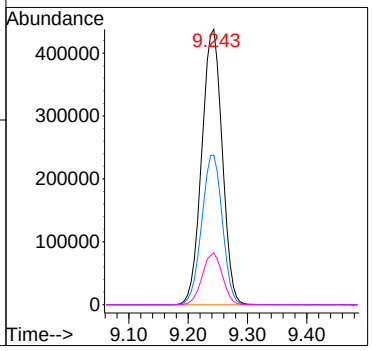


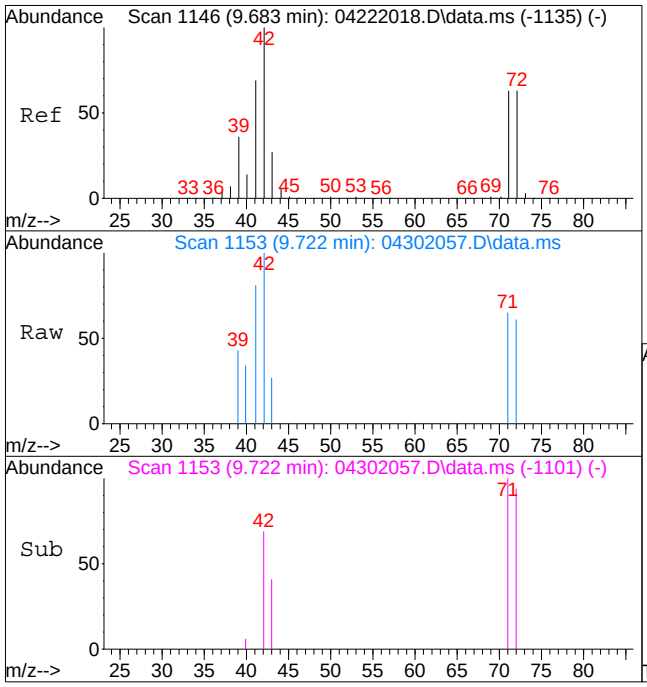


#31
n-Hexane
Concen: 77.85 ng
RT: 9.24 min Scan# 1066
Delta R.T. 0.011 min
Lab File: 04302057.D
Acq: 1 May 2020 12:49

Tgt Ion: 57 Resp: 1048219

Ion	Ratio	Lower	Upper
57	100		
56	54.8	44.0	66.0
86	18.5	15.0	22.4

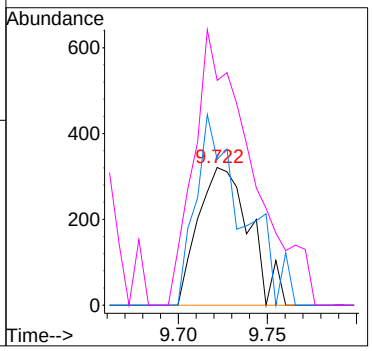


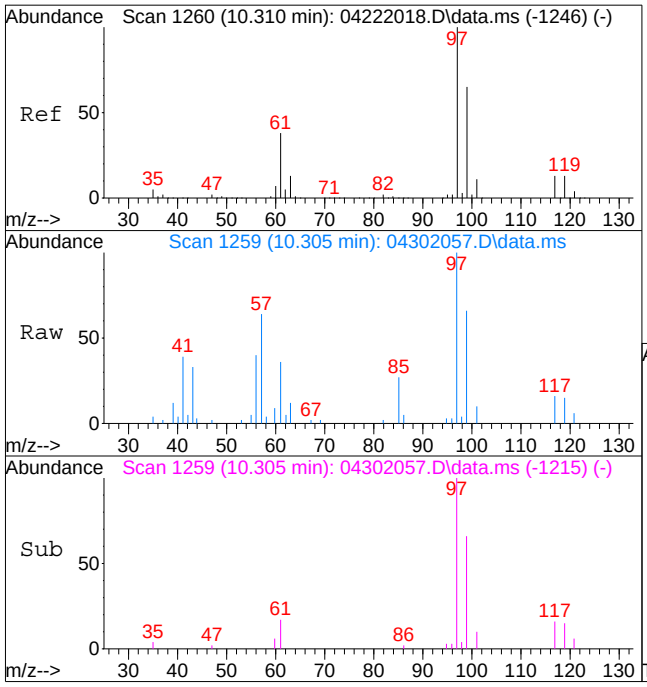


#34
Tetrahydrofuran (THF)
Concen: 0.10 ng
RT: 9.72 min Scan# 1153
Delta R.T. 0.039 min
Lab File: 04302057.D
Acq: 1 May 2020 12:49

Tgt Ion: 72 Resp: 643

Ion	Ratio	Lower	Upper
72	100		
71	126.7	77.9	117.9#
42	225.7	133.9	173.9#

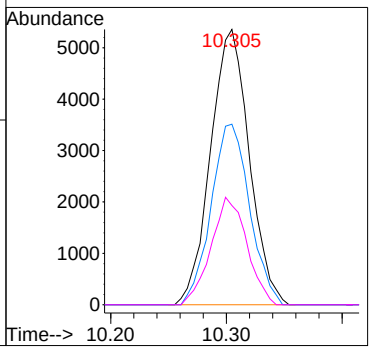


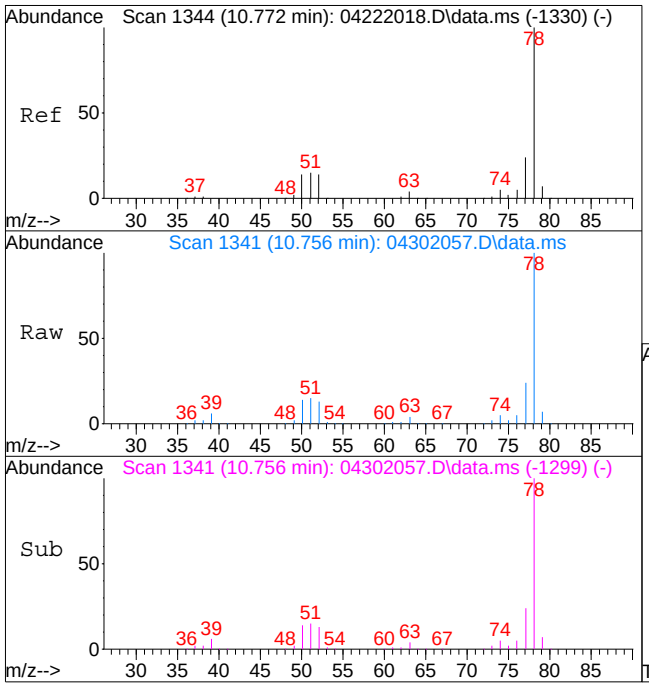


#38
1,1,1-Trichloroethane
Concen: 0.55 ng
RT: 10.30 min Scan# 1259
Delta R.T. -0.005 min
Lab File: 04302057.D
Acq: 1 May 2020 12:49

Tgt Ion: 97 Resp: 12475

Ion	Ratio	Lower	Upper
97	100		
99	65.2	44.7	84.7
61	36.2	17.2	57.2

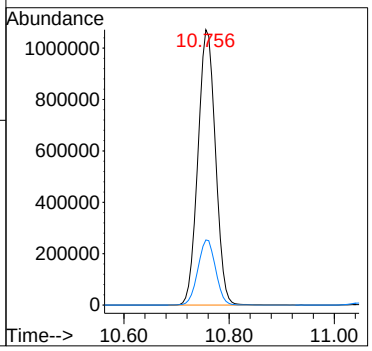


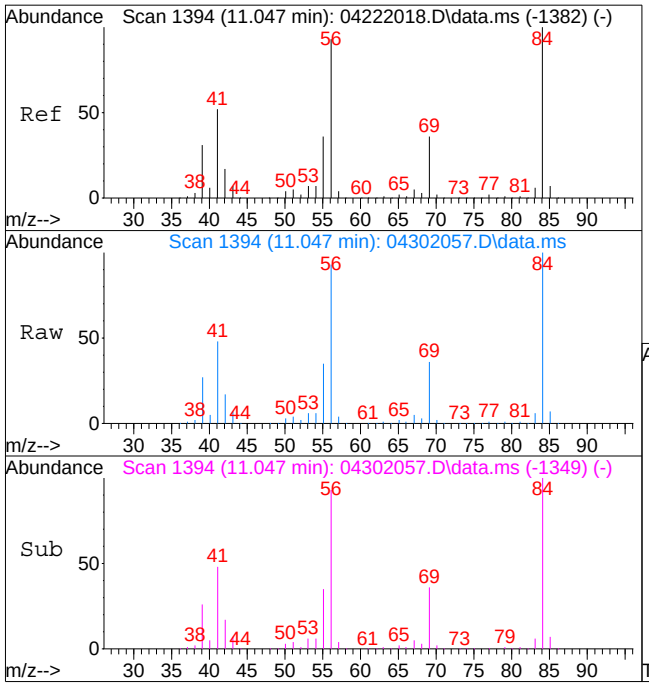


#41
Benzene
Concen: 57.70 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.016 min
Lab File: 04302057.D
Acq: 1 May 2020 12:49

Tgt Ion: 78 Resp: 2475828

Ion	Ratio	Lower	Upper
78	100		
77	23.9	3.6	43.6

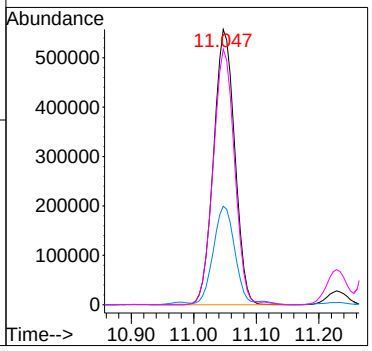


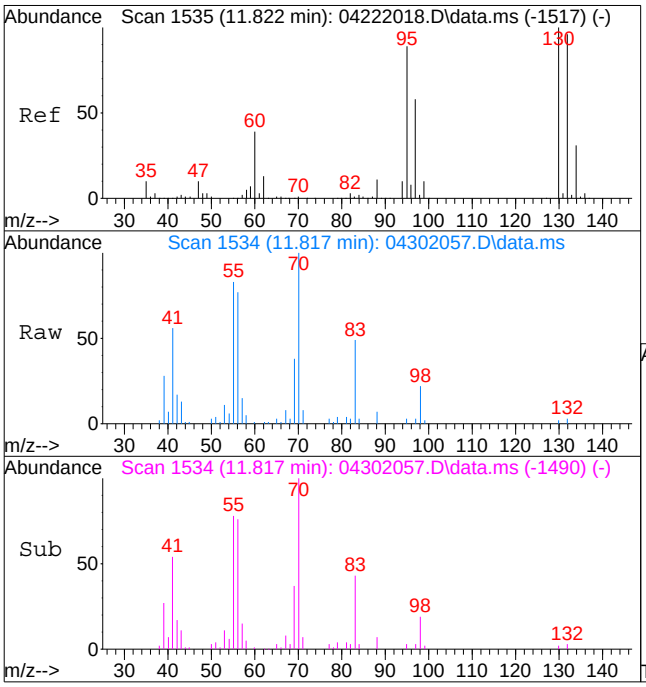


#43
Cyclohexane
Concen: 77.97 ng
RT: 11.05 min Scan# 1394
Delta R.T. 0.000 min
Lab File: 04302057.D
Acq: 1 May 2020 12:49

Tgt Ion: 84 Resp: 1310725

Ion	Ratio	Lower	Upper
84	100		
69	37.1	15.8	55.8
56	93.9	72.0	112.0

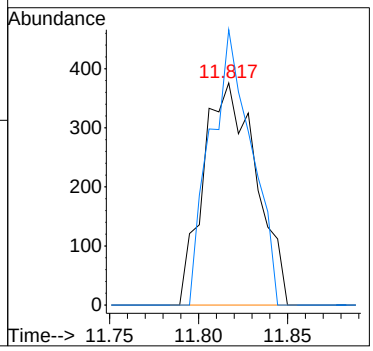


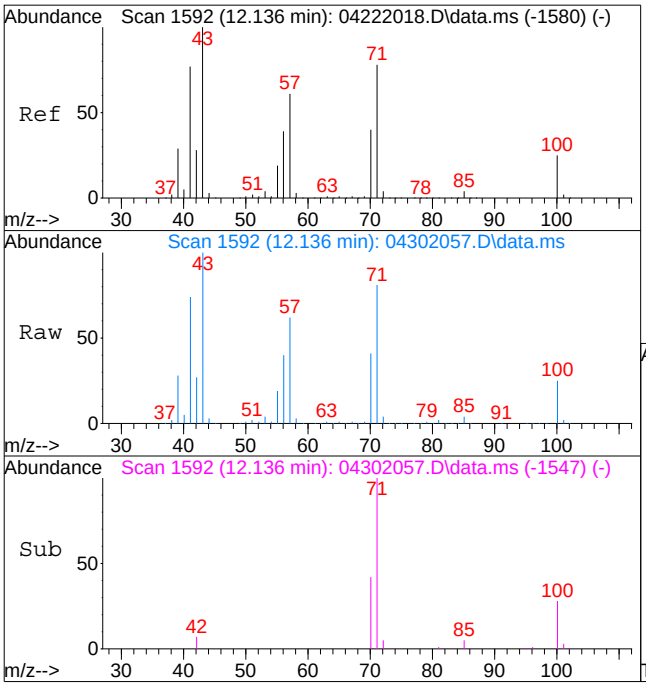


#47
Trichloroethene
Concen: 0.05 ng
RT: 11.82 min Scan# 1534
Delta R.T. -0.005 min
Lab File: 04302057.D
Acq: 1 May 2020 12:49

Tgt Ion:130 Resp: 774

Ion	Ratio	Lower	Upper
130	100		
132	97.0	76.4	116.4

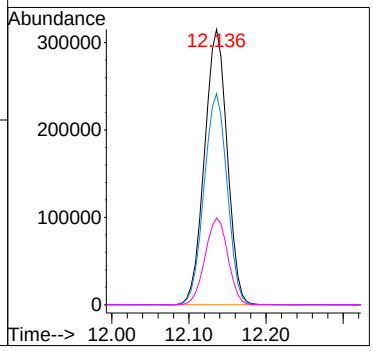


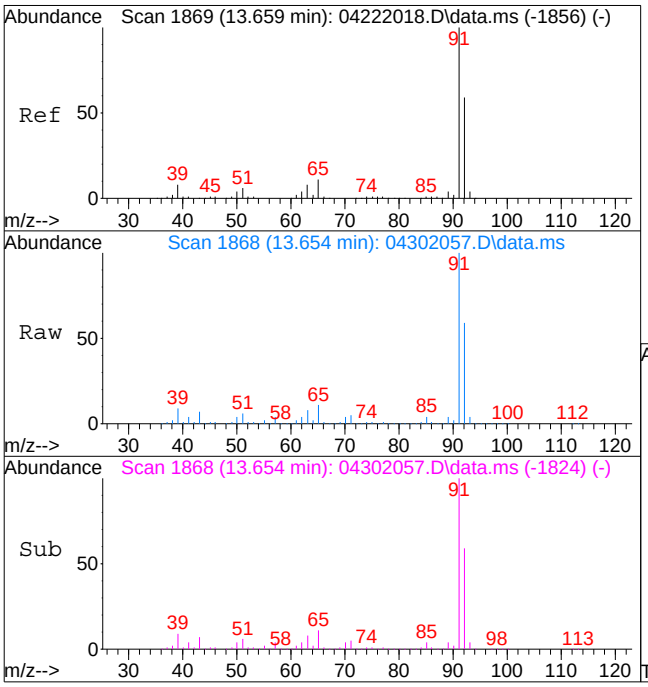


#51
n-Heptane
Concen: 64.57 ng
RT: 12.14 min Scan# 1592
Delta R.T. 0.000 min
Lab File: 04302057.D
Acq: 1 May 2020 12:49

Tgt Ion: 71 Resp: 643799

Ion	Ratio	Lower	Upper
71	100		
57	77.9	57.4	97.4
100	31.6	12.0	52.0

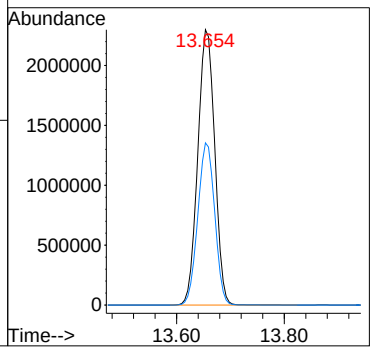


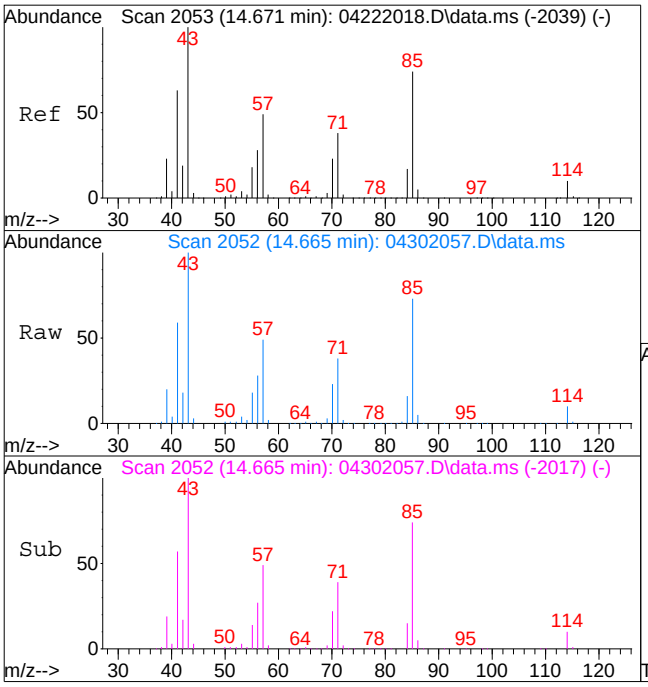


#58
Toluene
Concen: 104.06 ng
RT: 13.65 min Scan# 1868
Delta R.T. -0.005 min
Lab File: 04302057.D
Acq: 1 May 2020 12:49

Tgt Ion: 91 Resp: 5021120

Ion	Ratio	Lower	Upper
91	100		
92	58.8	38.2	78.2

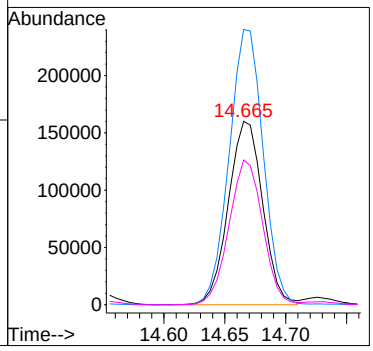


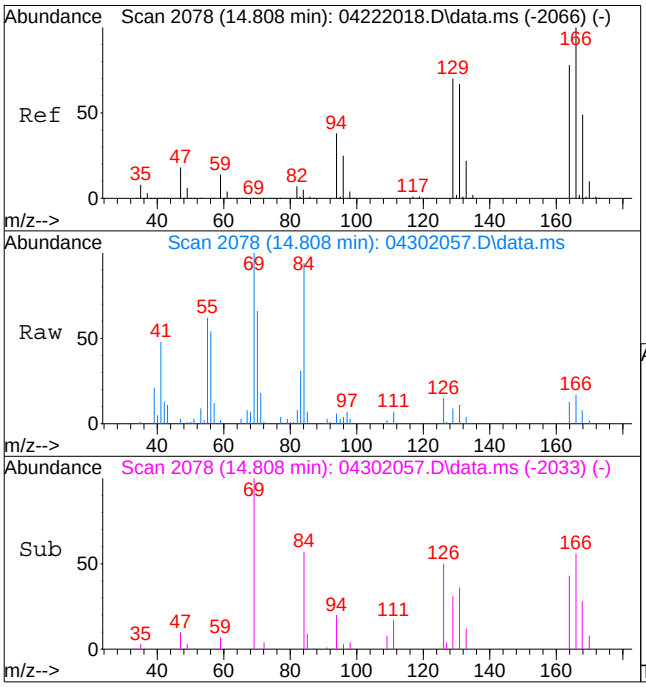


#63
n-Octane
Concen: 40.85 ng
RT: 14.67 min Scan# 2052
Delta R.T. -0.005 min
Lab File: 04302057.D
Acq: 1 May 2020 12:49

Tgt Ion: 57 Resp: 313782

Ion	Ratio	Lower	Upper
57	100		
85	149.0	120.7	181.1
71	77.4	61.1	91.7

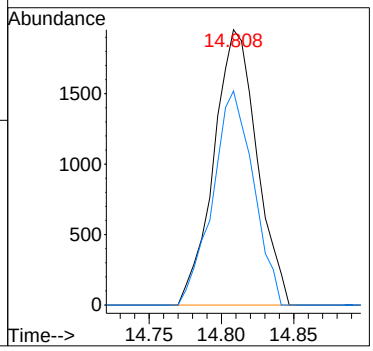


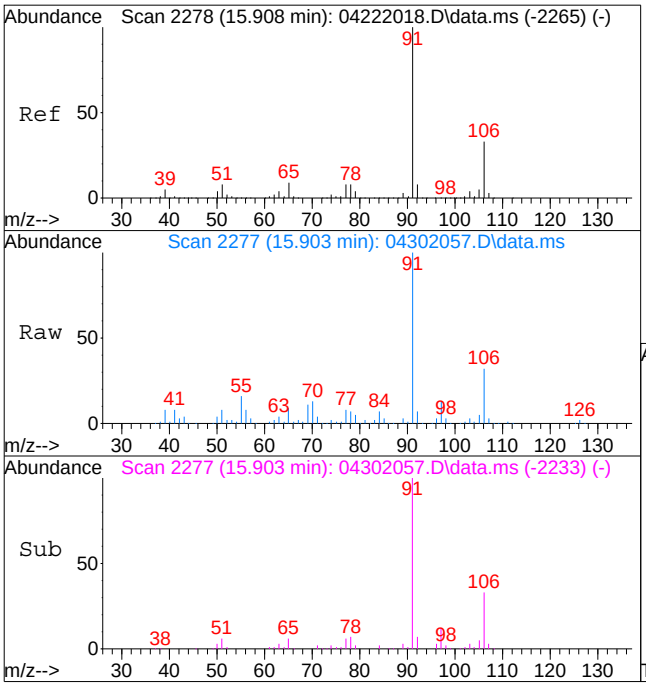


#64
Tetrachloroethene
Concen: 0.22 ng
RT: 14.81 min Scan# 2078
Delta R.T. 0.000 min
Lab File: 04302057.D
Acq: 1 May 2020 12:49

Tgt Ion:166 Resp: 4060

Ion	Ratio	Lower	Upper
166	100		
164	73.5	57.7	97.7

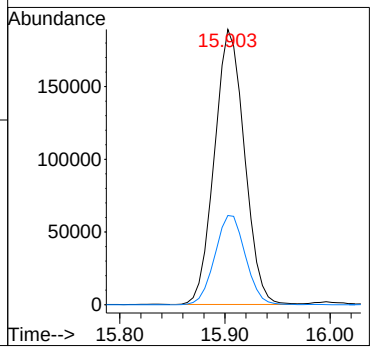


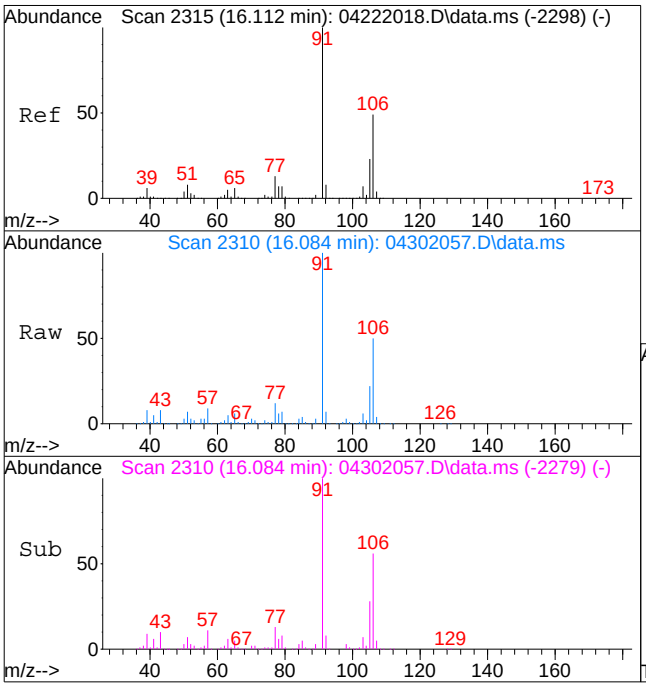


#66
Ethylbenzene
Concen: 6.67 ng
RT: 15.90 min Scan# 2277
Delta R.T. -0.005 min
Lab File: 04302057.D
Acq: 1 May 2020 12:49

Tgt Ion: 91 Resp: 375048

Ion	Ratio	Lower	Upper
91	100		
106	33.1	13.4	53.4

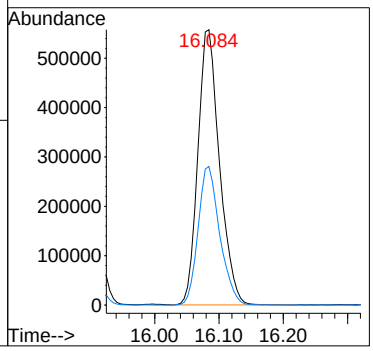


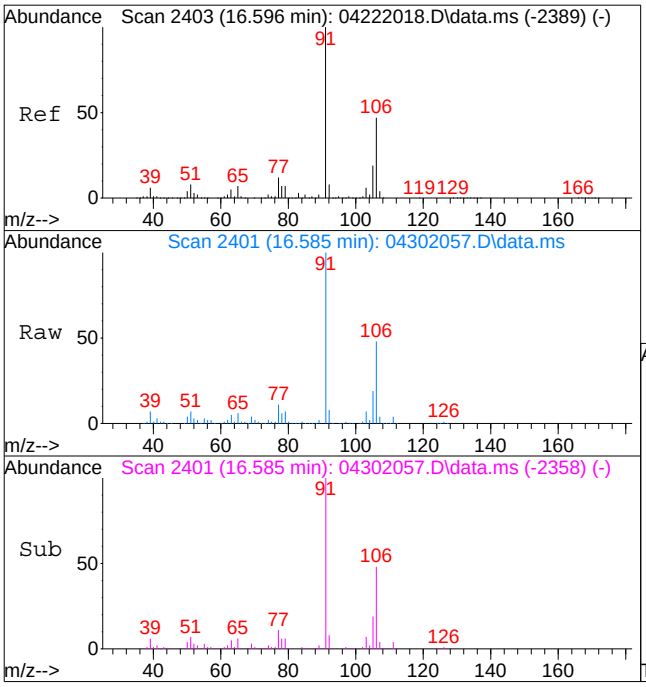


#67
m- & p-Xylenes
Concen: 27.44 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.027 min
Lab File: 04302057.D
Acq: 1 May 2020 12:49

Tgt Ion: 91 Resp: 1301677

Ion	Ratio	Lower	Upper
91	100		
106	50.4	28.3	68.3

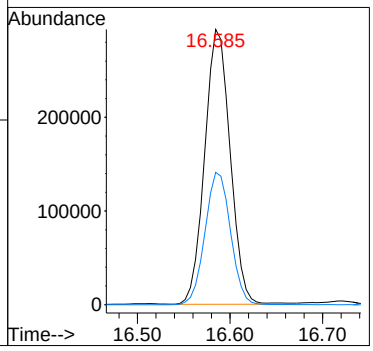


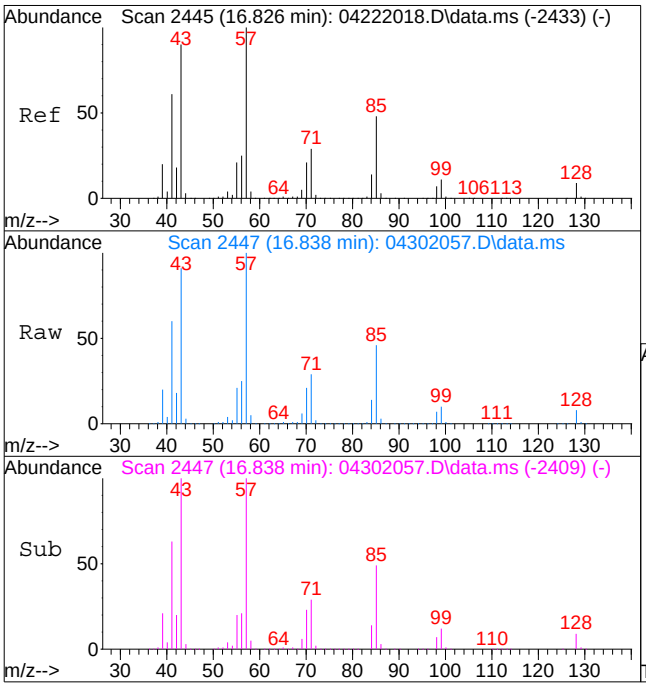


#70
o-Xylene
Concen: 12.07 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 04302057.D
Acq: 1 May 2020 12:49

Tgt Ion: 91 Resp: 562129

Ion	Ratio	Lower	Upper
91	100		
106	48.1	27.5	67.5

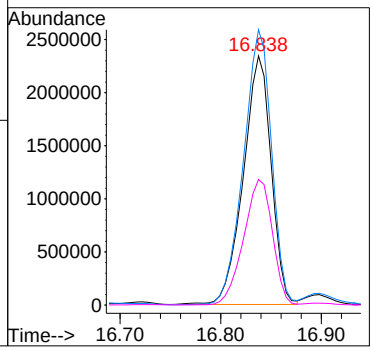


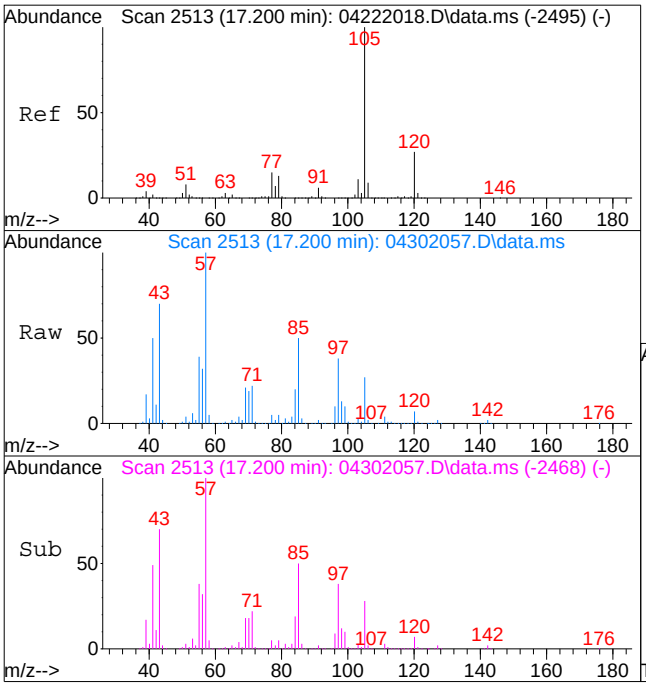


#71
n-Nonane
Concen: 299.73 ng
RT: 16.84 min Scan# 2447
Delta R.T. 0.011 min
Lab File: 04302057.D
Acq: 1 May 2020 12:49

Tgt Ion: 43 Resp: 4503999

Ion	Ratio	Lower	Upper
43	100		
57	111.5	90.8	130.8
85	51.9	32.1	72.1

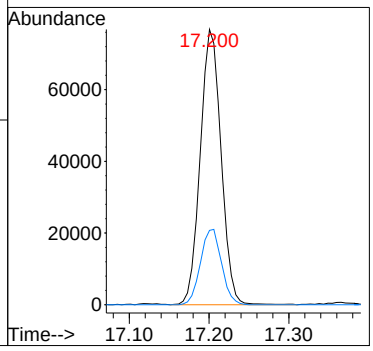


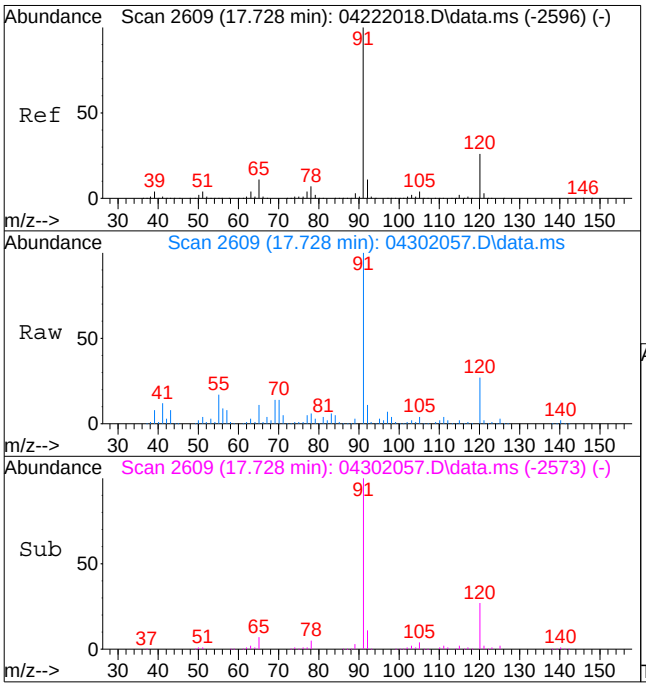


#74
Cumene
Concen: 2.29 ng
RT: 17.20 min Scan# 2513
Delta R.T. 0.000 min
Lab File: 04302057.D
Acq: 1 May 2020 12:49

Tgt Ion:105 Resp: 139285

Ion	Ratio	Lower	Upper
105	100		
120	27.7	7.3	47.3

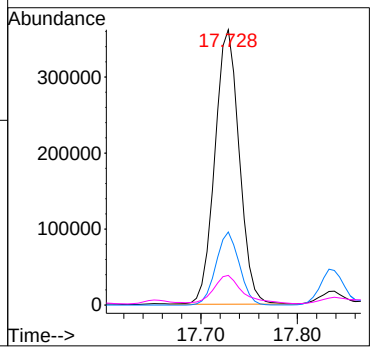


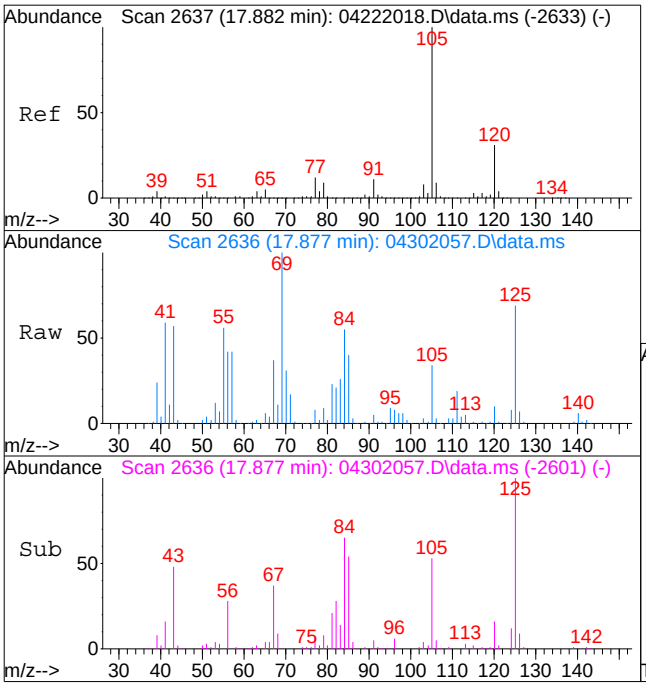


#76
n-Propylbenzene
Concen: 9.59 ng
RT: 17.73 min Scan# 2609
Delta R.T. 0.000 min
Lab File: 04302057.D
Acq: 1 May 2020 12:49

Tgt Ion: 91 Resp: 634846

Ion	Ratio	Lower	Upper
91	100		
120	25.6	6.1	46.1
65	12.2	0.0	30.7

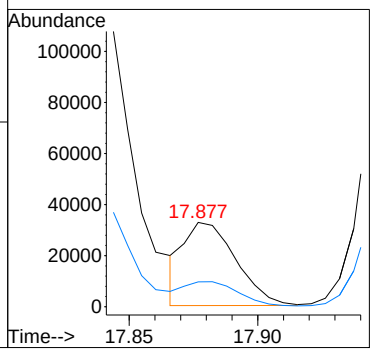


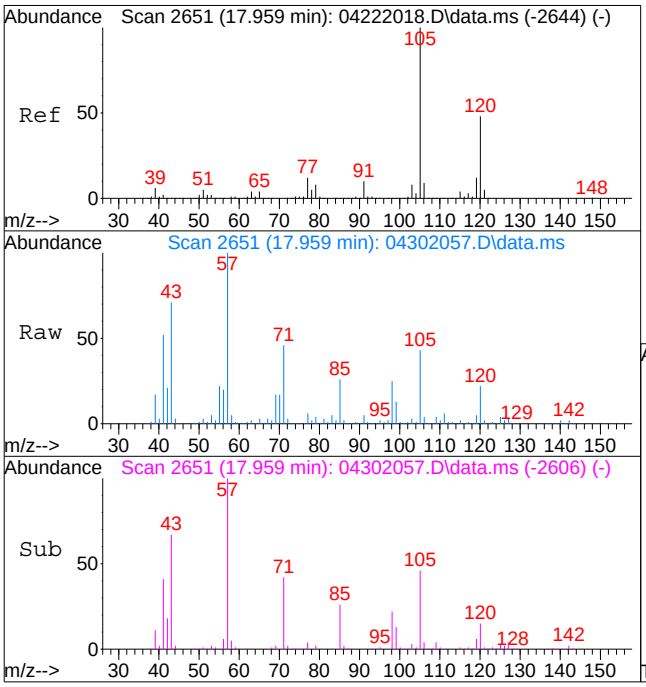


#78
4-Ethyltoluene
Concen: 0.80 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.005 min
Lab File: 04302057.D
Acq: 1 May 2020 12:49

Tgt Ion:105 Resp: 46169

Ion	Ratio	Lower	Upper
105	100		
120	31.5	11.4	51.4

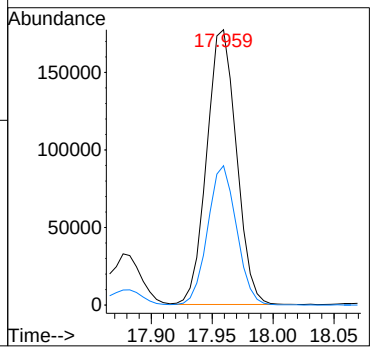


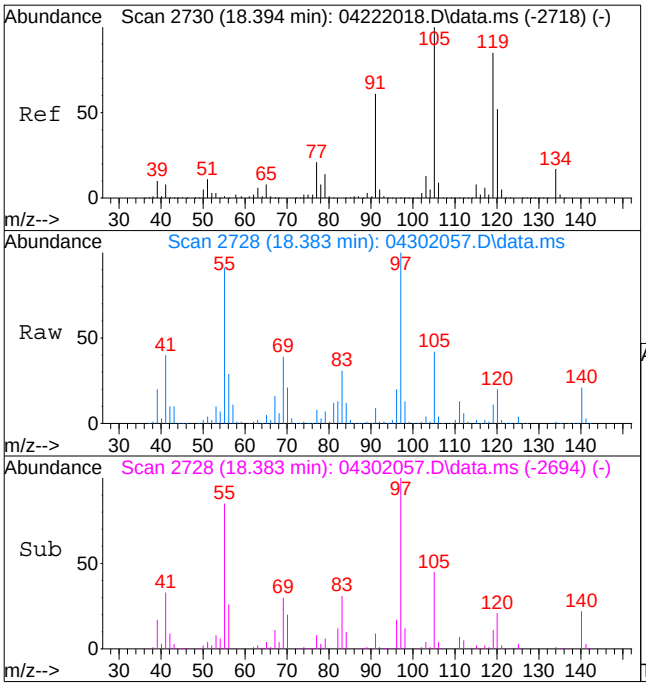


#79
1,3,5-Trimethylbenzene
Concen: 5.63 ng
RT: 17.96 min Scan# 2651
Delta R.T. 0.000 min
Lab File: 04302057.D
Acq: 1 May 2020 12:49

Tgt Ion:105 Resp: 300720

Ion	Ratio	Lower	Upper
105	100		
120	49.3	29.5	69.5

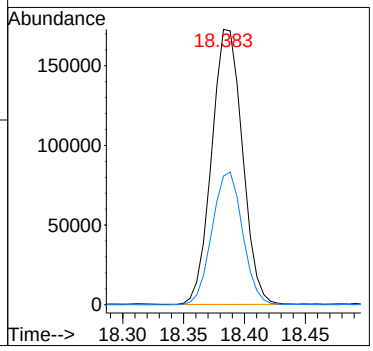




#82
1,2,4-Trimethylbenzene
Concen: 5.88 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 04302057.D
Acq: 1 May 2020 12:49

Tgt Ion:105 Resp: 303310

Ion	Ratio	Lower	Upper
105	100		
120	47.9	34.5	74.5



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302058.D Vial: 1
Acq On : 1 May 2020 13:24 Operator: SC
Sample : P2002103-020Dil (0.5mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 13:53:35 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/1/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	159364	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	667449	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	291790	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	235408	11.401	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.20%			
57) Toluene-d8 (SS2)	13.55	98	727206	12.907	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.28%			
73) Bromofluorobenzene (SS3)	17.05	174	294091	12.988	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.92%			
Target Compounds						Qvalue
2) Propene	3.88	42	13296	1.964	ng	89
3) Dichlorodifluoromethan...	3.99	85	2584	0.100	ng	96
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.	d	
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	0.00	45	0	N.D.		
11) Acetonitrile	0.00	41	0	N.D.		
12) Acrolein	0.00	56	0	N.D.	d	
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	6.03	101	411	N.D.		
15) 2-Propanol (Isopropanol)	6.24	45	139	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.	d	
17) 1,1-Dichloroethene	6.72	96	1037	0.092	ng	92
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	6.87	84	2668	0.247	ng	94
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d	
21) Trichlorotrifluoroethane	7.19	151	9360	0.703	ng	99
22) Carbon Disulfide	7.17	76	1550	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	8.09	63	317	N.D.		
25) Methyl tert-Butyl Ether	8.21	73	814	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	0.00	72	0	N.D.	d	
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	9.23	57	188359	13.791	ng	99
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d	
38) 1,1,1-Trichloroethane	10.30	97	10702	0.466	ng	97
39) Isopropyl Acetate	0.00	61	0	N.D.	d	
40) 1-Butanol	10.71	56	174	N.D.		
41) Benzene	10.76	78	439537	10.102	ng	100
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	11.04	84	243289	14.273	ng	98
44) tert-Amyl Methyl Ether	11.31	73	104	N.D.		
45) 1,2-Dichloropropane	11.57	63	101	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	11.81	130	619	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.	d	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302058.D Vial: 1
Acq On : 1 May 2020 13:24 Operator: SC
Sample : P2002103-020Dil (0.5mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 13:53:35 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

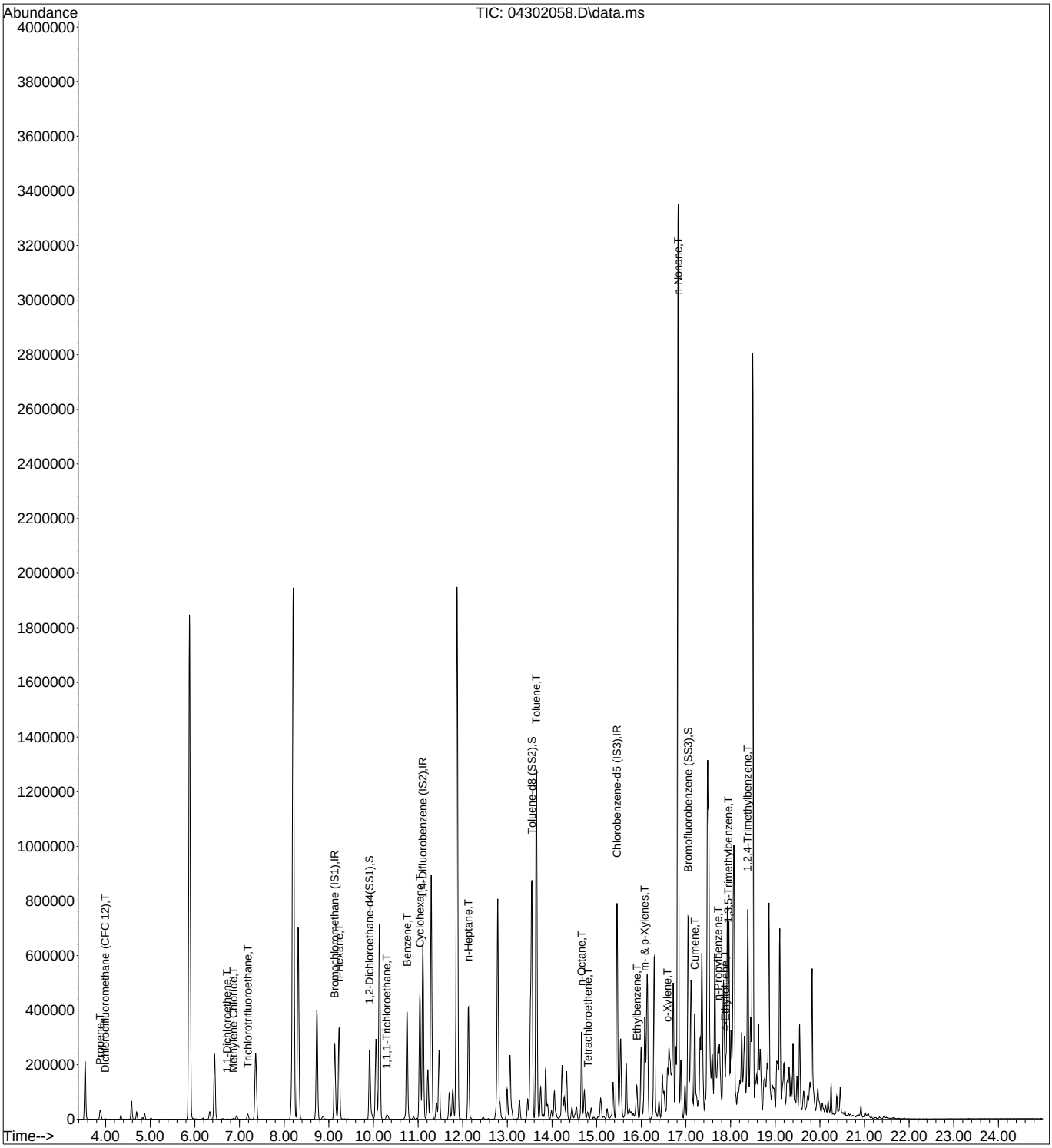
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.13	71	125713	12.435 ng	99
52) cis-1,3-Dichloropropene	12.79	75	222	N.D.	
53) 4-Methyl-2-pentanone	12.74	58	255	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	13.65	91	990942	20.949 ng	99
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	14.35	107	471	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.67	57	61443	8.160 ng	98
64) Tetrachloroethene	14.81	166	3453	0.194 ng	99
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.90	91	73826	1.339 ng	99
67) m- & p-Xylenes	16.08	91	262311	5.641 ng	96
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D. d	
70) o-Xylene	16.58	91	119470	2.616 ng	100
71) n-Nonane	16.83	43	1080073	73.321 ng	99
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	17.20	105	30112	0.506 ng	98
75) alpha-Pinene	17.61	93	497	N.D.	
76) n-Propylbenzene	17.72	91	131056	2.020 ng	98
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	9339	0.165 ng	98
79) 1,3,5-Trimethylbenzene	17.95	105	62496	1.194 ng	100
80) alpha-Methylstyrene	17.96	118	158	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	67913	1.342 ng	89
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.49	91	1420	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	18.98	146	468	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	0.00	128	0	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302058.D Vial: 1
Acq On : 1 May 2020 13:24 Operator: SC
Sample : P2002103-020Dil (0.5mL) Inst : MS09
Misc : S34-04212006

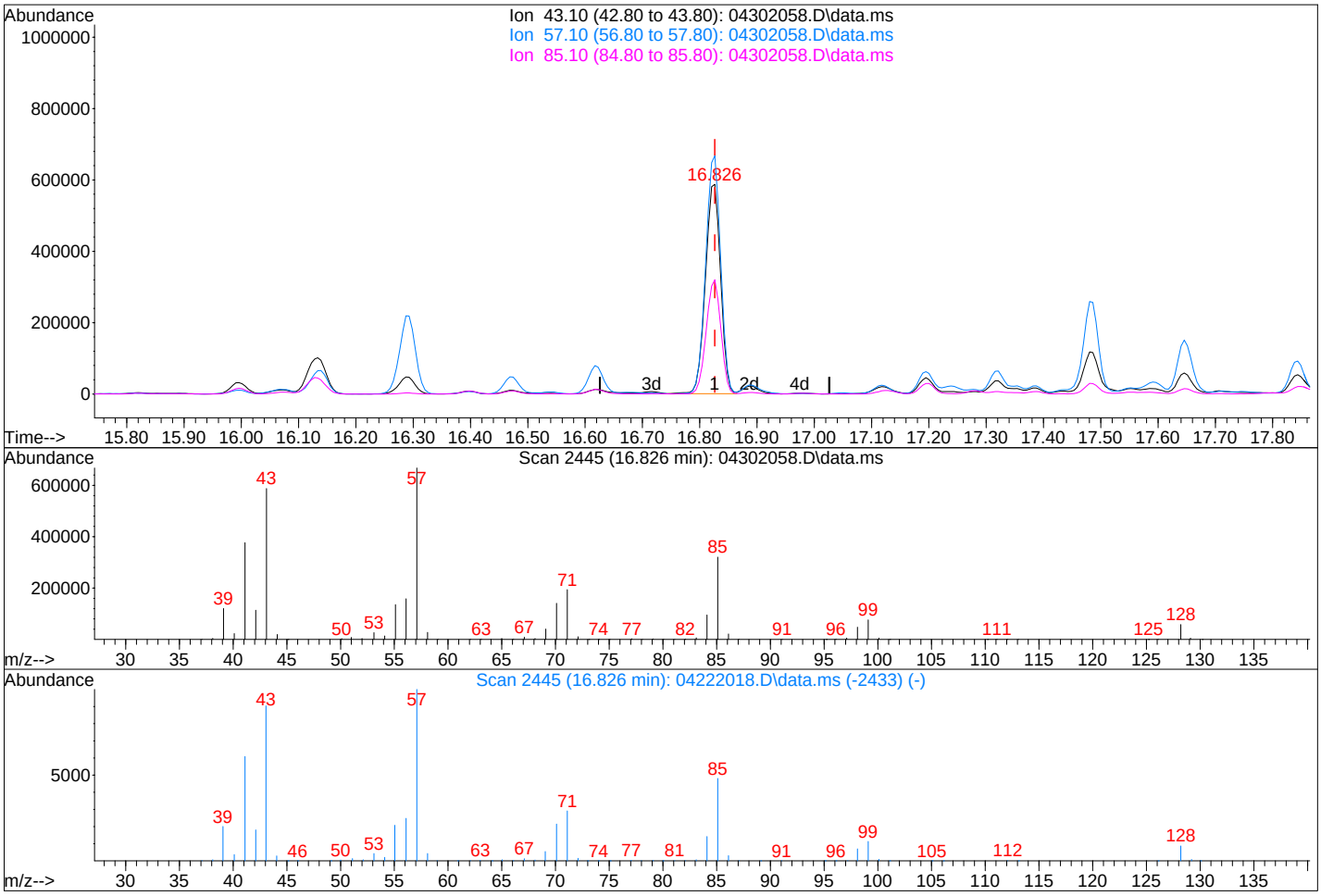
Quant Time: May 01 13:53:35 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\30\04302058.D Vial: 1
Acq On : 1 May 2020 13:24 Operator: SC
Sample : P2002103-020Dil (0.5mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 13:51:05 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04302058.D\data.ms

(71) n-Nonane (T)

16.826min (-0.000) 73.32ng

response 1080073

Ion	Exp%	Act%
43.10	100	100
57.10	110.80	112.22
85.10	52.10	52.78
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302038.D Vial: 2
Acq On : 1 May 2020 1:52 Operator: SC
Sample : MB2 R9043020_1000mL Inst : MS09
Misc : S34-04212006

Quant Time: May 01 17:00:27 2020 5/1/20
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	144311	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	608429	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	267976	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	216307	11.569	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.56%			
57) Toluene-d8 (SS2)	13.54	98	667416	12.899	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.20%			
73) Bromofluorobenzene (SS3)	17.05	174	262776	12.637	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.12%			
Target Compounds						Qvalue
2) Propene	3.90	42	249	N.D.		
3) Dichlorodifluoromethan...	0.00	85	0	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.45	45	52	N.D.		
11) Acetonitrile	5.61	41	415	N.D.		
12) Acrolein	5.75	56	52	N.D.		
13) Acetone	5.88	58	2881	0.517	ng #	68
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	6.27	45	70	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	0.00	84	0	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	7.17	76	129	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D. d		
27) 2-Butanone (MEK)	8.42	72	245	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.		
41) Benzene	10.77	78	364	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	11.04	84	436	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	11.86	57	3402	0.103	ng	96
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302038.D Vial: 2
Acq On : 1 May 2020 1:52 Operator: SC
Sample : MB2 R9043020_1000mL Inst : MS09
Misc : S34-04212006

Quant Time: May 01 17:00:27 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

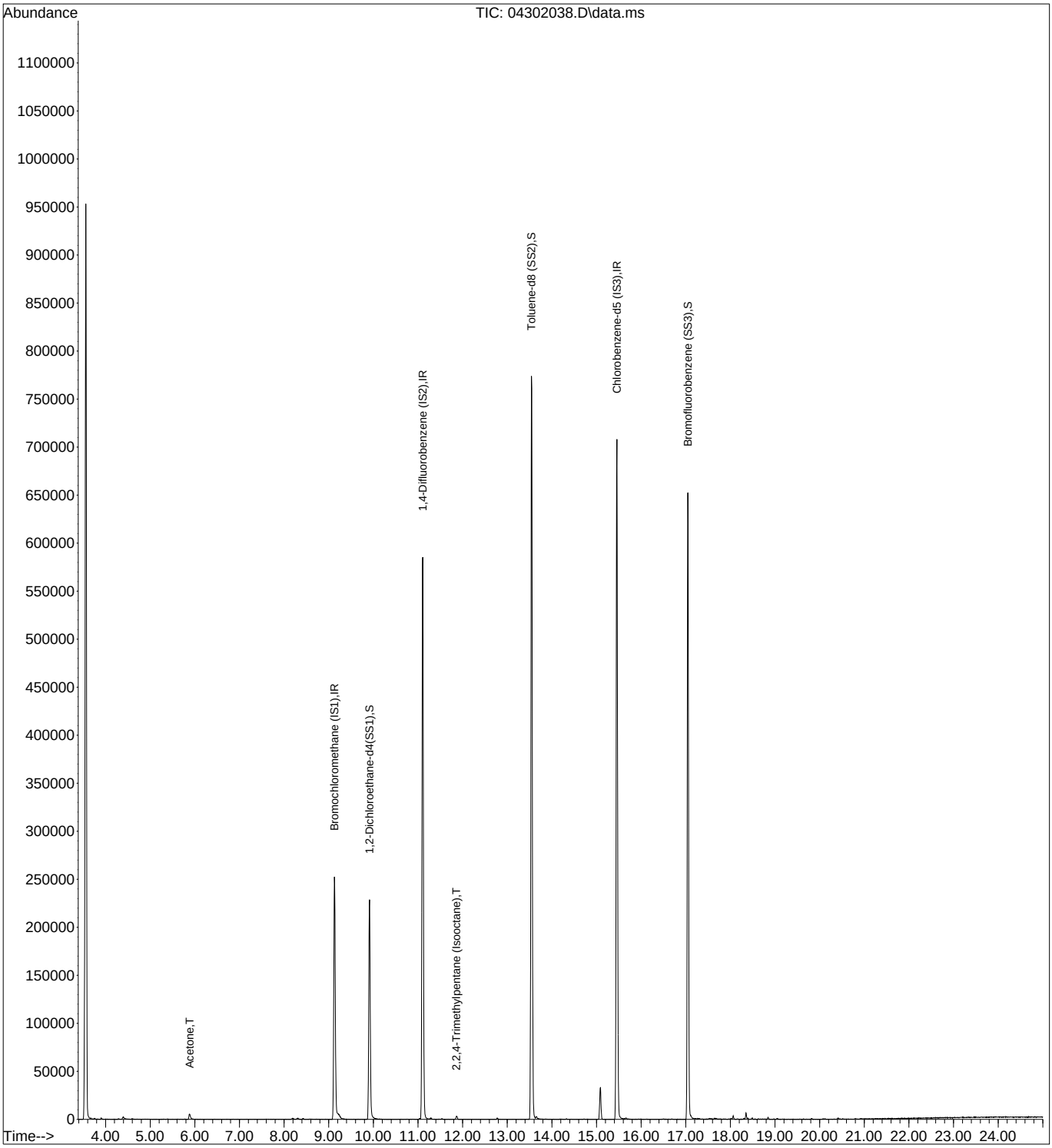
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	13.65	91	785	N.D.		
59) 2-Hexanone	0.00	43	0	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	15.50	112	278	N.D.		
66) Ethylbenzene	15.92	91	217	N.D.		
67) m- & p-Xylenes	16.09	91	202	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	16.59	91	289	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	17.21	105	184	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	17.74	91	303	N.D.		
77) 3-Ethyltoluene	17.84	105	683	N.D.		
78) 4-Ethyltoluene	17.89	105	536	N.D.		
79) 1,3,5-Trimethylbenzene	17.97	105	713	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	18.16	105	826	N.D.		
82) 1,2,4-Trimethylbenzene	18.39	105	577	N.D.		
83) n-Decane	18.51	57	193	N.D.		
84) Benzyl Chloride	18.39	91	501	N.D.		
85) 1,3-Dichlorobenzene	18.62	146	291	N.D.		
86) 1,4-Dichlorobenzene	18.62	146	291	N.D.		
87) sec-Butylbenzene	18.67	105	590	N.D.		
88) 4-Isopropyltoluene (p-...	18.84	119	1018	N.D.		
89) 1,2,3-Trimethylbenzene	18.84	105	435	N.D.		
90) 1,2-Dichlorobenzene	18.99	146	123	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	19.84	57	129	N.D.		
94) 1,2,4-Trichlorobenzene	20.80	180	378	N.D.		
95) Naphthalene	20.93	128	1487	N.D.		
96) n-Dodecane	0.00	57	0	N.D.		
97) Hexachlorobutadiene	21.27	225	120	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.39	119	647	N.D.		
100) n-Butylbenzene	19.29	91	296	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302038.D Vial: 2
Acq On : 1 May 2020 1:52 Operator: SC
Sample : MB2 R9043020_1000mL Inst : MS09
Misc : S34-04212006

Quant Time: May 01 17:00:27 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302039.D Vial: 2
Acq On : 1 May 2020 2:26 Operator: SC
Sample : LCS2 R9043020_25ng Inst : MS09
Misc : S34-04212006/S34-04272008 (5/26)

5/1/20

Quant Time: May 01 06:23:59 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	149167	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.12	114	623025	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	276302	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.93	65	224715	11.627	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.04%				
57) Toluene-d8 (SS2)	13.55	98	680366	12.753	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.00%				
73) Bromofluorobenzene (SS3)	17.05	174	271824	12.678	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.44%				
Target Compounds							Qvalue
2) Propene	3.85	42	197696	31.204	ng		98
3) Dichlorodifluoromethan...	3.97	85	628948	26.129	ng		100
4) Chloromethane	4.17	50	278539	31.361	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	336782	25.882	ng		100
6) Vinyl Chloride	4.45	62	343700	29.509	ng		99
7) 1,3-Butadiene	4.63	54	234980	31.587	ng		98
8) Bromomethane	4.94	94	254254	27.778	ng		99
9) Chloroethane	5.15	64	160145	27.180	ng		99
10) Ethanol	5.40	45	658492	137.216	ng		100
11) Acetonitrile	5.59	41	310575	27.339	ng		100
12) Acrolein	5.71	56	132622	30.242	ng		100
13) Acetone	5.86	58	780071	135.394	ng		92
14) Trichlorofluoromethane	6.03	101	613742	25.626	ng		100
15) 2-Propanol (Isopropanol)	6.19	45	978422	53.459	ng		99
16) Acrylonitrile	6.39	53	279930	30.627	ng		99
17) 1,1-Dichloroethene	6.72	96	295140	28.032	ng		96
18) 2-Methyl-2-Propanol (t...	6.84	59	1304176	77.985	ng		98
19) Methylene Chloride	6.88	84	281503	27.859	ng		98
20) 3-Chloro-1-propene (Al...	7.01	41	298407	25.451	ng		99
21) Trichlorotrifluoroethane	7.19	151	336480	26.996	ng		100
22) Carbon Disulfide	7.15	76	970763	28.894	ng		99
23) trans-1,2-Dichloroethene	7.90	61	389277	29.293	ng		98
24) 1,1-Dichloroethane	8.12	63	440998	26.559	ng		99
25) Methyl tert-Butyl Ether	8.18	73	863195	40.347	ng		99
26) Vinyl Acetate	8.29	86	323384	153.793	ng		97
27) 2-Butanone (MEK)	8.53	72	176591	29.833	ng		99
28) cis-1,2-Dichloroethene	8.99	61	371182	27.635	ng		99
29) Diisopropyl Ether	9.22	87	239384	27.922	ng	#	93
30) Ethyl Acetate	9.23	61	159707	60.640	ng		99
31) n-Hexane	9.23	57	369940	28.938	ng		99
32) Chloroform	9.30	83	548498	26.818	ng		100
34) Tetrahydrofuran (THF)	9.68	72	177813	29.658	ng		100
35) Ethyl tert-Butyl Ether	9.77	87	346006	37.752	ng		99
36) 1,2-Dichloroethane	10.04	62	447831	26.619	ng		100
38) 1,1,1-Trichloroethane	10.30	97	574202	26.805	ng		100
39) Isopropyl Acetate	10.67	61	287950	56.339	ng	#	93
40) 1-Butanol	10.68	56	433349	63.109	ng		98
41) Benzene	10.76	78	1101608	27.124	ng		100
42) Carbon Tetrachloride	10.91	117	539564	25.695	ng		100
43) Cyclohexane	11.04	84	884276	55.576	ng		99
44) tert-Amyl Methyl Ether	11.35	73	754709	35.390	ng		99
45) 1,2-Dichloropropane	11.58	63	238201	28.649	ng		99
46) Bromodichloromethane	11.76	83	445833	26.678	ng		100
47) Trichloroethene	11.81	130	393419	27.970	ng		100
48) 1,4-Dioxane	11.78	88	249443	30.546	ng		99
49) 2,2,4-Trimethylpentane...	11.87	57	966222	28.481	ng		97
50) Methyl Methacrylate	12.00	100	263459	60.549	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302039.D Vial: 2
Acq On : 1 May 2020 2:26 Operator: SC
Sample : LCS2 R9043020_25ng Inst : MS09
Misc : S34-04212006/S34-04272008 (5/26)

Quant Time: May 01 06:23:59 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

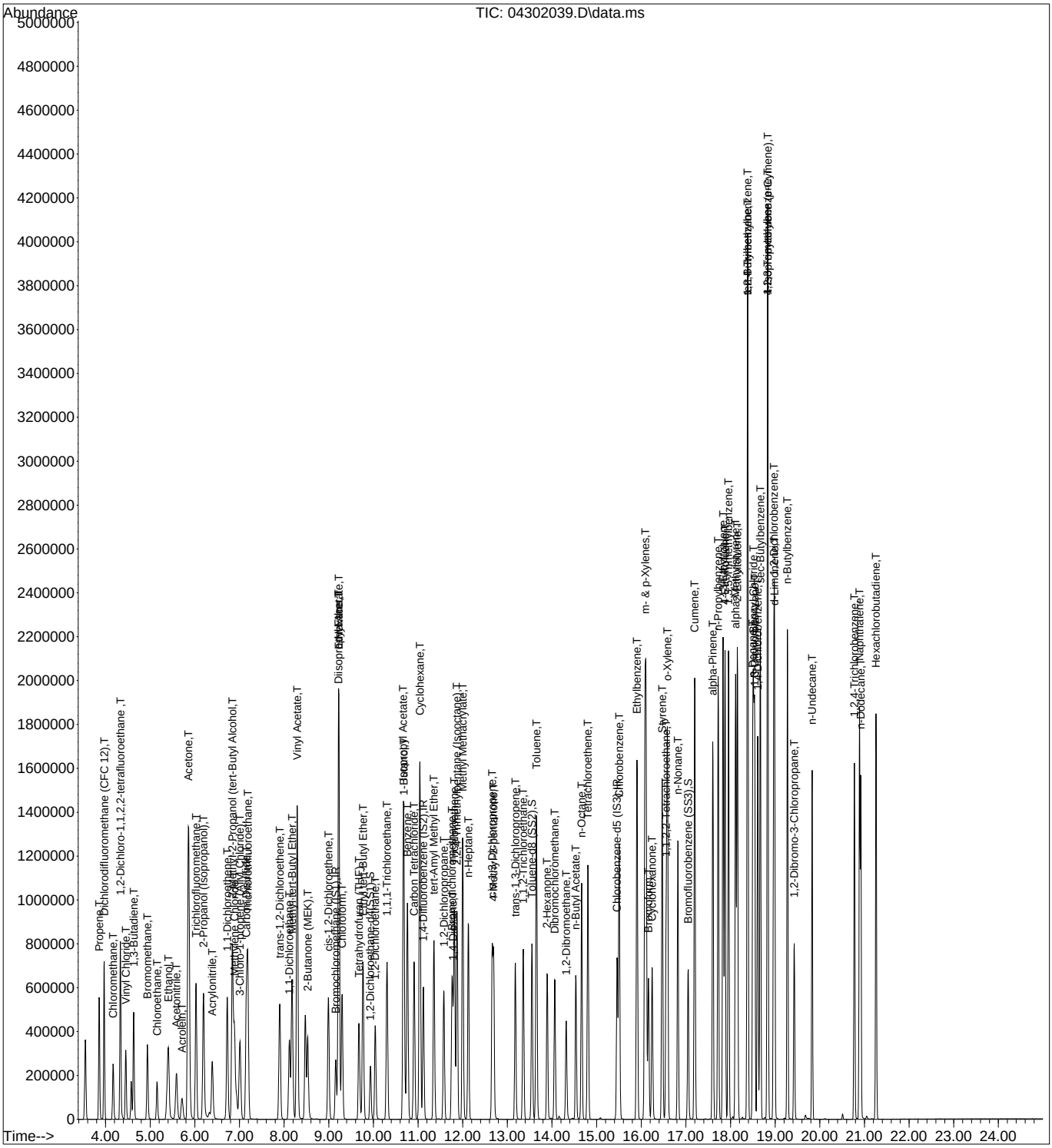
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	271229	28.743	ng	100
52) cis-1,3-Dichloropropene	12.66	75	517192	30.052	ng	100
53) 4-Methyl-2-pentanone	12.69	58	216669	30.485	ng	97
54) trans-1,3-Dichloropropene	13.18	75	488021	29.618	ng	100
55) 1,1,2-Trichloroethane	13.36	97	308871	27.822	ng	99
58) Toluene	13.65	91	1281040	28.600	ng	99
59) 2-Hexanone	13.89	43	456475	34.177	ng	97
60) Dibromochloromethane	14.06	129	450999	29.635	ng	100
61) 1,2-Dibromoethane	14.32	107	378911	30.353	ng	100
62) n-Butyl Acetate	14.53	43	494934	33.163	ng	99
63) n-Octane	14.67	57	205769	28.859	ng	99
64) Tetrachloroethene	14.80	166	460561	27.298	ng	100
65) Chlorobenzene	15.51	112	943648	28.776	ng	100
66) Ethylbenzene	15.90	91	1493566	28.618	ng	100
67) m- & p-Xylenes	16.10	91	2475653	56.226	ng	99
68) Bromoform	16.16	173	409189	30.365	ng	99
69) Styrene	16.47	104	978248	30.530	ng	99
70) o-Xylene	16.58	91	1217943	28.166	ng	100
71) n-Nonane	16.82	43	396914	28.455	ng	100
72) 1,1,2,2-Tetrachloroethane	16.56	83	481230	29.378	ng	100
74) Cumene	17.19	105	1579058	27.998	ng	99
75) alpha-Pinene	17.60	93	782360	30.461	ng	99
76) n-Propylbenzene	17.72	91	1763744	28.705	ng	99
77) 3-Ethyltoluene	17.83	105	1608505	29.210	ng	99
78) 4-Ethyltoluene	17.88	105	1480865	27.617	ng	99
79) 1,3,5-Trimethylbenzene	17.95	105	1366095	27.569	ng	99
80) alpha-Methylstyrene	18.11	118	739667	29.837	ng	99
81) 2-Ethyltoluene	18.15	105	1535025	28.015	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	1337739	27.919	ng	99
83) n-Decane	18.50	57	490461	29.054	ng	99
84) Benzyl Chloride	18.51	91	1119411	30.973	ng	99
85) 1,3-Dichlorobenzene	18.54	146	846678	29.310	ng	100
86) 1,4-Dichlorobenzene	18.61	146	862828	29.288	ng	99
87) sec-Butylbenzene	18.67	105	1697760	27.666	ng	99
88) 4-Isopropyltoluene (p-...	18.83	119	1631689	27.370	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	1301172	27.132	ng	99
90) 1,2-Dichlorobenzene	18.97	146	801919	28.576	ng	100
91) d-Limonene	18.99	68	384259	28.387	ng	100
92) 1,2-Dibromo-3-Chloropr...	19.43	157	292209	27.463	ng	96
93) n-Undecane	19.83	57	505055	28.352	ng	100
94) 1,2,4-Trichlorobenzene	20.77	180	590895	28.531	ng	100
95) Naphthalene	20.89	128	1615941	26.181	ng	100
96) n-Dodecane	20.92	57	435830	27.321	ng	99
97) Hexachlorobutadiene	21.26	225	413892	24.557	ng	100
98) Cyclohexanone	16.24	55	313080	28.680	ng	99
99) tert-Butylbenzene	18.38	119	1308471	27.192	ng	100
100) n-Butylbenzene	19.27	91	1276008	28.324	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302039.D Vial: 2
Acq On : 1 May 2020 2:26 Operator: SC
Sample : LCS2 R9043020_25ng Inst : MS09
Misc : S34-04212006/S34-04272008 (5/26)

Quant Time: May 01 06:23:59 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302040.D Vial: 2
Acq On : 1 May 2020 3:00 Operator: SC
Sample : LCSD2 R9043020_25ng Inst : MS09
Misc : S34-04212006/S34-04272008 (5/26)

Quant Time: May 01 06:24:01 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/1/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	153268	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.12	114	645072	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	283370	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.93	65	232157	11.691	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.52%				
57) Toluene-d8 (SS2)	13.55	98	700545	12.804	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.40%				
73) Bromofluorobenzene (SS3)	17.05	174	278678	12.673	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.36%				
Target Compounds							Qvalue
2) Propene	3.85	42	197536	30.344	ng		98
3) Dichlorodifluoromethan...	3.96	85	637852	25.790	ng		100
4) Chloromethane	4.17	50	287467	31.500	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	343187	25.668	ng		99
6) Vinyl Chloride	4.45	62	344619	28.796	ng		99
7) 1,3-Butadiene	4.62	54	239114	31.283	ng		98
8) Bromomethane	4.93	94	259814	27.626	ng		99
9) Chloroethane	5.15	64	163472	27.002	ng		99
10) Ethanol	5.40	45	681520	138.215	ng		99
11) Acetonitrile	5.58	41	317338	27.187	ng		99
12) Acrolein	5.71	56	135195	30.004	ng		100
13) Acetone	5.86	58	791988	133.784	ng		92
14) Trichlorofluoromethane	6.02	101	614547	24.973	ng		99
15) 2-Propanol (Isopropanol)	6.19	45	1016417	54.049	ng		99
16) Acrylonitrile	6.38	53	285591	30.410	ng		99
17) 1,1-Dichloroethene	6.72	96	297952	27.542	ng		96
18) 2-Methyl-2-Propanol (t...	6.83	59	1326821	77.216	ng		98
19) Methylene Chloride	6.88	84	285608	27.509	ng		97
20) 3-Chloro-1-propene (Al...	7.01	41	301325	25.013	ng		99
21) Trichlorotrifluoroethane	7.18	151	337425	26.348	ng		99
22) Carbon Disulfide	7.15	76	970186	28.104	ng		100
23) trans-1,2-Dichloroethene	7.90	61	394472	28.890	ng		98
24) 1,1-Dichloroethane	8.12	63	448681	26.299	ng		100
25) Methyl tert-Butyl Ether	8.17	73	869332	39.547	ng		99
26) Vinyl Acetate	8.29	86	329024	152.288	ng		97
27) 2-Butanone (MEK)	8.52	72	180430	29.666	ng		98
28) cis-1,2-Dichloroethene	8.99	61	374498	27.136	ng		98
29) Diisopropyl Ether	9.22	87	243902	27.688	ng	#	92
30) Ethyl Acetate	9.22	61	165411	61.126	ng		99
31) n-Hexane	9.23	57	373507	28.435	ng		100
32) Chloroform	9.30	83	553417	26.334	ng		100
34) Tetrahydrofuran (THF)	9.67	72	177537	28.820	ng		98
35) Ethyl tert-Butyl Ether	9.77	87	346229	36.766	ng		100
36) 1,2-Dichloroethane	10.04	62	453780	26.251	ng		99
38) 1,1,1-Trichloroethane	10.30	97	578632	26.089	ng		99
39) Isopropyl Acetate	10.67	61	290928	54.977	ng		94
40) 1-Butanol	10.68	56	448539	63.089	ng		97
41) Benzene	10.76	78	1114952	26.514	ng		100
42) Carbon Tetrachloride	10.91	117	539193	24.800	ng		100
43) Cyclohexane	11.04	84	889923	54.019	ng		99
44) tert-Amyl Methyl Ether	11.35	73	764016	34.602	ng		99
45) 1,2-Dichloropropane	11.57	63	238624	27.719	ng		100
46) Bromodichloromethane	11.76	83	449873	26.000	ng		100
47) Trichloroethene	11.81	130	397958	27.326	ng		99
48) 1,4-Dioxane	11.78	88	251944	29.798	ng		99
49) 2,2,4-Trimethylpentane...	11.87	57	974515	27.744	ng		97
50) Methyl Methacrylate	12.00	100	268067	59.503	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302040.D Vial: 2
Acq On : 1 May 2020 3:00 Operator: SC
Sample : LCSD2 R9043020_25ng Inst : MS09
Misc : S34-04212006/S34-04272008 (5/26)

Quant Time: May 01 06:24:01 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

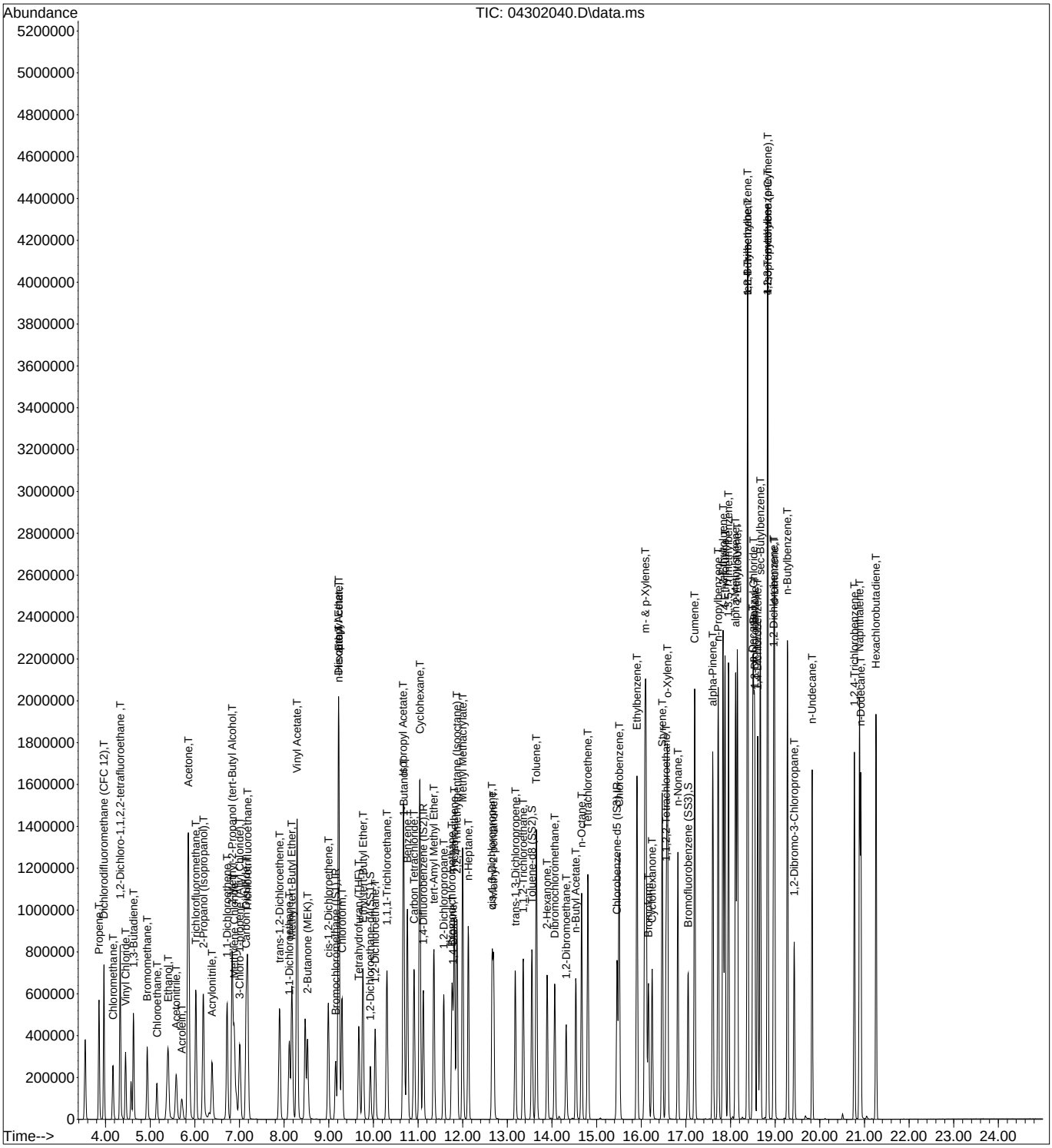
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	274427	28.088	ng	99
52) cis-1,3-Dichloropropene	12.66	75	520971	29.237	ng	100
53) 4-Methyl-2-pentanone	12.69	58	219507	29.829	ng	98
54) trans-1,3-Dichloropropene	13.18	75	492520	28.870	ng	100
55) 1,1,2-Trichloroethane	13.36	97	312710	27.205	ng	99
58) Toluene	13.65	91	1296098	28.215	ng	99
59) 2-Hexanone	13.89	43	466976	34.091	ng	97
60) Dibromochloromethane	14.06	129	451921	28.955	ng	100
61) 1,2-Dibromoethane	14.32	107	379760	29.662	ng	99
62) n-Butyl Acetate	14.53	43	504063	32.932	ng	99
63) n-Octane	14.67	57	208655	28.534	ng	99
64) Tetrachloroethene	14.80	166	463591	26.793	ng	100
65) Chlorobenzene	15.51	112	950489	28.262	ng	100
66) Ethylbenzene	15.90	91	1505071	28.119	ng	100
67) m- & p-Xylenes	16.10	91	2494718	55.246	ng	99
68) Bromoform	16.16	173	411685	29.788	ng	99
69) Styrene	16.47	104	984504	29.959	ng	99
70) o-Xylene	16.58	91	1223559	27.591	ng	99
71) n-Nonane	16.82	43	399775	27.945	ng	99
72) 1,1,2,2-Tetrachloroethane	16.56	83	486230	28.943	ng	100
74) Cumene	17.19	105	1623041	28.060	ng	99
75) alpha-Pinene	17.60	93	796143	30.225	ng	98
76) n-Propylbenzene	17.72	91	1818736	28.861	ng	99
77) 3-Ethyltoluene	17.83	105	1703098	30.157	ng	99
78) 4-Ethyltoluene	17.88	105	1529185	27.807	ng	100
79) 1,3,5-Trimethylbenzene	17.95	105	1422045	27.982	ng	99
80) alpha-Methylstyrene	18.11	118	786232	30.925	ng	99
81) 2-Ethyltoluene	18.15	105	1618003	28.793	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	1396028	28.409	ng	100
83) n-Decane	18.50	57	532604	30.763	ng	99
84) Benzyl Chloride	18.51	91	1204693	32.501	ng	99
85) 1,3-Dichlorobenzene	18.54	146	891094	30.078	ng	100
86) 1,4-Dichlorobenzene	18.61	146	912520	30.203	ng	100
87) sec-Butylbenzene	18.67	105	1805116	28.681	ng	99
88) 4-Isopropyltoluene (p-...	18.83	119	1726052	28.230	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	1369222	27.839	ng	98
90) 1,2-Dichlorobenzene	18.97	146	845002	29.360	ng	100
91) d-Limonene	18.99	68	406358	29.271	ng	99
92) 1,2-Dibromo-3-Chloropr...	19.43	157	307367	28.167	ng	96
93) n-Undecane	19.83	57	525476	28.763	ng	100
94) 1,2,4-Trichlorobenzene	20.77	180	634148	29.856	ng	100
95) Naphthalene	20.89	128	1742118	27.521	ng	100
96) n-Dodecane	20.92	57	469623	28.705	ng	100
97) Hexachlorobutadiene	21.26	225	435568	25.199	ng	100
98) Cyclohexanone	16.24	55	322154	28.776	ng	98
99) tert-Butylbenzene	18.38	119	1360165	27.562	ng	99
100) n-Butylbenzene	19.27	91	1345642	29.125	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302040.D Vial: 2
Acq On : 1 May 2020 3:00 Operator: SC
Sample : LCSD2 R9043020_25ng Inst : MS09
Misc : S34-04212006/S34-04272008 (5/26)

Quant Time: May 01 06:24:01 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302063.D Vial: 16
Acq On : 1 May 2020 16:12 Operator: SC
Sample : P2002103-013dup (15mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 16:41:48 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/1/20

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	152425	12.500 ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	639064	12.500 ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	288519	12.500 ng		0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.92	65	228488	11.570 ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.56%			
57) Toluene-d8 (SS2)	13.55	98	697037	12.512 ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.08%			
73) Bromofluorobenzene (SS3)	17.05	174	269874	12.054 ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.40%			
Target Compounds						Qvalue
2) Propene	3.86	42	16844m	2.602 ng		
3) Dichlorodifluoromethan...	3.98	85	65159	2.649 ng		100
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D. d		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D. d		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.44	45	34	N.D.		
11) Acetonitrile	0.00	41	0	N.D.		
12) Acrolein	0.00	56	0	N.D. d		
13) Acetone	0.00	58	0	N.D. d		
14) Trichlorofluoromethane	6.03	101	5490	0.224 ng		97
15) 2-Propanol (Isopropanol)	6.44	45	564	N.D.		
16) Acrylonitrile	0.00	53	0	N.D. d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	0.00	84	0	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D. d		
21) Trichlorotrifluoroethane	7.20	151	14845	1.166 ng		99
22) Carbon Disulfide	7.18	76	694	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	8.11	63	256	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D. d		
26) Vinyl Acetate	0.00	86	0	N.D. d		
27) 2-Butanone (MEK)	0.00	72	0	N.D. d		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D. d		
29) Diisopropyl Ether	0.00	87	0	N.D. d		
30) Ethyl Acetate	0.00	61	0	N.D. d		
31) n-Hexane	9.24	57	435911	33.369 ng		99
32) Chloroform	9.28	83	674	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	9.99	62	298	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D. d		
41) Benzene	10.77	78	2745	0.066 ng	#	7
42) Carbon Tetrachloride	10.92	117	7852	0.365 ng		98
43) Cyclohexane	11.05	84	2583898	158.320 ng		98
44) tert-Amyl Methyl Ether	11.30	73	813	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D. d		
46) Bromodichloromethane	0.00	83	0	N.D. d		
47) Trichloroethene	11.82	130	7246	0.502 ng		97
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d		
50) Methyl Methacrylate	0.00	100	0	N.D. d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302063.D Vial: 16
Acq On : 1 May 2020 16:12 Operator: SC
Sample : P2002103-013dup (15mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 16:41:48 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

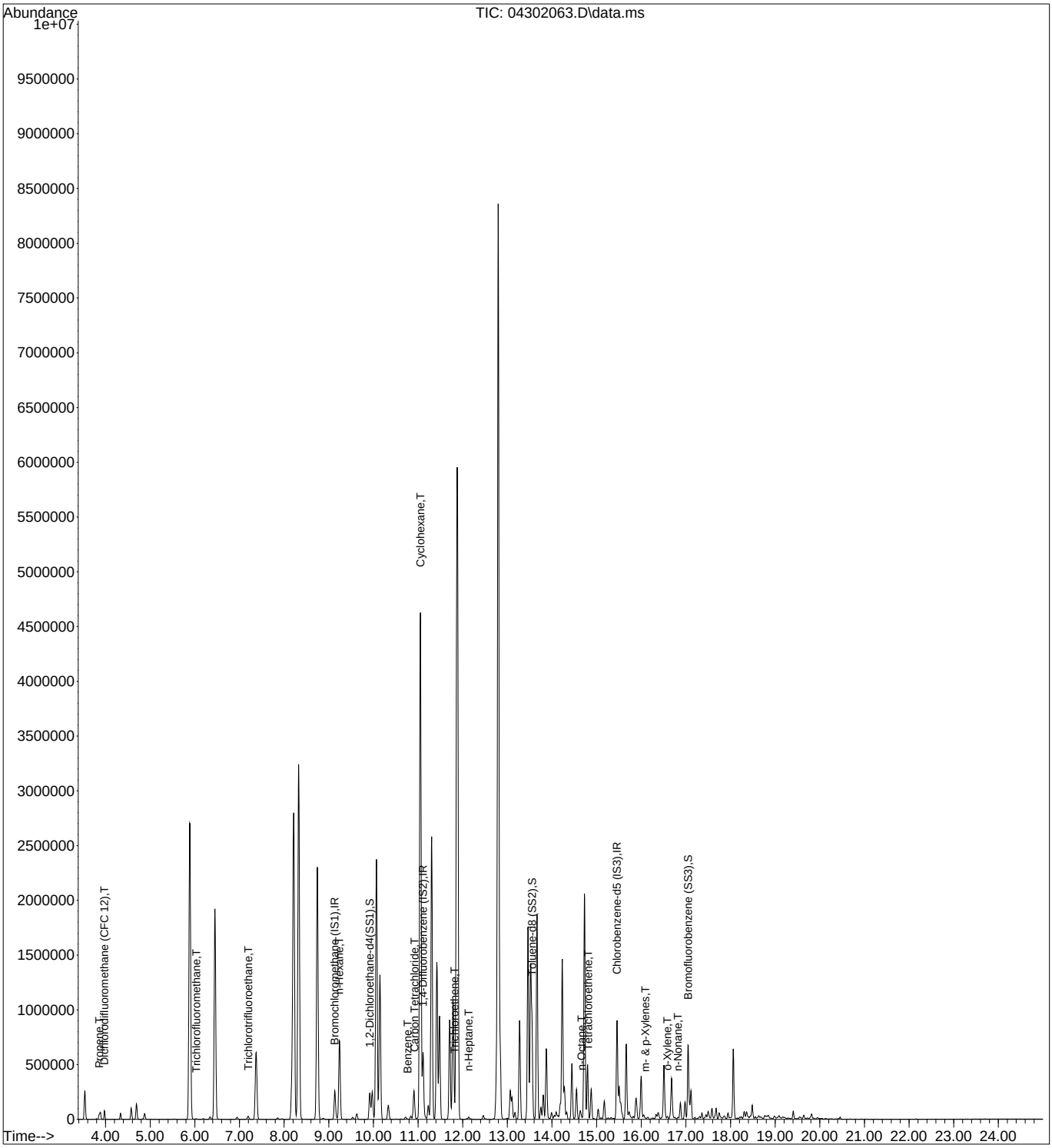
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	12.14	71	4998	0.516 ng		89
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d		
54) trans-1,3-Dichloropropene	13.29	75	122	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d		
58) Toluene	0.00	91	0	N.D. d		
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D. d		
63) n-Octane	14.67	57	5377	0.722 ng	#	64
64) Tetrachloroethene	14.81	166	2266	0.129 ng		97
65) Chlorobenzene	0.00	112	0	N.D. d		
66) Ethylbenzene	15.91	91	2556	N.D.		
67) m- & p-Xylenes	16.10	91	3987	0.087 ng		83
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	16.59	91	5653	0.125 ng		99
71) n-Nonane	16.82	43	5826	0.400 ng		96
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d		
74) Cumene	17.20	105	272	N.D.		
75) alpha-Pinene	17.57	93	221	N.D.		
76) n-Propylbenzene	17.75	91	1054	N.D.		
77) 3-Ethyltoluene	17.85	105	249	N.D.		
78) 4-Ethyltoluene	17.89	105	173	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	474	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	18.16	105	454	N.D.		
82) 1,2,4-Trimethylbenzene	18.40	105	566	N.D.		
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	18.49	91	1382	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	18.67	105	246	N.D.		
88) 4-Isopropyltoluene (p-...	18.84	119	448	N.D.		
89) 1,2,3-Trimethylbenzene	18.84	105	475	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	0.00	68	0	N.D. d		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	0.00	128	0	N.D.		
96) n-Dodecane	20.93	57	441	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	18.38	119	192	N.D.		
100) n-Butylbenzene	19.28	91	219	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302063.D Vial: 16
Acq On : 1 May 2020 16:12 Operator: SC
Sample : P2002103-013dup (15mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 16:41:48 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302063.D Vial: 16
Acq On : 1 May 2020 16:12 Operator: SC
Sample : P2002103-013dup (15mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 16:41:48 2020 5/1/20
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

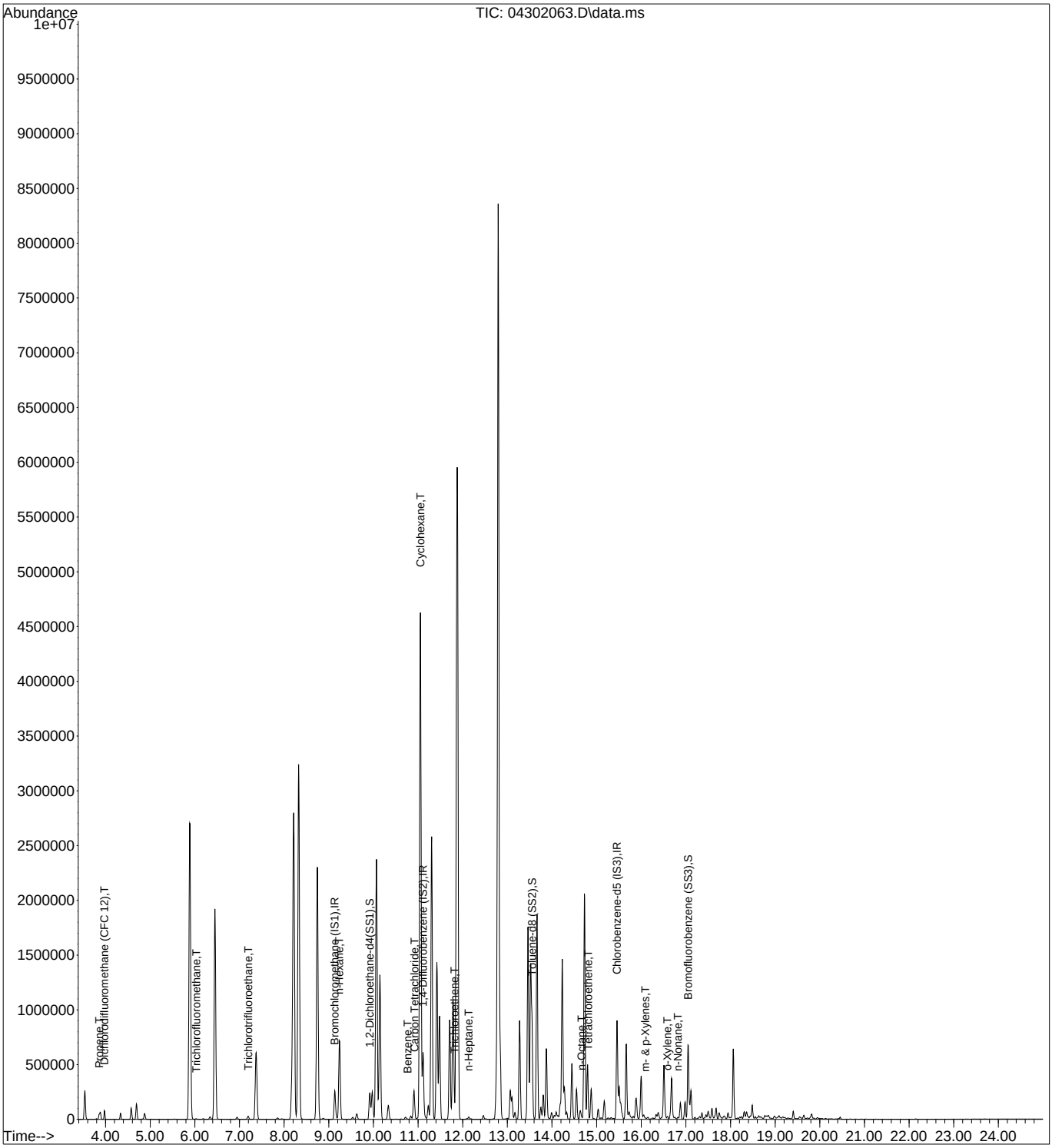
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	152425	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	639064	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	288519	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.92	65	228488	11.570	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.56%				
57) Toluene-d8 (SS2)	13.55	98	697037	12.512	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.08%				
73) Bromofluorobenzene (SS3)	17.05	174	269874	12.054	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.40%				
Target Compounds							Qvalue
2) Propene	3.86	42	16844m	2.602	ng		
3) Dichlorodifluoromethan...	3.98	85	65159	2.649	ng		100
14) Trichlorofluoromethane	6.03	101	5490	0.224	ng		97
21) Trichlorotrifluoroethane	7.20	151	14845	1.166	ng		99
31) n-Hexane	9.24	57	435911	33.369	ng		99
41) Benzene	10.77	78	2745	0.066	ng	#	7
42) Carbon Tetrachloride	10.92	117	7852	0.365	ng		98
43) Cyclohexane	11.05	84	2583898	158.320	ng		98
47) Trichloroethene	11.82	130	7246	0.502	ng		97
51) n-Heptane	12.14	71	4998	0.516	ng		89
63) n-Octane	14.67	57	5377	0.722	ng	#	64
64) Tetrachloroethene	14.81	166	2266	0.129	ng		97
67) m- & p-Xylenes	16.10	91	3987	0.087	ng		83
70) o-Xylene	16.59	91	5653	0.125	ng		99
71) n-Nonane	16.82	43	5826	0.400	ng		96

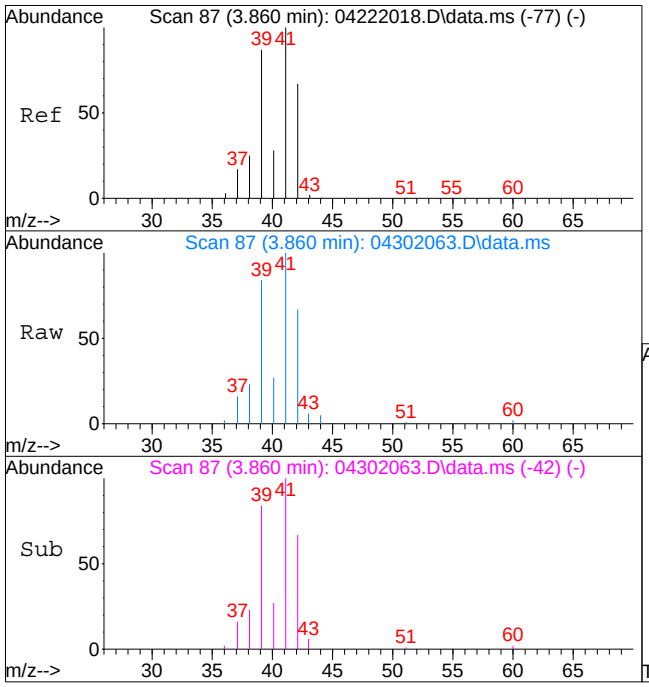
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302063.D Vial: 16
Acq On : 1 May 2020 16:12 Operator: SC
Sample : P2002103-013dup (15mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 16:41:48 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

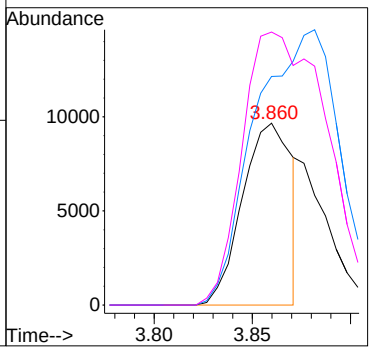


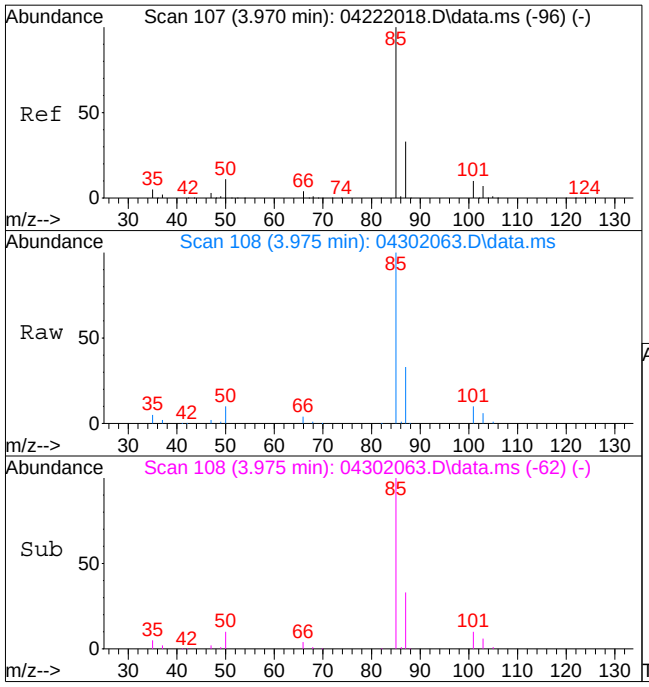


#2
Propene
Concen: 2.60 ng m
RT: 3.86 min Scan# 87
Delta R.T. -0.000 min
Lab File: 04302063.D
Acq: 1 May 2020 16:12

Tgt Ion: 42 Resp: 16844

Ion	Ratio	Lower	Upper
42	100		
39	258.4	106.4	146.4#
41	258.9	128.8	168.8#

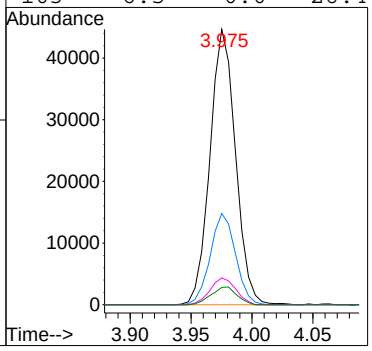


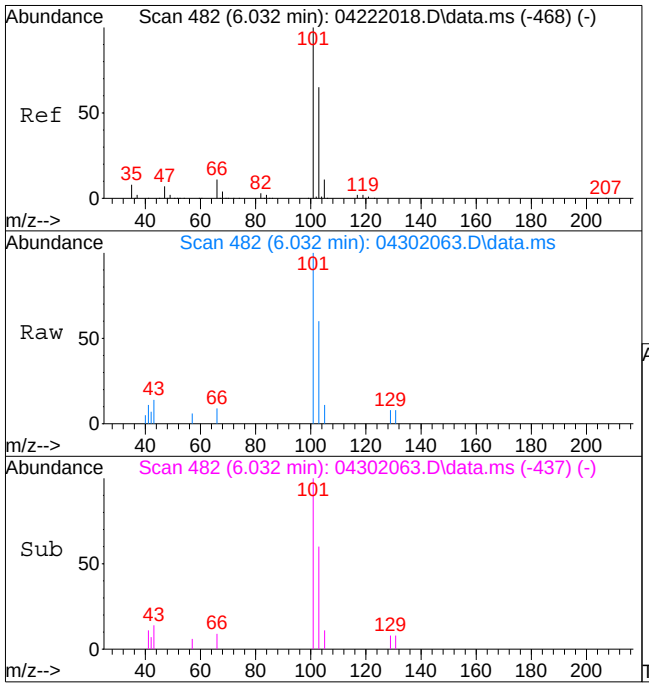


#3
Dichlorodifluoromethane (CFC 12)
Concen: 2.65 ng
RT: 3.98 min Scan# 108
Delta R.T. 0.005 min
Lab File: 04302063.D
Acq: 1 May 2020 16:12

Tgt Ion: 85 Resp: 65159

Ion	Ratio	Lower	Upper
85	100		
87	32.7	12.4	52.4
101	9.8	0.0	29.9
103	6.5	0.0	26.4

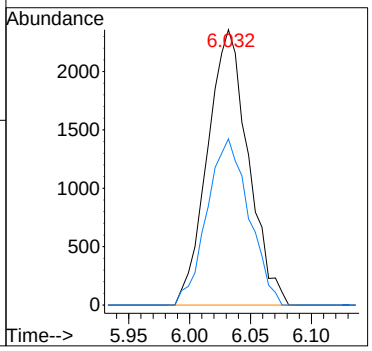


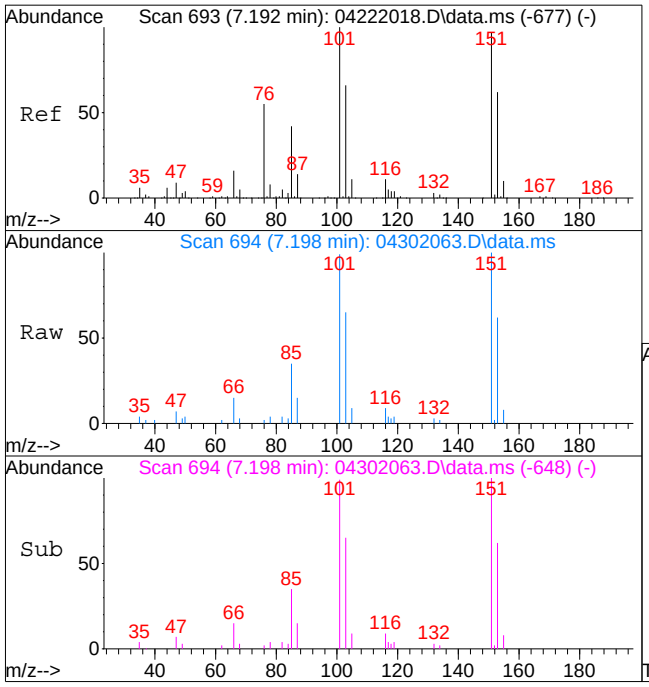


#14
Trichlorofluoromethane
Concen: 0.22 ng
RT: 6.03 min Scan# 482
Delta R.T. -0.000 min
Lab File: 04302063.D
Acq: 1 May 2020 16:12

Tgt Ion:101 Resp: 5490

Ion	Ratio	Lower	Upper
101	100		
103	62.0	44.7	84.7

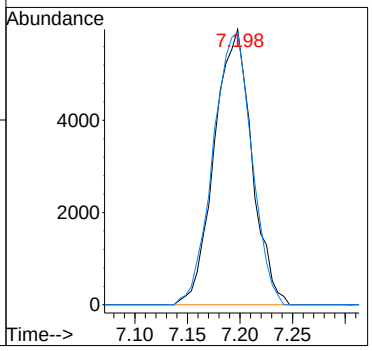


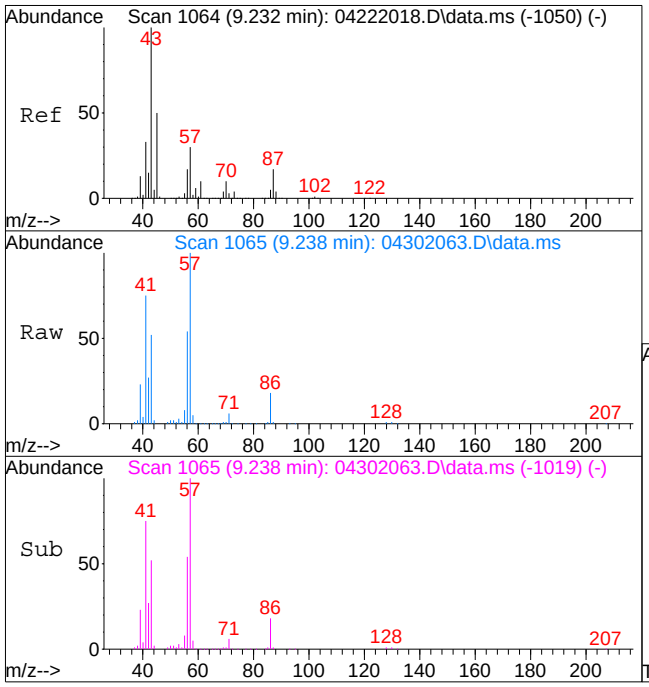


#21
Trichlorotrifluoroethane
Concen: 1.17 ng
RT: 7.20 min Scan# 694
Delta R.T. 0.005 min
Lab File: 04302063.D
Acq: 1 May 2020 16:12

Tgt Ion:151 Resp: 14845

Ion	Ratio	Lower	Upper
151	100		
101	102.0	82.9	122.9

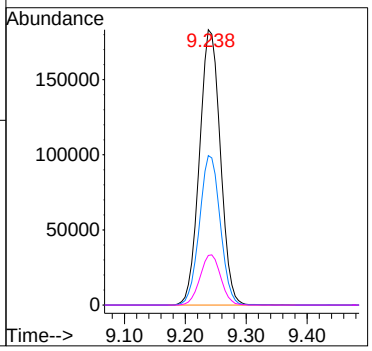


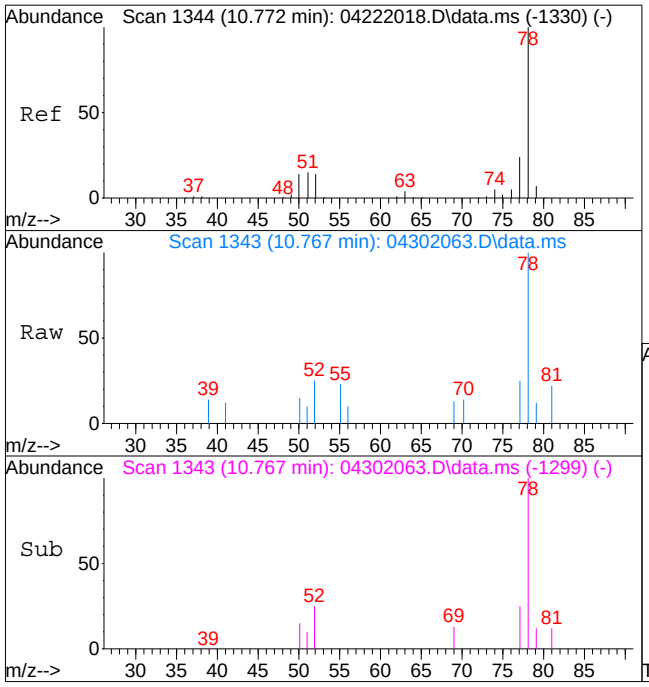


#31
n-Hexane
Concen: 33.37 ng
RT: 9.24 min Scan# 1065
Delta R.T. 0.005 min
Lab File: 04302063.D
Acq: 1 May 2020 16:12

Tgt Ion: 57 Resp: 435911

Ion	Ratio	Lower	Upper
57	100		
56	54.1	44.0	66.0
86	18.1	15.0	22.4

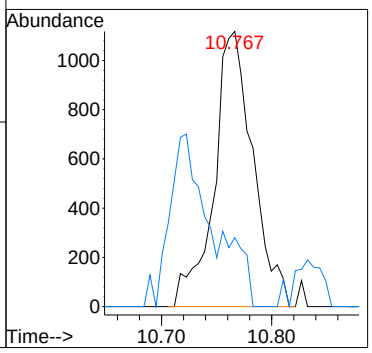


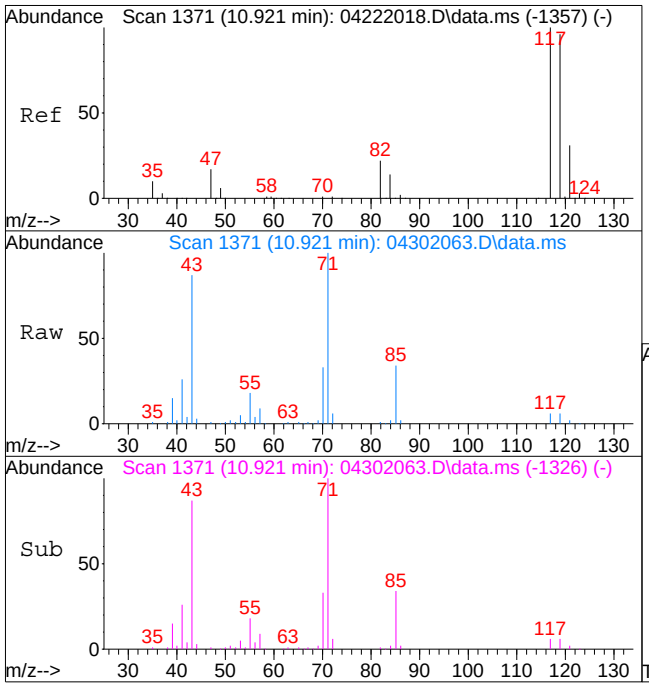


#41
Benzene
Concen: 0.07 ng
RT: 10.77 min Scan# 1343
Delta R.T. -0.006 min
Lab File: 04302063.D
Acq: 1 May 2020 16:12

Tgt Ion: 78 Resp: 2745

Ion	Ratio	Lower	Upper
78	100		
77	69.0	3.6	43.6#

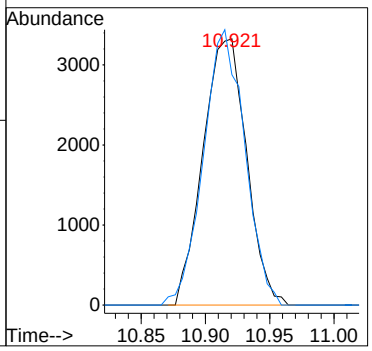


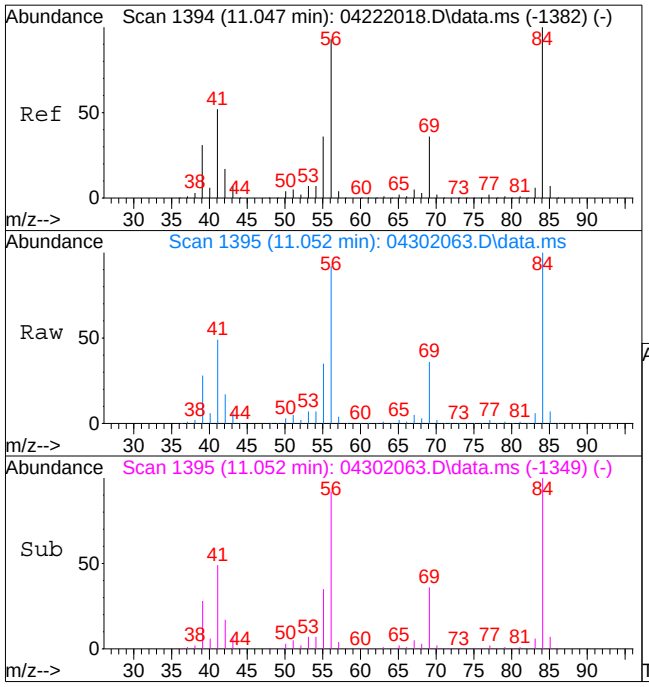


#42
Carbon Tetrachloride
Concen: 0.36 ng
RT: 10.92 min Scan# 1371
Delta R.T. -0.000 min
Lab File: 04302063.D
Acq: 1 May 2020 16:12

Tgt Ion:117 Resp: 7852

Ion	Ratio	Lower	Upper
117	100		
119	98.1	76.5	116.5

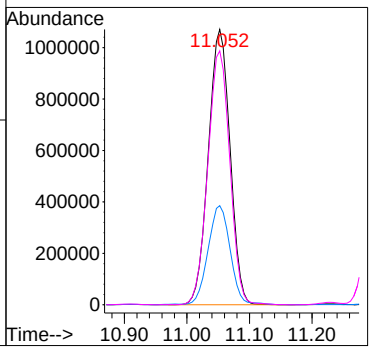


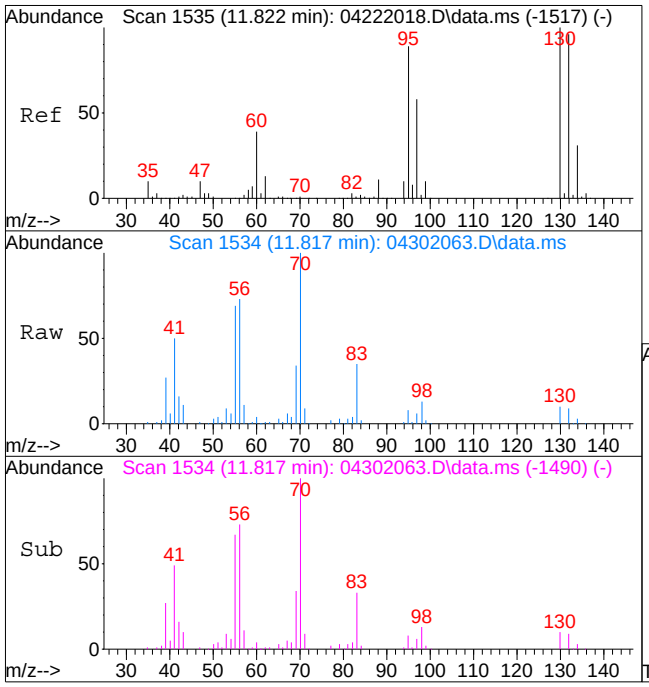


#43
Cyclohexane
Concen: 158.32 ng
RT: 11.05 min Scan# 1395
Delta R.T. 0.005 min
Lab File: 04302063.D
Acq: 1 May 2020 16:12

Tgt Ion: 84 Resp: 2583898

Ion	Ratio	Lower	Upper
84	100		
69	36.8	15.8	55.8
56	93.4	72.0	112.0

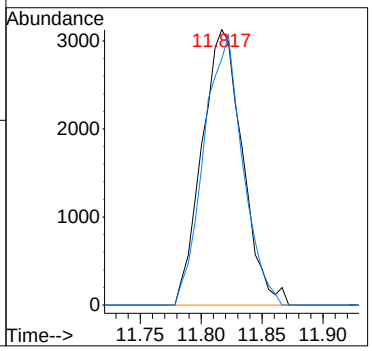


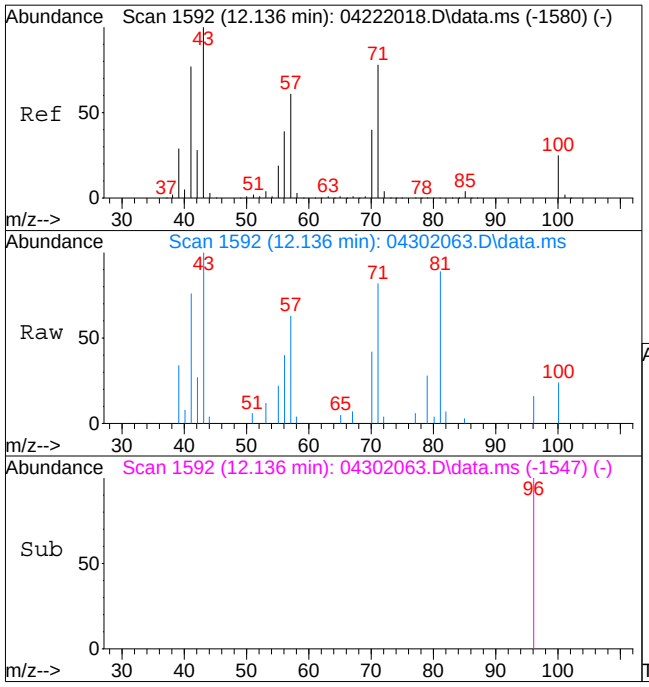


#47
Trichloroethene
Concen: 0.50 ng
RT: 11.82 min Scan# 1534
Delta R.T. -0.006 min
Lab File: 04302063.D
Acq: 1 May 2020 16:12

Tgt Ion:130 Resp: 7246

Ion	Ratio	Lower	Upper
130	100		
132	93.9	76.4	116.4

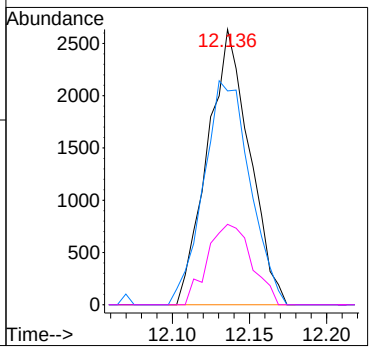


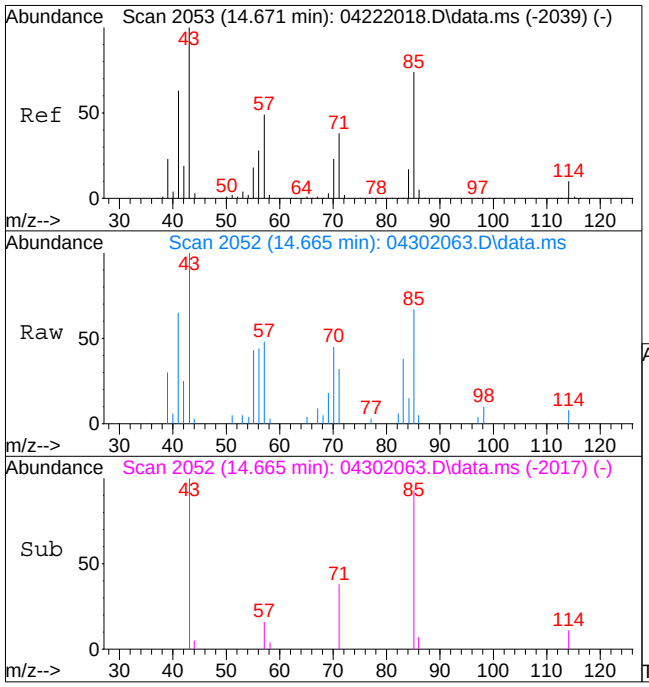


#51
n-Heptane
Concen: 0.52 ng
RT: 12.14 min Scan# 1592
Delta R.T. -0.000 min
Lab File: 04302063.D
Acq: 1 May 2020 16:12

Tgt Ion: 71 Resp: 4998

Ion	Ratio	Lower	Upper
71	100		
57	89.7	57.4	97.4
100	30.7	12.0	52.0

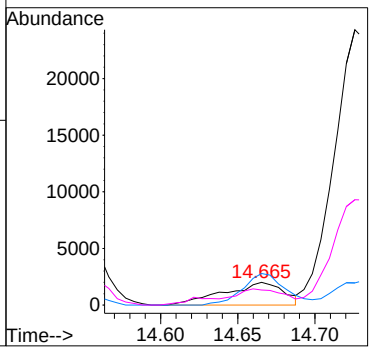


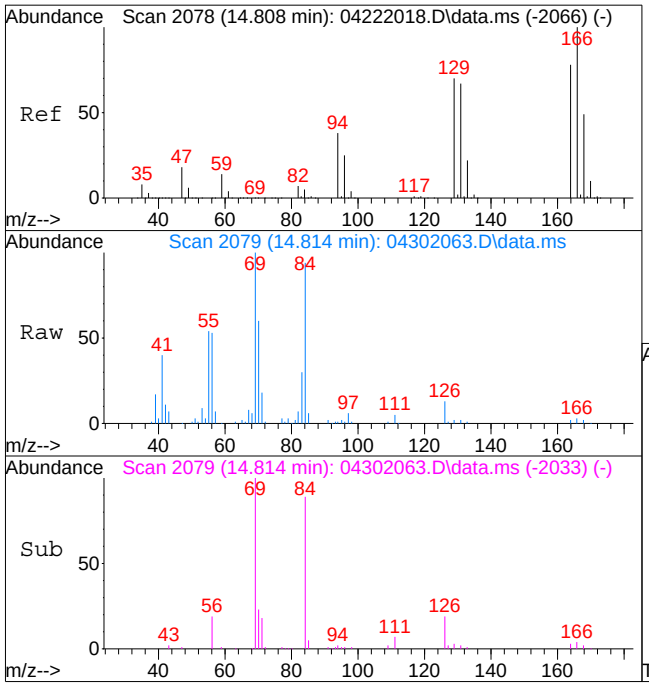


#63
n-Octane
Concen: 0.72 ng
RT: 14.67 min Scan# 2052
Delta R.T. -0.006 min
Lab File: 04302063.D
Acq: 1 May 2020 16:12

Tgt Ion: 57 Resp: 5377

Ion	Ratio	Lower	Upper
57	100		
85	100.0	120.7	181.1#
71	52.3	61.1	91.7#

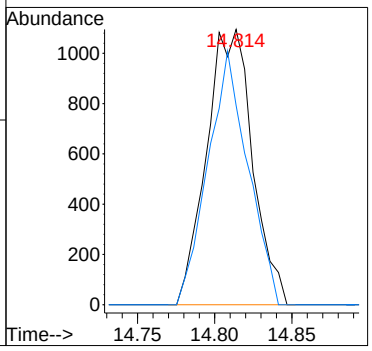


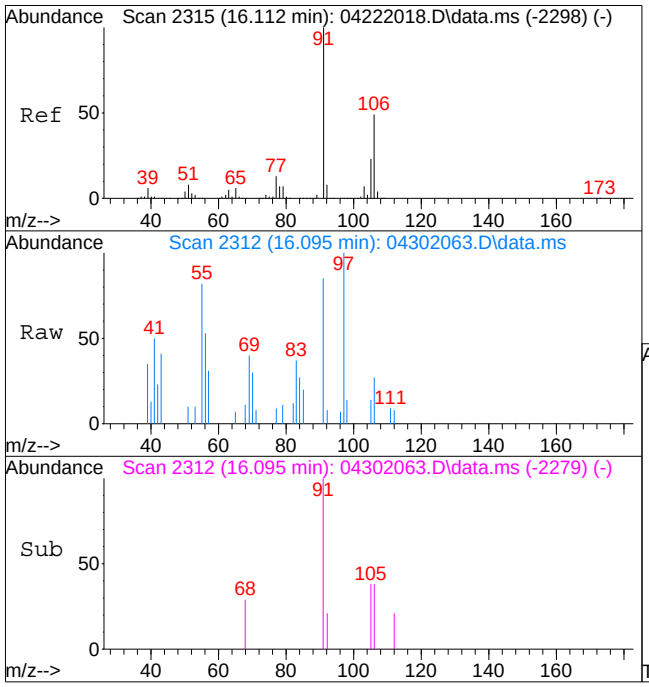


#64
Tetrachloroethene
Concen: 0.13 ng
RT: 14.81 min Scan# 2079
Delta R.T. 0.005 min
Lab File: 04302063.D
Acq: 1 May 2020 16:12

Tgt Ion:166 Resp: 2266

Ion	Ratio	Lower	Upper
166	100		
164	80.4	57.7	97.7

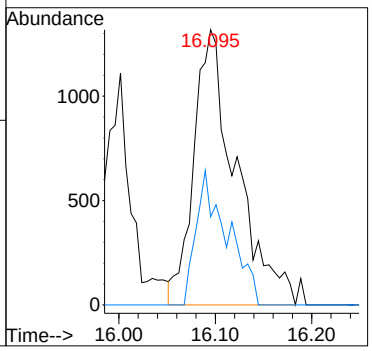


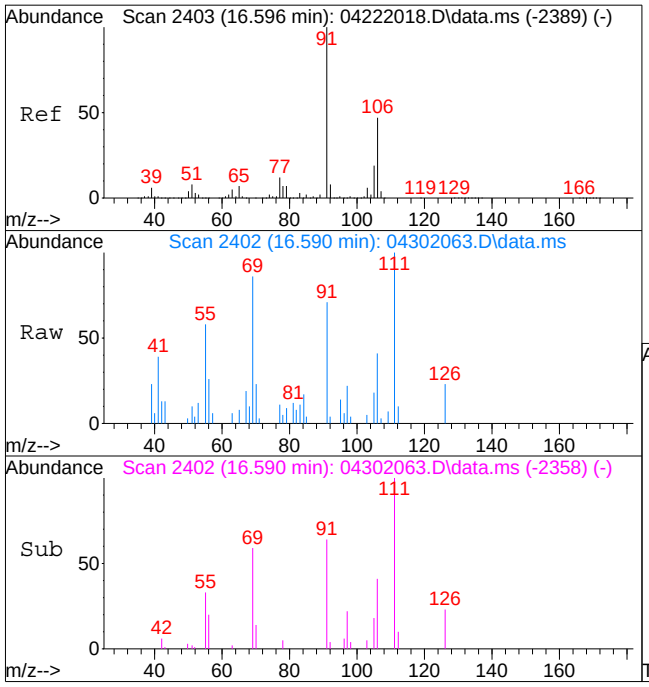


#67
m- & p-Xylenes
Concen: 0.09 ng
RT: 16.10 min Scan# 2312
Delta R.T. -0.017 min
Lab File: 04302063.D
Acq: 1 May 2020 16:12

Tgt Ion: 91 Resp: 3987

Ion	Ratio	Lower	Upper
91	100		
106	36.5	28.3	68.3

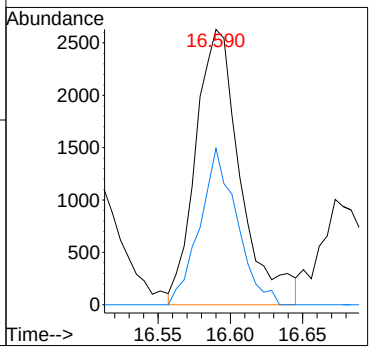


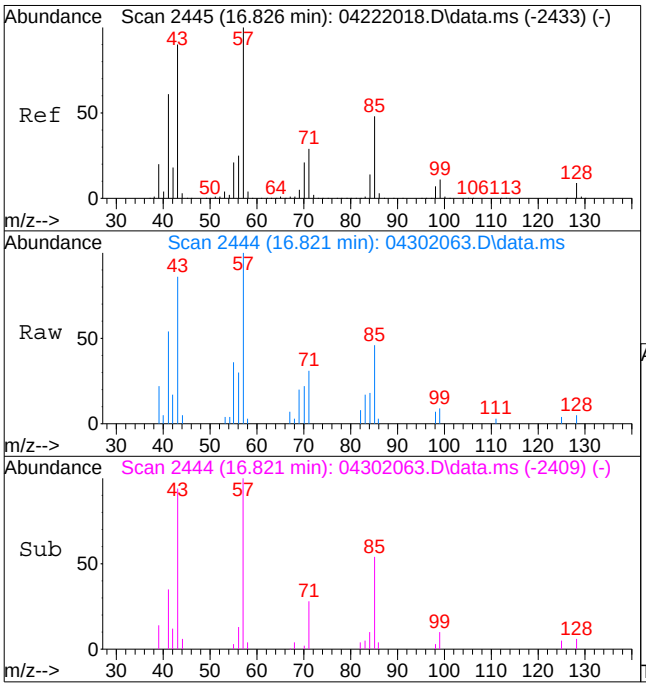


#70
o-Xylene
Concen: 0.13 ng
RT: 16.59 min Scan# 2402
Delta R.T. -0.006 min
Lab File: 04302063.D
Acq: 1 May 2020 16:12

Tgt Ion: 91 Resp: 5653

Ion	Ratio	Lower	Upper
91	100		
106	47.0	27.5	67.5

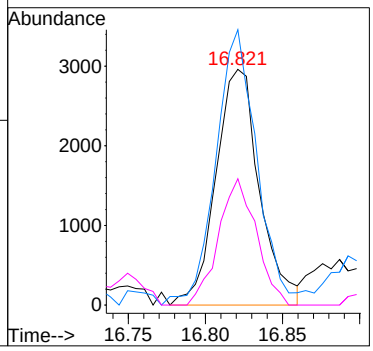




#71
n-Nonane
Concen: 0.40 ng
RT: 16.82 min Scan# 2444
Delta R.T. -0.006 min
Lab File: 04302063.D
Acq: 1 May 2020 16:12

Tgt Ion: 43 Resp: 5826

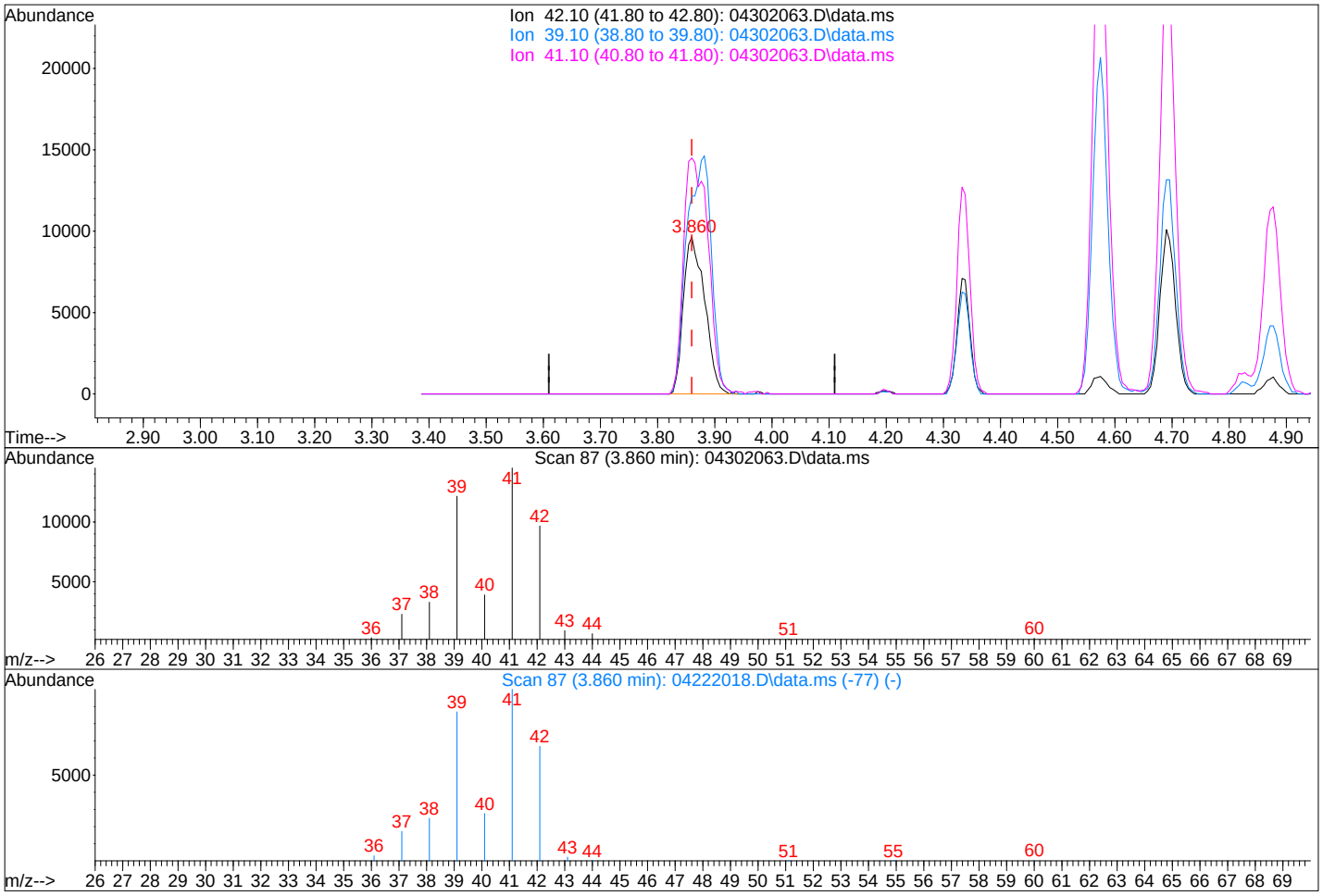
Ion	Ratio	Lower	Upper
43	100		
57	109.3	90.8	130.8
85	46.4	32.1	72.1



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\30\04302063.D Vial: 16
Acq On : 1 May 2020 16:12 Operator: SC
Sample : P2002103-013dup (15mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 16:38:05 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04302063.D\data.ms

(2) Propene (T)

3.860min (-0.000) 3.86ng

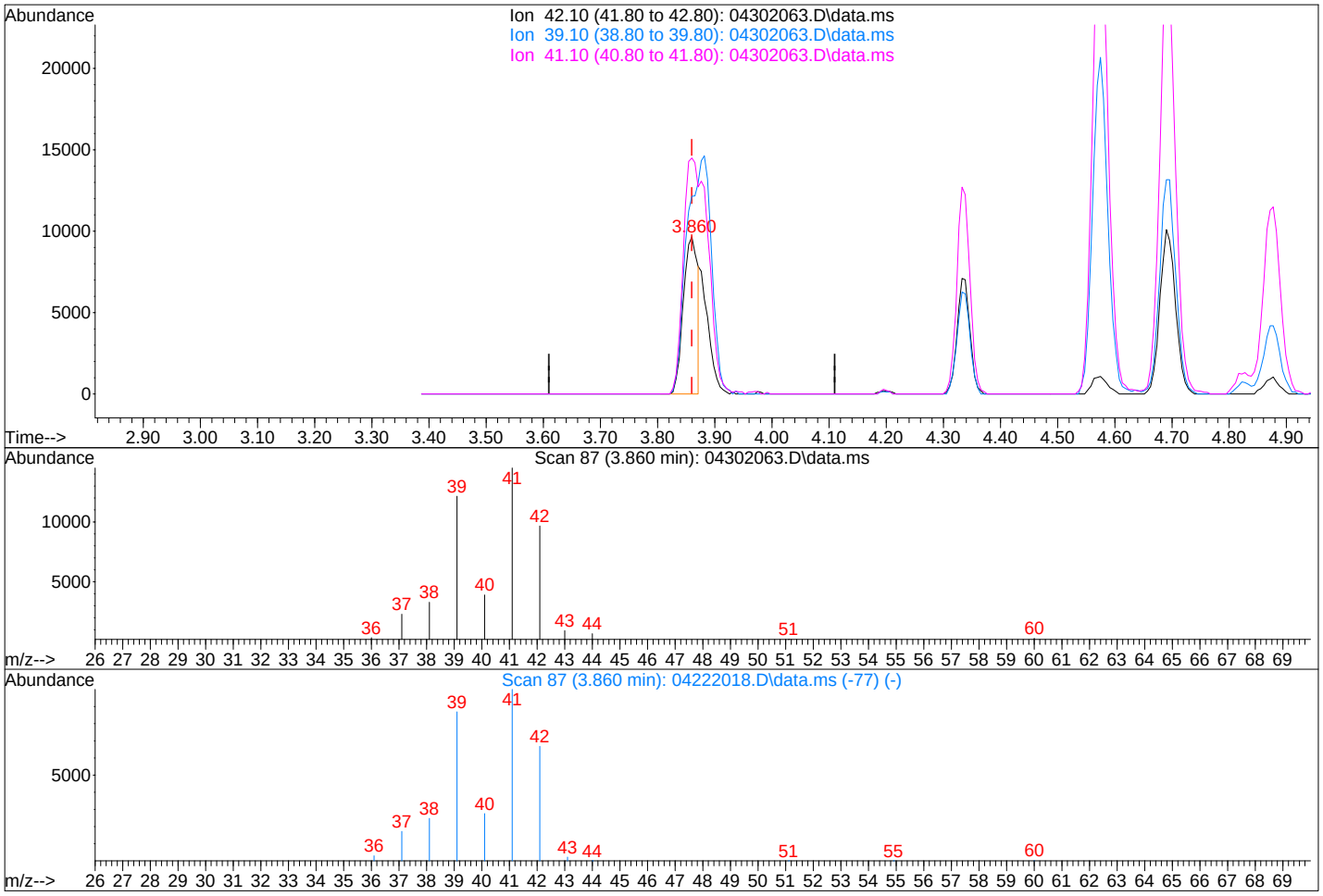
response 24980

Ion	Exp%	Act%
42.10	100	100
39.10	126.40	174.27#
41.10	148.80	174.61#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_04\30\04302063.D Vial: 16
Acq On : 1 May 2020 16:12 Operator: SC
Sample : P2002103-013dup (15mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 01 16:38:05 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 04302063.D\data.ms

(2) Propene (T)

3.860min (-0.000) 2.60ng m

response 16844

Ion	Exp%	Act%
42.10	100	100
39.10	126.40	258.45#
41.10	148.80	258.95#
0.00	0.00	0.00

IPC

5/1/20

5/4/20

Response Factor Report MS09

Method Path : I:\MS09\Methods\
Method File : R9042220.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Apr 23 14:12:50 2020
Response Via : Initial Calibration

4/23/20

Calibration Files
0.2 =04222023.D 0.5 =04222013.D 1.0 =04222014.D 5.0 =04222015.D 25 =04222016.D 50 =04222

		Compound	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------	ISTD	----------						
2)	T	Propene	0.558	0.530	0.468	0.498	0.500	0.537	0.625	0.531	9.61
3)	T	Dichlorodifluo...	2.167	2.392	2.121	1.989	1.939	1.797	1.715	2.017	11.45
4)	T	Chloromethane	0.859	0.912	0.802	0.679	0.788	0.662	0.508	0.744	18.49
5)	T	1,2-Dichloro-1...	1.205	1.262	1.169	1.046	1.051	0.980	0.919	1.090	11.47
6)	T	Vinyl Chloride	1.031	1.068	0.997	0.957	0.971	0.925	0.883	0.976	6.42
7)	T	1,3-Butadiene	0.625	0.663	0.609	0.614	0.661	0.601	0.590	0.623	4.56
8)	T	Bromomethane	0.810	0.873	0.801	0.727	0.749	0.718	0.691	0.767	8.32
9)	T	Chloroethane	0.532	0.560	0.535	0.457	0.474	0.455	0.442	0.494	9.62
10)	T	Ethanol	0.505	0.494	0.430	0.344	0.361	0.345	0.336	0.402	18.28
11)	T	Acetonitrile	1.105	1.061	0.977	0.888	0.896	0.875	0.862	0.952	10.27
12)	T	Acrolein	0.340	0.348	0.389	0.364	0.385	0.375	0.371	0.367	4.94
13)	T	Acetone	0.567	0.562	0.524	0.464	0.450	0.420	0.394	0.483	14.21
14)	T	Trichlorofluor...	2.131	2.315	2.163	1.969	1.940	1.812	1.719	2.007	10.41
15)	T	2-Propanol (Is...	1.808	1.766	1.670	1.473	1.616	1.364	1.039	1.534	17.48
16)	T	Acrylonitrile	0.611	0.776	0.763	0.793	0.826	0.803	0.790	0.766	9.28
17)	T	1,1-Dichloroet...	0.937	1.006	0.918	0.857	0.858	0.817	0.784	0.882	8.63
18)	T	2-Methyl-2-Pro...	1.310	1.502	1.376	1.338	1.411	1.428	1.445	1.401	4.69
19)	T	Methylene Chlo...	0.909	0.949	0.875	0.826	0.831	0.792	0.746	0.847	8.21
20)	T	3-Chloro-1-pro...	1.049	1.180	1.051	0.934	0.927	0.892	0.844	0.983	11.82
21)	T	Trichlorotrifl...	1.117	1.242	1.128	1.020	0.994	0.930	0.881	1.044	12.00
22)	T	Carbon Disulfide	2.907	3.151	2.883	2.739	2.804	2.672	2.552	2.815	6.83
23)	T	trans-1,2-Dich...	0.991	1.205	1.144	1.128	1.153	1.106	1.068	1.114	6.16
24)	T	1,1-Dichloroet...	1.476	1.555	1.490	1.341	1.353	1.284	1.239	1.391	8.42
25)	T	Methyl tert-Bu...	1.735	1.922	1.763	1.717	1.775	1.794	1.845	1.793	3.93
26)	T	Vinyl Acetate	0.143	0.183	0.179	0.186	0.192	0.180	0.170	0.176	9.11
27)	T	2-Butanone (MEK)	0.420	0.488	0.521	0.505	0.532	0.513	0.493	0.496	7.41
28)	T	cis-1,2-Dichlo...	1.106	1.268	1.184	1.109	1.113	1.068	1.030	1.126	6.97
29)	T	Diisopropyl Ether	0.905	0.842	0.744	0.679	0.660	0.616	0.584	0.718	16.53
30)	T	Ethyl Acetate	0.187	0.248	0.235	0.225	0.230	0.216	0.205	0.221	9.28
31)	T	n-Hexane	1.190	1.283	1.164	1.029	1.015	0.940	0.878	1.071	13.59
32)	T	Chloroform	1.823	1.972	1.802	1.671	1.658	1.564	1.508	1.714	9.41
33)	S	1,2-Dichloroet...	1.605	1.626	1.667	1.619	1.604	1.606	1.610	1.620	1.38
34)	T	Tetrahydrofura...	0.496	0.553	0.516	0.493	0.506	0.485	0.468	0.502	5.39
35)	T	Ethyl tert-But...	0.830	0.913	0.819	0.743	0.736	0.685	0.650	0.768	11.90
36)	T	1,2-Dichloroet...	1.392	1.582	1.491	1.397	1.395	1.328	1.283	1.410	7.08
37)	IR	1,4-Difluorobenzen...	----------	ISTD	----------						
38)	T	1,1,1-Trichlor...	0.423	0.509	0.440	0.425	0.424	0.402	0.387	0.430	9.06
39)	T	Isopropyl Acetate	0.101	0.119	0.107	0.102	0.102	0.096	0.092	0.103	8.43
40)	T	1-Butanol	0.116	0.121	0.118	0.138	0.164	0.156	0.151	0.138	14.38
41)	T	Benzene	0.888	0.924	0.845	0.799	0.789	0.744	0.714	0.815	9.27
42)	T	Carbon Tetrach...	0.416	0.487	0.432	0.421	0.420	0.394	0.378	0.421	8.15
43)	T	Cyclohexane	0.343	0.365	0.333	0.318	0.311	0.291	0.274	0.319	9.69
44)	T	tert-Amyl Meth...	0.443	0.499	0.459	0.420	0.421	0.390	0.362	0.428	10.51
45)	T	1,2-Dichloropr...	0.167	0.188	0.173	0.164	0.165	0.157	0.153	0.167	6.90
46)	T	Bromodichlorom...	0.347	0.383	0.344	0.328	0.331	0.311	0.302	0.335	7.98
47)	T	Trichloroethene	0.283	0.325	0.291	0.284	0.281	0.263	0.248	0.282	8.51
48)	T	1,4-Dioxane	0.143	0.177	0.168	0.161	0.175	0.165	0.157	0.164	7.12
49)	T	2,2,4-Trimethy...	0.771	0.780	0.691	0.663	0.650	0.617	0.593	0.681	10.61
50)	T	Methyl Methacr...	0.076	0.089	0.092	0.089	0.094	0.087	0.084	0.087	6.71
51)	T	n-Heptane	0.201	0.214	0.195	0.186	0.188	0.175	0.167	0.189	8.32
52)	T	cis-1,3-Dichlo...	0.300	0.376	0.346	0.350	0.365	0.346	0.334	0.345	7.05
53)	T	4-Methyl-2-pen...	0.110	0.154	0.140	0.149	0.155	0.147	0.143	0.143	10.90
54)	T	trans-1,3-Dich...	0.278	0.327	0.316	0.328	0.366	0.348	0.338	0.331	8.48
55)	T	1,1,2-Trichlor...	0.226	0.247	0.236	0.217	0.222	0.209	0.202	0.223	6.89

56)	IR	Chlorobenzene-d5 (...	----------ISTD----------								
57)	S	Toluene-d8 (SS2)	2.506	2.421	2.410	2.390	2.396	2.394	2.377	2.414	1.79
58)	T	Toluene	2.331	2.268	2.104	1.966	1.962	1.837	1.717	2.026	10.98
59)	T	2-Hexanone	0.404	0.541	0.577	0.636	0.724	0.691	0.657	0.604	17.94
60)	T	Dibromochlorom...	0.661	0.764	0.704	0.684	0.710	0.667	0.629	0.688	6.26
61)	T	1,2-Dibromoethane	0.574	0.600	0.559	0.563	0.586	0.549	0.523	0.565	4.50
62)	T	n-Butyl Acetate	0.561	0.644	0.653	0.670	0.763	0.733	0.703	0.675	9.83
63)	T	n-Octane	0.354	0.377	0.337	0.312	0.311	0.293	0.274	0.323	11.10
64)	T	Tetrachloroethene	0.909	0.871	0.796	0.733	0.730	0.676	0.628	0.763	13.32
65)	T	Chlorobenzene	1.613	1.741	1.521	1.444	1.448	1.352	1.265	1.484	10.76
66)	T	Ethylbenzene	2.577	2.658	2.418	2.342	2.324	2.174	2.035	2.361	9.17
67)	T	m- & p-Xylenes	2.268	2.282	2.049	1.963	1.930	1.790	1.662	1.992	11.55
68)	T	Bromoform	0.584	0.624	0.619	0.624	0.645	0.605	0.567	0.610	4.39
69)	T	Styrene	1.358	1.563	1.488	1.486	1.519	1.419	1.315	1.450	6.18
70)	T	o-Xylene	2.106	2.285	2.026	1.959	1.907	1.770	1.641	1.956	10.87
71)	T	n-Nonane	0.673	0.729	0.657	0.627	0.617	0.578	0.536	0.631	10.05
72)	T	1,1,2,2-Tetrac...	0.769	0.856	0.747	0.744	0.742	0.688	0.641	0.741	9.02
73)	S	Bromofluoroben...	0.930	0.971	0.976	0.993	0.983	0.975	0.962	0.970	2.08
74)	T	Cumene	2.871	2.932	2.616	2.546	2.496	2.289	2.111	2.552	11.51
75)	T	alpha-Pinene	1.252	1.324	1.198	1.185	1.168	1.060	0.946	1.162	10.73
76)	T	n-Propylbenzene	2.961	3.122	2.855	2.815	2.780	2.559	2.367	2.780	9.00
77)	T	3-Ethyltoluene	2.558	2.873	2.591	2.482	2.531	2.267	2.137	2.491	9.52
78)	T	4-Ethyltoluene	2.466	2.754	2.501	2.536	2.414	2.275	2.037	2.426	9.24
79)	T	1,3,5-Trimethy...	2.377	2.617	2.372	2.252	2.198	2.016	1.860	2.242	11.15
80)	T	alpha-Methylst...	0.989	1.229	1.174	1.172	1.192	1.093	1.001	1.122	8.51
81)	T	2-Ethyltoluene	2.638	2.896	2.603	2.500	2.438	2.229	2.048	2.479	11.22
82)	T	1,2,4-Trimethy...	2.216	2.548	2.314	2.223	2.149	1.949	1.775	2.168	11.51
83)	T	n-Decane	0.652	0.907	0.813	0.803	0.785	0.719	0.667	0.764	11.81
84)	T	Benzyl Chloride	1.268	1.648	1.581	1.714	1.881	1.738	1.616	1.635	11.59
85)	T	1,3-Dichlorobe...	1.192	1.516	1.386	1.357	1.351	1.228	1.118	1.307	10.34
86)	T	1,4-Dichlorobe...	1.228	1.514	1.411	1.363	1.389	1.262	1.162	1.333	9.10
87)	T	sec-Butylbenzene	2.940	3.223	2.948	2.821	2.732	2.490	2.279	2.776	11.28
88)	T	4-Isopropyltol...	2.823	3.202	2.913	2.789	2.661	2.365	2.126	2.697	13.23
89)	T	1,2,3-Trimethy...	2.115	2.642	2.298	2.248	2.160	1.952	1.772	2.170	12.67
90)	T	1,2-Dichlorobe...	1.246	1.426	1.364	1.323	1.301	1.170	1.056	1.270	9.83
91)	T	d-Limonene	0.615	0.689	0.625	0.625	0.624	0.573	0.534	0.612	7.90
92)	T	1,2-Dibromo-3-...	0.413	0.503	0.477	0.498	0.528	0.490	0.459	0.481	7.67
93)	T	n-Undecane		0.890	0.829	0.817	0.832	0.761	0.706	0.806	7.92
94)	T	1,2,4-Trichlor...	0.482	0.990	1.003	1.029	1.115	1.011	0.929	0.937	22.19
95)	T	Naphthalene		2.617	2.620	2.847	3.167	2.882	2.622	2.792	7.86
96)	T	n-Dodecane		0.706	0.699	0.715	0.802	0.730	0.677	0.722	6.00
97)	T	Hexachlorobuta...	0.809	0.879	0.811	0.766	0.759	0.688	0.626	0.762	11.00
98)	T	Cyclohexanone	0.446	0.503	0.482	0.487	0.538	0.511	0.490	0.494	5.71
99)	T	tert-Butylbenzene	2.425	2.553	2.321	2.232	2.109	1.895	1.702	2.177	13.74
100)	T	n-Butylbenzene	1.831	2.315	2.155	2.108	2.128	1.939	1.791	2.038	9.33

(#) = Out of Range

R9042220.M Thu Apr 23 14:19:49 2020

Primary Source Standards Concentrations (Working & Initial Calibration)

5/1/20

1ng/L Std. ID:
4ng/L Std. ID: S34-04162006
20ng/L Std. ID: S34-04222004
200ng/L Std. ID: S34-04202004

Dilution Factors:		5	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	20	200	200	200
	Source Std.	Primary Working Standards				Injection (L):	0.025	0.050	0.025	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m³	200ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
Propene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Dichlorodifluoromethane	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Chloromethane	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Freon-114	1.05	210	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Vinyl Chloride	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3-Butadiene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Bromomethane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Chloroethane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Ethanol	5.21	1042	104.2	20.84	5.21		0.521	1.042	2.605	5.21	26.05	130.25	260.5	521
Acetonitrile	1.05	210	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Acrolein	1.03	206	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Acetone	5.33	1066	106.6	21.32	5.33		0.533	1.066	2.665	5.33	26.65	133.25	266.5	533
Trichlorofluoromethane	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Isopropanol	2.10	420	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
Acrylonitrile	1.05	210	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,1-Dichloroethene	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
tert-Butanol	2.16	432	43.2	8.64	2.16		0.216	0.432	1.080	2.16	10.80	54.00	108.0	216
Methylene Chloride	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Allyl Chloride	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Trichlorotrifluoroethane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Carbon Disulfide	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
trans-1,2-Dichloroethene	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1-Dichloroethane	1.09	218	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
Methyl tert-Butyl Ether	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Vinyl Acetate	5.35	1070	107.0	21.40	5.35		0.535	1.070	2.675	5.35	26.75	133.75	267.5	535
2-Butanone	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
cis-1,2-Dichloroethene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Diisopropyl Ether	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Ethyl Acetate	2.17	434	43.4	8.68	2.17		0.217	0.434	1.085	2.17	10.85	54.25	108.5	217
n-Hexane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Chloroform	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Tetrahydrofuran	1.09	218	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
Ethyl tert-Butyl Ether	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dichloroethane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1,1-Trichloroethane	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Isopropyl Acetate	2.11	422	42.2	8.44	2.11		0.211	0.422	1.055	2.11	10.55	52.75	105.5	211
1-Butanol	2.08	416	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
Benzene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Carbon Tetrachloride	1.05	210	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Cyclohexane	2.12	424	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
tert-Amyl Methyl Ether	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dichloropropane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Bromodichloromethane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Trichloroethene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,4-Dioxane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Isooctane	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Methyl Methacrylate	2.15	430	43.0	8.60	2.15		0.215	0.430	1.075	2.15	10.75	53.75	107.5	215
n-Heptane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID:
4ng/L Std. ID: S34-04162006
20ng/L Std. ID: S34-04222004
200ng/L Std. ID: S34-04202004

Dilution Factors:		5	50	250	1000	**Working STD Conc.(ng/L):**	4	4	20	20	20	200	200	200
	Source Std.	Primary Working Standards				**Injection (L):**	0.025	0.050	0.025	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m^3	200ng/L	20ng/L	4ng/L	1ng/L	**ICAL Points:**	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
cis-1,3-Dichloropropene	1.04	208	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
4-Methyl-2-pentanone	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
trans-1,3-Dichloropropene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1,2-Trichloroethane	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Toluene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
2-Hexanone	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Dibromochloromethane	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,2-Dibromoethane	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Butyl Acetate	1.09	218	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
n-Octane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Tetrachloroethene	1.04	208	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Chlorobenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Ethylbenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
m-&p-Xylene	2.14	428	42.8	8.56	2.14		0.214	0.428	1.070	2.14	10.70	53.50	107.0	214
Bromoform	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Styrene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
o-Xylene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Nonane	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,1,2,2-Tetrachloroethane	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Cumene	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
alpha-Pinene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Propylbenzene	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
3-Ethyltoluene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
4-Ethyltoluene	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3,5-Trimethylbenzene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
alpha-Methylstyrene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
2-Ethyltoluene	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2,4-Trimethylbenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Decane	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Benzyl Chloride	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3-Dichlorobenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,4-Dichlorobenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
sec-Butylbenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
p-Isopropyltoluene	1.09	218	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
1,2,3-Trimethylbenzene	1.09	218	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
1,2-Dichlorobenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
d-Limonene	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dibromo-3-chloropropane	1.05	210	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
n-Undecane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2,4-Trichlorobenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Naphthalene	1.03	206	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
n-Dodecane	1.04	208	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Hexachloro-1,3-butadiene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Methacrylonitrile	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Cyclohexanone	1.00	200	20.0	4.00	1.00		0.100	0.200	0.500	1.00	5.00	25.00	50.0	100
tert-Butylbenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Butylbenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107

Calibration Status Report MS09

Method : I:\MS09\Methods\R9042220.M (RTE Integrator)
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration

5/4/20

#	ID	Conc	ISTD Conc	Path\File
2	0.2	13	13	I:\MS09\Data\2020_04\22\04222023.D
3	0.5	13	13	I:\MS09\Data\2020_04\22\04222013.D
4	1.0	13	13	I:\MS09\Data\2020_04\22\04222014.D
5	5.0	13	13	I:\MS09\Data\2020_04\22\04222015.D
6	25	13	13	I:\MS09\Data\2020_04\22\04222016.D
7	50	13	13	I:\MS09\Data\2020_04\22\04222017.D
8	100	13	13	I:\MS09\Data\2020_04\22\04222018.D

#	ID	Update Time	Quant Time	Acquisition Time
2	0.2	Apr 23 14:12 2020	Apr 23 14:10 2020	23 Apr 2020 13:44
3	0.5	Apr 23 11:55 2020	Apr 23 11:49 2020	22 Apr 2020 20:31
4	1.0	Apr 23 11:55 2020	Apr 23 11:49 2020	22 Apr 2020 21:05
5	5.0	Apr 23 11:55 2020	Apr 23 11:49 2020	22 Apr 2020 21:39
6	25	Apr 23 11:55 2020	Apr 23 11:49 2020	22 Apr 2020 22:12
7	50	Apr 23 11:56 2020	Apr 23 11:49 2020	22 Apr 2020 22:46
8	100	Apr 23 11:56 2020	Apr 23 11:49 2020	22 Apr 2020 23:19

R9042220.M Mon May 04 16:31:55 2020

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222023.D Vial: 4
Acq On : 23 Apr 2020 13:44 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04162006 (5/15)

Quant Time: Apr 23 14:10:30 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:56:23 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/23/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	134664	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	566655	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	249724	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	216176	12.364	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.88%				
57) Toluene-d8 (SS2)	13.54	98	625888	12.967	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.76%				
73) Bromofluorobenzene (SS3)	17.05	174	232144	11.970	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.76%				
Target Compounds							Qvalue
2) Propene	3.90	42	1275	0.203	ng		93
3) Dichlorodifluoromethan...	4.00	85	4950	0.195	ng		98
4) Chloromethane	4.20	50	1961	0.214	ng		89
5) 1,2-Dichloro-1,1,2,2-t...	4.36	135	2727	0.199	ng		97
6) Vinyl Chloride	4.48	62	2399	0.199	ng		90
7) 1,3-Butadiene	4.66	54	1428	0.196	ng		87
8) Bromomethane	4.95	94	1884	0.196	ng		94
9) Chloroethane	5.17	64	1239	0.209	ng		79
10) Ethanol	5.36	45	5666	1.175	ng		86
11) Acetonitrile	5.59	41	2501	0.223	ng	#	48
12) Acrolein	5.72	56	755	0.184	ng		87
13) Acetone	5.86	58	6508	1.062	ng		98
14) Trichlorofluoromethane	6.04	101	4867	0.192	ng		98
15) 2-Propanol (Isopropanol)	6.19	45	8179	0.436	ng		84
16) Acrylonitrile	6.41	53	1383	0.159	ng		90
17) 1,1-Dichloroethene	6.74	96	2180	0.201	ng		98
18) 2-Methyl-2-Propanol (t...	6.90	59	6097	0.358	ng		87
19) Methylene Chloride	6.87	84	2077	0.197	ng		100
20) 3-Chloro-1-propene (Al...	7.00	41	2442	0.201	ng		90
21) Trichlorotrifluoroethane	7.19	151	2599	0.200	ng		99
22) Carbon Disulfide	7.17	76	6702	0.194	ng		97
23) trans-1,2-Dichloroethene	7.90	61	2306	0.170	ng		96
24) 1,1-Dichloroethane	8.09	63	3466	0.203	ng		93
25) Methyl tert-Butyl Ether	8.21	73	4037	0.185	ng		100
26) Vinyl Acetate	8.29	86	1651	0.810	ng	#	78
27) 2-Butanone (MEK)	8.56	72	960	0.161	ng	#	35
28) cis-1,2-Dichloroethene	8.97	61	2527	0.181	ng		90
29) Diisopropyl Ether	9.23	87	2107	0.231	ng	#	58
30) Ethyl Acetate	9.23	61	872	0.343	ng		89
31) n-Hexane	9.22	57	2770	0.206	ng		99
32) Chloroform	9.28	83	4202	0.197	ng		95
34) Tetrahydrofuran (THF)	9.72	72	1164	0.187	ng		89
35) Ethyl tert-Butyl Ether	9.78	87	1932	0.203	ng		98
36) 1,2-Dichloroethane	10.02	62	3240	0.181	ng		98
38) 1,1,1-Trichloroethane	10.29	97	4101	0.178	ng		99
39) Isopropyl Acetate	10.68	61	1932	0.368	ng	#	92
40) 1-Butanol	10.73	56	2192	0.363	ng	#	74
41) Benzene	10.75	78	8534	0.199	ng		98
42) Carbon Tetrachloride	10.90	117	3964	0.179	ng		96
43) Cyclohexane	11.04	84	6587	0.389	ng		96
44) tert-Amyl Methyl Ether	11.37	73	4336	0.195	ng		96
45) 1,2-Dichloropropane	11.57	63	1635	0.190	ng		97
46) Bromodichloromethane	11.76	83	3400	0.197	ng		97
47) Trichloroethene	11.81	130	2747	0.188	ng		95
48) 1,4-Dioxane	11.81	88	1399	0.167	ng		82
49) 2,2,4-Trimethylpentane...	11.87	57	7481	0.209	ng		96
50) Methyl Methacrylate	12.02	100	1483	0.345	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222023.D Vial: 4
Acq On : 23 Apr 2020 13:44 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04162006 (5/15)

Quant Time: Apr 23 14:10:30 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:56:23 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

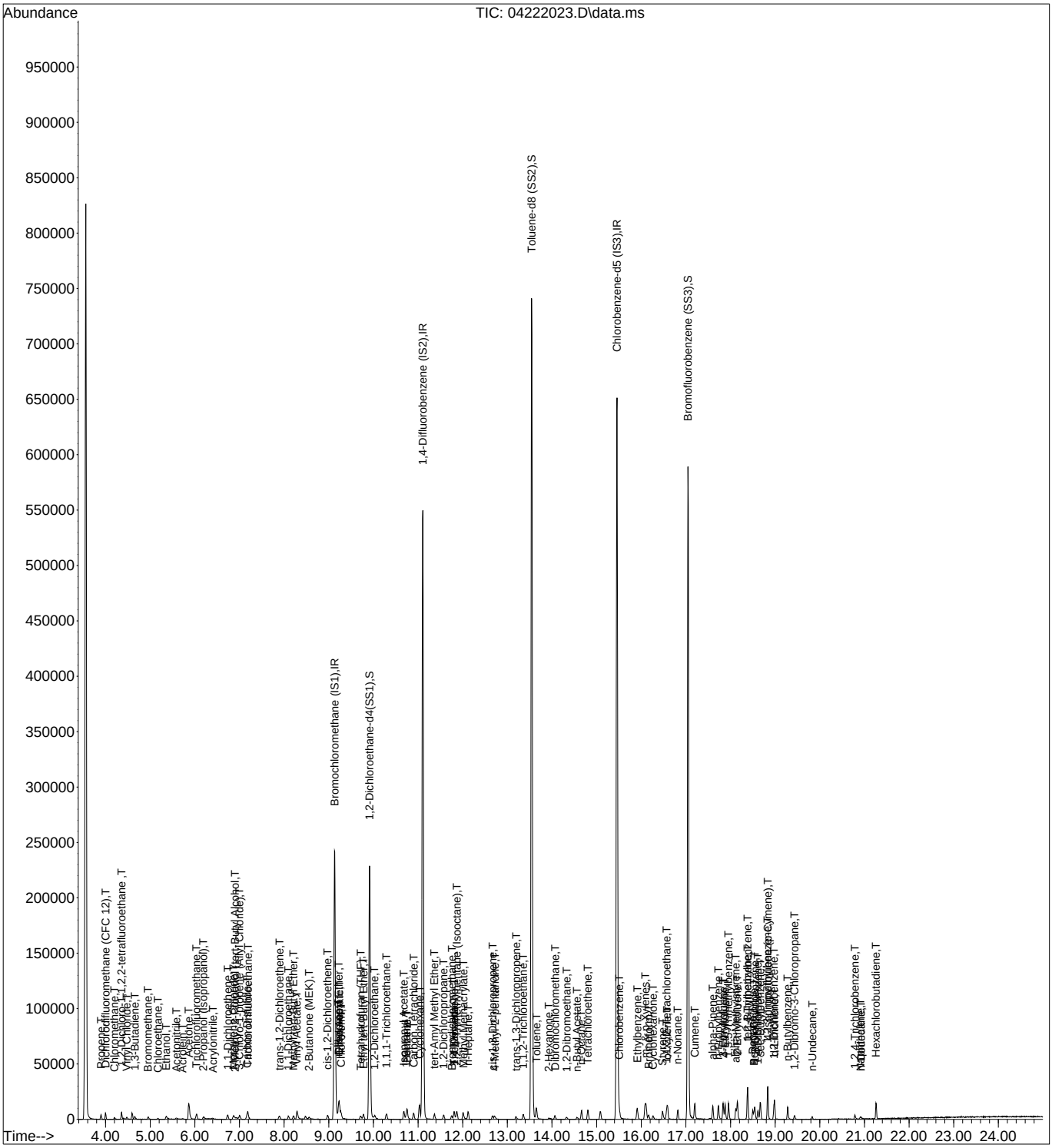
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	12.12	71	1964	0.198	ng		96
52) cis-1,3-Dichloropropene	12.67	75	2827	0.160	ng		99
53) 4-Methyl-2-pentanone	12.72	58	1053	0.152	ng	#	72
54) trans-1,3-Dichloropropene	13.20	75	2670	0.165	ng		80
55) 1,1,2-Trichloroethane	13.36	97	2197	0.190	ng		97
58) Toluene	13.65	91	9967	0.212	ng		99
59) 2-Hexanone	13.93	43	1727	0.135	ng	#	68
60) Dibromochloromethane	14.07	129	2828	0.179	ng		92
61) 1,2-Dibromoethane	14.33	107	2452	0.193	ng		96
62) n-Butyl Acetate	14.56	43	2442	0.166	ng		86
63) n-Octane	14.66	57	1529	0.203	ng		90
64) Tetrachloroethene	14.80	166	3778	0.213	ng		97
65) Chlorobenzene	15.51	112	6898	0.200	ng		99
66) Ethylbenzene	15.91	91	11017	0.202	ng		97
67) m- & p-Xylenes	16.09	91	19390	0.421	ng		93
68) Bromoform	16.17	173	2495	0.177	ng		91
69) Styrene	16.47	104	5750	0.172	ng		96
70) o-Xylene	16.58	91	9004	0.198	ng		97
71) n-Nonane	16.82	43	2878	0.196	ng		90
72) 1,1,2,2-Tetrachloroethane	16.57	83	3286	0.191	ng		94
74) Cumene	17.20	105	12390	0.210	ng		95
75) alpha-Pinene	17.60	93	5352	0.199	ng		97
76) n-Propylbenzene	17.73	91	12776	0.198	ng		98
77) 3-Ethyltoluene	17.83	105	10834	0.186	ng		98
78) 4-Ethyltoluene	17.88	105	10641	0.189	ng		98
79) 1,3,5-Trimethylbenzene	17.95	105	10069	0.190	ng		98
80) alpha-Methylstyrene	18.12	118	4228	0.161	ng		89
81) 2-Ethyltoluene	18.15	105	11382	0.193	ng		100
82) 1,2,4-Trimethylbenzene	18.38	105	9473	0.181	ng		96
83) n-Decane	18.50	57	2789	0.150	ng		91
84) Benzyl Chloride	18.53	91	5471	0.145	ng		92
85) 1,3-Dichlorobenzene	18.55	146	5096	0.162	ng		95
86) 1,4-Dichlorobenzene	18.61	146	5249	0.159	ng		100
87) sec-Butylbenzene	18.67	105	12570	0.192	ng		95
88) 4-Isopropyltoluene (p-...	18.83	119	12296	0.193	ng		99
89) 1,2,3-Trimethylbenzene	18.83	105	9210	0.177	ng		99
90) 1,2-Dichlorobenzene	18.97	146	5329	0.173	ng		98
91) d-Limonene	18.99	68	2655	0.186	ng		99
92) 1,2-Dibromo-3-Chloropr...	19.43	157	1734	0.159	ng		98
93) n-Undecane	19.83	57	1056	0.056	ng		92
94) 1,2,4-Trichlorobenzene	20.79	180	2062	0.088	ng		95
95) Naphthalene	20.91	128	3989	0.063	ng		85
96) n-Dodecane	20.92	57	109	0.007	ng	#	30
97) Hexachlorobutadiene	21.26	225	3425	0.185	ng		99
98) Cyclohexanone	16.27	55	1783	0.159	ng		96
99) tert-Butylbenzene	18.38	119	10369	0.201	ng		100
100) n-Butylbenzene	19.28	91	7829	0.161	ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222023.D Vial: 4
Acq On : 23 Apr 2020 13:44 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04162006 (5/15)

Quant Time: Apr 23 14:10:30 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:56:23 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222013.D Vial: 5
Acq On : 22 Apr 2020 20:31 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04222004 (5/21)

Quant Time: Apr 23 11:49:48 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/23/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	129332	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	11.11	114	538679	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	247239	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	210239	14.368	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.96%				
57) Toluene-d8 (SS2)	13.54	98	598520	12.172	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.36%				
73) Bromofluorobenzene (SS3)	17.05	174	240179	14.681	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 117.44%				
Target Compounds							Qvalue
2) Propene	3.88	42	2906	0.367	ng		97
3) Dichlorodifluoromethan...	3.98	85	13115	0.711	ng		98
4) Chloromethane	4.18	50	5003	0.450	ng		96
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	6856	0.796	ng		98
6) Vinyl Chloride	4.46	62	5965	0.623	ng		99
7) 1,3-Butadiene	4.64	54	3634	0.545	ng		98
8) Bromomethane	4.94	94	4880	0.578	ng		94
9) Chloroethane	5.16	64	3130	0.499	ng		95
10) Ethanol	5.34	45	13315	2.149	ng		88
11) Acetonitrile	5.56	41	5762	0.408	ng		86
12) Acrolein	5.71	56	1856	0.349	ng		98
13) Acetone	5.84	58	15493	2.436	ng		95
14) Trichlorofluoromethane	6.03	101	12695	0.760	ng		96
15) 2-Propanol (Isopropanol)	6.16	45	19185	0.951	ng		92
16) Acrylonitrile	6.37	53	4213	0.381	ng		99
17) 1,1-Dichloroethene	6.73	96	5620	0.596	ng		99
18) 2-Methyl-2-Propanol (t...	6.84	59	16787	0.786	ng		94
19) Methylene Chloride	6.86	84	5202	0.535	ng		97
20) 3-Chloro-1-propene (Al...	6.99	41	6592	0.536	ng		84
21) Trichlorotrifluoroethane	7.18	151	6939	0.745	ng		98
22) Carbon Disulfide	7.15	76	17442	0.517	ng		96
23) trans-1,2-Dichloroethene	7.88	61	6733	0.553	ng		96
24) 1,1-Dichloroethane	8.09	63	8771	0.548	ng		100
25) Methyl tert-Butyl Ether	8.19	73	10739	0.387	ng		99
26) Vinyl Acetate	8.28	86	5073	2.387	ng	#	92
27) 2-Butanone (MEK)	8.53	72	2674	0.428	ng	#	86
28) cis-1,2-Dichloroethene	8.97	61	6954	0.568	ng		98
29) Diisopropyl Ether	9.23	87	4705	0.607	ng	#	85
30) Ethyl Acetate	9.23	61	2784	0.974	ng		99
31) n-Hexane	9.22	57	7168	0.518	ng		96
32) Chloroform	9.27	83	10918	0.662	ng		97
34) Tetrahydrofuran (THF)	9.70	72	3120	0.517	ng		98
35) Ethyl tert-Butyl Ether	9.77	87	5103	0.453	ng		95
36) 1,2-Dichloroethane	10.02	62	8840	0.711	ng		98
38) 1,1,1-Trichloroethane	10.29	97	11727	0.804	ng		98
39) Isopropyl Acetate	10.67	61	5394	1.071	ng	#	86
40) 1-Butanol	10.72	56	5423	0.664	ng	#	56
41) Benzene	10.75	78	21115	0.550	ng		99
42) Carbon Tetrachloride	10.90	117	11021	0.806	ng		97
43) Cyclohexane	11.03	84	16672	1.144	ng		95
44) tert-Amyl Methyl Ether	11.36	73	11616	0.460	ng		98
45) 1,2-Dichloropropane	11.57	63	4380	0.512	ng		97
46) Bromodichloromethane	11.75	83	8920	0.705	ng		98
47) Trichloroethene	11.81	130	7497	0.678	ng		94
48) 1,4-Dioxane	11.81	88	4120	0.550	ng		88
49) 2,2,4-Trimethylpentane...	11.87	57	17992	0.499	ng		99
50) Methyl Methacrylate	12.00	100	4141	1.101	ng		94

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222013.D Vial: 5
Acq On : 22 Apr 2020 20:31 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04222004 (5/21)

Quant Time: Apr 23 11:49:48 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

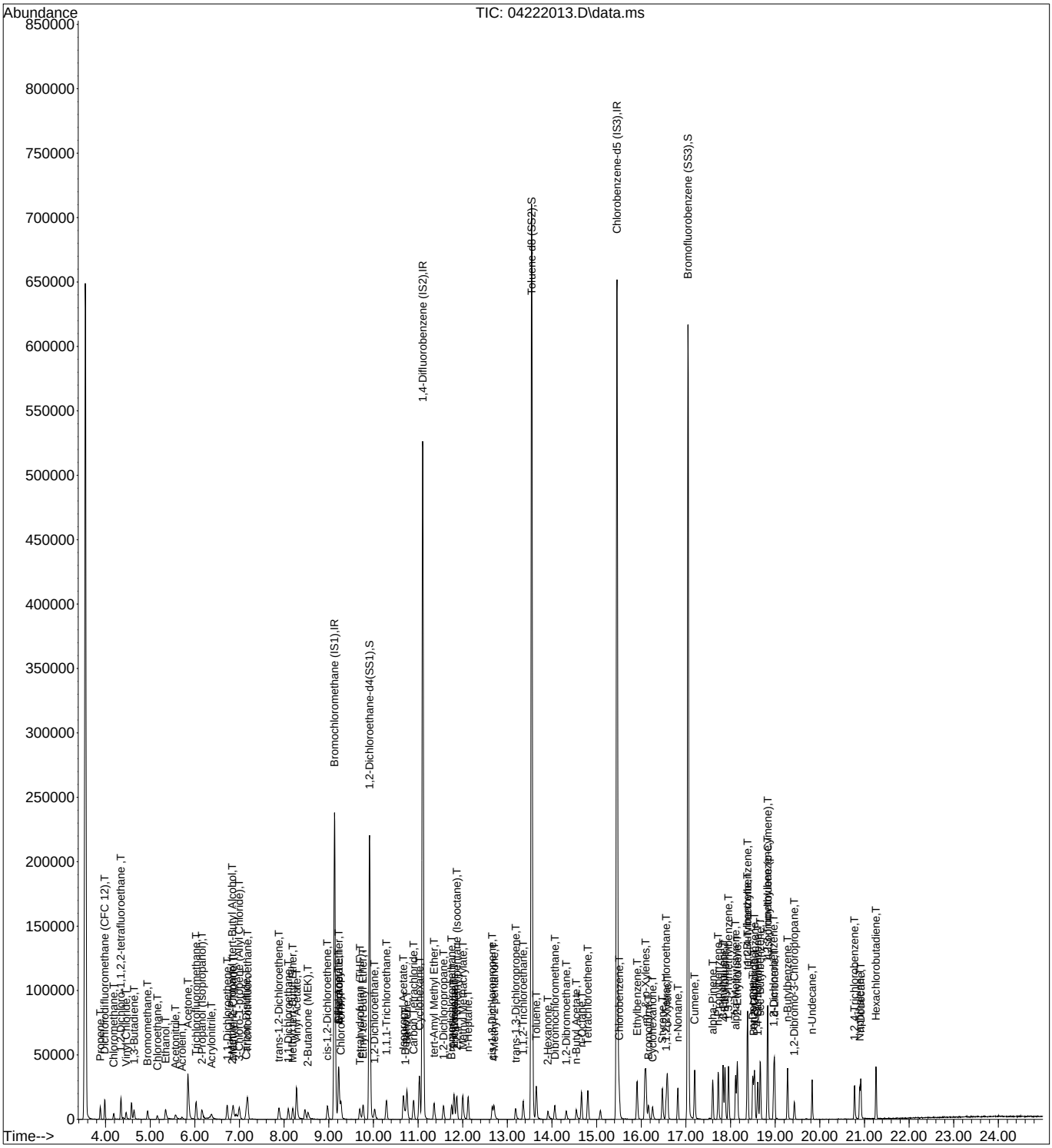
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	4984	0.544	ng	96
52) cis-1,3-Dichloropropene	12.66	75	8429	0.591	ng	94
53) 4-Methyl-2-pentanone	12.71	58	3522	0.465	ng	96
54) trans-1,3-Dichloropropene	13.19	75	7467	0.559	ng	96
55) 1,1,2-Trichloroethane	13.36	97	5686	0.605	ng	100
58) Toluene	13.65	91	23995	0.575	ng	98
59) 2-Hexanone	13.91	43	5723	0.346	ng	98
60) Dibromochloromethane	14.07	129	8081	0.694	ng	100
61) 1,2-Dibromoethane	14.32	107	6351	0.602	ng	95
62) n-Butyl Acetate	14.54	43	6937	0.393	ng	95
63) n-Octane	14.67	57	4029	0.535	ng	97
64) Tetrachloroethene	14.80	166	8957	0.690	ng	99
65) Chlorobenzene	15.51	112	18426	0.633	ng	99
66) Ethylbenzene	15.91	91	28127	0.628	ng	99
67) m- & p-Xylenes	16.10	91	48290	1.346	ng	99
68) Bromoform	16.16	173	6603	0.687	ng	94
69) Styrene	16.47	104	16387	0.630	ng	98
70) o-Xylene	16.58	91	24176	0.674	ng	98
71) n-Nonane	16.82	43	7718	0.498	ng	97
72) 1,1,2,2-Tetrachloroethane	16.56	83	9061	0.560	ng	100
74) Cumene	17.19	105	31313	0.669	ng	97
75) alpha-Pinene	17.60	93	14014	0.595	ng	100
76) n-Propylbenzene	17.72	91	33340	0.624	ng	100
77) 3-Ethyltoluene	17.83	105	30114	0.672	ng	99
78) 4-Ethyltoluene	17.87	105	29410	0.685	ng	99
79) 1,3,5-Trimethylbenzene	17.95	105	27430	0.695	ng	99
80) alpha-Methylstyrene	18.11	118	13008	0.673	ng	86
81) 2-Ethyltoluene	18.15	105	30928	0.691	ng	98
82) 1,2,4-Trimethylbenzene	18.38	105	26963	0.735	ng	98
83) n-Decane	18.50	57	9598	0.538	ng	98
84) Benzyl Chloride	18.52	91	17607	0.614	ng	97
85) 1,3-Dichlorobenzene	18.54	146	16047	0.758	ng	97
86) 1,4-Dichlorobenzene	18.61	146	16026	0.741	ng	98
87) sec-Butylbenzene	18.66	105	34100	0.661	ng	99
88) 4-Isopropyltoluene (p-...	18.83	119	34516	0.756	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	28477	0.761	ng	98
90) 1,2-Dichlorobenzene	18.97	146	15092	0.716	ng	98
91) d-Limonene	18.99	68	7364	0.578	ng	96
92) 1,2-Dibromo-3-Chloropr...	19.43	157	5228	0.623	ng	98
93) n-Undecane	19.83	57	9503	0.501	ng	99
94) 1,2,4-Trichlorobenzene	20.77	180	10478	0.645	ng	97
95) Naphthalene	20.90	128	26653	0.528	ng	97
96) n-Dodecane	20.92	57	7261	0.387	ng	95
97) Hexachlorobutadiene	21.26	225	9210	0.818	ng	98
98) Cyclohexanone	16.25	55	4973	0.423	ng	99
99) tert-Butylbenzene	18.38	119	27019	0.714	ng	98
100) n-Butylbenzene	19.28	91	24494	0.666	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222013.D Vial: 5
Acq On : 22 Apr 2020 20:31 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04222004 (5/21)

Quant Time: Apr 23 11:49:48 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222014.D Vial: 5
Acq On : 22 Apr 2020 21:05 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04222004 (5/21)

Quant Time: Apr 23 11:49:50 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/23/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	126276	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.11	114	536769	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	247388	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.92	65	210491	14.733	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 117.84%				
57) Toluene-d8 (SS2)	13.55	98	596176	12.117	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.96%				
73) Bromofluorobenzene (SS3)	17.05	174	241378	14.745	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 118.00%				
Target Compounds							Qvalue
2) Propene	3.88	42	5015	0.648	ng		91
3) Dichlorodifluoromethan...	3.99	85	22709	1.260	ng		99
4) Chloromethane	4.18	50	8593	0.792	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	12398	1.475	ng		98
6) Vinyl Chloride	4.46	62	10882	1.165	ng		100
7) 1,3-Butadiene	4.63	54	6520	1.001	ng		96
8) Bromomethane	4.94	94	8741	1.061	ng		98
9) Chloroethane	5.16	64	5840	0.953	ng		94
10) Ethanol	5.35	45	22628	3.740	ng		90
11) Acetonitrile	5.57	41	10365	0.751	ng		83
12) Acrolein	5.71	56	4051	0.781	ng		91
13) Acetone	5.84	58	28197	4.541	ng		93
14) Trichlorofluoromethane	6.03	101	23166	1.420	ng		100
15) 2-Propanol (Isopropanol)	6.16	45	35435	1.798	ng		95
16) Acrylonitrile	6.37	53	8090	0.750	ng		99
17) 1,1-Dichloroethene	6.72	96	10014	1.088	ng		100
18) 2-Methyl-2-Propanol (t...	6.82	59	30034	1.440	ng		98
19) Methylene Chloride	6.86	84	9369	0.987	ng		99
20) 3-Chloro-1-propene (Al...	7.00	41	11468	0.954	ng		94
21) Trichlorotrifluoroethane	7.19	151	12306	1.353	ng		99
22) Carbon Disulfide	7.15	76	31163	0.946	ng		99
23) trans-1,2-Dichloroethene	7.88	61	12484	1.051	ng		100
24) 1,1-Dichloroethane	8.09	63	16412	1.050	ng		100
25) Methyl tert-Butyl Ether	8.19	73	19238	0.710	ng		98
26) Vinyl Acetate	8.28	86	9679	4.664	ng	#	95
27) 2-Butanone (MEK)	8.53	72	5583	0.916	ng		90
28) cis-1,2-Dichloroethene	8.98	61	12681	1.060	ng		97
29) Diisopropyl Ether	9.22	87	8113	1.073	ng	#	95
30) Ethyl Acetate	9.22	61	5156	1.848	ng		95
31) n-Hexane	9.22	57	12702	0.939	ng		98
32) Chloroform	9.28	83	19474	1.210	ng		100
34) Tetrahydrofuran (THF)	9.69	72	5685	0.965	ng		94
35) Ethyl tert-Butyl Ether	9.77	87	8937	0.812	ng		99
36) 1,2-Dichloroethane	10.03	62	16265	1.340	ng		99
38) 1,1,1-Trichloroethane	10.29	97	20230	1.392	ng		99
39) Isopropyl Acetate	10.67	61	9686	1.930	ng	#	93
40) 1-Butanol	10.71	56	10515	1.291	ng	#	76
41) Benzene	10.76	78	38449	1.005	ng		99
42) Carbon Tetrachloride	10.90	117	19465	1.428	ng		98
43) Cyclohexane	11.03	84	30305	2.087	ng		99
44) tert-Amyl Methyl Ether	11.36	73	21307	0.847	ng		97
45) 1,2-Dichloropropane	11.57	63	8021	0.940	ng		99
46) Bromodichloromethane	11.76	83	15975	1.266	ng		99
47) Trichloroethene	11.81	130	13388	1.215	ng		98
48) 1,4-Dioxane	11.79	88	7806	1.046	ng		84
49) 2,2,4-Trimethylpentane...	11.87	57	31730	0.883	ng		99
50) Methyl Methacrylate	12.00	100	8462	2.259	ng		96

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222014.D Vial: 5
Acq On : 22 Apr 2020 21:05 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04222004 (5/21)

Quant Time: Apr 23 11:49:50 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

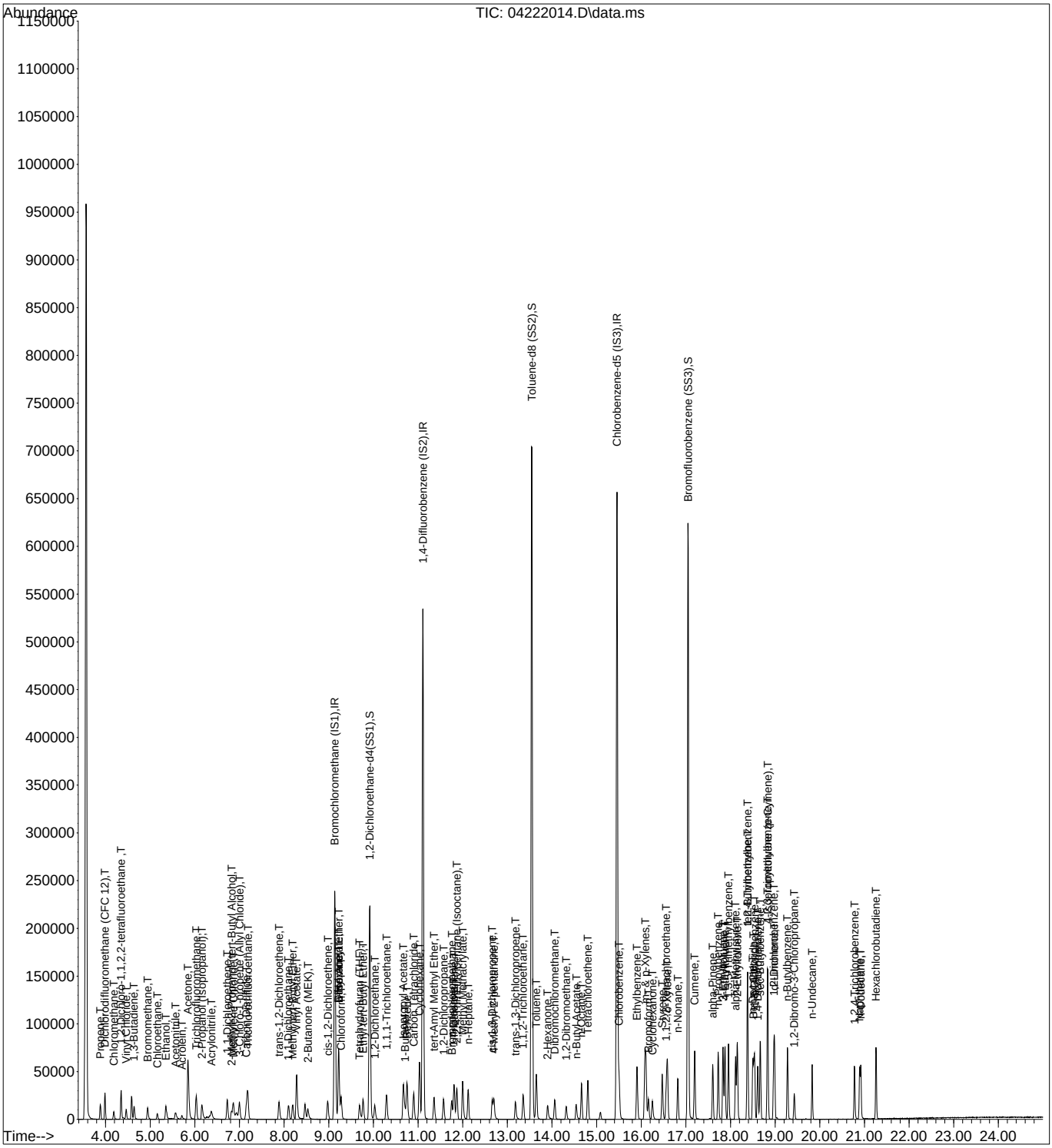
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	9029	0.989	ng	98
52) cis-1,3-Dichloropropene	12.66	75	15472	1.088	ng	98
53) 4-Methyl-2-pentanone	12.70	58	6392	0.848	ng	93
54) trans-1,3-Dichloropropene	13.18	75	14379	1.080	ng	99
55) 1,1,2-Trichloroethane	13.35	97	10838	1.158	ng	96
58) Toluene	13.65	91	44562	1.067	ng	100
59) 2-Hexanone	13.90	43	12222	0.739	ng	100
60) Dibromochloromethane	14.06	129	14909	1.280	ng	99
61) 1,2-Dibromoethane	14.32	107	11842	1.121	ng	99
62) n-Butyl Acetate	14.54	43	14091	0.798	ng	96
63) n-Octane	14.66	57	7199	0.956	ng	97
64) Tetrachloroethene	14.80	166	16393	1.263	ng	98
65) Chlorobenzene	15.50	112	32219	1.107	ng	99
66) Ethylbenzene	15.90	91	51213	1.142	ng	98
67) m- & p-Xylenes	16.09	91	86782	2.418	ng	99
68) Bromoform	16.16	173	13117	1.363	ng	100
69) Styrene	16.47	104	31213	1.199	ng	99
70) o-Xylene	16.58	91	42905	1.196	ng	100
71) n-Nonane	16.82	43	13906	0.898	ng	100
72) 1,1,2,2-Tetrachloroethane	16.56	83	15812	0.977	ng	98
74) Cumene	17.19	105	55907	1.195	ng	100
75) alpha-Pinene	17.60	93	25373	1.076	ng	100
76) n-Propylbenzene	17.72	91	61029	1.142	ng	100
77) 3-Ethyltoluene	17.83	105	54359	1.212	ng	97
78) 4-Ethyltoluene	17.88	105	53458	1.244	ng	98
79) 1,3,5-Trimethylbenzene	17.95	105	49762	1.260	ng	99
80) alpha-Methylstyrene	18.11	118	24852	1.285	ng	90
81) 2-Ethyltoluene	18.15	105	55645	1.242	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	48997	1.335	ng	100
83) n-Decane	18.50	57	17215	0.964	ng	97
84) Benzyl Chloride	18.51	91	33788	1.177	ng	100
85) 1,3-Dichlorobenzene	18.54	146	29341	1.385	ng	100
86) 1,4-Dichlorobenzene	18.61	146	29880	1.380	ng	99
87) sec-Butylbenzene	18.66	105	62433	1.210	ng	99
88) 4-Isopropyltoluene (p-...	18.83	119	62845	1.375	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	49569	1.324	ng	98
90) 1,2-Dichlorobenzene	18.97	146	28891	1.371	ng	99
91) d-Limonene	18.98	68	13364	1.049	ng	99
92) 1,2-Dibromo-3-Chloropr...	19.43	157	9913	1.180	ng	99
93) n-Undecane	19.83	57	17723	0.933	ng	99
94) 1,2,4-Trichlorobenzene	20.78	180	21234	1.305	ng	99
95) Naphthalene	20.89	128	53400	1.057	ng	100
96) n-Dodecane	20.92	57	14385	0.767	ng	98
97) Hexachlorobutadiene	21.26	225	17024	1.511	ng	100
98) Cyclohexanone	16.25	55	9545	0.812	ng	99
99) tert-Butylbenzene	18.38	119	49158	1.298	ng	100
100) n-Butylbenzene	19.27	91	45630	1.241	ng	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222014.D Vial: 5
Acq On : 22 Apr 2020 21:05 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04222004 (5/21)

Quant Time: Apr 23 11:49:50 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222015.D Vial: 5
Acq On : 22 Apr 2020 21:39 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04222004 (5/21)

Quant Time: Apr 23 11:49:52 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/23/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.14	130	127032	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	11.11	114	522643	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	242847	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.92	65	205612	14.306	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.48%			
57) Toluene-d8 (SS2)	13.55	98	580496	12.019	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.16%			
73) Bromofluorobenzene (SS3)	17.05	174	241052	15.001	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 120.00%			
Target Compounds						Qvalue
2) Propene	3.86	42	26825	3.448	ng	98
3) Dichlorodifluoromethan...	3.97	85	107121	5.909	ng	99
4) Chloromethane	4.16	50	36557	3.351	ng	99
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	55821	6.601	ng	98
6) Vinyl Chloride	4.45	62	52544	5.590	ng	99
7) 1,3-Butadiene	4.62	54	33096	5.050	ng	99
8) Bromomethane	4.93	94	39874	4.812	ng	100
9) Chloroethane	5.15	64	25067	4.065	ng	98
10) Ethanol	5.36	45	91042	14.958	ng	100
11) Acetonitrile	5.56	41	47363	3.413	ng	97
12) Acrolein	5.70	56	19034	3.648	ng	98
13) Acetone	5.83	58	125622	20.108	ng	100
14) Trichlorofluoromethane	6.02	101	106048	6.461	ng	99
15) 2-Propanol (Isopropanol)	6.16	45	157161	7.928	ng	97
16) Acrylonitrile	6.37	53	42320	3.900	ng	99
17) 1,1-Dichloroethene	6.72	96	47038	5.081	ng	98
18) 2-Methyl-2-Propanol (t...	6.81	59	146832	6.998	ng	99
19) Methylene Chloride	6.86	84	44481	4.659	ng	99
20) 3-Chloro-1-propene (Al...	6.99	41	51245	4.239	ng	98
21) Trichlorotrifluoroethane	7.18	151	55953	6.116	ng	100
22) Carbon Disulfide	7.14	76	148912	4.494	ng	99
23) trans-1,2-Dichloroethene	7.89	61	61901	5.180	ng	100
24) 1,1-Dichloroethane	8.10	63	74292	4.725	ng	99
25) Methyl tert-Butyl Ether	8.18	73	94198	3.454	ng	100
26) Vinyl Acetate	8.28	86	50438	24.161	ng	96
27) 2-Butanone (MEK)	8.52	72	27190	4.434	ng	99
28) cis-1,2-Dichloroethene	8.98	61	59734	4.964	ng	99
29) Diisopropyl Ether	9.22	87	37252	4.896	ng	98
30) Ethyl Acetate	9.22	61	24814	8.841	ng	93
31) n-Hexane	9.22	57	56462	4.151	ng	98
32) Chloroform	9.28	83	90848	5.611	ng	100
34) Tetrahydrofuran (THF)	9.68	72	27288	4.605	ng	99
35) Ethyl tert-Butyl Ether	9.76	87	40755	3.683	ng	99
36) 1,2-Dichloroethane	10.03	62	76687	6.280	ng	99
38) 1,1,1-Trichloroethane	10.29	97	94993	6.714	ng	100
39) Isopropyl Acetate	10.67	61	45123	9.235	ng	97
40) 1-Butanol	10.68	56	60020	7.571	ng	95
41) Benzene	10.75	78	177125	4.756	ng	100
42) Carbon Tetrachloride	10.90	117	92497	6.968	ng	100
43) Cyclohexane	11.03	84	141066	9.979	ng	99
44) tert-Amyl Methyl Ether	11.35	73	94835	3.871	ng	99
45) 1,2-Dichloropropane	11.57	63	37103	4.466	ng	99
46) Bromodichloromethane	11.75	83	74064	6.030	ng	98
47) Trichloroethene	11.81	130	63453	5.913	ng	100
48) 1,4-Dioxane	11.78	88	36438	5.016	ng	97
49) 2,2,4-Trimethylpentane...	11.87	57	148256	4.239	ng	100
50) Methyl Methacrylate	11.99	100	40050	10.980	ng	97

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222015.D Vial: 5
Acq On : 22 Apr 2020 21:39 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04222004 (5/21)

Quant Time: Apr 23 11:49:52 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

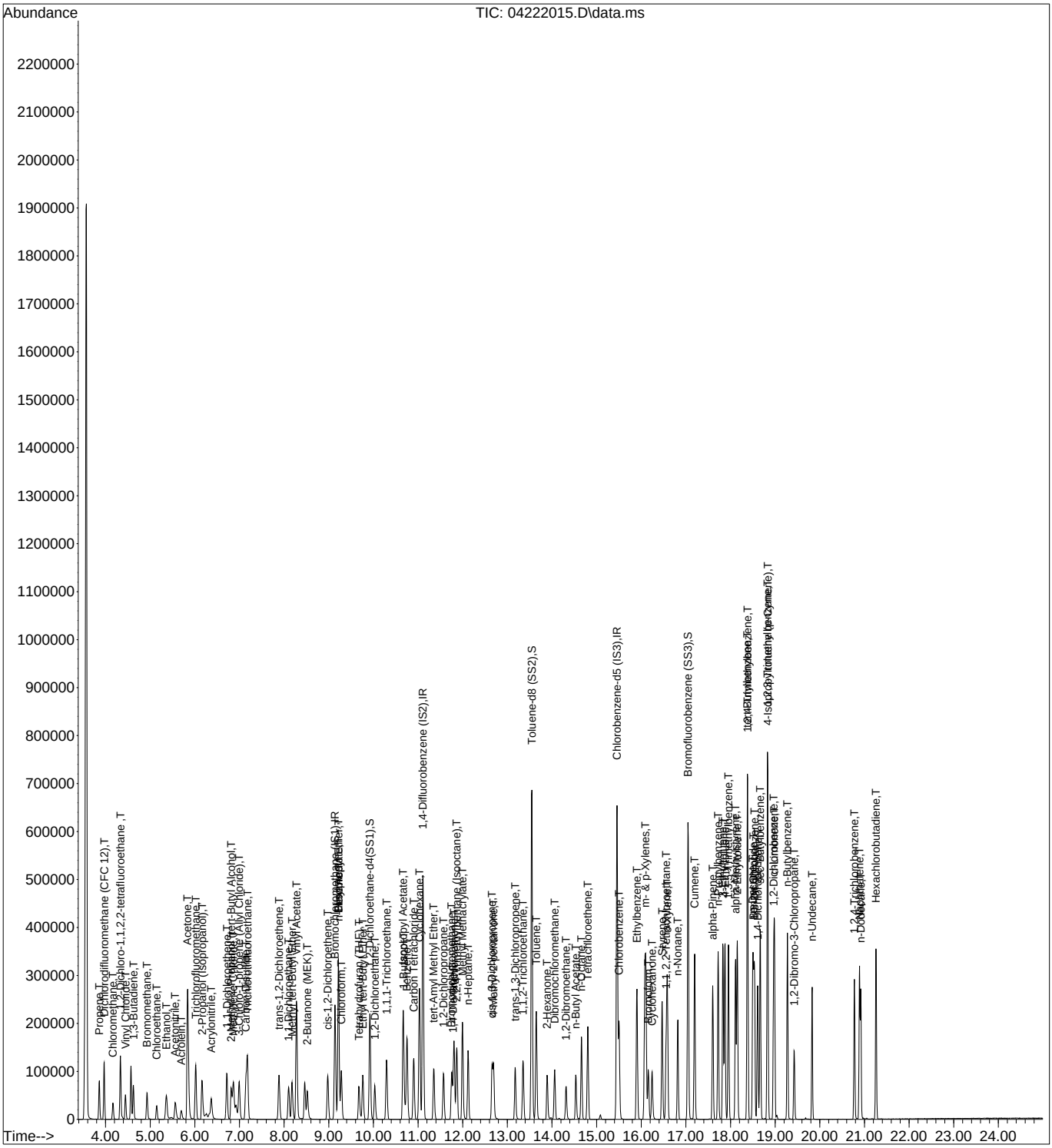
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	41995	4.724	ng	99
52) cis-1,3-Dichloropropene	12.66	75	76063	5.494	ng	100
53) 4-Methyl-2-pentanone	12.69	58	32970	4.490	ng	99
54) trans-1,3-Dichloropropene	13.18	75	75652	5.838	ng	97
55) 1,1,2-Trichloroethane	13.35	97	48516	5.325	ng	99
58) Toluene	13.65	91	204359	4.986	ng	99
59) 2-Hexanone	13.89	43	66070	4.071	ng	99
60) Dibromochloromethane	14.06	129	71135	6.219	ng	99
61) 1,2-Dibromoethane	14.31	107	58489	5.640	ng	98
62) n-Butyl Acetate	14.53	43	70906	4.093	ng	99
63) n-Octane	14.66	57	32746	4.428	ng	99
64) Tetrachloroethene	14.80	166	74010	5.808	ng	100
65) Chlorobenzene	15.50	112	150097	5.253	ng	100
66) Ethylbenzene	15.90	91	243383	5.529	ng	99
67) m- & p-Xylenes	16.10	91	408114	11.584	ng	100
68) Bromoform	16.16	173	64880	6.870	ng	100
69) Styrene	16.47	104	152968	5.987	ng	99
70) o-Xylene	16.58	91	203581	5.782	ng	99
71) n-Nonane	16.82	43	65193	4.287	ng	99
72) 1,1,2,2-Tetrachloroethane	16.56	83	77299	4.863	ng	100
74) Cumene	17.19	105	267150	5.815	ng	100
75) alpha-Pinene	17.60	93	123139	5.321	ng	99
76) n-Propylbenzene	17.72	91	295275	5.628	ng	100
77) 3-Ethyltoluene	17.83	105	255544	5.803	ng	97
78) 4-Ethyltoluene	17.88	105	266013	6.306	ng	97
79) 1,3,5-Trimethylbenzene	17.95	105	231920	5.981	ng	100
80) alpha-Methylstyrene	18.11	118	121821	6.418	ng	97
81) 2-Ethyltoluene	18.15	105	262291	5.963	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	231050	6.412	ng	100
83) n-Decane	18.50	57	83453	4.761	ng	100
84) Benzyl Chloride	18.51	91	179796	6.381	ng	99
85) 1,3-Dichlorobenzene	18.54	146	141029	6.780	ng	99
86) 1,4-Dichlorobenzene	18.61	146	141651	6.666	ng	100
87) sec-Butylbenzene	18.66	105	293214	5.788	ng	100
88) 4-Isopropyltoluene (p-...	18.83	119	295331	6.582	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	238024	6.474	ng	99
90) 1,2-Dichlorobenzene	18.97	146	137496	6.645	ng	99
91) d-Limonene	18.98	68	65560	5.240	ng	99
92) 1,2-Dibromo-3-Chloropr...	19.43	157	50779	6.158	ng	99
93) n-Undecane	19.83	57	85715	4.597	ng	99
94) 1,2,4-Trichlorobenzene	20.77	180	106907	6.695	ng	99
95) Naphthalene	20.89	128	284865	5.744	ng	100
96) n-Dodecane	20.92	57	72247	3.924	ng	99
97) Hexachlorobutadiene	21.26	225	78877	7.130	ng	100
98) Cyclohexanone	16.24	55	47265	4.094	ng	99
99) tert-Butylbenzene	18.38	119	231949	6.238	ng	99
100) n-Butylbenzene	19.27	91	219078	6.067	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222015.D Vial: 5
Acq On : 22 Apr 2020 21:39 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04222004 (5/21)

Quant Time: Apr 23 11:49:52 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222016.D Vial: 2
Acq On : 22 Apr 2020 22:12 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 23 11:49:54 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/23/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	139959	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	11.12	114	576914	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	15.46	82	270547	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.94	65	224495	14.177	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.44%			
57) Toluene-d8 (SS2)	13.55	98	648304	12.049	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.40%			
73) Bromofluorobenzene (SS3)	17.05	174	266005	14.858	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 118.88%			
Target Compounds						Qvalue
2) Propene	3.86	42	148349	17.306	ng	100
3) Dichlorodifluoromethan...	3.97	85	575420	28.811	ng	100
4) Chloromethane	4.17	50	233786	19.451	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	309011	33.168	ng	100
6) Vinyl Chloride	4.45	62	293615	28.354	ng	100
7) 1,3-Butadiene	4.63	54	196130	27.165	ng	100
8) Bromomethane	4.94	94	226533	24.815	ng	100
9) Chloroethane	5.16	64	143289	21.088	ng	100
10) Ethanol	5.40	45	526687	78.538	ng	100
11) Acetonitrile	5.59	41	263390	17.229	ng	100
12) Acrolein	5.71	56	110967	19.303	ng	100
13) Acetone	5.86	58	670690	97.441	ng	100
14) Trichlorofluoromethane	6.03	101	575484	31.821	ng	100
15) 2-Propanol (Isopropanol)	6.20	45	949734	43.486	ng	100
16) Acrylonitrile	6.39	53	242821	20.311	ng	100
17) 1,1-Dichloroethene	6.72	96	259353	25.426	ng	100
18) 2-Methyl-2-Propanol (t...	6.84	59	852826	36.894	ng	100
19) Methylene Chloride	6.88	84	246568	23.439	ng	100
20) 3-Chloro-1-propene (Al...	7.01	41	280359	21.047	ng	100
21) Trichlorotrifluoroethane	7.19	151	300508	29.813	ng	100
22) Carbon Disulfide	7.15	76	839811	23.003	ng	100
23) trans-1,2-Dichloroethene	7.90	61	348501	26.469	ng	100
24) 1,1-Dichloroethane	8.12	63	412914	23.836	ng	100
25) Methyl tert-Butyl Ether	8.18	73	536453	17.852	ng	100
26) Vinyl Acetate	8.30	86	288061	125.244	ng	100
27) 2-Butanone (MEK)	8.53	72	157863	23.366	ng	100
28) cis-1,2-Dichloroethene	8.99	61	330184	24.905	ng	100
29) Diisopropyl Ether	9.22	87	199384	23.785	ng	100
30) Ethyl Acetate	9.23	61	139703	45.176	ng	100
31) n-Hexane	9.23	57	306748	20.468	ng	100
32) Chloroform	9.30	83	496525	27.834	ng	100
34) Tetrahydrofuran (THF)	9.68	72	154237	23.625	ng	100
35) Ethyl tert-Butyl Ether	9.77	87	222400	18.241	ng	100
36) 1,2-Dichloroethane	10.04	62	421595	31.337	ng	100
38) 1,1,1-Trichloroethane	10.30	97	523386	33.514	ng	100
39) Isopropyl Acetate	10.67	61	247371	45.864	ng	100
40) 1-Butanol	10.69	56	393624	44.979	ng	100
41) Benzene	10.76	78	965159	23.478	ng	100
42) Carbon Tetrachloride	10.92	117	509202	34.750	ng	100
43) Cyclohexane	11.04	84	760478	48.737	ng	100
44) tert-Amyl Methyl Ether	11.35	73	525196	19.420	ng	100
45) 1,2-Dichloropropane	11.57	63	205952	22.460	ng	100
46) Bromodichloromethane	11.76	83	412304	30.413	ng	100
47) Trichloroethene	11.81	130	346686	29.267	ng	100
48) 1,4-Dioxane	11.78	88	218205	27.210	ng	100
49) 2,2,4-Trimethylpentane...	11.87	57	802639	20.790	ng	100
50) Methyl Methacrylate	12.00	100	232380	57.715	ng	100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222016.D Vial: 2
Acq On : 22 Apr 2020 22:12 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 23 11:49:54 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

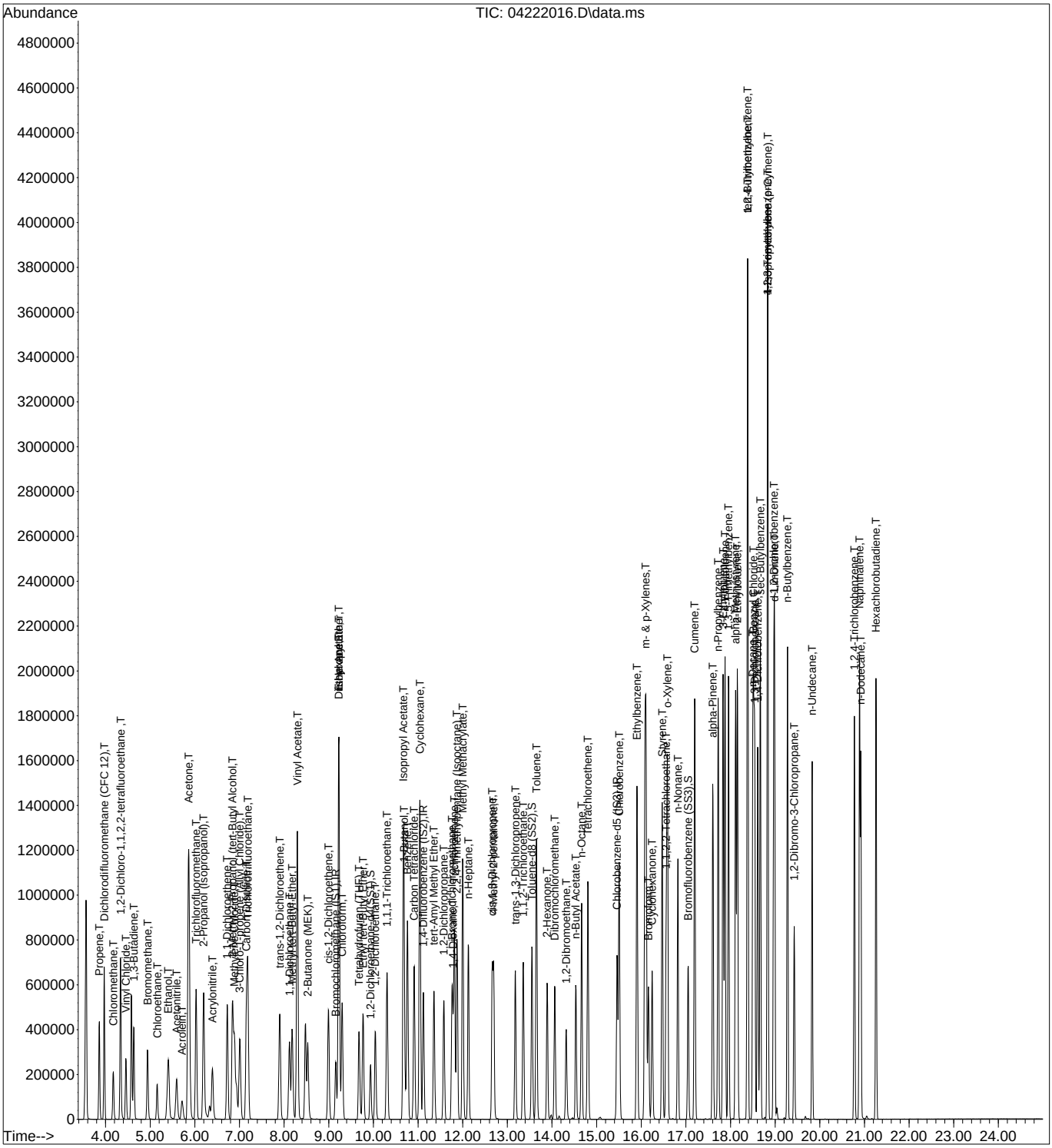
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	233894	23.835	ng	100
52) cis-1,3-Dichloropropene	12.66	75	437947	28.658	ng	100
53) 4-Methyl-2-pentanone	12.69	58	190105	23.453	ng	100
54) trans-1,3-Dichloropropene	13.18	75	447102	31.257	ng	100
55) 1,1,2-Trichloroethane	13.36	97	274331	27.275	ng	100
58) Toluene	13.65	91	1135814	24.873	ng	100
59) 2-Hexanone	13.89	43	418957	23.174	ng	100
60) Dibromochloromethane	14.06	129	411137	32.265	ng	100
61) 1,2-Dibromoethane	14.32	107	339459	29.385	ng	100
62) n-Butyl Acetate	14.53	43	449879	23.309	ng	100
63) n-Octane	14.67	57	181686	22.051	ng	100
64) Tetrachloroethene	14.80	166	410786	28.938	ng	100
65) Chlorobenzene	15.51	112	838490	26.340	ng	100
66) Ethylbenzene	15.90	91	1345406	27.437	ng	100
67) m- & p-Xylenes	16.10	91	2234588	56.932	ng	100
68) Bromoform	16.16	173	373311	35.482	ng	100
69) Styrene	16.47	104	871452	30.616	ng	100
70) o-Xylene	16.58	91	1104137	28.150	ng	100
71) n-Nonane	16.82	43	357159	21.080	ng	100
72) 1,1,2,2-Tetrachloroethane	16.56	83	429814	24.273	ng	100
74) Cumene	17.19	105	1458637	28.499	ng	100
75) alpha-Pinene	17.60	93	676336	26.231	ng	100
76) n-Propylbenzene	17.72	91	1624715	27.795	ng	100
77) 3-Ethyltoluene	17.83	105	1451425	29.587	ng	100
78) 4-Ethyltoluene	17.88	105	1410591	30.017	ng	100
79) 1,3,5-Trimethylbenzene	17.95	105	1260494	29.178	ng	100
80) alpha-Methylstyrene	18.11	118	690235	32.639	ng	100
81) 2-Ethyltoluene	18.15	105	1424607	29.071	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	1244204	30.995	ng	100
83) n-Decane	18.50	57	454506	23.277	ng	100
84) Benzyl Chloride	18.51	91	1099043	35.014	ng	100
85) 1,3-Dichlorobenzene	18.54	146	781993	33.746	ng	100
86) 1,4-Dichlorobenzene	18.61	146	804142	33.965	ng	100
87) sec-Butylbenzene	18.67	105	1581990	28.029	ng	100
88) 4-Isopropyltoluene (p-...	18.83	119	1569378	31.394	ng	100
89) 1,2,3-Trimethylbenzene	18.83	105	1273990	31.104	ng	100
90) 1,2-Dichlorobenzene	18.97	146	753213	32.673	ng	100
91) d-Limonene	18.99	68	364906	26.181	ng	100
92) 1,2-Dibromo-3-Chloropr...	19.43	157	300160	32.674	ng	100
93) n-Undecane	19.83	57	486425	23.417	ng	100
94) 1,2,4-Trichlorobenzene	20.77	180	645472	36.284	ng	100
95) Naphthalene	20.89	128	1764943	31.942	ng	100
96) n-Dodecane	20.92	57	451510	22.010	ng	100
97) Hexachlorobutadiene	21.26	225	435056	35.299	ng	100
98) Cyclohexanone	16.24	55	290938	22.618	ng	100
99) tert-Butylbenzene	18.38	119	1221323	29.482	ng	100
100) n-Butylbenzene	19.27	91	1232000	30.627	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222016.D Vial: 2
Acq On : 22 Apr 2020 22:12 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 23 11:49:54 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222017.D Vial: 2
Acq On : 22 Apr 2020 22:46 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 23 11:49:56 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/23/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.17	130	145152	12.500	ng	0.01
37) 1,4-Difluorobenzene (IS2)	11.12	114	598248	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	15.46	82	279965	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.94	65	233121	14.195	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.60%			
57) Toluene-d8 (SS2)	13.55	98	670205	12.037	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.32%			
73) Bromofluorobenzene (SS3)	17.05	174	273089	14.741	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 117.92%			
Target Compounds						Qvalue
2) Propene	3.86	42	330392	37.165	ng	98
3) Dichlorodifluoromethan...	3.97	85	1105663	53.380	ng	100
4) Chloromethane	4.17	50	407411	32.683	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	597211	61.810	ng	99
6) Vinyl Chloride	4.46	62	580007	54.007	ng	100
7) 1,3-Butadiene	4.63	54	370058	49.421	ng	99
8) Bromomethane	4.94	94	450081	47.539	ng	99
9) Chloroethane	5.16	64	285429	40.505	ng	100
10) Ethanol	5.43	45	1044298	150.152	ng	100
11) Acetonitrile	5.60	41	533240	33.633	ng	100
12) Acrolein	5.72	56	224287	37.620	ng	99
13) Acetone	5.87	58	1299615	182.060	ng	98
14) Trichlorofluoromethane	6.03	101	1115252	59.460	ng	99
15) 2-Propanol (Isopropanol)	6.21	45	1663213	73.429	ng	100
16) Acrylonitrile	6.41	53	489337	39.466	ng	99
17) 1,1-Dichloroethene	6.73	96	512268	48.425	ng	100
18) 2-Methyl-2-Propanol (t...	6.86	59	1790353	74.681	ng	99
19) Methylene Chloride	6.90	84	487136	44.650	ng	100
20) 3-Chloro-1-propene (Al...	7.02	41	559510	40.501	ng	100
21) Trichlorotrifluoroethane	7.19	151	583089	55.778	ng	99
22) Carbon Disulfide	7.16	76	1660071	43.844	ng	100
23) trans-1,2-Dichloroethene	7.91	61	693359	50.778	ng	100
24) 1,1-Dichloroethane	8.13	63	812821	45.242	ng	99
25) Methyl tert-Butyl Ether	8.18	73	1124703	36.088	ng	100
26) Vinyl Acetate	8.30	86	558650	234.201	ng	98
27) 2-Butanone (MEK)	8.54	72	315514	45.030	ng	99
28) cis-1,2-Dichloroethene	9.00	61	657246	47.801	ng	99
29) Diisopropyl Ether	9.23	87	386021	44.402	ng	100
30) Ethyl Acetate	9.23	61	271619	84.692	ng	99
31) n-Hexane	9.23	57	589143	37.904	ng	100
32) Chloroform	9.31	83	971469	52.510	ng	100
34) Tetrahydrofuran (THF)	9.68	72	307036	45.347	ng	99
35) Ethyl tert-Butyl Ether	9.77	87	429471	33.965	ng	99
36) 1,2-Dichloroethane	10.05	62	832849	59.690	ng	100
38) 1,1,1-Trichloroethane	10.31	97	1028523	63.512	ng	100
39) Isopropyl Acetate	10.68	61	483997	86.535	ng	100
40) 1-Butanol	10.70	56	776710	85.589	ng	100
41) Benzene	10.77	78	1887102	44.267	ng	99
42) Carbon Tetrachloride	10.91	117	990936	65.214	ng	100
43) Cyclohexane	11.05	84	1474213	91.109	ng	100
44) tert-Amyl Methyl Ether	11.36	73	1007186	35.914	ng	100
45) 1,2-Dichloropropane	11.58	63	406679	42.768	ng	99
46) Bromodichloromethane	11.77	83	804293	57.212	ng	100
47) Trichloroethene	11.82	130	674075	54.877	ng	100
48) 1,4-Dioxane	11.79	88	426867	51.332	ng	99
49) 2,2,4-Trimethylpentane...	11.88	57	1579497	39.452	ng	99
50) Methyl Methacrylate	12.00	100	449956	107.769	ng	99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222017.D Vial: 2
Acq On : 22 Apr 2020 22:46 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 23 11:49:56 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

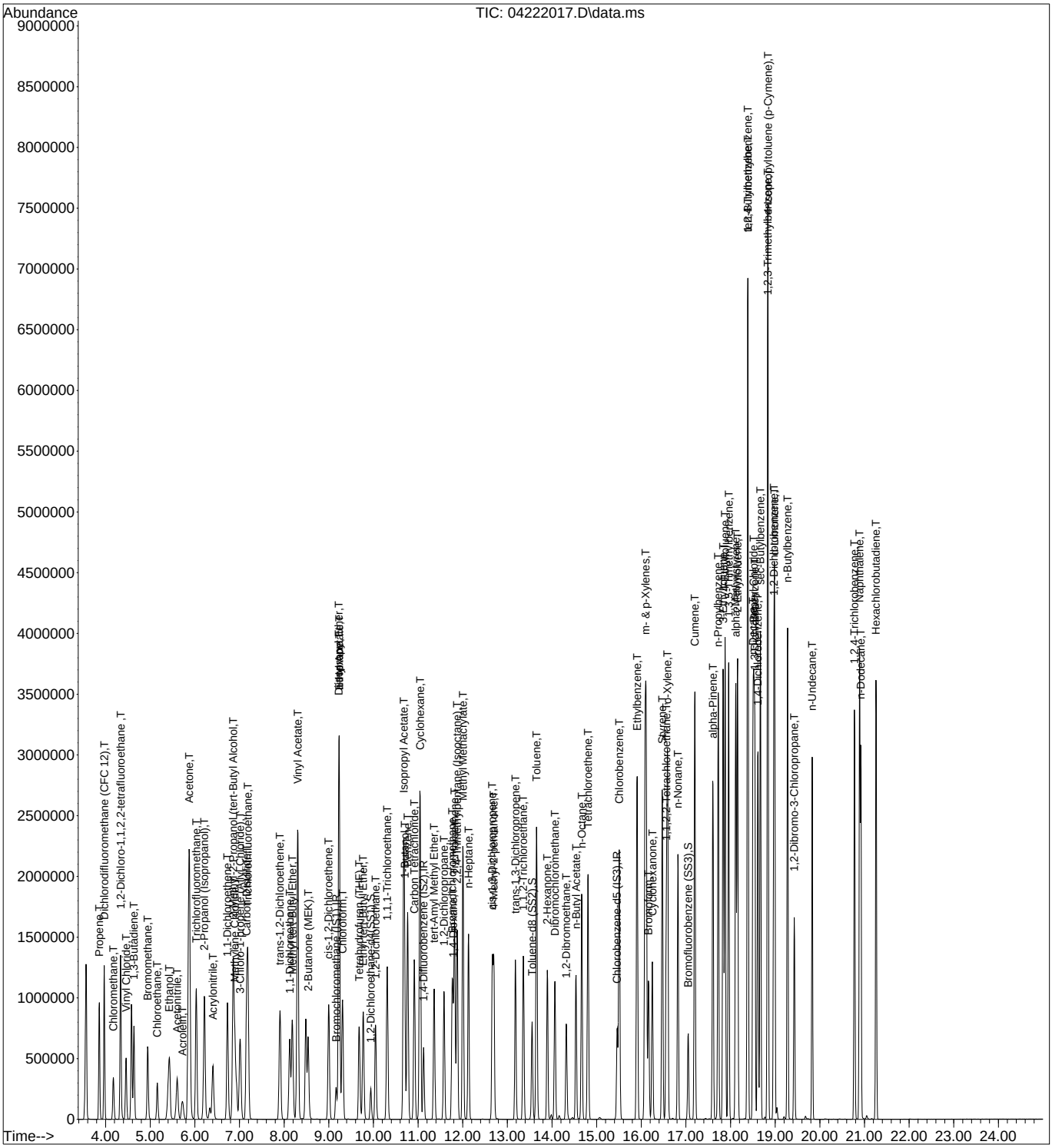
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.13	71	453213	44.537	ng	99
52) cis-1,3-Dichloropropene	12.66	75	860297	54.289	ng	100
53) 4-Methyl-2-pentanone	12.70	58	372186	44.279	ng	99
54) trans-1,3-Dichloropropene	13.18	75	882932	59.524	ng	99
55) 1,1,2-Trichloroethane	13.36	97	535895	51.381	ng	100
58) Toluene	13.65	91	2200796	46.574	ng	100
59) 2-Hexanone	13.90	43	828054	44.262	ng	100
60) Dibromochloromethane	14.07	129	799199	60.609	ng	100
61) 1,2-Dibromoethane	14.32	107	657662	55.014	ng	100
62) n-Butyl Acetate	14.54	43	895005	44.812	ng	99
63) n-Octane	14.67	57	353789	41.494	ng	100
64) Tetrachloroethene	14.81	166	787530	53.612	ng	100
65) Chlorobenzene	15.51	112	1619494	49.163	ng	100
66) Ethylbenzene	15.91	91	2605564	51.348	ng	99
67) m- & p-Xylenes	16.10	91	4289093	105.600	ng	100
68) Bromoform	16.16	173	724639	66.557	ng	99
69) Styrene	16.47	104	1684196	57.179	ng	100
70) o-Xylene	16.59	91	2120519	52.245	ng	99
71) n-Nonane	16.82	43	692402	39.492	ng	100
72) 1,1,2,2-Tetrachloroethane	16.56	83	824924	45.020	ng	100
74) Cumene	17.20	105	2768290	52.267	ng	100
75) alpha-Pinene	17.61	93	1270363	47.612	ng	100
76) n-Propylbenzene	17.72	91	3094989	51.167	ng	100
77) 3-Ethyltoluene	17.83	105	2691483	53.020	ng	100
78) 4-Ethyltoluene	17.88	105	2750937	56.570	ng	100
79) 1,3,5-Trimethylbenzene	17.96	105	2393266	53.535	ng	99
80) alpha-Methylstyrene	18.12	118	1310045	59.864	ng	99
81) 2-Ethyltoluene	18.16	105	2695906	53.164	ng	100
82) 1,2,4-Trimethylbenzene	18.39	105	2335635	56.228	ng	99
83) n-Decane	18.50	57	861713	42.646	ng	100
84) Benzyl Chloride	18.52	91	2102138	64.718	ng	100
85) 1,3-Dichlorobenzene	18.54	146	1471826	61.378	ng	100
86) 1,4-Dichlorobenzene	18.61	146	1512394	61.732	ng	99
87) sec-Butylbenzene	18.67	105	2983928	51.090	ng	100
88) 4-Isopropyltoluene (p-...	18.84	119	2886890	55.807	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	2382967	56.223	ng	99
90) 1,2-Dichlorobenzene	18.97	146	1402445	58.789	ng	99
91) d-Limonene	18.99	68	693005	48.049	ng	100
92) 1,2-Dibromo-3-Chloropr...	19.43	157	576367	60.630	ng	99
93) n-Undecane	19.83	57	920386	42.817	ng	100
94) 1,2,4-Trichlorobenzene	20.77	180	1211612	65.818	ng	99
95) Naphthalene	20.89	128	3323979	58.135	ng	100
96) n-Dodecane	20.92	57	850719	40.075	ng	100
97) Hexachlorobutadiene	21.26	225	816834	64.046	ng	100
98) Cyclohexanone	16.25	55	572657	43.022	ng	99
99) tert-Butylbenzene	18.39	119	2270698	52.970	ng	100
100) n-Butylbenzene	19.28	91	2323808	55.826	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222017.D Vial: 2
Acq On : 22 Apr 2020 22:46 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 23 11:49:56 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222018.D Vial: 2
Acq On : 22 Apr 2020 23:19 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 23 11:49:58 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/23/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.17	130	148278	12.500	ng	0.02
37) 1,4-Difluorobenzene (IS2)	11.13	114	604904	12.500	ng	0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	288609	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.95	65	238771	14.233	ng	0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.84%			
57) Toluene-d8 (SS2)	13.55	98	686115	11.953	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.60%			
73) Bromofluorobenzene (SS3)	17.05	174	277637	14.538	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 116.32%			
Target Compounds						Qvalue
2) Propene	3.86	42	785958	86.546	ng	98
3) Dichlorodifluoromethan...	3.97	85	2156956	101.939	ng	100
4) Chloromethane	4.17	50	638588	50.149	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	1145081	116.014	ng	99
6) Vinyl Chloride	4.46	62	1130766	103.071	ng	100
7) 1,3-Butadiene	4.64	54	742038	97.009	ng	98
8) Bromomethane	4.94	94	885568	91.565	ng	99
9) Chloroethane	5.16	64	566662	78.719	ng	99
10) Ethanol	5.45	45	2076910	292.329	ng	100
11) Acetonitrile	5.62	41	1073293	66.269	ng	100
12) Acrolein	5.73	56	453266	74.424	ng	99
13) Acetone	5.88	58	2491481	341.667	ng	96
14) Trichlorofluoromethane	6.03	101	2161200	112.797	ng	99
15) 2-Propanol (Isopropanol)	6.23	45	2589369	111.908	ng	100
16) Acrylonitrile	6.42	53	983771	77.671	ng	99
17) 1,1-Dichloroethene	6.74	96	1003826	92.891	ng	100
18) 2-Methyl-2-Propanol (t...	6.88	59	3702880	151.202	ng	99
19) Methylene Chloride	6.90	84	937914	84.155	ng	100
20) 3-Chloro-1-propene (Al...	7.02	41	1080840	76.590	ng	99
21) Trichlorotrifluoroethane	7.19	151	1128627	105.687	ng	99
22) Carbon Disulfide	7.16	76	3238906	83.740	ng	100
23) trans-1,2-Dichloroethene	7.91	61	1368694	98.122	ng	99
24) 1,1-Dichloroethane	8.13	63	1602393	87.310	ng	99
25) Methyl tert-Butyl Ether	8.19	73	2363460	74.237	ng	99
26) Vinyl Acetate	8.32	86	1079473	443.004	ng	97
27) 2-Butanone (MEK)	8.55	72	620311	86.665	ng	99
28) cis-1,2-Dichloroethene	9.00	61	1295452	92.230	ng	99
29) Diisopropyl Ether	9.23	87	747987	84.224	ng	99
30) Ethyl Acetate	9.24	61	526581	160.729	ng	100
31) n-Hexane	9.23	57	1125241	70.869	ng	100
32) Chloroform	9.32	83	1914415	101.297	ng	99
34) Tetrahydrofuran (THF)	9.68	72	605437	87.534	ng	99
35) Ethyl tert-Butyl Ether	9.78	87	833016	64.491	ng	100
36) 1,2-Dichloroethane	10.05	62	1643759	115.324	ng	100
38) 1,1,1-Trichloroethane	10.31	97	2001463	122.231	ng	100
39) Isopropyl Acetate	10.68	61	934426	165.230	ng	99
40) 1-Butanol	10.72	56	1523226	166.005	ng	100
41) Benzene	10.77	78	3664850	85.023	ng	99
42) Carbon Tetrachloride	10.92	117	1920120	124.974	ng	100
43) Cyclohexane	11.05	84	2813954	171.994	ng	99
44) tert-Amyl Methyl Ether	11.36	73	1894309	66.804	ng	99
45) 1,2-Dichloropropane	11.59	63	797643	82.960	ng	100
46) Bromodichloromethane	11.77	83	1577887	111.004	ng	100
47) Trichloroethene	11.82	130	1284130	103.391	ng	100
48) 1,4-Dioxane	11.79	88	820475	97.578	ng	97
49) 2,2,4-Trimethylpentane...	11.88	57	3069164	75.817	ng	98
50) Methyl Methacrylate	12.01	100	871200	206.364	ng	99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222018.D Vial: 2
Acq On : 22 Apr 2020 23:19 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 23 11:49:58 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

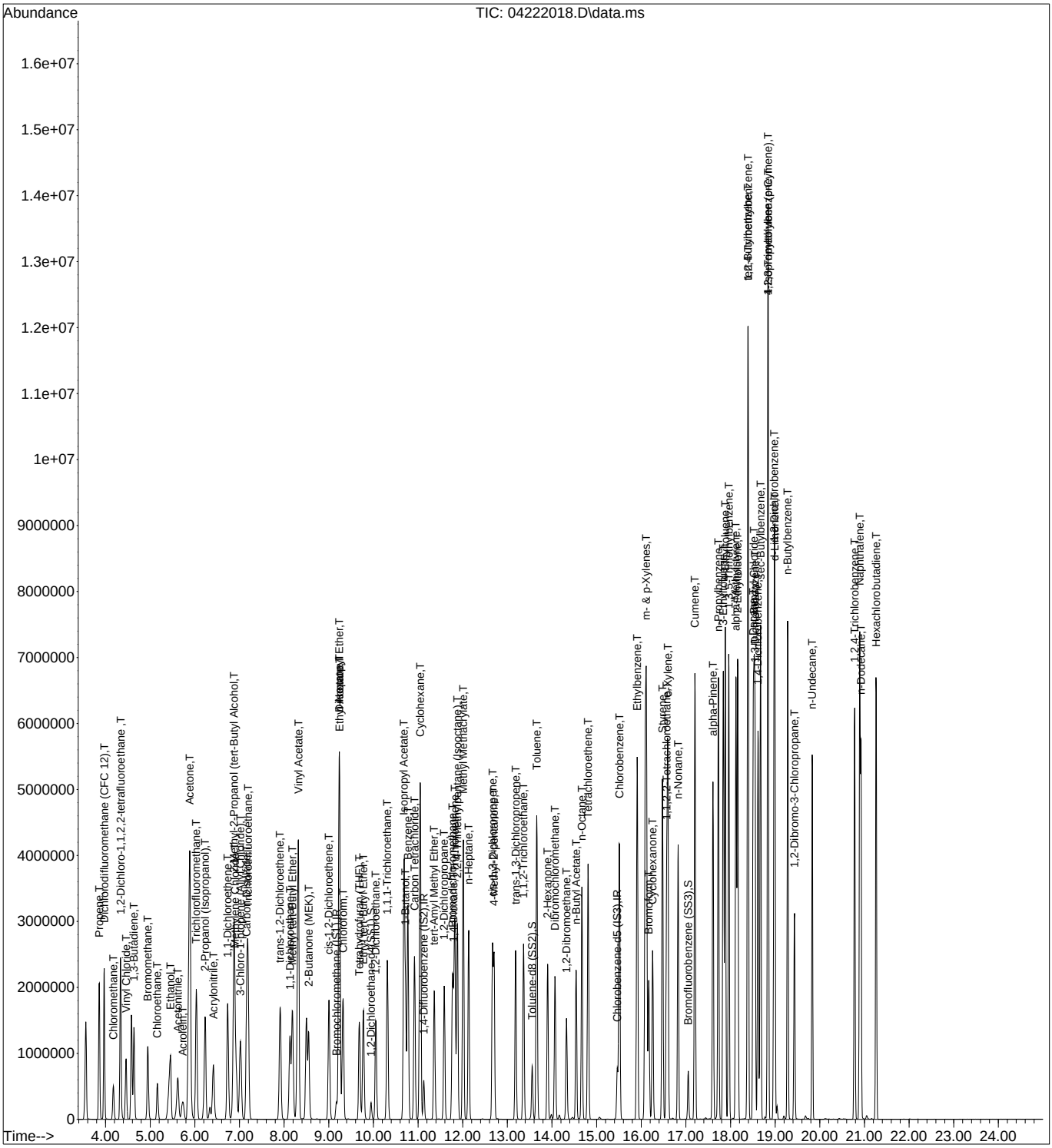
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.14	71	871756	84.724	ng	99
52) cis-1,3-Dichloropropene	12.67	75	1681640	104.951	ng	100
53) 4-Methyl-2-pentanone	12.70	58	733775	86.338	ng	99
54) trans-1,3-Dichloropropene	13.19	75	1735907	115.742	ng	100
55) 1,1,2-Trichloroethane	13.36	97	1044877	99.080	ng	100
58) Toluene	13.66	91	4241230	87.067	ng	100
59) 2-Hexanone	13.90	43	1624051	84.210	ng	100
60) Dibromochloromethane	14.07	129	1553333	114.272	ng	100
61) 1,2-Dibromoethane	14.32	107	1290897	104.751	ng	100
62) n-Butyl Acetate	14.54	43	1769562	85.947	ng	100
63) n-Octane	14.67	57	683435	77.756	ng	99
64) Tetrachloroethene	14.81	166	1507018	99.518	ng	100
65) Chlorobenzene	15.51	112	3124408	92.006	ng	100
66) Ethylbenzene	15.91	91	5026395	96.088	ng	99
67) m- & p-Xylenes	16.11	91	8213758	196.171	ng	99
68) Bromoform	16.17	173	1400185	124.753	ng	99
69) Styrene	16.47	104	3217941	105.977	ng	98
70) o-Xylene	16.60	91	4055077	96.915	ng	99
71) n-Nonane	16.83	43	1324701	73.294	ng	100
72) 1,1,2,2-Tetrachloroethane	16.57	83	1584301	83.872	ng	100
74) Cumene	17.20	105	5263540	96.402	ng	100
75) alpha-Pinene	17.61	93	2337427	84.981	ng	99
76) n-Propylbenzene	17.73	91	5902660	94.661	ng	100
77) 3-Ethyltoluene	17.84	105	5229819	99.937	ng	100
78) 4-Ethyltoluene	17.88	105	5078609	101.309	ng	100
79) 1,3,5-Trimethylbenzene	17.96	105	4552050	98.775	ng	99
80) alpha-Methylstyrene	18.12	118	2473575	109.648	ng	99
81) 2-Ethyltoluene	18.16	105	5107465	97.704	ng	99
82) 1,2,4-Trimethylbenzene	18.39	105	4385377	102.411	ng	98
83) n-Decane	18.51	57	1646824	79.061	ng	100
84) Benzyl Chloride	18.53	91	4029132	120.328	ng	99
85) 1,3-Dichlorobenzene	18.55	146	2762488	111.751	ng	100
86) 1,4-Dichlorobenzene	18.61	146	2871235	113.686	ng	99
87) sec-Butylbenzene	18.67	105	5630899	93.523	ng	99
88) 4-Isopropyltoluene (p-...	18.84	119	5350008	100.325	ng	99
89) 1,2,3-Trimethylbenzene	18.84	105	4460508	102.087	ng	99
90) 1,2-Dichlorobenzene	18.98	146	2608515	106.072	ng	99
91) d-Limonene	18.99	68	1332709	89.635	ng	99
92) 1,2-Dibromo-3-Chloropr...	19.43	157	1113665	113.641	ng	98
93) n-Undecane	19.83	57	1760518	79.448	ng	100
94) 1,2,4-Trichlorobenzene	20.78	180	2294871	120.930	ng	100
95) Naphthalene	20.90	128	6235400	105.787	ng	99
96) n-Dodecane	20.92	57	1626329	74.317	ng	100
97) Hexachlorobutadiene	21.26	225	1532118	116.531	ng	100
98) Cyclohexanone	16.25	55	1131243	82.442	ng	99
99) tert-Butylbenzene	18.39	119	4205655	95.169	ng	100
100) n-Butylbenzene	19.28	91	4424060	103.098	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222018.D Vial: 2
Acq On : 22 Apr 2020 23:19 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 23 11:49:58 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222025.D Vial: 2
Acq On : 23 Apr 2020 14:51 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S34-04212006/S34-04102008 (5/9)

Quant Time: Apr 23 15:16:38 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:40:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/23/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	138305	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	11.12	114	577705	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	257902	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.94	65	219688	12.260	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.08%				
57) Toluene-d8 (SS2)	13.55	98	636981	12.792	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.32%				
73) Bromofluorobenzene (SS3)	17.05	174	245958	12.290	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.32%				
Target Compounds							Qvalue
2) Propene	3.86	42	154699	26.335	ng		98
3) Dichlorodifluoromethan...	3.97	85	589140	26.397	ng		100
4) Chloromethane	4.17	50	237620	28.855	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	308509	25.571	ng		100
6) Vinyl Chloride	4.45	62	303367	28.091	ng		100
7) 1,3-Butadiene	4.63	54	212030	30.741	ng		99
8) Bromomethane	4.94	94	224805	26.489	ng		99
9) Chloroethane	5.16	64	148572	27.196	ng		99
10) Ethanol	5.41	45	551345	123.912	ng		99
11) Acetonitrile	5.59	41	281664	26.742	ng		99
12) Acrolein	5.72	56	115673	28.448	ng		100
13) Acetone	5.86	58	716495	134.126	ng		100
14) Trichlorofluoromethane	6.03	101	587112	26.439	ng		99
15) 2-Propanol (Isopropanol)	6.20	45	991945	58.454	ng		100
16) Acrylonitrile	6.39	53	257853	30.427	ng		99
17) 1,1-Dichloroethene	6.73	96	273599	28.027	ng		100
18) 2-Methyl-2-Propanol (t...	6.85	59	878560	56.660	ng		100
19) Methylene Chloride	6.89	84	259159	27.662	ng		99
20) 3-Chloro-1-propene (Al...	7.01	41	288466	26.536	ng		99
21) Trichlorotrifluoroethane	7.19	151	309497	26.781	ng		99
22) Carbon Disulfide	7.15	76	893442	28.681	ng		99
23) trans-1,2-Dichloroethene	7.90	61	369099	29.956	ng		99
24) 1,1-Dichloroethane	8.12	63	417588	27.124	ng		100
25) Methyl tert-Butyl Ether	8.18	73	561667	28.315	ng		100
26) Vinyl Acetate	8.30	86	288845	148.155	ng	#	95
27) 2-Butanone (MEK)	8.53	72	164286	29.934	ng		97
28) cis-1,2-Dichloroethene	8.99	61	351423	28.219	ng		100
29) Diisopropyl Ether	9.22	87	210546	26.487	ng		96
30) Ethyl Acetate	9.23	61	149636	61.279	ng		96
31) n-Hexane	9.23	57	331607	27.976	ng		100
32) Chloroform	9.30	83	520394	27.442	ng		100
34) Tetrahydrofuran (THF)	9.68	72	161914	29.128	ng		98
35) Ethyl tert-Butyl Ether	9.77	87	231641	27.259	ng		98
36) 1,2-Dichloroethane	10.04	62	437532	28.049	ng		100
38) 1,1,1-Trichloroethane	10.30	97	551673	27.774	ng		100
39) Isopropyl Acetate	10.67	61	263481	55.596	ng		95
40) 1-Butanol	10.68	56	321068	50.426	ng		89
41) Benzene	10.76	78	1014361	26.935	ng		100
42) Carbon Tetrachloride	10.91	117	514147	26.405	ng		99
43) Cyclohexane	11.04	84	804221	54.510	ng		98
44) tert-Amyl Methyl Ether	11.35	73	547671	27.696	ng		99
45) 1,2-Dichloropropane	11.58	63	220258	28.569	ng		99
46) Bromodichloromethane	11.76	83	426060	27.495	ng		99
47) Trichloroethene	11.82	130	357343	27.398	ng		99
48) 1,4-Dioxane	11.78	88	226346	29.892	ng		99
49) 2,2,4-Trimethylpentane...	11.87	57	871344	27.699	ng		100
50) Methyl Methacrylate	12.00	100	242680	60.149	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222025.D Vial: 2
Acq On : 23 Apr 2020 14:51 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S34-04212006/S34-04102008 (5/9)

Quant Time: Apr 23 15:16:38 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:40:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

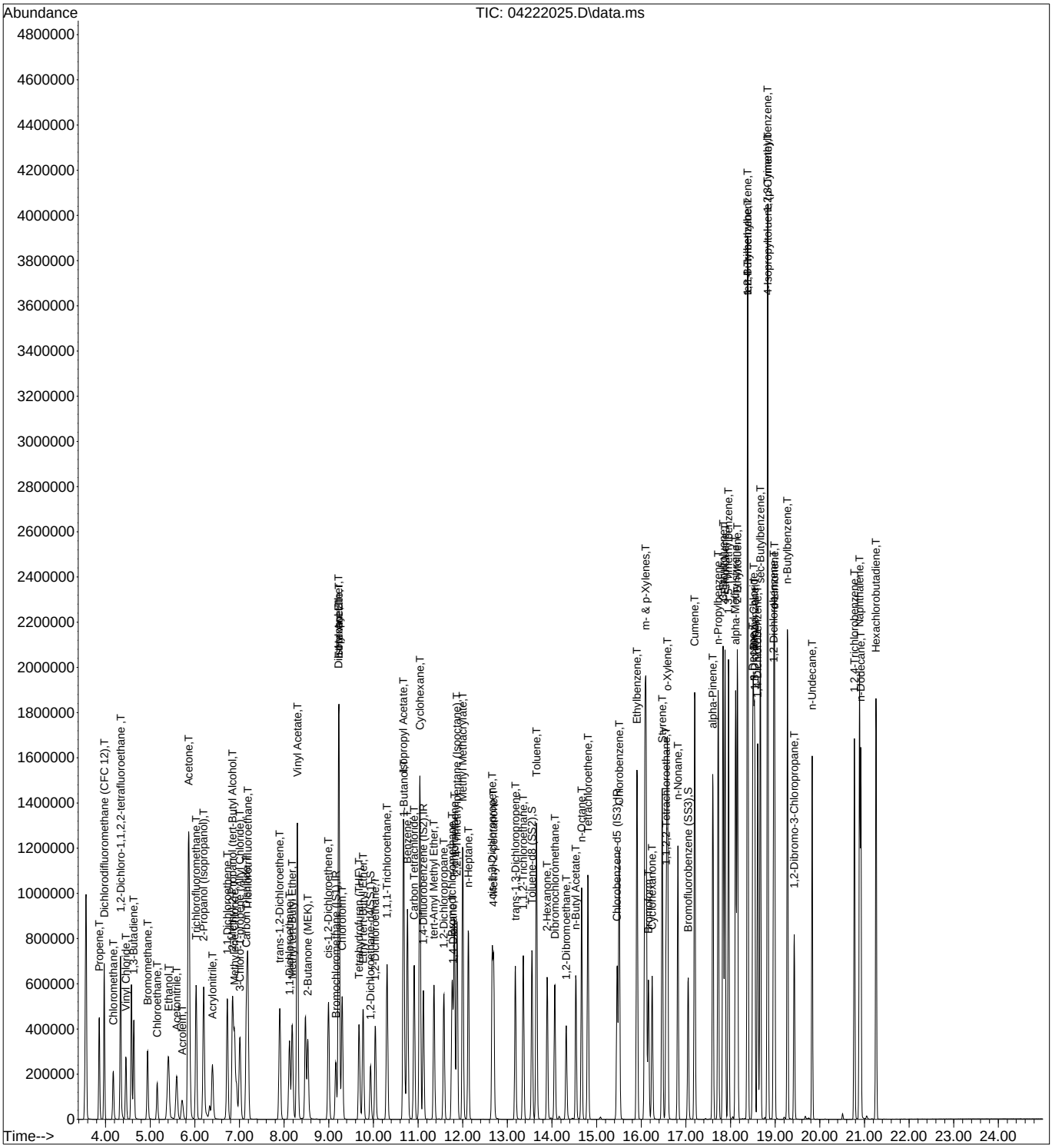
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.13	71	247582	28.295	ng	99
52) cis-1,3-Dichloropropene	12.66	75	483185	30.278	ng	100
53) 4-Methyl-2-pentanone	12.69	58	198322	30.093	ng	99
54) trans-1,3-Dichloropropene	13.18	75	459905	30.102	ng	100
55) 1,1,2-Trichloroethane	13.36	97	287117	27.892	ng	100
58) Toluene	13.65	91	1194763	28.577	ng	100
59) 2-Hexanone	13.89	43	432500	34.692	ng	100
60) Dibromochloromethane	14.07	129	421019	29.639	ng	100
61) 1,2-Dibromoethane	14.32	107	348360	29.896	ng	100
62) n-Butyl Acetate	14.53	43	481394	34.557	ng	99
63) n-Octane	14.67	57	193866	29.129	ng	99
64) Tetrachloroethene	14.81	166	424518	26.957	ng	100
65) Chlorobenzene	15.51	112	868669	28.380	ng	100
66) Ethylbenzene	15.90	91	1404245	28.826	ng	99
67) m- & p-Xylenes	16.10	91	2337527	56.877	ng	100
68) Bromoform	16.16	173	380352	30.239	ng	100
69) Styrene	16.47	104	903435	30.206	ng	100
70) o-Xylene	16.58	91	1145984	28.393	ng	99
71) n-Nonane	16.82	43	376132	28.889	ng	100
72) 1,1,2,2-Tetrachloroethane	16.56	83	446288	29.189	ng	100
74) Cumene	17.19	105	1491842	28.338	ng	100
75) alpha-Pinene	17.60	93	697167	29.081	ng	100
76) n-Propylbenzene	17.72	91	1664929	29.030	ng	100
77) 3-Ethyltoluene	17.83	105	1514987	29.475	ng	100
78) 4-Ethyltoluene	17.88	105	1406441	28.100	ng	100
79) 1,3,5-Trimethylbenzene	17.95	105	1297760	28.058	ng	100
80) alpha-Methylstyrene	18.11	118	687537	29.713	ng	99
81) 2-Ethyltoluene	18.15	105	1460305	28.553	ng	99
82) 1,2,4-Trimethylbenzene	18.38	105	1280190	28.624	ng	99
83) n-Decane	18.50	57	468311	29.721	ng	100
84) Benzyl Chloride	18.52	91	1071774	31.770	ng	100
85) 1,3-Dichlorobenzene	18.54	146	794118	29.452	ng	100
86) 1,4-Dichlorobenzene	18.61	146	815611	29.661	ng	99
87) sec-Butylbenzene	18.67	105	1616035	28.213	ng	100
88) 4-Isopropyltoluene (p-...	18.83	119	1571253	28.236	ng	100
89) 1,2,3-Trimethylbenzene	18.83	105	1253558	28.004	ng	100
90) 1,2-Dichlorobenzene	18.97	146	762623	29.114	ng	100
91) d-Limonene	18.99	68	360217	28.509	ng	99
92) 1,2-Dibromo-3-Chloropr...	19.43	157	285122	28.709	ng	100
93) n-Undecane	19.83	57	497789	29.938	ng	99
94) 1,2,4-Trichlorobenzene	20.77	180	604458	31.268	ng	100
95) Naphthalene	20.89	128	1670947	29.004	ng	100
96) n-Dodecane	20.92	57	456255	30.642	ng	99
97) Hexachlorobutadiene	21.26	225	423905	26.946	ng	99
98) Cyclohexanone	16.24	55	281643	27.641	ng	100
99) tert-Butylbenzene	18.38	119	1232641	27.444	ng	100
100) n-Butylbenzene	19.27	91	1251920	29.772	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222025.D Vial: 2
Acq On : 23 Apr 2020 14:51 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S34-04212006/S34-04102008 (5/9)

Quant Time: Apr 23 15:16:38 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:40:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **04222025.D** Acq. Method File: **TO15.M** *4/23/20*
Data File Path: **I:\MS09\Data\2020_04\22** Sample Name: **25ng TO-15 ICV STD**
Operator: **SC** Misc Info: **S34-04212006/S34-04102008 (**
Date Acquired: **4/23/2020 14:51** Instrument Name: **MS09**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
2)	**Propene**	**3.86**	**26.3**	26.25	100	**51**	**133**	*	*
3)	**Dichlorodifluoromethane (CFC 1**	**3.97**	**26.4**	**26.25**	101	**64**	**115**	*	*
4)	**Chloromethane**	**4.17**	**28.9**	**26.50**	109	**49**	**127**	*	*
5)	**1,2-Dichloro-1,1,2,2-tetrafluoroetl**	**4.34**	**25.6**	**25.75**	99	**65**	**114**	*	*
6)	**Vinyl Chloride**	**4.45**	**28.1**	**26.50**	106	**61**	**129**	*	*
7)	**1,3-Butadiene**	**4.63**	**30.7**	**26.50**	116	**54**	**140**	*	*
8)	**Bromomethane**	**4.94**	**26.5**	**26.50**	100	**68**	**120**	*	*
9)	**Chloroethane**	**5.16**	**27.2**	**26.75**	102	**63**	**123**	*	*
10)	**Ethanol**	**5.41**	**124**	**132.50**	94	**49**	**134**	*	*
11)	**Acetonitrile**	**5.59**	**26.7**	**26.75**	100	**50**	**137**	*	*
12)	**Acrolein**	**5.72**	**28.4**	**25.75**	110	**62**	**128**	*	*
13)	**Acetone**	**5.86**	**134**	**133.50**	100	**56**	**125**	*	*
14)	**Trichlorofluoromethane**	**6.03**	**26.4**	**26.50**	100	**64**	**115**	*	*
15)	**2-Propanol (Isopropanol)**	**6.20**	**58.5**	**52.75**	111	**57**	**133**	*	*
16)	**Acrylonitrile**	**6.39**	**30.4**	**26.50**	115	**64**	**136**	*	*
17)	**1,1-Dichloroethene**	**6.73**	**28.0**	**26.75**	105	**68**	**115**	*	*
18)	2-Methyl-2-Propanol (tert-Butyl Alc	6.85	56.7	53.75	105	56	132	*	*
19)	**Methylene Chloride**	**6.89**	**27.7**	**26.25**	106	**68**	**114**	*	*
20)	**3-Chloro-1-propene (Allyl Chloric**	**7.01**	**26.5**	**26.75**	99	**55**	**139**	*	*
21)	**Trichlorotrifluoroethane**	**7.19**	**26.8**	**27.00**	99	**65**	**115**	*	*
22)	**Carbon Disulfide**	**7.15**	**28.7**	**26.50**	108	**68**	**113**	*	*
23)	**trans-1,2-Dichloroethene**	**7.90**	**30.0**	**26.75**	112	**65**	**122**	*	*
24)	**1,1-Dichloroethane**	**8.12**	**27.1**	**26.50**	102	**63**	**118**	*	*
25)	**Methyl tert-Butyl Ether**	**8.18**	**28.3**	**26.75**	106	**57**	**131**	*	*
26)	**Vinyl Acetate**	**8.30**	**148**	**133.25**	111	**71**	**128**	*	*
27)	**2-Butanone (MEK)**	**8.53**	**29.9**	**26.50**	113	**67**	**123**	*	*
28)	**cis-1,2-Dichloroethene**	**8.99**	**28.2**	**26.50**	106	**64**	**120**	*	*
29)	Diisopropyl Ether	9.22	26.5	27.00	98	62	121	*	*
30)	**Ethyl Acetate**	**9.23**	**61.3**	**54.00**	114	**64**	**131**	*	*
31)	**n-Hexane**	**9.23**	**28.0**	**27.00**	104	**58**	**125**	*	*
32)	**Chloroform**	**9.30**	**27.4**	**26.75**	102	**65**	**114**	*	*
34)	**Tetrahydrofuran (THF)**	**9.68**	**29.1**	**27.50**	106	**65**	**115**	*	*
35)	Ethyl tert-Butyl Ether	9.77	27.3	26.75	102	61	130	*	*
36)	**1,2-Dichloroethane**	**10.04**	**28.0**	**26.75**	105	**59**	**120**	*	*
38)	**1,1,1-Trichloroethane**	**10.30**	**27.8**	**26.75**	104	**66**	**115**	*	*
39)	Isopropyl Acetate	10.67	55.6	52.50	106	65	129	*	*
40)	1-Butanol	10.68	50.4	53.25	95	58	140	*	*
41)	**Benzene**	**10.76**	**26.9**	**26.25**	102	**66**	**109**	*	*
42)	**Carbon Tetrachloride**	**10.91**	**26.4**	**26.00**	102	**66**	**119**	*	*
43)	**Cyclohexane**	**11.04**	**54.5**	**52.75**	103	**67**	**117**	*	*
44)	tert-Amyl Methyl Ether	11.35	27.7	**26.75**	104	62	133	*	*
45)	**1,2-Dichloropropane**	**11.58**	**28.6**	**26.75**	107	**66**	**119**	*	*
46)	**Bromodichloromethane**	**11.76**	**27.5**	**27.25**	101	**71**	**119**	*	*
47)	**Trichloroethene**	**11.82**	**27.4**	**27.00**	101	**70**	**114**	*	*
48)	**1,4-Dioxane**	**11.78**	**29.9**	**27.00**	111	**71**	**117**	*	*
49)	2,2,4-Trimethylpentane (Isooctane)	11.87	27.7	26.75	104	61	122	*	*

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **04222025.D** **TO15.M**
Data File Path: **I:\MS09\Data\2020_04\22** Sample Name: **25ng TO-15 ICV STD**
Operator: **SC** Misc Info: **S34-04212006/S34-04102008 (**
Date Acquired: **4/23/2020** **14:51** Instrument Name: **MS09**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
50)	**Methyl Methacrylate**	**12.00**	**60.1**	**53.75**	112	**76**	**121**	*	*
51)	**n-Heptane**	**12.13**	**28.3**	**26.75**	106	**66**	**119**	*	*
52)	**cis-1,3-Dichloropropene**	**12.66**	**30.3**	**26.75**	113	**72**	**125**	*	*
53)	**4-Methyl-2-pentanone**	**12.69**	**30.1**	**26.50**	114	**68**	**130**	*	*
54)	**trans-1,3-Dichloropropene**	**13.18**	**30.1**	**26.50**	114	**71**	**132**	*	*
55)	**1,1,2-Trichloroethane**	**13.36**	**27.9**	**26.75**	104	**70**	**117**	*	*
58)	**Toluene**	**13.65**	**28.6**	**26.50**	108	**67**	**113**	*	*
59)	**2-Hexanone**	**13.89**	**34.7**	**27.00**	129	**62**	**135**	*	*
60)	**Dibromochloromethane**	**14.07**	**29.6**	**26.75**	111	**73**	**126**	*	*
61)	**1,2-Dibromoethane**	**14.32**	**29.9**	**26.75**	112	**71**	**122**	*	*
62)	**n-Butyl Acetate**	**14.53**	**34.6**	**27.25**	127	**65**	**134**	*	*
63)	**n-Octane**	**14.67**	**29.1**	**27.00**	108	**63**	**120**	*	*
64)	**Tetrachloroethene**	**14.81**	**27.0**	**26.00**	104	**64**	**120**	*	*
65)	**Chlorobenzene**	**15.51**	**28.4**	**26.75**	106	**65**	**116**	*	*
66)	**Ethylbenzene**	**15.90**	**28.8**	**26.50**	109	**65**	**117**	*	*
67)	**m- & p-Xylenes**	**16.10**	**56.9**	**53.25**	107	**64**	**121**	*	*
68)	**Bromoform**	**16.16**	**30.2**	**26.75**	113	**72**	**130**	*	*
69)	**Styrene**	**16.47**	**30.2**	**26.50**	114	**72**	**126**	*	*
70)	**o-Xylene**	**16.58**	**28.4**	**26.75**	106	**64**	**120**	*	*
71)	**n-Nonane**	**16.82**	**28.9**	**26.75**	108	**56**	**132**	*	*
72)	**1,1,2,2-Tetrachloroethane**	**16.56**	**29.2**	**26.75**	109	**66**	**122**	*	*
74)	**Cumene**	**17.19**	**28.3**	**26.75**	106	**64**	**121**	*	*
75)	**alpha-Pinene**	**17.60**	**29.1**	**26.50**	110	**62**	**136**	*	*
76)	**n-Propylbenzene**	**17.72**	**29.0**	**26.75**	108	**65**	**123**	*	*
77)	3-Ethyltoluene	17.83	29.5	26.75	110	62	123	*	*
78)	**4-Ethyltoluene**	**17.88**	**28.1**	**26.25**	**107**	**71**	**126**	*	*
79)	**1,3,5-Trimethylbenzene**	**17.95**	**28.1**	**26.50**	**106**	**65**	**120**	*	*
80)	alpha-Methylstyrene	18.11	29.7	26.50	**112**	70	132	*	*
81)	2-Ethyltoluene	18.15	28.6	26.75	**107**	66	121	*	*
82)	**1,2,4-Trimethylbenzene**	**18.38**	**28.6**	**26.50**	**108**	**63**	**129**	*	*
83)	n-Decane	18.50	29.7	26.75	**111**	61	131	*	*
84)	**Benzyl Chloride**	**18.52**	**31.8**	**26.75**	**119**	**66**	**138**	*	*
85)	**1,3-Dichlorobenzene**	**18.54**	**29.5**	**26.75**	**110**	**65**	**127**	*	*
86)	**1,4-Dichlorobenzene**	**18.61**	**29.7**	**26.75**	**111**	**66**	**125**	*	*
87)	sec-Butylbenzene	18.67	28.2	26.50	**106**	68	123	*	*
88)	4-Isopropyltoluene (p-Cymene)	18.83	28.2	27.25	**103**	61	129	*	*
89)	1,2,3-Trimethylbenzene	18.83	28.0	27.00	**104**	60	134	*	*
90)	**1,2-Dichlorobenzene**	**18.97**	**29.1**	**26.75**	**109**	**67**	**128**	*	*
91)	**d-Limonene**	**18.99**	**28.5**	**26.50**	**108**	**65**	**136**	*	*
92)	**1,2-Dibromo-3-Chloropropane**	**19.43**	**28.7**	**26.75**	**107**	**73**	**133**	*	*
93)	n-Undecane	19.83	29.9	27.00	**111**	64	131	*	*
94)	**1,2,4-Trichlorobenzene**	**20.77**	**31.3**	**27.00**	**116**	**62**	**140**	*	*
95)	**Naphthalene**	**20.89**	**29.0**	**26.50**	**109**	**57**	**149**	*	*
96)	n-Dodecane	20.92	30.6	26.50	**115**	41	181	*	*
97)	**Hexachlorobutadiene**	**21.26**	**26.9**	**26.75**	**101**	57	129	*	*
98)	Cyclohexanone	16.24	27.6	25.25	109	61	131	*	*
99)	tert-Butylbenzene	18.38	27.4	26.50	103	62	130	*	*
100)	n-Butylbenzene	19.27	29.8	26.75	111	67	124	*	*

Bold = 75 Compound List

 *** = Pass** **I:\MS09\0-Instrument Info\0-Security Certificates\ICV_LCS_2019_10111902.CRT** 4/23/2020 3:18 PM

Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2020_04\30\04302036.D Vial: 2
Acq On : 1 May 2020 00:45 Operator: SC
Sample : CCV2 R9043020_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: May 01 06:23:53 2020 5/1/20
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	113	-0.02
2	T	Propene	0.531	0.615	-15.8	139	0.00
3	T	Dichlorodifluoromethane (CF	2.017	1.755	13.0	102	0.00
4	T	Chloromethane	0.744	0.794	-6.7	114	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.090	0.963	11.7	104	0.00
6	T	Vinyl Chloride	0.976	0.934	4.3	109	-0.01
7	T	1,3-Butadiene	0.623	0.629	-1.0	108	0.00
8	T	Bromomethane	0.767	0.734	4.3	111	0.00
9	T	Chloroethane	0.494	0.453	8.3	108	0.00
10	T	Ethanol	0.402	0.373	7.2	117	-0.06
11	T	Acetonitrile	0.952	0.859	9.8	108	-0.04
12	T	Acrolein	0.367	0.378	-3.0	111	-0.02
13	T	Acetone	0.483	0.431	10.8	108	-0.03
14	T	Trichlorofluoromethane	2.007	1.687	15.9	98	0.00
15	T	2-Propanol (Isopropanol)	1.534	1.261	17.8	88	-0.04
16	T	Acrylonitrile	0.766	0.787	-2.7	108	-0.03
17	T	1,1-Dichloroethene	0.882	0.803	9.0	106	-0.01
18	T	2-Methyl-2-Propanol (tert-B	1.401	1.765	-26.0	141	-0.04
19	T	Methylene Chloride	0.847	0.780	7.9	106	-0.02
20	T	3-Chloro-1-propene (Allyl C	0.983	0.842	14.3	103	-0.02
21	T	Trichlorotrifluoroethane	1.044	0.912	12.6	104	0.00
22	T	Carbon Disulfide	2.815	2.643	6.1	107	0.00
23	T	trans-1,2-Dichloroethene	1.114	1.059	4.9	104	-0.01
24	T	1,1-Dichloroethane	1.391	1.235	11.2	103	-0.02
25	T	Methyl tert-Butyl Ether	1.793	2.357	-31.5#	150	-0.01
26	T	Vinyl Acetate	0.176	0.180	-2.3	106	-0.03
27	T	2-Butanone (MEK)	0.496	0.494	0.4	105	-0.03
28	T	cis-1,2-Dichloroethene	1.126	1.011	10.2	103	-0.01
29	T	Diisopropyl Ether	0.718	0.657	8.5	113	-0.02
30	T	Ethyl Acetate	0.221	0.218	1.4	107	-0.02
31	T	n-Hexane	1.071	1.004	6.3	112	0.00
32	T	Chloroform	1.714	1.485	13.4	101	-0.02
33	S	1,2-Dichloroethane-d4(SS1)	1.620	1.513	6.6	107	-0.02
34	T	Tetrahydrofuran (THF)	0.502	0.476	5.2	106	0.00
35	T	Ethyl tert-Butyl Ether	0.768	0.938	-22.1	144	-0.01
36	T	1,2-Dichloroethane	1.410	1.221	13.4	99	-0.01
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	116	-0.01
38	T	1,1,1-Trichloroethane	0.430	0.364	15.3	99	0.00
39	T	Isopropyl Acetate	0.103	0.094	8.7	108	-0.02
40	T	1-Butanol	0.138	0.147	-6.5	104	-0.03
41	T	Benzene	0.815	0.727	10.8	107	-0.01
42	T	Carbon Tetrachloride	0.421	0.359	14.7	99	-0.01
43	T	Cyclohexane	0.319	0.287	10.0	107	0.00
44	T	tert-Amyl Methyl Ether	0.428	0.489	-14.3	134	0.00
45	T	1,2-Dichloropropane	0.167	0.152	9.0	107	-0.01
46	T	Bromodichloromethane	0.335	0.290	13.4	102	-0.01
47	T	Trichloroethene	0.282	0.255	9.6	105	-0.01
48	T	1,4-Dioxane	0.164	0.159	3.0	105	-0.01
49	T	2,2,4-Trimethylpentane (Iso	0.681	0.628	7.8	112	-0.01
50	T	Methyl Methacrylate	0.087	0.085	2.3	105	-0.02
51	T	n-Heptane	0.189	0.174	7.9	107	-0.01
52	T	cis-1,3-Dichloropropene	0.345	0.328	4.9	104	0.00
53	T	4-Methyl-2-pentanone	0.143	0.141	1.4	105	-0.01
54	T	trans-1,3-Dichloropropene	0.331	0.319	3.6	101	0.00
55	T	1,1,2-Trichloroethane	0.223	0.201	9.9	104	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2020_04\30\04302036.D Vial: 2
Acq On : 1 May 2020 00:45 Operator: SC
Sample : CCV2 R9043020_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: May 01 06:23:53 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	109	0.00
57	S	Toluene-d8 (SS2)	2.414	2.476	-2.6	113	0.00
58	T	Toluene	2.026	1.873	7.6	104	0.00
59	T	2-Hexanone	0.604	0.670	-10.9	101	-0.01
60	T	Dibromochloromethane	0.688	0.657	4.5	101	0.00
61	T	1,2-Dibromoethane	0.565	0.553	2.1	103	0.00
62	T	n-Butyl Acetate	0.675	0.708	-4.9	101	0.00
63	T	n-Octane	0.323	0.299	7.4	105	0.00
64	T	Tetrachloroethene	0.763	0.696	8.8	104	0.00
65	T	Chlorobenzene	1.484	1.377	7.2	104	0.00
66	T	Ethylbenzene	2.361	2.191	7.2	103	0.00
67	T	m- & p-Xylenes	1.992	1.807	9.3	102	-0.01
68	T	Bromoform	0.610	0.596	2.3	101	0.00
69	T	Styrene	1.450	1.434	1.1	103	0.00
70	T	o-Xylene	1.956	1.786	8.7	102	-0.01
71	T	n-Nonane	0.631	0.582	7.8	103	0.00
72	T	1,1,2,2-Tetrachloroethane	0.741	0.707	4.6	104	-0.01
73	S	Bromofluorobenzene (SS3)	0.970	0.994	-2.5	110	0.00
74	T	Cumene	2.552	2.326	8.9	102	0.00
75	T	alpha-Pinene	1.162	1.154	0.7	108	0.00
76	T	n-Propylbenzene	2.780	2.599	6.5	102	0.00
77	T	3-Ethyltoluene	2.491	2.358	5.3	102	0.00
78	T	4-Ethyltoluene	2.426	2.252	7.2	102	0.00
79	T	1,3,5-Trimethylbenzene	2.242	2.043	8.9	102	0.00
80	T	alpha-Methylstyrene	1.122	1.094	2.5	100	0.00
81	T	2-Ethyltoluene	2.479	2.272	8.4	102	0.00
82	T	1,2,4-Trimethylbenzene	2.168	2.004	7.6	102	-0.01
83	T	n-Decane	0.764	0.758	0.8	106	-0.01
84	T	Benzyl Chloride	1.635	1.722	-5.3	100	-0.01
85	T	1,3-Dichlorobenzene	1.307	1.289	1.4	104	0.00
86	T	1,4-Dichlorobenzene	1.333	1.313	1.5	103	0.00
87	T	sec-Butylbenzene	2.776	2.593	6.6	104	0.00
88	T	4-Isopropyltoluene (p-Cymen	2.697	2.502	7.2	103	0.00
89	T	1,2,3-Trimethylbenzene	2.170	2.022	6.8	102	-0.01
90	T	1,2-Dichlorobenzene	1.270	1.229	3.2	103	0.00
91	T	d-Limonene	0.612	0.595	2.8	104	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.481	0.499	-3.7	103	0.00
93	T	n-Undecane	0.806	0.788	2.2	103	0.00
94	T	1,2,4-Trichlorobenzene	0.937	1.035	-10.5	101	0.00
95	T	Naphthalene	2.792	2.921	-4.6	101	0.00
96	T	n-Dodecane	0.722	0.765	-6.0	104	0.00
97	T	Hexachlorobutadiene	0.762	0.702	7.9	101	0.00
98	T	Cyclohexanone	0.494	0.496	-0.4	101	-0.01
99	T	tert-Butylbenzene	2.177	1.973	9.4	102	0.00
100	T	n-Butylbenzene	2.038	2.024	0.7	104	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302036.D Vial: 2
Acq On : 1 May 2020 00:45 Operator: SC
Sample : CCV2 R9043020_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: May 01 06:23:53 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/1/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	158233	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.12	114	667552	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	295601	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.93	65	239429	11.679	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.44%				
57) Toluene-d8 (SS2)	13.55	98	731810	12.822	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.56%				
73) Bromofluorobenzene (SS3)	17.05	174	293877	12.811	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.48%				
Target Compounds							Qvalue
2) Propene	3.85	42	206150	30.674	ng		98
3) Dichlorodifluoromethan...	3.96	85	588822	23.060	ng		100
4) Chloromethane	4.17	50	266245	28.259	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	319836	23.171	ng		100
6) Vinyl Chloride	4.45	62	319289	25.842	ng		100
7) 1,3-Butadiene	4.63	54	211151	26.758	ng		98
8) Bromomethane	4.94	94	250707	25.821	ng		99
9) Chloroethane	5.15	64	154844	24.775	ng		100
10) Ethanol	5.40	45	615584	120.926	ng		100
11) Acetonitrile	5.58	41	285336	23.678	ng		99
12) Acrolein	5.71	56	123204	26.485	ng		99
13) Acetone	5.86	58	726351	118.847	ng		92
14) Trichlorofluoromethane	6.03	101	565877	22.274	ng		99
15) 2-Propanol (Isopropanol)	6.19	45	838043	43.165	ng		98
16) Acrylonitrile	6.38	53	261609	26.982	ng		100
17) 1,1-Dichloroethene	6.72	96	274470	24.575	ng		95
18) 2-Methyl-2-Propanol (t...	6.83	59	1206577	68.015	ng		98
19) Methylene Chloride	6.88	84	261504	24.397	ng		98
20) 3-Chloro-1-propene (Al...	7.01	41	287807	23.141	ng		99
21) Trichlorotrifluoroethane	7.19	151	311738	23.578	ng		99
22) Carbon Disulfide	7.15	76	894952	25.112	ng		100
23) trans-1,2-Dichloroethene	7.90	61	362026	25.682	ng		99
24) 1,1-Dichloroethane	8.12	63	426165	24.195	ng		100
25) Methyl tert-Butyl Ether	8.18	73	805707	35.502	ng		99
26) Vinyl Acetate	8.29	86	304211	136.386	ng		95
27) 2-Butanone (MEK)	8.52	72	165836	26.411	ng		99
28) cis-1,2-Dichloroethene	8.99	61	339151	23.804	ng		98
29) Diisopropyl Ether	9.22	87	224508	24.687	ng	#	91
30) Ethyl Acetate	9.22	61	149777	53.612	ng		100
31) n-Hexane	9.23	57	343037	25.296	ng		99
32) Chloroform	9.30	83	502946	23.182	ng		99
34) Tetrahydrofuran (THF)	9.68	72	164166	25.813	ng		100
35) Ethyl tert-Butyl Ether	9.77	87	320749	32.992	ng		99
36) 1,2-Dichloroethane	10.04	62	417472	23.393	ng		99
38) 1,1,1-Trichloroethane	10.30	97	520564	22.680	ng		100
39) Isopropyl Acetate	10.67	61	266121	48.595	ng	#	93
40) 1-Butanol	10.68	56	408847	55.570	ng		97
41) Benzene	10.76	78	1029206	23.651	ng		100
42) Carbon Tetrachloride	10.91	117	502634	22.340	ng		100
43) Cyclohexane	11.04	84	813431	47.713	ng		99
44) tert-Amyl Methyl Ether	11.35	73	705031	30.855	ng		99
45) 1,2-Dichloropropane	11.57	63	219642	24.655	ng		100
46) Bromodichloromethane	11.76	83	418735	23.385	ng		100
47) Trichloroethene	11.81	130	363849	24.142	ng		100
48) 1,4-Dioxane	11.78	88	229520	26.232	ng		99
49) 2,2,4-Trimethylpentane...	11.87	57	897478	24.690	ng		97
50) Methyl Methacrylate	12.00	100	244403	52.423	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302036.D Vial: 2
Acq On : 1 May 2020 00:45 Operator: SC
Sample : CCV2 R9043020_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: May 01 06:23:53 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

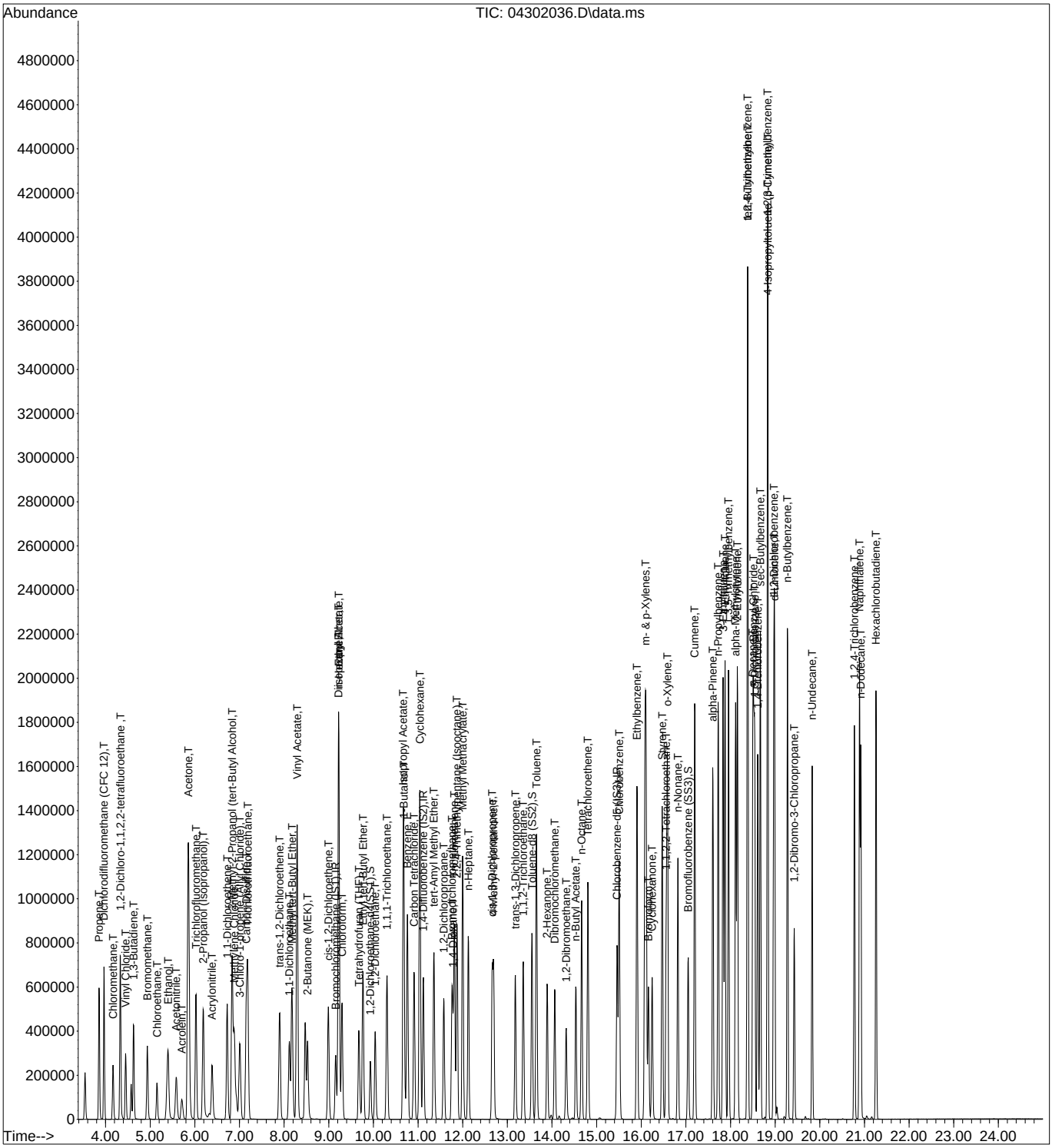
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	251051	24.830	ng	99
52) cis-1,3-Dichloropropene	12.66	75	455290	24.690	ng	100
53) 4-Methyl-2-pentanone	12.69	58	199502	26.197	ng	98
54) trans-1,3-Dichloropropene	13.18	75	451470	25.572	ng	99
55) 1,1,2-Trichloroethane	13.36	97	286559	24.091	ng	99
58) Toluene	13.65	91	1185002	24.729	ng	99
59) 2-Hexanone	13.89	43	423724	29.654	ng	98
60) Dibromochloromethane	14.06	129	415390	25.513	ng	100
61) 1,2-Dibromoethane	14.32	107	349900	26.199	ng	99
62) n-Butyl Acetate	14.53	43	456528	28.593	ng	98
63) n-Octane	14.67	57	190758	25.007	ng	99
64) Tetrachloroethene	14.80	166	427702	23.696	ng	100
65) Chlorobenzene	15.51	112	870813	24.822	ng	100
66) Ethylbenzene	15.90	91	1386056	24.824	ng	100
67) m- & p-Xylenes	16.10	91	2285632	48.521	ng	99
68) Bromoform	16.16	173	376724	26.131	ng	100
69) Styrene	16.47	104	898887	26.221	ng	99
70) o-Xylene	16.58	91	1129638	24.419	ng	99
71) n-Nonane	16.82	43	368364	24.684	ng	99
72) 1,1,2,2-Tetrachloroethane	16.56	83	447000	25.507	ng	100
74) Cumene	17.19	105	1485084	24.612	ng	99
75) alpha-Pinene	17.60	93	729708	26.556	ng	99
76) n-Propylbenzene	17.72	91	1659762	25.249	ng	99
77) 3-Ethyltoluene	17.83	105	1477916	25.087	ng	100
78) 4-Ethyltoluene	17.88	105	1437893	25.065	ng	99
79) 1,3,5-Trimethylbenzene	17.95	105	1280597	24.156	ng	99
80) alpha-Methylstyrene	18.11	118	692213	26.100	ng	99
81) 2-Ethyltoluene	18.15	105	1450382	24.742	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	1267978	24.735	ng	99
83) n-Decane	18.50	57	479776	26.565	ng	99
84) Benzyl Chloride	18.51	91	1099749	28.442	ng	99
85) 1,3-Dichlorobenzene	18.54	146	815176	26.377	ng	99
86) 1,4-Dichlorobenzene	18.61	146	830784	26.360	ng	100
87) sec-Butylbenzene	18.67	105	1640114	24.981	ng	99
88) 4-Isopropyltoluene (p-...	18.83	119	1612047	25.275	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	1302936	25.395	ng	99
90) 1,2-Dichlorobenzene	18.97	146	777732	25.904	ng	100
91) d-Limonene	18.99	68	379873	26.231	ng	98
92) 1,2-Dibromo-3-Chloropr...	19.43	157	309467	27.186	ng	95
93) n-Undecane	19.83	57	502908	26.389	ng	100
94) 1,2,4-Trichlorobenzene	20.77	180	654453	29.537	ng	100
95) Naphthalene	20.89	128	1778601	26.935	ng	100
96) n-Dodecane	20.92	57	470407	27.563	ng	100
97) Hexachlorobutadiene	21.26	225	440009	24.402	ng	100
98) Cyclohexanone	16.24	55	293166	25.103	ng	98
99) tert-Butylbenzene	18.38	119	1248064	24.244	ng	99
100) n-Butylbenzene	19.27	91	1280231	26.563	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302036.D Vial: 2
Acq On : 1 May 2020 00:45 Operator: SC
Sample : CCV2 R9043020_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: May 01 06:23:53 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2020_04\30\04302069.D Vial: 2
Acq On : 1 May 2020 19:36 Operator: SC
Sample : CCV2 END R9043020_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

5/1/20

Quant Time: May 01 20:02:08 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	116	-0.01
2	T	Propene	0.531	0.560	-5.5	130	0.00
3	T	Dichlorodifluoromethane (CF	2.017	1.671	17.2	100	0.00
4	T	Chloromethane	0.744	0.769	-3.4	113	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.090	0.925	15.1	102	0.00
6	T	Vinyl Chloride	0.976	0.899	7.9	107	0.00
7	T	1,3-Butadiene	0.623	0.631	-1.3	111	0.00
8	T	Bromomethane	0.767	0.703	8.3	109	0.00
9	T	Chloroethane	0.494	0.434	12.1	106	0.00
10	T	Ethanol	0.402	0.363	9.7	116	-0.05
11	T	Acetonitrile	0.952	0.825	13.3	107	-0.03
12	T	Acrolein	0.367	0.368	-0.3	111	-0.02
13	T	Acetone	0.483	0.417	13.7	108	-0.02
14	T	Trichlorofluoromethane	2.007	1.629	18.8	97	0.00
15	T	2-Propanol (Isopropanol)	1.534	1.254	18.3	90	-0.04
16	T	Acrylonitrile	0.766	0.755	1.4	106	-0.03
17	T	1,1-Dichloroethene	0.882	0.773	12.4	104	-0.01
18	T	2-Methyl-2-Propanol (tert-B	1.401	1.721	-22.8	141	-0.04
19	T	Methylene Chloride	0.847	0.754	11.0	105	-0.02
20	T	3-Chloro-1-propene (Allyl C	0.983	0.809	17.7	101	-0.01
21	T	Trichlorotrifluoroethane	1.044	0.881	15.6	103	0.00
22	T	Carbon Disulfide	2.815	2.560	9.1	106	0.00
23	T	trans-1,2-Dichloroethene	1.114	1.018	8.6	102	0.00
24	T	1,1-Dichloroethane	1.391	1.191	14.4	102	-0.02
25	T	Methyl tert-Butyl Ether	1.793	2.277	-27.0	149	-0.01
26	T	Vinyl Acetate	0.176	0.174	1.1	105	-0.03
27	T	2-Butanone (MEK)	0.496	0.482	2.8	105	-0.02
28	T	cis-1,2-Dichloroethene	1.126	0.983	12.7	102	-0.01
29	T	Diisopropyl Ether	0.718	0.633	11.8	111	-0.02
30	T	Ethyl Acetate	0.221	0.210	5.0	106	-0.02
31	T	n-Hexane	1.071	0.972	9.2	111	0.00
32	T	Chloroform	1.714	1.438	16.1	101	-0.02
33	S	1,2-Dichloroethane-d4(SS1)	1.620	1.493	7.8	108	-0.02
34	T	Tetrahydrofuran (THF)	0.502	0.460	8.4	106	0.00
35	T	Ethyl tert-Butyl Ether	0.768	0.911	-18.6	144	-0.01
36	T	1,2-Dichloroethane	1.410	1.169	17.1	97	-0.01
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	117	-0.01
38	T	1,1,1-Trichloroethane	0.430	0.357	17.0	98	0.00
39	T	Isopropyl Acetate	0.103	0.092	10.7	106	-0.02
40	T	1-Butanol	0.138	0.144	-4.3	103	-0.03
41	T	Benzene	0.815	0.714	12.4	106	-0.01
42	T	Carbon Tetrachloride	0.421	0.346	17.8	96	0.00
43	T	Cyclohexane	0.319	0.281	11.9	106	0.00
44	T	tert-Amyl Methyl Ether	0.428	0.481	-12.4	133	0.00
45	T	1,2-Dichloropropane	0.167	0.149	10.8	105	0.00
46	T	Bromodichloromethane	0.335	0.284	15.2	100	-0.01
47	T	Trichloroethene	0.282	0.248	12.1	103	-0.01
48	T	1,4-Dioxane	0.164	0.155	5.5	103	-0.01
49	T	2,2,4-Trimethylpentane (Iso	0.681	0.613	10.0	110	-0.01
50	T	Methyl Methacrylate	0.087	0.084	3.4	105	-0.02
51	T	n-Heptane	0.189	0.172	9.0	107	-0.01
52	T	cis-1,3-Dichloropropene	0.345	0.319	7.5	102	0.00
53	T	4-Methyl-2-pentanone	0.143	0.138	3.5	104	-0.01
54	T	trans-1,3-Dichloropropene	0.331	0.312	5.7	100	0.00
55	T	1,1,2-Trichloroethane	0.223	0.197	11.7	103	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2020_04\30\04302069.D Vial: 2
Acq On : 1 May 2020 19:36 Operator: SC
Sample : CCV2 END R9043020_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: May 01 20:02:08 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	110	0.00
57	S	Toluene-d8 (SS2)	2.414	2.477	-2.6	114	0.00
58	T	Toluene	2.026	1.841	9.1	103	0.00
59	T	2-Hexanone	0.604	0.658	-8.9	100	-0.01
60	T	Dibromochloromethane	0.688	0.641	6.8	99	0.00
61	T	1,2-Dibromoethane	0.565	0.541	4.2	102	0.00
62	T	n-Butyl Acetate	0.675	0.695	-3.0	100	0.00
63	T	n-Octane	0.323	0.296	8.4	105	0.00
64	T	Tetrachloroethene	0.763	0.680	10.9	103	0.00
65	T	Chlorobenzene	1.484	1.344	9.4	102	0.00
66	T	Ethylbenzene	2.361	2.139	9.4	101	0.00
67	T	m- & p-Xylenes	1.992	1.770	11.1	101	-0.02
68	T	Bromoform	0.610	0.582	4.6	99	0.00
69	T	Styrene	1.450	1.399	3.5	101	0.00
70	T	o-Xylene	1.956	1.752	10.4	101	-0.01
71	T	n-Nonane	0.631	0.570	9.7	102	0.00
72	T	1,1,2,2-Tetrachloroethane	0.741	0.691	6.7	103	-0.01
73	S	Bromofluorobenzene (SS3)	0.970	0.988	-1.9	111	0.00
74	T	Cumene	2.552	2.283	10.5	101	0.00
75	T	alpha-Pinene	1.162	1.174	-1.0	111	0.00
76	T	n-Propylbenzene	2.780	2.610	6.1	103	0.00
77	T	3-Ethyltoluene	2.491	2.378	4.5	104	0.00
78	T	4-Ethyltoluene	2.426	2.259	6.9	103	0.00
79	T	1,3,5-Trimethylbenzene	2.242	2.053	8.4	103	0.00
80	T	alpha-Methylstyrene	1.122	1.110	1.1	103	0.00
81	T	2-Ethyltoluene	2.479	2.292	7.5	104	0.00
82	T	1,2,4-Trimethylbenzene	2.168	1.985	8.4	102	-0.01
83	T	n-Decane	0.764	0.751	1.7	105	-0.01
84	T	Benzyl Chloride	1.635	1.701	-4.0	100	-0.01
85	T	1,3-Dichlorobenzene	1.307	1.261	3.5	103	0.00
86	T	1,4-Dichlorobenzene	1.333	1.299	2.6	103	0.00
87	T	sec-Butylbenzene	2.776	2.550	8.1	103	0.00
88	T	4-Isopropyltoluene (p-Cymen	2.697	2.467	8.5	102	0.00
89	T	1,2,3-Trimethylbenzene	2.170	2.006	7.6	102	-0.01
90	T	1,2-Dichlorobenzene	1.270	1.214	4.4	103	0.00
91	T	d-Limonene	0.612	0.581	5.1	102	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.481	0.490	-1.9	102	0.00
93	T	n-Undecane	0.806	0.763	5.3	101	0.00
94	T	1,2,4-Trichlorobenzene	0.937	1.007	-7.5	100	0.00
95	T	Naphthalene	2.792	2.846	-1.9	99	0.00
96	T	n-Dodecane	0.722	0.745	-3.2	102	0.00
97	T	Hexachlorobutadiene	0.762	0.682	10.5	99	0.00
98	T	Cyclohexanone	0.494	0.483	2.2	99	-0.01
99	T	tert-Butylbenzene	2.177	1.956	10.2	102	0.00
100	T	n-Butylbenzene	2.038	1.992	2.3	103	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302069.D Vial: 2
Acq On : 1 May 2020 19:36 Operator: SC
Sample : CCV2 END R9043020_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: May 01 20:02:08 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/1/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	162216	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	11.12	114	674593	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	298089	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.93	65	242253	11.526	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.24%				
57) Toluene-d8 (SS2)	13.55	98	738472	12.830	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.64%				
73) Bromofluorobenzene (SS3)	17.05	174	294444	12.729	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.84%				
Target Compounds							Qvalue
2) Propene	3.86	42	192741	27.974	ng		98
3) Dichlorodifluoromethan...	3.97	85	574669	21.954	ng		100
4) Chloromethane	4.17	50	264533	27.388	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	315156	22.271	ng		99
6) Vinyl Chloride	4.45	62	314882	24.860	ng		100
7) 1,3-Butadiene	4.63	54	216970	26.820	ng		99
8) Bromomethane	4.94	94	246311	24.745	ng		100
9) Chloroethane	5.15	64	152206	23.755	ng		100
10) Ethanol	5.40	45	613353	117.529	ng		100
11) Acetonitrile	5.59	41	280959	22.743	ng		99
12) Acrolein	5.71	56	123035	25.799	ng		99
13) Acetone	5.86	58	721870	115.213	ng		93
14) Trichlorofluoromethane	6.03	101	560245	21.511	ng		99
15) 2-Propanol (Isopropanol)	6.19	45	854420	42.928	ng		99
16) Acrylonitrile	6.39	53	257124	25.869	ng		99
17) 1,1-Dichloroethene	6.72	96	270682	23.641	ng		96
18) 2-Methyl-2-Propanol (t...	6.84	59	1205992	66.313	ng		98
19) Methylene Chloride	6.88	84	259423	23.609	ng		97
20) 3-Chloro-1-propene (Al...	7.01	41	283629	22.245	ng		99
21) Trichlorotrifluoroethane	7.19	151	308597	22.767	ng		100
22) Carbon Disulfide	7.15	76	888737	24.325	ng		100
23) trans-1,2-Dichloroethene	7.90	61	356845	24.693	ng		99
24) 1,1-Dichloroethane	8.12	63	421239	23.328	ng		100
25) Methyl tert-Butyl Ether	8.18	73	797953	34.297	ng		99
26) Vinyl Acetate	8.29	86	302380	132.236	ng		95
27) 2-Butanone (MEK)	8.53	72	165665	25.736	ng		98
28) cis-1,2-Dichloroethene	8.99	61	338071	23.145	ng		99
29) Diisopropyl Ether	9.22	87	221803	23.790	ng	#	91
30) Ethyl Acetate	9.23	61	147616	51.541	ng		99
31) n-Hexane	9.23	57	340637	24.502	ng		99
32) Chloroform	9.30	83	499027	22.436	ng		100
34) Tetrahydrofuran (THF)	9.68	72	162743	24.961	ng		100
35) Ethyl tert-Butyl Ether	9.77	87	319217	32.028	ng		99
36) 1,2-Dichloroethane	10.04	62	409510	22.383	ng		100
38) 1,1,1-Trichloroethane	10.30	97	515149	22.210	ng		99
39) Isopropyl Acetate	10.67	61	261941	47.333	ng		94
40) 1-Butanol	10.68	56	404402	54.392	ng		97
41) Benzene	10.76	78	1020590	23.208	ng		100
42) Carbon Tetrachloride	10.91	117	490650	21.579	ng		100
43) Cyclohexane	11.04	84	804104	46.674	ng		99
44) tert-Amyl Methyl Ether	11.35	73	701087	30.362	ng		99
45) 1,2-Dichloropropane	11.58	63	216911	24.094	ng		99
46) Bromodichloromethane	11.76	83	413490	22.852	ng		99
47) Trichloroethene	11.81	130	358494	23.539	ng		99
48) 1,4-Dioxane	11.78	88	225319	25.483	ng		99
49) 2,2,4-Trimethylpentane...	11.87	57	885652	24.110	ng		97
50) Methyl Methacrylate	12.00	100	243220	51.625	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302069.D Vial: 2
Acq On : 1 May 2020 19:36 Operator: SC
Sample : CCV2 END R9043020_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: May 01 20:02:08 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

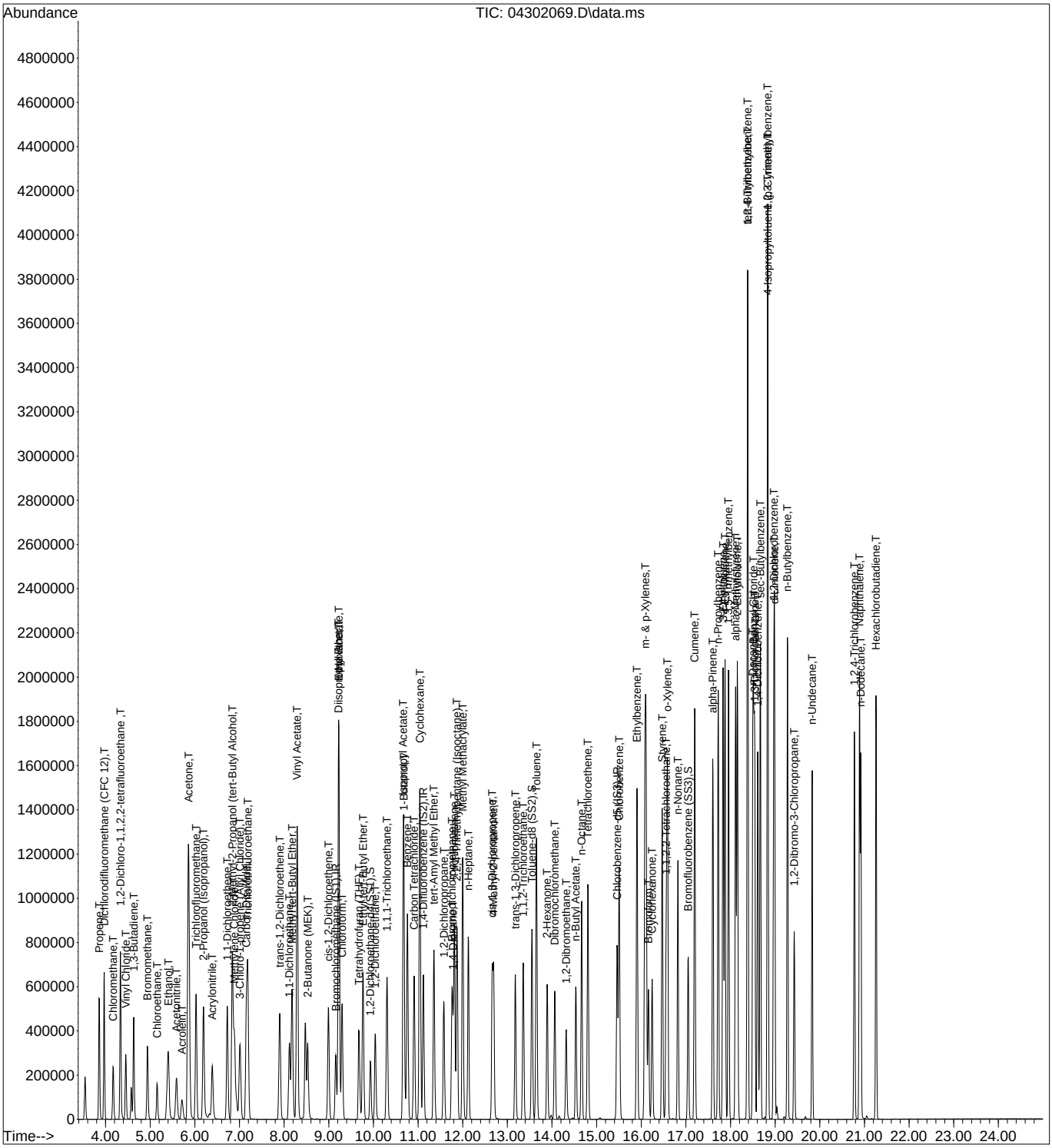
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	250023	24.470	ng	99
52) cis-1,3-Dichloropropene	12.66	75	446948	23.985	ng	100
53) 4-Methyl-2-pentanone	12.69	58	197142	25.617	ng	98
54) trans-1,3-Dichloropropene	13.18	75	446695	25.038	ng	99
55) 1,1,2-Trichloroethane	13.36	97	283712	23.602	ng	100
58) Toluene	13.65	91	1174480	24.305	ng	100
59) 2-Hexanone	13.89	43	419868	29.139	ng	98
60) Dibromochloromethane	14.06	129	408720	24.894	ng	100
61) 1,2-Dibromoethane	14.32	107	345417	25.647	ng	100
62) n-Butyl Acetate	14.53	43	451663	28.052	ng	99
63) n-Octane	14.67	57	190464	24.760	ng	98
64) Tetrachloroethene	14.80	166	421484	23.156	ng	100
65) Chlorobenzene	15.51	112	857431	24.236	ng	100
66) Ethylbenzene	15.90	91	1364253	24.229	ng	100
67) m- & p-Xylenes	16.09	91	2258053	47.536	ng	99
68) Bromoform	16.16	173	371347	25.543	ng	100
69) Styrene	16.47	104	884267	25.580	ng	99
70) o-Xylene	16.58	91	1117453	23.954	ng	99
71) n-Nonane	16.82	43	363376	24.146	ng	98
72) 1,1,2,2-Tetrachloroethane	16.56	83	440755	24.941	ng	99
74) Cumene	17.19	105	1470147	24.161	ng	99
75) alpha-Pinene	17.60	93	748642	27.018	ng	98
76) n-Propylbenzene	17.72	91	1680826	25.356	ng	99
77) 3-Ethyltoluene	17.83	105	1502621	25.293	ng	100
78) 4-Ethyltoluene	17.88	105	1454434	25.141	ng	100
79) 1,3,5-Trimethylbenzene	17.95	105	1297141	24.264	ng	99
80) alpha-Methylstyrene	18.11	118	708184	26.479	ng	99
81) 2-Ethyltoluene	18.15	105	1475899	24.967	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	1266079	24.492	ng	99
83) n-Decane	18.50	57	479330	26.319	ng	99
84) Benzyl Chloride	18.51	91	1095053	28.084	ng	99
85) 1,3-Dichlorobenzene	18.54	146	804572	25.817	ng	100
86) 1,4-Dichlorobenzene	18.61	146	828832	26.078	ng	100
87) sec-Butylbenzene	18.67	105	1626551	24.568	ng	99
88) 4-Isopropyltoluene (p-...	18.83	119	1602972	24.923	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	1303492	25.194	ng	99
90) 1,2-Dichlorobenzene	18.97	146	774234	25.573	ng	100
91) d-Limonene	18.99	68	373861	25.600	ng	99
92) 1,2-Dibromo-3-Chloropr...	19.43	157	306761	26.724	ng	96
93) n-Undecane	19.83	57	491358	25.567	ng	99
94) 1,2,4-Trichlorobenzene	20.77	180	642639	28.761	ng	99
95) Naphthalene	20.89	128	1747706	26.246	ng	100
96) n-Dodecane	20.92	57	462032	26.847	ng	100
97) Hexachlorobutadiene	21.26	225	430895	23.697	ng	100
98) Cyclohexanone	16.24	55	288088	24.462	ng	98
99) tert-Butylbenzene	18.38	119	1247630	24.033	ng	99
100) n-Butylbenzene	19.27	91	1270567	26.142	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\30\04302069.D Vial: 2
Acq On : 1 May 2020 19:36 Operator: SC
Sample : CCV2 END R9043020_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: May 01 20:02:08 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



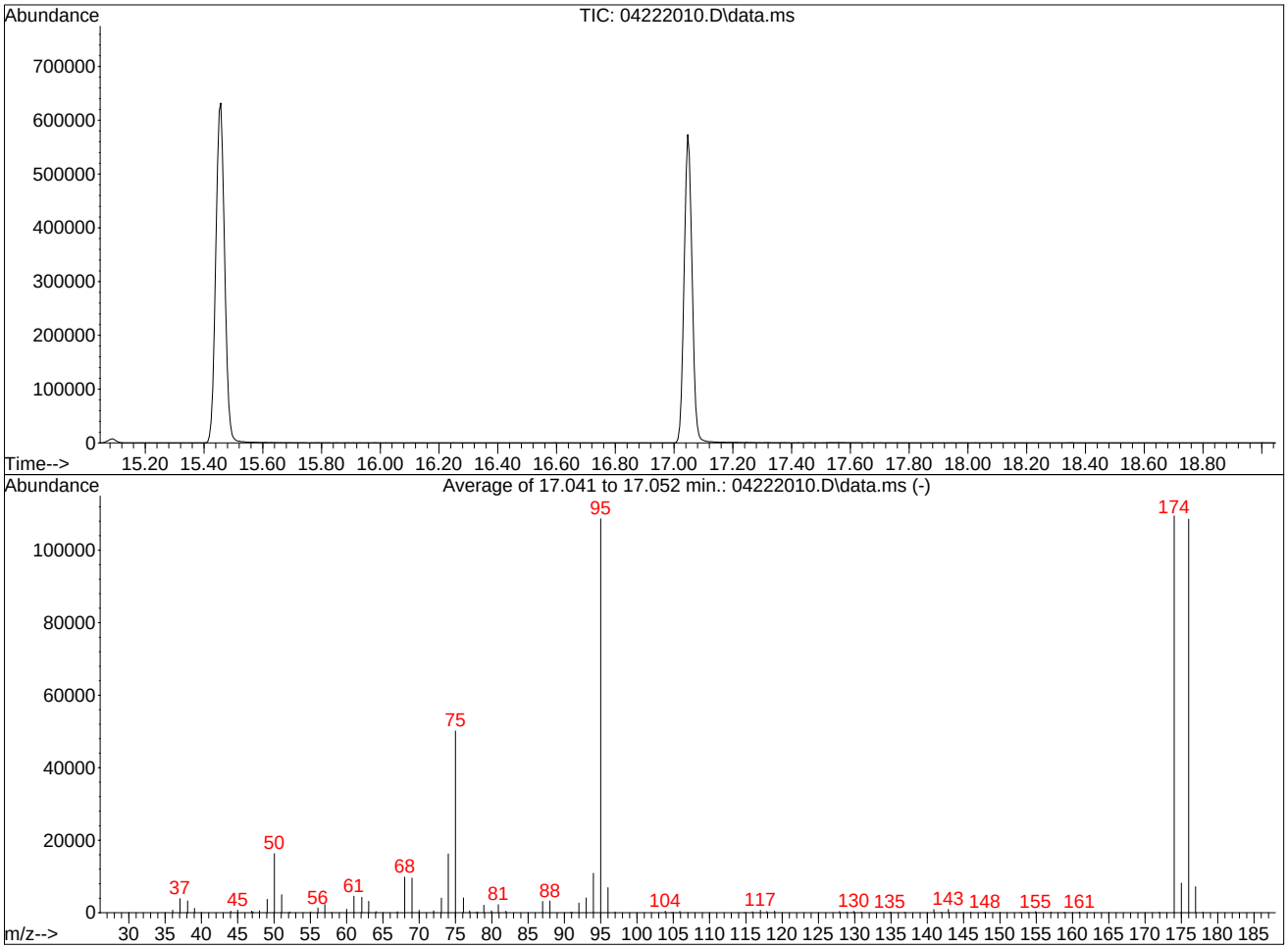
BFB

Data Path : I:\MS09\Data\2020_04\22\
Data File : 04222010.D
Acq On : 22 Apr 2020 18:51
Operator : SC
Sample : 12.5ng TO-15 BFB STD
Misc : S34-04212006
ALS Vial : 2 Sample Multiplier: 1

4/23/20

Integration File: LSCINT.P

Method : I:\MS09\Methods\R9042220.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Apr 23 11:56:23 2020



AutoFind: Scans 2484, 2485, 2486; Background Corrected with Scan 2476

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	15.0	16304	PASS
75	95	30	66	46.1	50136	PASS
95	95	100	100	100.0	108672	PASS
96	95	5	9	6.4	6913	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	100.7	109467	PASS
175	174	4	9	7.4	8135	PASS
176	174	93	101	99.2	108563	PASS
177	176	5	9	6.6	7191	PASS

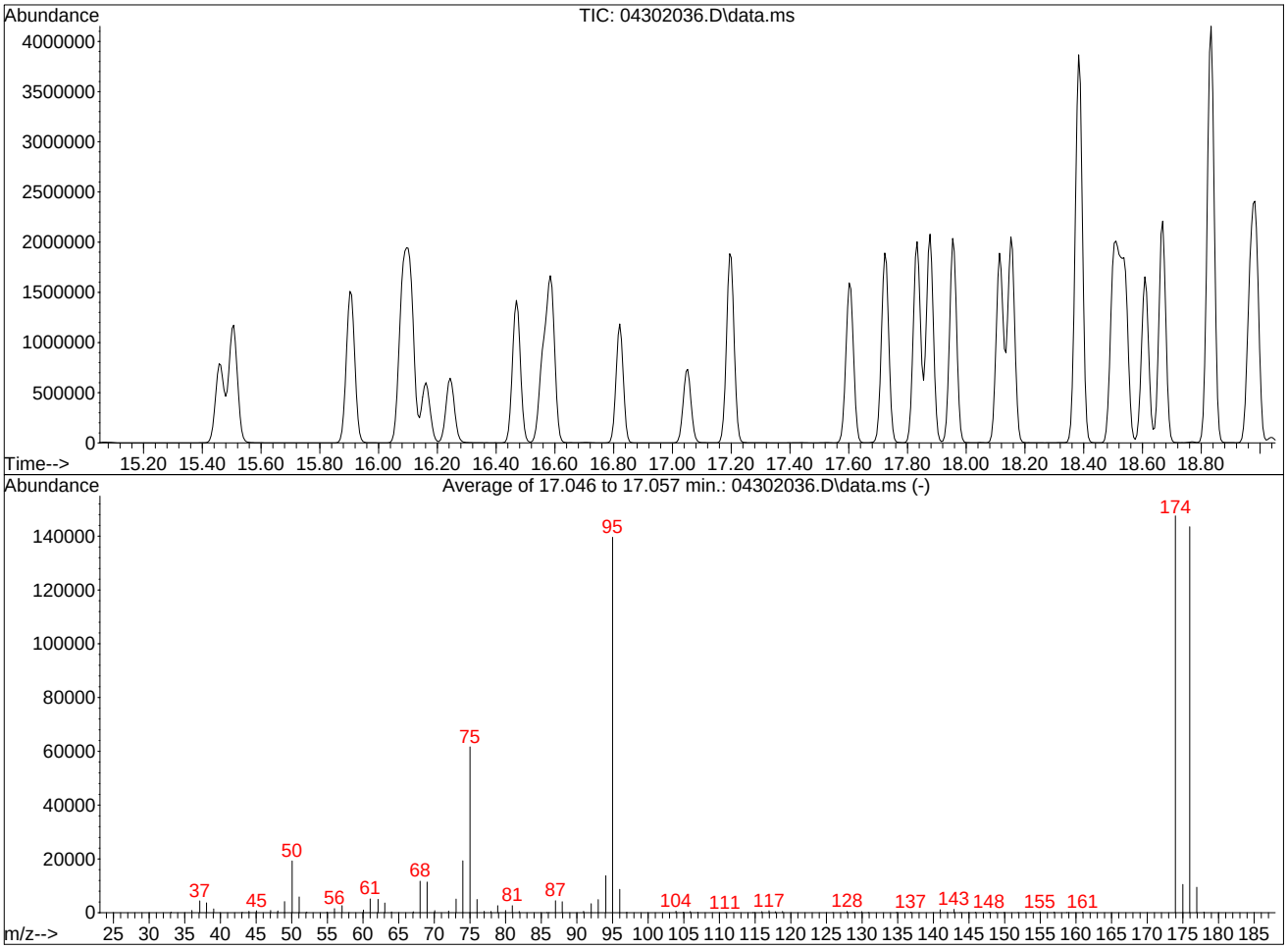
BFB

Data Path : I:\MS09\Data\2020_04\30\
Data File : 04302036.D
Acq On : 1 May 2020 00:45
Operator : SC
Sample : CCV2 R9043020_25ng
Misc : S34-04212006/S34-04202004 (5/19)
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

5/1/20

Method : I:\MS09\Methods\R9042220.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Apr 23 14:12:50 2020



AutoFind: Scans 2485, 2486, 2487; Background Corrected with Scan 2476

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	13.8	19244	PASS
75	95	30	66	44.2	61661	PASS
95	95	100	100	100.0	139571	PASS
96	95	5	9	6.2	8683	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	105.7	147541	PASS
175	174	4	9	7.1	10506	PASS
176	174	93	101	97.3	143531	PASS
177	176	5	9	6.6	9467	PASS

Injection Log

Directory: I:\MS09\Data\2020_04\22\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	4/22/20 13:32	04222001.D	Blank (100mL)	S34-04212006	SC	2	
2	4/22/20 14:06	04222002.D	CCV R9042220_25ng	S34-04212006/S34-04202004 (5/19)	SC	2	
3	4/22/20 14:59	04222003.D	Blank (100mL)	S34-04212006	SC	2	
4	4/22/20 15:32	04222004.D	MB R9042220_1000mL	S34-04212006	SC	2	
5	4/22/20 16:05	04222005.D	LCS R9042220_25ng	S34-04212006/S34-03252004 (4/23)	SC	2	
6	4/22/20 16:38	04222006.D	LCSD R9042220_25ng	S34-04212006/S34-03252004 (4/23)	SC	2	
7	4/22/20 17:12	04222007.D	RL R9042220_ 0.5ng	S34-04212006/S34-04102009 (5/9)	SC	4	
8	4/22/20 17:45	04222008.D	Chamber QC_AC00323	S34-04212006	SC	16	
9	4/22/20 18:18	04222009.D	Blank (100mL)	S34-04212006	SC	2	
10	4/22/20 18:51	04222010.D	12.5ng TO-15 BFB STD	S34-04212006	SC	2	passed
11	4/22/20 19:25	04222011.D	0.1ng TO-15 ICAL STD	S34-04212006/S34-04072004 (5/6)	SC	4	not used
12	4/22/20 19:58	04222012.D	0.2ng TO-15 ICAL STD	S34-04212006/S34-04072004 (5/6)	SC	4	
13	4/22/20 20:31	04222013.D	0.5ng TO-15 ICAL STD	S34-04212006/S34-04222004 (5/21)	SC	5	
14	4/22/20 21:05	04222014.D	1.0ng TO-15 ICAL STD	S34-04212006/S34-04222004 (5/21)	SC	5	
15	4/22/20 21:39	04222015.D	5.0ng TO-15 ICAL STD	S34-04212006/S34-04222004 (5/21)	SC	5	
16	4/22/20 22:12	04222016.D	25ng TO-15 ICAL STD	S34-04212006/S34-04202004 (5/19)	SC	2	
17	4/22/20 22:46	04222017.D	50ng TO-15 ICAL STD	S34-04212006/S34-04202004 (5/19)	SC	2	
18	4/22/20 23:19	04222018.D	100ng TO-15 ICAL STD	S34-04212006/S34-04202004 (5/19)	SC	2	
19	4/22/20 23:53	04222019.D	Blank (100mL)	S34-04212006	SC	2	
20	4/23/20 0:27	04222020.D	25ng TO-15 ICV STD	S34-04212006/S34-04102008 (5/9)	SC	2	not used
21	4/23/20 1:01	04222021.D	25ng TO-15 ICV STD	S34-04212006/S34-04102008 (5/9)	SC	2	
22	4/23/20 13:11	04222022.D	Blank (100mL)	S34-04212006	SC	2	
23	4/23/20 13:44	04222023.D	0.2ng TO-15 ICAL STD	S34-04212006/S34-04162003 (5/15)	SC	4	
24	4/23/20 14:17	04222024.D	Blank (100mL)	S34-04212006	SC	2	
25	4/23/20 14:51	04222025.D	25ng TO-15 ICV STD	S34-04212006/S34-04102008 (5/9)	SC	2	passed

Injection Log

Directory: I:\MS09\Data\2020_04\30\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	5/1/20 0:11	04302035.D	CCV2 C9043020_25ng	S34-04212006/S34-03312002 (4/29)	SC	3	pass
2	5/1/20 0:45	04302036.D	CCV2 R9043020_25ng	S34-04212006/S34-04202004 (5/19)	SC	2	pass
3	5/1/20 1:19	04302037.D	Blank (100mL)	S34-04212006	SC	2	
4	5/1/20 1:52	04302038.D	MB2 R9043020_1000mL	S34-04212006	SC	2	pass
5	5/1/20 2:26	04302039.D	LCS2 R9043020_25ng	S34-04212006/S34-04272008 (5/26)	SC	2	pass
6	5/1/20 3:00	04302040.D	LCSD2 R9043020_25ng	S34-04212006/S34-04272008 (5/26)	SC	2	pass
7	5/1/20 3:34	04302041.D	Blank (100mL)	S34-04212006	SC	2	
8	5/1/20 4:07	04302042.D	P2002103-001 (400mL)	S34-04212006	SC	7	
9	5/1/20 4:41	04302043.D	P2002103-002 (400mL)	S34-04212006	SC	8	
10	5/1/20 5:15	04302044.D	P2002103-003 (400mL)	S34-04212006	SC	9	
11	5/1/20 5:48	04302045.D	P2002103-004 (400mL)	S34-04212006	SC	10	
12	5/1/20 6:22	04302046.D	P2002103-005 (400mL)	S34-04212006	SC	11	
13	5/1/20 6:56	04302047.D	P2002103-006 (400mL)	S34-04212006	SC	12	
14	5/1/20 7:29	04302048.D	P2002103-007 (400mL)	S34-04212006	SC	13	
15	5/1/20 8:03	04302049.D	P2002103-008 (400mL)	S34-04212006	SC	14	
16	5/1/20 8:37	04302050.D	P2002103-009 (400mL)	S34-04212006	SC	15	
17	5/1/20 9:09	04302051.D	P2002103-010 (7.0mL)	S34-04212006	TD	1	
18	5/1/20 9:42	04302052.D	P2002103-011 (0.1mL)	S34-04212006	TD	1	
19	5/1/20 10:17	04302053.D	P2002103-011 (0.15mL)	S34-04212006	TD	1	
20	5/1/20 10:57	04302054.D	P2002103-012 (0.17mL)	S34-04212006	TD	1	
21	5/1/20 11:38	04302055.D	P2002103-012dil (0.1mL)	S34-04212006	TD	1	
22	5/1/20 12:12	04302056.D	P2002103-013 (2.5mL)	S34-04212006	TD	1	
23	5/1/20 12:49	04302057.D	P2002103-020 (3.0mL)	S34-04212006	TD	1	
24	5/1/20 13:24	04302058.D	P2002103-020Dil (0.5mL)	S34-04212006	SC	1	
25	5/1/20 13:58	04302059.D	P2002103-013 (15mL)	S34-04212006	SC	16	
26	5/1/20 14:32	04302060.D	P2002103-016 (400mL)	S34-04212006	SC	4	
27	5/1/20 15:05	04302061.D	P2002103-015 (400mL)	S34-04212006	SC	5	
28	5/1/20 15:38	04302062.D	P2002103-017 (400mL)	S34-04212006	SC	6	
29	5/1/20 16:12	04302063.D	P2002103-013dup (15mL)	S34-04212006	SC	16	pass
30	5/1/20 16:49	04302064.D	P2002103-018 (400mL)	S34-04212006	SC	7	
31	5/1/20 17:22	04302065.D	P2002103-019 (15mL)	S34-04212006	SC	8	
32	5/1/20 17:55	04302066.D	P2002103-014 (15mL)	S34-04212006	SC	9	
33	5/1/20 18:29	04302067.D	P2002103-014 (40mL)	S34-04212006	SC	9	
34	5/1/20 19:02	04302068.D	Blank (100mL)	S34-04212006	SC	2	
35	5/1/20 19:36	04302069.D	CCV2 END R9043020_25ng	S34-04212006/S34-04202004 (5/19)	SC	2	pass
							5/1/20

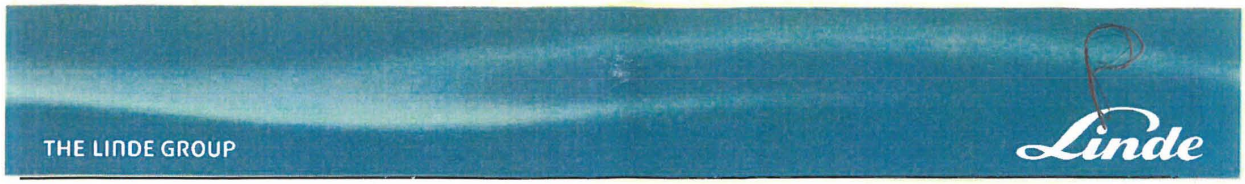
Injection Log

Directory: I:\MS09\Data\2020_04\30\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment

ISO 9001:2015 Linde **SPECTRA** Environmental Gases, 80 Industrial Drive, Alpha, NJ 08865

S31-1011901



SHIPPED TO: ALS Group USA Corp.
2655 Park Center Dr Ste A Dept 130
Simi Valley, CA 93065

PAGE: 1 of 4

Primary

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Propylene	115-07-1	1.00 mg/m3	1.06 mg/m3
Freon-12	75-71-8	1.00 mg/m3	1.06 mg/m3
Chloromethane	74-87-3	1.00 mg/m3	1.06 mg/m3
Freon-114	76-14-2	1.00 mg/m3	1.05 mg/m3
Vinyl Chloride	75-01-4	1.00 mg/m3	1.08 mg/m3
1,3-Butadiene	106-99-0	1.00 mg/m3	1.06 mg/m3
Bromomethane	74-83-9	1.00 mg/m3	1.08 mg/m3
Chloroethane	75-00-3	1.00 mg/m3	1.08 mg/m3
Ethanol	64-17-5	5.00 mg/m3	5.21 mg/m3
Acetonitrile	75-05-8	1.00 mg/m3	1.05 mg/m3
Acrolein	107-02-8	1.00 mg/m3	1.03 mg/m3
Acetone	67-64-1	5.00 mg/m3	5.33 mg/m3
Freon-11	75-69-4	1.00 mg/m3	1.06 mg/m3
Isopropyl Alcohol	67-63-0	2.00 mg/m3	2.10 mg/m3
Acrylonitrile	107-13-1	1.00 mg/m3	1.05 mg/m3
1,1-Dichloroethene	75-35-4	1.00 mg/m3	1.08 mg/m3
Carbon Disulfide	75-15-0	1.00 mg/m3	1.07 mg/m3
Methylene Chloride	75-09-2	1.00 mg/m3	1.06 mg/m3
Tert-Butanol	75-65-0	2.00 mg/m3	2.16 mg/m3
Allyl Chloride	107-05-1	1.00 mg/m3	1.08 mg/m3
Freon-113	76-13-1	1.00 mg/m3	1.08 mg/m3
Trans-1,2-Dichloroethene	156-60-5	1.00 mg/m3	1.08 mg/m3
1,1-Dichloroethane	75-34-3	1.00 mg/m3	1.09 mg/m3
Methyl Tert Butyl Ether	1634-04-4	1.00 mg/m3	1.08 mg/m3
Vinyl Acetate	108-05-4	5.00 mg/m3	5.35 mg/m3
Methacrylonitrile	126-98-7	1.00 mg/m3	1.06 mg/m3
Methyl Ethyl Ketone	78-93-3	1.00 mg/m3	1.06 mg/m3
Cis-1,2-Dichloroethene	156-59-2	1.00 mg/m3	1.06 mg/m3
Hexane	110-54-3	1.00 mg/m3	1.08 mg/m3
Di-isopropyl Ether	108-20-3	1.00 mg/m3	1.08 mg/m3

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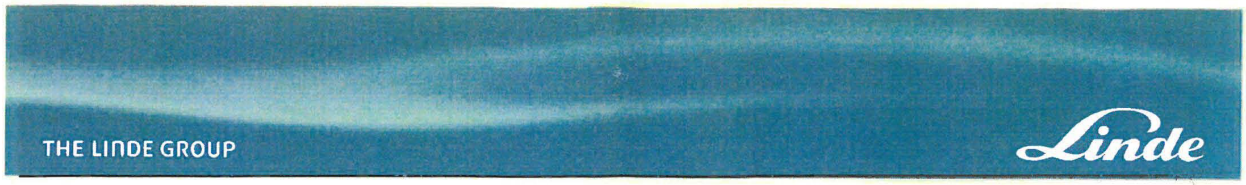

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PAGE: **2 of 4**

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chloroform	67-66-3	1.00 mg/m3	1.07 mg/m3
Ethyl Acetate	141-78-6	2.00 mg/m3	2.17 mg/m3
Tetrahydrofuran	109-99-9	1.00 mg/m3	1.09 mg/m3
Ethyl Tert-Butyl Ether	637-92-3	1.00 mg/m3	1.08 mg/m3
1,2-Dichloroethane	107-06-2	1.00 mg/m3	1.08 mg/m3
1,1,1-Trichloroethane	71-55-6	1.00 mg/m3	1.07 mg/m3
Benzene	71-43-2	1.00 mg/m3	1.06 mg/m3
Isopropyl Acetate	108-21-4	2.00 mg/m3	2.11 mg/m3
1-Butanol	71-36-3	2.00 mg/m3	2.08 mg/m3
Carbon Tetrachloride	56-23-5	1.00 mg/m3	1.05 mg/m3
Cyclohexane	110-82-7	2.00 mg/m3	2.12 mg/m3
Tert Amyl Methyl Ether	994-05-8	1.00 mg/m3	1.08 mg/m3
1,2-Dichloropropane	78-87-5	1.00 mg/m3	1.08 mg/m3
Trichloroethylene	79-01-6	1.00 mg/m3	1.07 mg/m3
Bromodichloromethane	75-27-4	1.00 mg/m3	1.08 mg/m3
1,4-Dioxane	123-91-1	1.00 mg/m3	1.08 mg/m3
Isooctane	540-84-1	1.00 mg/m3	1.07 mg/m3
Methyl Methacrylate	80-62-6	2.00 mg/m3	2.15 mg/m3
Heptane	142-82-5	1.00 mg/m3	1.08 mg/m3
Cis-1,3-Dichloropropene	10061-01-5	1.00 mg/m3	1.04 mg/m3
Methyl Isobutyl Ketone	108-10-1	1.00 mg/m3	1.06 mg/m3
Trans-1,3-Dichloropropene	10061-02-6	1.00 mg/m3	1.06 mg/m3
1,1,2-Trichloroethane	79-00-5	1.00 mg/m3	1.07 mg/m3
Toluene	108-88-3	1.00 mg/m3	1.07 mg/m3
Methyl Butyl Ketone	591-78-6	1.00 mg/m3	1.07 mg/m3
Dibromochloromethane	124-48-1	1.00 mg/m3	1.07 mg/m3
1,2-Dibromoethane	106-93-4	1.00 mg/m3	1.07 mg/m3
n-Butyl Acetate	123-86-4	1.00 mg/m3	1.09 mg/m3
n-Octane	111-65-9	1.00 mg/m3	1.08 mg/m3
Tetrachloroethylene	127-18-4	1.00 mg/m3	1.04 mg/m3

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PAGE: 3 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chlorobenzene	108-90-7	1.00 mg/m3	1.07 mg/m3
Ethylbenzene	100-41-4	1.00 mg/m3	1.07 mg/m3
p-xylene	106-42-3	1.00 mg/m3	1.07 mg/m3
m-xylene	108-38-3	1.00 mg/m3	1.07 mg/m3
Bromoform	75-25-2	1.00 mg/m3	1.07 mg/m3
Cyclohexanone	108-94-1	1.00 mg/m3	1.00 mg/m3
Styrene	100-42-5	1.00 mg/m3	1.06 mg/m3
o-xylene	95-47-6	1.00 mg/m3	1.07 mg/m3
1,1,2,2-Tetrachloroethane	79-34-5	1.00 mg/m3	1.07 mg/m3
Nonane	111-84-2	1.00 mg/m3	1.07 mg/m3
Isopropylbenzene	98-82-8	1.00 mg/m3	1.08 mg/m3
alpha-Pinene	80-56-8	1.00 mg/m3	1.07 mg/m3
n-Propylbenzene	103-65-1	1.00 mg/m3	1.08 mg/m3
3-Ethyltoluene	620-14-4	1.00 mg/m3	1.06 mg/m3
4-Ethyltoluene	622-96-8	1.00 mg/m3	1.08 mg/m3
2-Ethyltoluene	611-14-3	1.00 mg/m3	1.08 mg/m3
1,3,5-Trimethylbenzene	108-67-8	1.00 mg/m3	1.06 mg/m3
alpha-Methylstyrene	98-83-9	1.00 mg/m3	1.07 mg/m3
Tert-Butyl Benzene	98-06-6	1.00 mg/m3	1.07 mg/m3
1,2,4-Trimethylbenzene	95-63-6	1.00 mg/m3	1.07 mg/m3
1,3-Dichlorobenzene	541-73-1	1.00 mg/m3	1.07 mg/m3
Benzyl Chloride	100-44-7	1.00 mg/m3	1.08 mg/m3
n-Decane	124-18-5	1.00 mg/m3	1.07 mg/m3
1,4-Dichlorobenzene	106-46-7	1.00 mg/m3	1.07 mg/m3
Sec-Butyl Benzene	135-98-8	1.00 mg/m3	1.07 mg/m3
p-Isopropyltoluene	99-87-6	1.00 mg/m3	1.09 mg/m3
1,2,3-Trimethylbenzene	526-73-8	1.00 mg/m3	1.09 mg/m3
1,2-Dichlorobenzene	95-50-1	1.00 mg/m3	1.07 mg/m3

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ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
d-Limonene	5989-27-5	1.00 mg/m3	1.08 mg/m3
n-Butyl Benzene	104-51-8	1.00 mg/m3	1.07 mg/m3
1,2-Dibromo-3-Chloropropane	96-12-8	1.00 mg/m3	1.05 mg/m3
n-Undecane	1120-21-4	1.00 mg/m3	1.08 mg/m3
1,2,4-Trichlorobenzene	120-82-1	1.00 mg/m3	1.07 mg/m3
Naphthalene	91-20-3	1.00 mg/m3	1.03 mg/m3
n-Dodecane	112-40-3	1.00 mg/m3	1.04 mg/m3
Hexachloro-1,3-Butadiene	87-68-3	1.00 mg/m3	1.06 mg/m3
Nitrogen	7727-37-9	Balance	Balance

ANALYST: Lou Lorenzetti **DATE:** Sep-24-2019

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ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Propylene	115-07-1	1.00 mg/m3	1.05 mg/m3
Freon-12	75-71-8	1.00 mg/m3	1.05 mg/m3
Chloromethane	74-87-3	1.00 mg/m3	1.06 mg/m3
Freon-114	76-14-2	1.00 mg/m3	1.03 mg/m3
Vinyl Chloride	75-01-4	1.00 mg/m3	1.06 mg/m3
1,3-Butadiene	106-99-0	1.00 mg/m3	1.06 mg/m3
Bromomethane	74-83-9	1.00 mg/m3	1.06 mg/m3
Chloroethane	75-00-3	1.00 mg/m3	1.07 mg/m3
Ethanol	64-17-5	5.00 mg/m3	5.30 mg/m3
Acetonitrile	75-05-8	1.00 mg/m3	1.07 mg/m3
Acrolein	107-02-8	1.00 mg/m3	1.03 mg/m3
Acetone	67-64-1	5.00 mg/m3	5.34 mg/m3
Freon-11	75-69-4	1.00 mg/m3	1.06 mg/m3
Isopropyl Alcohol	67-63-0	2.00 mg/m3	2.11 mg/m3
Acrylonitrile	107-13-1	1.00 mg/m3	1.06 mg/m3
1,1-Dichloroethene	75-35-4	1.00 mg/m3	1.07 mg/m3
Carbon Disulfide	75-15-0	1.00 mg/m3	1.06 mg/m3
Methylene Chloride	75-09-2	1.00 mg/m3	1.05 mg/m3
Tert-Butanol	75-65-0	2.00 mg/m3	2.15 mg/m3
Allyl Chloride	107-05-1	1.00 mg/m3	1.07 mg/m3
Freon-113	76-13-1	1.00 mg/m3	1.08 mg/m3
Trans-1,2-Dichloroethene	156-60-5	1.00 mg/m3	1.07 mg/m3
1,1-Dichloroethane	75-34-3	1.00 mg/m3	1.06 mg/m3
Methyl Tert Butyl Ether	1634-04-4	1.00 mg/m3	1.07 mg/m3
Vinyl Acetate	108-05-4	5.00 mg/m3	5.33 mg/m3
Methacrylonitrile	126-98-7	1.00 mg/m3	1.06 mg/m3
Methyl Ethyl Ketone	78-93-3	1.00 mg/m3	1.06 mg/m3
Cis-1,2-Dichloroethene	156-59-2	1.00 mg/m3	1.06 mg/m3
Hexane	110-54-3	1.00 mg/m3	1.08 mg/m3
Di-isopropyl Ether	108-20-3	1.00 mg/m3	1.08 mg/m3

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PAGE: 2 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chloroform	67-66-3	1.00 mg/m3	1.07 mg/m3
Ethyl Acetate	141-78-6	2.00 mg/m3	2.16 mg/m3
Tetrahydrofuran	109-99-9	1.00 mg/m3	1.10 mg/m3
Ethyl Tert-Butyl Ether	637-92-3	1.00 mg/m3	1.07 mg/m3
1,2-Dichloroethane	107-06-2	1.00 mg/m3	1.07 mg/m3
1,1,1-Trichloroethane	71-55-6	1.00 mg/m3	1.07 mg/m3
Benzene	71-43-2	1.00 mg/m3	1.05 mg/m3
Isopropyl Acetate	108-21-4	2.00 mg/m3	2.10 mg/m3
1-Butanol	71-36-3	2.00 mg/m3	2.13 mg/m3
Carbon Tetrachloride	56-23-5	1.00 mg/m3	1.04 mg/m3
Cyclohexane	110-82-7	2.00 mg/m3	2.11 mg/m3
Tert Amyl Methyl Ether	994-05-8	1.00 mg/m3	1.07 mg/m3
1,2-Dichloropropane	78-87-5	1.00 mg/m3	1.07 mg/m3
Trichloroethylene	79-01-6	1.00 mg/m3	1.08 mg/m3
Bromodichloromethane	75-27-4	1.00 mg/m3	1.09 mg/m3
1,4-Dioxane	123-91-1	1.00 mg/m3	1.08 mg/m3
Isooctane	540-84-1	1.00 mg/m3	1.07 mg/m3
Methyl Methacrylate	80-62-6	2.00 mg/m3	2.15 mg/m3
Heptane	142-82-5	1.00 mg/m3	1.07 mg/m3
Cis-1,3-Dichloropropene	10061-01-5	1.00 mg/m3	1.07 mg/m3
Methyl Isobutyl Ketone	108-10-1	1.00 mg/m3	1.06 mg/m3
Trans-1,3-Dichloropropene	10061-02-6	1.00 mg/m3	1.06 mg/m3
1,1,2-Trichloroethane	79-00-5	1.00 mg/m3	1.07 mg/m3
Toluene	108-88-3	1.00 mg/m3	1.06 mg/m3
Methyl Butyl Ketone	591-78-6	1.00 mg/m3	1.08 mg/m3
Dibromochloromethane	124-48-1	1.00 mg/m3	1.07 mg/m3
1,2-Dibromoethane	106-93-4	1.00 mg/m3	1.07 mg/m3
n-Butyl Acetate	123-86-4	1.00 mg/m3	1.09 mg/m3
n-Octane	111-65-9	1.00 mg/m3	1.08 mg/m3
Tetrachloroethylene	127-18-4	1.00 mg/m3	1.04 mg/m3

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ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chlorobenzene	108-90-7	1.00 mg/m3	1.07 mg/m3
Ethylbenzene	100-41-4	1.00 mg/m3	1.06 mg/m3
p-xylene	106-42-3	1.00 mg/m3	1.07 mg/m3
m-xylene	108-38-3	1.00 mg/m3	1.06 mg/m3
Bromoform	75-25-2	1.00 mg/m3	1.07 mg/m3
Cyclohexanone	108-94-1	1.00 mg/m3	1.01 mg/m3
Styrene	100-42-5	1.00 mg/m3	1.06 mg/m3
o-xylene	95-47-6	1.00 mg/m3	1.07 mg/m3
1,1,2,2-Tetrachloroethane	79-34-5	1.00 mg/m3	1.07 mg/m3
Nonane	111-84-2	1.00 mg/m3	1.07 mg/m3
Isopropylbenzene	98-82-8	1.00 mg/m3	1.07 mg/m3
alpha-Pinene	80-56-8	1.00 mg/m3	1.06 mg/m3
n-Propylbenzene	103-65-1	1.00 mg/m3	1.07 mg/m3
3-Ethyltoluene	620-14-4	1.00 mg/m3	1.07 mg/m3
4-Ethyltoluene	622-96-8	1.00 mg/m3	1.05 mg/m3
2-Ethyltoluene	611-14-3	1.00 mg/m3	1.07 mg/m3
1,3,5-Trimethylbenzene	108-67-8	1.00 mg/m3	1.06 mg/m3
alpha-Methylstyrene	98-83-9	1.00 mg/m3	1.06 mg/m3
Tert-Butyl Benzene	98-06-6	1.00 mg/m3	1.06 mg/m3
1,2,4-Trimethylbenzene	95-63-6	1.00 mg/m3	1.06 mg/m3
1,3-Dichlorobenzene	541-73-1	1.00 mg/m3	1.07 mg/m3
Benzyl Chloride	100-44-7	1.00 mg/m3	1.07 mg/m3
n-Decane	124-18-5	1.00 mg/m3	1.07 mg/m3
1,4-Dichlorobenzene	106-46-7	1.00 mg/m3	1.07 mg/m3
Sec-Butyl Benzene	135-98-8	1.00 mg/m3	1.06 mg/m3
p-Isopropyltoluene	99-87-6	1.00 mg/m3	1.09 mg/m3
1,2,3-Trimethylbenzene	526-73-8	1.00 mg/m3	1.08 mg/m3
1,2-Dichlorobenzene	95-50-1	1.00 mg/m3	1.07 mg/m3

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ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
d-Limonene	5989-27-5	1.00 mg/m3	1.06 mg/m3
n-Butyl Benzene	104-51-8	1.00 mg/m3	1.07 mg/m3
1,2-Dibromo-3-Chloropropane	96-12-8	1.00 mg/m3	1.07 mg/m3
n-Undecane	1120-21-4	1.00 mg/m3	1.08 mg/m3
1,2,4-Trichlorobenzene	120-82-1	1.00 mg/m3	1.08 mg/m3
Naphthalene	91-20-3	1.00 mg/m3	1.06 mg/m3
n-Dodecane	112-40-3	1.00 mg/m3	1.06 mg/m3
Hexachloro-1,3-Butadiene	87-68-3	1.00 mg/m3	1.07 mg/m3
Nitrogen	7727-37-9	Balance	Balance

ANALYST: _____ **DATE:** Sep-24-2019
Lou Lorenzetti

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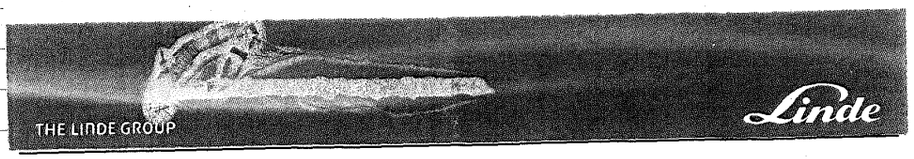
1/6/20 VH

TO-15 MAPH STD				20ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of S31-11061903 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-01062006	20 ng/L	STD00164	1/6/20	3/4/20	LH

1/6/20 S31-01062007 TO-15 IS/SURR STD ~0,5 mg/m³

ISO 9001:2015 Linde **SPECTRA** Environmental Gases, 80 Industrial Drive, Alpha, NJ 08865



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2655 Park Center Dr Ste A Dept 130
Simi Valley, CA 93065

PAGE: 1 of 1

S31-01062007 **ANALYSIS REPORT** IS/SURR STD.

Sales#:	117350975	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1502527	**Cylinder # :**	CC-430401
Report Date:	Dec-23-2019	**Cylinder Pressure:**	2000 psig
P.O.# :	SM003000	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24086333	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	4000 Liters
Expiration Date:	Dec-23-~~2020~~ 2021	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	10% Relative

VH 1/7/20

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Bromochloromethane	74-97-5	0.50 mg/m3	0.55 mg/m3
1,2-Dichloroethane-d4	17060-07-0	0.50 mg/m3	0.55 mg/m3
1,4-Difluorobenzene	540-36-3	0.50 mg/m3	0.55 mg/m3
Toluene-d8	2037-26-5	0.50 mg/m3	0.55 mg/m3
Chlorobenzene-d5	3114-55-4	0.50 mg/m3	0.55 mg/m3
4-Bromofluorobenzene	460-00-4	0.50 mg/m3	0.53 mg/m3
Nitrogen	7727-37-9	Balance	Balance

1/7/20 VH

EPA 325B STD	BTEX 1° Working Standard	200 µg/mL
S31-01072001	Expires:	1/21/2020
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 2000µg/mL BTEX stock standard S31-11271903 (expires 1/27/20).		

VH

EPA 325B STD	BTEX 2° Working Standard	200 µg/mL
S31-01072002	Expires:	1/21/2020
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 2000µg/mL BTEX stock standard S31-11271904 (expires 1/27/20).		

TD 3/23/20

S34-03192001	TO-15 IS & Surr. STD	500 ng/L
Filled 6L CAN STD00154 with	S31-01062007 to ~80 psig.	Exp. 5/19/20 TD

3/20/20 RVT

S34-03202001	TO-15 SIM IS/SURR	40 ng/L
Filled can STD00226	to (-7.46) psig with S31-01062007 then pressurized to 75.4 psig	
with HZA Lot #70086833701		
	Exp: 6/18/2020	RVT
DF = 14.7+ 61.80= 12.5X		
14.7+ (-8.58)		

MA

TO-17 STD S34-03202002	PAH 1° Working Standard	2 µg/ml 5/20/2020
Into 1mL mininert vial with 9900µL B&J P&T methanol, Lot #DL535, added 10µL 200µg/mL PAH 1° stock standard S31-01222001 (Exp. 7/21/20)		

3/23/20 CV

TO-17 STD S34-03232001	RAD VOC 1° Stock Standard	2000ng/µL 5/23/2020
Transferred stock standard S31-09061901B (exp. 3/13/27) into glass vial with mininert valve cap.		

CV

TO-17 STD S34-03232002	RAD VOC 1° Working Standard	200ng/µL 5/23/2020
Into 1mL mininert vial with 900uL B&J P&T methanol, Lot # DL535, added 100uL 2000ng/µL Stock Standard S34-03232001 (expires 3/13/20)		

3/25/20

TO-15 ICV/LCS STD 200 ng/L

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111902** with HZA Lot # 70086915004 using 4700 diluter

RVT

	Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34	~~S31~~-03252001	200 ng/L	STD00033	3/25/20	4/23/20	RVT
RVT S34	~~S31~~-03252002	200 ng/L	STD00182	3/25/20	4/23/20	RVT
4/3/20 S34	~~S31~~-03252003	200 ng/L	STD00132	3/25/20	4/23/20	RVT
S34	~~S31~~-03252004	200 ng/L	STD00139	3/25/20	4/23/20	RVT

3/26/20 WA

S34-03262001	TO-15 IS & Surr. STD	500 ng/L
Filled 15L CAN STD00219 with	S31-10111901 to ~80 psig.	Exp. 6/26/20 WA

3/27/20 RVT

TO-15 ICV/LCS STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111902** with HZA Lot # 70086915004 using 4700 diluter

TD 4/7/20

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04022001	200 ng/L	STD00173	4/2/20	**5/1/20**	TD

TO-17 STD **PAH 1° Stock Standard** **200 µg/ml**
S34-04022002 **10/2/2020**
Into 1mL mininert vial, directly transfered entire contents 200µg/mL PAH 1° stock standard S31-01181908D (expires 1/17/22).

TO-17 STD **PAH 2° Stock Standard** **100 µg/ml**
S34-04022003 **10/2/2020**
Into 1mL mininert vial, directly transfered entire contents of 100µg/mL PAH 1° stock standard S31-03221901B (expires 4/11/22).

TO-17 STD **PAH 1° Working Standard** **20 µg/mL**
S34-04022004 **10/2/2020**
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 200µg/mL PAH 1° stock standard S34-4022002 (Exp. 10/2/20)

TO-17 STD **PAH 1° Working Standard** **2 µg/ml**
S34-04022005 **10/2/2020**
Into 1mL mininert vial with 990µL B&J P&T methanol, Lot #DL535, added 10µL 200µg/mL PAH 1° stock standard S34-04022002 (Exp. 10/2/20)

TO-17 STD **PAH 2° Working Standard** **20 µg/ml**
S34-04022006 **10/2/2020**
Into 1mL mininert vial with 800µL B&J P&T methanol, Lot #DL535, added 200µL 100µg/mL PAH 2° stock standard S34-04022003 (Exp. 10/2/20)

EPA 325B STD **BTEX 1° Working Standard** **20 µg/mL**
MK **S34-04022007** **Expires: 4/22/2020**
Into 1mL mininert vial with 990µL B&J P&T methanol, Lot #DL535, added 10µL 2000µg/mL BTEX Stock standard S34-03312005 (expires 5/31/20).

4/7/20 RVT

TO-15 STD 1000 ng/L
S34-04072001
Filled Can: STD00056 w/S31-10111901 To ~ 10.23 PSIG
Expires: 9/24/20 RVT

TO-15 STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S34-04072001** using 4700 diluter HZA Lot #70086915004

TD 4/7/20

Standard ID	Standard conc.	CAN I.D.	Prep. Date	**Exp. Date**	Initial
S34-04072002	200 ng/L	STD00134	4/7/20	**5/6/20**	TD

12

		TO-15 STD		20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04072002**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
TD S34-04072003	20 ng/L	STD00007	4/7/20	**5/6/20**	TD

		TO-15 STD		4 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S34-04072003**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
TD S34-04072004	4 ng/L	STD00211	4/7/20	**5/6/20**	TD

RVT TO-15 ICV/LCS STD 1000ng/L
S34-04072005
Filled Can: STD00136 w/S31-10111902 To ~ 10.52 PSIG
Exp 9/24/20 RVT

		TO-15 ICV/LCS STD		200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S34-04072005** with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
TD S34-04072006	200 ng/L	STD00194	4/7/20	**5/6/20**	TD

S31-04072007 **TO-17 IS/Surr Neat Mix** **75,000** µg each compd.
34
@ 4/7/20 **Exp** **1/31/21**

CM

Compound	Std ID	d(µg/µl)	amt spiked (µl)	exp. date
Bromochloromethane	S31-11281802	1934.4	39	6/30/2021
1,4-Difluorobenzene	S31-11281803	1170.1	64	2/1/2021
Chlorobenzene-d5	S31-05131901	1157	65	5/31/2024
1,2-Dichloroethane-d4	S31-11281804	1307	57	11/28/2023
Toluene-d8	S29-04281602	943	80	4/28/2021
4-Bromofluorobenzene	S31-05131903	1593	47	1/31/2021
		total µl:	352	

neat compound density: **213.3 µg/µl**

RVT TO-15 ICV/LCS STD 100ng/L
S34-04082001
Filled Can: STD00136 w/S31-10111902 To ~ 11.93 PSIG
Exp: 9/24/20
RVT

4/8/20 S34-~~03~~04082002 TO-17 IS/surr 50ng/ml
Spiked 23.5 µl S34-04072007 into can STDcc215 and
pressurized to 83.3 psig w/ HZA (Lot 7008600403).
Exp. 10/8/20

4/10/20
RVT

TO-15 STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111901**					
using 4700 diluter	HZA Lot #70086915004				
Standard ID	Standard conc.	CAN I.D.	Prep. Date	**Exp. Date**	Initial
S34-04102001	200 ng/L	STD00096	4/10/20	**5/9/20**	RVT
S34-04102002	200 ng/L	STD00111	4/10/20	**5/9/20**	RVT
S34-04102003	200 ng/L	STD00013	4/10/20	**5/9/20**	RVT
S34-04102004	200 ng/L	STD00018	4/10/20	**5/9/20**	RVT

RVT S34-04102005 TO-15 STD 1000 ng/L
Pressurized Can: STD00056 w/S31-10111901 To. 16.6 psig
Exp. 9/24/20
RVT

RVT

TO-15 STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S34-04102005**					
using 4700 diluter	HZA Lot #70086915004				
Standard ID	Standard conc.	CAN I.D.	Prep. Date	**Exp. Date**	Initial
S34-04102006	200 ng/L	STD00003	4/10/20	**5/9/20**	RVT

RVT S34-04102007 TO-15 STD 1000 ng/L
ICV/LCS
Pressurized Can: STD00136 w/S31-10111902 To ≈ 17 psig
Exp. 9/24/20
RVT

RVT

TO-15 ICV/LCS STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S34-04102007** with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04102008	200 ng/L	STD00158	4/10/20	**5/9/20**	RVT

RVT

TO-15 STD				20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04102004**					
using 4700 diluter	HZA Lot #70086915004				
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04102009	20 ng/L	STD00145	4/10/20	**5/9/20**	RVT

4/15/20
RVT

TO-15 STD **4 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S34-04102010**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04152001	4 ng/L	STD00161	4/15/20	**5/14/20**	RVT

TO-15 Custom STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter

TD 4/16/20

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04162001	200 ng/L	STD00009	4/16/2020	**5/15/2020**	TD
S34-04162002	200 ng/L	STD00124	4/16/2020	**5/15/2020**	TD

4/16/20
RVT

TO-15 STD **4 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of **S34-04102003**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04162003	4 ng/L	STD00227	4/16/20	**5/15/20**	RVT

4/20/20
RVT

TO-15 STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111901**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04202001	200 ng/L	STD00128	4/20/20	**5/19/20**	RVT
S34-04202002	200 ng/L	STD00112	4/20/20	**5/19/20**	RVT
S34-04202003	200 ng/L	STD00105	4/20/20	**5/19/20**	RVT
S34-04202004	200 ng/L	STD00047	4/20/20	**5/19/20**	RVT

TO-15 Custom STD **20 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter

TD 4/21/20

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04212001	20 ng/L	STD00049	4/21/2020	**5/20/2020**	TD

TD 4/21/20

16

		TO-15 Custom STD		200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04212002	200 ng/L	STD00208	4/21/2020	**5/20/2020**	TD
S34-04212003	200 ng/L	STD00140	4/21/2020	**5/20/2020**	TD

TD

		TO-15 Custom STD		20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of S34-04212003 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04212004	20 ng/L	STD00065	4/21/2020	**5/20/2020**	TD

TD

		TO-15 Custom ICV/LCS		200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251902 with HZA Lot #70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-0421~~2006~~ 2007 NN 5-5-20	200 ng/L	STD00181	4/21/2020	**5/20/2020**	TD

TD

		TO-15 Custom ICV/ LCS STD		20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of S31-06251902 with HZA Lot #70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04212005	20 ng/L	STD00080	4/21/2020	**5/20/2020**	TD

TD

4/21/20 S34-0421~~2006~~ 2007 NN 5-5-20 TO-15 IS/Surr 500 ng/L
Filled Can # STD00075 with S31-01062007 to psig 84
EXP 06/29/20

S34-04222001	**TO-15 IS & Surr. STD**	**500 ng/L**
Filled 15L CAN STD00228 with S31-01062007 to ~80 psig.		Exp. 7/22/20 TD

TD 4/22/20

4/22/20 RVT

4/22/20 RVT

S34-04222002 **TO-15 SIM IS/SURR** **40 ng/L**

Filled can STD00226 to (-6.74) psig with S31-01062007 then pressurized to 84.34 psig with HZA Lot #70086004903

Exp: 7/21/20 RVT

DF = 14.7+ 61.80= 12.5X
14.7+ (-8.58)

RVT

		TO-15 STD		20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04202002**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04222003	20 ng/L	STD00043	4/22/20	**5/21/20**	RVT

RVT

		TO-15 STD		20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04202003**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04222004	20 ng/L	STD00197	4/22/20	**5/21/20**	RVT

4/23/20 RVT

S34-04232001 TO-15 STD 1000 ng/L
Pressurized Can: ~~STD~~ 15C0109 w/ S31-10111901 To ~ 11.5 psig
RVT
Exp: 9/24/20

RVT

S34-04242001 TO-15 STD 1000 ng/L
Pressurized Can: STD00134 w/ S31-10111901 To ~ 11.01 psig
RVT
Exp 9/24/20

4/27/20 RVT

		TO-15 Custom STD		200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272001	200 ng/L	STD00153	4/27/2020	**5/26/2020**	RVT
S34-04272002	200 ng/L	STD00116	4/27/2020	**5/26/2020**	RVT
S34-04272003	200 ng/L	STD00157	4/27/2020	**5/26/2020**	RVT
S34-04272004	200 ng/L	STD00125	4/27/2020	**5/26/2020**	RVT

4/27/20
RVT

18
4/22/20
RVT
4/27/20
RVT

		TO-15 Custom STD		200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272005	200 ng/L	STD00024	4/27/2020	**5/26/2020**	RVT
S34-04272006	200 ng/L	STD00066	4/27/2020	**5/26/2020**	RVT

RVT

		TO-15 ICV/LCS STD		200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111902** with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272007	200 ng/L	STD00063	4/27/20	**5/26/20**	RVT
S34-04272008	200 ng/L	STD00072	4/27/20	**5/26/20**	RVT

RVT

		TO-15 ICV/ LCS STD		20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04272007** with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272009	20 ng/L	STD00015	4/27/20	**5/26/20**	RVT

RVT

		TO-15 STD		20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04202001** using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272010	20 ng/L	STD00026	4/27/20	**5/26/20**	RVT

LH
4/27/20

		TO-15 STD		200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-10111901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272011	200 ng/L	STD00028	4/27/2020	**5/26/2020**	LH

LH

		TO-15 STD		20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of S34-04272011 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272012	20 ng/L	STD00061	4/27/2020	**5/26/2020**	LH

590 of 590

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LABORATORY REPORT

May 11, 2020

Pamela Moss
EA Engineering, Science, and Technology, Inc.
7995 E. Prentice Ave, Suite 206E
Greenwood Village, CO 80111

RE: Kirtland AFB Bulk Fuels Facility / 62735DM02

Dear Pamela:

Enclosed are the results of the samples submitted to our laboratory on April 20, 2020. For your reference, these analyses have been assigned our service request number P2002104.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

Kate Kaneko
May 11, 2020, 2:32 pm

Kate Kaneko
Project Manager

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

Client: EA Engineering, Science, and Technology, Inc. Service Request No: P2002104
Project: Kirtland AFB Bulk Fuels Facility / 62735DM02

CASE NARRATIVE

The samples were received intact under chain of custody on April 20, 2020 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

Manual integrations were performed on the following sample(s) and analyte(s). Refer to the raw data for additional information.

Sample Identification(s)	Analyte
P2002104-008	propene
P2002104-011, 012	acetone
P2002104-013	2-hexanone

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.1 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1776326
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-007
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272019-10
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: EA Engineering, Science, and Technology, Inc. Service Request: P2002104
Project ID: Kirtland AFB Bulk Fuels Facility / 62735DM02

Date Received: 4/20/2020
Time Received: 12:20

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	TO-15 - VOC Cans
SV115-025-202	P2002104-001	Air	4/15/2020	08:55	1SC00316	-2.84	6.30	X
SV115-025-602	P2002104-002	Air	4/15/2020	08:55	1SS00072	-4.20	6.03	X
SV115-050-202	P2002104-003	Air	4/15/2020	09:00	1SC00724	-2.15	5.74	X
SV115-150-202	P2002104-004	Air	4/15/2020	09:04	1SS00159	-3.65	5.53	X
SV115-250-202	P2002104-005	Air	4/15/2020	09:06	1SC01243	-4.37	6.23	X
SV115-350-202	P2002104-006	Air	4/15/2020	09:10	1SC00213	-2.58	6.67	X
SV115-450-202	P2002104-007	Air	4/15/2020	09:18	1SC00610	-2.61	5.99	X
SV120-025-602	P2002104-008	Air	4/14/2020	08:25	1SS00161	-4.45	6.01	X
SV120-025-202	P2002104-009	Air	4/14/2020	08:25	1SC01209	-2.19	5.42	X
SV120-050-202	P2002104-010	Air	4/14/2020	08:34	1SC00959	-1.91	6.80	X
SV120-150-202	P2002104-011	Air	4/14/2020	08:37	1SC00441	-2.19	5.57	X
SV120-250-202	P2002104-012	Air	4/14/2020	08:42	1SC00530	-1.77	5.38	X
SV120-350-202	P2002104-013	Air	4/14/2020	08:45	1SC00526	-2.31	5.91	X
SV120-450-202	P2002104-014	Air	4/14/2020	08:55	1SS00767	-2.95	5.67	X
SV121-025-202	P2002104-015	Air	4/14/2020	09:38	1SC00763	-3.53	5.25	X
SV121-050-202	P2002104-016	Air	4/14/2020	09:42	1SC00206	-2.23	6.73	X
SV121-145-602	P2002104-017	Air	4/14/2020	09:46	1SS01023	-2.97	6.04	X
SV121-145-202	P2002104-018	Air	4/14/2020	09:46	1SC01200	-2.90	5.82	X
SV121-250-202	P2002104-019	Air	4/14/2020	09:53	1SC00218	-3.43	5.85	X
SV121-350-202	P2002104-020	Air	4/14/2020	09:56	1SC00125	-2.84	6.01	X

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

COC #: COC-SV202-08

Requested Turnaround Time in Business Days
10 Day-Standard

ALS Project No. PZ002104

Company Name & Address (Reporting Information)	EA Engineering, Science, and Technology, Inc., PBC 225 Schilling Circle Suite 400, Hunt Valley, MD (410) 584-7000
Project Name	Kirtland AFB Bulk Fuels Facility
Project Number	62735DM02
Project Manager / Project Chemist	Bernie Bockish (505) 234-1105 / Pam Moss (303) 590-9143
P.O. # / Billing Information	17682
Email Address for Result Reporting	Tara Lamond: tlamond@eaest.com Amanda Smith: asmith@eaest.com Pam Moss: pmoss@eaest.com
Sampler (Print & Sign)	Ryan Vortman
ALS Contact: Kate Kaneko	1 (805) 577-2089

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg	Sample Volume	Analysis Method: TO-15 Project Specific List	Comments e.g. Actual Preservative or specific instructions
SV115-025-202		4/15/2020	0855	1SC00316	NA	-26.0	-4.0	1L	X	None
SV115-025-602		4/15/2020	0855	1SS00072	NA	-26.0	-5.0	1L	X	None
SV115-050-202		4/15/2020	0900	1SC00724	NA	-28.0	-2.0	1L	X	None
SV115-150-202		4/15/2020	0904	1SS00159	NA	-24.5	-3.0	1L	X	None
SV115-250-202		4/15/2020	0906	1SC01243	NA	-28.0	-5.0	1L	X	None
SV115-350-202		4/15/2020	0910	1SC00213	NA	-25.0	-1.0	1L	X	None
SV115-450-202		4/15/2020	0918	1SC00610	NA	-25.0	-1.0	1L	X	None
SV120-025-602		4/14/2020	0825	1SS00161	NA	-25.0	-5.0	1L	X	None
SV120-025-202		4/14/2020	0825	1SC01209	NA	-26.0	-2.0	1L	X	None
SV120-050-202		4/14/2020	0834	1SC00959	NA	-26.5	-0.5	1L	X	None

FedEX Tracking Number: 1028 3396 7666

Associated with Trip blank: SVTB-202-02

Shipping information: Box number 2 of 6

Report Tier Levels - please select
Tier I - Results (Default if not specified) _____
Tier II (Results + QC Summaries) _____
Tier III (Results + QC & Calibration Summaries) _____
Tier IV (Data Validation Package) X

EDD required: **Yes**
Type: ERPIMS / EQuIS

Chain of Custody Seal: (Circle)
INTACT BROKEN ABSENT

Project Requirements: QAPP

Relinquished by: (Signature)	Date: 4/16/20	Time: 1100	Received by: (Signature)	Date: 4/20/20	Time: 1220	
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	Cooler / Blank Temperature NA °C

Air - Chain of Custody Record & Analytical Service Request

Page 2 of 2

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

COC #: COC-SV202-08

Requested Turnaround Time in Business Days: 10 Day-Standard

ALS Project No: R2002104

Company Name & Address (Reporting Information): EA Engineering, Science, and Technology, Inc., PBC, 225 Schilling Circle Suite 400, Hunt Valley, MD (410) 584-7000

Project Name: Kirtland AFB Bulk Fuels Faciltiy

Project Number: 62735DM02

Project Manager / Project Chemist: Bernie Bockish (505) 234-1105 / Pam Moss (303) 590-9143

P.O. # / Billing Information: 17682

Email Address for Result Reporting: Tara Lamond: tlamond@eaest.com; Amanda Smith: asmith@eaest.com; Pam Moss: pmoss@eaest.com

Sampler (Print & Sign): Ryan Wortman

ALS Contact: Kate Kaneko 1 (805) 577-2089

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg	Sample Volume	Analysis Method: TO-15 Project Specific List	Comments e.g. Actual Preservative or specific instructions
SV120-150-202		4/14/2020	0837	1SC00441	NA	-26.0	-1.0	1L	X	None
SV120-250-202		4/14/2020	0842	1SC00530	NA	-24.0	-2.0	1L	X	None
SV120-350-202		4/14/2020	0845	1SC00526	NA	-26.0	-3.0	1L	X	None
SV120-450-202		4/14/2020	0855	1SS00767	NA	-26.0	-3.5	1L	X	None
SV121-025-202		4/14/2020	0938	1SC00763	NA	-26.5	-5.0	1L	X	None
SV121-050-202		4/14/2020	0942	1SC00206	NA	-26.0	-2.5	1L	X	None
SV121-145-602		4/14/2020	0946	1SS01023	AVG05050	-24.5	0.0	1L	X	None
SV121-145-202		4/14/2020	0946	1SC01200	NA	-27.0	-3.0	1L	X	None
SV121-250-202		4/14/2020	0953	1SC00218	NA	-25.0	-3.5	1L	X	None
SV121-350-202		4/14/2020	0956	1SC00125	NA	-24.0	-1.0	1L	X	None

FedEX Tracking Number: 1028 3396 7666

Associated with Trip blank: SVTB-202-02

Shipping information: Box number 2 of 6

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____ Tier III (Results + QC & Calibration Summaries) ____
Tier II (Results + QC Summaries) ____ Tier IV (Data Validation Package) X

EDD required: Yes
Type: ERPIMS / EQuIS

Chain of Custody Seal: (Circle) (INTACT) BROKEN ABSENT

Project Requirements: QAPP

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
	4/16/20	1100		4/20/20	1220
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Cooler / Blank Temperature NA °C

ALS Environmental

Sample Acceptance Check Form

Client: EA Engineering, Science, and Technology, Inc. Work order: P2002104

Project: Kirtland AFB Bulk Fuels Facility / 62735DM02

Sample(s) received on: 04/16/20 Date opened: 04/16/20 by: ADAVID

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☒	☐	☐
	Location of seal(s)? _____ Sealing Lid?	☒	☐	☐
	Were signature and date included?	☒	☐	☐
	Were seals intact?	☒	☐	☐
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2002104-001.01	1.0 L Source Can					
P2002104-002.01	1.0 L Source Silonite Canister					
P2002104-003.01	1.0 L Source Can					
P2002104-004.01	1.0 L Source Silonite Canister					
P2002104-005.01	1.0 L Source Can					
P2002104-006.01	1.0 L Source Can					
P2002104-007.01	1.0 L Source Can					
P2002104-008.01	1.0 L Source Silonite Canister					
P2002104-009.01	1.0 L Source Can					
P2002104-010.01	1.0 L Source Can					
P2002104-011.01	1.0 L Source Can					
P2002104-012.01	1.0 L Source Can					
P2002104-013.01	1.0 L Source Can					
P2002104-014.01	1.0 L Source Silonite Canister					
P2002104-015.01	1.0 L Source Can					

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS Environmental

Sample Acceptance Check Form

Client: EA Engineering, Science, and Technology, Inc. Work order: P2002104

Project: Kirtland AFB Bulk Fuels Facility / 62735DM02

Sample(s) received on: 04/16/20 Date opened: 04/16/20 by: ADAVID

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2002104-016.01	1.0 L Source Can					
P2002104-017.01	1.0 L Source Silonite Canister					
P2002104-018.01	1.0 L Source Can					
P2002104-019.01	1.0 L Source Can					
P2002104-020.01	1.0 L Source Can					

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV115-025-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-001

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00316

Initial Pressure (psig): -2.84 Final Pressure (psig): 6.30

Container Dilution Factor: 1.77

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.61**		1.4	0.82	0.33	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.49**		0.47	0.29	0.078	
74-87-3	Chloromethane	**0.36**		1.1	0.69	0.18	**J**
75-01-4	Vinyl Chloride		0.29	0.94	0.29	0.099	**U**
106-99-0	1,3-Butadiene		0.64	1.1	0.64	0.18	**U**
75-00-3	Chloroethane		0.54	0.91	0.54	0.11	**U**
64-17-5	Ethanol	**2.8**		12	1.9	0.87	**J**
67-64-1	Acetone	**10**		9.9	5.0	2.2	
75-69-4	Trichlorofluoromethane	**0.22**		0.42	0.25	0.064	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.41**		3.8	1.1	0.40	**J**
75-09-2	Methylene Chloride		0.41	0.68	0.41	0.19	**U**
76-13-1	Trichlorotrifluoroethane	**0.069**		0.31	0.098	0.044	**J**
75-15-0	Carbon Disulfide		0.77	1.6	0.77	0.23	**U**
75-34-3	1,1-Dichloroethane		0.36	0.60	0.36	0.085	**U**
78-93-3	2-Butanone (MEK)	**1.5**		1.7	0.48	0.17	**J**
141-78-6	Ethyl Acetate		0.80	1.4	0.80	0.34	**U**
110-54-3	n-Hexane	**0.86**		0.68	0.40	0.14	
67-66-3	Chloroform	**0.15**		0.49	0.15	0.064	**J**
109-99-9	Tetrahydrofuran (THF)	**0.22**		0.83	0.26	0.10	**J**
107-06-2	1,2-Dichloroethane		0.19	0.59	0.19	0.065	**U**
71-43-2	Benzene		0.24	0.73	0.24	0.11	**U**
56-23-5	Carbon Tetrachloride	**0.33**		0.37	0.12	0.052	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV115-025-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-001

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00316

Initial Pressure (psig): -2.84 Final Pressure (psig): 6.30

Container Dilution Factor: 1.77

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**1.1**	1.4	0.44	0.19	**J**
75-27-4	Bromodichloromethane	0.11	0.36	0.11	0.051	**U**
79-01-6	Trichloroethene	0.14	0.44	0.14	0.059	**U**
123-91-1	1,4-Dioxane	**0.61**	0.66	0.21	0.077	**J**
142-82-5	n-Heptane	**1.5**	0.58	0.35	0.092	
108-10-1	4-Methyl-2-pentanone	**0.13**	0.57	0.18	0.079	**J**
108-88-3	Toluene	**0.22**	0.63	0.20	0.076	**J**
591-78-6	2-Hexanone	**0.47**	0.58	0.18	0.071	**J**
124-48-1	Dibromochloromethane	0.088	0.28	0.088	0.036	**U**
106-93-4	1,2-Dibromoethane	0.098	0.31	0.098	0.036	**U**
127-18-4	Tetrachloroethene	**0.16**	0.34	0.11	0.045	**J**
100-41-4	Ethylbenzene	0.17	0.55	0.17	0.076	**U**
179601-23-1	m,p-Xylenes	0.35	1.1	0.35	0.14	**U**
75-25-2	Bromoform	0.14	0.23	0.14	0.047	**U**
100-42-5	Styrene	0.33	0.55	0.33	0.089	**U**
95-47-6	o-Xylene	0.17	0.55	0.17	0.078	**U**
108-67-8	1,3,5-Trimethylbenzene	0.15	0.48	0.15	0.069	**U**
95-63-6	1,2,4-Trimethylbenzene	0.15	0.49	0.15	0.067	**U**
120-82-1	1,2,4-Trichlorobenzene	0.19	0.32	0.19	0.078	**U**
91-20-3	Naphthalene	0.26	0.44	0.26	0.11	**U**
1330-20-7	Xylenes, Total	0.35	1.1	0.35	0.14	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV115-025-602** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-002

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00072

Initial Pressure (psig): -4.20 Final Pressure (psig): 6.03

Container Dilution Factor: 1.97

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.92	1.5	0.92	0.37	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.49**	0.53	0.32	0.087	**J**
74-87-3	Chloromethane	0.76	1.3	0.76	0.21	**U**
75-01-4	Vinyl Chloride	0.33	1.0	0.33	0.11	**U**
106-99-0	1,3-Butadiene	0.71	1.2	0.71	0.20	**U**
75-00-3	Chloroethane	0.60	1.0	0.60	0.12	**U**
64-17-5	Ethanol	**2.6**	14	2.2	0.97	**J**
67-64-1	Acetone	**4.1**	11	5.6	2.5	**J**
75-69-4	Trichlorofluoromethane	**0.21**	0.46	0.28	0.071	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.3	4.2	1.3	0.44	**U**
75-09-2	Methylene Chloride	0.45	0.75	0.45	0.21	**U**
76-13-1	Trichlorotrifluoroethane	**0.071**	0.35	0.11	0.049	**J**
75-15-0	Carbon Disulfide	**0.58**	1.7	0.85	0.25	**J**
75-34-3	1,1-Dichloroethane	0.40	0.67	0.40	0.095	**U**
78-93-3	2-Butanone (MEK)	**0.54**	1.8	0.53	0.18	**J**
141-78-6	Ethyl Acetate	0.89	1.5	0.89	0.38	**U**
110-54-3	n-Hexane	**1.4**	0.75	0.45	0.15	
67-66-3	Chloroform	**0.14**	0.54	0.17	0.072	**J**
109-99-9	Tetrahydrofuran (THF)	**0.29**	0.92	0.28	0.11	**J**
107-06-2	1,2-Dichloroethane	0.21	0.66	0.21	0.072	**U**
71-43-2	Benzene	**0.15**	0.82	0.26	0.12	**J**
56-23-5	Carbon Tetrachloride	**0.33**	0.42	0.13	0.058	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV115-025-602** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-002

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00072

Initial Pressure (psig): -4.20 Final Pressure (psig): 6.03

Container Dilution Factor: 1.97

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**1.5**	1.6	0.49	0.21	**J**
75-27-4	Bromodichloromethane	0.13	0.40	0.13	0.057	**U**
79-01-6	Trichloroethene	0.16	0.50	0.16	0.066	**U**
123-91-1	1,4-Dioxane	0.23	0.74	0.23	0.086	**U**
142-82-5	n-Heptane	**2.4**	0.65	0.38	0.10	
108-10-1	4-Methyl-2-pentanone	**0.10**	0.64	0.20	0.088	**J**
108-88-3	Toluene	**0.33**	0.71	0.22	0.085	**J**
591-78-6	2-Hexanone	0.20	0.65	0.20	0.079	**U**
124-48-1	Dibromochloromethane	0.098	0.31	0.098	0.040	**U**
106-93-4	1,2-Dibromoethane	0.11	0.35	0.11	0.040	**U**
127-18-4	Tetrachloroethene	**0.12**	0.38	0.12	0.050	**J**
100-41-4	Ethylbenzene	0.19	0.61	0.19	0.085	**U**
179601-23-1	m,p-Xylenes	**0.19**	1.2	0.39	0.16	**J**
75-25-2	Bromoform	0.15	0.26	0.15	0.052	**U**
100-42-5	Styrene	0.37	0.61	0.37	0.10	**U**
95-47-6	o-Xylene	0.19	0.61	0.19	0.087	**U**
108-67-8	1,3,5-Trimethylbenzene	0.17	0.53	0.17	0.077	**U**
95-63-6	1,2,4-Trimethylbenzene	0.17	0.54	0.17	0.074	**U**
120-82-1	1,2,4-Trichlorobenzene	0.21	0.36	0.21	0.086	**U**
91-20-3	Naphthalene	0.29	0.49	0.29	0.12	**U**
1330-20-7	Xylenes, Total	**0.19**	1.2	0.39	0.16	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV115-050-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-003

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00724

Initial Pressure (psig): -2.15 Final Pressure (psig): 5.74

Container Dilution Factor: 1.63

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.83**	1.3	0.76	0.31	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.48**	0.44	0.26	0.072	
74-87-3	Chloromethane	0.63	1.0	0.63	0.17	**U**
75-01-4	Vinyl Chloride	0.27	0.86	0.27	0.091	**U**
106-99-0	1,3-Butadiene	0.59	0.98	0.59	0.16	**U**
75-00-3	Chloroethane	**0.11**	0.83	0.49	0.10	**J**
64-17-5	Ethanol	**1.9**	11	1.8	0.80	**J**
67-64-1	Acetone	**7.8**	9.1	4.6	2.1	**J**
75-69-4	Trichlorofluoromethane	**0.21**	0.38	0.23	0.059	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.43**	3.5	1.0	0.36	**J**
75-09-2	Methylene Chloride	0.38	0.62	0.38	0.18	**U**
76-13-1	Trichlorotrifluoroethane	**0.070**	0.29	0.090	0.040	**J**
75-15-0	Carbon Disulfide	**0.47**	1.4	0.71	0.21	**J**
75-34-3	1,1-Dichloroethane	0.33	0.55	0.33	0.079	**U**
78-93-3	2-Butanone (MEK)	**2.6**	1.5	0.44	0.15	
141-78-6	Ethyl Acetate	0.74	1.2	0.74	0.32	**U**
110-54-3	n-Hexane	**0.23**	0.62	0.37	0.13	**J**
67-66-3	Chloroform	**0.25**	0.45	0.14	0.059	**J**
109-99-9	Tetrahydrofuran (THF)	**10**	0.76	0.23	0.093	
107-06-2	1,2-Dichloroethane	0.17	0.54	0.17	0.059	**U**
71-43-2	Benzene	0.22	0.68	0.22	0.098	**U**
56-23-5	Carbon Tetrachloride	**0.50**	0.34	0.11	0.048	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV115-050-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-003

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00724

Initial Pressure (psig): -2.15 Final Pressure (psig): 5.74

Container Dilution Factor: 1.63

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.40	1.3	0.40	0.18	**U**
75-27-4	Bromodichloromethane	0.10	0.33	0.10	0.047	**U**
79-01-6	Trichloroethene	0.13	0.41	0.13	0.055	**U**
123-91-1	1,4-Dioxane	**0.14**	0.61	0.19	0.071	**J**
142-82-5	n-Heptane	**0.32**	0.54	0.32	0.085	**J**
108-10-1	4-Methyl-2-pentanone	**0.24**	0.53	0.17	0.073	**J**
108-88-3	Toluene	**0.11**	0.58	0.18	0.070	**J**
591-78-6	2-Hexanone	**0.50**	0.54	0.17	0.066	**J**
124-48-1	Dibromochloromethane	0.081	0.26	0.081	0.033	**U**
106-93-4	1,2-Dibromoethane	0.090	0.29	0.090	0.033	**U**
127-18-4	Tetrachloroethene	**0.11**	0.31	0.10	0.041	**J**
100-41-4	Ethylbenzene	0.16	0.51	0.16	0.070	**U**
179601-23-1	m,p-Xylenes	0.32	1.0	0.32	0.13	**U**
75-25-2	Bromoform	0.13	0.21	0.13	0.043	**U**
100-42-5	Styrene	0.31	0.51	0.31	0.082	**U**
95-47-6	o-Xylene	0.16	0.51	0.16	0.072	**U**
108-67-8	1,3,5-Trimethylbenzene	0.14	0.44	0.14	0.064	**U**
95-63-6	1,2,4-Trimethylbenzene	0.14	0.45	0.14	0.061	**U**
120-82-1	1,2,4-Trichlorobenzene	**0.29**	0.30	0.18	0.071	**J**
91-20-3	Naphthalene	**0.41**	0.40	0.24	0.10	
1330-20-7	Xylenes, Total	0.32	1.0	0.32	0.13	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV115-150-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-004

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00159

Initial Pressure (psig): -3.65 Final Pressure (psig): 5.53

Container Dilution Factor: 1.83

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.85	1.4	0.85	0.35	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.25**	0.49	0.30	0.081	**J**
74-87-3	Chloromethane	0.71	1.2	0.71	0.19	**U**
75-01-4	Vinyl Chloride	0.30	0.97	0.30	0.10	**U**
106-99-0	1,3-Butadiene	0.66	1.1	0.66	0.18	**U**
75-00-3	Chloroethane	0.56	0.94	0.56	0.11	**U**
64-17-5	Ethanol	**1.7**	13	2.0	0.90	**J**
67-64-1	Acetone	5.2	10	5.2	2.3	**U**
75-69-4	Trichlorofluoromethane	**0.21**	0.43	0.26	0.066	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.2	3.9	1.2	0.41	**U**
75-09-2	Methylene Chloride	0.42	0.70	0.42	0.20	**U**
76-13-1	Trichlorotrifluoroethane	**0.11**	0.32	0.10	0.045	**J**
75-15-0	Carbon Disulfide	**1.9**	1.6	0.79	0.24	
75-34-3	1,1-Dichloroethane	0.37	0.62	0.37	0.088	**U**
78-93-3	2-Butanone (MEK)	**0.22**	1.7	0.50	0.17	**J**
141-78-6	Ethyl Acetate	0.83	1.4	0.83	0.36	**U**
110-54-3	n-Hexane	**0.19**	0.70	0.42	0.14	**J**
67-66-3	Chloroform	**0.26**	0.51	0.16	0.067	**J**
109-99-9	Tetrahydrofuran (THF)	**2.8**	0.85	0.26	0.10	
107-06-2	1,2-Dichloroethane	0.19	0.61	0.19	0.067	**U**
71-43-2	Benzene	**0.20**	0.76	0.24	0.11	**J**
56-23-5	Carbon Tetrachloride	**1.2**	0.39	0.12	0.054	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV115-150-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-004

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00159

Initial Pressure (psig): -3.65 Final Pressure (psig): 5.53

Container Dilution Factor: 1.83

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**0.36**	1.5	0.45	0.20	**J**
75-27-4	Bromodichloromethane	0.12	0.37	0.12	0.053	**U**
79-01-6	Trichloroethene	**0.11**	0.46	0.14	0.061	**J**
123-91-1	1,4-Dioxane	0.22	0.69	0.22	0.080	**U**
142-82-5	n-Heptane	**0.56**	0.60	0.36	0.095	**J**
108-10-1	4-Methyl-2-pentanone	0.19	0.59	0.19	0.082	**U**
108-88-3	Toluene	**0.14**	0.66	0.21	0.079	**J**
591-78-6	2-Hexanone	0.19	0.60	0.19	0.074	**U**
124-48-1	Dibromochloromethane	0.091	0.29	0.091	0.038	**U**
106-93-4	1,2-Dibromoethane	0.10	0.32	0.10	0.037	**U**
127-18-4	Tetrachloroethene	**0.20**	0.35	0.11	0.047	**J**
100-41-4	Ethylbenzene	0.18	0.57	0.18	0.079	**U**
179601-23-1	m,p-Xylenes	0.36	1.2	0.36	0.15	**U**
75-25-2	Bromoform	0.14	0.24	0.14	0.049	**U**
100-42-5	Styrene	0.34	0.57	0.34	0.092	**U**
95-47-6	o-Xylene	0.18	0.57	0.18	0.081	**U**
108-67-8	1,3,5-Trimethylbenzene	0.16	0.49	0.16	0.072	**U**
95-63-6	1,2,4-Trimethylbenzene	0.16	0.50	0.16	0.069	**U**
120-82-1	1,2,4-Trichlorobenzene	0.20	0.33	0.20	0.080	**U**
91-20-3	Naphthalene	0.27	0.45	0.27	0.11	**U**
1330-20-7	Xylenes, Total	0.36	1.2	0.36	0.15	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV115-250-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-005

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01243

Initial Pressure (psig): -4.37 Final Pressure (psig): 6.23

Container Dilution Factor: 2.03

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.94	1.6	0.94	0.38	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.13**	0.54	0.33	0.089	**J**
74-87-3	Chloromethane	0.79	1.3	0.79	0.21	**U**
75-01-4	Vinyl Chloride	0.34	1.1	0.34	0.11	**U**
106-99-0	1,3-Butadiene	0.73	1.2	0.73	0.20	**U**
75-00-3	Chloroethane	0.62	1.0	0.62	0.13	**U**
64-17-5	Ethanol	**1.4**	14	2.2	1.0	**J**
67-64-1	Acetone	5.8	11	5.8	2.6	**U**
75-69-4	Trichlorofluoromethane	**0.13**	0.48	0.29	0.073	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.3	4.3	1.3	0.45	**U**
75-09-2	Methylene Chloride	0.47	0.77	0.47	0.22	**U**
76-13-1	Trichlorotrifluoroethane	**0.12**	0.36	0.11	0.050	**J**
75-15-0	Carbon Disulfide	0.88	1.8	0.88	0.26	**U**
75-34-3	1,1-Dichloroethane	0.41	0.69	0.41	0.098	**U**
78-93-3	2-Butanone (MEK)	**0.43**	1.9	0.55	0.19	**J**
141-78-6	Ethyl Acetate	**0.40**	1.5	0.92	0.39	**J**
110-54-3	n-Hexane	**0.18**	0.78	0.46	0.16	**J**
67-66-3	Chloroform	0.18	0.56	0.18	0.074	**U**
109-99-9	Tetrahydrofuran (THF)	**0.27**	0.95	0.29	0.12	**J**
107-06-2	1,2-Dichloroethane	0.21	0.68	0.21	0.074	**U**
71-43-2	Benzene	**0.14**	0.84	0.27	0.12	**J**
56-23-5	Carbon Tetrachloride	**0.14**	0.43	0.14	0.060	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV115-250-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-005

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01243

Initial Pressure (psig): -4.37 Final Pressure (psig): 6.23

Container Dilution Factor: 2.03

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.50	1.6	0.50	0.22	**U**
75-27-4	Bromodichloromethane	0.13	0.41	0.13	0.058	**U**
79-01-6	Trichloroethene	**0.15**	0.51	0.16	0.068	**J**
123-91-1	1,4-Dioxane	0.24	0.76	0.24	0.089	**U**
142-82-5	n-Heptane	**0.20**	0.67	0.40	0.11	**J**
108-10-1	4-Methyl-2-pentanone	0.21	0.66	0.21	0.090	**U**
108-88-3	Toluene	**0.13**	0.73	0.23	0.088	**J**
591-78-6	2-Hexanone	0.21	0.67	0.21	0.082	**U**
124-48-1	Dibromochloromethane	0.10	0.32	0.10	0.042	**U**
106-93-4	1,2-Dibromoethane	0.11	0.36	0.11	0.041	**U**
127-18-4	Tetrachloroethene	0.13	0.39	0.13	0.052	**U**
100-41-4	Ethylbenzene	0.20	0.63	0.20	0.088	**U**
179601-23-1	m,p-Xylenes	0.40	1.3	0.40	0.16	**U**
75-25-2	Bromoform	0.16	0.27	0.16	0.054	**U**
100-42-5	Styrene	0.38	0.63	0.38	0.10	**U**
95-47-6	o-Xylene	0.20	0.63	0.20	0.090	**U**
108-67-8	1,3,5-Trimethylbenzene	0.18	0.55	0.18	0.080	**U**
95-63-6	1,2,4-Trimethylbenzene	0.18	0.56	0.18	0.076	**U**
120-82-1	1,2,4-Trichlorobenzene	0.22	0.37	0.22	0.089	**U**
91-20-3	Naphthalene	0.30	0.50	0.30	0.13	**U**
1330-20-7	Xylenes, Total	0.40	1.3	0.40	0.16	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV115-350-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-006

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00213

Initial Pressure (psig): -2.58 Final Pressure (psig): 6.67

Container Dilution Factor: 1.76

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.79**		1.4	0.82	0.33	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)		0.28	0.47	0.28	0.077	**U**
74-87-3	Chloromethane	**0.27**		1.1	0.68	0.18	**J**
75-01-4	Vinyl Chloride		0.29	0.93	0.29	0.098	**U**
106-99-0	1,3-Butadiene		0.64	1.1	0.64	0.18	**U**
75-00-3	Chloroethane		0.53	0.90	0.53	0.11	**U**
64-17-5	Ethanol	**4.4**		12	1.9	0.86	**J**
67-64-1	Acetone	**7.5**		9.8	5.0	2.2	**J**
75-69-4	Trichlorofluoromethane		0.25	0.42	0.25	0.063	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.83**		3.8	1.1	0.39	**J**
75-09-2	Methylene Chloride		0.41	0.67	0.41	0.19	**U**
76-13-1	Trichlorotrifluoroethane		0.098	0.31	0.098	0.044	**U**
75-15-0	Carbon Disulfide	**3.6**		1.6	0.76	0.23	
75-34-3	1,1-Dichloroethane		0.36	0.60	0.36	0.085	**U**
78-93-3	2-Butanone (MEK)	**1.1**		1.6	0.48	0.16	**J**
141-78-6	Ethyl Acetate	**5.9**		1.3	0.79	0.34	
110-54-3	n-Hexane	**0.29**		0.67	0.40	0.14	**J**
67-66-3	Chloroform	**0.066**		0.49	0.15	0.064	**J**
109-99-9	Tetrahydrofuran (THF)	**7.5**		0.82	0.25	0.10	
107-06-2	1,2-Dichloroethane		0.18	0.59	0.18	0.064	**U**
71-43-2	Benzene	**0.27**		0.73	0.23	0.11	**J**
56-23-5	Carbon Tetrachloride		0.12	0.37	0.12	0.052	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV115-350-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-006

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00213

Initial Pressure (psig): -2.58 Final Pressure (psig): 6.67

Container Dilution Factor: 1.76

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**0.34**	1.4	0.43	0.19	**J**
75-27-4	Bromodichloromethane	0.11	0.35	0.11	0.051	**U**
79-01-6	Trichloroethene	**2.4**	0.44	0.14	0.059	
123-91-1	1,4-Dioxane	0.21	0.66	0.21	0.077	**U**
142-82-5	n-Heptane	**0.20**	0.58	0.34	0.091	**J**
108-10-1	4-Methyl-2-pentanone	0.18	0.57	0.18	0.078	**U**
108-88-3	Toluene	**0.96**	0.63	0.20	0.076	
591-78-6	2-Hexanone	**0.14**	0.58	0.18	0.071	**J**
124-48-1	Dibromochloromethane	0.088	0.28	0.088	0.036	**U**
106-93-4	1,2-Dibromoethane	0.097	0.31	0.097	0.036	**U**
127-18-4	Tetrachloroethene	0.11	0.34	0.11	0.045	**U**
100-41-4	Ethylbenzene	0.17	0.55	0.17	0.076	**U**
179601-23-1	m,p-Xylenes	0.34	1.1	0.34	0.14	**U**
75-25-2	Bromoform	0.14	0.23	0.14	0.047	**U**
100-42-5	Styrene	0.33	0.55	0.33	0.089	**U**
95-47-6	o-Xylene	0.17	0.55	0.17	0.078	**U**
108-67-8	1,3,5-Trimethylbenzene	0.15	0.47	0.15	0.069	**U**
95-63-6	1,2,4-Trimethylbenzene	0.15	0.48	0.15	0.066	**U**
120-82-1	1,2,4-Trichlorobenzene	0.19	0.32	0.19	0.077	**U**
91-20-3	Naphthalene	0.26	0.44	0.26	0.11	**U**
1330-20-7	Xylenes, Total	0.34	1.1	0.34	0.14	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV115-450-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-007

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0015 Liter(s)
Test Notes:
Container ID: 1SC00610

Initial Pressure (psig): -2.61 Final Pressure (psig): 5.99

Container Dilution Factor: 1.71

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**310**	350	210	86	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	74	120	74	20	**U**
74-87-3	Chloromethane	180	290	180	47	**U**
75-01-4	Vinyl Chloride	76	240	76	25	**U**
106-99-0	1,3-Butadiene	160	270	160	45	**U**
75-00-3	Chloroethane	140	230	140	29	**U**
64-17-5	Ethanol	500	3,100	500	220	**U**
67-64-1	Acetone	1,300	2,500	1,300	580	**U**
75-69-4	Trichlorofluoromethane	65	110	65	16	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	290	970	290	100	**U**
75-09-2	Methylene Chloride	110	170	110	49	**U**
76-13-1	Trichlorotrifluoroethane	25	80	25	11	**U**
75-15-0	Carbon Disulfide	200	400	200	59	**U**
75-34-3	1,1-Dichloroethane	93	150	93	22	**U**
78-93-3	2-Butanone (MEK)	120	430	120	43	**U**
141-78-6	Ethyl Acetate	210	350	210	89	**U**
110-54-3	n-Hexane	**450**	170	100	36	
67-66-3	Chloroform	40	130	40	17	**U**
109-99-9	Tetrahydrofuran (THF)	66	210	66	26	**U**
107-06-2	1,2-Dichloroethane	48	150	48	17	**U**
71-43-2	Benzene	**1,200**	190	61	27	
56-23-5	Carbon Tetrachloride	31	96	31	13	**U**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV115-450-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-007

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0015 Liter(s)
Test Notes:
Container ID: 1SC00610

Initial Pressure (psig): -2.61 Final Pressure (psig): 5.99

Container Dilution Factor: 1.71

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**1,100**	360	110	50	
75-27-4	Bromodichloromethane	29	92	29	13	**U**
79-01-6	Trichloroethene	36	110	36	15	**U**
123-91-1	1,4-Dioxane	54	170	54	20	**U**
142-82-5	n-Heptane	**45**	150	89	24	**J**
108-10-1	4-Methyl-2-pentanone	47	150	47	20	**U**
108-88-3	Toluene	**1,600**	160	51	20	
591-78-6	2-Hexanone	47	150	47	18	**U**
124-48-1	Dibromochloromethane	23	72	23	9.4	**U**
106-93-4	1,2-Dibromoethane	25	80	25	9.2	**U**
127-18-4	Tetrachloroethene	29	87	29	12	**U**
100-41-4	Ethylbenzene	**53**	140	45	20	**J**
179601-23-1	m,p-Xylenes	**140**	290	89	37	**J**
75-25-2	Bromoform	35	60	35	12	**U**
100-42-5	Styrene	86	140	86	23	**U**
95-47-6	o-Xylene	**63**	140	45	20	**J**
108-67-8	1,3,5-Trimethylbenzene	39	120	39	18	**U**
95-63-6	1,2,4-Trimethylbenzene	39	130	39	17	**U**
120-82-1	1,2,4-Trichlorobenzene	49	83	49	20	**U**
91-20-3	Naphthalene	67	110	67	28	**U**
1330-20-7	Xylenes, Total	**210**	290	89	37	**J**

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV120-025-602** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-008

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00161

Initial Pressure (psig): -4.45 Final Pressure (psig): 6.01

Container Dilution Factor: 2.02

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**1.9**	1.6	0.94	0.38	
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.60**	0.54	0.33	0.089	
74-87-3	Chloromethane	0.78	1.3	0.78	0.21	**U**
75-01-4	Vinyl Chloride	0.34	1.1	0.34	0.11	**U**
106-99-0	1,3-Butadiene	0.73	1.2	0.73	0.20	**U**
75-00-3	Chloroethane	0.61	1.0	0.61	0.13	**U**
64-17-5	Ethanol	**3.7**	14	2.2	0.99	**J**
67-64-1	Acetone	**9.2**	11	5.7	2.6	**J**
75-69-4	Trichlorofluoromethane	**0.22**	0.48	0.29	0.073	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**4.8**	4.3	1.3	0.45	
75-09-2	Methylene Chloride	0.47	0.77	0.47	0.22	**U**
76-13-1	Trichlorotrifluoroethane	**0.061**	0.36	0.11	0.050	**J**
75-15-0	Carbon Disulfide	**0.69**	1.8	0.88	0.26	**J**
75-34-3	1,1-Dichloroethane	0.41	0.69	0.41	0.097	**U**
78-93-3	2-Butanone (MEK)	**0.56**	1.9	0.55	0.19	**J**
141-78-6	Ethyl Acetate	0.91	1.5	0.91	0.39	**U**
110-54-3	n-Hexane	0.46	0.77	0.46	0.16	**U**
67-66-3	Chloroform	**43**	0.56	0.18	0.073	
109-99-9	Tetrahydrofuran (THF)	**0.31**	0.94	0.29	0.11	**J**
107-06-2	1,2-Dichloroethane	0.21	0.67	0.21	0.074	**U**
71-43-2	Benzene	**0.28**	0.84	0.27	0.12	**J**
56-23-5	Carbon Tetrachloride	**0.30**	0.43	0.14	0.059	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV120-025-602** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-008

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00161

Initial Pressure (psig): -4.45 Final Pressure (psig): 6.01

Container Dilution Factor: 2.02

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.50	1.6	0.50	0.22	**U**
75-27-4	Bromodichloromethane	**8.0**	0.41	0.13	0.058	
79-01-6	Trichloroethene	**0.15**	0.51	0.16	0.068	**J**
123-91-1	1,4-Dioxane	0.24	0.76	0.24	0.088	**U**
142-82-5	n-Heptane	**0.40**	0.67	0.39	0.10	**J**
108-10-1	4-Methyl-2-pentanone	0.21	0.65	0.21	0.090	**U**
108-88-3	Toluene	**2.2**	0.72	0.23	0.087	
591-78-6	2-Hexanone	**0.17**	0.67	0.21	0.081	**J**
124-48-1	Dibromochloromethane	**0.19**	0.32	0.10	0.042	**J**
106-93-4	1,2-Dibromoethane	0.11	0.35	0.11	0.041	**U**
127-18-4	Tetrachloroethene	**0.34**	0.39	0.13	0.051	**J**
100-41-4	Ethylbenzene	**0.45**	0.63	0.20	0.087	**J**
179601-23-1	m,p-Xylenes	**1.7**	1.3	0.40	0.16	
75-25-2	Bromoform	0.16	0.26	0.16	0.054	**U**
100-42-5	Styrene	0.38	0.63	0.38	0.10	**U**
95-47-6	o-Xylene	**0.71**	0.63	0.20	0.090	
108-67-8	1,3,5-Trimethylbenzene	**0.29**	0.54	0.17	0.079	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.62**	0.55	0.17	0.076	
120-82-1	1,2,4-Trichlorobenzene	0.22	0.37	0.22	0.088	**U**
91-20-3	Naphthalene	**0.33**	0.50	0.30	0.13	**J**
1330-20-7	Xylenes, Total	**2.4**	1.3	0.40	0.16	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV120-025-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-009

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01209

Initial Pressure (psig): -2.19 Final Pressure (psig): 5.42

Container Dilution Factor: 1.61

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**1.0**	1.2	0.75	0.30	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.51**	0.43	0.26	0.071	
74-87-3	Chloromethane	0.62	1.0	0.62	0.17	**U**
75-01-4	Vinyl Chloride	0.27	0.85	0.27	0.090	**U**
106-99-0	1,3-Butadiene	0.58	0.96	0.58	0.16	**U**
75-00-3	Chloroethane	0.49	0.82	0.49	0.10	**U**
64-17-5	Ethanol	**2.5**	11	1.8	0.79	**J**
67-64-1	Acetone	**3.3**	9.0	4.6	2.0	**J**
75-69-4	Trichlorofluoromethane	**0.19**	0.38	0.23	0.058	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**2.4**	3.4	1.0	0.36	**J**
75-09-2	Methylene Chloride	0.37	0.61	0.37	0.17	**U**
76-13-1	Trichlorotrifluoroethane	**0.051**	0.28	0.089	0.040	**J**
75-15-0	Carbon Disulfide	0.70	1.4	0.70	0.21	**U**
75-34-3	1,1-Dichloroethane	0.33	0.55	0.33	0.078	**U**
78-93-3	2-Butanone (MEK)	**0.34**	1.5	0.44	0.15	**J**
141-78-6	Ethyl Acetate	0.73	1.2	0.73	0.31	**U**
110-54-3	n-Hexane	0.37	0.62	0.37	0.13	**U**
67-66-3	Chloroform	**35**	0.45	0.14	0.059	
109-99-9	Tetrahydrofuran (THF)	**0.13**	0.75	0.23	0.091	**J**
107-06-2	1,2-Dichloroethane	0.17	0.54	0.17	0.059	**U**
71-43-2	Benzene	**0.13**	0.67	0.21	0.097	**J**
56-23-5	Carbon Tetrachloride	**0.24**	0.34	0.11	0.047	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV120-025-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-009

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01209

Initial Pressure (psig): -2.19 Final Pressure (psig): 5.42

Container Dilution Factor: 1.61

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.40	1.3	0.40	0.18	**U**
75-27-4	Bromodichloromethane	**6.6**	0.32	0.10	0.046	
79-01-6	Trichloroethene	**0.18**	0.40	0.13	0.054	**J**
123-91-1	1,4-Dioxane	**0.11**	0.60	0.19	0.070	**J**
142-82-5	n-Heptane	**0.19**	0.53	0.31	0.084	**J**
108-10-1	4-Methyl-2-pentanone	0.17	0.52	0.17	0.072	**U**
108-88-3	Toluene	**1.4**	0.58	0.18	0.069	
591-78-6	2-Hexanone	**0.12**	0.53	0.17	0.065	**J**
124-48-1	Dibromochloromethane	**0.16**	0.26	0.080	0.033	**J**
106-93-4	1,2-Dibromoethane	**0.042**	0.28	0.089	0.032	**J**
127-18-4	Tetrachloroethene	**0.31**	0.31	0.10	0.041	
100-41-4	Ethylbenzene	**0.32**	0.50	0.16	0.070	**J**
179601-23-1	m,p-Xylenes	**1.1**	1.0	0.32	0.13	
75-25-2	Bromoform	0.12	0.21	0.12	0.043	**U**
100-42-5	Styrene	0.30	0.50	0.30	0.081	**U**
95-47-6	o-Xylene	**0.50**	0.50	0.16	0.071	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.21**	0.43	0.14	0.063	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.50**	0.44	0.14	0.061	
120-82-1	1,2,4-Trichlorobenzene	0.17	0.29	0.17	0.071	**U**
91-20-3	Naphthalene	**0.25**	0.40	0.24	0.10	**J**
1330-20-7	Xylenes, Total	**1.6**	1.0	0.32	0.13	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV120-050-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-010

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan/Topacio De Leon Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00959

Initial Pressure (psig): -1.91 Final Pressure (psig): 6.80

Container Dilution Factor: 1.68

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.89**	1.3	0.78	0.32	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.62**	0.45	0.27	0.074	
74-87-3	Chloromethane	**0.18**	1.1	0.65	0.17	**J**
75-01-4	Vinyl Chloride	0.28	0.89	0.28	0.094	**U**
106-99-0	1,3-Butadiene	0.61	1.0	0.61	0.17	**U**
75-00-3	Chloroethane	0.51	0.86	0.51	0.11	**U**
64-17-5	Ethanol	**5.4**	12	1.9	0.83	**J**
67-64-1	Acetone	**13**	9.4	4.8	2.1	
75-69-4	Trichlorofluoromethane	**0.21**	0.40	0.24	0.061	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.2**	3.6	1.1	0.38	**J**
75-09-2	Methylene Chloride	**2.0**	0.64	0.39	0.18	
76-13-1	Trichlorotrifluoroethane	**0.12**	0.30	0.093	0.042	**J**
75-15-0	Carbon Disulfide	**0.58**	1.5	0.73	0.22	**J**
75-34-3	1,1-Dichloroethane	0.34	0.57	0.34	0.081	**U**
78-93-3	2-Butanone (MEK)	**11**	1.6	0.46	0.16	
141-78-6	Ethyl Acetate	**7.9**	1.3	0.76	0.33	
110-54-3	n-Hexane	0.38	0.64	0.38	0.13	**U**
67-66-3	Chloroform	**210**	4.6	1.5	0.61	**D**
109-99-9	Tetrahydrofuran (THF)	**21**	0.78	0.24	0.095	
107-06-2	1,2-Dichloroethane	0.18	0.56	0.18	0.061	**U**
71-43-2	Benzene	0.22	0.70	0.22	0.10	**U**
56-23-5	Carbon Tetrachloride	**3.1**	0.35	0.11	0.049	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV120-050-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-010

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan/Topacio De Leon Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00959

Initial Pressure (psig): -1.91 Final Pressure (psig): 6.80

Container Dilution Factor: 1.68

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.42	1.3	0.42	0.18	**U**
75-27-4	Bromodichloromethane	**57**	3.4	1.1	0.48	**D**
79-01-6	Trichloroethene	**0.85**	0.42	0.13	0.056	
123-91-1	1,4-Dioxane	**0.075**	0.63	0.20	0.073	**J**
142-82-5	n-Heptane	0.33	0.55	0.33	0.087	**U**
108-10-1	4-Methyl-2-pentanone	**0.11**	0.54	0.17	0.075	**J**
108-88-3	Toluene	**0.58**	0.60	0.19	0.072	**J**
591-78-6	2-Hexanone	**0.44**	0.55	0.17	0.068	**J**
124-48-1	Dibromochloromethane	**9.2**	0.27	0.084	0.035	
106-93-4	1,2-Dibromoethane	0.093	0.30	0.093	0.034	**U**
127-18-4	Tetrachloroethene	**1.4**	0.32	0.11	0.043	
100-41-4	Ethylbenzene	0.16	0.52	0.16	0.073	**U**
179601-23-1	m,p-Xylenes	0.33	1.1	0.33	0.14	**U**
75-25-2	Bromoform	0.13	0.22	0.13	0.045	**U**
100-42-5	Styrene	0.32	0.52	0.32	0.085	**U**
95-47-6	o-Xylene	0.16	0.52	0.16	0.074	**U**
108-67-8	1,3,5-Trimethylbenzene	0.15	0.45	0.15	0.066	**U**
95-63-6	1,2,4-Trimethylbenzene	0.15	0.46	0.15	0.063	**U**
120-82-1	1,2,4-Trichlorobenzene	0.18	0.31	0.18	0.074	**U**
91-20-3	Naphthalene	0.25	0.42	0.25	0.10	**U**
1330-20-7	Xylenes, Total	0.33	1.1	0.33	0.14	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV120-150-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-011

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00441

Initial Pressure (psig): -2.19 Final Pressure (psig): 5.57

Container Dilution Factor: 1.62

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**1.5**	1.2	0.75	0.31	
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.9**	0.43	0.26	0.071	
74-87-3	Chloromethane	**0.19**	1.0	0.63	0.17	**J**
75-01-4	Vinyl Chloride	0.27	0.86	0.27	0.090	**U**
106-99-0	1,3-Butadiene	0.59	0.97	0.59	0.16	**U**
75-00-3	Chloroethane	0.49	0.83	0.49	0.10	**U**
64-17-5	Ethanol	**2.5**	11	1.8	0.80	**J**
67-64-1	Acetone	**12**	9.0	4.6	2.0	
75-69-4	Trichlorofluoromethane	**0.20**	0.38	0.23	0.058	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.5**	3.5	1.0	0.36	**J**
75-09-2	Methylene Chloride	0.37	0.62	0.37	0.17	**U**
76-13-1	Trichlorotrifluoroethane	**0.13**	0.29	0.090	0.040	**J**
75-15-0	Carbon Disulfide	**0.46**	1.4	0.70	0.21	**J**
75-34-3	1,1-Dichloroethane	0.33	0.55	0.33	0.078	**U**
78-93-3	2-Butanone (MEK)	**4.1**	1.5	0.44	0.15	
141-78-6	Ethyl Acetate	0.73	1.2	0.73	0.31	**U**
110-54-3	n-Hexane	0.37	0.62	0.37	0.13	**U**
67-66-3	Chloroform	**10**	0.45	0.14	0.059	
109-99-9	Tetrahydrofuran (THF)	**2.2**	0.76	0.23	0.092	
107-06-2	1,2-Dichloroethane	0.17	0.54	0.17	0.059	**U**
71-43-2	Benzene	**0.31**	0.67	0.22	0.098	**J**
56-23-5	Carbon Tetrachloride	**3.5**	0.34	0.11	0.048	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV120-150-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-011

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00441

Initial Pressure (psig): -2.19 Final Pressure (psig): 5.57

Container Dilution Factor: 1.62

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.40	1.3	0.40	0.18	**U**
75-27-4	Bromodichloromethane	**0.70**	0.33	0.10	0.047	
79-01-6	Trichloroethene	0.13	0.41	0.13	0.054	**U**
123-91-1	1,4-Dioxane	0.19	0.61	0.19	0.071	**U**
142-82-5	n-Heptane	0.32	0.53	0.32	0.084	**U**
108-10-1	4-Methyl-2-pentanone	**0.12**	0.52	0.17	0.072	**J**
108-88-3	Toluene	**0.24**	0.58	0.18	0.070	**J**
591-78-6	2-Hexanone	**0.54**	0.53	0.17	0.065	
124-48-1	Dibromochloromethane	0.081	0.26	0.081	0.033	**U**
106-93-4	1,2-Dibromoethane	0.090	0.28	0.090	0.033	**U**
127-18-4	Tetrachloroethene	**0.43**	0.31	0.10	0.041	
100-41-4	Ethylbenzene	0.16	0.50	0.16	0.070	**U**
179601-23-1	m,p-Xylenes	0.32	1.0	0.32	0.13	**U**
75-25-2	Bromoform	0.13	0.21	0.13	0.043	**U**
100-42-5	Styrene	0.30	0.50	0.30	0.082	**U**
95-47-6	o-Xylene	0.16	0.50	0.16	0.072	**U**
108-67-8	1,3,5-Trimethylbenzene	0.14	0.44	0.14	0.063	**U**
95-63-6	1,2,4-Trimethylbenzene	0.14	0.45	0.14	0.061	**U**
120-82-1	1,2,4-Trichlorobenzene	0.17	0.29	0.17	0.071	**U**
91-20-3	Naphthalene	0.24	0.40	0.24	0.10	**U**
1330-20-7	Xylenes, Total	0.32	1.0	0.32	0.13	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV120-250-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-012

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00530

Initial Pressure (psig): -1.77 Final Pressure (psig): 5.38

Container Dilution Factor: 1.55

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.39**	1.2	0.72	0.29	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.0**	0.42	0.25	0.068	
74-87-3	Chloromethane	**0.25**	0.99	0.60	0.16	**J**
75-01-4	Vinyl Chloride	0.26	0.82	0.26	0.086	**U**
106-99-0	1,3-Butadiene	0.56	0.93	0.56	0.15	**U**
75-00-3	Chloroethane	0.47	0.79	0.47	0.097	**U**
64-17-5	Ethanol	**1.5**	11	1.7	0.76	**J**
67-64-1	Acetone	**3.4**	8.6	4.4	2.0	**J**
75-69-4	Trichlorofluoromethane	**0.21**	0.37	0.22	0.056	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.64**	3.3	0.99	0.35	**J**
75-09-2	Methylene Chloride	0.36	0.59	0.36	0.17	**U**
76-13-1	Trichlorotrifluoroethane	**0.094**	0.27	0.086	0.038	**J**
75-15-0	Carbon Disulfide	**0.60**	1.4	0.67	0.20	**J**
75-34-3	1,1-Dichloroethane	0.32	0.53	0.32	0.075	**U**
78-93-3	2-Butanone (MEK)	**1.0**	1.4	0.42	0.14	**J**
141-78-6	Ethyl Acetate	0.70	1.2	0.70	0.30	**U**
110-54-3	n-Hexane	0.35	0.59	0.35	0.12	**U**
67-66-3	Chloroform	**0.48**	0.43	0.13	0.056	
109-99-9	Tetrahydrofuran (THF)	**1.5**	0.72	0.22	0.088	
107-06-2	1,2-Dichloroethane	0.16	0.52	0.16	0.057	**U**
71-43-2	Benzene	0.21	0.64	0.21	0.093	**U**
56-23-5	Carbon Tetrachloride	**0.39**	0.33	0.10	0.046	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV120-250-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-012

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00530

Initial Pressure (psig): -1.77 Final Pressure (psig): 5.38

Container Dilution Factor: 1.55

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.38	1.2	0.38	0.17	**U**
75-27-4	Bromodichloromethane	**0.072**	0.31	0.098	0.045	**J**
79-01-6	Trichloroethene	0.12	0.39	0.12	0.052	**U**
123-91-1	1,4-Dioxane	0.18	0.58	0.18	0.068	**U**
142-82-5	n-Heptane	0.30	0.51	0.30	0.080	**U**
108-10-1	4-Methyl-2-pentanone	**0.24**	0.50	0.16	0.069	**J**
108-88-3	Toluene	**0.15**	0.56	0.17	0.067	**J**
591-78-6	2-Hexanone	**0.12**	0.51	0.16	0.062	**J**
124-48-1	Dibromochloromethane	0.077	0.25	0.077	0.032	**U**
106-93-4	1,2-Dibromoethane	0.086	0.27	0.086	0.031	**U**
127-18-4	Tetrachloroethene	**0.062**	0.30	0.097	0.039	**J**
100-41-4	Ethylbenzene	0.15	0.48	0.15	0.067	**U**
179601-23-1	m,p-Xylenes	0.30	0.98	0.30	0.12	**U**
75-25-2	Bromoform	0.12	0.20	0.12	0.041	**U**
100-42-5	Styrene	0.29	0.48	0.29	0.078	**U**
95-47-6	o-Xylene	0.15	0.48	0.15	0.069	**U**
108-67-8	1,3,5-Trimethylbenzene	0.13	0.42	0.13	0.061	**U**
95-63-6	1,2,4-Trimethylbenzene	0.13	0.43	0.13	0.058	**U**
120-82-1	1,2,4-Trichlorobenzene	0.17	0.28	0.17	0.068	**U**
91-20-3	Naphthalene	0.23	0.38	0.23	0.096	**U**
1330-20-7	Xylenes, Total	0.30	0.98	0.30	0.12	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV120-350-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-013

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.15 Liter(s)
Test Notes:
Container ID: 1SC00526

Initial Pressure (psig): -2.31 Final Pressure (psig): 5.91

Container Dilution Factor: 1.66

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**5.3**	3.4	2.1	0.84	
75-71-8	Dichlorodifluoromethane (CFC 12)	**25**	1.2	0.72	0.19	
74-87-3	Chloromethane	1.7	2.8	1.7	0.46	**U**
75-01-4	Vinyl Chloride	0.74	2.3	0.74	0.25	**U**
106-99-0	1,3-Butadiene	1.6	2.7	1.6	0.44	**U**
75-00-3	Chloroethane	1.3	2.3	1.3	0.28	**U**
64-17-5	Ethanol	4.9	31	4.9	2.2	**U**
67-64-1	Acetone	**24**	25	13	5.6	**J**
75-69-4	Trichlorofluoromethane	**2.3**	1.0	0.63	0.16	
67-63-0	2-Propanol (Isopropyl Alcohol)	2.8	9.5	2.8	0.99	**U**
75-09-2	Methylene Chloride	1.0	1.7	1.0	0.48	**U**
76-13-1	Trichlorotrifluoroethane	**0.41**	0.78	0.25	0.11	**J**
75-15-0	Carbon Disulfide	1.9	3.9	1.9	0.57	**U**
75-34-3	1,1-Dichloroethane	0.90	1.5	0.90	0.21	**U**
78-93-3	2-Butanone (MEK)	**3.4**	4.1	1.2	0.41	**J**
141-78-6	Ethyl Acetate	2.0	3.4	2.0	0.86	**U**
110-54-3	n-Hexane	**4.8**	1.7	1.0	0.35	
67-66-3	Chloroform	0.39	1.2	0.39	0.16	**U**
109-99-9	Tetrahydrofuran (THF)	**0.38**	2.1	0.64	0.25	**J**
107-06-2	1,2-Dichloroethane	0.47	1.5	0.47	0.16	**U**
71-43-2	Benzene	**26**	1.8	0.59	0.27	
56-23-5	Carbon Tetrachloride	0.30	0.93	0.30	0.13	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV120-350-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-013

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.15 Liter(s)
Test Notes:
Container ID: 1SC00526

Initial Pressure (psig): -2.31 Final Pressure (psig): 5.91

Container Dilution Factor: 1.66

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**14**	3.5	1.1	0.48	
75-27-4	Bromodichloromethane	0.28	0.89	0.28	0.13	**U**
79-01-6	Trichloroethene	0.35	1.1	0.35	0.15	**U**
123-91-1	1,4-Dioxane	0.52	1.7	0.52	0.19	**U**
142-82-5	n-Heptane	0.86	1.5	0.86	0.23	**U**
108-10-1	4-Methyl-2-pentanone	0.46	1.4	0.46	0.20	**U**
108-88-3	Toluene	**1.1**	1.6	0.50	0.19	**J**
591-78-6	2-Hexanone	**0.31**	1.5	0.46	0.18	**J**
124-48-1	Dibromochloromethane	0.22	0.70	0.22	0.091	**U**
106-93-4	1,2-Dibromoethane	0.24	0.78	0.24	0.089	**U**
127-18-4	Tetrachloroethene	**0.28**	0.85	0.28	0.11	**J**
100-41-4	Ethylbenzene	0.43	1.4	0.43	0.19	**U**
179601-23-1	m,p-Xylenes	0.87	2.8	0.87	0.36	**U**
75-25-2	Bromoform	0.34	0.58	0.34	0.12	**U**
100-42-5	Styrene	0.83	1.4	0.83	0.22	**U**
95-47-6	o-Xylene	**0.32**	1.4	0.43	0.20	**J**
108-67-8	1,3,5-Trimethylbenzene	0.38	1.2	0.38	0.17	**U**
95-63-6	1,2,4-Trimethylbenzene	0.38	1.2	0.38	0.17	**U**
120-82-1	1,2,4-Trichlorobenzene	0.48	0.81	0.48	0.19	**U**
91-20-3	Naphthalene	0.65	1.1	0.65	0.27	**U**
1330-20-7	Xylenes, Total	0.87	2.8	0.87	0.36	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV120-450-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-014

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SS00767

Initial Pressure (psig): -2.95 Final Pressure (psig): 5.67

Container Dilution Factor: 1.73

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	16	27	16	6.5	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**20**	9.3	5.6	1.5	
74-87-3	Chloromethane	**12**	22	13	3.6	**J**
75-01-4	Vinyl Chloride	**2.7**	18	5.8	1.9	**J**
106-99-0	1,3-Butadiene	13	21	13	3.4	**U**
75-00-3	Chloroethane	**2.4**	18	10	2.2	**J**
64-17-5	Ethanol	38	240	38	17	**U**
67-64-1	Acetone	98	190	98	44	**U**
75-69-4	Trichlorofluoromethane	**1.8**	8.2	4.9	1.2	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	22	74	22	7.7	**U**
75-09-2	Methylene Chloride	8.0	13	8.0	3.7	**U**
76-13-1	Trichlorotrifluoroethane	1.9	6.1	1.9	0.86	**U**
75-15-0	Carbon Disulfide	**48**	31	15	4.4	
75-34-3	1,1-Dichloroethane	7.1	12	7.1	1.7	**U**
78-93-3	2-Butanone (MEK)	9.4	32	9.4	3.2	**U**
141-78-6	Ethyl Acetate	16	26	16	6.7	**U**
110-54-3	n-Hexane	**6.7**	13	7.9	2.7	**J**
67-66-3	Chloroform	3.0	9.6	3.0	1.3	**U**
109-99-9	Tetrahydrofuran (THF)	**9.1**	16	5.0	2.0	**J**
107-06-2	1,2-Dichloroethane	3.6	12	3.6	1.3	**U**
71-43-2	Benzene	**34**	14	4.6	2.1	
56-23-5	Carbon Tetrachloride	2.3	7.3	2.3	1.0	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV120-450-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-014

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SS00767

Initial Pressure (psig): -2.95 Final Pressure (psig): 5.67

Container Dilution Factor: 1.73

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**6.3**	28	8.5	3.8	**J**
75-27-4	Bromodichloromethane	2.2	7.0	2.2	0.99	**U**
79-01-6	Trichloroethene	2.7	8.7	2.7	1.2	**U**
123-91-1	1,4-Dioxane	4.1	13	4.1	1.5	**U**
142-82-5	n-Heptane	6.8	11	6.8	1.8	**U**
108-10-1	4-Methyl-2-pentanone	3.6	11	3.6	1.5	**U**
108-88-3	Toluene	**35**	12	3.9	1.5	
591-78-6	2-Hexanone	3.6	11	3.6	1.4	**U**
124-48-1	Dibromochloromethane	1.7	5.5	1.7	0.71	**U**
106-93-4	1,2-Dibromoethane	1.9	6.1	1.9	0.70	**U**
127-18-4	Tetrachloroethene	2.2	6.6	2.2	0.88	**U**
100-41-4	Ethylbenzene	**1.6**	11	3.4	1.5	**J**
179601-23-1	m,p-Xylenes	**3.3**	22	6.8	2.8	**J**
75-25-2	Bromoform	2.7	4.5	2.7	0.92	**U**
100-42-5	Styrene	6.5	11	6.5	1.7	**U**
95-47-6	o-Xylene	**2.1**	11	3.4	1.5	**J**
108-67-8	1,3,5-Trimethylbenzene	3.0	9.3	3.0	1.4	**U**
95-63-6	1,2,4-Trimethylbenzene	3.0	9.5	3.0	1.3	**U**
120-82-1	1,2,4-Trichlorobenzene	3.7	6.3	3.7	1.5	**U**
91-20-3	Naphthalene	5.1	8.6	5.1	2.1	**U**
1330-20-7	Xylenes, Total	**5.4**	22	6.8	2.8	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV121-025-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-015

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/2/20 & 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00763

Initial Pressure (psig): -3.53 Final Pressure (psig): 5.25

Container Dilution Factor: 1.79

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.59**	1.4	0.83	0.34	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.75**	0.48	0.29	0.079	
74-87-3	Chloromethane	0.69	1.1	0.69	0.19	**U**
75-01-4	Vinyl Chloride	0.30	0.95	0.30	0.10	**U**
106-99-0	1,3-Butadiene	0.65	1.1	0.65	0.18	**U**
75-00-3	Chloroethane	0.54	0.92	0.54	0.11	**U**
64-17-5	Ethanol	**7.8**	12	2.0	0.88	**J, B**
67-64-1	Acetone	**6.9**	10	5.1	2.3	**J**
75-69-4	Trichlorofluoromethane	**0.22**	0.42	0.25	0.065	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.54**	3.8	1.1	0.40	**J**
75-09-2	Methylene Chloride	**0.31**	0.68	0.41	0.19	**J**
76-13-1	Trichlorotrifluoroethane	**0.090**	0.32	0.099	0.044	**J**
75-15-0	Carbon Disulfide	0.78	1.6	0.78	0.23	**U**
75-34-3	1,1-Dichloroethane	0.37	0.61	0.37	0.086	**U**
78-93-3	2-Butanone (MEK)	**1.2**	1.7	0.49	0.17	**J**
141-78-6	Ethyl Acetate	0.81	1.4	0.81	0.35	**U**
110-54-3	n-Hexane	0.41	0.69	0.41	0.14	**U**
67-66-3	Chloroform	**100**	5.0	1.6	0.65	**D**
109-99-9	Tetrahydrofuran (THF)	**0.19**	0.83	0.26	0.10	**J**
107-06-2	1,2-Dichloroethane	0.19	0.60	0.19	0.065	**U**
71-43-2	Benzene	0.24	0.74	0.24	0.11	**U**
56-23-5	Carbon Tetrachloride	**2.3**	0.38	0.12	0.053	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV121-025-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-015

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/2/20 & 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00763

Initial Pressure (psig): -3.53 Final Pressure (psig): 5.25

Container Dilution Factor: 1.79

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.44	1.4	0.44	0.20	**U**
75-27-4	Bromodichloromethane	**6.6**	0.36	0.11	0.051	
79-01-6	Trichloroethene	**0.42**	0.45	0.14	0.060	**J**
123-91-1	1,4-Dioxane	0.21	0.67	0.21	0.078	**U**
142-82-5	n-Heptane	0.35	0.59	0.35	0.093	**U**
108-10-1	4-Methyl-2-pentanone	0.19	0.58	0.19	0.080	**U**
108-88-3	Toluene	**0.31**	0.64	0.20	0.077	**J**
591-78-6	2-Hexanone	**0.13**	0.59	0.19	0.072	**J**
124-48-1	Dibromochloromethane	**0.15**	0.28	0.089	0.037	**J**
106-93-4	1,2-Dibromoethane	0.099	0.31	0.099	0.036	**U**
127-18-4	Tetrachloroethene	**0.67**	0.34	0.11	0.046	
100-41-4	Ethylbenzene	0.18	0.56	0.18	0.077	**U**
179601-23-1	m,p-Xylenes	0.35	1.1	0.35	0.14	**U**
75-25-2	Bromoform	0.14	0.23	0.14	0.048	**U**
100-42-5	Styrene	0.34	0.56	0.34	0.090	**U**
95-47-6	o-Xylene	0.18	0.56	0.18	0.079	**U**
108-67-8	1,3,5-Trimethylbenzene	0.15	0.48	0.15	0.070	**U**
95-63-6	1,2,4-Trimethylbenzene	**0.14**	0.49	0.15	0.067	**J**
120-82-1	1,2,4-Trichlorobenzene	0.19	0.33	0.19	0.078	**U**
91-20-3	Naphthalene	0.26	0.44	0.26	0.11	**U**
1330-20-7	Xylenes, Total	0.35	1.1	0.35	0.14	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV121-050-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-016

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/2/20 & 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00206

Initial Pressure (psig): -2.23 Final Pressure (psig): 6.73

Container Dilution Factor: 1.72

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.55**	1.3	0.80	0.32	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.81**	0.46	0.28	0.076	
74-87-3	Chloromethane	**0.23**	1.1	0.67	0.18	**J**
75-01-4	Vinyl Chloride	0.29	0.91	0.29	0.096	**U**
106-99-0	1,3-Butadiene	0.62	1.0	0.62	0.17	**U**
75-00-3	Chloroethane	0.52	0.88	0.52	0.11	**U**
64-17-5	Ethanol	**4.9**	12	1.9	0.84	**J, B**
67-64-1	Acetone	**4.9**	9.6	4.9	2.2	**J**
75-69-4	Trichlorofluoromethane	**0.21**	0.41	0.24	0.062	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.48**	3.7	1.1	0.39	**J**
75-09-2	Methylene Chloride	0.40	0.66	0.40	0.19	**U**
76-13-1	Trichlorotrifluoroethane	**0.090**	0.30	0.095	0.043	**J**
75-15-0	Carbon Disulfide	**0.97**	1.5	0.75	0.22	**J**
75-34-3	1,1-Dichloroethane	0.35	0.58	0.35	0.083	**U**
78-93-3	2-Butanone (MEK)	**0.81**	1.6	0.47	0.16	**J**
141-78-6	Ethyl Acetate	0.78	1.3	0.78	0.33	**U**
110-54-3	n-Hexane	0.39	0.66	0.39	0.13	**U**
67-66-3	Chloroform	**120**	4.8	1.5	0.63	**D**
109-99-9	Tetrahydrofuran (THF)	**1.2**	0.80	0.25	0.098	
107-06-2	1,2-Dichloroethane	0.18	0.57	0.18	0.063	**U**
71-43-2	Benzene	**0.13**	0.71	0.23	0.10	**J**
56-23-5	Carbon Tetrachloride	**2.5**	0.36	0.12	0.051	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV121-050-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-016

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/2/20 & 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00206

Initial Pressure (psig): -2.23 Final Pressure (psig): 6.73

Container Dilution Factor: 1.72

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.42	1.4	0.42	0.19	**U**
75-27-4	Bromodichloromethane	**8.0**	0.35	0.11	0.049	
79-01-6	Trichloroethene	**0.45**	0.43	0.14	0.058	
123-91-1	1,4-Dioxane	**0.14**	0.64	0.20	0.075	**J**
142-82-5	n-Heptane	**0.099**	0.57	0.34	0.089	**J**
108-10-1	4-Methyl-2-pentanone	0.18	0.56	0.18	0.077	**U**
108-88-3	Toluene	**0.51**	0.62	0.19	0.074	**J**
591-78-6	2-Hexanone	**0.21**	0.57	0.18	0.069	**J**
124-48-1	Dibromochloromethane	**0.24**	0.27	0.086	0.035	**J**
106-93-4	1,2-Dibromoethane	0.095	0.30	0.095	0.035	**U**
127-18-4	Tetrachloroethene	**0.77**	0.33	0.11	0.044	
100-41-4	Ethylbenzene	0.17	0.53	0.17	0.074	**U**
179601-23-1	m,p-Xylenes	0.34	1.1	0.34	0.14	**U**
75-25-2	Bromoform	0.13	0.22	0.13	0.046	**U**
100-42-5	Styrene	0.32	0.54	0.32	0.087	**U**
95-47-6	o-Xylene	0.17	0.53	0.17	0.076	**U**
108-67-8	1,3,5-Trimethylbenzene	0.15	0.46	0.15	0.067	**U**
95-63-6	1,2,4-Trimethylbenzene	**0.090**	0.47	0.15	0.065	**J**
120-82-1	1,2,4-Trichlorobenzene	0.19	0.31	0.19	0.075	**U**
91-20-3	Naphthalene	0.25	0.43	0.25	0.11	**U**
1330-20-7	Xylenes, Total	0.34	1.1	0.34	0.14	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV121-145-602** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-017

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/2/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01023

Initial Pressure (psig): -2.97 Final Pressure (psig): 6.04

Container Dilution Factor: 1.77

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.44**	1.4	0.82	0.33	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**3.4**	0.47	0.29	0.078	
74-87-3	Chloromethane	0.69	1.1	0.69	0.18	**U**
75-01-4	Vinyl Chloride	0.29	0.94	0.29	0.099	**U**
106-99-0	1,3-Butadiene	0.64	1.1	0.64	0.18	**U**
75-00-3	Chloroethane	0.54	0.91	0.54	0.11	**U**
64-17-5	Ethanol	1.9	12	1.9	0.87	**U**
67-64-1	Acetone	**3.2**	9.9	5.0	2.2	**J**
75-69-4	Trichlorofluoromethane	**0.29**	0.42	0.25	0.064	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.1	3.8	1.1	0.40	**U**
75-09-2	Methylene Chloride	0.41	0.68	0.41	0.19	**U**
76-13-1	Trichlorotrifluoroethane	**0.12**	0.31	0.098	0.044	**J**
75-15-0	Carbon Disulfide	**1.3**	1.6	0.77	0.23	**J**
75-34-3	1,1-Dichloroethane	0.36	0.60	0.36	0.085	**U**
78-93-3	2-Butanone (MEK)	**1.3**	1.7	0.48	0.17	**J**
141-78-6	Ethyl Acetate	**0.82**	1.4	0.80	0.34	**J**
110-54-3	n-Hexane	**0.14**	0.68	0.40	0.14	**J**
67-66-3	Chloroform	**9.3**	0.49	0.15	0.064	
109-99-9	Tetrahydrofuran (THF)	**10**	0.83	0.26	0.10	
107-06-2	1,2-Dichloroethane	0.19	0.59	0.19	0.065	**U**
71-43-2	Benzene	**0.13**	0.73	0.24	0.11	**J**
56-23-5	Carbon Tetrachloride	**2.2**	0.37	0.12	0.052	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV121-145-602** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-017

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/2/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01023

Initial Pressure (psig): -2.97 Final Pressure (psig): 6.04

Container Dilution Factor: 1.77

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.44	1.4	0.44	0.19	**U**
75-27-4	Bromodichloromethane	**0.45**	0.36	0.11	0.051	
79-01-6	Trichloroethene	0.14	0.44	0.14	0.059	**U**
123-91-1	1,4-Dioxane	0.21	0.66	0.21	0.077	**U**
142-82-5	n-Heptane	**0.24**	0.58	0.35	0.092	**J**
108-10-1	4-Methyl-2-pentanone	0.18	0.57	0.18	0.079	**U**
108-88-3	Toluene	**0.67**	0.63	0.20	0.076	
591-78-6	2-Hexanone	**0.076**	0.58	0.18	0.071	**J**
124-48-1	Dibromochloromethane	0.088	0.28	0.088	0.036	**U**
106-93-4	1,2-Dibromoethane	0.098	0.31	0.098	0.036	**U**
127-18-4	Tetrachloroethene	**0.28**	0.34	0.11	0.045	**J**
100-41-4	Ethylbenzene	**0.084**	0.55	0.17	0.076	**J**
179601-23-1	m,p-Xylenes	**0.33**	1.1	0.35	0.14	**J**
75-25-2	Bromoform	0.14	0.23	0.14	0.047	**U**
100-42-5	Styrene	0.33	0.55	0.33	0.089	**U**
95-47-6	o-Xylene	**0.12**	0.55	0.17	0.078	**J**
108-67-8	1,3,5-Trimethylbenzene	0.15	0.48	0.15	0.069	**U**
95-63-6	1,2,4-Trimethylbenzene	**0.093**	0.49	0.15	0.067	**J**
120-82-1	1,2,4-Trichlorobenzene	0.19	0.32	0.19	0.078	**U**
91-20-3	Naphthalene	0.26	0.44	0.26	0.11	**U**
1330-20-7	Xylenes, Total	**0.45**	1.1	0.35	0.14	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV121-145-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-018

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01200

Initial Pressure (psig): -2.90 Final Pressure (psig): 5.82

Container Dilution Factor: 1.74

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**1.2**	1.3	0.81	0.33	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**3.8**	0.47	0.28	0.077	
74-87-3	Chloromethane	**0.23**	1.1	0.67	0.18	**J**
75-01-4	Vinyl Chloride	0.29	0.92	0.29	0.097	**U**
106-99-0	1,3-Butadiene	0.63	1.0	0.63	0.17	**U**
75-00-3	Chloroethane	0.53	0.89	0.53	0.11	**U**
64-17-5	Ethanol	**1.9**	12	1.9	0.85	**J, B**
67-64-1	Acetone	**7.9**	9.7	4.9	2.2	**J**
75-69-4	Trichlorofluoromethane	**0.30**	0.41	0.25	0.063	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.8**	3.7	1.1	0.39	**J**
75-09-2	Methylene Chloride	0.40	0.66	0.40	0.19	**U**
76-13-1	Trichlorotrifluoroethane	**0.12**	0.31	0.097	0.043	**J**
75-15-0	Carbon Disulfide	**0.55**	1.5	0.75	0.22	**J**
75-34-3	1,1-Dichloroethane	0.35	0.59	0.35	0.084	**U**
78-93-3	2-Butanone (MEK)	**1.5**	1.6	0.47	0.16	**J**
141-78-6	Ethyl Acetate	0.78	1.3	0.78	0.34	**U**
110-54-3	n-Hexane	0.40	0.67	0.40	0.14	**U**
67-66-3	Chloroform	**10**	0.48	0.15	0.063	
109-99-9	Tetrahydrofuran (THF)	**10**	0.81	0.25	0.099	
107-06-2	1,2-Dichloroethane	0.18	0.58	0.18	0.063	**U**
71-43-2	Benzene	**0.12**	0.72	0.23	0.10	**J**
56-23-5	Carbon Tetrachloride	**2.5**	0.37	0.12	0.051	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV121-145-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-018

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01200

Initial Pressure (psig): -2.90 Final Pressure (psig): 5.82

Container Dilution Factor: 1.74

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.43	1.4	0.43	0.19	**U**
75-27-4	Bromodichloromethane	**0.48**	0.35	0.11	0.050	
79-01-6	Trichloroethene	**0.062**	0.44	0.14	0.058	**J**
123-91-1	1,4-Dioxane	**0.077**	0.65	0.21	0.076	**J**
142-82-5	n-Heptane	0.34	0.57	0.34	0.090	**U**
108-10-1	4-Methyl-2-pentanone	0.18	0.56	0.18	0.078	**U**
108-88-3	Toluene	**0.26**	0.62	0.20	0.075	**J**
591-78-6	2-Hexanone	**0.075**	0.57	0.18	0.070	**J**
124-48-1	Dibromochloromethane	0.087	0.28	0.087	0.036	**U**
106-93-4	1,2-Dibromoethane	0.096	0.31	0.096	0.035	**U**
127-18-4	Tetrachloroethene	**0.34**	0.33	0.11	0.044	
100-41-4	Ethylbenzene	0.17	0.54	0.17	0.075	**U**
179601-23-1	m,p-Xylenes	0.34	1.1	0.34	0.14	**U**
75-25-2	Bromoform	0.13	0.23	0.13	0.046	**U**
100-42-5	Styrene	0.33	0.54	0.33	0.088	**U**
95-47-6	o-Xylene	0.17	0.54	0.17	0.077	**U**
108-67-8	1,3,5-Trimethylbenzene	0.15	0.47	0.15	0.068	**U**
95-63-6	1,2,4-Trimethylbenzene	0.15	0.48	0.15	0.066	**U**
120-82-1	1,2,4-Trichlorobenzene	0.19	0.32	0.19	0.076	**U**
91-20-3	Naphthalene	0.26	0.43	0.26	0.11	**U**
1330-20-7	Xylenes, Total	0.34	1.1	0.34	0.14	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV121-250-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-019

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00218

Initial Pressure (psig): -3.43 Final Pressure (psig): 5.85

Container Dilution Factor: 1.82

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.44**	1.4	0.85	0.34	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**5.2**	0.49	0.29	0.080	
74-87-3	Chloromethane	0.71	1.2	0.71	0.19	**U**
75-01-4	Vinyl Chloride	0.30	0.96	0.30	0.10	**U**
106-99-0	1,3-Butadiene	0.66	1.1	0.66	0.18	**U**
75-00-3	Chloroethane	0.55	0.93	0.55	0.11	**U**
64-17-5	Ethanol	**2.1**	13	2.0	0.89	**J, B**
67-64-1	Acetone	**5.3**	10	5.2	2.3	**J**
75-69-4	Trichlorofluoromethane	**0.37**	0.43	0.26	0.066	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.2	3.9	1.2	0.41	**U**
75-09-2	Methylene Chloride	0.42	0.69	0.42	0.20	**U**
76-13-1	Trichlorotrifluoroethane	**0.15**	0.32	0.10	0.045	**J**
75-15-0	Carbon Disulfide	**1.5**	1.6	0.79	0.23	**J**
75-34-3	1,1-Dichloroethane	0.37	0.62	0.37	0.088	**U**
78-93-3	2-Butanone (MEK)	**0.81**	1.7	0.49	0.17	**J**
141-78-6	Ethyl Acetate	0.82	1.4	0.82	0.35	**U**
110-54-3	n-Hexane	0.41	0.70	0.41	0.14	**U**
67-66-3	Chloroform	**0.52**	0.50	0.16	0.066	
109-99-9	Tetrahydrofuran (THF)	**2.4**	0.85	0.26	0.10	
107-06-2	1,2-Dichloroethane	0.19	0.61	0.19	0.066	**U**
71-43-2	Benzene	0.24	0.76	0.24	0.11	**U**
56-23-5	Carbon Tetrachloride	**0.58**	0.38	0.12	0.054	

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV121-250-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-019

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00218

Initial Pressure (psig): -3.43 Final Pressure (psig): 5.85

Container Dilution Factor: 1.82

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.45	1.5	0.45	0.20	**U**
75-27-4	Bromodichloromethane	0.12	0.37	0.12	0.052	**U**
79-01-6	Trichloroethene	0.14	0.46	0.14	0.061	**U**
123-91-1	1,4-Dioxane	**0.26**	0.68	0.21	0.080	**J**
142-82-5	n-Heptane	0.36	0.60	0.36	0.094	**U**
108-10-1	4-Methyl-2-pentanone	0.19	0.59	0.19	0.081	**U**
108-88-3	Toluene	**0.15**	0.65	0.21	0.079	**J**
591-78-6	2-Hexanone	**0.14**	0.60	0.19	0.073	**J**
124-48-1	Dibromochloromethane	0.091	0.29	0.091	0.037	**U**
106-93-4	1,2-Dibromoethane	0.10	0.32	0.10	0.037	**U**
127-18-4	Tetrachloroethene	**0.051**	0.35	0.11	0.046	**J**
100-41-4	Ethylbenzene	0.18	0.57	0.18	0.079	**U**
179601-23-1	m,p-Xylenes	0.36	1.2	0.36	0.15	**U**
75-25-2	Bromoform	0.14	0.24	0.14	0.048	**U**
100-42-5	Styrene	0.34	0.57	0.34	0.092	**U**
95-47-6	o-Xylene	0.18	0.57	0.18	0.081	**U**
108-67-8	1,3,5-Trimethylbenzene	0.16	0.49	0.16	0.071	**U**
95-63-6	1,2,4-Trimethylbenzene	0.16	0.50	0.16	0.069	**U**
120-82-1	1,2,4-Trichlorobenzene	0.20	0.33	0.20	0.080	**U**
91-20-3	Naphthalene	0.27	0.45	0.27	0.11	**U**
1330-20-7	Xylenes, Total	0.36	1.2	0.36	0.15	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV121-350-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-020

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00125

Initial Pressure (psig): -2.84 Final Pressure (psig): 6.01

Container Dilution Factor: 1.75

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.63**		1.3	0.81	0.33	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**28**		0.47	0.28	0.077	
74-87-3	Chloromethane	**0.28**		1.1	0.68	0.18	**J**
75-01-4	Vinyl Chloride		0.29	0.92	0.29	0.098	**U**
106-99-0	1,3-Butadiene		0.63	1.0	0.63	0.17	**U**
75-00-3	Chloroethane		0.53	0.90	0.53	0.11	**U**
64-17-5	Ethanol	**6.2**		12	1.9	0.86	**J, B**
67-64-1	Acetone	**5.9**		9.8	5.0	2.2	**J**
75-69-4	Trichlorofluoromethane	**2.6**		0.41	0.25	0.063	
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.86**		3.7	1.1	0.39	**J**
75-09-2	Methylene Chloride		0.40	0.67	0.40	0.19	**U**
76-13-1	Trichlorotrifluoroethane	**0.46**		0.31	0.097	0.043	
75-15-0	Carbon Disulfide	**2.8**		1.5	0.76	0.22	
75-34-3	1,1-Dichloroethane		0.36	0.59	0.36	0.084	**U**
78-93-3	2-Butanone (MEK)	**0.80**		1.6	0.47	0.16	**J**
141-78-6	Ethyl Acetate	**14**		1.3	0.79	0.34	
110-54-3	n-Hexane	**0.36**		0.67	0.40	0.14	**J**
67-66-3	Chloroform	**0.16**		0.48	0.15	0.064	**J**
109-99-9	Tetrahydrofuran (THF)	**1.7**		0.82	0.25	0.099	
107-06-2	1,2-Dichloroethane		0.18	0.58	0.18	0.064	**U**
71-43-2	Benzene	**0.42**		0.73	0.23	0.11	**J**
56-23-5	Carbon Tetrachloride	**0.085**		0.37	0.12	0.051	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV121-350-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-020

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00125

Initial Pressure (psig): -2.84 Final Pressure (psig): 6.01

Container Dilution Factor: 1.75

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**0.46**	1.4	0.43	0.19	**J**
75-27-4	Bromodichloromethane	0.11	0.35	0.11	0.050	**U**
79-01-6	Trichloroethene	0.14	0.44	0.14	0.059	**U**
123-91-1	1,4-Dioxane	0.21	0.66	0.21	0.077	**U**
142-82-5	n-Heptane	0.34	0.58	0.34	0.091	**U**
108-10-1	4-Methyl-2-pentanone	0.18	0.57	0.18	0.078	**U**
108-88-3	Toluene	**1.1**	0.63	0.20	0.075	
591-78-6	2-Hexanone	**0.17**	0.58	0.18	0.071	**J**
124-48-1	Dibromochloromethane	0.087	0.28	0.087	0.036	**U**
106-93-4	1,2-Dibromoethane	0.097	0.31	0.097	0.035	**U**
127-18-4	Tetrachloroethene	**0.12**	0.34	0.11	0.045	**J**
100-41-4	Ethylbenzene	0.17	0.54	0.17	0.076	**U**
179601-23-1	m,p-Xylenes	**0.16**	1.1	0.34	0.14	**J**
75-25-2	Bromoform	0.14	0.23	0.14	0.047	**U**
100-42-5	Styrene	0.33	0.54	0.33	0.088	**U**
95-47-6	o-Xylene	**0.080**	0.54	0.17	0.078	**J**
108-67-8	1,3,5-Trimethylbenzene	0.15	0.47	0.15	0.069	**U**
95-63-6	1,2,4-Trimethylbenzene	0.15	0.48	0.15	0.066	**U**
120-82-1	1,2,4-Trichlorobenzene	0.19	0.32	0.19	0.077	**U**
91-20-3	Naphthalene	0.26	0.43	0.26	0.11	**U**
1330-20-7	Xylenes, Total	**0.24**	1.1	0.34	0.14	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200501-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.19	0.31	0.19	0.076	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.065	0.11	0.065	0.018	**U**
74-87-3	Chloromethane	0.16	0.26	0.16	0.042	**U**
75-01-4	Vinyl Chloride	0.067	0.21	0.067	0.022	**U**
106-99-0	1,3-Butadiene	0.14	0.24	0.14	0.040	**U**
75-00-3	Chloroethane	0.12	0.20	0.12	0.025	**U**
64-17-5	Ethanol	0.44	2.8	0.44	0.20	**U**
67-64-1	Acetone	1.1	2.2	1.1	0.51	**U**
75-69-4	Trichlorofluoromethane	0.057	0.094	0.057	0.014	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.26	0.85	0.26	0.090	**U**
75-09-2	Methylene Chloride	0.092	0.15	0.092	0.043	**U**
76-13-1	Trichlorotrifluoroethane	0.022	0.070	0.022	0.0099	**U**
75-15-0	Carbon Disulfide	0.17	0.35	0.17	0.051	**U**
75-34-3	1,1-Dichloroethane	0.082	0.14	0.082	0.019	**U**
78-93-3	2-Butanone (MEK)	0.11	0.37	0.11	0.037	**U**
141-78-6	Ethyl Acetate	0.18	0.31	0.18	0.078	**U**
110-54-3	n-Hexane	0.091	0.15	0.091	0.031	**U**
67-66-3	Chloroform	0.035	0.11	0.035	0.015	**U**
109-99-9	Tetrahydrofuran (THF)	0.058	0.19	0.058	0.023	**U**
107-06-2	1,2-Dichloroethane	0.042	0.13	0.042	0.015	**U**
71-43-2	Benzene	0.053	0.17	0.053	0.024	**U**
56-23-5	Carbon Tetrachloride	0.027	0.084	0.027	0.012	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200501-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.099	0.32	0.099	0.044	**U**
75-27-4	Bromodichloromethane	0.025	0.081	0.025	0.011	**U**
79-01-6	Trichloroethene	0.032	0.10	0.032	0.013	**U**
123-91-1	1,4-Dioxane	0.047	0.15	0.047	0.017	**U**
142-82-5	n-Heptane	0.078	0.13	0.078	0.021	**U**
108-10-1	4-Methyl-2-pentanone	0.041	0.13	0.041	0.018	**U**
108-88-3	Toluene	0.045	0.14	0.045	0.017	**U**
591-78-6	2-Hexanone	0.042	0.13	0.042	0.016	**U**
124-48-1	Dibromochloromethane	0.020	0.063	0.020	0.0082	**U**
106-93-4	1,2-Dibromoethane	0.022	0.070	0.022	0.0081	**U**
127-18-4	Tetrachloroethene	0.025	0.077	0.025	0.010	**U**
100-41-4	Ethylbenzene	0.039	0.12	0.039	0.017	**U**
179601-23-1	m,p-Xylenes	0.078	0.25	0.078	0.032	**U**
75-25-2	Bromoform	0.031	0.052	0.031	0.011	**U**
100-42-5	Styrene	0.075	0.12	0.075	0.020	**U**
95-47-6	o-Xylene	0.039	0.12	0.039	0.018	**U**
108-67-8	1,3,5-Trimethylbenzene	0.035	0.11	0.035	0.016	**U**
95-63-6	1,2,4-Trimethylbenzene	0.035	0.11	0.035	0.015	**U**
120-82-1	1,2,4-Trichlorobenzene	0.043	0.073	0.043	0.018	**U**
91-20-3	Naphthalene	0.059	0.099	0.059	0.025	**U**
1330-20-7	Xylenes, Total	0.078	0.25	0.078	0.032	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200502-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.19	0.31	0.19	0.076	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.065	0.11	0.065	0.018	**U**
74-87-3	Chloromethane	0.16	0.26	0.16	0.042	**U**
75-01-4	Vinyl Chloride	0.067	0.21	0.067	0.022	**U**
106-99-0	1,3-Butadiene	0.14	0.24	0.14	0.040	**U**
75-00-3	Chloroethane	0.12	0.20	0.12	0.025	**U**
64-17-5	Ethanol	**0.29**	2.8	0.44	0.20	**J**
67-64-1	Acetone	1.1	2.2	1.1	0.51	**U**
75-69-4	Trichlorofluoromethane	0.057	0.094	0.057	0.014	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.26	0.85	0.26	0.090	**U**
75-09-2	Methylene Chloride	0.092	0.15	0.092	0.043	**U**
76-13-1	Trichlorotrifluoroethane	0.022	0.070	0.022	0.0099	**U**
75-15-0	Carbon Disulfide	0.17	0.35	0.17	0.051	**U**
75-34-3	1,1-Dichloroethane	0.082	0.14	0.082	0.019	**U**
78-93-3	2-Butanone (MEK)	0.11	0.37	0.11	0.037	**U**
141-78-6	Ethyl Acetate	0.18	0.31	0.18	0.078	**U**
110-54-3	n-Hexane	0.091	0.15	0.091	0.031	**U**
67-66-3	Chloroform	0.035	0.11	0.035	0.015	**U**
109-99-9	Tetrahydrofuran (THF)	0.058	0.19	0.058	0.023	**U**
107-06-2	1,2-Dichloroethane	0.042	0.13	0.042	0.015	**U**
71-43-2	Benzene	0.053	0.17	0.053	0.024	**U**
56-23-5	Carbon Tetrachloride	0.027	0.084	0.027	0.012	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200502-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.099	0.32	0.099	0.044	**U**
75-27-4	Bromodichloromethane	0.025	0.081	0.025	0.011	**U**
79-01-6	Trichloroethene	0.032	0.10	0.032	0.013	**U**
123-91-1	1,4-Dioxane	0.047	0.15	0.047	0.017	**U**
142-82-5	n-Heptane	0.078	0.13	0.078	0.021	**U**
108-10-1	4-Methyl-2-pentanone	0.041	0.13	0.041	0.018	**U**
108-88-3	Toluene	0.045	0.14	0.045	0.017	**U**
591-78-6	2-Hexanone	0.042	0.13	0.042	0.016	**U**
124-48-1	Dibromochloromethane	0.020	0.063	0.020	0.0082	**U**
106-93-4	1,2-Dibromoethane	0.022	0.070	0.022	0.0081	**U**
127-18-4	Tetrachloroethene	0.025	0.077	0.025	0.010	**U**
100-41-4	Ethylbenzene	0.039	0.12	0.039	0.017	**U**
179601-23-1	m,p-Xylenes	0.078	0.25	0.078	0.032	**U**
75-25-2	Bromoform	0.031	0.052	0.031	0.011	**U**
100-42-5	Styrene	0.075	0.12	0.075	0.020	**U**
95-47-6	o-Xylene	0.039	0.12	0.039	0.018	**U**
108-67-8	1,3,5-Trimethylbenzene	0.035	0.11	0.035	0.016	**U**
95-63-6	1,2,4-Trimethylbenzene	0.035	0.11	0.035	0.015	**U**
120-82-1	1,2,4-Trichlorobenzene	0.043	0.073	0.043	0.018	**U**
91-20-3	Naphthalene	0.059	0.099	0.059	0.025	**U**
1330-20-7	Xylenes, Total	0.078	0.25	0.078	0.032	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200504-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.19	0.31	0.19	0.076	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.065	0.11	0.065	0.018	**U**
74-87-3	Chloromethane	0.16	0.26	0.16	0.042	**U**
75-01-4	Vinyl Chloride	0.067	0.21	0.067	0.022	**U**
106-99-0	1,3-Butadiene	0.14	0.24	0.14	0.040	**U**
75-00-3	Chloroethane	0.12	0.20	0.12	0.025	**U**
64-17-5	Ethanol	**0.22**	2.8	0.44	0.20	**J**
67-64-1	Acetone	1.1	2.2	1.1	0.51	**U**
75-69-4	Trichlorofluoromethane	0.057	0.094	0.057	0.014	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.26	0.85	0.26	0.090	**U**
75-09-2	Methylene Chloride	0.092	0.15	0.092	0.043	**U**
76-13-1	Trichlorotrifluoroethane	0.022	0.070	0.022	0.0099	**U**
75-15-0	Carbon Disulfide	0.17	0.35	0.17	0.051	**U**
75-34-3	1,1-Dichloroethane	0.082	0.14	0.082	0.019	**U**
78-93-3	2-Butanone (MEK)	0.11	0.37	0.11	0.037	**U**
141-78-6	Ethyl Acetate	0.18	0.31	0.18	0.078	**U**
110-54-3	n-Hexane	0.091	0.15	0.091	0.031	**U**
67-66-3	Chloroform	0.035	0.11	0.035	0.015	**U**
109-99-9	Tetrahydrofuran (THF)	0.058	0.19	0.058	0.023	**U**
107-06-2	1,2-Dichloroethane	0.042	0.13	0.042	0.015	**U**
71-43-2	Benzene	0.053	0.17	0.053	0.024	**U**
56-23-5	Carbon Tetrachloride	0.027	0.084	0.027	0.012	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200504-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.099	0.32	0.099	0.044	**U**
75-27-4	Bromodichloromethane	0.025	0.081	0.025	0.011	**U**
79-01-6	Trichloroethene	0.032	0.10	0.032	0.013	**U**
123-91-1	1,4-Dioxane	0.047	0.15	0.047	0.017	**U**
142-82-5	n-Heptane	0.078	0.13	0.078	0.021	**U**
108-10-1	4-Methyl-2-pentanone	0.041	0.13	0.041	0.018	**U**
108-88-3	Toluene	0.045	0.14	0.045	0.017	**U**
591-78-6	2-Hexanone	0.042	0.13	0.042	0.016	**U**
124-48-1	Dibromochloromethane	0.020	0.063	0.020	0.0082	**U**
106-93-4	1,2-Dibromoethane	0.022	0.070	0.022	0.0081	**U**
127-18-4	Tetrachloroethene	0.025	0.077	0.025	0.010	**U**
100-41-4	Ethylbenzene	0.039	0.12	0.039	0.017	**U**
179601-23-1	m,p-Xylenes	0.078	0.25	0.078	0.032	**U**
75-25-2	Bromoform	0.031	0.052	0.031	0.011	**U**
100-42-5	Styrene	0.075	0.12	0.075	0.020	**U**
95-47-6	o-Xylene	0.039	0.12	0.039	0.018	**U**
108-67-8	1,3,5-Trimethylbenzene	0.035	0.11	0.035	0.016	**U**
95-63-6	1,2,4-Trimethylbenzene	0.035	0.11	0.035	0.015	**U**
120-82-1	1,2,4-Trichlorobenzene	0.043	0.073	0.043	0.018	**U**
91-20-3	Naphthalene	0.059	0.099	0.059	0.025	**U**
1330-20-7	Xylenes, Total	0.078	0.25	0.078	0.032	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Project ID: P2002104

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date(s) Collected: 4/14 - 4/15/20
Analyst: Lusine Hakobyan Date(s) Received: 4/20/20
Sampling Media: 1.0 L Summa Canister(s) / 1.0 L Silonite Summa Canister(s) Date(s) Analyzed: 5/1 - 5/4/20
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P200501-MB	**103**	**99**	**98**	70-130	
Method Blank	P200502-MB	**100**	**99**	**95**	70-130	
Method Blank	P200504-MB	**101**	**102**	**95**	70-130	
Lab Control Sample	P200501-LCS	**97**	**98**	**106**	70-130	
Lab Control Sample	P200502-LCS	**97**	**101**	**105**	70-130	
Lab Control Sample	P200504-LCS	**95**	**101**	**106**	70-130	
Duplicate Lab Control Sample	P200501-DLCS	**97**	**98**	**105**	70-130	
Duplicate Lab Control Sample	P200502-DLCS	**95**	**100**	**105**	70-130	
Duplicate Lab Control Sample	P200504-DLCS	**95**	**100**	**106**	70-130	
SV115-025-202	P2002104-001	**100**	**98**	**97**	70-130	
SV115-025-602	P2002104-002	**100**	**98**	**97**	70-130	
SV115-050-202	P2002104-003	**101**	**98**	**97**	70-130	
SV115-150-202	P2002104-004	**102**	**99**	**96**	70-130	
SV115-250-202	P2002104-005	**102**	**100**	**95**	70-130	
SV115-350-202	P2002104-006	**103**	**98**	**95**	70-130	
SV115-450-202	P2002104-007	**101**	**105**	**96**	70-130	
SV120-025-602	P2002104-008	**101**	**97**	**97**	70-130	
SV120-025-202	P2002104-009	**101**	**101**	**96**	70-130	
SV120-050-202	P2002104-010	**98**	**100**	**97**	70-130	
SV120-150-202	P2002104-011	**100**	**101**	**96**	70-130	
SV120-250-202	P2002104-012	**100**	**101**	**94**	70-130	
SV120-350-202	P2002104-013	**101**	**101**	**95**	70-130	
SV120-450-202	P2002104-014	**100**	**105**	**96**	70-130	
SV121-025-202	P2002104-015	**101**	**98**	**94**	70-130	
SV121-050-202	P2002104-016	**102**	**98**	**96**	70-130	
SV121-145-602	P2002104-017	**103**	**101**	**93**	70-130	
SV121-145-202	P2002104-018	**102**	**100**	**94**	70-130	
SV121-250-202	P2002104-019	**103**	**99**	**94**	70-130	
SV121-350-202	P2002104-020	**101**	**97**	**96**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200501-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	122	127	129	**104**	**106**	57-136	2	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	42.5	41.4	41.7	**97**	**98**	59-128	1	25	
74-87-3	Chloromethane	103	96.9	98.0	**94**	**95**	59-132	1	25	
75-01-4	Vinyl Chloride	83.0	79.2	78.0	**95**	**94**	64-127	1	25	
106-99-0	1,3-Butadiene	95.9	93.3	93.0	**97**	**97**	66-134	0	25	
75-00-3	Chloroethane	81.1	76.6	78.0	**94**	**96**	63-127	2	25	
64-17-5	Ethanol	563	532	536	**94**	**95**	59-125	1	25	
67-64-1	Acetone	450	439	441	**98**	**98**	58-128	0	25	
75-69-4	Trichlorofluoromethane	37.7	35.7	36.4	**95**	**97**	62-126	2	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	172	172	173	**100**	**101**	52-125	1	25	
75-09-2	Methylene Chloride	60.5	57.2	57.4	**95**	**95**	62-115	0	25	
76-13-1	Trichlorotrifluoroethane	28.2	27.9	27.8	**99**	**99**	66-126	0	25	
75-15-0	Carbon Disulfide	68.1	64.5	65.2	**95**	**96**	57-134	1	25	
75-34-3	1,1-Dichloroethane	52.4	50.3	50.3	**96**	**96**	68-126	0	25	
78-93-3	2-Butanone (MEK)	71.9	69.8	69.5	**97**	**97**	67-130	0	25	
141-78-6	Ethyl Acetate	120	128	127	**107**	**106**	65-128	0.9	25	
110-54-3	n-Hexane	61.3	62.2	61.8	**101**	**101**	63-120	0	25	
67-66-3	Chloroform	43.8	42.5	42.2	**97**	**96**	68-123	1	25	
109-99-9	Tetrahydrofuran (THF)	74.6	70.0	69.9	**94**	**94**	64-123	0	25	
107-06-2	1,2-Dichloroethane	52.9	50.5	49.7	**95**	**94**	65-128	1	25	
71-43-2	Benzene	65.8	64.7	64.2	**98**	**98**	69-119	0	25	
56-23-5	Carbon Tetrachloride	33.1	34.0	34.0	**103**	**103**	68-132	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200501-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	123	125	126	**102**	**102**	70-117	0	25	
75-27-4	Bromodichloromethane	32.6	32.8	32.7	**101**	**100**	72-128	1	25	
79-01-6	Trichloroethene	40.2	39.7	39.4	**99**	**98**	71-123	1	25	
123-91-1	1,4-Dioxane	60.0	61.3	61.0	**102**	**102**	71-122	0	25	
142-82-5	n-Heptane	52.2	51.6	51.1	**99**	**98**	69-123	1	25	
108-10-1	4-Methyl-2-pentanone	51.8	54.8	55.0	**106**	**106**	67-130	0	25	
108-88-3	Toluene	56.3	55.1	54.4	**98**	**97**	66-119	1	25	
591-78-6	2-Hexanone	52.7	55.8	55.1	**106**	**105**	62-128	0.9	25	
124-48-1	Dibromochloromethane	25.1	26.4	26.0	**105**	**104**	70-130	1	25	
106-93-4	1,2-Dibromoethane	27.9	28.3	27.9	**101**	**100**	74-122	1	25	
127-18-4	Tetrachloroethene	30.7	30.8	30.5	**100**	**99**	66-124	1	25	
100-41-4	Ethylbenzene	48.8	50.4	49.5	**103**	**101**	70-124	2	25	
179601-23-1	m,p-Xylenes	98.1	102	100	**104**	**102**	61-134	2	25	
75-25-2	Bromoform	20.7	21.8	21.4	**105**	**103**	66-139	2	25	
100-42-5	Styrene	49.8	54.3	53.4	**109**	**107**	73-127	2	25	
95-47-6	o-Xylene	49.3	50.3	49.5	**102**	**100**	67-125	2	25	
108-67-8	1,3,5-Trimethylbenzene	43.1	45.9	45.5	**106**	**106**	67-130	0	25	
95-63-6	1,2,4-Trimethylbenzene	43.1	50.3	49.5	**117**	**115**	66-132	2	25	
120-82-1	1,2,4-Trichlorobenzene	29.1	32.5	32.4	**112**	**111**	55-142	0.9	25	
91-20-3	Naphthalene	40.5	49.4	49.1	**122**	**121**	57-138	0.8	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200502-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	122	125	125	**102**	**102**	57-136	0	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	42.5	40.5	41.2	**95**	**97**	59-128	2	25	
74-87-3	Chloromethane	103	94.0	97.0	**91**	**94**	59-132	3	25	
75-01-4	Vinyl Chloride	83.0	78.0	78.2	**94**	**94**	64-127	0	25	
106-99-0	1,3-Butadiene	95.9	92.9	90.5	**97**	**94**	66-134	3	25	
75-00-3	Chloroethane	81.1	74.6	76.0	**92**	**94**	63-127	2	25	
64-17-5	Ethanol	563	532	528	**94**	**94**	59-125	0	25	
67-64-1	Acetone	450	438	433	**97**	**96**	58-128	1	25	
75-69-4	Trichlorofluoromethane	37.7	35.6	35.7	**94**	**95**	62-126	1	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	172	174	170	**101**	**99**	52-125	2	25	
75-09-2	Methylene Chloride	60.5	57.9	56.9	**96**	**94**	62-115	2	25	
76-13-1	Trichlorotrifluoroethane	28.2	27.8	27.9	**99**	**99**	66-126	0	25	
75-15-0	Carbon Disulfide	68.1	65.6	64.3	**96**	**94**	57-134	2	25	
75-34-3	1,1-Dichloroethane	52.4	49.6	49.6	**95**	**95**	68-126	0	25	
78-93-3	2-Butanone (MEK)	71.9	70.1	68.7	**97**	**96**	67-130	1	25	
141-78-6	Ethyl Acetate	120	129	127	**108**	**106**	65-128	2	25	
110-54-3	n-Hexane	61.3	62.1	61.3	**101**	**100**	63-120	1	25	
67-66-3	Chloroform	43.8	43.0	41.9	**98**	**96**	68-123	2	25	
109-99-9	Tetrahydrofuran (THF)	74.6	70.8	69.0	**95**	**92**	64-123	3	25	
107-06-2	1,2-Dichloroethane	52.9	50.3	49.5	**95**	**94**	65-128	1	25	
71-43-2	Benzene	65.8	63.6	63.1	**97**	**96**	69-119	1	25	
56-23-5	Carbon Tetrachloride	33.1	33.2	32.9	**100**	**99**	68-132	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200502-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	123	125	124	**102**	**101**	70-117	1	25	
75-27-4	Bromodichloromethane	32.6	32.6	32.0	**100**	**98**	72-128	2	25	
79-01-6	Trichloroethene	40.2	39.8	39.7	**99**	**99**	71-123	0	25	
123-91-1	1,4-Dioxane	60.0	60.7	59.7	**101**	**100**	71-122	1	25	
142-82-5	n-Heptane	52.2	50.2	50.1	**96**	**96**	69-123	0	25	
108-10-1	4-Methyl-2-pentanone	51.8	53.5	53.3	**103**	**103**	67-130	0	25	
108-88-3	Toluene	56.3	57.3	56.4	**102**	**100**	66-119	2	25	
591-78-6	2-Hexanone	52.7	57.1	57.1	**108**	**108**	62-128	0	25	
124-48-1	Dibromochloromethane	25.1	27.4	27.1	**109**	**108**	70-130	0.9	25	
106-93-4	1,2-Dibromoethane	27.9	29.3	28.9	**105**	**104**	74-122	1	25	
127-18-4	Tetrachloroethene	30.7	32.5	32.0	**106**	**104**	66-124	2	25	
100-41-4	Ethylbenzene	48.8	52.5	51.9	**108**	**106**	70-124	2	25	
179601-23-1	m,p-Xylenes	98.1	107	106	**109**	**108**	61-134	0.9	25	
75-25-2	Bromoform	20.7	22.8	22.5	**110**	**109**	66-139	0.9	25	
100-42-5	Styrene	49.8	56.8	56.0	**114**	**112**	73-127	2	25	
95-47-6	o-Xylene	49.3	52.5	51.9	**106**	**105**	67-125	0.9	25	
108-67-8	1,3,5-Trimethylbenzene	43.1	48.0	47.3	**111**	**110**	67-130	0.9	25	
95-63-6	1,2,4-Trimethylbenzene	43.1	53.0	52.3	**123**	**121**	66-132	2	25	
120-82-1	1,2,4-Trichlorobenzene	29.1	34.0	33.6	**117**	**115**	55-142	2	25	
91-20-3	Naphthalene	40.5	51.8	51.2	**128**	**126**	57-138	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200504-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	122	123	124	**101**	**102**	57-136	1	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	42.5	39.9	40.7	**94**	**96**	59-128	2	25	
74-87-3	Chloromethane	103	91.7	95.7	**89**	**93**	59-132	4	25	
75-01-4	Vinyl Chloride	83.0	76.6	78.6	**92**	**95**	64-127	3	25	
106-99-0	1,3-Butadiene	95.9	91.6	91.8	**96**	**96**	66-134	0	25	
75-00-3	Chloroethane	81.1	74.2	76.5	**91**	**94**	63-127	3	25	
64-17-5	Ethanol	563	520	525	**92**	**93**	59-125	1	25	
67-64-1	Acetone	450	429	435	**95**	**97**	58-128	2	25	
75-69-4	Trichlorofluoromethane	37.7	35.4	35.7	**94**	**95**	62-126	1	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	172	168	169	**98**	**98**	52-125	0	25	
75-09-2	Methylene Chloride	60.5	56.5	56.9	**93**	**94**	62-115	1	25	
76-13-1	Trichlorotrifluoroethane	28.2	27.5	27.6	**98**	**98**	66-126	0	25	
75-15-0	Carbon Disulfide	68.1	65.2	64.1	**96**	**94**	57-134	2	25	
75-34-3	1,1-Dichloroethane	52.4	48.5	49.6	**93**	**95**	68-126	2	25	
78-93-3	2-Butanone (MEK)	71.9	68.2	68.7	**95**	**96**	67-130	1	25	
141-78-6	Ethyl Acetate	120	127	126	**106**	**105**	65-128	0.9	25	
110-54-3	n-Hexane	61.3	61.5	61.5	**100**	**100**	63-120	0	25	
67-66-3	Chloroform	43.8	41.7	41.8	**95**	**95**	68-123	0	25	
109-99-9	Tetrahydrofuran (THF)	74.6	68.9	68.9	**92**	**92**	64-123	0	25	
107-06-2	1,2-Dichloroethane	52.9	48.8	48.8	**92**	**92**	65-128	0	25	
71-43-2	Benzene	65.8	62.8	63.2	**95**	**96**	69-119	1	25	
56-23-5	Carbon Tetrachloride	33.1	32.7	32.8	**99**	**99**	68-132	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200504-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	123	123	124	**100**	**101**	70-117	1	25	
75-27-4	Bromodichloromethane	32.6	32.1	31.8	**98**	**98**	72-128	0	25	
79-01-6	Trichloroethene	40.2	39.5	39.4	**98**	**98**	71-123	0	25	
123-91-1	1,4-Dioxane	60.0	60.2	59.9	**100**	**100**	71-122	0	25	
142-82-5	n-Heptane	52.2	49.8	50.5	**95**	**97**	69-123	2	25	
108-10-1	4-Methyl-2-pentanone	51.8	52.8	53.2	**102**	**103**	67-130	1	25	
108-88-3	Toluene	56.3	56.9	56.4	**101**	**100**	66-119	1	25	
591-78-6	2-Hexanone	52.7	56.7	56.6	**108**	**107**	62-128	0.9	25	
124-48-1	Dibromochloromethane	25.1	27.2	27.1	**108**	**108**	70-130	0	25	
106-93-4	1,2-Dibromoethane	27.9	28.9	29.0	**104**	**104**	74-122	0	25	
127-18-4	Tetrachloroethene	30.7	32.5	32.3	**106**	**105**	66-124	0.9	25	
100-41-4	Ethylbenzene	48.8	52.2	51.8	**107**	**106**	70-124	0.9	25	
179601-23-1	m,p-Xylenes	98.1	106	106	**108**	**108**	61-134	0	25	
75-25-2	Bromoform	20.7	22.7	22.5	**110**	**109**	66-139	0.9	25	
100-42-5	Styrene	49.8	56.1	55.9	**113**	**112**	73-127	0.9	25	
95-47-6	o-Xylene	49.3	52.2	51.9	**106**	**105**	67-125	0.9	25	
108-67-8	1,3,5-Trimethylbenzene	43.1	47.8	47.4	**111**	**110**	67-130	0.9	25	
95-63-6	1,2,4-Trimethylbenzene	43.1	53.2	52.6	**123**	**122**	66-132	0.8	25	
120-82-1	1,2,4-Trichlorobenzene	29.1	33.8	33.6	**116**	**115**	55-142	0.9	25	
91-20-3	Naphthalene	40.5	51.7	51.1	**128**	**126**	57-138	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV115-025-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-001

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00316

Initial Pressure (psig): -2.84 Final Pressure (psig): 6.30

Container Dilution Factor: 1.77

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.0**	2.3	1.4	0.58	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.4**	2.3	1.4	0.38	
74-87-3	Chloromethane	**0.75**	2.3	1.4	0.38	**J**
75-01-4	Vinyl Chloride	0.75	2.4	0.75	0.25	**U**
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.39	**U**
75-00-3	Chloroethane	1.4	2.4	1.4	0.29	**U**
64-17-5	Ethanol	**5.3**	23	3.7	1.6	**J**
67-64-1	Acetone	**24**	23	12	5.3	
75-69-4	Trichlorofluoromethane	**1.2**	2.3	1.4	0.36	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.0**	9.3	2.8	0.97	**J**
75-09-2	Methylene Chloride	1.4	2.3	1.4	0.66	**U**
76-13-1	Trichlorotrifluoroethane	**0.53**	2.4	0.75	0.34	**J**
75-15-0	Carbon Disulfide	2.4	4.9	2.4	0.71	**U**
75-34-3	1,1-Dichloroethane	1.5	2.4	1.5	0.35	**U**
78-93-3	2-Butanone (MEK)	**4.3**	4.9	1.4	0.49	**J**
141-78-6	Ethyl Acetate	2.9	4.9	2.9	1.2	**U**
110-54-3	n-Hexane	**3.0**	2.4	1.4	0.49	
67-66-3	Chloroform	**0.74**	2.4	0.75	0.31	**J**
109-99-9	Tetrahydrofuran (THF)	**0.66**	2.4	0.75	0.30	**J**
107-06-2	1,2-Dichloroethane	0.75	2.4	0.75	0.26	**U**
71-43-2	Benzene	0.75	2.3	0.75	0.34	**U**
56-23-5	Carbon Tetrachloride	**2.1**	2.3	0.75	0.33	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV115-025-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-001

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00316

Initial Pressure (psig): -2.84 Final Pressure (psig): 6.30

Container Dilution Factor: 1.77

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**3.8**	4.9	1.5	0.66	**J**
75-27-4	Bromodichloromethane	0.75	2.4	0.75	0.34	**U**
79-01-6	Trichloroethene	0.75	2.4	0.75	0.32	**U**
123-91-1	1,4-Dioxane	**2.2**	2.4	0.75	0.28	**J**
142-82-5	n-Heptane	**6.1**	2.4	1.4	0.38	
108-10-1	4-Methyl-2-pentanone	**0.52**	2.3	0.75	0.32	**J**
108-88-3	Toluene	**0.82**	2.4	0.75	0.29	**J**
591-78-6	2-Hexanone	**1.9**	2.4	0.75	0.29	**J**
124-48-1	Dibromochloromethane	0.75	2.4	0.75	0.31	**U**
106-93-4	1,2-Dibromoethane	0.75	2.4	0.75	0.27	**U**
127-18-4	Tetrachloroethene	**1.1**	2.3	0.75	0.31	**J**
100-41-4	Ethylbenzene	0.75	2.4	0.75	0.33	**U**
179601-23-1	m,p-Xylenes	1.5	4.9	1.5	0.62	**U**
75-25-2	Bromoform	1.4	2.4	1.4	0.49	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.38	**U**
95-47-6	o-Xylene	0.75	2.4	0.75	0.34	**U**
108-67-8	1,3,5-Trimethylbenzene	0.75	2.3	0.75	0.34	**U**
95-63-6	1,2,4-Trimethylbenzene	0.75	2.4	0.75	0.33	**U**
120-82-1	1,2,4-Trichlorobenzene	1.4	2.4	1.4	0.58	**U**
91-20-3	Naphthalene	1.4	2.3	1.4	0.58	**U**
1330-20-7	Xylenes, Total	1.5	4.9	1.5	0.62	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV115-025-602** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-002

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00072

Initial Pressure (psig): -4.20 Final Pressure (psig): 6.03

Container Dilution Factor: 1.97

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	1.6	2.6	1.6	0.64	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.4**	2.6	1.6	0.43	**J**
74-87-3	Chloromethane	1.6	2.6	1.6	0.42	**U**
75-01-4	Vinyl Chloride	0.84	2.7	0.84	0.28	**U**
106-99-0	1,3-Butadiene	1.6	2.6	1.6	0.43	**U**
75-00-3	Chloroethane	1.6	2.7	1.6	0.33	**U**
64-17-5	Ethanol	**5.0**	26	4.1	1.8	**J**
67-64-1	Acetone	**9.8**	26	13	5.9	**J**
75-69-4	Trichlorofluoromethane	**1.2**	2.6	1.6	0.40	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	3.1	10	3.1	1.1	**U**
75-09-2	Methylene Chloride	1.6	2.6	1.6	0.74	**U**
76-13-1	Trichlorotrifluoroethane	**0.55**	2.7	0.84	0.37	**J**
75-15-0	Carbon Disulfide	**1.8**	5.4	2.7	0.79	**J**
75-34-3	1,1-Dichloroethane	1.6	2.7	1.6	0.38	**U**
78-93-3	2-Butanone (MEK)	**1.6**	5.4	1.6	0.54	**J**
141-78-6	Ethyl Acetate	3.2	5.4	3.2	1.4	**U**
110-54-3	n-Hexane	**4.8**	2.7	1.6	0.54	
67-66-3	Chloroform	**0.70**	2.7	0.84	0.35	**J**
109-99-9	Tetrahydrofuran (THF)	**0.84**	2.7	0.84	0.33	**J**
107-06-2	1,2-Dichloroethane	0.84	2.7	0.84	0.29	**U**
71-43-2	Benzene	**0.47**	2.6	0.84	0.38	**J**
56-23-5	Carbon Tetrachloride	**2.1**	2.6	0.84	0.36	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV115-025-602** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-002

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00072

Initial Pressure (psig): -4.20 Final Pressure (psig): 6.03

Container Dilution Factor: 1.97

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**5.3**	5.4	1.7	0.74	**J**
75-27-4	Bromodichloromethane	0.84	2.7	0.84	0.38	**U**
79-01-6	Trichloroethene	0.84	2.7	0.84	0.35	**U**
123-91-1	1,4-Dioxane	0.84	2.7	0.84	0.31	**U**
142-82-5	n-Heptane	**9.7**	2.7	1.6	0.42	
108-10-1	4-Methyl-2-pentanone	**0.41**	2.6	0.84	0.36	**J**
108-88-3	Toluene	**1.2**	2.7	0.84	0.32	**J**
591-78-6	2-Hexanone	0.84	2.7	0.84	0.33	**U**
124-48-1	Dibromochloromethane	0.84	2.7	0.84	0.34	**U**
106-93-4	1,2-Dibromoethane	0.84	2.7	0.84	0.31	**U**
127-18-4	Tetrachloroethene	**0.79**	2.6	0.84	0.34	**J**
100-41-4	Ethylbenzene	0.84	2.7	0.84	0.37	**U**
179601-23-1	m,p-Xylenes	**0.84**	5.4	1.7	0.69	**J**
75-25-2	Bromoform	1.6	2.7	1.6	0.54	**U**
100-42-5	Styrene	1.6	2.6	1.6	0.42	**U**
95-47-6	o-Xylene	0.84	2.7	0.84	0.38	**U**
108-67-8	1,3,5-Trimethylbenzene	0.84	2.6	0.84	0.38	**U**
95-63-6	1,2,4-Trimethylbenzene	0.84	2.7	0.84	0.36	**U**
120-82-1	1,2,4-Trichlorobenzene	1.6	2.7	1.6	0.64	**U**
91-20-3	Naphthalene	1.5	2.6	1.5	0.64	**U**
1330-20-7	Xylenes, Total	**0.84**	5.4	1.7	0.69	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV115-050-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-003

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00724

Initial Pressure (psig): -2.15 Final Pressure (psig): 5.74

Container Dilution Factor: 1.63

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.4**	2.2	1.3	0.53	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.4**	2.2	1.3	0.35	
74-87-3	Chloromethane	1.3	2.2	1.3	0.35	**U**
75-01-4	Vinyl Chloride	0.69	2.2	0.69	0.23	**U**
106-99-0	1,3-Butadiene	1.3	2.2	1.3	0.36	**U**
75-00-3	Chloroethane	**0.29**	2.2	1.3	0.27	**J**
64-17-5	Ethanol	**3.6**	21	3.4	1.5	**J**
67-64-1	Acetone	**19**	22	11	4.9	**J**
75-69-4	Trichlorofluoromethane	**1.2**	2.2	1.3	0.33	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.1**	8.6	2.6	0.90	**J**
75-09-2	Methylene Chloride	1.3	2.2	1.3	0.61	**U**
76-13-1	Trichlorotrifluoroethane	**0.53**	2.2	0.69	0.31	**J**
75-15-0	Carbon Disulfide	**1.5**	4.5	2.2	0.65	**J**
75-34-3	1,1-Dichloroethane	1.3	2.2	1.3	0.32	**U**
78-93-3	2-Butanone (MEK)	**7.7**	4.5	1.3	0.45	
141-78-6	Ethyl Acetate	2.6	4.5	2.6	1.1	**U**
110-54-3	n-Hexane	**0.80**	2.2	1.3	0.45	**J**
67-66-3	Chloroform	**1.2**	2.2	0.69	0.29	**J**
109-99-9	Tetrahydrofuran (THF)	**31**	2.2	0.69	0.27	
107-06-2	1,2-Dichloroethane	0.69	2.2	0.69	0.24	**U**
71-43-2	Benzene	0.69	2.2	0.69	0.31	**U**
56-23-5	Carbon Tetrachloride	**3.2**	2.2	0.69	0.30	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV115-050-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-003

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00724

Initial Pressure (psig): -2.15 Final Pressure (psig): 5.74

Container Dilution Factor: 1.63

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.4	4.5	1.4	0.61	**U**
75-27-4	Bromodichloromethane	0.69	2.2	0.69	0.31	**U**
79-01-6	Trichloroethene	0.69	2.2	0.69	0.29	**U**
123-91-1	1,4-Dioxane	**0.50**	2.2	0.69	0.26	**J**
142-82-5	n-Heptane	**1.3**	2.2	1.3	0.35	**J**
108-10-1	4-Methyl-2-pentanone	**0.99**	2.2	0.69	0.30	**J**
108-88-3	Toluene	**0.43**	2.2	0.69	0.26	**J**
591-78-6	2-Hexanone	**2.1**	2.2	0.69	0.27	**J**
124-48-1	Dibromochloromethane	0.69	2.2	0.69	0.29	**U**
106-93-4	1,2-Dibromoethane	0.69	2.2	0.69	0.25	**U**
127-18-4	Tetrachloroethene	**0.74**	2.1	0.69	0.28	**J**
100-41-4	Ethylbenzene	0.69	2.2	0.69	0.31	**U**
179601-23-1	m,p-Xylenes	1.4	4.5	1.4	0.57	**U**
75-25-2	Bromoform	1.3	2.2	1.3	0.45	**U**
100-42-5	Styrene	1.3	2.2	1.3	0.35	**U**
95-47-6	o-Xylene	0.69	2.2	0.69	0.31	**U**
108-67-8	1,3,5-Trimethylbenzene	0.69	2.2	0.69	0.31	**U**
95-63-6	1,2,4-Trimethylbenzene	0.69	2.2	0.69	0.30	**U**
120-82-1	1,2,4-Trichlorobenzene	**2.2**	2.2	1.3	0.53	**J**
91-20-3	Naphthalene	**2.1**	2.1	1.3	0.53	
1330-20-7	Xylenes, Total	1.4	4.5	1.4	0.57	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV115-150-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-004

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00159

Initial Pressure (psig): -3.65 Final Pressure (psig): 5.53

Container Dilution Factor: 1.83

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	1.5	2.4	1.5	0.59	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.2**	2.4	1.5	0.40	**J**
74-87-3	Chloromethane	1.5	2.4	1.5	0.39	**U**
75-01-4	Vinyl Chloride	0.78	2.5	0.78	0.26	**U**
106-99-0	1,3-Butadiene	1.5	2.4	1.5	0.40	**U**
75-00-3	Chloroethane	1.5	2.5	1.5	0.30	**U**
64-17-5	Ethanol	**3.1**	24	3.8	1.7	**J**
67-64-1	Acetone	12	24	12	5.5	**U**
75-69-4	Trichlorofluoromethane	**1.2**	2.4	1.5	0.37	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	2.9	9.6	2.9	1.0	**U**
75-09-2	Methylene Chloride	1.5	2.4	1.5	0.69	**U**
76-13-1	Trichlorotrifluoroethane	**0.84**	2.5	0.78	0.35	**J**
75-15-0	Carbon Disulfide	**5.9**	5.0	2.5	0.73	
75-34-3	1,1-Dichloroethane	1.5	2.5	1.5	0.36	**U**
78-93-3	2-Butanone (MEK)	**0.65**	5.0	1.5	0.50	**J**
141-78-6	Ethyl Acetate	3.0	5.0	3.0	1.3	**U**
110-54-3	n-Hexane	**0.66**	2.5	1.5	0.50	**J**
67-66-3	Chloroform	**1.3**	2.5	0.78	0.32	**J**
109-99-9	Tetrahydrofuran (THF)	**8.3**	2.5	0.78	0.31	
107-06-2	1,2-Dichloroethane	0.78	2.5	0.78	0.27	**U**
71-43-2	Benzene	**0.64**	2.4	0.78	0.35	**J**
56-23-5	Carbon Tetrachloride	**7.3**	2.4	0.78	0.34	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV115-150-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-004

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00159

Initial Pressure (psig): -3.65 Final Pressure (psig): 5.53

Container Dilution Factor: 1.83

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**1.2**	5.0	1.6	0.69	**J**
75-27-4	Bromodichloromethane	0.78	2.5	0.78	0.35	**U**
79-01-6	Trichloroethene	**0.57**	2.5	0.78	0.33	**J**
123-91-1	1,4-Dioxane	0.78	2.5	0.78	0.29	**U**
142-82-5	n-Heptane	**2.3**	2.5	1.5	0.39	**J**
108-10-1	4-Methyl-2-pentanone	0.78	2.4	0.78	0.33	**U**
108-88-3	Toluene	**0.53**	2.5	0.78	0.30	**J**
591-78-6	2-Hexanone	0.78	2.5	0.78	0.30	**U**
124-48-1	Dibromochloromethane	0.78	2.5	0.78	0.32	**U**
106-93-4	1,2-Dibromoethane	0.78	2.5	0.78	0.28	**U**
127-18-4	Tetrachloroethene	**1.3**	2.4	0.78	0.32	**J**
100-41-4	Ethylbenzene	0.78	2.5	0.78	0.34	**U**
179601-23-1	m,p-Xylenes	1.6	5.0	1.6	0.64	**U**
75-25-2	Bromoform	1.5	2.5	1.5	0.50	**U**
100-42-5	Styrene	1.5	2.4	1.5	0.39	**U**
95-47-6	o-Xylene	0.78	2.5	0.78	0.35	**U**
108-67-8	1,3,5-Trimethylbenzene	0.78	2.4	0.78	0.35	**U**
95-63-6	1,2,4-Trimethylbenzene	0.78	2.5	0.78	0.34	**U**
120-82-1	1,2,4-Trichlorobenzene	1.5	2.5	1.5	0.59	**U**
91-20-3	Naphthalene	1.4	2.4	1.4	0.59	**U**
1330-20-7	Xylenes, Total	1.6	5.0	1.6	0.64	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV115-250-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-005

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01243

Initial Pressure (psig): -4.37 Final Pressure (psig): 6.23

Container Dilution Factor: 2.03

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	1.6	2.7	1.6	0.66	U
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.63**	2.7	1.6	0.44	J
74-87-3	Chloromethane	1.6	2.7	1.6	0.44	U
75-01-4	Vinyl Chloride	0.86	2.7	0.86	0.29	U
106-99-0	1,3-Butadiene	1.6	2.7	1.6	0.45	U
75-00-3	Chloroethane	1.6	2.7	1.6	0.33	U
64-17-5	Ethanol	**2.6**	26	4.2	1.9	J
67-64-1	Acetone	14	27	14	6.1	U
75-69-4	Trichlorofluoromethane	**0.75**	2.7	1.6	0.41	J
67-63-0	2-Propanol (Isopropyl Alcohol)	3.2	11	3.2	1.1	U
75-09-2	Methylene Chloride	1.6	2.7	1.6	0.76	U
76-13-1	Trichlorotrifluoroethane	**0.95**	2.7	0.86	0.39	J
75-15-0	Carbon Disulfide	2.7	5.6	2.7	0.81	U
75-34-3	1,1-Dichloroethane	1.7	2.8	1.7	0.40	U
78-93-3	2-Butanone (MEK)	**1.3**	5.6	1.6	0.56	J
141-78-6	Ethyl Acetate	**1.4**	5.6	3.3	1.4	J
110-54-3	n-Hexane	**0.65**	2.7	1.6	0.56	J
67-66-3	Chloroform	0.86	2.7	0.86	0.36	U
109-99-9	Tetrahydrofuran (THF)	**0.80**	2.8	0.86	0.34	J
107-06-2	1,2-Dichloroethane	0.86	2.7	0.86	0.30	U
71-43-2	Benzene	**0.46**	2.7	0.86	0.39	J
56-23-5	Carbon Tetrachloride	**0.89**	2.7	0.86	0.38	J

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV115-250-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-005

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01243

Initial Pressure (psig): -4.37 Final Pressure (psig): 6.23

Container Dilution Factor: 2.03

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.7	5.6	1.7	0.76	**U**
75-27-4	Bromodichloromethane	0.86	2.7	0.86	0.39	**U**
79-01-6	Trichloroethene	**0.83**	2.7	0.86	0.37	**J**
123-91-1	1,4-Dioxane	0.86	2.7	0.86	0.32	**U**
142-82-5	n-Heptane	**0.81**	2.7	1.6	0.43	**J**
108-10-1	4-Methyl-2-pentanone	0.86	2.7	0.86	0.37	**U**
108-88-3	Toluene	**0.48**	2.7	0.86	0.33	**J**
591-78-6	2-Hexanone	0.86	2.7	0.86	0.33	**U**
124-48-1	Dibromochloromethane	0.86	2.7	0.86	0.36	**U**
106-93-4	1,2-Dibromoethane	0.86	2.7	0.86	0.31	**U**
127-18-4	Tetrachloroethene	0.86	2.6	0.86	0.35	**U**
100-41-4	Ethylbenzene	0.86	2.7	0.86	0.38	**U**
179601-23-1	m,p-Xylenes	1.7	5.6	1.7	0.71	**U**
75-25-2	Bromoform	1.6	2.7	1.6	0.56	**U**
100-42-5	Styrene	1.6	2.7	1.6	0.44	**U**
95-47-6	o-Xylene	0.86	2.7	0.86	0.39	**U**
108-67-8	1,3,5-Trimethylbenzene	0.86	2.7	0.86	0.39	**U**
95-63-6	1,2,4-Trimethylbenzene	0.86	2.7	0.86	0.38	**U**
120-82-1	1,2,4-Trichlorobenzene	1.6	2.7	1.6	0.66	**U**
91-20-3	Naphthalene	1.6	2.6	1.6	0.66	**U**
1330-20-7	Xylenes, Total	1.7	5.6	1.7	0.71	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV115-350-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-006

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00213

Initial Pressure (psig): -2.58 Final Pressure (psig): 6.67

Container Dilution Factor: 1.76

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.4**	2.3	1.4	0.57	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	1.4	2.3	1.4	0.38	**U**
74-87-3	Chloromethane	**0.56**	2.3	1.4	0.38	**J**
75-01-4	Vinyl Chloride	0.75	2.4	0.75	0.25	**U**
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.39	**U**
75-00-3	Chloroethane	1.4	2.4	1.4	0.29	**U**
64-17-5	Ethanol	**8.3**	23	3.7	1.6	**J**
67-64-1	Acetone	**18**	23	12	5.3	**J**
75-69-4	Trichlorofluoromethane	1.4	2.3	1.4	0.36	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	**2.1**	9.2	2.8	0.97	**J**
75-09-2	Methylene Chloride	1.4	2.3	1.4	0.66	**U**
76-13-1	Trichlorotrifluoroethane	0.75	2.4	0.75	0.33	**U**
75-15-0	Carbon Disulfide	**11**	4.8	2.4	0.70	
75-34-3	1,1-Dichloroethane	1.5	2.4	1.5	0.34	**U**
78-93-3	2-Butanone (MEK)	**3.3**	4.8	1.4	0.48	**J**
141-78-6	Ethyl Acetate	**21**	4.8	2.9	1.2	
110-54-3	n-Hexane	**1.0**	2.4	1.4	0.48	**J**
67-66-3	Chloroform	**0.32**	2.4	0.75	0.31	**J**
109-99-9	Tetrahydrofuran (THF)	**22**	2.4	0.75	0.29	
107-06-2	1,2-Dichloroethane	0.75	2.4	0.75	0.26	**U**
71-43-2	Benzene	**0.85**	2.3	0.75	0.34	**J**
56-23-5	Carbon Tetrachloride	0.75	2.3	0.75	0.33	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV115-350-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-006

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00213

Initial Pressure (psig): -2.58 Final Pressure (psig): 6.67

Container Dilution Factor: 1.76

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**1.2**	4.8	1.5	0.66	**J**
75-27-4	Bromodichloromethane	0.75	2.4	0.75	0.34	**U**
79-01-6	Trichloroethene	**13**	2.4	0.75	0.32	
123-91-1	1,4-Dioxane	0.75	2.4	0.75	0.28	**U**
142-82-5	n-Heptane	**0.81**	2.4	1.4	0.37	**J**
108-10-1	4-Methyl-2-pentanone	0.75	2.3	0.75	0.32	**U**
108-88-3	Toluene	**3.6**	2.4	0.75	0.29	
591-78-6	2-Hexanone	**0.57**	2.4	0.75	0.29	**J**
124-48-1	Dibromochloromethane	0.75	2.4	0.75	0.31	**U**
106-93-4	1,2-Dibromoethane	0.75	2.4	0.75	0.27	**U**
127-18-4	Tetrachloroethene	0.75	2.3	0.75	0.30	**U**
100-41-4	Ethylbenzene	0.75	2.4	0.75	0.33	**U**
179601-23-1	m,p-Xylenes	1.5	4.8	1.5	0.62	**U**
75-25-2	Bromoform	1.4	2.4	1.4	0.48	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.38	**U**
95-47-6	o-Xylene	0.75	2.4	0.75	0.34	**U**
108-67-8	1,3,5-Trimethylbenzene	0.75	2.3	0.75	0.34	**U**
95-63-6	1,2,4-Trimethylbenzene	0.75	2.4	0.75	0.33	**U**
120-82-1	1,2,4-Trichlorobenzene	1.4	2.4	1.4	0.57	**U**
91-20-3	Naphthalene	1.4	2.3	1.4	0.57	**U**
1330-20-7	Xylenes, Total	1.5	4.8	1.5	0.62	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV115-450-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-007

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0015 Liter(s)
Test Notes:
Container ID: 1SC00610

Initial Pressure (psig): -2.61 Final Pressure (psig): 5.99

Container Dilution Factor: 1.71

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**540**	600	360	150	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	360	600	360	99	**U**
74-87-3	Chloromethane	360	600	360	98	**U**
75-01-4	Vinyl Chloride	190	620	190	65	**U**
106-99-0	1,3-Butadiene	360	600	360	100	**U**
75-00-3	Chloroethane	360	620	360	75	**U**
64-17-5	Ethanol	950	5,900	950	420	**U**
67-64-1	Acetone	3,100	6,000	3,100	1,400	**U**
75-69-4	Trichlorofluoromethane	360	600	360	92	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	720	2,400	720	250	**U**
75-09-2	Methylene Chloride	360	600	360	170	**U**
76-13-1	Trichlorotrifluoroethane	190	620	190	87	**U**
75-15-0	Carbon Disulfide	620	1,300	620	180	**U**
75-34-3	1,1-Dichloroethane	380	630	380	89	**U**
78-93-3	2-Butanone (MEK)	360	1,300	360	130	**U**
141-78-6	Ethyl Acetate	740	1,300	740	320	**U**
110-54-3	n-Hexane	**1,600**	620	360	130	
67-66-3	Chloroform	190	620	190	81	**U**
109-99-9	Tetrahydrofuran (THF)	190	630	190	76	**U**
107-06-2	1,2-Dichloroethane	190	620	190	67	**U**
71-43-2	Benzene	**3,800**	600	190	88	
56-23-5	Carbon Tetrachloride	190	600	190	84	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV115-450-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-007

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0015 Liter(s)
Test Notes:
Container ID: 1SC00610

Initial Pressure (psig): -2.61 Final Pressure (psig): 5.99

Container Dilution Factor: 1.71

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**3,900**	1,300	390	170	
75-27-4	Bromodichloromethane	190	620	190	88	**U**
79-01-6	Trichloroethene	190	620	190	82	**U**
123-91-1	1,4-Dioxane	190	620	190	72	**U**
142-82-5	n-Heptane	**180**	620	360	97	**J**
108-10-1	4-Methyl-2-pentanone	190	600	190	83	**U**
108-88-3	Toluene	**5,900**	620	190	74	
591-78-6	2-Hexanone	190	620	190	75	**U**
124-48-1	Dibromochloromethane	190	620	190	80	**U**
106-93-4	1,2-Dibromoethane	190	620	190	71	**U**
127-18-4	Tetrachloroethene	190	590	190	79	**U**
100-41-4	Ethylbenzene	**230**	620	190	86	**J**
179601-23-1	m,p-Xylenes	**620**	1,300	390	160	**J**
75-25-2	Bromoform	360	620	360	130	**U**
100-42-5	Styrene	360	600	360	98	**U**
95-47-6	o-Xylene	**270**	620	190	88	**J**
108-67-8	1,3,5-Trimethylbenzene	190	600	190	88	**U**
95-63-6	1,2,4-Trimethylbenzene	190	620	190	84	**U**
120-82-1	1,2,4-Trichlorobenzene	360	620	360	150	**U**
91-20-3	Naphthalene	350	590	350	150	**U**
1330-20-7	Xylenes, Total	**900**	1,300	390	160	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV120-025-602** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-008

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00161

Initial Pressure (psig): -4.45 Final Pressure (psig): 6.01

Container Dilution Factor: 2.02

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**3.3**	2.7	1.6	0.66	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.9**	2.7	1.6	0.44	
74-87-3	Chloromethane	1.6	2.7	1.6	0.43	**U**
75-01-4	Vinyl Chloride	0.86	2.7	0.86	0.29	**U**
106-99-0	1,3-Butadiene	1.6	2.7	1.6	0.44	**U**
75-00-3	Chloroethane	1.6	2.7	1.6	0.33	**U**
64-17-5	Ethanol	**7.0**	26	4.2	1.9	**J**
67-64-1	Acetone	**22**	27	14	6.1	**J**
75-69-4	Trichlorofluoromethane	**1.2**	2.7	1.6	0.41	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**12**	11	3.2	1.1	
75-09-2	Methylene Chloride	1.6	2.7	1.6	0.76	**U**
76-13-1	Trichlorotrifluoroethane	**0.47**	2.7	0.86	0.38	**J**
75-15-0	Carbon Disulfide	**2.1**	5.6	2.7	0.81	**J**
75-34-3	1,1-Dichloroethane	1.7	2.8	1.7	0.39	**U**
78-93-3	2-Butanone (MEK)	**1.7**	5.6	1.6	0.56	**J**
141-78-6	Ethyl Acetate	3.3	5.6	3.3	1.4	**U**
110-54-3	n-Hexane	1.6	2.7	1.6	0.56	**U**
67-66-3	Chloroform	**210**	2.7	0.86	0.36	
109-99-9	Tetrahydrofuran (THF)	**0.92**	2.8	0.86	0.34	**J**
107-06-2	1,2-Dichloroethane	0.86	2.7	0.86	0.30	**U**
71-43-2	Benzene	**0.90**	2.7	0.86	0.39	**J**
56-23-5	Carbon Tetrachloride	**1.9**	2.7	0.86	0.37	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV120-025-602** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-008

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00161

Initial Pressure (psig): -4.45 Final Pressure (psig): 6.01

Container Dilution Factor: 2.02

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.7	5.6	1.7	0.76	**U**
75-27-4	Bromodichloromethane	**54**	2.7	0.86	0.39	
79-01-6	Trichloroethene	**0.79**	2.7	0.86	0.36	**J**
123-91-1	1,4-Dioxane	0.86	2.7	0.86	0.32	**U**
142-82-5	n-Heptane	**1.7**	2.7	1.6	0.43	**J**
108-10-1	4-Methyl-2-pentanone	0.86	2.7	0.86	0.37	**U**
108-88-3	Toluene	**8.2**	2.7	0.86	0.33	
591-78-6	2-Hexanone	**0.68**	2.7	0.86	0.33	**J**
124-48-1	Dibromochloromethane	**1.6**	2.7	0.86	0.35	**J**
106-93-4	1,2-Dibromoethane	0.86	2.7	0.86	0.31	**U**
127-18-4	Tetrachloroethene	**2.3**	2.6	0.86	0.35	**J**
100-41-4	Ethylbenzene	**1.9**	2.7	0.86	0.38	**J**
179601-23-1	m,p-Xylenes	**7.3**	5.6	1.7	0.71	
75-25-2	Bromoform	1.6	2.7	1.6	0.56	**U**
100-42-5	Styrene	1.6	2.7	1.6	0.43	**U**
95-47-6	o-Xylene	**3.1**	2.7	0.86	0.39	
108-67-8	1,3,5-Trimethylbenzene	**1.4**	2.7	0.86	0.39	**J**
95-63-6	1,2,4-Trimethylbenzene	**3.1**	2.7	0.86	0.37	
120-82-1	1,2,4-Trichlorobenzene	1.6	2.7	1.6	0.66	**U**
91-20-3	Naphthalene	**1.7**	2.6	1.6	0.66	**J**
1330-20-7	Xylenes, Total	**10**	5.6	1.7	0.71	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV120-025-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-009

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01209

Initial Pressure (psig): -2.19 Final Pressure (psig): 5.42

Container Dilution Factor: 1.61

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.7**	2.1	1.3	0.52	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.5**	2.1	1.3	0.35	
74-87-3	Chloromethane	1.3	2.1	1.3	0.35	**U**
75-01-4	Vinyl Chloride	0.68	2.2	0.68	0.23	**U**
106-99-0	1,3-Butadiene	1.3	2.1	1.3	0.35	**U**
75-00-3	Chloroethane	1.3	2.2	1.3	0.27	**U**
64-17-5	Ethanol	**4.6**	21	3.3	1.5	**J**
67-64-1	Acetone	**7.9**	21	11	4.8	**J**
75-69-4	Trichlorofluoromethane	**1.1**	2.1	1.3	0.33	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**5.8**	8.5	2.5	0.89	**J**
75-09-2	Methylene Chloride	1.3	2.1	1.3	0.60	**U**
76-13-1	Trichlorotrifluoroethane	**0.39**	2.2	0.68	0.31	**J**
75-15-0	Carbon Disulfide	2.2	4.4	2.2	0.64	**U**
75-34-3	1,1-Dichloroethane	1.3	2.2	1.3	0.31	**U**
78-93-3	2-Butanone (MEK)	**1.0**	4.4	1.3	0.44	**J**
141-78-6	Ethyl Acetate	2.6	4.4	2.6	1.1	**U**
110-54-3	n-Hexane	1.3	2.2	1.3	0.44	**U**
67-66-3	Chloroform	**170**	2.2	0.68	0.29	
109-99-9	Tetrahydrofuran (THF)	**0.39**	2.2	0.68	0.27	**J**
107-06-2	1,2-Dichloroethane	0.68	2.2	0.68	0.24	**U**
71-43-2	Benzene	**0.40**	2.1	0.68	0.31	**J**
56-23-5	Carbon Tetrachloride	**1.5**	2.1	0.68	0.30	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV120-025-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-009

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01209

Initial Pressure (psig): -2.19 Final Pressure (psig): 5.42

Container Dilution Factor: 1.61

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.4	4.4	1.4	0.60	**U**
75-27-4	Bromodichloromethane	**44**	2.2	0.68	0.31	
79-01-6	Trichloroethene	**0.95**	2.2	0.68	0.29	**J**
123-91-1	1,4-Dioxane	**0.40**	2.2	0.68	0.25	**J**
142-82-5	n-Heptane	**0.77**	2.2	1.3	0.34	**J**
108-10-1	4-Methyl-2-pentanone	0.68	2.1	0.68	0.29	**U**
108-88-3	Toluene	**5.4**	2.2	0.68	0.26	
591-78-6	2-Hexanone	**0.50**	2.2	0.68	0.27	**J**
124-48-1	Dibromochloromethane	**1.4**	2.2	0.68	0.28	**J**
106-93-4	1,2-Dibromoethane	**0.32**	2.2	0.68	0.25	**J**
127-18-4	Tetrachloroethene	**2.1**	2.1	0.68	0.28	
100-41-4	Ethylbenzene	**1.4**	2.2	0.68	0.30	**J**
179601-23-1	m,p-Xylenes	**4.6**	4.4	1.4	0.56	
75-25-2	Bromoform	1.3	2.2	1.3	0.44	**U**
100-42-5	Styrene	1.3	2.1	1.3	0.35	**U**
95-47-6	o-Xylene	**2.2**	2.2	0.68	0.31	**J**
108-67-8	1,3,5-Trimethylbenzene	**1.1**	2.1	0.68	0.31	**J**
95-63-6	1,2,4-Trimethylbenzene	**2.5**	2.2	0.68	0.30	
120-82-1	1,2,4-Trichlorobenzene	1.3	2.2	1.3	0.52	**U**
91-20-3	Naphthalene	**1.3**	2.1	1.2	0.52	**J**
1330-20-7	Xylenes, Total	**6.8**	4.4	1.4	0.56	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV120-050-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-010

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan/Topacio De Leon Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00959

Initial Pressure (psig): -1.91 Final Pressure (psig): 6.80

Container Dilution Factor: 1.68

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.5**	2.2	1.3	0.55	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**3.0**	2.2	1.3	0.37	
74-87-3	Chloromethane	**0.37**	2.2	1.3	0.36	**J**
75-01-4	Vinyl Chloride	0.71	2.3	0.71	0.24	**U**
106-99-0	1,3-Butadiene	1.3	2.2	1.3	0.37	**U**
75-00-3	Chloroethane	1.3	2.3	1.3	0.28	**U**
64-17-5	Ethanol	**10**	22	3.5	1.6	**J**
67-64-1	Acetone	**32**	22	11	5.0	
75-69-4	Trichlorofluoromethane	**1.2**	2.2	1.3	0.34	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**3.1**	8.8	2.6	0.92	**J**
75-09-2	Methylene Chloride	**6.9**	2.2	1.3	0.63	
76-13-1	Trichlorotrifluoroethane	**0.89**	2.3	0.71	0.32	**J**
75-15-0	Carbon Disulfide	**1.8**	4.6	2.3	0.67	**J**
75-34-3	1,1-Dichloroethane	1.4	2.3	1.4	0.33	**U**
78-93-3	2-Butanone (MEK)	**33**	4.6	1.3	0.46	
141-78-6	Ethyl Acetate	**28**	4.6	2.7	1.2	
110-54-3	n-Hexane	1.3	2.3	1.3	0.46	**U**
67-66-3	Chloroform	**1,000**	23	7.1	3.0	**D**
109-99-9	Tetrahydrofuran (THF)	**63**	2.3	0.71	0.28	
107-06-2	1,2-Dichloroethane	0.71	2.3	0.71	0.25	**U**
71-43-2	Benzene	0.71	2.2	0.71	0.32	**U**
56-23-5	Carbon Tetrachloride	**20**	2.2	0.71	0.31	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV120-050-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-010

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan/Topacio De Leon Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00959

Initial Pressure (psig): -1.91 Final Pressure (psig): 6.80

Container Dilution Factor: 1.68

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.4	4.6	1.4	0.63	**U**
75-27-4	Bromodichloromethane	**380**	23	7.1	3.2	**D**
79-01-6	Trichloroethene	**4.6**	2.3	0.71	0.30	
123-91-1	1,4-Dioxane	**0.27**	2.3	0.71	0.26	**J**
142-82-5	n-Heptane	1.3	2.3	1.3	0.36	**U**
108-10-1	4-Methyl-2-pentanone	**0.45**	2.2	0.71	0.31	**J**
108-88-3	Toluene	**2.2**	2.3	0.71	0.27	**J**
591-78-6	2-Hexanone	**1.8**	2.3	0.71	0.28	**J**
124-48-1	Dibromochloromethane	**78**	2.3	0.71	0.29	
106-93-4	1,2-Dibromoethane	0.71	2.3	0.71	0.26	**U**
127-18-4	Tetrachloroethene	**9.5**	2.2	0.71	0.29	
100-41-4	Ethylbenzene	0.71	2.3	0.71	0.32	**U**
179601-23-1	m,p-Xylenes	1.4	4.6	1.4	0.59	**U**
75-25-2	Bromoform	1.3	2.3	1.3	0.46	**U**
100-42-5	Styrene	1.3	2.2	1.3	0.36	**U**
95-47-6	o-Xylene	0.71	2.3	0.71	0.32	**U**
108-67-8	1,3,5-Trimethylbenzene	0.71	2.2	0.71	0.32	**U**
95-63-6	1,2,4-Trimethylbenzene	0.71	2.3	0.71	0.31	**U**
120-82-1	1,2,4-Trichlorobenzene	1.3	2.3	1.3	0.55	**U**
91-20-3	Naphthalene	1.3	2.2	1.3	0.55	**U**
1330-20-7	Xylenes, Total	1.4	4.6	1.4	0.59	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV120-150-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-011

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00441

Initial Pressure (psig): -2.19 Final Pressure (psig): 5.57

Container Dilution Factor: 1.62

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**2.7**	2.1	1.3	0.53	
75-71-8	Dichlorodifluoromethane (CFC 12)	**9.6**	2.1	1.3	0.35	
74-87-3	Chloromethane	**0.40**	2.1	1.3	0.35	**J**
75-01-4	Vinyl Chloride	0.69	2.2	0.69	0.23	**U**
106-99-0	1,3-Butadiene	1.3	2.1	1.3	0.36	**U**
75-00-3	Chloroethane	1.3	2.2	1.3	0.27	**U**
64-17-5	Ethanol	**4.7**	21	3.4	1.5	**J**
67-64-1	Acetone	**29**	21	11	4.9	
75-69-4	Trichlorofluoromethane	**1.1**	2.1	1.3	0.33	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**3.8**	8.5	2.6	0.89	**J**
75-09-2	Methylene Chloride	1.3	2.1	1.3	0.61	**U**
76-13-1	Trichlorotrifluoroethane	**1.0**	2.2	0.69	0.31	**J**
75-15-0	Carbon Disulfide	**1.4**	4.5	2.2	0.65	**J**
75-34-3	1,1-Dichloroethane	1.3	2.2	1.3	0.32	**U**
78-93-3	2-Butanone (MEK)	**12**	4.5	1.3	0.45	
141-78-6	Ethyl Acetate	2.6	4.5	2.6	1.1	**U**
110-54-3	n-Hexane	1.3	2.2	1.3	0.45	**U**
67-66-3	Chloroform	**51**	2.2	0.69	0.29	
109-99-9	Tetrahydrofuran (THF)	**6.6**	2.2	0.69	0.27	
107-06-2	1,2-Dichloroethane	0.69	2.2	0.69	0.24	**U**
71-43-2	Benzene	**0.99**	2.1	0.69	0.31	**J**
56-23-5	Carbon Tetrachloride	**22**	2.1	0.69	0.30	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV120-150-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-011

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00441

Initial Pressure (psig): -2.19 Final Pressure (psig): 5.57

Container Dilution Factor: 1.62

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.4	4.5	1.4	0.61	**U**
75-27-4	Bromodichloromethane	**4.7**	2.2	0.69	0.31	
79-01-6	Trichloroethene	0.69	2.2	0.69	0.29	**U**
123-91-1	1,4-Dioxane	0.69	2.2	0.69	0.26	**U**
142-82-5	n-Heptane	1.3	2.2	1.3	0.34	**U**
108-10-1	4-Methyl-2-pentanone	**0.47**	2.1	0.69	0.30	**J**
108-88-3	Toluene	**0.91**	2.2	0.69	0.26	**J**
591-78-6	2-Hexanone	**2.2**	2.2	0.69	0.27	
124-48-1	Dibromochloromethane	0.69	2.2	0.69	0.28	**U**
106-93-4	1,2-Dibromoethane	0.69	2.2	0.69	0.25	**U**
127-18-4	Tetrachloroethene	**2.9**	2.1	0.69	0.28	
100-41-4	Ethylbenzene	0.69	2.2	0.69	0.30	**U**
179601-23-1	m,p-Xylenes	1.4	4.5	1.4	0.57	**U**
75-25-2	Bromoform	1.3	2.2	1.3	0.45	**U**
100-42-5	Styrene	1.3	2.1	1.3	0.35	**U**
95-47-6	o-Xylene	0.69	2.2	0.69	0.31	**U**
108-67-8	1,3,5-Trimethylbenzene	0.69	2.1	0.69	0.31	**U**
95-63-6	1,2,4-Trimethylbenzene	0.69	2.2	0.69	0.30	**U**
120-82-1	1,2,4-Trichlorobenzene	1.3	2.2	1.3	0.53	**U**
91-20-3	Naphthalene	1.3	2.1	1.3	0.53	**U**
1330-20-7	Xylenes, Total	1.4	4.5	1.4	0.57	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV120-250-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-012

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00530

Initial Pressure (psig): -1.77 Final Pressure (psig): 5.38

Container Dilution Factor: 1.55

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**0.68**	2.1	1.2	0.50	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**10**	2.1	1.2	0.34	
74-87-3	Chloromethane	**0.52**	2.1	1.2	0.33	**J**
75-01-4	Vinyl Chloride	0.66	2.1	0.66	0.22	**U**
106-99-0	1,3-Butadiene	1.2	2.1	1.2	0.34	**U**
75-00-3	Chloroethane	1.2	2.1	1.2	0.26	**U**
64-17-5	Ethanol	**2.9**	20	3.2	1.4	**J**
67-64-1	Acetone	**8.2**	21	10	4.7	**J**
75-69-4	Trichlorofluoromethane	**1.2**	2.1	1.2	0.31	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.6**	8.1	2.4	0.85	**J**
75-09-2	Methylene Chloride	1.2	2.1	1.2	0.58	**U**
76-13-1	Trichlorotrifluoroethane	**0.72**	2.1	0.66	0.29	**J**
75-15-0	Carbon Disulfide	**1.9**	4.3	2.1	0.62	**J**
75-34-3	1,1-Dichloroethane	1.3	2.1	1.3	0.30	**U**
78-93-3	2-Butanone (MEK)	**3.1**	4.3	1.2	0.43	**J**
141-78-6	Ethyl Acetate	2.5	4.3	2.5	1.1	**U**
110-54-3	n-Hexane	1.2	2.1	1.2	0.43	**U**
67-66-3	Chloroform	**2.3**	2.1	0.66	0.28	
109-99-9	Tetrahydrofuran (THF)	**4.5**	2.1	0.66	0.26	
107-06-2	1,2-Dichloroethane	0.66	2.1	0.66	0.23	**U**
71-43-2	Benzene	0.66	2.1	0.66	0.30	**U**
56-23-5	Carbon Tetrachloride	**2.4**	2.1	0.66	0.29	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV120-250-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-012

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00530

Initial Pressure (psig): -1.77 Final Pressure (psig): 5.38

Container Dilution Factor: 1.55

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.3	4.3	1.3	0.58	**U**
75-27-4	Bromodichloromethane	**0.48**	2.1	0.66	0.30	**J**
79-01-6	Trichloroethene	0.66	2.1	0.66	0.28	**U**
123-91-1	1,4-Dioxane	0.66	2.1	0.66	0.24	**U**
142-82-5	n-Heptane	1.2	2.1	1.2	0.33	**U**
108-10-1	4-Methyl-2-pentanone	**0.99**	2.1	0.66	0.28	**J**
108-88-3	Toluene	**0.56**	2.1	0.66	0.25	**J**
591-78-6	2-Hexanone	**0.48**	2.1	0.66	0.26	**J**
124-48-1	Dibromochloromethane	0.66	2.1	0.66	0.27	**U**
106-93-4	1,2-Dibromoethane	0.66	2.1	0.66	0.24	**U**
127-18-4	Tetrachloroethene	**0.42**	2.0	0.66	0.27	**J**
100-41-4	Ethylbenzene	0.66	2.1	0.66	0.29	**U**
179601-23-1	m,p-Xylenes	1.3	4.3	1.3	0.54	**U**
75-25-2	Bromoform	1.2	2.1	1.2	0.43	**U**
100-42-5	Styrene	1.2	2.1	1.2	0.33	**U**
95-47-6	o-Xylene	0.66	2.1	0.66	0.30	**U**
108-67-8	1,3,5-Trimethylbenzene	0.66	2.1	0.66	0.30	**U**
95-63-6	1,2,4-Trimethylbenzene	0.66	2.1	0.66	0.29	**U**
120-82-1	1,2,4-Trichlorobenzene	1.2	2.1	1.2	0.50	**U**
91-20-3	Naphthalene	1.2	2.0	1.2	0.50	**U**
1330-20-7	Xylenes, Total	1.3	4.3	1.3	0.54	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV120-350-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-013

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.15 Liter(s)
Test Notes:
Container ID: 1SC00526

Initial Pressure (psig): -2.31 Final Pressure (psig): 5.91

Container Dilution Factor: 1.66

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**9.1**	5.9	3.5	1.4	
75-71-8	Dichlorodifluoromethane (CFC 12)	**120**	5.9	3.5	0.96	
74-87-3	Chloromethane	3.5	5.9	3.5	0.95	**U**
75-01-4	Vinyl Chloride	1.9	6.0	1.9	0.63	**U**
106-99-0	1,3-Butadiene	3.5	5.9	3.5	0.97	**U**
75-00-3	Chloroethane	3.5	6.0	3.5	0.73	**U**
64-17-5	Ethanol	9.2	58	9.2	4.1	**U**
67-64-1	Acetone	**57**	59	30	13	**J**
75-69-4	Trichlorofluoromethane	**13**	5.9	3.5	0.90	
67-63-0	2-Propanol (Isopropyl Alcohol)	7.0	23	7.0	2.4	**U**
75-09-2	Methylene Chloride	3.5	5.9	3.5	1.7	**U**
76-13-1	Trichlorotrifluoroethane	**3.1**	6.0	1.9	0.84	**J**
75-15-0	Carbon Disulfide	6.0	12	6.0	1.8	**U**
75-34-3	1,1-Dichloroethane	3.7	6.1	3.7	0.86	**U**
78-93-3	2-Butanone (MEK)	**10**	12	3.5	1.2	**J**
141-78-6	Ethyl Acetate	7.2	12	7.2	3.1	**U**
110-54-3	n-Hexane	**17**	6.0	3.5	1.2	
67-66-3	Chloroform	1.9	6.0	1.9	0.79	**U**
109-99-9	Tetrahydrofuran (THF)	**1.1**	6.1	1.9	0.74	**J**
107-06-2	1,2-Dichloroethane	1.9	6.0	1.9	0.65	**U**
71-43-2	Benzene	**83**	5.9	1.9	0.85	
56-23-5	Carbon Tetrachloride	1.9	5.9	1.9	0.82	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV120-350-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-013

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.15 Liter(s)
Test Notes:
Container ID: 1SC00526

Initial Pressure (psig): -2.31 Final Pressure (psig): 5.91

Container Dilution Factor: 1.66

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**47**	12	3.8	1.7	
75-27-4	Bromodichloromethane	1.9	6.0	1.9	0.85	**U**
79-01-6	Trichloroethene	1.9	6.0	1.9	0.80	**U**
123-91-1	1,4-Dioxane	1.9	6.0	1.9	0.70	**U**
142-82-5	n-Heptane	3.5	6.0	3.5	0.94	**U**
108-10-1	4-Methyl-2-pentanone	1.9	5.9	1.9	0.81	**U**
108-88-3	Toluene	**4.2**	6.0	1.9	0.72	**J**
591-78-6	2-Hexanone	**1.3**	6.0	1.9	0.73	**J**
124-48-1	Dibromochloromethane	1.9	6.0	1.9	0.77	**U**
106-93-4	1,2-Dibromoethane	1.9	6.0	1.9	0.69	**U**
127-18-4	Tetrachloroethene	**1.9**	5.8	1.9	0.76	**J**
100-41-4	Ethylbenzene	1.9	6.0	1.9	0.83	**U**
179601-23-1	m,p-Xylenes	3.8	12	3.8	1.5	**U**
75-25-2	Bromoform	3.5	6.0	3.5	1.2	**U**
100-42-5	Styrene	3.5	5.9	3.5	0.95	**U**
95-47-6	o-Xylene	**1.4**	6.0	1.9	0.85	**J**
108-67-8	1,3,5-Trimethylbenzene	1.9	5.9	1.9	0.85	**U**
95-63-6	1,2,4-Trimethylbenzene	1.9	6.0	1.9	0.82	**U**
120-82-1	1,2,4-Trichlorobenzene	3.5	6.0	3.5	1.4	**U**
91-20-3	Naphthalene	3.4	5.8	3.4	1.4	**U**
1330-20-7	Xylenes, Total	3.8	12	3.8	1.5	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV120-450-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-014

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SS00767

Initial Pressure (psig): -2.95 Final Pressure (psig): 5.67

Container Dilution Factor: 1.73

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	28	46	28	11	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**99**	46	28	7.5	
74-87-3	Chloromethane	**24**	46	28	7.4	**J**
75-01-4	Vinyl Chloride	**7.0**	47	15	4.9	**J**
106-99-0	1,3-Butadiene	28	46	28	7.6	**U**
75-00-3	Chloroethane	**6.4**	47	28	5.7	**J**
64-17-5	Ethanol	72	450	72	32	**U**
67-64-1	Acetone	230	460	230	100	**U**
75-69-4	Trichlorofluoromethane	**10**	46	28	7.0	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	54	180	54	19	**U**
75-09-2	Methylene Chloride	28	46	28	13	**U**
76-13-1	Trichlorotrifluoroethane	15	47	15	6.6	**U**
75-15-0	Carbon Disulfide	**150**	95	47	14	
75-34-3	1,1-Dichloroethane	29	48	29	6.7	**U**
78-93-3	2-Butanone (MEK)	28	95	28	9.5	**U**
141-78-6	Ethyl Acetate	56	95	56	24	**U**
110-54-3	n-Hexane	**24**	47	28	9.5	**J**
67-66-3	Chloroform	15	47	15	6.1	**U**
109-99-9	Tetrahydrofuran (THF)	**27**	48	15	5.8	**J**
107-06-2	1,2-Dichloroethane	15	47	15	5.1	**U**
71-43-2	Benzene	**110**	46	15	6.7	
56-23-5	Carbon Tetrachloride	15	46	15	6.4	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV120-450-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-014

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SS00767

Initial Pressure (psig): -2.95 Final Pressure (psig): 5.67

Container Dilution Factor: 1.73

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**22**	95	29	13	**J**
75-27-4	Bromodichloromethane	15	47	15	6.7	**U**
79-01-6	Trichloroethene	15	47	15	6.2	**U**
123-91-1	1,4-Dioxane	15	47	15	5.4	**U**
142-82-5	n-Heptane	28	47	28	7.4	**U**
108-10-1	4-Methyl-2-pentanone	15	46	15	6.3	**U**
108-88-3	Toluene	**130**	47	15	5.6	
591-78-6	2-Hexanone	15	47	15	5.7	**U**
124-48-1	Dibromochloromethane	15	47	15	6.1	**U**
106-93-4	1,2-Dibromoethane	15	47	15	5.4	**U**
127-18-4	Tetrachloroethene	15	45	15	6.0	**U**
100-41-4	Ethylbenzene	**6.9**	47	15	6.5	**J**
179601-23-1	m,p-Xylenes	**14**	95	29	12	**J**
75-25-2	Bromoform	28	47	28	9.5	**U**
100-42-5	Styrene	28	46	28	7.4	**U**
95-47-6	o-Xylene	**9.1**	47	15	6.7	**J**
108-67-8	1,3,5-Trimethylbenzene	15	46	15	6.7	**U**
95-63-6	1,2,4-Trimethylbenzene	15	47	15	6.4	**U**
120-82-1	1,2,4-Trichlorobenzene	28	47	28	11	**U**
91-20-3	Naphthalene	27	45	27	11	**U**
1330-20-7	Xylenes, Total	**24**	95	29	12	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV121-025-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-015

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/2/20 & 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00763

Initial Pressure (psig): -3.53 Final Pressure (psig): 5.25

Container Dilution Factor: 1.79

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.0**	2.4	1.4	0.58	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**3.7**	2.4	1.4	0.39	
74-87-3	Chloromethane	1.4	2.4	1.4	0.38	**U**
75-01-4	Vinyl Chloride	0.76	2.4	0.76	0.26	**U**
106-99-0	1,3-Butadiene	1.4	2.4	1.4	0.39	**U**
75-00-3	Chloroethane	1.4	2.4	1.4	0.30	**U**
64-17-5	Ethanol	**15**	23	3.7	1.7	**J, B**
67-64-1	Acetone	**16**	24	12	5.4	**J**
75-69-4	Trichlorofluoromethane	**1.2**	2.4	1.4	0.36	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.3**	9.4	2.8	0.98	**J**
75-09-2	Methylene Chloride	**1.1**	2.4	1.4	0.67	**J**
76-13-1	Trichlorotrifluoroethane	**0.69**	2.4	0.76	0.34	**J**
75-15-0	Carbon Disulfide	2.4	4.9	2.4	0.72	**U**
75-34-3	1,1-Dichloroethane	1.5	2.5	1.5	0.35	**U**
78-93-3	2-Butanone (MEK)	**3.7**	4.9	1.4	0.49	**J**
141-78-6	Ethyl Acetate	2.9	4.9	2.9	1.3	**U**
110-54-3	n-Hexane	1.4	2.4	1.4	0.49	**U**
67-66-3	Chloroform	**500**	24	7.6	3.2	**D**
109-99-9	Tetrahydrofuran (THF)	**0.56**	2.5	0.76	0.30	**J**
107-06-2	1,2-Dichloroethane	0.76	2.4	0.76	0.26	**U**
71-43-2	Benzene	0.76	2.4	0.76	0.34	**U**
56-23-5	Carbon Tetrachloride	**15**	2.4	0.76	0.33	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV121-025-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-015

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/2/20 & 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00763

Initial Pressure (psig): -3.53 Final Pressure (psig): 5.25

Container Dilution Factor: 1.79

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.5	4.9	1.5	0.67	**U**
75-27-4	Bromodichloromethane	**45**	2.4	0.76	0.34	
79-01-6	Trichloroethene	**2.2**	2.4	0.76	0.32	**J**
123-91-1	1,4-Dioxane	0.76	2.4	0.76	0.28	**U**
142-82-5	n-Heptane	1.4	2.4	1.4	0.38	**U**
108-10-1	4-Methyl-2-pentanone	0.76	2.4	0.76	0.33	**U**
108-88-3	Toluene	**1.2**	2.4	0.76	0.29	**J**
591-78-6	2-Hexanone	**0.53**	2.4	0.76	0.30	**J**
124-48-1	Dibromochloromethane	**1.2**	2.4	0.76	0.31	**J**
106-93-4	1,2-Dibromoethane	0.76	2.4	0.76	0.28	**U**
127-18-4	Tetrachloroethene	**4.6**	2.3	0.76	0.31	
100-41-4	Ethylbenzene	0.76	2.4	0.76	0.34	**U**
179601-23-1	m,p-Xylenes	1.5	4.9	1.5	0.63	**U**
75-25-2	Bromoform	1.4	2.4	1.4	0.49	**U**
100-42-5	Styrene	1.4	2.4	1.4	0.38	**U**
95-47-6	o-Xylene	0.76	2.4	0.76	0.34	**U**
108-67-8	1,3,5-Trimethylbenzene	0.76	2.4	0.76	0.34	**U**
95-63-6	1,2,4-Trimethylbenzene	**0.68**	2.4	0.76	0.33	**J**
120-82-1	1,2,4-Trichlorobenzene	1.4	2.4	1.4	0.58	**U**
91-20-3	Naphthalene	1.4	2.3	1.4	0.58	**U**
1330-20-7	Xylenes, Total	1.5	4.9	1.5	0.63	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV121-050-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-016

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/2/20 & 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00206

Initial Pressure (psig): -2.23 Final Pressure (psig): 6.73

Container Dilution Factor: 1.72

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**0.95**	2.3	1.4	0.56	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**4.0**	2.3	1.4	0.37	
74-87-3	Chloromethane	**0.47**	2.3	1.4	0.37	**J**
75-01-4	Vinyl Chloride	0.73	2.3	0.73	0.25	**U**
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.38	**U**
75-00-3	Chloroethane	1.4	2.3	1.4	0.28	**U**
64-17-5	Ethanol	**9.2**	22	3.6	1.6	**J, B**
67-64-1	Acetone	**12**	23	12	5.2	**J**
75-69-4	Trichlorofluoromethane	**1.2**	2.3	1.4	0.35	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.2**	9.0	2.7	0.95	**J**
75-09-2	Methylene Chloride	1.4	2.3	1.4	0.65	**U**
76-13-1	Trichlorotrifluoroethane	**0.69**	2.3	0.73	0.33	**J**
75-15-0	Carbon Disulfide	**3.0**	4.7	2.3	0.69	**J**
75-34-3	1,1-Dichloroethane	1.4	2.4	1.4	0.34	**U**
78-93-3	2-Butanone (MEK)	**2.4**	4.7	1.4	0.47	**J**
141-78-6	Ethyl Acetate	2.8	4.7	2.8	1.2	**U**
110-54-3	n-Hexane	1.4	2.3	1.4	0.47	**U**
67-66-3	Chloroform	**590**	23	7.3	3.1	**D**
109-99-9	Tetrahydrofuran (THF)	**3.5**	2.4	0.73	0.29	
107-06-2	1,2-Dichloroethane	0.73	2.3	0.73	0.25	**U**
71-43-2	Benzene	**0.42**	2.3	0.73	0.33	**J**
56-23-5	Carbon Tetrachloride	**16**	2.3	0.73	0.32	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV121-050-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-016

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/2/20 & 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00206

Initial Pressure (psig): -2.23 Final Pressure (psig): 6.73

Container Dilution Factor: 1.72

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.5	4.7	1.5	0.65	**U**
75-27-4	Bromodichloromethane	**53**	2.3	0.73	0.33	
79-01-6	Trichloroethene	**2.4**	2.3	0.73	0.31	
123-91-1	1,4-Dioxane	**0.51**	2.3	0.73	0.27	**J**
142-82-5	n-Heptane	**0.40**	2.3	1.4	0.37	**J**
108-10-1	4-Methyl-2-pentanone	0.73	2.3	0.73	0.31	**U**
108-88-3	Toluene	**1.9**	2.3	0.73	0.28	**J**
591-78-6	2-Hexanone	**0.87**	2.3	0.73	0.28	**J**
124-48-1	Dibromochloromethane	**2.1**	2.3	0.73	0.30	**J**
106-93-4	1,2-Dibromoethane	0.73	2.3	0.73	0.27	**U**
127-18-4	Tetrachloroethene	**5.2**	2.2	0.73	0.30	
100-41-4	Ethylbenzene	0.73	2.3	0.73	0.32	**U**
179601-23-1	m,p-Xylenes	1.5	4.7	1.5	0.60	**U**
75-25-2	Bromoform	1.4	2.3	1.4	0.47	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.37	**U**
95-47-6	o-Xylene	0.73	2.3	0.73	0.33	**U**
108-67-8	1,3,5-Trimethylbenzene	0.73	2.3	0.73	0.33	**U**
95-63-6	1,2,4-Trimethylbenzene	**0.44**	2.3	0.73	0.32	**J**
120-82-1	1,2,4-Trichlorobenzene	1.4	2.3	1.4	0.56	**U**
91-20-3	Naphthalene	1.3	2.2	1.3	0.56	**U**
1330-20-7	Xylenes, Total	1.5	4.7	1.5	0.60	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV121-145-602** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-017

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/2/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01023

Initial Pressure (psig): -2.97 Final Pressure (psig): 6.04

Container Dilution Factor: 1.77

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**0.76**	2.3	1.4	0.58	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**17**	2.3	1.4	0.38	
74-87-3	Chloromethane	1.4	2.3	1.4	0.38	**U**
75-01-4	Vinyl Chloride	0.75	2.4	0.75	0.25	**U**
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.39	**U**
75-00-3	Chloroethane	1.4	2.4	1.4	0.29	**U**
64-17-5	Ethanol	3.7	23	3.7	1.6	**U**
67-64-1	Acetone	**7.5**	23	12	5.3	**J**
75-69-4	Trichlorofluoromethane	**1.7**	2.3	1.4	0.36	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	2.8	9.3	2.8	0.97	**U**
75-09-2	Methylene Chloride	1.4	2.3	1.4	0.66	**U**
76-13-1	Trichlorotrifluoroethane	**0.92**	2.4	0.75	0.34	**J**
75-15-0	Carbon Disulfide	**4.0**	4.9	2.4	0.71	**J**
75-34-3	1,1-Dichloroethane	1.5	2.4	1.5	0.35	**U**
78-93-3	2-Butanone (MEK)	**3.8**	4.9	1.4	0.49	**J**
141-78-6	Ethyl Acetate	**2.9**	4.9	2.9	1.2	**J**
110-54-3	n-Hexane	**0.50**	2.4	1.4	0.49	**J**
67-66-3	Chloroform	**46**	2.4	0.75	0.31	
109-99-9	Tetrahydrofuran (THF)	**31**	2.4	0.75	0.30	
107-06-2	1,2-Dichloroethane	0.75	2.4	0.75	0.26	**U**
71-43-2	Benzene	**0.43**	2.3	0.75	0.34	**J**
56-23-5	Carbon Tetrachloride	**14**	2.3	0.75	0.33	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV121-145-602** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-017

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/2/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01023

Initial Pressure (psig): -2.97 Final Pressure (psig): 6.04

Container Dilution Factor: 1.77

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.5	4.9	1.5	0.66	**U**
75-27-4	Bromodichloromethane	**3.0**	2.4	0.75	0.34	
79-01-6	Trichloroethene	0.75	2.4	0.75	0.32	**U**
123-91-1	1,4-Dioxane	0.75	2.4	0.75	0.28	**U**
142-82-5	n-Heptane	**0.98**	2.4	1.4	0.38	**J**
108-10-1	4-Methyl-2-pentanone	0.75	2.3	0.75	0.32	**U**
108-88-3	Toluene	**2.5**	2.4	0.75	0.29	
591-78-6	2-Hexanone	**0.31**	2.4	0.75	0.29	**J**
124-48-1	Dibromochloromethane	0.75	2.4	0.75	0.31	**U**
106-93-4	1,2-Dibromoethane	0.75	2.4	0.75	0.27	**U**
127-18-4	Tetrachloroethene	**1.9**	2.3	0.75	0.31	**J**
100-41-4	Ethylbenzene	**0.36**	2.4	0.75	0.33	**J**
179601-23-1	m,p-Xylenes	**1.4**	4.9	1.5	0.62	**J**
75-25-2	Bromoform	1.4	2.4	1.4	0.49	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.38	**U**
95-47-6	o-Xylene	**0.51**	2.4	0.75	0.34	**J**
108-67-8	1,3,5-Trimethylbenzene	0.75	2.3	0.75	0.34	**U**
95-63-6	1,2,4-Trimethylbenzene	**0.46**	2.4	0.75	0.33	**J**
120-82-1	1,2,4-Trichlorobenzene	1.4	2.4	1.4	0.58	**U**
91-20-3	Naphthalene	1.4	2.3	1.4	0.58	**U**
1330-20-7	Xylenes, Total	**1.9**	4.9	1.5	0.62	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV121-145-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-018

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01200

Initial Pressure (psig): -2.90 Final Pressure (psig): 5.82

Container Dilution Factor: 1.74

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**2.0**	2.3	1.4	0.57	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**19**	2.3	1.4	0.38	
74-87-3	Chloromethane	**0.48**	2.3	1.4	0.37	**J**
75-01-4	Vinyl Chloride	0.74	2.3	0.74	0.25	**U**
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.38	**U**
75-00-3	Chloroethane	1.4	2.3	1.4	0.29	**U**
64-17-5	Ethanol	**3.5**	23	3.6	1.6	**J, B**
67-64-1	Acetone	**19**	23	12	5.2	**J**
75-69-4	Trichlorofluoromethane	**1.7**	2.3	1.4	0.35	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**4.4**	9.1	2.7	0.96	**J**
75-09-2	Methylene Chloride	1.4	2.3	1.4	0.65	**U**
76-13-1	Trichlorotrifluoroethane	**0.92**	2.3	0.74	0.33	**J**
75-15-0	Carbon Disulfide	**1.7**	4.8	2.3	0.70	**J**
75-34-3	1,1-Dichloroethane	1.4	2.4	1.4	0.34	**U**
78-93-3	2-Butanone (MEK)	**4.3**	4.8	1.4	0.48	**J**
141-78-6	Ethyl Acetate	2.8	4.8	2.8	1.2	**U**
110-54-3	n-Hexane	1.4	2.3	1.4	0.48	**U**
67-66-3	Chloroform	**50**	2.3	0.74	0.31	
109-99-9	Tetrahydrofuran (THF)	**30**	2.4	0.74	0.29	
107-06-2	1,2-Dichloroethane	0.74	2.3	0.74	0.26	**U**
71-43-2	Benzene	**0.37**	2.3	0.74	0.33	**J**
56-23-5	Carbon Tetrachloride	**16**	2.3	0.74	0.32	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV121-145-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-018

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01200

Initial Pressure (psig): -2.90 Final Pressure (psig): 5.82

Container Dilution Factor: 1.74

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.5	4.8	1.5	0.65	**U**
75-27-4	Bromodichloromethane	**3.2**	2.3	0.74	0.33	
79-01-6	Trichloroethene	**0.33**	2.3	0.74	0.31	**J**
123-91-1	1,4-Dioxane	**0.28**	2.3	0.74	0.27	**J**
142-82-5	n-Heptane	1.4	2.3	1.4	0.37	**U**
108-10-1	4-Methyl-2-pentanone	0.74	2.3	0.74	0.32	**U**
108-88-3	Toluene	**0.98**	2.3	0.74	0.28	**J**
591-78-6	2-Hexanone	**0.31**	2.3	0.74	0.29	**J**
124-48-1	Dibromochloromethane	0.74	2.3	0.74	0.30	**U**
106-93-4	1,2-Dibromoethane	0.74	2.3	0.74	0.27	**U**
127-18-4	Tetrachloroethene	**2.3**	2.3	0.74	0.30	
100-41-4	Ethylbenzene	0.74	2.3	0.74	0.33	**U**
179601-23-1	m,p-Xylenes	1.5	4.8	1.5	0.61	**U**
75-25-2	Bromoform	1.4	2.3	1.4	0.48	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.37	**U**
95-47-6	o-Xylene	0.74	2.3	0.74	0.33	**U**
108-67-8	1,3,5-Trimethylbenzene	0.74	2.3	0.74	0.33	**U**
95-63-6	1,2,4-Trimethylbenzene	0.74	2.3	0.74	0.32	**U**
120-82-1	1,2,4-Trichlorobenzene	1.4	2.3	1.4	0.57	**U**
91-20-3	Naphthalene	1.3	2.3	1.3	0.57	**U**
1330-20-7	Xylenes, Total	1.5	4.8	1.5	0.61	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV121-250-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-019

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00218

Initial Pressure (psig): -3.43 Final Pressure (psig): 5.85

Container Dilution Factor: 1.82

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**0.76**	2.4	1.5	0.59	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**26**	2.4	1.5	0.40	
74-87-3	Chloromethane	1.5	2.4	1.5	0.39	**U**
75-01-4	Vinyl Chloride	0.77	2.5	0.77	0.26	**U**
106-99-0	1,3-Butadiene	1.5	2.4	1.5	0.40	**U**
75-00-3	Chloroethane	1.5	2.5	1.5	0.30	**U**
64-17-5	Ethanol	**4.0**	24	3.8	1.7	**J, B**
67-64-1	Acetone	**13**	24	12	5.5	**J**
75-69-4	Trichlorofluoromethane	**2.1**	2.4	1.5	0.37	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	2.9	9.6	2.9	1.0	**U**
75-09-2	Methylene Chloride	1.5	2.4	1.5	0.68	**U**
76-13-1	Trichlorotrifluoroethane	**1.2**	2.5	0.77	0.35	**J**
75-15-0	Carbon Disulfide	**4.5**	5.0	2.5	0.73	**J**
75-34-3	1,1-Dichloroethane	1.5	2.5	1.5	0.35	**U**
78-93-3	2-Butanone (MEK)	**2.4**	5.0	1.5	0.50	**J**
141-78-6	Ethyl Acetate	3.0	5.0	3.0	1.3	**U**
110-54-3	n-Hexane	1.5	2.5	1.5	0.50	**U**
67-66-3	Chloroform	**2.5**	2.5	0.77	0.32	
109-99-9	Tetrahydrofuran (THF)	**6.9**	2.5	0.77	0.30	
107-06-2	1,2-Dichloroethane	0.77	2.5	0.77	0.27	**U**
71-43-2	Benzene	0.77	2.4	0.77	0.35	**U**
56-23-5	Carbon Tetrachloride	**3.7**	2.4	0.77	0.34	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV121-250-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-019

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00218

Initial Pressure (psig): -3.43 Final Pressure (psig): 5.85

Container Dilution Factor: 1.82

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.5	5.0	1.5	0.68	**U**
75-27-4	Bromodichloromethane	0.77	2.5	0.77	0.35	**U**
79-01-6	Trichloroethene	0.77	2.5	0.77	0.33	**U**
123-91-1	1,4-Dioxane	**0.92**	2.5	0.77	0.29	**J**
142-82-5	n-Heptane	1.5	2.5	1.5	0.39	**U**
108-10-1	4-Methyl-2-pentanone	0.77	2.4	0.77	0.33	**U**
108-88-3	Toluene	**0.56**	2.5	0.77	0.30	**J**
591-78-6	2-Hexanone	**0.59**	2.5	0.77	0.30	**J**
124-48-1	Dibromochloromethane	0.77	2.5	0.77	0.32	**U**
106-93-4	1,2-Dibromoethane	0.77	2.5	0.77	0.28	**U**
127-18-4	Tetrachloroethene	**0.35**	2.4	0.77	0.31	**J**
100-41-4	Ethylbenzene	0.77	2.5	0.77	0.34	**U**
179601-23-1	m,p-Xylenes	1.5	5.0	1.5	0.64	**U**
75-25-2	Bromoform	1.5	2.5	1.5	0.50	**U**
100-42-5	Styrene	1.5	2.4	1.5	0.39	**U**
95-47-6	o-Xylene	0.77	2.5	0.77	0.35	**U**
108-67-8	1,3,5-Trimethylbenzene	0.77	2.4	0.77	0.35	**U**
95-63-6	1,2,4-Trimethylbenzene	0.77	2.5	0.77	0.34	**U**
120-82-1	1,2,4-Trichlorobenzene	1.5	2.5	1.5	0.59	**U**
91-20-3	Naphthalene	1.4	2.4	1.4	0.59	**U**
1330-20-7	Xylenes, Total	1.5	5.0	1.5	0.64	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV121-350-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-020

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00125

Initial Pressure (psig): -2.84 Final Pressure (psig): 6.01

Container Dilution Factor: 1.75

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.1**	2.3	1.4	0.57	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**140**	2.3	1.4	0.38	
74-87-3	Chloromethane	**0.57**	2.3	1.4	0.38	**J**
75-01-4	Vinyl Chloride	0.74	2.4	0.74	0.25	**U**
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.39	**U**
75-00-3	Chloroethane	1.4	2.4	1.4	0.29	**U**
64-17-5	Ethanol	**12**	23	3.6	1.6	**J, B**
67-64-1	Acetone	**14**	23	12	5.3	**J**
75-69-4	Trichlorofluoromethane	**15**	2.3	1.4	0.35	
67-63-0	2-Propanol (Isopropyl Alcohol)	**2.1**	9.2	2.8	0.96	**J**
75-09-2	Methylene Chloride	1.4	2.3	1.4	0.66	**U**
76-13-1	Trichlorotrifluoroethane	**3.5**	2.4	0.74	0.33	
75-15-0	Carbon Disulfide	**8.6**	4.8	2.4	0.70	
75-34-3	1,1-Dichloroethane	1.4	2.4	1.4	0.34	**U**
78-93-3	2-Butanone (MEK)	**2.4**	4.8	1.4	0.48	**J**
141-78-6	Ethyl Acetate	**49**	4.8	2.8	1.2	
110-54-3	n-Hexane	**1.3**	2.4	1.4	0.48	**J**
67-66-3	Chloroform	**0.76**	2.4	0.74	0.31	**J**
109-99-9	Tetrahydrofuran (THF)	**4.9**	2.4	0.74	0.29	
107-06-2	1,2-Dichloroethane	0.74	2.4	0.74	0.26	**U**
71-43-2	Benzene	**1.3**	2.3	0.74	0.34	**J**
56-23-5	Carbon Tetrachloride	**0.53**	2.3	0.74	0.32	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV121-350-202** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002104-020

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00125

Initial Pressure (psig): -2.84 Final Pressure (psig): 6.01

Container Dilution Factor: 1.75

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**1.6**	4.8	1.5	0.66	**J**
75-27-4	Bromodichloromethane	0.74	2.4	0.74	0.34	**U**
79-01-6	Trichloroethene	0.74	2.4	0.74	0.32	**U**
123-91-1	1,4-Dioxane	0.74	2.4	0.74	0.28	**U**
142-82-5	n-Heptane	1.4	2.4	1.4	0.37	**U**
108-10-1	4-Methyl-2-pentanone	0.74	2.3	0.74	0.32	**U**
108-88-3	Toluene	**4.2**	2.4	0.74	0.28	
591-78-6	2-Hexanone	**0.68**	2.4	0.74	0.29	**J**
124-48-1	Dibromochloromethane	0.74	2.4	0.74	0.31	**U**
106-93-4	1,2-Dibromoethane	0.74	2.4	0.74	0.27	**U**
127-18-4	Tetrachloroethene	**0.80**	2.3	0.74	0.30	**J**
100-41-4	Ethylbenzene	0.74	2.4	0.74	0.33	**U**
179601-23-1	m,p-Xylenes	**0.69**	4.8	1.5	0.61	**J**
75-25-2	Bromoform	1.4	2.4	1.4	0.48	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.38	**U**
95-47-6	o-Xylene	**0.35**	2.4	0.74	0.34	**J**
108-67-8	1,3,5-Trimethylbenzene	0.74	2.3	0.74	0.34	**U**
95-63-6	1,2,4-Trimethylbenzene	0.74	2.4	0.74	0.32	**U**
120-82-1	1,2,4-Trichlorobenzene	1.4	2.4	1.4	0.57	**U**
91-20-3	Naphthalene	1.4	2.3	1.4	0.57	**U**
1330-20-7	Xylenes, Total	**1.0**	4.8	1.5	0.61	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200501-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	0.32	0.53	0.32	0.13	U
75-71-8	Dichlorodifluoromethane (CFC 12)	0.32	0.53	0.32	0.087	U
74-87-3	Chloromethane	0.32	0.53	0.32	0.086	U
75-01-4	Vinyl Chloride	0.17	0.54	0.17	0.057	U
106-99-0	1,3-Butadiene	0.32	0.53	0.32	0.088	U
75-00-3	Chloroethane	0.32	0.54	0.32	0.066	U
64-17-5	Ethanol	0.83	5.2	0.83	0.37	U
67-64-1	Acetone	2.7	5.3	2.7	1.2	U
75-69-4	Trichlorofluoromethane	0.32	0.53	0.32	0.081	U
67-63-0	2-Propanol (Isopropyl Alcohol)	0.63	2.1	0.63	0.22	U
75-09-2	Methylene Chloride	0.32	0.53	0.32	0.15	U
76-13-1	Trichlorotrifluoroethane	0.17	0.54	0.17	0.076	U
75-15-0	Carbon Disulfide	0.54	1.1	0.54	0.16	U
75-34-3	1,1-Dichloroethane	0.33	0.55	0.33	0.078	U
78-93-3	2-Butanone (MEK)	0.32	1.1	0.32	0.11	U
141-78-6	Ethyl Acetate	0.65	1.1	0.65	0.28	U
110-54-3	n-Hexane	0.32	0.54	0.32	0.11	U
67-66-3	Chloroform	0.17	0.54	0.17	0.071	U
109-99-9	Tetrahydrofuran (THF)	0.17	0.55	0.17	0.067	U
107-06-2	1,2-Dichloroethane	0.17	0.54	0.17	0.059	U
71-43-2	Benzene	0.17	0.53	0.17	0.077	U
56-23-5	Carbon Tetrachloride	0.17	0.53	0.17	0.074	U

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200501-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	0.34	1.1	0.34	0.15	U
75-27-4	Bromodichloromethane	0.17	0.54	0.17	0.077	U
79-01-6	Trichloroethene	0.17	0.54	0.17	0.072	U
123-91-1	1,4-Dioxane	0.17	0.54	0.17	0.063	U
142-82-5	n-Heptane	0.32	0.54	0.32	0.085	U
108-10-1	4-Methyl-2-pentanone	0.17	0.53	0.17	0.073	U
108-88-3	Toluene	0.17	0.54	0.17	0.065	U
591-78-6	2-Hexanone	0.17	0.54	0.17	0.066	U
124-48-1	Dibromochloromethane	0.17	0.54	0.17	0.070	U
106-93-4	1,2-Dibromoethane	0.17	0.54	0.17	0.062	U
127-18-4	Tetrachloroethene	0.17	0.52	0.17	0.069	U
100-41-4	Ethylbenzene	0.17	0.54	0.17	0.075	U
179601-23-1	m,p-Xylenes	0.34	1.1	0.34	0.14	U
75-25-2	Bromoform	0.32	0.54	0.32	0.11	U
100-42-5	Styrene	0.32	0.53	0.32	0.086	U
95-47-6	o-Xylene	0.17	0.54	0.17	0.077	U
108-67-8	1,3,5-Trimethylbenzene	0.17	0.53	0.17	0.077	U
95-63-6	1,2,4-Trimethylbenzene	0.17	0.54	0.17	0.074	U
120-82-1	1,2,4-Trichlorobenzene	0.32	0.54	0.32	0.13	U
91-20-3	Naphthalene	0.31	0.52	0.31	0.13	U
1330-20-7	Xylenes, Total	0.34	1.1	0.34	0.14	U

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200502-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	0.32	0.53	0.32	0.13	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.32	0.53	0.32	0.087	**U**
74-87-3	Chloromethane	0.32	0.53	0.32	0.086	**U**
75-01-4	Vinyl Chloride	0.17	0.54	0.17	0.057	**U**
106-99-0	1,3-Butadiene	0.32	0.53	0.32	0.088	**U**
75-00-3	Chloroethane	0.32	0.54	0.32	0.066	**U**
64-17-5	Ethanol	**0.55**	5.2	0.83	0.37	**J**
67-64-1	Acetone	2.7	5.3	2.7	1.2	**U**
75-69-4	Trichlorofluoromethane	0.32	0.53	0.32	0.081	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.63	2.1	0.63	0.22	**U**
75-09-2	Methylene Chloride	0.32	0.53	0.32	0.15	**U**
76-13-1	Trichlorotrifluoroethane	0.17	0.54	0.17	0.076	**U**
75-15-0	Carbon Disulfide	0.54	1.1	0.54	0.16	**U**
75-34-3	1,1-Dichloroethane	0.33	0.55	0.33	0.078	**U**
78-93-3	2-Butanone (MEK)	0.32	1.1	0.32	0.11	**U**
141-78-6	Ethyl Acetate	0.65	1.1	0.65	0.28	**U**
110-54-3	n-Hexane	0.32	0.54	0.32	0.11	**U**
67-66-3	Chloroform	0.17	0.54	0.17	0.071	**U**
109-99-9	Tetrahydrofuran (THF)	0.17	0.55	0.17	0.067	**U**
107-06-2	1,2-Dichloroethane	0.17	0.54	0.17	0.059	**U**
71-43-2	Benzene	0.17	0.53	0.17	0.077	**U**
56-23-5	Carbon Tetrachloride	0.17	0.53	0.17	0.074	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200502-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	0.34	1.1	0.34	0.15	U
75-27-4	Bromodichloromethane	0.17	0.54	0.17	0.077	U
79-01-6	Trichloroethene	0.17	0.54	0.17	0.072	U
123-91-1	1,4-Dioxane	0.17	0.54	0.17	0.063	U
142-82-5	n-Heptane	0.32	0.54	0.32	0.085	U
108-10-1	4-Methyl-2-pentanone	0.17	0.53	0.17	0.073	U
108-88-3	Toluene	0.17	0.54	0.17	0.065	U
591-78-6	2-Hexanone	0.17	0.54	0.17	0.066	U
124-48-1	Dibromochloromethane	0.17	0.54	0.17	0.070	U
106-93-4	1,2-Dibromoethane	0.17	0.54	0.17	0.062	U
127-18-4	Tetrachloroethene	0.17	0.52	0.17	0.069	U
100-41-4	Ethylbenzene	0.17	0.54	0.17	0.075	U
179601-23-1	m,p-Xylenes	0.34	1.1	0.34	0.14	U
75-25-2	Bromoform	0.32	0.54	0.32	0.11	U
100-42-5	Styrene	0.32	0.53	0.32	0.086	U
95-47-6	o-Xylene	0.17	0.54	0.17	0.077	U
108-67-8	1,3,5-Trimethylbenzene	0.17	0.53	0.17	0.077	U
95-63-6	1,2,4-Trimethylbenzene	0.17	0.54	0.17	0.074	U
120-82-1	1,2,4-Trichlorobenzene	0.32	0.54	0.32	0.13	U
91-20-3	Naphthalene	0.31	0.52	0.31	0.13	U
1330-20-7	Xylenes, Total	0.34	1.1	0.34	0.14	U

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200504-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	0.32	0.53	0.32	0.13	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.32	0.53	0.32	0.087	**U**
74-87-3	Chloromethane	0.32	0.53	0.32	0.086	**U**
75-01-4	Vinyl Chloride	0.17	0.54	0.17	0.057	**U**
106-99-0	1,3-Butadiene	0.32	0.53	0.32	0.088	**U**
75-00-3	Chloroethane	0.32	0.54	0.32	0.066	**U**
64-17-5	Ethanol	**0.42**	5.2	0.83	0.37	**J**
67-64-1	Acetone	2.7	5.3	2.7	1.2	**U**
75-69-4	Trichlorofluoromethane	0.32	0.53	0.32	0.081	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.63	2.1	0.63	0.22	**U**
75-09-2	Methylene Chloride	0.32	0.53	0.32	0.15	**U**
76-13-1	Trichlorotrifluoroethane	0.17	0.54	0.17	0.076	**U**
75-15-0	Carbon Disulfide	0.54	1.1	0.54	0.16	**U**
75-34-3	1,1-Dichloroethane	0.33	0.55	0.33	0.078	**U**
78-93-3	2-Butanone (MEK)	0.32	1.1	0.32	0.11	**U**
141-78-6	Ethyl Acetate	0.65	1.1	0.65	0.28	**U**
110-54-3	n-Hexane	0.32	0.54	0.32	0.11	**U**
67-66-3	Chloroform	0.17	0.54	0.17	0.071	**U**
109-99-9	Tetrahydrofuran (THF)	0.17	0.55	0.17	0.067	**U**
107-06-2	1,2-Dichloroethane	0.17	0.54	0.17	0.059	**U**
71-43-2	Benzene	0.17	0.53	0.17	0.077	**U**
56-23-5	Carbon Tetrachloride	0.17	0.53	0.17	0.074	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200504-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	0.34	1.1	0.34	0.15	U
75-27-4	Bromodichloromethane	0.17	0.54	0.17	0.077	U
79-01-6	Trichloroethene	0.17	0.54	0.17	0.072	U
123-91-1	1,4-Dioxane	0.17	0.54	0.17	0.063	U
142-82-5	n-Heptane	0.32	0.54	0.32	0.085	U
108-10-1	4-Methyl-2-pentanone	0.17	0.53	0.17	0.073	U
108-88-3	Toluene	0.17	0.54	0.17	0.065	U
591-78-6	2-Hexanone	0.17	0.54	0.17	0.066	U
124-48-1	Dibromochloromethane	0.17	0.54	0.17	0.070	U
106-93-4	1,2-Dibromoethane	0.17	0.54	0.17	0.062	U
127-18-4	Tetrachloroethene	0.17	0.52	0.17	0.069	U
100-41-4	Ethylbenzene	0.17	0.54	0.17	0.075	U
179601-23-1	m,p-Xylenes	0.34	1.1	0.34	0.14	U
75-25-2	Bromoform	0.32	0.54	0.32	0.11	U
100-42-5	Styrene	0.32	0.53	0.32	0.086	U
95-47-6	o-Xylene	0.17	0.54	0.17	0.077	U
108-67-8	1,3,5-Trimethylbenzene	0.17	0.53	0.17	0.077	U
95-63-6	1,2,4-Trimethylbenzene	0.17	0.54	0.17	0.074	U
120-82-1	1,2,4-Trichlorobenzene	0.32	0.54	0.32	0.13	U
91-20-3	Naphthalene	0.31	0.52	0.31	0.13	U
1330-20-7	Xylenes, Total	0.34	1.1	0.34	0.14	U

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Project ID: P2002104

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date(s) Collected: 4/14 - 4/15/20
Analyst: Lusine Hakobyan Date(s) Received: 4/20/20
Sampling Media: 1.0 L Summa Canister(s) / 1.0 L Silonite Summa Canister(s) Date(s) Analyzed: 5/1 - 5/4/20
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P200501-MB	**103**	**99**	**98**	70-130	
Method Blank	P200502-MB	**100**	**100**	**95**	70-130	
Method Blank	P200504-MB	**101**	**102**	**95**	70-130	
Lab Control Sample	P200501-LCS	**97**	**97**	**106**	70-130	
Lab Control Sample	P200502-LCS	**96**	**101**	**105**	70-130	
Lab Control Sample	P200504-LCS	**95**	**101**	**106**	70-130	
Duplicate Lab Control Sample	P200501-DLCS	**97**	**97**	**105**	70-130	
Duplicate Lab Control Sample	P200502-DLCS	**95**	**100**	**105**	70-130	
Duplicate Lab Control Sample	P200504-DLCS	**95**	**100**	**106**	70-130	
SV115-025-202	P2002104-001	**100**	**98**	**97**	70-130	
SV115-025-602	P2002104-002	**100**	**98**	**97**	70-130	
SV115-050-202	P2002104-003	**101**	**99**	**97**	70-130	
SV115-150-202	P2002104-004	**102**	**99**	**96**	70-130	
SV115-250-202	P2002104-005	**102**	**100**	**95**	70-130	
SV115-350-202	P2002104-006	**102**	**99**	**95**	70-130	
SV115-450-202	P2002104-007	**101**	**105**	**96**	70-130	
SV120-025-602	P2002104-008	**101**	**97**	**97**	70-130	
SV120-025-202	P2002104-009	**101**	**101**	**96**	70-130	
SV120-050-202	P2002104-010	**99**	**100**	**97**	70-130	
SV120-150-202	P2002104-011	**101**	**101**	**96**	70-130	
SV120-250-202	P2002104-012	**100**	**101**	**94**	70-130	
SV120-350-202	P2002104-013	**101**	**101**	**95**	70-130	
SV120-450-202	P2002104-014	**101**	**105**	**96**	70-130	
SV121-025-202	P2002104-015	**101**	**98**	**94**	70-130	
SV121-050-202	P2002104-016	**102**	**98**	**96**	70-130	
SV121-145-602	P2002104-017	**103**	**101**	**93**	70-130	
SV121-145-202	P2002104-018	**102**	**100**	**94**	70-130	
SV121-250-202	P2002104-019	**102**	**99**	**94**	70-130	
SV121-350-202	P2002104-020	**101**	**97**	**96**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200501-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	210	219	222	**104**	**106**	57-136	2	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	205	206	**98**	**98**	59-128	0	25	
74-87-3	Chloromethane	212	200	202	**94**	**95**	59-132	1	25	
75-01-4	Vinyl Chloride	212	202	199	**95**	**94**	64-127	1	25	
106-99-0	1,3-Butadiene	212	206	206	**97**	**97**	66-134	0	25	
75-00-3	Chloroethane	214	202	206	**94**	**96**	63-127	2	25	
64-17-5	Ethanol	1,060	1000	1010	**94**	**95**	59-125	1	25	
67-64-1	Acetone	1,070	1040	1050	**97**	**98**	58-128	1	25	
75-69-4	Trichlorofluoromethane	212	201	204	**95**	**96**	62-126	1	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	422	423	425	**100**	**101**	52-125	1	25	
75-09-2	Methylene Chloride	210	199	199	**95**	**95**	62-115	0	25	
76-13-1	Trichlorotrifluoroethane	216	213	213	**99**	**99**	66-126	0	25	
75-15-0	Carbon Disulfide	212	201	203	**95**	**96**	57-134	1	25	
75-34-3	1,1-Dichloroethane	212	204	204	**96**	**96**	68-126	0	25	
78-93-3	2-Butanone (MEK)	212	206	205	**97**	**97**	67-130	0	25	
141-78-6	Ethyl Acetate	432	460	456	**106**	**106**	65-128	0	25	
110-54-3	n-Hexane	216	219	218	**101**	**101**	63-120	0	25	
67-66-3	Chloroform	214	207	206	**97**	**96**	68-123	1	25	
109-99-9	Tetrahydrofuran (THF)	220	206	206	**94**	**94**	64-123	0	25	
107-06-2	1,2-Dichloroethane	214	204	201	**95**	**94**	65-128	1	25	
71-43-2	Benzene	210	207	205	**99**	**98**	69-119	1	25	
56-23-5	Carbon Tetrachloride	208	213	213	**102**	**102**	68-132	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200501-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	422	430	432	**102**	**102**	70-117	0	25	
75-27-4	Bromodichloromethane	218	220	219	**101**	**100**	72-128	1	25	
79-01-6	Trichloroethene	216	213	212	**99**	**98**	71-123	1	25	
123-91-1	1,4-Dioxane	216	221	220	**102**	**102**	71-122	0	25	
142-82-5	n-Heptane	214	211	209	**99**	**98**	69-123	1	25	
108-10-1	4-Methyl-2-pentanone	212	224	225	**106**	**106**	67-130	0	25	
108-88-3	Toluene	212	207	205	**98**	**97**	66-119	1	25	
591-78-6	2-Hexanone	216	229	226	**106**	**105**	62-128	0.9	25	
124-48-1	Dibromochloromethane	214	225	222	**105**	**104**	70-130	1	25	
106-93-4	1,2-Dibromoethane	214	217	214	**101**	**100**	74-122	1	25	
127-18-4	Tetrachloroethene	208	208	207	**100**	**100**	66-124	0	25	
100-41-4	Ethylbenzene	212	219	215	**103**	**101**	70-124	2	25	
179601-23-1	m,p-Xylenes	426	444	436	**104**	**102**	61-134	2	25	
75-25-2	Bromoform	214	225	221	**105**	**103**	66-139	2	25	
100-42-5	Styrene	212	231	227	**109**	**107**	73-127	2	25	
95-47-6	o-Xylene	214	218	215	**102**	**100**	67-125	2	25	
108-67-8	1,3,5-Trimethylbenzene	212	226	223	**107**	**105**	67-130	2	25	
95-63-6	1,2,4-Trimethylbenzene	212	247	243	**117**	**115**	66-132	2	25	
120-82-1	1,2,4-Trichlorobenzene	216	241	240	**112**	**111**	55-142	0.9	25	
91-20-3	Naphthalene	212	259	257	**122**	**121**	57-138	0.8	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200502-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	210	214	214	**102**	**102**	57-136	0	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	200	203	**95**	**97**	59-128	2	25	
74-87-3	Chloromethane	212	194	200	**92**	**94**	59-132	2	25	
75-01-4	Vinyl Chloride	212	199	200	**94**	**94**	64-127	0	25	
106-99-0	1,3-Butadiene	212	205	200	**97**	**94**	66-134	3	25	
75-00-3	Chloroethane	214	197	200	**92**	**93**	63-127	1	25	
64-17-5	Ethanol	1,060	1000	995	**94**	**94**	59-125	0	25	
67-64-1	Acetone	1,070	1040	1030	**97**	**96**	58-128	1	25	
75-69-4	Trichlorofluoromethane	212	200	200	**94**	**94**	62-126	0	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	422	427	417	**101**	**99**	52-125	2	25	
75-09-2	Methylene Chloride	210	201	198	**96**	**94**	62-115	2	25	
76-13-1	Trichlorotrifluoroethane	216	213	214	**99**	**99**	66-126	0	25	
75-15-0	Carbon Disulfide	212	204	200	**96**	**94**	57-134	2	25	
75-34-3	1,1-Dichloroethane	212	201	201	**95**	**95**	68-126	0	25	
78-93-3	2-Butanone (MEK)	212	207	202	**98**	**95**	67-130	3	25	
141-78-6	Ethyl Acetate	432	466	457	**108**	**106**	65-128	2	25	
110-54-3	n-Hexane	216	219	216	**101**	**100**	63-120	1	25	
67-66-3	Chloroform	214	210	205	**98**	**96**	68-123	2	25	
109-99-9	Tetrahydrofuran (THF)	220	209	203	**95**	**92**	64-123	3	25	
107-06-2	1,2-Dichloroethane	214	203	200	**95**	**93**	65-128	2	25	
71-43-2	Benzene	210	203	202	**97**	**96**	69-119	1	25	
56-23-5	Carbon Tetrachloride	208	209	207	**100**	**100**	68-132	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200502-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	422	431	427	**102**	**101**	70-117	1	25	
75-27-4	Bromodichloromethane	218	218	214	**100**	**98**	72-128	2	25	
79-01-6	Trichloroethene	216	214	213	**99**	**99**	71-123	0	25	
123-91-1	1,4-Dioxane	216	219	215	**101**	**100**	71-122	1	25	
142-82-5	n-Heptane	214	206	205	**96**	**96**	69-123	0	25	
108-10-1	4-Methyl-2-pentanone	212	219	218	**103**	**103**	67-130	0	25	
108-88-3	Toluene	212	216	212	**102**	**100**	66-119	2	25	
591-78-6	2-Hexanone	216	234	234	**108**	**108**	62-128	0	25	
124-48-1	Dibromochloromethane	214	234	231	**109**	**108**	70-130	0.9	25	
106-93-4	1,2-Dibromoethane	214	225	222	**105**	**104**	74-122	1	25	
127-18-4	Tetrachloroethene	208	220	217	**106**	**104**	66-124	2	25	
100-41-4	Ethylbenzene	212	228	226	**108**	**107**	70-124	0.9	25	
179601-23-1	m,p-Xylenes	426	463	459	**109**	**108**	61-134	0.9	25	
75-25-2	Bromoform	214	236	232	**110**	**108**	66-139	2	25	
100-42-5	Styrene	212	242	238	**114**	**112**	73-127	2	25	
95-47-6	o-Xylene	214	228	225	**107**	**105**	67-125	2	25	
108-67-8	1,3,5-Trimethylbenzene	212	236	233	**111**	**110**	67-130	0.9	25	
95-63-6	1,2,4-Trimethylbenzene	212	260	257	**123**	**121**	66-132	2	25	
120-82-1	1,2,4-Trichlorobenzene	216	253	249	**117**	**115**	55-142	2	25	
91-20-3	Naphthalene	212	272	268	**128**	**126**	57-138	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200504-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	210	212	213	**101**	**101**	57-136	0	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	197	201	**94**	**96**	59-128	2	25	
74-87-3	Chloromethane	212	189	198	**89**	**93**	59-132	4	25	
75-01-4	Vinyl Chloride	212	196	201	**92**	**95**	64-127	3	25	
106-99-0	1,3-Butadiene	212	202	203	**95**	**96**	66-134	1	25	
75-00-3	Chloroethane	214	196	202	**92**	**94**	63-127	2	25	
64-17-5	Ethanol	1,060	980	988	**92**	**93**	59-125	1	25	
67-64-1	Acetone	1,070	1020	1030	**95**	**96**	58-128	1	25	
75-69-4	Trichlorofluoromethane	212	199	200	**94**	**94**	62-126	0	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	422	413	414	**98**	**98**	52-125	0	25	
75-09-2	Methylene Chloride	210	196	197	**93**	**94**	62-115	1	25	
76-13-1	Trichlorotrifluoroethane	216	210	212	**97**	**98**	66-126	1	25	
75-15-0	Carbon Disulfide	212	203	199	**96**	**94**	57-134	2	25	
75-34-3	1,1-Dichloroethane	212	196	201	**92**	**95**	68-126	3	25	
78-93-3	2-Butanone (MEK)	212	201	203	**95**	**96**	67-130	1	25	
141-78-6	Ethyl Acetate	432	457	455	**106**	**105**	65-128	0.9	25	
110-54-3	n-Hexane	216	217	217	**100**	**100**	63-120	0	25	
67-66-3	Chloroform	214	203	204	**95**	**95**	68-123	0	25	
109-99-9	Tetrahydrofuran (THF)	220	203	203	**92**	**92**	64-123	0	25	
107-06-2	1,2-Dichloroethane	214	198	197	**93**	**92**	65-128	1	25	
71-43-2	Benzene	210	200	202	**95**	**96**	69-119	1	25	
56-23-5	Carbon Tetrachloride	208	206	206	**99**	**99**	68-132	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200504-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	422	424	428	**100**	**101**	70-117	1	25	
75-27-4	Bromodichloromethane	218	215	213	**99**	**98**	72-128	1	25	
79-01-6	Trichloroethene	216	212	211	**98**	**98**	71-123	0	25	
123-91-1	1,4-Dioxane	216	217	216	**100**	**100**	71-122	0	25	
142-82-5	n-Heptane	214	204	207	**95**	**97**	69-123	2	25	
108-10-1	4-Methyl-2-pentanone	212	216	218	**102**	**103**	67-130	1	25	
108-88-3	Toluene	212	214	213	**101**	**100**	66-119	1	25	
591-78-6	2-Hexanone	216	232	232	**107**	**107**	62-128	0	25	
124-48-1	Dibromochloromethane	214	232	231	**108**	**108**	70-130	0	25	
106-93-4	1,2-Dibromoethane	214	222	223	**104**	**104**	74-122	0	25	
127-18-4	Tetrachloroethene	208	220	219	**106**	**105**	66-124	0.9	25	
100-41-4	Ethylbenzene	212	227	225	**107**	**106**	70-124	0.9	25	
179601-23-1	m,p-Xylenes	426	462	458	**108**	**108**	61-134	0	25	
75-25-2	Bromoform	214	234	233	**109**	**109**	66-139	0	25	
100-42-5	Styrene	212	239	238	**113**	**112**	73-127	0.9	25	
95-47-6	o-Xylene	214	227	225	**106**	**105**	67-125	0.9	25	
108-67-8	1,3,5-Trimethylbenzene	212	235	233	**111**	**110**	67-130	0.9	25	
95-63-6	1,2,4-Trimethylbenzene	212	261	258	**123**	**122**	66-132	0.8	25	
120-82-1	1,2,4-Trichlorobenzene	216	251	250	**116**	**116**	55-142	0	25	
91-20-3	Naphthalene	212	271	268	**128**	**126**	57-138	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: **EA Engineering, Science, and Technology, Inc.** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Lab File ID: 05012027.D
Analyst: Lusine Hakobyan Date Analyzed: 5/1/20
Sampling Media: 1.0 L Summa Canister(s) Time Analyzed: 19:15
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	302318		11.15	1284086		13.27		600476		17.59	
	Upper Limit	423245		11.48	1797720		13.60		840666		17.92	
	Lower Limit	181391		10.82	770452		12.94		360286		17.26	
	Client Sample ID											
01	Method Blank	293158		11.12	1279325		13.26		618139		17.58	
02	Lab Control Sample	296601		11.15	1259507		13.28		605891		17.59	
03	Duplicate Lab Control Sample	300976		11.15	1273351		13.27		618881		17.59	
04	SV115-025-202	259615		11.13	1131712		13.26		555933		17.58	
05	SV115-025-602	258944		11.13	1123725		13.26		551611		17.58	
06	SV115-050-202	261196		11.14	1146097		13.27		553934		17.58	
07	SV115-150-202	258202		11.13	1130832		13.26		548105		17.58	
08	SV115-250-202	249441		11.13	1086620		13.26		526917		17.58	
09	SV115-350-202	249434		11.13	1091606		13.26		531506		17.58	
10	SV120-025-602	247527		11.13	1075979		13.26		531773		17.58	
11	SV120-025-202	259007		11.13	1140691		13.26		532651		17.58	
12	SV120-050-202	269307		11.14	1153687		13.27		549159		17.58	
13	SV120-150-202	257965		11.13	1122994		13.27		534213		17.58	
14	SV120-250-202	252491		11.13	1091521		13.26		523692		17.58	
15	SV120-450-202	287510		11.13	1248156		13.26		601978		17.58	
16												
17												
18												
19												
20												

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: **EA Engineering, Science, and Technology, Inc.** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Lab File ID: 05022001.D
Analyst: Lusine Hakobyan Date Analyzed: 5/2/20
Sampling Media: 1.0 L Summa Canister(s) Time Analyzed: 09:27
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	290259		11.15	1226882		13.28		570450		17.59	
	Upper Limit	406363		11.48	1717635		13.61		798630		17.92	
	Lower Limit	174155		10.82	736129		12.95		342270		17.26	
	Client Sample ID											
01	Method Blank	254210		11.13	1098130		13.26		529450		17.58	
02	Lab Control Sample	276663		11.15	1196355		13.28		545826		17.59	
03	Duplicate Lab Control Sample	287490		11.15	1234650		13.28		564556		17.59	
04	SV115-450-202	267843		11.14	1173431		13.27		561574		17.58	
05	SV120-350-202	260138		11.14	1144003		13.27		555736		17.58	
06	SV120-050-202 (Dilution)	291276		11.13	1282356		13.26		618459		17.58	
07	SV121-025-202	250157		11.14	1093341		13.26		534871		17.58	
08	SV121-050-202	253895		11.14	1108491		13.27		543901		17.58	
09	SV121-145-602	246394		11.13	1085588		13.26		515934		17.58	
10	SV121-145-202	248949		11.13	1090810		13.26		525384		17.58	
11	SV121-250-202	244114		11.13	1076357		13.26		515599		17.58	
12	SV121-350-202	243662		11.13	1056119		13.26		521338		17.58	
13												
14												
15												
16												
17												
18												
19												
20												

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: **EA Engineering, Science, and Technology, Inc.** ALS Project ID: P2002104
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Lab File ID: 05042002.D
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister(s) Time Analyzed: 06:20
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	284513		11.15	1207365		13.27		557091		17.59	
	Upper Limit	398318		11.48	1690311		13.60		779927		17.92	
	Lower Limit	170708		10.82	724419		12.94		334255		17.26	
	Client Sample ID											
01	Method Blank	248677		11.13	1093796		13.26		506331		17.58	
02	Lab Control Sample	275674		11.15	1187682		13.28		541004		17.59	
03	Duplicate Lab Control Sample	282890		11.16	1215518		13.28		556100		17.59	
04	SV121-025-202 (Dilution)	292374		11.13	1295796		13.26		606642		17.58	
05	SV121-050-202 (Dilution)	286281		11.13	1255889		13.26		597787		17.58	
06												
07												
08												
09												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012038.D Vial: 5
Acq On : 2 May 2020 2:10 Operator: LH
Sample : P2002104-001 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:16:11 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/4/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	259615	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1131712	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	555933	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	441633	12.552	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.40%				
57) Toluene-d8 (SS2)	15.72	98	1154074	12.247	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.00%				
73) Bromofluorobenzene (SS3)	18.98	174	413160	12.185	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.52%				
Target Compounds							Qvalue
2) Propene	4.11	42	7092	0.236	ng		94
3) Dichlorodifluoromethan...	4.27	85	32144	0.547	ng		99
4) Chloromethane	4.53	50	7845	0.170	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	782	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.22	54	287	N.D.			
8) Bromomethane	5.64	94	6923	0.259	ng		98
9) Chloroethane	5.98	64	609	N.D.			
10) Ethanol	6.32	45	27756	1.195	ng		100
11) Acetonitrile	6.59	41	9397	0.177	ng	#	72
12) Acrolein	6.78	56	8138	0.444	ng		99
13) Acetone	7.00	58	126461	5.446	ng		86
14) Trichlorofluoromethane	7.24	101	14665	0.282	ng		97
15) 2-Propanol (Isopropanol)	7.53	45	15916	0.226	ng		79
16) Acrylonitrile	7.74	53	720	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	812	N.D.			
20) 3-Chloro-1-propene (Al...	8.50	41	540	N.D.			
21) Trichlorotrifluoroethane	8.84	151	2943	0.120	ng		87
22) Carbon Disulfide	8.68	76	11403	0.105	ng		96
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	10.16	86	9701	1.341	ng	#	55
27) 2-Butanone (MEK)	10.45	72	19297	0.975	ng		100
28) cis-1,2-Dichloroethene	10.85	61	106	N.D.			
29) Diisopropyl Ether	11.25	87	115	N.D.			
30) Ethyl Acetate	11.28	61	519	N.D.			
31) n-Hexane	11.25	57	33777	0.682	ng		99
32) Chloroform	11.30	83	8658	0.168	ng		98
34) Tetrahydrofuran (THF)	11.75	72	2878	0.149	ng	#	81
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.10	62	108	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	7991	0.066	ng		98
42) Carbon Tetrachloride	13.03	117	19641	0.476	ng		99
43) Cyclohexane	13.16	84	39184	0.866	ng		99
44) tert-Amyl Methyl Ether	13.56	73	1595	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	13.97	130	1302	N.D.			
48) 1,4-Dioxane	13.95	88	12113	0.496	ng		99
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012038.D Vial: 5
Acq On : 2 May 2020 2:10 Operator: LH
Sample : P2002104-001 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:16:11 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

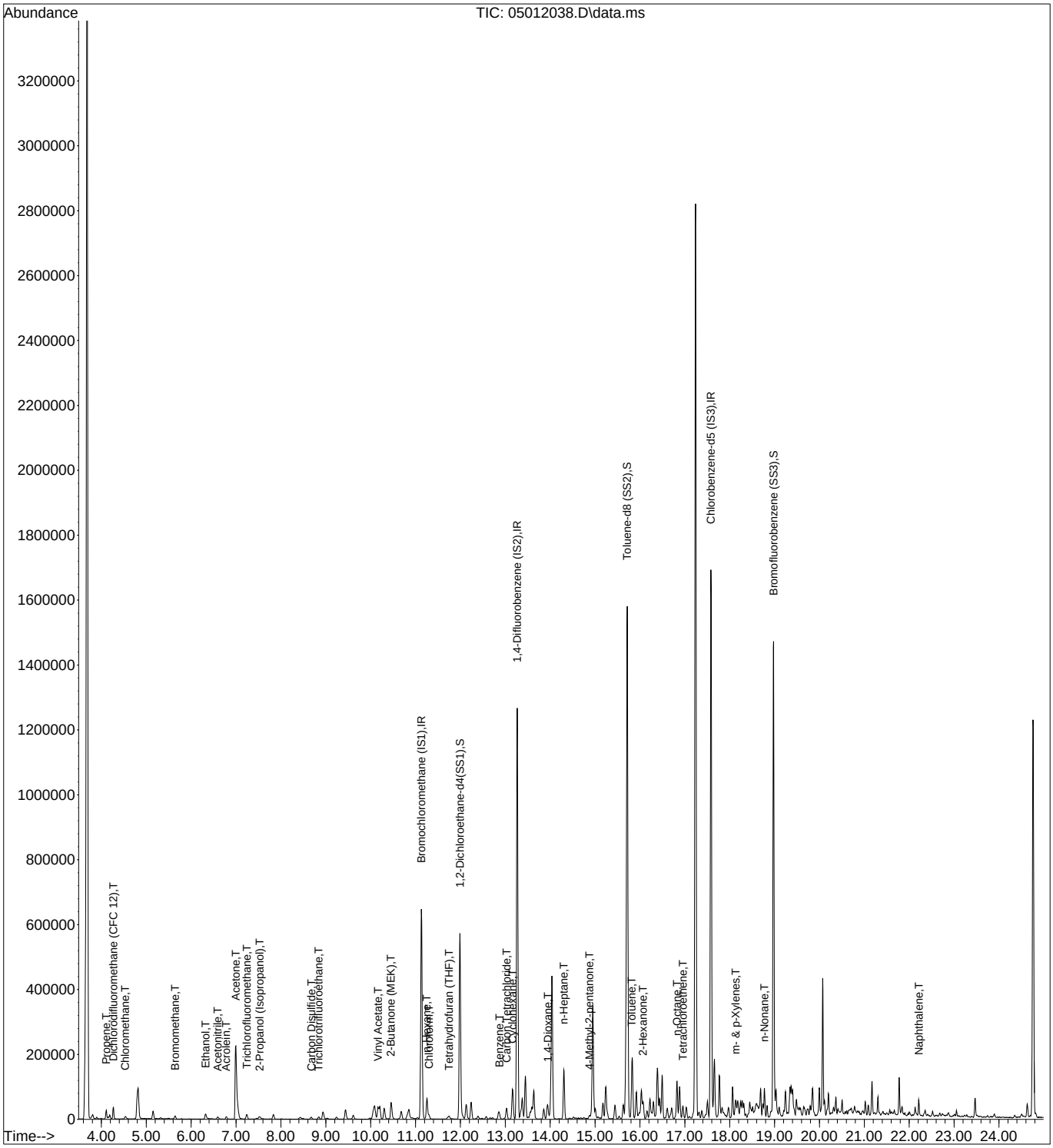
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.30	71	39140	1.379 ng		98
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.88	58	3165	0.117 ng	#	89
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d		
58) Toluene	15.82	91	22588	0.186 ng		99
59) 2-Hexanone	16.07	43	29003	0.436 ng	#	62
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.71	43	3165	N.D.		
63) n-Octane	16.83	57	22201	0.883 ng		98
64) Tetrachloroethene	16.96	166	8160	0.238 ng		97
65) Chlorobenzene	0.00	112	0	N.D. d		
66) Ethylbenzene	17.98	91	4497	N.D.		
67) m- & p-Xylenes	18.14	91	13138	0.122 ng		99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.48	104	1007	N.D.		
70) o-Xylene	18.57	91	5292	N.D.		
71) n-Nonane	18.77	43	30567	0.528 ng		98
72) 1,1,2,2-Tetrachloroethane	18.57	83	146	N.D.		
74) Cumene	19.10	105	1414	N.D.		
75) alpha-Pinene	19.54	93	392	N.D.		
76) n-Propylbenzene	19.55	91	3809	N.D.		
77) 3-Ethyltoluene	19.64	105	2897	N.D.		
78) 4-Ethyltoluene	19.68	105	1529	N.D.		
79) 1,3,5-Trimethylbenzene	19.74	105	2075	N.D.		
80) alpha-Methylstyrene	19.88	118	2686	N.D.		
81) 2-Ethyltoluene	19.91	105	1340	N.D.		
82) 1,2,4-Trimethylbenzene	20.11	105	4012	N.D.		
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.23	91	1757	N.D.		
85) 1,3-Dichlorobenzene	20.24	146	646	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	975	N.D.		
87) sec-Butylbenzene	20.35	105	1632	N.D.		
88) 4-Isopropyltoluene (p-...	20.48	119	1114	N.D.		
89) 1,2,3-Trimethylbenzene	20.48	105	2237	N.D.		
90) 1,2-Dichlorobenzene	20.60	146	575	N.D.		
91) d-Limonene	20.61	68	1368	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.11	180	910	N.D.		
95) Naphthalene	22.22	128	8033	0.060 ng		97
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	20.85	91	5158	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012038.D Vial: 5
Acq On : 2 May 2020 2:10 Operator: LH
Sample : P2002104-001 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:16:11 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012038.D Vial: 5
Acq On : 2 May 2020 2:10 Operator: LH
Sample : P2002104-001 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:16:11 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/4/20

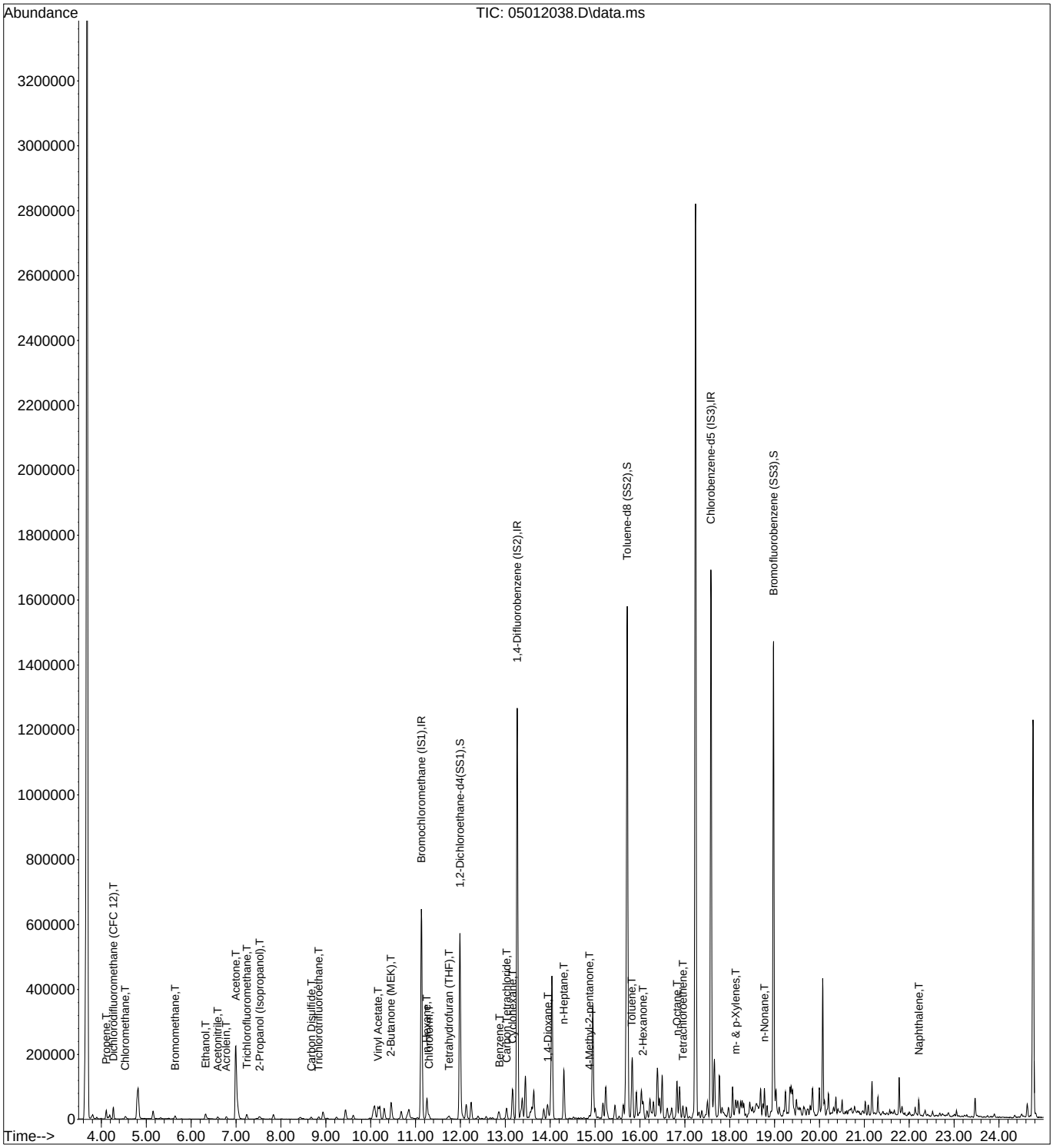
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	259615	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1131712	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	555933	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	441633	12.552	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.40%				
57) Toluene-d8 (SS2)	15.72	98	1154074	12.247	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.00%				
73) Bromofluorobenzene (SS3)	18.98	174	413160	12.185	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.52%				
Target Compounds							Qvalue
2) Propene	4.11	42	7092	0.236	ng		94
3) Dichlorodifluoromethan...	4.27	85	32144	0.547	ng		99
4) Chloromethane	4.53	50	7845	0.170	ng		99
8) Bromomethane	5.64	94	6923	0.259	ng		98
10) Ethanol	6.32	45	27756	1.195	ng		100
11) Acetonitrile	6.59	41	9397	0.177	ng	#	72
12) Acrolein	6.78	56	8138	0.444	ng		99
13) Acetone	7.00	58	126461	5.446	ng		86
14) Trichlorofluoromethane	7.24	101	14665	0.282	ng		97
15) 2-Propanol (Isopropanol)	7.53	45	15916	0.226	ng		79
21) Trichlorotrifluoroethane	8.84	151	2943	0.120	ng		87
22) Carbon Disulfide	8.68	76	11403	0.105	ng		96
26) Vinyl Acetate	10.16	86	9701	1.341	ng	#	55
27) 2-Butanone (MEK)	10.45	72	19297	0.975	ng		100
31) n-Hexane	11.25	57	33777	0.682	ng		99
32) Chloroform	11.30	83	8658	0.168	ng		98
34) Tetrahydrofuran (THF)	11.75	72	2878	0.149	ng	#	81
41) Benzene	12.87	78	7991	0.066	ng		98
42) Carbon Tetrachloride	13.03	117	19641	0.476	ng		99
43) Cyclohexane	13.16	84	39184	0.866	ng		99
48) 1,4-Dioxane	13.95	88	12113	0.496	ng		99
51) n-Heptane	14.30	71	39140	1.379	ng		98
53) 4-Methyl-2-pentanone	14.88	58	3165	0.117	ng	#	89
58) Toluene	15.82	91	22588	0.186	ng		99
59) 2-Hexanone	16.07	43	29003	0.436	ng	#	62
63) n-Octane	16.83	57	22201	0.883	ng		98
64) Tetrachloroethene	16.96	166	8160	0.238	ng		97
67) m- & p-Xylenes	18.14	91	13138	0.122	ng		99
71) n-Nonane	18.77	43	30567	0.528	ng		98
95) Naphthalene	22.22	128	8033	0.060	ng		97

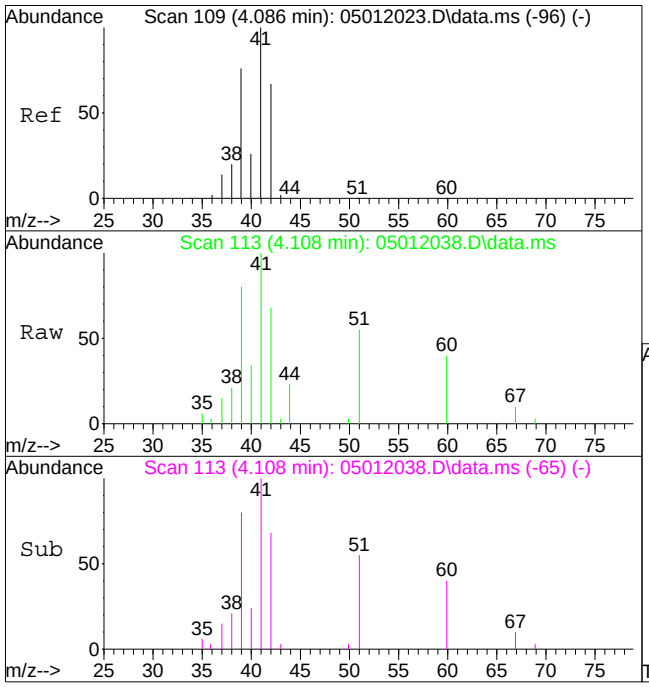
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012038.D Vial: 5
Acq On : 2 May 2020 2:10 Operator: LH
Sample : P2002104-001 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:16:11 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

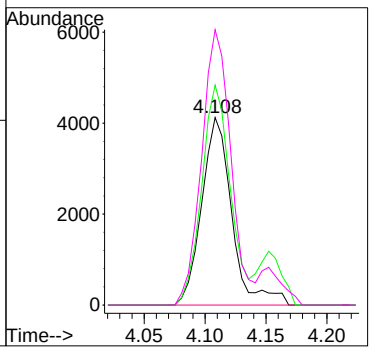


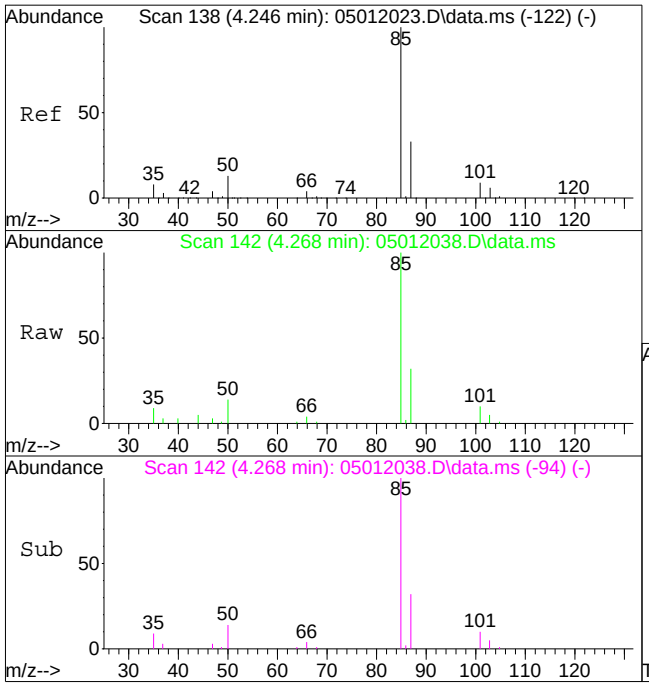


#2
Propene
Concen: 0.24 ng
RT: 4.11 min Scan# 113
Delta R.T. 0.016 min
Lab File: 05012038.D
Acq: 2 May 2020 2:10

Tgt Ion: 42 Resp: 7092

Ion	Ratio	Lower	Upper
42	100		
39	111.4	96.1	136.1
41	142.7	131.9	171.9

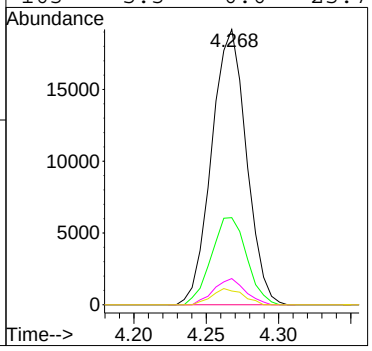


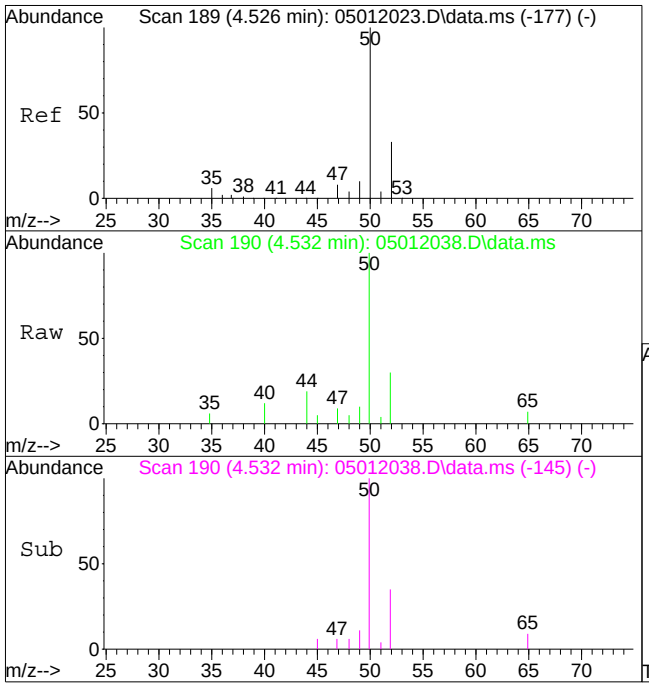


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.55 ng
RT: 4.27 min Scan# 142
Delta R.T. 0.016 min
Lab File: 05012038.D
Acq: 2 May 2020 2:10

Tgt Ion: 85 Resp: 32144

Ion	Ratio	Lower	Upper
85	100		
87	32.2	12.4	52.4
101	8.6	0.0	28.8
103	5.3	0.0	25.7

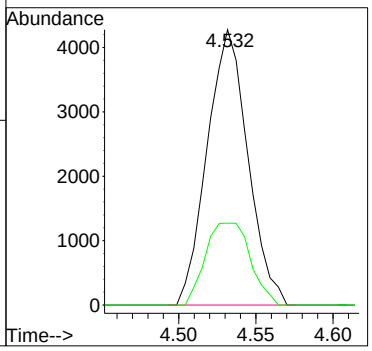


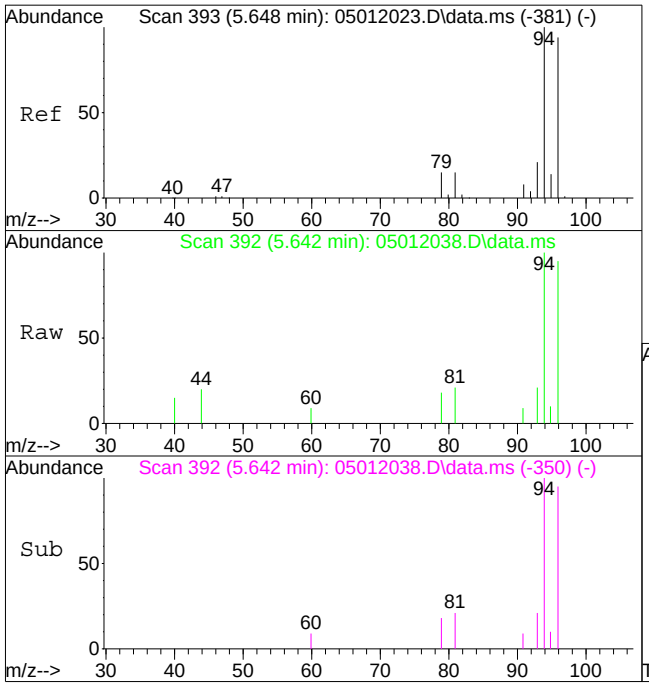


#4
Chloromethane
Concen: 0.17 ng
RT: 4.53 min Scan# 190
Delta R.T. -0.000 min
Lab File: 05012038.D
Acq: 2 May 2020 2:10

Tgt Ion: 50 Resp: 7845

Ion	Ratio	Lower	Upper
50	100		
52	32.9	12.5	52.5

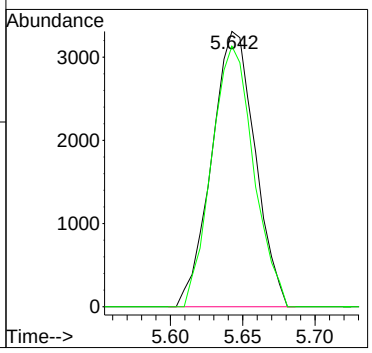


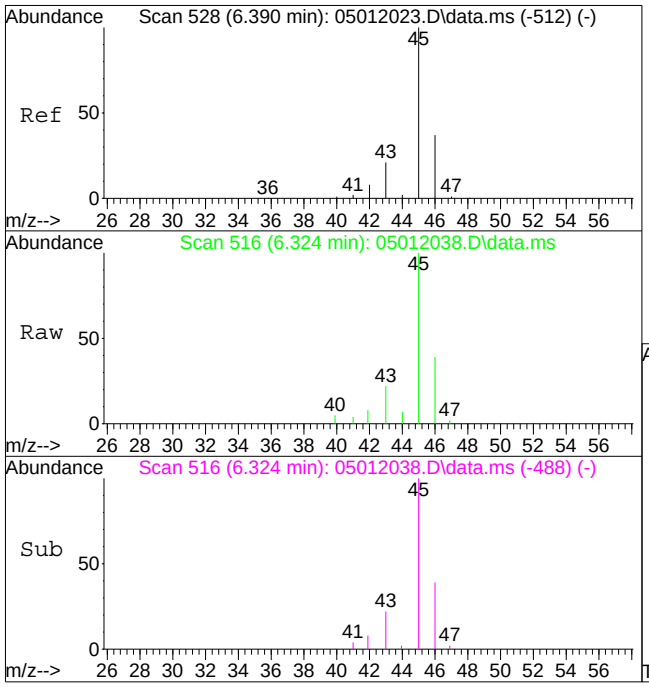


#8
Bromomethane
Concen: 0.26 ng
RT: 5.64 min Scan# 392
Delta R.T. -0.017 min
Lab File: 05012038.D
Acq: 2 May 2020 2:10

Tgt Ion: 94 Resp: 6923

Ion	Ratio	Lower	Upper
94	100		
96	91.4	73.7	113.7

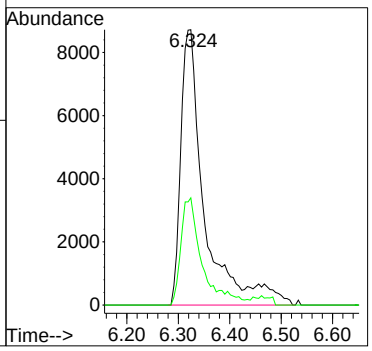


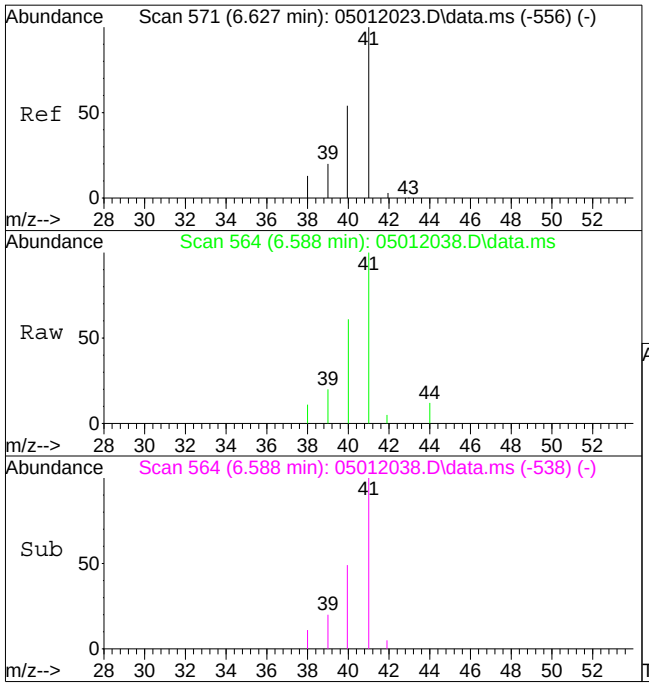


#10
Ethanol
Concen: 1.20 ng
RT: 6.32 min Scan# 516
Delta R.T. -0.094 min
Lab File: 05012038.D
Acq: 2 May 2020 2:10

Tgt Ion: 45 Resp: 27756

Ion	Ratio	Lower	Upper
45	100		
46	37.3	17.2	57.2

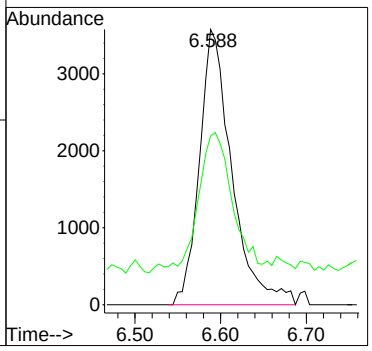


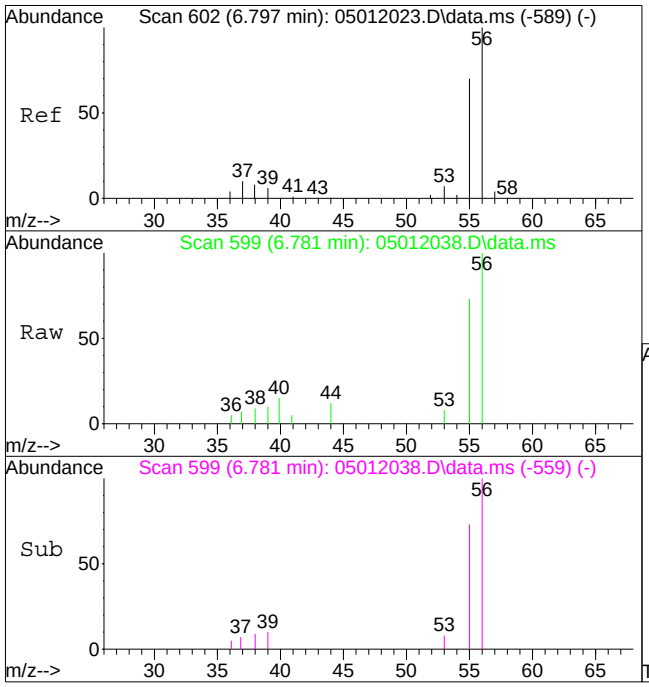


#11
Acetonitrile
Concen: 0.18 ng
RT: 6.59 min Scan# 564
Delta R.T. -0.055 min
Lab File: 05012038.D
Acq: 2 May 2020 2:10

Tgt Ion: 41 Resp: 9397

Ion	Ratio	Lower	Upper
41	100		
40	73.8	33.6	73.6#

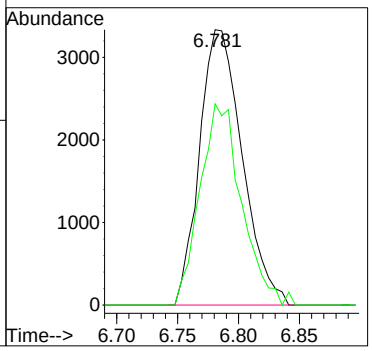


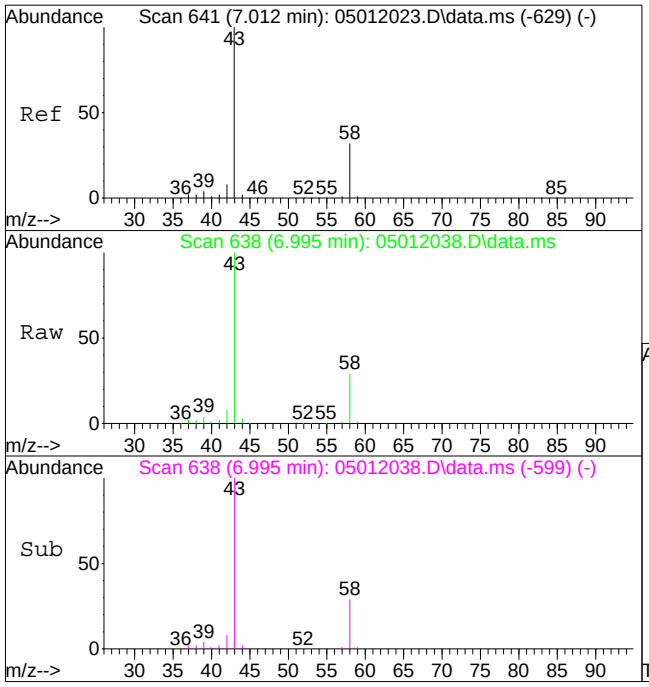


#12
Acrolein
Concen: 0.44 ng
RT: 6.78 min Scan# 599
Delta R.T. -0.028 min
Lab File: 05012038.D
Acq: 2 May 2020 2:10

Tgt Ion: 56 Resp: 8138

Ion	Ratio	Lower	Upper
56	100		
55	71.1	50.2	90.2

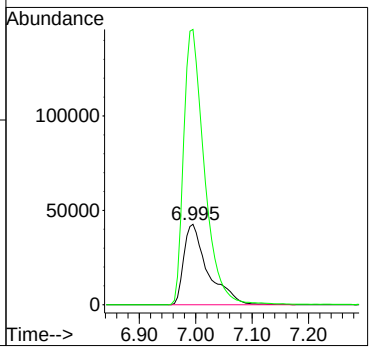


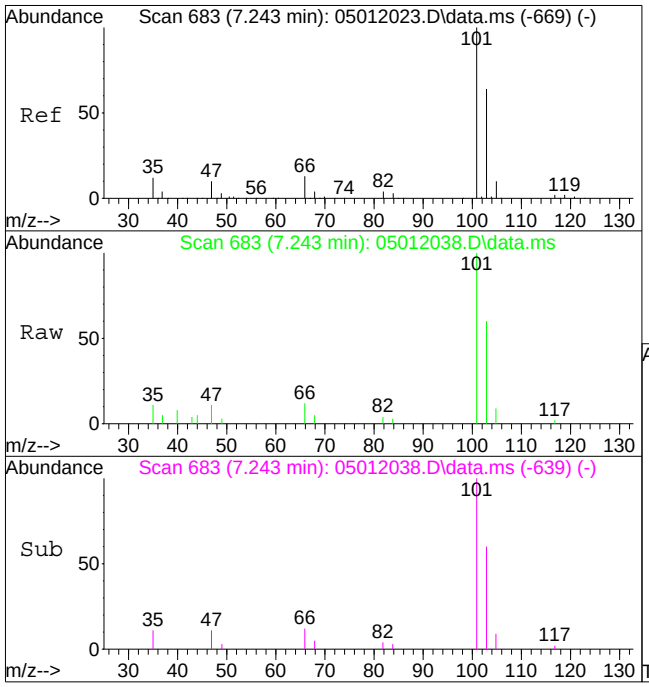


#13
Acetone
Concen: 5.45 ng
RT: 7.00 min Scan# 638
Delta R.T. -0.033 min
Lab File: 05012038.D
Acq: 2 May 2020 2:10

Tgt Ion: 58 Resp: 126461

Ion	Ratio	Lower	Upper
58	100		
43	295.5	294.4	354.4

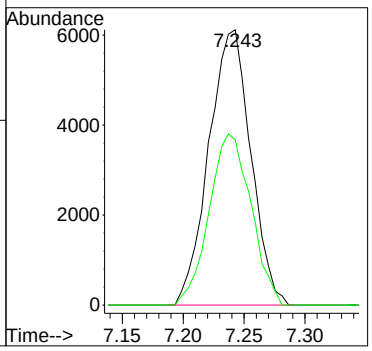


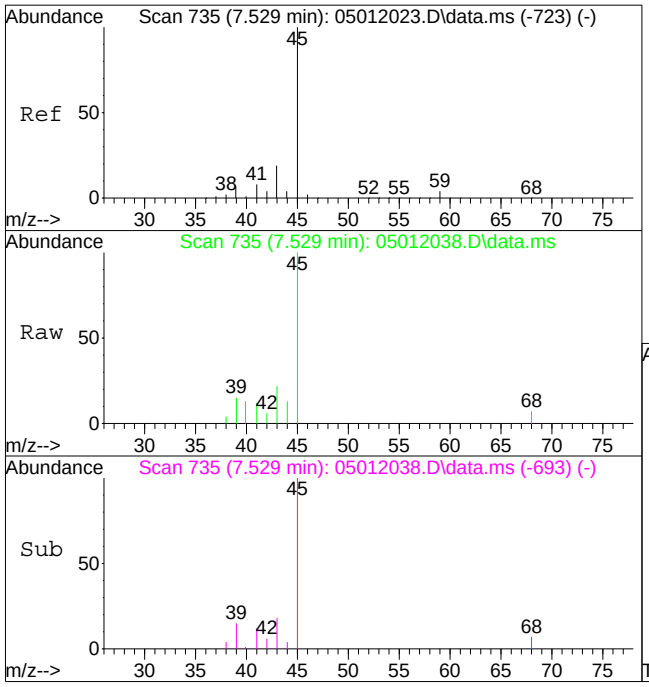


#14
Trichlorofluoromethane
Concen: 0.28 ng
RT: 7.24 min Scan# 683
Delta R.T. -0.006 min
Lab File: 05012038.D
Acq: 2 May 2020 2:10

Tgt Ion:101 Resp: 14665

Ion	Ratio	Lower	Upper
101	100		
103	61.9	44.4	84.4

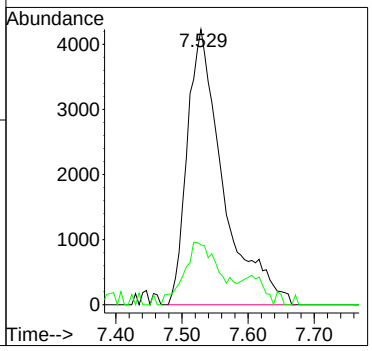


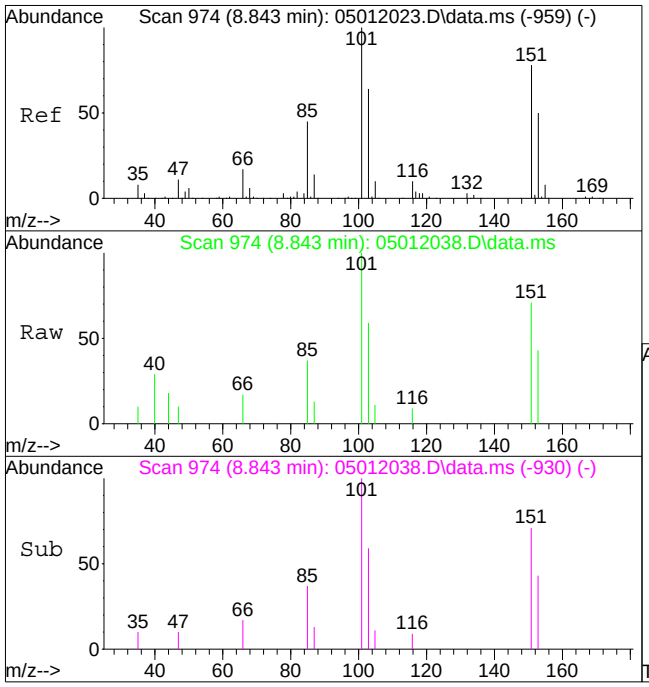


#15
2-Propanol (Isopropanol)
Concen: 0.23 ng
RT: 7.53 min Scan# 735
Delta R.T. -0.017 min
Lab File: 05012038.D
Acq: 2 May 2020 2:10

Tgt Ion: 45 Resp: 15916

Ion	Ratio	Lower	Upper
45	100		
43	29.1	0.0	39.5

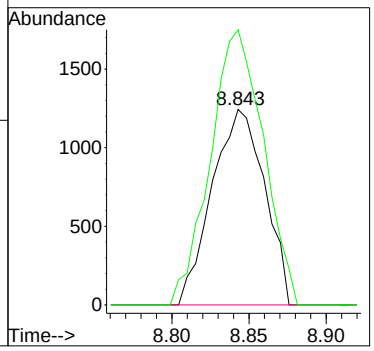


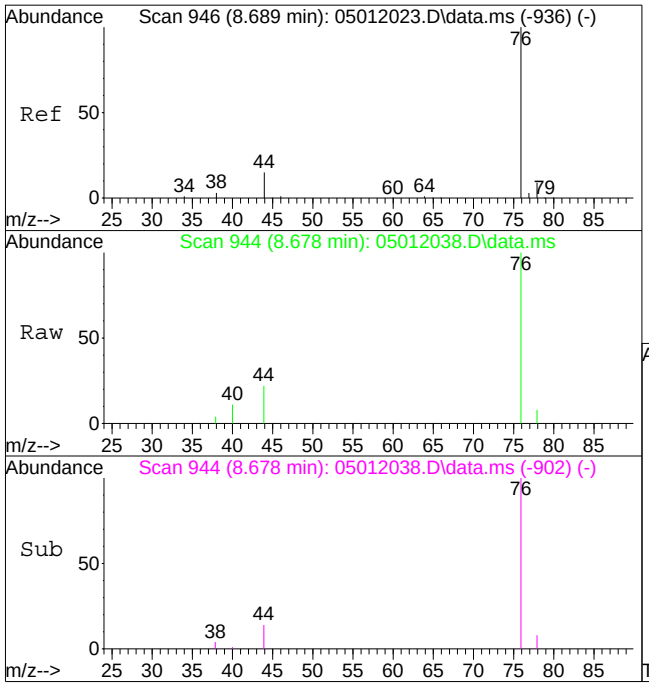


#21
Trichlorotrifluoroethane
Concen: 0.12 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05012038.D
Acq: 2 May 2020 2:10

Tgt Ion:151 Resp: 2943

Ion	Ratio	Lower	Upper
151	100		
101	142.2	107.3	147.3

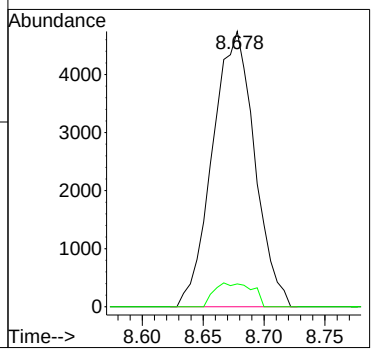


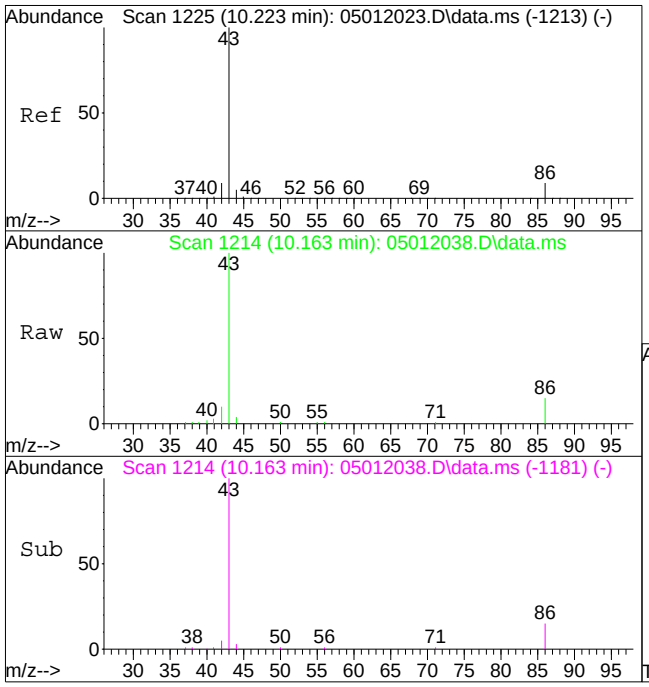


#22
Carbon Disulfide
Concen: 0.11 ng
RT: 8.68 min Scan# 944
Delta R.T. -0.017 min
Lab File: 05012038.D
Acq: 2 May 2020 2:10

Tgt Ion: 76 Resp: 11403

Ion	Ratio	Lower	Upper
76	100		
78	7.8	0.0	29.2

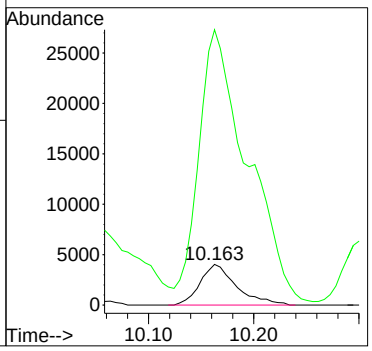


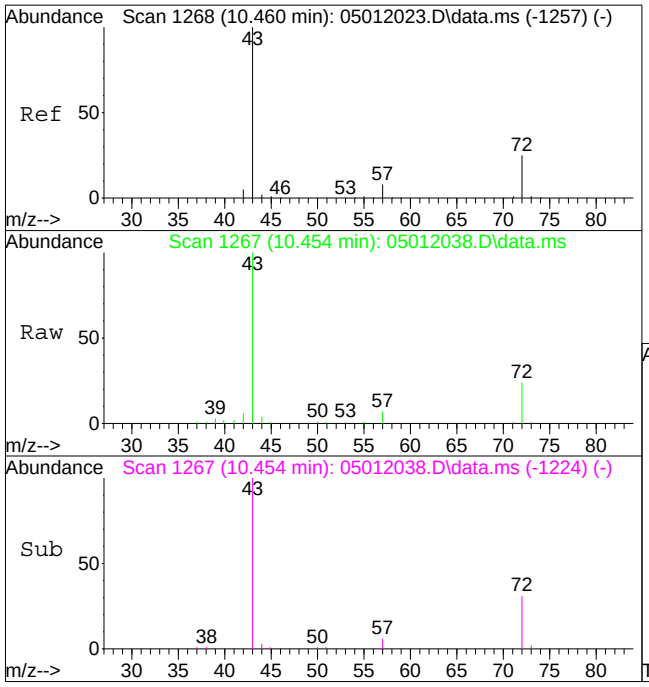


#26
Vinyl Acetate
Concen: 1.34 ng
RT: 10.16 min Scan# 1214
Delta R.T. -0.066 min
Lab File: 05012038.D
Acq: 2 May 2020 2:10

Tgt Ion: 86 Resp: 9701

Ion	Ratio	Lower	Upper
86	100		
43	904.2	1103.0	1143.0#

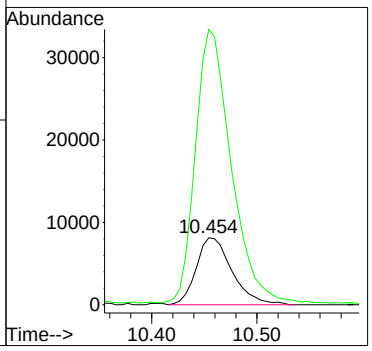


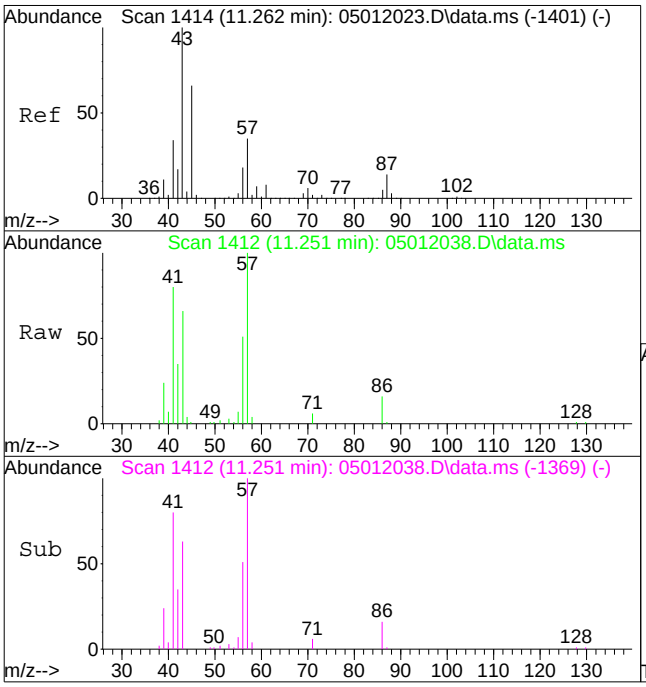


#27
2-Butanone (MEK)
Concen: 0.97 ng
RT: 10.45 min Scan# 1267
Delta R.T. -0.011 min
Lab File: 05012038.D
Acq: 2 May 2020 2:10

Tgt Ion: 72 Resp: 19297

Ion	Ratio	Lower	Upper
72	100		
43	409.5	389.7	429.7

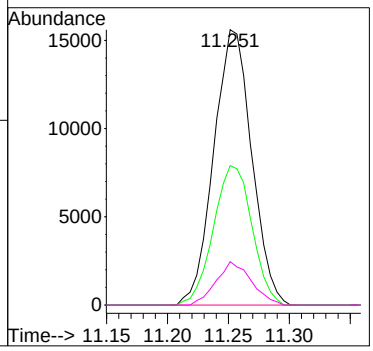


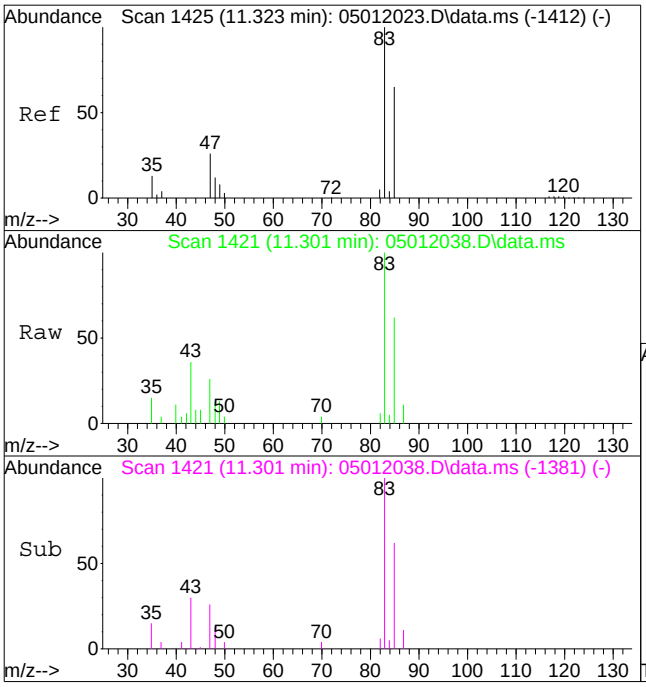


#31
n-Hexane
Concen: 0.68 ng
RT: 11.25 min Scan# 1412
Delta R.T. -0.011 min
Lab File: 05012038.D
Acq: 2 May 2020 2:10

Tgt Ion: 57 Resp: 33777

Ion	Ratio	Lower	Upper
57	100		
56	51.4	41.4	62.0
86	14.6	12.4	18.6

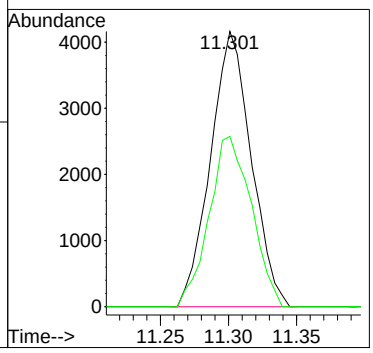


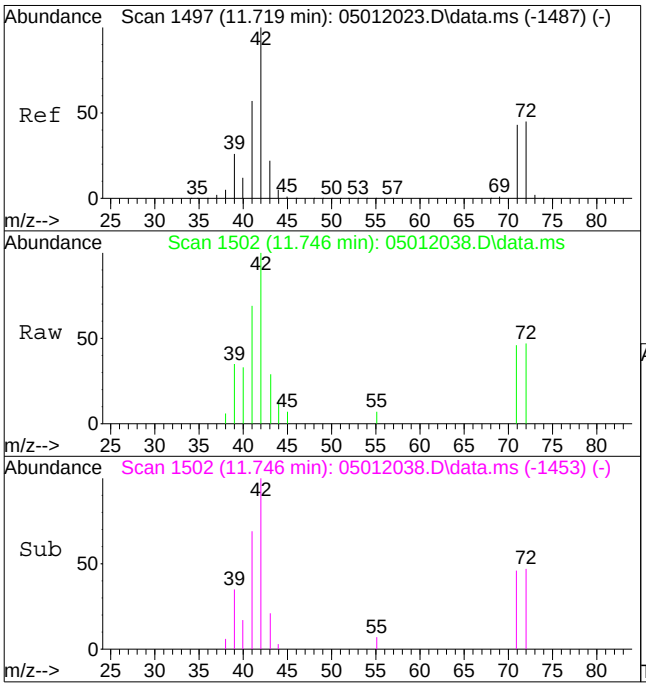


#32
Chloroform
Concen: 0.17 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.028 min
Lab File: 05012038.D
Acq: 2 May 2020 2:10

Tgt Ion: 83 Resp: 8658

Ion	Ratio	Lower	Upper
83	100		
85	64.0	45.5	85.5

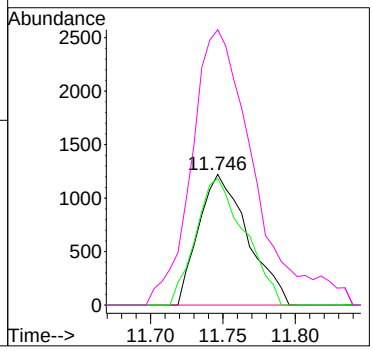


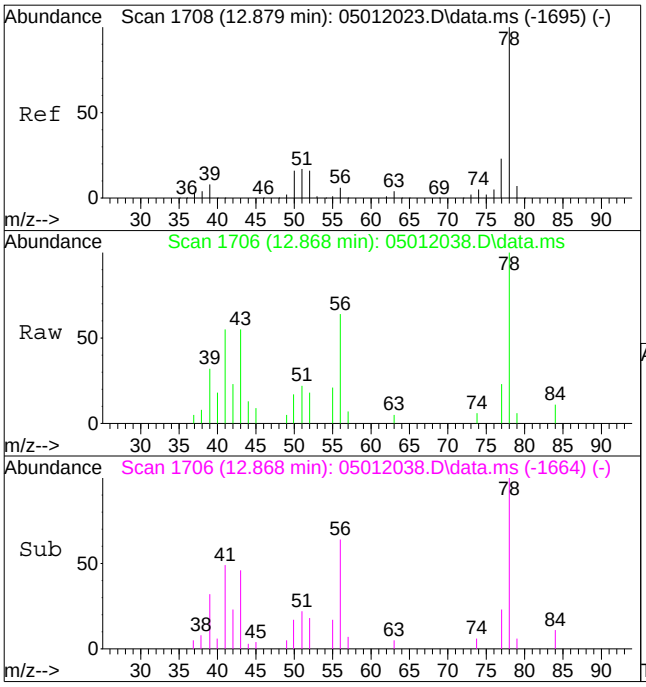


#34
Tetrahydrofuran (THF)
Concen: 0.15 ng
RT: 11.75 min Scan# 1502
Delta R.T. 0.022 min
Lab File: 05012038.D
Acq: 2 May 2020 2:10

Tgt Ion: 72 Resp: 2878

Ion	Ratio	Lower	Upper
72	100		
71	97.0	77.0	117.0
42	269.0	204.6	244.6#

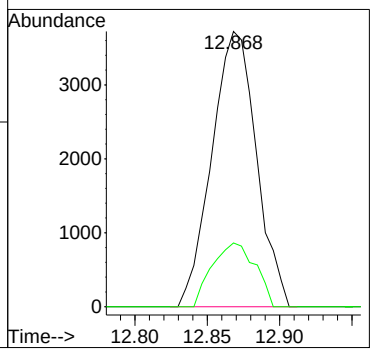


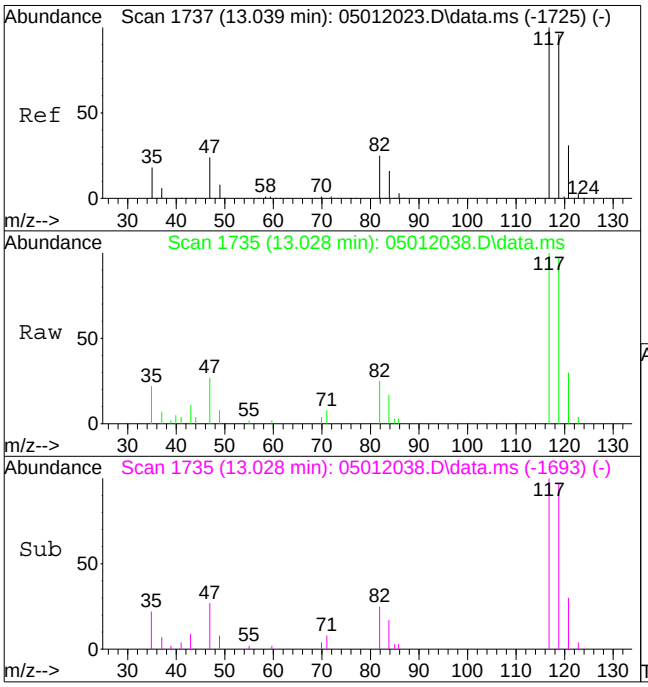


#41
Benzene
Concen: 0.07 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05012038.D
Acq: 2 May 2020 2:10

Tgt Ion: 78 Resp: 7991

Ion	Ratio	Lower	Upper
78	100		
77	22.3	3.4	43.4

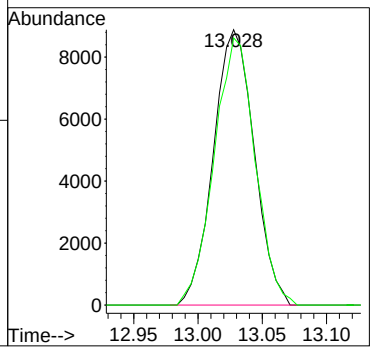


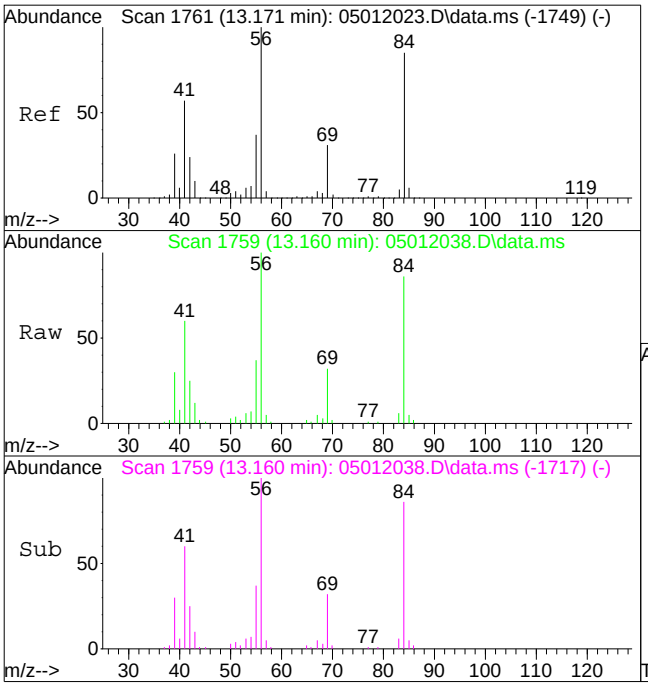


#42
Carbon Tetrachloride
Concen: 0.48 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05012038.D
Acq: 2 May 2020 2:10

Tgt Ion:117 Resp: 19641

Ion	Ratio	Lower	Upper
117	100		
119	97.4	76.2	116.2

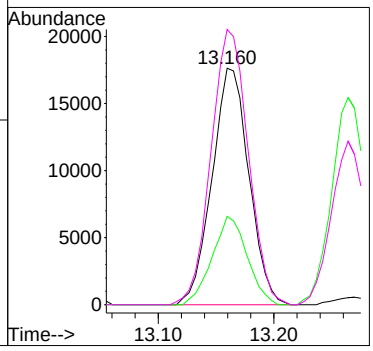


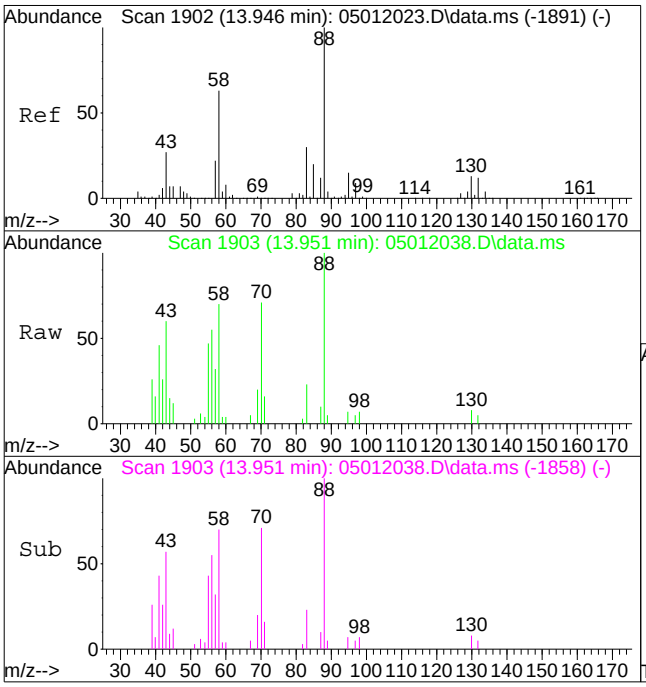


#43
Cyclohexane
Concen: 0.87 ng
RT: 13.16 min Scan# 1759
Delta R.T. -0.017 min
Lab File: 05012038.D
Acq: 2 May 2020 2:10

Tgt Ion: 84 Resp: 39184

Ion	Ratio	Lower	Upper
84	100		
69	35.3	16.5	56.5
56	117.2	97.4	137.4

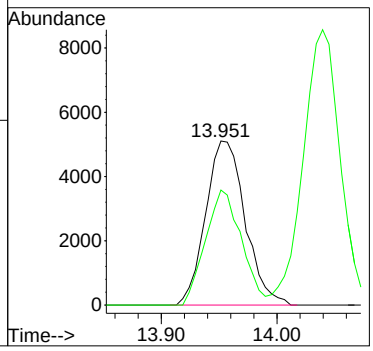


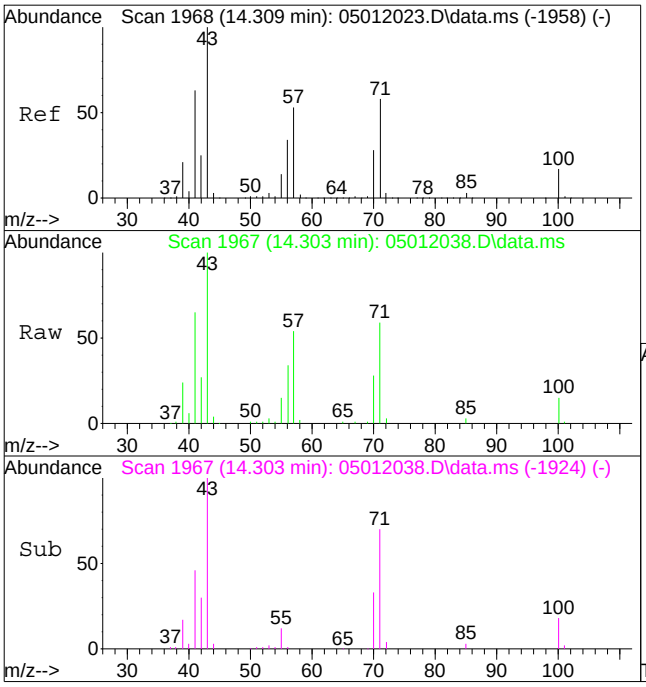


#48
1,4-Dioxane
Concen: 0.50 ng
RT: 13.95 min Scan# 1903
Delta R.T. -0.000 min
Lab File: 05012038.D
Acq: 2 May 2020 2:10

Tgt Ion: 88 Resp: 12113

Ion	Ratio	Lower	Upper
88	100		
58	63.9	42.8	82.8

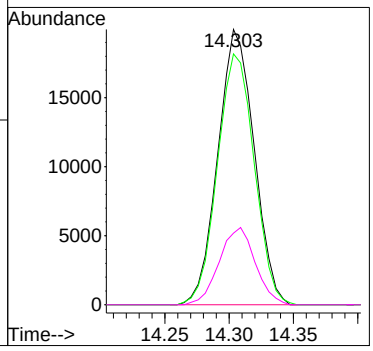


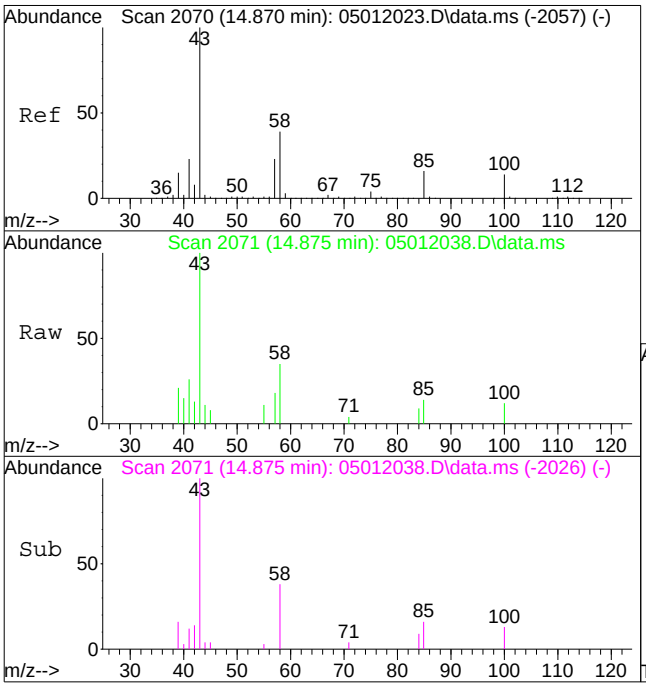


#51
n-Heptane
Concen: 1.38 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05012038.D
Acq: 2 May 2020 2:10

Tgt Ion: 71 Resp: 39140

Ion	Ratio	Lower	Upper
71	100		
57	92.6	71.0	111.0
100	27.9	8.4	48.4

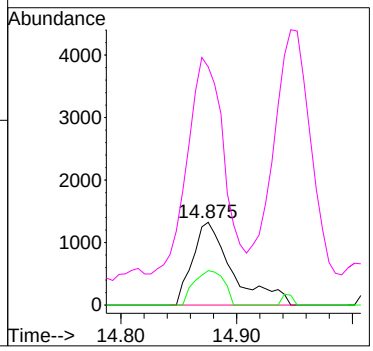


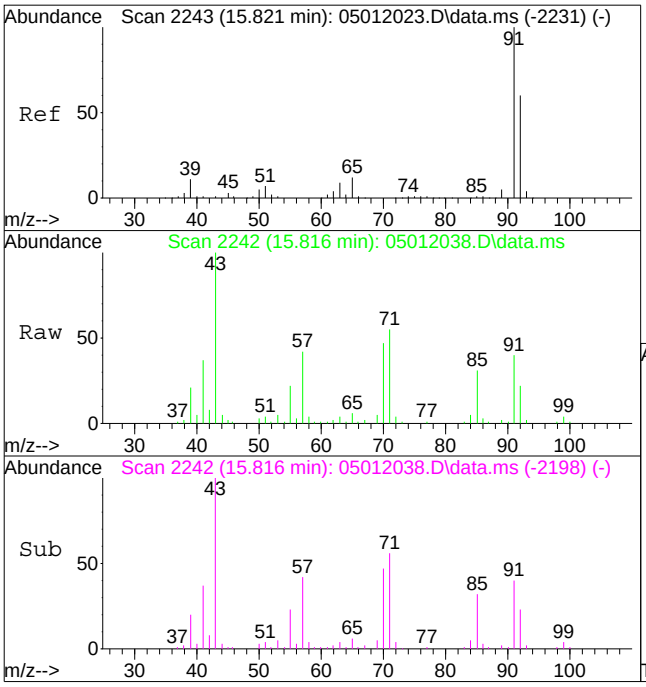


#53
4-Methyl-2-pentanone
Concen: 0.12 ng
RT: 14.88 min Scan# 2071
Delta R.T. -0.000 min
Lab File: 05012038.D
Acq: 2 May 2020 2:10

Tgt Ion: 58 Resp: 3165

Ion	Ratio	Lower	Upper
58	100		
85	31.2	35.4	53.2#
43	237.9	203.3	304.9

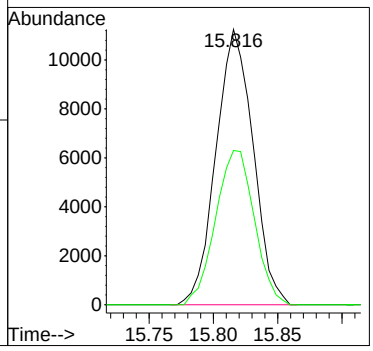


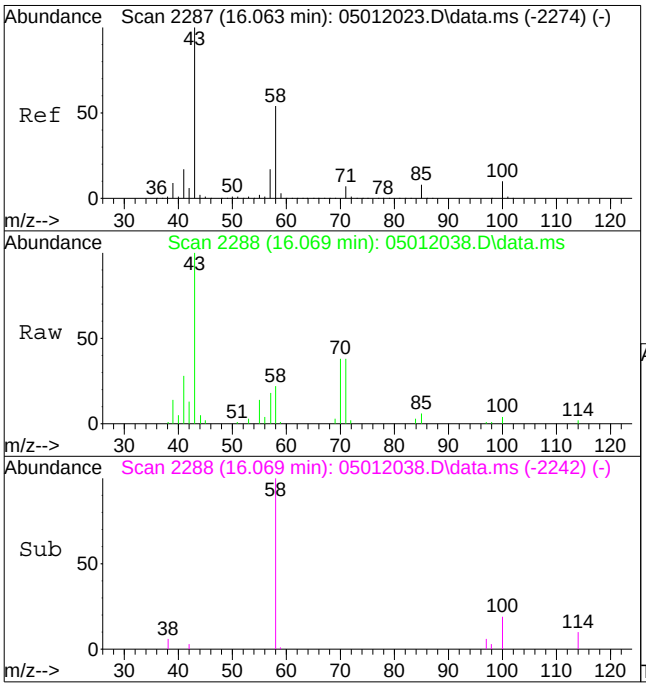


#58
Toluene
Concen: 0.19 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05012038.D
Acq: 2 May 2020 2:10

Tgt Ion: 91 Resp: 22588

Ion	Ratio	Lower	Upper
91	100		
92	58.4	39.4	79.4

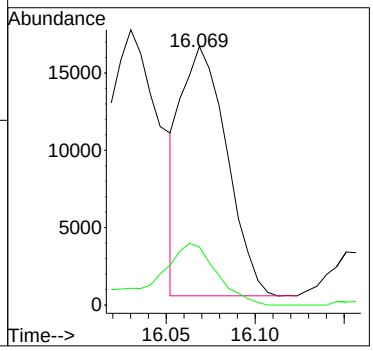


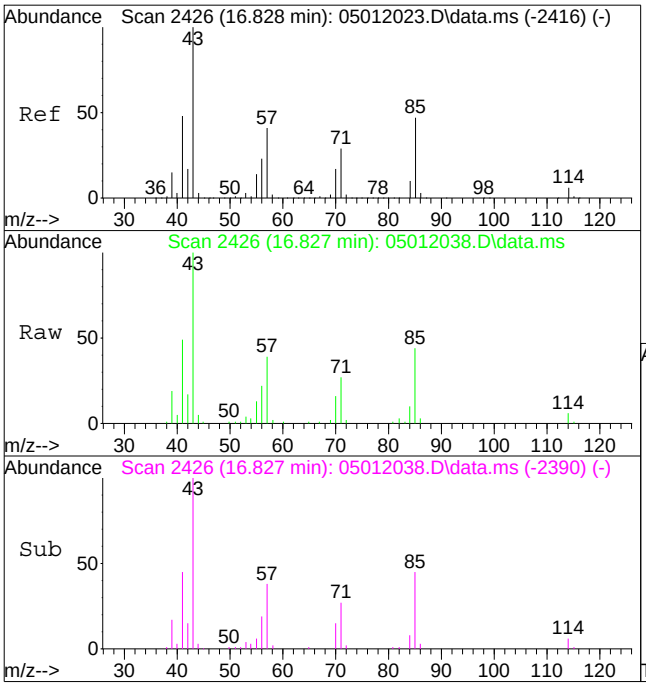


#59
2-Hexanone
Concen: 0.44 ng
RT: 16.07 min Scan# 2288
Delta R.T. 0.005 min
Lab File: 05012038.D
Acq: 2 May 2020 2:10

Tgt Ion: 43 Resp: 29003

Ion	Ratio	Lower	Upper
43	100		
58	27.5	34.5	74.5#

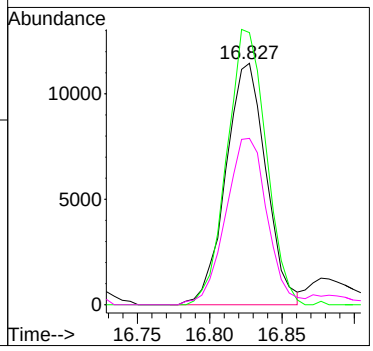


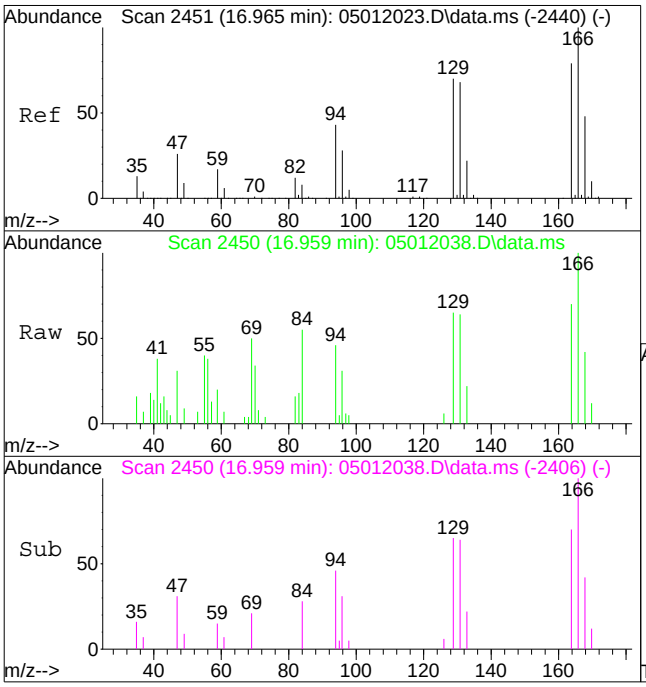


#63
n-Octane
Concen: 0.88 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05012038.D
Acq: 2 May 2020 2:10

Tgt Ion: 57 Resp: 22201

Ion	Ratio	Lower	Upper
57	100		
85	111.0	91.0	136.4
71	70.9	56.2	84.2

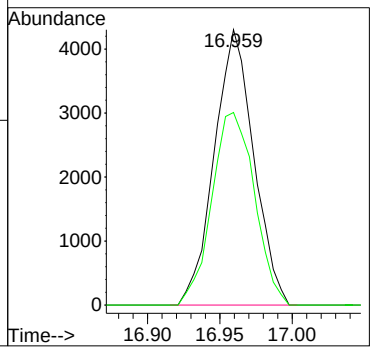


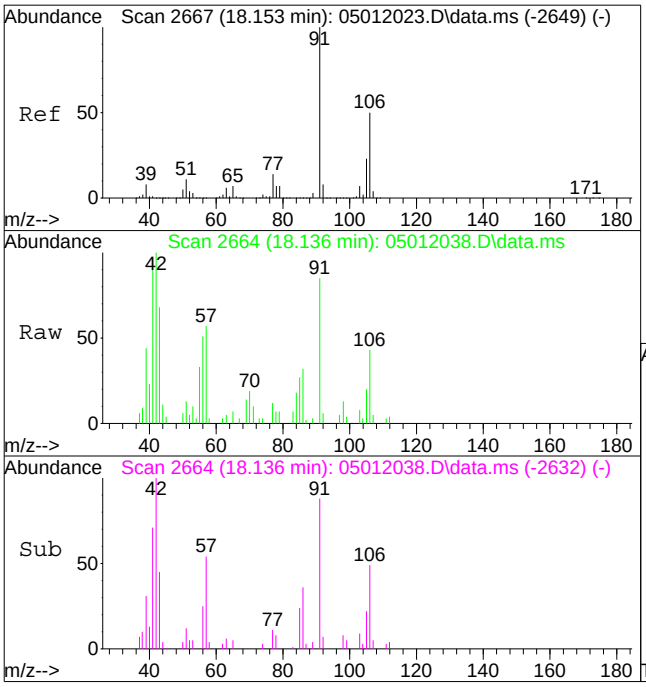


#64
Tetrachloroethene
Concen: 0.24 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05012038.D
Acq: 2 May 2020 2:10

Tgt Ion:166 Resp: 8160

Ion	Ratio	Lower	Upper
166	100		
164	75.6	58.4	98.4

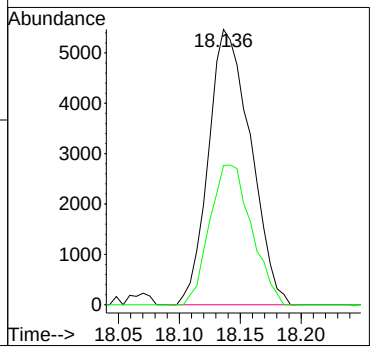


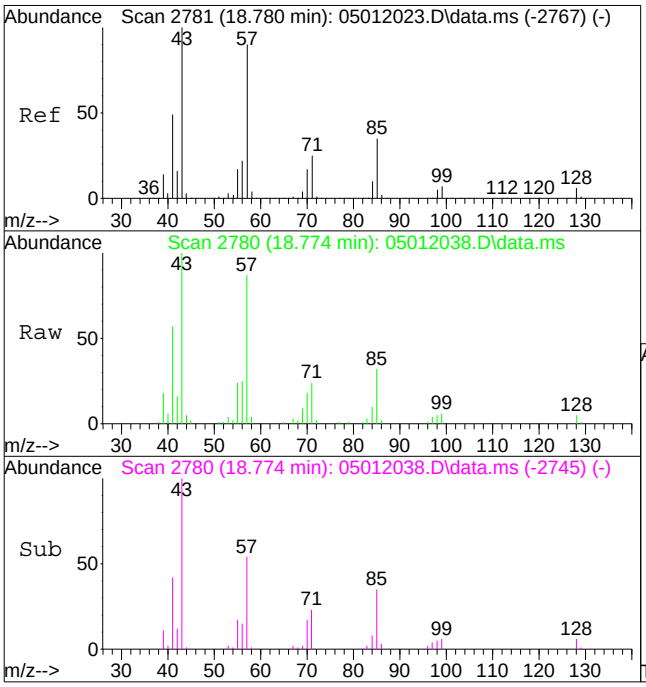


#67
m- & p-Xylenes
Concen: 0.12 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05012038.D
Acq: 2 May 2020 2:10

Tgt Ion: 91 Resp: 13138

Ion	Ratio	Lower	Upper
91	100		
106	50.3	29.7	69.7

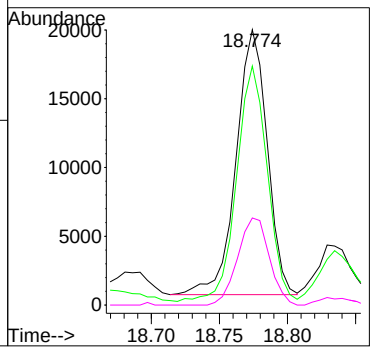


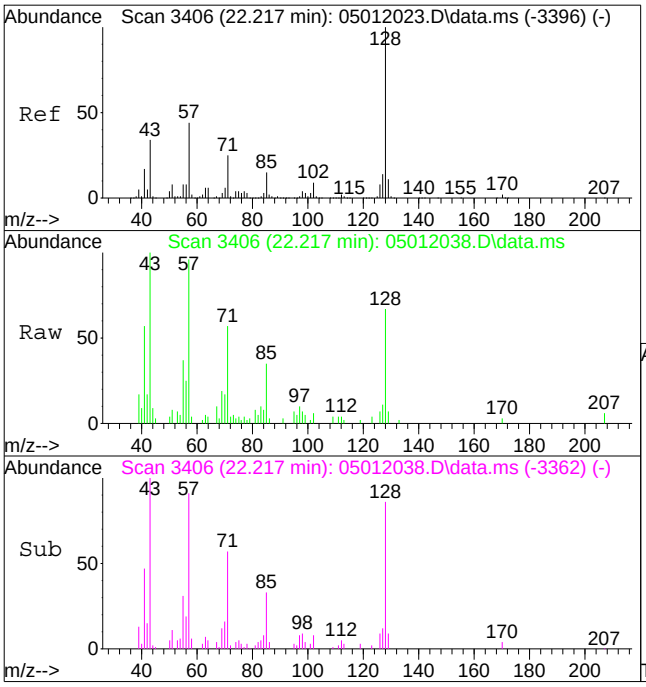


#71
n-Nonane
Concen: 0.53 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05012038.D
Acq: 2 May 2020 2:10

Tgt Ion: 43 Resp: 30567

Ion	Ratio	Lower	Upper
43	100		
57	87.5	69.0	109.0
85	33.4	14.6	54.6

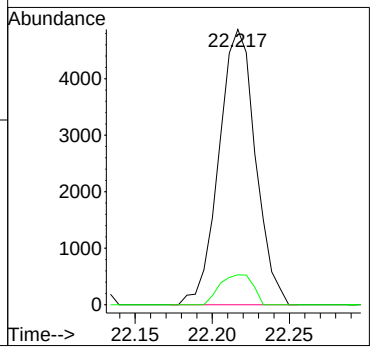




#95
Naphthalene
Concen: 0.06 ng
RT: 22.22 min Scan# 3406
Delta R.T. -0.005 min
Lab File: 05012038.D
Acq: 2 May 2020 2:10

Tgt Ion:128 Resp: 8033

Ion	Ratio	Lower	Upper
128	100		
129	9.9	0.0	31.0



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012039.D Vial: 6
Acq On : 2 May 2020 2:44 Operator: LH
Sample : P2002104-002 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:18:18 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/4/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	258944	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1123725	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	551611	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	439930	12.536	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.32%				
57) Toluene-d8 (SS2)	15.72	98	1147458	12.273	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.16%				
73) Bromofluorobenzene (SS3)	18.98	174	407553	12.114	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.88%				
Target Compounds							Qvalue
2) Propene	4.12	42	3711	0.124	ng		97
3) Dichlorodifluoromethan...	4.28	85	28859	0.492	ng		100
4) Chloromethane	4.55	50	1940	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	676	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.15	54	177	N.D.			
8) Bromomethane	5.65	94	110	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.32	45	23421	1.011	ng		95
11) Acetonitrile	6.59	41	5727	0.108	ng	#	55
12) Acrolein	6.78	56	2731	0.149	ng		91
13) Acetone	7.00	58	45863	1.980	ng		100
14) Trichlorofluoromethane	7.25	101	12543	0.242	ng		98
15) 2-Propanol (Isopropanol)	7.52	45	14316	0.204	ng		86
16) Acrylonitrile	7.74	53	2358	0.062	ng		90
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	853	N.D.			
20) 3-Chloro-1-propene (Al...	8.57	41	146	N.D.			
21) Trichlorotrifluoroethane	8.85	151	2721	0.111	ng		95
22) Carbon Disulfide	8.68	76	39598	0.367	ng		99
23) trans-1,2-Dichloroethene	9.68	61	999	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.09	73	312	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.47	72	6396	0.324	ng	#	91
28) cis-1,2-Dichloroethene	10.95	61	871	N.D.			
29) Diisopropyl Ether	11.25	87	545	N.D.			
30) Ethyl Acetate	11.28	61	1339	0.118	ng	#	73
31) n-Hexane	11.26	57	47971	0.971	ng		99
32) Chloroform	11.30	83	7395	0.143	ng		100
34) Tetrahydrofuran (THF)	11.75	72	3288	0.171	ng	#	87
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.10	62	1133	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	11505	0.095	ng		99
42) Carbon Tetrachloride	13.03	117	17203	0.420	ng		100
43) Cyclohexane	13.16	84	47997	1.069	ng		99
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	13.63	63	221	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	13.96	130	515	N.D.			
48) 1,4-Dioxane	13.97	88	1321	0.054	ng		95
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.18	100	299	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012039.D Vial: 6
Acq On : 2 May 2020 2:44 Operator: LH
Sample : P2002104-002 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:18:18 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

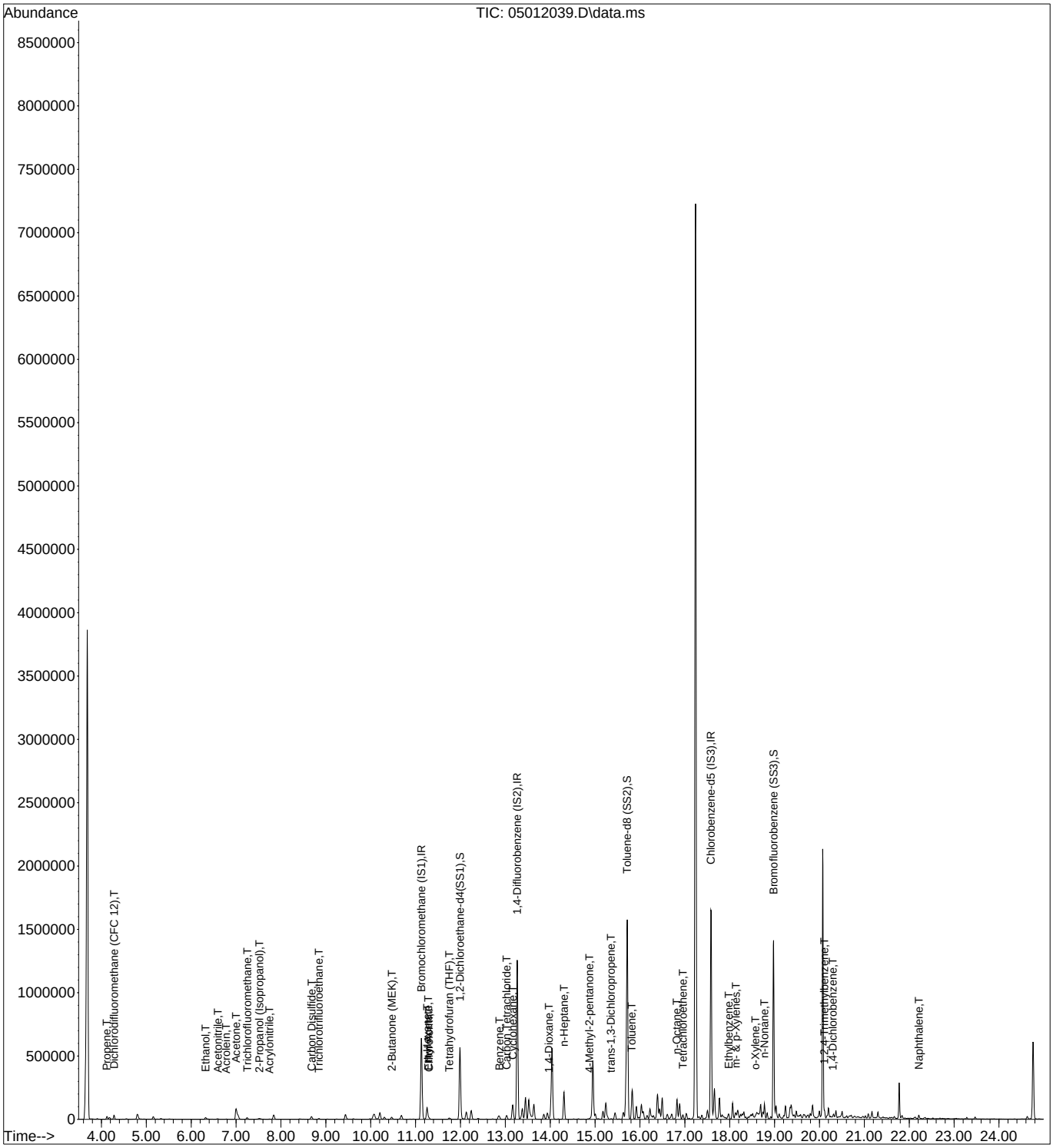
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	55404	1.966 ng	99
52) cis-1,3-Dichloropropene	14.83	75	1609	N.D.	
53) 4-Methyl-2-pentanone	14.88	58	2264	0.084 ng	84
54) trans-1,3-Dichloropropene	15.35	75	2603	0.063 ng	78
55) 1,1,2-Trichloroethane	15.52	97	111	N.D.	
58) Toluene	15.82	91	30001	0.249 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	16.22	129	355	N.D.	
61) 1,2-Dibromoethane	16.48	107	1638	N.D.	
62) n-Butyl Acetate	16.70	43	3484	N.D.	
63) n-Octane	16.82	57	30543	1.224 ng	98
64) Tetrachloroethene	16.96	166	5443	0.160 ng	100
65) Chlorobenzene	17.59	112	2525	N.D.	
66) Ethylbenzene	17.98	91	6835	0.051 ng	99
67) m- & p-Xylenes	18.14	91	18252	0.171 ng	96
68) Bromoform	18.21	173	558	N.D.	
69) Styrene	18.47	104	3292	N.D.	
70) o-Xylene	18.58	91	6831	0.063 ng	99
71) n-Nonane	18.77	43	40317	0.702 ng	96
72) 1,1,2,2-Tetrachloroethane	18.55	83	1082	N.D.	
74) Cumene	19.10	105	2218	N.D.	
75) alpha-Pinene	19.57	93	224	N.D.	
76) n-Propylbenzene	19.55	91	6032	N.D.	
77) 3-Ethyltoluene	19.64	105	4940	N.D.	
78) 4-Ethyltoluene	19.68	105	3991	N.D.	
79) 1,3,5-Trimethylbenzene	19.75	105	3839	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	19.91	105	3302	N.D.	
82) 1,2,4-Trimethylbenzene	20.11	105	5890	0.054 ng	93
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.23	91	3222	N.D.	
85) 1,3-Dichlorobenzene	20.24	146	2886	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	3349	0.054 ng	99
87) sec-Butylbenzene	20.35	105	2774	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	3107	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	4387	N.D.	
90) 1,2-Dichlorobenzene	20.61	146	2409	N.D.	
91) d-Limonene	20.62	68	1812	N.D.	
92) 1,2-Dibromo-3-Chloropr...	20.98	157	614	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.11	180	1795	N.D.	
95) Naphthalene	22.22	128	8175	0.062 ng	97
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	22.54	225	197	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	20.85	91	5028	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012039.D Vial: 6
Acq On : 2 May 2020 2:44 Operator: LH
Sample : P2002104-002 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:18:18 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012039.D Vial: 6
Acq On : 2 May 2020 2:44 Operator: LH
Sample : P2002104-002 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:18:18 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/4/20

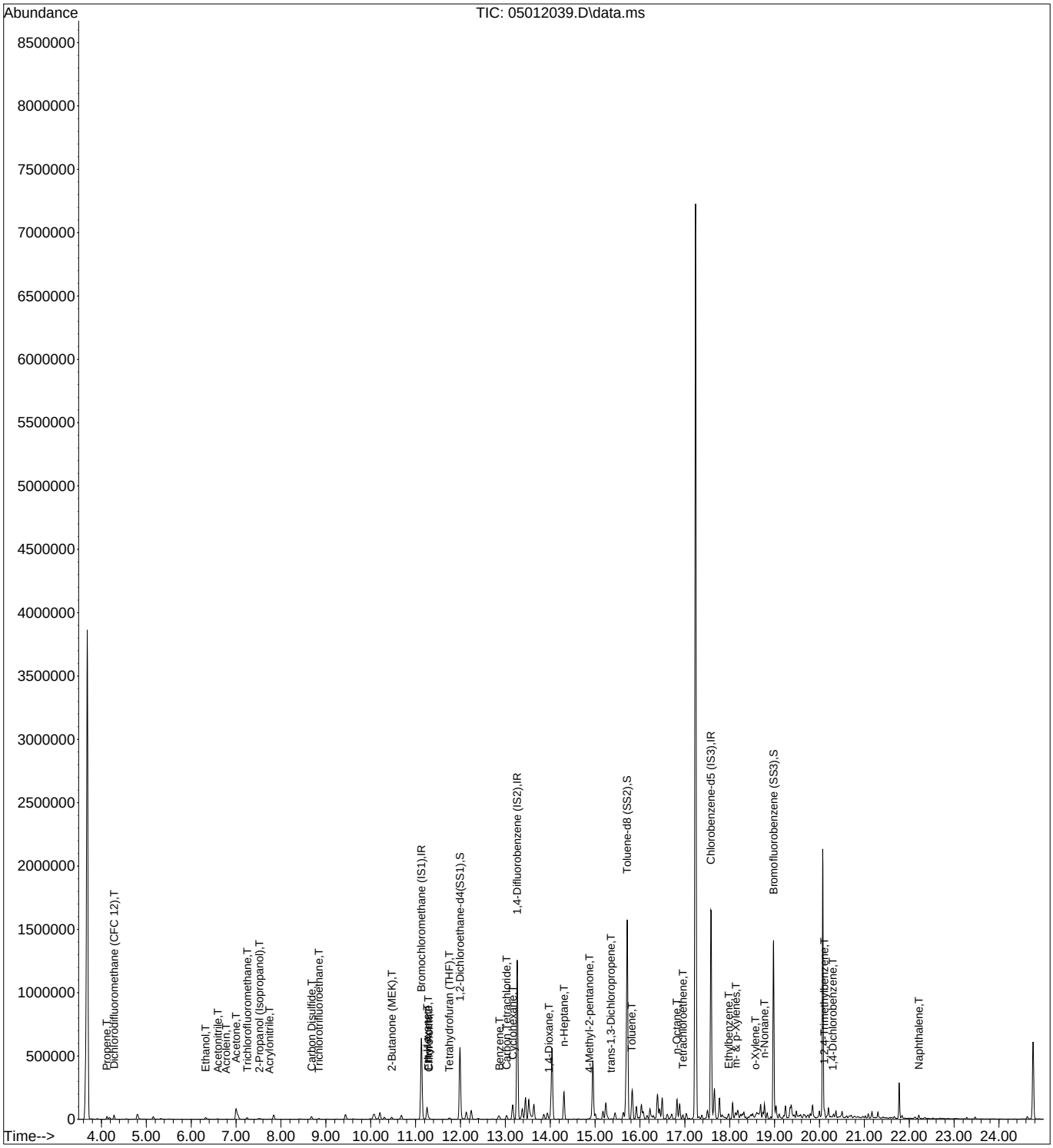
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	258944	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1123725	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	551611	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	439930	12.536	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.32%				
57) Toluene-d8 (SS2)	15.72	98	1147458	12.273	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.16%				
73) Bromofluorobenzene (SS3)	18.98	174	407553	12.114	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.88%				
Target Compounds							Qvalue
2) Propene	4.12	42	3711	0.124	ng		97
3) Dichlorodifluoromethan...	4.28	85	28859	0.492	ng		100
10) Ethanol	6.32	45	23421	1.011	ng		95
11) Acetonitrile	6.59	41	5727	0.108	ng	#	55
12) Acrolein	6.78	56	2731	0.149	ng		91
13) Acetone	7.00	58	45863	1.980	ng		100
14) Trichlorofluoromethane	7.25	101	12543	0.242	ng		98
15) 2-Propanol (Isopropanol)	7.52	45	14316	0.204	ng		86
16) Acrylonitrile	7.74	53	2358	0.062	ng		90
21) Trichlorotrifluoroethane	8.85	151	2721	0.111	ng		95
22) Carbon Disulfide	8.68	76	39598	0.367	ng		99
27) 2-Butanone (MEK)	10.47	72	6396	0.324	ng	#	91
30) Ethyl Acetate	11.28	61	1339	0.118	ng	#	73
31) n-Hexane	11.26	57	47971	0.971	ng		99
32) Chloroform	11.30	83	7395	0.143	ng		100
34) Tetrahydrofuran (THF)	11.75	72	3288	0.171	ng	#	87
41) Benzene	12.87	78	11505	0.095	ng		99
42) Carbon Tetrachloride	13.03	117	17203	0.420	ng		100
43) Cyclohexane	13.16	84	47997	1.069	ng		99
48) 1,4-Dioxane	13.97	88	1321	0.054	ng		95
51) n-Heptane	14.31	71	55404	1.966	ng		99
53) 4-Methyl-2-pentanone	14.88	58	2264	0.084	ng		84
54) trans-1,3-Dichloropropene	15.35	75	2603	0.063	ng		78
58) Toluene	15.82	91	30001	0.249	ng		100
63) n-Octane	16.82	57	30543	1.224	ng		98
64) Tetrachloroethene	16.96	166	5443	0.160	ng		100
66) Ethylbenzene	17.98	91	6835	0.051	ng		99
67) m- & p-Xylenes	18.14	91	18252	0.171	ng		96
70) o-Xylene	18.58	91	6831	0.063	ng		99
71) n-Nonane	18.77	43	40317	0.702	ng		96
82) 1,2,4-Trimethylbenzene	20.11	105	5890	0.054	ng		93
86) 1,4-Dichlorobenzene	20.30	146	3349	0.054	ng		99
95) Naphthalene	22.22	128	8175	0.062	ng		97

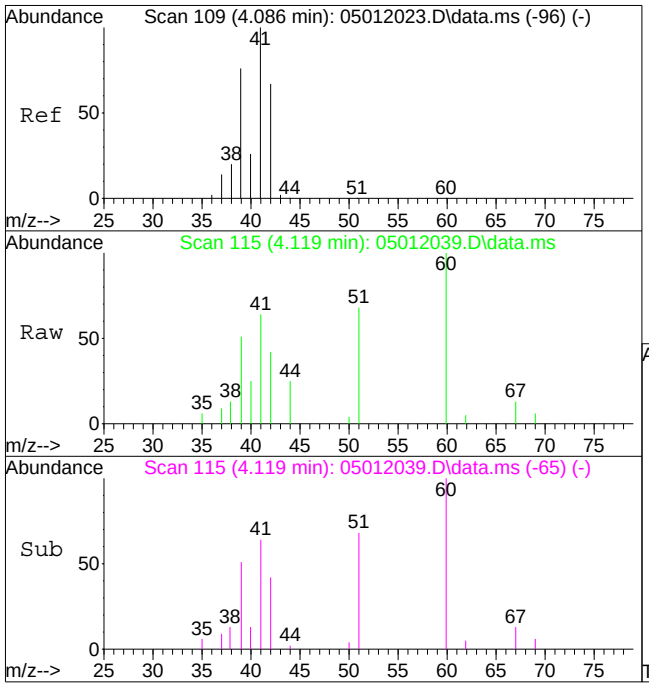
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012039.D Vial: 6
Acq On : 2 May 2020 2:44 Operator: LH
Sample : P2002104-002 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:18:18 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

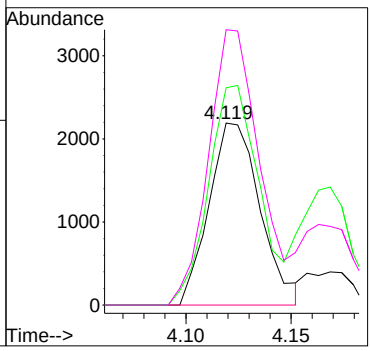


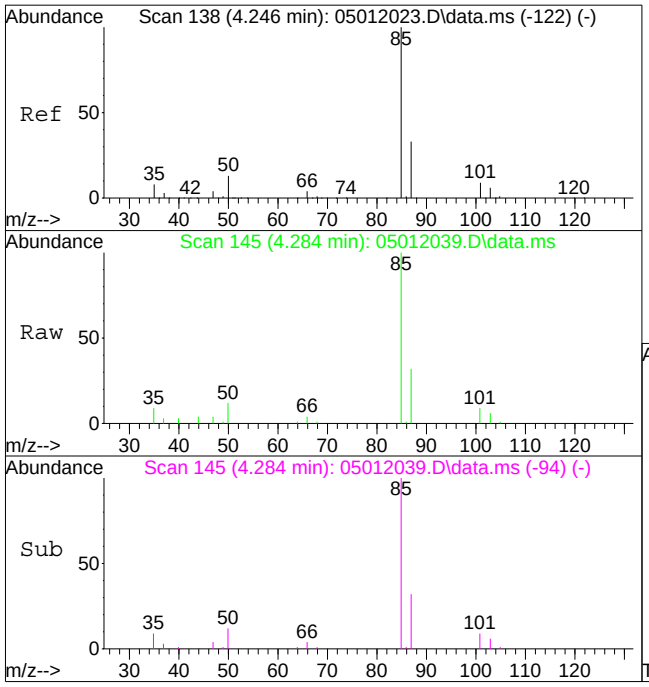


#2
Propene
Concen: 0.12 ng
RT: 4.12 min Scan# 115
Delta R.T. 0.027 min
Lab File: 05012039.D
Acq: 2 May 2020 2:44

Tgt Ion: 42 Resp: 3711

Ion	Ratio	Lower	Upper
42	100		
39	119.3	96.1	136.1
41	148.2	131.9	171.9

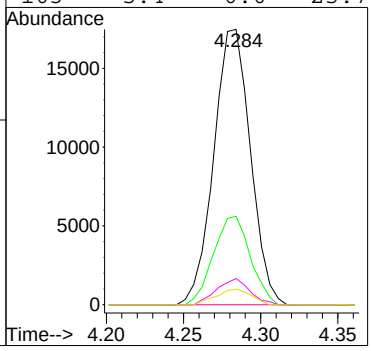


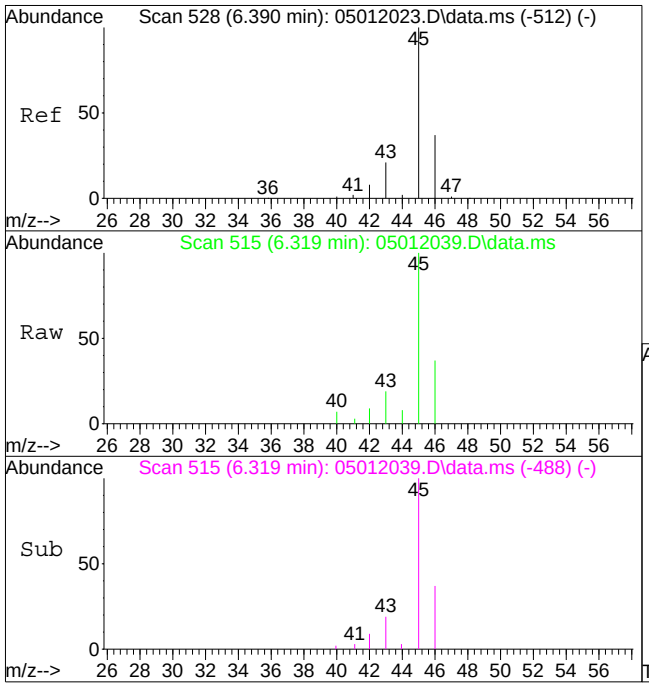


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.49 ng
RT: 4.28 min Scan# 145
Delta R.T. 0.033 min
Lab File: 05012039.D
Acq: 2 May 2020 2:44

Tgt Ion: 85 Resp: 28859

Ion	Ratio	Lower	Upper
85	100		
87	32.2	12.4	52.4
101	8.6	0.0	28.8
103	5.4	0.0	25.7

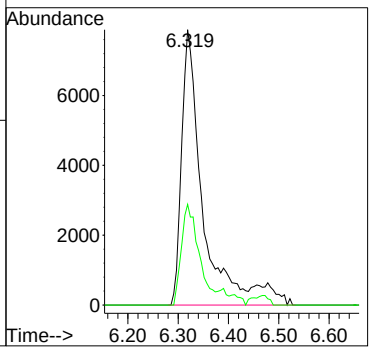


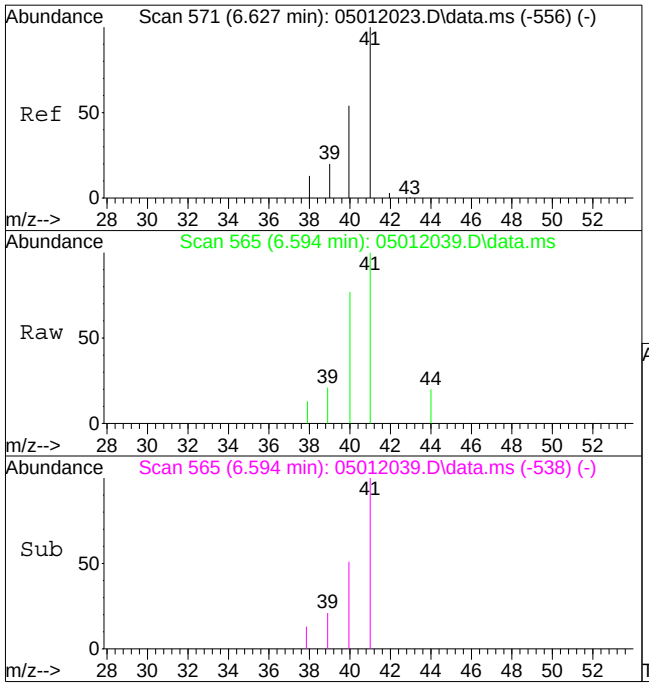


#10
Ethanol
Concen: 1.01 ng
RT: 6.32 min Scan# 515
Delta R.T. -0.099 min
Lab File: 05012039.D
Acq: 2 May 2020 2:44

Tgt Ion: 45 Resp: 23421

Ion	Ratio	Lower	Upper
45	100		
46	34.1	17.2	57.2

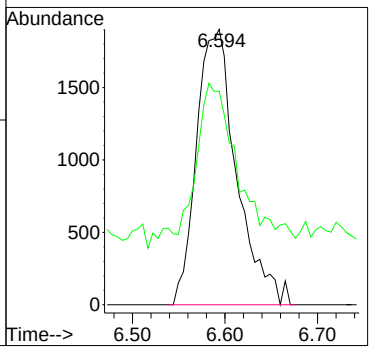


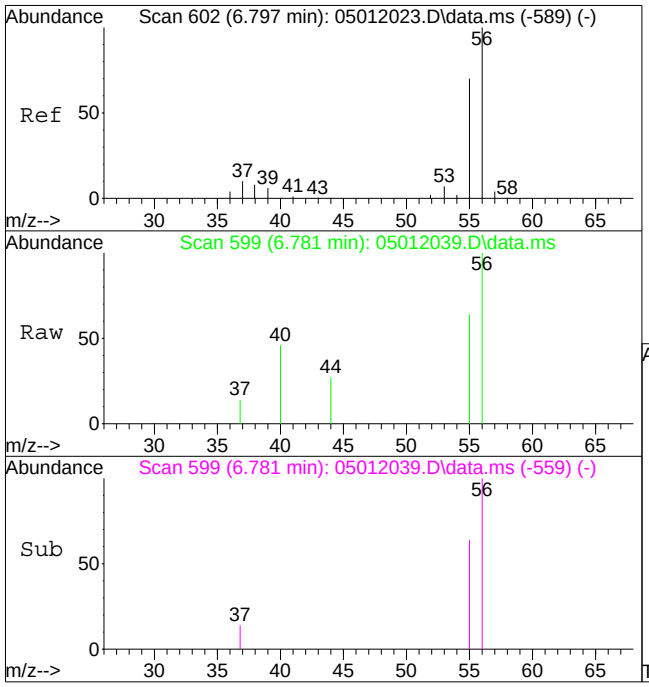


#11
Acetonitrile
Concen: 0.11 ng
RT: 6.59 min Scan# 565
Delta R.T. -0.050 min
Lab File: 05012039.D
Acq: 2 May 2020 2:44

Tgt Ion: 41 Resp: 5727

Ion	Ratio	Lower	Upper
41	100		
40	85.4	33.6	73.6#

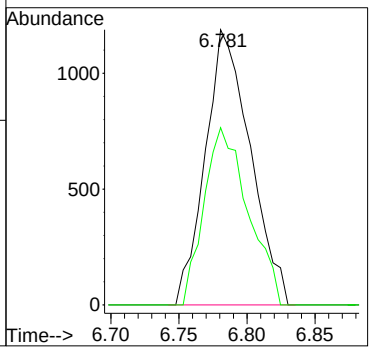


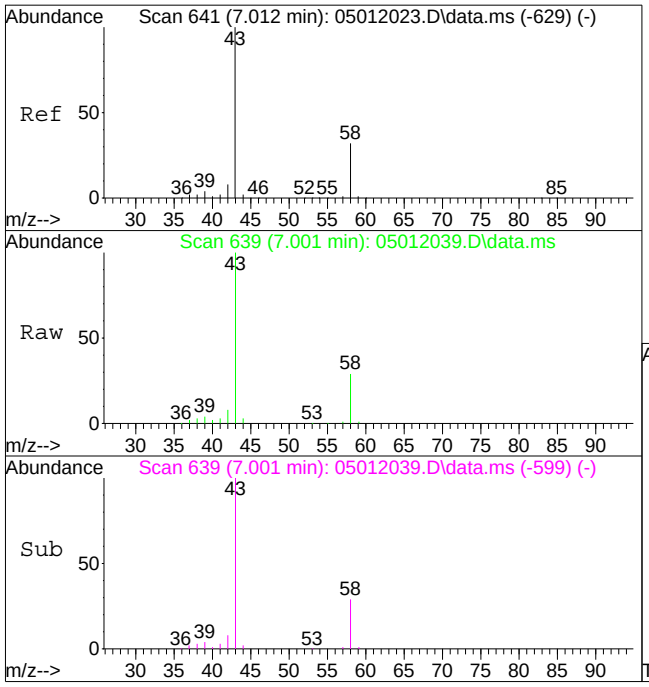


#12
Acrolein
Concen: 0.15 ng
RT: 6.78 min Scan# 599
Delta R.T. -0.028 min
Lab File: 05012039.D
Acq: 2 May 2020 2:44

Tgt Ion: 56 Resp: 2731

Ion	Ratio	Lower	Upper
56	100		
55	63.1	50.2	90.2

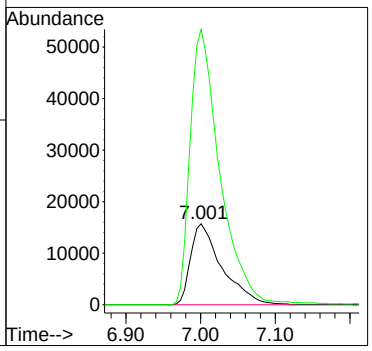


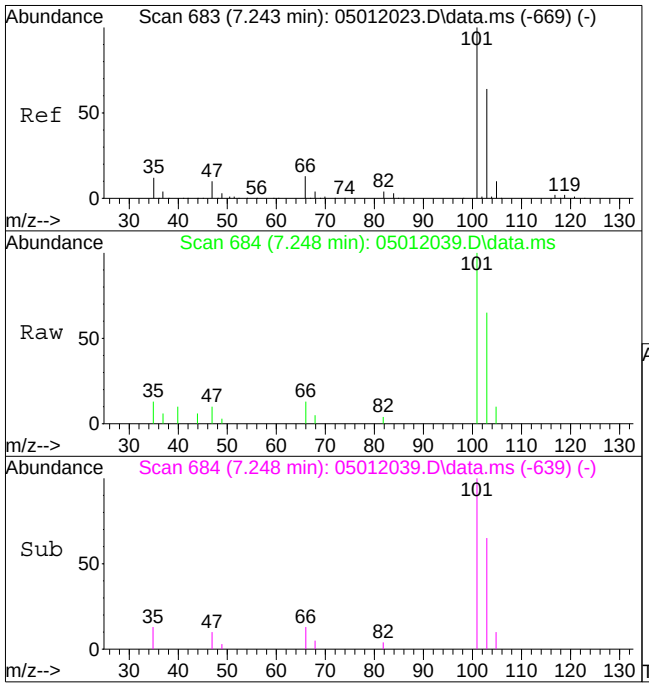


#13
Acetone
Concen: 1.98 ng
RT: 7.00 min Scan# 639
Delta R.T. -0.028 min
Lab File: 05012039.D
Acq: 2 May 2020 2:44

Tgt Ion: 58 Resp: 45863

Ion	Ratio	Lower	Upper
58	100		
43	325.1	294.4	354.4

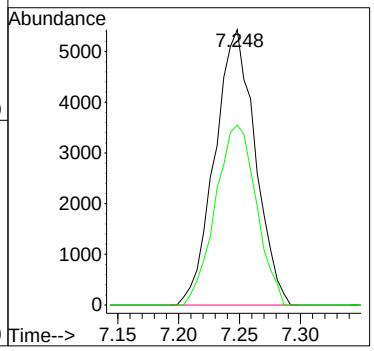


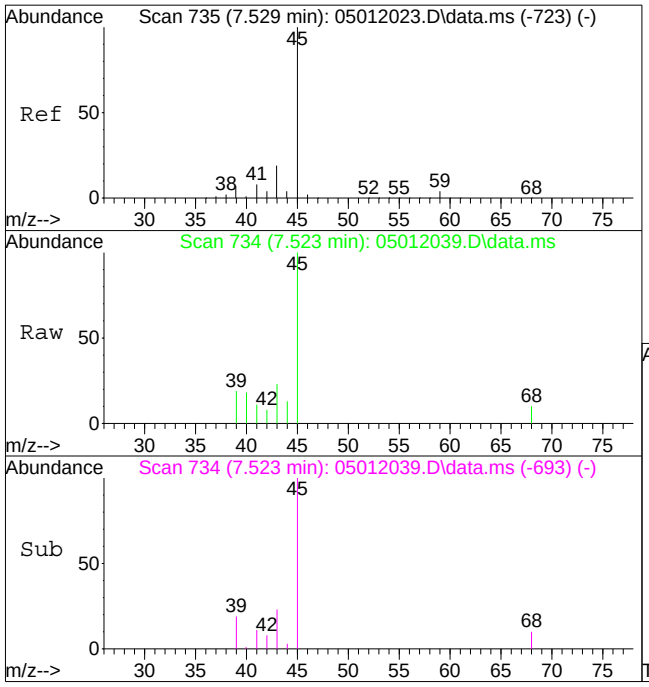


#14
Trichlorofluoromethane
Concen: 0.24 ng
RT: 7.25 min Scan# 684
Delta R.T. -0.000 min
Lab File: 05012039.D
Acq: 2 May 2020 2:44

Tgt Ion:101 Resp: 12543

Ion	Ratio	Lower	Upper
101	100		
103	66.1	44.4	84.4

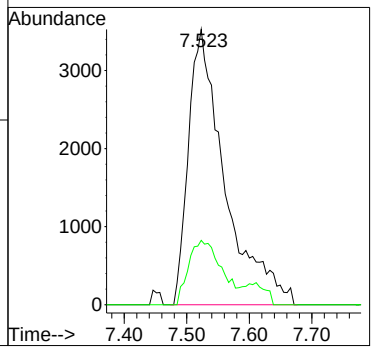


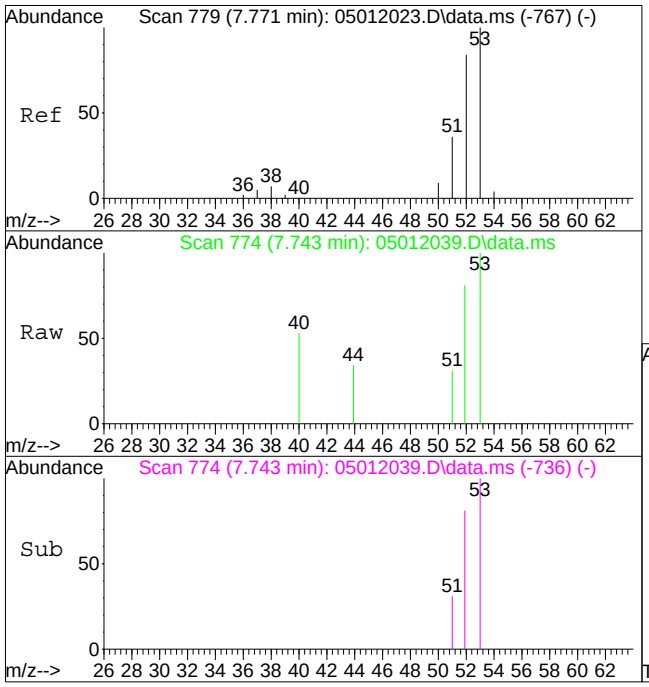


#15
2-Propanol (Isopropanol)
Concen: 0.20 ng
RT: 7.52 min Scan# 734
Delta R.T. -0.022 min
Lab File: 05012039.D
Acq: 2 May 2020 2:44

Tgt Ion: 45 Resp: 14316

Ion	Ratio	Lower	Upper
45	100		
43	25.9	0.0	39.5

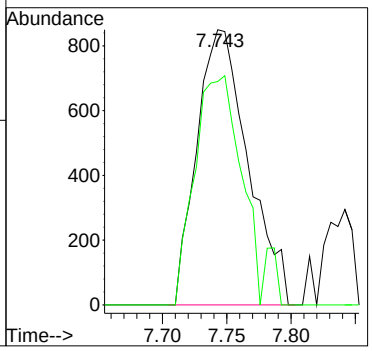


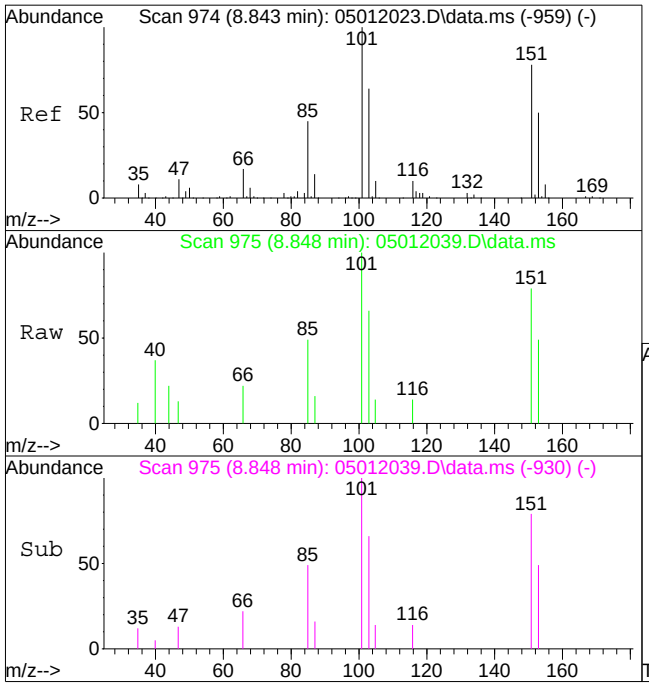


#16
Acrylonitrile
Concen: 0.06 ng
RT: 7.74 min Scan# 774
Delta R.T. -0.039 min
Lab File: 05012039.D
Acq: 2 May 2020 2:44

Tgt Ion: 53 Resp: 2358

Ion	Ratio	Lower	Upper
53	100		
52	74.8	63.7	103.7

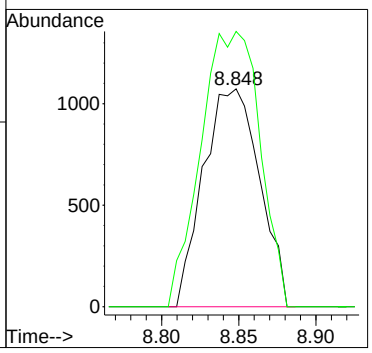


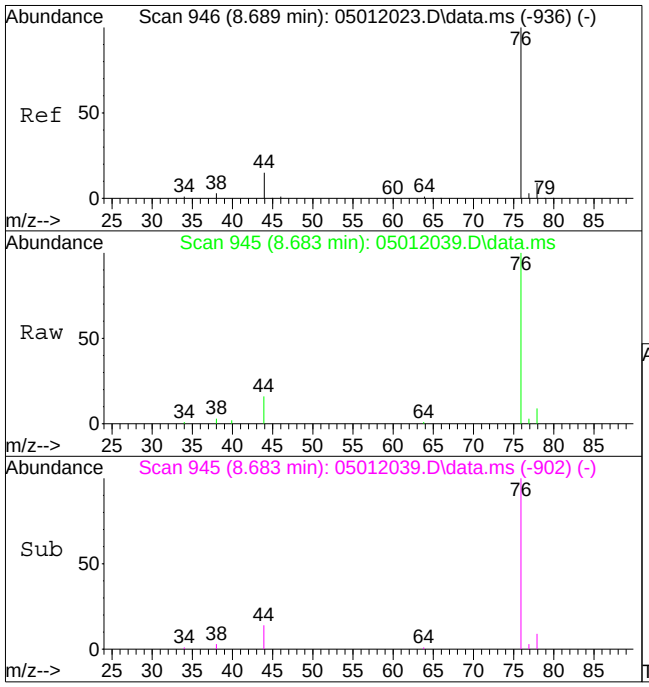


#21
Trichlorotrifluoroethane
Concen: 0.11 ng
RT: 8.85 min Scan# 975
Delta R.T. -0.000 min
Lab File: 05012039.D
Acq: 2 May 2020 2:44

Tgt Ion:151 Resp: 2721

Ion	Ratio	Lower	Upper
151	100		
101	133.4	107.3	147.3

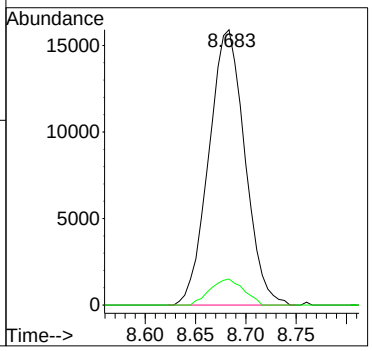


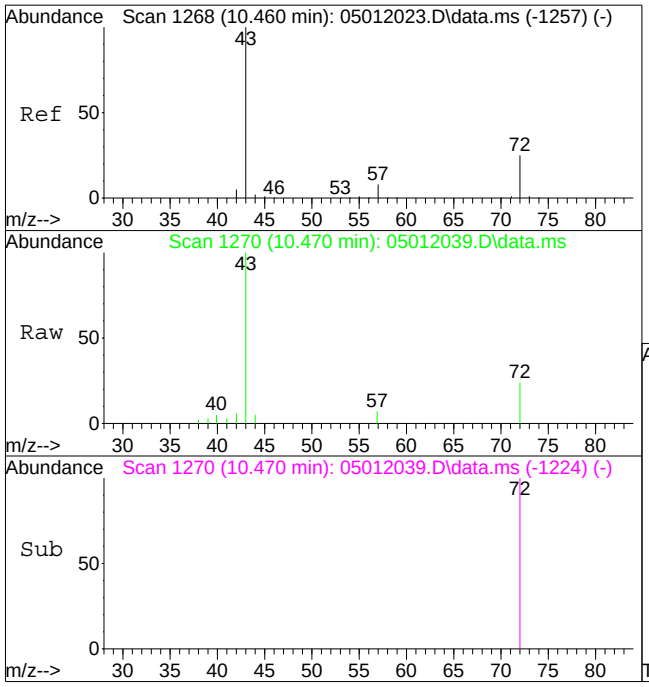


#22
Carbon Disulfide
Concen: 0.37 ng
RT: 8.68 min Scan# 945
Delta R.T. -0.011 min
Lab File: 05012039.D
Acq: 2 May 2020 2:44

Tgt Ion: 76 Resp: 39598

Ion	Ratio	Lower	Upper
76	100		
78	8.8	0.0	29.2

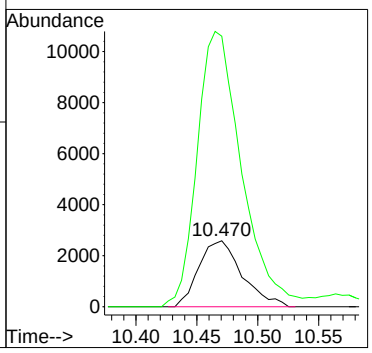


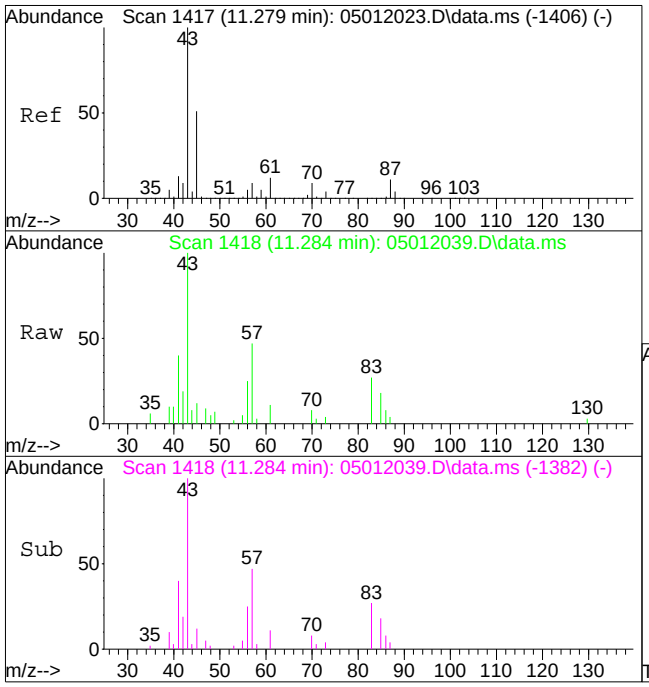


#27
2-Butanone (MEK)
Concen: 0.32 ng
RT: 10.47 min Scan# 1270
Delta R.T. 0.005 min
Lab File: 05012039.D
Acq: 2 May 2020 2:44

Tgt Ion: 72 Resp: 6396

Ion	Ratio	Lower	Upper
72	100		
43	430.4	389.7	429.7#

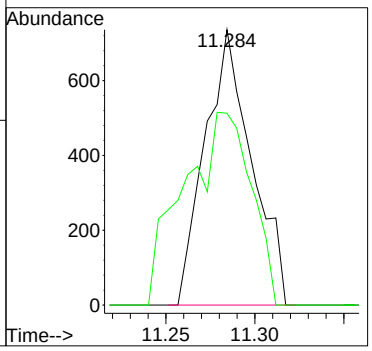


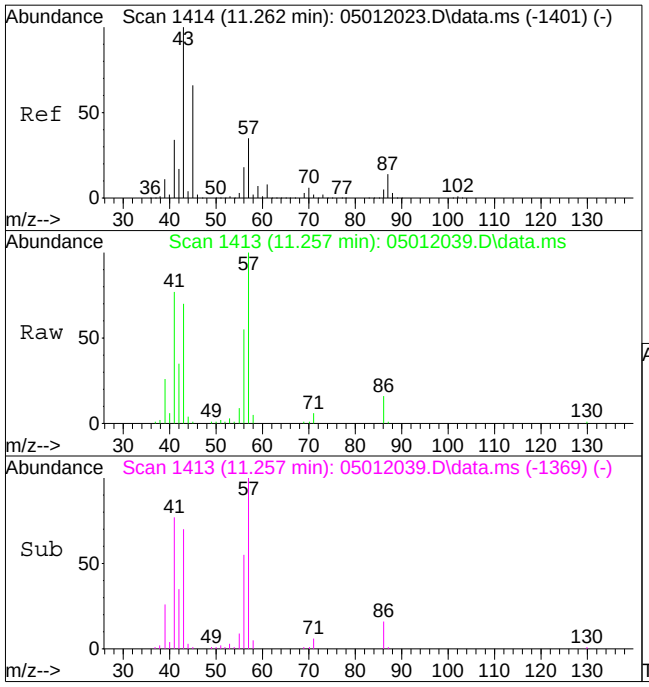


#30
Ethyl Acetate
Concen: 0.12 ng
RT: 11.28 min Scan# 1418
Delta R.T. -0.000 min
Lab File: 05012039.D
Acq: 2 May 2020 2:44

Tgt Ion: 61 Resp: 1339

Ion	Ratio	Lower	Upper
61	100		
70	101.2	57.9	97.9#

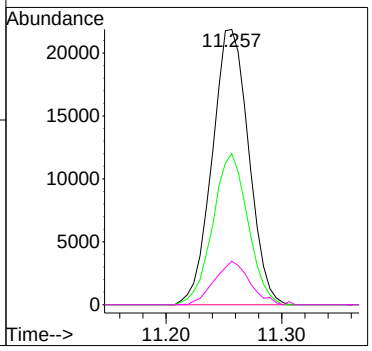


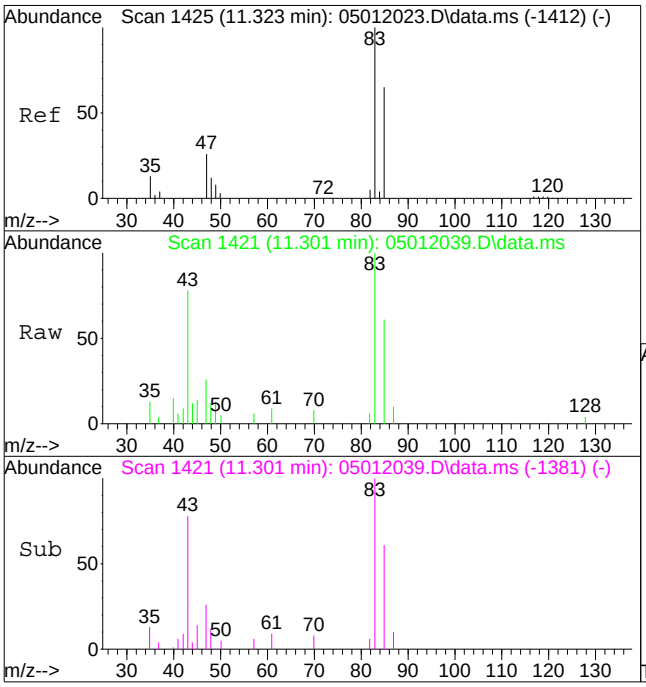


#31
n-Hexane
Concen: 0.97 ng
RT: 11.26 min Scan# 1413
Delta R.T. -0.006 min
Lab File: 05012039.D
Acq: 2 May 2020 2:44

Tgt Ion: 57 Resp: 47971

Ion	Ratio	Lower	Upper
57	100		
56	52.8	41.4	62.0
86	15.2	12.4	18.6

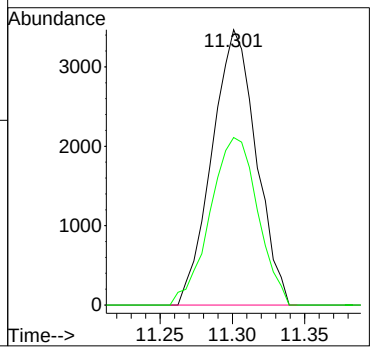


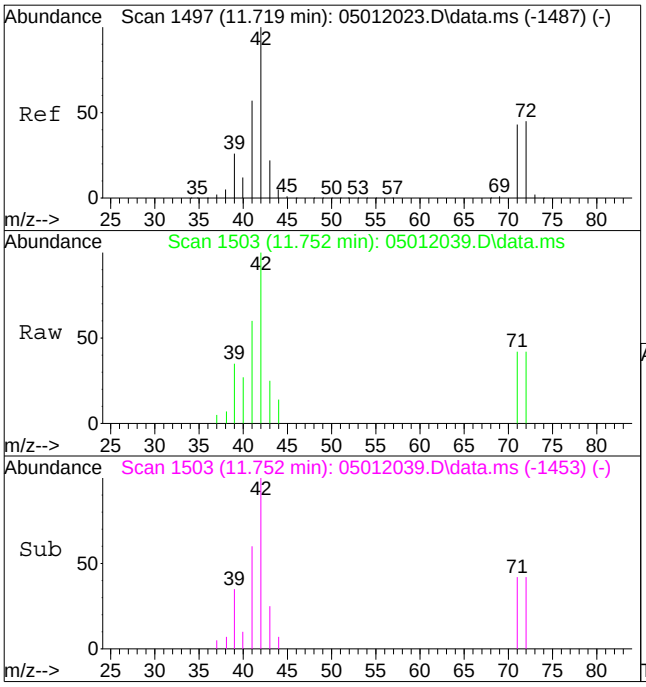


#32
Chloroform
Concen: 0.14 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.028 min
Lab File: 05012039.D
Acq: 2 May 2020 2:44

Tgt Ion: 83 Resp: 7395

Ion	Ratio	Lower	Upper
83	100		
85	65.4	45.5	85.5

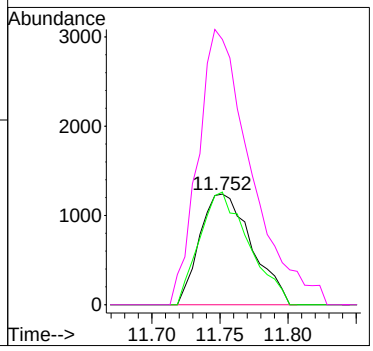


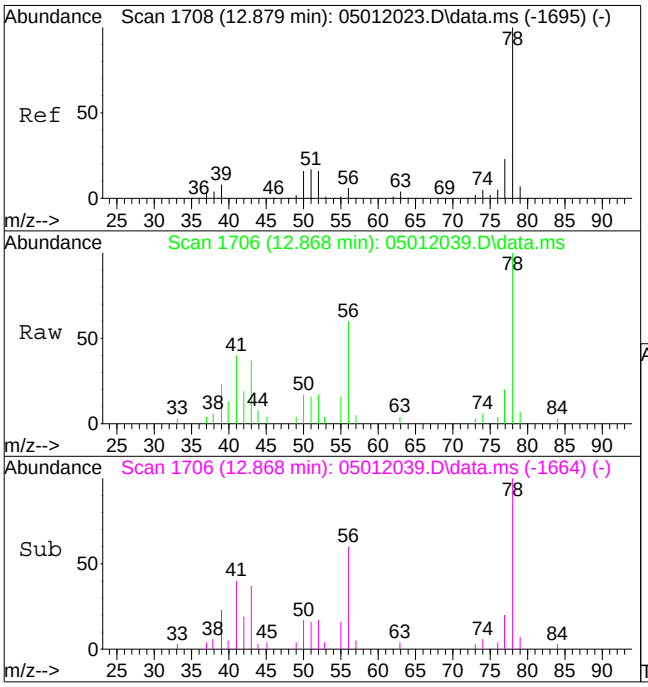


#34
Tetrahydrofuran (THF)
Concen: 0.17 ng
RT: 11.75 min Scan# 1503
Delta R.T. 0.027 min
Lab File: 05012039.D
Acq: 2 May 2020 2:44

Tgt Ion: 72 Resp: 3288

Ion	Ratio	Lower	Upper
72	100		
71	96.6	77.0	117.0
42	254.6	204.6	244.6#

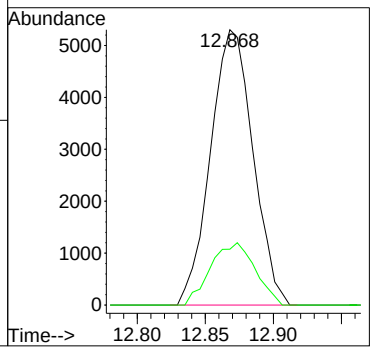


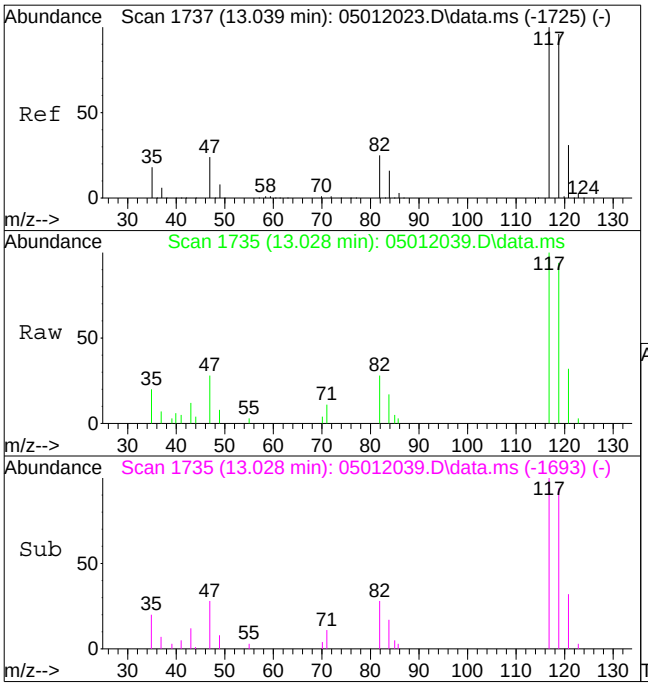


#41
Benzene
Concen: 0.10 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05012039.D
Acq: 2 May 2020 2:44

Tgt Ion: 78 Resp: 11505

Ion	Ratio	Lower	Upper
78	100		
77	23.7	3.4	43.4

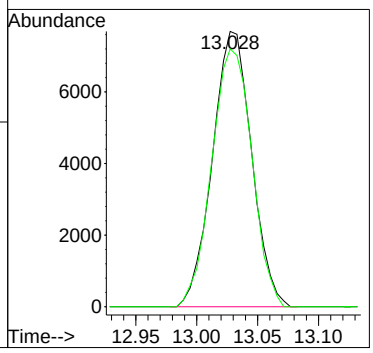


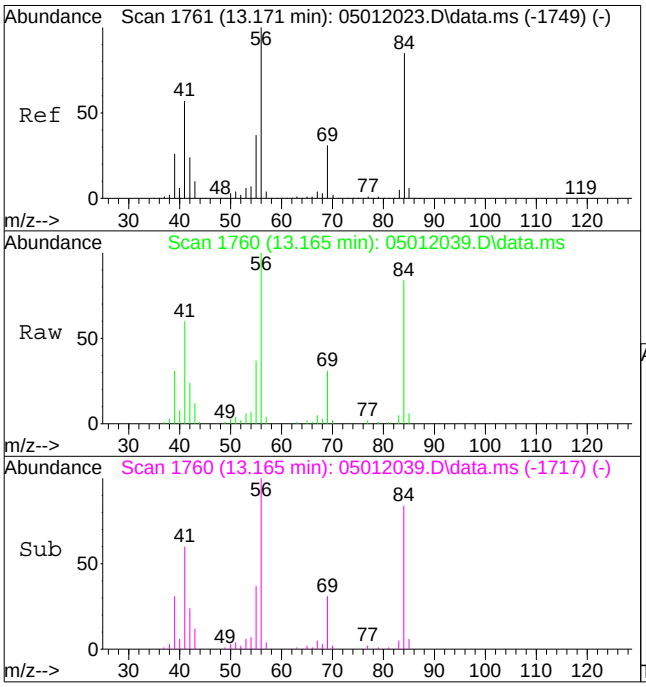


#42
Carbon Tetrachloride
Concen: 0.42 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05012039.D
Acq: 2 May 2020 2:44

Tgt Ion:117 Resp: 17203

Ion	Ratio	Lower	Upper
117	100		
119	96.2	76.2	116.2

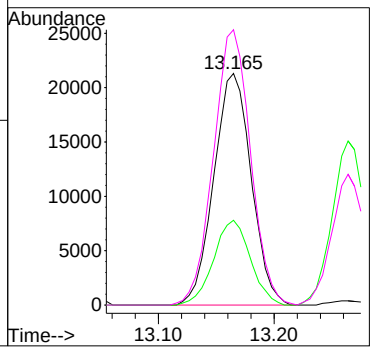


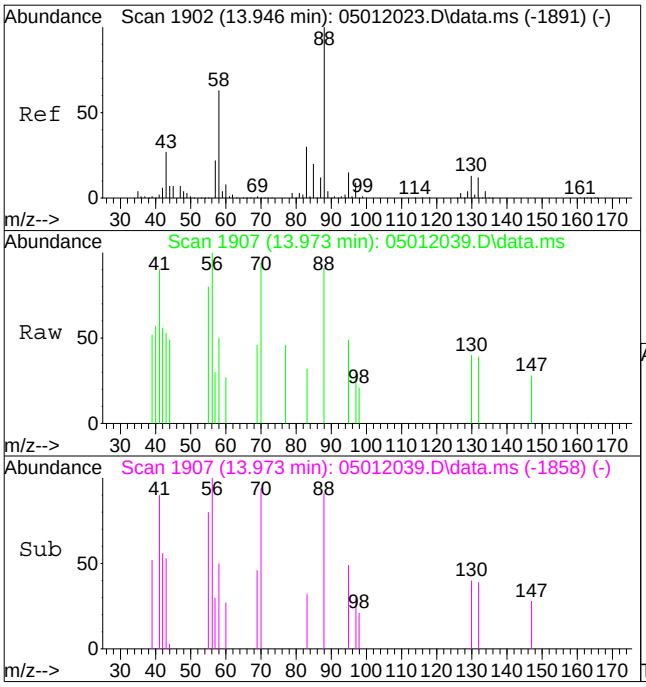


#43
Cyclohexane
Concen: 1.07 ng
RT: 13.16 min Scan# 1760
Delta R.T. -0.011 min
Lab File: 05012039.D
Acq: 2 May 2020 2:44

Tgt Ion: 84 Resp: 47997

Ion	Ratio	Lower	Upper
84	100		
69	35.9	16.5	56.5
56	117.8	97.4	137.4

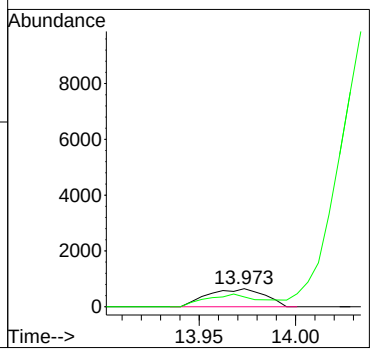


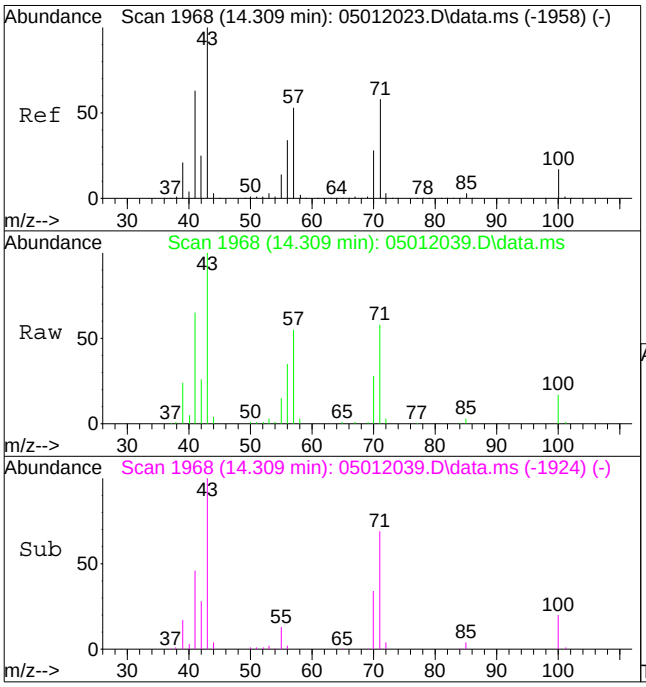


#48
1,4-Dioxane
Concen: 0.05 ng
RT: 13.97 min Scan# 1907
Delta R.T. 0.022 min
Lab File: 05012039.D
Acq: 2 May 2020 2:44

Tgt Ion: 88 Resp: 1321

Ion	Ratio	Lower	Upper
88	100		
58	66.3	42.8	82.8

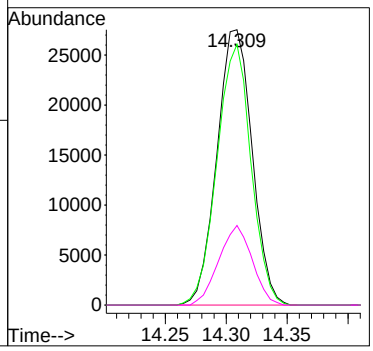


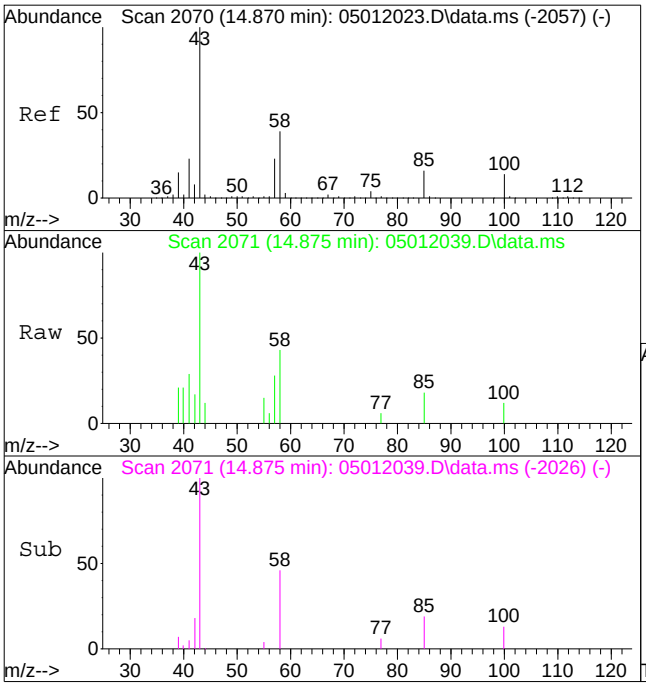


#51
n-Heptane
Concen: 1.97 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05012039.D
Acq: 2 May 2020 2:44

Tgt Ion: 71 Resp: 55404

Ion	Ratio	Lower	Upper
71	100		
57	91.5	71.0	111.0
100	27.4	8.4	48.4

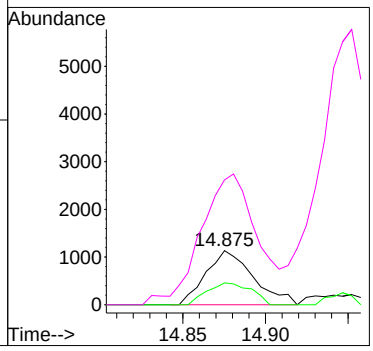


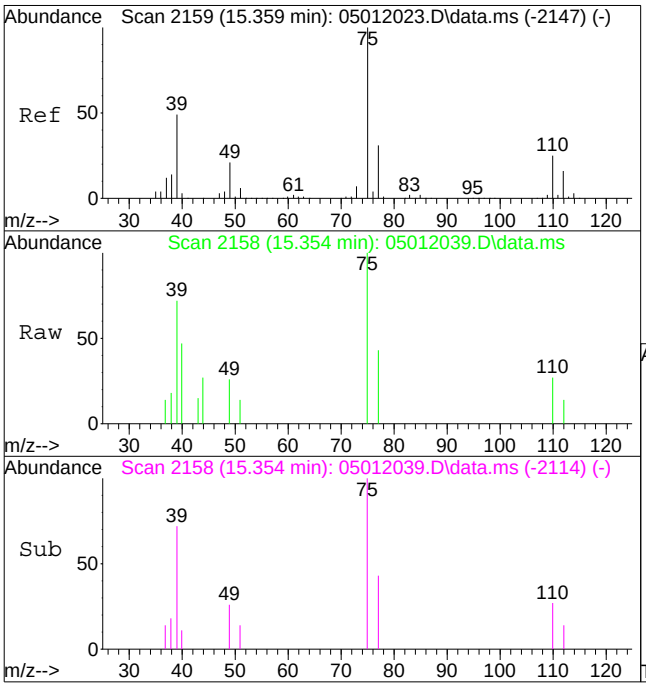


#53
4-Methyl-2-pentanone
Concen: 0.08 ng
RT: 14.88 min Scan# 2071
Delta R.T. -0.000 min
Lab File: 05012039.D
Acq: 2 May 2020 2:44

Tgt Ion: 58 Resp: 2264

Ion	Ratio	Lower	Upper
58	100		
85	37.6	35.4	53.2
43	284.6	203.3	304.9

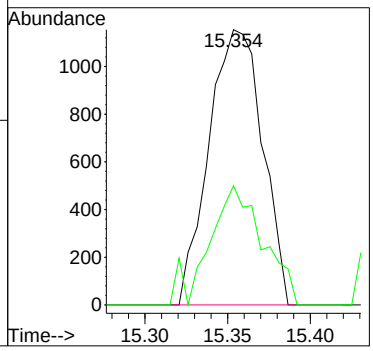


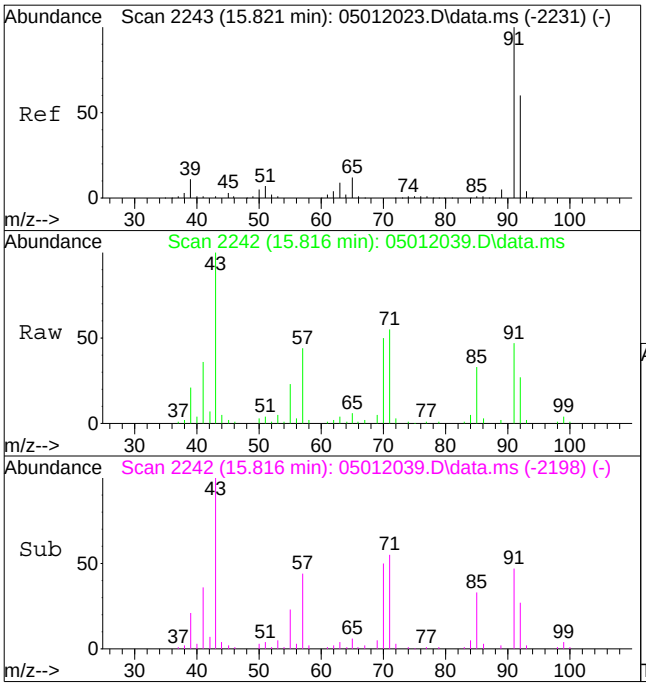


#54
trans-1,3-Dichloropropene
Concen: 0.06 ng
RT: 15.35 min Scan# 2158
Delta R.T. -0.006 min
Lab File: 05012039.D
Acq: 2 May 2020 2:44

Tgt Ion: 75 Resp: 2603

Ion	Ratio	Lower	Upper
75	100		
77	43.6	11.5	51.5

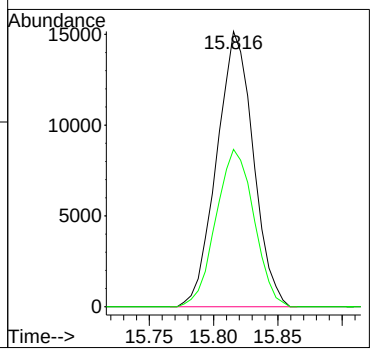


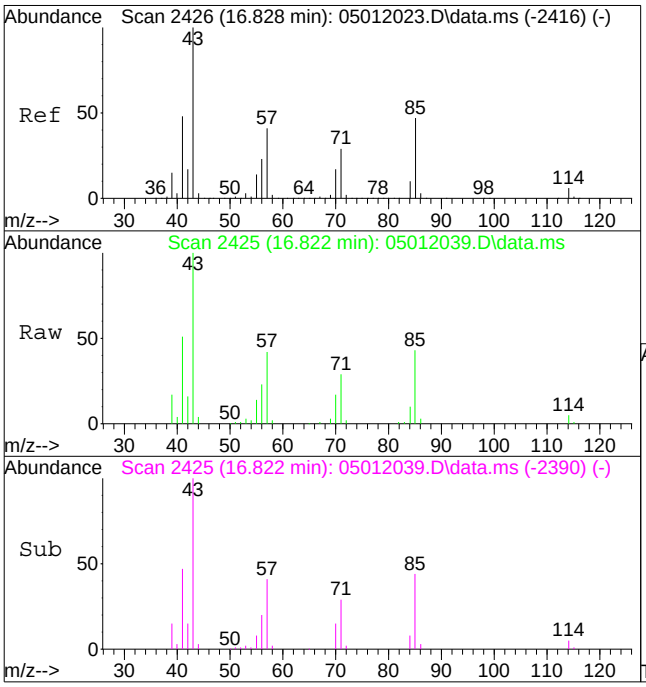


#58
Toluene
Concen: 0.25 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05012039.D
Acq: 2 May 2020 2:44

Tgt Ion: 91 Resp: 30001

Ion	Ratio	Lower	Upper
91	100		
92	59.4	39.4	79.4

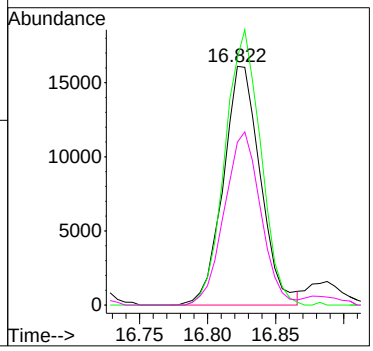


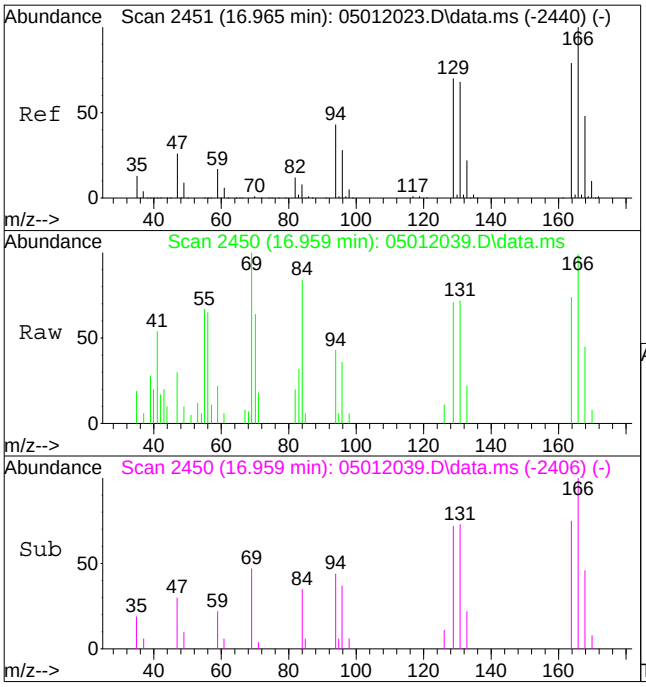


#63
n-Octane
Concen: 1.22 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05012039.D
Acq: 2 May 2020 2:44

Tgt Ion: 57 Resp: 30543

Ion	Ratio	Lower	Upper
57	100		
85	110.7	91.0	136.4
71	71.0	56.2	84.2

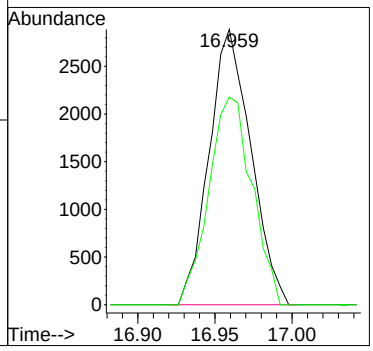


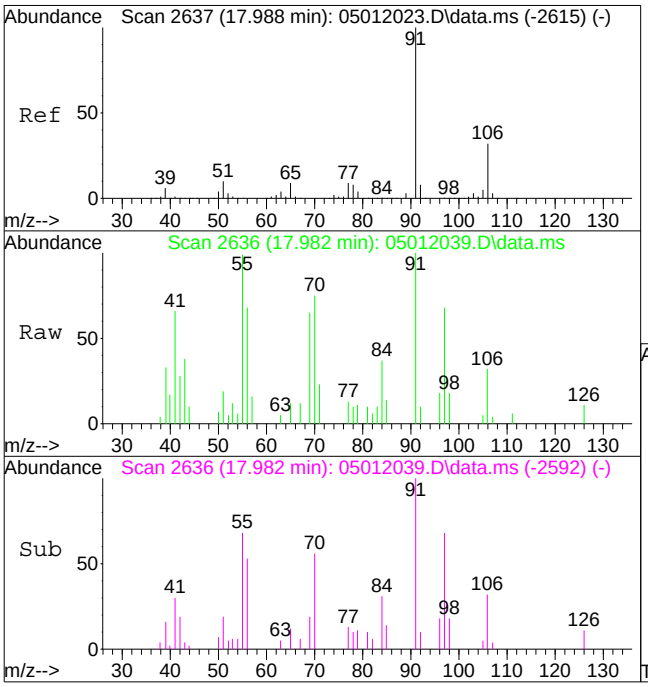


#64
Tetrachloroethene
Concen: 0.16 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05012039.D
Acq: 2 May 2020 2:44

Tgt Ion:166 Resp: 5443

Ion	Ratio	Lower	Upper
166	100		
164	78.0	58.4	98.4

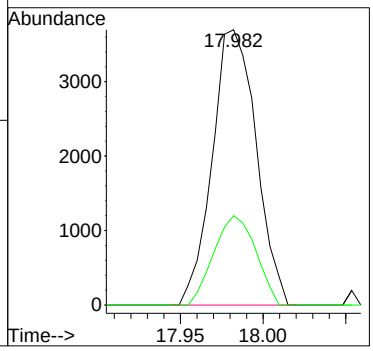


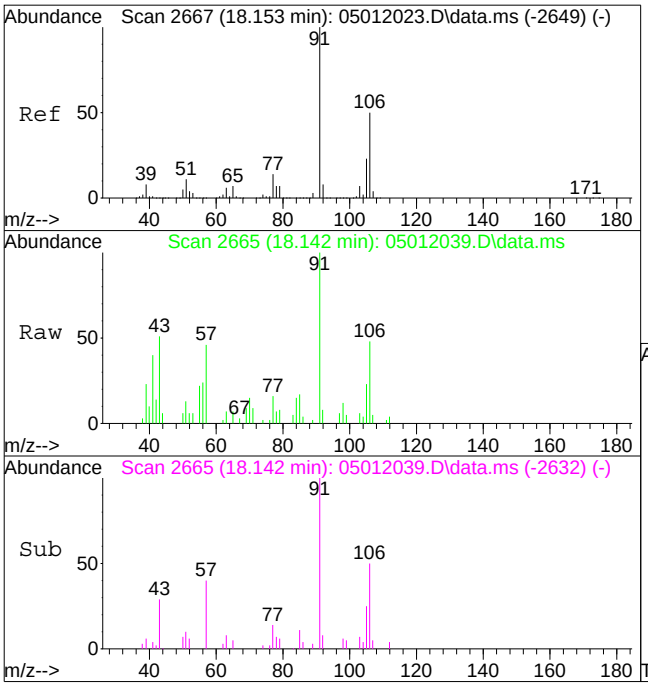


#66
Ethylbenzene
Concen: 0.05 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05012039.D
Acq: 2 May 2020 2:44

Tgt Ion: 91 Resp: 6835

Ion	Ratio	Lower	Upper
91	100		
106	30.9	11.6	51.6

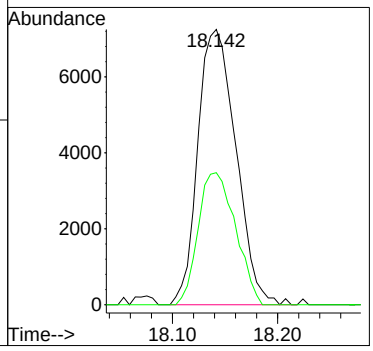


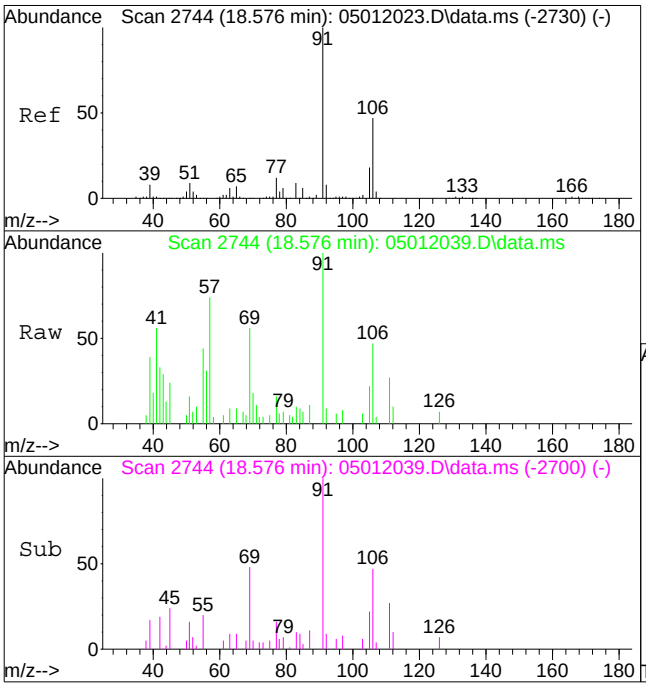


#67
m- & p-Xylenes
Concen: 0.17 ng
RT: 18.14 min Scan# 2665
Delta R.T. -0.017 min
Lab File: 05012039.D
Acq: 2 May 2020 2:44

Tgt Ion: 91 Resp: 18252

Ion	Ratio	Lower	Upper
91	100		
106	47.0	29.7	69.7

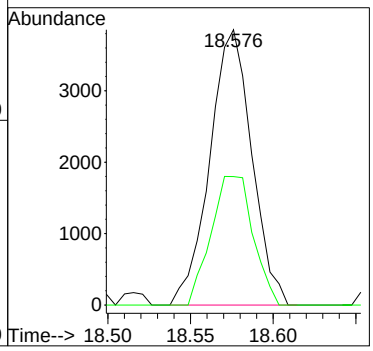


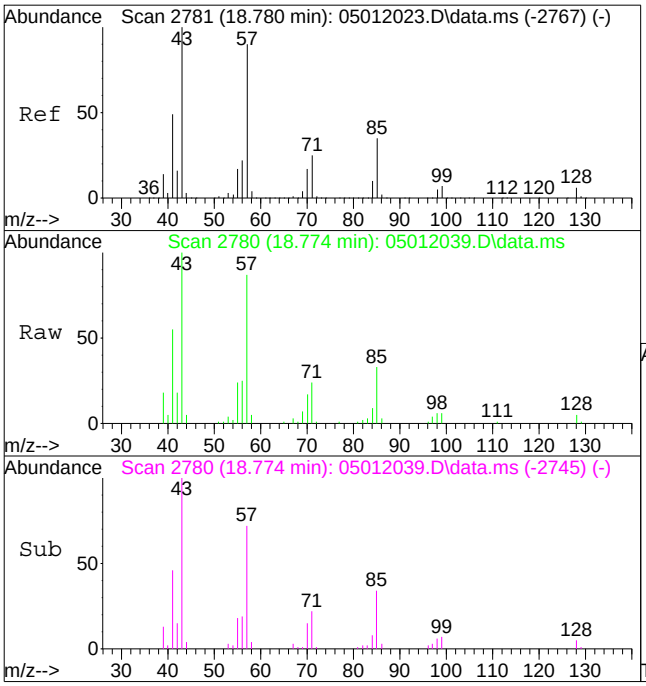


#70
o-Xylene
Concen: 0.06 ng
RT: 18.58 min Scan# 2744
Delta R.T. -0.006 min
Lab File: 05012039.D
Acq: 2 May 2020 2:44

Tgt Ion: 91 Resp: 6831

Ion	Ratio	Lower	Upper
91	100		
106	46.6	27.5	67.5

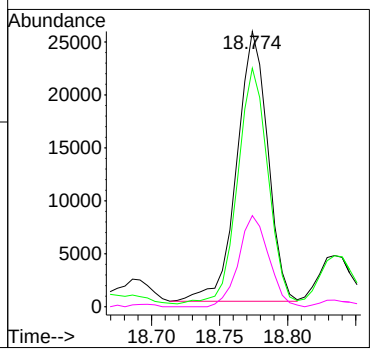


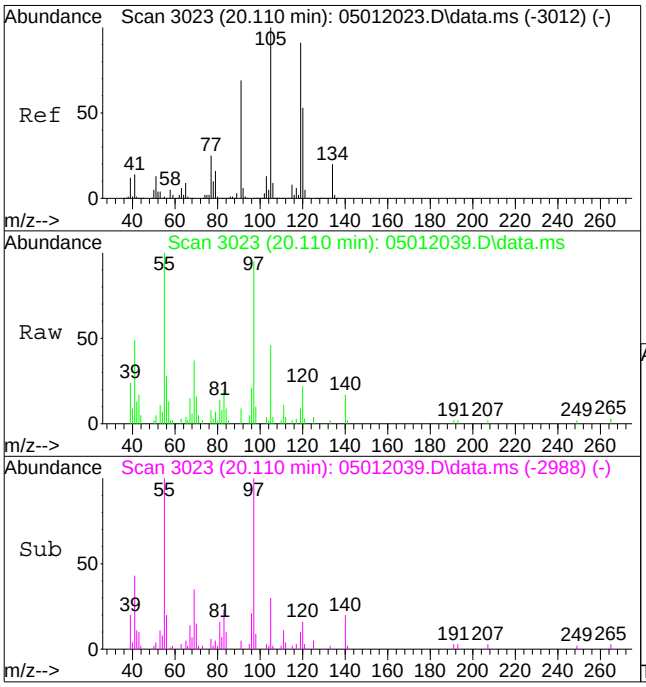


#71
n-Nonane
Concen: 0.70 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05012039.D
Acq: 2 May 2020 2:44

Tgt Ion: 43 Resp: 40317

Ion	Ratio	Lower	Upper
43	100		
57	85.6	69.0	109.0
85	32.7	14.6	54.6

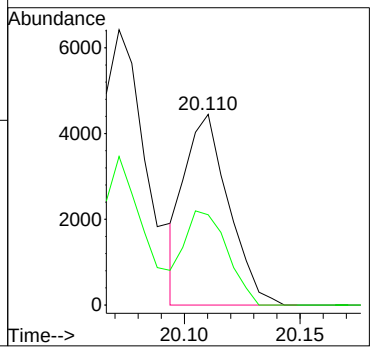


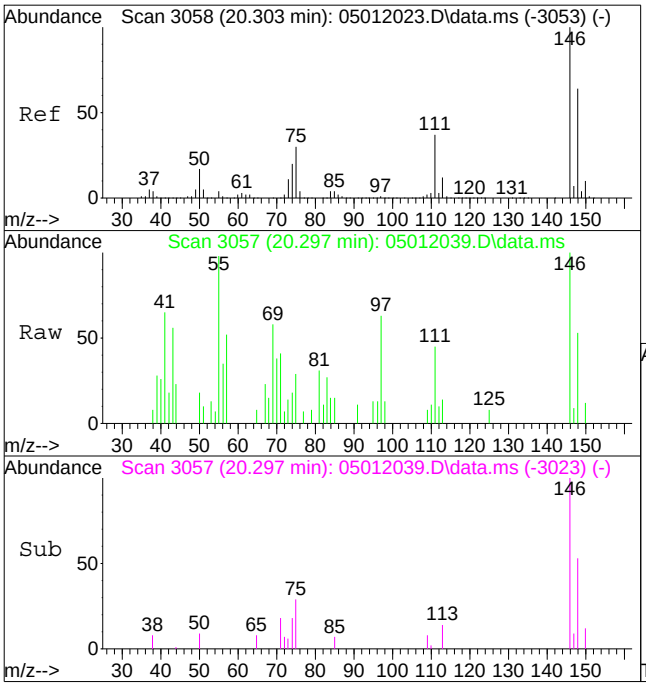


#82
1,2,4-Trimethylbenzene
Concen: 0.05 ng
RT: 20.11 min Scan# 3023
Delta R.T. -0.006 min
Lab File: 05012039.D
Acq: 2 May 2020 2:44

Tgt Ion:105 Resp: 5890

Ion	Ratio	Lower	Upper
105	100		
120	48.3	33.6	73.6

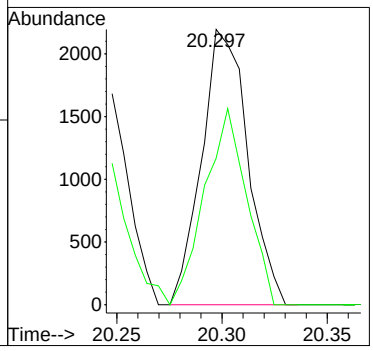


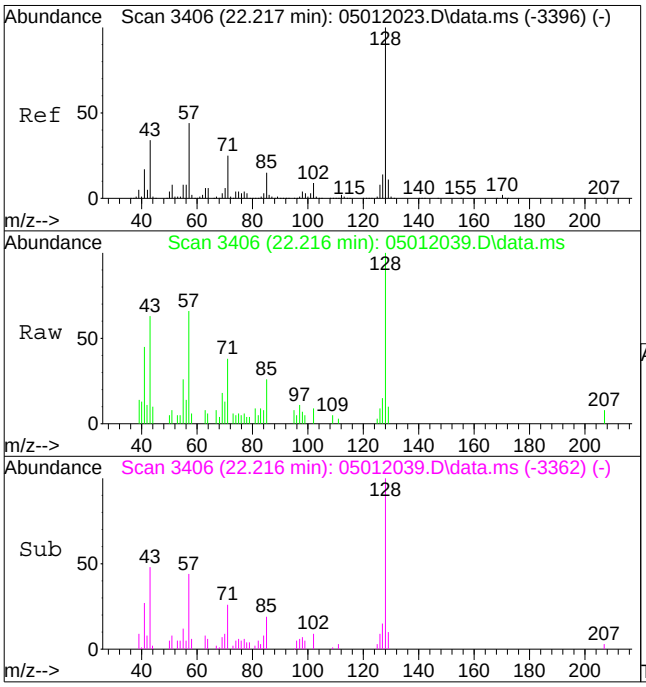


#86
1,4-Dichlorobenzene
Concen: 0.05 ng
RT: 20.30 min Scan# 3057
Delta R.T. -0.011 min
Lab File: 05012039.D
Acq: 2 May 2020 2:44

Tgt Ion:146 Resp: 3349

Ion	Ratio	Lower	Upper
146	100		
148	64.7	43.7	83.7

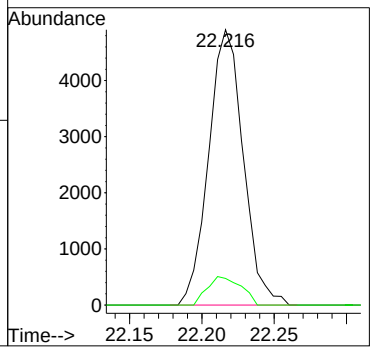




#95
Naphthalene
Concen: 0.06 ng
RT: 22.22 min Scan# 3406
Delta R.T. -0.006 min
Lab File: 05012039.D
Acq: 2 May 2020 2:44

Tgt Ion:128 Resp: 8175

Ion	Ratio	Lower	Upper
128	100		
129	10.0	0.0	31.0



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012040.D Vial: 7
Acq On : 2 May 2020 3:18 Operator: LH
Sample : P2002104-003 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:19:32 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/4/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	261196	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1146097	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	553934	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	448208	12.662	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.28%			
57) Toluene-d8 (SS2)	15.72	98	1158398	12.338	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.72%			
73) Bromofluorobenzene (SS3)	18.98	174	408605	12.095	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.72%			
Target Compounds						Qvalue
2) Propene	4.11	42	10555	0.349	ng	99
3) Dichlorodifluoromethan...	4.27	85	34660	0.586	ng	99
4) Chloromethane	4.54	50	3198	0.069	ng	99
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	878	N.D.		
6) Vinyl Chloride	4.96	62	246	N.D.		
7) 1,3-Butadiene	5.23	54	1874	N.D.		
8) Bromomethane	5.65	94	378	N.D.		
9) Chloroethane	5.97	64	1445	0.072	ng	92
10) Ethanol	6.32	45	20643	0.884	ng	96
11) Acetonitrile	6.59	41	15486	0.290	ng	98
12) Acrolein	6.79	56	16597	0.899	ng	100
13) Acetone	7.00	58	106055	4.540	ng	91
14) Trichlorofluoromethane	7.24	101	15430	0.295	ng	98
15) 2-Propanol (Isopropanol)	7.53	45	18451	0.261	ng	69
16) Acrylonitrile	7.75	53	2135	0.056	ng	96
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d	
19) Methylene Chloride	8.41	84	1190	N.D.		
20) 3-Chloro-1-propene (Al...	8.58	41	478	N.D.		
21) Trichlorotrifluoroethane	8.84	151	3239	0.131	ng	89
22) Carbon Disulfide	8.67	76	38941	0.358	ng	99
23) trans-1,2-Dichloroethene	9.68	61	855	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	10.45	72	37487	1.882	ng	98
28) cis-1,2-Dichloroethene	10.96	61	733	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	11.28	61	826	0.072	ng	84
31) n-Hexane	11.26	57	9820	0.197	ng	94
32) Chloroform	11.31	83	15877	0.305	ng	98
34) Tetrahydrofuran (THF)	11.71	72	146297	7.529	ng	99
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.11	62	746	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	12.87	78	6704	0.055	ng	99
42) Carbon Tetrachloride	13.03	117	32469	0.777	ng	99
43) Cyclohexane	13.16	84	6510	0.142	ng	90
44) tert-Amyl Methyl Ether	13.55	73	811	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	13.92	83	1324	N.D.		
47) Trichloroethene	13.97	130	836	N.D.		
48) 1,4-Dioxane	13.96	88	3009	0.122	ng	92
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	14.18	100	105	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012040.D Vial: 7
Acq On : 2 May 2020 3:18 Operator: LH
Sample : P2002104-003 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:19:32 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

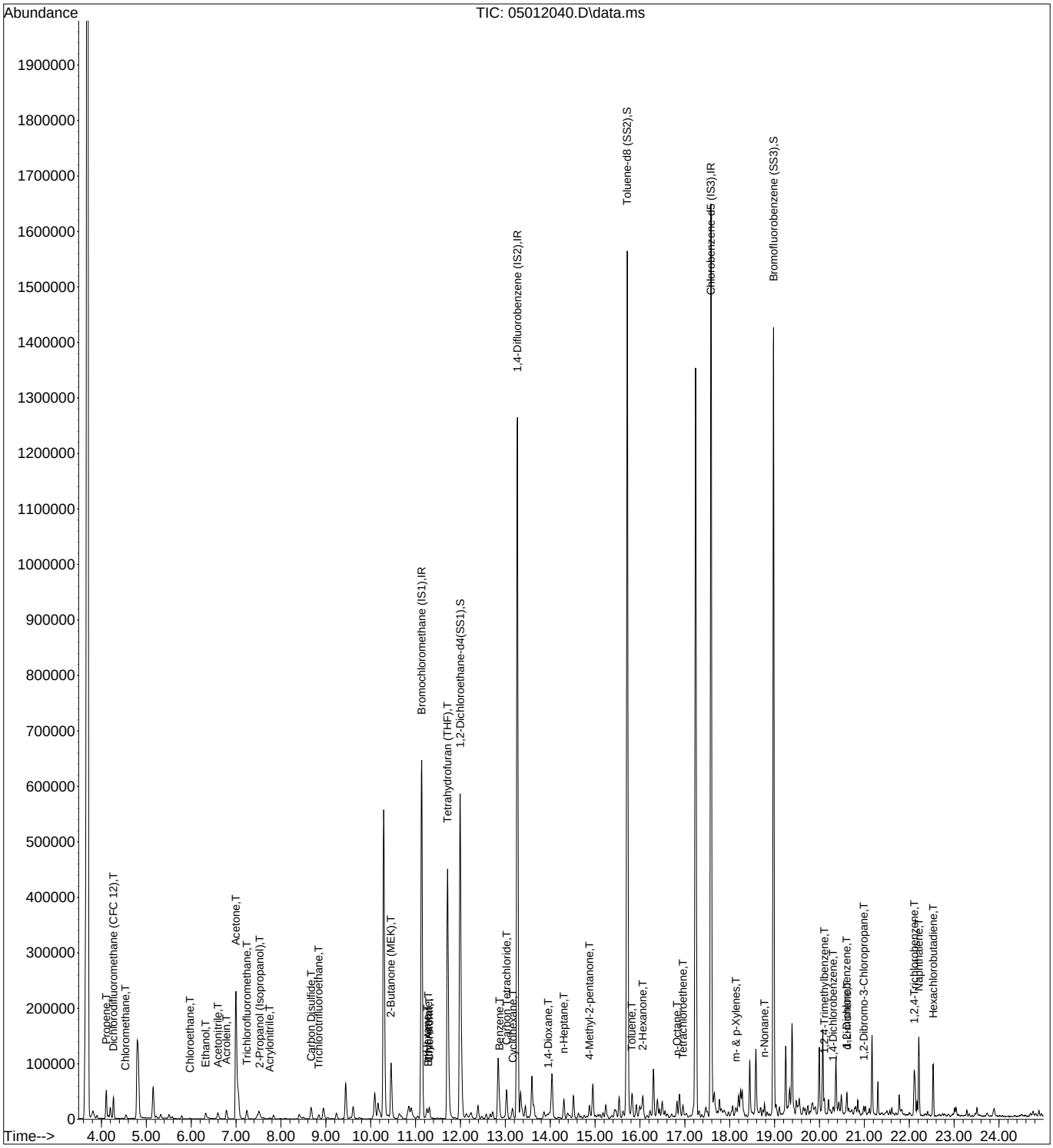
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.30	71	9129	0.318 ng		99
52) cis-1,3-Dichloropropene	14.84	75	679	N.D.		
53) 4-Methyl-2-pentanone	14.88	58	6634	0.242 ng		90
54) trans-1,3-Dichloropropene	15.35	75	1023	N.D.		
55) 1,1,2-Trichloroethane	15.45	97	122	N.D.		
58) Toluene	15.82	91	12888	0.106 ng		99
59) 2-Hexanone	16.06	43	33476	0.505 ng		85
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	16.48	107	1558	N.D.		
62) n-Butyl Acetate	16.70	43	1791	N.D.		
63) n-Octane	16.83	57	5629	0.225 ng		95
64) Tetrachloroethene	16.96	166	6223	0.182 ng		100
65) Chlorobenzene	0.00	112	0	N.D. d		
66) Ethylbenzene	17.99	91	2498	N.D.		
67) m- & p-Xylenes	18.14	91	6025	0.056 ng		98
68) Bromoform	18.21	173	282	N.D.		
69) Styrene	18.48	104	1548	N.D.		
70) o-Xylene	18.58	91	2599	N.D.		
71) n-Nonane	18.77	43	7449	0.129 ng		87
72) 1,1,2,2-Tetrachloroethane	18.55	83	595	N.D.		
74) Cumene	19.10	105	1698	N.D.		
75) alpha-Pinene	19.46	93	1483	N.D.		
76) n-Propylbenzene	19.55	91	4143	N.D.		
77) 3-Ethyltoluene	19.64	105	4219	N.D.		
78) 4-Ethyltoluene	19.68	105	2884	N.D.		
79) 1,3,5-Trimethylbenzene	19.75	105	4217	N.D.		
80) alpha-Methylstyrene	19.88	118	2399	N.D.		
81) 2-Ethyltoluene	19.91	105	4036	N.D.		
82) 1,2,4-Trimethylbenzene	20.11	105	7141	0.065 ng		97
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.23	91	3205	N.D.		
85) 1,3-Dichlorobenzene	20.24	146	2890	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	3245	0.052 ng		95
87) sec-Butylbenzene	20.35	105	6407	N.D.		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	20.61	146	3732	0.061 ng		95
91) d-Limonene	20.62	68	7569	0.175 ng		97
92) 1,2-Dibromo-3-Chloropr...	20.98	157	3359	0.147 ng	#	80
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.11	180	22508	0.534 ng		99
95) Naphthalene	22.22	128	70229	0.526 ng		100
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	22.54	225	15859	0.544 ng		99
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	20.11	119	4512	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012040.D Vial: 7
Acq On : 2 May 2020 3:18 Operator: LH
Sample : P2002104-003 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:19:32 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



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Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	261196	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1146097	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	553934	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	448208	12.662	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.28%				
57) Toluene-d8 (SS2)	15.72	98	1158398	12.338	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.72%				
73) Bromofluorobenzene (SS3)	18.98	174	408605	12.095	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.72%				
Target Compounds							Qvalue
2) Propene	4.11	42	10555	0.349	ng		99
3) Dichlorodifluoromethan...	4.27	85	34660	0.586	ng		99
4) Chloromethane	4.54	50	3198	0.069	ng		99
9) Chloroethane	5.97	64	1445	0.072	ng		92
10) Ethanol	6.32	45	20643	0.884	ng		96
11) Acetonitrile	6.59	41	15486	0.290	ng		98
12) Acrolein	6.79	56	16597	0.899	ng		100
13) Acetone	7.00	58	106055	4.540	ng		91
14) Trichlorofluoromethane	7.24	101	15430	0.295	ng		98
15) 2-Propanol (Isopropanol)	7.53	45	18451	0.261	ng		69
16) Acrylonitrile	7.75	53	2135	0.056	ng		96
21) Trichlorotrifluoroethane	8.84	151	3239	0.131	ng		89
22) Carbon Disulfide	8.67	76	38941	0.358	ng		99
27) 2-Butanone (MEK)	10.45	72	37487	1.882	ng		98
30) Ethyl Acetate	11.28	61	826	0.072	ng		84
31) n-Hexane	11.26	57	9820	0.197	ng		94
32) Chloroform	11.31	83	15877	0.305	ng		98
34) Tetrahydrofuran (THF)	11.71	72	146297	7.529	ng		99
41) Benzene	12.87	78	6704	0.055	ng		99
42) Carbon Tetrachloride	13.03	117	32469	0.777	ng		99
43) Cyclohexane	13.16	84	6510	0.142	ng		90
48) 1,4-Dioxane	13.96	88	3009	0.122	ng		92
51) n-Heptane	14.30	71	9129	0.318	ng		99
53) 4-Methyl-2-pentanone	14.88	58	6634	0.242	ng		90
58) Toluene	15.82	91	12888	0.106	ng		99
59) 2-Hexanone	16.06	43	33476	0.505	ng		85
63) n-Octane	16.83	57	5629	0.225	ng		95
64) Tetrachloroethene	16.96	166	6223	0.182	ng		100
67) m- & p-Xylenes	18.14	91	6025	0.056	ng		98
71) n-Nonane	18.77	43	7449	0.129	ng		87
82) 1,2,4-Trimethylbenzene	20.11	105	7141	0.065	ng		97
86) 1,4-Dichlorobenzene	20.30	146	3245	0.052	ng		95
90) 1,2-Dichlorobenzene	20.61	146	3732	0.061	ng		95
91) d-Limonene	20.62	68	7569	0.175	ng		97
92) 1,2-Dibromo-3-Chloropr...	20.98	157	3359	0.147	ng	#	80
94) 1,2,4-Trichlorobenzene	22.11	180	22508	0.534	ng		99
95) Naphthalene	22.22	128	70229	0.526	ng		100
97) Hexachlorobutadiene	22.54	225	15859	0.544	ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

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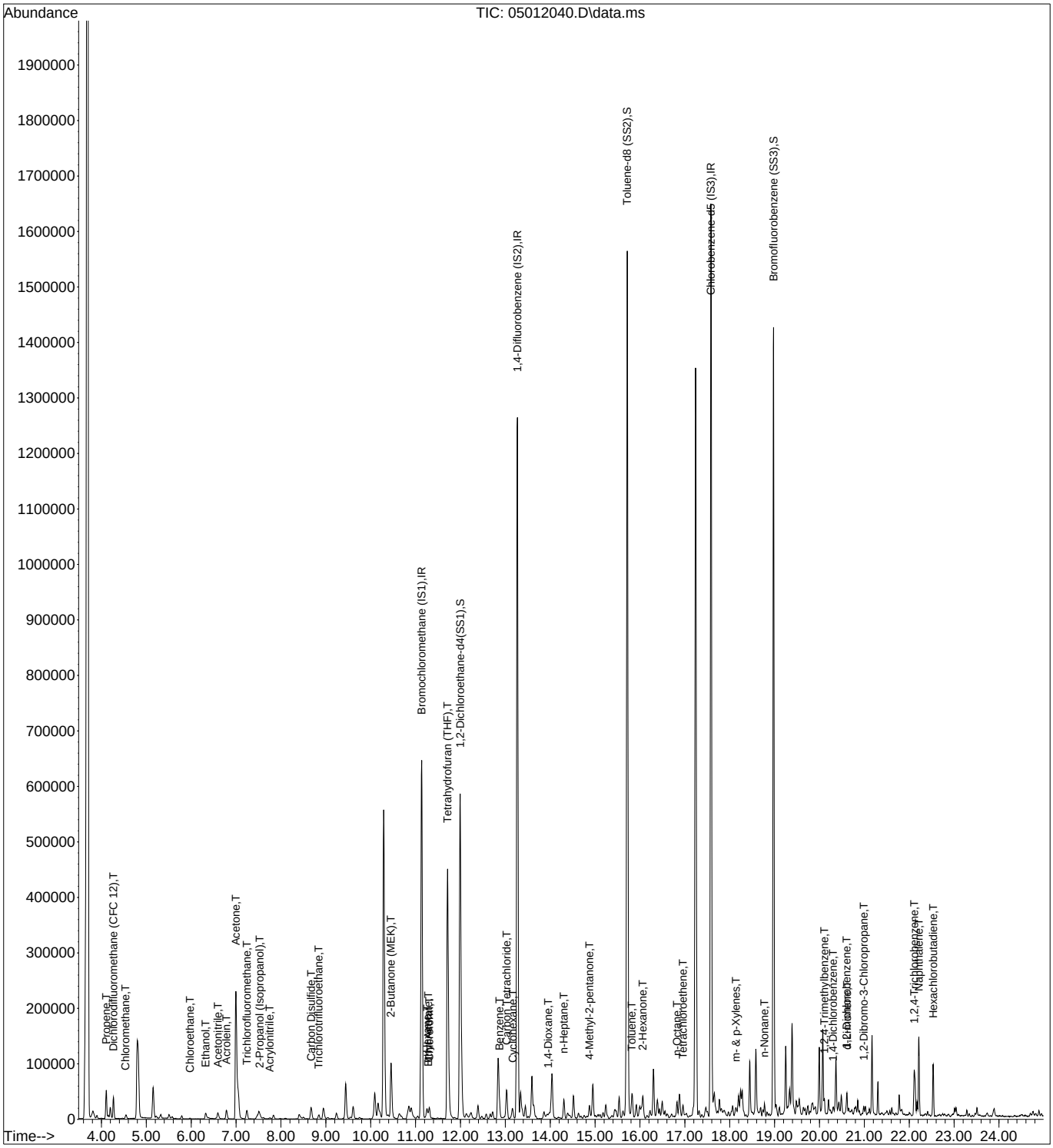
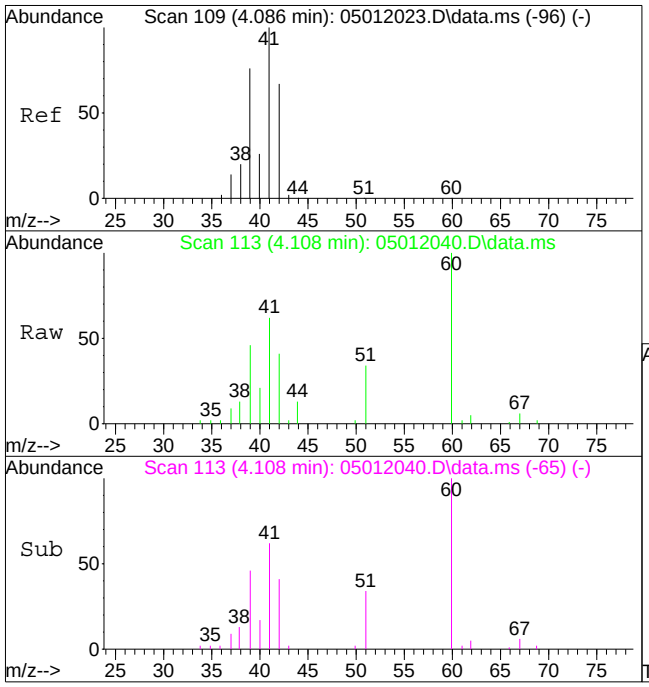
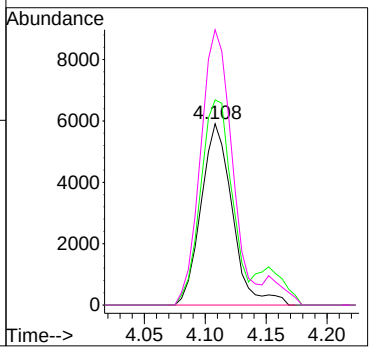


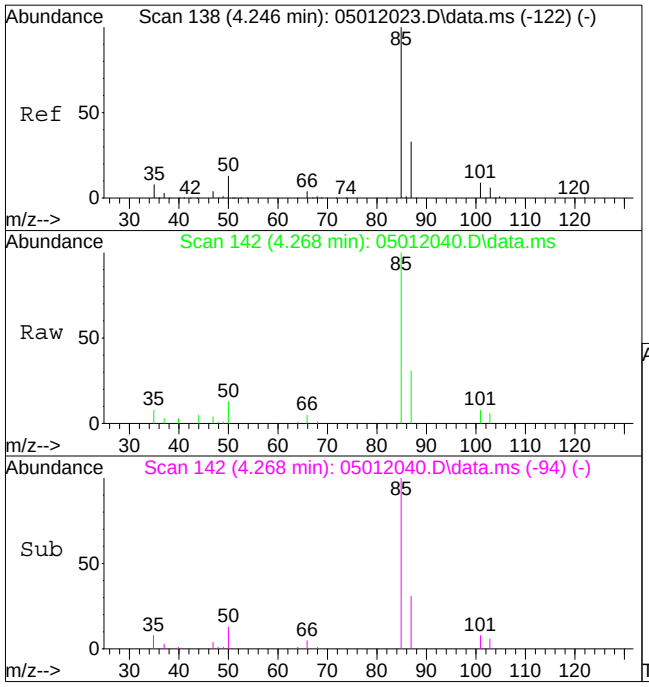


#2
Propene
Concen: 0.35 ng
RT: 4.11 min Scan# 113
Delta R.T. 0.016 min
Lab File: 05012040.D
Acq: 2 May 2020 3:18

Tgt Ion: 42 Resp: 10555

Ion	Ratio	Lower	Upper
42	100		
39	116.5	96.1	136.1
41	153.1	131.9	171.9

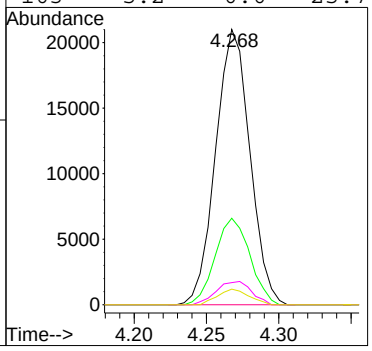


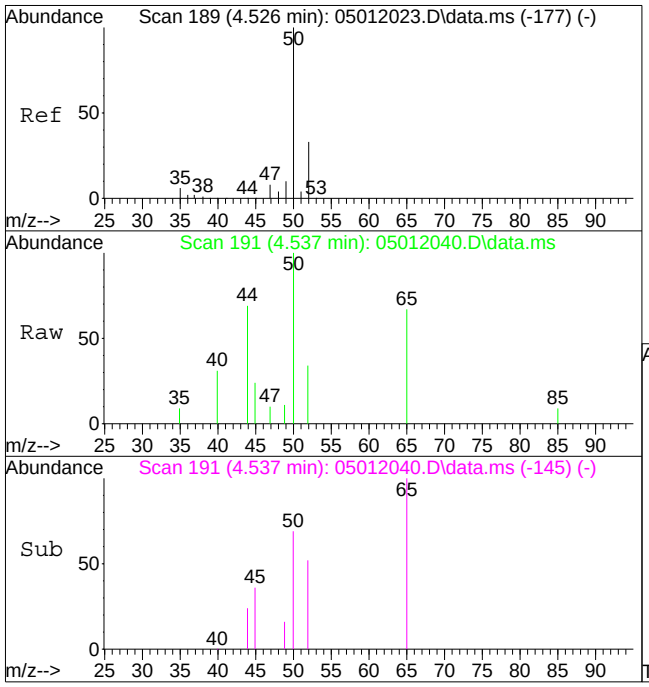


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.59 ng
RT: 4.27 min Scan# 142
Delta R.T. 0.016 min
Lab File: 05012040.D
Acq: 2 May 2020 3:18

Tgt Ion: 85 Resp: 34660

Ion	Ratio	Lower	Upper
85	100		
87	31.8	12.4	52.4
101	8.7	0.0	28.8
103	5.2	0.0	25.7

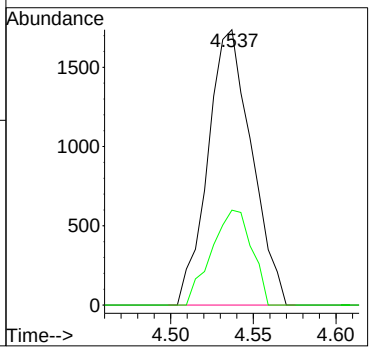


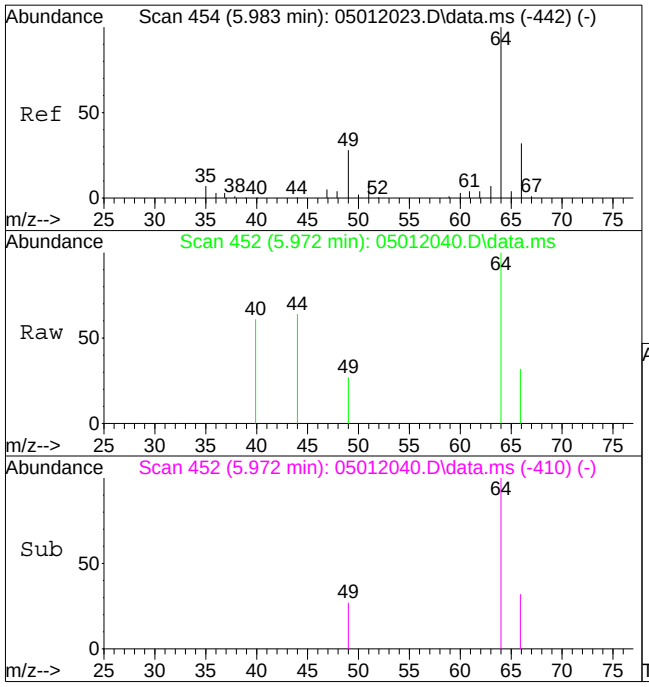


#4
Chloromethane
Concen: 0.07 ng
RT: 4.54 min Scan# 191
Delta R.T. 0.005 min
Lab File: 05012040.D
Acq: 2 May 2020 3:18

Tgt Ion: 50 Resp: 3198

Ion	Ratio	Lower	Upper
50	100		
52	31.8	12.5	52.5

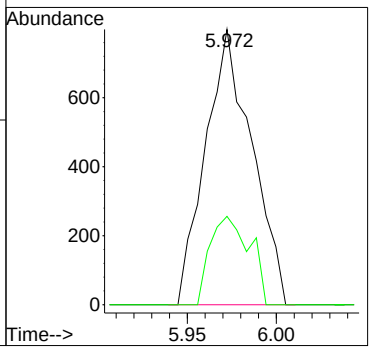


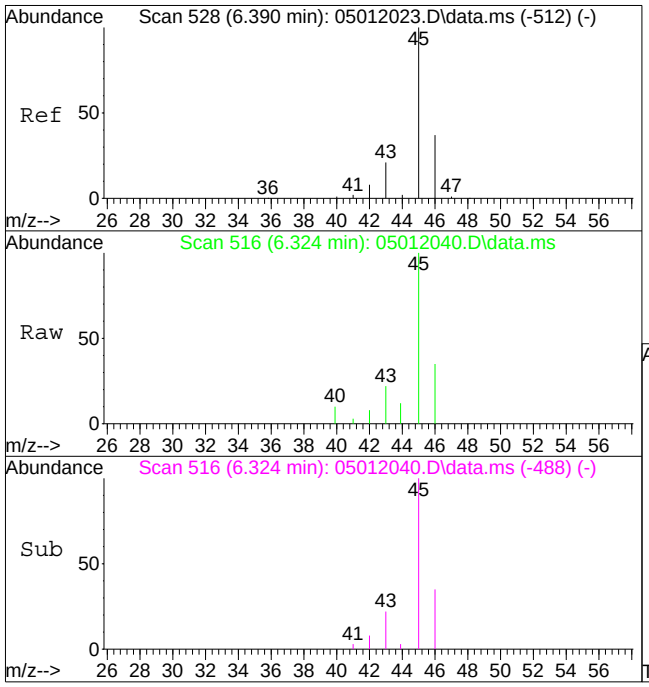


#9
Chloroethane
Concen: 0.07 ng
RT: 5.97 min Scan# 452
Delta R.T. -0.017 min
Lab File: 05012040.D
Acq: 2 May 2020 3:18

Tgt Ion: 64 Resp: 1445

Ion	Ratio	Lower	Upper
64	100		
66	27.4	12.1	52.1

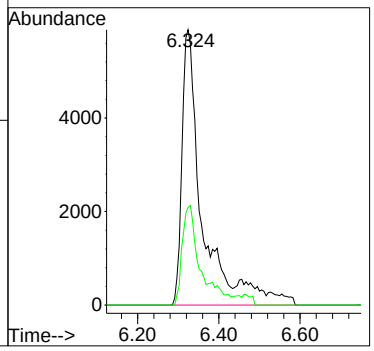


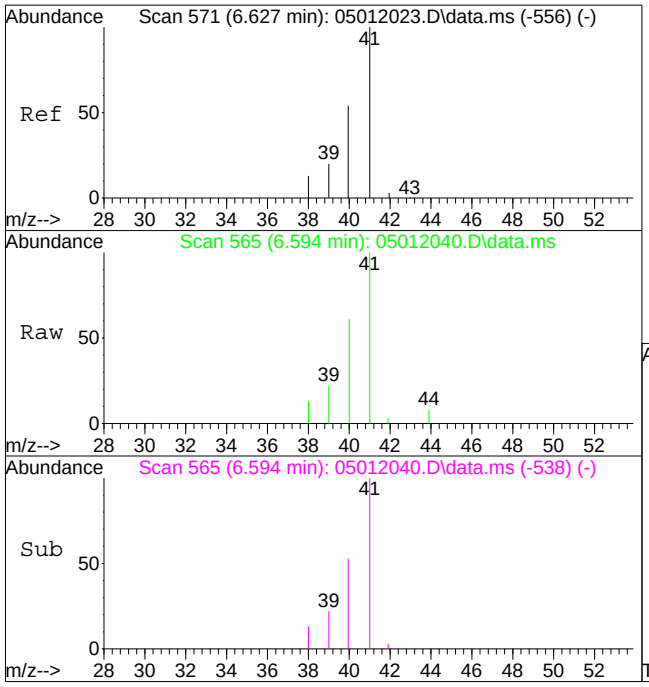


#10
Ethanol
Concen: 0.88 ng
RT: 6.32 min Scan# 516
Delta R.T. -0.094 min
Lab File: 05012040.D
Acq: 2 May 2020 3:18

Tgt Ion: 45 Resp: 20643

Ion	Ratio	Lower	Upper
45	100		
46	34.9	17.2	57.2

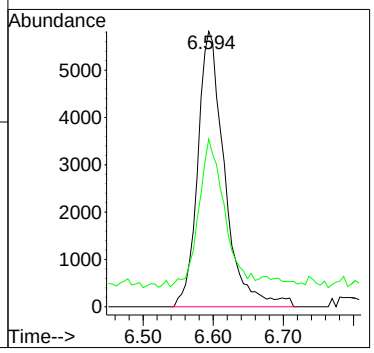


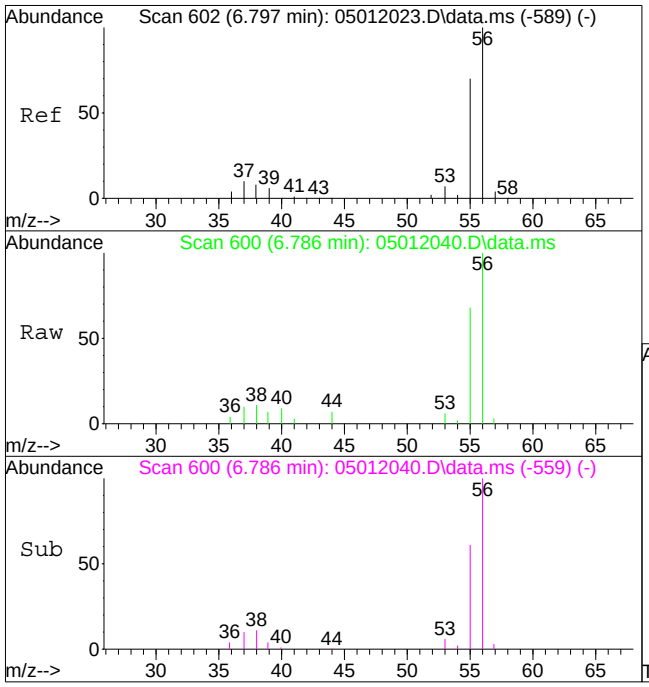


#11
Acetonitrile
Concen: 0.29 ng
RT: 6.59 min Scan# 565
Delta R.T. -0.050 min
Lab File: 05012040.D
Acq: 2 May 2020 3:18

Tgt Ion: 41 Resp: 15486

Ion	Ratio	Lower	Upper
41	100		
40	55.2	33.6	73.6

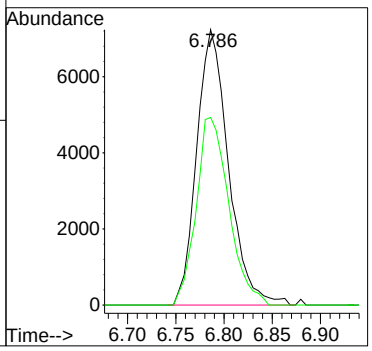


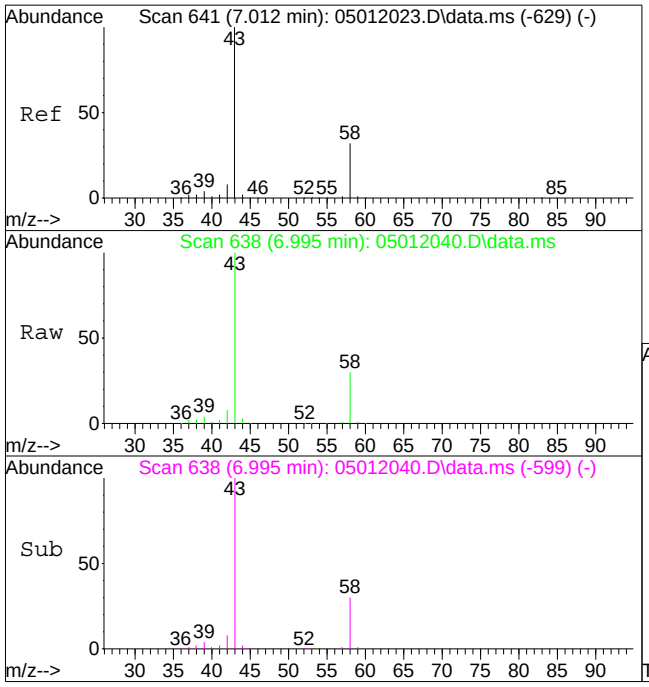


#12
Acrolein
Concen: 0.90 ng
RT: 6.79 min Scan# 600
Delta R.T. -0.022 min
Lab File: 05012040.D
Acq: 2 May 2020 3:18

Tgt Ion: 56 Resp: 16597

Ion	Ratio	Lower	Upper
56	100		
55	69.9	50.2	90.2

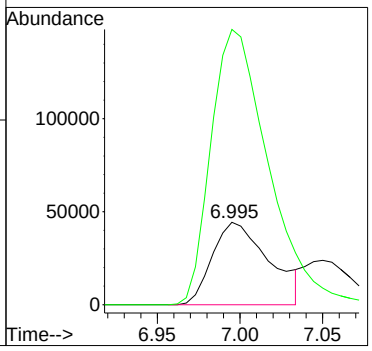


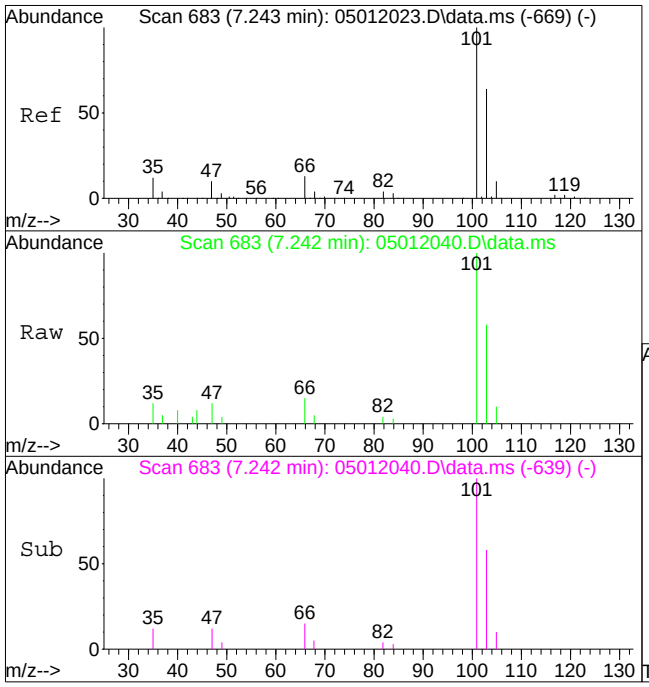


#13
Acetone
Concen: 4.54 ng
RT: 7.00 min Scan# 638
Delta R.T. -0.033 min
Lab File: 05012040.D
Acq: 2 May 2020 3:18

Tgt Ion: 58 Resp: 106055

Ion	Ratio	Lower	Upper
58	100		
43	343.4	294.4	354.4

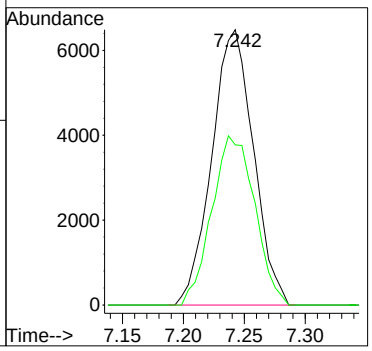


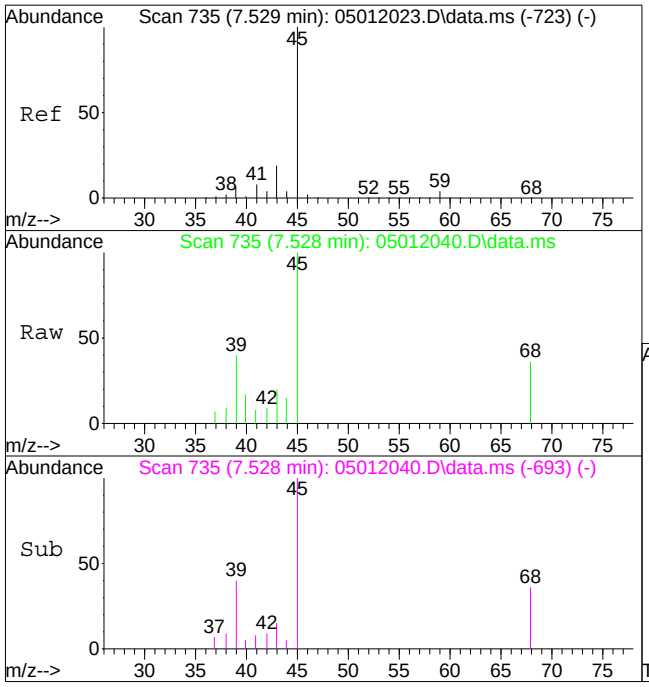


#14
Trichlorofluoromethane
Concen: 0.30 ng
RT: 7.24 min Scan# 683
Delta R.T. -0.006 min
Lab File: 05012040.D
Acq: 2 May 2020 3:18

Tgt Ion:101 Resp: 15430

Ion	Ratio	Lower	Upper
101	100		
103	63.1	44.4	84.4

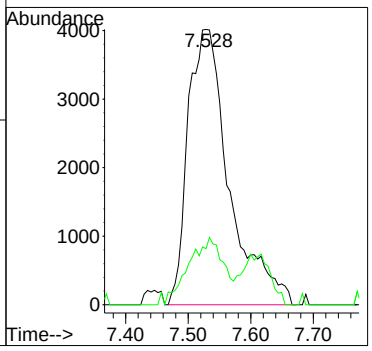


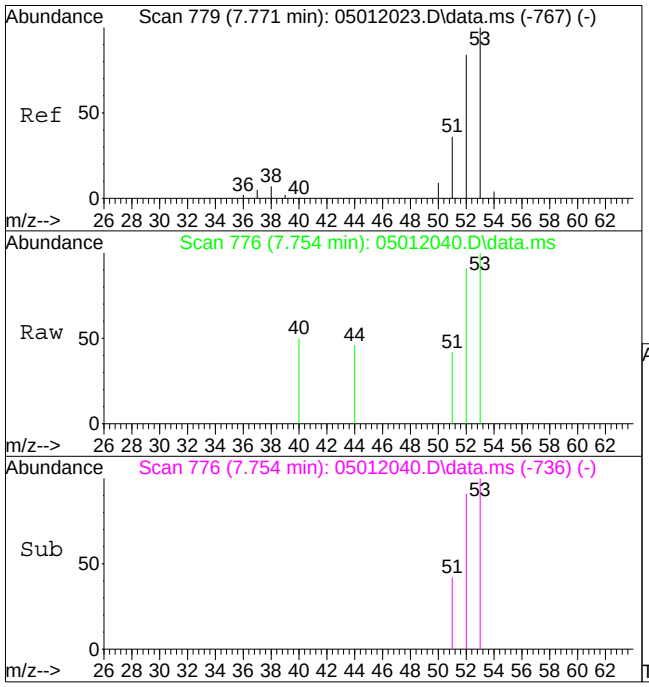


#15
2-Propanol (Isopropanol)
Concen: 0.26 ng
RT: 7.53 min Scan# 735
Delta R.T. -0.017 min
Lab File: 05012040.D
Acq: 2 May 2020 3:18

Tgt Ion: 45 Resp: 18451

Ion	Ratio	Lower	Upper
45	100		
43	33.4	0.0	39.5

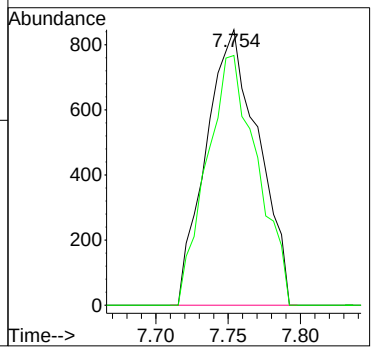


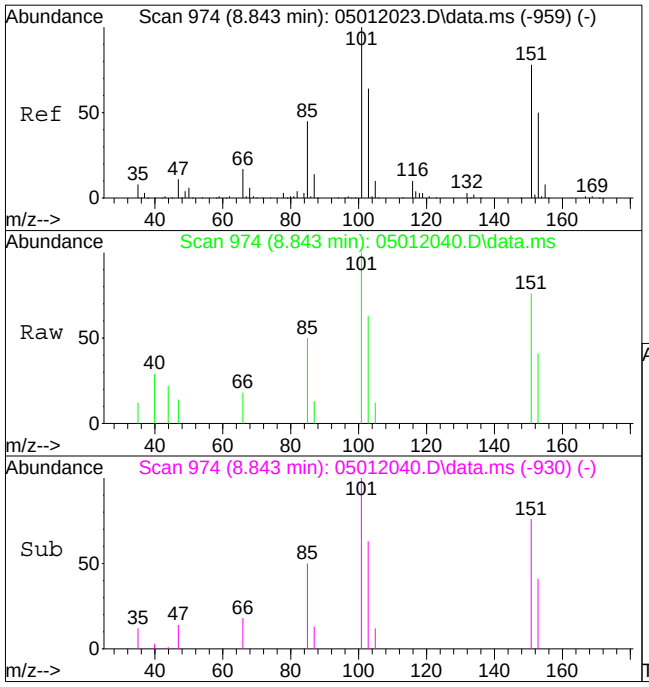


#16
Acrylonitrile
Concen: 0.06 ng
RT: 7.75 min Scan# 776
Delta R.T. -0.028 min
Lab File: 05012040.D
Acq: 2 May 2020 3:18

Tgt Ion: 53 Resp: 2135

Ion	Ratio	Lower	Upper
53	100		
52	87.1	63.7	103.7

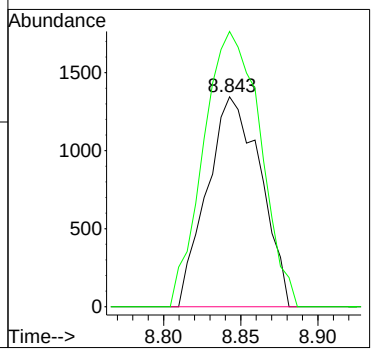


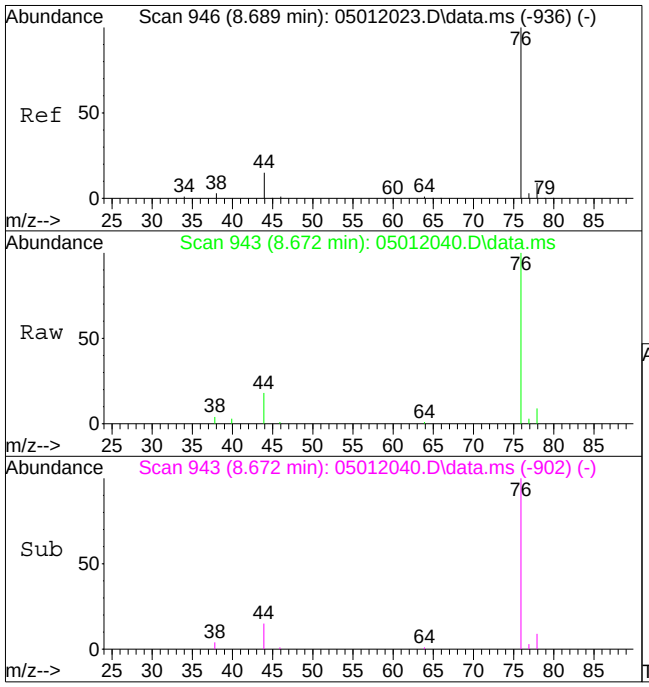


#21
Trichlorotrifluoroethane
Concen: 0.13 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05012040.D
Acq: 2 May 2020 3:18

Tgt Ion:151 Resp: 3239

Ion	Ratio	Lower	Upper
151	100		
101	139.5	107.3	147.3

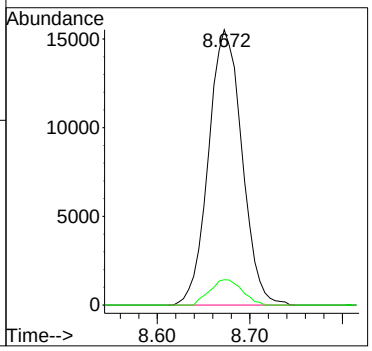


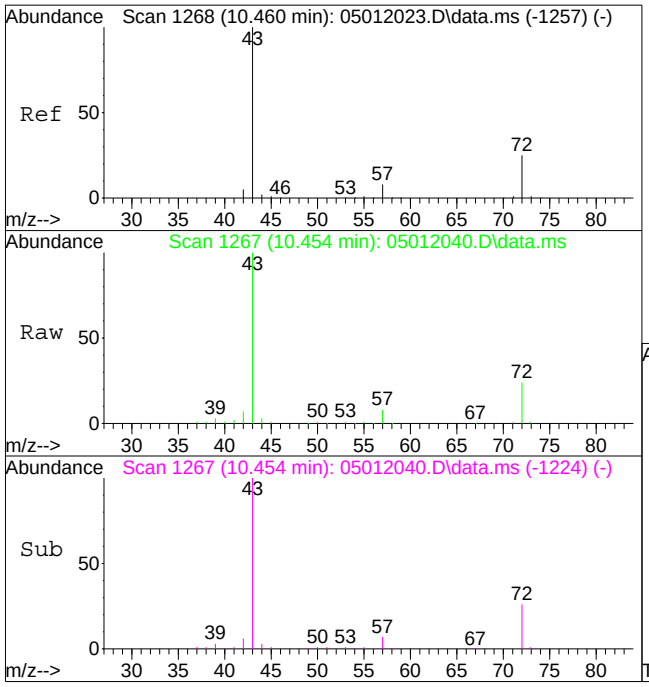


#22
Carbon Disulfide
Concen: 0.36 ng
RT: 8.67 min Scan# 943
Delta R.T. -0.022 min
Lab File: 05012040.D
Acq: 2 May 2020 3:18

Tgt Ion: 76 Resp: 38941

Ion	Ratio	Lower	Upper
76	100		
78	8.9	0.0	29.2

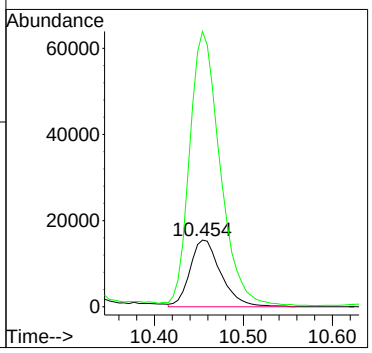


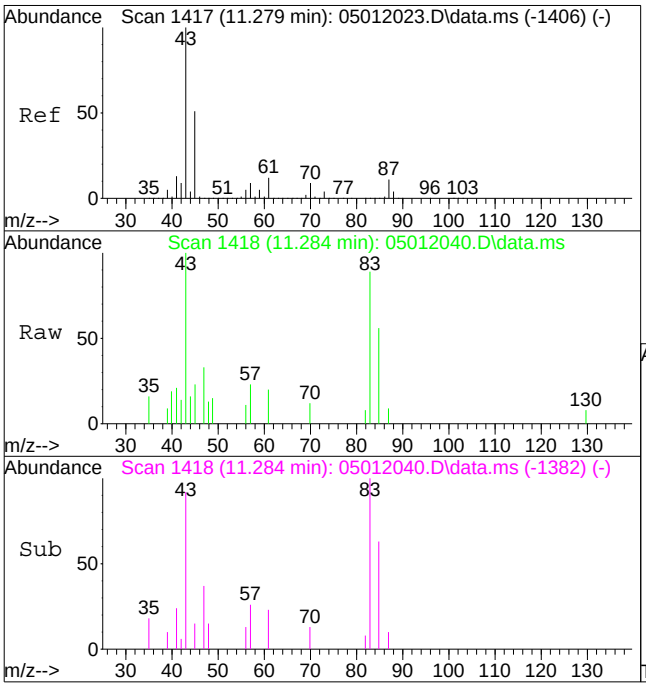


#27
2-Butanone (MEK)
Concen: 1.88 ng
RT: 10.45 min Scan# 1267
Delta R.T. -0.011 min
Lab File: 05012040.D
Acq: 2 May 2020 3:18

Tgt Ion: 72 Resp: 37487

Ion	Ratio	Lower	Upper
72	100		
43	403.8	389.7	429.7

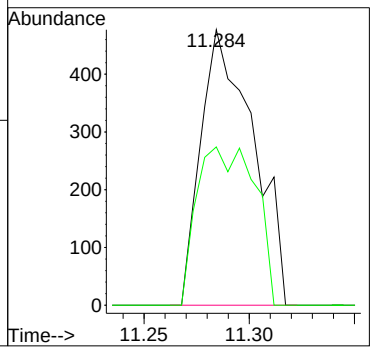


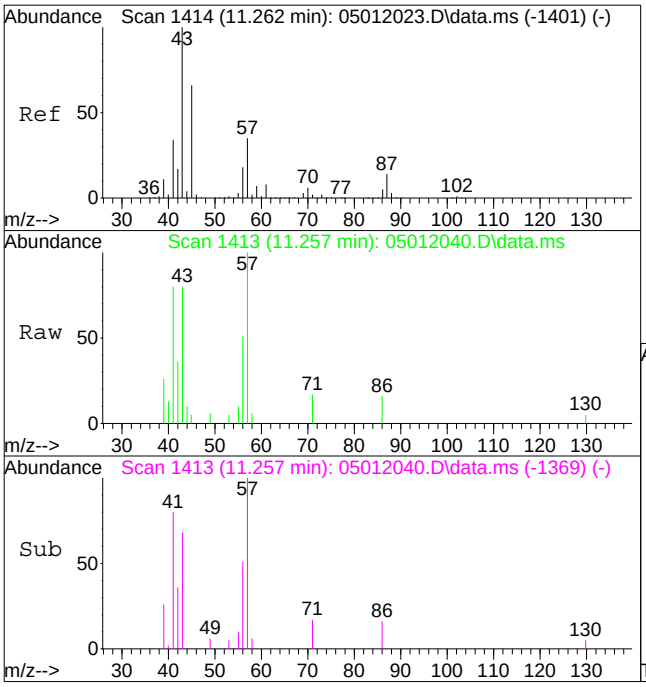


#30
Ethyl Acetate
Concen: 0.07 ng
RT: 11.28 min Scan# 1418
Delta R.T. -0.000 min
Lab File: 05012040.D
Acq: 2 May 2020 3:18

Tgt Ion: 61 Resp: 826

Ion	Ratio	Lower	Upper
61	100		
70	64.0	57.9	97.9

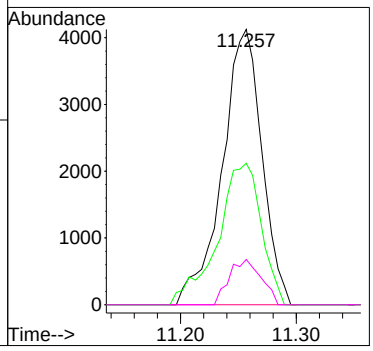


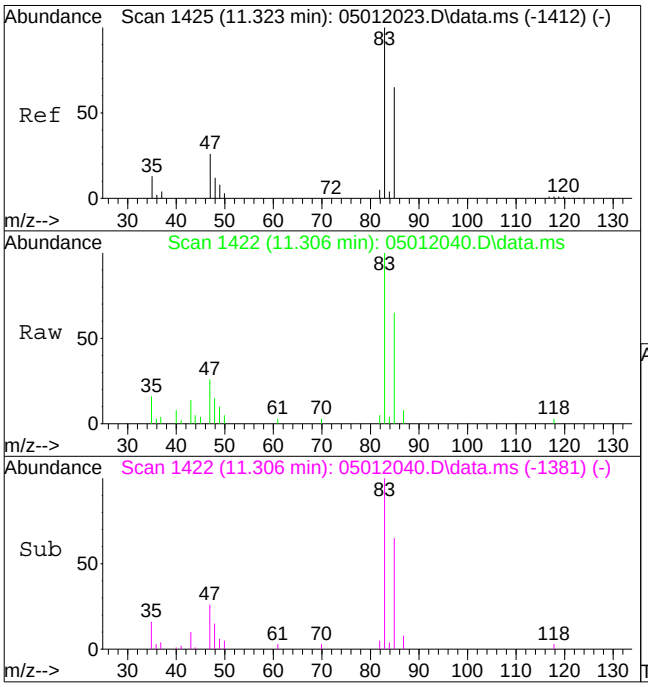


#31
n-Hexane
Concen: 0.20 ng
RT: 11.26 min Scan# 1413
Delta R.T. -0.006 min
Lab File: 05012040.D
Acq: 2 May 2020 3:18

Tgt Ion: 57 Resp: 9820

Ion	Ratio	Lower	Upper
57	100		
56	56.4	41.4	62.0
86	13.3	12.4	18.6

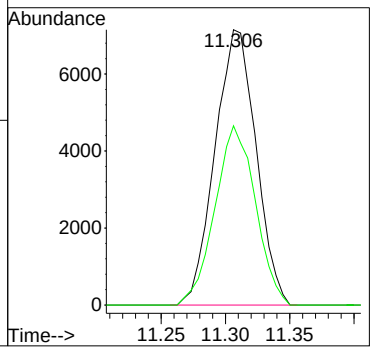


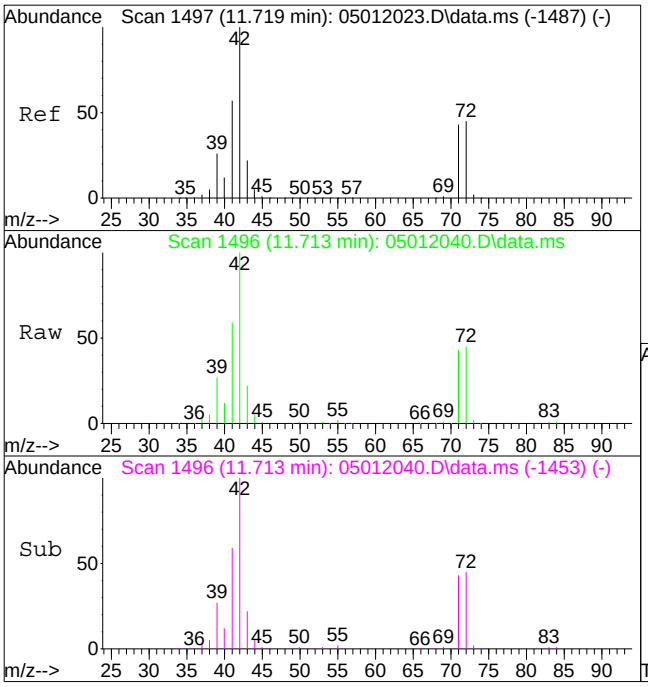


#32
Chloroform
Concen: 0.31 ng
RT: 11.31 min Scan# 1422
Delta R.T. -0.022 min
Lab File: 05012040.D
Acq: 2 May 2020 3:18

Tgt Ion: 83 Resp: 15877

Ion	Ratio	Lower	Upper
83	100		
85	64.3	45.5	85.5

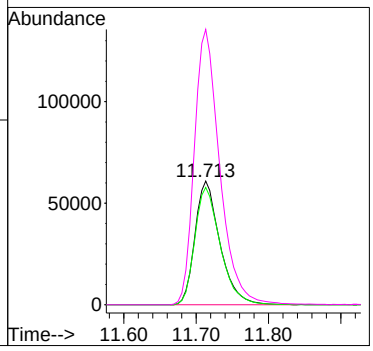


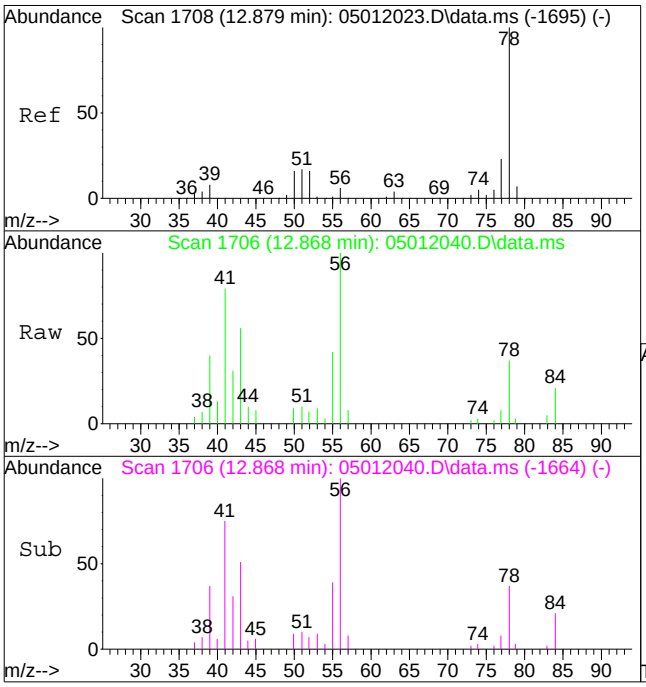


#34
Tetrahydrofuran (THF)
Concen: 7.53 ng
RT: 11.71 min Scan# 1496
Delta R.T. -0.011 min
Lab File: 05012040.D
Acq: 2 May 2020 3:18

Tgt Ion: 72 Resp: 146297

Ion	Ratio	Lower	Upper
72	100		
71	96.5	77.0	117.0
42	226.8	204.6	244.6

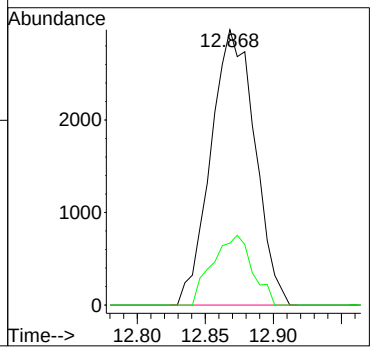


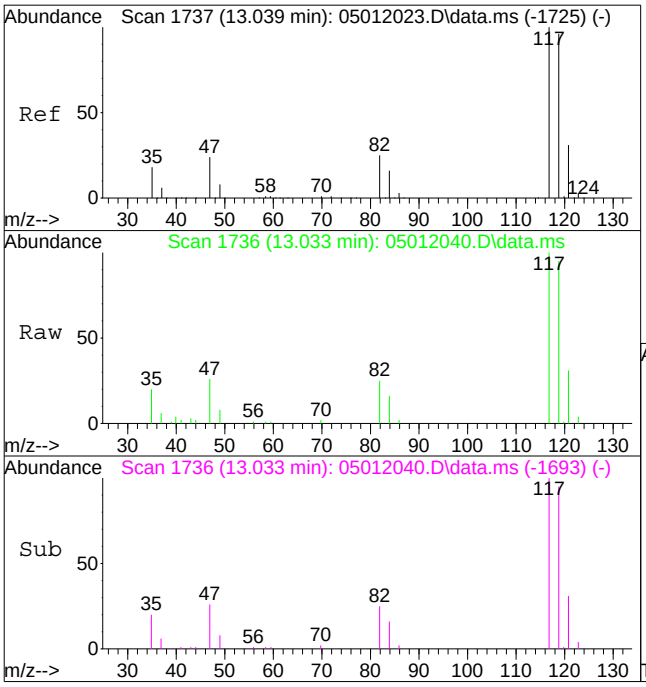


#41
Benzene
Concen: 0.05 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05012040.D
Acq: 2 May 2020 3:18

Tgt Ion: 78 Resp: 6704

Ion	Ratio	Lower	Upper
78	100		
77	22.9	3.4	43.4

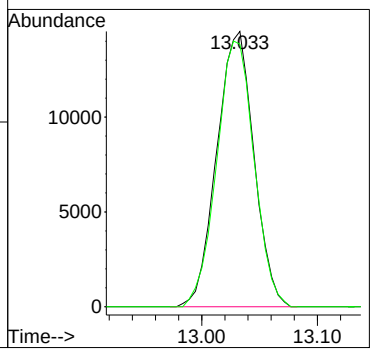


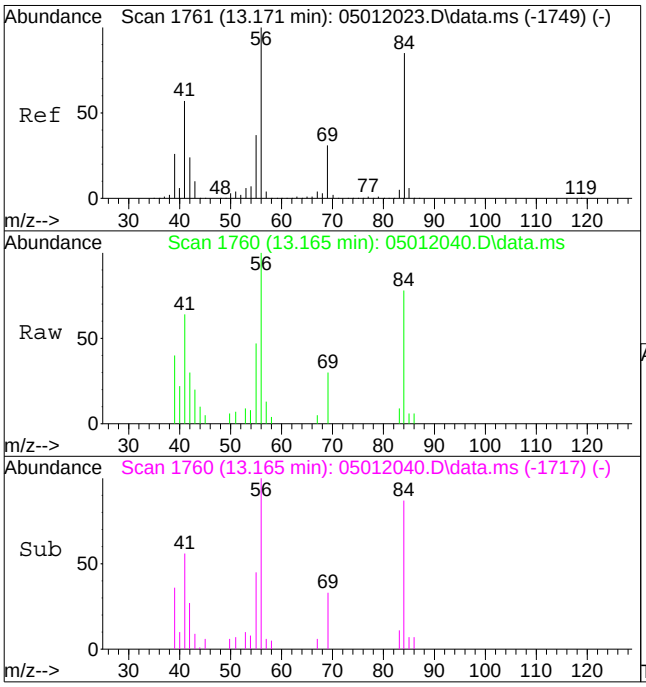


#42
Carbon Tetrachloride
Concen: 0.78 ng
RT: 13.03 min Scan# 1736
Delta R.T. -0.011 min
Lab File: 05012040.D
Acq: 2 May 2020 3:18

Tgt Ion:117 Resp: 32469

Ion	Ratio	Lower	Upper
117	100		
119	97.1	76.2	116.2

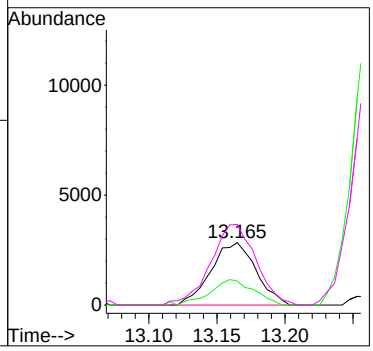


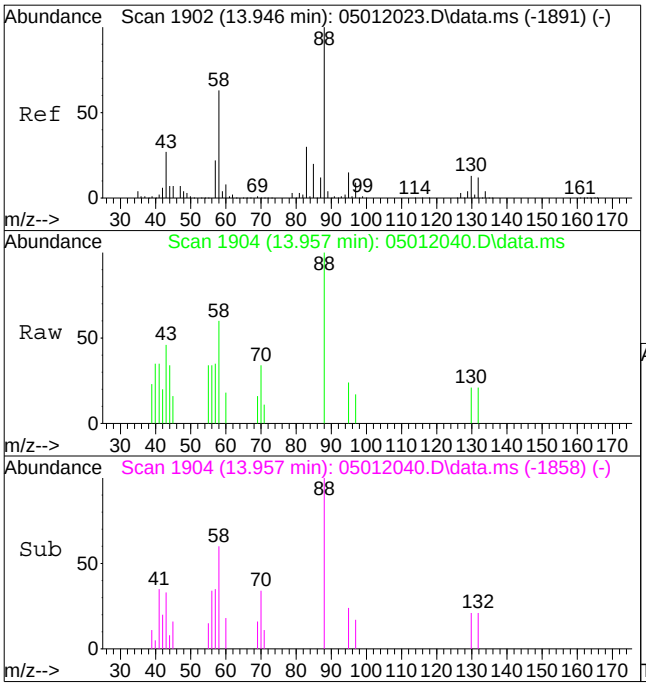


#43
Cyclohexane
Concen: 0.14 ng
RT: 13.16 min Scan# 1760
Delta R.T. -0.011 min
Lab File: 05012040.D
Acq: 2 May 2020 3:18

Tgt Ion: 84 Resp: 6510

Ion	Ratio	Lower	Upper
84	100		
69	39.9	16.5	56.5
56	130.1	97.4	137.4

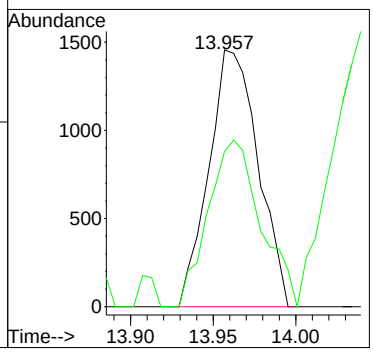


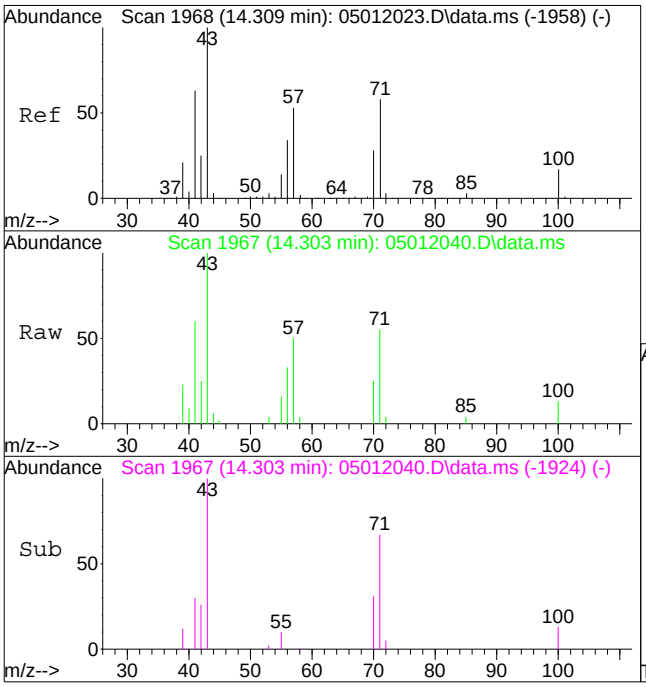


#48
1,4-Dioxane
Concen: 0.12 ng
RT: 13.96 min Scan# 1904
Delta R.T. 0.005 min
Lab File: 05012040.D
Acq: 2 May 2020 3:18

Tgt Ion: 88 Resp: 3009

Ion	Ratio	Lower	Upper
88	100		
58	69.4	42.8	82.8

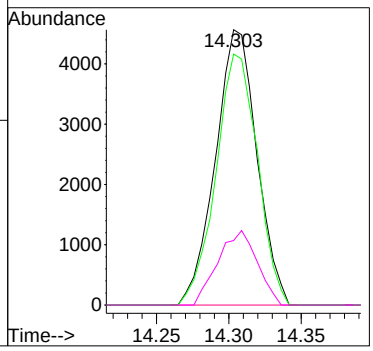


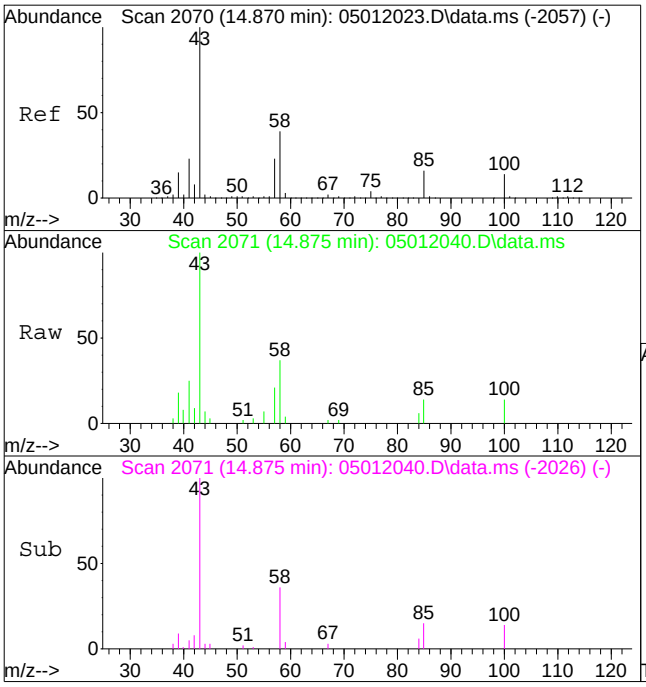


#51
n-Heptane
Concen: 0.32 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05012040.D
Acq: 2 May 2020 3:18

Tgt Ion: 71 Resp: 9129

Ion	Ratio	Lower	Upper
71	100		
57	91.2	71.0	111.0
100	25.6	8.4	48.4

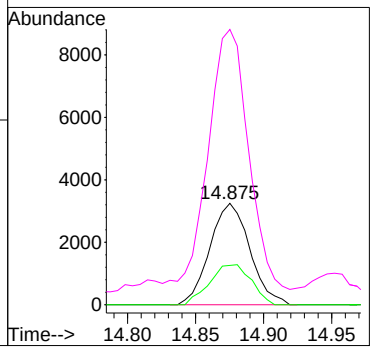


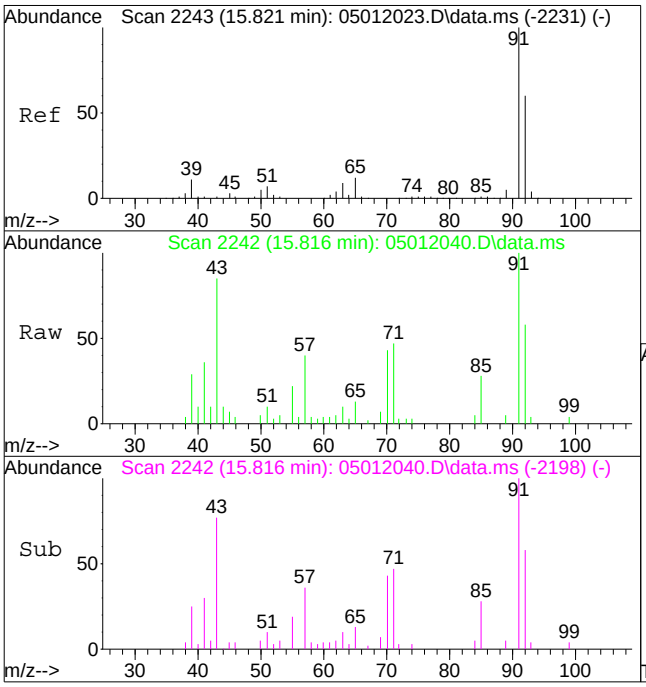


#53
4-Methyl-2-pentanone
Concen: 0.24 ng
RT: 14.88 min Scan# 2071
Delta R.T. -0.000 min
Lab File: 05012040.D
Acq: 2 May 2020 3:18

Tgt Ion: 58 Resp: 6634

Ion	Ratio	Lower	Upper
58	100		
85	41.0	35.4	53.2
43	272.9	203.3	304.9

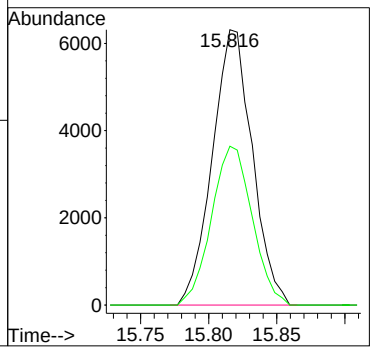


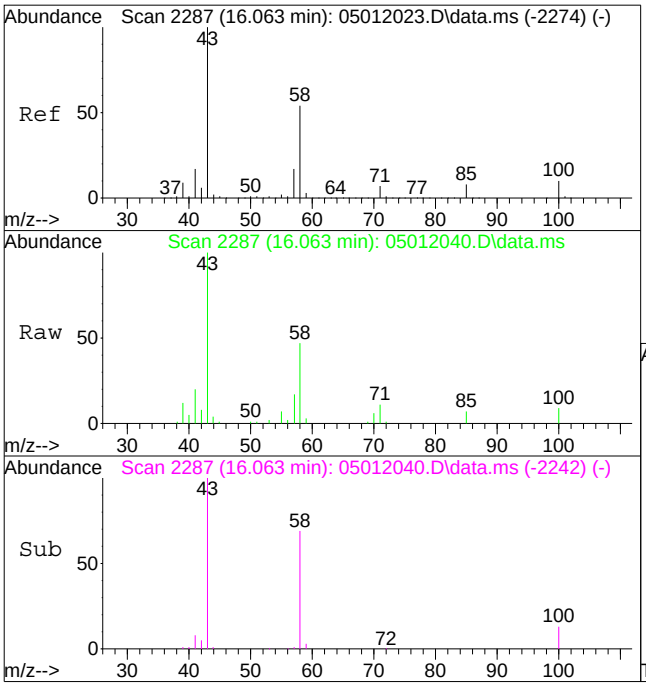


#58
Toluene
Concen: 0.11 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05012040.D
Acq: 2 May 2020 3:18

Tgt Ion: 91 Resp: 12888

Ion	Ratio	Lower	Upper
91	100		
92	58.6	39.4	79.4

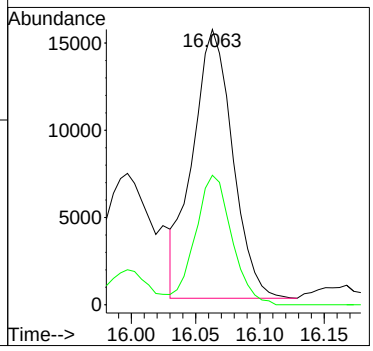


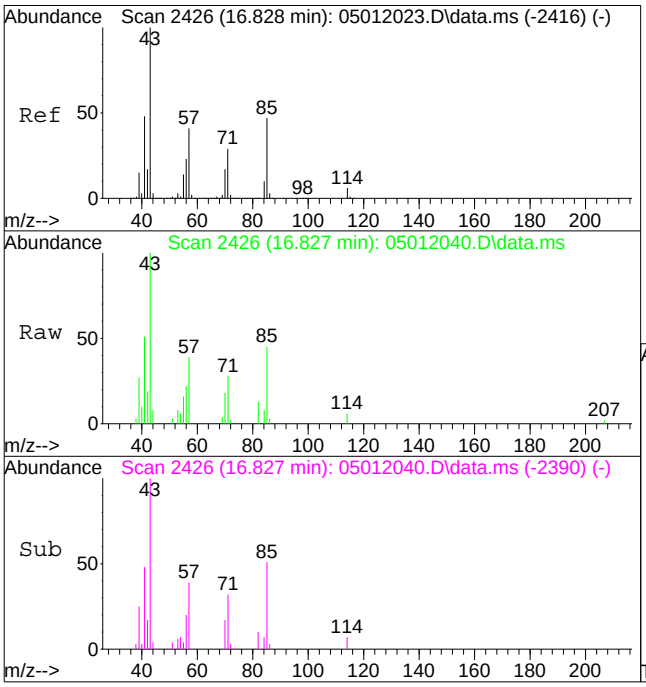


#59
2-Hexanone
Concen: 0.50 ng
RT: 16.06 min Scan# 2287
Delta R.T. -0.000 min
Lab File: 05012040.D
Acq: 2 May 2020 3:18

Tgt Ion: 43 Resp: 33476

Ion	Ratio	Lower	Upper
43	100		
58	43.7	34.5	74.5

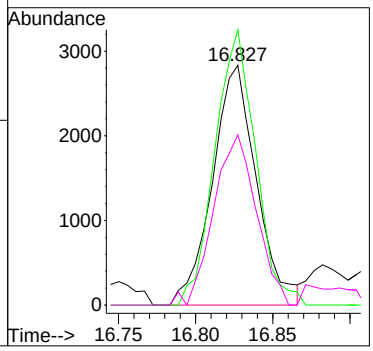


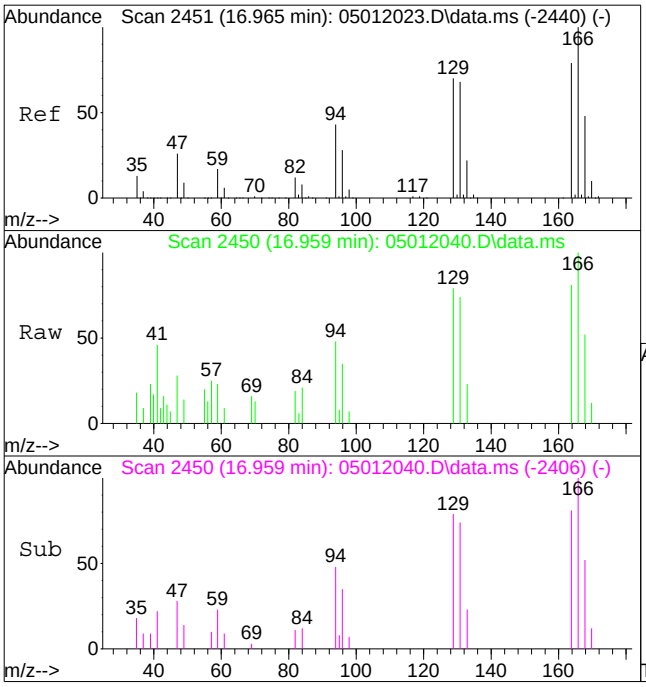


#63
n-Octane
Concen: 0.22 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05012040.D
Acq: 2 May 2020 3:18

Tgt Ion: 57 Resp: 5629

Ion	Ratio	Lower	Upper
57	100		
85	106.2	91.0	136.4
71	68.7	56.2	84.2

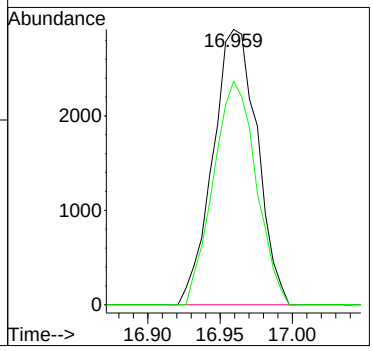


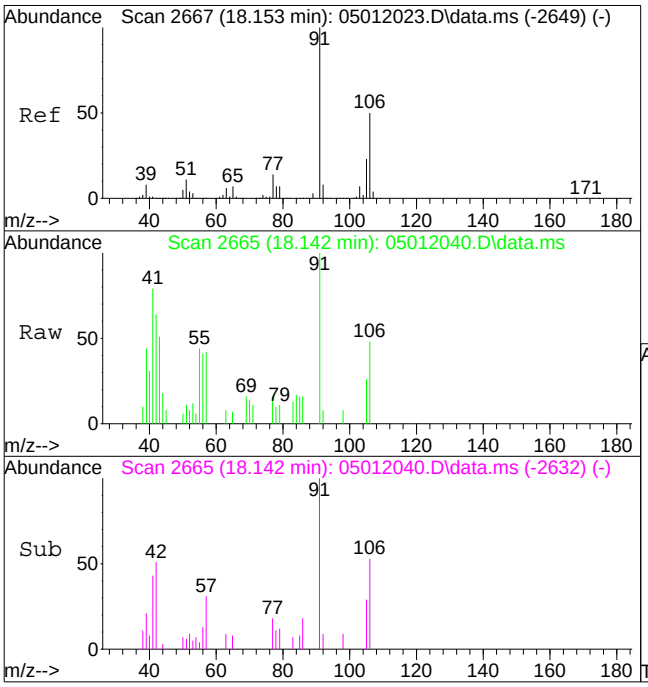


#64
Tetrachloroethene
Concen: 0.18 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05012040.D
Acq: 2 May 2020 3:18

Tgt Ion:166 Resp: 6223

Ion	Ratio	Lower	Upper
166	100		
164	78.4	58.4	98.4

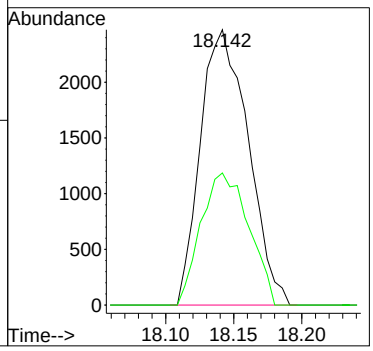


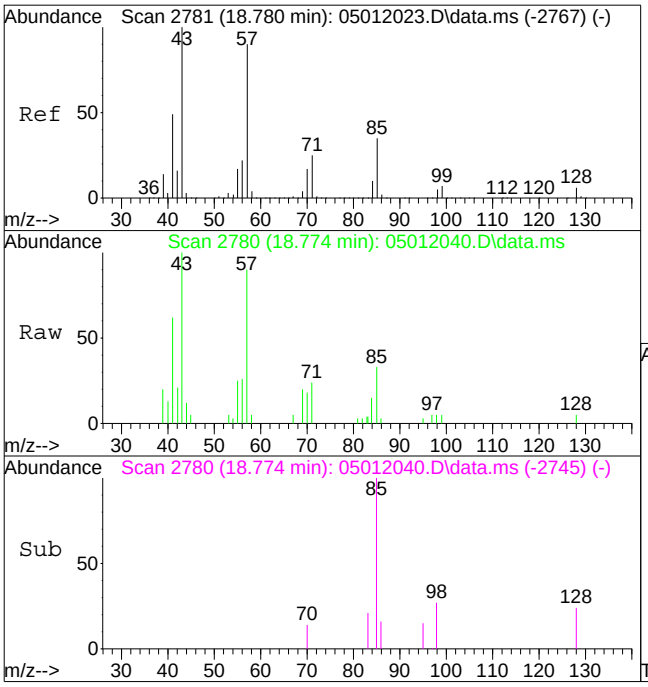


#67
m- & p-Xylenes
Concen: 0.06 ng
RT: 18.14 min Scan# 2665
Delta R.T. -0.017 min
Lab File: 05012040.D
Acq: 2 May 2020 3:18

Tgt Ion: 91 Resp: 6025

Ion	Ratio	Lower	Upper
91	100		
106	48.0	29.7	69.7

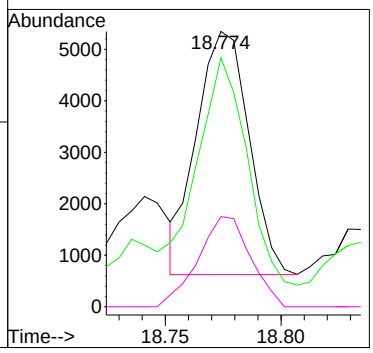


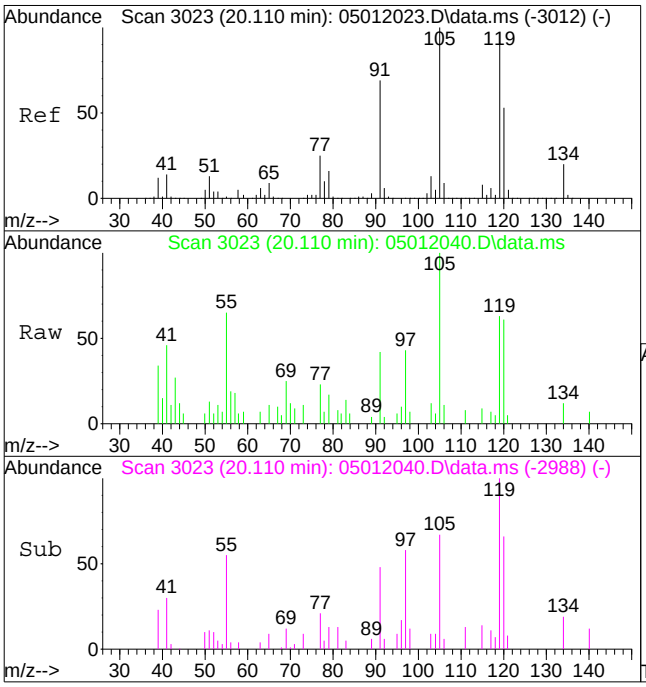


#71
n-Nonane
Concen: 0.13 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05012040.D
Acq: 2 May 2020 3:18

Tgt Ion: 43 Resp: 7449

Ion	Ratio	Lower	Upper
43	100		
57	103.9	69.0	109.0
85	37.1	14.6	54.6

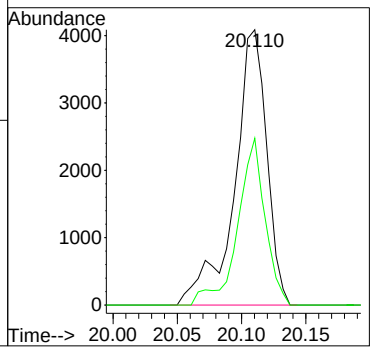


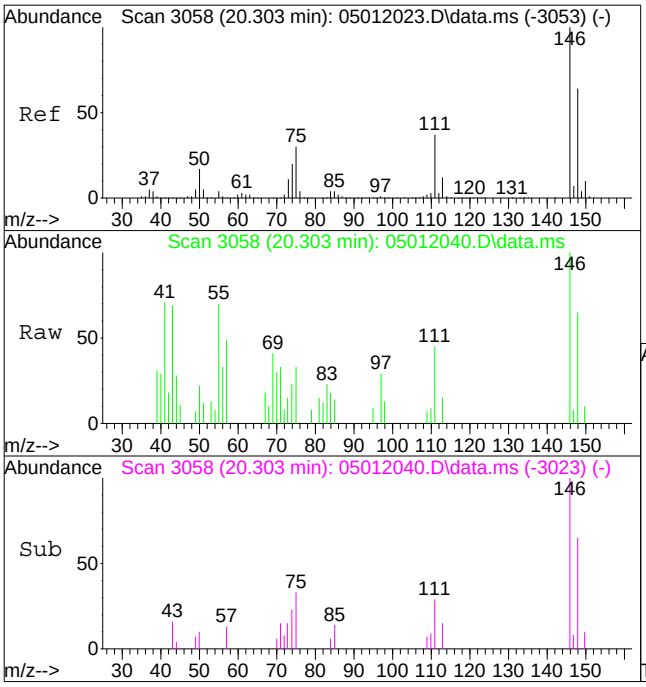


#82
1,2,4-Trimethylbenzene
Concen: 0.07 ng
RT: 20.11 min Scan# 3023
Delta R.T. -0.006 min
Lab File: 05012040.D
Acq: 2 May 2020 3:18

Tgt Ion:105 Resp: 7141

Ion	Ratio	Lower	Upper
105	100		
120	51.4	33.6	73.6

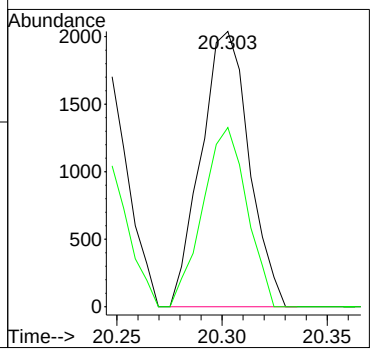


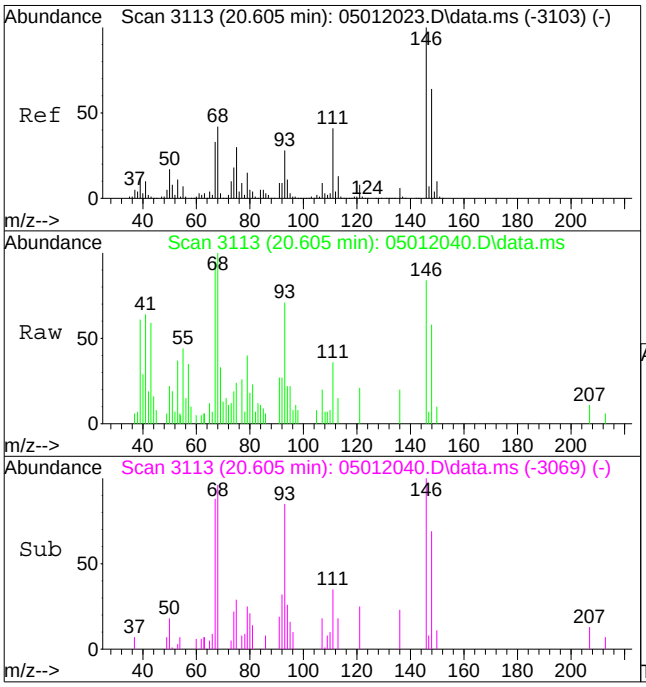


#86
1,4-Dichlorobenzene
Concen: 0.05 ng
RT: 20.30 min Scan# 3058
Delta R.T. -0.006 min
Lab File: 05012040.D
Acq: 2 May 2020 3:18

Tgt Ion:146 Resp: 3245

Ion	Ratio	Lower	Upper
146	100		
148	59.9	43.7	83.7

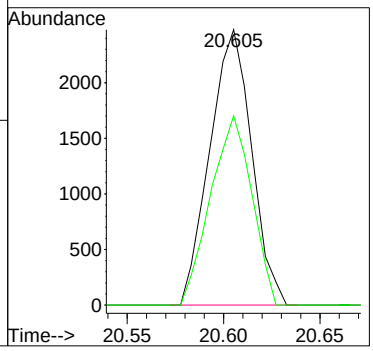


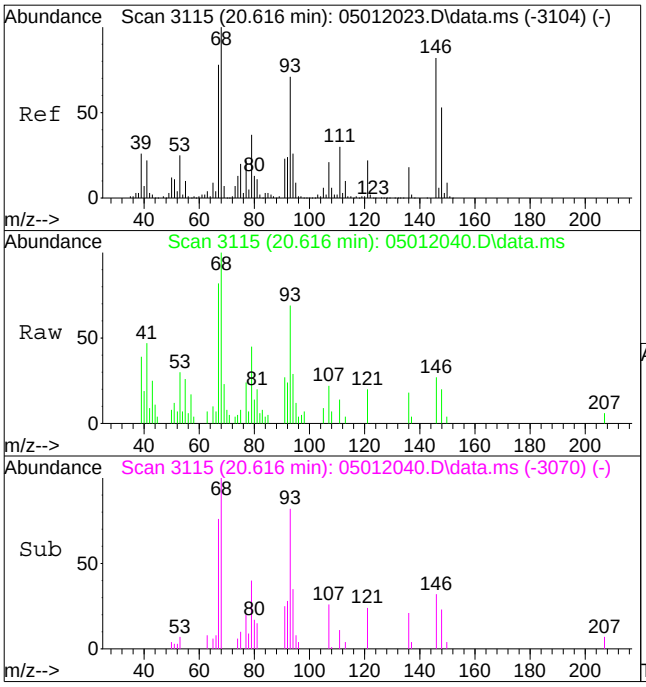


#90
1,2-Dichlorobenzene
Concen: 0.06 ng
RT: 20.61 min Scan# 3113
Delta R.T. -0.006 min
Lab File: 05012040.D
Acq: 2 May 2020 3:18

Tgt Ion:146 Resp: 3732

Ion	Ratio	Lower	Upper
146	100		
148	67.7	43.7	83.7

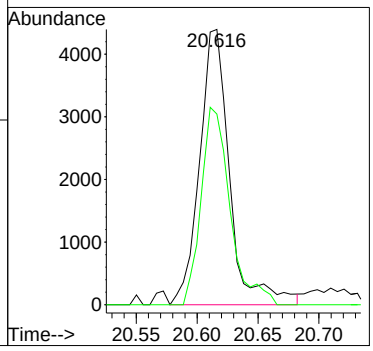


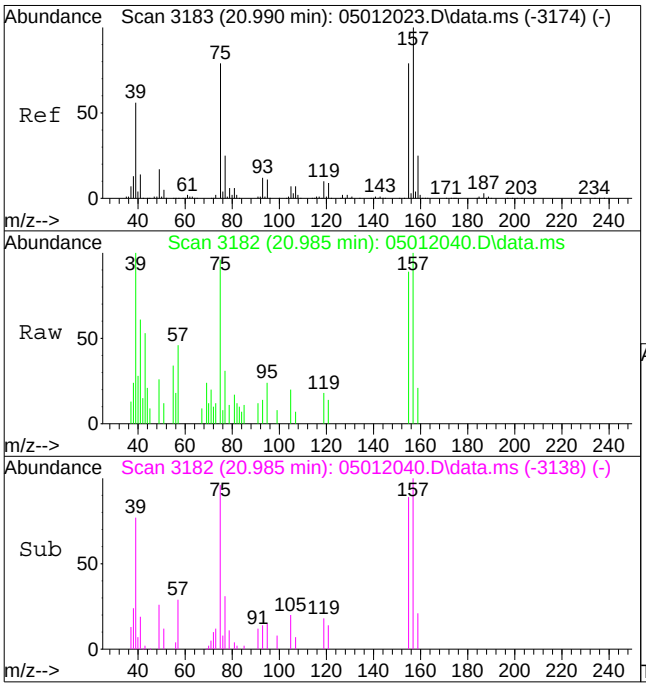


#91
d-Limonene
Concen: 0.18 ng
RT: 20.62 min Scan# 3115
Delta R.T. -0.000 min
Lab File: 05012040.D
Acq: 2 May 2020 3:18

Tgt Ion: 68 Resp: 7569

Ion	Ratio	Lower	Upper
68	100		
93	68.9	51.1	91.1

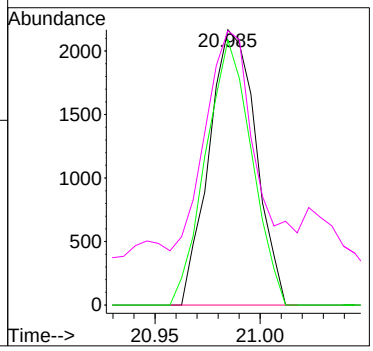


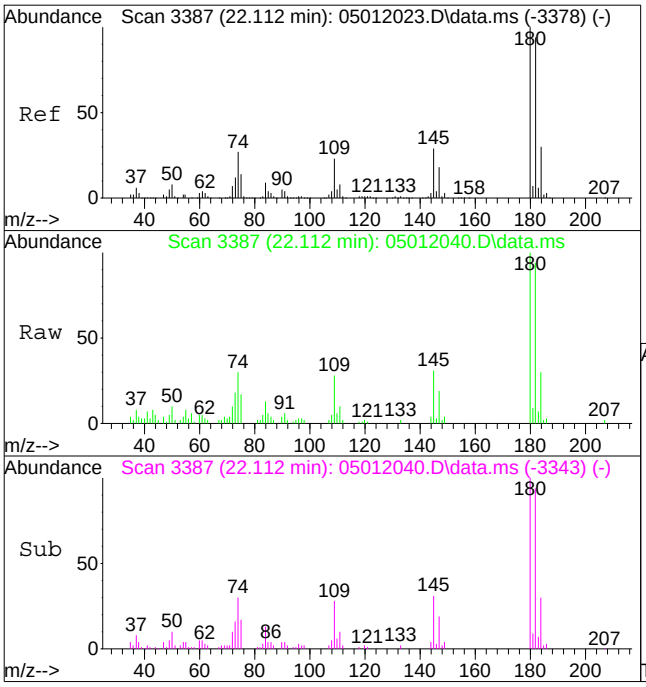


#92
1,2-Dibromo-3-Chloropropane
Concen: 0.15 ng
RT: 20.98 min Scan# 3182
Delta R.T. -0.005 min
Lab File: 05012040.D
Acq: 2 May 2020 3:18

Tgt Ion:157 Resp: 3359

Ion	Ratio	Lower	Upper
157	100		
75	94.6	61.4	101.4
39	80.8	40.5	80.5#

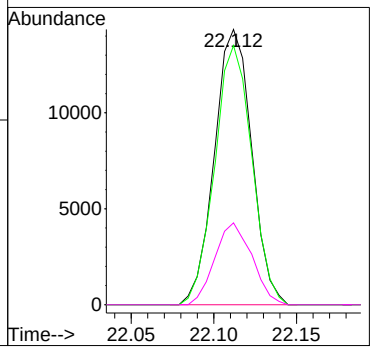


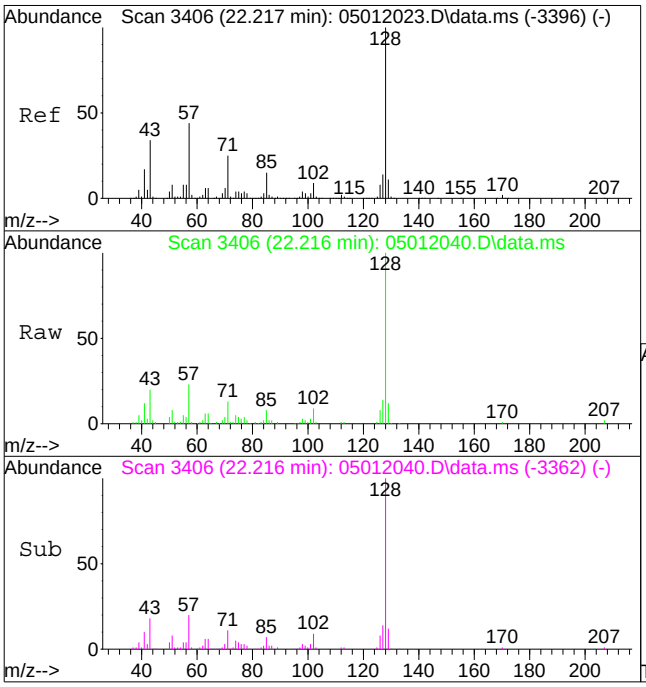


#94
1,2,4-Trichlorobenzene
Concen: 0.53 ng
RT: 22.11 min Scan# 3387
Delta R.T. -0.006 min
Lab File: 05012040.D
Acq: 2 May 2020 3:18

Tgt Ion:180 Resp: 22508

Ion	Ratio	Lower	Upper
180	100		
182	93.8	75.4	113.2
184	29.7	24.2	36.2

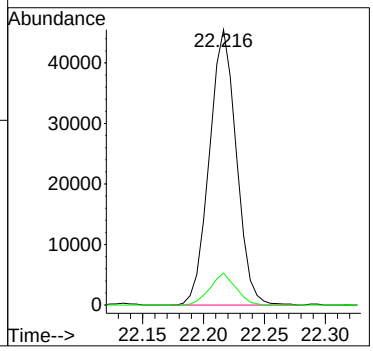


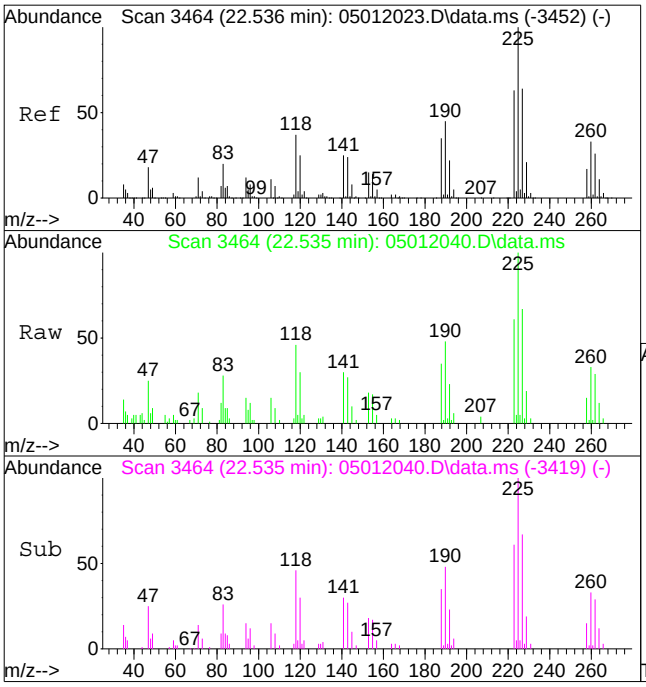


#95
Naphthalene
Concen: 0.53 ng
RT: 22.22 min Scan# 3406
Delta R.T. -0.006 min
Lab File: 05012040.D
Acq: 2 May 2020 3:18

Tgt Ion:128 Resp: 70229

Ion	Ratio	Lower	Upper
128	100		
129	11.0	0.0	31.0

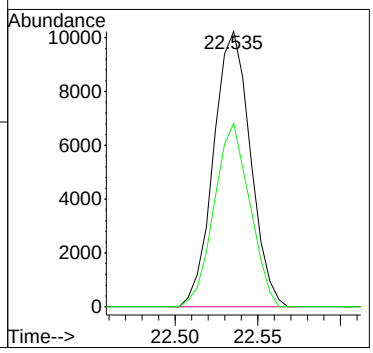




#97
Hexachlorobutadiene
Concen: 0.54 ng
RT: 22.54 min Scan# 3464
Delta R.T. -0.001 min
Lab File: 05012040.D
Acq: 2 May 2020 3:18

Tgt Ion:225 Resp: 15859

Ion	Ratio	Lower	Upper
225	100		
227	64.4	43.3	83.3



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012041.D Vial: 8
Acq On : 2 May 2020 3:51 Operator: LH
Sample : P2002104-004 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:20:42 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/4/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	258202	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1130832	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	548105	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	444830	12.712	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.68%			
57) Toluene-d8 (SS2)	15.72	98	1153254	12.414	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.28%			
73) Bromofluorobenzene (SS3)	18.98	174	399414	11.948	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.60%			
Target Compounds						Qvalue
2) Propene	4.12	42	1619	0.054	ng	# 87
3) Dichlorodifluoromethan...	4.27	85	15937	0.272	ng	99
4) Chloromethane	4.55	50	3024	0.066	ng	96
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	274	N.D.		
6) Vinyl Chloride	4.97	62	128	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.32	45	15788	0.684	ng	93
11) Acetonitrile	6.59	41	1879	N.D.		
12) Acrolein	6.79	56	1875	0.103	ng	97
13) Acetone	7.01	58	23020	0.997	ng	92
14) Trichlorofluoromethane	7.25	101	13190	0.255	ng	99
15) 2-Propanol (Isopropanol)	7.51	45	6332	0.091	ng	99
16) Acrylonitrile	7.75	53	112	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	8.44	59	1971	N.D.		
19) Methylene Chloride	8.40	84	893	N.D.		
20) 3-Chloro-1-propene (Al...	8.45	41	250	N.D.		
21) Trichlorotrifluoroethane	8.84	151	4456	0.183	ng	100
22) Carbon Disulfide	8.68	76	138259	1.285	ng	99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	10.07	73	399	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	10.48	72	2799	0.142	ng	92
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	11.29	61	1550	0.136	ng	83
31) n-Hexane	11.26	57	7095	0.144	ng	97
32) Chloroform	11.30	83	14360	0.279	ng	97
34) Tetrahydrofuran (THF)	11.72	72	34897	1.817	ng	98
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	12.87	78	16868	0.139	ng	100
42) Carbon Tetrachloride	13.03	117	65795	1.595	ng	100
43) Cyclohexane	13.17	84	12134	0.269	ng	99
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	13.94	83	1582	N.D.		
47) Trichloroethene	13.97	130	3887	0.124	ng	97
48) 1,4-Dioxane	13.97	88	397	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012041.D Vial: 8
Acq On : 2 May 2020 3:51 Operator: LH
Sample : P2002104-004 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:20:42 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

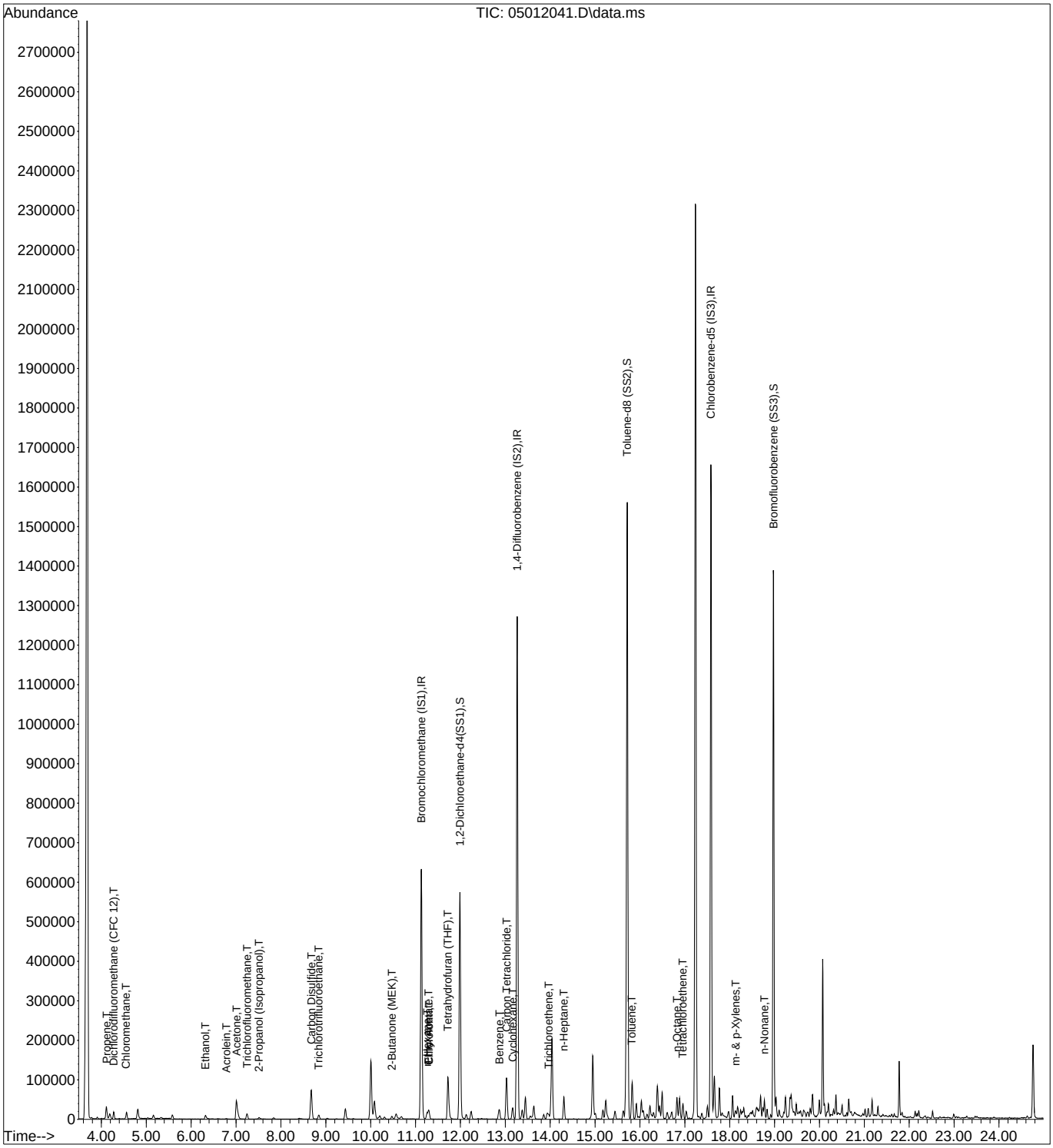
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.30	71	14204	0.501 ng	97
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.89	58	407	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	15.45	97	726	N.D.	
58) Toluene	15.82	91	13860	0.116 ng	98
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.70	43	2229	N.D.	
63) n-Octane	16.83	57	10885	0.439 ng	96
64) Tetrachloroethene	16.95	166	9827	0.291 ng	96
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	17.98	91	2643	N.D.	
67) m- & p-Xylenes	18.14	91	5776	0.055 ng	95
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	738	N.D.	
70) o-Xylene	18.57	91	2303	N.D.	
71) n-Nonane	18.77	43	15617	0.274 ng	95
72) 1,1,2,2-Tetrachloroethane	18.57	83	107	N.D.	
74) Cumene	19.10	105	1464	N.D.	
75) alpha-Pinene	19.45	93	113	N.D.	
76) n-Propylbenzene	19.56	91	2288	N.D.	
77) 3-Ethyltoluene	19.64	105	1762	N.D.	
78) 4-Ethyltoluene	19.68	105	1198	N.D.	
79) 1,3,5-Trimethylbenzene	19.74	105	953	N.D.	
80) alpha-Methylstyrene	19.89	118	1126	N.D.	
81) 2-Ethyltoluene	19.92	105	871	N.D.	
82) 1,2,4-Trimethylbenzene	20.11	105	2704	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.22	91	512	N.D.	
85) 1,3-Dichlorobenzene	20.25	146	481	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	979	N.D.	
87) sec-Butylbenzene	20.35	105	803	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	1391	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	1463	N.D.	
90) 1,2-Dichlorobenzene	20.61	146	434	N.D.	
91) d-Limonene	20.61	68	2034	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.12	180	736	N.D.	
95) Naphthalene	22.22	128	4742	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	20.86	91	1512	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012041.D Vial: 8
Acq On : 2 May 2020 3:51 Operator: LH
Sample : P2002104-004 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:20:42 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012041.D Vial: 8
Acq On : 2 May 2020 3:51 Operator: LH
Sample : P2002104-004 (400mL) Inst : GCMS-16
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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/4/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	258202	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1130832	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	548105	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	444830	12.712	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.68%				
57) Toluene-d8 (SS2)	15.72	98	1153254	12.414	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.28%				
73) Bromofluorobenzene (SS3)	18.98	174	399414	11.948	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.60%				
Target Compounds							Qvalue
2) Propene	4.12	42	1619	0.054	ng	#	87
3) Dichlorodifluoromethan...	4.27	85	15937	0.272	ng		99
4) Chloromethane	4.55	50	3024	0.066	ng		96
10) Ethanol	6.32	45	15788	0.684	ng		93
12) Acrolein	6.79	56	1875	0.103	ng		97
13) Acetone	7.01	58	23020	0.997	ng		92
14) Trichlorofluoromethane	7.25	101	13190	0.255	ng		99
15) 2-Propanol (Isopropanol)	7.51	45	6332	0.091	ng		99
21) Trichlorotrifluoroethane	8.84	151	4456	0.183	ng		100
22) Carbon Disulfide	8.68	76	138259	1.285	ng		99
27) 2-Butanone (MEK)	10.48	72	2799	0.142	ng		92
30) Ethyl Acetate	11.29	61	1550	0.136	ng		83
31) n-Hexane	11.26	57	7095	0.144	ng		97
32) Chloroform	11.30	83	14360	0.279	ng		97
34) Tetrahydrofuran (THF)	11.72	72	34897	1.817	ng		98
41) Benzene	12.87	78	16868	0.139	ng		100
42) Carbon Tetrachloride	13.03	117	65795	1.595	ng		100
43) Cyclohexane	13.17	84	12134	0.269	ng		99
47) Trichloroethene	13.97	130	3887	0.124	ng		97
51) n-Heptane	14.30	71	14204	0.501	ng		97
58) Toluene	15.82	91	13860	0.116	ng		98
63) n-Octane	16.83	57	10885	0.439	ng		96
64) Tetrachloroethene	16.95	166	9827	0.291	ng		96
67) m- & p-Xylenes	18.14	91	5776	0.055	ng		95
71) n-Nonane	18.77	43	15617	0.274	ng		95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012041.D Vial: 8
Acq On : 2 May 2020 3:51 Operator: LH
Sample : P2002104-004 (400mL) Inst : GCMS-16
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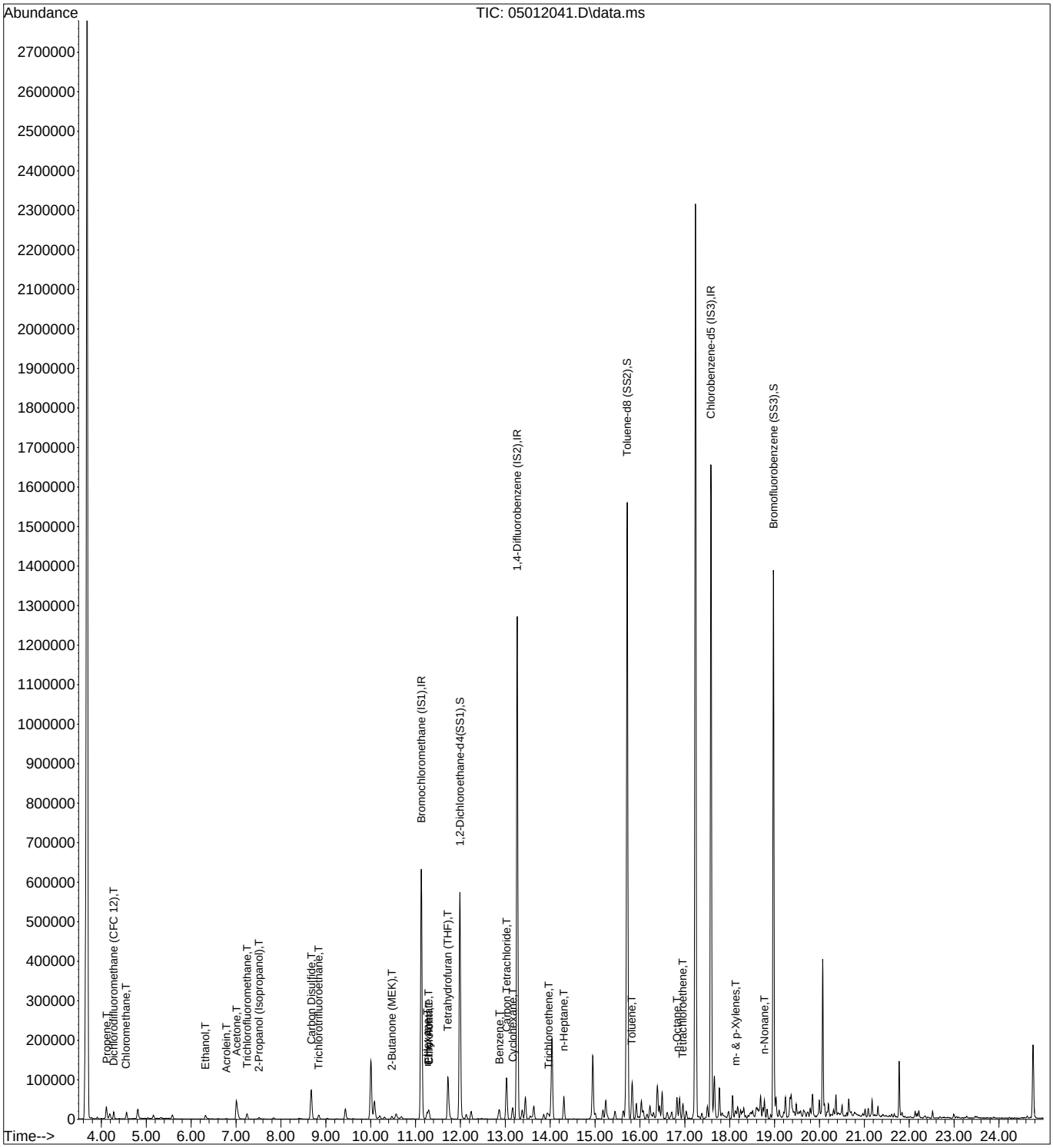
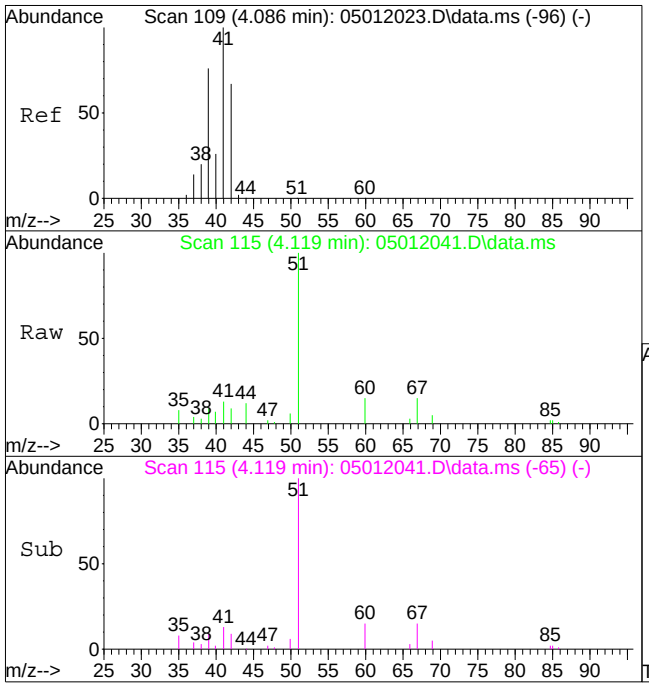
Quant Time: May 04 14:20:42 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

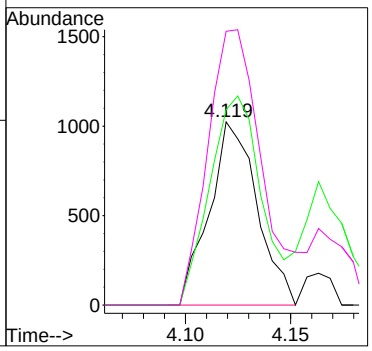


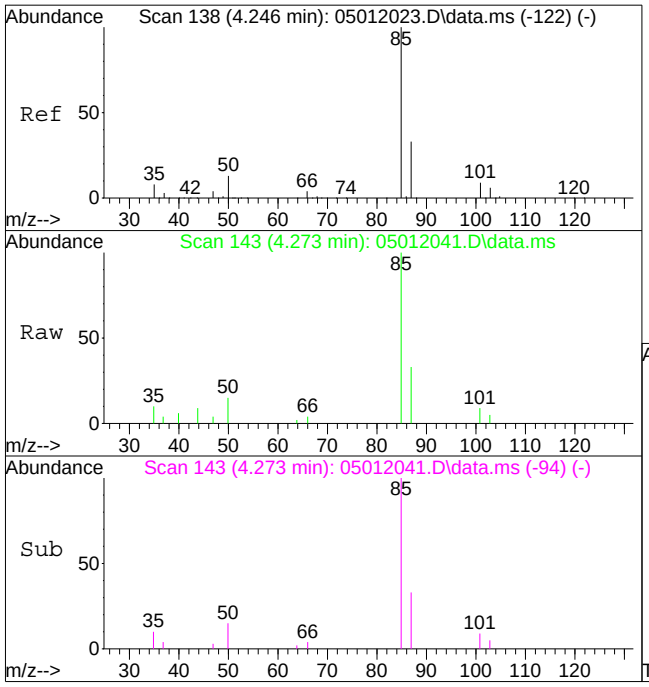


#2
Propene
Concen: 0.05 ng
RT: 4.12 min Scan# 115
Delta R.T. 0.027 min
Lab File: 05012041.D
Acq: 2 May 2020 3:51

Tgt Ion: 42 Resp: 1619

Ion	Ratio	Lower	Upper
42	100		
39	123.2	96.1	136.1
41	175.7	131.9	171.9#

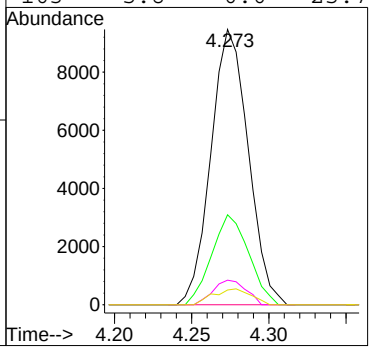


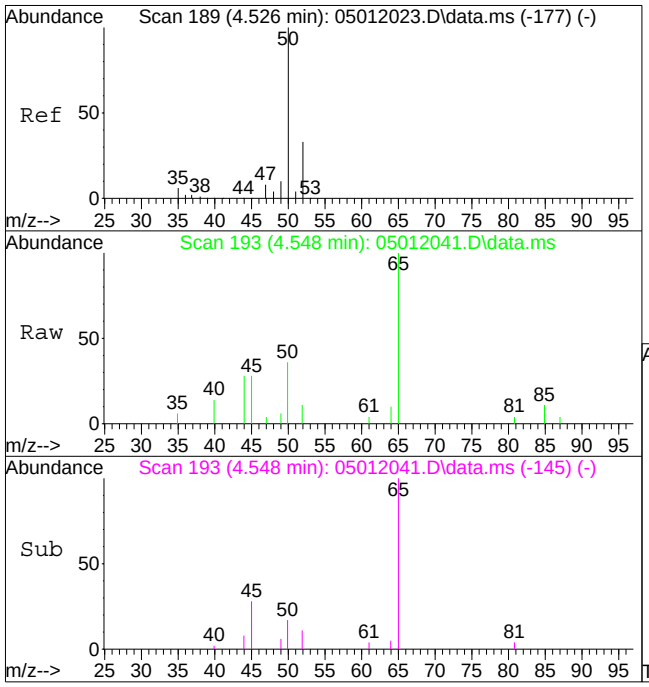


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.27 ng
RT: 4.27 min Scan# 143
Delta R.T. 0.022 min
Lab File: 05012041.D
Acq: 2 May 2020 3:51

Tgt Ion: 85 Resp: 15937

Ion	Ratio	Lower	Upper
85	100		
87	32.3	12.4	52.4
101	7.8	0.0	28.8
103	5.8	0.0	25.7

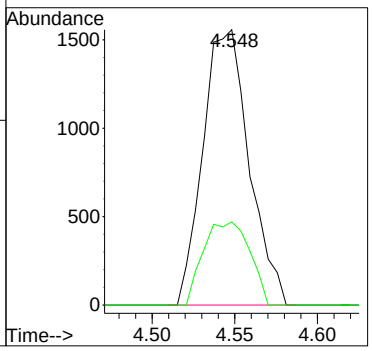


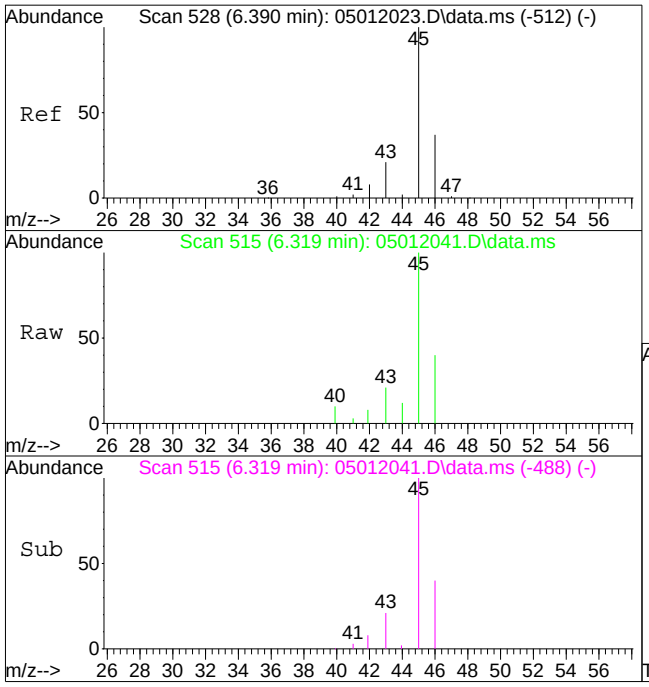


#4
Chloromethane
Concen: 0.07 ng
RT: 4.55 min Scan# 193
Delta R.T. 0.016 min
Lab File: 05012041.D
Acq: 2 May 2020 3:51

Tgt Ion: 50 Resp: 3024

Ion	Ratio	Lower	Upper
50	100		
52	30.3	12.5	52.5

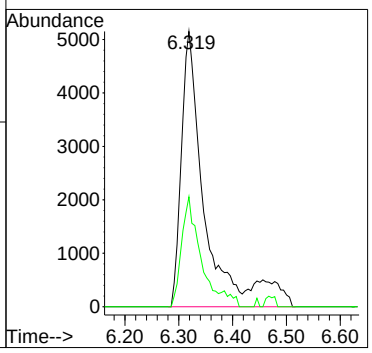


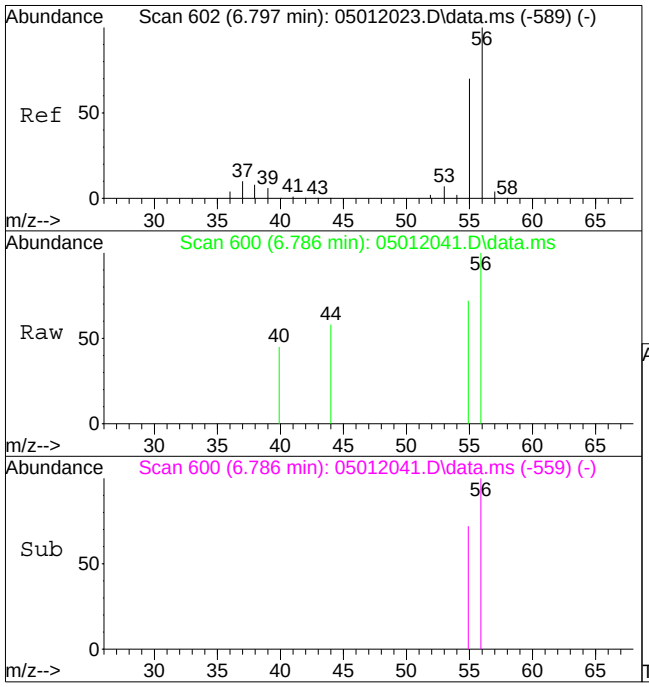


#10
Ethanol
Concen: 0.68 ng
RT: 6.32 min Scan# 515
Delta R.T. -0.099 min
Lab File: 05012041.D
Acq: 2 May 2020 3:51

Tgt Ion: 45 Resp: 15788

Ion	Ratio	Lower	Upper
45	100		
46	33.1	17.2	57.2

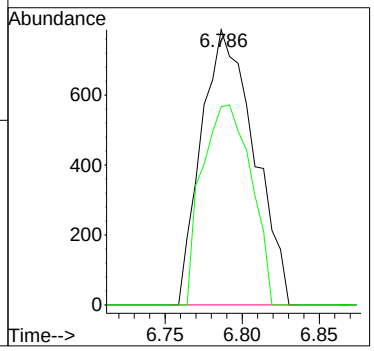


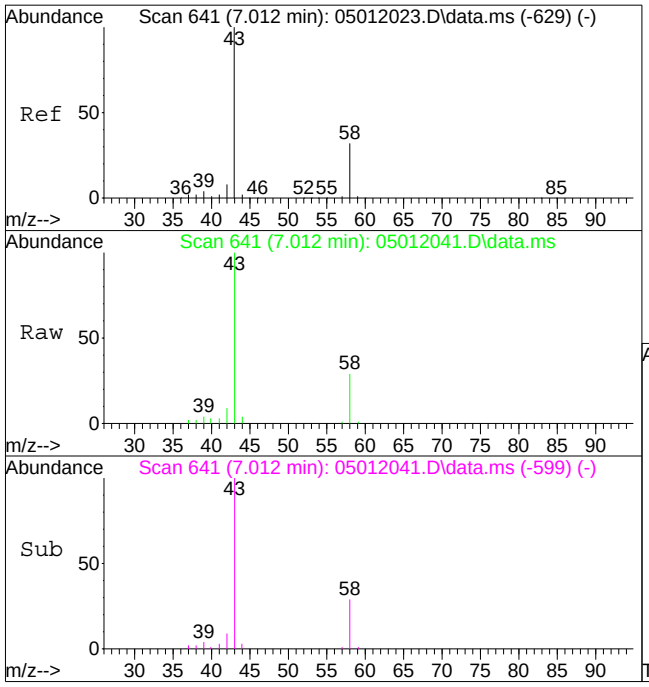


#12
Acrolein
Concen: 0.10 ng
RT: 6.79 min Scan# 600
Delta R.T. -0.022 min
Lab File: 05012041.D
Acq: 2 May 2020 3:51

Tgt Ion: 56 Resp: 1875

Ion	Ratio	Lower	Upper
56	100		
55	67.6	50.2	90.2

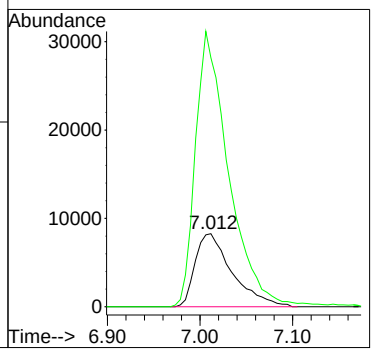


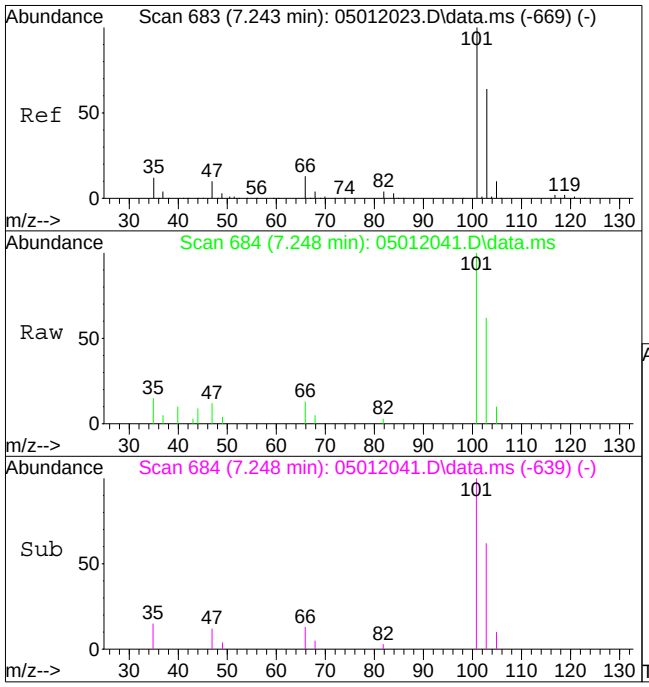


#13
Acetone
Concen: 1.00 ng
RT: 7.01 min Scan# 641
Delta R.T. -0.017 min
Lab File: 05012041.D
Acq: 2 May 2020 3:51

Tgt Ion: 58 Resp: 23020

Ion	Ratio	Lower	Upper
58	100		
43	340.7	294.4	354.4

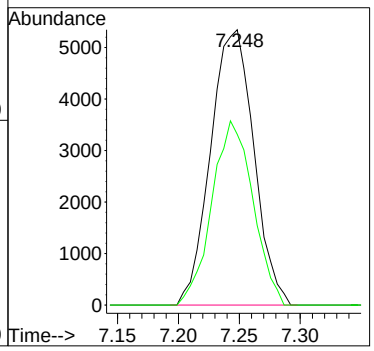


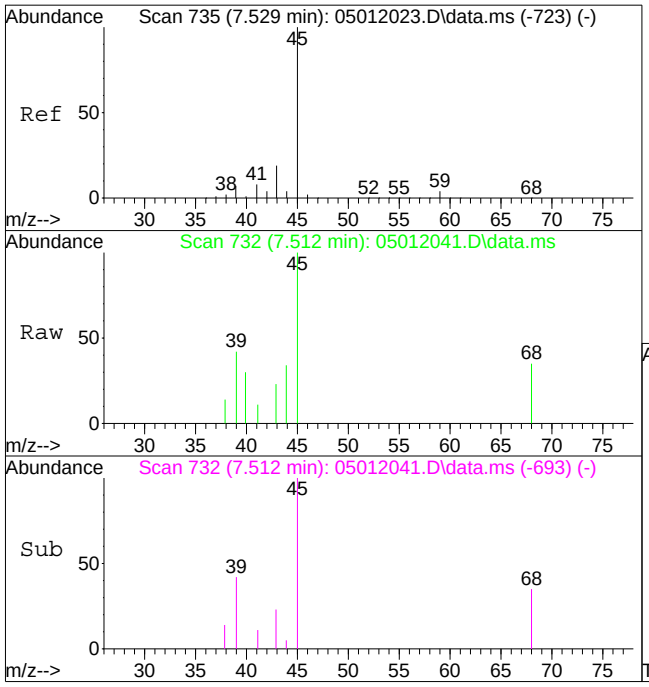


#14
Trichlorofluoromethane
Concen: 0.26 ng
RT: 7.25 min Scan# 684
Delta R.T. -0.000 min
Lab File: 05012041.D
Acq: 2 May 2020 3:51

Tgt Ion:101 Resp: 13190

Ion	Ratio	Lower	Upper
101	100		
103	63.5	44.4	84.4

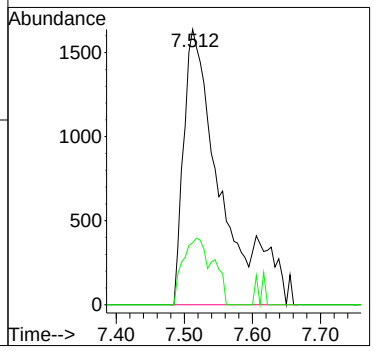


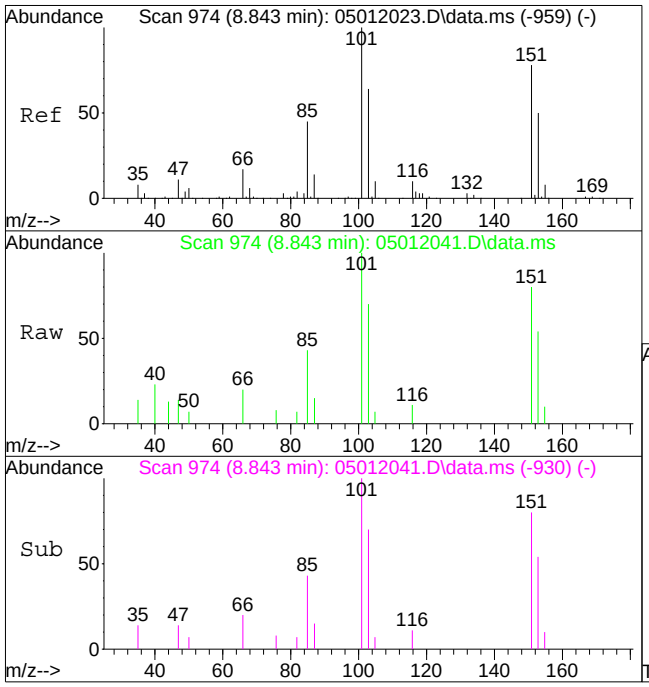


#15
2-Propanol (Isopropanol)
Concen: 0.09 ng
RT: 7.51 min Scan# 732
Delta R.T. -0.033 min
Lab File: 05012041.D
Acq: 2 May 2020 3:51

Tgt Ion: 45 Resp: 6332

Ion	Ratio	Lower	Upper
45	100		
43	19.2	0.0	39.5

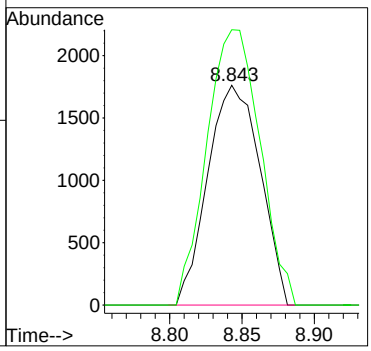


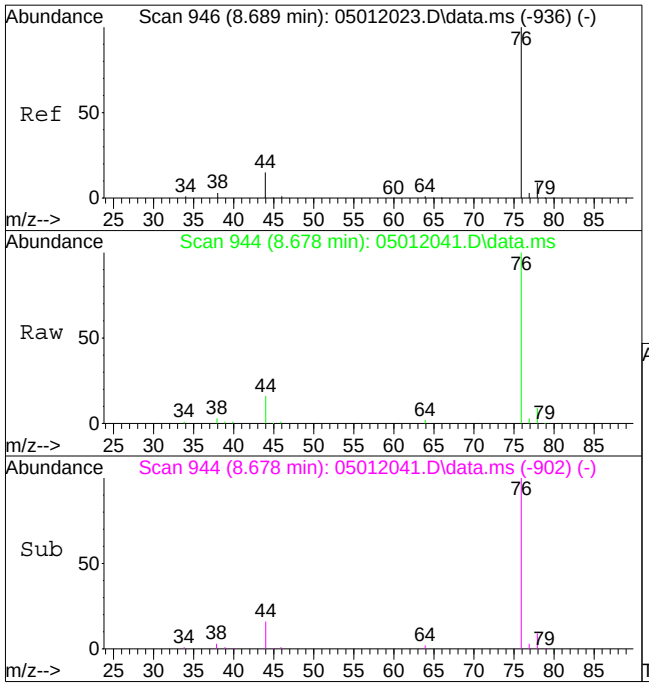


#21
Trichlorotrifluoroethane
Concen: 0.18 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05012041.D
Acq: 2 May 2020 3:51

Tgt Ion:151 Resp: 4456

Ion	Ratio	Lower	Upper
151	100		
101	127.2	107.3	147.3

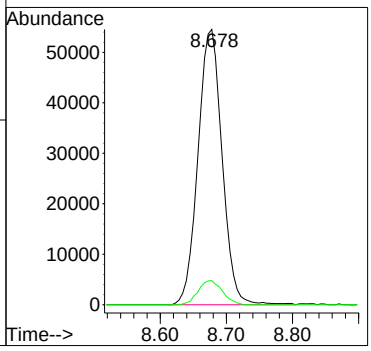


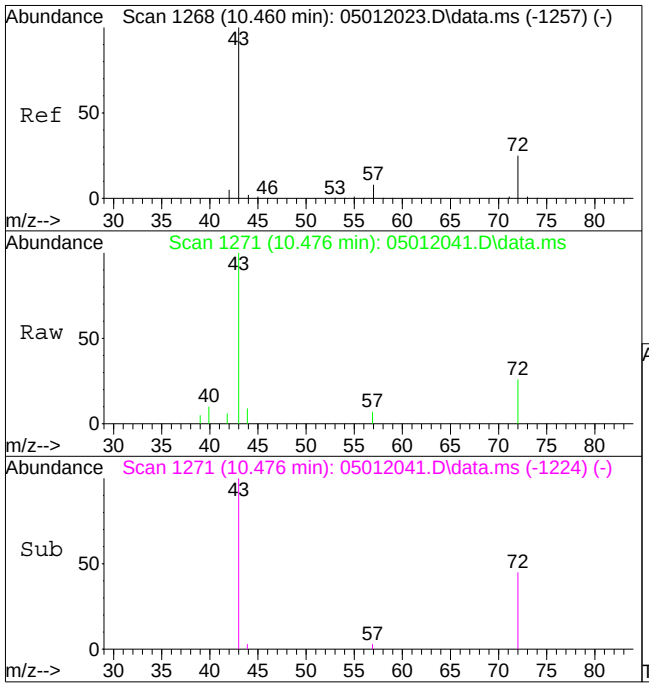


#22
Carbon Disulfide
Concen: 1.29 ng
RT: 8.68 min Scan# 944
Delta R.T. -0.017 min
Lab File: 05012041.D
Acq: 2 May 2020 3:51

Tgt Ion: 76 Resp: 138259

Ion	Ratio	Lower	Upper
76	100		
78	8.8	0.0	29.2

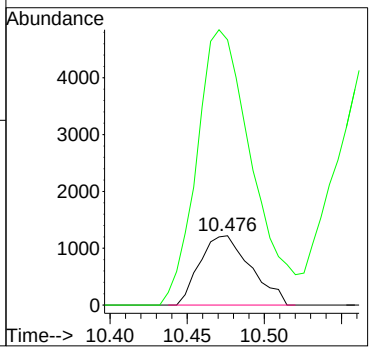


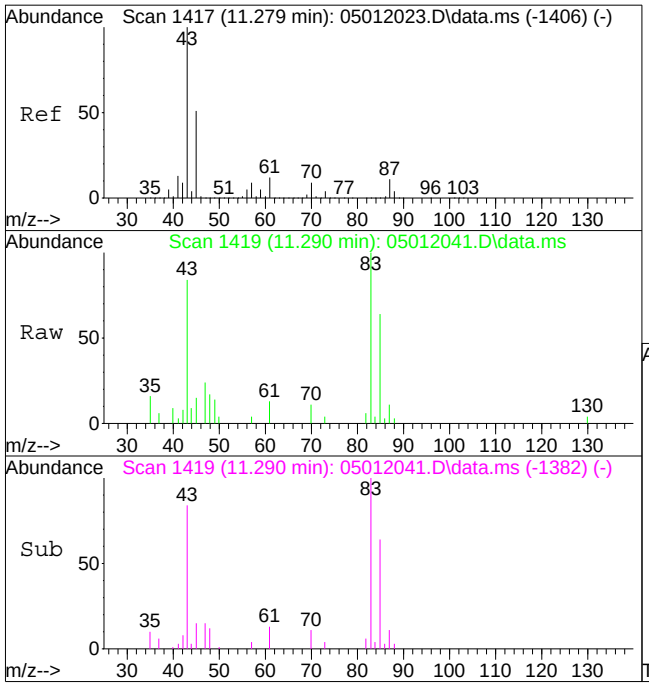


#27
2-Butanone (MEK)
Concen: 0.14 ng
RT: 10.48 min Scan# 1271
Delta R.T. 0.011 min
Lab File: 05012041.D
Acq: 2 May 2020 3:51

Tgt Ion: 72 Resp: 2799

Ion	Ratio	Lower	Upper
72	100		
43	429.5	389.7	429.7

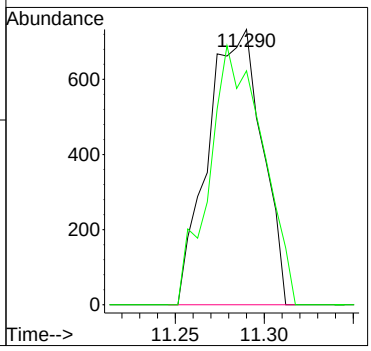


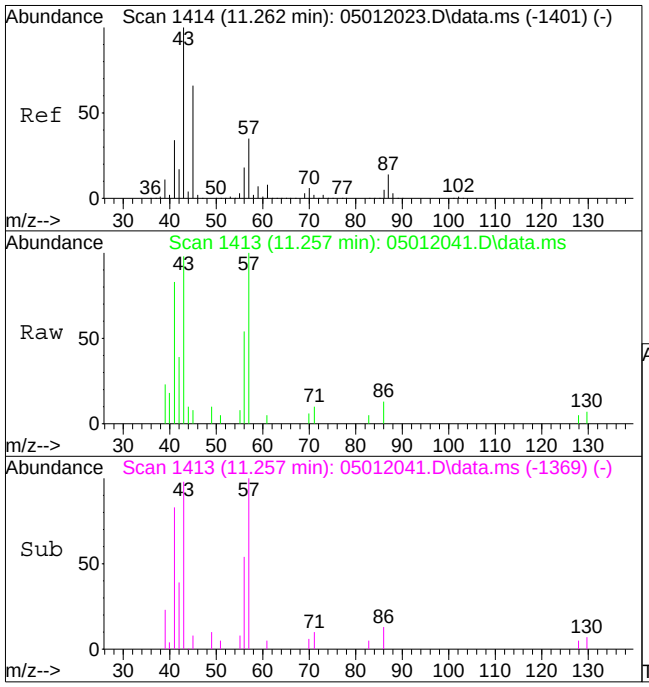


#30
Ethyl Acetate
Concen: 0.14 ng
RT: 11.29 min Scan# 1419
Delta R.T. 0.005 min
Lab File: 05012041.D
Acq: 2 May 2020 3:51

Tgt Ion: 61 Resp: 1550

Ion	Ratio	Lower	Upper
61	100		
70	92.9	57.9	97.9

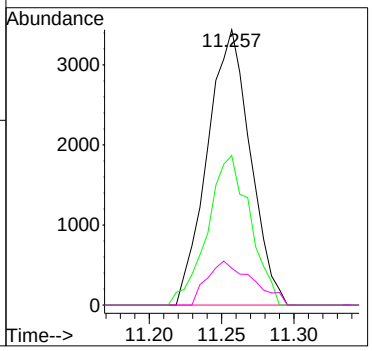


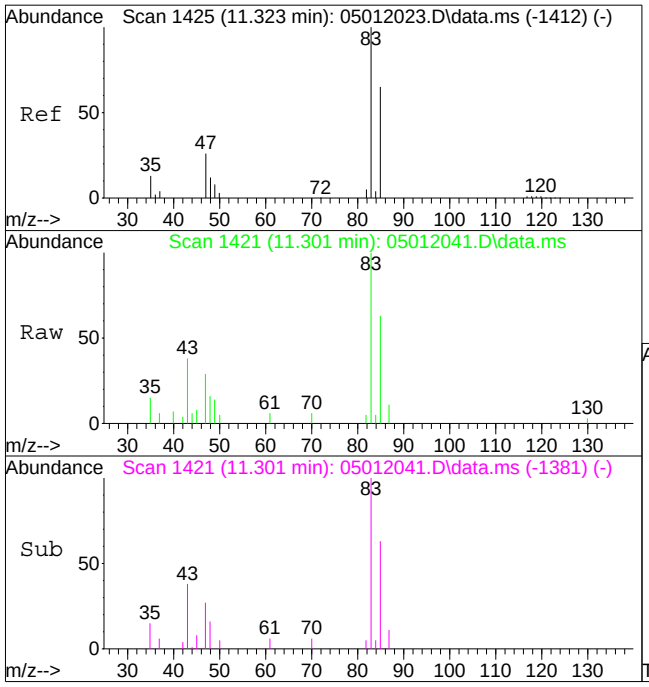


#31
n-Hexane
Concen: 0.14 ng
RT: 11.26 min Scan# 1413
Delta R.T. -0.006 min
Lab File: 05012041.D
Acq: 2 May 2020 3:51

Tgt Ion: 57 Resp: 7095

Ion	Ratio	Lower	Upper
57	100		
56	54.0	41.4	62.0
86	16.9	12.4	18.6

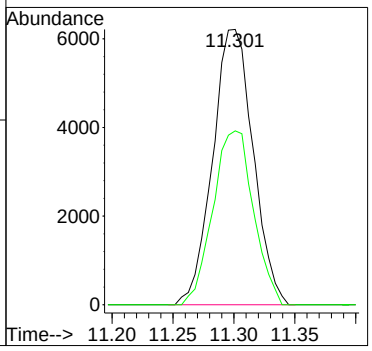


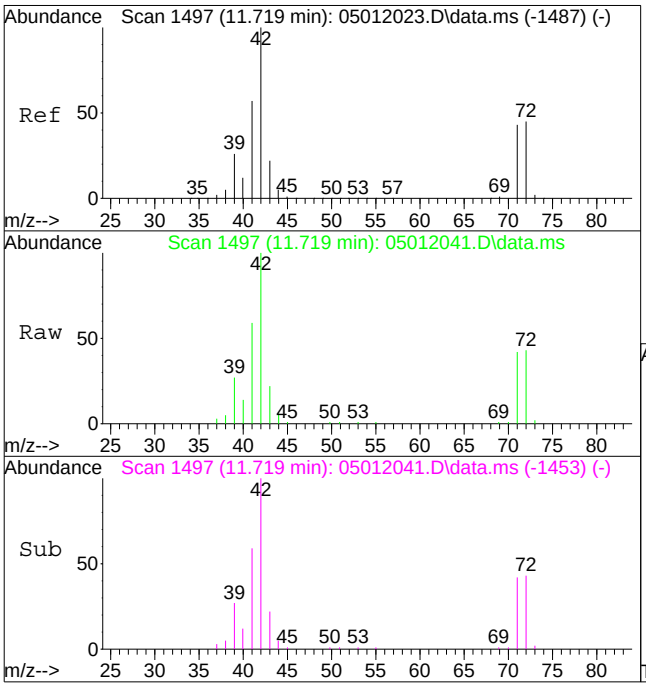


#32
Chloroform
Concen: 0.28 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.028 min
Lab File: 05012041.D
Acq: 2 May 2020 3:51

Tgt Ion: 83 Resp: 14360

Ion	Ratio	Lower	Upper
83	100		
85	63.2	45.5	85.5

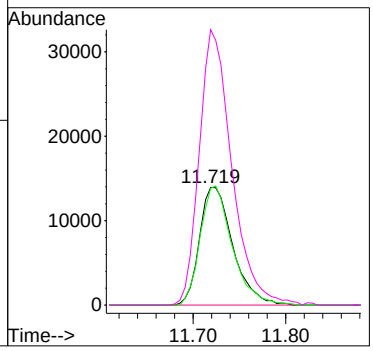


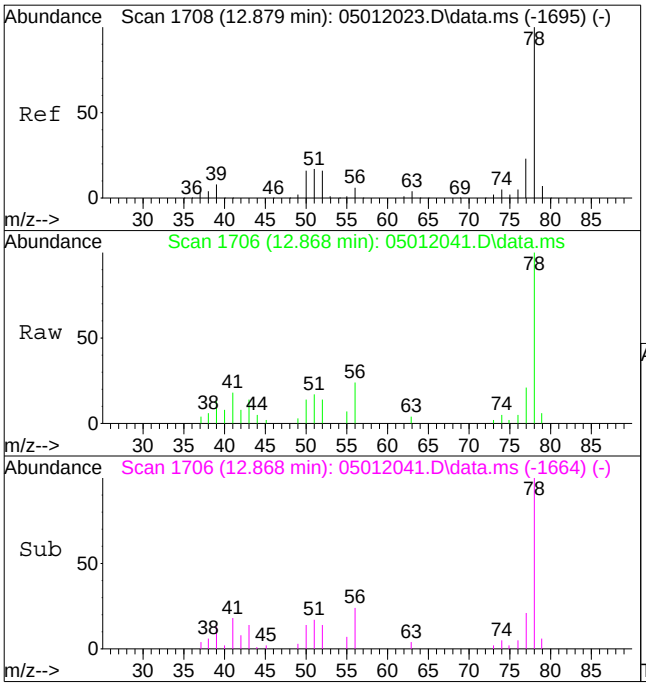


#34
Tetrahydrofuran (THF)
Concen: 1.82 ng
RT: 11.72 min Scan# 1497
Delta R.T. -0.006 min
Lab File: 05012041.D
Acq: 2 May 2020 3:51

Tgt Ion: 72 Resp: 34897

Ion	Ratio	Lower	Upper
72	100		
71	97.3	77.0	117.0
42	228.5	204.6	244.6

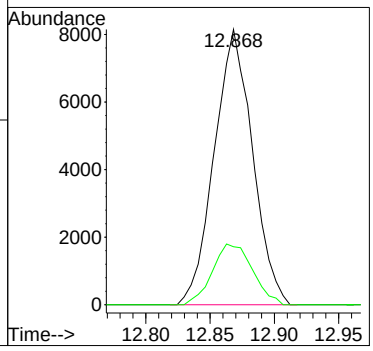


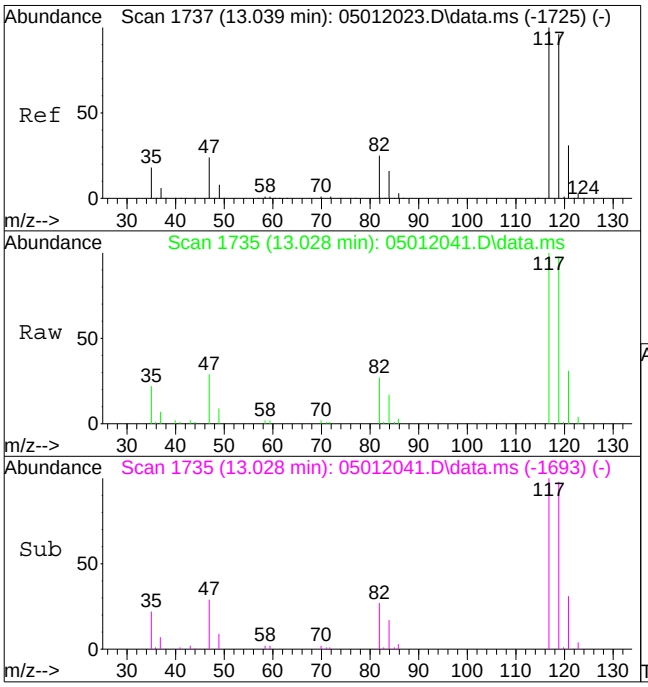


#41
Benzene
Concen: 0.14 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05012041.D
Acq: 2 May 2020 3:51

Tgt Ion: 78 Resp: 16868

Ion	Ratio	Lower	Upper
78	100		
77	23.2	3.4	43.4

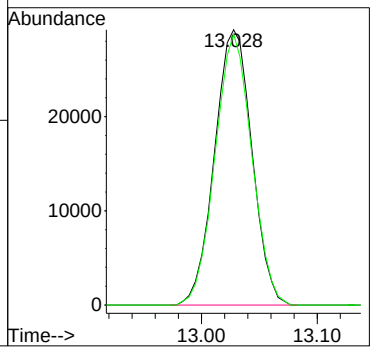


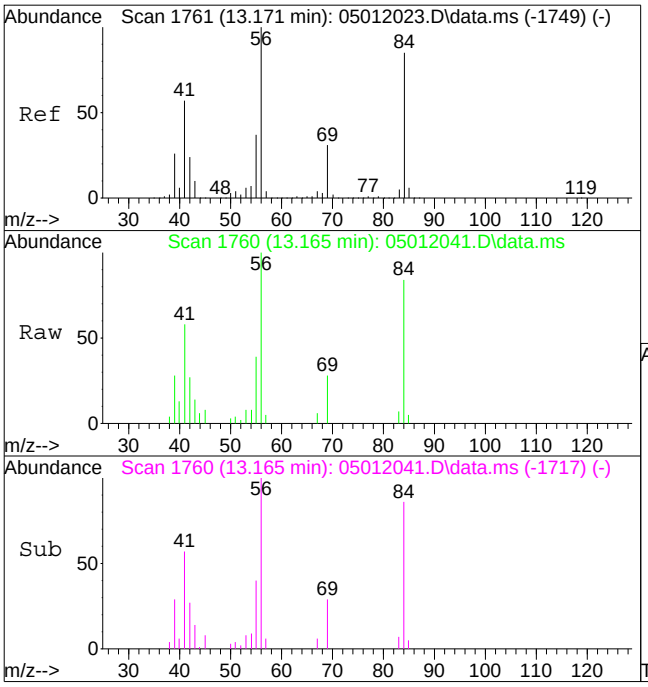


#42
Carbon Tetrachloride
Concen: 1.60 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05012041.D
Acq: 2 May 2020 3:51

Tgt Ion:117 Resp: 65795

Ion	Ratio	Lower	Upper
117	100		
119	96.4	76.2	116.2

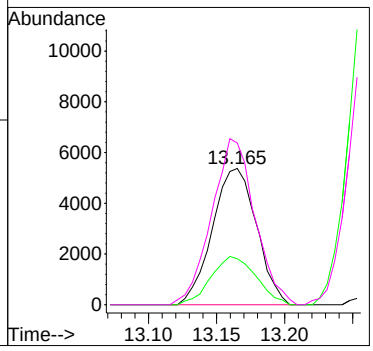


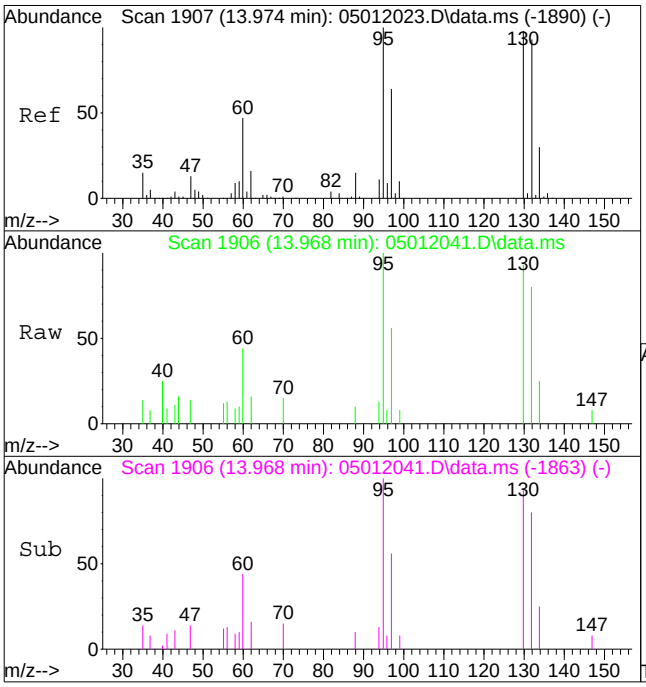


#43
Cyclohexane
Concen: 0.27 ng
RT: 13.17 min Scan# 1760
Delta R.T. -0.011 min
Lab File: 05012041.D
Acq: 2 May 2020 3:51

Tgt Ion: 84 Resp: 12134

Ion	Ratio	Lower	Upper
84	100		
69	36.0	16.5	56.5
56	118.9	97.4	137.4

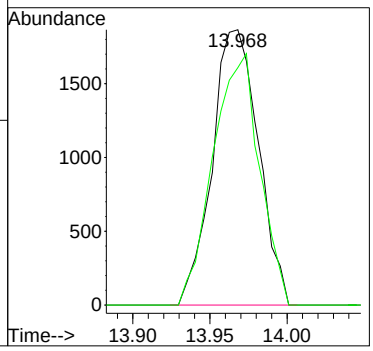


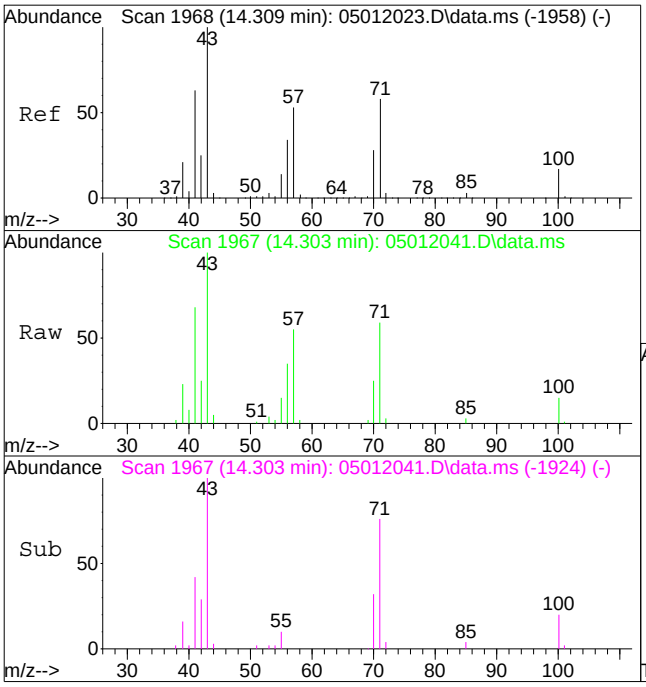


#47
Trichloroethene
Concen: 0.12 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05012041.D
Acq: 2 May 2020 3:51

Tgt Ion:130 Resp: 3887

Ion	Ratio	Lower	Upper
130	100		
132	92.0	74.9	114.9

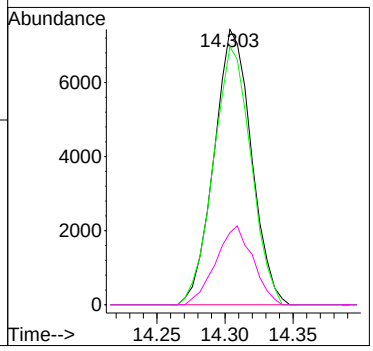


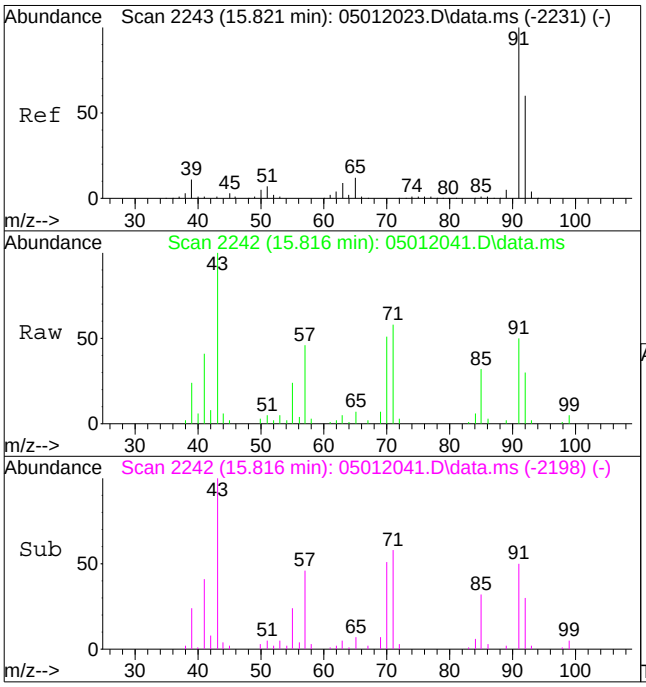


#51
n-Heptane
Concen: 0.50 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05012041.D
Acq: 2 May 2020 3:51

Tgt Ion: 71 Resp: 14204

Ion	Ratio	Lower	Upper
71	100		
57	94.3	71.0	111.0
100	28.3	8.4	48.4

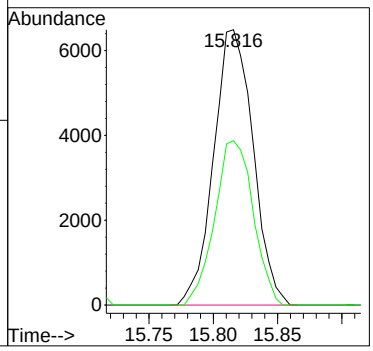


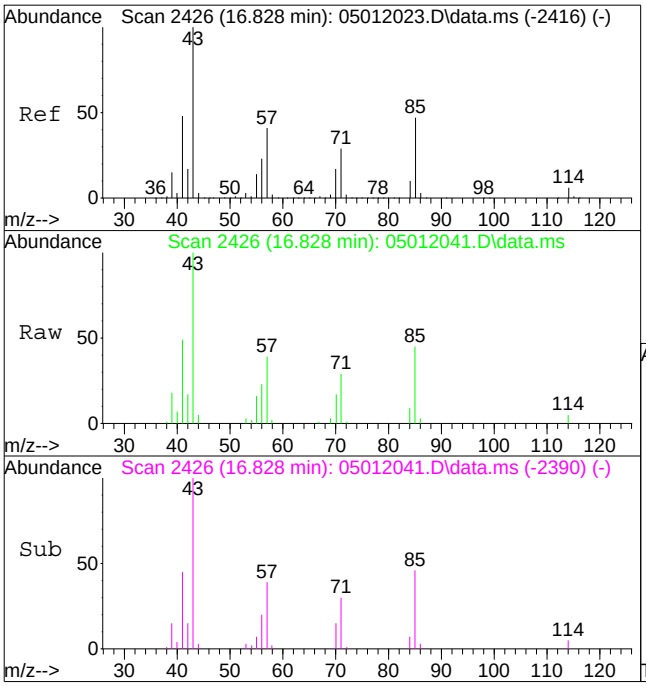


#58
Toluene
Concen: 0.12 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05012041.D
Acq: 2 May 2020 3:51

Tgt Ion: 91 Resp: 13860

Ion	Ratio	Lower	Upper
91	100		
92	58.2	39.4	79.4

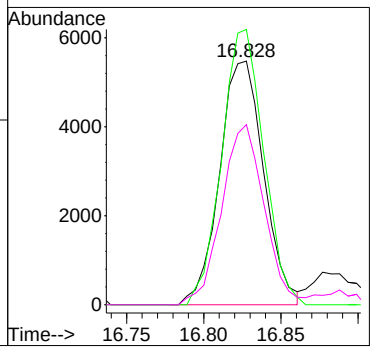


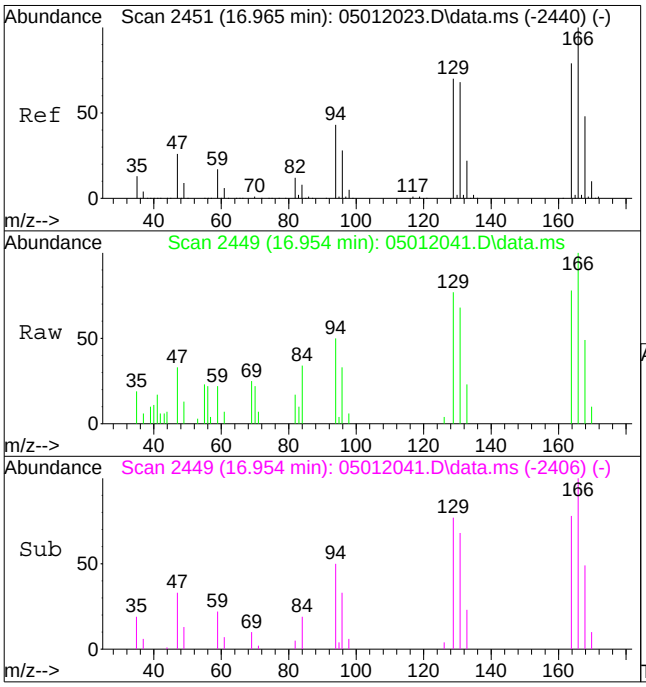


#63
n-Octane
Concen: 0.44 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05012041.D
Acq: 2 May 2020 3:51

Tgt Ion: 57 Resp: 10885

Ion	Ratio	Lower	Upper
57	100		
85	107.7	91.0	136.4
71	71.4	56.2	84.2

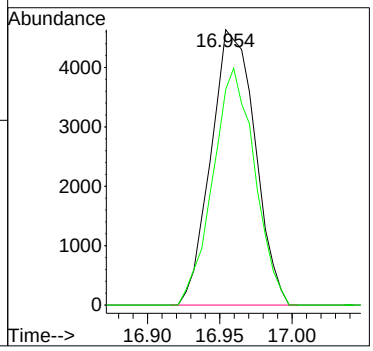


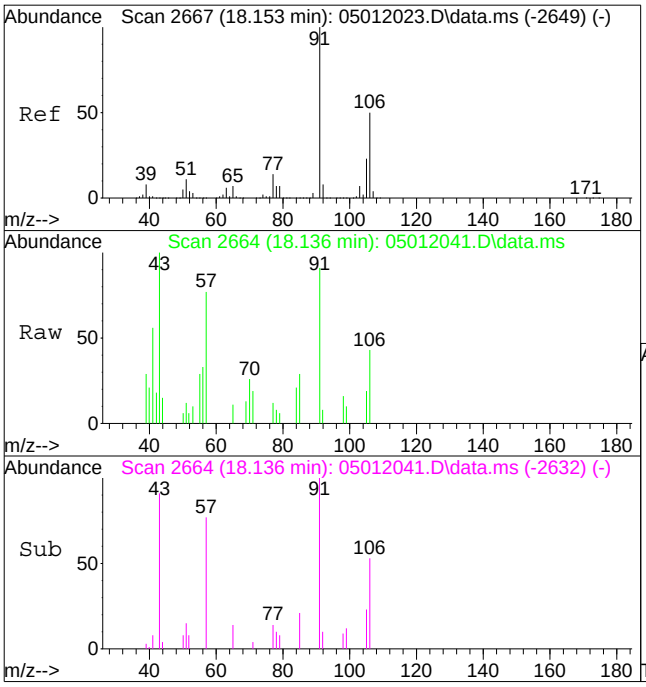


#64
Tetrachloroethene
Concen: 0.29 ng
RT: 16.95 min Scan# 2449
Delta R.T. -0.011 min
Lab File: 05012041.D
Acq: 2 May 2020 3:51

Tgt Ion:166 Resp: 9827

Ion	Ratio	Lower	Upper
166	100		
164	81.7	58.4	98.4

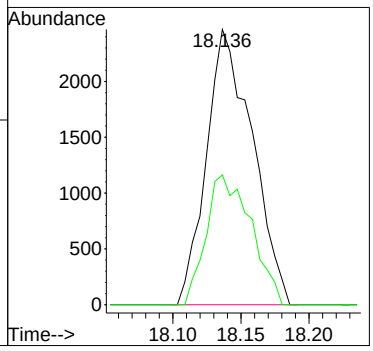


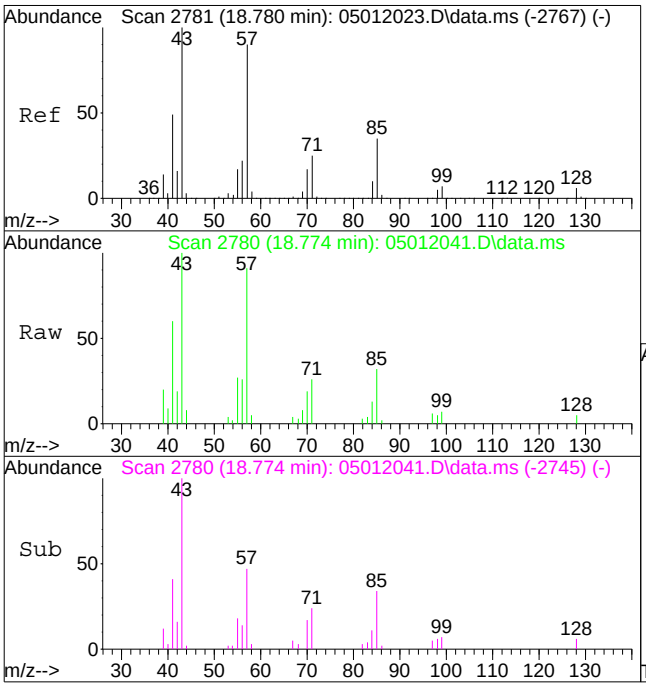


#67
m- & p-Xylenes
Concen: 0.05 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05012041.D
Acq: 2 May 2020 3:51

Tgt Ion: 91 Resp: 5776

Ion	Ratio	Lower	Upper
91	100		
106	46.1	29.7	69.7

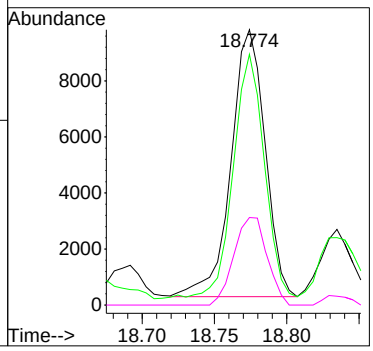




#71
n-Nonane
Concen: 0.27 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05012041.D
Acq: 2 May 2020 3:51

Tgt Ion: 43 Resp: 15617

Ion	Ratio	Lower	Upper
43	100		
57	84.3	69.0	109.0
85	31.9	14.6	54.6



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012042.D Vial: 9
Acq On : 2 May 2020 4:25 Operator: LH
Sample : P2002104-005 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:21:32 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/4/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	249441	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1086620	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	526917	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	432030	12.780	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.24%				
57) Toluene-d8 (SS2)	15.72	98	1112633	12.458	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.68%				
73) Bromofluorobenzene (SS3)	18.98	174	380057	11.826	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.64%				
Target Compounds							Qvalue
2) Propene	4.12	42	1824	0.063	ng		95
3) Dichlorodifluoromethan...	4.28	85	7044	0.125	ng		96
4) Chloromethane	4.56	50	1110	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.32	45	11466	0.514	ng		88
11) Acetonitrile	6.60	41	1281	N.D.			
12) Acrolein	6.79	56	1359	0.077	ng		97
13) Acetone	7.01	58	21838	0.979	ng	#	76
14) Trichlorofluoromethane	7.25	101	7350	0.147	ng		98
15) 2-Propanol (Isopropanol)	7.52	45	6741	0.100	ng		94
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.44	59	1584	N.D.			
19) Methylene Chloride	8.41	84	997	N.D.			
20) 3-Chloro-1-propene (Al...	8.45	41	105	N.D.			
21) Trichlorotrifluoroethane	8.85	151	4422	0.188	ng		100
22) Carbon Disulfide	8.68	76	6537	0.063	ng		96
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.48	72	4765	0.250	ng		95
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	11.28	61	3109	0.283	ng		97
31) n-Hexane	11.26	57	6113	0.128	ng		94
32) Chloroform	11.31	83	2231	N.D.			
34) Tetrahydrofuran (THF)	11.75	72	2927	0.158	ng	#	90
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	10624	0.091	ng		99
42) Carbon Tetrachloride	13.03	117	6935	0.175	ng		100
43) Cyclohexane	13.17	84	5659	0.130	ng		99
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	13.86	83	110	N.D.			
47) Trichloroethene	13.97	130	4950	0.164	ng		98
48) 1,4-Dioxane	13.98	88	111	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012042.D Vial: 9
Acq On : 2 May 2020 4:25 Operator: LH
Sample : P2002104-005 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:21:32 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.31	71	4329	0.159 ng		99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.82	91	10877	0.094 ng		97
59) 2-Hexanone	16.07	43	3804	0.060 ng	#	54
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.70	43	1097	N.D.		
63) n-Octane	16.82	57	2937	0.123 ng		96
64) Tetrachloroethene	16.96	166	1539	N.D.		
65) Chlorobenzene	17.66	112	2411	N.D.		
66) Ethylbenzene	17.98	91	1337	N.D.		
67) m- & p-Xylenes	18.14	91	3544	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.48	104	615	N.D.		
70) o-Xylene	18.58	91	1448	N.D.		
71) n-Nonane	18.77	43	6018	0.110 ng		97
72) 1,1,2,2-Tetrachloroethane	18.63	83	1226	N.D.		
74) Cumene	19.10	105	570	N.D.		
75) alpha-Pinene	19.46	93	268	N.D.		
76) n-Propylbenzene	19.55	91	1117	N.D.		
77) 3-Ethyltoluene	19.64	105	1487	N.D.		
78) 4-Ethyltoluene	19.68	105	424	N.D.		
79) 1,3,5-Trimethylbenzene	19.75	105	823	N.D.		
80) alpha-Methylstyrene	19.88	118	1140	N.D.		
81) 2-Ethyltoluene	19.91	105	442	N.D.		
82) 1,2,4-Trimethylbenzene	20.11	105	1407	N.D.		
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.22	91	302	N.D.		
85) 1,3-Dichlorobenzene	20.25	146	245	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	490	N.D.		
87) sec-Butylbenzene	20.35	105	503	N.D.		
88) 4-Isopropyltoluene (p-...	20.48	119	776	N.D.		
89) 1,2,3-Trimethylbenzene	20.48	105	937	N.D.		
90) 1,2-Dichlorobenzene	20.61	146	161	N.D.		
91) d-Limonene	20.61	68	594	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.11	180	477	N.D.		
95) Naphthalene	22.22	128	3633	N.D.		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	20.10	119	114	N.D.		
100) n-Butylbenzene	20.86	91	1195	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

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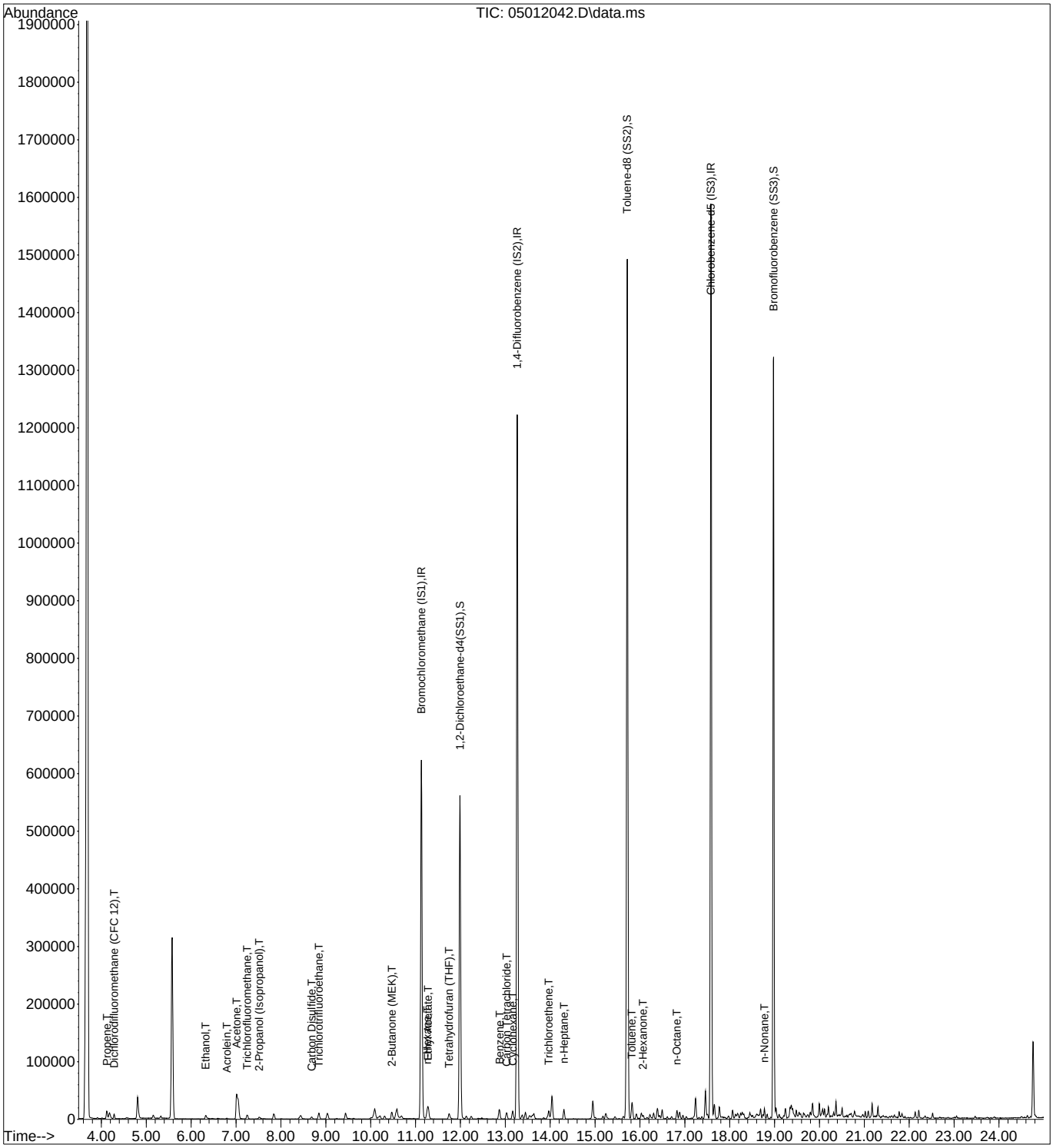
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



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LH 5/4/20

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Spiked Amount 12.500	Range 70 - 130		Recovery = 99.68%				
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43) Cyclohexane	13.17	84	5659	0.130	ng		99
47) Trichloroethene	13.97	130	4950	0.164	ng		98
51) n-Heptane	14.31	71	4329	0.159	ng		99
58) Toluene	15.82	91	10877	0.094	ng		97
59) 2-Hexanone	16.07	43	3804	0.060	ng	#	54
63) n-Octane	16.82	57	2937	0.123	ng		96
71) n-Nonane	18.77	43	6018	0.110	ng		97

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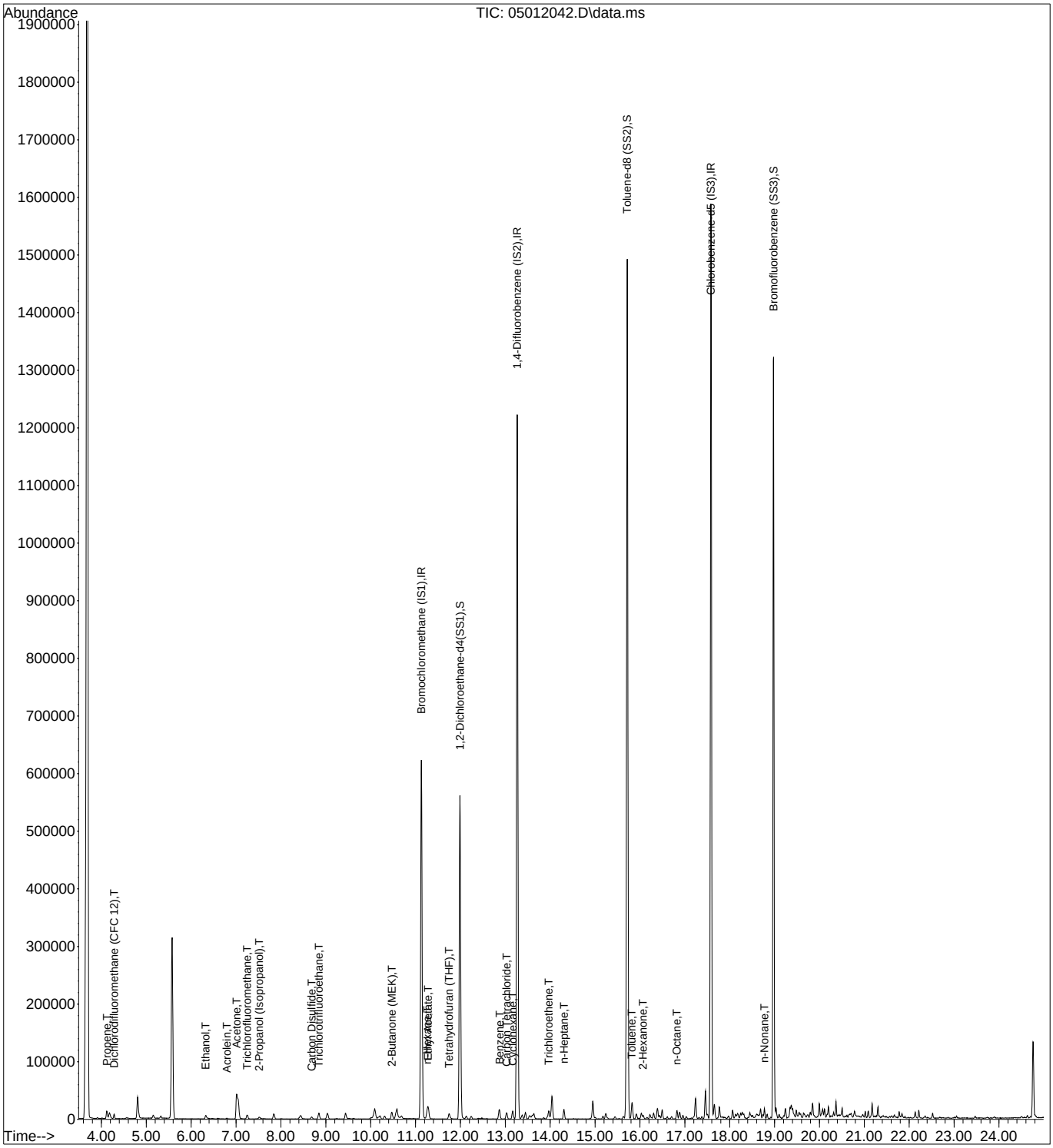
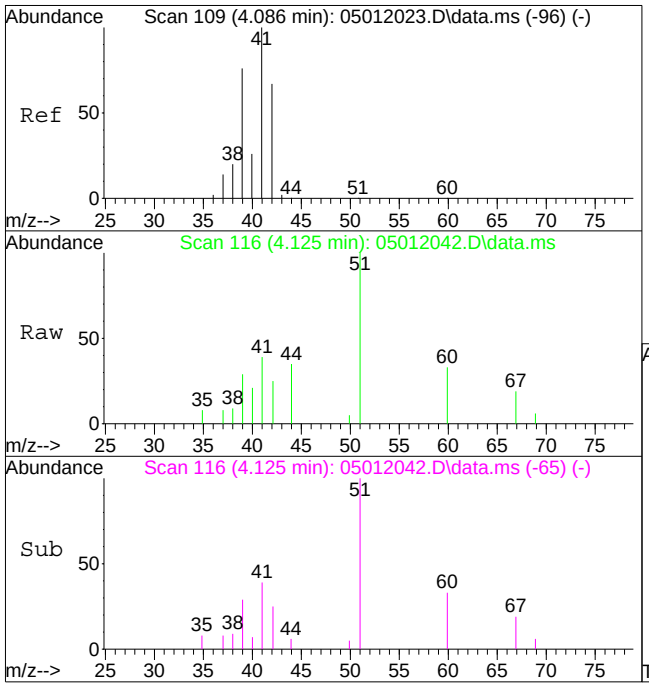
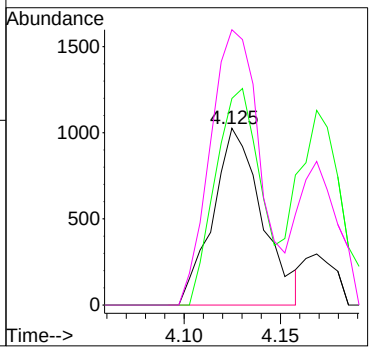


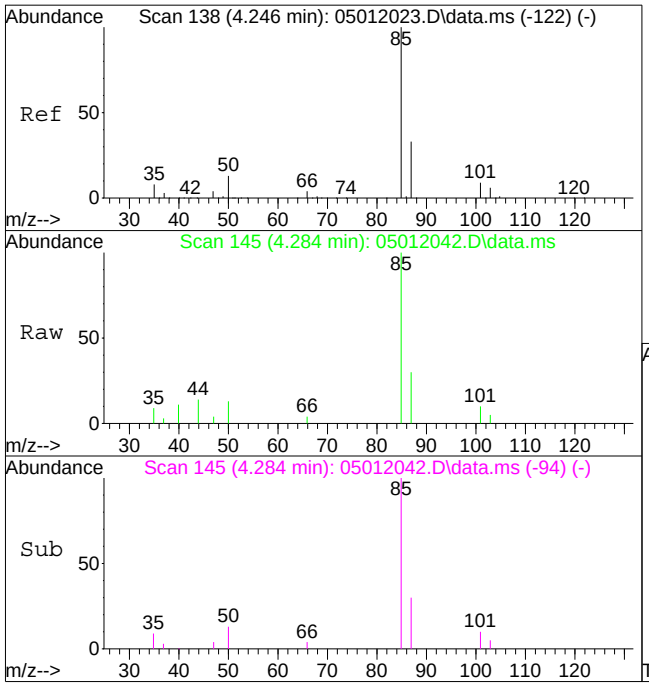


#2
Propene
Concen: 0.06 ng
RT: 4.12 min Scan# 116
Delta R.T. 0.033 min
Lab File: 05012042.D
Acq: 2 May 2020 4:25

Tgt Ion: 42 Resp: 1824

Ion	Ratio	Lower	Upper
42	100		
39	111.5	96.1	136.1
41	158.1	131.9	171.9

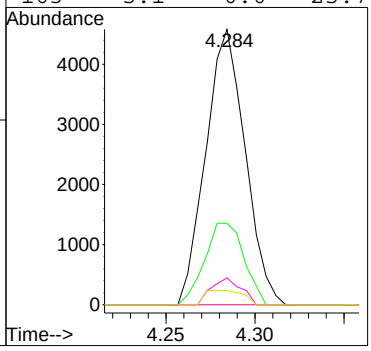


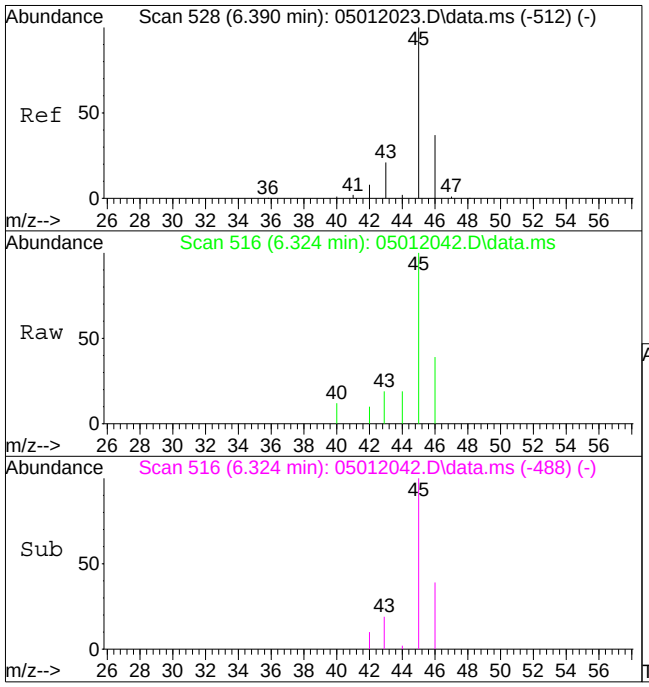


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.12 ng
RT: 4.28 min Scan# 145
Delta R.T. 0.033 min
Lab File: 05012042.D
Acq: 2 May 2020 4:25

Tgt Ion: 85 Resp: 7044

Ion	Ratio	Lower	Upper
85	100		
87	29.6	12.4	52.4
101	7.4	0.0	28.8
103	5.1	0.0	25.7

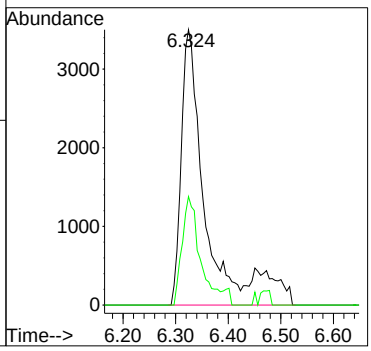


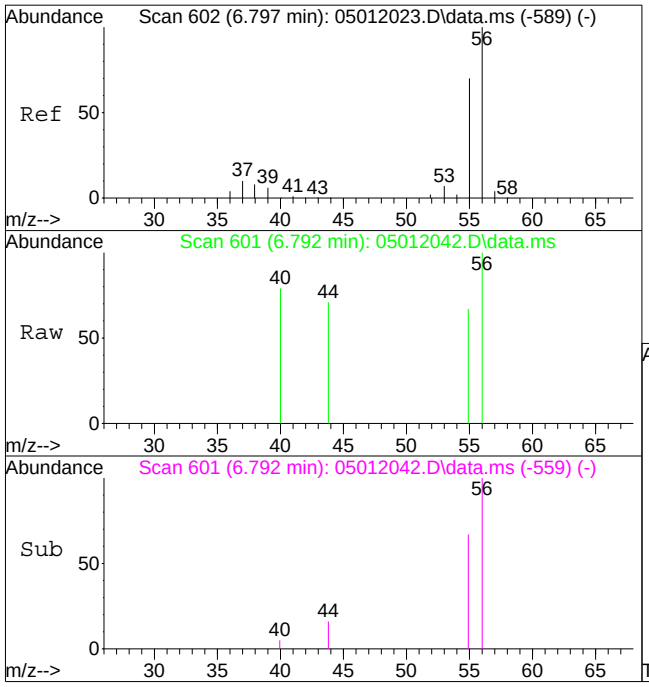


#10
Ethanol
Concen: 0.51 ng
RT: 6.32 min Scan# 516
Delta R.T. -0.094 min
Lab File: 05012042.D
Acq: 2 May 2020 4:25

Tgt Ion: 45 Resp: 11466

Ion	Ratio	Lower	Upper
45	100		
46	29.9	17.2	57.2

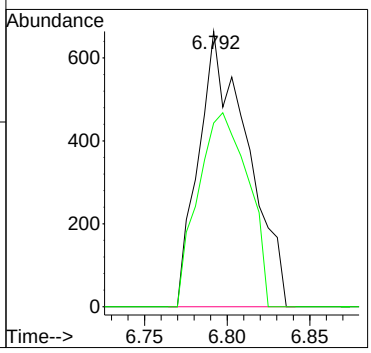


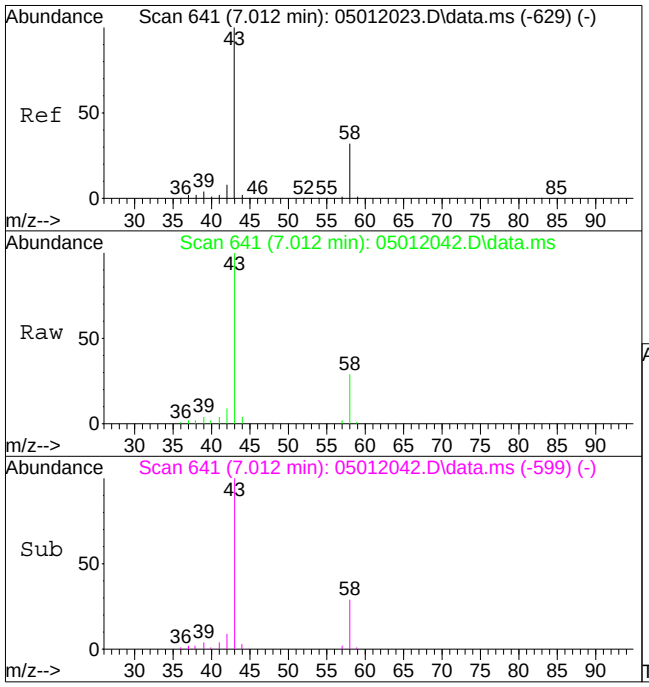


#12
Acrolein
Concen: 0.08 ng
RT: 6.79 min Scan# 601
Delta R.T. -0.017 min
Lab File: 05012042.D
Acq: 2 May 2020 4:25

Tgt Ion: 56 Resp: 1359

Ion	Ratio	Lower	Upper
56	100		
55	72.6	50.2	90.2

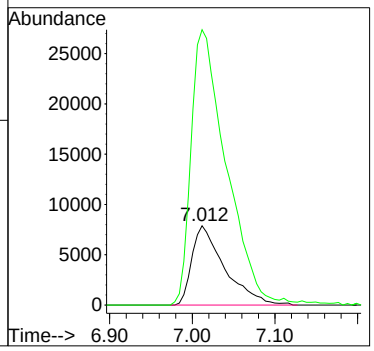


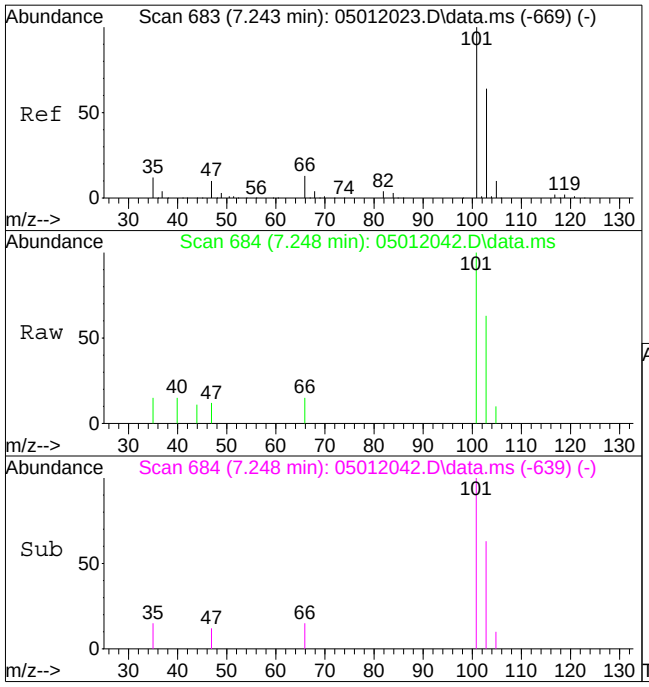


#13
Acetone
Concen: 0.98 ng
RT: 7.01 min Scan# 641
Delta R.T. -0.017 min
Lab File: 05012042.D
Acq: 2 May 2020 4:25

Tgt Ion: 58 Resp: 21838

Ion	Ratio	Lower	Upper
58	100		
43	374.7	294.4	354.4#

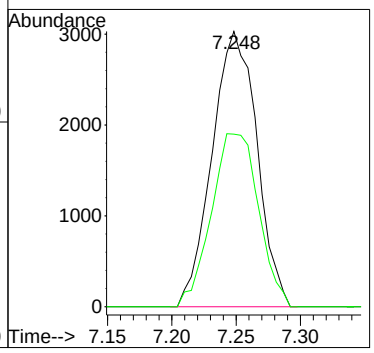


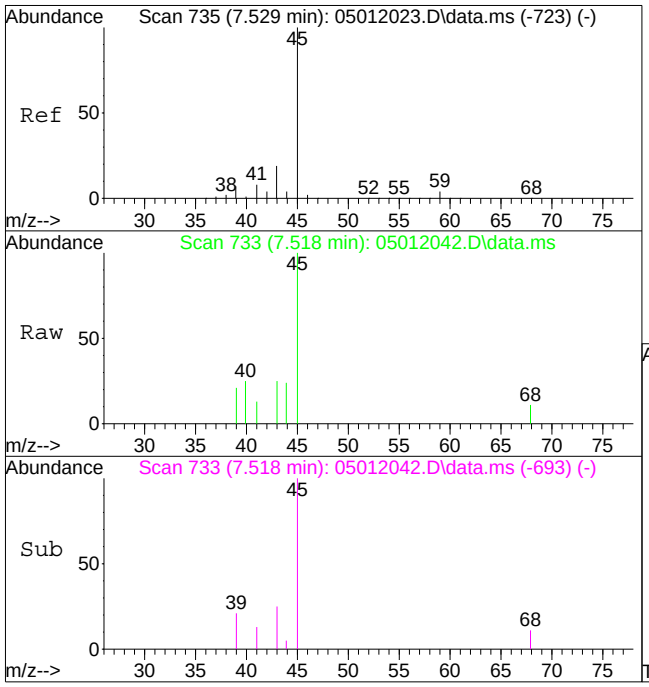


#14
Trichlorofluoromethane
Concen: 0.15 ng
RT: 7.25 min Scan# 684
Delta R.T. -0.000 min
Lab File: 05012042.D
Acq: 2 May 2020 4:25

Tgt Ion:101 Resp: 7350

Ion	Ratio	Lower	Upper
101	100		
103	66.0	44.4	84.4

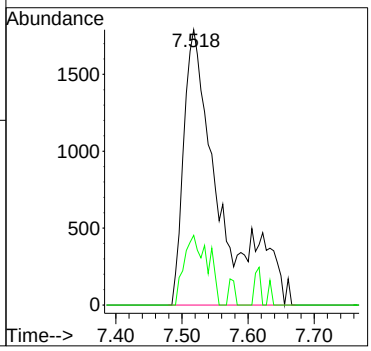


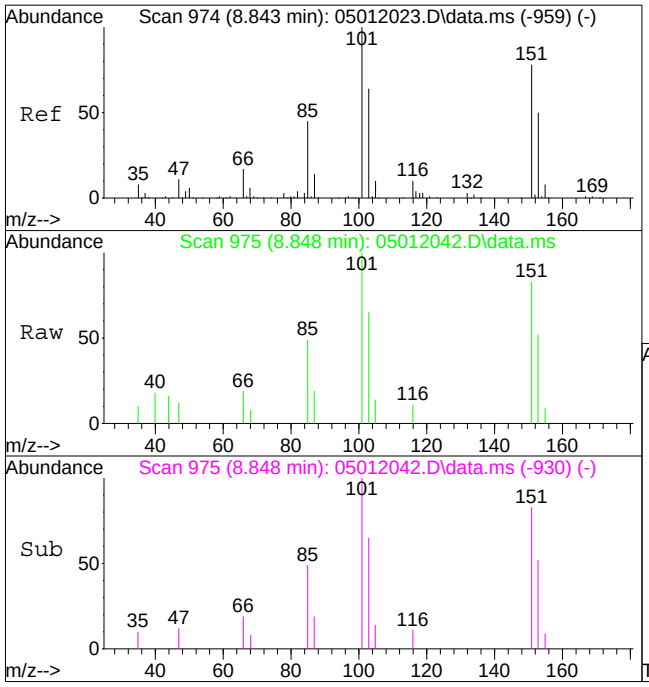


#15
2-Propanol (Isopropanol)
Concen: 0.10 ng
RT: 7.52 min Scan# 733
Delta R.T. -0.028 min
Lab File: 05012042.D
Acq: 2 May 2020 4:25

Tgt Ion: 45 Resp: 6741

Ion	Ratio	Lower	Upper
45	100		
43	16.7	0.0	39.5

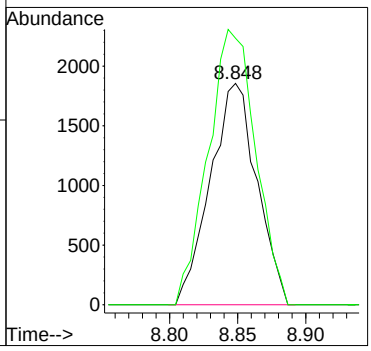


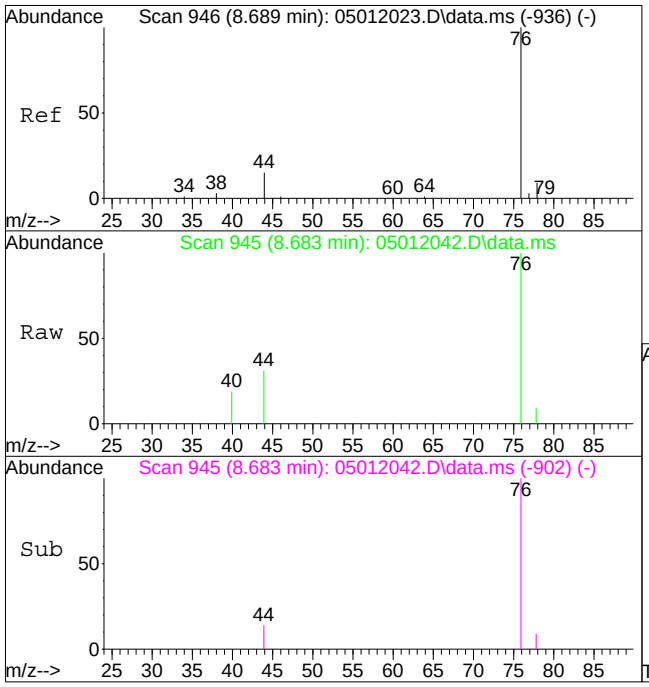


#21
Trichlorotrifluoroethane
Concen: 0.19 ng
RT: 8.85 min Scan# 975
Delta R.T. -0.000 min
Lab File: 05012042.D
Acq: 2 May 2020 4:25

Tgt Ion:151 Resp: 4422

Ion	Ratio	Lower	Upper
151	100		
101	127.3	107.3	147.3

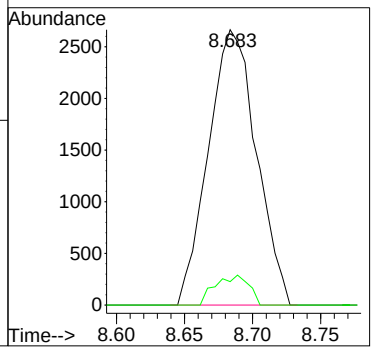


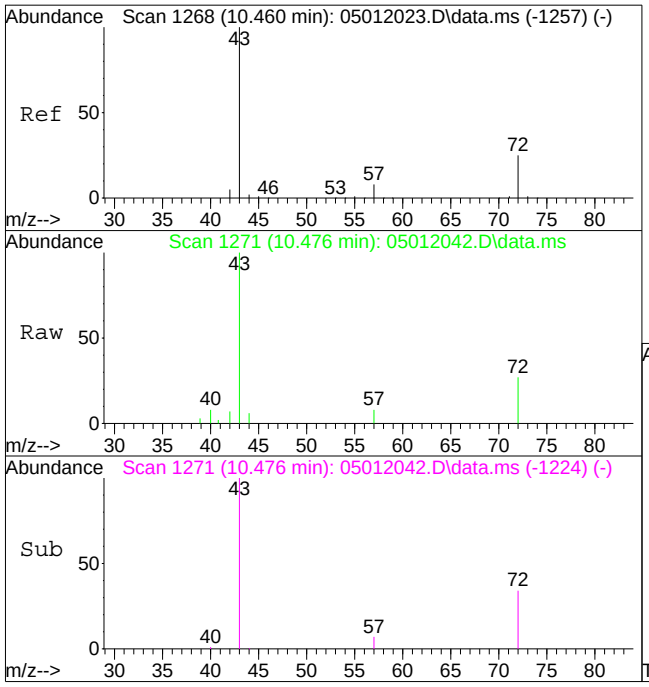


#22
Carbon Disulfide
Concen: 0.06 ng
RT: 8.68 min Scan# 945
Delta R.T. -0.011 min
Lab File: 05012042.D
Acq: 2 May 2020 4:25

Tgt Ion: 76 Resp: 6537

Ion	Ratio	Lower	Upper
76	100		
78	7.6	0.0	29.2

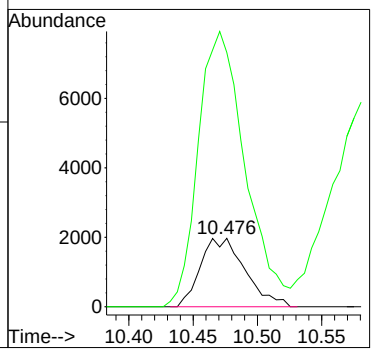


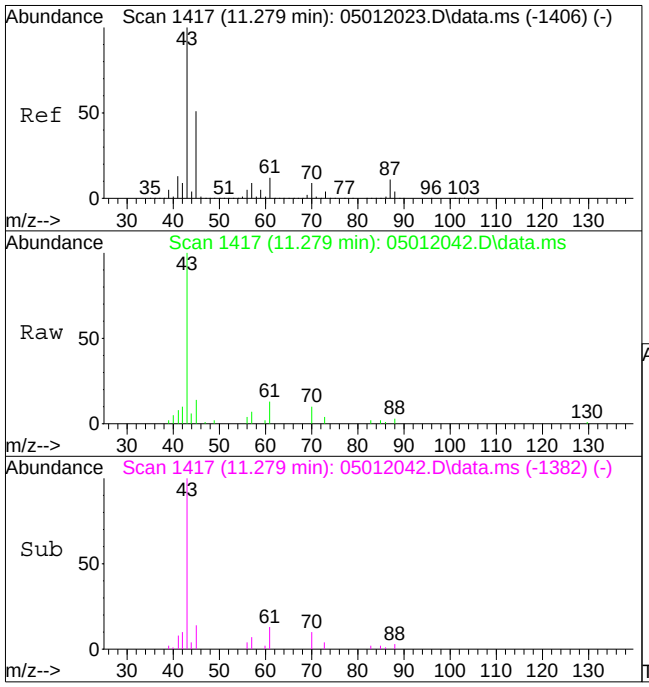


#27
2-Butanone (MEK)
Concen: 0.25 ng
RT: 10.48 min Scan# 1271
Delta R.T. 0.011 min
Lab File: 05012042.D
Acq: 2 May 2020 4:25

Tgt Ion: 72 Resp: 4765

Ion	Ratio	Lower	Upper
72	100		
43	422.8	389.7	429.7

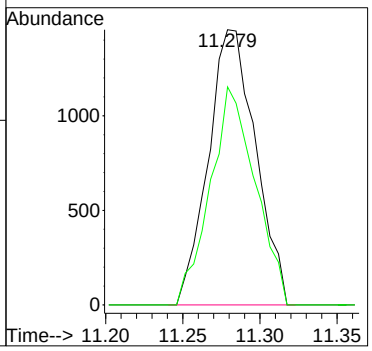


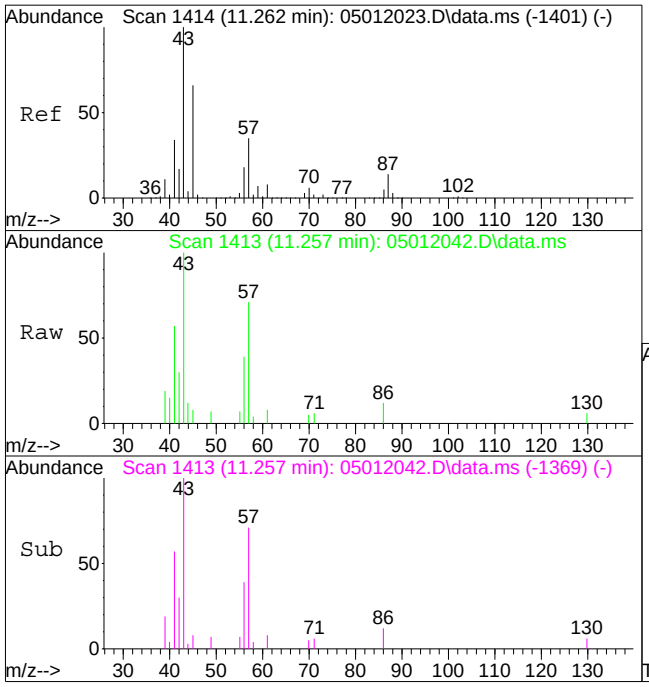


#30
Ethyl Acetate
Concen: 0.28 ng
RT: 11.28 min Scan# 1417
Delta R.T. -0.006 min
Lab File: 05012042.D
Acq: 2 May 2020 4:25

Tgt Ion: 61 Resp: 3109

Ion	Ratio	Lower	Upper
61	100		
70	75.3	57.9	97.9

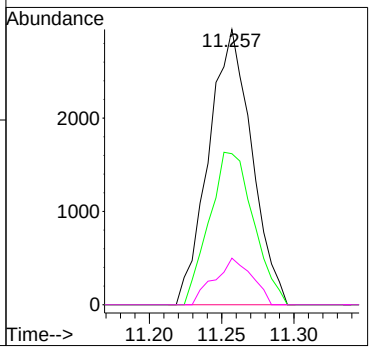


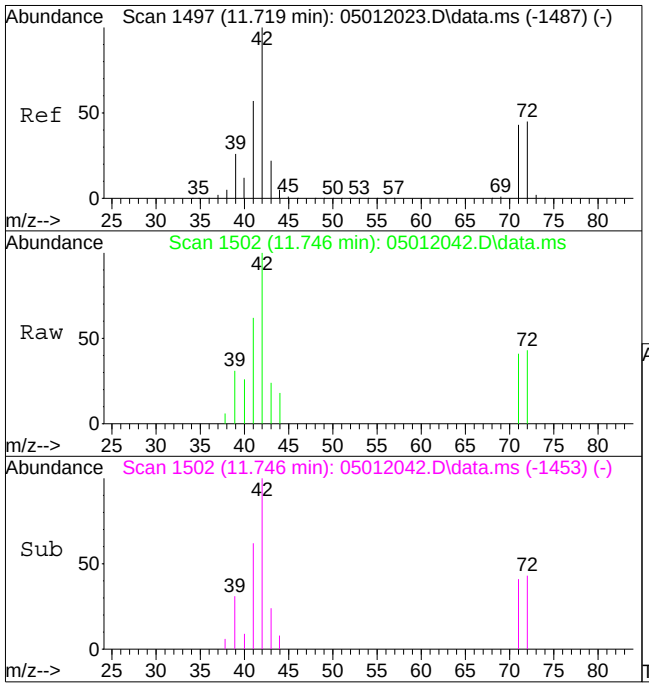


#31
n-Hexane
Concen: 0.13 ng
RT: 11.26 min Scan# 1413
Delta R.T. -0.006 min
Lab File: 05012042.D
Acq: 2 May 2020 4:25

Tgt Ion: 57 Resp: 6113

Ion	Ratio	Lower	Upper
57	100		
56	56.8	41.4	62.0
86	14.7	12.4	18.6

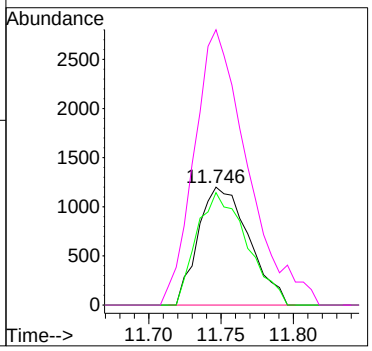


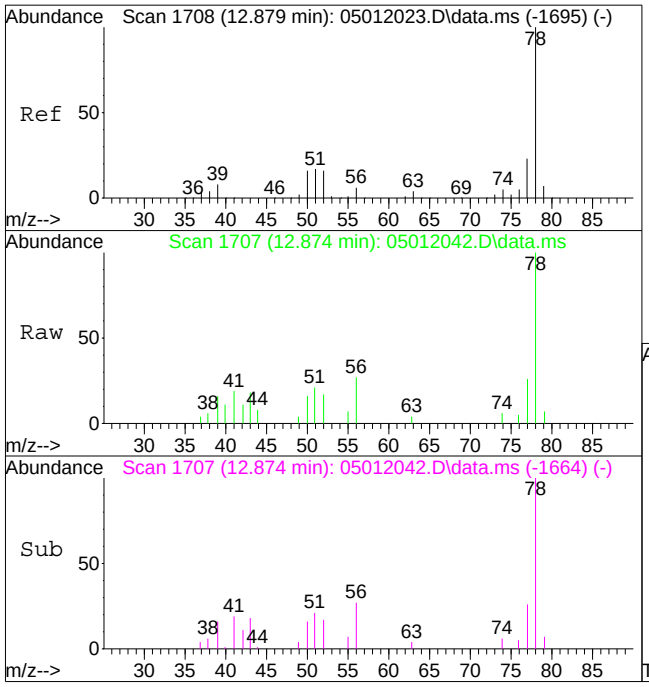


#34
Tetrahydrofuran (THF)
Concen: 0.16 ng
RT: 11.75 min Scan# 1502
Delta R.T. 0.022 min
Lab File: 05012042.D
Acq: 2 May 2020 4:25

Tgt Ion: 72 Resp: 2927

Ion	Ratio	Lower	Upper
72	100		
71	94.4	77.0	117.0
42	246.4	204.6	244.6#

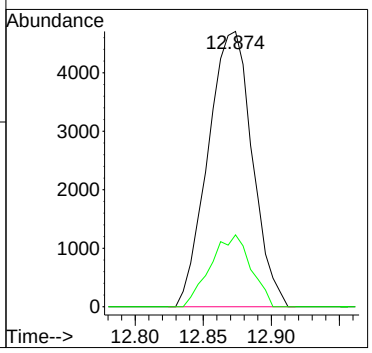


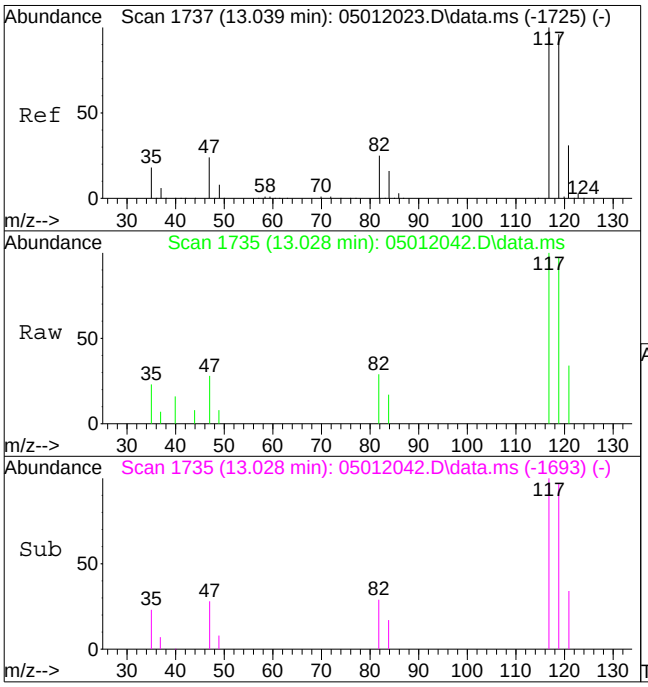


#41
Benzene
Concen: 0.09 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05012042.D
Acq: 2 May 2020 4:25

Tgt Ion: 78 Resp: 10624

Ion	Ratio	Lower	Upper
78	100		
77	23.9	3.4	43.4

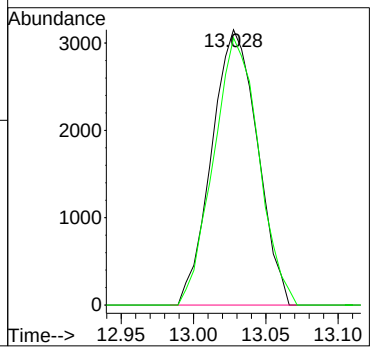


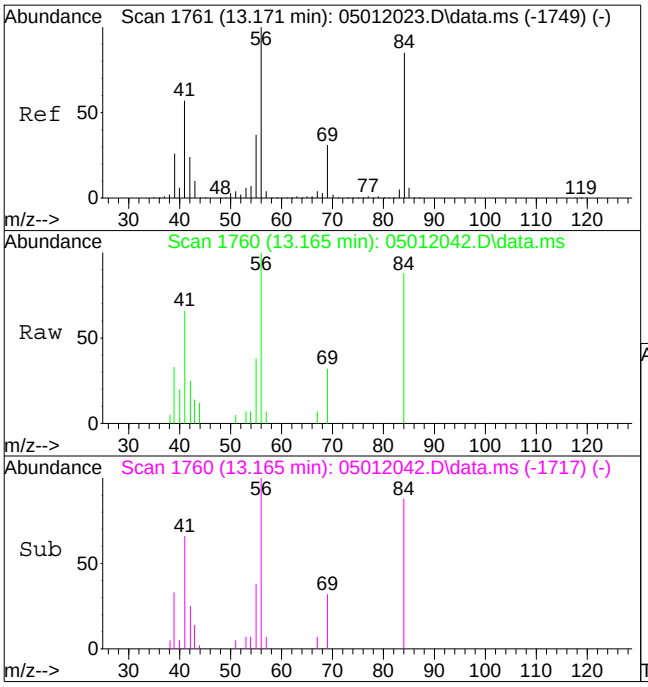


#42
Carbon Tetrachloride
Concen: 0.17 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05012042.D
Acq: 2 May 2020 4:25

Tgt Ion:117 Resp: 6935

Ion	Ratio	Lower	Upper
117	100		
119	96.2	76.2	116.2

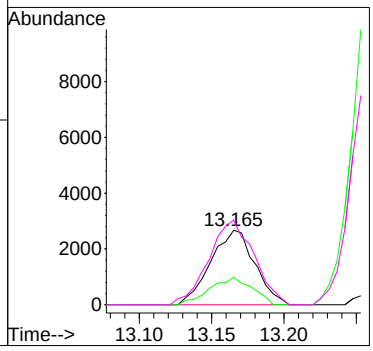


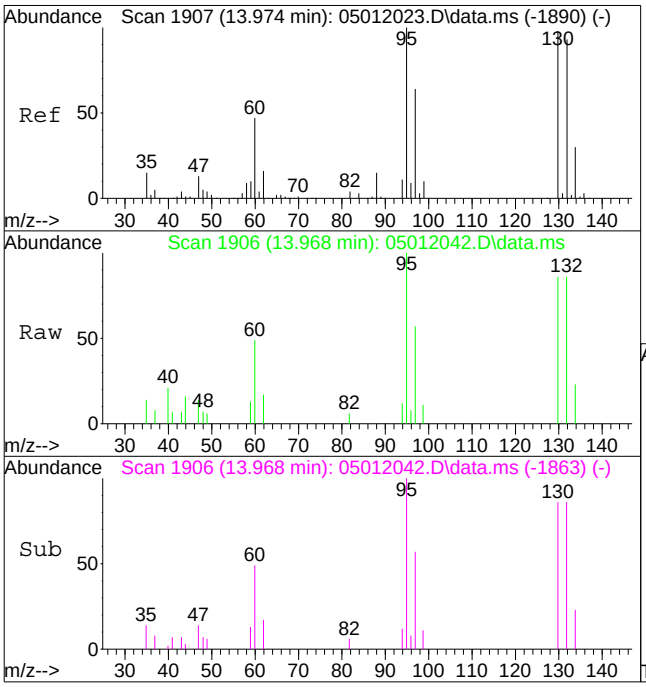


#43
Cyclohexane
Concen: 0.13 ng
RT: 13.17 min Scan# 1760
Delta R.T. -0.011 min
Lab File: 05012042.D
Acq: 2 May 2020 4:25

Tgt Ion: 84 Resp: 5659

Ion	Ratio	Lower	Upper
84	100		
69	35.3	16.5	56.5
56	116.6	97.4	137.4

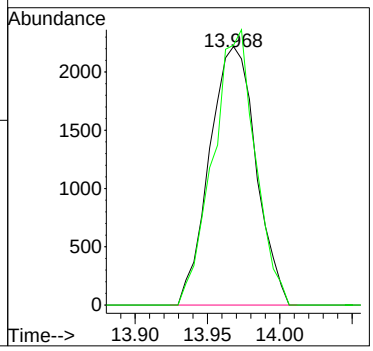


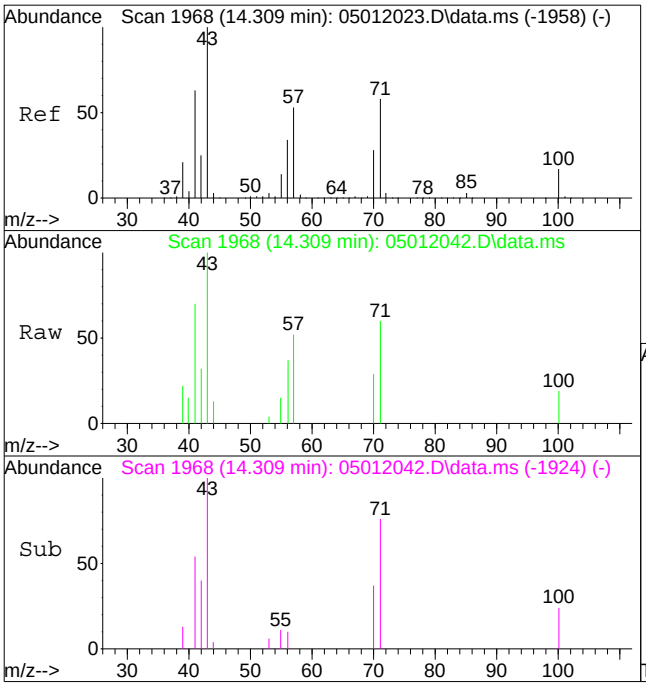


#47
Trichloroethene
Concen: 0.16 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05012042.D
Acq: 2 May 2020 4:25

Tgt Ion:130 Resp: 4950

Ion	Ratio	Lower	Upper
130	100		
132	97.2	74.9	114.9

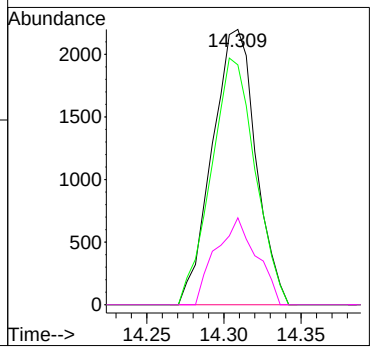


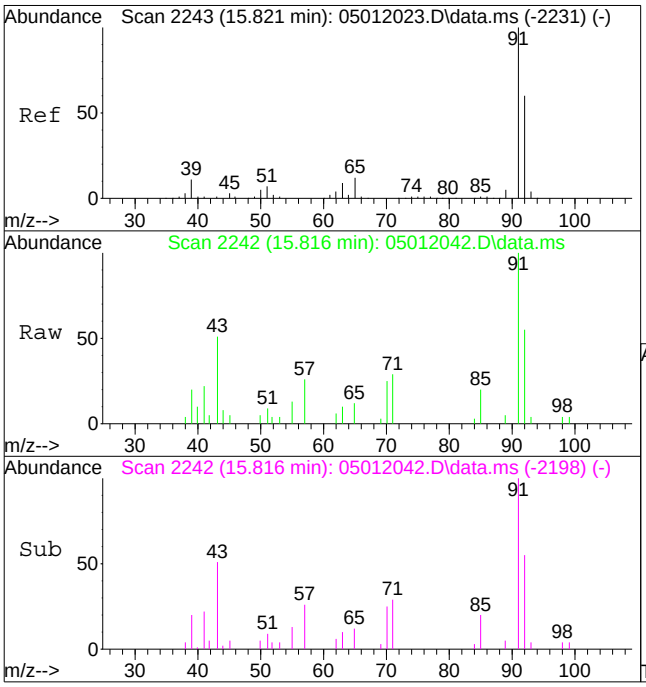


#51
n-Heptane
Concen: 0.16 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05012042.D
Acq: 2 May 2020 4:25

Tgt Ion: 71 Resp: 4329

Ion	Ratio	Lower	Upper
71	100		
57	89.9	71.0	111.0
100	29.3	8.4	48.4

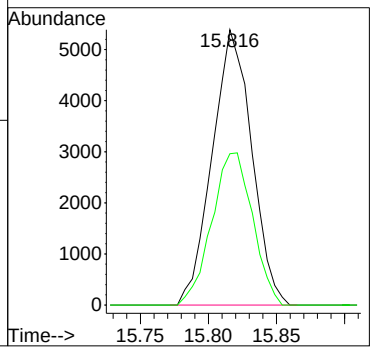


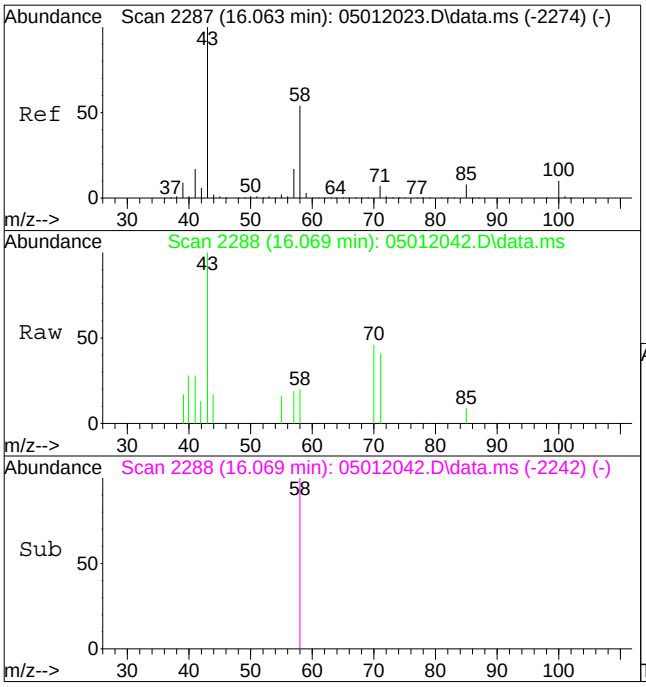


#58
Toluene
Concen: 0.09 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05012042.D
Acq: 2 May 2020 4:25

Tgt Ion: 91 Resp: 10877

Ion	Ratio	Lower	Upper
91	100		
92	57.0	39.4	79.4

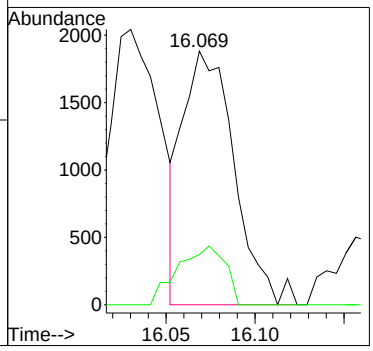


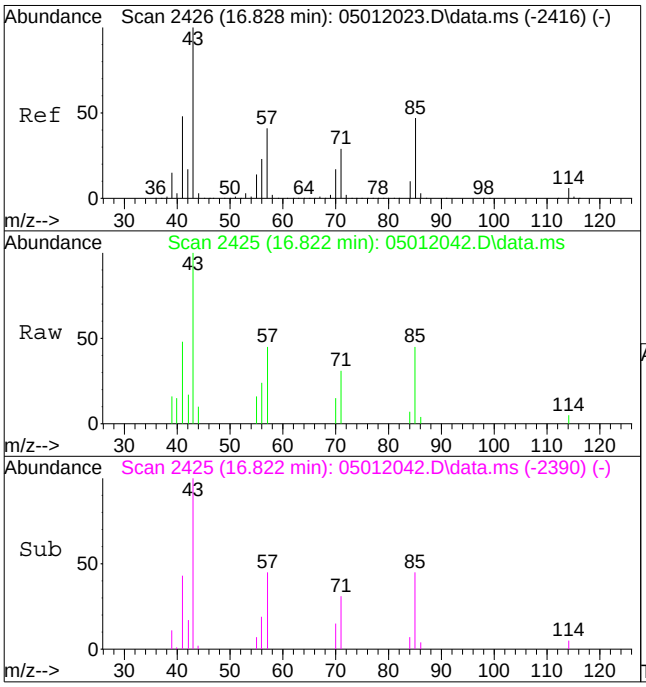


#59
2-Hexanone
Concen: 0.06 ng
RT: 16.07 min Scan# 2288
Delta R.T. 0.005 min
Lab File: 05012042.D
Acq: 2 May 2020 4:25

Tgt Ion: 43 Resp: 3804

Ion	Ratio	Lower	Upper
43	100		
58	21.2	34.5	74.5#

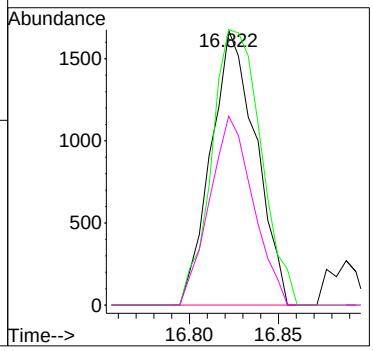


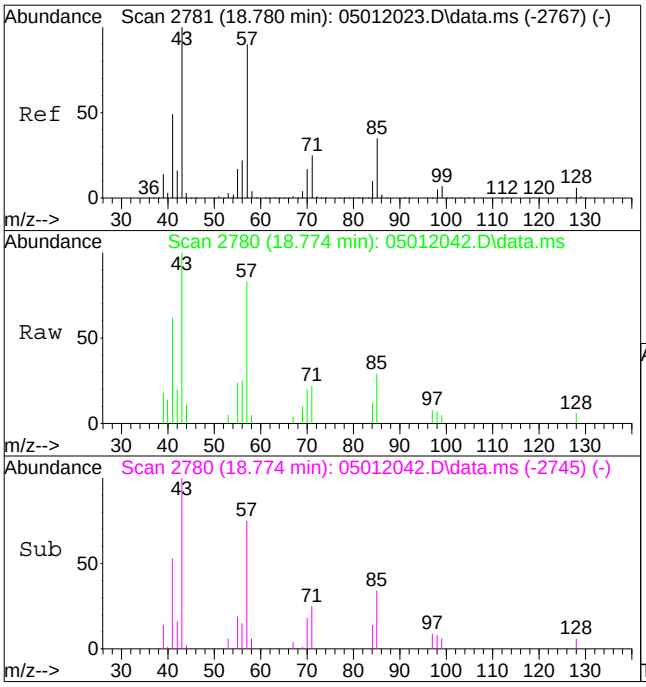


#63
n-Octane
Concen: 0.12 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05012042.D
Acq: 2 May 2020 4:25

Tgt Ion: 57 Resp: 2937

Ion	Ratio	Lower	Upper
57	100		
85	110.0	91.0	136.4
71	66.6	56.2	84.2

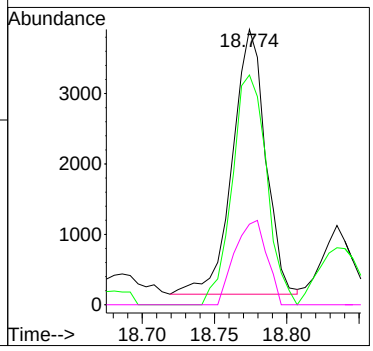




#71
n-Nonane
Concen: 0.11 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05012042.D
Acq: 2 May 2020 4:25

Tgt Ion: 43 Resp: 6018

Ion	Ratio	Lower	Upper
43	100		
57	90.4	69.0	109.0
85	30.7	14.6	54.6



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012043.D Vial: 10
Acq On : 2 May 2020 4:58 Operator: LH
Sample : P2002104-006 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:22:36 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/4/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	249434	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1091606	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	531506	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	432361	12.790	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.32%				
57) Toluene-d8 (SS2)	15.72	98	1109670	12.317	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.56%				
73) Bromofluorobenzene (SS3)	18.98	174	383950	11.844	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.72%				
Target Compounds							Qvalue
2) Propene	4.11	42	8913	0.309	ng		97
3) Dichlorodifluoromethan...	4.27	85	2776	N.D.			
4) Chloromethane	4.54	50	5619	0.127	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	4.96	62	329	N.D.			
7) 1,3-Butadiene	5.15	54	194	N.D.			
8) Bromomethane	5.64	94	5304	0.207	ng		99
9) Chloroethane	5.97	64	374	N.D.			
10) Ethanol	6.32	45	41928	1.880	ng		99
11) Acetonitrile	6.59	41	2987	0.059	ng		95
12) Acrolein	6.78	56	4518	0.256	ng		97
13) Acetone	6.98	58	89920	4.031	ng	#	66
14) Trichlorofluoromethane	7.24	101	1495	N.D.			
15) 2-Propanol (Isopropanol)	7.51	45	31494	0.466	ng		86
16) Acrylonitrile	7.74	53	176	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	1922	0.066	ng		96
20) 3-Chloro-1-propene (Al...	8.50	41	591	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.67	76	264731	2.548	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.09	73	379	N.D.			
26) Vinyl Acetate	10.17	86	7912	1.139	ng	#	29
27) 2-Butanone (MEK)	10.46	72	14408	0.757	ng		94
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.28	87	1309	N.D.			
30) Ethyl Acetate	11.27	61	52953	4.827	ng		91
31) n-Hexane	11.25	57	10913	0.229	ng		96
32) Chloroform	11.30	83	3631	0.073	ng		97
34) Tetrahydrofuran (THF)	11.71	72	92991	5.011	ng		98
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.10	62	212	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	22560	0.193	ng		100
42) Carbon Tetrachloride	13.03	117	1774	N.D.			
43) Cyclohexane	13.16	84	11634	0.267	ng		95
44) tert-Amyl Methyl Ether	13.57	73	332	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	13.97	83	1553	N.D.			
47) Trichloroethene	13.97	130	88416	2.922	ng		99
48) 1,4-Dioxane	13.97	88	322	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012043.D Vial: 10
Acq On : 2 May 2020 4:58 Operator: LH
Sample : P2002104-006 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:22:36 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

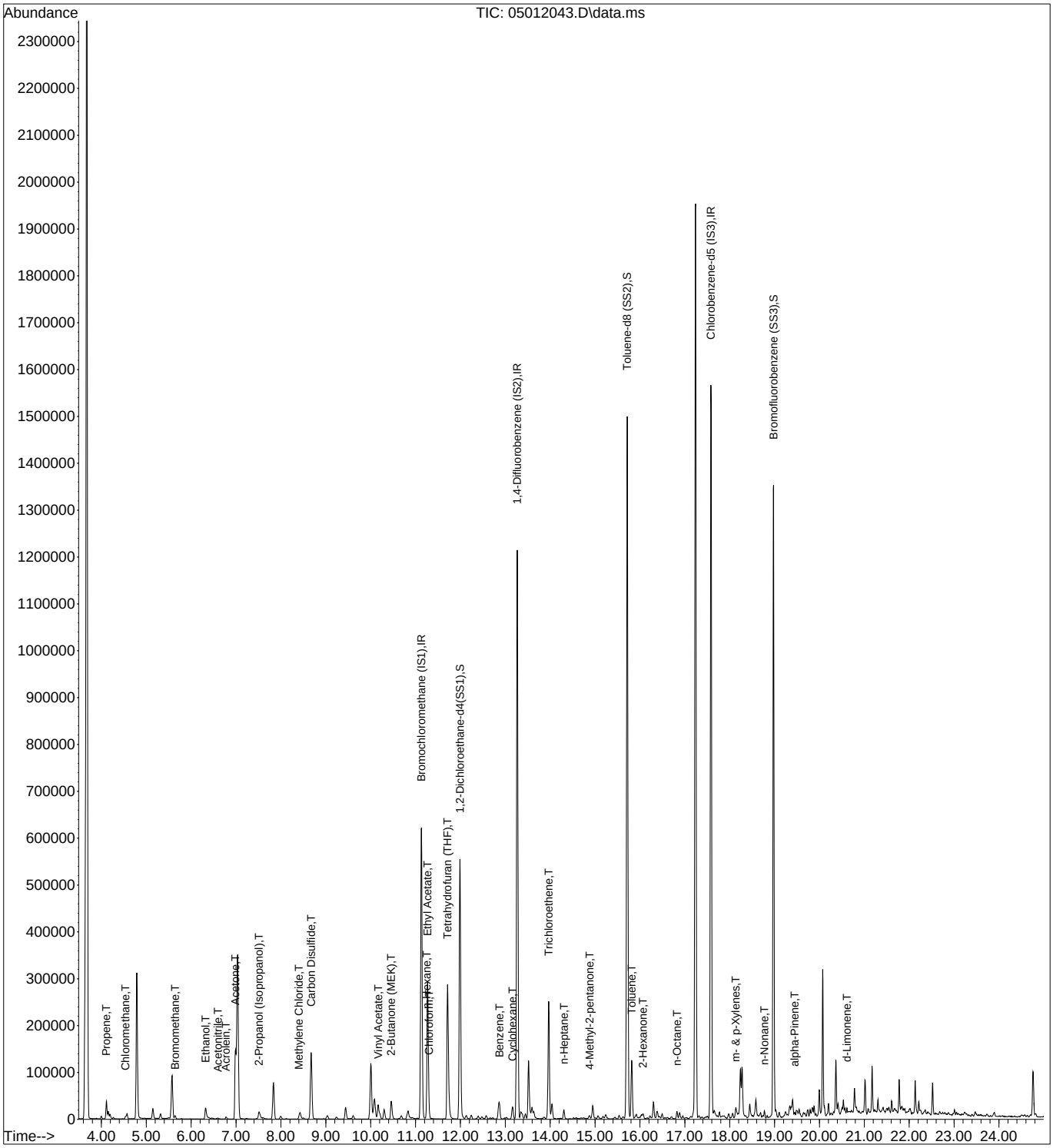
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.31	71	5037	0.184 ng		96
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.88	58	1306	0.050 ng	#	3
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.82	91	94979	0.818 ng		99
59) 2-Hexanone	16.07	43	8234	0.129 ng		80
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.70	43	2602	N.D.		
63) n-Octane	16.83	57	2982	0.124 ng		89
64) Tetrachloroethene	16.96	166	1235	N.D.		
65) Chlorobenzene	17.66	112	1869	N.D.		
66) Ethylbenzene	17.98	91	5605	N.D.		
67) m- & p-Xylenes	18.14	91	11743	0.114 ng		99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.48	104	2563	N.D.		
70) o-Xylene	18.58	91	4397	N.D.		
71) n-Nonane	18.77	43	5489	0.099 ng		93
72) 1,1,2,2-Tetrachloroethane	18.59	83	735	N.D.		
74) Cumene	19.10	105	3134	N.D.		
75) alpha-Pinene	19.45	93	3432	0.050 ng		82
76) n-Propylbenzene	19.55	91	2352	N.D.		
77) 3-Ethyltoluene	19.64	105	2757	N.D.		
78) 4-Ethyltoluene	19.68	105	1341	N.D.		
79) 1,3,5-Trimethylbenzene	19.75	105	1596	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	19.92	105	1405	N.D.		
82) 1,2,4-Trimethylbenzene	20.11	105	4449	N.D.		
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.22	91	601	N.D.		
85) 1,3-Dichlorobenzene	20.24	146	322	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	555	N.D.		
87) sec-Butylbenzene	20.35	105	1001	N.D.		
88) 4-Isopropyltoluene (p-...	20.48	119	1421	N.D.		
89) 1,2,3-Trimethylbenzene	20.48	105	1881	N.D.		
90) 1,2-Dichlorobenzene	20.61	146	261	N.D.		
91) d-Limonene	20.61	68	2831	0.068 ng		84
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.11	180	576	N.D.		
95) Naphthalene	22.22	128	5179	N.D.		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	20.84	91	3607	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012043.D Vial: 10
Acq On : 2 May 2020 4:58 Operator: LH
Sample : P2002104-006 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:22:36 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012043.D Vial: 10
Acq On : 2 May 2020 4:58 Operator: LH
Sample : P2002104-006 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:22:36 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/4/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

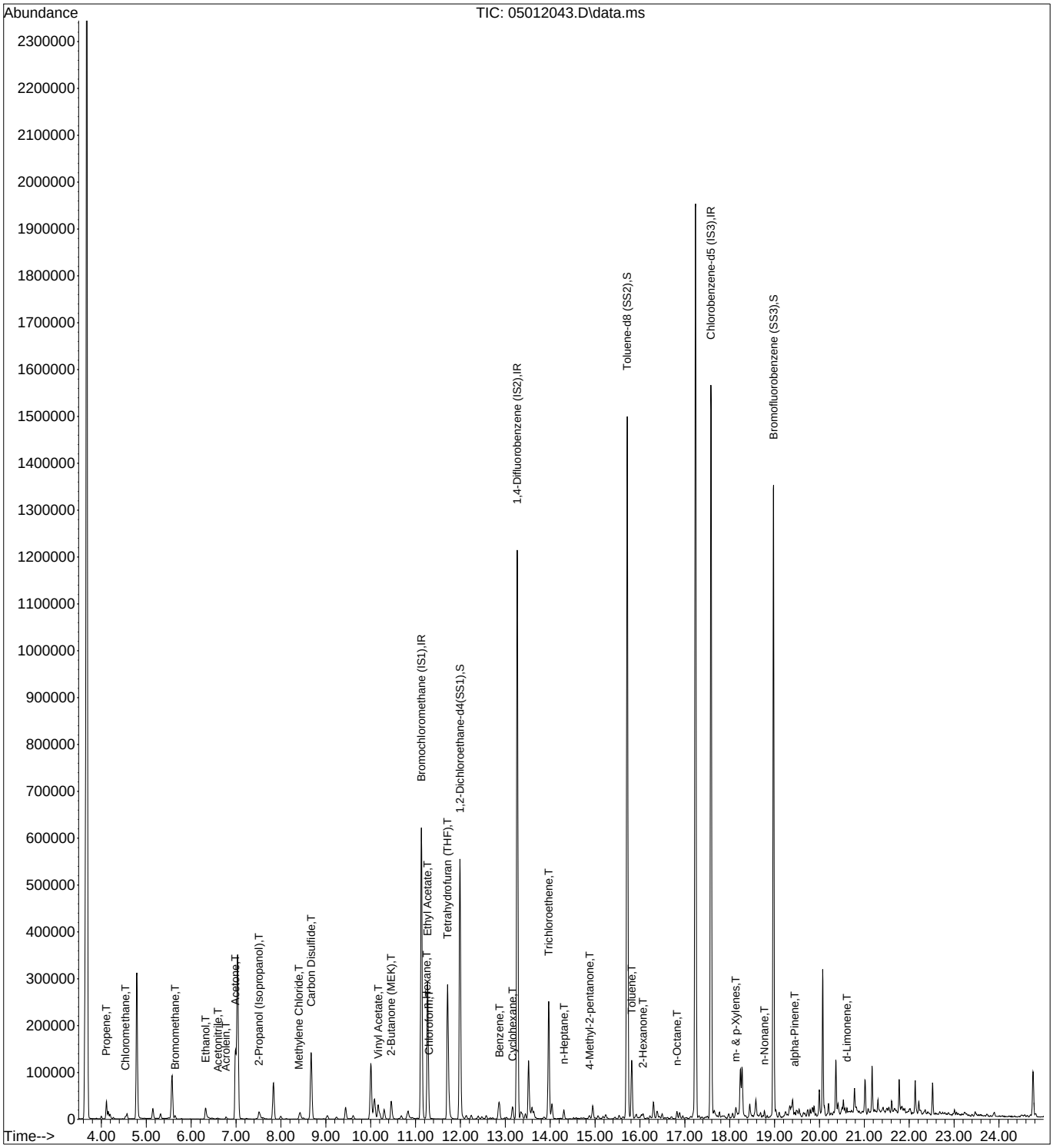
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	249434	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1091606	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	531506	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	432361	12.790	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.32%				
57) Toluene-d8 (SS2)	15.72	98	1109670	12.317	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.56%				
73) Bromofluorobenzene (SS3)	18.98	174	383950	11.844	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.72%				
Target Compounds							Qvalue
2) Propene	4.11	42	8913	0.309	ng		97
4) Chloromethane	4.54	50	5619	0.127	ng		98
8) Bromomethane	5.64	94	5304	0.207	ng		99
10) Ethanol	6.32	45	41928	1.880	ng		99
11) Acetonitrile	6.59	41	2987	0.059	ng		95
12) Acrolein	6.78	56	4518	0.256	ng		97
13) Acetone	6.98	58	89920	4.031	ng	#	66
15) 2-Propanol (Isopropanol)	7.51	45	31494	0.466	ng		86
19) Methylene Chloride	8.40	84	1922	0.066	ng		96
22) Carbon Disulfide	8.67	76	264731	2.548	ng		99
26) Vinyl Acetate	10.17	86	7912	1.139	ng	#	29
27) 2-Butanone (MEK)	10.46	72	14408	0.757	ng		94
30) Ethyl Acetate	11.27	61	52953	4.827	ng		91
31) n-Hexane	11.25	57	10913	0.229	ng		96
32) Chloroform	11.30	83	3631	0.073	ng		97
34) Tetrahydrofuran (THF)	11.71	72	92991	5.011	ng		98
41) Benzene	12.87	78	22560	0.193	ng		100
43) Cyclohexane	13.16	84	11634	0.267	ng		95
47) Trichloroethene	13.97	130	88416	2.922	ng		99
51) n-Heptane	14.31	71	5037	0.184	ng		96
53) 4-Methyl-2-pentanone	14.88	58	1306	0.050	ng	#	3
58) Toluene	15.82	91	94979	0.818	ng		99
59) 2-Hexanone	16.07	43	8234	0.129	ng		80
63) n-Octane	16.83	57	2982	0.124	ng		89
67) m- & p-Xylenes	18.14	91	11743	0.114	ng		99
71) n-Nonane	18.77	43	5489	0.099	ng		93
75) alpha-Pinene	19.45	93	3432	0.050	ng		82
91) d-Limonene	20.61	68	2831	0.068	ng		84

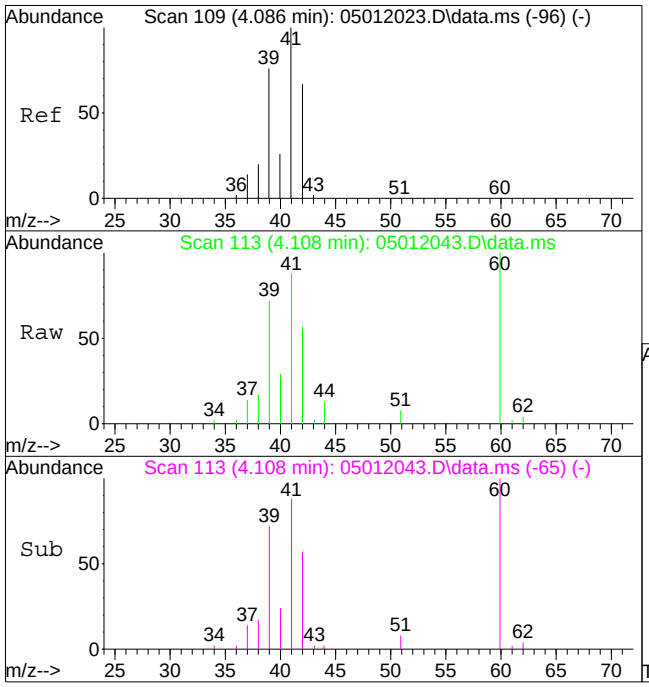
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012043.D Vial: 10
Acq On : 2 May 2020 4:58 Operator: LH
Sample : P2002104-006 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:22:36 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

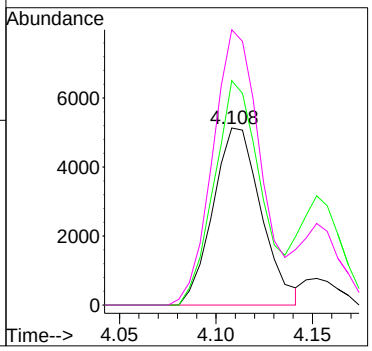


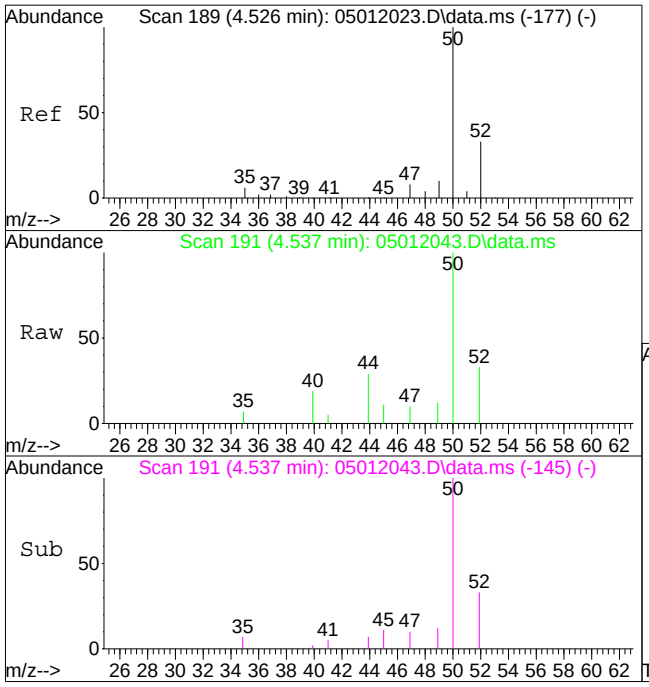


#2
Propene
Concen: 0.31 ng
RT: 4.11 min Scan# 113
Delta R.T. 0.016 min
Lab File: 05012043.D
Acq: 2 May 2020 4:58

Tgt Ion: 42 Resp: 8913

Ion	Ratio	Lower	Upper
42	100		
39	122.8	96.1	136.1
41	152.9	131.9	171.9

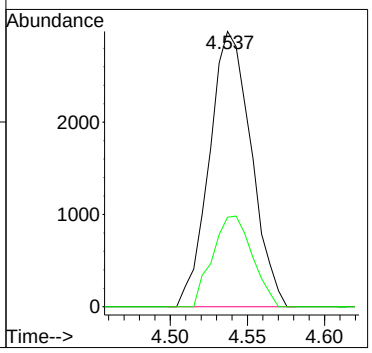


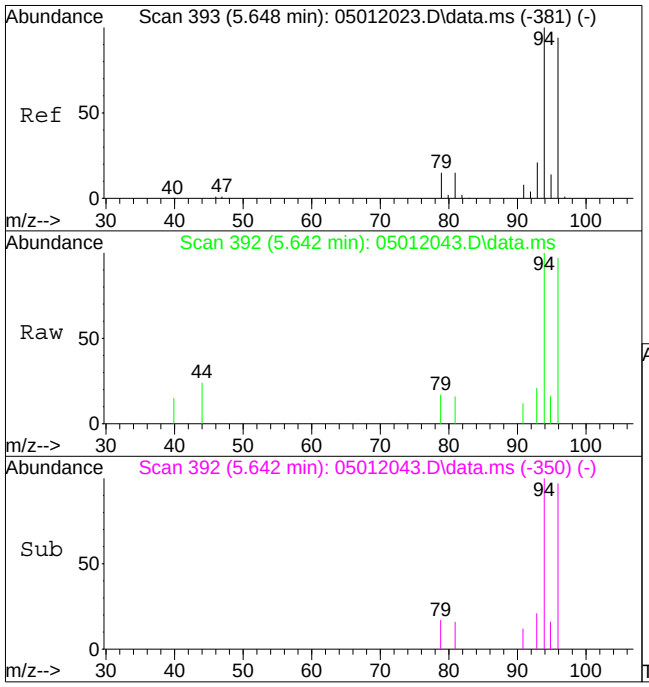


#4
Chloromethane
Concen: 0.13 ng
RT: 4.54 min Scan# 191
Delta R.T. 0.005 min
Lab File: 05012043.D
Acq: 2 May 2020 4:58

Tgt Ion: 50 Resp: 5619

Ion	Ratio	Lower	Upper
50	100		
52	31.3	12.5	52.5

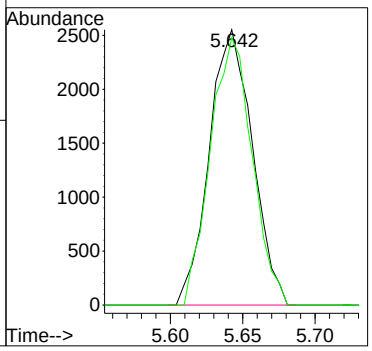


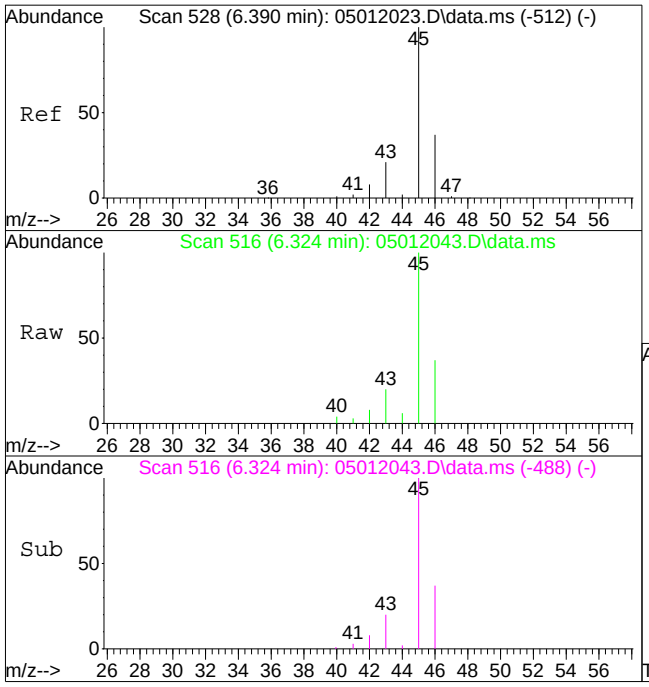


#8
Bromomethane
Concen: 0.21 ng
RT: 5.64 min Scan# 392
Delta R.T. -0.017 min
Lab File: 05012043.D
Acq: 2 May 2020 4:58

Tgt Ion: 94 Resp: 5304

Ion	Ratio	Lower	Upper
94	100		
96	94.3	73.7	113.7

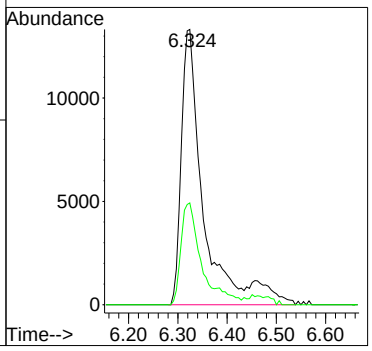


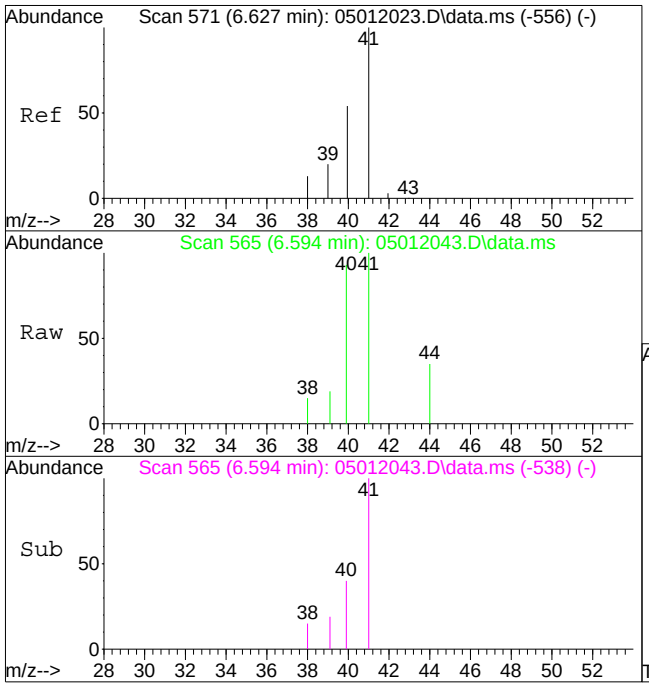


#10
Ethanol
Concen: 1.88 ng
RT: 6.32 min Scan# 516
Delta R.T. -0.094 min
Lab File: 05012043.D
Acq: 2 May 2020 4:58

Tgt Ion: 45 Resp: 41928

Ion	Ratio	Lower	Upper
45	100		
46	37.8	17.2	57.2

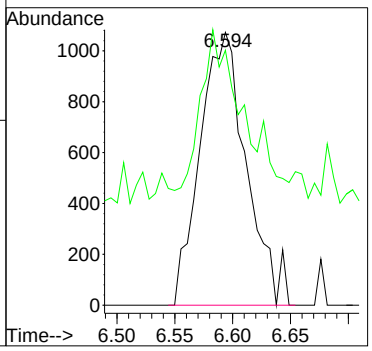


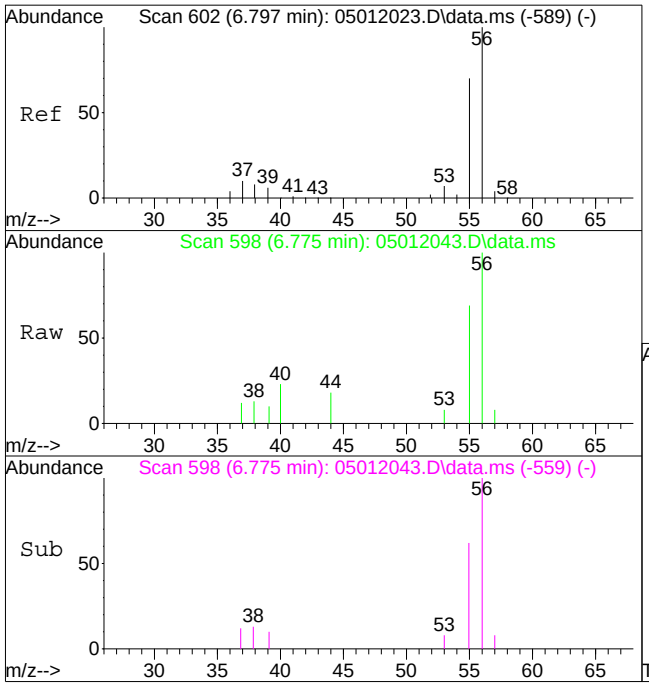


#11
Acetonitrile
Concen: 0.06 ng
RT: 6.59 min Scan# 565
Delta R.T. -0.050 min
Lab File: 05012043.D
Acq: 2 May 2020 4:58

Tgt Ion: 41 Resp: 2987

Ion	Ratio	Lower	Upper
41	100		
40	57.4	33.6	73.6

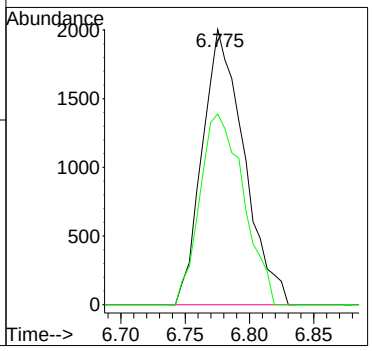


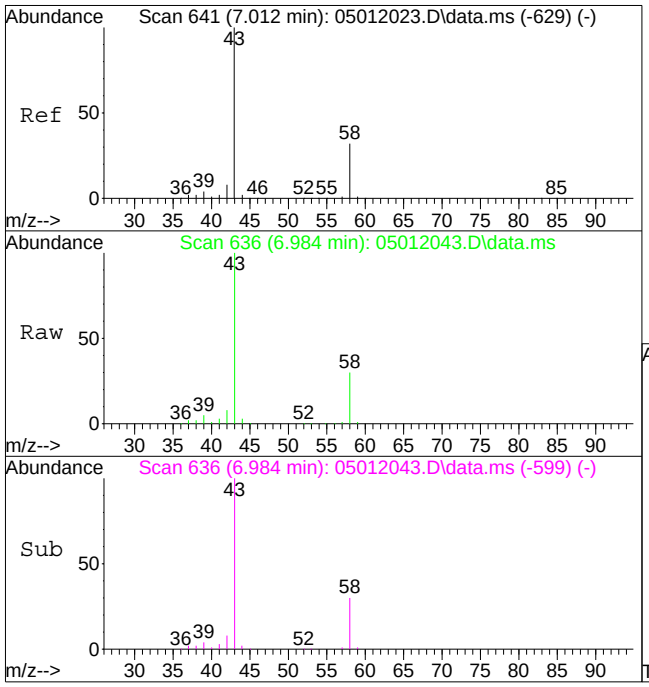


#12
Acrolein
Concen: 0.26 ng
RT: 6.78 min Scan# 598
Delta R.T. -0.033 min
Lab File: 05012043.D
Acq: 2 May 2020 4:58

Tgt Ion: 56 Resp: 4518

Ion	Ratio	Lower	Upper
56	100		
55	72.7	50.2	90.2

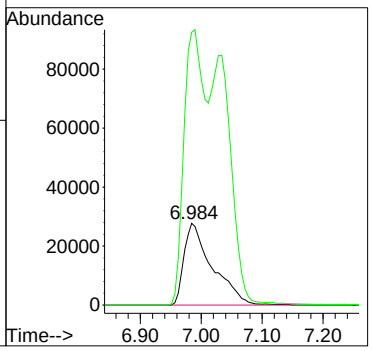


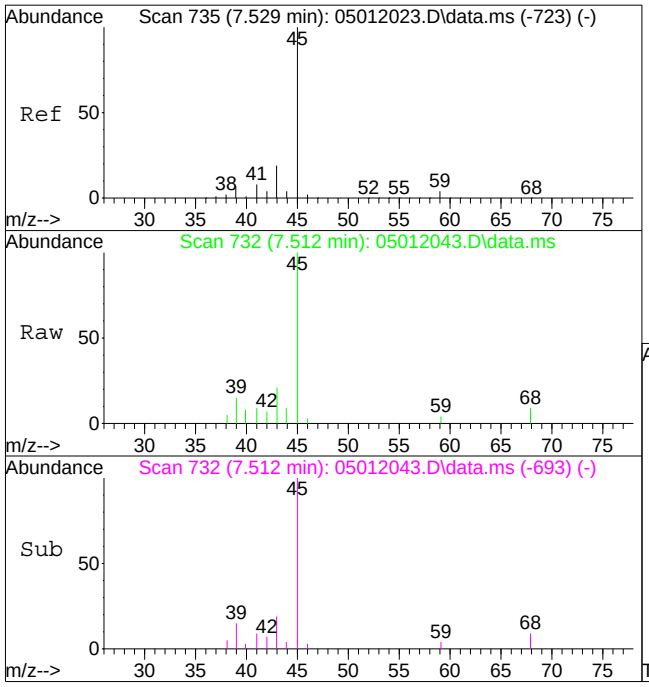


#13
Acetone
Concen: 4.03 ng
RT: 6.98 min Scan# 636
Delta R.T. -0.044 min
Lab File: 05012043.D
Acq: 2 May 2020 4:58

Tgt Ion: 58 Resp: 89920

Ion	Ratio	Lower	Upper
58	100		
43	254.6	294.4	354.4#

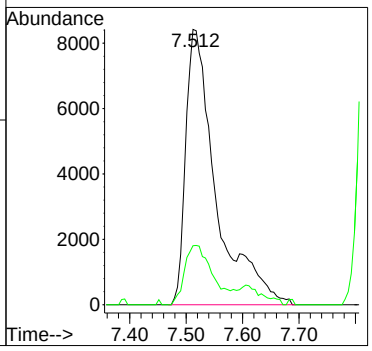


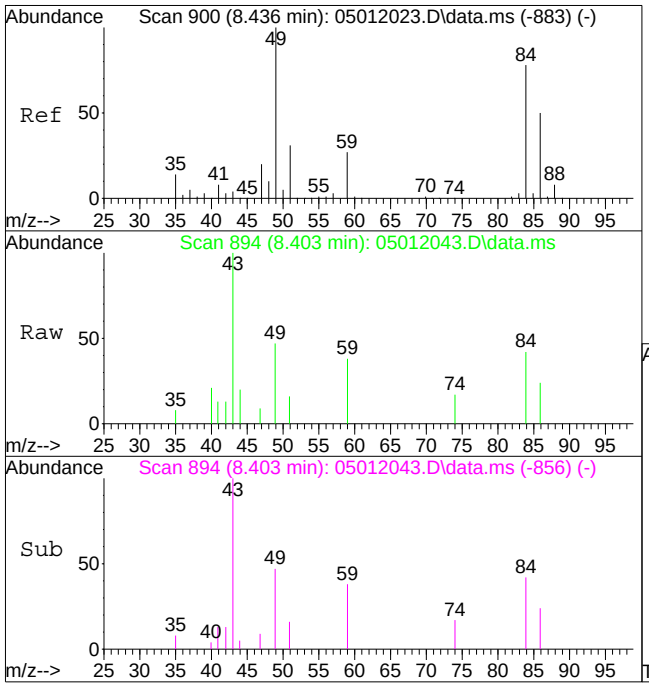


#15
2-Propanol (Isopropanol)
Concen: 0.47 ng
RT: 7.51 min Scan# 732
Delta R.T. -0.033 min
Lab File: 05012043.D
Acq: 2 May 2020 4:58

Tgt Ion: 45 Resp: 31494

Ion	Ratio	Lower	Upper
45	100		
43	25.8	0.0	39.5

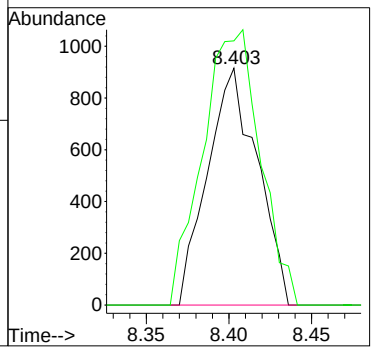


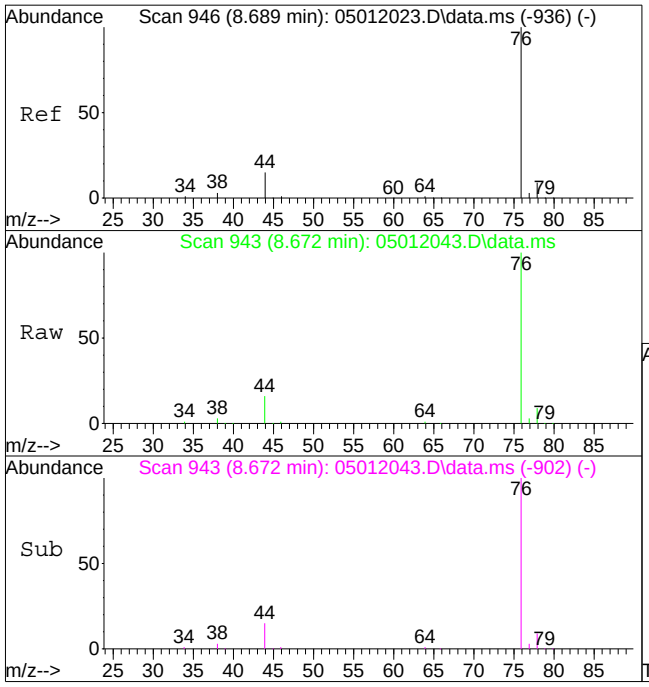


#19
Methylene Chloride
Concen: 0.07 ng
RT: 8.40 min Scan# 894
Delta R.T. -0.039 min
Lab File: 05012043.D
Acq: 2 May 2020 4:58

Tgt Ion: 84 Resp: 1922

Ion	Ratio	Lower	Upper
84	100		
49	134.3	104.8	154.8

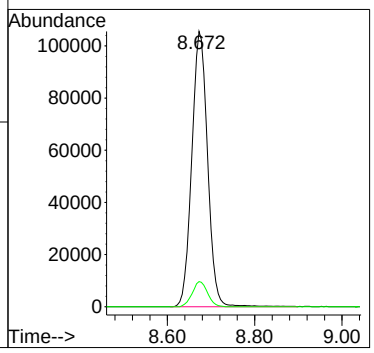


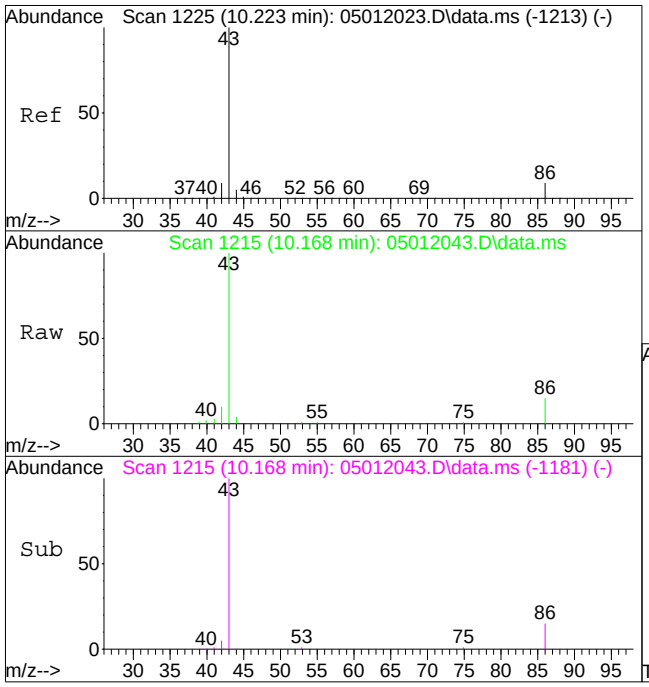


#22
Carbon Disulfide
Concen: 2.55 ng
RT: 8.67 min Scan# 943
Delta R.T. -0.022 min
Lab File: 05012043.D
Acq: 2 May 2020 4:58

Tgt Ion: 76 Resp: 264731

Ion	Ratio	Lower	Upper
76	100		
78	8.9	0.0	29.2

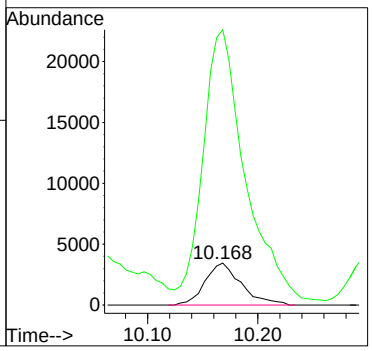


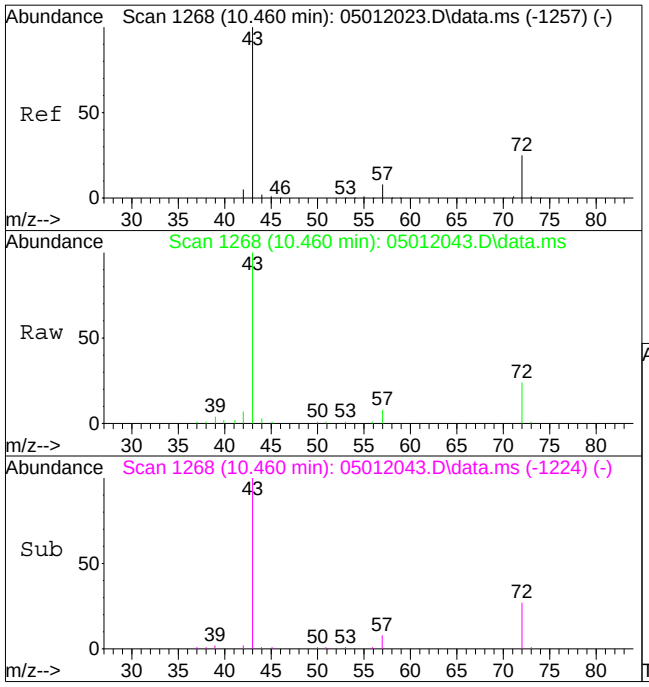


#26
Vinyl Acetate
Concen: 1.14 ng
RT: 10.17 min Scan# 1215
Delta R.T. -0.061 min
Lab File: 05012043.D
Acq: 2 May 2020 4:58

Tgt Ion: 86 Resp: 7912

Ion	Ratio	Lower	Upper
86	100		
43	778.4	1103.0	1143.0#

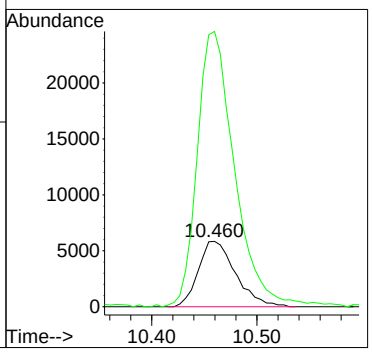


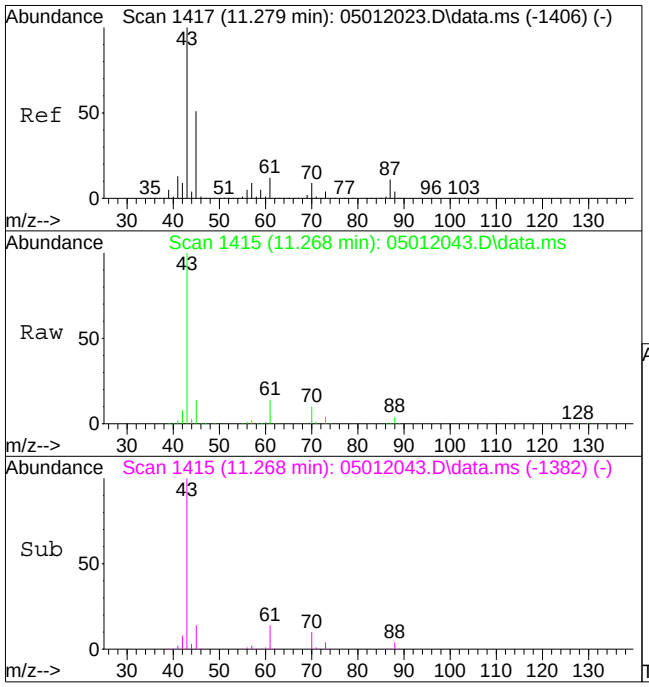


#27
2-Butanone (MEK)
Concen: 0.76 ng
RT: 10.46 min Scan# 1268
Delta R.T. -0.006 min
Lab File: 05012043.D
Acq: 2 May 2020 4:58

Tgt Ion: 72 Resp: 14408

Ion	Ratio	Lower	Upper
72	100		
43	424.1	389.7	429.7

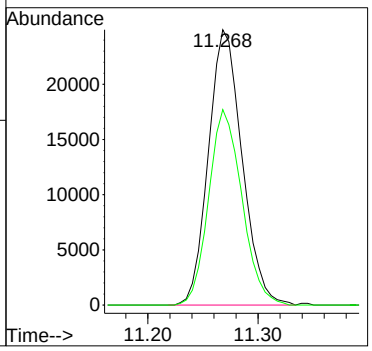


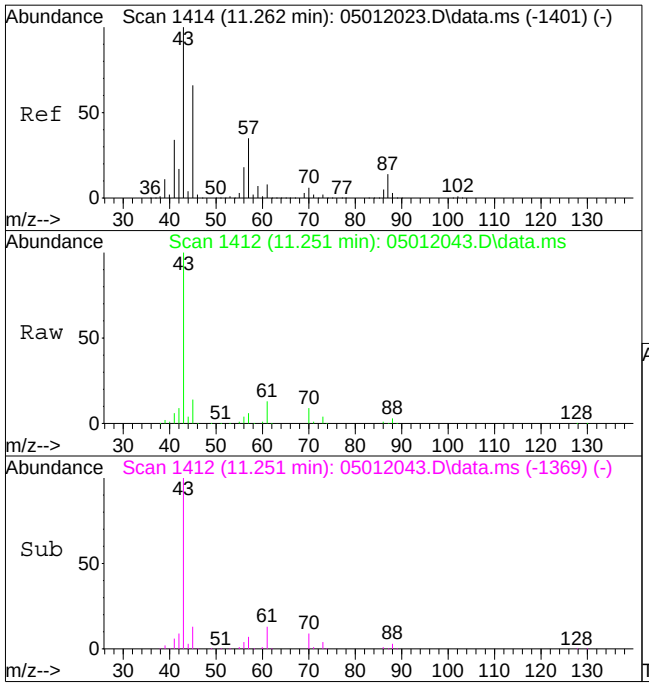


#30
Ethyl Acetate
Concen: 4.83 ng
RT: 11.27 min Scan# 1415
Delta R.T. -0.017 min
Lab File: 05012043.D
Acq: 2 May 2020 4:58

Tgt Ion: 61 Resp: 52953

Ion	Ratio	Lower	Upper
61	100		
70	70.2	57.9	97.9

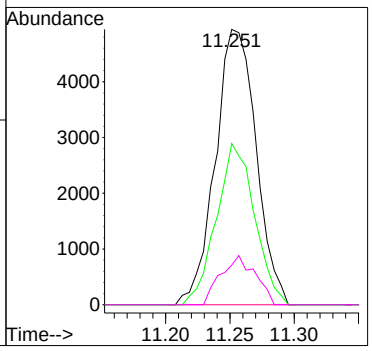


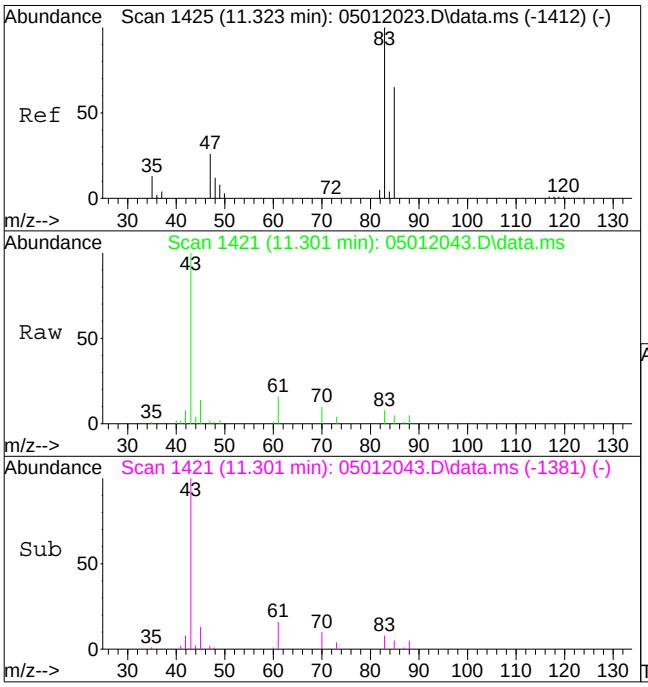


#31
n-Hexane
Concen: 0.23 ng
RT: 11.25 min Scan# 1412
Delta R.T. -0.011 min
Lab File: 05012043.D
Acq: 2 May 2020 4:58

Tgt Ion: 57 Resp: 10913

Ion	Ratio	Lower	Upper
57	100		
56	54.8	41.4	62.0
86	15.0	12.4	18.6

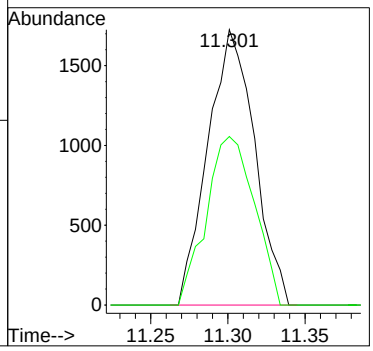


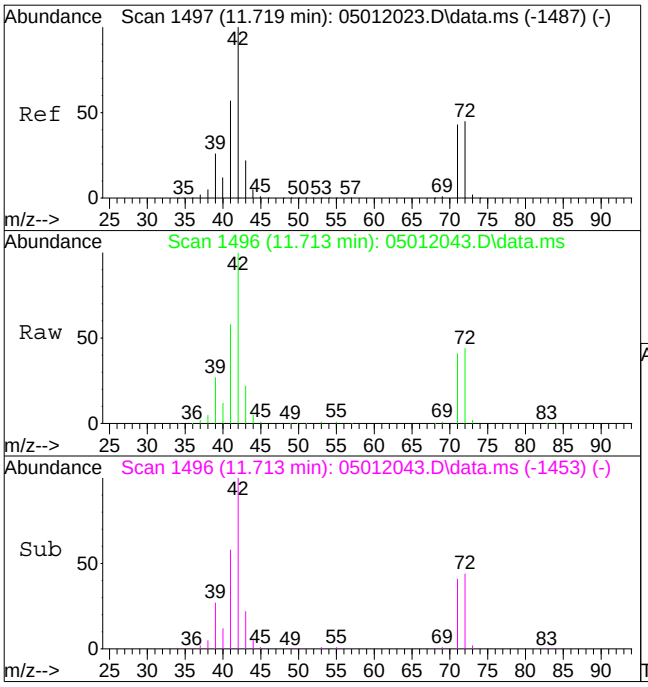


#32
Chloroform
Concen: 0.07 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.028 min
Lab File: 05012043.D
Acq: 2 May 2020 4:58

Tgt Ion: 83 Resp: 3631

Ion	Ratio	Lower	Upper
83	100		
85	63.0	45.5	85.5

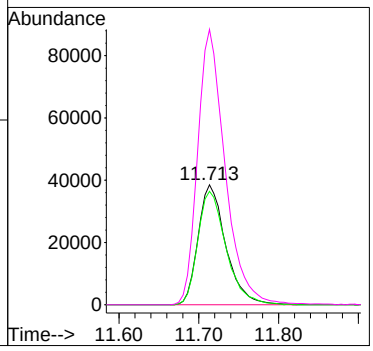


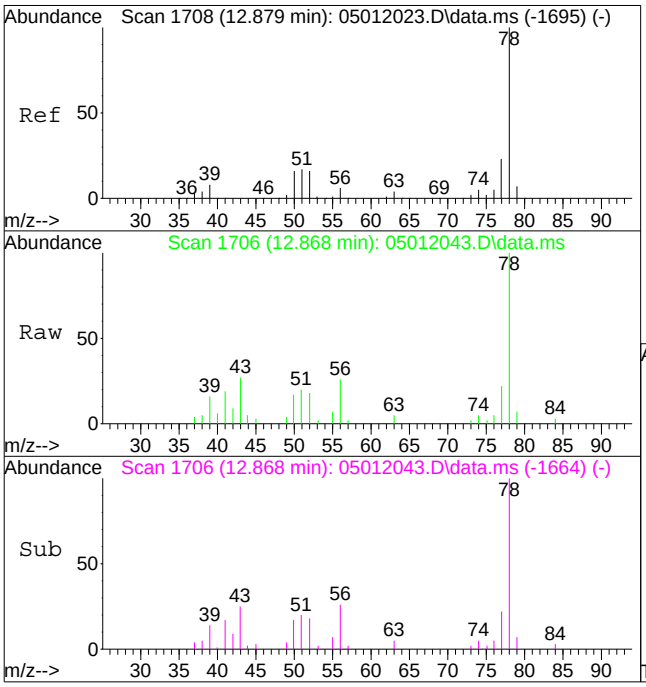


#34
Tetrahydrofuran (THF)
Concen: 5.01 ng
RT: 11.71 min Scan# 1496
Delta R.T. -0.011 min
Lab File: 05012043.D
Acq: 2 May 2020 4:58

Tgt Ion: 72 Resp: 92991

Ion	Ratio	Lower	Upper
72	100		
71	96.2	77.0	117.0
42	228.1	204.6	244.6

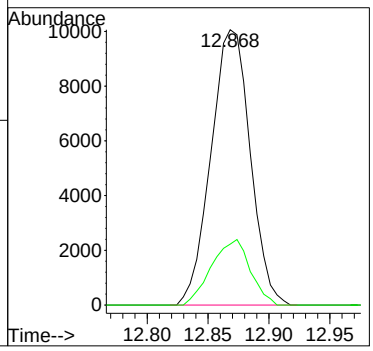


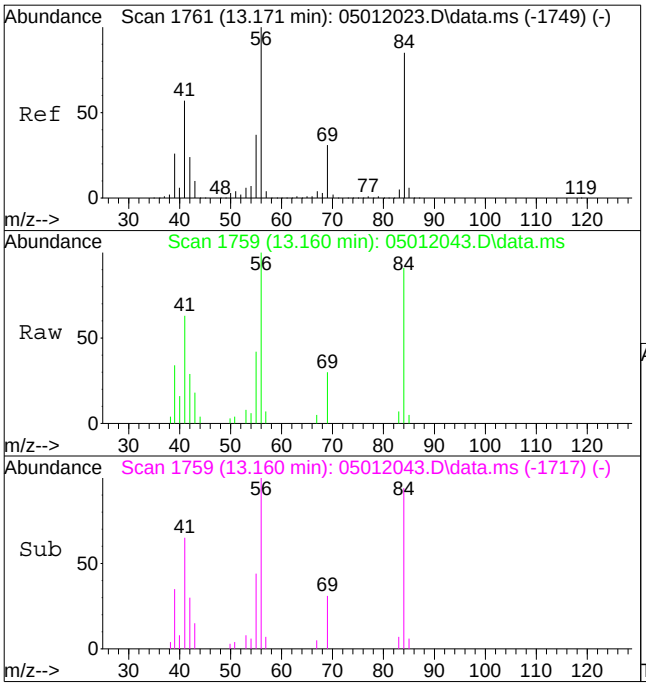


#41
Benzene
Concen: 0.19 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05012043.D
Acq: 2 May 2020 4:58

Tgt Ion: 78 Resp: 22560

Ion	Ratio	Lower	Upper
78	100		
77	23.4	3.4	43.4

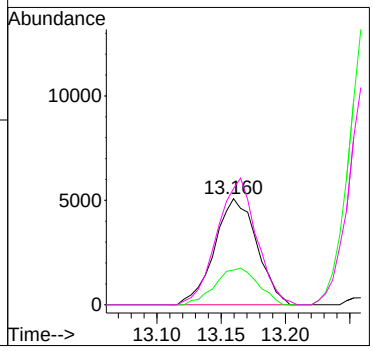


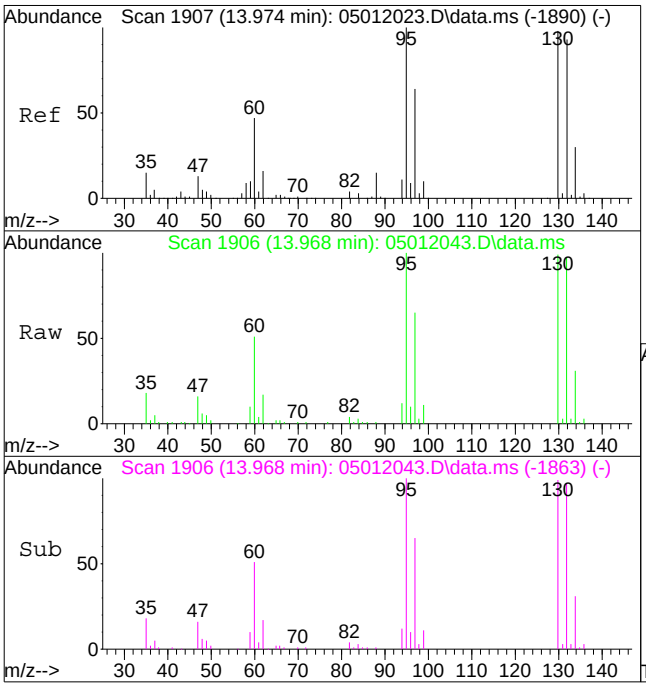


#43
Cyclohexane
Concen: 0.27 ng
RT: 13.16 min Scan# 1759
Delta R.T. -0.017 min
Lab File: 05012043.D
Acq: 2 May 2020 4:58

Tgt Ion: 84 Resp: 11634

Ion	Ratio	Lower	Upper
84	100		
69	34.8	16.5	56.5
56	111.4	97.4	137.4

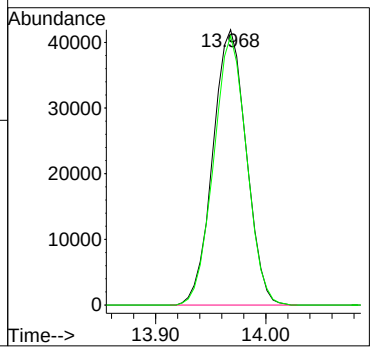


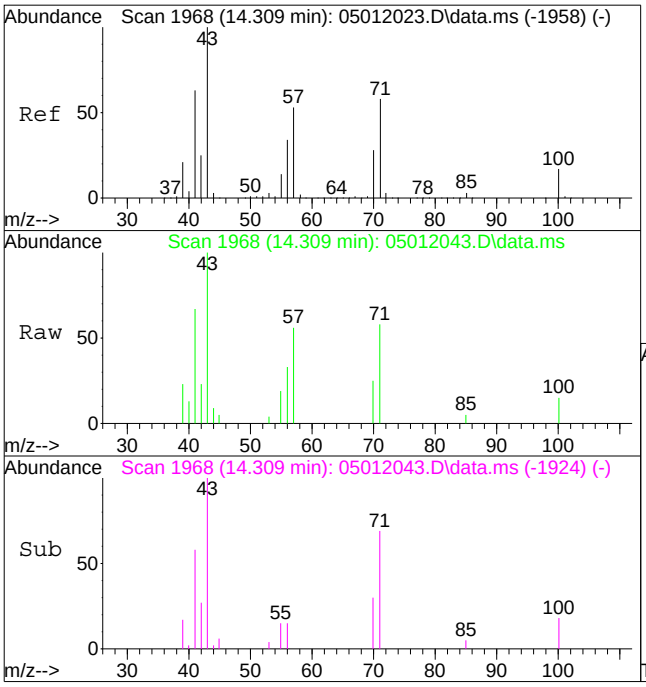


#47
Trichloroethene
Concen: 2.92 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05012043.D
Acq: 2 May 2020 4:58

Tgt Ion:130 Resp: 88416

Ion	Ratio	Lower	Upper
130	100		
132	96.0	74.9	114.9

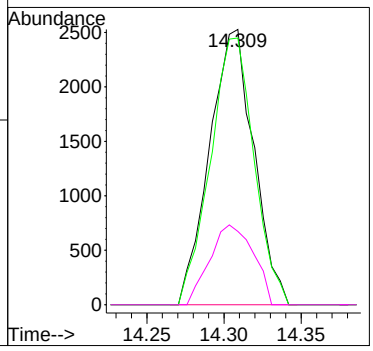


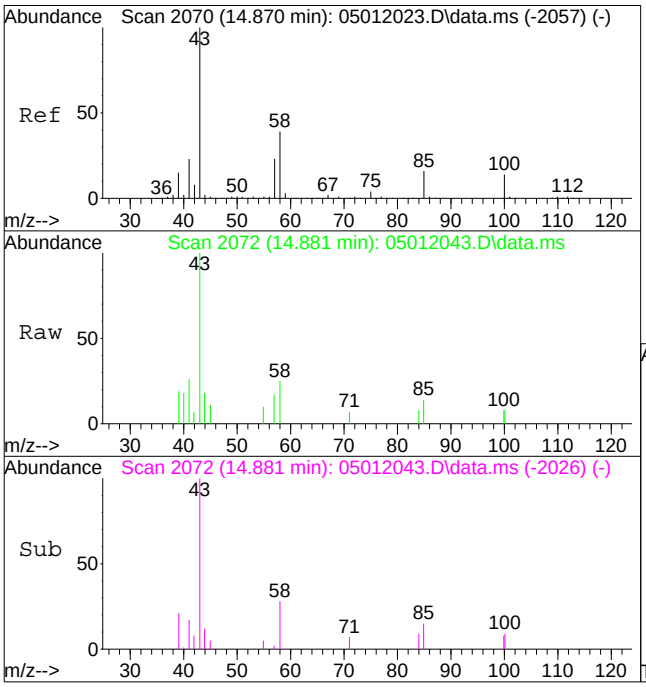


#51
n-Heptane
Concen: 0.18 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05012043.D
Acq: 2 May 2020 4:58

Tgt Ion: 71 Resp: 5037

Ion	Ratio	Lower	Upper
71	100		
57	95.9	71.0	111.0
100	28.6	8.4	48.4

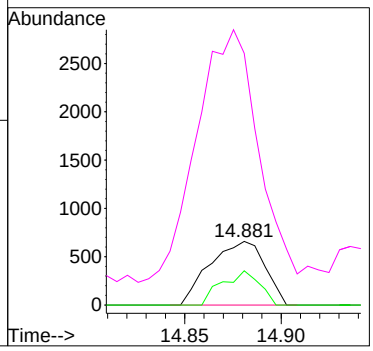


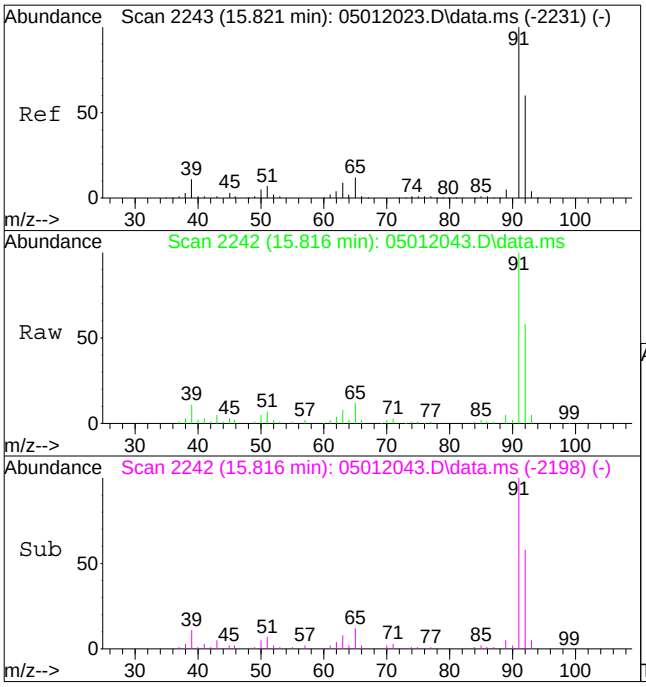


#53
4-Methyl-2-pentanone
Concen: 0.05 ng
RT: 14.88 min Scan# 2072
Delta R.T. 0.005 min
Lab File: 05012043.D
Acq: 2 May 2020 4:58

Tgt Ion: 58 Resp: 1306

Ion	Ratio	Lower	Upper
58	100		
85	36.6	35.4	53.2
43	451.8	203.3	304.9#

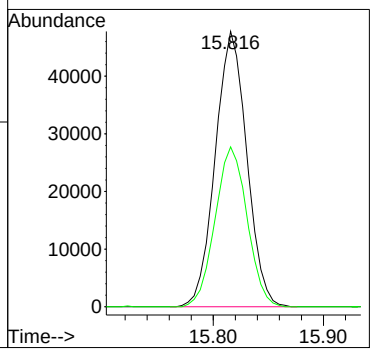


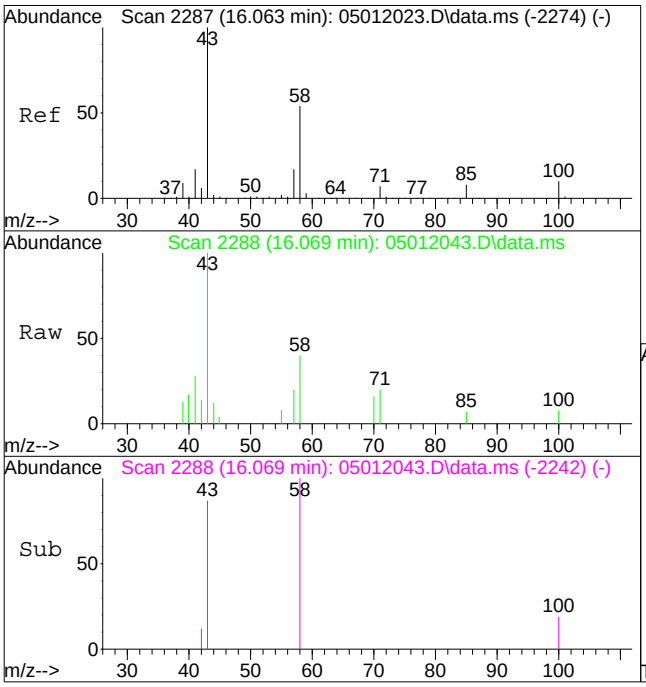


#58
Toluene
Concen: 0.82 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05012043.D
Acq: 2 May 2020 4:58

Tgt Ion: 91 Resp: 94979

Ion	Ratio	Lower	Upper
91	100		
92	58.9	39.4	79.4

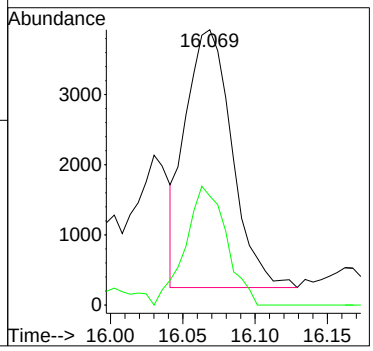


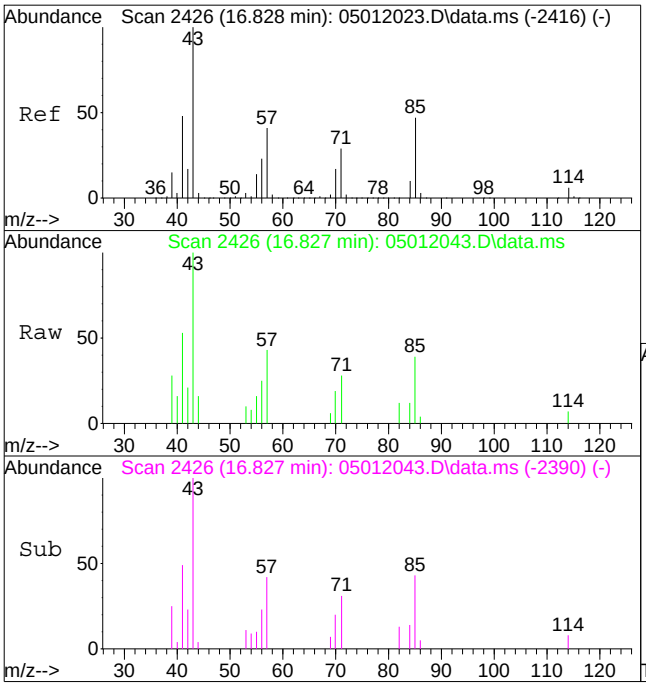


#59
2-Hexanone
Concen: 0.13 ng
RT: 16.07 min Scan# 2288
Delta R.T. 0.005 min
Lab File: 05012043.D
Acq: 2 May 2020 4:58

Tgt Ion: 43 Resp: 8234

Ion	Ratio	Lower	Upper
43	100		
58	40.4	34.5	74.5

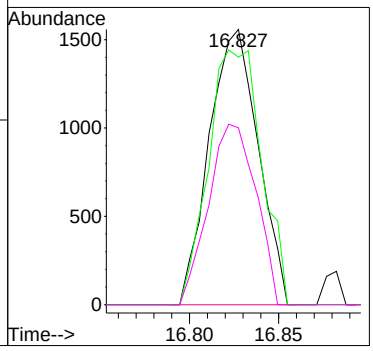


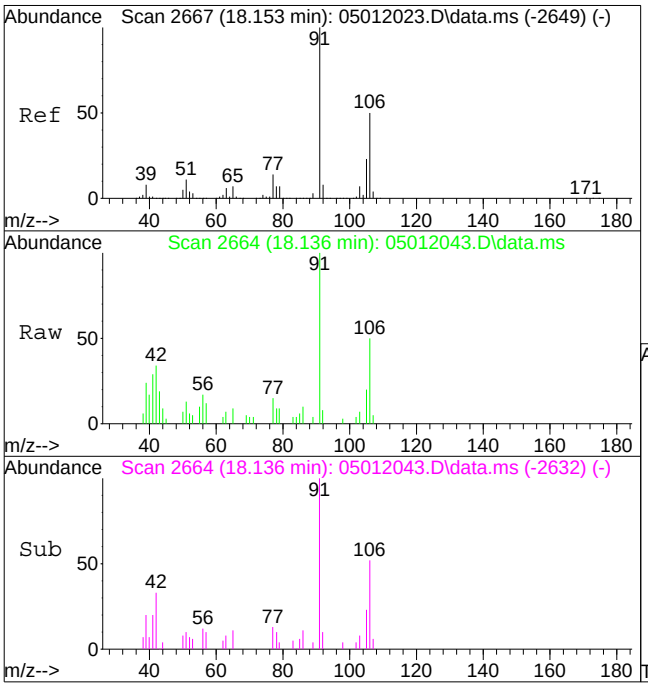


#63
n-Octane
Concen: 0.12 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05012043.D
Acq: 2 May 2020 4:58

Tgt Ion: 57 Resp: 2982

Ion	Ratio	Lower	Upper
57	100		
85	100.3	91.0	136.4
71	63.7	56.2	84.2

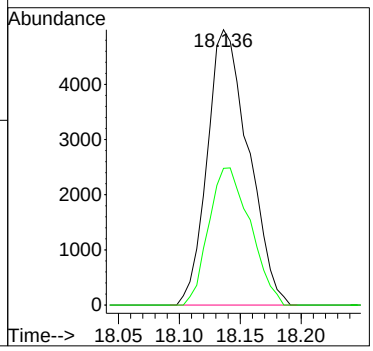


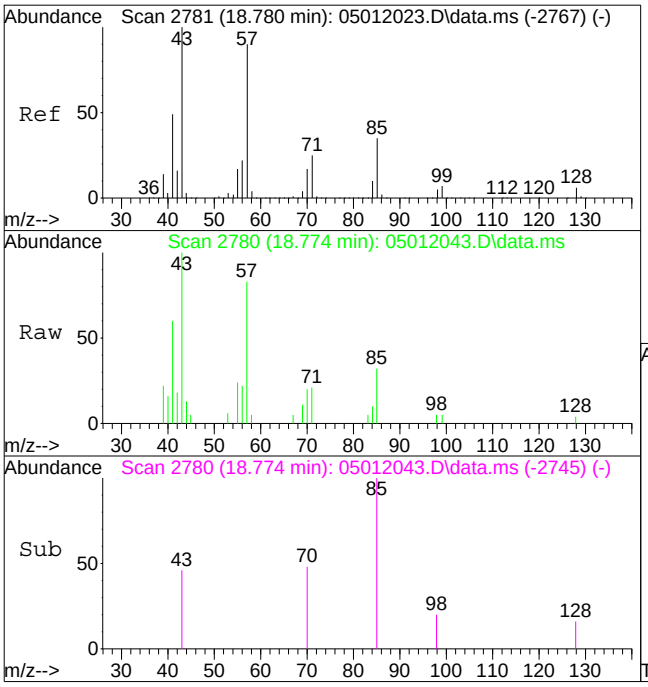


#67
m- & p-Xylenes
Concen: 0.11 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05012043.D
Acq: 2 May 2020 4:58

Tgt Ion: 91 Resp: 11743

Ion	Ratio	Lower	Upper
91	100		
106	50.1	29.7	69.7

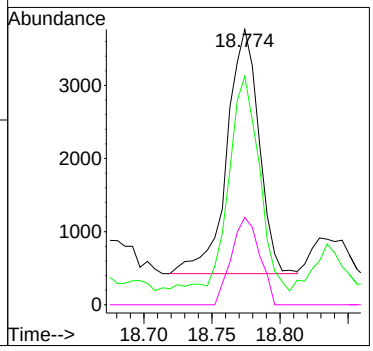


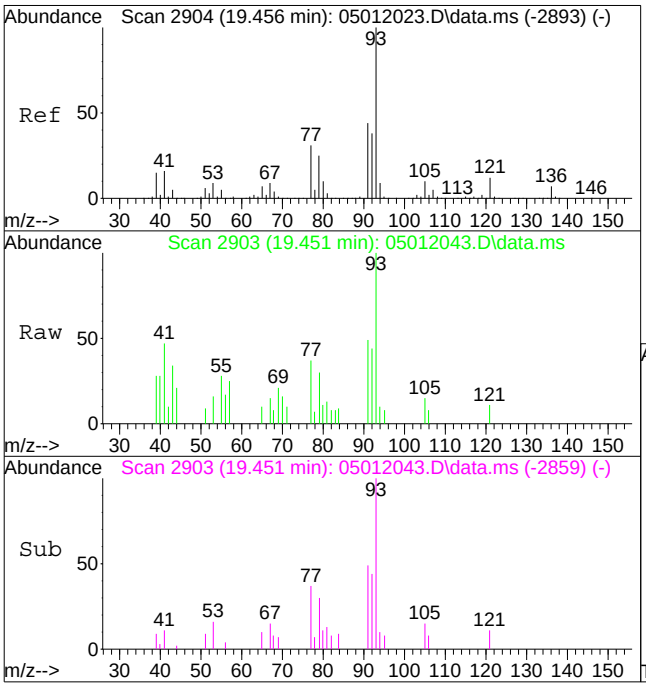


#71
n-Nonane
Concen: 0.10 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05012043.D
Acq: 2 May 2020 4:58

Tgt Ion: 43 Resp: 5489

Ion	Ratio	Lower	Upper
43	100		
57	82.5	69.0	109.0
85	31.3	14.6	54.6

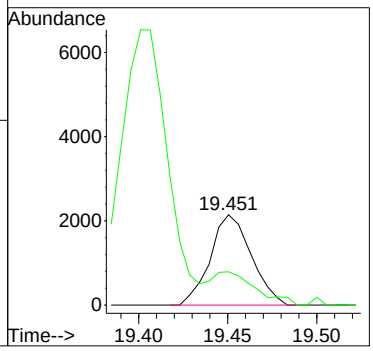


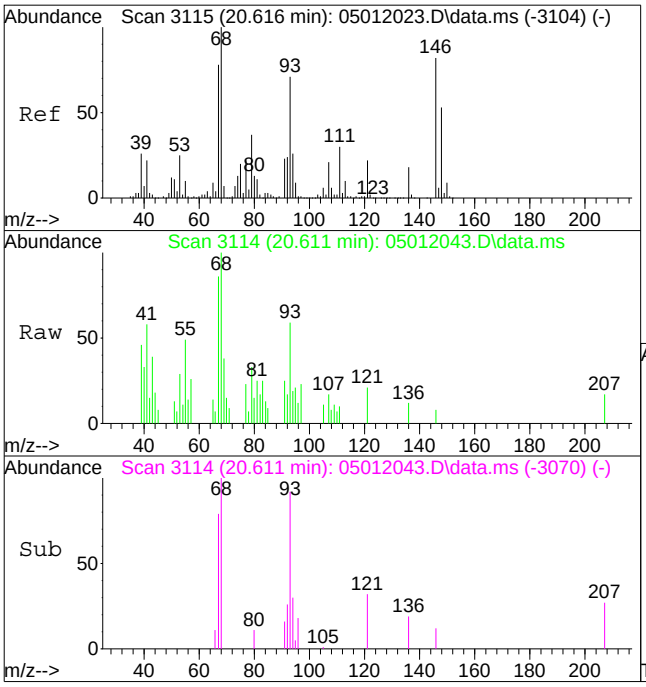


#75
alpha-Pinene
Concen: 0.05 ng
RT: 19.45 min Scan# 2903
Delta R.T. -0.006 min
Lab File: 05012043.D
Acq: 2 May 2020 4:58

Tgt Ion: 93 Resp: 3432

Ion	Ratio	Lower	Upper
93	100		
77	41.0	11.2	51.2

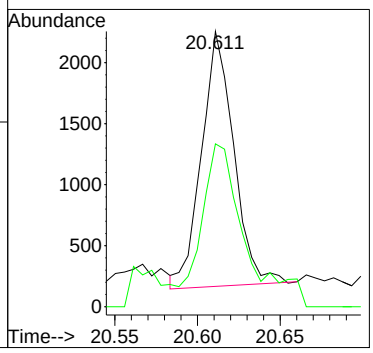




#91
d-Limonene
Concen: 0.07 ng
RT: 20.61 min Scan# 3114
Delta R.T. -0.006 min
Lab File: 05012043.D
Acq: 2 May 2020 4:58

Tgt Ion: 68 Resp: 2831

Ion	Ratio	Lower	Upper
68	100		
93	84.6	51.1	91.1



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022008.D Vial: 1
Acq On : 2 May 2020 13:50 Operator: TD
Sample : P2002104-007 (1.5mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:40:29 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/4/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	267843	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1173431	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	561574	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	457505	12.604	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.80%			
57) Toluene-d8 (SS2)	15.72	98	1243428	13.063	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.48%			
73) Bromofluorobenzene (SS3)	18.98	174	411433	12.013	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.08%			
Target Compounds						Qvalue
2) Propene	4.11	42	14676	0.473	ng	# 88
3) Dichlorodifluoromethan...	4.27	85	142	N.D.		
4) Chloromethane	4.55	50	970	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	4.96	62	174	N.D.		
7) 1,3-Butadiene	5.15	54	1250	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.46	45	51	N.D.		
11) Acetonitrile	6.67	41	51	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	7.54	45	1705	N.D.		
16) Acrylonitrile	7.72	53	1325	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	8.44	59	883	N.D.		
19) Methylene Chloride	0.00	84	0	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d	
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	8.71	76	8328	0.075	ng	96
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	10.01	63	1804	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	d	
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	10.49	72	774	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	11.27	87	604	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	11.27	57	70467	1.379	ng	99
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	11.78	72	569	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.15	62	671	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.	d	
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	12.87	78	417701	3.319	ng	100
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	13.18	84	160341	3.419	ng	99
44) tert-Amyl Methyl Ether	13.46	73	2262	N.D.		
45) 1,2-Dichloropropane	13.65	63	108	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	13.97	130	382	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022008.D Vial: 1
Acq On : 2 May 2020 13:50 Operator: TD
Sample : P2002104-007 (1.5mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:40:29 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

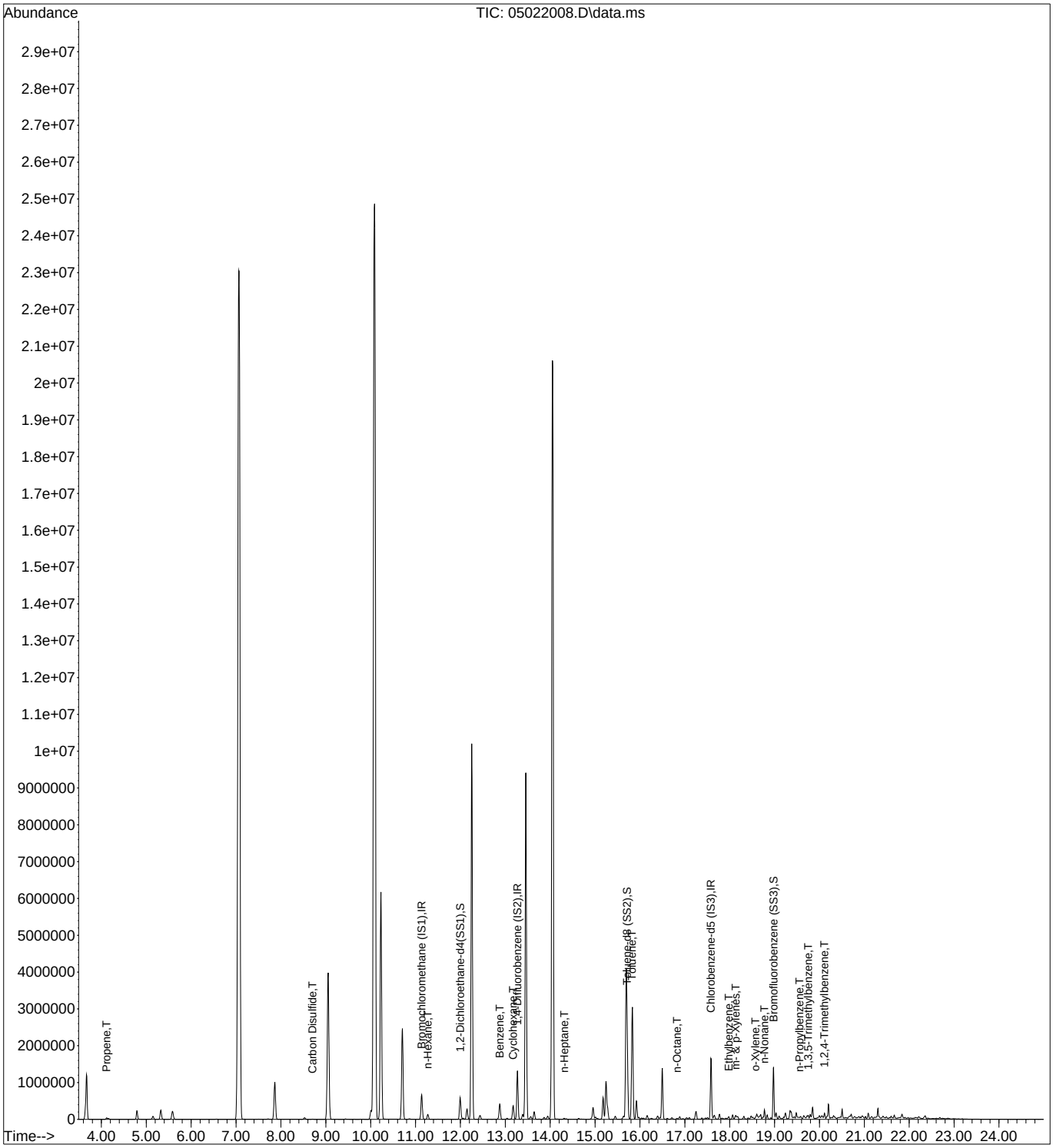
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.31	71	4748	0.161	ng	#	57
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
53) 4-Methyl-2-pentanone	14.87	58	106	N.D.			
54) trans-1,3-Dichloropropene	15.14	75	888	N.D.			
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	d		
58) Toluene	15.82	91	633269	5.161	ng		100
59) 2-Hexanone	0.00	43	0	N.D.	d		
60) Dibromochloromethane	0.00	129	0	N.D.			
61) 1,2-Dibromoethane	0.00	107	0	N.D.			
62) n-Butyl Acetate	0.00	43	0	N.D.	d		
63) n-Octane	16.83	57	4427	0.174	ng		95
64) Tetrachloroethene	0.00	166	0	N.D.			
65) Chlorobenzene	0.00	112	0	N.D.	d		
66) Ethylbenzene	17.98	91	27313	0.200	ng		98
67) m- & p-Xylenes	18.14	91	59427	0.548	ng		99
68) Bromoform	0.00	173	0	N.D.			
69) Styrene	18.48	104	377	N.D.			
70) o-Xylene	18.58	91	26546	0.241	ng		94
71) n-Nonane	18.77	43	87075	1.489	ng		98
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	d		
74) Cumene	19.10	105	6022	N.D.			
75) alpha-Pinene	19.45	93	405	N.D.			
76) n-Propylbenzene	19.55	91	13298	0.083	ng		88
77) 3-Ethyltoluene	19.64	105	6063	N.D.			
78) 4-Ethyltoluene	19.68	105	1579	N.D.			
79) 1,3,5-Trimethylbenzene	19.75	105	7665	0.070	ng		97
80) alpha-Methylstyrene	19.88	118	358	N.D.			
81) 2-Ethyltoluene	19.91	105	2644	N.D.			
82) 1,2,4-Trimethylbenzene	20.11	105	5721	0.052	ng		83
83) n-Decane	0.00	57	0	N.D.	d		
84) Benzyl Chloride	20.19	91	1477	N.D.			
85) 1,3-Dichlorobenzene	20.25	146	422	N.D.			
86) 1,4-Dichlorobenzene	20.30	146	661	N.D.			
87) sec-Butylbenzene	0.00	105	0	N.D.	d		
88) 4-Isopropyltoluene (p-...	20.48	119	1124	N.D.			
89) 1,2,3-Trimethylbenzene	20.48	105	2443	N.D.			
90) 1,2-Dichlorobenzene	20.61	146	267	N.D.			
91) d-Limonene	20.61	68	1516	N.D.			
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.			
93) n-Undecane	0.00	57	0	N.D.	d		
94) 1,2,4-Trichlorobenzene	22.12	180	558	N.D.			
95) Naphthalene	22.22	128	3353	N.D.			
96) n-Dodecane	0.00	57	0	N.D.	d		
97) Hexachlorobutadiene	0.00	225	0	N.D.			
98) Cyclohexanone	0.00	55	0	N.D.	d		
99) tert-Butylbenzene	20.11	119	1767	N.D.			
100) n-Butylbenzene	20.85	91	2431	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022008.D Vial: 1
Acq On : 2 May 2020 13:50 Operator: TD
Sample : P2002104-007 (1.5mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:40:29 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022008.D Vial: 1
Acq On : 2 May 2020 13:50 Operator: TD
Sample : P2002104-007 (1.5mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:40:29 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/4/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

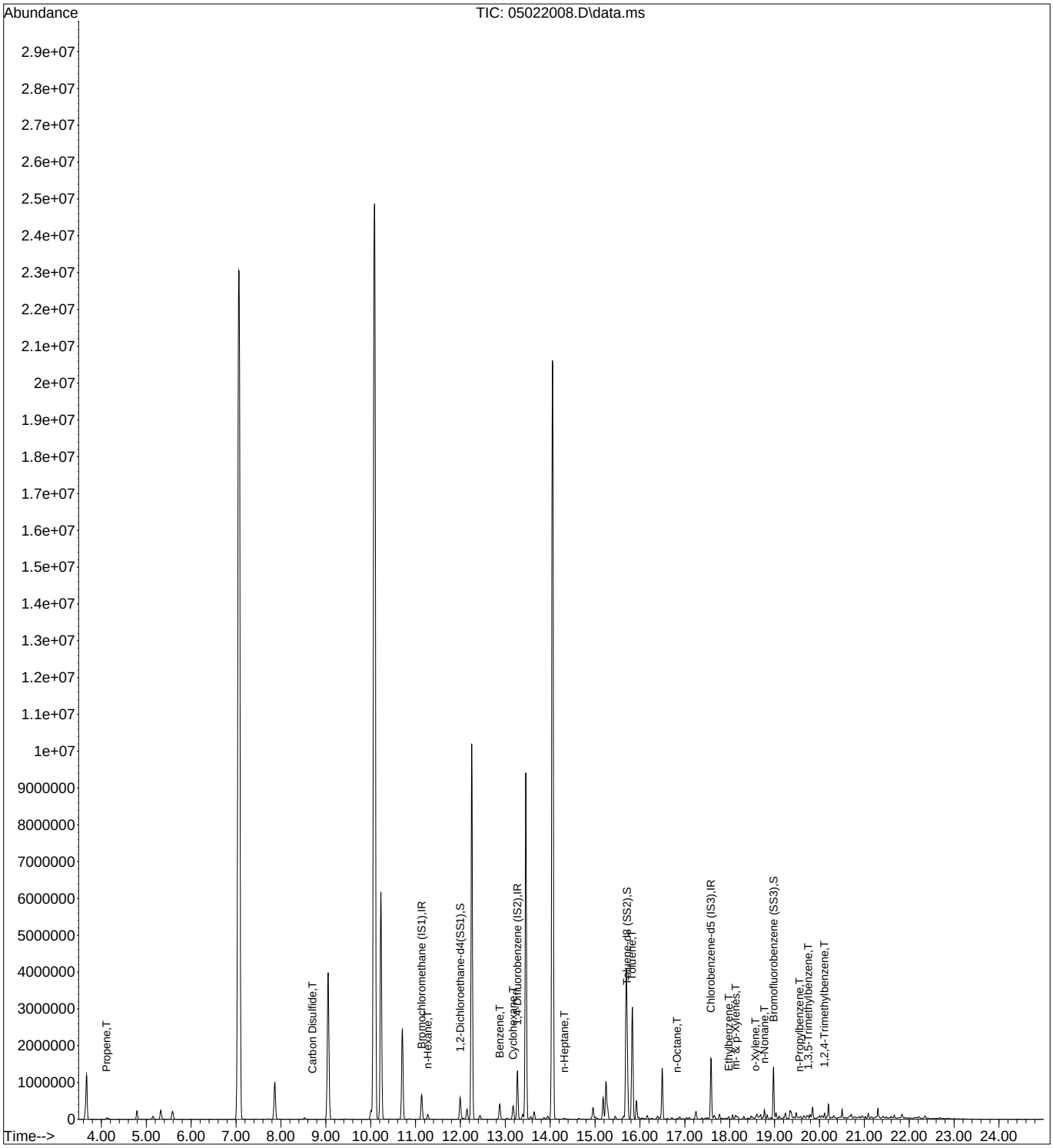
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	267843	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1173431	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	561574	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	457505	12.604	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.80%				
57) Toluene-d8 (SS2)	15.72	98	1243428	13.063	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.48%				
73) Bromofluorobenzene (SS3)	18.98	174	411433	12.013	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.08%				
Target Compounds							Qvalue
2) Propene	4.11	42	14676	0.473	ng	#	88
22) Carbon Disulfide	8.71	76	8328	0.075	ng		96
31) n-Hexane	11.27	57	70467	1.379	ng		99
41) Benzene	12.87	78	417701	3.319	ng		100
43) Cyclohexane	13.18	84	160341	3.419	ng		99
51) n-Heptane	14.31	71	4748	0.161	ng	#	57
58) Toluene	15.82	91	633269	5.161	ng		100
63) n-Octane	16.83	57	4427	0.174	ng		95
66) Ethylbenzene	17.98	91	27313	0.200	ng		98
67) m- & p-Xylenes	18.14	91	59427	0.548	ng		99
70) o-Xylene	18.58	91	26546	0.241	ng		94
71) n-Nonane	18.77	43	87075	1.489	ng		98
76) n-Propylbenzene	19.55	91	13298	0.083	ng		88
79) 1,3,5-Trimethylbenzene	19.75	105	7665	0.070	ng		97
82) 1,2,4-Trimethylbenzene	20.11	105	5721	0.052	ng		83

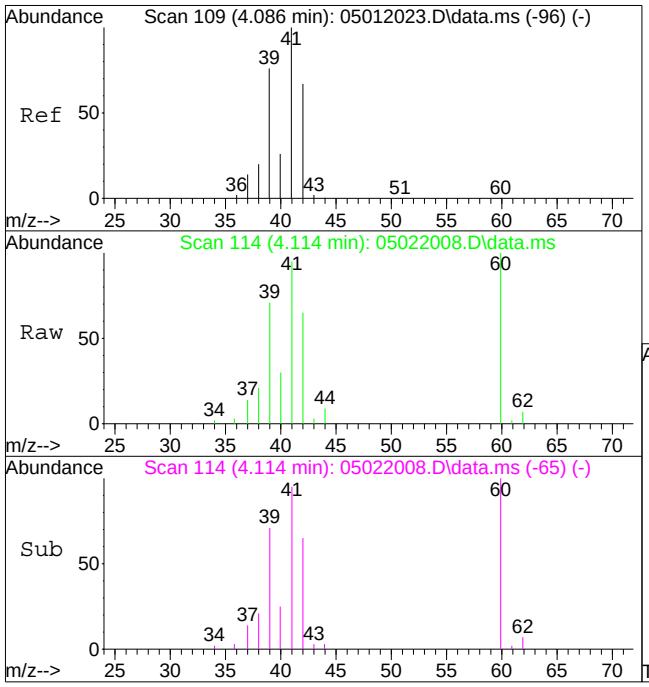
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022008.D Vial: 1
Acq On : 2 May 2020 13:50 Operator: TD
Sample : P2002104-007 (1.5mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:40:29 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

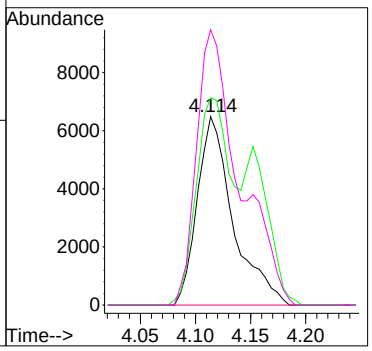


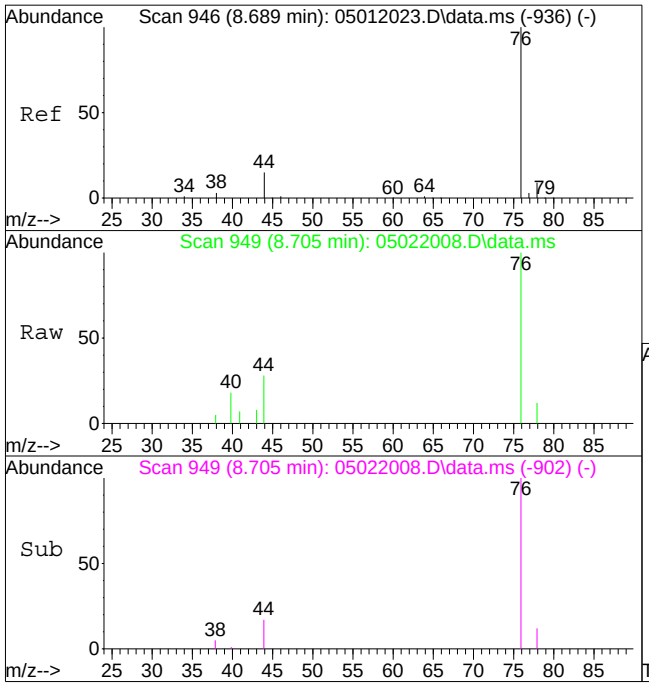


#2
Propene
Concen: 0.47 ng
RT: 4.11 min Scan# 114
Delta R.T. 0.022 min
Lab File: 05022008.D
Acq: 2 May 2020 13:50

Tgt Ion: 42 Resp: 14676

Ion	Ratio	Lower	Upper
42	100		
39	109.9	96.1	136.1
41	174.3	131.9	171.9#

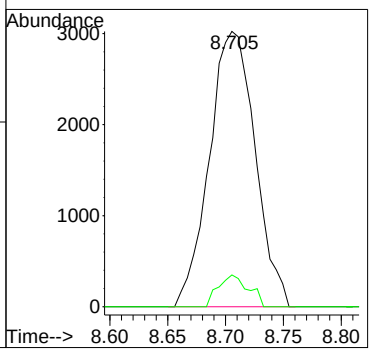


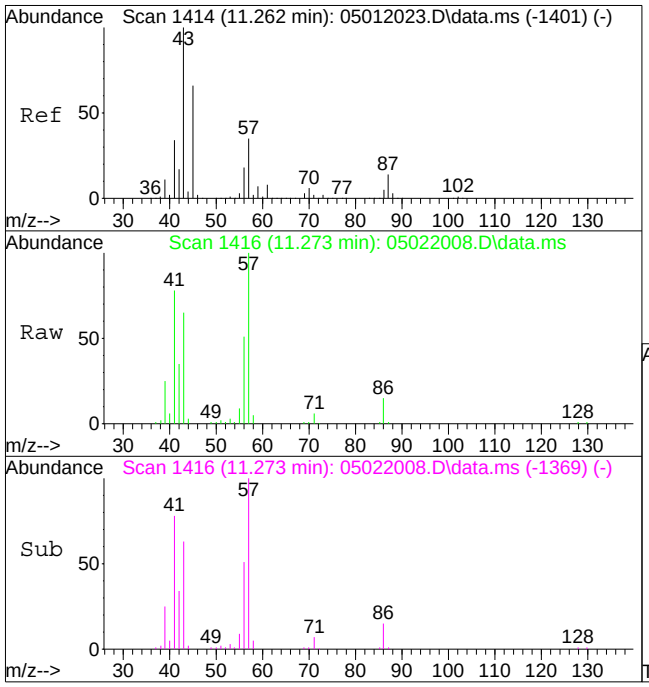


#22
Carbon Disulfide
Concen: 0.07 ng
RT: 8.71 min Scan# 949
Delta R.T. 0.011 min
Lab File: 05022008.D
Acq: 2 May 2020 13:50

Tgt Ion: 76 Resp: 8328

Ion	Ratio	Lower	Upper
76	100		
78	7.6	0.0	29.2

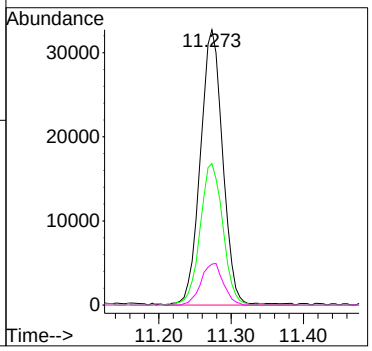


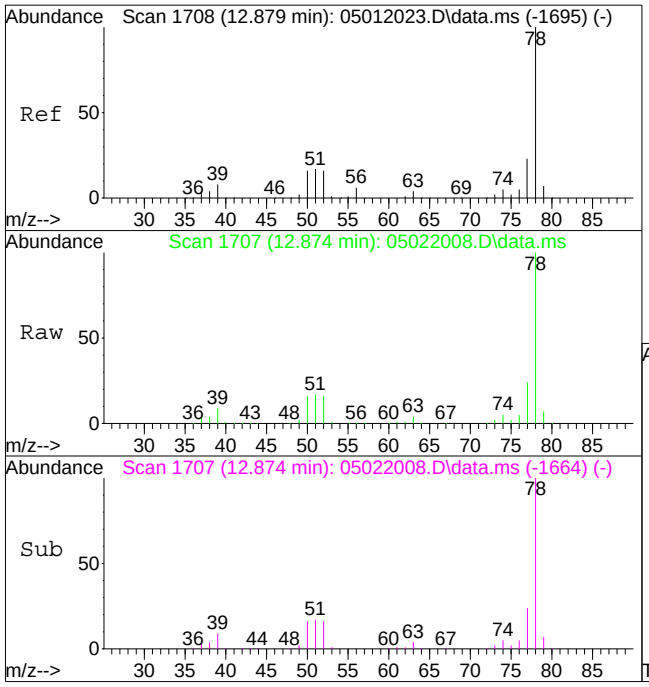


#31
n-Hexane
Concen: 1.38 ng
RT: 11.27 min Scan# 1416
Delta R.T. 0.011 min
Lab File: 05022008.D
Acq: 2 May 2020 13:50

Tgt Ion: 57 Resp: 70467

Ion	Ratio	Lower	Upper
57	100		
56	52.0	41.4	62.0
86	15.1	12.4	18.6

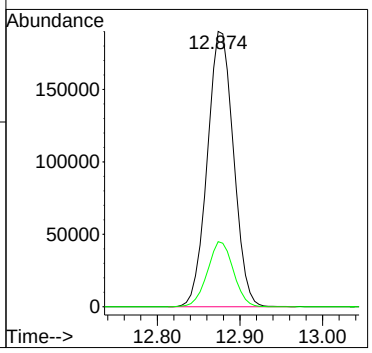


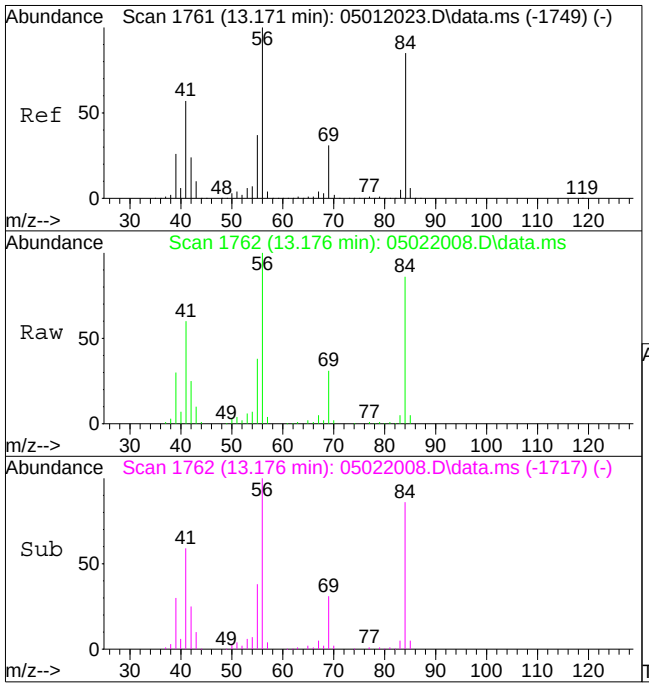


#41
Benzene
Concen: 3.32 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05022008.D
Acq: 2 May 2020 13:50

Tgt Ion: 78 Resp: 417701

Ion	Ratio	Lower	Upper
78	100		
77	23.4	3.4	43.4

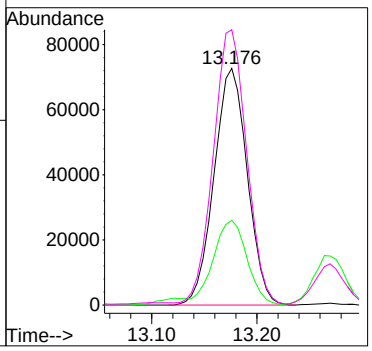


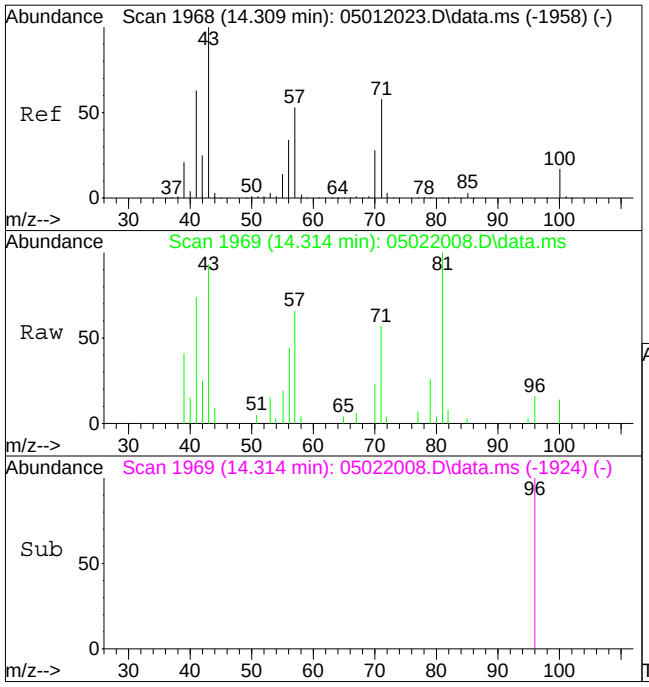


#43
Cyclohexane
Concen: 3.42 ng
RT: 13.18 min Scan# 1762
Delta R.T. -0.000 min
Lab File: 05022008.D
Acq: 2 May 2020 13:50

Tgt Ion: 84 Resp: 160341

Ion	Ratio	Lower	Upper
84	100		
69	35.4	16.5	56.5
56	115.9	97.4	137.4

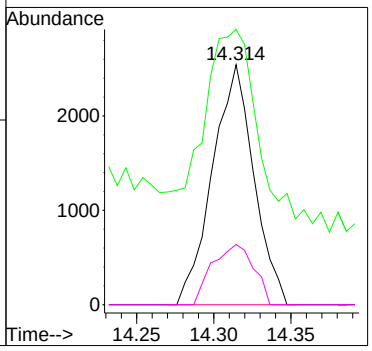


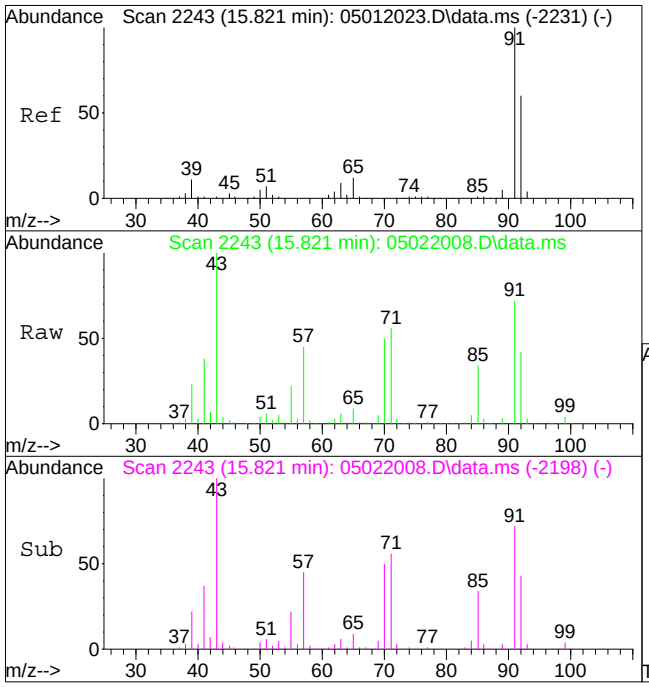


#51
n-Heptane
Concen: 0.16 ng
RT: 14.31 min Scan# 1969
Delta R.T. -0.000 min
Lab File: 05022008.D
Acq: 2 May 2020 13:50

Tgt Ion: 71 Resp: 4748

Ion	Ratio	Lower	Upper
71	100		
57	142.4	71.0	111.0#
100	25.1	8.4	48.4

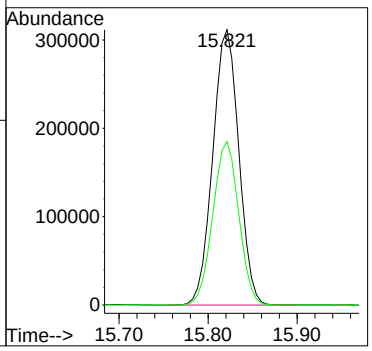


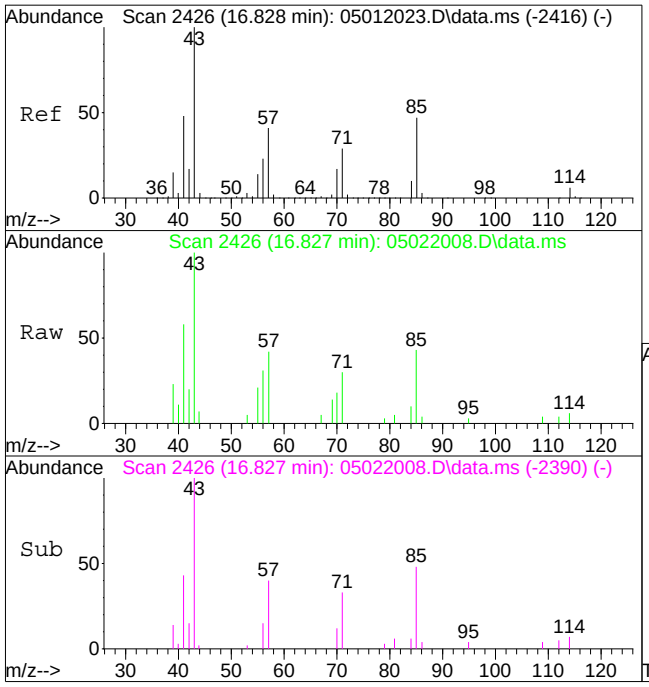


#58
Toluene
Concen: 5.16 ng
RT: 15.82 min Scan# 2243
Delta R.T. -0.000 min
Lab File: 05022008.D
Acq: 2 May 2020 13:50

Tgt Ion: 91 Resp: 633269

Ion	Ratio	Lower	Upper
91	100		
92	59.1	39.4	79.4

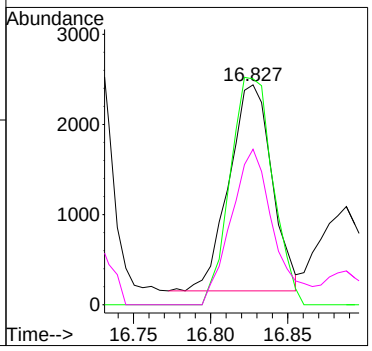


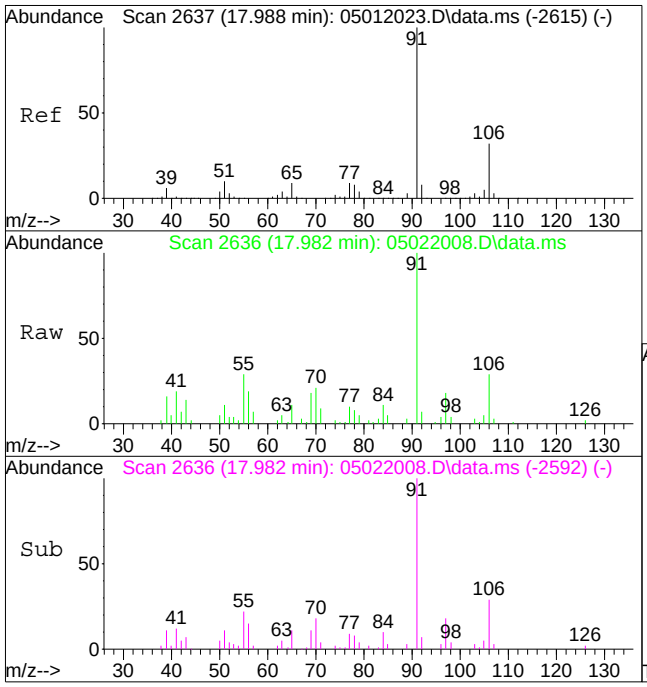


#63
n-Octane
Concen: 0.17 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05022008.D
Acq: 2 May 2020 13:50

Tgt Ion: 57 Resp: 4427

Ion	Ratio	Lower	Upper
57	100		
85	109.1	91.0	136.4
71	75.2	56.2	84.2

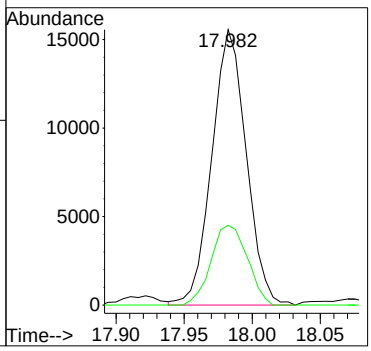


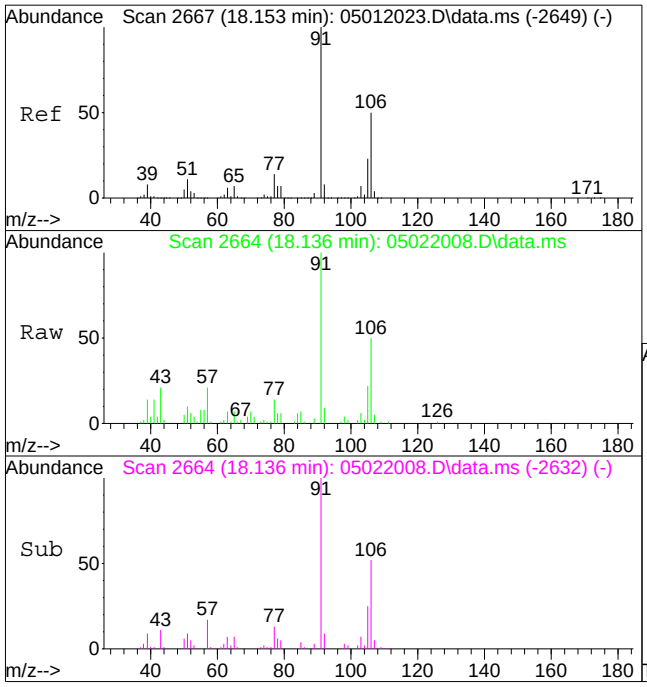


#66
Ethylbenzene
Concen: 0.20 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05022008.D
Acq: 2 May 2020 13:50

Tgt Ion: 91 Resp: 27313

Ion	Ratio	Lower	Upper
91	100		
106	30.5	11.6	51.6

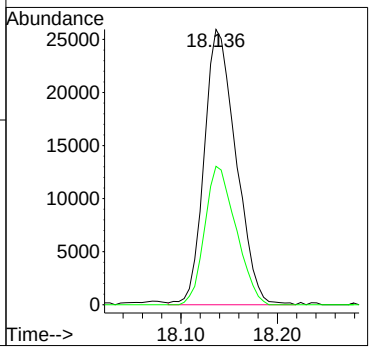


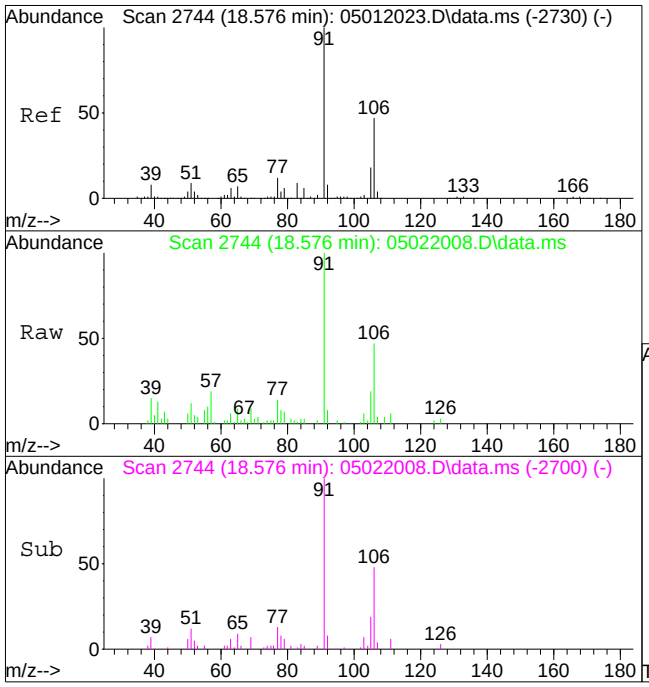


#67
m- & p-Xylenes
Concen: 0.55 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05022008.D
Acq: 2 May 2020 13:50

Tgt Ion: 91 Resp: 59427

Ion	Ratio	Lower	Upper
91	100		
106	49.3	29.7	69.7

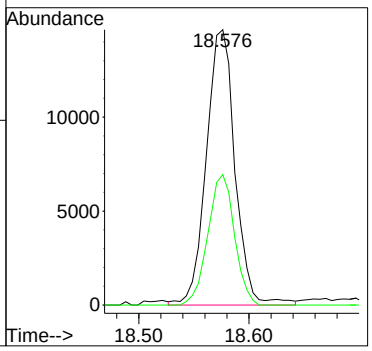


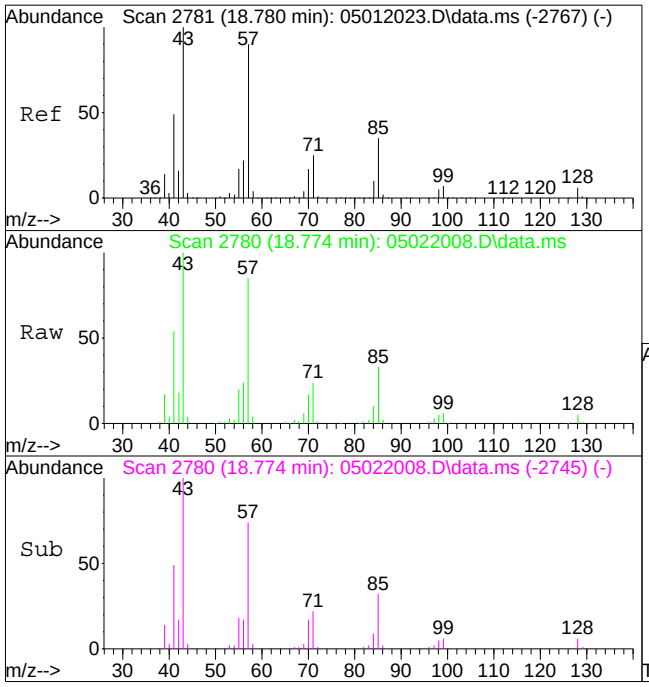


#70
o-Xylene
Concen: 0.24 ng
RT: 18.58 min Scan# 2744
Delta R.T. -0.006 min
Lab File: 05022008.D
Acq: 2 May 2020 13:50

Tgt Ion: 91 Resp: 26546

Ion	Ratio	Lower	Upper
91	100		
106	43.7	27.5	67.5

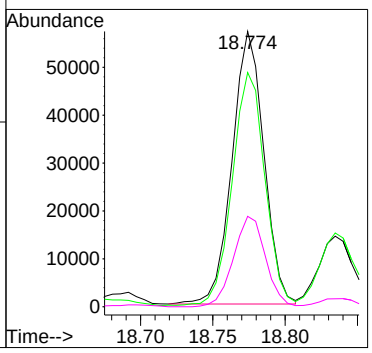


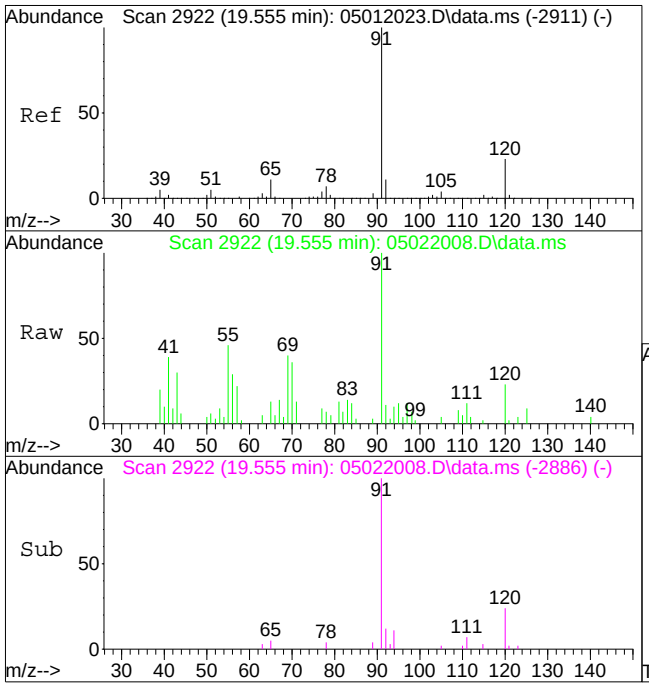


#71
n-Nonane
Concen: 1.49 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05022008.D
Acq: 2 May 2020 13:50

Tgt Ion: 43 Resp: 87075

Ion	Ratio	Lower	Upper
43	100		
57	87.6	69.0	109.0
85	33.4	14.6	54.6

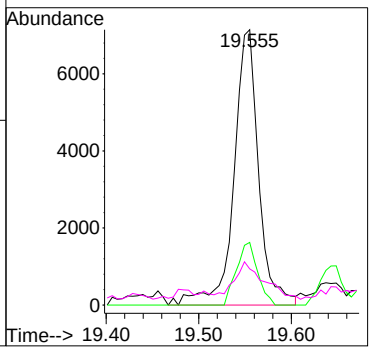


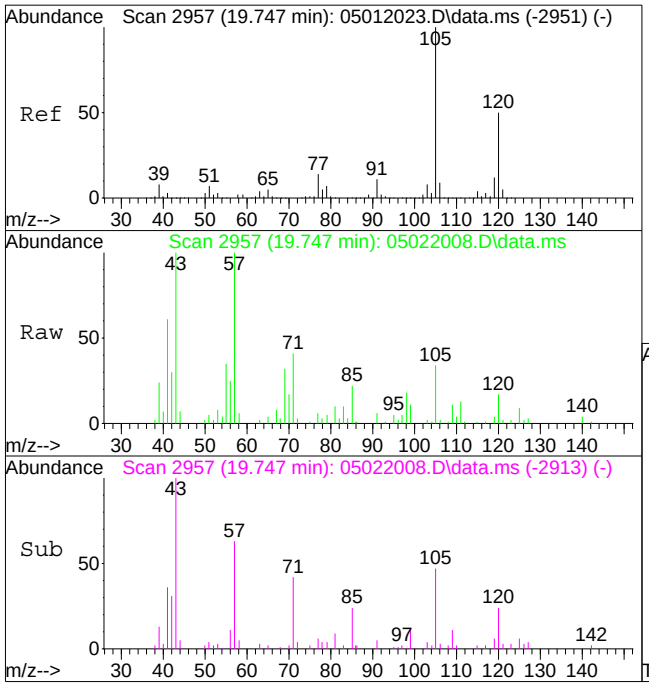


#76
n-Propylbenzene
Concen: 0.08 ng
RT: 19.55 min Scan# 2922
Delta R.T. -0.000 min
Lab File: 05022008.D
Acq: 2 May 2020 13:50

Tgt Ion: 91 Resp: 13298

Ion	Ratio	Lower	Upper
91	100		
120	19.4	3.1	43.1
65	19.2	0.0	30.9

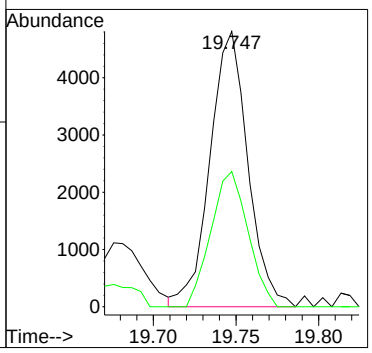


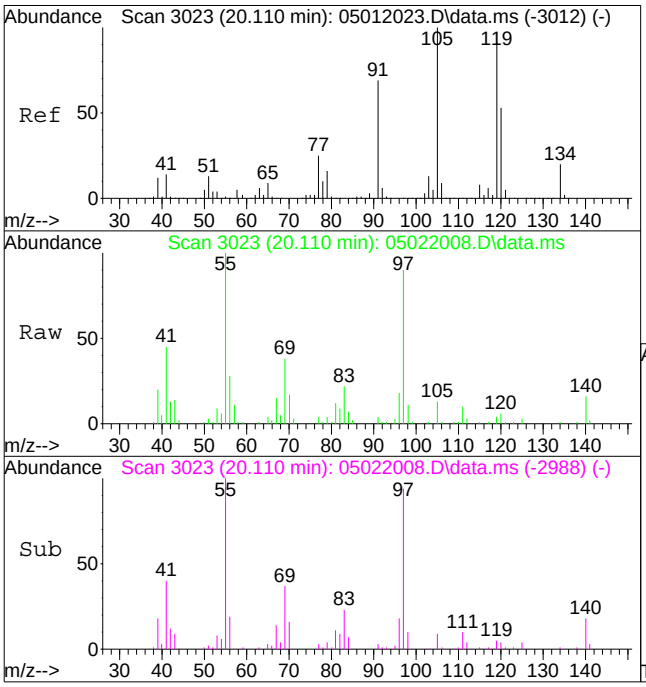


#79
1,3,5-Trimethylbenzene
Concen: 0.07 ng
RT: 19.75 min Scan# 2957
Delta R.T. -0.006 min
Lab File: 05022008.D
Acq: 2 May 2020 13:50

Tgt Ion:105 Resp: 7665

Ion	Ratio	Lower	Upper
105	100		
120	48.0	29.9	69.9

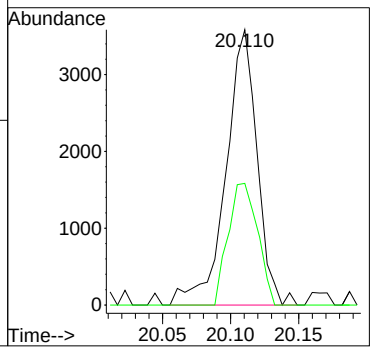




#82
1,2,4-Trimethylbenzene
Concen: 0.05 ng
RT: 20.11 min Scan# 3023
Delta R.T. -0.006 min
Lab File: 05022008.D
Acq: 2 May 2020 13:50

Tgt Ion:105 Resp: 5721

Ion	Ratio	Lower	Upper
105	100		
120	41.7	33.6	73.6



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012044.D Vial: 11
Acq On : 2 May 2020 5:32 Operator: LH
Sample : P2002104-008 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:24:11 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/4/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	247527	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1075979	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	531773	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	423083	12.612	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.88%				
57) Toluene-d8 (SS2)	15.72	98	1091009	12.104	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.80%				
73) Bromofluorobenzene (SS3)	18.98	174	393499	12.133	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.04%				
Target Compounds							Qvalue
2) Propene	4.10	42	18774m	0.655	ng		
3) Dichlorodifluoromethan...	4.26	85	32715	0.583	ng		99
4) Chloromethane	4.54	50	1028	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	716	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.15	54	764	N.D.			
8) Bromomethane	5.65	94	176	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.32	45	30788	1.391	ng		94
11) Acetonitrile	6.61	41	1183	N.D.			
12) Acrolein	6.81	56	2122	0.121	ng		97
13) Acetone	7.01	58	96132	4.342	ng		89
14) Trichlorofluoromethane	7.24	101	11892	0.240	ng		100
15) 2-Propanol (Isopropanol)	7.47	45	155133	2.315	ng		95
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	3811	0.132	ng		98
20) 3-Chloro-1-propene (Al...	8.50	41	1019	N.D.			
21) Trichlorotrifluoroethane	8.84	151	2178	0.093	ng		100
22) Carbon Disulfide	8.67	76	43594	0.423	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.07	73	2097	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.47	72	6214	0.329	ng		95
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	11.26	57	4747	0.101	ng	#	1
32) Chloroform	11.30	83	2029826	41.197	ng		99
34) Tetrahydrofuran (THF)	11.75	72	3353	0.182	ng	#	86
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	20639	0.179	ng		100
42) Carbon Tetrachloride	13.03	117	14443	0.368	ng		99
43) Cyclohexane	13.16	84	2700	0.063	ng		94
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	13.91	63	329	N.D.			
46) Bromodichloromethane	13.91	83	415261	10.649	ng		99
47) Trichloroethene	13.97	130	4657	0.156	ng		98
48) 1,4-Dioxane	13.90	88	363	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012044.D Vial: 11
Acq On : 2 May 2020 5:32 Operator: LH
Sample : P2002104-008 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:24:11 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.30	71	8833	0.327 ng		99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.87	58	672	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.82	91	187570	1.614 ng		99
59) 2-Hexanone	16.07	43	8558	0.134 ng		78
60) Dibromochloromethane	16.22	129	10369	0.312 ng		99
61) 1,2-Dibromoethane	16.47	107	503	N.D.		
62) n-Butyl Acetate	16.70	43	4738	0.069 ng	#	59
63) n-Octane	16.82	57	18207	0.757 ng		96
64) Tetrachloroethene	16.96	166	15145	0.461 ng		100
65) Chlorobenzene	0.00	112	0	N.D. d		
66) Ethylbenzene	17.98	91	49852	0.385 ng		99
67) m- & p-Xylenes	18.14	91	147841	1.438 ng		99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	713	N.D.		
70) o-Xylene	18.58	91	63959	0.613 ng		100
71) n-Nonane	18.77	43	110123	1.989 ng		95
72) 1,1,2,2-Tetrachloroethane	18.55	83	293	N.D.		
74) Cumene	19.10	105	13054	0.102 ng		96
75) alpha-Pinene	19.45	93	255	N.D.		
76) n-Propylbenzene	19.55	91	36963	0.243 ng		94
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.68	105	15364	0.128 ng		97
79) 1,3,5-Trimethylbenzene	19.75	105	29327	0.281 ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	20.11	105	63756	0.607 ng		92
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.19	91	407	N.D.		
85) 1,3-Dichlorobenzene	20.23	146	334	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	454	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D. d		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	20.61	146	218	N.D.		
91) d-Limonene	20.61	68	1622	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.11	180	941	N.D.		
95) Naphthalene	22.22	128	43601	0.340 ng		96
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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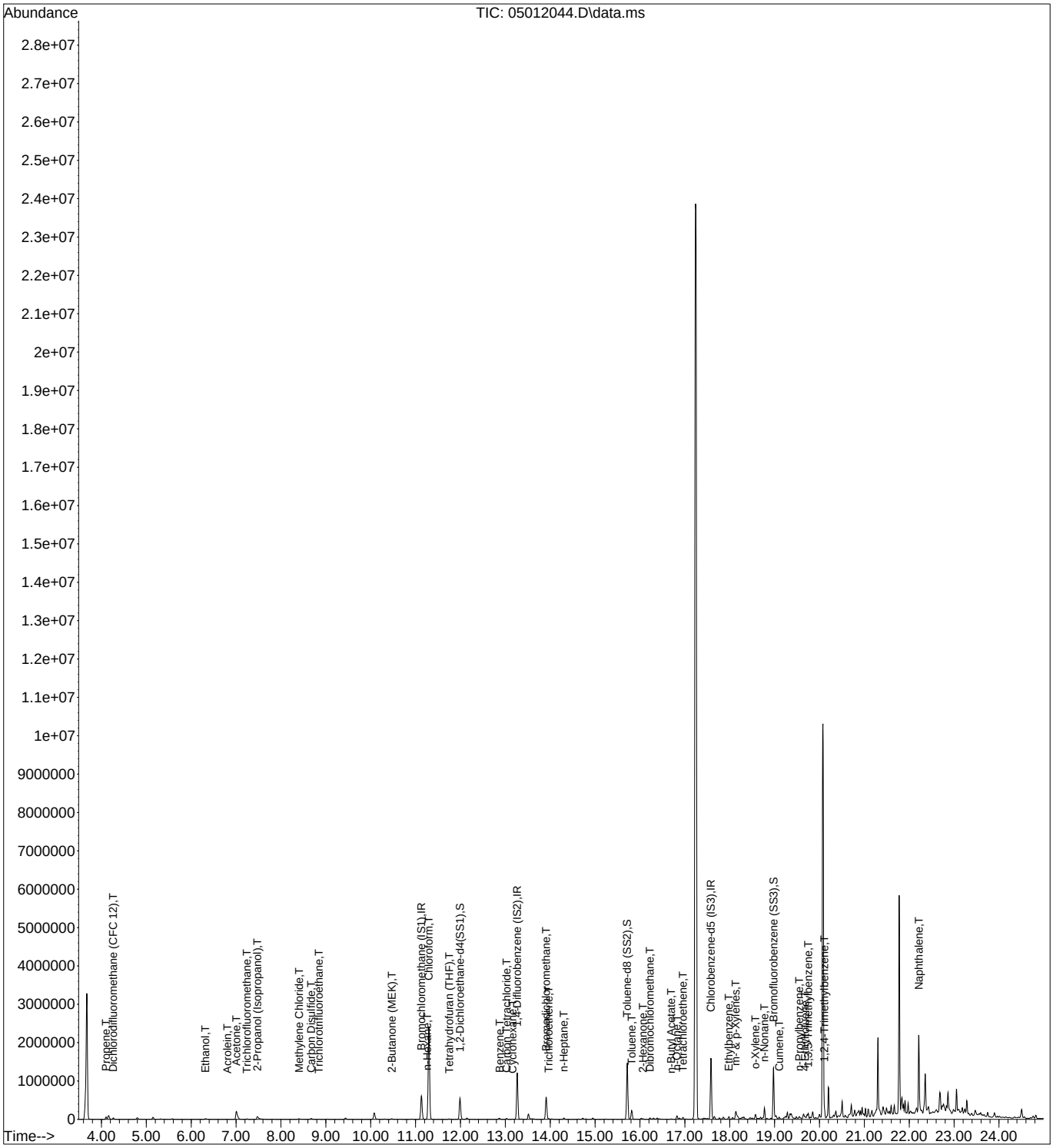
Acq On : 2 May 2020 5:32 Operator: LH
Sample : P2002104-008 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:24:11 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012044.D Vial: 11
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Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/4/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	247527	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1075979	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	531773	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	423083	12.612	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.88%				
57) Toluene-d8 (SS2)	15.72	98	1091009	12.104	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.80%				
73) Bromofluorobenzene (SS3)	18.98	174	393499	12.133	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.04%				
Target Compounds							Qvalue
2) Propene	4.10	42	18774m	0.655	ng		
3) Dichlorodifluoromethan...	4.26	85	32715	0.583	ng		99
10) Ethanol	6.32	45	30788	1.391	ng		94
12) Acrolein	6.81	56	2122	0.121	ng		97
13) Acetone	7.01	58	96132	4.342	ng		89
14) Trichlorofluoromethane	7.24	101	11892	0.240	ng		100
15) 2-Propanol (Isopropanol)	7.47	45	155133	2.315	ng		95
19) Methylene Chloride	8.40	84	3811	0.132	ng		98
21) Trichlorotrifluoroethane	8.84	151	2178	0.093	ng		100
22) Carbon Disulfide	8.67	76	43594	0.423	ng		99
27) 2-Butanone (MEK)	10.47	72	6214	0.329	ng		95
31) n-Hexane	11.26	57	4747	0.101	ng	#	1
32) Chloroform	11.30	83	2029826	41.197	ng		99
34) Tetrahydrofuran (THF)	11.75	72	3353	0.182	ng	#	86
41) Benzene	12.87	78	20639	0.179	ng		100
42) Carbon Tetrachloride	13.03	117	14443	0.368	ng		99
43) Cyclohexane	13.16	84	2700	0.063	ng		94
46) Bromodichloromethane	13.91	83	415261	10.649	ng		99
47) Trichloroethene	13.97	130	4657	0.156	ng		98
51) n-Heptane	14.30	71	8833	0.327	ng		99
58) Toluene	15.82	91	187570	1.614	ng		99
59) 2-Hexanone	16.07	43	8558	0.134	ng		78
60) Dibromochloromethane	16.22	129	10369	0.312	ng		99
62) n-Butyl Acetate	16.70	43	4738	0.069	ng	#	59
63) n-Octane	16.82	57	18207	0.757	ng		96
64) Tetrachloroethene	16.96	166	15145	0.461	ng		100
66) Ethylbenzene	17.98	91	49852	0.385	ng		99
67) m- & p-Xylenes	18.14	91	147841	1.438	ng		99
70) o-Xylene	18.58	91	63959	0.613	ng		100
71) n-Nonane	18.77	43	110123	1.989	ng		95
74) Cumene	19.10	105	13054	0.102	ng		96
76) n-Propylbenzene	19.55	91	36963	0.243	ng		94
78) 4-Ethyltoluene	19.68	105	15364	0.128	ng		97
79) 1,3,5-Trimethylbenzene	19.75	105	29327	0.281	ng		99
82) 1,2,4-Trimethylbenzene	20.11	105	63756	0.607	ng		92
95) Naphthalene	22.22	128	43601	0.340	ng		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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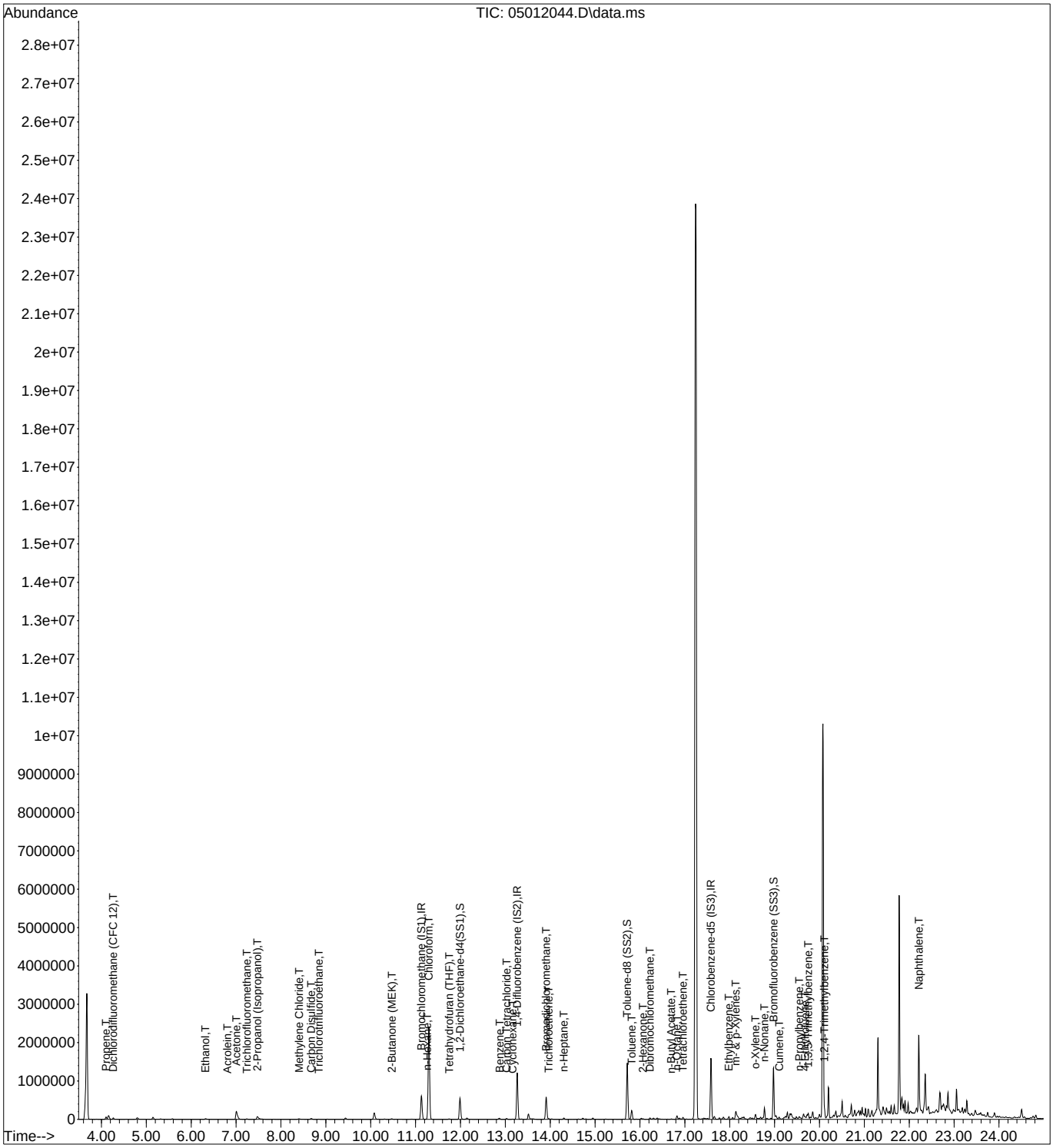
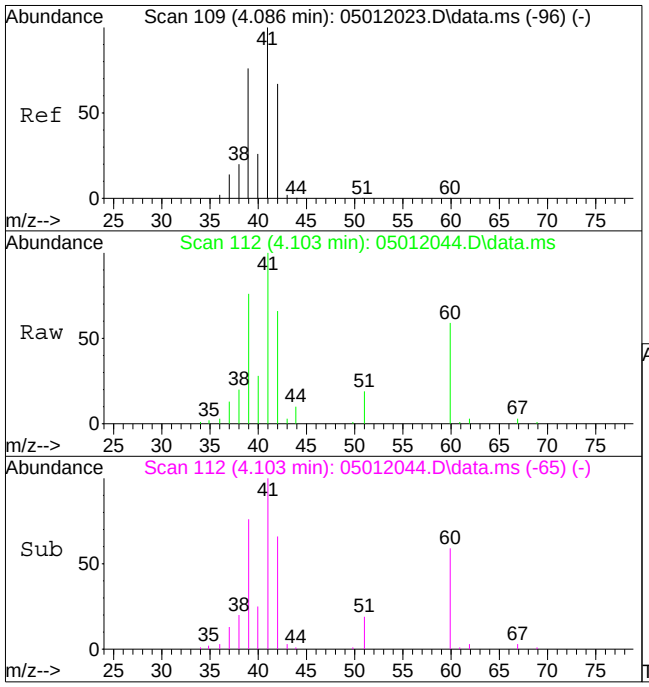
Acq On : 2 May 2020 5:32 Operator: LH
Sample : P2002104-008 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:24:11 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

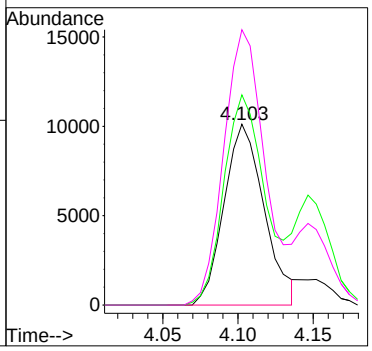


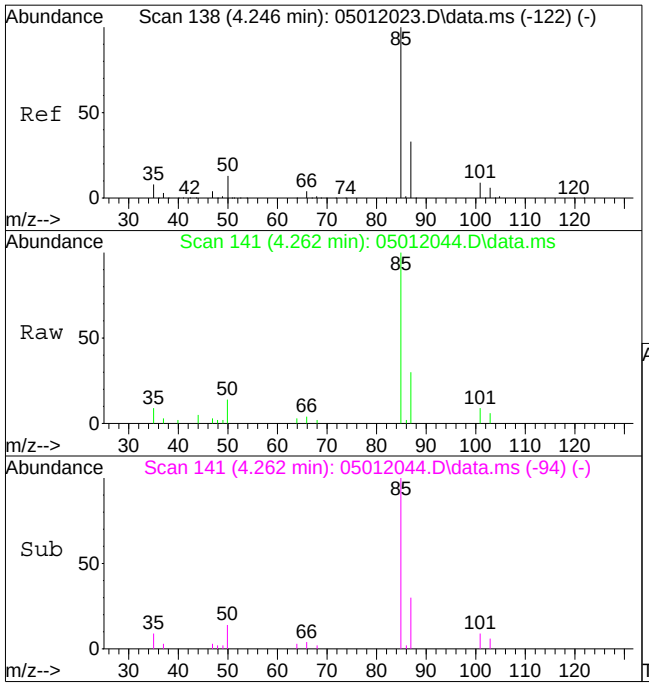


#2
Propene
Concen: 0.65 ng m
RT: 4.10 min Scan# 112
Delta R.T. 0.011 min
Lab File: 05012044.D
Acq: 2 May 2020 5:32

Tgt Ion: 42 Resp: 18774

Ion	Ratio	Lower	Upper
42	100		
39	118.9	96.1	136.1
41	158.6	131.9	171.9

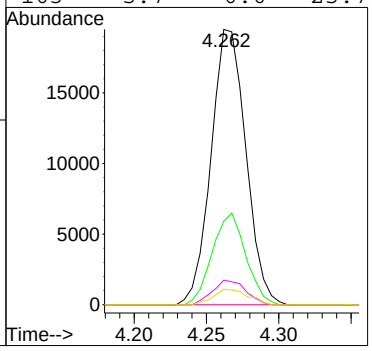


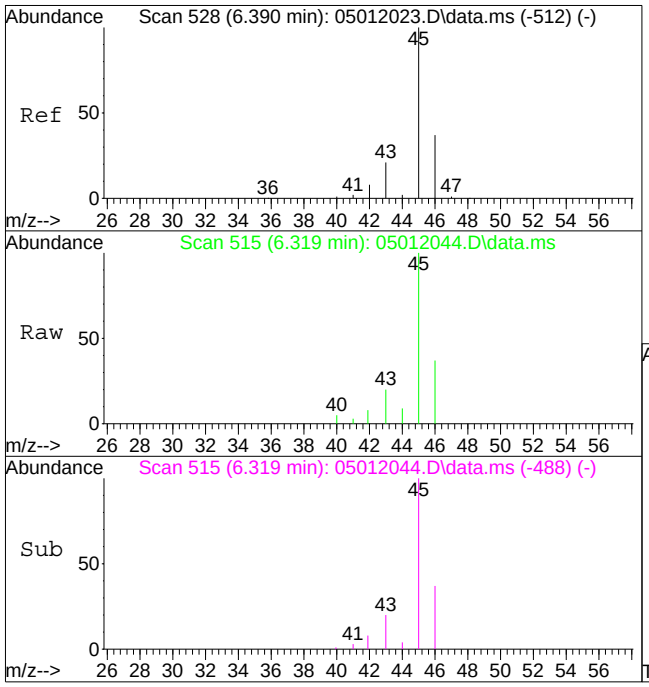


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.58 ng
RT: 4.26 min Scan# 141
Delta R.T. 0.011 min
Lab File: 05012044.D
Acq: 2 May 2020 5:32

Tgt Ion: 85 Resp: 32715

Ion	Ratio	Lower	Upper
85	100		
87	32.0	12.4	52.4
101	8.6	0.0	28.8
103	5.7	0.0	25.7

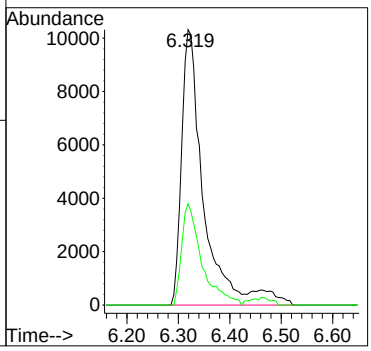


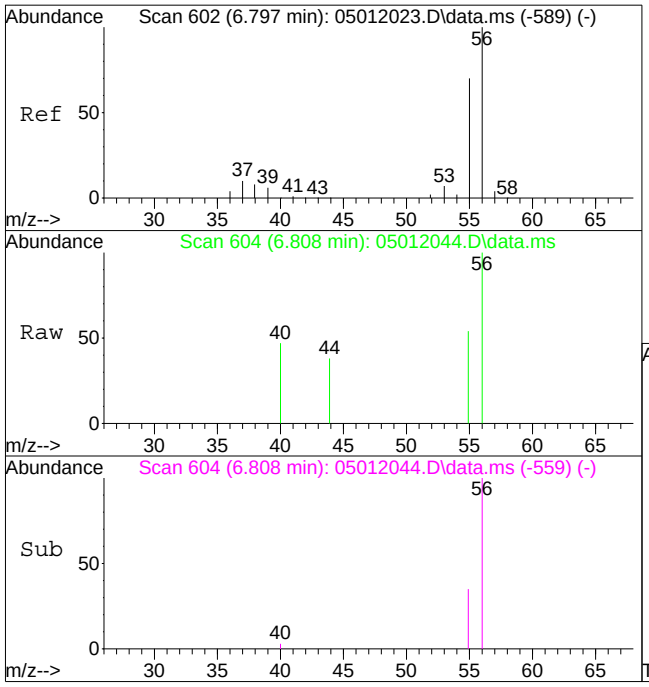


#10
Ethanol
Concen: 1.39 ng
RT: 6.32 min Scan# 515
Delta R.T. -0.099 min
Lab File: 05012044.D
Acq: 2 May 2020 5:32

Tgt Ion: 45 Resp: 30788

Ion	Ratio	Lower	Upper
45	100		
46	33.4	17.2	57.2

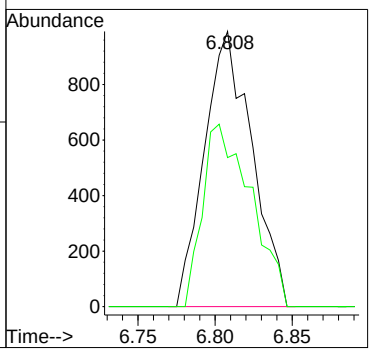


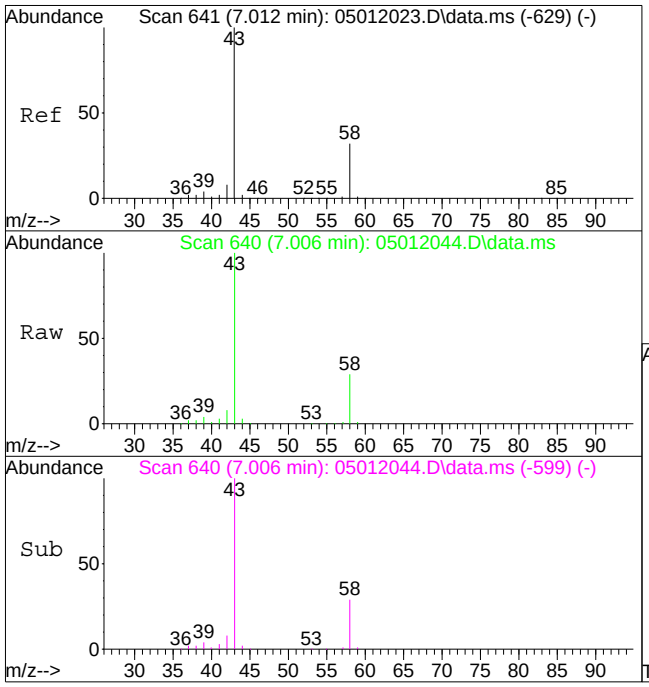


#12
Acrolein
Concen: 0.12 ng
RT: 6.81 min Scan# 604
Delta R.T. -0.000 min
Lab File: 05012044.D
Acq: 2 May 2020 5:32

Tgt Ion: 56 Resp: 2122

Ion	Ratio	Lower	Upper
56	100		
55	67.4	50.2	90.2

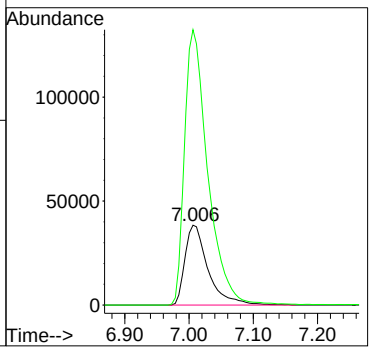


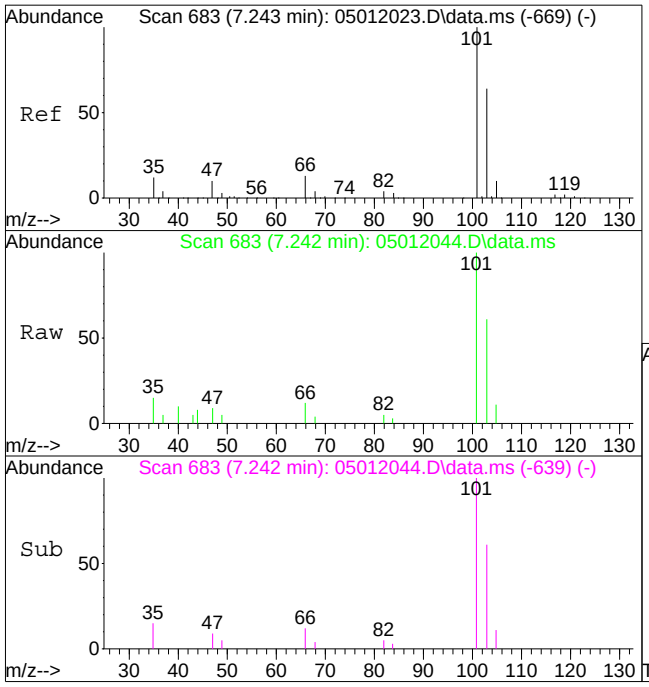


#13
Acetone
Concen: 4.34 ng
RT: 7.01 min Scan# 640
Delta R.T. -0.022 min
Lab File: 05012044.D
Acq: 2 May 2020 5:32

Tgt Ion: 58 Resp: 96132

Ion	Ratio	Lower	Upper
58	100		
43	346.8	294.4	354.4

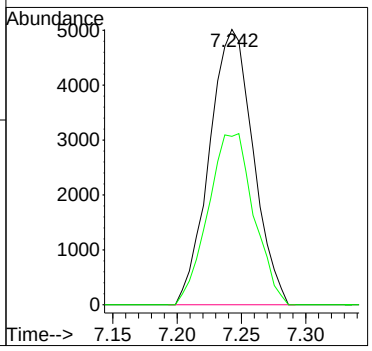


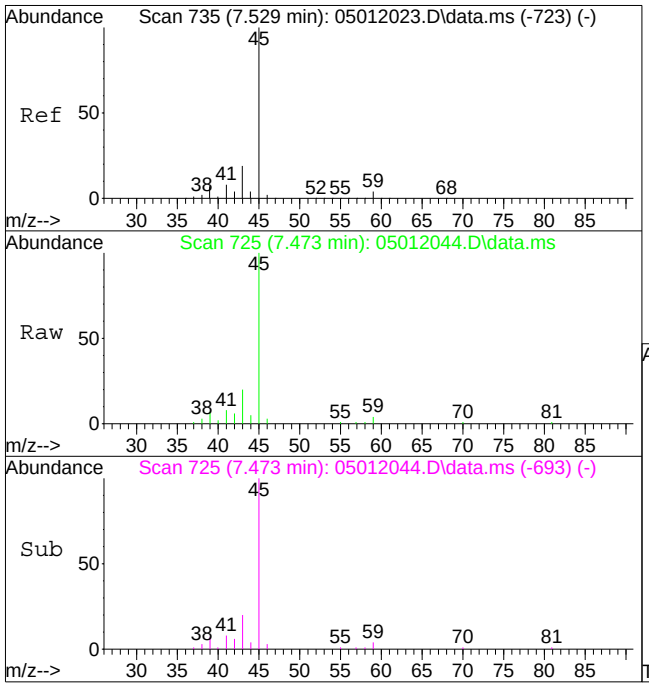


#14
Trichlorofluoromethane
Concen: 0.24 ng
RT: 7.24 min Scan# 683
Delta R.T. -0.006 min
Lab File: 05012044.D
Acq: 2 May 2020 5:32

Tgt Ion:101 Resp: 11892

Ion	Ratio	Lower	Upper
101	100		
103	64.7	44.4	84.4

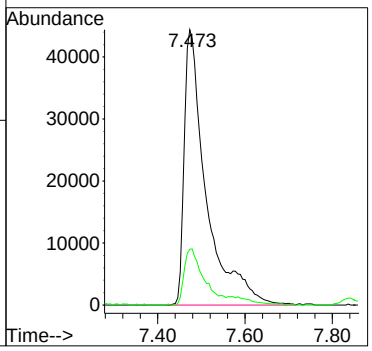


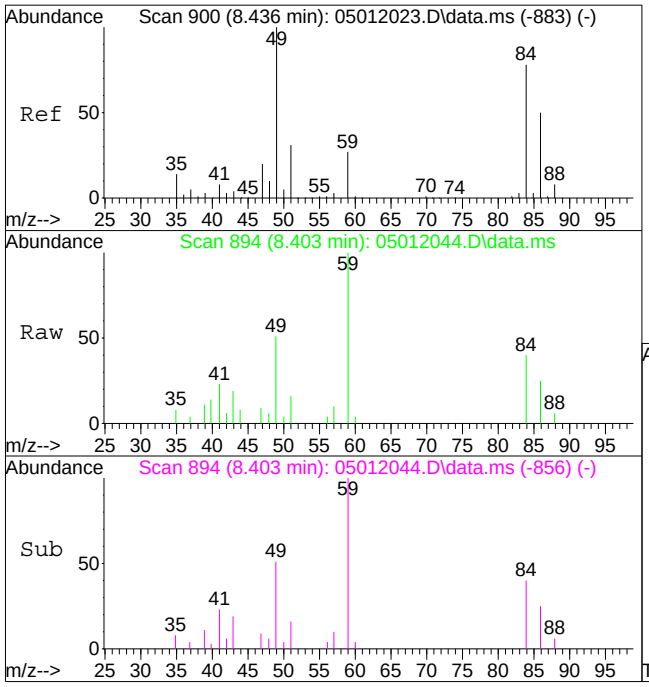


#15
2-Propanol (Isopropanol)
Concen: 2.32 ng
RT: 7.47 min Scan# 725
Delta R.T. -0.072 min
Lab File: 05012044.D
Acq: 2 May 2020 5:32

Tgt Ion: 45 Resp: 155133

Ion	Ratio	Lower	Upper
45	100		
43	21.7	0.0	39.5

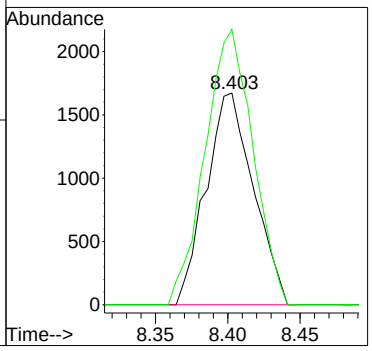


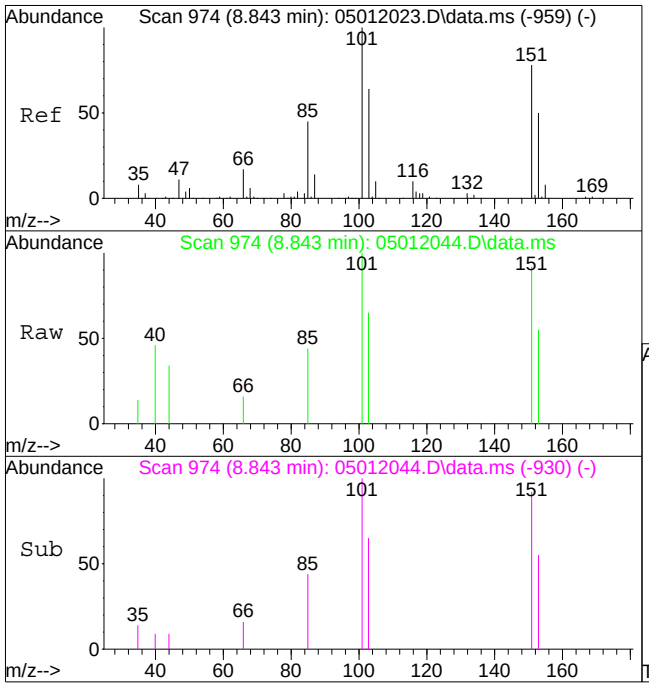


#19
Methylene Chloride
Concen: 0.13 ng
RT: 8.40 min Scan# 894
Delta R.T. -0.039 min
Lab File: 05012044.D
Acq: 2 May 2020 5:32

Tgt Ion: 84 Resp: 3811

Ion	Ratio	Lower	Upper
84	100		
49	131.8	104.8	154.8

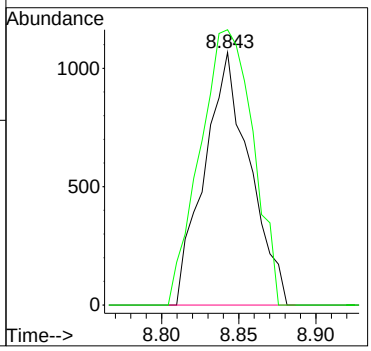


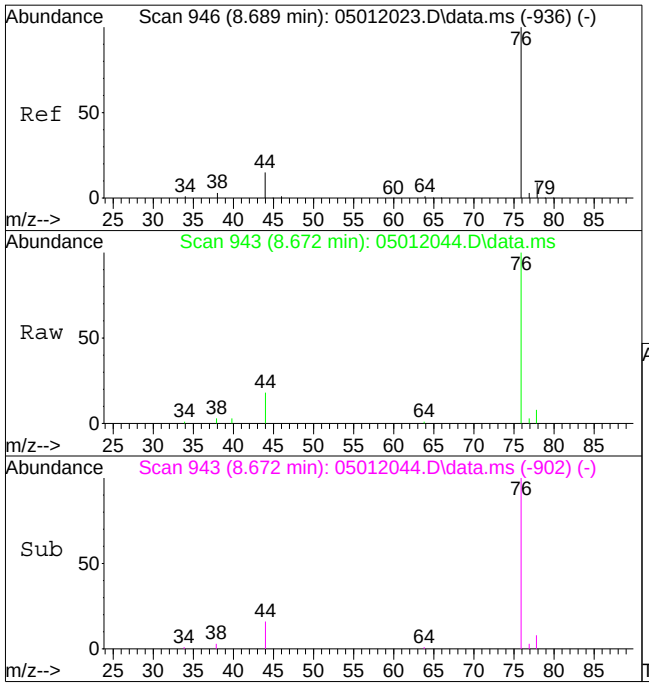


#21
Trichlorotrifluoroethane
Concen: 0.09 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05012044.D
Acq: 2 May 2020 5:32

Tgt Ion:151 Resp: 2178

Ion	Ratio	Lower	Upper
151	100		
101	127.6	107.3	147.3

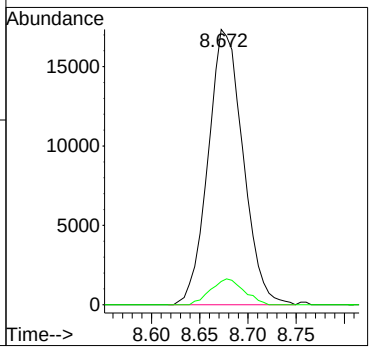


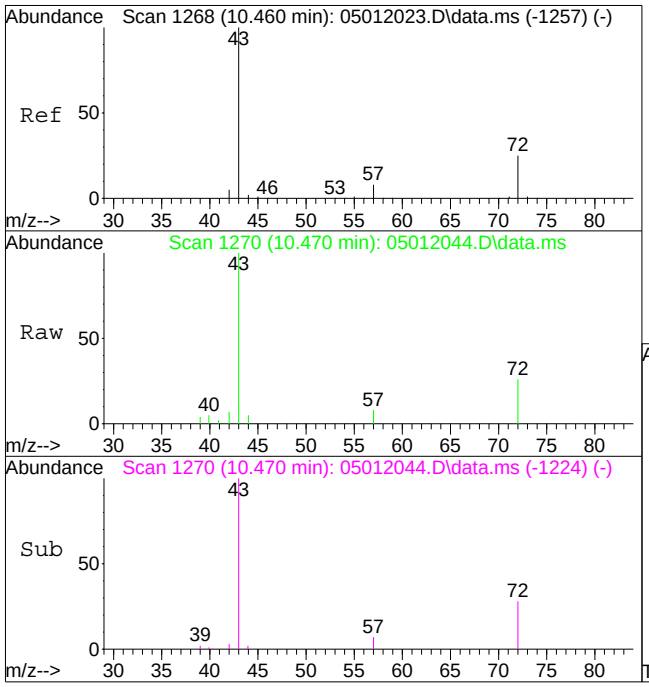


#22
Carbon Disulfide
Concen: 0.42 ng
RT: 8.67 min Scan# 943
Delta R.T. -0.022 min
Lab File: 05012044.D
Acq: 2 May 2020 5:32

Tgt Ion: 76 Resp: 43594

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	29.2

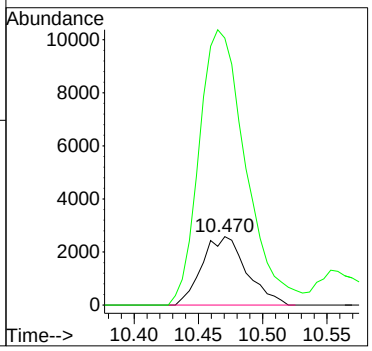


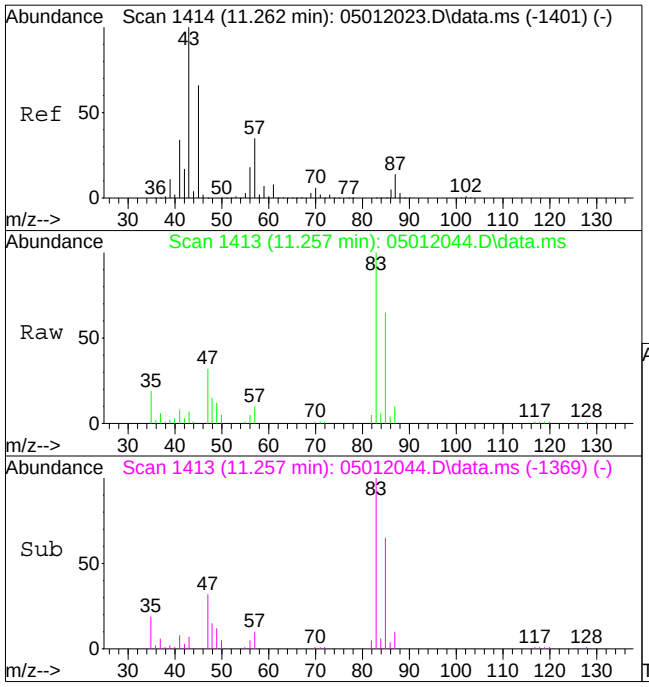


#27
2-Butanone (MEK)
Concen: 0.33 ng
RT: 10.47 min Scan# 1270
Delta R.T. 0.005 min
Lab File: 05012044.D
Acq: 2 May 2020 5:32

Tgt Ion: 72 Resp: 6214

Ion	Ratio	Lower	Upper
72	100		
43	421.7	389.7	429.7

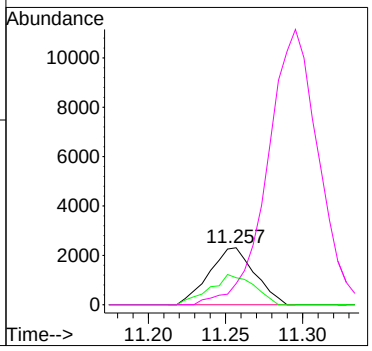


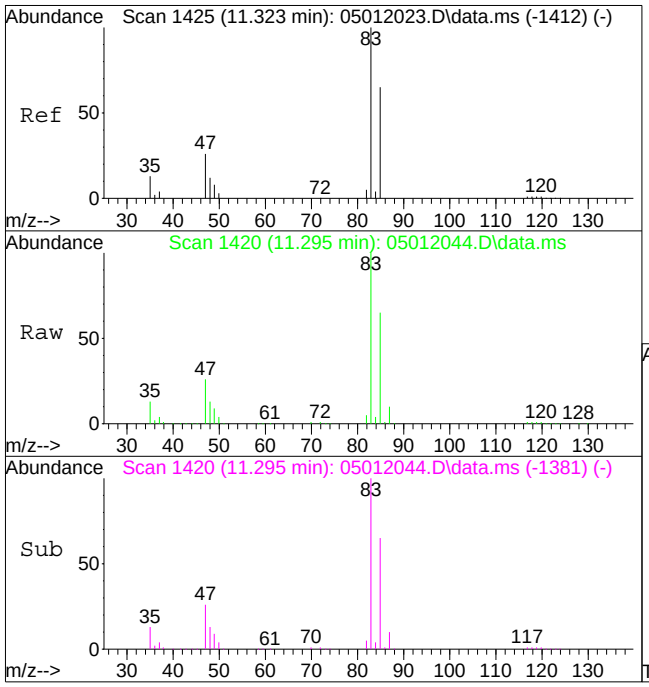


#31
n-Hexane
Concen: 0.10 ng
RT: 11.26 min Scan# 1413
Delta R.T. -0.006 min
Lab File: 05012044.D
Acq: 2 May 2020 5:32

Tgt Ion: 57 Resp: 4747

Ion	Ratio	Lower	Upper
57	100		
56	51.3	41.4	62.0
86	533.4	12.4	18.6#

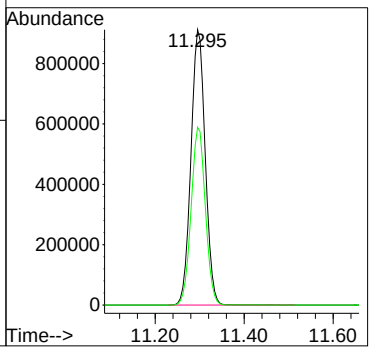


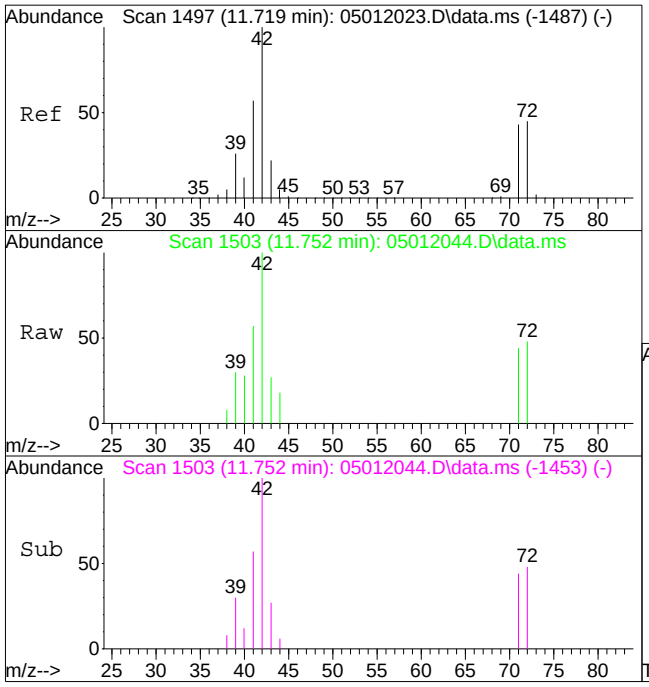


#32
Chloroform
Concen: 41.20 ng
RT: 11.30 min Scan# 1420
Delta R.T. -0.033 min
Lab File: 05012044.D
Acq: 2 May 2020 5:32

Tgt Ion: 83 Resp: 2029826

Ion	Ratio	Lower	Upper
83	100		
85	64.6	45.5	85.5

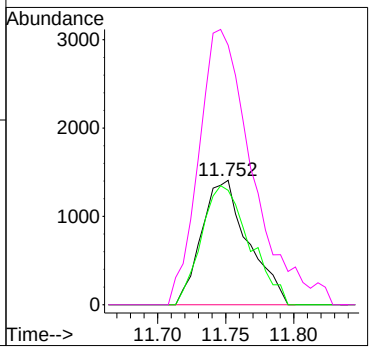


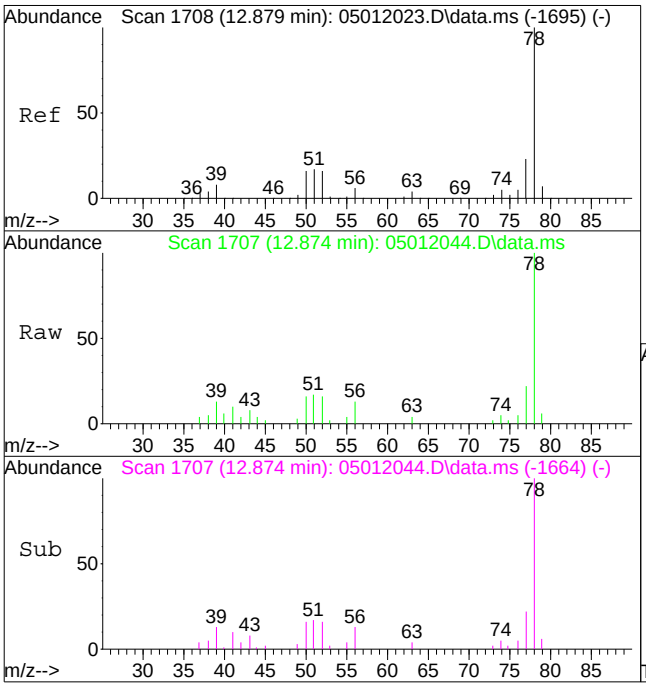


#34
Tetrahydrofuran (THF)
Concen: 0.18 ng
RT: 11.75 min Scan# 1503
Delta R.T. 0.027 min
Lab File: 05012044.D
Acq: 2 May 2020 5:32

Tgt Ion: 72 Resp: 3353

Ion	Ratio	Lower	Upper
72	100		
71	99.2	77.0	117.0
42	256.5	204.6	244.6#

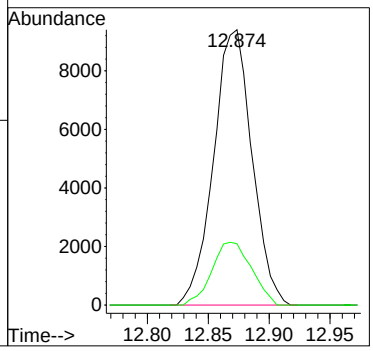


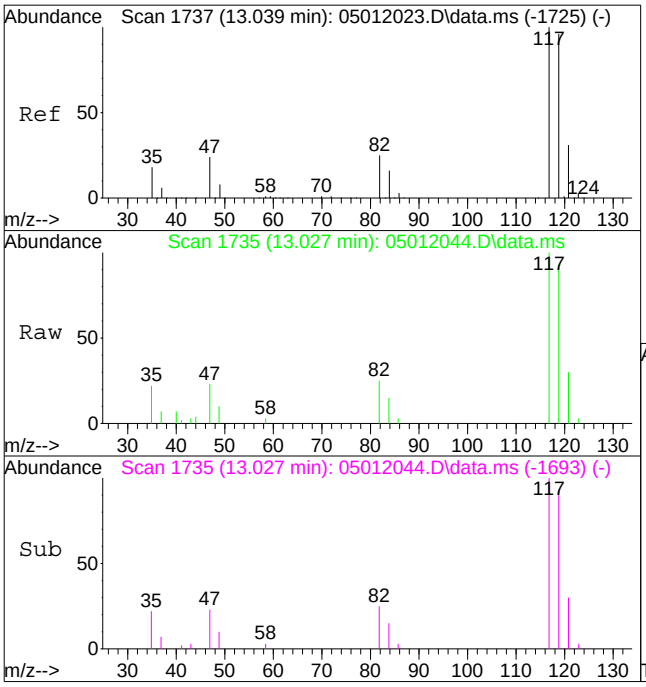


#41
Benzene
Concen: 0.18 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05012044.D
Acq: 2 May 2020 5:32

Tgt Ion: 78 Resp: 20639

Ion	Ratio	Lower	Upper
78	100		
77	23.5	3.4	43.4

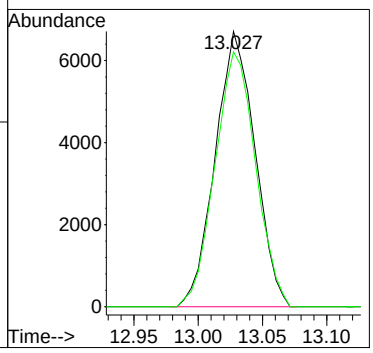


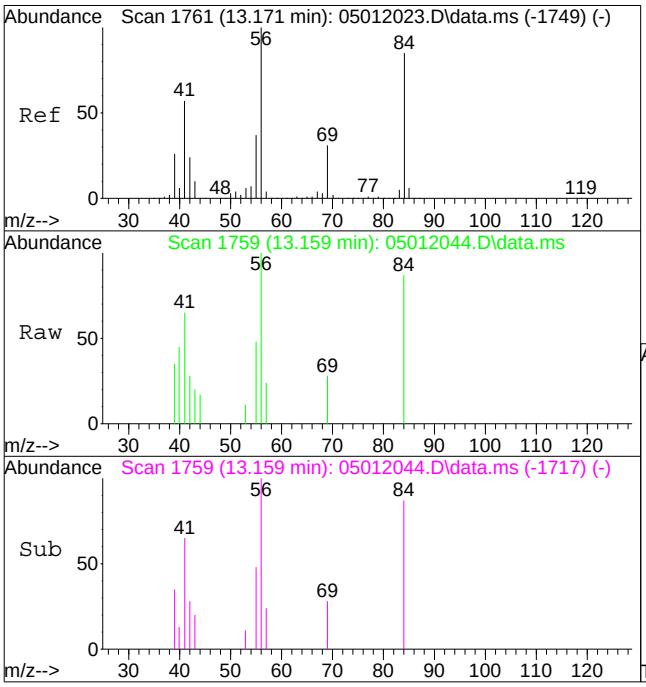


#42
Carbon Tetrachloride
Concen: 0.37 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05012044.D
Acq: 2 May 2020 5:32

Tgt Ion:117 Resp: 14443

Ion	Ratio	Lower	Upper
117	100		
119	94.8	76.2	116.2

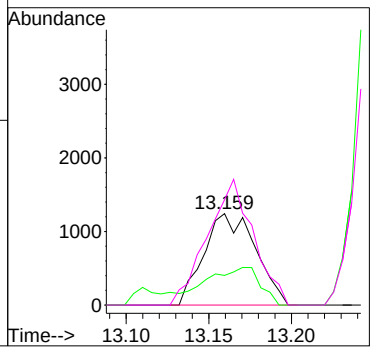


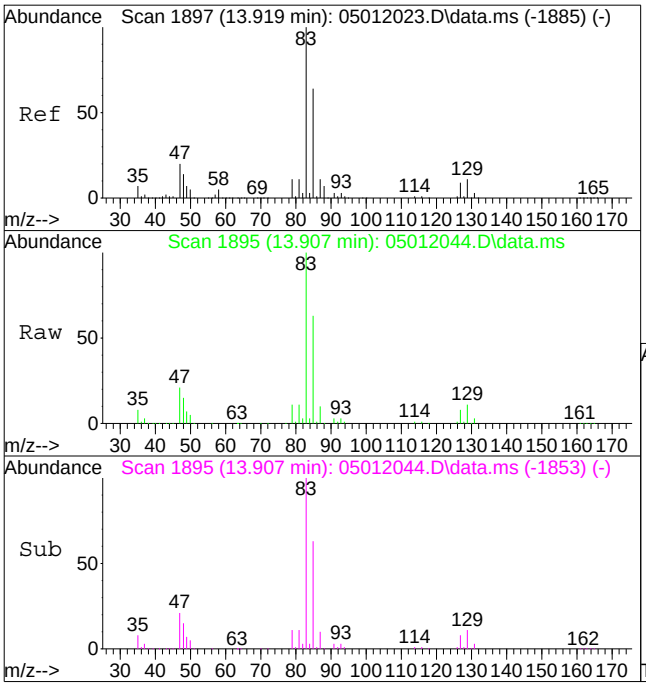


#43
Cyclohexane
Concen: 0.06 ng
RT: 13.16 min Scan# 1759
Delta R.T. -0.017 min
Lab File: 05012044.D
Acq: 2 May 2020 5:32

Tgt Ion: 84 Resp: 2700

Ion	Ratio	Lower	Upper
84	100		
69	42.8	16.5	56.5
56	122.2	97.4	137.4

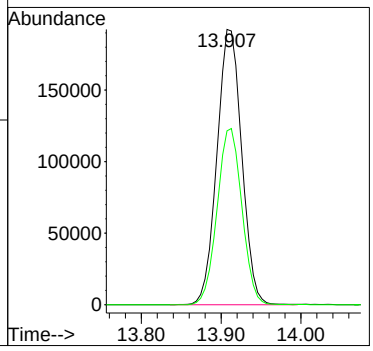


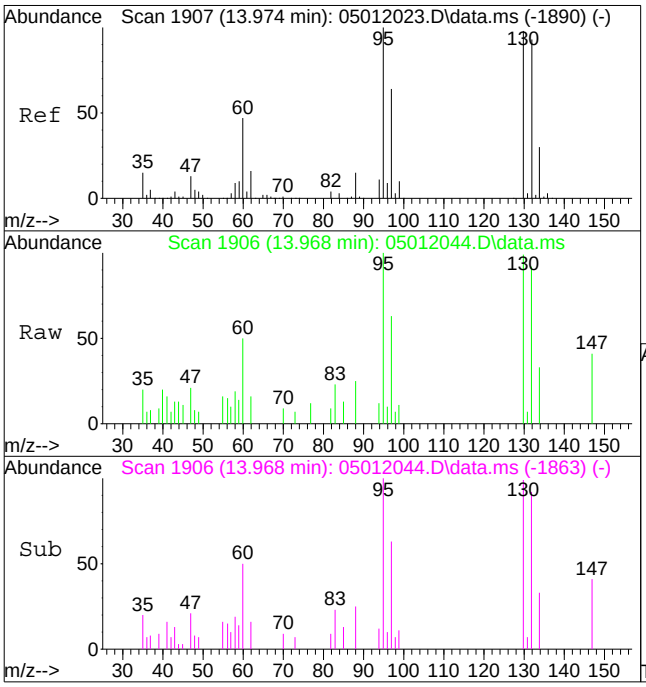


#46
Bromodichloromethane
Concen: 10.65 ng
RT: 13.91 min Scan# 1895
Delta R.T. -0.017 min
Lab File: 05012044.D
Acq: 2 May 2020 5:32

Tgt Ion: 83 Resp: 415261

Ion	Ratio	Lower	Upper
83	100		
85	63.9	44.4	84.4

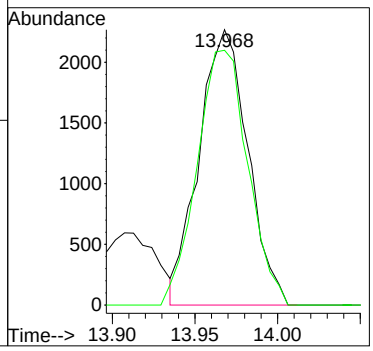


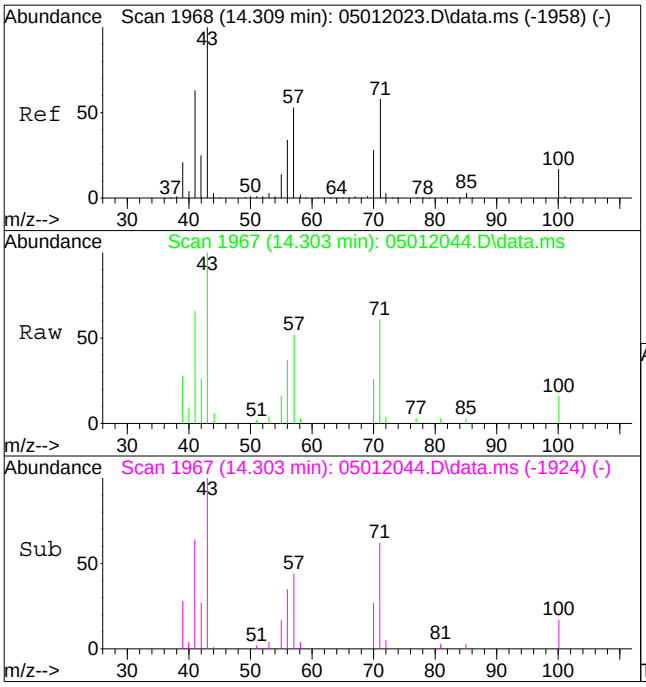


#47
Trichloroethene
Concen: 0.16 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05012044.D
Acq: 2 May 2020 5:32

Tgt Ion:130 Resp: 4657

Ion	Ratio	Lower	Upper
130	100		
132	96.4	74.9	114.9

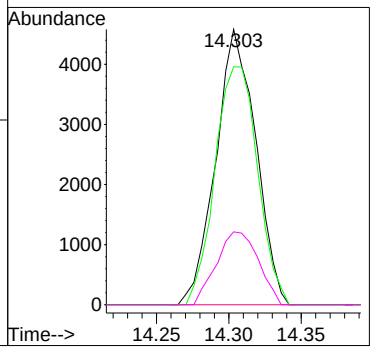


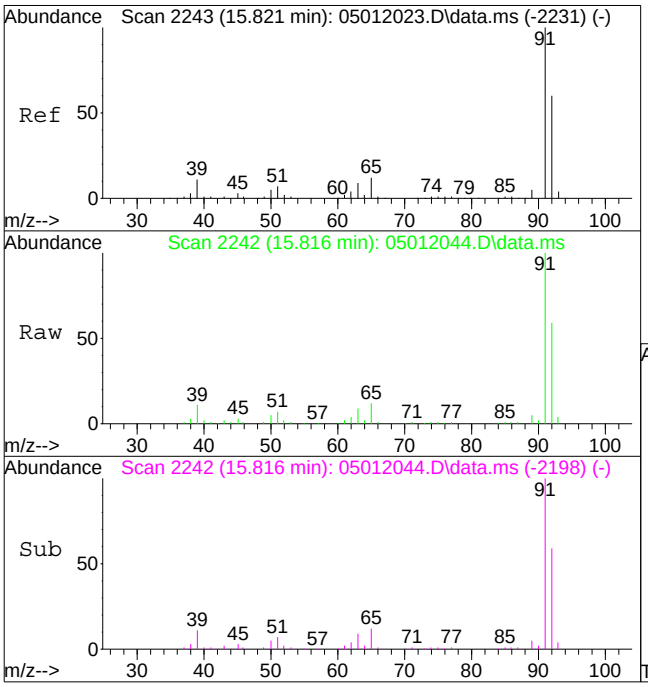


#51
n-Heptane
Concen: 0.33 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05012044.D
Acq: 2 May 2020 5:32

Tgt Ion: 71 Resp: 8833

Ion	Ratio	Lower	Upper
71	100		
57	92.0	71.0	111.0
100	27.8	8.4	48.4

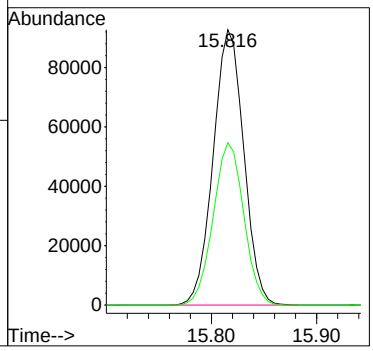


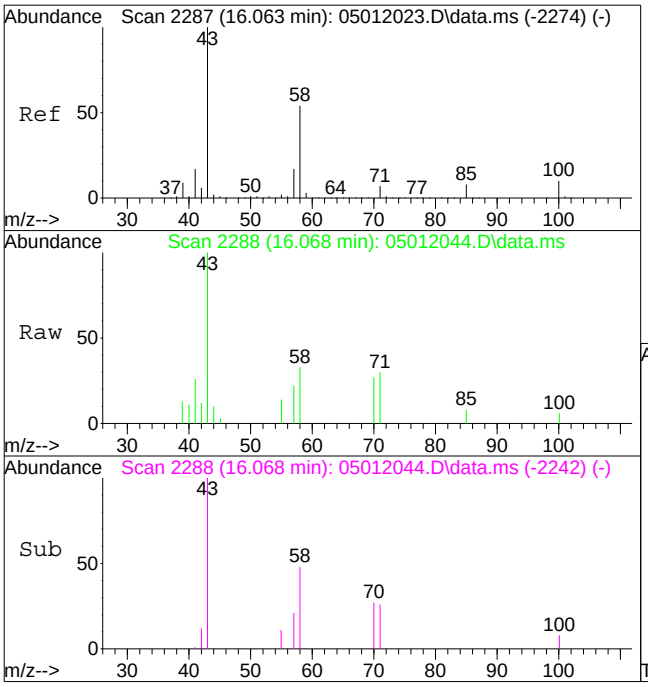


#58
Toluene
Concen: 1.61 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05012044.D
Acq: 2 May 2020 5:32

Tgt Ion: 91 Resp: 187570

Ion	Ratio	Lower	Upper
91	100		
92	58.9	39.4	79.4

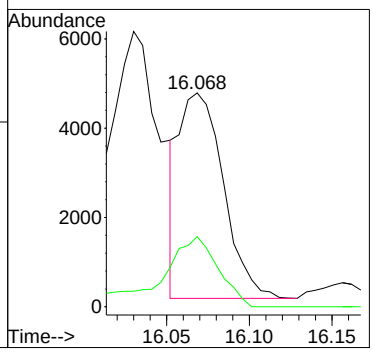


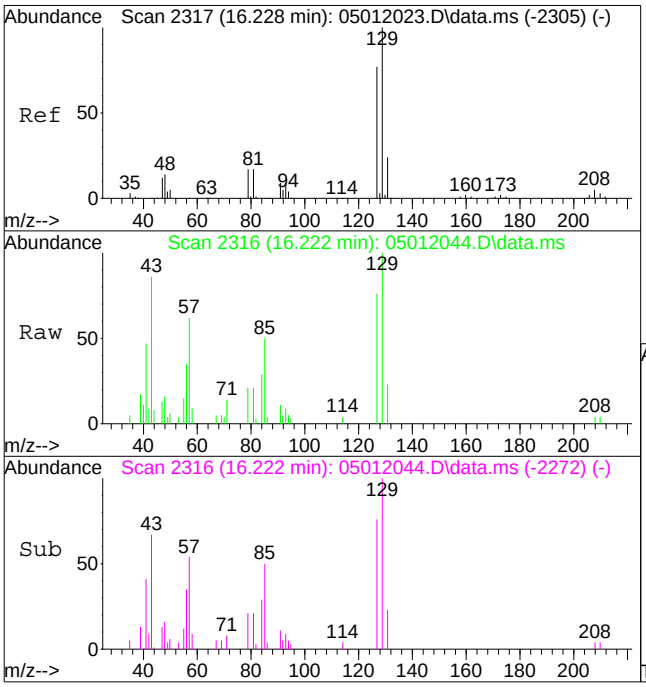


#59
2-Hexanone
Concen: 0.13 ng
RT: 16.07 min Scan# 2288
Delta R.T. 0.005 min
Lab File: 05012044.D
Acq: 2 May 2020 5:32

Tgt Ion: 43 Resp: 8558

Ion	Ratio	Lower	Upper
43	100		
58	38.4	34.5	74.5

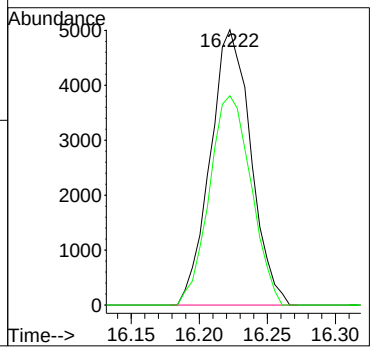


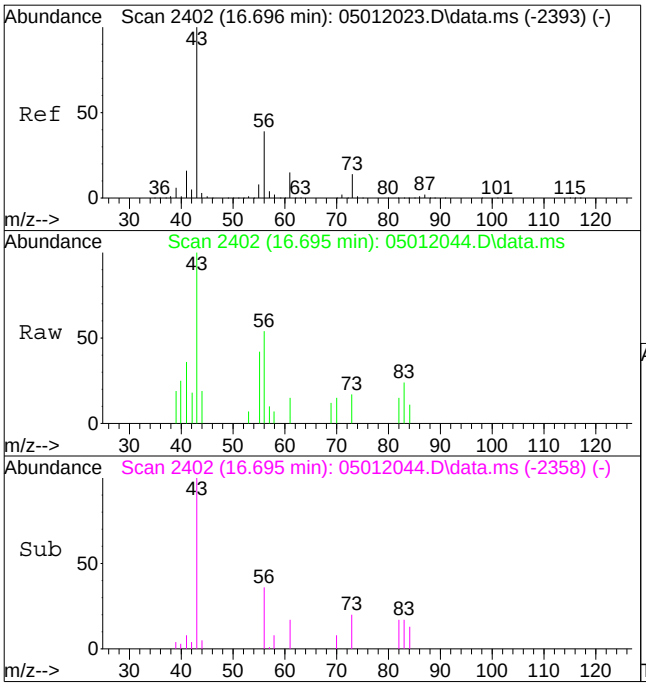


#60
Dibromochloromethane
Concen: 0.31 ng
RT: 16.22 min Scan# 2316
Delta R.T. -0.006 min
Lab File: 05012044.D
Acq: 2 May 2020 5:32

Tgt Ion:129 Resp: 10369

Ion	Ratio	Lower	Upper
129	100		
127	78.2	57.3	97.3

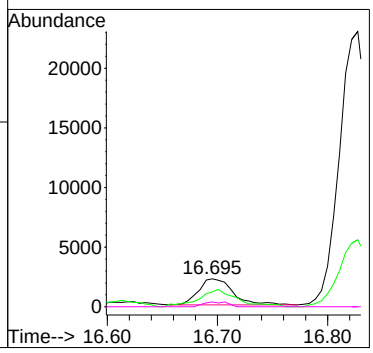


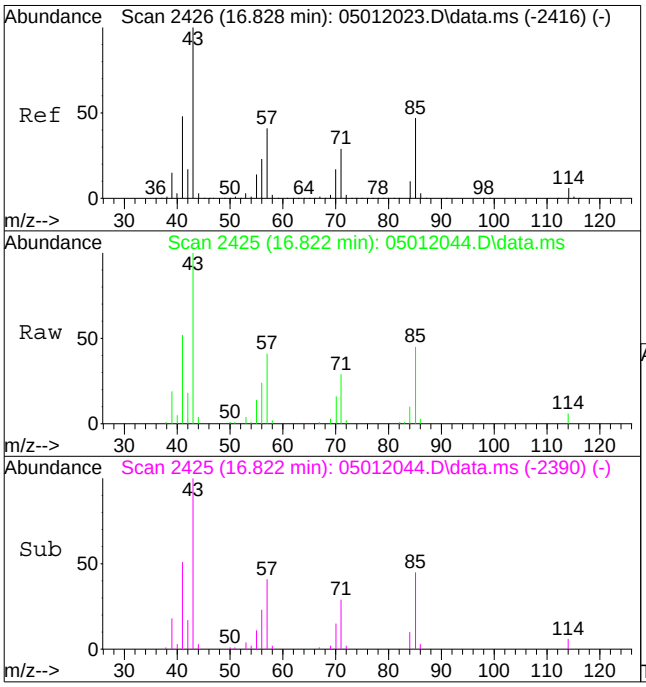


#62
n-Butyl Acetate
Concen: 0.07 ng
RT: 16.70 min Scan# 2402
Delta R.T. -0.006 min
Lab File: 05012044.D
Acq: 2 May 2020 5:32

Tgt Ion: 43 Resp: 4738

Ion	Ratio	Lower	Upper
43	100		
56	72.9	19.2	59.2#
73	12.7	0.0	34.4

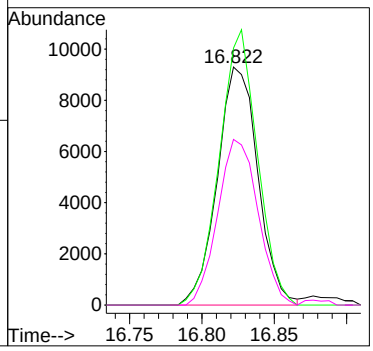


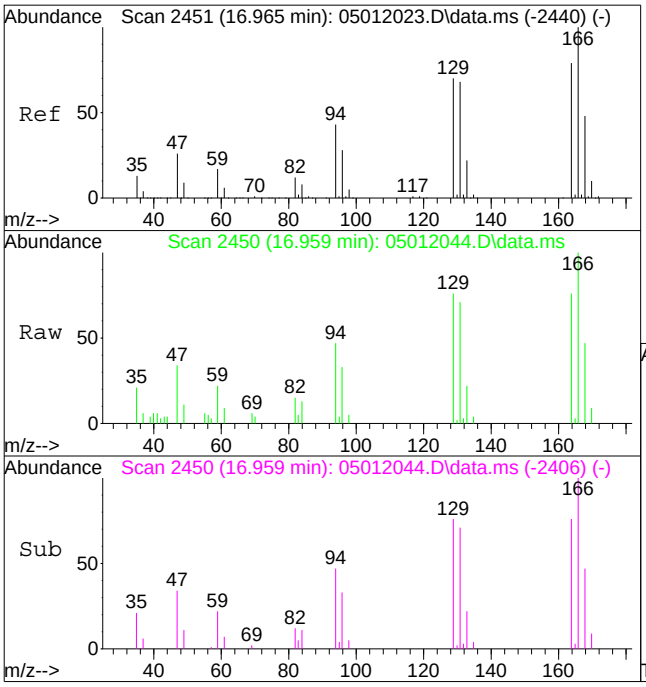


#63
n-Octane
Concen: 0.76 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05012044.D
Acq: 2 May 2020 5:32

Tgt Ion: 57 Resp: 18207

Ion	Ratio	Lower	Upper
57	100		
85	108.2	91.0	136.4
71	69.0	56.2	84.2

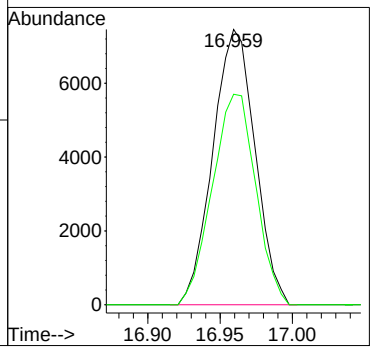


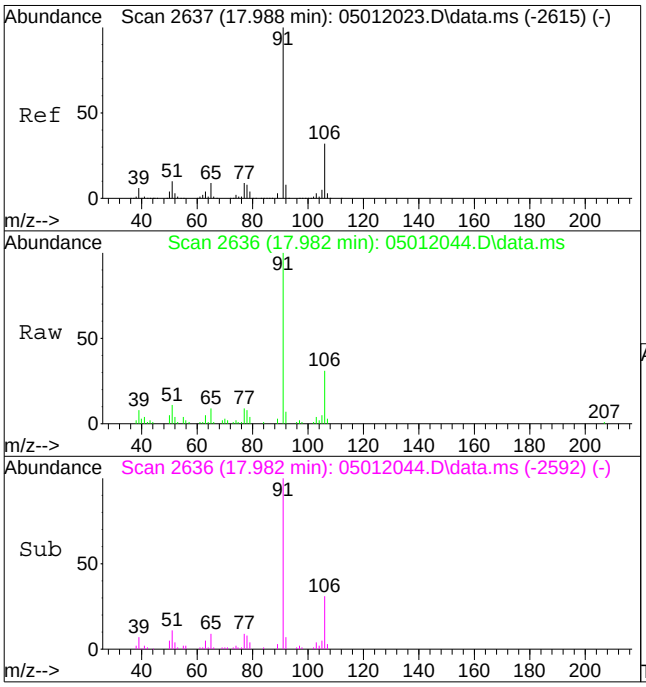


#64
Tetrachloroethene
Concen: 0.46 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05012044.D
Acq: 2 May 2020 5:32

Tgt Ion:166 Resp: 15145

Ion	Ratio	Lower	Upper
166	100		
164	78.6	58.4	98.4

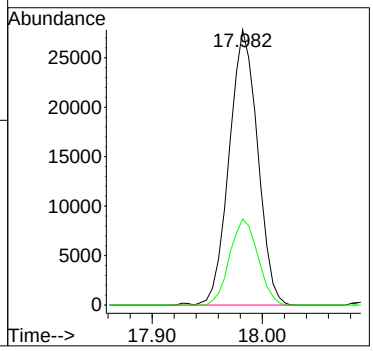


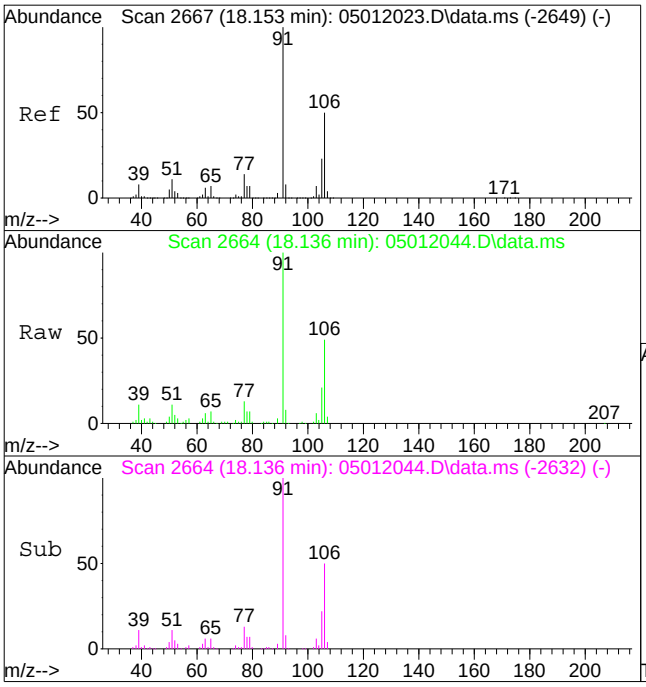


#66
Ethylbenzene
Concen: 0.38 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05012044.D
Acq: 2 May 2020 5:32

Tgt Ion: 91 Resp: 49852

Ion	Ratio	Lower	Upper
91	100		
106	30.9	11.6	51.6

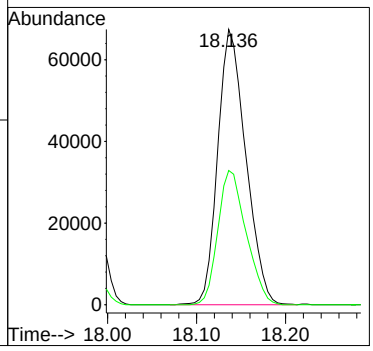


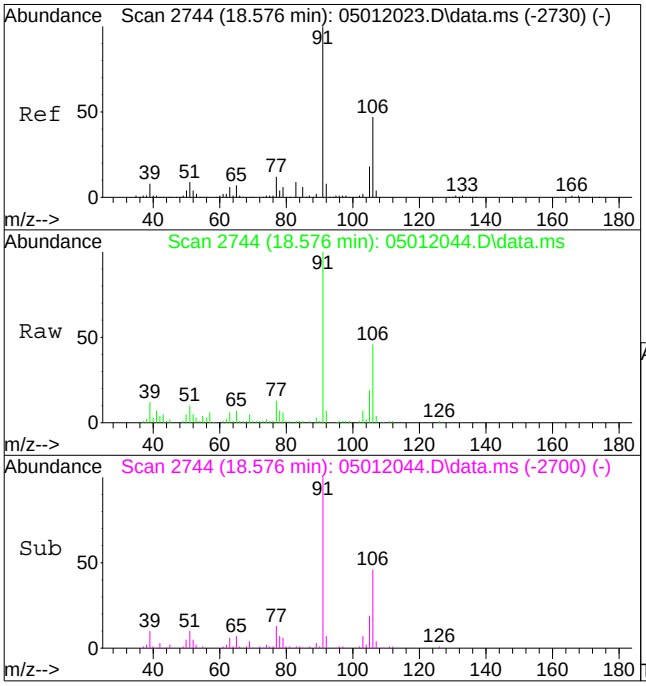


#67
m- & p-Xylenes
Concen: 1.44 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05012044.D
Acq: 2 May 2020 5:32

Tgt Ion: 91 Resp: 147841

Ion	Ratio	Lower	Upper
91	100		
106	49.1	29.7	69.7

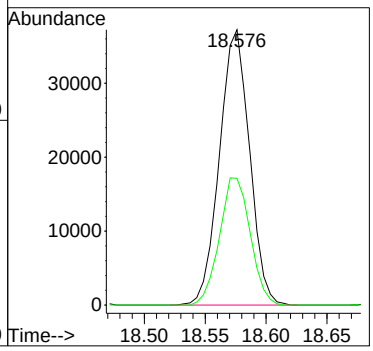


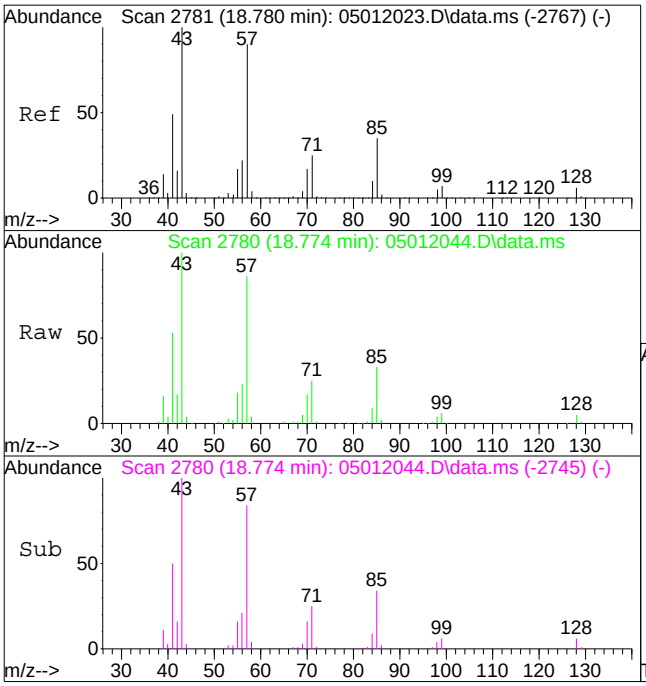


#70
o-Xylene
Concen: 0.61 ng
RT: 18.58 min Scan# 2744
Delta R.T. -0.006 min
Lab File: 05012044.D
Acq: 2 May 2020 5:32

Tgt Ion: 91 Resp: 63959

Ion	Ratio	Lower	Upper
91	100		
106	47.3	27.5	67.5

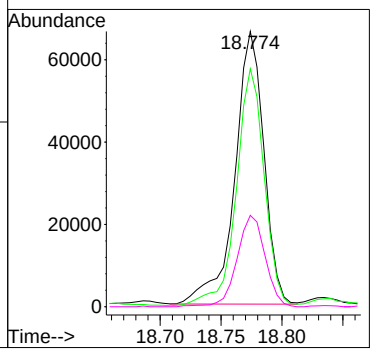


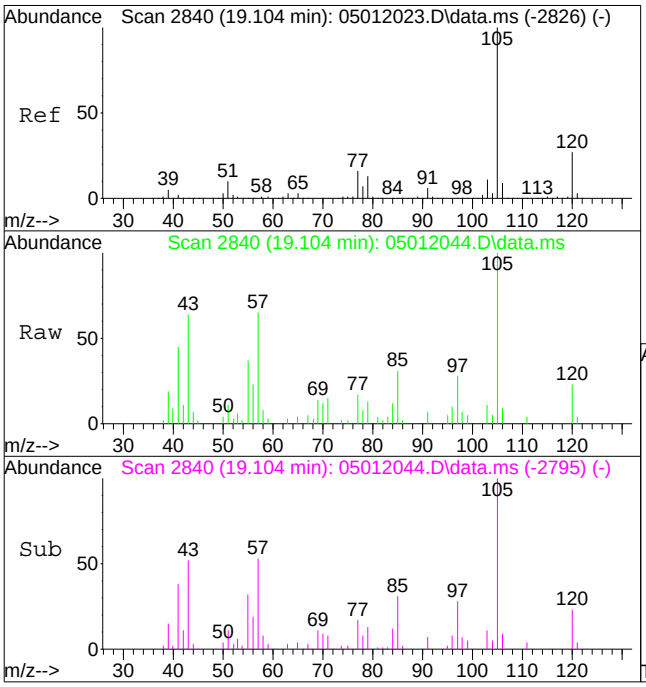


#71
n-Nonane
Concen: 1.99 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05012044.D
Acq: 2 May 2020 5:32

Tgt Ion: 43 Resp: 110123

Ion	Ratio	Lower	Upper
43	100		
57	83.3	69.0	109.0
85	32.3	14.6	54.6

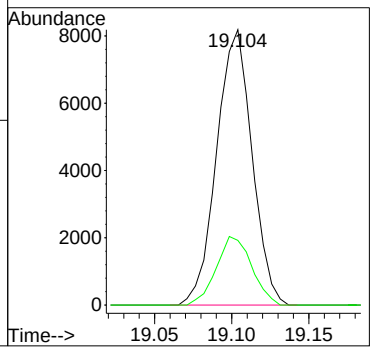


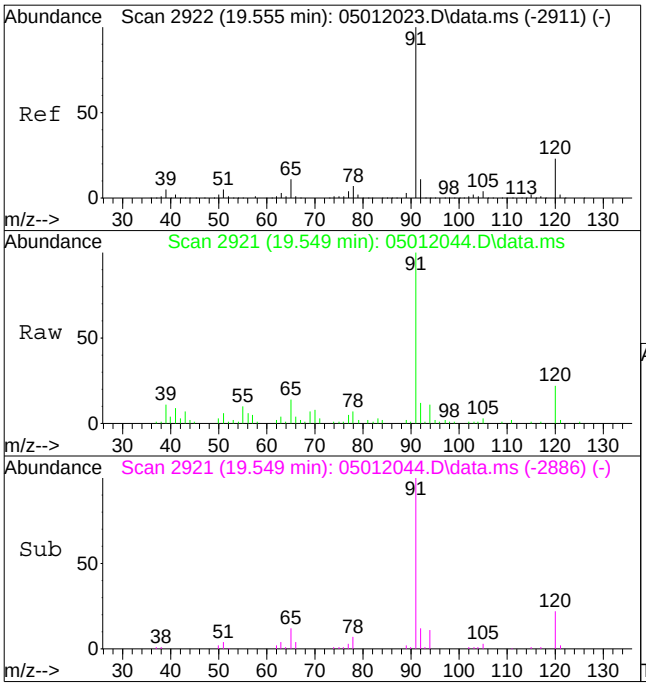


#74
Cumene
Concen: 0.10 ng
RT: 19.10 min Scan# 2840
Delta R.T. -0.000 min
Lab File: 05012044.D
Acq: 2 May 2020 5:32

Tgt Ion:105 Resp: 13054

Ion	Ratio	Lower	Upper
105	100		
120	24.9	6.8	46.8

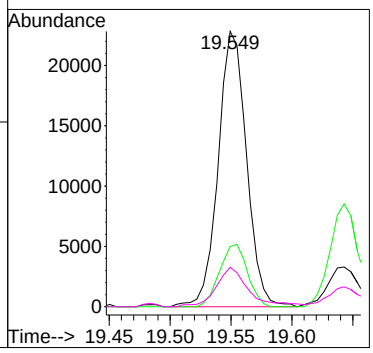


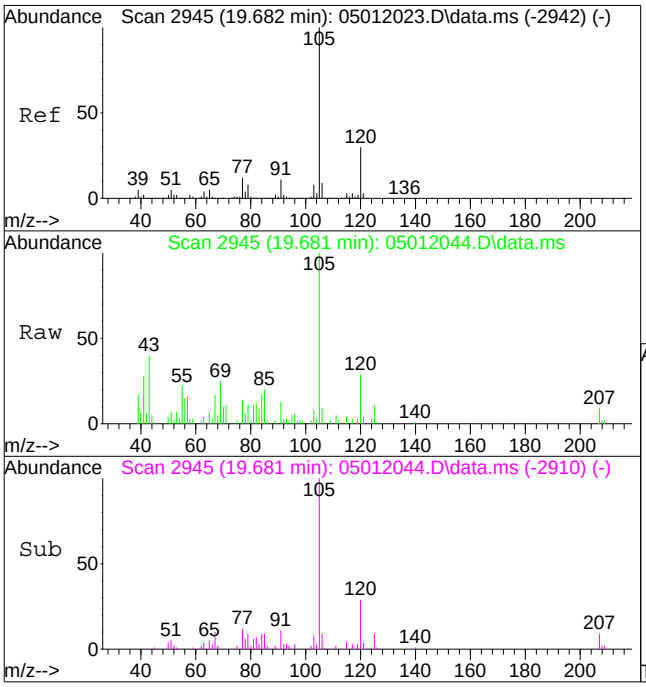


#76
n-Propylbenzene
Concen: 0.24 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05012044.D
Acq: 2 May 2020 5:32

Tgt Ion: 91 Resp: 36963

Ion	Ratio	Lower	Upper
91	100		
120	22.2	3.1	43.1
65	16.4	0.0	30.9

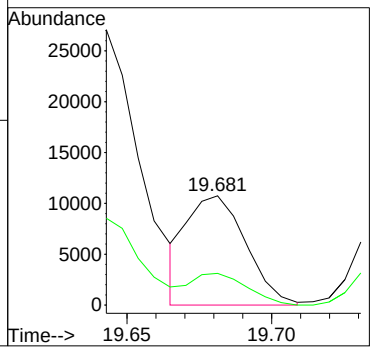


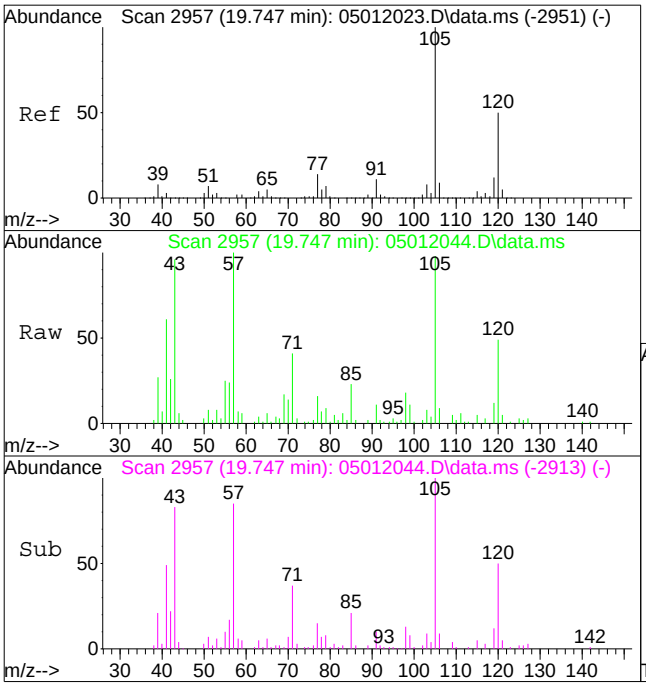


#78
4-Ethyltoluene
Concen: 0.13 ng
RT: 19.68 min Scan# 2945
Delta R.T. -0.006 min
Lab File: 05012044.D
Acq: 2 May 2020 5:32

Tgt Ion:105 Resp: 15364

Ion	Ratio	Lower	Upper
105	100		
120	28.5	10.4	50.4

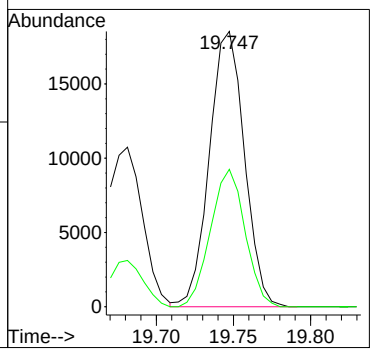


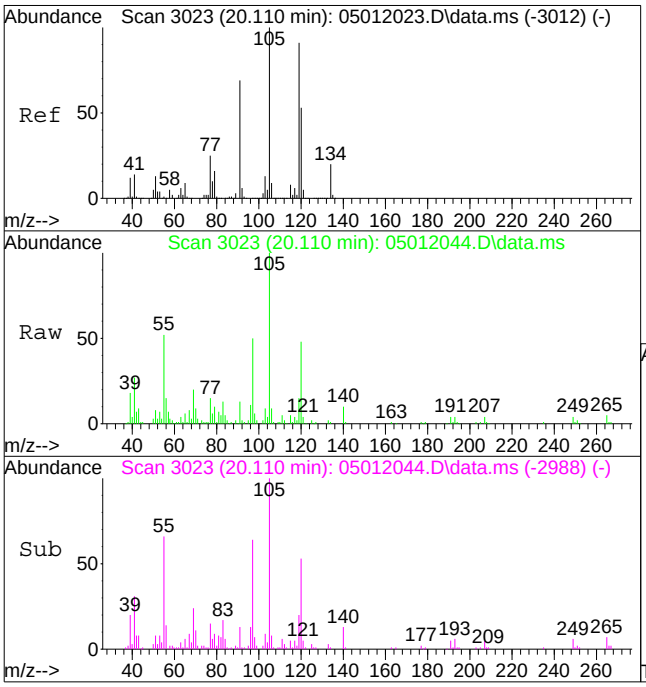


#79
1,3,5-Trimethylbenzene
Concen: 0.28 ng
RT: 19.75 min Scan# 2957
Delta R.T. -0.006 min
Lab File: 05012044.D
Acq: 2 May 2020 5:32

Tgt Ion:105 Resp: 29327

Ion	Ratio	Lower	Upper
105	100		
120	49.2	29.9	69.9

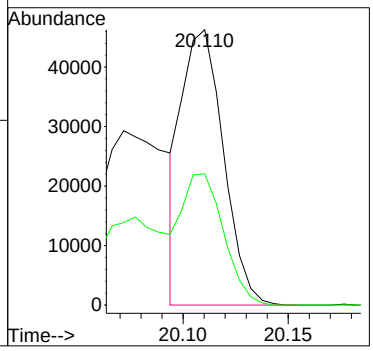


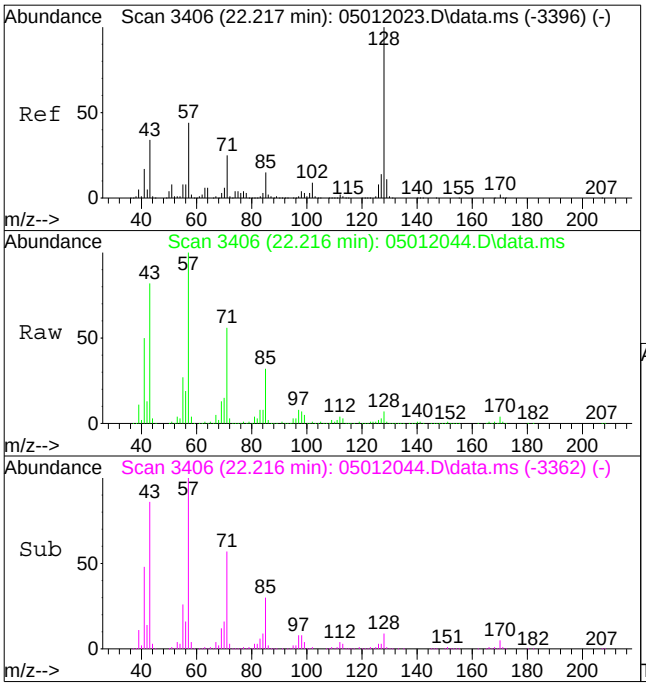


#82
1,2,4-Trimethylbenzene
Concen: 0.61 ng
RT: 20.11 min Scan# 3023
Delta R.T. -0.006 min
Lab File: 05012044.D
Acq: 2 May 2020 5:32

Tgt Ion:105 Resp: 63756

Ion	Ratio	Lower	Upper
105	100		
120	47.8	33.6	73.6

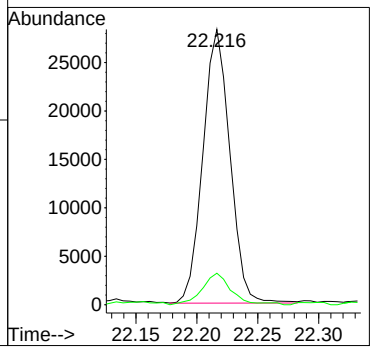




#95
Naphthalene
Concen: 0.34 ng
RT: 22.22 min Scan# 3406
Delta R.T. -0.006 min
Lab File: 05012044.D
Acq: 2 May 2020 5:32

Tgt Ion:128 Resp: 43601

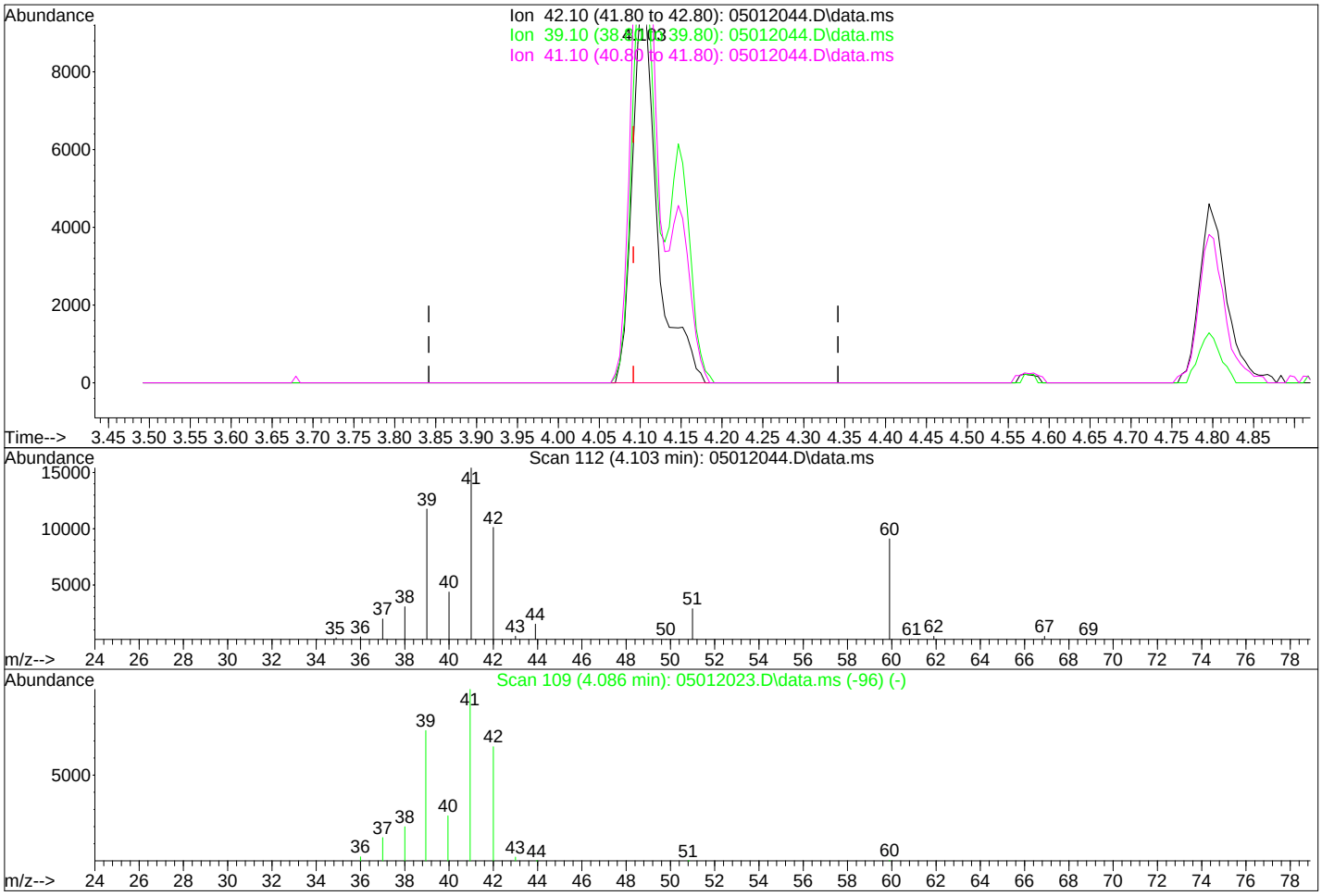
Ion	Ratio	Lower	Upper
128	100		
129	12.4	0.0	31.0



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\01\05012044.D Vial: 11
Acq On : 2 May 2020 5:32 Operator: LH
Sample : P2002104-008 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 02 06:35:35 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05012044.D\data.ms

(2) Propene (T)

4.103min (+0.011) 0.73ng

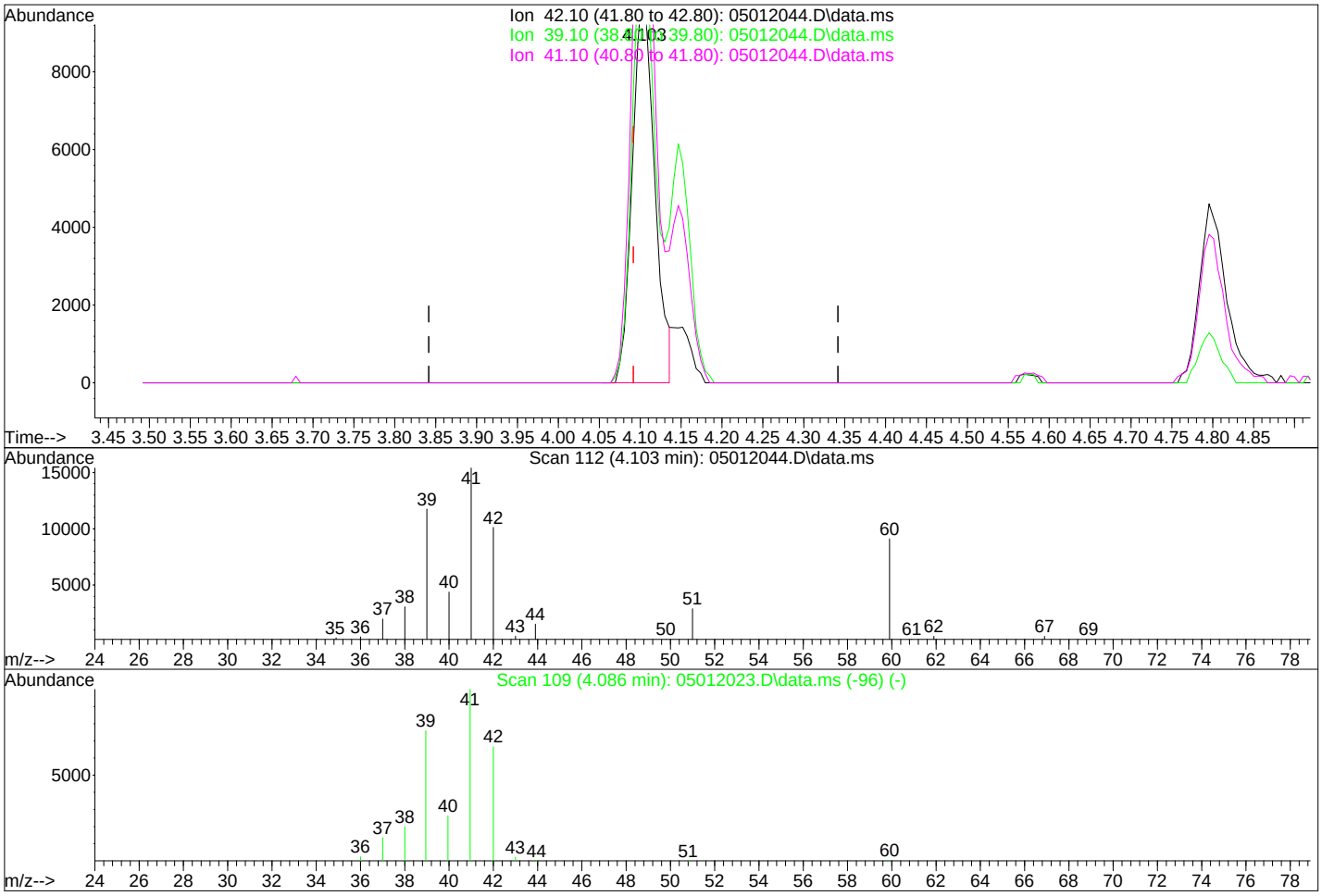
response 21045

Ion	Exp%	Act%
42.10	100	100
39.10	116.10	106.09
41.10	151.90	141.51
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\01\05012044.D Vial: 11
Acq On : 2 May 2020 5:32 Operator: LH
Sample : P2002104-008 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 02 06:35:35 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05012044.D\data.ms

(2) Propene (T)

4.103min (+0.011) 0.65ng m

response 18774

Ion	Exp%	Act%
42.10	100	100
39.10	116.10	118.93
41.10	151.90	158.62
0.00	0.00	0.00

IPC

LH 5/4/20

5/4/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012045.D Vial: 12
Acq On : 2 May 2020 6:06 Operator: LH
Sample : P2002104-009 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:25:37 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/4/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	259007	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1140691	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	532651	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	443093	12.623	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.96%				
57) Toluene-d8 (SS2)	15.72	98	1136533	12.588	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.72%				
73) Bromofluorobenzene (SS3)	18.98	174	389843	12.000	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.00%				
Target Compounds							Qvalue
2) Propene	4.09	42	12859	0.429	ng		94
3) Dichlorodifluoromethan...	4.27	85	36845	0.628	ng		99
4) Chloromethane	4.54	50	3256	0.071	ng		96
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	861	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.15	54	433	N.D.			
8) Bromomethane	5.65	94	184	N.D.			
9) Chloroethane	5.97	64	103	N.D.			
10) Ethanol	6.32	45	26608	1.149	ng		99
11) Acetonitrile	6.60	41	2407	N.D.			
12) Acrolein	6.81	56	2671	0.146	ng		99
13) Acetone	7.01	58	45745	1.975	ng		88
14) Trichlorofluoromethane	7.24	101	13761	0.265	ng		98
15) 2-Propanol (Isopropanol)	7.48	45	101336	1.445	ng		96
16) Acrylonitrile	7.75	53	358	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	4304	0.143	ng		98
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	8.84	151	2384	0.097	ng		93
22) Carbon Disulfide	8.68	76	5197	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.47	72	4901	0.248	ng	#	86
28) cis-1,2-Dichloroethene	10.96	61	273	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	11.25	57	4393	0.089	ng	#	1
32) Chloroform	11.30	83	2176104	42.208	ng		99
34) Tetrahydrofuran (THF)	11.75	72	1886	0.098	ng	#	78
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.10	62	423	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	12235	0.100	ng		98
42) Carbon Tetrachloride	13.03	117	15632	0.376	ng		97
43) Cyclohexane	13.16	84	2625	0.058	ng		89
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	13.90	63	430	N.D.			
46) Bromodichloromethane	13.91	83	452344	10.942	ng		99
47) Trichloroethene	13.96	130	7475	0.236	ng		99
48) 1,4-Dioxane	13.96	88	2441	0.099	ng		99
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012045.D Vial: 12
Acq On : 2 May 2020 6:06 Operator: LH
Sample : P2002104-009 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:25:37 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

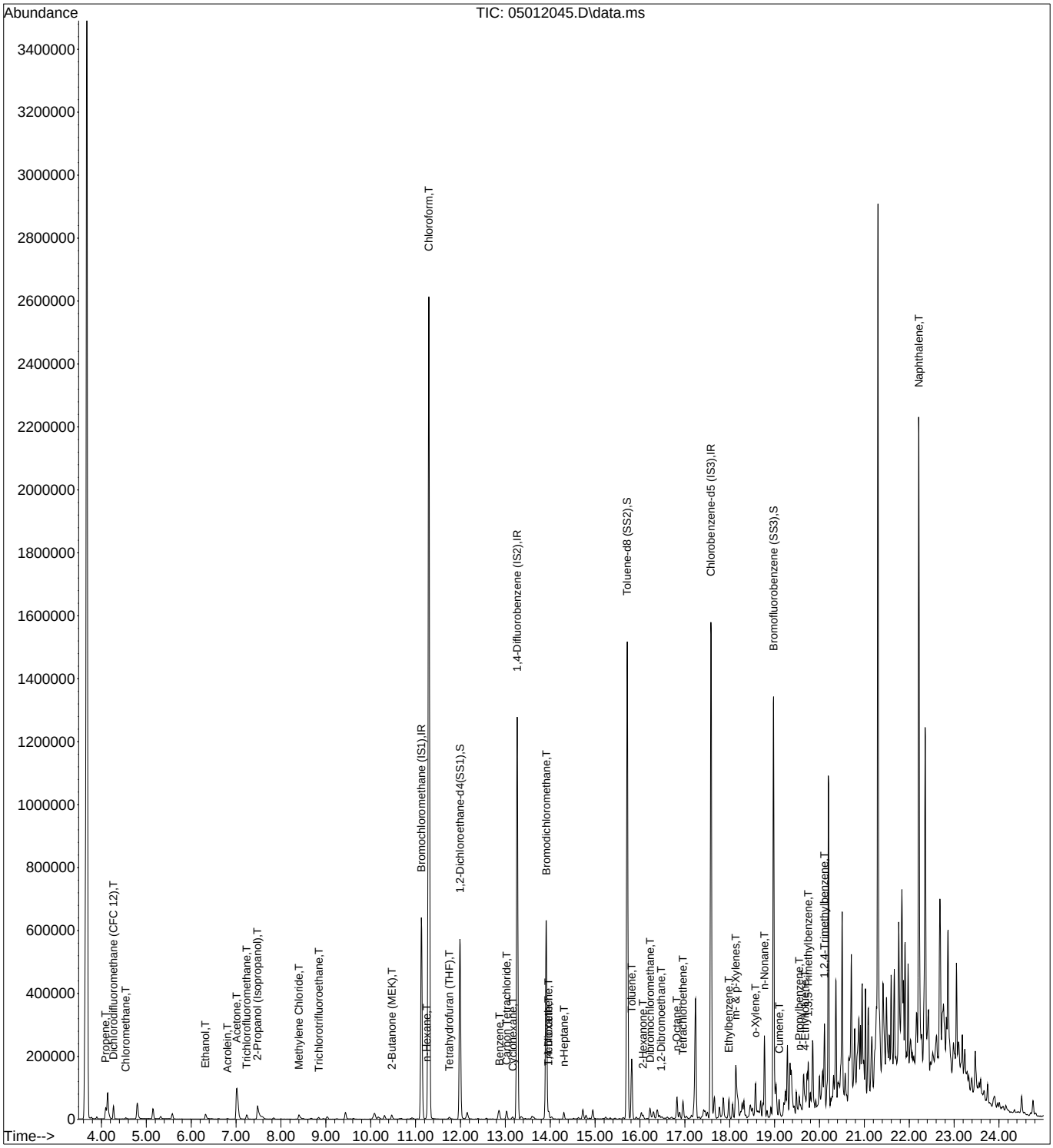
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	5462	0.191 ng	97
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.88	58	905	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.82	91	155520	1.336 ng	100
59) 2-Hexanone	16.07	43	7822	0.123 ng	84
60) Dibromochloromethane	16.23	129	11419	0.343 ng	99
61) 1,2-Dibromoethane	16.48	107	2562	0.080 ng	94
62) n-Butyl Acetate	16.70	43	967	N.D.	
63) n-Octane	16.82	57	13785	0.572 ng	97
64) Tetrachloroethene	16.96	166	17232	0.524 ng	98
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	17.98	91	45270	0.349 ng	98
67) m- & p-Xylenes	18.14	91	118622	1.152 ng	100
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.48	104	899	N.D.	
70) o-Xylene	18.58	91	56300	0.539 ng	99
71) n-Nonane	18.77	43	99826	1.800 ng	93
72) 1,1,2,2-Tetrachloroethane	18.55	83	150	N.D.	
74) Cumene	19.10	105	13199	0.103 ng	97
75) alpha-Pinene	19.38	93	230	N.D.	
76) n-Propylbenzene	19.55	91	34055	0.223 ng	91
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.68	105	14305	0.119 ng	97
79) 1,3,5-Trimethylbenzene	19.75	105	27400	0.262 ng	100
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.11	105	64111	0.610 ng	89
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.22	91	975	N.D.	
85) 1,3-Dichlorobenzene	20.24	146	532	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	547	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	20.60	146	346	N.D.	
91) d-Limonene	20.62	68	1778	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.11	180	881	N.D.	
95) Naphthalene	22.22	128	41751	0.325 ng	95
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012045.D Vial: 12
Acq On : 2 May 2020 6:06 Operator: LH
Sample : P2002104-009 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:25:37 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012045.D Vial: 12
Acq On : 2 May 2020 6:06 Operator: LH
Sample : P2002104-009 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:25:37 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/4/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

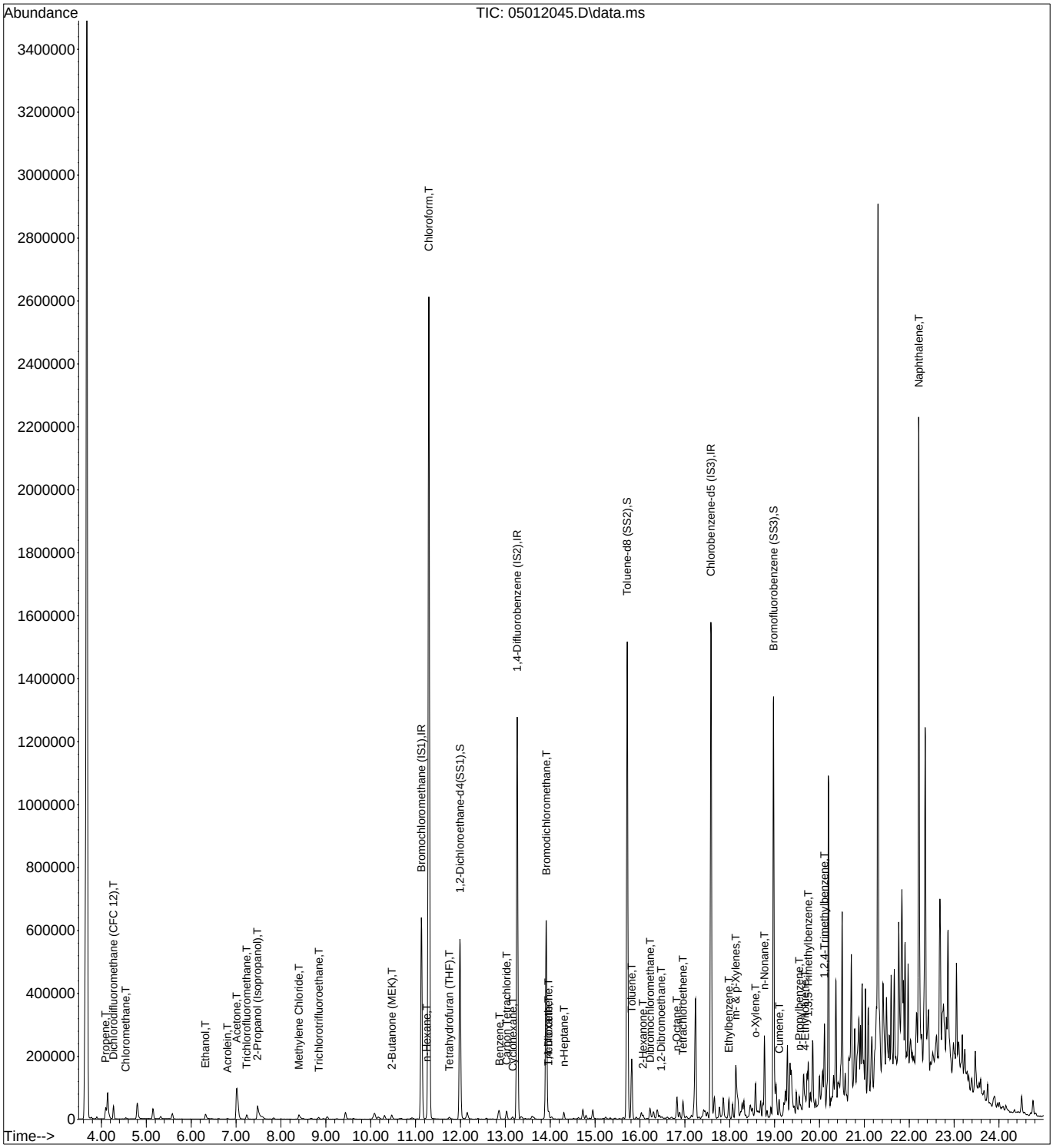
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	259007	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1140691	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	532651	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	443093	12.623	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.96%				
57) Toluene-d8 (SS2)	15.72	98	1136533	12.588	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.72%				
73) Bromofluorobenzene (SS3)	18.98	174	389843	12.000	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.00%				
Target Compounds							Qvalue
2) Propene	4.09	42	12859	0.429	ng		94
3) Dichlorodifluoromethan...	4.27	85	36845	0.628	ng		99
4) Chloromethane	4.54	50	3256	0.071	ng		96
10) Ethanol	6.32	45	26608	1.149	ng		99
12) Acrolein	6.81	56	2671	0.146	ng		99
13) Acetone	7.01	58	45745	1.975	ng		88
14) Trichlorofluoromethane	7.24	101	13761	0.265	ng		98
15) 2-Propanol (Isopropanol)	7.48	45	101336	1.445	ng		96
19) Methylene Chloride	8.40	84	4304	0.143	ng		98
21) Trichlorotrifluoroethane	8.84	151	2384	0.097	ng		93
27) 2-Butanone (MEK)	10.47	72	4901	0.248	ng	#	86
31) n-Hexane	11.25	57	4393	0.089	ng	#	1
32) Chloroform	11.30	83	2176104	42.208	ng		99
34) Tetrahydrofuran (THF)	11.75	72	1886	0.098	ng	#	78
41) Benzene	12.87	78	12235	0.100	ng		98
42) Carbon Tetrachloride	13.03	117	15632	0.376	ng		97
43) Cyclohexane	13.16	84	2625	0.058	ng		89
46) Bromodichloromethane	13.91	83	452344	10.942	ng		99
47) Trichloroethene	13.96	130	7475	0.236	ng		99
48) 1,4-Dioxane	13.96	88	2441	0.099	ng		99
51) n-Heptane	14.31	71	5462	0.191	ng		97
58) Toluene	15.82	91	155520	1.336	ng		100
59) 2-Hexanone	16.07	43	7822	0.123	ng		84
60) Dibromochloromethane	16.23	129	11419	0.343	ng		99
61) 1,2-Dibromoethane	16.48	107	2562	0.080	ng		94
63) n-Octane	16.82	57	13785	0.572	ng		97
64) Tetrachloroethene	16.96	166	17232	0.524	ng		98
66) Ethylbenzene	17.98	91	45270	0.349	ng		98
67) m- & p-Xylenes	18.14	91	118622	1.152	ng		100
70) o-Xylene	18.58	91	56300	0.539	ng		99
71) n-Nonane	18.77	43	99826	1.800	ng		93
74) Cumene	19.10	105	13199	0.103	ng		97
76) n-Propylbenzene	19.55	91	34055	0.223	ng		91
78) 4-Ethyltoluene	19.68	105	14305	0.119	ng		97
79) 1,3,5-Trimethylbenzene	19.75	105	27400	0.262	ng		100
82) 1,2,4-Trimethylbenzene	20.11	105	64111	0.610	ng		89
95) Naphthalene	22.22	128	41751	0.325	ng		95

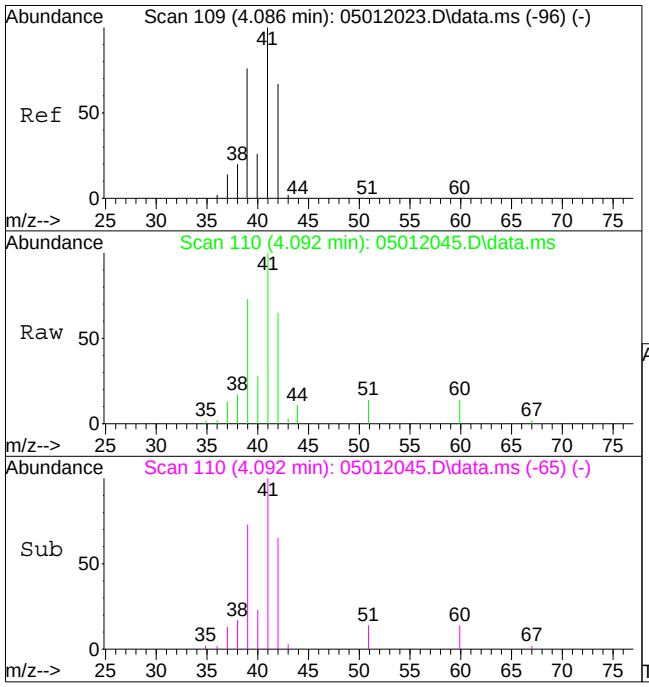
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012045.D Vial: 12
Acq On : 2 May 2020 6:06 Operator: LH
Sample : P2002104-009 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:25:37 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

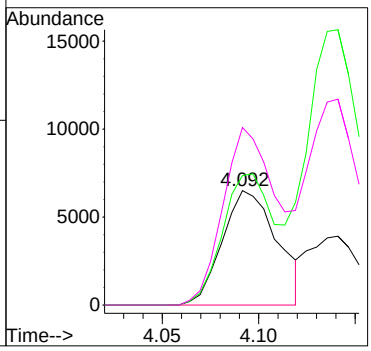


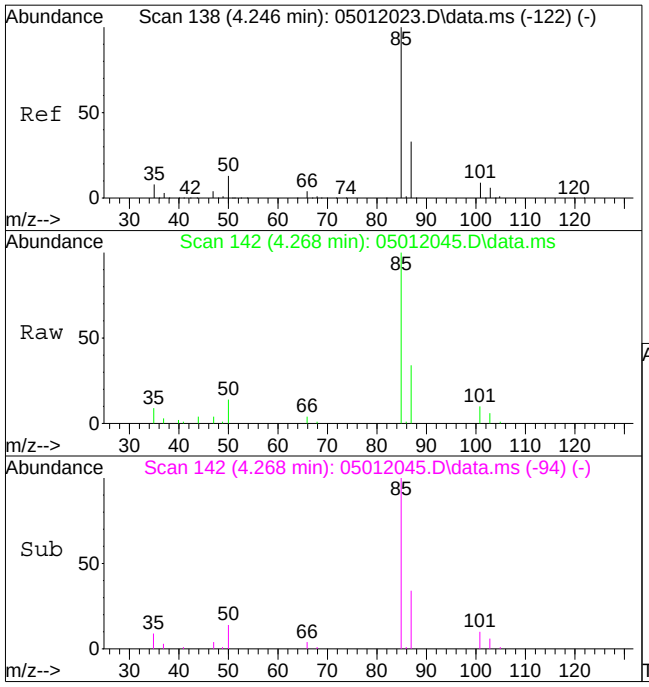


#2
Propene
Concen: 0.43 ng
RT: 4.09 min Scan# 110
Delta R.T. -0.000 min
Lab File: 05012045.D
Acq: 2 May 2020 6:06

Tgt Ion: 42 Resp: 12859

Ion	Ratio	Lower	Upper
42	100		
39	110.8	96.1	136.1
41	143.8	131.9	171.9

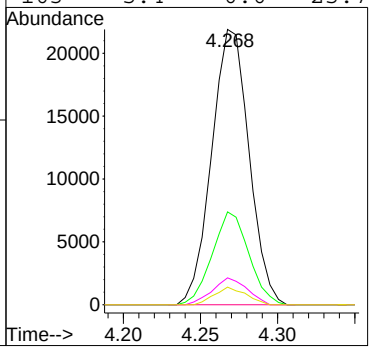


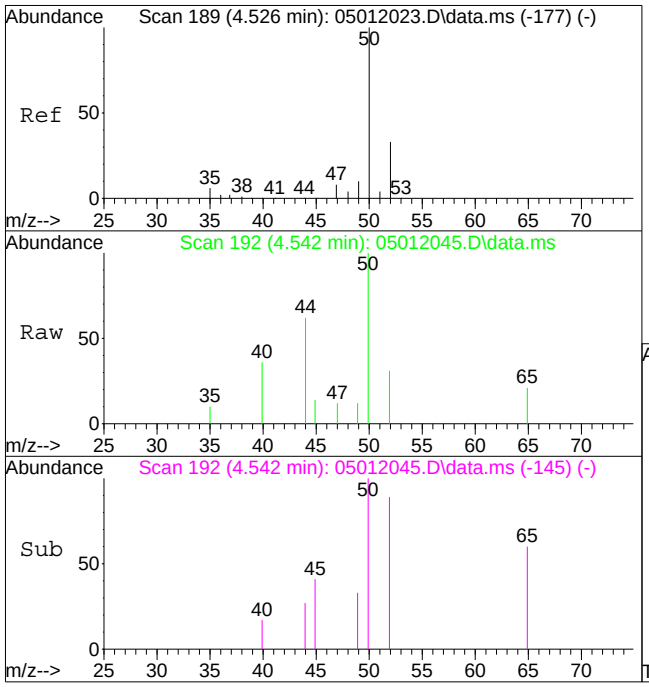


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.63 ng
RT: 4.27 min Scan# 142
Delta R.T. 0.016 min
Lab File: 05012045.D
Acq: 2 May 2020 6:06

Tgt Ion: 85 Resp: 36845

Ion	Ratio	Lower	Upper
85	100		
87	33.0	12.4	52.4
101	9.0	0.0	28.8
103	5.4	0.0	25.7

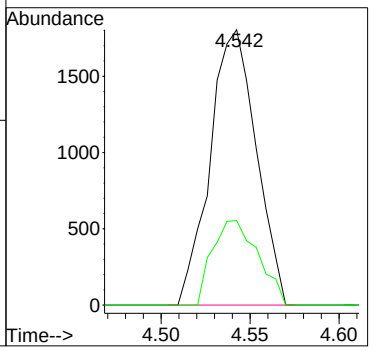


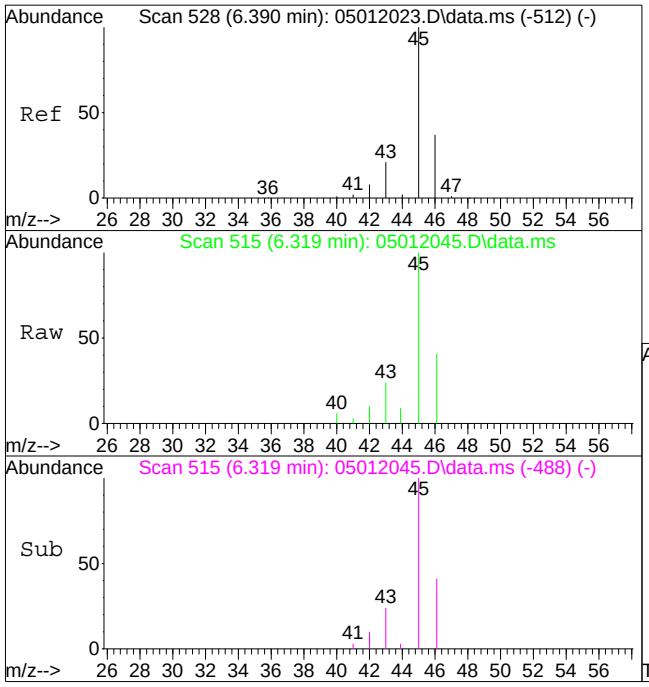


#4
Chloromethane
Concen: 0.07 ng
RT: 4.54 min Scan# 192
Delta R.T. 0.011 min
Lab File: 05012045.D
Acq: 2 May 2020 6:06

Tgt Ion: 50 Resp: 3256

Ion	Ratio	Lower	Upper
50	100		
52	30.4	12.5	52.5

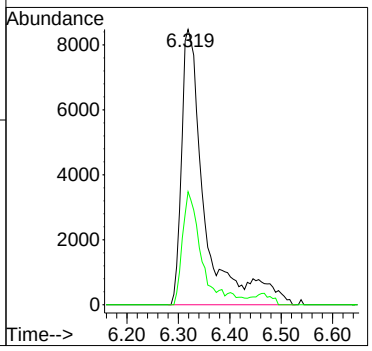


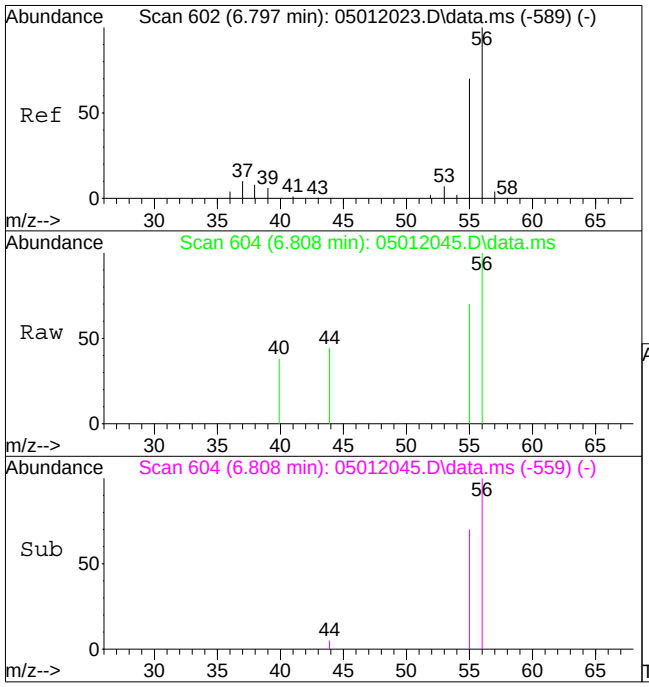


#10
Ethanol
Concen: 1.15 ng
RT: 6.32 min Scan# 515
Delta R.T. -0.099 min
Lab File: 05012045.D
Acq: 2 May 2020 6:06

Tgt Ion: 45 Resp: 26608

Ion	Ratio	Lower	Upper
45	100		
46	37.8	17.2	57.2

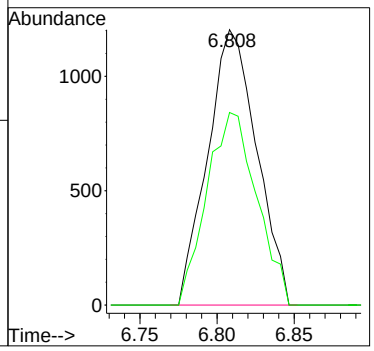


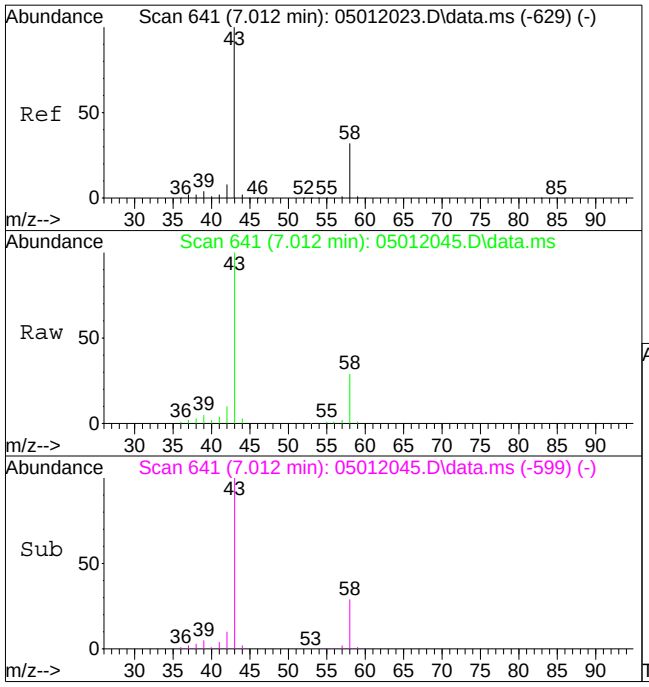


#12
Acrolein
Concen: 0.15 ng
RT: 6.81 min Scan# 604
Delta R.T. -0.000 min
Lab File: 05012045.D
Acq: 2 May 2020 6:06

Tgt Ion: 56 Resp: 2671

Ion	Ratio	Lower	Upper
56	100		
55	71.0	50.2	90.2

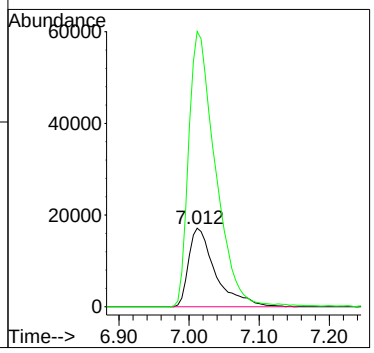


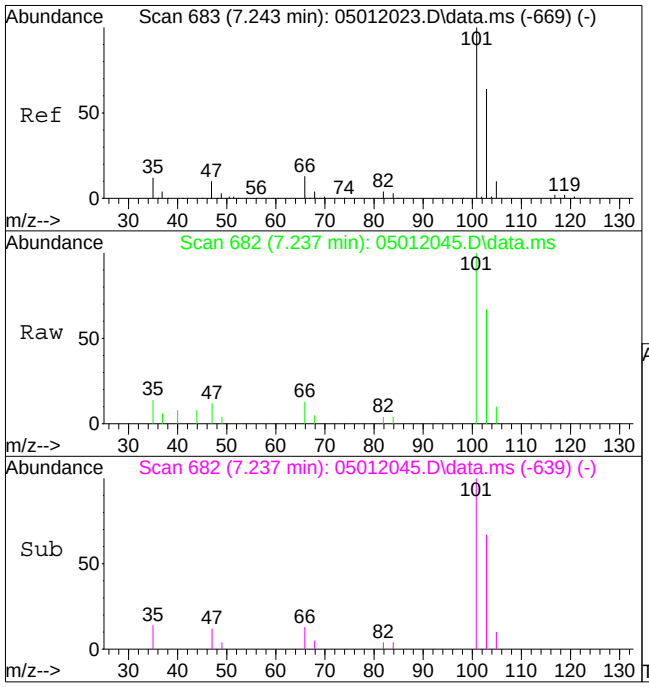


#13
Acetone
Concen: 1.97 ng
RT: 7.01 min Scan# 641
Delta R.T. -0.017 min
Lab File: 05012045.D
Acq: 2 May 2020 6:06

Tgt Ion: 58 Resp: 45745

Ion	Ratio	Lower	Upper
58	100		
43	348.2	294.4	354.4

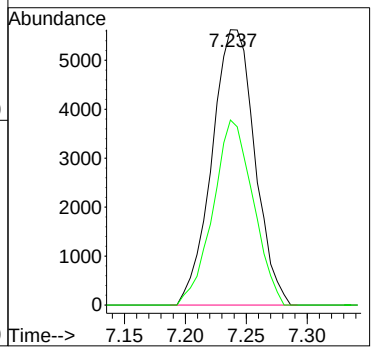


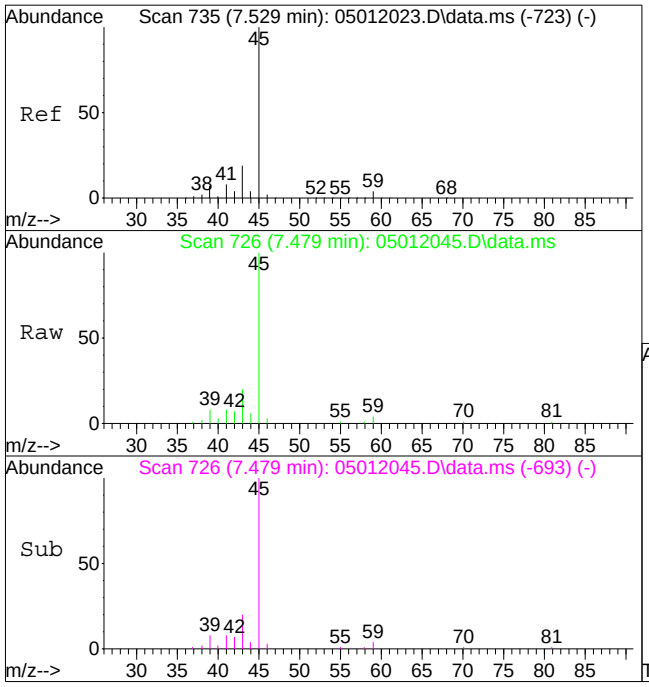


#14
Trichlorofluoromethane
Concen: 0.27 ng
RT: 7.24 min Scan# 682
Delta R.T. -0.011 min
Lab File: 05012045.D
Acq: 2 May 2020 6:06

Tgt Ion:101 Resp: 13761

Ion	Ratio	Lower	Upper
101	100		
103	62.9	44.4	84.4

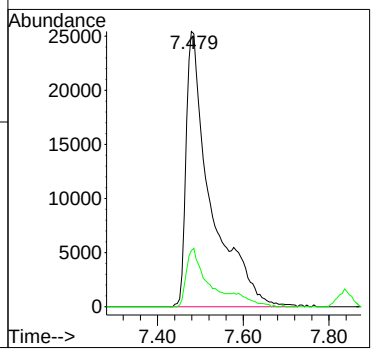


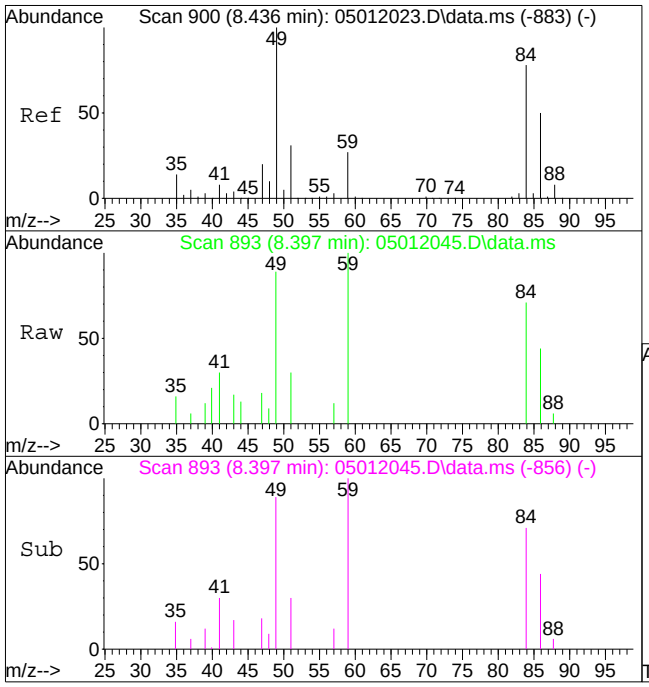


#15
2-Propanol (Isopropanol)
Concen: 1.45 ng
RT: 7.48 min Scan# 726
Delta R.T. -0.066 min
Lab File: 05012045.D
Acq: 2 May 2020 6:06

Tgt Ion: 45 Resp: 101336

Ion	Ratio	Lower	Upper
45	100		
43	21.4	0.0	39.5

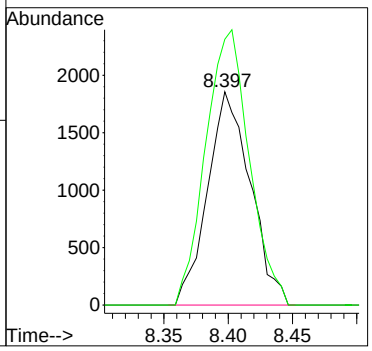


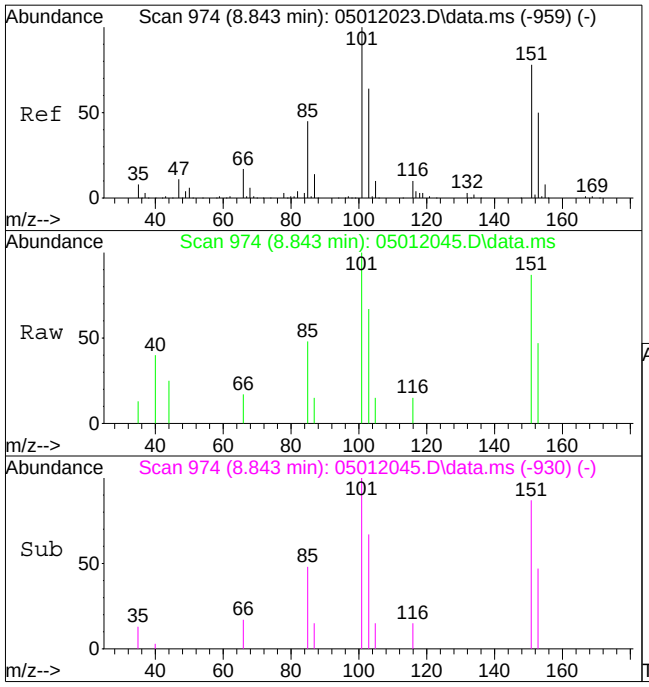


#19
Methylene Chloride
Concen: 0.14 ng
RT: 8.40 min Scan# 893
Delta R.T. -0.044 min
Lab File: 05012045.D
Acq: 2 May 2020 6:06

Tgt Ion: 84 Resp: 4304

Ion	Ratio	Lower	Upper
84	100		
49	131.6	104.8	154.8

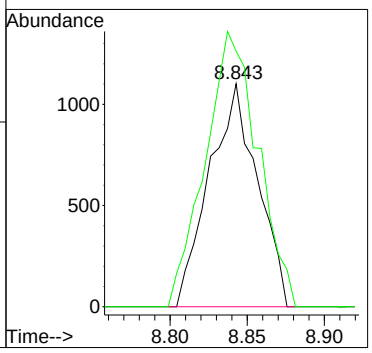


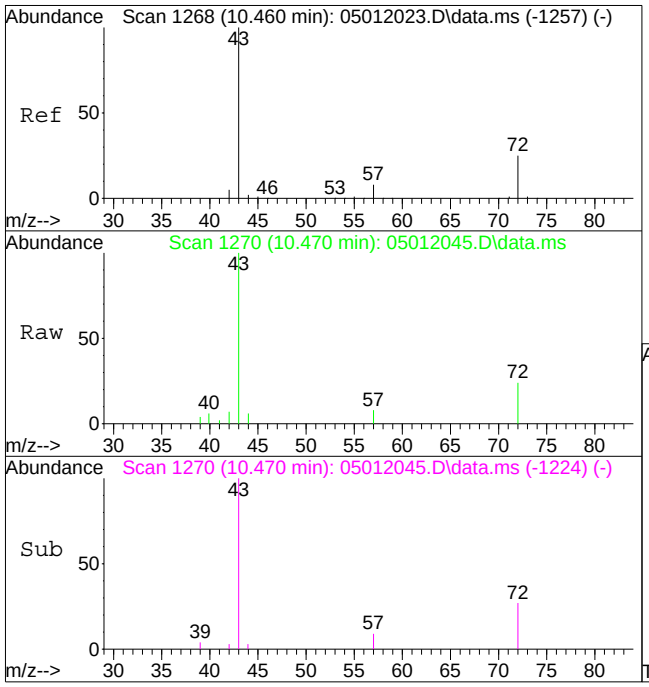


#21
Trichlorotrifluoroethane
Concen: 0.10 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05012045.D
Acq: 2 May 2020 6:06

Tgt Ion:151 Resp: 2384

Ion	Ratio	Lower	Upper
151	100		
101	135.7	107.3	147.3

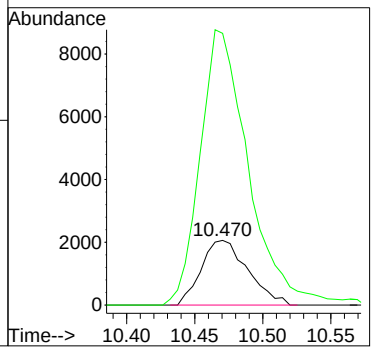


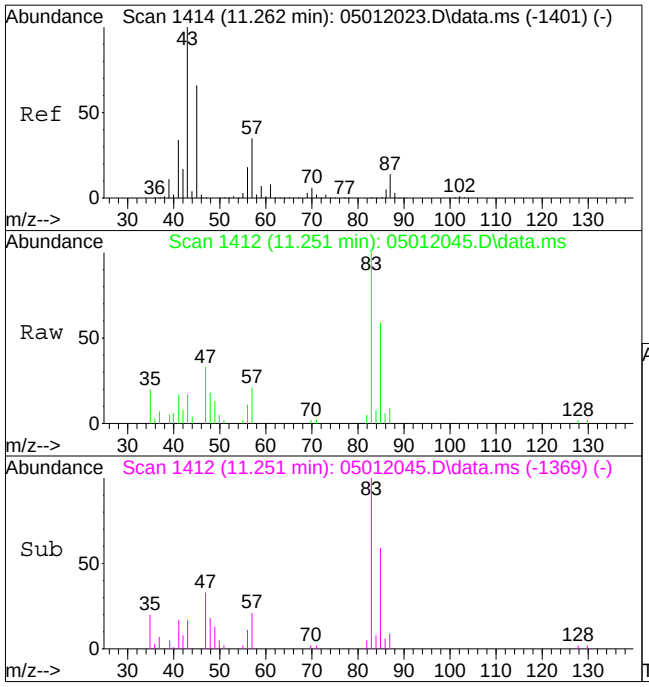


#27
2-Butanone (MEK)
Concen: 0.25 ng
RT: 10.47 min Scan# 1270
Delta R.T. 0.005 min
Lab File: 05012045.D
Acq: 2 May 2020 6:06

Tgt Ion: 72 Resp: 4901

Ion	Ratio	Lower	Upper
72	100		
43	443.4	389.7	429.7#

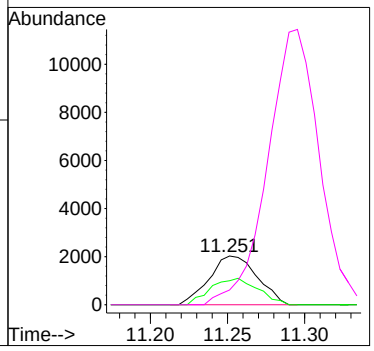


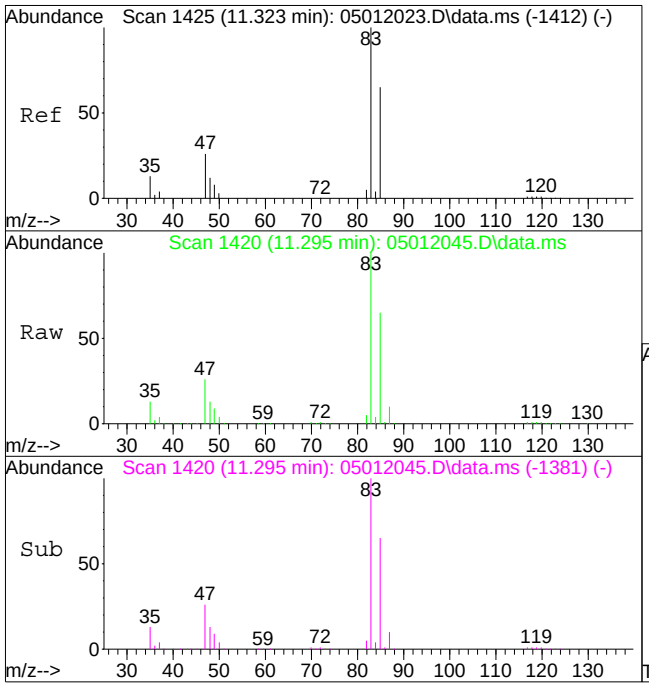


#31
n-Hexane
Concen: 0.09 ng
RT: 11.25 min Scan# 1412
Delta R.T. -0.011 min
Lab File: 05012045.D
Acq: 2 May 2020 6:06

Tgt Ion: 57 Resp: 4393

Ion	Ratio	Lower	Upper
57	100		
56	53.3	41.4	62.0
86	601.5	12.4	18.6#

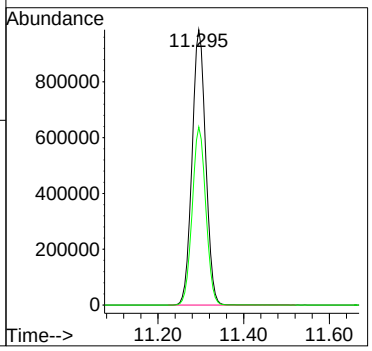


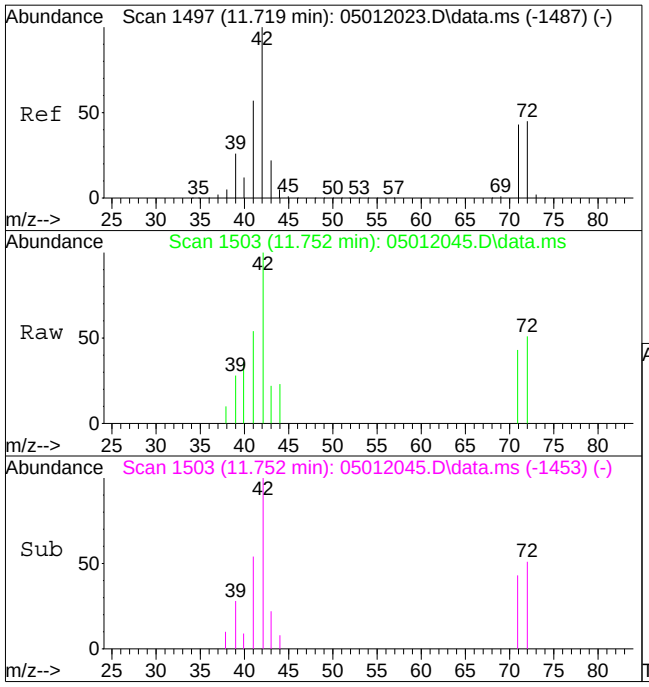


#32
Chloroform
Concen: 42.21 ng
RT: 11.30 min Scan# 1420
Delta R.T. -0.033 min
Lab File: 05012045.D
Acq: 2 May 2020 6:06

Tgt Ion: 83 Resp: 2176104

Ion	Ratio	Lower	Upper
83	100		
85	64.6	45.5	85.5

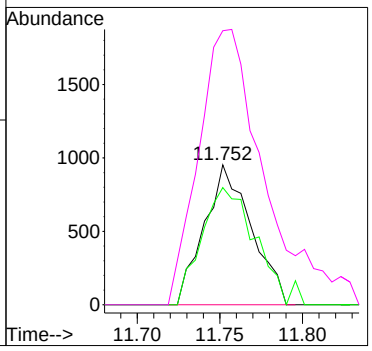


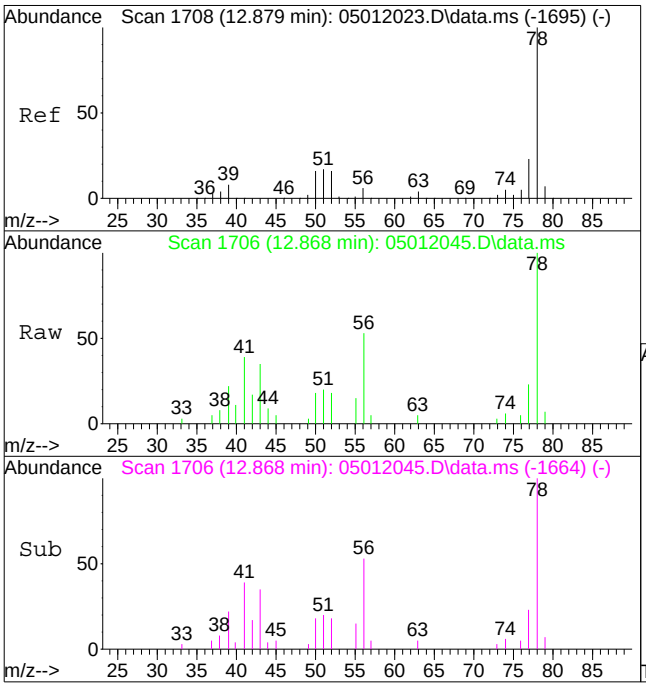


#34
Tetrahydrofuran (THF)
Concen: 0.10 ng
RT: 11.75 min Scan# 1503
Delta R.T. 0.027 min
Lab File: 05012045.D
Acq: 2 May 2020 6:06

Tgt Ion: 72 Resp: 1886

Ion	Ratio	Lower	Upper
72	100		
71	96.8	77.0	117.0
42	276.3	204.6	244.6#

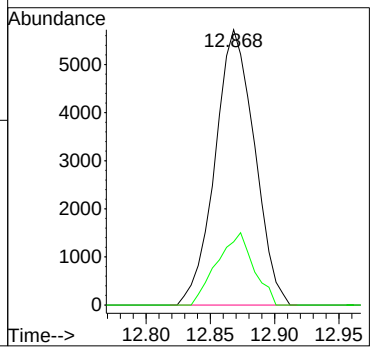


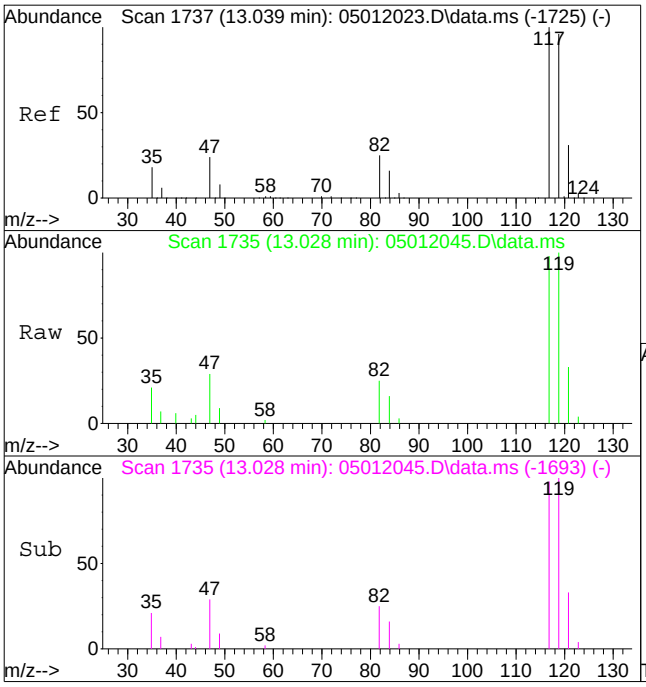


#41
Benzene
Concen: 0.10 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05012045.D
Acq: 2 May 2020 6:06

Tgt Ion: 78 Resp: 12235

Ion	Ratio	Lower	Upper
78	100		
77	24.4	3.4	43.4

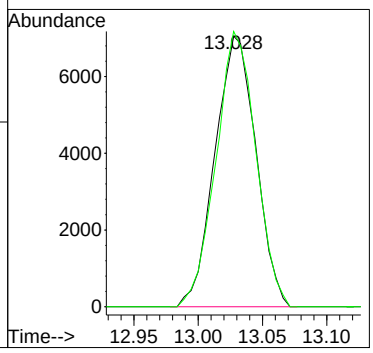


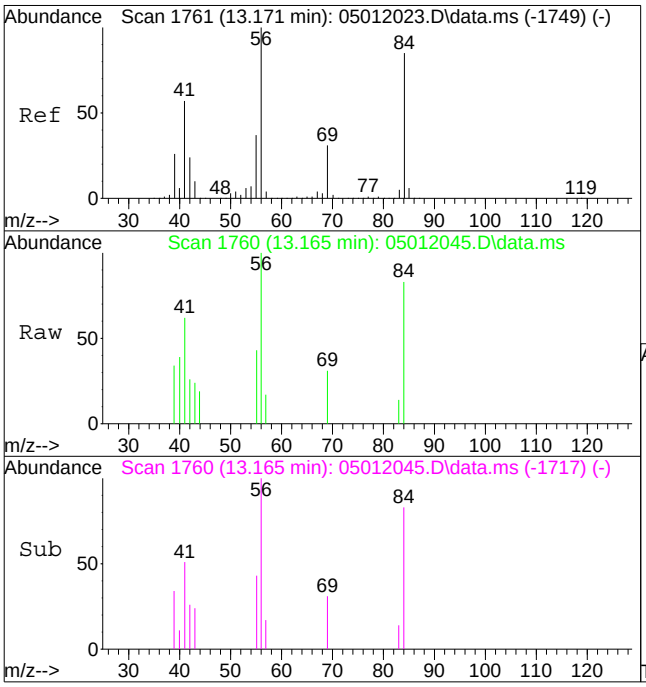


#42
Carbon Tetrachloride
Concen: 0.38 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05012045.D
Acq: 2 May 2020 6:06

Tgt Ion:117 Resp: 15632

Ion	Ratio	Lower	Upper
117	100		
119	98.9	76.2	116.2

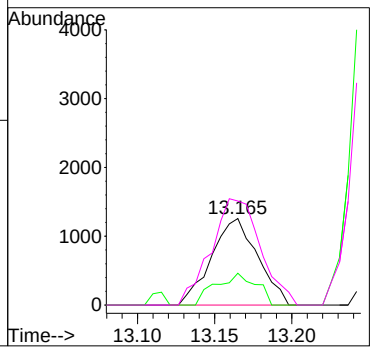


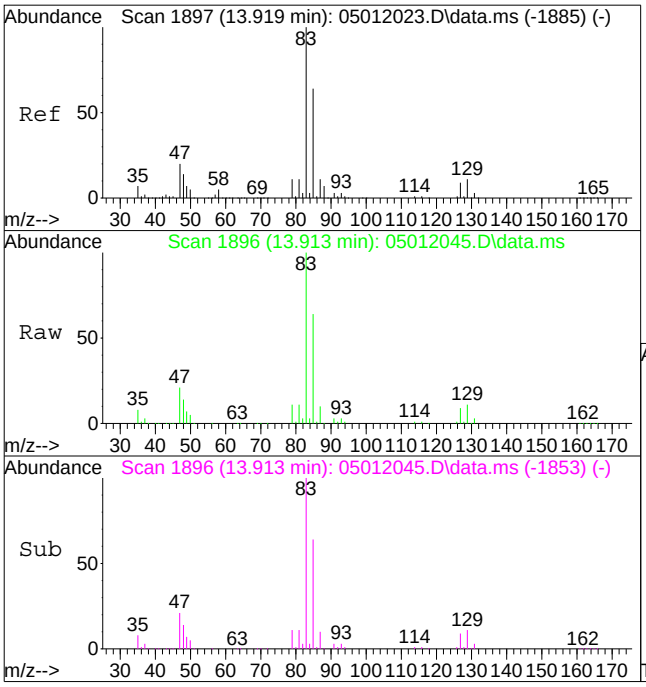


#43
Cyclohexane
Concen: 0.06 ng
RT: 13.16 min Scan# 1760
Delta R.T. -0.011 min
Lab File: 05012045.D
Acq: 2 May 2020 6:06

Tgt Ion: 84 Resp: 2625

Ion	Ratio	Lower	Upper
84	100		
69	32.1	16.5	56.5
56	131.2	97.4	137.4

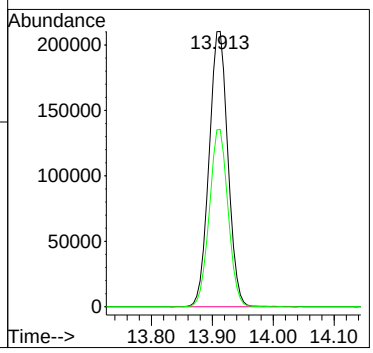


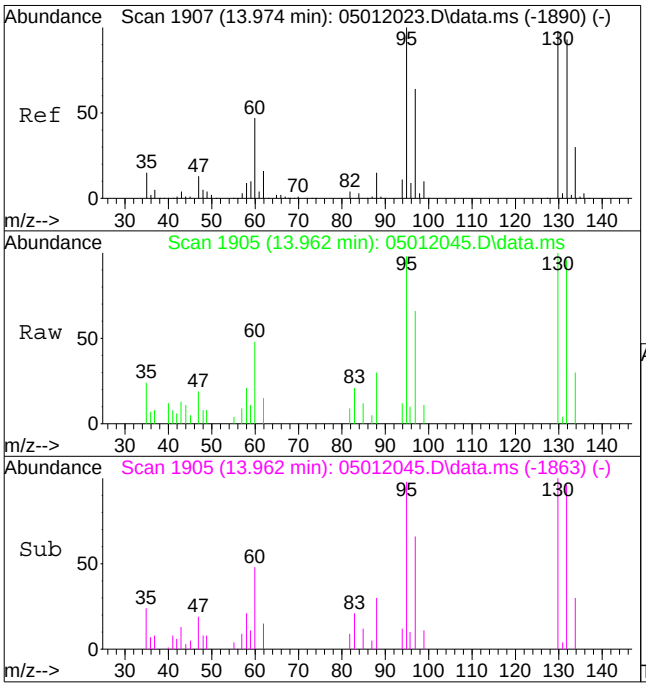


#46
Bromodichloromethane
Concen: 10.94 ng
RT: 13.91 min Scan# 1896
Delta R.T. -0.011 min
Lab File: 05012045.D
Acq: 2 May 2020 6:06

Tgt Ion: 83 Resp: 452344

Ion	Ratio	Lower	Upper
83	100		
85	63.9	44.4	84.4

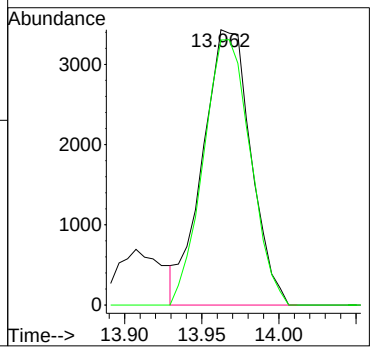


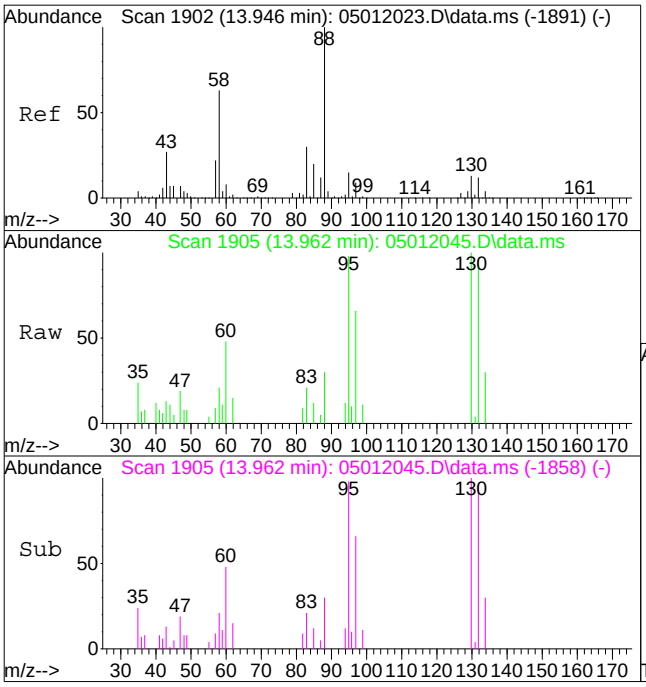


#47
Trichloroethene
Concen: 0.24 ng
RT: 13.96 min Scan# 1905
Delta R.T. -0.017 min
Lab File: 05012045.D
Acq: 2 May 2020 6:06

Tgt Ion:130 Resp: 7475

Ion	Ratio	Lower	Upper
130	100		
132	94.0	74.9	114.9

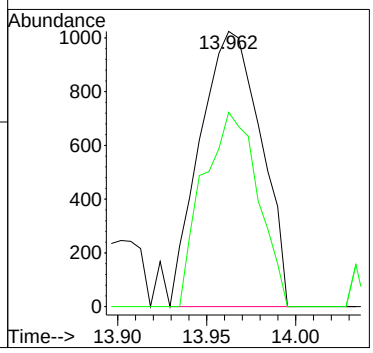


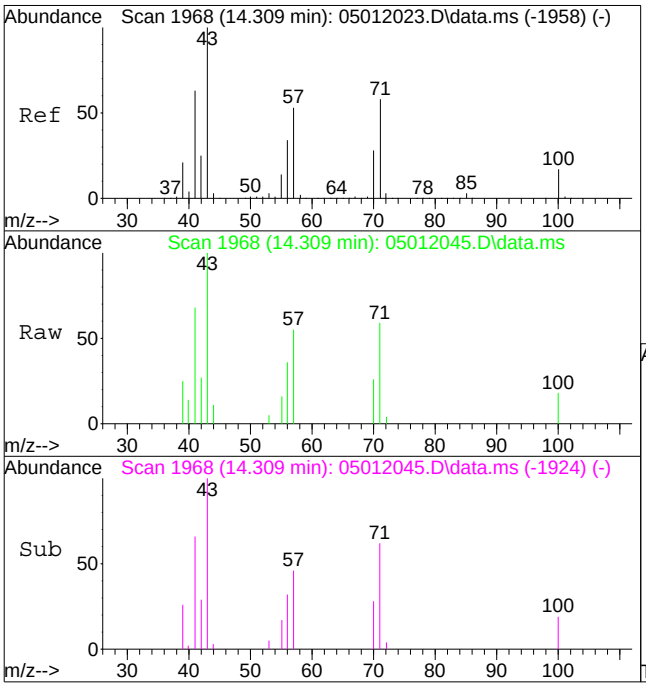


#48
1,4-Dioxane
Concen: 0.10 ng
RT: 13.96 min Scan# 1905
Delta R.T. 0.011 min
Lab File: 05012045.D
Acq: 2 May 2020 6:06

Tgt Ion: 88 Resp: 2441

Ion	Ratio	Lower	Upper
88	100		
58	63.7	42.8	82.8

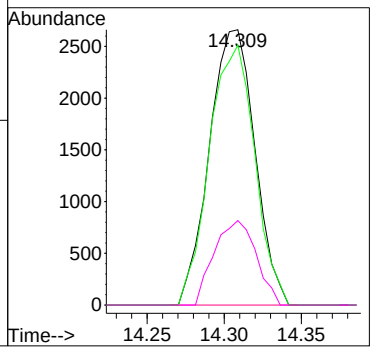


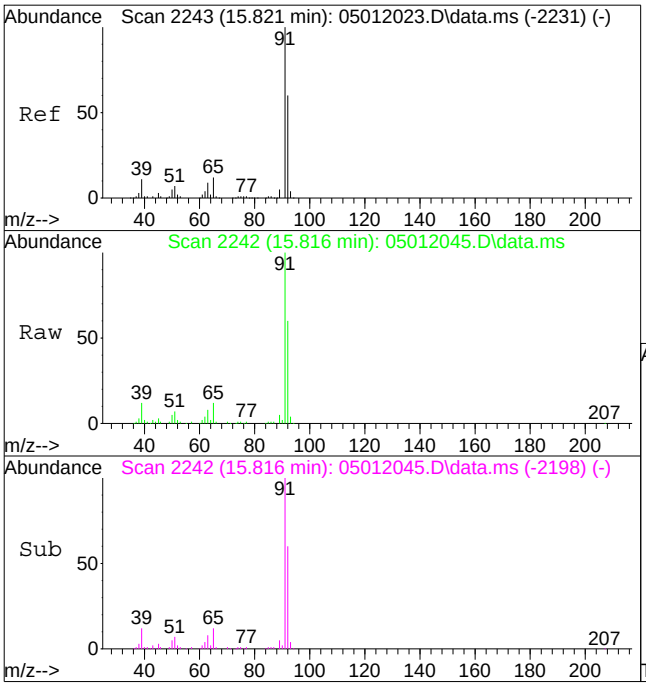


#51
n-Heptane
Concen: 0.19 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05012045.D
Acq: 2 May 2020 6:06

Tgt Ion: 71 Resp: 5462

Ion	Ratio	Lower	Upper
71	100		
57	94.2	71.0	111.0
100	28.2	8.4	48.4

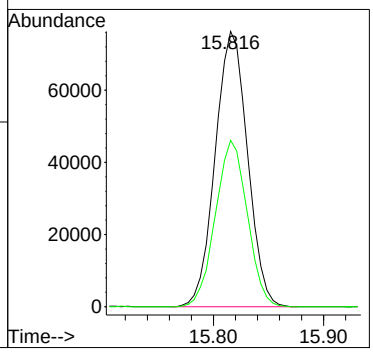


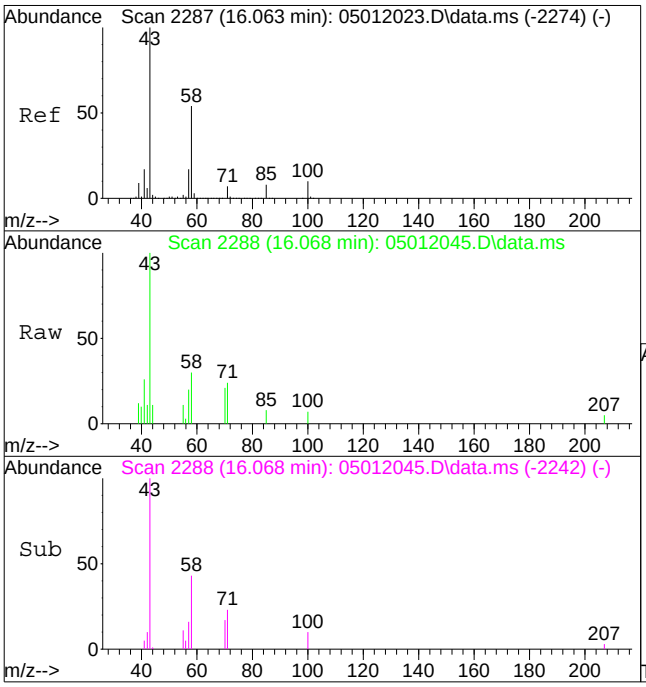


#58
Toluene
Concen: 1.34 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05012045.D
Acq: 2 May 2020 6:06

Tgt Ion: 91 Resp: 155520

Ion	Ratio	Lower	Upper
91	100		
92	59.6	39.4	79.4

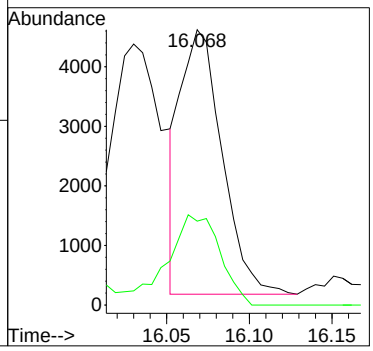


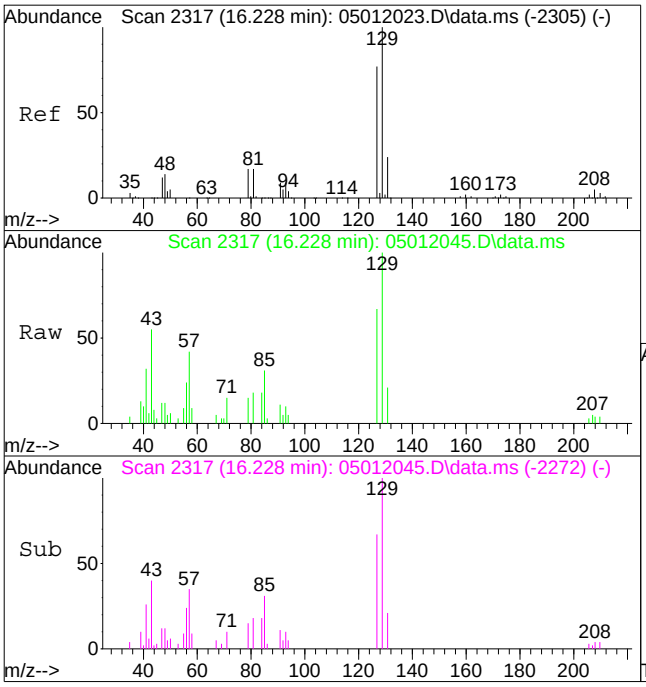


#59
2-Hexanone
Concen: 0.12 ng
RT: 16.07 min Scan# 2288
Delta R.T. 0.005 min
Lab File: 05012045.D
Acq: 2 May 2020 6:06

Tgt Ion: 43 Resp: 7822

Ion	Ratio	Lower	Upper
43	100		
58	42.9	34.5	74.5

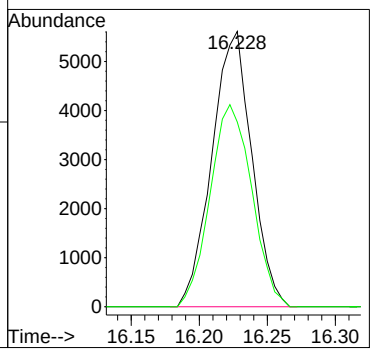


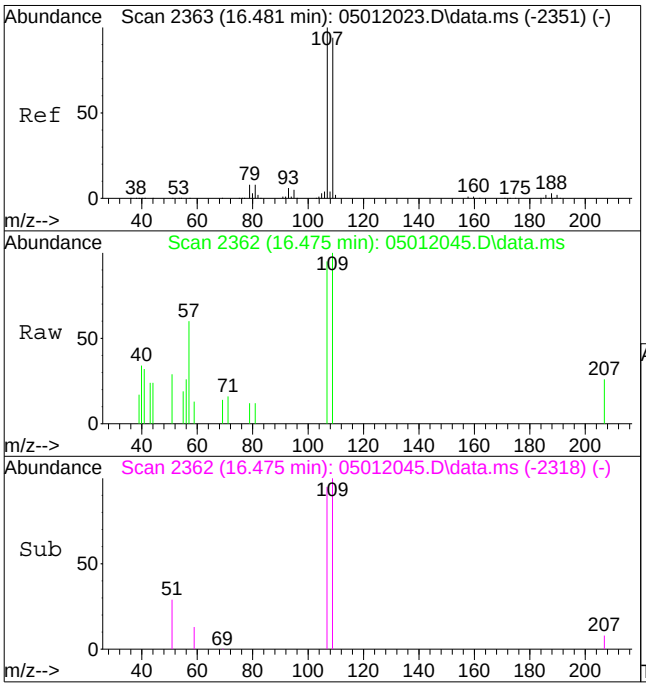


#60
Dibromochloromethane
Concen: 0.34 ng
RT: 16.23 min Scan# 2317
Delta R.T. -0.000 min
Lab File: 05012045.D
Acq: 2 May 2020 6:06

Tgt Ion:129 Resp: 11419

Ion	Ratio	Lower	Upper
129	100		
127	76.9	57.3	97.3

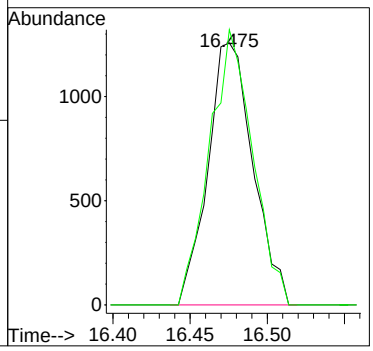


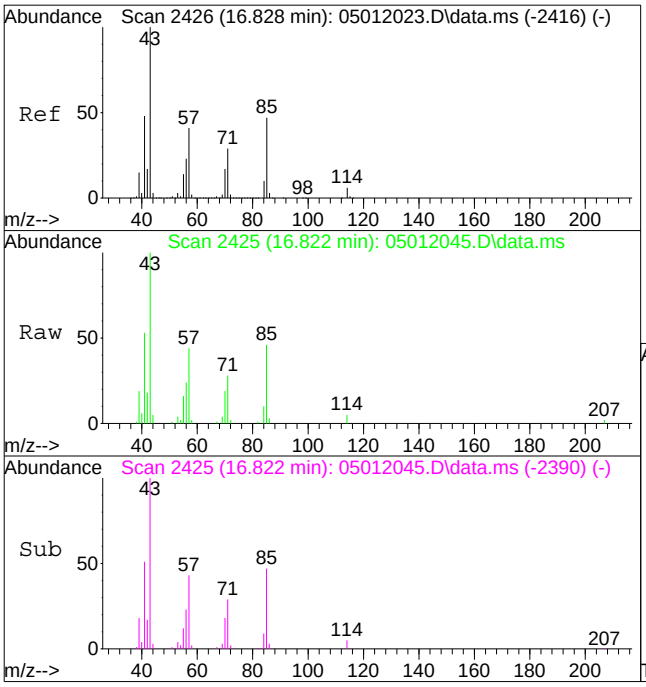


#61
1,2-Dibromoethane
Concen: 0.08 ng
RT: 16.48 min Scan# 2362
Delta R.T. -0.006 min
Lab File: 05012045.D
Acq: 2 May 2020 6:06

Tgt Ion:107 Resp: 2562

Ion	Ratio	Lower	Upper
107	100		
109	100.5	74.5	114.5

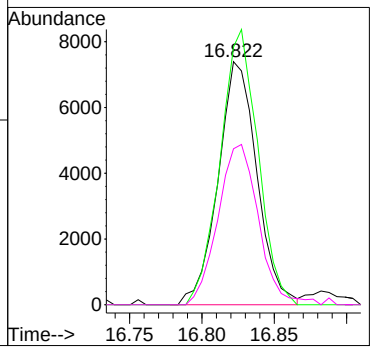


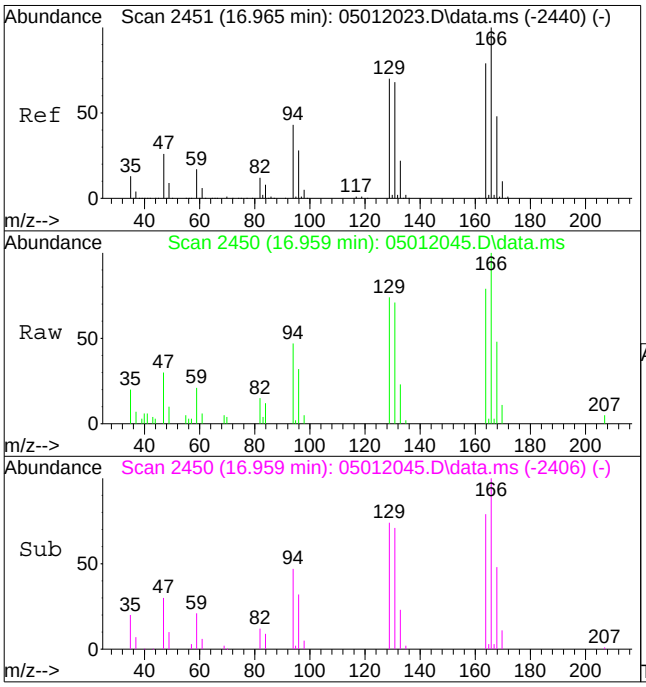


#63
n-Octane
Concen: 0.57 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05012045.D
Acq: 2 May 2020 6:06

Tgt Ion: 57 Resp: 13785

Ion	Ratio	Lower	Upper
57	100		
85	110.0	91.0	136.4
71	68.9	56.2	84.2

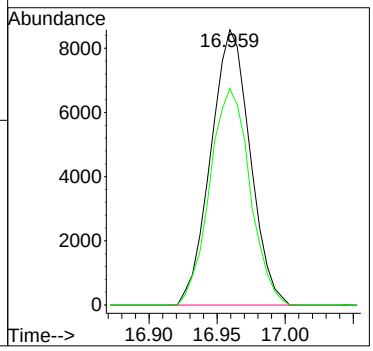


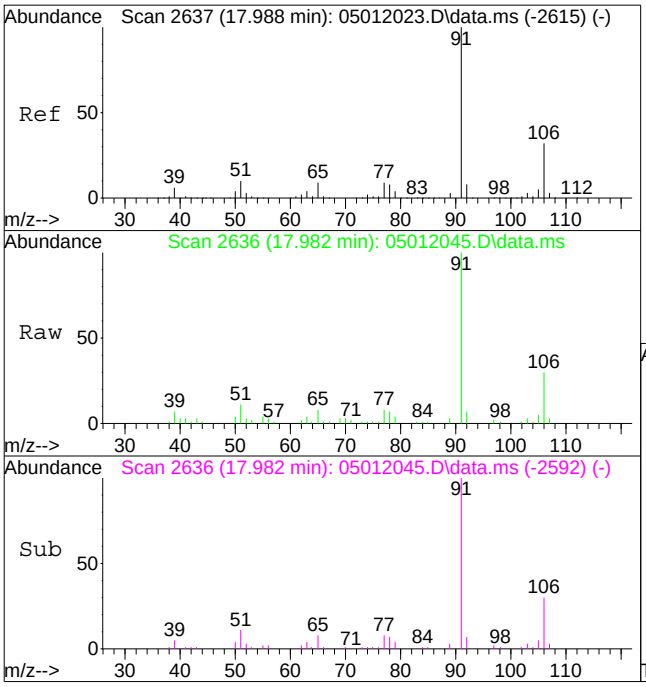


#64
Tetrachloroethene
Concen: 0.52 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05012045.D
Acq: 2 May 2020 6:06

Tgt Ion:166 Resp: 17232

Ion	Ratio	Lower	Upper
166	100		
164	80.1	58.4	98.4

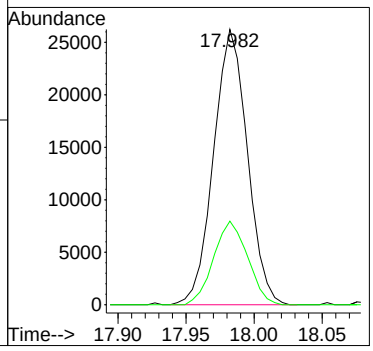


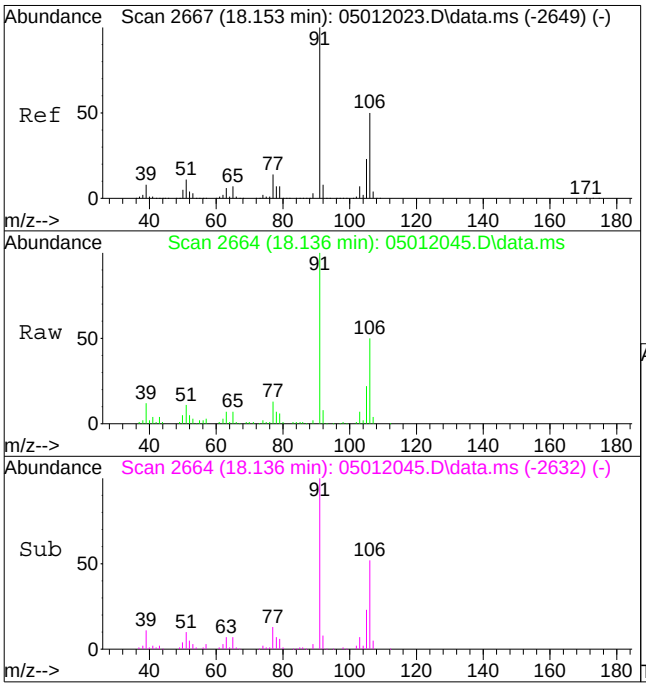


#66
Ethylbenzene
Concen: 0.35 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05012045.D
Acq: 2 May 2020 6:06

Tgt Ion: 91 Resp: 45270

Ion	Ratio	Lower	Upper
91	100		
106	30.5	11.6	51.6

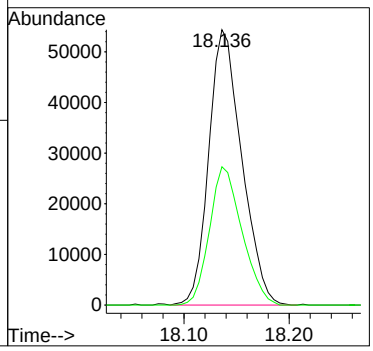


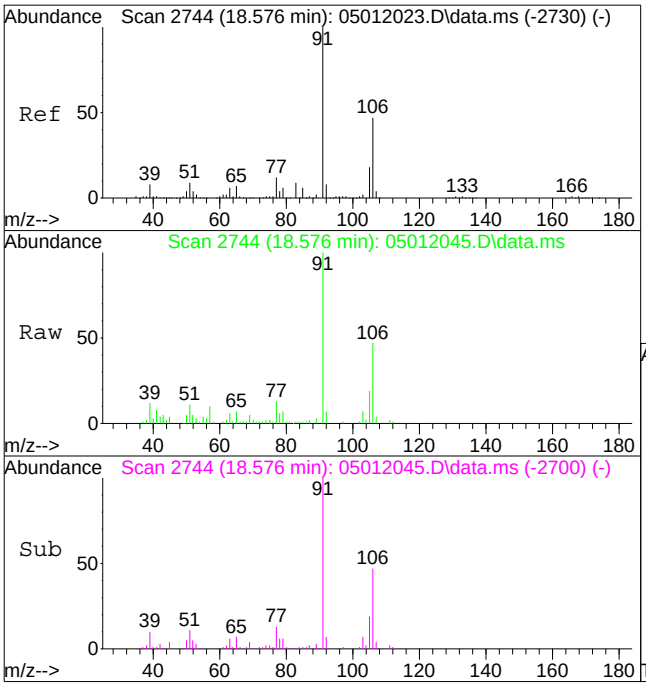


#67
m- & p-Xylenes
Concen: 1.15 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05012045.D
Acq: 2 May 2020 6:06

Tgt Ion: 91 Resp: 118622

Ion	Ratio	Lower	Upper
91	100		
106	49.4	29.7	69.7

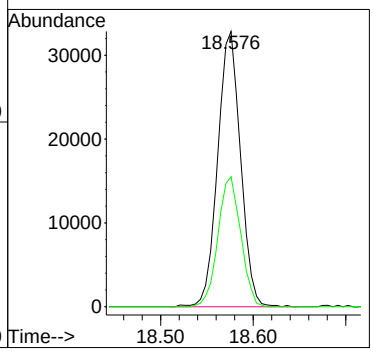


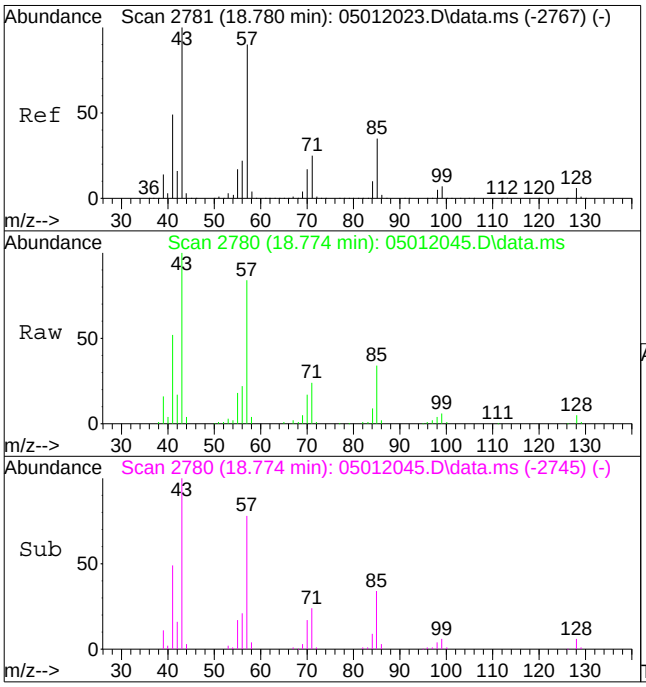


#70
o-Xylene
Concen: 0.54 ng
RT: 18.58 min Scan# 2744
Delta R.T. -0.006 min
Lab File: 05012045.D
Acq: 2 May 2020 6:06

Tgt Ion: 91 Resp: 56300

Ion	Ratio	Lower	Upper
91	100		
106	47.1	27.5	67.5

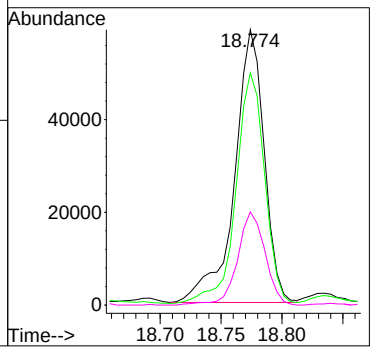


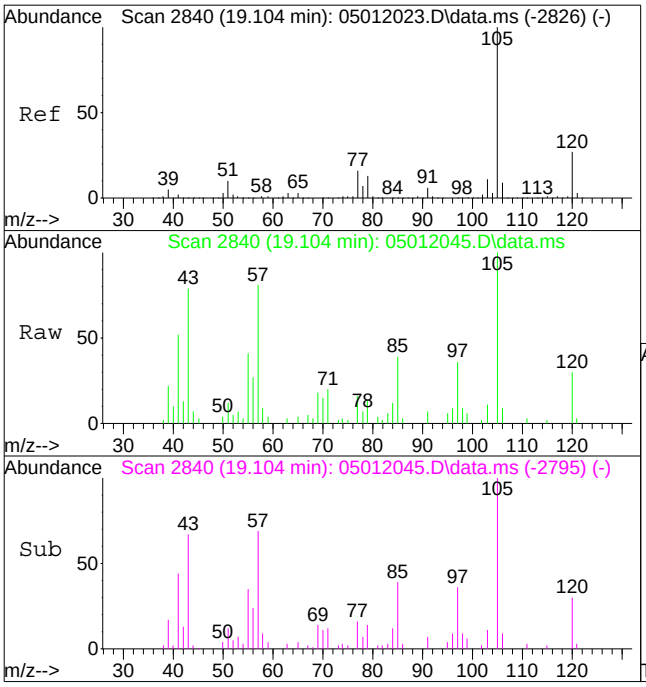


#71
n-Nonane
Concen: 1.80 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05012045.D
Acq: 2 May 2020 6:06

Tgt Ion: 43 Resp: 99826

Ion	Ratio	Lower	Upper
43	100		
57	81.5	69.0	109.0
85	31.6	14.6	54.6

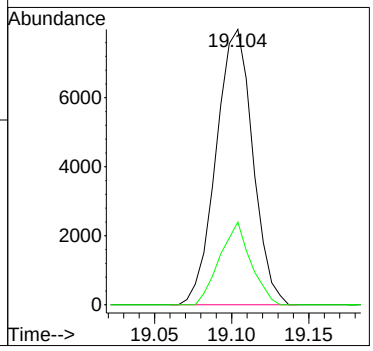


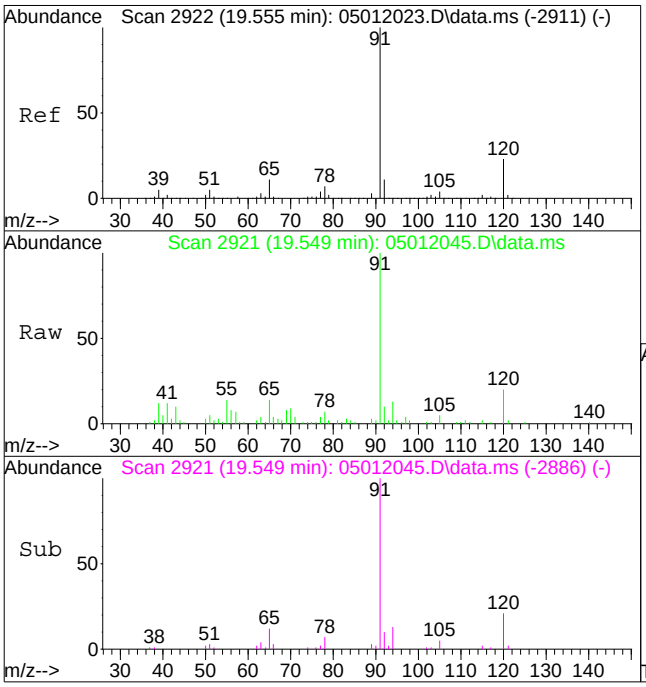


#74
Cumene
Concen: 0.10 ng
RT: 19.10 min Scan# 2840
Delta R.T. -0.000 min
Lab File: 05012045.D
Acq: 2 May 2020 6:06

Tgt Ion:105 Resp: 13199

Ion	Ratio	Lower	Upper
105	100		
120	25.4	6.8	46.8

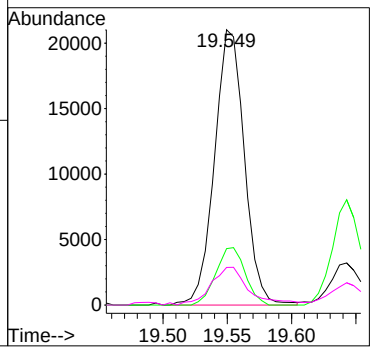


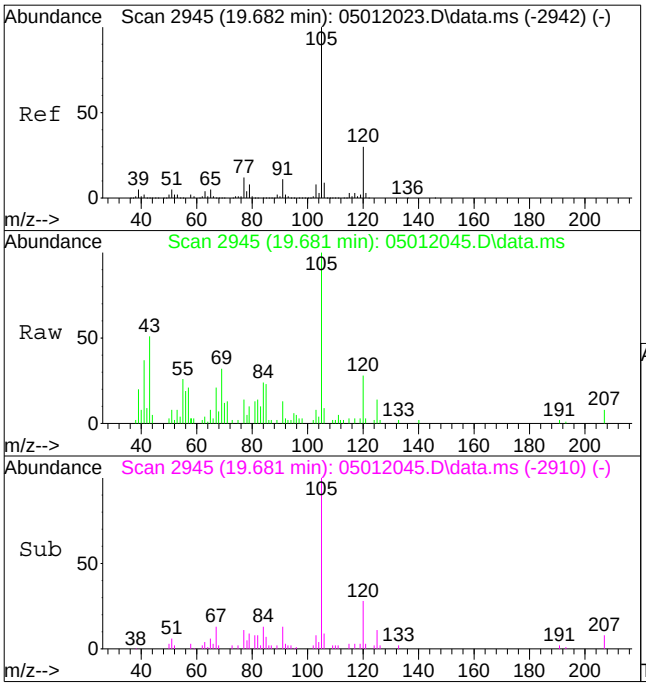


#76
n-Propylbenzene
Concen: 0.22 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05012045.D
Acq: 2 May 2020 6:06

Tgt Ion: 91 Resp: 34055

Ion	Ratio	Lower	Upper
91	100		
120	20.4	3.1	43.1
65	17.6	0.0	30.9

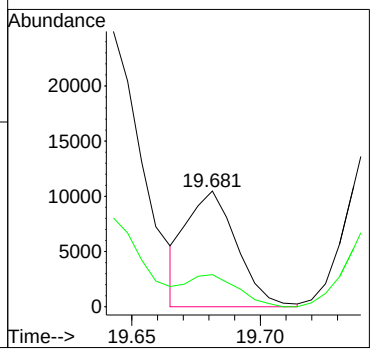


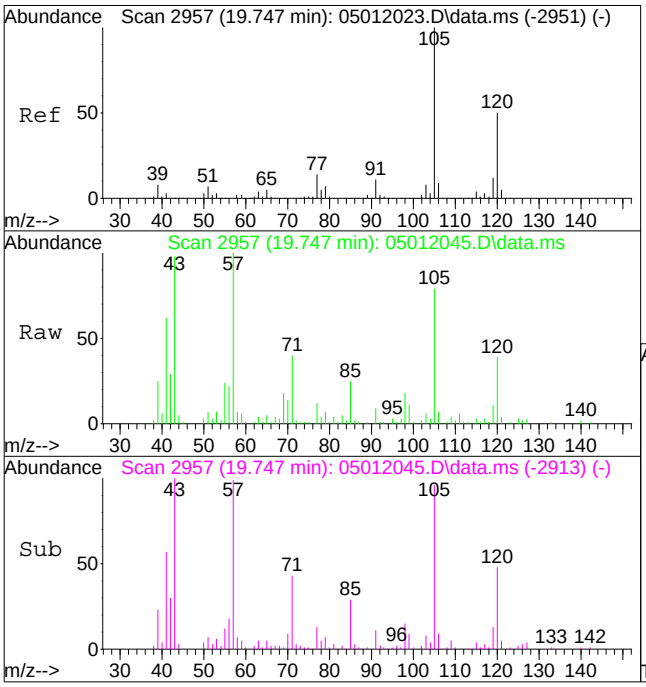


#78
4-Ethyltoluene
Concen: 0.12 ng
RT: 19.68 min Scan# 2945
Delta R.T. -0.006 min
Lab File: 05012045.D
Acq: 2 May 2020 6:06

Tgt Ion:105 Resp: 14305

Ion	Ratio	Lower	Upper
105	100		
120	28.7	10.4	50.4

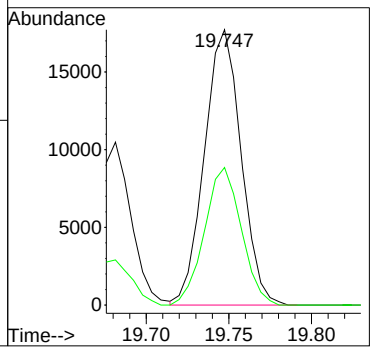


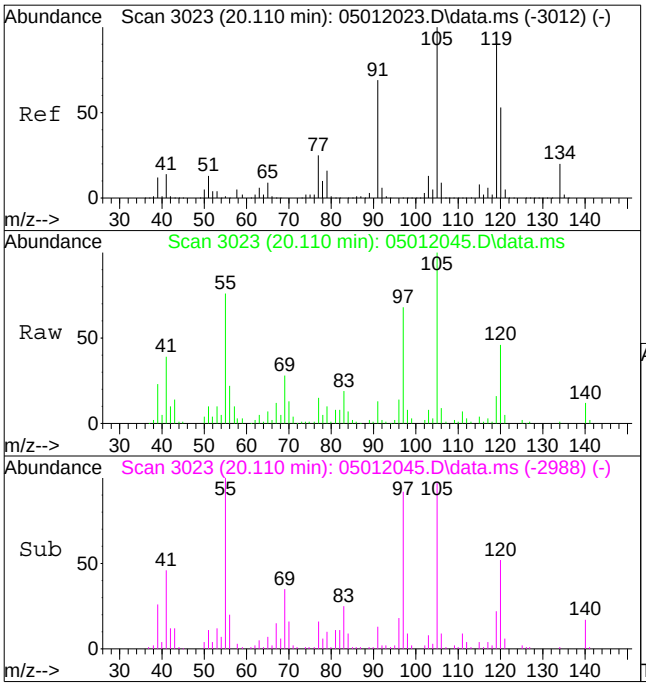


#79
1,3,5-Trimethylbenzene
Concen: 0.26 ng
RT: 19.75 min Scan# 2957
Delta R.T. -0.006 min
Lab File: 05012045.D
Acq: 2 May 2020 6:06

Tgt Ion:105 Resp: 27400

Ion	Ratio	Lower	Upper
105	100		
120	50.0	29.9	69.9

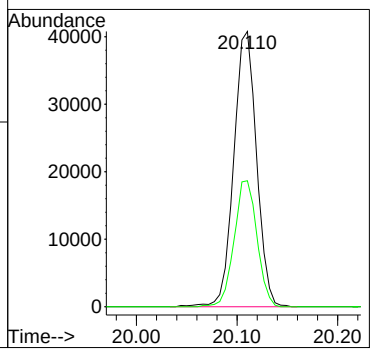


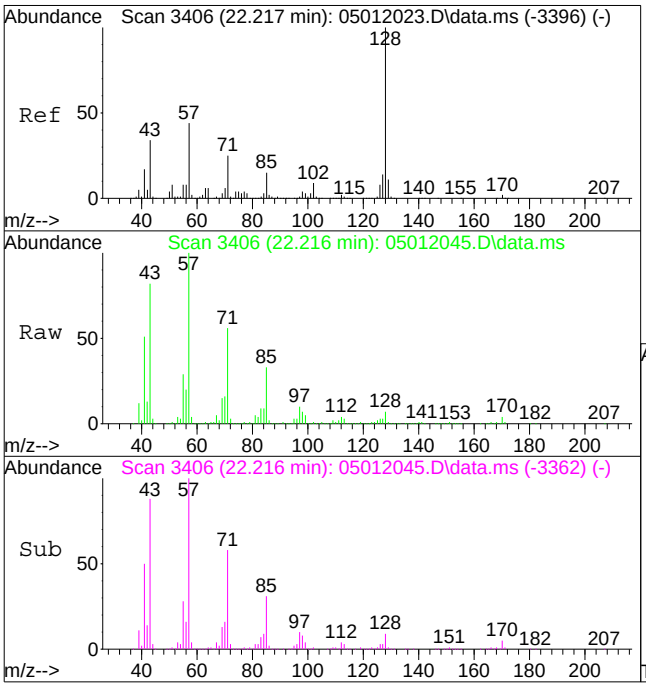


#82
1,2,4-Trimethylbenzene
Concen: 0.61 ng
RT: 20.11 min Scan# 3023
Delta R.T. -0.006 min
Lab File: 05012045.D
Acq: 2 May 2020 6:06

Tgt Ion:105 Resp: 64111

Ion	Ratio	Lower	Upper
105	100		
120	46.0	33.6	73.6

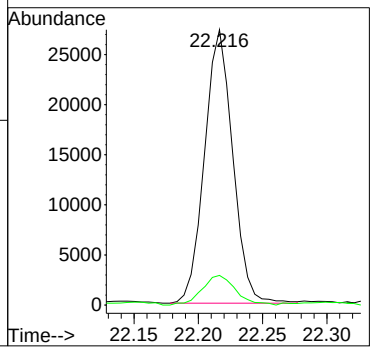




#95
Naphthalene
Concen: 0.33 ng
RT: 22.22 min Scan# 3406
Delta R.T. -0.006 min
Lab File: 05012045.D
Acq: 2 May 2020 6:06

Tgt Ion:128 Resp: 41751

Ion	Ratio	Lower	Upper
128	100		
129	12.8	0.0	31.0



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012046.D Vial: 13
Acq On : 2 May 2020 6:39 Operator: LH
Sample : P2002104-010 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:26:55 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/4/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	269307	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.27	114	1153687	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	549159	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	451183	12.362	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.88%				
57) Toluene-d8 (SS2)	15.72	98	1160831	12.471	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.76%				
73) Bromofluorobenzene (SS3)	18.98	174	407438	12.165	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.28%				
Target Compounds							Qvalue
2) Propene	4.10	42	11378	0.365	ng		99
3) Dichlorodifluoromethan...	4.27	85	44319	0.726	ng		100
4) Chloromethane	4.54	50	4277	0.089	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	1028	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.22	54	467	N.D.			
8) Bromomethane	5.64	94	736	N.D.			
9) Chloroethane	5.97	64	1351	0.065	ng		87
10) Ethanol	6.33	45	58862	2.444	ng		99
11) Acetonitrile	6.63	41	5729	0.104	ng		97
12) Acrolein	6.83	56	18850	0.991	ng		97
13) Acetone	7.02	58	180832	7.508	ng	#	82
14) Trichlorofluoromethane	7.24	101	14986	0.278	ng		99
15) 2-Propanol (Isopropanol)	7.50	45	53278	0.731	ng		91
16) Acrylonitrile	7.84	53	1522	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	51115	1.632	ng		99
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	8.84	151	5396	0.212	ng		97
22) Carbon Disulfide	8.67	76	48003	0.428	ng		99
23) trans-1,2-Dichloroethene	9.68	61	1468	N.D.			
24) 1,1-Dichloroethane	9.94	63	862	N.D.			
25) Methyl tert-Butyl Ether	10.08	73	528	N.D.			
26) Vinyl Acetate	10.17	86	10894	1.452	ng	#	19
27) 2-Butanone (MEK)	10.45	72	160311	7.804	ng		97
28) cis-1,2-Dichloroethene	10.97	61	247	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.28	61	79896	6.745	ng	#	1
31) n-Hexane	0.00	57	0	N.D.	d		
32) Chloroform	11.30	83	17174130	320.372	ng		99
34) Tetrahydrofuran (THF)	11.72	72	301906	15.070	ng		99
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.12	62	595	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	8078	0.065	ng		99
42) Carbon Tetrachloride	13.03	117	196942	4.680	ng		100
43) Cyclohexane	13.17	84	3179	0.069	ng		96
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	13.73	63	804	N.D.			
46) Bromodichloromethane	13.91	83	5561363	133.008	ng		100
47) Trichloroethene	13.97	130	34896	1.091	ng		98
48) 1,4-Dioxane	13.97	88	1589	0.064	ng		91
49) 2,2,4-Trimethylpentane...	14.03	57	4279	N.D.			
50) Methyl Methacrylate	14.31	100	594	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012046.D Vial: 13
Acq On : 2 May 2020 6:39 Operator: LH
Sample : P2002104-010 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:26:55 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.30	71	2376	0.082	ng		97
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
53) 4-Methyl-2-pentanone	14.88	58	2927	0.106	ng	#	42
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.			
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.			
58) Toluene	15.82	91	62301	0.519	ng		98
59) 2-Hexanone	16.06	43	28126	0.428	ng		92
60) Dibromochloromethane	16.22	129	638961	18.598	ng		100
61) 1,2-Dibromoethane	0.00	107	0	N.D.			
62) n-Butyl Acetate	16.70	43	1808	N.D.			
63) n-Octane	16.83	57	3235	0.130	ng		99
64) Tetrachloroethene	16.96	166	76530	2.258	ng		99
65) Chlorobenzene	17.62	112	209	N.D.			
66) Ethylbenzene	17.98	91	5807	N.D.			
67) m- & p-Xylenes	18.14	91	10442	0.098	ng		100
68) Bromoform	18.21	173	3144	0.106	ng		99
69) Styrene	18.47	104	1642	N.D.			
70) o-Xylene	18.58	91	4109	N.D.			
71) n-Nonane	18.77	43	18274	0.320	ng		95
72) 1,1,2,2-Tetrachloroethane	18.59	83	356	N.D.			
74) Cumene	19.10	105	2151	N.D.			
75) alpha-Pinene	19.46	93	3017	N.D.			
76) n-Propylbenzene	19.55	91	2972	N.D.			
77) 3-Ethyltoluene	19.64	105	2976	N.D.			
78) 4-Ethyltoluene	19.68	105	1294	N.D.			
79) 1,3,5-Trimethylbenzene	19.75	105	2078	N.D.			
80) alpha-Methylstyrene	19.89	118	748	N.D.			
81) 2-Ethyltoluene	19.92	105	1244	N.D.			
82) 1,2,4-Trimethylbenzene	20.11	105	2272	N.D.			
83) n-Decane	0.00	57	0	N.D.	d		
84) Benzyl Chloride	20.22	91	479	N.D.			
85) 1,3-Dichlorobenzene	20.24	146	245	N.D.			
86) 1,4-Dichlorobenzene	20.30	146	402	N.D.			
87) sec-Butylbenzene	20.35	105	3315	N.D.			
88) 4-Isopropyltoluene (p-...	20.48	119	1276	N.D.			
89) 1,2,3-Trimethylbenzene	20.48	105	1151	N.D.			
90) 1,2-Dichlorobenzene	20.61	146	258	N.D.			
91) d-Limonene	20.61	68	1236	N.D.			
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.			
93) n-Undecane	0.00	57	0	N.D.	d		
94) 1,2,4-Trichlorobenzene	22.11	180	482	N.D.			
95) Naphthalene	22.22	128	3327	N.D.			
96) n-Dodecane	0.00	57	0	N.D.	d		
97) Hexachlorobutadiene	0.00	225	0	N.D.			
98) Cyclohexanone	0.00	55	0	N.D.	d		
99) tert-Butylbenzene	0.00	119	0	N.D.	d		
100) n-Butylbenzene	20.85	91	2381	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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Acq On : 2 May 2020 6:39 Operator: LH
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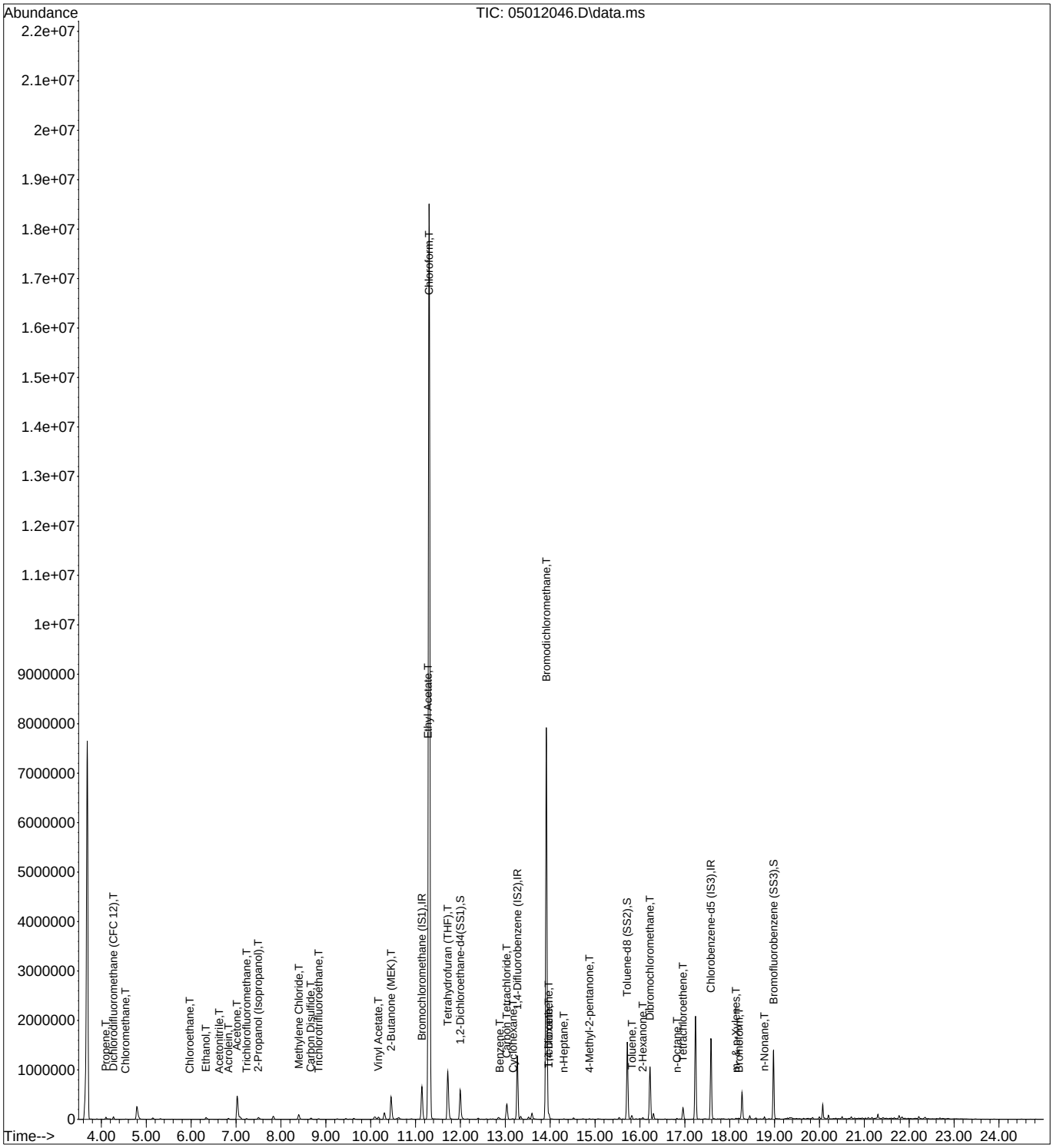
Misc : S31-02112001

Quant Time: May 04 14:26:55 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



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QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/4/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	269307	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.27	114	1153687	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	549159	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	451183	12.362	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.88%				
57) Toluene-d8 (SS2)	15.72	98	1160831	12.471	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.76%				
73) Bromofluorobenzene (SS3)	18.98	174	407438	12.165	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.28%				
Target Compounds							Qvalue
2) Propene	4.10	42	11378	0.365	ng		99
3) Dichlorodifluoromethan...	4.27	85	44319	0.726	ng		100
4) Chloromethane	4.54	50	4277	0.089	ng		98
9) Chloroethane	5.97	64	1351	0.065	ng		87
10) Ethanol	6.33	45	58862	2.444	ng		99
11) Acetonitrile	6.63	41	5729	0.104	ng		97
12) Acrolein	6.83	56	18850	0.991	ng		97
13) Acetone	7.02	58	180832	7.508	ng	#	82
14) Trichlorofluoromethane	7.24	101	14986	0.278	ng		99
15) 2-Propanol (Isopropanol)	7.50	45	53278	0.731	ng		91
19) Methylene Chloride	8.40	84	51115	1.632	ng		99
21) Trichlorotrifluoroethane	8.84	151	5396	0.212	ng		97
22) Carbon Disulfide	8.67	76	48003	0.428	ng		99
26) Vinyl Acetate	10.17	86	10894	1.452	ng	#	19
27) 2-Butanone (MEK)	10.45	72	160311	7.804	ng		97
30) Ethyl Acetate	11.28	61	79896	6.745	ng	#	1
32) Chloroform	11.30	83	17174130	320.372	ng		99
34) Tetrahydrofuran (THF)	11.72	72	301906	15.070	ng		99
41) Benzene	12.87	78	8078	0.065	ng		99
42) Carbon Tetrachloride	13.03	117	196942	4.680	ng		100
43) Cyclohexane	13.17	84	3179	0.069	ng		96
46) Bromodichloromethane	13.91	83	5561363	133.008	ng		100
47) Trichloroethene	13.97	130	34896	1.091	ng		98
48) 1,4-Dioxane	13.97	88	1589	0.064	ng		91
51) n-Heptane	14.30	71	2376	0.082	ng		97
53) 4-Methyl-2-pentanone	14.88	58	2927	0.106	ng	#	42
58) Toluene	15.82	91	62301	0.519	ng		98
59) 2-Hexanone	16.06	43	28126	0.428	ng		92
60) Dibromochloromethane	16.22	129	638961	18.598	ng		100
63) n-Octane	16.83	57	3235	0.130	ng		99
64) Tetrachloroethene	16.96	166	76530	2.258	ng		99
67) m- & p-Xylenes	18.14	91	10442	0.098	ng		100
68) Bromoform	18.21	173	3144	0.106	ng		99
71) n-Nonane	18.77	43	18274	0.320	ng		95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
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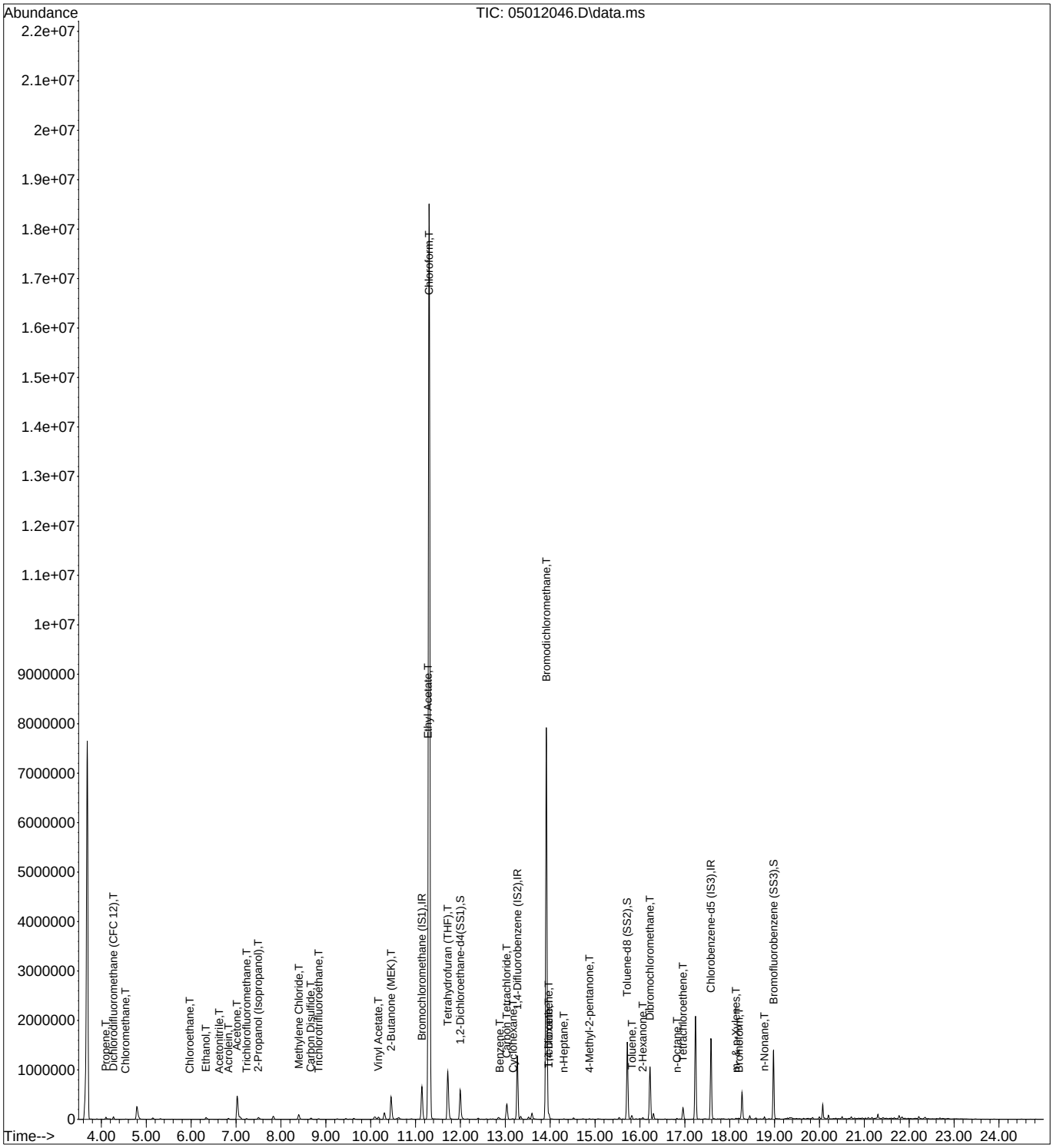
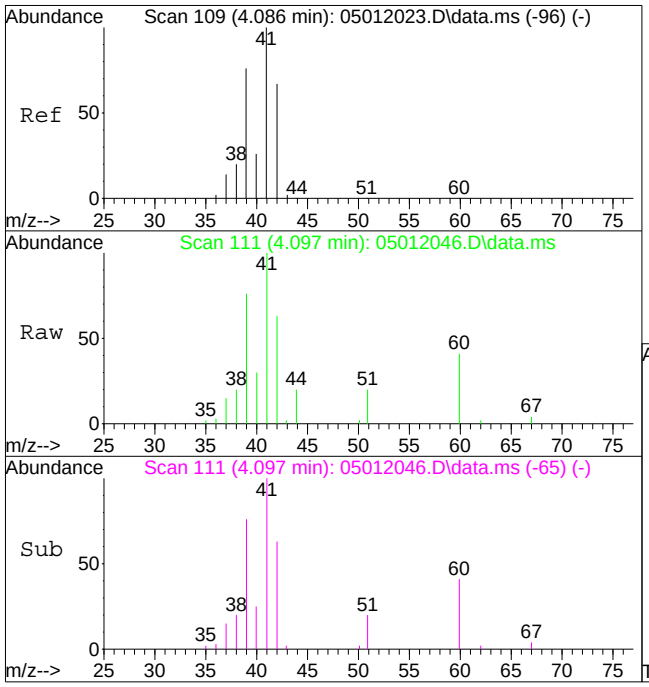
Response via : Initial Calibration
DataAcq Meth:TO15.M

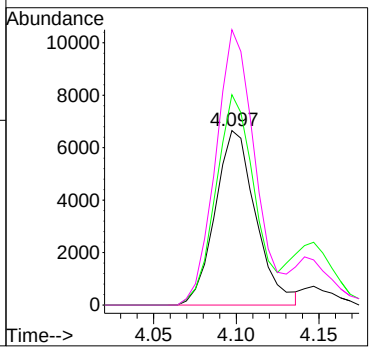


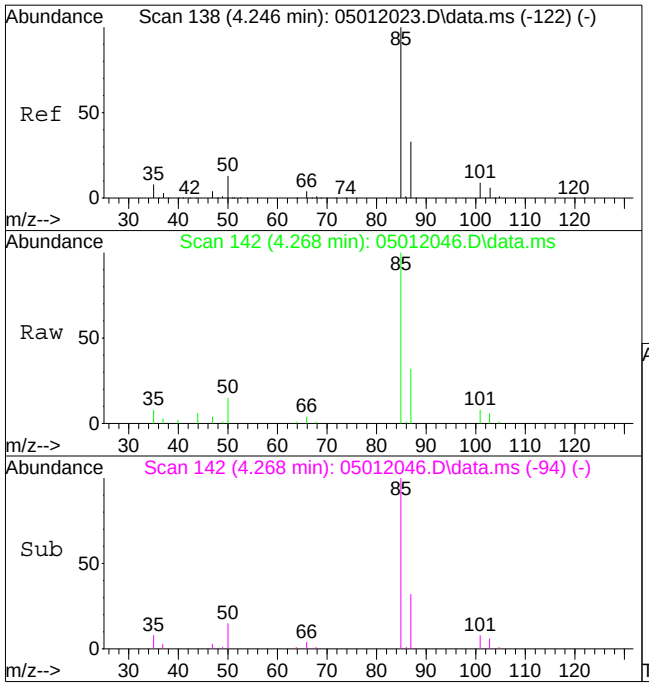


#2
Propene
Concen: 0.36 ng
RT: 4.10 min Scan# 111
Delta R.T. 0.005 min
Lab File: 05012046.D
Acq: 2 May 2020 6:39

Tgt Ion: 42 Resp: 11378

Ion	Ratio	Lower	Upper
42	100		
39	115.0	96.1	136.1
41	153.3	131.9	171.9

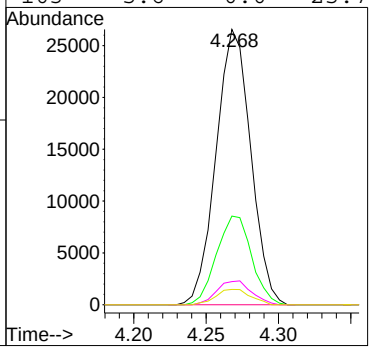


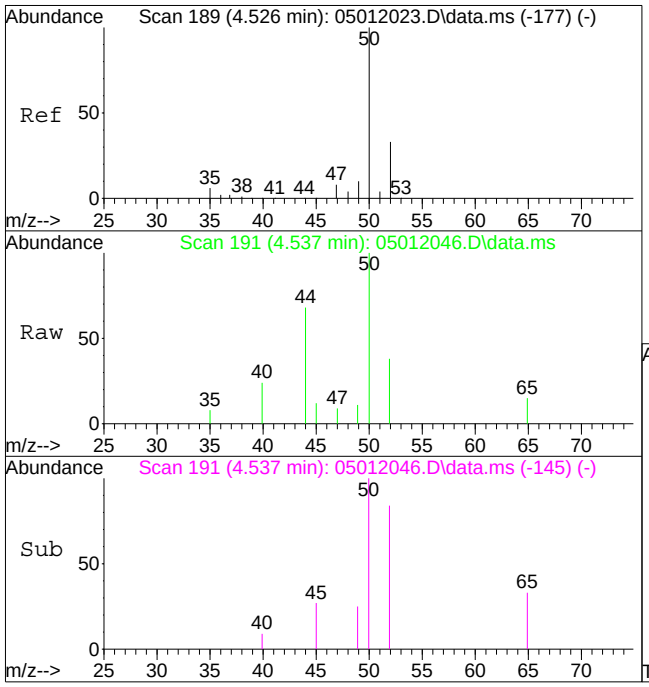


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.73 ng
RT: 4.27 min Scan# 142
Delta R.T. 0.016 min
Lab File: 05012046.D
Acq: 2 May 2020 6:39

Tgt Ion: 85 Resp: 44319

Ion	Ratio	Lower	Upper
85	100		
87	32.5	12.4	52.4
101	8.7	0.0	28.8
103	5.6	0.0	25.7

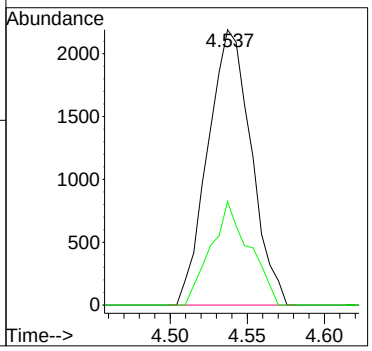


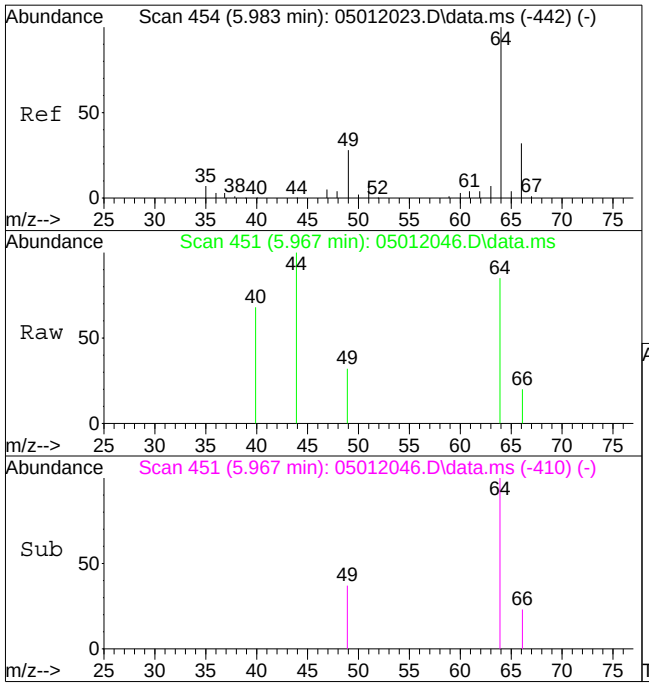


#4
Chloromethane
Concen: 0.09 ng
RT: 4.54 min Scan# 191
Delta R.T. 0.005 min
Lab File: 05012046.D
Acq: 2 May 2020 6:39

Tgt Ion: 50 Resp: 4277

Ion	Ratio	Lower	Upper
50	100		
52	33.5	12.5	52.5

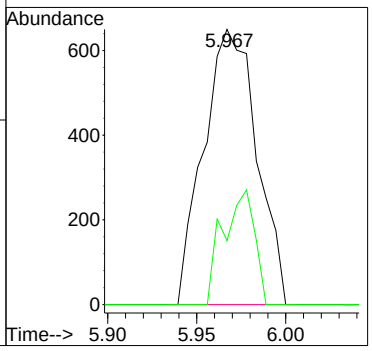


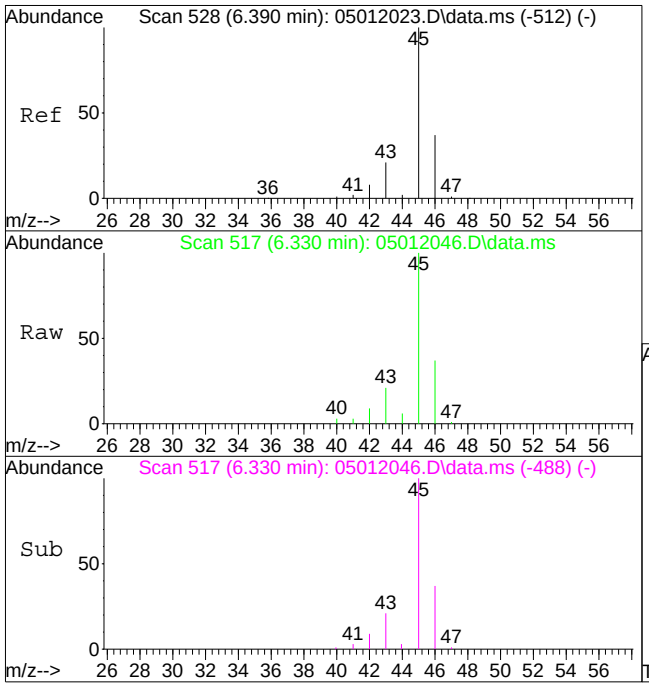


#9
Chloroethane
Concen: 0.07 ng
RT: 5.97 min Scan# 451
Delta R.T. -0.022 min
Lab File: 05012046.D
Acq: 2 May 2020 6:39

Tgt Ion: 64 Resp: 1351

Ion	Ratio	Lower	Upper
64	100		
66	24.6	12.1	52.1

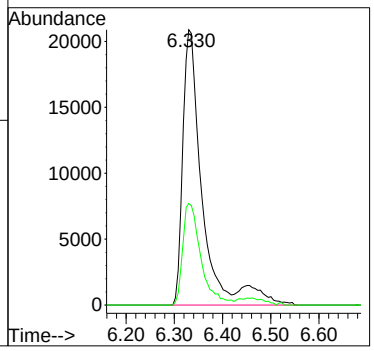


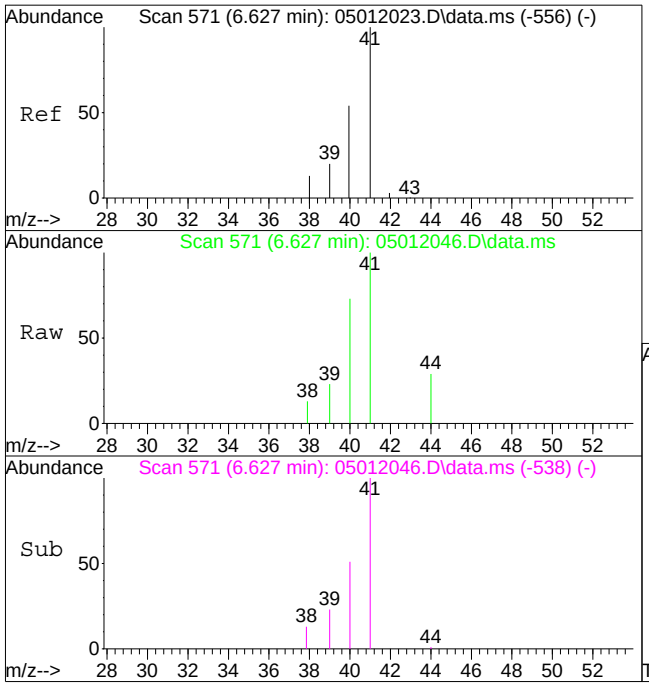


#10
Ethanol
Concen: 2.44 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.088 min
Lab File: 05012046.D
Acq: 2 May 2020 6:39

Tgt Ion: 45 Resp: 58862

Ion	Ratio	Lower	Upper
45	100		
46	37.6	17.2	57.2

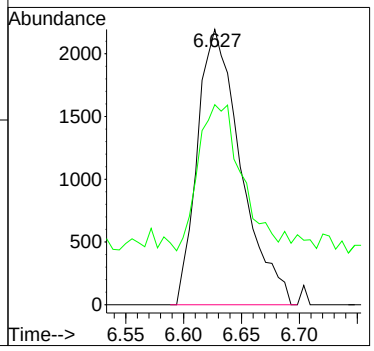


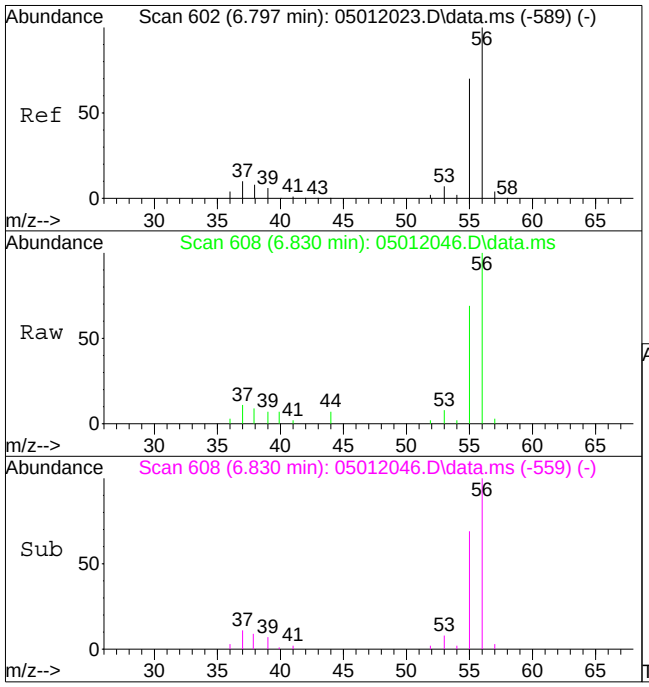


#11
Acetonitrile
Concen: 0.10 ng
RT: 6.63 min Scan# 571
Delta R.T. -0.017 min
Lab File: 05012046.D
Acq: 2 May 2020 6:39

Tgt Ion: 41 Resp: 5729

Ion	Ratio	Lower	Upper
41	100		
40	55.9	33.6	73.6

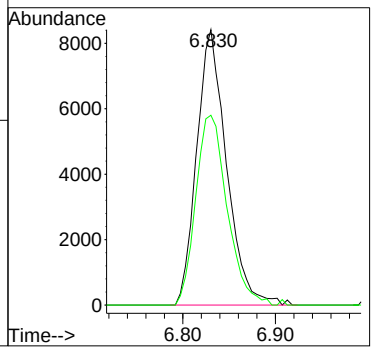


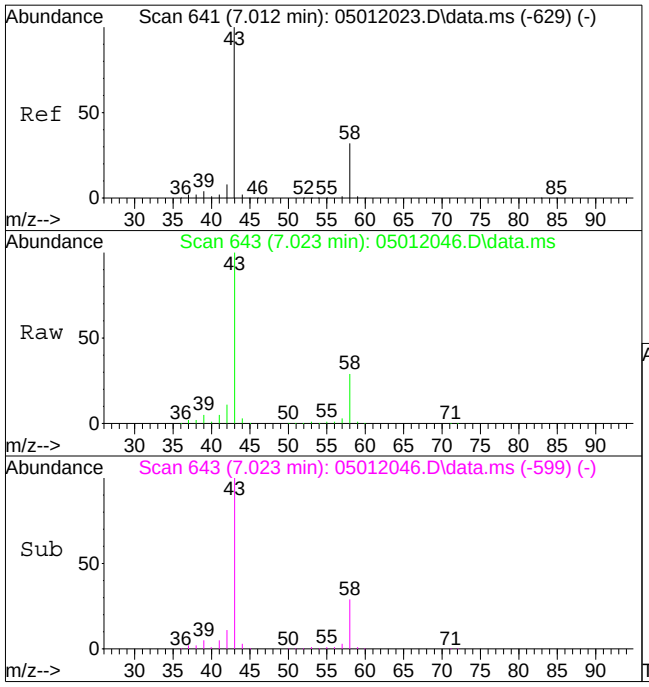


#12
Acrolein
Concen: 0.99 ng
RT: 6.83 min Scan# 608
Delta R.T. 0.022 min
Lab File: 05012046.D
Acq: 2 May 2020 6:39

Tgt Ion: 56 Resp: 18850

Ion	Ratio	Lower	Upper
56	100		
55	72.6	50.2	90.2

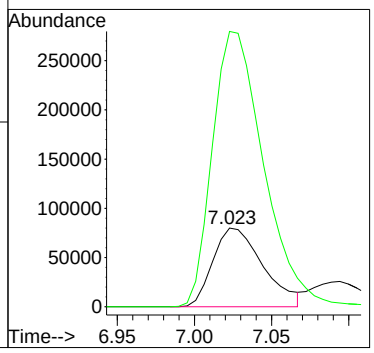


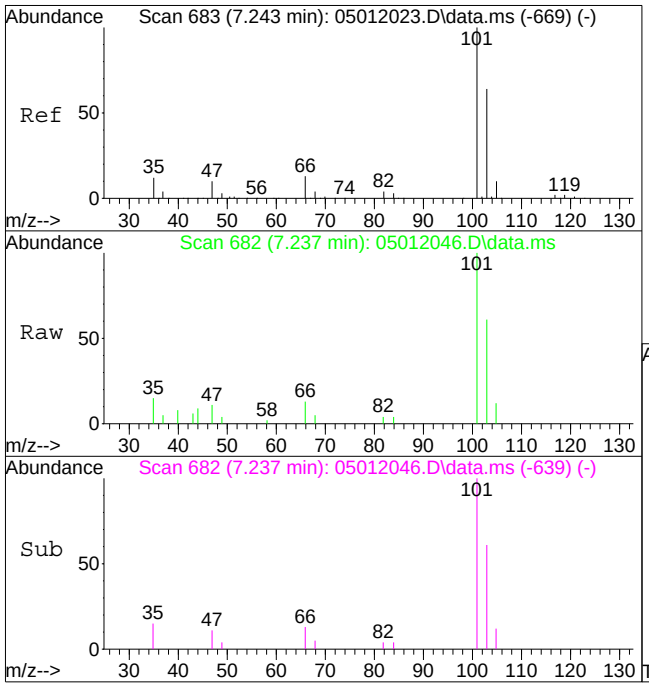


#13
Acetone
Concen: 7.51 ng
RT: 7.02 min Scan# 643
Delta R.T. -0.006 min
Lab File: 05012046.D
Acq: 2 May 2020 6:39

Tgt Ion: 58 Resp: 180832

Ion	Ratio	Lower	Upper
58	100		
43	361.2	294.4	354.4#

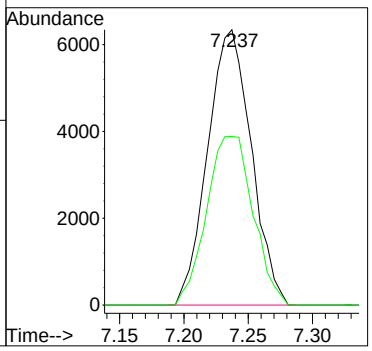


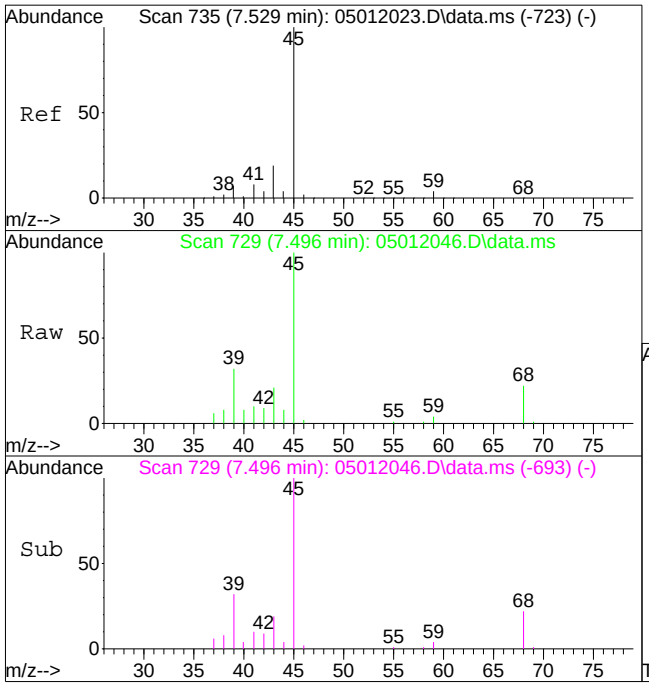


#14
Trichlorofluoromethane
Concen: 0.28 ng
RT: 7.24 min Scan# 682
Delta R.T. -0.011 min
Lab File: 05012046.D
Acq: 2 May 2020 6:39

Tgt Ion:101 Resp: 14986

Ion	Ratio	Lower	Upper
101	100		
103	65.3	44.4	84.4

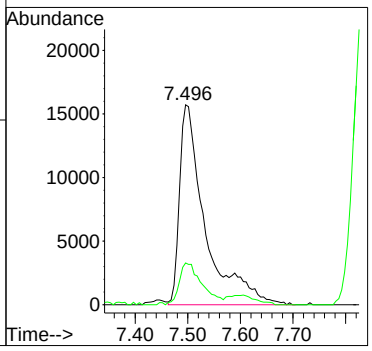


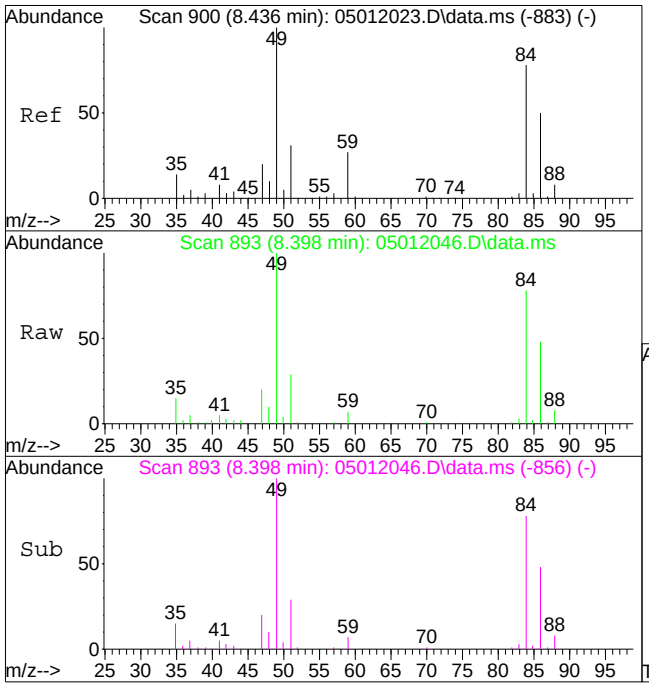


#15
2-Propanol (Isopropanol)
Concen: 0.73 ng
RT: 7.50 min Scan# 729
Delta R.T. -0.050 min
Lab File: 05012046.D
Acq: 2 May 2020 6:39

Tgt Ion: 45 Resp: 53278

Ion	Ratio	Lower	Upper
45	100		
43	23.8	0.0	39.5

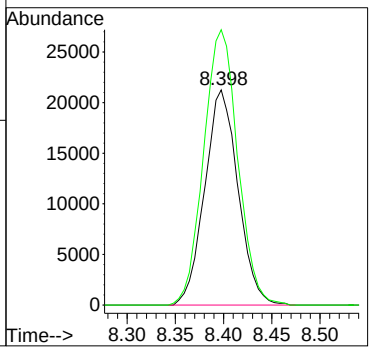


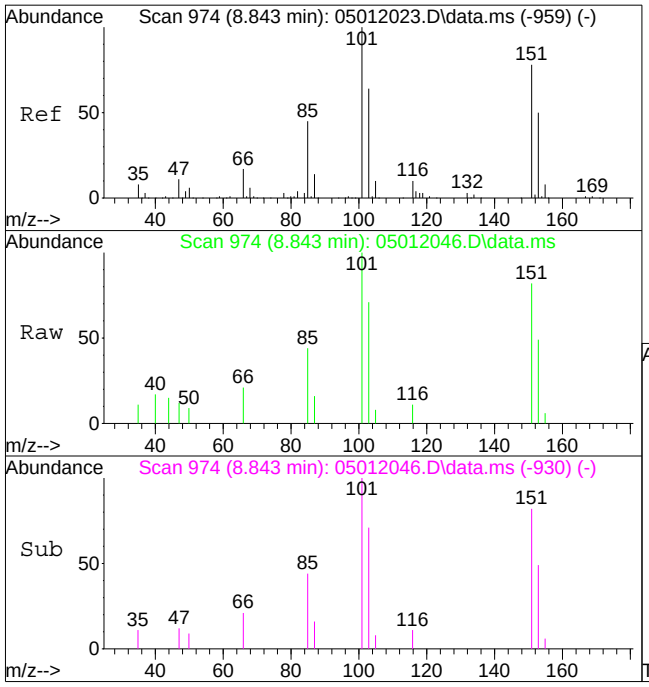


#19
Methylene Chloride
Concen: 1.63 ng
RT: 8.40 min Scan# 893
Delta R.T. -0.044 min
Lab File: 05012046.D
Acq: 2 May 2020 6:39

Tgt Ion: 84 Resp: 51115

Ion	Ratio	Lower	Upper
84	100		
49	131.0	104.8	154.8

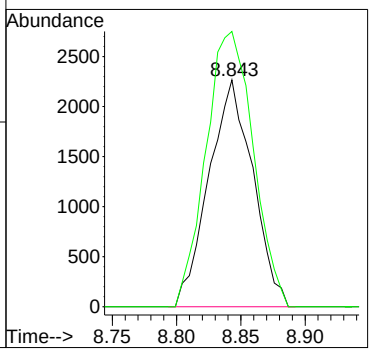


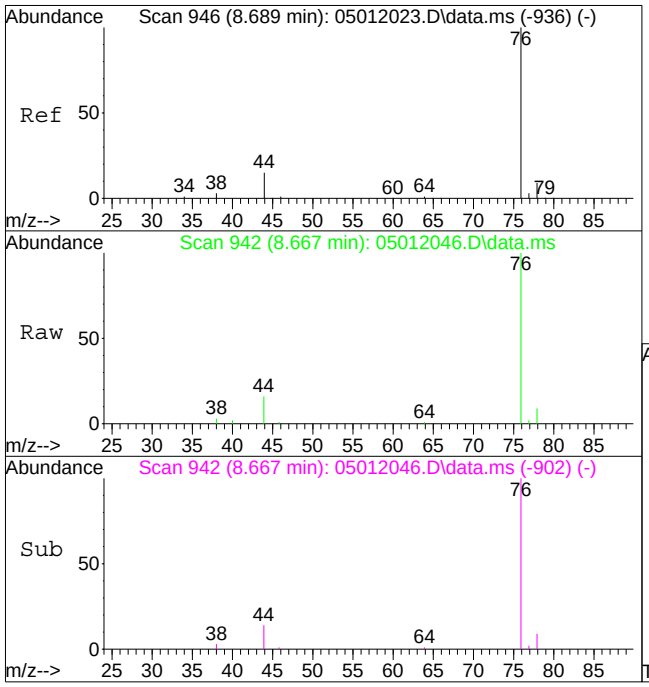


#21
Trichlorotrifluoroethane
Concen: 0.21 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05012046.D
Acq: 2 May 2020 6:39

Tgt Ion:151 Resp: 5396

Ion	Ratio	Lower	Upper
151	100		
101	130.8	107.3	147.3

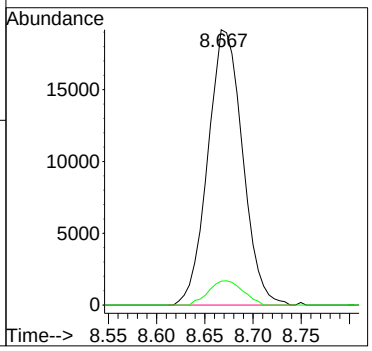


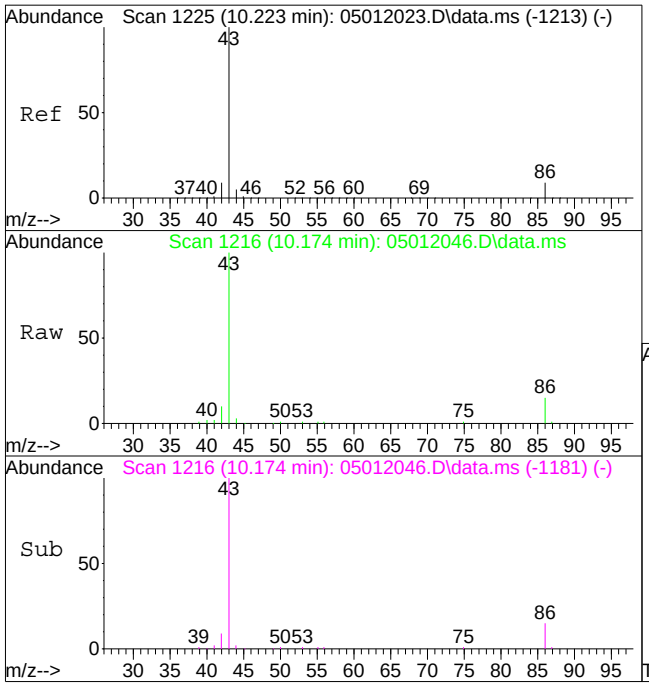


#22
Carbon Disulfide
Concen: 0.43 ng
RT: 8.67 min Scan# 942
Delta R.T. -0.027 min
Lab File: 05012046.D
Acq: 2 May 2020 6:39

Tgt Ion: 76 Resp: 48003

Ion	Ratio	Lower	Upper
76	100		
78	8.7	0.0	29.2

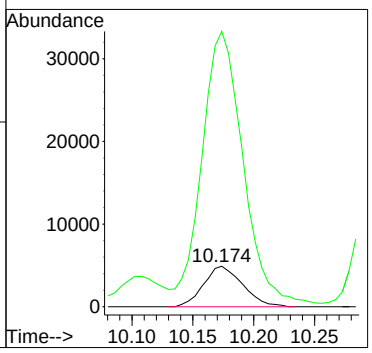


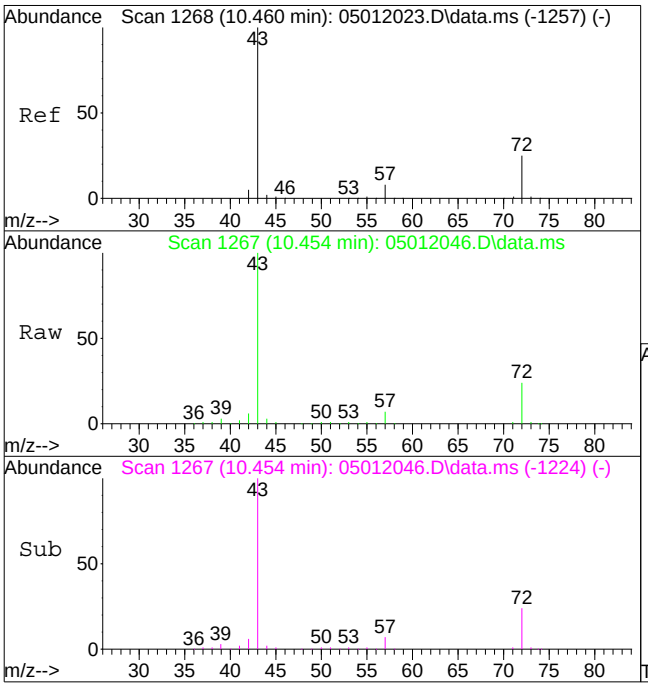


#26
Vinyl Acetate
Concen: 1.45 ng
RT: 10.17 min Scan# 1216
Delta R.T. -0.055 min
Lab File: 05012046.D
Acq: 2 May 2020 6:39

Tgt Ion: 86 Resp: 10894

Ion	Ratio	Lower	Upper
86	100		
43	729.4	1103.0	1143.0#

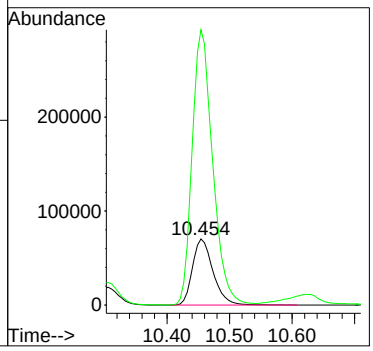


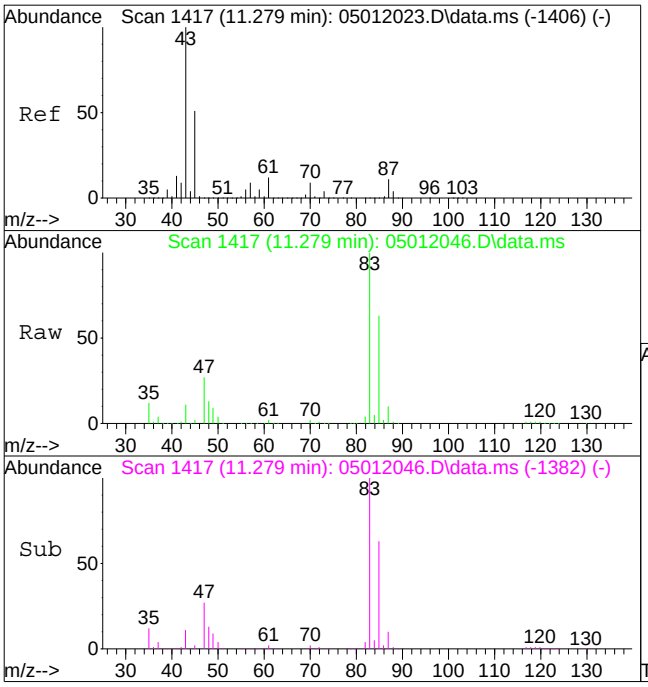


#27
2-Butanone (MEK)
Concen: 7.80 ng
RT: 10.45 min Scan# 1267
Delta R.T. -0.011 min
Lab File: 05012046.D
Acq: 2 May 2020 6:39

Tgt Ion: 72 Resp: 160311

Ion	Ratio	Lower	Upper
72	100		
43	416.4	389.7	429.7

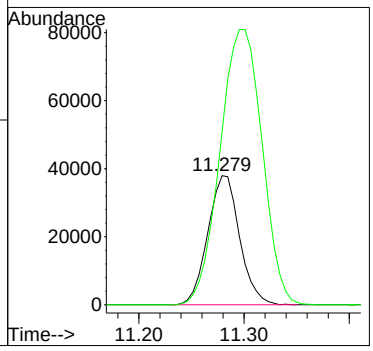


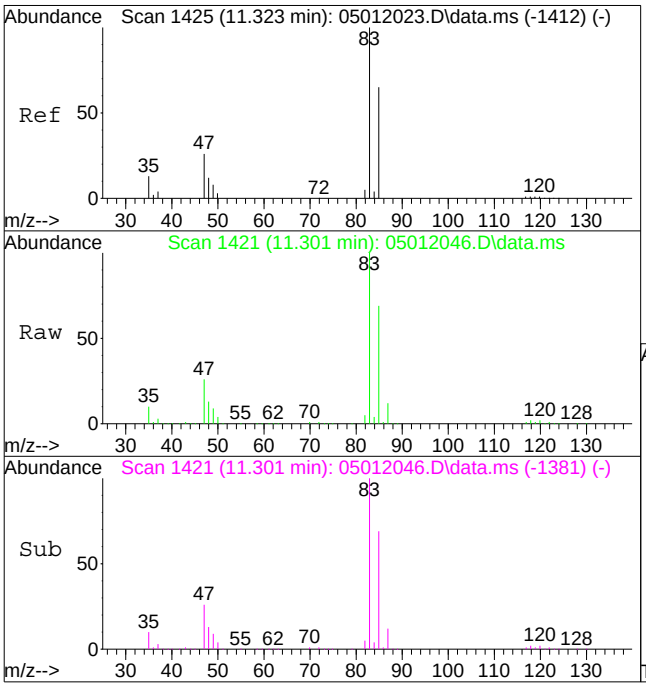


#30
Ethyl Acetate
Concen: 6.75 ng
RT: 11.28 min Scan# 1417
Delta R.T. -0.006 min
Lab File: 05012046.D
Acq: 2 May 2020 6:39

Tgt Ion: 61 Resp: 79896

Ion	Ratio	Lower	Upper
61	100		
70	282.3	57.9	97.9#

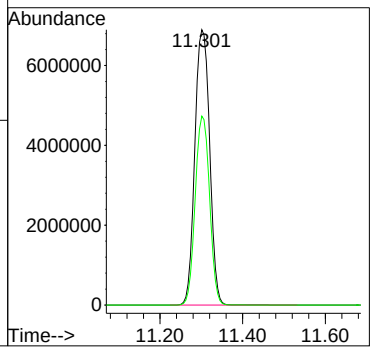


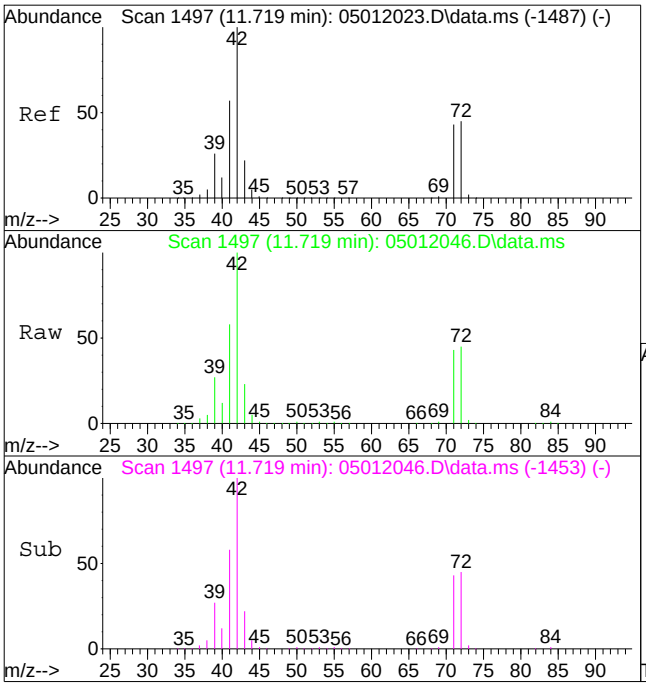


#32
Chloroform
Concen: 320.37 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.028 min
Lab File: 05012046.D
Acq: 2 May 2020 6:39

Tgt Ion: 83 Resp:17174130

Ion	Ratio	Lower	Upper
83	100		
85	66.6	45.5	85.5

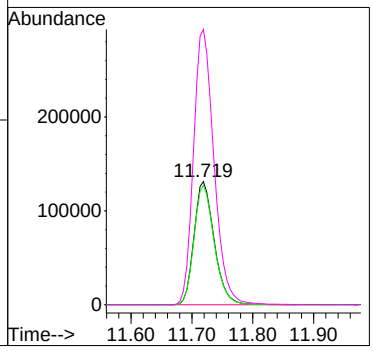


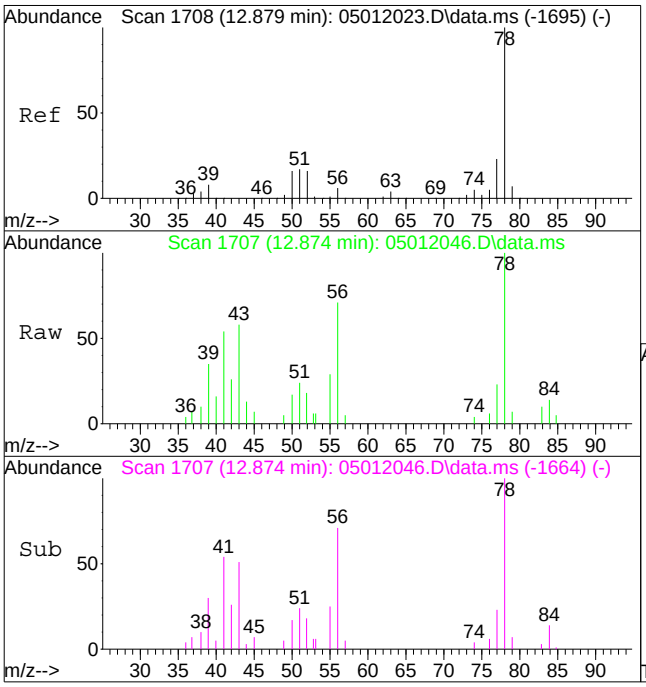


#34
Tetrahydrofuran (THF)
Concen: 15.07 ng
RT: 11.72 min Scan# 1497
Delta R.T. -0.006 min
Lab File: 05012046.D
Acq: 2 May 2020 6:39

Tgt Ion: 72 Resp: 301906

Ion	Ratio	Lower	Upper
72	100		
71	97.0	77.0	117.0
42	227.5	204.6	244.6

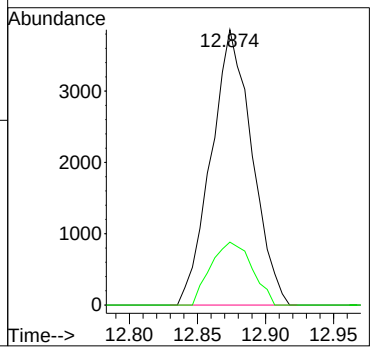


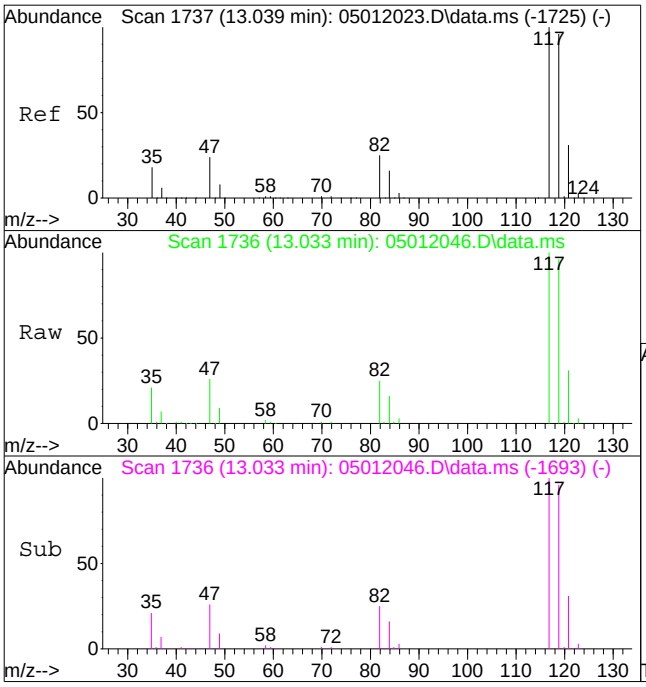


#41
Benzene
Concen: 0.07 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05012046.D
Acq: 2 May 2020 6:39

Tgt Ion: 78 Resp: 8078

Ion	Ratio	Lower	Upper
78	100		
77	23.1	3.4	43.4

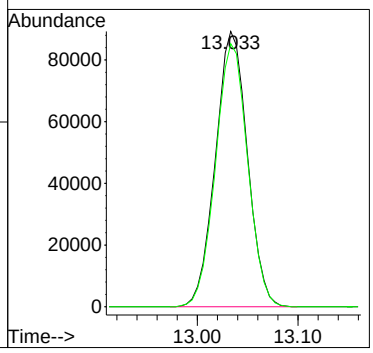


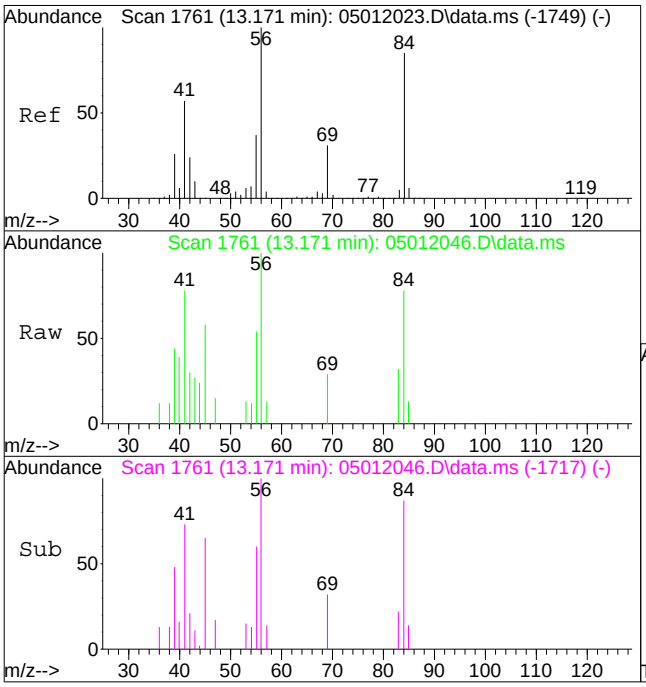


#42
Carbon Tetrachloride
Concen: 4.68 ng
RT: 13.03 min Scan# 1736
Delta R.T. -0.011 min
Lab File: 05012046.D
Acq: 2 May 2020 6:39

Tgt Ion:117 Resp: 196942

Ion	Ratio	Lower	Upper
117	100		
119	95.9	76.2	116.2

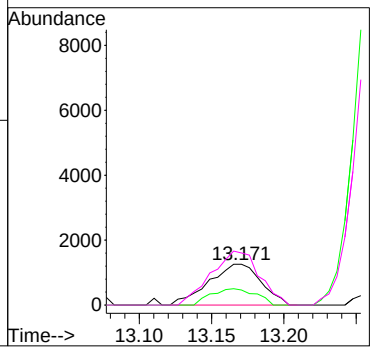


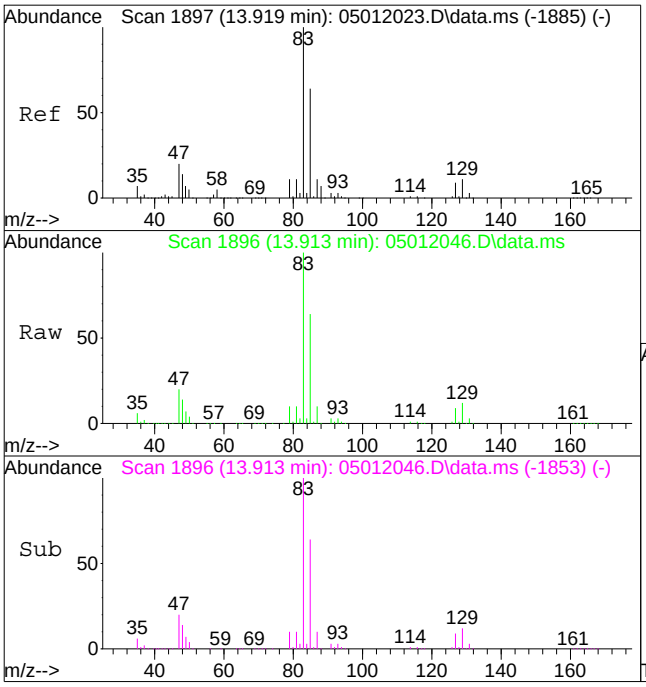


#43
Cyclohexane
Concen: 0.07 ng
RT: 13.17 min Scan# 1761
Delta R.T. -0.006 min
Lab File: 05012046.D
Acq: 2 May 2020 6:39

Tgt Ion: 84 Resp: 3179

Ion	Ratio	Lower	Upper
84	100		
69	34.0	16.5	56.5
56	122.0	97.4	137.4

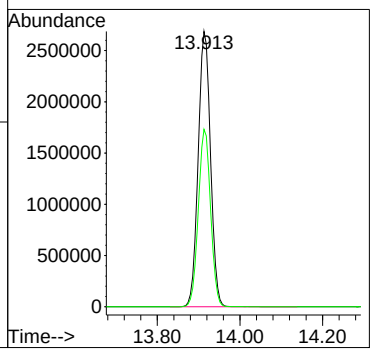


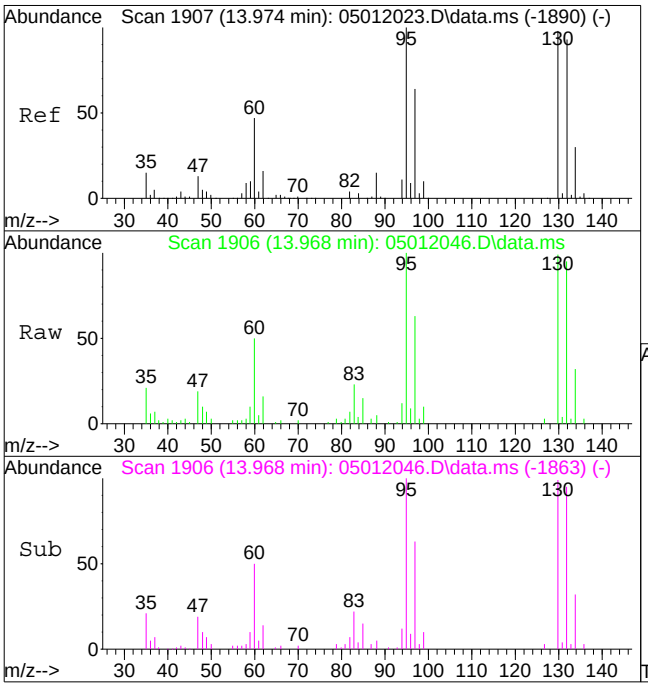


#46
Bromodichloromethane
Concen: 133.01 ng
RT: 13.91 min Scan# 1896
Delta R.T. -0.011 min
Lab File: 05012046.D
Acq: 2 May 2020 6:39

Tgt Ion: 83 Resp: 5561363

Ion	Ratio	Lower	Upper
83	100		
85	64.2	44.4	84.4

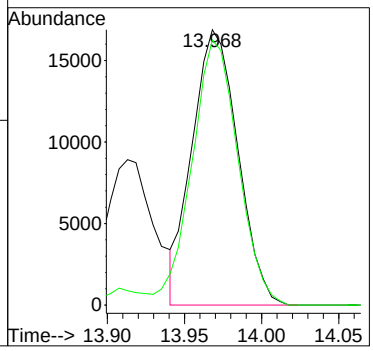


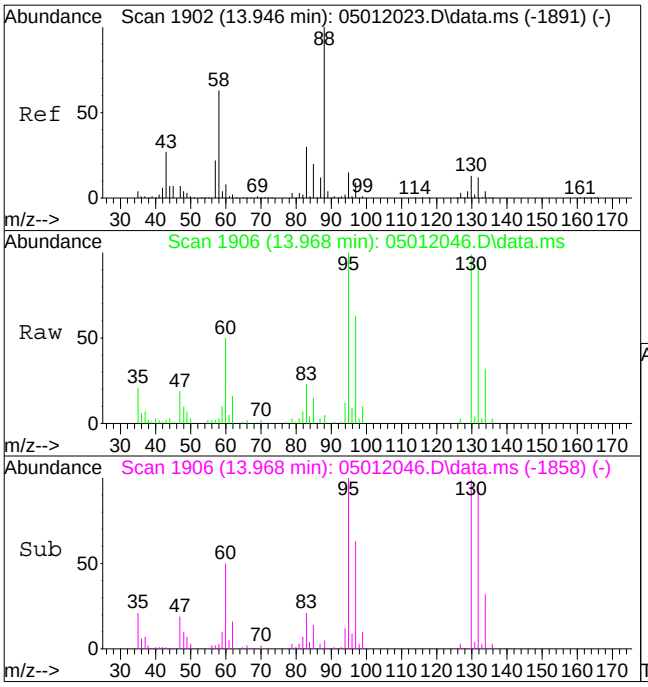


#47
Trichloroethene
Concen: 1.09 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05012046.D
Acq: 2 May 2020 6:39

Tgt Ion:130 Resp: 34896

Ion	Ratio	Lower	Upper
130	100		
132	96.8	74.9	114.9

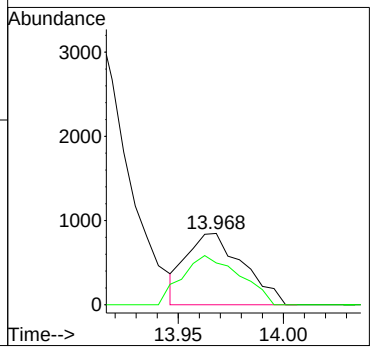


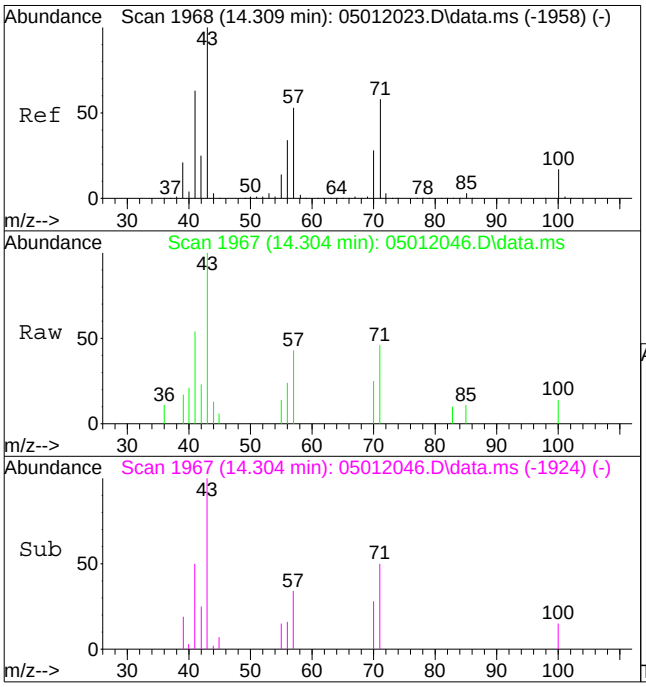


#48
1,4-Dioxane
Concen: 0.06 ng
RT: 13.97 min Scan# 1906
Delta R.T. 0.016 min
Lab File: 05012046.D
Acq: 2 May 2020 6:39

Tgt Ion: 88 Resp: 1589

Ion	Ratio	Lower	Upper
88	100		
58	70.0	42.8	82.8

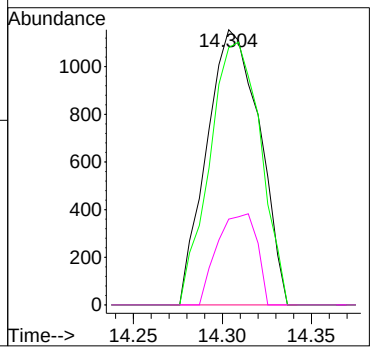


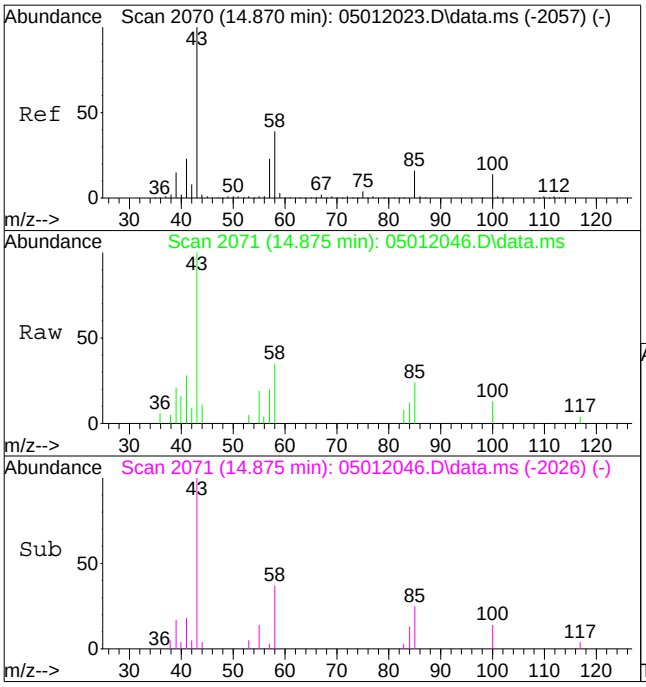


#51
n-Heptane
Concen: 0.08 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05012046.D
Acq: 2 May 2020 6:39

Tgt Ion: 71 Resp: 2376

Ion	Ratio	Lower	Upper
71	100		
57	92.5	71.0	111.0
100	25.0	8.4	48.4

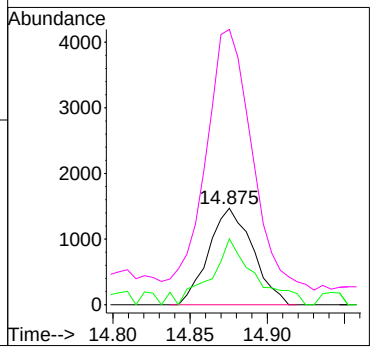


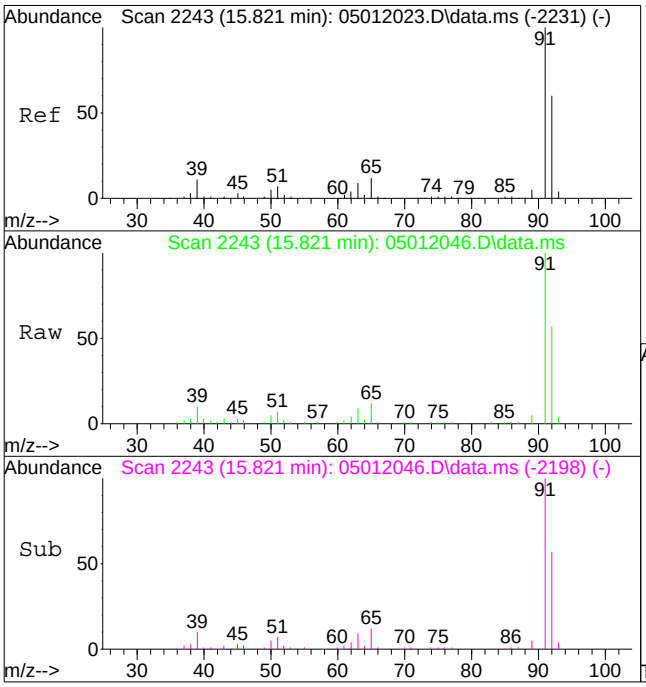


#53
4-Methyl-2-pentanone
Concen: 0.11 ng
RT: 14.88 min Scan# 2071
Delta R.T. -0.000 min
Lab File: 05012046.D
Acq: 2 May 2020 6:39

Tgt Ion: 58 Resp: 2927

Ion	Ratio	Lower	Upper
58	100		
85	68.5	35.4	53.2#
43	362.3	203.3	304.9#

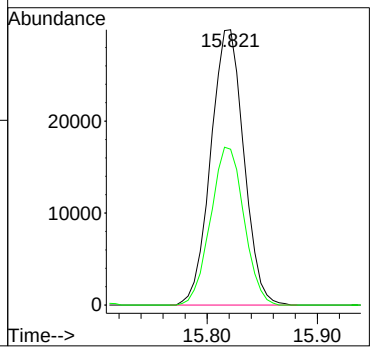


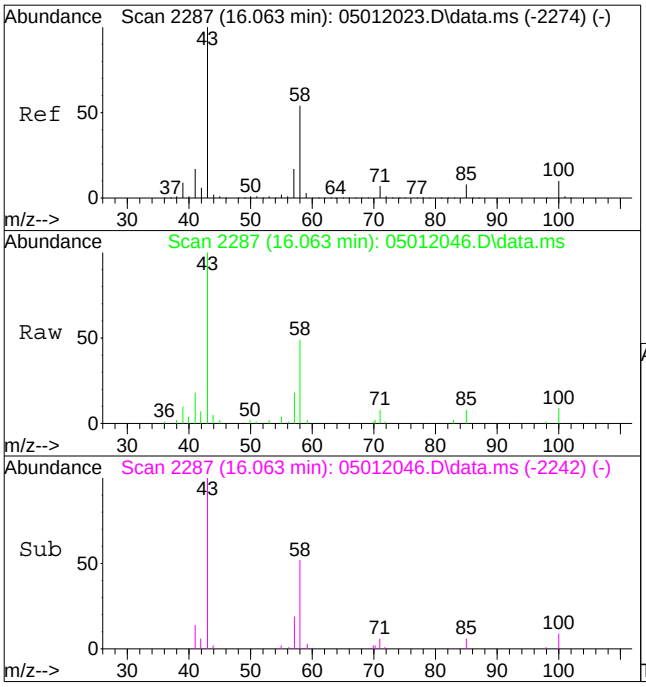


#58
Toluene
Concen: 0.52 ng
RT: 15.82 min Scan# 2243
Delta R.T. -0.000 min
Lab File: 05012046.D
Acq: 2 May 2020 6:39

Tgt Ion: 91 Resp: 62301

Ion	Ratio	Lower	Upper
91	100		
92	57.9	39.4	79.4

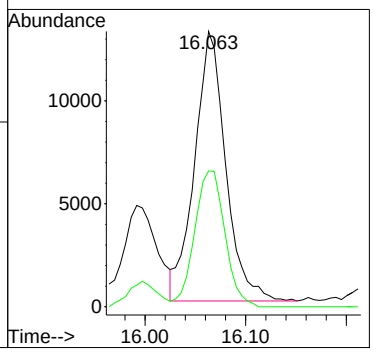


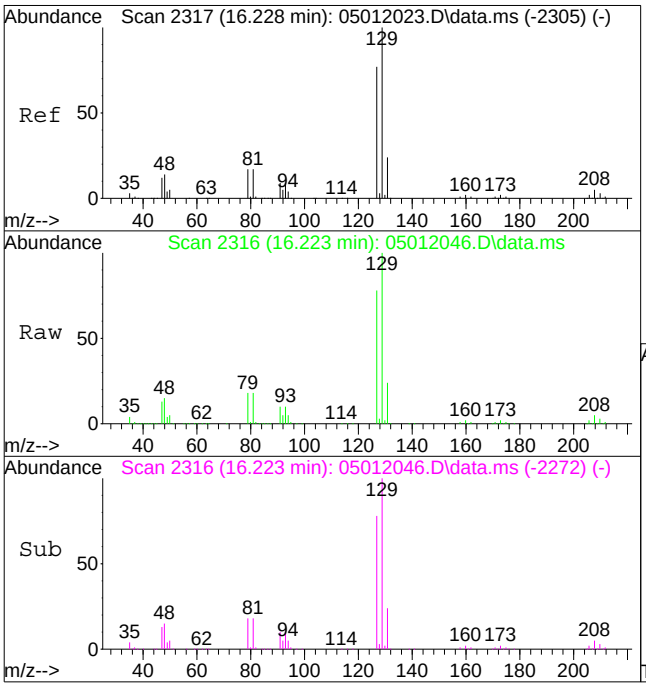


#59
2-Hexanone
Concen: 0.43 ng
RT: 16.06 min Scan# 2287
Delta R.T. -0.000 min
Lab File: 05012046.D
Acq: 2 May 2020 6:39

Tgt Ion: 43 Resp: 28126

Ion	Ratio	Lower	Upper
43	100		
58	49.0	34.5	74.5

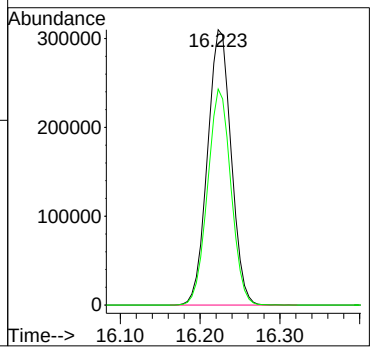


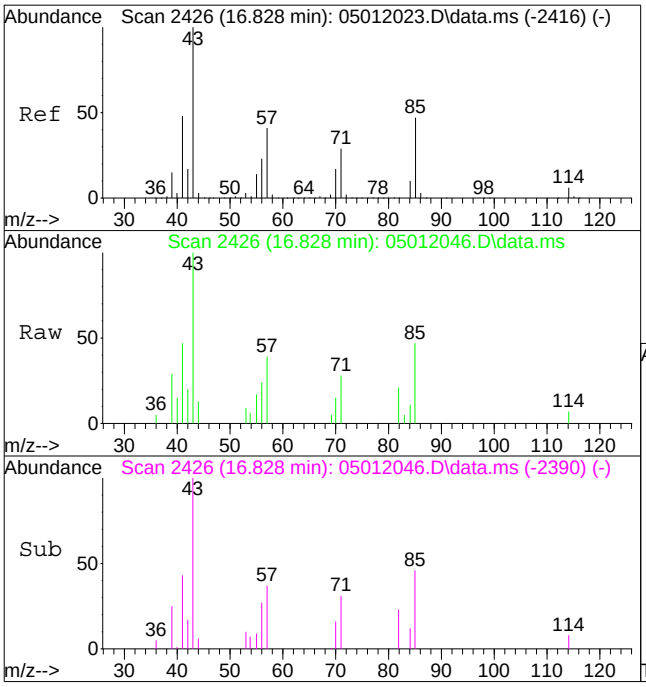


#60
Dibromochloromethane
Concen: 18.60 ng
RT: 16.22 min Scan# 2316
Delta R.T. -0.006 min
Lab File: 05012046.D
Acq: 2 May 2020 6:39

Tgt Ion:129 Resp: 638961

Ion	Ratio	Lower	Upper
129	100		
127	77.4	57.3	97.3

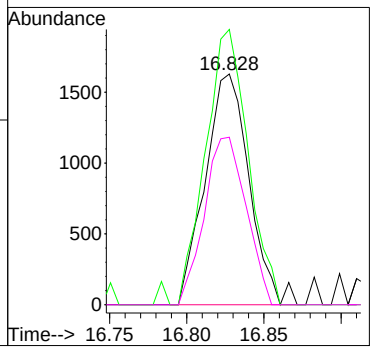


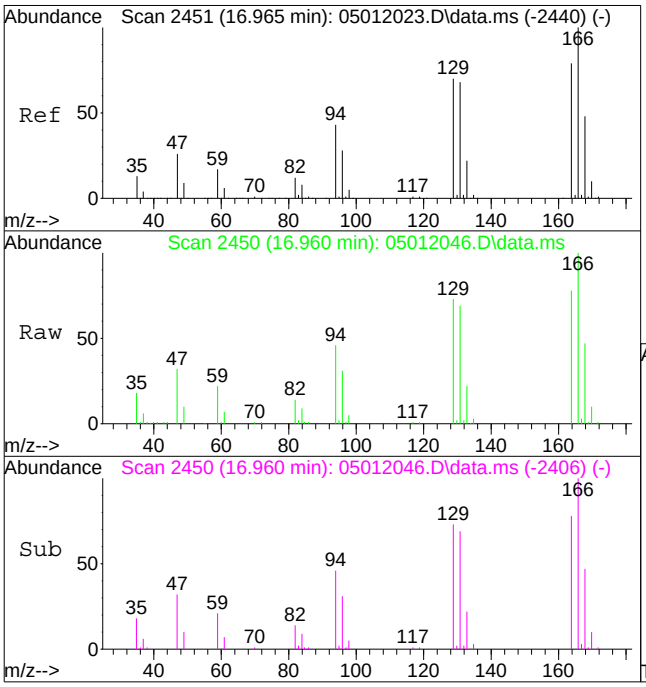


#63
n-Octane
Concen: 0.13 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05012046.D
Acq: 2 May 2020 6:39

Tgt Ion: 57 Resp: 3235

Ion	Ratio	Lower	Upper
57	100		
85	115.1	91.0	136.4
71	68.8	56.2	84.2

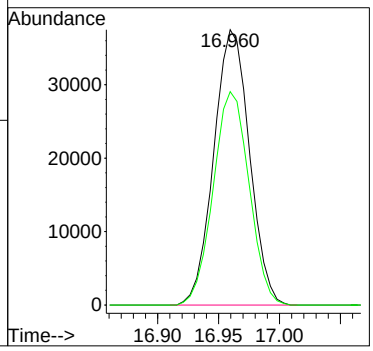


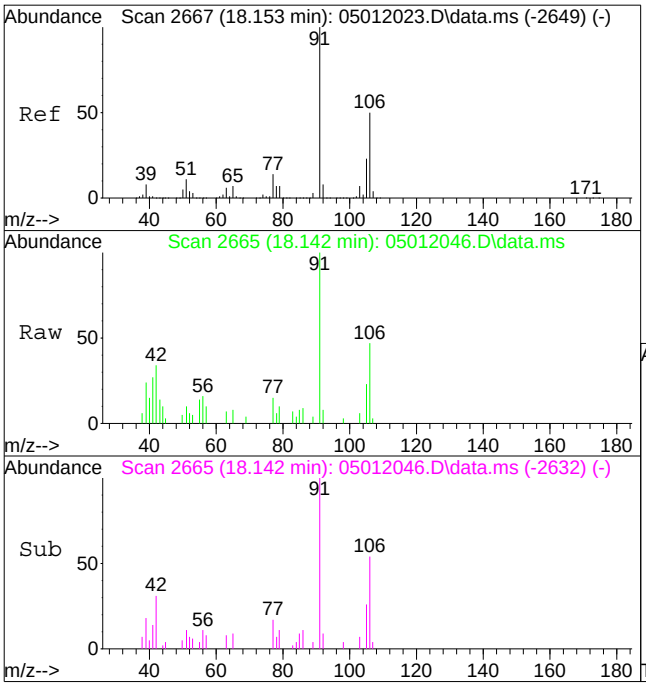


#64
Tetrachloroethene
Concen: 2.26 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05012046.D
Acq: 2 May 2020 6:39

Tgt Ion:166 Resp: 76530

Ion	Ratio	Lower	Upper
166	100		
164	77.9	58.4	98.4

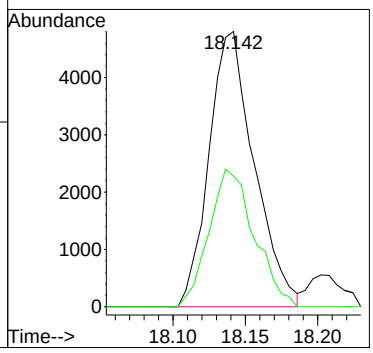


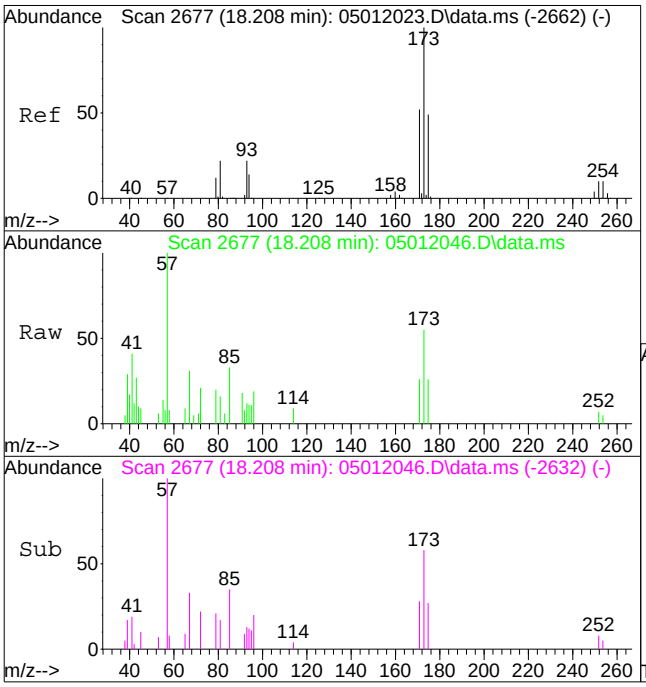


#67
m- & p-Xylenes
Concen: 0.10 ng
RT: 18.14 min Scan# 2665
Delta R.T. -0.017 min
Lab File: 05012046.D
Acq: 2 May 2020 6:39

Tgt Ion: 91 Resp: 10442

Ion	Ratio	Lower	Upper
91	100		
106	50.0	29.7	69.7

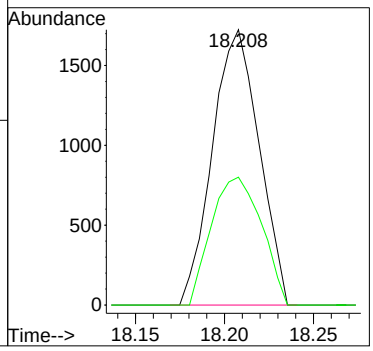


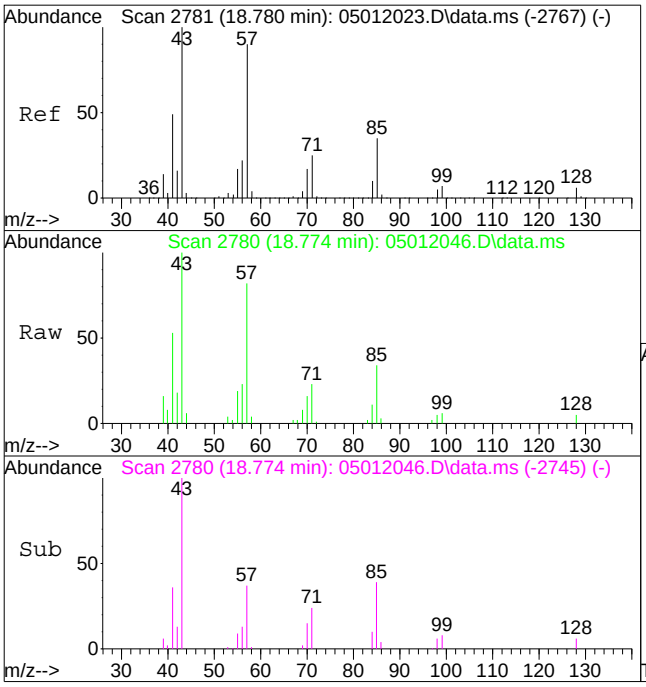


#68
Bromoform
Concen: 0.11 ng
RT: 18.21 min Scan# 2677
Delta R.T. -0.005 min
Lab File: 05012046.D
Acq: 2 May 2020 6:39

Tgt Ion:173 Resp: 3144

Ion	Ratio	Lower	Upper
173	100		
175	49.9	29.0	69.0

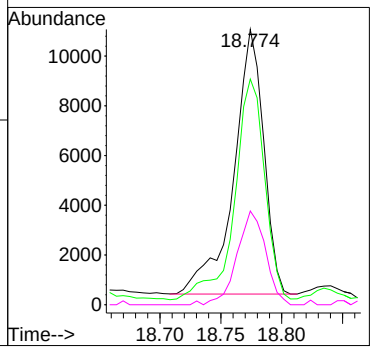




#71
n-Nonane
Concen: 0.32 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05012046.D
Acq: 2 May 2020 6:39

Tgt Ion: 43 Resp: 18274

Ion	Ratio	Lower	Upper
43	100		
57	83.6	69.0	109.0
85	33.7	14.6	54.6



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022010.D Vial: 13
Acq On : 2 May 2020 14:58 Operator: TD
Sample : P2002104-010dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:43:14 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/4/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	291276	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1282356	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	618459	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	502405	12.727	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.84%				
57) Toluene-d8 (SS2)	15.72	98	1294937	12.353	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.80%				
73) Bromofluorobenzene (SS3)	18.98	174	445553	11.812	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.48%				
Target Compounds							Qvalue
2) Propene	4.12	42	814	N.D.			
3) Dichlorodifluoromethan...	4.29	85	4224	0.064	ng		96
4) Chloromethane	4.56	50	536	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.42	45	62	N.D.			
11) Acetonitrile	6.62	41	2804	N.D.			
12) Acrolein	6.81	56	1600	0.078	ng		94
13) Acetone	7.02	58	24444	0.938	ng	#	72
14) Trichlorofluoromethane	7.25	101	1361	N.D.			
15) 2-Propanol (Isopropanol)	7.52	45	6734	0.085	ng		88
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.44	59	1993	N.D.			
19) Methylene Chloride	8.41	84	4769	0.141	ng		97
20) 3-Chloro-1-propene (Al...	8.46	41	122	N.D.			
21) Trichlorotrifluoroethane	8.85	151	384	N.D.			
22) Carbon Disulfide	8.68	76	5195	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.47	72	13373	0.602	ng	#	91
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.28	61	5792	0.452	ng	#	1
31) n-Hexane	11.26	57	600	N.D.			
32) Chloroform	11.30	83	1414486	24.396	ng		99
34) Tetrahydrofuran (THF)	11.73	72	26457	1.221	ng		98
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	1538	N.D.			
42) Carbon Tetrachloride	13.03	117	16710	0.357	ng		100
43) Cyclohexane	13.17	84	152	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	13.91	63	502	N.D.			
46) Bromodichloromethane	13.91	83	419098	9.018	ng		99
47) Trichloroethene	13.97	130	3034	0.085	ng		99
48) 1,4-Dioxane	13.90	88	340	N.D.			
49) 2,2,4-Trimethylpentane...	14.04	57	3611	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022010.D Vial: 13
Acq On : 2 May 2020 14:58 Operator: TD
Sample : P2002104-010dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:43:14 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

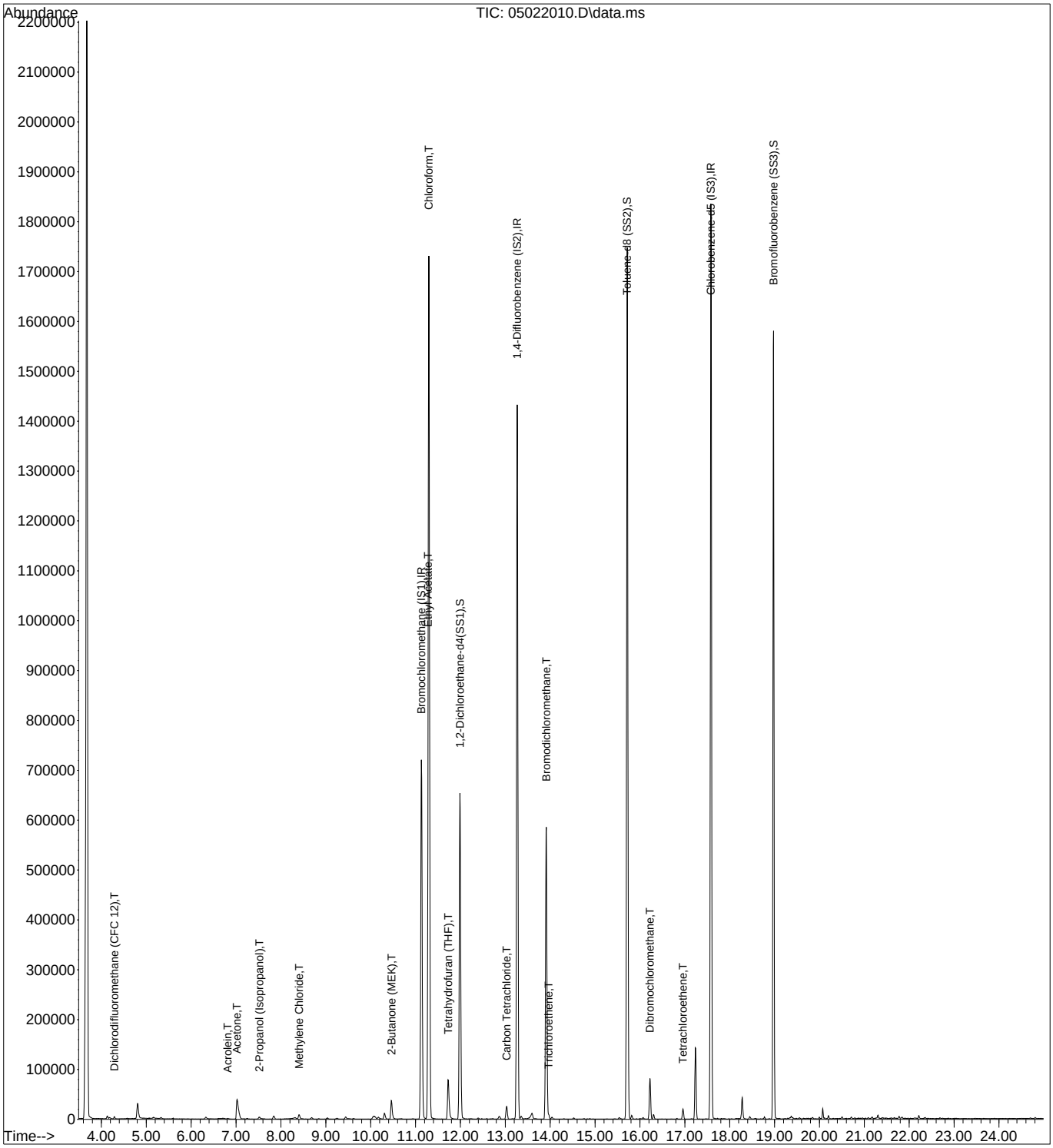
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.30	71	155	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.88	58	110	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.82	91	5903	N.D.	
59) 2-Hexanone	16.07	43	2772	N.D.	
60) Dibromochloromethane	16.22	129	49728	1.285 ng	99
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.70	43	331	N.D.	
63) n-Octane	16.83	57	160	N.D.	
64) Tetrachloroethene	16.96	166	6697	0.175 ng	99
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	17.98	91	766	N.D.	
67) m- & p-Xylenes	18.14	91	1369	N.D.	
68) Bromoform	18.21	173	192	N.D.	
69) Styrene	18.48	104	365	N.D.	
70) o-Xylene	18.58	91	564	N.D.	
71) n-Nonane	18.77	43	1936	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.10	105	345	N.D.	
75) alpha-Pinene	19.45	93	207	N.D.	
76) n-Propylbenzene	19.55	91	473	N.D.	
77) 3-Ethyltoluene	19.64	105	456	N.D.	
78) 4-Ethyltoluene	19.68	105	364	N.D.	
79) 1,3,5-Trimethylbenzene	19.75	105	293	N.D.	
80) alpha-Methylstyrene	20.07	118	202	N.D.	
81) 2-Ethyltoluene	19.91	105	412	N.D.	
82) 1,2,4-Trimethylbenzene	20.11	105	438	N.D.	
83) n-Decane	20.20	57	2132	N.D.	
84) Benzyl Chloride	20.22	91	331	N.D.	
85) 1,3-Dichlorobenzene	20.24	146	396	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	439	N.D.	
87) sec-Butylbenzene	20.35	105	474	N.D.	
88) 4-Isopropyltoluene (p-...	20.49	119	317	N.D.	
89) 1,2,3-Trimethylbenzene	20.49	105	306	N.D.	
90) 1,2-Dichlorobenzene	20.61	146	140	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.30	57	2510	N.D.	
94) 1,2,4-Trichlorobenzene	22.11	180	497	N.D.	
95) Naphthalene	22.22	128	2684	N.D.	
96) n-Dodecane	22.21	57	1000	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.07	119	421	N.D.	
100) n-Butylbenzene	20.85	91	514	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022010.D Vial: 13
Acq On : 2 May 2020 14:58 Operator: TD
Sample : P2002104-010dil (40mL) Inst : GCMS-16
Misc : S31-02112001

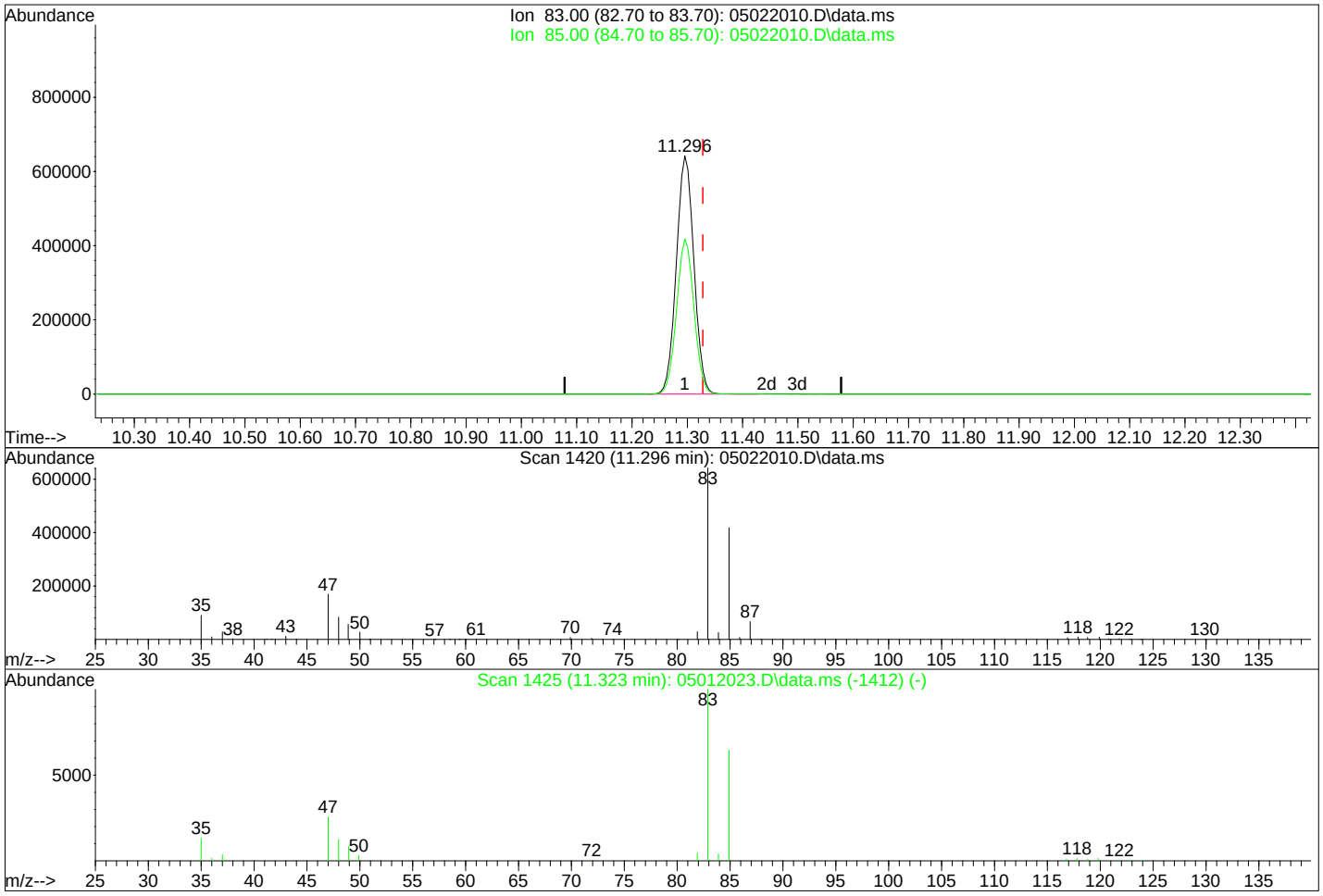
Quant Time: May 04 14:43:14 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\02\05022010.D Vial: 13
Acq On : 2 May 2020 14:58 Operator: TD
Sample : P2002104-010dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:43:14 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05022010.D\data.ms

(32) Chloroform (T)

11.296min (-0.033) 24.40ng

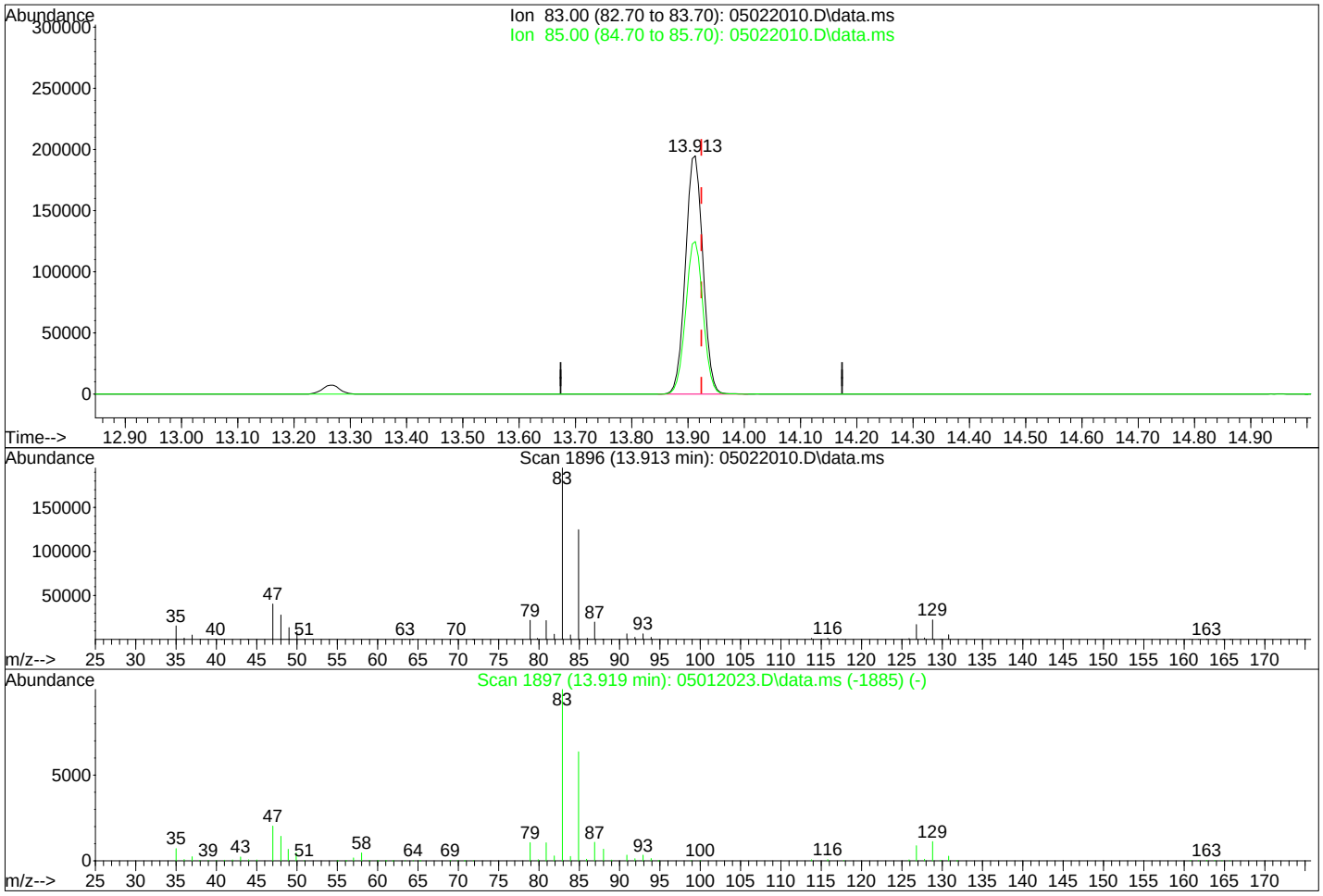
response 1414486

Ion	Exp%	Act%
83.00	100	100
85.00	65.50	64.63
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\02\05022010.D Vial: 13
Acq On : 2 May 2020 14:58 Operator: TD
Sample : P2002104-010dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:43:14 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05022010.D\data.ms

(46) Bromodichloromethane (T)

13.913min (-0.011) 9.02ng

response 419098

Ion	Exp%	Act%
83.00	100	100
85.00	64.40	63.92
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012047.D Vial: 14
Acq On : 2 May 2020 7:13 Operator: LH
Sample : P2002104-011 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:29:06 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/4/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	257965	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1122994	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	534213	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	439241	12.564	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.48%				
57) Toluene-d8 (SS2)	15.72	98	1138729	12.576	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.64%				
73) Bromofluorobenzene (SS3)	18.98	174	389554	11.956	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.68%				
Target Compounds							Qvalue
2) Propene	4.11	42	19559	0.655	ng		97
3) Dichlorodifluoromethan...	4.27	85	137880	2.359	ng		99
4) Chloromethane	4.54	50	4508	0.098	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	2598	0.074	ng		99
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.22	54	263	N.D.			
8) Bromomethane	5.64	94	912	N.D.			
9) Chloroethane	5.97	64	1134	0.057	ng	#	43
10) Ethanol	6.32	45	26831	1.163	ng		99
11) Acetonitrile	6.60	41	7302	0.139	ng	#	53
12) Acrolein	6.78	56	20892	1.146	ng		99
13) Acetone	6.99	58	165592m	7.177	ng		
14) Trichlorofluoromethane	7.24	101	14497	0.281	ng		97
15) 2-Propanol (Isopropanol)	7.49	45	65495	0.938	ng		88
16) Acrylonitrile	7.76	53	156	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	631	N.D.			
20) 3-Chloro-1-propene (Al...	8.51	41	765	N.D.			
21) Trichlorotrifluoroethane	8.84	151	6178	0.253	ng		99
22) Carbon Disulfide	8.67	76	37780	0.352	ng		99
23) trans-1,2-Dichloroethene	9.46	61	108	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.45	72	58138	2.955	ng		98
28) cis-1,2-Dichloroethene	10.87	61	639	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	11.25	57	2951	0.060	ng	#	1
32) Chloroform	11.30	83	649056	12.640	ng		99
34) Tetrahydrofuran (THF)	11.72	72	31171	1.624	ng		95
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.10	62	512	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	29433	0.244	ng		99
42) Carbon Tetrachloride	13.03	117	219782	5.365	ng		100
43) Cyclohexane	13.14	84	1429	N.D.			
44) tert-Amyl Methyl Ether	13.45	73	155	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	13.91	83	46919	1.153	ng		98
47) Trichloroethene	13.97	130	1732	0.056	ng		90
48) 1,4-Dioxane	13.97	88	1314	0.054	ng		93
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.31	100	501	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012047.D Vial: 14
Acq On : 2 May 2020 7:13 Operator: LH
Sample : P2002104-011 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:29:06 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

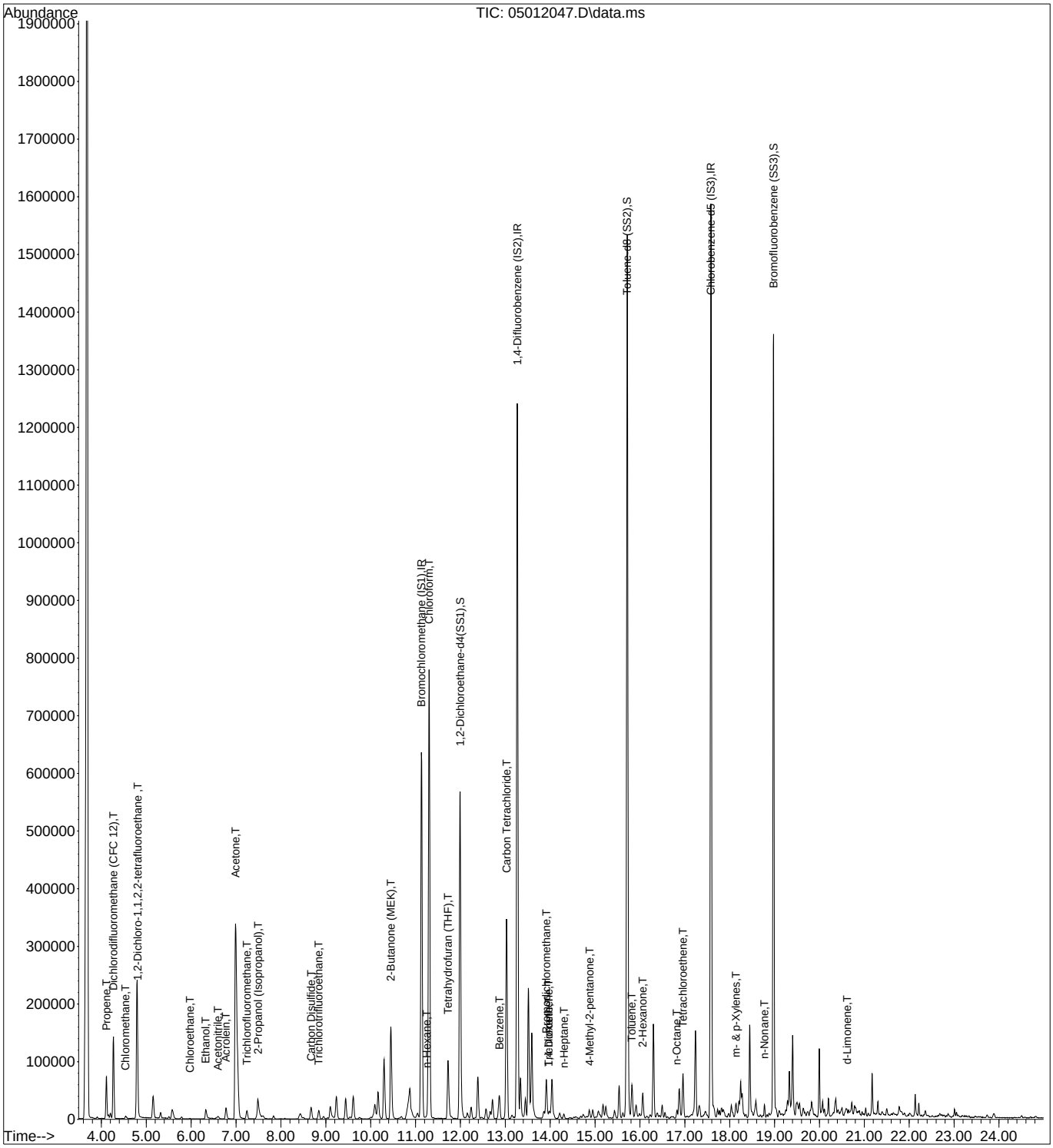
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.31	71	1968	0.070 ng		96
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.88	58	3149	0.117 ng	#	62
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.82	91	26226	0.225 ng		98
59) 2-Hexanone	16.06	43	34601	0.541 ng		97
60) Dibromochloromethane	16.22	129	1428	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.70	43	1951	N.D.		
63) n-Octane	16.82	57	2597	0.107 ng		81
64) Tetrachloroethene	16.96	166	23833	0.723 ng		98
65) Chlorobenzene	17.63	112	2492	N.D.		
66) Ethylbenzene	17.98	91	4414	N.D.		
67) m- & p-Xylenes	18.14	91	10744	0.104 ng		99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	837	N.D.		
70) o-Xylene	18.58	91	4928	N.D.		
71) n-Nonane	18.77	43	8917	0.160 ng		94
72) 1,1,2,2-Tetrachloroethane	18.53	83	445	N.D.		
74) Cumene	19.10	105	1283	N.D.		
75) alpha-Pinene	19.45	93	491	N.D.		
76) n-Propylbenzene	19.55	91	3375	N.D.		
77) 3-Ethyltoluene	19.64	105	3056	N.D.		
78) 4-Ethyltoluene	19.68	105	1252	N.D.		
79) 1,3,5-Trimethylbenzene	19.75	105	1683	N.D.		
80) alpha-Methylstyrene	19.88	118	521	N.D.		
81) 2-Ethyltoluene	19.92	105	1484	N.D.		
82) 1,2,4-Trimethylbenzene	20.11	105	3591	N.D.		
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.23	91	491	N.D.		
85) 1,3-Dichlorobenzene	20.25	146	282	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	623	N.D.		
87) sec-Butylbenzene	20.35	105	1811	N.D.		
88) 4-Isopropyltoluene (p-...	20.49	119	1428	N.D.		
89) 1,2,3-Trimethylbenzene	20.48	105	1857	N.D.		
90) 1,2-Dichlorobenzene	20.61	146	258	N.D.		
91) d-Limonene	20.62	68	2928	0.070 ng		94
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.12	180	388	N.D.		
95) Naphthalene	22.22	128	4376	N.D.		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	20.10	119	630	N.D.		
100) n-Butylbenzene	20.85	91	3546	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012047.D Vial: 14
Acq On : 2 May 2020 7:13 Operator: LH
Sample : P2002104-011 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:29:06 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012047.D Vial: 14
Acq On : 2 May 2020 7:13 Operator: LH
Sample : P2002104-011 (400mL) Inst : GCMS-16
Misc : S31-02112001

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Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/4/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	257965	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1122994	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	534213	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	439241	12.564	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.48%				
57) Toluene-d8 (SS2)	15.72	98	1138729	12.576	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.64%				
73) Bromofluorobenzene (SS3)	18.98	174	389554	11.956	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.68%				
Target Compounds							Qvalue
2) Propene	4.11	42	19559	0.655	ng		97
3) Dichlorodifluoromethan...	4.27	85	137880	2.359	ng		99
4) Chloromethane	4.54	50	4508	0.098	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	2598	0.074	ng		99
9) Chloroethane	5.97	64	1134	0.057	ng	#	43
10) Ethanol	6.32	45	26831	1.163	ng		99
11) Acetonitrile	6.60	41	7302	0.139	ng	#	53
12) Acrolein	6.78	56	20892	1.146	ng		99
13) Acetone	6.99	58	165592m	7.177	ng		
14) Trichlorofluoromethane	7.24	101	14497	0.281	ng		97
15) 2-Propanol (Isopropanol)	7.49	45	65495	0.938	ng		88
21) Trichlorotrifluoroethane	8.84	151	6178	0.253	ng		99
22) Carbon Disulfide	8.67	76	37780	0.352	ng		99
27) 2-Butanone (MEK)	10.45	72	58138	2.955	ng		98
31) n-Hexane	11.25	57	2951	0.060	ng	#	1
32) Chloroform	11.30	83	649056	12.640	ng		99
34) Tetrahydrofuran (THF)	11.72	72	31171	1.624	ng		95
41) Benzene	12.87	78	29433	0.244	ng		99
42) Carbon Tetrachloride	13.03	117	219782	5.365	ng		100
46) Bromodichloromethane	13.91	83	46919	1.153	ng		98
47) Trichloroethene	13.97	130	1732	0.056	ng		90
48) 1,4-Dioxane	13.97	88	1314	0.054	ng		93
51) n-Heptane	14.31	71	1968	0.070	ng		96
53) 4-Methyl-2-pentanone	14.88	58	3149	0.117	ng	#	62
58) Toluene	15.82	91	26226	0.225	ng		98
59) 2-Hexanone	16.06	43	34601	0.541	ng		97
63) n-Octane	16.82	57	2597	0.107	ng		81
64) Tetrachloroethene	16.96	166	23833	0.723	ng		98
67) m- & p-Xylenes	18.14	91	10744	0.104	ng		99
71) n-Nonane	18.77	43	8917	0.160	ng		94
91) d-Limonene	20.62	68	2928	0.070	ng		94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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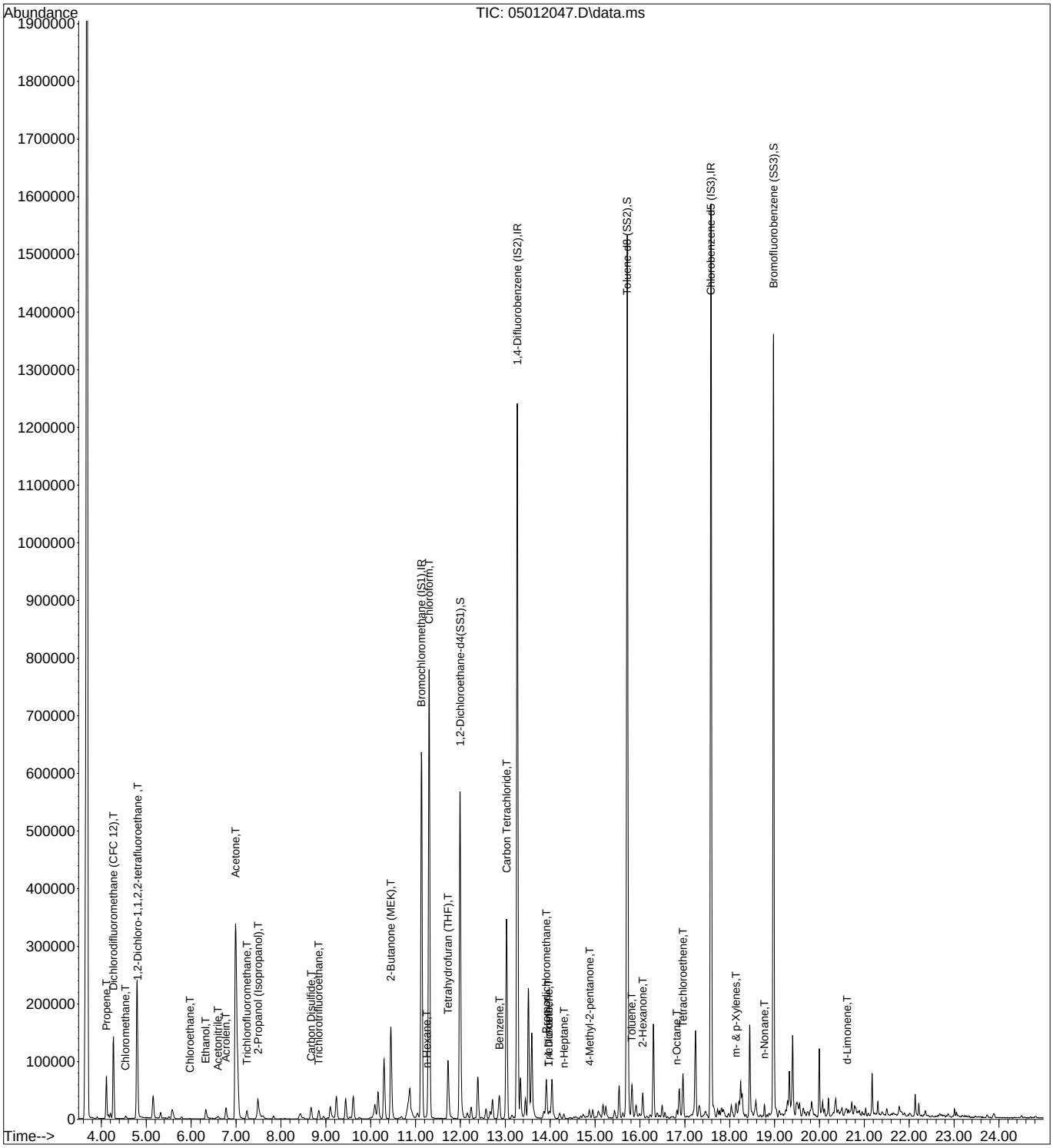
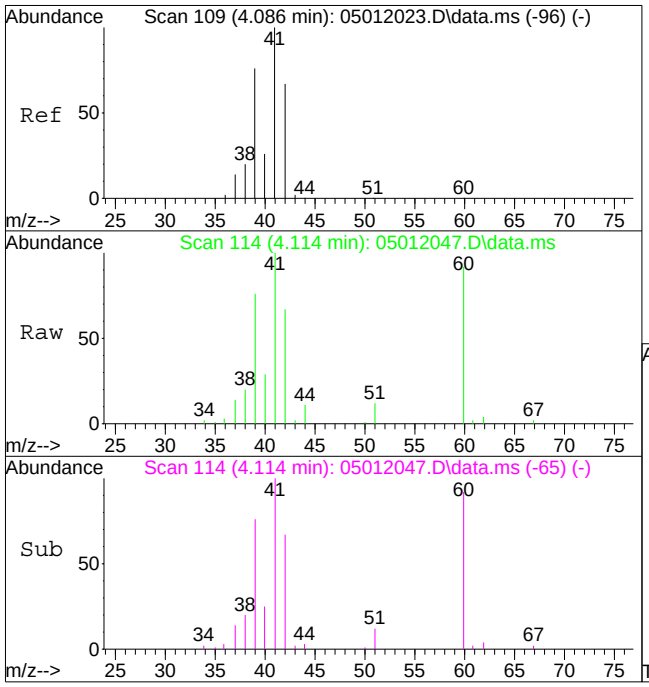
Acq On : 2 May 2020 7:13 Operator: LH
Sample : P2002104-011 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:29:06 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

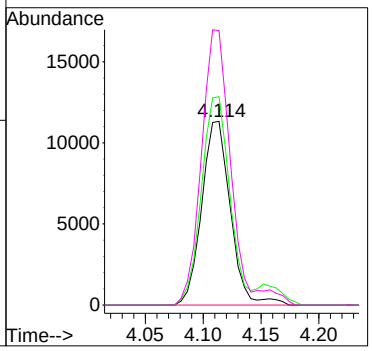


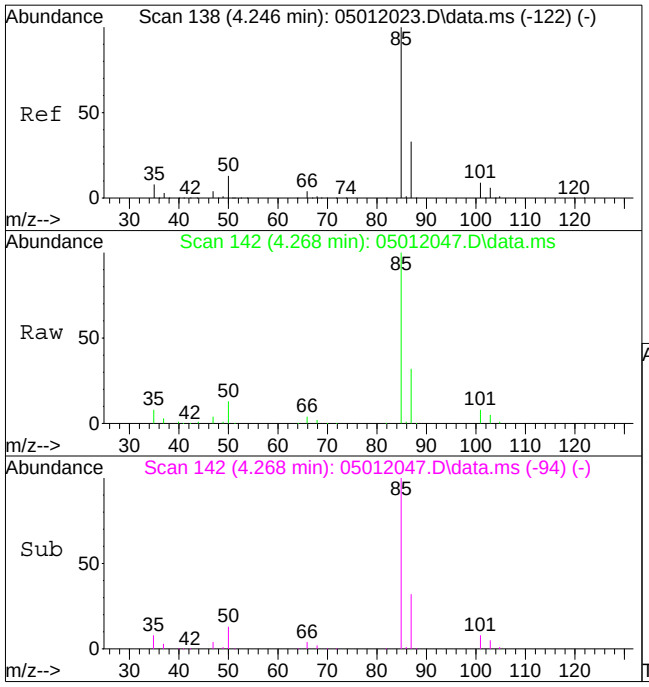


#2
Propene
Concen: 0.65 ng
RT: 4.11 min Scan# 114
Delta R.T. 0.022 min
Lab File: 05012047.D
Acq: 2 May 2020 7:13

Tgt Ion: 42 Resp: 19559

Ion	Ratio	Lower	Upper
42	100		
39	112.5	96.1	136.1
41	155.0	131.9	171.9

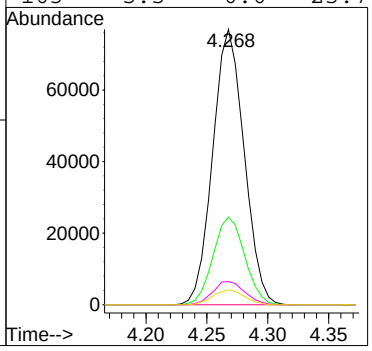


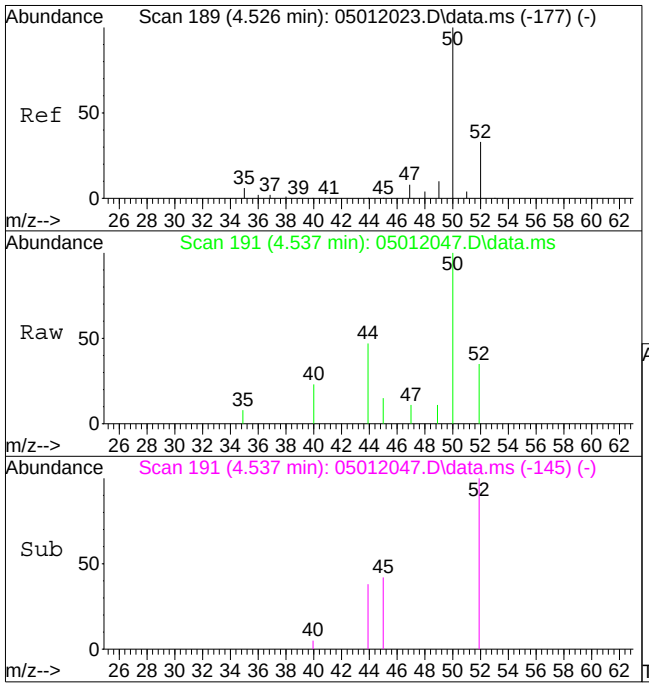


#3
Dichlorodifluoromethane (CFC 12)
Concen: 2.36 ng
RT: 4.27 min Scan# 142
Delta R.T. 0.016 min
Lab File: 05012047.D
Acq: 2 May 2020 7:13

Tgt Ion: 85 Resp: 137880

Ion	Ratio	Lower	Upper
85	100		
87	32.1	12.4	52.4
101	8.6	0.0	28.8
103	5.5	0.0	25.7

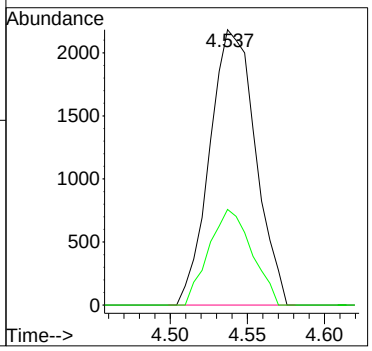


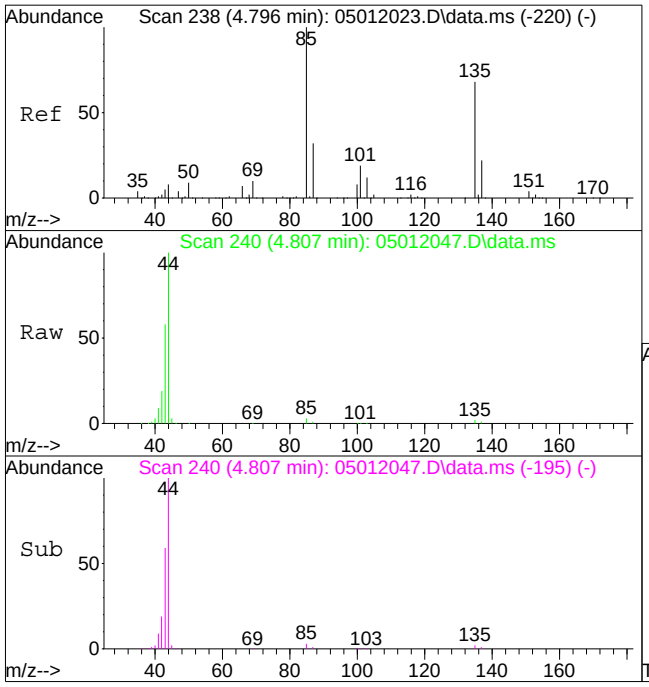


#4
Chloromethane
Concen: 0.10 ng
RT: 4.54 min Scan# 191
Delta R.T. 0.005 min
Lab File: 05012047.D
Acq: 2 May 2020 7:13

Tgt Ion: 50 Resp: 4508

Ion	Ratio	Lower	Upper
50	100		
52	32.6	12.5	52.5

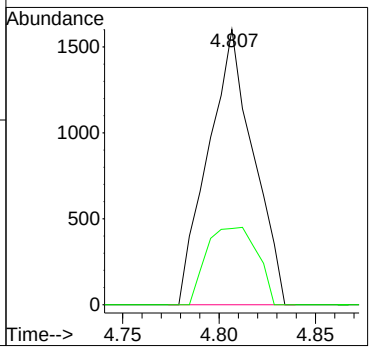


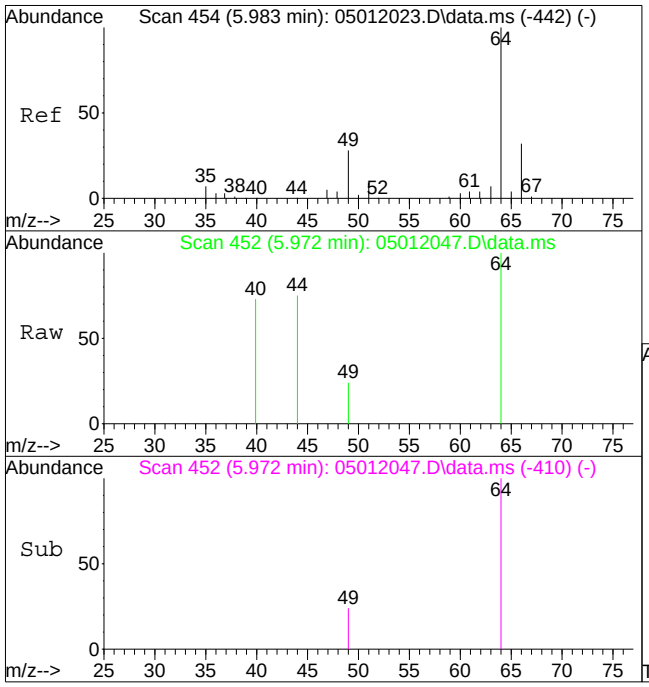


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 0.07 ng
RT: 4.81 min Scan# 240
Delta R.T. -0.000 min
Lab File: 05012047.D
Acq: 2 May 2020 7:13

Tgt Ion:135 Resp: 2598

Ion	Ratio	Lower	Upper
135	100		
137	31.8	12.1	52.1

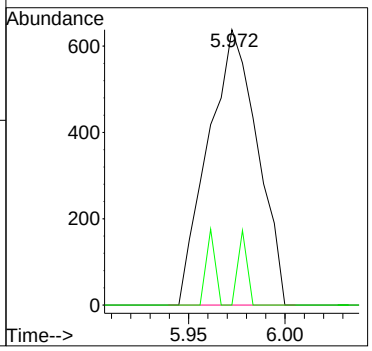


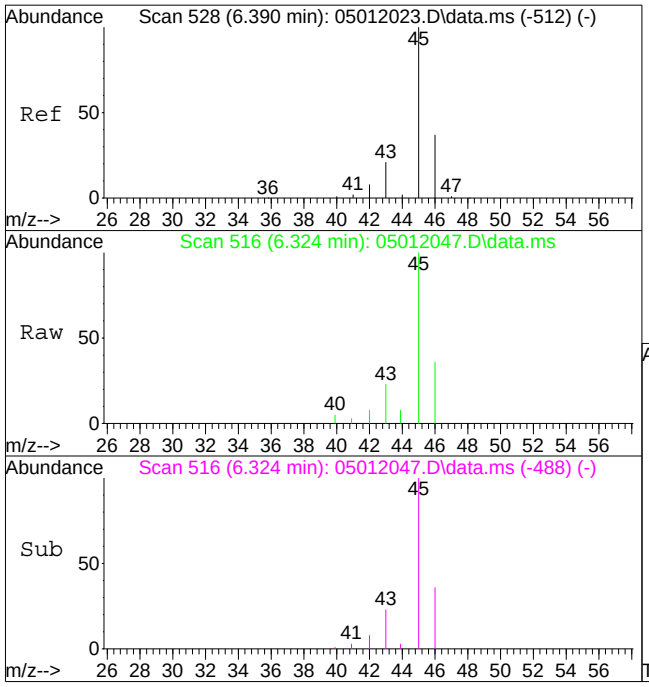


#9
Chloroethane
Concen: 0.06 ng
RT: 5.97 min Scan# 452
Delta R.T. -0.017 min
Lab File: 05012047.D
Acq: 2 May 2020 7:13

Tgt Ion: 64 Resp: 1134

Ion	Ratio	Lower	Upper
64	100		
66	0.0	12.1	52.1#

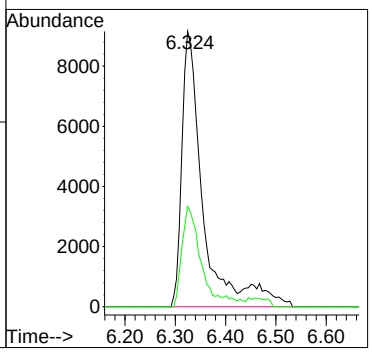


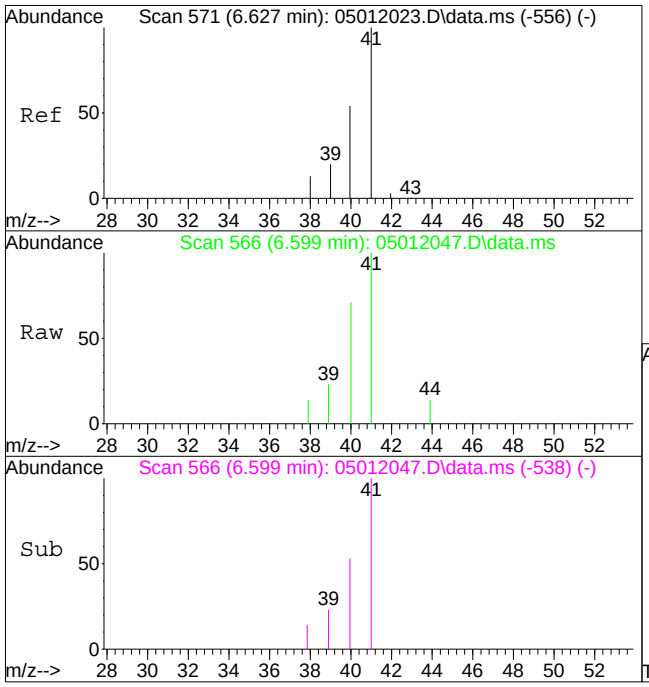


#10
Ethanol
Concen: 1.16 ng
RT: 6.32 min Scan# 516
Delta R.T. -0.094 min
Lab File: 05012047.D
Acq: 2 May 2020 7:13

Tgt Ion: 45 Resp: 26831

Ion	Ratio	Lower	Upper
45	100		
46	36.5	17.2	57.2

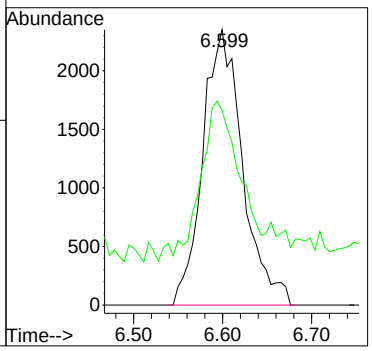


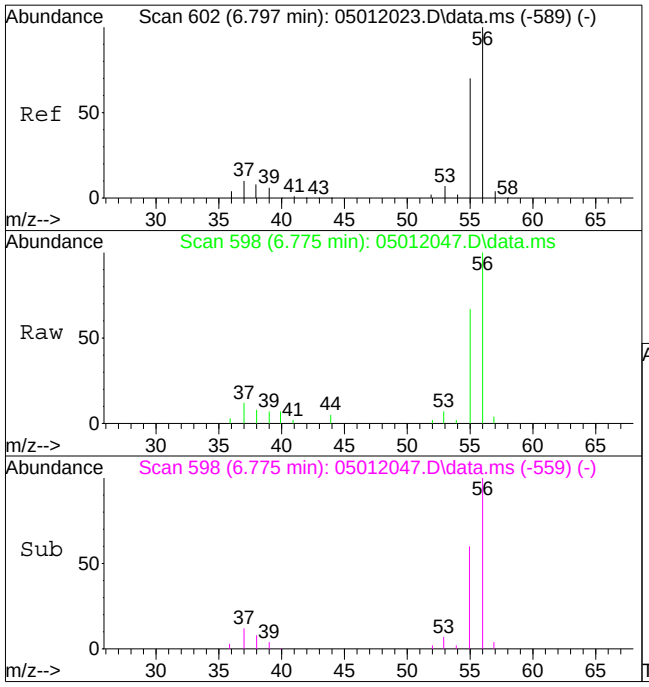


#11
Acetonitrile
Concen: 0.14 ng
RT: 6.60 min Scan# 566
Delta R.T. -0.044 min
Lab File: 05012047.D
Acq: 2 May 2020 7:13

Tgt Ion: 41 Resp: 7302

Ion	Ratio	Lower	Upper
41	100		
40	87.1	33.6	73.6#

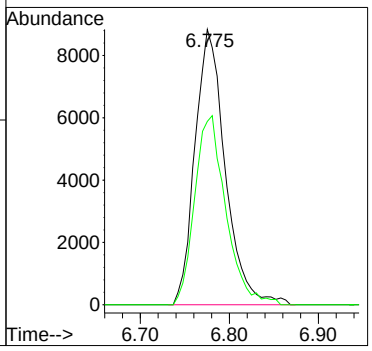


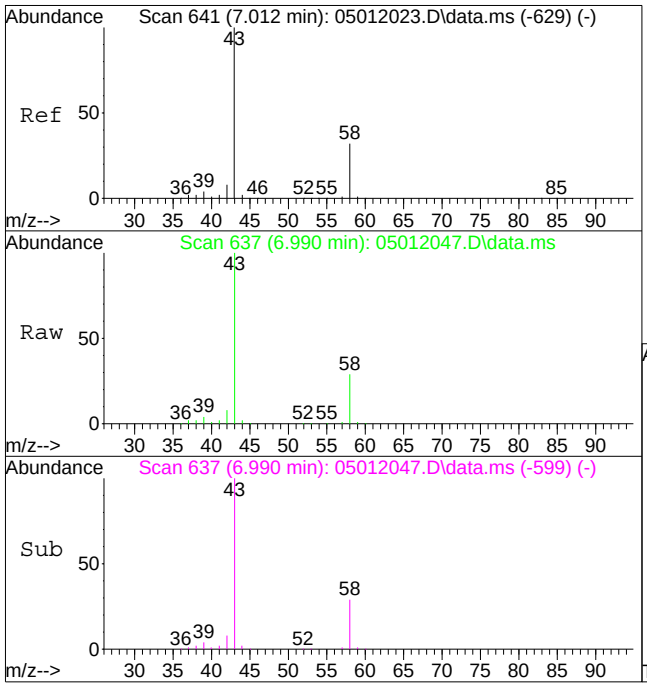


#12
Acrolein
Concen: 1.15 ng
RT: 6.78 min Scan# 598
Delta R.T. -0.033 min
Lab File: 05012047.D
Acq: 2 May 2020 7:13

Tgt Ion: 56 Resp: 20892

Ion	Ratio	Lower	Upper
56	100		
55	70.7	50.2	90.2

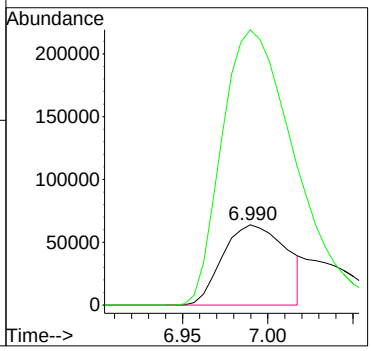


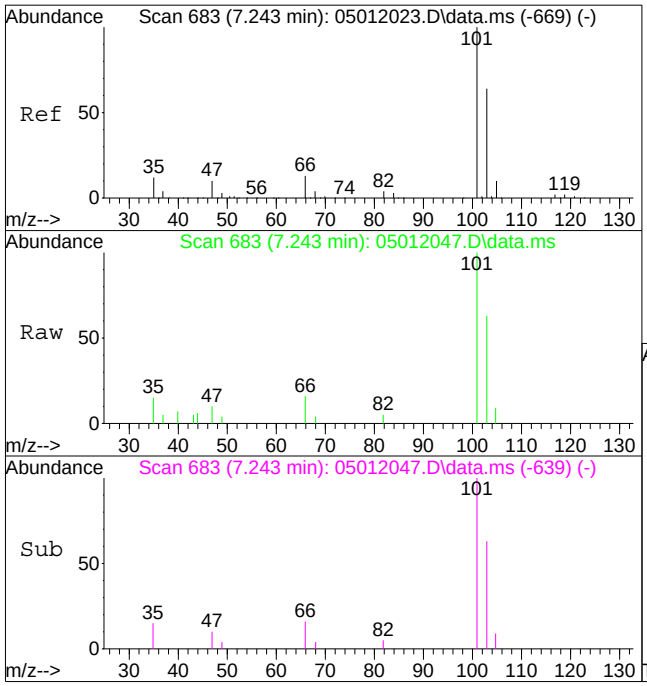


#13
Acetone
Concen: 7.18 ng m
RT: 6.99 min Scan# 637
Delta R.T. -0.039 min
Lab File: 05012047.D
Acq: 2 May 2020 7:13

Tgt Ion: 58 Resp: 165592

Ion	Ratio	Lower	Upper
58	100		
43	403.8	294.4	354.4#

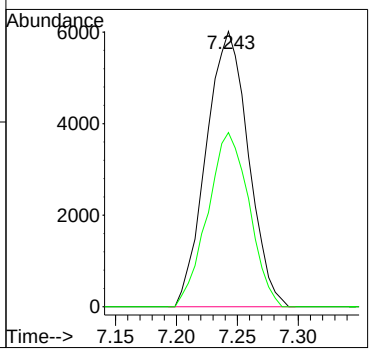


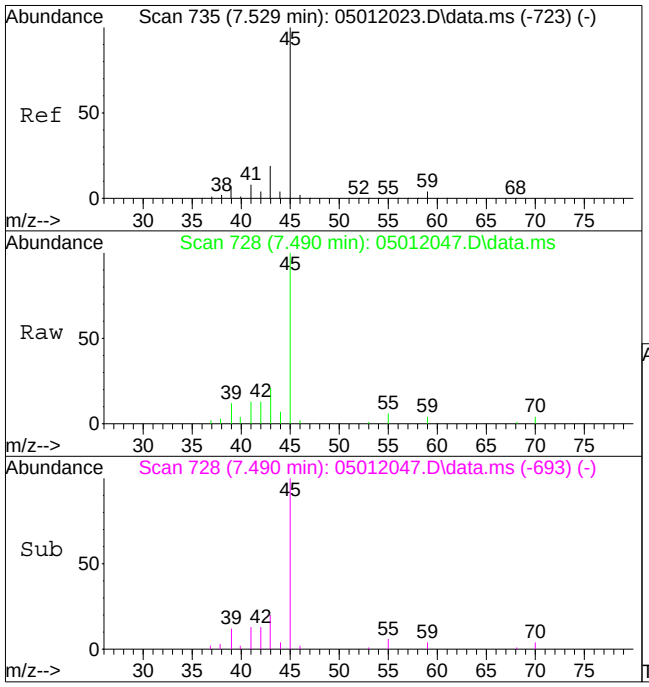


#14
Trichlorofluoromethane
Concen: 0.28 ng
RT: 7.24 min Scan# 683
Delta R.T. -0.006 min
Lab File: 05012047.D
Acq: 2 May 2020 7:13

Tgt Ion:101 Resp: 14497

Ion	Ratio	Lower	Upper
101	100		
103	62.1	44.4	84.4

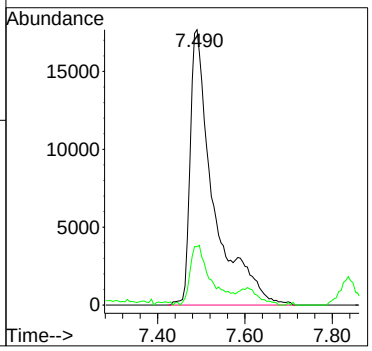


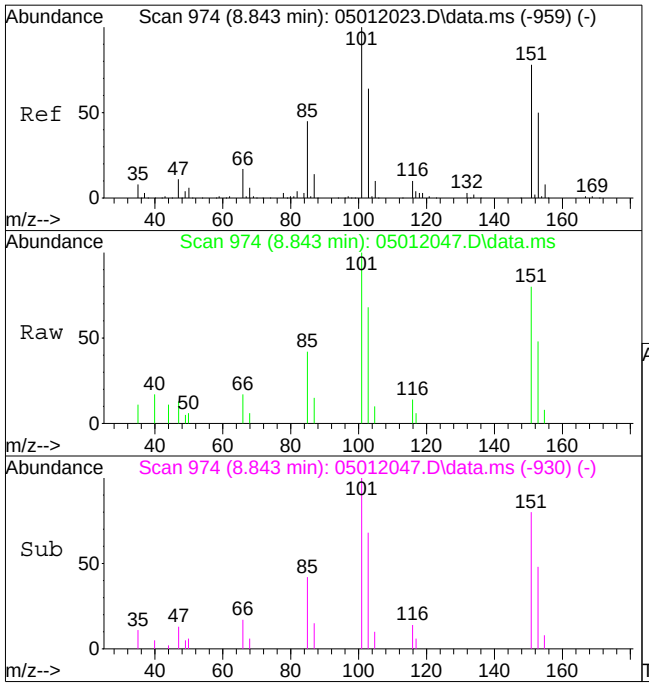


#15
2-Propanol (Isopropanol)
Concen: 0.94 ng
RT: 7.49 min Scan# 728
Delta R.T. -0.055 min
Lab File: 05012047.D
Acq: 2 May 2020 7:13

Tgt Ion: 45 Resp: 65495

Ion	Ratio	Lower	Upper
45	100		
43	25.0	0.0	39.5

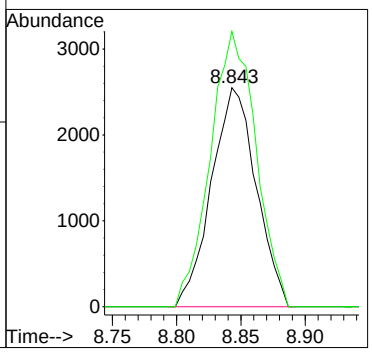


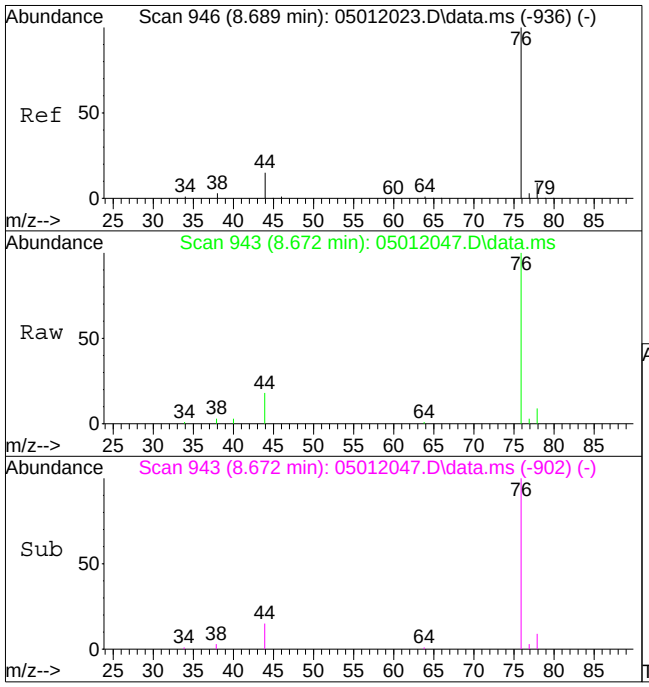


#21
Trichlorotrifluoroethane
Concen: 0.25 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05012047.D
Acq: 2 May 2020 7:13

Tgt Ion:151 Resp: 6178

Ion	Ratio	Lower	Upper
151	100		
101	128.7	107.3	147.3

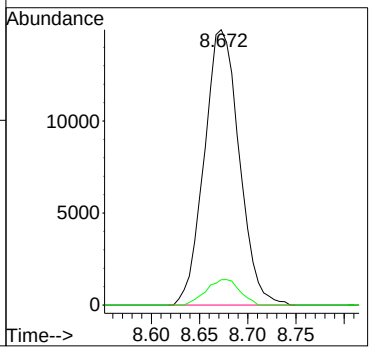


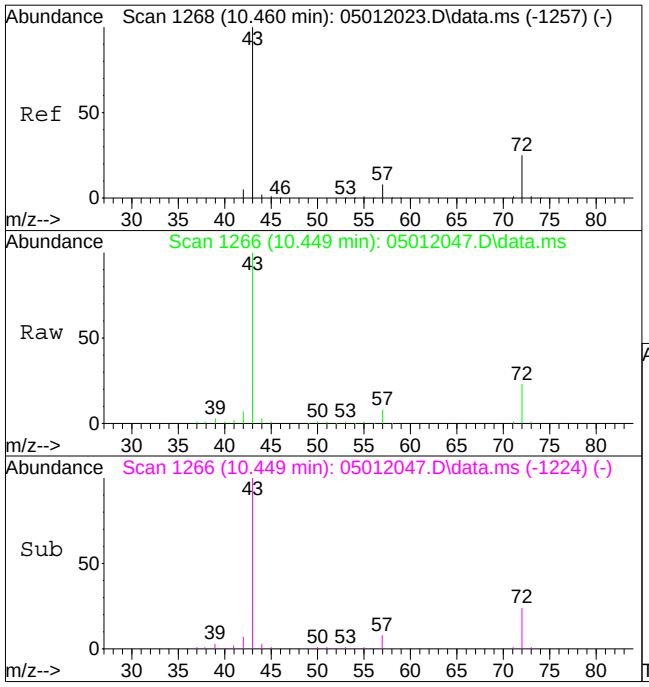


#22
Carbon Disulfide
Concen: 0.35 ng
RT: 8.67 min Scan# 943
Delta R.T. -0.022 min
Lab File: 05012047.D
Acq: 2 May 2020 7:13

Tgt Ion: 76 Resp: 37780

Ion	Ratio	Lower	Upper
76	100		
78	8.9	0.0	29.2

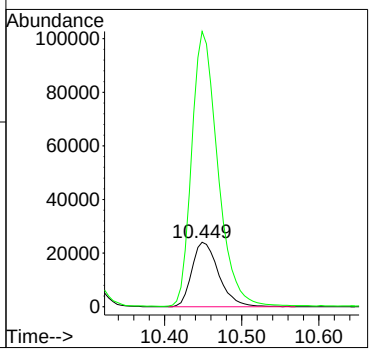


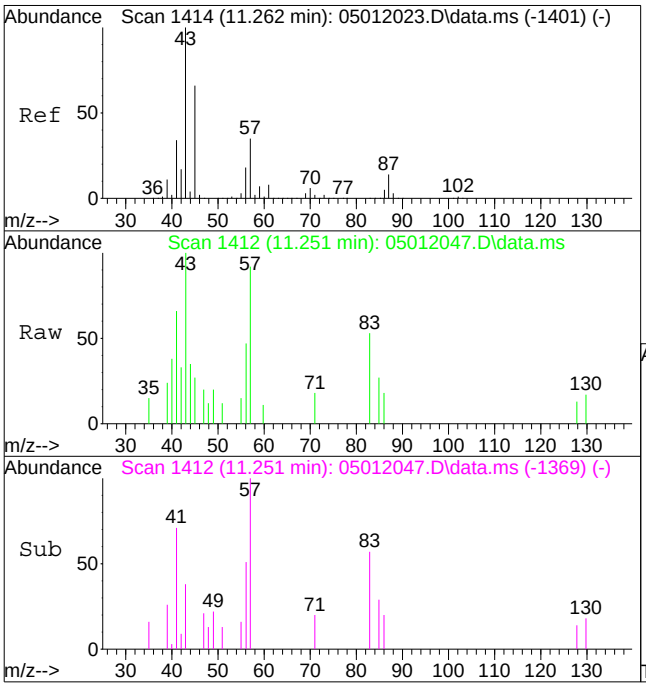


#27
2-Butanone (MEK)
Concen: 2.95 ng
RT: 10.45 min Scan# 1266
Delta R.T. -0.017 min
Lab File: 05012047.D
Acq: 2 May 2020 7:13

Tgt Ion: 72 Resp: 58138

Ion	Ratio	Lower	Upper
72	100		
43	414.4	389.7	429.7

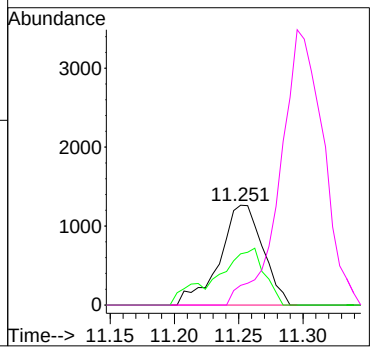


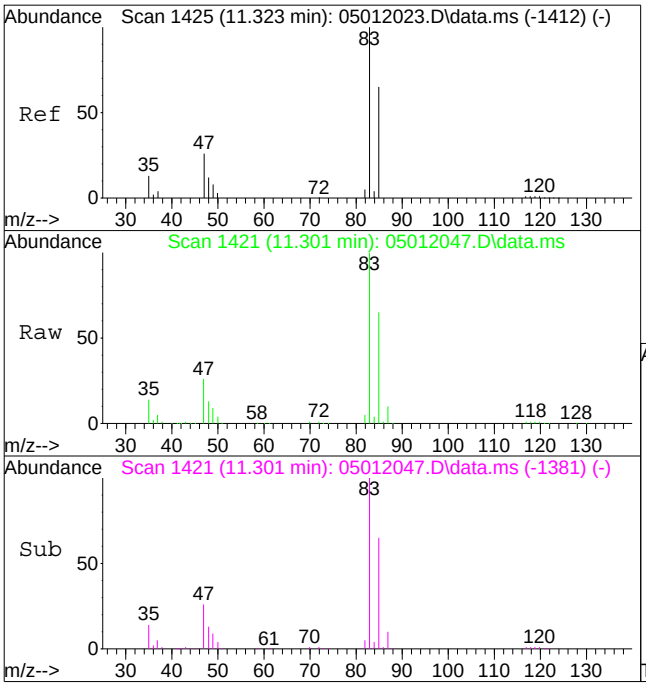


#31
n-Hexane
Concen: 0.06 ng
RT: 11.25 min Scan# 1412
Delta R.T. -0.011 min
Lab File: 05012047.D
Acq: 2 May 2020 7:13

Tgt Ion: 57 Resp: 2951

Ion	Ratio	Lower	Upper
57	100		
56	64.3	41.4	62.0#
86	273.4	12.4	18.6#

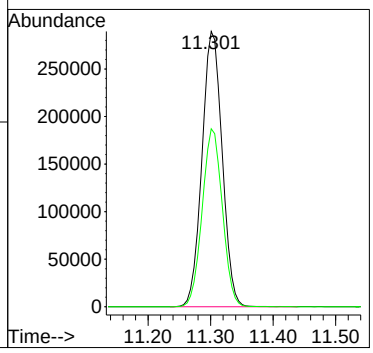


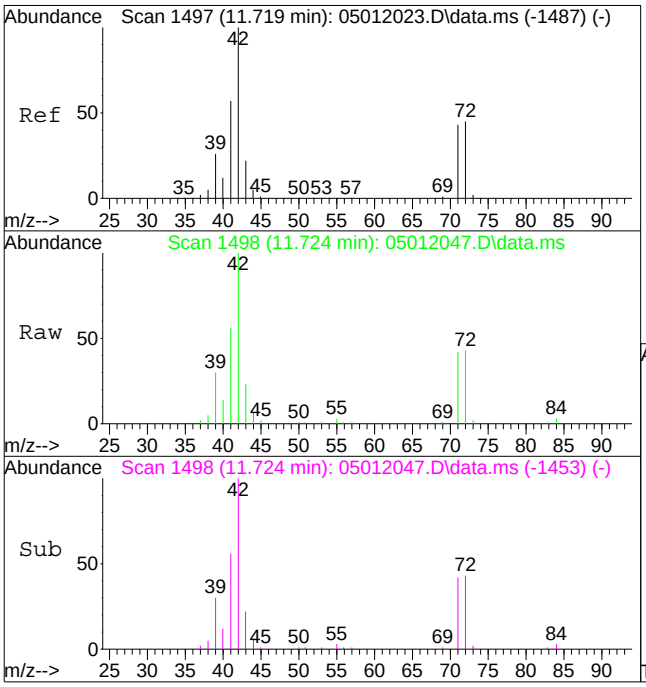


#32
Chloroform
Concen: 12.64 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.028 min
Lab File: 05012047.D
Acq: 2 May 2020 7:13

Tgt Ion: 83 Resp: 649056

Ion	Ratio	Lower	Upper
83	100		
85	64.4	45.5	85.5

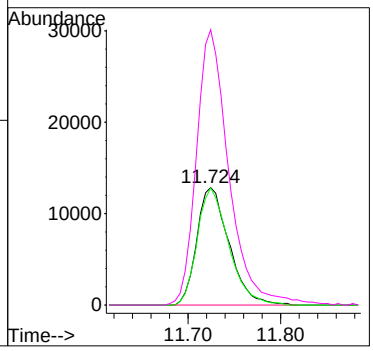


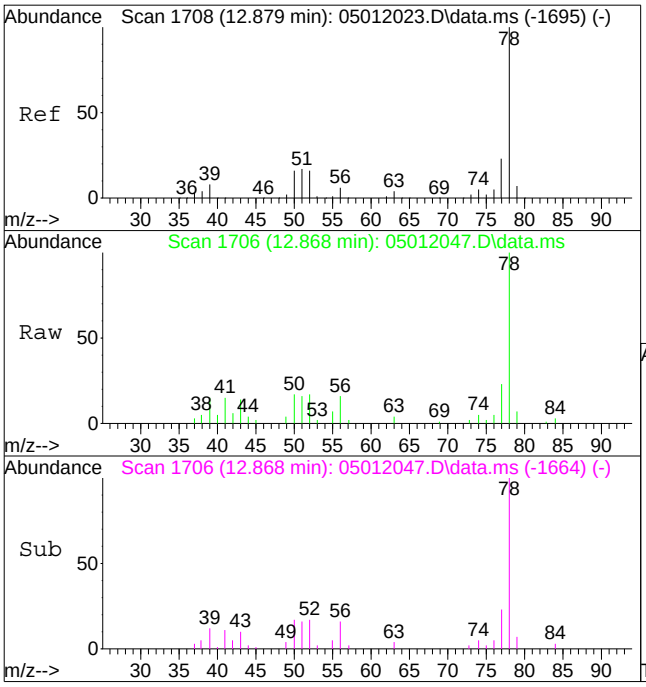


#34
Tetrahydrofuran (THF)
Concen: 1.62 ng
RT: 11.72 min Scan# 1498
Delta R.T. -0.000 min
Lab File: 05012047.D
Acq: 2 May 2020 7:13

Tgt Ion: 72 Resp: 31171

Ion	Ratio	Lower	Upper
72	100		
71	97.2	77.0	117.0
42	236.0	204.6	244.6

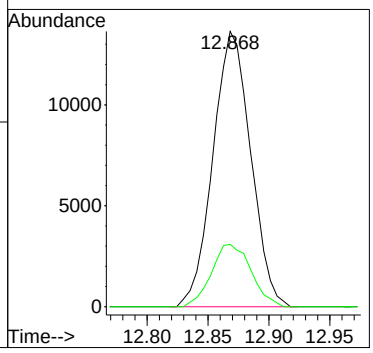


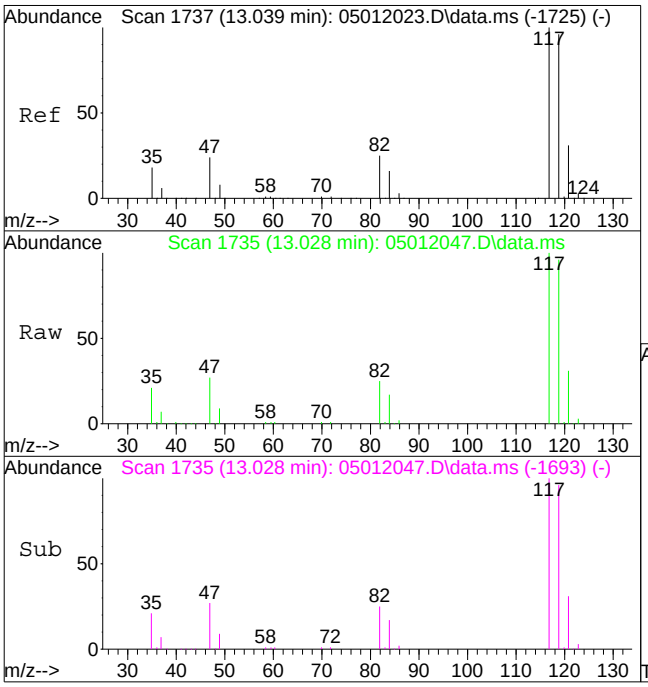


#41
Benzene
Concen: 0.24 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05012047.D
Acq: 2 May 2020 7:13

Tgt Ion: 78 Resp: 29433

Ion	Ratio	Lower	Upper
78	100		
77	23.8	3.4	43.4

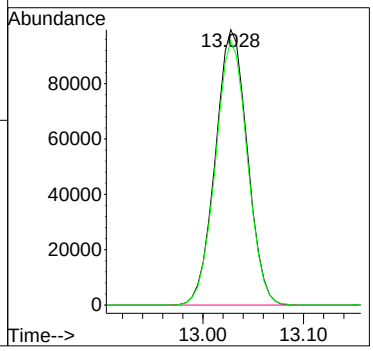


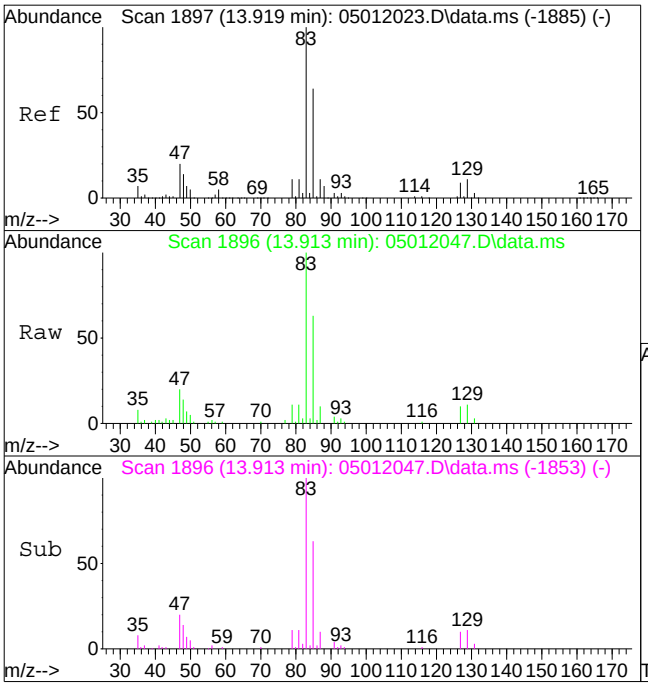


#42
Carbon Tetrachloride
Concen: 5.37 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05012047.D
Acq: 2 May 2020 7:13

Tgt Ion:117 Resp: 219782

Ion	Ratio	Lower	Upper
117	100		
119	95.8	76.2	116.2

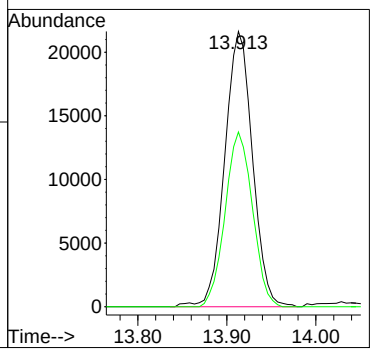


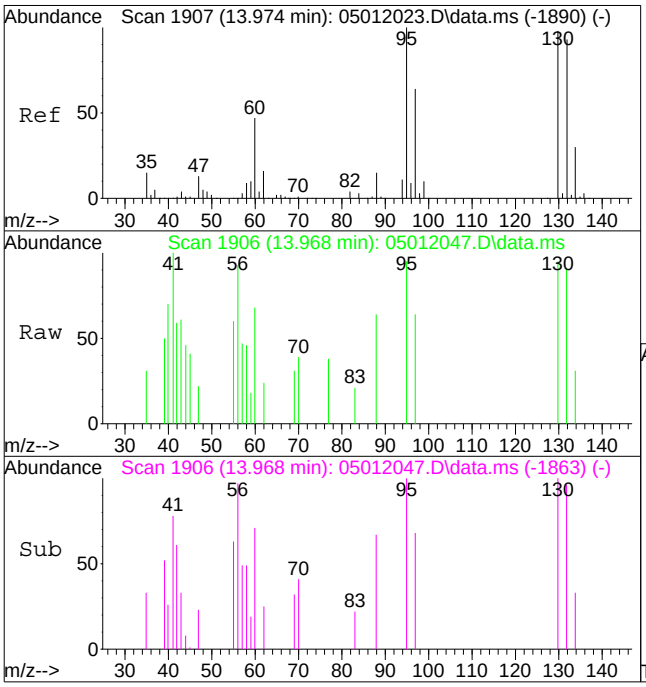


#46
Bromodichloromethane
Concen: 1.15 ng
RT: 13.91 min Scan# 1896
Delta R.T. -0.011 min
Lab File: 05012047.D
Acq: 2 May 2020 7:13

Tgt Ion: 83 Resp: 46919

Ion	Ratio	Lower	Upper
83	100		
85	62.5	44.4	84.4

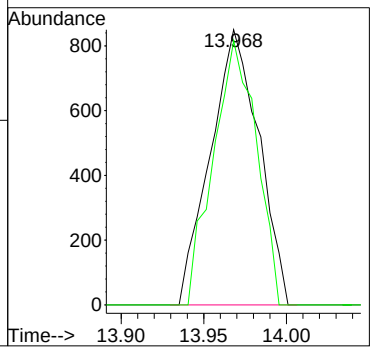


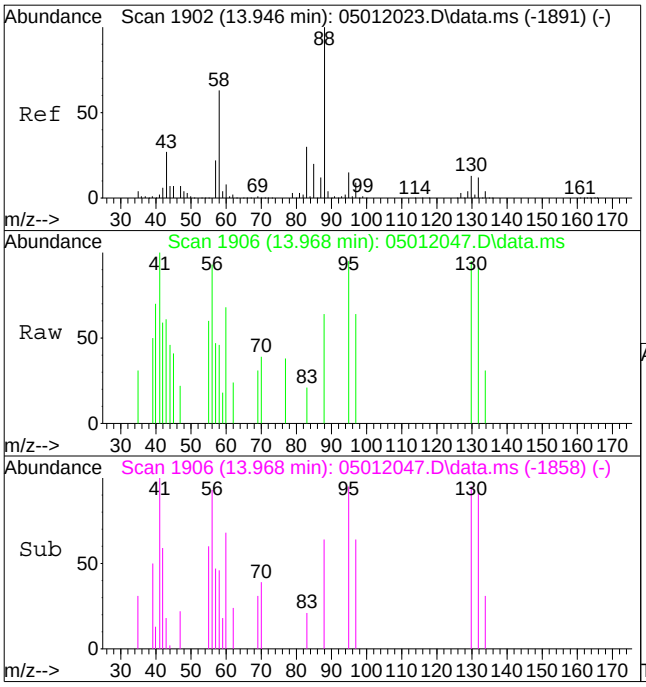


#47
Trichloroethene
Concen: 0.06 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05012047.D
Acq: 2 May 2020 7:13

Tgt Ion:130 Resp: 1732

Ion	Ratio	Lower	Upper
130	100		
132	85.4	74.9	114.9

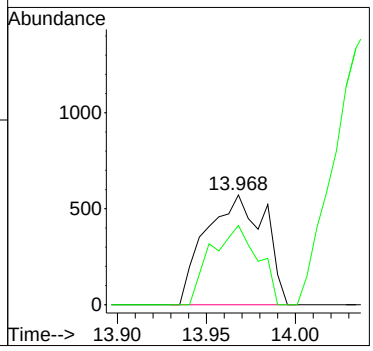


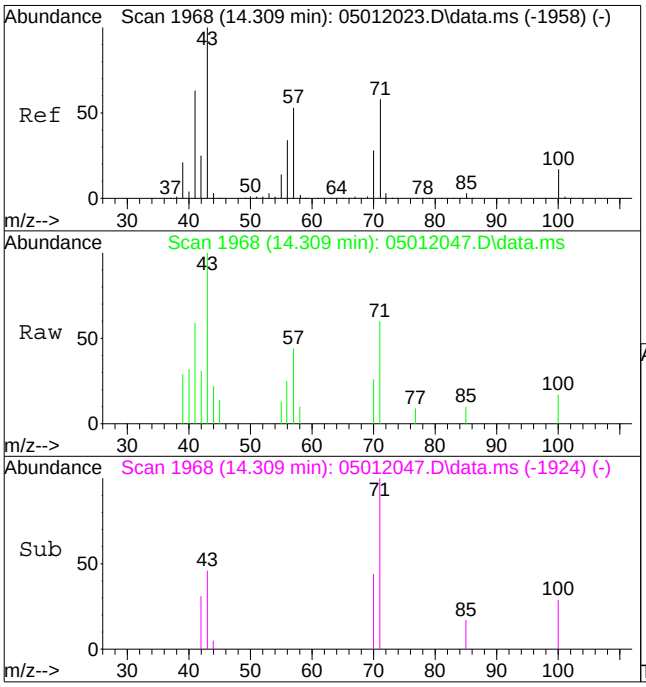


#48
1,4-Dioxane
Concen: 0.05 ng
RT: 13.97 min Scan# 1906
Delta R.T. 0.016 min
Lab File: 05012047.D
Acq: 2 May 2020 7:13

Tgt Ion: 88 Resp: 1314

Ion	Ratio	Lower	Upper
88	100		
58	57.8	42.8	82.8

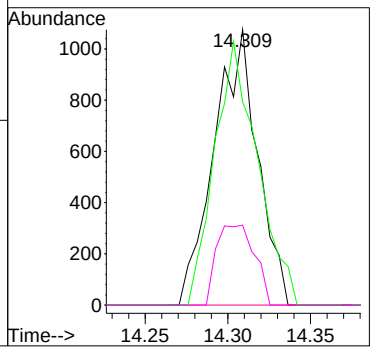


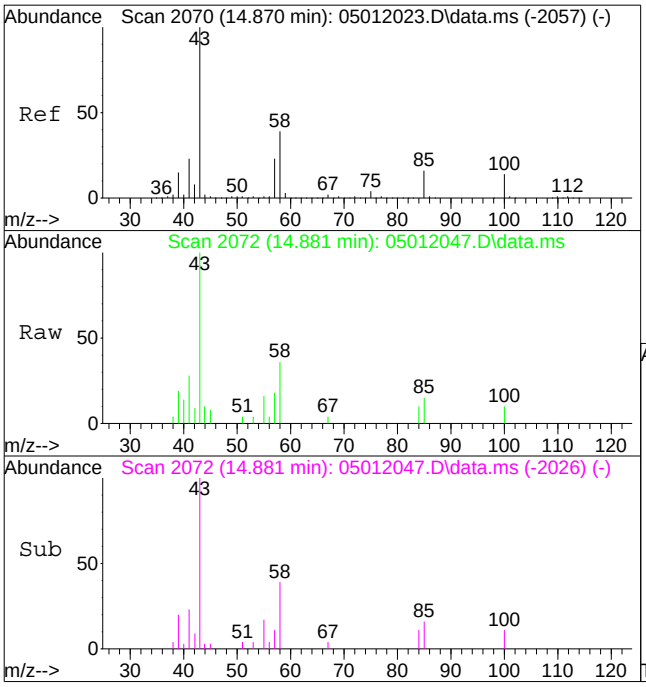


#51
n-Heptane
Concen: 0.07 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05012047.D
Acq: 2 May 2020 7:13

Tgt Ion: 71 Resp: 1968

Ion	Ratio	Lower	Upper
71	100		
57	94.4	71.0	111.0
100	25.5	8.4	48.4

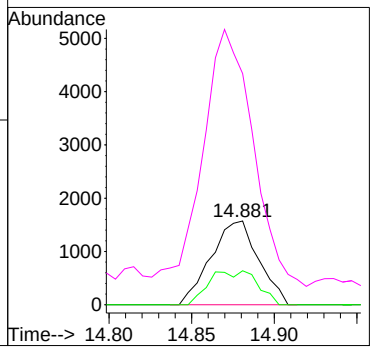


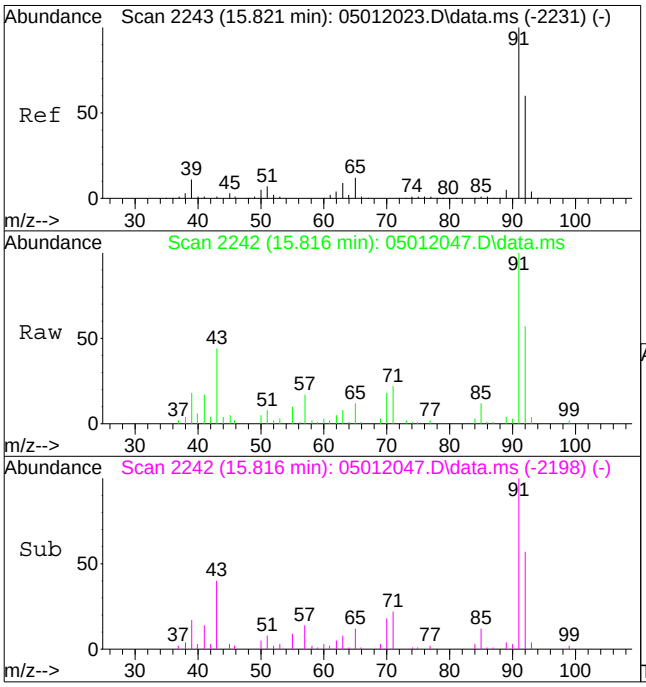


#53
4-Methyl-2-pentanone
Concen: 0.12 ng
RT: 14.88 min Scan# 2072
Delta R.T. 0.005 min
Lab File: 05012047.D
Acq: 2 May 2020 7:13

Tgt Ion: 58 Resp: 3149

Ion	Ratio	Lower	Upper
58	100		
85	41.3	35.4	53.2
43	330.7	203.3	304.9#

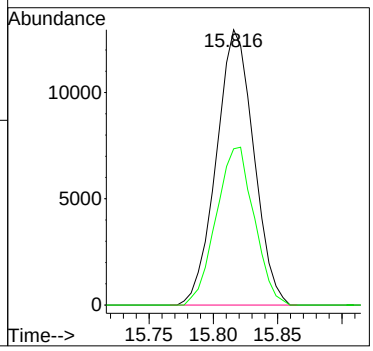


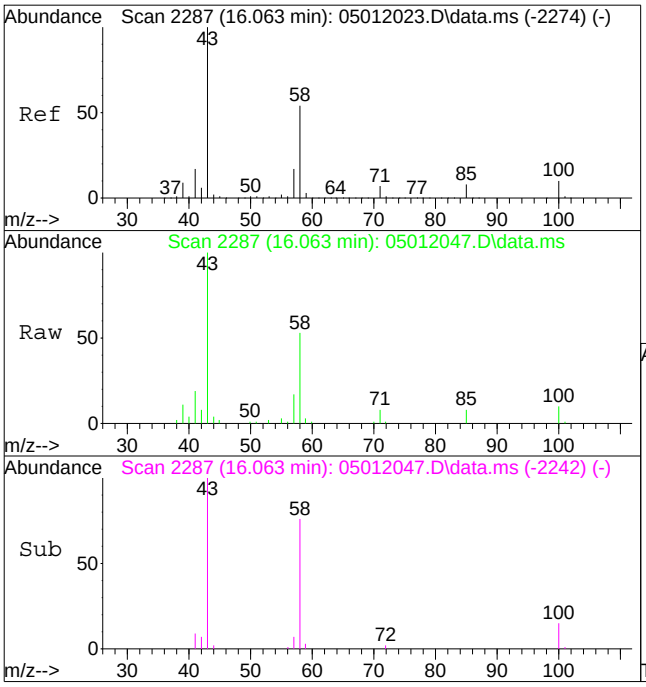


#58
Toluene
Concen: 0.22 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05012047.D
Acq: 2 May 2020 7:13

Tgt Ion: 91 Resp: 26226

Ion	Ratio	Lower	Upper
91	100		
92	58.1	39.4	79.4

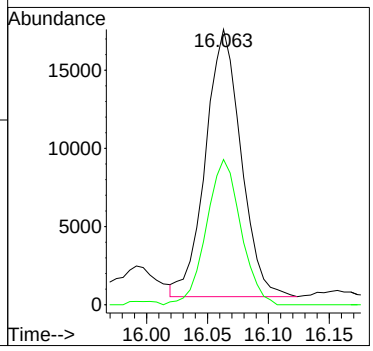


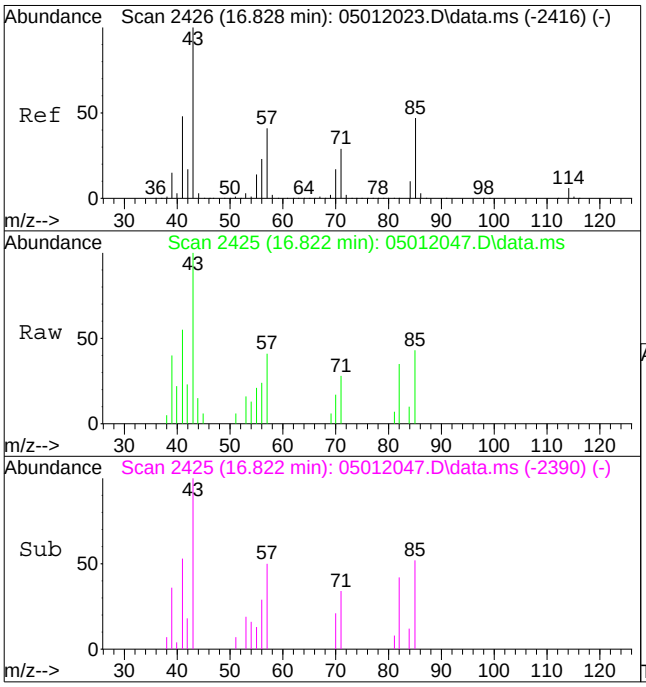


#59
2-Hexanone
Concen: 0.54 ng
RT: 16.06 min Scan# 2287
Delta R.T. -0.000 min
Lab File: 05012047.D
Acq: 2 May 2020 7:13

Tgt Ion: 43 Resp: 34601

Ion	Ratio	Lower	Upper
43	100		
58	52.6	34.5	74.5

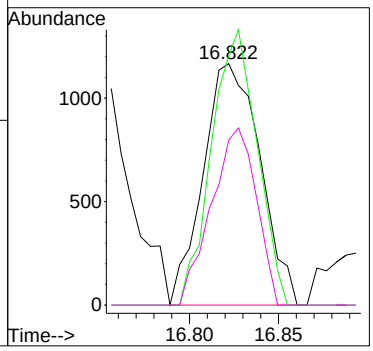


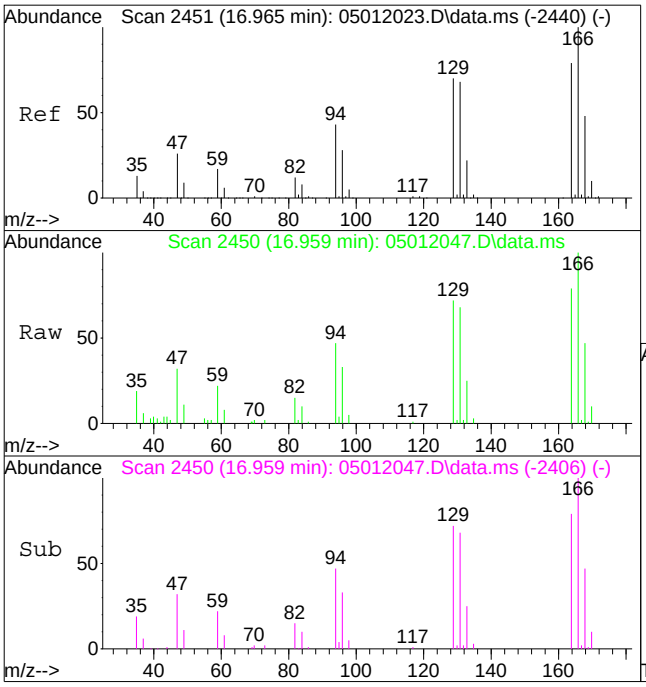


#63
n-Octane
Concen: 0.11 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05012047.D
Acq: 2 May 2020 7:13

Tgt Ion: 57 Resp: 2597

Ion	Ratio	Lower	Upper
57	100		
85	91.3	91.0	136.4
71	57.9	56.2	84.2

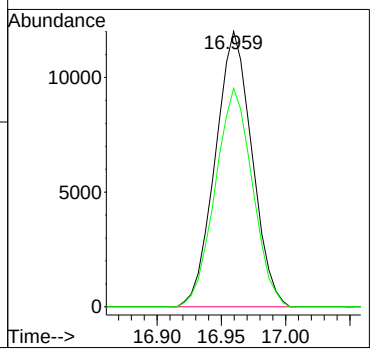


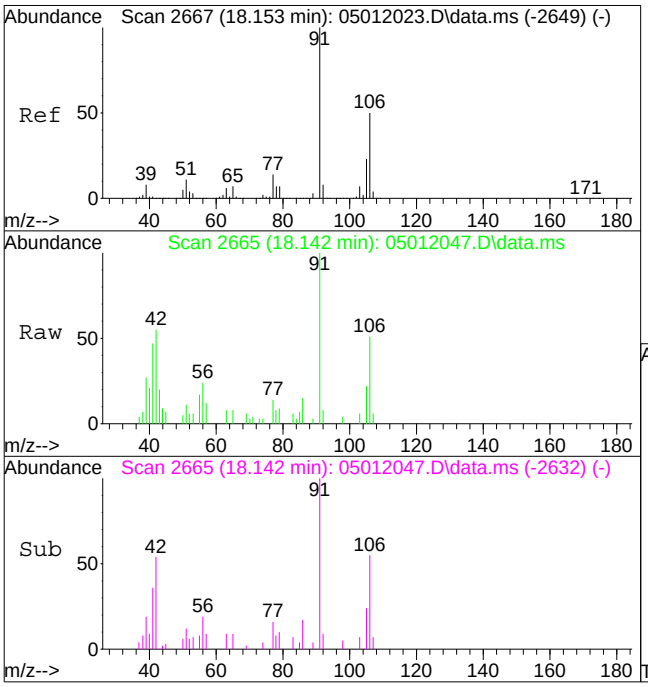


#64
Tetrachloroethene
Concen: 0.72 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05012047.D
Acq: 2 May 2020 7:13

Tgt Ion:166 Resp: 23833

Ion	Ratio	Lower	Upper
166	100		
164	80.5	58.4	98.4

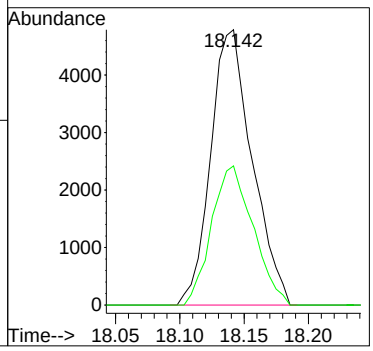


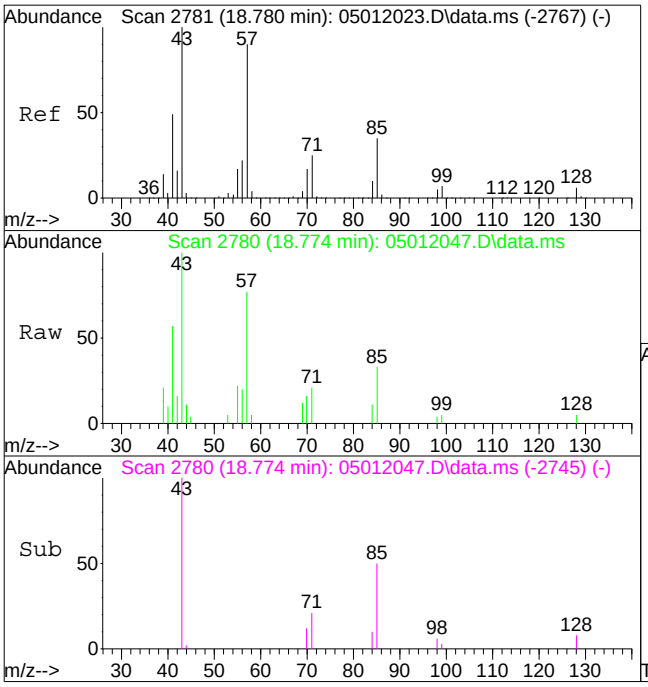


#67
m- & p-Xylenes
Concen: 0.10 ng
RT: 18.14 min Scan# 2665
Delta R.T. -0.017 min
Lab File: 05012047.D
Acq: 2 May 2020 7:13

Tgt Ion: 91 Resp: 10744

Ion	Ratio	Lower	Upper
91	100		
106	50.5	29.7	69.7

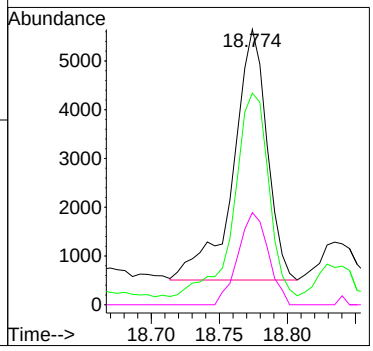


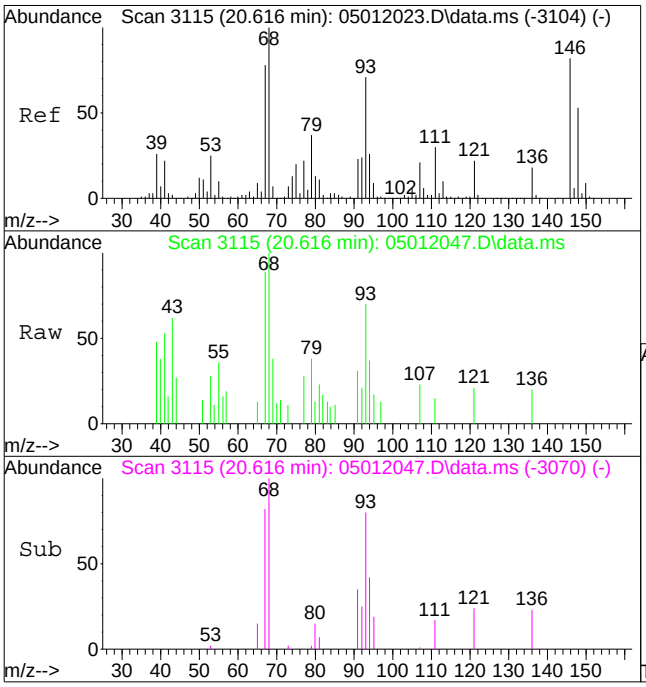


#71
n-Nonane
Concen: 0.16 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05012047.D
Acq: 2 May 2020 7:13

Tgt Ion: 43 Resp: 8917

Ion	Ratio	Lower	Upper
43	100		
57	82.2	69.0	109.0
85	32.7	14.6	54.6

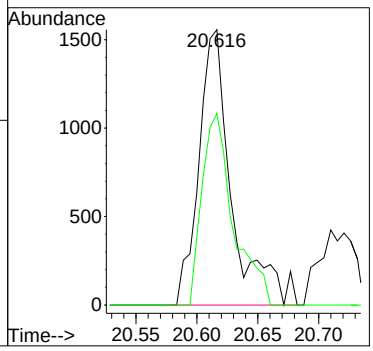




#91
d-Limonene
Concen: 0.07 ng
RT: 20.62 min Scan# 3115
Delta R.T. -0.000 min
Lab File: 05012047.D
Acq: 2 May 2020 7:13

Tgt Ion: 68 Resp: 2928

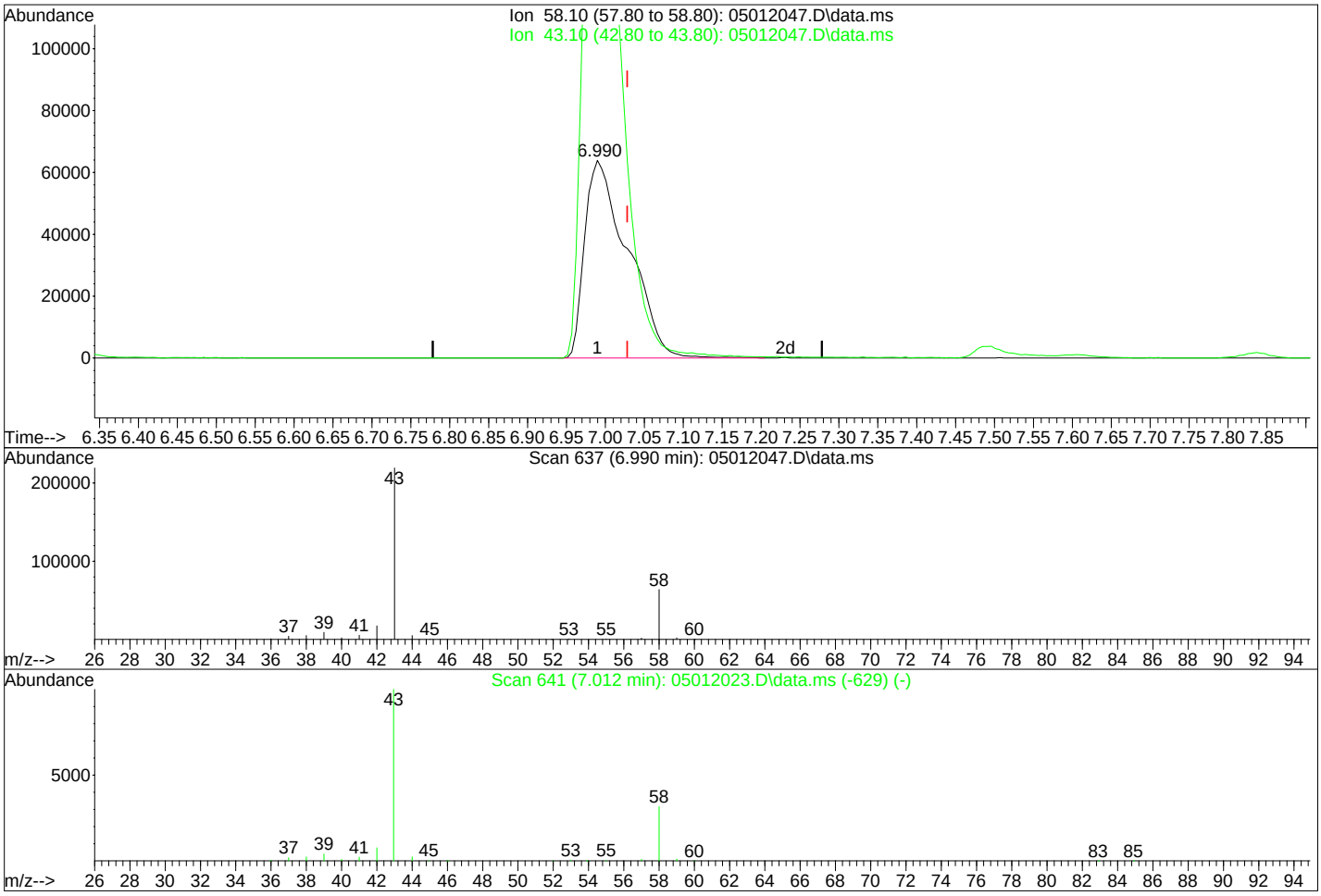
Ion	Ratio	Lower	Upper
68	100		
93	65.8	51.1	91.1



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\01\05012047.D Vial: 14
Acq On : 2 May 2020 7:13 Operator: LH
Sample : P2002104-011 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 02 07:46:33 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05012047.D\data.ms

(13) Acetone (T)

6.990min (-0.039) 10.67ng

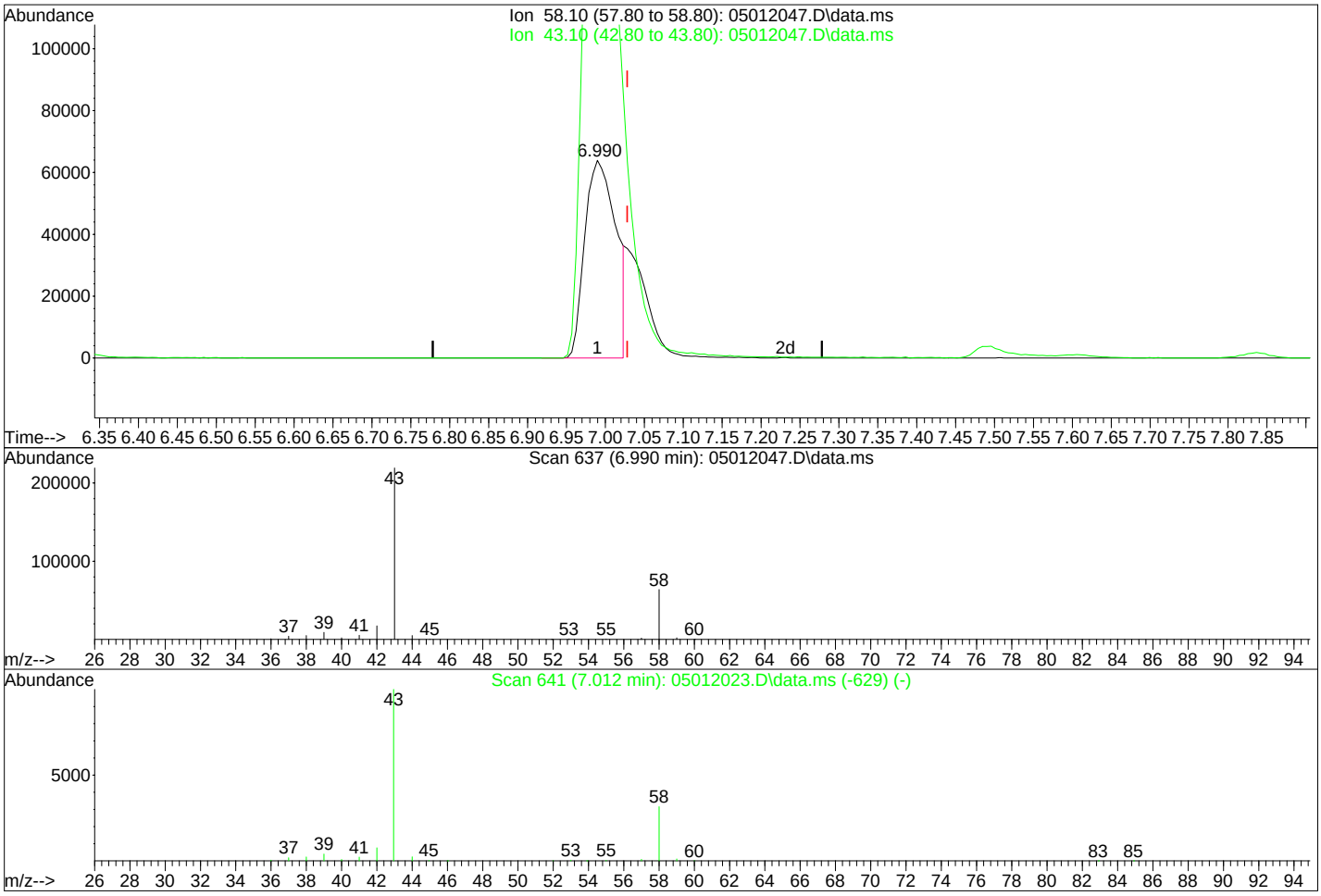
response 246081

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	271.73#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\01\05012047.D Vial: 14
Acq On : 2 May 2020 7:13 Operator: LH
Sample : P2002104-011 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 02 07:46:33 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05012047.D\data.ms

(13) Acetone (T)

6.990min (-0.039) 7.18ng m

response 177588

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	376.53#
0.00	0.00	0.00
0.00	0.00	0.00

IPC

LH 5/4/20

5/4/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012048.D Vial: 15
Acq On : 2 May 2020 7:46 Operator: LH
Sample : P2002104-012 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:31:44 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/4/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	252491	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1091521	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	523692	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	427007	12.479	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.84%				
57) Toluene-d8 (SS2)	15.72	98	1119030	12.607	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.88%				
73) Bromofluorobenzene (SS3)	18.98	174	375974	11.771	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.16%				
Target Compounds							Qvalue
2) Propene	4.11	42	5126	0.175	ng		98
3) Dichlorodifluoromethan...	4.26	85	147650	2.581	ng		100
4) Chloromethane	4.54	50	5998	0.134	ng		97
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	3249	0.095	ng		96
6) Vinyl Chloride	4.95	62	119	N.D.			
7) 1,3-Butadiene	5.14	54	592	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.97	64	540	N.D.			
10) Ethanol	6.32	45	16757	0.742	ng		93
11) Acetonitrile	6.59	41	2675	0.052	ng		92
12) Acrolein	6.79	56	3814	0.214	ng		96
13) Acetone	7.00	58	47552m	2.106	ng		
14) Trichlorofluoromethane	7.24	101	15195	0.301	ng		100
15) 2-Propanol (Isopropanol)	7.50	45	27833	0.407	ng		84
16) Acrylonitrile	7.97	53	113	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	1435	N.D.			
20) 3-Chloro-1-propene (Al...	8.50	41	565	N.D.			
21) Trichlorotrifluoroethane	8.84	151	4415	0.185	ng		94
22) Carbon Disulfide	8.68	76	50559	0.481	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.45	72	15185	0.788	ng		94
28) cis-1,2-Dichloroethene	10.95	61	488	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.29	61	989	0.089	ng		83
31) n-Hexane	11.22	57	1345	N.D.			
32) Chloroform	11.30	83	30117	0.599	ng		100
34) Tetrahydrofuran (THF)	11.72	72	21908	1.166	ng	#	89
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	278	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	6990	0.060	ng		99
42) Carbon Tetrachloride	13.03	117	24922	0.626	ng		97
43) Cyclohexane	13.16	84	743	N.D.			
44) tert-Amyl Methyl Ether	13.54	73	125	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	13.91	83	4919	0.124	ng		98
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	13.97	88	225	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.31	100	259	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012048.D Vial: 15
Acq On : 2 May 2020 7:46 Operator: LH
Sample : P2002104-012 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:31:44 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

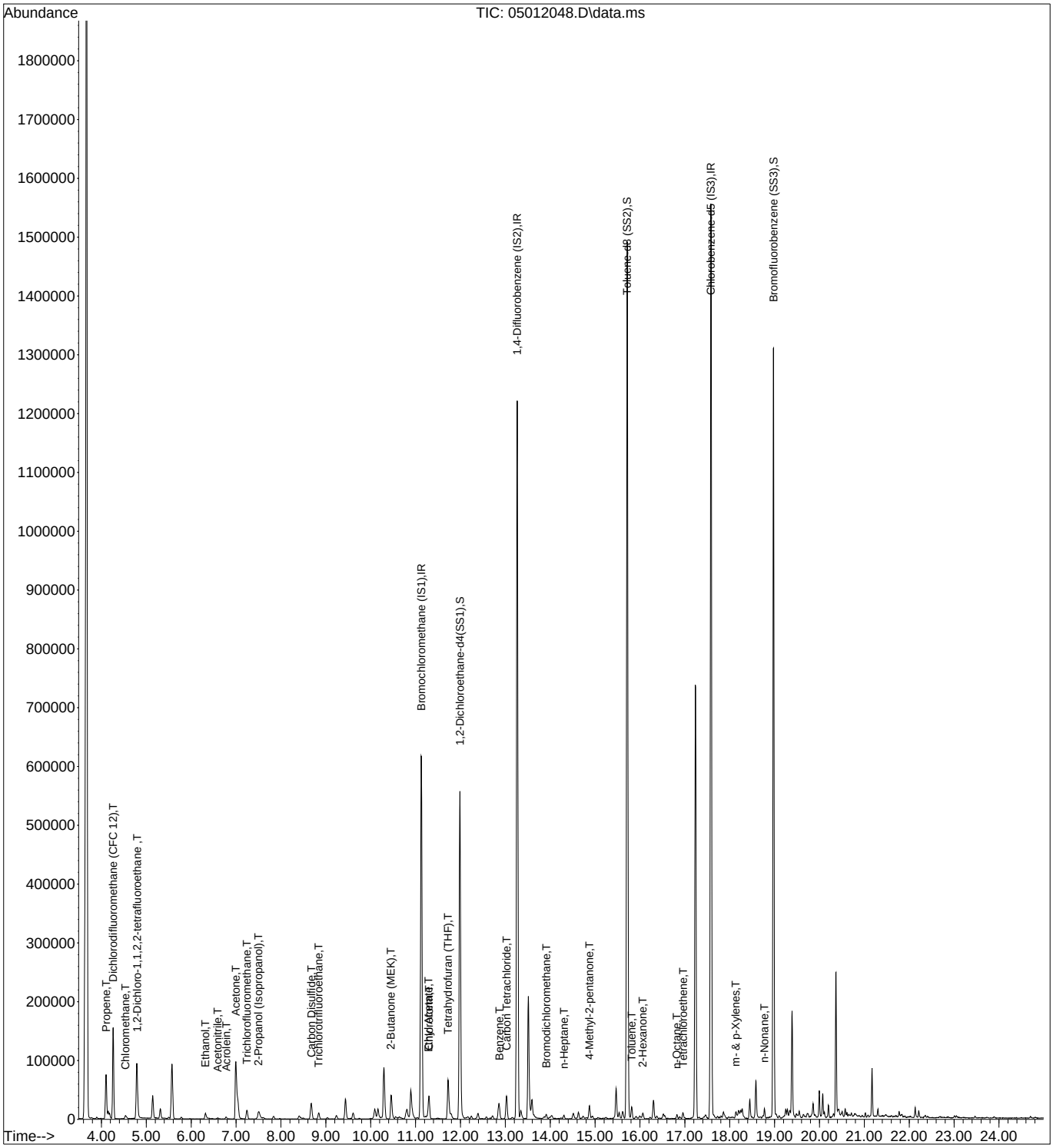
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.31	71	1485	0.054 ng		92
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.88	58	6692	0.256 ng		93
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.82	91	16447	0.144 ng		97
59) 2-Hexanone	16.06	43	7793	0.124 ng		95
60) Dibromochloromethane	16.22	129	728	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.70	43	699	N.D.		
63) n-Octane	16.82	57	1454	0.061 ng	#	80
64) Tetrachloroethene	16.96	166	3510	0.109 ng		94
65) Chlorobenzene	17.62	112	126	N.D.		
66) Ethylbenzene	17.99	91	2689	N.D.		
67) m- & p-Xylenes	18.14	91	7378	0.073 ng		96
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	506	N.D.		
70) o-Xylene	18.57	91	3023	N.D.		
71) n-Nonane	18.77	43	7508	0.138 ng	#	79
72) 1,1,2,2-Tetrachloroethane	18.59	83	104	N.D.		
74) Cumene	19.09	105	734	N.D.		
75) alpha-Pinene	19.45	93	586	N.D.		
76) n-Propylbenzene	19.55	91	1968	N.D.		
77) 3-Ethyltoluene	19.64	105	2242	N.D.		
78) 4-Ethyltoluene	19.68	105	763	N.D.		
79) 1,3,5-Trimethylbenzene	19.75	105	1179	N.D.		
80) alpha-Methylstyrene	19.88	118	872	N.D.		
81) 2-Ethyltoluene	19.91	105	996	N.D.		
82) 1,2,4-Trimethylbenzene	20.10	105	2546	N.D.		
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.22	91	111	N.D.		
85) 1,3-Dichlorobenzene	20.24	146	171	N.D.		
86) 1,4-Dichlorobenzene	20.31	146	385	N.D.		
87) sec-Butylbenzene	20.35	105	1062	N.D.		
88) 4-Isopropyltoluene (p-...	20.48	119	991	N.D.		
89) 1,2,3-Trimethylbenzene	20.48	105	1088	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.61	68	1558	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.11	180	298	N.D.		
95) Naphthalene	22.22	128	2936	N.D.		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	20.11	119	413	N.D.		
100) n-Butylbenzene	20.85	91	1472	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012048.D Vial: 15
Acq On : 2 May 2020 7:46 Operator: LH
Sample : P2002104-012 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:31:44 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012048.D Vial: 15
Acq On : 2 May 2020 7:46 Operator: LH
Sample : P2002104-012 (400mL) Inst : GCMS-16
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Quant Time: May 04 14:31:44 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/4/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	252491	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1091521	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	523692	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	427007	12.479	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.84%				
57) Toluene-d8 (SS2)	15.72	98	1119030	12.607	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.88%				
73) Bromofluorobenzene (SS3)	18.98	174	375974	11.771	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.16%				
Target Compounds							Qvalue
2) Propene	4.11	42	5126	0.175	ng		98
3) Dichlorodifluoromethan...	4.26	85	147650	2.581	ng		100
4) Chloromethane	4.54	50	5998	0.134	ng		97
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	3249	0.095	ng		96
10) Ethanol	6.32	45	16757	0.742	ng		93
11) Acetonitrile	6.59	41	2675	0.052	ng		92
12) Acrolein	6.79	56	3814	0.214	ng		96
13) Acetone	7.00	58	47552m	2.106	ng		
14) Trichlorofluoromethane	7.24	101	15195	0.301	ng		100
15) 2-Propanol (Isopropanol)	7.50	45	27833	0.407	ng		84
21) Trichlorotrifluoroethane	8.84	151	4415	0.185	ng		94
22) Carbon Disulfide	8.68	76	50559	0.481	ng		99
27) 2-Butanone (MEK)	10.45	72	15185	0.788	ng		94
30) Ethyl Acetate	11.29	61	989	0.089	ng		83
32) Chloroform	11.30	83	30117	0.599	ng		100
34) Tetrahydrofuran (THF)	11.72	72	21908	1.166	ng	#	89
41) Benzene	12.87	78	6990	0.060	ng		99
42) Carbon Tetrachloride	13.03	117	24922	0.626	ng		97
46) Bromodichloromethane	13.91	83	4919	0.124	ng		98
51) n-Heptane	14.31	71	1485	0.054	ng		92
53) 4-Methyl-2-pentanone	14.88	58	6692	0.256	ng		93
58) Toluene	15.82	91	16447	0.144	ng		97
59) 2-Hexanone	16.06	43	7793	0.124	ng		95
63) n-Octane	16.82	57	1454	0.061	ng	#	80
64) Tetrachloroethene	16.96	166	3510	0.109	ng		94
67) m- & p-Xylenes	18.14	91	7378	0.073	ng		96
71) n-Nonane	18.77	43	7508	0.138	ng	#	79

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012048.D Vial: 15
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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
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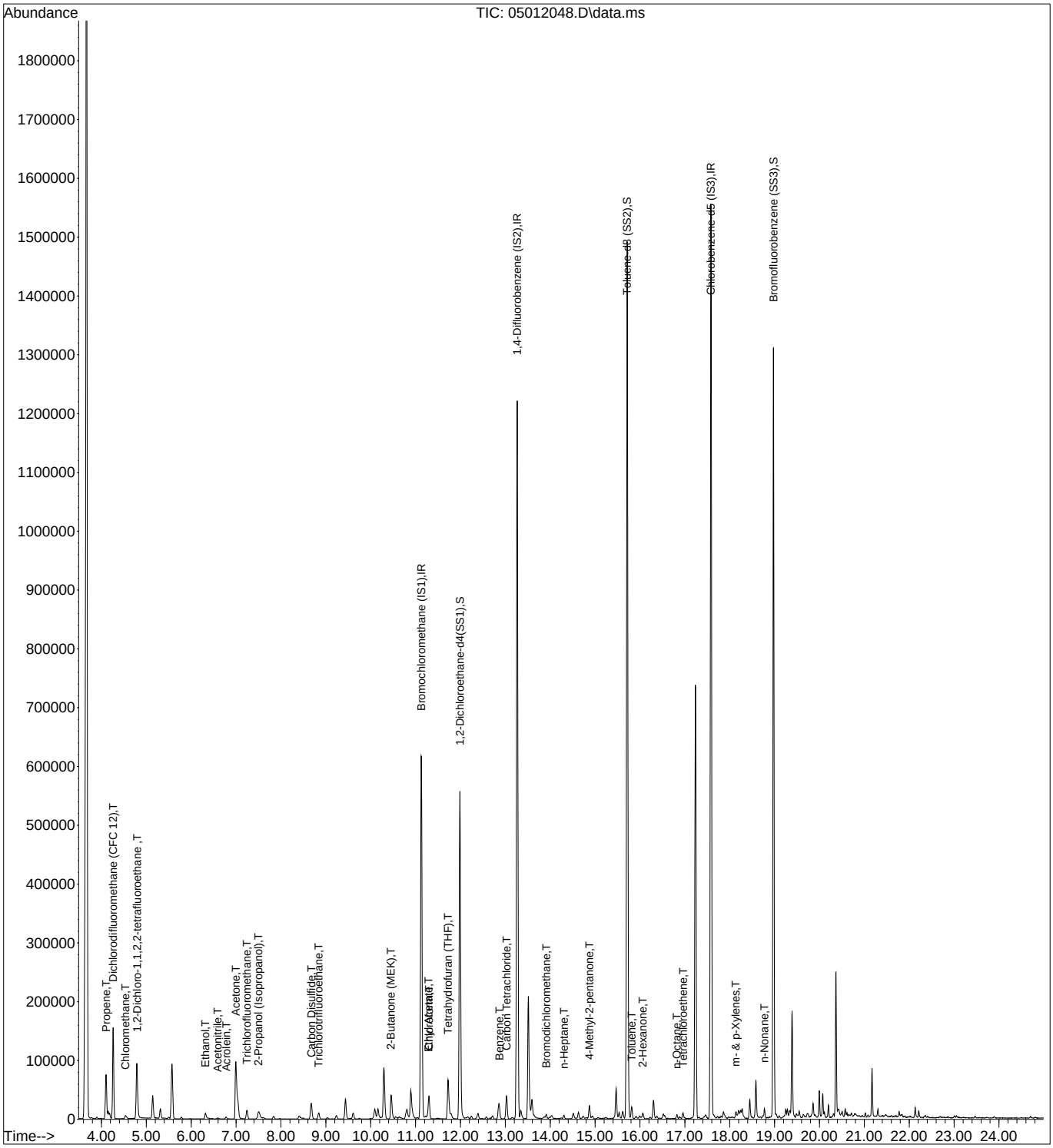
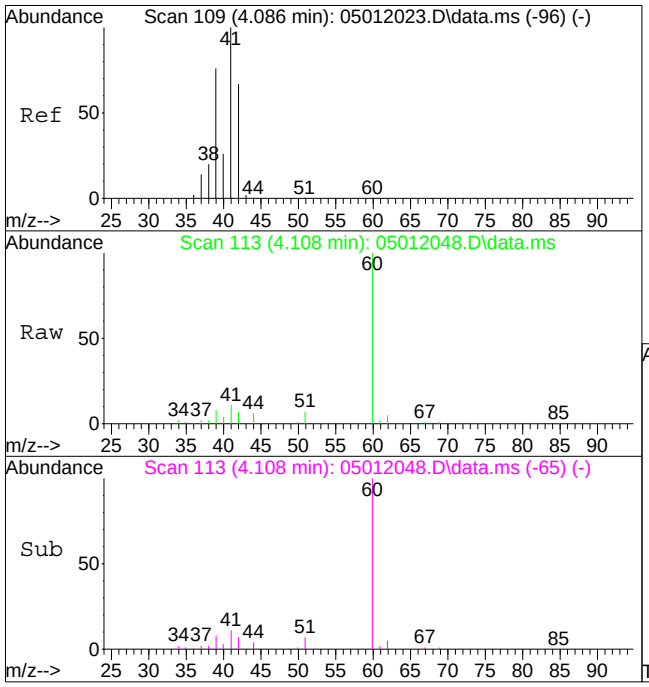
DataAcq Meth:TO15.M

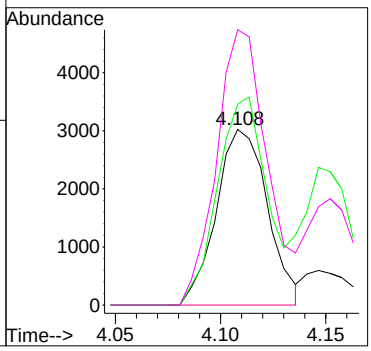


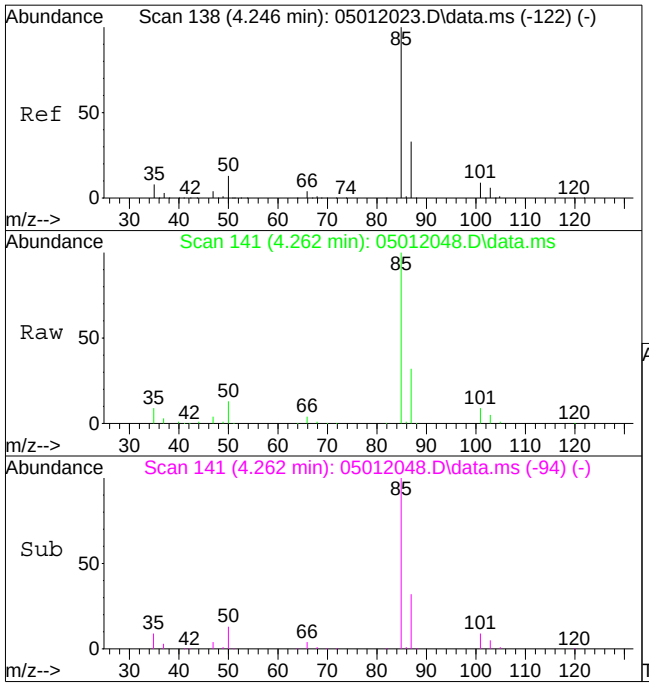


#2
Propene
Concen: 0.18 ng
RT: 4.11 min Scan# 113
Delta R.T. 0.016 min
Lab File: 05012048.D
Acq: 2 May 2020 7:46

Tgt Ion: 42 Resp: 5126

Ion	Ratio	Lower	Upper
42	100		
39	114.3	96.1	136.1
41	155.6	131.9	171.9

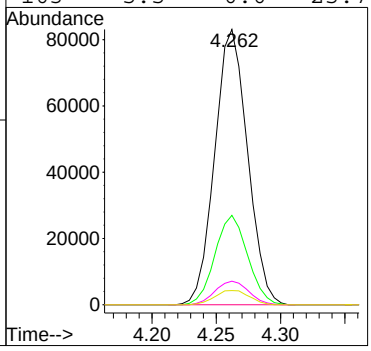


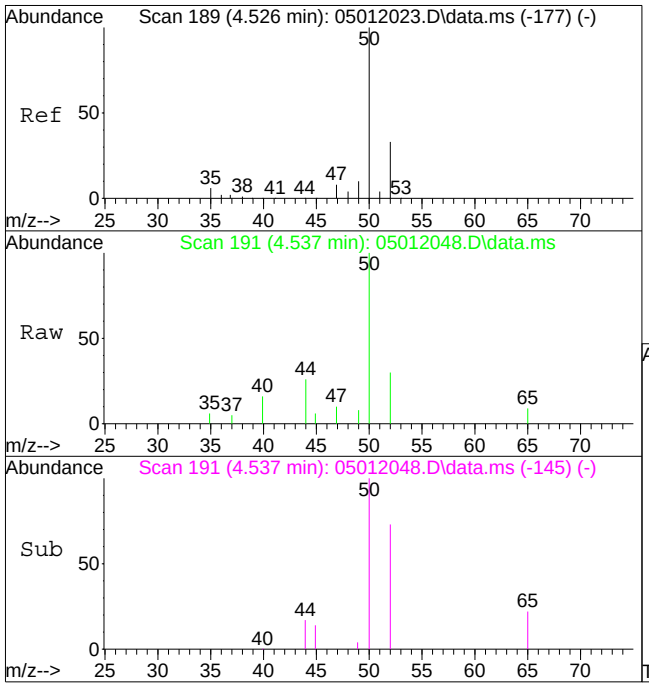


#3
Dichlorodifluoromethane (CFC 12)
Concen: 2.58 ng
RT: 4.26 min Scan# 141
Delta R.T. 0.011 min
Lab File: 05012048.D
Acq: 2 May 2020 7:46

Tgt Ion: 85 Resp: 147650

Ion	Ratio	Lower	Upper
85	100		
87	32.3	12.4	52.4
101	8.8	0.0	28.8
103	5.5	0.0	25.7

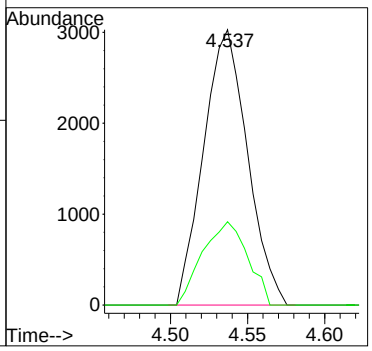


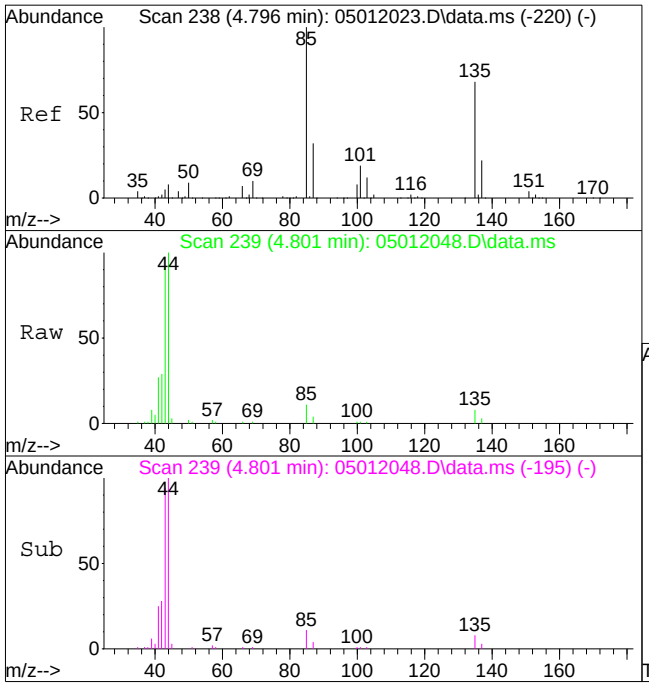


#4
Chloromethane
Concen: 0.13 ng
RT: 4.54 min Scan# 191
Delta R.T. 0.005 min
Lab File: 05012048.D
Acq: 2 May 2020 7:46

Tgt Ion: 50 Resp: 5998

Ion	Ratio	Lower	Upper
50	100		
52	31.1	12.5	52.5

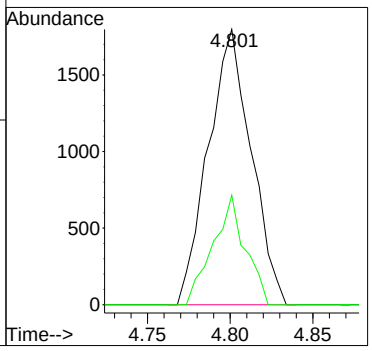


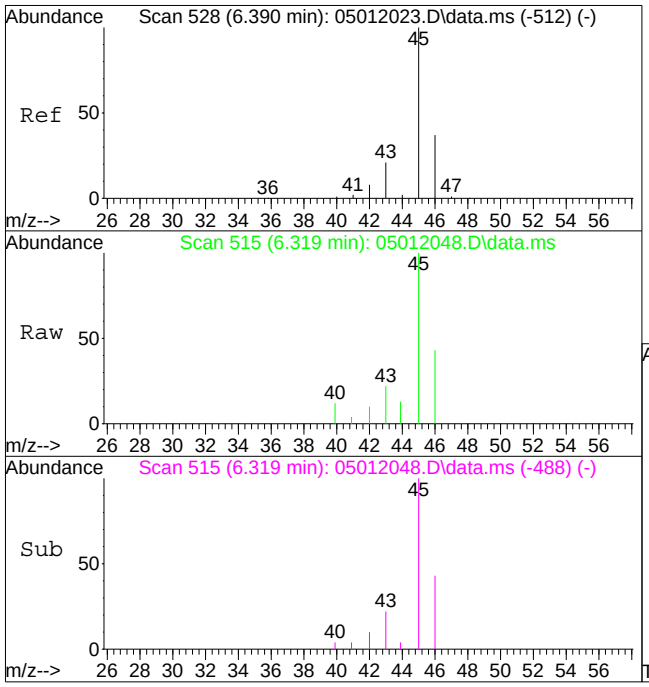


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 0.10 ng
RT: 4.80 min Scan# 239
Delta R.T. -0.006 min
Lab File: 05012048.D
Acq: 2 May 2020 7:46

Tgt Ion:135 Resp: 3249

Ion	Ratio	Lower	Upper
135	100		
137	29.9	12.1	52.1

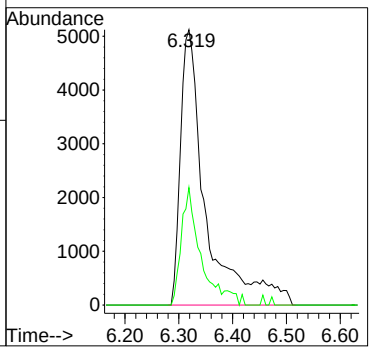


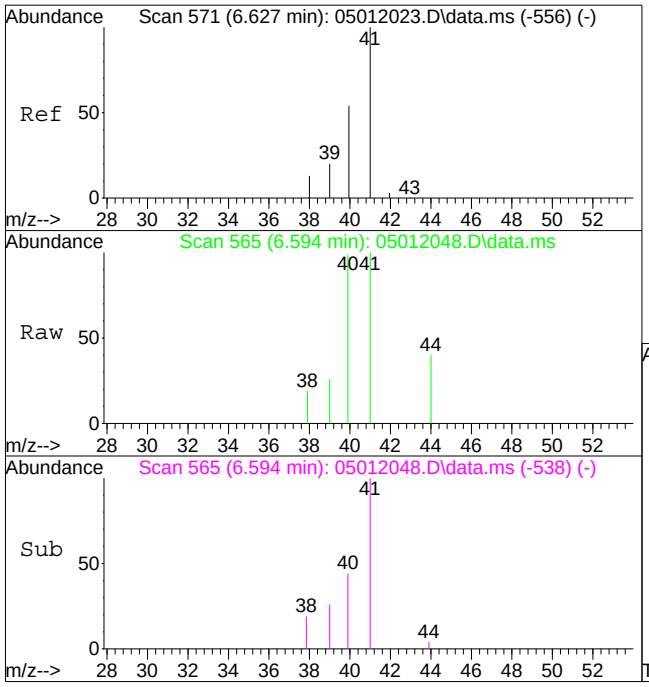


#10
Ethanol
Concen: 0.74 ng
RT: 6.32 min Scan# 515
Delta R.T. -0.099 min
Lab File: 05012048.D
Acq: 2 May 2020 7:46

Tgt Ion: 45 Resp: 16757

Ion	Ratio	Lower	Upper
45	100		
46	33.2	17.2	57.2

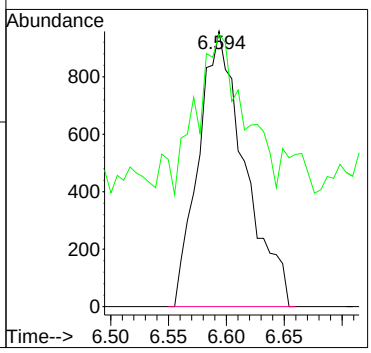


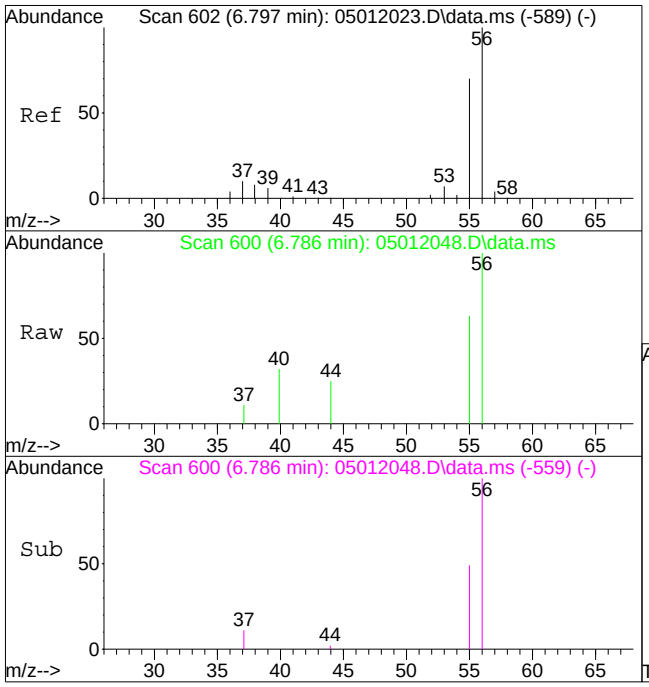


#11
Acetonitrile
Concen: 0.05 ng
RT: 6.59 min Scan# 565
Delta R.T. -0.050 min
Lab File: 05012048.D
Acq: 2 May 2020 7:46

Tgt Ion: 41 Resp: 2675

Ion	Ratio	Lower	Upper
41	100		
40	59.3	33.6	73.6

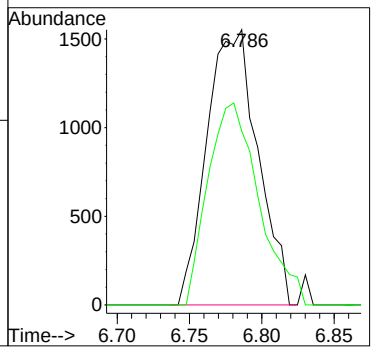


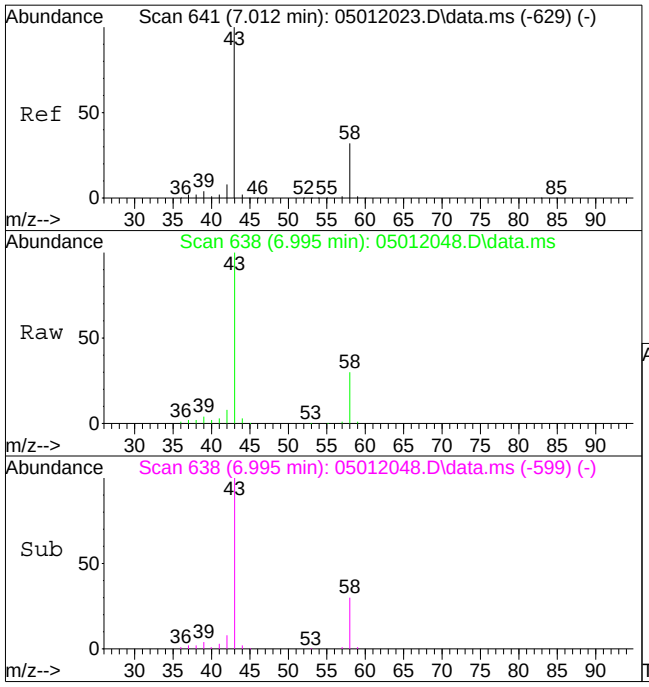


#12
Acrolein
Concen: 0.21 ng
RT: 6.79 min Scan# 600
Delta R.T. -0.022 min
Lab File: 05012048.D
Acq: 2 May 2020 7:46

Tgt Ion: 56 Resp: 3814

Ion	Ratio	Lower	Upper
56	100		
55	73.5	50.2	90.2

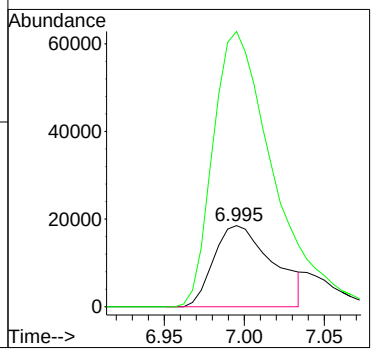


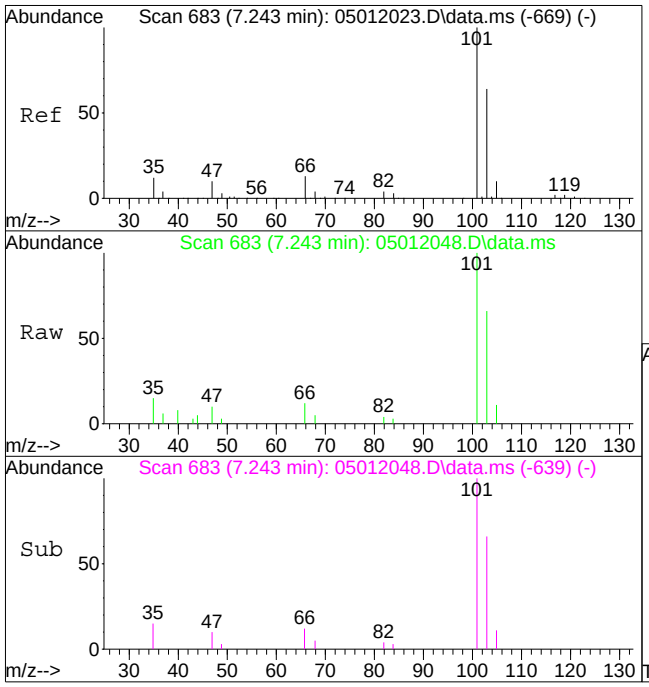


#13
Acetone
Concen: 2.11 ng m
RT: 7.00 min Scan# 638
Delta R.T. -0.033 min
Lab File: 05012048.D
Acq: 2 May 2020 7:46

Tgt Ion: 58 Resp: 47552

Ion	Ratio	Lower	Upper
58	100		
43	353.3	294.4	354.4

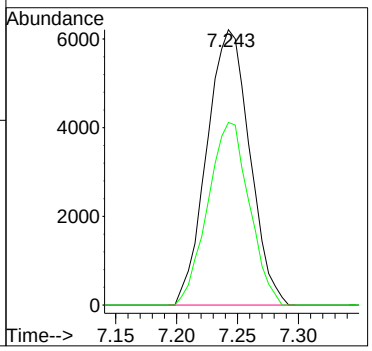


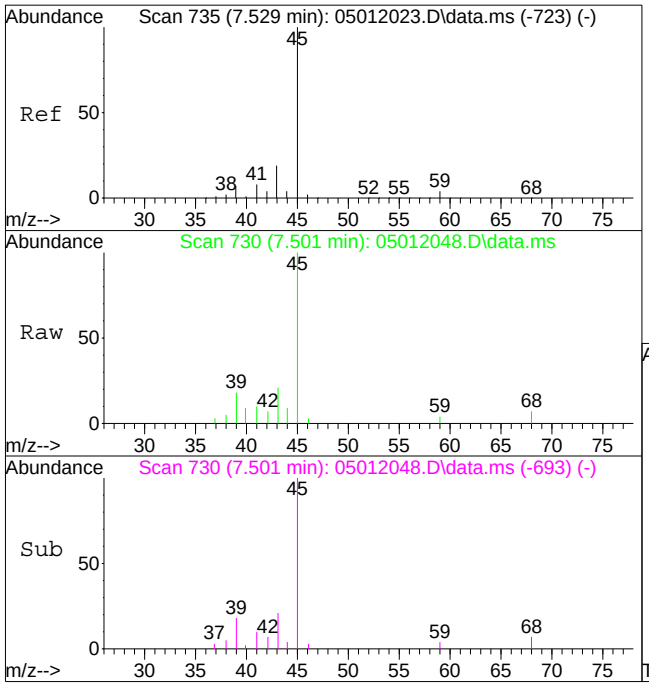


#14
Trichlorofluoromethane
Concen: 0.30 ng
RT: 7.24 min Scan# 683
Delta R.T. -0.006 min
Lab File: 05012048.D
Acq: 2 May 2020 7:46

Tgt Ion:101 Resp: 15195

Ion	Ratio	Lower	Upper
101	100		
103	64.1	44.4	84.4

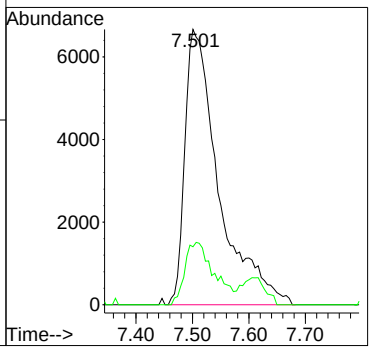


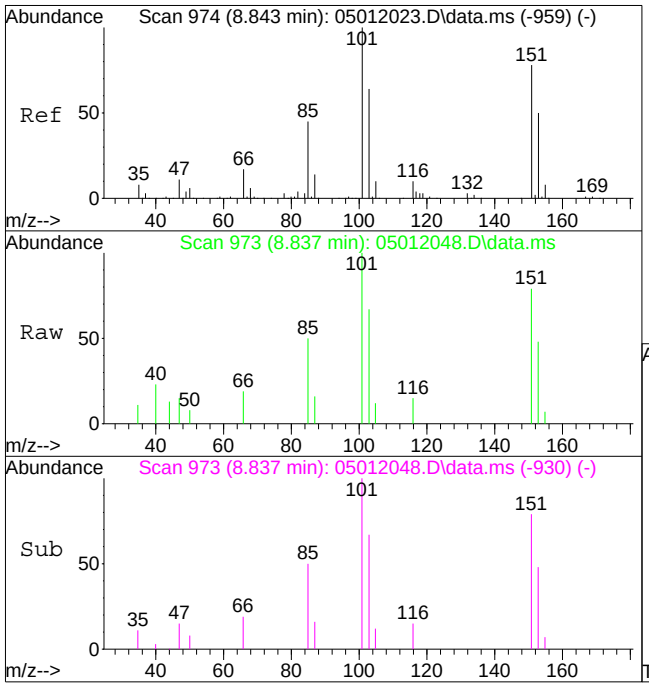


#15
2-Propanol (Isopropanol)
Concen: 0.41 ng
RT: 7.50 min Scan# 730
Delta R.T. -0.044 min
Lab File: 05012048.D
Acq: 2 May 2020 7:46

Tgt Ion: 45 Resp: 27833

Ion	Ratio	Lower	Upper
45	100		
43	26.6	0.0	39.5

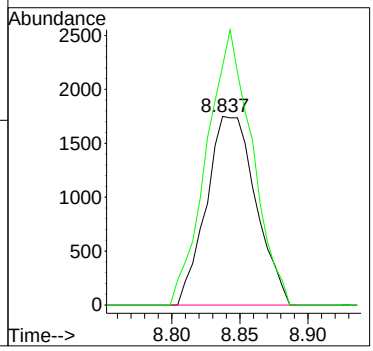


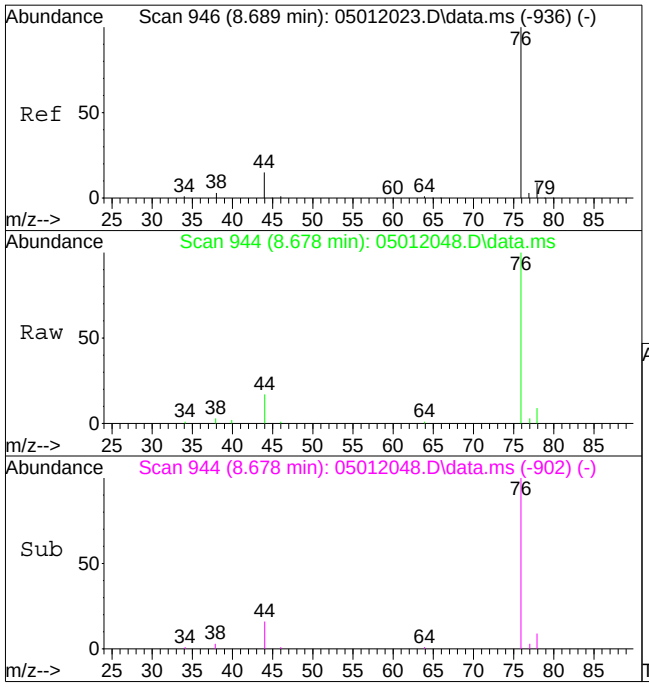


#21
Trichlorotrifluoroethane
Concen: 0.18 ng
RT: 8.84 min Scan# 973
Delta R.T. -0.011 min
Lab File: 05012048.D
Acq: 2 May 2020 7:46

Tgt Ion:151 Resp: 4415

Ion	Ratio	Lower	Upper
151	100		
101	134.5	107.3	147.3

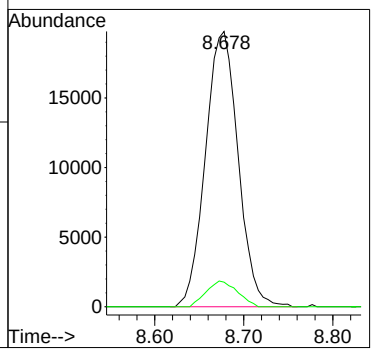


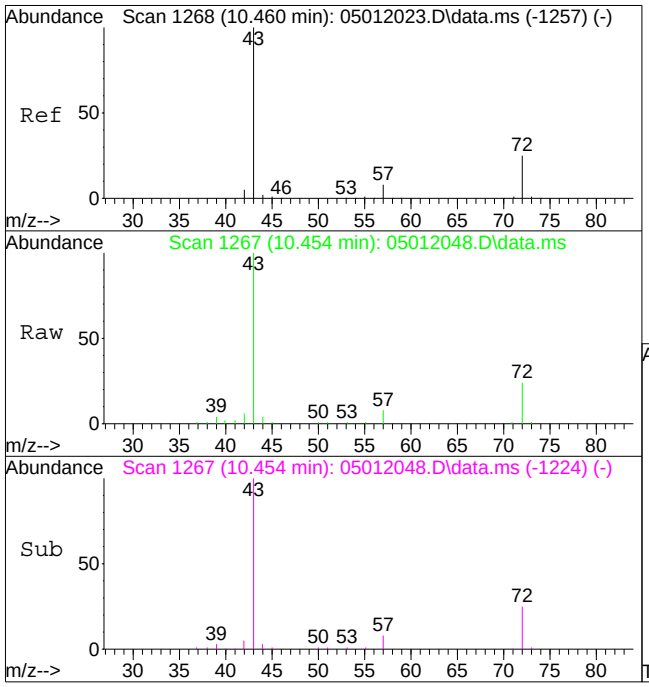


#22
Carbon Disulfide
Concen: 0.48 ng
RT: 8.68 min Scan# 944
Delta R.T. -0.017 min
Lab File: 05012048.D
Acq: 2 May 2020 7:46

Tgt Ion: 76 Resp: 50559

Ion	Ratio	Lower	Upper
76	100		
78	8.9	0.0	29.2

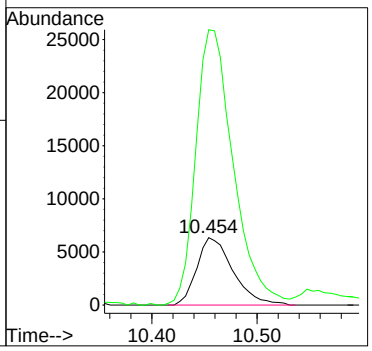


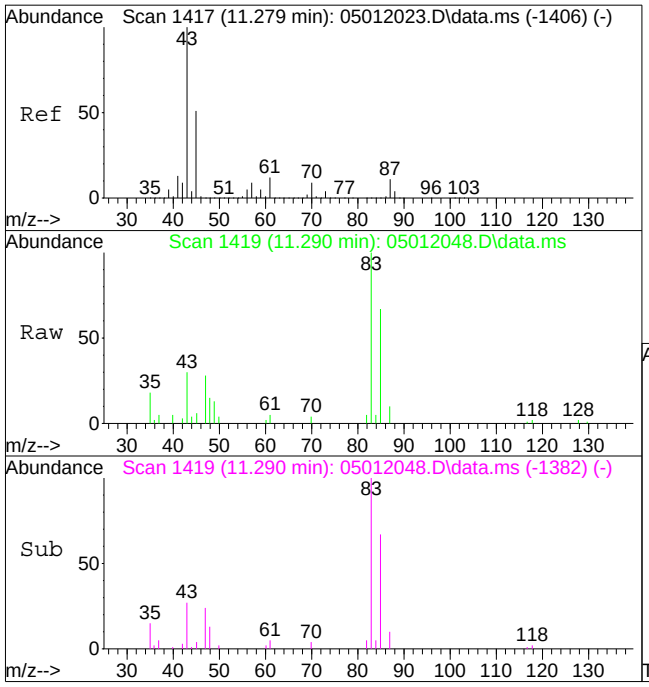


#27
2-Butanone (MEK)
Concen: 0.79 ng
RT: 10.45 min Scan# 1267
Delta R.T. -0.011 min
Lab File: 05012048.D
Acq: 2 May 2020 7:46

Tgt Ion: 72 Resp: 15185

Ion	Ratio	Lower	Upper
72	100		
43	423.3	389.7	429.7

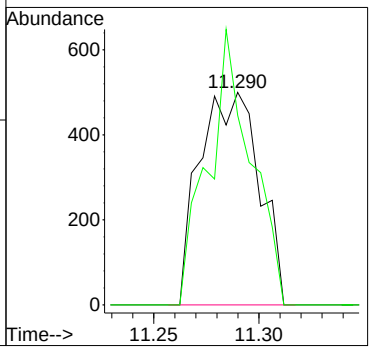


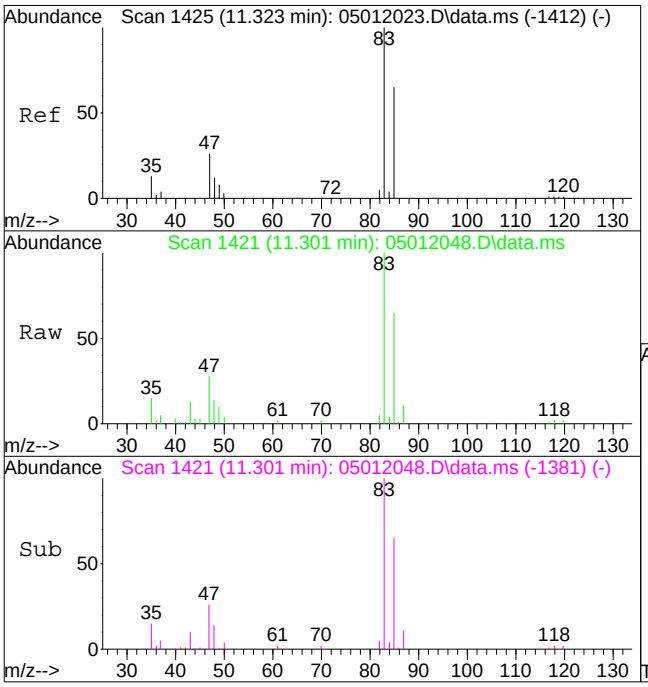


#30
Ethyl Acetate
Concen: 0.09 ng
RT: 11.29 min Scan# 1419
Delta R.T. 0.005 min
Lab File: 05012048.D
Acq: 2 May 2020 7:46

Tgt Ion: 61 Resp: 989

Ion	Ratio	Lower	Upper
61	100		
70	92.8	57.9	97.9

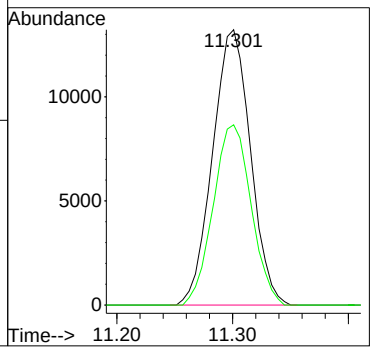


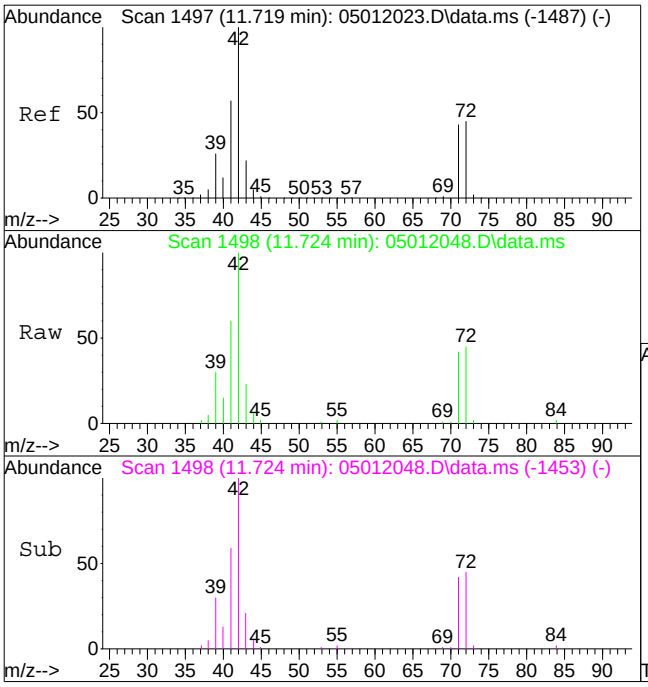


#32
Chloroform
Concen: 0.60 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.028 min
Lab File: 05012048.D
Acq: 2 May 2020 7:46

Tgt Ion: 83 Resp: 30117

Ion	Ratio	Lower	Upper
83	100		
85	65.4	45.5	85.5

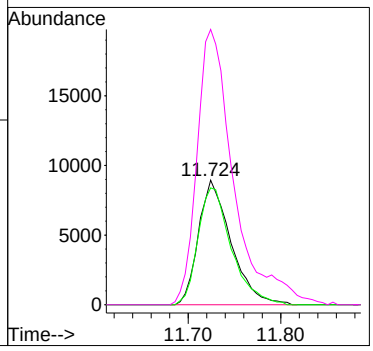


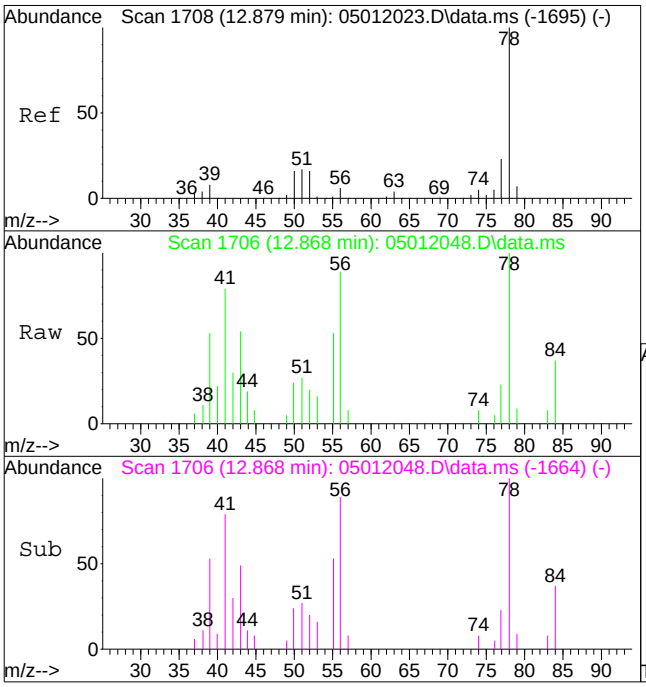


#34
Tetrahydrofuran (THF)
Concen: 1.17 ng
RT: 11.72 min Scan# 1498
Delta R.T. -0.000 min
Lab File: 05012048.D
Acq: 2 May 2020 7:46

Tgt Ion: 72 Resp: 21908

Ion	Ratio	Lower	Upper
72	100		
71	96.2	77.0	117.0
42	249.7	204.6	244.6#

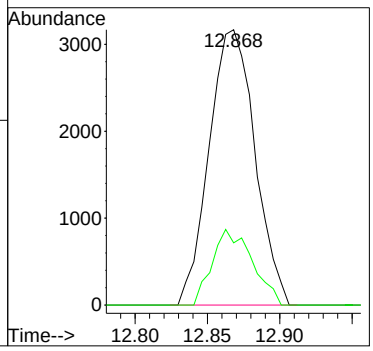


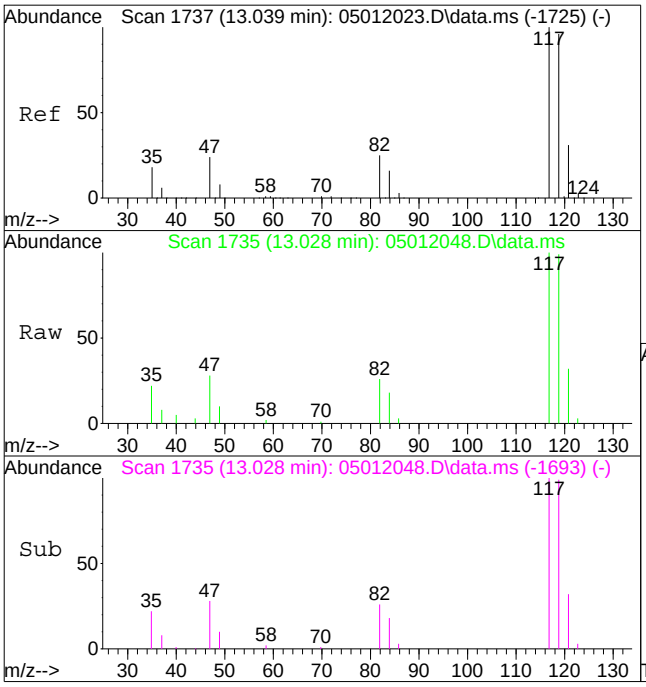


#41
Benzene
Concen: 0.06 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05012048.D
Acq: 2 May 2020 7:46

Tgt Ion: 78 Resp: 6990

Ion	Ratio	Lower	Upper
78	100		
77	24.0	3.4	43.4

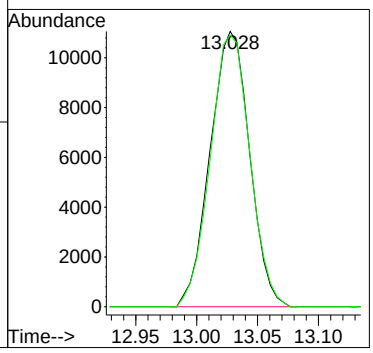


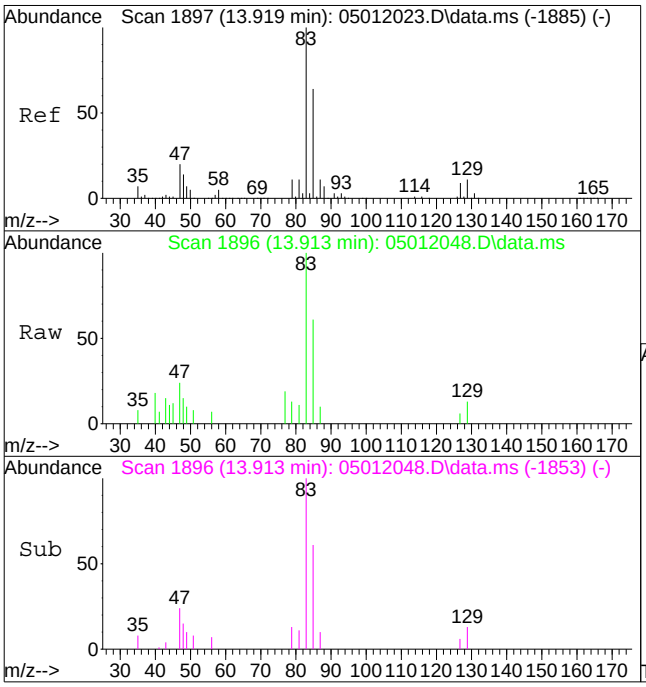


#42
Carbon Tetrachloride
Concen: 0.63 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05012048.D
Acq: 2 May 2020 7:46

Tgt Ion:117 Resp: 24922

Ion	Ratio	Lower	Upper
117	100		
119	98.9	76.2	116.2

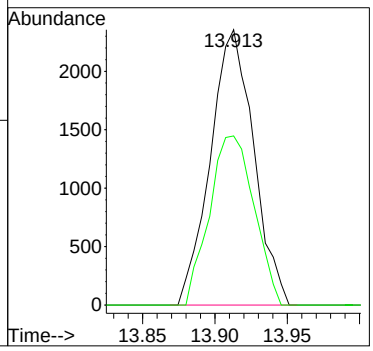


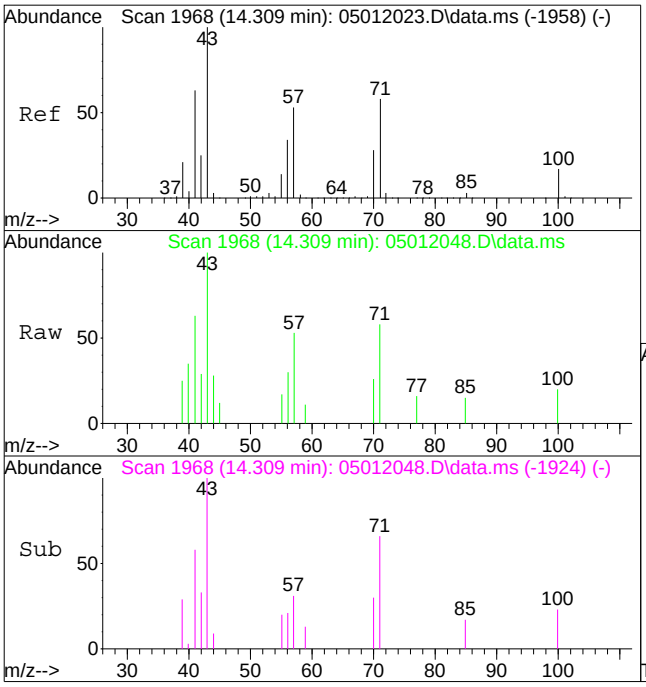


#46
Bromodichloromethane
Concen: 0.12 ng
RT: 13.91 min Scan# 1896
Delta R.T. -0.011 min
Lab File: 05012048.D
Acq: 2 May 2020 7:46

Tgt Ion: 83 Resp: 4919

Ion	Ratio	Lower	Upper
83	100		
85	63.2	44.4	84.4

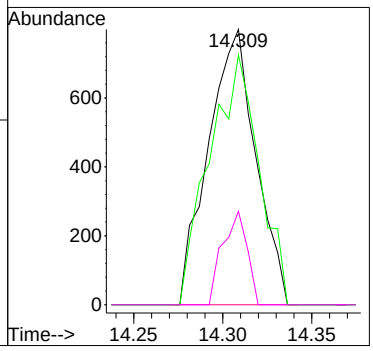


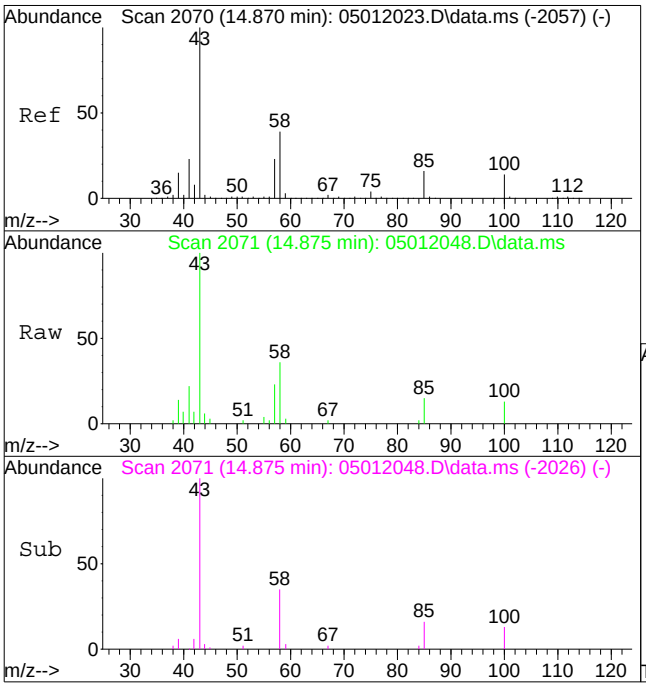


#51
n-Heptane
Concen: 0.05 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05012048.D
Acq: 2 May 2020 7:46

Tgt Ion: 71 Resp: 1485

Ion	Ratio	Lower	Upper
71	100		
57	94.4	71.0	111.0
100	17.4	8.4	48.4

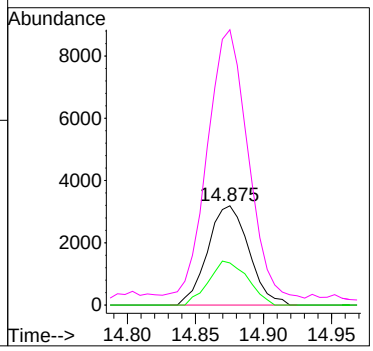


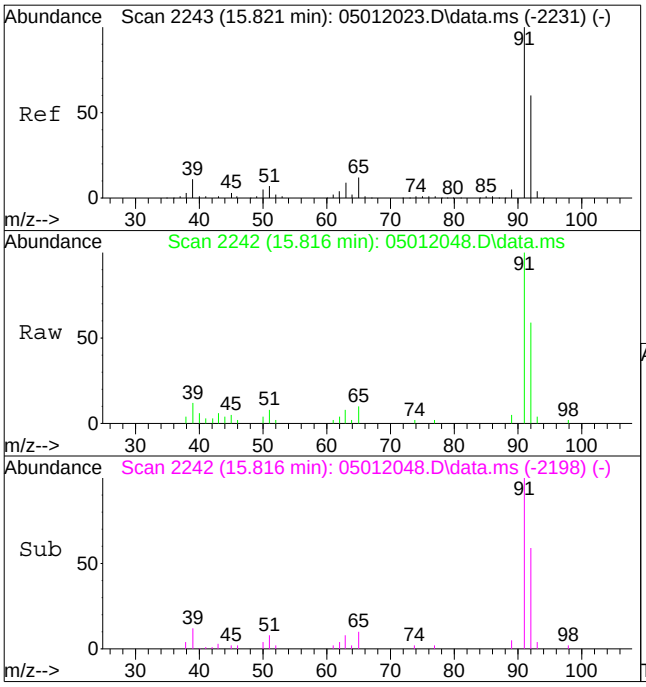


#53
4-Methyl-2-pentanone
Concen: 0.26 ng
RT: 14.88 min Scan# 2071
Delta R.T. -0.000 min
Lab File: 05012048.D
Acq: 2 May 2020 7:46

Tgt Ion: 58 Resp: 6692

Ion	Ratio	Lower	Upper
58	100		
85	42.1	35.4	53.2
43	267.0	203.3	304.9

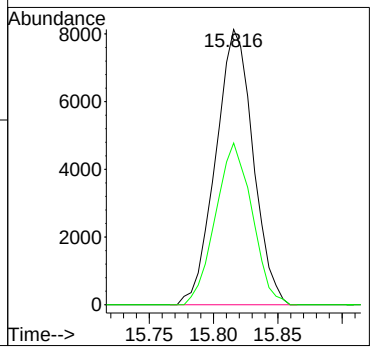


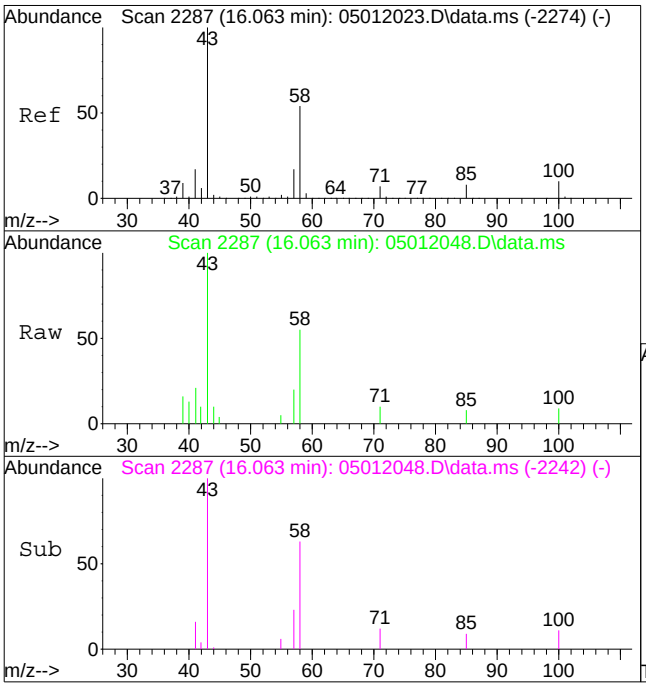


#58
Toluene
Concen: 0.14 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05012048.D
Acq: 2 May 2020 7:46

Tgt Ion: 91 Resp: 16447

Ion	Ratio	Lower	Upper
91	100		
92	57.4	39.4	79.4

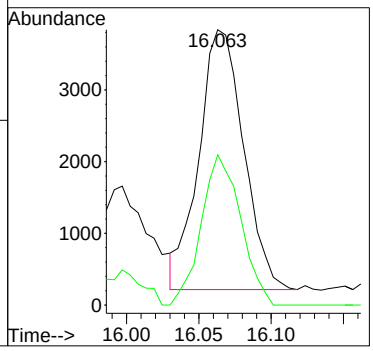


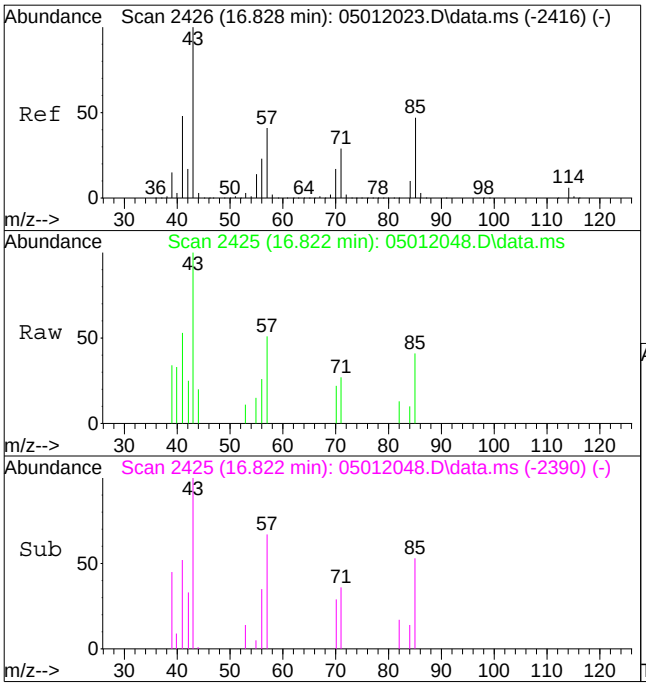


#59
2-Hexanone
Concen: 0.12 ng
RT: 16.06 min Scan# 2287
Delta R.T. -0.000 min
Lab File: 05012048.D
Acq: 2 May 2020 7:46

Tgt Ion: 43 Resp: 7793

Ion	Ratio	Lower	Upper
43	100		
58	50.9	34.5	74.5

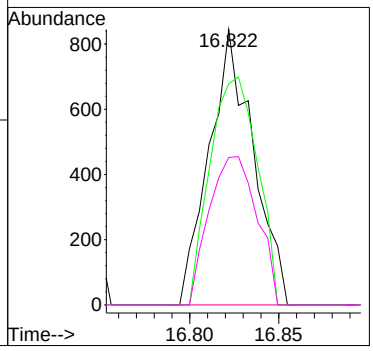


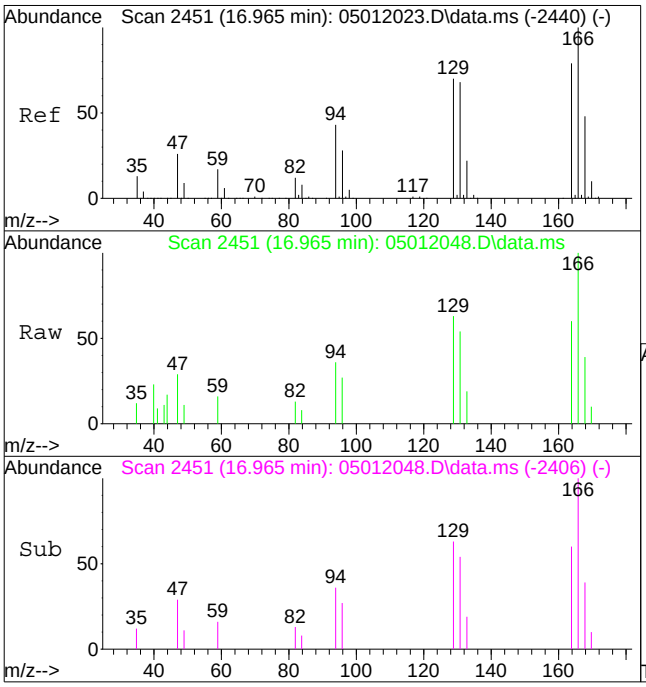


#63
n-Octane
Concen: 0.06 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05012048.D
Acq: 2 May 2020 7:46

Tgt Ion: 57 Resp: 1454

Ion	Ratio	Lower	Upper
57	100		
85	89.0	91.0	136.4#
71	58.7	56.2	84.2

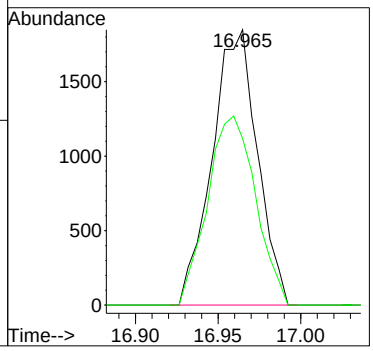


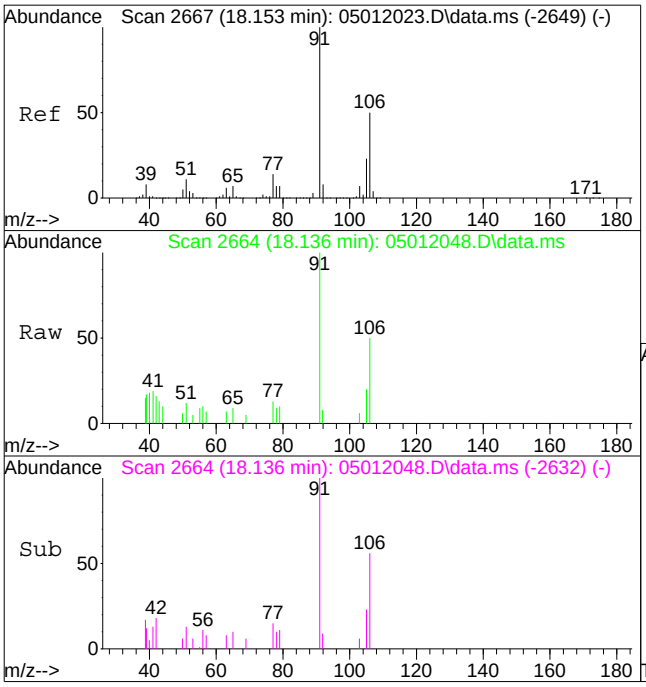


#64
Tetrachloroethene
Concen: 0.11 ng
RT: 16.96 min Scan# 2451
Delta R.T. -0.000 min
Lab File: 05012048.D
Acq: 2 May 2020 7:46

Tgt Ion:166 Resp: 3510

Ion	Ratio	Lower	Upper
166	100		
164	73.0	58.4	98.4

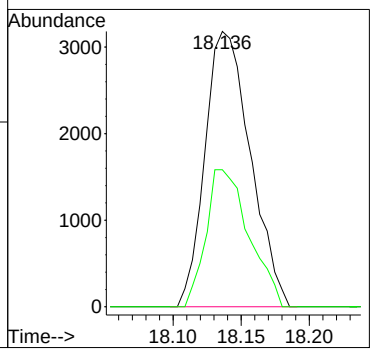


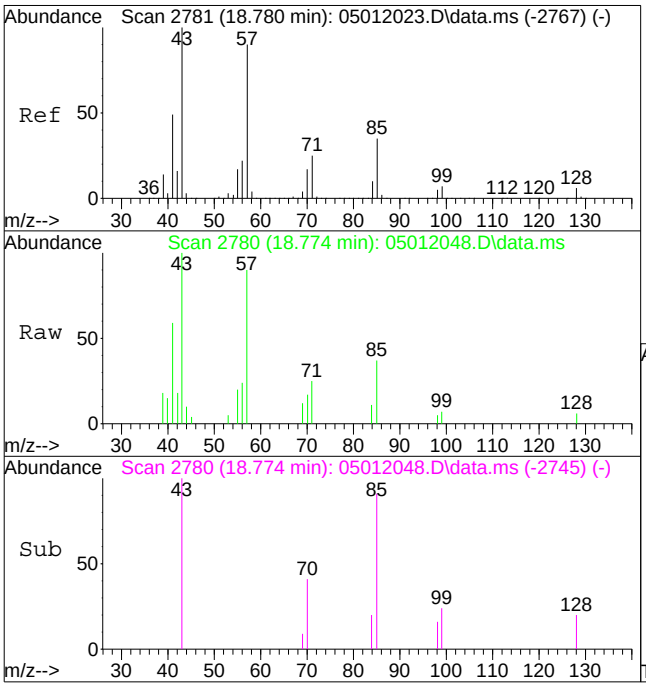


#67
m- & p-Xylenes
Concen: 0.07 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05012048.D
Acq: 2 May 2020 7:46

Tgt Ion: 91 Resp: 7378

Ion	Ratio	Lower	Upper
91	100		
106	47.0	29.7	69.7

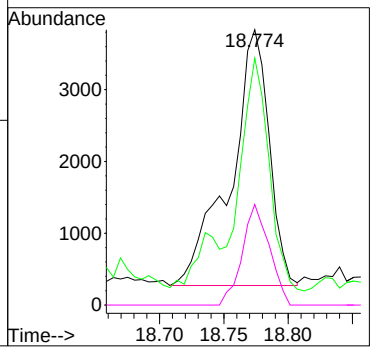




#71
n-Nonane
Concen: 0.14 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05012048.D
Acq: 2 May 2020 7:46

Tgt Ion: 43 Resp: 7508

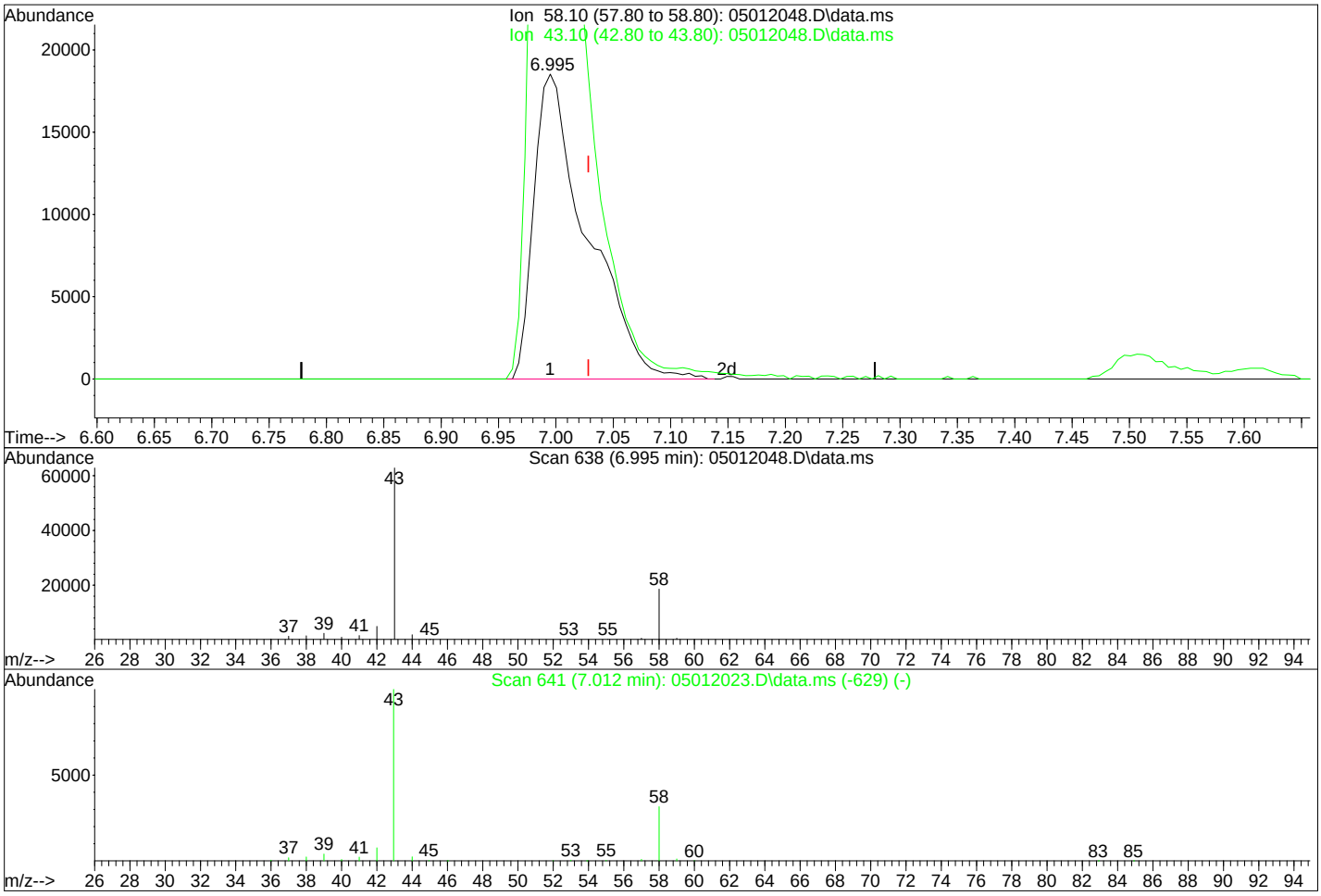
Ion	Ratio	Lower	Upper
43	100		
57	66.0	69.0	109.0#
85	27.3	14.6	54.6



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\01\05012048.D Vial: 15
Acq On : 2 May 2020 7:46 Operator: LH
Sample : P2002104-012 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 02 09:34:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05012048.D\data.ms

(13) Acetone (T)

6.995min (-0.033) 2.64ng

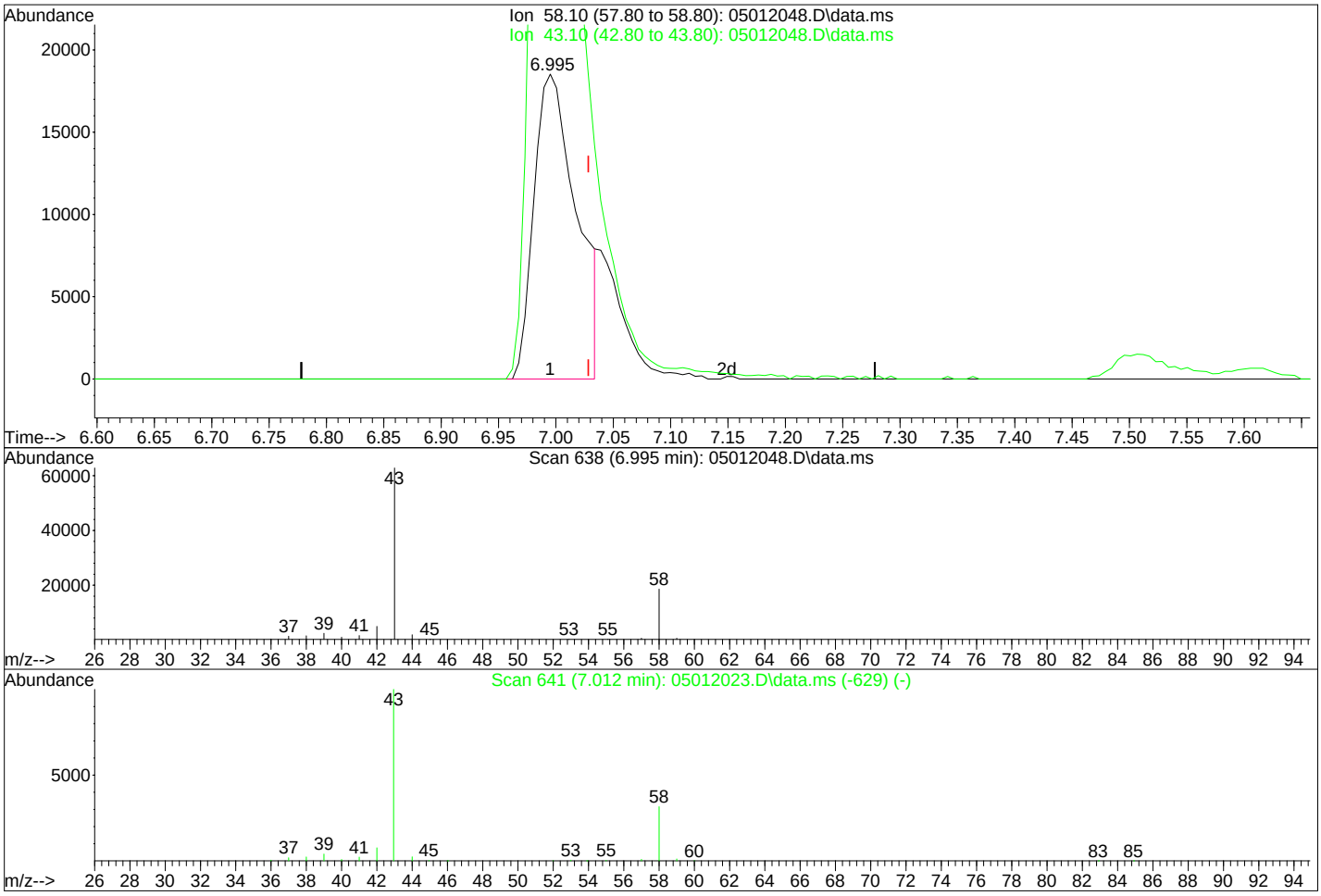
response 59635

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	281.75#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\01\05012048.D Vial: 15
Acq On : 2 May 2020 7:46 Operator: LH
Sample : P2002104-012 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 02 09:34:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05012048.D\data.ms

(13) Acetone (T)

6.995min (-0.033) 2.11ng m

response 47552

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	353.34
0.00	0.00	0.00
0.00	0.00	0.00

IPC

LH 5/4/20

5/4/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022009.D Vial: 3
Acq On : 2 May 2020 14:24 Operator: TD
Sample : P2002104-013 (150mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:42:26 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/4/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	260138	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1144003	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	555736	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	446338	12.660	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.28%				
57) Toluene-d8 (SS2)	15.72	98	1189103	12.624	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.96%				
73) Bromofluorobenzene (SS3)	18.98	174	402598	11.878	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.04%				
Target Compounds							Qvalue
2) Propene	4.10	42	24657	0.818	ng		97
3) Dichlorodifluoromethan...	4.25	85	662421	11.241	ng		100
4) Chloromethane	4.54	50	2166	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	13039	0.370	ng		97
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.15	54	1190	N.D.			
8) Bromomethane	5.64	94	1758	0.066	ng		93
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.32	45	8016	0.345	ng		88
11) Acetonitrile	6.58	41	5678	0.107	ng		92
12) Acrolein	6.78	56	1829	0.099	ng		94
13) Acetone	6.97	58	119201	5.123	ng		99
14) Trichlorofluoromethane	7.25	101	61188	1.175	ng		99
15) 2-Propanol (Isopropanol)	7.52	45	4769	0.068	ng	#	1
16) Acrylonitrile	7.70	53	829	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.42	84	116	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	8.86	151	6965	0.283	ng		96
22) Carbon Disulfide	8.70	76	16409	0.151	ng		97
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	10.00	63	319	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	d		
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.46	72	18095	0.912	ng		97
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.27	87	814	N.D.			
30) Ethyl Acetate	11.28	61	2725	0.238	ng		79
31) n-Hexane	11.27	57	75450	1.520	ng		98
32) Chloroform	11.31	83	2453	N.D.			
34) Tetrahydrofuran (THF)	11.76	72	1927	0.100	ng	#	73
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.14	62	229	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	916305	7.469	ng		100
42) Carbon Tetrachloride	13.04	117	2364	0.057	ng		92
43) Cyclohexane	13.18	84	193934	4.242	ng		99
44) tert-Amyl Methyl Ether	13.45	73	904	N.D.			
45) 1,2-Dichloropropane	13.56	63	503	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	13.97	130	951	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022009.D Vial: 3
Acq On : 2 May 2020 14:24 Operator: TD
Sample : P2002104-013 (150mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:42:26 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

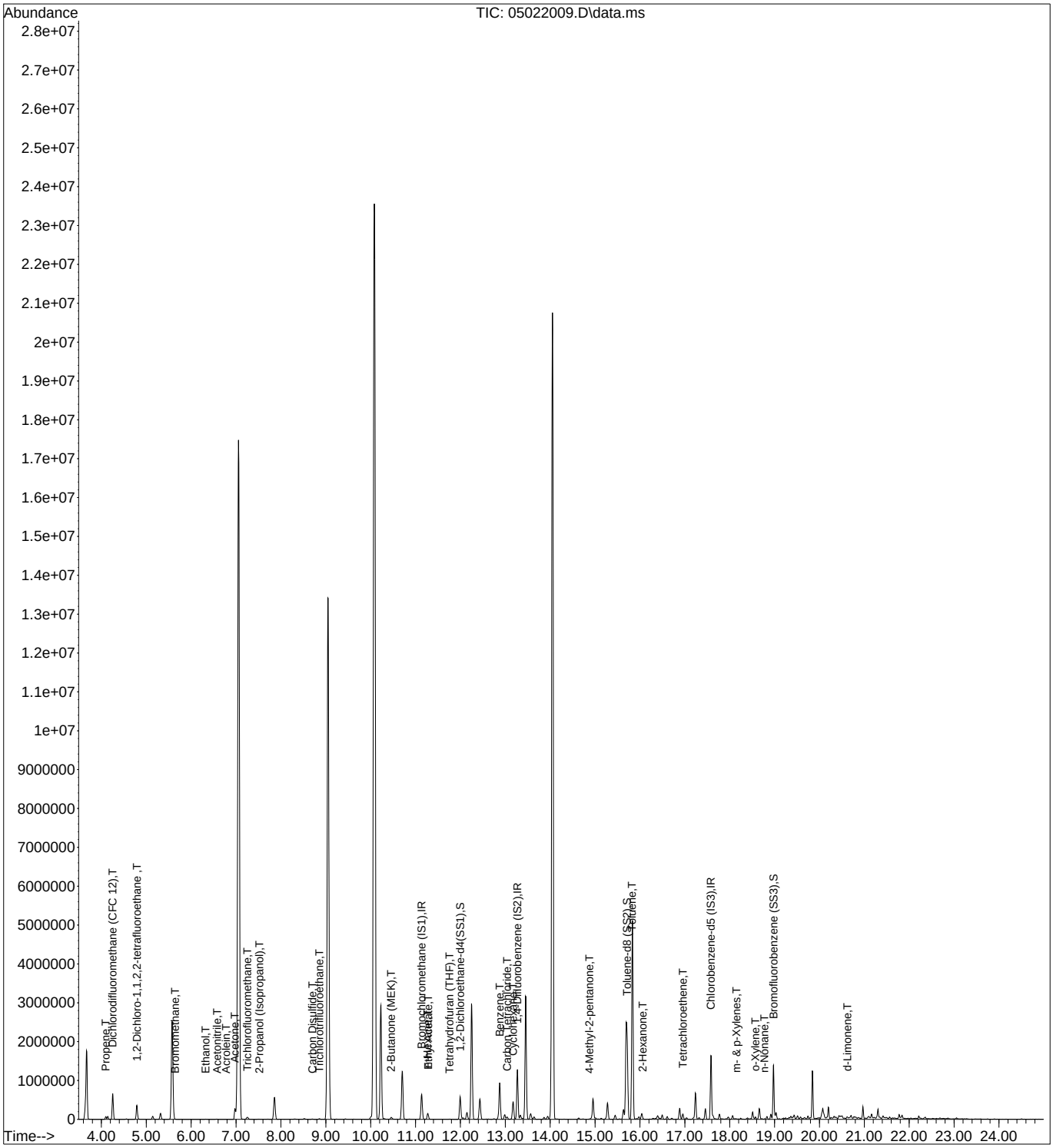
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.30	71	1250	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.88	58	1887	0.069 ng		82
54) trans-1,3-Dichloropropene	0.00	75	0	N.D. d		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d		
58) Toluene	15.82	91	45781	0.377 ng		100
59) 2-Hexanone	16.06	43	7618m	0.114 ng		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.71	43	2498	N.D.		
63) n-Octane	0.00	57	0	N.D. d		
64) Tetrachloroethene	16.96	166	5894	0.172 ng		100
65) Chlorobenzene	0.00	112	0	N.D. d		
66) Ethylbenzene	17.98	91	3949	N.D.		
67) m- & p-Xylenes	18.15	91	10319	0.096 ng		95
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.48	104	511	N.D.		
70) o-Xylene	18.58	91	13886	0.127 ng		99
71) n-Nonane	18.77	43	4786	0.083 ng		94
72) 1,1,2,2-Tetrachloroethane	18.59	83	181	N.D.		
74) Cumene	19.10	105	1930	N.D.		
75) alpha-Pinene	19.44	93	242	N.D.		
76) n-Propylbenzene	19.56	91	4897	N.D.		
77) 3-Ethyltoluene	19.64	105	2246	N.D.		
78) 4-Ethyltoluene	19.68	105	1175	N.D.		
79) 1,3,5-Trimethylbenzene	19.74	105	2094	N.D.		
80) alpha-Methylstyrene	19.88	118	898	N.D.		
81) 2-Ethyltoluene	19.92	105	1809	N.D.		
82) 1,2,4-Trimethylbenzene	20.11	105	3471	N.D.		
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.20	91	2384	N.D.		
85) 1,3-Dichlorobenzene	20.25	146	506	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	705	N.D.		
87) sec-Butylbenzene	20.35	105	1930	N.D.		
88) 4-Isopropyltoluene (p-...	20.48	119	899	N.D.		
89) 1,2,3-Trimethylbenzene	20.48	105	2056	N.D.		
90) 1,2-Dichlorobenzene	20.61	146	367	N.D.		
91) d-Limonene	20.62	68	2891	0.067 ng	#	73
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.11	180	791	N.D.		
95) Naphthalene	22.22	128	4788	N.D.		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	20.07	119	4956	N.D.		
100) n-Butylbenzene	20.85	91	1924	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022009.D Vial: 3
Acq On : 2 May 2020 14:24 Operator: TD
Sample : P2002104-013 (150mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:42:26 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022009.D Vial: 3
Acq On : 2 May 2020 14:24 Operator: TD
Sample : P2002104-013 (150mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:42:26 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/4/20

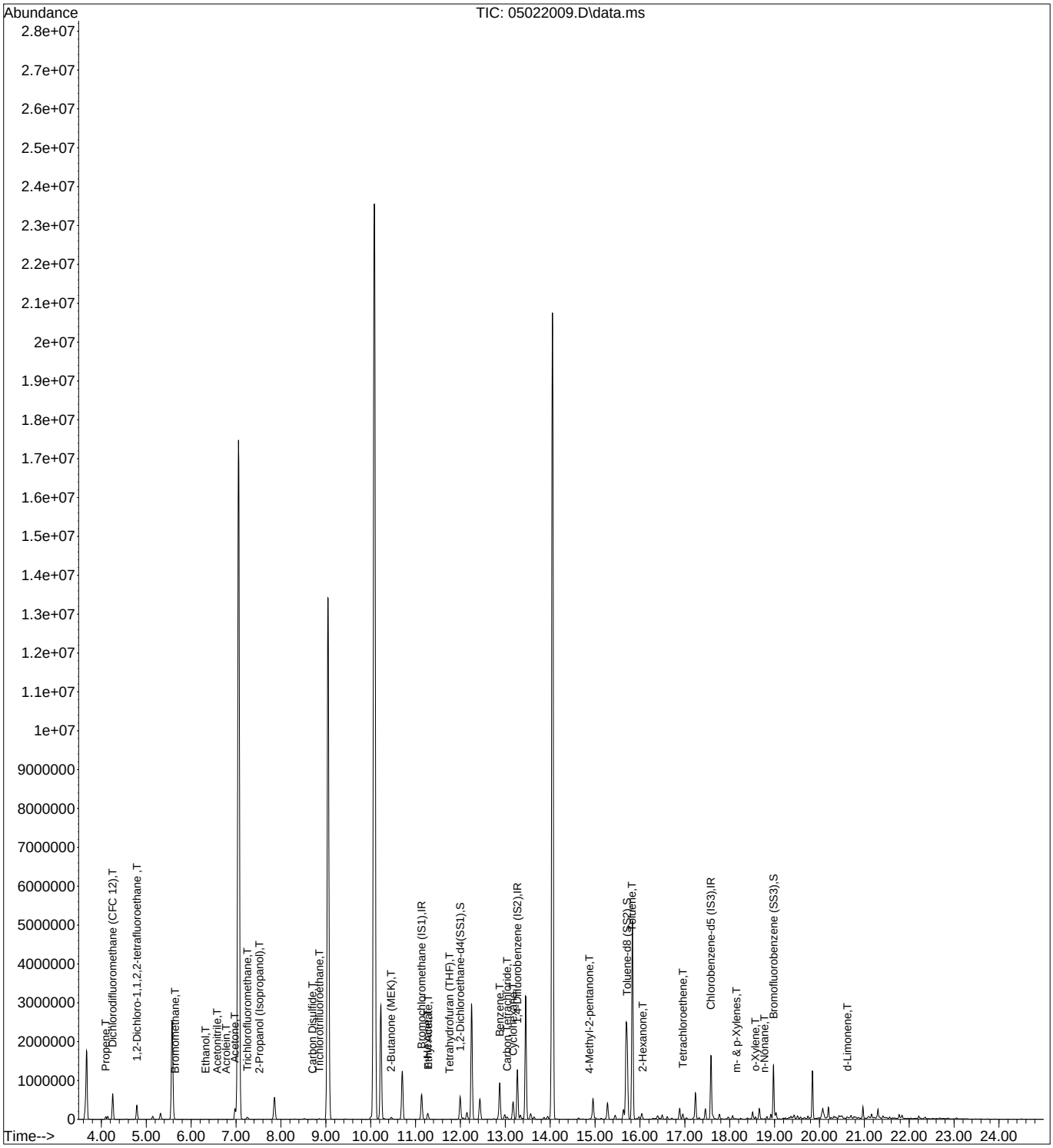
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	260138	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1144003	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	555736	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	446338	12.660	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.28%				
57) Toluene-d8 (SS2)	15.72	98	1189103	12.624	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.96%				
73) Bromofluorobenzene (SS3)	18.98	174	402598	11.878	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.04%				
Target Compounds							Qvalue
2) Propene	4.10	42	24657	0.818	ng		97
3) Dichlorodifluoromethan...	4.25	85	662421	11.241	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	13039	0.370	ng		97
8) Bromomethane	5.64	94	1758	0.066	ng		93
10) Ethanol	6.32	45	8016	0.345	ng		88
11) Acetonitrile	6.58	41	5678	0.107	ng		92
12) Acrolein	6.78	56	1829	0.099	ng		94
13) Acetone	6.97	58	119201	5.123	ng		99
14) Trichlorofluoromethane	7.25	101	61188	1.175	ng		99
15) 2-Propanol (Isopropanol)	7.52	45	4769	0.068	ng	#	1
21) Trichlorotrifluoroethane	8.86	151	6965	0.283	ng		96
22) Carbon Disulfide	8.70	76	16409	0.151	ng		97
27) 2-Butanone (MEK)	10.46	72	18095	0.912	ng		97
30) Ethyl Acetate	11.28	61	2725	0.238	ng		79
31) n-Hexane	11.27	57	75450	1.520	ng		98
34) Tetrahydrofuran (THF)	11.76	72	1927	0.100	ng	#	73
41) Benzene	12.87	78	916305	7.469	ng		100
42) Carbon Tetrachloride	13.04	117	2364	0.057	ng		92
43) Cyclohexane	13.18	84	193934	4.242	ng		99
53) 4-Methyl-2-pentanone	14.88	58	1887	0.069	ng		82
58) Toluene	15.82	91	45781	0.377	ng		100
59) 2-Hexanone	16.06	43	7618m	0.114	ng		
64) Tetrachloroethene	16.96	166	5894	0.172	ng		100
67) m- & p-Xylenes	18.15	91	10319	0.096	ng		95
70) o-Xylene	18.58	91	13886	0.127	ng		99
71) n-Nonane	18.77	43	4786	0.083	ng		94
91) d-Limonene	20.62	68	2891	0.067	ng	#	73

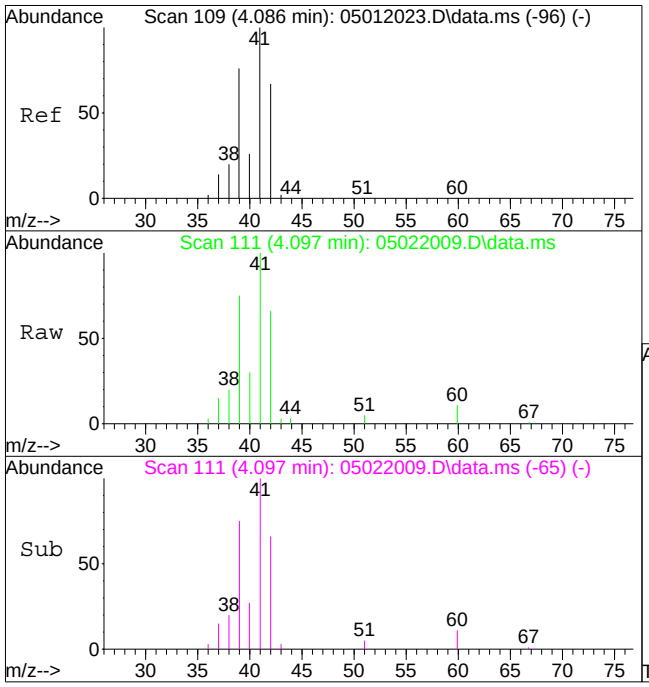
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022009.D Vial: 3
Acq On : 2 May 2020 14:24 Operator: TD
Sample : P2002104-013 (150mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:42:26 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

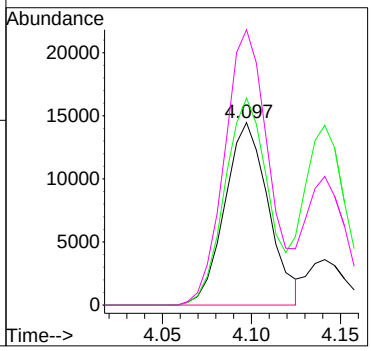


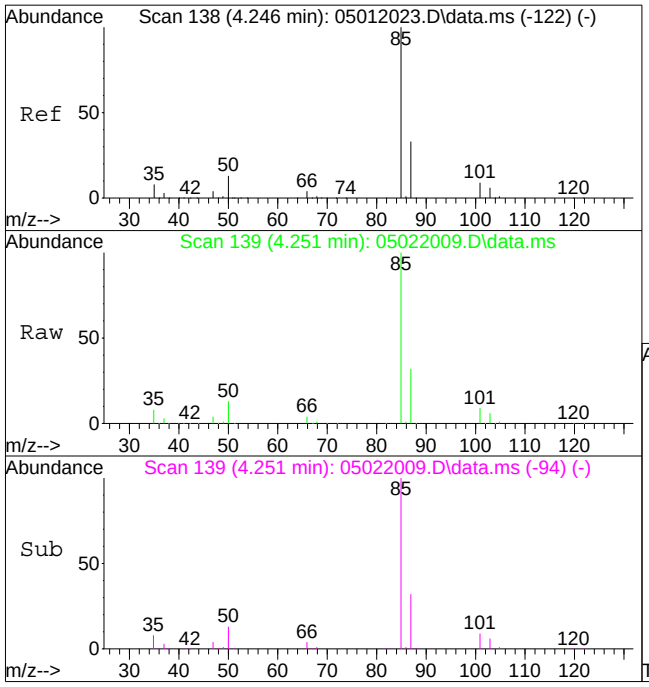


#2
Propene
Concen: 0.82 ng
RT: 4.10 min Scan# 111
Delta R.T. 0.005 min
Lab File: 05022009.D
Acq: 2 May 2020 14:24

Tgt Ion: 42 Resp: 24657

Ion	Ratio	Lower	Upper
42	100		
39	113.0	96.1	136.1
41	155.0	131.9	171.9

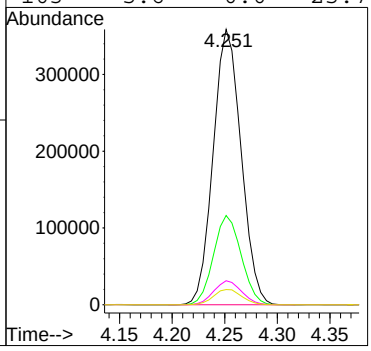


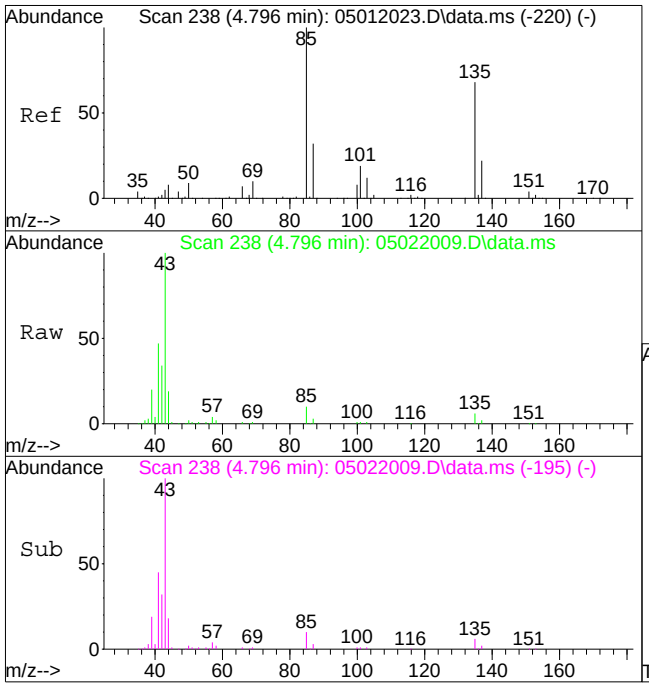


#3
Dichlorodifluoromethane (CFC 12)
Concen: 11.24 ng
RT: 4.25 min Scan# 139
Delta R.T. -0.000 min
Lab File: 05022009.D
Acq: 2 May 2020 14:24

Tgt Ion: 85 Resp: 662421

Ion	Ratio	Lower	Upper
85	100		
87	32.1	12.4	52.4
101	8.7	0.0	28.8
103	5.6	0.0	25.7

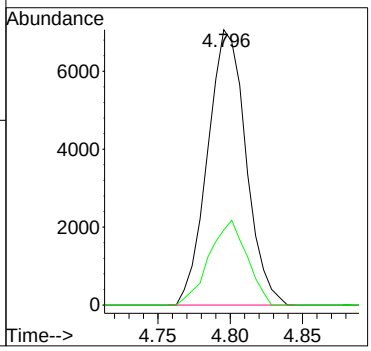


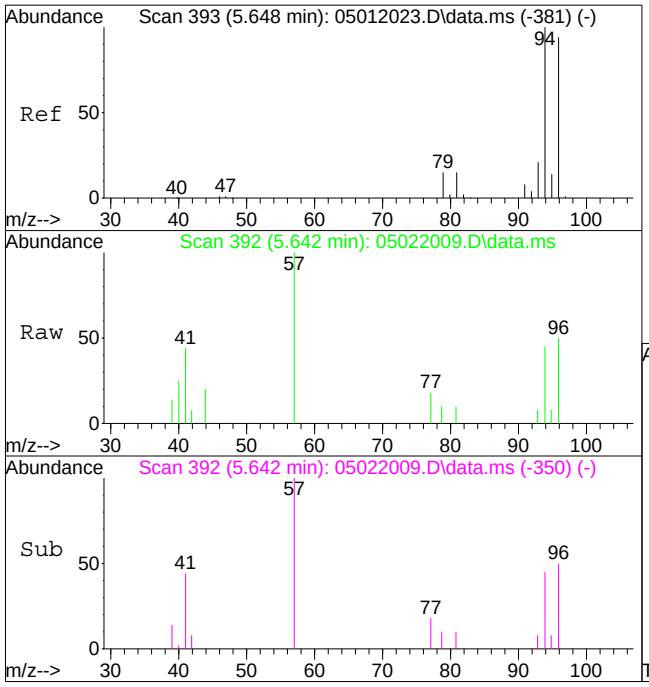


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 0.37 ng
RT: 4.80 min Scan# 238
Delta R.T. -0.011 min
Lab File: 05022009.D
Acq: 2 May 2020 14:24

Tgt Ion:135 Resp: 13039

Ion	Ratio	Lower	Upper
135	100		
137	30.3	12.1	52.1

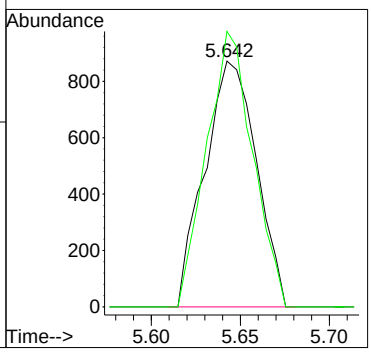


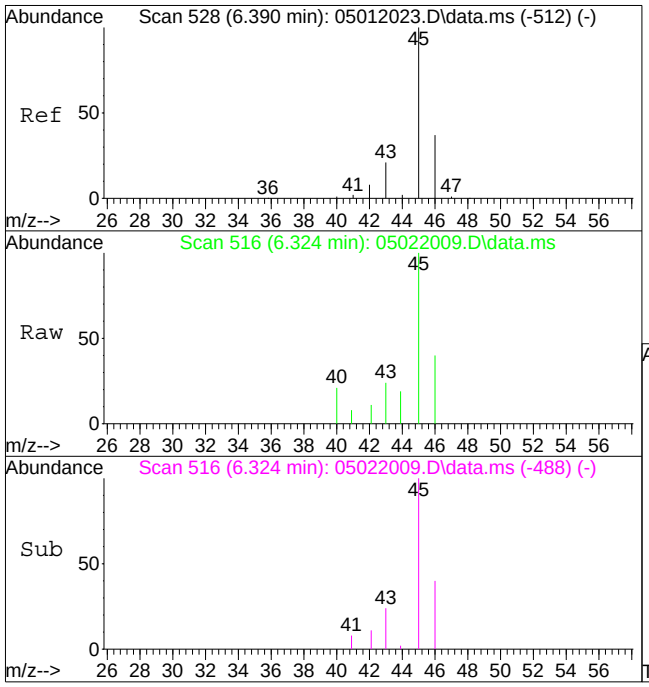


#8
Bromomethane
Concen: 0.07 ng
RT: 5.64 min Scan# 392
Delta R.T. -0.017 min
Lab File: 05022009.D
Acq: 2 May 2020 14:24

Tgt Ion: 94 Resp: 1758

Ion	Ratio	Lower	Upper
94	100		
96	100.3	73.7	113.7

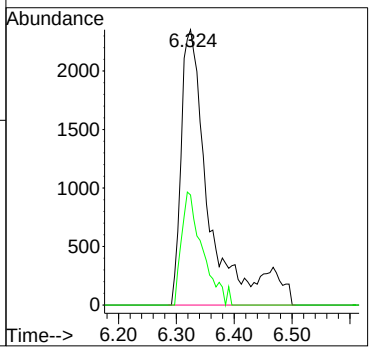


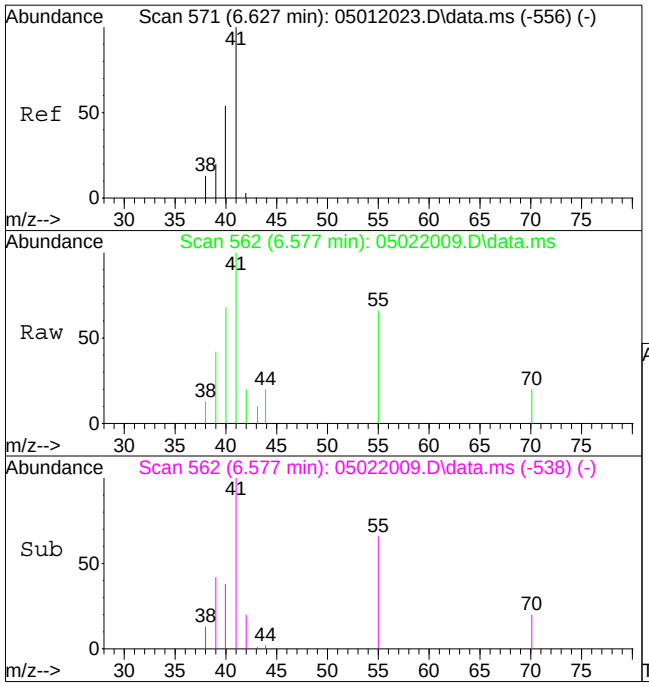


#10
Ethanol
Concen: 0.34 ng
RT: 6.32 min Scan# 516
Delta R.T. -0.094 min
Lab File: 05022009.D
Acq: 2 May 2020 14:24

Tgt Ion: 45 Resp: 8016

Ion	Ratio	Lower	Upper
45	100		
46	30.3	17.2	57.2

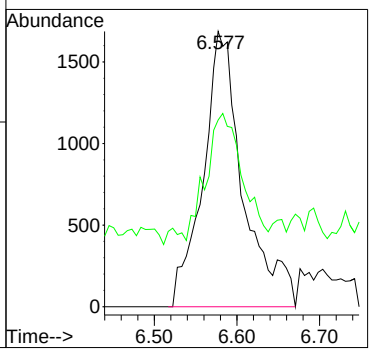


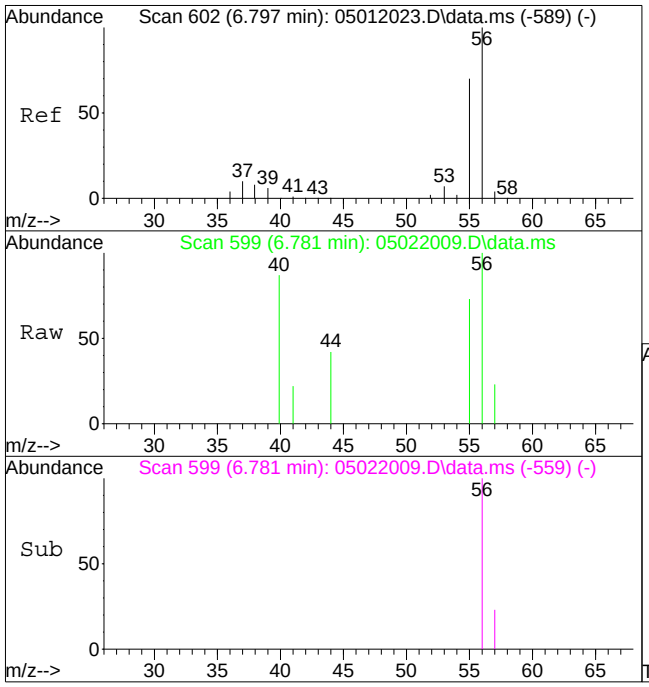


#11
Acetonitrile
Concen: 0.11 ng
RT: 6.58 min Scan# 562
Delta R.T. -0.066 min
Lab File: 05022009.D
Acq: 2 May 2020 14:24

Tgt Ion: 41 Resp: 5678

Ion	Ratio	Lower	Upper
41	100		
40	47.9	33.6	73.6

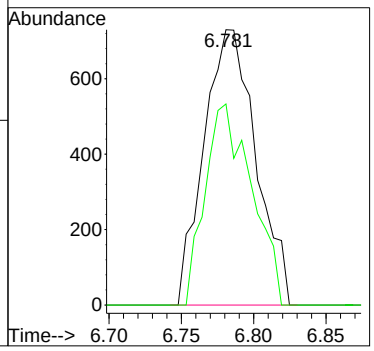


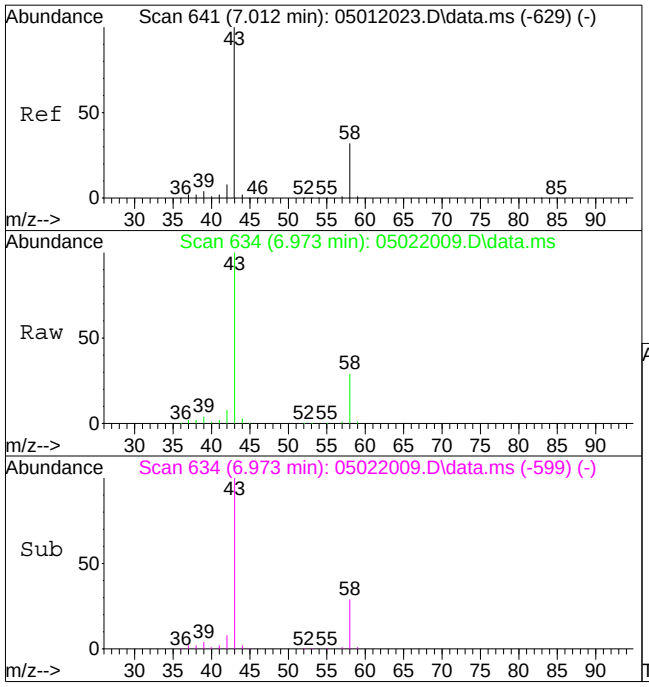


#12
Acrolein
Concen: 0.10 ng
RT: 6.78 min Scan# 599
Delta R.T. -0.028 min
Lab File: 05022009.D
Acq: 2 May 2020 14:24

Tgt Ion: 56 Resp: 1829

Ion	Ratio	Lower	Upper
56	100		
55	65.3	50.2	90.2

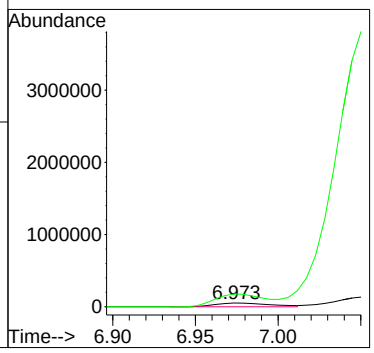


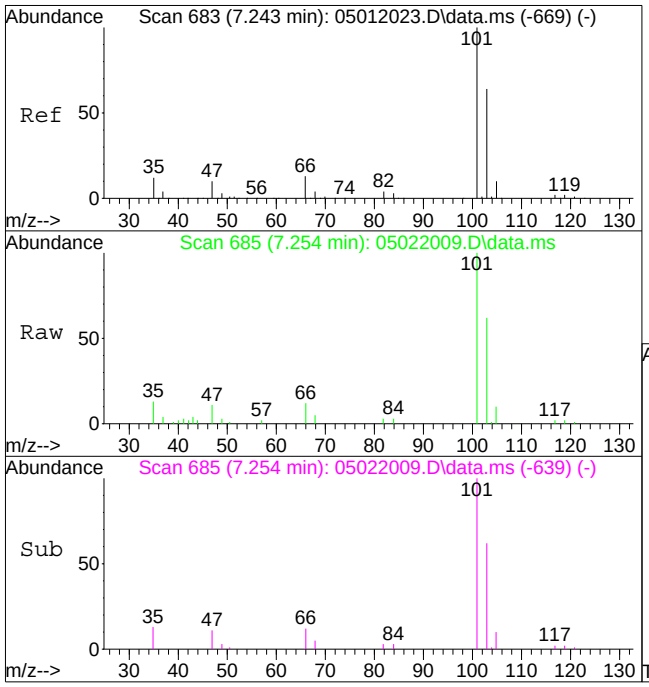


#13
Acetone
Concen: 5.12 ng
RT: 6.97 min Scan# 634
Delta R.T. -0.055 min
Lab File: 05022009.D
Acq: 2 May 2020 14:24

Tgt Ion: 58 Resp: 119201

Ion	Ratio	Lower	Upper
58	100		
43	323.0	294.4	354.4

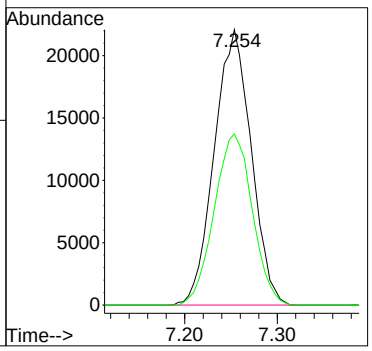


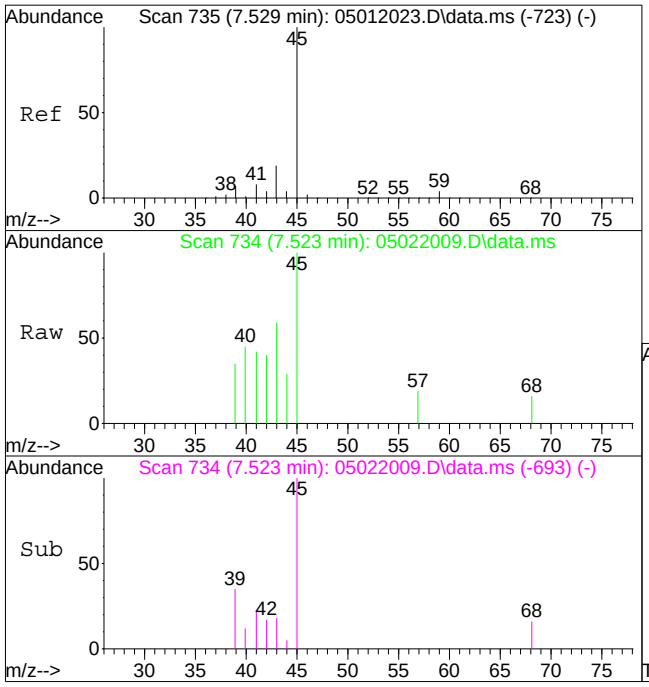


#14
Trichlorofluoromethane
Concen: 1.17 ng
RT: 7.25 min Scan# 685
Delta R.T. 0.005 min
Lab File: 05022009.D
Acq: 2 May 2020 14:24

Tgt Ion:101 Resp: 61188

Ion	Ratio	Lower	Upper
101	100		
103	64.0	44.4	84.4

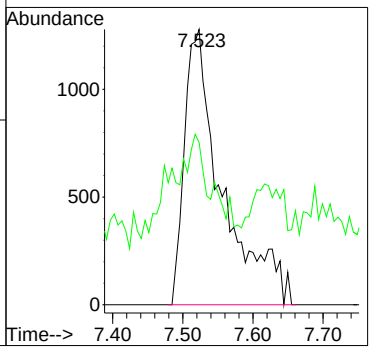


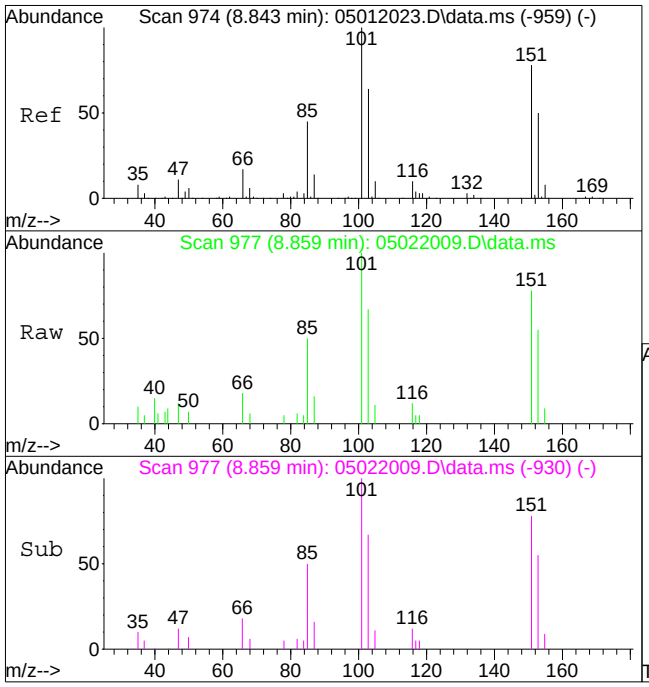


#15
2-Propanol (Isopropanol)
Concen: 0.07 ng
RT: 7.52 min Scan# 734
Delta R.T. -0.022 min
Lab File: 05022009.D
Acq: 2 May 2020 14:24

Tgt Ion: 45 Resp: 4769

Ion	Ratio	Lower	Upper
45	100		
43	71.6	0.0	39.5#

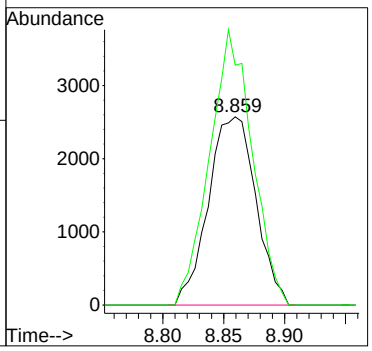


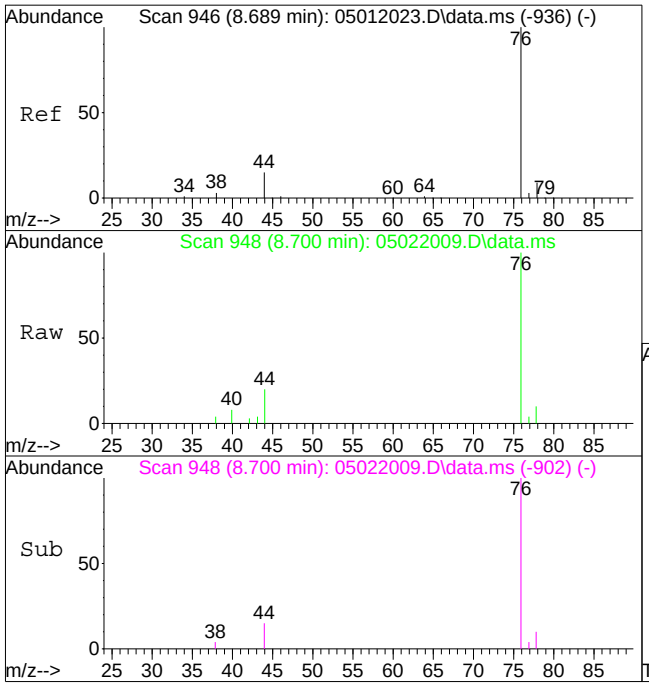


#21
Trichlorotrifluoroethane
Concen: 0.28 ng
RT: 8.86 min Scan# 977
Delta R.T. 0.011 min
Lab File: 05022009.D
Acq: 2 May 2020 14:24

Tgt Ion:151 Resp: 6965

Ion	Ratio	Lower	Upper
151	100		
101	131.3	107.3	147.3

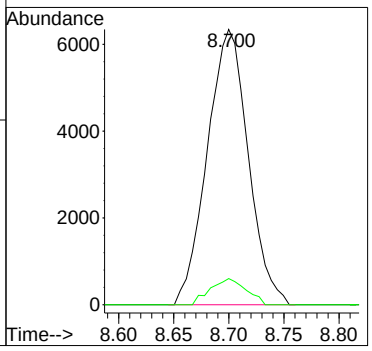


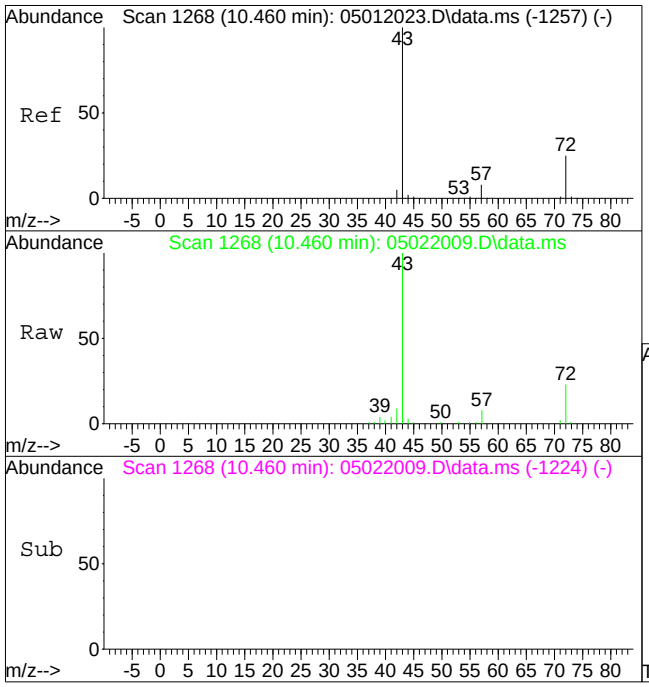


#22
Carbon Disulfide
Concen: 0.15 ng
RT: 8.70 min Scan# 948
Delta R.T. 0.005 min
Lab File: 05022009.D
Acq: 2 May 2020 14:24

Tgt Ion: 76 Resp: 16409

Ion	Ratio	Lower	Upper
76	100		
78	8.3	0.0	29.2

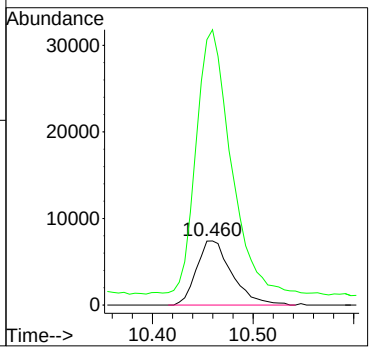


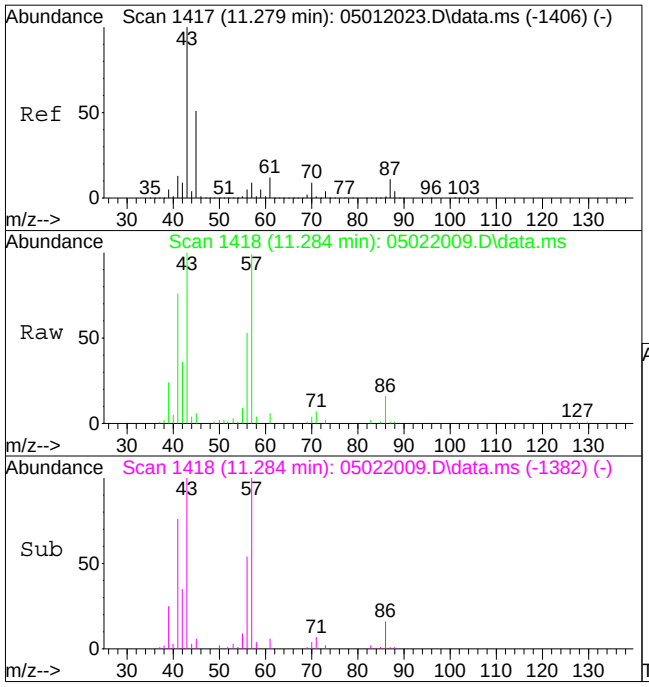


#27
2-Butanone (MEK)
Concen: 0.91 ng
RT: 10.46 min Scan# 1268
Delta R.T. -0.006 min
Lab File: 05022009.D
Acq: 2 May 2020 14:24

Tgt Ion: 72 Resp: 18095

Ion	Ratio	Lower	Upper
72	100		
43	417.1	389.7	429.7

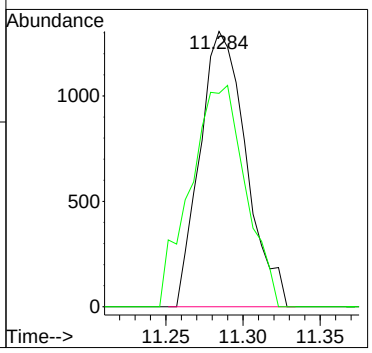


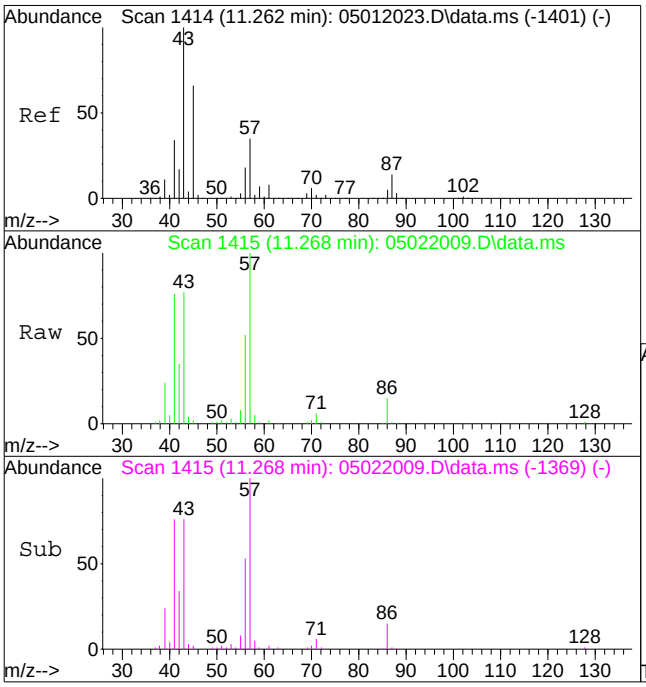


#30
Ethyl Acetate
Concen: 0.24 ng
RT: 11.28 min Scan# 1418
Delta R.T. -0.000 min
Lab File: 05022009.D
Acq: 2 May 2020 14:24

Tgt Ion: 61 Resp: 2725

Ion	Ratio	Lower	Upper
61	100		
70	95.8	57.9	97.9

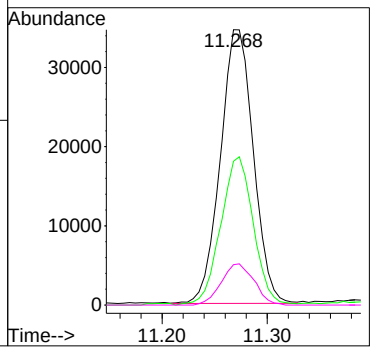


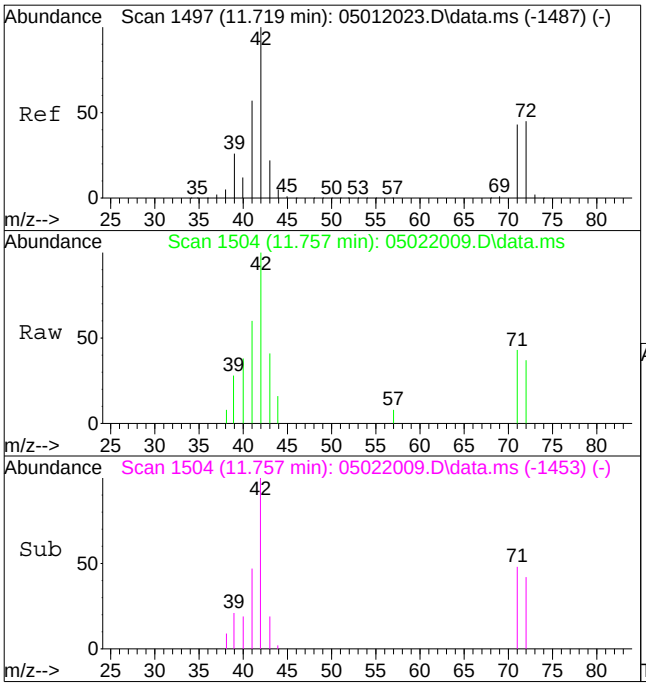


#31
n-Hexane
Concen: 1.52 ng
RT: 11.27 min Scan# 1415
Delta R.T. 0.005 min
Lab File: 05022009.D
Acq: 2 May 2020 14:24

Tgt Ion: 57 Resp: 75450

Ion	Ratio	Lower	Upper
57	100		
56	53.5	41.4	62.0
86	14.9	12.4	18.6

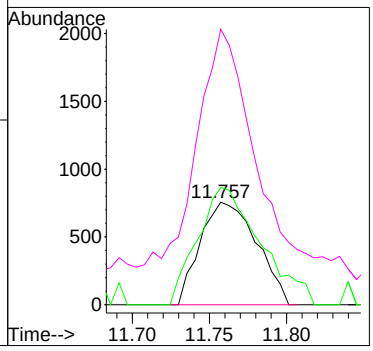


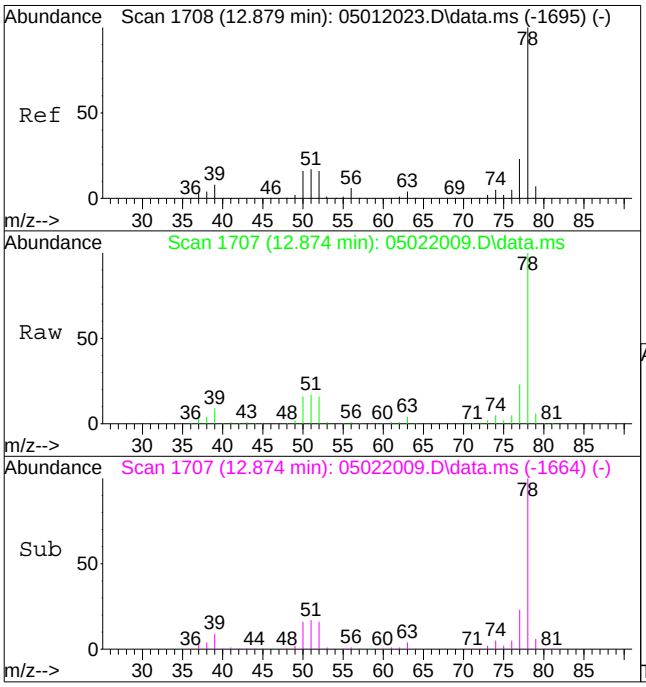


#34
Tetrahydrofuran (THF)
Concen: 0.10 ng
RT: 11.76 min Scan# 1504
Delta R.T. 0.033 min
Lab File: 05022009.D
Acq: 2 May 2020 14:24

Tgt Ion: 72 Resp: 1927

Ion	Ratio	Lower	Upper
72	100		
71	127.2	77.0	117.0#
42	266.8	204.6	244.6#

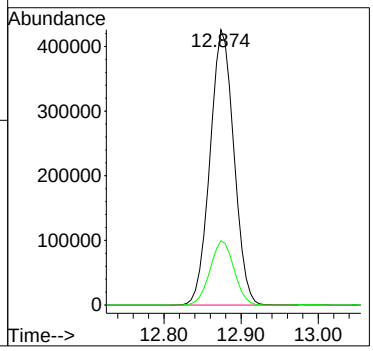


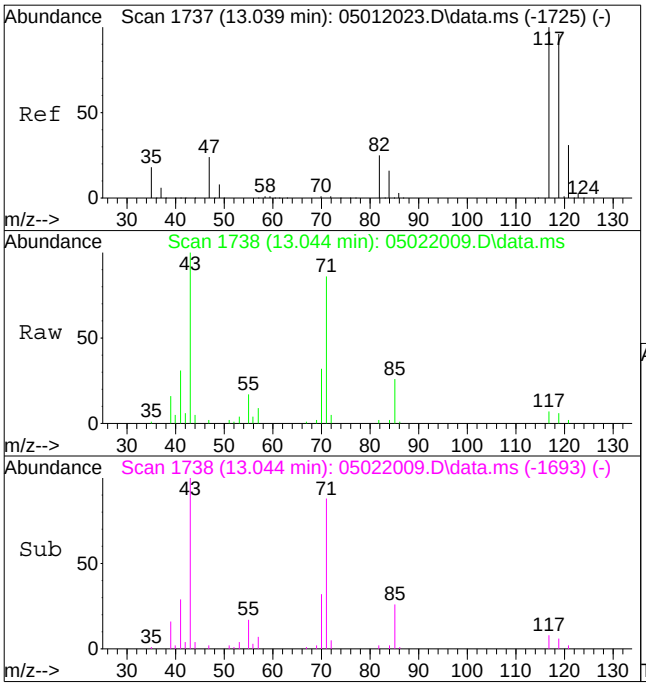


#41
Benzene
Concen: 7.47 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05022009.D
Acq: 2 May 2020 14:24

Tgt Ion: 78 Resp: 916305

Ion	Ratio	Lower	Upper
78	100		
77	23.4	3.4	43.4

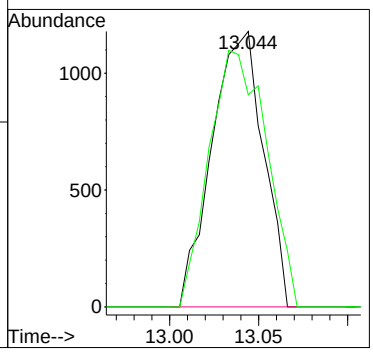


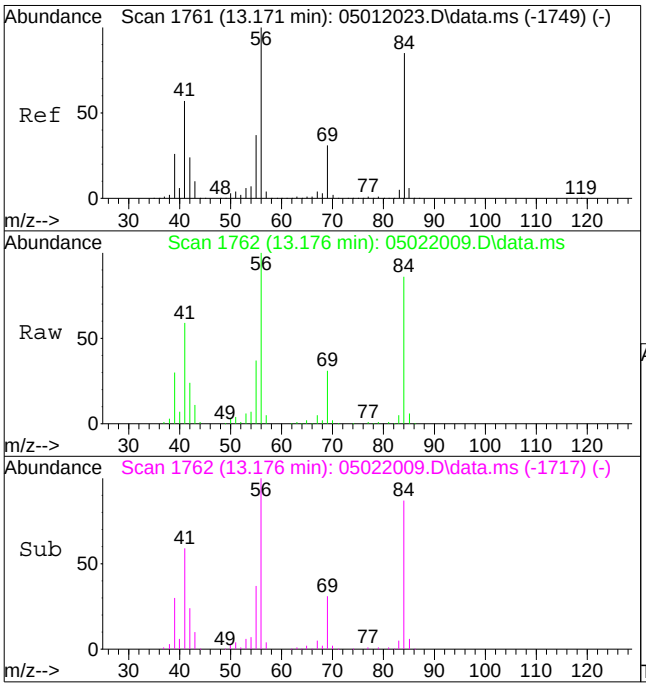


#42
Carbon Tetrachloride
Concen: 0.06 ng
RT: 13.04 min Scan# 1738
Delta R.T. -0.000 min
Lab File: 05022009.D
Acq: 2 May 2020 14:24

Tgt Ion:117 Resp: 2364

Ion	Ratio	Lower	Upper
117	100		
119	104.1	76.2	116.2

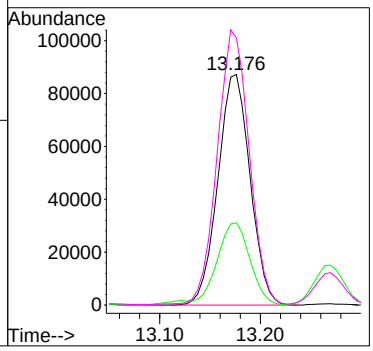


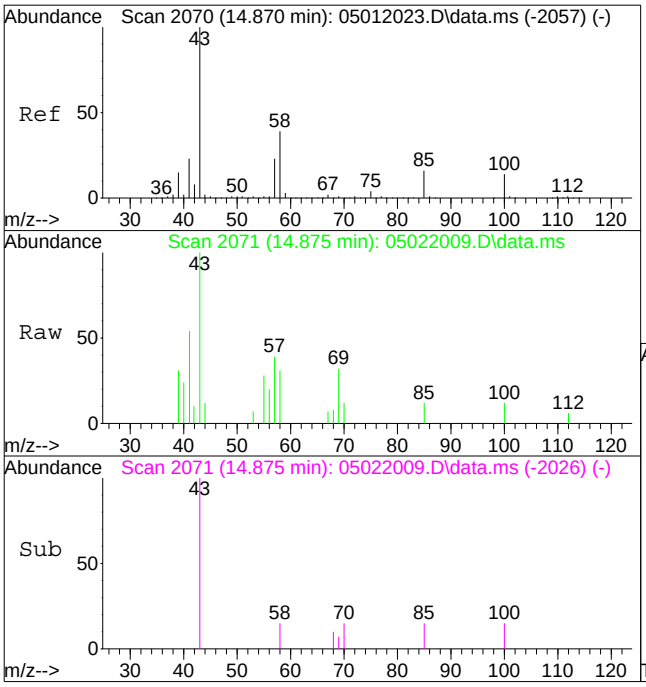


#43
Cyclohexane
Concen: 4.24 ng
RT: 13.18 min Scan# 1762
Delta R.T. -0.000 min
Lab File: 05022009.D
Acq: 2 May 2020 14:24

Tgt Ion: 84 Resp: 193934

Ion	Ratio	Lower	Upper
84	100		
69	37.8	16.5	56.5
56	118.2	97.4	137.4

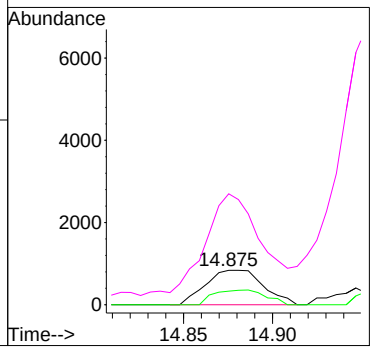


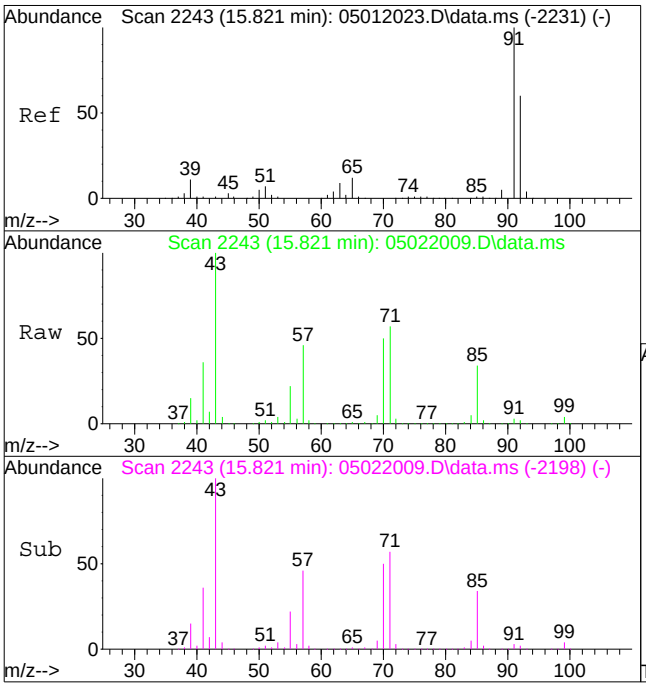


#53
4-Methyl-2-pentanone
Concen: 0.07 ng
RT: 14.88 min Scan# 2071
Delta R.T. -0.000 min
Lab File: 05022009.D
Acq: 2 May 2020 14:24

Tgt Ion: 58 Resp: 1887

Ion	Ratio	Lower	Upper
58	100		
85	38.4	35.4	53.2
43	287.6	203.3	304.9

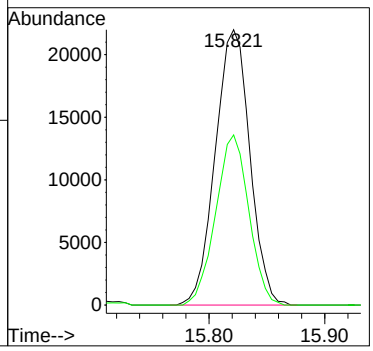


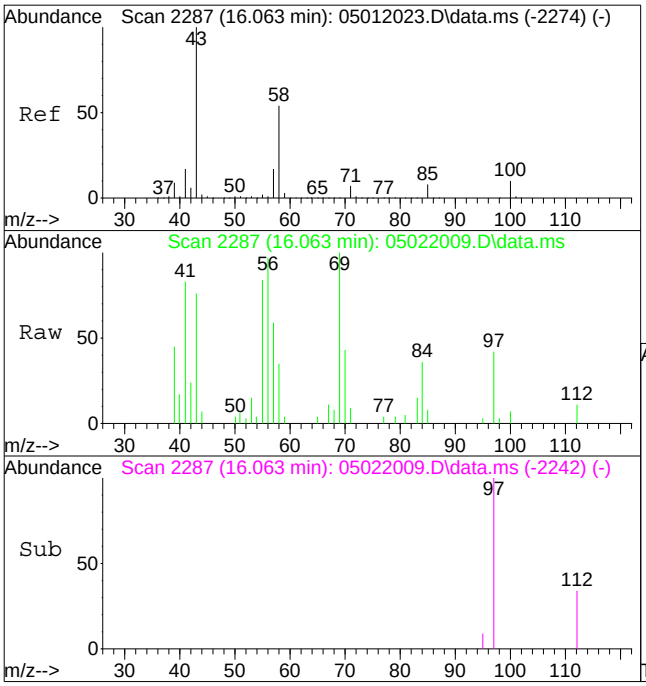


#58
Toluene
Concen: 0.38 ng
RT: 15.82 min Scan# 2243
Delta R.T. -0.000 min
Lab File: 05022009.D
Acq: 2 May 2020 14:24

Tgt Ion: 91 Resp: 45781

Ion	Ratio	Lower	Upper
91	100		
92	59.2	39.4	79.4

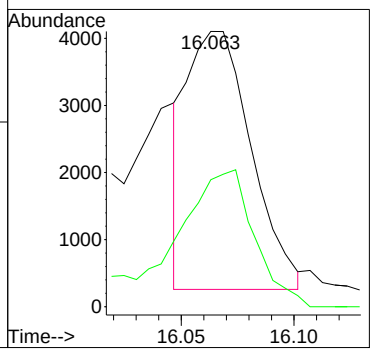


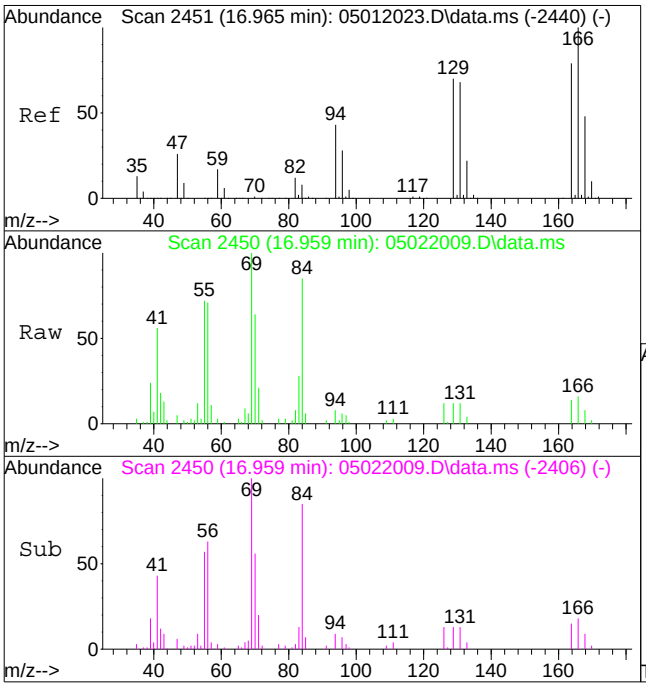


#59
2-Hexanone
Concen: 0.11 ng m
RT: 16.06 min Scan# 2287
Delta R.T. -0.000 min
Lab File: 05022009.D
Acq: 2 May 2020 14:24

Tgt Ion: 43 Resp: 7618

Ion	Ratio	Lower	Upper
43	100		
58	60.1	34.5	74.5

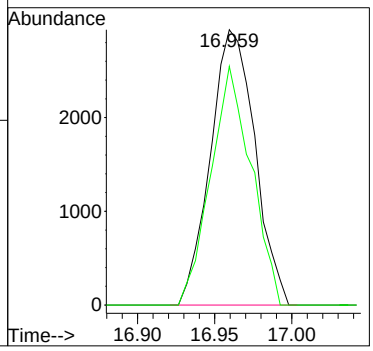


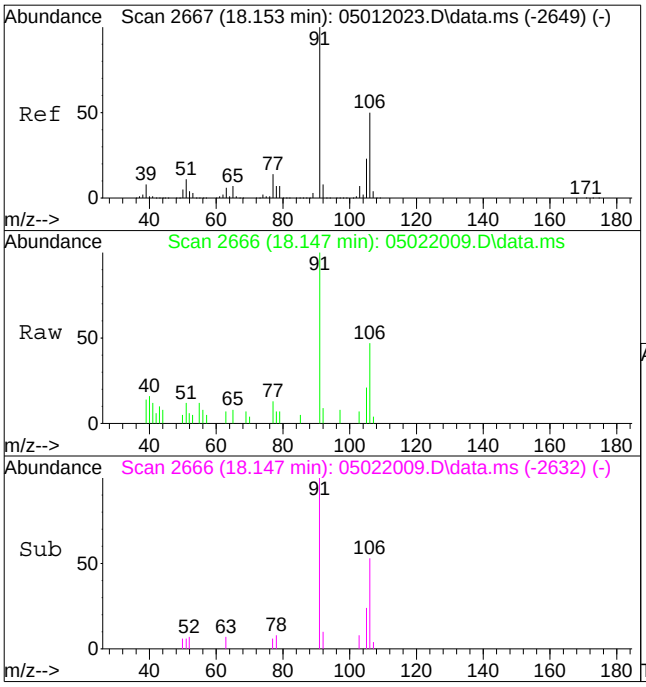


#64
Tetrachloroethene
Concen: 0.17 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05022009.D
Acq: 2 May 2020 14:24

Tgt Ion:166 Resp: 5894

Ion	Ratio	Lower	Upper
166	100		
164	78.8	58.4	98.4

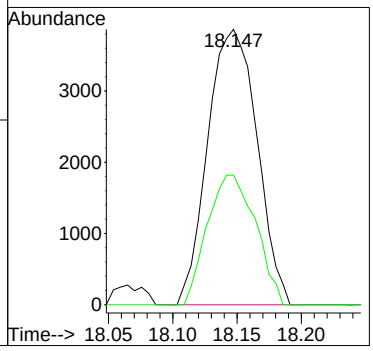


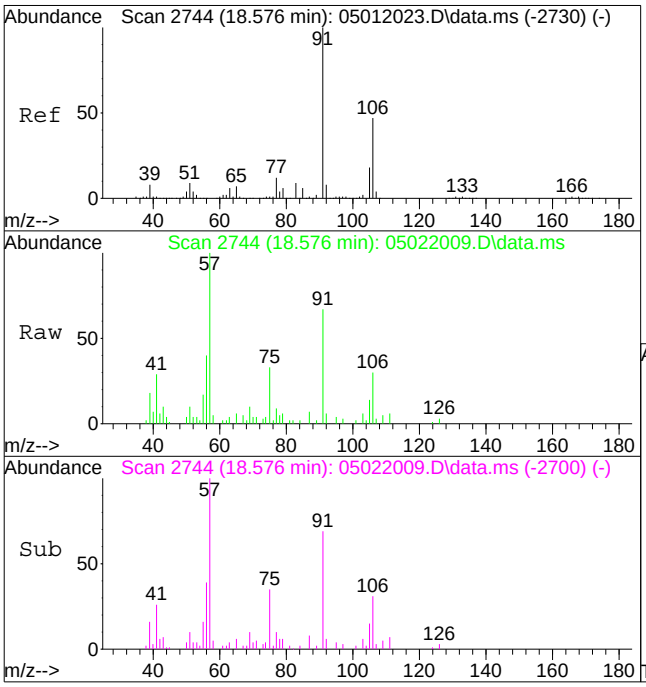


#67
m- & p-Xylenes
Concen: 0.10 ng
RT: 18.15 min Scan# 2666
Delta R.T. -0.011 min
Lab File: 05022009.D
Acq: 2 May 2020 14:24

Tgt Ion: 91 Resp: 10319

Ion	Ratio	Lower	Upper
91	100		
106	46.0	29.7	69.7

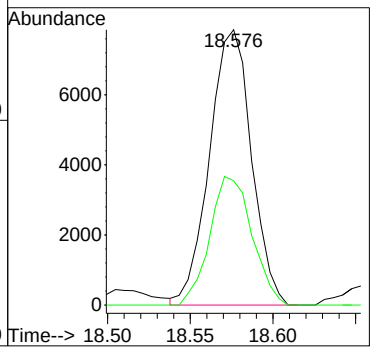


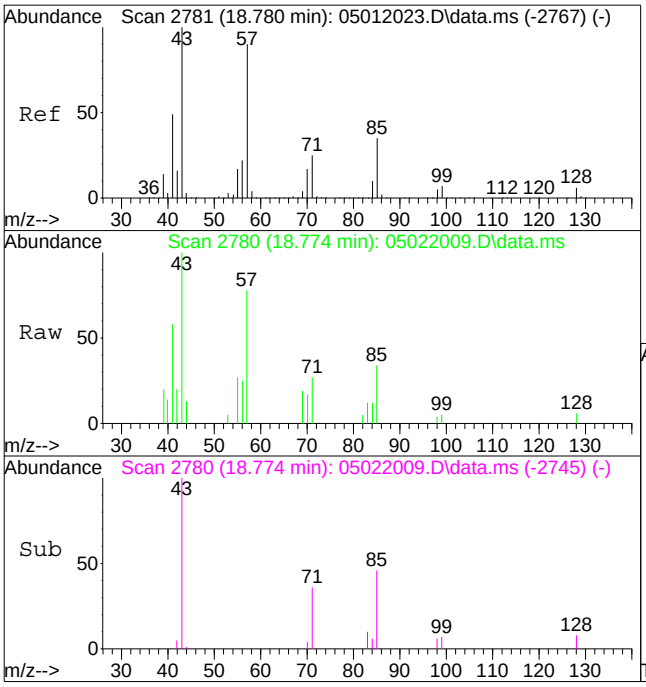


#70
o-Xylene
Concen: 0.13 ng
RT: 18.58 min Scan# 2744
Delta R.T. -0.006 min
Lab File: 05022009.D
Acq: 2 May 2020 14:24

Tgt Ion: 91 Resp: 13886

Ion	Ratio	Lower	Upper
91	100		
106	46.9	27.5	67.5

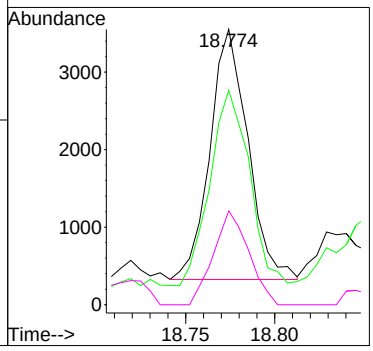


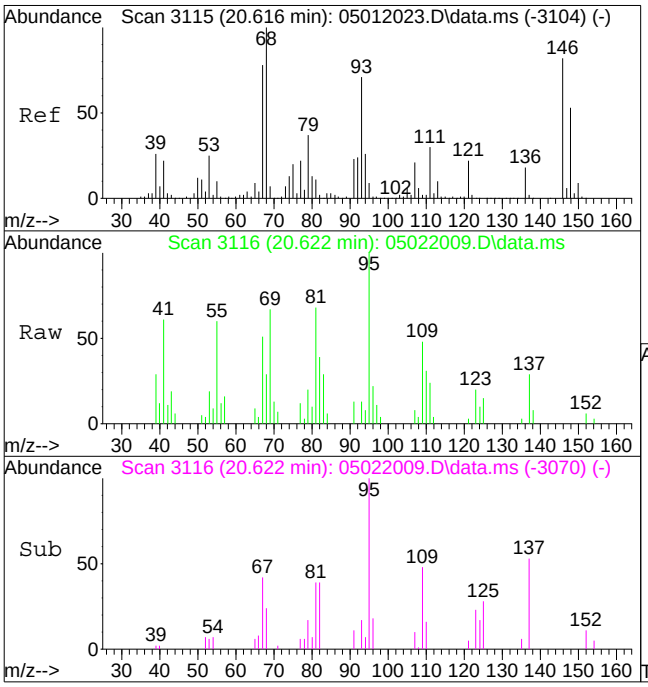


#71
n-Nonane
Concen: 0.08 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05022009.D
Acq: 2 May 2020 14:24

Tgt Ion: 43 Resp: 4786

Ion	Ratio	Lower	Upper
43	100		
57	80.8	69.0	109.0
85	34.7	14.6	54.6

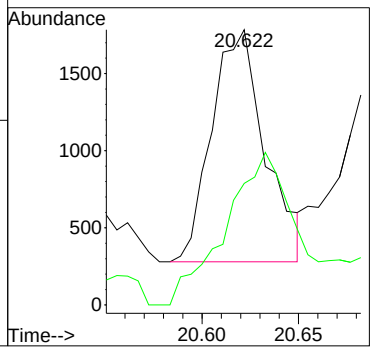




#91
d-Limonene
Concen: 0.07 ng
RT: 20.62 min Scan# 3116
Delta R.T. 0.005 min
Lab File: 05022009.D
Acq: 2 May 2020 14:24

Tgt Ion: 68 Resp: 2891

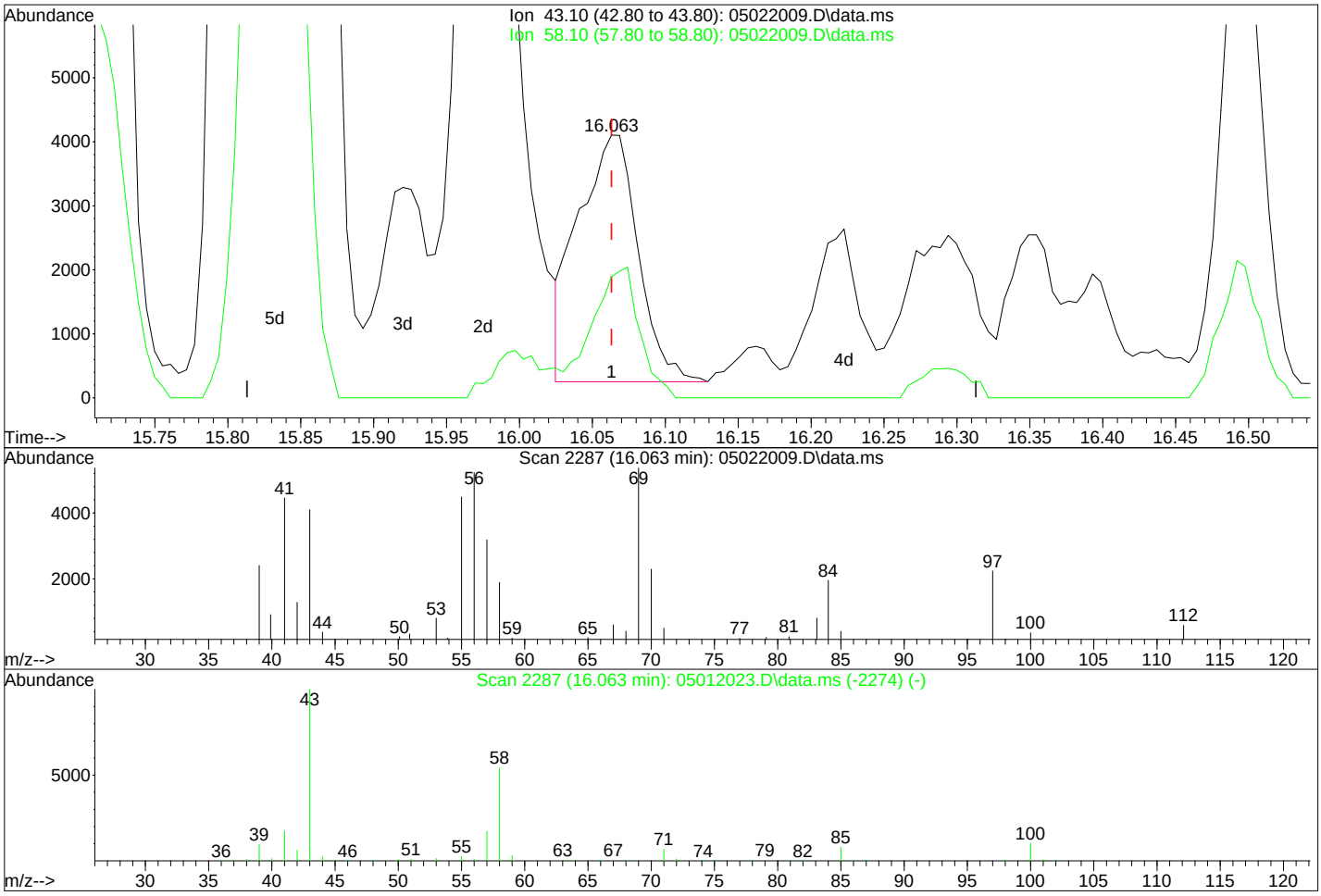
Ion	Ratio	Lower	Upper
68	100		
93	93.2	51.1	91.1#



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\02\05022009.D Vial: 3
Acq On : 2 May 2020 14:24 Operator: TD
Sample : P2002104-013 (150mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 02 20:16:16 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05022009.D\data.ms

(59) 2-Hexanone (T)

16.063min (-0.000) 0.17ng

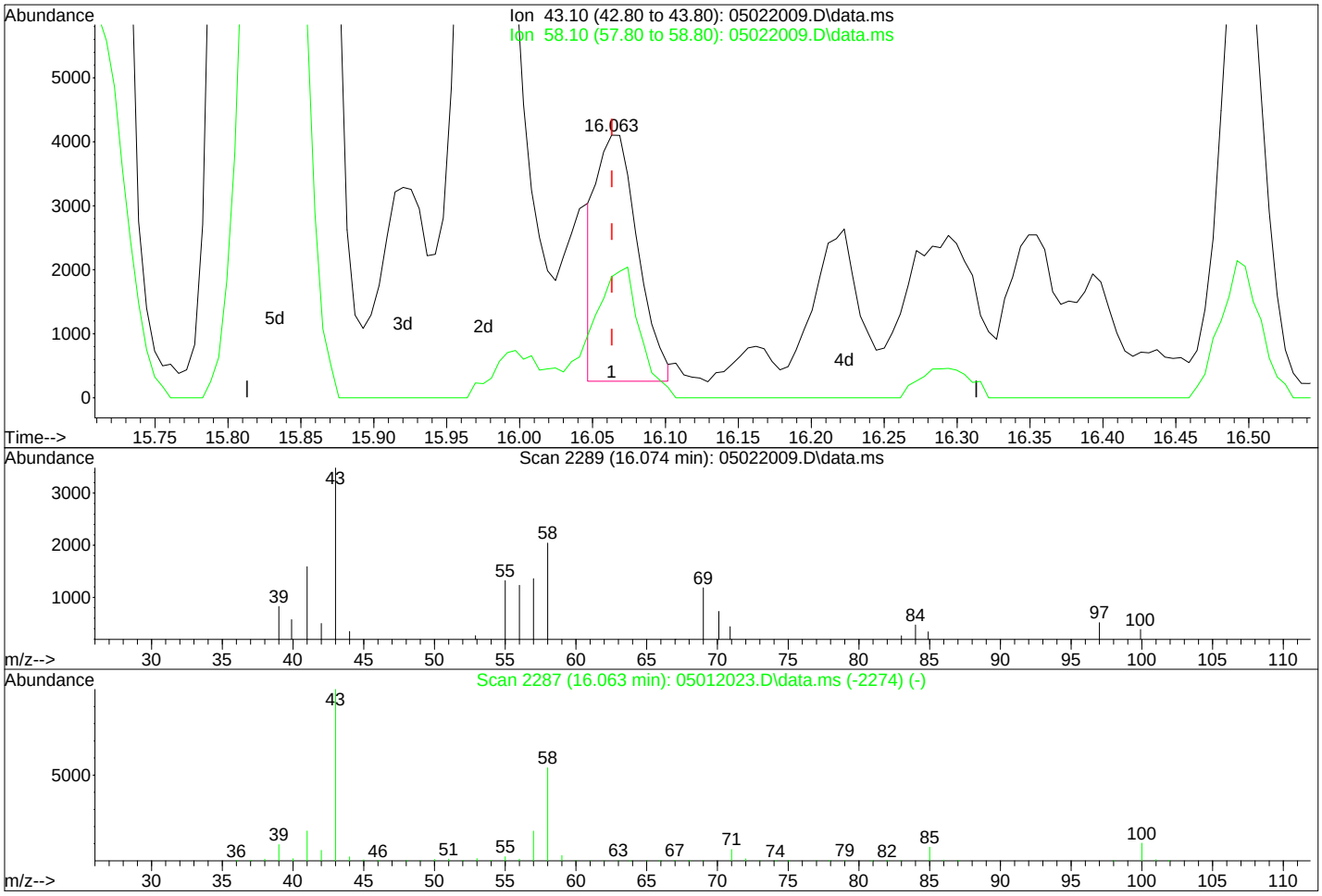
response 11039

Ion	Exp%	Act%
43.10	100	100
58.10	54.50	41.50
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\02\05022009.D Vial: 3
Acq On : 2 May 2020 14:24 Operator: TD
Sample : P2002104-013 (150mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 02 20:16:16 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05022009.D\data.ms

(59) 2-Hexanone (T)

16.063min (-0.000) 0.11ng m

response 7618

Ion	Exp%	Act%
43.10	100	100
58.10	54.50	60.13
0.00	0.00	0.00
0.00	0.00	0.00

IPC

LH 5/4/20

WA 5/4/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012049.D Vial: 16
Acq On : 2 May 2020 8:20 Operator: LH
Sample : P2002104-014 (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:32:46 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/4/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	287510	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1248156	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	601978	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	489812	12.571	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.56%				
57) Toluene-d8 (SS2)	15.72	98	1339686	13.130	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.04%				
73) Bromofluorobenzene (SS3)	18.98	174	439070	11.959	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.68%				
Target Compounds							Qvalue
2) Propene	4.12	42	3496	0.105	ng		99
3) Dichlorodifluoromethan...	4.27	85	74722	1.147	ng		99
4) Chloromethane	4.54	50	14135	0.277	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	1480	N.D.			
6) Vinyl Chloride	4.96	62	4528	0.081	ng		99
7) 1,3-Butadiene	5.22	54	111	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.98	64	1638	0.074	ng		95
10) Ethanol	6.40	45	116	N.D.			
11) Acetonitrile	6.60	41	463	N.D.			
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	7.24	101	6850	0.119	ng		100
15) 2-Propanol (Isopropanol)	7.54	45	1083	N.D.			
16) Acrylonitrile	7.83	53	754	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.39	84	342	N.D.			
20) 3-Chloro-1-propene (Al...	8.50	41	369	N.D.			
21) Trichlorotrifluoroethane	8.85	151	570	N.D.			
22) Carbon Disulfide	8.68	76	207672	1.734	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	9.94	63	2219	N.D.			
25) Methyl tert-Butyl Ether	10.06	73	1800	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.49	72	345	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	11.30	61	109	N.D.			
31) n-Hexane	11.26	57	15049	0.274	ng		98
32) Chloroform	11.30	83	855	N.D.			
34) Tetrahydrofuran (THF)	11.75	72	6606	0.309	ng	#	88
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.10	62	1201	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	12.87	61	1071	N.D.			
40) 1-Butanol	12.87	56	759	N.D.			
41) Benzene	12.87	78	169223	1.264	ng		100
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	13.17	84	12473	0.250	ng		99
44) tert-Amyl Methyl Ether	13.45	73	316	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	13.93	83	667	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012049.D Vial: 16
Acq On : 2 May 2020 8:20 Operator: LH
Sample : P2002104-014 (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:32:46 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

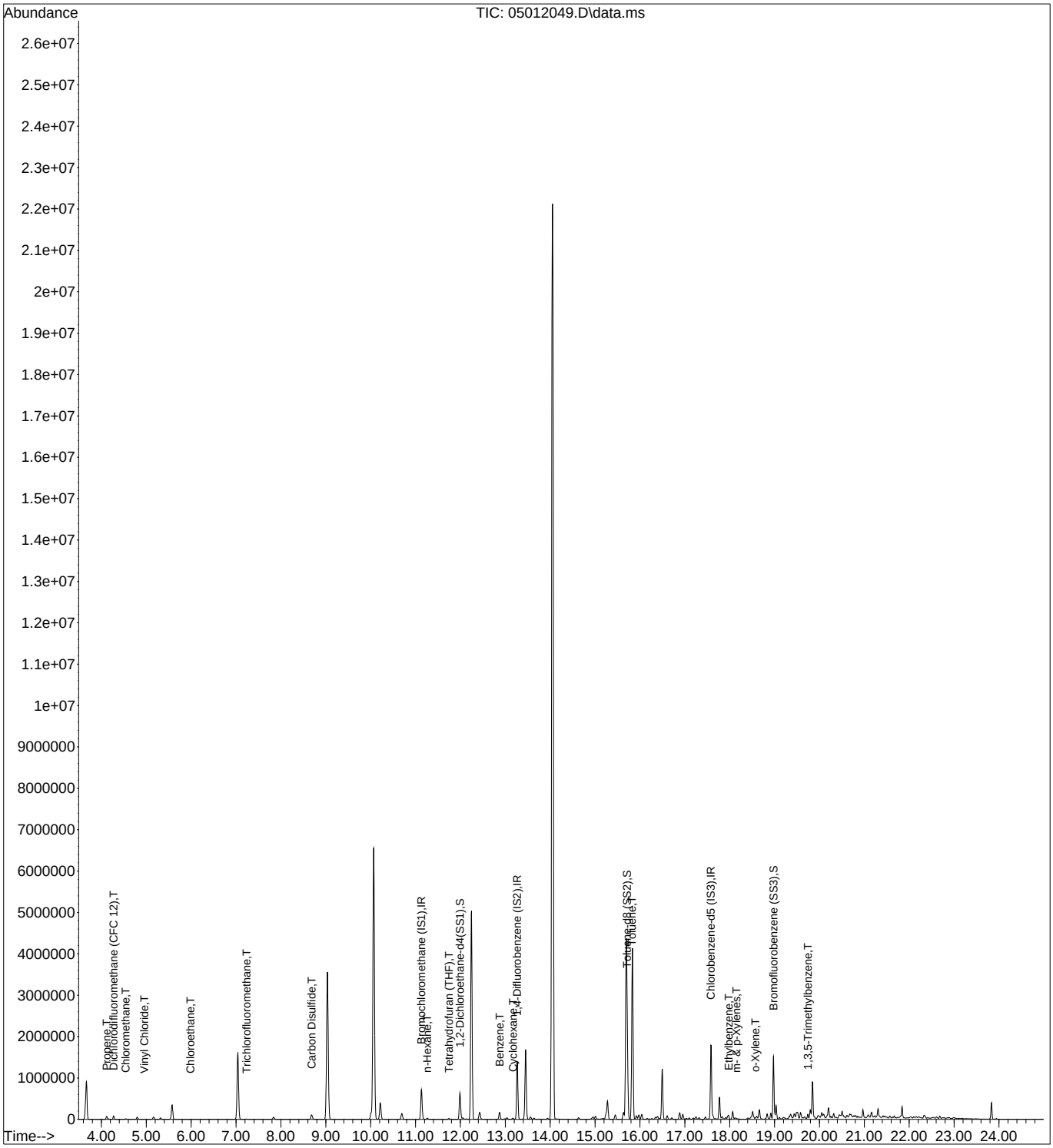
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	468	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.92	58	717	N.D.	
54) trans-1,3-Dichloropropene	15.14	75	1580	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	15.82	91	201250	1.530 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.71	43	2880	N.D.	
63) n-Octane	16.83	57	590	N.D.	
64) Tetrachloroethene	16.96	166	322	N.D.	
65) Chlorobenzene	17.63	112	3723	N.D.	
66) Ethylbenzene	17.98	91	11773	0.080 ng	98
67) m- & p-Xylenes	18.15	91	19420	0.167 ng	99
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	333	N.D.	
70) o-Xylene	18.58	91	12415	0.105 ng	97
71) n-Nonane	18.78	43	993	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	19.10	105	3116	N.D.	
75) alpha-Pinene	19.44	93	296	N.D.	
76) n-Propylbenzene	19.55	91	4249	N.D.	
77) 3-Ethyltoluene	19.64	105	2232	N.D.	
78) 4-Ethyltoluene	19.68	105	2434	N.D.	
79) 1,3,5-Trimethylbenzene	19.75	105	7608	0.064 ng	98
80) alpha-Methylstyrene	19.88	118	1310	N.D.	
81) 2-Ethyltoluene	19.91	105	1325	N.D.	
82) 1,2,4-Trimethylbenzene	20.10	105	2096	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.20	91	1872	N.D.	
85) 1,3-Dichlorobenzene	20.24	146	196	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	263	N.D.	
87) sec-Butylbenzene	20.34	105	657	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	544	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	2942	N.D.	
90) 1,2-Dichlorobenzene	20.61	146	161	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.11	180	613	N.D.	
95) Naphthalene	22.22	128	2773	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.29	55	2117	N.D.	
99) tert-Butylbenzene	20.11	119	2011	N.D.	
100) n-Butylbenzene	20.85	91	790	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012049.D Vial: 16
Acq On : 2 May 2020 8:20 Operator: LH
Sample : P2002104-014 (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:32:46 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012049.D Vial: 16
Acq On : 2 May 2020 8:20 Operator: LH
Sample : P2002104-014 (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:32:46 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/4/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

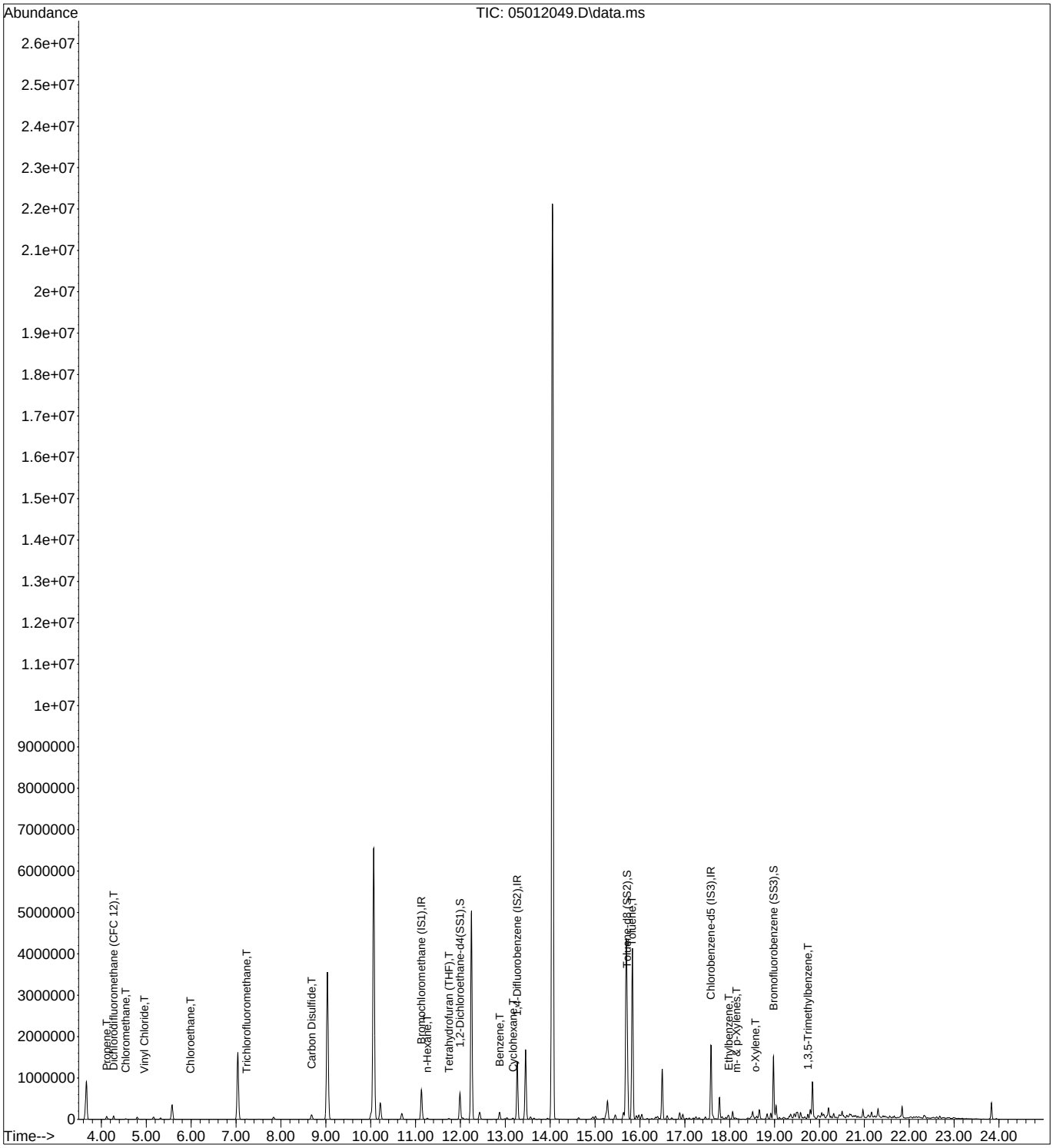
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	287510	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1248156	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	601978	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	489812	12.571	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.56%				
57) Toluene-d8 (SS2)	15.72	98	1339686	13.130	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.04%				
73) Bromofluorobenzene (SS3)	18.98	174	439070	11.959	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.68%				
Target Compounds							Qvalue
2) Propene	4.12	42	3496	0.105	ng		99
3) Dichlorodifluoromethan...	4.27	85	74722	1.147	ng		99
4) Chloromethane	4.54	50	14135	0.277	ng		98
6) Vinyl Chloride	4.96	62	4528	0.081	ng		99
9) Chloroethane	5.98	64	1638	0.074	ng		95
14) Trichlorofluoromethane	7.24	101	6850	0.119	ng		100
22) Carbon Disulfide	8.68	76	207672	1.734	ng		99
31) n-Hexane	11.26	57	15049	0.274	ng		98
34) Tetrahydrofuran (THF)	11.75	72	6606	0.309	ng	#	88
41) Benzene	12.87	78	169223	1.264	ng		100
43) Cyclohexane	13.17	84	12473	0.250	ng		99
58) Toluene	15.82	91	201250	1.530	ng		100
66) Ethylbenzene	17.98	91	11773	0.080	ng		98
67) m- & p-Xylenes	18.15	91	19420	0.167	ng		99
70) o-Xylene	18.58	91	12415	0.105	ng		97
79) 1,3,5-Trimethylbenzene	19.75	105	7608	0.064	ng		98

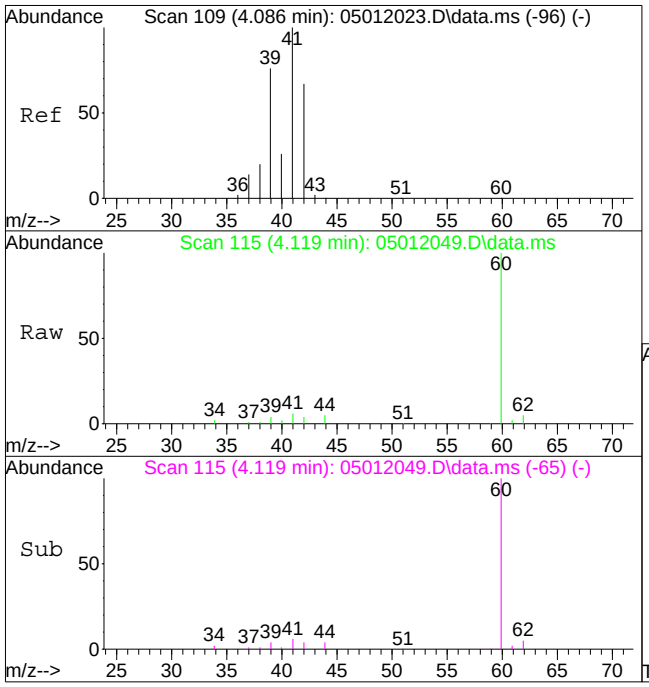
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012049.D Vial: 16
Acq On : 2 May 2020 8:20 Operator: LH
Sample : P2002104-014 (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:32:46 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

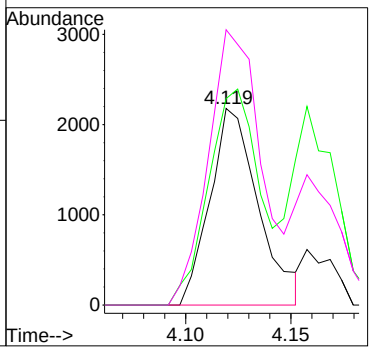


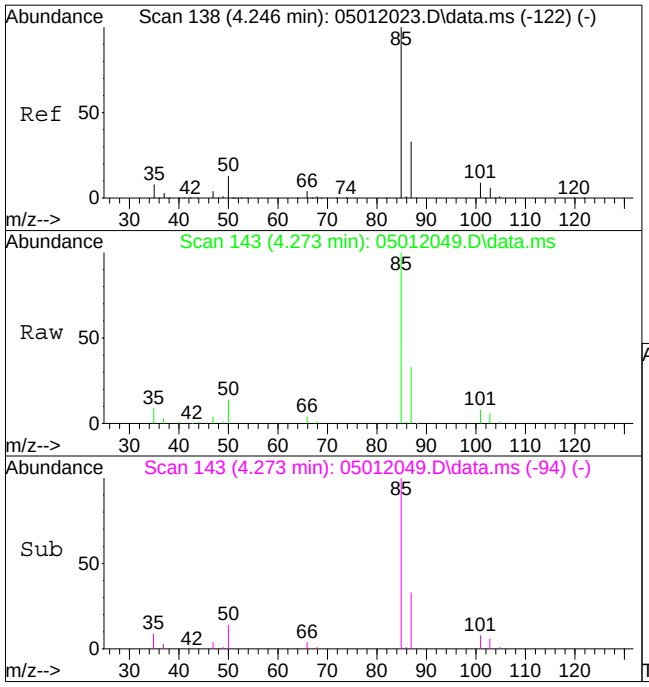


#2
Propene
Concen: 0.10 ng
RT: 4.12 min Scan# 115
Delta R.T. 0.027 min
Lab File: 05012049.D
Acq: 2 May 2020 8:20

Tgt Ion: 42 Resp: 3496

Ion	Ratio	Lower	Upper
42	100		
39	114.2	96.1	136.1
41	152.3	131.9	171.9

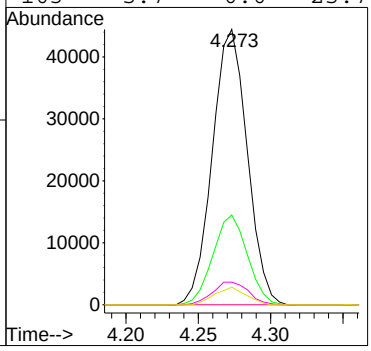


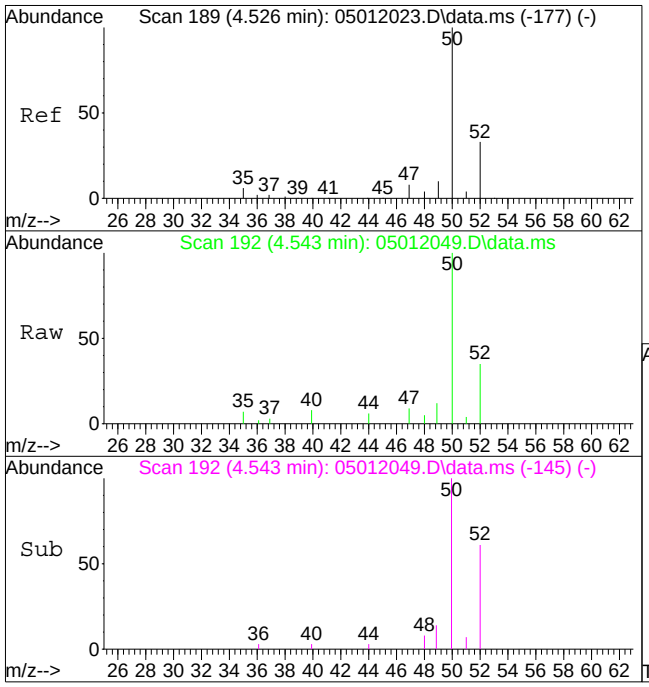


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.15 ng
RT: 4.27 min Scan# 143
Delta R.T. 0.022 min
Lab File: 05012049.D
Acq: 2 May 2020 8:20

Tgt Ion: 85 Resp: 74722

Ion	Ratio	Lower	Upper
85	100		
87	32.1	12.4	52.4
101	8.5	0.0	28.8
103	5.7	0.0	25.7

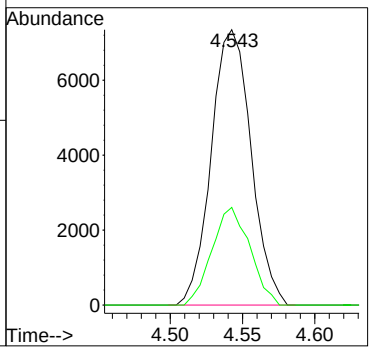


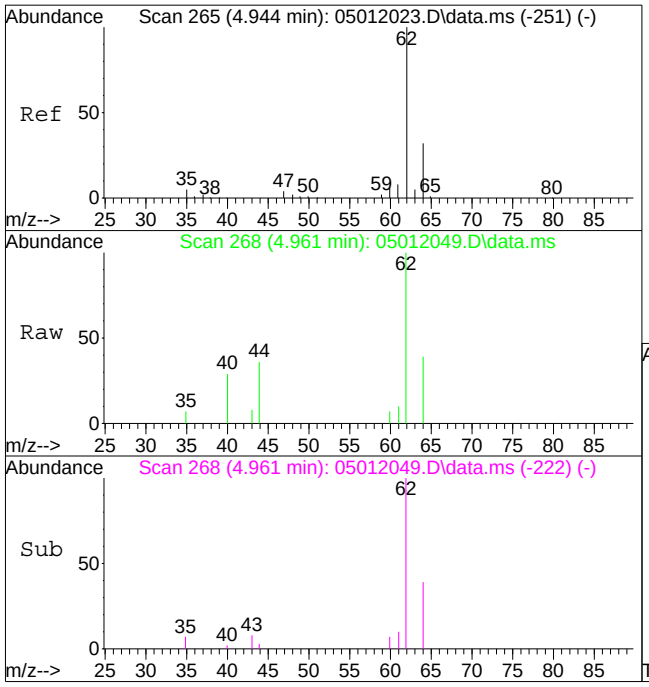


#4
Chloromethane
Concen: 0.28 ng
RT: 4.54 min Scan# 192
Delta R.T. 0.011 min
Lab File: 05012049.D
Acq: 2 May 2020 8:20

Tgt Ion: 50 Resp: 14135

Ion	Ratio	Lower	Upper
50	100		
52	33.8	12.5	52.5

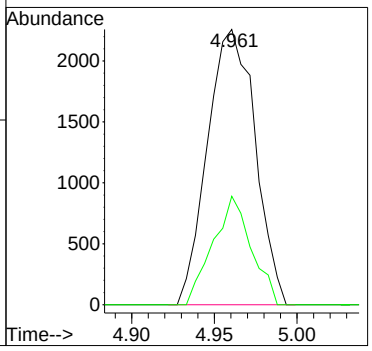


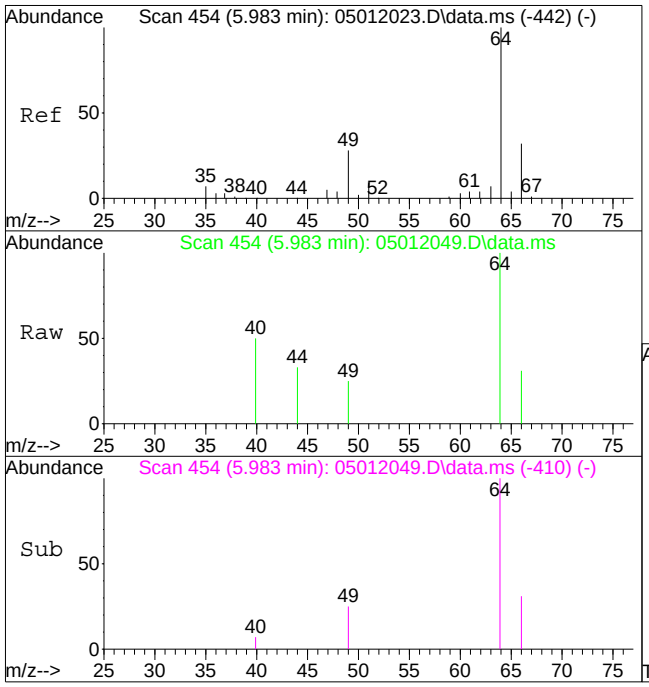


#6
Vinyl Chloride
Concen: 0.08 ng
RT: 4.96 min Scan# 268
Delta R.T. 0.005 min
Lab File: 05012049.D
Acq: 2 May 2020 8:20

Tgt Ion: 62 Resp: 4528

Ion	Ratio	Lower	Upper
62	100		
64	31.7	12.1	52.1

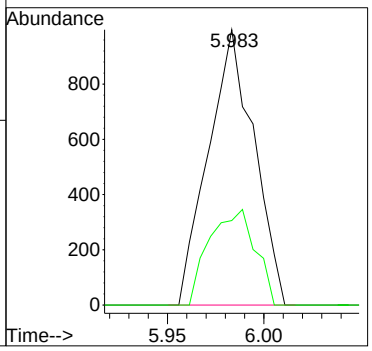


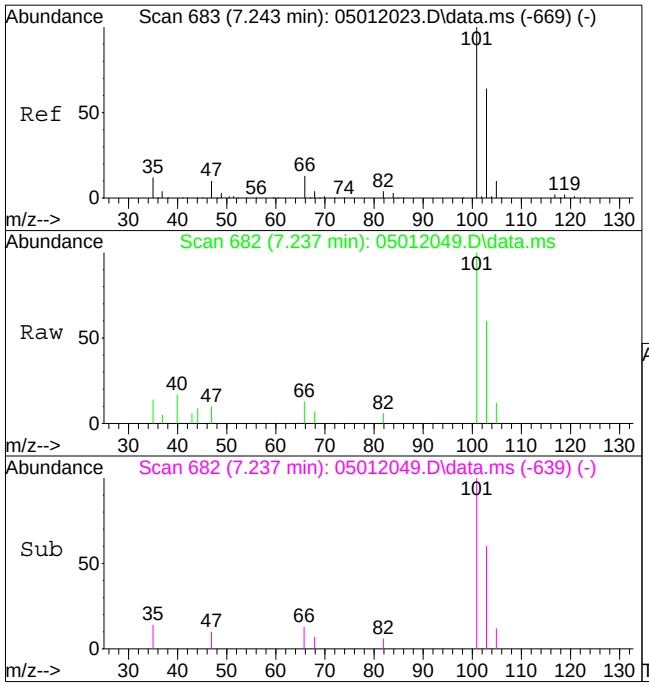


#9
Chloroethane
Concen: 0.07 ng
RT: 5.98 min Scan# 454
Delta R.T. -0.006 min
Lab File: 05012049.D
Acq: 2 May 2020 8:20

Tgt Ion: 64 Resp: 1638

Ion	Ratio	Lower	Upper
64	100		
66	35.0	12.1	52.1

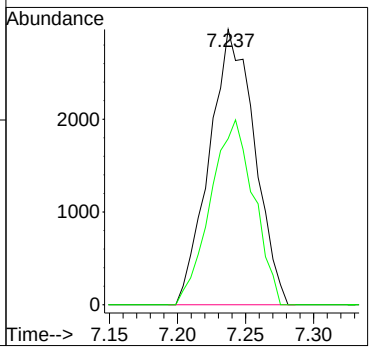


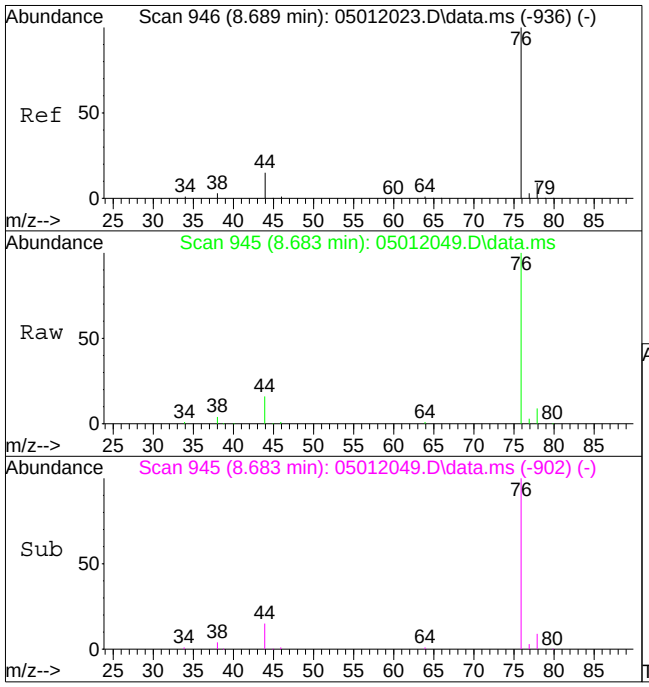


#14
Trichlorofluoromethane
Concen: 0.12 ng
RT: 7.24 min Scan# 682
Delta R.T. -0.011 min
Lab File: 05012049.D
Acq: 2 May 2020 8:20

Tgt Ion:101 Resp: 6850

Ion	Ratio	Lower	Upper
101	100		
103	64.5	44.4	84.4

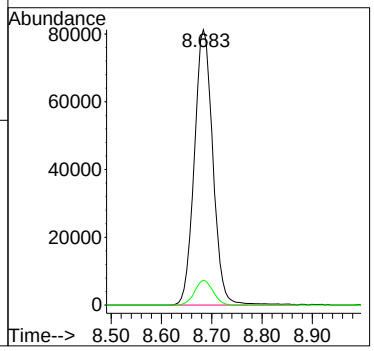


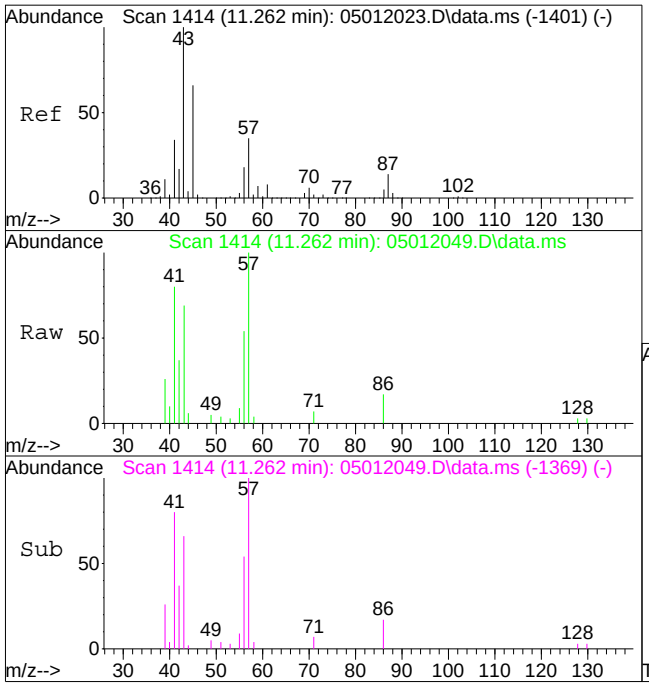


#22
Carbon Disulfide
Concen: 1.73 ng
RT: 8.68 min Scan# 945
Delta R.T. -0.011 min
Lab File: 05012049.D
Acq: 2 May 2020 8:20

Tgt Ion: 76 Resp: 207672

Ion	Ratio	Lower	Upper
76	100		
78	8.9	0.0	29.2

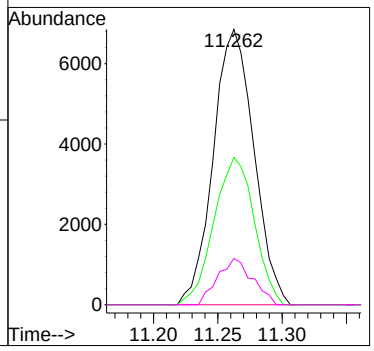


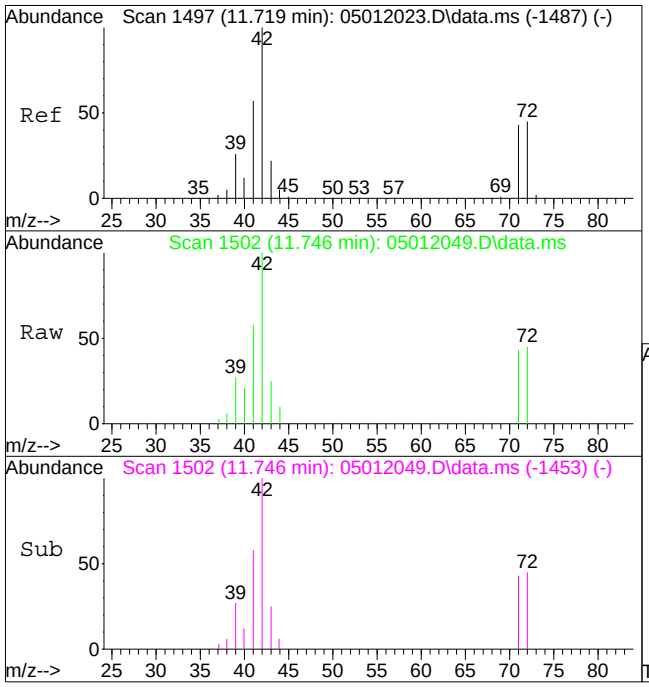


#31
n-Hexane
Concen: 0.27 ng
RT: 11.26 min Scan# 1414
Delta R.T. -0.000 min
Lab File: 05012049.D
Acq: 2 May 2020 8:20

Tgt Ion: 57 Resp: 15049

Ion	Ratio	Lower	Upper
57	100		
56	53.1	41.4	62.0
86	14.4	12.4	18.6

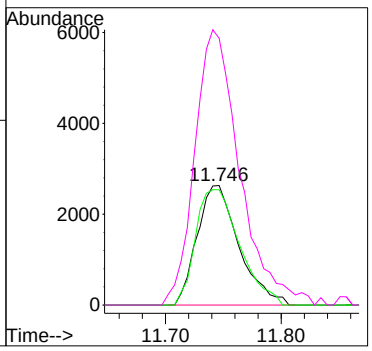


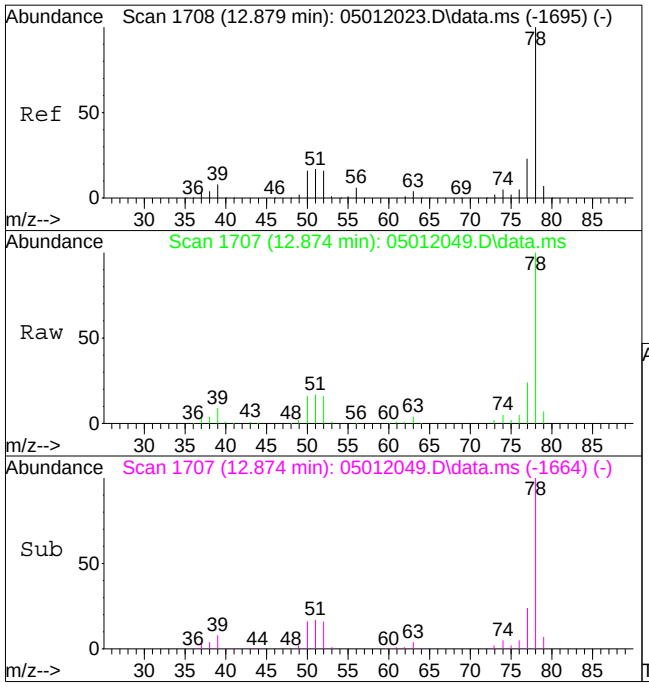


#34
Tetrahydrofuran (THF)
Concen: 0.31 ng
RT: 11.75 min Scan# 1502
Delta R.T. 0.022 min
Lab File: 05012049.D
Acq: 2 May 2020 8:20

Tgt Ion: 72 Resp: 6606

Ion	Ratio	Lower	Upper
72	100		
71	101.5	77.0	117.0
42	249.0	204.6	244.6#

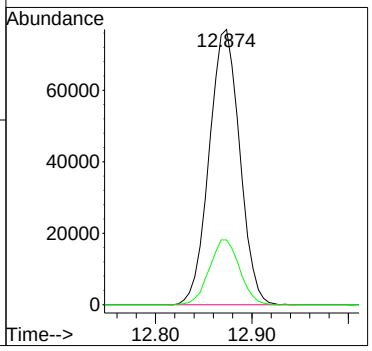


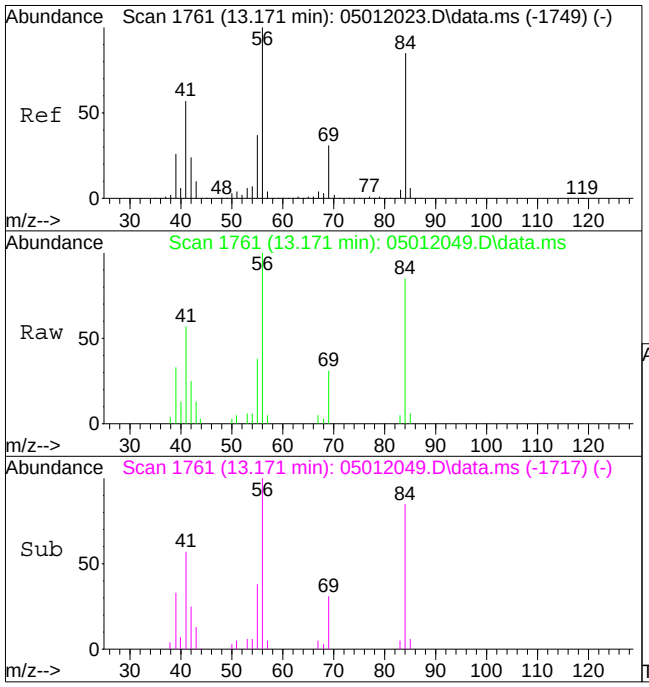


#41
Benzene
Concen: 1.26 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05012049.D
Acq: 2 May 2020 8:20

Tgt Ion: 78 Resp: 169223

Ion	Ratio	Lower	Upper
78	100		
77	23.5	3.4	43.4

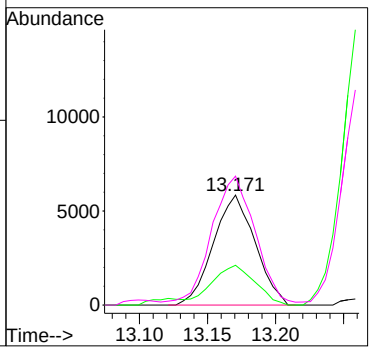


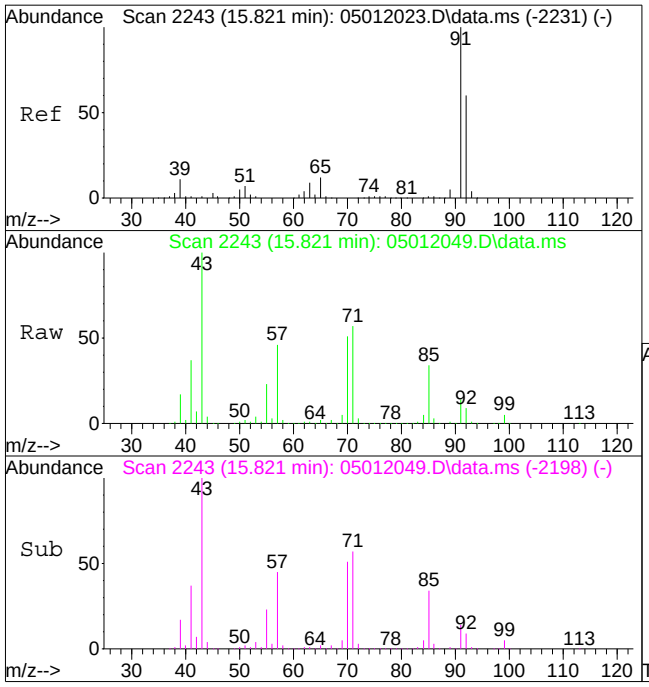


#43
Cyclohexane
Concen: 0.25 ng
RT: 13.17 min Scan# 1761
Delta R.T. -0.006 min
Lab File: 05012049.D
Acq: 2 May 2020 8:20

Tgt Ion: 84 Resp: 12473

Ion	Ratio	Lower	Upper
84	100		
69	37.4	16.5	56.5
56	116.1	97.4	137.4

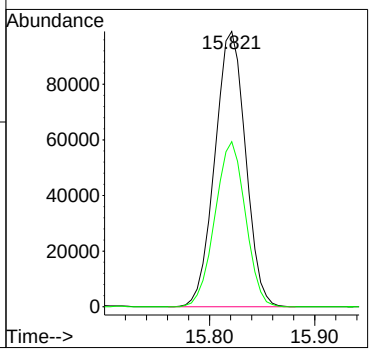


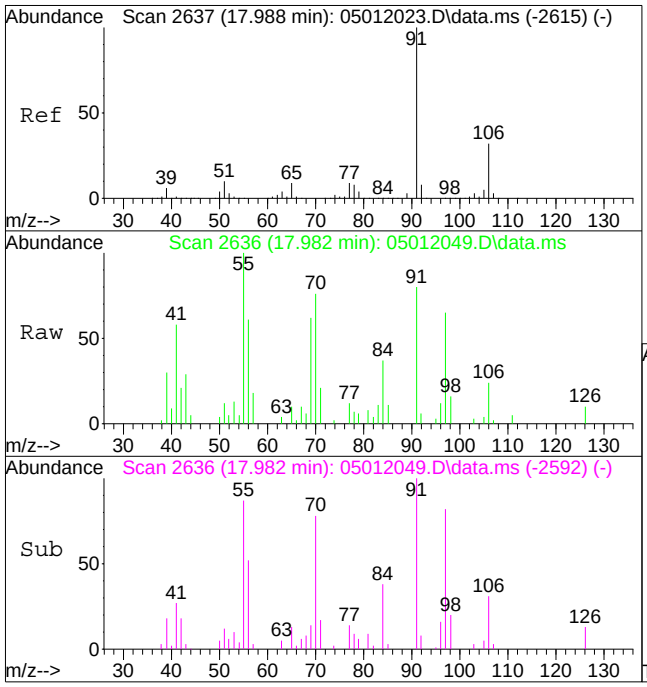


#58
Toluene
Concen: 1.53 ng
RT: 15.82 min Scan# 2243
Delta R.T. -0.000 min
Lab File: 05012049.D
Acq: 2 May 2020 8:20

Tgt Ion: 91 Resp: 201250

Ion	Ratio	Lower	Upper
91	100		
92	59.4	39.4	79.4

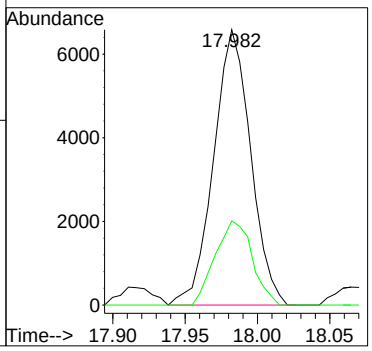


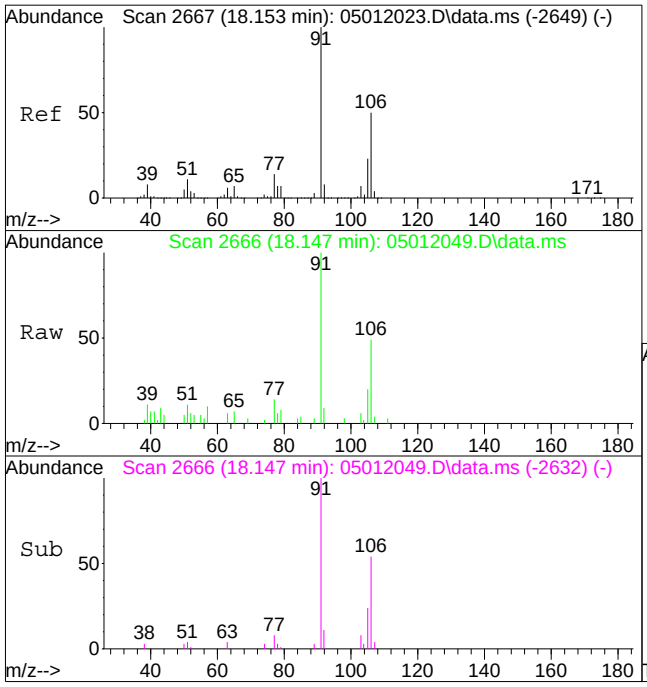


#66
Ethylbenzene
Concen: 0.08 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05012049.D
Acq: 2 May 2020 8:20

Tgt Ion: 91 Resp: 11773

Ion	Ratio	Lower	Upper
91	100		
106	30.5	11.6	51.6

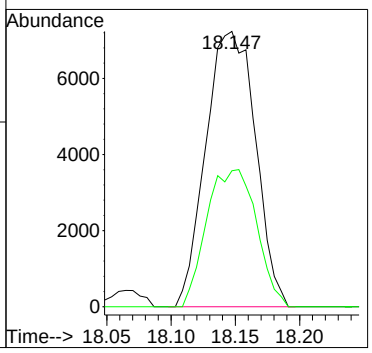


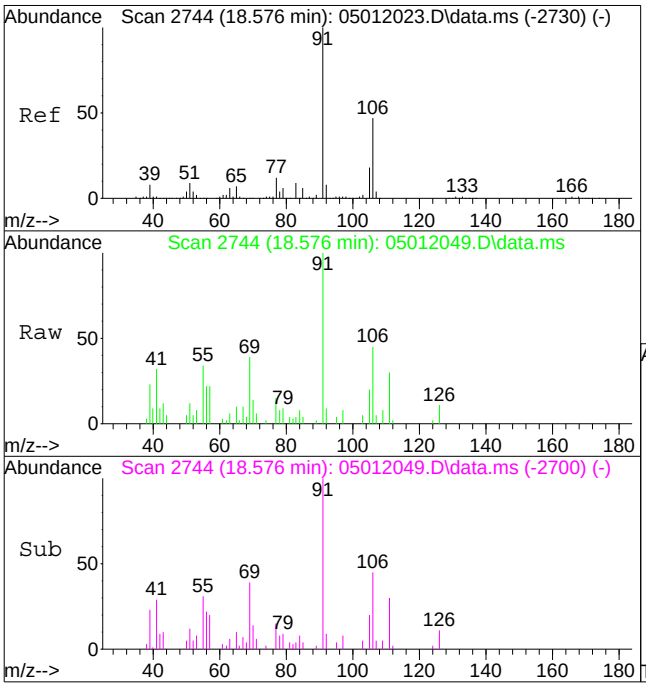


#67
m- & p-Xylenes
Concen: 0.17 ng
RT: 18.15 min Scan# 2666
Delta R.T. -0.011 min
Lab File: 05012049.D
Acq: 2 May 2020 8:20

Tgt Ion: 91 Resp: 19420

Ion	Ratio	Lower	Upper
91	100		
106	50.1	29.7	69.7

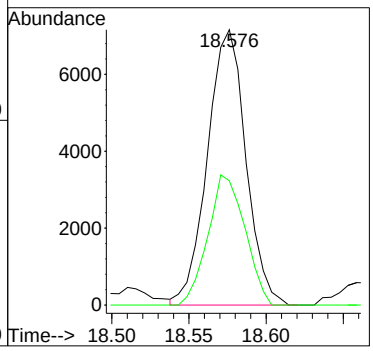


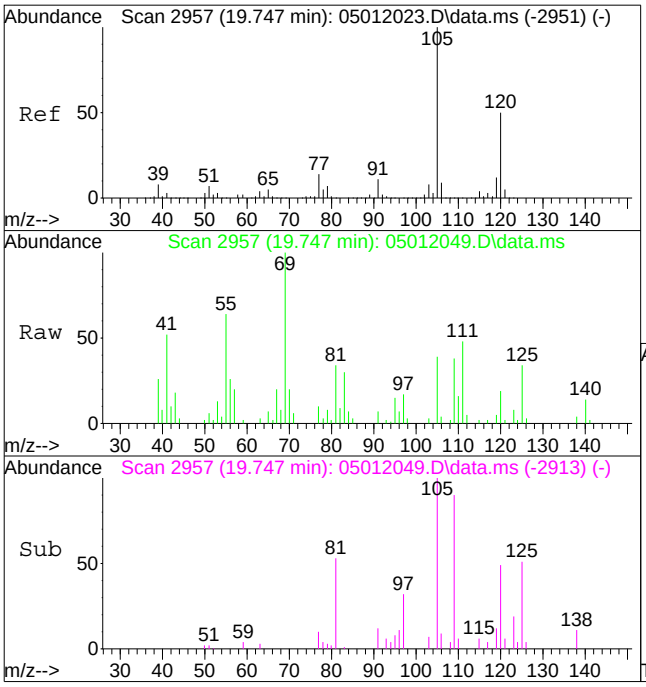


#70
o-Xylene
Concen: 0.11 ng
RT: 18.58 min Scan# 2744
Delta R.T. -0.006 min
Lab File: 05012049.D
Acq: 2 May 2020 8:20

Tgt Ion: 91 Resp: 12415

Ion	Ratio	Lower	Upper
91	100		
106	45.3	27.5	67.5

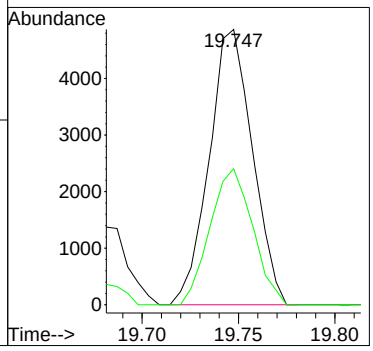




#79
1,3,5-Trimethylbenzene
Concen: 0.06 ng
RT: 19.75 min Scan# 2957
Delta R.T. -0.006 min
Lab File: 05012049.D
Acq: 2 May 2020 8:20

Tgt Ion:105 Resp: 7608

Ion	Ratio	Lower	Upper
105	100		
120	48.6	29.9	69.9



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022011.D Vial: 4
Acq On : 2 May 2020 15:32 Operator: TD
Sample : P2002104-015 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:44:14 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/4/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	250157	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.26	114	1093341	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	534871	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	429101	12.657	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.28%				
57) Toluene-d8 (SS2)	15.72	98	1112510	12.271	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.16%				
73) Bromofluorobenzene (SS3)	18.98	174	385244	11.810	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.48%				
Target Compounds							Qvalue
2) Propene	4.11	42	6543	0.226	ng		98
3) Dichlorodifluoromethan...	4.27	85	47056	0.830	ng		99
4) Chloromethane	4.54	50	3379	0.076	ng		95
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	1021	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.22	54	351	N.D.			
8) Bromomethane	5.64	94	279	N.D.			
9) Chloroethane	5.98	64	552	N.D.			
10) Ethanol	6.32	45	73383	3.280	ng		100
11) Acetonitrile	6.62	41	5360	0.105	ng		93
12) Acrolein	6.82	56	11215	0.634	ng		98
13) Acetone	7.02	58	81641	3.649	ng	#	85
14) Trichlorofluoromethane	7.24	101	13594	0.271	ng		99
15) 2-Propanol (Isopropanol)	7.51	45	20044	0.296	ng		84
16) Acrylonitrile	7.77	53	923	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	6998	0.241	ng		95
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	8.85	151	3630	0.154	ng		99
22) Carbon Disulfide	8.67	76	15155	0.145	ng		98
23) trans-1,2-Dichloroethene	9.68	61	322	N.D.			
24) 1,1-Dichloroethane	9.94	63	169	N.D.			
25) Methyl tert-Butyl Ether	10.09	73	1107	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.47	72	15687	0.822	ng		98
28) cis-1,2-Dichloroethene	10.95	61	250	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	11.26	57	1048	N.D.			
32) Chloroform	11.30	83	9027222	181.288	ng		99
34) Tetrahydrofuran (THF)	11.75	72	2323	0.125	ng	#	76
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	217	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	6493	0.055	ng		98
42) Carbon Tetrachloride	13.03	117	129965	3.259	ng		100
43) Cyclohexane	13.16	84	899	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	13.91	63	349	N.D.			
46) Bromodichloromethane	13.91	83	394116	9.946	ng		99
47) Trichloroethene	13.97	130	15209	0.502	ng		99
48) 1,4-Dioxane	13.92	88	333	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.31	100	114	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022011.D Vial: 4
Acq On : 2 May 2020 15:32 Operator: TD
Sample : P2002104-015 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:44:14 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

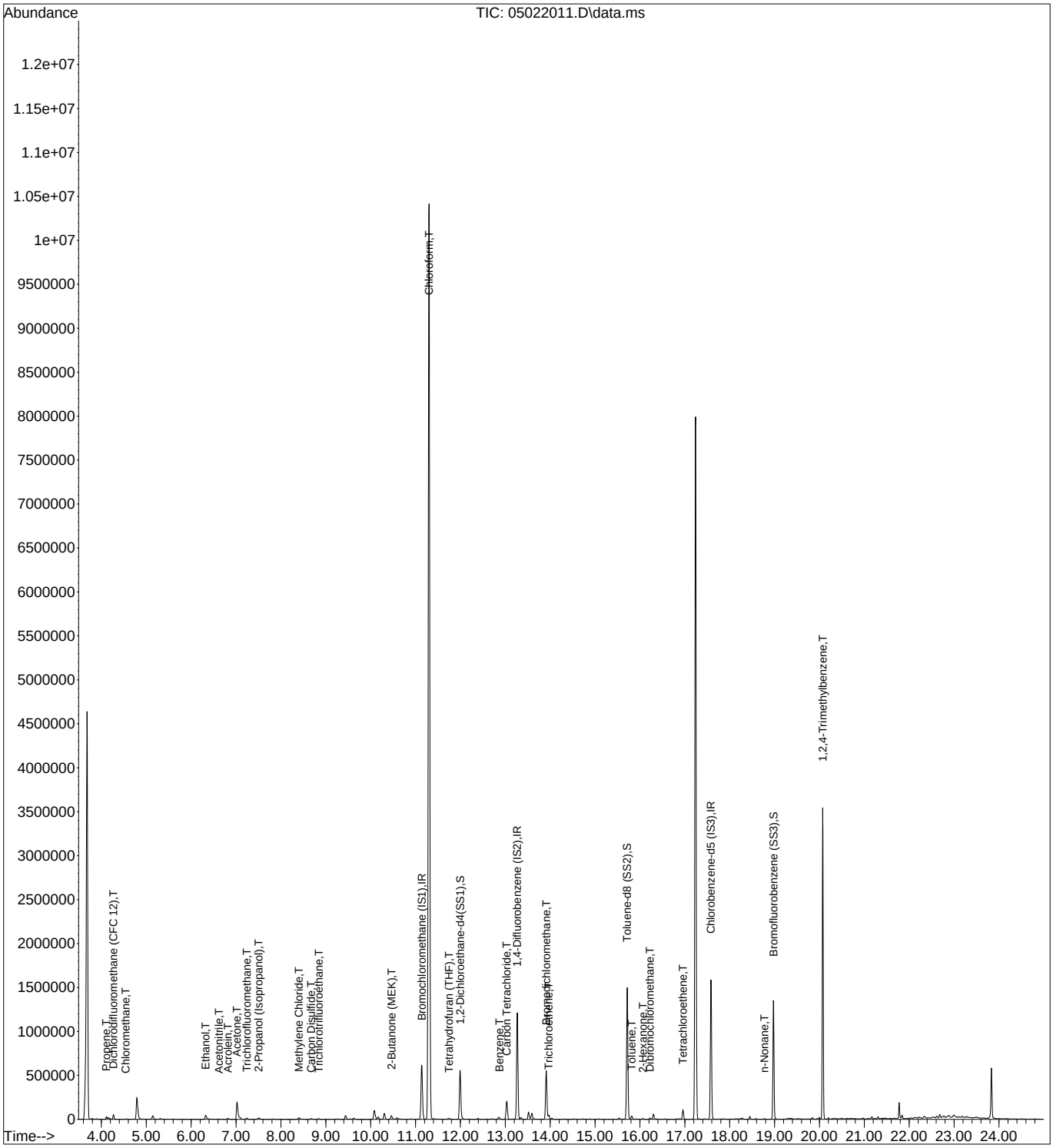
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.30	71	884	N.D.			
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
53) 4-Methyl-2-pentanone	14.88	58	1043	N.D.			
54) trans-1,3-Dichloropropene	15.35	75	515	N.D.			
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.			
58) Toluene	15.82	91	30016	0.257	ng		100
59) 2-Hexanone	16.07	43	7632	0.119	ng		88
60) Dibromochloromethane	16.22	129	9246	0.276	ng		98
61) 1,2-Dibromoethane	16.47	107	232	N.D.			
62) n-Butyl Acetate	16.70	43	1348	N.D.			
63) n-Octane	16.83	57	1149	N.D.			
64) Tetrachloroethene	16.96	166	33583	1.017	ng		100
65) Chlorobenzene	17.63	112	419	N.D.			
66) Ethylbenzene	17.98	91	2288	N.D.			
67) m- & p-Xylenes	18.14	91	4947	N.D.			
68) Bromoform	0.00	173	0	N.D.			
69) Styrene	18.47	104	607	N.D.			
70) o-Xylene	18.58	91	1843	N.D.			
71) n-Nonane	18.77	43	4504	0.081	ng	#	74
72) 1,1,2,2-Tetrachloroethane	18.58	83	297	N.D.			
74) Cumene	19.10	105	513	N.D.			
75) alpha-Pinene	19.45	93	120	N.D.			
76) n-Propylbenzene	19.56	91	1213	N.D.			
77) 3-Ethyltoluene	19.64	105	1285	N.D.			
78) 4-Ethyltoluene	19.68	105	739	N.D.			
79) 1,3,5-Trimethylbenzene	19.75	105	820	N.D.			
80) alpha-Methylstyrene	19.89	118	186	N.D.			
81) 2-Ethyltoluene	19.92	105	591	N.D.			
82) 1,2,4-Trimethylbenzene	20.07	105	15947	0.151	ng		93
83) n-Decane	0.00	57	0	N.D.	d		
84) Benzyl Chloride	20.23	91	901	N.D.			
85) 1,3-Dichlorobenzene	20.24	146	735	N.D.			
86) 1,4-Dichlorobenzene	20.30	146	1123	N.D.			
87) sec-Butylbenzene	20.35	105	724	N.D.			
88) 4-Isopropyltoluene (p-...	20.49	119	1106	N.D.			
89) 1,2,3-Trimethylbenzene	20.48	105	738	N.D.			
90) 1,2-Dichlorobenzene	20.61	146	474	N.D.			
91) d-Limonene	20.62	68	1728	N.D.			
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.			
93) n-Undecane	21.30	57	2463	N.D.			
94) 1,2,4-Trichlorobenzene	22.12	180	902	N.D.			
95) Naphthalene	22.22	128	3954	N.D.			
96) n-Dodecane	22.21	57	1375	N.D.			
97) Hexachlorobutadiene	0.00	225	0	N.D.			
98) Cyclohexanone	0.00	55	0	N.D.	d		
99) tert-Butylbenzene	0.00	119	0	N.D.	d		
100) n-Butylbenzene	20.85	91	1022	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022011.D Vial: 4
Acq On : 2 May 2020 15:32 Operator: TD
Sample : P2002104-015 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:44:14 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022011.D Vial: 4
Acq On : 2 May 2020 15:32 Operator: TD
Sample : P2002104-015 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:44:14 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/4/20

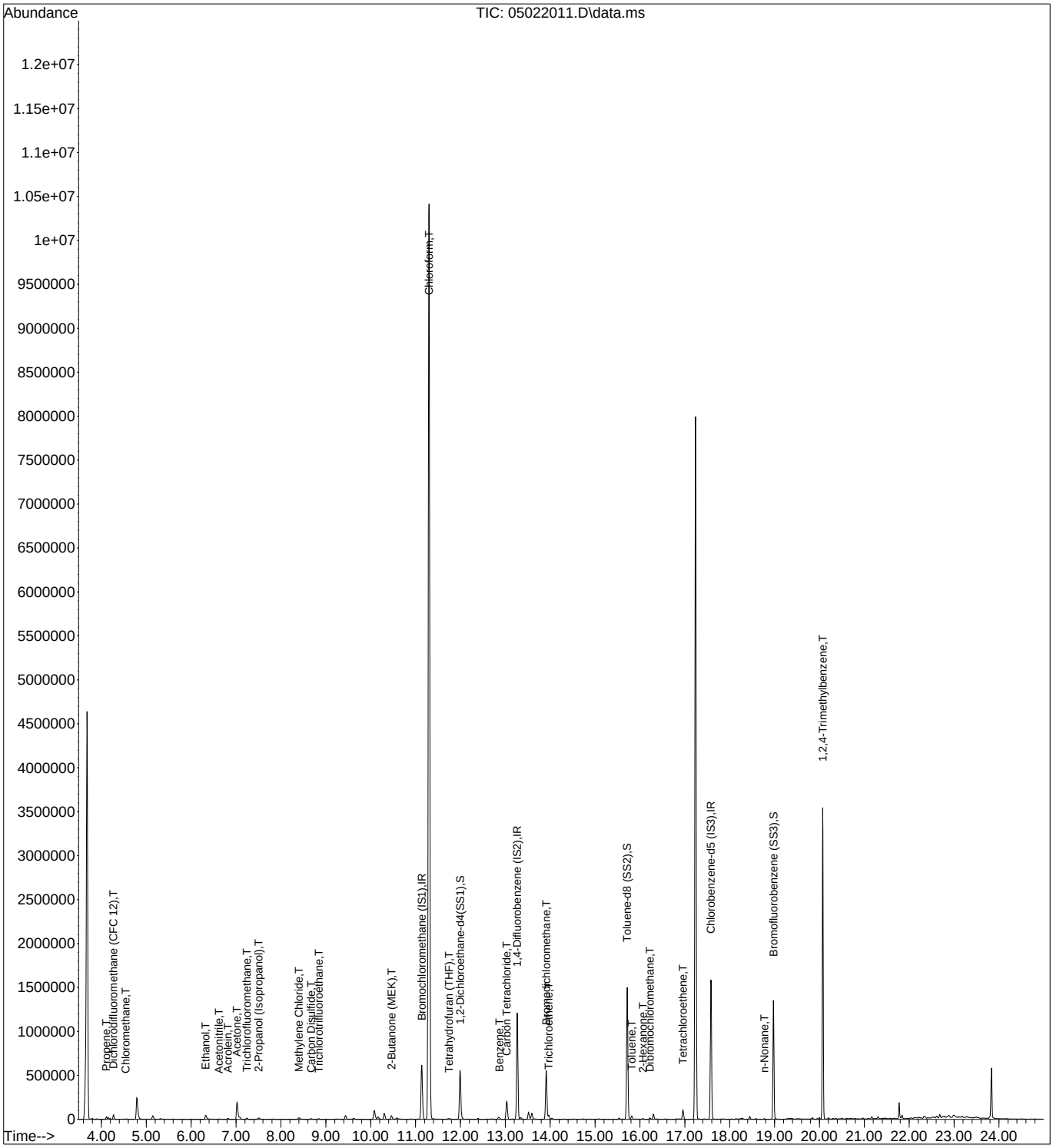
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	250157	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.26	114	1093341	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	534871	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	429101	12.657	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.28%				
57) Toluene-d8 (SS2)	15.72	98	1112510	12.271	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.16%				
73) Bromofluorobenzene (SS3)	18.98	174	385244	11.810	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.48%				
Target Compounds							Qvalue
2) Propene	4.11	42	6543	0.226	ng		98
3) Dichlorodifluoromethan...	4.27	85	47056	0.830	ng		99
4) Chloromethane	4.54	50	3379	0.076	ng		95
10) Ethanol	6.32	45	73383	3.280	ng		100
11) Acetonitrile	6.62	41	5360	0.105	ng		93
12) Acrolein	6.82	56	11215	0.634	ng		98
13) Acetone	7.02	58	81641	3.649	ng	#	85
14) Trichlorofluoromethane	7.24	101	13594	0.271	ng		99
15) 2-Propanol (Isopropanol)	7.51	45	20044	0.296	ng		84
19) Methylene Chloride	8.40	84	6998	0.241	ng		95
21) Trichlorotrifluoroethane	8.85	151	3630	0.154	ng		99
22) Carbon Disulfide	8.67	76	15155	0.145	ng		98
27) 2-Butanone (MEK)	10.47	72	15687	0.822	ng		98
32) Chloroform	11.30	83	9027222	181.288	ng		99
34) Tetrahydrofuran (THF)	11.75	72	2323	0.125	ng	#	76
41) Benzene	12.87	78	6493	0.055	ng		98
42) Carbon Tetrachloride	13.03	117	129965	3.259	ng		100
46) Bromodichloromethane	13.91	83	394116	9.946	ng		99
47) Trichloroethene	13.97	130	15209	0.502	ng		99
58) Toluene	15.82	91	30016	0.257	ng		100
59) 2-Hexanone	16.07	43	7632	0.119	ng		88
60) Dibromochloromethane	16.22	129	9246	0.276	ng		98
64) Tetrachloroethene	16.96	166	33583	1.017	ng		100
71) n-Nonane	18.77	43	4504	0.081	ng	#	74
82) 1,2,4-Trimethylbenzene	20.07	105	15947	0.151	ng		93

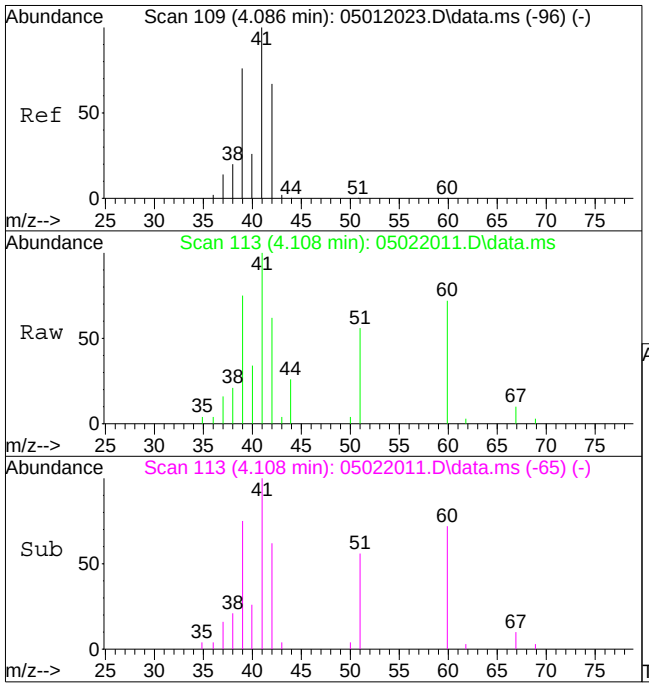
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022011.D Vial: 4
Acq On : 2 May 2020 15:32 Operator: TD
Sample : P2002104-015 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:44:14 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

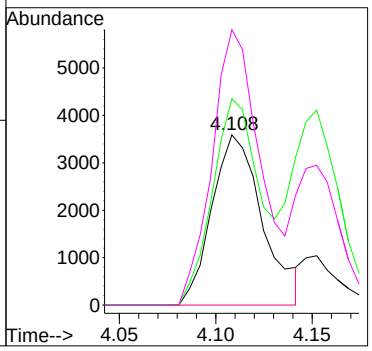


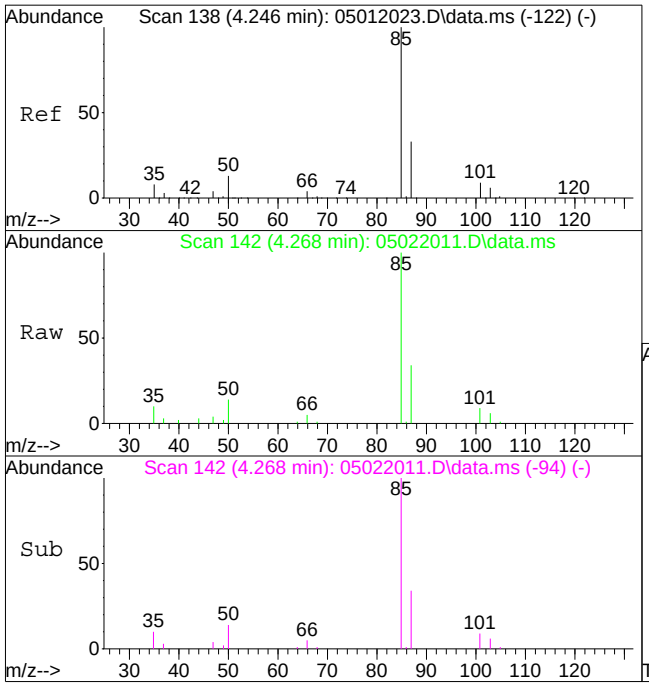


#2
Propene
Concen: 0.23 ng
RT: 4.11 min Scan# 113
Delta R.T. 0.017 min
Lab File: 05022011.D
Acq: 2 May 2020 15:32

Tgt Ion: 42 Resp: 6543

Ion	Ratio	Lower	Upper
42	100		
39	113.7	96.1	136.1
41	154.4	131.9	171.9

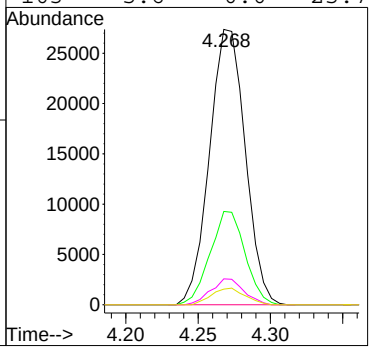


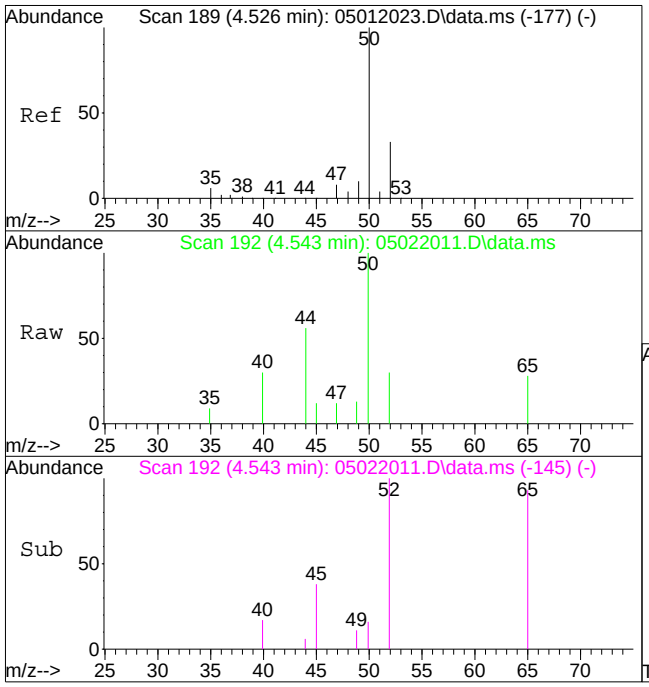


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.83 ng
RT: 4.27 min Scan# 142
Delta R.T. 0.017 min
Lab File: 05022011.D
Acq: 2 May 2020 15:32

Tgt Ion: 85 Resp: 47056

Ion	Ratio	Lower	Upper
85	100		
87	33.1	12.4	52.4
101	8.6	0.0	28.8
103	5.6	0.0	25.7

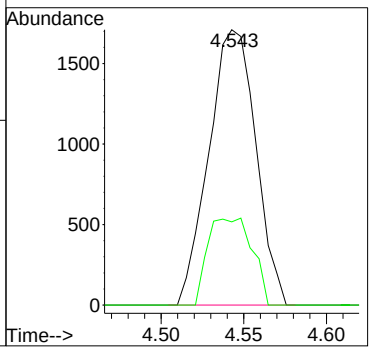


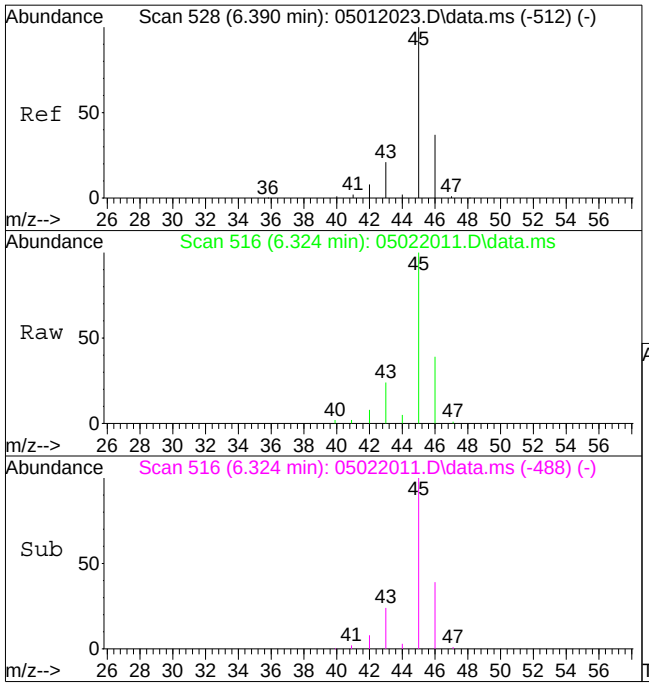


#4
Chloromethane
Concen: 0.08 ng
RT: 4.54 min Scan# 192
Delta R.T. 0.011 min
Lab File: 05022011.D
Acq: 2 May 2020 15:32

Tgt Ion: 50 Resp: 3379

Ion	Ratio	Lower	Upper
50	100		
52	29.8	12.5	52.5

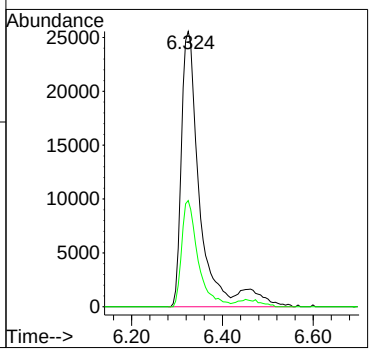


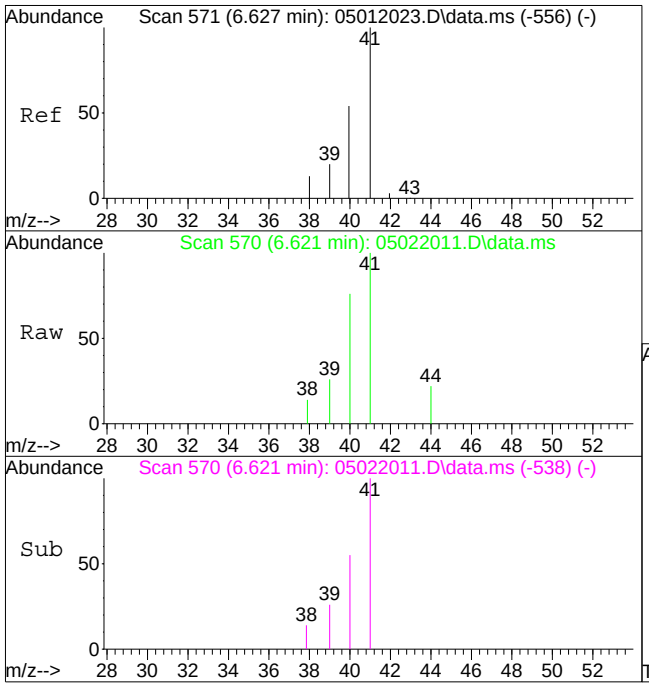


#10
Ethanol
Concen: 3.28 ng
RT: 6.32 min Scan# 516
Delta R.T. -0.093 min
Lab File: 05022011.D
Acq: 2 May 2020 15:32

Tgt Ion: 45 Resp: 73383

Ion	Ratio	Lower	Upper
45	100		
46	37.1	17.2	57.2

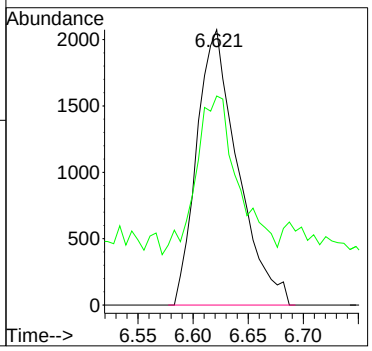


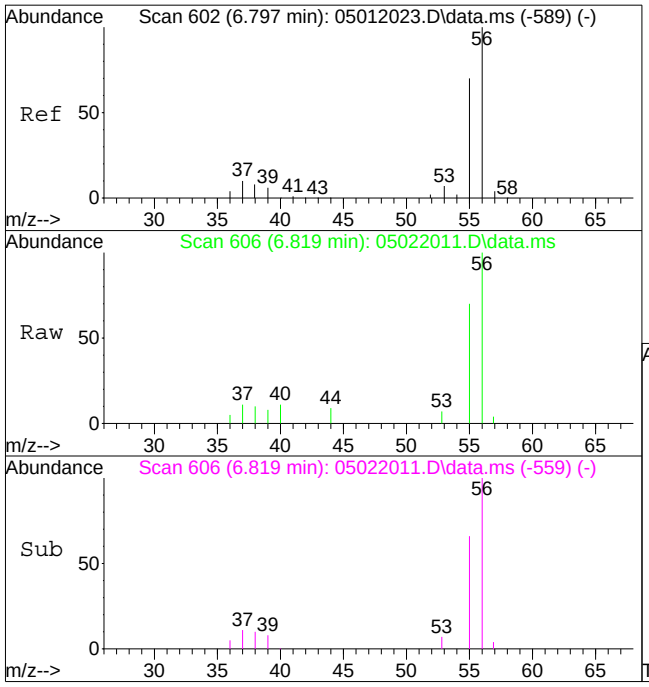


#11
Acetonitrile
Concen: 0.10 ng
RT: 6.62 min Scan# 570
Delta R.T. -0.022 min
Lab File: 05022011.D
Acq: 2 May 2020 15:32

Tgt Ion: 41 Resp: 5360

Ion	Ratio	Lower	Upper
41	100		
40	58.4	33.6	73.6

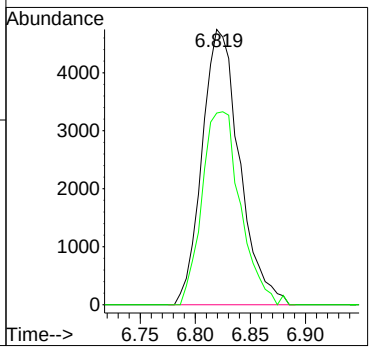


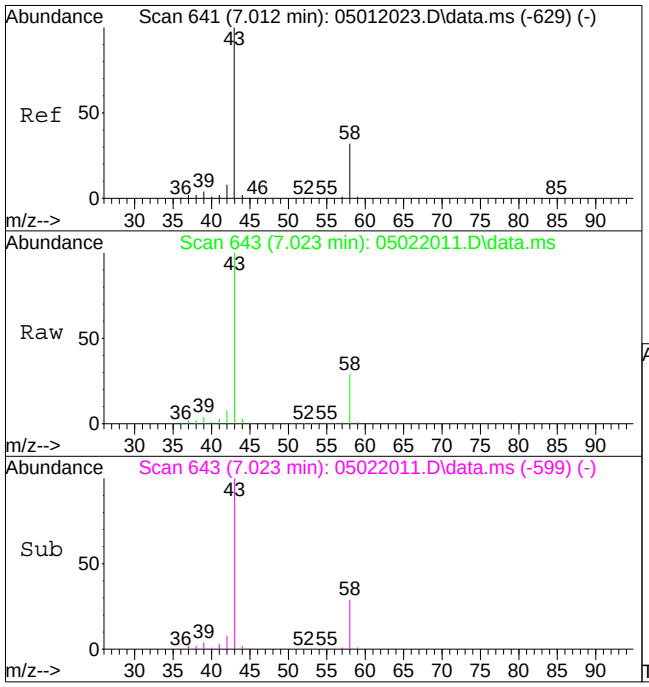


#12
Acrolein
Concen: 0.63 ng
RT: 6.82 min Scan# 606
Delta R.T. 0.011 min
Lab File: 05022011.D
Acq: 2 May 2020 15:32

Tgt Ion: 56 Resp: 11215

Ion	Ratio	Lower	Upper
56	100		
55	71.8	50.2	90.2

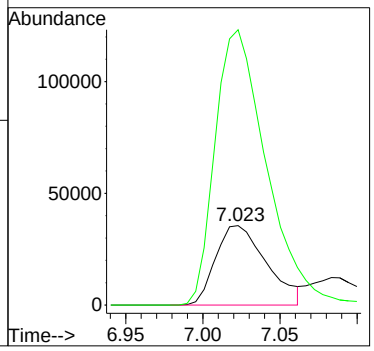


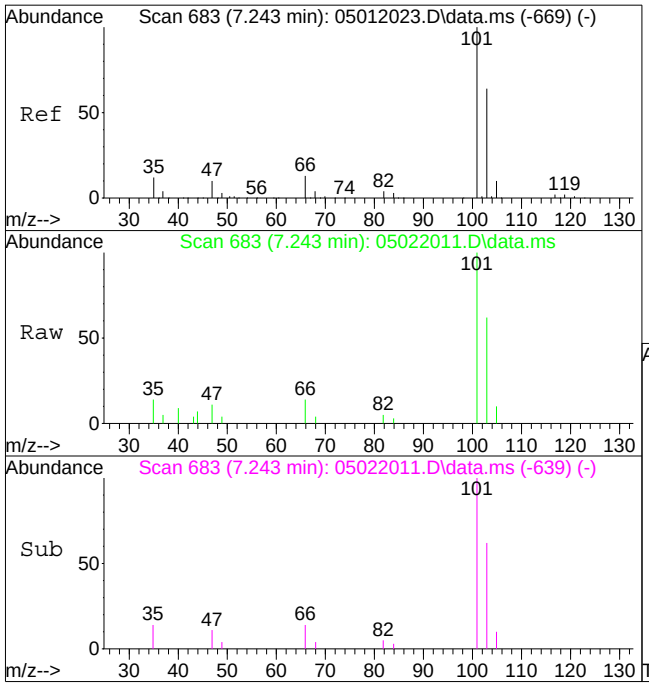


#13
Acetone
Concen: 3.65 ng
RT: 7.02 min Scan# 643
Delta R.T. -0.005 min
Lab File: 05022011.D
Acq: 2 May 2020 15:32

Tgt Ion: 58 Resp: 81641

Ion	Ratio	Lower	Upper
58	100		
43	355.0	294.4	354.4#

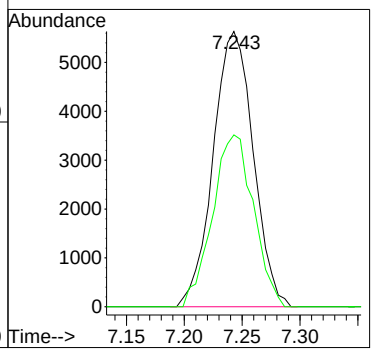


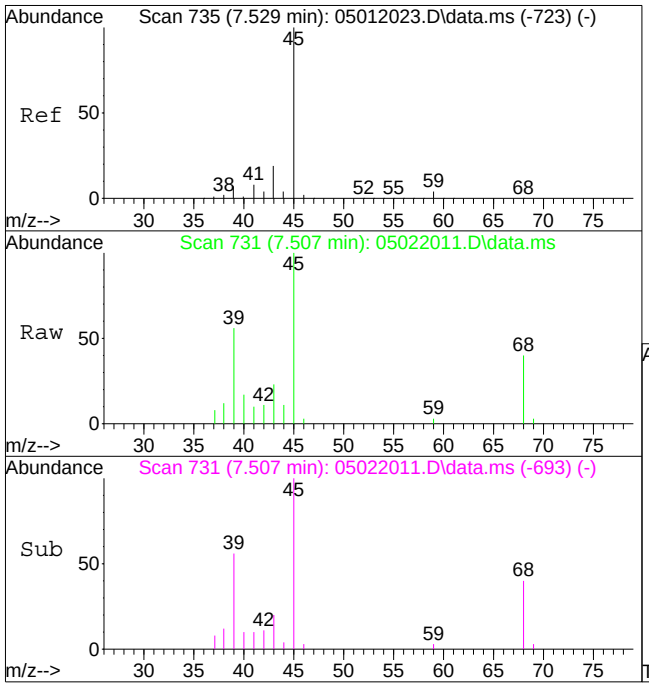


#14
Trichlorofluoromethane
Concen: 0.27 ng
RT: 7.24 min Scan# 683
Delta R.T. -0.005 min
Lab File: 05022011.D
Acq: 2 May 2020 15:32

Tgt Ion:101 Resp: 13594

Ion	Ratio	Lower	Upper
101	100		
103	63.7	44.4	84.4

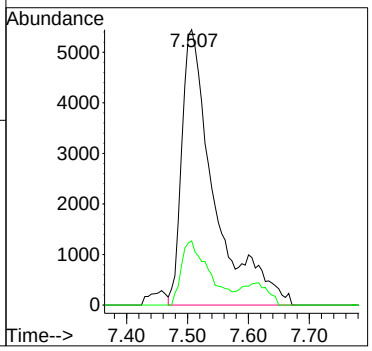


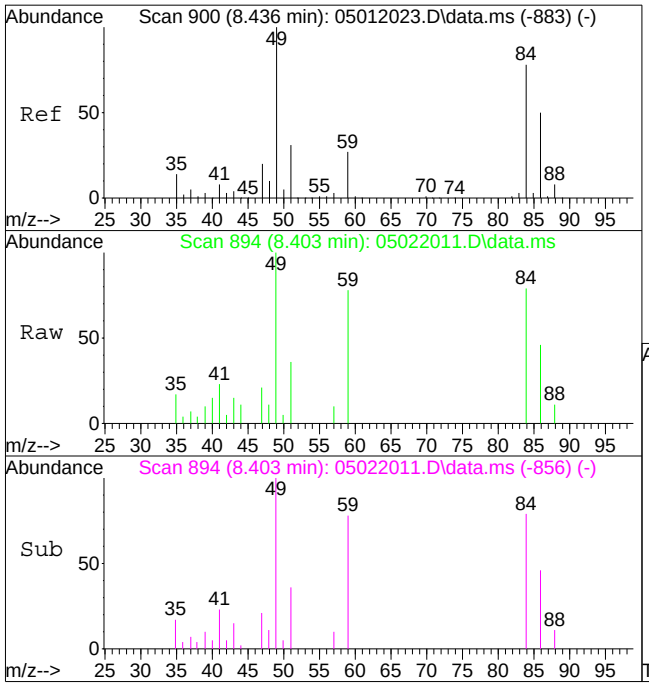


#15
2-Propanol (Isopropanol)
Concen: 0.30 ng
RT: 7.51 min Scan# 731
Delta R.T. -0.038 min
Lab File: 05022011.D
Acq: 2 May 2020 15:32

Tgt Ion: 45 Resp: 20044

Ion	Ratio	Lower	Upper
45	100		
43	26.9	0.0	39.5

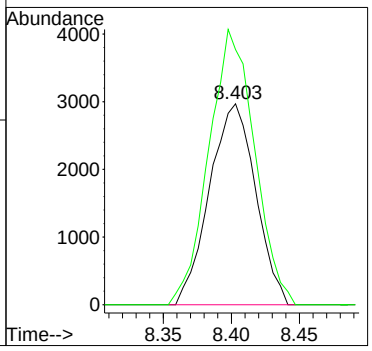


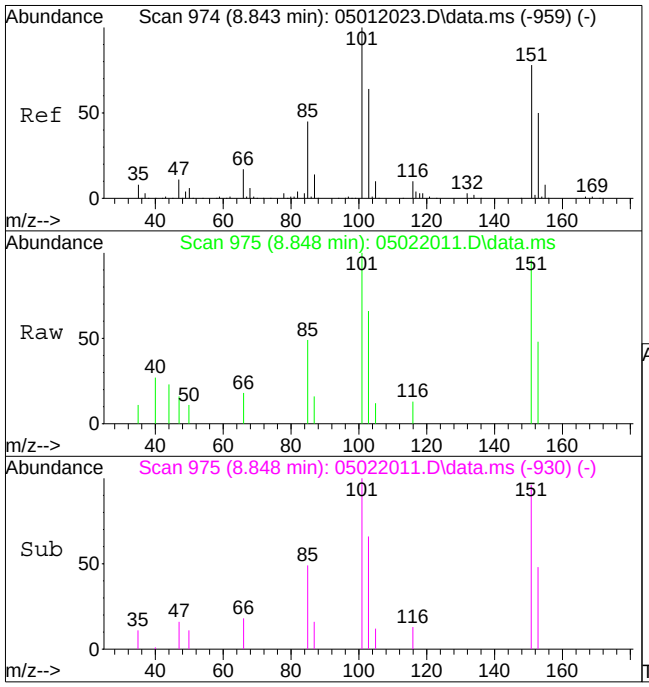


#19
Methylene Chloride
Concen: 0.24 ng
RT: 8.40 min Scan# 894
Delta R.T. -0.038 min
Lab File: 05022011.D
Acq: 2 May 2020 15:32

Tgt Ion: 84 Resp: 6998

Ion	Ratio	Lower	Upper
84	100		
49	135.8	104.8	154.8

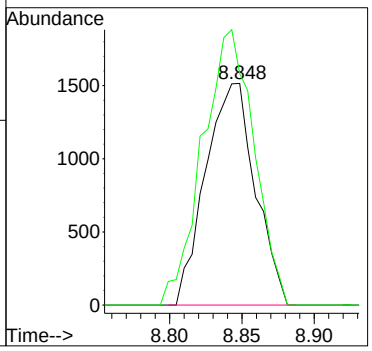


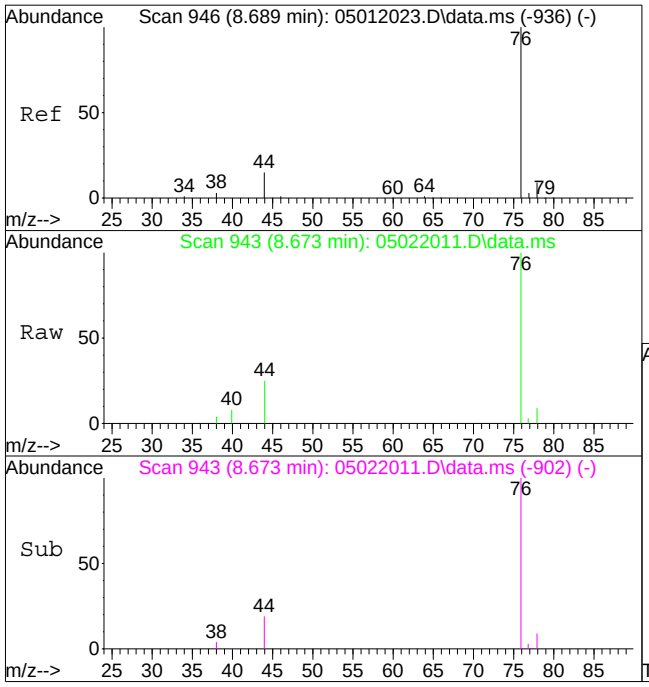


#21
Trichlorotrifluoroethane
Concen: 0.15 ng
RT: 8.85 min Scan# 975
Delta R.T. 0.000 min
Lab File: 05022011.D
Acq: 2 May 2020 15:32

Tgt Ion:151 Resp: 3630

Ion	Ratio	Lower	Upper
151	100		
101	128.5	107.3	147.3

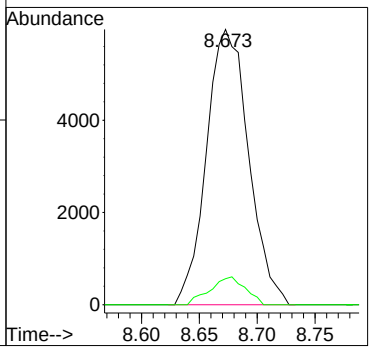


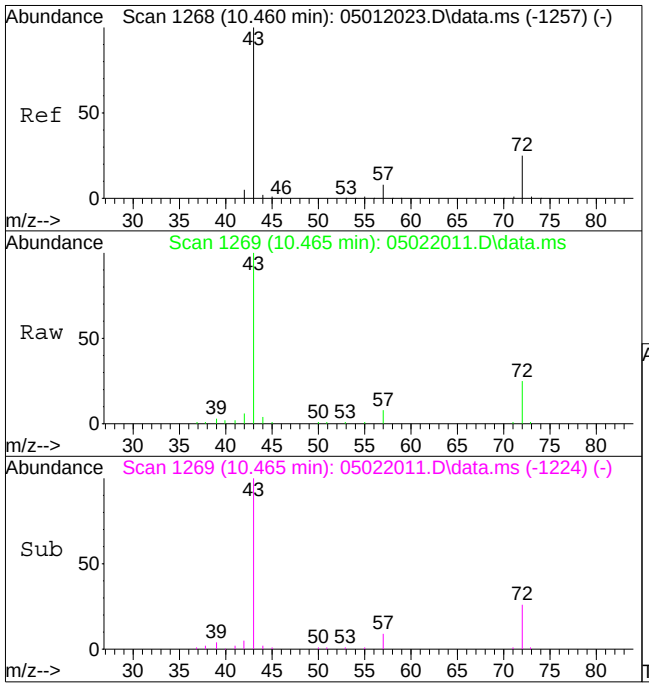


#22
Carbon Disulfide
Concen: 0.15 ng
RT: 8.67 min Scan# 943
Delta R.T. -0.022 min
Lab File: 05022011.D
Acq: 2 May 2020 15:32

Tgt Ion: 76 Resp: 15155

Ion	Ratio	Lower	Upper
76	100		
78	8.5	0.0	29.2

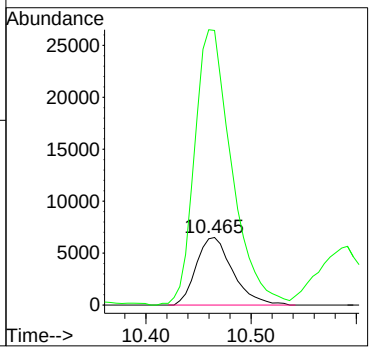


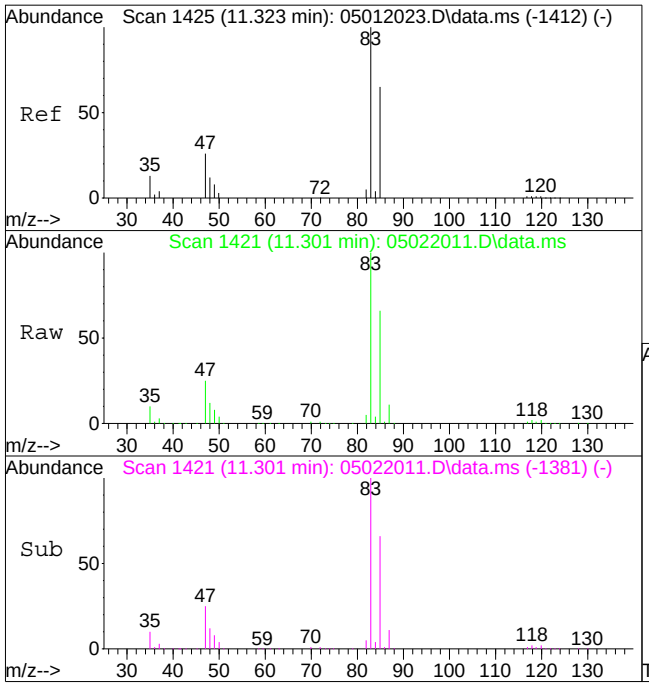


#27
2-Butanone (MEK)
Concen: 0.82 ng
RT: 10.47 min Scan# 1269
Delta R.T. 0.000 min
Lab File: 05022011.D
Acq: 2 May 2020 15:32

Tgt Ion: 72 Resp: 15687

Ion	Ratio	Lower	Upper
72	100		
43	414.6	389.7	429.7

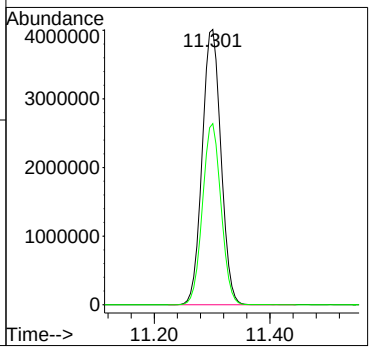


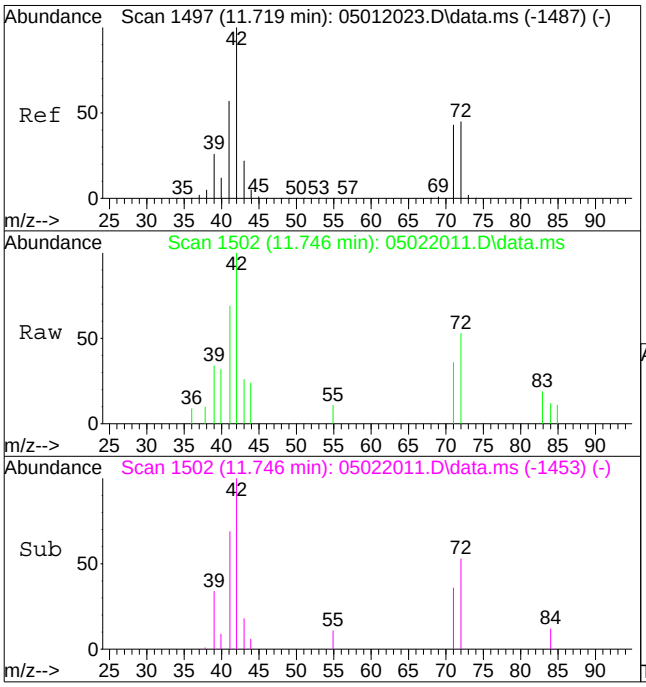


#32
Chloroform
Concen: 181.29 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.027 min
Lab File: 05022011.D
Acq: 2 May 2020 15:32

Tgt Ion: 83 Resp: 9027222

Ion	Ratio	Lower	Upper
83	100		
85	65.0	45.5	85.5

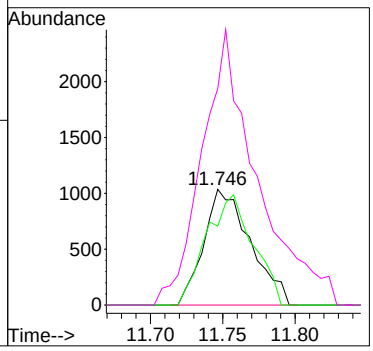


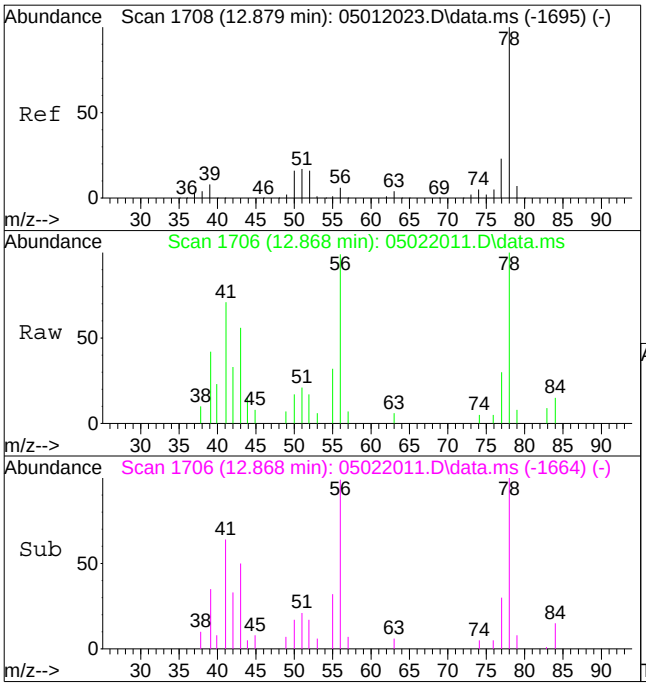


#34
Tetrahydrofuran (THF)
Concen: 0.12 ng
RT: 11.75 min Scan# 1502
Delta R.T. 0.022 min
Lab File: 05022011.D
Acq: 2 May 2020 15:32

Tgt Ion: 72 Resp: 2323

Ion	Ratio	Lower	Upper
72	100		
71	96.1	77.0	117.0
42	280.8	204.6	244.6#

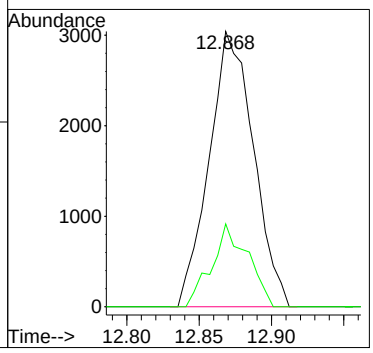


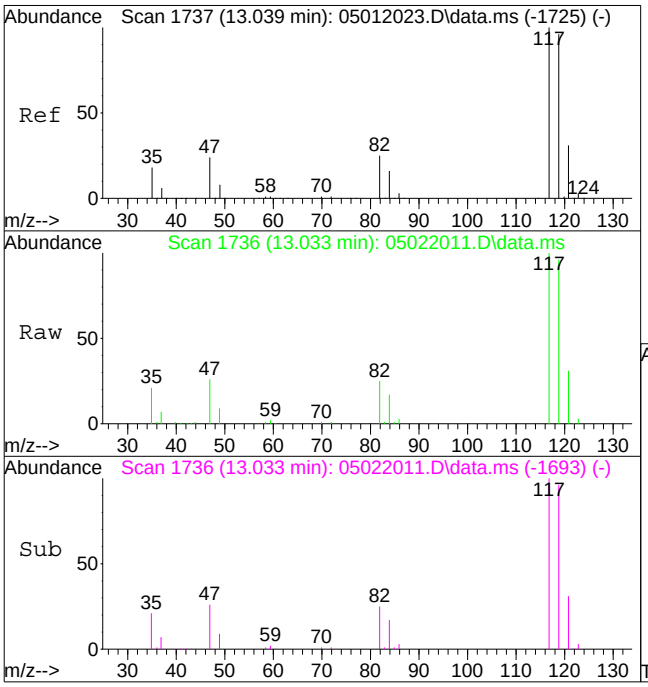


#41
Benzene
Concen: 0.06 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.016 min
Lab File: 05022011.D
Acq: 2 May 2020 15:32

Tgt Ion: 78 Resp: 6493

Ion	Ratio	Lower	Upper
78	100		
77	24.5	3.4	43.4

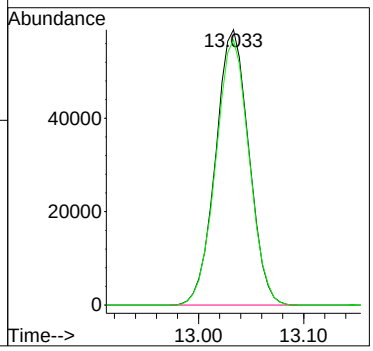


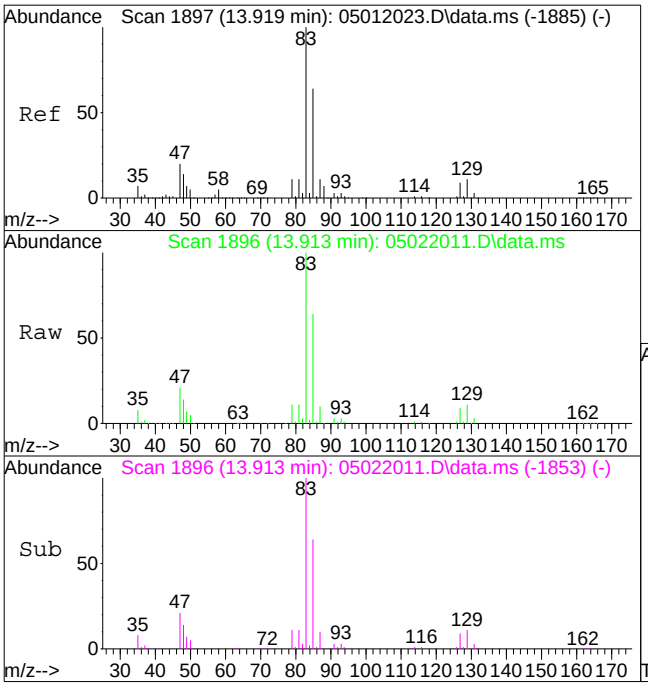


#42
Carbon Tetrachloride
Concen: 3.26 ng
RT: 13.03 min Scan# 1736
Delta R.T. -0.011 min
Lab File: 05022011.D
Acq: 2 May 2020 15:32

Tgt Ion:117 Resp: 129965

Ion	Ratio	Lower	Upper
117	100		
119	96.6	76.2	116.2

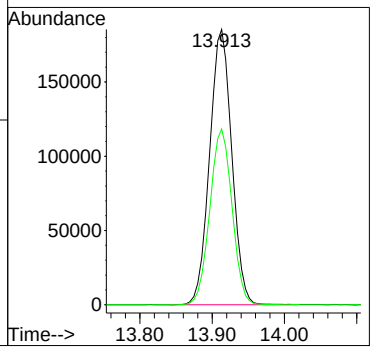


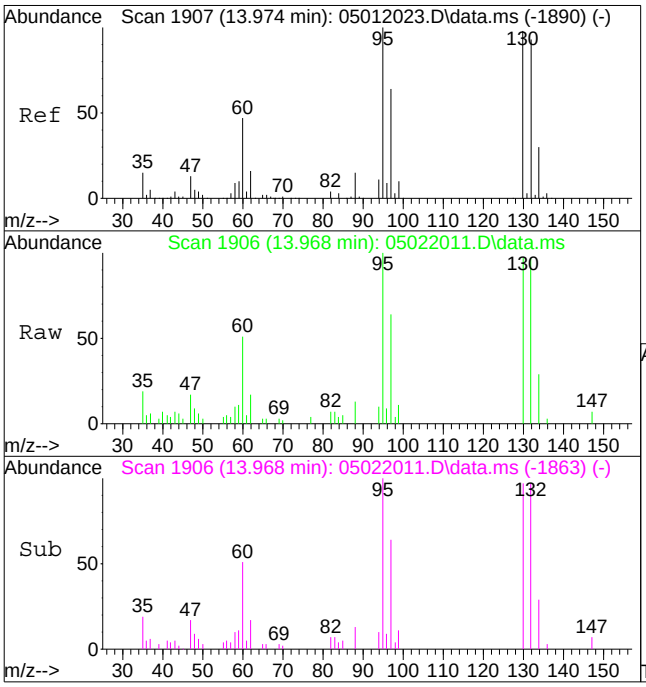


#46
Bromodichloromethane
Concen: 9.95 ng
RT: 13.91 min Scan# 1896
Delta R.T. -0.011 min
Lab File: 05022011.D
Acq: 2 May 2020 15:32

Tgt Ion: 83 Resp: 394116

Ion	Ratio	Lower	Upper
83	100		
85	63.9	44.4	84.4

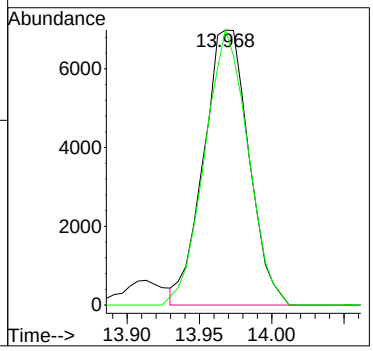


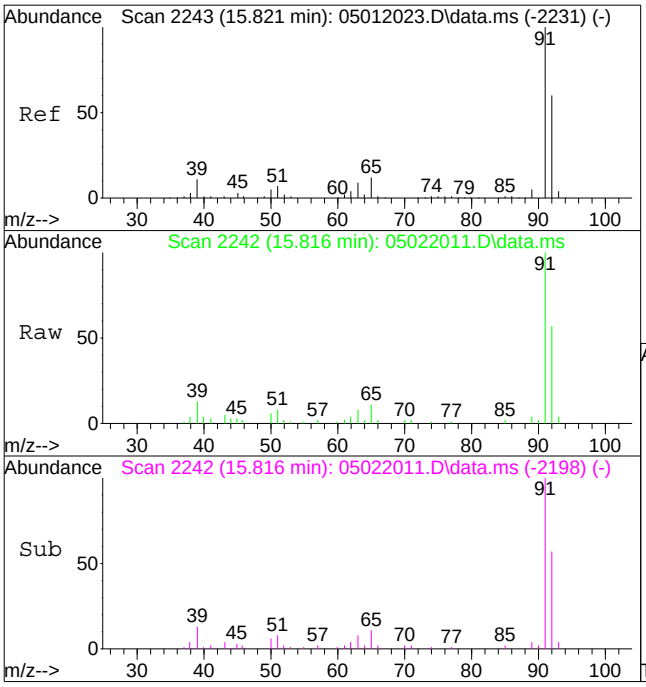


#47
Trichloroethene
Concen: 0.50 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05022011.D
Acq: 2 May 2020 15:32

Tgt Ion:130 Resp: 15209

Ion	Ratio	Lower	Upper
130	100		
132	95.9	74.9	114.9

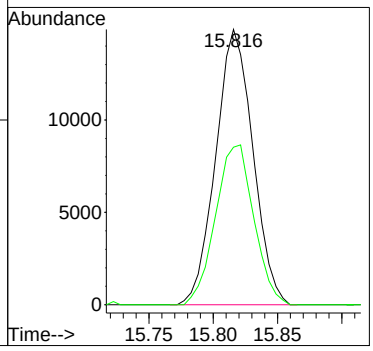


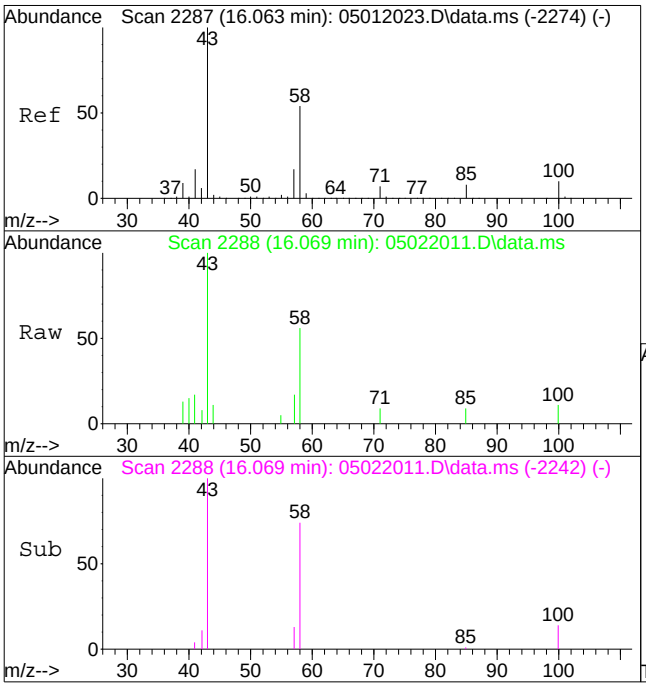


#58
Toluene
Concen: 0.26 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.005 min
Lab File: 05022011.D
Acq: 2 May 2020 15:32

Tgt Ion: 91 Resp: 30016

Ion	Ratio	Lower	Upper
91	100		
92	59.6	39.4	79.4

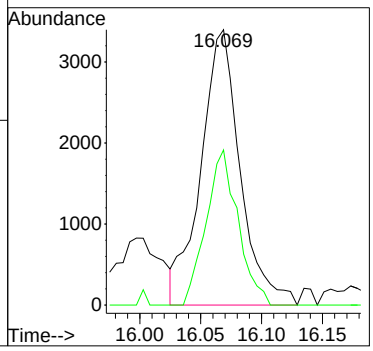


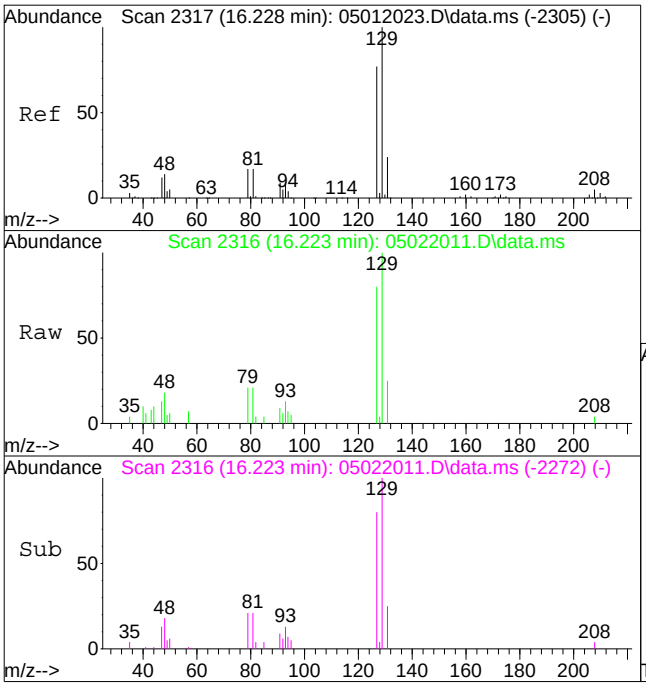


#59
2-Hexanone
Concen: 0.12 ng
RT: 16.07 min Scan# 2288
Delta R.T. 0.006 min
Lab File: 05022011.D
Acq: 2 May 2020 15:32

Tgt Ion: 43 Resp: 7632

Ion	Ratio	Lower	Upper
43	100		
58	45.6	34.5	74.5

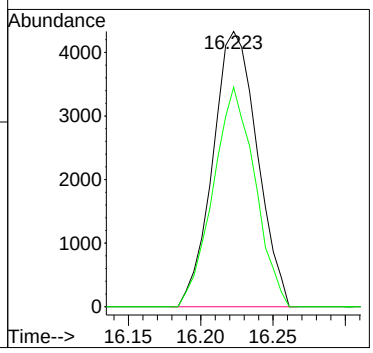


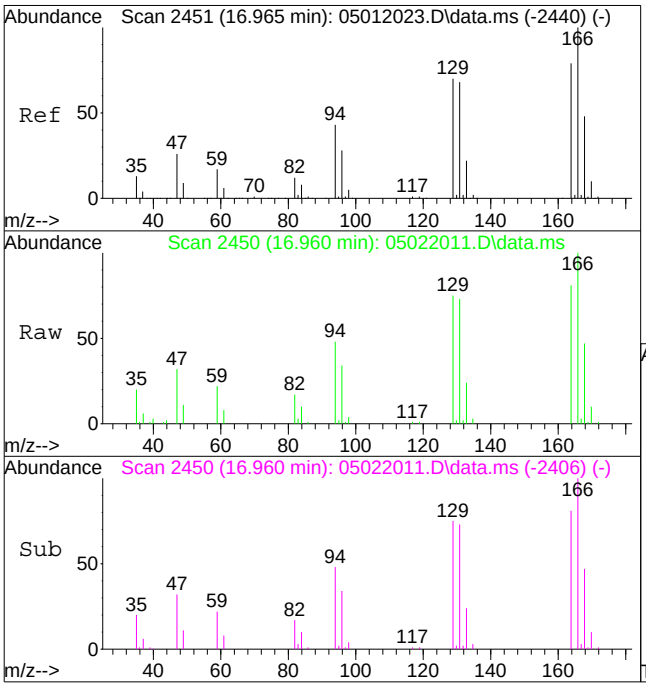


#60
Dibromochloromethane
Concen: 0.28 ng
RT: 16.22 min Scan# 2316
Delta R.T. -0.005 min
Lab File: 05022011.D
Acq: 2 May 2020 15:32

Tgt Ion:129 Resp: 9246

Ion	Ratio	Lower	Upper
129	100		
127	75.2	57.3	97.3

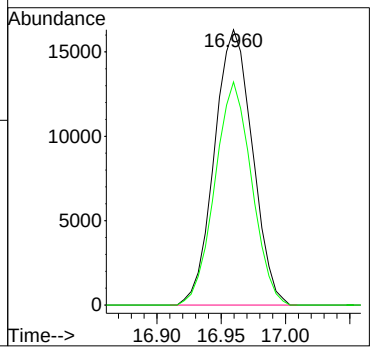


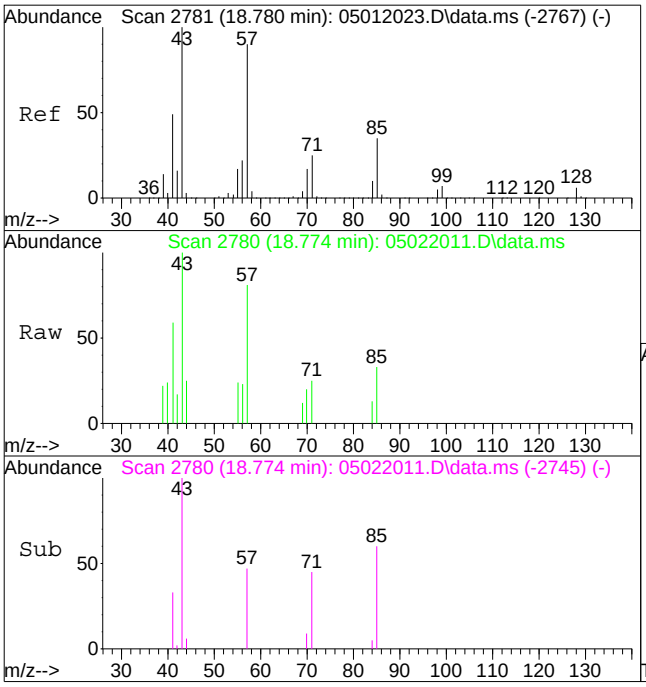


#64
Tetrachloroethene
Concen: 1.02 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.005 min
Lab File: 05022011.D
Acq: 2 May 2020 15:32

Tgt Ion:166 Resp: 33583

Ion	Ratio	Lower	Upper
166	100		
164	78.3	58.4	98.4

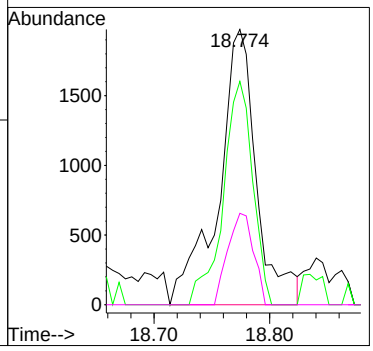


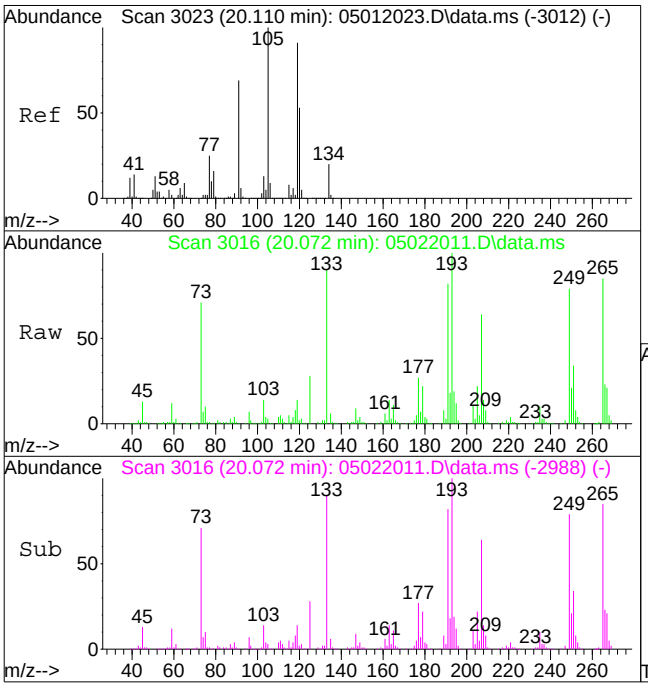


#71
n-Nonane
Concen: 0.08 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.005 min
Lab File: 05022011.D
Acq: 2 May 2020 15:32

Tgt Ion: 43 Resp: 4504

Ion	Ratio	Lower	Upper
43	100		
57	63.1	69.0	109.0#
85	22.4	14.6	54.6

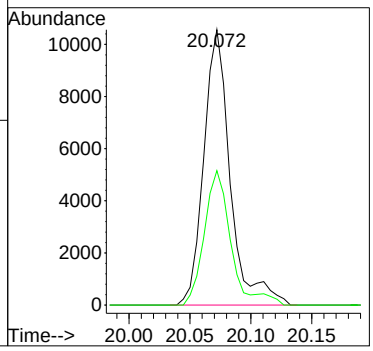




#82
1,2,4-Trimethylbenzene
Concen: 0.15 ng
RT: 20.07 min Scan# 3016
Delta R.T. -0.044 min
Lab File: 05022011.D
Acq: 2 May 2020 15:32

Tgt Ion:105 Resp: 15947

Ion	Ratio	Lower	Upper
105	100		
120	48.9	33.6	73.6



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042008.D Vial: 4
Acq On : 4 May 2020 9:43 Operator: TD
Sample : P2002104-015dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:59:43 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/4/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	292374	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1295796	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	606642	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	500862	12.641	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.12%				
57) Toluene-d8 (SS2)	15.72	98	1289212	12.538	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.32%				
73) Bromofluorobenzene (SS3)	18.98	174	446024	12.055	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.48%				
Target Compounds							Qvalue
2) Propene	4.14	42	575	N.D.			
3) Dichlorodifluoromethan...	4.30	85	4131	0.062	ng	#	97
4) Chloromethane	4.56	50	578	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.32	45	13965	0.534	ng		91
11) Acetonitrile	6.60	41	4521	0.076	ng	#	69
12) Acrolein	6.81	56	1428	0.069	ng		95
13) Acetone	7.03	58	13362	0.511	ng	#	76
14) Trichlorofluoromethane	7.26	101	1265	N.D.			
15) 2-Propanol (Isopropanol)	7.53	45	3663	N.D.			
16) Acrylonitrile	7.76	53	1509	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	1206	N.D.			
20) 3-Chloro-1-propene (Al...	8.46	41	226	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.69	76	4128	N.D.			
23) trans-1,2-Dichloroethene	9.68	61	346	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.49	72	1393	0.062	ng	#	52
28) cis-1,2-Dichloroethene	10.95	61	377	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.29	61	522	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	11.30	83	651034	11.186	ng		98
34) Tetrahydrofuran (THF)	11.78	72	478	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.10	62	262	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.86	78	1311	N.D.			
42) Carbon Tetrachloride	13.03	117	10743	0.227	ng		97
43) Cyclohexane	13.26	84	942	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	13.91	83	30970	0.659	ng		100
47) Trichloroethene	13.96	130	1780	N.D.			
48) 1,4-Dioxane	13.98	88	244	N.D.			
49) 2,2,4-Trimethylpentane...	14.03	57	1068	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042008.D Vial: 4
Acq On : 4 May 2020 9:43 Operator: TD
Sample : P2002104-015dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:59:43 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

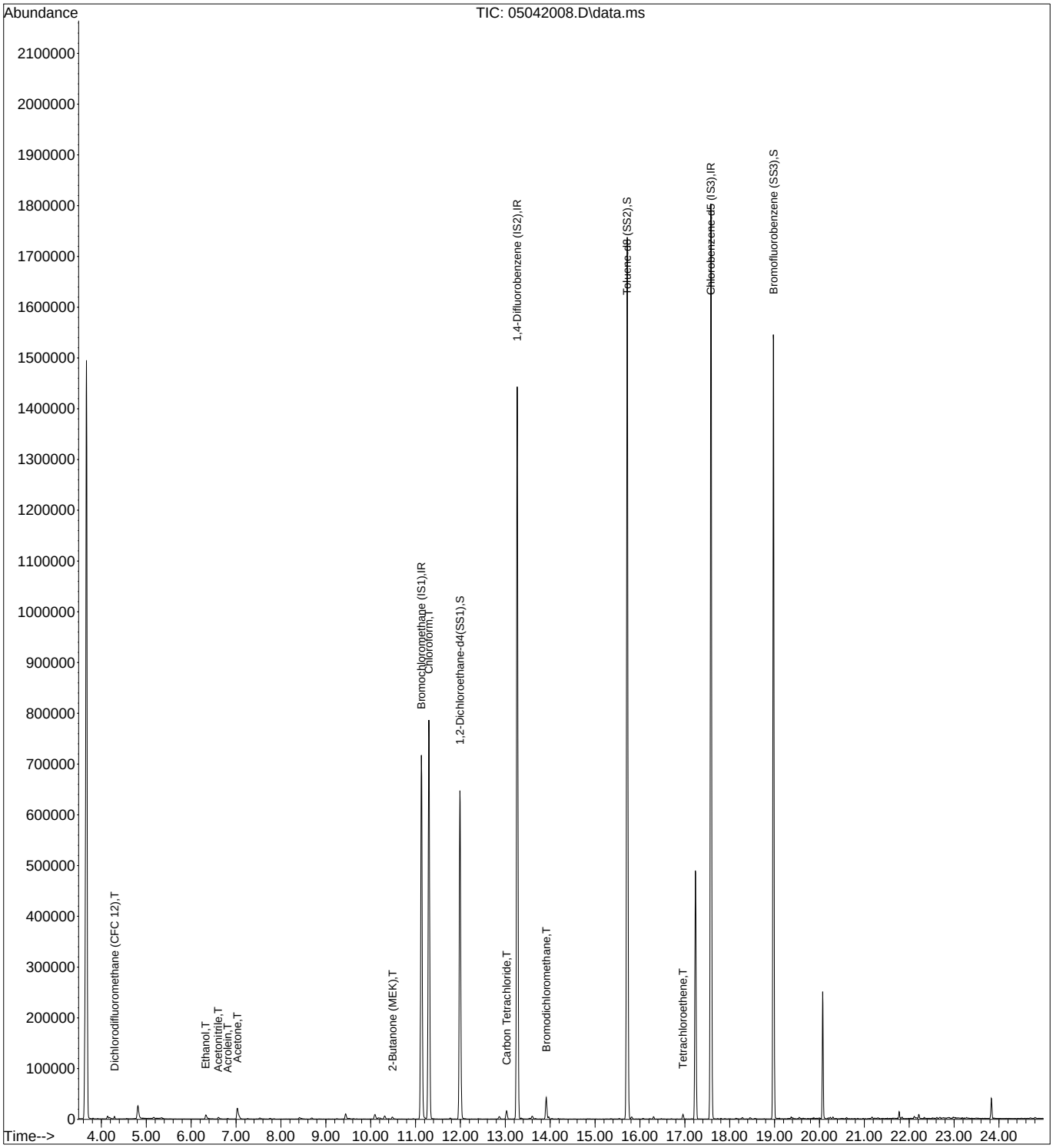
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	14.83	75	431	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	15.36	75	585	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.82	91	4032	N.D.	
59) 2-Hexanone	16.08	43	1662	N.D.	
60) Dibromochloromethane	16.22	129	815	N.D.	
61) 1,2-Dibromoethane	16.48	107	598	N.D.	
62) n-Butyl Acetate	16.70	43	863	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	16.96	166	2992	0.080 ng	98
65) Chlorobenzene	17.62	112	925	N.D.	
66) Ethylbenzene	17.99	91	1134	N.D.	
67) m- & p-Xylenes	18.15	91	2174	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	976	N.D.	
70) o-Xylene	18.57	91	1041	N.D.	
71) n-Nonane	18.77	43	437	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.10	105	434	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	19.55	91	1642	N.D.	
77) 3-Ethyltoluene	19.64	105	716	N.D.	
78) 4-Ethyltoluene	19.68	105	776	N.D.	
79) 1,3,5-Trimethylbenzene	19.75	105	441	N.D.	
80) alpha-Methylstyrene	19.88	118	323	N.D.	
81) 2-Ethyltoluene	19.91	105	1076	N.D.	
82) 1,2,4-Trimethylbenzene	20.10	105	843	N.D.	
83) n-Decane	20.19	57	662	N.D.	
84) Benzyl Chloride	20.22	91	1906	N.D.	
85) 1,3-Dichlorobenzene	20.24	146	1272	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	1727	N.D.	
87) sec-Butylbenzene	20.34	105	636	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	501	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	414	N.D.	
90) 1,2-Dichlorobenzene	20.60	146	776	N.D.	
91) d-Limonene	20.62	68	383	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.29	57	558	N.D.	
94) 1,2,4-Trichlorobenzene	22.12	180	1316	N.D.	
95) Naphthalene	22.22	128	5974	N.D.	
96) n-Dodecane	22.15	57	278	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.28	55	1404	N.D.	
99) tert-Butylbenzene	20.07	119	5321	N.D.	
100) n-Butylbenzene	20.85	91	743	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042008.D Vial: 4
Acq On : 4 May 2020 9:43 Operator: TD
Sample : P2002104-015dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:59:43 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

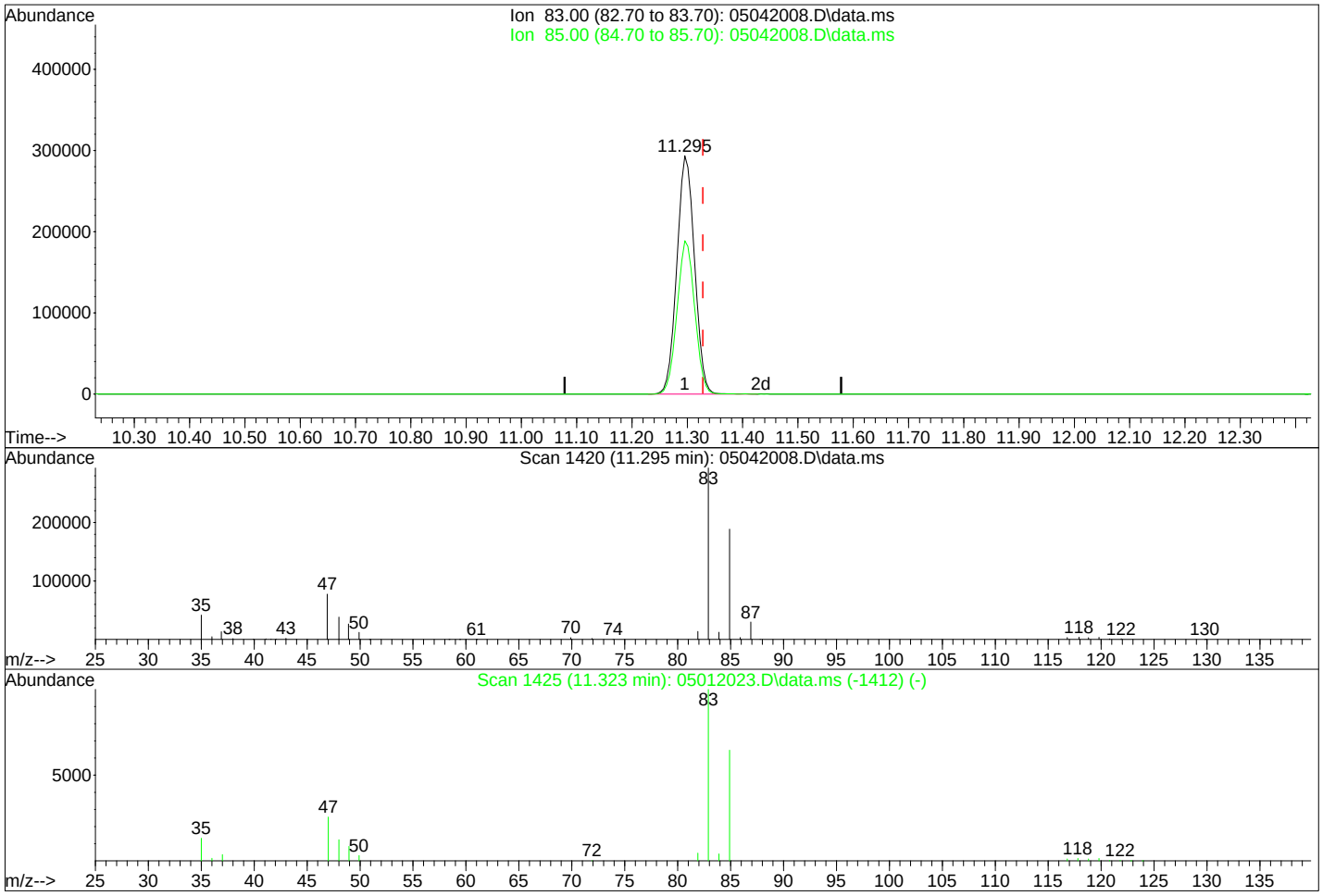


R16050120.M Mon May 04 14:59:54 2020

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\04\05042008.D Vial: 4
Acq On : 4 May 2020 9:43 Operator: TD
Sample : P2002104-015dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 12:22:20 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05042008.D\data.ms

(32) Chloroform (T)

11.295min (-0.033) 11.19ng

response 651034

Ion	Exp%	Act%
83.00	100	100
85.00	65.50	64.28
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022012.D Vial: 5
Acq On : 2 May 2020 16:06 Operator: TD
Sample : P2002104-016 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:45:26 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/4/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	253895	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.27	114	1108491	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	543901	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	438091	12.732	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.84%				
57) Toluene-d8 (SS2)	15.72	98	1129819	12.255	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.08%				
73) Bromofluorobenzene (SS3)	18.98	174	396589	11.955	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.68%				
Target Compounds							Qvalue
2) Propene	4.11	42	6512	0.221	ng		97
3) Dichlorodifluoromethan...	4.27	85	53362	0.928	ng		99
4) Chloromethane	4.54	50	4906	0.109	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	1276	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.22	54	120	N.D.			
8) Bromomethane	5.65	94	450	N.D.			
9) Chloroethane	5.97	64	413	N.D.			
10) Ethanol	6.32	45	48713	2.145	ng		99
11) Acetonitrile	6.62	41	3458	0.067	ng	#	9
12) Acrolein	6.83	56	2882	0.161	ng		96
13) Acetone	7.03	58	61594	2.712	ng	#	85
14) Trichlorofluoromethane	7.24	101	14217	0.280	ng		99
15) 2-Propanol (Isopropanol)	7.50	45	19040	0.277	ng		83
16) Acrylonitrile	7.77	53	186	N.D.			
17) 1,1-Dichloroethene	8.21	96	103	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	3094	0.105	ng		95
20) 3-Chloro-1-propene (Al...	8.51	41	444	N.D.			
21) Trichlorotrifluoroethane	8.84	151	3850	0.160	ng		93
22) Carbon Disulfide	8.67	76	74414	0.704	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.09	73	1455	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.47	72	10733	0.554	ng		95
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	0.00	57	0	N.D.	d		
32) Chloroform	11.30	83	10882942	215.337	ng		100
34) Tetrahydrofuran (THF)	11.74	72	15450	0.818	ng		95
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	105	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	12.95	61	681	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	11608	0.098	ng		99
42) Carbon Tetrachloride	13.03	117	148575	3.674	ng		99
43) Cyclohexane	13.17	84	2140	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	13.91	83	498331	12.404	ng		99
47) Trichloroethene	13.97	130	17466	0.568	ng		99
48) 1,4-Dioxane	13.96	88	2817	0.118	ng		97
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022012.D Vial: 5
Acq On : 2 May 2020 16:06 Operator: TD
Sample : P2002104-016 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:45:26 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

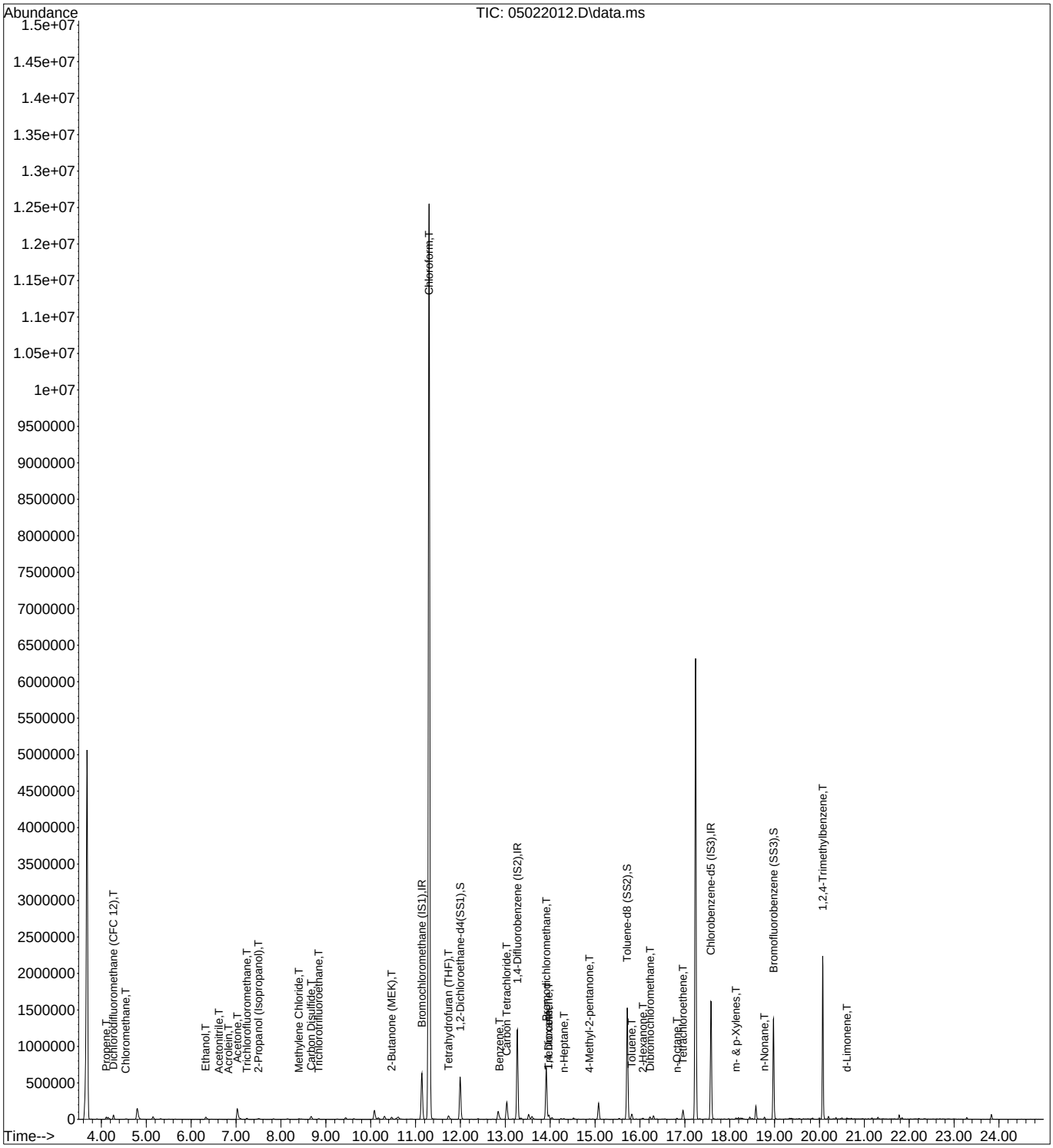
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.31	71	2614	0.094 ng		95
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.88	58	1658	0.063 ng	#	53
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.82	91	53348	0.449 ng		99
59) 2-Hexanone	16.07	43	13209	0.203 ng		91
60) Dibromochloromethane	16.23	129	16261	0.478 ng		99
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.70	43	2011	N.D.		
63) n-Octane	16.83	57	2900	0.118 ng		96
64) Tetrachloroethene	16.96	166	40601	1.210 ng		100
65) Chlorobenzene	17.63	112	436	N.D.		
66) Ethylbenzene	17.98	91	6023	N.D.		
67) m- & p-Xylenes	18.14	91	13472	0.128 ng		100
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.48	104	510	N.D.		
70) o-Xylene	18.58	91	3906	N.D.		
71) n-Nonane	18.77	43	10555	0.186 ng		96
72) 1,1,2,2-Tetrachloroethane	18.59	83	937	N.D.		
74) Cumene	19.10	105	994	N.D.		
75) alpha-Pinene	19.45	93	237	N.D.		
76) n-Propylbenzene	19.56	91	2890	N.D.		
77) 3-Ethyltoluene	19.64	105	3120	N.D.		
78) 4-Ethyltoluene	19.68	105	1485	N.D.		
79) 1,3,5-Trimethylbenzene	19.75	105	1172	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	19.91	105	960	N.D.		
82) 1,2,4-Trimethylbenzene	20.07	105	11010	0.103 ng		95
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.23	91	441	N.D.		
85) 1,3-Dichlorobenzene	20.25	146	446	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	548	N.D.		
87) sec-Butylbenzene	20.35	105	1095	N.D.		
88) 4-Isopropyltoluene (p-...	20.48	119	4609	N.D.		
89) 1,2,3-Trimethylbenzene	20.48	105	754	N.D.		
90) 1,2-Dichlorobenzene	20.61	146	267	N.D.		
91) d-Limonene	20.61	68	3656	0.086 ng		98
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.11	180	499	N.D.		
95) Naphthalene	22.22	128	3137	N.D.		
96) n-Dodecane	22.21	57	1594	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	20.84	91	1385	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022012.D Vial: 5
Acq On : 2 May 2020 16:06 Operator: TD
Sample : P2002104-016 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:45:26 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022012.D Vial: 5
Acq On : 2 May 2020 16:06 Operator: TD
Sample : P2002104-016 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:45:26 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/4/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

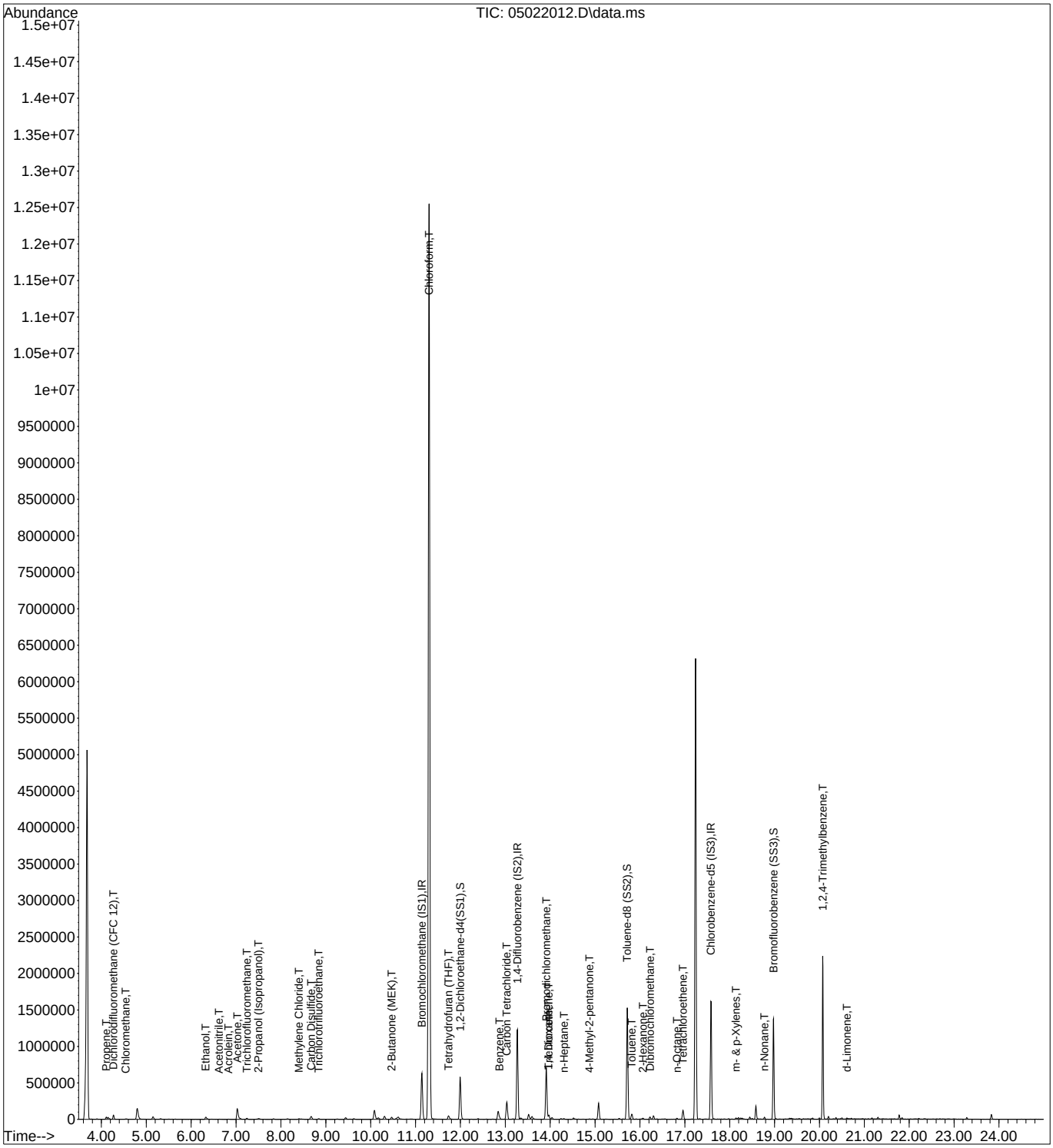
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	253895	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.27	114	1108491	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	543901	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	438091	12.732	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.84%				
57) Toluene-d8 (SS2)	15.72	98	1129819	12.255	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.08%				
73) Bromofluorobenzene (SS3)	18.98	174	396589	11.955	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.68%				
Target Compounds							Qvalue
2) Propene	4.11	42	6512	0.221	ng		97
3) Dichlorodifluoromethan...	4.27	85	53362	0.928	ng		99
4) Chloromethane	4.54	50	4906	0.109	ng		99
10) Ethanol	6.32	45	48713	2.145	ng		99
11) Acetonitrile	6.62	41	3458	0.067	ng	#	9
12) Acrolein	6.83	56	2882	0.161	ng		96
13) Acetone	7.03	58	61594	2.712	ng	#	85
14) Trichlorofluoromethane	7.24	101	14217	0.280	ng		99
15) 2-Propanol (Isopropanol)	7.50	45	19040	0.277	ng		83
19) Methylene Chloride	8.40	84	3094	0.105	ng		95
21) Trichlorotrifluoroethane	8.84	151	3850	0.160	ng		93
22) Carbon Disulfide	8.67	76	74414	0.704	ng		99
27) 2-Butanone (MEK)	10.47	72	10733	0.554	ng		95
32) Chloroform	11.30	83	10882942	215.337	ng		100
34) Tetrahydrofuran (THF)	11.74	72	15450	0.818	ng		95
41) Benzene	12.87	78	11608	0.098	ng		99
42) Carbon Tetrachloride	13.03	117	148575	3.674	ng		99
46) Bromodichloromethane	13.91	83	498331	12.404	ng		99
47) Trichloroethene	13.97	130	17466	0.568	ng		99
48) 1,4-Dioxane	13.96	88	2817	0.118	ng		97
51) n-Heptane	14.31	71	2614	0.094	ng		95
53) 4-Methyl-2-pentanone	14.88	58	1658	0.063	ng	#	53
58) Toluene	15.82	91	53348	0.449	ng		99
59) 2-Hexanone	16.07	43	13209	0.203	ng		91
60) Dibromochloromethane	16.23	129	16261	0.478	ng		99
63) n-Octane	16.83	57	2900	0.118	ng		96
64) Tetrachloroethene	16.96	166	40601	1.210	ng		100
67) m- & p-Xylenes	18.14	91	13472	0.128	ng		100
71) n-Nonane	18.77	43	10555	0.186	ng		96
82) 1,2,4-Trimethylbenzene	20.07	105	11010	0.103	ng		95
91) d-Limonene	20.61	68	3656	0.086	ng		98

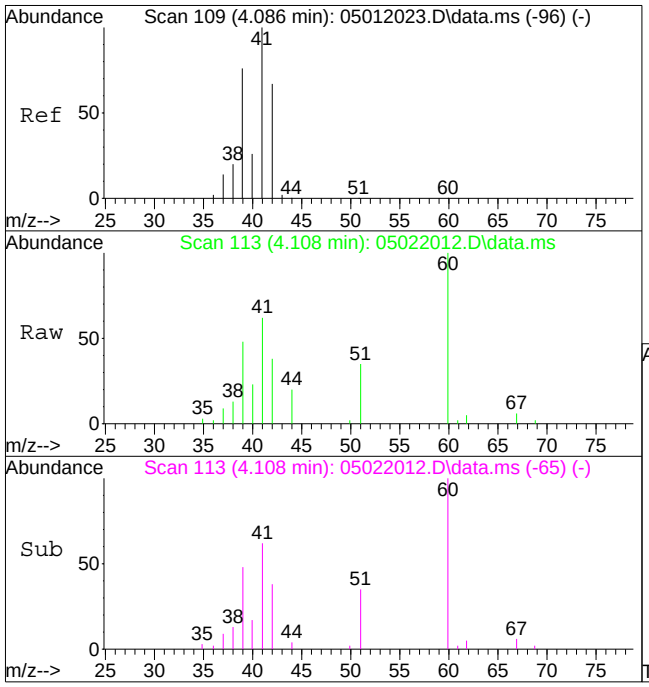
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022012.D Vial: 5
Acq On : 2 May 2020 16:06 Operator: TD
Sample : P2002104-016 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:45:26 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

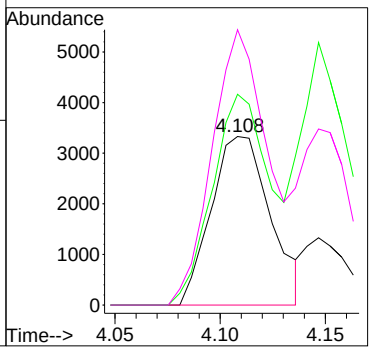


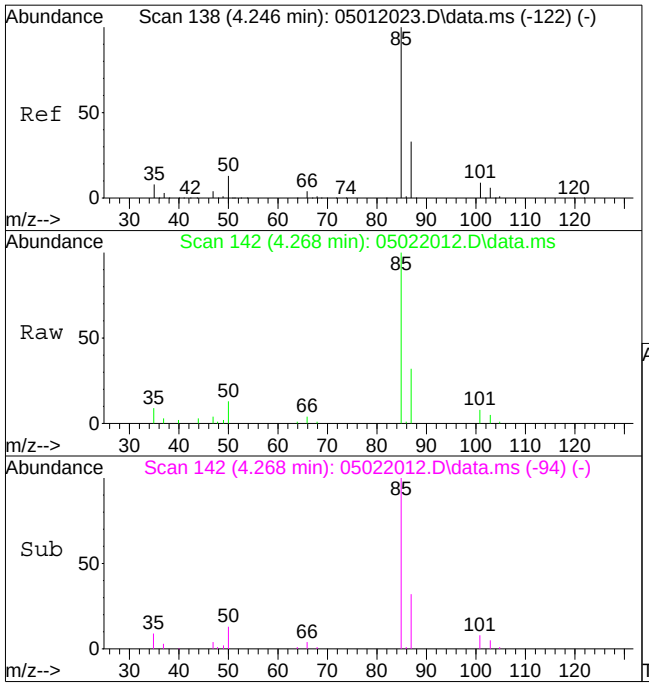


#2
Propene
Concen: 0.22 ng
RT: 4.11 min Scan# 113
Delta R.T. 0.016 min
Lab File: 05022012.D
Acq: 2 May 2020 16:06

Tgt Ion: 42 Resp: 6512

Ion	Ratio	Lower	Upper
42	100		
39	121.6	96.1	136.1
41	150.8	131.9	171.9

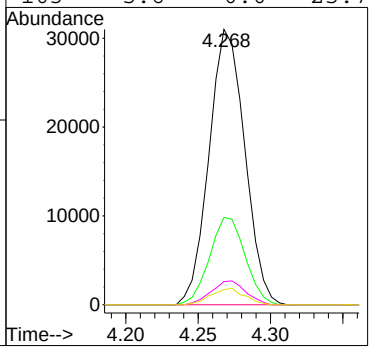


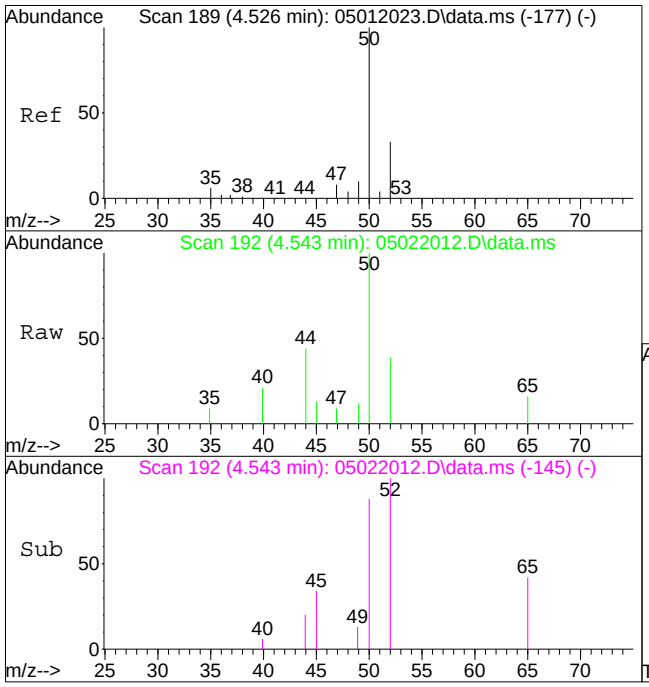


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.93 ng
RT: 4.27 min Scan# 142
Delta R.T. 0.016 min
Lab File: 05022012.D
Acq: 2 May 2020 16:06

Tgt Ion: 85 Resp: 53362

Ion	Ratio	Lower	Upper
85	100		
87	31.6	12.4	52.4
101	8.4	0.0	28.8
103	5.6	0.0	25.7

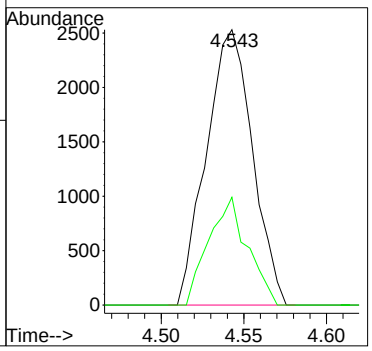


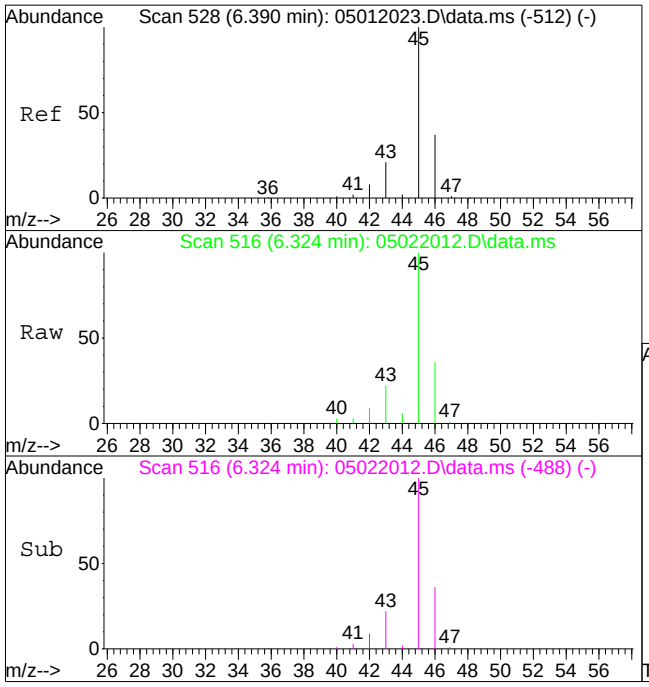


#4
Chloromethane
Concen: 0.11 ng
RT: 4.54 min Scan# 192
Delta R.T. 0.011 min
Lab File: 05022012.D
Acq: 2 May 2020 16:06

Tgt Ion: 50 Resp: 4906

Ion	Ratio	Lower	Upper
50	100		
52	33.1	12.5	52.5

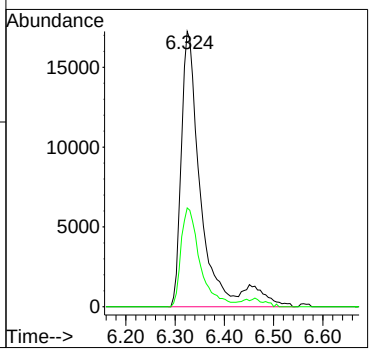


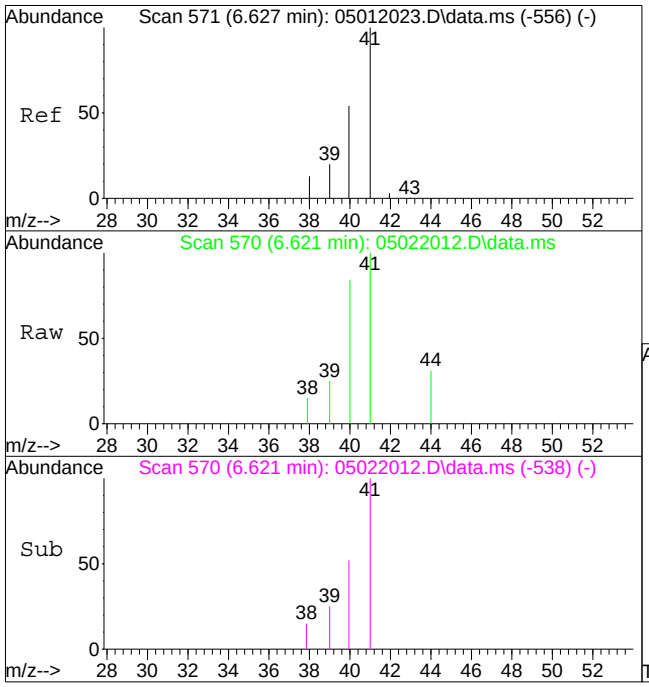


#10
Ethanol
Concen: 2.15 ng
RT: 6.32 min Scan# 516
Delta R.T. -0.093 min
Lab File: 05022012.D
Acq: 2 May 2020 16:06

Tgt Ion: 45 Resp: 48713

Ion	Ratio	Lower	Upper
45	100		
46	37.6	17.2	57.2

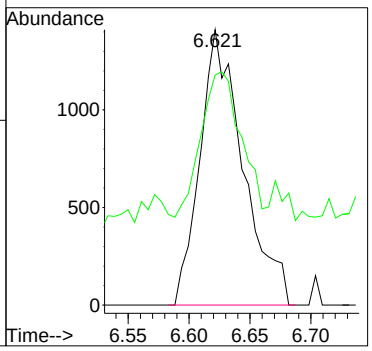


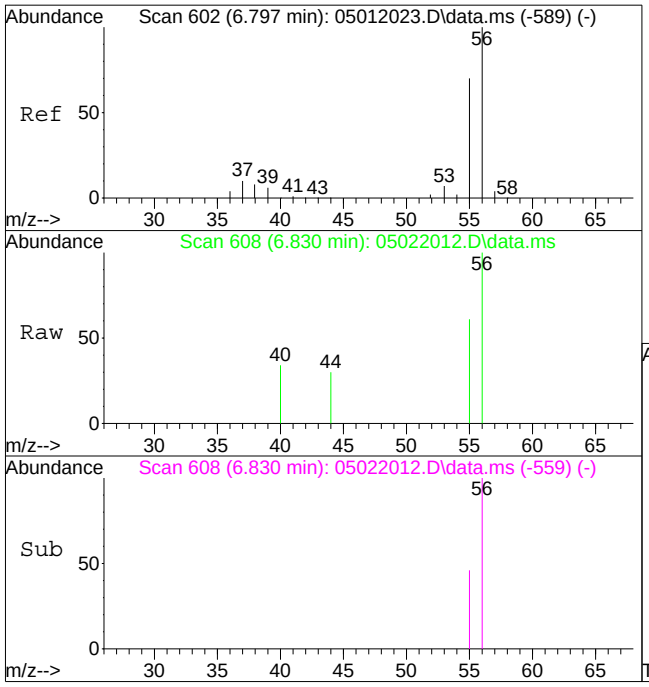


#11
Acetonitrile
Concen: 0.07 ng
RT: 6.62 min Scan# 570
Delta R.T. -0.022 min
Lab File: 05022012.D
Acq: 2 May 2020 16:06

Tgt Ion: 41 Resp: 3458

Ion	Ratio	Lower	Upper
41	100		
40	118.2	33.6	73.6#

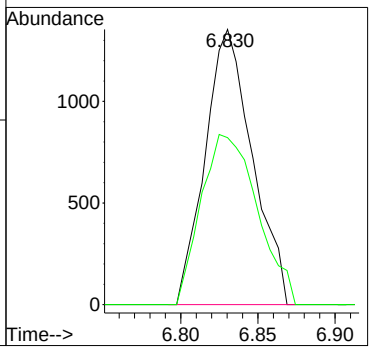


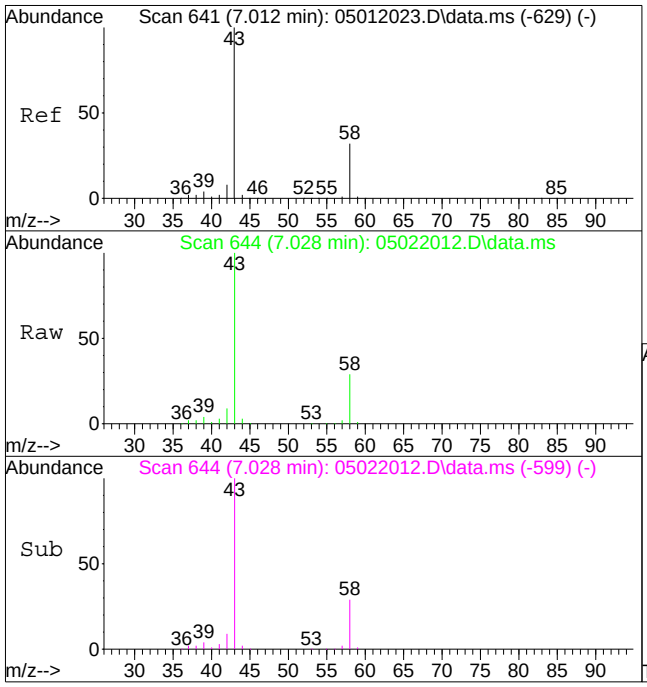


#12
Acrolein
Concen: 0.16 ng
RT: 6.83 min Scan# 608
Delta R.T. 0.022 min
Lab File: 05022012.D
Acq: 2 May 2020 16:06

Tgt Ion: 56 Resp: 2882

Ion	Ratio	Lower	Upper
56	100		
55	73.8	50.2	90.2

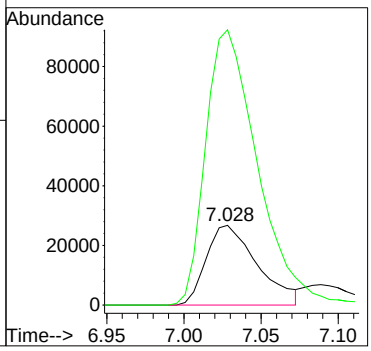


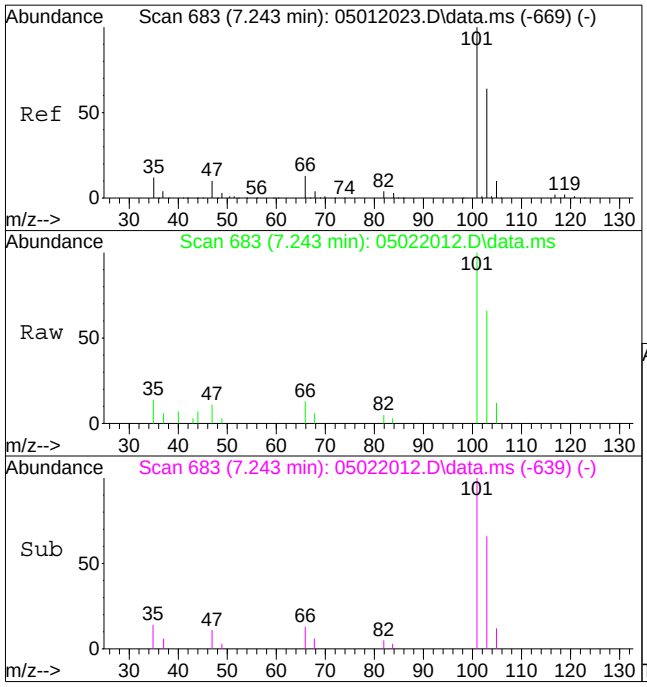


#13
Acetone
Concen: 2.71 ng
RT: 7.03 min Scan# 644
Delta R.T. -0.000 min
Lab File: 05022012.D
Acq: 2 May 2020 16:06

Tgt Ion: 58 Resp: 61594

Ion	Ratio	Lower	Upper
58	100		
43	354.8	294.4	354.4#

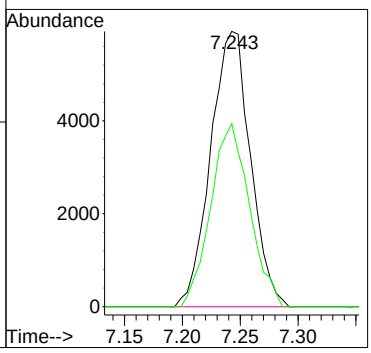


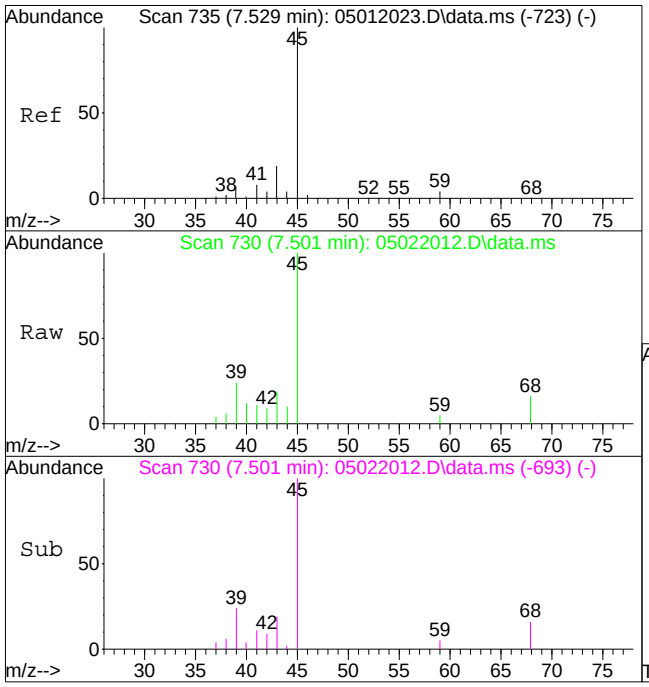


#14
Trichlorofluoromethane
Concen: 0.28 ng
RT: 7.24 min Scan# 683
Delta R.T. -0.006 min
Lab File: 05022012.D
Acq: 2 May 2020 16:06

Tgt Ion:101 Resp: 14217

Ion	Ratio	Lower	Upper
101	100		
103	64.8	44.4	84.4

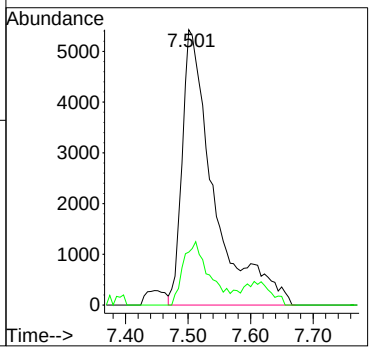


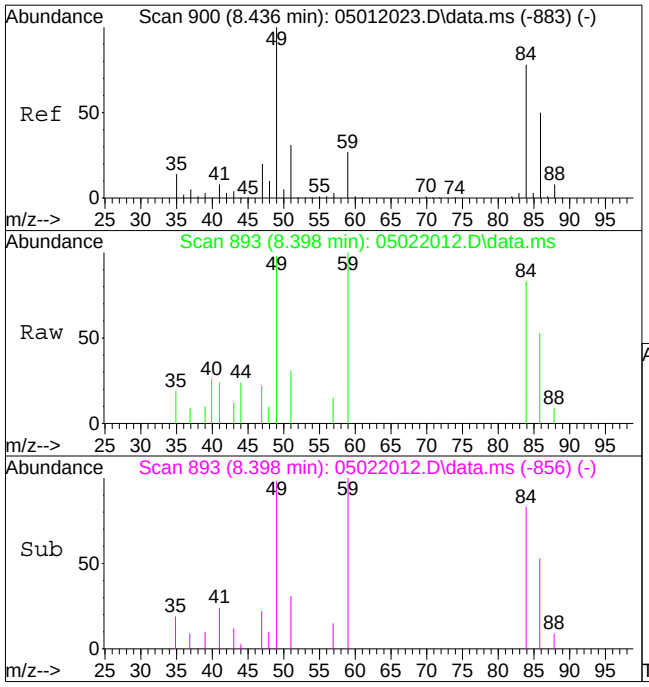


#15
2-Propanol (Isopropanol)
Concen: 0.28 ng
RT: 7.50 min Scan# 730
Delta R.T. -0.044 min
Lab File: 05022012.D
Acq: 2 May 2020 16:06

Tgt Ion: 45 Resp: 19040

Ion	Ratio	Lower	Upper
45	100		
43	27.1	0.0	39.5

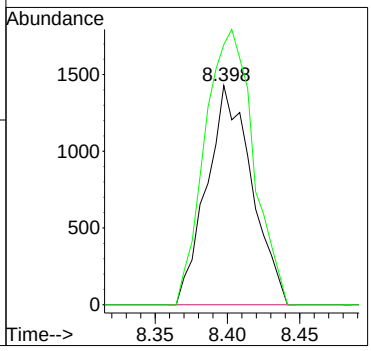


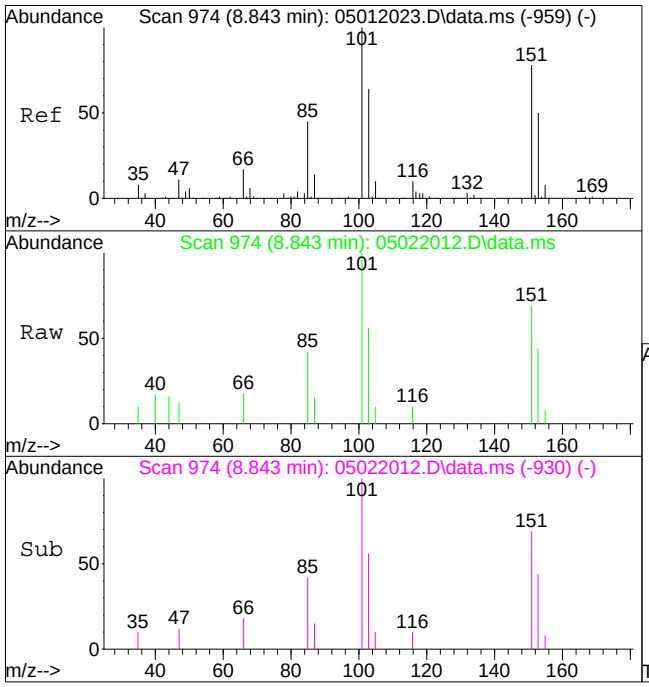


#19
Methylene Chloride
Concen: 0.10 ng
RT: 8.40 min Scan# 893
Delta R.T. -0.044 min
Lab File: 05022012.D
Acq: 2 May 2020 16:06

Tgt Ion: 84 Resp: 3094

Ion	Ratio	Lower	Upper
84	100		
49	135.5	104.8	154.8

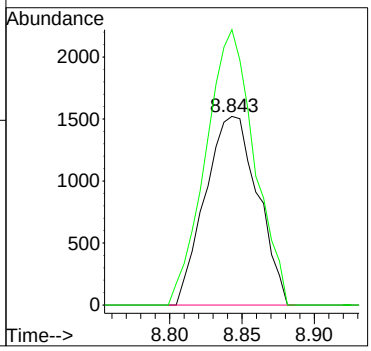


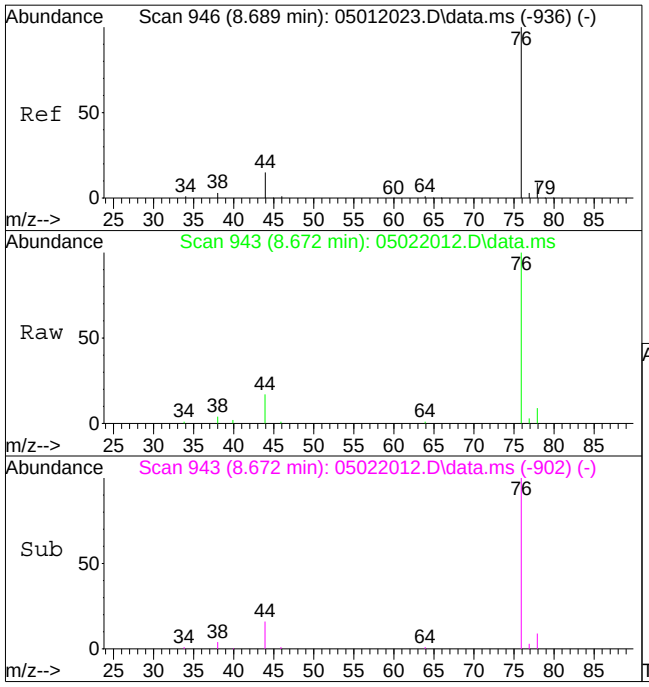


#21
Trichlorotrifluoroethane
Concen: 0.16 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05022012.D
Acq: 2 May 2020 16:06

Tgt Ion:151 Resp: 3850

Ion	Ratio	Lower	Upper
151	100		
101	135.3	107.3	147.3

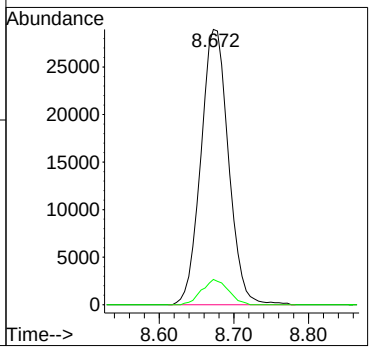


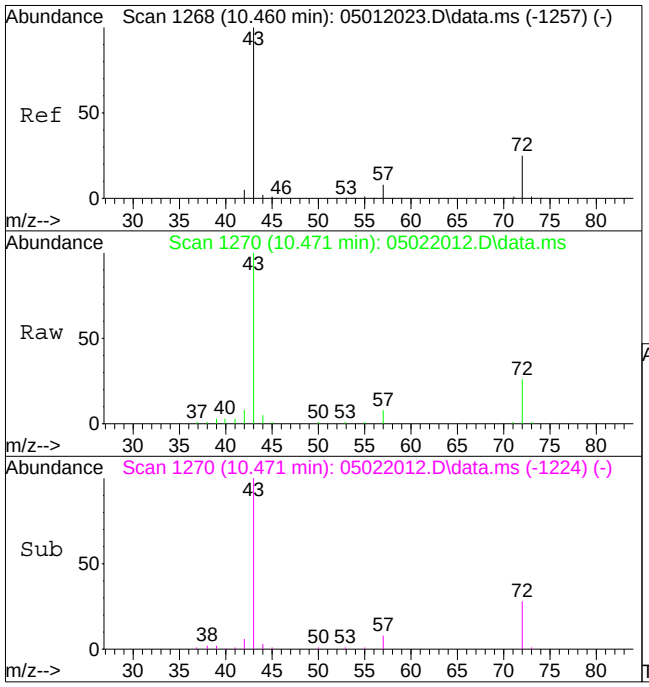


#22
Carbon Disulfide
Concen: 0.70 ng
RT: 8.67 min Scan# 943
Delta R.T. -0.022 min
Lab File: 05022012.D
Acq: 2 May 2020 16:06

Tgt Ion: 76 Resp: 74414

Ion	Ratio	Lower	Upper
76	100		
78	8.8	0.0	29.2

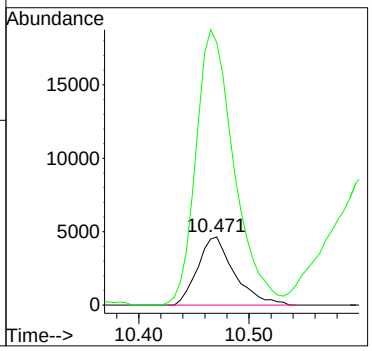


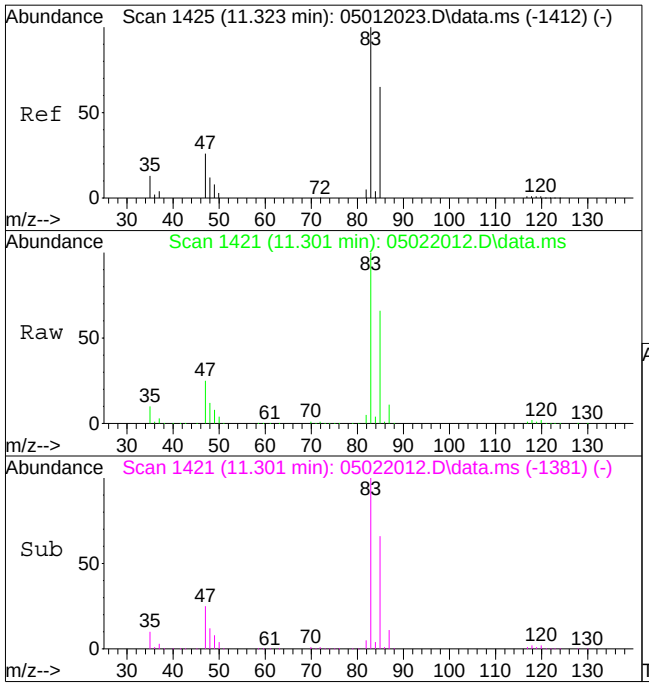


#27
2-Butanone (MEK)
Concen: 0.55 ng
RT: 10.47 min Scan# 1270
Delta R.T. 0.005 min
Lab File: 05022012.D
Acq: 2 May 2020 16:06

Tgt Ion: 72 Resp: 10733

Ion	Ratio	Lower	Upper
72	100		
43	420.6	389.7	429.7

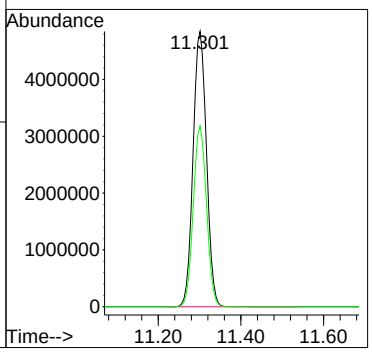


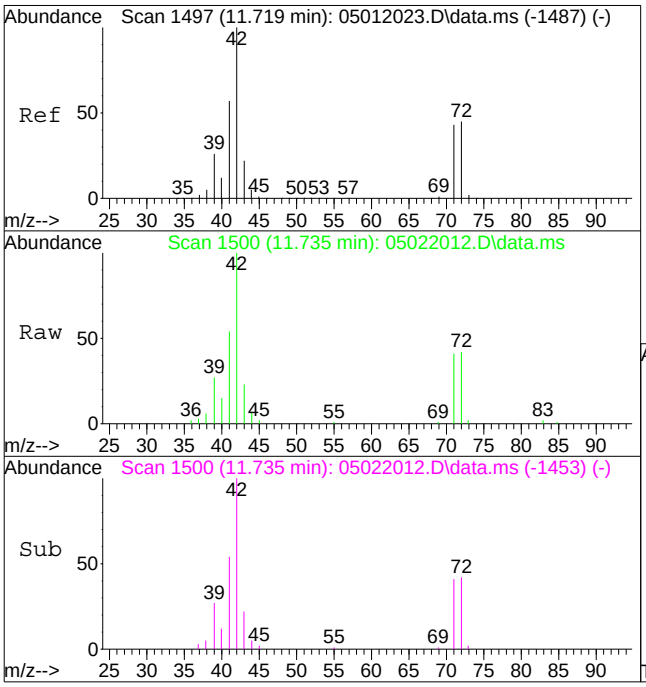


#32
Chloroform
Concen: 215.34 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.028 min
Lab File: 05022012.D
Acq: 2 May 2020 16:06

Tgt Ion: 83 Resp:10882942

Ion	Ratio	Lower	Upper
83	100		
85	65.2	45.5	85.5

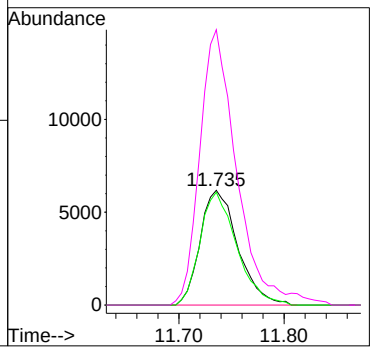


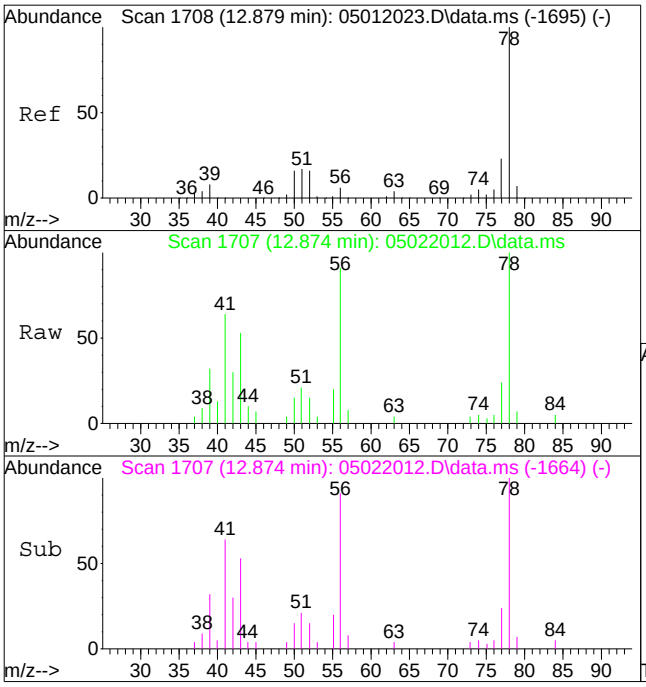


#34
Tetrahydrofuran (THF)
Concen: 0.82 ng
RT: 11.74 min Scan# 1500
Delta R.T. 0.011 min
Lab File: 05022012.D
Acq: 2 May 2020 16:06

Tgt Ion: 72 Resp: 15450

Ion	Ratio	Lower	Upper
72	100		
71	95.8	77.0	117.0
42	236.1	204.6	244.6

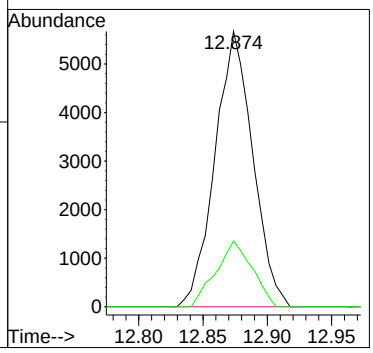


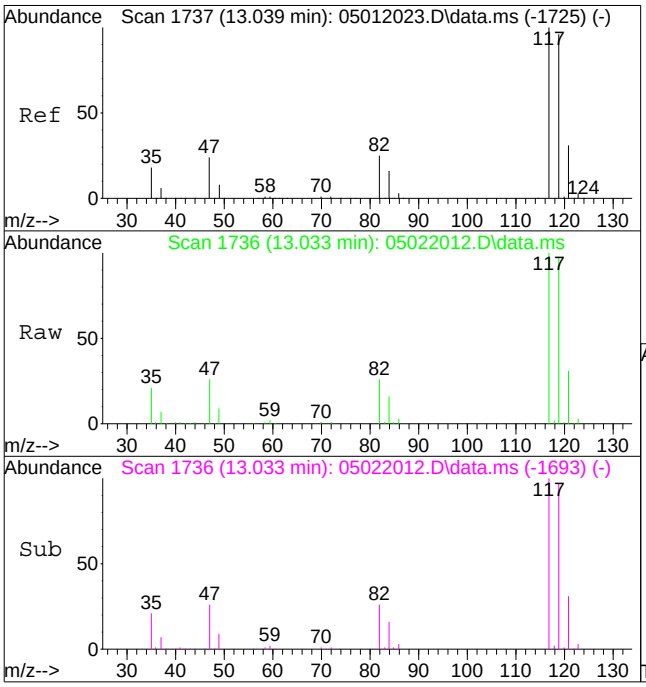


#41
Benzene
Concen: 0.10 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05022012.D
Acq: 2 May 2020 16:06

Tgt Ion: 78 Resp: 11608

Ion	Ratio	Lower	Upper
78	100		
77	22.8	3.4	43.4

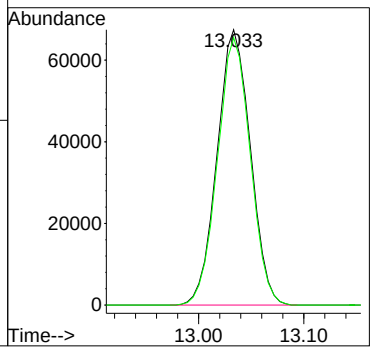


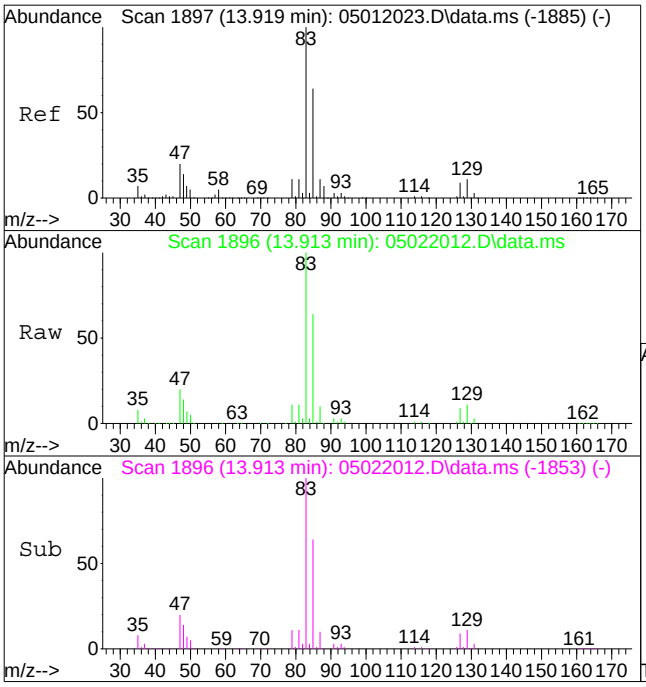


#42
Carbon Tetrachloride
Concen: 3.67 ng
RT: 13.03 min Scan# 1736
Delta R.T. -0.011 min
Lab File: 05022012.D
Acq: 2 May 2020 16:06

Tgt Ion:117 Resp: 148575

Ion	Ratio	Lower	Upper
117	100		
119	95.6	76.2	116.2

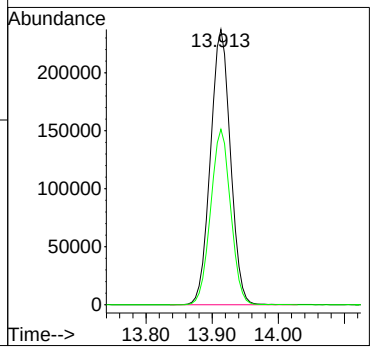


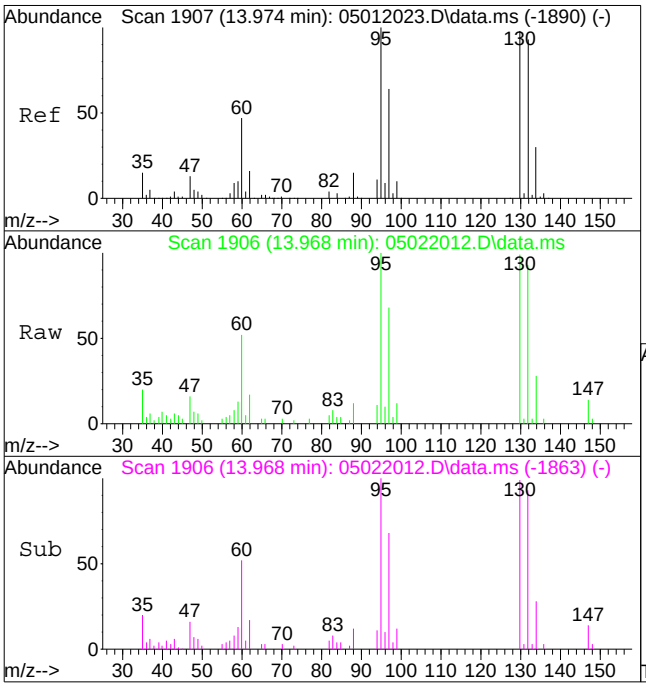


#46
Bromodichloromethane
Concen: 12.40 ng
RT: 13.91 min Scan# 1896
Delta R.T. -0.011 min
Lab File: 05022012.D
Acq: 2 May 2020 16:06

Tgt Ion: 83 Resp: 498331

Ion	Ratio	Lower	Upper
83	100		
85	63.6	44.4	84.4

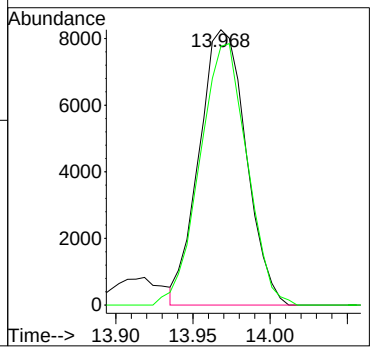


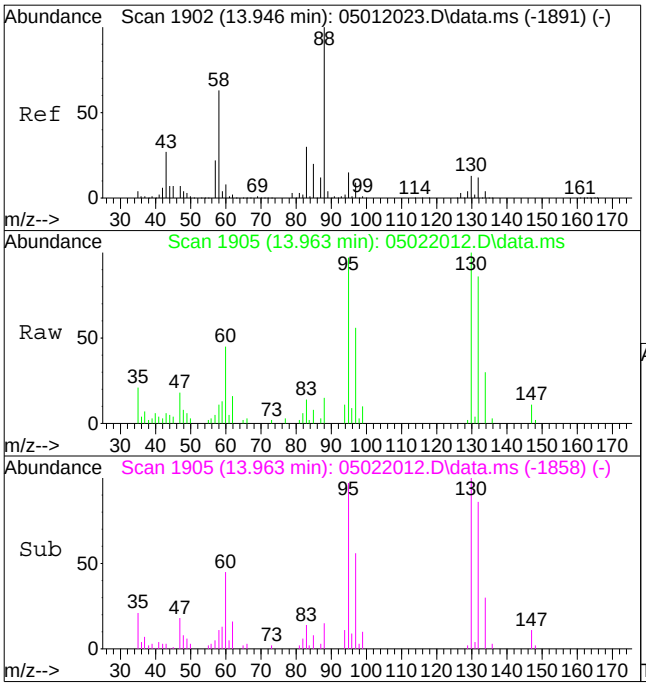


#47
Trichloroethene
Concen: 0.57 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05022012.D
Acq: 2 May 2020 16:06

Tgt Ion:130 Resp: 17466

Ion	Ratio	Lower	Upper
130	100		
132	95.4	74.9	114.9

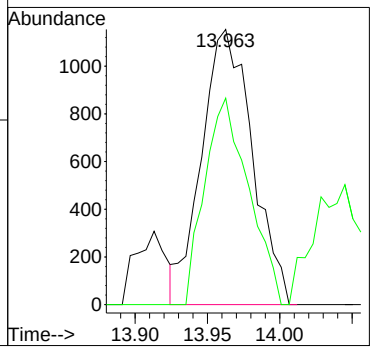


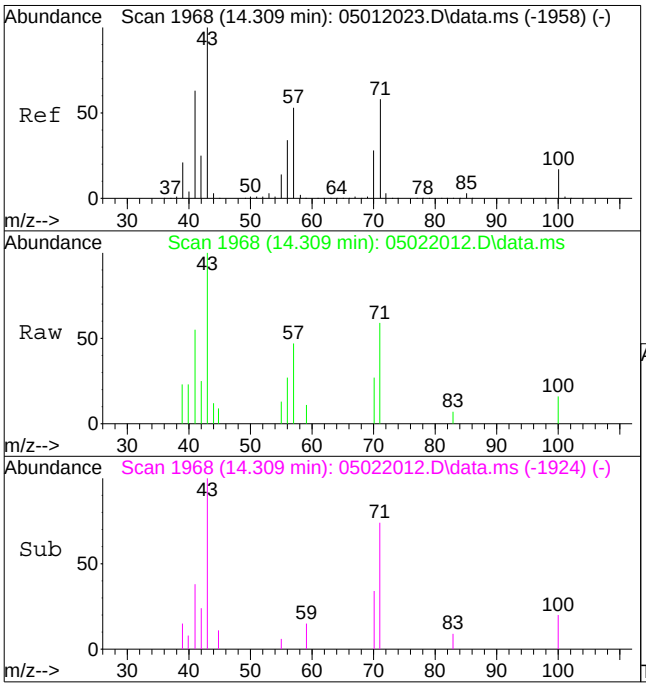


#48
1,4-Dioxane
Concen: 0.12 ng
RT: 13.96 min Scan# 1905
Delta R.T. 0.011 min
Lab File: 05022012.D
Acq: 2 May 2020 16:06

Tgt Ion: 88 Resp: 2817

Ion	Ratio	Lower	Upper
88	100		
58	64.9	42.8	82.8

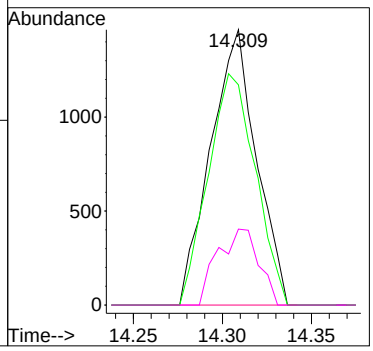


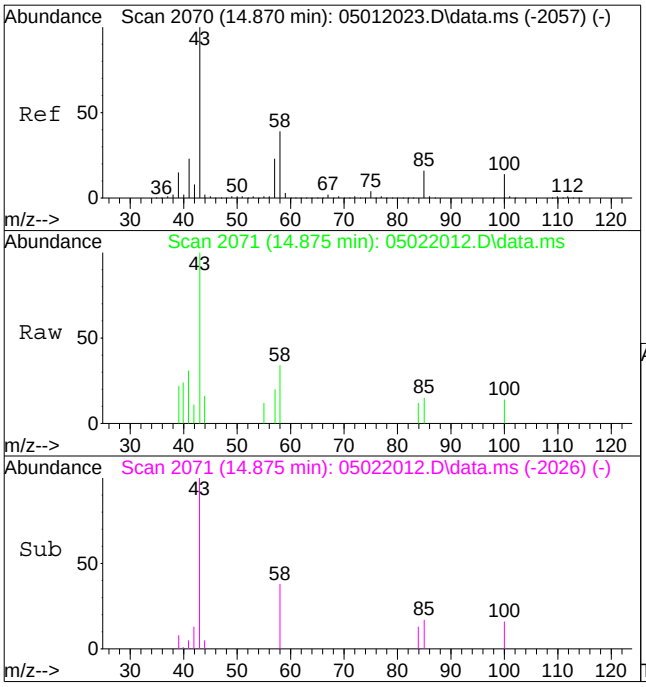


#51
n-Heptane
Concen: 0.09 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05022012.D
Acq: 2 May 2020 16:06

Tgt Ion: 71 Resp: 2614

Ion	Ratio	Lower	Upper
71	100		
57	86.8	71.0	111.0
100	24.8	8.4	48.4

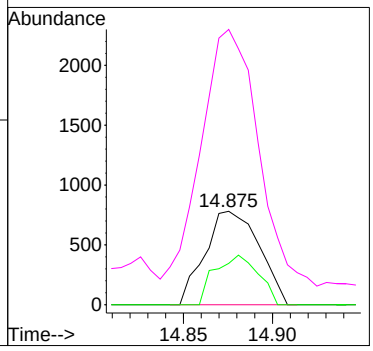


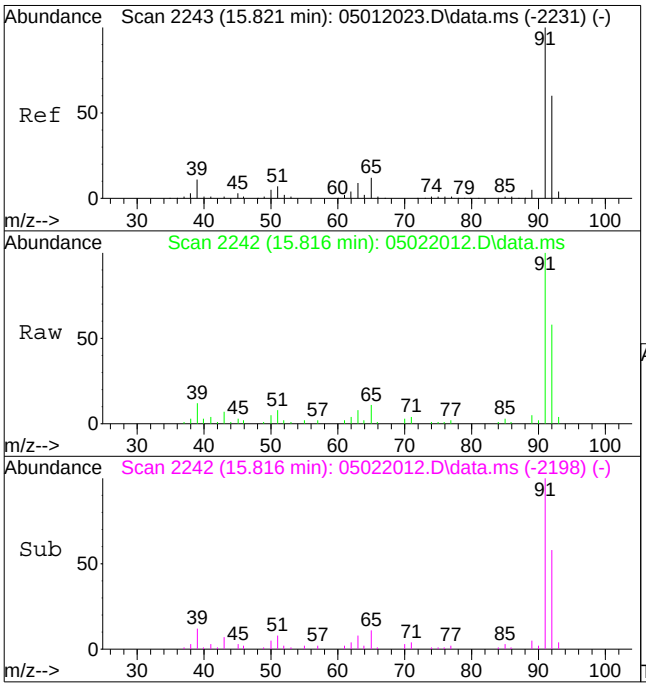


#53
4-Methyl-2-pentanone
Concen: 0.06 ng
RT: 14.88 min Scan# 2071
Delta R.T. -0.000 min
Lab File: 05022012.D
Acq: 2 May 2020 16:06

Tgt Ion: 58 Resp: 1658

Ion	Ratio	Lower	Upper
58	100		
85	42.5	35.4	53.2
43	350.8	203.3	304.9#

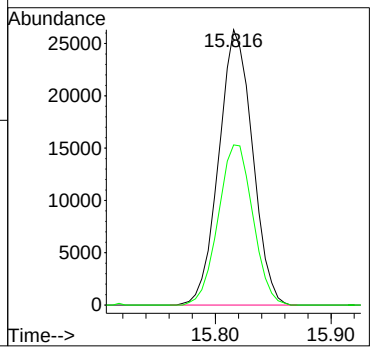


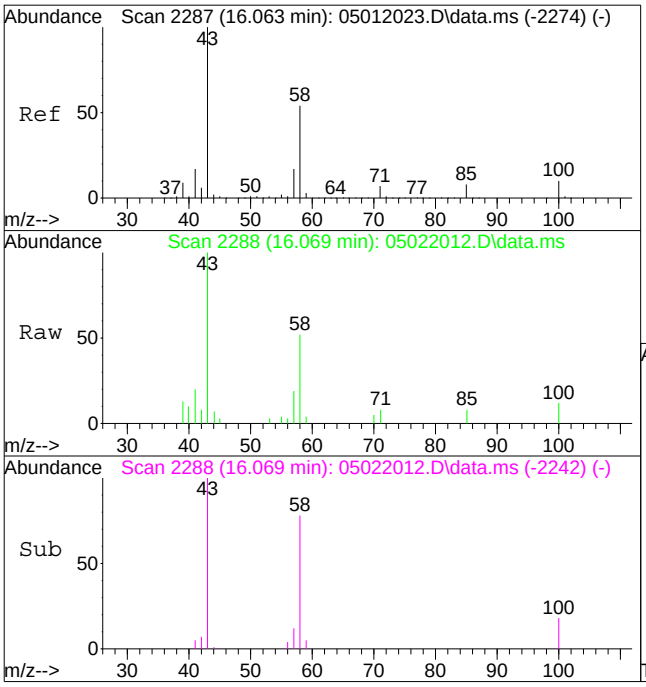


#58
Toluene
Concen: 0.45 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05022012.D
Acq: 2 May 2020 16:06

Tgt Ion: 91 Resp: 53348

Ion	Ratio	Lower	Upper
91	100		
92	59.9	39.4	79.4

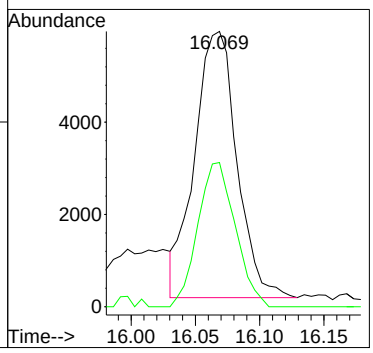


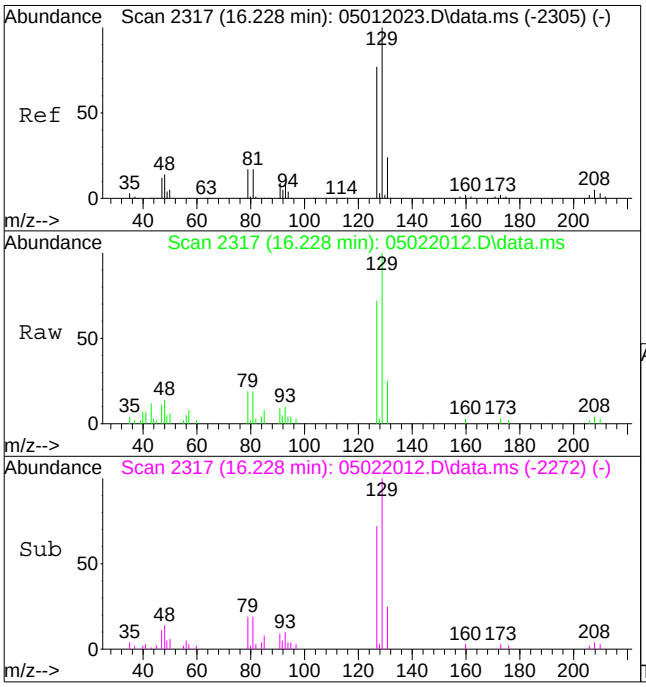


#59
2-Hexanone
Concen: 0.20 ng
RT: 16.07 min Scan# 2288
Delta R.T. 0.005 min
Lab File: 05022012.D
Acq: 2 May 2020 16:06

Tgt Ion: 43 Resp: 13209

Ion	Ratio	Lower	Upper
43	100		
58	47.8	34.5	74.5

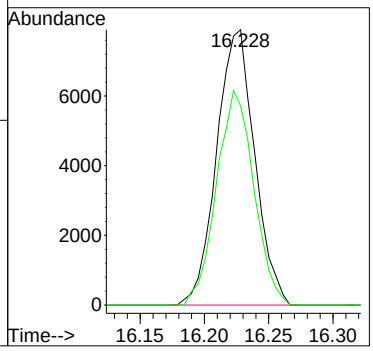


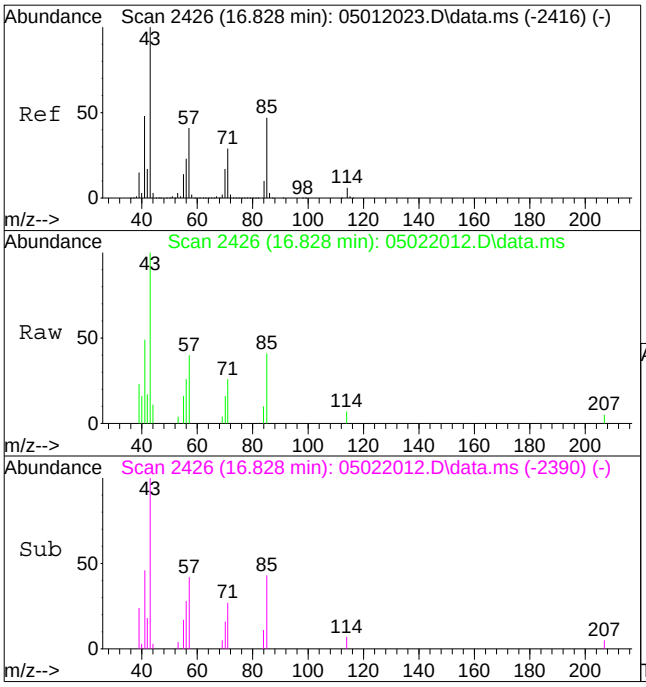


#60
Dibromochloromethane
Concen: 0.48 ng
RT: 16.23 min Scan# 2317
Delta R.T. -0.000 min
Lab File: 05022012.D
Acq: 2 May 2020 16:06

Tgt Ion:129 Resp: 16261

Ion	Ratio	Lower	Upper
129	100		
127	76.5	57.3	97.3

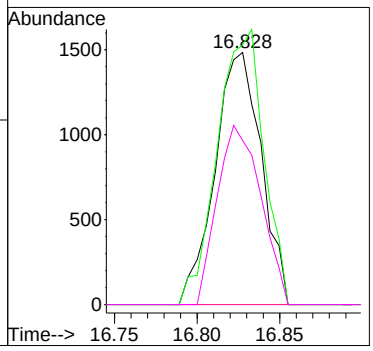


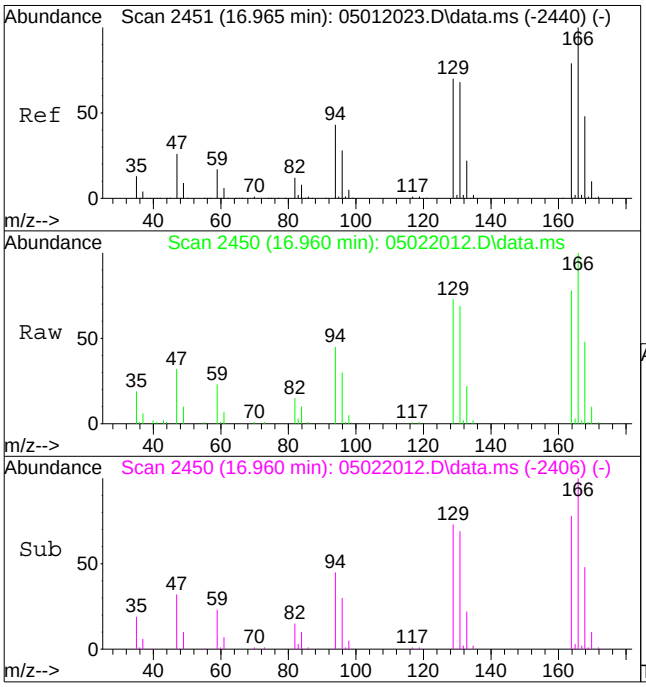


#63
n-Octane
Concen: 0.12 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05022012.D
Acq: 2 May 2020 16:06

Tgt Ion: 57 Resp: 2900

Ion	Ratio	Lower	Upper
57	100		
85	108.9	91.0	136.4
71	66.9	56.2	84.2

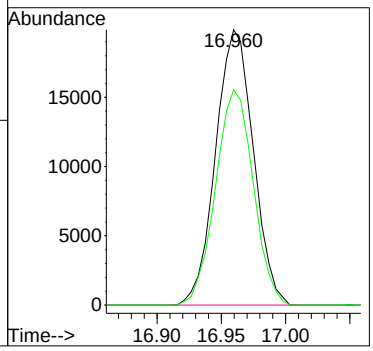


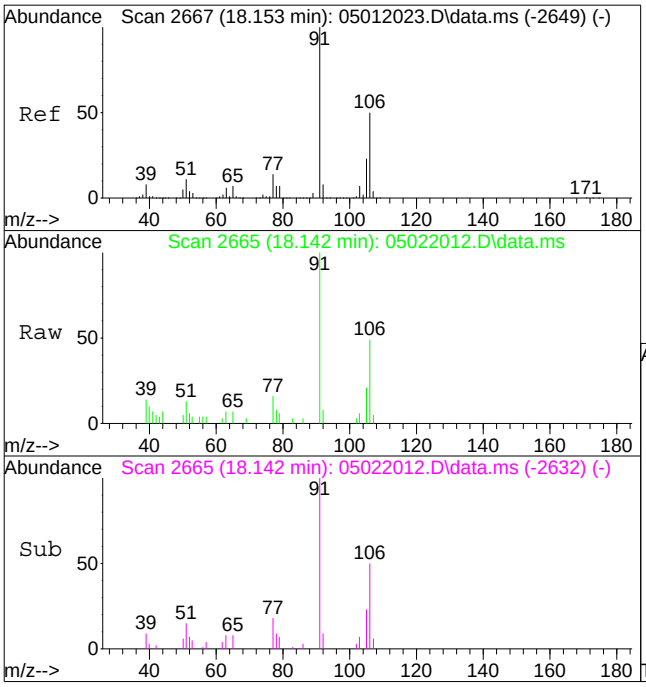


#64
Tetrachloroethene
Concen: 1.21 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05022012.D
Acq: 2 May 2020 16:06

Tgt Ion:166 Resp: 40601

Ion	Ratio	Lower	Upper
166	100		
164	78.2	58.4	98.4

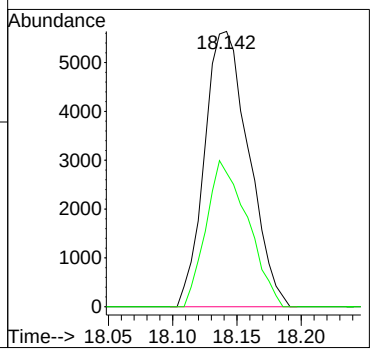


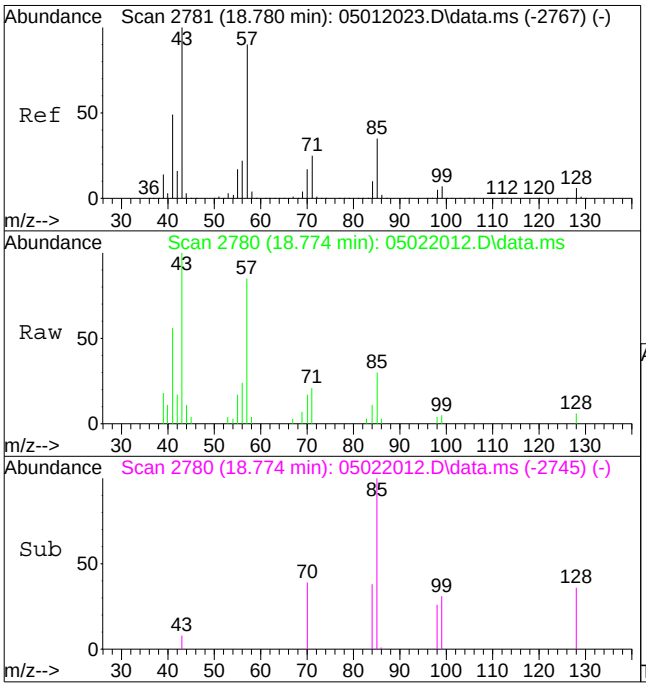


#67
m- & p-Xylenes
Concen: 0.13 ng
RT: 18.14 min Scan# 2665
Delta R.T. -0.017 min
Lab File: 05022012.D
Acq: 2 May 2020 16:06

Tgt Ion: 91 Resp: 13472

Ion	Ratio	Lower	Upper
91	100		
106	49.8	29.7	69.7

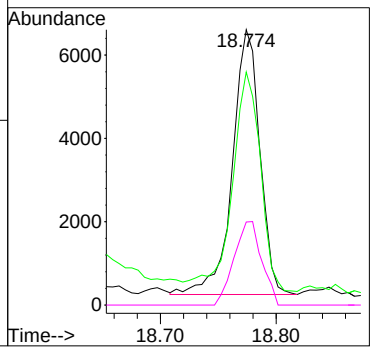


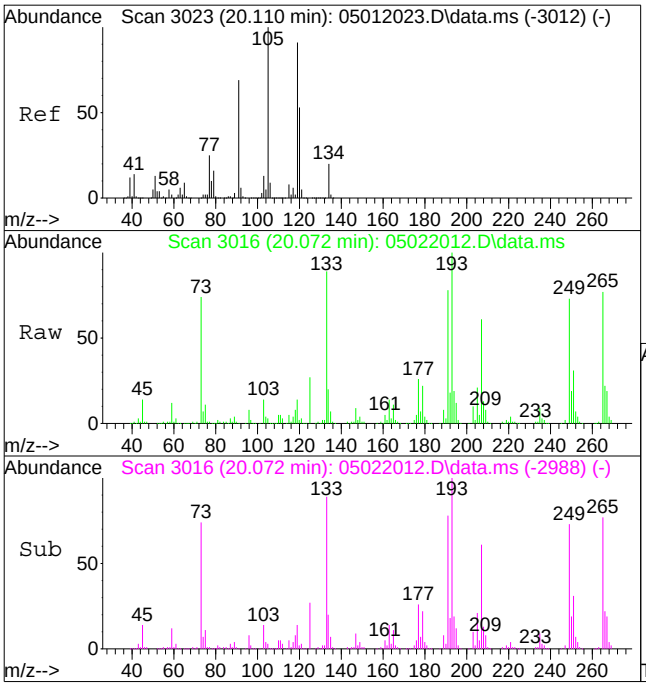


#71
n-Nonane
Concen: 0.19 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05022012.D
Acq: 2 May 2020 16:06

Tgt Ion: 43 Resp: 10555

Ion	Ratio	Lower	Upper
43	100		
57	85.4	69.0	109.0
85	31.5	14.6	54.6

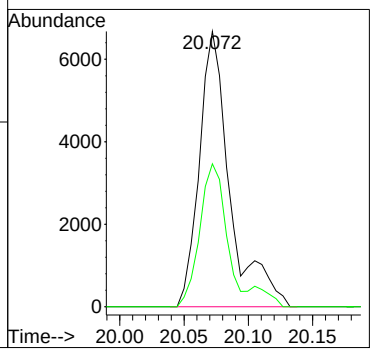


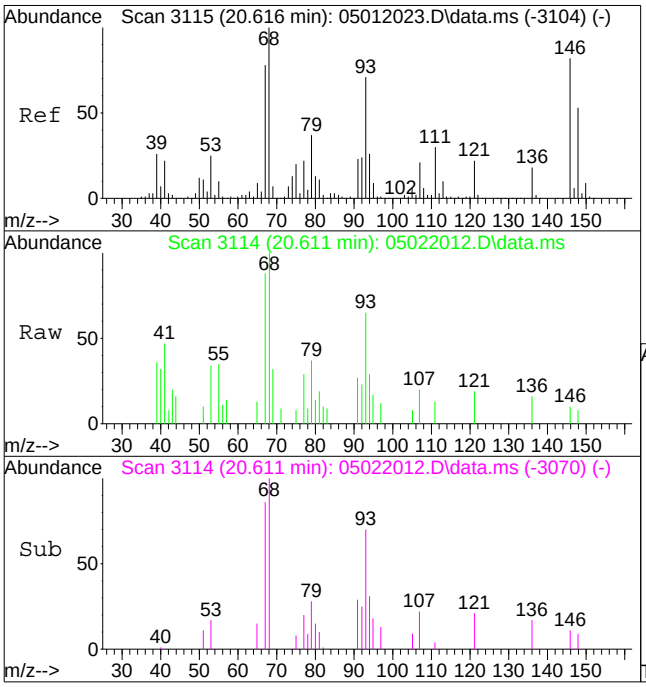


#82
1,2,4-Trimethylbenzene
Concen: 0.10 ng
RT: 20.07 min Scan# 3016
Delta R.T. -0.044 min
Lab File: 05022012.D
Acq: 2 May 2020 16:06

Tgt Ion:105 Resp: 11010

Ion	Ratio	Lower	Upper
105	100		
120	49.7	33.6	73.6

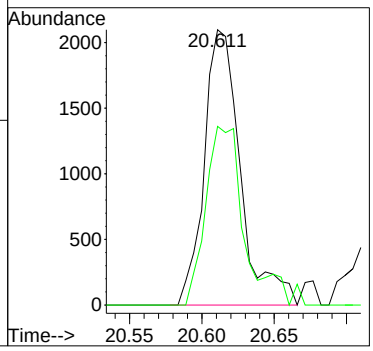




#91
d-Limonene
Concen: 0.09 ng
RT: 20.61 min Scan# 3114
Delta R.T. -0.006 min
Lab File: 05022012.D
Acq: 2 May 2020 16:06

Tgt Ion: 68 Resp: 3656

Ion	Ratio	Lower	Upper
68	100		
93	69.5	51.1	91.1



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042009.D Vial: 5
Acq On : 4 May 2020 10:17 Operator: TD
Sample : P2002104-016dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 15:00:16 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/4/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	286281	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1255889	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	597787	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	491363	12.665	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.28%				
57) Toluene-d8 (SS2)	15.72	98	1263820	12.473	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.76%				
73) Bromofluorobenzene (SS3)	18.98	174	435916	11.956	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.68%				
Target Compounds							Qvalue
2) Propene	4.12	42	553	N.D.			
3) Dichlorodifluoromethan...	4.29	85	4610	0.071	ng		97
4) Chloromethane	4.56	50	703	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.34	45	9938	0.388	ng		88
11) Acetonitrile	6.62	41	1717	N.D.			
12) Acrolein	6.81	56	273	N.D.			
13) Acetone	7.03	58	9011	0.352	ng	#	76
14) Trichlorofluoromethane	7.25	101	1134	N.D.			
15) 2-Propanol (Isopropanol)	7.53	45	2560	N.D.			
16) Acrylonitrile	7.77	53	597	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.44	59	1987	N.D.			
19) Methylene Chloride	8.40	84	437	N.D.			
20) 3-Chloro-1-propene (Al...	8.44	41	114	N.D.			
21) Trichlorotrifluoroethane	8.85	151	105	N.D.			
22) Carbon Disulfide	8.69	76	7883	0.066	ng		93
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	10.17	86	126	N.D.			
27) 2-Butanone (MEK)	10.49	72	956	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.30	61	278	N.D.			
31) n-Hexane	11.26	57	143	N.D.			
32) Chloroform	11.30	83	784385	13.765	ng		99
34) Tetrahydrofuran (THF)	11.76	72	1506	0.071	ng	#	87
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	1591	N.D.			
42) Carbon Tetrachloride	13.03	117	11614	0.254	ng		97
43) Cyclohexane	13.27	84	864	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	13.91	83	38389	0.843	ng		99
47) Trichloroethene	13.96	130	1642	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.05	57	2070	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042009.D Vial: 5
Acq On : 4 May 2020 10:17 Operator: TD
Sample : P2002104-016dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 15:00:16 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

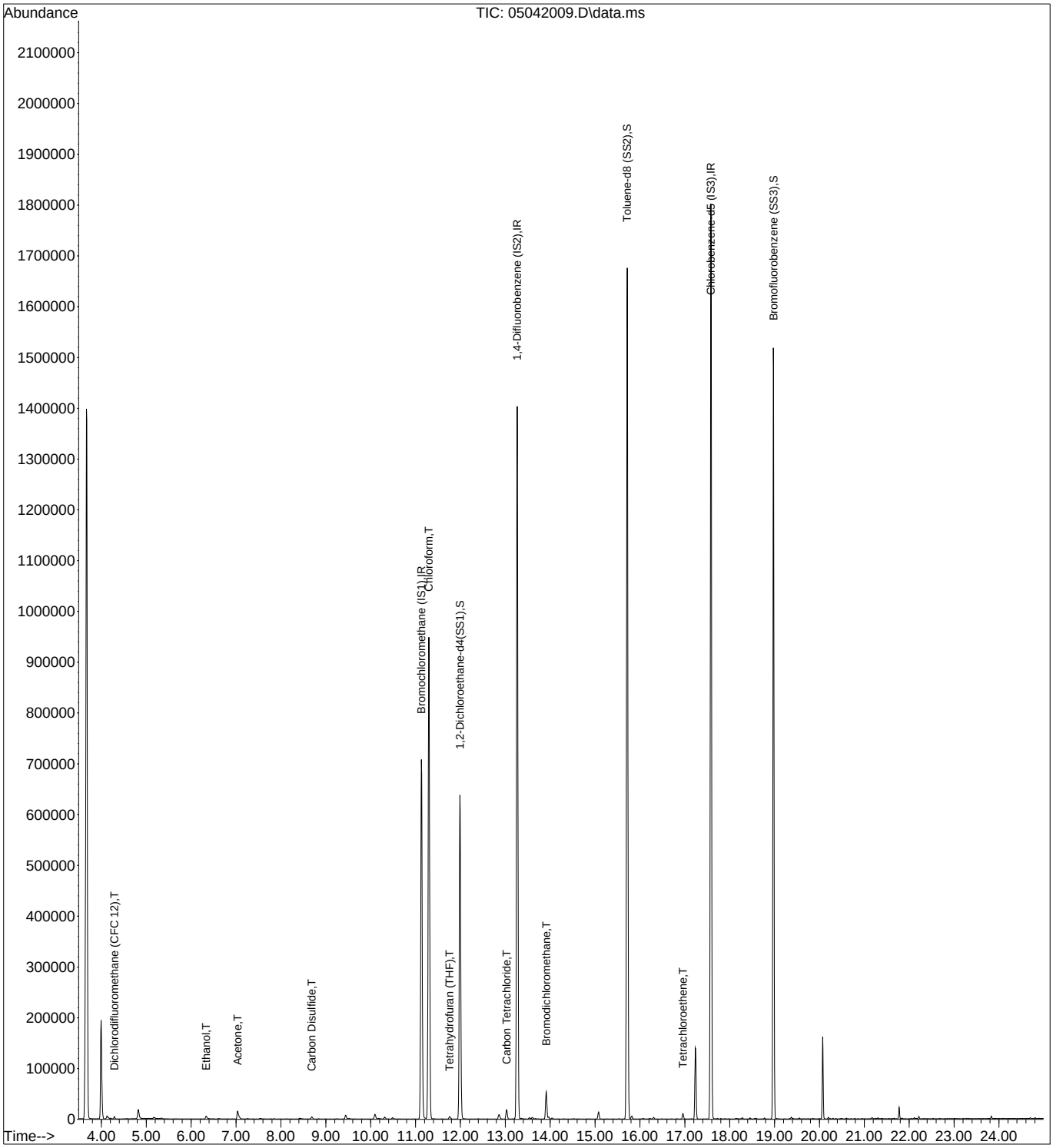
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.82	91	5160	N.D.	
59) 2-Hexanone	16.07	43	1570	N.D.	
60) Dibromochloromethane	16.22	129	1184	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.70	43	514	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	16.96	166	3565	0.097 ng	97
65) Chlorobenzene	17.62	112	304	N.D.	
66) Ethylbenzene	17.98	91	992	N.D.	
67) m- & p-Xylenes	18.13	91	1936	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.48	104	435	N.D.	
70) o-Xylene	18.58	91	649	N.D.	
71) n-Nonane	18.77	43	798	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.11	105	297	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	19.56	91	731	N.D.	
77) 3-Ethyltoluene	19.64	105	771	N.D.	
78) 4-Ethyltoluene	19.69	105	557	N.D.	
79) 1,3,5-Trimethylbenzene	19.74	105	330	N.D.	
80) alpha-Methylstyrene	20.07	118	1906	N.D.	
81) 2-Ethyltoluene	19.91	105	504	N.D.	
82) 1,2,4-Trimethylbenzene	20.07	105	1511	N.D.	
83) n-Decane	20.20	57	1077	N.D.	
84) Benzyl Chloride	20.21	91	653	N.D.	
85) 1,3-Dichlorobenzene	20.24	146	509	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	816	N.D.	
87) sec-Butylbenzene	20.35	105	322	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	553	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	177	N.D.	
90) 1,2-Dichlorobenzene	20.61	146	408	N.D.	
91) d-Limonene	20.61	68	332	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.31	57	854	N.D.	
94) 1,2,4-Trichlorobenzene	22.11	180	686	N.D.	
95) Naphthalene	22.21	128	3592	N.D.	
96) n-Dodecane	22.21	57	430	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.28	55	1124	N.D.	
99) tert-Butylbenzene	20.07	119	3074	N.D.	
100) n-Butylbenzene	20.85	91	443	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042009.D Vial: 5
Acq On : 4 May 2020 10:17 Operator: TD
Sample : P2002104-016dil (40mL) Inst : GCMS-16
Misc : S31-02112001

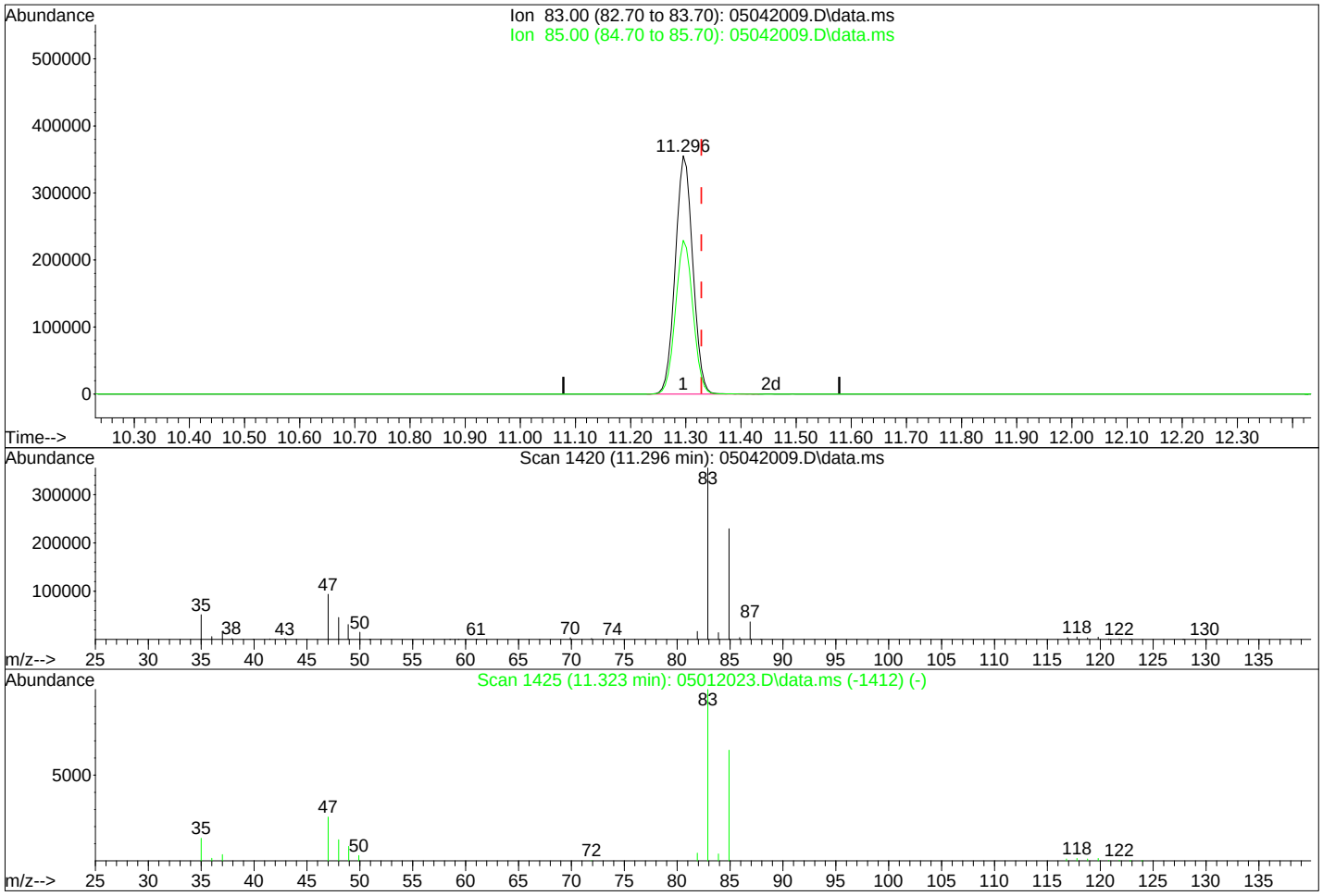
Quant Time: May 04 15:00:16 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\04\05042009.D Vial: 5
Acq On : 4 May 2020 10:17 Operator: TD
Sample : P2002104-016dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 12:22:22 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05042009.D\data.ms

(32) Chloroform (T)

11.296min (-0.033) 13.76ng

response 784385

Ion	Exp%	Act%
83.00	100	100
85.00	65.50	64.45
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022013.D Vial: 6
Acq On : 2 May 2020 16:40 Operator: TD
Sample : P2002104-017 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:46:54 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/4/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	246394	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1085588	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	515934	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	428584	12.835	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.72%				
57) Toluene-d8 (SS2)	15.72	98	1099987	12.578	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.64%				
73) Bromofluorobenzene (SS3)	18.98	174	367243	11.671	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.36%				
Target Compounds							Qvalue
2) Propene	4.11	42	4912	0.172	ng		96
3) Dichlorodifluoromethan...	4.26	85	212378	3.805	ng		99
4) Chloromethane	4.53	50	3446	0.079	ng		93
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	4681	0.140	ng		95
6) Vinyl Chloride	4.96	62	207	N.D.			
7) 1,3-Butadiene	5.21	54	106	N.D.			
8) Bromomethane	5.64	94	116	N.D.			
9) Chloroethane	5.97	64	107	N.D.			
10) Ethanol	6.50	45	127	N.D.			
11) Acetonitrile	6.59	41	4160	0.083	ng		84
12) Acrolein	6.78	56	2908	0.167	ng		99
13) Acetone	7.00	58	37257	1.691	ng		98
14) Trichlorofluoromethane	7.24	101	18389	0.373	ng		100
15) 2-Propanol (Isopropanol)	7.51	45	8404	0.126	ng		91
16) Acrylonitrile	7.74	53	1908	0.053	ng		90
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	1507	0.053	ng		96
20) 3-Chloro-1-propene (Al...	8.57	41	134	N.D.			
21) Trichlorotrifluoroethane	8.84	151	4876	0.209	ng		97
22) Carbon Disulfide	8.67	76	92424	0.900	ng		99
23) trans-1,2-Dichloroethene	9.68	61	763	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	10.16	86	280	N.D.			
27) 2-Butanone (MEK)	10.45	72	16094	0.856	ng		97
28) cis-1,2-Dichloroethene	10.95	61	605	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.28	61	7199	0.664	ng	#	32
31) n-Hexane	11.26	57	5245	0.112	ng	#	36
32) Chloroform	11.30	83	504523	10.287	ng		98
34) Tetrahydrofuran (THF)	11.71	72	127955	6.981	ng		99
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	1158	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	11237	0.097	ng		98
42) Carbon Tetrachloride	13.03	117	124116	3.134	ng		100
43) Cyclohexane	13.16	84	3926	0.090	ng		96
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	13.91	83	26620	0.677	ng		100
47) Trichloroethene	13.97	130	1346	N.D.			
48) 1,4-Dioxane	13.97	88	1284	0.055	ng		92
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.18	100	186	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022013.D Vial: 6
Acq On : 2 May 2020 16:40 Operator: TD
Sample : P2002104-017 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:46:54 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

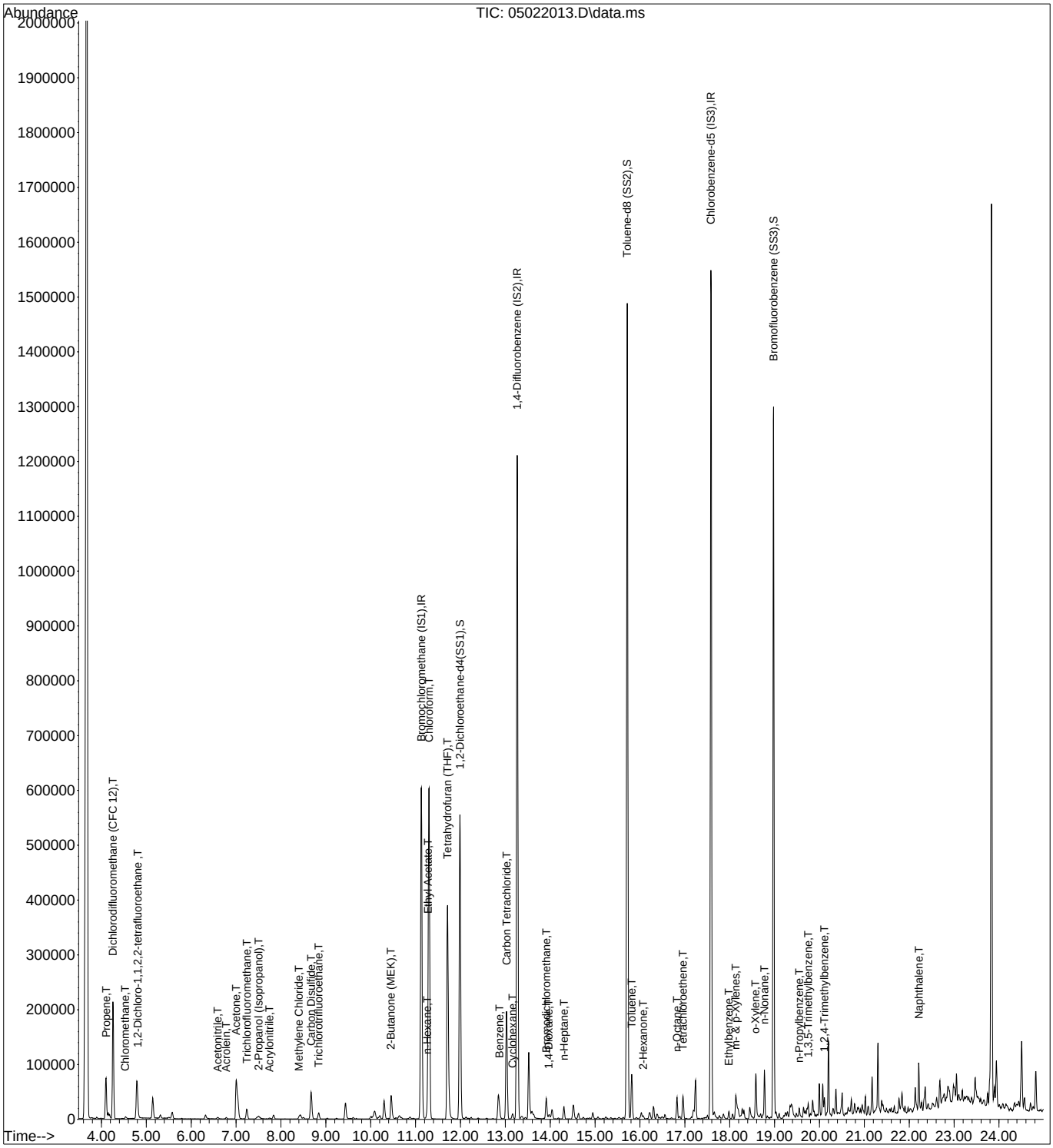
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.31	71	6014	0.221 ng		98
52) cis-1,3-Dichloropropene	14.83	75	1135	N.D.		
53) 4-Methyl-2-pentanone	14.89	58	554	N.D.		
54) trans-1,3-Dichloropropene	15.35	75	1625	N.D.		
55) 1,1,2-Trichloroethane	15.53	97	109	N.D.		
58) Toluene	15.82	91	64178	0.569 ng		99
59) 2-Hexanone	16.07	43	4343	0.070 ng	#	65
60) Dibromochloromethane	16.23	129	851	N.D.		
61) 1,2-Dibromoethane	16.48	107	1055	N.D.		
62) n-Butyl Acetate	16.70	43	1881	N.D.		
63) n-Octane	16.83	57	7487	0.321 ng		98
64) Tetrachloroethene	16.96	166	13466	0.423 ng		100
65) Chlorobenzene	17.62	112	2800	N.D.		
66) Ethylbenzene	17.98	91	10258	0.082 ng		97
67) m- & p-Xylenes	18.14	91	32128	0.322 ng		100
68) Bromoform	18.20	173	103	N.D.		
69) Styrene	18.47	104	2168	N.D.		
70) o-Xylene	18.58	91	11773	0.116 ng		99
71) n-Nonane	18.77	43	31262	0.582 ng		96
72) 1,1,2,2-Tetrachloroethane	18.55	83	478	N.D.		
74) Cumene	19.10	105	2479	N.D.		
75) alpha-Pinene	19.46	93	443	N.D.		
76) n-Propylbenzene	19.55	91	7737	0.052 ng		79
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.68	105	3827	N.D.		
79) 1,3,5-Trimethylbenzene	19.75	105	5074	0.050 ng		97
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	19.91	105	3548	N.D.		
82) 1,2,4-Trimethylbenzene	20.11	105	10478	0.103 ng		90
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.23	91	1908	N.D.		
85) 1,3-Dichlorobenzene	20.24	146	1323	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	1654	N.D.		
87) sec-Butylbenzene	20.35	105	3799	N.D.		
88) 4-Isopropyltoluene (p-...	20.48	119	2327	N.D.		
89) 1,2,3-Trimethylbenzene	20.48	105	4879	N.D.		
90) 1,2-Dichlorobenzene	20.61	146	1055	N.D.		
91) d-Limonene	20.62	68	844	N.D.		
92) 1,2-Dibromo-3-Chloropr...	20.99	157	127	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.11	180	1164	N.D.		
95) Naphthalene	22.22	128	7212	0.058 ng		99
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	20.11	119	1689	N.D.		
100) n-Butylbenzene	20.85	91	5100	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022013.D Vial: 6
Acq On : 2 May 2020 16:40 Operator: TD
Sample : P2002104-017 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:46:54 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022013.D Vial: 6
Acq On : 2 May 2020 16:40 Operator: TD
Sample : P2002104-017 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:46:54 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/4/20

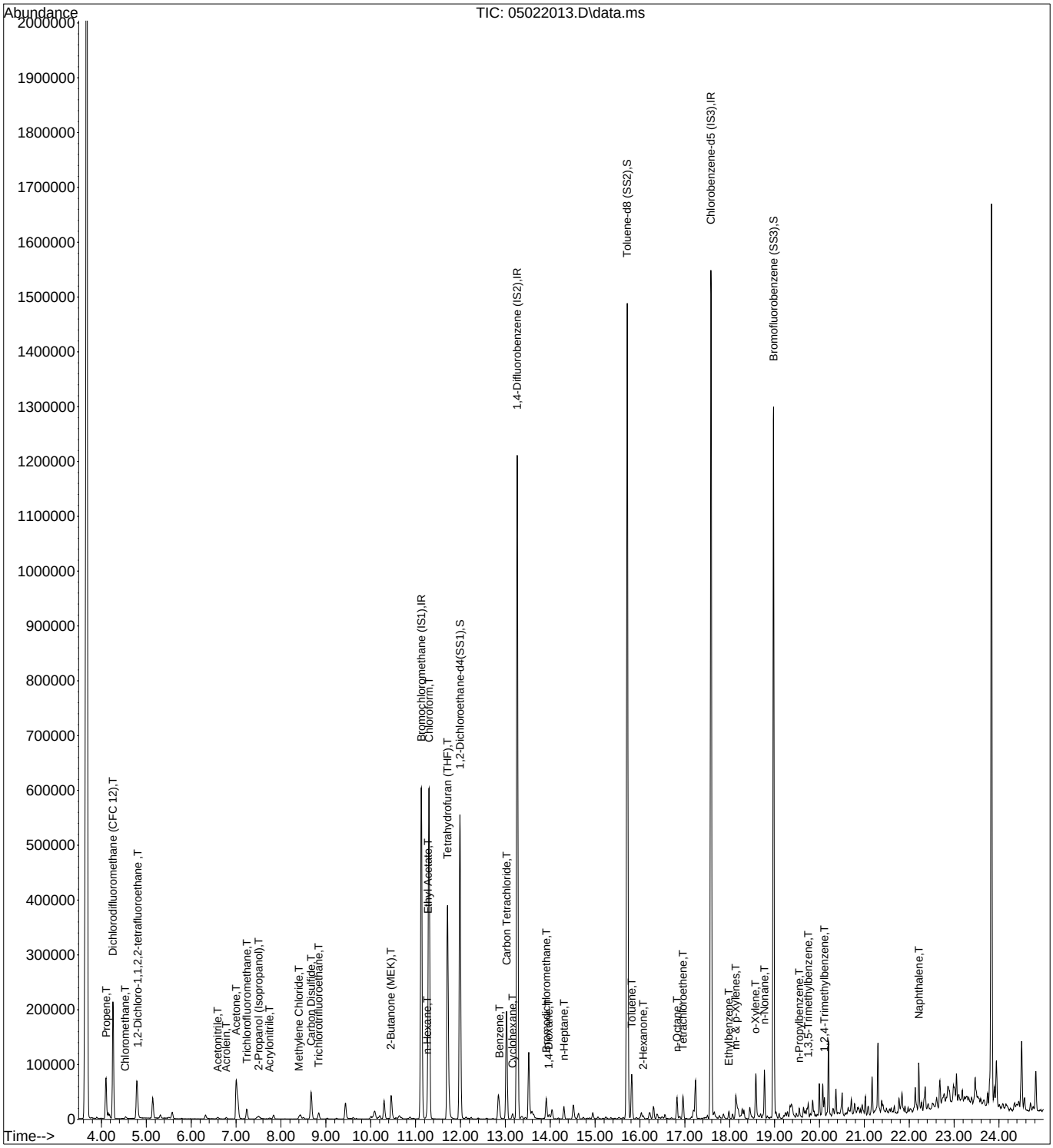
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	246394	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1085588	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	515934	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	428584	12.835	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.72%				
57) Toluene-d8 (SS2)	15.72	98	1099987	12.578	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.64%				
73) Bromofluorobenzene (SS3)	18.98	174	367243	11.671	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.36%				
Target Compounds							Qvalue
2) Propene	4.11	42	4912	0.172	ng		96
3) Dichlorodifluoromethan...	4.26	85	212378	3.805	ng		99
4) Chloromethane	4.53	50	3446	0.079	ng		93
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	4681	0.140	ng		95
11) Acetonitrile	6.59	41	4160	0.083	ng		84
12) Acrolein	6.78	56	2908	0.167	ng		99
13) Acetone	7.00	58	37257	1.691	ng		98
14) Trichlorofluoromethane	7.24	101	18389	0.373	ng		100
15) 2-Propanol (Isopropanol)	7.51	45	8404	0.126	ng		91
16) Acrylonitrile	7.74	53	1908	0.053	ng		90
19) Methylene Chloride	8.40	84	1507	0.053	ng		96
21) Trichlorotrifluoroethane	8.84	151	4876	0.209	ng		97
22) Carbon Disulfide	8.67	76	92424	0.900	ng		99
27) 2-Butanone (MEK)	10.45	72	16094	0.856	ng		97
30) Ethyl Acetate	11.28	61	7199	0.664	ng	#	32
31) n-Hexane	11.26	57	5245	0.112	ng	#	36
32) Chloroform	11.30	83	504523	10.287	ng		98
34) Tetrahydrofuran (THF)	11.71	72	127955	6.981	ng		99
41) Benzene	12.87	78	11237	0.097	ng		98
42) Carbon Tetrachloride	13.03	117	124116	3.134	ng		100
43) Cyclohexane	13.16	84	3926	0.090	ng		96
46) Bromodichloromethane	13.91	83	26620	0.677	ng		100
48) 1,4-Dioxane	13.97	88	1284	0.055	ng		92
51) n-Heptane	14.31	71	6014	0.221	ng		98
58) Toluene	15.82	91	64178	0.569	ng		99
59) 2-Hexanone	16.07	43	4343	0.070	ng	#	65
63) n-Octane	16.83	57	7487	0.321	ng		98
64) Tetrachloroethene	16.96	166	13466	0.423	ng		100
66) Ethylbenzene	17.98	91	10258	0.082	ng		97
67) m- & p-Xylenes	18.14	91	32128	0.322	ng		100
70) o-Xylene	18.58	91	11773	0.116	ng		99
71) n-Nonane	18.77	43	31262	0.582	ng		96
76) n-Propylbenzene	19.55	91	7737	0.052	ng		79
79) 1,3,5-Trimethylbenzene	19.75	105	5074	0.050	ng		97
82) 1,2,4-Trimethylbenzene	20.11	105	10478	0.103	ng		90
95) Naphthalene	22.22	128	7212	0.058	ng		99

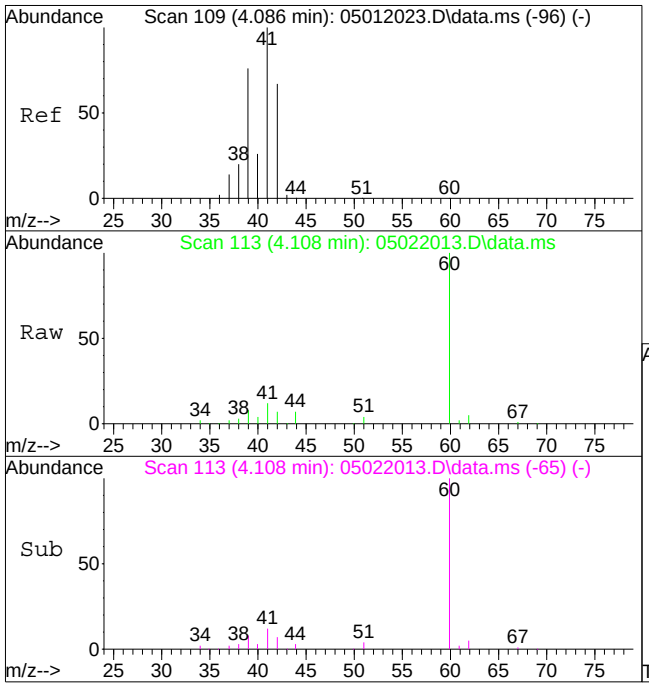
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022013.D Vial: 6
Acq On : 2 May 2020 16:40 Operator: TD
Sample : P2002104-017 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:46:54 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

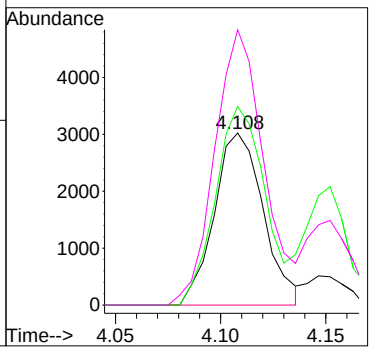


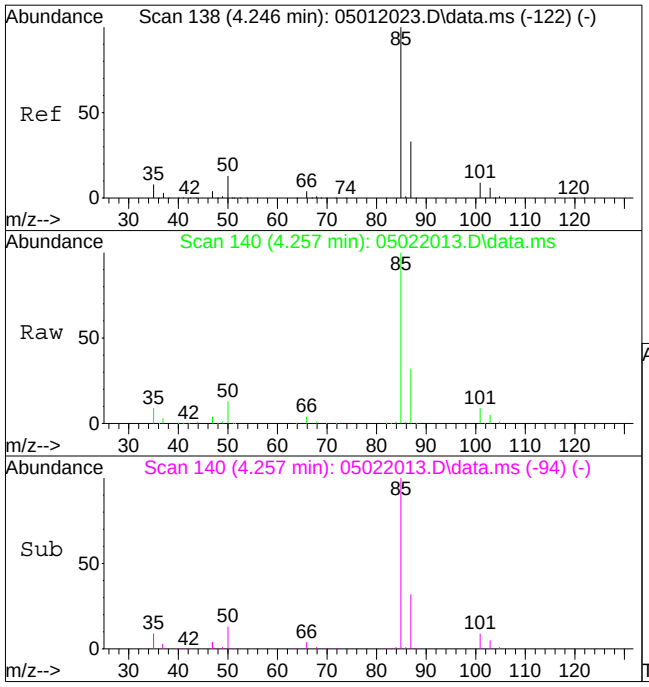


#2
Propene
Concen: 0.17 ng
RT: 4.11 min Scan# 113
Delta R.T. 0.016 min
Lab File: 05022013.D
Acq: 2 May 2020 16:40

Tgt Ion: 42 Resp: 4912

Ion	Ratio	Lower	Upper
42	100		
39	115.4	96.1	136.1
41	159.9	131.9	171.9

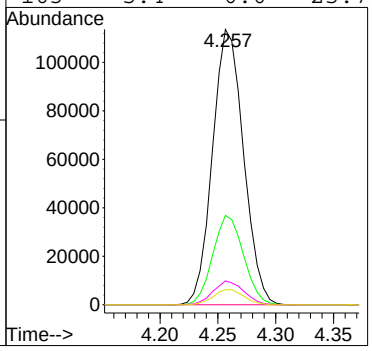


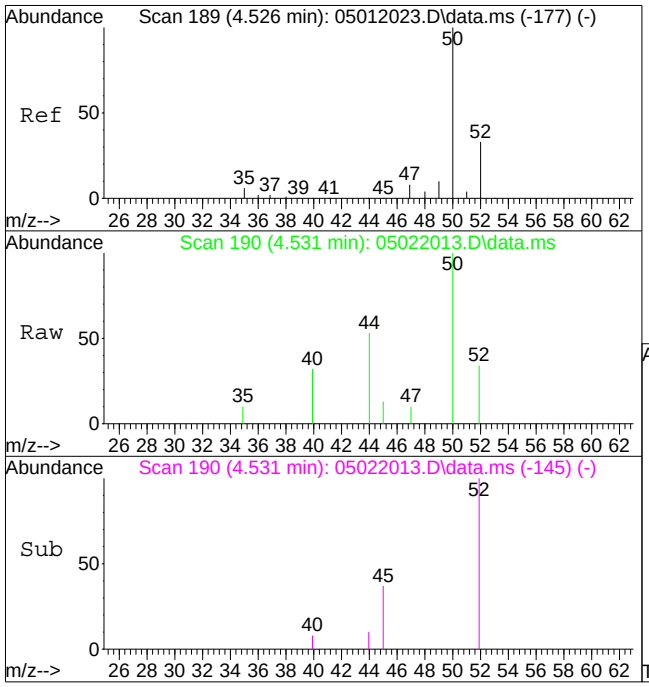


#3
Dichlorodifluoromethane (CFC 12)
Concen: 3.80 ng
RT: 4.26 min Scan# 140
Delta R.T. 0.005 min
Lab File: 05022013.D
Acq: 2 May 2020 16:40

Tgt Ion: 85 Resp: 212378

Ion	Ratio	Lower	Upper
85	100		
87	32.1	12.4	52.4
101	8.6	0.0	28.8
103	5.4	0.0	25.7

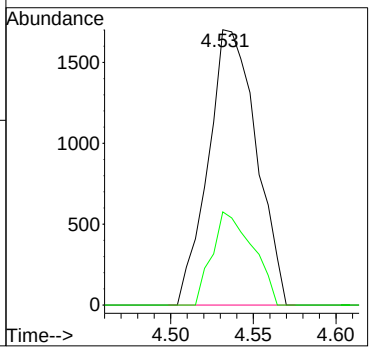


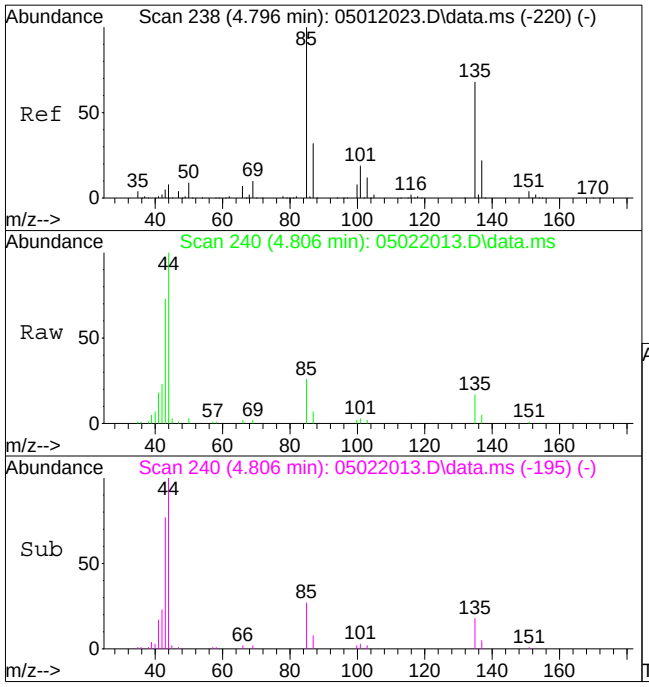


#4
Chloromethane
Concen: 0.08 ng
RT: 4.53 min Scan# 190
Delta R.T. -0.000 min
Lab File: 05022013.D
Acq: 2 May 2020 16:40

Tgt Ion: 50 Resp: 3446

Ion	Ratio	Lower	Upper
50	100		
52	28.6	12.5	52.5

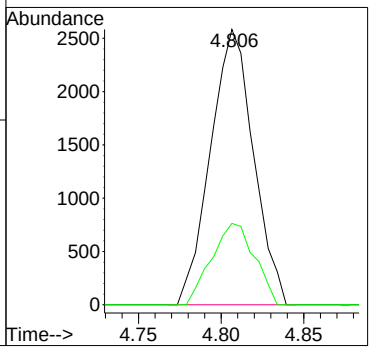


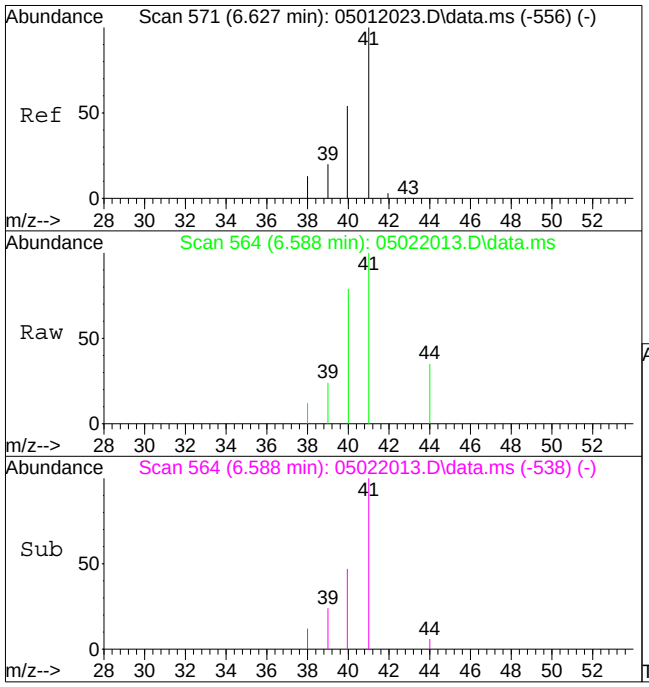


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 0.14 ng
RT: 4.81 min Scan# 240
Delta R.T. -0.000 min
Lab File: 05022013.D
Acq: 2 May 2020 16:40

Tgt Ion:135 Resp: 4681

Ion	Ratio	Lower	Upper
135	100		
137	29.5	12.1	52.1

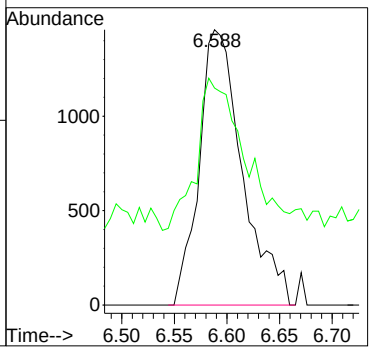


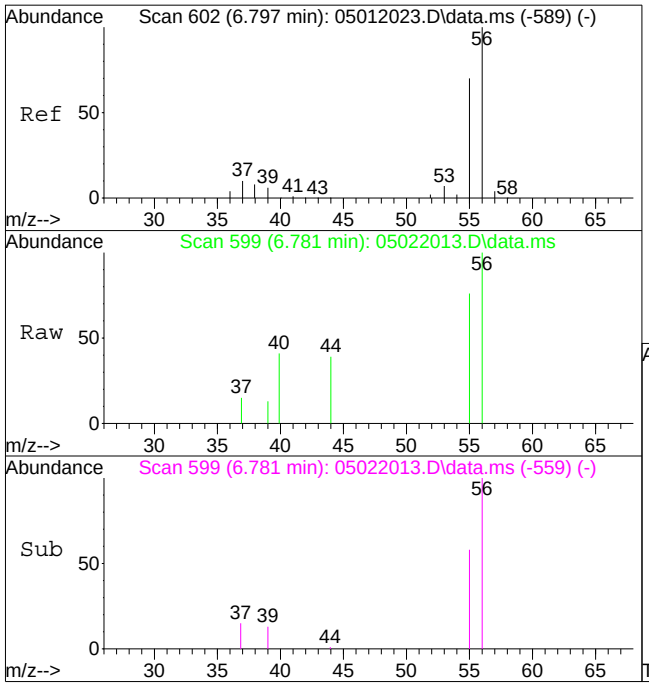


#11
Acetonitrile
Concen: 0.08 ng
RT: 6.59 min Scan# 564
Delta R.T. -0.055 min
Lab File: 05022013.D
Acq: 2 May 2020 16:40

Tgt Ion: 41 Resp: 4160

Ion	Ratio	Lower	Upper
41	100		
40	64.9	33.6	73.6

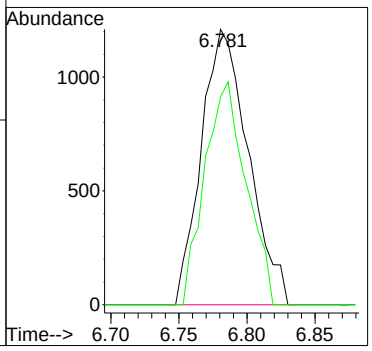


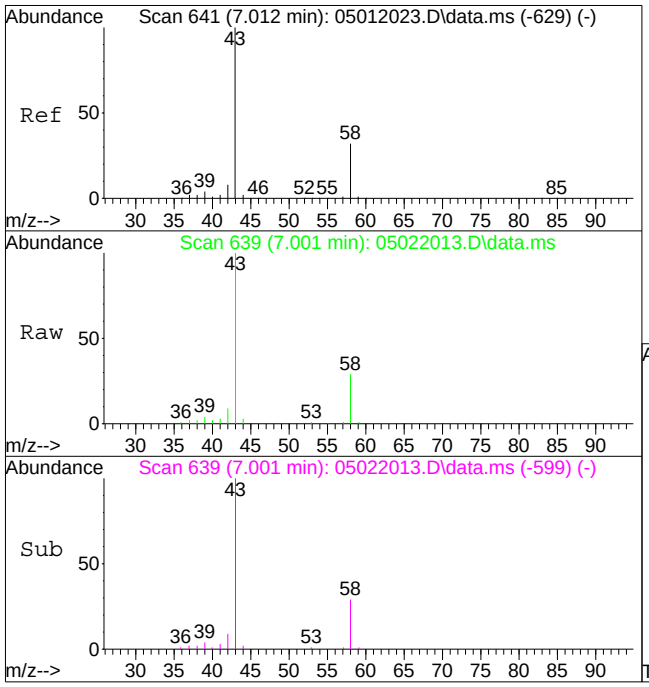


#12
Acrolein
Concen: 0.17 ng
RT: 6.78 min Scan# 599
Delta R.T. -0.028 min
Lab File: 05022013.D
Acq: 2 May 2020 16:40

Tgt Ion: 56 Resp: 2908

Ion	Ratio	Lower	Upper
56	100		
55	71.0	50.2	90.2

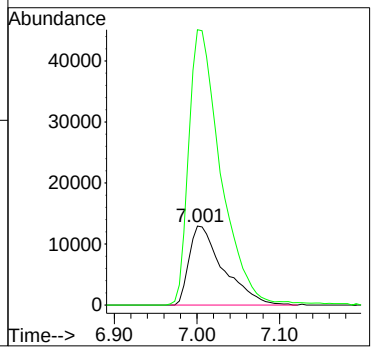


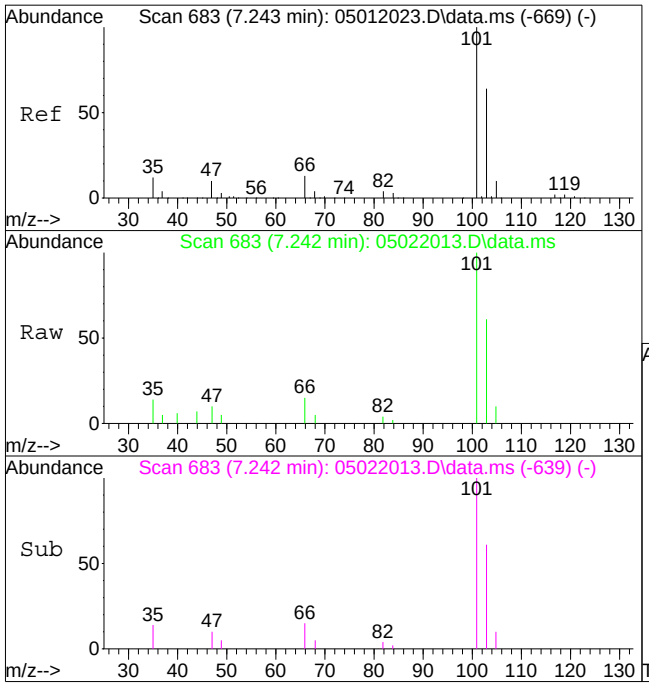


#13
Acetone
Concen: 1.69 ng
RT: 7.00 min Scan# 639
Delta R.T. -0.028 min
Lab File: 05022013.D
Acq: 2 May 2020 16:40

Tgt Ion: 58 Resp: 37257

Ion	Ratio	Lower	Upper
58	100		
43	328.8	294.4	354.4

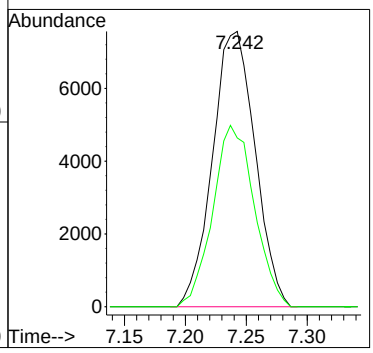


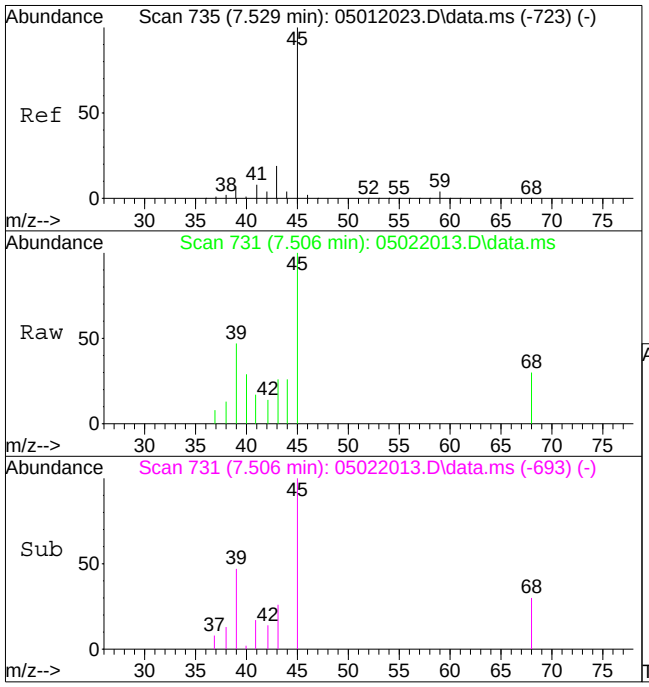


#14
Trichlorofluoromethane
Concen: 0.37 ng
RT: 7.24 min Scan# 683
Delta R.T. -0.006 min
Lab File: 05022013.D
Acq: 2 May 2020 16:40

Tgt Ion:101 Resp: 18389

Ion	Ratio	Lower	Upper
101	100		
103	64.2	44.4	84.4

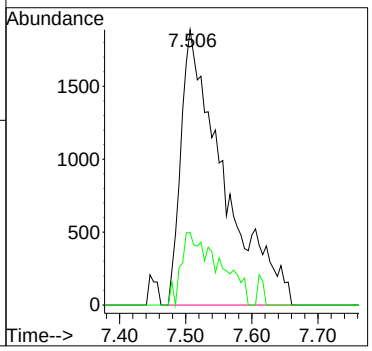


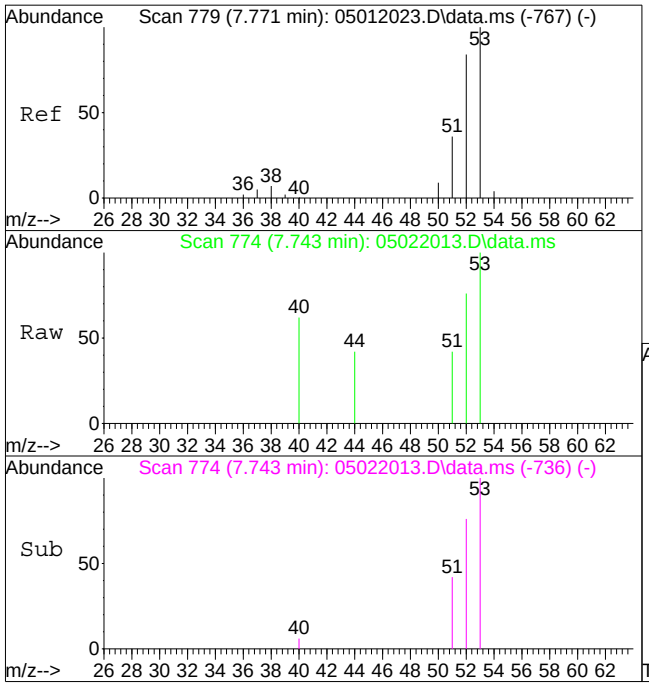


#15
2-Propanol (Isopropanol)
Concen: 0.13 ng
RT: 7.51 min Scan# 731
Delta R.T. -0.039 min
Lab File: 05022013.D
Acq: 2 May 2020 16:40

Tgt Ion: 45 Resp: 8404

Ion	Ratio	Lower	Upper
45	100		
43	23.7	0.0	39.5

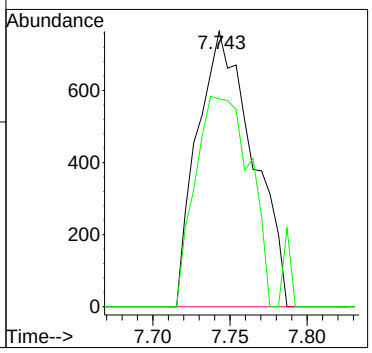


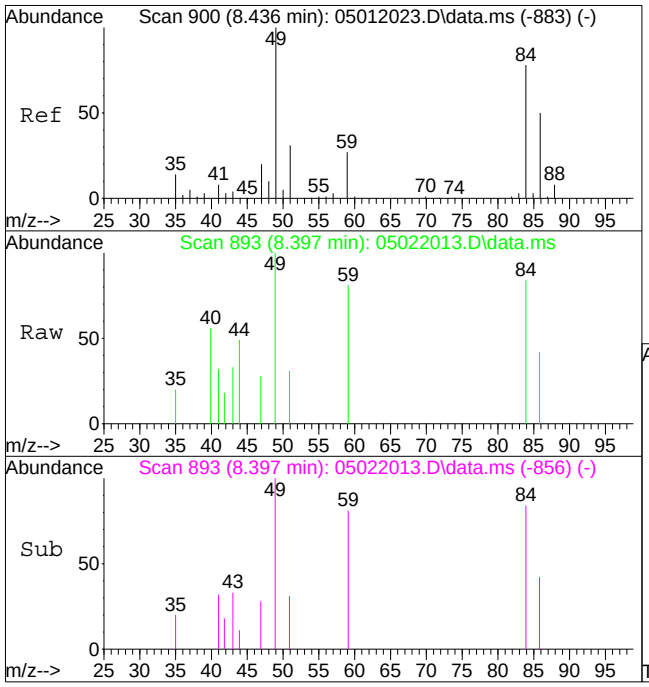


#16
Acrylonitrile
Concen: 0.05 ng
RT: 7.74 min Scan# 774
Delta R.T. -0.039 min
Lab File: 05022013.D
Acq: 2 May 2020 16:40

Tgt Ion: 53 Resp: 1908

Ion	Ratio	Lower	Upper
53	100		
52	75.0	63.7	103.7

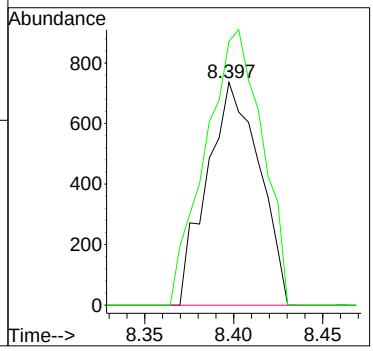


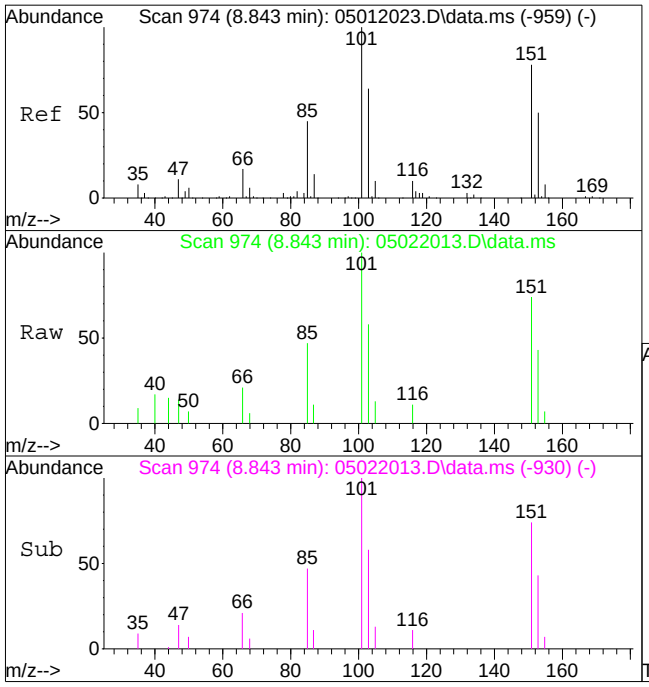


#19
Methylene Chloride
Concen: 0.05 ng
RT: 8.40 min Scan# 893
Delta R.T. -0.044 min
Lab File: 05022013.D
Acq: 2 May 2020 16:40

Tgt Ion: 84 Resp: 1507

Ion	Ratio	Lower	Upper
84	100		
49	134.0	104.8	154.8

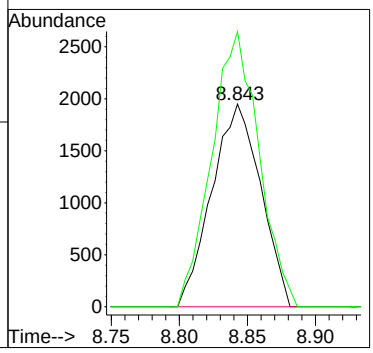


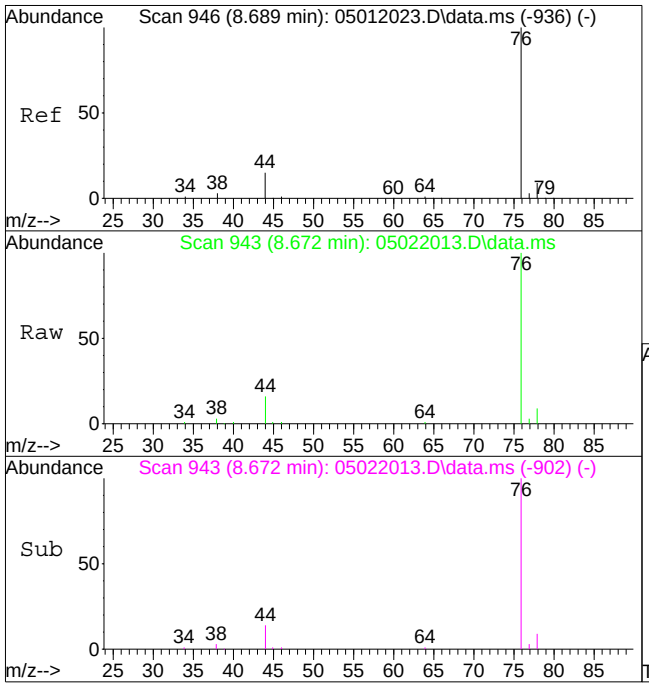


#21
Trichlorotrifluoroethane
Concen: 0.21 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05022013.D
Acq: 2 May 2020 16:40

Tgt Ion:151 Resp: 4876

Ion	Ratio	Lower	Upper
151	100		
101	131.1	107.3	147.3

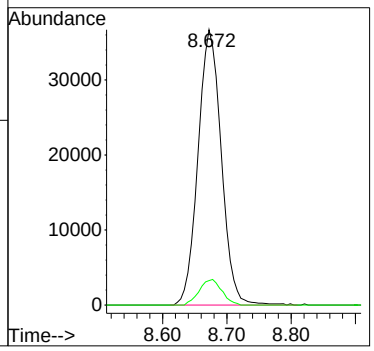


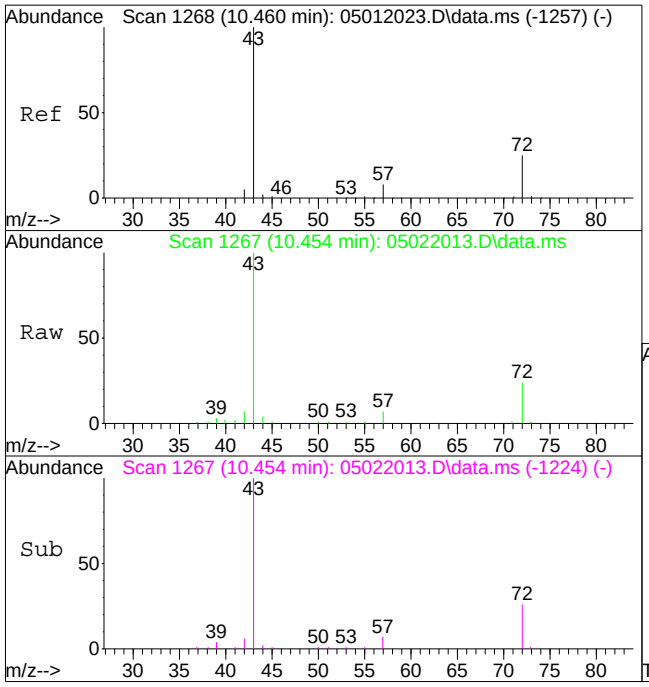


#22
Carbon Disulfide
Concen: 0.90 ng
RT: 8.67 min Scan# 943
Delta R.T. -0.022 min
Lab File: 05022013.D
Acq: 2 May 2020 16:40

Tgt Ion: 76 Resp: 92424

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	29.2

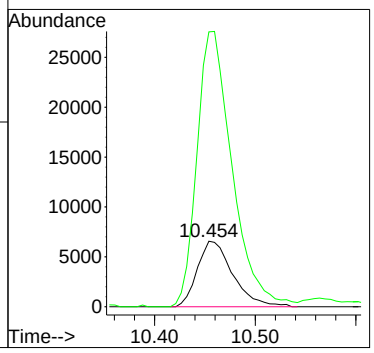


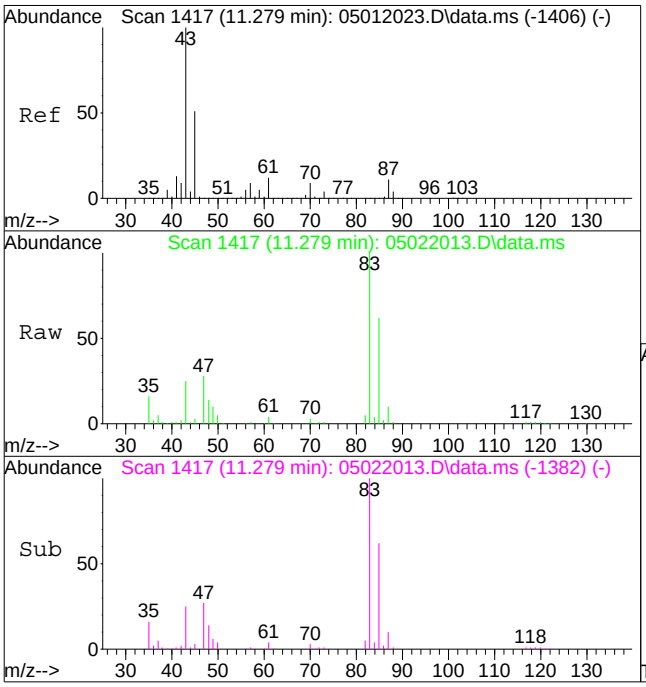


#27
2-Butanone (MEK)
Concen: 0.86 ng
RT: 10.45 min Scan# 1267
Delta R.T. -0.011 min
Lab File: 05022013.D
Acq: 2 May 2020 16:40

Tgt Ion: 72 Resp: 16094

Ion	Ratio	Lower	Upper
72	100		
43	416.6	389.7	429.7

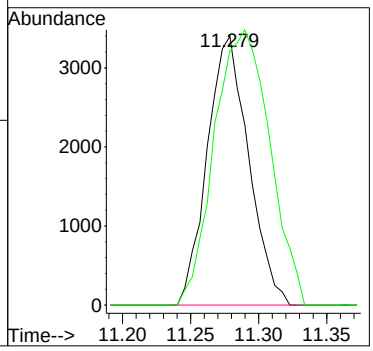


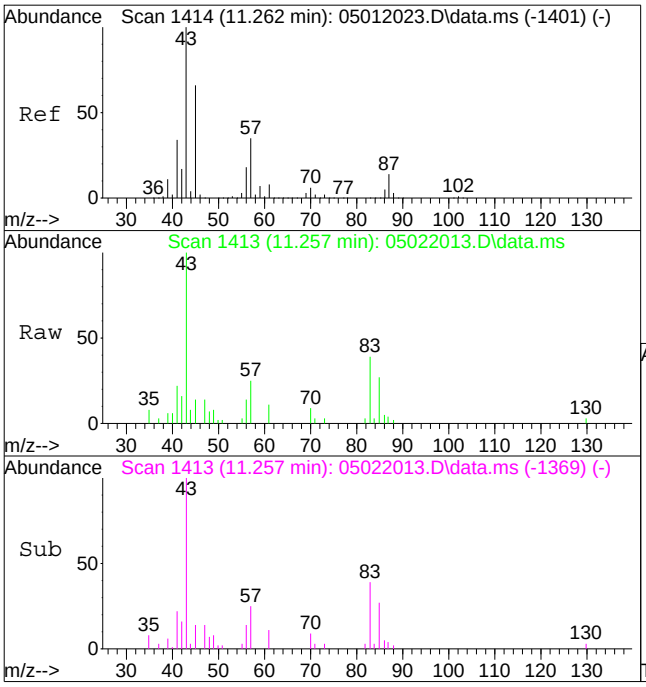


#30
Ethyl Acetate
Concen: 0.66 ng
RT: 11.28 min Scan# 1417
Delta R.T. -0.006 min
Lab File: 05022013.D
Acq: 2 May 2020 16:40

Tgt Ion: 61 Resp: 7199

Ion	Ratio	Lower	Upper
61	100		
70	136.8	57.9	97.9#

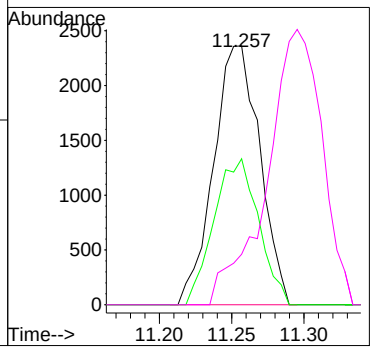


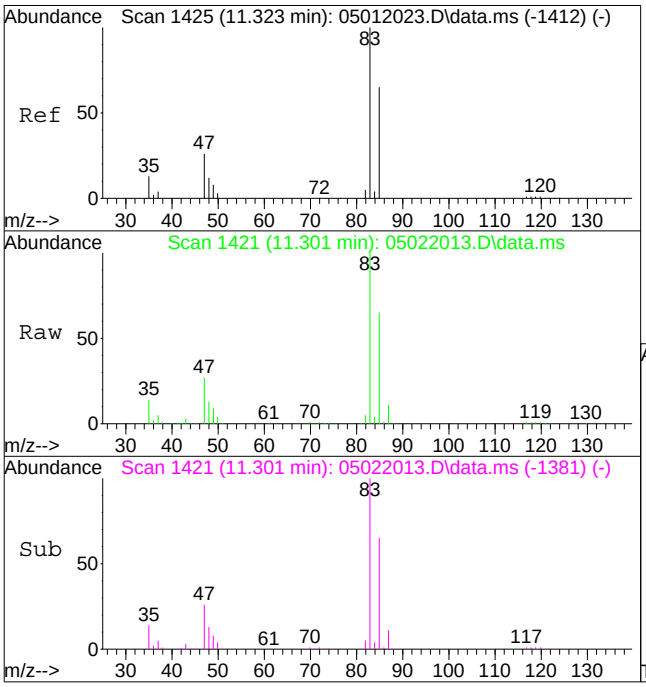


#31
n-Hexane
Concen: 0.11 ng
RT: 11.26 min Scan# 1413
Delta R.T. -0.006 min
Lab File: 05022013.D
Acq: 2 May 2020 16:40

Tgt Ion: 57 Resp: 5245

Ion	Ratio	Lower	Upper
57	100		
56	54.6	41.4	62.0
86	126.0	12.4	18.6#

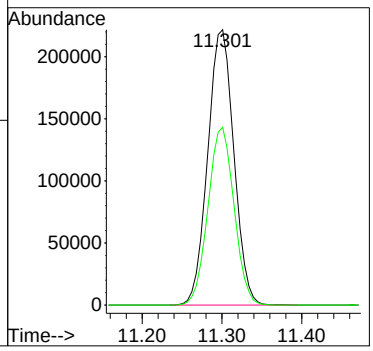


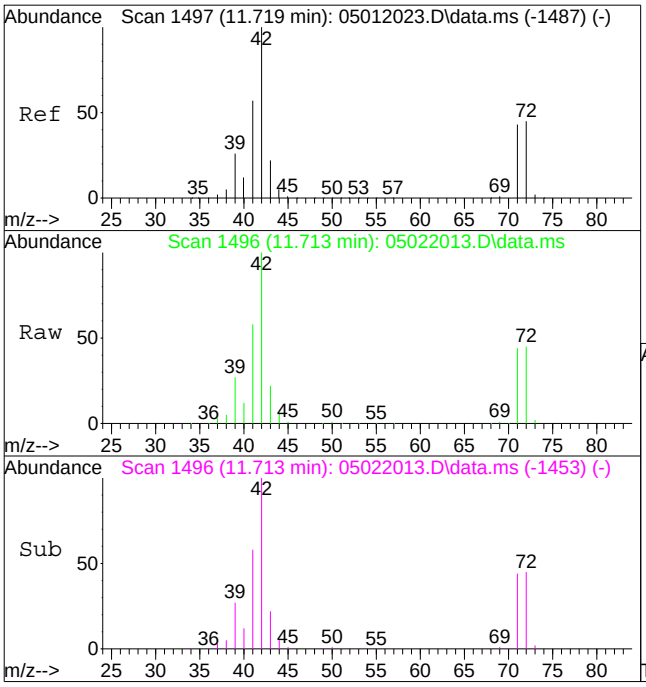


#32
Chloroform
Concen: 10.29 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.028 min
Lab File: 05022013.D
Acq: 2 May 2020 16:40

Tgt Ion: 83 Resp: 504523

Ion	Ratio	Lower	Upper
83	100		
85	64.3	45.5	85.5

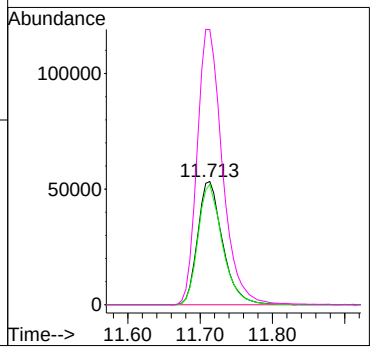


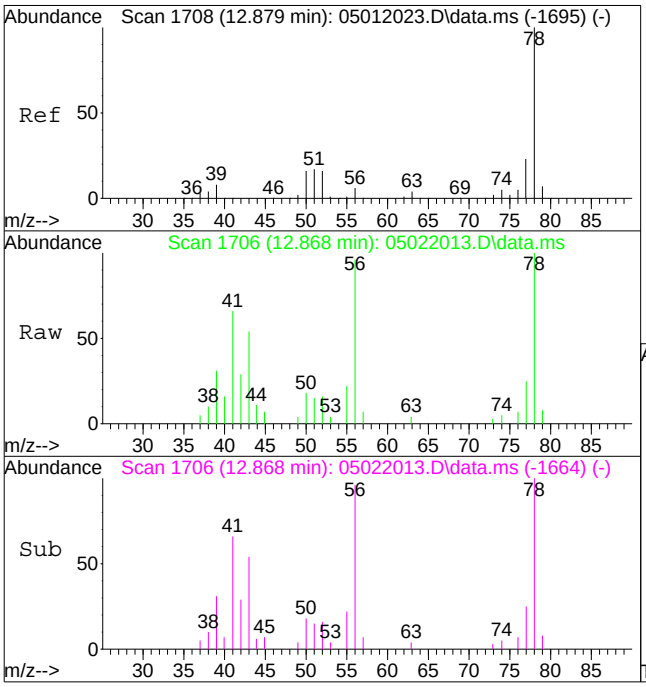


#34
Tetrahydrofuran (THF)
Concen: 6.98 ng
RT: 11.71 min Scan# 1496
Delta R.T. -0.011 min
Lab File: 05022013.D
Acq: 2 May 2020 16:40

Tgt Ion: 72 Resp: 127955

Ion	Ratio	Lower	Upper
72	100		
71	95.7	77.0	117.0
42	227.0	204.6	244.6

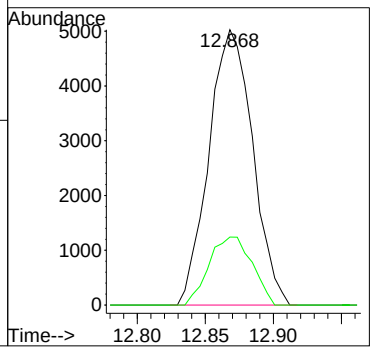


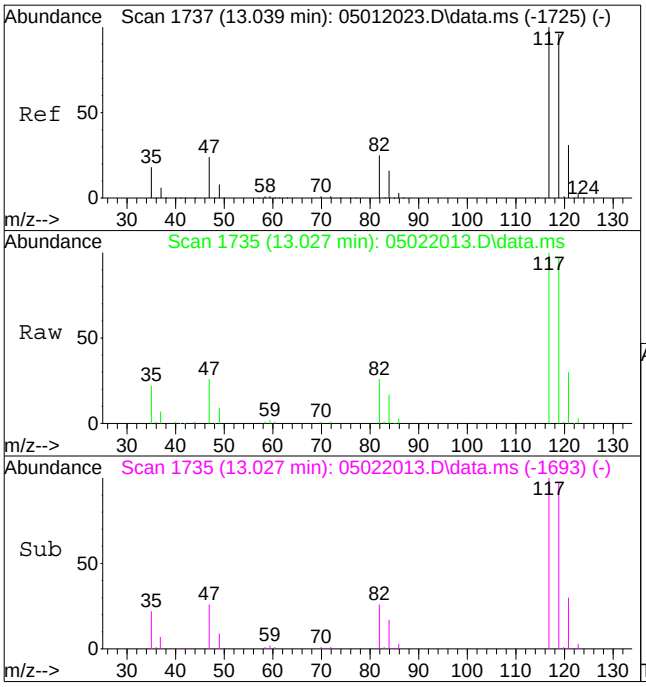


#41
Benzene
Concen: 0.10 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05022013.D
Acq: 2 May 2020 16:40

Tgt Ion: 78 Resp: 11237

Ion	Ratio	Lower	Upper
78	100		
77	24.3	3.4	43.4

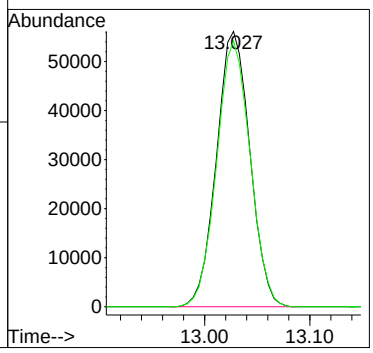


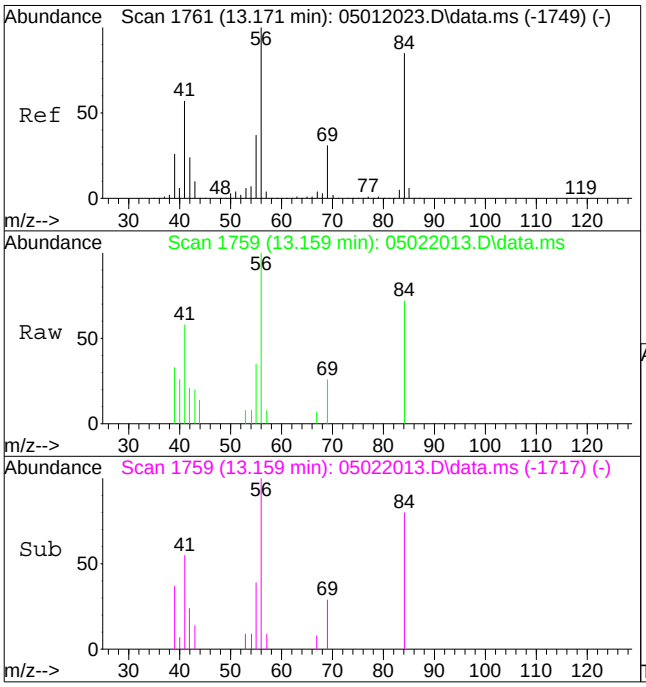


#42
Carbon Tetrachloride
Concen: 3.13 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05022013.D
Acq: 2 May 2020 16:40

Tgt Ion:117 Resp: 124116

Ion	Ratio	Lower	Upper
117	100		
119	96.6	76.2	116.2

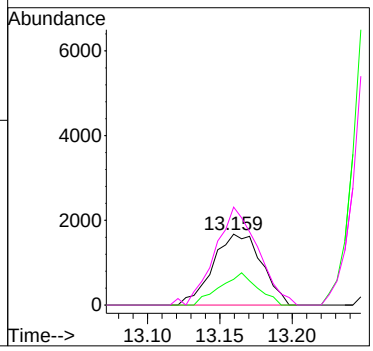


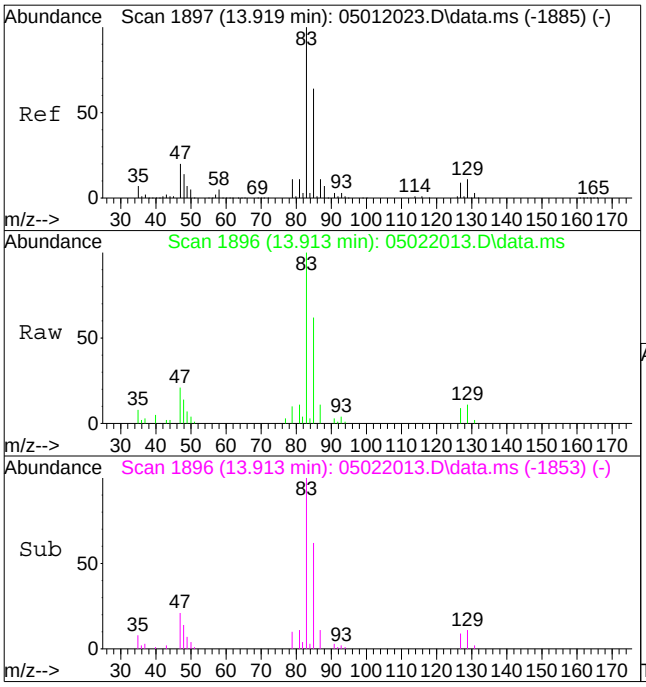


#43
Cyclohexane
Concen: 0.09 ng
RT: 13.16 min Scan# 1759
Delta R.T. -0.017 min
Lab File: 05022013.D
Acq: 2 May 2020 16:40

Tgt Ion: 84 Resp: 3926

Ion	Ratio	Lower	Upper
84	100		
69	35.0	16.5	56.5
56	122.3	97.4	137.4

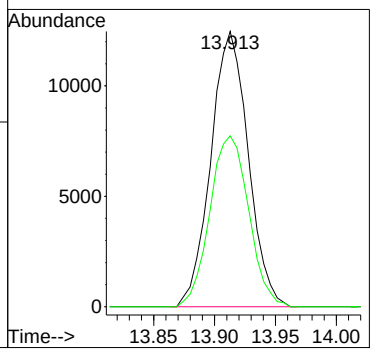


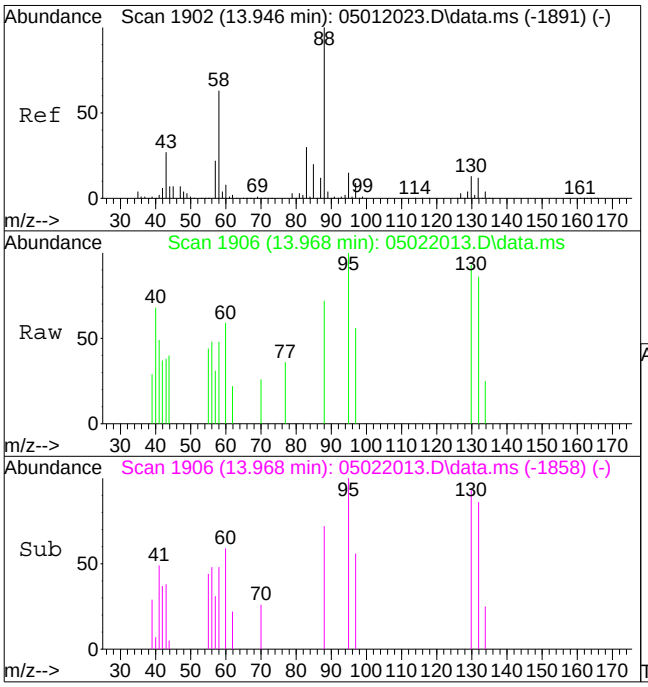


#46
Bromodichloromethane
Concen: 0.68 ng
RT: 13.91 min Scan# 1896
Delta R.T. -0.011 min
Lab File: 05022013.D
Acq: 2 May 2020 16:40

Tgt Ion: 83 Resp: 26620

Ion	Ratio	Lower	Upper
83	100		
85	64.4	44.4	84.4

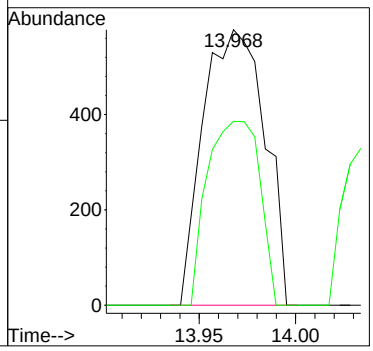


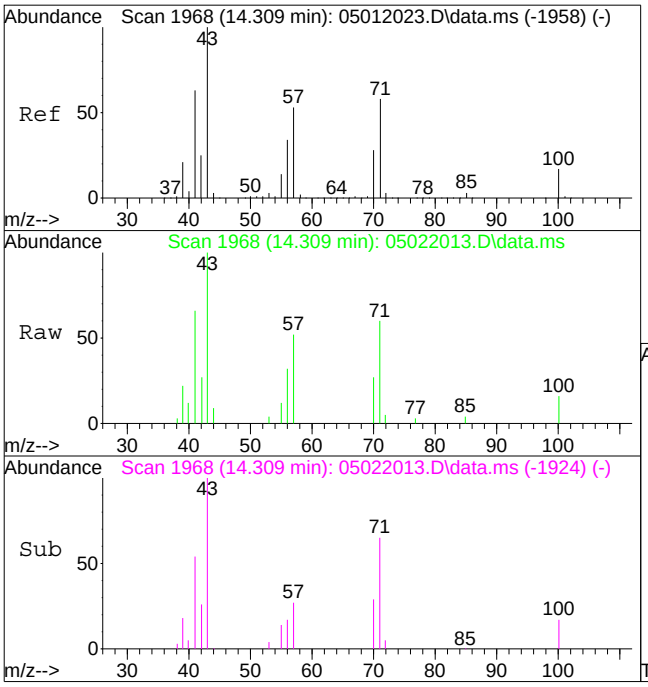


#48
1,4-Dioxane
Concen: 0.05 ng
RT: 13.97 min Scan# 1906
Delta R.T. 0.016 min
Lab File: 05022013.D
Acq: 2 May 2020 16:40

Tgt Ion: 88 Resp: 1284

Ion	Ratio	Lower	Upper
88	100		
58	56.8	42.8	82.8

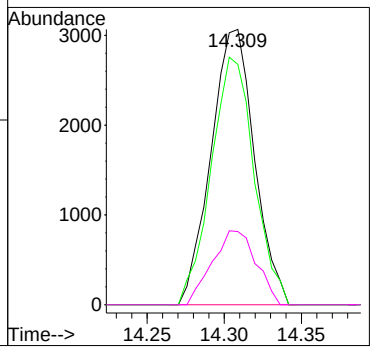


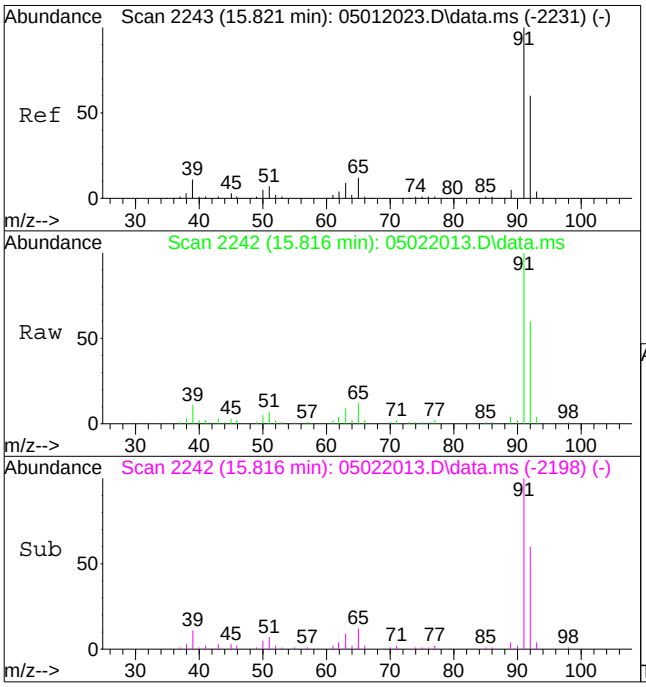


#51
n-Heptane
Concen: 0.22 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05022013.D
Acq: 2 May 2020 16:40

Tgt Ion: 71 Resp: 6014

Ion	Ratio	Lower	Upper
71	100		
57	88.8	71.0	111.0
100	27.1	8.4	48.4

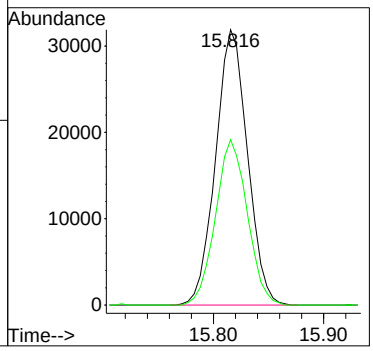


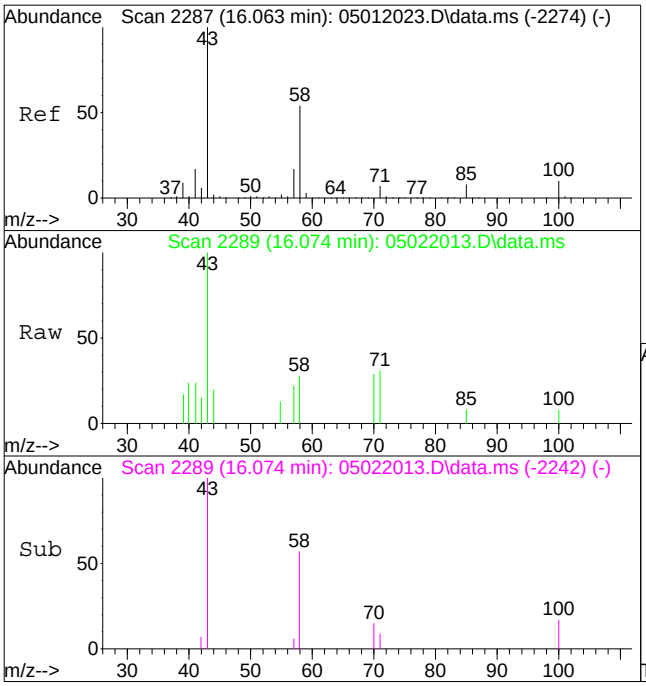


#58
Toluene
Concen: 0.57 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05022013.D
Acq: 2 May 2020 16:40

Tgt Ion: 91 Resp: 64178

Ion	Ratio	Lower	Upper
91	100		
92	59.9	39.4	79.4

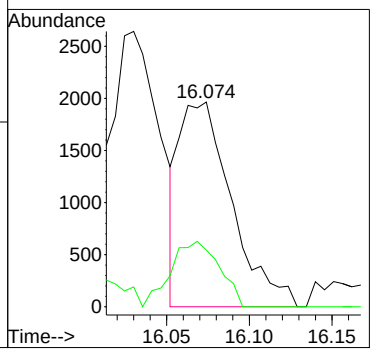


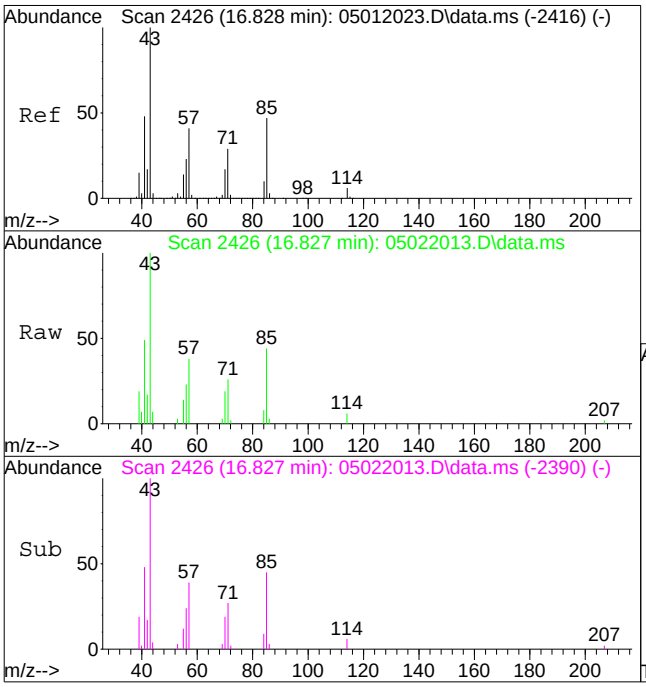


#59
2-Hexanone
Concen: 0.07 ng
RT: 16.07 min Scan# 2289
Delta R.T. 0.011 min
Lab File: 05022013.D
Acq: 2 May 2020 16:40

Tgt Ion: 43 Resp: 4343

Ion	Ratio	Lower	Upper
43	100		
58	29.7	34.5	74.5#

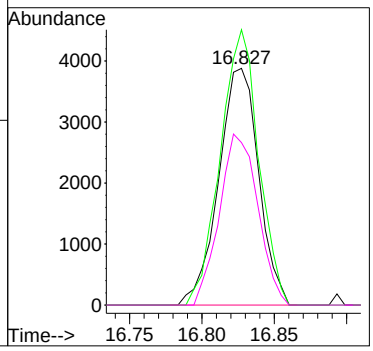


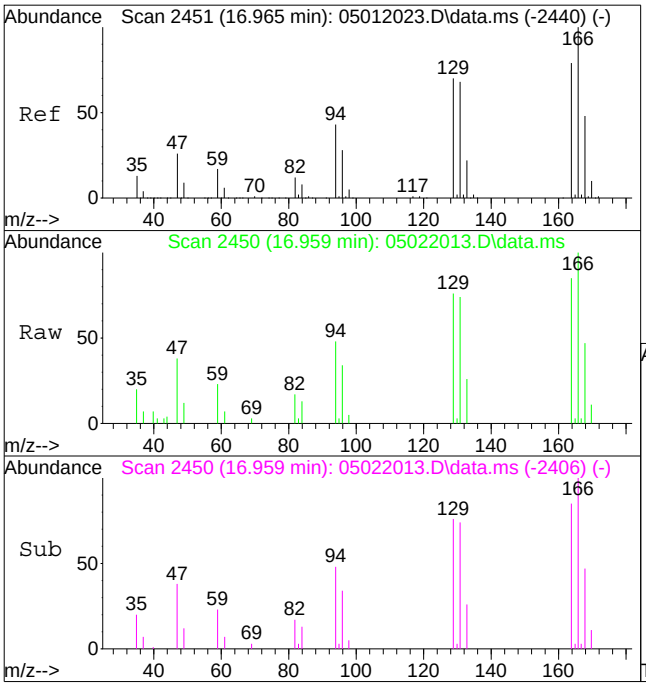


#63
n-Octane
Concen: 0.32 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05022013.D
Acq: 2 May 2020 16:40

Tgt Ion: 57 Resp: 7487

Ion	Ratio	Lower	Upper
57	100		
85	111.1	91.0	136.4
71	69.2	56.2	84.2

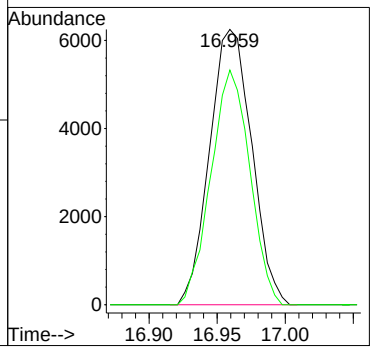


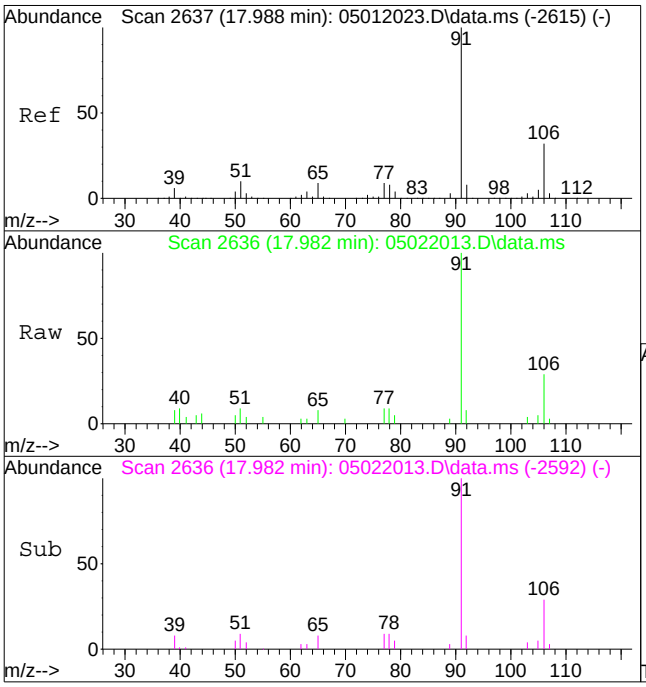


#64
Tetrachloroethene
Concen: 0.42 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05022013.D
Acq: 2 May 2020 16:40

Tgt Ion:166 Resp: 13466

Ion	Ratio	Lower	Upper
166	100		
164	78.7	58.4	98.4

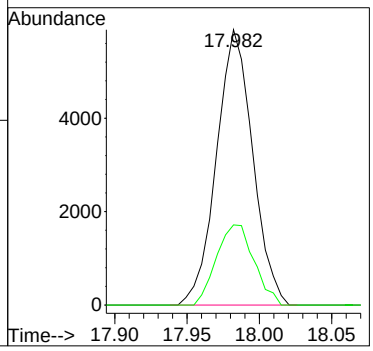


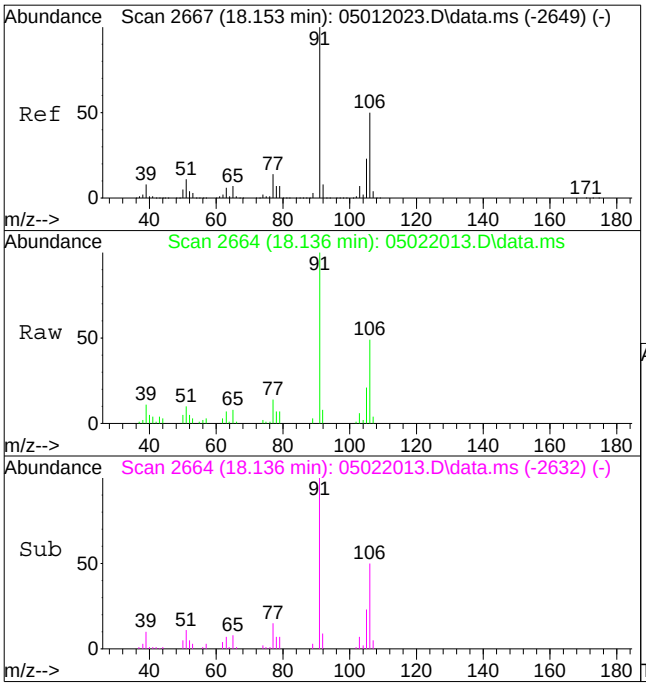


#66
Ethylbenzene
Concen: 0.08 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05022013.D
Acq: 2 May 2020 16:40

Tgt Ion: 91 Resp: 10258

Ion	Ratio	Lower	Upper
91	100		
106	30.2	11.6	51.6

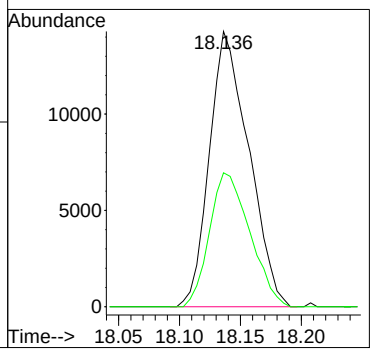


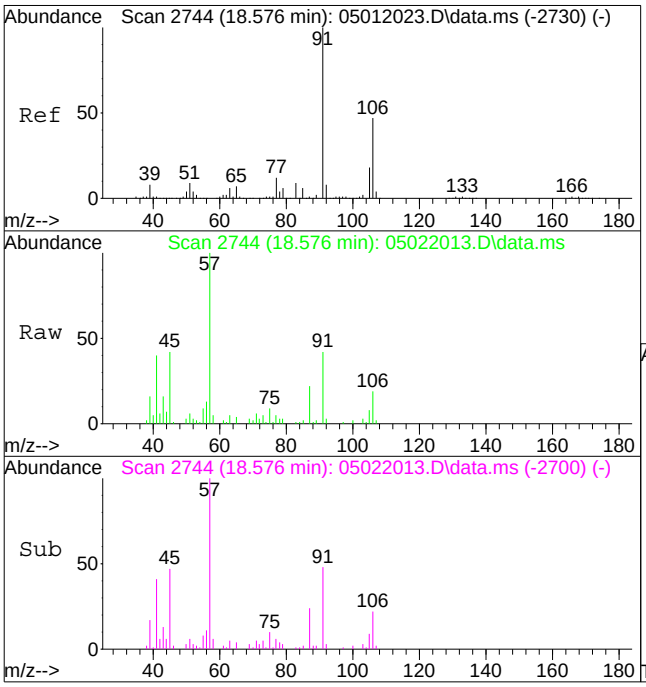


#67
m- & p-Xylenes
Concen: 0.32 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05022013.D
Acq: 2 May 2020 16:40

Tgt Ion: 91 Resp: 32128

Ion	Ratio	Lower	Upper
91	100		
106	49.7	29.7	69.7

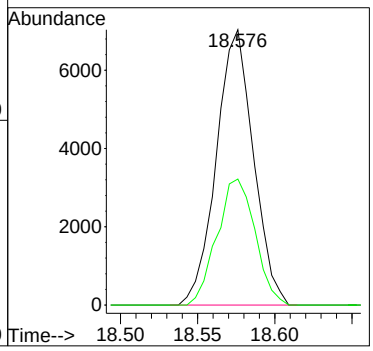


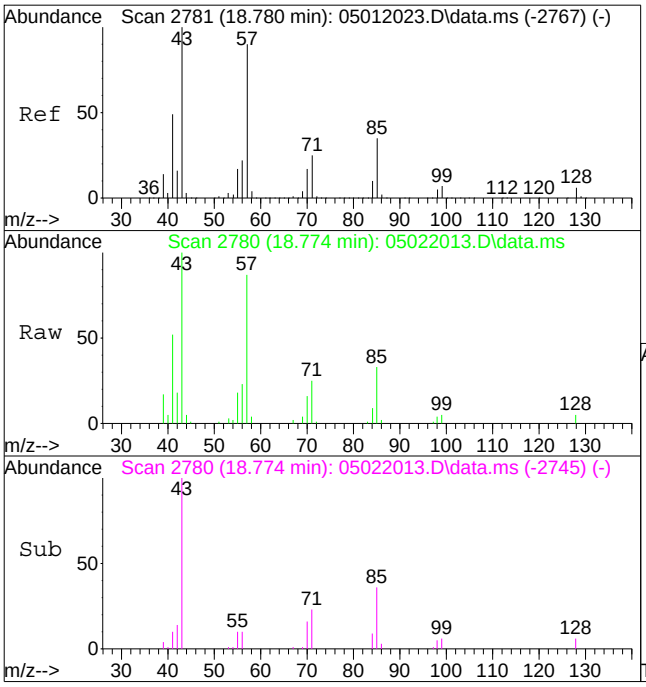


#70
o-Xylene
Concen: 0.12 ng
RT: 18.58 min Scan# 2744
Delta R.T. -0.006 min
Lab File: 05022013.D
Acq: 2 May 2020 16:40

Tgt Ion: 91 Resp: 11773

Ion	Ratio	Lower	Upper
91	100		
106	47.0	27.5	67.5

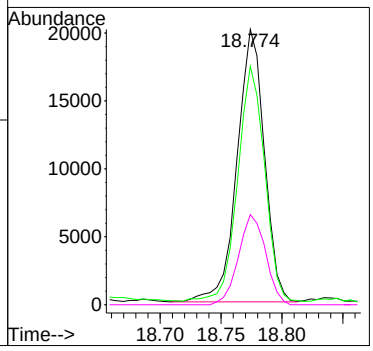


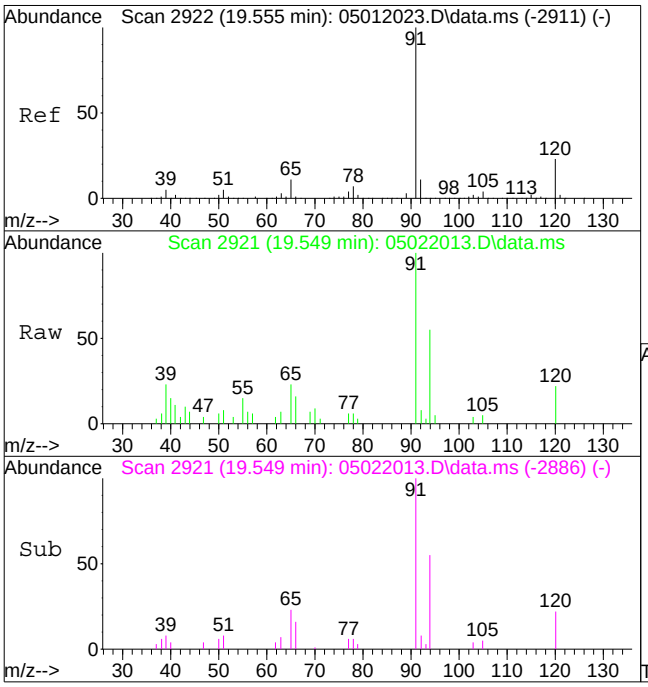


#71
n-Nonane
Concen: 0.58 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05022013.D
Acq: 2 May 2020 16:40

Tgt Ion: 43 Resp: 31262

Ion	Ratio	Lower	Upper
43	100		
57	85.3	69.0	109.0
85	32.8	14.6	54.6

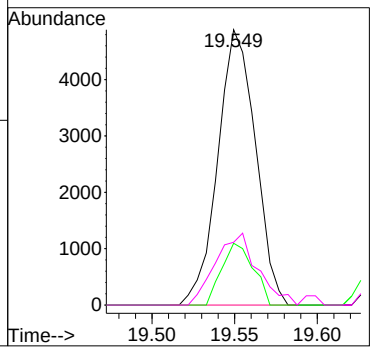


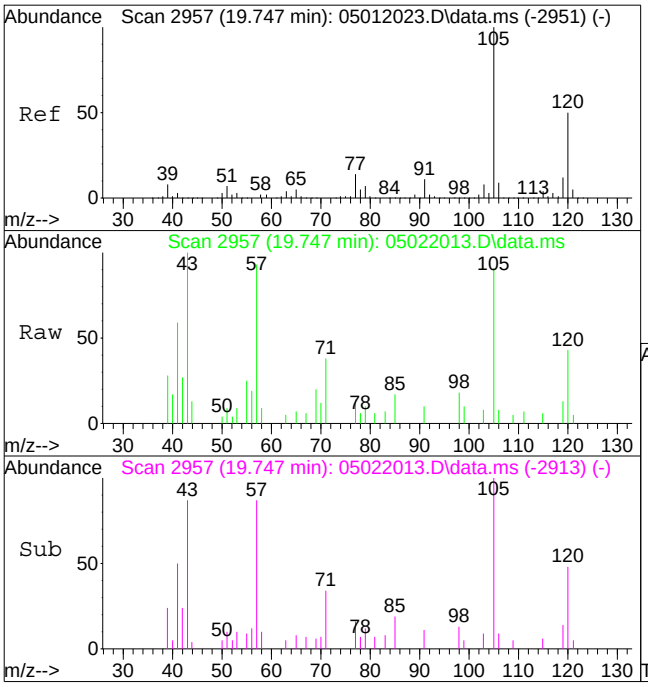


#76
n-Propylbenzene
Concen: 0.05 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05022013.D
Acq: 2 May 2020 16:40

Tgt Ion: 91 Resp: 7737

Ion	Ratio	Lower	Upper
91	100		
120	18.9	3.1	43.1
65	29.1	0.0	30.9

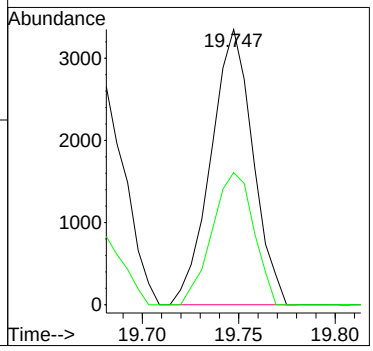


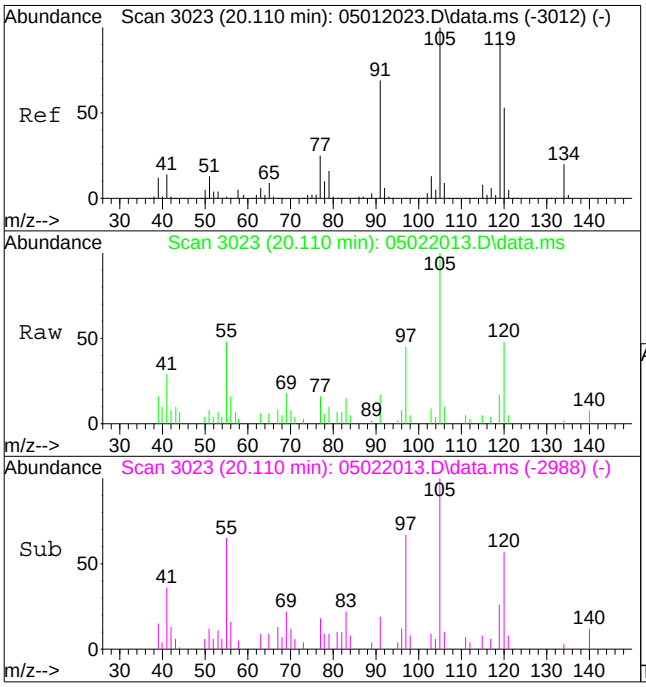


#79
1,3,5-Trimethylbenzene
Concen: 0.05 ng
RT: 19.75 min Scan# 2957
Delta R.T. -0.006 min
Lab File: 05022013.D
Acq: 2 May 2020 16:40

Tgt Ion:105 Resp: 5074

Ion	Ratio	Lower	Upper
105	100		
120	47.5	29.9	69.9

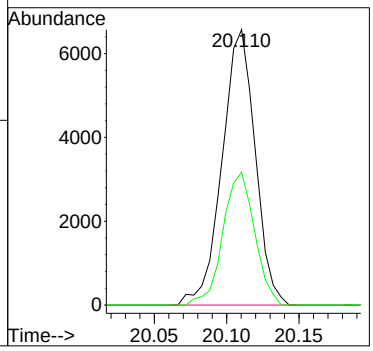


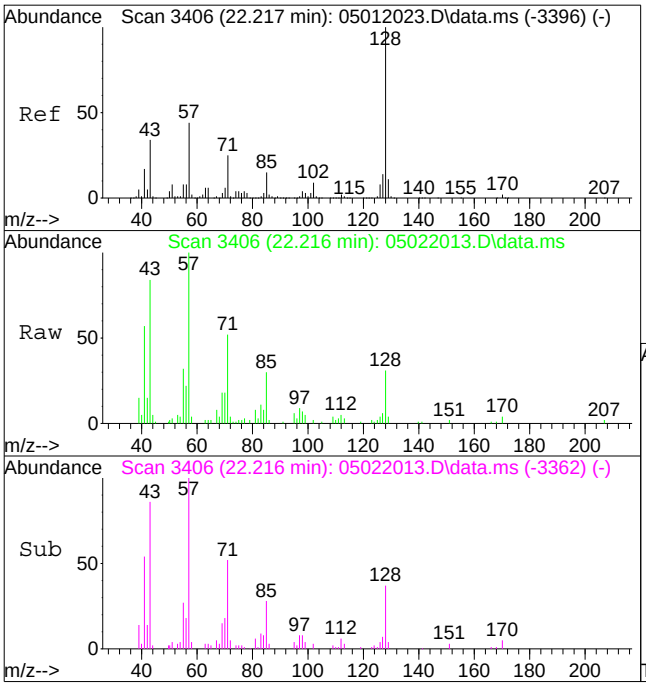


#82
1,2,4-Trimethylbenzene
Concen: 0.10 ng
RT: 20.11 min Scan# 3023
Delta R.T. -0.006 min
Lab File: 05022013.D
Acq: 2 May 2020 16:40

Tgt Ion:105 Resp: 10478

Ion	Ratio	Lower	Upper
105	100		
120	46.2	33.6	73.6

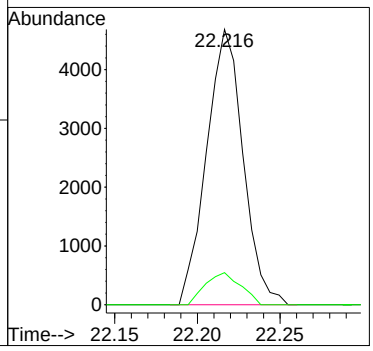




#95
Naphthalene
Concen: 0.06 ng
RT: 22.22 min Scan# 3406
Delta R.T. -0.006 min
Lab File: 05022013.D
Acq: 2 May 2020 16:40

Tgt Ion:128 Resp: 7212

Ion	Ratio	Lower	Upper
128	100		
129	11.3	0.0	31.0



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022014.D Vial: 7
Acq On : 2 May 2020 17:14 Operator: TD
Sample : P2002104-018 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:48:12 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/4/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	248949	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1090810	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	525384	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	429985	12.745	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.92%				
57) Toluene-d8 (SS2)	15.72	98	1111857	12.485	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.92%				
73) Bromofluorobenzene (SS3)	18.98	174	376003	11.734	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.84%				
Target Compounds							Qvalue
2) Propene	4.10	42	13200	0.458	ng		99
3) Dichlorodifluoromethan...	4.26	85	243969	4.326	ng		99
4) Chloromethane	4.53	50	4911	0.111	ng		96
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	5163	0.153	ng		100
6) Vinyl Chloride	4.95	62	100	N.D.			
7) 1,3-Butadiene	5.22	54	116	N.D.			
8) Bromomethane	5.64	94	451	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.32	45	17999	0.808	ng		93
11) Acetonitrile	6.60	41	4213	0.083	ng		86
12) Acrolein	6.79	56	3318	0.189	ng		99
13) Acetone	7.00	58	95761	4.301	ng		97
14) Trichlorofluoromethane	7.24	101	19491	0.391	ng		100
15) 2-Propanol (Isopropanol)	7.50	45	67554	1.002	ng		93
16) Acrylonitrile	7.75	53	429	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	1049	N.D.			
20) 3-Chloro-1-propene (Al...	8.48	41	176	N.D.			
21) Trichlorotrifluoroethane	8.84	151	4987	0.212	ng		91
22) Carbon Disulfide	8.67	76	41014	0.395	ng		99
23) trans-1,2-Dichloroethene	9.68	61	114	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.45	72	18695	0.985	ng	#	90
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	11.26	57	2580	0.054	ng	#	1
32) Chloroform	11.30	83	571350	11.530	ng		99
34) Tetrahydrofuran (THF)	11.71	72	129362	6.985	ng		98
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	243	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	9972	0.085	ng		99
42) Carbon Tetrachloride	13.03	117	143902	3.617	ng		99
43) Cyclohexane	13.15	84	438	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	13.91	83	29307	0.741	ng		99
47) Trichloroethene	13.97	130	2314	0.077	ng		94
48) 1,4-Dioxane	13.96	88	1503	0.064	ng		100
49) 2,2,4-Trimethylpentane...	14.04	57	3672	N.D.			
50) Methyl Methacrylate	14.30	100	332	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022014.D Vial: 7
Acq On : 2 May 2020 17:14 Operator: TD
Sample : P2002104-018 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:48:12 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

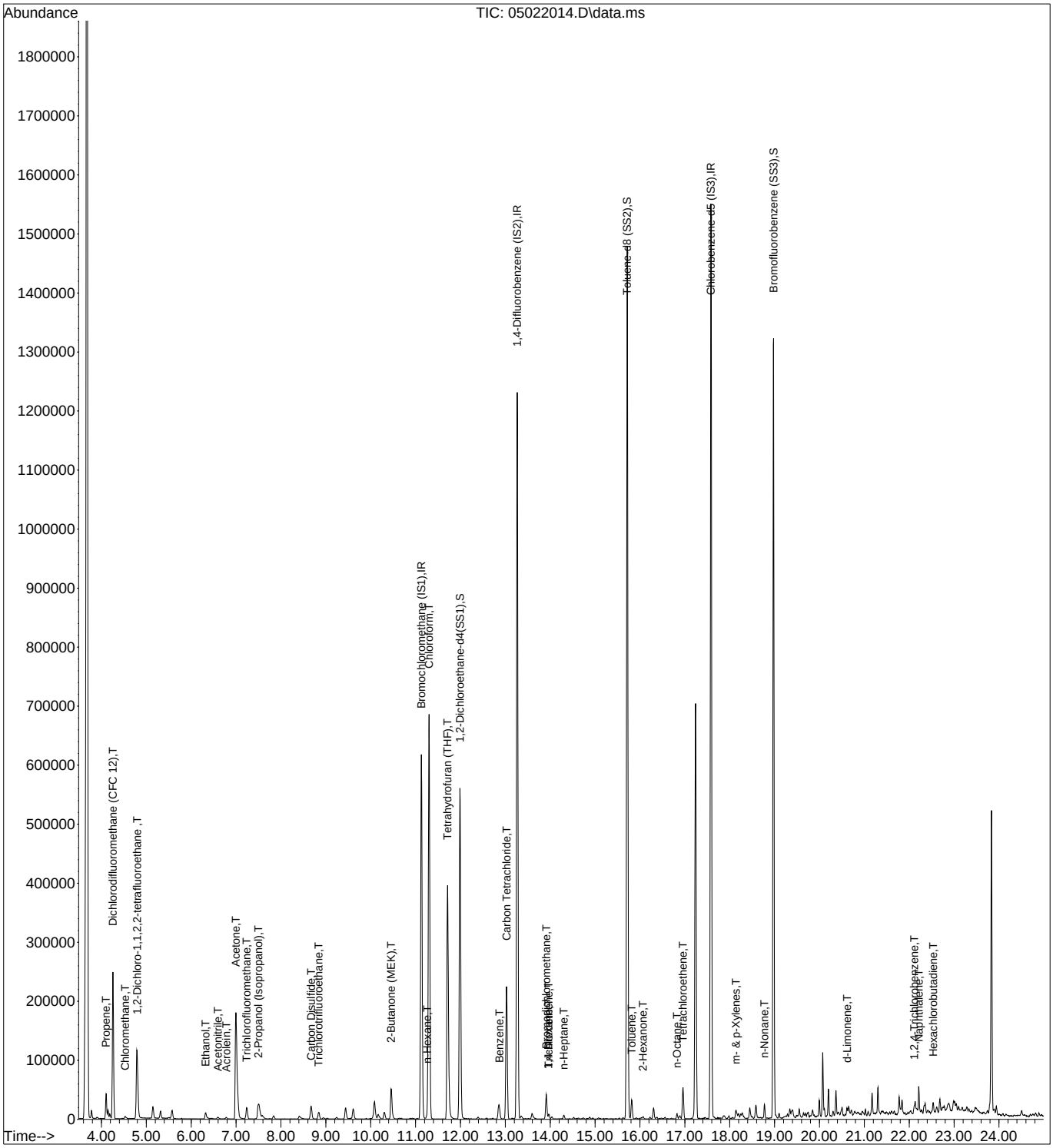
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.30	71	1568	0.057 ng		92
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.88	58	680	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.82	91	25932	0.226 ng		99
59) 2-Hexanone	16.07	43	4447	0.071 ng	#	70
60) Dibromochloromethane	16.22	129	581	N.D.		
61) 1,2-Dibromoethane	16.48	107	527	N.D.		
62) n-Butyl Acetate	16.70	43	1530	N.D.		
63) n-Octane	16.83	57	1733	0.073 ng		91
64) Tetrachloroethene	16.96	166	17031	0.525 ng		99
65) Chlorobenzene	17.63	112	688	N.D.		
66) Ethylbenzene	17.98	91	3874	N.D.		
67) m- & p-Xylenes	18.14	91	10856	0.107 ng		98
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	771	N.D.		
70) o-Xylene	18.58	91	4353	N.D.		
71) n-Nonane	18.77	43	8968	0.164 ng		93
72) 1,1,2,2-Tetrachloroethane	18.55	83	186	N.D.		
74) Cumene	19.10	105	4475	N.D.		
75) alpha-Pinene	19.44	93	240	N.D.		
76) n-Propylbenzene	19.55	91	4359	N.D.		
77) 3-Ethyltoluene	19.64	105	3218	N.D.		
78) 4-Ethyltoluene	19.68	105	1686	N.D.		
79) 1,3,5-Trimethylbenzene	19.75	105	2306	N.D.		
80) alpha-Methylstyrene	19.88	118	1187	N.D.		
81) 2-Ethyltoluene	19.92	105	1584	N.D.		
82) 1,2,4-Trimethylbenzene	20.11	105	4832	N.D.		
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.23	91	919	N.D.		
85) 1,3-Dichlorobenzene	20.25	146	693	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	1327	N.D.		
87) sec-Butylbenzene	20.35	105	1849	N.D.		
88) 4-Isopropyltoluene (p-...	20.48	119	2322	N.D.		
89) 1,2,3-Trimethylbenzene	20.48	105	2569	N.D.		
90) 1,2-Dichlorobenzene	20.61	146	950	N.D.		
91) d-Limonene	20.62	68	2979	0.073 ng	#	68
92) 1,2-Dibromo-3-Chloropr...	20.98	157	192	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.11	180	3089	0.077 ng		98
95) Naphthalene	22.22	128	10259	0.081 ng		97
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	22.54	225	2184	0.079 ng		95
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	20.11	119	917	N.D.		
100) n-Butylbenzene	20.85	91	3496	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022014.D Vial: 7
Acq On : 2 May 2020 17:14 Operator: TD
Sample : P2002104-018 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:48:12 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022014.D Vial: 7
Acq On : 2 May 2020 17:14 Operator: TD
Sample : P2002104-018 (400mL) Inst : GCMS-16
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QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/4/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	248949	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1090810	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	525384	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	429985	12.745	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.92%				
57) Toluene-d8 (SS2)	15.72	98	1111857	12.485	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.92%				
73) Bromofluorobenzene (SS3)	18.98	174	376003	11.734	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.84%				
Target Compounds							Qvalue
2) Propene	4.10	42	13200	0.458	ng		99
3) Dichlorodifluoromethan...	4.26	85	243969	4.326	ng		99
4) Chloromethane	4.53	50	4911	0.111	ng		96
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	5163	0.153	ng		100
10) Ethanol	6.32	45	17999	0.808	ng		93
11) Acetonitrile	6.60	41	4213	0.083	ng		86
12) Acrolein	6.79	56	3318	0.189	ng		99
13) Acetone	7.00	58	95761	4.301	ng		97
14) Trichlorofluoromethane	7.24	101	19491	0.391	ng		100
15) 2-Propanol (Isopropanol)	7.50	45	67554	1.002	ng		93
21) Trichlorotrifluoroethane	8.84	151	4987	0.212	ng		91
22) Carbon Disulfide	8.67	76	41014	0.395	ng		99
27) 2-Butanone (MEK)	10.45	72	18695	0.985	ng	#	90
31) n-Hexane	11.26	57	2580	0.054	ng	#	1
32) Chloroform	11.30	83	571350	11.530	ng		99
34) Tetrahydrofuran (THF)	11.71	72	129362	6.985	ng		98
41) Benzene	12.87	78	9972	0.085	ng		99
42) Carbon Tetrachloride	13.03	117	143902	3.617	ng		99
46) Bromodichloromethane	13.91	83	29307	0.741	ng		99
47) Trichloroethene	13.97	130	2314	0.077	ng		94
48) 1,4-Dioxane	13.96	88	1503	0.064	ng		100
51) n-Heptane	14.30	71	1568	0.057	ng		92
58) Toluene	15.82	91	25932	0.226	ng		99
59) 2-Hexanone	16.07	43	4447	0.071	ng	#	70
63) n-Octane	16.83	57	1733	0.073	ng		91
64) Tetrachloroethene	16.96	166	17031	0.525	ng		99
67) m- & p-Xylenes	18.14	91	10856	0.107	ng		98
71) n-Nonane	18.77	43	8968	0.164	ng		93
91) d-Limonene	20.62	68	2979	0.073	ng	#	68
94) 1,2,4-Trichlorobenzene	22.11	180	3089	0.077	ng		98
95) Naphthalene	22.22	128	10259	0.081	ng		97
97) Hexachlorobutadiene	22.54	225	2184	0.079	ng		95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

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Sample : P2002104-018 (400mL) Inst : GCMS-16
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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
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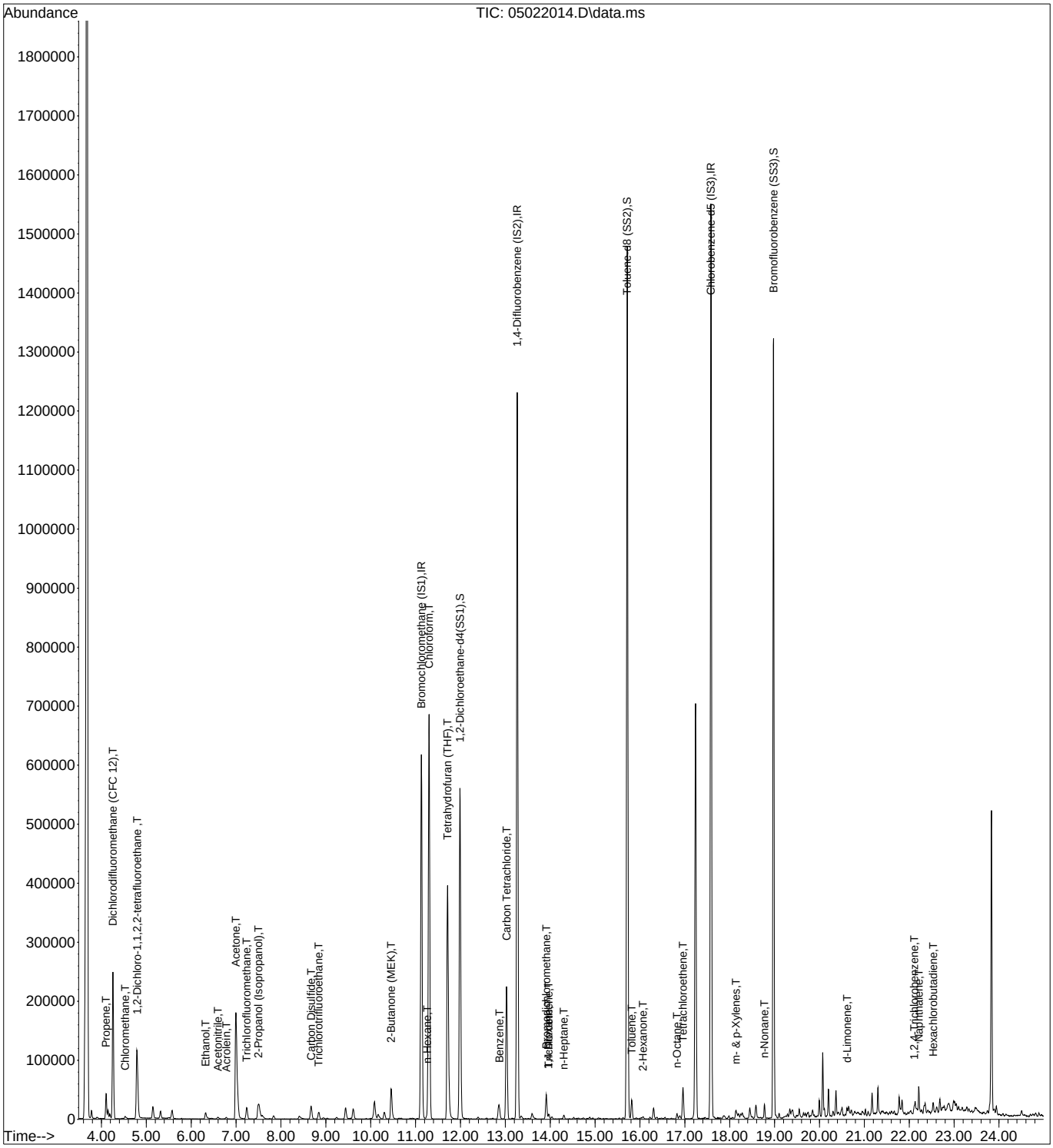
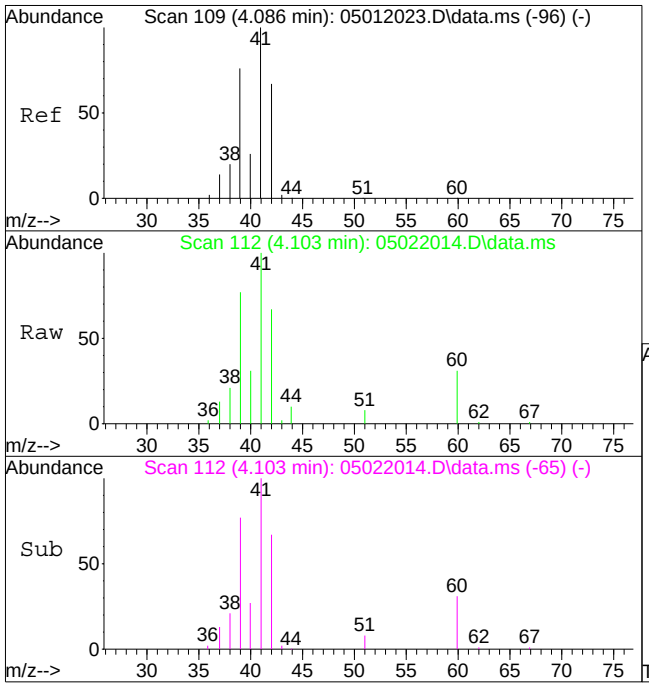
DataAcq Meth:TO15.M

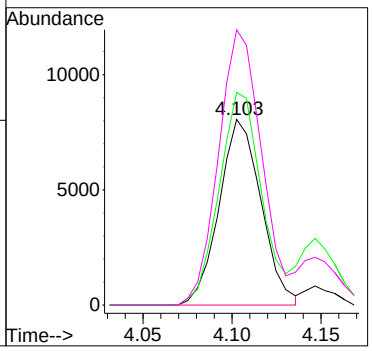


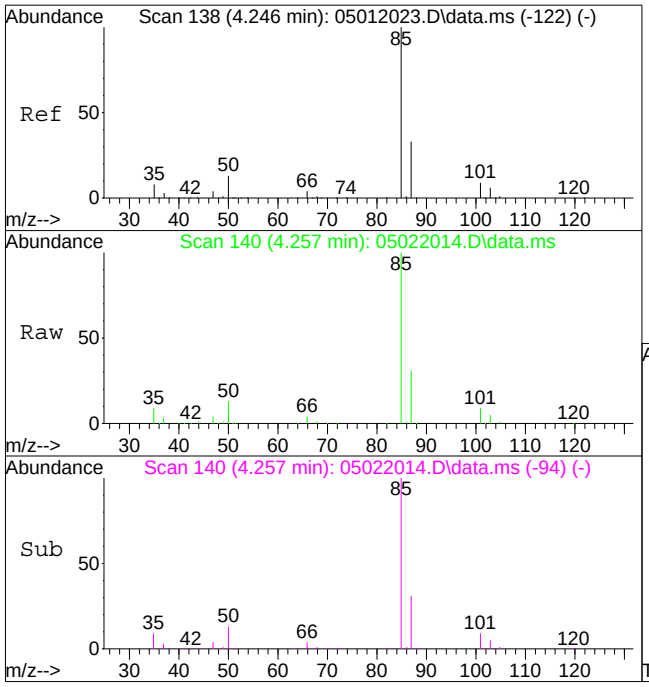


#2
Propene
Concen: 0.46 ng
RT: 4.10 min Scan# 112
Delta R.T. 0.011 min
Lab File: 05022014.D
Acq: 2 May 2020 17:14

Tgt Ion: 42 Resp: 13200

Ion	Ratio	Lower	Upper
42	100		
39	116.2	96.1	136.1
41	154.5	131.9	171.9

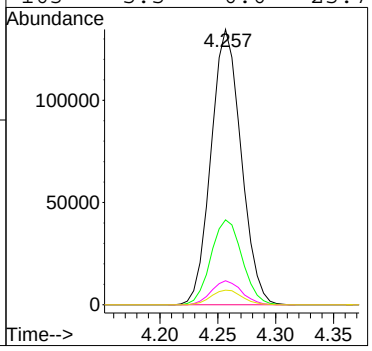


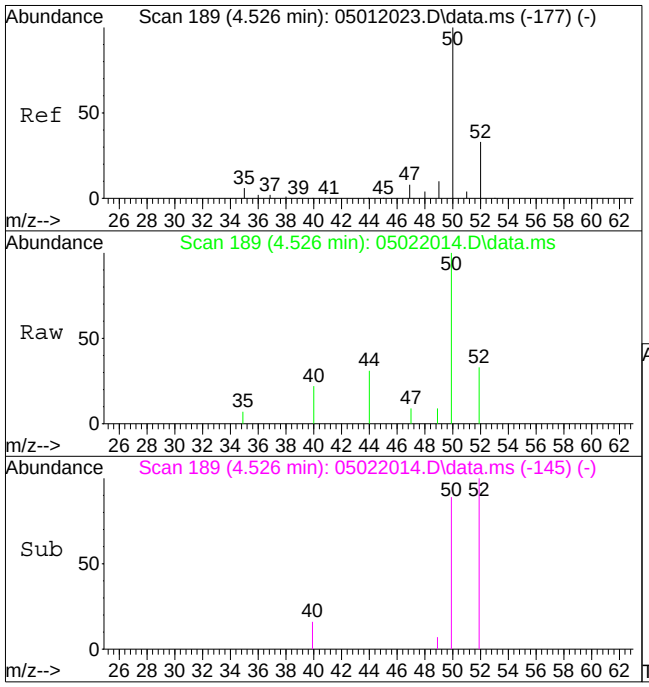


#3
Dichlorodifluoromethane (CFC 12)
Concen: 4.33 ng
RT: 4.26 min Scan# 140
Delta R.T. 0.005 min
Lab File: 05022014.D
Acq: 2 May 2020 17:14

Tgt Ion: 85 Resp: 243969

Ion	Ratio	Lower	Upper
85	100		
87	31.9	12.4	52.4
101	8.8	0.0	28.8
103	5.5	0.0	25.7

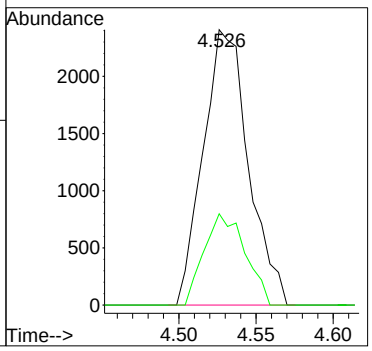


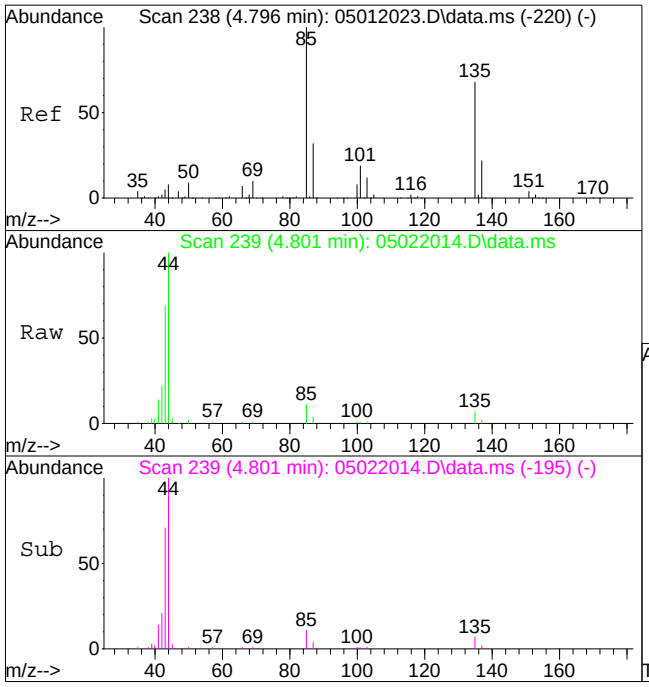


#4
Chloromethane
Concen: 0.11 ng
RT: 4.53 min Scan# 189
Delta R.T. -0.006 min
Lab File: 05022014.D
Acq: 2 May 2020 17:14

Tgt Ion: 50 Resp: 4911

Ion	Ratio	Lower	Upper
50	100		
52	30.1	12.5	52.5

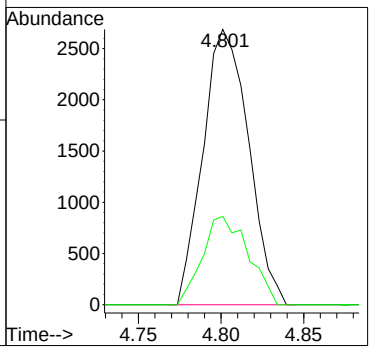


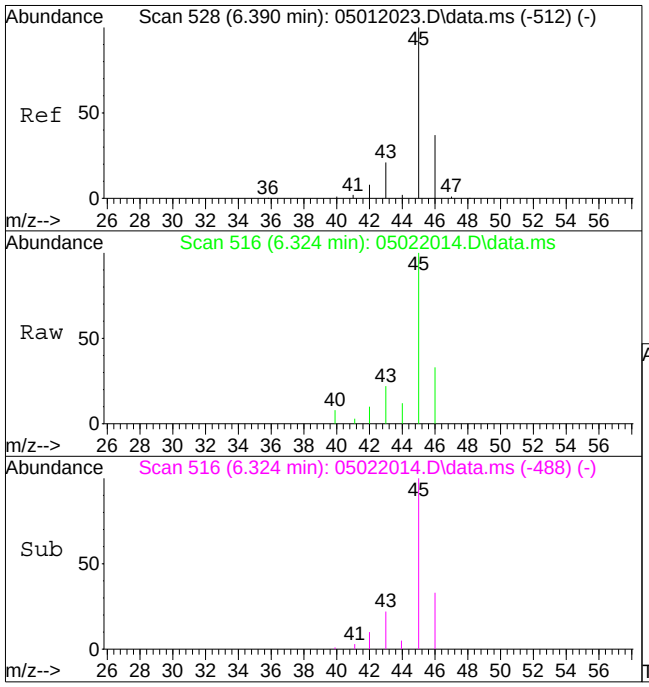


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 0.15 ng
RT: 4.80 min Scan# 239
Delta R.T. -0.006 min
Lab File: 05022014.D
Acq: 2 May 2020 17:14

Tgt Ion:135 Resp: 5163

Ion	Ratio	Lower	Upper
135	100		
137	32.2	12.1	52.1

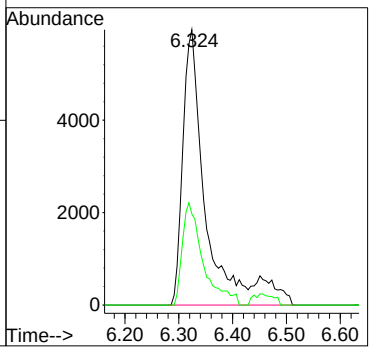


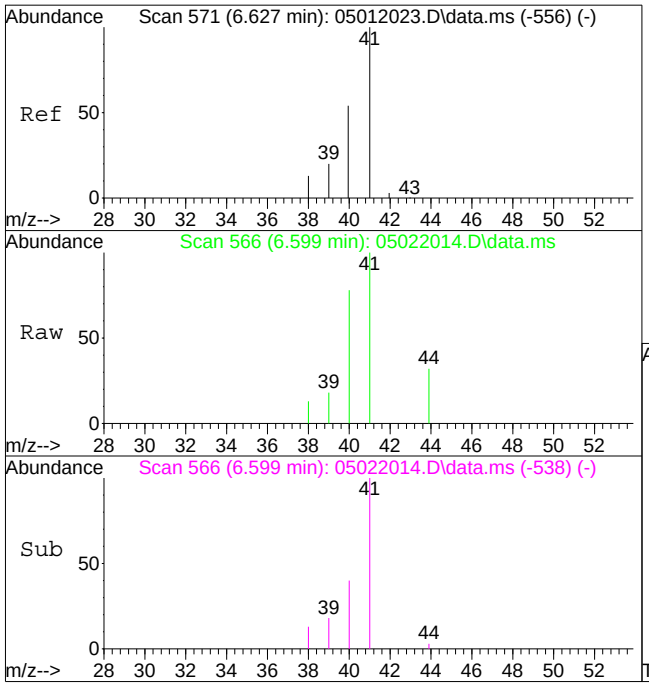


#10
Ethanol
Concen: 0.81 ng
RT: 6.32 min Scan# 516
Delta R.T. -0.094 min
Lab File: 05022014.D
Acq: 2 May 2020 17:14

Tgt Ion: 45 Resp: 17999

Ion	Ratio	Lower	Upper
45	100		
46	32.8	17.2	57.2

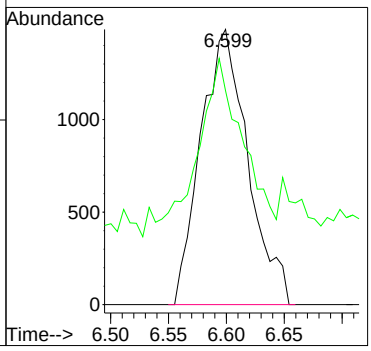


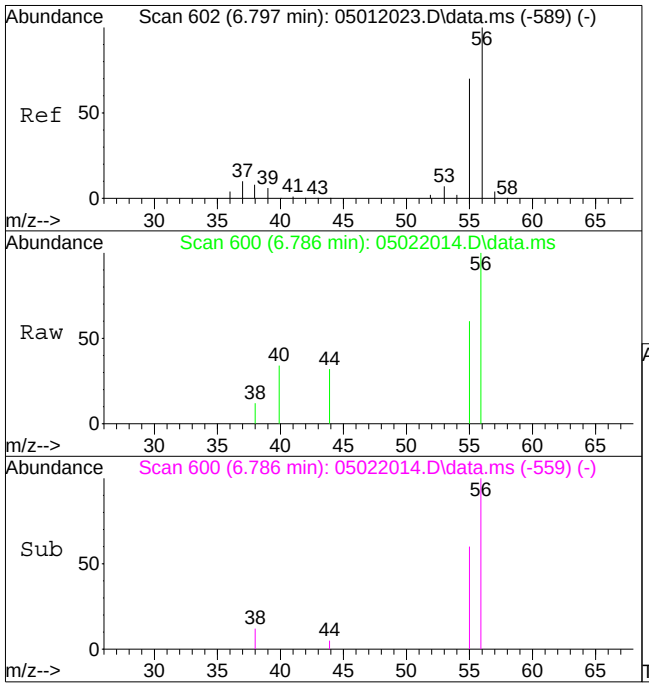


#11
Acetonitrile
Concen: 0.08 ng
RT: 6.60 min Scan# 566
Delta R.T. -0.044 min
Lab File: 05022014.D
Acq: 2 May 2020 17:14

Tgt Ion: 41 Resp: 4213

Ion	Ratio	Lower	Upper
41	100		
40	63.4	33.6	73.6

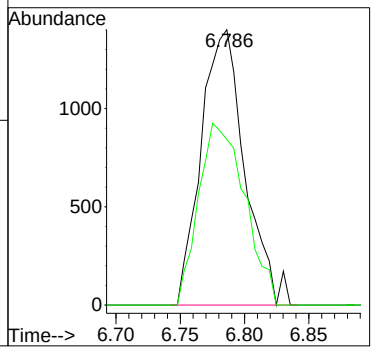


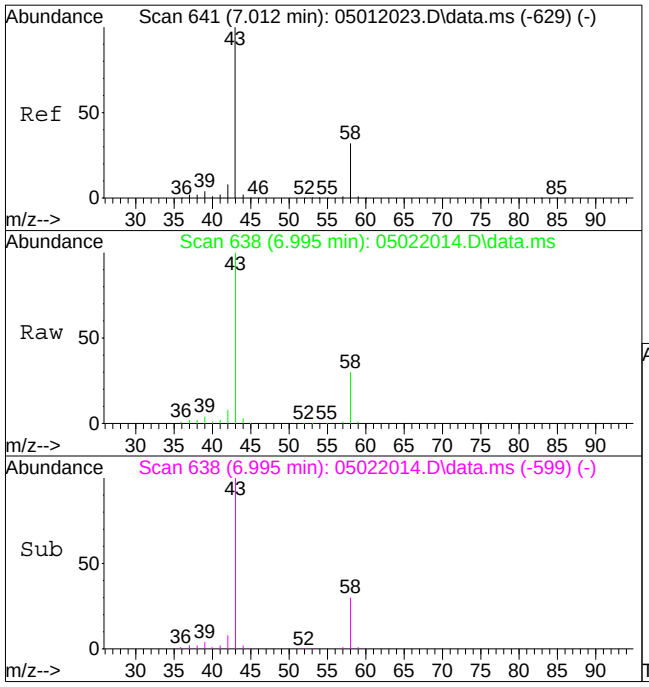


#12
Acrolein
Concen: 0.19 ng
RT: 6.79 min Scan# 600
Delta R.T. -0.022 min
Lab File: 05022014.D
Acq: 2 May 2020 17:14

Tgt Ion: 56 Resp: 3318

Ion	Ratio	Lower	Upper
56	100		
55	69.7	50.2	90.2

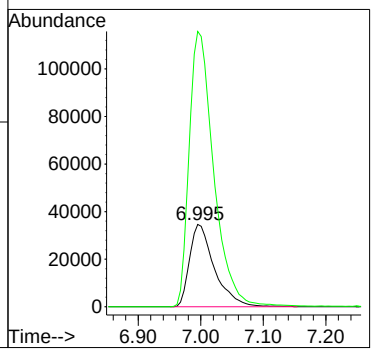


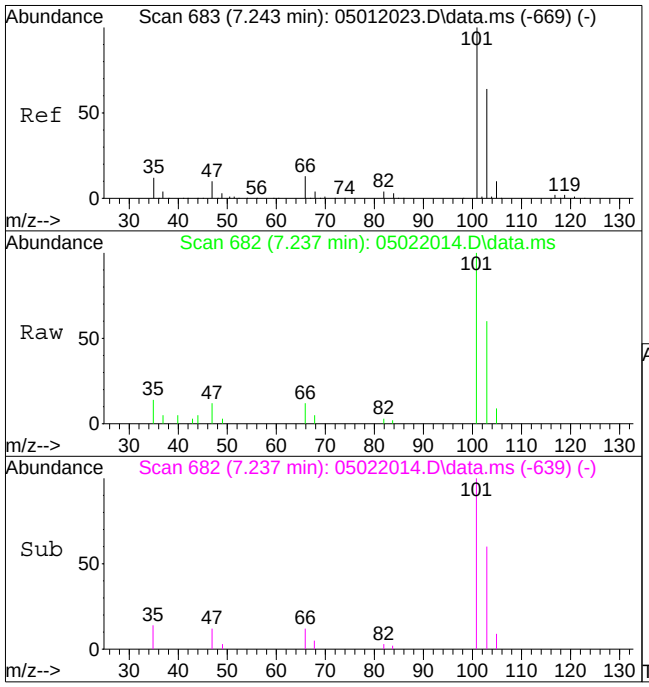


#13
Acetone
Concen: 4.30 ng
RT: 7.00 min Scan# 638
Delta R.T. -0.033 min
Lab File: 05022014.D
Acq: 2 May 2020 17:14

Tgt Ion: 58 Resp: 95761

Ion	Ratio	Lower	Upper
58	100		
43	329.7	294.4	354.4

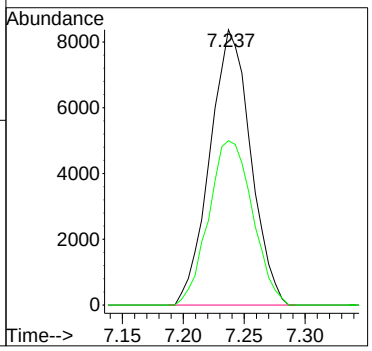


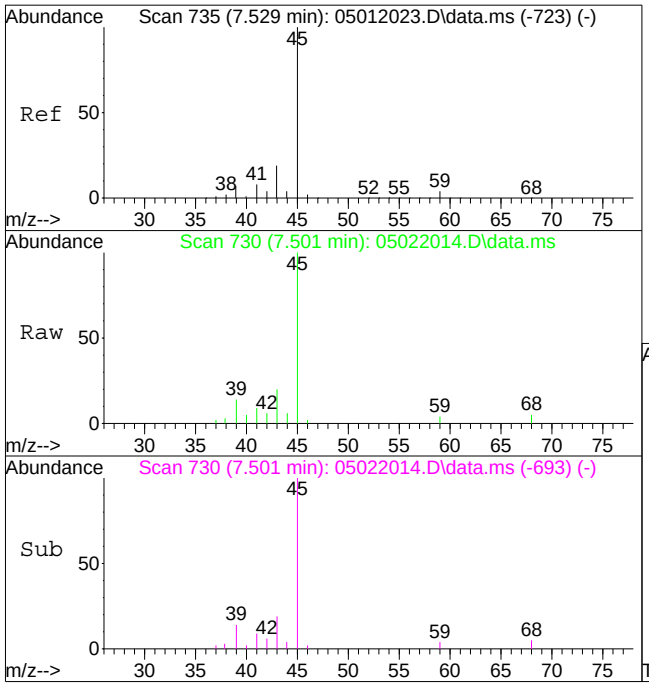


#14
Trichlorofluoromethane
Concen: 0.39 ng
RT: 7.24 min Scan# 682
Delta R.T. -0.011 min
Lab File: 05022014.D
Acq: 2 May 2020 17:14

Tgt Ion:101 Resp: 19491

Ion	Ratio	Lower	Upper
101	100		
103	64.1	44.4	84.4

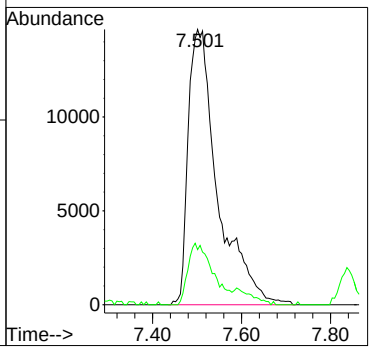


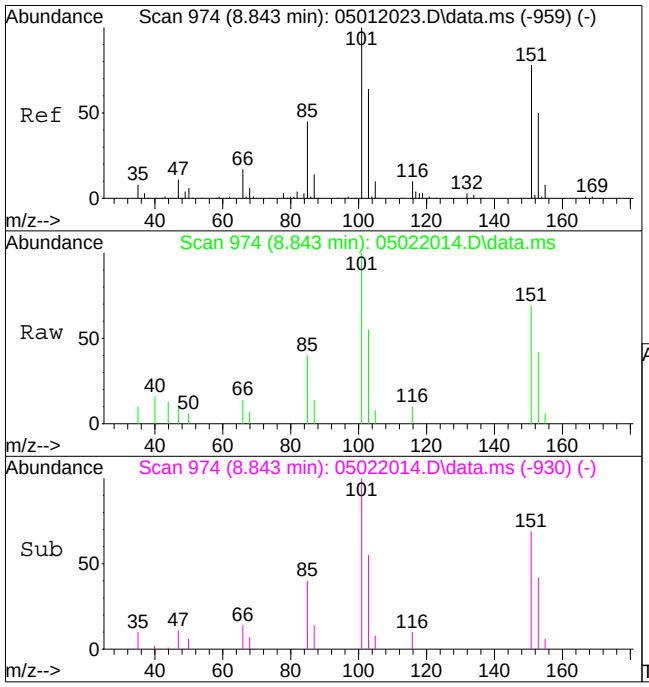


#15
2-Propanol (Isopropanol)
Concen: 1.00 ng
RT: 7.50 min Scan# 730
Delta R.T. -0.044 min
Lab File: 05022014.D
Acq: 2 May 2020 17:14

Tgt Ion: 45 Resp: 67554

Ion	Ratio	Lower	Upper
45	100		
43	22.6	0.0	39.5

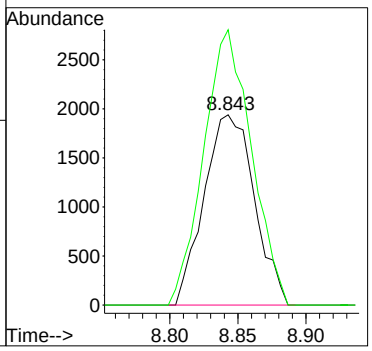


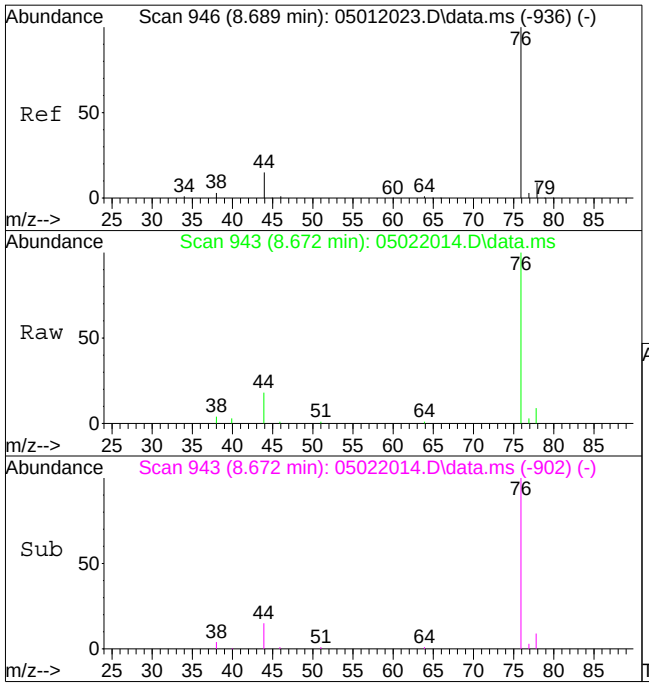


#21
Trichlorotrifluoroethane
Concen: 0.21 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05022014.D
Acq: 2 May 2020 17:14

Tgt Ion:151 Resp: 4987

Ion	Ratio	Lower	Upper
151	100		
101	137.5	107.3	147.3

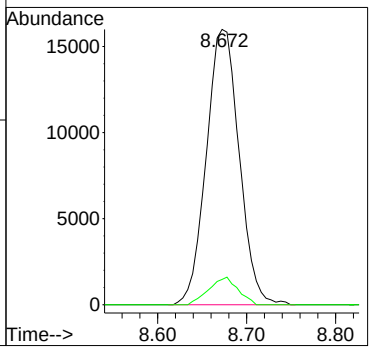


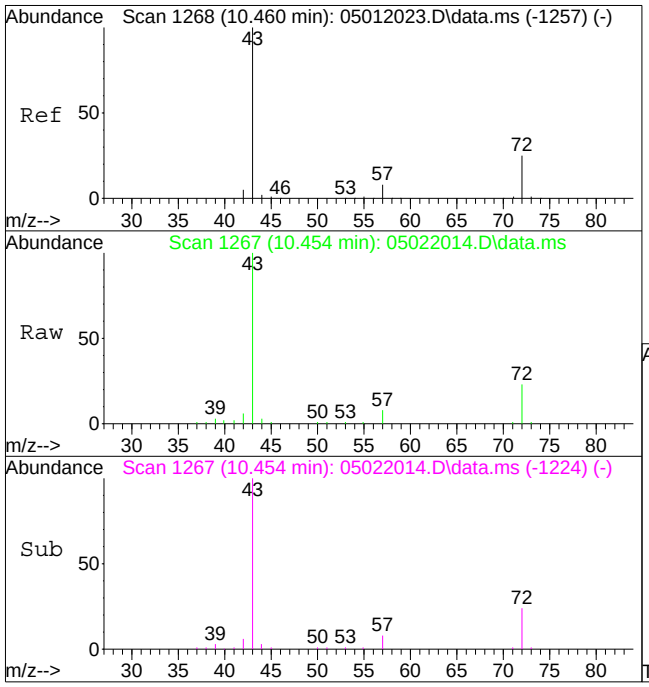


#22
Carbon Disulfide
Concen: 0.40 ng
RT: 8.67 min Scan# 943
Delta R.T. -0.022 min
Lab File: 05022014.D
Acq: 2 May 2020 17:14

Tgt Ion: 76 Resp: 41014

Ion	Ratio	Lower	Upper
76	100		
78	8.8	0.0	29.2

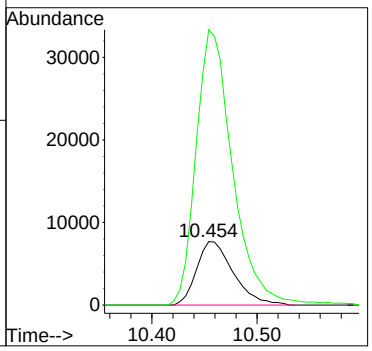


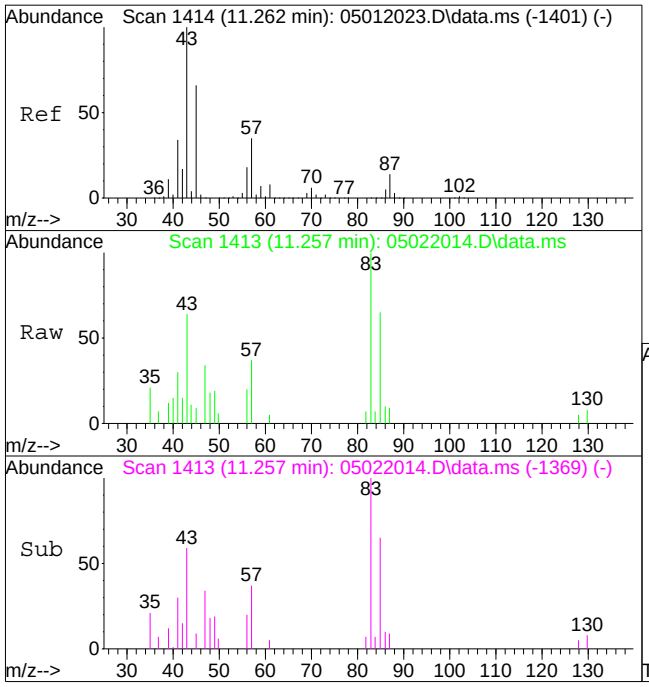


#27
2-Butanone (MEK)
Concen: 0.98 ng
RT: 10.45 min Scan# 1267
Delta R.T. -0.011 min
Lab File: 05022014.D
Acq: 2 May 2020 17:14

Tgt Ion: 72 Resp: 18695

Ion	Ratio	Lower	Upper
72	100		
43	433.4	389.7	429.7#

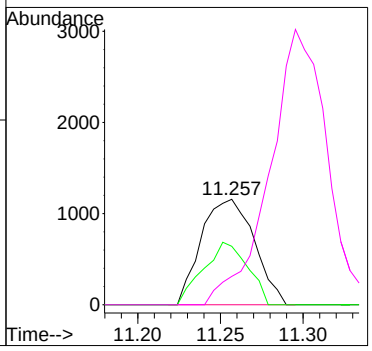


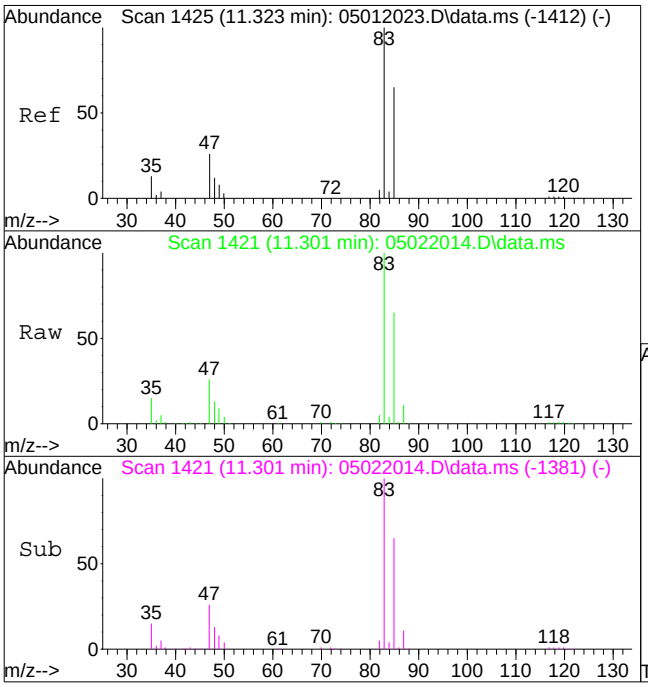


#31
n-Hexane
Concen: 0.05 ng
RT: 11.26 min Scan# 1413
Delta R.T. -0.006 min
Lab File: 05022014.D
Acq: 2 May 2020 17:14

Tgt Ion: 57 Resp: 2580

Ion	Ratio	Lower	Upper
57	100		
56	49.3	41.4	62.0
86	276.4	12.4	18.6#

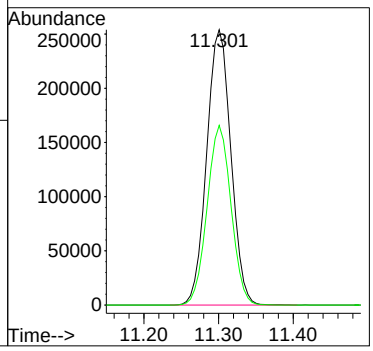


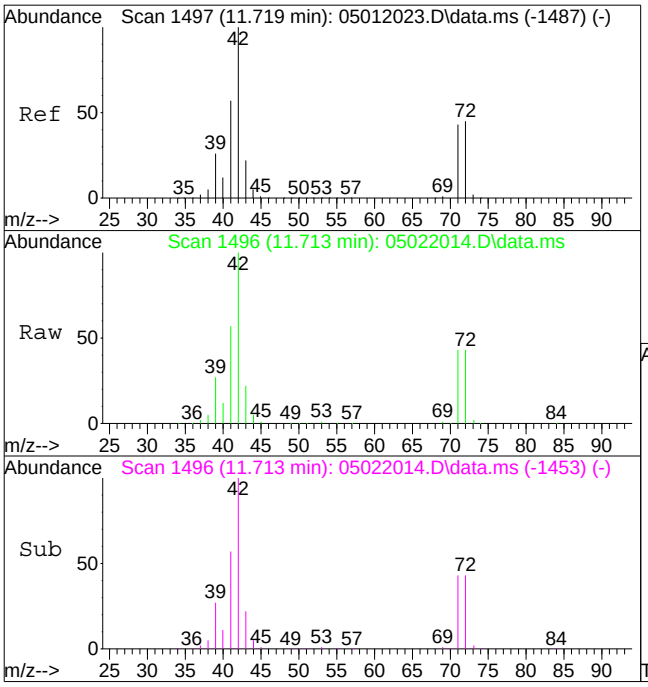


#32
Chloroform
Concen: 11.53 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.028 min
Lab File: 05022014.D
Acq: 2 May 2020 17:14

Tgt Ion: 83 Resp: 571350

Ion	Ratio	Lower	Upper
83	100		
85	64.4	45.5	85.5

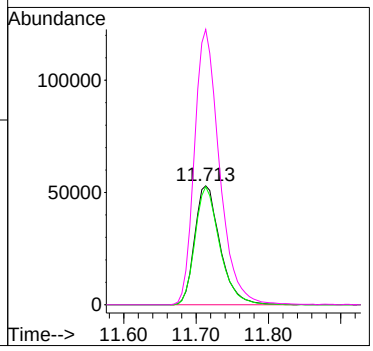


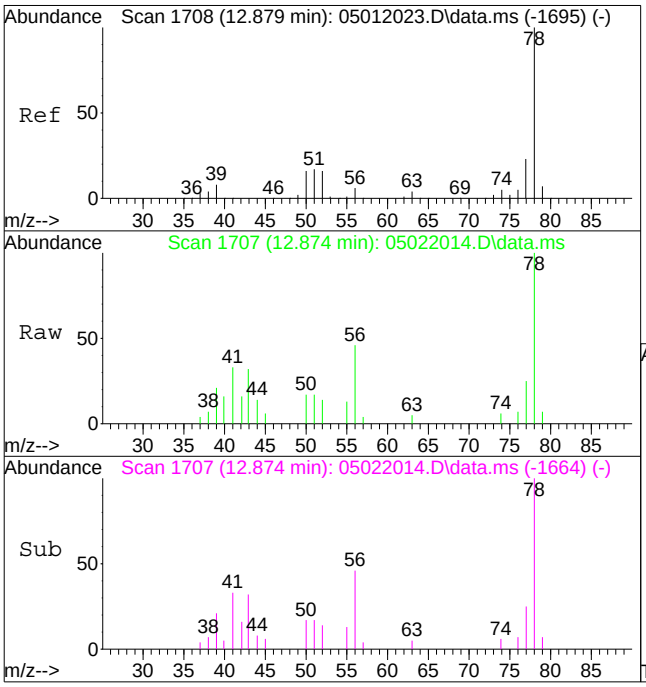


#34
Tetrahydrofuran (THF)
Concen: 6.99 ng
RT: 11.71 min Scan# 1496
Delta R.T. -0.011 min
Lab File: 05022014.D
Acq: 2 May 2020 17:14

Tgt Ion: 72 Resp: 129362

Ion	Ratio	Lower	Upper
72	100		
71	96.5	77.0	117.0
42	228.5	204.6	244.6

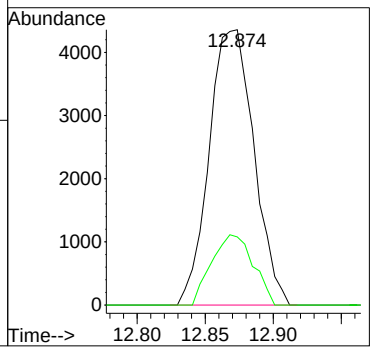


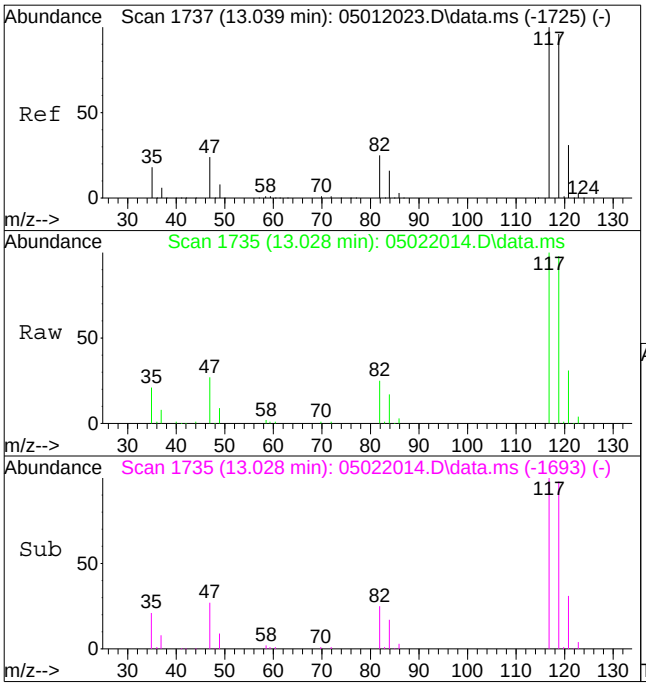


#41
Benzene
Concen: 0.09 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05022014.D
Acq: 2 May 2020 17:14

Tgt Ion: 78 Resp: 9972

Ion	Ratio	Lower	Upper
78	100		
77	23.7	3.4	43.4

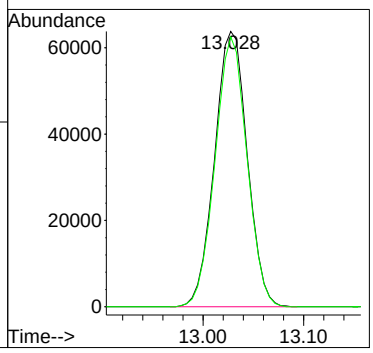


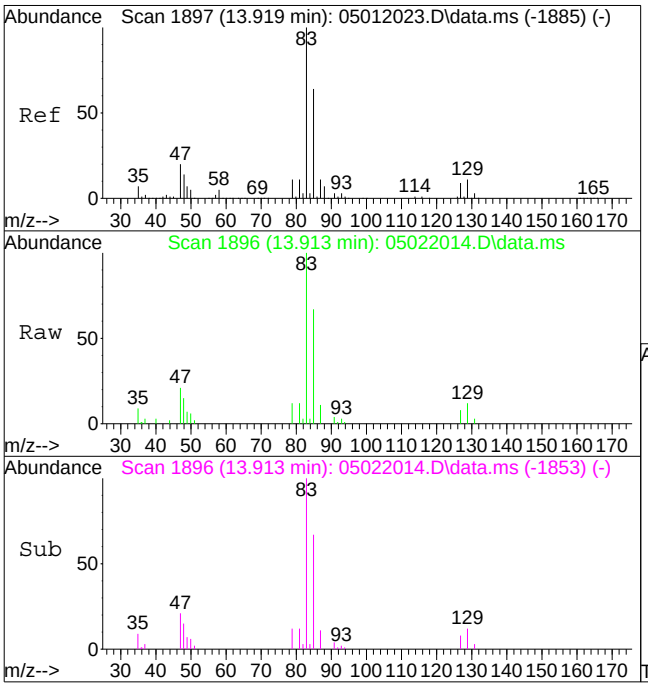


#42
Carbon Tetrachloride
Concen: 3.62 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05022014.D
Acq: 2 May 2020 17:14

Tgt Ion:117 Resp: 143902

Ion	Ratio	Lower	Upper
117	100		
119	95.5	76.2	116.2

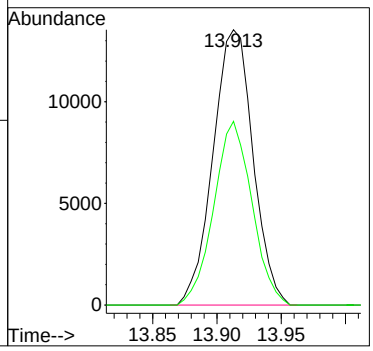


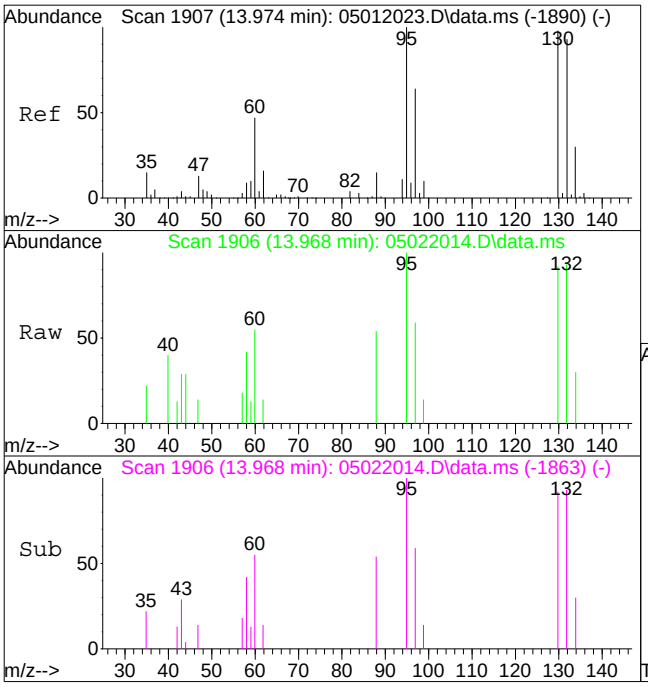


#46
Bromodichloromethane
Concen: 0.74 ng
RT: 13.91 min Scan# 1896
Delta R.T. -0.011 min
Lab File: 05022014.D
Acq: 2 May 2020 17:14

Tgt Ion: 83 Resp: 29307

Ion	Ratio	Lower	Upper
83	100		
85	63.6	44.4	84.4

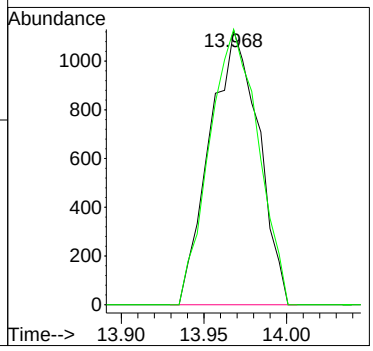


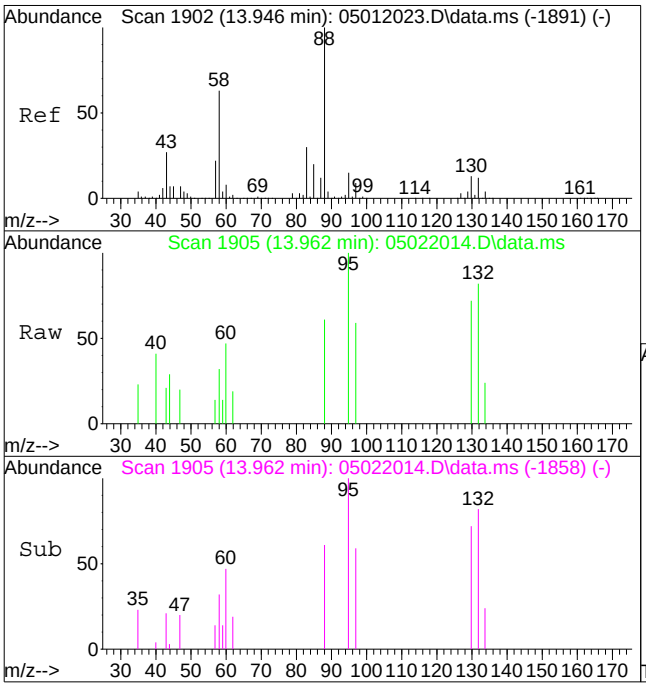


#47
Trichloroethene
Concen: 0.08 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05022014.D
Acq: 2 May 2020 17:14

Tgt Ion:130 Resp: 2314

Ion	Ratio	Lower	Upper
130	100		
132	100.3	74.9	114.9

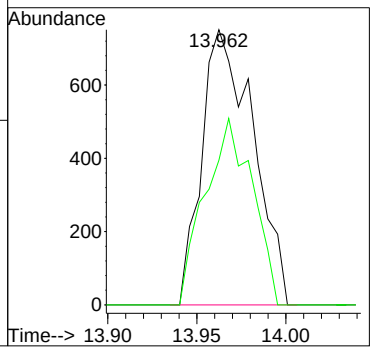


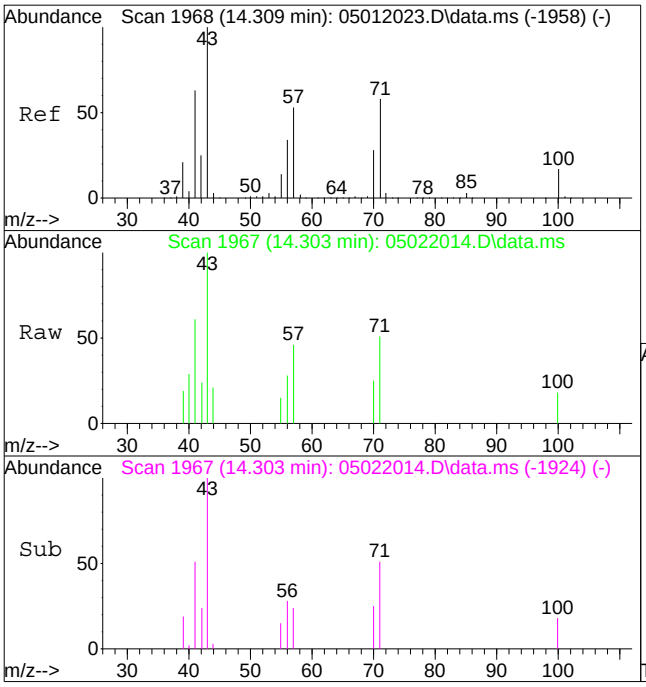


#48
1,4-Dioxane
Concen: 0.06 ng
RT: 13.96 min Scan# 1905
Delta R.T. 0.011 min
Lab File: 05022014.D
Acq: 2 May 2020 17:14

Tgt Ion: 88 Resp: 1503

Ion	Ratio	Lower	Upper
88	100		
58	62.6	42.8	82.8

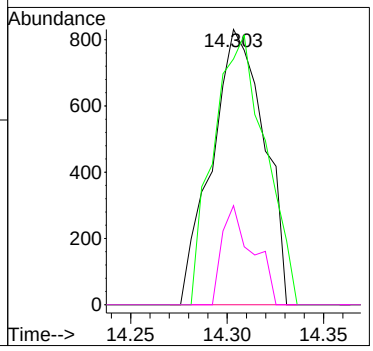


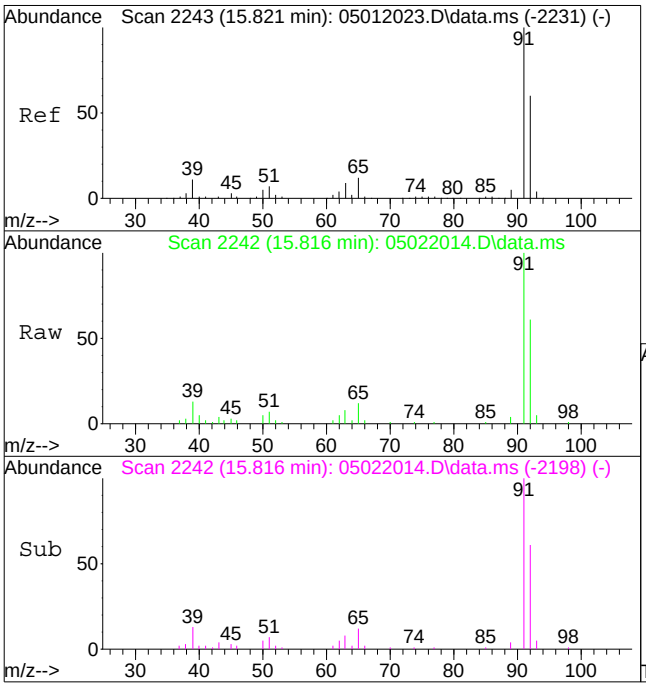


#51
n-Heptane
Concen: 0.06 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05022014.D
Acq: 2 May 2020 17:14

Tgt Ion: 71 Resp: 1568

Ion	Ratio	Lower	Upper
71	100		
57	97.4	71.0	111.0
100	21.2	8.4	48.4

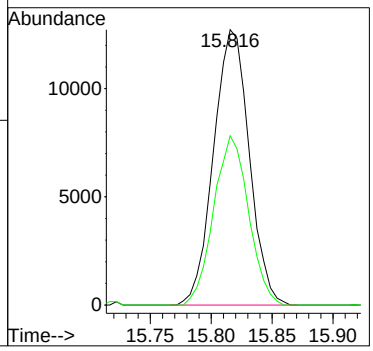


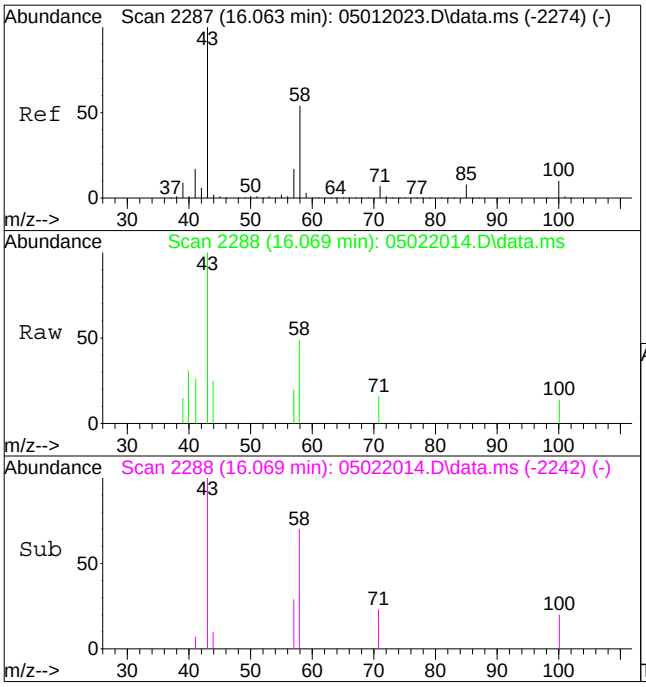


#58
Toluene
Concen: 0.23 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05022014.D
Acq: 2 May 2020 17:14

Tgt Ion: 91 Resp: 25932

Ion	Ratio	Lower	Upper
91	100		
92	60.0	39.4	79.4

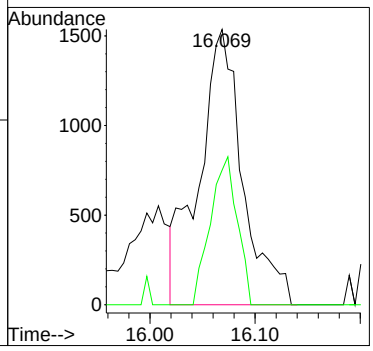


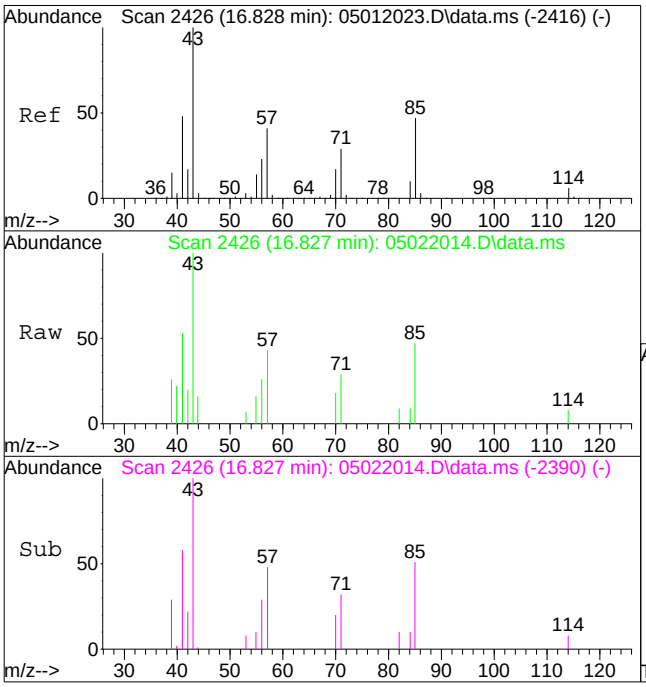


#59
2-Hexanone
Concen: 0.07 ng
RT: 16.07 min Scan# 2288
Delta R.T. 0.005 min
Lab File: 05022014.D
Acq: 2 May 2020 17:14

Tgt Ion: 43 Resp: 4447

Ion	Ratio	Lower	Upper
43	100		
58	33.0	34.5	74.5#

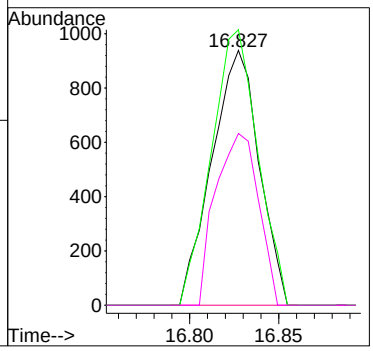


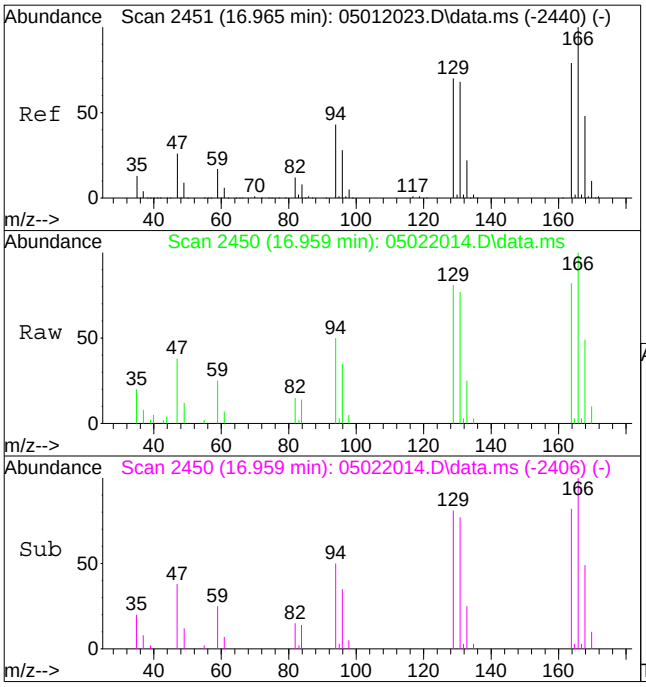


#63
n-Octane
Concen: 0.07 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05022014.D
Acq: 2 May 2020 17:14

Tgt Ion: 57 Resp: 1733

Ion	Ratio	Lower	Upper
57	100		
85	106.3	91.0	136.4
71	60.9	56.2	84.2

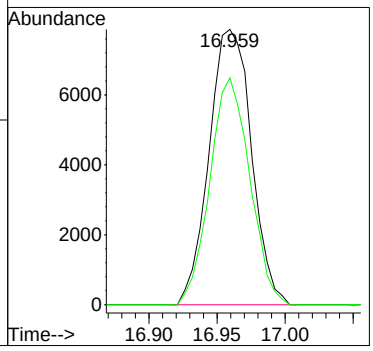


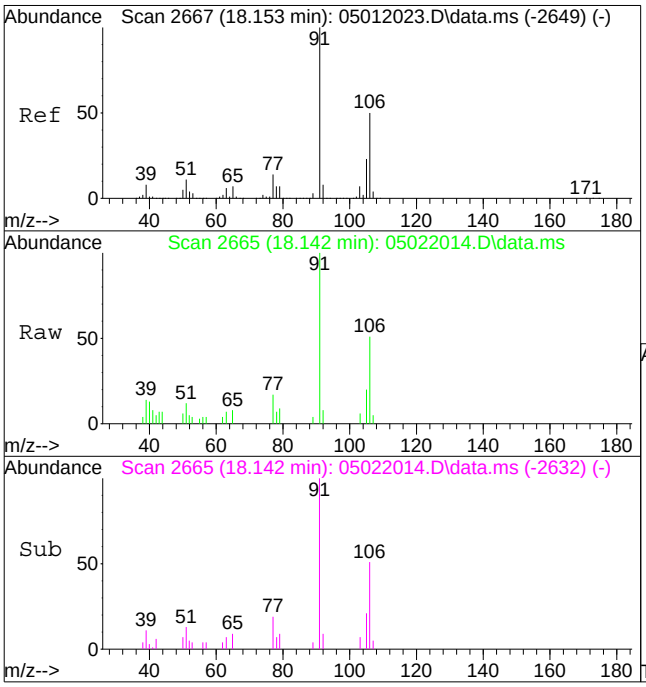


#64
Tetrachloroethene
Concen: 0.53 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05022014.D
Acq: 2 May 2020 17:14

Tgt Ion:166 Resp: 17031

Ion	Ratio	Lower	Upper
166	100		
164	77.6	58.4	98.4

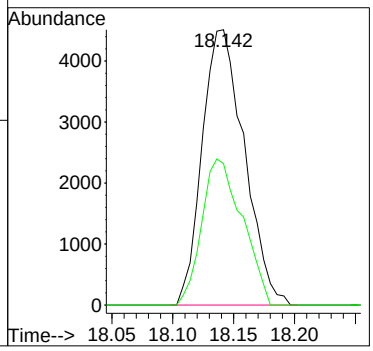


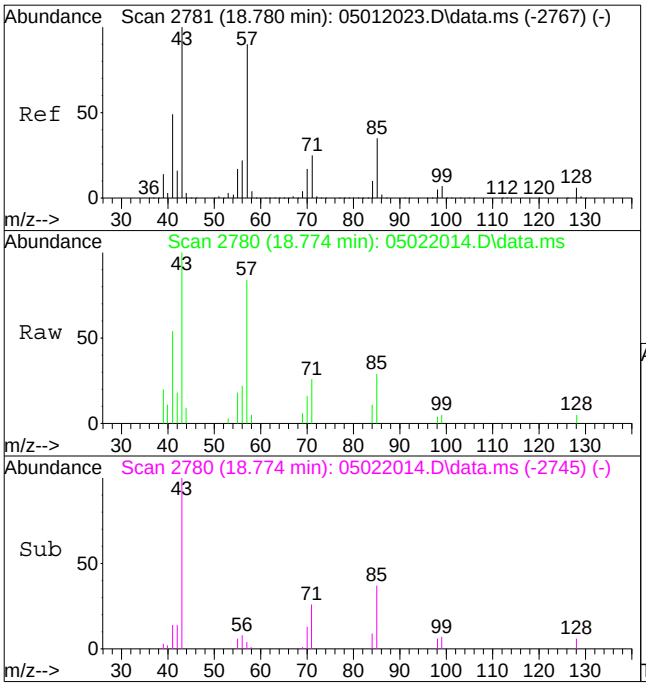


#67
m- & p-Xylenes
Concen: 0.11 ng
RT: 18.14 min Scan# 2665
Delta R.T. -0.017 min
Lab File: 05022014.D
Acq: 2 May 2020 17:14

Tgt Ion: 91 Resp: 10856

Ion	Ratio	Lower	Upper
91	100		
106	51.0	29.7	69.7

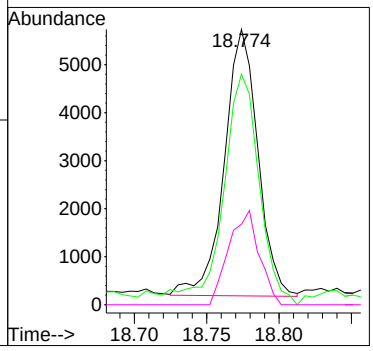


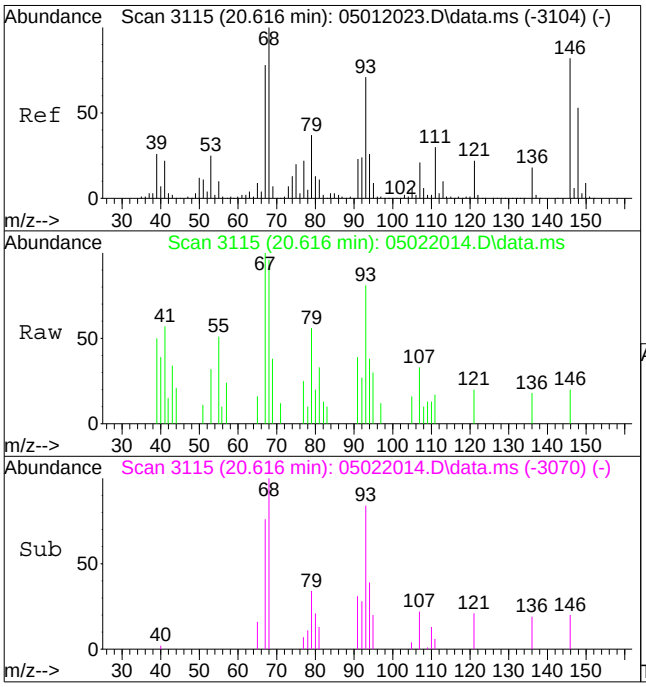


#71
n-Nonane
Concen: 0.16 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05022014.D
Acq: 2 May 2020 17:14

Tgt Ion: 43 Resp: 8968

Ion	Ratio	Lower	Upper
43	100		
57	96.0	69.0	109.0
85	31.9	14.6	54.6

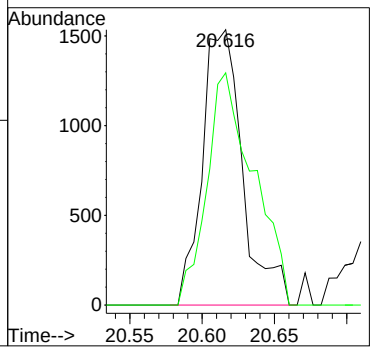


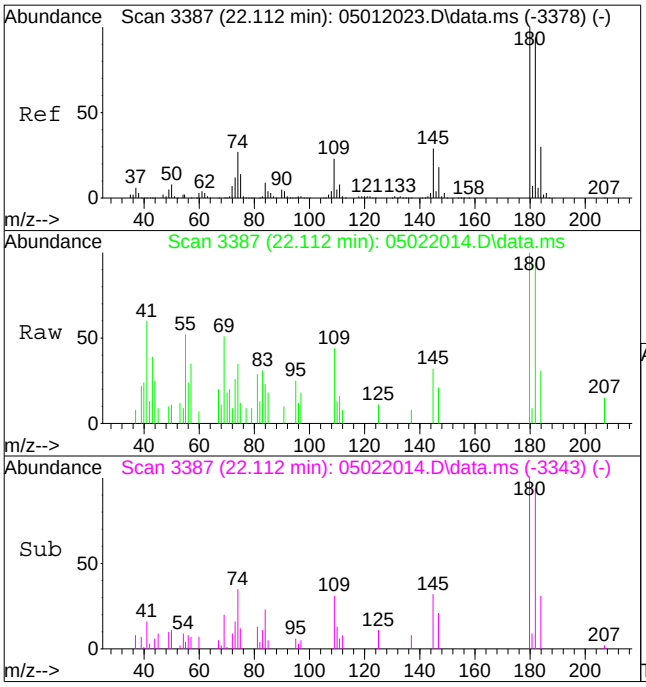


#91
d-Limonene
Concen: 0.07 ng
RT: 20.62 min Scan# 3115
Delta R.T. -0.000 min
Lab File: 05022014.D
Acq: 2 May 2020 17:14

Tgt Ion: 68 Resp: 2979

Ion	Ratio	Lower	Upper
68	100		
93	98.0	51.1	91.1#

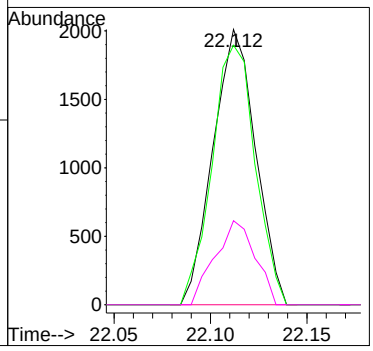


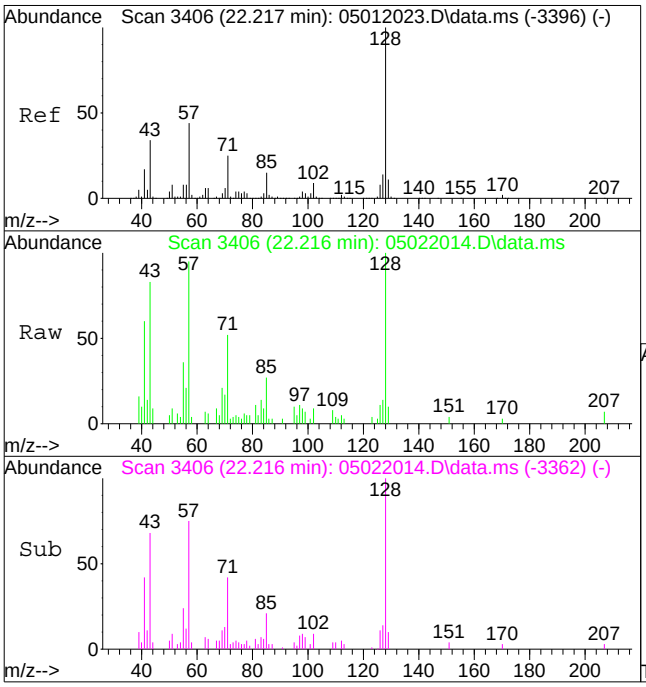


#94
1,2,4-Trichlorobenzene
Concen: 0.08 ng
RT: 22.11 min Scan# 3387
Delta R.T. -0.006 min
Lab File: 05022014.D
Acq: 2 May 2020 17:14

Tgt Ion:180 Resp: 3089

Ion	Ratio	Lower	Upper
180	100		
182	95.8	75.4	113.2
184	28.8	24.2	36.2

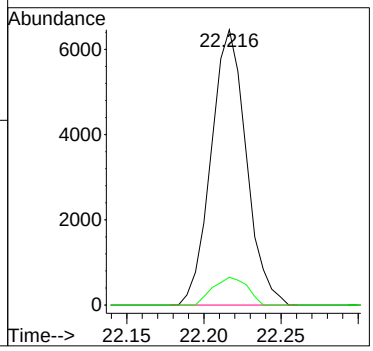


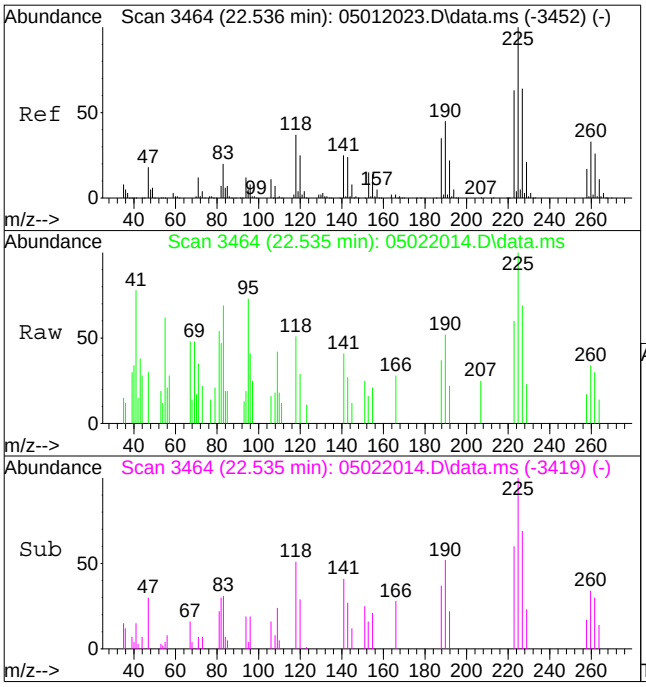


#95
Naphthalene
Concen: 0.08 ng
RT: 22.22 min Scan# 3406
Delta R.T. -0.006 min
Lab File: 05022014.D
Acq: 2 May 2020 17:14

Tgt Ion:128 Resp: 10259

Ion	Ratio	Lower	Upper
128	100		
129	9.8	0.0	31.0

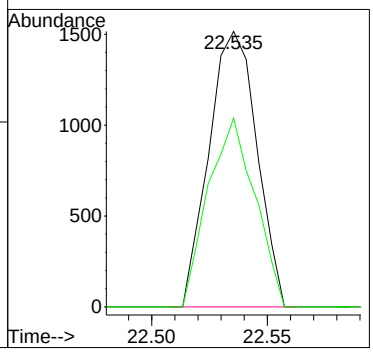




#97
Hexachlorobutadiene
Concen: 0.08 ng
RT: 22.54 min Scan# 3464
Delta R.T. -0.001 min
Lab File: 05022014.D
Acq: 2 May 2020 17:14

Tgt Ion:225 Resp: 2184

Ion	Ratio	Lower	Upper
225	100		
227	66.9	43.3	83.3



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022015.D Vial: 8
Acq On : 2 May 2020 17:48 Operator: TD
Sample : P2002104-019 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:49:12 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/4/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	244114	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1076357	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	515599	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	423746	12.809	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.48%				
57) Toluene-d8 (SS2)	15.72	98	1084380	12.408	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.28%				
73) Bromofluorobenzene (SS3)	18.98	174	368860	11.730	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.84%				
Target Compounds							Qvalue
2) Propene	4.11	42	4688	0.166	ng		98
3) Dichlorodifluoromethan...	4.26	85	312532	5.652	ng		99
4) Chloromethane	4.54	50	3105	0.072	ng		96
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	7202	0.218	ng		100
6) Vinyl Chloride	4.97	62	195	N.D.			
7) 1,3-Butadiene	5.22	54	134	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.98	64	622	N.D.			
10) Ethanol	6.32	45	19312	0.885	ng		94
11) Acetonitrile	6.59	41	4174	0.084	ng		91
12) Acrolein	6.78	56	4168	0.242	ng		99
13) Acetone	7.00	58	60836	2.786	ng		89
14) Trichlorofluoromethane	7.24	101	22476	0.460	ng		98
15) 2-Propanol (Isopropanol)	7.53	45	7825	0.118	ng		71
16) Acrylonitrile	7.75	53	1586	N.D.			
17) 1,1-Dichloroethene	8.20	96	328	N.D.			
18) 2-Methyl-2-Propanol (t...	8.43	59	2138	N.D.			
19) Methylene Chloride	8.41	84	766	N.D.			
20) 3-Chloro-1-propene (Al...	8.50	41	289	N.D.			
21) Trichlorotrifluoroethane	8.84	151	5851	0.254	ng		96
22) Carbon Disulfide	8.67	76	101355	0.997	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	9.94	63	959	N.D.			
25) Methyl tert-Butyl Ether	10.08	73	385	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.46	72	9804	0.527	ng	#	87
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.29	61	1195	0.111	ng		93
31) n-Hexane	11.25	57	1094	N.D.			
32) Chloroform	11.30	83	26887	0.553	ng		100
34) Tetrahydrofuran (THF)	11.72	72	27705	1.526	ng		98
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.00	62	109	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.86	78	8565	0.074	ng		98
42) Carbon Tetrachloride	13.03	117	31575	0.804	ng		99
43) Cyclohexane	13.14	84	870	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	13.91	83	389	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	13.96	88	4687	0.202	ng		100
49) 2,2,4-Trimethylpentane...	14.04	57	4639	N.D.			
50) Methyl Methacrylate	14.31	100	183	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022015.D Vial: 8
Acq On : 2 May 2020 17:48 Operator: TD
Sample : P2002104-019 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:49:12 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.30	71	1121	N.D.			
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
53) 4-Methyl-2-pentanone	14.88	58	758	N.D.			
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.			
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.			
58) Toluene	15.82	91	13865	0.123	ng		97
59) 2-Hexanone	16.07	43	8029	0.130	ng		94
60) Dibromochloromethane	0.00	129	0	N.D.			
61) 1,2-Dibromoethane	0.00	107	0	N.D.			
62) n-Butyl Acetate	16.71	43	2179	N.D.			
63) n-Octane	16.83	57	1657	0.071	ng		89
64) Tetrachloroethene	16.95	166	2418	0.076	ng		95
65) Chlorobenzene	0.00	112	0	N.D.			
66) Ethylbenzene	17.98	91	2562	N.D.			
67) m- & p-Xylenes	18.14	91	7704	0.077	ng		99
68) Bromoform	0.00	173	0	N.D.			
69) Styrene	18.47	104	973	N.D.			
70) o-Xylene	18.57	91	3323	N.D.			
71) n-Nonane	18.77	43	8592	0.160	ng	#	79
72) 1,1,2,2-Tetrachloroethane	18.58	83	567	N.D.			
74) Cumene	19.10	105	603	N.D.			
75) alpha-Pinene	19.54	93	181	N.D.			
76) n-Propylbenzene	19.55	91	2561	N.D.			
77) 3-Ethyltoluene	19.64	105	2356	N.D.			
78) 4-Ethyltoluene	19.68	105	1232	N.D.			
79) 1,3,5-Trimethylbenzene	19.75	105	1528	N.D.			
80) alpha-Methylstyrene	19.88	118	1777	N.D.			
81) 2-Ethyltoluene	19.91	105	1103	N.D.			
82) 1,2,4-Trimethylbenzene	20.10	105	3379	N.D.			
83) n-Decane	0.00	57	0	N.D.	d		
84) Benzyl Chloride	20.22	91	746	N.D.			
85) 1,3-Dichlorobenzene	20.24	146	212	N.D.			
86) 1,4-Dichlorobenzene	20.30	146	403	N.D.			
87) sec-Butylbenzene	20.35	105	1749	N.D.			
88) 4-Isopropyltoluene (p-...	20.49	119	999	N.D.			
89) 1,2,3-Trimethylbenzene	20.48	105	1938	N.D.			
90) 1,2-Dichlorobenzene	20.59	146	197	N.D.			
91) d-Limonene	20.61	68	1127	N.D.			
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.			
93) n-Undecane	0.00	57	0	N.D.	d		
94) 1,2,4-Trichlorobenzene	22.11	180	433	N.D.			
95) Naphthalene	22.22	128	4045	N.D.			
96) n-Dodecane	0.00	57	0	N.D.	d		
97) Hexachlorobutadiene	0.00	225	0	N.D.			
98) Cyclohexanone	0.00	55	0	N.D.	d		
99) tert-Butylbenzene	20.11	119	526	N.D.			
100) n-Butylbenzene	0.00	91	0	N.D.	d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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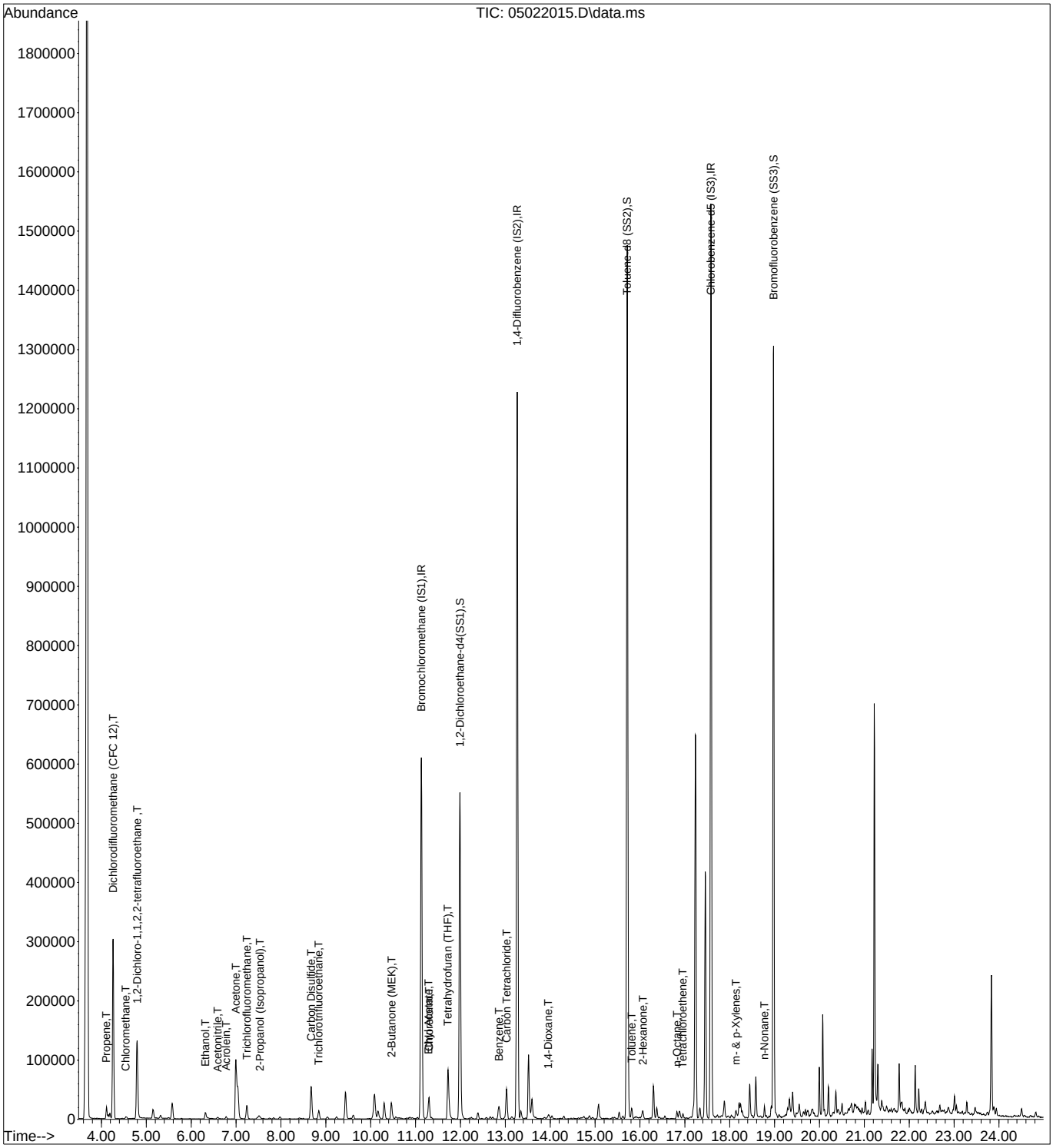
Misc : S31-02112001

Quant Time: May 04 14:49:12 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

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Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/4/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	244114	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1076357	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	515599	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	423746	12.809	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.48%				
57) Toluene-d8 (SS2)	15.72	98	1084380	12.408	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.28%				
73) Bromofluorobenzene (SS3)	18.98	174	368860	11.730	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.84%				
Target Compounds							Qvalue
2) Propene	4.11	42	4688	0.166	ng		98
3) Dichlorodifluoromethan...	4.26	85	312532	5.652	ng		99
4) Chloromethane	4.54	50	3105	0.072	ng		96
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	7202	0.218	ng		100
10) Ethanol	6.32	45	19312	0.885	ng		94
11) Acetonitrile	6.59	41	4174	0.084	ng		91
12) Acrolein	6.78	56	4168	0.242	ng		99
13) Acetone	7.00	58	60836	2.786	ng		89
14) Trichlorofluoromethane	7.24	101	22476	0.460	ng		98
15) 2-Propanol (Isopropanol)	7.53	45	7825	0.118	ng		71
21) Trichlorotrifluoroethane	8.84	151	5851	0.254	ng		96
22) Carbon Disulfide	8.67	76	101355	0.997	ng		99
27) 2-Butanone (MEK)	10.46	72	9804	0.527	ng	#	87
30) Ethyl Acetate	11.29	61	1195	0.111	ng		93
32) Chloroform	11.30	83	26887	0.553	ng		100
34) Tetrahydrofuran (THF)	11.72	72	27705	1.526	ng		98
41) Benzene	12.86	78	8565	0.074	ng		98
42) Carbon Tetrachloride	13.03	117	31575	0.804	ng		99
48) 1,4-Dioxane	13.96	88	4687	0.202	ng		100
58) Toluene	15.82	91	13865	0.123	ng		97
59) 2-Hexanone	16.07	43	8029	0.130	ng		94
63) n-Octane	16.83	57	1657	0.071	ng		89
64) Tetrachloroethene	16.95	166	2418	0.076	ng		95
67) m- & p-Xylenes	18.14	91	7704	0.077	ng		99
71) n-Nonane	18.77	43	8592	0.160	ng	#	79

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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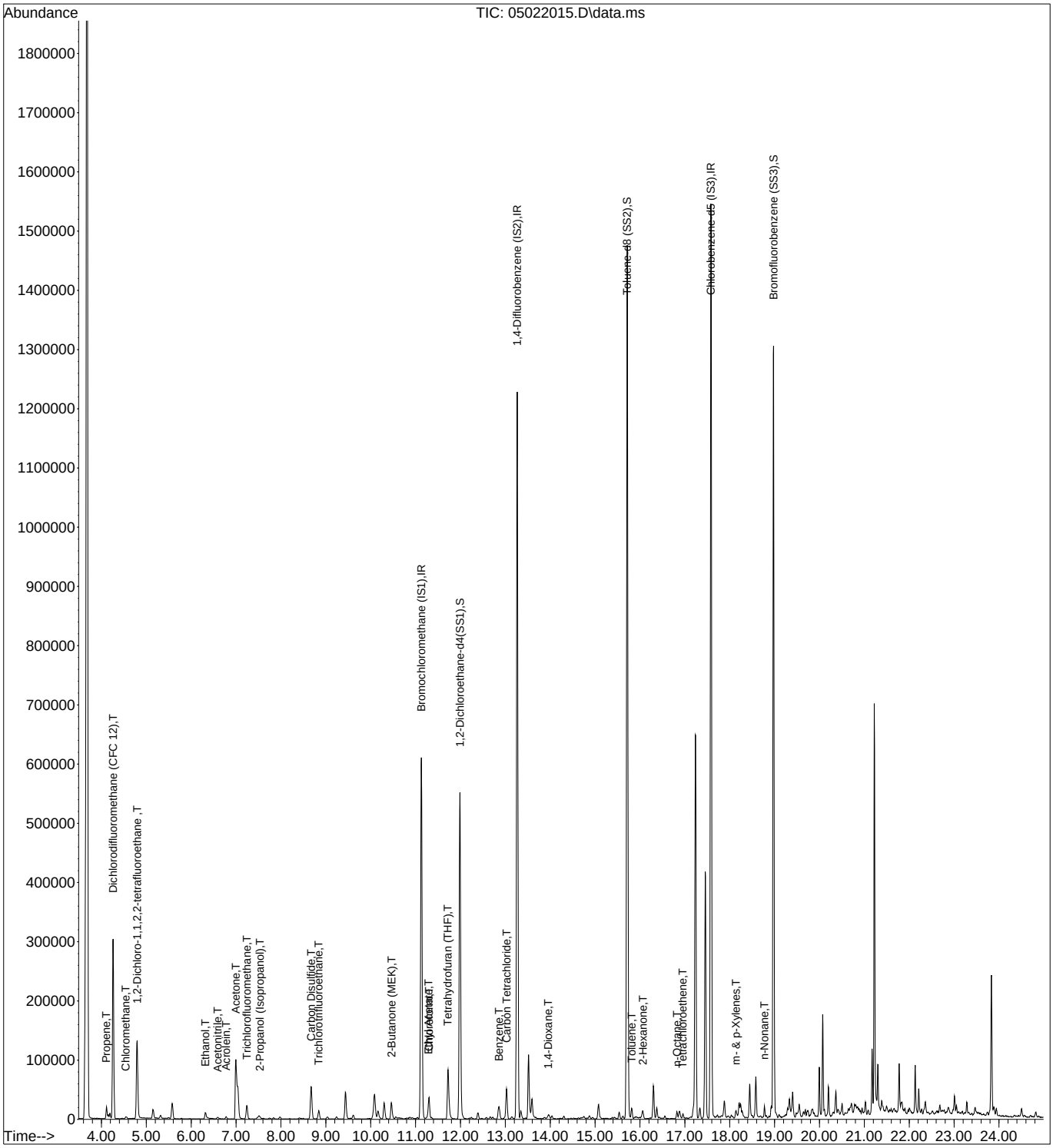
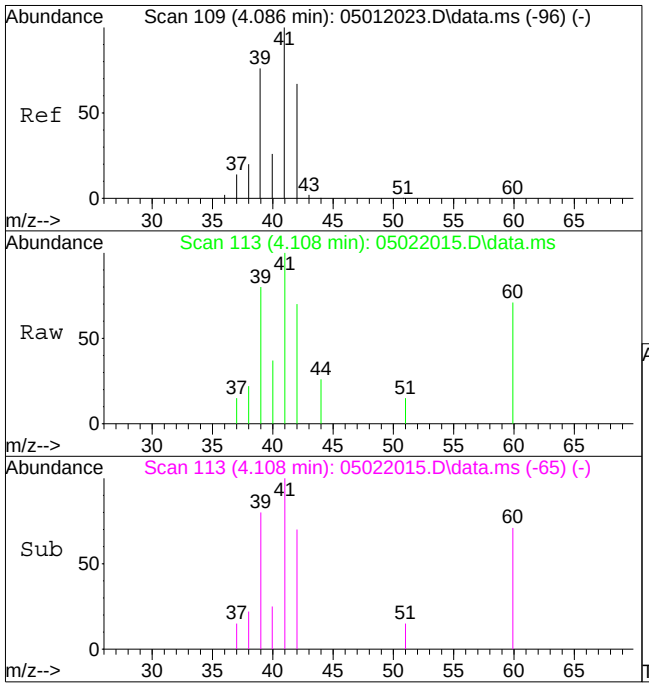
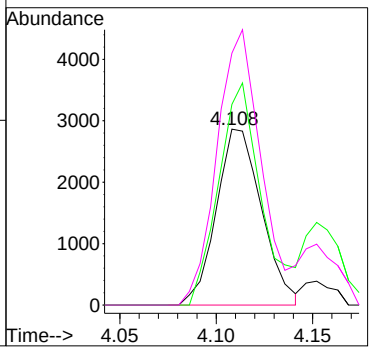


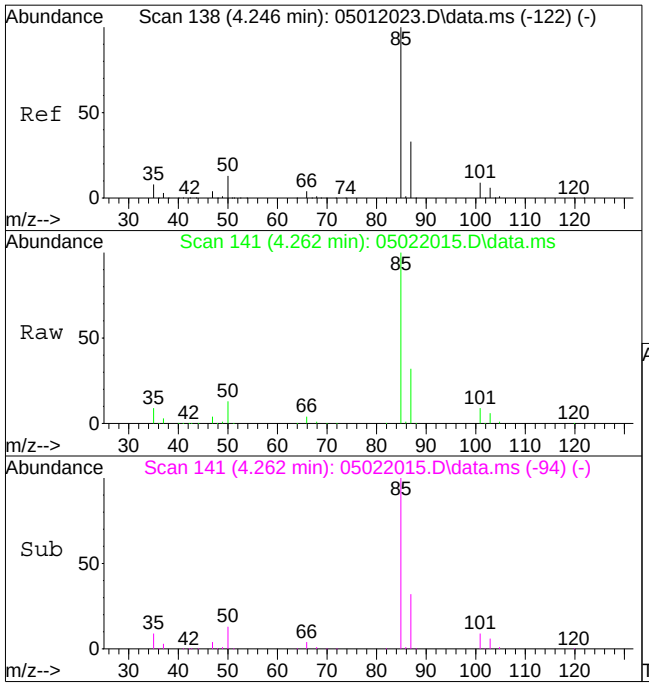


#2
Propene
Concen: 0.17 ng
RT: 4.11 min Scan# 113
Delta R.T. 0.016 min
Lab File: 05022015.D
Acq: 2 May 2020 17:48

Tgt Ion: 42 Resp: 4688

Ion	Ratio	Lower	Upper
42	100		
39	119.6	96.1	136.1
41	154.3	131.9	171.9

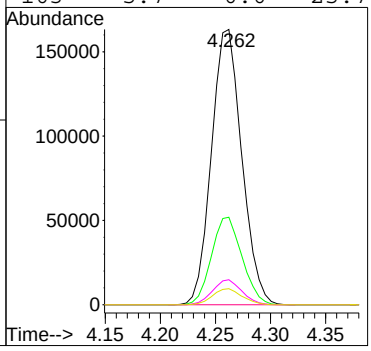


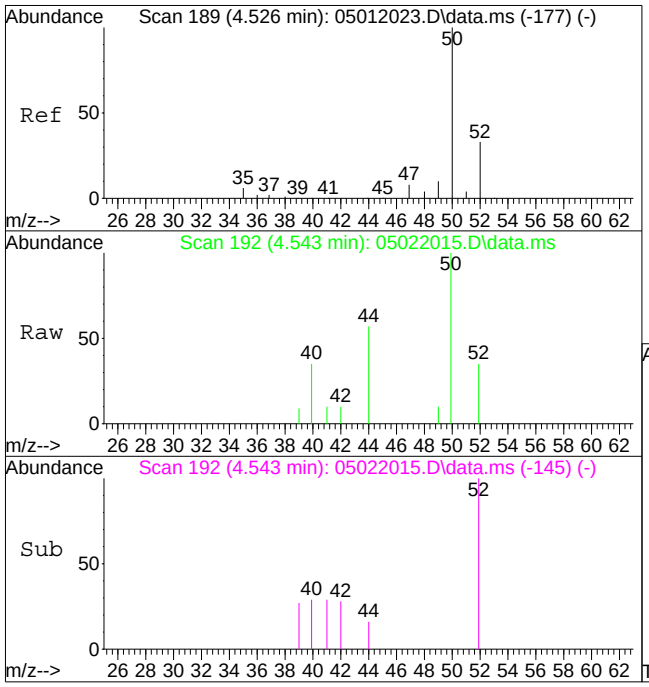


#3
Dichlorodifluoromethane (CFC 12)
Concen: 5.65 ng
RT: 4.26 min Scan# 141
Delta R.T. 0.011 min
Lab File: 05022015.D
Acq: 2 May 2020 17:48

Tgt Ion: 85 Resp: 312532

Ion	Ratio	Lower	Upper
85	100		
87	32.0	12.4	52.4
101	8.8	0.0	28.8
103	5.7	0.0	25.7

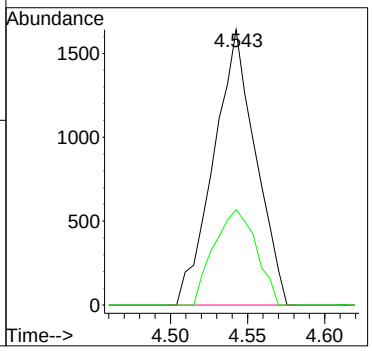


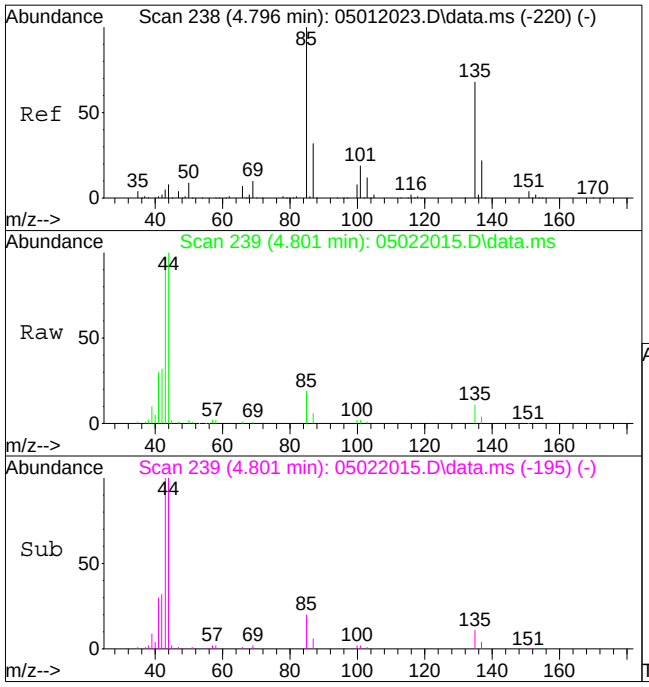


#4
Chloromethane
Concen: 0.07 ng
RT: 4.54 min Scan# 192
Delta R.T. 0.011 min
Lab File: 05022015.D
Acq: 2 May 2020 17:48

Tgt Ion: 50 Resp: 3105

Ion	Ratio	Lower	Upper
50	100		
52	35.0	12.5	52.5

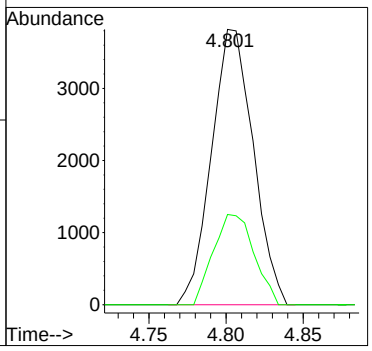


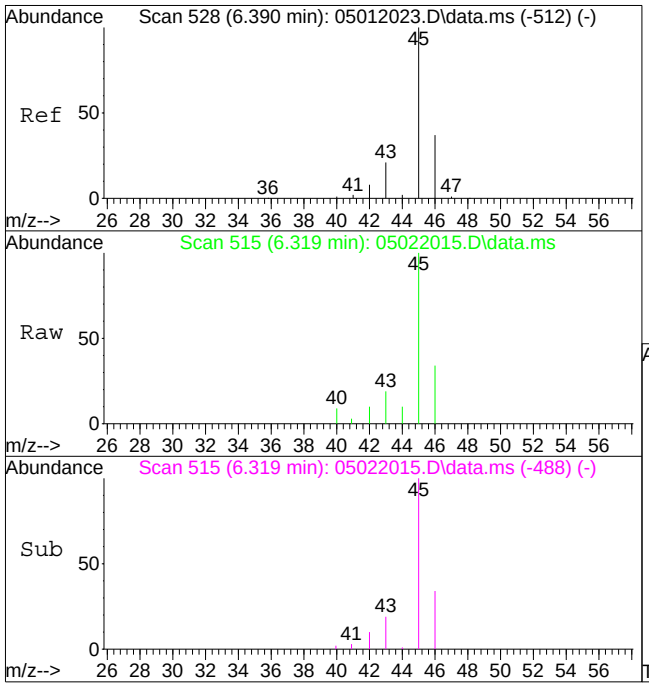


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 0.22 ng
RT: 4.80 min Scan# 239
Delta R.T. -0.006 min
Lab File: 05022015.D
Acq: 2 May 2020 17:48

Tgt Ion:135 Resp: 7202

Ion	Ratio	Lower	Upper
135	100		
137	31.9	12.1	52.1

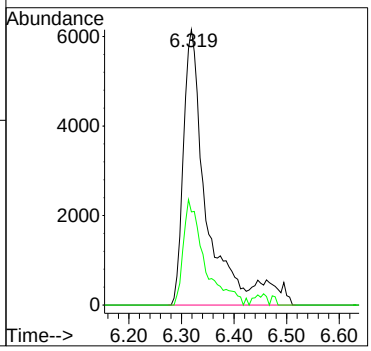


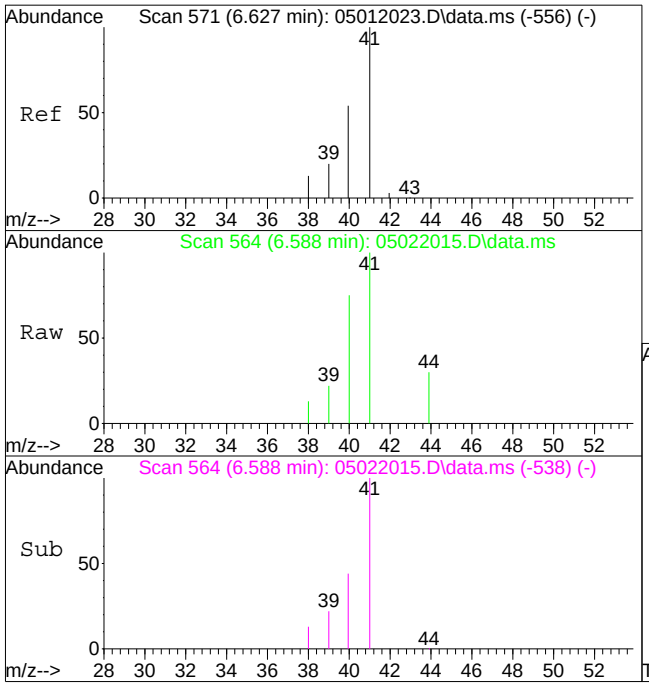


#10
Ethanol
Concen: 0.88 ng
RT: 6.32 min Scan# 515
Delta R.T. -0.099 min
Lab File: 05022015.D
Acq: 2 May 2020 17:48

Tgt Ion: 45 Resp: 19312

Ion	Ratio	Lower	Upper
45	100		
46	33.9	17.2	57.2

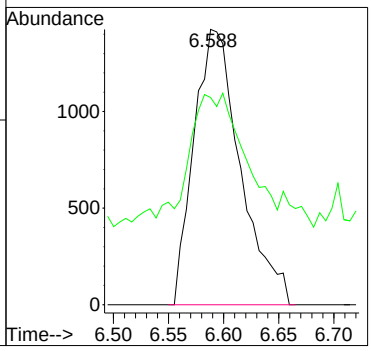


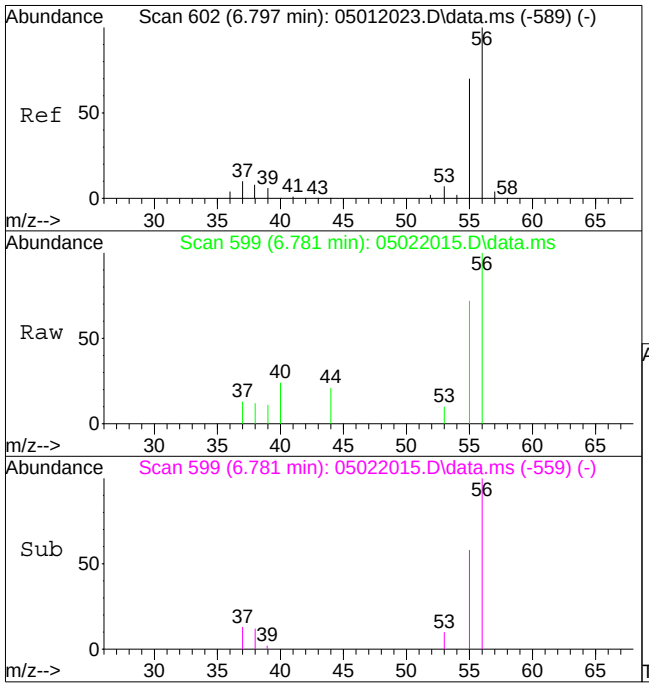


#11
Acetonitrile
Concen: 0.08 ng
RT: 6.59 min Scan# 564
Delta R.T. -0.055 min
Lab File: 05022015.D
Acq: 2 May 2020 17:48

Tgt Ion: 41 Resp: 4174

Ion	Ratio	Lower	Upper
41	100		
40	60.3	33.6	73.6

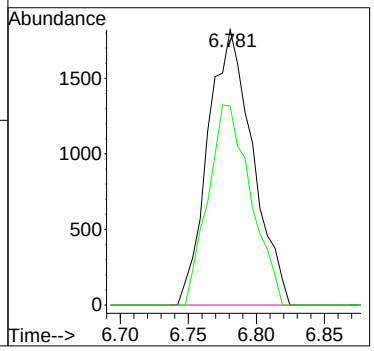


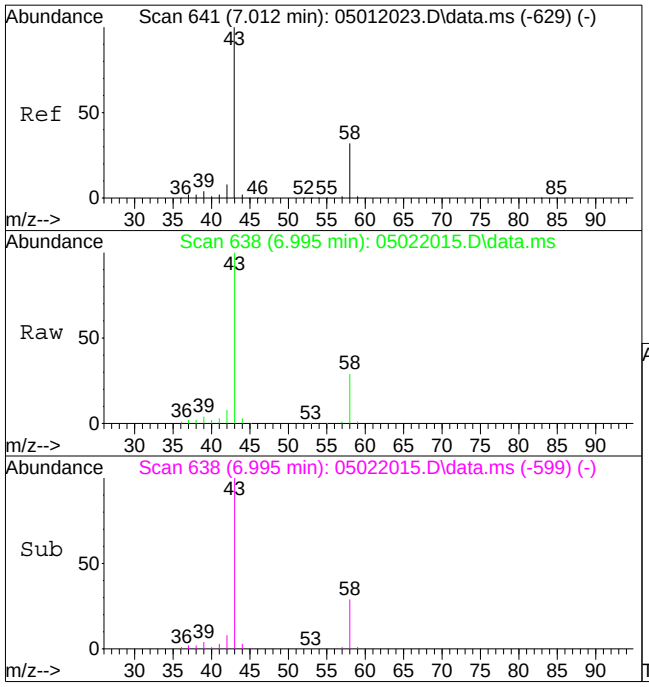


#12
Acrolein
Concen: 0.24 ng
RT: 6.78 min Scan# 599
Delta R.T. -0.028 min
Lab File: 05022015.D
Acq: 2 May 2020 17:48

Tgt Ion: 56 Resp: 4168

Ion	Ratio	Lower	Upper
56	100		
55	69.2	50.2	90.2

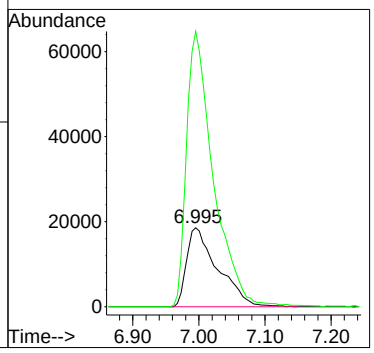


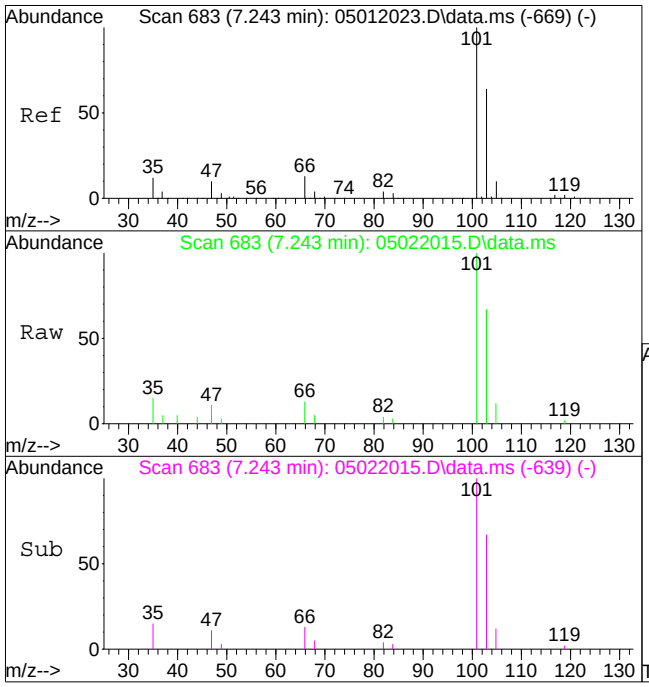


#13
Acetone
Concen: 2.79 ng
RT: 7.00 min Scan# 638
Delta R.T. -0.033 min
Lab File: 05022015.D
Acq: 2 May 2020 17:48

Tgt Ion: 58 Resp: 60836

Ion	Ratio	Lower	Upper
58	100		
43	301.2	294.4	354.4

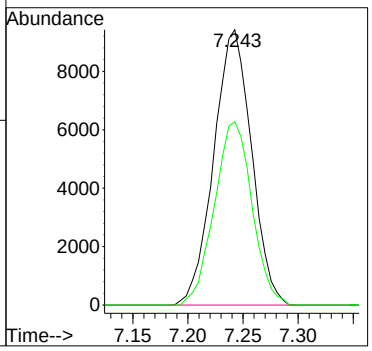


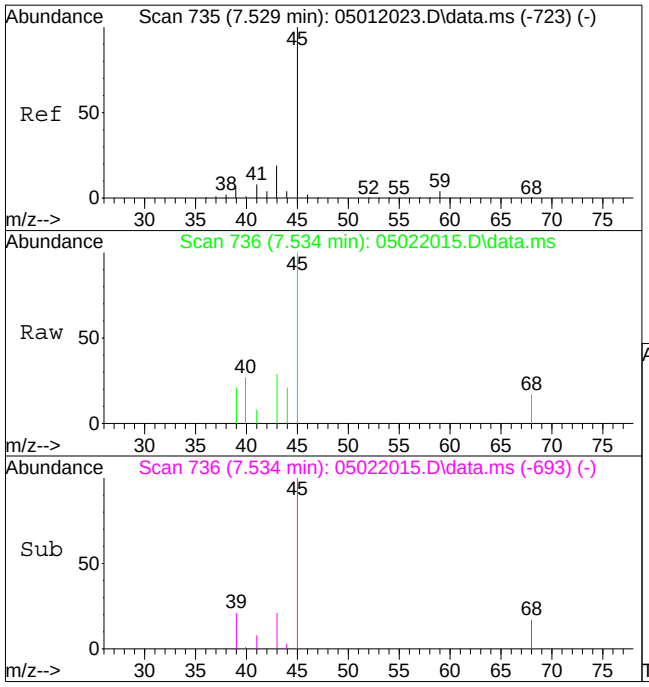


#14
Trichlorofluoromethane
Concen: 0.46 ng
RT: 7.24 min Scan# 683
Delta R.T. -0.006 min
Lab File: 05022015.D
Acq: 2 May 2020 17:48

Tgt Ion:101 Resp: 22476

Ion	Ratio	Lower	Upper
101	100		
103	66.3	44.4	84.4

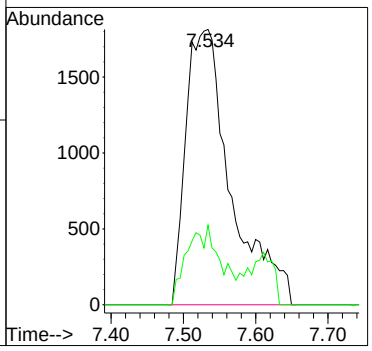


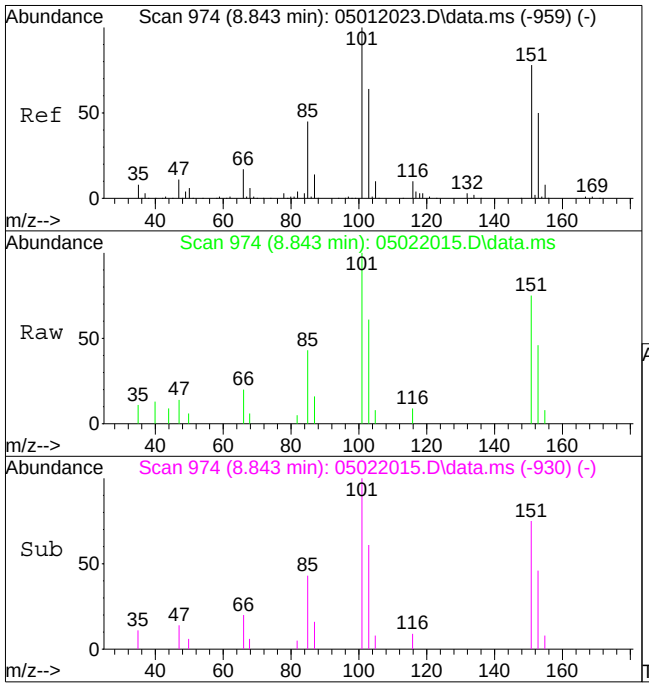


#15
2-Propanol (Isopropanol)
Concen: 0.12 ng
RT: 7.53 min Scan# 736
Delta R.T. -0.011 min
Lab File: 05022015.D
Acq: 2 May 2020 17:48

Tgt Ion: 45 Resp: 7825

Ion	Ratio	Lower	Upper
45	100		
43	32.5	0.0	39.5

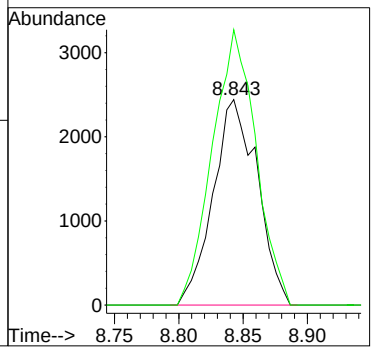


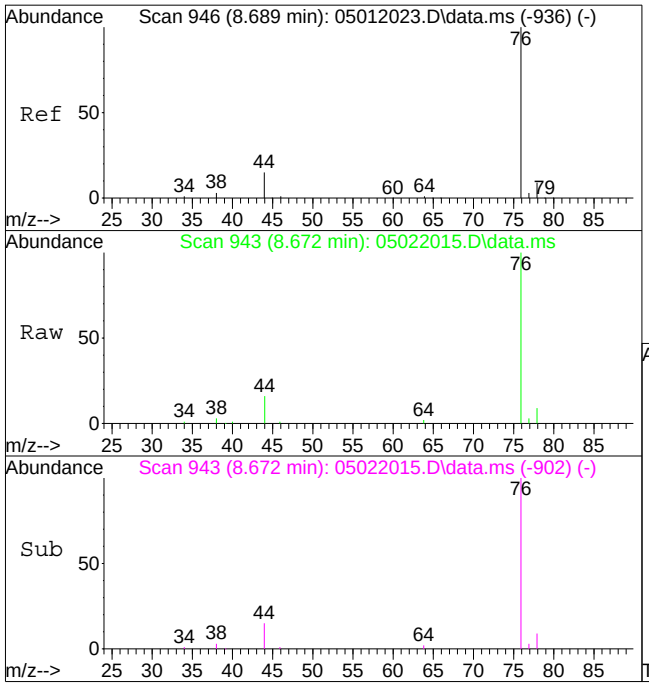


#21
Trichlorotrifluoroethane
Concen: 0.25 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05022015.D
Acq: 2 May 2020 17:48

Tgt Ion:151 Resp: 5851

Ion	Ratio	Lower	Upper
151	100		
101	132.1	107.3	147.3

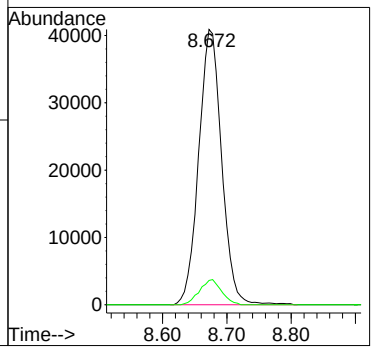


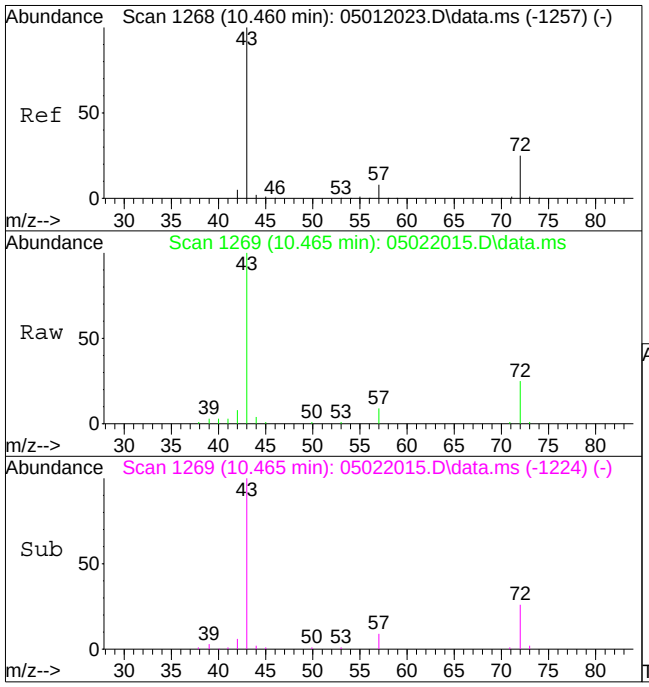


#22
Carbon Disulfide
Concen: 1.00 ng
RT: 8.67 min Scan# 943
Delta R.T. -0.022 min
Lab File: 05022015.D
Acq: 2 May 2020 17:48

Tgt Ion: 76 Resp: 101355

Ion	Ratio	Lower	Upper
76	100		
78	8.8	0.0	29.2

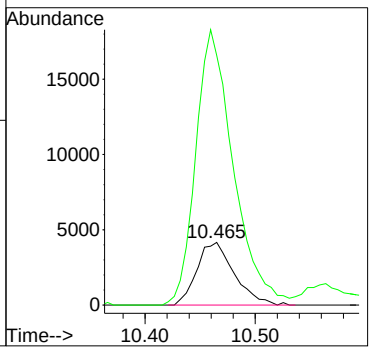


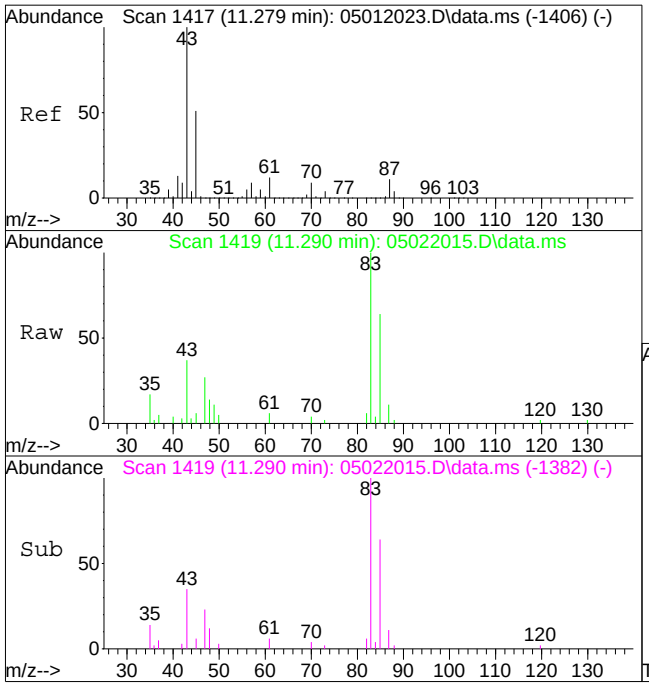


#27
2-Butanone (MEK)
Concen: 0.53 ng
RT: 10.46 min Scan# 1269
Delta R.T. -0.000 min
Lab File: 05022015.D
Acq: 2 May 2020 17:48

Tgt Ion: 72 Resp: 9804

Ion	Ratio	Lower	Upper
72	100		
43	442.2	389.7	429.7#

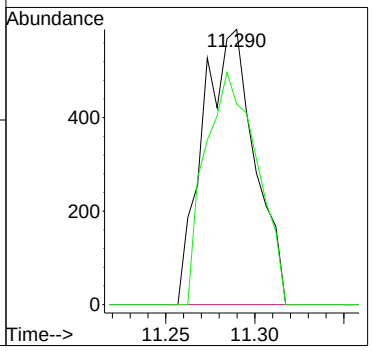


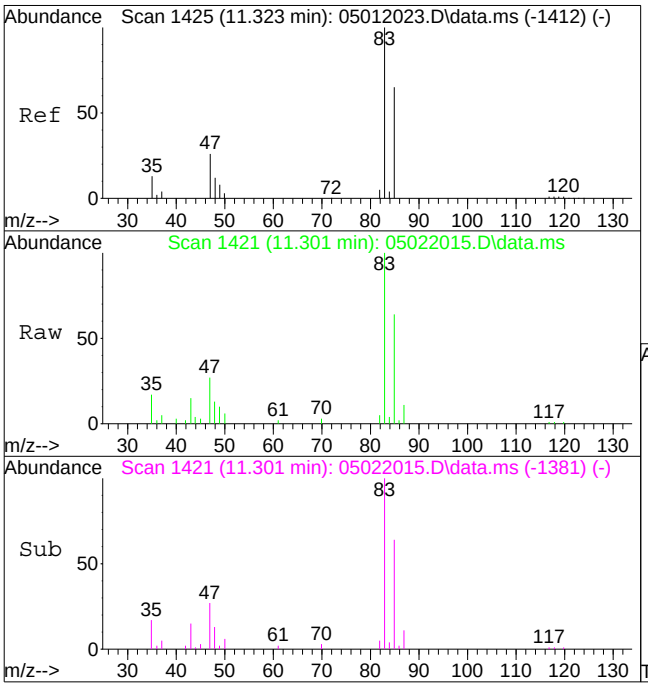


#30
Ethyl Acetate
Concen: 0.11 ng
RT: 11.29 min Scan# 1419
Delta R.T. 0.005 min
Lab File: 05022015.D
Acq: 2 May 2020 17:48

Tgt Ion: 61 Resp: 1195

Ion	Ratio	Lower	Upper
61	100		
70	84.2	57.9	97.9

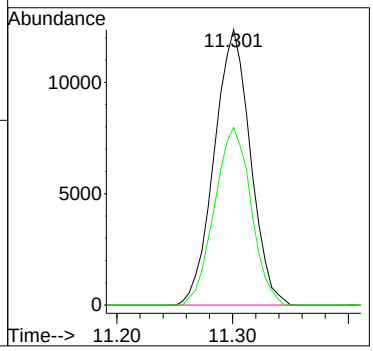


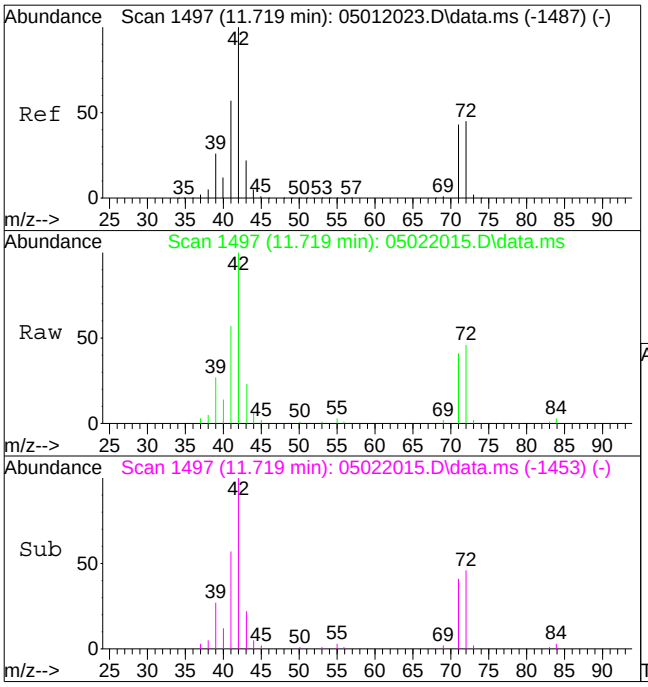


#32
Chloroform
Concen: 0.55 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.028 min
Lab File: 05022015.D
Acq: 2 May 2020 17:48

Tgt Ion: 83 Resp: 26887

Ion	Ratio	Lower	Upper
83	100		
85	65.2	45.5	85.5

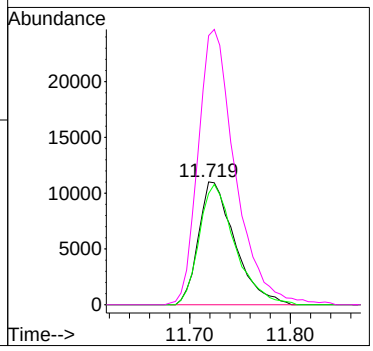


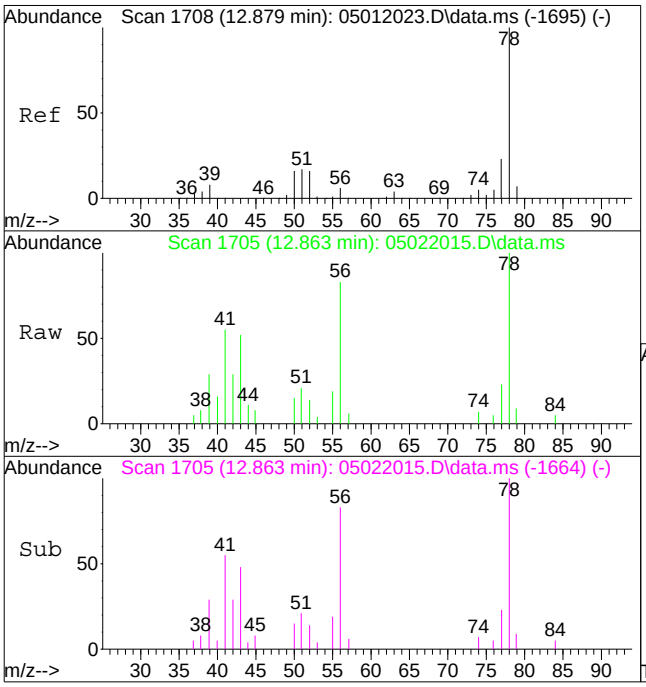


#34
Tetrahydrofuran (THF)
Concen: 1.53 ng
RT: 11.72 min Scan# 1497
Delta R.T. -0.006 min
Lab File: 05022015.D
Acq: 2 May 2020 17:48

Tgt Ion: 72 Resp: 27705

Ion	Ratio	Lower	Upper
72	100		
71	96.7	77.0	117.0
42	229.6	204.6	244.6

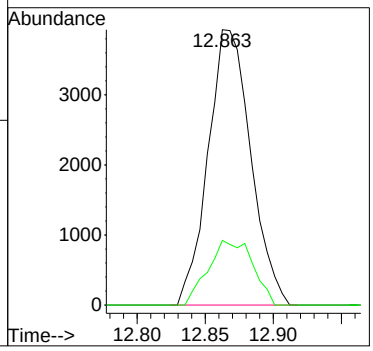


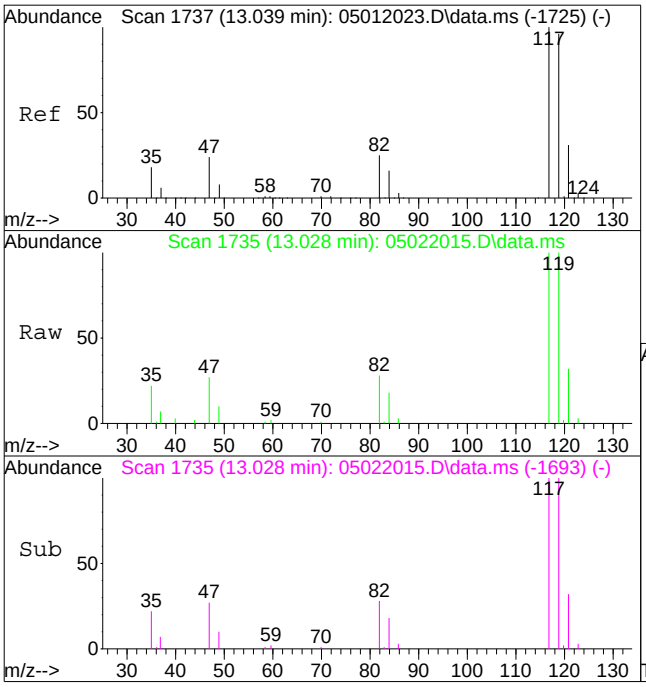


#41
Benzene
Concen: 0.07 ng
RT: 12.86 min Scan# 1705
Delta R.T. -0.022 min
Lab File: 05022015.D
Acq: 2 May 2020 17:48

Tgt Ion: 78 Resp: 8565

Ion	Ratio	Lower	Upper
78	100		
77	24.5	3.4	43.4

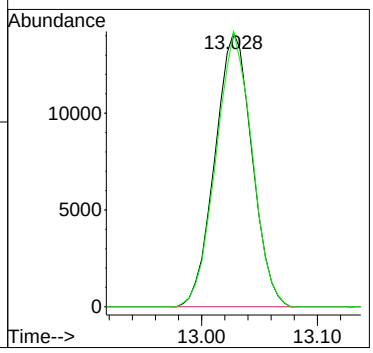


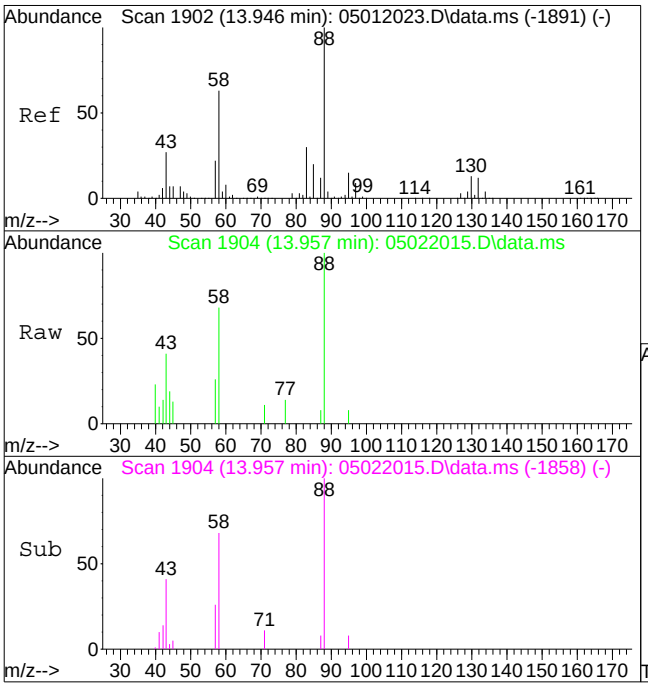


#42
Carbon Tetrachloride
Concen: 0.80 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05022015.D
Acq: 2 May 2020 17:48

Tgt Ion:117 Resp: 31575

Ion	Ratio	Lower	Upper
117	100		
119	97.5	76.2	116.2

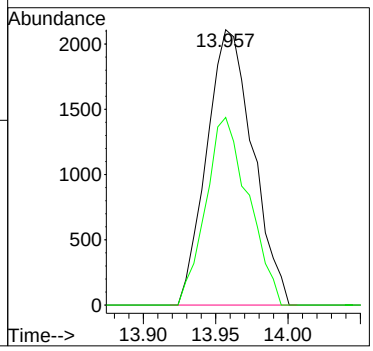


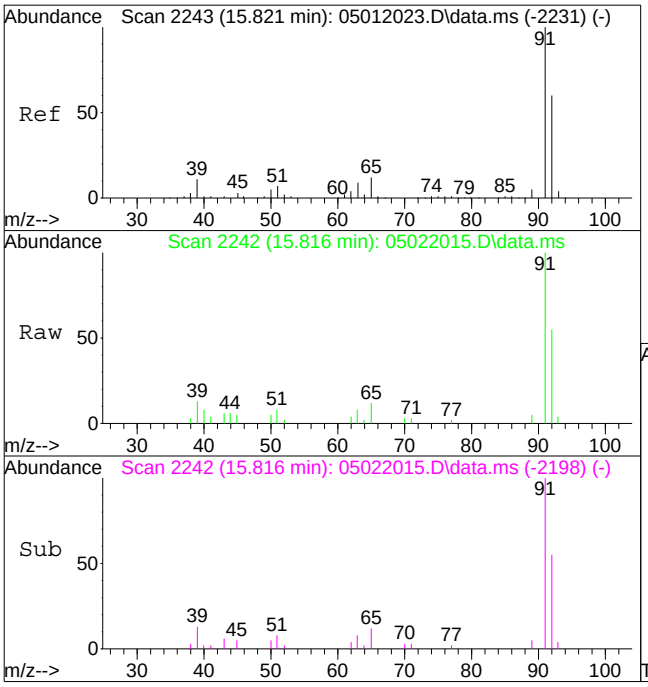


#48
1,4-Dioxane
Concen: 0.20 ng
RT: 13.96 min Scan# 1904
Delta R.T. 0.005 min
Lab File: 05022015.D
Acq: 2 May 2020 17:48

Tgt Ion: 88 Resp: 4687

Ion	Ratio	Lower	Upper
88	100		
58	63.2	42.8	82.8

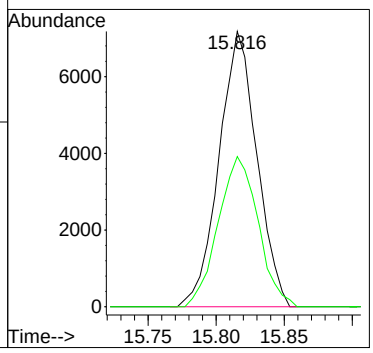


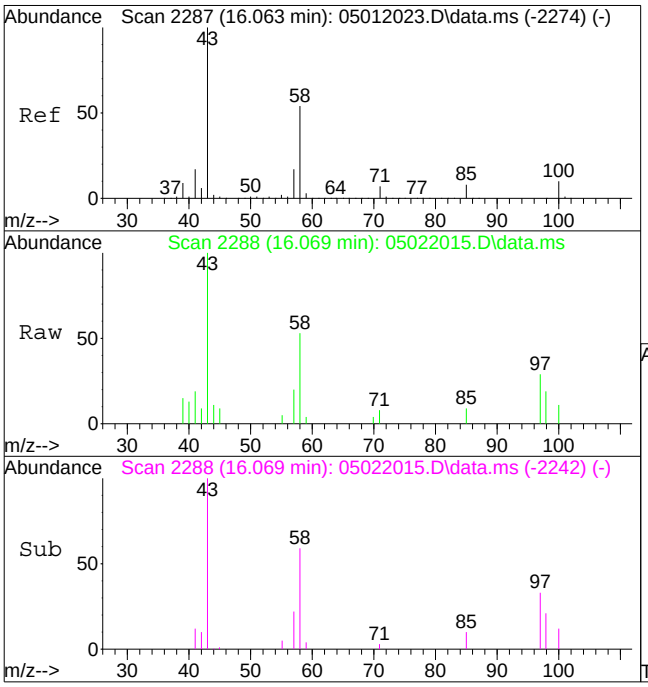


#58
Toluene
Concen: 0.12 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05022015.D
Acq: 2 May 2020 17:48

Tgt Ion: 91 Resp: 13865

Ion	Ratio	Lower	Upper
91	100		
92	57.5	39.4	79.4

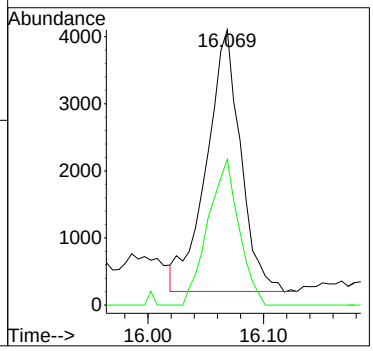


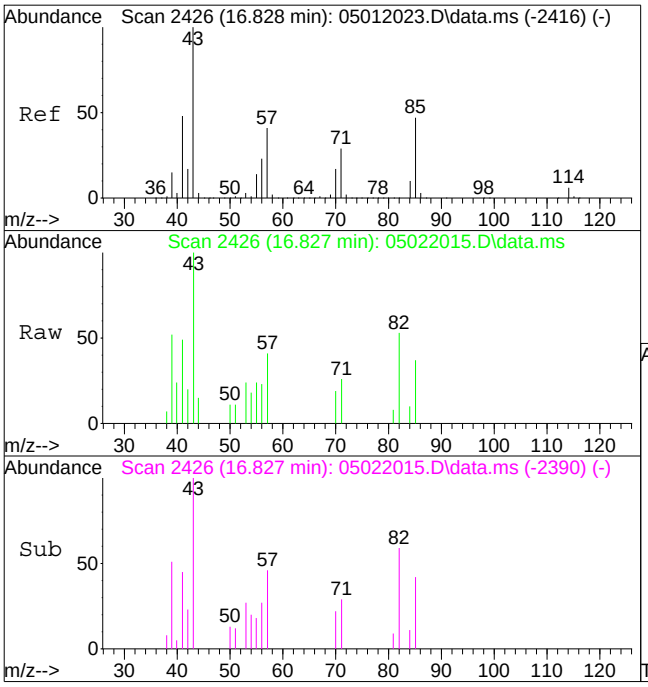


#59
2-Hexanone
Concen: 0.13 ng
RT: 16.07 min Scan# 2288
Delta R.T. 0.005 min
Lab File: 05022015.D
Acq: 2 May 2020 17:48

Tgt Ion: 43 Resp: 8029

Ion	Ratio	Lower	Upper
43	100		
58	50.5	34.5	74.5

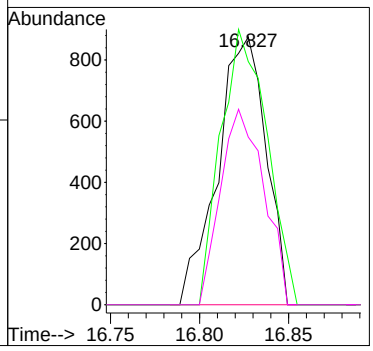


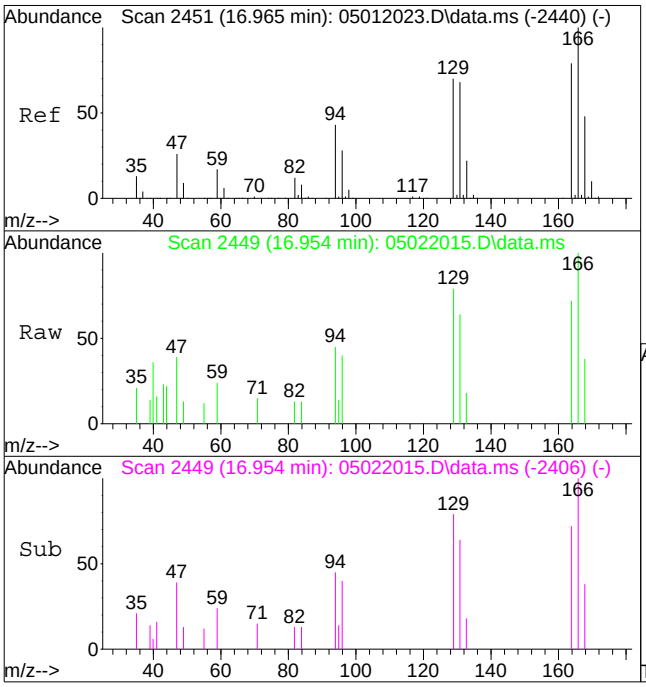


#63
n-Octane
Concen: 0.07 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05022015.D
Acq: 2 May 2020 17:48

Tgt Ion: 57 Resp: 1657

Ion	Ratio	Lower	Upper
57	100		
85	98.1	91.0	136.4
71	65.4	56.2	84.2

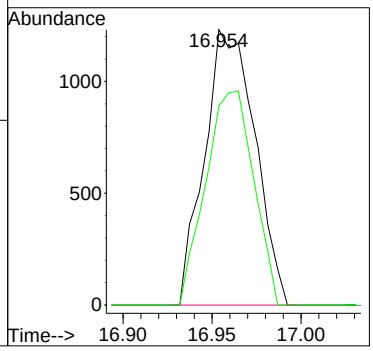


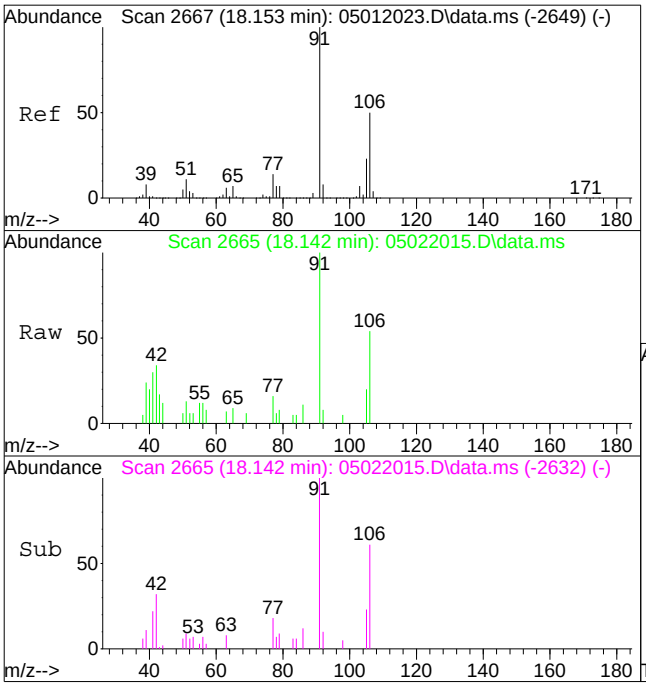


#64
Tetrachloroethene
Concen: 0.08 ng
RT: 16.95 min Scan# 2449
Delta R.T. -0.011 min
Lab File: 05022015.D
Acq: 2 May 2020 17:48

Tgt Ion:166 Resp: 2418

Ion	Ratio	Lower	Upper
166	100		
164	74.3	58.4	98.4

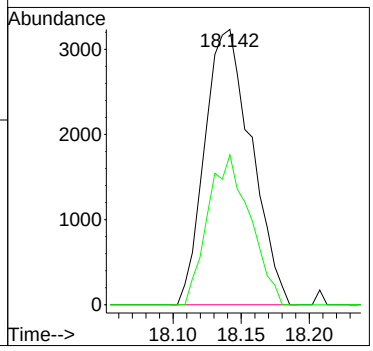


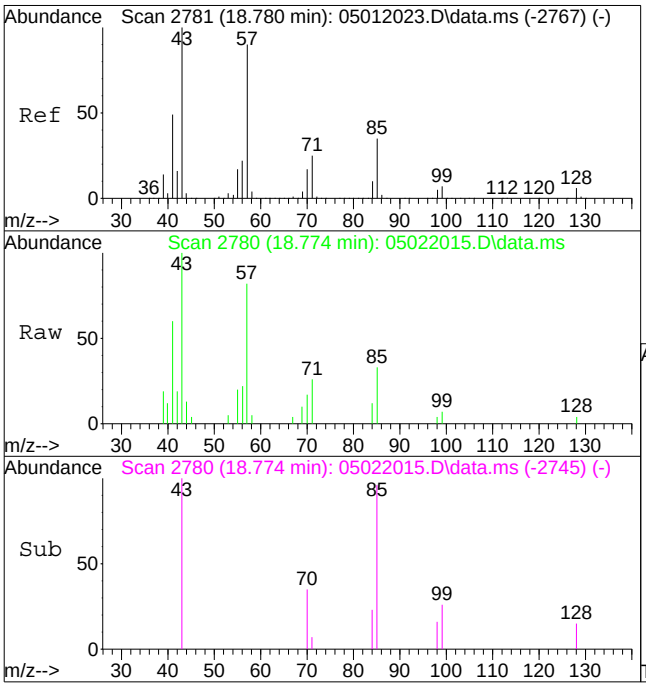


#67
m- & p-Xylenes
Concen: 0.08 ng
RT: 18.14 min Scan# 2665
Delta R.T. -0.017 min
Lab File: 05022015.D
Acq: 2 May 2020 17:48

Tgt Ion: 91 Resp: 7704

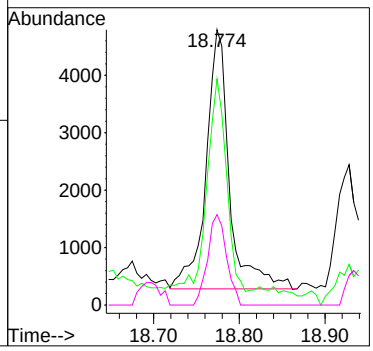
Ion	Ratio	Lower	Upper
91	100		
106	49.2	29.7	69.7






```
#71
n-Nonane
Concen:    0.16 ng
RT:  18.77 min  Scan# 2780
Delta R.T.  -0.006 min
Lab File:   05022015.D
Acq:  2 May 2020  17:48

Tgt Ion: 43 Resp:    8592
Ion  Ratio  Lower  Upper
 43  100
 57   65.9   69.0  109.0#
 85   27.9   14.6   54.6
```



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022016.D Vial: 9
Acq On : 2 May 2020 18:22 Operator: TD
Sample : P2002104-020 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:50:23 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/4/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	243662	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1056119	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	521338	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	417305	12.637	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.12%				
57) Toluene-d8 (SS2)	15.72	98	1069616	12.104	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.80%				
73) Bromofluorobenzene (SS3)	18.98	174	382815	12.040	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.32%				
Target Compounds							Qvalue
2) Propene	4.10	42	7001	0.248	ng		96
3) Dichlorodifluoromethan...	4.24	85	1730381	31.349	ng		100
4) Chloromethane	4.52	50	5650	0.131	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.79	135	34144	1.035	ng		98
6) Vinyl Chloride	4.95	62	713	N.D.			
7) 1,3-Butadiene	5.14	54	430	N.D.			
8) Bromomethane	5.63	94	108	N.D.			
9) Chloroethane	5.97	64	237	N.D.			
10) Ethanol	6.31	45	58199	2.671	ng		100
11) Acetonitrile	6.59	41	17969	0.361	ng		85
12) Acrolein	6.79	56	2470	0.143	ng		99
13) Acetone	7.00	58	70377	3.229	ng	#	72
14) Trichlorofluoromethane	7.23	101	162789	3.337	ng		99
15) 2-Propanol (Isopropanol)	7.50	45	31821	0.482	ng		92
16) Acrylonitrile	7.74	53	408	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	3201	0.113	ng		98
20) 3-Chloro-1-propene (Al...	8.42	41	1515	N.D.			
21) Trichlorotrifluoroethane	8.84	151	18448	0.801	ng		95
22) Carbon Disulfide	8.67	76	198792	1.958	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.09	73	806	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.46	72	10082	0.542	ng	#	91
28) cis-1,2-Dichloroethene	10.95	61	102	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.26	61	119603	11.160	ng		92
31) n-Hexane	11.25	57	13626	0.293	ng		99
32) Chloroform	11.30	83	8405	0.173	ng		99
34) Tetrahydrofuran (THF)	11.72	72	20446	1.128	ng		95
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	11.99	62	140	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	34668	0.306	ng		100
42) Carbon Tetrachloride	13.03	117	4710	0.122	ng		99
43) Cyclohexane	13.17	84	15272	0.362	ng		100
44) tert-Amyl Methyl Ether	13.53	73	365	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	13.91	83	111	N.D.			
47) Trichloroethene	13.96	130	682	N.D.			
48) 1,4-Dioxane	13.96	88	880	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.30	100	314	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022016.D Vial: 9
Acq On : 2 May 2020 18:22 Operator: TD
Sample : P2002104-020 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:50:23 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

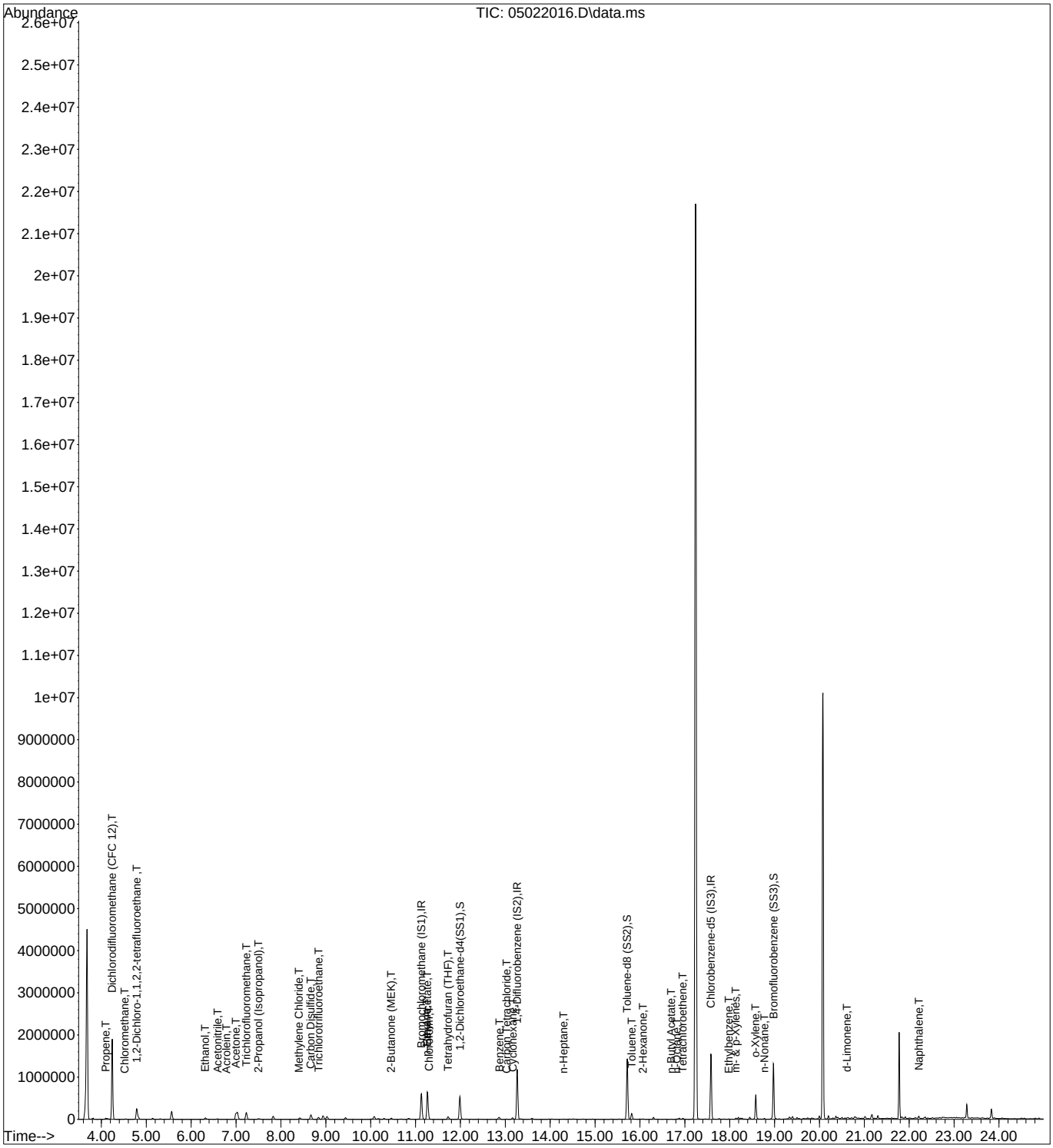
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.30	71	1676	0.063 ng	92
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.88	58	1065	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.82	91	110125	0.967 ng	99
59) 2-Hexanone	16.07	43	9742	0.156 ng	85
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	16.46	107	398	N.D.	
62) n-Butyl Acetate	16.70	43	4090	0.061 ng	97
63) n-Octane	16.82	57	1474	0.063 ng	98
64) Tetrachloroethene	16.95	166	5844	0.182 ng	98
65) Chlorobenzene	17.63	112	104	N.D.	
66) Ethylbenzene	17.98	91	6666	0.052 ng	99
67) m- & p-Xylenes	18.14	91	15806	0.157 ng	100
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	3036	N.D.	
70) o-Xylene	18.57	91	8124	0.079 ng	95
71) n-Nonane	18.77	43	6579	0.121 ng	99
72) 1,1,2,2-Tetrachloroethane	18.58	83	575	N.D.	
74) Cumene	19.10	105	1304	N.D.	
75) alpha-Pinene	19.45	93	986	N.D.	
76) n-Propylbenzene	19.56	91	2966	N.D.	
77) 3-Ethyltoluene	19.64	105	4364	N.D.	
78) 4-Ethyltoluene	19.68	105	1739	N.D.	
79) 1,3,5-Trimethylbenzene	19.74	105	2539	N.D.	
80) alpha-Methylstyrene	19.88	118	2446	N.D.	
81) 2-Ethyltoluene	19.92	105	2055	N.D.	
82) 1,2,4-Trimethylbenzene	0.00	105	0	N.D. d	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.22	91	368	N.D.	
85) 1,3-Dichlorobenzene	20.24	146	189	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	630	N.D.	
87) sec-Butylbenzene	20.35	105	1738	N.D.	
88) 4-Isopropyltoluene (p-...	20.49	119	4234	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	3049	N.D.	
90) 1,2-Dichlorobenzene	20.59	146	163	N.D.	
91) d-Limonene	20.61	68	5898	0.145 ng	99
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.11	180	401	N.D.	
95) Naphthalene	22.22	128	7544	0.060 ng	83
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022016.D Vial: 9
Acq On : 2 May 2020 18:22 Operator: TD
Sample : P2002104-020 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:50:23 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022016.D Vial: 9
Acq On : 2 May 2020 18:22 Operator: TD
Sample : P2002104-020 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:50:23 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/4/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

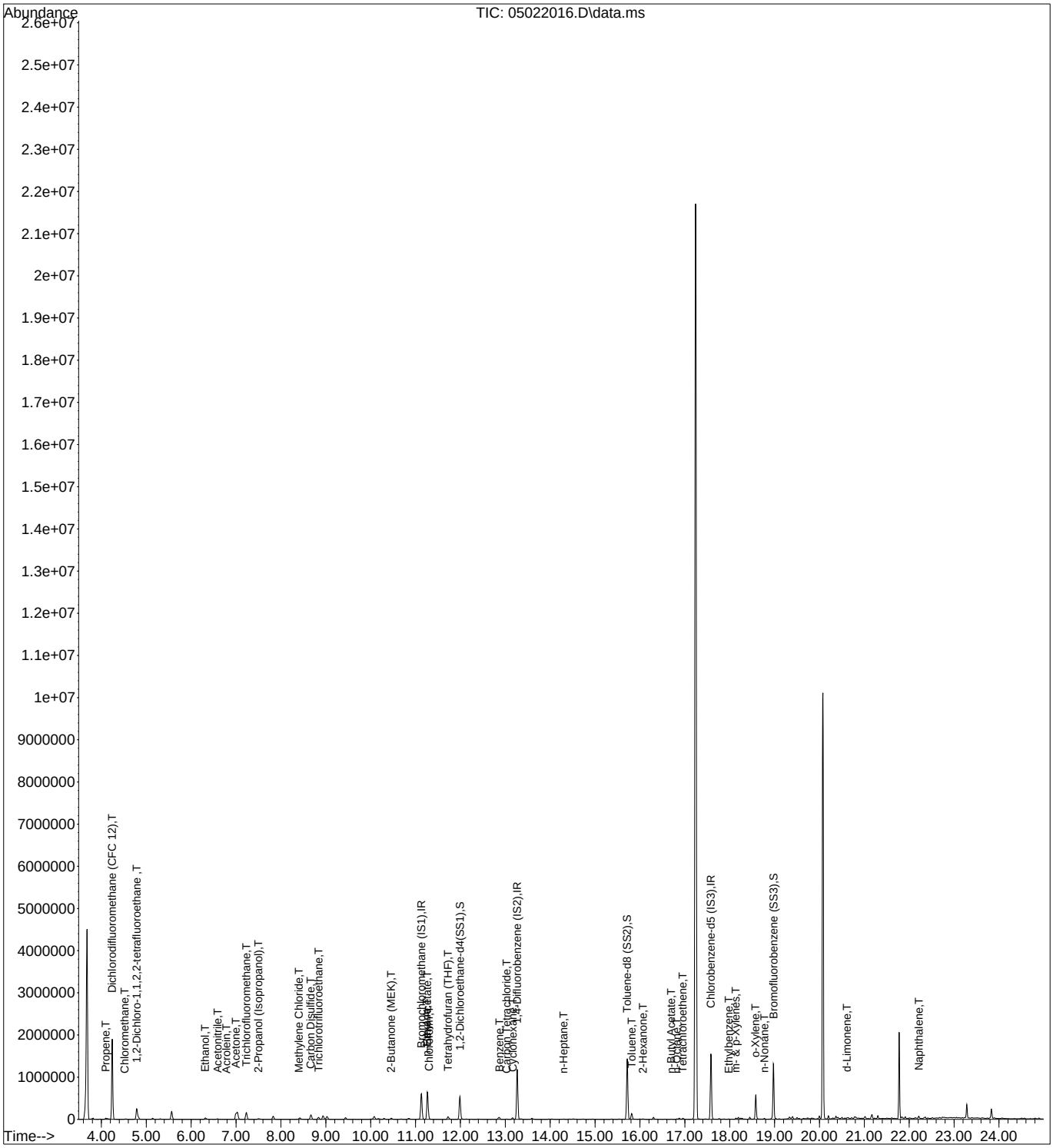
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	243662	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1056119	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	521338	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	417305	12.637	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.12%				
57) Toluene-d8 (SS2)	15.72	98	1069616	12.104	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.80%				
73) Bromofluorobenzene (SS3)	18.98	174	382815	12.040	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.32%				
Target Compounds							Qvalue
2) Propene	4.10	42	7001	0.248	ng		96
3) Dichlorodifluoromethan...	4.24	85	1730381	31.349	ng		100
4) Chloromethane	4.52	50	5650	0.131	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.79	135	34144	1.035	ng		98
10) Ethanol	6.31	45	58199	2.671	ng		100
11) Acetonitrile	6.59	41	17969	0.361	ng		85
12) Acrolein	6.79	56	2470	0.143	ng		99
13) Acetone	7.00	58	70377	3.229	ng	#	72
14) Trichlorofluoromethane	7.23	101	162789	3.337	ng		99
15) 2-Propanol (Isopropanol)	7.50	45	31821	0.482	ng		92
19) Methylene Chloride	8.40	84	3201	0.113	ng		98
21) Trichlorotrifluoroethane	8.84	151	18448	0.801	ng		95
22) Carbon Disulfide	8.67	76	198792	1.958	ng		99
27) 2-Butanone (MEK)	10.46	72	10082	0.542	ng	#	91
30) Ethyl Acetate	11.26	61	119603	11.160	ng		92
31) n-Hexane	11.25	57	13626	0.293	ng		99
32) Chloroform	11.30	83	8405	0.173	ng		99
34) Tetrahydrofuran (THF)	11.72	72	20446	1.128	ng		95
41) Benzene	12.87	78	34668	0.306	ng		100
42) Carbon Tetrachloride	13.03	117	4710	0.122	ng		99
43) Cyclohexane	13.17	84	15272	0.362	ng		100
51) n-Heptane	14.30	71	1676	0.063	ng		92
58) Toluene	15.82	91	110125	0.967	ng		99
59) 2-Hexanone	16.07	43	9742	0.156	ng		85
62) n-Butyl Acetate	16.70	43	4090	0.061	ng		97
63) n-Octane	16.82	57	1474	0.063	ng		98
64) Tetrachloroethene	16.95	166	5844	0.182	ng		98
66) Ethylbenzene	17.98	91	6666	0.052	ng		99
67) m- & p-Xylenes	18.14	91	15806	0.157	ng		100
70) o-Xylene	18.57	91	8124	0.079	ng		95
71) n-Nonane	18.77	43	6579	0.121	ng		99
91) d-Limonene	20.61	68	5898	0.145	ng		99
95) Naphthalene	22.22	128	7544	0.060	ng		83

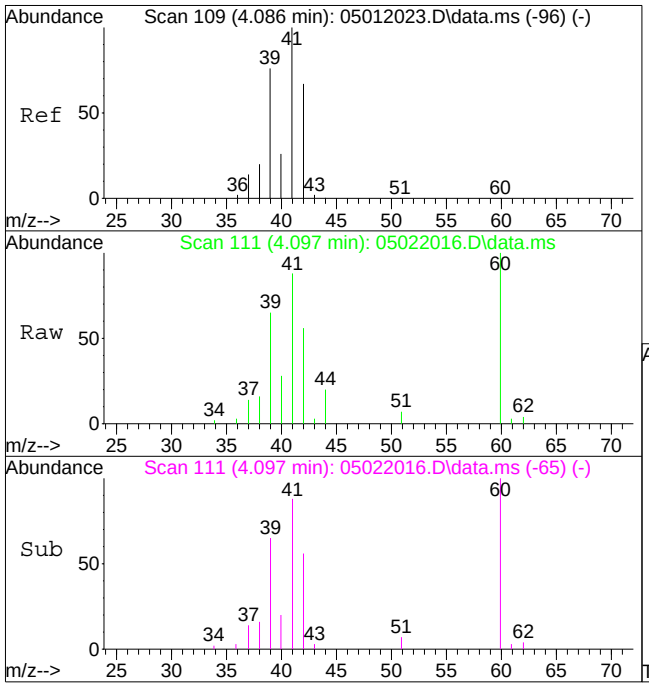
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022016.D Vial: 9
Acq On : 2 May 2020 18:22 Operator: TD
Sample : P2002104-020 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 14:50:23 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

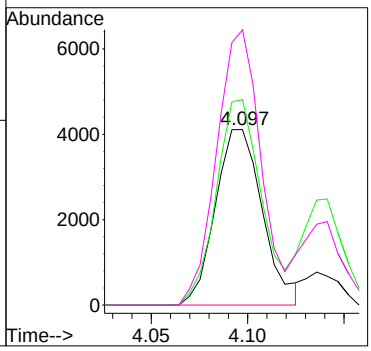


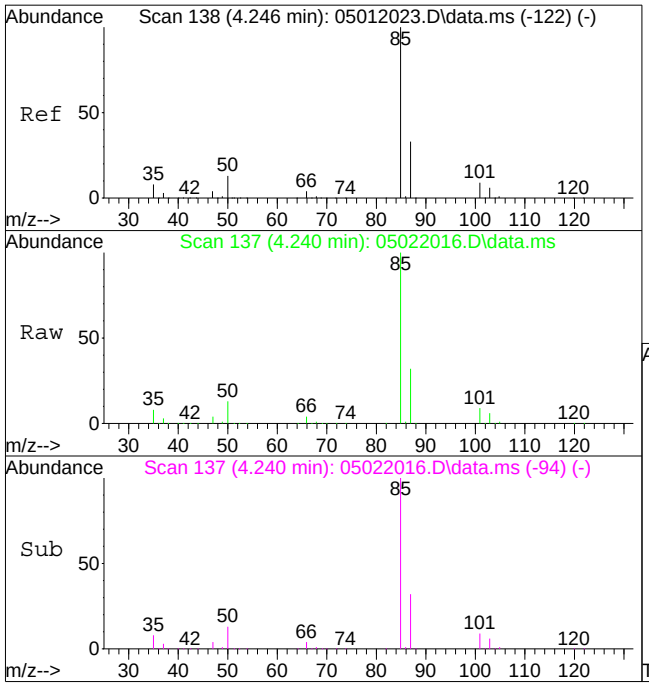


#2
Propene
Concen: 0.25 ng
RT: 4.10 min Scan# 111
Delta R.T. 0.005 min
Lab File: 05022016.D
Acq: 2 May 2020 18:22

Tgt Ion: 42 Resp: 7001

Ion	Ratio	Lower	Upper
42	100		
39	111.9	96.1	136.1
41	146.2	131.9	171.9

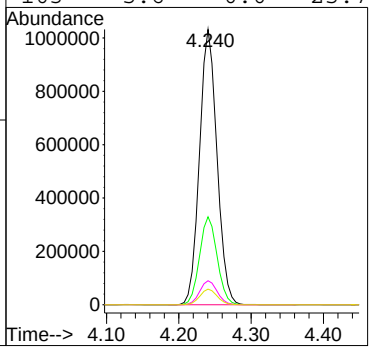


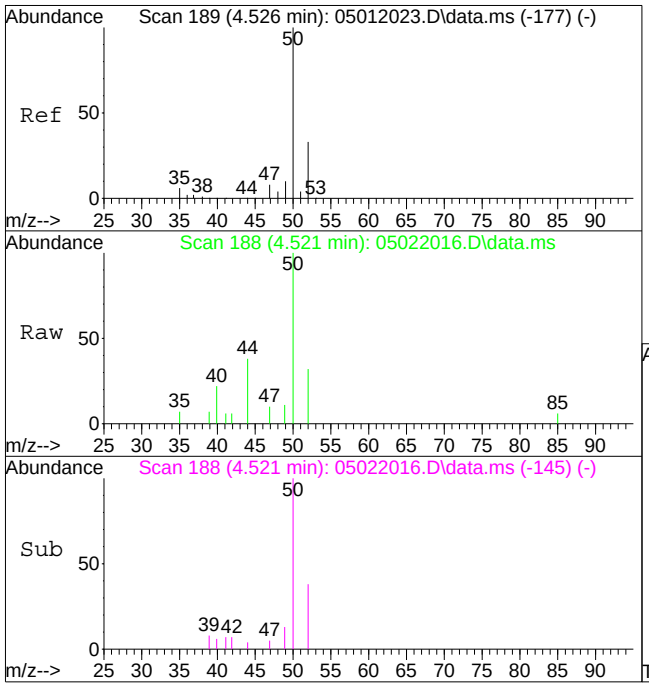


#3
Dichlorodifluoromethane (CFC 12)
Concen: 31.35 ng
RT: 4.24 min Scan# 137
Delta R.T. -0.011 min
Lab File: 05022016.D
Acq: 2 May 2020 18:22

Tgt Ion: 85 Resp: 1730381

Ion	Ratio	Lower	Upper
85	100		
87	32.1	12.4	52.4
101	8.8	0.0	28.8
103	5.6	0.0	25.7

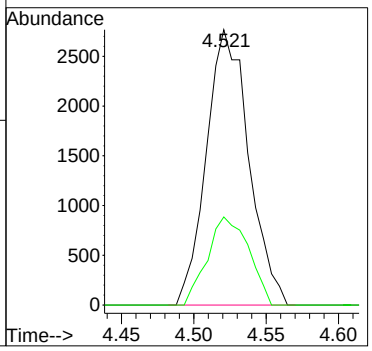


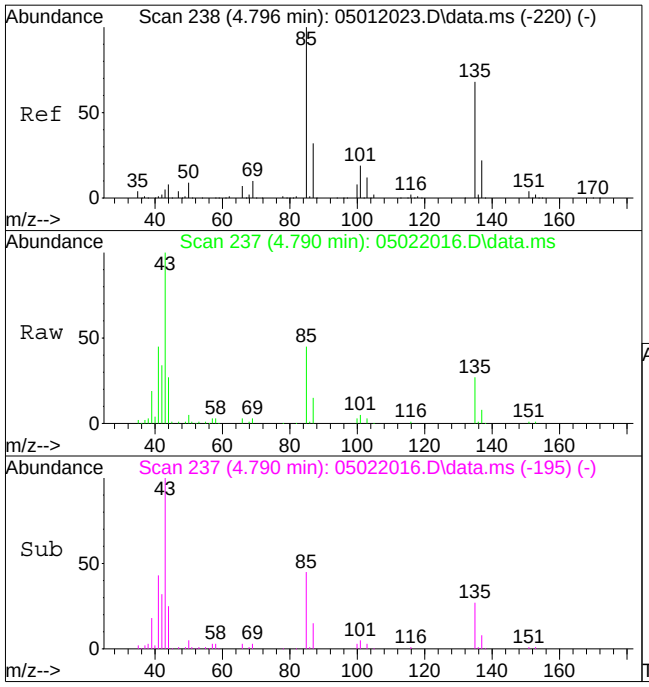


#4
Chloromethane
Concen: 0.13 ng
RT: 4.52 min Scan# 188
Delta R.T. -0.011 min
Lab File: 05022016.D
Acq: 2 May 2020 18:22

Tgt Ion: 50 Resp: 5650

Ion	Ratio	Lower	Upper
50	100		
52	31.2	12.5	52.5

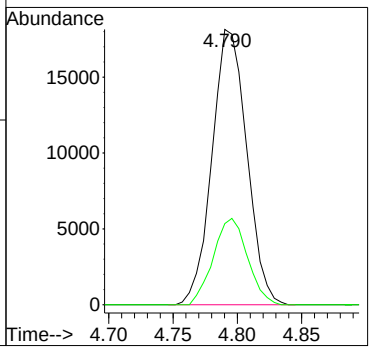


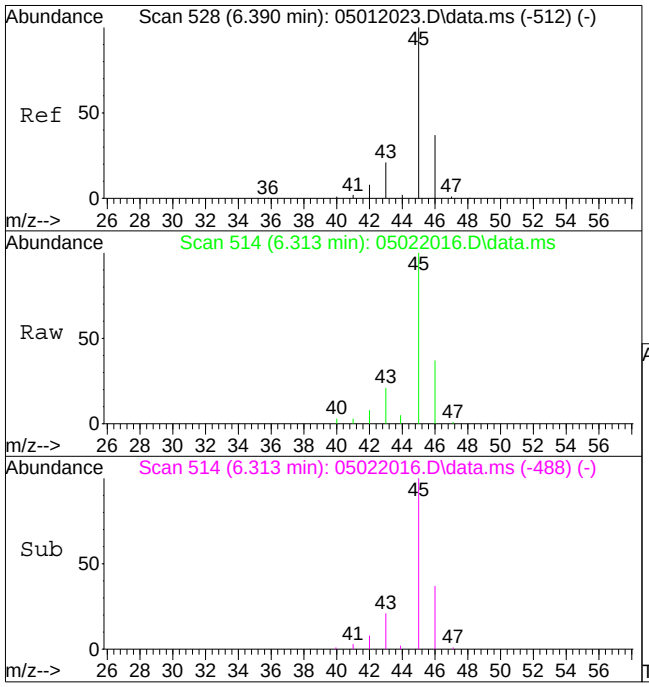


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 1.04 ng
RT: 4.79 min Scan# 237
Delta R.T. -0.016 min
Lab File: 05022016.D
Acq: 2 May 2020 18:22

Tgt Ion:135 Resp: 34144

Ion	Ratio	Lower	Upper
135	100		
137	30.9	12.1	52.1

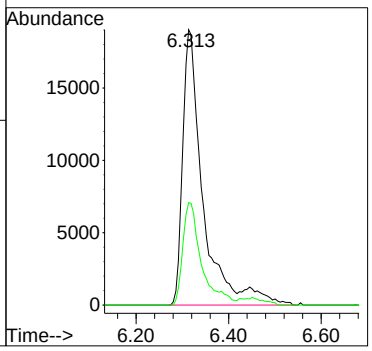


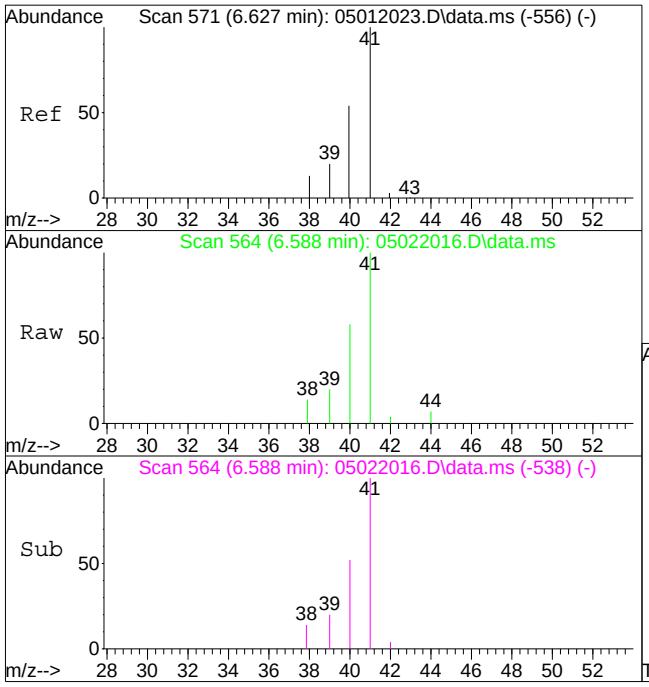


#10
Ethanol
Concen: 2.67 ng
RT: 6.31 min Scan# 514
Delta R.T. -0.104 min
Lab File: 05022016.D
Acq: 2 May 2020 18:22

Tgt Ion: 45 Resp: 58199

Ion	Ratio	Lower	Upper
45	100		
46	37.1	17.2	57.2

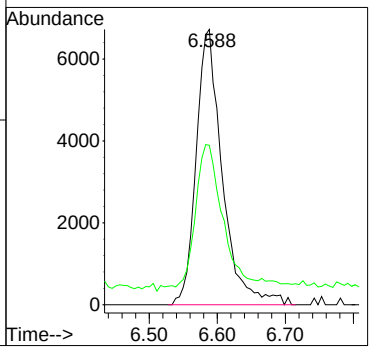


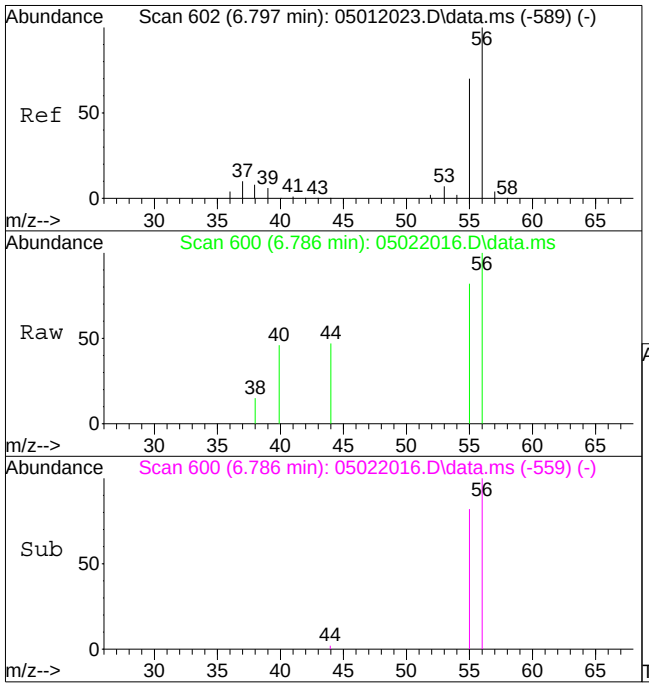


#11
Acetonitrile
Concen: 0.36 ng
RT: 6.59 min Scan# 564
Delta R.T. -0.055 min
Lab File: 05022016.D
Acq: 2 May 2020 18:22

Tgt Ion: 41 Resp: 17969

Ion	Ratio	Lower	Upper
41	100		
40	64.3	33.6	73.6

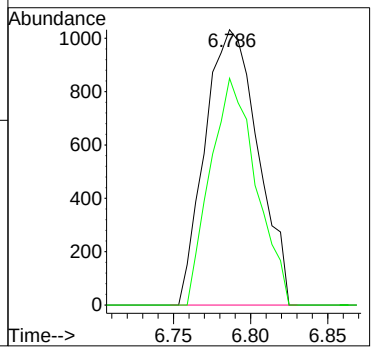


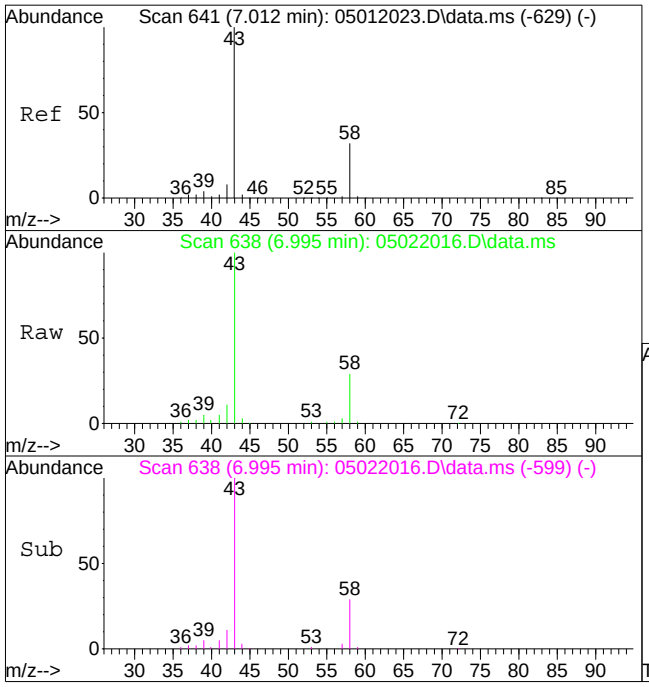


#12
Acrolein
Concen: 0.14 ng
RT: 6.79 min Scan# 600
Delta R.T. -0.022 min
Lab File: 05022016.D
Acq: 2 May 2020 18:22

Tgt Ion: 56 Resp: 2470

Ion	Ratio	Lower	Upper
56	100		
55	71.1	50.2	90.2

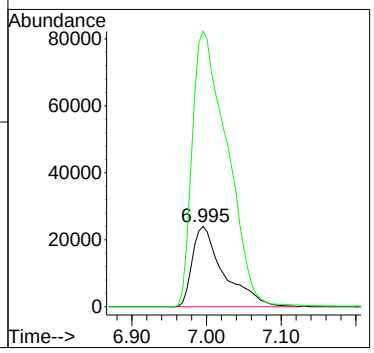


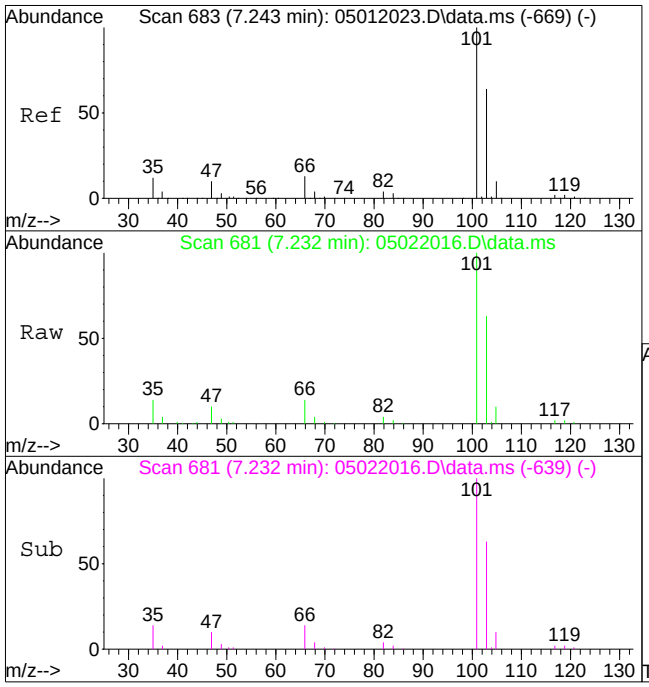


#13
Acetone
Concen: 3.23 ng
RT: 7.00 min Scan# 638
Delta R.T. -0.033 min
Lab File: 05022016.D
Acq: 2 May 2020 18:22

Tgt Ion: 58 Resp: 70377

Ion	Ratio	Lower	Upper
58	100		
43	382.8	294.4	354.4#

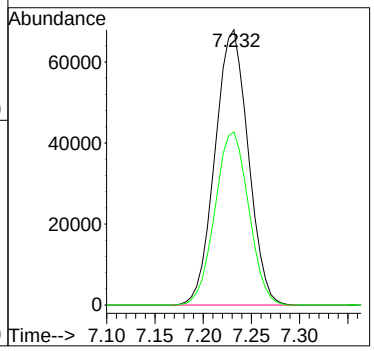


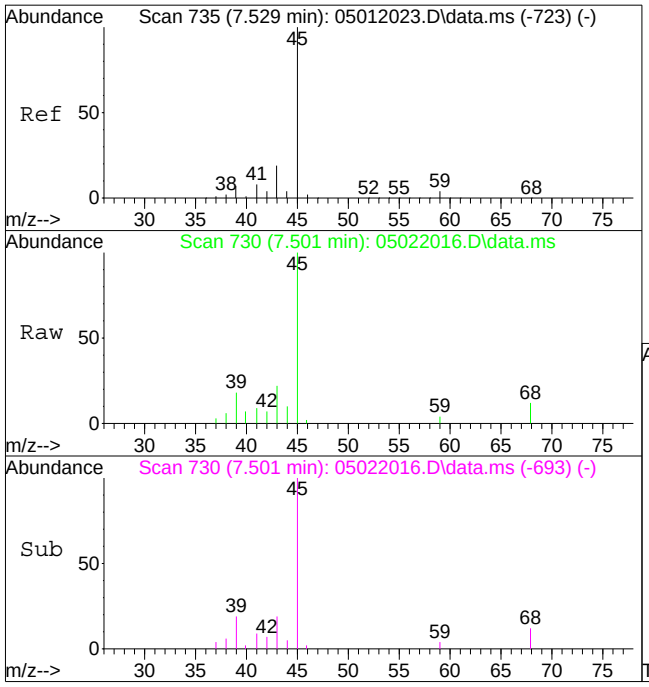


#14
Trichlorofluoromethane
Concen: 3.34 ng
RT: 7.23 min Scan# 681
Delta R.T. -0.016 min
Lab File: 05022016.D
Acq: 2 May 2020 18:22

Tgt Ion:101 Resp: 162789

Ion	Ratio	Lower	Upper
101	100		
103	63.9	44.4	84.4

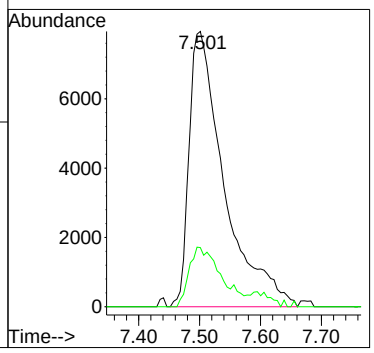


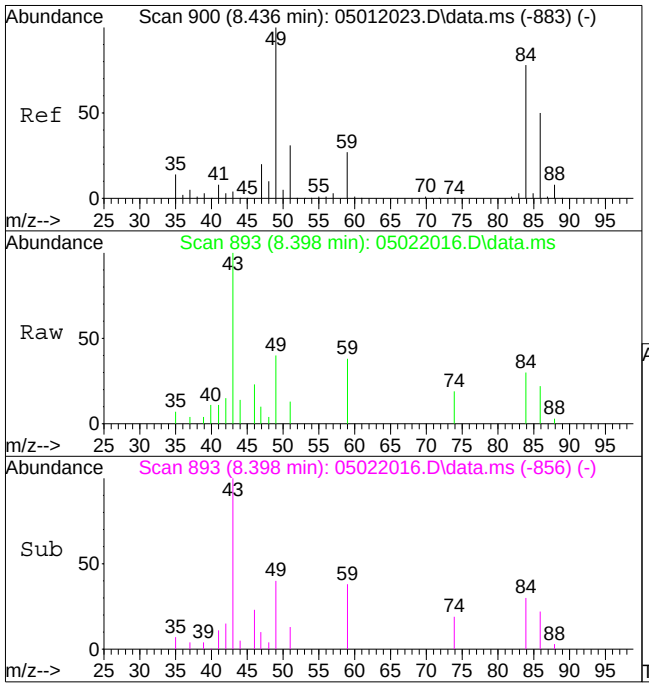


#15
2-Propanol (Isopropanol)
Concen: 0.48 ng
RT: 7.50 min Scan# 730
Delta R.T. -0.044 min
Lab File: 05022016.D
Acq: 2 May 2020 18:22

Tgt Ion: 45 Resp: 31821

Ion	Ratio	Lower	Upper
45	100		
43	23.0	0.0	39.5

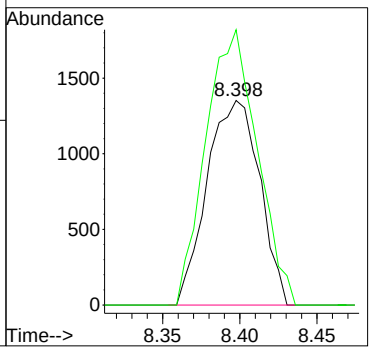


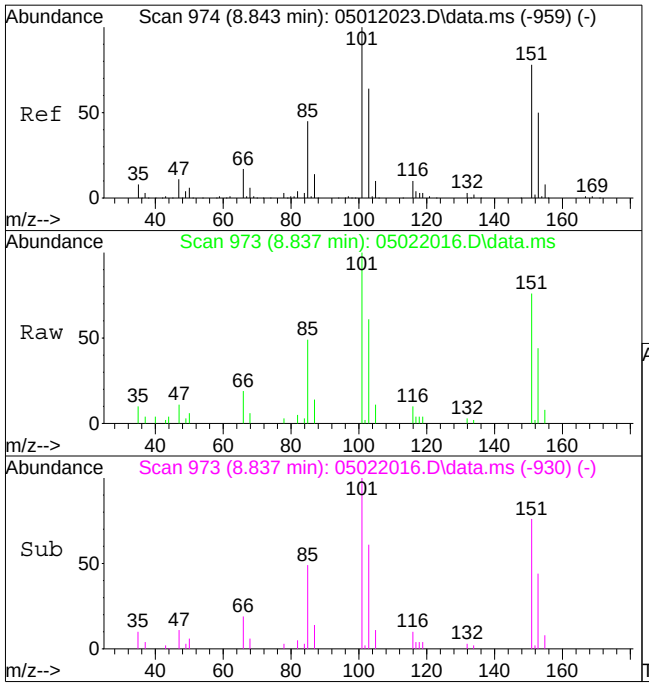


#19
Methylene Chloride
Concen: 0.11 ng
RT: 8.40 min Scan# 893
Delta R.T. -0.044 min
Lab File: 05022016.D
Acq: 2 May 2020 18:22

Tgt Ion: 84 Resp: 3201

Ion	Ratio	Lower	Upper
84	100		
49	131.7	104.8	154.8

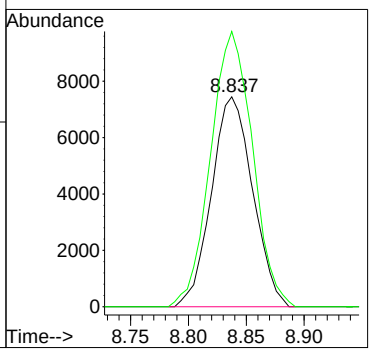


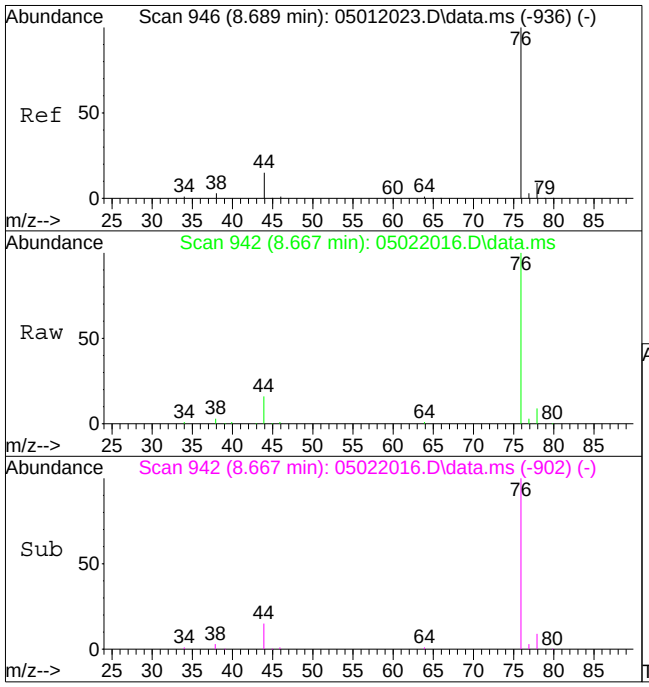


#21
Trichlorotrifluoroethane
Concen: 0.80 ng
RT: 8.84 min Scan# 973
Delta R.T. -0.011 min
Lab File: 05022016.D
Acq: 2 May 2020 18:22

Tgt Ion:151 Resp: 18448

Ion	Ratio	Lower	Upper
151	100		
101	133.5	107.3	147.3

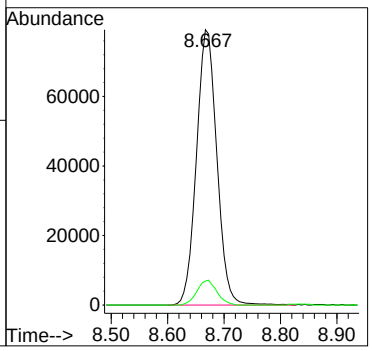


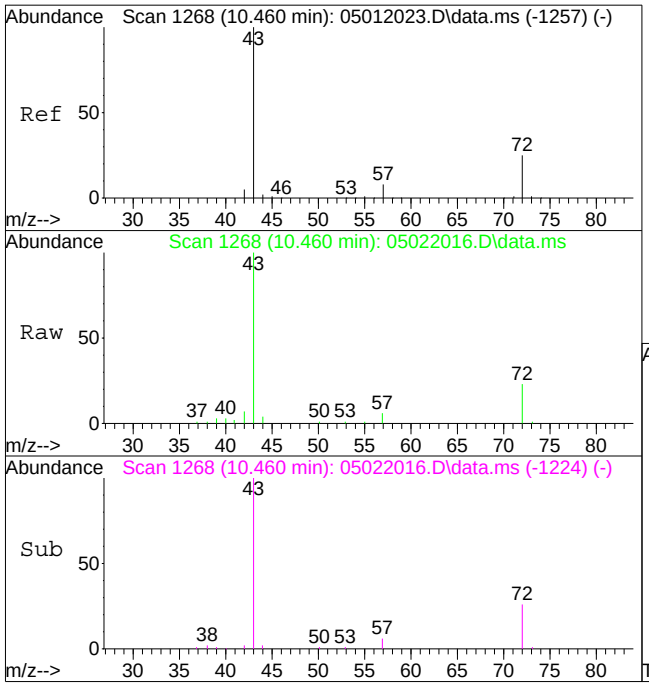


#22
Carbon Disulfide
Concen: 1.96 ng
RT: 8.67 min Scan# 942
Delta R.T. -0.027 min
Lab File: 05022016.D
Acq: 2 May 2020 18:22

Tgt Ion: 76 Resp: 198792

Ion	Ratio	Lower	Upper
76	100		
78	8.8	0.0	29.2

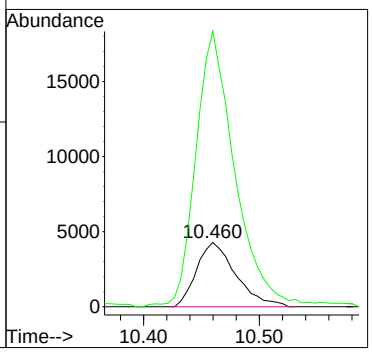


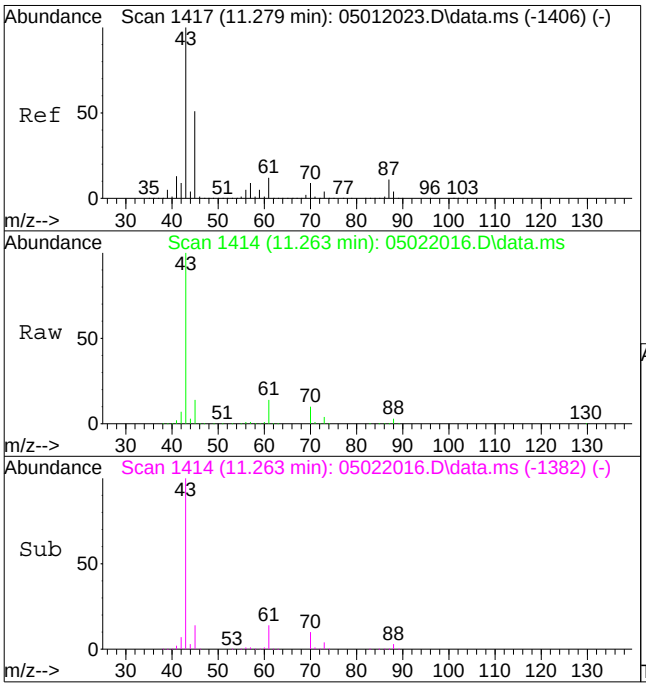


#27
2-Butanone (MEK)
Concen: 0.54 ng
RT: 10.46 min Scan# 1268
Delta R.T. -0.006 min
Lab File: 05022016.D
Acq: 2 May 2020 18:22

Tgt Ion: 72 Resp: 10082

Ion	Ratio	Lower	Upper
72	100		
43	431.5	389.7	429.7#

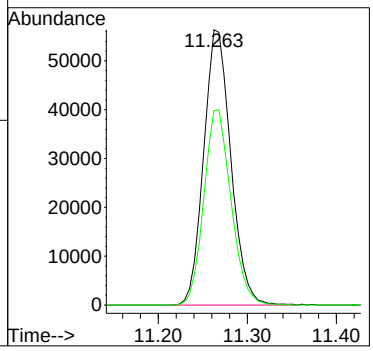


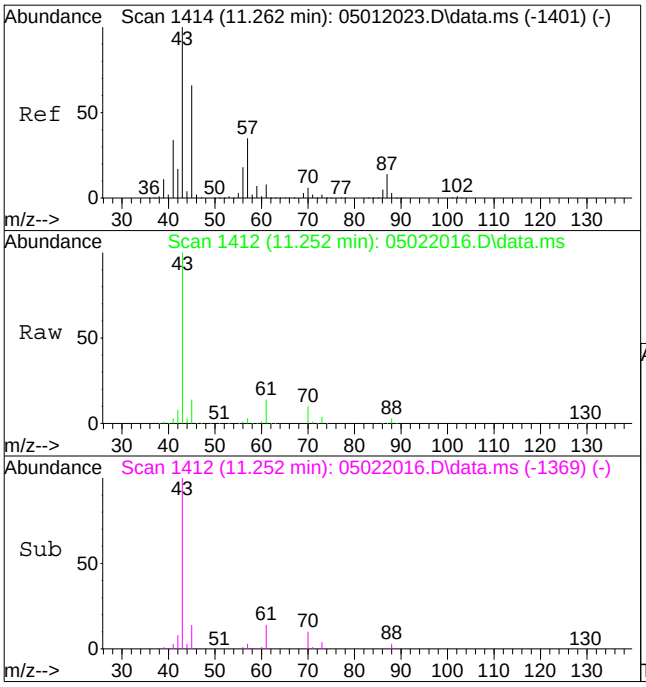


#30
Ethyl Acetate
Concen: 11.16 ng
RT: 11.26 min Scan# 1414
Delta R.T. -0.022 min
Lab File: 05022016.D
Acq: 2 May 2020 18:22

Tgt Ion: 61 Resp: 119603

Ion	Ratio	Lower	Upper
61	100		
70	71.0	57.9	97.9

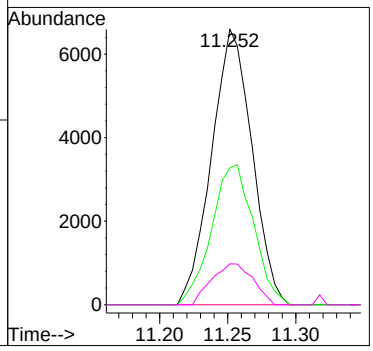


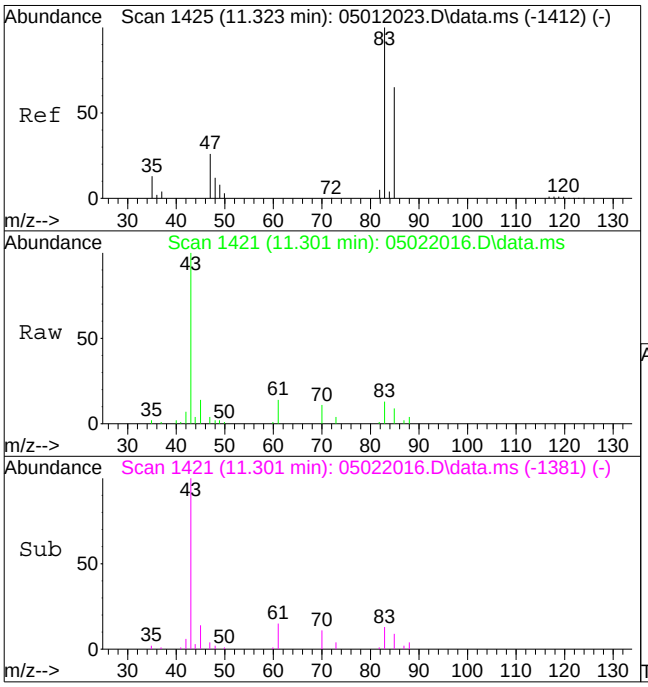


#31
n-Hexane
Concen: 0.29 ng
RT: 11.25 min Scan# 1412
Delta R.T. -0.011 min
Lab File: 05022016.D
Acq: 2 May 2020 18:22

Tgt Ion: 57 Resp: 13626

Ion	Ratio	Lower	Upper
57	100		
56	52.8	41.4	62.0
86	15.2	12.4	18.6

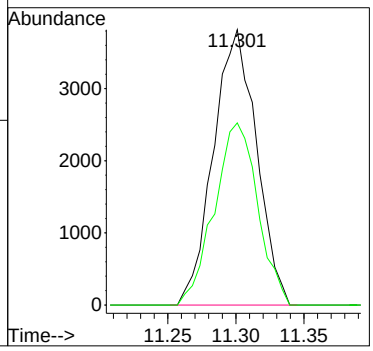


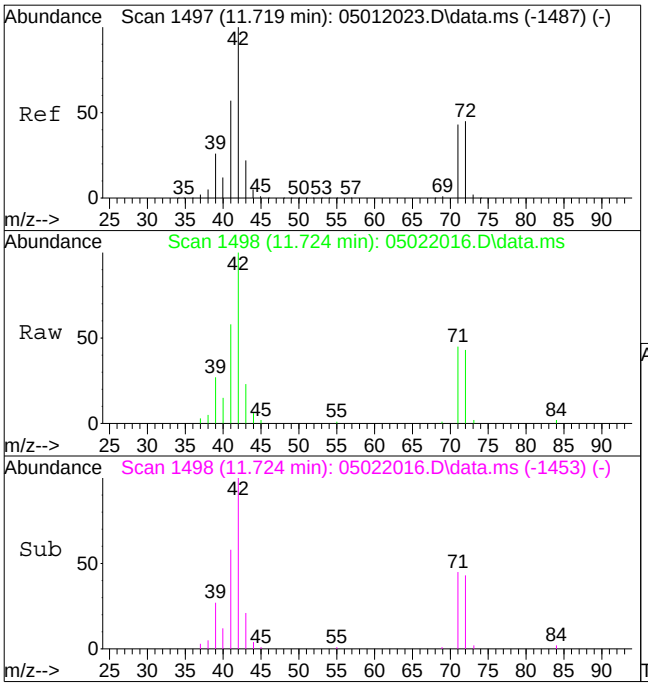


#32
Chloroform
Concen: 0.17 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.027 min
Lab File: 05022016.D
Acq: 2 May 2020 18:22

Tgt Ion: 83 Resp: 8405

Ion	Ratio	Lower	Upper
83	100		
85	66.5	45.5	85.5

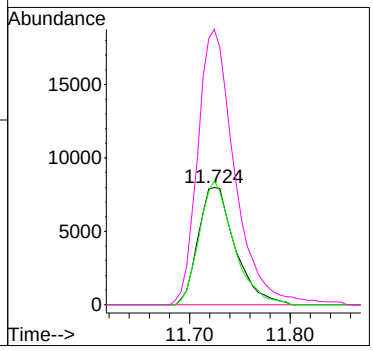


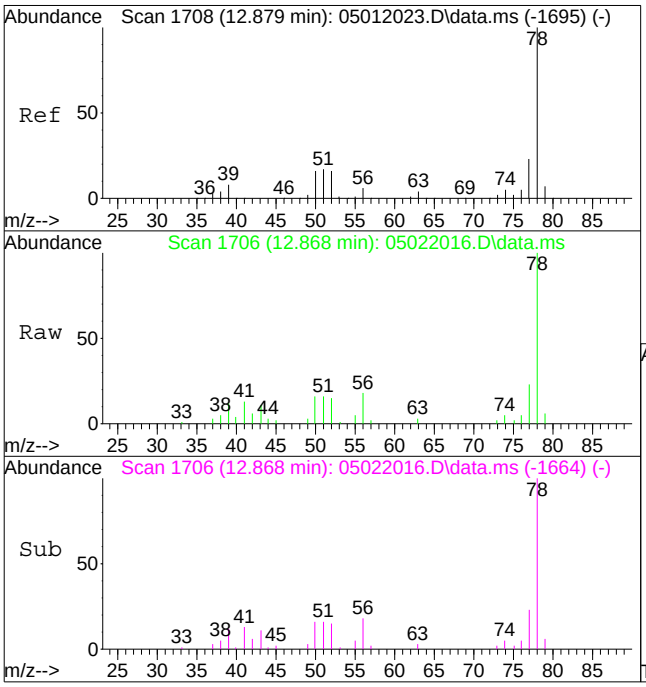


#34
Tetrahydrofuran (THF)
Concen: 1.13 ng
RT: 11.72 min Scan# 1498
Delta R.T. 0.000 min
Lab File: 05022016.D
Acq: 2 May 2020 18:22

Tgt Ion: 72 Resp: 20446

Ion	Ratio	Lower	Upper
72	100		
71	98.3	77.0	117.0
42	235.9	204.6	244.6

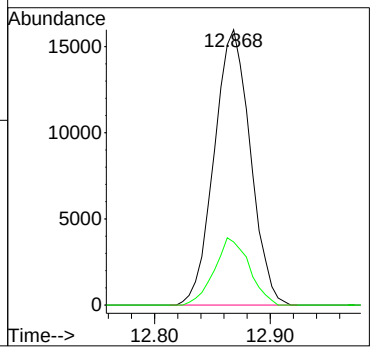


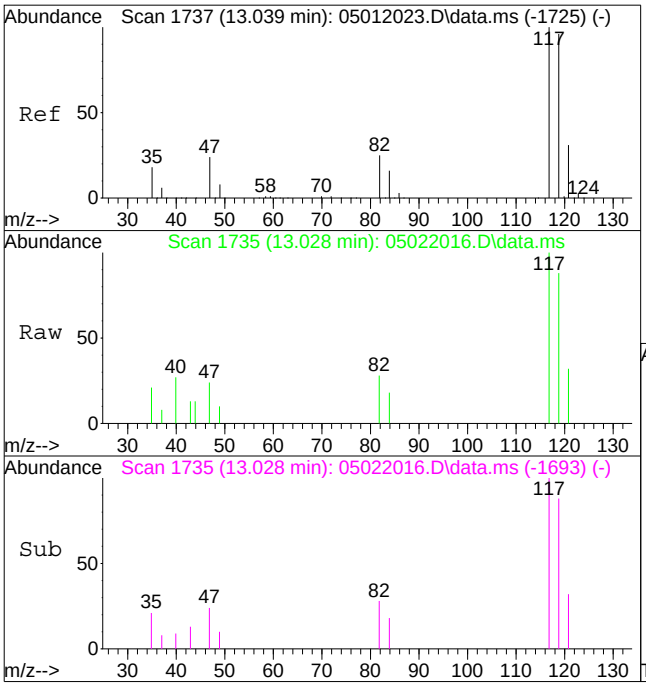


#41
Benzene
Concen: 0.31 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.016 min
Lab File: 05022016.D
Acq: 2 May 2020 18:22

Tgt Ion: 78 Resp: 34668

Ion	Ratio	Lower	Upper
78	100		
77	23.5	3.4	43.4

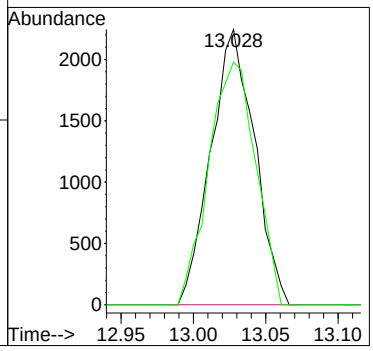


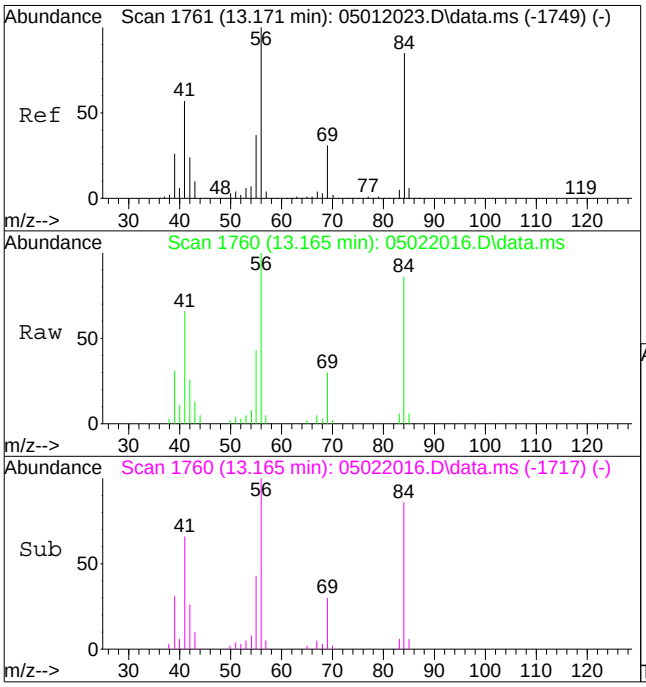


#42
Carbon Tetrachloride
Concen: 0.12 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.016 min
Lab File: 05022016.D
Acq: 2 May 2020 18:22

Tgt Ion:117 Resp: 4710

Ion	Ratio	Lower	Upper
117	100		
119	94.8	76.2	116.2

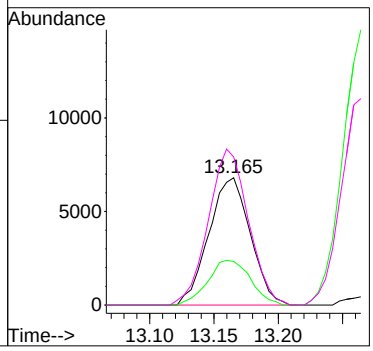


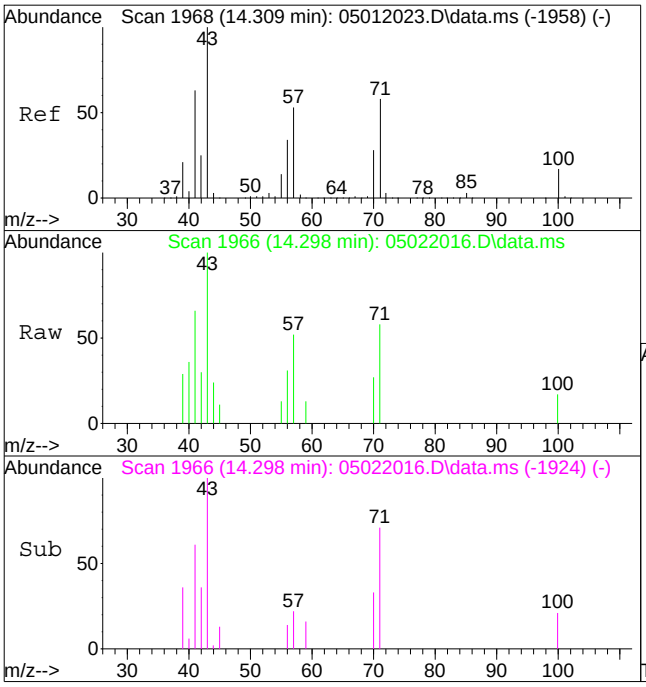


#43
Cyclohexane
Concen: 0.36 ng
RT: 13.17 min Scan# 1760
Delta R.T. -0.011 min
Lab File: 05022016.D
Acq: 2 May 2020 18:22

Tgt Ion: 84 Resp: 15272

Ion	Ratio	Lower	Upper
84	100		
69	36.0	16.5	56.5
56	117.8	97.4	137.4

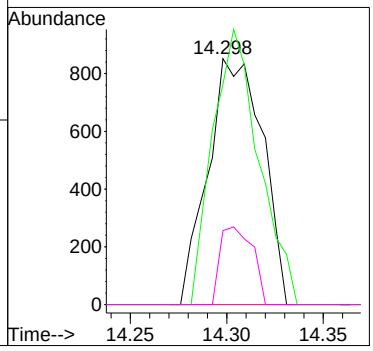


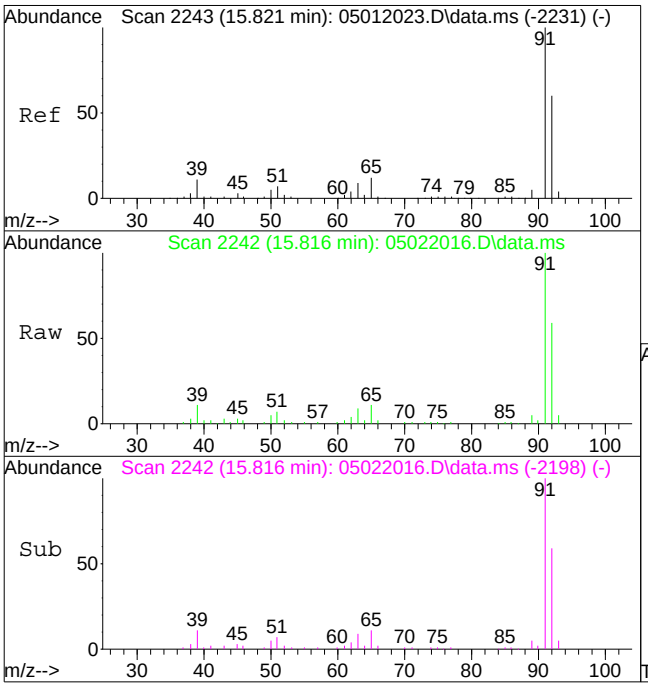


#51
n-Heptane
Concen: 0.06 ng
RT: 14.30 min Scan# 1966
Delta R.T. -0.016 min
Lab File: 05022016.D
Acq: 2 May 2020 18:22

Tgt Ion: 71 Resp: 1676

Ion	Ratio	Lower	Upper
71	100		
57	94.9	71.0	111.0
100	18.7	8.4	48.4

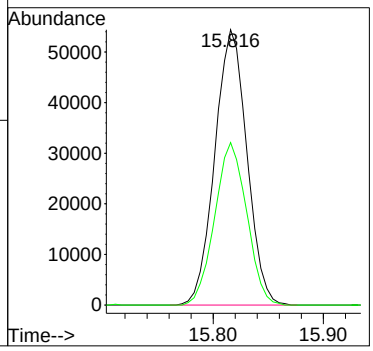


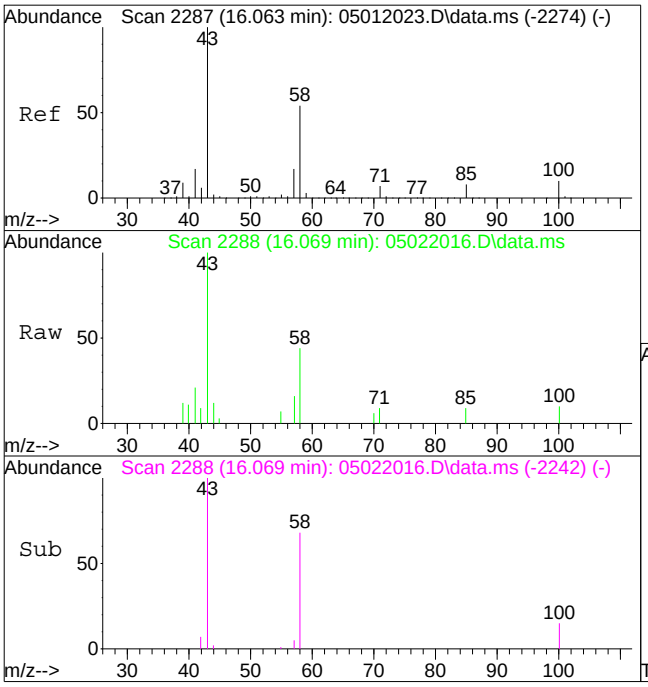


#58
Toluene
Concen: 0.97 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.005 min
Lab File: 05022016.D
Acq: 2 May 2020 18:22

Tgt Ion: 91 Resp: 110125

Ion	Ratio	Lower	Upper
91	100		
92	58.8	39.4	79.4

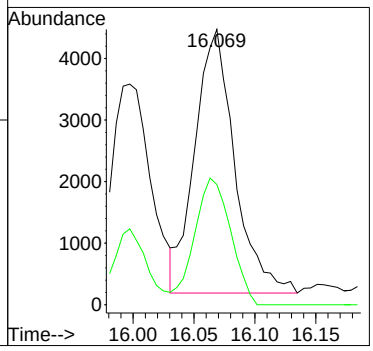


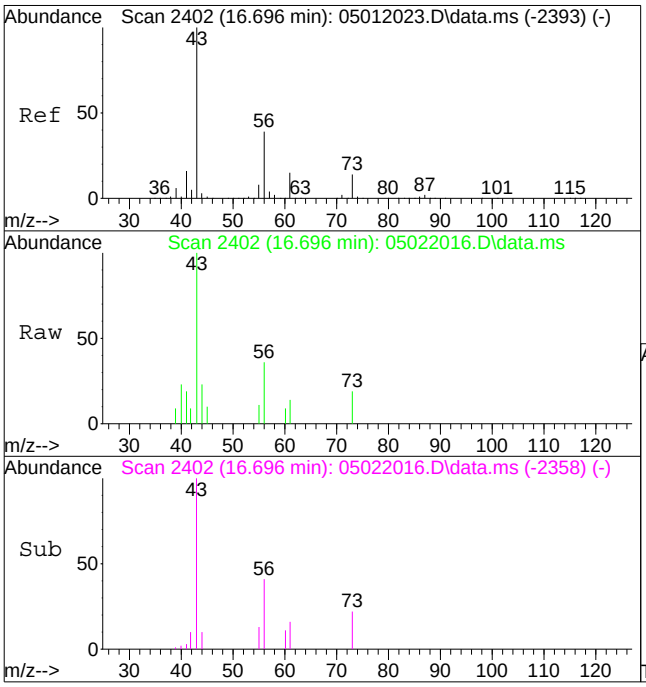


#59
2-Hexanone
Concen: 0.16 ng
RT: 16.07 min Scan# 2288
Delta R.T. 0.006 min
Lab File: 05022016.D
Acq: 2 May 2020 18:22

Tgt Ion: 43 Resp: 9742

Ion	Ratio	Lower	Upper
43	100		
58	43.6	34.5	74.5

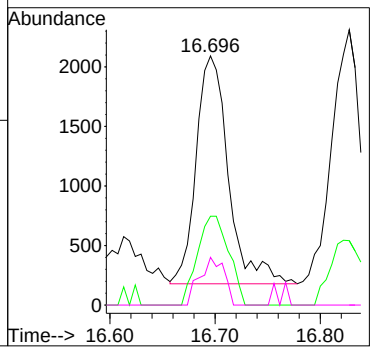


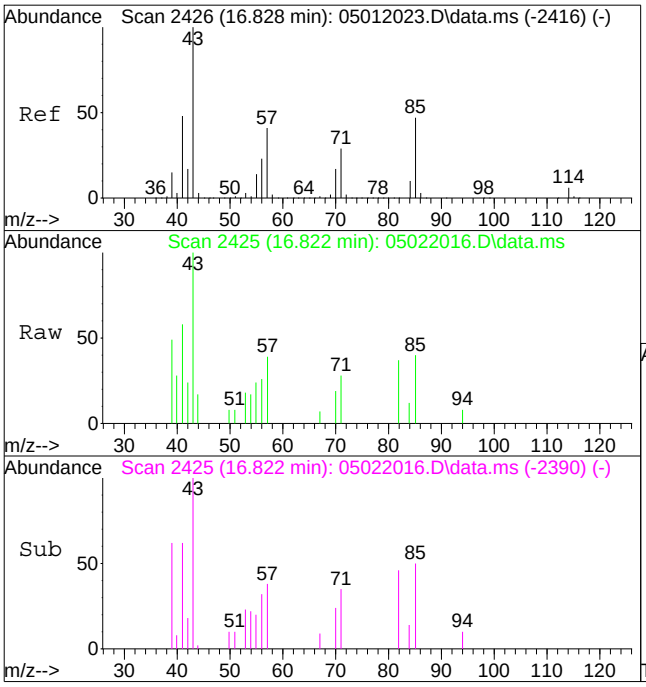


#62
n-Butyl Acetate
Concen: 0.06 ng
RT: 16.70 min Scan# 2402
Delta R.T. -0.005 min
Lab File: 05022016.D
Acq: 2 May 2020 18:22

Tgt Ion: 43 Resp: 4090

Ion	Ratio	Lower	Upper
43	100		
56	37.8	19.2	59.2
73	15.8	0.0	34.4

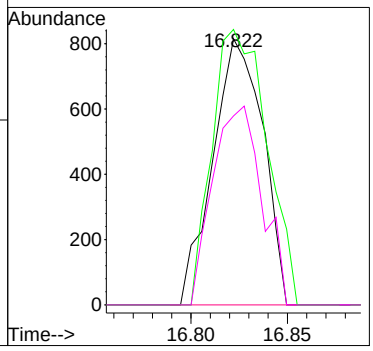


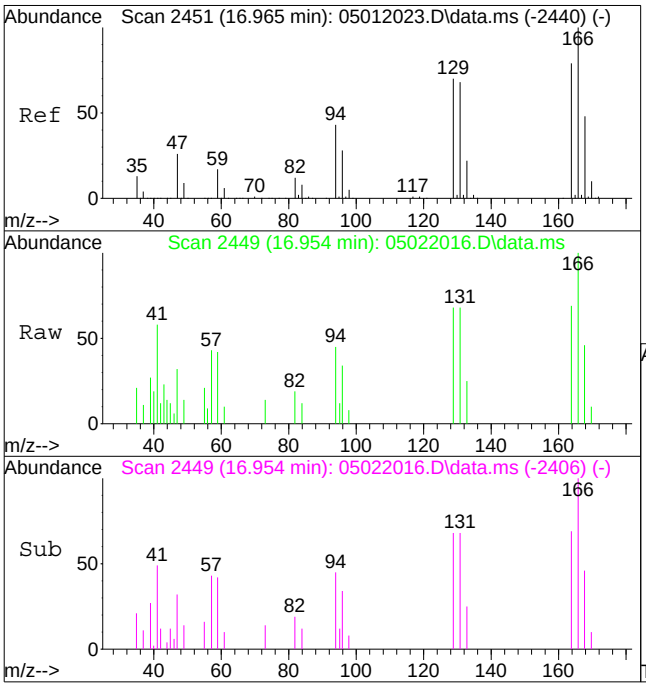


#63
n-Octane
Concen: 0.06 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.005 min
Lab File: 05022016.D
Acq: 2 May 2020 18:22

Tgt Ion: 57 Resp: 1474

Ion	Ratio	Lower	Upper
57	100		
85	113.0	91.0	136.4
71	73.5	56.2	84.2

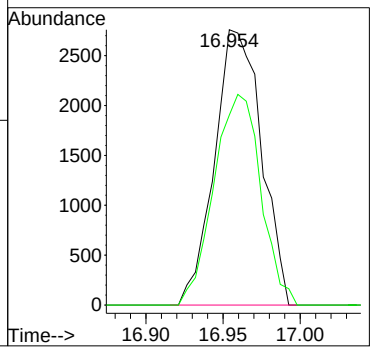


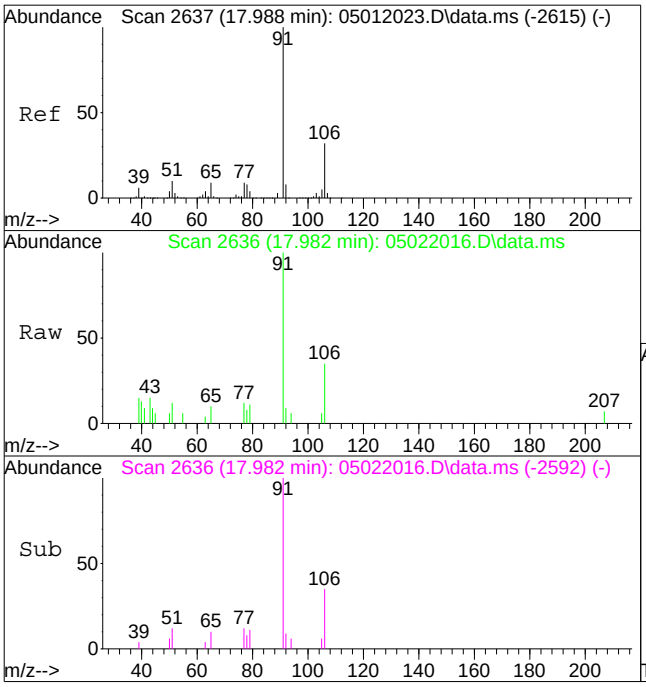


#64
Tetrachloroethene
Concen: 0.18 ng
RT: 16.95 min Scan# 2449
Delta R.T. -0.011 min
Lab File: 05022016.D
Acq: 2 May 2020 18:22

Tgt Ion:166 Resp: 5844

Ion	Ratio	Lower	Upper
166	100		
164	76.5	58.4	98.4

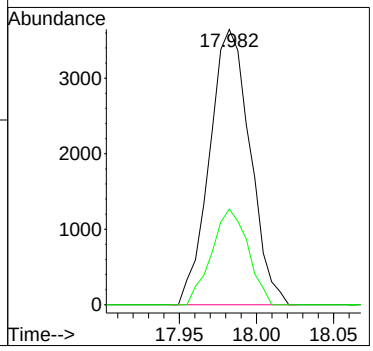


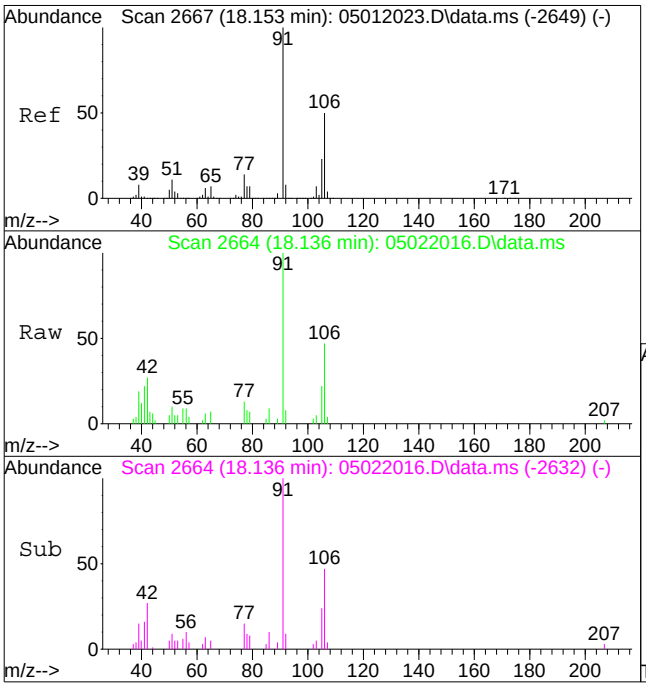


#66
Ethylbenzene
Concen: 0.05 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.005 min
Lab File: 05022016.D
Acq: 2 May 2020 18:22

Tgt Ion: 91 Resp: 6666

Ion	Ratio	Lower	Upper
91	100		
106	31.2	11.6	51.6

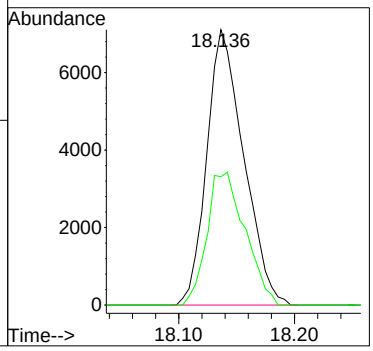


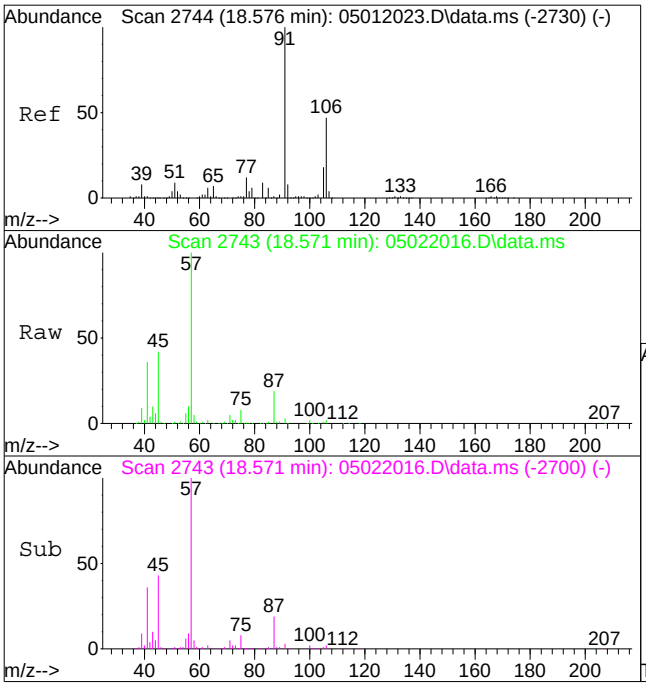


#67
m- & p-Xylenes
Concen: 0.16 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05022016.D
Acq: 2 May 2020 18:22

Tgt Ion: 91 Resp: 15806

Ion	Ratio	Lower	Upper
91	100		
106	49.7	29.7	69.7

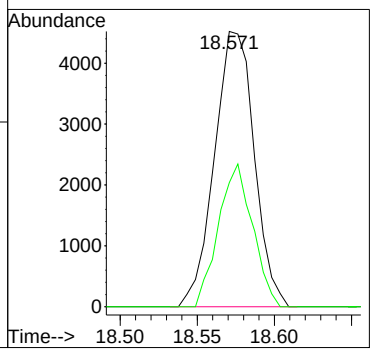


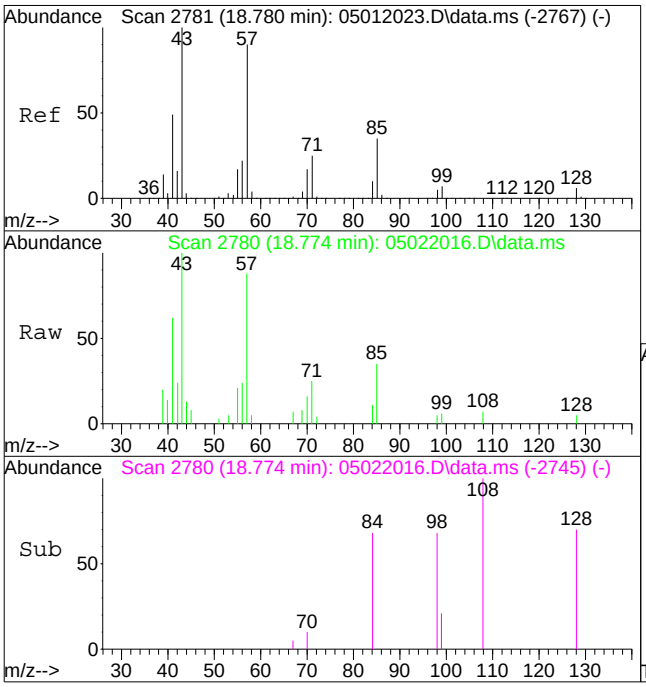


#70
o-Xylene
Concen: 0.08 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05022016.D
Acq: 2 May 2020 18:22

Tgt Ion: 91 Resp: 8124

Ion	Ratio	Lower	Upper
91	100		
106	44.3	27.5	67.5

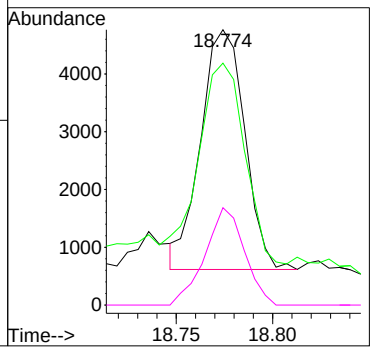


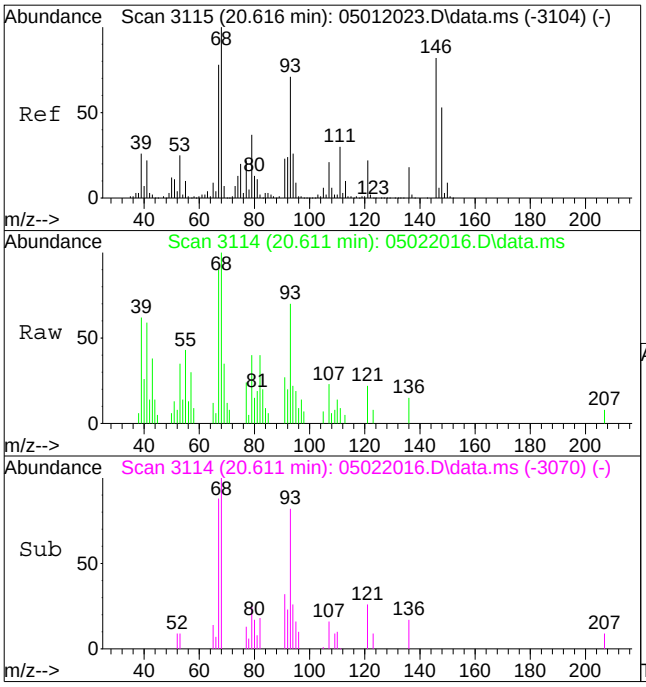


#71
n-Nonane
Concen: 0.12 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.005 min
Lab File: 05022016.D
Acq: 2 May 2020 18:22

Tgt Ion: 43 Resp: 6579

Ion	Ratio	Lower	Upper
43	100		
57	88.7	69.0	109.0
85	36.4	14.6	54.6

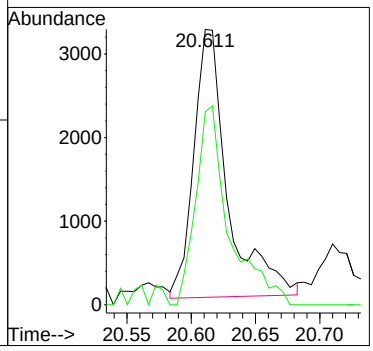


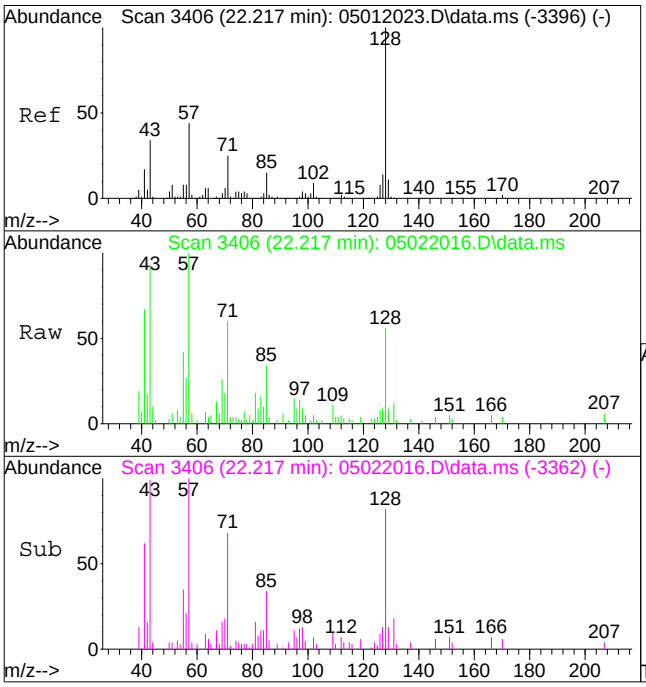


#91
d-Limonene
Concen: 0.15 ng
RT: 20.61 min Scan# 3114
Delta R.T. -0.005 min
Lab File: 05022016.D
Acq: 2 May 2020 18:22

Tgt Ion: 68 Resp: 5898

Ion	Ratio	Lower	Upper
68	100		
93	72.3	51.1	91.1

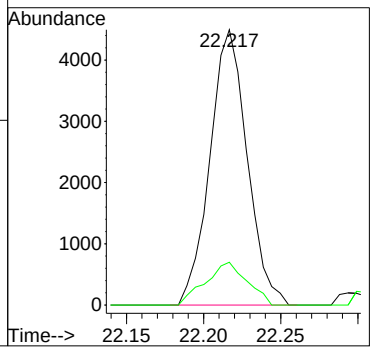




#95
Naphthalene
Concen: 0.06 ng
RT: 22.22 min Scan# 3406
Delta R.T. -0.005 min
Lab File: 05022016.D
Acq: 2 May 2020 18:22

Tgt Ion:128 Resp: 7544

Ion	Ratio	Lower	Upper
128	100		
129	17.3	0.0	31.0



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012029.D Vial: 2
Acq On : 1 May 2020 20:54 Operator: LH
Sample : MB R16050120_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: May 02 06:35:05 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration 5/2/20
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.12	130	293158	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	13.26	114	1279325	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	618139	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	509586	12.826	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.64%				
57) Toluene-d8 (SS2)	15.72	98	1298148	12.390	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.12%				
73) Bromofluorobenzene (SS3)	18.98	174	459988	12.201	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.60%				
Target Compounds							Qvalue
2) Propene	4.14	42	593	N.D.			
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	4.55	50	121	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.33	45	8350	0.318	ng		85
11) Acetonitrile	6.60	41	2996	0.050	ng		98
12) Acrolein	6.80	56	699	N.D.			
13) Acetone	7.03	58	4168	0.159	ng	#	83
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	7.53	45	1782	N.D.			
16) Acrylonitrile	7.75	53	1194	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	8.41	84	244	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.69	76	2170	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	10.49	72	267	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	11.77	72	354	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	12.86	56	3583	0.112	ng	#	71
41) Benzene	12.86	78	1202	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	13.26	84	912	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.03	57	337	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012029.D Vial: 2
Acq On : 1 May 2020 20:54 Operator: LH
Sample : MB R16050120_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: May 02 06:35:05 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

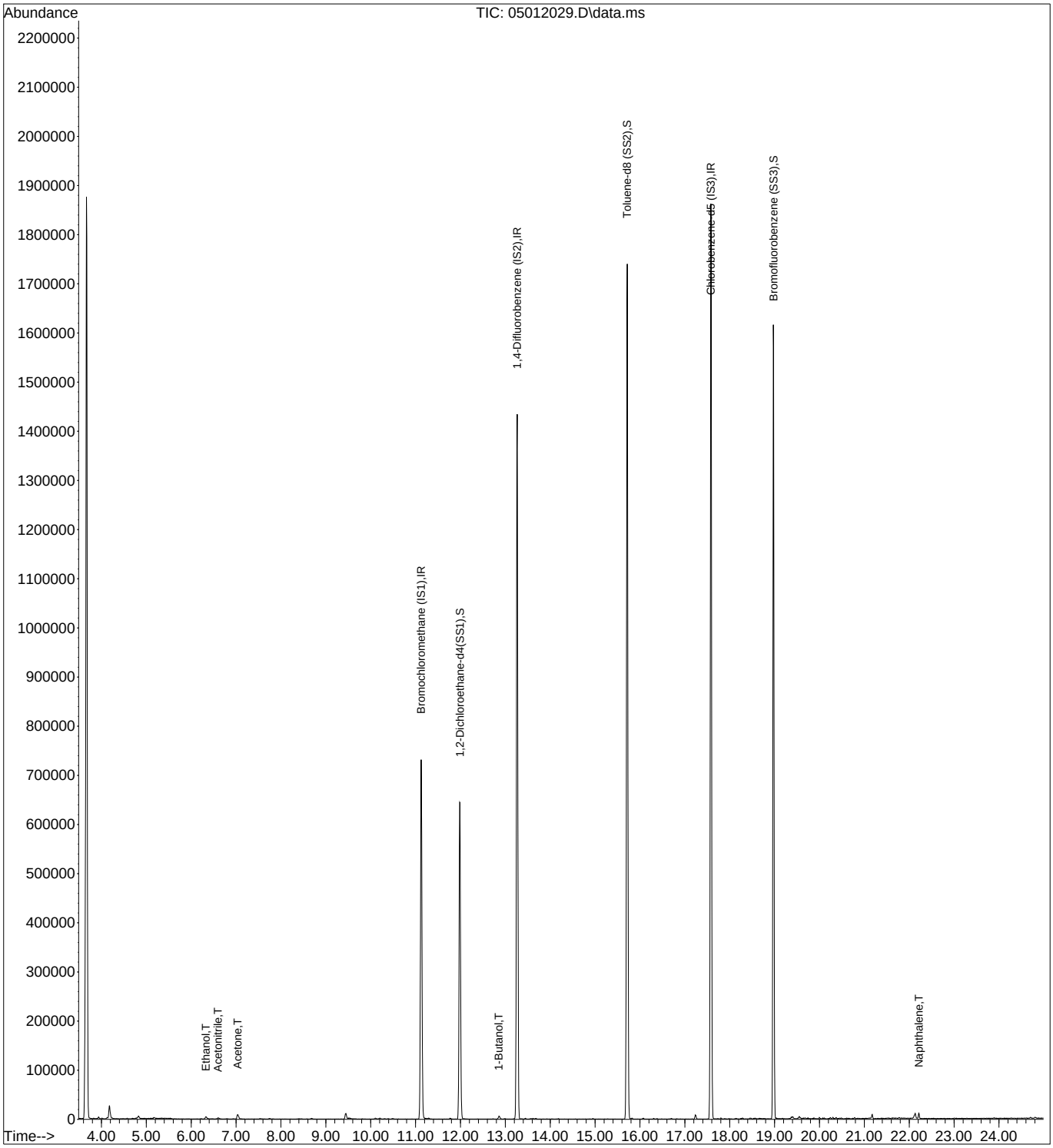
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.82	91	1461	N.D.	
59) 2-Hexanone	16.07	43	1612	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.70	43	1434	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	17.63	112	442	N.D.	
66) Ethylbenzene	17.98	91	996	N.D.	
67) m- & p-Xylenes	18.15	91	1622	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	957	N.D.	
70) o-Xylene	18.57	91	625	N.D.	
71) n-Nonane	18.77	43	318	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.10	105	499	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	19.55	91	2060	N.D.	
77) 3-Ethyltoluene	19.64	105	1078	N.D.	
78) 4-Ethyltoluene	19.68	105	1157	N.D.	
79) 1,3,5-Trimethylbenzene	19.75	105	830	N.D.	
80) alpha-Methylstyrene	19.88	118	321	N.D.	
81) 2-Ethyltoluene	19.91	105	1136	N.D.	
82) 1,2,4-Trimethylbenzene	20.10	105	751	N.D.	
83) n-Decane	20.20	57	133	N.D.	
84) Benzyl Chloride	20.22	91	906	N.D.	
85) 1,3-Dichlorobenzene	20.25	146	1297	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	1515	N.D.	
87) sec-Butylbenzene	20.35	105	370	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	471	N.D.	
89) 1,2,3-Trimethylbenzene	20.49	105	515	N.D.	
90) 1,2-Dichlorobenzene	20.61	146	744	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.30	57	434	N.D.	
94) 1,2,4-Trichlorobenzene	22.11	180	1647	N.D.	
95) Naphthalene	22.22	128	9032	0.061 ng	98
96) n-Dodecane	22.21	57	531	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.28	55	899	N.D.	
99) tert-Butylbenzene	20.10	119	514	N.D.	
100) n-Butylbenzene	20.85	91	1067	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012029.D Vial: 2
Acq On : 1 May 2020 20:54 Operator: LH
Sample : MB R16050120_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: May 02 06:35:05 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022003.D Vial: 2
Acq On : 2 May 2020 10:35 Operator: LH TD 5/2/20
Sample : MB R16050220_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: May 02 11:40:59 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	254210	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1098130	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	529450	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	431599	12.528	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.24%				
57) Toluene-d8 (SS2)	15.72	98	1116511	12.441	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.52%				
73) Bromofluorobenzene (SS3)	18.98	174	382752	11.853	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.80%				
Target Compounds							Qvalue
2) Propene	4.14	42	543	N.D.			
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.32	45	12464	0.548	ng		86
11) Acetonitrile	6.59	41	6437	0.124	ng		85
12) Acrolein	6.80	56	892	N.D.			
13) Acetone	7.03	58	4501	0.198	ng		87
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	7.55	45	2046	N.D.			
16) Acrylonitrile	7.74	53	2067	0.056	ng		100
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	8.40	84	245	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.69	76	1402	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	10.49	72	171	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	11.28	61	104	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	11.77	72	356	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	11.98	62	115	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	12.86	56	3191	0.116	ng	#	68
41) Benzene	12.86	78	1095	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	13.27	84	702	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.04	57	3995	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022003.D Vial: 2
Acq On : 2 May 2020 10:35 Operator: LH
Sample : MB R16050220_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: May 02 11:40:59 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

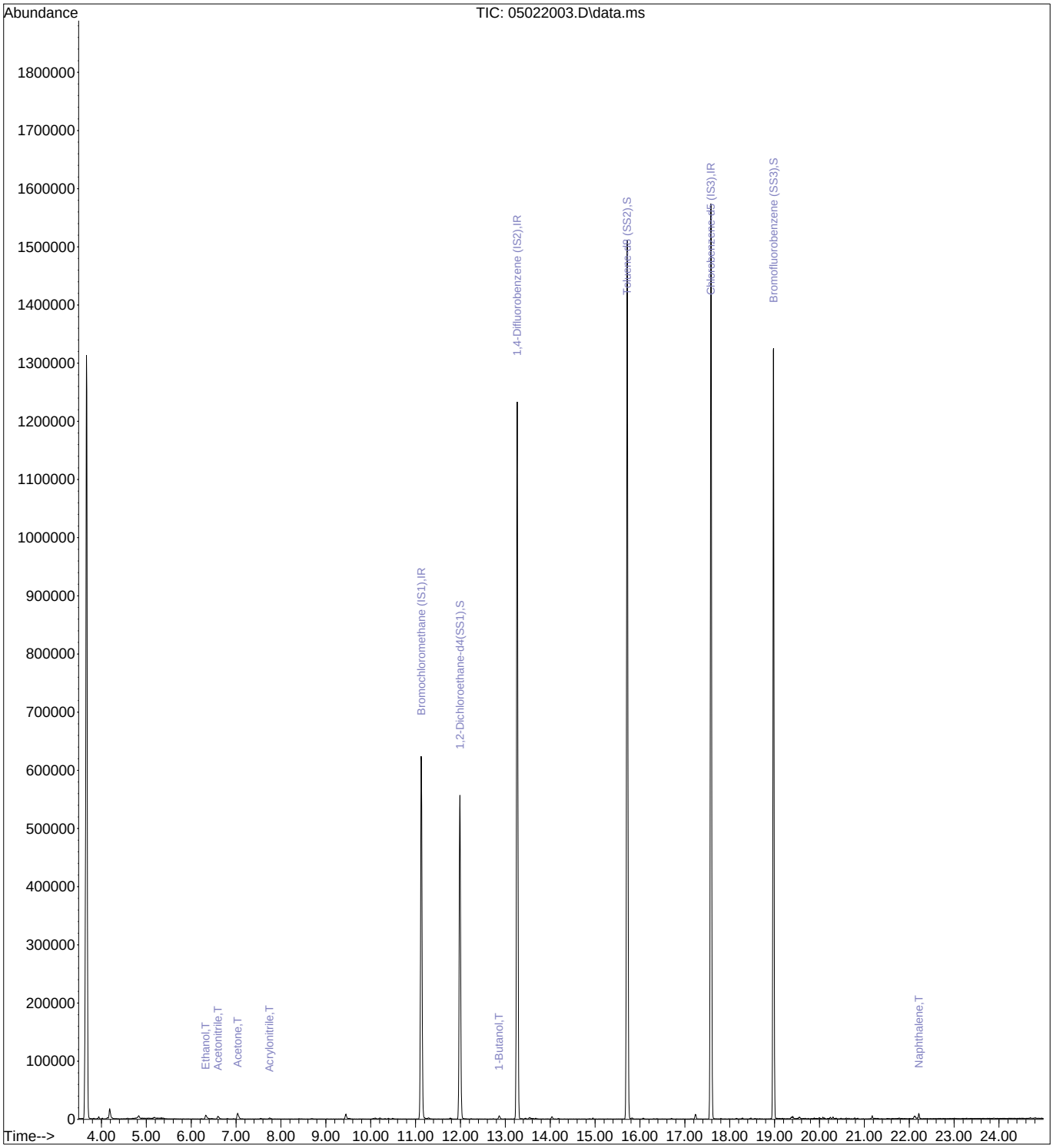
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.82	91	1587	N.D.	
59) 2-Hexanone	16.07	43	1513	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.70	43	1231	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	17.63	112	567	N.D.	
66) Ethylbenzene	17.99	91	781	N.D.	
67) m- & p-Xylenes	18.15	91	1496	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	778	N.D.	
70) o-Xylene	18.57	91	640	N.D.	
71) n-Nonane	0.00	43	0	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.10	105	370	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	19.55	91	1629	N.D.	
77) 3-Ethyltoluene	19.64	105	553	N.D.	
78) 4-Ethyltoluene	19.68	105	640	N.D.	
79) 1,3,5-Trimethylbenzene	19.75	105	373	N.D.	
80) alpha-Methylstyrene	19.88	118	310	N.D.	
81) 2-Ethyltoluene	19.92	105	1450	N.D.	
82) 1,2,4-Trimethylbenzene	20.11	105	1327	N.D.	
83) n-Decane	20.19	57	367	N.D.	
84) Benzyl Chloride	20.22	91	1509	N.D.	
85) 1,3-Dichlorobenzene	20.25	146	1255	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	1635	N.D.	
87) sec-Butylbenzene	20.35	105	878	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	551	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	517	N.D.	
90) 1,2-Dichlorobenzene	20.60	146	842	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.31	57	232	N.D.	
94) 1,2,4-Trichlorobenzene	22.11	180	1439	N.D.	
95) Naphthalene	22.22	128	6845	0.054 ng	98
96) n-Dodecane	22.21	57	343	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.28	55	744	N.D.	
99) tert-Butylbenzene	20.11	119	395	N.D.	
100) n-Butylbenzene	20.86	91	872	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022003.D Vial: 2
Acq On : 2 May 2020 10:35 Operator: LH
Sample : MB R16050220_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: May 02 11:40:59 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



R16050120.M Sat May 02 11:42:18 2020

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042004.D Vial: 2
Acq On : 4 May 2020 7:28 Operator: TD
Sample : MB R16050420_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

TD 5/4/20

Quant Time: May 04 08:04:01 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	248677	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1093796	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	506331	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	424671	12.601	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.80%				
57) Toluene-d8 (SS2)	15.72	98	1092099	12.725	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.84%				
73) Bromofluorobenzene (SS3)	18.98	174	368362	11.928	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.44%				
Target Compounds							Qvalue
2) Propene	4.13	42	414	N.D.			
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.34	45	9384	0.422	ng		89
11) Acetonitrile	6.60	41	4417	0.087	ng	#	46
12) Acrolein	6.80	56	758	N.D.			
13) Acetone	7.04	58	3874	0.174	ng		88
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	7.55	45	1582	N.D.			
16) Acrylonitrile	7.75	53	1667	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.69	76	2336	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	10.50	72	122	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	11.78	72	372	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.00	62	108	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	12.87	56	2377	0.087	ng	#	75
41) Benzene	12.87	78	988	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	13.26	84	682	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042004.D Vial: 2
Acq On : 4 May 2020 7:28 Operator: TD
Sample : MB R16050420_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: May 04 08:04:01 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

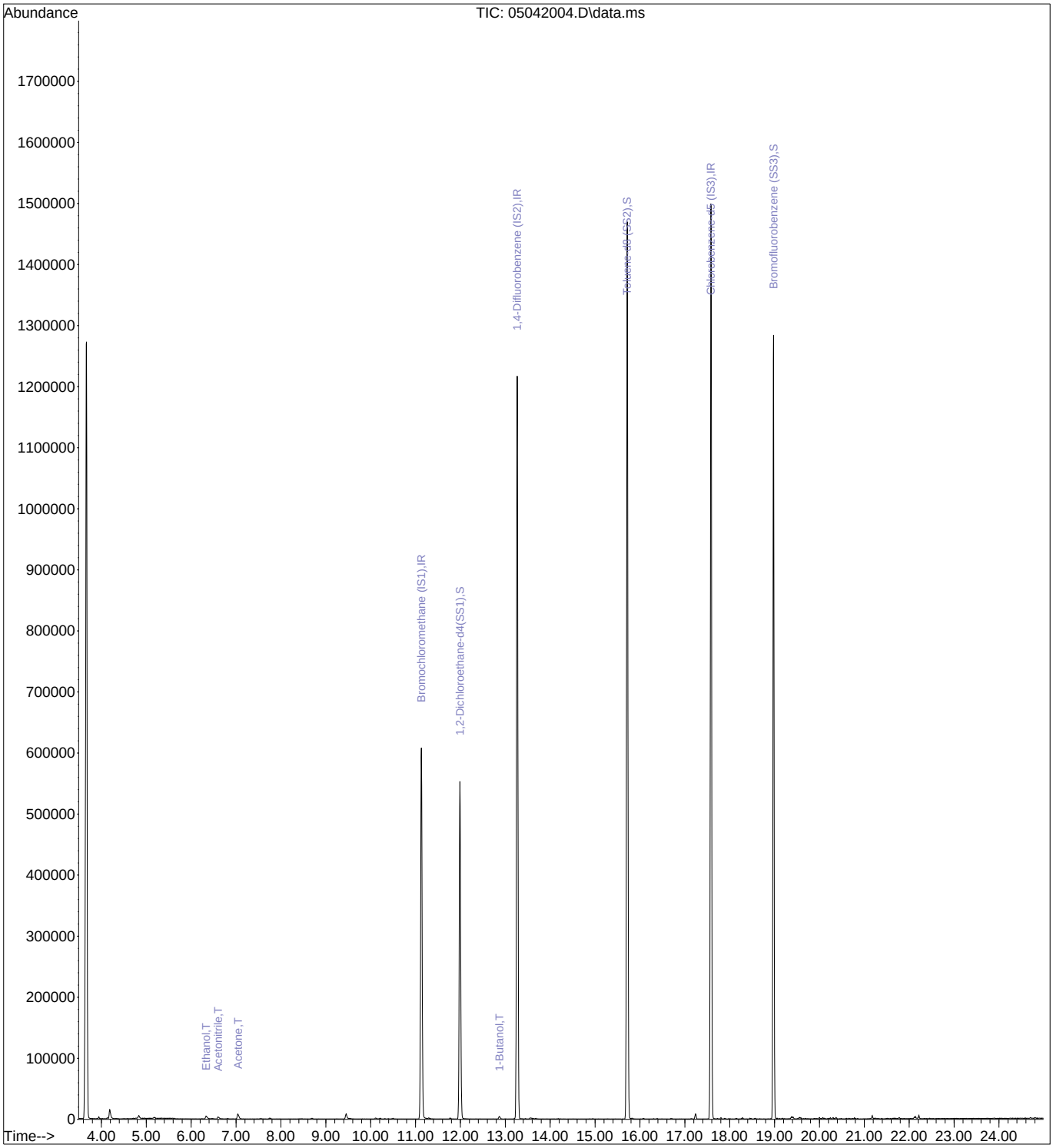
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.82	91	1522	N.D.		
59) 2-Hexanone	16.07	43	1053	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.71	43	838	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	17.62	112	308	N.D.		
66) Ethylbenzene	17.98	91	506	N.D.		
67) m- & p-Xylenes	18.16	91	1275	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	573	N.D.		
70) o-Xylene	18.58	91	593	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.10	105	724	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	19.55	91	687	N.D.		
77) 3-Ethyltoluene	19.64	105	357	N.D.		
78) 4-Ethyltoluene	19.69	105	767	N.D.		
79) 1,3,5-Trimethylbenzene	19.74	105	793	N.D.		
80) alpha-Methylstyrene	19.88	118	118	N.D.		
81) 2-Ethyltoluene	19.91	105	537	N.D.		
82) 1,2,4-Trimethylbenzene	20.12	105	935	N.D.		
83) n-Decane	20.19	57	170	N.D.		
84) Benzyl Chloride	20.23	91	1173	N.D.		
85) 1,3-Dichlorobenzene	20.25	146	829	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	1087	N.D.		
87) sec-Butylbenzene	20.35	105	475	N.D.		
88) 4-Isopropyltoluene (p-...	20.48	119	299	N.D.		
89) 1,2,3-Trimethylbenzene	20.48	105	329	N.D.		
90) 1,2-Dichlorobenzene	20.61	146	485	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.30	57	258	N.D.		
94) 1,2,4-Trichlorobenzene	22.11	180	791	N.D.		
95) Naphthalene	22.22	128	4295	N.D.		
96) n-Dodecane	22.21	57	275	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.28	55	941	N.D.		
99) tert-Butylbenzene	20.10	119	360	N.D.		
100) n-Butylbenzene	20.85	91	563	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042004.D Vial: 2
Acq On : 4 May 2020 7:28 Operator: TD
Sample : MB R16050420_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: May 04 08:04:01 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



R16050120.M Mon May 04 08:04:44 2020 Page: 3

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012030.D Vial: 2
Acq On : 1 May 2020 21:28 Operator: LH
Sample : LCS R16050120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 02 06:35:07 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 5/2/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	296601	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.28	114	1259507	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	605891	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	487587	12.130	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.04%				
57) Toluene-d8 (SS2)	15.72	98	1250187	12.173	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.36%				
73) Bromofluorobenzene (SS3)	18.98	174	488077	13.208	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.68%				
Target Compounds							Qvalue
2) Propene	4.08	42	939412	27.346	ng		100
3) Dichlorodifluoromethan...	4.24	85	1718833	25.582	ng		100
4) Chloromethane	4.52	50	1315858	24.998	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.79	135	951261	23.697	ng		100
6) Vinyl Chloride	4.94	62	1459608	25.287	ng		100
7) 1,3-Butadiene	5.21	54	1231347	25.782	ng		100
8) Bromomethane	5.64	94	751015	24.629	ng		100
9) Chloroethane	5.98	64	576211	25.269	ng		100
10) Ethanol	6.38	45	3322382	125.252	ng		100
11) Acetonitrile	6.62	41	1527404	25.198	ng		100
12) Acrolein	6.79	56	531228	25.346	ng		100
13) Acetone	7.01	58	3456478	130.297	ng		100
14) Trichlorofluoromethane	7.24	101	1488500	25.067	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	4247042	52.896	ng		100
16) Acrylonitrile	7.77	53	1116307	25.742	ng		100
17) 1,1-Dichloroethene	8.19	96	809337	26.000	ng		100
18) 2-Methyl-2-Propanol (t...	8.38	59	4056902	54.199	ng		100
19) Methylene Chloride	8.43	84	855953	24.821	ng		99
20) 3-Chloro-1-propene (Al...	8.58	41	1226126	25.880	ng		100
21) Trichlorotrifluoroethane	8.84	151	747878	26.676	ng		99
22) Carbon Disulfide	8.68	76	3101091	25.097	ng		100
23) trans-1,2-Dichloroethene	9.70	61	1243205	26.229	ng		100
24) 1,1-Dichloroethane	9.95	63	1432025	25.449	ng		100
25) Methyl tert-Butyl Ether	10.05	73	2206557	24.930	ng		100
26) Vinyl Acetate	10.22	86	1146319	138.727	ng		99
27) 2-Butanone (MEK)	10.45	72	582245	25.737	ng		99
28) cis-1,2-Dichloroethene	10.97	61	1183472	25.527	ng		100
29) Diisopropyl Ether	11.27	87	802271	25.069	ng	#	96
30) Ethyl Acetate	11.27	61	749637	57.465	ng		100
31) n-Hexane	11.26	57	1549691	27.389	ng		100
32) Chloroform	11.32	83	1530937	25.931	ng		100
34) Tetrahydrofuran (THF)	11.72	72	569472	25.809	ng		100
35) Ethyl tert-Butyl Ether	11.86	87	1033172	26.715	ng		99
36) 1,2-Dichloroethane	12.12	62	1194430	25.535	ng		100
38) 1,1,1-Trichloroethane	12.40	97	1382984	27.262	ng		100
39) Isopropyl Acetate	12.83	61	1254496	56.535	ng		97
40) 1-Butanol	12.85	56	1976895	62.619	ng		95
41) Benzene	12.88	78	3490549	25.843	ng		100
42) Carbon Tetrachloride	13.04	117	1226043	26.686	ng		100
43) Cyclohexane	13.17	84	2705781	53.758	ng		99
44) tert-Amyl Methyl Ether	13.51	73	2509218	27.704	ng		100
45) 1,2-Dichloropropane	13.73	63	844011	26.981	ng		100
46) Bromodichloromethane	13.92	83	1253214	27.454	ng		100
47) Trichloroethene	13.97	130	930264	26.646	ng		100
48) 1,4-Dioxane	13.95	88	750573	27.591	ng		100
49) 2,2,4-Trimethylpentane...	14.05	57	3481975	26.493	ng		100
50) Methyl Methacrylate	14.18	100	755074	56.350	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012030.D Vial: 2
Acq On : 1 May 2020 21:28 Operator: LH
Sample : LCS R16050120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 02 06:35:07 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

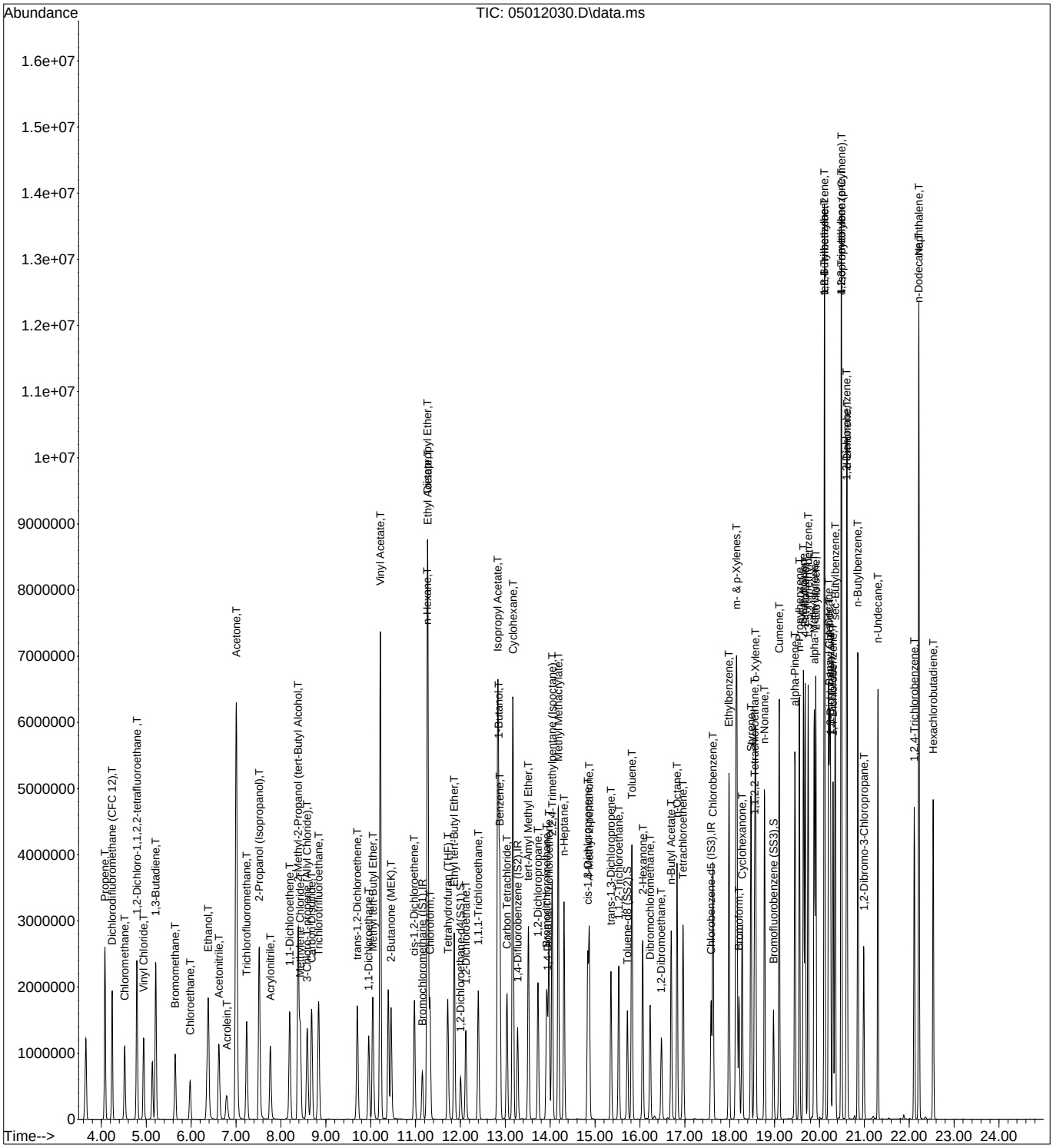
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	834019	26.405	ng	100
52) cis-1,3-Dichloropropene	14.84	75	1525883	28.412	ng	100
53) 4-Methyl-2-pentanone	14.87	58	844436	28.045	ng	100
54) trans-1,3-Dichloropropene	15.35	75	1331675	28.980	ng	100
55) 1,1,2-Trichloroethane	15.53	97	844461	27.222	ng	100
58) Toluene	15.82	91	3432572	25.930	ng	100
59) 2-Hexanone	16.06	43	2072410	28.570	ng	100
60) Dibromochloromethane	16.23	129	1065593	28.111	ng	100
61) 1,2-Dibromoethane	16.48	107	989506	27.160	ng	99
62) n-Butyl Acetate	16.70	43	2319655	29.605	ng	100
63) n-Octane	16.83	57	730755	26.664	ng	100
64) Tetrachloroethene	16.96	166	974372	26.059	ng	100
65) Chlorobenzene	17.62	112	2315220	25.418	ng	100
66) Ethylbenzene	17.98	91	4040750	27.374	ng	100
67) m- & p-Xylenes	18.15	91	6501310	55.517	ng	100
68) Bromoform	18.21	173	924916	28.146	ng	100
69) Styrene	18.48	104	2542972	28.872	ng	100
70) o-Xylene	18.58	91	3244792	27.293	ng	100
71) n-Nonane	18.77	43	1732172	27.461	ng	100
72) 1,1,2,2-Tetrachloroethane	18.55	83	1637075	27.757	ng	100
74) Cumene	19.10	105	4057024	27.807	ng	100
75) alpha-Pinene	19.45	93	2140843	27.500	ng	99
76) n-Propylbenzene	19.56	91	4926669	28.424	ng	100
77) 3-Ethyltoluene	19.64	105	4252777	30.115	ng	100
78) 4-Ethyltoluene	19.68	105	3660032	26.711	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	3354986	28.199	ng	100
80) alpha-Methylstyrene	19.89	118	1828616	27.268	ng	100
81) 2-Ethyltoluene	19.92	105	3960226	28.430	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3692706	30.879	ng	99
83) n-Decane	20.20	57	1835772	27.442	ng	100
84) Benzyl Chloride	20.23	91	3252185	29.178	ng	100
85) 1,3-Dichlorobenzene	20.25	146	2014879	29.016	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1980195	29.222	ng	100
87) sec-Butylbenzene	20.35	105	4431623	28.549	ng	100
88) 4-Isopropyltoluene (p-...	20.49	119	4258710	28.971	ng	100
89) 1,2,3-Trimethylbenzene	20.48	105	3619680	28.922	ng	100
90) 1,2-Dichlorobenzene	20.61	146	1979461	29.773	ng	100
91) d-Limonene	20.62	68	1415952	29.979	ng	100
92) 1,2-Dibromo-3-Chloropr...	20.99	157	690390	27.540	ng	99
93) n-Undecane	21.30	57	1821056	29.412	ng	100
94) 1,2,4-Trichlorobenzene	22.11	180	1390946	30.165	ng	100
95) Naphthalene	22.22	128	4723822	32.367	ng	100
96) n-Dodecane	22.21	57	1769593	33.010	ng	100
97) Hexachlorobutadiene	22.54	225	866819	27.176	ng	100
98) Cyclohexanone	18.28	55	1275140	27.518	ng	99
99) tert-Butylbenzene	20.11	119	3423148	29.083	ng	100
100) n-Butylbenzene	20.85	91	3641457	29.907	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012030.D Vial: 2
Acq On : 1 May 2020 21:28 Operator: LH
Sample : LCS R16050120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 02 06:35:07 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012031.D Vial: 2
Acq On : 1 May 2020 22:02 Operator: LH
Sample : LCSD R16050120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 02 06:35:09 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/2/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	300976	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.27	114	1273351	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	618881	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	494136	12.114	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.88%				
57) Toluene-d8 (SS2)	15.72	98	1276838	12.172	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.36%				
73) Bromofluorobenzene (SS3)	18.98	174	496432	13.152	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.20%				
Target Compounds							Qvalue
2) Propene	4.09	42	966699	27.732	ng		100
3) Dichlorodifluoromethan...	4.25	85	1758069	25.785	ng		100
4) Chloromethane	4.53	50	1350036	25.275	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	967671	23.755	ng		100
6) Vinyl Chloride	4.95	62	1458739	24.905	ng		100
7) 1,3-Butadiene	5.22	54	1245680	25.703	ng		100
8) Bromomethane	5.65	94	771009	24.917	ng		100
9) Chloroethane	5.98	64	594724	25.702	ng		100
10) Ethanol	6.38	45	3399503	126.296	ng		100
11) Acetonitrile	6.62	41	1559039	25.346	ng		100
12) Acrolein	6.80	56	538125	25.302	ng		100
13) Acetone	7.01	58	3527218	131.031	ng		100
14) Trichlorofluoromethane	7.24	101	1539271	25.545	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	4326913	53.108	ng		100
16) Acrylonitrile	7.77	53	1137004	25.838	ng		100
17) 1,1-Dichloroethene	8.20	96	824565	26.104	ng		100
18) 2-Methyl-2-Propanol (t...	8.39	59	4087286	53.811	ng		100
19) Methylene Chloride	8.44	84	872140	24.923	ng		99
20) 3-Chloro-1-propene (Al...	8.59	41	1242408	25.843	ng		100
21) Trichlorotrifluoroethane	8.84	151	756178	26.580	ng		99
22) Carbon Disulfide	8.69	76	3179586	25.358	ng		100
23) trans-1,2-Dichloroethene	9.71	61	1259349	26.183	ng		100
24) 1,1-Dichloroethane	9.96	63	1453110	25.448	ng		100
25) Methyl tert-Butyl Ether	10.05	73	2224898	24.772	ng		100
26) Vinyl Acetate	10.22	86	1153099	137.519	ng		98
27) 2-Butanone (MEK)	10.46	72	587969	25.612	ng		99
28) cis-1,2-Dichloroethene	10.98	61	1199986	25.507	ng		99
29) Diisopropyl Ether	11.27	87	800773	24.658	ng	#	94
30) Ethyl Acetate	11.28	61	755011	57.036	ng		100
31) n-Hexane	11.26	57	1563084	27.224	ng		100
32) Chloroform	11.32	83	1543075	25.756	ng		100
34) Tetrahydrofuran (THF)	11.72	72	576491	25.748	ng		99
35) Ethyl tert-Butyl Ether	11.87	87	1042890	26.575	ng		98
36) 1,2-Dichloroethane	12.12	62	1193512	25.145	ng		100
38) 1,1,1-Trichloroethane	12.40	97	1399256	27.283	ng		100
39) Isopropyl Acetate	12.83	61	1266729	56.466	ng		97
40) 1-Butanol	12.85	56	2016906	63.192	ng		95
41) Benzene	12.88	78	3497085	25.610	ng		100
42) Carbon Tetrachloride	13.04	117	1239567	26.687	ng		100
43) Cyclohexane	13.17	84	2748320	54.010	ng		99
44) tert-Amyl Methyl Ether	13.52	73	2527811	27.606	ng		100
45) 1,2-Dichloropropane	13.73	63	843674	26.677	ng		99
46) Bromodichloromethane	13.92	83	1263895	27.387	ng		100
47) Trichloroethene	13.97	130	933344	26.443	ng		100
48) 1,4-Dioxane	13.95	88	755776	27.480	ng		100
49) 2,2,4-Trimethylpentane...	14.04	57	3522847	26.512	ng		100
50) Methyl Methacrylate	14.18	100	762218	56.265	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012031.D Vial: 2
Acq On : 1 May 2020 22:02 Operator: LH
Sample : LCSD R16050120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 02 06:35:09 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

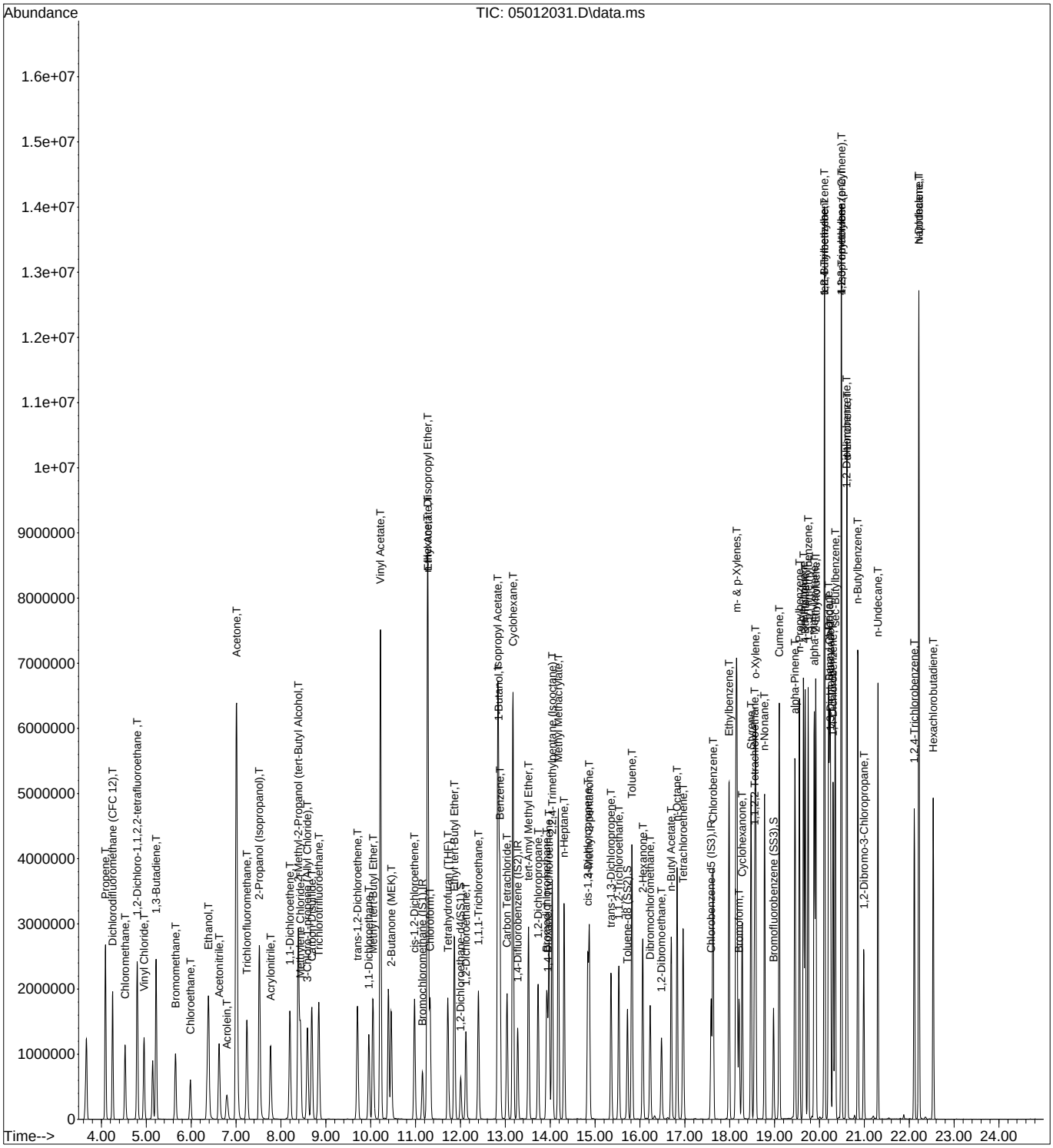
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	835208	26.155	ng	99
52) cis-1,3-Dichloropropene	14.84	75	1549076	28.530	ng	100
53) 4-Methyl-2-pentanone	14.87	58	856799	28.146	ng	100
54) trans-1,3-Dichloropropene	15.35	75	1354603	29.158	ng	100
55) 1,1,2-Trichloroethane	15.53	97	851836	27.161	ng	100
58) Toluene	15.82	91	3461670	25.601	ng	100
59) 2-Hexanone	16.06	43	2091353	28.226	ng	100
60) Dibromochloromethane	16.23	129	1072552	27.701	ng	100
61) 1,2-Dibromoethane	16.48	107	996801	26.786	ng	100
62) n-Butyl Acetate	16.70	43	2336388	29.193	ng	100
63) n-Octane	16.83	57	731939	26.146	ng	100
64) Tetrachloroethene	16.96	166	985905	25.814	ng	100
65) Chlorobenzene	17.63	112	2323263	24.971	ng	100
66) Ethylbenzene	17.99	91	4047704	26.846	ng	100
67) m- & p-Xylenes	18.15	91	6523649	54.539	ng	100
68) Bromoform	18.21	173	929137	27.681	ng	100
69) Styrene	18.48	104	2553748	28.386	ng	100
70) o-Xylene	18.58	91	3259072	26.838	ng	100
71) n-Nonane	18.77	43	1746022	27.099	ng	100
72) 1,1,2,2-Tetrachloroethane	18.55	83	1647049	27.340	ng	100
74) Cumene	19.10	105	4068343	27.299	ng	100
75) alpha-Pinene	19.46	93	2157322	27.130	ng	99
76) n-Propylbenzene	19.55	91	4960994	28.021	ng	100
77) 3-Ethyltoluene	19.64	105	4236020	29.367	ng	100
78) 4-Ethyltoluene	19.68	105	3722612	26.597	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	3393326	27.922	ng	100
80) alpha-Methylstyrene	19.88	118	1844977	26.934	ng	100
81) 2-Ethyltoluene	19.92	105	3999653	28.111	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3716839	30.428	ng	100
83) n-Decane	20.20	57	1858862	27.204	ng	100
84) Benzyl Chloride	20.23	91	3313383	29.103	ng	100
85) 1,3-Dichlorobenzene	20.25	146	2040698	28.771	ng	100
86) 1,4-Dichlorobenzene	20.30	146	2005397	28.972	ng	100
87) sec-Butylbenzene	20.35	105	4462979	28.147	ng	100
88) 4-Isopropyltoluene (p-...	20.49	119	4293144	28.593	ng	100
89) 1,2,3-Trimethylbenzene	20.49	105	3650021	28.552	ng	99
90) 1,2-Dichlorobenzene	20.61	146	2001818	29.477	ng	100
91) d-Limonene	20.62	68	1431452	29.671	ng	100
92) 1,2-Dibromo-3-Chloropr...	20.99	157	696595	27.204	ng	98
93) n-Undecane	21.30	57	1854265	29.320	ng	99
94) 1,2,4-Trichlorobenzene	22.11	180	1414644	30.035	ng	100
95) Naphthalene	22.22	128	4792118	32.146	ng	100
96) n-Dodecane	22.22	57	1806336	32.988	ng	100
97) Hexachlorobutadiene	22.54	225	881588	27.059	ng	100
98) Cyclohexanone	18.28	55	1291795	27.292	ng	99
99) tert-Butylbenzene	20.11	119	3446440	28.667	ng	100
100) n-Butylbenzene	20.85	91	3683687	29.619	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012031.D Vial: 2
Acq On : 1 May 2020 22:02 Operator: LH
Sample : LCSD R16050120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 02 06:35:09 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

TD 5/2/20

Data File : I:\MS16\DATA\2020_05\02\05022004.D Vial: 2
Acq On : 2 May 2020 11:09 Operator: LH
Sample : LCS R16050220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 02 11:41:01 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	276663	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.28	114	1196355	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	545826	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	451959	12.054	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.40%				
57) Toluene-d8 (SS2)	15.72	98	1163217	12.573	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.56%				
73) Bromofluorobenzene (SS3)	18.98	174	438237	13.164	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.28%				
Target Compounds							Qvalue
2) Propene	4.09	42	858889	26.804	ng		100
3) Dichlorodifluoromethan...	4.25	85	1568867	25.032	ng		100
4) Chloromethane	4.53	50	1191488	24.267	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	887579	23.704	ng		100
6) Vinyl Chloride	4.95	62	1342086	24.927	ng		99
7) 1,3-Butadiene	5.22	54	1144025	25.680	ng		100
8) Bromomethane	5.65	94	678339	23.849	ng		99
9) Chloroethane	5.98	64	523372	24.606	ng		100
10) Ethanol	6.38	45	3101025	125.332	ng		100
11) Acetonitrile	6.62	41	1389032	24.566	ng		100
12) Acrolein	6.80	56	484697	24.792	ng		100
13) Acetone	7.01	58	3213921	129.885	ng		99
14) Trichlorofluoromethane	7.24	101	1383582	24.979	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	3998151	53.385	ng		100
16) Acrylonitrile	7.77	53	1032514	25.525	ng		100
17) 1,1-Dichloroethene	8.20	96	756693	26.061	ng		99
18) 2-Methyl-2-Propanol (t...	8.39	59	3870332	55.433	ng		100
19) Methylene Chloride	8.44	84	808726	25.142	ng		100
20) 3-Chloro-1-propene (Al...	8.59	41	1125418	25.467	ng		99
21) Trichlorotrifluoroethane	8.84	151	696435	26.632	ng		100
22) Carbon Disulfide	8.69	76	2942261	25.527	ng		100
23) trans-1,2-Dichloroethene	9.71	61	1138492	25.750	ng		99
24) 1,1-Dichloroethane	9.96	63	1315595	25.065	ng		100
25) Methyl tert-Butyl Ether	10.05	73	2031690	24.609	ng		100
26) Vinyl Acetate	10.22	86	1089611	141.367	ng		99
27) 2-Butanone (MEK)	10.46	72	545094	25.831	ng		99
28) cis-1,2-Dichloroethene	10.98	61	1099412	25.423	ng		100
29) Diisopropyl Ether	11.27	87	749605	25.111	ng	#	95
30) Ethyl Acetate	11.28	61	708107	58.193	ng		99
31) n-Hexane	11.26	57	1442979	27.340	ng		100
32) Chloroform	11.32	83	1443962	26.220	ng		100
34) Tetrahydrofuran (THF)	11.72	72	536954	26.089	ng		99
35) Ethyl tert-Butyl Ether	11.87	87	962676	26.686	ng		100
36) 1,2-Dichloroethane	12.12	62	1109130	25.420	ng		100
38) 1,1,1-Trichloroethane	12.40	97	1282226	26.610	ng		100
39) Isopropyl Acetate	12.83	61	1184047	56.177	ng		98
40) 1-Butanol	12.85	56	1849867	61.689	ng		95
41) Benzene	12.88	78	3259165	25.403	ng		100
42) Carbon Tetrachloride	13.04	117	1139570	26.113	ng		100
43) Cyclohexane	13.17	84	2577763	53.918	ng		99
44) tert-Amyl Methyl Ether	13.52	73	2340624	27.207	ng		100
45) 1,2-Dichloropropane	13.73	63	795510	26.773	ng		100
46) Bromodichloromethane	13.92	83	1183751	27.301	ng		100
47) Trichloroethene	13.97	130	887365	26.759	ng		99
48) 1,4-Dioxane	13.95	88	705977	27.322	ng		99
49) 2,2,4-Trimethylpentane...	14.04	57	3264742	26.151	ng		100
50) Methyl Methacrylate	14.18	100	708072	55.632	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022004.D Vial: 2
Acq On : 2 May 2020 11:09 Operator: LH
Sample : LCS R16050220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 02 11:41:01 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

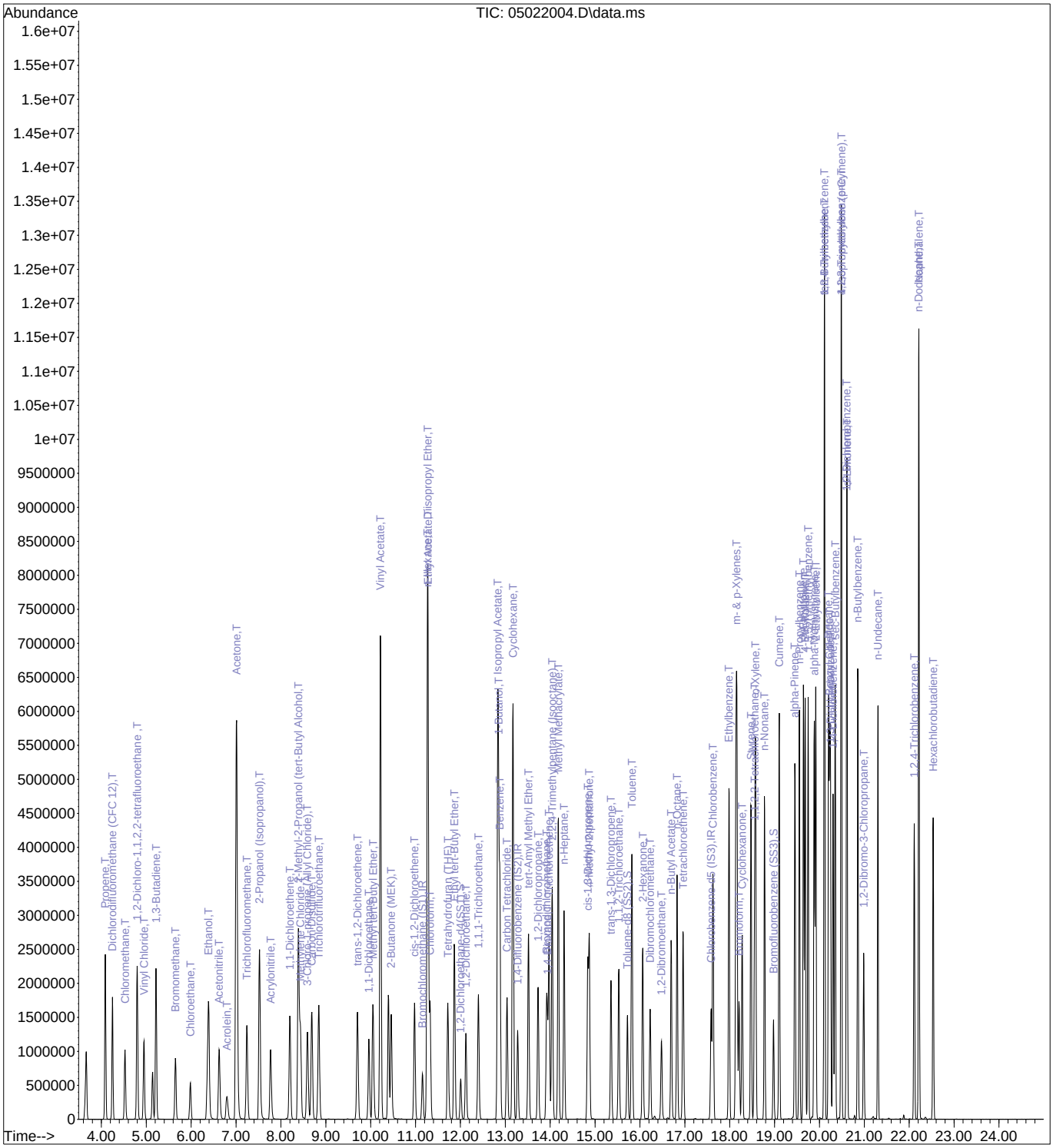
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	771353	25.710	ng	100
52) cis-1,3-Dichloropropene	14.84	75	1435886	28.147	ng	100
53) 4-Methyl-2-pentanone	14.87	58	783078	27.380	ng	100
54) trans-1,3-Dichloropropene	15.35	75	1236486	28.329	ng	100
55) 1,1,2-Trichloroethane	15.53	97	793373	26.925	ng	100
58) Toluene	15.82	91	3218806	26.991	ng	100
59) 2-Hexanone	16.06	43	1911555	29.252	ng	100
60) Dibromochloromethane	16.23	129	997283	29.204	ng	100
61) 1,2-Dibromoethane	16.48	107	924658	28.173	ng	100
62) n-Butyl Acetate	16.70	43	2144247	30.378	ng	100
63) n-Octane	16.83	57	675335	27.353	ng	99
64) Tetrachloroethene	16.96	166	928193	27.555	ng	100
65) Chlorobenzene	17.62	112	2175849	26.516	ng	100
66) Ethylbenzene	17.98	91	3789032	28.493	ng	100
67) m- & p-Xylenes	18.15	91	6109992	57.917	ng	100
68) Bromoform	18.21	173	872531	29.473	ng	100
69) Styrene	18.48	104	2396600	30.204	ng	100
70) o-Xylene	18.58	91	3052009	28.497	ng	100
71) n-Nonane	18.77	43	1601963	28.191	ng	100
72) 1,1,2,2-Tetrachloroethane	18.55	83	1537660	28.940	ng	100
74) Cumene	19.10	105	3815259	29.027	ng	100
75) alpha-Pinene	19.45	93	2003995	28.575	ng	99
76) n-Propylbenzene	19.55	91	4638755	29.708	ng	100
77) 3-Ethyltoluene	19.64	105	4011479	31.532	ng	100
78) 4-Ethyltoluene	19.68	105	3457042	28.006	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	3160200	29.484	ng	100
80) alpha-Methylstyrene	19.88	118	1727569	28.596	ng	100
81) 2-Ethyltoluene	19.92	105	3730355	29.727	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3506873	32.552	ng	99
83) n-Decane	20.20	57	1724058	28.608	ng	99
84) Benzyl Chloride	20.23	91	3034898	30.225	ng	99
85) 1,3-Dichlorobenzene	20.25	146	1927279	30.809	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1885506	30.886	ng	100
87) sec-Butylbenzene	20.35	105	4170142	29.820	ng	100
88) 4-Isopropyltoluene (p-...	20.49	119	4119728	31.110	ng	99
89) 1,2,3-Trimethylbenzene	20.48	105	3441458	30.524	ng	99
90) 1,2-Dichlorobenzene	20.61	146	1906451	31.830	ng	100
91) d-Limonene	20.62	68	1315397	30.915	ng	99
92) 1,2-Dibromo-3-Chloropr...	20.98	157	655524	29.026	ng	99
93) n-Undecane	21.30	57	1689190	30.285	ng	100
94) 1,2,4-Trichlorobenzene	22.11	180	1311571	31.573	ng	100
95) Naphthalene	22.22	128	4463147	33.946	ng	100
96) n-Dodecane	22.21	57	1633693	33.828	ng	100
97) Hexachlorobutadiene	22.54	225	811024	28.225	ng	100
98) Cyclohexanone	18.28	55	1174583	28.137	ng	100
99) tert-Butylbenzene	20.11	119	3288057	31.010	ng	100
100) n-Butylbenzene	20.85	91	3413629	31.122	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022004.D Vial: 2
Acq On : 2 May 2020 11:09 Operator: LH
Sample : LCS R16050220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 02 11:41:01 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



R16050120.M Sat May 02 11:42:28 2020 Page: 3

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022005.D Vial: 2
Acq On : 2 May 2020 11:42 Operator: LH
Sample : LCSD R16050220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

TD 5/2/20

Quant Time: May 02 12:46:48 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	287490	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.28	114	1234650	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	564556	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	464947	11.934	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.44%				
57) Toluene-d8 (SS2)	15.72	98	1197733	12.517	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.16%				
73) Bromofluorobenzene (SS3)	18.98	174	453537	13.172	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.36%				
Target Compounds							Qvalue
2) Propene	4.09	42	891774	26.782	ng		100
3) Dichlorodifluoromethan...	4.25	85	1656177	25.430	ng		100
4) Chloromethane	4.53	50	1276593	25.021	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	923665	23.739	ng		100
6) Vinyl Chloride	4.95	62	1396979	24.969	ng		100
7) 1,3-Butadiene	5.22	54	1158264	25.020	ng		100
8) Bromomethane	5.65	94	719782	24.353	ng		100
9) Chloroethane	5.98	64	553806	25.056	ng		100
10) Ethanol	6.39	45	3198772	124.414	ng		100
11) Acetonitrile	6.63	41	1444692	24.588	ng		100
12) Acrolein	6.80	56	499476	24.586	ng		100
13) Acetone	7.01	58	3307156	128.619	ng		100
14) Trichlorofluoromethane	7.24	101	1441446	25.044	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	4051816	52.064	ng		100
16) Acrylonitrile	7.77	53	1060892	25.239	ng		100
17) 1,1-Dichloroethene	8.20	96	783167	25.957	ng		99
18) 2-Methyl-2-Propanol (t...	8.39	59	3937022	54.264	ng		100
19) Methylene Chloride	8.44	84	825495	24.697	ng		100
20) 3-Chloro-1-propene (Al...	8.59	41	1151420	25.074	ng		99
21) Trichlorotrifluoroethane	8.84	151	725886	26.712	ng		98
22) Carbon Disulfide	8.69	76	2994397	25.001	ng		100
23) trans-1,2-Dichloroethene	9.71	61	1183546	25.761	ng		99
24) 1,1-Dichloroethane	9.96	63	1369317	25.106	ng		100
25) Methyl tert-Butyl Ether	10.05	73	2091714	24.382	ng		100
26) Vinyl Acetate	10.22	86	1114673	139.173	ng		99
27) 2-Butanone (MEK)	10.46	72	555007	25.310	ng		100
28) cis-1,2-Dichloroethene	10.98	61	1123827	25.008	ng		100
29) Diisopropyl Ether	11.27	87	759672	24.490	ng	#	93
30) Ethyl Acetate	11.28	61	722796	57.164	ng		99
31) n-Hexane	11.26	57	1481325	27.010	ng		100
32) Chloroform	11.32	83	1463008	25.565	ng		100
34) Tetrahydrofuran (THF)	11.72	72	543922	25.433	ng		99
35) Ethyl tert-Butyl Ether	11.87	87	984753	26.270	ng		100
36) 1,2-Dichloroethane	12.12	62	1135226	25.039	ng		100
38) 1,1,1-Trichloroethane	12.40	97	1314702	26.438	ng		100
39) Isopropyl Acetate	12.83	61	1208529	55.560	ng		98
40) 1-Butanol	12.85	56	1908112	61.657	ng		95
41) Benzene	12.88	78	3335015	25.188	ng		100
42) Carbon Tetrachloride	13.04	117	1164582	25.859	ng		100
43) Cyclohexane	13.17	84	2631944	53.344	ng		99
44) tert-Amyl Methyl Ether	13.52	73	2402606	27.061	ng		100
45) 1,2-Dichloropropane	13.73	63	807847	26.345	ng		99
46) Bromodichloromethane	13.92	83	1198421	26.782	ng		100
47) Trichloroethene	13.97	130	911882	26.645	ng		99
48) 1,4-Dioxane	13.95	88	716871	26.883	ng		99
49) 2,2,4-Trimethylpentane...	14.04	57	3332201	25.863	ng		100
50) Methyl Methacrylate	14.18	100	723023	55.045	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022005.D Vial: 2
Acq On : 2 May 2020 11:42 Operator: LH
Sample : LCSD R16050220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 02 12:46:48 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

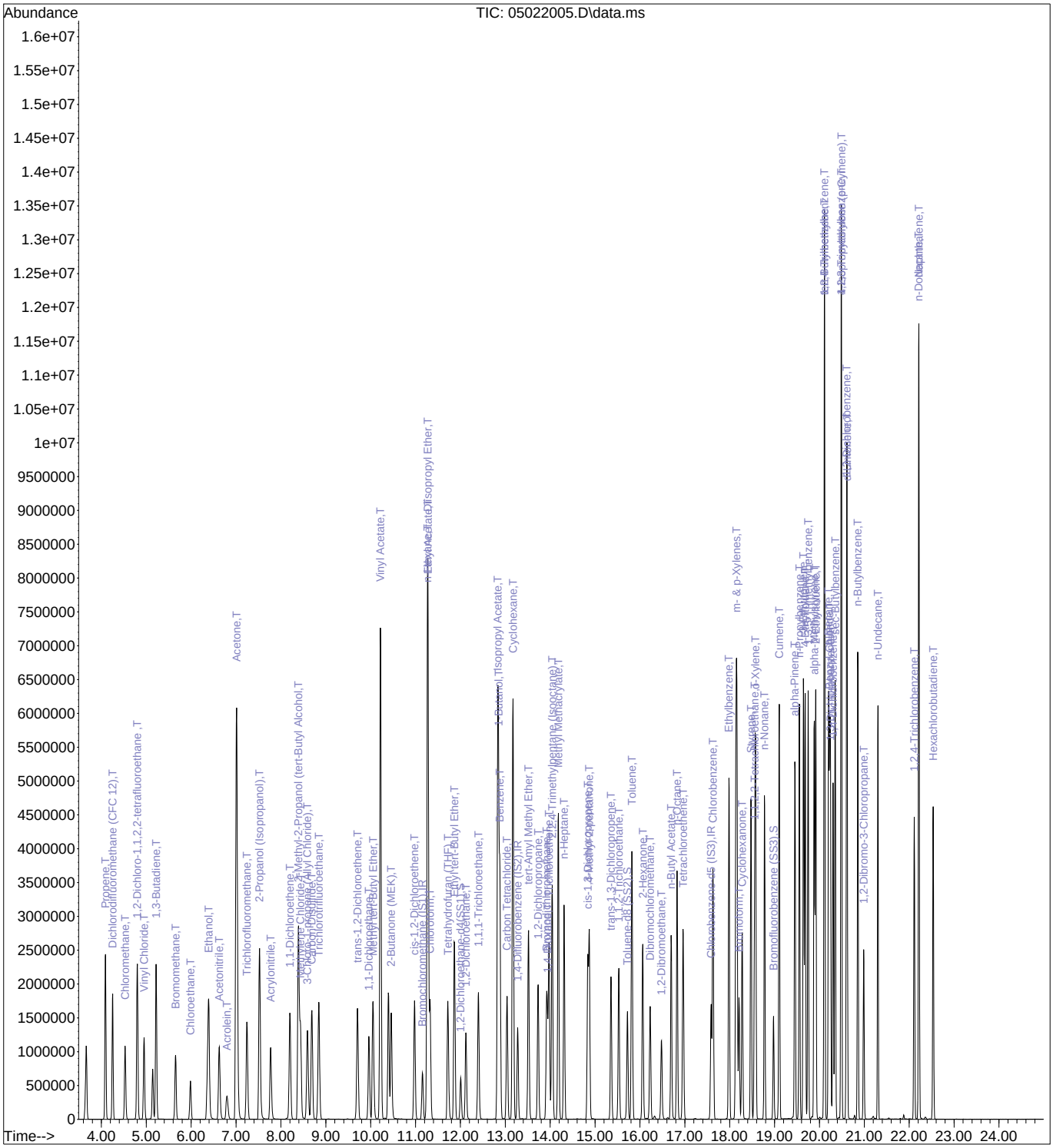
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	794517	25.661	ng	100
52) cis-1,3-Dichloropropene	14.84	75	1468694	27.898	ng	100
53) 4-Methyl-2-pentanone	14.87	58	805469	27.290	ng	100
54) trans-1,3-Dichloropropene	15.35	75	1264872	28.080	ng	100
55) 1,1,2-Trichloroethane	15.53	97	801641	26.362	ng	100
58) Toluene	15.82	91	3275386	26.554	ng	100
59) 2-Hexanone	16.06	43	1974351	29.211	ng	100
60) Dibromochloromethane	16.23	129	1017759	28.815	ng	100
61) 1,2-Dibromoethane	16.48	107	940438	27.703	ng	100
62) n-Butyl Acetate	16.70	43	2205334	30.207	ng	100
63) n-Octane	16.83	57	689897	27.016	ng	100
64) Tetrachloroethene	16.96	166	944706	27.115	ng	100
65) Chlorobenzene	17.62	112	2215874	26.108	ng	100
66) Ethylbenzene	17.98	91	3877493	28.191	ng	100
67) m- & p-Xylenes	18.15	91	6258755	57.359	ng	100
68) Bromoform	18.21	173	889647	29.055	ng	100
69) Styrene	18.48	104	2442891	29.766	ng	100
70) o-Xylene	18.58	91	3119183	28.158	ng	100
71) n-Nonane	18.77	43	1646348	28.011	ng	100
72) 1,1,2,2-Tetrachloroethane	18.55	83	1567120	28.516	ng	100
74) Cumene	19.10	105	3886772	28.590	ng	100
75) alpha-Pinene	19.45	93	2057892	28.370	ng	99
76) n-Propylbenzene	19.55	91	4729093	29.282	ng	100
77) 3-Ethyltoluene	19.64	105	4110041	31.235	ng	100
78) 4-Ethyltoluene	19.68	105	3512467	27.511	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	3223723	29.079	ng	100
80) alpha-Methylstyrene	19.88	118	1763812	28.227	ng	99
81) 2-Ethyltoluene	19.92	105	3818925	29.423	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3576615	32.098	ng	100
83) n-Decane	20.20	57	1753608	28.133	ng	100
84) Benzyl Chloride	20.23	91	3122947	30.070	ng	100
85) 1,3-Dichlorobenzene	20.25	146	1971590	30.472	ng	99
86) 1,4-Dichlorobenzene	20.30	146	1921653	30.434	ng	100
87) sec-Butylbenzene	20.35	105	4259382	29.448	ng	100
88) 4-Isopropyltoluene (p-...	20.49	119	4160261	30.374	ng	100
89) 1,2,3-Trimethylbenzene	20.48	105	3500926	30.021	ng	100
90) 1,2-Dichlorobenzene	20.61	146	1940826	31.329	ng	100
91) d-Limonene	20.62	68	1353164	30.748	ng	100
92) 1,2-Dibromo-3-Chloropr...	20.98	157	666246	28.522	ng	99
93) n-Undecane	21.30	57	1731040	30.005	ng	100
94) 1,2,4-Trichlorobenzene	22.11	180	1338048	31.142	ng	100
95) Naphthalene	22.22	128	4556452	33.506	ng	100
96) n-Dodecane	22.21	57	1671391	33.461	ng	100
97) Hexachlorobutadiene	22.54	225	835956	28.127	ng	100
98) Cyclohexanone	18.28	55	1206107	27.934	ng	100
99) tert-Butylbenzene	20.11	119	3332985	30.391	ng	100
100) n-Butylbenzene	20.85	91	3496803	30.822	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022005.D Vial: 2
Acq On : 2 May 2020 11:42 Operator: LH
Sample : LCSD R16050220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 02 12:46:48 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042005.D Vial: 2
Acq On : 4 May 2020 8:01 Operator: TD
Sample : LCS R16050420_25ng Inst : GCMS-16 TD 5/4/20
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 04 08:27:09 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	275674	12.500	ng	-0.01
37) 1,4-Difluorobenzene (IS2)	13.28	114	1187682	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	541004	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.00	65	444296	11.892	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.12%			
57) Toluene-d8 (SS2)	15.72	98	1156521	12.612	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.88%			
73) Bromofluorobenzene (SS3)	18.98	174	437715	13.266	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.16%			
Target Compounds						Qvalue
2) Propene	4.09	42	844211	26.440	ng	99
3) Dichlorodifluoromethan...	4.25	85	1539237	24.648	ng	100
4) Chloromethane	4.53	50	1157994	23.669	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	881043	23.614	ng	100
6) Vinyl Chloride	4.95	62	1311807	24.452	ng	100
7) 1,3-Butadiene	5.22	54	1123461	25.309	ng	100
8) Bromomethane	5.65	94	671167	23.682	ng	99
9) Chloroethane	5.98	64	518743	24.476	ng	100
10) Ethanol	6.39	45	3019356	122.469	ng	100
11) Acetonitrile	6.63	41	1354183	24.036	ng	100
12) Acrolein	6.80	56	468121	24.030	ng	100
13) Acetone	7.01	58	3137806	127.263	ng	99
14) Trichlorofluoromethane	7.24	101	1371139	24.844	ng	100
15) 2-Propanol (Isopropanol)	7.52	45	3856360	51.676	ng	100
16) Acrylonitrile	7.77	53	1001913	24.857	ng	100
17) 1,1-Dichloroethene	8.20	96	749064	25.891	ng	99
18) 2-Methyl-2-Propanol (t...	8.39	59	3614819	51.959	ng	100
19) Methylene Chloride	8.44	84	786421	24.536	ng	100
20) 3-Chloro-1-propene (Al...	8.59	41	1094984	24.867	ng	99
21) Trichlorotrifluoroethane	8.84	151	685400	26.304	ng	100
22) Carbon Disulfide	8.69	76	2915757	25.388	ng	100
23) trans-1,2-Dichloroethene	9.71	61	1104089	25.062	ng	99
24) 1,1-Dichloroethane	9.96	63	1282571	24.523	ng	100
25) Methyl tert-Butyl Ether	10.05	73	1979037	24.057	ng	100
26) Vinyl Acetate	10.22	86	1057109	137.643	ng	99
27) 2-Butanone (MEK)	10.46	72	528322	25.126	ng	99
28) cis-1,2-Dichloroethene	10.98	61	1074301	24.931	ng	99
29) Diisopropyl Ether	11.27	87	756149	25.421	ng	99
30) Ethyl Acetate	11.28	61	693355	57.186	ng	99
31) n-Hexane	11.26	57	1423857	27.075	ng	100
32) Chloroform	11.32	83	1395108	25.424	ng	100
34) Tetrahydrofuran (THF)	11.72	72	520582	25.385	ng	99
35) Ethyl tert-Butyl Ether	11.87	87	934912	26.010	ng	100
36) 1,2-Dichloroethane	12.12	62	1073338	24.688	ng	100
38) 1,1,1-Trichloroethane	12.40	97	1254618	26.227	ng	100
39) Isopropyl Acetate	12.83	61	1162099	55.538	ng	96
40) 1-Butanol	12.85	56	1818896	61.099	ng	96
41) Benzene	12.88	78	3192052	25.062	ng	100
42) Carbon Tetrachloride	13.04	117	1114206	25.718	ng	99
43) Cyclohexane	13.17	84	2516308	53.017	ng	99
44) tert-Amyl Methyl Ether	13.52	73	2277617	26.668	ng	100
45) 1,2-Dichloropropane	13.73	63	775121	26.277	ng	99
46) Bromodichloromethane	13.92	83	1158131	26.906	ng	100
47) Trichloroethene	13.97	130	872350	26.498	ng	100
48) 1,4-Dioxane	13.95	88	694924	27.090	ng	99
49) 2,2,4-Trimethylpentane...	14.05	57	3200847	25.826	ng	100
50) Methyl Methacrylate	14.18	100	699618	55.369	ng	99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042005.D Vial: 2
Acq On : 4 May 2020 8:01 Operator: TD
Sample : LCS R16050420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 04 08:27:09 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

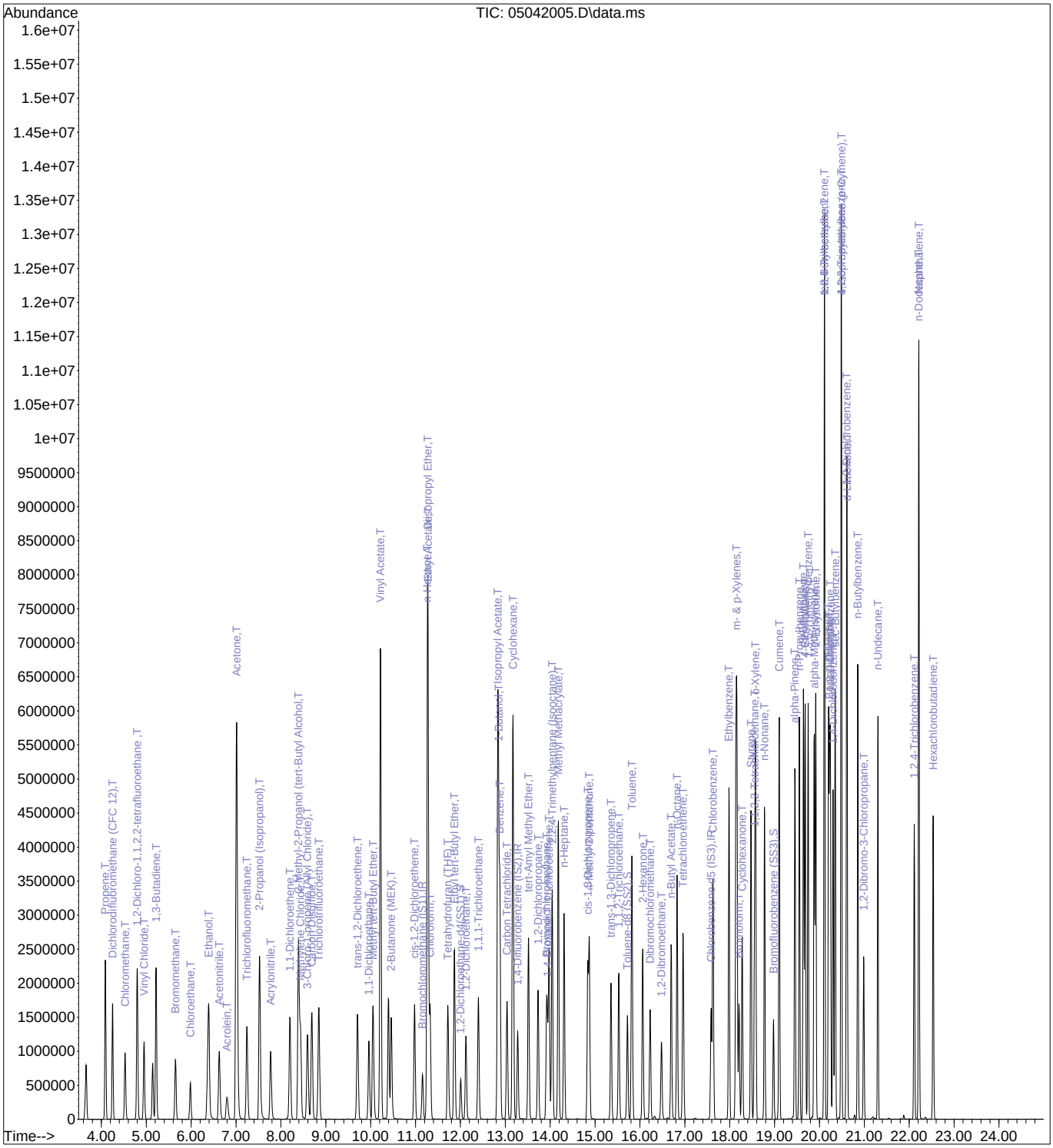
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	760222	25.524	ng	100
52) cis-1,3-Dichloropropene	14.84	75	1402975	27.703	ng	100
53) 4-Methyl-2-pentanone	14.87	58	767802	27.042	ng	99
54) trans-1,3-Dichloropropene	15.35	75	1202539	27.752	ng	100
55) 1,1,2-Trichloroethane	15.53	97	776501	26.545	ng	100
58) Toluene	15.82	91	3166655	26.790	ng	100
59) 2-Hexanone	16.06	43	1880762	29.038	ng	100
60) Dibromochloromethane	16.23	129	981794	29.007	ng	100
61) 1,2-Dibromoethane	16.48	107	904047	27.791	ng	100
62) n-Butyl Acetate	16.70	43	2101979	30.045	ng	100
63) n-Octane	16.83	57	670459	27.398	ng	100
64) Tetrachloroethene	16.96	166	919295	27.534	ng	100
65) Chlorobenzene	17.62	112	2140593	26.319	ng	100
66) Ethylbenzene	17.98	91	3736067	28.346	ng	100
67) m- & p-Xylenes	18.15	91	6034688	57.713	ng	100
68) Bromoform	18.21	173	859167	29.281	ng	100
69) Styrene	18.48	104	2348017	29.856	ng	100
70) o-Xylene	18.58	91	3006260	28.320	ng	100
71) n-Nonane	18.77	43	1580675	28.064	ng	100
72) 1,1,2,2-Tetrachloroethane	18.55	83	1516385	28.794	ng	100
74) Cumene	19.10	105	3776444	28.988	ng	100
75) alpha-Pinene	19.45	93	1967863	28.310	ng	100
76) n-Propylbenzene	19.56	91	4569631	29.526	ng	100
77) 3-Ethyltoluene	19.64	105	3969992	31.484	ng	100
78) 4-Ethyltoluene	19.68	105	3402201	27.807	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	3118776	29.357	ng	100
80) alpha-Methylstyrene	19.89	118	1689342	28.212	ng	99
81) 2-Ethyltoluene	19.92	105	3701684	29.762	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3490190	32.686	ng	100
83) n-Decane	20.20	57	1686365	28.232	ng	99
84) Benzyl Chloride	20.23	91	2978786	29.930	ng	100
85) 1,3-Dichlorobenzene	20.24	146	1912726	30.849	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1865485	30.831	ng	100
87) sec-Butylbenzene	20.35	105	4153203	29.964	ng	100
88) 4-Isopropyltoluene (p-...	20.49	119	4089594	31.158	ng	100
89) 1,2,3-Trimethylbenzene	20.48	105	3420194	30.605	ng	99
90) 1,2-Dichlorobenzene	20.61	146	1899804	32.002	ng	100
91) d-Limonene	20.62	68	1304675	30.936	ng	99
92) 1,2-Dibromo-3-Chloropr...	20.98	157	646475	28.881	ng	98
93) n-Undecane	21.30	57	1670647	30.219	ng	100
94) 1,2,4-Trichlorobenzene	22.11	180	1291705	31.372	ng	100
95) Naphthalene	22.22	128	4413055	33.864	ng	100
96) n-Dodecane	22.21	57	1618209	33.806	ng	100
97) Hexachlorobutadiene	22.54	225	807870	28.366	ng	100
98) Cyclohexanone	18.28	55	1146700	27.714	ng	100
99) tert-Butylbenzene	20.11	119	3258614	31.006	ng	100
100) n-Butylbenzene	20.85	91	3396052	31.237	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042005.D Vial: 2
Acq On : 4 May 2020 8:01 Operator: TD
Sample : LCS R16050420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 04 08:27:09 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042006.D Vial: 2
Acq On : 4 May 2020 8:35 Operator: TD
Sample : LCSD R16050420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

TD 5/4/20

Quant Time: May 04 11:29:25 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	282890	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	13.28	114	1215518	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	556100	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.01	65	454377	11.852	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.80%			
57) Toluene-d8 (SS2)	15.72	98	1177873	12.496	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.00%			
73) Bromofluorobenzene (SS3)	18.98	174	450444	13.281	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.24%			
Target Compounds						Qvalue
2) Propene	4.09	42	870370	26.564	ng	100
3) Dichlorodifluoromethan...	4.25	85	1611151	25.141	ng	100
4) Chloromethane	4.53	50	1239443	24.688	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	932429	24.354	ng	100
6) Vinyl Chloride	4.96	62	1381309	25.090	ng	99
7) 1,3-Butadiene	5.22	54	1155360	25.363	ng	100
8) Bromomethane	5.66	94	727723	25.022	ng	99
9) Chloroethane	5.99	64	548411	25.216	ng	100
10) Ethanol	6.40	45	3125741	123.550	ng	100
11) Acetonitrile	6.63	41	1417230	24.513	ng	100
12) Acrolein	6.80	56	484087	24.216	ng	99
13) Acetone	7.02	58	3266107	129.088	ng	99
14) Trichlorofluoromethane	7.25	101	1418288	25.042	ng	100
15) 2-Propanol (Isopropanol)	7.53	45	3964657	51.772	ng	100
16) Acrylonitrile	7.78	53	1043240	25.223	ng	100
17) 1,1-Dichloroethene	8.21	96	765349	25.779	ng	98
18) 2-Methyl-2-Propanol (t...	8.40	59	3753063	52.570	ng	100
19) Methylene Chloride	8.44	84	811836	24.683	ng	99
20) 3-Chloro-1-propene (Al...	8.60	41	1123846	24.871	ng	99
21) Trichlorotrifluoroethane	8.85	151	707348	26.454	ng	98
22) Carbon Disulfide	8.69	76	2937739	24.927	ng	100
23) trans-1,2-Dichloroethene	9.71	61	1158112	25.618	ng	99
24) 1,1-Dichloroethane	9.96	63	1345671	25.074	ng	100
25) Methyl tert-Butyl Ether	10.05	73	2053058	24.320	ng	100
26) Vinyl Acetate	10.22	86	1096434	139.121	ng	100
27) 2-Butanone (MEK)	10.46	72	546288	25.318	ng	99
28) cis-1,2-Dichloroethene	10.98	61	1107654	25.049	ng	99
29) Diisopropyl Ether	11.27	87	765781	25.088	ng	98
30) Ethyl Acetate	11.28	61	707797	56.888	ng	99
31) n-Hexane	11.26	57	1462308	27.097	ng	100
32) Chloroform	11.33	83	1435673	25.496	ng	100
34) Tetrahydrofuran (THF)	11.72	72	534078	25.378	ng	100
35) Ethyl tert-Butyl Ether	11.87	87	971358	26.334	ng	99
36) 1,2-Dichloroethane	12.13	62	1101385	24.687	ng	100
38) 1,1,1-Trichloroethane	12.40	97	1293378	26.418	ng	100
39) Isopropyl Acetate	12.84	61	1188952	55.520	ng	97
40) 1-Butanol	12.85	56	1870002	61.377	ng	95
41) Benzene	12.88	78	3287135	25.217	ng	100
42) Carbon Tetrachloride	13.04	117	1143544	25.791	ng	100
43) Cyclohexane	13.17	84	2598950	53.504	ng	100
44) tert-Amyl Methyl Ether	13.52	73	2345209	26.830	ng	100
45) 1,2-Dichloropropane	13.73	63	790506	26.185	ng	99
46) Bromodichloromethane	13.92	83	1174478	26.660	ng	100
47) Trichloroethene	13.97	130	890417	26.427	ng	100
48) 1,4-Dioxane	13.95	88	708037	26.970	ng	99
49) 2,2,4-Trimethylpentane...	14.04	57	3290012	25.938	ng	99
50) Methyl Methacrylate	14.18	100	712340	55.085	ng	100

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042006.D Vial: 2
Acq On : 4 May 2020 8:35 Operator: TD
Sample : LCSD R16050420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 04 11:29:25 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

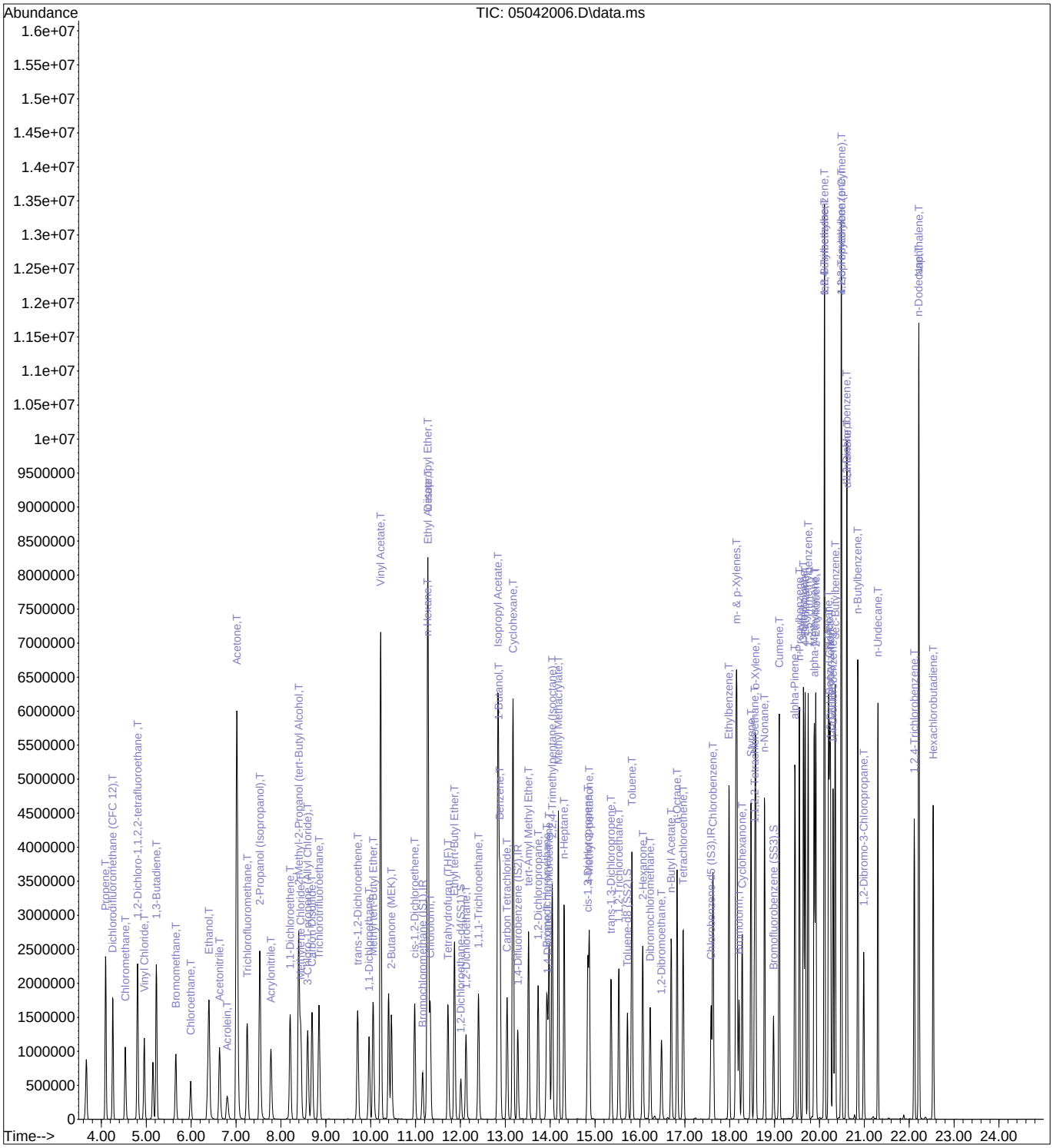
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	788816	25.877	ng	100
52) cis-1,3-Dichloropropene	14.84	75	1439279	27.769	ng	100
53) 4-Methyl-2-pentanone	14.87	58	791244	27.230	ng	100
54) trans-1,3-Dichloropropene	15.35	75	1248856	28.161	ng	100
55) 1,1,2-Trichloroethane	15.53	97	797589	26.642	ng	100
58) Toluene	15.82	91	3228428	26.571	ng	100
59) 2-Hexanone	16.06	43	1930154	28.991	ng	100
60) Dibromochloromethane	16.23	129	1003616	28.847	ng	100
61) 1,2-Dibromoethane	16.48	107	932609	27.890	ng	100
62) n-Butyl Acetate	16.70	43	2167342	30.138	ng	100
63) n-Octane	16.83	57	684322	27.205	ng	100
64) Tetrachloroethene	16.96	166	939493	27.376	ng	100
65) Chlorobenzene	17.62	112	2180743	26.085	ng	100
66) Ethylbenzene	17.98	91	3809517	28.118	ng	100
67) m- & p-Xylenes	18.15	91	6156341	57.278	ng	100
68) Bromoform	18.21	173	877382	29.090	ng	100
69) Styrene	18.48	104	2406125	29.764	ng	100
70) o-Xylene	18.58	91	3073954	28.171	ng	100
71) n-Nonane	18.77	43	1624574	28.061	ng	100
72) 1,1,2,2-Tetrachloroethane	18.55	83	1547880	28.594	ng	100
74) Cumene	19.10	105	3841884	28.690	ng	100
75) alpha-Pinene	19.45	93	2022057	28.299	ng	99
76) n-Propylbenzene	19.56	91	4660267	29.294	ng	100
77) 3-Ethyltoluene	19.64	105	4011158	30.947	ng	100
78) 4-Ethyltoluene	19.68	105	3495647	27.795	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	3178650	29.109	ng	100
80) alpha-Methylstyrene	19.88	118	1730166	28.110	ng	100
81) 2-Ethyltoluene	19.92	105	3766074	29.457	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3545503	32.303	ng	100
83) n-Decane	20.20	57	1727418	28.134	ng	100
84) Benzyl Chloride	20.23	91	3054544	29.858	ng	100
85) 1,3-Dichlorobenzene	20.25	146	1943335	30.492	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1895717	30.480	ng	100
87) sec-Butylbenzene	20.35	105	4211672	29.561	ng	100
88) 4-Isopropyltoluene (p-...	20.49	119	4112375	30.481	ng	100
89) 1,2,3-Trimethylbenzene	20.48	105	3462654	30.144	ng	99
90) 1,2-Dichlorobenzene	20.61	146	1917677	31.426	ng	100
91) d-Limonene	20.62	68	1327339	30.619	ng	100
92) 1,2-Dibromo-3-Chloropr...	20.98	157	657300	28.567	ng	99
93) n-Undecane	21.30	57	1710891	30.107	ng	100
94) 1,2,4-Trichlorobenzene	22.11	180	1320433	31.199	ng	100
95) Naphthalene	22.22	128	4487400	33.500	ng	100
96) n-Dodecane	22.21	57	1650288	33.541	ng	100
97) Hexachlorobutadiene	22.54	225	829253	28.326	ng	100
98) Cyclohexanone	18.28	55	1181052	27.770	ng	100
99) tert-Butylbenzene	20.11	119	3305979	30.603	ng	100
100) n-Butylbenzene	20.85	91	3457915	30.943	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042006.D Vial: 2
Acq On : 4 May 2020 8:35 Operator: TD
Sample : LCSD R16050420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 04 11:29:25 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Response Factor Report GCMS-16

Method Path : I:\MS16\METHODS\
Method File : R16050120.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri May 01 18:22:00 2020
Response Via : Initial Calibration

LH 5/1/20

Calibration Files
0.1 =05012018.D 0.2 =05012019.D 0.5 =05012020.D 1.0 =05012021.D 5.0 =05012022.D 25 =05012
100 =03112009.D

		Compound	0.1	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------	ISTD	----------							
2)	T	Propene	1.611	1.539	1.503	1.380	1.499	1.474	1.430	1.147	1.448	9.66
3)	T	Dichlorodifluo...	3.202	3.003	3.068	2.842	3.010	2.737	2.537	2.254	2.832	11.03
4)	T	Chloromethane	2.604	2.435	2.388	2.238	2.356	2.193	2.172	1.361	2.218	16.88
5)	T	1,2-Dichloro-1...	1.897	1.683	1.822	1.625	1.745	1.600	1.555	1.607	1.692	7.08
6)	T	Vinyl Chloride	2.717	2.540	2.556	2.389	2.585	2.348	2.256	2.069	2.433	8.56
7)	T	1,3-Butadiene	2.247	2.061	2.143	1.977	2.145	1.964	1.905	1.660	2.013	9.02
8)	T	Bromomethane	1.419	1.343	1.315	1.211	1.293	1.245	1.264	1.190	1.285	5.79
9)	T	Chloroethane	1.050	0.952	0.985	0.919	0.990	0.943	0.960	0.887	0.961	5.13
10)	T	Ethanol	1.410	1.184	1.009	0.940	1.092	1.112	1.151	1.046	1.118	12.66
11)	T	Acetonitrile	3.482	2.840	2.383	2.251	2.529	2.471	2.438	2.042	2.555	17.16
12)	T	Acrolein	1.059	0.868	0.880	0.829	0.918	0.879	0.863	0.770	0.883	9.44
13)	T	Acetone	1.252	1.110	1.062	0.988	1.109	1.131	1.179	1.113	1.118	6.92
14)	T	Trichlorofluor...	2.713	2.523	2.575	2.359	2.565	2.454	2.411	2.421	2.503	4.58
15)	T	2-Propanol (Is...	3.870	3.534	3.450	3.257	3.738	3.508	3.156	2.557	3.384	12.00
16)	T	Acrylonitrile	2.202	1.897	1.701	1.617	1.893	1.829	1.828	1.654	1.828	10.12
17)	T	1,1-Dichloroet...	1.408	1.288	1.314	1.236	1.342	1.312	1.299	1.297	1.312	3.73
18)	T	2-Methyl-2-Pro...	3.534	3.198	3.325	3.089	3.578	3.200	2.158		3.155	15.06
19)	T	Methylene Chlo...	1.693	1.502	1.403	1.354	1.469	1.431	1.419	1.356	1.453	7.53
20)	T	3-Chloro-1-pro...	2.223	1.929	1.964	1.905	2.142	2.028	2.036	1.746	1.997	7.37
21)	T	Trichlorotrifl...	1.264	1.065	1.154	1.097	1.218	1.201	1.208	1.246	1.182	5.97
22)	T	Carbon Disulfide	6.112	5.388	5.148	4.831	5.368	5.134	5.024	4.656	5.208	8.48
23)	T	trans-1,2-Dich...	2.284	2.004	1.981	1.860	2.050	1.980	1.964	1.858	1.998	6.70
24)	T	1,1-Dichloroet...	2.569	2.334	2.469	2.238	2.450	2.380	2.330	2.202	2.371	5.15
25)	T	Methyl tert-Bu...	4.195	3.994	4.129	3.762	3.968	3.534	3.241	3.018	3.730	11.49
26)	T	Vinyl Acetate			0.280	0.275	0.355	0.375	0.393	0.412	0.348	16.73
27)	T	2-Butanone (MEK)	1.010	0.938	0.937	0.883	1.007	0.953	0.956	0.944	0.953	4.27
28)	T	cis-1,2-Dichlo...	2.186	1.950	1.950	1.831	2.014	1.928	1.927	1.846	1.954	5.66
29)	T	Diisopropyl Ether	1.400	1.264	1.362	1.283	1.461	1.320	1.346	1.353	1.349	4.68
30)	T	Ethyl Acetate	0.528	0.515	0.507	0.480	0.567	0.596	0.638	0.567	0.550	9.48
31)	T	n-Hexane	2.506	2.242	2.328	2.176	2.400	2.485	2.588	2.351	2.385	5.82
32)	T	Chloroform	2.635	2.393	2.541	2.359	2.618	2.470	2.464	2.425	2.488	4.07
33)	S	1,2-Dichloroet...	1.759	1.788	1.757	1.756	1.704	1.635	1.616	1.538	1.694	5.22
34)	T	Tetrahydrofura...	1.068	0.962	0.909	0.857	0.954	0.901	0.903	0.885	0.930	7.02
35)	T	Ethyl tert-But...	1.603	1.564	1.583	1.487	1.688	1.661	1.680	1.772	1.630	5.43
36)	T	1,2-Dichloroet...	2.204	2.065	2.007	1.843	2.020	1.911	1.892	1.830	1.971	6.45
37)	IR	1,4-Difluorobenzen...	----------	ISTD	----------							
38)	T	1,1,1-Trichlor...	0.520	0.477	0.504	0.469	0.521	0.513	0.513	0.511	0.503	3.91
39)	T	Isopropyl Acetate	0.217	0.187	0.204	0.189	0.226	0.238	0.254	0.247	0.220	11.50
40)	T	1-Butanol	0.335	0.286	0.247	0.231	0.307	0.333	0.362	0.405	0.313	18.51
41)	T	Benzene	1.454	1.263	1.288	1.194	1.366	1.343	1.417	1.400	1.340	6.50
42)	T	Carbon Tetrach...	0.446	0.414	0.449	0.410	0.482	0.473	0.477	0.496	0.456	6.99
43)	T	Cyclohexane	0.491	0.450	0.481	0.443	0.512	0.523	0.544	0.553	0.500	8.14
44)	T	tert-Amyl Meth...	0.895	0.829	0.881	0.824	0.950	0.934	0.955	0.923	0.899	5.70
45)	T	1,2-Dichloropr...	0.322	0.296	0.311	0.288	0.327	0.317	0.320	0.303	0.310	4.42
46)	T	Bromodichlorom...	0.443	0.421	0.437	0.406	0.477	0.479	0.482	0.480	0.453	6.69
47)	T	Trichloroethene	0.348	0.318	0.331	0.303	0.355	0.355	0.366	0.396	0.346	8.37
48)	T	1,4-Dioxane	0.278	0.250	0.253	0.238	0.274	0.278	0.286	0.303	0.270	7.97
49)	T	2,2,4-Trimethy...	1.365	1.266	1.317	1.213	1.370	1.328	1.346	1.231	1.304	4.63
50)	T	Methyl Methacr...	0.126	0.113	0.118	0.116	0.138	0.143	0.149	0.161	0.133	13.21
51)	T	n-Heptane	0.325	0.297	0.306	0.286	0.318	0.310	0.324	0.342	0.313	5.60
52)	T	cis-1,3-Dichlo...	0.535	0.486	0.494	0.468	0.562	0.566	0.581	0.572	0.533	8.30
53)	T	4-Methyl-2-pen...	0.303	0.265	0.287	0.262	0.311	0.319	0.318	0.299		7.10
54)	T	trans-1,3-Dich...	0.418	0.389	0.410	0.399	0.496	0.508	0.521	0.506	0.456	12.35

55)	T	1,1,2-Trichlor...	0.300	0.292	0.301	0.279	0.324	0.321	0.324	0.323	0.308	5.60
56)	IR	Chlorobenzene-d5 (...	----------ISTD----------									
57)	S	Toluene-d8 (SS2)	2.112	2.125	2.110	2.107	2.097	2.123	2.090	2.186	2.119	1.40
58)	T	Toluene	3.003	2.567	2.666	2.473	2.815	2.802	2.780	2.744	2.731	5.97
59)	T	2-Hexanone	1.547	1.361	1.410	1.339	1.614	1.583	1.602	1.515	1.497	7.42
60)	T	Dibromochlorom...	0.735	0.677	0.704	0.667	0.834	0.868	0.864	0.909	0.782	12.37
61)	T	1,2-Dibromoethane	0.757	0.686	0.705	0.663	0.792	0.804	0.797	0.809	0.752	7.82
62)	T	n-Butyl Acetate	1.611	1.401	1.545	1.456	1.756	1.742	1.751	1.671	1.616	8.55
63)	T	n-Octane	0.572	0.504	0.542	0.504	0.578	0.591	0.613	0.620	0.565	7.95
64)	T	Tetrachloroethene	0.764	0.679	0.700	0.653	0.778	0.829	0.838	0.931	0.771	12.10
65)	T	Chlorobenzene	1.873	1.701	1.737	1.609	1.870	1.882	2.340	2.020	1.879	12.02
66)	T	Ethylbenzene	3.030	2.763	2.965	2.768	3.264	3.313	3.301	2.958	3.045	7.41
67)	T	m- & p-Xylenes	2.416	2.101	2.285	2.203	2.562	2.656	2.741	2.363	2.416	9.24
68)	T	Bromoform			0.523	0.502	0.708	0.751	0.755	0.828	0.678	19.74
69)	T	Styrene	1.554	1.405	1.689	1.594	2.029	2.068	2.060	2.138	1.817	15.77
70)	T	o-Xylene	2.442	2.173	2.312	2.170	2.597	2.662	2.680	2.586	2.453	8.61
71)	T	n-Nonane	1.287	1.140	1.243	1.181	1.387	1.412	1.455	1.306	1.301	8.60
72)	T	1,1,2,2-Tetrac...	1.206	1.074	1.114	1.057	1.298	1.323	1.337	1.325	1.217	9.86
73)	S	Bromofluoroben...	0.715	0.714	0.725	0.724	0.787	0.802	0.783	0.849	0.762	6.56
74)	T	Cumene	3.035	2.729	2.906	2.711	3.284	3.320	3.265	2.830	3.010	8.41
75)	T	alpha-Pinene	1.511	1.362	1.446	1.393	1.701	1.785	1.795	1.856	1.606	12.43
76)	T	n-Propylbenzene	3.631	3.223	3.513	3.346	3.994	4.033	3.904	2.964	3.576	10.84
77)	T	3-Ethyltoluene	2.929	2.407	2.714	2.579	3.163	3.387	3.232	2.897	2.913	11.58
78)	T	4-Ethyltoluene	2.513	2.455	2.758	2.630	3.275	3.167	3.181	2.637	2.827	11.64
79)	T	1,3,5-Trimethy...	2.364	2.022	2.272	2.212	2.706	2.770	2.730	2.561	2.455	11.29
80)	T	alpha-Methylst...			1.138	1.116	1.443	1.485	1.469	1.649	1.384	15.29
81)	T	2-Ethyltoluene	2.821	2.480	2.756	2.582	3.185	3.223	3.148	2.796	2.874	9.82
82)	T	1,2,4-Trimethy...	2.215	1.944	2.255	2.185	2.813	3.050	2.878	2.397	2.467	16.03
83)	T	n-Decane			1.125	1.102	1.410	1.517	1.611	1.515	1.380	15.65
84)	T	Benzyl Chloride				1.519	2.279	2.600	2.687	2.413	2.300	20.21
85)	T	1,3-Dichlorobe...	1.252	1.034	1.264	1.221	1.626	1.660	1.639	1.766	1.433	18.79
86)	T	1,4-Dichlorobe...	1.206	1.004	1.283	1.196	1.601	1.620	1.581	1.693	1.398	18.29
87)	T	sec-Butylbenzene	3.179	2.829	3.093	2.947	3.632	3.636	3.486	2.818	3.203	10.67
88)	T	4-Isopropyltol...			2.761	2.656	3.414	3.547	3.227	2.590	3.033	13.68
89)	T	1,2,3-Trimethy...			2.234	2.175	2.830	3.061	2.870	2.323	2.582	14.77
90)	T	1,2-Dichlorobe...	1.199	1.054	1.223	1.173	1.569	1.646	1.594	1.513	1.372	16.90
91)	T	d-Limonene	0.811	0.750	0.867	0.867	1.070	1.169	1.205	1.057	0.974	17.65
92)	T	1,2-Dibromo-3-...			0.388	0.391	0.568	0.581	0.581	0.595	0.517	19.22
93)	T	n-Undecane			0.906	0.866	1.357	1.474	1.565	1.496	1.277	24.32
94)	T	1,2,4-Trichlor...			0.655	0.635	1.013	1.144	1.183	1.078	0.951	25.70
95)	T	Naphthalene			2.173	2.044	3.472	3.864	3.717	2.796	3.011	26.24
96)	T	n-Dodecane			0.500	0.482	1.251	1.474	1.554	1.375	1.106	44.05
97)	T	Hexachlorobuta...			0.463	0.446	0.622	0.725	0.766	0.927	0.658	28.24
98)	T	Cyclohexanone	1.048	0.943	0.832	0.804	0.983	0.979	0.980	1.079	0.956	10.00
99)	T	tert-Butylbenzene	2.363	2.071	2.240	2.164	2.722	2.855	2.658	2.351	2.428	11.70
100)	T	n-Butylbenzene	2.187	1.921	2.417	2.334	2.916	2.966	2.883	2.471	2.512	15.09

(#) = Out of Range

R16050120.M Fri May 01 18:44:38 2020

Primary Source Standards Concentrations (Working & Initial Calibration)

LH 5/1/20

1ng/L Std. ID:
4ng/L Std. ID: S34-04272015
20ng/L Std. ID: S34-05012002
40ng/L Std. ID:
200ng/L Std. ID: S31-04292003
1000ng/L Std. ID:

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	200	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.0250	0.050	0.025	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
Propene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Dichlorodifluoromethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Chloromethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Freon-114	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Vinyl Chloride	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3-Butadiene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Bromomethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Chloroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Ethanol	5.21	5210	1042	208.4	104.2	20.84	5.21		0.521	1.042	2.605	5.21	26.05	130.25	260.5	521
Acetonitrile	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Acrolein	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Acetone	5.33	5330	1066	213.2	106.6	21.32	5.33		0.533	1.066	2.665	5.33	26.65	133.25	266.5	533
Trichlorofluoromethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Isopropanol	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
Acrylonitrile	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,1-Dichloroethene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
tert-Butanol	2.16	2160	432	86.4	43.2	8.64	2.16		0.216	0.432	1.080	2.16	10.80	54.00	108.0	216
Methylene Chloride	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Allyl Chloride	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Dichlorotrifluoroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Carbon Disulfide	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
trans-1,2-Dichloroethene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1-Dichloroethane	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
Methyl tert-Butyl Ether	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Vinyl Acetate	5.35	5350	1070	214.0	107.0	21.40	5.35		0.535	1.070	2.675	5.35	26.75	133.75	267.5	535
2-Butanone	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
cis-1,2-Dichloroethene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Diisopropyl Ether	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Ethyl Acetate	2.17	2170	434	86.8	43.4	8.68	2.17		0.217	0.434	1.085	2.17	10.85	54.25	108.5	217
n-Hexane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Chloroform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Tetrahydrofuran	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
Ethyl tert-Butyl Ether	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dichloroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1,1-Trichloroethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Isopropyl Acetate	2.11	2110	422	84.4	42.2	8.44	2.11		0.211	0.422	1.055	2.11	10.55	52.75	105.5	211
1-Butanol	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
Benzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Carbon Tetrachloride	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Cyclohexane	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
tert-Amyl Methyl Ether	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dichloropropane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Bromodichloromethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Trichloroethene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,4-Dioxane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Isooctane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Methyl Methacrylate	2.15	2150	430	86.0	43.0	8.60	2.15		0.215	0.430	1.075	2.15	10.75	53.75	107.5	215
n-Heptane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108

Q:\TO15 Std. Concentrations\MS16 Std. Conc\2020\R16050120\ICAL Conc. (Primary Source)

Date Updated: 04/22/20
Version: 3

LH 5/1/20

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID:
4ng/L Std. ID: S34-04272015
20ng/L Std. ID: S34-05012002
40ng/L Std. ID:
200ng/L Std. ID: S31-04292003
1000ng/L Std. ID:

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	200	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.0250	0.050	0.025	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
cis-1,3-Dichloropropene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
4-Methyl-2-pentanone	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
trans-1,3-Dichloropropene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1,2-Trichloroethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Toluene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
2-Hexanone	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Dibromochloromethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,2-Dibromoethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Butyl Acetate	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
n-Octane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Tetrachloroethene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Chlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Ethylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
m-&p-Xylene	2.14	2140	428	85.6	42.8	8.56	2.14		0.214	0.428	1.070	2.14	10.70	53.50	107.0	214
Bromoform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Styrene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
o-Xylene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Nonane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,1,2,2-Tetrachloroethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Cumene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
alpha-Pinene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Propylbenzene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
3-Ethyltoluene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
4-Ethyltoluene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3,5-Trimethylbenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
alpha-Methylstyrene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
2-Ethyltoluene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2,4-Trimethylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Decane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Benzyl Chloride	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3-Dichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,4-Dichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
sec-Butylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
p-Isopropyltoluene	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
1,2,3-Trimethylbenzene	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
1,2-Dichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
d-Limonene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dibromo-3-chloropropane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
n-Undecane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2,4-Trichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Naphthalene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
n-Dodecane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Hexachloro-1,3-butadiene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Methacrylonitrile	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Cyclohexanone	1.00	1000	200	40.0	20.0	4.00	1.00		0.100	0.200	0.500	1.00	5.00	25.00	50.0	100
tert-Butylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Butylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107

Q:\TO15 Std. Concentrations\MS16 Std. Conc\2020\R16050120\ICAL Conc. (Primary Source)

Calibration Status Report GCMS-16

Method : I:\MS16\METHODS\R16050120.M (RTE Integrator)
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	0.1	0	13	I:\MS16\DATA\2020_05\01\05012018.D
2	0.2	0	13	I:\MS16\DATA\2020_05\01\05012019.D
3	0.5	1	13	I:\MS16\DATA\2020_05\01\05012020.D
4	1.0	1	13	I:\MS16\DATA\2020_05\01\05012021.D
5	5.0	5	13	I:\MS16\DATA\2020_05\01\05012022.D
6	25	27	13	I:\MS16\DATA\2020_05\01\05012023.D
7	50	53	13	I:\MS16\DATA\2020_05\01\05012024.D
8	100	106	13	I:\MS16\DATA\2020_03\11\03112009.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.1	May 01 17:28 2020	May 01 17:26 2020	1 May 2020 14:09
2	0.2	May 01 17:28 2020	May 01 17:26 2020	1 May 2020 14:42
3	0.5	May 01 17:28 2020	May 01 17:26 2020	1 May 2020 15:16
4	1.0	May 01 17:29 2020	May 01 17:26 2020	1 May 2020 15:51
5	5.0	May 01 17:29 2020	May 01 17:26 2020	1 May 2020 16:25
6	25	May 01 17:29 2020	May 01 17:26 2020	1 May 2020 16:59
7	50	May 01 18:22 2020	May 01 18:21 2020	1 May 2020 17:33
8	100	May 01 17:01 2020	Mar 11 10:34 2020	11 Mar 2020 4:52

R16050120.M Fri May 01 18:52:03 2020

LH 5/1/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012018.D Vial: 6
Acq On : 1 May 2020 14:09 Operator: LH
Sample : 0.1ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04272015 (5/26)

Quant Time: May 01 17:26:08 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	289278	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1281029	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	612084	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	508980	12.744	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.92%				
57) Toluene-d8 (SS2)	15.72	98	1292505	11.971	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.76%				
73) Bromofluorobenzene (SS3)	18.98	174	437866	11.415	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.28%				
Target Compounds							Qvalue
2) Propene	4.13	42	3951	0.128	ng		96
3) Dichlorodifluoromethan...	4.28	85	7854	0.120	ng		99
4) Chloromethane	4.55	50	6389	0.124	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.83	135	4609	0.112	ng		98
6) Vinyl Chloride	4.97	62	6791	0.124	ng		98
7) 1,3-Butadiene	5.24	54	5512	0.135	ng		93
8) Bromomethane	5.66	94	3547	0.129	ng		100
9) Chloroethane	5.99	64	2625	0.124	ng		97
10) Ethanol	6.32	45	16999	0.700	ng		96
11) Acetonitrile	6.59	41	8460	0.157	ng		84
12) Acrolein	6.79	56	2525	0.141	ng		97
13) Acetone	7.01	58	15440	0.650	ng	#	85
14) Trichlorofluoromethane	7.25	101	6656	0.116	ng		97
15) 2-Propanol (Isopropanol)	7.50	45	18806	0.266	ng		91
16) Acrylonitrile	7.74	53	5351	0.149	ng		99
17) 1,1-Dichloroethene	8.21	96	3518	0.123	ng		97
18) 2-Methyl-2-Propanol (t...	8.40	59	17666	0.282	ng		93
19) Methylene Chloride	8.40	84	4154	0.134	ng		94
20) 3-Chloro-1-propene (Al...	8.58	41	5555	0.137	ng		88
21) Trichlorotrifluoroethane	8.84	151	3158	0.114	ng		96
22) Carbon Disulfide	8.69	76	15135	0.136	ng		97
23) trans-1,2-Dichloroethene	9.68	61	5709	0.137	ng		99
24) 1,1-Dichloroethane	9.93	63	6480	0.122	ng		98
25) Methyl tert-Butyl Ether	10.09	73	10484	0.124	ng		100
26) Vinyl Acetate	10.21	86	3501	0.438	ng	#	69
27) 2-Butanone (MEK)	10.48	72	2477	0.126	ng	#	74
28) cis-1,2-Dichloroethene	10.95	61	5362	0.125	ng		95
29) Diisopropyl Ether	11.29	87	3500	0.113	ng	#	86
30) Ethyl Acetate	11.28	61	2653	0.229	ng		98
31) n-Hexane	11.26	57	6264	0.117	ng		97
32) Chloroform	11.30	83	6525	0.114	ng		100
34) Tetrahydrofuran (THF)	11.75	72	2693	0.133	ng		91
35) Ethyl tert-Butyl Ether	11.87	87	4007	0.109	ng		93
36) 1,2-Dichloroethane	12.11	62	5509	0.123	ng		98
38) 1,1,1-Trichloroethane	12.39	97	5705	0.113	ng		98
39) Isopropyl Acetate	12.84	61	4697	0.226	ng	#	91
40) 1-Butanol	12.85	56	7144	0.220	ng		93
41) Benzene	12.87	78	15792	0.120	ng		98
42) Carbon Tetrachloride	13.03	117	4803	0.106	ng		98
43) Cyclohexane	13.17	84	10671	0.211	ng		98
44) tert-Amyl Methyl Ether	13.53	73	9904	0.115	ng		97
45) 1,2-Dichloropropane	13.72	63	3569	0.117	ng		99
46) Bromodichloromethane	13.91	83	4900	0.109	ng		98
47) Trichloroethene	13.96	130	3818	0.102	ng		96
48) 1,4-Dioxane	13.96	88	3076	0.120	ng		99
49) 2,2,4-Trimethylpentane...	14.05	57	14967	0.118	ng		97
50) Methyl Methacrylate	14.18	100	2774	0.218	ng		96

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012018.D Vial: 6
Acq On : 1 May 2020 14:09 Operator: LH
Sample : 0.1ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04272015 (5/26)

Quant Time: May 01 17:26:08 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

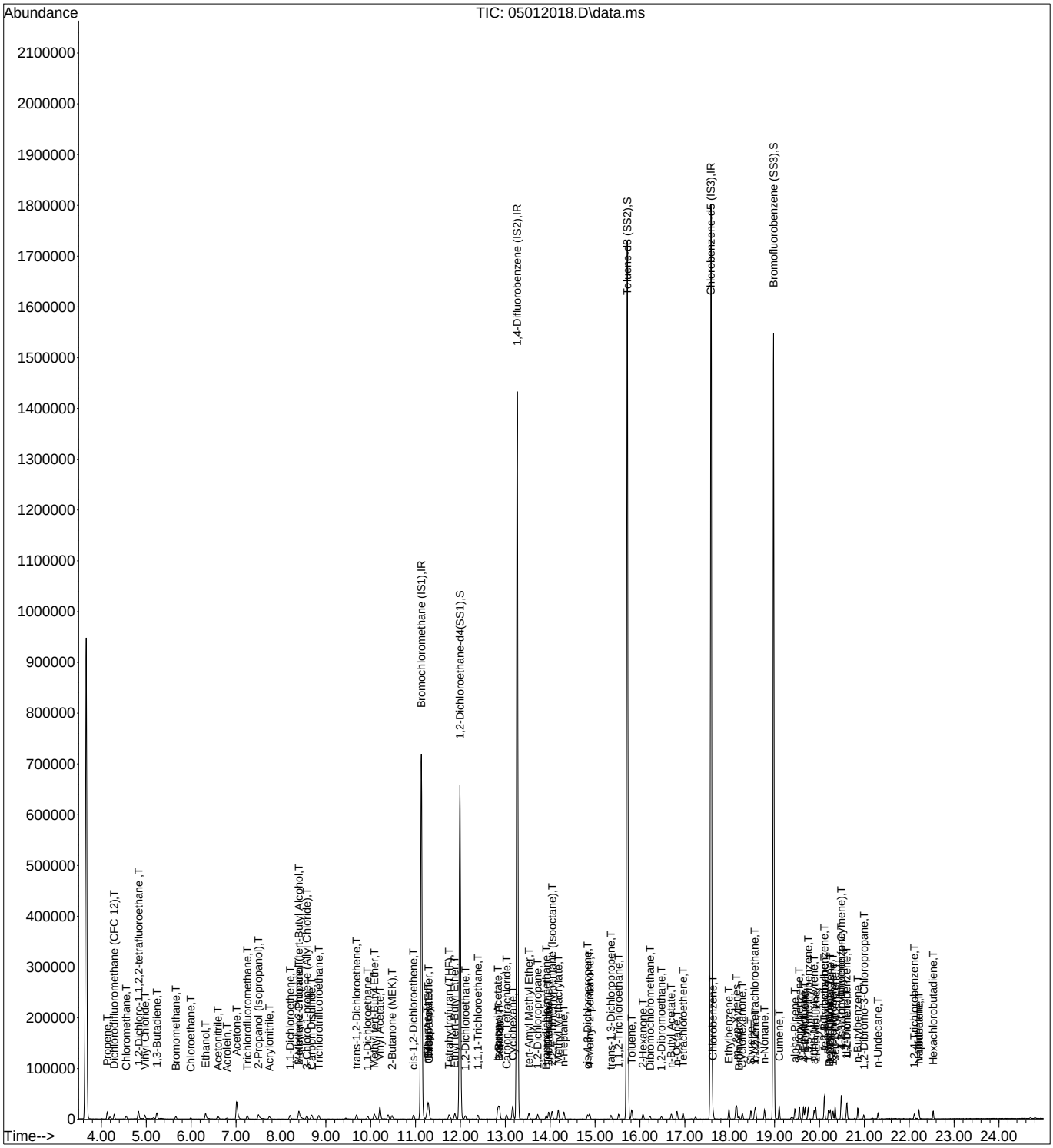
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.30	71	3595	0.117 ng		97
52) cis-1,3-Dichloropropene	14.83	75	5704	0.116 ng		96
53) 4-Methyl-2-pentanone	14.88	58	3296	0.119 ng		93
54) trans-1,3-Dichloropropene	15.35	75	4544	0.099 ng		98
55) 1,1,2-Trichloroethane	15.52	97	3290	0.107 ng		92
58) Toluene	15.82	91	15732	0.118 ng		98
59) 2-Hexanone	16.07	43	8108	0.120 ng		95
60) Dibromochloromethane	16.23	129	3850	0.107 ng		98
61) 1,2-Dibromoethane	16.48	107	3967	0.115 ng		99
62) n-Butyl Acetate	16.70	43	8599	0.119 ng		100
63) n-Octane	16.82	57	3026	0.113 ng		95
64) Tetrachloroethene	16.96	166	3889	0.104 ng		96
65) Chlorobenzene	17.62	112	9815	0.109 ng		97
66) Ethylbenzene	17.98	91	15876	0.108 ng		99
67) m- & p-Xylenes	18.15	91	25313	0.213 ng		97
68) Bromoform	18.21	173	2794	0.087 ng		97
69) Styrene	18.47	104	8068	0.087 ng		98
70) o-Xylene	18.58	91	12796	0.107 ng		97
71) n-Nonane	18.77	43	6742	0.112 ng		94
72) 1,1,2,2-Tetrachloroethane	18.55	83	6321	0.110 ng		99
74) Cumene	19.10	105	16051	0.107 ng		99
75) alpha-Pinene	19.45	93	7915	0.104 ng		98
76) n-Propylbenzene	19.55	91	19200	0.109 ng		96
77) 3-Ethyltoluene	19.64	105	15205	0.102 ng		95
78) 4-Ethyltoluene	19.68	105	13291	0.094 ng		97
79) 1,3,5-Trimethylbenzene	19.75	105	12270	0.097 ng		98
80) alpha-Methylstyrene	19.88	118	5286	0.077 ng		90
81) 2-Ethyltoluene	19.92	105	14918	0.102 ng		98
82) 1,2,4-Trimethylbenzene	20.11	105	11607	0.089 ng		98
83) n-Decane	20.20	57	5622	0.088 ng		96
84) Benzyl Chloride	20.23	91	6198	0.059 ng		94
85) 1,3-Dichlorobenzene	20.24	146	6559	0.093 ng		97
86) 1,4-Dichlorobenzene	20.30	146	6317	0.090 ng		95
87) sec-Butylbenzene	20.35	105	16656	0.102 ng		97
88) 4-Isopropyltoluene (p-...	20.48	119	14335	0.094 ng		98
89) 1,2,3-Trimethylbenzene	20.48	105	11912	0.091 ng		98
90) 1,2-Dichlorobenzene	20.61	146	6284	0.088 ng		97
91) d-Limonene	20.61	68	4287	0.084 ng		100
92) 1,2-Dibromo-3-Chloropr...	20.99	157	1904	0.078 ng	#	68
93) n-Undecane	21.30	57	3299	0.050 ng		96
94) 1,2,4-Trichlorobenzene	22.11	180	2902	0.065 ng		95
95) Naphthalene	22.22	128	9207	0.061 ng		99
96) n-Dodecane	22.22	57	1759	0.027 ng		84
97) Hexachlorobutadiene	22.54	225	2672	0.079 ng		98
98) Cyclohexanone	18.28	55	5130	0.112 ng		96
99) tert-Butylbenzene	20.11	119	12381	0.098 ng		100
100) n-Butylbenzene	20.85	91	11459	0.087 ng		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012018.D Vial: 6
Acq On : 1 May 2020 14:09 Operator: LH
Sample : 0.1ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04272015 (5/26)

Quant Time: May 01 17:26:08 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012019.D Vial: 6
Acq On : 1 May 2020 14:42 Operator: LH
Sample : 0.2ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04272015 (5/26)

Quant Time: May 01 17:26:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	281203	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1265644	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	605249	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	502682	12.948	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.60%				
57) Toluene-d8 (SS2)	15.72	98	1286177	12.047	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.40%				
73) Bromofluorobenzene (SS3)	18.98	174	432138	11.393	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.12%				
Target Compounds							Qvalue
2) Propene	4.12	42	7340	0.244	ng		98
3) Dichlorodifluoromethan...	4.28	85	14321	0.225	ng		98
4) Chloromethane	4.54	50	11611	0.231	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	7949	0.198	ng		100
6) Vinyl Chloride	4.97	62	12344	0.232	ng		98
7) 1,3-Butadiene	5.22	54	9830	0.247	ng		96
8) Bromomethane	5.65	94	6528	0.244	ng		95
9) Chloroethane	5.98	64	4628	0.226	ng		98
10) Ethanol	6.31	45	27749	1.175	ng		96
11) Acetonitrile	6.59	41	13417	0.257	ng		87
12) Acrolein	6.79	56	4024	0.232	ng		98
13) Acetone	7.01	58	26616	1.152	ng		88
14) Trichlorofluoromethane	7.25	101	12031	0.215	ng		96
15) 2-Propanol (Isopropanol)	7.48	45	33389	0.485	ng		93
16) Acrylonitrile	7.74	53	8962	0.257	ng		98
17) 1,1-Dichloroethene	8.20	96	6259	0.225	ng		97
18) 2-Methyl-2-Propanol (t...	8.39	59	31078	0.511	ng		95
19) Methylene Chloride	8.40	84	7162	0.238	ng		95
20) 3-Chloro-1-propene (Al...	8.57	41	9375	0.238	ng		97
21) Trichlorotrifluoroethane	8.85	151	5174	0.193	ng		91
22) Carbon Disulfide	8.68	76	25939	0.240	ng		98
23) trans-1,2-Dichloroethene	9.69	61	9736	0.240	ng		99
24) 1,1-Dichloroethane	9.93	63	11448	0.222	ng		100
25) Methyl tert-Butyl Ether	10.07	73	19408	0.236	ng		100
26) Vinyl Acetate	10.20	86	6257	0.806	ng	#	65
27) 2-Butanone (MEK)	10.47	72	4473	0.235	ng	#	85
28) cis-1,2-Dichloroethene	10.95	61	9299	0.222	ng		95
29) Diisopropyl Ether	11.27	87	6141	0.203	ng	#	89
30) Ethyl Acetate	11.28	61	5026	0.447	ng		94
31) n-Hexane	11.26	57	10892	0.209	ng		100
32) Chloroform	11.30	83	11522	0.207	ng		100
34) Tetrahydrofuran (THF)	11.74	72	4717	0.239	ng		96
35) Ethyl tert-Butyl Ether	11.87	87	7599	0.213	ng		99
36) 1,2-Dichloroethane	12.11	62	10033	0.231	ng		97
38) 1,1,1-Trichloroethane	12.39	97	10336	0.208	ng		99
39) Isopropyl Acetate	12.84	61	8005	0.390	ng	#	82
40) 1-Butanol	12.85	56	12049	0.376	ng		93
41) Benzene	12.87	78	27102	0.208	ng		100
42) Carbon Tetrachloride	13.03	117	8801	0.196	ng		99
43) Cyclohexane	13.17	84	19302	0.386	ng		99
44) tert-Amyl Methyl Ether	13.52	73	18140	0.213	ng		97
45) 1,2-Dichloropropane	13.72	63	6464	0.215	ng		100
46) Bromodichloromethane	13.91	83	9202	0.208	ng		97
47) Trichloroethene	13.97	130	6883	0.185	ng		99
48) 1,4-Dioxane	13.96	88	5469	0.215	ng		98
49) 2,2,4-Trimethylpentane...	14.04	57	27442	0.219	ng		99
50) Methyl Methacrylate	14.18	100	4902	0.390	ng		92

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012019.D Vial: 6
Acq On : 1 May 2020 14:42 Operator: LH
Sample : 0.2ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04272015 (5/26)

Quant Time: May 01 17:26:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

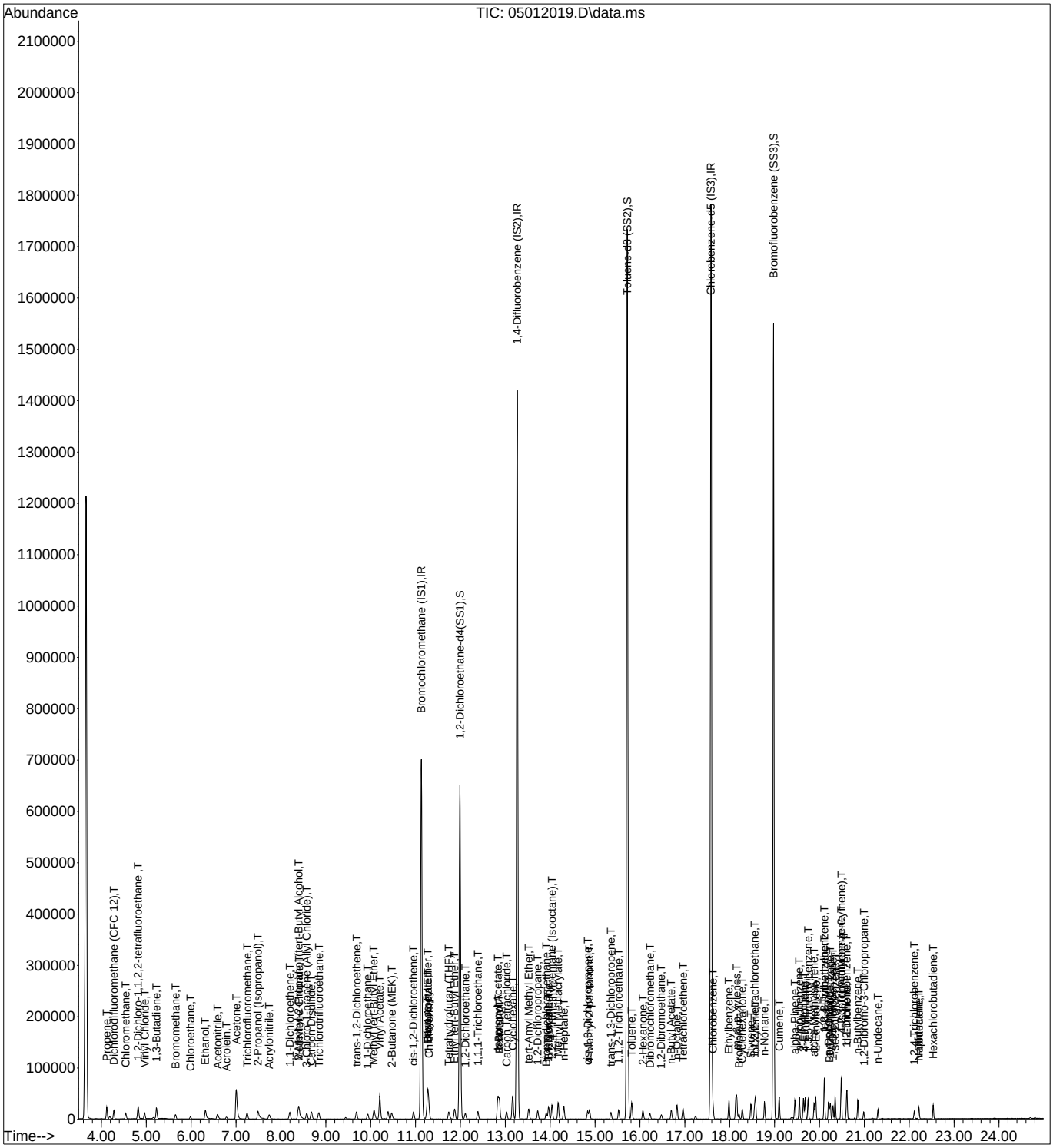
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.31	71	6485	0.213	ng		99
52) cis-1,3-Dichloropropene	14.84	75	10229	0.211	ng		99
53) 4-Methyl-2-pentanone	14.88	58	5691	0.207	ng		91
54) trans-1,3-Dichloropropene	15.35	75	8360	0.185	ng		96
55) 1,1,2-Trichloroethane	15.52	97	6328	0.209	ng		98
58) Toluene	15.82	91	26600	0.201	ng		99
59) 2-Hexanone	16.06	43	14103	0.211	ng		96
60) Dibromochloromethane	16.23	129	7014	0.198	ng		97
61) 1,2-Dibromoethane	16.48	107	7112	0.208	ng		98
62) n-Butyl Acetate	16.70	43	14786	0.207	ng		99
63) n-Octane	16.82	57	5273	0.199	ng		99
64) Tetrachloroethene	16.96	166	6836	0.184	ng		98
65) Chlorobenzene	17.62	112	17628	0.198	ng		99
66) Ethylbenzene	17.98	91	28627	0.197	ng		98
67) m- & p-Xylenes	18.15	91	43549	0.370	ng		100
68) Bromoform	18.21	173	4948	0.156	ng		97
69) Styrene	18.47	104	14427	0.157	ng		98
70) o-Xylene	18.58	91	22519	0.191	ng		99
71) n-Nonane	18.77	43	11811	0.198	ng		96
72) 1,1,2,2-Tetrachloroethane	18.55	83	11124	0.196	ng		98
74) Cumene	19.10	105	28539	0.192	ng		97
75) alpha-Pinene	19.45	93	14109	0.187	ng		97
76) n-Propylbenzene	19.55	91	33704	0.194	ng		96
77) 3-Ethyltoluene	19.64	105	24706	0.167	ng		95
78) 4-Ethyltoluene	19.68	105	25673	0.184	ng		92
79) 1,3,5-Trimethylbenzene	19.75	105	20755	0.166	ng		100
80) alpha-Methylstyrene	19.88	118	9566	0.141	ng		98
81) 2-Ethyltoluene	19.92	105	25934	0.179	ng		98
82) 1,2,4-Trimethylbenzene	20.11	105	20144	0.156	ng		100
83) n-Decane	20.20	57	9540	0.150	ng		99
84) Benzyl Chloride	20.22	91	10864	0.105	ng		96
85) 1,3-Dichlorobenzene	20.24	146	10709	0.154	ng		98
86) 1,4-Dichlorobenzene	20.30	146	10405	0.150	ng		99
87) sec-Butylbenzene	20.35	105	29313	0.182	ng		98
88) 4-Isopropyltoluene (p-...	20.49	119	25509	0.168	ng		98
89) 1,2,3-Trimethylbenzene	20.48	105	20308	0.157	ng		97
90) 1,2-Dichlorobenzene	20.61	146	10926	0.154	ng		99
91) d-Limonene	20.61	68	7844	0.156	ng		98
92) 1,2-Dibromo-3-Chloropr...	20.99	157	3246	0.134	ng	#	68
93) n-Undecane	21.30	57	5419	0.083	ng		99
94) 1,2,4-Trichlorobenzene	22.11	180	4530	0.103	ng		98
95) Naphthalene	22.22	128	12645	0.085	ng		100
96) n-Dodecane	22.22	57	2203	0.035	ng		95
97) Hexachlorobutadiene	22.54	225	4472	0.134	ng		100
98) Cyclohexanone	18.28	55	9134	0.201	ng		98
99) tert-Butylbenzene	20.11	119	21458	0.172	ng		100
100) n-Butylbenzene	20.85	91	19904	0.152	ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012019.D Vial: 6
Acq On : 1 May 2020 14:42 Operator: LH
Sample : 0.2ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04272015 (5/26)

Quant Time: May 01 17:26:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012020.D Vial: 13
Acq On : 1 May 2020 15:16 Operator: LH
Sample : 0.5ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-05012002 (5/30)

Quant Time: May 01 17:26:12 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	282762	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1246042	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	597894	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	496699	12.724	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.76%				
57) Toluene-d8 (SS2)	15.72	98	1261623	11.962	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.68%				
73) Bromofluorobenzene (SS3)	18.98	174	433440	11.568	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.56%				
Target Compounds							Qvalue
2) Propene	4.12	42	18019	0.595	ng		100
3) Dichlorodifluoromethan...	4.27	85	36783	0.574	ng		100
4) Chloromethane	4.54	50	28625	0.567	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	21643	0.536	ng		98
6) Vinyl Chloride	4.96	62	31225	0.584	ng		99
7) 1,3-Butadiene	5.22	54	25691	0.642	ng		97
8) Bromomethane	5.65	94	16060	0.596	ng		100
9) Chloroethane	5.98	64	12037	0.584	ng		100
10) Ethanol	6.32	45	59441	2.504	ng		99
11) Acetonitrile	6.58	41	28303	0.538	ng		92
12) Acrolein	6.78	56	10249	0.587	ng		99
13) Acetone	7.00	58	64034	2.757	ng		90
14) Trichlorofluoromethane	7.24	101	30869	0.549	ng		99
15) 2-Propanol (Isopropanol)	7.49	45	81950	1.184	ng		94
16) Acrylonitrile	7.74	53	20199	0.576	ng		99
17) 1,1-Dichloroethene	8.19	96	16045	0.574	ng		99
18) 2-Methyl-2-Propanol (t...	8.38	59	81236	1.327	ng		97
19) Methylene Chloride	8.40	84	16818	0.555	ng		93
20) 3-Chloro-1-propene (Al...	8.57	41	23985	0.605	ng		100
21) Trichlorotrifluoroethane	8.84	151	14094	0.522	ng		90
22) Carbon Disulfide	8.68	76	62306	0.573	ng		100
23) trans-1,2-Dichloroethene	9.68	61	24198	0.594	ng		98
24) 1,1-Dichloroethane	9.94	63	30445	0.588	ng		98
25) Methyl tert-Butyl Ether	10.06	73	50440	0.609	ng		100
26) Vinyl Acetate	10.20	86	16921	2.167	ng	#	71
27) 2-Butanone (MEK)	10.46	72	11237	0.586	ng	#	91
28) cis-1,2-Dichloroethene	10.95	61	23378	0.555	ng		97
29) Diisopropyl Ether	11.27	87	16633	0.547	ng	#	80
30) Ethyl Acetate	11.28	61	12444	1.100	ng		99
31) n-Hexane	11.26	57	28441	0.542	ng		99
32) Chloroform	11.30	83	30757	0.550	ng		100
34) Tetrahydrofuran (THF)	11.74	72	11211	0.565	ng		97
35) Ethyl tert-Butyl Ether	11.87	87	19341	0.539	ng		95
36) 1,2-Dichloroethane	12.11	62	24513	0.560	ng		98
38) 1,1,1-Trichloroethane	12.39	97	26870	0.549	ng		98
39) Isopropyl Acetate	12.83	61	21414	1.060	ng		94
40) 1-Butanol	12.85	56	25610	0.811	ng		84
41) Benzene	12.87	78	68060	0.531	ng		99
42) Carbon Tetrachloride	13.03	117	23499	0.531	ng		100
43) Cyclohexane	13.17	84	50782	1.030	ng		99
44) tert-Amyl Methyl Ether	13.52	73	47408	0.566	ng		98
45) 1,2-Dichloropropane	13.73	63	16720	0.564	ng		98
46) Bromodichloromethane	13.91	83	23539	0.540	ng		99
47) Trichloroethene	13.97	130	17666	0.483	ng		98
48) 1,4-Dioxane	13.95	88	13607	0.544	ng		98
49) 2,2,4-Trimethylpentane...	14.04	57	70232	0.570	ng		98
50) Methyl Methacrylate	14.18	100	12679	1.026	ng		89

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012020.D Vial: 13
Acq On : 1 May 2020 15:16 Operator: LH
Sample : 0.5ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-05012002 (5/30)

Quant Time: May 01 17:26:12 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

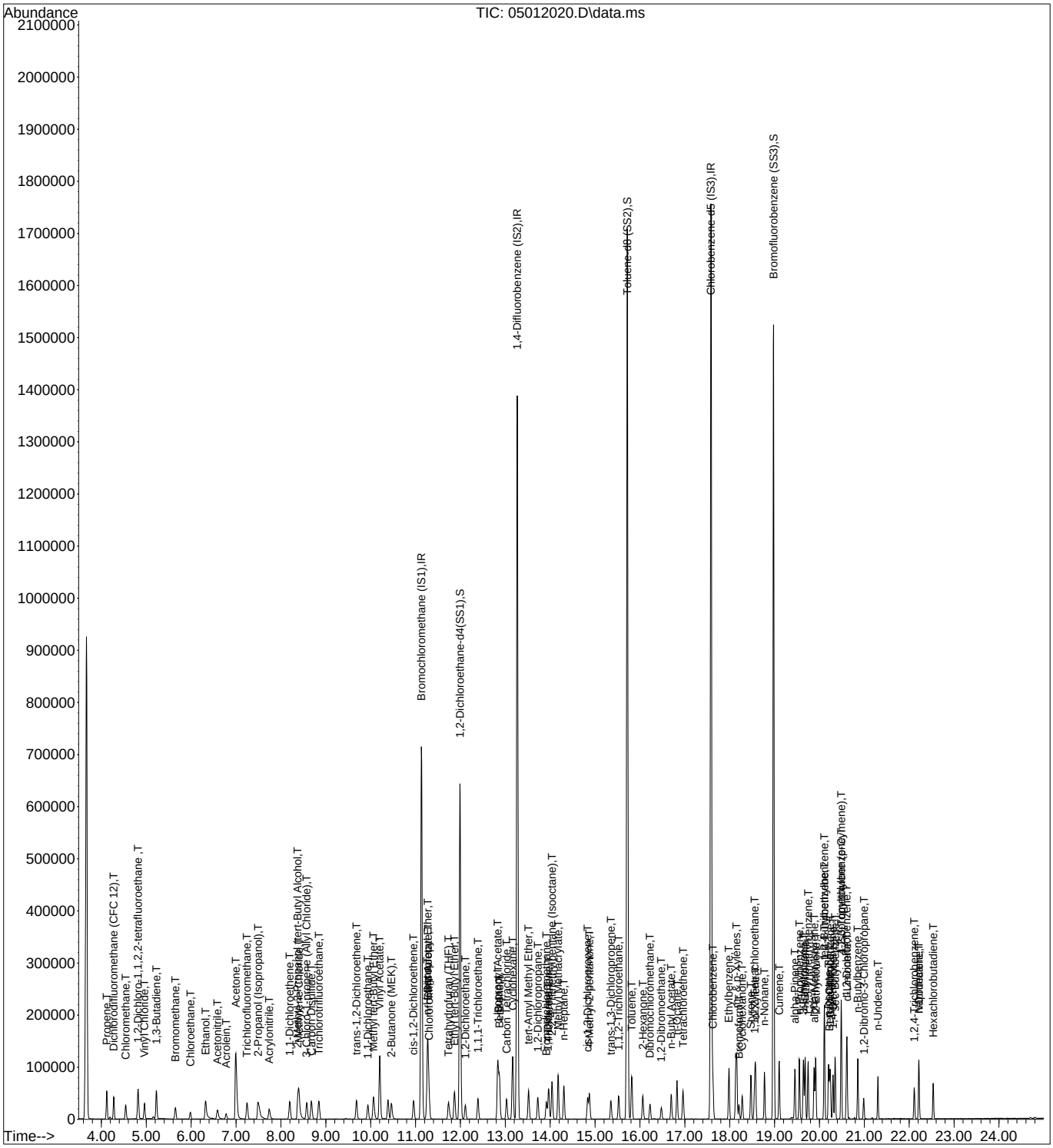
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.30	71	16470	0.549 ng		99
52) cis-1,3-Dichloropropene	14.83	75	25622	0.537 ng		100
53) 4-Methyl-2-pentanone	14.88	58	15185	0.562 ng		96
54) trans-1,3-Dichloropropene	15.35	75	21678	0.488 ng		100
55) 1,1,2-Trichloroethane	15.52	97	16061	0.538 ng		99
58) Toluene	15.82	91	68212	0.522 ng		99
59) 2-Hexanone	16.06	43	36076	0.547 ng		97
60) Dibromochloromethane	16.22	129	18007	0.513 ng		100
61) 1,2-Dibromoethane	16.48	107	18032	0.535 ng		99
62) n-Butyl Acetate	16.70	43	40268	0.571 ng		99
63) n-Octane	16.83	57	14009	0.536 ng		98
64) Tetrachloroethene	16.96	166	17406	0.474 ng		98
65) Chlorobenzene	17.62	112	44455	0.505 ng		99
66) Ethylbenzene	17.98	91	75877	0.529 ng		99
67) m- & p-Xylenes	18.15	91	116955	1.007 ng		99
68) Bromoform	18.21	173	13392	0.426 ng		100
69) Styrene	18.47	104	42807	0.472 ng		99
70) o-Xylene	18.58	91	59151	0.509 ng		98
71) n-Nonane	18.77	43	31809	0.539 ng		98
72) 1,1,2,2-Tetrachloroethane	18.55	83	28515	0.507 ng		100
74) Cumene	19.10	105	75062	0.513 ng		98
75) alpha-Pinene	19.45	93	36992	0.496 ng		98
76) n-Propylbenzene	19.56	91	90744	0.529 ng		97
77) 3-Ethyltoluene	19.64	105	68792	0.472 ng		99
78) 4-Ethyltoluene	19.68	105	71240	0.516 ng		99
79) 1,3,5-Trimethylbenzene	19.75	105	57590	0.466 ng		100
80) alpha-Methylstyrene	19.88	118	29121	0.435 ng		98
81) 2-Ethyltoluene	19.92	105	71176	0.498 ng		98
82) 1,2,4-Trimethylbenzene	20.11	105	57697	0.454 ng		98
83) n-Decane	20.20	57	28801	0.460 ng		98
84) Benzyl Chloride	20.23	91	38679	0.379 ng		97
85) 1,3-Dichlorobenzene	20.24	146	32341	0.470 ng		99
86) 1,4-Dichlorobenzene	20.30	146	32829	0.480 ng		98
87) sec-Butylbenzene	20.35	105	79152	0.499 ng		98
88) 4-Isopropyltoluene (p-...	20.48	119	71971	0.481 ng		98
89) 1,2,3-Trimethylbenzene	20.48	105	58236	0.457 ng		97
90) 1,2-Dichlorobenzene	20.61	146	31295	0.447 ng		100
91) d-Limonene	20.62	68	22394	0.451 ng		99
92) 1,2-Dibromo-3-Chloropr...	20.99	157	9748	0.406 ng	#	80
93) n-Undecane	21.30	57	23411	0.364 ng		98
94) 1,2,4-Trichlorobenzene	22.11	180	16758	0.385 ng		99
95) Naphthalene	22.22	128	53528	0.365 ng		100
96) n-Dodecane	22.22	57	12440	0.198 ng		98
97) Hexachlorobutadiene	22.54	225	11744	0.356 ng		99
98) Cyclohexanone	18.28	55	19899	0.444 ng		97
99) tert-Butylbenzene	20.11	119	57329	0.464 ng		99
100) n-Butylbenzene	20.85	91	61839	0.478 ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012020.D Vial: 13
Acq On : 1 May 2020 15:16 Operator: LH
Sample : 0.5ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-05012002 (5/30)

Quant Time: May 01 17:26:12 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012021.D Vial: 13
Acq On : 1 May 2020 15:51 Operator: LH
Sample : 1.0ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-05012002 (5/30)

Quant Time: May 01 17:26:14 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	283099	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1255557	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	599231	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	497020	12.717	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.76%				
57) Toluene-d8 (SS2)	15.72	98	1262658	11.945	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.60%				
73) Bromofluorobenzene (SS3)	18.98	174	433746	11.550	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.40%				
Target Compounds							Qvalue
2) Propene	4.11	42	33126	1.093	ng		99
3) Dichlorodifluoromethan...	4.27	85	68235	1.064	ng		99
4) Chloromethane	4.53	50	53718	1.062	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	38642	0.956	ng		99
6) Vinyl Chloride	4.96	62	58432	1.092	ng		100
7) 1,3-Butadiene	5.22	54	47465	1.185	ng		98
8) Bromomethane	5.64	94	29630	1.099	ng		100
9) Chloroethane	5.98	64	22473	1.088	ng		99
10) Ethanol	6.32	45	110869	4.665	ng		99
11) Acetonitrile	6.58	41	53541	1.017	ng		100
12) Acrolein	6.78	56	19340	1.106	ng		100
13) Acetone	6.98	58	119315	5.130	ng		90
14) Trichlorofluoromethane	7.24	101	56632	1.006	ng		99
15) 2-Propanol (Isopropanol)	7.48	45	154892	2.235	ng		96
16) Acrylonitrile	7.74	53	38461	1.095	ng		99
17) 1,1-Dichloroethene	8.19	96	30236	1.080	ng		97
18) 2-Methyl-2-Propanol (t...	8.36	59	151128	2.466	ng		98
19) Methylene Chloride	8.40	84	32502	1.072	ng		97
20) 3-Chloro-1-propene (Al...	8.57	41	46601	1.174	ng		98
21) Trichlorotrifluoroethane	8.84	151	26828	0.993	ng		96
22) Carbon Disulfide	8.68	76	117066	1.075	ng		99
23) trans-1,2-Dichloroethene	9.68	61	45490	1.115	ng		97
24) 1,1-Dichloroethane	9.94	63	55243	1.065	ng		99
25) Methyl tert-Butyl Ether	10.06	73	92006	1.109	ng		99
26) Vinyl Acetate	10.20	86	33295	4.258	ng	#	76
27) 2-Butanone (MEK)	10.46	72	21197	1.105	ng		96
28) cis-1,2-Dichloroethene	10.96	61	43960	1.043	ng		97
29) Diisopropyl Ether	11.27	87	31384	1.031	ng	#	79
30) Ethyl Acetate	11.27	61	23578	2.083	ng		97
31) n-Hexane	11.26	57	53227	1.014	ng		99
32) Chloroform	11.30	83	57167	1.020	ng		98
34) Tetrahydrofuran (THF)	11.73	72	21166	1.066	ng		97
35) Ethyl tert-Butyl Ether	11.87	87	36365	1.013	ng		97
36) 1,2-Dichloroethane	12.11	62	45068	1.029	ng		100
38) 1,1,1-Trichloroethane	12.39	97	50409	1.021	ng		98
39) Isopropyl Acetate	12.83	61	40161	1.973	ng	#	92
40) 1-Butanol	12.84	56	48310	1.519	ng		82
41) Benzene	12.87	78	127091	0.984	ng		100
42) Carbon Tetrachloride	13.03	117	43210	0.970	ng		98
43) Cyclohexane	13.17	84	94431	1.902	ng		98
44) tert-Amyl Methyl Ether	13.52	73	89386	1.060	ng		98
45) 1,2-Dichloropropane	13.73	63	31276	1.047	ng		99
46) Bromodichloromethane	13.91	83	44019	1.002	ng		99
47) Trichloroethene	13.97	130	32599	0.885	ng		100
48) 1,4-Dioxane	13.95	88	25788	1.023	ng		99
49) 2,2,4-Trimethylpentane...	14.04	57	130371	1.050	ng		98
50) Methyl Methacrylate	14.18	100	24994	2.007	ng		96

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012021.D Vial: 13
Acq On : 1 May 2020 15:51 Operator: LH
Sample : 1.0ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-05012002 (5/30)

Quant Time: May 01 17:26:14 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

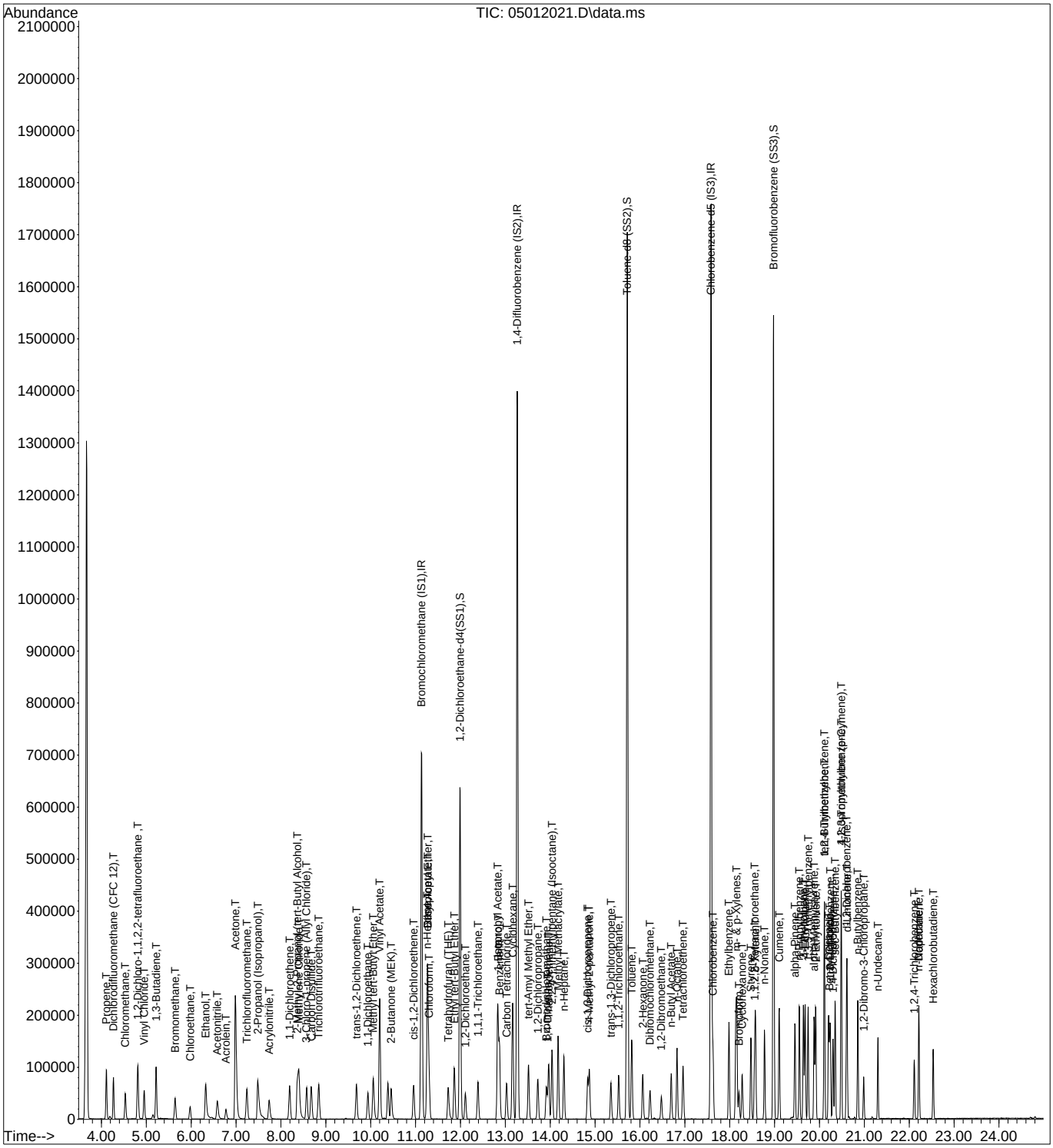
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	31052	1.028	ng	99
52) cis-1,3-Dichloropropene	14.83	75	48884	1.016	ng	100
53) 4-Methyl-2-pentanone	14.87	58	28992	1.064	ng	98
54) trans-1,3-Dichloropropene	15.35	75	42499	0.949	ng	99
55) 1,1,2-Trichloroethane	15.52	97	29976	0.997	ng	99
58) Toluene	15.82	91	126852	0.968	ng	100
59) 2-Hexanone	16.06	43	68688	1.039	ng	98
60) Dibromochloromethane	16.22	129	34198	0.973	ng	100
61) 1,2-Dibromoethane	16.48	107	33986	1.006	ng	99
62) n-Butyl Acetate	16.70	43	76066	1.076	ng	98
63) n-Octane	16.83	57	26077	0.995	ng	99
64) Tetrachloroethene	16.96	166	32577	0.886	ng	100
65) Chlorobenzene	17.62	112	82545	0.935	ng	98
66) Ethylbenzene	17.98	91	142006	0.988	ng	99
67) m- & p-Xylenes	18.15	91	225991	1.941	ng	98
68) Bromoform	18.21	173	25763	0.818	ng	100
69) Styrene	18.47	104	80976	0.891	ng	99
70) o-Xylene	18.58	91	111310	0.955	ng	99
71) n-Nonane	18.77	43	60557	1.023	ng	97
72) 1,1,2,2-Tetrachloroethane	18.55	83	54222	0.963	ng	99
74) Cumene	19.10	105	140371	0.956	ng	99
75) alpha-Pinene	19.45	93	71471	0.956	ng	99
76) n-Propylbenzene	19.55	91	173225	1.008	ng	98
77) 3-Ethyltoluene	19.64	105	131045	0.897	ng	99
78) 4-Ethyltoluene	19.68	105	136161	0.983	ng	99
79) 1,3,5-Trimethylbenzene	19.75	105	112385	0.908	ng	99
80) alpha-Methylstyrene	19.88	118	57239	0.853	ng	99
81) 2-Ethyltoluene	19.92	105	133665	0.933	ng	99
82) 1,2,4-Trimethylbenzene	20.11	105	112073	0.879	ng	99
83) n-Decane	20.20	57	56537	0.900	ng	99
84) Benzyl Chloride	20.23	91	78621	0.769	ng	97
85) 1,3-Dichlorobenzene	20.24	146	62650	0.909	ng	99
86) 1,4-Dichlorobenzene	20.30	146	61324	0.895	ng	100
87) sec-Butylbenzene	20.35	105	151180	0.950	ng	98
88) 4-Isopropyltoluene (p-...	20.48	119	138806	0.925	ng	99
89) 1,2,3-Trimethylbenzene	20.48	105	113653	0.890	ng	99
90) 1,2-Dichlorobenzene	20.61	146	60175	0.857	ng	99
91) d-Limonene	20.62	68	44904	0.903	ng	98
92) 1,2-Dibromo-3-Chloropr...	20.98	157	19657	0.817	ng	85
93) n-Undecane	21.30	57	44833	0.696	ng	99
94) 1,2,4-Trichlorobenzene	22.11	180	32560	0.746	ng	100
95) Naphthalene	22.22	128	100929	0.687	ng	100
96) n-Dodecane	22.21	57	24009	0.380	ng	99
97) Hexachlorobutadiene	22.54	225	22641	0.684	ng	99
98) Cyclohexanone	18.28	55	38554	0.858	ng	99
99) tert-Butylbenzene	20.11	119	111007	0.897	ng	99
100) n-Butylbenzene	20.85	91	119734	0.924	ng	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012021.D Vial: 13
Acq On : 1 May 2020 15:51 Operator: LH
Sample : 1.0ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-05012002 (5/30)

Quant Time: May 01 17:26:14 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012022.D Vial: 2
Acq On : 1 May 2020 16:25 Operator: LH
Sample : 5.0ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 17:26:16 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	303798	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.27	114	1318017	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	623963	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	517657	12.342	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.72%				
57) Toluene-d8 (SS2)	15.72	98	1308528	11.889	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.12%				
73) Bromofluorobenzene (SS3)	18.98	174	490919	12.554	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.40%				
Target Compounds							Qvalue
2) Propene	4.09	42	193048	5.934	ng		100
3) Dichlorodifluoromethan...	4.25	85	387745	5.637	ng		100
4) Chloromethane	4.52	50	303525	5.594	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	222610	5.132	ng		100
6) Vinyl Chloride	4.94	62	339270	5.907	ng		100
7) 1,3-Butadiene	5.21	54	276281	6.430	ng		99
8) Bromomethane	5.64	94	169682	5.863	ng		98
9) Chloroethane	5.97	64	129957	5.865	ng		100
10) Ethanol	6.35	45	691643	27.117	ng		100
11) Acetonitrile	6.60	41	322707	5.712	ng		100
12) Acrolein	6.78	56	114887	6.125	ng		99
13) Acetone	6.99	58	718205	28.778	ng		93
14) Trichlorofluoromethane	7.24	101	330361	5.469	ng		100
15) 2-Propanol (Isopropanol)	7.50	45	953934	12.829	ng		99
16) Acrylonitrile	7.75	53	241513	6.410	ng		100
17) 1,1-Dichloroethene	8.19	96	176135	5.860	ng		97
18) 2-Methyl-2-Propanol (t...	8.36	59	939029	14.278	ng		99
19) Methylene Chloride	8.42	84	189273	5.818	ng		97
20) 3-Chloro-1-propene (Al...	8.58	41	281181	6.602	ng		99
21) Trichlorotrifluoroethane	8.84	151	159827	5.511	ng		97
22) Carbon Disulfide	8.68	76	697922	5.971	ng		100
23) trans-1,2-Dichloroethene	9.70	61	269106	6.148	ng		99
24) 1,1-Dichloroethane	9.95	63	324467	5.829	ng		100
25) Methyl tert-Butyl Ether	10.05	73	520731	5.850	ng		100
26) Vinyl Acetate	10.21	86	230843	27.513	ng	#	86
27) 2-Butanone (MEK)	10.45	72	129697	6.298	ng		97
28) cis-1,2-Dichloroethene	10.97	61	259456	5.737	ng		98
29) Diisopropyl Ether	11.27	87	191800	5.871	ng	#	79
30) Ethyl Acetate	11.27	61	149560	12.310	ng		98
31) n-Hexane	11.26	57	314981	5.592	ng		99
32) Chloroform	11.31	83	340357	5.661	ng		99
34) Tetrahydrofuran (THF)	11.72	72	126370	5.930	ng		99
35) Ethyl tert-Butyl Ether	11.86	87	221593	5.751	ng		97
36) 1,2-Dichloroethane	12.11	62	265122	5.640	ng		100
38) 1,1,1-Trichloroethane	12.40	97	293872	5.672	ng		100
39) Isopropyl Acetate	12.83	61	250912	11.741	ng	#	94
40) 1-Butanol	12.84	56	336318	10.073	ng		93
41) Benzene	12.87	78	763486	5.631	ng		100
42) Carbon Tetrachloride	13.03	117	266893	5.707	ng		100
43) Cyclohexane	13.17	84	572113	10.975	ng		100
44) tert-Amyl Methyl Ether	13.52	73	541195	6.112	ng		99
45) 1,2-Dichloropropane	13.73	63	186128	5.938	ng		99
46) Bromodichloromethane	13.92	83	271708	5.892	ng		100
47) Trichloroethene	13.97	130	200472	5.185	ng		100
48) 1,4-Dioxane	13.95	88	156033	5.899	ng		100
49) 2,2,4-Trimethylpentane...	14.04	57	772648	5.931	ng		99
50) Methyl Methacrylate	14.18	100	156609	11.977	ng		97

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012022.D Vial: 2
Acq On : 1 May 2020 16:25 Operator: LH
Sample : 5.0ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 17:26:16 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

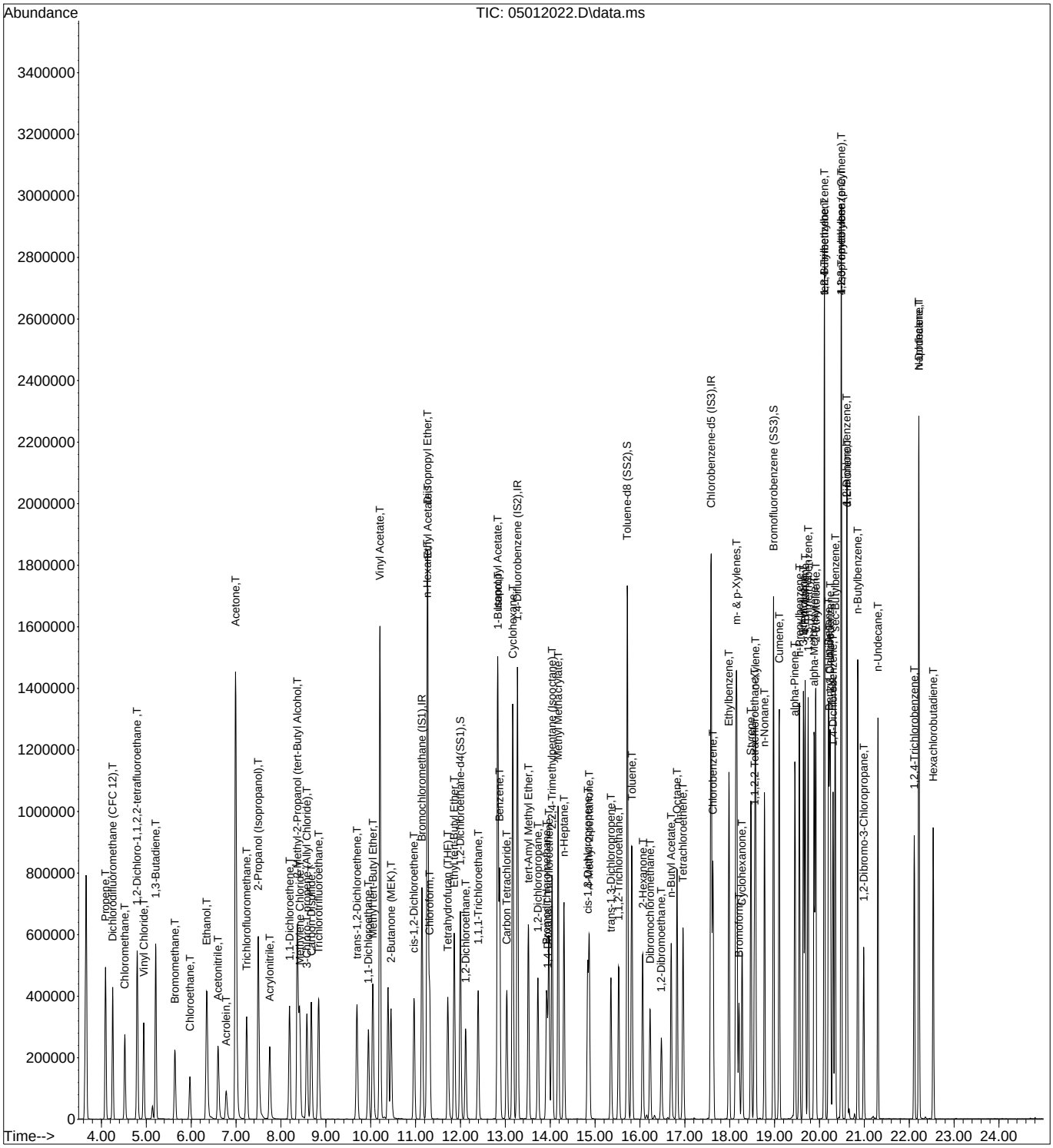
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	180946	5.706 ng	99
52) cis-1,3-Dichloropropene	14.84	75	308293	6.105 ng	100
53) 4-Methyl-2-pentanone	14.87	58	175513	6.138 ng	97
54) trans-1,3-Dichloropropene	15.35	75	277438	5.899 ng	100
55) 1,1,2-Trichloroethane	15.52	97	182608	5.786 ng	99
58) Toluene	15.82	91	751701	5.508 ng	100
59) 2-Hexanone	16.06	43	431067	6.262 ng	99
60) Dibromochloromethane	16.23	129	222764	6.086 ng	99
61) 1,2-Dibromoethane	16.48	107	211443	6.008 ng	100
62) n-Butyl Acetate	16.70	43	477782	6.493 ng	100
63) n-Octane	16.83	57	155673	5.704 ng	100
64) Tetrachloroethene	16.96	166	201840	5.271 ng	100
65) Chlorobenzene	17.62	112	499525	5.435 ng	100
66) Ethylbenzene	17.98	91	871724	5.827 ng	99
67) m- & p-Xylenes	18.15	91	1368621	11.288 ng	100
68) Bromoform	18.21	173	189068	5.768 ng	100
69) Styrene	18.47	104	536906	5.670 ng	100
70) o-Xylene	18.58	91	693423	5.713 ng	100
71) n-Nonane	18.77	43	370451	6.012 ng	98
72) 1,1,2,2-Tetrachloroethane	18.55	83	346585	5.910 ng	100
74) Cumene	19.10	105	885174	5.792 ng	99
75) alpha-Pinene	19.45	93	454351	5.834 ng	100
76) n-Propylbenzene	19.55	91	1076654	6.015 ng	99
77) 3-Ethyltoluene	19.64	105	836770	5.500 ng	95
78) 4-Ethyltoluene	19.68	105	882656	6.121 ng	95
79) 1,3,5-Trimethylbenzene	19.75	105	715909	5.552 ng	99
80) alpha-Methylstyrene	19.88	118	385478	5.515 ng	100
81) 2-Ethyltoluene	19.92	105	858573	5.755 ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	751354	5.662 ng	98
83) n-Decane	20.20	57	376639	5.759 ng	99
84) Benzyl Chloride	20.23	91	614231	5.773 ng	99
85) 1,3-Dichlorobenzene	20.24	146	434270	6.049 ng	100
86) 1,4-Dichlorobenzene	20.30	146	427551	5.990 ng	100
87) sec-Butylbenzene	20.35	105	969884	5.855 ng	99
88) 4-Isopropyltoluene (p-...	20.48	119	928906	5.944 ng	98
89) 1,2,3-Trimethylbenzene	20.48	105	769774	5.787 ng	98
90) 1,2-Dichlorobenzene	20.61	146	419115	5.732 ng	100
91) d-Limonene	20.62	68	288464	5.570 ng	99
92) 1,2-Dibromo-3-Chloropr...	20.98	157	148727	5.940 ng	97
93) n-Undecane	21.30	57	365721	5.450 ng	100
94) 1,2,4-Trichlorobenzene	22.11	180	270469	5.951 ng	99
95) Naphthalene	22.22	128	892593	5.833 ng	100
96) n-Dodecane	22.22	57	324655	4.939 ng	99
97) Hexachlorobutadiene	22.54	225	164461	4.774 ng	100
98) Cyclohexanone	18.27	55	245365	5.243 ng	99
99) tert-Butylbenzene	20.11	119	727041	5.643 ng	100
100) n-Butylbenzene	20.85	91	778801	5.771 ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012022.D Vial: 2
Acq On : 1 May 2020 16:25 Operator: LH
Sample : 5.0ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 17:26:16 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012023.D Vial: 2
Acq On : 1 May 2020 16:59 Operator: LH
Sample : 25ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 17:26:18 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	286303	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	13.28	114	1228912	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	571123	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.01	65	468097	11.843	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.72%			
57) Toluene-d8 (SS2)	15.72	98	1212242	12.033	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.24%			
73) Bromofluorobenzene (SS3)	18.98	174	458310	12.805	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.40%			
Target Compounds						Qvalue
2) Propene	4.09	42	894762	29.187	ng	100
3) Dichlorodifluoromethan...	4.25	85	1661240	25.625	ng	100
4) Chloromethane	4.53	50	1331334	26.035	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	962170	23.538	ng	100
6) Vinyl Chloride	4.94	62	1452200	26.828	ng	100
7) 1,3-Butadiene	5.21	54	1192249	29.444	ng	100
8) Bromomethane	5.65	94	769909	28.228	ng	100
9) Chloroethane	5.98	64	583429	27.941	ng	100
10) Ethanol	6.39	45	3316498	137.974	ng	100
11) Acetonitrile	6.63	41	1485800	27.907	ng	100
12) Acrolein	6.80	56	518321	29.321	ng	100
13) Acetone	7.01	58	3451253	146.739	ng	100
14) Trichlorofluoromethane	7.24	101	1489634	26.165	ng	100
15) 2-Propanol (Isopropanol)	7.53	45	4218436	60.200	ng	100
16) Acrylonitrile	7.77	53	1099575	30.969	ng	100
17) 1,1-Dichloroethene	8.20	96	811190	28.639	ng	100
18) 2-Methyl-2-Propanol (t...	8.39	59	3958148	63.861	ng	100
19) Methylene Chloride	8.44	84	868569	28.330	ng	100
20) 3-Chloro-1-propene (Al...	8.59	41	1253954	31.243	ng	100
21) Trichlorotrifluoroethane	8.84	151	743004	27.185	ng	100
22) Carbon Disulfide	8.69	76	3145335	28.555	ng	100
23) trans-1,2-Dichloroethene	9.71	61	1224632	29.687	ng	100
24) 1,1-Dichloroethane	9.96	63	1485162	28.313	ng	100
25) Methyl tert-Butyl Ether	10.05	73	2185564	26.052	ng	100
26) Vinyl Acetate	10.22	86	1147538	145.128	ng	100
27) 2-Butanone (MEK)	10.46	72	578422	29.805	ng	100
28) cis-1,2-Dichloroethene	10.98	61	1170190	27.455	ng	100
29) Diisopropyl Ether	11.27	87	816119	26.509	ng	100
30) Ethyl Acetate	11.28	61	740753	64.696	ng	100
31) n-Hexane	11.26	57	1536846	28.951	ng	100
32) Chloroform	11.32	83	1513438	26.712	ng	100
34) Tetrahydrofuran (THF)	11.72	72	562319	27.999	ng	100
35) Ethyl tert-Butyl Ether	11.87	87	1027494	28.295	ng	100
36) 1,2-Dichloroethane	12.12	62	1181488	26.670	ng	100
38) 1,1,1-Trichloroethane	12.40	97	1349990	27.947	ng	100
39) Isopropyl Acetate	12.84	61	1233560	61.905	ng	100
40) 1-Butanol	12.85	56	1704801	54.762	ng	100
41) Benzene	12.88	78	3498072	27.670	ng	100
42) Carbon Tetrachloride	13.04	117	1221860	28.021	ng	100
43) Cyclohexane	13.17	84	2724355	56.049	ng	100
44) tert-Amyl Methyl Ether	13.52	73	2480433	30.042	ng	100
45) 1,2-Dichloropropane	13.73	63	842781	28.835	ng	100
46) Bromodichloromethane	13.92	83	1270274	29.545	ng	100
47) Trichloroethene	13.97	130	932766	25.873	ng	100
48) 1,4-Dioxane	13.95	88	738598	29.950	ng	100
49) 2,2,4-Trimethylpentane...	14.05	57	3492402	28.751	ng	100
50) Methyl Methacrylate	14.18	100	756519	62.050	ng	100

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012023.D Vial: 2
Acq On : 1 May 2020 16:59 Operator: LH
Sample : 25ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 17:26:18 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

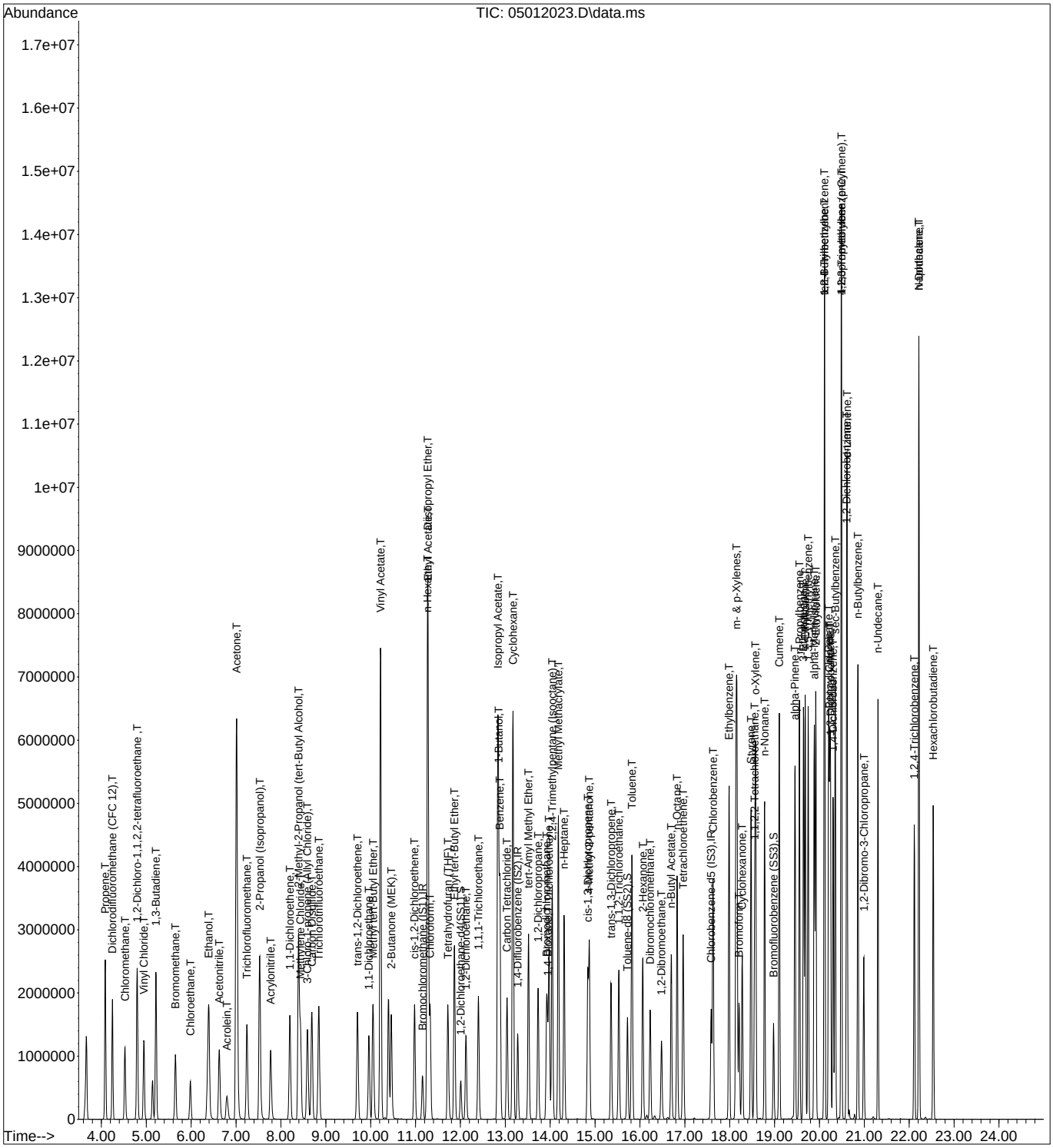
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	823934	27.865	ng	100
52) cis-1,3-Dichloropropene	14.84	75	1447687	30.747	ng	100
53) 4-Methyl-2-pentanone	14.87	58	811075	30.423	ng	100
54) trans-1,3-Dichloropropene	15.36	75	1324553	30.205	ng	100
55) 1,1,2-Trichloroethane	15.53	97	843984	28.682	ng	100
58) Toluene	15.82	91	3424256	27.410	ng	100
59) 2-Hexanone	16.06	43	1935226	30.714	ng	100
60) Dibromochloromethane	16.23	129	1060385	31.652	ng	100
61) 1,2-Dibromoethane	16.48	107	982343	30.496	ng	100
62) n-Butyl Acetate	16.70	43	2168912	32.203	ng	100
63) n-Octane	16.83	57	728475	29.163	ng	100
64) Tetrachloroethene	16.96	166	984776	28.099	ng	100
65) Chlorobenzene	17.63	112	2300188	27.341	ng	100
66) Ethylbenzene	17.99	91	4049520	29.572	ng	100
67) m- & p-Xylenes	18.15	91	6491657	58.495	ng	100
68) Bromoform	18.21	173	917591	30.583	ng	100
69) Styrene	18.48	104	2503836	28.891	ng	100
70) o-Xylene	18.58	91	3253541	29.284	ng	100
71) n-Nonane	18.78	43	1726340	30.608	ng	100
72) 1,1,2,2-Tetrachloroethane	18.55	83	1616722	30.117	ng	100
74) Cumene	19.10	105	4096128	29.280	ng	100
75) alpha-Pinene	19.46	93	2182133	30.613	ng	100
76) n-Propylbenzene	19.56	91	4975591	30.367	ng	100
77) 3-Ethyltoluene	19.64	105	4101218	29.451	ng	100
78) 4-Ethyltoluene	19.68	105	3906607	29.596	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	3353822	28.417	ng	100
80) alpha-Methylstyrene	19.88	118	1815476	28.379	ng	100
81) 2-Ethyltoluene	19.92	105	3976342	29.119	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3727437	30.689	ng	100
83) n-Decane	20.20	57	1854354	30.977	ng	100
84) Benzyl Chloride	20.23	91	3206821	32.930	ng	100
85) 1,3-Dichlorobenzene	20.25	146	2028248	30.866	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1980369	30.311	ng	100
87) sec-Butylbenzene	20.35	105	4443941	29.308	ng	100
88) 4-Isopropyltoluene (p-...	20.49	119	4416603	30.875	ng	100
89) 1,2,3-Trimethylbenzene	20.49	105	3810515	31.296	ng	100
90) 1,2-Dichlorobenzene	20.61	146	2012317	30.068	ng	100
91) d-Limonene	20.62	68	1441613	30.414	ng	100
92) 1,2-Dibromo-3-Chloropr...	20.99	157	697199	30.419	ng	100
93) n-Undecane	21.30	57	1818070	29.597	ng	100
94) 1,2,4-Trichlorobenzene	22.11	180	1398370	33.614	ng	100
95) Naphthalene	22.22	128	4546028	32.455	ng	100
96) n-Dodecane	22.22	57	1750966	29.104	ng	100
97) Hexachlorobutadiene	22.54	225	878145	27.851	ng	100
98) Cyclohexanone	18.28	55	1117925	26.097	ng	100
99) tert-Butylbenzene	20.11	119	3489996	29.594	ng	100
100) n-Butylbenzene	20.86	91	3625532	29.353	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012023.D Vial: 2
Acq On : 1 May 2020 16:59 Operator: LH
Sample : 25ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 17:26:18 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012024.D Vial: 2
Acq On : 1 May 2020 17:33 Operator: LH
Sample : 50ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 18:21:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:29:13 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	296329	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.28	114	1261474	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	593519	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.01	65	478735	11.900	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.20%				
57) Toluene-d8 (SS2)	15.72	98	1240425	12.243	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.92%				
73) Bromofluorobenzene (SS3)	18.98	174	464734	12.717	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.76%				
Target Compounds							Qvalue
2) Propene	4.09	42	1796953	52.860	ng		99
3) Dichlorodifluoromethan...	4.25	85	3187990	47.567	ng		100
4) Chloromethane	4.53	50	2729050	52.530	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	1935925	47.940	ng		100
6) Vinyl Chloride	4.96	62	2887895	50.326	ng		100
7) 1,3-Butadiene	5.22	54	2393303	50.778	ng		99
8) Bromomethane	5.66	94	1618002	53.561	ng		100
9) Chloroethane	5.99	64	1229227	54.539	ng		99
10) Ethanol	6.42	45	7106079	270.958	ng		100
11) Acetonitrile	6.64	41	3034898	50.934	ng		100
12) Acrolein	6.81	56	1054165	50.758	ng		100
13) Acetone	7.03	58	7450473	282.417	ng	#	85
14) Trichlorofluoromethane	7.25	101	3028815	50.994	ng		100
15) 2-Propanol (Isopropanol)	7.55	45	7855441	98.616	ng		99
16) Acrylonitrile	7.78	53	2274854	52.994	ng		100
17) 1,1-Dichloroethene	8.21	96	1662670	53.624	ng		99
18) 2-Methyl-2-Propanol (t...	8.41	59	5524708	78.677	ng		100
19) Methylene Chloride	8.44	84	1782729	52.018	ng		100
20) 3-Chloro-1-propene (Al...	8.60	41	2606826	55.998	ng		100
21) Trichlorotrifluoroethane	8.85	151	1546599	55.362	ng		98
22) Carbon Disulfide	8.69	76	6372275	51.854	ng		100
23) trans-1,2-Dichloroethene	9.71	61	2513808	53.485	ng		99
24) 1,1-Dichloroethane	9.96	63	3010944	53.864	ng		100
25) Methyl tert-Butyl Ether	10.05	73	4149230	46.527	ng		100
26) Vinyl Acetate	10.23	86	2491407	314.423	ng	#	57
27) 2-Butanone (MEK)	10.47	72	1200800	53.091	ng		100
28) cis-1,2-Dichloroethene	10.98	61	2420682	52.524	ng		99
29) Diisopropyl Ether	11.27	87	1723473	53.021	ng	#	93
30) Ethyl Acetate	11.28	61	1642236	125.490	ng		100
31) n-Hexane	11.26	57	3312834	58.268	ng		100
32) Chloroform	11.33	83	3125242	52.888	ng		100
34) Tetrahydrofuran (THF)	11.72	72	1166647	53.025	ng		100
35) Ethyl tert-Butyl Ether	11.87	87	2150206	55.497	ng		100
36) 1,2-Dichloroethane	12.13	62	2421427	51.847	ng		100
38) 1,1,1-Trichloroethane	12.40	97	2767260	54.541	ng		100
39) Isopropyl Acetate	12.84	61	2703577	121.791	ng	#	89
40) 1-Butanol	12.86	56	3801241	117.283	ng		94
41) Benzene	12.88	78	7578608	55.786	ng		100
42) Carbon Tetrachloride	13.04	117	2525594	54.795	ng		100
43) Cyclohexane	13.18	84	5820559	114.692	ng		99
44) tert-Amyl Methyl Ether	13.52	73	5201775	57.533	ng		99
45) 1,2-Dichloropropane	13.73	63	1741280	55.926	ng		99
46) Bromodichloromethane	13.92	83	2627252	57.456	ng		100
47) Trichloroethene	13.98	130	1973429	56.342	ng		100
48) 1,4-Dioxane	13.95	88	1556720	57.092	ng		99
49) 2,2,4-Trimethylpentane...	14.05	57	7264805	55.532	ng		98
50) Methyl Methacrylate	14.19	100	1612357	118.946	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012024.D Vial: 2
Acq On : 1 May 2020 17:33 Operator: LH
Sample : 50ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 18:21:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:29:13 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

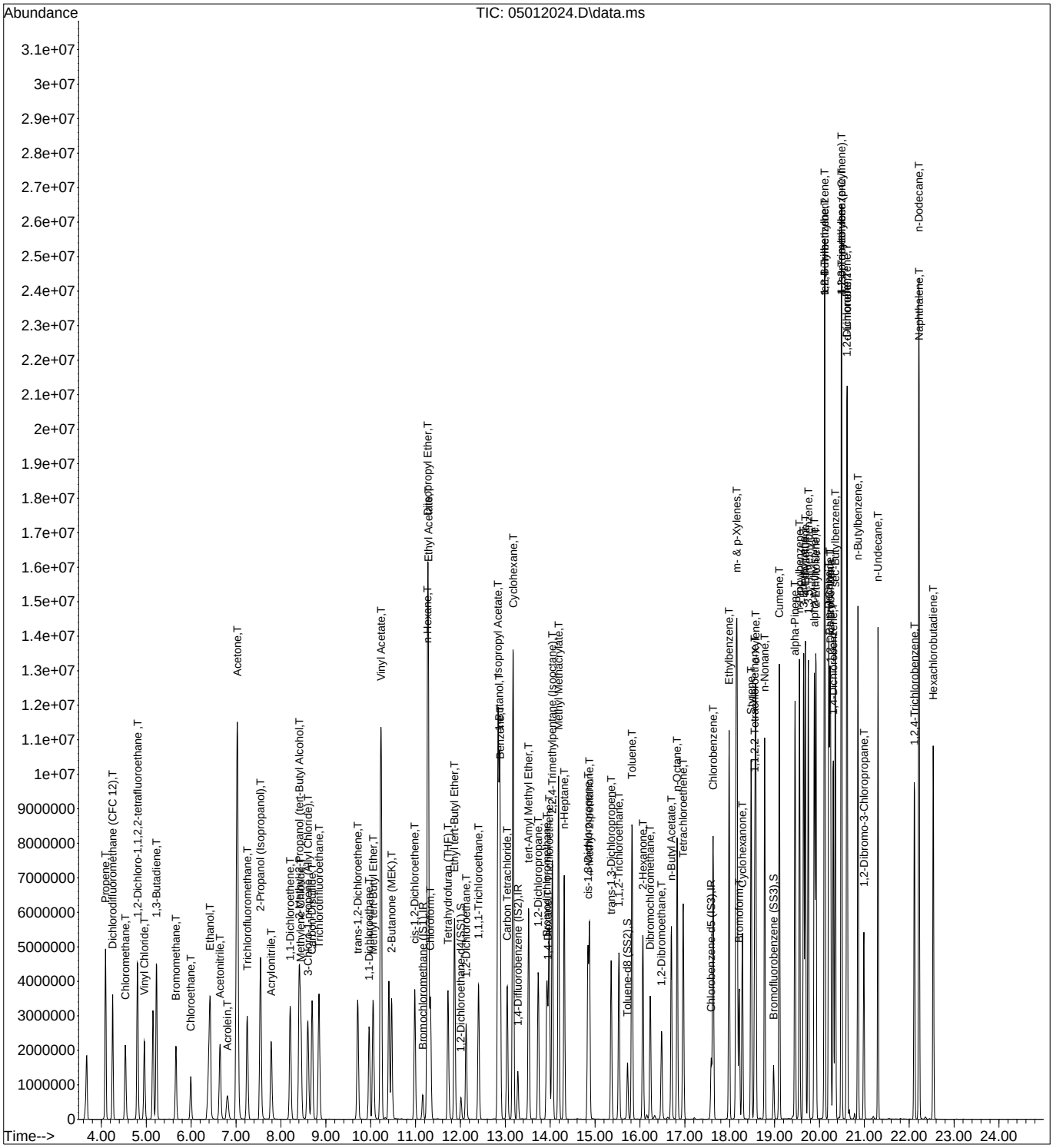
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	1767254	55.726	ng	100
52) cis-1,3-Dichloropropene	14.84	75	3046439	56.787	ng	100
53) 4-Methyl-2-pentanone	14.88	58	1706203	56.697	ng	99
54) trans-1,3-Dichloropropene	15.36	75	2784226	60.799	ng	100
55) 1,1,2-Trichloroethane	15.53	97	1746966	56.334	ng	99
58) Toluene	15.82	91	7061705	54.313	ng	99
59) 2-Hexanone	16.06	43	4070739	57.784	ng	99
60) Dibromochloromethane	16.23	129	2194267	59.071	ng	100
61) 1,2-Dibromoethane	16.48	107	2025699	56.837	ng	100
62) n-Butyl Acetate	16.70	43	4530163	59.421	ng	99
63) n-Octane	16.83	57	1570654	58.903	ng	100
64) Tetrachloroethene	16.97	166	2068921	56.346	ng	100
65) Chlorobenzene	17.63	112	4832830	53.780	ng	100
66) Ethylbenzene	17.99	91	8386382	57.841	ng	99
67) m- & p-Xylenes	18.16	91	13925432	121.021	ng	98
68) Bromoform	18.21	173	1918060	63.108	ng	100
69) Styrene	18.48	104	5183954	59.571	ng	99
70) o-Xylene	18.58	91	6807386	58.156	ng	100
71) n-Nonane	18.78	43	3697140	60.502	ng	98
72) 1,1,2,2-Tetrachloroethane	18.56	83	3397226	58.901	ng	100
74) Cumene	19.10	105	8370559	58.039	ng	99
75) alpha-Pinene	19.46	93	4559119	59.324	ng	99
76) n-Propylbenzene	19.56	91	10009459	58.692	ng	98
77) 3-Ethyltoluene	19.65	105	8132559	58.352	ng	99
78) 4-Ethyltoluene	19.69	105	8156559	59.940	ng	99
79) 1,3,5-Trimethylbenzene	19.75	105	6870991	58.237	ng	99
80) alpha-Methylstyrene	19.89	118	3732298	60.194	ng	98
81) 2-Ethyltoluene	19.92	105	8070320	58.450	ng	99
82) 1,2,4-Trimethylbenzene	20.12	105	7311702	61.264	ng	100
83) n-Decane	20.20	57	4092282	67.333	ng	100
84) Benzyl Chloride	20.23	91	6890327	76.746	ng	99
85) 1,3-Dichlorobenzene	20.25	146	4163439	60.293	ng	100
86) 1,4-Dichlorobenzene	20.31	146	4017198	59.763	ng	100
87) sec-Butylbenzene	20.35	105	8855378	57.530	ng	98
88) 4-Isopropyltoluene (p-...	20.49	119	8351171	59.057	ng	98
89) 1,2,3-Trimethylbenzene	20.49	105	7426933	62.512	ng	99
90) 1,2-Dichlorobenzene	20.61	146	4049033	60.984	ng	100
91) d-Limonene	20.62	68	3089607	66.195	ng	98
92) 1,2-Dibromo-3-Chloropr...	20.99	157	1448206	64.485	ng	98
93) n-Undecane	21.30	57	4012904	76.685	ng	100
94) 1,2,4-Trichlorobenzene	22.12	180	3005308	77.697	ng	99
95) Naphthalene	22.22	128	9089253	72.417	ng	99
96) n-Dodecane	22.22	57	3837089	87.820	ng	99
97) Hexachlorobutadiene	22.54	225	1927632	64.992	ng	100
98) Cyclohexanone	18.28	55	2325790	50.761	ng	99
99) tert-Butylbenzene	20.12	119	6753035	57.139	ng	100
100) n-Butylbenzene	20.86	91	7324522	61.000	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012024.D Vial: 2
Acq On : 1 May 2020 17:33 Operator: LH
Sample : 50ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 18:21:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:29:13 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012025.D Vial: 2
Acq On : 1 May 2020 18:07 Operator: LH
Sample : 100ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 18:32:42 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/1/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	307101	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.29	114	1302649	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	623928	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	496605	11.932	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.44%				
57) Toluene-d8 (SS2)	15.73	98	1277690	12.082	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.64%				
73) Bromofluorobenzene (SS3)	18.98	174	482815	12.688	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.52%				
Target Compounds							Qvalue
2) Propene	4.09	42	2805564	78.878	ng		99
3) Dichlorodifluoromethan...	4.25	85	5430136	78.055	ng		99
4) Chloromethane	4.53	50	5012802	91.976	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	3608284	86.813	ng		100
6) Vinyl Chloride	4.96	62	5582487	93.407	ng		100
7) 1,3-Butadiene	5.24	54	4618053	93.386	ng		97
8) Bromomethane	5.67	94	3307082	104.747	ng		100
9) Chloroethane	6.00	64	2534746	107.357	ng		100
10) Ethanol	6.47	45	15131456	550.944	ng		99
11) Acetonitrile	6.67	41	6424952	102.369	ng		100
12) Acrolein	6.82	56	2202179	101.477	ng		100
13) Acetone	7.05	58	15042025	547.644	ng	#	56
14) Trichlorofluoromethane	7.25	101	6310121	102.633	ng		100
15) 2-Propanol (Isopropanol)	7.58	45	15078880	181.384	ng		98
16) Acrylonitrile	7.80	53	4844904	107.901	ng		100
17) 1,1-Dichloroethene	8.22	96	3526226	109.408	ng		99
18) 2-Methyl-2-Propanol (t...	8.43	59	5971963	83.578	ng		99
19) Methylene Chloride	8.45	84	3794776	106.281	ng		99
20) 3-Chloro-1-propene (Al...	8.61	41	5538474	112.906	ng		99
21) Trichlorotrifluoroethane	8.85	151	3229354	111.251	ng		98
22) Carbon Disulfide	8.71	76	13073755	102.186	ng		99
23) trans-1,2-Dichloroethene	9.72	61	5348726	108.987	ng		100
24) 1,1-Dichloroethane	9.97	63	6355885	109.091	ng		100
25) Methyl tert-Butyl Ether	10.06	73	6522340	71.172	ng		99
26) Vinyl Acetate	10.25	86	4839363	598.679	ng	#	3
27) 2-Butanone (MEK)	10.48	72	2544981	108.649	ng		97
28) cis-1,2-Dichloroethene	10.99	61	5160701	107.507	ng		99
29) Diisopropyl Ether	11.28	87	3334523	100.633	ng	#	74
30) Ethyl Acetate	11.30	61	3181460	235.544	ng		97
31) n-Hexane	11.26	57	6466041	110.371	ng		100
32) Chloroform	11.34	83	6496904	106.280	ng		100
34) Tetrahydrofuran (THF)	11.73	72	2481850	108.635	ng		99
35) Ethyl tert-Butyl Ether	11.87	87	4598768	114.847	ng		98
36) 1,2-Dichloroethane	12.13	62	5046702	104.202	ng		100
38) 1,1,1-Trichloroethane	12.41	97	5801042	110.565	ng		100
39) Isopropyl Acetate	12.85	61	5612819	244.569	ng	#	65
40) 1-Butanol	12.88	56	7686632	235.415	ng		89
41) Benzene	12.89	78	15377837	110.081	ng		99
42) Carbon Tetrachloride	13.04	117	5341272	112.408	ng		99
43) Cyclohexane	13.18	84	11703238	224.817	ng		99
44) tert-Amyl Methyl Ether	13.52	73	10906653	116.431	ng		98
45) 1,2-Dichloropropane	13.74	63	3747744	115.837	ng		100
46) Bromodichloromethane	13.93	83	5488917	116.263	ng		100
47) Trichloroethene	13.98	130	4190784	116.061	ng		99
48) 1,4-Dioxane	13.96	88	3428858	121.871	ng		97
49) 2,2,4-Trimethylpentane...	14.05	57	14950897	109.987	ng		97
50) Methyl Methacrylate	14.19	100	3386785	244.382	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012025.D Vial: 2
Acq On : 1 May 2020 18:07 Operator: LH
Sample : 100ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 18:32:42 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

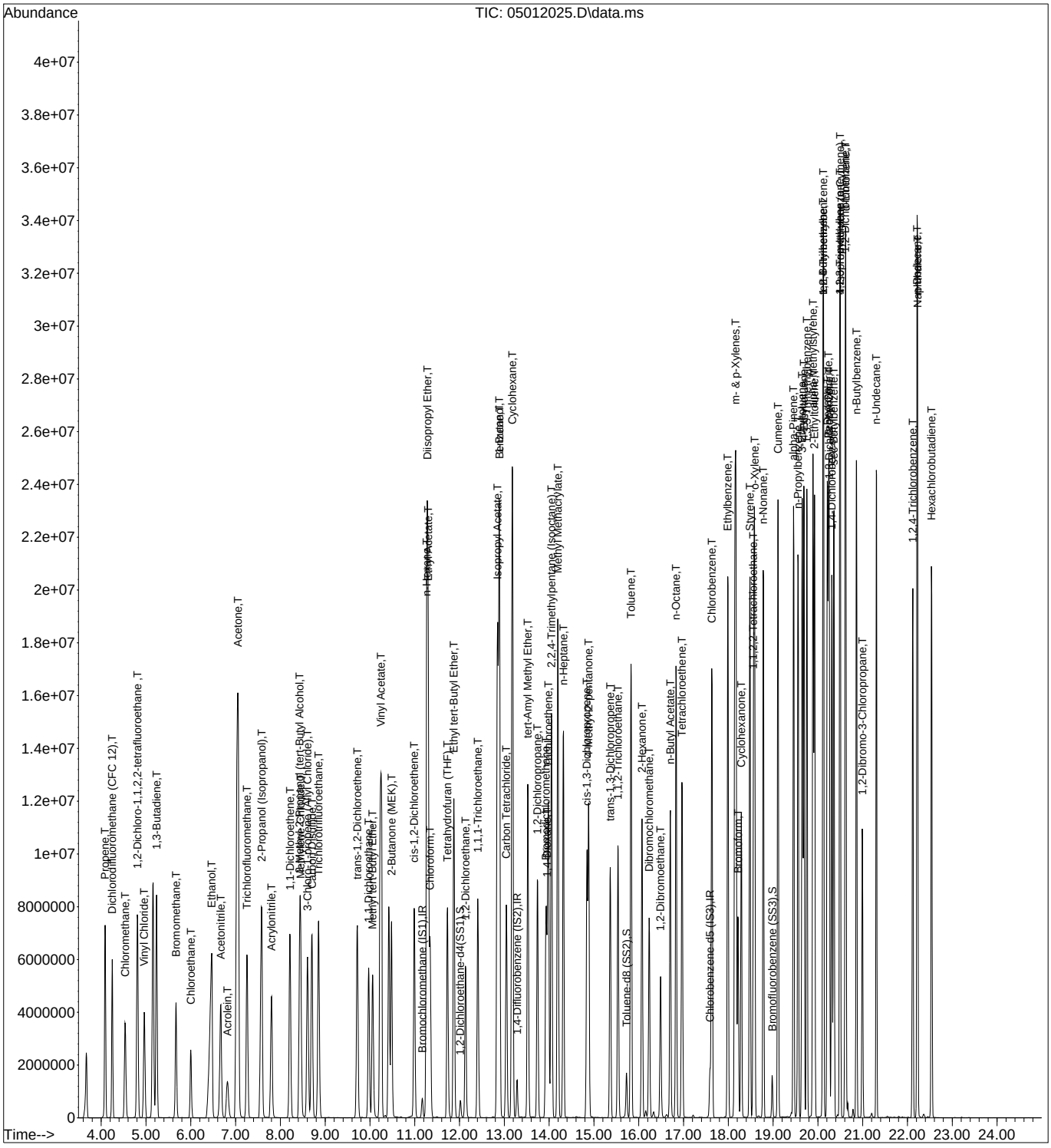
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.32	71	3860770	118.183 ng	99
52) cis-1,3-Dichloropropene	14.84	75	6512364	117.244 ng	99
53) 4-Methyl-2-pentanone	14.88	58	3720592	119.475 ng	94
54) trans-1,3-Dichloropropene	15.36	75	5980136	125.830 ng	100
55) 1,1,2-Trichloroethane	15.54	97	3694486	115.151 ng	98
58) Toluene	15.83	91	14122055	103.594 ng	97
59) 2-Hexanone	16.07	43	8538604	114.309 ng	97
60) Dibromochloromethane	16.23	129	4599117	117.821 ng	98
61) 1,2-Dibromoethane	16.49	107	4236452	112.921 ng	99
62) n-Butyl Acetate	16.71	43	9464801	117.306 ng	97
63) n-Octane	16.83	57	3422153	121.258 ng	99
64) Tetrachloroethene	16.96	166	4251324	110.411 ng	98
65) Chlorobenzene	17.63	112	10058959	107.240 ng	99
66) Ethylbenzene	17.99	91	15775647	103.782 ng	94
67) m- & p-Xylenes	18.16	91	24994911	207.270 ng	97
68) Bromoform	18.22	173	4017610	126.792 ng	100
69) Styrene	18.48	104	10371248	114.347 ng	96
70) o-Xylene	18.59	91	13044798	106.553 ng	98
71) n-Nonane	18.78	43	7415015	114.154 ng	95
72) 1,1,2,2-Tetrachloroethane	18.56	83	6995233	115.177 ng	100
74) Cumene	19.11	105	14928599	99.362 ng	93
75) alpha-Pinene	19.46	93	9103677	113.559 ng	97
76) n-Propylbenzene	19.56	91	16348034	91.592 ng	88
77) 3-Ethyltoluene	19.65	105	15320091	105.349 ng	94
78) 4-Ethyltoluene	19.69	105	13577066	96.220 ng	91
79) 1,3,5-Trimethylbenzene	19.75	105	12866248	105.014 ng	96
80) alpha-Methylstyrene	19.89	118	7332836	114.848 ng	89
81) 2-Ethyltoluene	19.92	105	14549504	101.431 ng	94
82) 1,2,4-Trimethylbenzene	20.12	105	11677289	94.825 ng	99
83) n-Decane	20.21	57	7901549	123.258 ng	99
84) Benzyl Chloride	20.24	91	12745970	134.347 ng	96
85) 1,3-Dichlorobenzene	20.25	146	7870539	110.067 ng	99
86) 1,4-Dichlorobenzene	20.31	146	7896122	113.154 ng	100
87) sec-Butylbenzene	20.36	105	15000490	93.840 ng	91
88) 4-Isopropyltoluene (p-...	20.50	119	12758034	87.765 ng	95
89) 1,2,3-Trimethylbenzene	20.49	105	11655993	95.082 ng	99
90) 1,2-Dichlorobenzene	20.61	146	7018237	102.510 ng	100
91) d-Limonene	20.62	68	5329834	109.584 ng	99
92) 1,2-Dibromo-3-Chloropr...	21.00	157	2996254	126.618 ng	94
93) n-Undecane	21.30	57	7881239	143.443 ng	98
94) 1,2,4-Trichlorobenzene	22.12	180	6156917	147.306 ng	99
95) Naphthalene	22.23	128	14689712	111.271 ng	97
96) n-Dodecane	22.22	57	6472005	144.069 ng	99
97) Hexachlorobutadiene	22.54	225	3985864	130.408 ng	100
98) Cyclohexanone	18.29	55	4951545	103.767 ng	97
99) tert-Butylbenzene	20.12	119	10982141	90.608 ng	99
100) n-Butylbenzene	20.86	91	12973286	103.470 ng	92

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012025.D Vial: 2
Acq On : 1 May 2020 18:07 Operator: LH
Sample : 100ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 18:32:42 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012026.D Vial: 2
Acq On : 1 May 2020 18:41 Operator: LH
Sample : 25ng TO15 ICV STD Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 01 19:07:38 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	306012	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.28	114	1305280	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	605237	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	502495	12.117	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.96%				
57) Toluene-d8 (SS2)	15.72	98	1272559	12.405	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.20%				
73) Bromofluorobenzene (SS3)	18.98	174	479316	12.985	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.84%				
Target Compounds							Qvalue
2) Propene	4.08	42	966787	27.278	ng		100
3) Dichlorodifluoromethan...	4.23	85	1760370	25.394	ng		100
4) Chloromethane	4.52	50	1357331	24.993	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.79	135	976267	23.572	ng		100
6) Vinyl Chloride	4.94	62	1467519	24.642	ng		99
7) 1,3-Butadiene	5.21	54	1260843	25.588	ng		100
8) Bromomethane	5.64	94	787063	25.018	ng		99
9) Chloroethane	5.97	64	602406	25.605	ng		99
10) Ethanol	6.38	45	3553289	129.837	ng		100
11) Acetonitrile	6.62	41	1622424	25.942	ng		100
12) Acrolein	6.79	56	555653	25.696	ng		100
13) Acetone	7.01	58	3611891	131.968	ng		99
14) Trichlorofluoromethane	7.24	101	1552897	25.347	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	4510536	54.450	ng		99
16) Acrylonitrile	7.77	53	1180769	26.391	ng		100
17) 1,1-Dichloroethene	8.19	96	847883	26.401	ng		100
18) 2-Methyl-2-Propanol (t...	8.39	59	4343249	56.240	ng		99
19) Methylene Chloride	8.43	84	892462	25.084	ng		99
20) 3-Chloro-1-propene (Al...	8.58	41	1276351	26.112	ng		100
21) Trichlorotrifluoroethane	8.84	151	781006	27.001	ng		99
22) Carbon Disulfide	8.68	76	3274656	25.686	ng		100
23) trans-1,2-Dichloroethene	9.70	61	1280278	26.180	ng		100
24) 1,1-Dichloroethane	9.96	63	1484365	25.568	ng		100
25) Methyl tert-Butyl Ether	10.05	73	2264086	24.794	ng		100
26) Vinyl Acetate	10.22	86	1192344	139.859	ng		100
27) 2-Butanone (MEK)	10.45	72	609878	26.129	ng		99
28) cis-1,2-Dichloroethene	10.98	61	1232559	25.768	ng		100
29) Diisopropyl Ether	11.27	87	824575	24.973	ng	#	95
30) Ethyl Acetate	11.27	61	776633	57.704	ng		100
31) n-Hexane	11.26	57	1581365	27.089	ng		100
32) Chloroform	11.32	83	1591321	26.124	ng		100
34) Tetrahydrofuran (THF)	11.72	72	595371	26.153	ng		100
35) Ethyl tert-Butyl Ether	11.86	87	1068978	26.791	ng		99
36) 1,2-Dichloroethane	12.12	62	1234056	25.571	ng		100
38) 1,1,1-Trichloroethane	12.40	97	1423725	27.081	ng		100
39) Isopropyl Acetate	12.83	61	1293737	56.259	ng		97
40) 1-Butanol	12.85	56	2086238	63.765	ng		94
41) Benzene	12.88	78	3590944	25.654	ng		100
42) Carbon Tetrachloride	13.04	117	1259961	26.463	ng		100
43) Cyclohexane	13.17	84	2795016	53.584	ng		99
44) tert-Amyl Methyl Ether	13.52	73	2599327	27.692	ng		100
45) 1,2-Dichloropropane	13.73	63	867296	26.753	ng		99
46) Bromodichloromethane	13.92	83	1295074	27.376	ng		100
47) Trichloroethene	13.97	130	967338	26.736	ng		100
48) 1,4-Dioxane	13.95	88	775383	27.504	ng		100
49) 2,2,4-Trimethylpentane...	14.04	57	3603157	26.453	ng		100
50) Methyl Methacrylate	14.18	100	775781	55.866	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012026.D Vial: 2
Acq On : 1 May 2020 18:41 Operator: LH
Sample : 25ng TO15 ICV STD Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 01 19:07:38 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

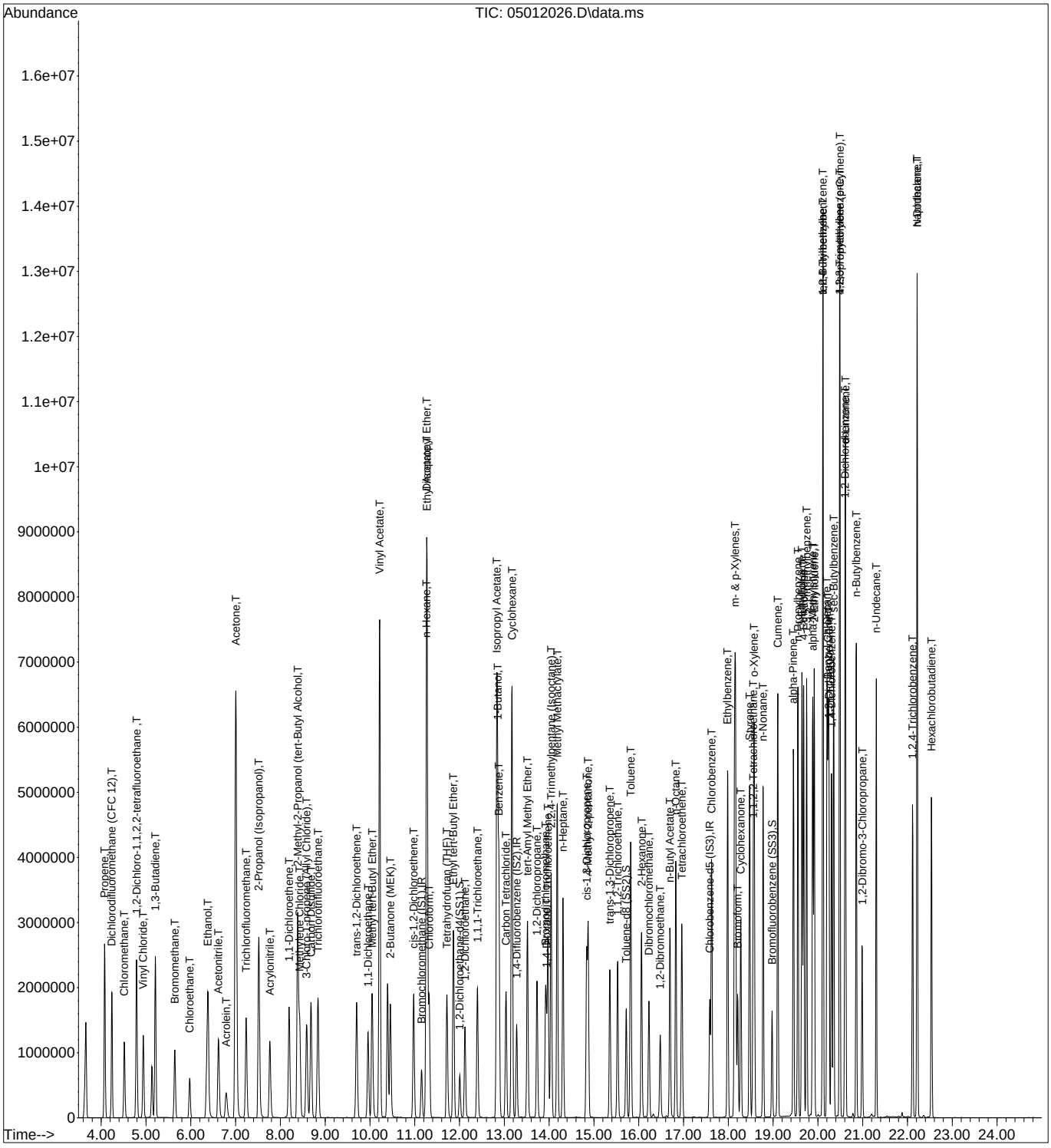
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	851667	26.018	ng	100
52) cis-1,3-Dichloropropene	14.84	75	1585771	28.492	ng	100
53) 4-Methyl-2-pentanone	14.87	58	872253	27.953	ng	100
54) trans-1,3-Dichloropropene	15.35	75	1387054	29.127	ng	100
55) 1,1,2-Trichloroethane	15.53	97	867139	26.973	ng	100
58) Toluene	15.82	91	3509323	26.538	ng	100
59) 2-Hexanone	16.06	43	2142962	29.574	ng	100
60) Dibromochloromethane	16.23	129	1094576	28.907	ng	100
61) 1,2-Dibromoethane	16.48	107	1019112	28.003	ng	100
62) n-Butyl Acetate	16.70	43	2398863	30.649	ng	100
63) n-Octane	16.83	57	741607	27.089	ng	100
64) Tetrachloroethene	16.96	166	1010020	27.041	ng	99
65) Chlorobenzene	17.62	112	2369161	26.038	ng	100
66) Ethylbenzene	17.98	91	4140285	28.079	ng	100
67) m- & p-Xylenes	18.15	91	6646028	56.814	ng	100
68) Bromoform	18.21	173	952116	29.005	ng	100
69) Styrene	18.48	104	2615334	29.726	ng	100
70) o-Xylene	18.58	91	3318680	27.945	ng	100
71) n-Nonane	18.77	43	1768593	28.068	ng	100
72) 1,1,2,2-Tetrachloroethane	18.55	83	1670094	28.347	ng	100
74) Cumene	19.10	105	4140007	28.406	ng	100
75) alpha-Pinene	19.45	93	2192080	28.188	ng	99
76) n-Propylbenzene	19.55	91	5034559	29.078	ng	100
77) 3-Ethyltoluene	19.64	105	4294103	30.440	ng	100
78) 4-Ethyltoluene	19.68	105	3790629	27.694	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	3430468	28.864	ng	100
80) alpha-Methylstyrene	19.88	118	1874877	27.988	ng	100
81) 2-Ethyltoluene	19.92	105	4065181	29.215	ng	99
82) 1,2,4-Trimethylbenzene	20.11	105	3770591	31.564	ng	100
83) n-Decane	20.20	57	1887277	28.242	ng	100
84) Benzyl Chloride	20.23	91	3366173	30.233	ng	100
85) 1,3-Dichlorobenzene	20.25	146	2073075	29.887	ng	100
86) 1,4-Dichlorobenzene	20.30	146	2047327	30.245	ng	100
87) sec-Butylbenzene	20.35	105	4505729	29.057	ng	100
88) 4-Isopropyltoluene (p-...	20.49	119	4352844	29.644	ng	100
89) 1,2,3-Trimethylbenzene	20.48	105	3682695	29.457	ng	100
90) 1,2-Dichlorobenzene	20.61	146	2035560	30.650	ng	100
91) d-Limonene	20.62	68	1446579	30.661	ng	100
92) 1,2-Dibromo-3-Chloropr...	20.99	157	709248	28.322	ng	99
93) n-Undecane	21.30	57	1877490	30.357	ng	99
94) 1,2,4-Trichlorobenzene	22.11	180	1445626	31.384	ng	100
95) Naphthalene	22.22	128	4860431	33.339	ng	100
96) n-Dodecane	22.22	57	1815131	33.896	ng	100
97) Hexachlorobutadiene	22.54	225	900762	28.271	ng	99
98) Cyclohexanone	18.28	55	1308763	28.274	ng	99
99) tert-Butylbenzene	20.11	119	3490399	29.687	ng	100
100) n-Butylbenzene	20.86	91	3725548	30.631	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012026.D Vial: 2
Acq On : 1 May 2020 18:41 Operator: LH
Sample : 25ng TO15 ICV STD Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 01 19:07:38 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



LH 5/1/20

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **05012026.D**
Data File Path: **I:\MS16\DATA\2020_05\01**
Operator: **LH**
Date Acquired: **5/1/2020** **18:41**

Acq. Method File: **TO15.M**
Sample Name: **25ng TO15 ICV STD**
Misc Info: **S31-02112001/S34-04302003 (**
Instrument Name: **GCMS-16**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
2)	**Propene**	**4.08**	**27.3**	26.25	104	**51**	**133**	*	*
3)	**Dichlorodifluoromethane (CFC 1**	**4.23**	**25.4**	**26.25**	97	**64**	**115**	*	*
4)	**Chloromethane**	**4.52**	**25.0**	**26.50**	94	**49**	**127**	*	*
5)	**1,2-Dichloro-1,1,2,2-tetrafluoroet**	**4.79**	**23.6**	**25.75**	92	**65**	**114**	*	*
6)	**Vinyl Chloride**	**4.94**	**24.6**	**26.50**	93	**61**	**129**	*	*
7)	**1,3-Butadiene**	**5.21**	**25.6**	**26.50**	97	**54**	**140**	*	*
8)	**Bromomethane**	**5.64**	**25.0**	**26.50**	94	**68**	**120**	*	*
9)	**Chloroethane**	**5.97**	**25.6**	**26.75**	96	**63**	**123**	*	*
10)	**Ethanol**	**6.38**	**130**	**132.50**	98	**49**	**134**	*	*
11)	**Acetonitrile**	**6.62**	**25.9**	**26.75**	97	**50**	**137**	*	*
12)	**Acrolein**	**6.79**	**25.7**	**25.75**	100	**62**	**128**	*	*
13)	**Acetone**	**7.01**	**132**	**133.50**	99	**56**	**125**	*	*
14)	**Trichlorofluoromethane**	**7.24**	**25.3**	**26.50**	95	**64**	**115**	*	*
15)	**2-Propanol (Isopropanol)**	**7.52**	**54.5**	**52.75**	103	**57**	**133**	*	*
16)	**Acrylonitrile**	**7.77**	**26.4**	**26.50**	100	**64**	**136**	*	*
17)	**1,1-Dichloroethene**	**8.19**	**26.4**	**26.75**	99	**68**	**115**	*	*
18)	2-Methyl-2-Propanol (tert-Butyl Alc	8.39	56.2	53.75	105	56	132	*	*
19)	**Methylene Chloride**	**8.43**	**25.1**	**26.25**	96	**68**	**114**	*	*
20)	**3-Chloro-1-propene (Allyl Chloric**	**8.58**	**26.1**	**26.75**	98	**55**	**139**	*	*
21)	**Trichlorotrifluoroethane**	**8.84**	**27.0**	**27.00**	100	**65**	**115**	*	*
22)	**Carbon Disulfide**	**8.68**	**25.7**	**26.50**	97	**68**	**113**	*	*
23)	**trans-1,2-Dichloroethene**	**9.70**	**26.2**	**26.75**	98	**65**	**122**	*	*
24)	**1,1-Dichloroethane**	**9.96**	**25.6**	**26.50**	97	**63**	**118**	*	*
25)	**Methyl tert-Butyl Ether**	**10.05**	**24.8**	**26.75**	93	**57**	**131**	*	*
26)	**Vinyl Acetate**	**10.22**	**140**	**133.25**	105	**71**	**128**	*	*
27)	**2-Butanone (MEK)**	**10.45**	**26.1**	**26.50**	98	**67**	**123**	*	*
28)	**cis-1,2-Dichloroethene**	**10.98**	**25.8**	**26.50**	97	**64**	**120**	*	*
29)	Diisopropyl Ether	11.27	25.0	27.00	93	62	121	*	*
30)	**Ethyl Acetate**	**11.27**	**57.7**	**54.00**	107	**64**	**131**	*	*
31)	**n-Hexane**	**11.26**	**27.1**	**27.00**	100	**58**	**125**	*	*
32)	**Chloroform**	**11.32**	**26.1**	**26.75**	98	**65**	**114**	*	*
34)	**Tetrahydrofuran (THF)**	**11.72**	**26.2**	**27.50**	95	**65**	**115**	*	*
35)	Ethyl tert-Butyl Ether	11.86	26.8	26.75	100	61	130	*	*
36)	**1,2-Dichloroethane**	**12.12**	**25.6**	**26.75**	96	**59**	**120**	*	*
38)	**1,1,1-Trichloroethane**	**12.40**	**27.1**	**26.75**	101	**66**	**115**	*	*
39)	Isopropyl Acetate	12.83	56.3	52.50	107	65	129	*	*
40)	1-Butanol	12.85	63.8	53.25	120	58	140	*	*
41)	**Benzene**	**12.88**	**25.7**	**26.25**	98	**66**	**109**	*	*
42)	**Carbon Tetrachloride**	**13.04**	**26.5**	**26.00**	102	**66**	**119**	*	*
43)	**Cyclohexane**	**13.17**	**53.6**	**52.75**	102	**67**	**117**	*	*
44)	tert-Amyl Methyl Ether	13.52	27.7	**26.75**	104	62	133	*	*
45)	**1,2-Dichloropropane**	**13.73**	**26.8**	**26.75**	100	**66**	**119**	*	*
46)	**Bromodichloromethane**	**13.92**	**27.4**	**27.25**	101	**71**	**119**	*	*
47)	**Trichloroethene**	**13.97**	**26.7**	**27.00**	99	**70**	**114**	*	*
48)	**1,4-Dioxane**	**13.95**	**27.5**	**27.00**	102	**71**	**117**	*	*
49)	2,2,4-Trimethylpentane (Isooctane)	14.04	26.5	26.75	99	61	122	*	*

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **05012026.D** **TO15.M**
Data File Path: **I:\MS16\DATA\2020_05\01** Sample Name: **25ng TO15 ICV STD**
Operator: **LH** Misc Info: **S31-02112001/S34-04302003 (**
Date Acquired: **5/1/2020** **18:41** Instrument Name: **GCMS-16**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
50)	**Methyl Methacrylate**	**14.18**	**55.9**	**53.75**	104	**76**	**121**	*	*
51)	**n-Heptane**	**14.31**	**26.0**	**26.75**	97	**66**	**119**	*	*
52)	**cis-1,3-Dichloropropene**	**14.84**	**28.5**	**26.75**	107	**72**	**125**	*	*
53)	**4-Methyl-2-pentanone**	**14.87**	**28.0**	**26.50**	106	**68**	**130**	*	*
54)	**trans-1,3-Dichloropropene**	**15.35**	**29.1**	**26.50**	110	**71**	**132**	*	*
55)	**1,1,2-Trichloroethane**	**15.53**	**27.0**	**26.75**	101	**70**	**117**	*	*
58)	**Toluene**	**15.82**	**26.5**	**26.50**	100	**67**	**113**	*	*
59)	**2-Hexanone**	**16.06**	**29.6**	**27.00**	110	**62**	**135**	*	*
60)	**Dibromochloromethane**	**16.23**	**28.9**	**26.75**	108	**73**	**126**	*	*
61)	**1,2-Dibromoethane**	**16.48**	**28.0**	**26.75**	105	**71**	**122**	*	*
62)	**n-Butyl Acetate**	**16.70**	**30.6**	**27.25**	112	**65**	**134**	*	*
63)	**n-Octane**	**16.83**	**27.1**	**27.00**	100	**63**	**120**	*	*
64)	**Tetrachloroethene**	**16.96**	**27.0**	**26.00**	104	**64**	**120**	*	*
65)	**Chlorobenzene**	**17.62**	**26.0**	**26.75**	97	**65**	**116**	*	*
66)	**Ethylbenzene**	**17.98**	**28.1**	**26.50**	106	**65**	**117**	*	*
67)	**m- & p-Xylenes**	**18.15**	**56.8**	**53.25**	107	**64**	**121**	*	*
68)	**Bromoform**	**18.21**	**29.0**	**26.75**	108	**72**	**130**	*	*
69)	**Styrene**	**18.48**	**29.7**	**26.50**	112	**72**	**126**	*	*
70)	**o-Xylene**	**18.58**	**27.9**	**26.75**	104	**64**	**120**	*	*
71)	**n-Nonane**	**18.77**	**28.1**	**26.75**	105	**56**	**132**	*	*
72)	**1,1,2,2-Tetrachloroethane**	**18.55**	**28.3**	**26.75**	106	**66**	**122**	*	*
74)	**Cumene**	**19.10**	**28.4**	**26.75**	106	**64**	**121**	*	*
75)	**alpha-Pinene**	**19.45**	**28.2**	**26.50**	106	**62**	**136**	*	*
76)	**n-Propylbenzene**	**19.55**	**29.1**	**26.75**	109	**65**	**123**	*	*
77)	3-Ethyltoluene	19.64	30.4	26.75	114	62	123	*	*
78)	**4-Ethyltoluene**	**19.68**	**27.7**	**26.25**	**106**	**71**	**126**	*	*
79)	**1,3,5-Trimethylbenzene**	**19.75**	**28.9**	**26.50**	**109**	**65**	**120**	*	*
80)	alpha-Methylstyrene	19.88	28.0	26.50	**106**	70	132	*	*
81)	2-Ethyltoluene	19.92	29.2	26.75	**109**	66	121	*	*
82)	**1,2,4-Trimethylbenzene**	**20.11**	**31.6**	**26.50**	**119**	**63**	**129**	*	*
83)	n-Decane	20.20	28.2	26.75	**105**	61	131	*	*
84)	**Benzyl Chloride**	**20.23**	**30.2**	**26.75**	**113**	**66**	**138**	*	*
85)	**1,3-Dichlorobenzene**	**20.25**	**29.9**	**26.75**	**112**	**65**	**127**	*	*
86)	**1,4-Dichlorobenzene**	**20.30**	**30.2**	**26.75**	**113**	**66**	**125**	*	*
87)	sec-Butylbenzene	20.35	29.1	26.50	**110**	68	123	*	*
88)	4-Isopropyltoluene (p-Cymene)	20.49	29.6	27.25	**109**	61	129	*	*
89)	1,2,3-Trimethylbenzene	20.48	29.5	27.00	**109**	60	134	*	*
90)	**1,2-Dichlorobenzene**	**20.61**	**30.6**	**26.75**	**114**	**67**	**128**	*	*
91)	**d-Limonene**	**20.62**	**30.7**	**26.50**	**116**	**65**	**136**	*	*
92)	**1,2-Dibromo-3-Chloropropane**	**20.99**	**28.3**	**26.75**	**106**	**73**	**133**	*	*
93)	n-Undecane	21.30	30.4	27.00	**113**	64	131	*	*
94)	**1,2,4-Trichlorobenzene**	**22.11**	**31.4**	**27.00**	**116**	**62**	**140**	*	*
95)	**Naphthalene**	**22.22**	**33.3**	**26.50**	**126**	**57**	**149**	*	*
96)	n-Dodecane	22.22	33.9	26.50	**128**	41	181	*	*
97)	**Hexachlorobutadiene**	**22.54**	**28.3**	**26.75**	**106**	57	129	*	*
98)	Cyclohexanone	18.28	28.3	25.25	112	61	131	*	*
99)	tert-Butylbenzene	20.11	29.7	26.50	112	62	130	*	*
100)	n-Butylbenzene	20.86	30.6	26.75	114	67	124	*	*

Bold = 75 Compound List

 *** = Pass** **I:\MS16\0-Instrument Info\0-Security Certificates\ICV_LCS_2019_10111902.CRT** 5/1/2020 7:08 PM

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\01\05012027.D Vial: 2
Acq On : 1 May 2020 19:15 Operator: LH
Sample : CCV R16050120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 19:48:53 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/1/20

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	106	-0.01
2	T	Propene	1.448	1.529	-5.6	110	0.00
3	T	Dichlorodifluoromethane (CF	2.832	2.795	1.3	108	0.00
4	T	Chloromethane	2.218	2.222	-0.2	107	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.692	1.600	5.4	106	0.00
6	T	Vinyl Chloride	2.433	2.323	4.5	104	0.00
7	T	1,3-Butadiene	2.013	1.961	2.6	105	0.00
8	T	Bromomethane	1.285	1.276	0.7	108	-0.01
9	T	Chloroethane	0.961	0.956	0.5	107	0.00
10	T	Ethanol	1.118	1.109	0.8	105	-0.03
11	T	Acetonitrile	2.555	2.486	2.7	106	-0.02
12	T	Acrolein	0.883	0.882	0.1	106	-0.01
13	T	Acetone	1.118	1.120	-0.2	105	-0.02
14	T	Trichlorofluoromethane	2.503	2.451	2.1	105	0.00
15	T	2-Propanol (Isopropanol)	3.384	3.405	-0.6	102	-0.03
16	T	Acrylonitrile	1.828	1.845	-0.9	107	-0.01
17	T	1,1-Dichloroethene	1.312	1.303	0.7	105	0.00
18	T	2-Methyl-2-Propanol (tert-B	3.155	2.976	5.7	98	-0.02
19	T	Methylene Chloride	1.453	1.401	3.6	103	0.00
20	T	3-Chloro-1-propene (Allyl C	1.997	2.042	-2.3	106	-0.01
21	T	Trichlorotrifluoroethane	1.182	1.212	-2.5	107	0.00
22	T	Carbon Disulfide	5.208	5.112	1.8	105	0.00
23	T	trans-1,2-Dichloroethene	1.998	1.965	1.7	105	0.00
24	T	1,1-Dichloroethane	2.371	2.353	0.8	104	0.00
25	T	Methyl tert-Butyl Ether	3.730	3.526	5.5	105	0.00
26	T	Vinyl Acetate	0.348	0.365	-4.9	103	-0.01
27	T	2-Butanone (MEK)	0.953	0.945	0.8	105	0.00
28	T	cis-1,2-Dichloroethene	1.954	1.914	2.0	105	0.00
29	T	Diisopropyl Ether	1.349	1.283	4.9	103	0.00
30	T	Ethyl Acetate	0.550	0.585	-6.4	104	0.00
31	T	n-Hexane	2.385	2.434	-2.1	103	0.00
32	T	Chloroform	2.488	2.439	2.0	104	0.00
33	S	1,2-Dichloroethane-d4(SS1)	1.694	1.624	4.1	105	0.00
34	T	Tetrahydrofuran (THF)	0.930	0.891	4.2	104	0.00
35	T	Ethyl tert-Butyl Ether	1.630	1.643	-0.8	104	0.00
36	T	1,2-Dichloroethane	1.971	1.887	4.3	104	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	104	0.00
38	T	1,1,1-Trichloroethane	0.503	0.513	-2.0	104	0.00
39	T	Isopropyl Acetate	0.220	0.237	-7.7	104	0.00
40	T	1-Butanol	0.313	0.331	-5.8	104	-0.02
41	T	Benzene	1.340	1.330	0.7	103	0.00
42	T	Carbon Tetrachloride	0.456	0.474	-3.9	105	0.00
43	T	Cyclohexane	0.500	0.516	-3.2	103	0.00
44	T	tert-Amyl Methyl Ether	0.899	0.935	-4.0	105	0.00
45	T	1,2-Dichloropropane	0.310	0.315	-1.6	104	0.00
46	T	Bromodichloromethane	0.453	0.473	-4.4	103	0.00
47	T	Trichloroethene	0.346	0.353	-2.0	104	0.00
48	T	1,4-Dioxane	0.270	0.273	-1.1	103	0.00
49	T	2,2,4-Trimethylpentane (Iso	1.304	1.318	-1.1	104	0.00
50	T	Methyl Methacrylate	0.133	0.141	-6.0	103	0.00
51	T	n-Heptane	0.313	0.312	0.3	105	0.00
52	T	cis-1,3-Dichloropropene	0.533	0.564	-5.8	104	0.00
53	T	4-Methyl-2-pentanone	0.299	0.310	-3.7	104	0.00
54	T	trans-1,3-Dichloropropene	0.456	0.510	-11.8	105	0.00
55	T	1,1,2-Trichloroethane	0.308	0.319	-3.6	104	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\01\05012027.D Vial: 2
Acq On : 1 May 2020 19:15 Operator: LH
Sample : CCV R16050120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 19:48:53 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	105	0.00
57	S	Toluene-d8 (SS2)	2.119	2.108	0.5	104	0.00
58	T	Toluene	2.731	2.755	-0.9	103	0.00
59	T	2-Hexanone	1.497	1.581	-5.6	105	0.00
60	T	Dibromochloromethane	0.782	0.859	-9.8	104	0.00
61	T	1,2-Dibromoethane	0.752	0.795	-5.7	104	0.00
62	T	n-Butyl Acetate	1.616	1.726	-6.8	104	0.00
63	T	n-Octane	0.565	0.584	-3.4	104	0.00
64	T	Tetrachloroethene	0.771	0.816	-5.8	104	0.00
65	T	Chlorobenzene	1.879	1.854	1.3	104	0.00
66	T	Ethylbenzene	3.045	3.239	-6.4	103	0.00
67	T	m- & p-Xylenes	2.416	2.590	-7.2	103	0.00
68	T	Bromoform	0.678	0.737	-8.7	103	0.00
69	T	Styrene	1.817	2.026	-11.5	103	0.00
70	T	o-Xylene	2.453	2.596	-5.8	103	0.00
71	T	n-Nonane	1.301	1.393	-7.1	104	0.00
72	T	1,1,2,2-Tetrachloroethane	1.217	1.292	-6.2	103	0.00
73	S	Bromofluorobenzene (SS3)	0.762	0.780	-2.4	102	0.00
74	T	Cumene	3.010	3.239	-7.6	103	0.00
75	T	alpha-Pinene	1.606	1.740	-8.3	102	0.00
76	T	n-Propylbenzene	3.576	3.917	-9.5	102	0.00
77	T	3-Ethyltoluene	2.913	3.297	-13.2	102	0.00
78	T	4-Ethyltoluene	2.827	3.060	-8.2	102	0.00
79	T	1,3,5-Trimethylbenzene	2.455	2.691	-9.6	102	0.00
80	T	alpha-Methylstyrene	1.384	1.437	-3.8	102	0.00
81	T	2-Ethyltoluene	2.874	3.134	-9.0	102	0.00
82	T	1,2,4-Trimethylbenzene	2.467	2.935	-19.0	101	0.00
83	T	n-Decane	1.380	1.493	-8.2	103	0.00
84	T	Benzyl Chloride	2.300	2.556	-11.1	103	0.00
85	T	1,3-Dichlorobenzene	1.433	1.599	-11.6	101	0.00
86	T	1,4-Dichlorobenzene	1.398	1.572	-12.4	102	0.00
87	T	sec-Butylbenzene	3.203	3.536	-10.4	102	0.00
88	T	4-Isopropyltoluene (p-Cymen	3.033	3.392	-11.8	101	0.00
89	T	1,2,3-Trimethylbenzene	2.582	2.940	-13.9	101	0.00
90	T	1,2-Dichlorobenzene	1.372	1.583	-15.4	101	0.00
91	T	d-Limonene	0.974	1.140	-17.0	103	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.517	0.567	-9.7	103	0.00
93	T	n-Undecane	1.277	1.452	-13.7	104	0.00
94	T	1,2,4-Trichlorobenzene	0.951	1.126	-18.4	104	0.00
95	T	Naphthalene	3.011	3.735	-24.0	102	0.00
96	T	n-Dodecane	1.106	1.452	-31.3#	104	0.00
97	T	Hexachlorobutadiene	0.658	0.720	-9.4	104	0.00
98	T	Cyclohexanone	0.956	0.965	-0.9	104	0.00
99	T	tert-Butylbenzene	2.428	2.749	-13.2	101	0.00
100	T	n-Butylbenzene	2.512	2.875	-14.5	102	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012027.D Vial: 2
Acq On : 1 May 2020 19:15 Operator: LH
Sample : CCV R16050120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 19:48:53 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration LH 5/1/20
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	302318	12.500	ng	-0.01
37) 1,4-Difluorobenzene (IS2)	13.27	114	1284086	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	600476	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.00	65	490844	11.980	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.84%			
57) Toluene-d8 (SS2)	15.72	98	1265954	12.438	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.52%			
73) Bromofluorobenzene (SS3)	18.98	174	468284	12.787	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.32%			
Target Compounds						Qvalue
2) Propene	4.09	42	980246	27.995	ng	100
3) Dichlorodifluoromethan...	4.25	85	1791217	26.155	ng	100
4) Chloromethane	4.53	50	1424343	26.548	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	1015912	24.829	ng	100
6) Vinyl Chloride	4.95	62	1516640	25.778	ng	100
7) 1,3-Butadiene	5.22	54	1256568	25.812	ng	100
8) Bromomethane	5.65	94	833156	26.806	ng	100
9) Chloroethane	5.98	64	624430	26.866	ng	100
10) Ethanol	6.38	45	3492491	129.175	ng	100
11) Acetonitrile	6.62	41	1578210	25.543	ng	100
12) Acrolein	6.80	56	549126	25.704	ng	100
13) Acetone	7.01	58	3608464	133.454	ng	99
14) Trichlorofluoromethane	7.24	101	1571106	25.958	ng	100
15) 2-Propanol (Isopropanol)	7.52	45	4323535	52.831	ng	99
16) Acrylonitrile	7.77	53	1171488	26.503	ng	100
17) 1,1-Dichloroethene	8.20	96	851014	26.822	ng	100
18) 2-Methyl-2-Propanol (t...	8.39	59	3887226	50.950	ng	100
19) Methylene Chloride	8.44	84	897704	25.540	ng	99
20) 3-Chloro-1-propene (Al...	8.59	41	1333590	27.616	ng	100
21) Trichlorotrifluoroethane	8.84	151	791546	27.700	ng	98
22) Carbon Disulfide	8.69	76	3307375	26.260	ng	100
23) trans-1,2-Dichloroethene	9.71	61	1283376	26.564	ng	100
24) 1,1-Dichloroethane	9.96	63	1550697	27.037	ng	100
25) Methyl tert-Butyl Ether	10.05	73	2302413	25.521	ng	100
26) Vinyl Acetate	10.22	86	1182119	140.354	ng	99
27) 2-Butanone (MEK)	10.46	72	605818	26.272	ng	99
28) cis-1,2-Dichloroethene	10.98	61	1226673	25.958	ng	99
29) Diisopropyl Ether	11.27	87	837483	25.674	ng	99
30) Ethyl Acetate	11.28	61	767604	57.730	ng	100
31) n-Hexane	11.26	57	1589595	27.563	ng	100
32) Chloroform	11.32	83	1578216	26.226	ng	100
34) Tetrahydrofuran (THF)	11.72	72	587467	26.121	ng	99
35) Ethyl tert-Butyl Ether	11.87	87	1072755	27.214	ng	99
36) 1,2-Dichloroethane	12.12	62	1232243	25.845	ng	100
38) 1,1,1-Trichloroethane	12.40	97	1410098	27.264	ng	100
39) Isopropyl Acetate	12.83	61	1282607	56.695	ng	99
40) 1-Butanol	12.85	56	1767020	54.900	ng	100
41) Benzene	12.88	78	3620242	26.290	ng	100
42) Carbon Tetrachloride	13.04	117	1278031	27.285	ng	100
43) Cyclohexane	13.17	84	2809807	54.756	ng	99
44) tert-Amyl Methyl Ether	13.52	73	2592429	28.075	ng	100
45) 1,2-Dichloropropane	13.73	63	873974	27.404	ng	99
46) Bromodichloromethane	13.92	83	1311541	28.182	ng	100
47) Trichloroethene	13.97	130	968777	27.218	ng	100
48) 1,4-Dioxane	13.95	88	757493	27.313	ng	99
49) 2,2,4-Trimethylpentane...	14.04	57	3620927	27.023	ng	100
50) Methyl Methacrylate	14.18	100	777112	56.885	ng	99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012027.D Vial: 2
Acq On : 1 May 2020 19:15 Operator: LH
Sample : CCV R16050120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 19:48:53 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

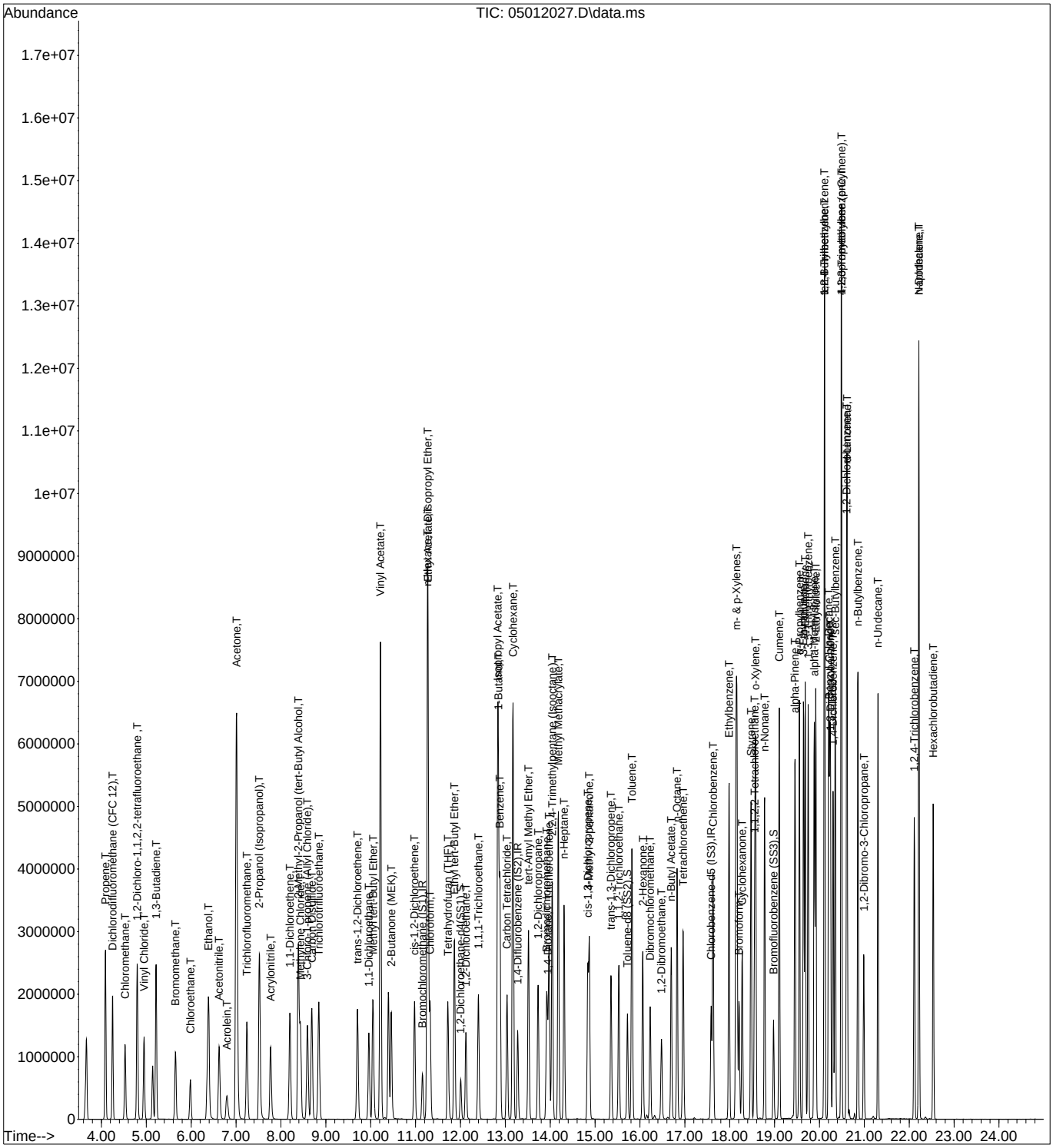
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	864031	26.831	ng	100
52) cis-1,3-Dichloropropene	14.84	75	1507584	27.534	ng	100
53) 4-Methyl-2-pentanone	14.87	58	843367	27.474	ng	100
54) trans-1,3-Dichloropropene	15.35	75	1388846	29.646	ng	100
55) 1,1,2-Trichloroethane	15.53	97	877804	27.755	ng	100
58) Toluene	15.82	91	3540046	26.983	ng	100
59) 2-Hexanone	16.06	43	2031741	28.262	ng	100
60) Dibromochloromethane	16.23	129	1103717	29.379	ng	100
61) 1,2-Dibromoethane	16.48	107	1021208	28.283	ng	100
62) n-Butyl Acetate	16.70	43	2259952	29.104	ng	100
63) n-Octane	16.83	57	758098	27.911	ng	100
64) Tetrachloroethene	16.96	166	1019713	27.517	ng	100
65) Chlorobenzene	17.63	112	2383054	26.398	ng	100
66) Ethylbenzene	17.99	91	4162734	28.455	ng	100
67) m- & p-Xylenes	18.15	91	6656570	57.355	ng	100
68) Bromoform	18.21	173	946928	29.075	ng	100
69) Styrene	18.48	104	2579040	29.546	ng	100
70) o-Xylene	18.58	91	3336344	28.316	ng	100
71) n-Nonane	18.78	43	1790335	28.639	ng	100
72) 1,1,2,2-Tetrachloroethane	18.55	83	1660758	28.412	ng	100
74) Cumene	19.10	105	4200881	29.052	ng	100
75) alpha-Pinene	19.46	93	2236284	28.985	ng	100
76) n-Propylbenzene	19.55	91	5080649	29.577	ng	100
77) 3-Ethyltoluene	19.64	105	4196666	29.985	ng	100
78) 4-Ethyltoluene	19.68	105	3968533	29.223	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	3425044	29.047	ng	100
80) alpha-Methylstyrene	19.88	118	1846269	27.779	ng	100
81) 2-Ethyltoluene	19.92	105	4064432	29.442	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3771825	31.825	ng	100
83) n-Decane	20.20	57	1918958	28.944	ng	100
84) Benzyl Chloride	20.23	91	3315041	30.010	ng	100
85) 1,3-Dichlorobenzene	20.25	146	2055033	29.861	ng	100
86) 1,4-Dichlorobenzene	20.30	146	2019671	30.073	ng	100
87) sec-Butylbenzene	20.35	105	4544060	29.537	ng	100
88) 4-Isopropyltoluene (p-...	20.49	119	4440433	30.480	ng	100
89) 1,2,3-Trimethylbenzene	20.49	105	3847990	31.023	ng	100
90) 1,2-Dichlorobenzene	20.61	146	2033893	30.868	ng	100
91) d-Limonene	20.62	68	1478780	31.592	ng	99
92) 1,2-Dibromo-3-Chloropr...	20.99	157	714865	28.773	ng	99
93) n-Undecane	21.30	57	1882905	30.685	ng	99
94) 1,2,4-Trichlorobenzene	22.11	180	1447454	31.673	ng	100
95) Naphthalene	22.22	128	4619799	31.940	ng	100
96) n-Dodecane	22.22	57	1814158	34.146	ng	99
97) Hexachlorobutadiene	22.54	225	916716	28.999	ng	100
98) Cyclohexanone	18.28	55	1159134	25.240	ng	100
99) tert-Butylbenzene	20.11	119	3532586	30.284	ng	100
100) n-Butylbenzene	20.86	91	3694522	30.617	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012027.D Vial: 2
Acq On : 1 May 2020 19:15 Operator: LH
Sample : CCV R16050120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 19:48:53 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\01\05012050.D Vial: 2
Acq On : 2 May 2020 8:53 Operator: LH
Sample : CCVend R16050120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

TD 5/2/20

Quant Time: May 02 09:35:09 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	98	0.00
2	T	Propene	1.448	1.485	-2.6	99	0.00
3	T	Dichlorodifluoromethane (CF	2.832	2.751	2.9	99	0.00
4	T	Chloromethane	2.218	2.157	2.8	97	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.692	1.595	5.7	98	0.00
6	T	Vinyl Chloride	2.433	2.314	4.9	97	0.00
7	T	1,3-Butadiene	2.013	1.952	3.0	98	0.00
8	T	Bromomethane	1.285	1.205	6.2	95	0.00
9	T	Chloroethane	0.961	0.912	5.1	95	0.00
10	T	Ethanol	1.118	1.072	4.1	95	-0.03
11	T	Acetonitrile	2.555	2.369	7.3	94	-0.02
12	T	Acrolein	0.883	0.842	4.6	94	-0.01
13	T	Acetone	1.118	1.094	2.1	95	-0.02
14	T	Trichlorofluoromethane	2.503	2.380	4.9	95	0.00
15	T	2-Propanol (Isopropanol)	3.384	3.388	-0.1	95	-0.02
16	T	Acrylonitrile	1.828	1.774	3.0	95	-0.01
17	T	1,1-Dichloroethene	1.312	1.271	3.1	95	0.00
18	T	2-Methyl-2-Propanol (tert-B	3.155	3.108	1.5	95	-0.02
19	T	Methylene Chloride	1.453	1.377	5.2	95	0.00
20	T	3-Chloro-1-propene (Allyl C	1.997	1.949	2.4	94	-0.01
21	T	Trichlorotrifluoroethane	1.182	1.175	0.6	96	0.00
22	T	Carbon Disulfide	5.208	5.016	3.7	96	0.00
23	T	trans-1,2-Dichloroethene	1.998	1.891	5.4	94	0.00
24	T	1,1-Dichloroethane	2.371	2.295	3.2	95	0.00
25	T	Methyl tert-Butyl Ether	3.730	3.440	7.8	96	0.00
26	T	Vinyl Acetate	0.348	0.368	-5.7	97	-0.01
27	T	2-Butanone (MEK)	0.953	0.922	3.3	95	0.00
28	T	cis-1,2-Dichloroethene	1.954	1.868	4.4	95	0.00
29	T	Diisopropyl Ether	1.349	1.292	4.2	96	0.00
30	T	Ethyl Acetate	0.550	0.582	-5.8	96	0.00
31	T	n-Hexane	2.385	2.399	-0.6	95	0.00
32	T	Chloroform	2.488	2.416	2.9	96	0.00
33	S	1,2-Dichloroethane-d4(SS1)	1.694	1.619	4.4	97	0.00
34	T	Tetrahydrofuran (THF)	0.930	0.882	5.2	96	0.00
35	T	Ethyl tert-Butyl Ether	1.630	1.622	0.5	96	0.00
36	T	1,2-Dichloroethane	1.971	1.853	6.0	95	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	98	0.00
38	T	1,1,1-Trichloroethane	0.503	0.502	0.2	96	0.00
39	T	Isopropyl Acetate	0.220	0.232	-5.5	95	0.00
40	T	1-Butanol	0.313	0.322	-2.9	94	-0.02
41	T	Benzene	1.340	1.315	1.9	96	0.00
42	T	Carbon Tetrachloride	0.456	0.465	-2.0	96	0.00
43	T	Cyclohexane	0.500	0.512	-2.4	96	0.00
44	T	tert-Amyl Methyl Ether	0.899	0.915	-1.8	96	0.00
45	T	1,2-Dichloropropane	0.310	0.308	0.6	95	0.00
46	T	Bromodichloromethane	0.453	0.466	-2.9	95	0.00
47	T	Trichloroethene	0.346	0.350	-1.2	96	0.00
48	T	1,4-Dioxane	0.270	0.271	-0.4	95	0.00
49	T	2,2,4-Trimethylpentane (Iso	1.304	1.300	0.3	96	0.00
50	T	Methyl Methacrylate	0.133	0.139	-4.5	95	0.00
51	T	n-Heptane	0.313	0.305	2.6	96	0.00
52	T	cis-1,3-Dichloropropene	0.533	0.549	-3.0	95	0.00
53	T	4-Methyl-2-pentanone	0.299	0.301	-0.7	95	0.00
54	T	trans-1,3-Dichloropropene	0.456	0.494	-8.3	95	0.00
55	T	1,1,2-Trichloroethane	0.308	0.316	-2.6	96	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\01\05012050.D Vial: 2
Acq On : 2 May 2020 8:53 Operator: LH
Sample : CCVend R16050120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 02 09:35:09 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	98	0.00
57	S	Toluene-d8 (SS2)	2.119	2.106	0.6	97	0.00
58	T	Toluene	2.731	2.720	0.4	95	0.00
59	T	2-Hexanone	1.497	1.530	-2.2	95	0.00
60	T	Dibromochloromethane	0.782	0.853	-9.1	96	0.00
61	T	1,2-Dibromoethane	0.752	0.787	-4.7	96	0.00
62	T	n-Butyl Acetate	1.616	1.669	-3.3	94	0.00
63	T	n-Octane	0.565	0.573	-1.4	95	0.00
64	T	Tetrachloroethene	0.771	0.817	-6.0	97	0.00
65	T	Chlorobenzene	1.879	1.853	1.4	97	0.00
66	T	Ethylbenzene	3.045	3.224	-5.9	95	0.00
67	T	m- & p-Xylenes	2.416	2.590	-7.2	96	0.00
68	T	Bromoform	0.678	0.735	-8.4	96	0.00
69	T	Styrene	1.817	2.005	-10.3	95	0.00
70	T	o-Xylene	2.453	2.600	-6.0	96	0.00
71	T	n-Nonane	1.301	1.371	-5.4	95	0.00
72	T	1,1,2,2-Tetrachloroethane	1.217	1.287	-5.8	95	0.00
73	S	Bromofluorobenzene (SS3)	0.762	0.795	-4.3	97	0.00
74	T	Cumene	3.010	3.228	-7.2	95	0.00
75	T	alpha-Pinene	1.606	1.726	-7.5	95	0.00
76	T	n-Propylbenzene	3.576	3.900	-9.1	95	0.00
77	T	3-Ethyltoluene	2.913	3.343	-14.8	97	0.00
78	T	4-Ethyltoluene	2.827	3.023	-6.9	94	0.00
79	T	1,3,5-Trimethylbenzene	2.455	2.692	-9.7	95	0.00
80	T	alpha-Methylstyrene	1.384	1.437	-3.8	95	0.00
81	T	2-Ethyltoluene	2.874	3.138	-9.2	95	0.00
82	T	1,2,4-Trimethylbenzene	2.467	2.975	-20.6	96	0.00
83	T	n-Decane	1.380	1.462	-5.9	95	0.00
84	T	Benzyl Chloride	2.300	2.513	-9.3	95	0.00
85	T	1,3-Dichlorobenzene	1.433	1.625	-13.4	96	0.00
86	T	1,4-Dichlorobenzene	1.398	1.583	-13.2	96	0.00
87	T	sec-Butylbenzene	3.203	3.557	-11.1	96	0.00
88	T	4-Isopropyltoluene (p-Cymen	3.033	3.491	-15.1	97	0.00
89	T	1,2,3-Trimethylbenzene	2.582	3.006	-16.4	96	0.00
90	T	1,2-Dichlorobenzene	1.372	1.616	-17.8	96	0.00
91	T	d-Limonene	0.974	1.130	-16.0	95	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.517	0.567	-9.7	96	0.00
93	T	n-Undecane	1.277	1.424	-11.5	95	0.00
94	T	1,2,4-Trichlorobenzene	0.951	1.119	-17.7	96	0.00
95	T	Naphthalene	3.011	3.762	-24.9	95	0.00
96	T	n-Dodecane	1.106	1.417	-28.1	94	0.00
97	T	Hexachlorobutadiene	0.658	0.710	-7.9	96	0.00
98	T	Cyclohexanone	0.956	0.933	2.4	93	0.00
99	T	tert-Butylbenzene	2.428	2.802	-15.4	96	0.00
100	T	n-Butylbenzene	2.512	2.875	-14.5	95	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012050.D Vial: 2
Acq On : 2 May 2020 8:53 Operator: LH
Sample : CCVend R16050120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28) TD 5/2/20

Quant Time: May 02 09:35:09 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	281431	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	13.28	114	1201962	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	560096	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.00	65	455740	11.949	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.60%			
57) Toluene-d8 (SS2)	15.72	98	1179816	12.428	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.44%			
73) Bromofluorobenzene (SS3)	18.98	174	445289	13.035	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.32%			
Target Compounds						Qvalue
2) Propene	4.09	42	886051	27.183	ng	99
3) Dichlorodifluoromethan...	4.25	85	1641387	25.746	ng	100
4) Chloromethane	4.53	50	1287164	25.771	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	942836	24.753	ng	100
6) Vinyl Chloride	4.95	62	1406767	25.685	ng	100
7) 1,3-Butadiene	5.22	54	1164838	25.704	ng	100
8) Bromomethane	5.65	94	732459	25.316	ng	100
9) Chloroethane	5.98	64	554668	25.635	ng	99
10) Ethanol	6.39	45	3142203	124.845	ng	100
11) Acetonitrile	6.63	41	1400286	24.346	ng	100
12) Acrolein	6.80	56	488152	24.546	ng	100
13) Acetone	7.01	58	3281203	130.357	ng	100
14) Trichlorofluoromethane	7.24	101	1420113	25.205	ng	100
15) 2-Propanol (Isopropanol)	7.52	45	4004655	52.566	ng	100
16) Acrylonitrile	7.77	53	1048233	25.475	ng	100
17) 1,1-Dichloroethene	8.20	96	772445	26.153	ng	99
18) 2-Methyl-2-Propanol (t...	8.39	59	3778738	53.204	ng	100
19) Methylene Chloride	8.44	84	821563	25.108	ng	100
20) 3-Chloro-1-propene (Al...	8.59	41	1184751	26.355	ng	100
21) Trichlorotrifluoroethane	8.84	151	714267	26.851	ng	100
22) Carbon Disulfide	8.69	76	3020940	25.766	ng	100
23) trans-1,2-Dichloroethene	9.71	61	1149238	25.553	ng	99
24) 1,1-Dichloroethane	9.96	63	1407851	26.368	ng	100
25) Methyl tert-Butyl Ether	10.05	73	2090849	24.896	ng	100
26) Vinyl Acetate	10.22	86	1107725	141.283	ng	98
27) 2-Butanone (MEK)	10.46	72	549811	25.613	ng	99
28) cis-1,2-Dichloroethene	10.98	61	1114569	25.336	ng	99
29) Diisopropyl Ether	11.27	87	785431	25.866	ng	98
30) Ethyl Acetate	11.28	61	710901	57.433	ng	99
31) n-Hexane	11.26	57	1458042	27.158	ng	100
32) Chloroform	11.32	83	1454799	25.969	ng	100
34) Tetrahydrofuran (THF)	11.72	72	540915	25.836	ng	99
35) Ethyl tert-Butyl Ether	11.87	87	986094	26.872	ng	99
36) 1,2-Dichloroethane	12.12	62	1126387	25.378	ng	100
38) 1,1,1-Trichloroethane	12.40	97	1290259	26.652	ng	100
39) Isopropyl Acetate	12.83	61	1177588	55.610	ng	99
40) 1-Butanol	12.85	56	1609473	53.422	ng	100
41) Benzene	12.88	78	3349952	25.989	ng	100
42) Carbon Tetrachloride	13.04	117	1173675	26.769	ng	100
43) Cyclohexane	13.17	84	2607115	54.278	ng	99
44) tert-Amyl Methyl Ether	13.52	73	2374973	27.477	ng	100
45) 1,2-Dichloropropane	13.73	63	800866	26.827	ng	100
46) Bromodichloromethane	13.92	83	1208978	27.753	ng	100
47) Trichloroethene	13.97	130	899207	26.989	ng	100
48) 1,4-Dioxane	13.95	88	703087	27.083	ng	100
49) 2,2,4-Trimethylpentane...	14.04	57	3344170	26.662	ng	100
50) Methyl Methacrylate	14.18	100	719562	56.271	ng	100

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012050.D Vial: 2
Acq On : 2 May 2020 8:53 Operator: LH
Sample : CCVend R16050120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 02 09:35:09 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

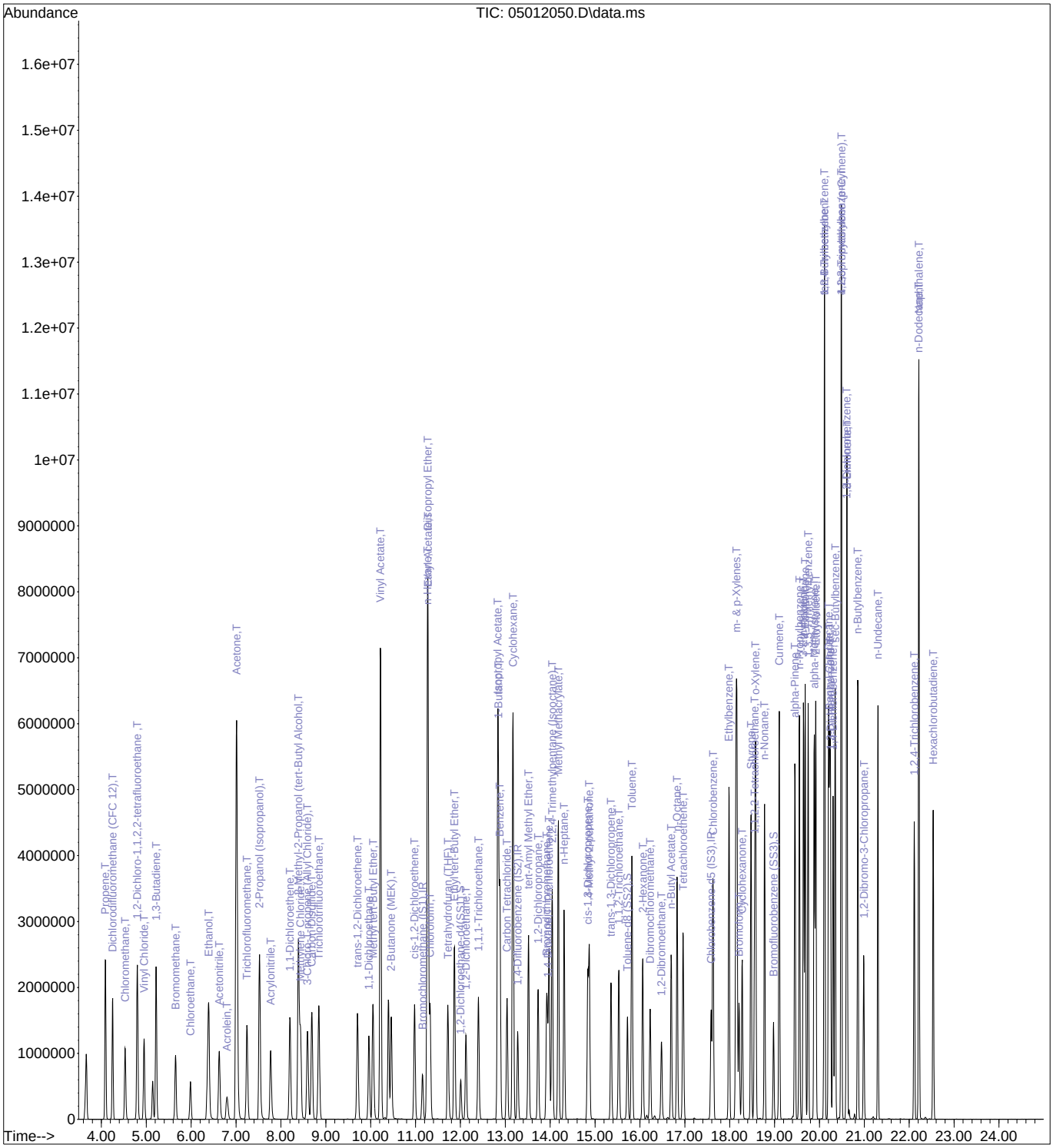
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	791884	26.271	ng	100
52) cis-1,3-Dichloropropene	14.84	75	1372593	26.781	ng	100
53) 4-Methyl-2-pentanone	14.87	58	766630	26.680	ng	100
54) trans-1,3-Dichloropropene	15.35	75	1258135	28.690	ng	100
55) 1,1,2-Trichloroethane	15.53	97	813592	27.483	ng	100
58) Toluene	15.82	91	3260779	26.646	ng	100
59) 2-Hexanone	16.06	43	1833512	27.343	ng	100
60) Dibromochloromethane	16.23	129	1022996	29.194	ng	100
61) 1,2-Dibromoethane	16.48	107	943356	28.011	ng	100
62) n-Butyl Acetate	16.70	43	2037797	28.135	ng	100
63) n-Octane	16.83	57	692861	27.348	ng	100
64) Tetrachloroethene	16.96	166	951803	27.536	ng	100
65) Chlorobenzene	17.63	112	2220516	26.371	ng	100
66) Ethylbenzene	17.98	91	3864655	28.322	ng	100
67) m- & p-Xylenes	18.15	91	6208716	57.353	ng	100
68) Bromoform	18.21	173	881047	29.003	ng	100
69) Styrene	18.48	104	2380575	29.238	ng	100
70) o-Xylene	18.58	91	3116703	28.359	ng	99
71) n-Nonane	18.77	43	1643270	28.181	ng	100
72) 1,1,2,2-Tetrachloroethane	18.55	83	1542490	28.292	ng	100
74) Cumene	19.10	105	3904718	28.951	ng	100
75) alpha-Pinene	19.45	93	2069356	28.755	ng	100
76) n-Propylbenzene	19.55	91	4718807	29.451	ng	100
77) 3-Ethyltoluene	19.64	105	3969124	30.404	ng	100
78) 4-Ethyltoluene	19.68	105	3657826	28.877	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	3196189	29.060	ng	100
80) alpha-Methylstyrene	19.88	118	1722281	27.782	ng	100
81) 2-Ethyltoluene	19.92	105	3796836	29.486	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3565259	32.251	ng	100
83) n-Decane	20.20	57	1752857	28.345	ng	99
84) Benzyl Chloride	20.23	91	3040296	29.507	ng	100
85) 1,3-Dichlorobenzene	20.25	146	1948089	30.348	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1896846	30.280	ng	100
87) sec-Butylbenzene	20.35	105	4263489	29.711	ng	100
88) 4-Isopropyltoluene (p-...	20.49	119	4262460	31.368	ng	100
89) 1,2,3-Trimethylbenzene	20.48	105	3670079	31.722	ng	100
90) 1,2-Dichlorobenzene	20.61	146	1937185	31.519	ng	100
91) d-Limonene	20.62	68	1366683	31.302	ng	99
92) 1,2-Dibromo-3-Chloropr...	20.99	157	666740	28.771	ng	99
93) n-Undecane	21.30	57	1722717	30.099	ng	100
94) 1,2,4-Trichlorobenzene	22.11	180	1341249	31.465	ng	100
95) Naphthalene	22.22	128	4340046	32.169	ng	100
96) n-Dodecane	22.21	57	1651258	33.321	ng	100
97) Hexachlorobutadiene	22.54	225	843502	28.607	ng	100
98) Cyclohexanone	18.28	55	1044972	24.395	ng	100
99) tert-Butylbenzene	20.11	119	3359075	30.872	ng	100
100) n-Butylbenzene	20.85	91	3446447	30.620	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012050.D Vial: 2
Acq On : 2 May 2020 8:53 Operator: LH
Sample : CCVend R16050120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 02 09:35:09 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\02\05022001.D Vial: 2
Acq On : 2 May 2020 9:27 Operator: LH
Sample : CCV R16050220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

TD 5/2/20

Quant Time: May 02 11:40:55 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	101	-0.01
2	T	Propene	1.448	1.472	-1.7	101	0.00
3	T	Dichlorodifluoromethane (CF	2.832	2.731	3.6	101	0.00
4	T	Chloromethane	2.218	2.169	2.2	100	-0.01
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.692	1.604	5.2	102	-0.01
6	T	Vinyl Chloride	2.433	2.317	4.8	100	-0.01
7	T	1,3-Butadiene	2.013	1.903	5.5	98	-0.01
8	T	Bromomethane	1.285	1.247	3.0	102	-0.01
9	T	Chloroethane	0.961	0.930	3.2	100	0.00
10	T	Ethanol	1.118	1.059	5.3	97	-0.03
11	T	Acetonitrile	2.555	2.375	7.0	97	-0.02
12	T	Acrolein	0.883	0.830	6.0	96	-0.01
13	T	Acetone	1.118	1.082	3.2	97	-0.02
14	T	Trichlorofluoromethane	2.503	2.388	4.6	99	0.00
15	T	2-Propanol (Isopropanol)	3.384	3.305	2.3	96	-0.02
16	T	Acrylonitrile	1.828	1.750	4.3	97	-0.01
17	T	1,1-Dichloroethene	1.312	1.268	3.4	98	0.00
18	T	2-Methyl-2-Propanol (tert-B	3.155	3.001	4.9	95	-0.02
19	T	Methylene Chloride	1.453	1.362	6.3	96	0.00
20	T	3-Chloro-1-propene (Allyl C	1.997	1.911	4.3	96	-0.01
21	T	Trichlorotrifluoroethane	1.182	1.168	1.2	99	0.00
22	T	Carbon Disulfide	5.208	4.908	5.8	97	0.00
23	T	trans-1,2-Dichloroethene	1.998	1.901	4.9	97	0.00
24	T	1,1-Dichloroethane	2.371	2.277	4.0	97	0.00
25	T	Methyl tert-Butyl Ether	3.730	3.407	8.7	98	0.00
26	T	Vinyl Acetate	0.348	0.359	-3.2	97	0.00
27	T	2-Butanone (MEK)	0.953	0.904	5.1	96	0.00
28	T	cis-1,2-Dichloroethene	1.954	1.834	6.1	96	0.00
29	T	Diisopropyl Ether	1.349	1.265	6.2	97	0.00
30	T	Ethyl Acetate	0.550	0.567	-3.1	96	0.00
31	T	n-Hexane	2.385	2.360	1.0	96	0.00
32	T	Chloroform	2.488	2.356	5.3	97	0.00
33	S	1,2-Dichloroethane-d4(SS1)	1.694	1.589	6.2	99	0.00
34	T	Tetrahydrofuran (THF)	0.930	0.860	7.5	97	0.00
35	T	Ethyl tert-Butyl Ether	1.630	1.588	2.6	97	0.00
36	T	1,2-Dichloroethane	1.971	1.792	9.1	95	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	100	0.00
38	T	1,1,1-Trichloroethane	0.503	0.500	0.6	97	0.00
39	T	Isopropyl Acetate	0.220	0.230	-4.5	97	0.00
40	T	1-Butanol	0.313	0.318	-1.6	95	-0.02
41	T	Benzene	1.340	1.301	2.9	97	0.00
42	T	Carbon Tetrachloride	0.456	0.465	-2.0	98	0.00
43	T	Cyclohexane	0.500	0.508	-1.6	97	0.00
44	T	tert-Amyl Methyl Ether	0.899	0.900	-0.1	96	0.00
45	T	1,2-Dichloropropane	0.310	0.305	1.6	96	0.00
46	T	Bromodichloromethane	0.453	0.460	-1.5	96	0.00
47	T	Trichloroethene	0.346	0.345	0.3	97	0.00
48	T	1,4-Dioxane	0.270	0.269	0.4	97	0.00
49	T	2,2,4-Trimethylpentane (Iso	1.304	1.291	1.0	97	0.00
50	T	Methyl Methacrylate	0.133	0.139	-4.5	97	0.00
51	T	n-Heptane	0.313	0.305	2.6	98	0.00
52	T	cis-1,3-Dichloropropene	0.533	0.548	-2.8	97	0.00
53	T	4-Methyl-2-pentanone	0.299	0.299	0.0	96	0.00
54	T	trans-1,3-Dichloropropene	0.456	0.494	-8.3	97	0.00
55	T	1,1,2-Trichloroethane	0.308	0.313	-1.6	97	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\02\05022001.D Vial: 2
Acq On : 2 May 2020 9:27 Operator: LH
Sample : CCV R16050220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 02 11:40:55 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	100	0.00
57	S	Toluene-d8 (SS2)	2.119	2.123	-0.2	100	0.00
58	T	Toluene	2.731	2.706	0.9	96	0.00
59	T	2-Hexanone	1.497	1.516	-1.3	96	0.00
60	T	Dibromochloromethane	0.782	0.843	-7.8	97	0.00
61	T	1,2-Dibromoethane	0.752	0.783	-4.1	97	0.00
62	T	n-Butyl Acetate	1.616	1.664	-3.0	95	0.00
63	T	n-Octane	0.565	0.570	-0.9	96	0.00
64	T	Tetrachloroethene	0.771	0.809	-4.9	98	0.00
65	T	Chlorobenzene	1.879	1.842	2.0	98	0.00
66	T	Ethylbenzene	3.045	3.190	-4.8	96	0.00
67	T	m- & p-Xylenes	2.416	2.557	-5.8	96	0.00
68	T	Bromoform	0.678	0.731	-7.8	97	0.00
69	T	Styrene	1.817	1.991	-9.6	96	0.00
70	T	o-Xylene	2.453	2.561	-4.4	96	0.00
71	T	n-Nonane	1.301	1.364	-4.8	96	0.00
72	T	1,1,2,2-Tetrachloroethane	1.217	1.274	-4.7	96	0.00
73	S	Bromofluorobenzene (SS3)	0.762	0.802	-5.2	100	0.00
74	T	Cumene	3.010	3.201	-6.3	96	0.00
75	T	alpha-Pinene	1.606	1.711	-6.5	96	0.00
76	T	n-Propylbenzene	3.576	3.872	-8.3	96	0.00
77	T	3-Ethyltoluene	2.913	3.304	-13.4	97	0.00
78	T	4-Ethyltoluene	2.827	2.995	-5.9	94	0.00
79	T	1,3,5-Trimethylbenzene	2.455	2.664	-8.5	96	0.00
80	T	alpha-Methylstyrene	1.384	1.428	-3.2	96	0.00
81	T	2-Ethyltoluene	2.874	3.105	-8.0	96	0.00
82	T	1,2,4-Trimethylbenzene	2.467	2.936	-19.0	96	0.00
83	T	n-Decane	1.380	1.465	-6.2	96	0.00
84	T	Benzyl Chloride	2.300	2.502	-8.8	96	0.00
85	T	1,3-Dichlorobenzene	1.433	1.608	-12.2	97	0.00
86	T	1,4-Dichlorobenzene	1.398	1.565	-11.9	96	0.00
87	T	sec-Butylbenzene	3.203	3.507	-9.5	96	0.00
88	T	4-Isopropyltoluene (p-Cymen	3.033	3.442	-13.5	97	0.00
89	T	1,2,3-Trimethylbenzene	2.582	2.944	-14.0	96	0.00
90	T	1,2-Dichlorobenzene	1.372	1.592	-16.0	97	0.00
91	T	d-Limonene	0.974	1.120	-15.0	96	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.517	0.564	-9.1	97	0.00
93	T	n-Undecane	1.277	1.425	-11.6	97	0.00
94	T	1,2,4-Trichlorobenzene	0.951	1.118	-17.6	98	0.00
95	T	Naphthalene	3.011	3.736	-24.1	97	0.00
96	T	n-Dodecane	1.106	1.424	-28.8	96	0.00
97	T	Hexachlorobutadiene	0.658	0.709	-7.8	98	0.00
98	T	Cyclohexanone	0.956	0.927	3.0	95	0.00
99	T	tert-Butylbenzene	2.428	2.774	-14.3	97	0.00
100	T	n-Butylbenzene	2.512	2.841	-13.1	96	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

TD 5/2/20

Data File : I:\MS16\DATA\2020_05\02\05022001.D Vial: 2
Acq On : 2 May 2020 9:27 Operator: LH
Sample : CCV R16050220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 02 11:40:55 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	290259	12.500	ng	-0.01
37) 1,4-Difluorobenzene (IS2)	13.28	114	1226882	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	570450	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.00	65	461127	11.723	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.76%			
57) Toluene-d8 (SS2)	15.72	98	1211328	12.528	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.24%			
73) Bromofluorobenzene (SS3)	18.98	174	457467	13.149	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.20%			
Target Compounds						Qvalue
2) Propene	4.09	42	905632	26.939	ng	100
3) Dichlorodifluoromethan...	4.25	85	1680535	25.558	ng	100
4) Chloromethane	4.52	50	1334406	25.905	ng	99
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	977494	24.882	ng	100
6) Vinyl Chloride	4.94	62	1452865	25.720	ng	100
7) 1,3-Butadiene	5.21	54	1170845	25.051	ng	100
8) Bromomethane	5.65	94	781763	26.198	ng	100
9) Chloroethane	5.98	64	583132	26.131	ng	100
10) Ethanol	6.39	45	3204284	123.439	ng	100
11) Acetonitrile	6.63	41	1447516	24.402	ng	100
12) Acrolein	6.80	56	496116	24.188	ng	100
13) Acetone	7.01	58	3349242	129.013	ng	100
14) Trichlorofluoromethane	7.24	101	1469435	25.287	ng	99
15) 2-Propanol (Isopropanol)	7.52	45	4028837	51.275	ng	100
16) Acrylonitrile	7.77	53	1066647	25.134	ng	100
17) 1,1-Dichloroethene	8.20	96	795189	26.104	ng	99
18) 2-Methyl-2-Propanol (t...	8.39	59	3763060	51.372	ng	100
19) Methylene Chloride	8.44	84	837874	24.828	ng	100
20) 3-Chloro-1-propene (Al...	8.59	41	1197934	25.838	ng	99
21) Trichlorotrifluoroethane	8.84	151	732220	26.689	ng	98
22) Carbon Disulfide	8.69	76	3048322	25.209	ng	100
23) trans-1,2-Dichloroethene	9.71	61	1191690	25.691	ng	99
24) 1,1-Dichloroethane	9.96	63	1440716	26.163	ng	100
25) Methyl tert-Butyl Ether	10.05	73	2135939	24.660	ng	100
26) Vinyl Acetate	10.22	86	1116037	138.014	ng	99
27) 2-Butanone (MEK)	10.46	72	556133	25.120	ng	99
28) cis-1,2-Dichloroethene	10.98	61	1128641	24.876	ng	99
29) Diisopropyl Ether	11.27	87	793251	25.329	ng	98
30) Ethyl Acetate	11.28	61	714118	55.939	ng	99
31) n-Hexane	11.26	57	1479457	26.719	ng	100
32) Chloroform	11.32	83	1463237	25.325	ng	100
34) Tetrahydrofuran (THF)	11.72	72	544436	25.214	ng	99
35) Ethyl tert-Butyl Ether	11.87	87	995814	26.312	ng	100
36) 1,2-Dichloroethane	12.12	62	1123520	24.544	ng	100
38) 1,1,1-Trichloroethane	12.40	97	1313140	26.573	ng	100
39) Isopropyl Acetate	12.83	61	1191390	55.119	ng	99
40) 1-Butanol	12.85	56	1623426	52.790	ng	99
41) Benzene	12.88	78	3383766	25.718	ng	100
42) Carbon Tetrachloride	13.04	117	1197247	26.752	ng	100
43) Cyclohexane	13.17	84	2643506	53.917	ng	100
44) tert-Amyl Methyl Ether	13.52	73	2385674	27.040	ng	100
45) 1,2-Dichloropropane	13.73	63	807326	26.494	ng	99
46) Bromodichloromethane	13.92	83	1219709	27.431	ng	100
47) Trichloroethene	13.97	130	905340	26.621	ng	100
48) 1,4-Dioxane	13.95	88	713501	26.926	ng	99
49) 2,2,4-Trimethylpentane...	14.05	57	3390643	26.484	ng	100
50) Methyl Methacrylate	14.18	100	733037	56.161	ng	99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022001.D Vial: 2
Acq On : 2 May 2020 9:27 Operator: LH
Sample : CCV R16050220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 02 11:40:55 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

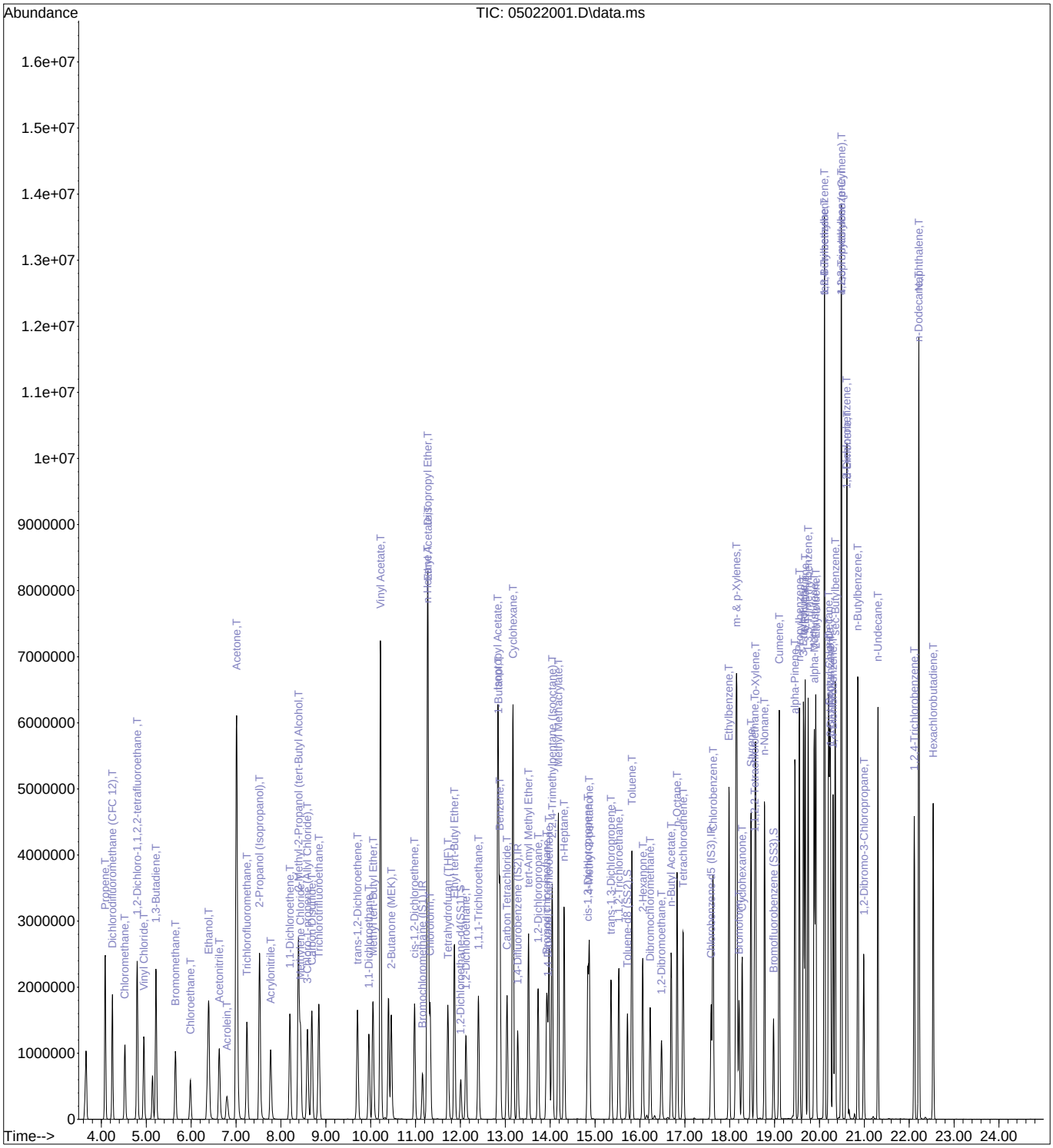
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	807418	26.242	ng	100
52) cis-1,3-Dichloropropene	14.84	75	1397436	26.712	ng	100
53) 4-Methyl-2-pentanone	14.87	58	778788	26.553	ng	100
54) trans-1,3-Dichloropropene	15.35	75	1283949	28.684	ng	100
55) 1,1,2-Trichloroethane	15.53	97	822238	27.211	ng	99
58) Toluene	15.82	91	3303941	26.509	ng	100
59) 2-Hexanone	16.06	43	1850708	27.099	ng	100
60) Dibromochloromethane	16.23	129	1029453	28.845	ng	100
61) 1,2-Dibromoethane	16.48	107	955309	27.851	ng	100
62) n-Butyl Acetate	16.70	43	2069065	28.048	ng	100
63) n-Octane	16.83	57	702399	27.221	ng	99
64) Tetrachloroethene	16.97	166	960279	27.277	ng	100
65) Chlorobenzene	17.63	112	2249114	26.226	ng	100
66) Ethylbenzene	17.98	91	3894753	28.024	ng	100
67) m- & p-Xylenes	18.15	91	6242507	56.619	ng	100
68) Bromoform	18.21	173	892196	28.837	ng	100
69) Styrene	18.48	104	2407604	29.033	ng	100
70) o-Xylene	18.58	91	3126951	27.936	ng	100
71) n-Nonane	18.77	43	1665374	28.042	ng	100
72) 1,1,2,2-Tetrachloroethane	18.55	83	1554996	28.003	ng	100
74) Cumene	19.10	105	3944490	28.715	ng	100
75) alpha-Pinene	19.45	93	2089246	28.504	ng	100
76) n-Propylbenzene	19.56	91	4770375	29.232	ng	100
77) 3-Ethyltoluene	19.64	105	3995445	30.050	ng	100
78) 4-Ethyltoluene	19.68	105	3690175	28.604	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	3222124	28.764	ng	100
80) alpha-Methylstyrene	19.89	118	1743689	27.617	ng	100
81) 2-Ethyltoluene	19.92	105	3825695	29.171	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3583928	31.831	ng	99
83) n-Decane	20.20	57	1788665	28.399	ng	99
84) Benzyl Chloride	20.23	91	3083069	29.379	ng	100
85) 1,3-Dichlorobenzene	20.25	146	1962960	30.025	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1909977	29.937	ng	100
87) sec-Butylbenzene	20.35	105	4281183	29.293	ng	100
88) 4-Isopropyltoluene (p-...	20.49	119	4279945	30.925	ng	100
89) 1,2,3-Trimethylbenzene	20.48	105	3661721	31.075	ng	99
90) 1,2-Dichlorobenzene	20.61	146	1943061	31.041	ng	100
91) d-Limonene	20.62	68	1380428	31.043	ng	100
92) 1,2-Dibromo-3-Chloropr...	20.99	157	675802	28.633	ng	99
93) n-Undecane	21.30	57	1755362	30.113	ng	100
94) 1,2,4-Trichlorobenzene	22.11	180	1364443	31.428	ng	100
95) Naphthalene	22.22	128	4390699	31.953	ng	100
96) n-Dodecane	22.21	57	1689581	33.475	ng	100
97) Hexachlorobutadiene	22.54	225	856975	28.537	ng	100
98) Cyclohexanone	18.28	55	1057765	24.245	ng	100
99) tert-Butylbenzene	20.11	119	3386822	30.563	ng	100
100) n-Butylbenzene	20.85	91	3468501	30.257	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022001.D Vial: 2
Acq On : 2 May 2020 9:27 Operator: LH
Sample : CCV R16050220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 02 11:40:55 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\02\05022024.D Vial: 2
Acq On : 2 May 2020 22:57 Operator: TD
Sample : CCVend R16050220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 03 05:39:34 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/3/20

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	94	-0.01
2	T	Propene	1.448	1.502	-3.7	96	-0.01
3	T	Dichlorodifluoromethane (CF	2.832	2.744	3.1	94	-0.01
4	T	Chloromethane	2.218	2.186	1.4	94	-0.02
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.692	1.596	5.7	94	-0.02
6	T	Vinyl Chloride	2.433	2.377	2.3	95	-0.02
7	T	1,3-Butadiene	2.013	2.001	0.6	96	-0.02
8	T	Bromomethane	1.285	1.206	6.1	91	-0.02
9	T	Chloroethane	0.961	0.923	4.0	92	-0.01
10	T	Ethanol	1.118	1.096	2.0	93	-0.04
11	T	Acetonitrile	2.555	2.397	6.2	91	-0.03
12	T	Acrolein	0.883	0.849	3.9	91	-0.02
13	T	Acetone	1.118	1.116	0.2	93	-0.02
14	T	Trichlorofluoromethane	2.503	2.355	5.9	90	-0.01
15	T	2-Propanol (Isopropanol)	3.384	3.429	-1.3	92	-0.03
16	T	Acrylonitrile	1.828	1.780	2.6	91	-0.02
17	T	1,1-Dichloroethene	1.312	1.270	3.2	91	-0.01
18	T	2-Methyl-2-Propanol (tert-B	3.155	3.037	3.7	89	-0.03
19	T	Methylene Chloride	1.453	1.388	4.5	91	-0.01
20	T	3-Chloro-1-propene (Allyl C	1.997	1.975	1.1	92	-0.02
21	T	Trichlorotrifluoroethane	1.182	1.153	2.5	90	-0.01
22	T	Carbon Disulfide	5.208	5.033	3.4	92	-0.01
23	T	trans-1,2-Dichloroethene	1.998	1.906	4.6	90	-0.01
24	T	1,1-Dichloroethane	2.371	2.297	3.1	91	-0.01
25	T	Methyl tert-Butyl Ether	3.730	3.430	8.0	91	0.00
26	T	Vinyl Acetate	0.348	0.364	-4.6	91	-0.01
27	T	2-Butanone (MEK)	0.953	0.924	3.0	91	-0.01
28	T	cis-1,2-Dichloroethene	1.954	1.863	4.7	91	0.00
29	T	Diisopropyl Ether	1.349	1.282	5.0	91	0.00
30	T	Ethyl Acetate	0.550	0.589	-7.1	93	-0.01
31	T	n-Hexane	2.385	2.446	-2.6	93	0.00
32	T	Chloroform	2.488	2.411	3.1	92	0.00
33	S	1,2-Dichloroethane-d4(SS1)	1.694	1.617	4.5	93	0.00
34	T	Tetrahydrofuran (THF)	0.930	0.877	5.7	92	0.00
35	T	Ethyl tert-Butyl Ether	1.630	1.601	1.8	91	0.00
36	T	1,2-Dichloroethane	1.971	1.837	6.8	90	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	94	0.00
38	T	1,1,1-Trichloroethane	0.503	0.494	1.8	90	0.00
39	T	Isopropyl Acetate	0.220	0.234	-6.4	92	0.00
40	T	1-Butanol	0.313	0.323	-3.2	91	-0.02
41	T	Benzene	1.340	1.304	2.7	91	0.00
42	T	Carbon Tetrachloride	0.456	0.461	-1.1	91	0.00
43	T	Cyclohexane	0.500	0.515	-3.0	92	0.00
44	T	tert-Amyl Methyl Ether	0.899	0.915	-1.8	92	0.00
45	T	1,2-Dichloropropane	0.310	0.308	0.6	91	0.00
46	T	Bromodichloromethane	0.453	0.465	-2.6	91	0.00
47	T	Trichloroethene	0.346	0.348	-0.6	92	0.00
48	T	1,4-Dioxane	0.270	0.269	0.4	91	0.00
49	T	2,2,4-Trimethylpentane (Iso	1.304	1.294	0.8	92	0.00
50	T	Methyl Methacrylate	0.133	0.139	-4.5	91	0.00
51	T	n-Heptane	0.313	0.302	3.5	91	0.00
52	T	cis-1,3-Dichloropropene	0.533	0.548	-2.8	91	0.00
53	T	4-Methyl-2-pentanone	0.299	0.299	0.0	90	0.00
54	T	trans-1,3-Dichloropropene	0.456	0.489	-7.2	90	0.00
55	T	1,1,2-Trichloroethane	0.308	0.315	-2.3	92	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\02\05022024.D Vial: 2
Acq On : 2 May 2020 22:57 Operator: TD
Sample : CCVend R16050220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 03 05:39:34 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	97	0.00
57	S	Toluene-d8 (SS2)	2.119	2.097	1.0	95	0.00
58	T	Toluene	2.731	2.658	2.7	92	0.00
59	T	2-Hexanone	1.497	1.485	0.8	90	0.00
60	T	Dibromochloromethane	0.782	0.822	-5.1	91	0.00
61	T	1,2-Dibromoethane	0.752	0.761	-1.2	91	0.00
62	T	n-Butyl Acetate	1.616	1.628	-0.7	90	0.00
63	T	n-Octane	0.565	0.559	1.1	91	0.00
64	T	Tetrachloroethene	0.771	0.790	-2.5	92	0.00
65	T	Chlorobenzene	1.879	1.792	4.6	92	0.00
66	T	Ethylbenzene	3.045	3.132	-2.9	91	0.00
67	T	m- & p-Xylenes	2.416	2.523	-4.4	92	0.00
68	T	Bromoform	0.678	0.713	-5.2	92	0.00
69	T	Styrene	1.817	1.958	-7.8	91	0.00
70	T	o-Xylene	2.453	2.536	-3.4	92	0.00
71	T	n-Nonane	1.301	1.352	-3.9	92	0.00
72	T	1,1,2,2-Tetrachloroethane	1.217	1.260	-3.5	92	0.00
73	S	Bromofluorobenzene (SS3)	0.762	0.822	-7.9	99	0.00
74	T	Cumene	3.010	3.167	-5.2	92	0.00
75	T	alpha-Pinene	1.606	1.688	-5.1	91	0.00
76	T	n-Propylbenzene	3.576	3.822	-6.9	91	0.00
77	T	3-Ethyltoluene	2.913	3.295	-13.1	94	0.00
78	T	4-Ethyltoluene	2.827	2.944	-4.1	90	0.00
79	T	1,3,5-Trimethylbenzene	2.455	2.628	-7.0	92	0.00
80	T	alpha-Methylstyrene	1.384	1.403	-1.4	91	0.00
81	T	2-Ethyltoluene	2.874	3.080	-7.2	92	0.00
82	T	1,2,4-Trimethylbenzene	2.467	2.932	-18.8	93	0.00
83	T	n-Decane	1.380	1.449	-5.0	92	0.00
84	T	Benzyl Chloride	2.300	2.456	-6.8	91	0.00
85	T	1,3-Dichlorobenzene	1.433	1.594	-11.2	93	0.00
86	T	1,4-Dichlorobenzene	1.398	1.550	-10.9	92	0.00
87	T	sec-Butylbenzene	3.203	3.495	-9.1	93	0.00
88	T	4-Isopropyltoluene (p-Cymen	3.033	3.455	-13.9	94	0.00
89	T	1,2,3-Trimethylbenzene	2.582	2.950	-14.3	93	0.00
90	T	1,2-Dichlorobenzene	1.372	1.598	-16.5	94	0.00
91	T	d-Limonene	0.974	1.111	-14.1	92	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.517	0.559	-8.1	93	0.00
93	T	n-Undecane	1.277	1.407	-10.2	92	0.00
94	T	1,2,4-Trichlorobenzene	0.951	1.095	-15.1	92	0.00
95	T	Naphthalene	3.011	3.713	-23.3	93	0.00
96	T	n-Dodecane	1.106	1.432	-29.5	94	0.00
97	T	Hexachlorobutadiene	0.658	0.696	-5.8	93	0.00
98	T	Cyclohexanone	0.956	0.908	5.0	90	0.00
99	T	tert-Butylbenzene	2.428	2.774	-14.3	94	0.00
100	T	n-Butylbenzene	2.512	2.839	-13.0	92	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022024.D Vial: 2
Acq On : 2 May 2020 22:57 Operator: TD
Sample : CCVend R16050220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 03 05:39:34 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/3/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	269093	12.500	ng	-0.01
37) 1,4-Difluorobenzene (IS2)	13.28	114	1153936	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	551182	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.00	65	435166	11.933	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.44%			
57) Toluene-d8 (SS2)	15.72	98	1155956	12.373	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.96%			
73) Bromofluorobenzene (SS3)	18.98	174	452951	13.474	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.76%			
Target Compounds						Qvalue
2) Propene	4.08	42	856980	27.497	ng	100
3) Dichlorodifluoromethan...	4.24	85	1565624	25.683	ng	100
4) Chloromethane	4.52	50	1247066	26.113	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.79	135	902132	24.770	ng	100
6) Vinyl Chloride	4.94	62	1381503	26.381	ng	100
7) 1,3-Butadiene	5.21	54	1141764	26.350	ng	100
8) Bromomethane	5.64	94	700921	25.336	ng	99
9) Chloroethane	5.98	64	536400	25.928	ng	99
10) Ethanol	6.38	45	3073227	127.703	ng	100
11) Acetonitrile	6.62	41	1354786	24.635	ng	100
12) Acrolein	6.79	56	470387	24.737	ng	100
13) Acetone	7.01	58	3202627	133.069	ng	100
14) Trichlorofluoromethane	7.24	101	1343600	24.940	ng	100
15) 2-Propanol (Isopropanol)	7.52	45	3875861	53.208	ng	100
16) Acrylonitrile	7.77	53	1005864	25.566	ng	100
17) 1,1-Dichloroethene	8.19	96	737963	26.131	ng	100
18) 2-Methyl-2-Propanol (t...	8.38	59	3530007	51.981	ng	100
19) Methylene Chloride	8.43	84	791875	25.311	ng	99
20) 3-Chloro-1-propene (Al...	8.58	41	1148150	26.712	ng	100
21) Trichlorotrifluoroethane	8.84	151	669936	26.339	ng	99
22) Carbon Disulfide	8.68	76	2898260	25.853	ng	100
23) trans-1,2-Dichloroethene	9.70	61	1107556	25.755	ng	100
24) 1,1-Dichloroethane	9.95	63	1347707	26.399	ng	100
25) Methyl tert-Butyl Ether	10.05	73	1993672	24.828	ng	100
26) Vinyl Acetate	10.22	86	1047974	139.790	ng	97
27) 2-Butanone (MEK)	10.45	72	526953	25.674	ng	100
28) cis-1,2-Dichloroethene	10.98	61	1062927	25.270	ng	100
29) Diisopropyl Ether	11.27	87	745325	25.670	ng	96
30) Ethyl Acetate	11.27	61	687754	58.111	ng	99
31) n-Hexane	11.26	57	1421743	27.696	ng	100
32) Chloroform	11.32	83	1388436	25.921	ng	100
34) Tetrahydrofuran (THF)	11.72	72	514760	25.715	ng	100
35) Ethyl tert-Butyl Ether	11.86	87	930318	26.515	ng	100
36) 1,2-Dichloroethane	12.12	62	1067497	25.154	ng	100
38) 1,1,1-Trichloroethane	12.40	97	1219970	26.249	ng	100
39) Isopropyl Acetate	12.83	61	1137451	55.950	ng	99
40) 1-Butanol	12.85	56	1550497	53.606	ng	99
41) Benzene	12.88	78	3189960	25.778	ng	100
42) Carbon Tetrachloride	13.04	117	1117380	26.546	ng	99
43) Cyclohexane	13.17	84	2518771	54.621	ng	100
44) tert-Amyl Methyl Ether	13.51	73	2281542	27.495	ng	100
45) 1,2-Dichloropropane	13.73	63	768287	26.807	ng	100
46) Bromodichloromethane	13.92	83	1160038	27.738	ng	100
47) Trichloroethene	13.97	130	858870	26.851	ng	100
48) 1,4-Dioxane	13.95	88	671086	26.926	ng	100
49) 2,2,4-Trimethylpentane...	14.05	57	3195915	26.541	ng	100
50) Methyl Methacrylate	14.18	100	689509	56.165	ng	99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022024.D Vial: 2
Acq On : 2 May 2020 22:57 Operator: TD
Sample : CCVend R16050220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 03 05:39:34 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

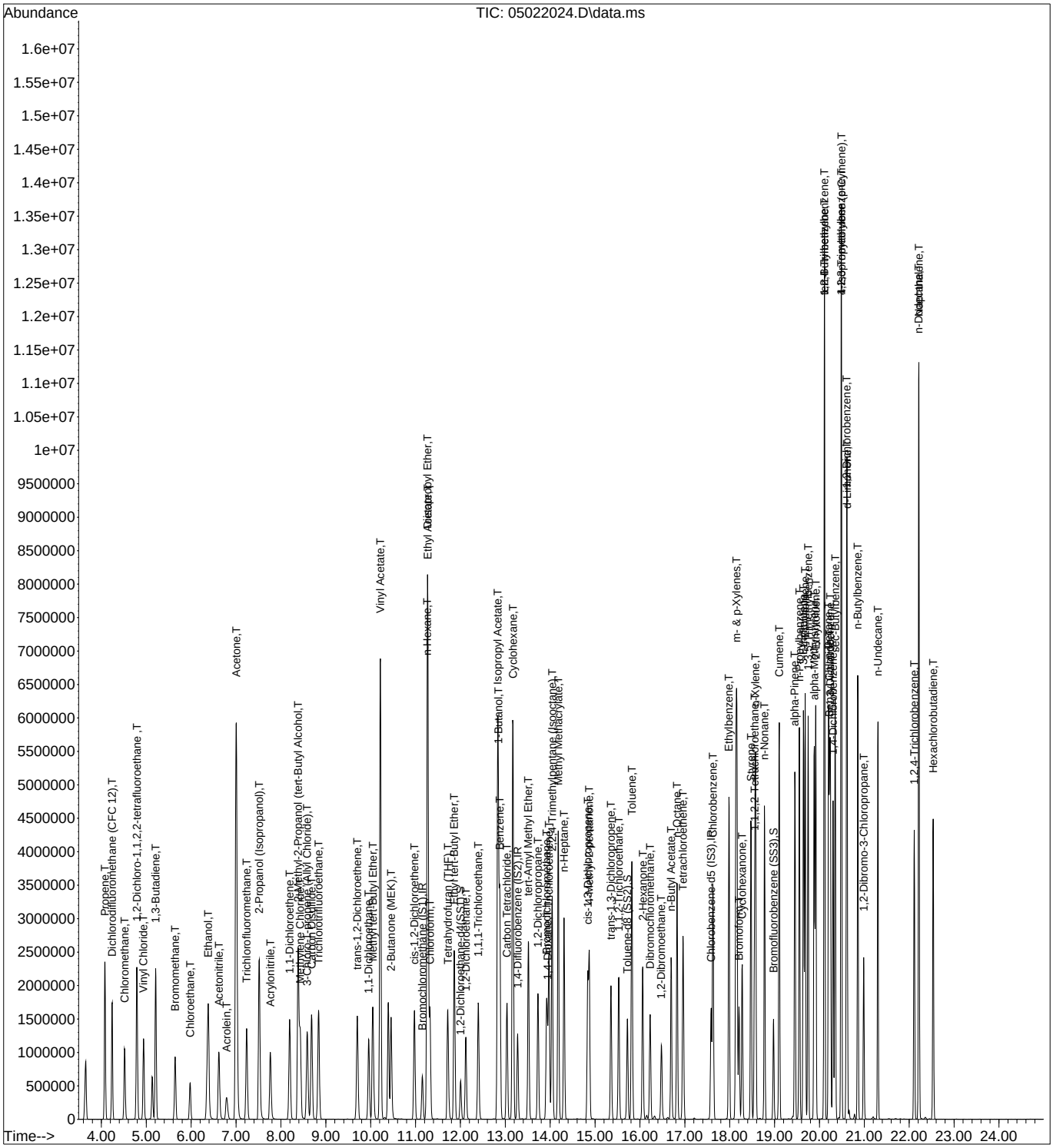
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	753284	26.031	ng	100
52) cis-1,3-Dichloropropene	14.84	75	1315607	26.738	ng	100
53) 4-Methyl-2-pentanone	14.87	58	732432	26.551	ng	99
54) trans-1,3-Dichloropropene	15.35	75	1196259	28.415	ng	99
55) 1,1,2-Trichloroethane	15.53	97	776797	27.332	ng	100
58) Toluene	15.82	91	3134790	26.031	ng	100
59) 2-Hexanone	16.06	43	1751261	26.539	ng	100
60) Dibromochloromethane	16.23	129	969830	28.124	ng	100
61) 1,2-Dibromoethane	16.48	107	897275	27.073	ng	100
62) n-Butyl Acetate	16.70	43	1956084	27.443	ng	100
63) n-Octane	16.83	57	664971	26.672	ng	100
64) Tetrachloroethene	16.96	166	906208	26.641	ng	100
65) Chlorobenzene	17.62	112	2113157	25.502	ng	100
66) Ethylbenzene	17.98	91	3694352	27.511	ng	100
67) m- & p-Xylenes	18.15	91	5951846	55.870	ng	100
68) Bromoform	18.21	173	841031	28.133	ng	100
69) Styrene	18.48	104	2287944	28.555	ng	100
70) o-Xylene	18.58	91	2991691	27.662	ng	100
71) n-Nonane	18.77	43	1595132	27.798	ng	99
72) 1,1,2,2-Tetrachloroethane	18.55	83	1486415	27.704	ng	99
74) Cumene	19.10	105	3770712	28.409	ng	100
75) alpha-Pinene	19.45	93	1991069	28.114	ng	100
76) n-Propylbenzene	19.56	91	4550495	28.859	ng	100
77) 3-Ethyltoluene	19.64	105	3850706	29.974	ng	100
78) 4-Ethyltoluene	19.68	105	3505259	28.120	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	3070763	28.371	ng	100
80) alpha-Methylstyrene	19.89	118	1654802	27.125	ng	100
81) 2-Ethyltoluene	19.92	105	3667252	28.940	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3458201	31.788	ng	99
83) n-Decane	20.20	57	1708676	28.077	ng	100
84) Benzyl Chloride	20.23	91	2924084	28.838	ng	100
85) 1,3-Dichlorobenzene	20.24	146	1880599	29.771	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1828553	29.662	ng	100
87) sec-Butylbenzene	20.35	105	4122115	29.191	ng	100
88) 4-Isopropyltoluene (p-...	20.49	119	4150983	31.041	ng	100
89) 1,2,3-Trimethylbenzene	20.48	105	3544912	31.136	ng	99
90) 1,2-Dichlorobenzene	20.61	146	1884776	31.163	ng	100
91) d-Limonene	20.62	68	1322522	30.781	ng	100
92) 1,2-Dibromo-3-Chloropr...	20.98	157	647259	28.382	ng	98
93) n-Undecane	21.30	57	1675073	29.740	ng	100
94) 1,2,4-Trichlorobenzene	22.11	180	1291461	30.787	ng	100
95) Naphthalene	22.22	128	4216304	31.757	ng	100
96) n-Dodecane	22.21	57	1642185	33.674	ng	100
97) Hexachlorobutadiene	22.54	225	813469	28.035	ng	100
98) Cyclohexanone	18.28	55	1000873	23.743	ng	100
99) tert-Butylbenzene	20.11	119	3271930	30.558	ng	100
100) n-Butylbenzene	20.85	91	3349224	30.238	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\02\05022024.D Vial: 2
Acq On : 2 May 2020 22:57 Operator: TD
Sample : CCVend R16050220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 03 05:39:34 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\04\05042002.D Vial: 2
Acq On : 4 May 2020 6:20 Operator: TD
Sample : CCV R16050420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

TD 5/4/20

Quant Time: May 04 07:29:36 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	99	-0.01
2	T	Propene	1.448	1.440	0.6	97	0.00
3	T	Dichlorodifluoromethane (CF	2.832	2.642	6.7	96	0.00
4	T	Chloromethane	2.218	2.095	5.5	95	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.692	1.573	7.0	98	-0.01
6	T	Vinyl Chloride	2.433	2.272	6.6	96	0.00
7	T	1,3-Butadiene	2.013	1.898	5.7	96	0.00
8	T	Bromomethane	1.285	1.212	5.7	97	-0.01
9	T	Chloroethane	0.961	0.908	5.5	96	0.00
10	T	Ethanol	1.118	1.045	6.5	93	-0.03
11	T	Acetonitrile	2.555	2.326	9.0	94	-0.02
12	T	Acrolein	0.883	0.820	7.1	93	-0.01
13	T	Acetone	1.118	1.077	3.7	95	-0.02
14	T	Trichlorofluoromethane	2.503	2.330	6.9	94	0.00
15	T	2-Propanol (Isopropanol)	3.384	3.265	3.5	92	-0.02
16	T	Acrylonitrile	1.828	1.719	6.0	93	-0.01
17	T	1,1-Dichloroethene	1.312	1.253	4.5	95	0.00
18	T	2-Methyl-2-Propanol (tert-B	3.155	2.920	7.4	91	-0.02
19	T	Methylene Chloride	1.453	1.354	6.8	94	0.00
20	T	3-Chloro-1-propene (Allyl C	1.997	1.902	4.8	93	-0.01
21	T	Trichlorotrifluoroethane	1.182	1.156	2.2	96	0.00
22	T	Carbon Disulfide	5.208	4.896	6.0	95	0.00
23	T	trans-1,2-Dichloroethene	1.998	1.868	6.5	94	0.00
24	T	1,1-Dichloroethane	2.371	2.252	5.0	94	0.00
25	T	Methyl tert-Butyl Ether	3.730	3.374	9.5	95	0.00
26	T	Vinyl Acetate	0.348	0.351	-0.9	93	-0.01
27	T	2-Butanone (MEK)	0.953	0.903	5.2	94	0.00
28	T	cis-1,2-Dichloroethene	1.954	1.811	7.3	93	0.00
29	T	Diisopropyl Ether	1.349	1.264	6.3	95	0.00
30	T	Ethyl Acetate	0.550	0.571	-3.8	95	0.00
31	T	n-Hexane	2.385	2.359	1.1	94	0.00
32	T	Chloroform	2.488	2.353	5.4	95	0.00
33	S	1,2-Dichloroethane-d4(SS1)	1.694	1.588	6.3	97	0.00
34	T	Tetrahydrofuran (THF)	0.930	0.853	8.3	94	0.00
35	T	Ethyl tert-Butyl Ether	1.630	1.570	3.7	94	0.00
36	T	1,2-Dichloroethane	1.971	1.792	9.1	93	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	98	0.00
38	T	1,1,1-Trichloroethane	0.503	0.491	2.4	94	0.00
39	T	Isopropyl Acetate	0.220	0.229	-4.1	95	0.00
40	T	1-Butanol	0.313	0.312	0.3	92	-0.02
41	T	Benzene	1.340	1.296	3.3	95	0.00
42	T	Carbon Tetrachloride	0.456	0.458	-0.4	95	0.00
43	T	Cyclohexane	0.500	0.507	-1.4	95	0.00
44	T	tert-Amyl Methyl Ether	0.899	0.897	0.2	94	0.00
45	T	1,2-Dichloropropane	0.310	0.304	1.9	94	0.00
46	T	Bromodichloromethane	0.453	0.458	-1.1	94	0.00
47	T	Trichloroethene	0.346	0.348	-0.6	96	0.00
48	T	1,4-Dioxane	0.270	0.267	1.1	94	0.00
49	T	2,2,4-Trimethylpentane (Iso	1.304	1.272	2.5	94	0.00
50	T	Methyl Methacrylate	0.133	0.137	-3.0	94	0.00
51	T	n-Heptane	0.313	0.299	4.5	95	0.00
52	T	cis-1,3-Dichloropropene	0.533	0.540	-1.3	94	0.00
53	T	4-Methyl-2-pentanone	0.299	0.297	0.7	94	0.00
54	T	trans-1,3-Dichloropropene	0.456	0.481	-5.5	93	0.00
55	T	1,1,2-Trichloroethane	0.308	0.310	-0.6	95	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\04\05042002.D Vial: 2
Acq On : 4 May 2020 6:20 Operator: TD
Sample : CCV R16050420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 04 07:29:36 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	98	0.00
57	S	Toluene-d8 (SS2)	2.119	2.117	0.1	97	0.00
58	T	Toluene	2.731	2.720	0.4	95	0.00
59	T	2-Hexanone	1.497	1.513	-1.1	93	0.00
60	T	Dibromochloromethane	0.782	0.848	-8.4	95	0.00
61	T	1,2-Dibromoethane	0.752	0.780	-3.7	95	0.00
62	T	n-Butyl Acetate	1.616	1.646	-1.9	92	0.00
63	T	n-Octane	0.565	0.570	-0.9	94	0.00
64	T	Tetrachloroethene	0.771	0.818	-6.1	96	0.00
65	T	Chlorobenzene	1.879	1.844	1.9	96	0.00
66	T	Ethylbenzene	3.045	3.216	-5.6	95	0.00
67	T	m- & p-Xylenes	2.416	2.591	-7.2	95	0.00
68	T	Bromoform	0.678	0.741	-9.3	96	0.00
69	T	Styrene	1.817	2.006	-10.4	95	0.00
70	T	o-Xylene	2.453	2.605	-6.2	95	0.00
71	T	n-Nonane	1.301	1.376	-5.8	95	0.00
72	T	1,1,2,2-Tetrachloroethane	1.217	1.298	-6.7	96	0.00
73	S	Bromofluorobenzene (SS3)	0.762	0.811	-6.4	99	0.00
74	T	Cumene	3.010	3.268	-8.6	96	0.00
75	T	alpha-Pinene	1.606	1.724	-7.3	94	0.00
76	T	n-Propylbenzene	3.576	3.940	-10.2	95	0.00
77	T	3-Ethyltoluene	2.913	3.364	-15.5	97	0.00
78	T	4-Ethyltoluene	2.827	3.042	-7.6	94	0.00
79	T	1,3,5-Trimethylbenzene	2.455	2.701	-10.0	95	0.00
80	T	alpha-Methylstyrene	1.384	1.430	-3.3	94	0.00
81	T	2-Ethyltoluene	2.874	3.162	-10.0	96	0.00
82	T	1,2,4-Trimethylbenzene	2.467	3.001	-21.6	96	0.00
83	T	n-Decane	1.380	1.475	-6.9	95	0.00
84	T	Benzyl Chloride	2.300	2.502	-8.8	94	0.00
85	T	1,3-Dichlorobenzene	1.433	1.635	-14.1	96	0.00
86	T	1,4-Dichlorobenzene	1.398	1.587	-13.5	96	0.00
87	T	sec-Butylbenzene	3.203	3.586	-12.0	96	0.00
88	T	4-Isopropyltoluene (p-Cymen	3.033	3.524	-16.2	97	0.00
89	T	1,2,3-Trimethylbenzene	2.582	3.025	-17.2	96	0.00
90	T	1,2-Dichlorobenzene	1.372	1.634	-19.1	97	0.00
91	T	d-Limonene	0.974	1.137	-16.7	95	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.517	0.568	-9.9	95	0.00
93	T	n-Undecane	1.277	1.428	-11.8	95	0.00
94	T	1,2,4-Trichlorobenzene	0.951	1.117	-17.5	95	0.00
95	T	Naphthalene	3.011	3.714	-23.3	94	0.00
96	T	n-Dodecane	1.106	1.409	-27.4	93	0.00
97	T	Hexachlorobutadiene	0.658	0.718	-9.1	97	0.00
98	T	Cyclohexanone	0.956	0.925	3.2	92	0.00
99	T	tert-Butylbenzene	2.428	2.835	-16.8	97	0.00
100	T	n-Butylbenzene	2.512	2.894	-15.2	95	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042002.D Vial: 2
Acq On : 4 May 2020 6:20 Operator: TD
Sample : CCV R16050420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

TD 5/4/20

Quant Time: May 04 07:29:36 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	284513	12.500	ng	-0.01
37) 1,4-Difluorobenzene (IS2)	13.27	114	1207365	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	557091	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.00	65	451908	11.720	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.76%			
57) Toluene-d8 (SS2)	15.72	98	1179620	12.492	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.92%			
73) Bromofluorobenzene (SS3)	18.98	174	451883	13.300	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.40%			
Target Compounds						Qvalue
2) Propene	4.09	42	868412	26.353	ng	100
3) Dichlorodifluoromethan...	4.25	85	1593858	24.730	ng	100
4) Chloromethane	4.53	50	1263378	25.021	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	939969	24.410	ng	100
6) Vinyl Chloride	4.95	62	1396324	25.218	ng	100
7) 1,3-Butadiene	5.22	54	1145113	24.995	ng	100
8) Bromomethane	5.65	94	745051	25.472	ng	100
9) Chloroethane	5.98	64	558171	25.518	ng	100
10) Ethanol	6.39	45	3097298	121.727	ng	100
11) Acetonitrile	6.63	41	1389671	23.900	ng	100
12) Acrolein	6.80	56	480691	23.909	ng	100
13) Acetone	7.01	58	3267213	128.395	ng	100
14) Trichlorofluoromethane	7.24	101	1405565	24.676	ng	100
15) 2-Propanol (Isopropanol)	7.52	45	3901898	50.662	ng	100
16) Acrylonitrile	7.77	53	1027067	24.690	ng	100
17) 1,1-Dichloroethene	8.20	96	770040	25.789	ng	99
18) 2-Methyl-2-Propanol (t...	8.39	59	3589286	49.989	ng	100
19) Methylene Chloride	8.44	84	816730	24.690	ng	100
20) 3-Chloro-1-propene (Al...	8.59	41	1168691	25.716	ng	99
21) Trichlorotrifluoroethane	8.84	151	710677	26.426	ng	99
22) Carbon Disulfide	8.69	76	2980910	25.149	ng	100
23) trans-1,2-Dichloroethene	9.71	61	1147694	25.242	ng	99
24) 1,1-Dichloroethane	9.96	63	1396624	25.874	ng	100
25) Methyl tert-Butyl Ether	10.05	73	2073578	24.423	ng	100
26) Vinyl Acetate	10.22	86	1070005	134.993	ng	99
27) 2-Butanone (MEK)	10.46	72	544399	25.086	ng	99
28) cis-1,2-Dichloroethene	10.98	61	1092363	24.563	ng	99
29) Diisopropyl Ether	11.27	87	776688	25.301	ng	99
30) Ethyl Acetate	11.28	61	704809	56.324	ng	99
31) n-Hexane	11.26	57	1449930	26.714	ng	100
32) Chloroform	11.32	83	1432593	25.296	ng	100
34) Tetrahydrofuran (THF)	11.72	72	528872	24.988	ng	99
35) Ethyl tert-Butyl Ether	11.87	87	964876	26.009	ng	99
36) 1,2-Dichloroethane	12.12	62	1101483	24.549	ng	100
38) 1,1,1-Trichloroethane	12.40	97	1267530	26.065	ng	100
39) Isopropyl Acetate	12.83	61	1166285	54.830	ng	99
40) 1-Butanol	12.85	56	1566264	51.755	ng	98
41) Benzene	12.88	78	3316295	25.613	ng	100
42) Carbon Tetrachloride	13.04	117	1161097	26.364	ng	100
43) Cyclohexane	13.17	84	2595377	53.791	ng	100
44) tert-Amyl Methyl Ether	13.52	73	2339963	26.951	ng	100
45) 1,2-Dichloropropane	13.73	63	792816	26.439	ng	100
46) Bromodichloromethane	13.92	83	1193874	27.284	ng	100
47) Trichloroethene	13.97	130	898525	26.848	ng	100
48) 1,4-Dioxane	13.95	88	695954	26.688	ng	99
49) 2,2,4-Trimethylpentane...	14.04	57	3286809	26.088	ng	100
50) Methyl Methacrylate	14.18	100	711450	55.388	ng	100

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042002.D Vial: 2
Acq On : 4 May 2020 6:20 Operator: TD
Sample : CCV R16050420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 04 07:29:36 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

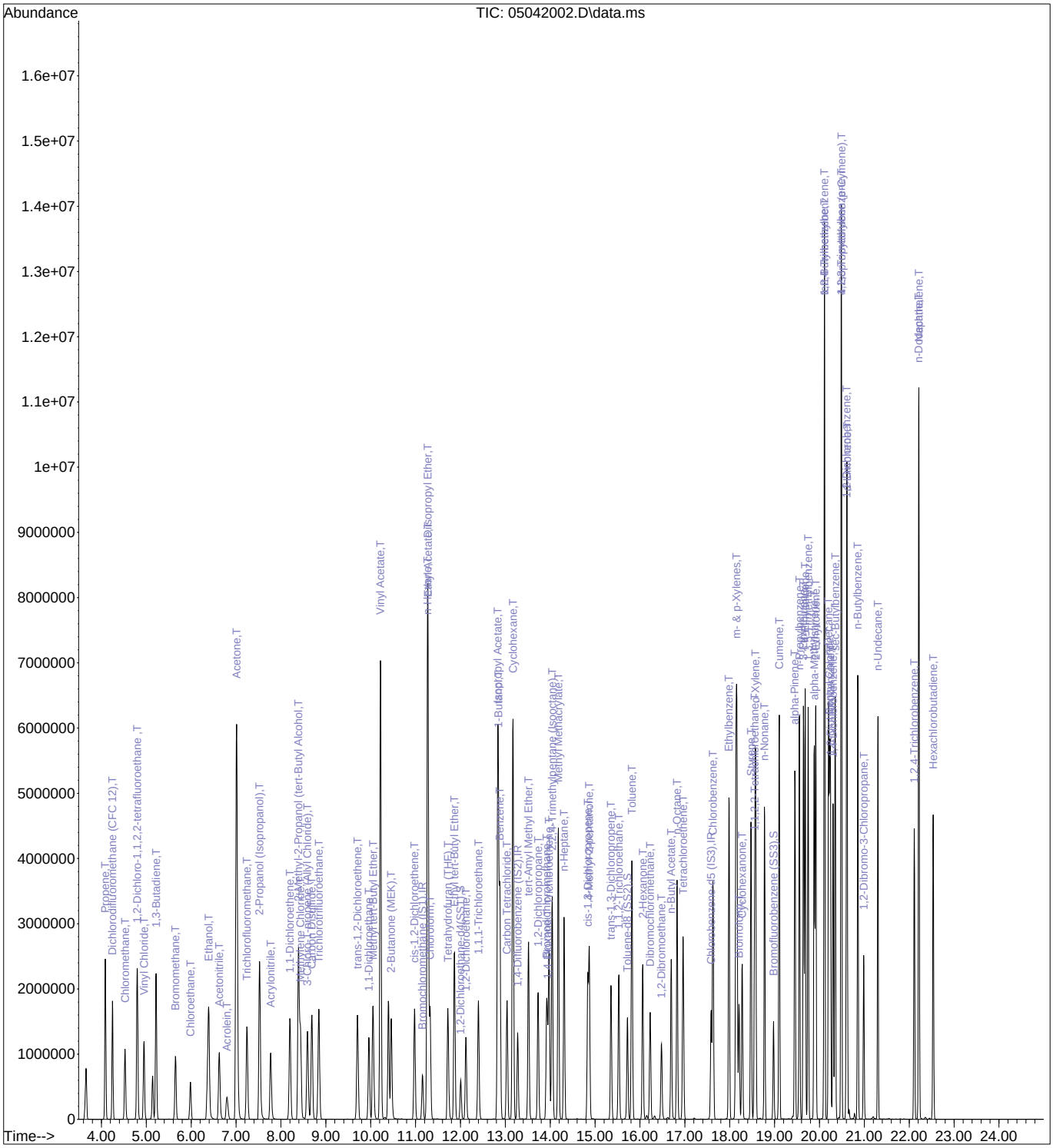
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	780581	25.780	ng	100
52) cis-1,3-Dichloropropene	14.84	75	1355097	26.322	ng	100
53) 4-Methyl-2-pentanone	14.87	58	760268	26.340	ng	100
54) trans-1,3-Dichloropropene	15.35	75	1231552	27.959	ng	100
55) 1,1,2-Trichloroethane	15.53	97	801435	26.951	ng	100
58) Toluene	15.82	91	3242356	26.638	ng	100
59) 2-Hexanone	16.06	43	1804171	27.051	ng	100
60) Dibromochloromethane	16.23	129	1011214	29.013	ng	100
61) 1,2-Dibromoethane	16.48	107	930410	27.775	ng	100
62) n-Butyl Acetate	16.70	43	1999586	27.756	ng	100
63) n-Octane	16.83	57	686431	27.240	ng	100
64) Tetrachloroethene	16.96	166	948300	27.583	ng	100
65) Chlorobenzene	17.62	112	2198173	26.247	ng	100
66) Ethylbenzene	17.98	91	3834289	28.251	ng	100
67) m- & p-Xylenes	18.15	91	6177740	57.375	ng	100
68) Bromoform	18.21	173	883270	29.233	ng	100
69) Styrene	18.48	104	2369548	29.260	ng	100
70) o-Xylene	18.58	91	3105492	28.410	ng	100
71) n-Nonane	18.77	43	1640349	28.283	ng	100
72) 1,1,2,2-Tetrachloroethane	18.55	83	1547696	28.540	ng	100
74) Cumene	19.10	105	3932031	29.311	ng	100
75) alpha-Pinene	19.45	93	2054832	28.707	ng	100
76) n-Propylbenzene	19.55	91	4741555	29.752	ng	100
77) 3-Ethyltoluene	19.64	105	3972479	30.594	ng	100
78) 4-Ethyltoluene	19.68	105	3660041	29.050	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	3189536	29.156	ng	99
80) alpha-Methylstyrene	19.88	118	1704981	27.651	ng	100
81) 2-Ethyltoluene	19.92	105	3804475	29.705	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3577421	32.536	ng	100
83) n-Decane	20.20	57	1758983	28.597	ng	100
84) Benzyl Chloride	20.23	91	3011131	29.382	ng	100
85) 1,3-Dichlorobenzene	20.25	146	1949138	30.528	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1892567	30.375	ng	100
87) sec-Butylbenzene	20.35	105	4274789	29.951	ng	100
88) 4-Isopropyltoluene (p-...	20.49	119	4280333	31.669	ng	100
89) 1,2,3-Trimethylbenzene	20.48	105	3673824	31.926	ng	100
90) 1,2-Dichlorobenzene	20.61	146	1948032	31.867	ng	100
91) d-Limonene	20.62	68	1367683	31.494	ng	100
92) 1,2-Dibromo-3-Chloropr...	20.98	157	664596	28.833	ng	98
93) n-Undecane	21.30	57	1718191	30.182	ng	100
94) 1,2,4-Trichlorobenzene	22.11	180	1331160	31.397	ng	100
95) Naphthalene	22.22	128	4261654	31.758	ng	100
96) n-Dodecane	22.21	57	1632753	33.125	ng	100
97) Hexachlorobutadiene	22.54	225	848325	28.926	ng	100
98) Cyclohexanone	18.28	55	1031138	24.202	ng	100
99) tert-Butylbenzene	20.11	119	3379798	31.230	ng	100
100) n-Butylbenzene	20.85	91	3450658	30.823	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042002.D Vial: 2
Acq On : 4 May 2020 6:20 Operator: TD
Sample : CCV R16050420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 04 07:29:36 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\04\05042036.D Vial: 2
Acq On : 5 May 2020 2:35 Operator: TD
Sample : CCVend R16050420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 05 07:11:09 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 5/5/20

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	101	-0.01
2	T	Propene	1.448	1.424	1.7	98	0.00
3	T	Dichlorodifluoromethane (CF	2.832	2.638	6.9	98	0.00
4	T	Chloromethane	2.218	2.078	6.3	96	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.692	1.583	6.4	100	-0.01
6	T	Vinyl Chloride	2.433	2.212	9.1	95	0.00
7	T	1,3-Butadiene	2.013	1.861	7.6	96	0.00
8	T	Bromomethane	1.285	1.231	4.2	100	-0.01
9	T	Chloroethane	0.961	0.911	5.2	98	0.00
10	T	Ethanol	1.118	1.025	8.3	93	-0.03
11	T	Acetonitrile	2.555	2.267	11.3	93	-0.02
12	T	Acrolein	0.883	0.799	9.5	92	-0.01
13	T	Acetone	1.118	1.059	5.3	95	-0.02
14	T	Trichlorofluoromethane	2.503	2.330	6.9	96	0.00
15	T	2-Propanol (Isopropanol)	3.384	3.221	4.8	93	-0.02
16	T	Acrylonitrile	1.828	1.693	7.4	94	-0.01
17	T	1,1-Dichloroethene	1.312	1.257	4.2	97	0.00
18	T	2-Methyl-2-Propanol (tert-B	3.155	2.863	9.3	90	-0.02
19	T	Methylene Chloride	1.453	1.334	8.2	94	0.00
20	T	3-Chloro-1-propene (Allyl C	1.997	1.865	6.6	93	-0.01
21	T	Trichlorotrifluoroethane	1.182	1.175	0.6	99	0.00
22	T	Carbon Disulfide	5.208	4.853	6.8	96	0.00
23	T	trans-1,2-Dichloroethene	1.998	1.814	9.2	93	0.00
24	T	1,1-Dichloroethane	2.371	2.186	7.8	93	0.00
25	T	Methyl tert-Butyl Ether	3.730	3.293	11.7	94	0.00
26	T	Vinyl Acetate	0.348	0.349	-0.3	94	-0.01
27	T	2-Butanone (MEK)	0.953	0.887	6.9	94	0.00
28	T	cis-1,2-Dichloroethene	1.954	1.774	9.2	93	0.00
29	T	Diisopropyl Ether	1.349	1.227	9.0	94	0.00
30	T	Ethyl Acetate	0.550	0.558	-1.5	95	0.00
31	T	n-Hexane	2.385	2.308	3.2	94	0.00
32	T	Chloroform	2.488	2.320	6.8	95	0.00
33	S	1,2-Dichloroethane-d4(SS1)	1.694	1.537	9.3	95	0.00
34	T	Tetrahydrofuran (THF)	0.930	0.839	9.8	94	0.00
35	T	Ethyl tert-Butyl Ether	1.630	1.561	4.2	95	0.00
36	T	1,2-Dichloroethane	1.971	1.744	11.5	92	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	99	0.00
38	T	1,1,1-Trichloroethane	0.503	0.495	1.6	95	0.00
39	T	Isopropyl Acetate	0.220	0.227	-3.2	94	0.00
40	T	1-Butanol	0.313	0.313	0.0	92	-0.02
41	T	Benzene	1.340	1.291	3.7	95	0.00
42	T	Carbon Tetrachloride	0.456	0.459	-0.7	96	0.00
43	T	Cyclohexane	0.500	0.504	-0.8	95	0.00
44	T	tert-Amyl Methyl Ether	0.899	0.899	0.0	95	0.00
45	T	1,2-Dichloropropane	0.310	0.298	3.9	93	0.00
46	T	Bromodichloromethane	0.453	0.458	-1.1	94	0.00
47	T	Trichloroethene	0.346	0.355	-2.6	99	0.00
48	T	1,4-Dioxane	0.270	0.267	1.1	95	0.00
49	T	2,2,4-Trimethylpentane (Iso	1.304	1.253	3.9	93	0.00
50	T	Methyl Methacrylate	0.133	0.138	-3.8	95	0.00
51	T	n-Heptane	0.313	0.298	4.8	95	0.00
52	T	cis-1,3-Dichloropropene	0.533	0.540	-1.3	94	0.00
53	T	4-Methyl-2-pentanone	0.299	0.292	2.3	92	0.00
54	T	trans-1,3-Dichloropropene	0.456	0.483	-5.9	94	0.00
55	T	1,1,2-Trichloroethane	0.308	0.312	-1.3	96	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\04\05042036.D Vial: 2
Acq On : 5 May 2020 2:35 Operator: TD
Sample : CCVend R16050420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 05 07:11:09 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	100	0.00
57	S	Toluene-d8 (SS2)	2.119	2.095	1.1	98	0.00
58	T	Toluene	2.731	2.672	2.2	95	0.00
59	T	2-Hexanone	1.497	1.460	2.5	92	0.00
60	T	Dibromochloromethane	0.782	0.841	-7.5	97	0.00
61	T	1,2-Dibromoethane	0.752	0.773	-2.8	96	0.00
62	T	n-Butyl Acetate	1.616	1.593	1.4	91	0.00
63	T	n-Octane	0.565	0.553	2.1	93	0.00
64	T	Tetrachloroethene	0.771	0.816	-5.8	98	0.00
65	T	Chlorobenzene	1.879	1.817	3.3	96	0.00
66	T	Ethylbenzene	3.045	3.140	-3.1	94	0.00
67	T	m- & p-Xylenes	2.416	2.534	-4.9	95	0.00
68	T	Bromoform	0.678	0.733	-8.1	97	0.00
69	T	Styrene	1.817	1.967	-8.3	95	0.00
70	T	o-Xylene	2.453	2.537	-3.4	95	0.00
71	T	n-Nonane	1.301	1.328	-2.1	94	0.00
72	T	1,1,2,2-Tetrachloroethane	1.217	1.259	-3.5	95	0.00
73	S	Bromofluorobenzene (SS3)	0.762	0.838	-10.0	104	0.00
74	T	Cumene	3.010	3.174	-5.4	95	0.00
75	T	alpha-Pinene	1.606	1.682	-4.7	94	0.00
76	T	n-Propylbenzene	3.576	3.815	-6.7	94	0.00
77	T	3-Ethyltoluene	2.913	3.072	-5.5	90	0.00
78	T	4-Ethyltoluene	2.827	3.150	-11.4	99	0.00
79	T	1,3,5-Trimethylbenzene	2.455	2.646	-7.8	95	0.00
80	T	alpha-Methylstyrene	1.384	1.387	-0.2	93	0.00
81	T	2-Ethyltoluene	2.874	3.074	-7.0	95	0.00
82	T	1,2,4-Trimethylbenzene	2.467	2.919	-18.3	95	0.00
83	T	n-Decane	1.380	1.424	-3.2	94	0.00
84	T	Benzyl Chloride	2.300	2.415	-5.0	93	0.00
85	T	1,3-Dichlorobenzene	1.433	1.601	-11.7	96	0.00
86	T	1,4-Dichlorobenzene	1.398	1.544	-10.4	95	0.00
87	T	sec-Butylbenzene	3.203	3.480	-8.6	95	0.00
88	T	4-Isopropyltoluene (p-Cymen	3.033	3.440	-13.4	97	0.00
89	T	1,2,3-Trimethylbenzene	2.582	2.925	-13.3	95	0.00
90	T	1,2-Dichlorobenzene	1.372	1.601	-16.7	97	0.00
91	T	d-Limonene	0.974	1.091	-12.0	93	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.517	0.565	-9.3	97	0.00
93	T	n-Undecane	1.277	1.381	-8.1	93	0.00
94	T	1,2,4-Trichlorobenzene	0.951	1.112	-16.9	97	0.00
95	T	Naphthalene	3.011	3.649	-21.2	94	0.00
96	T	n-Dodecane	1.106	1.395	-26.1	94	0.00
97	T	Hexachlorobutadiene	0.658	0.719	-9.3	99	0.00
98	T	Cyclohexanone	0.956	0.885	7.4	90	-0.01
99	T	tert-Butylbenzene	2.428	2.780	-14.5	97	0.00
100	T	n-Butylbenzene	2.512	2.812	-11.9	95	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042036.D Vial: 2
Acq On : 5 May 2020 2:35 Operator: TD
Sample : CCVend R16050420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 05 07:11:09 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/5/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	289618	12.500	ng	-0.01
37) 1,4-Difluorobenzene (IS2)	13.28	114	1211502	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.58	82	569498	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.00	65	445075	11.340	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.72%			
57) Toluene-d8 (SS2)	15.72	98	1192856	12.357	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.88%			
73) Bromofluorobenzene (SS3)	18.98	174	477492	13.747	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.00%			
Target Compounds						Qvalue
2) Propene	4.09	42	874543	26.072	ng	99
3) Dichlorodifluoromethan...	4.25	85	1619818	24.689	ng	100
4) Chloromethane	4.53	50	1275612	24.818	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	962660	24.559	ng	100
6) Vinyl Chloride	4.95	62	1383548	24.547	ng	100
7) 1,3-Butadiene	5.22	54	1142435	24.497	ng	99
8) Bromomethane	5.65	94	770216	25.868	ng	99
9) Chloroethane	5.98	64	569613	25.582	ng	100
10) Ethanol	6.38	45	3092880	119.411	ng	100
11) Acetonitrile	6.62	41	1378504	23.290	ng	100
12) Acrolein	6.80	56	476972	23.306	ng	100
13) Acetone	7.01	58	3270534	126.260	ng	99
14) Trichlorofluoromethane	7.24	101	1430506	24.671	ng	100
15) 2-Propanol (Isopropanol)	7.52	45	3917700	49.971	ng	99
16) Acrylonitrile	7.77	53	1029708	24.317	ng	100
17) 1,1-Dichloroethene	8.20	96	786323	25.870	ng	96
18) 2-Methyl-2-Propanol (t...	8.39	59	3582072	49.009	ng	99
19) Methylene Chloride	8.44	84	819295	24.331	ng	98
20) 3-Chloro-1-propene (Al...	8.59	41	1166950	25.225	ng	99
21) Trichlorotrifluoroethane	8.84	151	735267	26.859	ng	97
22) Carbon Disulfide	8.69	76	3007590	24.927	ng	100
23) trans-1,2-Dichloroethene	9.71	61	1135032	24.524	ng	97
24) 1,1-Dichloroethane	9.96	63	1380093	25.118	ng	100
25) Methyl tert-Butyl Ether	10.05	73	2060004	23.836	ng	99
26) Vinyl Acetate	10.22	86	1081020	133.979	ng	96
27) 2-Butanone (MEK)	10.46	72	544879	24.666	ng	97
28) cis-1,2-Dichloroethene	10.98	61	1089204	24.060	ng	98
29) Diisopropyl Ether	11.27	87	767285	24.554	ng	99
30) Ethyl Acetate	11.28	61	701031	55.035	ng	100
31) n-Hexane	11.26	57	1444117	26.138	ng	100
32) Chloroform	11.32	83	1437889	24.942	ng	100
34) Tetrahydrofuran (THF)	11.72	72	529536	24.578	ng	99
35) Ethyl tert-Butyl Ether	11.86	87	976464	25.858	ng	98
36) 1,2-Dichloroethane	12.12	62	1091093	23.888	ng	100
38) 1,1,1-Trichloroethane	12.40	97	1282274	26.278	ng	99
39) Isopropyl Acetate	12.83	61	1161829	54.434	ng	99
40) 1-Butanol	12.85	56	1575918	51.896	ng	100
41) Benzene	12.88	78	3316975	25.531	ng	100
42) Carbon Tetrachloride	13.04	117	1168818	26.449	ng	100
43) Cyclohexane	13.17	84	2590761	53.512	ng	98
44) tert-Amyl Methyl Ether	13.52	73	2352426	27.002	ng	99
45) 1,2-Dichloropropane	13.73	63	781084	25.958	ng	100
46) Bromodichloromethane	13.92	83	1197499	27.273	ng	100
47) Trichloroethene	13.97	130	920664	27.416	ng	100
48) 1,4-Dioxane	13.95	88	699063	26.716	ng	98
49) 2,2,4-Trimethylpentane...	14.04	57	3248217	25.693	ng	100
50) Methyl Methacrylate	14.18	100	719270	55.805	ng	98

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042036.D Vial: 2
Acq On : 5 May 2020 2:35 Operator: TD
Sample : CCVend R16050420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 05 07:11:09 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

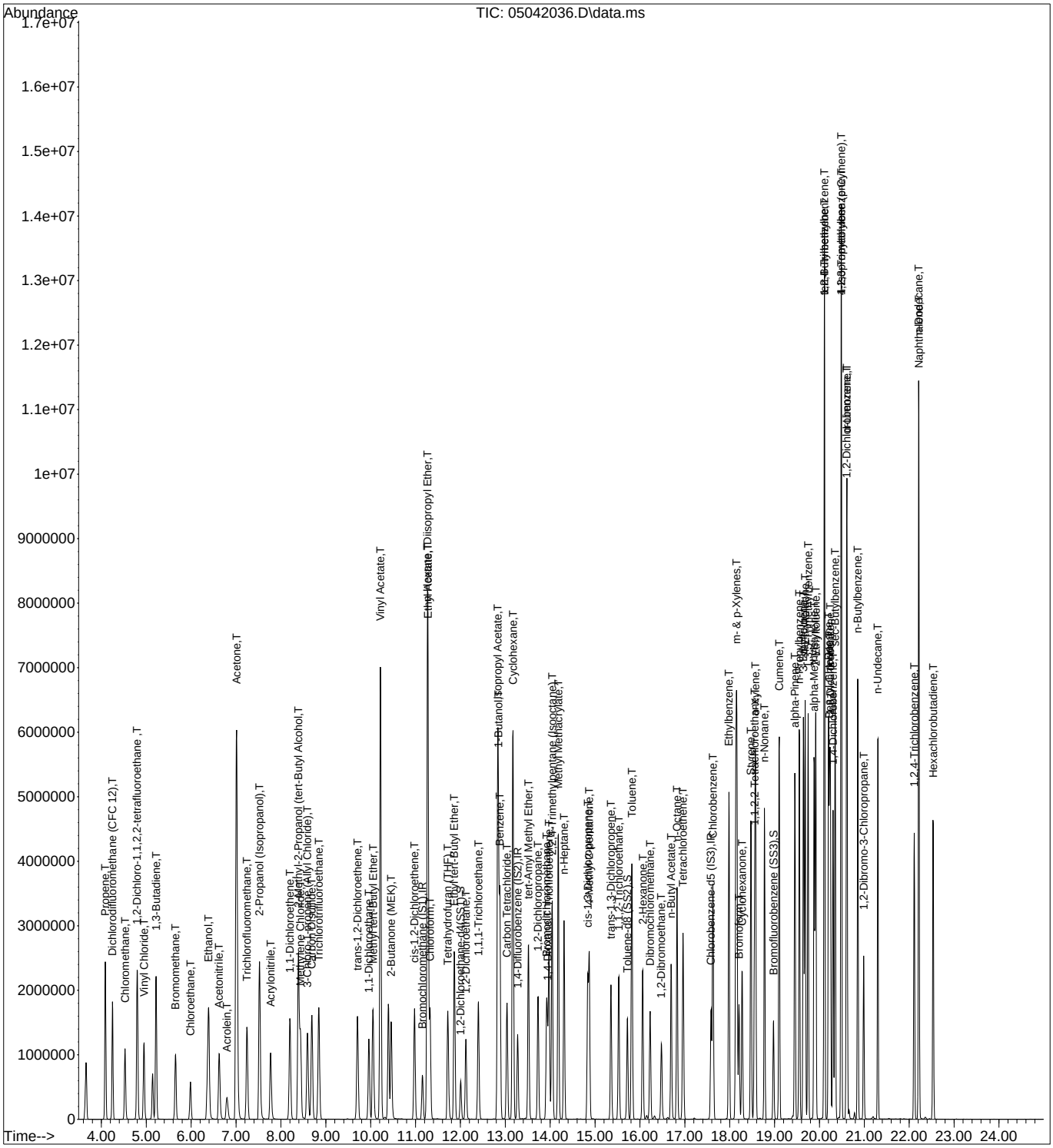
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	780179	25.679	ng	100
52) cis-1,3-Dichloropropene	14.84	75	1361982	26.365	ng	100
53) 4-Methyl-2-pentanone	14.87	58	749651	25.884	ng	100
54) trans-1,3-Dichloropropene	15.35	75	1240492	28.065	ng	100
55) 1,1,2-Trichloroethane	15.53	97	809209	27.119	ng	99
58) Toluene	15.82	91	3256450	26.171	ng	100
59) 2-Hexanone	16.06	43	1779112	26.094	ng	100
60) Dibromochloromethane	16.23	129	1025215	28.774	ng	100
61) 1,2-Dibromoethane	16.48	107	941573	27.496	ng	100
62) n-Butyl Acetate	16.70	43	1977962	26.858	ng	100
63) n-Octane	16.83	57	679761	26.388	ng	98
64) Tetrachloroethene	16.96	166	966476	27.499	ng	100
65) Chlorobenzene	17.62	112	2214783	25.869	ng	100
66) Ethylbenzene	17.98	91	3826639	27.580	ng	100
67) m- & p-Xylenes	18.15	91	6176727	56.116	ng	100
68) Bromoform	18.21	173	893580	28.930	ng	100
69) Styrene	18.47	104	2374488	28.682	ng	99
70) o-Xylene	18.58	91	3091395	27.665	ng	99
71) n-Nonane	18.77	43	1618237	27.294	ng	100
72) 1,1,2,2-Tetrachloroethane	18.55	83	1534723	27.684	ng	100
74) Cumene	19.10	105	3904550	28.472	ng	100
75) alpha-Pinene	19.45	93	2050089	28.017	ng	99
76) n-Propylbenzene	19.55	91	4692741	28.804	ng	100
77) 3-Ethyltoluene	19.64	105	3709055	27.943	ng	95
78) 4-Ethyltoluene	19.68	105	3874717	30.084	ng	96
79) 1,3,5-Trimethylbenzene	19.75	105	3194797	28.568	ng	99
80) alpha-Methylstyrene	19.88	118	1690681	26.822	ng	99
81) 2-Ethyltoluene	19.92	105	3781253	28.880	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3557092	31.646	ng	99
83) n-Decane	20.20	57	1734961	27.592	ng	99
84) Benzyl Chloride	20.23	91	2970668	28.355	ng	99
85) 1,3-Dichlorobenzene	20.24	146	1950604	29.886	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1882191	29.550	ng	100
87) sec-Butylbenzene	20.35	105	4241489	29.070	ng	100
88) 4-Isopropyltoluene (p-...	20.48	119	4270899	30.911	ng	99
89) 1,2,3-Trimethylbenzene	20.48	105	3632009	30.875	ng	99
90) 1,2-Dichlorobenzene	20.61	146	1950796	31.217	ng	100
91) d-Limonene	20.61	68	1342113	30.232	ng	100
92) 1,2-Dibromo-3-Chloropr...	20.98	157	676247	28.699	ng	96
93) n-Undecane	21.30	57	1698708	29.189	ng	100
94) 1,2,4-Trichlorobenzene	22.11	180	1355028	31.264	ng	100
95) Naphthalene	22.22	128	4280649	31.205	ng	100
96) n-Dodecane	22.21	57	1652247	32.790	ng	100
97) Hexachlorobutadiene	22.54	225	868328	28.963	ng	99
98) Cyclohexanone	18.27	55	1008042	23.144	ng	99
99) tert-Butylbenzene	20.11	119	3388515	30.629	ng	99
100) n-Butylbenzene	20.85	91	3427398	29.948	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042036.D Vial: 2
Acq On : 5 May 2020 2:35 Operator: TD
Sample : CCVend R16050420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 05 07:11:09 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

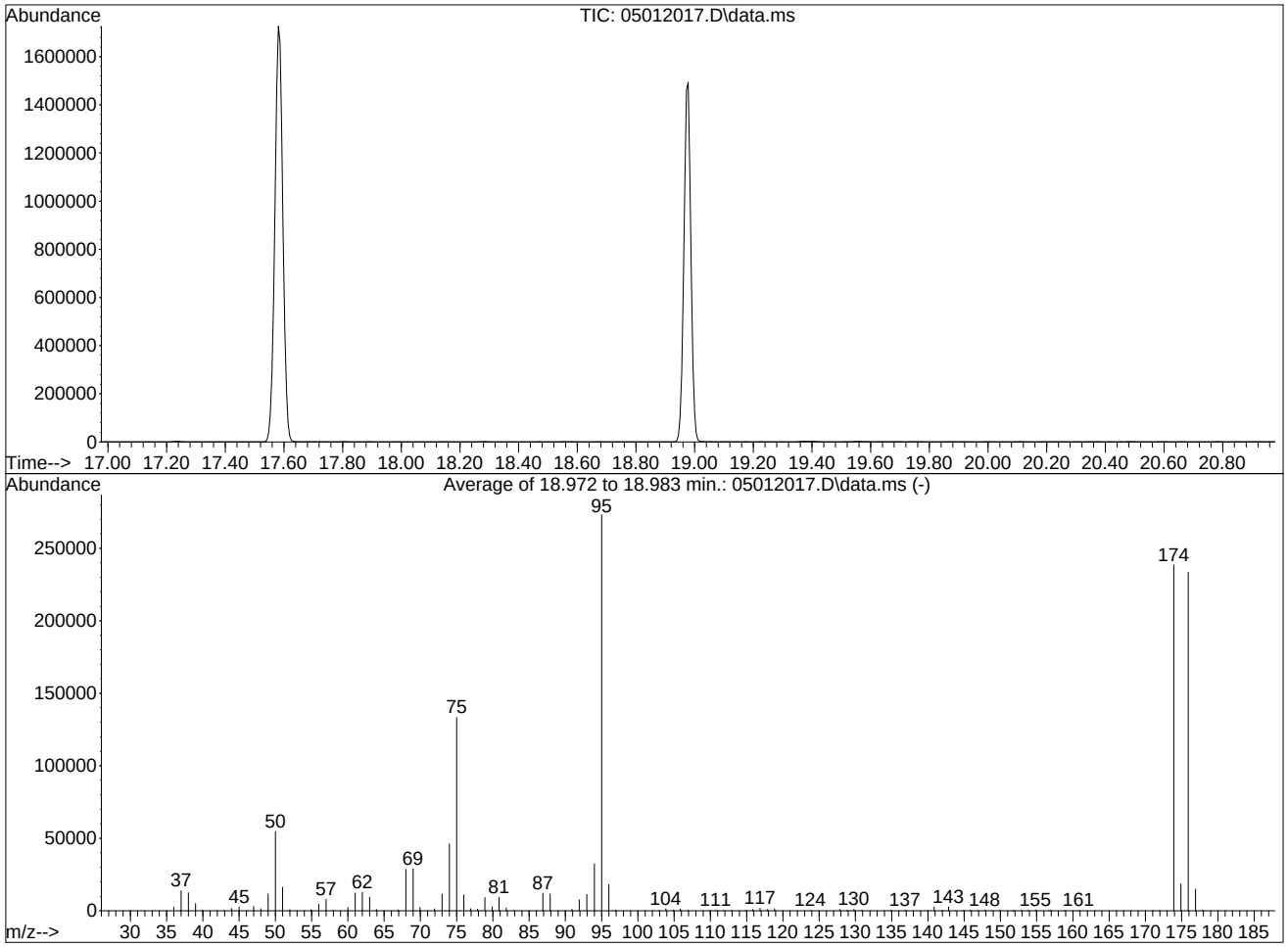


BFB

Data Path : I:\MS16\DATA\2020_05\01\
Data File : 05012017.D
Acq On : 1 May 2020 13:35
Operator : LH
Sample : 12.5ng TO15 BFB
Misc : S31-02112001
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16050120.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri May 01 17:25:50 2020



AutoFind: Scans 2816, 2817, 2818; Background Corrected with Scan 2808

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	20.0	54576	PASS
75	95	30	66	48.8	133227	PASS
95	95	100	100	100.0	273088	PASS
96	95	5	9	6.6	18099	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	87.3	238485	PASS
175	174	4	9	7.8	18527	PASS
176	174	93	101	98.0	233621	PASS
177	176	5	9	6.4	15004	PASS

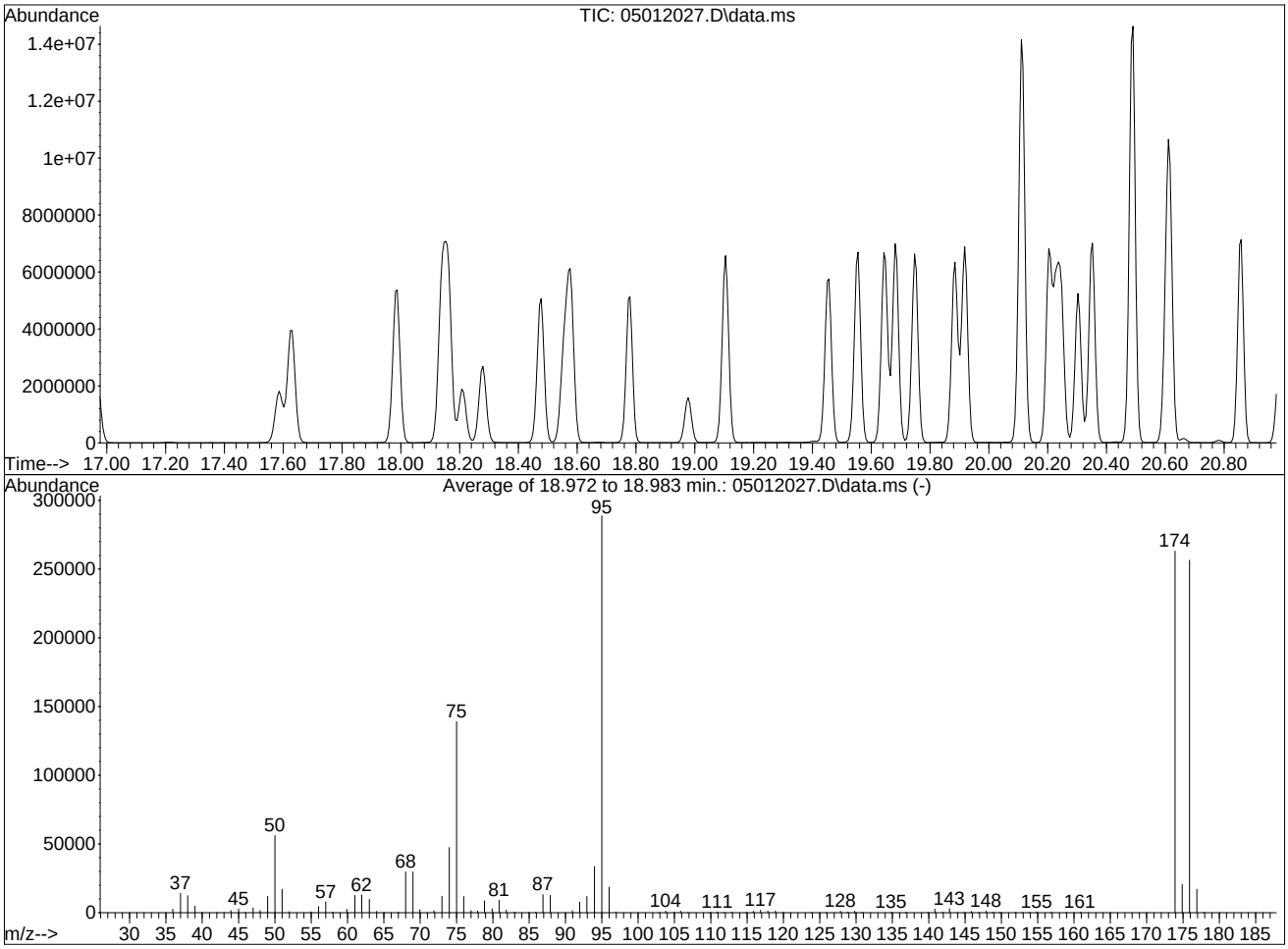
LH 5/1/20

BFB

Data Path : I:\MS16\DATA\2020_05\01\
Data File : 05012027.D
Acq On : 1 May 2020 19:15
Operator : LH
Sample : CCV R16050120_25ng
Misc : S31-02112001/S34-04292003 (5/28)
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16050120.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri May 01 18:22:00 2020



AutoFind: Scans 2816, 2817, 2818; Background Corrected with Scan 2807

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	19.4	56116	PASS
75	95	30	66	48.2	139128	PASS
95	95	100	100	100.0	288704	PASS
96	95	5	9	6.4	18613	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	91.2	263168	PASS
175	174	4	9	7.8	20437	PASS
176	174	93	101	97.5	256512	PASS
177	176	5	9	6.7	17141	PASS

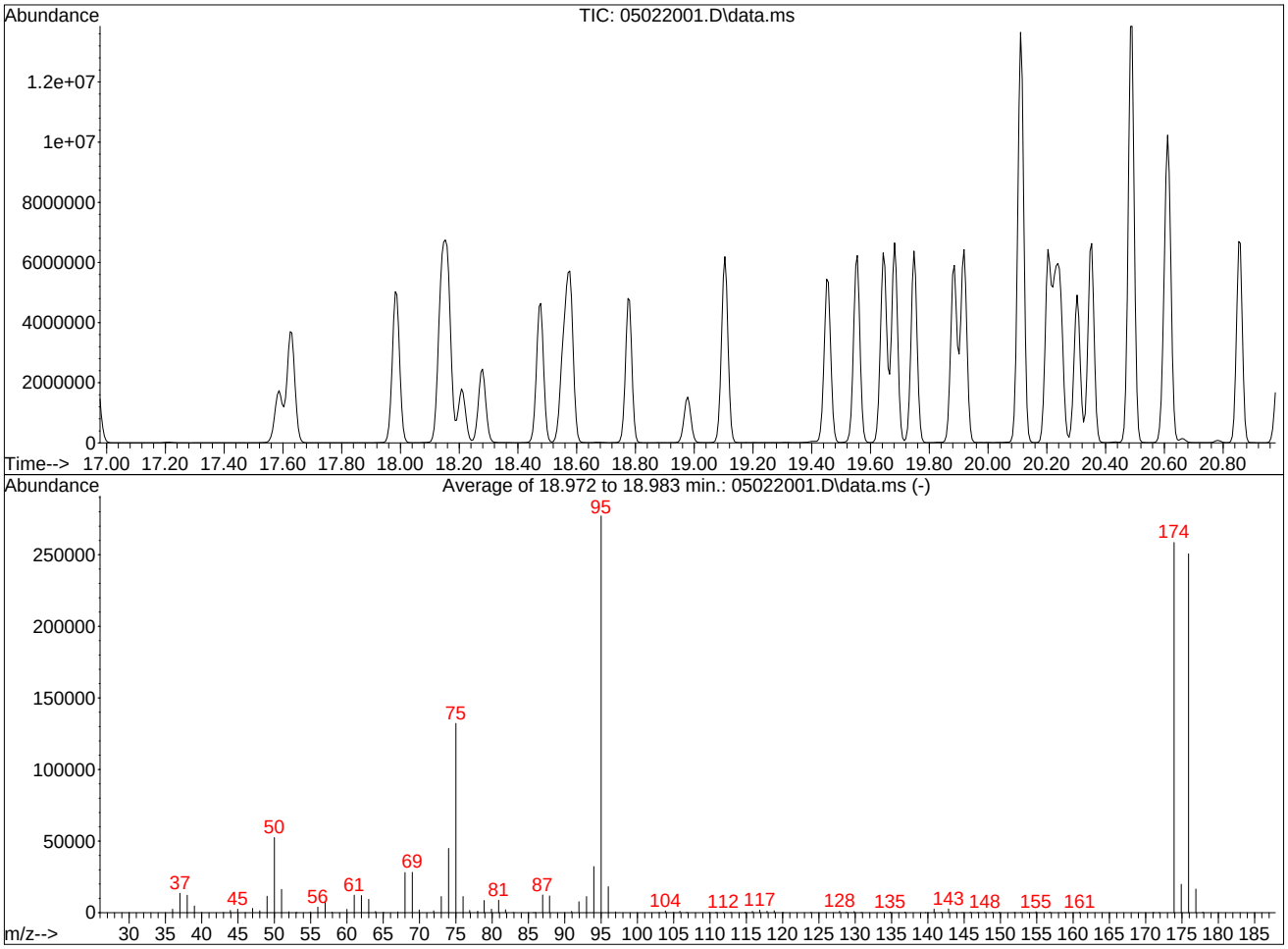
LH 5/1/20

BFB

Data Path : I:\MS16\DATA\2020_05\02\
Data File : 05022001.D
Acq On : 2 May 2020 9:27
Operator : LH
Sample : CCV R16050220_25ng
Misc : S31-02112001/S34-04292003 (5/28)
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16050120.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri May 01 18:22:00 2020



AutoFind: Scans 2816, 2817, 2818; Background Corrected with Scan 2807

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	18.9	52488	PASS
75	95	30	66	47.7	132280	PASS
95	95	100	100	100.0	277163	PASS
96	95	5	9	6.6	18157	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	93.3	258603	PASS
175	174	4	9	7.7	19845	PASS
176	174	93	101	96.9	250667	PASS
177	176	5	9	6.6	16471	PASS

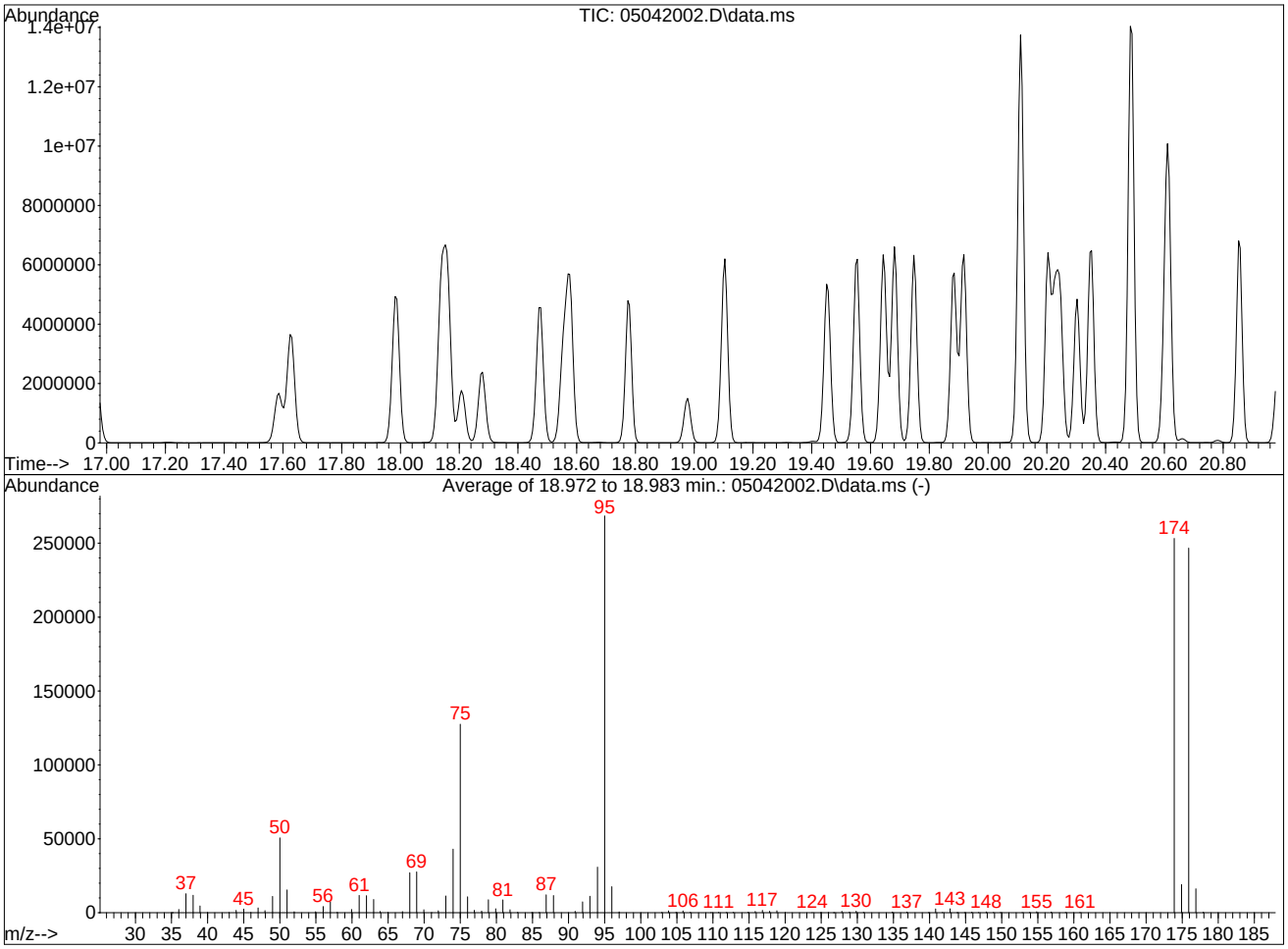
TD 5/2/20

BFB

Data Path : I:\MS16\DATA\2020_05\04\
Data File : 05042002.D
Acq On : 4 May 2020 6:20
Operator : TD
Sample : CCV R16050420_25ng
Misc : S31-02112001/S34-04292003 (5/28)
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16050120.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri May 01 18:22:00 2020



AutoFind: Scans 2816, 2817, 2818; Background Corrected with Scan 2807

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	18.9	50661	PASS
75	95	30	66	47.5	127571	PASS
95	95	100	100	100.0	268501	PASS
96	95	5	9	6.6	17658	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	94.3	253291	PASS
175	174	4	9	7.5	19040	PASS
176	174	93	101	97.4	246763	PASS
177	176	5	9	6.5	16153	PASS

TD 5/4/20

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
17	5/1/20 13:35	05012017.D	12.5ng TO15 BFB	S31-02112001	LH	2	
18	5/1/20 14:09	05012018.D	0.1ng TO15 ICAL STD	S31-02112001/S34-04272015 (5/26)	LH	6	
19	5/1/20 14:42	05012019.D	0.2ng TO15 ICAL STD	S31-02112001/S34-04272015 (5/26)	LH	6	
20	5/1/20 15:16	05012020.D	0.5ng TO15 ICAL STD	S31-02112001/S34-05012002 (5/30)	LH	13	
21	5/1/20 15:51	05012021.D	1.0ng TO15 ICAL STD	S31-02112001/S34-05012002 (5/30)	LH	13	
22	5/1/20 16:25	05012022.D	5.0ng TO15 ICAL STD	S31-02112001/S34-04292003 (5/28)	LH	2	
23	5/1/20 16:59	05012023.D	25ng TO15 ICAL STD	S31-02112001/S34-04292003 (5/28)	LH	2	
24	5/1/20 17:33	05012024.D	50ng TO15 ICAL STD	S31-02112001/S34-04292003 (5/28)	LH	2	
25	5/1/20 18:07	05012025.D	100ng TO15 ICAL STD	S31-02112001/S34-04292003 (5/28)	LH	2	
26	5/1/20 18:41	05012026.D	25ng TO15 ICV STD	S31-02112001/S34-04302003 (5/29)	LH	2	
	ICAL R16050120.M passed for all compounds 0.1ng-100ng, except: tert butanol 0.1ng-50ng, vinyl acetate 2.5ng-500ng, bromoform,						
	alpha-methylstyrene, n-decane, 4-isopropyltolune, 1,2,3-trtimethylbenzene, 1,2-dibromo-3-chloropropane, n-undecane, 1,2,4-trichlorobenzene,						
	naphthalene, n-dodecane, hexachlorobutadiene 0.5ng-100ng, benzyl chloride 1.0ng-100ng.						

LH 5/4/20

Injection Log

Directory: I:\MS16\DATA\2020_05\01\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	5/1/20 8:45	05012010.D	CCV M16050120_25ng	S31-02112001/S34-04102011 (6/7)	LH	4	passed
2	5/1/20 19:15	05012027.D	CCV R16050120_25ng	S31-02112001/S34-04292003 (5/28)	LH	2	passed
3	5/1/20 19:49	05012028.D	Blank (100mL)	S31-02112001	LH	4	
4	5/1/20 20:54	05012029.D	MB R16050120_1000mL	S31-02112001/AS01319	LH	2	passed
5	5/1/20 21:28	05012030.D	LCS R16050120_25ng	S31-02112001/S34-04302003 (5/29)	LH	2	passed
6	5/1/20 22:02	05012031.D	LCSD R16050120_25ng	S31-02112001/S34-04302003 (5/29)	LH	2	passed
7	5/1/20 22:36	05012032.D	Blank (100mL)	S31-02112001	LH	2	
8	5/1/20 23:11	05012033.D	P2002225-001 (1000mL)	S31-02112001	LH	1	
9	5/1/20 23:50	05012034.D	P2002225-001dup (1000mL)	S31-02112001	LH	1	passed
10	5/2/20 0:26	05012035.D	P2001875-006 (1000mL)	S31-02112001	LH	3	
11	5/2/20 1:02	05012036.D	P2001875-007 (1000mL)	S31-02112001	LH	4	
12	5/2/20 1:36	05012037.D	Blank (100mL)	S31-02112001	LH	2	
13	5/2/20 2:10	05012038.D	P2002104-001 (400mL)	S31-02112001	LH	5	
14	5/2/20 2:44	05012039.D	P2002104-002 (400mL)	S31-02112001	LH	6	
15	5/2/20 3:18	05012040.D	P2002104-003 (400mL)	S31-02112001	LH	7	
16	5/2/20 3:51	05012041.D	P2002104-004 (400mL)	S31-02112001	LH	8	
17	5/2/20 4:25	05012042.D	P2002104-005 (400mL)	S31-02112001	LH	9	
18	5/2/20 4:58	05012043.D	P2002104-006 (400mL)	S31-02112001	LH	10	
19	5/2/20 5:32	05012044.D	P2002104-008 (400mL)	S31-02112001	LH	11	
20	5/2/20 6:06	05012045.D	P2002104-009 (400mL)	S31-02112001	LH	12	
21	5/2/20 6:39	05012046.D	P2002104-010 (400mL)	S31-02112001	LH	13	
22	5/2/20 7:13	05012047.D	P2002104-011 (400mL)	S31-02112001	LH	14	
23	5/2/20 7:46	05012048.D	P2002104-012 (400mL)	S31-02112001	LH	15	
24	5/2/20 8:20	05012049.D	P2002104-014 (20mL)	S31-02112001	LH	16	
25	5/2/20 8:53	05012050.D	CCVend R16050120_25ng	S31-02112001/S34-04292003 (5/28)	LH	2	passed

LH 5/4/20

Injection Log

Directory: I:\MS16\DATA\2020_05\02\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	5/2/20 9:27	05022001.D	CCV R16050220_25ng	S31-02112001/S34-04292003 (5/28)	LH	2	Passed
2	5/2/20 10:01	05022002.D	Blank (100mL)	S31-02112001/S34-04102011 (6/7)	LH	4	
3	5/2/20 10:35	05022003.D	MB R16050220_1000mL	S31-02112001/AS01319	LH	2	Passed
4	5/2/20 11:09	05022004.D	LCS R16050220_25ng	S31-02112001/S34-04302003 (5/29)	LH	2	Passed
5	5/2/20 11:42	05022005.D	LCSD R16050220_25ng	S31-02112001/S34-04302003 (5/29)	LH	2	Passed
6	5/2/20 12:16	05022006.D	Blank (100mL)	S31-02112001	LH	2	
7	5/2/20 13:16	05022007.D	P2002104-013 (40mL)	S31-02112001	TD	3	over diluted
8	5/2/20 13:50	05022008.D	P2002104-007 (1.5mL)	S31-02112001	TD	1	
9	5/2/20 14:24	05022009.D	P2002104-013 (150mL)	S31-02112001	TD	3	
10	5/2/20 14:58	05022010.D	P2002104-010dil (40mL)	S31-02112001	TD	13	
11	5/2/20 15:32	05022011.D	P2002104-015 (400mL)	S31-02112001	TD	4	need dil
12	5/2/20 16:06	05022012.D	P2002104-016 (400mL)	S31-02112001	TD	5	need dil
13	5/2/20 16:40	05022013.D	P2002104-017 (400mL)	S31-02112001	TD	6	
14	5/2/20 17:14	05022014.D	P2002104-018 (400mL)	S31-02112001	TD	7	
15	5/2/20 17:48	05022015.D	P2002104-019 (400mL)	S31-02112001	TD	8	
16	5/2/20 18:22	05022016.D	P2002104-020 (400mL)	S31-02112001	TD	9	
17	5/2/20 18:56	05022017.D	P2002319-001 (1000mL)	S31-02112001	TD	10	
18	5/2/20 19:32	05022018.D	P2002319-001dup (1000mL)	S31-02112001	TD	10	Passed
19	5/2/20 20:06	05022019.D	P2002319-002 (1000mL)	S31-02112001	TD	11	
20	5/2/20 20:40	05022020.D	P2002319-003 (1000mL)	S31-02112001	TD	12	
21	5/2/20 21:15	05022021.D	P2002319-004 (1000mL)	S31-02112001	TD	14	
22	5/2/20 21:49	05022022.D	P2002319-005 (1000mL)	S31-02112001	TD	15	
23	5/2/20 22:23	05022023.D	P2002319-006 (1000mL)	S31-02112001	TD	16	
24	5/2/20 22:57	05022024.D	CCVend R16050220_25ng	S31-02112001/S34-04292003 (5/28)	TD	2	Passed
						WDA 5/3/20	

Injection Log

Directory: I:\MS16\DATA\2020_05\04\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	5/4/20 5:46	05042001.D	CCV C16050420_25ng	S31-02112001/S34-04162002 (5/15)	TD	3	Passed
2	5/4/20 6:20	05042002.D	CCV R16050420_25ng	S31-02112001/S34-04292003 (5/28)	TD	2	Passed
3	5/4/20 6:54	05042003.D	Blank (100mL)	S31-02112001/S34-04102011 (6/7)	TD	4	
4	5/4/20 7:28	05042004.D	MB R16050420_1000mL	S31-02112001/AS01319	TD	2	Passed
5	5/4/20 8:01	05042005.D	LCS R16050420_25ng	S31-02112001/S34-04302003 (5/29)	TD	2	Passed
6	5/4/20 8:35	05042006.D	LCSD R16050420_25ng	S31-02112001/S34-04302003 (5/29)	TD	2	Passed
7	5/4/20 9:09	05042007.D	Blank (100mL)	S31-02112001	TD	2	
8	5/4/20 9:43	05042008.D	P2002104-015dil (40mL)	S31-02112001	TD	4	
9	5/4/20 10:17	05042009.D	P2002104-016dil (40mL)	S31-02112001	TD	5	
10	5/4/20 11:39	05042010.D	P2002105-001 (20mL)	S31-02112001	TD	3	
11	5/4/20 12:13	05042011.D	P2002105-007 (5.0mL)	S31-02112001	TD	1	
12	5/4/20 12:53	05042012.D	P2002105-019 (3.0mL)	S31-02112001	TD	1	
13	5/4/20 13:27	05042013.D	P2002105-001 (150mL)	S31-02112001	TD	4	
14	5/4/20 14:02	05042014.D	P2002105-002 (400mL)	S31-02112001	TD	5	
15	5/4/20 14:36	05042015.D	P2002105-003 (400mL)	S31-02112001	TD	6	
16	5/4/20 15:10	05042016.D	P2002105-004 (400mL)	S31-02112001	TD	7	
17	5/4/20 15:44	05042017.D	P2002105-005 (400mL)	S31-02112001	TD	8	
18	5/4/20 16:21	05042018.D	P2002105-006 (400mL)	S31-02112001	TD	9	
19	5/4/20 16:55	05042019.D	P2002105-007 (20mL)	S31-02112001	TD	4	
20	5/4/20 17:29	05042020.D	P2002105-007dup (20mL)	S31-02112001	TD	4	Passed
21	5/4/20 18:03	05042021.D	P2002105-008 (400mL)	S31-02112001	TD	10	
22	5/4/20 18:37	05042022.D	screen (1.0mL)	S31-02112001	TD	1	
23	5/4/20 19:11	05042023.D	P2002105-008dil (40mL)	S31-02112001	TD	10	
24	5/4/20 19:44	05042024.D	P2002105-009 (400mL)	S31-02112001	TD	11	
25	5/4/20 20:18	05042025.D	P2002105-009dil (40mL)	S31-02112001	TD	11	
26	5/4/20 20:54	05042026.D	P2002105-010 (400mL)	S31-02112001	TD	12	
27	5/4/20 21:28	05042027.D	P2002105-011 (400mL)	S31-02112001	TD	13	
28	5/4/20 22:02	05042028.D	P2002105-012 (400mL)	S31-02112001	TD	14	
29	5/4/20 22:36	05042029.D	P2002105-013 (400mL)	S31-02112001	TD	15	
30	5/4/20 23:10	05042030.D	P2002105-014 (400mL)	S31-02112001	TD	16	
31	5/4/20 23:44	05042031.D	P2002105-015 (400mL)	S31-02112001	TD	1	
32	5/5/20 0:18	05042032.D	P2002105-016 (400mL)	S31-02112001	TD	4	
33	5/5/20 0:52	05042033.D	P2002105-017 (400mL)	S31-02112001	TD	5	
34	5/5/20 1:27	05042034.D	P2002105-018 (400mL)	S31-02112001	TD	6	
35	5/5/20 2:01	05042035.D	P2002105-020 (400mL)	S31-02112001	TD	7	
36	5/5/20 2:35	05042036.D	CCVend R16050420_25ng	S31-02112001/S34-04292003 (5/28)	TD	2	Passed
					TD 5/5/20		

ISO 9001:2015 Linde **SPECTRA** Environmental Gases, 80 Industrial Drive, Alpha, NJ 08865

S31-1011901

THE LINDE GROUP

Linde

SHIPPED TO: ALS Group USA Corp.
2655 Park Center Dr Ste A Dept 130
Simi Valley, CA 93065

PAGE: 1 of 4

Primary

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Propylene	115-07-1	1.00 mg/m3	1.06 mg/m3
Freon-12	75-71-8	1.00 mg/m3	1.06 mg/m3
Chloromethane	74-87-3	1.00 mg/m3	1.06 mg/m3
Freon-114	76-14-2	1.00 mg/m3	1.05 mg/m3
Vinyl Chloride	75-01-4	1.00 mg/m3	1.08 mg/m3
1,3-Butadiene	106-99-0	1.00 mg/m3	1.06 mg/m3
Bromomethane	74-83-9	1.00 mg/m3	1.08 mg/m3
Chloroethane	75-00-3	1.00 mg/m3	1.08 mg/m3
Ethanol	64-17-5	5.00 mg/m3	5.21 mg/m3
Acetonitrile	75-05-8	1.00 mg/m3	1.05 mg/m3
Acrolein	107-02-8	1.00 mg/m3	1.03 mg/m3
Acetone	67-64-1	5.00 mg/m3	5.33 mg/m3
Freon-11	75-69-4	1.00 mg/m3	1.06 mg/m3
Isopropyl Alcohol	67-63-0	2.00 mg/m3	2.10 mg/m3
Acrylonitrile	107-13-1	1.00 mg/m3	1.05 mg/m3
1,1-Dichloroethene	75-35-4	1.00 mg/m3	1.08 mg/m3
Carbon Disulfide	75-15-0	1.00 mg/m3	1.07 mg/m3
Methylene Chloride	75-09-2	1.00 mg/m3	1.06 mg/m3
Tert-Butanol	75-65-0	2.00 mg/m3	2.16 mg/m3
Allyl Chloride	107-05-1	1.00 mg/m3	1.08 mg/m3
Freon-113	76-13-1	1.00 mg/m3	1.08 mg/m3
Trans-1,2-Dichloroethene	156-60-5	1.00 mg/m3	1.08 mg/m3
1,1-Dichloroethane	75-34-3	1.00 mg/m3	1.09 mg/m3
Methyl Tert Butyl Ether	1634-04-4	1.00 mg/m3	1.08 mg/m3
Vinyl Acetate	108-05-4	5.00 mg/m3	5.35 mg/m3
Methacrylonitrile	126-98-7	1.00 mg/m3	1.06 mg/m3
Methyl Ethyl Ketone	78-93-3	1.00 mg/m3	1.06 mg/m3
Cis-1,2-Dichloroethene	156-59-2	1.00 mg/m3	1.06 mg/m3
Hexane	110-54-3	1.00 mg/m3	1.08 mg/m3
Di-isopropyl Ether	108-20-3	1.00 mg/m3	1.08 mg/m3

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PAGE: 2 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chloroform	67-66-3	1.00 mg/m3	1.07 mg/m3
Ethyl Acetate	141-78-6	2.00 mg/m3	2.17 mg/m3
Tetrahydrofuran	109-99-9	1.00 mg/m3	1.09 mg/m3
Ethyl Tert-Butyl Ether	637-92-3	1.00 mg/m3	1.08 mg/m3
1,2-Dichloroethane	107-06-2	1.00 mg/m3	1.08 mg/m3
1,1,1-Trichloroethane	71-55-6	1.00 mg/m3	1.07 mg/m3
Benzene	71-43-2	1.00 mg/m3	1.06 mg/m3
Isopropyl Acetate	108-21-4	2.00 mg/m3	2.11 mg/m3
1-Butanol	71-36-3	2.00 mg/m3	2.08 mg/m3
Carbon Tetrachloride	56-23-5	1.00 mg/m3	1.05 mg/m3
Cyclohexane	110-82-7	2.00 mg/m3	2.12 mg/m3
Tert Amyl Methyl Ether	994-05-8	1.00 mg/m3	1.08 mg/m3
1,2-Dichloropropane	78-87-5	1.00 mg/m3	1.08 mg/m3
Trichloroethylene	79-01-6	1.00 mg/m3	1.07 mg/m3
Bromodichloromethane	75-27-4	1.00 mg/m3	1.08 mg/m3
1,4-Dioxane	123-91-1	1.00 mg/m3	1.08 mg/m3
Isooctane	540-84-1	1.00 mg/m3	1.07 mg/m3
Methyl Methacrylate	80-62-6	2.00 mg/m3	2.15 mg/m3
Heptane	142-82-5	1.00 mg/m3	1.08 mg/m3
Cis-1,3-Dichloropropene	10061-01-5	1.00 mg/m3	1.04 mg/m3
Methyl Isobutyl Ketone	108-10-1	1.00 mg/m3	1.06 mg/m3
Trans-1,3-Dichloropropene	10061-02-6	1.00 mg/m3	1.06 mg/m3
1,1,2-Trichloroethane	79-00-5	1.00 mg/m3	1.07 mg/m3
Toluene	108-88-3	1.00 mg/m3	1.07 mg/m3
Methyl Butyl Ketone	591-78-6	1.00 mg/m3	1.07 mg/m3
Dibromochloromethane	124-48-1	1.00 mg/m3	1.07 mg/m3
1,2-Dibromoethane	106-93-4	1.00 mg/m3	1.07 mg/m3
n-Butyl Acetate	123-86-4	1.00 mg/m3	1.09 mg/m3
n-Octane	111-65-9	1.00 mg/m3	1.08 mg/m3
Tetrachloroethylene	127-18-4	1.00 mg/m3	1.04 mg/m3

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ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chlorobenzene	108-90-7	1.00 mg/m3	1.07 mg/m3
Ethylbenzene	100-41-4	1.00 mg/m3	1.07 mg/m3
p-xylene	106-42-3	1.00 mg/m3	1.07 mg/m3
m-xylene	108-38-3	1.00 mg/m3	1.07 mg/m3
Bromoform	75-25-2	1.00 mg/m3	1.07 mg/m3
Cyclohexanone	108-94-1	1.00 mg/m3	1.00 mg/m3
Styrene	100-42-5	1.00 mg/m3	1.06 mg/m3
o-xylene	95-47-6	1.00 mg/m3	1.07 mg/m3
1,1,2,2-Tetrachloroethane	79-34-5	1.00 mg/m3	1.07 mg/m3
Nonane	111-84-2	1.00 mg/m3	1.07 mg/m3
Isopropylbenzene	98-82-8	1.00 mg/m3	1.08 mg/m3
alpha-Pinene	80-56-8	1.00 mg/m3	1.07 mg/m3
n-Propylbenzene	103-65-1	1.00 mg/m3	1.08 mg/m3
3-Ethyltoluene	620-14-4	1.00 mg/m3	1.06 mg/m3
4-Ethyltoluene	622-96-8	1.00 mg/m3	1.08 mg/m3
2-Ethyltoluene	611-14-3	1.00 mg/m3	1.08 mg/m3
1,3,5-Trimethylbenzene	108-67-8	1.00 mg/m3	1.06 mg/m3
alpha-Methylstyrene	98-83-9	1.00 mg/m3	1.07 mg/m3
Tert-Butyl Benzene	98-06-6	1.00 mg/m3	1.07 mg/m3
1,2,4-Trimethylbenzene	95-63-6	1.00 mg/m3	1.07 mg/m3
1,3-Dichlorobenzene	541-73-1	1.00 mg/m3	1.07 mg/m3
Benzyl Chloride	100-44-7	1.00 mg/m3	1.08 mg/m3
n-Decane	124-18-5	1.00 mg/m3	1.07 mg/m3
1,4-Dichlorobenzene	106-46-7	1.00 mg/m3	1.07 mg/m3
Sec-Butyl Benzene	135-98-8	1.00 mg/m3	1.07 mg/m3
p-Isopropyltoluene	99-87-6	1.00 mg/m3	1.09 mg/m3
1,2,3-Trimethylbenzene	526-73-8	1.00 mg/m3	1.09 mg/m3
1,2-Dichlorobenzene	95-50-1	1.00 mg/m3	1.07 mg/m3

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ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
d-Limonene	5989-27-5	1.00 mg/m3	1.08 mg/m3
n-Butyl Benzene	104-51-8	1.00 mg/m3	1.07 mg/m3
1,2-Dibromo-3-Chloropropane	96-12-8	1.00 mg/m3	1.05 mg/m3
n-Undecane	1120-21-4	1.00 mg/m3	1.08 mg/m3
1,2,4-Trichlorobenzene	120-82-1	1.00 mg/m3	1.07 mg/m3
Naphthalene	91-20-3	1.00 mg/m3	1.03 mg/m3
n-Dodecane	112-40-3	1.00 mg/m3	1.04 mg/m3
Hexachloro-1,3-Butadiene	87-68-3	1.00 mg/m3	1.06 mg/m3
Nitrogen	7727-37-9	Balance	Balance

ANALYST: Lou Lorenzetti **DATE:** Sep-24-2019

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Secondary

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Propylene	115-07-1	1.00 mg/m3	1.05 mg/m3
Freon-12	75-71-8	1.00 mg/m3	1.05 mg/m3
Chloromethane	74-87-3	1.00 mg/m3	1.06 mg/m3
Freon-114	76-14-2	1.00 mg/m3	1.03 mg/m3
Vinyl Chloride	75-01-4	1.00 mg/m3	1.06 mg/m3
1,3-Butadiene	106-99-0	1.00 mg/m3	1.06 mg/m3
Bromomethane	74-83-9	1.00 mg/m3	1.06 mg/m3
Chloroethane	75-00-3	1.00 mg/m3	1.07 mg/m3
Ethanol	64-17-5	5.00 mg/m3	5.30 mg/m3
Acetonitrile	75-05-8	1.00 mg/m3	1.07 mg/m3
Acrolein	107-02-8	1.00 mg/m3	1.03 mg/m3
Acetone	67-64-1	5.00 mg/m3	5.34 mg/m3
Freon-11	75-69-4	1.00 mg/m3	1.06 mg/m3
Isopropyl Alcohol	67-63-0	2.00 mg/m3	2.11 mg/m3
Acrylonitrile	107-13-1	1.00 mg/m3	1.06 mg/m3
1,1-Dichloroethene	75-35-4	1.00 mg/m3	1.07 mg/m3
Carbon Disulfide	75-15-0	1.00 mg/m3	1.06 mg/m3
Methylene Chloride	75-09-2	1.00 mg/m3	1.05 mg/m3
Tert-Butanol	75-65-0	2.00 mg/m3	2.15 mg/m3
Allyl Chloride	107-05-1	1.00 mg/m3	1.07 mg/m3
Freon-113	76-13-1	1.00 mg/m3	1.08 mg/m3
Trans-1,2-Dichloroethene	156-60-5	1.00 mg/m3	1.07 mg/m3
1,1-Dichloroethane	75-34-3	1.00 mg/m3	1.06 mg/m3
Methyl Tert Butyl Ether	1634-04-4	1.00 mg/m3	1.07 mg/m3
Vinyl Acetate	108-05-4	5.00 mg/m3	5.33 mg/m3
Methacrylonitrile	126-98-7	1.00 mg/m3	1.06 mg/m3
Methyl Ethyl Ketone	78-93-3	1.00 mg/m3	1.06 mg/m3
Cis-1,2-Dichloroethene	156-59-2	1.00 mg/m3	1.06 mg/m3
Hexane	110-54-3	1.00 mg/m3	1.08 mg/m3
Di-isopropyl Ether	108-20-3	1.00 mg/m3	1.08 mg/m3

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ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chloroform	67-66-3	1.00 mg/m3	1.07 mg/m3
Ethyl Acetate	141-78-6	2.00 mg/m3	2.16 mg/m3
Tetrahydrofuran	109-99-9	1.00 mg/m3	1.10 mg/m3
Ethyl Tert-Butyl Ether	637-92-3	1.00 mg/m3	1.07 mg/m3
1,2-Dichloroethane	107-06-2	1.00 mg/m3	1.07 mg/m3
1,1,1-Trichloroethane	71-55-6	1.00 mg/m3	1.07 mg/m3
Benzene	71-43-2	1.00 mg/m3	1.05 mg/m3
Isopropyl Acetate	108-21-4	2.00 mg/m3	2.10 mg/m3
1-Butanol	71-36-3	2.00 mg/m3	2.13 mg/m3
Carbon Tetrachloride	56-23-5	1.00 mg/m3	1.04 mg/m3
Cyclohexane	110-82-7	2.00 mg/m3	2.11 mg/m3
Tert Amyl Methyl Ether	994-05-8	1.00 mg/m3	1.07 mg/m3
1,2-Dichloropropane	78-87-5	1.00 mg/m3	1.07 mg/m3
Trichloroethylene	79-01-6	1.00 mg/m3	1.08 mg/m3
Bromodichloromethane	75-27-4	1.00 mg/m3	1.09 mg/m3
1,4-Dioxane	123-91-1	1.00 mg/m3	1.08 mg/m3
Isooctane	540-84-1	1.00 mg/m3	1.07 mg/m3
Methyl Methacrylate	80-62-6	2.00 mg/m3	2.15 mg/m3
Heptane	142-82-5	1.00 mg/m3	1.07 mg/m3
Cis-1,3-Dichloropropene	10061-01-5	1.00 mg/m3	1.07 mg/m3
Methyl Isobutyl Ketone	108-10-1	1.00 mg/m3	1.06 mg/m3
Trans-1,3-Dichloropropene	10061-02-6	1.00 mg/m3	1.06 mg/m3
1,1,2-Trichloroethane	79-00-5	1.00 mg/m3	1.07 mg/m3
Toluene	108-88-3	1.00 mg/m3	1.06 mg/m3
Methyl Butyl Ketone	591-78-6	1.00 mg/m3	1.08 mg/m3
Dibromochloromethane	124-48-1	1.00 mg/m3	1.07 mg/m3
1,2-Dibromoethane	106-93-4	1.00 mg/m3	1.07 mg/m3
n-Butyl Acetate	123-86-4	1.00 mg/m3	1.09 mg/m3
n-Octane	111-65-9	1.00 mg/m3	1.08 mg/m3
Tetrachloroethylene	127-18-4	1.00 mg/m3	1.04 mg/m3

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Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chlorobenzene	108-90-7	1.00 mg/m3	1.07 mg/m3
Ethylbenzene	100-41-4	1.00 mg/m3	1.06 mg/m3
p-xylene	106-42-3	1.00 mg/m3	1.07 mg/m3
m-xylene	108-38-3	1.00 mg/m3	1.06 mg/m3
Bromoform	75-25-2	1.00 mg/m3	1.07 mg/m3
Cyclohexanone	108-94-1	1.00 mg/m3	1.01 mg/m3
Styrene	100-42-5	1.00 mg/m3	1.06 mg/m3
o-xylene	95-47-6	1.00 mg/m3	1.07 mg/m3
1,1,2,2-Tetrachloroethane	79-34-5	1.00 mg/m3	1.07 mg/m3
Nonane	111-84-2	1.00 mg/m3	1.07 mg/m3
Isopropylbenzene	98-82-8	1.00 mg/m3	1.07 mg/m3
alpha-Pinene	80-56-8	1.00 mg/m3	1.06 mg/m3
n-Propylbenzene	103-65-1	1.00 mg/m3	1.07 mg/m3
3-Ethyltoluene	620-14-4	1.00 mg/m3	1.07 mg/m3
4-Ethyltoluene	622-96-8	1.00 mg/m3	1.05 mg/m3
2-Ethyltoluene	611-14-3	1.00 mg/m3	1.07 mg/m3
1,3,5-Trimethylbenzene	108-67-8	1.00 mg/m3	1.06 mg/m3
alpha-Methylstyrene	98-83-9	1.00 mg/m3	1.06 mg/m3
Tert-Butyl Benzene	98-06-6	1.00 mg/m3	1.06 mg/m3
1,2,4-Trimethylbenzene	95-63-6	1.00 mg/m3	1.06 mg/m3
1,3-Dichlorobenzene	541-73-1	1.00 mg/m3	1.07 mg/m3
Benzyl Chloride	100-44-7	1.00 mg/m3	1.07 mg/m3
n-Decane	124-18-5	1.00 mg/m3	1.07 mg/m3
1,4-Dichlorobenzene	106-46-7	1.00 mg/m3	1.07 mg/m3
Sec-Butyl Benzene	135-98-8	1.00 mg/m3	1.06 mg/m3
p-Isopropyltoluene	99-87-6	1.00 mg/m3	1.09 mg/m3
1,2,3-Trimethylbenzene	526-73-8	1.00 mg/m3	1.08 mg/m3
1,2-Dichlorobenzene	95-50-1	1.00 mg/m3	1.07 mg/m3

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ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
d-Limonene	5989-27-5	1.00 mg/m3	1.06 mg/m3
n-Butyl Benzene	104-51-8	1.00 mg/m3	1.07 mg/m3
1,2-Dibromo-3-Chloropropane	96-12-8	1.00 mg/m3	1.07 mg/m3
n-Undecane	1120-21-4	1.00 mg/m3	1.08 mg/m3
1,2,4-Trichlorobenzene	120-82-1	1.00 mg/m3	1.08 mg/m3
Naphthalene	91-20-3	1.00 mg/m3	1.06 mg/m3
n-Dodecane	112-40-3	1.00 mg/m3	1.06 mg/m3
Hexachloro-1,3-Butadiene	87-68-3	1.00 mg/m3	1.07 mg/m3
Nitrogen	7727-37-9	Balance	Balance

ANALYST: _____
Lou Lorenzetti

DATE: Sep-24-2019

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1/6/20 VH

TO-15 MAPH STD				20ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of S31-11061903 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-01062006	20 ng/L	STD00164	1/6/20	**3/4/20**	LH

1/6/20 S31-01062007 TO-15 IS/SURR STD ~0,5 mg/m³

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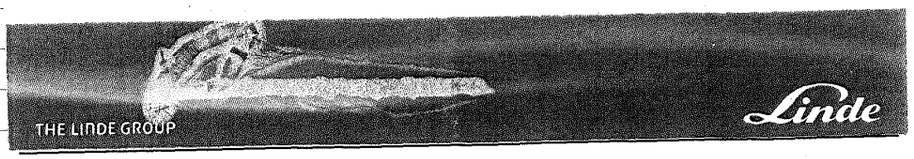

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PAGE: 1 of 1

S31-01062007 **ANALYSIS REPORT** IS/SURR STD.

Sales#:	117350975	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1502527	**Cylinder # :**	CC-430401
Report Date:	Dec-23-2019	**Cylinder Pressure:**	2000 psig
P.O.# :	SM003000	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24086333	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	4000 Liters
Expiration Date:	Dec-23-~~2020~~ 2021	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	10% Relative

VH 1/7/20

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Bromochloromethane	74-97-5	0.50 mg/m3	0.55 mg/m3
1,2-Dichloroethane-d4	17060-07-0	0.50 mg/m3	0.55 mg/m3
1,4-Difluorobenzene	540-36-3	0.50 mg/m3	0.55 mg/m3
Toluene-d8	2037-26-5	0.50 mg/m3	0.55 mg/m3
Chlorobenzene-d5	3114-55-4	0.50 mg/m3	0.55 mg/m3
4-Bromofluorobenzene	460-00-4	0.50 mg/m3	0.53 mg/m3
Nitrogen	7727-37-9	Balance	Balance

1/7/20 VH

EPA 325B STD	**BTEX 1° Working Standard**	**200 µg/mL**
S31-01072001	**Expires:**	**1/21/2020**
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 2000µg/mL BTEX stock standard S31-11271903 (expires 1/27/20).		

VH

EPA 325B STD	**BTEX 2° Working Standard**	**200 µg/mL**
S31-01072002	**Expires:**	**1/21/2020**
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 2000µg/mL BTEX stock standard S31-11271904 (expires 1/27/20).		

VH

2/5/2020
RVT

		TO-15 STD		4 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S31-01292007**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02052009	4 ng/L	STD00094	2/5/20	3/5/20	RVT

RVT

TO-15 STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111901**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02052010	200 ng/L	STD00224	2/5/20	3/5/20	RVT

2/6/2020
RVT

TO-15 STD **20 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S31-02052007**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02062001	20 ng/L	STD00064	2/6/20	3/6/20	RVT

RVT

TO-15 ICV/ LCS STD **20 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S31-02052002**
with HZA Lot # 70086915004 using 4700 diluter

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02062002	20 ng/L	STD00113	2/6/20	3/6/2020	RVT

RVT

TO15 STD 1000 ng/L
S31-02062003
Filled Can STD00136 w/ S31-10111901 To ~ 5.61 psig
Exp. 3/6/2020

2/7/20
CV

S31-02072001 Toluene-d8 2.0 µg/ml
Spiked 4.2 µl S29-04281601 into 2010 ml glass SDB
purged w/ helium. Exp. 3/7/20.

02/11/20
VH

S31-02112001 TO-15 IS/SURR 500 ng/L
FILLED CAN # STD00214 TO ~ 20 PSIG WITH S31-01062007
EXP 08/09/20

4/15/20
RVT

TO-15 STD **4 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S34-04102010**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04152001	4 ng/L	STD00161	4/15/20	**5/14/20**	RVT

TO-15 Custom STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter

TD 4/16/20

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04162001	200 ng/L	STD00009	4/16/2020	**5/15/2020**	TD
S34-04162002	200 ng/L	STD00124	4/16/2020	**5/15/2020**	TD

4/16/20
RVT

TO-15 STD **4 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of **S34-04102003**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04162003	4 ng/L	STD00227	4/16/20	**5/15/20**	RVT

4/20/20
RVT

TO-15 STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111901**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04202001	200 ng/L	STD00128	4/20/20	**5/19/20**	RVT
S34-04202002	200 ng/L	STD00112	4/20/20	**5/19/20**	RVT
S34-04202003	200 ng/L	STD00105	4/20/20	**5/19/20**	RVT
S34-04202004	200 ng/L	STD00047	4/20/20	**5/19/20**	RVT

TO-15 Custom STD **20 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter

TD 4/21/20

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04212001	20 ng/L	STD00049	4/21/2020	**5/20/2020**	TD

TD 4/21/20

18
4/22/20
RVT
4/27/20
RVT

TO-15 Custom STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272005	200 ng/L	STD00024	4/27/2020	**5/26/2020**	RVT
S34-04272006	200 ng/L	STD00066	4/27/2020	**5/26/2020**	RVT

RVT

TO-15 ICV/LCS STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111902** with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272007	200 ng/L	STD00063	4/27/20	**5/26/20**	RVT
S34-04272008	200 ng/L	STD00072	4/27/20	**5/26/20**	RVT

RVT

TO-15 ICV/ LCS STD				20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04272007** with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272009	20 ng/L	STD00015	4/27/20	**5/26/20**	RVT

RVT

TO-15 STD				20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04202001** using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272010	20 ng/L	STD00026	4/27/20	**5/26/20**	RVT

LH
4/27/20

TO-15 STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-10111901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272011	200 ng/L	STD00028	4/27/2020	**5/26/2020**	LH

LH

TO-15 STD				20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of S34-04272011 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272012	20 ng/L	STD00061	4/27/2020	**5/26/2020**	LH

4/27/20 LH

	TO-15 STD		**20 ng/L**		
Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of S31-10111901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272013	20 ng/L	STD00217	4/27/2020	**5/26/2020**	LH

LH

	TO-15 STD		**4 ng/L**		
Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of S34-04272011 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272014	4 ng/L	STD00131	4/27/2020	**5/26/2020**	LH

LH

	TO-15 STD		**4 ng/L**		
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S34-04272012 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272015	4 ng/L	STD00184	4/27/2020	**5/26/2020**	LH

4/28/20 RVT

	TO-15 Custom STD		**20 ng/L**		
Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04282001	20 ng/L	STD00037	4/28/2020	**5/27/2020**	RVT
S34-04282002	20 ng/L	STD00207	4/28/2020	**5/27/2020**	RVT

RVT

	TO-15 Custom STD		**20 ng/L**		
Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04282003	20 ng/L	STD00086	4/28/2020	**5/27/2020**	RVT

RVT

	TO-15 Custom STD		**200 ng/L**		
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04282004	200 ng/L	STD00102	4/28/2020	**5/27/2020**	RVT
S34-04282005	200 ng/L	STD00121	4/28/2020	**5/27/2020**	RVT
S34-04282006	200 ng/L	STD00192	4/28/2020	**5/27/2020**	RVT
S34-04282007	200 ng/L	STD00017	4/28/2020	**5/27/2020**	RVT

20

4/28/20
RVT

TO-15 Custom STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04282008	200 ng/L	STD00017	4/28/2020	5/27/2020	RVT

RVT

S34-04282009 TO-15 STD 1000 ng/L
ICV/LCS
Pressurized can: STD00136 w/ 531-b111902 To 11 psig
RVT
EXP: 5/27/2020

MA

EPA 325B STD	BTEX 1° Working Standard	200 µg/mL
S34-04282010	Expires:	5/12/2020
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 2000µg/mL BTEX stock standard S34-03312005 (expires 5/31/20).		

MA

EPA 325B STD	BTEX 2° Working Standard	200 µg/mL
S34-04282011	Expires:	5/12/2020
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 2000µg/mL BTEX stock standard S34-04142001 (expires 6/14/20).		

4/29/20

RVT

TO-15 STD				20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of S34-04202001					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04292001	20 ng/L	STD00007	4/29/20	5/28/20	RVT

RVT

TO-15 STD				1 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 20X dilution of S34-04292001					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04292002	1 ng/L	STD00069	4/29/20	5/28/20	RVT

RVT

TO-15 STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-10111901					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04292003	200 ng/L	STD00088	4/29/20	5/28/20	RVT
S34-04292004	200 ng/L	STD00019	4/29/20	5/28/20	RVT

TD 4/29/20

TO-15 ICV/LCS STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111902** with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04292005	200 ng/L	STD00099	4/29/20	**5/28/20**	TD

4/30/20 RVT

TO-15 ICV/LCS STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111902** with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04302001	200 ng/L	STD00172	4/30/20	**5/29/20**	RVT
S34-04302002	200 ng/L	STD00205	4/30/20	**5/29/20**	RVT
S34-04302003	200 ng/L	STD00194	4/30/20	**5/29/20**	RVT

RVT

TO-15 Custom ICV/LCS				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251902 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04302004	200 ng/L	STD00150	4/30/2020	**5/29/2020**	RVT
S34-04302005	200 ng/L	STD00100	4/30/2020	**5/29/2020**	RVT
S34-04302006	200 ng/L	STD00006	4/30/2020	**5/29/2020**	RVT

5/1/2020 RVT

TO-15 STD				20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04202001** using 4700 diluter HZA Lot #70086915004					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-05012001	20 ng/L	STD00221	5/1/20	**5/30/20**	RVT

RVT

TO-15 STD				20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of **S31-10111901** using 4700 diluter HZA Lot #70086915004					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-05012002	20 ng/L	STD00113	5/1/20	**5/30/20**	RVT

5/14/2020

M.A.

EPA 325B STD	BTEX 1° Working Standard	20 µg/mL
S34-05052001	Expires:	**5/19/2020**
Into 1mL mininert vial with 990µL B&J P&T methanol, Lot #DL535, added 10µL 2000µg/mL BTEX Stock standard S34-03312005 (expires 5/31/20).		

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LABORATORY REPORT

May 11, 2020

Pamela Moss
EA Engineering, Science, and Technology, Inc.
7995 E. Prentice Ave, Suite 206E
Greenwood Village, CO 80111

RE: Kirtland AFB Bulk Fuels Facility / 62735DM02

Dear Pamela:

Enclosed are the results of the samples submitted to our laboratory on April 20, 2020. For your reference, these analyses have been assigned our service request number P2002105.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

Kate Kaneko
May 11, 2020, 2:31 pm

Kate Kaneko
Project Manager

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

Client: EA Engineering, Science, and Technology, Inc. Service Request No: P2002105
Project: Kirtland AFB Bulk Fuels Facility / 62735DM02

CASE NARRATIVE

The samples were received intact under chain of custody on April 20, 2020 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

Manual integrations were performed on the following samples and analytes. Refer to the raw data for additional information.

Sample Identifications	Analytes
P2002105-004, 008, 013, 016, 017,	acetone
P2002105-014	naphthalene
P2002105-020	trichloroethene
P2002105-015, 020	2-hexanone

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.1 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

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ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1776326
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-007
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272019-10
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: EA Engineering, Science, and Technology, Inc. Service Request: P2002105
Project ID: Kirtland AFB Bulk Fuels Facility / 62735DM02

Date Received: 4/20/2020
Time Received: 12:20

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	TO-15 - VOC Cans
SV121-450-202	P2002105-001	Air	4/14/2020	10:05	1SS00974	-2.88	5.36	X
SV122-025-202	P2002105-002	Air	4/14/2020	10:41	1SS00971	-2.43	5.39	X
SV122-050-202	P2002105-003	Air	4/14/2020	10:45	1SC00776	-4.11	5.33	X
SV122-150-202	P2002105-004	Air	4/14/2020	10:48	1SC00856	-3.06	5.91	X
SV122-250-202	P2002105-005	Air	4/14/2020	10:51	1SC00896	-3.64	5.91	X
SV122-350-202	P2002105-006	Air	4/14/2020	10:55	1SC01008	-2.68	8.99	X
SV122-450-202	P2002105-007	Air	4/14/2020	11:04	1SS00747	-3.21	5.53	X
SV123-025-202	P2002105-008	Air	4/14/2020	12:34	1SC00463	-2.71	5.86	X
SV123-050-202	P2002105-009	Air	4/14/2020	12:39	1SC00638	-2.39	6.49	X
SV123-150-202	P2002105-010	Air	4/14/2020	12:43	1SS00901	-3.15	6.28	X
SV123-250-202	P2002105-011	Air	4/14/2020	12:48	1SC00265	-3.85	5.59	X
SV123-350-202	P2002105-012	Air	4/14/2020	12:52	1SC00560	-2.33	7.32	X
SV123-450-202	P2002105-013	Air	4/14/2020	13:00	1SC00612	-2.57	5.41	X
SV131-025-202	P2002105-014	Air	4/15/2020	11:15	1SS00905	-4.35	5.13	X
SV131-055-202	P2002105-015	Air	4/15/2020	11:18	1SC00604	-2.44	6.33	X
SV131-150-202	P2002105-016	Air	4/15/2020	11:22	1SC00728	-4.47	6.31	X
SV131-245-202	P2002105-017	Air	4/15/2020	11:26	1SC00232	-3.02	5.99	X
SV131-350-202	P2002105-018	Air	4/15/2020	11:29	1SS01052	-3.30	5.72	X
SV131-450-202	P2002105-019	Air	4/15/2020	11:38	1SS00831	-4.47	5.63	X
SV132-025-202	P2002105-020	Air	4/14/2020	08:03	1SS00587	-3.20	5.51	X

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

COC #: **COC-SV202-09**

Requested Turnaround Time in Business Days
10 Day-Standard

ALS Project No. 1200105

Company Name & Address (Reporting Information)	Project Name	ALS Contact: Kate Kaneko 1 (805) 577-2089
EA Engineering, Science, and Technology, Inc., PBC 225 Schilling Circle Suite 400, Hunt Valley, MD (410) 584-7000	Kirtland AFB Bulk Fuels Facility	**Analysis Method**
	Project Number: 62735DM02	TO-15 Project Specific List
Project Manager / Project Chemist: Bernie Bockish (505) 234-1105 / Pam Moss (303) 590-9143	P.O. # / Billing Information: 17682	
Email Address for Result Reporting Tara Lamond: tlamond@eaest.com Amanda Smith: asmith@eaest.com Pam Moss: pmoss@eaest.com	Sampler (Print & Sign): Ryan Wortman	

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg	Sample Volume	TO-15 Project Specific List	Comments e.g. Actual Preservative or specific instructions
SV121-450-202		4/14/2020	1005	1SS00974	NA	-26.0	-2.5	1L	X	None
SV122-025-202		4/14/2020	1041	1SS00971	NA	-25.0	-0.5	1L	X	None
SV122-050-202		4/14/2020	1045	1SC00776	NA	-26.0	-5.0	1L	X	None
SV122-150-202		4/14/2020	1048	1SC00856	NA	-24.0	-3.0	1L	X	None
SV122-250-202		4/14/2020	1051	1SC00896	NA	-25.5	-5.0	1L	X	None
SV122-350-202		4/14/2020	1055	1SC01008	NA	-25.0	-2.0	1L	X	None
SV122-450-202		4/14/2020	1104	1SS00747	NA	-25.0	-3.5	1L	X	None
SV123-025-202		4/14/2020	1234	1SC00463	NA	-25.0	0.0	1L	X	None
SV123-050-202		4/14/2020	1239	1SC00638	NA	-24.0	0.0	1L	X	None
SV123-150-202		4/14/2020	1243	1SS00901	NA	-26.0	-2.0	1L	X	None

FedEx Tracking Number: 1028 3396 9500

Associated with Trip blank: SVTB-202-02

Shipping information: Box number 3 of 6

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____ Tier III (Results + QC & Calibration Summaries) ____
Tier II (Results + QC Summaries) ____ Tier IV (Data Validation Package) X

EDD required: **Yes**
Type: ERPIMS / EQuIS

Chain of Custody Seal: (Circle) (INTACT) BROKEN ABSENT

Project Requirements: QAPP

Relinquished by: (Signature)	Date: 4/16/20	Time: 1100	Received by: (Signature)	Date: 4-20-20	Time: 1220
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Cooler / Blank Temperature NA °C

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

COC #: COC-SV202-09

Requested Turnaround Time in Business Days
10 Day-Standard

ALS Project No. P2002105

Company Name & Address (Reporting Information)	Project Name	ALS Contact: Kate Kaneko 1 (805) 577-2089
EA Engineering, Science, and Technology, Inc., PBC 225 Schilling Circle Suite 400, Hunt Valley, MD (410) 584-7000	Kirtland AFB Bulk Fuels Facility	**Analysis Method**
	Project Number: 62735DM02	TO-15 Project Specific List
Project Manager / Project Chemist: Bernie Bockish (505) 234-1105 / Pam Moss (303) 590-9143	P.O. # / Billing Information: 17682	
Email Address for Result Reporting Tara Lamond: tlamond@eaest.com Amanda Smith: asmith@eaest.com Pam Moss: pmoss@eaest.com	Sampler (Print & Sign): Ryan Wortman	

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg	Sample Volume	TO-15 Project Specific List	Comments e.g. Actual Preservative or specific instructions
SV123-250-202		4/14/2020	1248	1SC00265	NA	-26.0	-5.0	1L	X	None
SV123-350-202		4/14/2020	1252	1SC00560	NA	-23.5	0.0	1L	X	None
SV123-450-202		4/14/2020	1300	1SC00612	NA	-25.0	-2.5	1L	X	None
SV131-025-202		4/15/2020	1115	1SS00905	NA	-24.0	-3.0	1L	X	None
SV131-055-202		4/15/2020	1118	1SC00604	NA	-20.0	0.0	1L	X	None
SV131-150-202		4/15/2020	1122	1SC00728	NA	-27.0	-5.0	1L	X	None
SV131-245-202		4/15/2020	1126	1SC00232	NA	-24.0	-2.0	1L	X	None
SV131-350-202		4/15/2020	1129	1SS01052	NA	-25.0	-2.0	1L	X	None
SV131-450-202		4/15/2020	1138	1SS00831	NA	-24.5	-4.5	1L	X	None
SV132-025-202		4/14/2020	0803	1SS00587	AVG04232	-25.0	-5.0	1L	X	None

FedEX Tracking Number: 1028 3396 9500

Associated with Trip blank: SVTB-202-02

Shipping information: Box number 3 of 6

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____ Tier III (Results + QC & Calibration Summaries) ____
Tier II (Results + QC Summaries) ____ Tier IV (Data Validation Package) X

EDD required: **Yes**
Type: ERPIMS / EQuIS

Chain of Custody Seal: (Circle)
INTACT BROKEN ABSENT

Project Requirements: QAPP

Relinquished by: (Signature)	Date: 4/16/20	Time: 1100	Received by: (Signature)	Date: 4-20-20	Time: 1220
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Cooler / Blank Temperature NA °C

ALS Environmental

Sample Acceptance Check Form

Client: EA Engineering, Science, and Technology, Inc. Work order: P2002105

Project: Kirtland AFB Bulk Fuels Facility / 62735DM02

Sample(s) received on: 04/20/20 Date opened: 04/20/20 by: ADAVID

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☒	☐	☐
	Location of seal(s)? _____ Sealing Lid?	☒	☐	☐
	Were signature and date included?	☒	☐	☐
	Were seals intact?	☒	☐	☐
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2002105-001.01	1.0 L Source Silonite Canister					
P2002105-002.01	1.0 L Source Silonite Canister					
P2002105-003.01	1.0 L Source Can					
P2002105-004.01	1.0 L Source Can					
P2002105-005.01	1.0 L Source Can					
P2002105-006.01	1.0 L Source Can					
P2002105-007.01	1.0 L Source Silonite Canister					
P2002105-008.01	1.0 L Source Can					
P2002105-009.01	1.0 L Source Can					
P2002105-010.01	1.0 L Source Silonite Canister					
P2002105-011.01	1.0 L Source Can					
P2002105-012.01	1.0 L Source Can					
P2002105-013.01	1.0 L Source Can					
P2002105-014.01	1.0 L Source Silonite Canister					
P2002105-015.01	1.0 L Source Can					

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS Environmental

Sample Acceptance Check Form

Client: EA Engineering, Science, and Technology, Inc. Work order: P2002105

Project: Kirtland AFB Bulk Fuels Facility / 62735DM02

Sample(s) received on: 04/20/20 Date opened: 04/20/20 by: ADAVID

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2002105-016.01	1.0 L Source Can					
P2002105-017.01	1.0 L Source Can					
P2002105-018.01	1.0 L Source Silonite Canister					
P2002105-019.01	1.0 L Source Silonite Canister					
P2002105-020.01	1.0 L Source Silonite Canister					

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV121-450-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-001

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.15 Liter(s)
Test Notes:
Container ID: 1SS00974

Initial Pressure (psig): -2.88 Final Pressure (psig): 5.36

Container Dilution Factor: 1.70

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**4.2**	3.5	2.1	0.86	
75-71-8	Dichlorodifluoromethane (CFC 12)	**35**	1.2	0.73	0.20	
74-87-3	Chloromethane	**23**	2.9	1.8	0.47	
75-01-4	Vinyl Chloride	**3.9**	2.4	0.75	0.25	
106-99-0	1,3-Butadiene	1.6	2.7	1.6	0.45	**U**
75-00-3	Chloroethane	**3.1**	2.3	1.4	0.28	
64-17-5	Ethanol	5.0	31	5.0	2.2	**U**
67-64-1	Acetone	**15**	25	13	5.7	**J**
75-69-4	Trichlorofluoromethane	**3.3**	1.1	0.65	0.16	
67-63-0	2-Propanol (Isopropyl Alcohol)	2.9	9.7	2.9	1.0	**U**
75-09-2	Methylene Chloride	1.0	1.7	1.0	0.49	**U**
76-13-1	Trichlorotrifluoroethane	**0.57**	0.80	0.25	0.11	**J**
75-15-0	Carbon Disulfide	**88**	4.0	2.0	0.58	
75-34-3	1,1-Dichloroethane	**1.7**	1.5	0.92	0.22	
78-93-3	2-Butanone (MEK)	**2.8**	4.2	1.2	0.42	**J**
141-78-6	Ethyl Acetate	2.0	3.5	2.0	0.88	**U**
110-54-3	n-Hexane	**3.3**	1.7	1.0	0.35	
67-66-3	Chloroform	0.39	1.3	0.39	0.16	**U**
109-99-9	Tetrahydrofuran (THF)	**28**	2.1	0.65	0.26	
107-06-2	1,2-Dichloroethane	**0.76**	1.5	0.48	0.17	**J**
71-43-2	Benzene	**57**	1.9	0.60	0.27	
56-23-5	Carbon Tetrachloride	0.31	0.96	0.31	0.13	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV121-450-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-001

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.15 Liter(s)
Test Notes:
Container ID: 1SS00974

Initial Pressure (psig): -2.88 Final Pressure (psig): 5.36

Container Dilution Factor: 1.70

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**9.9**		3.6	1.1	0.49	
75-27-4	Bromodichloromethane		0.29	0.91	0.29	0.13	**U**
79-01-6	Trichloroethene		0.36	1.1	0.36	0.15	**U**
123-91-1	1,4-Dioxane		0.53	1.7	0.53	0.20	**U**
142-82-5	n-Heptane	**1.2**		1.5	0.89	0.24	**J**
108-10-1	4-Methyl-2-pentanone		0.47	1.5	0.47	0.20	**U**
108-88-3	Toluene	**220**		1.6	0.51	0.20	
591-78-6	2-Hexanone		0.47	1.5	0.47	0.18	**U**
124-48-1	Dibromochloromethane		0.23	0.72	0.23	0.093	**U**
106-93-4	1,2-Dibromoethane		0.25	0.80	0.25	0.091	**U**
127-18-4	Tetrachloroethene	**0.20**		0.87	0.28	0.12	**J**
100-41-4	Ethylbenzene	**8.3**		1.4	0.44	0.20	
179601-23-1	m,p-Xylenes	**12**		2.9	0.89	0.37	
75-25-2	Bromoform		0.35	0.59	0.35	0.12	**U**
100-42-5	Styrene		0.85	1.4	0.85	0.23	**U**
95-47-6	o-Xylene	**3.8**		1.4	0.44	0.20	
108-67-8	1,3,5-Trimethylbenzene	**0.28**		1.2	0.39	0.18	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.58**		1.2	0.39	0.17	**J**
120-82-1	1,2,4-Trichlorobenzene		0.49	0.82	0.49	0.20	**U**
91-20-3	Naphthalene		0.67	1.1	0.67	0.28	**U**
1330-20-7	Xylenes, Total	**16**		2.9	0.89	0.37	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV122-025-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-002

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00971

Initial Pressure (psig): -2.43 Final Pressure (psig): 5.39

Container Dilution Factor: 1.64

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.76	1.3	0.76	0.31	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.51**	0.44	0.27	0.072	
74-87-3	Chloromethane	0.64	1.1	0.64	0.17	**U**
75-01-4	Vinyl Chloride	0.27	0.87	0.27	0.091	**U**
106-99-0	1,3-Butadiene	0.59	0.98	0.59	0.16	**U**
75-00-3	Chloroethane	0.50	0.84	0.50	0.10	**U**
64-17-5	Ethanol	**1.3**	11	1.8	0.81	**J, B**
67-64-1	Acetone	4.7	9.2	4.7	2.1	**U**
75-69-4	Trichlorofluoromethane	**0.21**	0.39	0.23	0.059	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.1	3.5	1.1	0.37	**U**
75-09-2	Methylene Chloride	0.38	0.63	0.38	0.18	**U**
76-13-1	Trichlorotrifluoroethane	**0.062**	0.29	0.091	0.041	**J**
75-15-0	Carbon Disulfide	**0.42**	1.4	0.71	0.21	**J**
75-34-3	1,1-Dichloroethane	0.33	0.56	0.33	0.079	**U**
78-93-3	2-Butanone (MEK)	**0.17**	1.5	0.45	0.15	**J**
141-78-6	Ethyl Acetate	0.74	1.3	0.74	0.32	**U**
110-54-3	n-Hexane	0.37	0.63	0.37	0.13	**U**
67-66-3	Chloroform	**14**	0.45	0.14	0.060	
109-99-9	Tetrahydrofuran (THF)	**0.46**	0.76	0.24	0.093	**J**
107-06-2	1,2-Dichloroethane	0.17	0.55	0.17	0.060	**U**
71-43-2	Benzene	0.22	0.68	0.22	0.099	**U**
56-23-5	Carbon Tetrachloride	**0.14**	0.35	0.11	0.048	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV122-025-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-002

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00971

Initial Pressure (psig): -2.43 Final Pressure (psig): 5.39

Container Dilution Factor: 1.64

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.41	1.3	0.41	0.18	**U**
75-27-4	Bromodichloromethane	**0.99**	0.33	0.10	0.047	
79-01-6	Trichloroethene	**0.059**	0.41	0.13	0.055	**J**
123-91-1	1,4-Dioxane	0.19	0.61	0.19	0.072	**U**
142-82-5	n-Heptane	0.32	0.54	0.32	0.085	**U**
108-10-1	4-Methyl-2-pentanone	0.17	0.53	0.17	0.073	**U**
108-88-3	Toluene	**0.27**	0.59	0.19	0.071	**J**
591-78-6	2-Hexanone	0.17	0.54	0.17	0.066	**U**
124-48-1	Dibromochloromethane	0.082	0.26	0.082	0.034	**U**
106-93-4	1,2-Dibromoethane	0.091	0.29	0.091	0.033	**U**
127-18-4	Tetrachloroethene	**0.097**	0.31	0.10	0.042	**J**
100-41-4	Ethylbenzene	0.16	0.51	0.16	0.071	**U**
179601-23-1	m,p-Xylenes	0.32	1.0	0.32	0.13	**U**
75-25-2	Bromoform	0.13	0.21	0.13	0.044	**U**
100-42-5	Styrene	0.31	0.51	0.31	0.083	**U**
95-47-6	o-Xylene	0.16	0.51	0.16	0.073	**U**
108-67-8	1,3,5-Trimethylbenzene	0.14	0.44	0.14	0.064	**U**
95-63-6	1,2,4-Trimethylbenzene	0.14	0.45	0.14	0.062	**U**
120-82-1	1,2,4-Trichlorobenzene	0.18	0.30	0.18	0.072	**U**
91-20-3	Naphthalene	0.24	0.41	0.24	0.10	**U**
1330-20-7	Xylenes, Total	0.32	1.0	0.32	0.13	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV122-050-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-003

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00776

Initial Pressure (psig): -4.11 Final Pressure (psig): 5.33

Container Dilution Factor: 1.89

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.39**	1.5	0.88	0.36	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.58**	0.51	0.31	0.083	
74-87-3	Chloromethane	**0.26**	1.2	0.73	0.20	**J**
75-01-4	Vinyl Chloride	0.31	1.0	0.31	0.11	**U**
106-99-0	1,3-Butadiene	0.68	1.1	0.68	0.19	**U**
75-00-3	Chloroethane	0.57	0.97	0.57	0.12	**U**
64-17-5	Ethanol	**2.8**	13	2.1	0.93	**J, B**
67-64-1	Acetone	**6.9**	11	5.4	2.4	**J**
75-69-4	Trichlorofluoromethane	**0.21**	0.45	0.27	0.068	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.2	4.0	1.2	0.42	**U**
75-09-2	Methylene Chloride	0.44	0.72	0.44	0.20	**U**
76-13-1	Trichlorotrifluoroethane	**0.073**	0.33	0.10	0.047	**J**
75-15-0	Carbon Disulfide	**0.69**	1.7	0.82	0.24	**J**
75-34-3	1,1-Dichloroethane	0.39	0.64	0.39	0.091	**U**
78-93-3	2-Butanone (MEK)	**0.95**	1.8	0.51	0.18	**J**
141-78-6	Ethyl Acetate	0.85	1.4	0.85	0.37	**U**
110-54-3	n-Hexane	0.43	0.72	0.43	0.15	**U**
67-66-3	Chloroform	**97**	0.52	0.16	0.069	
109-99-9	Tetrahydrofuran (THF)	**0.16**	0.88	0.27	0.11	**J**
107-06-2	1,2-Dichloroethane	0.20	0.63	0.20	0.069	**U**
71-43-2	Benzene	0.25	0.78	0.25	0.11	**U**
56-23-5	Carbon Tetrachloride	**1.5**	0.40	0.13	0.056	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV122-050-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-003

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00776

Initial Pressure (psig): -4.11 Final Pressure (psig): 5.33

Container Dilution Factor: 1.89

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.47	1.5	0.47	0.21	**U**
75-27-4	Bromodichloromethane	**7.2**	0.38	0.12	0.054	
79-01-6	Trichloroethene	**0.23**	0.47	0.15	0.063	**J**
123-91-1	1,4-Dioxane	0.22	0.71	0.22	0.083	**U**
142-82-5	n-Heptane	0.37	0.62	0.37	0.098	**U**
108-10-1	4-Methyl-2-pentanone	0.20	0.61	0.20	0.084	**U**
108-88-3	Toluene	**0.13**	0.68	0.21	0.082	**J**
591-78-6	2-Hexanone	**0.16**	0.62	0.20	0.076	**J**
124-48-1	Dibromochloromethane	**0.18**	0.30	0.094	0.039	**J**
106-93-4	1,2-Dibromoethane	0.10	0.33	0.10	0.038	**U**
127-18-4	Tetrachloroethene	**0.55**	0.36	0.12	0.048	
100-41-4	Ethylbenzene	0.19	0.59	0.19	0.082	**U**
179601-23-1	m,p-Xylenes	0.37	1.2	0.37	0.15	**U**
75-25-2	Bromoform	0.15	0.25	0.15	0.050	**U**
100-42-5	Styrene	0.36	0.59	0.36	0.095	**U**
95-47-6	o-Xylene	0.19	0.59	0.19	0.084	**U**
108-67-8	1,3,5-Trimethylbenzene	0.16	0.51	0.16	0.074	**U**
95-63-6	1,2,4-Trimethylbenzene	0.16	0.52	0.16	0.071	**U**
120-82-1	1,2,4-Trichlorobenzene	0.20	0.34	0.20	0.083	**U**
91-20-3	Naphthalene	0.28	0.47	0.28	0.12	**U**
1330-20-7	Xylenes, Total	0.37	1.2	0.37	0.15	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV122-150-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-004

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00856

Initial Pressure (psig): -3.06 Final Pressure (psig): 5.91

Container Dilution Factor: 1.77

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.51**		1.4	0.82	0.33	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.2**		0.47	0.29	0.078	
74-87-3	Chloromethane	**0.44**		1.1	0.69	0.18	**J**
75-01-4	Vinyl Chloride		0.29	0.94	0.29	0.099	**U**
106-99-0	1,3-Butadiene		0.64	1.1	0.64	0.18	**U**
75-00-3	Chloroethane		0.54	0.91	0.54	0.11	**U**
64-17-5	Ethanol	**36**		12	1.9	0.87	**B**
67-64-1	Acetone	**12**		9.9	5.0	2.2	
75-69-4	Trichlorofluoromethane	**0.16**		0.42	0.25	0.064	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.48**		3.8	1.1	0.40	**J**
75-09-2	Methylene Chloride		0.41	0.68	0.41	0.19	**U**
76-13-1	Trichlorotrifluoroethane	**0.072**		0.31	0.098	0.044	**J**
75-15-0	Carbon Disulfide	**1.6**		1.6	0.77	0.23	
75-34-3	1,1-Dichloroethane		0.36	0.60	0.36	0.085	**U**
78-93-3	2-Butanone (MEK)	**1.5**		1.7	0.48	0.17	**J**
141-78-6	Ethyl Acetate		0.80	1.4	0.80	0.34	**U**
110-54-3	n-Hexane		0.40	0.68	0.40	0.14	**U**
67-66-3	Chloroform	**5.1**		0.49	0.15	0.064	
109-99-9	Tetrahydrofuran (THF)	**42**		0.83	0.26	0.10	
107-06-2	1,2-Dichloroethane		0.19	0.59	0.19	0.065	**U**
71-43-2	Benzene	**0.11**		0.73	0.24	0.11	**J**
56-23-5	Carbon Tetrachloride	**2.5**		0.37	0.12	0.052	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV122-150-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-004

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00856

Initial Pressure (psig): -3.06 Final Pressure (psig): 5.91

Container Dilution Factor: 1.77

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.44	1.4	0.44	0.19	**U**
75-27-4	Bromodichloromethane	**0.26**	0.36	0.11	0.051	**J**
79-01-6	Trichloroethene	0.14	0.44	0.14	0.059	**U**
123-91-1	1,4-Dioxane	**0.086**	0.66	0.21	0.077	**J**
142-82-5	n-Heptane	0.35	0.58	0.35	0.092	**U**
108-10-1	4-Methyl-2-pentanone	0.18	0.57	0.18	0.079	**U**
108-88-3	Toluene	**0.16**	0.63	0.20	0.076	**J**
591-78-6	2-Hexanone	**0.14**	0.58	0.18	0.071	**J**
124-48-1	Dibromochloromethane	0.088	0.28	0.088	0.036	**U**
106-93-4	1,2-Dibromoethane	0.098	0.31	0.098	0.036	**U**
127-18-4	Tetrachloroethene	**0.30**	0.34	0.11	0.045	**J**
100-41-4	Ethylbenzene	0.17	0.55	0.17	0.076	**U**
179601-23-1	m,p-Xylenes	0.35	1.1	0.35	0.14	**U**
75-25-2	Bromoform	0.14	0.23	0.14	0.047	**U**
100-42-5	Styrene	**1.2**	0.55	0.33	0.089	
95-47-6	o-Xylene	0.17	0.55	0.17	0.078	**U**
108-67-8	1,3,5-Trimethylbenzene	0.15	0.48	0.15	0.069	**U**
95-63-6	1,2,4-Trimethylbenzene	0.15	0.49	0.15	0.067	**U**
120-82-1	1,2,4-Trichlorobenzene	0.19	0.32	0.19	0.078	**U**
91-20-3	Naphthalene	0.26	0.44	0.26	0.11	**U**
1330-20-7	Xylenes, Total	0.35	1.1	0.35	0.14	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV122-250-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-005

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00896

Initial Pressure (psig): -3.64 Final Pressure (psig): 5.91

Container Dilution Factor: 1.86

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.86**	1.4	0.86	0.35	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**4.3**	0.50	0.30	0.082	
74-87-3	Chloromethane	**0.70**	1.2	0.72	0.19	**J**
75-01-4	Vinyl Chloride	0.31	0.98	0.31	0.10	**U**
106-99-0	1,3-Butadiene	0.67	1.1	0.67	0.19	**U**
75-00-3	Chloroethane	0.56	0.95	0.56	0.12	**U**
64-17-5	Ethanol	**15**	13	2.0	0.91	**B**
67-64-1	Acetone	**31**	10	5.3	2.3	
75-69-4	Trichlorofluoromethane	**0.30**	0.44	0.26	0.067	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.89**	4.0	1.2	0.42	**J**
75-09-2	Methylene Chloride	**0.21**	0.71	0.43	0.20	**J**
76-13-1	Trichlorotrifluoroethane	**0.13**	0.33	0.10	0.046	**J**
75-15-0	Carbon Disulfide	**6.7**	1.6	0.81	0.24	
75-34-3	1,1-Dichloroethane	0.38	0.63	0.38	0.090	**U**
78-93-3	2-Butanone (MEK)	**8.0**	1.7	0.50	0.17	
141-78-6	Ethyl Acetate	**8.4**	1.4	0.84	0.36	
110-54-3	n-Hexane	**0.47**	0.71	0.42	0.15	**J**
67-66-3	Chloroform	**0.12**	0.51	0.16	0.068	**J**
109-99-9	Tetrahydrofuran (THF)	**6.6**	0.87	0.27	0.11	
107-06-2	1,2-Dichloroethane	0.20	0.62	0.20	0.068	**U**
71-43-2	Benzene	**0.17**	0.77	0.25	0.11	**J**
56-23-5	Carbon Tetrachloride	**0.55**	0.39	0.13	0.055	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV122-250-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-005

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00896

Initial Pressure (psig): -3.64 Final Pressure (psig): 5.91

Container Dilution Factor: 1.86

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**0.52**	1.5	0.46	0.20	**J**
75-27-4	Bromodichloromethane	0.12	0.37	0.12	0.053	**U**
79-01-6	Trichloroethene	**0.99**	0.47	0.15	0.062	
123-91-1	1,4-Dioxane	**0.17**	0.70	0.22	0.081	**J**
142-82-5	n-Heptane	**0.14**	0.61	0.36	0.096	**J**
108-10-1	4-Methyl-2-pentanone	**0.19**	0.60	0.19	0.083	**J**
108-88-3	Toluene	**0.69**	0.67	0.21	0.080	
591-78-6	2-Hexanone	**0.43**	0.61	0.19	0.075	**J**
124-48-1	Dibromochloromethane	0.093	0.29	0.093	0.038	**U**
106-93-4	1,2-Dibromoethane	0.10	0.33	0.10	0.038	**U**
127-18-4	Tetrachloroethene	**0.060**	0.36	0.12	0.047	**J**
100-41-4	Ethylbenzene	**0.095**	0.58	0.18	0.080	**J**
179601-23-1	m,p-Xylenes	**0.27**	1.2	0.36	0.15	**J**
75-25-2	Bromoform	0.14	0.24	0.14	0.049	**U**
100-42-5	Styrene	0.35	0.58	0.35	0.094	**U**
95-47-6	o-Xylene	**0.096**	0.58	0.18	0.082	**J**
108-67-8	1,3,5-Trimethylbenzene	0.16	0.50	0.16	0.073	**U**
95-63-6	1,2,4-Trimethylbenzene	**0.10**	0.51	0.16	0.070	**J**
120-82-1	1,2,4-Trichlorobenzene	0.20	0.34	0.20	0.081	**U**
91-20-3	Naphthalene	0.28	0.46	0.28	0.12	**U**
1330-20-7	Xylenes, Total	**0.37**	1.2	0.36	0.15	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV122-350-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-006

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01008

Initial Pressure (psig): -2.68 Final Pressure (psig): 8.99

Container Dilution Factor: 1.97

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**1.2**	1.5	0.92	0.37	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**11**	0.53	0.32	0.087	
74-87-3	Chloromethane	0.76	1.3	0.76	0.21	**U**
75-01-4	Vinyl Chloride	0.33	1.0	0.33	0.11	**U**
106-99-0	1,3-Butadiene	0.71	1.2	0.71	0.20	**U**
75-00-3	Chloroethane	0.60	1.0	0.60	0.12	**U**
64-17-5	Ethanol	**24**	14	2.2	0.97	**B**
67-64-1	Acetone	**18**	11	5.6	2.5	
75-69-4	Trichlorofluoromethane	**0.94**	0.46	0.28	0.071	
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.7**	4.2	1.3	0.44	**J**
75-09-2	Methylene Chloride	0.45	0.75	0.45	0.21	**U**
76-13-1	Trichlorotrifluoroethane	**0.15**	0.35	0.11	0.049	**J**
75-15-0	Carbon Disulfide	**7.8**	1.7	0.85	0.25	
75-34-3	1,1-Dichloroethane	0.40	0.67	0.40	0.095	**U**
78-93-3	2-Butanone (MEK)	**2.2**	1.8	0.53	0.18	
141-78-6	Ethyl Acetate	**23**	1.5	0.89	0.38	
110-54-3	n-Hexane	**0.26**	0.75	0.45	0.15	**J**
67-66-3	Chloroform	**0.084**	0.54	0.17	0.072	**J**
109-99-9	Tetrahydrofuran (THF)	**1.2**	0.92	0.28	0.11	
107-06-2	1,2-Dichloroethane	0.21	0.66	0.21	0.072	**U**
71-43-2	Benzene	**0.27**	0.82	0.26	0.12	**J**
56-23-5	Carbon Tetrachloride	0.13	0.42	0.13	0.058	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV122-350-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-006

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01008

Initial Pressure (psig): -2.68 Final Pressure (psig): 8.99

Container Dilution Factor: 1.97

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**0.85**	1.6	0.49	0.21	**J**
75-27-4	Bromodichloromethane	0.13	0.40	0.13	0.057	**U**
79-01-6	Trichloroethene	0.16	0.50	0.16	0.066	**U**
123-91-1	1,4-Dioxane	0.23	0.74	0.23	0.086	**U**
142-82-5	n-Heptane	0.38	0.65	0.38	0.10	**U**
108-10-1	4-Methyl-2-pentanone	**0.097**	0.64	0.20	0.088	**J**
108-88-3	Toluene	**1.0**	0.71	0.22	0.085	
591-78-6	2-Hexanone	**0.20**	0.65	0.20	0.079	**J**
124-48-1	Dibromochloromethane	0.098	0.31	0.098	0.040	**U**
106-93-4	1,2-Dibromoethane	0.11	0.35	0.11	0.040	**U**
127-18-4	Tetrachloroethene	**0.10**	0.38	0.12	0.050	**J**
100-41-4	Ethylbenzene	0.19	0.61	0.19	0.085	**U**
179601-23-1	m,p-Xylenes	**0.17**	1.2	0.39	0.16	**J**
75-25-2	Bromoform	0.15	0.26	0.15	0.052	**U**
100-42-5	Styrene	0.37	0.61	0.37	0.10	**U**
95-47-6	o-Xylene	0.19	0.61	0.19	0.087	**U**
108-67-8	1,3,5-Trimethylbenzene	0.17	0.53	0.17	0.077	**U**
95-63-6	1,2,4-Trimethylbenzene	0.17	0.54	0.17	0.074	**U**
120-82-1	1,2,4-Trichlorobenzene	0.21	0.36	0.21	0.086	**U**
91-20-3	Naphthalene	0.29	0.49	0.29	0.12	**U**
1330-20-7	Xylenes, Total	**0.17**	1.2	0.39	0.16	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV122-450-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-007

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SS00747

Initial Pressure (psig): -3.21 Final Pressure (psig): 5.53

Container Dilution Factor: 1.76

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	16	27	16	6.6	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**13**	9.4	5.7	1.5	
74-87-3	Chloromethane	**19**	23	14	3.7	**J**
75-01-4	Vinyl Chloride	**3.5**	19	5.9	2.0	**J**
106-99-0	1,3-Butadiene	13	21	13	3.5	**U**
75-00-3	Chloroethane	**2.7**	18	11	2.2	**J**
64-17-5	Ethanol	**29**	240	39	17	**J, B**
67-64-1	Acetone	100	200	100	44	**U**
75-69-4	Trichlorofluoromethane	5.0	8.3	5.0	1.3	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	23	75	23	7.9	**U**
75-09-2	Methylene Chloride	8.1	13	8.1	3.8	**U**
76-13-1	Trichlorotrifluoroethane	2.0	6.2	2.0	0.87	**U**
75-15-0	Carbon Disulfide	**67**	31	15	4.5	
75-34-3	1,1-Dichloroethane	7.2	12	7.2	1.7	**U**
78-93-3	2-Butanone (MEK)	**24**	33	9.6	3.3	**J**
141-78-6	Ethyl Acetate	**25**	27	16	6.8	**J**
110-54-3	n-Hexane	**9.9**	13	8.0	2.7	**J**
67-66-3	Chloroform	3.1	9.7	3.1	1.3	**U**
109-99-9	Tetrahydrofuran (THF)	**70**	16	5.1	2.0	
107-06-2	1,2-Dichloroethane	3.7	12	3.7	1.3	**U**
71-43-2	Benzene	**47**	15	4.7	2.1	
56-23-5	Carbon Tetrachloride	2.4	7.4	2.4	1.0	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV122-450-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-007

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SS00747

Initial Pressure (psig): -3.21 Final Pressure (psig): 5.53

Container Dilution Factor: 1.76

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**16**	28	8.7	3.8	**J**
75-27-4	Bromodichloromethane	2.2	7.1	2.2	1.0	**U**
79-01-6	Trichloroethene	2.8	8.8	2.8	1.2	**U**
123-91-1	1,4-Dioxane	4.2	13	4.2	1.5	**U**
142-82-5	n-Heptane	6.9	12	6.9	1.8	**U**
108-10-1	4-Methyl-2-pentanone	3.7	11	3.7	1.6	**U**
108-88-3	Toluene	**170**	13	4.0	1.5	
591-78-6	2-Hexanone	3.7	12	3.7	1.4	**U**
124-48-1	Dibromochloromethane	1.8	5.6	1.8	0.72	**U**
106-93-4	1,2-Dibromoethane	1.9	6.2	1.9	0.71	**U**
127-18-4	Tetrachloroethene	2.2	6.8	2.2	0.90	**U**
100-41-4	Ethylbenzene	**6.2**	11	3.4	1.5	**J**
179601-23-1	m,p-Xylenes	**10**	22	6.9	2.8	**J**
75-25-2	Bromoform	2.7	4.6	2.7	0.94	**U**
100-42-5	Styrene	6.6	11	6.6	1.8	**U**
95-47-6	o-Xylene	**3.4**	11	3.4	1.6	**J**
108-67-8	1,3,5-Trimethylbenzene	3.0	9.5	3.0	1.4	**U**
95-63-6	1,2,4-Trimethylbenzene	3.0	9.7	3.0	1.3	**U**
120-82-1	1,2,4-Trichlorobenzene	3.8	6.4	3.8	1.5	**U**
91-20-3	Naphthalene	5.2	8.7	5.2	2.2	**U**
1330-20-7	Xylenes, Total	**14**	22	6.9	2.8	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV123-025-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-008

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00463

Initial Pressure (psig): -2.71 Final Pressure (psig): 5.86

Container Dilution Factor: 1.71

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**2.8**	1.3	0.80	0.32	
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.64**	0.46	0.28	0.075	
74-87-3	Chloromethane	0.66	1.1	0.66	0.18	**U**
75-01-4	Vinyl Chloride	0.28	0.90	0.28	0.095	**U**
106-99-0	1,3-Butadiene	0.62	1.0	0.62	0.17	**U**
75-00-3	Chloroethane	0.52	0.88	0.52	0.11	**U**
64-17-5	Ethanol	**21**	12	1.9	0.84	**B**
67-64-1	Acetone	**12**	9.5	4.9	2.2	
75-69-4	Trichlorofluoromethane	**0.22**	0.40	0.24	0.062	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.3**	3.7	1.1	0.38	**J**
75-09-2	Methylene Chloride	**0.89**	0.65	0.39	0.18	
76-13-1	Trichlorotrifluoroethane	**0.070**	0.30	0.095	0.042	**J**
75-15-0	Carbon Disulfide	**1.4**	1.5	0.74	0.22	**J**
75-34-3	1,1-Dichloroethane	0.35	0.58	0.35	0.082	**U**
78-93-3	2-Butanone (MEK)	**2.1**	1.6	0.46	0.16	
141-78-6	Ethyl Acetate	**11**	1.3	0.77	0.33	
110-54-3	n-Hexane	**1.3**	0.66	0.39	0.13	
67-66-3	Chloroform	**64**	4.7	1.5	0.62	**D**
109-99-9	Tetrahydrofuran (THF)	**0.70**	0.80	0.25	0.097	**J**
107-06-2	1,2-Dichloroethane	0.18	0.57	0.18	0.062	**U**
71-43-2	Benzene	**0.35**	0.71	0.23	0.10	**J**
56-23-5	Carbon Tetrachloride	**0.57**	0.36	0.12	0.050	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV123-025-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-008

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00463

Initial Pressure (psig): -2.71 Final Pressure (psig): 5.86

Container Dilution Factor: 1.71

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**1.7**	1.4	0.42	0.19	
75-27-4	Bromodichloromethane	**25**	0.34	0.11	0.049	
79-01-6	Trichloroethene	**0.22**	0.43	0.14	0.057	**J**
123-91-1	1,4-Dioxane	**0.22**	0.64	0.20	0.075	**J**
142-82-5	n-Heptane	**0.16**	0.56	0.33	0.089	**J**
108-10-1	4-Methyl-2-pentanone	**0.079**	0.55	0.18	0.076	**J**
108-88-3	Toluene	**3.0**	0.61	0.19	0.074	
591-78-6	2-Hexanone	**0.16**	0.56	0.18	0.069	**J**
124-48-1	Dibromochloromethane	**2.1**	0.27	0.085	0.035	
106-93-4	1,2-Dibromoethane	0.095	0.30	0.095	0.035	**U**
127-18-4	Tetrachloroethene	**0.43**	0.33	0.11	0.044	
100-41-4	Ethylbenzene	**0.15**	0.53	0.17	0.074	**J**
179601-23-1	m,p-Xylenes	**0.60**	1.1	0.33	0.14	**J**
75-25-2	Bromoform	0.13	0.22	0.13	0.045	**U**
100-42-5	Styrene	0.32	0.53	0.32	0.086	**U**
95-47-6	o-Xylene	**0.20**	0.53	0.17	0.076	**J**
108-67-8	1,3,5-Trimethylbenzene	0.15	0.46	0.15	0.067	**U**
95-63-6	1,2,4-Trimethylbenzene	0.15	0.47	0.15	0.064	**U**
120-82-1	1,2,4-Trichlorobenzene	0.18	0.31	0.18	0.075	**U**
91-20-3	Naphthalene	0.25	0.42	0.25	0.11	**U**
1330-20-7	Xylenes, Total	**0.79**	1.1	0.33	0.14	**J**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV123-050-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-009

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00638

Initial Pressure (psig): -2.39 Final Pressure (psig): 6.49

Container Dilution Factor: 1.72

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.81**	1.3	0.80	0.32	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.1**	0.46	0.28	0.076	
74-87-3	Chloromethane	0.67	1.1	0.67	0.18	**U**
75-01-4	Vinyl Chloride	0.29	0.91	0.29	0.096	**U**
106-99-0	1,3-Butadiene	0.62	1.0	0.62	0.17	**U**
75-00-3	Chloroethane	**0.11**	0.88	0.52	0.11	**J**
64-17-5	Ethanol	**6.1**	12	1.9	0.84	**J, B**
67-64-1	Acetone	**6.5**	9.6	4.9	2.2	**J**
75-69-4	Trichlorofluoromethane	**0.33**	0.41	0.24	0.062	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.70**	3.7	1.1	0.39	**J**
75-09-2	Methylene Chloride	**3.5**	0.66	0.40	0.19	
76-13-1	Trichlorotrifluoroethane	**0.13**	0.30	0.095	0.043	**J**
75-15-0	Carbon Disulfide	**0.36**	1.5	0.75	0.22	**J**
75-34-3	1,1-Dichloroethane	0.35	0.58	0.35	0.083	**U**
78-93-3	2-Butanone (MEK)	**1.2**	1.6	0.47	0.16	**J**
141-78-6	Ethyl Acetate	**21**	1.3	0.78	0.33	
110-54-3	n-Hexane	**0.18**	0.66	0.39	0.13	**J**
67-66-3	Chloroform	**180**	4.8	1.5	0.63	**D**
109-99-9	Tetrahydrofuran (THF)	0.25	0.80	0.25	0.098	**U**
107-06-2	1,2-Dichloroethane	0.18	0.57	0.18	0.063	**U**
71-43-2	Benzene	**0.12**	0.71	0.23	0.10	**J**
56-23-5	Carbon Tetrachloride	**3.1**	0.36	0.12	0.051	

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV123-050-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-009

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00638

Initial Pressure (psig): -2.39 Final Pressure (psig): 6.49

Container Dilution Factor: 1.72

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.42	1.4	0.42	0.19	**U**
75-27-4	Bromodichloromethane	**57**	3.5	1.1	0.49	**D**
79-01-6	Trichloroethene	**0.75**	0.43	0.14	0.058	
123-91-1	1,4-Dioxane	0.20	0.64	0.20	0.075	**U**
142-82-5	n-Heptane	**0.092**	0.57	0.34	0.089	**J**
108-10-1	4-Methyl-2-pentanone	**0.079**	0.56	0.18	0.077	**J**
108-88-3	Toluene	**0.96**	0.62	0.19	0.074	
591-78-6	2-Hexanone	**0.26**	0.57	0.18	0.069	**J**
124-48-1	Dibromochloromethane	**9.8**	0.27	0.086	0.035	
106-93-4	1,2-Dibromoethane	0.095	0.30	0.095	0.035	**U**
127-18-4	Tetrachloroethene	**1.1**	0.33	0.11	0.044	
100-41-4	Ethylbenzene	0.17	0.53	0.17	0.074	**U**
179601-23-1	m,p-Xylenes	0.34	1.1	0.34	0.14	**U**
75-25-2	Bromoform	**0.64**	0.22	0.13	0.046	
100-42-5	Styrene	0.32	0.54	0.32	0.087	**U**
95-47-6	o-Xylene	0.17	0.53	0.17	0.076	**U**
108-67-8	1,3,5-Trimethylbenzene	0.15	0.46	0.15	0.067	**U**
95-63-6	1,2,4-Trimethylbenzene	0.15	0.47	0.15	0.065	**U**
120-82-1	1,2,4-Trichlorobenzene	0.19	0.31	0.19	0.075	**U**
91-20-3	Naphthalene	0.25	0.43	0.25	0.11	**U**
1330-20-7	Xylenes, Total	0.34	1.1	0.34	0.14	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV123-150-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-010

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00901

Initial Pressure (psig): -3.15 Final Pressure (psig): 6.28

Container Dilution Factor: 1.82

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.41**	1.4	0.85	0.34	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**5.5**	0.49	0.29	0.080	
74-87-3	Chloromethane	0.71	1.2	0.71	0.19	**U**
75-01-4	Vinyl Chloride	0.30	0.96	0.30	0.10	**U**
106-99-0	1,3-Butadiene	0.66	1.1	0.66	0.18	**U**
75-00-3	Chloroethane	0.55	0.93	0.55	0.11	**U**
64-17-5	Ethanol	**3.0**	13	2.0	0.89	**J, B**
67-64-1	Acetone	**3.4**	10	5.2	2.3	**J**
75-69-4	Trichlorofluoromethane	**0.38**	0.43	0.26	0.066	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.2	3.9	1.2	0.41	**U**
75-09-2	Methylene Chloride	0.42	0.69	0.42	0.20	**U**
76-13-1	Trichlorotrifluoroethane	**0.17**	0.32	0.10	0.045	**J**
75-15-0	Carbon Disulfide	**0.91**	1.6	0.79	0.23	**J**
75-34-3	1,1-Dichloroethane	0.37	0.62	0.37	0.088	**U**
78-93-3	2-Butanone (MEK)	**0.38**	1.7	0.49	0.17	**J**
141-78-6	Ethyl Acetate	**0.37**	1.4	0.82	0.35	**J**
110-54-3	n-Hexane	**0.20**	0.70	0.41	0.14	**J**
67-66-3	Chloroform	**5.2**	0.50	0.16	0.066	
109-99-9	Tetrahydrofuran (THF)	**0.38**	0.85	0.26	0.10	**J**
107-06-2	1,2-Dichloroethane	0.19	0.61	0.19	0.066	**U**
71-43-2	Benzene	**0.15**	0.76	0.24	0.11	**J**
56-23-5	Carbon Tetrachloride	**2.4**	0.38	0.12	0.054	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV123-150-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-010

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00901

Initial Pressure (psig): -3.15 Final Pressure (psig): 6.28

Container Dilution Factor: 1.82

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**0.20**		1.5	0.45	0.20	**J**
75-27-4	Bromodichloromethane	**0.57**		0.37	0.12	0.052	
79-01-6	Trichloroethene	**0.14**		0.46	0.14	0.061	**J**
123-91-1	1,4-Dioxane		0.21	0.68	0.21	0.080	**U**
142-82-5	n-Heptane	**0.12**		0.60	0.36	0.094	**J**
108-10-1	4-Methyl-2-pentanone		0.19	0.59	0.19	0.081	**U**
108-88-3	Toluene	**0.42**		0.65	0.21	0.079	**J**
591-78-6	2-Hexanone		0.19	0.60	0.19	0.073	**U**
124-48-1	Dibromochloromethane	**0.042**		0.29	0.091	0.037	**J**
106-93-4	1,2-Dibromoethane		0.10	0.32	0.10	0.037	**U**
127-18-4	Tetrachloroethene	**0.29**		0.35	0.11	0.046	**J**
100-41-4	Ethylbenzene		0.18	0.57	0.18	0.079	**U**
179601-23-1	m,p-Xylenes	**0.17**		1.2	0.36	0.15	**J**
75-25-2	Bromoform		0.14	0.24	0.14	0.048	**U**
100-42-5	Styrene		0.34	0.57	0.34	0.092	**U**
95-47-6	o-Xylene		0.18	0.57	0.18	0.081	**U**
108-67-8	1,3,5-Trimethylbenzene		0.16	0.49	0.16	0.071	**U**
95-63-6	1,2,4-Trimethylbenzene		0.16	0.50	0.16	0.069	**U**
120-82-1	1,2,4-Trichlorobenzene		0.20	0.33	0.20	0.080	**U**
91-20-3	Naphthalene		0.27	0.45	0.27	0.11	**U**
1330-20-7	Xylenes, Total	**0.17**		1.2	0.36	0.15	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV123-250-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-011

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00265

Initial Pressure (psig): -3.85 Final Pressure (psig): 5.59

Container Dilution Factor: 1.87

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.47**	1.4	0.87	0.35	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**15**	0.50	0.30	0.082	
74-87-3	Chloromethane	0.72	1.2	0.72	0.19	**U**
75-01-4	Vinyl Chloride	0.31	0.99	0.31	0.10	**U**
106-99-0	1,3-Butadiene	0.68	1.1	0.68	0.19	**U**
75-00-3	Chloroethane	0.57	0.96	0.57	0.12	**U**
64-17-5	Ethanol	**5.5**	13	2.1	0.92	**J, B**
67-64-1	Acetone	**7.2**	10	5.3	2.4	**J**
75-69-4	Trichlorofluoromethane	**1.1**	0.44	0.27	0.067	
67-63-0	2-Propanol (Isopropyl Alcohol)	1.2	4.0	1.2	0.42	**U**
75-09-2	Methylene Chloride	0.43	0.71	0.43	0.20	**U**
76-13-1	Trichlorotrifluoroethane	**0.41**	0.33	0.10	0.046	
75-15-0	Carbon Disulfide	**0.66**	1.7	0.81	0.24	**J**
75-34-3	1,1-Dichloroethane	0.38	0.64	0.38	0.090	**U**
78-93-3	2-Butanone (MEK)	**1.0**	1.7	0.51	0.17	**J**
141-78-6	Ethyl Acetate	0.84	1.4	0.84	0.36	**U**
110-54-3	n-Hexane	0.42	0.72	0.42	0.15	**U**
67-66-3	Chloroform	**2.4**	0.52	0.16	0.068	
109-99-9	Tetrahydrofuran (THF)	**0.24**	0.87	0.27	0.11	**J**
107-06-2	1,2-Dichloroethane	0.20	0.62	0.20	0.068	**U**
71-43-2	Benzene	0.25	0.78	0.25	0.11	**U**
56-23-5	Carbon Tetrachloride	**1.2**	0.39	0.13	0.055	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV123-250-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-011

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00265

Initial Pressure (psig): -3.85 Final Pressure (psig): 5.59

Container Dilution Factor: 1.87

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.46	1.5	0.46	0.20	**U**
75-27-4	Bromodichloromethane	**0.87**	0.38	0.12	0.054	
79-01-6	Trichloroethene	0.15	0.47	0.15	0.063	**U**
123-91-1	1,4-Dioxane	**0.095**	0.70	0.22	0.082	**J**
142-82-5	n-Heptane	0.37	0.62	0.37	0.097	**U**
108-10-1	4-Methyl-2-pentanone	0.19	0.60	0.19	0.083	**U**
108-88-3	Toluene	**0.16**	0.67	0.21	0.081	**J**
591-78-6	2-Hexanone	**0.15**	0.62	0.19	0.075	**J**
124-48-1	Dibromochloromethane	**0.14**	0.30	0.093	0.038	**J**
106-93-4	1,2-Dibromoethane	0.10	0.33	0.10	0.038	**U**
127-18-4	Tetrachloroethene	**0.16**	0.36	0.12	0.048	**J**
100-41-4	Ethylbenzene	0.18	0.58	0.18	0.081	**U**
179601-23-1	m,p-Xylenes	0.37	1.2	0.37	0.15	**U**
75-25-2	Bromoform	0.14	0.24	0.14	0.050	**U**
100-42-5	Styrene	0.35	0.58	0.35	0.094	**U**
95-47-6	o-Xylene	0.18	0.58	0.18	0.083	**U**
108-67-8	1,3,5-Trimethylbenzene	0.16	0.50	0.16	0.073	**U**
95-63-6	1,2,4-Trimethylbenzene	0.16	0.51	0.16	0.070	**U**
120-82-1	1,2,4-Trichlorobenzene	0.20	0.34	0.20	0.082	**U**
91-20-3	Naphthalene	0.28	0.46	0.28	0.12	**U**
1330-20-7	Xylenes, Total	0.37	1.2	0.37	0.15	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV123-350-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-012

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00560

Initial Pressure (psig): -2.33 Final Pressure (psig): 7.32

Container Dilution Factor: 1.78

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.57**	1.4	0.83	0.34	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**53**	0.48	0.29	0.078	
74-87-3	Chloromethane	**0.21**	1.1	0.69	0.19	**J**
75-01-4	Vinyl Chloride	0.30	0.94	0.30	0.099	**U**
106-99-0	1,3-Butadiene	0.64	1.1	0.64	0.18	**U**
75-00-3	Chloroethane	0.54	0.91	0.54	0.11	**U**
64-17-5	Ethanol	**5.1**	12	2.0	0.87	**J, B**
67-64-1	Acetone	**7.1**	9.9	5.1	2.2	**J**
75-69-4	Trichlorofluoromethane	**4.8**	0.42	0.25	0.064	
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.44**	3.8	1.1	0.40	**J**
75-09-2	Methylene Chloride	**0.28**	0.68	0.41	0.19	**J**
76-13-1	Trichlorotrifluoroethane	**0.88**	0.31	0.099	0.044	
75-15-0	Carbon Disulfide	**0.88**	1.6	0.77	0.23	**J**
75-34-3	1,1-Dichloroethane	0.36	0.60	0.36	0.086	**U**
78-93-3	2-Butanone (MEK)	**0.80**	1.7	0.48	0.17	**J**
141-78-6	Ethyl Acetate	**0.77**	1.4	0.80	0.35	**J**
110-54-3	n-Hexane	**0.40**	0.68	0.40	0.14	**J**
67-66-3	Chloroform	**2.4**	0.49	0.15	0.065	
109-99-9	Tetrahydrofuran (THF)	**1.5**	0.83	0.26	0.10	
107-06-2	1,2-Dichloroethane	0.19	0.59	0.19	0.065	**U**
71-43-2	Benzene	**0.19**	0.74	0.24	0.11	**J**
56-23-5	Carbon Tetrachloride	**0.26**	0.38	0.12	0.052	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV123-350-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-012

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00560

Initial Pressure (psig): -2.33 Final Pressure (psig): 7.32

Container Dilution Factor: 1.78

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**0.52**	1.4	0.44	0.19	**J**
75-27-4	Bromodichloromethane	**0.14**	0.36	0.11	0.051	**J**
79-01-6	Trichloroethene	**0.080**	0.45	0.14	0.060	**J**
123-91-1	1,4-Dioxane	**0.10**	0.67	0.21	0.078	**J**
142-82-5	n-Heptane	0.35	0.59	0.35	0.092	**U**
108-10-1	4-Methyl-2-pentanone	0.18	0.58	0.18	0.079	**U**
108-88-3	Toluene	**0.39**	0.64	0.20	0.077	**J**
591-78-6	2-Hexanone	**0.19**	0.59	0.18	0.072	**J**
124-48-1	Dibromochloromethane	**0.044**	0.28	0.089	0.037	**J**
106-93-4	1,2-Dibromoethane	**0.14**	0.31	0.098	0.036	**J**
127-18-4	Tetrachloroethene	**0.10**	0.34	0.11	0.045	**J**
100-41-4	Ethylbenzene	0.17	0.55	0.17	0.077	**U**
179601-23-1	m,p-Xylenes	0.35	1.1	0.35	0.14	**U**
75-25-2	Bromoform	0.14	0.23	0.14	0.047	**U**
100-42-5	Styrene	0.33	0.55	0.33	0.090	**U**
95-47-6	o-Xylene	0.17	0.55	0.17	0.079	**U**
108-67-8	1,3,5-Trimethylbenzene	0.15	0.48	0.15	0.070	**U**
95-63-6	1,2,4-Trimethylbenzene	0.15	0.49	0.15	0.067	**U**
120-82-1	1,2,4-Trichlorobenzene	0.19	0.32	0.19	0.078	**U**
91-20-3	Naphthalene	0.26	0.44	0.26	0.11	**U**
1330-20-7	Xylenes, Total	0.35	1.1	0.35	0.14	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV123-450-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-013

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00612

Initial Pressure (psig): -2.57 Final Pressure (psig): 5.41

Container Dilution Factor: 1.66

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**1.2**		1.3	0.77	0.31	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**55**		0.44	0.27	0.073	
74-87-3	Chloromethane	**0.31**		1.1	0.64	0.17	**J**
75-01-4	Vinyl Chloride		0.28	0.88	0.28	0.093	**U**
106-99-0	1,3-Butadiene		0.60	0.99	0.60	0.17	**U**
75-00-3	Chloroethane		0.50	0.85	0.50	0.10	**U**
64-17-5	Ethanol	**31**		11	1.8	0.82	**B**
67-64-1	Acetone	**8.7**		9.3	4.7	2.1	**J**
75-69-4	Trichlorofluoromethane	**5.0**		0.39	0.24	0.060	
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.9**		3.5	1.1	0.37	**J**
75-09-2	Methylene Chloride	**0.43**		0.63	0.38	0.18	**J**
76-13-1	Trichlorotrifluoroethane	**0.81**		0.29	0.092	0.041	
75-15-0	Carbon Disulfide	**2.0**		1.5	0.72	0.21	
75-34-3	1,1-Dichloroethane		0.34	0.56	0.34	0.080	**U**
78-93-3	2-Butanone (MEK)	**2.5**		1.5	0.45	0.15	
141-78-6	Ethyl Acetate	**12**		1.3	0.75	0.32	
110-54-3	n-Hexane	**0.92**		0.64	0.38	0.13	
67-66-3	Chloroform	**1.4**		0.46	0.14	0.060	
109-99-9	Tetrahydrofuran (THF)	**2.9**		0.77	0.24	0.094	
107-06-2	1,2-Dichloroethane		0.17	0.55	0.17	0.061	**U**
71-43-2	Benzene	**0.83**		0.69	0.22	0.10	
56-23-5	Carbon Tetrachloride		0.11	0.35	0.11	0.049	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV123-450-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-013

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00612

Initial Pressure (psig): -2.57 Final Pressure (psig): 5.41

Container Dilution Factor: 1.66

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**1.1**	1.3	0.41	0.18	**J**
75-27-4	Bromodichloromethane	**0.84**	0.33	0.11	0.048	
79-01-6	Trichloroethene	0.13	0.42	0.13	0.056	**U**
123-91-1	1,4-Dioxane	0.20	0.62	0.20	0.073	**U**
142-82-5	n-Heptane	**0.13**	0.55	0.32	0.086	**J**
108-10-1	4-Methyl-2-pentanone	**0.080**	0.54	0.17	0.074	**J**
108-88-3	Toluene	**3.7**	0.59	0.19	0.072	
591-78-6	2-Hexanone	**0.26**	0.55	0.17	0.067	**J**
124-48-1	Dibromochloromethane	**0.29**	0.26	0.083	0.034	
106-93-4	1,2-Dibromoethane	0.092	0.29	0.092	0.033	**U**
127-18-4	Tetrachloroethene	**0.28**	0.32	0.10	0.042	**J**
100-41-4	Ethylbenzene	**0.16**	0.52	0.16	0.072	**J**
179601-23-1	m,p-Xylenes	**0.33**	1.1	0.32	0.13	**J**
75-25-2	Bromoform	0.13	0.22	0.13	0.044	**U**
100-42-5	Styrene	0.31	0.52	0.31	0.084	**U**
95-47-6	o-Xylene	**0.13**	0.52	0.16	0.074	**J**
108-67-8	1,3,5-Trimethylbenzene	0.14	0.45	0.14	0.065	**U**
95-63-6	1,2,4-Trimethylbenzene	**0.078**	0.46	0.14	0.062	**J**
120-82-1	1,2,4-Trichlorobenzene	0.18	0.30	0.18	0.073	**U**
91-20-3	Naphthalene	0.25	0.41	0.25	0.10	**U**
1330-20-7	Xylenes, Total	**0.46**	1.1	0.32	0.13	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV131-025-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-014

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00905

Initial Pressure (psig): -4.35 Final Pressure (psig): 5.13

Container Dilution Factor: 1.92

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**7.7**		1.5	0.89	0.36	
75-71-8	Dichlorodifluoromethane (CFC 12)	**25**		0.51	0.31	0.084	
74-87-3	Chloromethane		0.74	1.2	0.74	0.20	**U**
75-01-4	Vinyl Chloride		0.32	1.0	0.32	0.11	**U**
106-99-0	1,3-Butadiene	**0.54**		1.2	0.69	0.19	**J**
75-00-3	Chloroethane		0.58	0.98	0.58	0.12	**U**
64-17-5	Ethanol	**69**		13	2.1	0.94	**B**
67-64-1	Acetone	**270**		11	5.5	2.4	
75-69-4	Trichlorofluoromethane	**2.4**		0.45	0.27	0.069	
67-63-0	2-Propanol (Isopropyl Alcohol)	**15**		4.1	1.2	0.43	
75-09-2	Methylene Chloride		0.44	0.73	0.44	0.21	**U**
76-13-1	Trichlorotrifluoroethane	**3.8**		0.34	0.11	0.048	
75-15-0	Carbon Disulfide	**47**		1.7	0.83	0.25	
75-34-3	1,1-Dichloroethane		0.39	0.65	0.39	0.093	**U**
78-93-3	2-Butanone (MEK)	**25**		1.8	0.52	0.18	
141-78-6	Ethyl Acetate		0.87	1.5	0.87	0.37	**U**
110-54-3	n-Hexane		0.44	0.74	0.44	0.15	**U**
67-66-3	Chloroform	**0.57**		0.53	0.17	0.070	
109-99-9	Tetrahydrofuran (THF)		0.28	0.90	0.28	0.11	**U**
107-06-2	1,2-Dichloroethane		0.20	0.64	0.20	0.070	**U**
71-43-2	Benzene	**0.36**		0.80	0.26	0.12	**J**
56-23-5	Carbon Tetrachloride	**1.5**		0.40	0.13	0.056	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV131-025-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-014

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00905

Initial Pressure (psig): -4.35 Final Pressure (psig): 5.13

Container Dilution Factor: 1.92

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.47	1.5	0.47	0.21	**U**
75-27-4	Bromodichloromethane	0.12	0.39	0.12	0.055	**U**
79-01-6	Trichloroethene	0.15	0.48	0.15	0.064	**U**
123-91-1	1,4-Dioxane	**4.2**	0.72	0.23	0.084	
142-82-5	n-Heptane	0.37	0.63	0.37	0.10	**U**
108-10-1	4-Methyl-2-pentanone	**8.3**	0.62	0.20	0.086	
108-88-3	Toluene	**1.7**	0.69	0.22	0.083	
591-78-6	2-Hexanone	0.20	0.63	0.20	0.077	**U**
124-48-1	Dibromochloromethane	0.096	0.30	0.096	0.039	**U**
106-93-4	1,2-Dibromoethane	0.11	0.34	0.11	0.039	**U**
127-18-4	Tetrachloroethene	**0.059**	0.37	0.12	0.049	**J**
100-41-4	Ethylbenzene	**0.22**	0.60	0.19	0.083	**J**
179601-23-1	m,p-Xylenes	**1.5**	1.2	0.38	0.15	
75-25-2	Bromoform	0.15	0.25	0.15	0.051	**U**
100-42-5	Styrene	**0.12**	0.60	0.36	0.097	**J**
95-47-6	o-Xylene	**0.48**	0.60	0.19	0.085	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.51**	0.52	0.17	0.075	**J**
95-63-6	1,2,4-Trimethylbenzene	**1.4**	0.53	0.17	0.072	
120-82-1	1,2,4-Trichlorobenzene	0.21	0.35	0.21	0.084	**U**
91-20-3	Naphthalene	**0.15**	0.48	0.28	0.12	**J**
1330-20-7	Xylenes, Total	**2.0**	1.2	0.38	0.15	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV131-055-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-015

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00604

Initial Pressure (psig): -2.44 Final Pressure (psig): 6.33

Container Dilution Factor: 1.72

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**1.0**	1.3	0.80	0.32	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**33**	0.46	0.28	0.076	
74-87-3	Chloromethane	**1.0**	1.1	0.67	0.18	**J**
75-01-4	Vinyl Chloride	0.29	0.91	0.29	0.096	**U**
106-99-0	1,3-Butadiene	0.62	1.0	0.62	0.17	**U**
75-00-3	Chloroethane	**0.15**	0.88	0.52	0.11	**J**
64-17-5	Ethanol	**11**	12	1.9	0.84	**J, B**
67-64-1	Acetone	**18**	9.6	4.9	2.2	
75-69-4	Trichlorofluoromethane	**3.0**	0.41	0.24	0.062	
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.2**	3.7	1.1	0.39	**J**
75-09-2	Methylene Chloride	**0.53**	0.66	0.40	0.19	**J**
76-13-1	Trichlorotrifluoroethane	**4.2**	0.30	0.095	0.043	
75-15-0	Carbon Disulfide	**2.7**	1.5	0.75	0.22	
75-34-3	1,1-Dichloroethane	0.35	0.58	0.35	0.083	**U**
78-93-3	2-Butanone (MEK)	**2.0**	1.6	0.47	0.16	
141-78-6	Ethyl Acetate	**39**	1.3	0.78	0.33	
110-54-3	n-Hexane	**1.3**	0.66	0.39	0.13	
67-66-3	Chloroform	**0.20**	0.48	0.15	0.063	**J**
109-99-9	Tetrahydrofuran (THF)	**0.88**	0.80	0.25	0.098	
107-06-2	1,2-Dichloroethane	0.18	0.57	0.18	0.063	**U**
71-43-2	Benzene	**0.54**	0.71	0.23	0.10	**J**
56-23-5	Carbon Tetrachloride	**1.9**	0.36	0.12	0.051	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV131-055-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-015

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00604

Initial Pressure (psig): -2.44 Final Pressure (psig): 6.33

Container Dilution Factor: 1.72

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**1.7**	1.4	0.42	0.19	
75-27-4	Bromodichloromethane	0.11	0.35	0.11	0.049	**U**
79-01-6	Trichloroethene	0.14	0.43	0.14	0.058	**U**
123-91-1	1,4-Dioxane	**0.13**	0.64	0.20	0.075	**J**
142-82-5	n-Heptane	**0.30**	0.57	0.34	0.089	**J**
108-10-1	4-Methyl-2-pentanone	**0.12**	0.56	0.18	0.077	**J**
108-88-3	Toluene	**3.4**	0.62	0.19	0.074	
591-78-6	2-Hexanone	**0.13**	0.57	0.18	0.069	**J**
124-48-1	Dibromochloromethane	0.086	0.27	0.086	0.035	**U**
106-93-4	1,2-Dibromoethane	0.095	0.30	0.095	0.035	**U**
127-18-4	Tetrachloroethene	**0.36**	0.33	0.11	0.044	
100-41-4	Ethylbenzene	**0.12**	0.53	0.17	0.074	**J**
179601-23-1	m,p-Xylenes	**0.21**	1.1	0.34	0.14	**J**
75-25-2	Bromoform	0.13	0.22	0.13	0.046	**U**
100-42-5	Styrene	0.32	0.54	0.32	0.087	**U**
95-47-6	o-Xylene	0.17	0.53	0.17	0.076	**U**
108-67-8	1,3,5-Trimethylbenzene	0.15	0.46	0.15	0.067	**U**
95-63-6	1,2,4-Trimethylbenzene	0.15	0.47	0.15	0.065	**U**
120-82-1	1,2,4-Trichlorobenzene	0.19	0.31	0.19	0.075	**U**
91-20-3	Naphthalene	0.25	0.43	0.25	0.11	**U**
1330-20-7	Xylenes, Total	**0.21**	1.1	0.34	0.14	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV131-150-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-016

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan/Topacio De Leon Date Analyzed: 5/5 - 5/6/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00728

Initial Pressure (psig): -4.47 Final Pressure (psig): 6.31

Container Dilution Factor: 2.05

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.72**	1.6	0.95	0.39	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**87**	5.5	3.3	0.90	**D**
74-87-3	Chloromethane	**0.25**	1.3	0.79	0.21	**J**
75-01-4	Vinyl Chloride	0.34	1.1	0.34	0.11	**U**
106-99-0	1,3-Butadiene	0.74	1.2	0.74	0.20	**U**
75-00-3	Chloroethane	0.62	1.0	0.62	0.13	**U**
64-17-5	Ethanol	**3.7**	14	2.3	1.0	**J, B**
67-64-1	Acetone	**9.0**	11	5.8	2.6	**J**
75-69-4	Trichlorofluoromethane	**9.5**	0.48	0.29	0.074	
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.51**	4.4	1.3	0.46	**J**
75-09-2	Methylene Chloride	0.47	0.78	0.47	0.22	**U**
76-13-1	Trichlorotrifluoroethane	**5.7**	0.36	0.11	0.051	
75-15-0	Carbon Disulfide	**1.7**	1.8	0.89	0.26	**J**
75-34-3	1,1-Dichloroethane	0.42	0.70	0.42	0.099	**U**
78-93-3	2-Butanone (MEK)	**1.8**	1.9	0.56	0.19	**J**
141-78-6	Ethyl Acetate	0.92	1.6	0.92	0.40	**U**
110-54-3	n-Hexane	0.47	0.79	0.47	0.16	**U**
67-66-3	Chloroform	**0.44**	0.57	0.18	0.075	**J**
109-99-9	Tetrahydrofuran (THF)	**2.6**	0.96	0.30	0.12	
107-06-2	1,2-Dichloroethane	0.22	0.68	0.22	0.075	**U**
71-43-2	Benzene	0.27	0.85	0.27	0.12	**U**
56-23-5	Carbon Tetrachloride	**3.8**	0.43	0.14	0.060	

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV131-150-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-016

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan/Topacio De Leon Date Analyzed: 5/5 - 5/6/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00728

Initial Pressure (psig): -4.47 Final Pressure (psig): 6.31

Container Dilution Factor: 2.05

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.51	1.6	0.51	0.22	**U**
75-27-4	Bromodichloromethane	0.13	0.41	0.13	0.059	**U**
79-01-6	Trichloroethene	**0.085**	0.52	0.16	0.069	**J**
123-91-1	1,4-Dioxane	0.24	0.77	0.24	0.090	**U**
142-82-5	n-Heptane	0.40	0.68	0.40	0.11	**U**
108-10-1	4-Methyl-2-pentanone	0.21	0.66	0.21	0.091	**U**
108-88-3	Toluene	**0.37**	0.73	0.23	0.088	**J**
591-78-6	2-Hexanone	**0.38**	0.68	0.21	0.083	**J**
124-48-1	Dibromochloromethane	0.10	0.32	0.10	0.042	**U**
106-93-4	1,2-Dibromoethane	**0.74**	0.36	0.11	0.041	
127-18-4	Tetrachloroethene	**0.061**	0.39	0.13	0.052	**J**
100-41-4	Ethylbenzene	0.20	0.64	0.20	0.089	**U**
179601-23-1	m,p-Xylenes	**0.20**	1.3	0.40	0.17	**J**
75-25-2	Bromoform	0.16	0.27	0.16	0.055	**U**
100-42-5	Styrene	0.39	0.64	0.39	0.10	**U**
95-47-6	o-Xylene	**0.10**	0.64	0.20	0.091	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.097**	0.55	0.18	0.080	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.13**	0.56	0.18	0.077	**J**
120-82-1	1,2,4-Trichlorobenzene	0.22	0.37	0.22	0.090	**U**
91-20-3	Naphthalene	0.30	0.51	0.30	0.13	**U**
1330-20-7	Xylenes, Total	**0.31**	1.3	0.40	0.17	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV131-245-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-017

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon/Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00232

Initial Pressure (psig): -3.02 Final Pressure (psig): 5.99

Container Dilution Factor: 1.77

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.95**	1.4	0.82	0.33	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**83**	4.7	2.9	0.78	**D**
74-87-3	Chloromethane	**1.3**	1.1	0.69	0.18	
75-01-4	Vinyl Chloride	0.29	0.94	0.29	0.099	**U**
106-99-0	1,3-Butadiene	0.64	1.1	0.64	0.18	**U**
75-00-3	Chloroethane	**0.22**	0.91	0.54	0.11	**J**
64-17-5	Ethanol	**4.5**	12	1.9	0.87	**J, B**
67-64-1	Acetone	**20**	9.9	5.0	2.2	
75-69-4	Trichlorofluoromethane	**9.6**	0.42	0.25	0.064	
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.48**	3.8	1.1	0.40	**J**
75-09-2	Methylene Chloride	0.41	0.68	0.41	0.19	**U**
76-13-1	Trichlorotrifluoroethane	**3.5**	0.31	0.098	0.044	
75-15-0	Carbon Disulfide	**2.6**	1.6	0.77	0.23	
75-34-3	1,1-Dichloroethane	0.36	0.60	0.36	0.085	**U**
78-93-3	2-Butanone (MEK)	**3.0**	1.7	0.48	0.17	
141-78-6	Ethyl Acetate	0.80	1.4	0.80	0.34	**U**
110-54-3	n-Hexane	0.40	0.68	0.40	0.14	**U**
67-66-3	Chloroform	**1.1**	0.49	0.15	0.064	
109-99-9	Tetrahydrofuran (THF)	**21**	0.83	0.26	0.10	
107-06-2	1,2-Dichloroethane	0.19	0.59	0.19	0.065	**U**
71-43-2	Benzene	**0.37**	0.73	0.24	0.11	**J**
56-23-5	Carbon Tetrachloride	**4.3**	0.37	0.12	0.052	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV131-245-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-017

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon/Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00232

Initial Pressure (psig): -3.02 Final Pressure (psig): 5.99

Container Dilution Factor: 1.77

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.44	1.4	0.44	0.19	**U**
75-27-4	Bromodichloromethane	0.11	0.36	0.11	0.051	**U**
79-01-6	Trichloroethene	**0.072**	0.44	0.14	0.059	**J**
123-91-1	1,4-Dioxane	**0.085**	0.66	0.21	0.077	**J**
142-82-5	n-Heptane	0.35	0.58	0.35	0.092	**U**
108-10-1	4-Methyl-2-pentanone	**0.21**	0.57	0.18	0.079	**J**
108-88-3	Toluene	**0.41**	0.63	0.20	0.076	**J**
591-78-6	2-Hexanone	**0.28**	0.58	0.18	0.071	**J**
124-48-1	Dibromochloromethane	0.088	0.28	0.088	0.036	**U**
106-93-4	1,2-Dibromoethane	0.098	0.31	0.098	0.036	**U**
127-18-4	Tetrachloroethene	**0.071**	0.34	0.11	0.045	**J**
100-41-4	Ethylbenzene	0.17	0.55	0.17	0.076	**U**
179601-23-1	m,p-Xylenes	**0.25**	1.1	0.35	0.14	**J**
75-25-2	Bromoform	0.14	0.23	0.14	0.047	**U**
100-42-5	Styrene	0.33	0.55	0.33	0.089	**U**
95-47-6	o-Xylene	**0.14**	0.55	0.17	0.078	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.27**	0.48	0.15	0.069	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.42**	0.49	0.15	0.067	**J**
120-82-1	1,2,4-Trichlorobenzene	0.19	0.32	0.19	0.078	**U**
91-20-3	Naphthalene	0.26	0.44	0.26	0.11	**U**
1330-20-7	Xylenes, Total	**0.39**	1.1	0.35	0.14	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV131-350-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-018

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon/Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.025 Liter(s)
Container ID: 1SS01052

Initial Pressure (psig): -3.30 Final Pressure (psig): 5.72

Container Dilution Factor: 1.79

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**3.5**	1.4	0.83	0.34	
75-71-8	Dichlorodifluoromethane (CFC 12)	**1,000**	7.7	4.6	1.3	**D**
74-87-3	Chloromethane	0.69	1.1	0.69	0.19	**U**
75-01-4	Vinyl Chloride	0.30	0.95	0.30	0.10	**U**
106-99-0	1,3-Butadiene	0.65	1.1	0.65	0.18	**U**
75-00-3	Chloroethane	0.54	0.92	0.54	0.11	**U**
64-17-5	Ethanol	**1.2**	12	2.0	0.88	**J, B**
67-64-1	Acetone	**5.1**	10	5.1	2.3	**J**
75-69-4	Trichlorofluoromethane	**130**	6.8	4.1	1.0	**D**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.1	3.8	1.1	0.40	**U**
75-09-2	Methylene Chloride	0.41	0.68	0.41	0.19	**U**
76-13-1	Trichlorotrifluoroethane	**55**	0.32	0.099	0.044	
75-15-0	Carbon Disulfide	**4.7**	1.6	0.78	0.23	
75-34-3	1,1-Dichloroethane	0.37	0.61	0.37	0.086	**U**
78-93-3	2-Butanone (MEK)	**0.38**	1.7	0.49	0.17	**J**
141-78-6	Ethyl Acetate	0.81	1.4	0.81	0.35	**U**
110-54-3	n-Hexane	**0.18**	0.69	0.41	0.14	**J**
67-66-3	Chloroform	**0.23**	0.50	0.16	0.065	**J**
109-99-9	Tetrahydrofuran (THF)	**1.4**	0.83	0.26	0.10	
107-06-2	1,2-Dichloroethane	0.19	0.60	0.19	0.065	**U**
71-43-2	Benzene	**0.43**	0.74	0.24	0.11	**J**
56-23-5	Carbon Tetrachloride	**2.0**	0.38	0.12	0.053	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV131-350-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-018

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon/Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.025 Liter(s)
Container ID: 1SS01052

Initial Pressure (psig): -3.30 Final Pressure (psig): 5.72

Container Dilution Factor: 1.79

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.44	1.4	0.44	0.20	**U**
75-27-4	Bromodichloromethane	0.11	0.36	0.11	0.051	**U**
79-01-6	Trichloroethene	**0.089**	0.45	0.14	0.060	**J**
123-91-1	1,4-Dioxane	**0.23**	0.67	0.21	0.078	**J**
142-82-5	n-Heptane	**0.29**	0.59	0.35	0.093	**J**
108-10-1	4-Methyl-2-pentanone	0.19	0.58	0.19	0.080	**U**
108-88-3	Toluene	**1.4**	0.64	0.20	0.077	
591-78-6	2-Hexanone	**0.082**	0.59	0.19	0.072	**J**
124-48-1	Dibromochloromethane	0.089	0.28	0.089	0.037	**U**
106-93-4	1,2-Dibromoethane	0.099	0.31	0.099	0.036	**U**
127-18-4	Tetrachloroethene	**2.5**	0.34	0.11	0.046	
100-41-4	Ethylbenzene	**0.12**	0.56	0.18	0.077	**J**
179601-23-1	m,p-Xylenes	**0.52**	1.1	0.35	0.14	**J**
75-25-2	Bromoform	0.14	0.23	0.14	0.048	**U**
100-42-5	Styrene	0.34	0.56	0.34	0.090	**U**
95-47-6	o-Xylene	**0.23**	0.56	0.18	0.079	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.24**	0.48	0.15	0.070	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.37**	0.49	0.15	0.067	**J**
120-82-1	1,2,4-Trichlorobenzene	0.19	0.33	0.19	0.078	**U**
91-20-3	Naphthalene	0.26	0.44	0.26	0.11	**U**
1330-20-7	Xylenes, Total	**0.75**	1.1	0.35	0.14	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV131-450-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-019

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0030 Liter(s)
Test Notes:
Container ID: 1SS00831

Initial Pressure (psig): -4.47 Final Pressure (psig): 5.63

Container Dilution Factor: 1.99

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**73**	200	120	50	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**1,500**	71	43	12	
74-87-3	Chloromethane	100	170	100	28	**U**
75-01-4	Vinyl Chloride	44	140	44	15	**U**
106-99-0	1,3-Butadiene	96	160	96	26	**U**
75-00-3	Chloroethane	80	140	80	17	**U**
64-17-5	Ethanol	290	1,800	290	130	**U**
67-64-1	Acetone	750	1,500	750	340	**U**
75-69-4	Trichlorofluoromethane	**200**	63	38	9.6	
67-63-0	2-Propanol (Isopropyl Alcohol)	170	570	170	59	**U**
75-09-2	Methylene Chloride	61	100	61	29	**U**
76-13-1	Trichlorotrifluoroethane	**49**	47	15	6.6	
75-15-0	Carbon Disulfide	**100**	230	120	34	**J**
75-34-3	1,1-Dichloroethane	54	90	54	13	**U**
78-93-3	2-Butanone (MEK)	72	250	72	25	**U**
141-78-6	Ethyl Acetate	120	200	120	52	**U**
110-54-3	n-Hexane	**180**	100	60	21	
67-66-3	Chloroform	23	73	23	9.6	**U**
109-99-9	Tetrahydrofuran (THF)	**28**	120	38	15	**J**
107-06-2	1,2-Dichloroethane	28	89	28	9.7	**U**
71-43-2	Benzene	**1,300**	110	35	16	
56-23-5	Carbon Tetrachloride	18	56	18	7.8	**U**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV131-450-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-019

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0030 Liter(s)
Test Notes:
Container ID: 1SS00831

Initial Pressure (psig): -4.47 Final Pressure (psig): 5.63

Container Dilution Factor: 1.99

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**450**	210	66	29	
75-27-4	Bromodichloromethane	17	53	17	7.6	**U**
79-01-6	Trichloroethene	21	67	21	8.9	**U**
123-91-1	1,4-Dioxane	31	99	31	12	**U**
142-82-5	n-Heptane	**240**	87	52	14	
108-10-1	4-Methyl-2-pentanone	28	86	28	12	**U**
108-88-3	Toluene	**920**	95	30	11	
591-78-6	2-Hexanone	28	87	28	11	**U**
124-48-1	Dibromochloromethane	13	42	13	5.5	**U**
106-93-4	1,2-Dibromoethane	15	47	15	5.4	**U**
127-18-4	Tetrachloroethene	17	51	17	6.8	**U**
100-41-4	Ethylbenzene	**33**	83	26	11	**J**
179601-23-1	m,p-Xylenes	**74**	170	52	21	**J**
75-25-2	Bromoform	21	35	21	7.1	**U**
100-42-5	Styrene	50	83	50	13	**U**
95-47-6	o-Xylene	**37**	83	26	12	**J**
108-67-8	1,3,5-Trimethylbenzene	**20**	72	23	10	**J**
95-63-6	1,2,4-Trimethylbenzene	23	73	23	10	**U**
120-82-1	1,2,4-Trichlorobenzene	29	48	29	12	**U**
91-20-3	Naphthalene	39	66	39	16	**U**
1330-20-7	Xylenes, Total	**110**	170	52	21	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV132-025-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-020

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon/Wida Ang Date Analyzed: 5/5 - 5/6/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.020 Liter(s)
Container ID: 1SS00587

Initial Pressure (psig): -3.20 Final Pressure (psig): 5.51

Container Dilution Factor: 1.76

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.39**	1.4	0.82	0.33	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.89**	0.47	0.28	0.077	
74-87-3	Chloromethane	0.68	1.1	0.68	0.18	**U**
75-01-4	Vinyl Chloride	0.29	0.93	0.29	0.098	**U**
106-99-0	1,3-Butadiene	0.64	1.1	0.64	0.18	**U**
75-00-3	Chloroethane	0.53	0.90	0.53	0.11	**U**
64-17-5	Ethanol	**3.5**	12	1.9	0.86	**J, B**
67-64-1	Acetone	**4.9**	9.8	5.0	2.2	**J**
75-69-4	Trichlorofluoromethane	**0.30**	0.42	0.25	0.063	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.66**	3.8	1.1	0.39	**J**
75-09-2	Methylene Chloride	0.41	0.67	0.41	0.19	**U**
76-13-1	Trichlorotrifluoroethane	**2.0**	0.31	0.098	0.044	
75-15-0	Carbon Disulfide	**1.8**	1.6	0.76	0.23	
75-34-3	1,1-Dichloroethane	0.36	0.60	0.36	0.085	**U**
78-93-3	2-Butanone (MEK)	**2.2**	1.6	0.48	0.16	
141-78-6	Ethyl Acetate	0.79	1.3	0.79	0.34	**U**
110-54-3	n-Hexane	0.40	0.67	0.40	0.14	**U**
67-66-3	Chloroform	**1.9**	0.49	0.15	0.064	
109-99-9	Tetrahydrofuran (THF)	**0.19**	0.82	0.25	0.10	**J**
107-06-2	1,2-Dichloroethane	0.18	0.59	0.18	0.064	**U**
71-43-2	Benzene	**0.17**	0.73	0.23	0.11	**J**
56-23-5	Carbon Tetrachloride	**1.2**	0.37	0.12	0.052	

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV132-025-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-020

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon/Wida Ang Date Analyzed: 5/5 - 5/6/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.020 Liter(s)
Container ID: 1SS00587

Initial Pressure (psig): -3.20 Final Pressure (psig): 5.51

Container Dilution Factor: 1.76

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.43	1.4	0.43	0.19	**U**
75-27-4	Bromodichloromethane	0.11	0.35	0.11	0.051	**U**
79-01-6	Trichloroethene	**780**	8.8	2.8	1.2	**D**
123-91-1	1,4-Dioxane	0.21	0.66	0.21	0.077	**U**
142-82-5	n-Heptane	**0.14**	0.58	0.34	0.091	**J**
108-10-1	4-Methyl-2-pentanone	**0.12**	0.57	0.18	0.078	**J**
108-88-3	Toluene	**1.2**	0.63	0.20	0.076	
591-78-6	2-Hexanone	**0.43**	0.58	0.18	0.071	**J**
124-48-1	Dibromochloromethane	0.088	0.28	0.088	0.036	**U**
106-93-4	1,2-Dibromoethane	0.097	0.31	0.097	0.036	**U**
127-18-4	Tetrachloroethene	**2.9**	0.34	0.11	0.045	
100-41-4	Ethylbenzene	**0.36**	0.55	0.17	0.076	**J**
179601-23-1	m,p-Xylenes	**2.1**	1.1	0.34	0.14	
75-25-2	Bromoform	0.14	0.23	0.14	0.047	**U**
100-42-5	Styrene	0.33	0.55	0.33	0.089	**U**
95-47-6	o-Xylene	**1.0**	0.55	0.17	0.078	
108-67-8	1,3,5-Trimethylbenzene	**0.87**	0.47	0.15	0.069	
95-63-6	1,2,4-Trimethylbenzene	**4.3**	0.48	0.15	0.066	
120-82-1	1,2,4-Trichlorobenzene	0.19	0.32	0.19	0.077	**U**
91-20-3	Naphthalene	**1.5**	0.44	0.26	0.11	
1330-20-7	Xylenes, Total	**3.1**	1.1	0.34	0.14	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200504-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.19	0.31	0.19	0.076	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.065	0.11	0.065	0.018	**U**
74-87-3	Chloromethane	0.16	0.26	0.16	0.042	**U**
75-01-4	Vinyl Chloride	0.067	0.21	0.067	0.022	**U**
106-99-0	1,3-Butadiene	0.14	0.24	0.14	0.040	**U**
75-00-3	Chloroethane	0.12	0.20	0.12	0.025	**U**
64-17-5	Ethanol	**0.22**	2.8	0.44	0.20	**J**
67-64-1	Acetone	1.1	2.2	1.1	0.51	**U**
75-69-4	Trichlorofluoromethane	0.057	0.094	0.057	0.014	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.26	0.85	0.26	0.090	**U**
75-09-2	Methylene Chloride	0.092	0.15	0.092	0.043	**U**
76-13-1	Trichlorotrifluoroethane	0.022	0.070	0.022	0.0099	**U**
75-15-0	Carbon Disulfide	0.17	0.35	0.17	0.051	**U**
75-34-3	1,1-Dichloroethane	0.082	0.14	0.082	0.019	**U**
78-93-3	2-Butanone (MEK)	0.11	0.37	0.11	0.037	**U**
141-78-6	Ethyl Acetate	0.18	0.31	0.18	0.078	**U**
110-54-3	n-Hexane	0.091	0.15	0.091	0.031	**U**
67-66-3	Chloroform	0.035	0.11	0.035	0.015	**U**
109-99-9	Tetrahydrofuran (THF)	0.058	0.19	0.058	0.023	**U**
107-06-2	1,2-Dichloroethane	0.042	0.13	0.042	0.015	**U**
71-43-2	Benzene	0.053	0.17	0.053	0.024	**U**
56-23-5	Carbon Tetrachloride	0.027	0.084	0.027	0.012	**U**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200504-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.099	0.32	0.099	0.044	**U**
75-27-4	Bromodichloromethane	0.025	0.081	0.025	0.011	**U**
79-01-6	Trichloroethene	0.032	0.10	0.032	0.013	**U**
123-91-1	1,4-Dioxane	0.047	0.15	0.047	0.017	**U**
142-82-5	n-Heptane	0.078	0.13	0.078	0.021	**U**
108-10-1	4-Methyl-2-pentanone	0.041	0.13	0.041	0.018	**U**
108-88-3	Toluene	0.045	0.14	0.045	0.017	**U**
591-78-6	2-Hexanone	0.042	0.13	0.042	0.016	**U**
124-48-1	Dibromochloromethane	0.020	0.063	0.020	0.0082	**U**
106-93-4	1,2-Dibromoethane	0.022	0.070	0.022	0.0081	**U**
127-18-4	Tetrachloroethene	0.025	0.077	0.025	0.010	**U**
100-41-4	Ethylbenzene	0.039	0.12	0.039	0.017	**U**
179601-23-1	m,p-Xylenes	0.078	0.25	0.078	0.032	**U**
75-25-2	Bromoform	0.031	0.052	0.031	0.011	**U**
100-42-5	Styrene	0.075	0.12	0.075	0.020	**U**
95-47-6	o-Xylene	0.039	0.12	0.039	0.018	**U**
108-67-8	1,3,5-Trimethylbenzene	0.035	0.11	0.035	0.016	**U**
95-63-6	1,2,4-Trimethylbenzene	0.035	0.11	0.035	0.015	**U**
120-82-1	1,2,4-Trichlorobenzene	0.043	0.073	0.043	0.018	**U**
91-20-3	Naphthalene	0.059	0.099	0.059	0.025	**U**
1330-20-7	Xylenes, Total	0.078	0.25	0.078	0.032	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200505-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.19	0.31	0.19	0.076	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.065	0.11	0.065	0.018	**U**
74-87-3	Chloromethane	0.16	0.26	0.16	0.042	**U**
75-01-4	Vinyl Chloride	0.067	0.21	0.067	0.022	**U**
106-99-0	1,3-Butadiene	0.14	0.24	0.14	0.040	**U**
75-00-3	Chloroethane	0.12	0.20	0.12	0.025	**U**
64-17-5	Ethanol	**0.22**	2.8	0.44	0.20	**J**
67-64-1	Acetone	1.1	2.2	1.1	0.51	**U**
75-69-4	Trichlorofluoromethane	0.057	0.094	0.057	0.014	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.26	0.85	0.26	0.090	**U**
75-09-2	Methylene Chloride	0.092	0.15	0.092	0.043	**U**
76-13-1	Trichlorotrifluoroethane	0.022	0.070	0.022	0.0099	**U**
75-15-0	Carbon Disulfide	0.17	0.35	0.17	0.051	**U**
75-34-3	1,1-Dichloroethane	0.082	0.14	0.082	0.019	**U**
78-93-3	2-Butanone (MEK)	0.11	0.37	0.11	0.037	**U**
141-78-6	Ethyl Acetate	0.18	0.31	0.18	0.078	**U**
110-54-3	n-Hexane	0.091	0.15	0.091	0.031	**U**
67-66-3	Chloroform	0.035	0.11	0.035	0.015	**U**
109-99-9	Tetrahydrofuran (THF)	0.058	0.19	0.058	0.023	**U**
107-06-2	1,2-Dichloroethane	0.042	0.13	0.042	0.015	**U**
71-43-2	Benzene	0.053	0.17	0.053	0.024	**U**
56-23-5	Carbon Tetrachloride	0.027	0.084	0.027	0.012	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200505-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.099	0.32	0.099	0.044	**U**
75-27-4	Bromodichloromethane	0.025	0.081	0.025	0.011	**U**
79-01-6	Trichloroethene	0.032	0.10	0.032	0.013	**U**
123-91-1	1,4-Dioxane	0.047	0.15	0.047	0.017	**U**
142-82-5	n-Heptane	0.078	0.13	0.078	0.021	**U**
108-10-1	4-Methyl-2-pentanone	0.041	0.13	0.041	0.018	**U**
108-88-3	Toluene	0.045	0.14	0.045	0.017	**U**
591-78-6	2-Hexanone	0.042	0.13	0.042	0.016	**U**
124-48-1	Dibromochloromethane	0.020	0.063	0.020	0.0082	**U**
106-93-4	1,2-Dibromoethane	0.022	0.070	0.022	0.0081	**U**
127-18-4	Tetrachloroethene	0.025	0.077	0.025	0.010	**U**
100-41-4	Ethylbenzene	0.039	0.12	0.039	0.017	**U**
179601-23-1	m,p-Xylenes	0.078	0.25	0.078	0.032	**U**
75-25-2	Bromoform	0.031	0.052	0.031	0.011	**U**
100-42-5	Styrene	0.075	0.12	0.075	0.020	**U**
95-47-6	o-Xylene	0.039	0.12	0.039	0.018	**U**
108-67-8	1,3,5-Trimethylbenzene	0.035	0.11	0.035	0.016	**U**
95-63-6	1,2,4-Trimethylbenzene	0.035	0.11	0.035	0.015	**U**
120-82-1	1,2,4-Trichlorobenzene	0.043	0.073	0.043	0.018	**U**
91-20-3	Naphthalene	0.059	0.099	0.059	0.025	**U**
1330-20-7	Xylenes, Total	0.078	0.25	0.078	0.032	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200506-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 5/6/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.19	0.31	0.19	0.076	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.065	0.11	0.065	0.018	**U**
74-87-3	Chloromethane	0.16	0.26	0.16	0.042	**U**
75-01-4	Vinyl Chloride	0.067	0.21	0.067	0.022	**U**
106-99-0	1,3-Butadiene	0.14	0.24	0.14	0.040	**U**
75-00-3	Chloroethane	0.12	0.20	0.12	0.025	**U**
64-17-5	Ethanol	**0.21**	2.8	0.44	0.20	**J**
67-64-1	Acetone	1.1	2.2	1.1	0.51	**U**
75-69-4	Trichlorofluoromethane	0.057	0.094	0.057	0.014	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.26	0.85	0.26	0.090	**U**
75-09-2	Methylene Chloride	0.092	0.15	0.092	0.043	**U**
76-13-1	Trichlorotrifluoroethane	0.022	0.070	0.022	0.0099	**U**
75-15-0	Carbon Disulfide	0.17	0.35	0.17	0.051	**U**
75-34-3	1,1-Dichloroethane	0.082	0.14	0.082	0.019	**U**
78-93-3	2-Butanone (MEK)	0.11	0.37	0.11	0.037	**U**
141-78-6	Ethyl Acetate	0.18	0.31	0.18	0.078	**U**
110-54-3	n-Hexane	0.091	0.15	0.091	0.031	**U**
67-66-3	Chloroform	0.035	0.11	0.035	0.015	**U**
109-99-9	Tetrahydrofuran (THF)	0.058	0.19	0.058	0.023	**U**
107-06-2	1,2-Dichloroethane	0.042	0.13	0.042	0.015	**U**
71-43-2	Benzene	0.053	0.17	0.053	0.024	**U**
56-23-5	Carbon Tetrachloride	0.027	0.084	0.027	0.012	**U**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200506-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 5/6/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.099	0.32	0.099	0.044	**U**
75-27-4	Bromodichloromethane	0.025	0.081	0.025	0.011	**U**
79-01-6	Trichloroethene	0.032	0.10	0.032	0.013	**U**
123-91-1	1,4-Dioxane	0.047	0.15	0.047	0.017	**U**
142-82-5	n-Heptane	0.078	0.13	0.078	0.021	**U**
108-10-1	4-Methyl-2-pentanone	0.041	0.13	0.041	0.018	**U**
108-88-3	Toluene	0.045	0.14	0.045	0.017	**U**
591-78-6	2-Hexanone	0.042	0.13	0.042	0.016	**U**
124-48-1	Dibromochloromethane	0.020	0.063	0.020	0.0082	**U**
106-93-4	1,2-Dibromoethane	0.022	0.070	0.022	0.0081	**U**
127-18-4	Tetrachloroethene	0.025	0.077	0.025	0.010	**U**
100-41-4	Ethylbenzene	0.039	0.12	0.039	0.017	**U**
179601-23-1	m,p-Xylenes	0.078	0.25	0.078	0.032	**U**
75-25-2	Bromoform	0.031	0.052	0.031	0.011	**U**
100-42-5	Styrene	0.075	0.12	0.075	0.020	**U**
95-47-6	o-Xylene	0.039	0.12	0.039	0.018	**U**
108-67-8	1,3,5-Trimethylbenzene	0.035	0.11	0.035	0.016	**U**
95-63-6	1,2,4-Trimethylbenzene	0.035	0.11	0.035	0.015	**U**
120-82-1	1,2,4-Trichlorobenzene	0.043	0.073	0.043	0.018	**U**
91-20-3	Naphthalene	0.059	0.099	0.059	0.025	**U**
1330-20-7	Xylenes, Total	0.078	0.25	0.078	0.032	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Project ID: P2002105

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date(s) Collected: 4/14 - 4/15/20
Analyst: Lusine Hakobyan/Topacio De Leon/Wida Ang Date(s) Received: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister(s) / 1.0 L Summa Canister(s) Date(s) Analyzed: 5/4 - 5/6/20
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P200504-MB	**101**	**102**	**95**	70-130	
Method Blank	P200505-MB	**97**	**101**	**100**	70-130	
Method Blank	P200506-MB	**96**	**98**	**103**	70-130	
Lab Control Sample	P200504-LCS	**95**	**101**	**106**	70-130	
Lab Control Sample	P200505-LCS	**92**	**100**	**109**	70-130	
Lab Control Sample	P200506-LCS	**92**	**98**	**112**	70-130	
Duplicate Lab Control Sample	P200504-DLCS	**95**	**100**	**106**	70-130	
Duplicate Lab Control Sample	P200505-DLCS	**92**	**102**	**109**	70-130	
Duplicate Lab Control Sample	P200506-DLCS	**92**	**98**	**111**	70-130	
SV121-450-202	P2002105-001	**97**	**104**	**99**	70-130	
SV122-025-202	P2002105-002	**100**	**100**	**96**	70-130	
SV122-050-202	P2002105-003	**100**	**99**	**96**	70-130	
SV122-150-202	P2002105-004	**100**	**100**	**96**	70-130	
SV122-250-202	P2002105-005	**99**	**98**	**97**	70-130	
SV122-350-202	P2002105-006	**99**	**99**	**96**	70-130	
SV122-450-202	P2002105-007	**99**	**104**	**96**	70-130	
SV122-450-202	P2002105-007DUP	**100**	**103**	**95**	70-130	
SV123-025-202	P2002105-008	**100**	**99**	**97**	70-130	
SV123-050-202	P2002105-009	**99**	**98**	**96**	70-130	
SV123-150-202	P2002105-010	**102**	**98**	**95**	70-130	
SV123-250-202	P2002105-011	**102**	**95**	**98**	70-130	
SV123-350-202	P2002105-012	**101**	**97**	**94**	70-130	
SV123-450-202	P2002105-013	**101**	**97**	**95**	70-130	
SV131-025-202	P2002105-014	**109**	**98**	**108**	70-130	
SV131-055-202	P2002105-015	**93**	**99**	**108**	70-130	
SV131-150-202	P2002105-016	**94**	**98**	**108**	70-130	
SV131-245-202	P2002105-017	**94**	**99**	**106**	70-130	
SV131-350-202	P2002105-018	**93**	**99**	**107**	70-130	
SV131-450-202	P2002105-019	**101**	**107**	**103**	70-130	
SV132-025-202	P2002105-020	**94**	**99**	**108**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200504-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	122	123	124	**101**	**102**	57-136	1	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	42.5	39.9	40.7	**94**	**96**	59-128	2	25	
74-87-3	Chloromethane	103	91.7	95.7	**89**	**93**	59-132	4	25	
75-01-4	Vinyl Chloride	83.0	76.6	78.6	**92**	**95**	64-127	3	25	
106-99-0	1,3-Butadiene	95.9	91.6	91.8	**96**	**96**	66-134	0	25	
75-00-3	Chloroethane	81.1	74.2	76.5	**91**	**94**	63-127	3	25	
64-17-5	Ethanol	563	520	525	**92**	**93**	59-125	1	25	
67-64-1	Acetone	450	429	435	**95**	**97**	58-128	2	25	
75-69-4	Trichlorofluoromethane	37.7	35.4	35.7	**94**	**95**	62-126	1	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	172	168	169	**98**	**98**	52-125	0	25	
75-09-2	Methylene Chloride	60.5	56.5	56.9	**93**	**94**	62-115	1	25	
76-13-1	Trichlorotrifluoroethane	28.2	27.5	27.6	**98**	**98**	66-126	0	25	
75-15-0	Carbon Disulfide	68.1	65.2	64.1	**96**	**94**	57-134	2	25	
75-34-3	1,1-Dichloroethane	52.4	48.5	49.6	**93**	**95**	68-126	2	25	
78-93-3	2-Butanone (MEK)	71.9	68.2	68.7	**95**	**96**	67-130	1	25	
141-78-6	Ethyl Acetate	120	127	126	**106**	**105**	65-128	0.9	25	
110-54-3	n-Hexane	61.3	61.5	61.5	**100**	**100**	63-120	0	25	
67-66-3	Chloroform	43.8	41.7	41.8	**95**	**95**	68-123	0	25	
109-99-9	Tetrahydrofuran (THF)	74.6	68.9	68.9	**92**	**92**	64-123	0	25	
107-06-2	1,2-Dichloroethane	52.9	48.8	48.8	**92**	**92**	65-128	0	25	
71-43-2	Benzene	65.8	62.8	63.2	**95**	**96**	69-119	1	25	
56-23-5	Carbon Tetrachloride	33.1	32.7	32.8	**99**	**99**	68-132	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200504-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	123	123	124	**100**	**101**	70-117	1	25	
75-27-4	Bromodichloromethane	32.6	32.1	31.8	**98**	**98**	72-128	0	25	
79-01-6	Trichloroethene	40.2	39.5	39.4	**98**	**98**	71-123	0	25	
123-91-1	1,4-Dioxane	60.0	60.2	59.9	**100**	**100**	71-122	0	25	
142-82-5	n-Heptane	52.2	49.8	50.5	**95**	**97**	69-123	2	25	
108-10-1	4-Methyl-2-pentanone	51.8	52.8	53.2	**102**	**103**	67-130	1	25	
108-88-3	Toluene	56.3	56.9	56.4	**101**	**100**	66-119	1	25	
591-78-6	2-Hexanone	52.7	56.7	56.6	**108**	**107**	62-128	0.9	25	
124-48-1	Dibromochloromethane	25.1	27.2	27.1	**108**	**108**	70-130	0	25	
106-93-4	1,2-Dibromoethane	27.9	28.9	29.0	**104**	**104**	74-122	0	25	
127-18-4	Tetrachloroethene	30.7	32.5	32.3	**106**	**105**	66-124	0.9	25	
100-41-4	Ethylbenzene	48.8	52.2	51.8	**107**	**106**	70-124	0.9	25	
179601-23-1	m,p-Xylenes	98.1	106	106	**108**	**108**	61-134	0	25	
75-25-2	Bromoform	20.7	22.7	22.5	**110**	**109**	66-139	0.9	25	
100-42-5	Styrene	49.8	56.1	55.9	**113**	**112**	73-127	0.9	25	
95-47-6	o-Xylene	49.3	52.2	51.9	**106**	**105**	67-125	0.9	25	
108-67-8	1,3,5-Trimethylbenzene	43.1	47.8	47.4	**111**	**110**	67-130	0.9	25	
95-63-6	1,2,4-Trimethylbenzene	43.1	53.2	52.6	**123**	**122**	66-132	0.8	25	
120-82-1	1,2,4-Trichlorobenzene	29.1	33.8	33.6	**116**	**115**	55-142	0.9	25	
91-20-3	Naphthalene	40.5	51.7	51.1	**128**	**126**	57-138	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200505-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	122	117	116	**96**	**95**	57-136	1	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	42.5	38.7	38.9	**91**	**92**	59-128	1	25	
74-87-3	Chloromethane	103	88.3	89.4	**86**	**87**	59-132	1	25	
75-01-4	Vinyl Chloride	83.0	74.5	73.2	**90**	**88**	64-127	2	25	
106-99-0	1,3-Butadiene	95.9	85.8	86.3	**89**	**90**	66-134	1	25	
75-00-3	Chloroethane	81.1	71.2	72.8	**88**	**90**	63-127	2	25	
64-17-5	Ethanol	563	491	500	**87**	**89**	59-125	2	25	
67-64-1	Acetone	450	411	415	**91**	**92**	58-128	1	25	
75-69-4	Trichlorofluoromethane	37.7	34.2	34.1	**91**	**90**	62-126	1	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	172	159	162	**92**	**94**	52-125	2	25	
75-09-2	Methylene Chloride	60.5	54.8	54.7	**91**	**90**	62-115	1	25	
76-13-1	Trichlorotrifluoroethane	28.2	27.3	27.3	**97**	**97**	66-126	0	25	
75-15-0	Carbon Disulfide	68.1	62.2	62.0	**91**	**91**	57-134	0	25	
75-34-3	1,1-Dichloroethane	52.4	47.1	46.6	**90**	**89**	68-126	1	25	
78-93-3	2-Butanone (MEK)	71.9	65.6	65.6	**91**	**91**	67-130	0	25	
141-78-6	Ethyl Acetate	120	121	120	**101**	**100**	65-128	1	25	
110-54-3	n-Hexane	61.3	58.7	58.5	**96**	**95**	63-120	1	25	
67-66-3	Chloroform	43.8	40.4	40.1	**92**	**92**	68-123	0	25	
109-99-9	Tetrahydrofuran (THF)	74.6	65.8	65.9	**88**	**88**	64-123	0	25	
107-06-2	1,2-Dichloroethane	52.9	46.8	46.4	**88**	**88**	65-128	0	25	
71-43-2	Benzene	65.8	61.3	61.5	**93**	**93**	69-119	0	25	
56-23-5	Carbon Tetrachloride	33.1	32.0	32.3	**97**	**98**	68-132	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200505-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	123	121	121	**98**	**98**	70-117	0	25	
75-27-4	Bromodichloromethane	32.6	31.0	31.3	**95**	**96**	72-128	1	25	
79-01-6	Trichloroethene	40.2	39.0	38.9	**97**	**97**	71-123	0	25	
123-91-1	1,4-Dioxane	60.0	58.3	58.5	**97**	**98**	71-122	1	25	
142-82-5	n-Heptane	52.2	48.7	48.8	**93**	**93**	69-123	0	25	
108-10-1	4-Methyl-2-pentanone	51.8	51.1	51.5	**99**	**99**	67-130	0	25	
108-88-3	Toluene	56.3	55.6	55.9	**99**	**99**	66-119	0	25	
591-78-6	2-Hexanone	52.7	54.4	55.1	**103**	**105**	62-128	2	25	
124-48-1	Dibromochloromethane	25.1	26.9	26.9	**107**	**107**	70-130	0	25	
106-93-4	1,2-Dibromoethane	27.9	28.7	28.7	**103**	**103**	74-122	0	25	
127-18-4	Tetrachloroethene	30.7	32.4	32.5	**106**	**106**	66-124	0	25	
100-41-4	Ethylbenzene	48.8	51.0	51.0	**105**	**105**	70-124	0	25	
179601-23-1	m,p-Xylenes	98.1	104	104	**106**	**106**	61-134	0	25	
75-25-2	Bromoform	20.7	22.5	22.6	**109**	**109**	66-139	0	25	
100-42-5	Styrene	49.8	54.8	55.1	**110**	**111**	73-127	0.9	25	
95-47-6	o-Xylene	49.3	50.9	51.0	**103**	**103**	67-125	0	25	
108-67-8	1,3,5-Trimethylbenzene	43.1	46.9	46.9	**109**	**109**	67-130	0	25	
95-63-6	1,2,4-Trimethylbenzene	43.1	52.1	52.0	**121**	**121**	66-132	0	25	
120-82-1	1,2,4-Trichlorobenzene	29.1	33.7	33.8	**116**	**116**	55-142	0	25	
91-20-3	Naphthalene	40.5	50.6	50.7	**125**	**125**	57-138	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200506-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 5/6/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	122	119	118	**98**	**97**	57-136	1	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	42.5	39.0	39.0	**92**	**92**	59-128	0	25	
74-87-3	Chloromethane	103	89.2	89.5	**87**	**87**	59-132	0	25	
75-01-4	Vinyl Chloride	83.0	74.4	72.7	**90**	**88**	64-127	2	25	
106-99-0	1,3-Butadiene	95.9	87.5	86.4	**91**	**90**	66-134	1	25	
75-00-3	Chloroethane	81.1	70.3	72.1	**87**	**89**	63-127	2	25	
64-17-5	Ethanol	563	494	495	**88**	**88**	59-125	0	25	
67-64-1	Acetone	450	413	411	**92**	**91**	58-128	1	25	
75-69-4	Trichlorofluoromethane	37.7	33.5	33.5	**89**	**89**	62-126	0	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	172	160	160	**93**	**93**	52-125	0	25	
75-09-2	Methylene Chloride	60.5	54.1	53.7	**89**	**89**	62-115	0	25	
76-13-1	Trichlorotrifluoroethane	28.2	26.7	26.6	**95**	**94**	66-126	1	25	
75-15-0	Carbon Disulfide	68.1	61.4	61.1	**90**	**90**	57-134	0	25	
75-34-3	1,1-Dichloroethane	52.4	46.6	46.4	**89**	**89**	68-126	0	25	
78-93-3	2-Butanone (MEK)	71.9	64.9	65.0	**90**	**90**	67-130	0	25	
141-78-6	Ethyl Acetate	120	120	119	**100**	**99**	65-128	1	25	
110-54-3	n-Hexane	61.3	58.0	57.3	**95**	**93**	63-120	2	25	
67-66-3	Chloroform	43.8	39.9	39.6	**91**	**90**	68-123	1	25	
109-99-9	Tetrahydrofuran (THF)	74.6	65.6	65.0	**88**	**87**	64-123	1	25	
107-06-2	1,2-Dichloroethane	52.9	46.1	45.9	**87**	**87**	65-128	0	25	
71-43-2	Benzene	65.8	61.5	61.0	**93**	**93**	69-119	0	25	
56-23-5	Carbon Tetrachloride	33.1	32.1	31.9	**97**	**96**	68-132	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200506-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 5/6/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	123	121	120	**98**	**98**	70-117	0	25	
75-27-4	Bromodichloromethane	32.6	31.1	30.7	**95**	**94**	72-128	1	25	
79-01-6	Trichloroethene	40.2	39.0	38.5	**97**	**96**	71-123	1	25	
123-91-1	1,4-Dioxane	60.0	58.8	58.0	**98**	**97**	71-122	1	25	
142-82-5	n-Heptane	52.2	48.7	48.5	**93**	**93**	69-123	0	25	
108-10-1	4-Methyl-2-pentanone	51.8	51.8	51.4	**100**	**99**	67-130	1	25	
108-88-3	Toluene	56.3	53.3	53.1	**95**	**94**	66-119	1	25	
591-78-6	2-Hexanone	52.7	52.9	53.0	**100**	**101**	62-128	1	25	
124-48-1	Dibromochloromethane	25.1	25.7	25.5	**102**	**102**	70-130	0	25	
106-93-4	1,2-Dibromoethane	27.9	27.4	27.4	**98**	**98**	74-122	0	25	
127-18-4	Tetrachloroethene	30.7	30.8	30.6	**100**	**100**	66-124	0	25	
100-41-4	Ethylbenzene	48.8	48.9	48.6	**100**	**100**	70-124	0	25	
179601-23-1	m,p-Xylenes	98.1	99.8	99.0	**102**	**101**	61-134	1	25	
75-25-2	Bromoform	20.7	21.4	21.3	**103**	**103**	66-139	0	25	
100-42-5	Styrene	49.8	52.6	52.2	**106**	**105**	73-127	0.9	25	
95-47-6	o-Xylene	49.3	49.0	48.5	**99**	**98**	67-125	1	25	
108-67-8	1,3,5-Trimethylbenzene	43.1	44.7	44.4	**104**	**103**	67-130	1	25	
95-63-6	1,2,4-Trimethylbenzene	43.1	50.0	49.4	**116**	**115**	66-132	0.9	25	
120-82-1	1,2,4-Trichlorobenzene	29.1	32.4	32.2	**111**	**111**	55-142	0	25	
91-20-3	Naphthalene	40.5	49.1	48.4	**121**	**120**	57-138	0.8	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV122-450-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-007DUP

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SS00747

Initial Pressure (psig): -3.21 Final Pressure (psig): 5.53

Container Dilution Factor: 1.76

Compound	Sample Result ppbV	Duplicate Sample Result ppbV	Average ppbV	% RPD	RPD Limit	Data Qualifier
Propene	ND	ND	-	-	25	
Dichlorodifluoromethane (CFC 12)	13	13	13	**0**	25	
Chloromethane	19	19	19	**0**	25	**J**
Vinyl Chloride	3.5	3.3	3.4	**6**	25	**J**
1,3-Butadiene	ND	ND	-	-	25	
Chloroethane	2.7	2.7	2.7	**0**	25	**J**
Ethanol	29	27	28	**7**	25	**J, B**
Acetone	ND	ND	-	-	25	
Trichlorofluoromethane	ND	ND	-	-	25	
2-Propanol (Isopropyl Alcohol)	ND	ND	-	-	25	
Methylene Chloride	ND	ND	-	-	25	
Trichlorotrifluoroethane	ND	ND	-	-	25	
Carbon Disulfide	67	66	66.5	**2**	25	
1,1-Dichloroethane	ND	ND	-	-	25	
2-Butanone (MEK)	24	23	23.5	**4**	25	**J**
Ethyl Acetate	25	24	24.5	**4**	25	**J**
n-Hexane	9.9	9.7	9.8	**2**	25	**J**
Chloroform	ND	ND	-	-	25	
Tetrahydrofuran (THF)	70	68	69	**3**	25	
1,2-Dichloroethane	ND	ND	-	-	25	
Benzene	47	47	47	**0**	25	
Carbon Tetrachloride	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV122-450-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-007DUP

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SS00747

Initial Pressure (psig): -3.21 Final Pressure (psig): 5.53

Container Dilution Factor: 1.76

Compound	Sample Result ppbV	**Duplicate Sample Result** ppbV	Average ppbV	**% RPD**	RPD Limit	**Data Qualifier**
Cyclohexane	16	15	15.5	**6**	25	**J**
Bromodichloromethane	ND	ND	-	-	25	
Trichloroethene	ND	ND	-	-	25	
1,4-Dioxane	ND	ND	-	-	25	
n-Heptane	ND	ND	-	-	25	
4-Methyl-2-pentanone	ND	ND	-	-	25	
Toluene	170	160	165	**6**	25	
2-Hexanone	ND	ND	-	-	25	
Dibromochloromethane	ND	ND	-	-	25	
1,2-Dibromoethane	ND	ND	-	-	25	
Tetrachloroethene	ND	ND	-	-	25	
Ethylbenzene	6.2	5.9	6.05	**5**	25	**J**
m,p-Xylenes	10	9.9	9.95	**1**	25	**J**
Bromoform	ND	ND	-	-	25	
Styrene	ND	ND	-	-	25	
o-Xylene	3.4	3.3	3.35	**3**	25	**J**
1,3,5-Trimethylbenzene	ND	ND	-	-	25	
1,2,4-Trimethylbenzene	ND	ND	-	-	25	
1,2,4-Trichlorobenzene	ND	ND	-	-	25	
Naphthalene	ND	ND	-	-	25	
Xylenes, Total	14	13	13.5	**7**	25	**J**

ND = Compound was analyzed for, but not detected.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Lab File ID: 05042002.D
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister(s) Time Analyzed: 06:20
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	284513		11.15	1207365		13.27		557091		17.59	
	Upper Limit	398318		11.48	1690311		13.60		779927		17.92	
	Lower Limit	170708		10.82	724419		12.94		334255		17.26	
	Client Sample ID											
01	Method Blank	248677		11.13	1093796		13.26		506331		17.58	
02	Lab Control Sample	275674		11.15	1187682		13.28		541004		17.59	
03	Duplicate Lab Control Sample	282890		11.16	1215518		13.28		556100		17.59	
04	SV131-450-202	252995		11.13	1112708		13.26		572428		17.58	
05	SV121-450-202	262730		11.14	1143241		13.27		541072		17.58	
06	SV122-025-202	253281		11.13	1097828		13.26		530816		17.58	
07	SV122-050-202	251118		11.14	1091203		13.26		530289		17.58	
08	SV122-150-202	255126		11.14	1118511		13.27		527234		17.58	
09	SV122-250-202	256444		11.14	1105153		13.27		537613		17.58	
10	SV122-350-202	267847		11.14	1165828		13.27		568652		17.58	
11	SV122-450-202	288890		11.14	1257126		13.27		598117		17.58	
12	SV122-450-202 (Lab Duplicate)	285055		11.13	1256268		13.27		599351		17.58	
13	SV123-025-202	250040		11.14	1087892		13.27		523484		17.58	
14	SV123-025-202 (Dilution)	270420		11.13	1190589		13.26		566415		17.58	
15	SV123-050-202	247061		11.15	1054297		13.27		518089		17.58	
16	SV123-050-202 (Dilution)	282285		11.13	1233062		13.26		607357		17.58	
17	SV123-150-202	248029		11.13	1085249		13.26		543289		17.58	
18	SV123-250-202	243531		11.13	1055690		13.26		537204		17.58	
19	SV123-350-202	247126		11.13	1068054		13.26		543013		17.58	
20	SV123-450-202	245020		11.13	1056299		13.27		533176		17.58	

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Lab File ID: 05042002.D
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister(s) Time Analyzed: 06:20
Test Notes:

		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	24 Hour Standard	284513	11.15	1207365	13.27	557091	17.59
	Upper Limit	398318	11.48	1690311	13.60	779927	17.92
	Lower Limit	170708	10.82	724419	12.94	334255	17.26
	Client Sample ID						
21	SV131-025-202	271908	11.15	1142174	13.28	567392	17.59
22	SV131-055-202	279922	11.14	1170349	13.27	555309	17.58
23	SV131-150-202	268957	11.13	1130372	13.26	547593	17.58
24	SV131-245-202	268872	11.14	1150234	13.27	551161	17.58
25	SV131-350-202	269379	11.13	1140900	13.26	544164	17.58
26	SV132-025-202	267653	11.13	1146237	13.28	539733	17.58
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: **EA Engineering, Science, and Technology, Inc.** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Lab File ID: 05052002.D
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister(s) Time Analyzed: 03:43
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	289532		11.15	1217379		13.28		564088		17.59	
	Upper Limit	405345		11.48	1704331		13.61		789723		17.92	
	Lower Limit	173719		10.82	730427		12.95		338453		17.26	
	Client Sample ID											
01	Method Blank	258335		11.13	1123652		13.26		524091		17.58	
02	Lab Control Sample	280171		11.15	1195033		13.28		544800		17.59	
03	Duplicate Lab Control Sample	287594		11.16	1213206		13.28		552360		17.58	
04	SV131-245-202 (Dilution)	298411		11.13	1299216		13.27		604869		17.58	
05	SV131-350-202 (Dilution)	286182		11.14	1238425		13.27		585368		17.58	
06												
07												
08												
09												
10												
11												
12												
13												
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16												
17												
18												
19												
20												

IS1 (BCM) = Bromochloromethane
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IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
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RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: **EA Engineering, Science, and Technology, Inc.** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Lab File ID: 05062002.D
Analyst: Wida Ang Date Analyzed: 5/6/20
Sampling Media: 1.0 L Summa Canister(s) Time Analyzed: 00:10
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	284972		11.15	1193817		13.28		574358		17.58	
	Upper Limit	398961		11.48	1671344		13.61		804101		17.91	
	Lower Limit	170983		10.82	716290		12.95		344615		17.25	
	Client Sample ID											
01	Method Blank	254427		11.13	1099157		13.26		529021		17.58	
02	Lab Control Sample	276696		11.15	1162464		13.28		552930		17.58	
03	Duplicate Lab Control Sample	284494		11.15	1195943		13.28		564101		17.58	
04	SV132-025-202 (Dilution)	280345		11.13	1203360		13.26		571504		17.58	
05	SV131-150-202 (Dilution)	275953		11.13	1200241		13.26		580495		17.58	
06												
07												
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09												
10												
11												
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16												
17												
18												
19												
20												

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV121-450-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-001

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.15 Liter(s)
Test Notes:
Container ID: 1SS00974

Initial Pressure (psig): -2.88 Final Pressure (psig): 5.36

Container Dilution Factor: 1.70

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**7.3**	6.0	3.6	1.5	
75-71-8	Dichlorodifluoromethane (CFC 12)	**170**	6.0	3.6	0.99	
74-87-3	Chloromethane	**47**	6.0	3.6	0.97	
75-01-4	Vinyl Chloride	**9.9**	6.1	1.9	0.65	
106-99-0	1,3-Butadiene	3.6	6.0	3.6	1.0	**U**
75-00-3	Chloroethane	**8.1**	6.1	3.6	0.75	
64-17-5	Ethanol	9.4	59	9.4	4.2	**U**
67-64-1	Acetone	**36**	60	31	14	**J**
75-69-4	Trichlorofluoromethane	**19**	6.0	3.6	0.92	
67-63-0	2-Propanol (Isopropyl Alcohol)	7.1	24	7.1	2.5	**U**
75-09-2	Methylene Chloride	3.6	6.0	3.6	1.7	**U**
76-13-1	Trichlorotrifluoroethane	**4.4**	6.1	1.9	0.86	**J**
75-15-0	Carbon Disulfide	**270**	12	6.1	1.8	
75-34-3	1,1-Dichloroethane	**7.0**	6.2	3.7	0.88	
78-93-3	2-Butanone (MEK)	**8.3**	12	3.6	1.2	**J**
141-78-6	Ethyl Acetate	7.4	12	7.4	3.2	**U**
110-54-3	n-Hexane	**11**	6.1	3.6	1.2	
67-66-3	Chloroform	1.9	6.1	1.9	0.80	**U**
109-99-9	Tetrahydrofuran (THF)	**83**	6.2	1.9	0.76	
107-06-2	1,2-Dichloroethane	**3.1**	6.1	1.9	0.67	**J**
71-43-2	Benzene	**180**	6.0	1.9	0.87	
56-23-5	Carbon Tetrachloride	1.9	6.0	1.9	0.84	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV121-450-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-001

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.15 Liter(s)
Test Notes:
Container ID: 1SS00974

Initial Pressure (psig): -2.88 Final Pressure (psig): 5.36

Container Dilution Factor: 1.70

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**34**	12	3.9	1.7	
75-27-4	Bromodichloromethane	1.9	6.1	1.9	0.87	**U**
79-01-6	Trichloroethene	1.9	6.1	1.9	0.82	**U**
123-91-1	1,4-Dioxane	1.9	6.1	1.9	0.71	**U**
142-82-5	n-Heptane	**4.8**	6.1	3.6	0.96	**J**
108-10-1	4-Methyl-2-pentanone	1.9	6.0	1.9	0.83	**U**
108-88-3	Toluene	**810**	6.1	1.9	0.74	
591-78-6	2-Hexanone	1.9	6.1	1.9	0.75	**U**
124-48-1	Dibromochloromethane	1.9	6.1	1.9	0.79	**U**
106-93-4	1,2-Dibromoethane	1.9	6.1	1.9	0.70	**U**
127-18-4	Tetrachloroethene	**1.4**	5.9	1.9	0.78	**J**
100-41-4	Ethylbenzene	**36**	6.1	1.9	0.85	
179601-23-1	m,p-Xylenes	**51**	12	3.9	1.6	
75-25-2	Bromoform	3.6	6.1	3.6	1.2	**U**
100-42-5	Styrene	3.6	6.0	3.6	0.97	**U**
95-47-6	o-Xylene	**17**	6.1	1.9	0.87	
108-67-8	1,3,5-Trimethylbenzene	**1.4**	6.0	1.9	0.87	**J**
95-63-6	1,2,4-Trimethylbenzene	**2.8**	6.1	1.9	0.84	**J**
120-82-1	1,2,4-Trichlorobenzene	3.6	6.1	3.6	1.5	**U**
91-20-3	Naphthalene	3.5	5.9	3.5	1.5	**U**
1330-20-7	Xylenes, Total	**68**	12	3.9	1.6	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV122-025-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-002

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00971

Initial Pressure (psig): -2.43 Final Pressure (psig): 5.39

Container Dilution Factor: 1.64

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	1.3	2.2	1.3	0.53	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.5**	2.2	1.3	0.36	
74-87-3	Chloromethane	1.3	2.2	1.3	0.35	**U**
75-01-4	Vinyl Chloride	0.70	2.2	0.70	0.23	**U**
106-99-0	1,3-Butadiene	1.3	2.2	1.3	0.36	**U**
75-00-3	Chloroethane	1.3	2.2	1.3	0.27	**U**
64-17-5	Ethanol	**2.4**	21	3.4	1.5	**J, B**
67-64-1	Acetone	11	22	11	4.9	**U**
75-69-4	Trichlorofluoromethane	**1.2**	2.2	1.3	0.33	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	2.6	8.6	2.6	0.90	**U**
75-09-2	Methylene Chloride	1.3	2.2	1.3	0.62	**U**
76-13-1	Trichlorotrifluoroethane	**0.47**	2.2	0.70	0.31	**J**
75-15-0	Carbon Disulfide	**1.3**	4.5	2.2	0.66	**J**
75-34-3	1,1-Dichloroethane	1.4	2.3	1.4	0.32	**U**
78-93-3	2-Butanone (MEK)	**0.49**	4.5	1.3	0.45	**J**
141-78-6	Ethyl Acetate	2.7	4.5	2.7	1.1	**U**
110-54-3	n-Hexane	1.3	2.2	1.3	0.45	**U**
67-66-3	Chloroform	**67**	2.2	0.70	0.29	
109-99-9	Tetrahydrofuran (THF)	**1.4**	2.3	0.70	0.27	**J**
107-06-2	1,2-Dichloroethane	0.70	2.2	0.70	0.24	**U**
71-43-2	Benzene	0.70	2.2	0.70	0.32	**U**
56-23-5	Carbon Tetrachloride	**0.88**	2.2	0.70	0.30	**J**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV122-025-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-002

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00971

Initial Pressure (psig): -2.43 Final Pressure (psig): 5.39

Container Dilution Factor: 1.64

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.4	4.5	1.4	0.62	**U**
75-27-4	Bromodichloromethane	**6.6**	2.2	0.70	0.32	
79-01-6	Trichloroethene	**0.32**	2.2	0.70	0.30	**J**
123-91-1	1,4-Dioxane	0.70	2.2	0.70	0.26	**U**
142-82-5	n-Heptane	1.3	2.2	1.3	0.35	**U**
108-10-1	4-Methyl-2-pentanone	0.70	2.2	0.70	0.30	**U**
108-88-3	Toluene	**1.0**	2.2	0.70	0.27	**J**
591-78-6	2-Hexanone	0.70	2.2	0.70	0.27	**U**
124-48-1	Dibromochloromethane	0.70	2.2	0.70	0.29	**U**
106-93-4	1,2-Dibromoethane	0.70	2.2	0.70	0.25	**U**
127-18-4	Tetrachloroethene	**0.66**	2.1	0.70	0.28	**J**
100-41-4	Ethylbenzene	0.70	2.2	0.70	0.31	**U**
179601-23-1	m,p-Xylenes	1.4	4.5	1.4	0.57	**U**
75-25-2	Bromoform	1.3	2.2	1.3	0.45	**U**
100-42-5	Styrene	1.3	2.2	1.3	0.35	**U**
95-47-6	o-Xylene	0.70	2.2	0.70	0.32	**U**
108-67-8	1,3,5-Trimethylbenzene	0.70	2.2	0.70	0.32	**U**
95-63-6	1,2,4-Trimethylbenzene	0.70	2.2	0.70	0.30	**U**
120-82-1	1,2,4-Trichlorobenzene	1.3	2.2	1.3	0.53	**U**
91-20-3	Naphthalene	1.3	2.1	1.3	0.53	**U**
1330-20-7	Xylenes, Total	1.4	4.5	1.4	0.57	**U**

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV122-050-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-003

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00776

Initial Pressure (psig): -4.11 Final Pressure (psig): 5.33

Container Dilution Factor: 1.89

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**0.68**	2.5	1.5	0.61	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.9**	2.5	1.5	0.41	
74-87-3	Chloromethane	**0.54**	2.5	1.5	0.41	**J**
75-01-4	Vinyl Chloride	0.80	2.6	0.80	0.27	**U**
106-99-0	1,3-Butadiene	1.5	2.5	1.5	0.42	**U**
75-00-3	Chloroethane	1.5	2.6	1.5	0.31	**U**
64-17-5	Ethanol	**5.2**	25	3.9	1.7	**J, B**
67-64-1	Acetone	**16**	25	13	5.7	**J**
75-69-4	Trichlorofluoromethane	**1.2**	2.5	1.5	0.38	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	3.0	9.9	3.0	1.0	**U**
75-09-2	Methylene Chloride	1.5	2.5	1.5	0.71	**U**
76-13-1	Trichlorotrifluoroethane	**0.56**	2.6	0.80	0.36	**J**
75-15-0	Carbon Disulfide	**2.1**	5.2	2.6	0.76	**J**
75-34-3	1,1-Dichloroethane	1.6	2.6	1.6	0.37	**U**
78-93-3	2-Butanone (MEK)	**2.8**	5.2	1.5	0.52	**J**
141-78-6	Ethyl Acetate	3.1	5.2	3.1	1.3	**U**
110-54-3	n-Hexane	1.5	2.6	1.5	0.52	**U**
67-66-3	Chloroform	**470**	2.6	0.80	0.34	
109-99-9	Tetrahydrofuran (THF)	**0.47**	2.6	0.80	0.32	**J**
107-06-2	1,2-Dichloroethane	0.80	2.6	0.80	0.28	**U**
71-43-2	Benzene	0.80	2.5	0.80	0.36	**U**
56-23-5	Carbon Tetrachloride	**9.2**	2.5	0.80	0.35	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV122-050-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-003

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00776

Initial Pressure (psig): -4.11 Final Pressure (psig): 5.33

Container Dilution Factor: 1.89

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.6	5.2	1.6	0.71	**U**
75-27-4	Bromodichloromethane	**48**	2.6	0.80	0.36	
79-01-6	Trichloroethene	**1.2**	2.6	0.80	0.34	**J**
123-91-1	1,4-Dioxane	0.80	2.6	0.80	0.30	**U**
142-82-5	n-Heptane	1.5	2.6	1.5	0.40	**U**
108-10-1	4-Methyl-2-pentanone	0.80	2.5	0.80	0.34	**U**
108-88-3	Toluene	**0.48**	2.6	0.80	0.31	**J**
591-78-6	2-Hexanone	**0.67**	2.6	0.80	0.31	**J**
124-48-1	Dibromochloromethane	**1.5**	2.6	0.80	0.33	**J**
106-93-4	1,2-Dibromoethane	0.80	2.6	0.80	0.29	**U**
127-18-4	Tetrachloroethene	**3.7**	2.5	0.80	0.33	
100-41-4	Ethylbenzene	0.80	2.6	0.80	0.35	**U**
179601-23-1	m,p-Xylenes	1.6	5.2	1.6	0.66	**U**
75-25-2	Bromoform	1.5	2.6	1.5	0.52	**U**
100-42-5	Styrene	1.5	2.5	1.5	0.41	**U**
95-47-6	o-Xylene	0.80	2.6	0.80	0.36	**U**
108-67-8	1,3,5-Trimethylbenzene	0.80	2.5	0.80	0.36	**U**
95-63-6	1,2,4-Trimethylbenzene	0.80	2.6	0.80	0.35	**U**
120-82-1	1,2,4-Trichlorobenzene	1.5	2.6	1.5	0.61	**U**
91-20-3	Naphthalene	1.5	2.5	1.5	0.61	**U**
1330-20-7	Xylenes, Total	1.6	5.2	1.6	0.66	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV122-150-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-004

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00856

Initial Pressure (psig): -3.06 Final Pressure (psig): 5.91

Container Dilution Factor: 1.77

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**0.87**	2.3	1.4	0.58	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**6.1**	2.3	1.4	0.38	
74-87-3	Chloromethane	**0.91**	2.3	1.4	0.38	**J**
75-01-4	Vinyl Chloride	0.75	2.4	0.75	0.25	**U**
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.39	**U**
75-00-3	Chloroethane	1.4	2.4	1.4	0.29	**U**
64-17-5	Ethanol	**67**	23	3.7	1.6	**B**
67-64-1	Acetone	**27**	23	12	5.3	
75-69-4	Trichlorofluoromethane	**0.91**	2.3	1.4	0.36	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.2**	9.3	2.8	0.97	**J**
75-09-2	Methylene Chloride	1.4	2.3	1.4	0.66	**U**
76-13-1	Trichlorotrifluoroethane	**0.55**	2.4	0.75	0.34	**J**
75-15-0	Carbon Disulfide	**5.1**	4.9	2.4	0.71	
75-34-3	1,1-Dichloroethane	1.5	2.4	1.5	0.35	**U**
78-93-3	2-Butanone (MEK)	**4.5**	4.9	1.4	0.49	**J**
141-78-6	Ethyl Acetate	2.9	4.9	2.9	1.2	**U**
110-54-3	n-Hexane	1.4	2.4	1.4	0.49	**U**
67-66-3	Chloroform	**25**	2.4	0.75	0.31	
109-99-9	Tetrahydrofuran (THF)	**120**	2.4	0.75	0.30	
107-06-2	1,2-Dichloroethane	0.75	2.4	0.75	0.26	**U**
71-43-2	Benzene	**0.35**	2.3	0.75	0.34	**J**
56-23-5	Carbon Tetrachloride	**16**	2.3	0.75	0.33	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV122-150-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-004

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00856

Initial Pressure (psig): -3.06 Final Pressure (psig): 5.91

Container Dilution Factor: 1.77

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.5	4.9	1.5	0.66	**U**
75-27-4	Bromodichloromethane	**1.7**	2.4	0.75	0.34	**J**
79-01-6	Trichloroethene	0.75	2.4	0.75	0.32	**U**
123-91-1	1,4-Dioxane	**0.31**	2.4	0.75	0.28	**J**
142-82-5	n-Heptane	1.4	2.4	1.4	0.38	**U**
108-10-1	4-Methyl-2-pentanone	0.75	2.3	0.75	0.32	**U**
108-88-3	Toluene	**0.60**	2.4	0.75	0.29	**J**
591-78-6	2-Hexanone	**0.56**	2.4	0.75	0.29	**J**
124-48-1	Dibromochloromethane	0.75	2.4	0.75	0.31	**U**
106-93-4	1,2-Dibromoethane	0.75	2.4	0.75	0.27	**U**
127-18-4	Tetrachloroethene	**2.0**	2.3	0.75	0.31	**J**
100-41-4	Ethylbenzene	0.75	2.4	0.75	0.33	**U**
179601-23-1	m,p-Xylenes	1.5	4.9	1.5	0.62	**U**
75-25-2	Bromoform	1.4	2.4	1.4	0.49	**U**
100-42-5	Styrene	**5.0**	2.3	1.4	0.38	
95-47-6	o-Xylene	0.75	2.4	0.75	0.34	**U**
108-67-8	1,3,5-Trimethylbenzene	0.75	2.3	0.75	0.34	**U**
95-63-6	1,2,4-Trimethylbenzene	0.75	2.4	0.75	0.33	**U**
120-82-1	1,2,4-Trichlorobenzene	1.4	2.4	1.4	0.58	**U**
91-20-3	Naphthalene	1.4	2.3	1.4	0.58	**U**
1330-20-7	Xylenes, Total	1.5	4.9	1.5	0.62	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV122-250-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-005

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00896

Initial Pressure (psig): -3.64 Final Pressure (psig): 5.91

Container Dilution Factor: 1.86

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.5**	2.5	1.5	0.60	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**21**	2.5	1.5	0.40	
74-87-3	Chloromethane	**1.5**	2.5	1.5	0.40	**J**
75-01-4	Vinyl Chloride	0.79	2.5	0.79	0.27	**U**
106-99-0	1,3-Butadiene	1.5	2.5	1.5	0.41	**U**
75-00-3	Chloroethane	1.5	2.5	1.5	0.31	**U**
64-17-5	Ethanol	**28**	24	3.9	1.7	**B**
67-64-1	Acetone	**73**	25	13	5.6	
75-69-4	Trichlorofluoromethane	**1.7**	2.5	1.5	0.38	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**2.2**	9.8	2.9	1.0	**J**
75-09-2	Methylene Chloride	**0.73**	2.5	1.5	0.70	**J**
76-13-1	Trichlorotrifluoroethane	**0.96**	2.5	0.79	0.35	**J**
75-15-0	Carbon Disulfide	**21**	5.1	2.5	0.74	
75-34-3	1,1-Dichloroethane	1.5	2.6	1.5	0.36	**U**
78-93-3	2-Butanone (MEK)	**24**	5.1	1.5	0.51	
141-78-6	Ethyl Acetate	**30**	5.1	3.0	1.3	
110-54-3	n-Hexane	**1.7**	2.5	1.5	0.51	**J**
67-66-3	Chloroform	**0.61**	2.5	0.79	0.33	**J**
109-99-9	Tetrahydrofuran (THF)	**20**	2.6	0.79	0.31	
107-06-2	1,2-Dichloroethane	0.79	2.5	0.79	0.27	**U**
71-43-2	Benzene	**0.54**	2.5	0.79	0.36	**J**
56-23-5	Carbon Tetrachloride	**3.5**	2.5	0.79	0.34	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV122-250-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-005

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00896

Initial Pressure (psig): -3.64 Final Pressure (psig): 5.91

Container Dilution Factor: 1.86

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**1.8**	5.1	1.6	0.70	**J**
75-27-4	Bromodichloromethane	0.79	2.5	0.79	0.36	**U**
79-01-6	Trichloroethene	**5.3**	2.5	0.79	0.33	
123-91-1	1,4-Dioxane	**0.60**	2.5	0.79	0.29	**J**
142-82-5	n-Heptane	**0.55**	2.5	1.5	0.40	**J**
108-10-1	4-Methyl-2-pentanone	**0.78**	2.5	0.79	0.34	**J**
108-88-3	Toluene	**2.6**	2.5	0.79	0.30	
591-78-6	2-Hexanone	**1.7**	2.5	0.79	0.31	**J**
124-48-1	Dibromochloromethane	0.79	2.5	0.79	0.33	**U**
106-93-4	1,2-Dibromoethane	0.79	2.5	0.79	0.29	**U**
127-18-4	Tetrachloroethene	**0.41**	2.4	0.79	0.32	**J**
100-41-4	Ethylbenzene	**0.41**	2.5	0.79	0.35	**J**
179601-23-1	m,p-Xylenes	**1.2**	5.1	1.6	0.65	**J**
75-25-2	Bromoform	1.5	2.5	1.5	0.51	**U**
100-42-5	Styrene	1.5	2.5	1.5	0.40	**U**
95-47-6	o-Xylene	**0.42**	2.5	0.79	0.36	**J**
108-67-8	1,3,5-Trimethylbenzene	0.79	2.5	0.79	0.36	**U**
95-63-6	1,2,4-Trimethylbenzene	**0.51**	2.5	0.79	0.34	**J**
120-82-1	1,2,4-Trichlorobenzene	1.5	2.5	1.5	0.60	**U**
91-20-3	Naphthalene	1.4	2.4	1.4	0.60	**U**
1330-20-7	Xylenes, Total	**1.6**	5.1	1.6	0.65	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV122-350-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-006

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01008

Initial Pressure (psig): -2.68 Final Pressure (psig): 8.99

Container Dilution Factor: 1.97

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**2.0**	2.6	1.6	0.64	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**54**	2.6	1.6	0.43	
74-87-3	Chloromethane	1.6	2.6	1.6	0.42	**U**
75-01-4	Vinyl Chloride	0.84	2.7	0.84	0.28	**U**
106-99-0	1,3-Butadiene	1.6	2.6	1.6	0.43	**U**
75-00-3	Chloroethane	1.6	2.7	1.6	0.33	**U**
64-17-5	Ethanol	**45**	26	4.1	1.8	**B**
67-64-1	Acetone	**43**	26	13	5.9	
75-69-4	Trichlorofluoromethane	**5.3**	2.6	1.6	0.40	
67-63-0	2-Propanol (Isopropyl Alcohol)	**4.1**	10	3.1	1.1	**J**
75-09-2	Methylene Chloride	1.6	2.6	1.6	0.74	**U**
76-13-1	Trichlorotrifluoroethane	**1.2**	2.7	0.84	0.37	**J**
75-15-0	Carbon Disulfide	**24**	5.4	2.7	0.79	
75-34-3	1,1-Dichloroethane	1.6	2.7	1.6	0.38	**U**
78-93-3	2-Butanone (MEK)	**6.6**	5.4	1.6	0.54	
141-78-6	Ethyl Acetate	**82**	5.4	3.2	1.4	
110-54-3	n-Hexane	**0.93**	2.7	1.6	0.54	**J**
67-66-3	Chloroform	**0.41**	2.7	0.84	0.35	**J**
109-99-9	Tetrahydrofuran (THF)	**3.5**	2.7	0.84	0.33	
107-06-2	1,2-Dichloroethane	0.84	2.7	0.84	0.29	**U**
71-43-2	Benzene	**0.88**	2.6	0.84	0.38	**J**
56-23-5	Carbon Tetrachloride	0.84	2.6	0.84	0.36	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV122-350-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-006

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01008

Initial Pressure (psig): -2.68 Final Pressure (psig): 8.99

Container Dilution Factor: 1.97

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**2.9**	5.4	1.7	0.74	**J**
75-27-4	Bromodichloromethane	0.84	2.7	0.84	0.38	**U**
79-01-6	Trichloroethene	0.84	2.7	0.84	0.35	**U**
123-91-1	1,4-Dioxane	0.84	2.7	0.84	0.31	**U**
142-82-5	n-Heptane	1.6	2.7	1.6	0.42	**U**
108-10-1	4-Methyl-2-pentanone	**0.40**	2.6	0.84	0.36	**J**
108-88-3	Toluene	**3.9**	2.7	0.84	0.32	
591-78-6	2-Hexanone	**0.80**	2.7	0.84	0.33	**J**
124-48-1	Dibromochloromethane	0.84	2.7	0.84	0.34	**U**
106-93-4	1,2-Dibromoethane	0.84	2.7	0.84	0.31	**U**
127-18-4	Tetrachloroethene	**0.68**	2.6	0.84	0.34	**J**
100-41-4	Ethylbenzene	0.84	2.7	0.84	0.37	**U**
179601-23-1	m,p-Xylenes	**0.75**	5.4	1.7	0.69	**J**
75-25-2	Bromoform	1.6	2.7	1.6	0.54	**U**
100-42-5	Styrene	1.6	2.6	1.6	0.42	**U**
95-47-6	o-Xylene	0.84	2.7	0.84	0.38	**U**
108-67-8	1,3,5-Trimethylbenzene	0.84	2.6	0.84	0.38	**U**
95-63-6	1,2,4-Trimethylbenzene	0.84	2.7	0.84	0.36	**U**
120-82-1	1,2,4-Trichlorobenzene	1.6	2.7	1.6	0.64	**U**
91-20-3	Naphthalene	1.5	2.6	1.5	0.64	**U**
1330-20-7	Xylenes, Total	**0.75**	5.4	1.7	0.69	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV122-450-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-007

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SS00747

Initial Pressure (psig): -3.21 Final Pressure (psig): 5.53

Container Dilution Factor: 1.76

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	28	47	28	11	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**65**	47	28	7.7	
74-87-3	Chloromethane	**39**	47	28	7.6	**J**
75-01-4	Vinyl Chloride	**8.9**	48	15	5.0	**J**
106-99-0	1,3-Butadiene	28	47	28	7.7	**U**
75-00-3	Chloroethane	**7.2**	48	28	5.8	**J**
64-17-5	Ethanol	**55**	460	73	33	**J, B**
67-64-1	Acetone	240	470	240	110	**U**
75-69-4	Trichlorofluoromethane	28	47	28	7.1	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	55	180	55	19	**U**
75-09-2	Methylene Chloride	28	47	28	13	**U**
76-13-1	Trichlorotrifluoroethane	15	48	15	6.7	**U**
75-15-0	Carbon Disulfide	**210**	97	48	14	
75-34-3	1,1-Dichloroethane	29	48	29	6.9	**U**
78-93-3	2-Butanone (MEK)	**71**	97	28	9.7	**J**
141-78-6	Ethyl Acetate	**89**	97	57	25	**J**
110-54-3	n-Hexane	**35**	48	28	9.7	**J**
67-66-3	Chloroform	15	48	15	6.2	**U**
109-99-9	Tetrahydrofuran (THF)	**210**	48	15	5.9	
107-06-2	1,2-Dichloroethane	15	48	15	5.2	**U**
71-43-2	Benzene	**150**	47	15	6.8	
56-23-5	Carbon Tetrachloride	15	47	15	6.5	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV122-450-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-007

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SS00747

Initial Pressure (psig): -3.21 Final Pressure (psig): 5.53

Container Dilution Factor: 1.76

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**54**	97	30	13	**J**
75-27-4	Bromodichloromethane	15	48	15	6.8	**U**
79-01-6	Trichloroethene	15	48	15	6.3	**U**
123-91-1	1,4-Dioxane	15	48	15	5.5	**U**
142-82-5	n-Heptane	28	48	28	7.5	**U**
108-10-1	4-Methyl-2-pentanone	15	47	15	6.4	**U**
108-88-3	Toluene	**630**	48	15	5.7	
591-78-6	2-Hexanone	15	48	15	5.8	**U**
124-48-1	Dibromochloromethane	15	48	15	6.2	**U**
106-93-4	1,2-Dibromoethane	15	48	15	5.5	**U**
127-18-4	Tetrachloroethene	15	46	15	6.1	**U**
100-41-4	Ethylbenzene	**27**	48	15	6.6	**J**
179601-23-1	m,p-Xylenes	**45**	97	30	12	**J**
75-25-2	Bromoform	28	48	28	9.7	**U**
100-42-5	Styrene	28	47	28	7.6	**U**
95-47-6	o-Xylene	**15**	48	15	6.8	**J**
108-67-8	1,3,5-Trimethylbenzene	15	47	15	6.8	**U**
95-63-6	1,2,4-Trimethylbenzene	15	48	15	6.5	**U**
120-82-1	1,2,4-Trichlorobenzene	28	48	28	11	**U**
91-20-3	Naphthalene	27	46	27	11	**U**
1330-20-7	Xylenes, Total	**59**	97	30	12	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV123-025-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-008

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00463

Initial Pressure (psig): -2.71 Final Pressure (psig): 5.86

Container Dilution Factor: 1.71

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**4.8**	2.3	1.4	0.56	
75-71-8	Dichlorodifluoromethane (CFC 12)	**3.2**	2.3	1.4	0.37	
74-87-3	Chloromethane	1.4	2.3	1.4	0.37	**U**
75-01-4	Vinyl Chloride	0.73	2.3	0.73	0.24	**U**
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.38	**U**
75-00-3	Chloroethane	1.4	2.3	1.4	0.28	**U**
64-17-5	Ethanol	**40**	22	3.5	1.6	**B**
67-64-1	Acetone	**29**	23	12	5.1	
75-69-4	Trichlorofluoromethane	**1.2**	2.3	1.4	0.35	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**3.2**	9.0	2.7	0.94	**J**
75-09-2	Methylene Chloride	**3.1**	2.3	1.4	0.64	
76-13-1	Trichlorotrifluoroethane	**0.54**	2.3	0.73	0.32	**J**
75-15-0	Carbon Disulfide	**4.3**	4.7	2.3	0.68	**J**
75-34-3	1,1-Dichloroethane	1.4	2.4	1.4	0.33	**U**
78-93-3	2-Butanone (MEK)	**6.1**	4.7	1.4	0.47	
141-78-6	Ethyl Acetate	**39**	4.7	2.8	1.2	
110-54-3	n-Hexane	**4.7**	2.3	1.4	0.47	
67-66-3	Chloroform	**310**	23	7.3	3.0	**D**
109-99-9	Tetrahydrofuran (THF)	**2.1**	2.4	0.73	0.29	**J**
107-06-2	1,2-Dichloroethane	0.73	2.3	0.73	0.25	**U**
71-43-2	Benzene	**1.1**	2.3	0.73	0.33	**J**
56-23-5	Carbon Tetrachloride	**3.6**	2.3	0.73	0.32	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV123-025-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-008

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00463

Initial Pressure (psig): -2.71 Final Pressure (psig): 5.86

Container Dilution Factor: 1.71

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**5.9**	4.7	1.5	0.64	
75-27-4	Bromodichloromethane	**170**	2.3	0.73	0.33	
79-01-6	Trichloroethene	**1.2**	2.3	0.73	0.31	**J**
123-91-1	1,4-Dioxane	**0.78**	2.3	0.73	0.27	**J**
142-82-5	n-Heptane	**0.64**	2.3	1.4	0.36	**J**
108-10-1	4-Methyl-2-pentanone	**0.32**	2.3	0.73	0.31	**J**
108-88-3	Toluene	**11**	2.3	0.73	0.28	
591-78-6	2-Hexanone	**0.65**	2.3	0.73	0.28	**J**
124-48-1	Dibromochloromethane	**18**	2.3	0.73	0.30	
106-93-4	1,2-Dibromoethane	0.73	2.3	0.73	0.27	**U**
127-18-4	Tetrachloroethene	**2.9**	2.2	0.73	0.29	
100-41-4	Ethylbenzene	**0.63**	2.3	0.73	0.32	**J**
179601-23-1	m,p-Xylenes	**2.6**	4.7	1.5	0.60	**J**
75-25-2	Bromoform	1.4	2.3	1.4	0.47	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.37	**U**
95-47-6	o-Xylene	**0.86**	2.3	0.73	0.33	**J**
108-67-8	1,3,5-Trimethylbenzene	0.73	2.3	0.73	0.33	**U**
95-63-6	1,2,4-Trimethylbenzene	0.73	2.3	0.73	0.32	**U**
120-82-1	1,2,4-Trichlorobenzene	1.4	2.3	1.4	0.56	**U**
91-20-3	Naphthalene	1.3	2.2	1.3	0.56	**U**
1330-20-7	Xylenes, Total	**3.4**	4.7	1.5	0.60	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV123-050-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-009

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00638

Initial Pressure (psig): -2.39 Final Pressure (psig): 6.49

Container Dilution Factor: 1.72

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.4**	2.3	1.4	0.56	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**10**	2.3	1.4	0.37	
74-87-3	Chloromethane	1.4	2.3	1.4	0.37	**U**
75-01-4	Vinyl Chloride	0.73	2.3	0.73	0.25	**U**
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.38	**U**
75-00-3	Chloroethane	**0.29**	2.3	1.4	0.28	**J**
64-17-5	Ethanol	**12**	22	3.6	1.6	**J, B**
67-64-1	Acetone	**15**	23	12	5.2	**J**
75-69-4	Trichlorofluoromethane	**1.9**	2.3	1.4	0.35	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.7**	9.0	2.7	0.95	**J**
75-09-2	Methylene Chloride	**12**	2.3	1.4	0.65	
76-13-1	Trichlorotrifluoroethane	**1.0**	2.3	0.73	0.33	**J**
75-15-0	Carbon Disulfide	**1.1**	4.7	2.3	0.69	**J**
75-34-3	1,1-Dichloroethane	1.4	2.4	1.4	0.34	**U**
78-93-3	2-Butanone (MEK)	**3.6**	4.7	1.4	0.47	**J**
141-78-6	Ethyl Acetate	**74**	4.7	2.8	1.2	
110-54-3	n-Hexane	**0.62**	2.3	1.4	0.47	**J**
67-66-3	Chloroform	**880**	23	7.3	3.1	**D**
109-99-9	Tetrahydrofuran (THF)	0.73	2.4	0.73	0.29	**U**
107-06-2	1,2-Dichloroethane	0.73	2.3	0.73	0.25	**U**
71-43-2	Benzene	**0.37**	2.3	0.73	0.33	**J**
56-23-5	Carbon Tetrachloride	**20**	2.3	0.73	0.32	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV123-050-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-009

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00638

Initial Pressure (psig): -2.39 Final Pressure (psig): 6.49

Container Dilution Factor: 1.72

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.5	4.7	1.5	0.65	**U**
75-27-4	Bromodichloromethane	**380**	23	7.3	3.3	**D**
79-01-6	Trichloroethene	**4.0**	2.3	0.73	0.31	
123-91-1	1,4-Dioxane	0.73	2.3	0.73	0.27	**U**
142-82-5	n-Heptane	**0.38**	2.3	1.4	0.37	**J**
108-10-1	4-Methyl-2-pentanone	**0.32**	2.3	0.73	0.31	**J**
108-88-3	Toluene	**3.6**	2.3	0.73	0.28	
591-78-6	2-Hexanone	**1.1**	2.3	0.73	0.28	**J**
124-48-1	Dibromochloromethane	**84**	2.3	0.73	0.30	
106-93-4	1,2-Dibromoethane	0.73	2.3	0.73	0.27	**U**
127-18-4	Tetrachloroethene	**7.6**	2.2	0.73	0.30	
100-41-4	Ethylbenzene	0.73	2.3	0.73	0.32	**U**
179601-23-1	m,p-Xylenes	1.5	4.7	1.5	0.60	**U**
75-25-2	Bromoform	**6.6**	2.3	1.4	0.47	
100-42-5	Styrene	1.4	2.3	1.4	0.37	**U**
95-47-6	o-Xylene	0.73	2.3	0.73	0.33	**U**
108-67-8	1,3,5-Trimethylbenzene	0.73	2.3	0.73	0.33	**U**
95-63-6	1,2,4-Trimethylbenzene	0.73	2.3	0.73	0.32	**U**
120-82-1	1,2,4-Trichlorobenzene	1.4	2.3	1.4	0.56	**U**
91-20-3	Naphthalene	1.3	2.2	1.3	0.56	**U**
1330-20-7	Xylenes, Total	1.5	4.7	1.5	0.60	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV123-150-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-010

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00901

Initial Pressure (psig): -3.15 Final Pressure (psig): 6.28

Container Dilution Factor: 1.82

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**0.71**	2.4	1.5	0.59	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**27**	2.4	1.5	0.40	
74-87-3	Chloromethane	1.5	2.4	1.5	0.39	**U**
75-01-4	Vinyl Chloride	0.77	2.5	0.77	0.26	**U**
106-99-0	1,3-Butadiene	1.5	2.4	1.5	0.40	**U**
75-00-3	Chloroethane	1.5	2.5	1.5	0.30	**U**
64-17-5	Ethanol	**5.6**	24	3.8	1.7	**J, B**
67-64-1	Acetone	**8.0**	24	12	5.5	**J**
75-69-4	Trichlorofluoromethane	**2.1**	2.4	1.5	0.37	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	2.9	9.6	2.9	1.0	**U**
75-09-2	Methylene Chloride	1.5	2.4	1.5	0.68	**U**
76-13-1	Trichlorotrifluoroethane	**1.3**	2.5	0.77	0.35	**J**
75-15-0	Carbon Disulfide	**2.8**	5.0	2.5	0.73	**J**
75-34-3	1,1-Dichloroethane	1.5	2.5	1.5	0.35	**U**
78-93-3	2-Butanone (MEK)	**1.1**	5.0	1.5	0.50	**J**
141-78-6	Ethyl Acetate	**1.3**	5.0	3.0	1.3	**J**
110-54-3	n-Hexane	**0.71**	2.5	1.5	0.50	**J**
67-66-3	Chloroform	**26**	2.5	0.77	0.32	
109-99-9	Tetrahydrofuran (THF)	**1.1**	2.5	0.77	0.30	**J**
107-06-2	1,2-Dichloroethane	0.77	2.5	0.77	0.27	**U**
71-43-2	Benzene	**0.48**	2.4	0.77	0.35	**J**
56-23-5	Carbon Tetrachloride	**15**	2.4	0.77	0.34	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV123-150-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-010

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00901

Initial Pressure (psig): -3.15 Final Pressure (psig): 6.28

Container Dilution Factor: 1.82

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**0.68**	5.0	1.5	0.68	**J**
75-27-4	Bromodichloromethane	**3.8**	2.5	0.77	0.35	
79-01-6	Trichloroethene	**0.73**	2.5	0.77	0.33	**J**
123-91-1	1,4-Dioxane	0.77	2.5	0.77	0.29	**U**
142-82-5	n-Heptane	**0.48**	2.5	1.5	0.39	**J**
108-10-1	4-Methyl-2-pentanone	0.77	2.4	0.77	0.33	**U**
108-88-3	Toluene	**1.6**	2.5	0.77	0.30	**J**
591-78-6	2-Hexanone	0.77	2.5	0.77	0.30	**U**
124-48-1	Dibromochloromethane	**0.36**	2.5	0.77	0.32	**J**
106-93-4	1,2-Dibromoethane	0.77	2.5	0.77	0.28	**U**
127-18-4	Tetrachloroethene	**2.0**	2.4	0.77	0.31	**J**
100-41-4	Ethylbenzene	0.77	2.5	0.77	0.34	**U**
179601-23-1	m,p-Xylenes	**0.74**	5.0	1.5	0.64	**J**
75-25-2	Bromoform	1.5	2.5	1.5	0.50	**U**
100-42-5	Styrene	1.5	2.4	1.5	0.39	**U**
95-47-6	o-Xylene	0.77	2.5	0.77	0.35	**U**
108-67-8	1,3,5-Trimethylbenzene	0.77	2.4	0.77	0.35	**U**
95-63-6	1,2,4-Trimethylbenzene	0.77	2.5	0.77	0.34	**U**
120-82-1	1,2,4-Trichlorobenzene	1.5	2.5	1.5	0.59	**U**
91-20-3	Naphthalene	1.4	2.4	1.4	0.59	**U**
1330-20-7	Xylenes, Total	**0.74**	5.0	1.5	0.64	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV123-250-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-011

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00265

Initial Pressure (psig): -3.85 Final Pressure (psig): 5.59

Container Dilution Factor: 1.87

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**0.81**	2.5	1.5	0.61	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**75**	2.5	1.5	0.41	
74-87-3	Chloromethane	1.5	2.5	1.5	0.40	**U**
75-01-4	Vinyl Chloride	0.79	2.5	0.79	0.27	**U**
106-99-0	1,3-Butadiene	1.5	2.5	1.5	0.41	**U**
75-00-3	Chloroethane	1.5	2.5	1.5	0.31	**U**
64-17-5	Ethanol	**10**	24	3.9	1.7	**J, B**
67-64-1	Acetone	**17**	25	13	5.6	**J**
75-69-4	Trichlorofluoromethane	**6.2**	2.5	1.5	0.38	
67-63-0	2-Propanol (Isopropyl Alcohol)	2.9	9.8	2.9	1.0	**U**
75-09-2	Methylene Chloride	1.5	2.5	1.5	0.70	**U**
76-13-1	Trichlorotrifluoroethane	**3.1**	2.5	0.79	0.36	
75-15-0	Carbon Disulfide	**2.1**	5.1	2.5	0.75	**J**
75-34-3	1,1-Dichloroethane	1.5	2.6	1.5	0.36	**U**
78-93-3	2-Butanone (MEK)	**3.0**	5.1	1.5	0.51	**J**
141-78-6	Ethyl Acetate	3.0	5.1	3.0	1.3	**U**
110-54-3	n-Hexane	1.5	2.5	1.5	0.51	**U**
67-66-3	Chloroform	**12**	2.5	0.79	0.33	
109-99-9	Tetrahydrofuran (THF)	**0.72**	2.6	0.79	0.31	**J**
107-06-2	1,2-Dichloroethane	0.79	2.5	0.79	0.28	**U**
71-43-2	Benzene	0.79	2.5	0.79	0.36	**U**
56-23-5	Carbon Tetrachloride	**7.4**	2.5	0.79	0.35	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV123-250-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-011

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00265

Initial Pressure (psig): -3.85 Final Pressure (psig): 5.59

Container Dilution Factor: 1.87

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.6	5.1	1.6	0.70	**U**
75-27-4	Bromodichloromethane	**5.8**	2.5	0.79	0.36	
79-01-6	Trichloroethene	0.79	2.5	0.79	0.34	**U**
123-91-1	1,4-Dioxane	**0.34**	2.5	0.79	0.29	**J**
142-82-5	n-Heptane	1.5	2.5	1.5	0.40	**U**
108-10-1	4-Methyl-2-pentanone	0.79	2.5	0.79	0.34	**U**
108-88-3	Toluene	**0.59**	2.5	0.79	0.30	**J**
591-78-6	2-Hexanone	**0.63**	2.5	0.79	0.31	**J**
124-48-1	Dibromochloromethane	**1.2**	2.5	0.79	0.33	**J**
106-93-4	1,2-Dibromoethane	0.79	2.5	0.79	0.29	**U**
127-18-4	Tetrachloroethene	**1.1**	2.4	0.79	0.32	**J**
100-41-4	Ethylbenzene	0.79	2.5	0.79	0.35	**U**
179601-23-1	m,p-Xylenes	1.6	5.1	1.6	0.65	**U**
75-25-2	Bromoform	1.5	2.5	1.5	0.51	**U**
100-42-5	Styrene	1.5	2.5	1.5	0.40	**U**
95-47-6	o-Xylene	0.79	2.5	0.79	0.36	**U**
108-67-8	1,3,5-Trimethylbenzene	0.79	2.5	0.79	0.36	**U**
95-63-6	1,2,4-Trimethylbenzene	0.79	2.5	0.79	0.35	**U**
120-82-1	1,2,4-Trichlorobenzene	1.5	2.5	1.5	0.61	**U**
91-20-3	Naphthalene	1.4	2.4	1.4	0.61	**U**
1330-20-7	Xylenes, Total	1.6	5.1	1.6	0.65	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV123-350-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-012

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00560

Initial Pressure (psig): -2.33 Final Pressure (psig): 7.32

Container Dilution Factor: 1.78

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**0.98**	2.4	1.4	0.58	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**260**	2.4	1.4	0.39	
74-87-3	Chloromethane	**0.43**	2.4	1.4	0.38	**J**
75-01-4	Vinyl Chloride	0.76	2.4	0.76	0.25	**U**
106-99-0	1,3-Butadiene	1.4	2.4	1.4	0.39	**U**
75-00-3	Chloroethane	1.4	2.4	1.4	0.29	**U**
64-17-5	Ethanol	**9.6**	23	3.7	1.6	**J, B**
67-64-1	Acetone	**17**	24	12	5.3	**J**
75-69-4	Trichlorofluoromethane	**27**	2.4	1.4	0.36	
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.1**	9.3	2.8	0.98	**J**
75-09-2	Methylene Chloride	**0.98**	2.4	1.4	0.67	**J**
76-13-1	Trichlorotrifluoroethane	**6.7**	2.4	0.76	0.34	
75-15-0	Carbon Disulfide	**2.7**	4.9	2.4	0.71	**J**
75-34-3	1,1-Dichloroethane	1.5	2.4	1.5	0.35	**U**
78-93-3	2-Butanone (MEK)	**2.3**	4.9	1.4	0.49	**J**
141-78-6	Ethyl Acetate	**2.8**	4.9	2.9	1.2	**J**
110-54-3	n-Hexane	**1.4**	2.4	1.4	0.49	**J**
67-66-3	Chloroform	**12**	2.4	0.76	0.32	
109-99-9	Tetrahydrofuran (THF)	**4.4**	2.4	0.76	0.30	
107-06-2	1,2-Dichloroethane	0.76	2.4	0.76	0.26	**U**
71-43-2	Benzene	**0.61**	2.4	0.76	0.34	**J**
56-23-5	Carbon Tetrachloride	**1.6**	2.4	0.76	0.33	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV123-350-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-012

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00560

Initial Pressure (psig): -2.33 Final Pressure (psig): 7.32

Container Dilution Factor: 1.78

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**1.8**	4.9	1.5	0.67	**J**
75-27-4	Bromodichloromethane	**0.97**	2.4	0.76	0.34	**J**
79-01-6	Trichloroethene	**0.43**	2.4	0.76	0.32	**J**
123-91-1	1,4-Dioxane	**0.36**	2.4	0.76	0.28	**J**
142-82-5	n-Heptane	1.4	2.4	1.4	0.38	**U**
108-10-1	4-Methyl-2-pentanone	0.76	2.4	0.76	0.32	**U**
108-88-3	Toluene	**1.5**	2.4	0.76	0.29	**J**
591-78-6	2-Hexanone	**0.77**	2.4	0.76	0.29	**J**
124-48-1	Dibromochloromethane	**0.37**	2.4	0.76	0.31	**J**
106-93-4	1,2-Dibromoethane	**1.1**	2.4	0.76	0.28	**J**
127-18-4	Tetrachloroethene	**0.69**	2.3	0.76	0.31	**J**
100-41-4	Ethylbenzene	0.76	2.4	0.76	0.33	**U**
179601-23-1	m,p-Xylenes	1.5	4.9	1.5	0.62	**U**
75-25-2	Bromoform	1.4	2.4	1.4	0.49	**U**
100-42-5	Styrene	1.4	2.4	1.4	0.38	**U**
95-47-6	o-Xylene	0.76	2.4	0.76	0.34	**U**
108-67-8	1,3,5-Trimethylbenzene	0.76	2.4	0.76	0.34	**U**
95-63-6	1,2,4-Trimethylbenzene	0.76	2.4	0.76	0.33	**U**
120-82-1	1,2,4-Trichlorobenzene	1.4	2.4	1.4	0.58	**U**
91-20-3	Naphthalene	1.4	2.3	1.4	0.58	**U**
1330-20-7	Xylenes, Total	1.5	4.9	1.5	0.62	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV123-450-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-013

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00612

Initial Pressure (psig): -2.57 Final Pressure (psig): 5.41

Container Dilution Factor: 1.66

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**2.1**	2.2	1.3	0.54	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**270**	2.2	1.3	0.36	
74-87-3	Chloromethane	**0.63**	2.2	1.3	0.36	**J**
75-01-4	Vinyl Chloride	0.71	2.2	0.71	0.24	**U**
106-99-0	1,3-Butadiene	1.3	2.2	1.3	0.37	**U**
75-00-3	Chloroethane	1.3	2.2	1.3	0.27	**U**
64-17-5	Ethanol	**58**	22	3.4	1.5	**B**
67-64-1	Acetone	**21**	22	11	5.0	**J**
75-69-4	Trichlorofluoromethane	**28**	2.2	1.3	0.34	
67-63-0	2-Propanol (Isopropyl Alcohol)	**4.6**	8.7	2.6	0.91	**J**
75-09-2	Methylene Chloride	**1.5**	2.2	1.3	0.62	**J**
76-13-1	Trichlorotrifluoroethane	**6.2**	2.2	0.71	0.32	
75-15-0	Carbon Disulfide	**6.2**	4.6	2.2	0.66	
75-34-3	1,1-Dichloroethane	1.4	2.3	1.4	0.32	**U**
78-93-3	2-Butanone (MEK)	**7.5**	4.6	1.3	0.46	
141-78-6	Ethyl Acetate	**42**	4.6	2.7	1.2	
110-54-3	n-Hexane	**3.2**	2.2	1.3	0.46	
67-66-3	Chloroform	**7.0**	2.2	0.71	0.29	
109-99-9	Tetrahydrofuran (THF)	**8.5**	2.3	0.71	0.28	
107-06-2	1,2-Dichloroethane	0.71	2.2	0.71	0.24	**U**
71-43-2	Benzene	**2.7**	2.2	0.71	0.32	
56-23-5	Carbon Tetrachloride	0.71	2.2	0.71	0.31	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV123-450-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-013

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00612

Initial Pressure (psig): -2.57 Final Pressure (psig): 5.41

Container Dilution Factor: 1.66

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**3.8**	4.6	1.4	0.62	**J**
75-27-4	Bromodichloromethane	**5.6**	2.2	0.71	0.32	
79-01-6	Trichloroethene	0.71	2.2	0.71	0.30	**U**
123-91-1	1,4-Dioxane	0.71	2.2	0.71	0.26	**U**
142-82-5	n-Heptane	**0.54**	2.2	1.3	0.35	**J**
108-10-1	4-Methyl-2-pentanone	**0.33**	2.2	0.71	0.30	**J**
108-88-3	Toluene	**14**	2.2	0.71	0.27	
591-78-6	2-Hexanone	**1.1**	2.2	0.71	0.27	**J**
124-48-1	Dibromochloromethane	**2.4**	2.2	0.71	0.29	
106-93-4	1,2-Dibromoethane	0.71	2.2	0.71	0.26	**U**
127-18-4	Tetrachloroethene	**1.9**	2.2	0.71	0.29	**J**
100-41-4	Ethylbenzene	**0.71**	2.2	0.71	0.31	**J**
179601-23-1	m,p-Xylenes	**1.4**	4.6	1.4	0.58	**J**
75-25-2	Bromoform	1.3	2.2	1.3	0.46	**U**
100-42-5	Styrene	1.3	2.2	1.3	0.36	**U**
95-47-6	o-Xylene	**0.58**	2.2	0.71	0.32	**J**
108-67-8	1,3,5-Trimethylbenzene	0.71	2.2	0.71	0.32	**U**
95-63-6	1,2,4-Trimethylbenzene	**0.38**	2.2	0.71	0.31	**J**
120-82-1	1,2,4-Trichlorobenzene	1.3	2.2	1.3	0.54	**U**
91-20-3	Naphthalene	1.3	2.2	1.3	0.54	**U**
1330-20-7	Xylenes, Total	**2.0**	4.6	1.4	0.58	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV131-025-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-014

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00905

Initial Pressure (psig): -4.35 Final Pressure (psig): 5.13

Container Dilution Factor: 1.92

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**13**	2.5	1.5	0.62	
75-71-8	Dichlorodifluoromethane (CFC 12)	**120**	2.5	1.5	0.42	
74-87-3	Chloromethane	1.5	2.5	1.5	0.41	**U**
75-01-4	Vinyl Chloride	0.82	2.6	0.82	0.27	**U**
106-99-0	1,3-Butadiene	**1.2**	2.5	1.5	0.42	**J**
75-00-3	Chloroethane	1.5	2.6	1.5	0.32	**U**
64-17-5	Ethanol	**130**	25	4.0	1.8	**B**
67-64-1	Acetone	**640**	25	13	5.8	
75-69-4	Trichlorofluoromethane	**14**	2.5	1.5	0.39	
67-63-0	2-Propanol (Isopropyl Alcohol)	**38**	10	3.0	1.1	
75-09-2	Methylene Chloride	1.5	2.5	1.5	0.72	**U**
76-13-1	Trichlorotrifluoroethane	**29**	2.6	0.82	0.36	
75-15-0	Carbon Disulfide	**150**	5.3	2.6	0.77	
75-34-3	1,1-Dichloroethane	1.6	2.6	1.6	0.37	**U**
78-93-3	2-Butanone (MEK)	**74**	5.3	1.5	0.53	
141-78-6	Ethyl Acetate	3.1	5.3	3.1	1.3	**U**
110-54-3	n-Hexane	1.5	2.6	1.5	0.53	**U**
67-66-3	Chloroform	**2.8**	2.6	0.82	0.34	
109-99-9	Tetrahydrofuran (THF)	0.82	2.6	0.82	0.32	**U**
107-06-2	1,2-Dichloroethane	0.82	2.6	0.82	0.28	**U**
71-43-2	Benzene	**1.1**	2.5	0.82	0.37	**J**
56-23-5	Carbon Tetrachloride	**9.7**	2.5	0.82	0.36	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV131-025-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-014

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00905

Initial Pressure (psig): -4.35 Final Pressure (psig): 5.13

Container Dilution Factor: 1.92

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.6	5.3	1.6	0.72	**U**
75-27-4	Bromodichloromethane	0.82	2.6	0.82	0.37	**U**
79-01-6	Trichloroethene	0.82	2.6	0.82	0.35	**U**
123-91-1	1,4-Dioxane	**15**	2.6	0.82	0.30	
142-82-5	n-Heptane	1.5	2.6	1.5	0.41	**U**
108-10-1	4-Methyl-2-pentanone	**34**	2.5	0.82	0.35	
108-88-3	Toluene	**6.3**	2.6	0.82	0.31	
591-78-6	2-Hexanone	0.82	2.6	0.82	0.32	**U**
124-48-1	Dibromochloromethane	0.82	2.6	0.82	0.34	**U**
106-93-4	1,2-Dibromoethane	0.82	2.6	0.82	0.30	**U**
127-18-4	Tetrachloroethene	**0.40**	2.5	0.82	0.33	**J**
100-41-4	Ethylbenzene	**0.96**	2.6	0.82	0.36	**J**
179601-23-1	m,p-Xylenes	**6.6**	5.3	1.6	0.67	
75-25-2	Bromoform	1.5	2.6	1.5	0.53	**U**
100-42-5	Styrene	**0.53**	2.5	1.5	0.41	**J**
95-47-6	o-Xylene	**2.1**	2.6	0.82	0.37	**J**
108-67-8	1,3,5-Trimethylbenzene	**2.5**	2.5	0.82	0.37	**J**
95-63-6	1,2,4-Trimethylbenzene	**7.0**	2.6	0.82	0.36	
120-82-1	1,2,4-Trichlorobenzene	1.5	2.6	1.5	0.62	**U**
91-20-3	Naphthalene	**0.80**	2.5	1.5	0.62	**J**
1330-20-7	Xylenes, Total	**8.7**	5.3	1.6	0.67	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV131-055-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-015

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00604

Initial Pressure (psig): -2.44 Final Pressure (psig): 6.33

Container Dilution Factor: 1.72

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.8**	2.3	1.4	0.56	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**160**	2.3	1.4	0.37	
74-87-3	Chloromethane	**2.1**	2.3	1.4	0.37	**J**
75-01-4	Vinyl Chloride	0.73	2.3	0.73	0.25	**U**
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.38	**U**
75-00-3	Chloroethane	**0.40**	2.3	1.4	0.28	**J**
64-17-5	Ethanol	**21**	22	3.6	1.6	**J, B**
67-64-1	Acetone	**43**	23	12	5.2	
75-69-4	Trichlorofluoromethane	**17**	2.3	1.4	0.35	
67-63-0	2-Propanol (Isopropyl Alcohol)	**3.0**	9.0	2.7	0.95	**J**
75-09-2	Methylene Chloride	**1.8**	2.3	1.4	0.65	**J**
76-13-1	Trichlorotrifluoroethane	**32**	2.3	0.73	0.33	
75-15-0	Carbon Disulfide	**8.4**	4.7	2.3	0.69	
75-34-3	1,1-Dichloroethane	1.4	2.4	1.4	0.34	**U**
78-93-3	2-Butanone (MEK)	**5.9**	4.7	1.4	0.47	
141-78-6	Ethyl Acetate	**140**	4.7	2.8	1.2	
110-54-3	n-Hexane	**4.5**	2.3	1.4	0.47	
67-66-3	Chloroform	**1.0**	2.3	0.73	0.31	**J**
109-99-9	Tetrahydrofuran (THF)	**2.6**	2.4	0.73	0.29	
107-06-2	1,2-Dichloroethane	0.73	2.3	0.73	0.25	**U**
71-43-2	Benzene	**1.7**	2.3	0.73	0.33	**J**
56-23-5	Carbon Tetrachloride	**12**	2.3	0.73	0.32	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV131-055-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-015

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00604

Initial Pressure (psig): -2.44 Final Pressure (psig): 6.33

Container Dilution Factor: 1.72

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**5.7**	4.7	1.5	0.65	
75-27-4	Bromodichloromethane	0.73	2.3	0.73	0.33	**U**
79-01-6	Trichloroethene	0.73	2.3	0.73	0.31	**U**
123-91-1	1,4-Dioxane	**0.46**	2.3	0.73	0.27	**J**
142-82-5	n-Heptane	**1.2**	2.3	1.4	0.37	**J**
108-10-1	4-Methyl-2-pentanone	**0.49**	2.3	0.73	0.31	**J**
108-88-3	Toluene	**13**	2.3	0.73	0.28	
591-78-6	2-Hexanone	**0.53**	2.3	0.73	0.28	**J**
124-48-1	Dibromochloromethane	0.73	2.3	0.73	0.30	**U**
106-93-4	1,2-Dibromoethane	0.73	2.3	0.73	0.27	**U**
127-18-4	Tetrachloroethene	**2.5**	2.2	0.73	0.30	
100-41-4	Ethylbenzene	**0.52**	2.3	0.73	0.32	**J**
179601-23-1	m,p-Xylenes	**0.89**	4.7	1.5	0.60	**J**
75-25-2	Bromoform	1.4	2.3	1.4	0.47	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.37	**U**
95-47-6	o-Xylene	0.73	2.3	0.73	0.33	**U**
108-67-8	1,3,5-Trimethylbenzene	0.73	2.3	0.73	0.33	**U**
95-63-6	1,2,4-Trimethylbenzene	0.73	2.3	0.73	0.32	**U**
120-82-1	1,2,4-Trichlorobenzene	1.4	2.3	1.4	0.56	**U**
91-20-3	Naphthalene	1.3	2.2	1.3	0.56	**U**
1330-20-7	Xylenes, Total	**0.89**	4.7	1.5	0.60	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV131-150-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-016

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan/Topacio De Leon Date Analyzed: 5/5 - 5/6/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00728

Initial Pressure (psig): -4.47 Final Pressure (psig): 6.31

Container Dilution Factor: 2.05

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.2**	2.7	1.6	0.67	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**430**	27	16	4.5	**D**
74-87-3	Chloromethane	**0.52**	2.7	1.6	0.44	**J**
75-01-4	Vinyl Chloride	0.87	2.8	0.87	0.29	**U**
106-99-0	1,3-Butadiene	1.6	2.7	1.6	0.45	**U**
75-00-3	Chloroethane	1.6	2.8	1.6	0.34	**U**
64-17-5	Ethanol	**6.9**	27	4.3	1.9	**J, B**
67-64-1	Acetone	**21**	27	14	6.2	**J**
75-69-4	Trichlorofluoromethane	**53**	2.7	1.6	0.42	
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.3**	11	3.2	1.1	**J**
75-09-2	Methylene Chloride	1.6	2.7	1.6	0.77	**U**
76-13-1	Trichlorotrifluoroethane	**44**	2.8	0.87	0.39	
75-15-0	Carbon Disulfide	**5.2**	5.6	2.8	0.82	**J**
75-34-3	1,1-Dichloroethane	1.7	2.8	1.7	0.40	**U**
78-93-3	2-Butanone (MEK)	**5.2**	5.6	1.6	0.56	**J**
141-78-6	Ethyl Acetate	3.3	5.6	3.3	1.4	**U**
110-54-3	n-Hexane	1.6	2.8	1.6	0.56	**U**
67-66-3	Chloroform	**2.1**	2.8	0.87	0.36	**J**
109-99-9	Tetrahydrofuran (THF)	**7.7**	2.8	0.87	0.34	
107-06-2	1,2-Dichloroethane	0.87	2.8	0.87	0.30	**U**
71-43-2	Benzene	0.87	2.7	0.87	0.39	**U**
56-23-5	Carbon Tetrachloride	**24**	2.7	0.87	0.38	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV131-150-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-016

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan/Topacio De Leon Date Analyzed: 5/5 - 5/6/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00728

Initial Pressure (psig): -4.47 Final Pressure (psig): 6.31

Container Dilution Factor: 2.05

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.7	5.6	1.7	0.77	**U**
75-27-4	Bromodichloromethane	0.87	2.8	0.87	0.39	**U**
79-01-6	Trichloroethene	**0.46**	2.8	0.87	0.37	**J**
123-91-1	1,4-Dioxane	0.87	2.8	0.87	0.32	**U**
142-82-5	n-Heptane	1.6	2.8	1.6	0.44	**U**
108-10-1	4-Methyl-2-pentanone	0.87	2.7	0.87	0.37	**U**
108-88-3	Toluene	**1.4**	2.8	0.87	0.33	**J**
591-78-6	2-Hexanone	**1.6**	2.8	0.87	0.34	**J**
124-48-1	Dibromochloromethane	0.87	2.8	0.87	0.36	**U**
106-93-4	1,2-Dibromoethane	**5.7**	2.8	0.87	0.32	
127-18-4	Tetrachloroethene	**0.42**	2.7	0.87	0.35	**J**
100-41-4	Ethylbenzene	0.87	2.8	0.87	0.38	**U**
179601-23-1	m,p-Xylenes	**0.89**	5.6	1.7	0.72	**J**
75-25-2	Bromoform	1.6	2.8	1.6	0.56	**U**
100-42-5	Styrene	1.6	2.7	1.6	0.44	**U**
95-47-6	o-Xylene	**0.44**	2.8	0.87	0.39	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.48**	2.7	0.87	0.39	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.64**	2.8	0.87	0.38	**J**
120-82-1	1,2,4-Trichlorobenzene	1.6	2.8	1.6	0.67	**U**
91-20-3	Naphthalene	1.6	2.7	1.6	0.67	**U**
1330-20-7	Xylenes, Total	**1.3**	5.6	1.7	0.72	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV131-245-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-017

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon/Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00232

Initial Pressure (psig): -3.02 Final Pressure (psig): 5.99

Container Dilution Factor: 1.77

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.6**	2.3	1.4	0.58	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**410**	23	14	3.8	**D**
74-87-3	Chloromethane	**2.7**	2.3	1.4	0.38	
75-01-4	Vinyl Chloride	0.75	2.4	0.75	0.25	**U**
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.39	**U**
75-00-3	Chloroethane	**0.59**	2.4	1.4	0.29	**J**
64-17-5	Ethanol	**8.5**	23	3.7	1.6	**J, B**
67-64-1	Acetone	**47**	23	12	5.3	
75-69-4	Trichlorofluoromethane	**54**	2.3	1.4	0.36	
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.2**	9.3	2.8	0.97	**J**
75-09-2	Methylene Chloride	1.4	2.3	1.4	0.66	**U**
76-13-1	Trichlorotrifluoroethane	**27**	2.4	0.75	0.34	
75-15-0	Carbon Disulfide	**8.0**	4.9	2.4	0.71	
75-34-3	1,1-Dichloroethane	1.5	2.4	1.5	0.35	**U**
78-93-3	2-Butanone (MEK)	**8.8**	4.9	1.4	0.49	
141-78-6	Ethyl Acetate	2.9	4.9	2.9	1.2	**U**
110-54-3	n-Hexane	1.4	2.4	1.4	0.49	**U**
67-66-3	Chloroform	**5.2**	2.4	0.75	0.31	
109-99-9	Tetrahydrofuran (THF)	**62**	2.4	0.75	0.30	
107-06-2	1,2-Dichloroethane	0.75	2.4	0.75	0.26	**U**
71-43-2	Benzene	**1.2**	2.3	0.75	0.34	**J**
56-23-5	Carbon Tetrachloride	**27**	2.3	0.75	0.33	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV131-245-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-017

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon/Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00232

Initial Pressure (psig): -3.02 Final Pressure (psig): 5.99

Container Dilution Factor: 1.77

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.5	4.9	1.5	0.66	**U**
75-27-4	Bromodichloromethane	0.75	2.4	0.75	0.34	**U**
79-01-6	Trichloroethene	**0.39**	2.4	0.75	0.32	**J**
123-91-1	1,4-Dioxane	**0.31**	2.4	0.75	0.28	**J**
142-82-5	n-Heptane	1.4	2.4	1.4	0.38	**U**
108-10-1	4-Methyl-2-pentanone	**0.87**	2.3	0.75	0.32	**J**
108-88-3	Toluene	**1.5**	2.4	0.75	0.29	**J**
591-78-6	2-Hexanone	**1.2**	2.4	0.75	0.29	**J**
124-48-1	Dibromochloromethane	0.75	2.4	0.75	0.31	**U**
106-93-4	1,2-Dibromoethane	0.75	2.4	0.75	0.27	**U**
127-18-4	Tetrachloroethene	**0.48**	2.3	0.75	0.31	**J**
100-41-4	Ethylbenzene	0.75	2.4	0.75	0.33	**U**
179601-23-1	m,p-Xylenes	**1.1**	4.9	1.5	0.62	**J**
75-25-2	Bromoform	1.4	2.4	1.4	0.49	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.38	**U**
95-47-6	o-Xylene	**0.61**	2.4	0.75	0.34	**J**
108-67-8	1,3,5-Trimethylbenzene	**1.3**	2.3	0.75	0.34	**J**
95-63-6	1,2,4-Trimethylbenzene	**2.1**	2.4	0.75	0.33	**J**
120-82-1	1,2,4-Trichlorobenzene	1.4	2.4	1.4	0.58	**U**
91-20-3	Naphthalene	1.4	2.3	1.4	0.58	**U**
1330-20-7	Xylenes, Total	**1.7**	4.9	1.5	0.62	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV131-350-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-018

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon/Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.025 Liter(s)
Container ID: 1SS01052

Initial Pressure (psig): -3.30 Final Pressure (psig): 5.72

Container Dilution Factor: 1.79

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**6.1**	2.4	1.4	0.58	
75-71-8	Dichlorodifluoromethane (CFC 12)	**5,100**	38	23	6.2	**D**
74-87-3	Chloromethane	1.4	2.4	1.4	0.38	**U**
75-01-4	Vinyl Chloride	0.76	2.4	0.76	0.26	**U**
106-99-0	1,3-Butadiene	1.4	2.4	1.4	0.39	**U**
75-00-3	Chloroethane	1.4	2.4	1.4	0.30	**U**
64-17-5	Ethanol	**2.3**	23	3.7	1.7	**J, B**
67-64-1	Acetone	**12**	24	12	5.4	**J**
75-69-4	Trichlorofluoromethane	**720**	38	23	5.8	**D**
67-63-0	2-Propanol (Isopropyl Alcohol)	2.8	9.4	2.8	0.98	**U**
75-09-2	Methylene Chloride	1.4	2.4	1.4	0.67	**U**
76-13-1	Trichlorotrifluoroethane	**420**	2.4	0.76	0.34	
75-15-0	Carbon Disulfide	**15**	4.9	2.4	0.72	
75-34-3	1,1-Dichloroethane	1.5	2.5	1.5	0.35	**U**
78-93-3	2-Butanone (MEK)	**1.1**	4.9	1.4	0.49	**J**
141-78-6	Ethyl Acetate	2.9	4.9	2.9	1.3	**U**
110-54-3	n-Hexane	**0.64**	2.4	1.4	0.49	**J**
67-66-3	Chloroform	**1.1**	2.4	0.76	0.32	**J**
109-99-9	Tetrahydrofuran (THF)	**4.1**	2.5	0.76	0.30	
107-06-2	1,2-Dichloroethane	0.76	2.4	0.76	0.26	**U**
71-43-2	Benzene	**1.4**	2.4	0.76	0.34	**J**
56-23-5	Carbon Tetrachloride	**13**	2.4	0.76	0.33	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV131-350-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-018

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon/Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.025 Liter(s)
Container ID: 1SS01052

Initial Pressure (psig): -3.30 Final Pressure (psig): 5.72

Container Dilution Factor: 1.79

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.5	4.9	1.5	0.67	**U**
75-27-4	Bromodichloromethane	0.76	2.4	0.76	0.34	**U**
79-01-6	Trichloroethene	**0.48**	2.4	0.76	0.32	**J**
123-91-1	1,4-Dioxane	**0.82**	2.4	0.76	0.28	**J**
142-82-5	n-Heptane	**1.2**	2.4	1.4	0.38	**J**
108-10-1	4-Methyl-2-pentanone	0.76	2.4	0.76	0.33	**U**
108-88-3	Toluene	**5.4**	2.4	0.76	0.29	
591-78-6	2-Hexanone	**0.34**	2.4	0.76	0.30	**J**
124-48-1	Dibromochloromethane	0.76	2.4	0.76	0.31	**U**
106-93-4	1,2-Dibromoethane	0.76	2.4	0.76	0.28	**U**
127-18-4	Tetrachloroethene	**17**	2.3	0.76	0.31	
100-41-4	Ethylbenzene	**0.54**	2.4	0.76	0.34	**J**
179601-23-1	m,p-Xylenes	**2.3**	4.9	1.5	0.63	**J**
75-25-2	Bromoform	1.4	2.4	1.4	0.49	**U**
100-42-5	Styrene	1.4	2.4	1.4	0.38	**U**
95-47-6	o-Xylene	**0.98**	2.4	0.76	0.34	**J**
108-67-8	1,3,5-Trimethylbenzene	**1.2**	2.4	0.76	0.34	**J**
95-63-6	1,2,4-Trimethylbenzene	**1.8**	2.4	0.76	0.33	**J**
120-82-1	1,2,4-Trichlorobenzene	1.4	2.4	1.4	0.58	**U**
91-20-3	Naphthalene	1.4	2.3	1.4	0.58	**U**
1330-20-7	Xylenes, Total	**3.3**	4.9	1.5	0.63	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV131-450-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-019

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0030 Liter(s)
Test Notes:
Container ID: 1SS00831

Initial Pressure (psig): -4.47 Final Pressure (psig): 5.63

Container Dilution Factor: 1.99

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**130**	350	210	86	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**7,500**	350	210	58	
74-87-3	Chloromethane	210	350	210	57	**U**
75-01-4	Vinyl Chloride	110	360	110	38	**U**
106-99-0	1,3-Butadiene	210	350	210	58	**U**
75-00-3	Chloroethane	210	360	210	44	**U**
64-17-5	Ethanol	550	3,400	550	250	**U**
67-64-1	Acetone	1,800	3,500	1,800	800	**U**
75-69-4	Trichlorofluoromethane	**1,100**	350	210	54	
67-63-0	2-Propanol (Isopropyl Alcohol)	420	1,400	420	150	**U**
75-09-2	Methylene Chloride	210	350	210	100	**U**
76-13-1	Trichlorotrifluoroethane	**380**	360	110	50	
75-15-0	Carbon Disulfide	**310**	730	360	110	**J**
75-34-3	1,1-Dichloroethane	220	360	220	52	**U**
78-93-3	2-Butanone (MEK)	210	730	210	73	**U**
141-78-6	Ethyl Acetate	430	730	430	190	**U**
110-54-3	n-Hexane	**630**	360	210	73	
67-66-3	Chloroform	110	360	110	47	**U**
109-99-9	Tetrahydrofuran (THF)	**84**	360	110	44	**J**
107-06-2	1,2-Dichloroethane	110	360	110	39	**U**
71-43-2	Benzene	**4,100**	350	110	51	
56-23-5	Carbon Tetrachloride	110	350	110	49	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV131-450-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-019

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0030 Liter(s)
Test Notes:
Container ID: 1SS00831

Initial Pressure (psig): -4.47 Final Pressure (psig): 5.63

Container Dilution Factor: 1.99

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**1,500**	730	230	100	
75-27-4	Bromodichloromethane	110	360	110	51	**U**
79-01-6	Trichloroethene	110	360	110	48	**U**
123-91-1	1,4-Dioxane	110	360	110	42	**U**
142-82-5	n-Heptane	**970**	360	210	56	
108-10-1	4-Methyl-2-pentanone	110	350	110	48	**U**
108-88-3	Toluene	**3,500**	360	110	43	
591-78-6	2-Hexanone	110	360	110	44	**U**
124-48-1	Dibromochloromethane	110	360	110	46	**U**
106-93-4	1,2-Dibromoethane	110	360	110	41	**U**
127-18-4	Tetrachloroethene	110	340	110	46	**U**
100-41-4	Ethylbenzene	**150**	360	110	50	**J**
179601-23-1	m,p-Xylenes	**320**	730	230	93	**J**
75-25-2	Bromoform	210	360	210	73	**U**
100-42-5	Styrene	210	350	210	57	**U**
95-47-6	o-Xylene	**160**	360	110	51	**J**
108-67-8	1,3,5-Trimethylbenzene	**100**	350	110	51	**J**
95-63-6	1,2,4-Trimethylbenzene	110	360	110	49	**U**
120-82-1	1,2,4-Trichlorobenzene	210	360	210	86	**U**
91-20-3	Naphthalene	210	340	210	86	**U**
1330-20-7	Xylenes, Total	**480**	730	230	93	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV132-025-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-020

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon/Wida Ang Date Analyzed: 5/5 - 5/6/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.020 Liter(s)
Container ID: 1SS00587

Initial Pressure (psig): -3.20 Final Pressure (psig): 5.51

Container Dilution Factor: 1.76

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**0.67**	2.3	1.4	0.57	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**4.4**	2.3	1.4	0.38	
74-87-3	Chloromethane	1.4	2.3	1.4	0.38	**U**
75-01-4	Vinyl Chloride	0.75	2.4	0.75	0.25	**U**
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.39	**U**
75-00-3	Chloroethane	1.4	2.4	1.4	0.29	**U**
64-17-5	Ethanol	**6.7**	23	3.7	1.6	**J, B**
67-64-1	Acetone	**12**	23	12	5.3	**J**
75-69-4	Trichlorofluoromethane	**1.7**	2.3	1.4	0.36	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.6**	9.2	2.8	0.97	**J**
75-09-2	Methylene Chloride	1.4	2.3	1.4	0.66	**U**
76-13-1	Trichlorotrifluoroethane	**15**	2.4	0.75	0.33	
75-15-0	Carbon Disulfide	**5.6**	4.8	2.4	0.70	
75-34-3	1,1-Dichloroethane	1.5	2.4	1.5	0.34	**U**
78-93-3	2-Butanone (MEK)	**6.5**	4.8	1.4	0.48	
141-78-6	Ethyl Acetate	2.9	4.8	2.9	1.2	**U**
110-54-3	n-Hexane	1.4	2.4	1.4	0.48	**U**
67-66-3	Chloroform	**9.2**	2.4	0.75	0.31	
109-99-9	Tetrahydrofuran (THF)	**0.55**	2.4	0.75	0.29	**J**
107-06-2	1,2-Dichloroethane	0.75	2.4	0.75	0.26	**U**
71-43-2	Benzene	**0.54**	2.3	0.75	0.34	**J**
56-23-5	Carbon Tetrachloride	**7.7**	2.3	0.75	0.33	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV132-025-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-020

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon/Wida Ang Date Analyzed: 5/5 - 5/6/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.020 Liter(s)
Container ID: 1SS00587

Initial Pressure (psig): -3.20 Final Pressure (psig): 5.51

Container Dilution Factor: 1.76

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.5	4.8	1.5	0.66	**U**
75-27-4	Bromodichloromethane	0.75	2.4	0.75	0.34	**U**
79-01-6	Trichloroethene	**4,200**	48	15	6.3	**D**
123-91-1	1,4-Dioxane	0.75	2.4	0.75	0.28	**U**
142-82-5	n-Heptane	**0.58**	2.4	1.4	0.37	**J**
108-10-1	4-Methyl-2-pentanone	**0.51**	2.3	0.75	0.32	**J**
108-88-3	Toluene	**4.4**	2.4	0.75	0.29	
591-78-6	2-Hexanone	**1.8**	2.4	0.75	0.29	**J**
124-48-1	Dibromochloromethane	0.75	2.4	0.75	0.31	**U**
106-93-4	1,2-Dibromoethane	0.75	2.4	0.75	0.27	**U**
127-18-4	Tetrachloroethene	**19**	2.3	0.75	0.30	
100-41-4	Ethylbenzene	**1.6**	2.4	0.75	0.33	**J**
179601-23-1	m,p-Xylenes	**9.1**	4.8	1.5	0.62	
75-25-2	Bromoform	1.4	2.4	1.4	0.48	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.38	**U**
95-47-6	o-Xylene	**4.4**	2.4	0.75	0.34	
108-67-8	1,3,5-Trimethylbenzene	**4.3**	2.3	0.75	0.34	
95-63-6	1,2,4-Trimethylbenzene	**21**	2.4	0.75	0.33	
120-82-1	1,2,4-Trichlorobenzene	1.4	2.4	1.4	0.57	**U**
91-20-3	Naphthalene	**7.8**	2.3	1.4	0.57	
1330-20-7	Xylenes, Total	**13**	4.8	1.5	0.62	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200504-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	0.32	0.53	0.32	0.13	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.32	0.53	0.32	0.087	**U**
74-87-3	Chloromethane	0.32	0.53	0.32	0.086	**U**
75-01-4	Vinyl Chloride	0.17	0.54	0.17	0.057	**U**
106-99-0	1,3-Butadiene	0.32	0.53	0.32	0.088	**U**
75-00-3	Chloroethane	0.32	0.54	0.32	0.066	**U**
64-17-5	Ethanol	**0.42**	5.2	0.83	0.37	**J**
67-64-1	Acetone	2.7	5.3	2.7	1.2	**U**
75-69-4	Trichlorofluoromethane	0.32	0.53	0.32	0.081	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.63	2.1	0.63	0.22	**U**
75-09-2	Methylene Chloride	0.32	0.53	0.32	0.15	**U**
76-13-1	Trichlorotrifluoroethane	0.17	0.54	0.17	0.076	**U**
75-15-0	Carbon Disulfide	0.54	1.1	0.54	0.16	**U**
75-34-3	1,1-Dichloroethane	0.33	0.55	0.33	0.078	**U**
78-93-3	2-Butanone (MEK)	0.32	1.1	0.32	0.11	**U**
141-78-6	Ethyl Acetate	0.65	1.1	0.65	0.28	**U**
110-54-3	n-Hexane	0.32	0.54	0.32	0.11	**U**
67-66-3	Chloroform	0.17	0.54	0.17	0.071	**U**
109-99-9	Tetrahydrofuran (THF)	0.17	0.55	0.17	0.067	**U**
107-06-2	1,2-Dichloroethane	0.17	0.54	0.17	0.059	**U**
71-43-2	Benzene	0.17	0.53	0.17	0.077	**U**
56-23-5	Carbon Tetrachloride	0.17	0.53	0.17	0.074	**U**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200504-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	0.34	1.1	0.34	0.15	U
75-27-4	Bromodichloromethane	0.17	0.54	0.17	0.077	U
79-01-6	Trichloroethene	0.17	0.54	0.17	0.072	U
123-91-1	1,4-Dioxane	0.17	0.54	0.17	0.063	U
142-82-5	n-Heptane	0.32	0.54	0.32	0.085	U
108-10-1	4-Methyl-2-pentanone	0.17	0.53	0.17	0.073	U
108-88-3	Toluene	0.17	0.54	0.17	0.065	U
591-78-6	2-Hexanone	0.17	0.54	0.17	0.066	U
124-48-1	Dibromochloromethane	0.17	0.54	0.17	0.070	U
106-93-4	1,2-Dibromoethane	0.17	0.54	0.17	0.062	U
127-18-4	Tetrachloroethene	0.17	0.52	0.17	0.069	U
100-41-4	Ethylbenzene	0.17	0.54	0.17	0.075	U
179601-23-1	m,p-Xylenes	0.34	1.1	0.34	0.14	U
75-25-2	Bromoform	0.32	0.54	0.32	0.11	U
100-42-5	Styrene	0.32	0.53	0.32	0.086	U
95-47-6	o-Xylene	0.17	0.54	0.17	0.077	U
108-67-8	1,3,5-Trimethylbenzene	0.17	0.53	0.17	0.077	U
95-63-6	1,2,4-Trimethylbenzene	0.17	0.54	0.17	0.074	U
120-82-1	1,2,4-Trichlorobenzene	0.32	0.54	0.32	0.13	U
91-20-3	Naphthalene	0.31	0.52	0.31	0.13	U
1330-20-7	Xylenes, Total	0.34	1.1	0.34	0.14	U

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200505-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	0.32	0.53	0.32	0.13	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.32	0.53	0.32	0.087	**U**
74-87-3	Chloromethane	0.32	0.53	0.32	0.086	**U**
75-01-4	Vinyl Chloride	0.17	0.54	0.17	0.057	**U**
106-99-0	1,3-Butadiene	0.32	0.53	0.32	0.088	**U**
75-00-3	Chloroethane	0.32	0.54	0.32	0.066	**U**
64-17-5	Ethanol	**0.41**	5.2	0.83	0.37	**J**
67-64-1	Acetone	2.7	5.3	2.7	1.2	**U**
75-69-4	Trichlorofluoromethane	0.32	0.53	0.32	0.081	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.63	2.1	0.63	0.22	**U**
75-09-2	Methylene Chloride	0.32	0.53	0.32	0.15	**U**
76-13-1	Trichlorotrifluoroethane	0.17	0.54	0.17	0.076	**U**
75-15-0	Carbon Disulfide	0.54	1.1	0.54	0.16	**U**
75-34-3	1,1-Dichloroethane	0.33	0.55	0.33	0.078	**U**
78-93-3	2-Butanone (MEK)	0.32	1.1	0.32	0.11	**U**
141-78-6	Ethyl Acetate	0.65	1.1	0.65	0.28	**U**
110-54-3	n-Hexane	0.32	0.54	0.32	0.11	**U**
67-66-3	Chloroform	0.17	0.54	0.17	0.071	**U**
109-99-9	Tetrahydrofuran (THF)	0.17	0.55	0.17	0.067	**U**
107-06-2	1,2-Dichloroethane	0.17	0.54	0.17	0.059	**U**
71-43-2	Benzene	0.17	0.53	0.17	0.077	**U**
56-23-5	Carbon Tetrachloride	0.17	0.53	0.17	0.074	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200505-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	0.34	1.1	0.34	0.15	U
75-27-4	Bromodichloromethane	0.17	0.54	0.17	0.077	U
79-01-6	Trichloroethene	0.17	0.54	0.17	0.072	U
123-91-1	1,4-Dioxane	0.17	0.54	0.17	0.063	U
142-82-5	n-Heptane	0.32	0.54	0.32	0.085	U
108-10-1	4-Methyl-2-pentanone	0.17	0.53	0.17	0.073	U
108-88-3	Toluene	0.17	0.54	0.17	0.065	U
591-78-6	2-Hexanone	0.17	0.54	0.17	0.066	U
124-48-1	Dibromochloromethane	0.17	0.54	0.17	0.070	U
106-93-4	1,2-Dibromoethane	0.17	0.54	0.17	0.062	U
127-18-4	Tetrachloroethene	0.17	0.52	0.17	0.069	U
100-41-4	Ethylbenzene	0.17	0.54	0.17	0.075	U
179601-23-1	m,p-Xylenes	0.34	1.1	0.34	0.14	U
75-25-2	Bromoform	0.32	0.54	0.32	0.11	U
100-42-5	Styrene	0.32	0.53	0.32	0.086	U
95-47-6	o-Xylene	0.17	0.54	0.17	0.077	U
108-67-8	1,3,5-Trimethylbenzene	0.17	0.53	0.17	0.077	U
95-63-6	1,2,4-Trimethylbenzene	0.17	0.54	0.17	0.074	U
120-82-1	1,2,4-Trichlorobenzene	0.32	0.54	0.32	0.13	U
91-20-3	Naphthalene	0.31	0.52	0.31	0.13	U
1330-20-7	Xylenes, Total	0.34	1.1	0.34	0.14	U

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200506-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 5/6/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	0.32	0.53	0.32	0.13	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.32	0.53	0.32	0.087	**U**
74-87-3	Chloromethane	0.32	0.53	0.32	0.086	**U**
75-01-4	Vinyl Chloride	0.17	0.54	0.17	0.057	**U**
106-99-0	1,3-Butadiene	0.32	0.53	0.32	0.088	**U**
75-00-3	Chloroethane	0.32	0.54	0.32	0.066	**U**
64-17-5	Ethanol	**0.39**	5.2	0.83	0.37	**J**
67-64-1	Acetone	2.7	5.3	2.7	1.2	**U**
75-69-4	Trichlorofluoromethane	0.32	0.53	0.32	0.081	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.63	2.1	0.63	0.22	**U**
75-09-2	Methylene Chloride	0.32	0.53	0.32	0.15	**U**
76-13-1	Trichlorotrifluoroethane	0.17	0.54	0.17	0.076	**U**
75-15-0	Carbon Disulfide	0.54	1.1	0.54	0.16	**U**
75-34-3	1,1-Dichloroethane	0.33	0.55	0.33	0.078	**U**
78-93-3	2-Butanone (MEK)	0.32	1.1	0.32	0.11	**U**
141-78-6	Ethyl Acetate	0.65	1.1	0.65	0.28	**U**
110-54-3	n-Hexane	0.32	0.54	0.32	0.11	**U**
67-66-3	Chloroform	0.17	0.54	0.17	0.071	**U**
109-99-9	Tetrahydrofuran (THF)	0.17	0.55	0.17	0.067	**U**
107-06-2	1,2-Dichloroethane	0.17	0.54	0.17	0.059	**U**
71-43-2	Benzene	0.17	0.53	0.17	0.077	**U**
56-23-5	Carbon Tetrachloride	0.17	0.53	0.17	0.074	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200506-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 5/6/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	0.34	1.1	0.34	0.15	U
75-27-4	Bromodichloromethane	0.17	0.54	0.17	0.077	U
79-01-6	Trichloroethene	0.17	0.54	0.17	0.072	U
123-91-1	1,4-Dioxane	0.17	0.54	0.17	0.063	U
142-82-5	n-Heptane	0.32	0.54	0.32	0.085	U
108-10-1	4-Methyl-2-pentanone	0.17	0.53	0.17	0.073	U
108-88-3	Toluene	0.17	0.54	0.17	0.065	U
591-78-6	2-Hexanone	0.17	0.54	0.17	0.066	U
124-48-1	Dibromochloromethane	0.17	0.54	0.17	0.070	U
106-93-4	1,2-Dibromoethane	0.17	0.54	0.17	0.062	U
127-18-4	Tetrachloroethene	0.17	0.52	0.17	0.069	U
100-41-4	Ethylbenzene	0.17	0.54	0.17	0.075	U
179601-23-1	m,p-Xylenes	0.34	1.1	0.34	0.14	U
75-25-2	Bromoform	0.32	0.54	0.32	0.11	U
100-42-5	Styrene	0.32	0.53	0.32	0.086	U
95-47-6	o-Xylene	0.17	0.54	0.17	0.077	U
108-67-8	1,3,5-Trimethylbenzene	0.17	0.53	0.17	0.077	U
95-63-6	1,2,4-Trimethylbenzene	0.17	0.54	0.17	0.074	U
120-82-1	1,2,4-Trichlorobenzene	0.32	0.54	0.32	0.13	U
91-20-3	Naphthalene	0.31	0.52	0.31	0.13	U
1330-20-7	Xylenes, Total	0.34	1.1	0.34	0.14	U

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Project ID: P2002105

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date(s) Collected: 4/14 - 4/15/20
Analyst: Lusine Hakobyan/Topacio De Leon/Wida Ang Date(s) Received: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister(s) / 1.0 L Summa Canister(s) Date(s) Analyzed: 5/4 - 5/6/20
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P200504-MB	**101**	**102**	**95**	70-130	
Method Blank	P200505-MB	**97**	**101**	**101**	70-130	
Method Blank	P200506-MB	**96**	**98**	**103**	70-130	
Lab Control Sample	P200504-LCS	**95**	**101**	**106**	70-130	
Lab Control Sample	P200505-LCS	**92**	**100**	**109**	70-130	
Lab Control Sample	P200506-LCS	**92**	**98**	**112**	70-130	
Duplicate Lab Control Sample	P200504-DLCS	**95**	**100**	**106**	70-130	
Duplicate Lab Control Sample	P200505-DLCS	**92**	**101**	**109**	70-130	
Duplicate Lab Control Sample	P200506-DLCS	**92**	**98**	**111**	70-130	
SV121-450-202	P2002105-001	**98**	**104**	**99**	70-130	
SV122-025-202	P2002105-002	**100**	**100**	**96**	70-130	
SV122-050-202	P2002105-003	**101**	**99**	**96**	70-130	
SV122-150-202	P2002105-004	**100**	**100**	**96**	70-130	
SV122-250-202	P2002105-005	**99**	**98**	**97**	70-130	
SV122-350-202	P2002105-006	**100**	**99**	**96**	70-130	
SV122-450-202	P2002105-007	**99**	**104**	**96**	70-130	
SV122-450-202	P2002105-007DUP	**100**	**104**	**95**	70-130	
SV123-025-202	P2002105-008	**100**	**99**	**97**	70-130	
SV123-050-202	P2002105-009	**99**	**98**	**96**	70-130	
SV123-150-202	P2002105-010	**102**	**98**	**95**	70-130	
SV123-250-202	P2002105-011	**102**	**95**	**98**	70-130	
SV123-350-202	P2002105-012	**101**	**96**	**94**	70-130	
SV123-450-202	P2002105-013	**101**	**97**	**95**	70-130	
SV131-025-202	P2002105-014	**109**	**97**	**108**	70-130	
SV131-055-202	P2002105-015	**93**	**99**	**108**	70-130	
SV131-150-202	P2002105-016	**94**	**99**	**108**	70-130	
SV131-245-202	P2002105-017	**94**	**99**	**106**	70-130	
SV131-350-202	P2002105-018	**94**	**99**	**107**	70-130	
SV131-450-202	P2002105-019	**101**	**106**	**103**	70-130	
SV132-025-202	P2002105-020	**95**	**99**	**108**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200504-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	210	212	213	**101**	**101**	57-136	0	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	197	201	**94**	**96**	59-128	2	25	
74-87-3	Chloromethane	212	189	198	**89**	**93**	59-132	4	25	
75-01-4	Vinyl Chloride	212	196	201	**92**	**95**	64-127	3	25	
106-99-0	1,3-Butadiene	212	202	203	**95**	**96**	66-134	1	25	
75-00-3	Chloroethane	214	196	202	**92**	**94**	63-127	2	25	
64-17-5	Ethanol	1,060	980	988	**92**	**93**	59-125	1	25	
67-64-1	Acetone	1,070	1020	1030	**95**	**96**	58-128	1	25	
75-69-4	Trichlorofluoromethane	212	199	200	**94**	**94**	62-126	0	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	422	413	414	**98**	**98**	52-125	0	25	
75-09-2	Methylene Chloride	210	196	197	**93**	**94**	62-115	1	25	
76-13-1	Trichlorotrifluoroethane	216	210	212	**97**	**98**	66-126	1	25	
75-15-0	Carbon Disulfide	212	203	199	**96**	**94**	57-134	2	25	
75-34-3	1,1-Dichloroethane	212	196	201	**92**	**95**	68-126	3	25	
78-93-3	2-Butanone (MEK)	212	201	203	**95**	**96**	67-130	1	25	
141-78-6	Ethyl Acetate	432	457	455	**106**	**105**	65-128	0.9	25	
110-54-3	n-Hexane	216	217	217	**100**	**100**	63-120	0	25	
67-66-3	Chloroform	214	203	204	**95**	**95**	68-123	0	25	
109-99-9	Tetrahydrofuran (THF)	220	203	203	**92**	**92**	64-123	0	25	
107-06-2	1,2-Dichloroethane	214	198	197	**93**	**92**	65-128	1	25	
71-43-2	Benzene	210	200	202	**95**	**96**	69-119	1	25	
56-23-5	Carbon Tetrachloride	208	206	206	**99**	**99**	68-132	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200504-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	422	424	428	**100**	**101**	70-117	1	25	
75-27-4	Bromodichloromethane	218	215	213	**99**	**98**	72-128	1	25	
79-01-6	Trichloroethene	216	212	211	**98**	**98**	71-123	0	25	
123-91-1	1,4-Dioxane	216	217	216	**100**	**100**	71-122	0	25	
142-82-5	n-Heptane	214	204	207	**95**	**97**	69-123	2	25	
108-10-1	4-Methyl-2-pentanone	212	216	218	**102**	**103**	67-130	1	25	
108-88-3	Toluene	212	214	213	**101**	**100**	66-119	1	25	
591-78-6	2-Hexanone	216	232	232	**107**	**107**	62-128	0	25	
124-48-1	Dibromochloromethane	214	232	231	**108**	**108**	70-130	0	25	
106-93-4	1,2-Dibromoethane	214	222	223	**104**	**104**	74-122	0	25	
127-18-4	Tetrachloroethene	208	220	219	**106**	**105**	66-124	0.9	25	
100-41-4	Ethylbenzene	212	227	225	**107**	**106**	70-124	0.9	25	
179601-23-1	m,p-Xylenes	426	462	458	**108**	**108**	61-134	0	25	
75-25-2	Bromoform	214	234	233	**109**	**109**	66-139	0	25	
100-42-5	Styrene	212	239	238	**113**	**112**	73-127	0.9	25	
95-47-6	o-Xylene	214	227	225	**106**	**105**	67-125	0.9	25	
108-67-8	1,3,5-Trimethylbenzene	212	235	233	**111**	**110**	67-130	0.9	25	
95-63-6	1,2,4-Trimethylbenzene	212	261	258	**123**	**122**	66-132	0.8	25	
120-82-1	1,2,4-Trichlorobenzene	216	251	250	**116**	**116**	55-142	0	25	
91-20-3	Naphthalene	212	271	268	**128**	**126**	57-138	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200505-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	210	201	200	**96**	**95**	57-136	1	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	191	192	**91**	**91**	59-128	0	25	
74-87-3	Chloromethane	212	182	185	**86**	**87**	59-132	1	25	
75-01-4	Vinyl Chloride	212	190	187	**90**	**88**	64-127	2	25	
106-99-0	1,3-Butadiene	212	190	191	**90**	**90**	66-134	0	25	
75-00-3	Chloroethane	214	188	192	**88**	**90**	63-127	2	25	
64-17-5	Ethanol	1,060	924	942	**87**	**89**	59-125	2	25	
67-64-1	Acetone	1,070	976	986	**91**	**92**	58-128	1	25	
75-69-4	Trichlorofluoromethane	212	192	192	**91**	**91**	62-126	0	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	422	392	397	**93**	**94**	52-125	1	25	
75-09-2	Methylene Chloride	210	190	190	**90**	**90**	62-115	0	25	
76-13-1	Trichlorotrifluoroethane	216	210	209	**97**	**97**	66-126	0	25	
75-15-0	Carbon Disulfide	212	194	193	**92**	**91**	57-134	1	25	
75-34-3	1,1-Dichloroethane	212	191	189	**90**	**89**	68-126	1	25	
78-93-3	2-Butanone (MEK)	212	193	193	**91**	**91**	67-130	0	25	
141-78-6	Ethyl Acetate	432	436	433	**101**	**100**	65-128	1	25	
110-54-3	n-Hexane	216	207	206	**96**	**95**	63-120	1	25	
67-66-3	Chloroform	214	197	196	**92**	**92**	68-123	0	25	
109-99-9	Tetrahydrofuran (THF)	220	194	194	**88**	**88**	64-123	0	25	
107-06-2	1,2-Dichloroethane	214	190	188	**89**	**88**	65-128	1	25	
71-43-2	Benzene	210	196	196	**93**	**93**	69-119	0	25	
56-23-5	Carbon Tetrachloride	208	201	203	**97**	**98**	68-132	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200505-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	422	415	415	**98**	**98**	70-117	0	25	
75-27-4	Bromodichloromethane	218	208	210	**95**	**96**	72-128	1	25	
79-01-6	Trichloroethene	216	209	209	**97**	**97**	71-123	0	25	
123-91-1	1,4-Dioxane	216	210	211	**97**	**98**	71-122	1	25	
142-82-5	n-Heptane	214	199	200	**93**	**93**	69-123	0	25	
108-10-1	4-Methyl-2-pentanone	212	209	211	**99**	**100**	67-130	1	25	
108-88-3	Toluene	212	210	211	**99**	**100**	66-119	1	25	
591-78-6	2-Hexanone	216	223	226	**103**	**105**	62-128	2	25	
124-48-1	Dibromochloromethane	214	229	229	**107**	**107**	70-130	0	25	
106-93-4	1,2-Dibromoethane	214	220	220	**103**	**103**	74-122	0	25	
127-18-4	Tetrachloroethene	208	220	220	**106**	**106**	66-124	0	25	
100-41-4	Ethylbenzene	212	222	222	**105**	**105**	70-124	0	25	
179601-23-1	m,p-Xylenes	426	450	452	**106**	**106**	61-134	0	25	
75-25-2	Bromoform	214	232	233	**108**	**109**	66-139	0.9	25	
100-42-5	Styrene	212	233	235	**110**	**111**	73-127	0.9	25	
95-47-6	o-Xylene	214	221	221	**103**	**103**	67-125	0	25	
108-67-8	1,3,5-Trimethylbenzene	212	230	230	**108**	**108**	67-130	0	25	
95-63-6	1,2,4-Trimethylbenzene	212	256	256	**121**	**121**	66-132	0	25	
120-82-1	1,2,4-Trichlorobenzene	216	250	250	**116**	**116**	55-142	0	25	
91-20-3	Naphthalene	212	265	265	**125**	**125**	57-138	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200506-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 5/6/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	210	205	203	**98**	**97**	57-136	1	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	193	193	**92**	**92**	59-128	0	25	
74-87-3	Chloromethane	212	184	185	**87**	**87**	59-132	0	25	
75-01-4	Vinyl Chloride	212	190	186	**90**	**88**	64-127	2	25	
106-99-0	1,3-Butadiene	212	193	191	**91**	**90**	66-134	1	25	
75-00-3	Chloroethane	214	185	190	**86**	**89**	63-127	3	25	
64-17-5	Ethanol	1,060	931	932	**88**	**88**	59-125	0	25	
67-64-1	Acetone	1,070	980	975	**92**	**91**	58-128	1	25	
75-69-4	Trichlorofluoromethane	212	188	188	**89**	**89**	62-126	0	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	422	394	394	**93**	**93**	52-125	0	25	
75-09-2	Methylene Chloride	210	188	187	**90**	**89**	62-115	1	25	
76-13-1	Trichlorotrifluoroethane	216	205	204	**95**	**94**	66-126	1	25	
75-15-0	Carbon Disulfide	212	191	190	**90**	**90**	57-134	0	25	
75-34-3	1,1-Dichloroethane	212	189	188	**89**	**89**	68-126	0	25	
78-93-3	2-Butanone (MEK)	212	191	191	**90**	**90**	67-130	0	25	
141-78-6	Ethyl Acetate	432	431	430	**100**	**100**	65-128	0	25	
110-54-3	n-Hexane	216	204	202	**94**	**94**	63-120	0	25	
67-66-3	Chloroform	214	195	193	**91**	**90**	68-123	1	25	
109-99-9	Tetrahydrofuran (THF)	220	193	192	**88**	**87**	64-123	1	25	
107-06-2	1,2-Dichloroethane	214	187	186	**87**	**87**	65-128	0	25	
71-43-2	Benzene	210	196	195	**93**	**93**	69-119	0	25	
56-23-5	Carbon Tetrachloride	208	202	201	**97**	**97**	68-132	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200506-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 5/6/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	422	417	412	**99**	**98**	70-117	1	25	
75-27-4	Bromodichloromethane	218	208	206	**95**	**94**	72-128	1	25	
79-01-6	Trichloroethene	216	210	207	**97**	**96**	71-123	1	25	
123-91-1	1,4-Dioxane	216	212	209	**98**	**97**	71-122	1	25	
142-82-5	n-Heptane	214	200	199	**93**	**93**	69-123	0	25	
108-10-1	4-Methyl-2-pentanone	212	212	211	**100**	**100**	67-130	0	25	
108-88-3	Toluene	212	201	200	**95**	**94**	66-119	1	25	
591-78-6	2-Hexanone	216	217	217	**100**	**100**	62-128	0	25	
124-48-1	Dibromochloromethane	214	219	217	**102**	**101**	70-130	1	25	
106-93-4	1,2-Dibromoethane	214	211	210	**99**	**98**	74-122	1	25	
127-18-4	Tetrachloroethene	208	209	207	**100**	**100**	66-124	0	25	
100-41-4	Ethylbenzene	212	212	211	**100**	**100**	70-124	0	25	
179601-23-1	m,p-Xylenes	426	433	430	**102**	**101**	61-134	1	25	
75-25-2	Bromoform	214	221	220	**103**	**103**	66-139	0	25	
100-42-5	Styrene	212	224	222	**106**	**105**	73-127	0.9	25	
95-47-6	o-Xylene	214	213	211	**100**	**99**	67-125	1	25	
108-67-8	1,3,5-Trimethylbenzene	212	220	218	**104**	**103**	67-130	1	25	
95-63-6	1,2,4-Trimethylbenzene	212	246	243	**116**	**115**	66-132	0.9	25	
120-82-1	1,2,4-Trichlorobenzene	216	240	239	**111**	**111**	55-142	0	25	
91-20-3	Naphthalene	212	258	254	**122**	**120**	57-138	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV122-450-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-007DUP

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SS00747

Initial Pressure (psig): -3.21 Final Pressure (psig): 5.53

Container Dilution Factor: 1.76

Compound	Sample Result µg/m³	Duplicate Sample Result µg/m³	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Propene	ND	ND	-	-	25	
Dichlorodifluoromethane (CFC 12)	65	63	64	**3**	25	
Chloromethane	39	38	38.5	**3**	25	**J**
Vinyl Chloride	8.9	8.4	8.65	**6**	25	**J**
1,3-Butadiene	ND	ND	-	-	25	
Chloroethane	7.2	7.2	7.2	**0**	25	**J**
Ethanol	55	51	53	**8**	25	**J, B**
Acetone	ND	ND	-	-	25	
Trichlorofluoromethane	ND	ND	-	-	25	
2-Propanol (Isopropyl Alcohol)	ND	ND	-	-	25	
Methylene Chloride	ND	ND	-	-	25	
Trichlorotrifluoroethane	ND	ND	-	-	25	
Carbon Disulfide	210	200	205	**5**	25	
1,1-Dichloroethane	ND	ND	-	-	25	
2-Butanone (MEK)	71	69	70	**3**	25	**J**
Ethyl Acetate	89	86	87.5	**3**	25	**J**
n-Hexane	35	34	34.5	**3**	25	**J**
Chloroform	ND	ND	-	-	25	
Tetrahydrofuran (THF)	210	200	205	**5**	25	
1,2-Dichloroethane	ND	ND	-	-	25	
Benzene	150	150	150	**0**	25	
Carbon Tetrachloride	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV122-450-202** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002105-007DUP

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SS00747

Initial Pressure (psig): -3.21 Final Pressure (psig): 5.53

Container Dilution Factor: 1.76

Compound	Sample Result µg/m³	Duplicate Sample Result µg/m³	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Cyclohexane	54	52	53	**4**	25	**J**
Bromodichloromethane	ND	ND	-	-	25	
Trichloroethene	ND	ND	-	-	25	
1,4-Dioxane	ND	ND	-	-	25	
n-Heptane	ND	ND	-	-	25	
4-Methyl-2-pentanone	ND	ND	-	-	25	
Toluene	630	610	620	**3**	25	
2-Hexanone	ND	ND	-	-	25	
Dibromochloromethane	ND	ND	-	-	25	
1,2-Dibromoethane	ND	ND	-	-	25	
Tetrachloroethene	ND	ND	-	-	25	
Ethylbenzene	27	26	26.5	**4**	25	**J**
m,p-Xylenes	45	43	44	**5**	25	**J**
Bromoform	ND	ND	-	-	25	
Styrene	ND	ND	-	-	25	
o-Xylene	15	14	14.5	**7**	25	**J**
1,3,5-Trimethylbenzene	ND	ND	-	-	25	
1,2,4-Trimethylbenzene	ND	ND	-	-	25	
1,2,4-Trichlorobenzene	ND	ND	-	-	25	
Naphthalene	ND	ND	-	-	25	
Xylenes, Total	59	57	58	**3**	25	**J**

ND = Compound was analyzed for, but not detected.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Lab File ID: 05042002.D
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister(s) Time Analyzed: 06:20
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	284513		11.15	1207365		13.27		557091		17.59	
	Upper Limit	398318		11.48	1690311		13.60		779927		17.92	
	Lower Limit	170708		10.82	724419		12.94		334255		17.26	
	Client Sample ID											
01	Method Blank	248677		11.13	1093796		13.26		506331		17.58	
02	Lab Control Sample	275674		11.15	1187682		13.28		541004		17.59	
03	Duplicate Lab Control Sample	282890		11.16	1215518		13.28		556100		17.59	
04	SV131-450-202	252995		11.13	1112708		13.26		572428		17.58	
05	SV121-450-202	262730		11.14	1143241		13.27		541072		17.58	
06	SV122-025-202	253281		11.13	1097828		13.26		530816		17.58	
07	SV122-050-202	251118		11.14	1091203		13.26		530289		17.58	
08	SV122-150-202	255126		11.14	1118511		13.27		527234		17.58	
09	SV122-250-202	256444		11.14	1105153		13.27		537613		17.58	
10	SV122-350-202	267847		11.14	1165828		13.27		568652		17.58	
11	SV122-450-202	288890		11.14	1257126		13.27		598117		17.58	
12	SV122-450-202 (Lab Duplicate)	285055		11.13	1256268		13.27		599351		17.58	
13	SV123-025-202	250040		11.14	1087892		13.27		523484		17.58	
14	SV123-025-202 (Dilution)	270420		11.13	1190589		13.26		566415		17.58	
15	SV123-050-202	247061		11.15	1054297		13.27		518089		17.58	
16	SV123-050-202 (Dilution)	282285		11.13	1233062		13.26		607357		17.58	
17	SV123-150-202	248029		11.13	1085249		13.26		543289		17.58	
18	SV123-250-202	243531		11.13	1055690		13.26		537204		17.58	
19	SV123-350-202	247126		11.13	1068054		13.26		543013		17.58	
20	SV123-450-202	245020		11.13	1056299		13.27		533176		17.58	

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Lab File ID: 05042002.D
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister(s) Time Analyzed: 06:20
Test Notes:

		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	24 Hour Standard	284513	11.15	1207365	13.27	557091	17.59
	Upper Limit	398318	11.48	1690311	13.60	779927	17.92
	Lower Limit	170708	10.82	724419	12.94	334255	17.26
	Client Sample ID						
21	SV131-025-202	271908	11.15	1142174	13.28	567392	17.59
22	SV131-055-202	279922	11.14	1170349	13.27	555309	17.58
23	SV131-150-202	268957	11.13	1130372	13.26	547593	17.58
24	SV131-245-202	268872	11.14	1150234	13.27	551161	17.58
25	SV131-350-202	269379	11.13	1140900	13.26	544164	17.58
26	SV132-025-202	267653	11.13	1146237	13.28	539733	17.58
27							
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38							
39							
40							

IS1 (BCM) = Bromochloromethane
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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: **EA Engineering, Science, and Technology, Inc.** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Lab File ID: 05052002.D
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister(s) Time Analyzed: 03:43
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	289532		11.15	1217379		13.28		564088		17.59	
	Upper Limit	405345		11.48	1704331		13.61		789723		17.92	
	Lower Limit	173719		10.82	730427		12.95		338453		17.26	
	Client Sample ID											
01	Method Blank	258335		11.13	1123652		13.26		524091		17.58	
02	Lab Control Sample	280171		11.15	1195033		13.28		544800		17.59	
03	Duplicate Lab Control Sample	287594		11.16	1213206		13.28		552360		17.58	
04	SV131-245-202 (Dilution)	298411		11.13	1299216		13.27		604869		17.58	
05	SV131-350-202 (Dilution)	286182		11.14	1238425		13.27		585368		17.58	
06												
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IS1 (BCM) = Bromochloromethane
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AREA LOWER LIMIT = 60% of internal standard area
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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: **EA Engineering, Science, and Technology, Inc.** ALS Project ID: P2002105
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Lab File ID: 05062002.D
Analyst: Wida Ang Date Analyzed: 5/6/20
Sampling Media: 1.0 L Summa Canister(s) Time Analyzed: 00:10
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	284972		11.15	1193817		13.28		574358		17.58	
	Upper Limit	398961		11.48	1671344		13.61		804101		17.91	
	Lower Limit	170983		10.82	716290		12.95		344615		17.25	
	Client Sample ID											
01	Method Blank	254427		11.13	1099157		13.26		529021		17.58	
02	Lab Control Sample	276696		11.15	1162464		13.28		552930		17.58	
03	Duplicate Lab Control Sample	284494		11.15	1195943		13.28		564101		17.58	
04	SV132-025-202 (Dilution)	280345		11.13	1203360		13.26		571504		17.58	
05	SV131-150-202 (Dilution)	275953		11.13	1200241		13.26		580495		17.58	
06												
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18												
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20												

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
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AREA UPPER LIMIT = 140% of internal standard area
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RT UPPER LIMIT = 0.33 minutes of internal standard RT
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I = Internal standard not within the specified limits.

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042013.D Vial: 4
Acq On : 4 May 2020 13:27 Operator: TD
Sample : P2002105-001 (150mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 19:20:20 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/4/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	262730	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	13.27	114	1143241	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	541072	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	435315	12.226	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.84%			
57) Toluene-d8 (SS2)	15.72	98	1189778	12.973	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.76%			
73) Bromofluorobenzene (SS3)	18.98	174	407403	12.346	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.80%			
Target Compounds						Qvalue
2) Propene	4.10	42	19487	0.640	ng	99
3) Dichlorodifluoromethan...	4.26	85	910068	15.291	ng	100
4) Chloromethane	4.53	50	191892	4.116	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	18010	0.506	ng	99
6) Vinyl Chloride	4.95	62	44596	0.872	ng	100
7) 1,3-Butadiene	5.22	54	1362	N.D.		
8) Bromomethane	5.65	94	124	N.D.		
9) Chloroethane	5.97	64	14381	0.712	ng	99
10) Ethanol	6.47	45	349	N.D.		
11) Acetonitrile	6.65	41	58	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) Acetone	6.98	58	73952	3.147	ng	86
14) Trichlorofluoromethane	7.25	101	85979	1.635	ng	99
15) 2-Propanol (Isopropanol)	7.51	45	3359	N.D.		
16) Acrylonitrile	7.75	53	699	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d	
19) Methylene Chloride	8.42	84	356	N.D.		
20) 3-Chloro-1-propene (Al...	8.58	41	1160	N.D.		
21) Trichlorotrifluoroethane	8.86	151	9530	0.384	ng	95
22) Carbon Disulfide	8.70	76	2631978	24.046	ng	99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	9.95	63	30596	0.614	ng	97
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	d	
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	10.46	72	14680	0.733	ng	97
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	11.27	87	909	N.D.		
30) Ethyl Acetate	11.30	61	434	N.D.		
31) n-Hexane	11.27	57	50689	1.011	ng	98
32) Chloroform	11.31	83	3317	0.063	ng	89
34) Tetrahydrofuran (THF)	11.72	72	143246	7.329	ng	99
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.11	62	11311	0.273	ng	99
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.	d	
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	12.87	78	1984274	16.185	ng	100
42) Carbon Tetrachloride	13.04	117	932	N.D.		
43) Cyclohexane	13.17	84	137667	3.013	ng	100
44) tert-Amyl Methyl Ether	13.46	73	556	N.D.		
45) 1,2-Dichloropropane	13.55	63	855	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	13.97	88	1188	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042013.D Vial: 4
Acq On : 4 May 2020 13:27 Operator: TD
Sample : P2002105-001 (150mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 19:20:20 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.31	71	12150	0.424 ng		91
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.88	58	835	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D. d		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d		
58) Toluene	15.82	91	8489310	71.811 ng		99
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.70	43	1771	N.D.		
63) n-Octane	16.83	57	3544	0.145 ng		85
64) Tetrachloroethene	16.96	166	4040	0.121 ng		93
65) Chlorobenzene	17.64	112	1293	N.D.		
66) Ethylbenzene	17.98	91	417005	3.163 ng		100
67) m- & p-Xylenes	18.14	91	469581	4.490 ng		99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	2181	N.D.		
70) o-Xylene	18.58	91	155645	1.466 ng		100
71) n-Nonane	18.77	43	6667	0.118 ng	#	66
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d		
74) Cumene	19.10	105	41462	0.318 ng		98
75) alpha-Pinene	19.55	93	201	N.D.		
76) n-Propylbenzene	19.55	91	35292	0.228 ng		94
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.68	105	21202	0.173 ng		98
79) 1,3,5-Trimethylbenzene	19.75	105	13078	0.123 ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	20.11	105	26813	0.251 ng		95
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.23	91	501	N.D.		
85) 1,3-Dichlorobenzene	20.24	146	301	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	671	N.D.		
87) sec-Butylbenzene	20.35	105	2857	N.D.		
88) 4-Isopropyltoluene (p-...	20.49	119	2710	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	20.61	146	138	N.D.		
91) d-Limonene	20.62	68	647	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.11	180	458	N.D.		
95) Naphthalene	22.22	128	3678	N.D.		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	20.11	119	3730	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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Misc : S31-02112001

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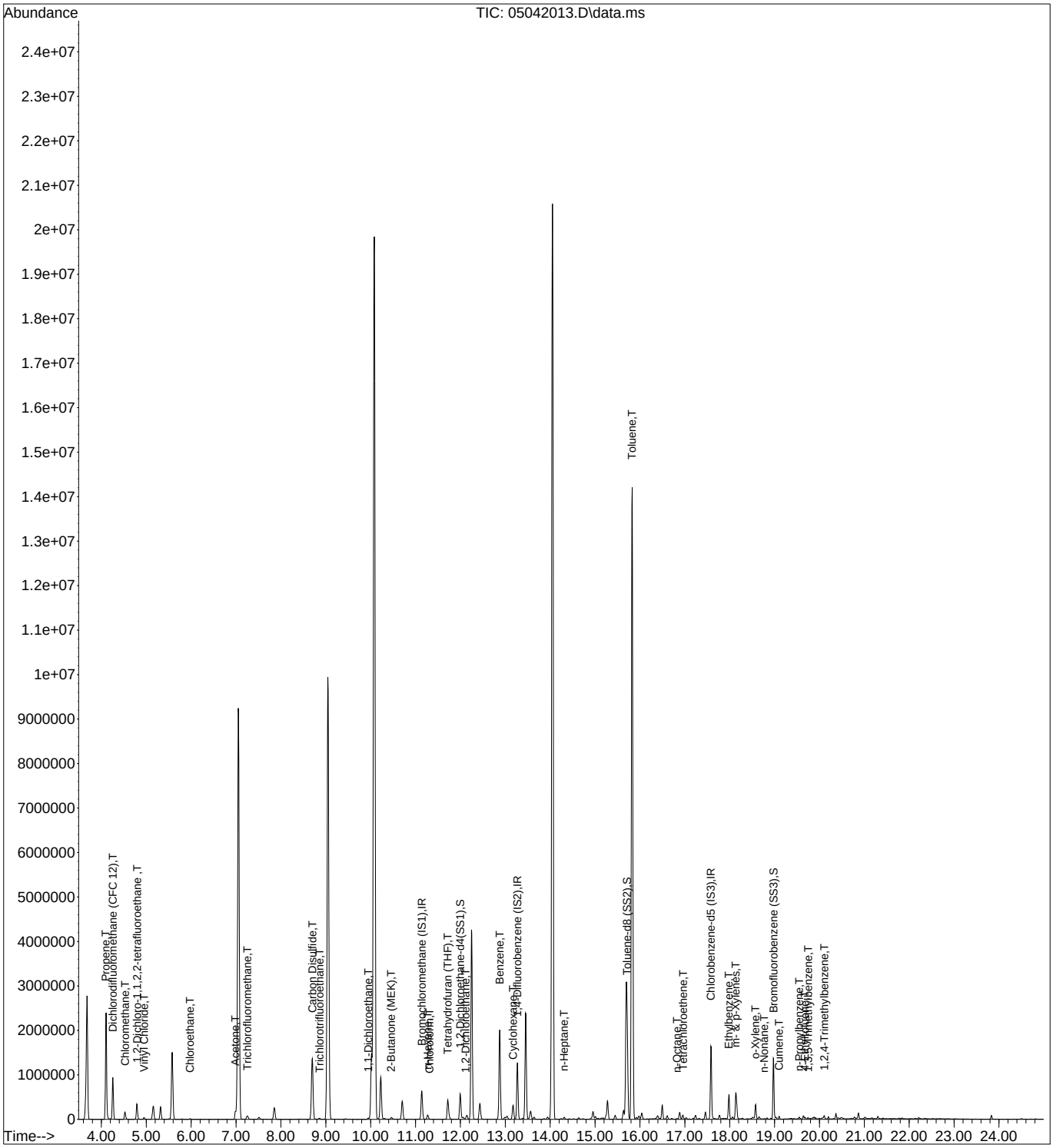
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



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DataAcq Meth:TO15.M

LH 5/4/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
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37) 1,4-Difluorobenzene (IS2)	13.27	114	1143241	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	541072	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	435315	12.226	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.84%				
57) Toluene-d8 (SS2)	15.72	98	1189778	12.973	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.76%				
73) Bromofluorobenzene (SS3)	18.98	174	407403	12.346	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.80%				
Target Compounds							Qvalue
2) Propene	4.10	42	19487	0.640	ng		99
3) Dichlorodifluoromethan...	4.26	85	910068	15.291	ng		100
4) Chloromethane	4.53	50	191892	4.116	ng		100
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21) Trichlorotrifluoroethane	8.86	151	9530	0.384	ng		95
22) Carbon Disulfide	8.70	76	2631978	24.046	ng		99
24) 1,1-Dichloroethane	9.95	63	30596	0.614	ng		97
27) 2-Butanone (MEK)	10.46	72	14680	0.733	ng		97
31) n-Hexane	11.27	57	50689	1.011	ng		98
32) Chloroform	11.31	83	3317	0.063	ng		89
34) Tetrahydrofuran (THF)	11.72	72	143246	7.329	ng		99
36) 1,2-Dichloroethane	12.11	62	11311	0.273	ng		99
41) Benzene	12.87	78	1984274	16.185	ng		100
43) Cyclohexane	13.17	84	137667	3.013	ng		100
51) n-Heptane	14.31	71	12150	0.424	ng		91
58) Toluene	15.82	91	8489310	71.811	ng		99
63) n-Octane	16.83	57	3544	0.145	ng		85
64) Tetrachloroethene	16.96	166	4040	0.121	ng		93
66) Ethylbenzene	17.98	91	417005	3.163	ng		100
67) m- & p-Xylenes	18.14	91	469581	4.490	ng		99
70) o-Xylene	18.58	91	155645	1.466	ng		100
71) n-Nonane	18.77	43	6667	0.118	ng	#	66
74) Cumene	19.10	105	41462	0.318	ng		98
76) n-Propylbenzene	19.55	91	35292	0.228	ng		94
78) 4-Ethyltoluene	19.68	105	21202	0.173	ng		98
79) 1,3,5-Trimethylbenzene	19.75	105	13078	0.123	ng		99
82) 1,2,4-Trimethylbenzene	20.11	105	26813	0.251	ng		95

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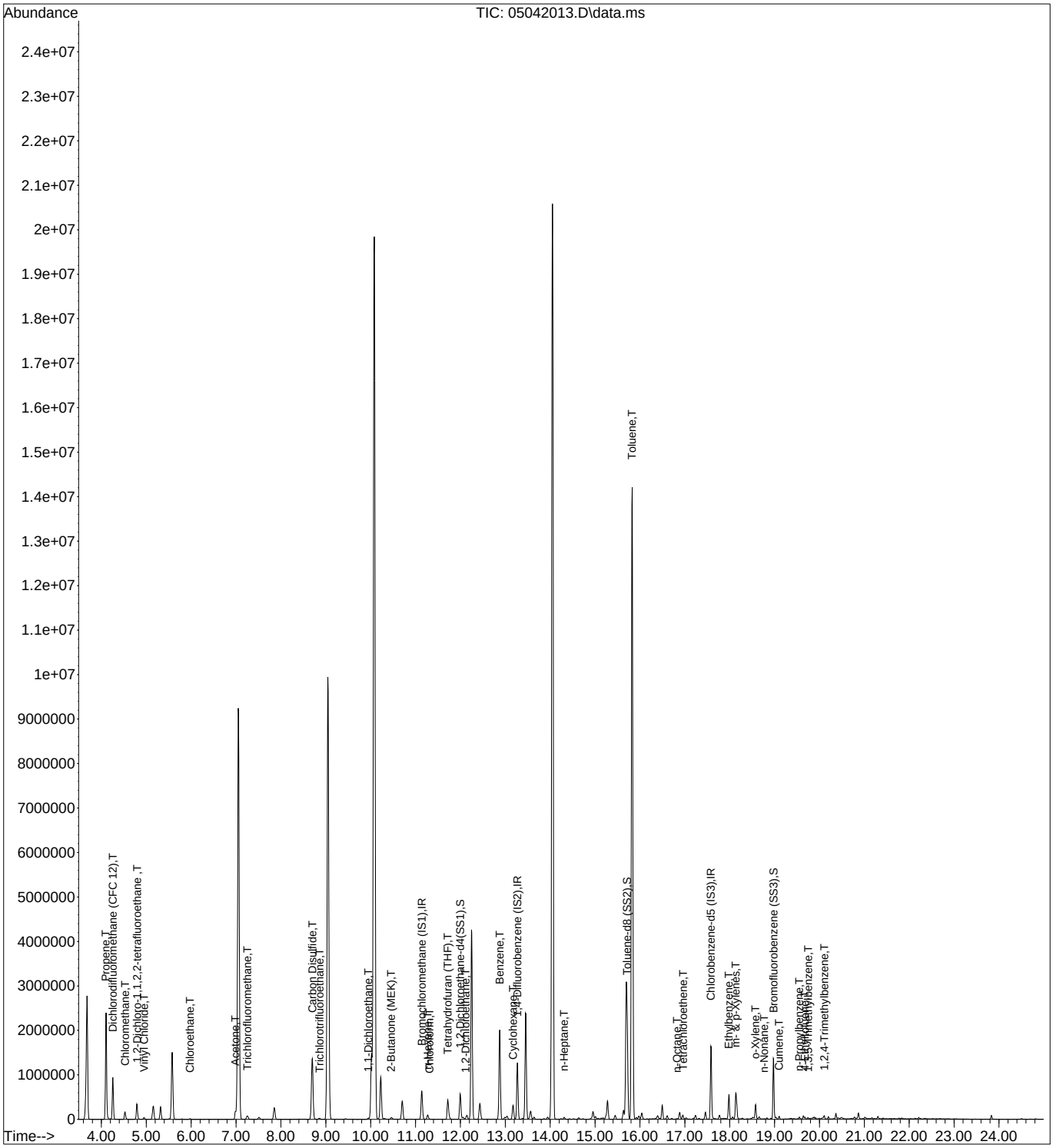
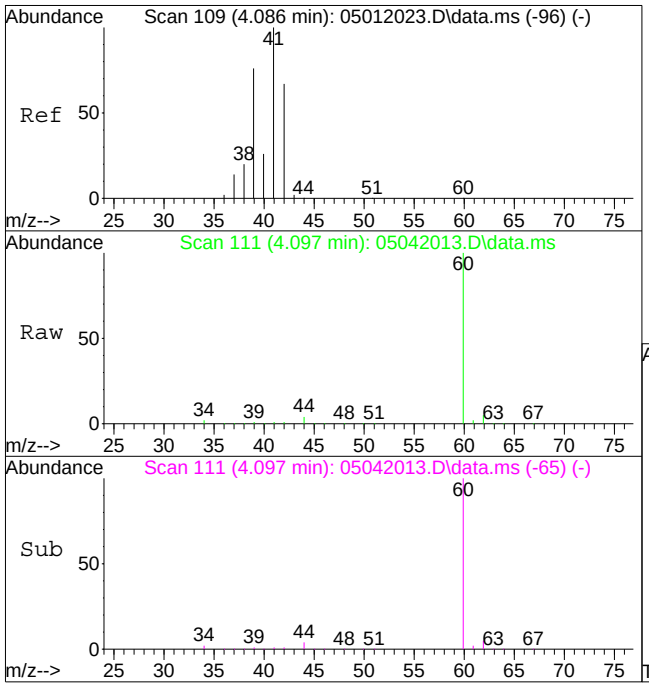
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

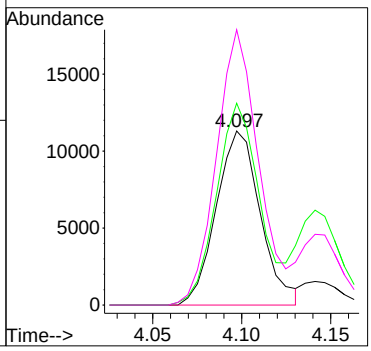


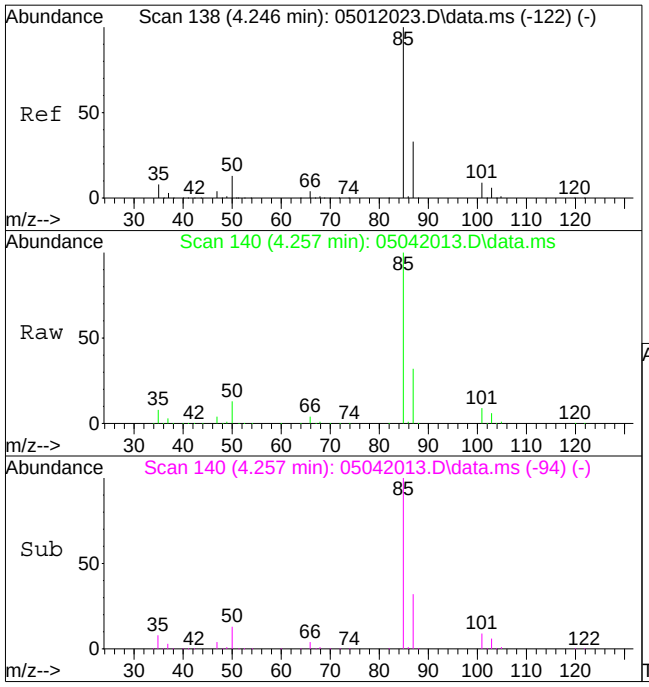


#2
Propene
Concen: 0.64 ng
RT: 4.10 min Scan# 111
Delta R.T. 0.005 min
Lab File: 05042013.D
Acq: 4 May 2020 13:27

Tgt Ion: 42 Resp: 19487

Ion	Ratio	Lower	Upper
42	100		
39	114.7	96.1	136.1
41	150.2	131.9	171.9

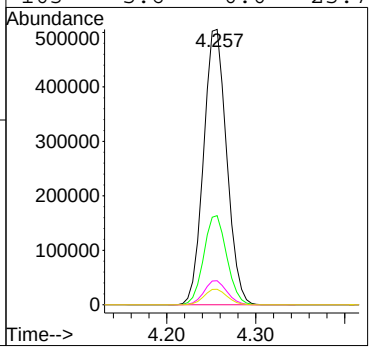


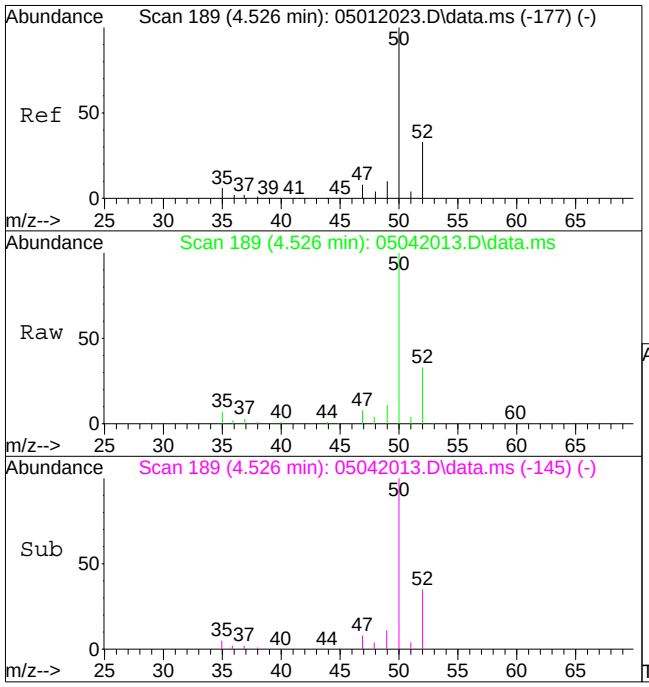


#3
Dichlorodifluoromethane (CFC 12)
Concen: 15.29 ng
RT: 4.26 min Scan# 140
Delta R.T. 0.005 min
Lab File: 05042013.D
Acq: 4 May 2020 13:27

Tgt Ion: 85 Resp: 910068

Ion	Ratio	Lower	Upper
85	100		
87	32.3	12.4	52.4
101	8.7	0.0	28.8
103	5.6	0.0	25.7

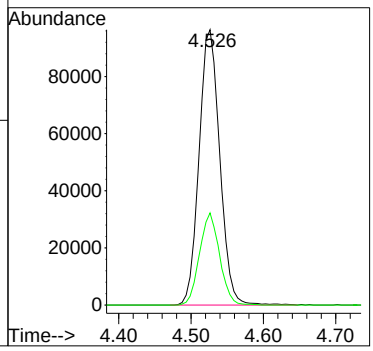


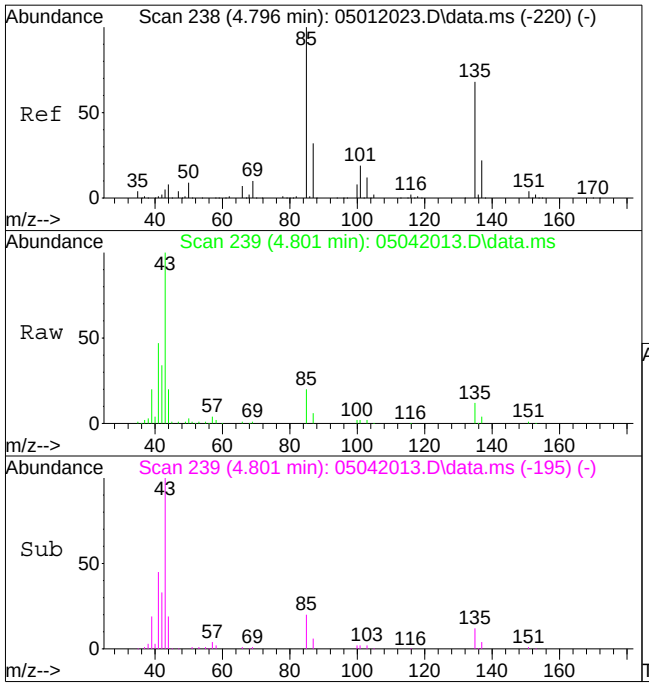


#4
Chloromethane
Concen: 4.12 ng
RT: 4.53 min Scan# 189
Delta R.T. -0.006 min
Lab File: 05042013.D
Acq: 4 May 2020 13:27

Tgt Ion: 50 Resp: 191892

Ion	Ratio	Lower	Upper
50	100		
52	32.3	12.5	52.5

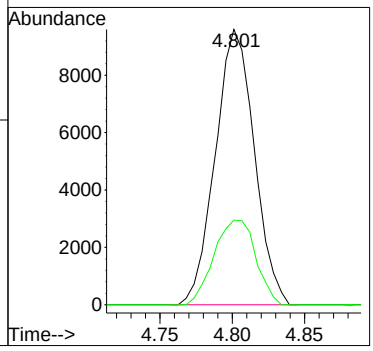


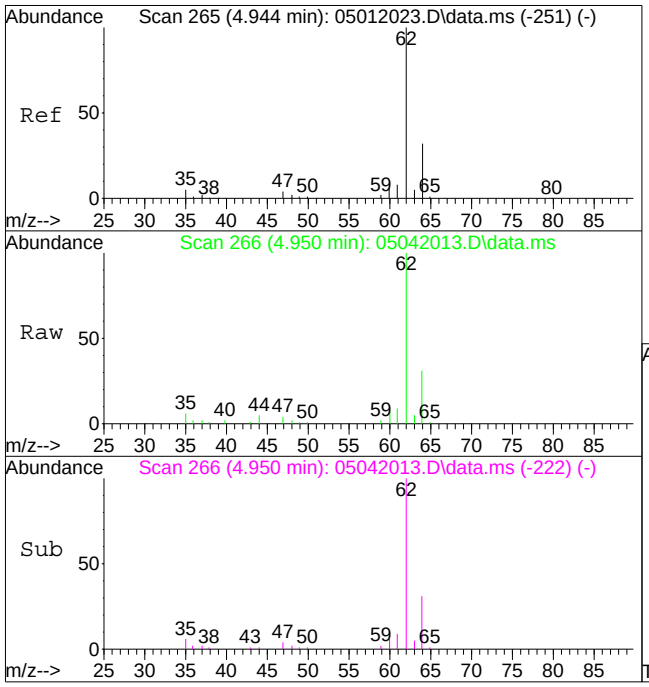


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 0.51 ng
RT: 4.80 min Scan# 239
Delta R.T. -0.006 min
Lab File: 05042013.D
Acq: 4 May 2020 13:27

Tgt Ion:135 Resp: 18010

Ion	Ratio	Lower	Upper
135	100		
137	32.7	12.1	52.1

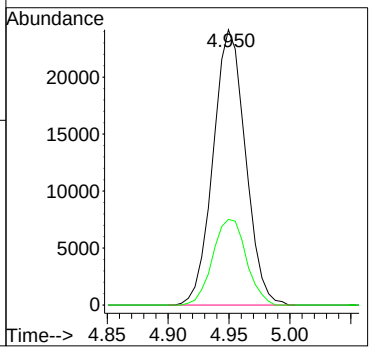


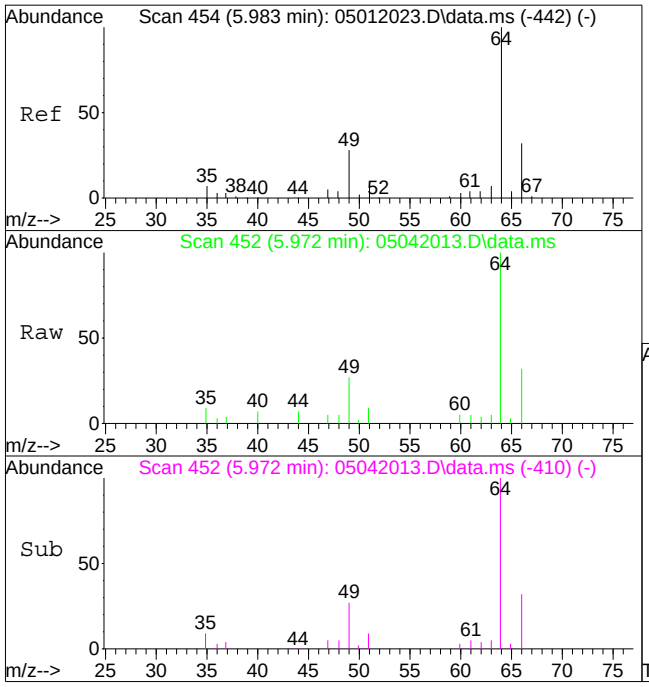


#6
Vinyl Chloride
Concen: 0.87 ng
RT: 4.95 min Scan# 266
Delta R.T. -0.006 min
Lab File: 05042013.D
Acq: 4 May 2020 13:27

Tgt Ion: 62 Resp: 44596

Ion	Ratio	Lower	Upper
62	100		
64	32.3	12.1	52.1

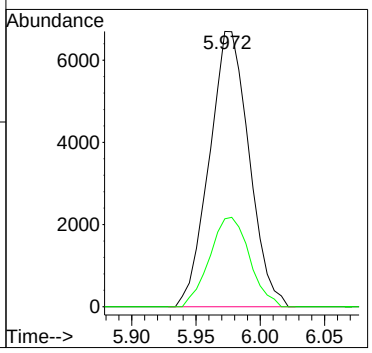


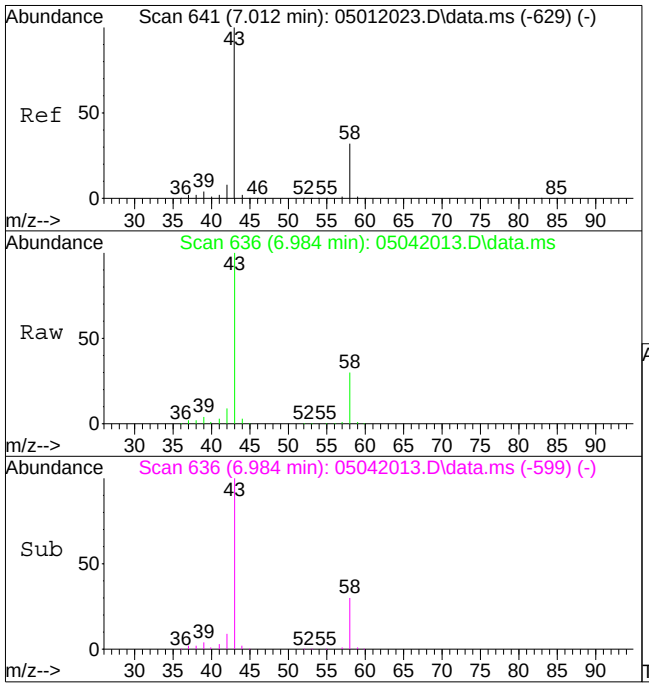


#9
Chloroethane
Concen: 0.71 ng
RT: 5.97 min Scan# 452
Delta R.T. -0.017 min
Lab File: 05042013.D
Acq: 4 May 2020 13:27

Tgt Ion: 64 Resp: 14381

Ion	Ratio	Lower	Upper
64	100		
66	32.6	12.1	52.1

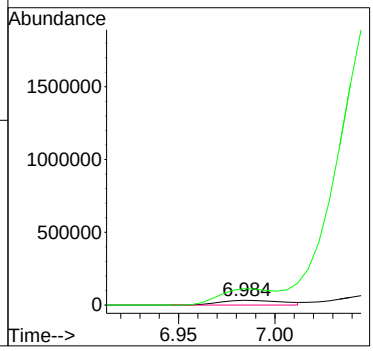


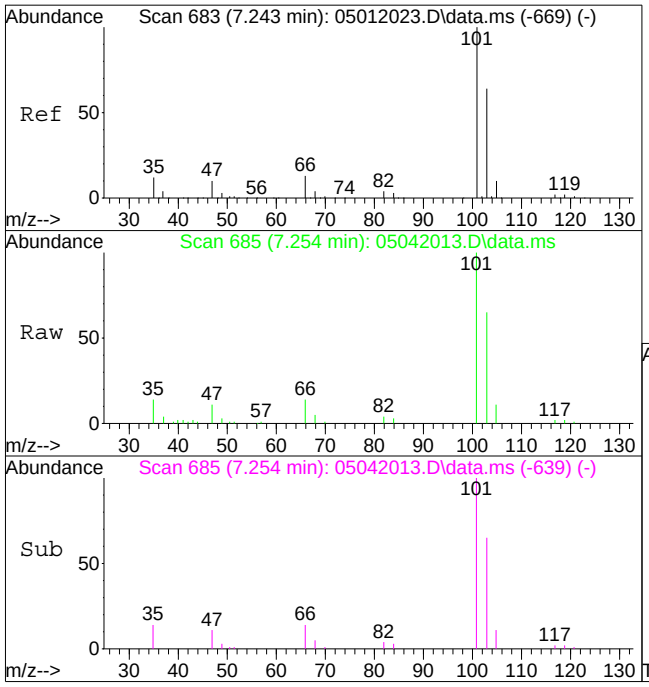


#13
Acetone
Concen: 3.15 ng
RT: 6.98 min Scan# 636
Delta R.T. -0.044 min
Lab File: 05042013.D
Acq: 4 May 2020 13:27

Tgt Ion: 58 Resp: 73952

Ion	Ratio	Lower	Upper
58	100		
43	296.3	294.4	354.4

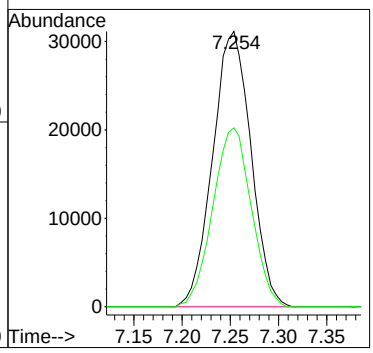


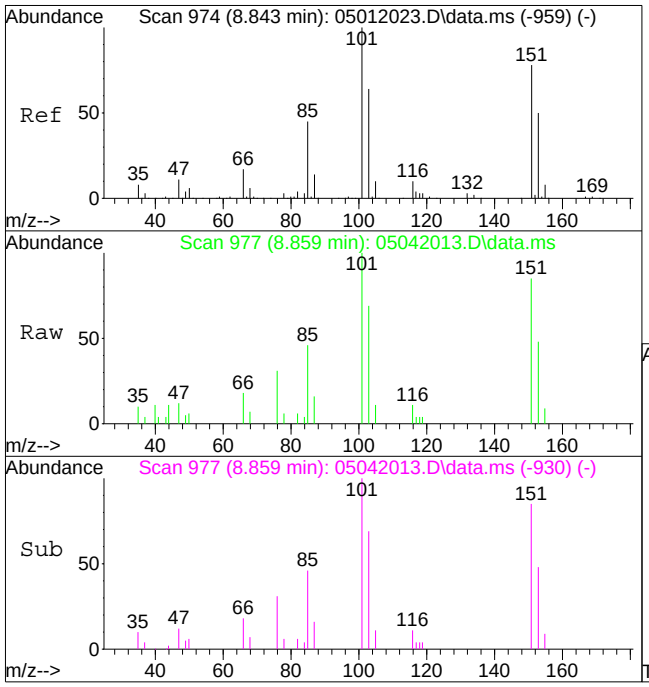


#14
Trichlorofluoromethane
Concen: 1.63 ng
RT: 7.25 min Scan# 685
Delta R.T. 0.005 min
Lab File: 05042013.D
Acq: 4 May 2020 13:27

Tgt Ion:101 Resp: 85979

Ion	Ratio	Lower	Upper
101	100		
103	65.2	44.4	84.4

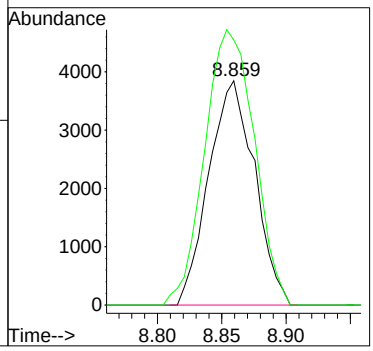


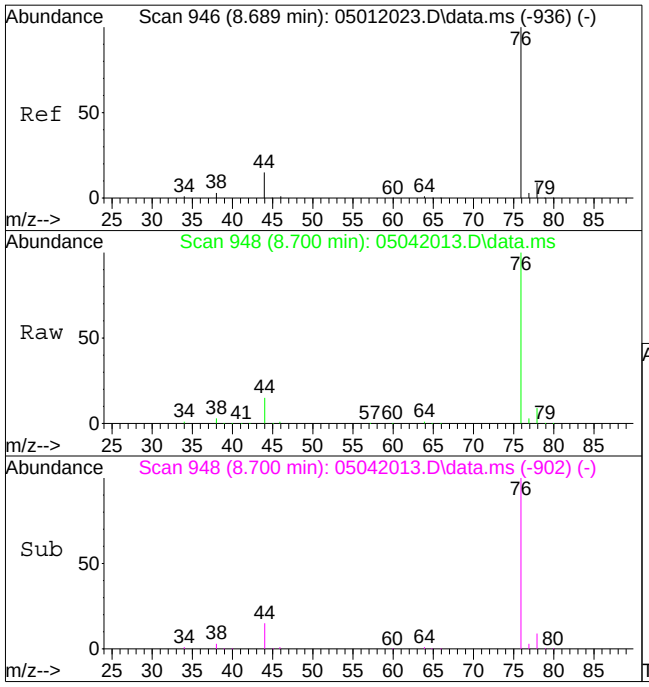


#21
Trichlorotrifluoroethane
Concen: 0.38 ng
RT: 8.86 min Scan# 977
Delta R.T. 0.011 min
Lab File: 05042013.D
Acq: 4 May 2020 13:27

Tgt Ion:151 Resp: 9530

Ion	Ratio	Lower	Upper
151	100		
101	133.3	107.3	147.3

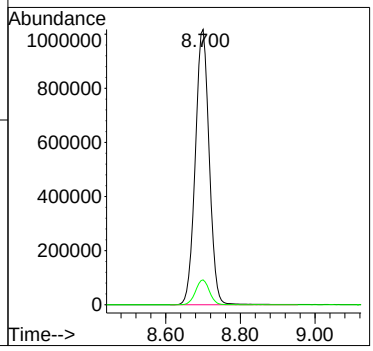


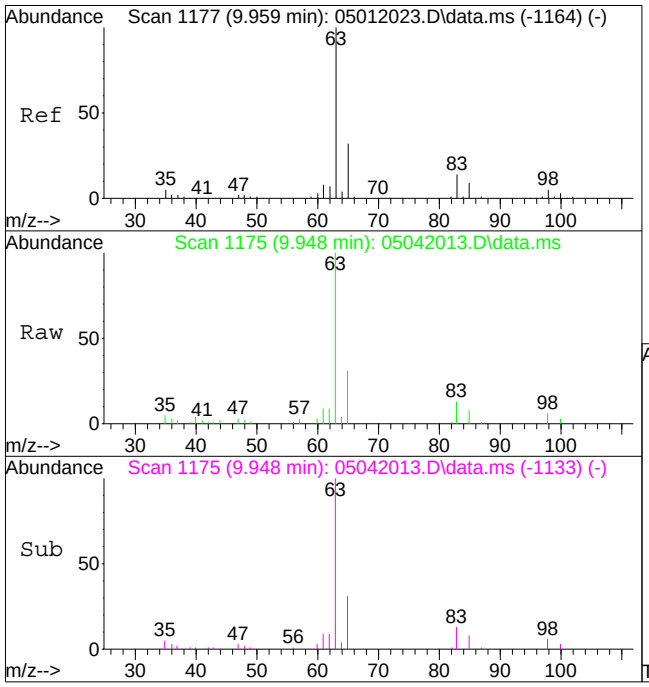


#22
Carbon Disulfide
Concen: 24.05 ng
RT: 8.70 min Scan# 948
Delta R.T. 0.005 min
Lab File: 05042013.D
Acq: 4 May 2020 13:27

Tgt Ion: 76 Resp: 2631978

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	29.2

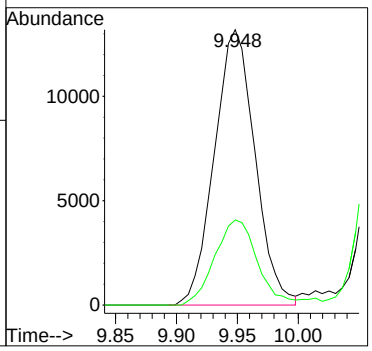


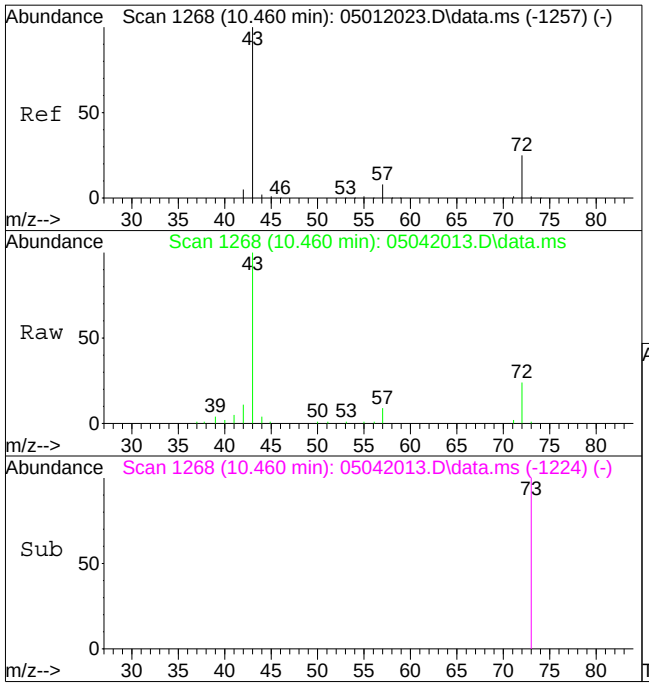


#24
1,1-Dichloroethane
Concen: 0.61 ng
RT: 9.95 min Scan# 1175
Delta R.T. -0.017 min
Lab File: 05042013.D
Acq: 4 May 2020 13:27

Tgt Ion: 63 Resp: 30596

Ion	Ratio	Lower	Upper
63	100		
65	33.4	11.8	51.8

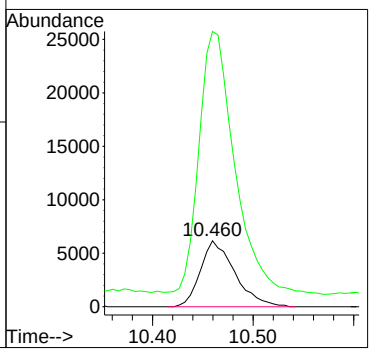


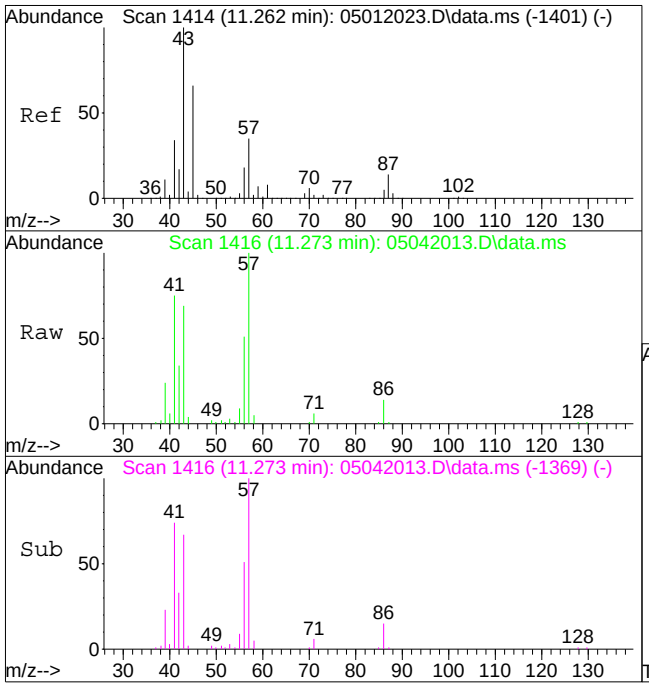


#27
2-Butanone (MEK)
Concen: 0.73 ng
RT: 10.46 min Scan# 1268
Delta R.T. -0.006 min
Lab File: 05042013.D
Acq: 4 May 2020 13:27

Tgt Ion: 72 Resp: 14680

Ion	Ratio	Lower	Upper
72	100		
43	416.3	389.7	429.7

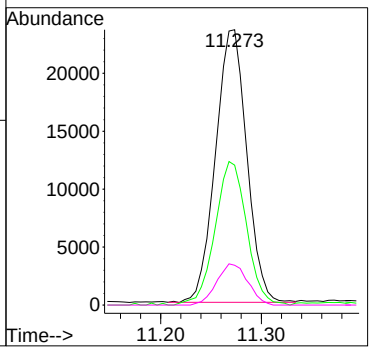


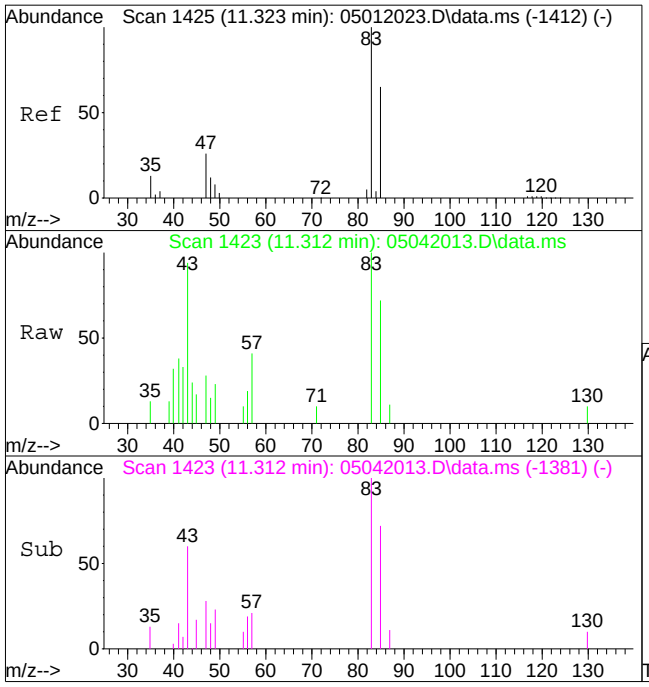


#31
n-Hexane
Concen: 1.01 ng
RT: 11.27 min Scan# 1416
Delta R.T. 0.011 min
Lab File: 05042013.D
Acq: 4 May 2020 13:27

Tgt Ion: 57 Resp: 50689

Ion	Ratio	Lower	Upper
57	100		
56	53.2	41.4	62.0
86	15.0	12.4	18.6

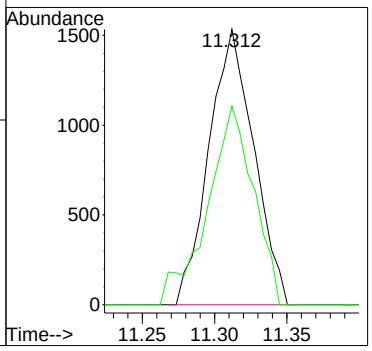


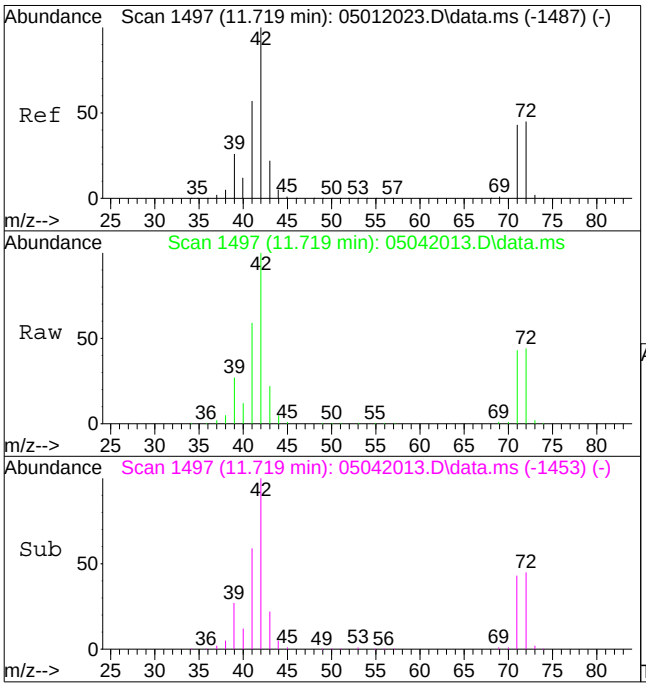


#32
Chloroform
Concen: 0.06 ng
RT: 11.31 min Scan# 1423
Delta R.T. -0.017 min
Lab File: 05042013.D
Acq: 4 May 2020 13:27

Tgt Ion: 83 Resp: 3317

Ion	Ratio	Lower	Upper
83	100		
85	73.9	45.5	85.5

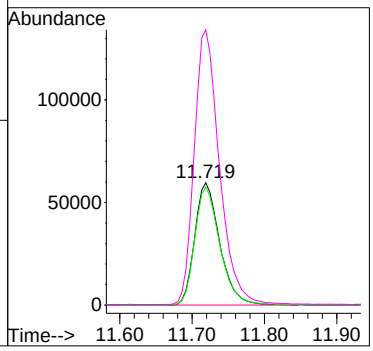


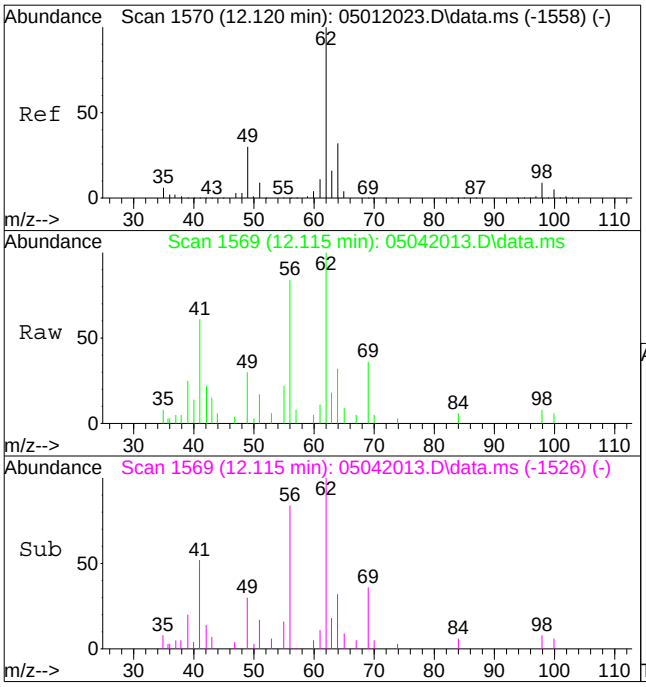


#34
Tetrahydrofuran (THF)
Concen: 7.33 ng
RT: 11.72 min Scan# 1497
Delta R.T. -0.006 min
Lab File: 05042013.D
Acq: 4 May 2020 13:27

Tgt Ion: 72 Resp: 143246

Ion	Ratio	Lower	Upper
72	100		
71	97.6	77.0	117.0
42	226.4	204.6	244.6

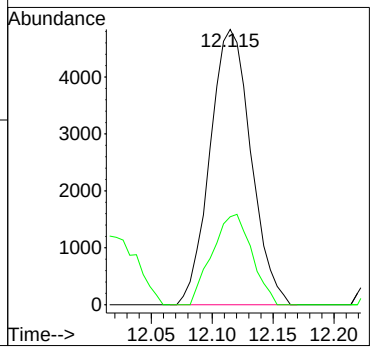


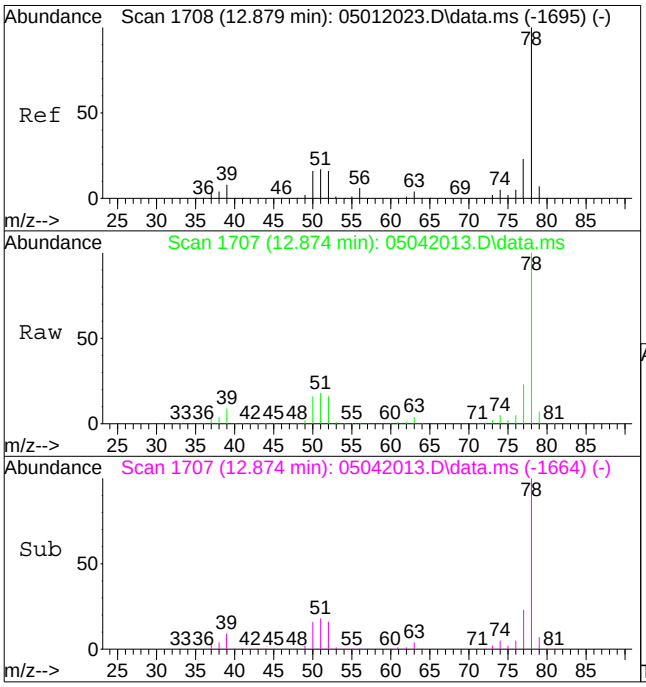


#36
1,2-Dichloroethane
Concen: 0.27 ng
RT: 12.11 min Scan# 1569
Delta R.T. -0.011 min
Lab File: 05042013.D
Acq: 4 May 2020 13:27

Tgt Ion: 62 Resp: 11311

Ion	Ratio	Lower	Upper
62	100		
64	31.8	12.4	52.4

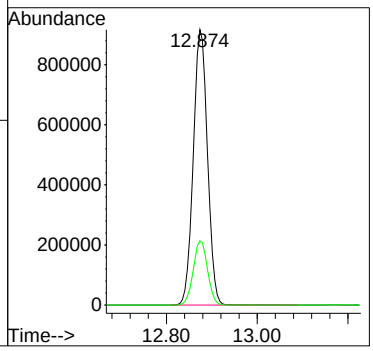


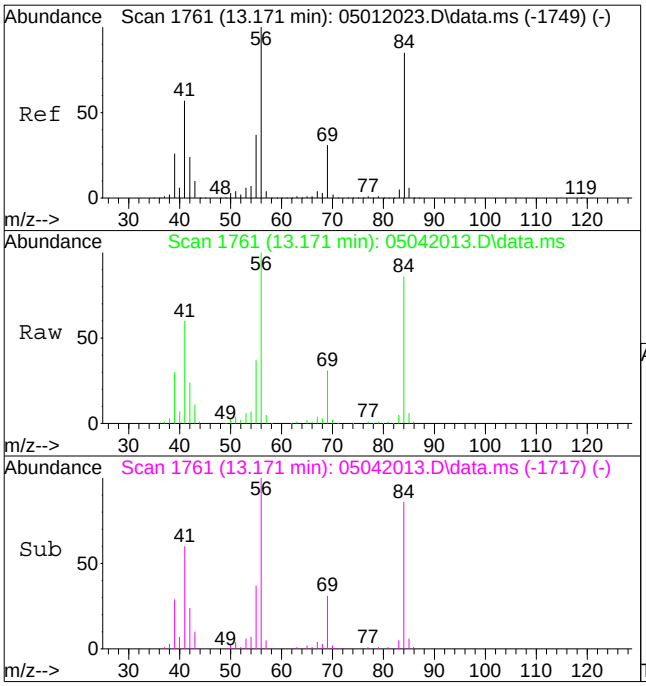


#41
Benzene
Concen: 16.18 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05042013.D
Acq: 4 May 2020 13:27

Tgt Ion: 78 Resp: 1984274

Ion	Ratio	Lower	Upper
78	100		
77	23.4	3.4	43.4

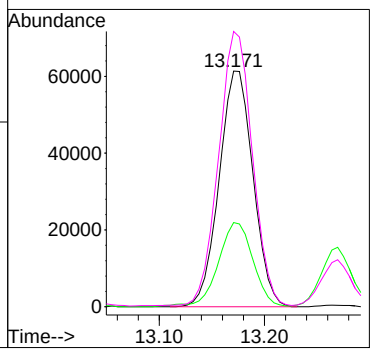


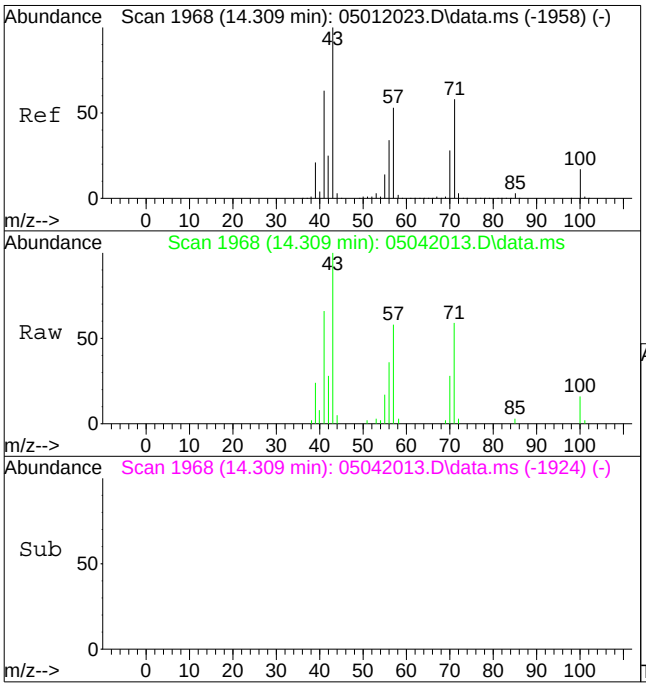


#43
Cyclohexane
Concen: 3.01 ng
RT: 13.17 min Scan# 1761
Delta R.T. -0.006 min
Lab File: 05042013.D
Acq: 4 May 2020 13:27

Tgt Ion: 84 Resp: 137667

Ion	Ratio	Lower	Upper
84	100		
69	36.6	16.5	56.5
56	117.0	97.4	137.4

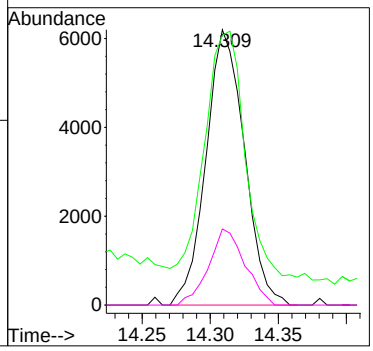


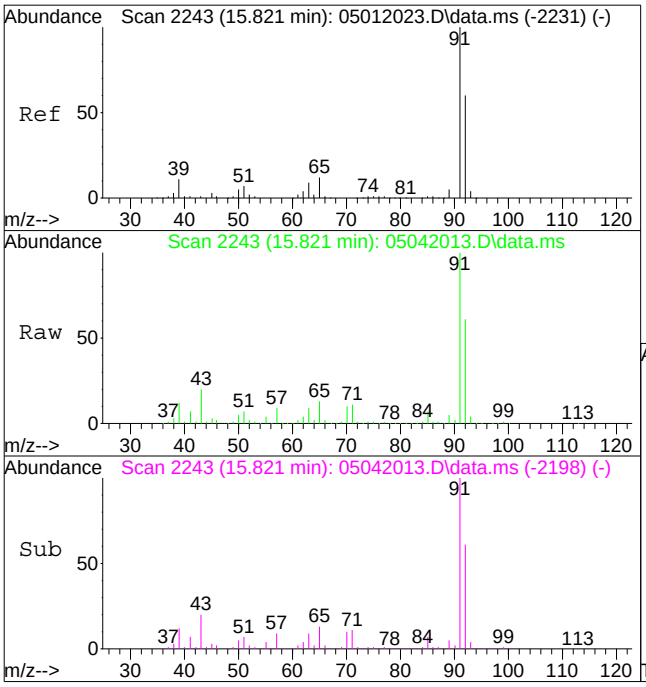


#51
n-Heptane
Concen: 0.42 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05042013.D
Acq: 4 May 2020 13:27

Tgt Ion: 71 Resp: 12150

Ion	Ratio	Lower	Upper
71	100		
57	101.3	71.0	111.0
100	26.2	8.4	48.4

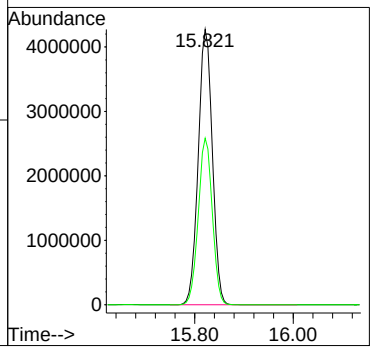


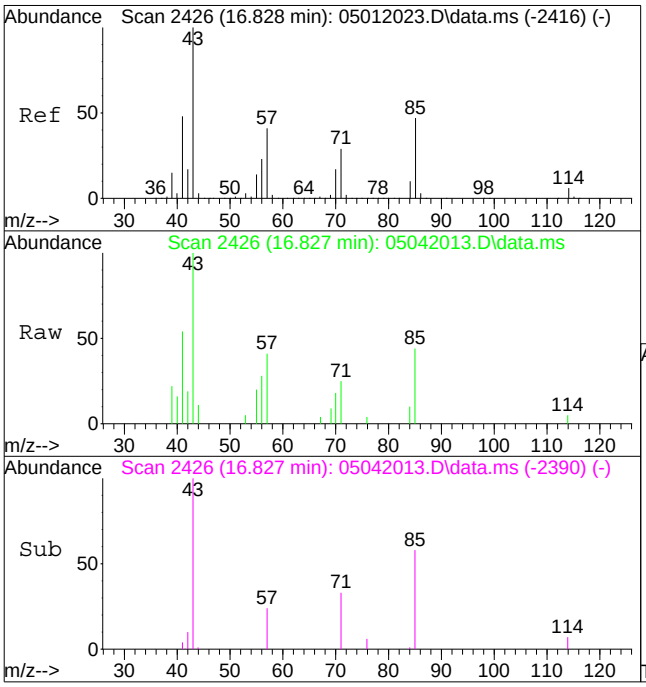


#58
Toluene
Concen: 71.81 ng
RT: 15.82 min Scan# 2243
Delta R.T. -0.000 min
Lab File: 05042013.D
Acq: 4 May 2020 13:27

Tgt Ion: 91 Resp: 8489310

Ion	Ratio	Lower	Upper
91	100		
92	60.1	39.4	79.4

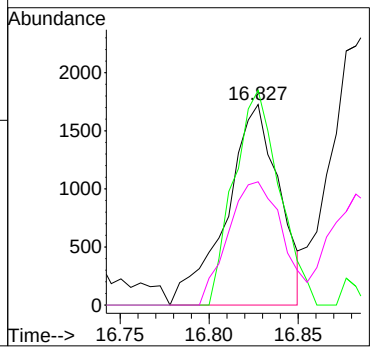


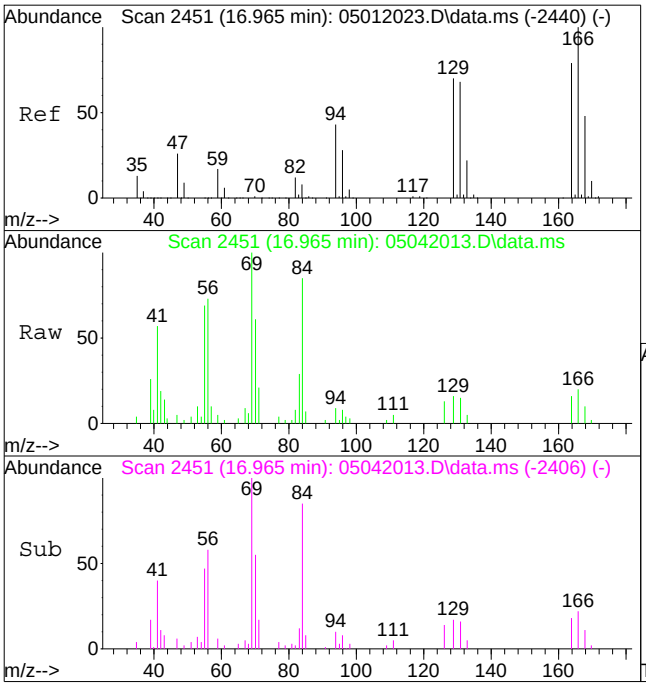


#63
n-Octane
Concen: 0.14 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05042013.D
Acq: 4 May 2020 13:27

Tgt Ion: 57 Resp: 3544

Ion	Ratio	Lower	Upper
57	100		
85	92.8	91.0	136.4
71	64.2	56.2	84.2

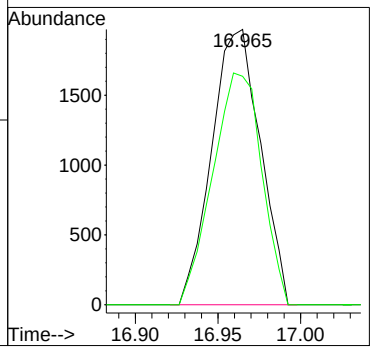


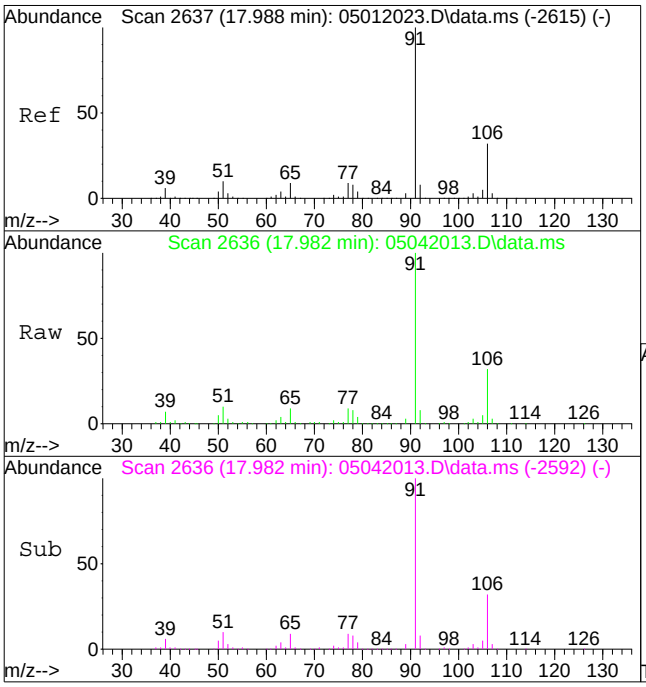


#64
Tetrachloroethene
Concen: 0.12 ng
RT: 16.96 min Scan# 2451
Delta R.T. -0.000 min
Lab File: 05042013.D
Acq: 4 May 2020 13:27

Tgt Ion:166 Resp: 4040

Ion	Ratio	Lower	Upper
166	100		
164	84.6	58.4	98.4

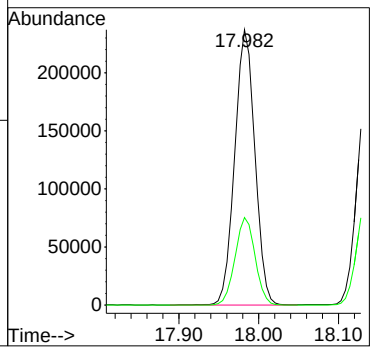


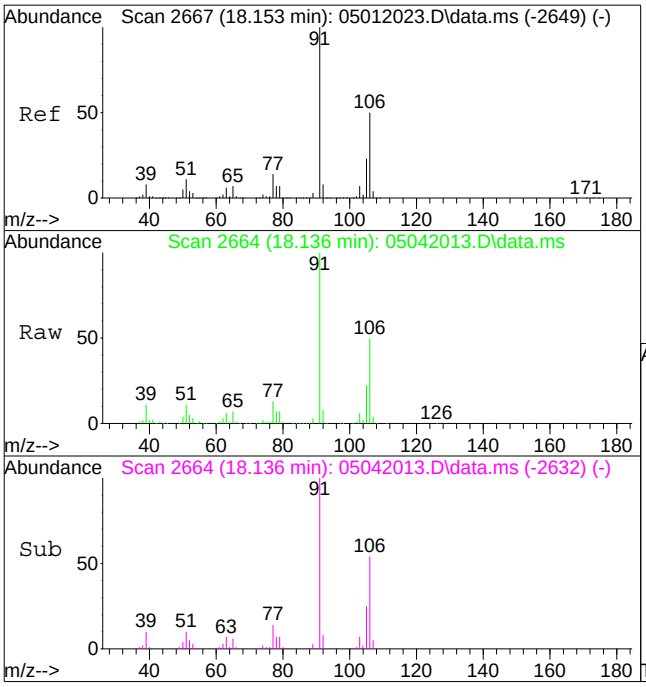


#66
Ethylbenzene
Concen: 3.16 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05042013.D
Acq: 4 May 2020 13:27

Tgt Ion: 91 Resp: 417005

Ion	Ratio	Lower	Upper
91	100		
106	31.5	11.6	51.6

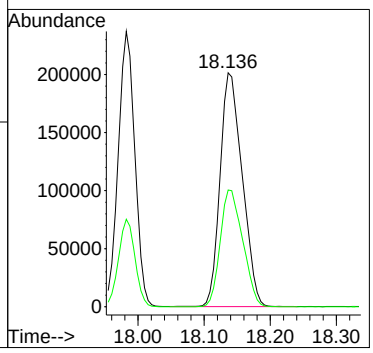


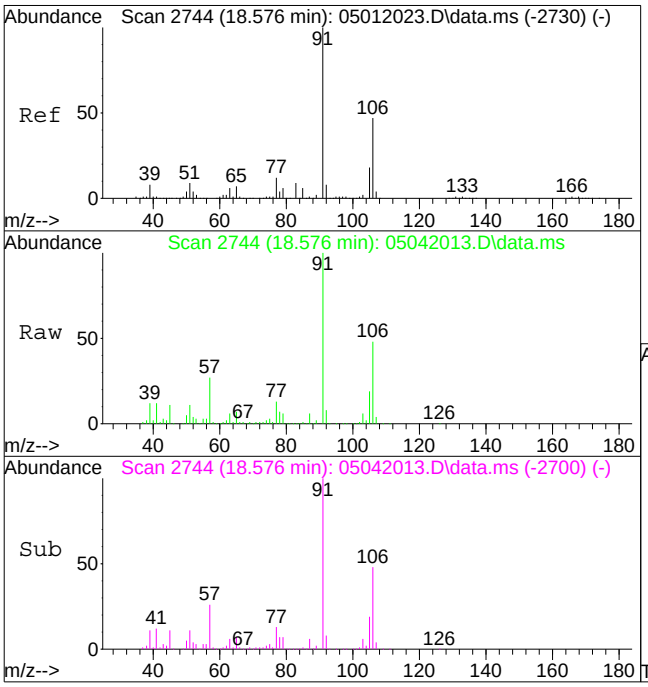


#67
m- & p-Xylenes
Concen: 4.49 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05042013.D
Acq: 4 May 2020 13:27

Tgt Ion: 91 Resp: 469581

Ion	Ratio	Lower	Upper
91	100		
106	50.6	29.7	69.7

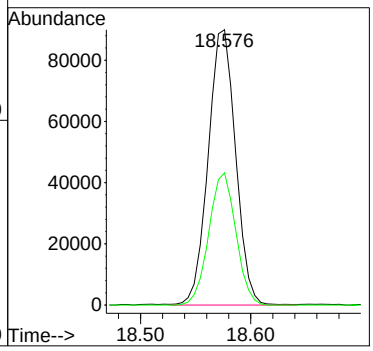


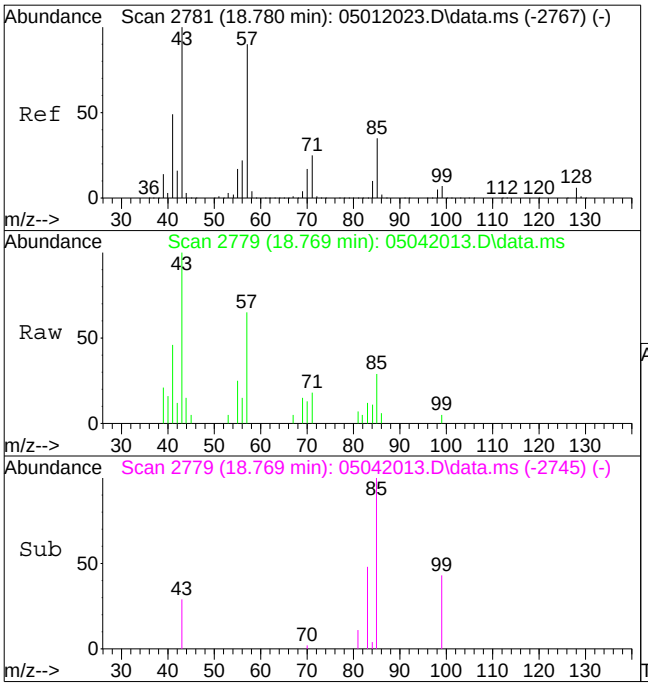


#70
o-Xylene
Concen: 1.47 ng
RT: 18.58 min Scan# 2744
Delta R.T. -0.006 min
Lab File: 05042013.D
Acq: 4 May 2020 13:27

Tgt Ion: 91 Resp: 155645

Ion	Ratio	Lower	Upper
91	100		
106	47.2	27.5	67.5

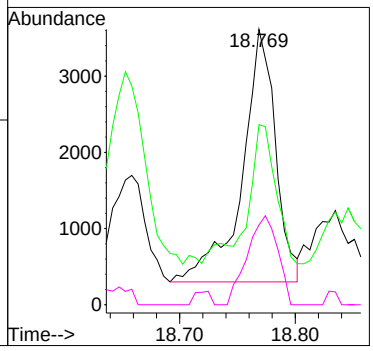


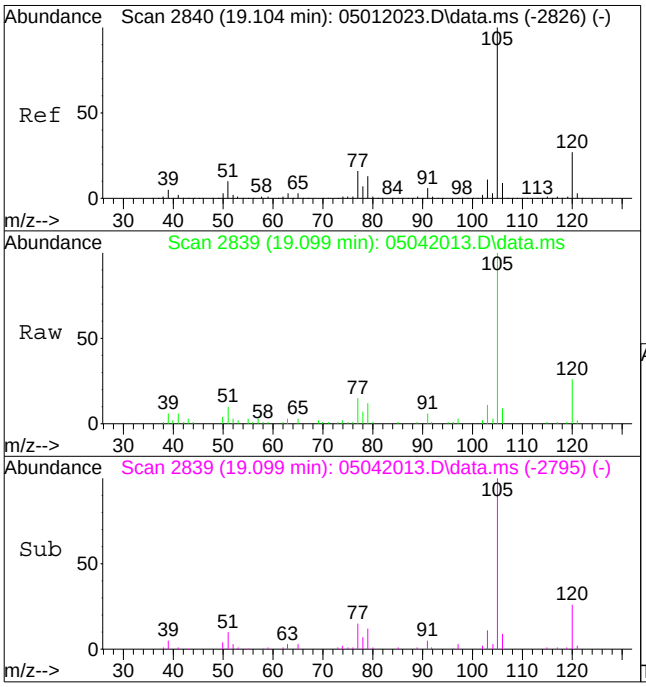


#71
n-Nonane
Concen: 0.12 ng
RT: 18.77 min Scan# 2779
Delta R.T. -0.011 min
Lab File: 05042013.D
Acq: 4 May 2020 13:27

Tgt Ion: 43 Resp: 6667

Ion	Ratio	Lower	Upper
43	100		
57	47.1	69.0	109.0#
85	32.0	14.6	54.6

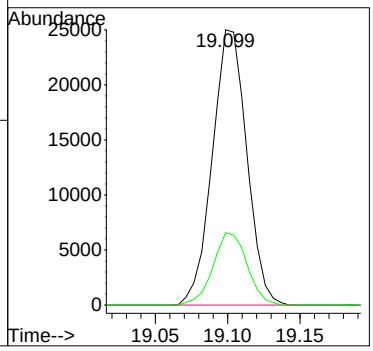


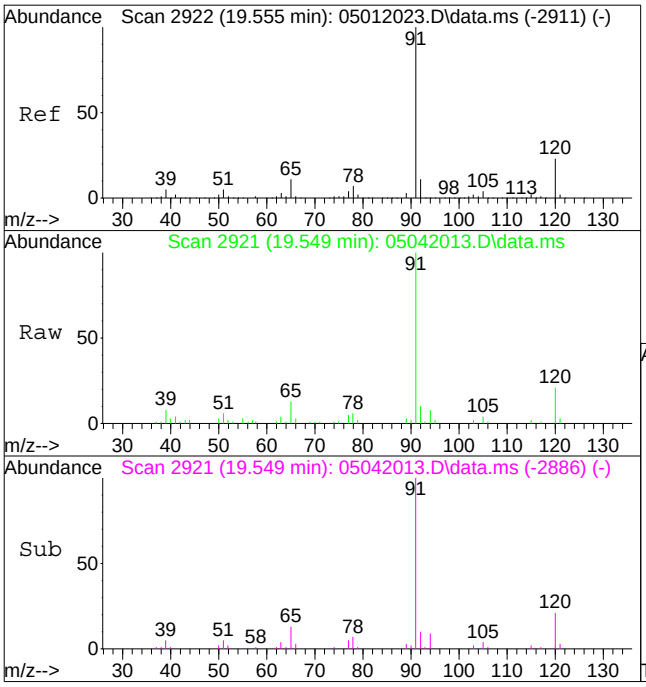


#74
Cumene
Concen: 0.32 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05042013.D
Acq: 4 May 2020 13:27

Tgt Ion:105 Resp: 41462

Ion	Ratio	Lower	Upper
105	100		
120	26.0	6.8	46.8

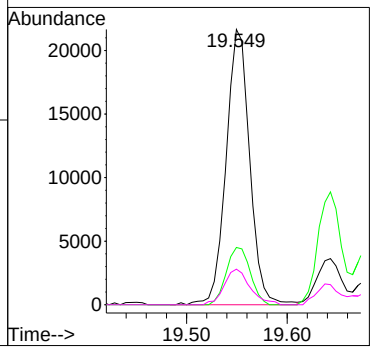


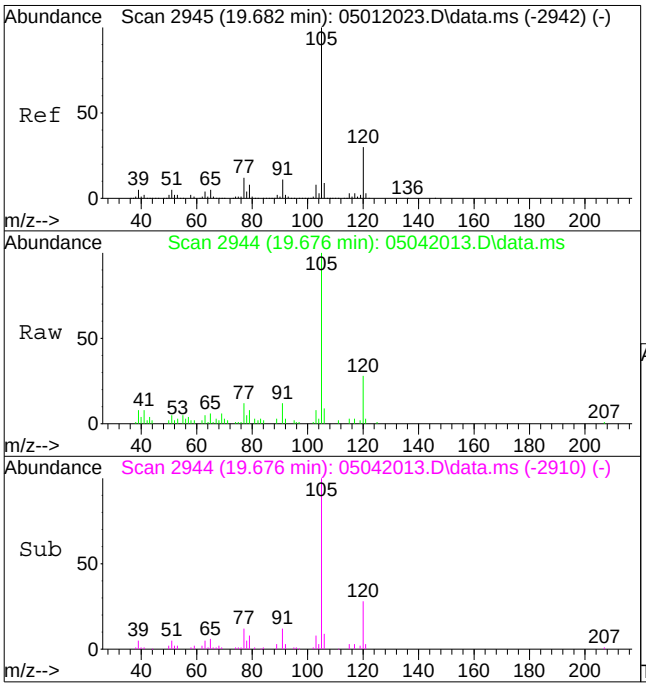


#76
n-Propylbenzene
Concen: 0.23 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05042013.D
Acq: 4 May 2020 13:27

Tgt Ion: 91 Resp: 35292

Ion	Ratio	Lower	Upper
91	100		
120	21.0	3.1	43.1
65	14.2	0.0	30.9

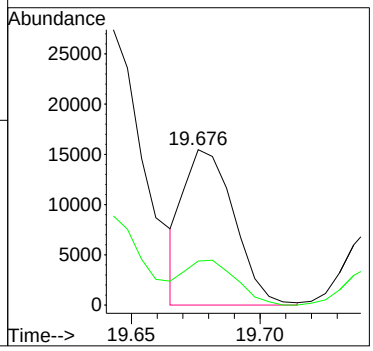


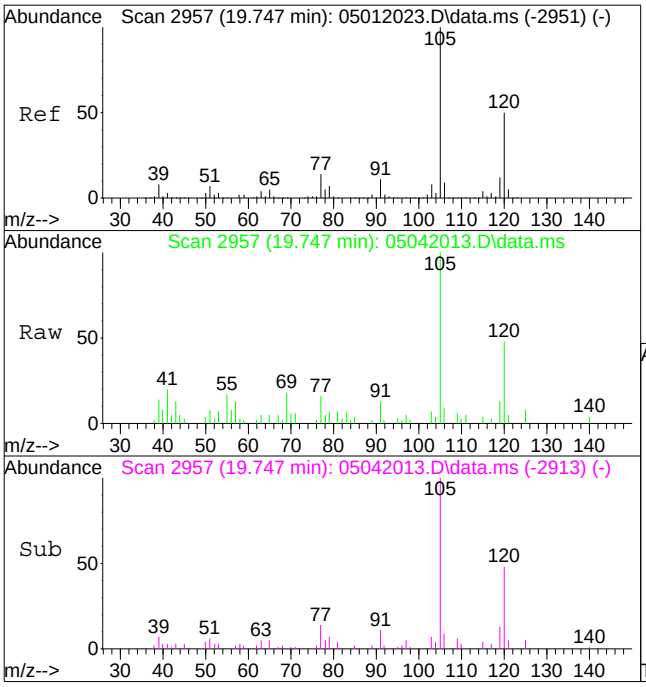


#78
4-Ethyltoluene
Concen: 0.17 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05042013.D
Acq: 4 May 2020 13:27

Tgt Ion:105 Resp: 21202

Ion	Ratio	Lower	Upper
105	100		
120	29.5	10.4	50.4

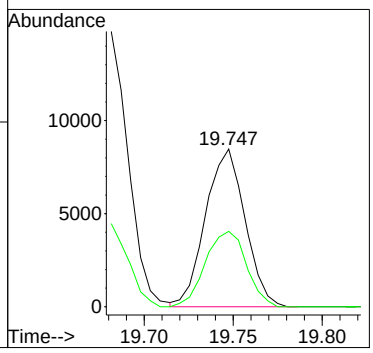


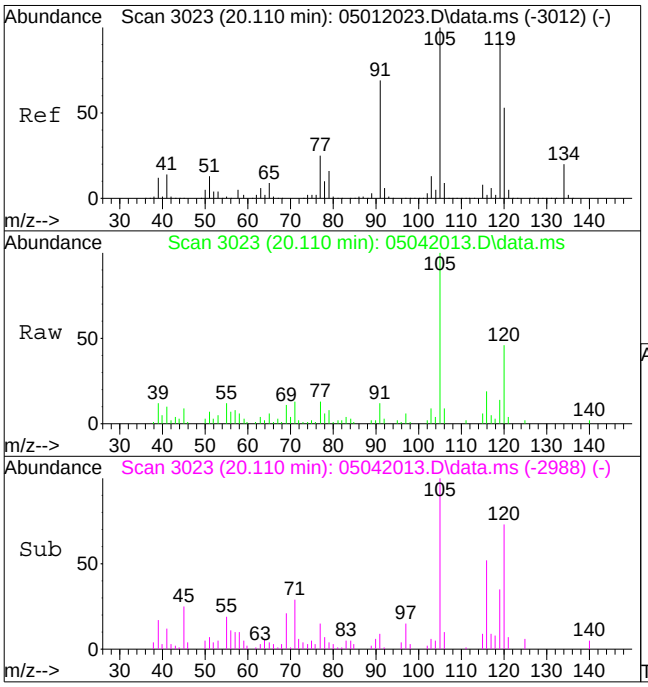


#79
1,3,5-Trimethylbenzene
Concen: 0.12 ng
RT: 19.75 min Scan# 2957
Delta R.T. -0.006 min
Lab File: 05042013.D
Acq: 4 May 2020 13:27

Tgt Ion:105 Resp: 13078

Ion	Ratio	Lower	Upper
105	100		
120	49.5	29.9	69.9

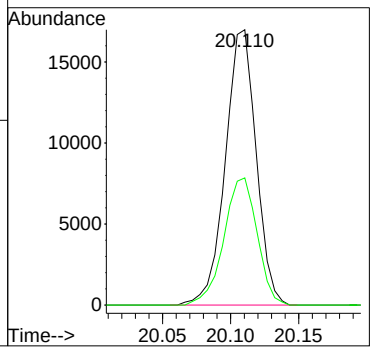




#82
1,2,4-Trimethylbenzene
Concen: 0.25 ng
RT: 20.11 min Scan# 3023
Delta R.T. -0.006 min
Lab File: 05042013.D
Acq: 4 May 2020 13:27

Tgt Ion:105 Resp: 26813

Ion	Ratio	Lower	Upper
105	100		
120	49.8	33.6	73.6



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042014.D Vial: 5
Acq On : 4 May 2020 14:02 Operator: TD
Sample : P2002105-002 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 19:21:40 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/4/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	253281	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1097828	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	530816	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	430575	12.544	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.32%				
57) Toluene-d8 (SS2)	15.72	98	1123117	12.483	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.84%				
73) Bromofluorobenzene (SS3)	18.98	174	387217	11.961	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.68%				
Target Compounds							Qvalue
2) Propene	4.12	42	2020	0.069	ng		87
3) Dichlorodifluoromethan...	4.27	85	34966	0.609	ng		100
4) Chloromethane	4.54	50	2660	0.059	ng		92
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	876	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.15	54	174	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.33	45	13439	0.593	ng		90
11) Acetonitrile	6.62	41	2757	0.053	ng		84
12) Acrolein	6.80	56	1914	0.107	ng		92
13) Acetone	7.02	58	25292	1.116	ng		94
14) Trichlorofluoromethane	7.25	101	14568	0.287	ng		100
15) 2-Propanol (Isopropanol)	7.54	45	5303	0.077	ng		69
16) Acrylonitrile	7.76	53	710	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	1210	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	8.84	151	2760	0.115	ng		94
22) Carbon Disulfide	8.68	76	33610	0.319	ng		100
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.48	72	2319	0.120	ng	#	80
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	11.25	57	1990	N.D.			
32) Chloroform	11.30	83	821666	16.297	ng		99
34) Tetrahydrofuran (THF)	11.75	72	6272	0.333	ng		95
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	8892	0.076	ng		96
42) Carbon Tetrachloride	13.03	117	8619	0.215	ng		98
43) Cyclohexane	13.16	84	948	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	13.52	63	862	N.D.			
46) Bromodichloromethane	13.91	83	64318	1.617	ng		99
47) Trichloroethene	13.97	130	2354	0.077	ng		99
48) 1,4-Dioxane	13.97	88	1127	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.31	100	229	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042014.D Vial: 5
Acq On : 4 May 2020 14:02 Operator: TD
Sample : P2002105-002 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 19:21:40 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

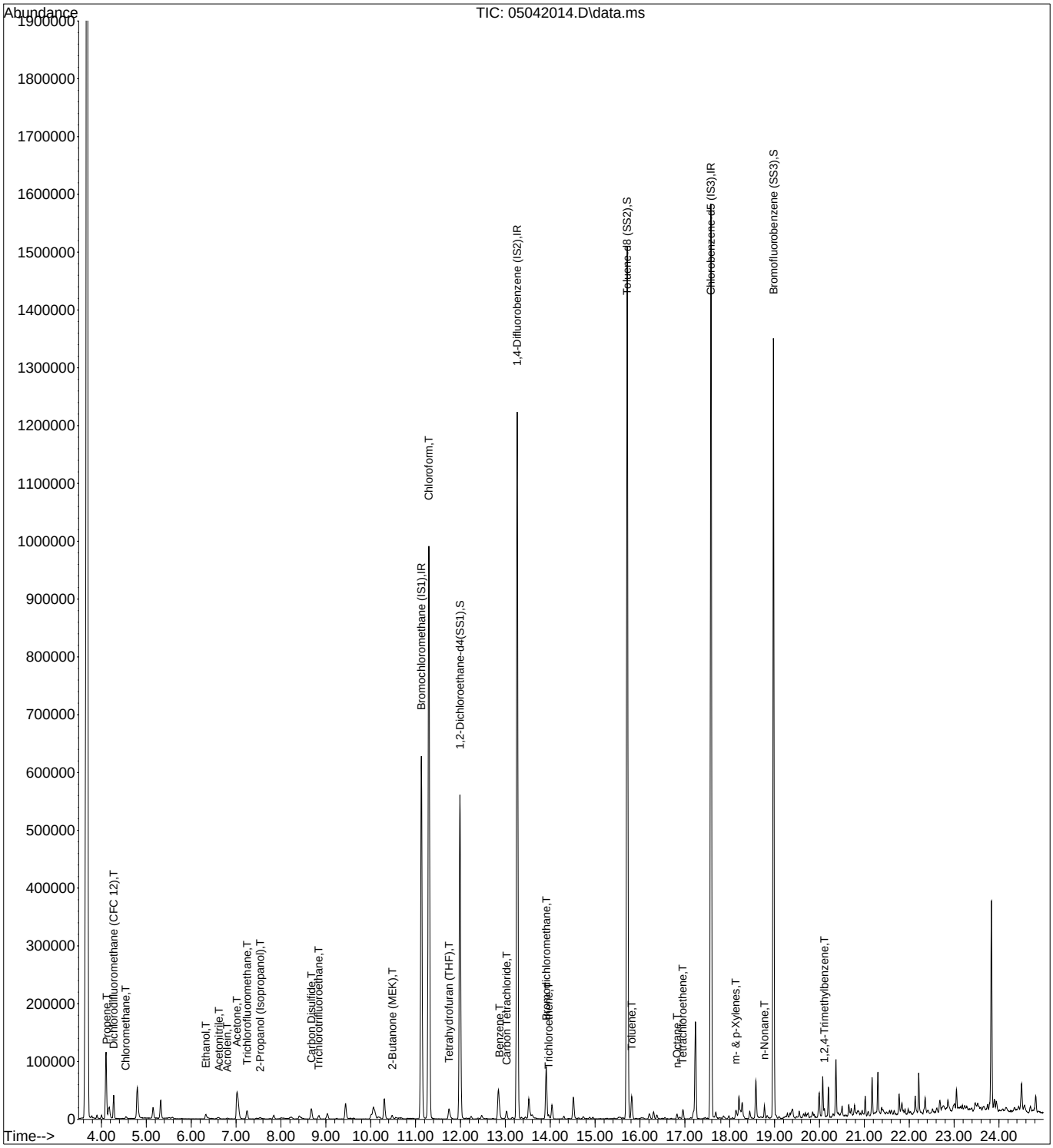
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	1124	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.89	58	716	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.82	91	28843	0.249 ng	99
59) 2-Hexanone	16.07	43	2092	N.D.	
60) Dibromochloromethane	16.22	129	1105	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.69	43	1252	N.D.	
63) n-Octane	16.83	57	1678	0.070 ng	87
64) Tetrachloroethene	16.95	166	5232	0.160 ng	95
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	17.98	91	4344	N.D.	
67) m- & p-Xylenes	18.14	91	11335	0.110 ng	99
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	410	N.D.	
70) o-Xylene	18.58	91	4764	N.D.	
71) n-Nonane	18.77	43	8320	0.151 ng	93
72) 1,1,2,2-Tetrachloroethane	18.59	83	294	N.D.	
74) Cumene	19.10	105	1072	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	19.55	91	3406	N.D.	
77) 3-Ethyltoluene	19.64	105	3339	N.D.	
78) 4-Ethyltoluene	19.69	105	1699	N.D.	
79) 1,3,5-Trimethylbenzene	19.74	105	2031	N.D.	
80) alpha-Methylstyrene	19.88	118	1756	N.D.	
81) 2-Ethyltoluene	19.91	105	1497	N.D.	
82) 1,2,4-Trimethylbenzene	20.11	105	5739	0.055 ng	88
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.23	91	398	N.D.	
85) 1,3-Dichlorobenzene	20.24	146	125	N.D.	
86) 1,4-Dichlorobenzene	20.31	146	331	N.D.	
87) sec-Butylbenzene	20.35	105	1656	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	1006	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	2548	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.61	68	428	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.11	180	309	N.D.	
95) Naphthalene	22.22	128	4836	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.11	119	921	N.D.	
100) n-Butylbenzene	20.85	91	3239	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042014.D Vial: 5
Acq On : 4 May 2020 14:02 Operator: TD
Sample : P2002105-002 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 19:21:40 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

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Acq On : 4 May 2020 14:02 Operator: TD
Sample : P2002105-002 (400mL) Inst : GCMS-16
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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/4/20

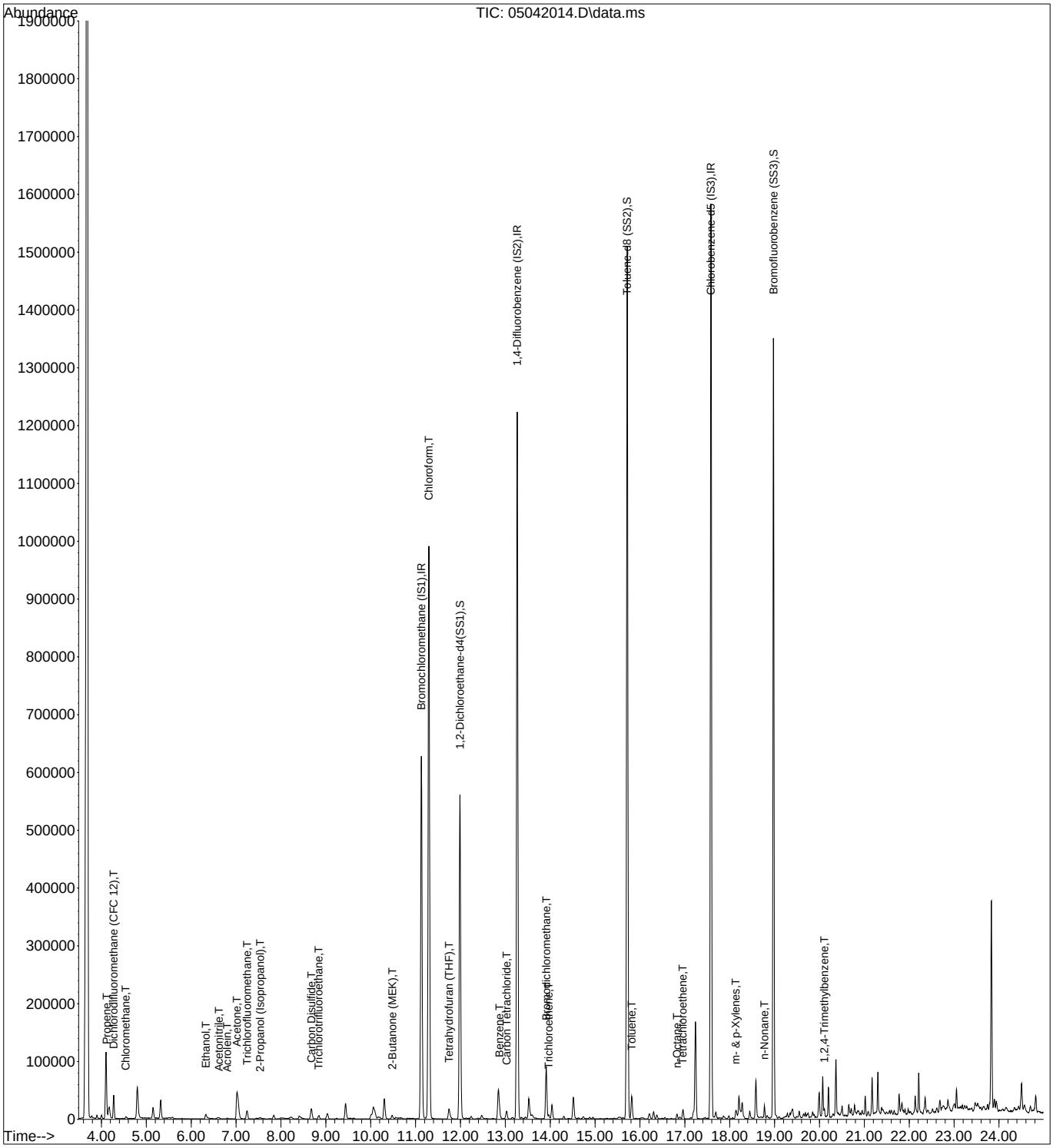
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	253281	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1097828	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	530816	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	430575	12.544	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.32%				
57) Toluene-d8 (SS2)	15.72	98	1123117	12.483	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.84%				
73) Bromofluorobenzene (SS3)	18.98	174	387217	11.961	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.68%				
Target Compounds							Qvalue
2) Propene	4.12	42	2020	0.069	ng		87
3) Dichlorodifluoromethan...	4.27	85	34966	0.609	ng		100
4) Chloromethane	4.54	50	2660	0.059	ng		92
10) Ethanol	6.33	45	13439	0.593	ng		90
11) Acetonitrile	6.62	41	2757	0.053	ng		84
12) Acrolein	6.80	56	1914	0.107	ng		92
13) Acetone	7.02	58	25292	1.116	ng		94
14) Trichlorofluoromethane	7.25	101	14568	0.287	ng		100
15) 2-Propanol (Isopropanol)	7.54	45	5303	0.077	ng		69
21) Trichlorotrifluoroethane	8.84	151	2760	0.115	ng		94
22) Carbon Disulfide	8.68	76	33610	0.319	ng		100
27) 2-Butanone (MEK)	10.48	72	2319	0.120	ng	#	80
32) Chloroform	11.30	83	821666	16.297	ng		99
34) Tetrahydrofuran (THF)	11.75	72	6272	0.333	ng		95
41) Benzene	12.87	78	8892	0.076	ng		96
42) Carbon Tetrachloride	13.03	117	8619	0.215	ng		98
46) Bromodichloromethane	13.91	83	64318	1.617	ng		99
47) Trichloroethene	13.97	130	2354	0.077	ng		99
58) Toluene	15.82	91	28843	0.249	ng		99
63) n-Octane	16.83	57	1678	0.070	ng		87
64) Tetrachloroethene	16.95	166	5232	0.160	ng		95
67) m- & p-Xylenes	18.14	91	11335	0.110	ng		99
71) n-Nonane	18.77	43	8320	0.151	ng		93
82) 1,2,4-Trimethylbenzene	20.11	105	5739	0.055	ng		88

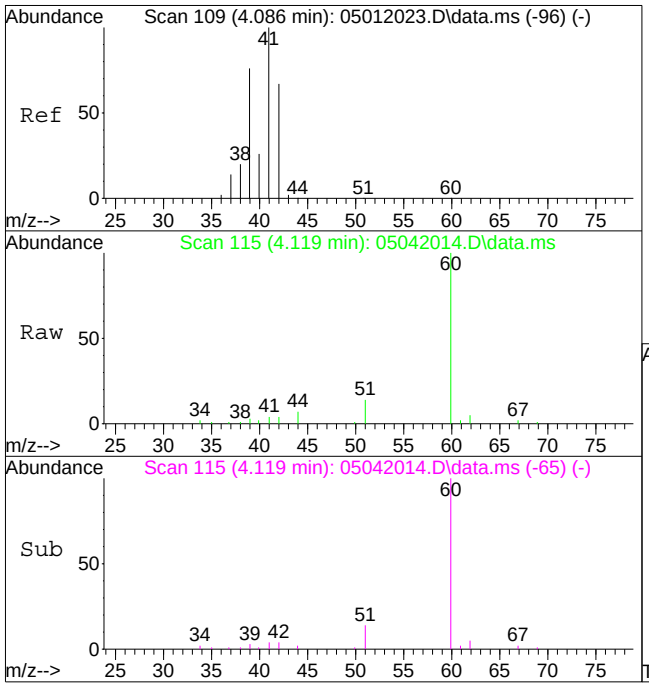
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042014.D Vial: 5
Acq On : 4 May 2020 14:02 Operator: TD
Sample : P2002105-002 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 19:21:40 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

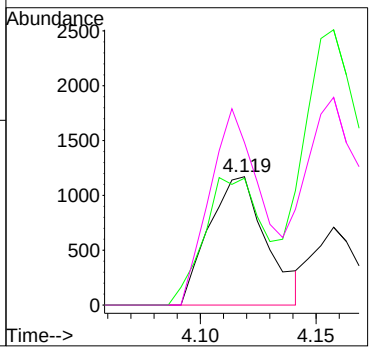


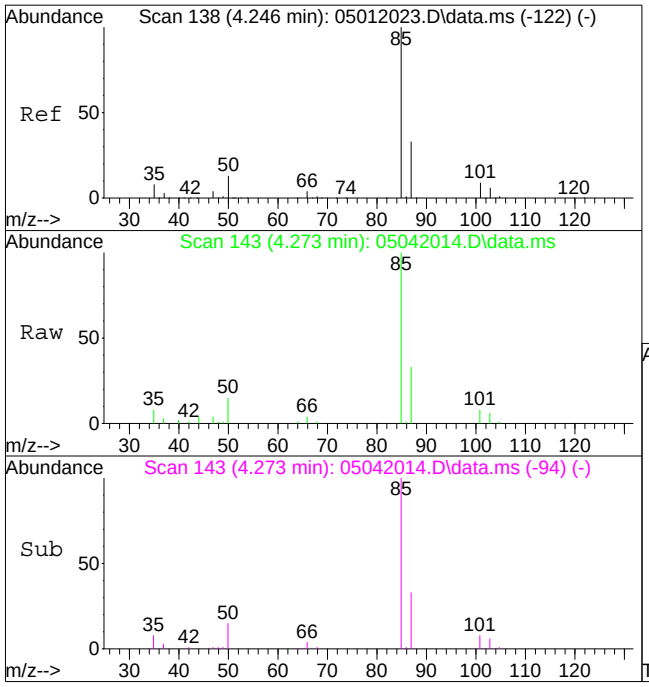


#2
Propene
Concen: 0.07 ng
RT: 4.12 min Scan# 115
Delta R.T. 0.027 min
Lab File: 05042014.D
Acq: 4 May 2020 14:02

Tgt Ion: 42 Resp: 2020

Ion	Ratio	Lower	Upper
42	100		
39	98.4	96.1	136.1
41	138.7	131.9	171.9

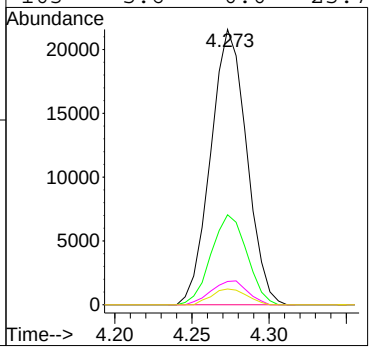


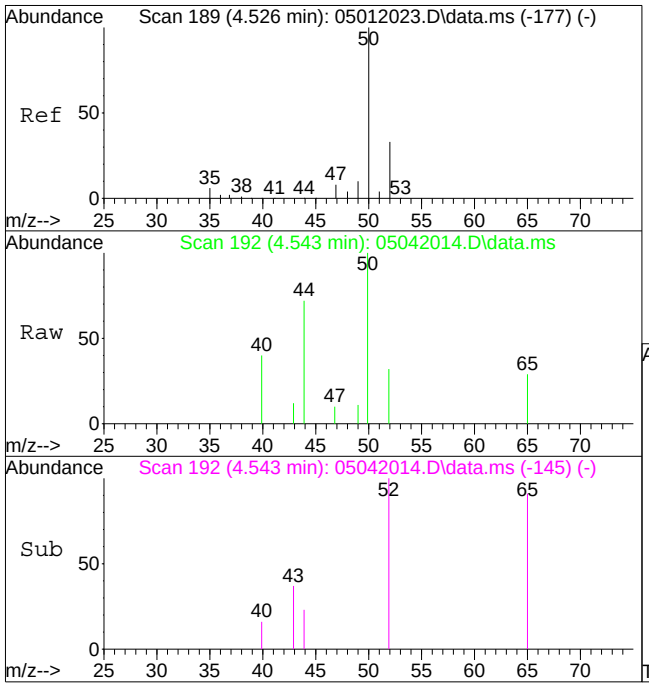


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.61 ng
RT: 4.27 min Scan# 143
Delta R.T. 0.022 min
Lab File: 05042014.D
Acq: 4 May 2020 14:02

Tgt Ion: 85 Resp: 34966

Ion	Ratio	Lower	Upper
85	100		
87	32.4	12.4	52.4
101	8.7	0.0	28.8
103	5.6	0.0	25.7

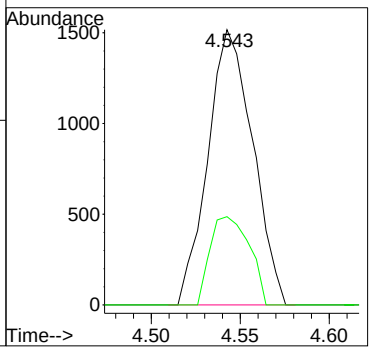


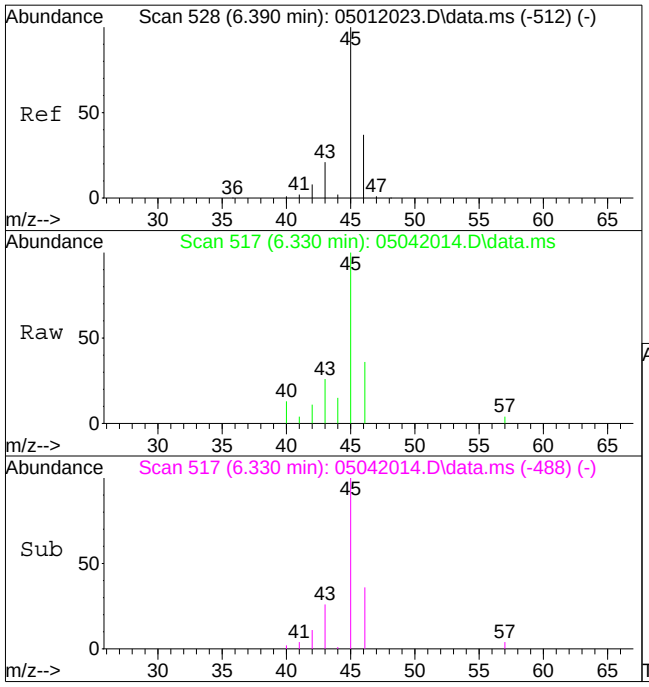


#4
Chloromethane
Concen: 0.06 ng
RT: 4.54 min Scan# 192
Delta R.T. 0.011 min
Lab File: 05042014.D
Acq: 4 May 2020 14:02

Tgt Ion: 50 Resp: 2660

Ion	Ratio	Lower	Upper
50	100		
52	28.0	12.5	52.5

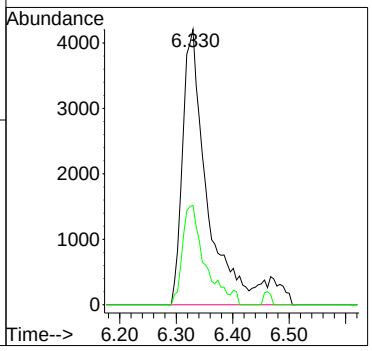


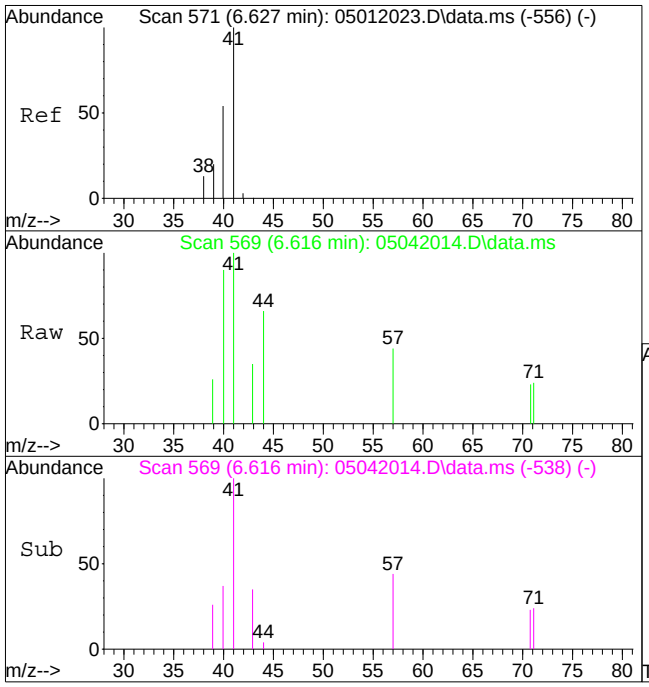


#10
Ethanol
Concen: 0.59 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.088 min
Lab File: 05042014.D
Acq: 4 May 2020 14:02

Tgt Ion: 45 Resp: 13439

Ion	Ratio	Lower	Upper
45	100		
46	31.4	17.2	57.2

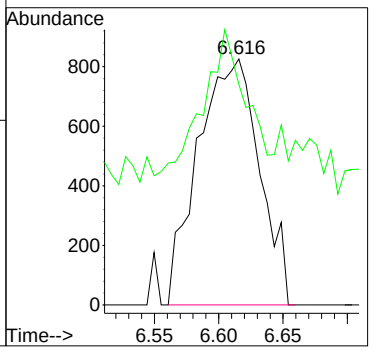


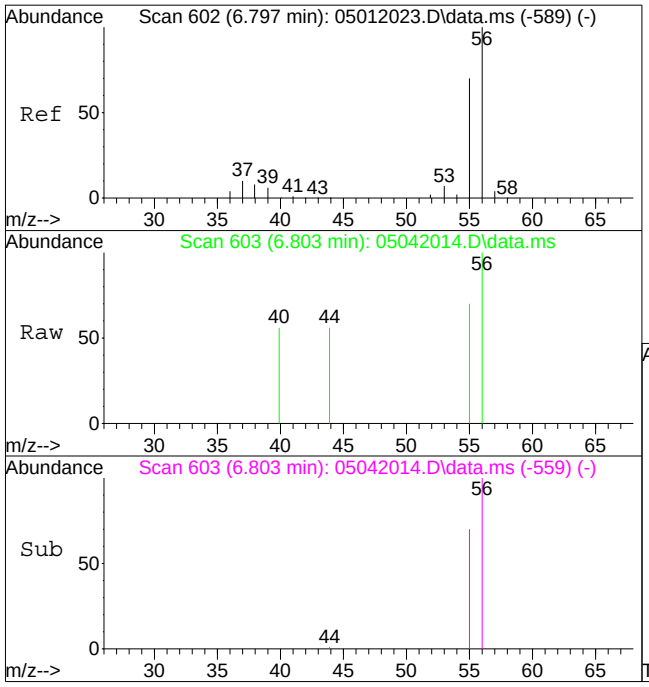


#11
Acetonitrile
Concen: 0.05 ng
RT: 6.62 min Scan# 569
Delta R.T. -0.028 min
Lab File: 05042014.D
Acq: 4 May 2020 14:02

Tgt Ion: 41 Resp: 2757

Ion	Ratio	Lower	Upper
41	100		
40	64.9	33.6	73.6

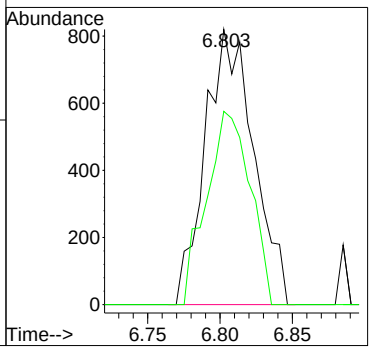


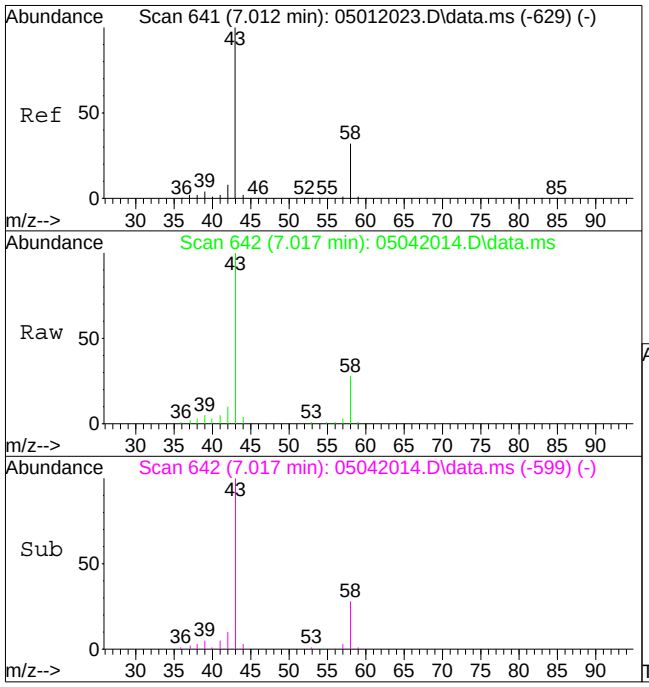


#12
Acrolein
Concen: 0.11 ng
RT: 6.80 min Scan# 603
Delta R.T. -0.006 min
Lab File: 05042014.D
Acq: 4 May 2020 14:02

Tgt Ion: 56 Resp: 1914

Ion	Ratio	Lower	Upper
56	100		
55	63.4	50.2	90.2

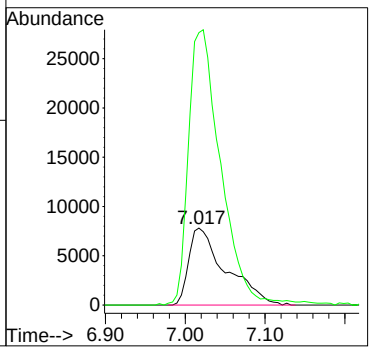


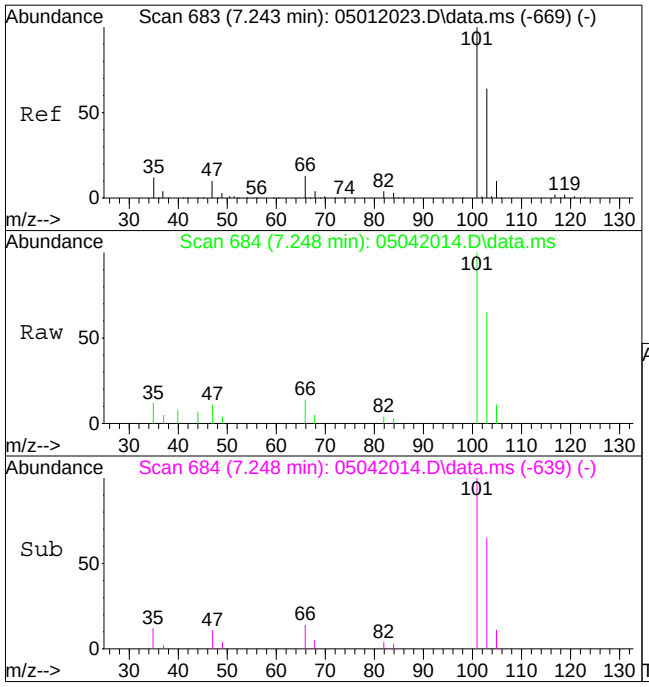


#13
Acetone
Concen: 1.12 ng
RT: 7.02 min Scan# 642
Delta R.T. -0.011 min
Lab File: 05042014.D
Acq: 4 May 2020 14:02

Tgt Ion: 58 Resp: 25292

Ion	Ratio	Lower	Upper
58	100		
43	311.3	294.4	354.4

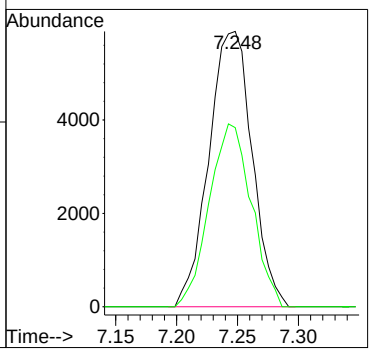


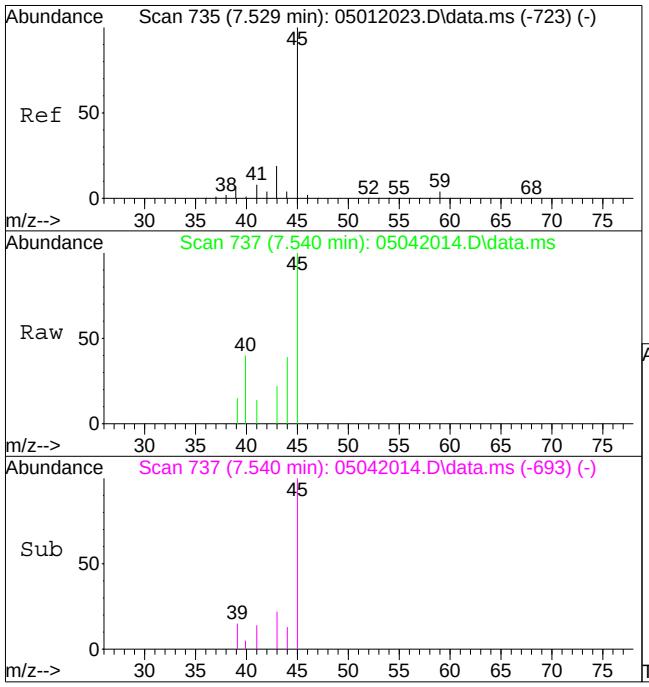


#14
Trichlorofluoromethane
Concen: 0.29 ng
RT: 7.25 min Scan# 684
Delta R.T. -0.000 min
Lab File: 05042014.D
Acq: 4 May 2020 14:02

Tgt Ion:101 Resp: 14568

Ion	Ratio	Lower	Upper
101	100		
103	64.6	44.4	84.4

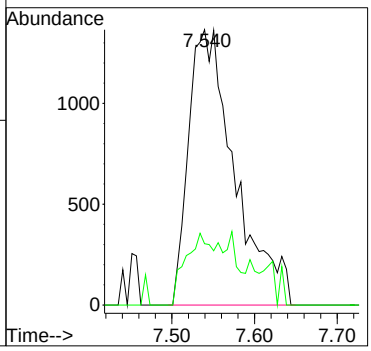


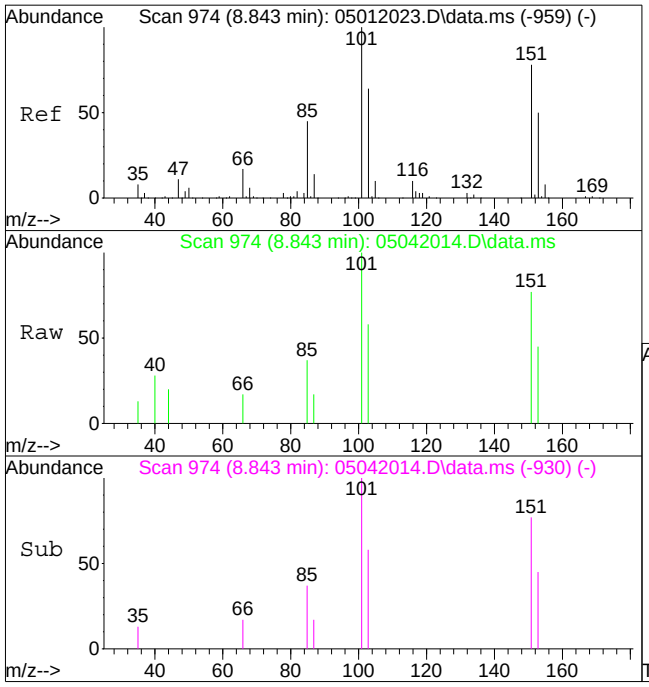


#15
2-Propanol (Isopropanol)
Concen: 0.08 ng
RT: 7.54 min Scan# 737
Delta R.T. -0.006 min
Lab File: 05042014.D
Acq: 4 May 2020 14:02

Tgt Ion: 45 Resp: 5303

Ion	Ratio	Lower	Upper
45	100		
43	33.7	0.0	39.5

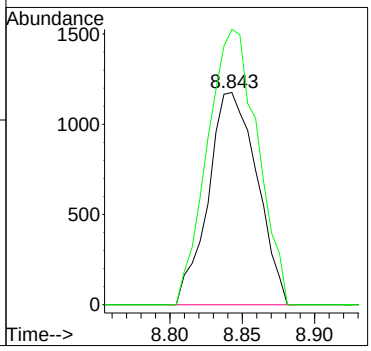


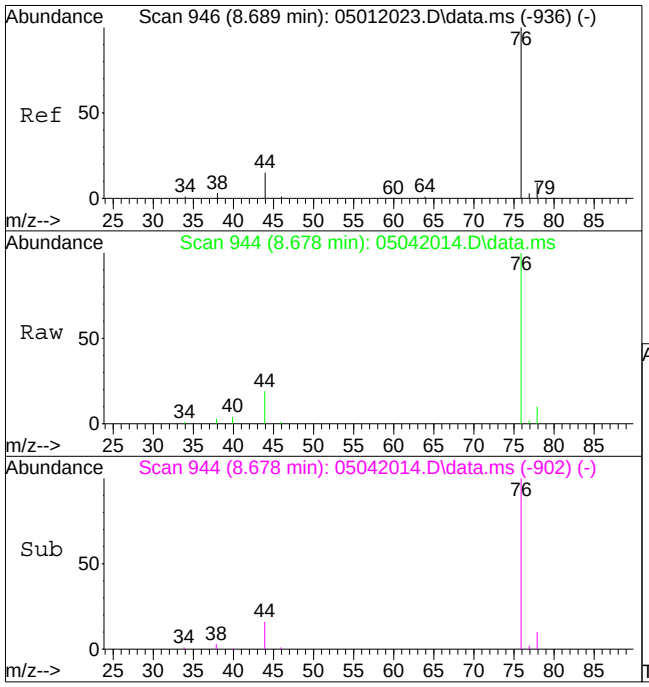


#21
Trichlorotrifluoroethane
Concen: 0.12 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05042014.D
Acq: 4 May 2020 14:02

Tgt Ion:151 Resp: 2760

Ion	Ratio	Lower	Upper
151	100		
101	133.7	107.3	147.3

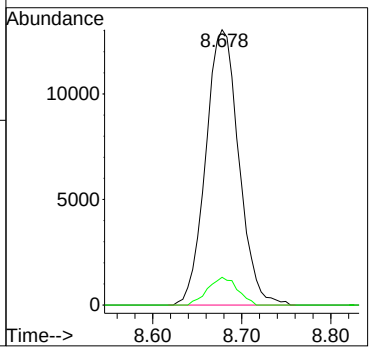


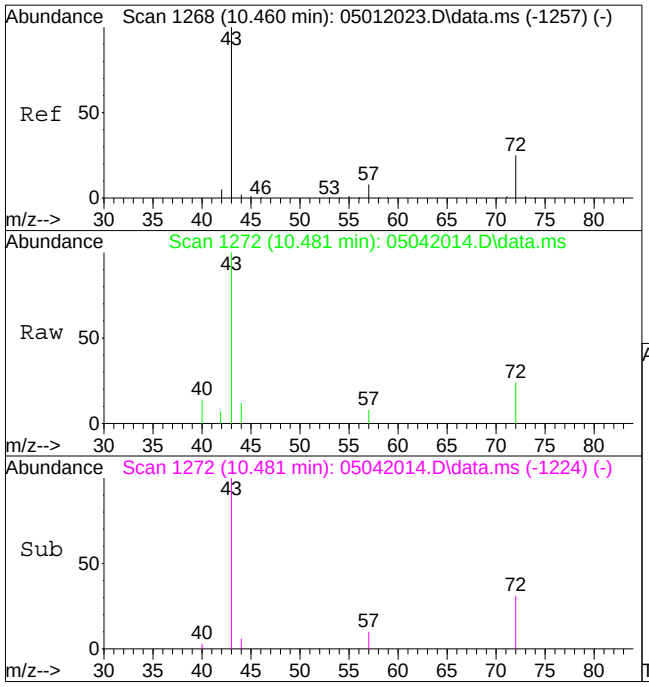


#22
Carbon Disulfide
Concen: 0.32 ng
RT: 8.68 min Scan# 944
Delta R.T. -0.017 min
Lab File: 05042014.D
Acq: 4 May 2020 14:02

Tgt Ion: 76 Resp: 33610

Ion	Ratio	Lower	Upper
76	100		
78	9.1	0.0	29.2

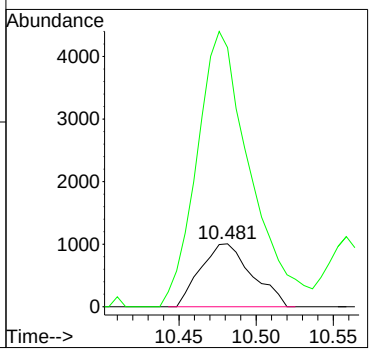


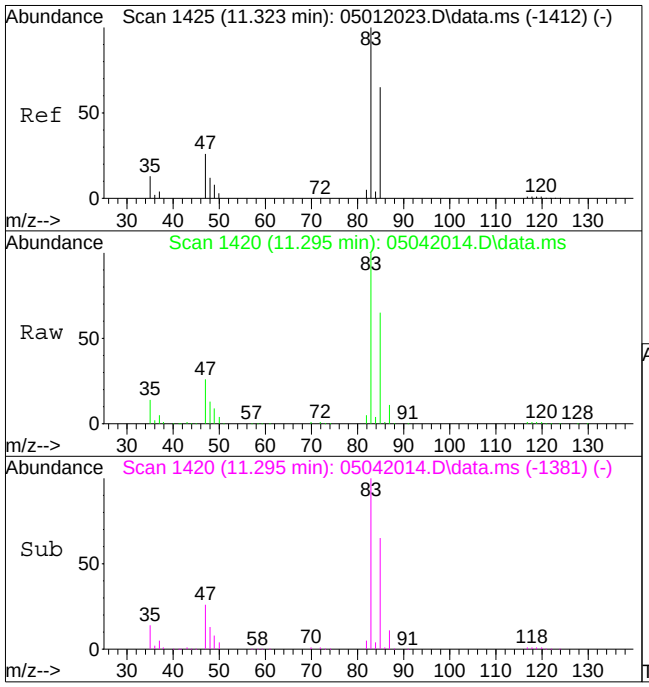


#27
2-Butanone (MEK)
Concen: 0.12 ng
RT: 10.48 min Scan# 1272
Delta R.T. 0.016 min
Lab File: 05042014.D
Acq: 4 May 2020 14:02

Tgt Ion: 72 Resp: 2319

Ion	Ratio	Lower	Upper
72	100		
43	457.1	389.7	429.7#

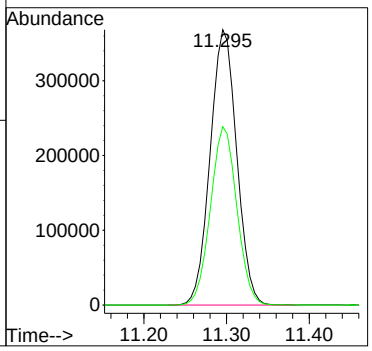


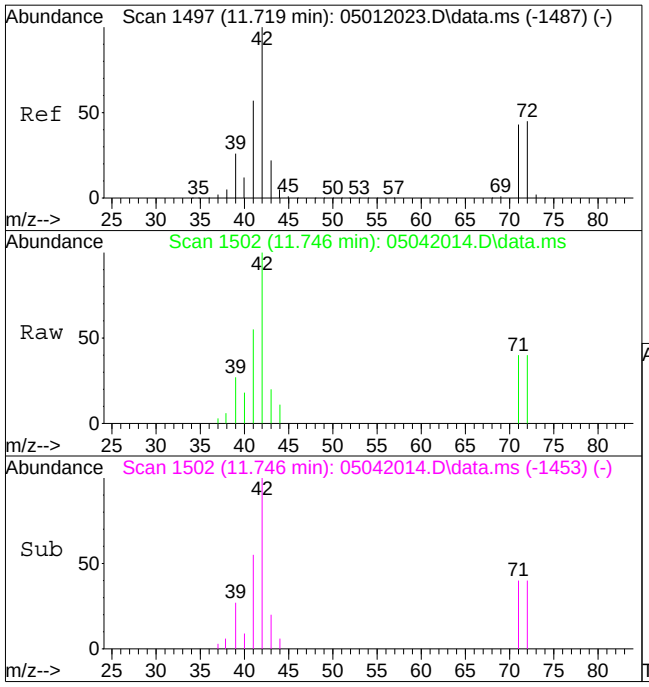


#32
Chloroform
Concen: 16.30 ng
RT: 11.30 min Scan# 1420
Delta R.T. -0.033 min
Lab File: 05042014.D
Acq: 4 May 2020 14:02

Tgt Ion: 83 Resp: 821666

Ion	Ratio	Lower	Upper
83	100		
85	64.4	45.5	85.5

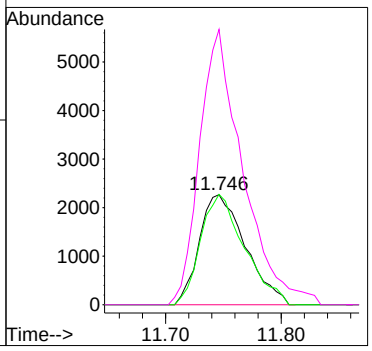


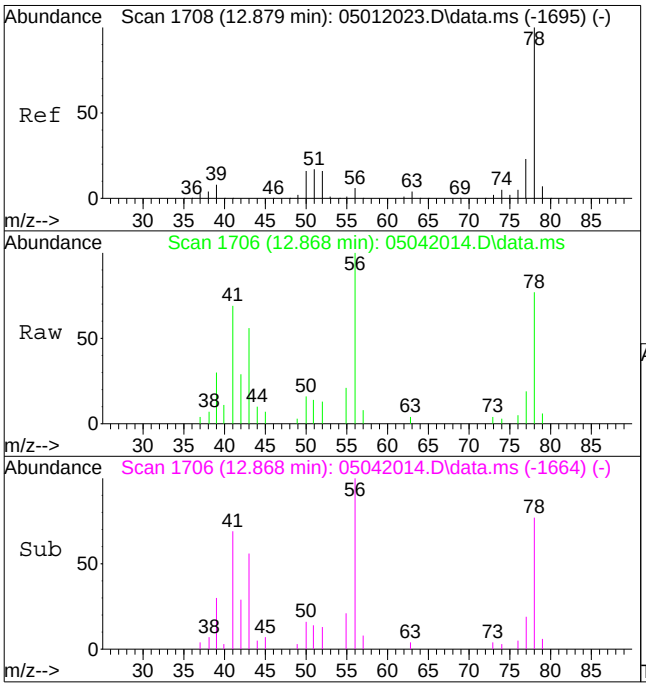


#34
Tetrahydrofuran (THF)
Concen: 0.33 ng
RT: 11.75 min Scan# 1502
Delta R.T. 0.022 min
Lab File: 05042014.D
Acq: 4 May 2020 14:02

Tgt Ion: 72 Resp: 6272

Ion	Ratio	Lower	Upper
72	100		
71	95.6	77.0	117.0
42	235.3	204.6	244.6

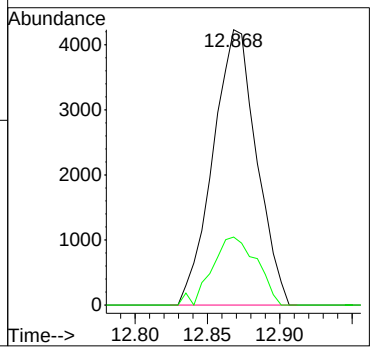


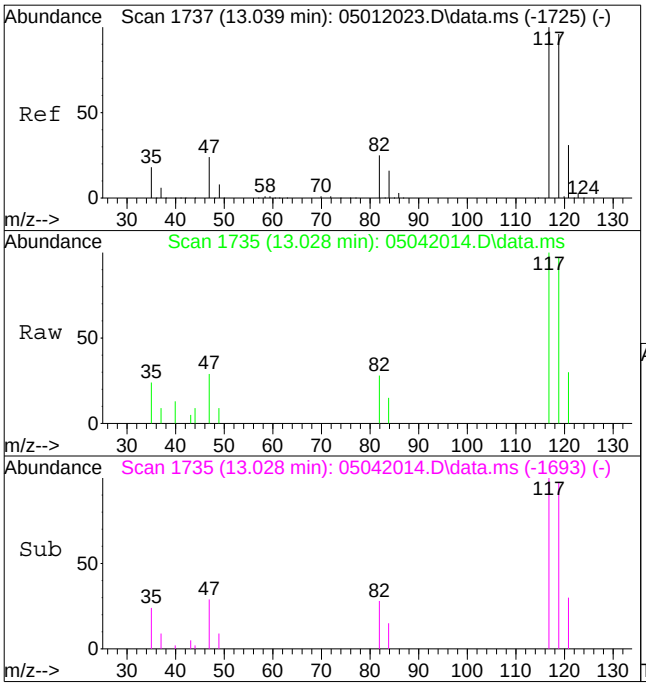


#41
Benzene
Concen: 0.08 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05042014.D
Acq: 4 May 2020 14:02

Tgt Ion: 78 Resp: 8892

Ion	Ratio	Lower	Upper
78	100		
77	25.4	3.4	43.4

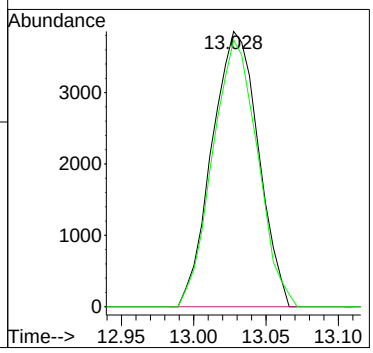


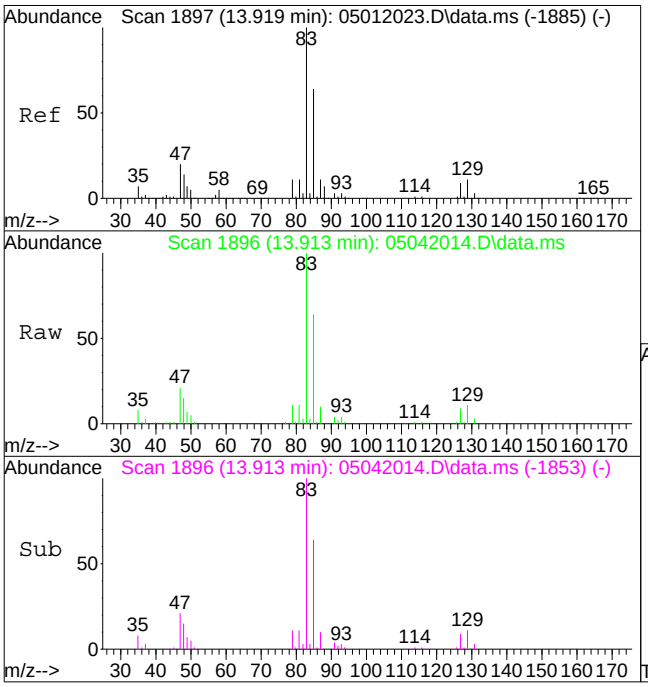


#42
Carbon Tetrachloride
Concen: 0.22 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05042014.D
Acq: 4 May 2020 14:02

Tgt Ion:117 Resp: 8619

Ion	Ratio	Lower	Upper
117	100		
119	93.9	76.2	116.2

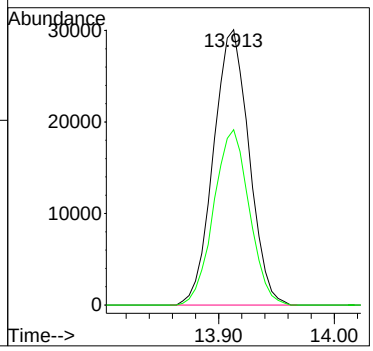


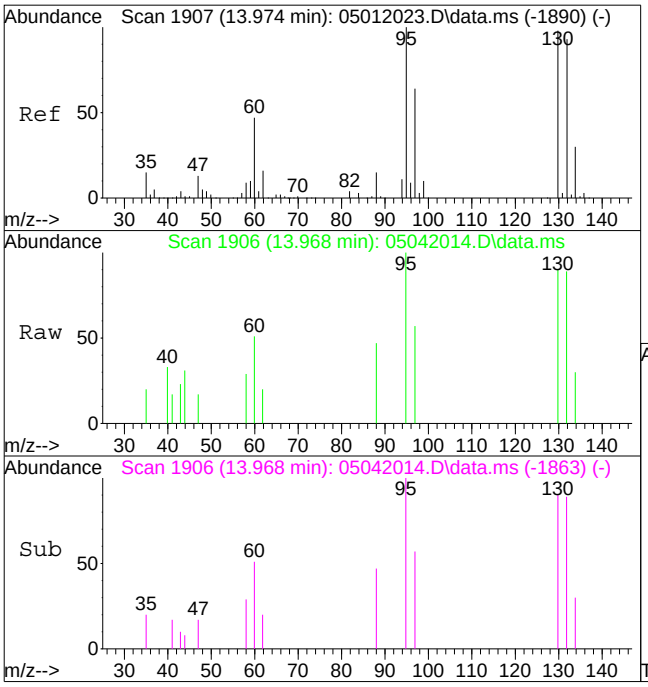


#46
Bromodichloromethane
Concen: 1.62 ng
RT: 13.91 min Scan# 1896
Delta R.T. -0.011 min
Lab File: 05042014.D
Acq: 4 May 2020 14:02

Tgt Ion: 83 Resp: 64318

Ion	Ratio	Lower	Upper
83	100		
85	63.7	44.4	84.4

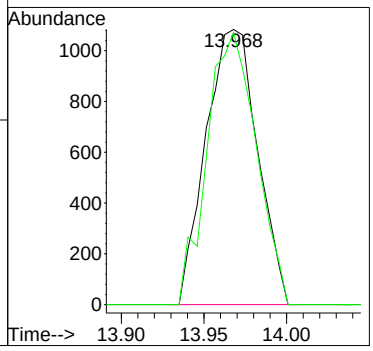


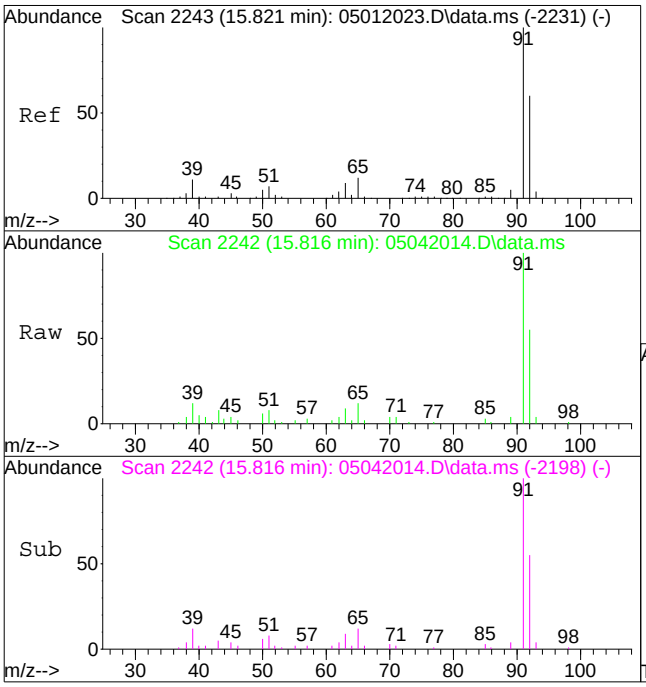


#47
Trichloroethene
Concen: 0.08 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05042014.D
Acq: 4 May 2020 14:02

Tgt Ion:130 Resp: 2354

Ion	Ratio	Lower	Upper
130	100		
132	94.3	74.9	114.9

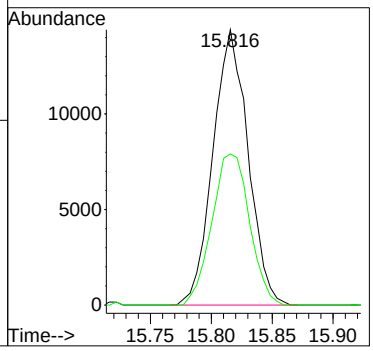


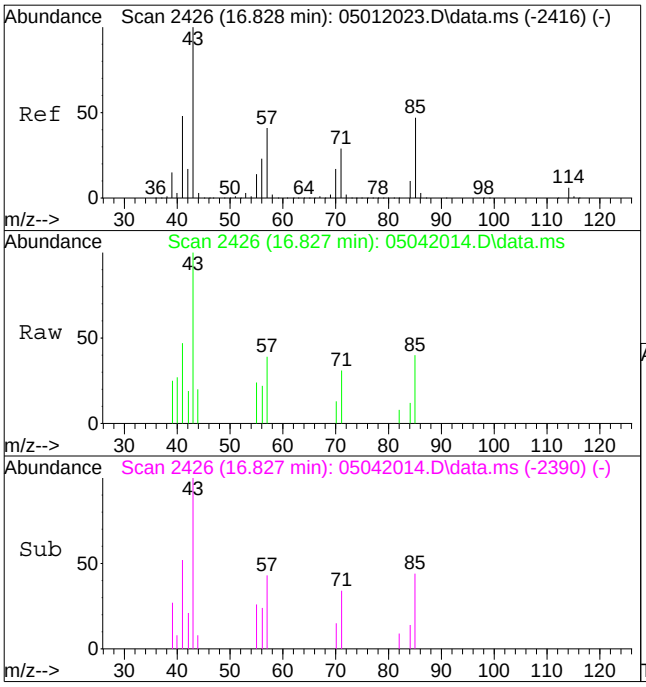


#58
Toluene
Concen: 0.25 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05042014.D
Acq: 4 May 2020 14:02

Tgt Ion: 91 Resp: 28843

Ion	Ratio	Lower	Upper
91	100		
92	58.9	39.4	79.4

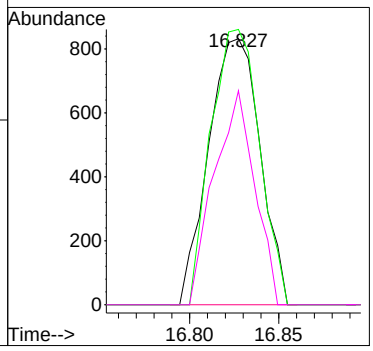


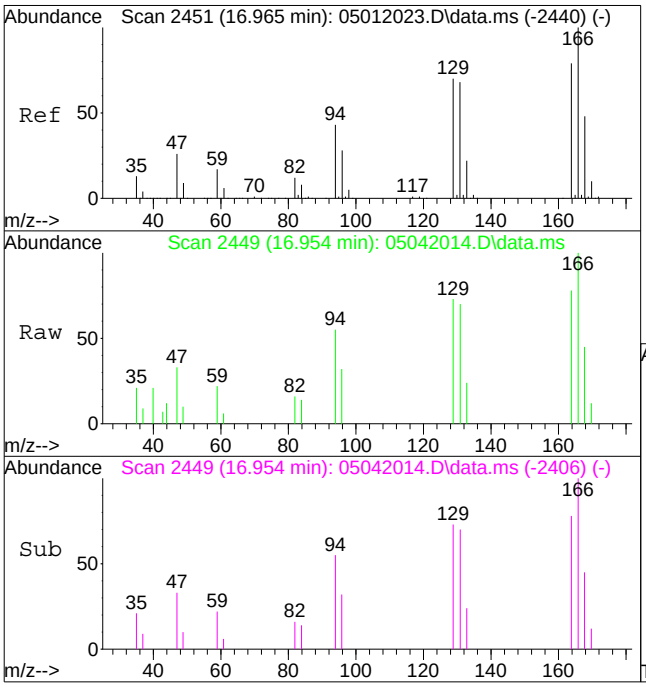


#63
n-Octane
Concen: 0.07 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05042014.D
Acq: 4 May 2020 14:02

Tgt Ion: 57 Resp: 1678

Ion	Ratio	Lower	Upper
57	100		
85	97.3	91.0	136.4
71	63.0	56.2	84.2

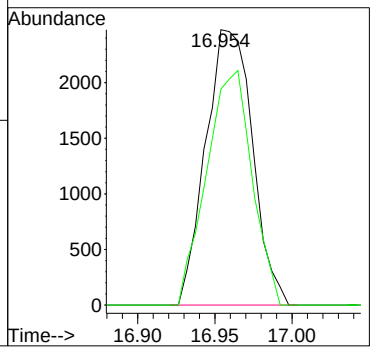


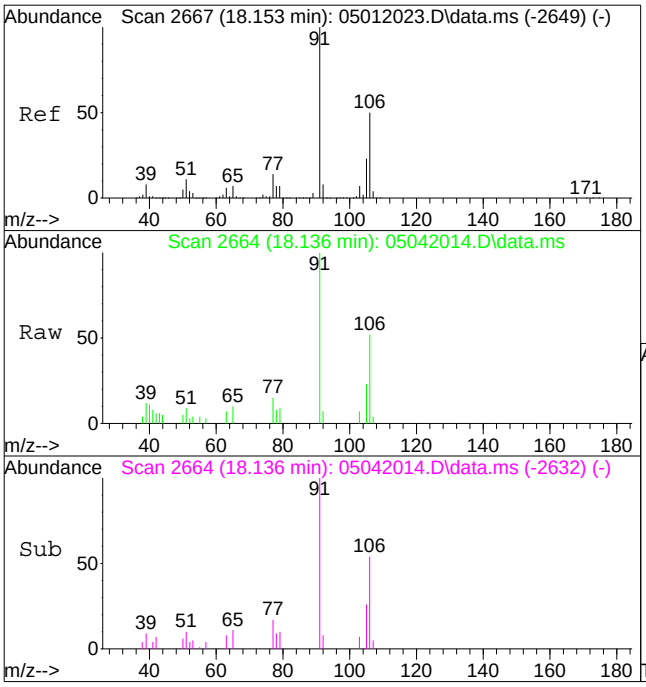


#64
Tetrachloroethene
Concen: 0.16 ng
RT: 16.95 min Scan# 2449
Delta R.T. -0.011 min
Lab File: 05042014.D
Acq: 4 May 2020 14:02

Tgt Ion:166 Resp: 5232

Ion	Ratio	Lower	Upper
166	100		
164	82.6	58.4	98.4

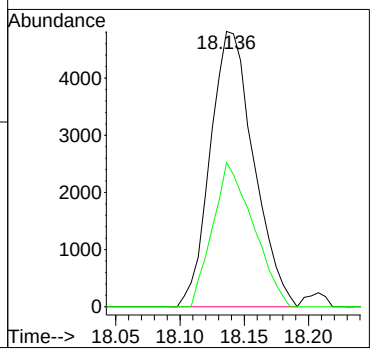


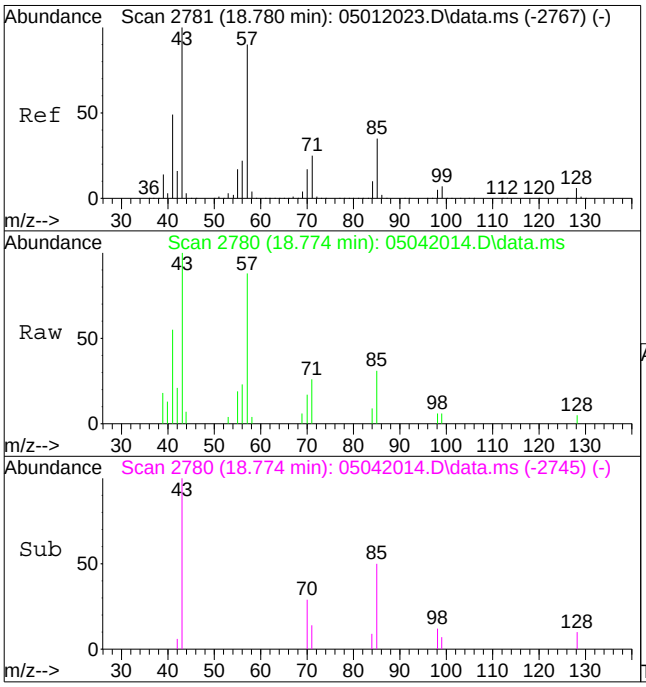


#67
m- & p-Xylenes
Concen: 0.11 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05042014.D
Acq: 4 May 2020 14:02

Tgt Ion: 91 Resp: 11335

Ion	Ratio	Lower	Upper
91	100		
106	48.9	29.7	69.7

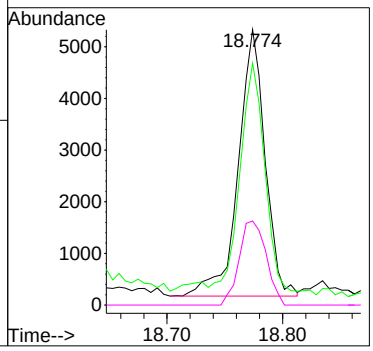


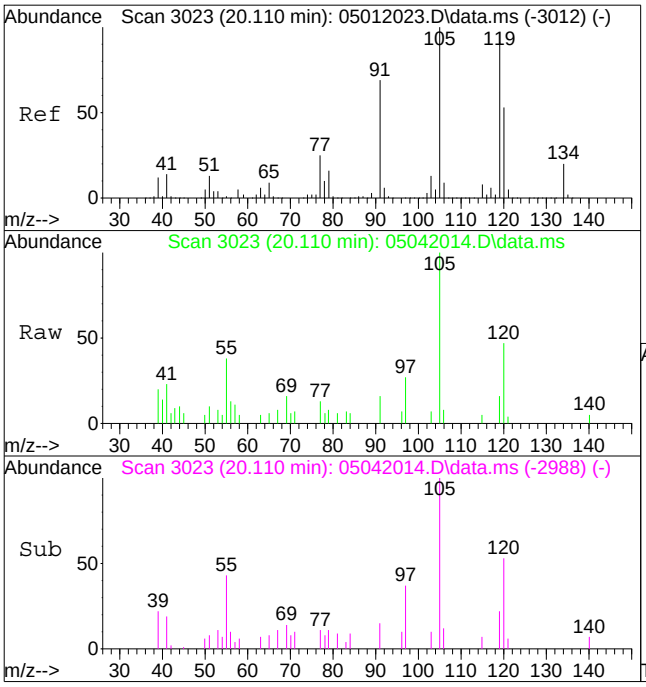


#71
n-Nonane
Concen: 0.15 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05042014.D
Acq: 4 May 2020 14:02

Tgt Ion: 43 Resp: 8320

Ion	Ratio	Lower	Upper
43	100		
57	82.2	69.0	109.0
85	31.8	14.6	54.6

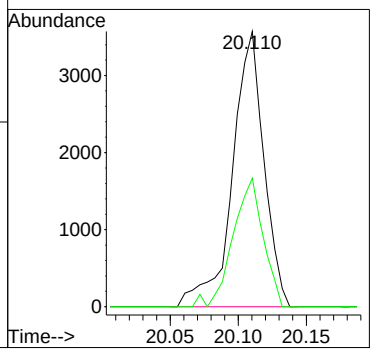




#82
1,2,4-Trimethylbenzene
Concen: 0.05 ng
RT: 20.11 min Scan# 3023
Delta R.T. -0.006 min
Lab File: 05042014.D
Acq: 4 May 2020 14:02

Tgt Ion:105 Resp: 5739

Ion	Ratio	Lower	Upper
105	100		
120	44.8	33.6	73.6



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042015.D Vial: 6
Acq On : 4 May 2020 14:36 Operator: TD
Sample : P2002105-003 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 19:22:53 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/4/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	251118	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1091203	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	530289	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	427964	12.575	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.64%				
57) Toluene-d8 (SS2)	15.72	98	1115082	12.406	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.28%				
73) Bromofluorobenzene (SS3)	18.98	174	388370	12.008	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.08%				
Target Compounds							Qvalue
2) Propene	4.11	42	4172	0.143	ng		97
3) Dichlorodifluoromethan...	4.27	85	34436	0.605	ng		100
4) Chloromethane	4.54	50	5105	0.115	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	742	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.21	54	127	N.D.			
8) Bromomethane	5.65	94	400	N.D.			
9) Chloroethane	5.97	64	584	N.D.			
10) Ethanol	6.32	45	24730	1.101	ng		95
11) Acetonitrile	6.61	41	3892	0.076	ng		75
12) Acrolein	6.81	56	10041	0.566	ng		100
13) Acetone	7.02	58	78141	3.479	ng		90
14) Trichlorofluoromethane	7.25	101	12574	0.250	ng		98
15) 2-Propanol (Isopropanol)	7.52	45	12355	0.182	ng		96
16) Acrylonitrile	7.77	53	797	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	1718	0.059	ng		96
20) 3-Chloro-1-propene (Al...	8.50	41	162	N.D.			
21) Trichlorotrifluoroethane	8.84	151	2836	0.119	ng		98
22) Carbon Disulfide	8.68	76	47342	0.453	ng		99
23) trans-1,2-Dichloroethene	9.68	61	190	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.09	73	656	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.47	72	11401	0.595	ng		92
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	11.25	57	684	N.D.			
32) Chloroform	11.30	83	5012474	100.277	ng		99
34) Tetrahydrofuran (THF)	11.76	72	1852	0.099	ng	#	63
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	300	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	4643	N.D.			
42) Carbon Tetrachloride	13.03	117	77412	1.945	ng		99
43) Cyclohexane	13.16	84	553	N.D.			
44) tert-Amyl Methyl Ether	13.54	73	323	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	13.91	83	403387	10.200	ng		99
47) Trichloroethene	13.97	130	7894	0.261	ng		98
48) 1,4-Dioxane	13.97	88	670	N.D.			
49) 2,2,4-Trimethylpentane...	14.04	57	4814	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042015.D Vial: 6
Acq On : 4 May 2020 14:36 Operator: TD
Sample : P2002105-003 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 19:22:53 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

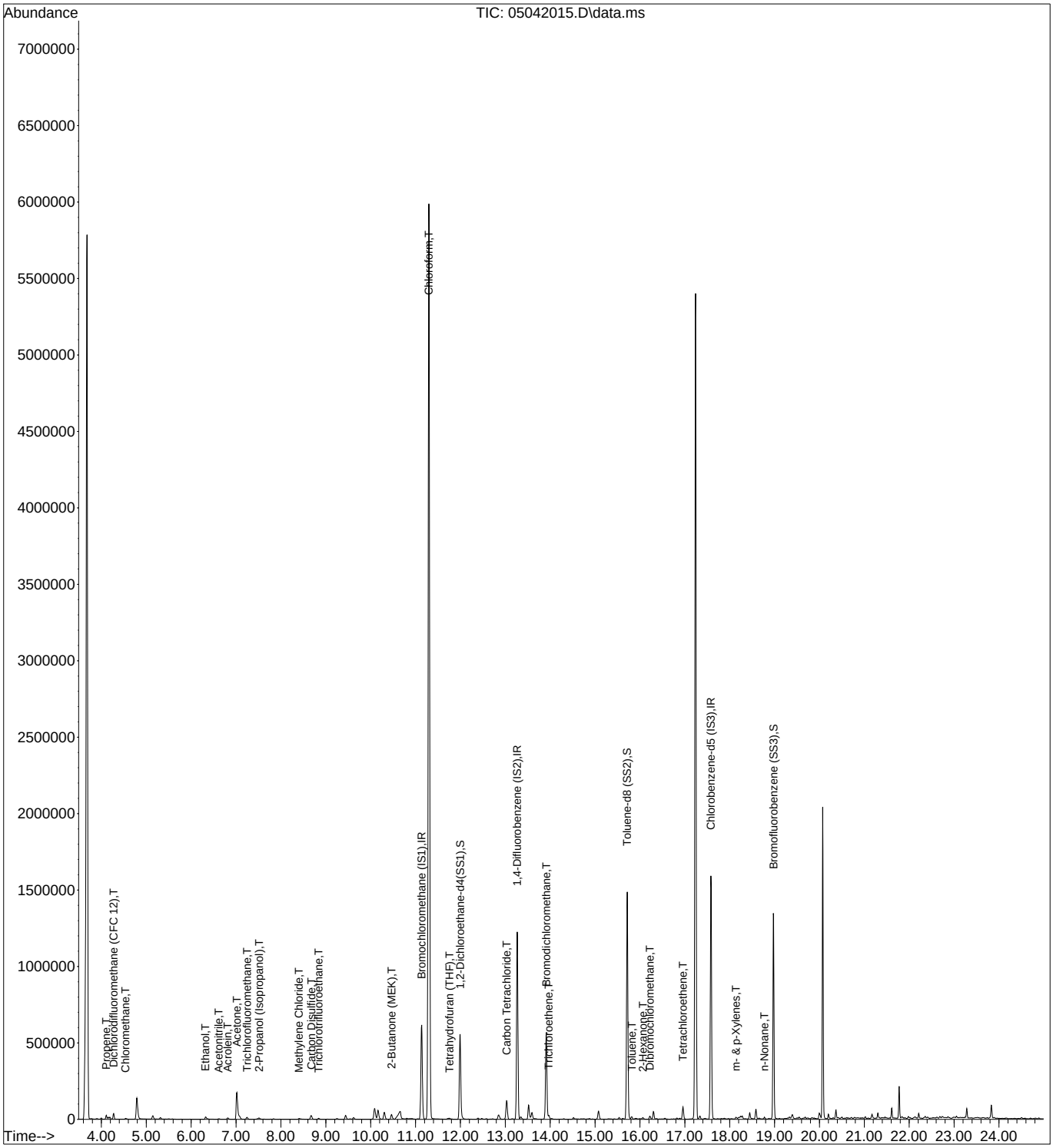
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.30	71	733	N.D.	
52) cis-1,3-Dichloropropene	14.83	75	444	N.D.	
53) 4-Methyl-2-pentanone	14.88	58	951	N.D.	
54) trans-1,3-Dichloropropene	15.35	75	1121	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.82	91	11736	0.101 ng	99
59) 2-Hexanone	16.07	43	8986	0.142 ng	94
60) Dibromochloromethane	16.22	129	10747	0.324 ng	99
61) 1,2-Dibromoethane	16.47	107	1168	N.D.	
62) n-Butyl Acetate	16.70	43	1473	N.D.	
63) n-Octane	16.82	57	1024	N.D.	
64) Tetrachloroethene	16.96	166	25821	0.789 ng	99
65) Chlorobenzene	17.62	112	1119	N.D.	
66) Ethylbenzene	17.98	91	2331	N.D.	
67) m- & p-Xylenes	18.14	91	6171	0.060 ng	100
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.48	104	1340	N.D.	
70) o-Xylene	18.57	91	2562	N.D.	
71) n-Nonane	18.77	43	4387	0.079 ng	98
72) 1,1,2,2-Tetrachloroethane	18.59	83	1098	N.D.	
74) Cumene	19.10	105	624	N.D.	
75) alpha-Pinene	19.45	93	291	N.D.	
76) n-Propylbenzene	19.54	91	2715	N.D.	
77) 3-Ethyltoluene	19.64	105	1887	N.D.	
78) 4-Ethyltoluene	19.68	105	1457	N.D.	
79) 1,3,5-Trimethylbenzene	19.74	105	1487	N.D.	
80) alpha-Methylstyrene	19.88	118	1333	N.D.	
81) 2-Ethyltoluene	19.92	105	1144	N.D.	
82) 1,2,4-Trimethylbenzene	20.11	105	2586	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.22	91	1399	N.D.	
85) 1,3-Dichlorobenzene	20.24	146	867	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	1224	N.D.	
87) sec-Butylbenzene	20.35	105	1091	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	1132	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	1695	N.D.	
90) 1,2-Dichlorobenzene	20.61	146	739	N.D.	
91) d-Limonene	20.61	68	1537	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.11	180	698	N.D.	
95) Naphthalene	22.22	128	3342	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	20.85	91	2838	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042015.D Vial: 6
Acq On : 4 May 2020 14:36 Operator: TD
Sample : P2002105-003 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 19:22:53 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/4/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	251118	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1091203	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	530289	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	427964	12.575	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.64%			
57) Toluene-d8 (SS2)	15.72	98	1115082	12.406	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.28%			
73) Bromofluorobenzene (SS3)	18.98	174	388370	12.008	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.08%			
Target Compounds						Qvalue
2) Propene	4.11	42	4172	0.143	ng	97
3) Dichlorodifluoromethan...	4.27	85	34436	0.605	ng	100
4) Chloromethane	4.54	50	5105	0.115	ng	100
10) Ethanol	6.32	45	24730	1.101	ng	95
11) Acetonitrile	6.61	41	3892	0.076	ng	75
12) Acrolein	6.81	56	10041	0.566	ng	100
13) Acetone	7.02	58	78141	3.479	ng	90
14) Trichlorofluoromethane	7.25	101	12574	0.250	ng	98
15) 2-Propanol (Isopropanol)	7.52	45	12355	0.182	ng	96
19) Methylene Chloride	8.40	84	1718	0.059	ng	96
21) Trichlorotrifluoroethane	8.84	151	2836	0.119	ng	98
22) Carbon Disulfide	8.68	76	47342	0.453	ng	99
27) 2-Butanone (MEK)	10.47	72	11401	0.595	ng	92
32) Chloroform	11.30	83	5012474	100.277	ng	99
34) Tetrahydrofuran (THF)	11.76	72	1852	0.099	ng #	63
42) Carbon Tetrachloride	13.03	117	77412	1.945	ng	99
46) Bromodichloromethane	13.91	83	403387	10.200	ng	99
47) Trichloroethene	13.97	130	7894	0.261	ng	98
58) Toluene	15.82	91	11736	0.101	ng	99
59) 2-Hexanone	16.07	43	8986	0.142	ng	94
60) Dibromochloromethane	16.22	129	10747	0.324	ng	99
64) Tetrachloroethene	16.96	166	25821	0.789	ng	99
67) m- & p-Xylenes	18.14	91	6171	0.060	ng	100
71) n-Nonane	18.77	43	4387	0.079	ng	98

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Quantitation Report (QT Reviewed)

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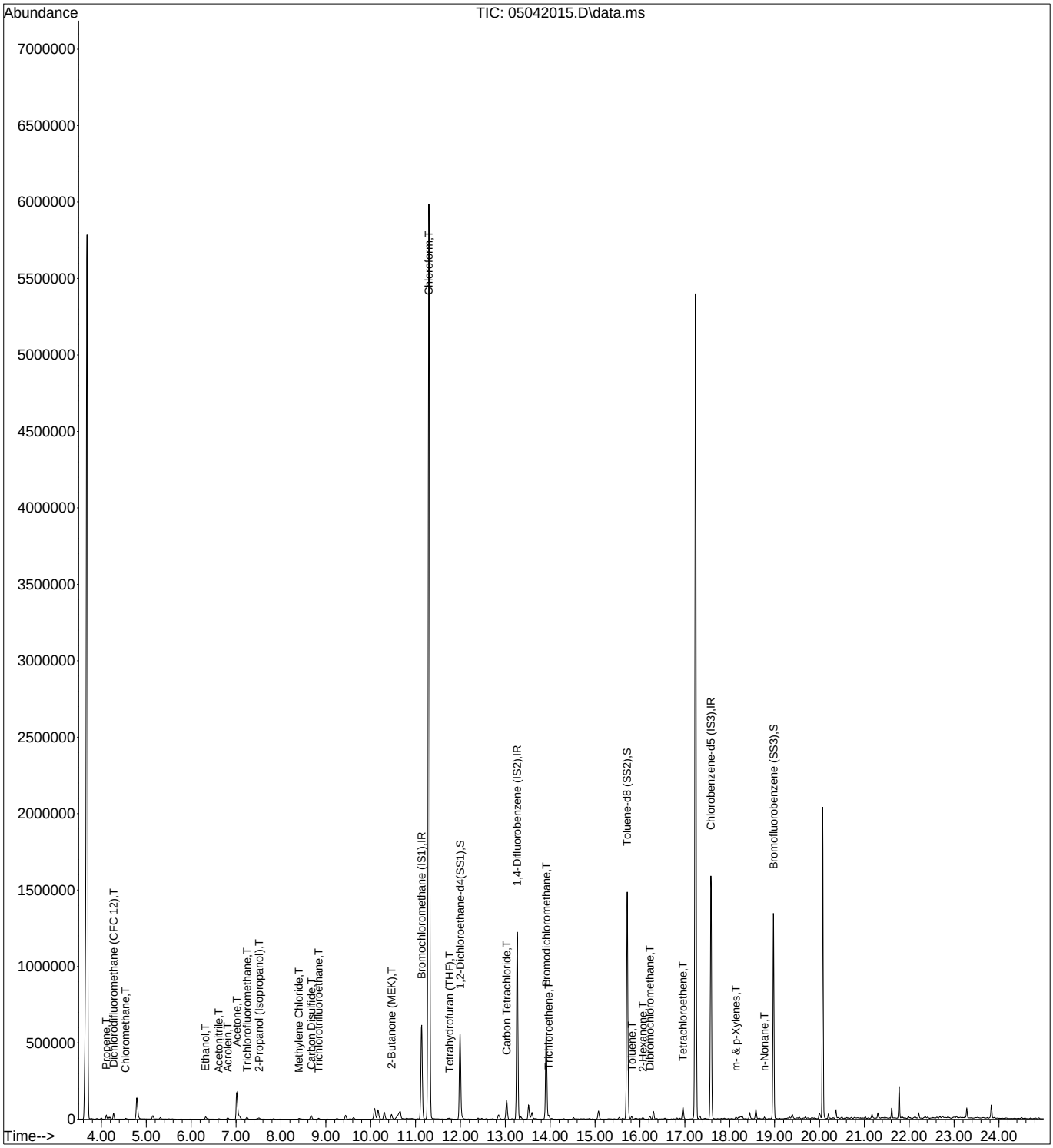
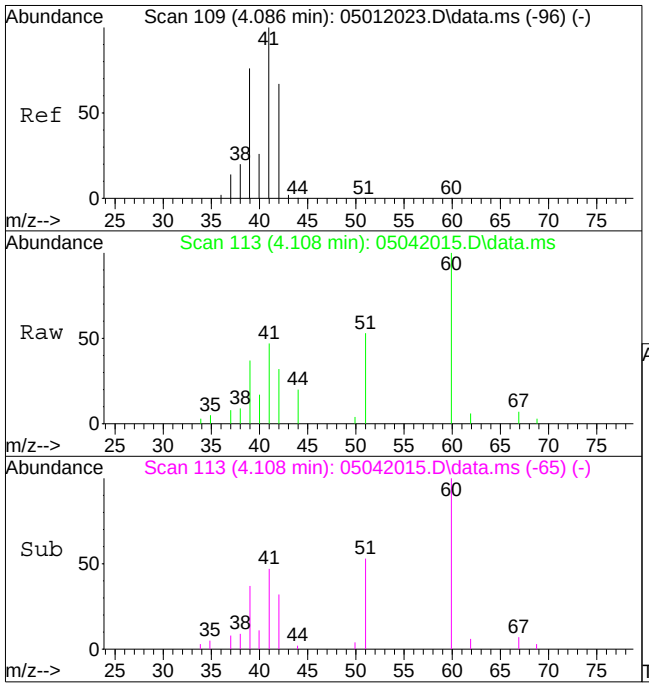
DataAcq Meth:TO15.M

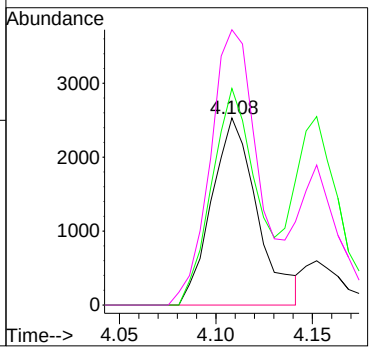


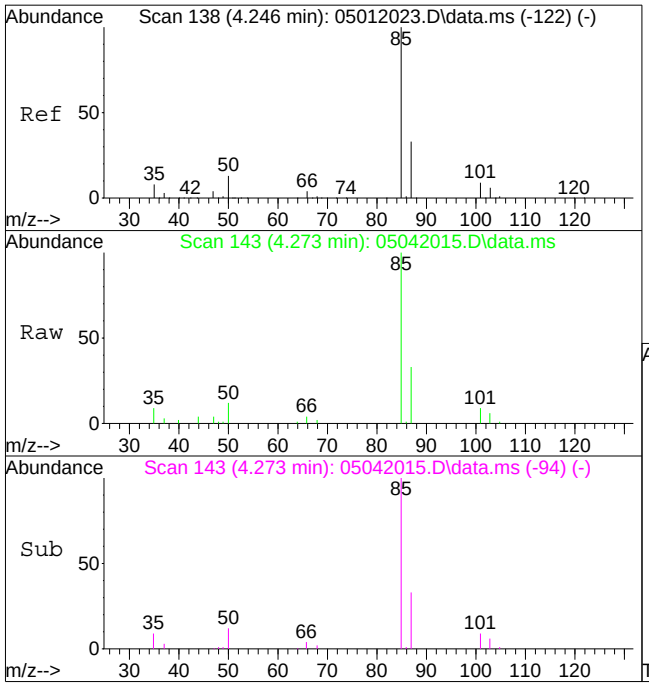


#2
Propene
Concen: 0.14 ng
RT: 4.11 min Scan# 113
Delta R.T. 0.016 min
Lab File: 05042015.D
Acq: 4 May 2020 14:36

Tgt Ion: 42 Resp: 4172

Ion	Ratio	Lower	Upper
42	100		
39	113.0	96.1	136.1
41	155.0	131.9	171.9

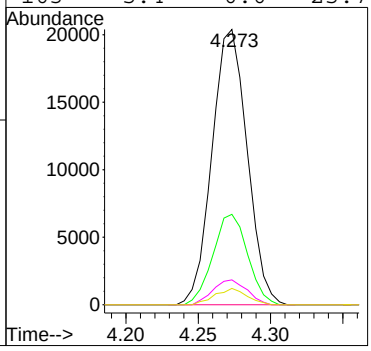


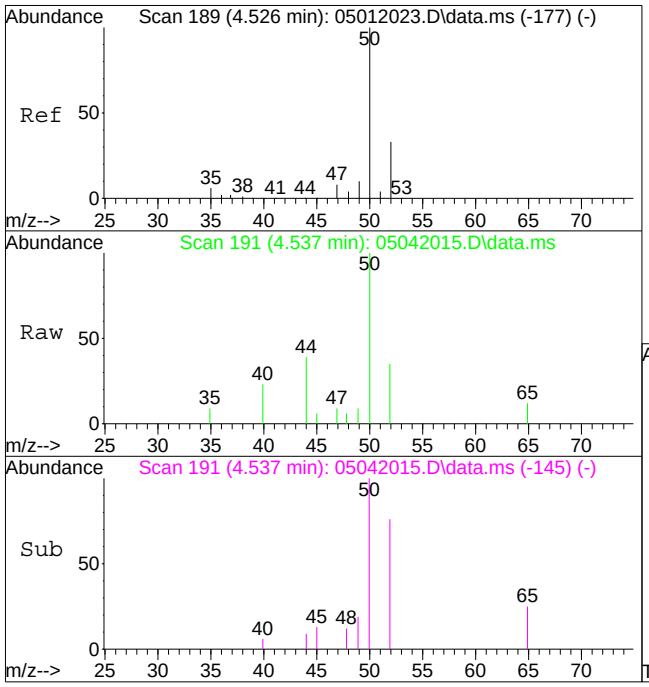


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.61 ng
RT: 4.27 min Scan# 143
Delta R.T. 0.022 min
Lab File: 05042015.D
Acq: 4 May 2020 14:36

Tgt Ion: 85 Resp: 34436

Ion	Ratio	Lower	Upper
85	100		
87	32.4	12.4	52.4
101	8.7	0.0	28.8
103	5.4	0.0	25.7

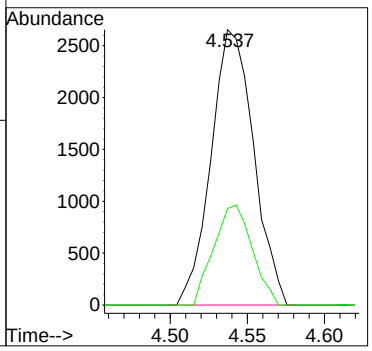


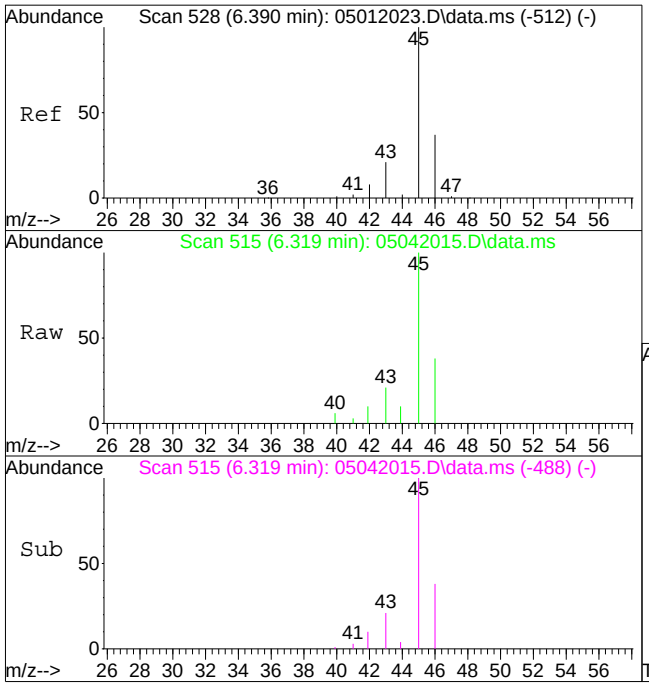


#4
Chloromethane
Concen: 0.11 ng
RT: 4.54 min Scan# 191
Delta R.T. 0.005 min
Lab File: 05042015.D
Acq: 4 May 2020 14:36

Tgt Ion: 50 Resp: 5105

Ion	Ratio	Lower	Upper
50	100		
52	32.7	12.5	52.5

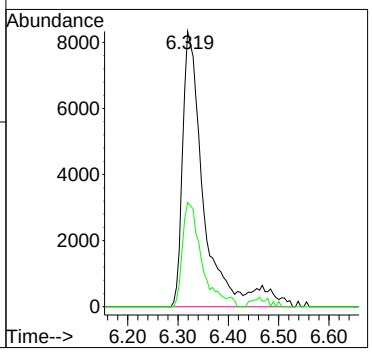


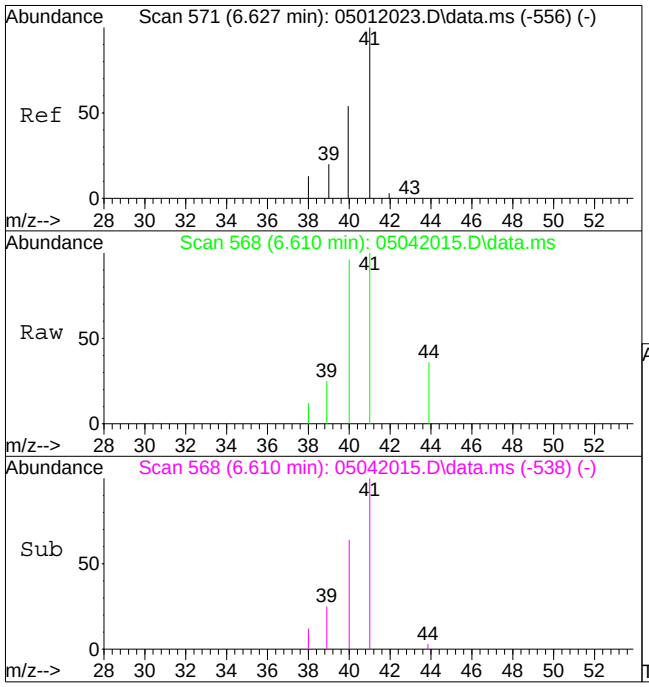


#10
Ethanol
Concen: 1.10 ng
RT: 6.32 min Scan# 515
Delta R.T. -0.099 min
Lab File: 05042015.D
Acq: 4 May 2020 14:36

Tgt Ion: 45 Resp: 24730

Ion	Ratio	Lower	Upper
45	100		
46	34.0	17.2	57.2

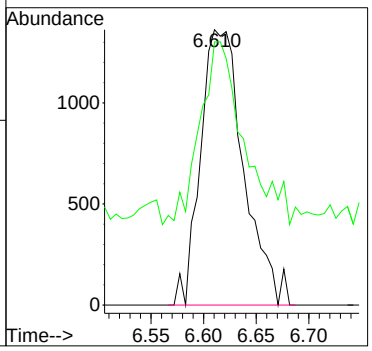


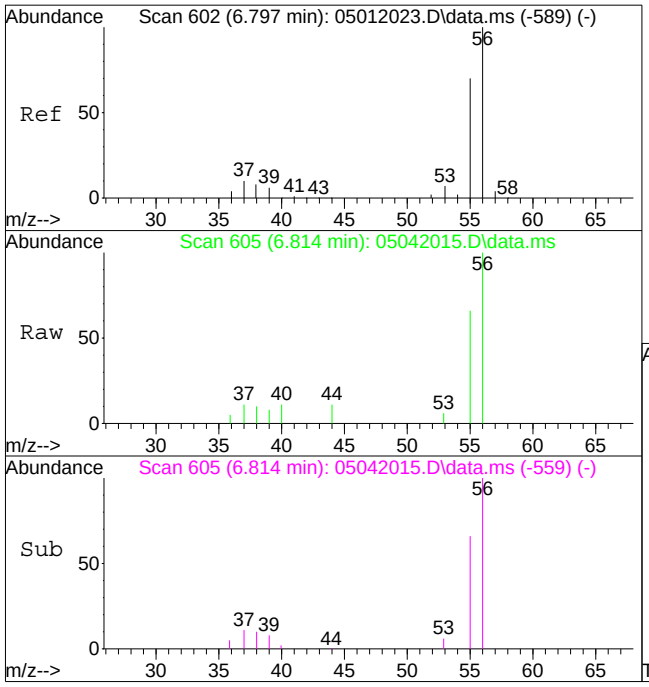


#11
Acetonitrile
Concen: 0.08 ng
RT: 6.61 min Scan# 568
Delta R.T. -0.033 min
Lab File: 05042015.D
Acq: 4 May 2020 14:36

Tgt Ion: 41 Resp: 3892

Ion	Ratio	Lower	Upper
41	100		
40	71.4	33.6	73.6

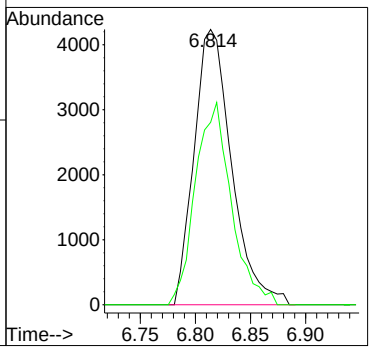


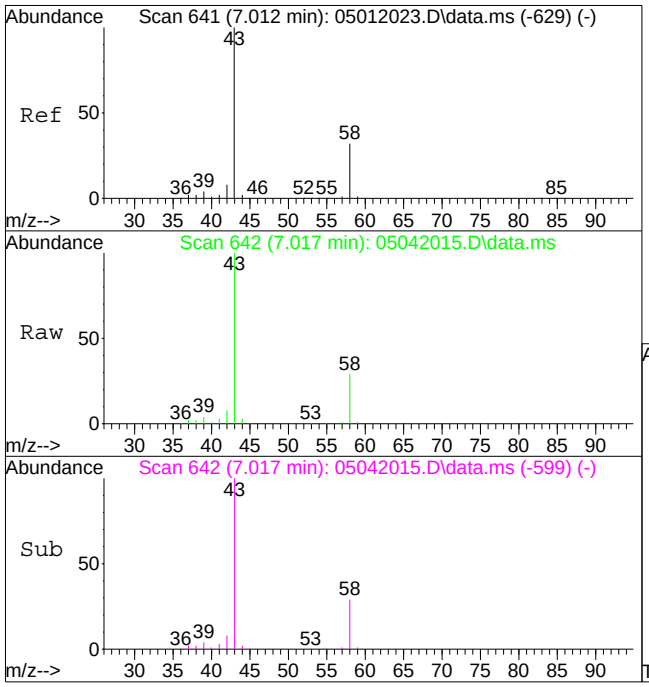


#12
Acrolein
Concen: 0.57 ng
RT: 6.81 min Scan# 605
Delta R.T. 0.005 min
Lab File: 05042015.D
Acq: 4 May 2020 14:36

Tgt Ion: 56 Resp: 10041

Ion	Ratio	Lower	Upper
56	100		
55	70.2	50.2	90.2

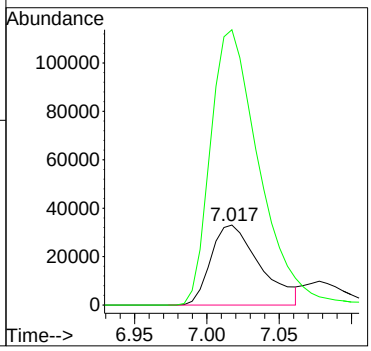


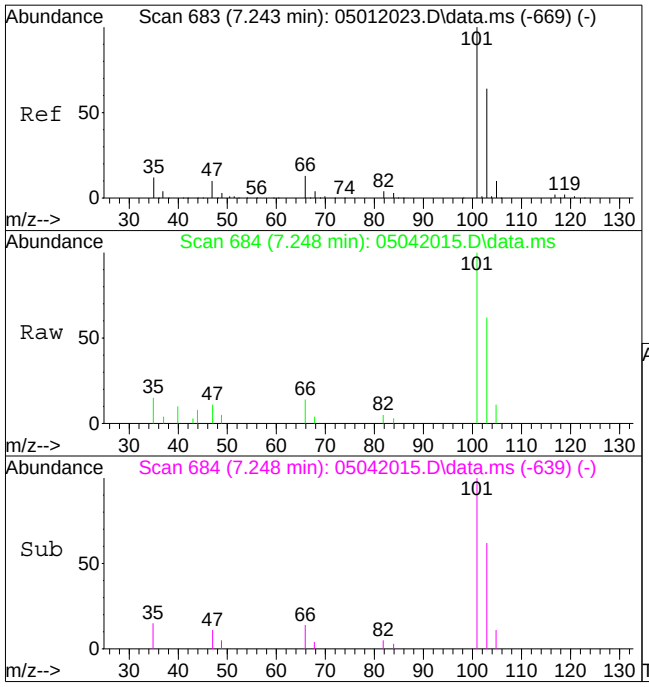


#13
Acetone
Concen: 3.48 ng
RT: 7.02 min Scan# 642
Delta R.T. -0.011 min
Lab File: 05042015.D
Acq: 4 May 2020 14:36

Tgt Ion: 58 Resp: 78141

Ion	Ratio	Lower	Upper
58	100		
43	345.6	294.4	354.4

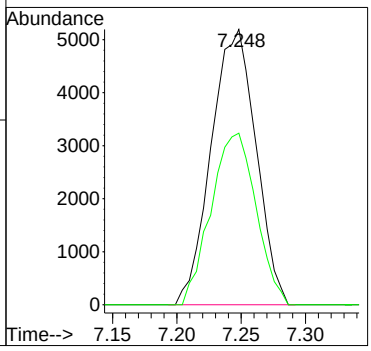


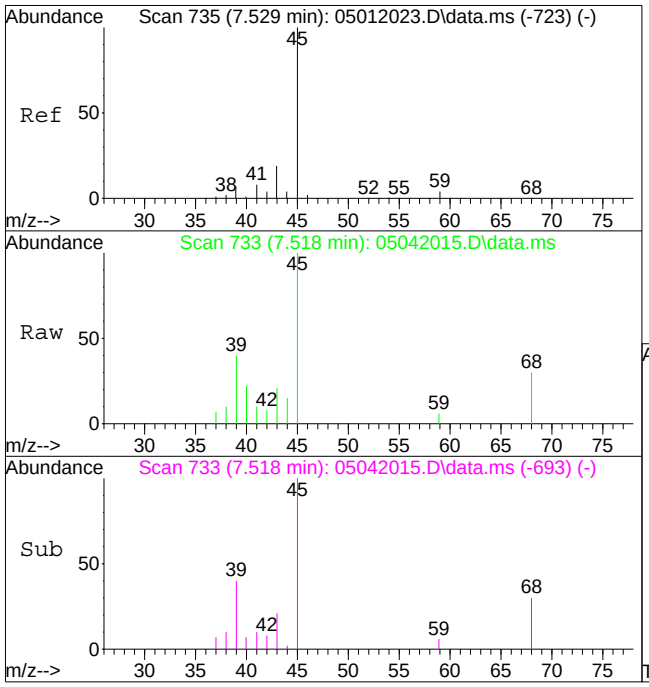


#14
Trichlorofluoromethane
Concen: 0.25 ng
RT: 7.25 min Scan# 684
Delta R.T. -0.000 min
Lab File: 05042015.D
Acq: 4 May 2020 14:36

Tgt Ion:101 Resp: 12574

Ion	Ratio	Lower	Upper
101	100		
103	62.7	44.4	84.4

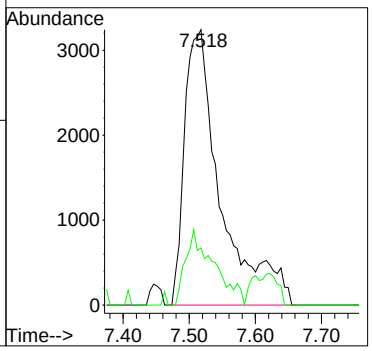


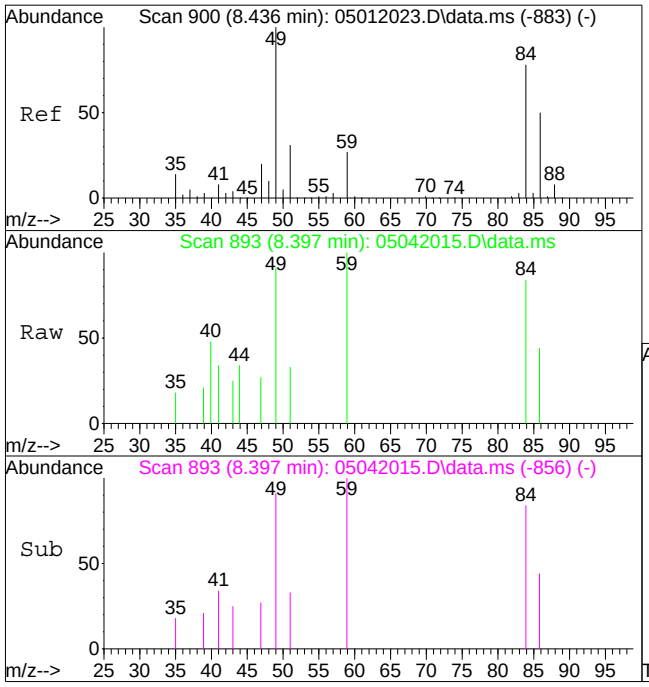


#15
2-Propanol (Isopropanol)
Concen: 0.18 ng
RT: 7.52 min Scan# 733
Delta R.T. -0.028 min
Lab File: 05042015.D
Acq: 4 May 2020 14:36

Tgt Ion: 45 Resp: 12355

Ion	Ratio	Lower	Upper
45	100		
43	21.4	0.0	39.5

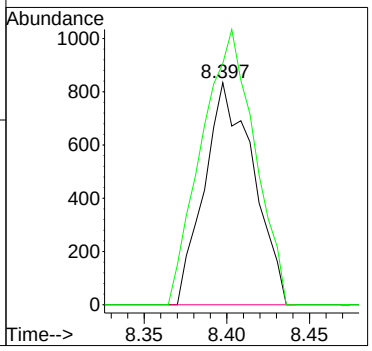


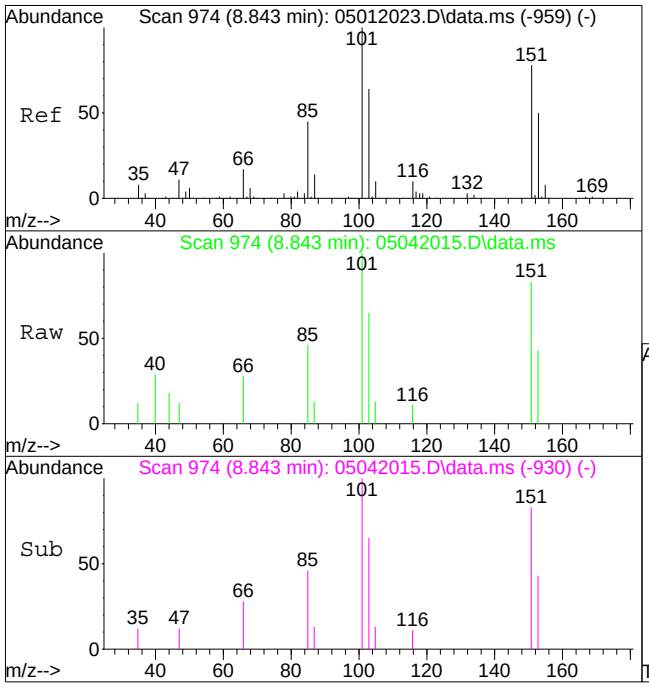


#19
Methylene Chloride
Concen: 0.06 ng
RT: 8.40 min Scan# 893
Delta R.T. -0.044 min
Lab File: 05042015.D
Acq: 4 May 2020 14:36

Tgt Ion: 84 Resp: 1718

Ion	Ratio	Lower	Upper
84	100		
49	134.4	104.8	154.8

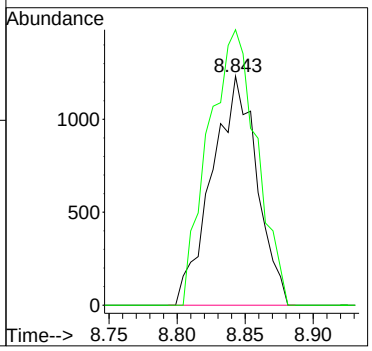


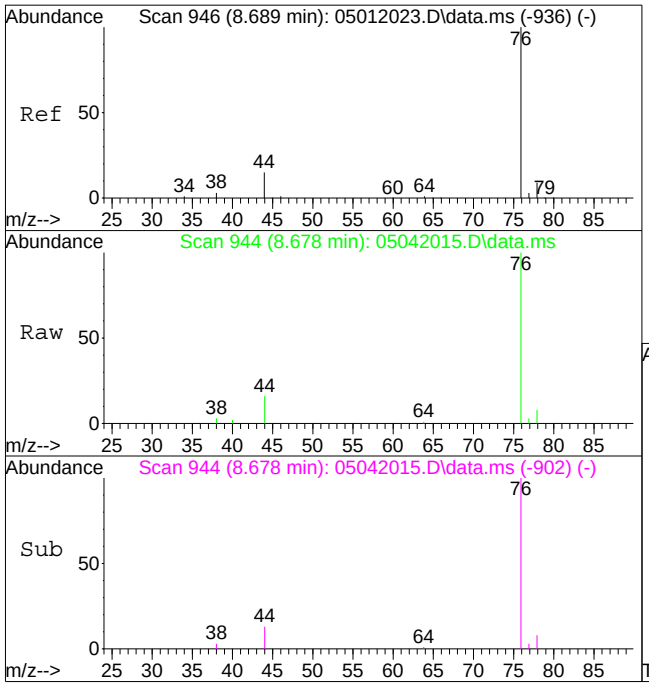


#21
Trichlorotrifluoroethane
Concen: 0.12 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05042015.D
Acq: 4 May 2020 14:36

Tgt Ion:151 Resp: 2836

Ion	Ratio	Lower	Upper
151	100		
101	129.1	107.3	147.3

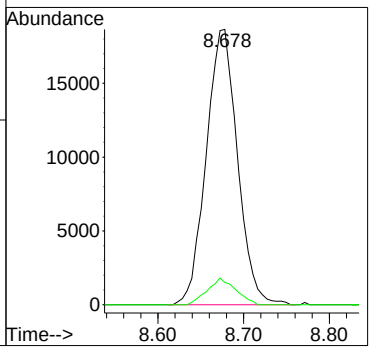


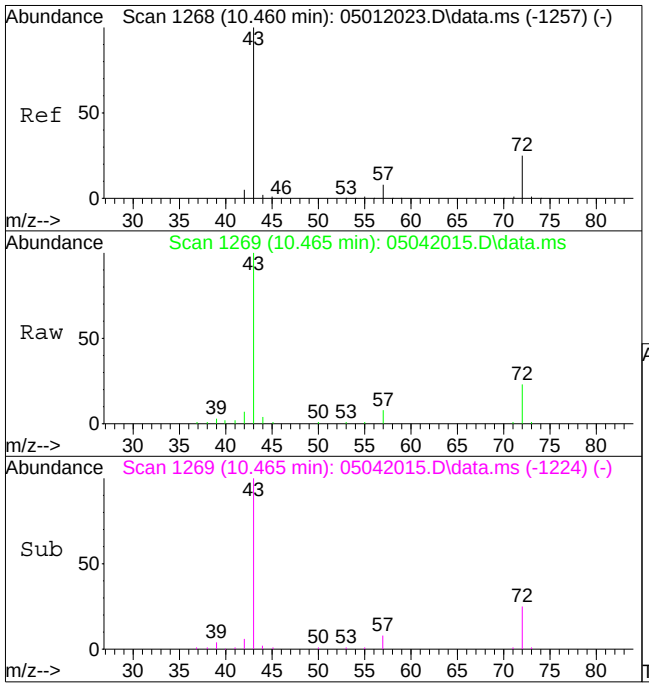


#22
Carbon Disulfide
Concen: 0.45 ng
RT: 8.68 min Scan# 944
Delta R.T. -0.017 min
Lab File: 05042015.D
Acq: 4 May 2020 14:36

Tgt Ion: 76 Resp: 47342

Ion	Ratio	Lower	Upper
76	100		
78	8.8	0.0	29.2

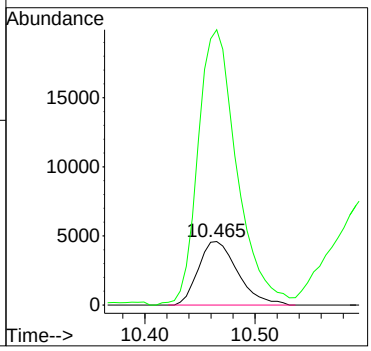


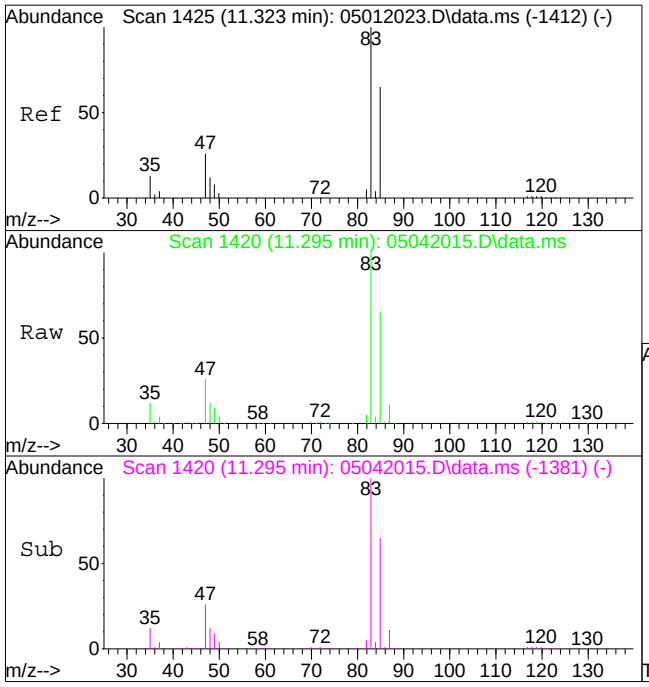


#27
2-Butanone (MEK)
Concen: 0.60 ng
RT: 10.47 min Scan# 1269
Delta R.T. -0.000 min
Lab File: 05042015.D
Acq: 4 May 2020 14:36

Tgt Ion: 72 Resp: 11401

Ion	Ratio	Lower	Upper
72	100		
43	428.1	389.7	429.7

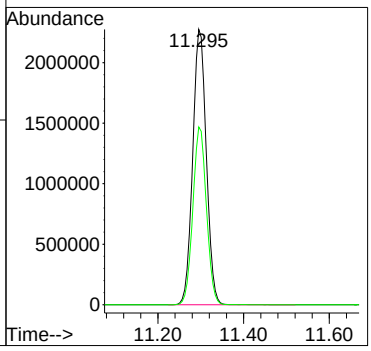


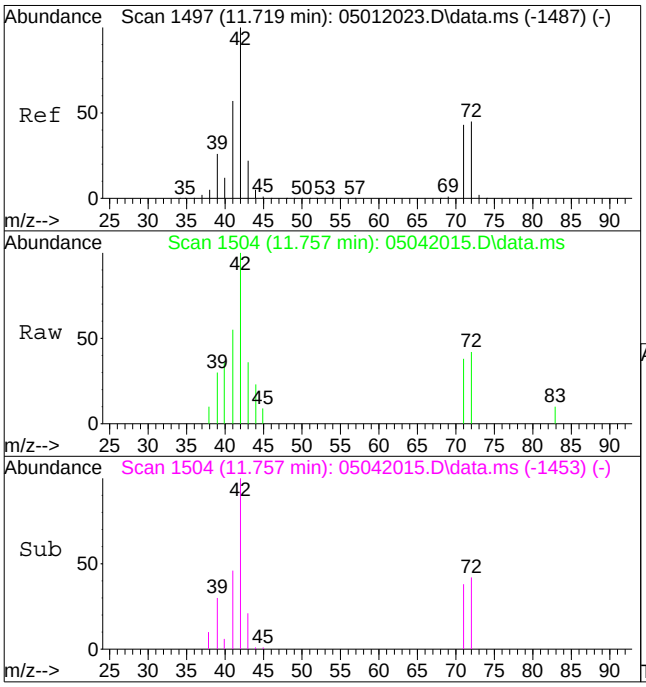


#32
Chloroform
Concen: 100.28 ng
RT: 11.30 min Scan# 1420
Delta R.T. -0.033 min
Lab File: 05042015.D
Acq: 4 May 2020 14:36

Tgt Ion: 83 Resp: 5012474

Ion	Ratio	Lower	Upper
83	100		
85	64.4	45.5	85.5

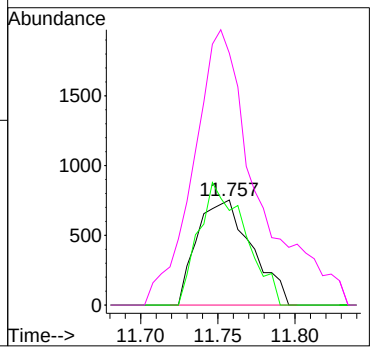


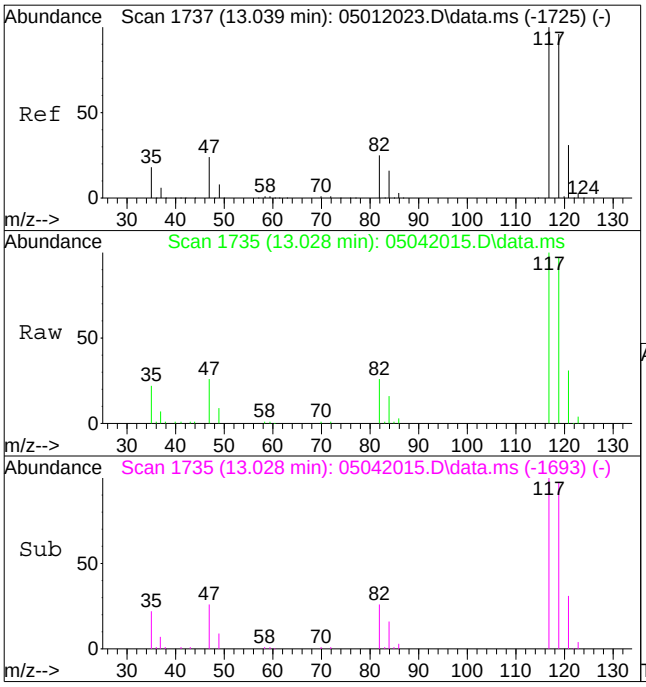


#34
Tetrahydrofuran (THF)
Concen: 0.10 ng
RT: 11.76 min Scan# 1504
Delta R.T. 0.033 min
Lab File: 05042015.D
Acq: 4 May 2020 14:36

Tgt Ion: 72 Resp: 1852

Ion	Ratio	Lower	Upper
72	100		
71	99.8	77.0	117.0
42	307.7	204.6	244.6#

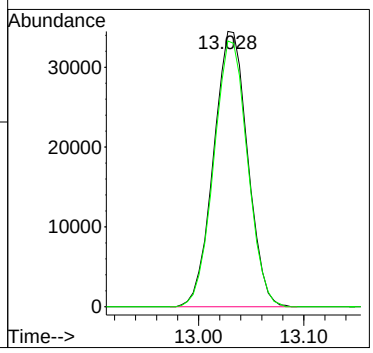


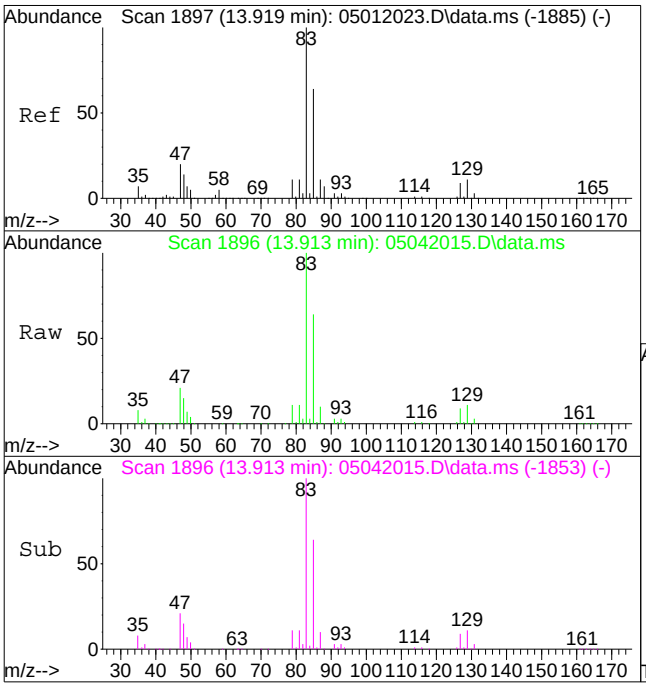


#42
Carbon Tetrachloride
Concen: 1.94 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05042015.D
Acq: 4 May 2020 14:36

Tgt Ion:117 Resp: 77412

Ion	Ratio	Lower	Upper
117	100		
119	95.7	76.2	116.2

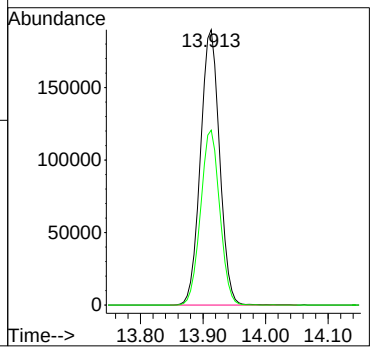


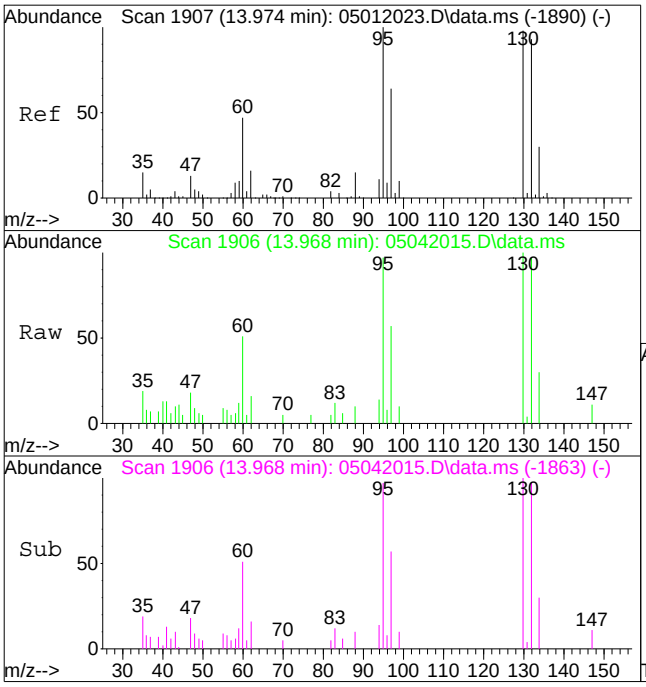


#46
Bromodichloromethane
Concen: 10.20 ng
RT: 13.91 min Scan# 1896
Delta R.T. -0.011 min
Lab File: 05042015.D
Acq: 4 May 2020 14:36

Tgt Ion: 83 Resp: 403387

Ion	Ratio	Lower	Upper
83	100		
85	63.5	44.4	84.4

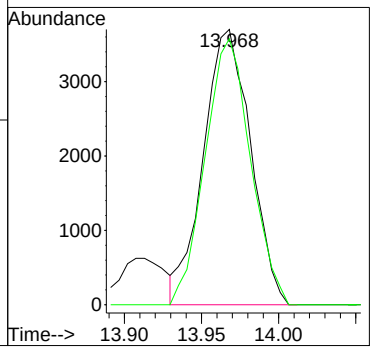


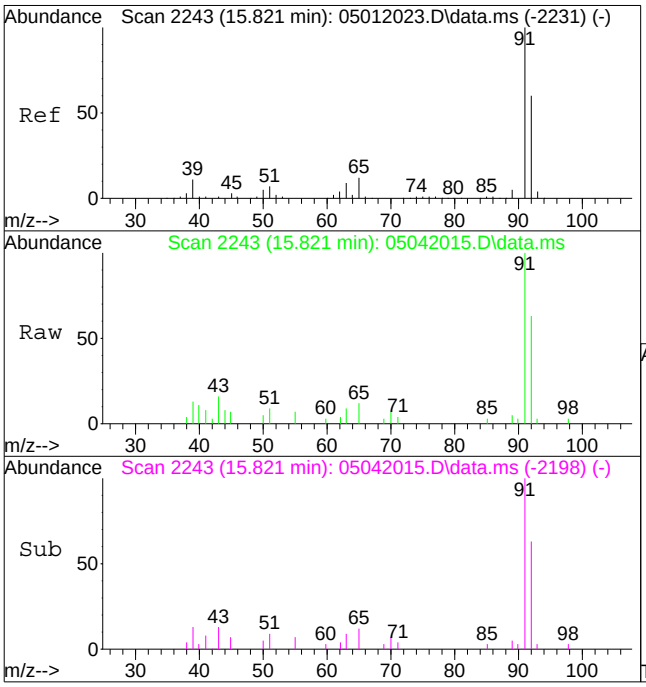


#47
Trichloroethene
Concen: 0.26 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05042015.D
Acq: 4 May 2020 14:36

Tgt Ion:130 Resp: 7894

Ion	Ratio	Lower	Upper
130	100		
132	92.8	74.9	114.9

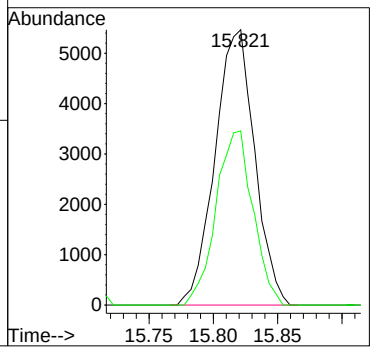


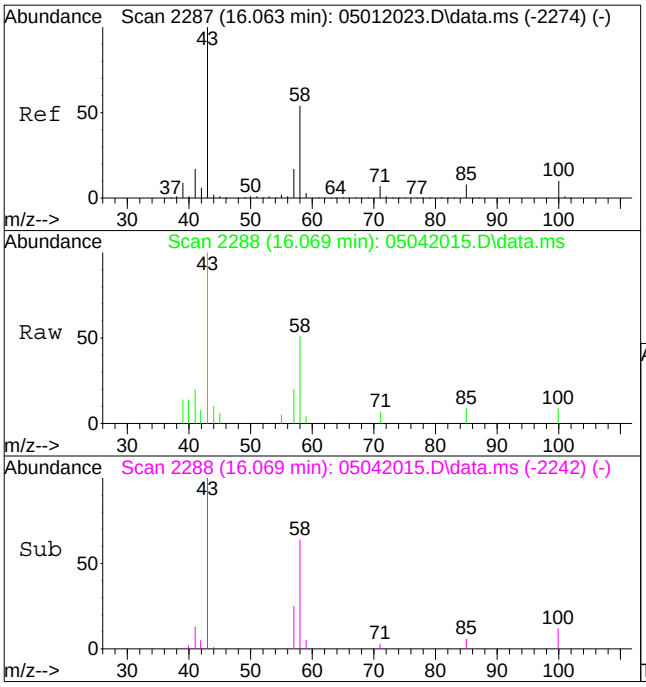


#58
Toluene
Concen: 0.10 ng
RT: 15.82 min Scan# 2243
Delta R.T. -0.000 min
Lab File: 05042015.D
Acq: 4 May 2020 14:36

Tgt Ion: 91 Resp: 11736

Ion	Ratio	Lower	Upper
91	100		
92	58.9	39.4	79.4

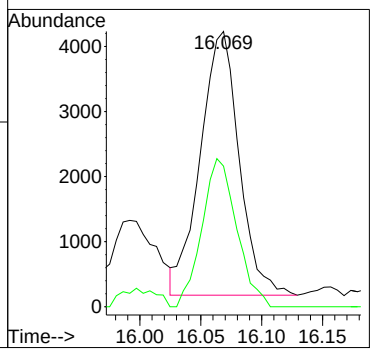


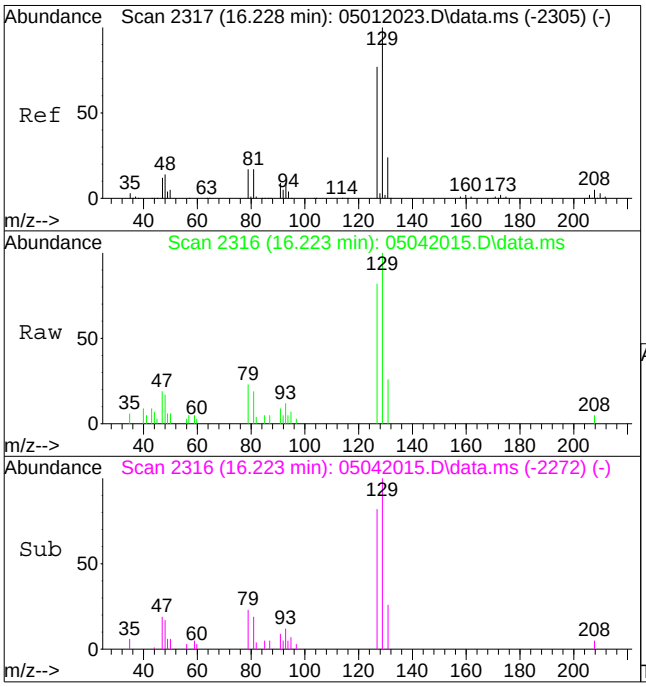


#59
2-Hexanone
Concen: 0.14 ng
RT: 16.07 min Scan# 2288
Delta R.T. 0.005 min
Lab File: 05042015.D
Acq: 4 May 2020 14:36

Tgt Ion: 43 Resp: 8986

Ion	Ratio	Lower	Upper
43	100		
58	50.2	34.5	74.5

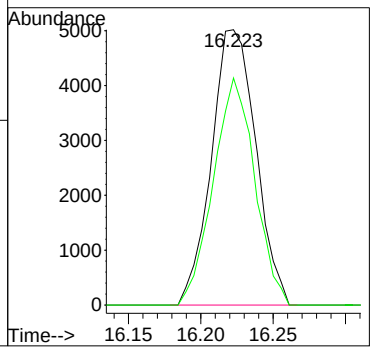


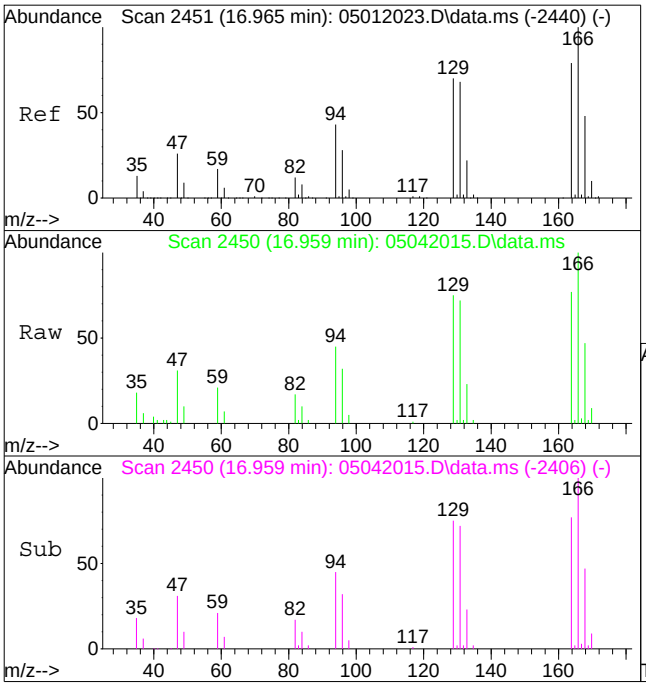


#60
Dibromochloromethane
Concen: 0.32 ng
RT: 16.22 min Scan# 2316
Delta R.T. -0.006 min
Lab File: 05042015.D
Acq: 4 May 2020 14:36

Tgt Ion:129 Resp: 10747

Ion	Ratio	Lower	Upper
129	100		
127	76.7	57.3	97.3

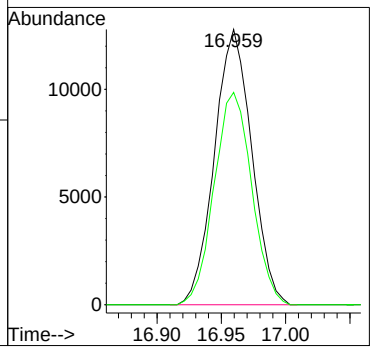


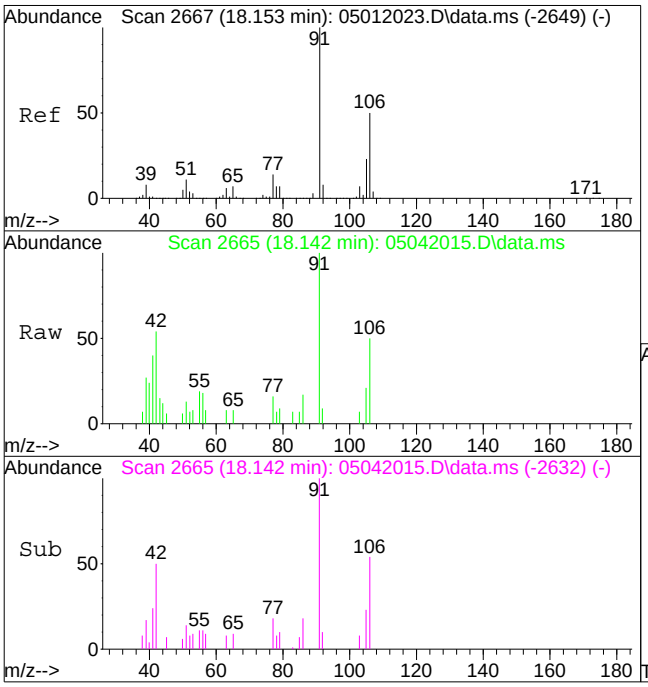


#64
Tetrachloroethene
Concen: 0.79 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05042015.D
Acq: 4 May 2020 14:36

Tgt Ion:166 Resp: 25821

Ion	Ratio	Lower	Upper
166	100		
164	77.6	58.4	98.4

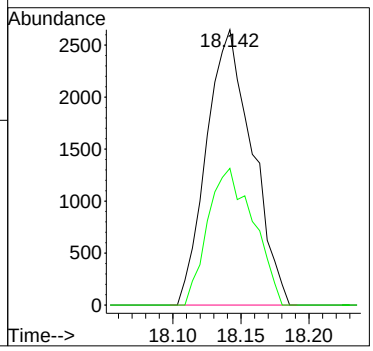


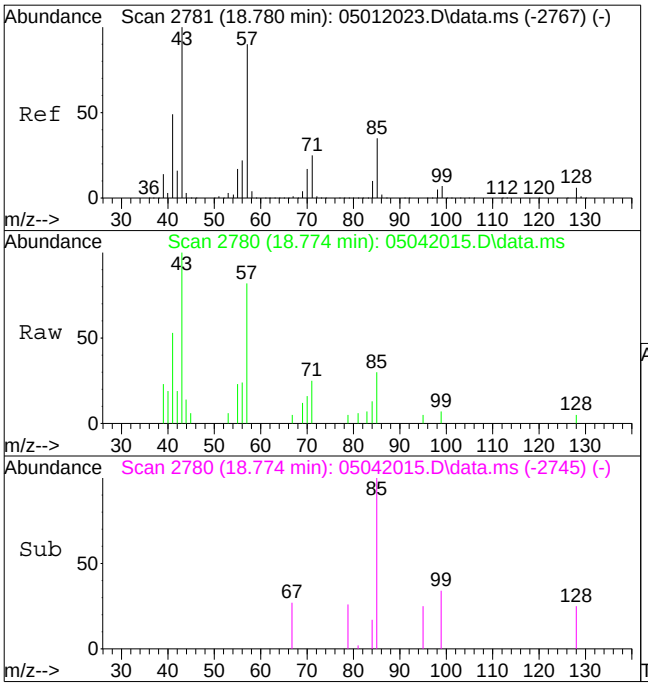


#67
m- & p-Xylenes
Concen: 0.06 ng
RT: 18.14 min Scan# 2665
Delta R.T. -0.017 min
Lab File: 05042015.D
Acq: 4 May 2020 14:36

Tgt Ion: 91 Resp: 6171

Ion	Ratio	Lower	Upper
91	100		
106	49.7	29.7	69.7

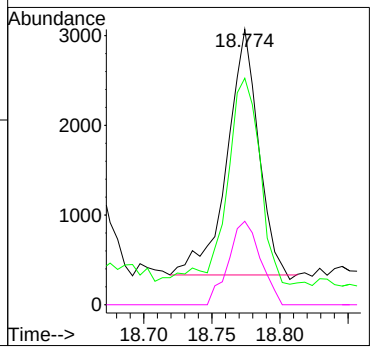




#71
n-Nonane
Concen: 0.08 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05042015.D
Acq: 4 May 2020 14:36

Tgt Ion: 43 Resp: 4387

Ion	Ratio	Lower	Upper
43	100		
57	86.7	69.0	109.0
85	34.5	14.6	54.6



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042016.D Vial: 7
Acq On : 4 May 2020 15:10 Operator: TD
Sample : P2002105-004 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 19:24:53 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/4/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	255126	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1118511	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	527234	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	431957	12.493	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.92%			
57) Toluene-d8 (SS2)	15.72	98	1111843	12.442	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.52%			
73) Bromofluorobenzene (SS3)	18.98	174	386184	12.010	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.08%			
Target Compounds						Qvalue
2) Propene	4.11	42	5807	0.197	ng	96
3) Dichlorodifluoromethan...	4.27	85	80239	1.388	ng	100
4) Chloromethane	4.54	50	9302	0.205	ng	99
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	1367	N.D.		
6) Vinyl Chloride	4.96	62	255	N.D.		
7) 1,3-Butadiene	5.22	54	363	N.D.		
8) Bromomethane	5.65	94	541	N.D.		
9) Chloroethane	5.97	64	428	N.D.		
10) Ethanol	6.34	45	347687	15.238	ng	99
11) Acetonitrile	6.59	41	6602	0.127	ng	95
12) Acrolein	6.78	56	15281	0.848	ng	100
13) Acetone	6.98	58	141240m	6.190	ng	
14) Trichlorofluoromethane	7.24	101	10516	0.206	ng	97
15) 2-Propanol (Isopropanol)	7.52	45	18210	0.264	ng	82
16) Acrylonitrile	7.75	53	297	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d	
19) Methylene Chloride	8.42	84	1229	N.D.		
20) 3-Chloro-1-propene (Al...	8.51	41	223	N.D.		
21) Trichlorotrifluoroethane	8.84	151	2988	0.124	ng	86
22) Carbon Disulfide	8.67	76	122053	1.148	ng	100
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	10.09	73	2697	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	10.46	72	19991	1.027	ng	98
28) cis-1,2-Dichloroethene	10.87	61	412	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	0.00	61	0	N.D.	d	
31) n-Hexane	11.25	57	1189	N.D.		
32) Chloroform	11.31	83	283455	5.582	ng	98
34) Tetrahydrofuran (THF)	11.71	72	527558	27.797	ng	99
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	11.99	62	118	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	12.87	78	9420	0.079	ng	100
42) Carbon Tetrachloride	13.03	117	144006	3.530	ng	100
43) Cyclohexane	13.15	84	361	N.D.		
44) tert-Amyl Methyl Ether	13.55	73	114	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d	
46) Bromodichloromethane	13.91	83	15978	0.394	ng	99
47) Trichloroethene	13.97	130	878	N.D.		
48) 1,4-Dioxane	13.97	88	1687	0.070	ng	93
49) 2,2,4-Trimethylpentane...	14.04	57	3194	N.D.		
50) Methyl Methacrylate	14.32	100	110	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042016.D Vial: 7
Acq On : 4 May 2020 15:10 Operator: TD
Sample : P2002105-004 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 19:24:53 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

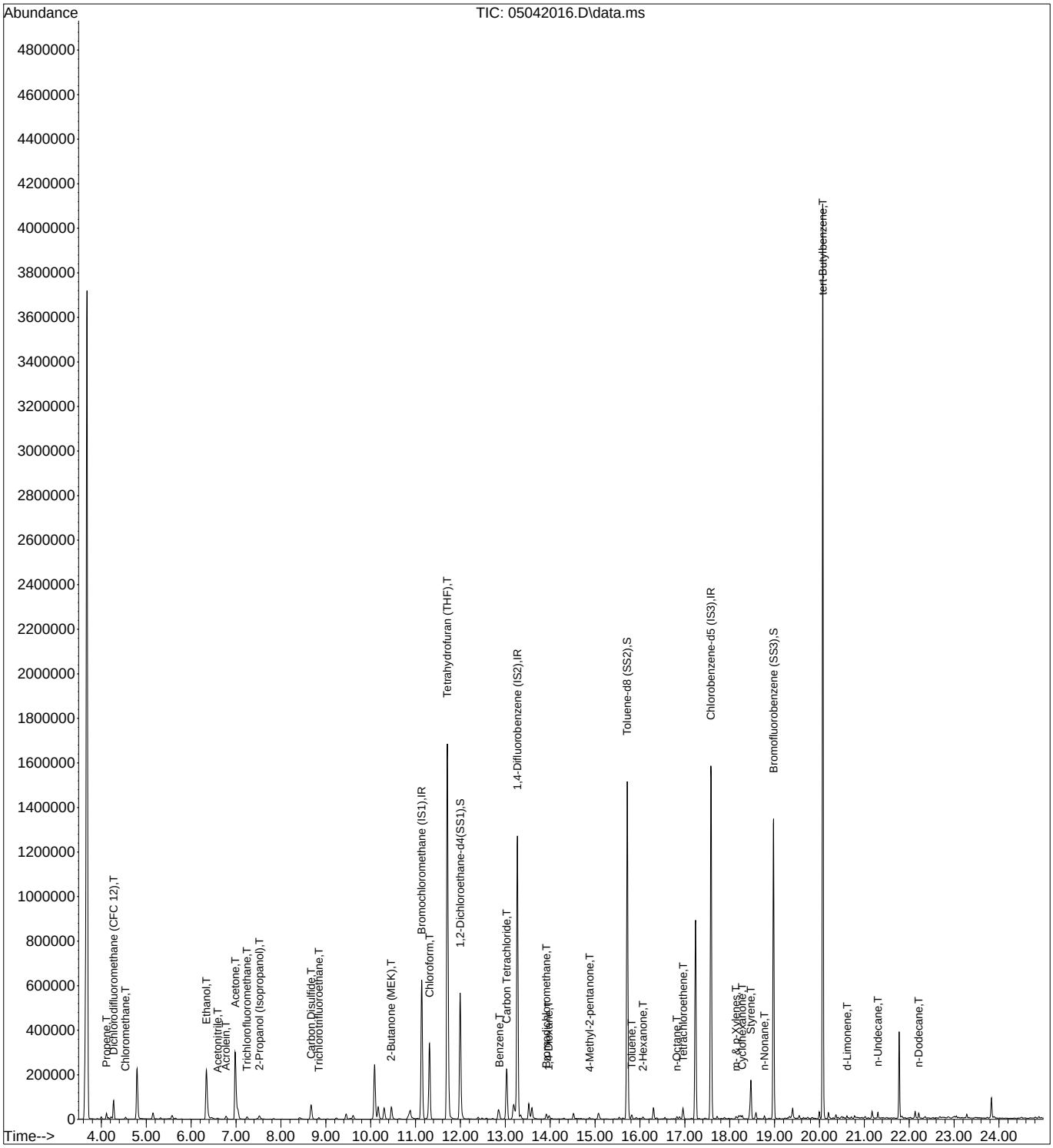
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.31	71	992	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.88	58	1547	0.058 ng	#	54
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.82	91	15530	0.135 ng		100
59) 2-Hexanone	16.07	43	7990	0.127 ng		90
60) Dibromochloromethane	16.23	129	111	N.D.		
61) 1,2-Dibromoethane	16.48	107	605	N.D.		
62) n-Butyl Acetate	16.70	43	1376	N.D.		
63) n-Octane	16.82	57	1384	0.058 ng		96
64) Tetrachloroethene	16.96	166	14966	0.460 ng		99
65) Chlorobenzene	17.63	112	391	N.D.		
66) Ethylbenzene	17.98	91	2875	N.D.		
67) m- & p-Xylenes	18.14	91	6523	0.064 ng		99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	87474	1.141 ng		99
70) o-Xylene	18.58	91	2809	N.D.		
71) n-Nonane	18.77	43	5197	0.095 ng		91
72) 1,1,2,2-Tetrachloroethane	18.59	83	656	N.D.		
74) Cumene	19.10	105	947	N.D.		
75) alpha-Pinene	19.45	93	355	N.D.		
76) n-Propylbenzene	19.55	91	2399	N.D.		
77) 3-Ethyltoluene	19.64	105	2431	N.D.		
78) 4-Ethyltoluene	19.68	105	1151	N.D.		
79) 1,3,5-Trimethylbenzene	19.75	105	1447	N.D.		
80) alpha-Methylstyrene	19.88	118	974	N.D.		
81) 2-Ethyltoluene	19.92	105	1176	N.D.		
82) 1,2,4-Trimethylbenzene	20.11	105	2991	N.D.		
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.23	91	778	N.D.		
85) 1,3-Dichlorobenzene	20.24	146	442	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	652	N.D.		
87) sec-Butylbenzene	20.35	105	949	N.D.		
88) 4-Isopropyltoluene (p-...	20.48	119	1654	N.D.		
89) 1,2,3-Trimethylbenzene	20.48	105	1712	N.D.		
90) 1,2-Dichlorobenzene	20.61	146	330	N.D.		
91) d-Limonene	20.62	68	2736	0.067 ng		93
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.30	57	7481	0.139 ng		89
94) 1,2,4-Trichlorobenzene	22.11	180	644	N.D.		
95) Naphthalene	22.22	128	3653	N.D.		
96) n-Dodecane	22.21	57	6124	0.131 ng		96
97) Hexachlorobutadiene	22.54	225	366	N.D.		
98) Cyclohexanone	18.28	55	8079	0.200 ng		88
99) tert-Butylbenzene	20.07	119	68247	0.666 ng	#	55
100) n-Butylbenzene	20.85	91	2586	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042016.D Vial: 7
Acq On : 4 May 2020 15:10 Operator: TD
Sample : P2002105-004 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 19:24:53 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

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QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/4/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	255126	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1118511	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	527234	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	431957	12.493	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.92%				
57) Toluene-d8 (SS2)	15.72	98	1111843	12.442	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.52%				
73) Bromofluorobenzene (SS3)	18.98	174	386184	12.010	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.08%				
Target Compounds							Qvalue
2) Propene	4.11	42	5807	0.197	ng		96
3) Dichlorodifluoromethan...	4.27	85	80239	1.388	ng		100
4) Chloromethane	4.54	50	9302	0.205	ng		99
10) Ethanol	6.34	45	347687	15.238	ng		99
11) Acetonitrile	6.59	41	6602	0.127	ng		95
12) Acrolein	6.78	56	15281	0.848	ng		100
13) Acetone	6.98	58	141240m	6.190	ng		
14) Trichlorofluoromethane	7.24	101	10516	0.206	ng		97
15) 2-Propanol (Isopropanol)	7.52	45	18210	0.264	ng		82
21) Trichlorotrifluoroethane	8.84	151	2988	0.124	ng		86
22) Carbon Disulfide	8.67	76	122053	1.148	ng		100
27) 2-Butanone (MEK)	10.46	72	19991	1.027	ng		98
32) Chloroform	11.31	83	283455	5.582	ng		98
34) Tetrahydrofuran (THF)	11.71	72	527558	27.797	ng		99
41) Benzene	12.87	78	9420	0.079	ng		100
42) Carbon Tetrachloride	13.03	117	144006	3.530	ng		100
46) Bromodichloromethane	13.91	83	15978	0.394	ng		99
48) 1,4-Dioxane	13.97	88	1687	0.070	ng		93
53) 4-Methyl-2-pentanone	14.88	58	1547	0.058	ng	#	54
58) Toluene	15.82	91	15530	0.135	ng		100
59) 2-Hexanone	16.07	43	7990	0.127	ng		90
63) n-Octane	16.82	57	1384	0.058	ng		96
64) Tetrachloroethene	16.96	166	14966	0.460	ng		99
67) m- & p-Xylenes	18.14	91	6523	0.064	ng		99
69) Styrene	18.47	104	87474	1.141	ng		99
71) n-Nonane	18.77	43	5197	0.095	ng		91
91) d-Limonene	20.62	68	2736	0.067	ng		93
93) n-Undecane	21.30	57	7481	0.139	ng		89
96) n-Dodecane	22.21	57	6124	0.131	ng		96
98) Cyclohexanone	18.28	55	8079	0.200	ng		88
99) tert-Butylbenzene	20.07	119	68247	0.666	ng	#	55

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Quantitation Report (QT Reviewed)

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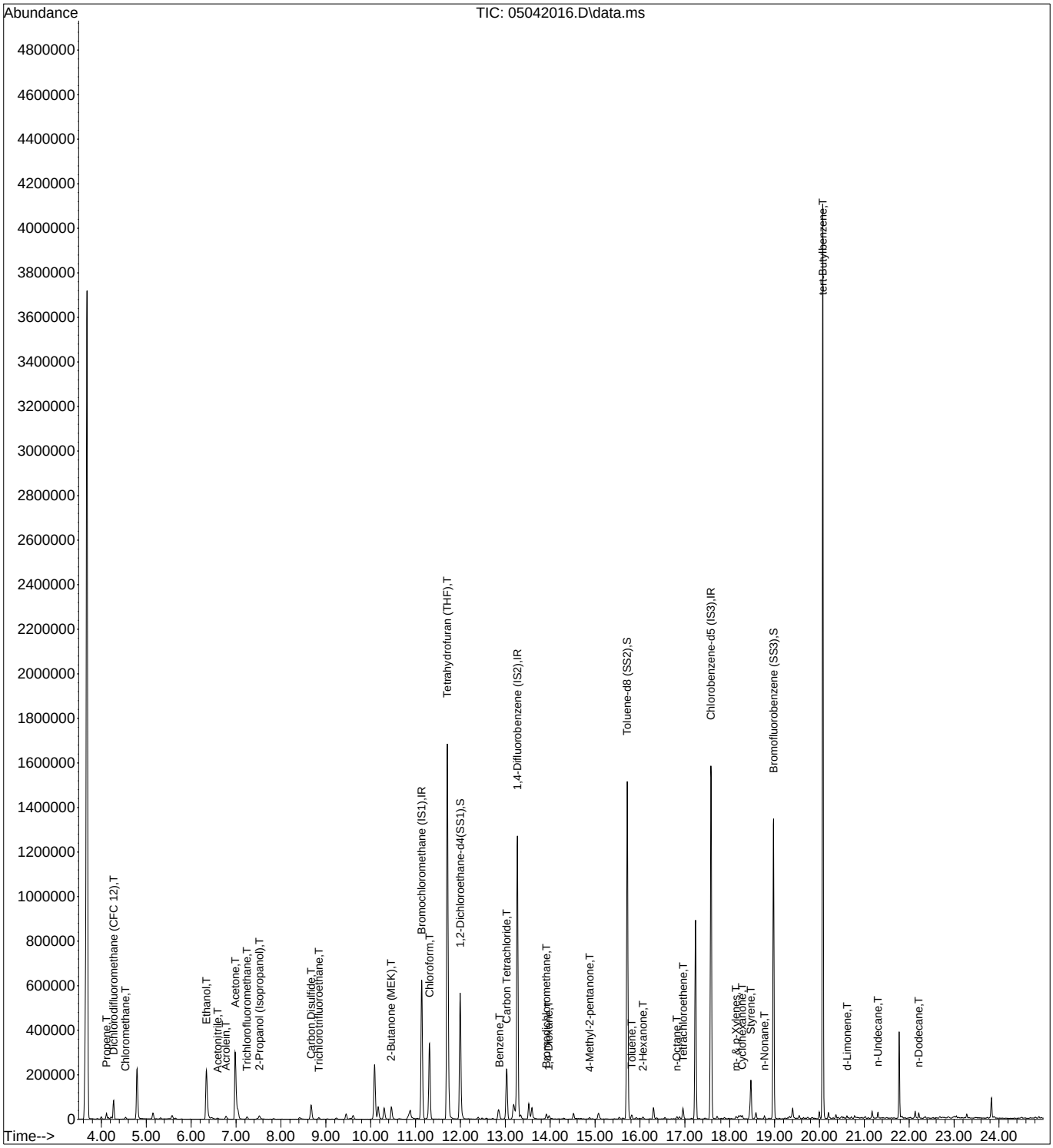
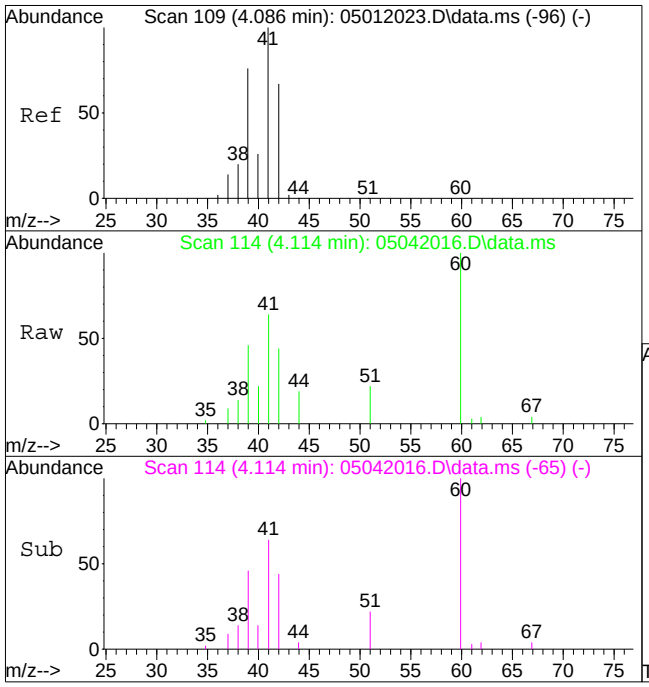
Response via : Initial Calibration
DataAcq Meth:TO15.M

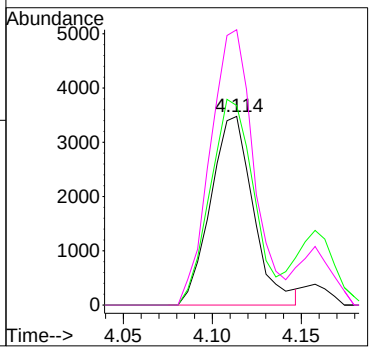


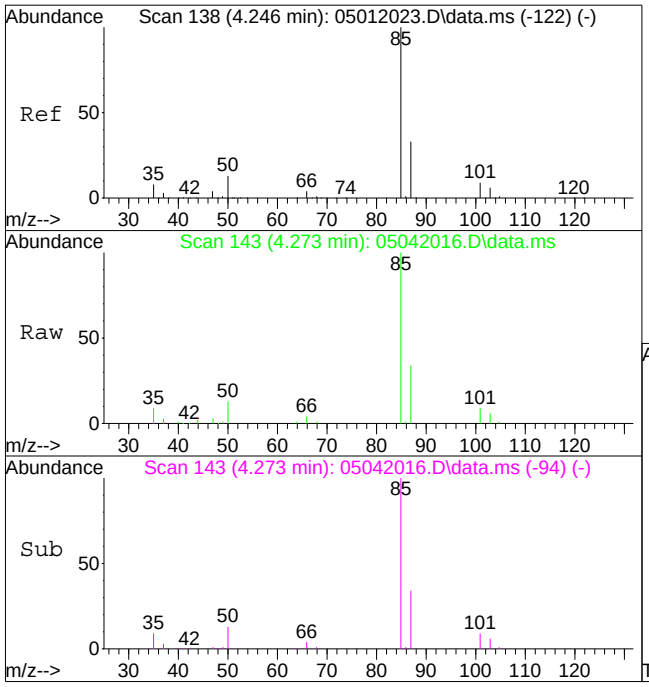


#2
Propene
Concen: 0.20 ng
RT: 4.11 min Scan# 114
Delta R.T. 0.022 min
Lab File: 05042016.D
Acq: 4 May 2020 15:10

Tgt Ion: 42 Resp: 5807

Ion	Ratio	Lower	Upper
42	100		
39	110.5	96.1	136.1
41	148.5	131.9	171.9

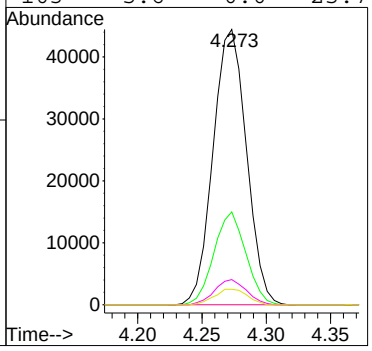


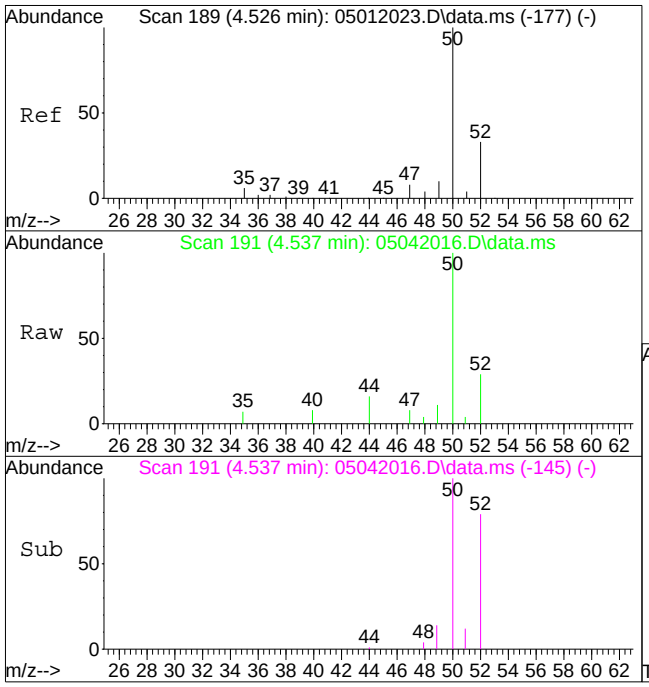


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.39 ng
RT: 4.27 min Scan# 143
Delta R.T. 0.022 min
Lab File: 05042016.D
Acq: 4 May 2020 15:10

Tgt Ion: 85 Resp: 80239

Ion	Ratio	Lower	Upper
85	100		
87	32.2	12.4	52.4
101	8.7	0.0	28.8
103	5.6	0.0	25.7

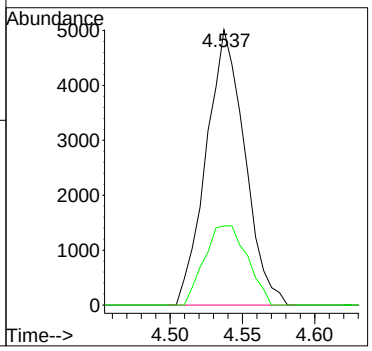


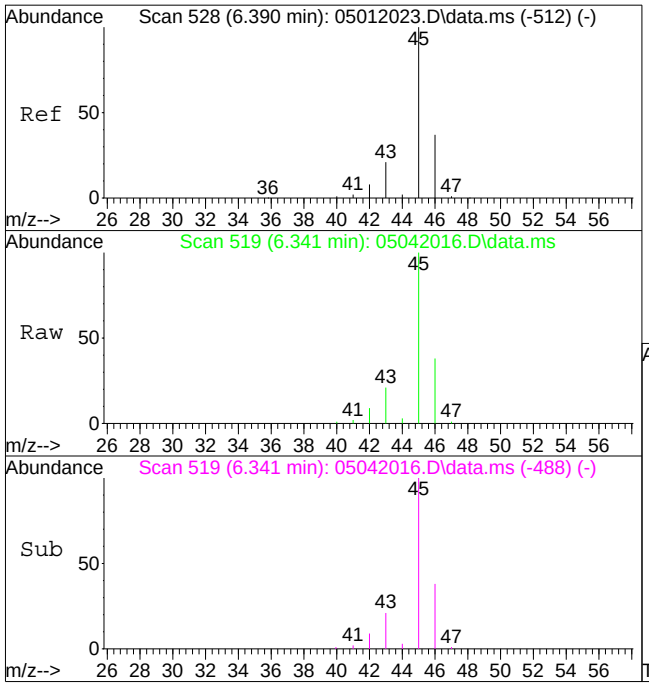


#4
Chloromethane
Concen: 0.21 ng
RT: 4.54 min Scan# 191
Delta R.T. 0.005 min
Lab File: 05042016.D
Acq: 4 May 2020 15:10

Tgt Ion: 50 Resp: 9302

Ion	Ratio	Lower	Upper
50	100		
52	32.1	12.5	52.5

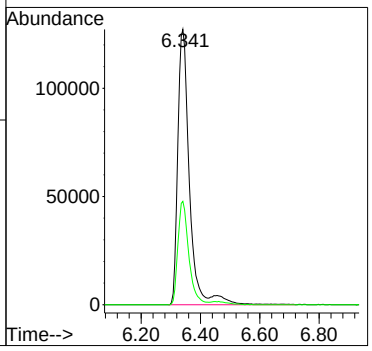


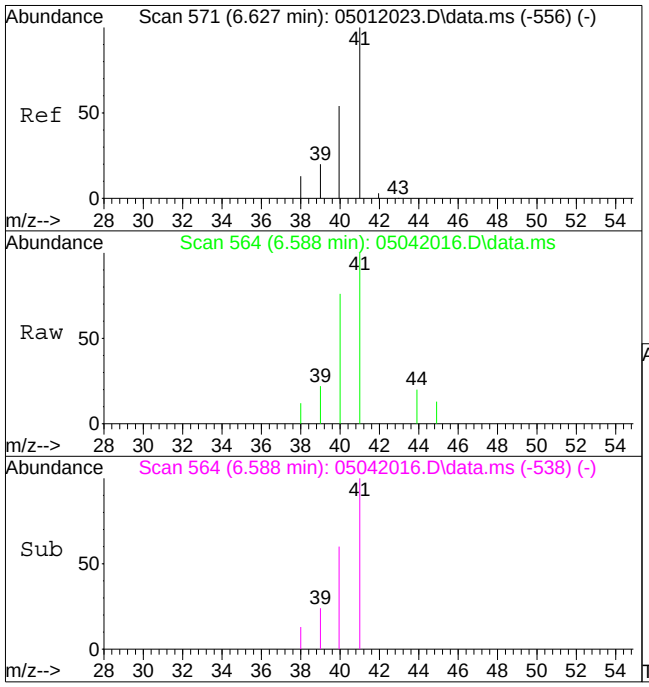


#10
Ethanol
Concen: 15.24 ng
RT: 6.34 min Scan# 519
Delta R.T. -0.077 min
Lab File: 05042016.D
Acq: 4 May 2020 15:10

Tgt Ion: 45 Resp: 347687

Ion	Ratio	Lower	Upper
45	100		
46	36.8	17.2	57.2

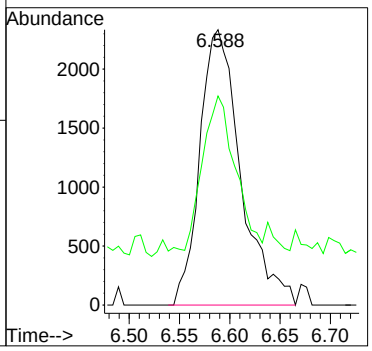


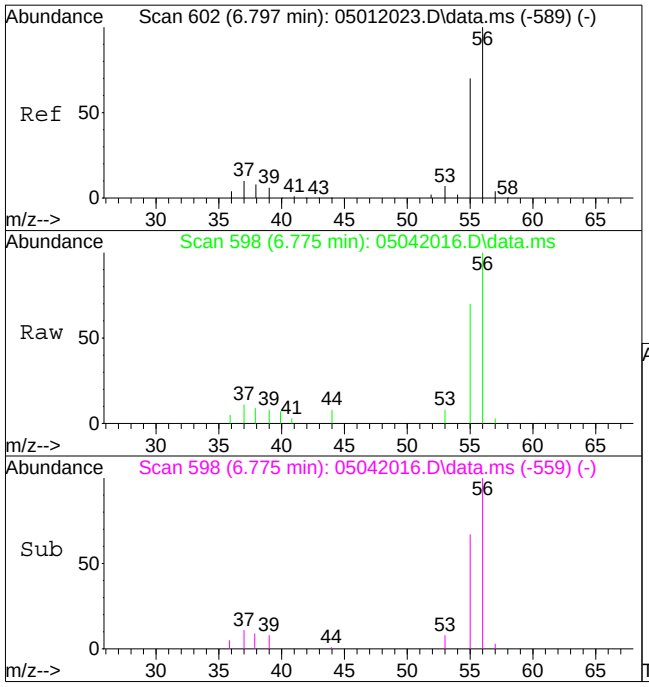


#11
Acetonitrile
Concen: 0.13 ng
RT: 6.59 min Scan# 564
Delta R.T. -0.055 min
Lab File: 05042016.D
Acq: 4 May 2020 15:10

Tgt Ion: 41 Resp: 6602

Ion	Ratio	Lower	Upper
41	100		
40	49.8	33.6	73.6

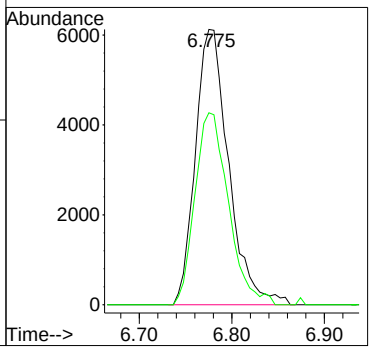


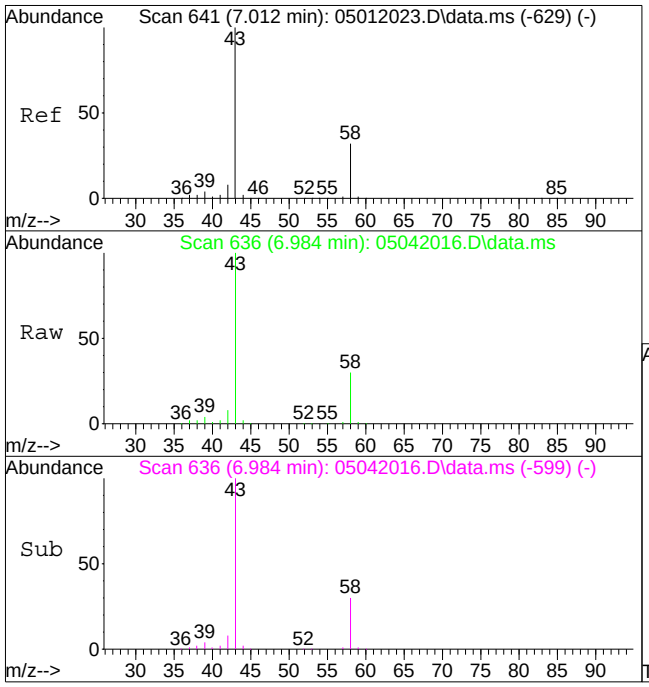


#12
Acrolein
Concen: 0.85 ng
RT: 6.78 min Scan# 598
Delta R.T. -0.033 min
Lab File: 05042016.D
Acq: 4 May 2020 15:10

Tgt Ion: 56 Resp: 15281

Ion	Ratio	Lower	Upper
56	100		
55	70.3	50.2	90.2

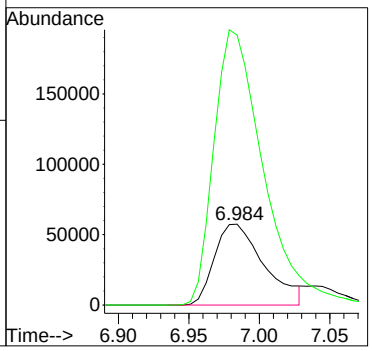


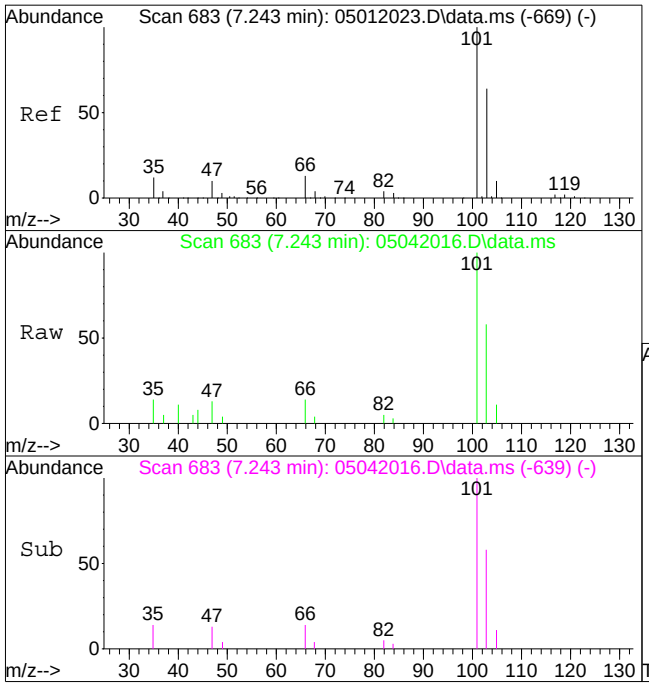


#13
Acetone
Concen: 6.19 ng m
RT: 6.98 min Scan# 636
Delta R.T. -0.044 min
Lab File: 05042016.D
Acq: 4 May 2020 15:10

Tgt Ion: 58 Resp: 141240

Ion	Ratio	Lower	Upper
58	100		
43	342.2	294.4	354.4

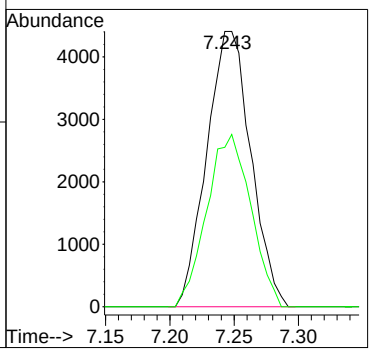


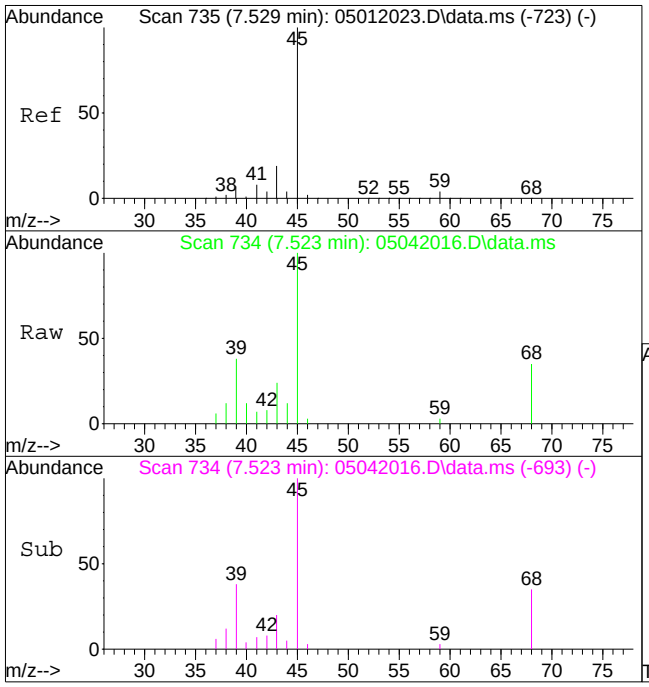


#14
Trichlorofluoromethane
Concen: 0.21 ng
RT: 7.24 min Scan# 683
Delta R.T. -0.006 min
Lab File: 05042016.D
Acq: 4 May 2020 15:10

Tgt Ion:101 Resp: 10516

Ion	Ratio	Lower	Upper
101	100		
103	62.4	44.4	84.4

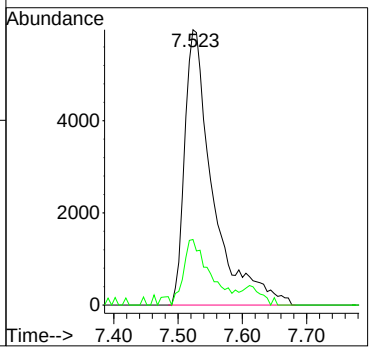


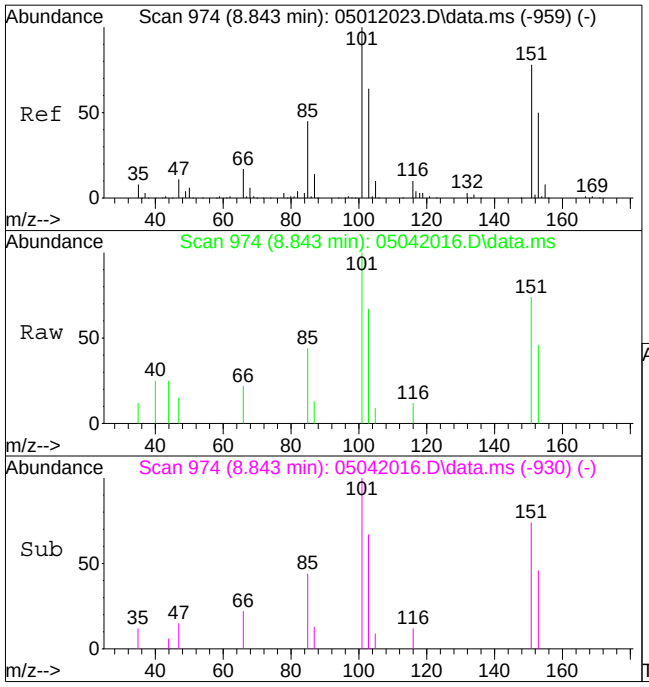


#15
2-Propanol (Isopropanol)
Concen: 0.26 ng
RT: 7.52 min Scan# 734
Delta R.T. -0.022 min
Lab File: 05042016.D
Acq: 4 May 2020 15:10

Tgt Ion: 45 Resp: 18210

Ion	Ratio	Lower	Upper
45	100		
43	27.5	0.0	39.5

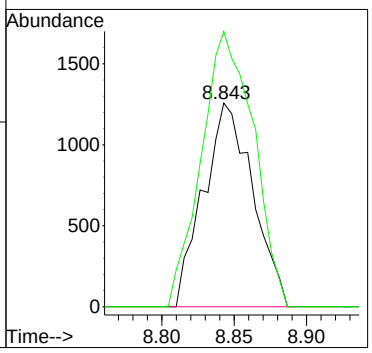


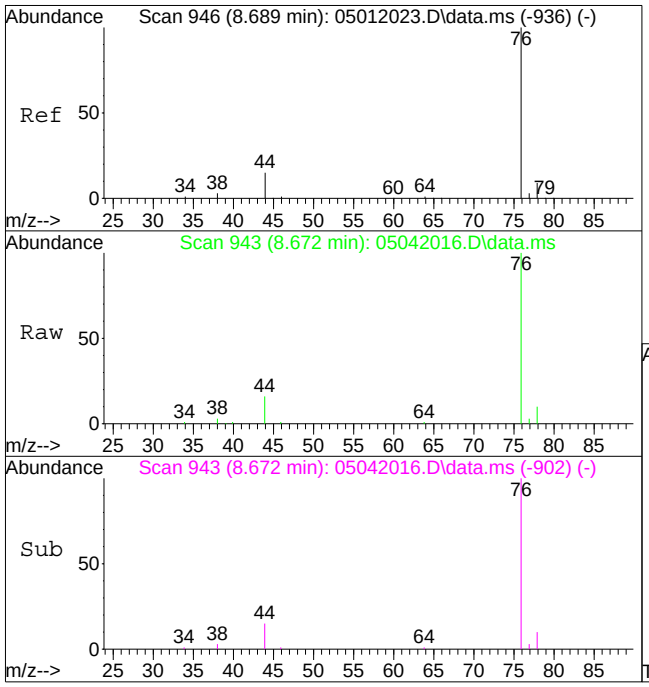


#21
Trichlorotrifluoroethane
Concen: 0.12 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05042016.D
Acq: 4 May 2020 15:10

Tgt Ion:151 Resp: 2988

Ion	Ratio	Lower	Upper
151	100		
101	143.2	107.3	147.3

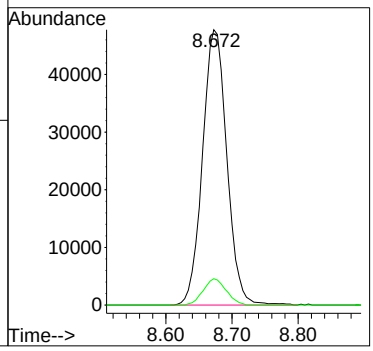


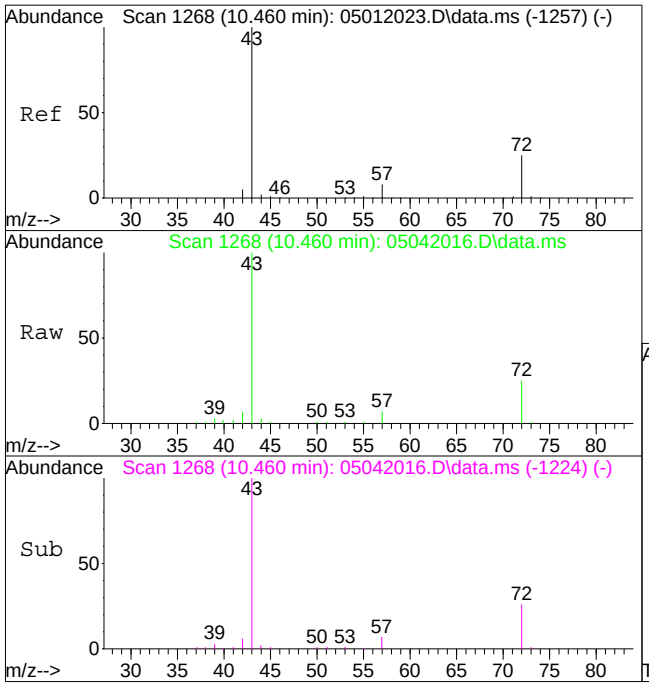


#22
Carbon Disulfide
Concen: 1.15 ng
RT: 8.67 min Scan# 943
Delta R.T. -0.022 min
Lab File: 05042016.D
Acq: 4 May 2020 15:10

Tgt Ion: 76 Resp: 122053

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	29.2

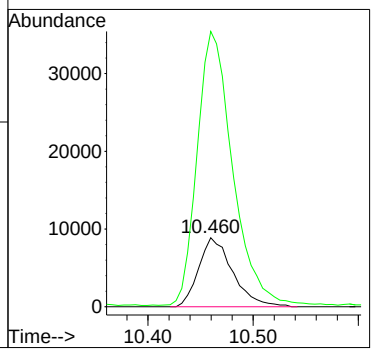


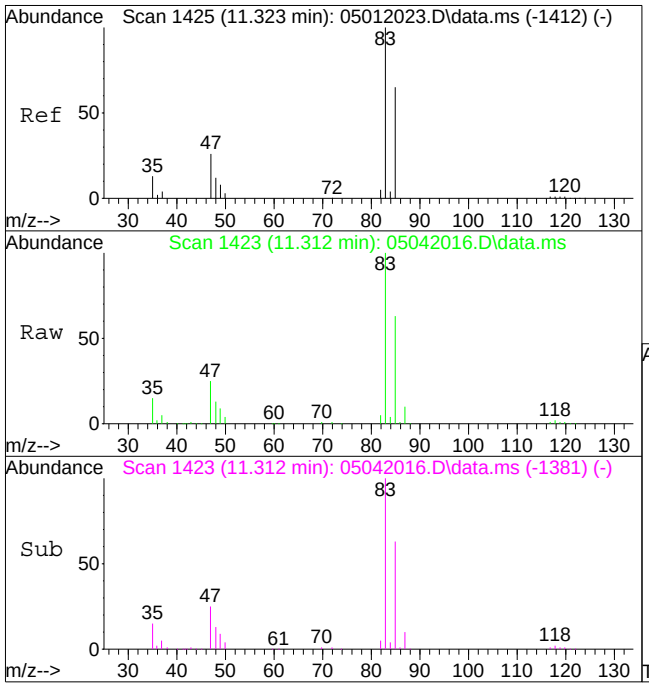


#27
2-Butanone (MEK)
Concen: 1.03 ng
RT: 10.46 min Scan# 1268
Delta R.T. -0.006 min
Lab File: 05042016.D
Acq: 4 May 2020 15:10

Tgt Ion: 72 Resp: 19991

Ion	Ratio	Lower	Upper
72	100		
43	415.4	389.7	429.7

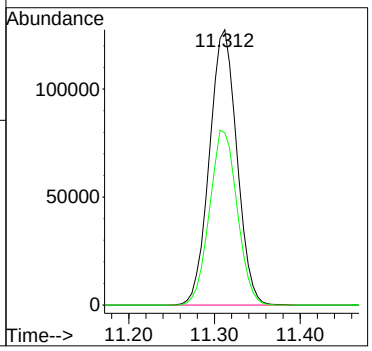


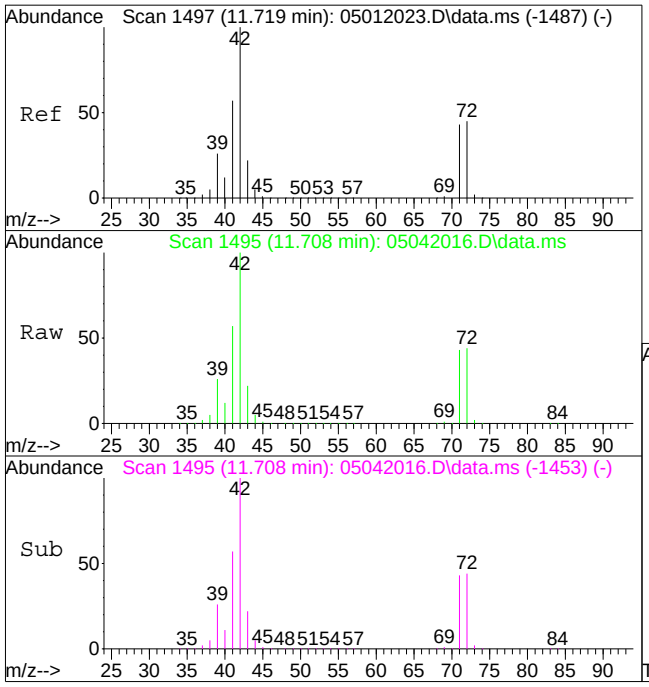


#32
Chloroform
Concen: 5.58 ng
RT: 11.31 min Scan# 1423
Delta R.T. -0.017 min
Lab File: 05042016.D
Acq: 4 May 2020 15:10

Tgt Ion: 83 Resp: 283455

Ion	Ratio	Lower	Upper
83	100		
85	64.0	45.5	85.5

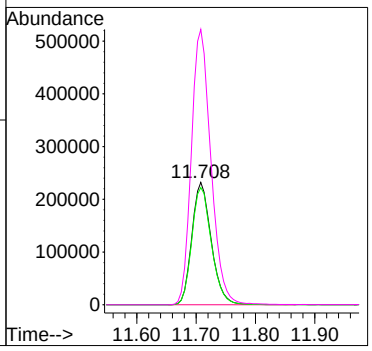


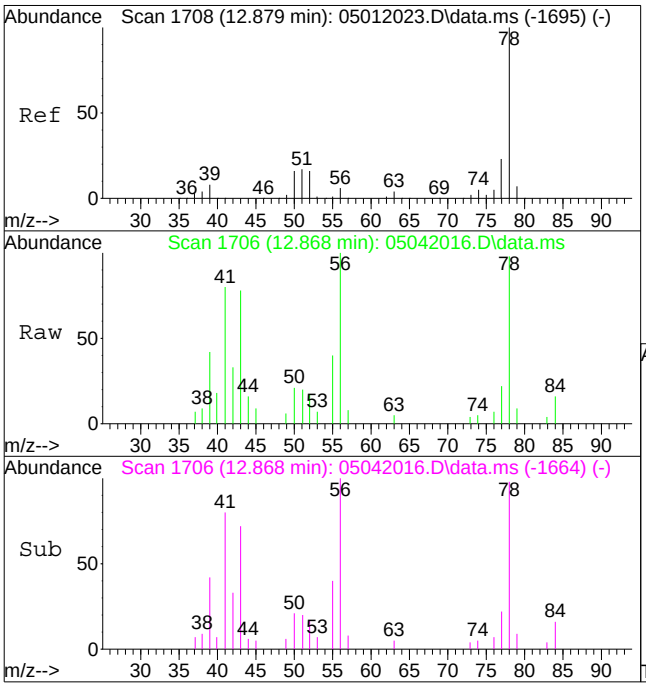


#34
Tetrahydrofuran (THF)
Concen: 27.80 ng
RT: 11.71 min Scan# 1495
Delta R.T. -0.017 min
Lab File: 05042016.D
Acq: 4 May 2020 15:10

Tgt Ion: 72 Resp: 527558

Ion	Ratio	Lower	Upper
72	100		
71	96.8	77.0	117.0
42	227.3	204.6	244.6

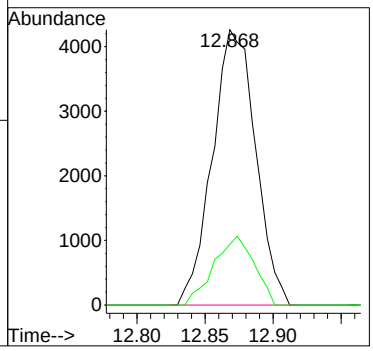


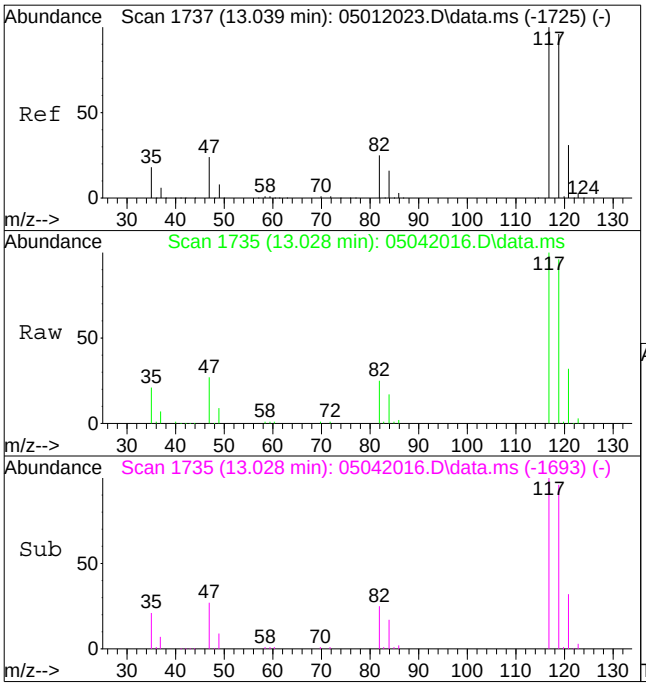


#41
Benzene
Concen: 0.08 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05042016.D
Acq: 4 May 2020 15:10

Tgt Ion: 78 Resp: 9420

Ion	Ratio	Lower	Upper
78	100		
77	23.3	3.4	43.4

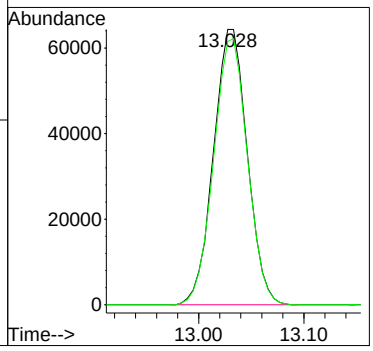


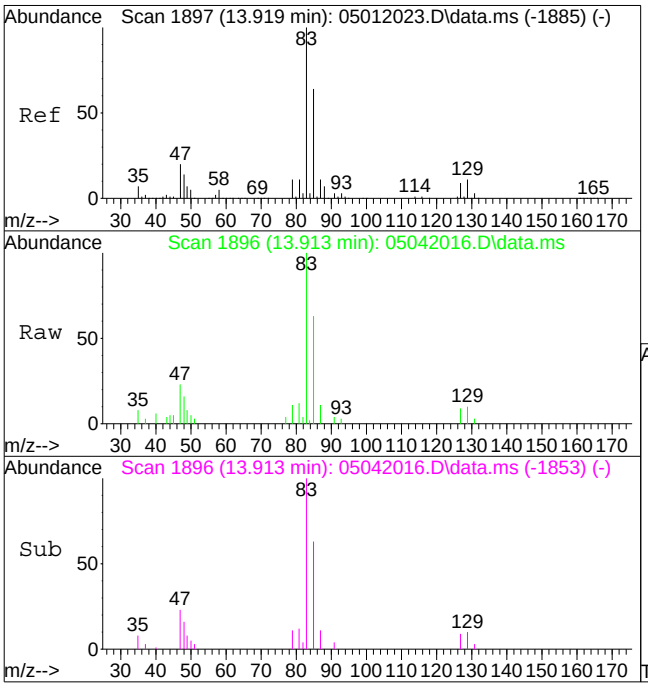


#42
Carbon Tetrachloride
Concen: 3.53 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05042016.D
Acq: 4 May 2020 15:10

Tgt Ion:117 Resp: 144006

Ion	Ratio	Lower	Upper
117	100		
119	96.6	76.2	116.2

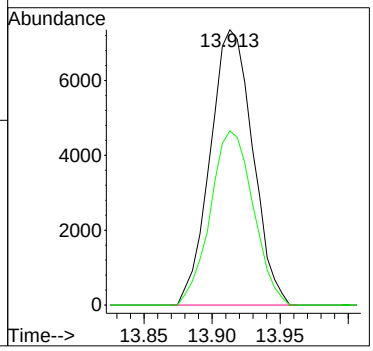


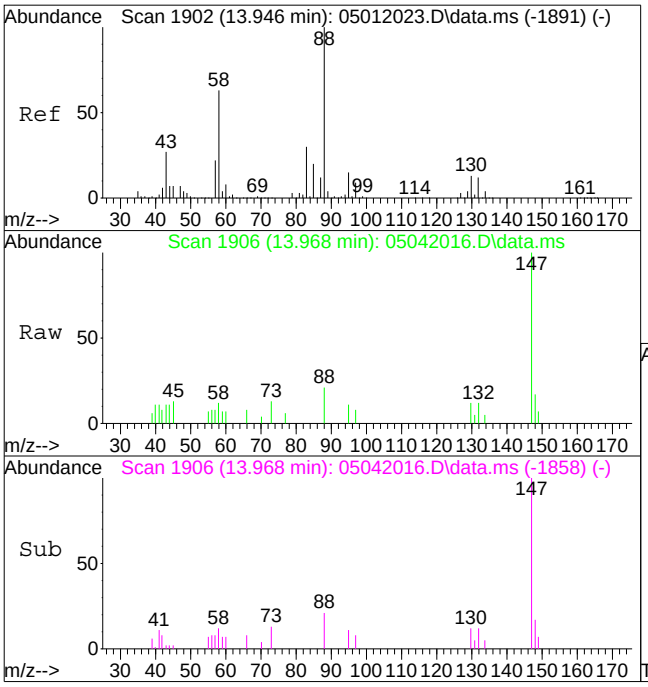


#46
Bromodichloromethane
Concen: 0.39 ng
RT: 13.91 min Scan# 1896
Delta R.T. -0.011 min
Lab File: 05042016.D
Acq: 4 May 2020 15:10

Tgt Ion: 83 Resp: 15978

Ion	Ratio	Lower	Upper
83	100		
85	63.6	44.4	84.4

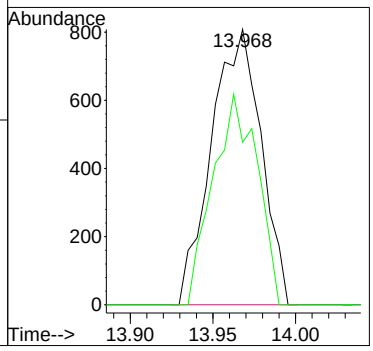


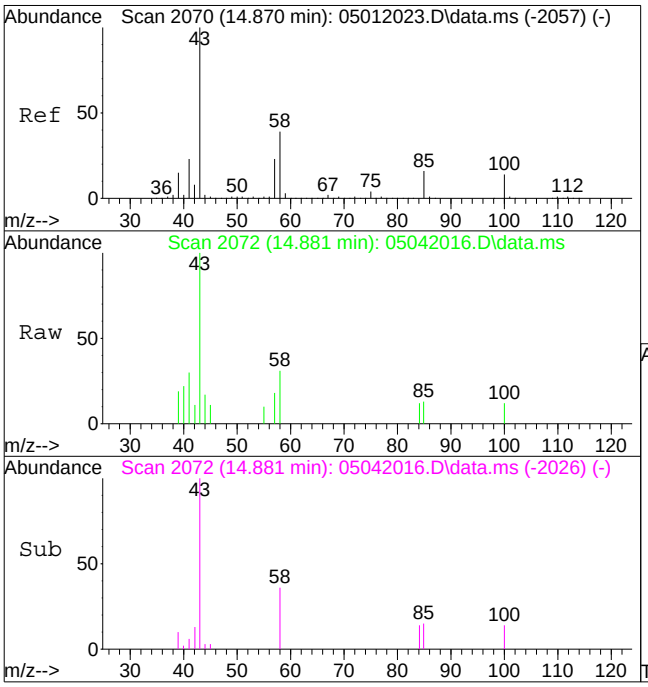


#48
1,4-Dioxane
Concen: 0.07 ng
RT: 13.97 min Scan# 1906
Delta R.T. 0.016 min
Lab File: 05042016.D
Acq: 4 May 2020 15:10

Tgt Ion: 88 Resp: 1687

Ion	Ratio	Lower	Upper
88	100		
58	68.2	42.8	82.8

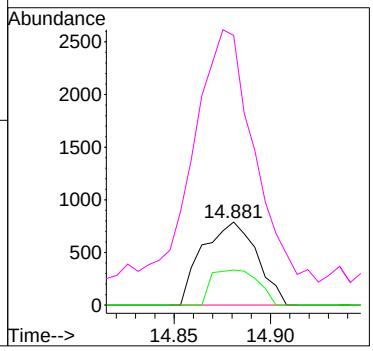


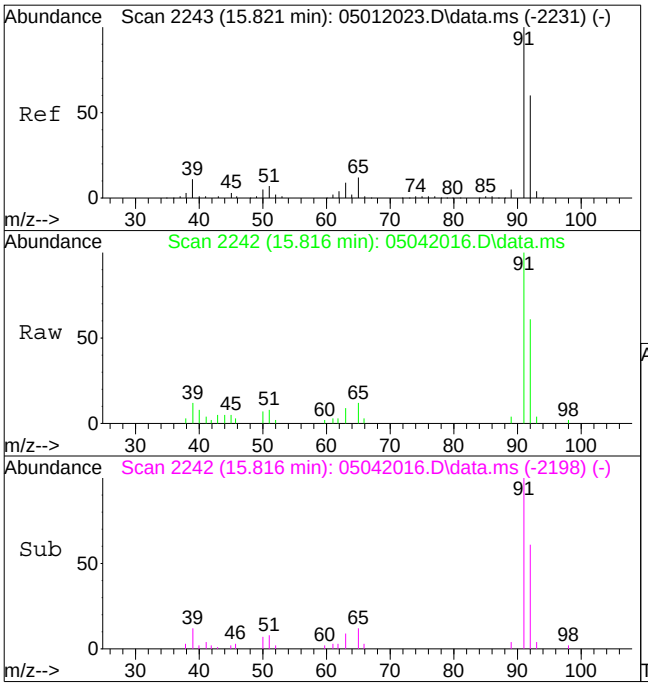


#53
4-Methyl-2-pentanone
Concen: 0.06 ng
RT: 14.88 min Scan# 2072
Delta R.T. 0.005 min
Lab File: 05042016.D
Acq: 4 May 2020 15:10

Tgt Ion: 58 Resp: 1547

Ion	Ratio	Lower	Upper
58	100		
85	36.2	35.4	53.2
43	344.7	203.3	304.9#

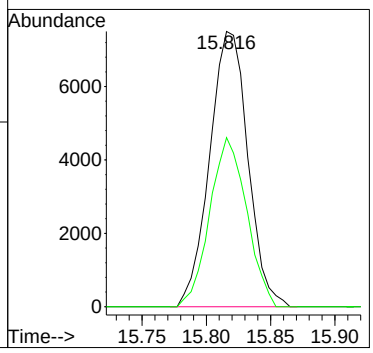


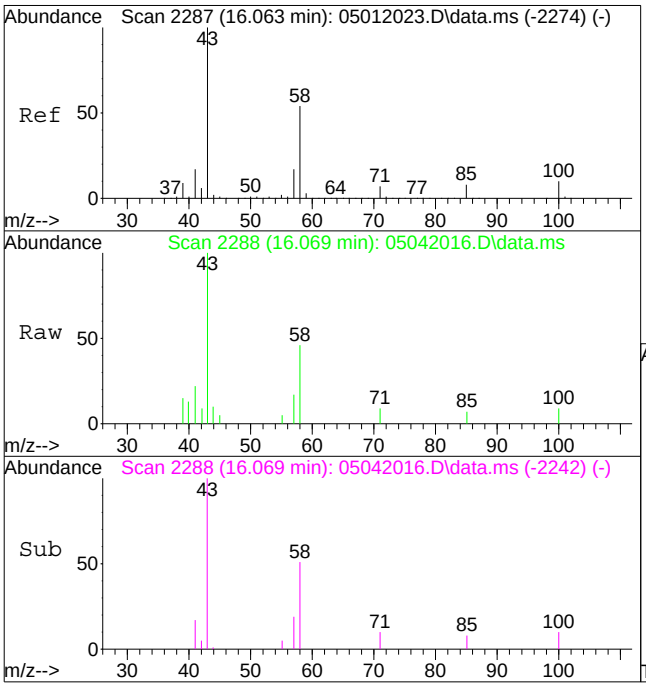


#58
Toluene
Concen: 0.13 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05042016.D
Acq: 4 May 2020 15:10

Tgt Ion: 91 Resp: 15530

Ion	Ratio	Lower	Upper
91	100		
92	59.1	39.4	79.4

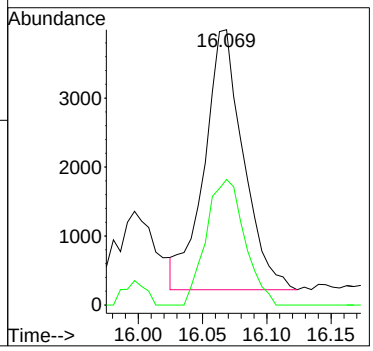


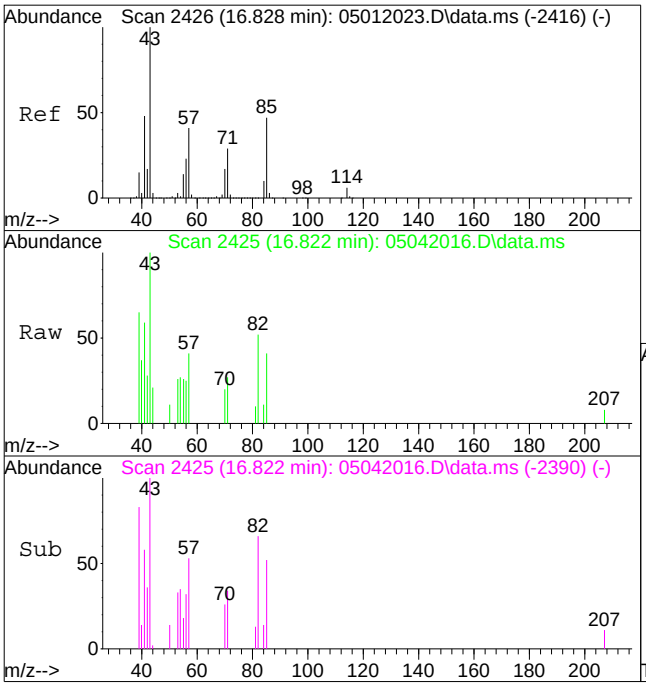


#59
2-Hexanone
Concen: 0.13 ng
RT: 16.07 min Scan# 2288
Delta R.T. 0.005 min
Lab File: 05042016.D
Acq: 4 May 2020 15:10

Tgt Ion: 43 Resp: 7990

Ion	Ratio	Lower	Upper
43	100		
58	47.4	34.5	74.5

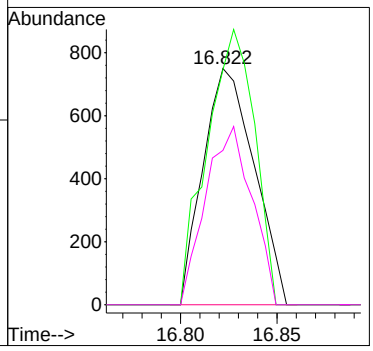


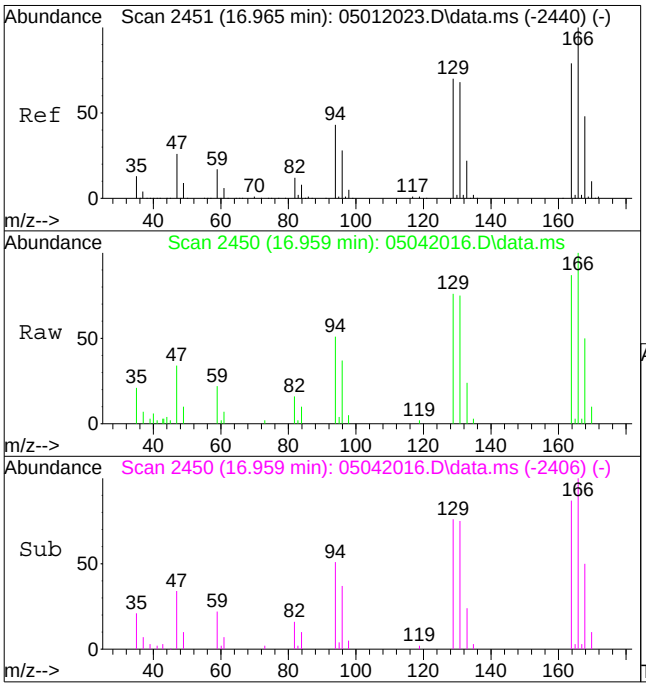


#63
n-Octane
Concen: 0.06 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05042016.D
Acq: 4 May 2020 15:10

Tgt Ion: 57 Resp: 1384

Ion	Ratio	Lower	Upper
57	100		
85	108.5	91.0	136.4
71	68.2	56.2	84.2

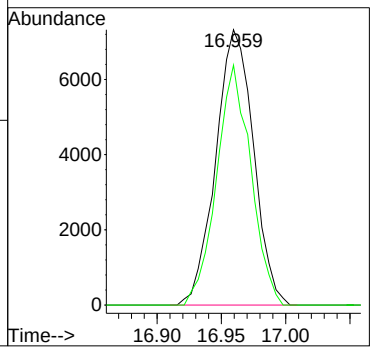


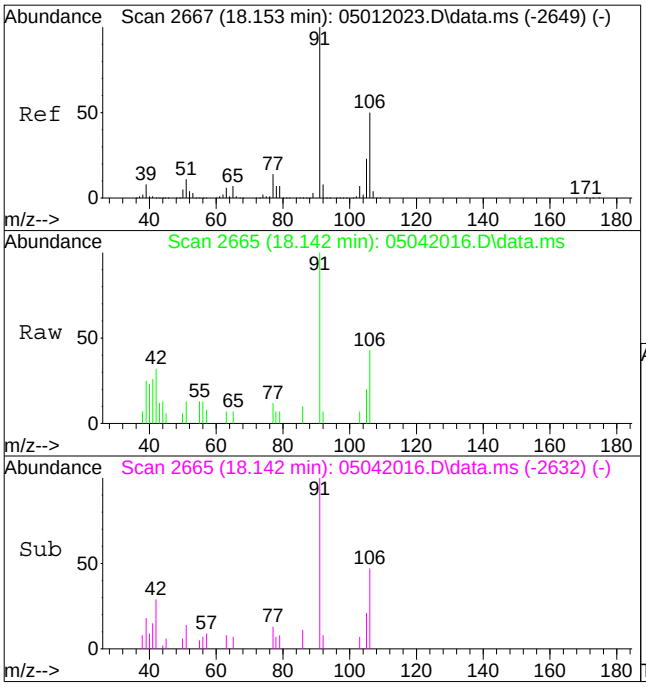


#64
Tetrachloroethene
Concen: 0.46 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05042016.D
Acq: 4 May 2020 15:10

Tgt Ion:166 Resp: 14966

Ion	Ratio	Lower	Upper
166	100		
164	79.1	58.4	98.4

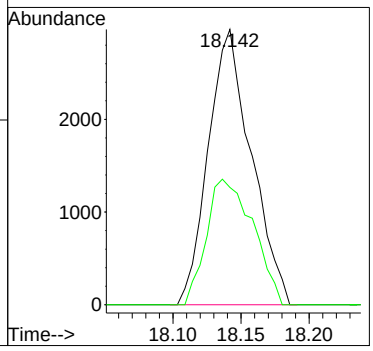


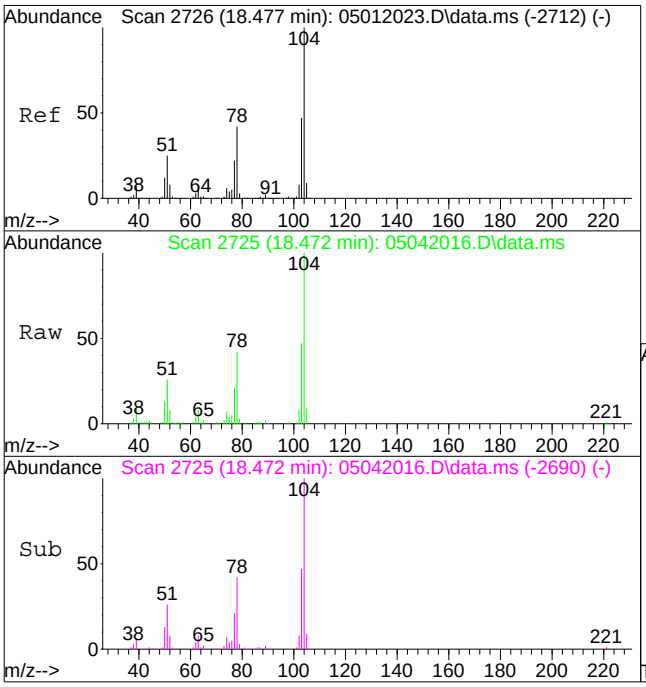


#67
m- & p-Xylenes
Concen: 0.06 ng
RT: 18.14 min Scan# 2665
Delta R.T. -0.017 min
Lab File: 05042016.D
Acq: 4 May 2020 15:10

Tgt Ion: 91 Resp: 6523

Ion	Ratio	Lower	Upper
91	100		
106	49.2	29.7	69.7

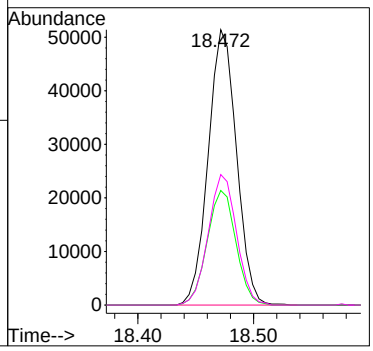


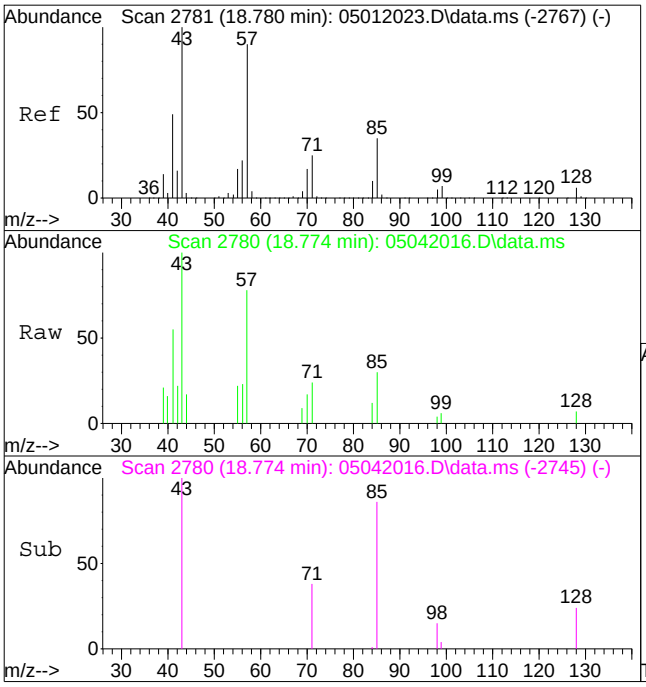


#69
Styrene
Concen: 1.14 ng
RT: 18.47 min Scan# 2725
Delta R.T. -0.006 min
Lab File: 05042016.D
Acq: 4 May 2020 15:10

Tgt Ion:104 Resp: 87474

Ion	Ratio	Lower	Upper
104	100		
78	42.3	22.5	62.5
103	47.5	27.0	67.0

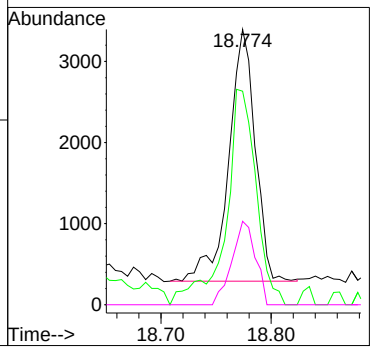


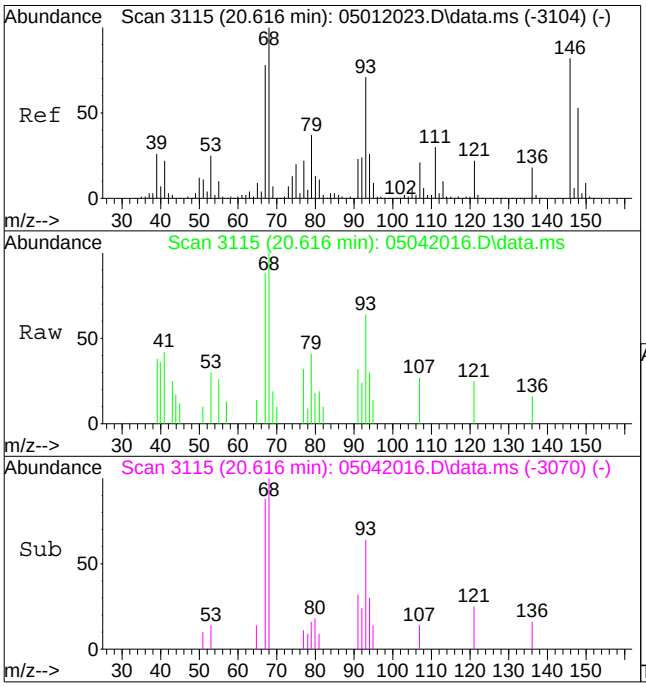


#71
n-Nonane
Concen: 0.09 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05042016.D
Acq: 4 May 2020 15:10

Tgt Ion: 43 Resp: 5197

Ion	Ratio	Lower	Upper
43	100		
57	97.2	69.0	109.0
85	29.4	14.6	54.6

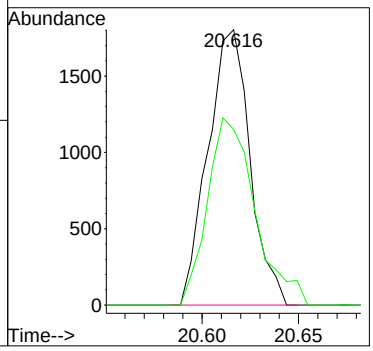


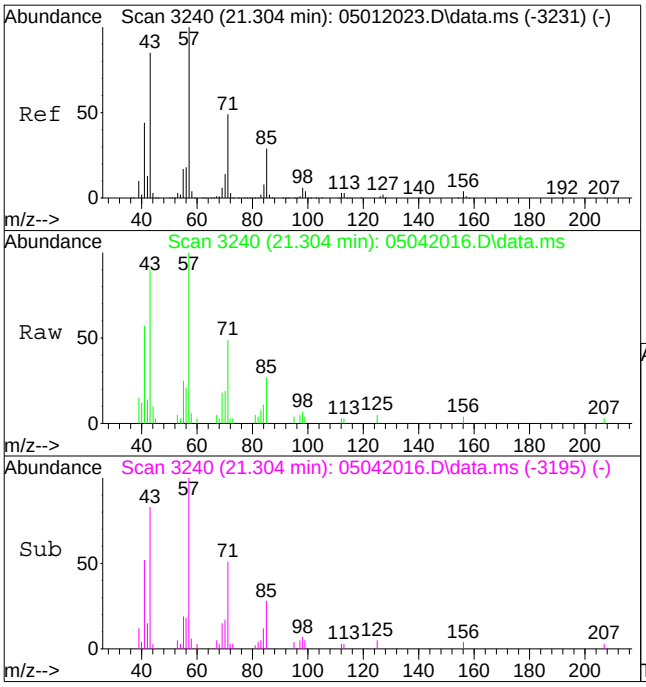


#91
d-Limonene
Concen: 0.07 ng
RT: 20.62 min Scan# 3115
Delta R.T. -0.000 min
Lab File: 05042016.D
Acq: 4 May 2020 15:10

Tgt Ion: 68 Resp: 2736

Ion	Ratio	Lower	Upper
68	100		
93	76.8	51.1	91.1

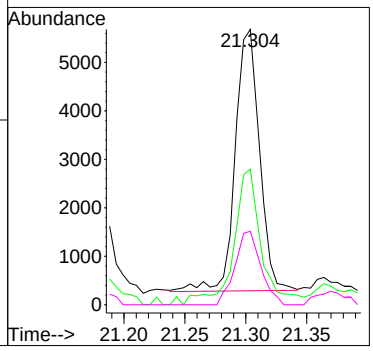


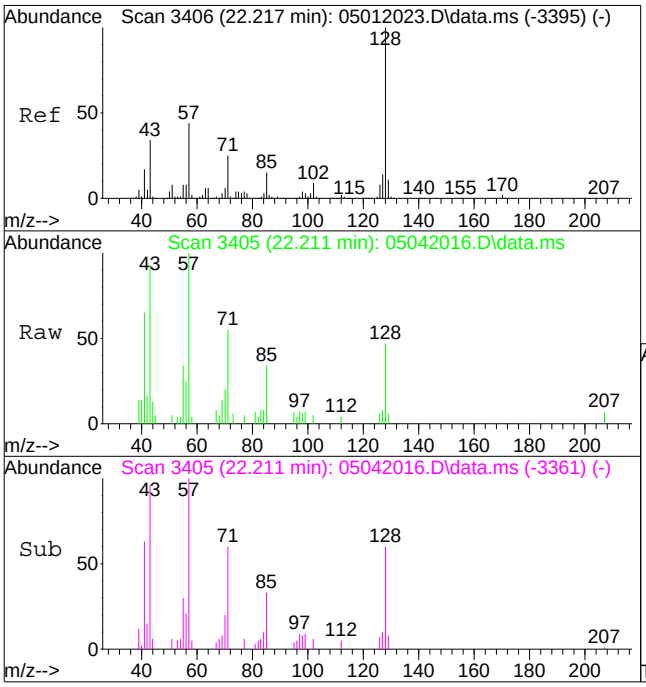


#93
n-Undecane
Concen: 0.14 ng
RT: 21.30 min Scan# 3240
Delta R.T. -0.000 min
Lab File: 05042016.D
Acq: 4 May 2020 15:10

Tgt Ion: 57 Resp: 7481

Ion	Ratio	Lower	Upper
57	100		
71	59.8	29.2	69.2
85	29.9	8.6	48.6

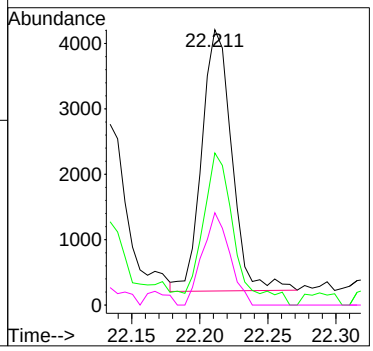


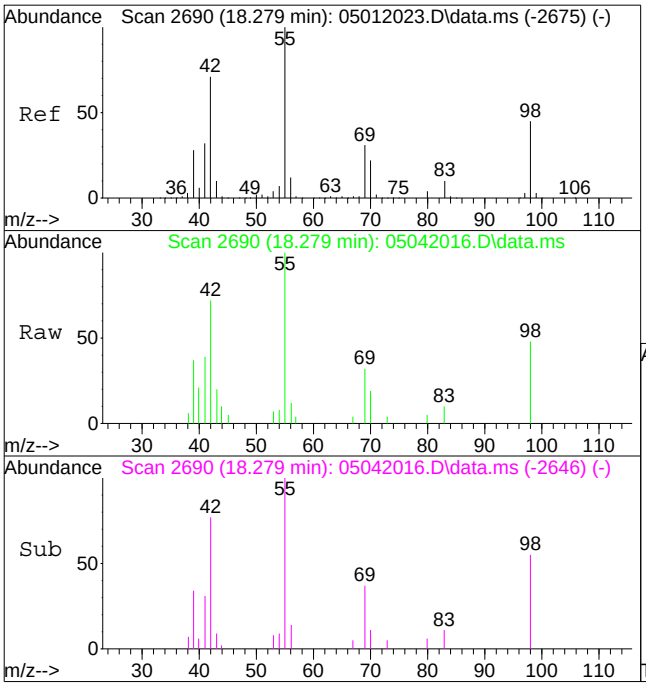


#96
n-Dodecane
Concen: 0.13 ng
RT: 22.21 min Scan# 3405
Delta R.T. -0.006 min
Lab File: 05042016.D
Acq: 4 May 2020 15:10

Tgt Ion: 57 Resp: 6124

Ion	Ratio	Lower	Upper
57	100		
71	59.9	36.0	76.0
85	31.9	13.2	53.2

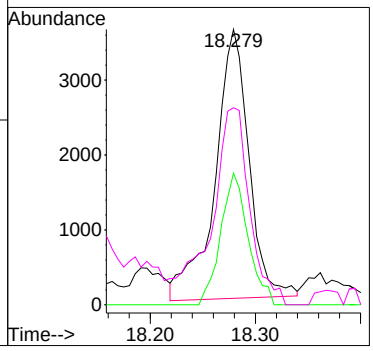


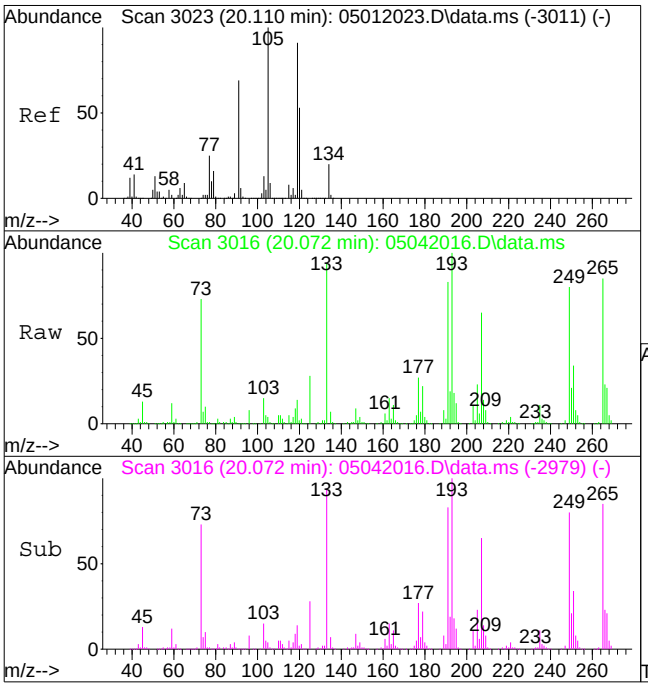


#98
Cyclohexanone
Concen: 0.20 ng
RT: 18.28 min Scan# 2690
Delta R.T. -0.006 min
Lab File: 05042016.D
Acq: 4 May 2020 15:10

Tgt Ion: 55 Resp: 8079

Ion	Ratio	Lower	Upper
55	100		
98	39.5	36.2	54.4
42	82.4	56.2	84.4

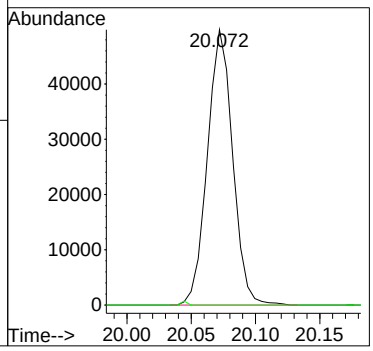




#99
tert-Butylbenzene
Concen: 0.67 ng
RT: 20.07 min Scan# 3016
Delta R.T. -0.044 min
Lab File: 05042016.D
Acq: 4 May 2020 15:10

Tgt Ion:119 Resp: 68247

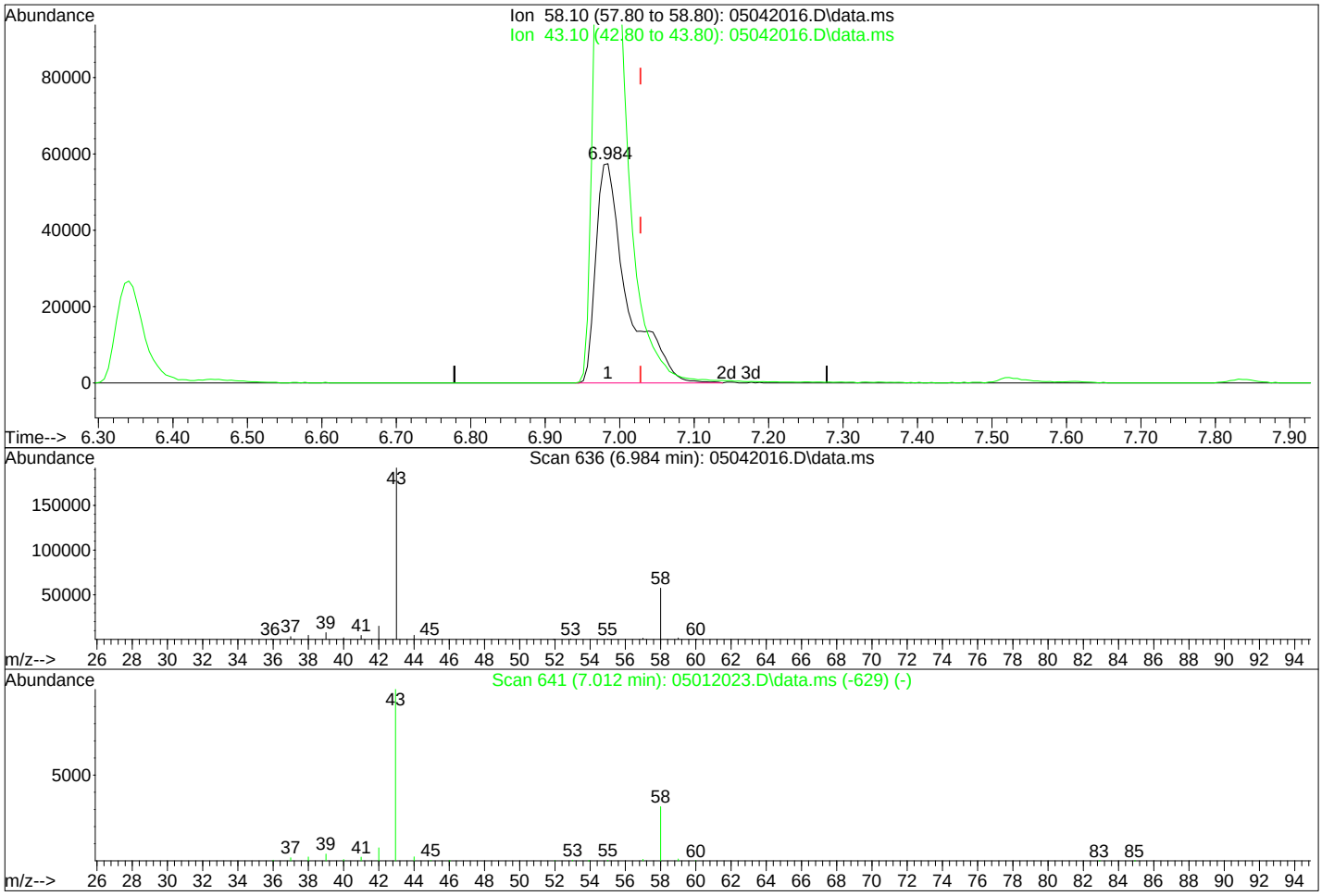
Ion	Ratio	Lower	Upper
119	100		
134	0.4	17.0	25.6#



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\04\05042016.D Vial: 7
Acq On : 4 May 2020 15:10 Operator: TD
Sample : P2002105-004 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 15:46:21 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05042016.D\data.ms

(13) Acetone (T)

6.984min (-0.044) 7.36ng

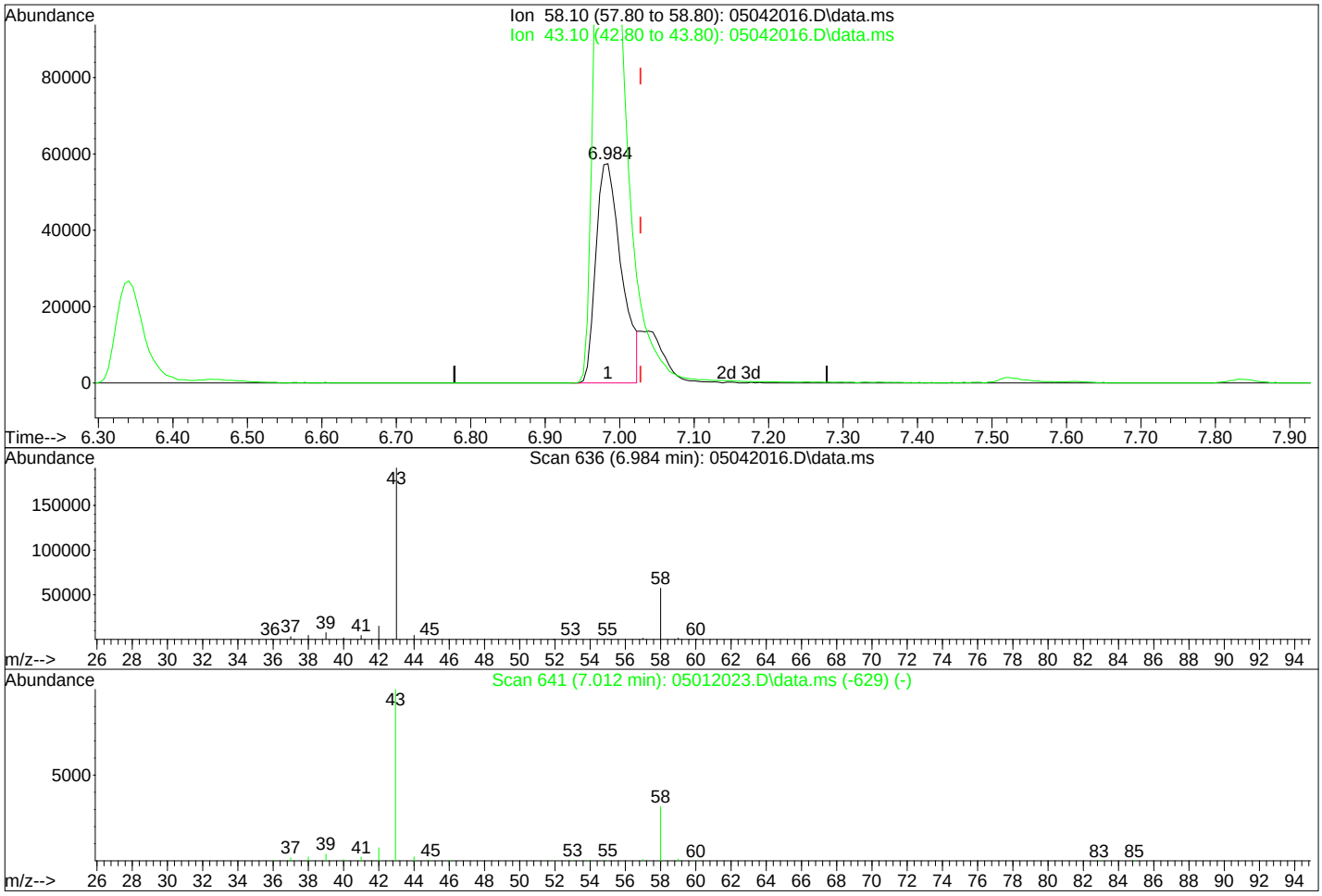
response 167946

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	287.78#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\04\05042016.D Vial: 7
Acq On : 4 May 2020 15:10 Operator: TD
Sample : P2002105-004 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 15:46:21 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05042016.D\data.ms

(13) Acetone (T)

6.984min (-0.044) 6.19ng m

response 136760

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	353.40
0.00	0.00	0.00
0.00	0.00	0.00

IPC

LH 5/4/20

5/7/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042017.D Vial: 8
Acq On : 4 May 2020 15:44 Operator: TD
Sample : P2002105-005 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 19:28:30 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/4/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	256444	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1105153	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	537613	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	430963	12.400	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.20%			
57) Toluene-d8 (SS2)	15.72	98	1118214	12.271	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.16%			
73) Bromofluorobenzene (SS3)	18.98	174	396082	12.080	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.64%			
Target Compounds						Qvalue
2) Propene	4.12	42	9417	0.317	ng	99
3) Dichlorodifluoromethan...	4.27	85	263289	4.532	ng	99
4) Chloromethane	4.54	50	14186	0.312	ng	98
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	6066	0.175	ng	98
6) Vinyl Chloride	4.96	62	392	N.D.		
7) 1,3-Butadiene	5.22	54	242	N.D.		
8) Bromomethane	5.65	94	815	N.D.		
9) Chloroethane	5.97	64	1164	0.059	ng	67
10) Ethanol	6.34	45	138460	6.037	ng	99
11) Acetonitrile	6.60	41	30640	0.585	ng	97
12) Acrolein	6.79	56	11851	0.654	ng	97
13) Acetone	6.99	58	359055	15.655	ng	94
14) Trichlorofluoromethane	7.25	101	18725	0.365	ng	99
15) 2-Propanol (Isopropanol)	7.51	45	32625	0.470	ng	78
16) Acrylonitrile	7.76	53	580	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d	
19) Methylene Chloride	8.42	84	4686	0.157	ng	95
20) 3-Chloro-1-propene (Al...	8.51	41	712	N.D.		
21) Trichlorotrifluoroethane	8.84	151	4990	0.206	ng	97
22) Carbon Disulfide	8.68	76	476198	4.457	ng	99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	10.09	63	251	N.D.		
25) Methyl tert-Butyl Ether	10.09	73	3396	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	10.45	72	99672	5.096	ng	98
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	11.27	61	73207	6.491	ng	92
31) n-Hexane	11.26	57	17514	0.358	ng	98
32) Chloroform	11.31	83	6673	0.131	ng	99
34) Tetrahydrofuran (THF)	11.72	72	80245	4.206	ng	97
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	12.84	61	102	N.D.		
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	12.87	78	13911	0.117	ng	97
42) Carbon Tetrachloride	13.03	117	30020	0.745	ng	99
43) Cyclohexane	13.16	84	17115	0.388	ng	95
44) tert-Amyl Methyl Ether	13.46	73	527	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d	
46) Bromodichloromethane	13.91	83	223	N.D.		
47) Trichloroethene	13.97	130	35140	1.147	ng	99
48) 1,4-Dioxane	13.96	88	3076	0.129	ng	90
49) 2,2,4-Trimethylpentane...	14.03	57	3710	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042017.D Vial: 8
Acq On : 4 May 2020 15:44 Operator: TD
Sample : P2002105-005 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 19:28:30 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

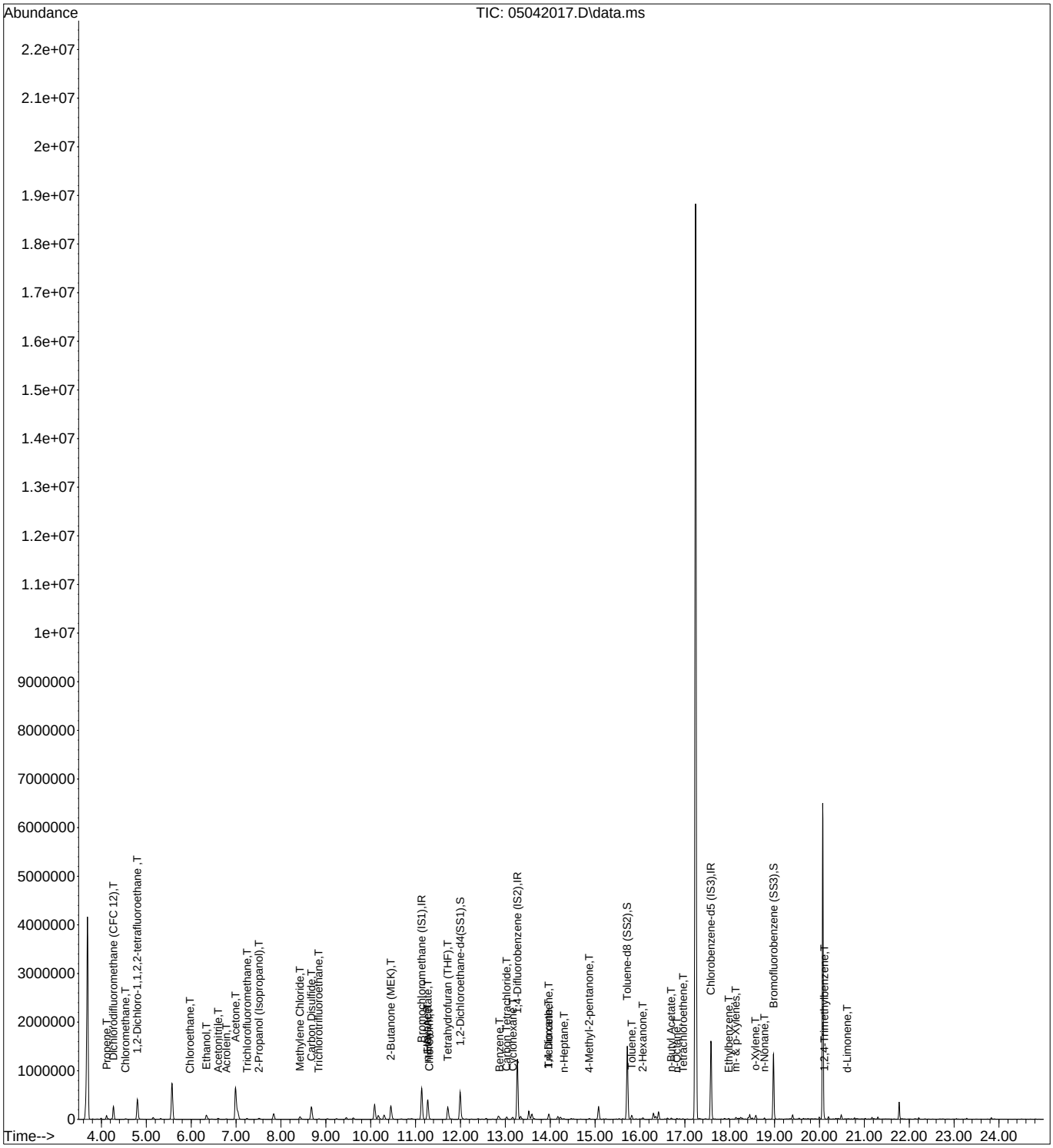
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.31	71	3290	0.119 ng		94
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.87	58	4412	0.167 ng	#	56
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.82	91	65627	0.559 ng		99
59) 2-Hexanone	16.06	43	24106	0.375 ng		93
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.70	43	21817	0.314 ng		97
63) n-Octane	16.82	57	3157	0.130 ng		90
64) Tetrachloroethene	16.96	166	2936	0.088 ng		92
65) Chlorobenzene	17.62	112	401	N.D.		
66) Ethylbenzene	17.98	91	11720	0.089 ng		100
67) m- & p-Xylenes	18.14	91	26471	0.255 ng		99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	2627	N.D.		
70) o-Xylene	18.57	91	9480	0.090 ng		99
71) n-Nonane	18.77	43	10413	0.186 ng		93
72) 1,1,2,2-Tetrachloroethane	18.59	83	1208	N.D.		
74) Cumene	19.10	105	3638	N.D.		
75) alpha-Pinene	19.44	93	1205	N.D.		
76) n-Propylbenzene	19.55	91	5922	N.D.		
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.68	105	3274	N.D.		
79) 1,3,5-Trimethylbenzene	19.75	105	4167	N.D.		
80) alpha-Methylstyrene	19.88	118	1445	N.D.		
81) 2-Ethyltoluene	19.92	105	3200	N.D.		
82) 1,2,4-Trimethylbenzene	20.11	105	11626	0.110 ng		91
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.22	91	1436	N.D.		
85) 1,3-Dichlorobenzene	20.24	146	111	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	2393	N.D.		
87) sec-Butylbenzene	20.35	105	1292	N.D.		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	20.61	146	163	N.D.		
91) d-Limonene	20.62	68	2291	0.055 ng		91
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.12	180	303	N.D.		
95) Naphthalene	22.22	128	3066	N.D.		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	20.84	91	4830	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042017.D Vial: 8
Acq On : 4 May 2020 15:44 Operator: TD
Sample : P2002105-005 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 19:28:30 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

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Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/4/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	256444	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1105153	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	537613	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	430963	12.400	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.20%			
57) Toluene-d8 (SS2)	15.72	98	1118214	12.271	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.16%			
73) Bromofluorobenzene (SS3)	18.98	174	396082	12.080	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.64%			
Target Compounds						Qvalue
2) Propene	4.12	42	9417	0.317	ng	99
3) Dichlorodifluoromethan...	4.27	85	263289	4.532	ng	99
4) Chloromethane	4.54	50	14186	0.312	ng	98
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	6066	0.175	ng	98
9) Chloroethane	5.97	64	1164	0.059	ng	67
10) Ethanol	6.34	45	138460	6.037	ng	99
11) Acetonitrile	6.60	41	30640	0.585	ng	97
12) Acrolein	6.79	56	11851	0.654	ng	97
13) Acetone	6.99	58	359055	15.655	ng	94
14) Trichlorofluoromethane	7.25	101	18725	0.365	ng	99
15) 2-Propanol (Isopropanol)	7.51	45	32625	0.470	ng	78
19) Methylene Chloride	8.42	84	4686	0.157	ng	95
21) Trichlorotrifluoroethane	8.84	151	4990	0.206	ng	97
22) Carbon Disulfide	8.68	76	476198	4.457	ng	99
27) 2-Butanone (MEK)	10.45	72	99672	5.096	ng	98
30) Ethyl Acetate	11.27	61	73207	6.491	ng	92
31) n-Hexane	11.26	57	17514	0.358	ng	98
32) Chloroform	11.31	83	6673	0.131	ng	99
34) Tetrahydrofuran (THF)	11.72	72	80245	4.206	ng	97
41) Benzene	12.87	78	13911	0.117	ng	97
42) Carbon Tetrachloride	13.03	117	30020	0.745	ng	99
43) Cyclohexane	13.16	84	17115	0.388	ng	95
47) Trichloroethene	13.97	130	35140	1.147	ng	99
48) 1,4-Dioxane	13.96	88	3076	0.129	ng	90
51) n-Heptane	14.31	71	3290	0.119	ng	94
53) 4-Methyl-2-pentanone	14.87	58	4412	0.167	ng #	56
58) Toluene	15.82	91	65627	0.559	ng	99
59) 2-Hexanone	16.06	43	24106	0.375	ng	93
62) n-Butyl Acetate	16.70	43	21817	0.314	ng	97
63) n-Octane	16.82	57	3157	0.130	ng	90
64) Tetrachloroethene	16.96	166	2936	0.088	ng	92
66) Ethylbenzene	17.98	91	11720	0.089	ng	100
67) m- & p-Xylenes	18.14	91	26471	0.255	ng	99
70) o-Xylene	18.57	91	9480	0.090	ng	99
71) n-Nonane	18.77	43	10413	0.186	ng	93
82) 1,2,4-Trimethylbenzene	20.11	105	11626	0.110	ng	91
91) d-Limonene	20.62	68	2291	0.055	ng	91

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Sample : P2002105-005 (400mL) Inst : GCMS-16
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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
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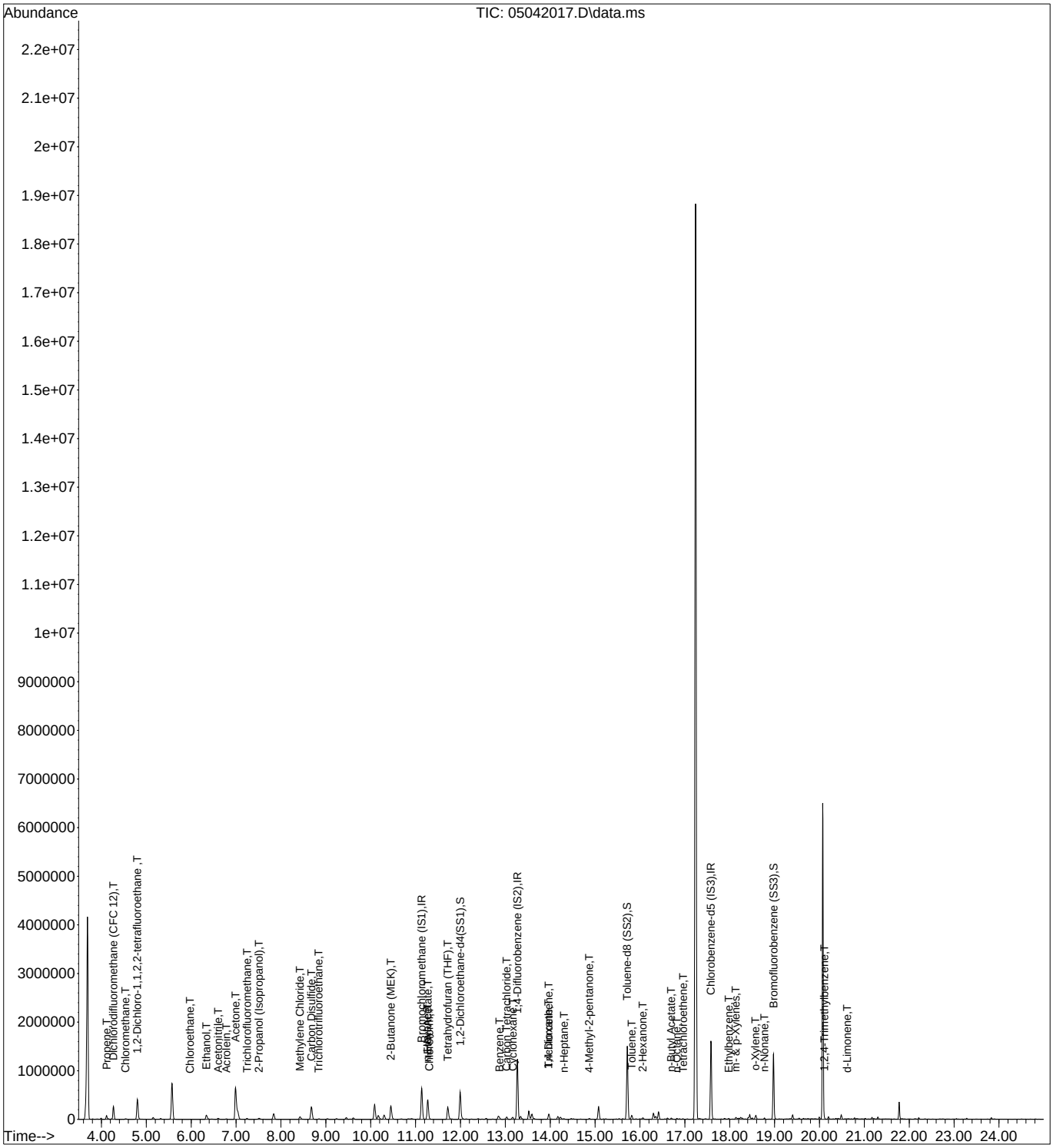
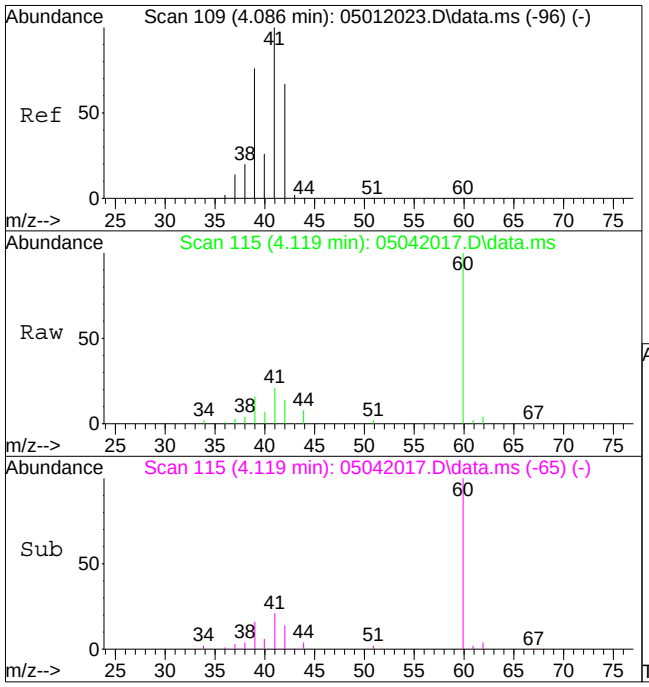
Response via : Initial Calibration
DataAcq Meth:TO15.M

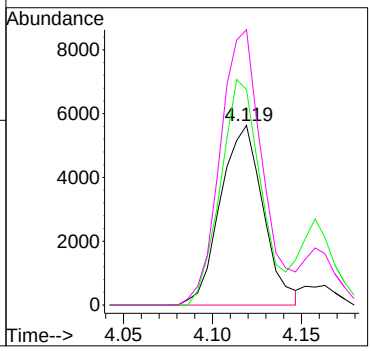


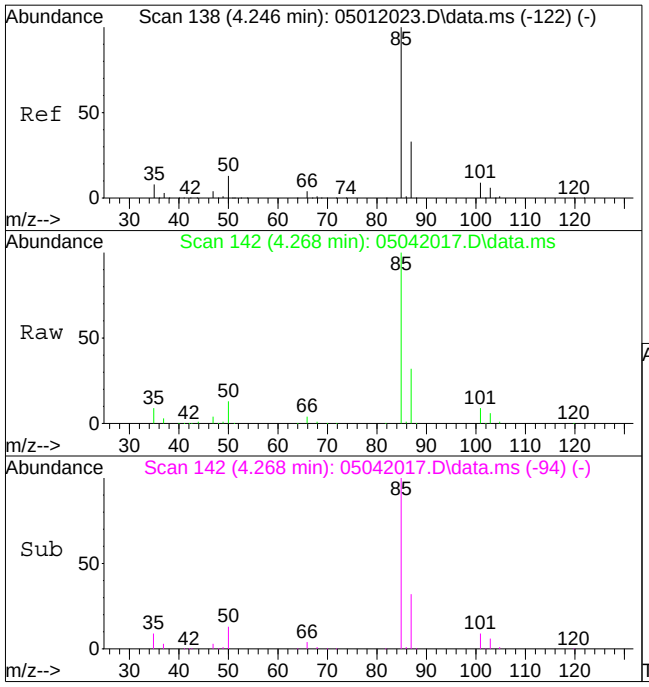


#2
Propene
Concen: 0.32 ng
RT: 4.12 min Scan# 115
Delta R.T. 0.027 min
Lab File: 05042017.D
Acq: 4 May 2020 15:44

Tgt Ion: 42 Resp: 9417

Ion	Ratio	Lower	Upper
42	100		
39	118.5	96.1	136.1
41	152.5	131.9	171.9

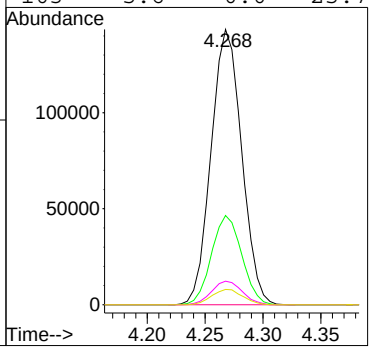


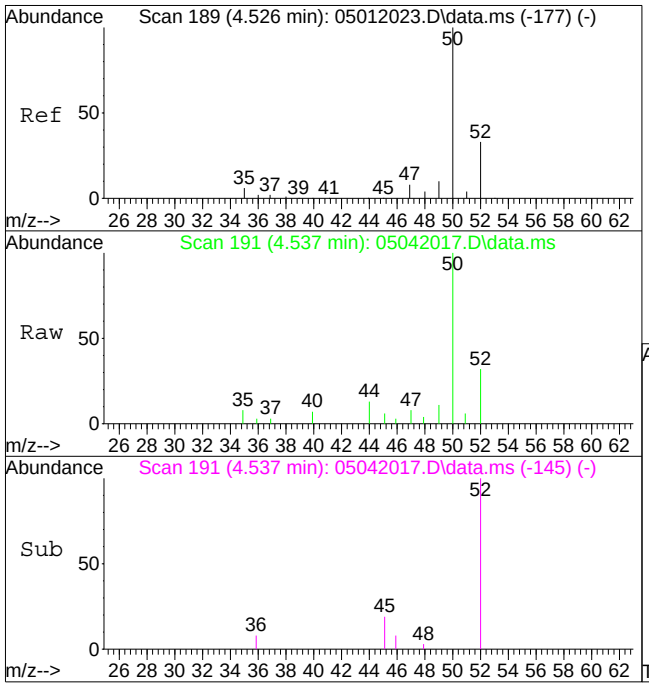


#3
Dichlorodifluoromethane (CFC 12)
Concen: 4.53 ng
RT: 4.27 min Scan# 142
Delta R.T. 0.016 min
Lab File: 05042017.D
Acq: 4 May 2020 15:44

Tgt Ion: 85 Resp: 263289

Ion	Ratio	Lower	Upper
85	100		
87	32.1	12.4	52.4
101	8.6	0.0	28.8
103	5.6	0.0	25.7

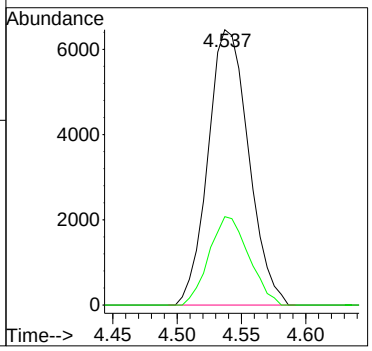


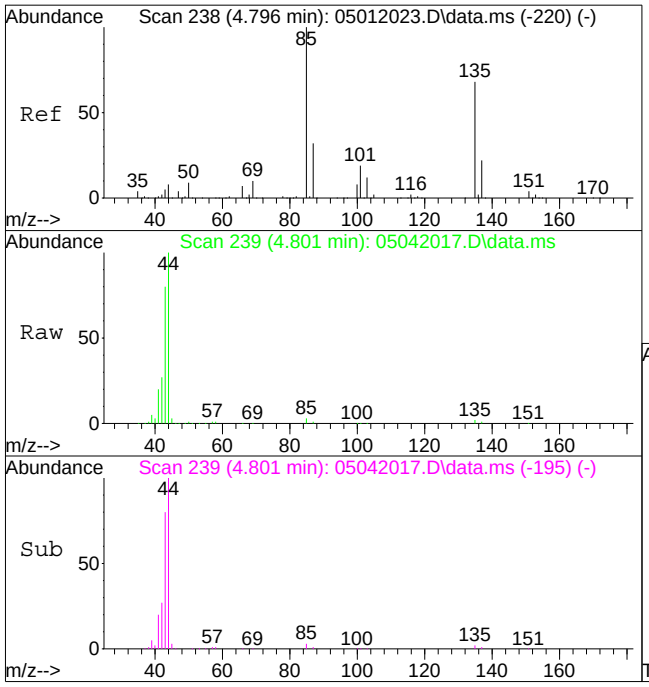


#4
Chloromethane
Concen: 0.31 ng
RT: 4.54 min Scan# 191
Delta R.T. 0.005 min
Lab File: 05042017.D
Acq: 4 May 2020 15:44

Tgt Ion: 50 Resp: 14186

Ion	Ratio	Lower	Upper
50	100		
52	31.4	12.5	52.5

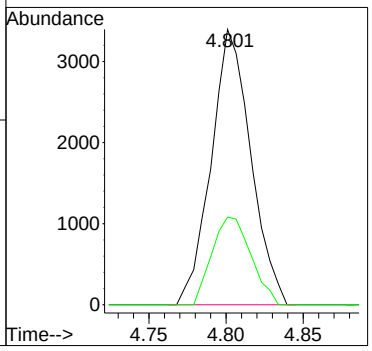


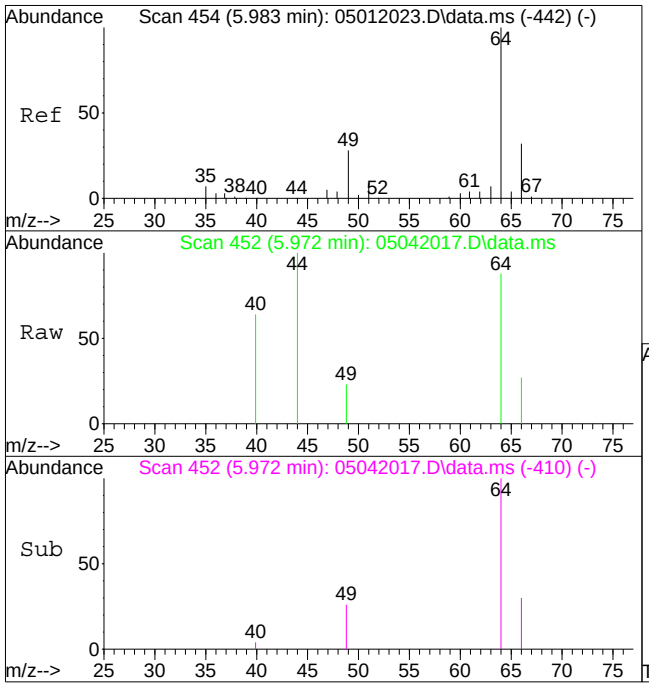


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 0.17 ng
RT: 4.80 min Scan# 239
Delta R.T. -0.006 min
Lab File: 05042017.D
Acq: 4 May 2020 15:44

Tgt Ion:135 Resp: 6066

Ion	Ratio	Lower	Upper
135	100		
137	31.3	12.1	52.1

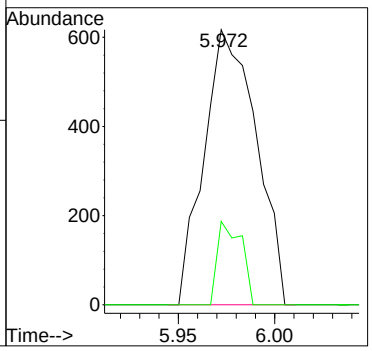


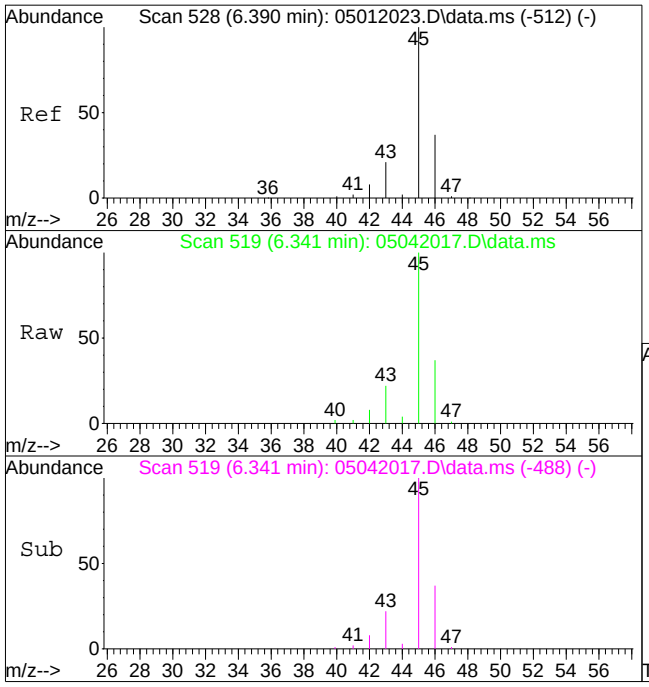


#9
Chloroethane
Concen: 0.06 ng
RT: 5.97 min Scan# 452
Delta R.T. -0.017 min
Lab File: 05042017.D
Acq: 4 May 2020 15:44

Tgt Ion: 64 Resp: 1164

Ion	Ratio	Lower	Upper
64	100		
66	13.9	12.1	52.1

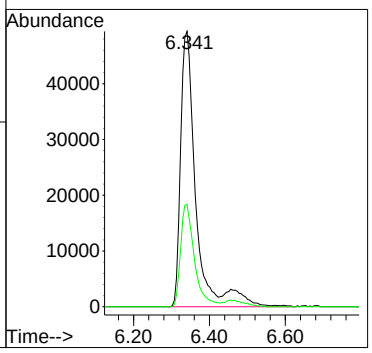


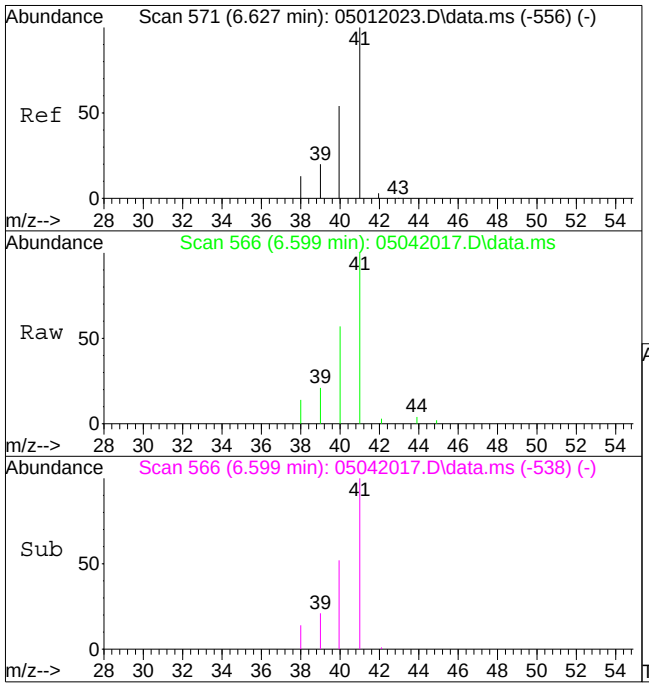


#10
Ethanol
Concen: 6.04 ng
RT: 6.34 min Scan# 519
Delta R.T. -0.077 min
Lab File: 05042017.D
Acq: 4 May 2020 15:44

Tgt Ion: 45 Resp: 138460

Ion	Ratio	Lower	Upper
45	100		
46	36.7	17.2	57.2

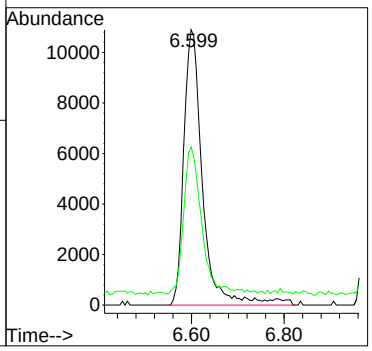


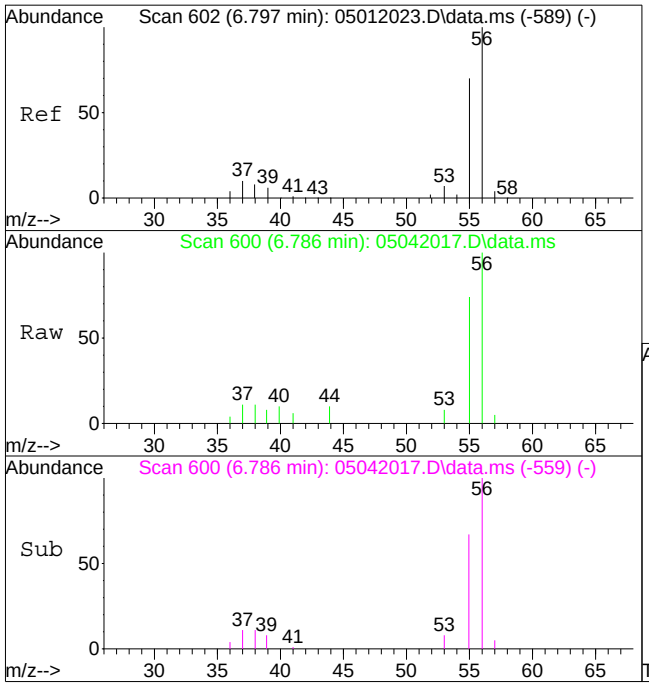


#11
Acetonitrile
Concen: 0.58 ng
RT: 6.60 min Scan# 566
Delta R.T. -0.044 min
Lab File: 05042017.D
Acq: 4 May 2020 15:44

Tgt Ion: 41 Resp: 30640

Ion	Ratio	Lower	Upper
41	100		
40	56.1	33.6	73.6

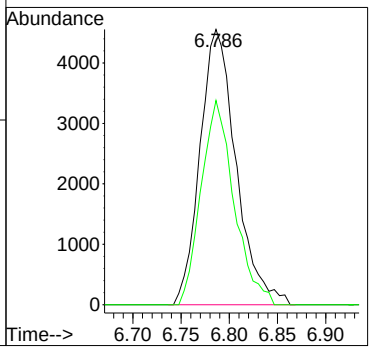


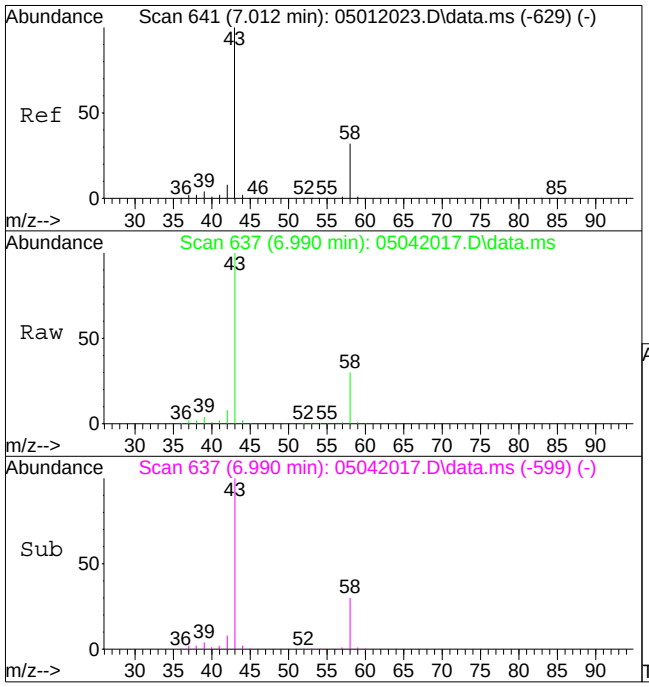


#12
Acrolein
Concen: 0.65 ng
RT: 6.79 min Scan# 600
Delta R.T. -0.022 min
Lab File: 05042017.D
Acq: 4 May 2020 15:44

Tgt Ion: 56 Resp: 11851

Ion	Ratio	Lower	Upper
56	100		
55	67.7	50.2	90.2

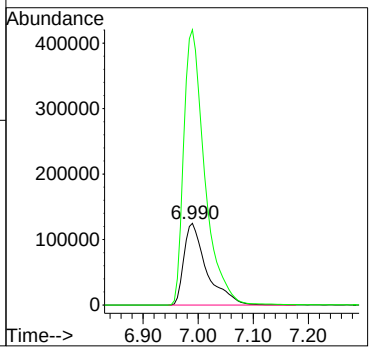


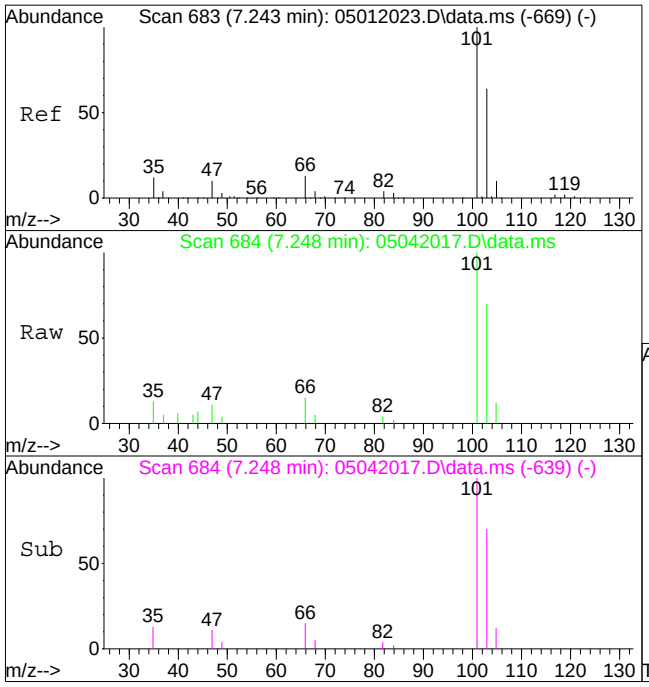


#13
Acetone
Concen: 15.65 ng
RT: 6.99 min Scan# 637
Delta R.T. -0.039 min
Lab File: 05042017.D
Acq: 4 May 2020 15:44

Tgt Ion: 58 Resp: 359055

Ion	Ratio	Lower	Upper
58	100		
43	311.4	294.4	354.4

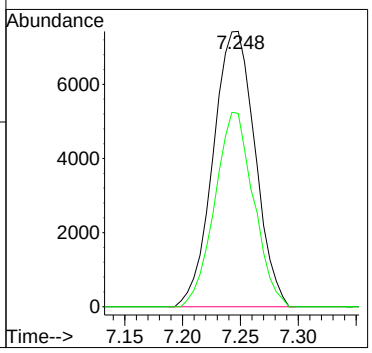


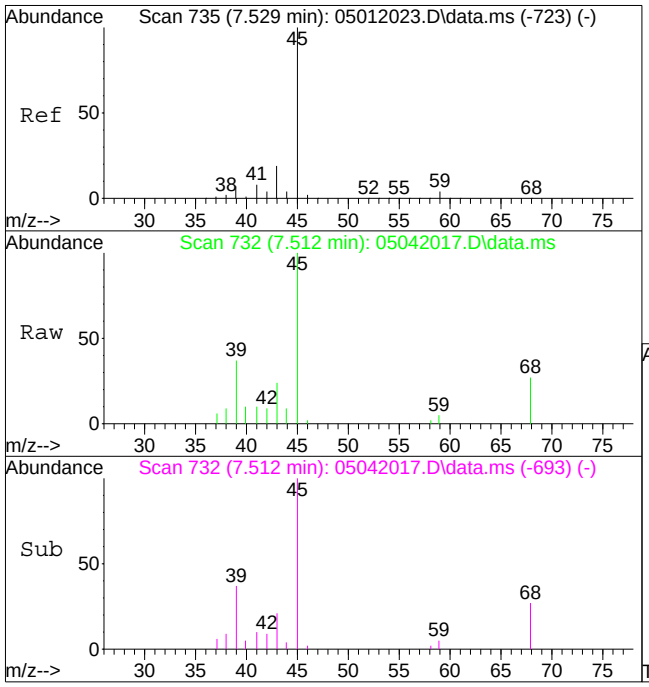


#14
Trichlorofluoromethane
Concen: 0.36 ng
RT: 7.25 min Scan# 684
Delta R.T. -0.000 min
Lab File: 05042017.D
Acq: 4 May 2020 15:44

Tgt Ion:101 Resp: 18725

Ion	Ratio	Lower	Upper
101	100		
103	65.4	44.4	84.4

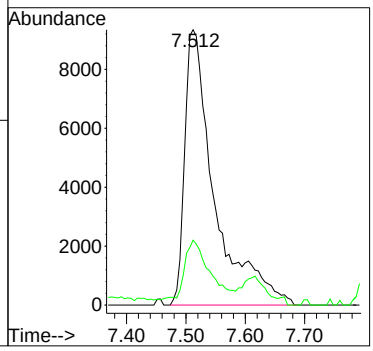


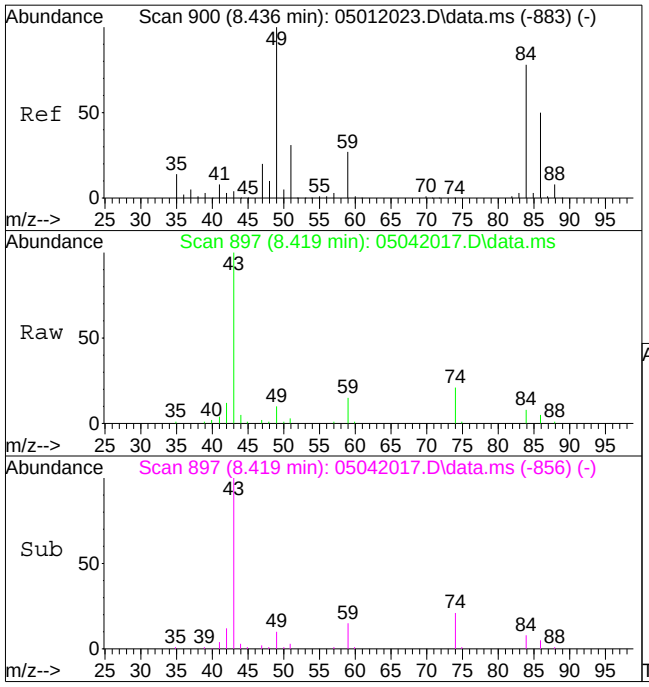


#15
2-Propanol (Isopropanol)
Concen: 0.47 ng
RT: 7.51 min Scan# 732
Delta R.T. -0.033 min
Lab File: 05042017.D
Acq: 4 May 2020 15:44

Tgt Ion: 45 Resp: 32625

Ion	Ratio	Lower	Upper
45	100		
43	29.5	0.0	39.5

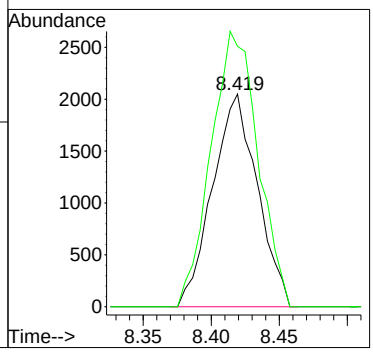


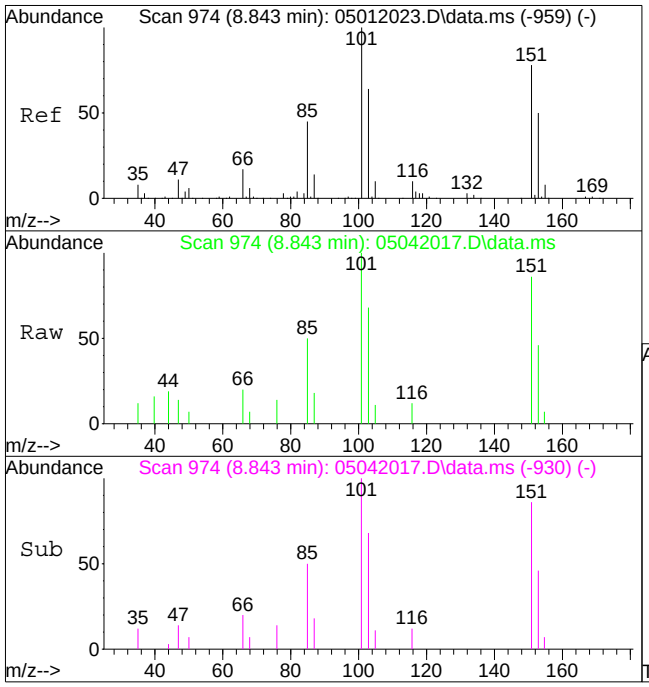


#19
Methylene Chloride
Concen: 0.16 ng
RT: 8.42 min Scan# 897
Delta R.T. -0.022 min
Lab File: 05042017.D
Acq: 4 May 2020 15:44

Tgt Ion: 84 Resp: 4686

Ion	Ratio	Lower	Upper
84	100		
49	135.8	104.8	154.8

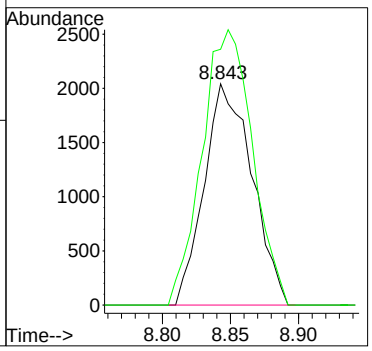


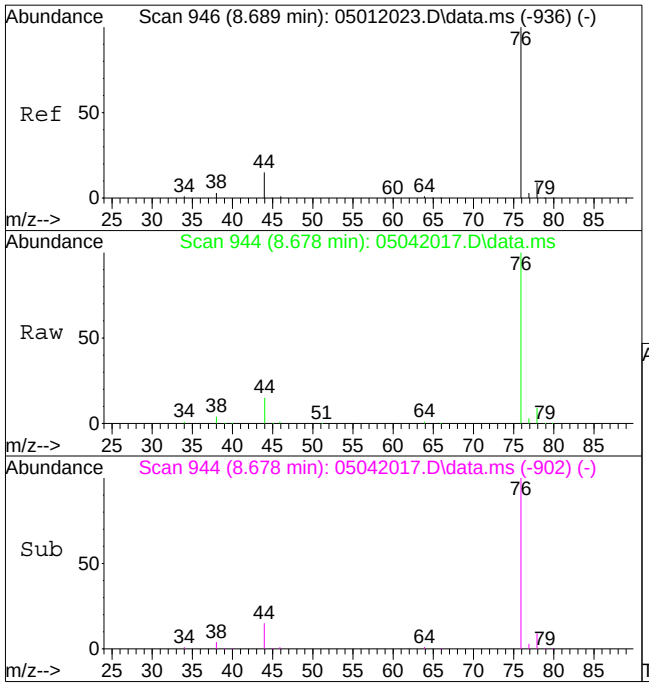


#21
Trichlorotrifluoroethane
Concen: 0.21 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05042017.D
Acq: 4 May 2020 15:44

Tgt Ion:151 Resp: 4990

Ion	Ratio	Lower	Upper
151	100		
101	131.2	107.3	147.3

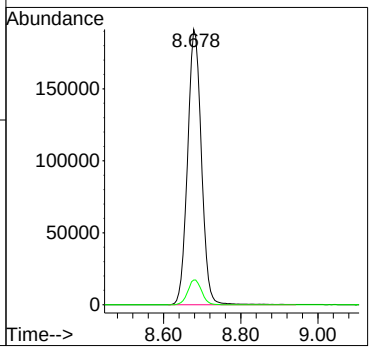


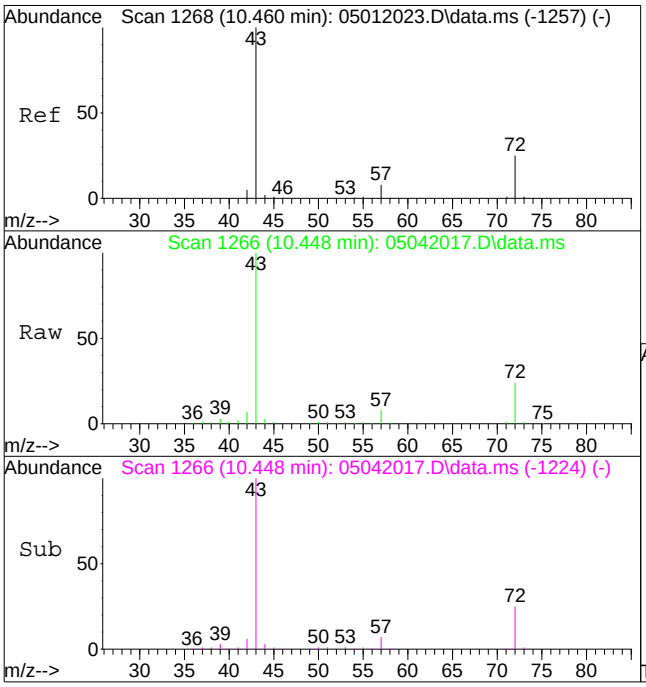


#22
Carbon Disulfide
Concen: 4.46 ng
RT: 8.68 min Scan# 944
Delta R.T. -0.017 min
Lab File: 05042017.D
Acq: 4 May 2020 15:44

Tgt Ion: 76 Resp: 476198

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	29.2

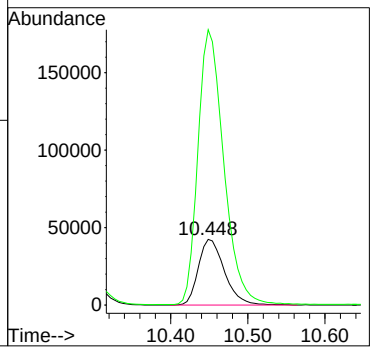


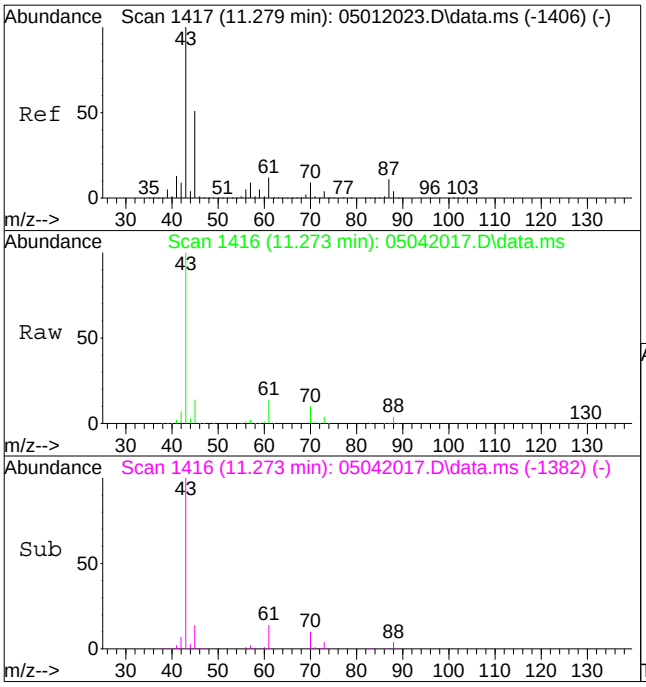


#27
2-Butanone (MEK)
Concen: 5.10 ng
RT: 10.45 min Scan# 1266
Delta R.T. -0.017 min
Lab File: 05042017.D
Acq: 4 May 2020 15:44

Tgt Ion: 72 Resp: 99672

Ion	Ratio	Lower	Upper
72	100		
43	413.9	389.7	429.7

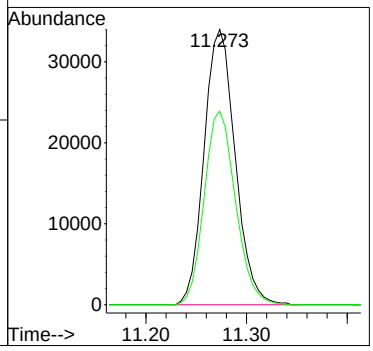


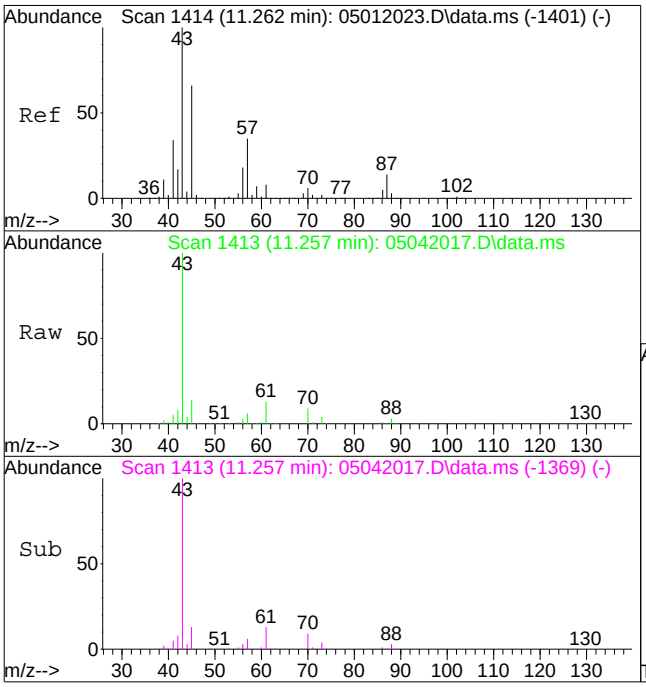


#30
Ethyl Acetate
Concen: 6.49 ng
RT: 11.27 min Scan# 1416
Delta R.T. -0.011 min
Lab File: 05042017.D
Acq: 4 May 2020 15:44

Tgt Ion: 61 Resp: 73207

Ion	Ratio	Lower	Upper
61	100		
70	70.6	57.9	97.9

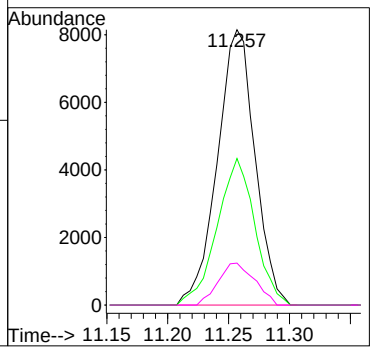


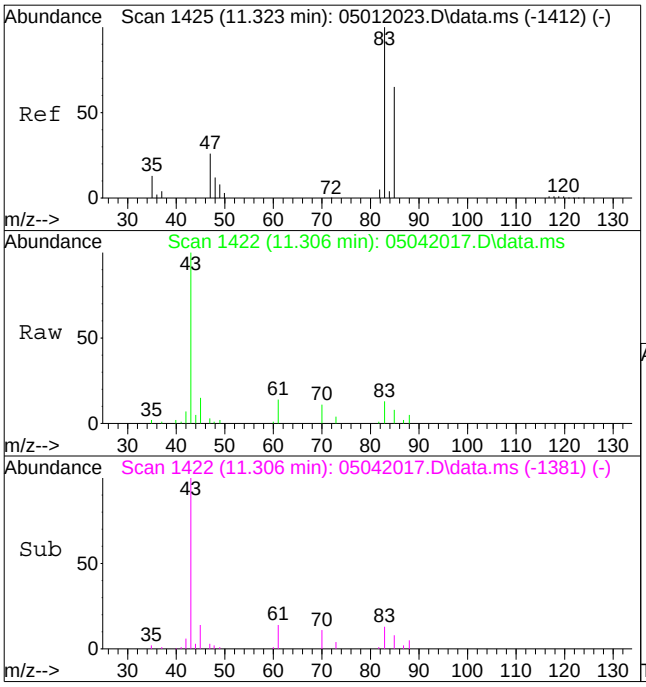


#31
n-Hexane
Concen: 0.36 ng
RT: 11.26 min Scan# 1413
Delta R.T. -0.006 min
Lab File: 05042017.D
Acq: 4 May 2020 15:44

Tgt Ion: 57 Resp: 17514

Ion	Ratio	Lower	Upper
57	100		
56	53.4	41.4	62.0
86	14.7	12.4	18.6

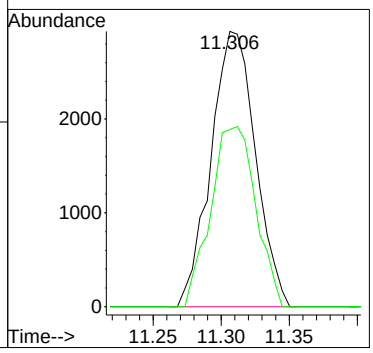


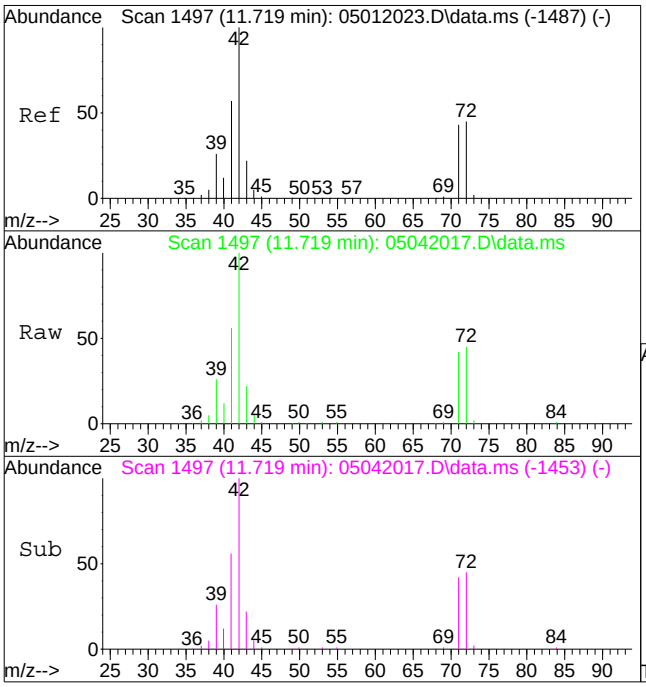


#32
Chloroform
Concen: 0.13 ng
RT: 11.31 min Scan# 1422
Delta R.T. -0.022 min
Lab File: 05042017.D
Acq: 4 May 2020 15:44

Tgt Ion: 83 Resp: 6673

Ion	Ratio	Lower	Upper
83	100		
85	66.1	45.5	85.5

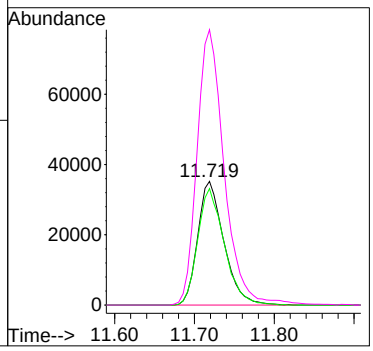


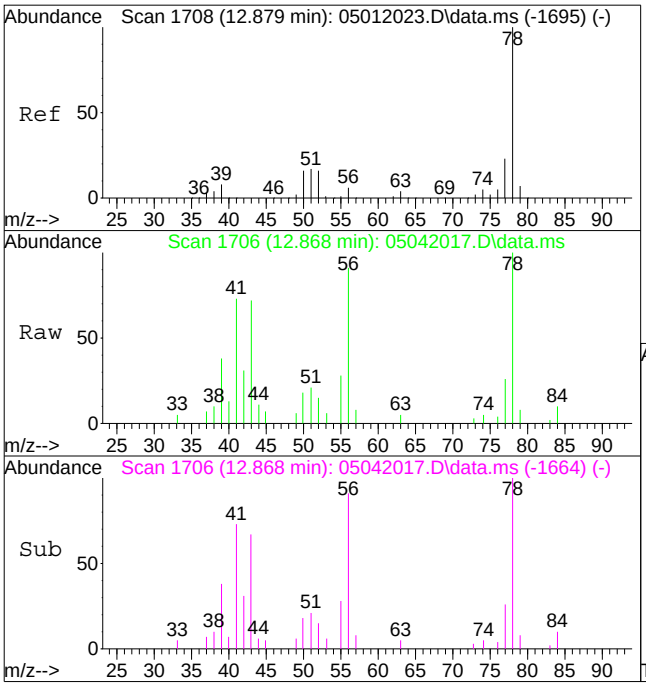


#34
Tetrahydrofuran (THF)
Concen: 4.21 ng
RT: 11.72 min Scan# 1497
Delta R.T. -0.006 min
Lab File: 05042017.D
Acq: 4 May 2020 15:44

Tgt Ion: 72 Resp: 80245

Ion	Ratio	Lower	Upper
72	100		
71	95.6	77.0	117.0
42	231.4	204.6	244.6

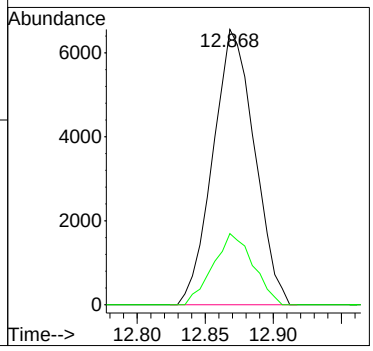


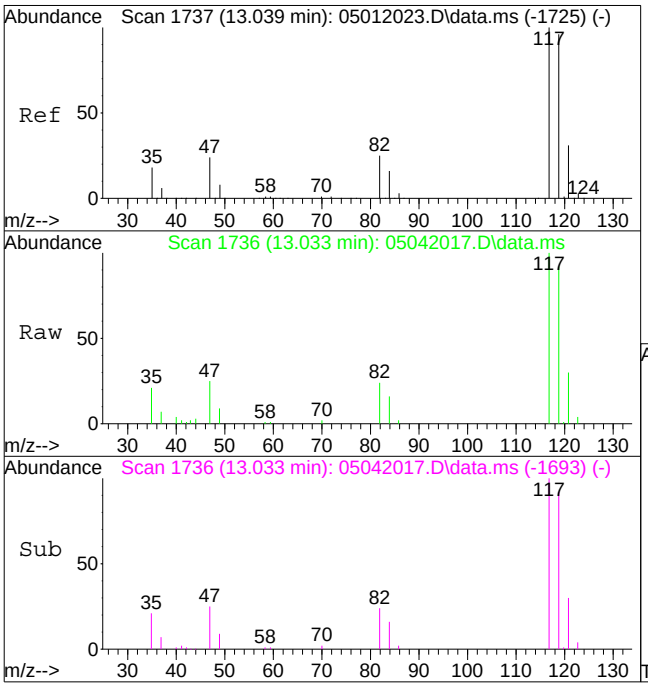


#41
Benzene
Concen: 0.12 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05042017.D
Acq: 4 May 2020 15:44

Tgt Ion: 78 Resp: 13911

Ion	Ratio	Lower	Upper
78	100		
77	24.9	3.4	43.4

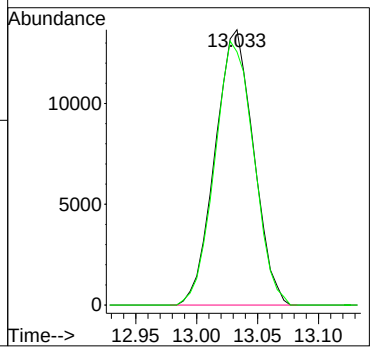


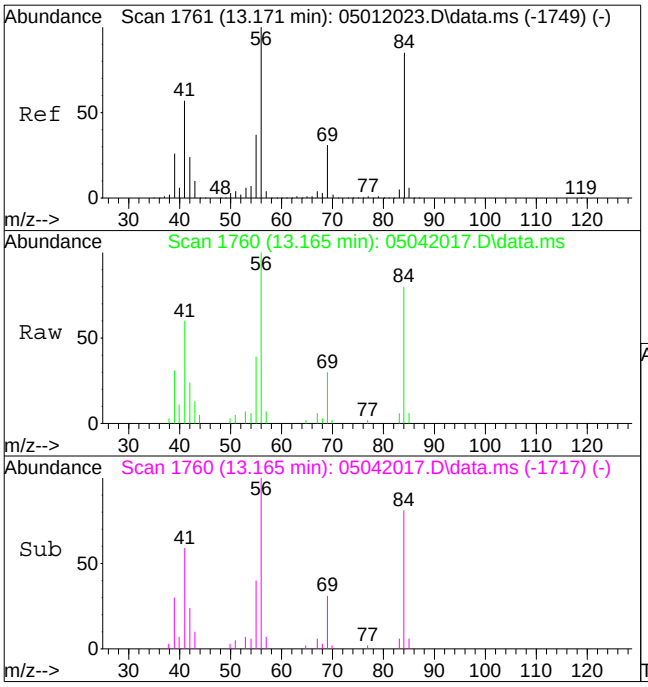


#42
Carbon Tetrachloride
Concen: 0.74 ng
RT: 13.03 min Scan# 1736
Delta R.T. -0.011 min
Lab File: 05042017.D
Acq: 4 May 2020 15:44

Tgt Ion:117 Resp: 30020

Ion	Ratio	Lower	Upper
117	100		
119	96.9	76.2	116.2

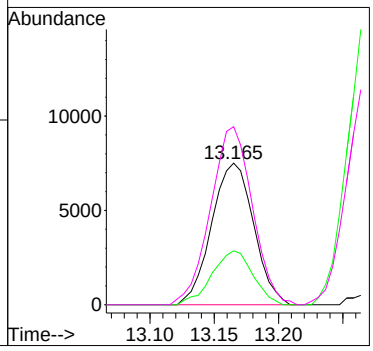


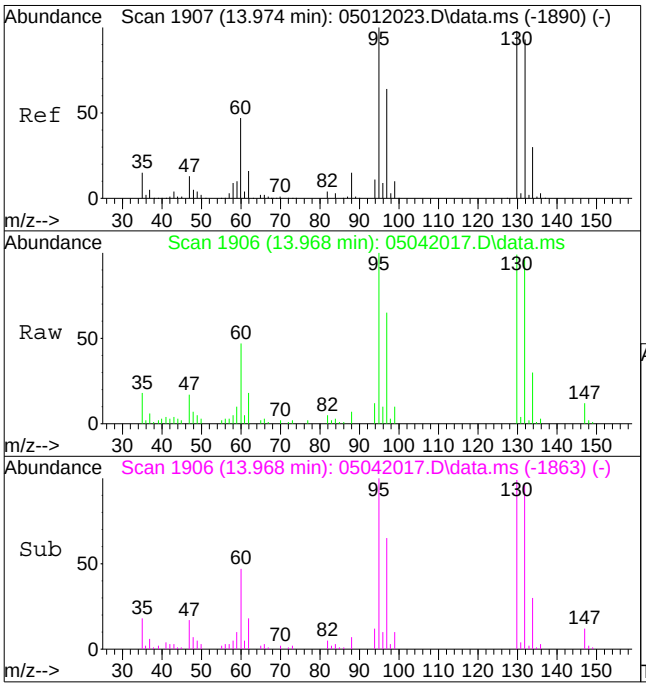


#43
Cyclohexane
Concen: 0.39 ng
RT: 13.16 min Scan# 1760
Delta R.T. -0.011 min
Lab File: 05042017.D
Acq: 4 May 2020 15:44

Tgt Ion: 84 Resp: 17115

Ion	Ratio	Lower	Upper
84	100		
69	37.0	16.5	56.5
56	124.7	97.4	137.4

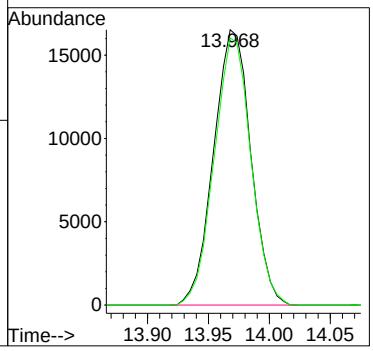


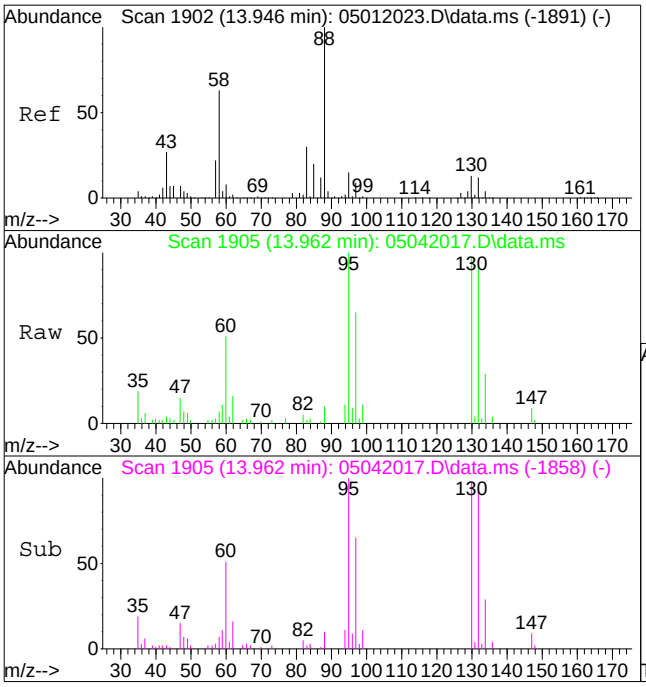


#47
Trichloroethene
Concen: 1.15 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05042017.D
Acq: 4 May 2020 15:44

Tgt Ion:130 Resp: 35140

Ion	Ratio	Lower	Upper
130	100		
132	95.7	74.9	114.9

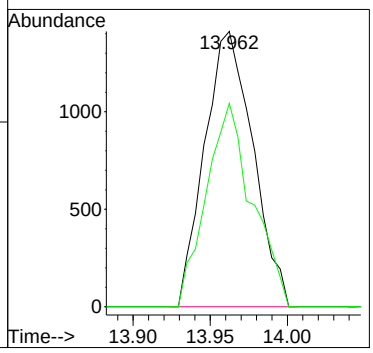


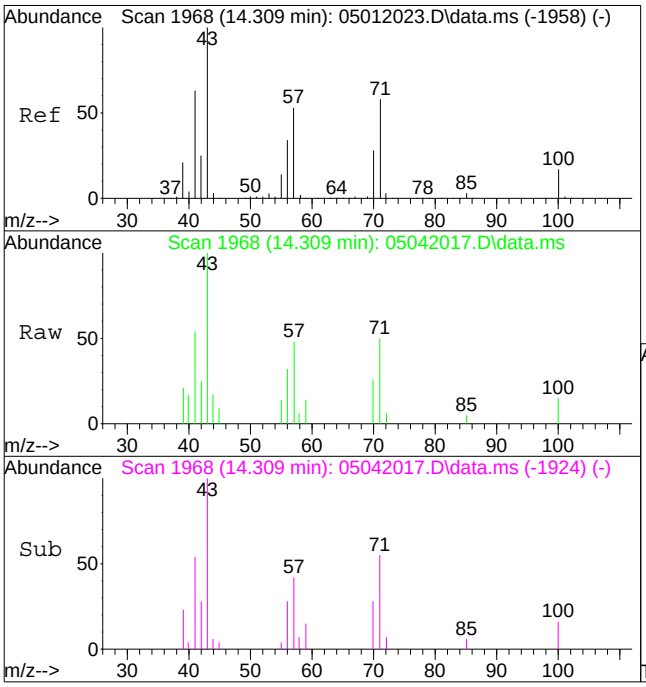


#48
1,4-Dioxane
Concen: 0.13 ng
RT: 13.96 min Scan# 1905
Delta R.T. 0.011 min
Lab File: 05042017.D
Acq: 4 May 2020 15:44

Tgt Ion: 88 Resp: 3076

Ion	Ratio	Lower	Upper
88	100		
58	70.3	42.8	82.8

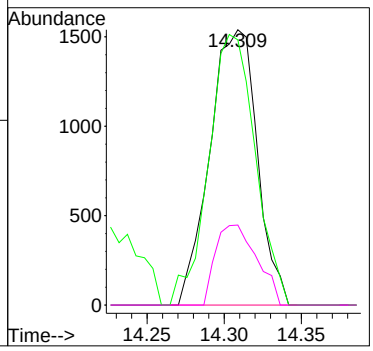


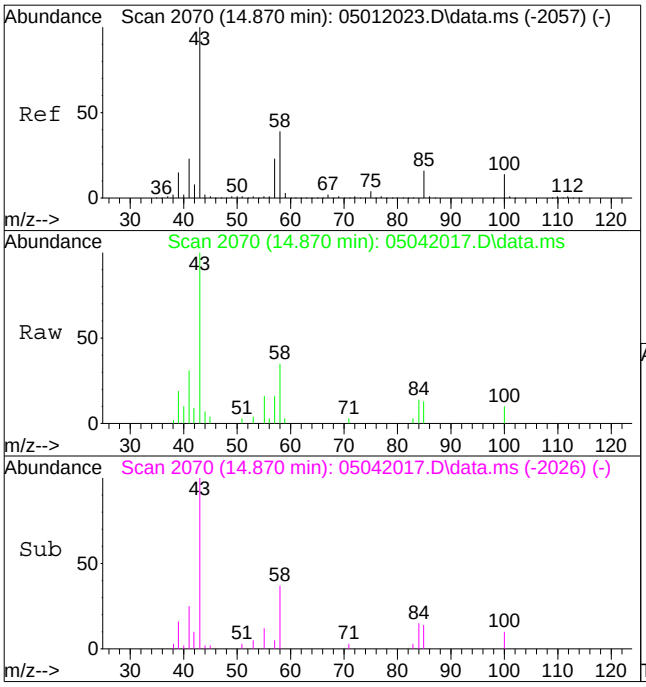


#51
n-Heptane
Concen: 0.12 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05042017.D
Acq: 4 May 2020 15:44

Tgt Ion: 71 Resp: 3290

Ion	Ratio	Lower	Upper
71	100		
57	96.7	71.0	111.0
100	25.4	8.4	48.4

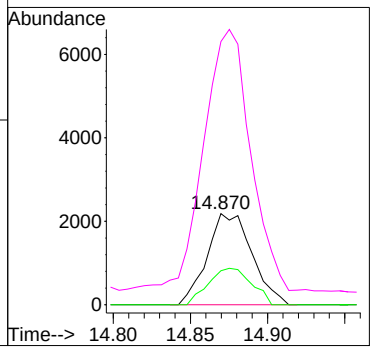


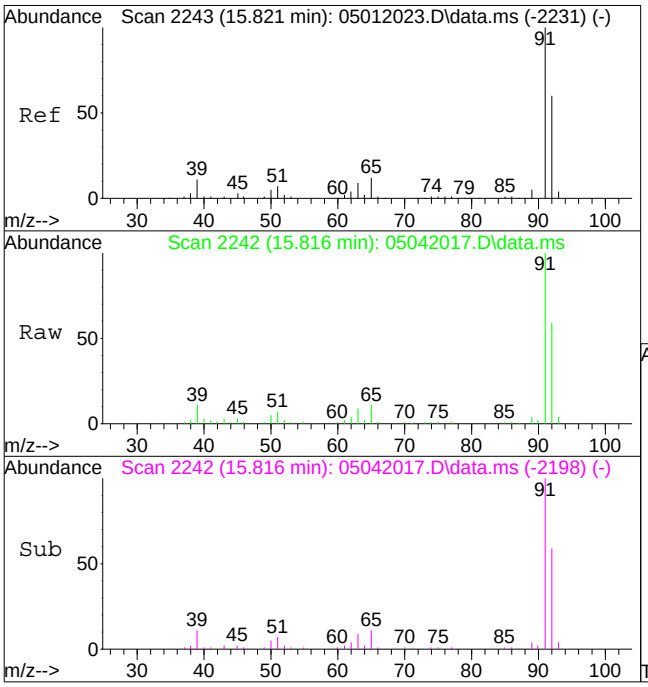


#53
4-Methyl-2-pentanone
Concen: 0.17 ng
RT: 14.87 min Scan# 2070
Delta R.T. -0.006 min
Lab File: 05042017.D
Acq: 4 May 2020 15:44

Tgt Ion: 58 Resp: 4412

Ion	Ratio	Lower	Upper
58	100		
85	38.6	35.4	53.2
43	342.0	203.3	304.9#

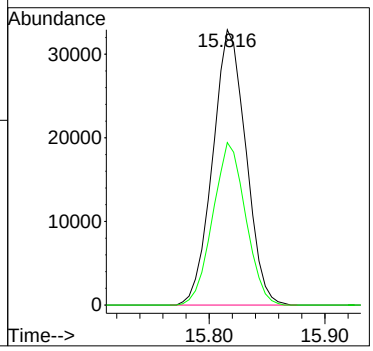


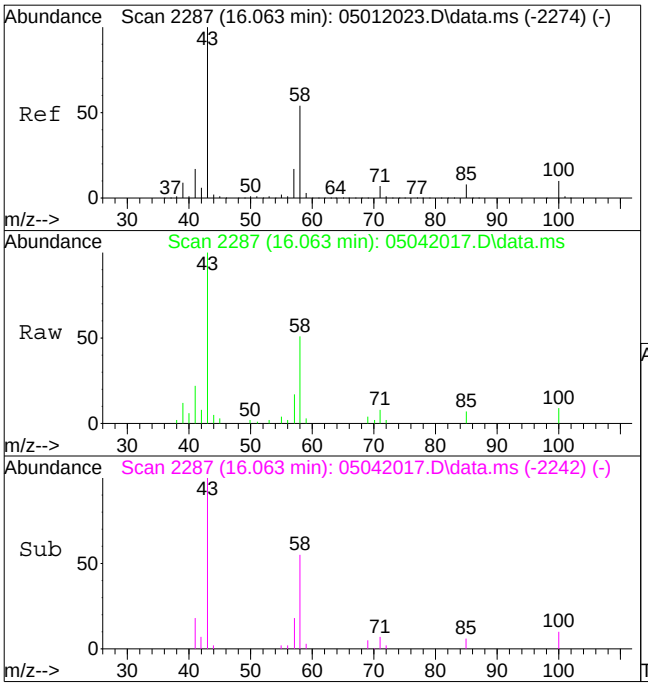


#58
Toluene
Concen: 0.56 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05042017.D
Acq: 4 May 2020 15:44

Tgt Ion: 91 Resp: 65627

Ion	Ratio	Lower	Upper
91	100		
92	58.3	39.4	79.4

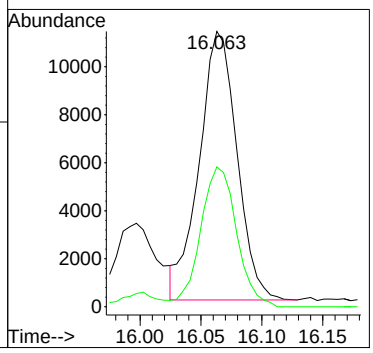


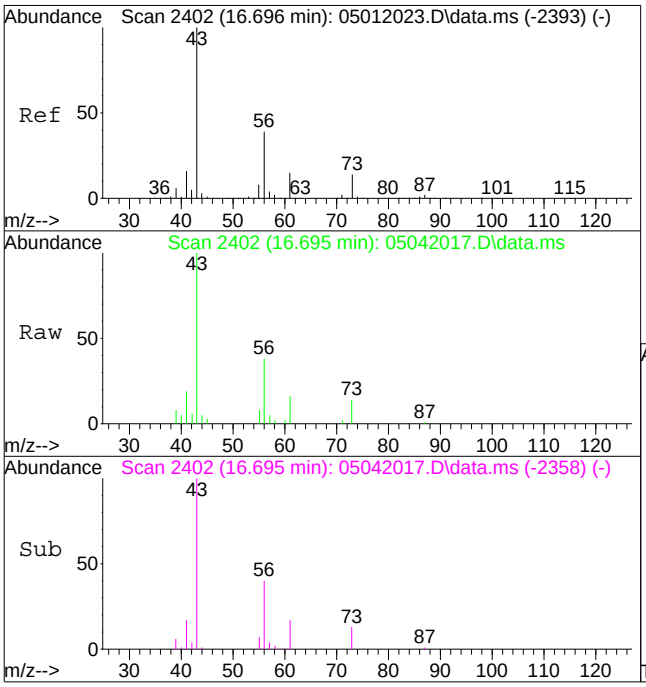


#59
2-Hexanone
Concen: 0.37 ng
RT: 16.06 min Scan# 2287
Delta R.T. -0.000 min
Lab File: 05042017.D
Acq: 4 May 2020 15:44

Tgt Ion: 43 Resp: 24106

Ion	Ratio	Lower	Upper
43	100		
58	49.5	34.5	74.5

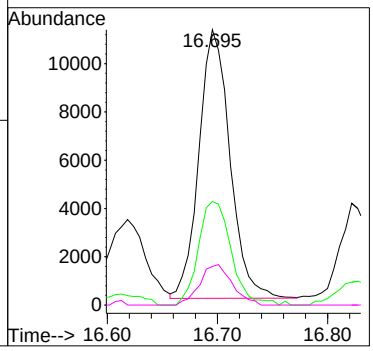


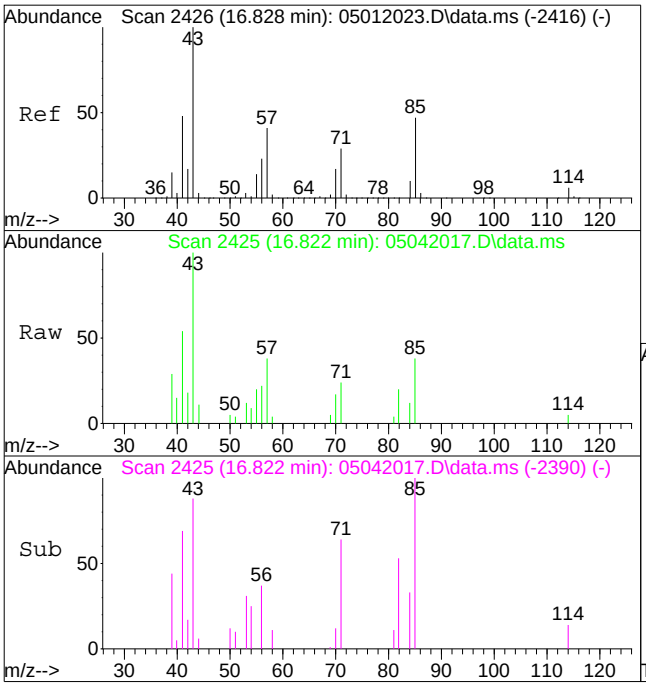


#62
n-Butyl Acetate
Concen: 0.31 ng
RT: 16.70 min Scan# 2402
Delta R.T. -0.006 min
Lab File: 05042017.D
Acq: 4 May 2020 15:44

Tgt Ion: 43 Resp: 21817

Ion	Ratio	Lower	Upper
43	100		
56	40.7	19.2	59.2
73	15.6	0.0	34.4

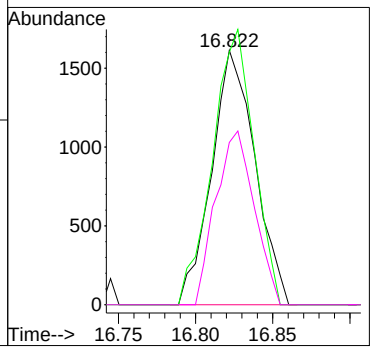


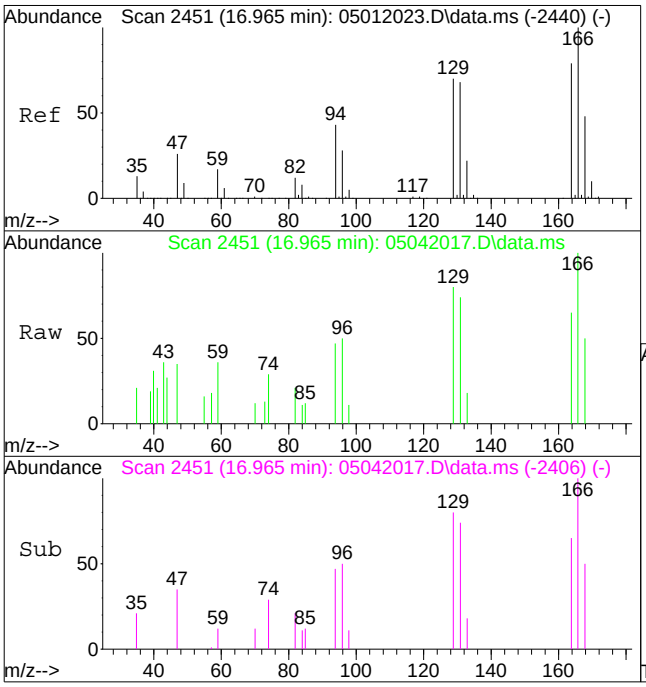


#63
n-Octane
Concen: 0.13 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05042017.D
Acq: 4 May 2020 15:44

Tgt Ion: 57 Resp: 3157

Ion	Ratio	Lower	Upper
57	100		
85	103.3	91.0	136.4
71	60.6	56.2	84.2

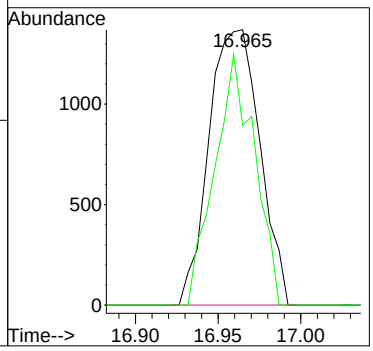


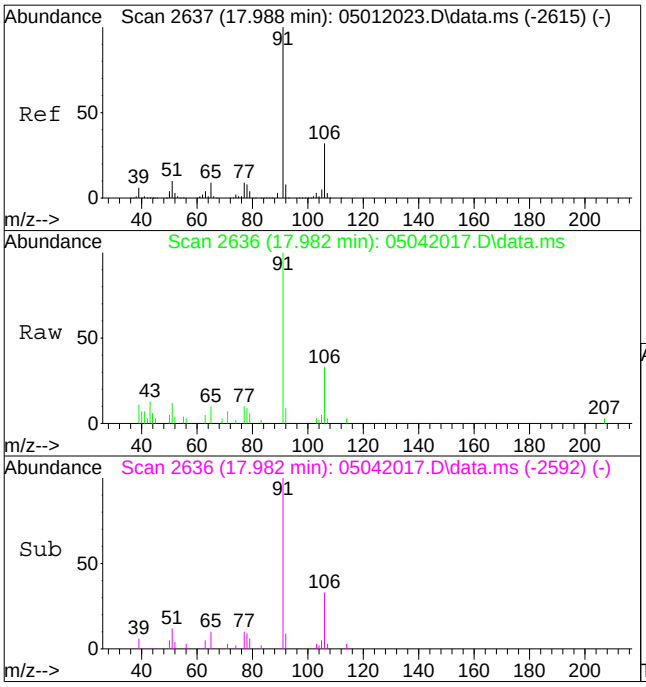


#64
Tetrachloroethene
Concen: 0.09 ng
RT: 16.96 min Scan# 2451
Delta R.T. -0.000 min
Lab File: 05042017.D
Acq: 4 May 2020 15:44

Tgt Ion:166 Resp: 2936

Ion	Ratio	Lower	Upper
166	100		
164	71.2	58.4	98.4

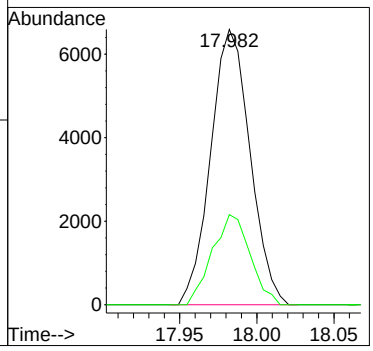


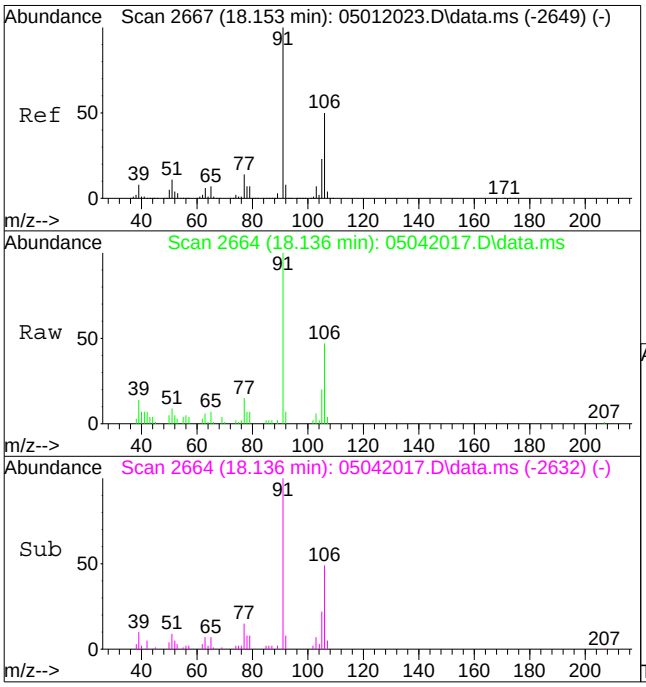


#66
Ethylbenzene
Concen: 0.09 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05042017.D
Acq: 4 May 2020 15:44

Tgt Ion: 91 Resp: 11720

Ion	Ratio	Lower	Upper
91	100		
106	31.4	11.6	51.6

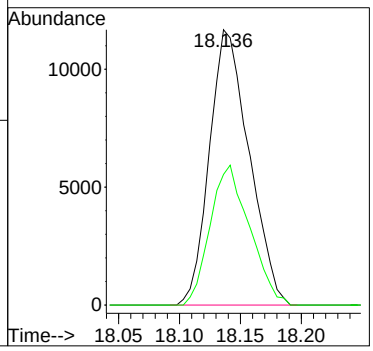


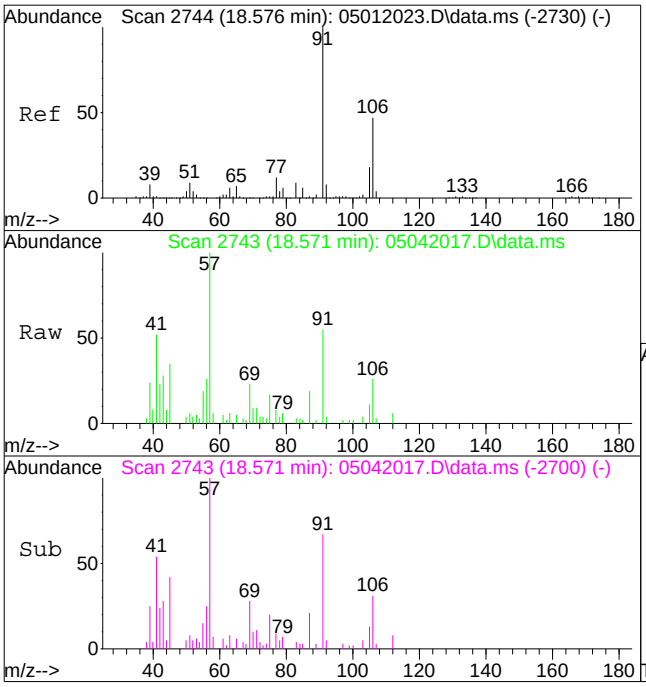


#67
m- & p-Xylenes
Concen: 0.25 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05042017.D
Acq: 4 May 2020 15:44

Tgt Ion: 91 Resp: 26471

Ion	Ratio	Lower	Upper
91	100		
106	50.5	29.7	69.7

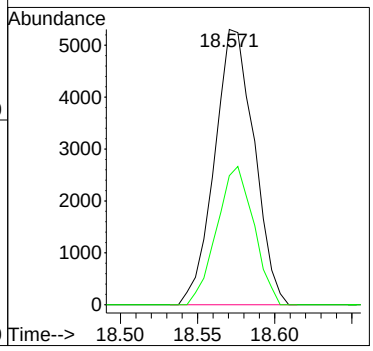


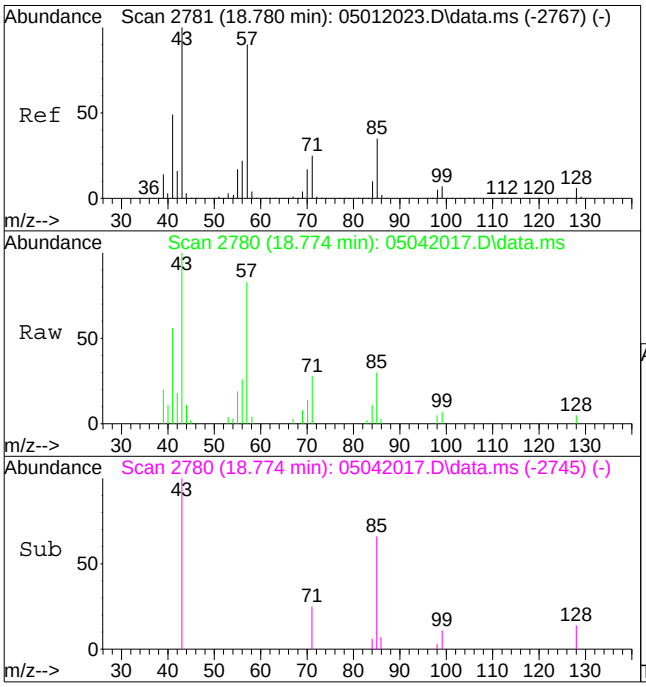


#70
o-Xylene
Concen: 0.09 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05042017.D
Acq: 4 May 2020 15:44

Tgt Ion: 91 Resp: 9480

Ion	Ratio	Lower	Upper
91	100		
106	46.9	27.5	67.5

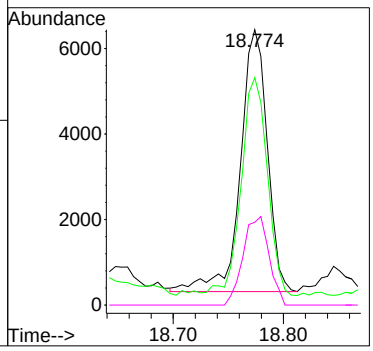


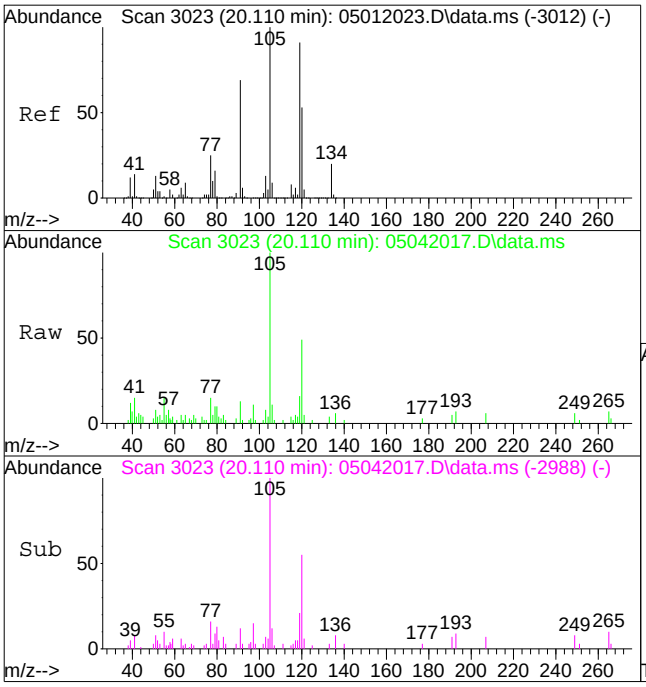


#71
n-Nonane
Concen: 0.19 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05042017.D
Acq: 4 May 2020 15:44

Tgt Ion: 43 Resp: 10413

Ion	Ratio	Lower	Upper
43	100		
57	80.7	69.0	109.0
85	32.3	14.6	54.6

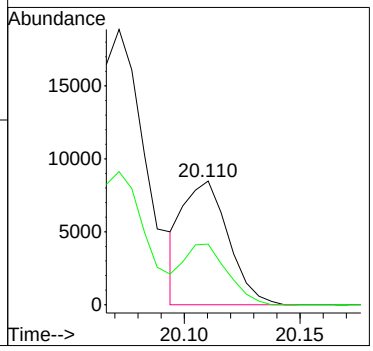


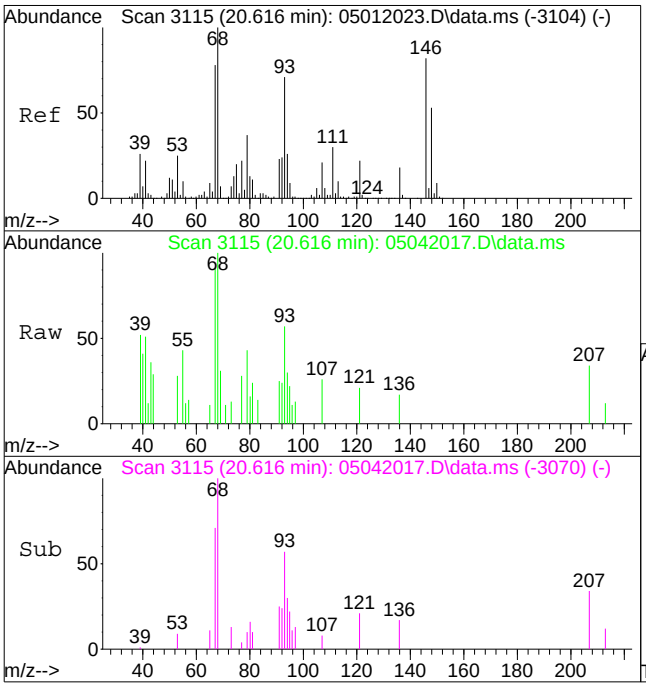


#82
1,2,4-Trimethylbenzene
Concen: 0.11 ng
RT: 20.11 min Scan# 3023
Delta R.T. -0.006 min
Lab File: 05042017.D
Acq: 4 May 2020 15:44

Tgt Ion:105 Resp: 11626

Ion	Ratio	Lower	Upper
105	100		
120	47.4	33.6	73.6

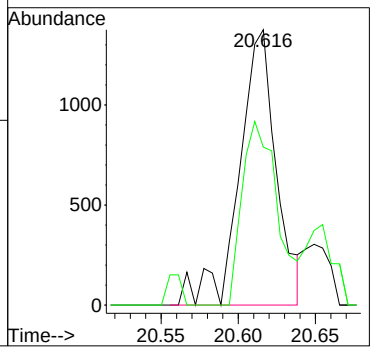




#91
d-Limonene
Concen: 0.05 ng
RT: 20.62 min Scan# 3115
Delta R.T. -0.000 min
Lab File: 05042017.D
Acq: 4 May 2020 15:44

Tgt Ion: 68 Resp: 2291

Ion	Ratio	Lower	Upper
68	100		
93	63.9	51.1	91.1



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042018.D Vial: 9
Acq On : 4 May 2020 16:21 Operator: TD
Sample : P2002105-006 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 19:29:37 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/4/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	267847	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1165828	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	568652	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	452153	12.456	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.68%				
57) Toluene-d8 (SS2)	15.72	98	1194832	12.396	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.20%				
73) Bromofluorobenzene (SS3)	18.98	174	416540	12.010	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.08%				
Target Compounds							Qvalue
2) Propene	4.10	42	12727	0.410	ng		98
3) Dichlorodifluoromethan...	4.25	85	663693	10.938	ng		100
4) Chloromethane	4.52	50	3400	0.072	ng		91
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	11749	0.324	ng		97
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.22	54	208	N.D.			
8) Bromomethane	5.64	94	616	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.34	45	219790	9.175	ng		100
11) Acetonitrile	6.59	41	10375	0.190	ng		97
12) Acrolein	6.78	56	13100	0.692	ng		97
13) Acetone	6.98	58	208135	8.688	ng	#	75
14) Trichlorofluoromethane	7.24	101	57375	1.070	ng		100
15) 2-Propanol (Isopropanol)	7.51	45	60221	0.831	ng		89
16) Acrylonitrile	7.74	53	821	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.41	84	3007	0.097	ng		92
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	8.85	151	6040	0.239	ng		97
22) Carbon Disulfide	8.68	76	550047	4.929	ng		100
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.09	73	1080	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.46	72	27319	1.337	ng		96
28) cis-1,2-Dichloroethene	10.97	61	116	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.27	61	196896	16.714	ng		92
31) n-Hexane	11.26	57	9679	0.189	ng		92
32) Chloroform	11.30	83	4407	0.083	ng		100
34) Tetrahydrofuran (THF)	11.74	72	14087	0.707	ng		92
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.10	62	296	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	12.95	61	104	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	22310	0.178	ng		99
42) Carbon Tetrachloride	13.03	117	2834	0.067	ng		98
43) Cyclohexane	13.16	84	27552	0.591	ng		98
44) tert-Amyl Methyl Ether	13.59	73	254	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	13.97	130	1374	N.D.			
48) 1,4-Dioxane	13.96	88	1382	0.055	ng		93
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.30	100	393	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042018.D Vial: 9
Acq On : 4 May 2020 16:21 Operator: TD
Sample : P2002105-006 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 19:29:37 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

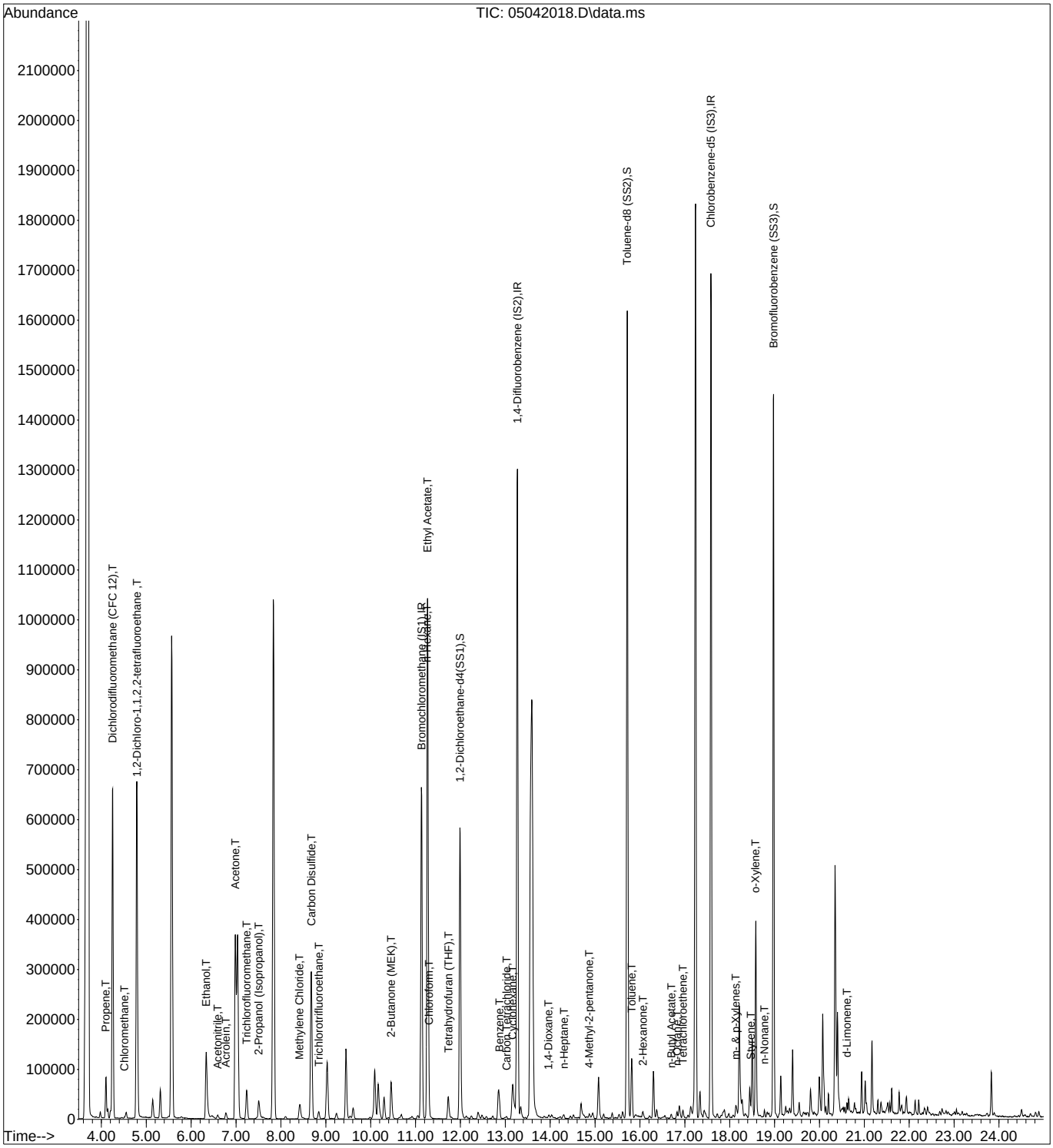
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.31	71	1682	0.058	ng		96
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
53) 4-Methyl-2-pentanone	14.87	58	2270	0.081	ng	#	78
54) trans-1,3-Dichloropropene	15.38	75	615	N.D.			
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.			
58) Toluene	15.82	91	97484	0.785	ng		100
59) 2-Hexanone	16.07	43	11068	0.163	ng		91
60) Dibromochloromethane	0.00	129	0	N.D.			
61) 1,2-Dibromoethane	0.00	107	0	N.D.			
62) n-Butyl Acetate	16.70	43	7838	0.107	ng		97
63) n-Octane	16.83	57	2316	0.090	ng		92
64) Tetrachloroethene	16.96	166	4872	0.139	ng		99
65) Chlorobenzene	0.00	112	0	N.D.			
66) Ethylbenzene	17.98	91	6109	N.D.			
67) m- & p-Xylenes	18.14	91	16665	0.152	ng		98
68) Bromoform	0.00	173	0	N.D.			
69) Styrene	18.47	104	6966	0.084	ng		92
70) o-Xylene	18.58	91	7345	0.066	ng		97
71) n-Nonane	18.77	43	5619	0.095	ng		94
72) 1,1,2,2-Tetrachloroethane	18.59	83	486	N.D.			
74) Cumene	19.10	105	1124	N.D.			
75) alpha-Pinene	19.45	93	2149	N.D.			
76) n-Propylbenzene	19.55	91	3687	N.D.			
77) 3-Ethyltoluene	19.64	105	2631	N.D.			
78) 4-Ethyltoluene	19.68	105	1245	N.D.			
79) 1,3,5-Trimethylbenzene	19.75	105	1316	N.D.			
80) alpha-Methylstyrene	19.88	118	2172	N.D.			
81) 2-Ethyltoluene	19.91	105	1025	N.D.			
82) 1,2,4-Trimethylbenzene	20.11	105	3548	N.D.			
83) n-Decane	0.00	57	0	N.D.	d		
84) Benzyl Chloride	20.23	91	622	N.D.			
85) 1,3-Dichlorobenzene	20.24	146	421	N.D.			
86) 1,4-Dichlorobenzene	20.30	146	226	N.D.			
87) sec-Butylbenzene	20.35	105	1195	N.D.			
88) 4-Isopropyltoluene (p-...	20.48	119	2456	N.D.			
89) 1,2,3-Trimethylbenzene	20.48	105	1596	N.D.			
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.			
91) d-Limonene	20.61	68	6207	0.140	ng		99
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.			
93) n-Undecane	0.00	57	0	N.D.	d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.			
95) Naphthalene	22.21	128	2377	N.D.			
96) n-Dodecane	0.00	57	0	N.D.	d		
97) Hexachlorobutadiene	0.00	225	0	N.D.			
98) Cyclohexanone	0.00	55	0	N.D.	d		
99) tert-Butylbenzene	20.07	119	3949	N.D.			
100) n-Butylbenzene	20.85	91	2598	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042018.D Vial: 9
Acq On : 4 May 2020 16:21 Operator: TD
Sample : P2002105-006 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 19:29:37 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042018.D Vial: 9
Acq On : 4 May 2020 16:21 Operator: TD
Sample : P2002105-006 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 19:29:37 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/4/20

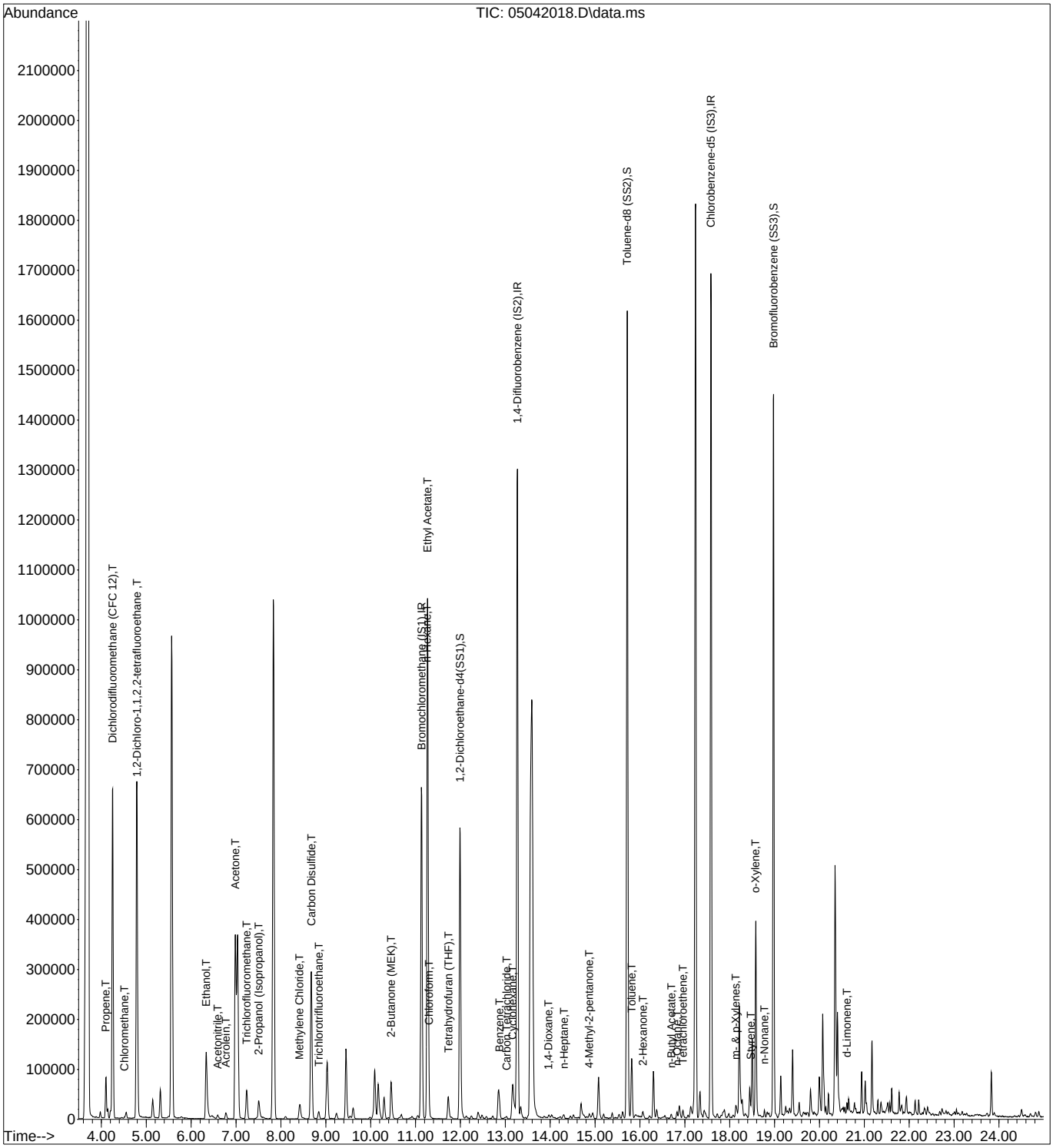
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	267847	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1165828	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	568652	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	452153	12.456	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.68%				
57) Toluene-d8 (SS2)	15.72	98	1194832	12.396	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.20%				
73) Bromofluorobenzene (SS3)	18.98	174	416540	12.010	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.08%				
Target Compounds							Qvalue
2) Propene	4.10	42	12727	0.410	ng		98
3) Dichlorodifluoromethan...	4.25	85	663693	10.938	ng		100
4) Chloromethane	4.52	50	3400	0.072	ng		91
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	11749	0.324	ng		97
10) Ethanol	6.34	45	219790	9.175	ng		100
11) Acetonitrile	6.59	41	10375	0.190	ng		97
12) Acrolein	6.78	56	13100	0.692	ng		97
13) Acetone	6.98	58	208135	8.688	ng	#	75
14) Trichlorofluoromethane	7.24	101	57375	1.070	ng		100
15) 2-Propanol (Isopropanol)	7.51	45	60221	0.831	ng		89
19) Methylene Chloride	8.41	84	3007	0.097	ng		92
21) Trichlorotrifluoroethane	8.85	151	6040	0.239	ng		97
22) Carbon Disulfide	8.68	76	550047	4.929	ng		100
27) 2-Butanone (MEK)	10.46	72	27319	1.337	ng		96
30) Ethyl Acetate	11.27	61	196896	16.714	ng		92
31) n-Hexane	11.26	57	9679	0.189	ng		92
32) Chloroform	11.30	83	4407	0.083	ng		100
34) Tetrahydrofuran (THF)	11.74	72	14087	0.707	ng		92
41) Benzene	12.87	78	22310	0.178	ng		99
42) Carbon Tetrachloride	13.03	117	2834	0.067	ng		98
43) Cyclohexane	13.16	84	27552	0.591	ng		98
48) 1,4-Dioxane	13.96	88	1382	0.055	ng		93
51) n-Heptane	14.31	71	1682	0.058	ng		96
53) 4-Methyl-2-pentanone	14.87	58	2270	0.081	ng	#	78
58) Toluene	15.82	91	97484	0.785	ng		100
59) 2-Hexanone	16.07	43	11068	0.163	ng		91
62) n-Butyl Acetate	16.70	43	7838	0.107	ng		97
63) n-Octane	16.83	57	2316	0.090	ng		92
64) Tetrachloroethene	16.96	166	4872	0.139	ng		99
67) m- & p-Xylenes	18.14	91	16665	0.152	ng		98
69) Styrene	18.47	104	6966	0.084	ng		92
70) o-Xylene	18.58	91	7345	0.066	ng		97
71) n-Nonane	18.77	43	5619	0.095	ng		94
91) d-Limonene	20.61	68	6207	0.140	ng		99

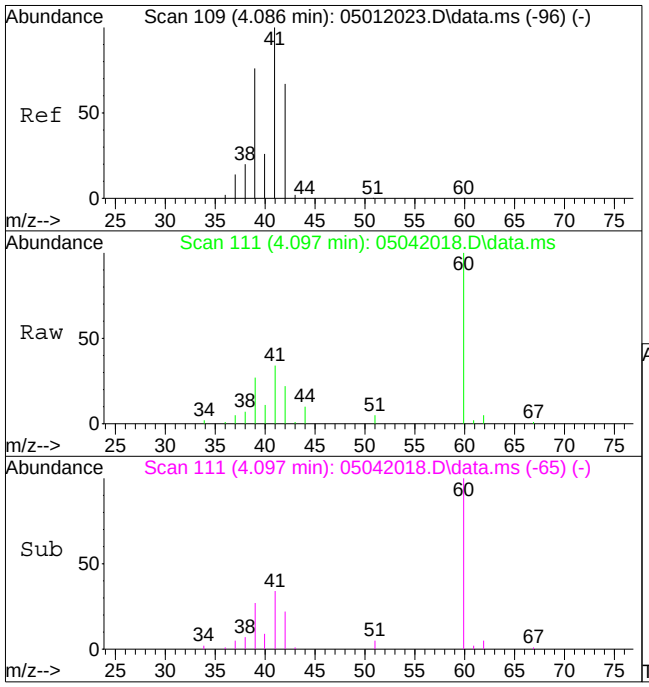
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042018.D Vial: 9
Acq On : 4 May 2020 16:21 Operator: TD
Sample : P2002105-006 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 19:29:37 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

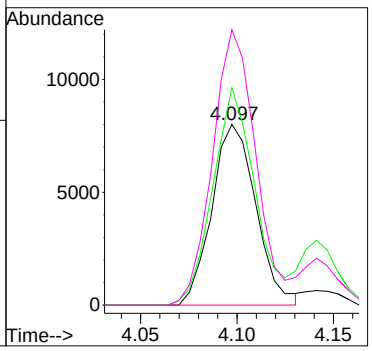


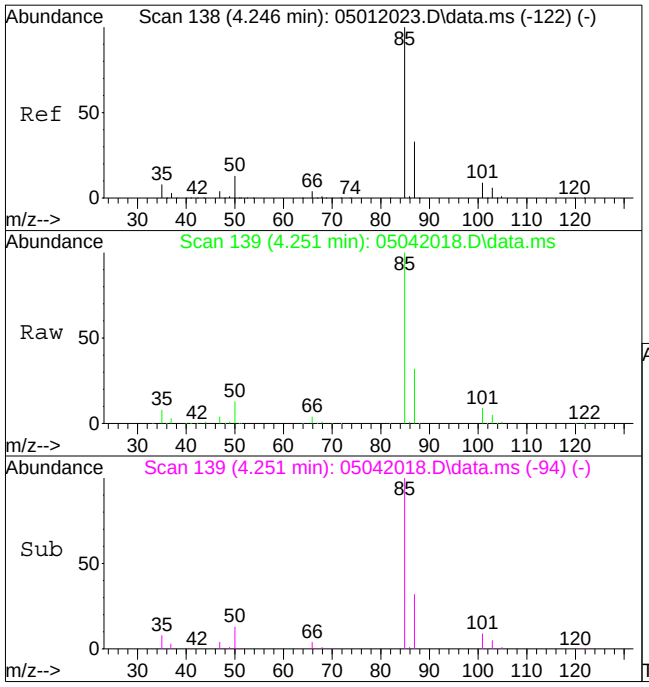


#2
Propene
Concen: 0.41 ng
RT: 4.10 min Scan# 111
Delta R.T. 0.005 min
Lab File: 05042018.D
Acq: 4 May 2020 16:21

Tgt Ion: 42 Resp: 12727

Ion	Ratio	Lower	Upper
42	100		
39	115.3	96.1	136.1
41	148.6	131.9	171.9

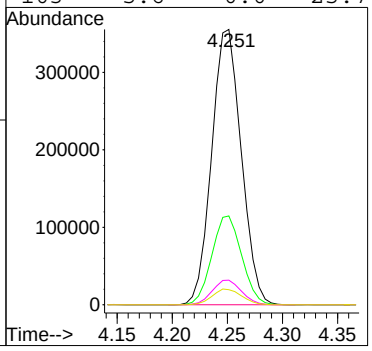


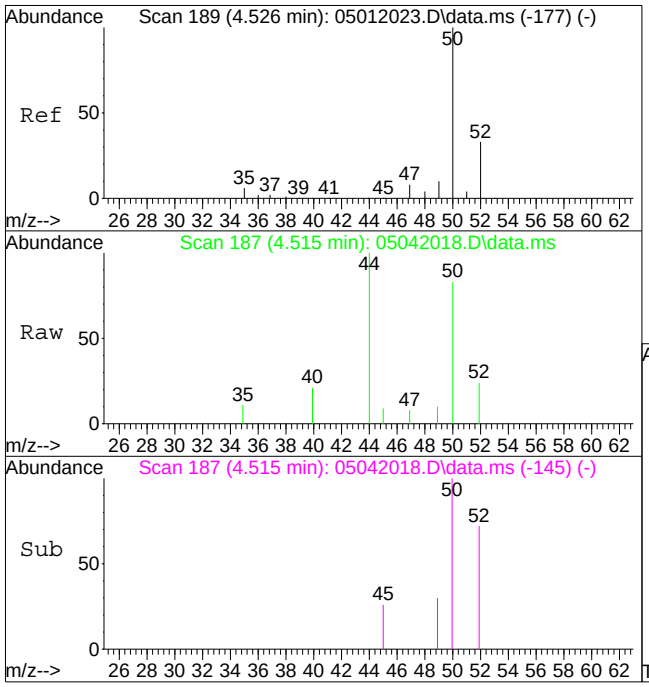


#3
Dichlorodifluoromethane (CFC 12)
Concen: 10.94 ng
RT: 4.25 min Scan# 139
Delta R.T. 0.000 min
Lab File: 05042018.D
Acq: 4 May 2020 16:21

Tgt Ion: 85 Resp: 663693

Ion	Ratio	Lower	Upper
85	100		
87	32.4	12.4	52.4
101	8.8	0.0	28.8
103	5.6	0.0	25.7

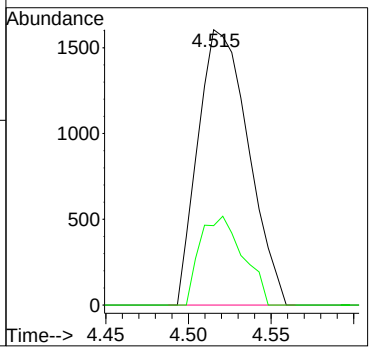


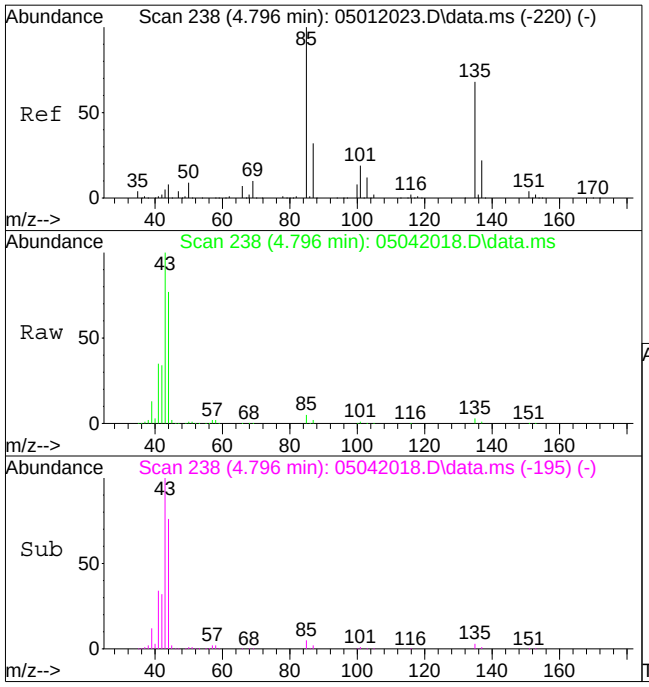


#4
Chloromethane
Concen: 0.07 ng
RT: 4.52 min Scan# 187
Delta R.T. -0.017 min
Lab File: 05042018.D
Acq: 4 May 2020 16:21

Tgt Ion: 50 Resp: 3400

Ion	Ratio	Lower	Upper
50	100		
52	27.7	12.5	52.5

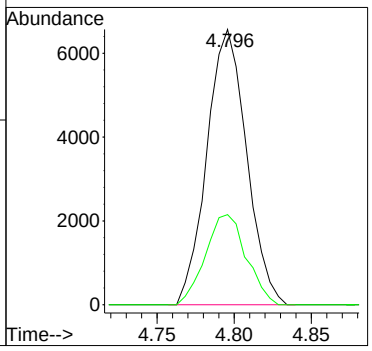


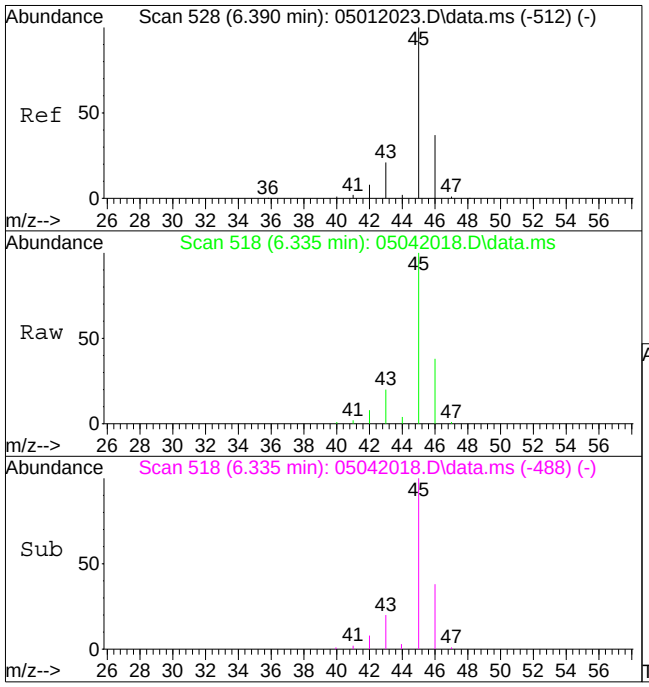


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 0.32 ng
RT: 4.80 min Scan# 238
Delta R.T. -0.011 min
Lab File: 05042018.D
Acq: 4 May 2020 16:21

Tgt Ion:135 Resp: 11749

Ion	Ratio	Lower	Upper
135	100		
137	33.6	12.1	52.1

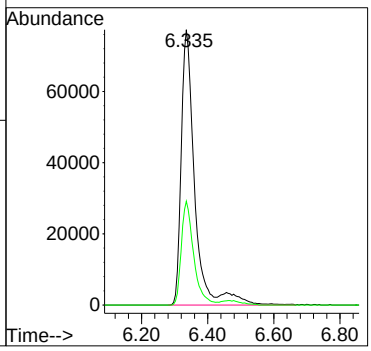


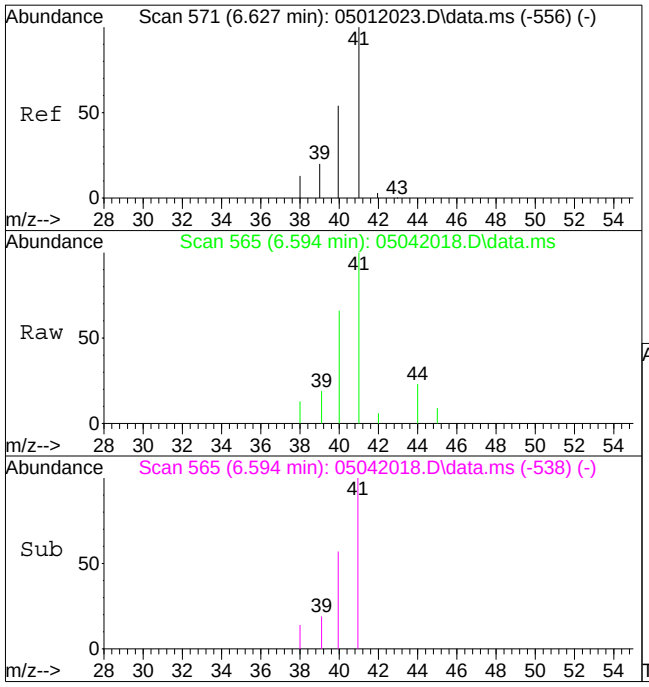


#10
Ethanol
Concen: 9.18 ng
RT: 6.34 min Scan# 518
Delta R.T. -0.082 min
Lab File: 05042018.D
Acq: 4 May 2020 16:21

Tgt Ion: 45 Resp: 219790

Ion	Ratio	Lower	Upper
45	100		
46	36.9	17.2	57.2

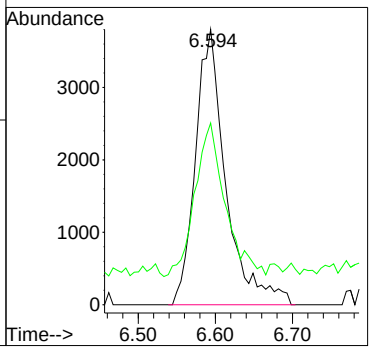


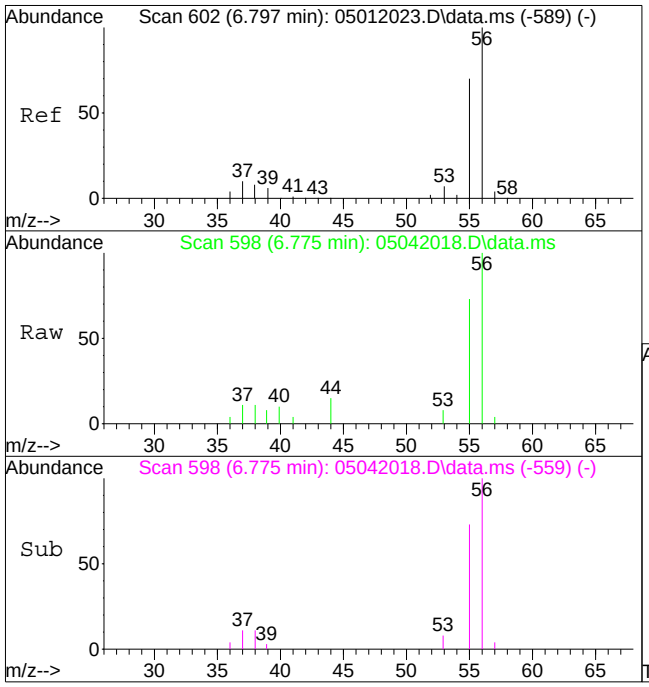


#11
Acetonitrile
Concen: 0.19 ng
RT: 6.59 min Scan# 565
Delta R.T. -0.050 min
Lab File: 05042018.D
Acq: 4 May 2020 16:21

Tgt Ion: 41 Resp: 10375

Ion	Ratio	Lower	Upper
41	100		
40	55.5	33.6	73.6

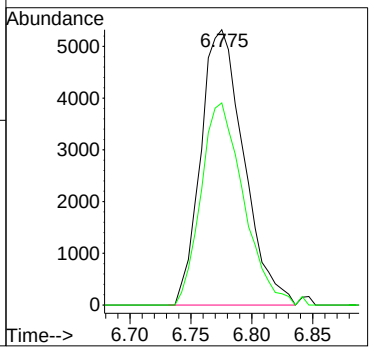


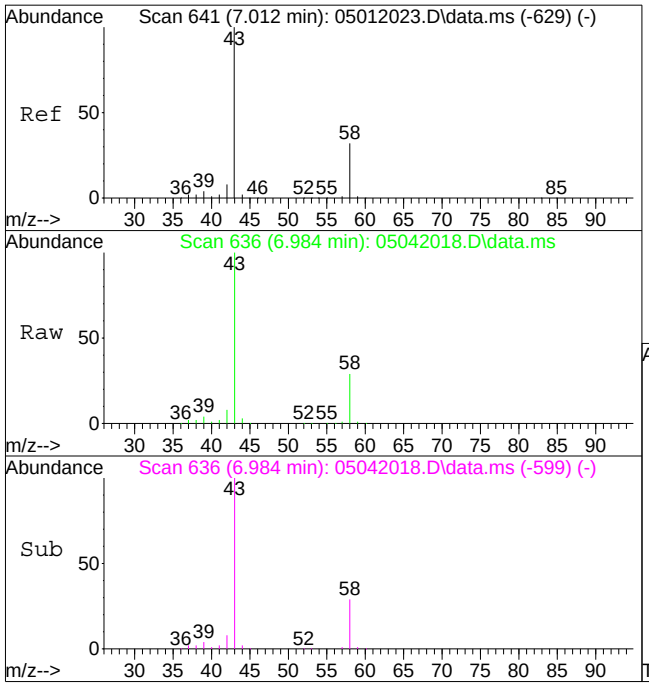


#12
Acrolein
Concen: 0.69 ng
RT: 6.78 min Scan# 598
Delta R.T. -0.033 min
Lab File: 05042018.D
Acq: 4 May 2020 16:21

Tgt Ion: 56 Resp: 13100

Ion	Ratio	Lower	Upper
56	100		
55	72.5	50.2	90.2

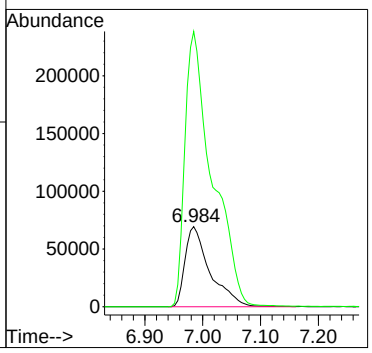


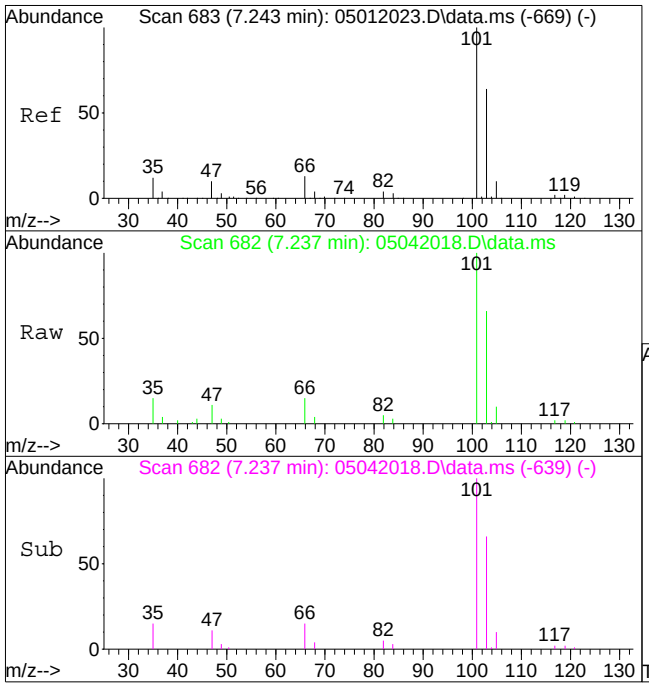


#13
Acetone
Concen: 8.69 ng
RT: 6.98 min Scan# 636
Delta R.T. -0.044 min
Lab File: 05042018.D
Acq: 4 May 2020 16:21

Tgt Ion: 58 Resp: 208135

Ion	Ratio	Lower	Upper
58	100		
43	376.8	294.4	354.4#

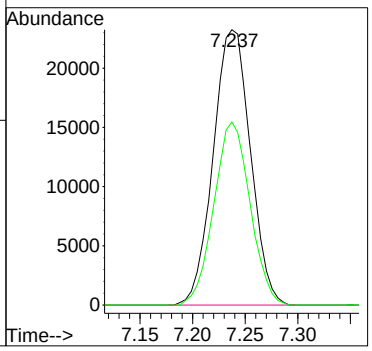


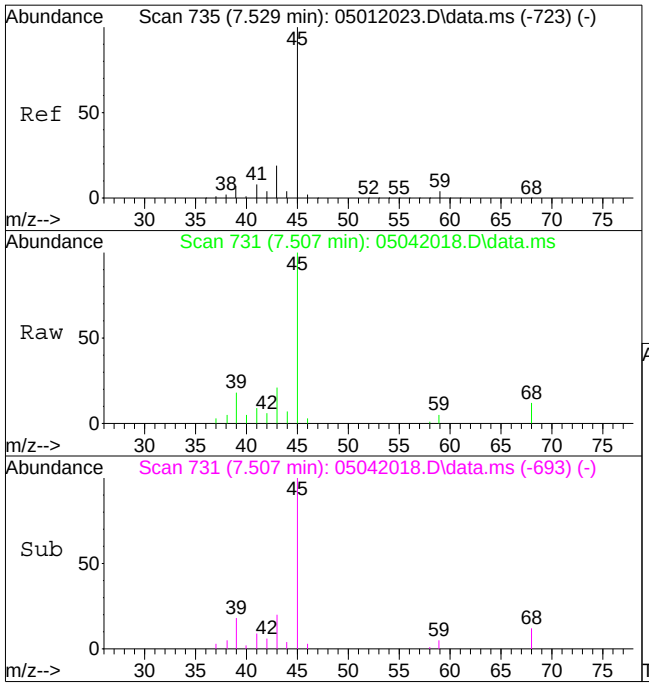


#14
Trichlorofluoromethane
Concen: 1.07 ng
RT: 7.24 min Scan# 682
Delta R.T. -0.011 min
Lab File: 05042018.D
Acq: 4 May 2020 16:21

Tgt Ion:101 Resp: 57375

Ion	Ratio	Lower	Upper
101	100		
103	64.6	44.4	84.4

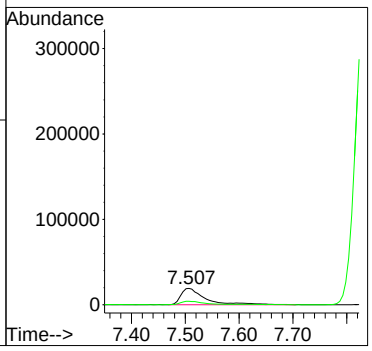


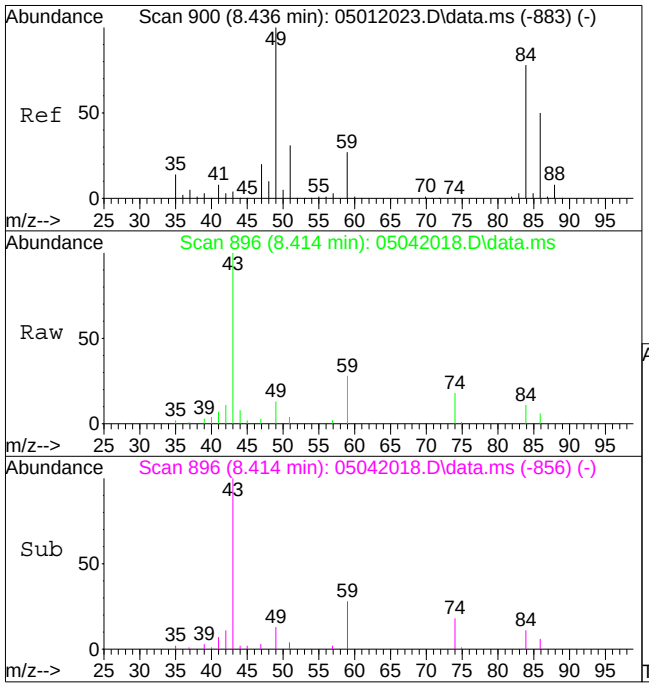


#15
2-Propanol (Isopropanol)
Concen: 0.83 ng
RT: 7.51 min Scan# 731
Delta R.T. -0.038 min
Lab File: 05042018.D
Acq: 4 May 2020 16:21

Tgt Ion: 45 Resp: 60221

Ion	Ratio	Lower	Upper
45	100		
43	24.4	0.0	39.5

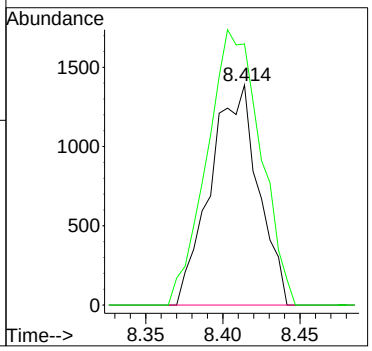


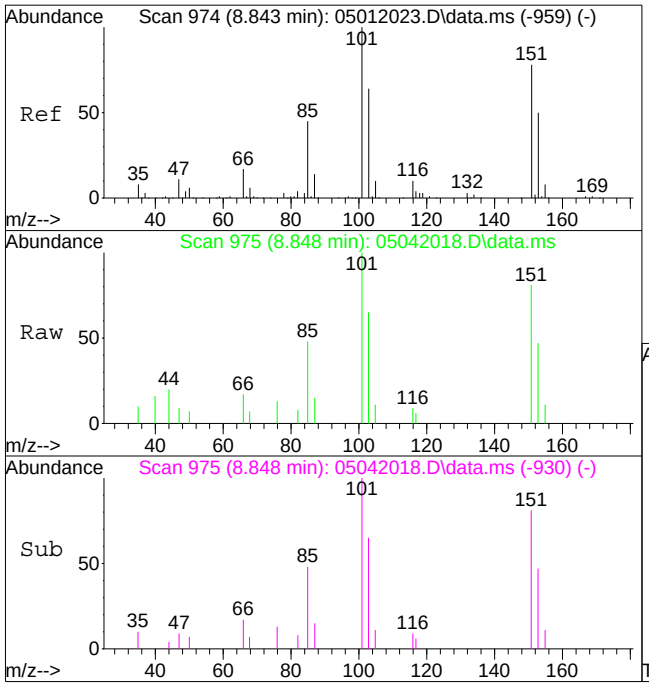


#19
Methylene Chloride
Concen: 0.10 ng
RT: 8.41 min Scan# 896
Delta R.T. -0.027 min
Lab File: 05042018.D
Acq: 4 May 2020 16:21

Tgt Ion: 84 Resp: 3007

Ion	Ratio	Lower	Upper
84	100		
49	139.4	104.8	154.8

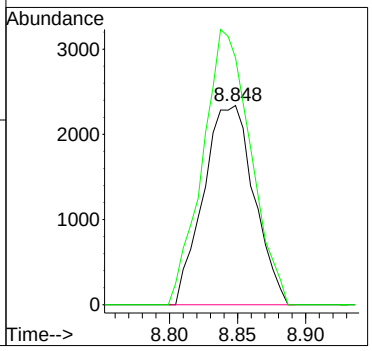


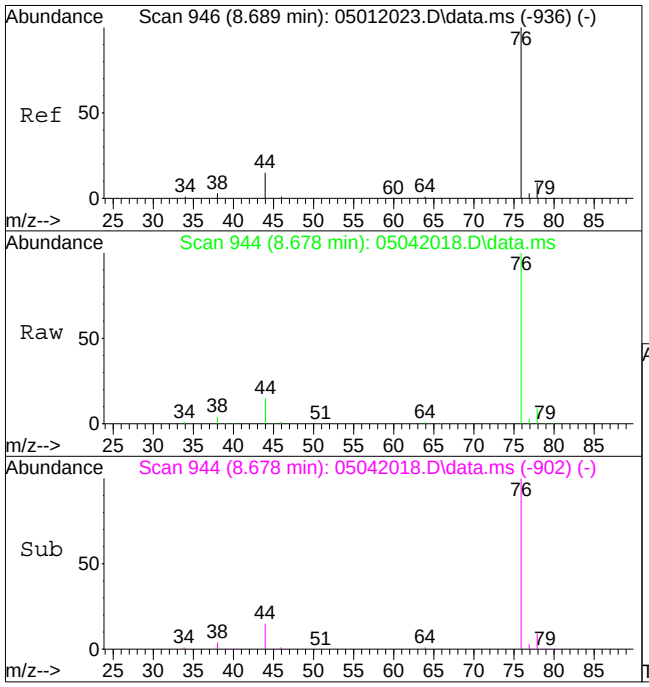


#21
Trichlorotrifluoroethane
Concen: 0.24 ng
RT: 8.85 min Scan# 975
Delta R.T. 0.000 min
Lab File: 05042018.D
Acq: 4 May 2020 16:21

Tgt Ion:151 Resp: 6040

Ion	Ratio	Lower	Upper
151	100		
101	131.2	107.3	147.3

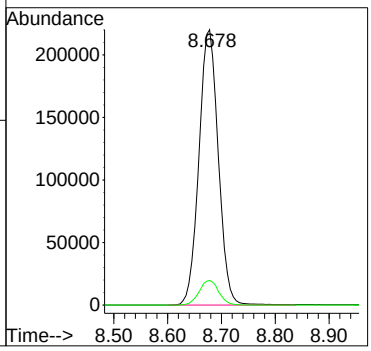


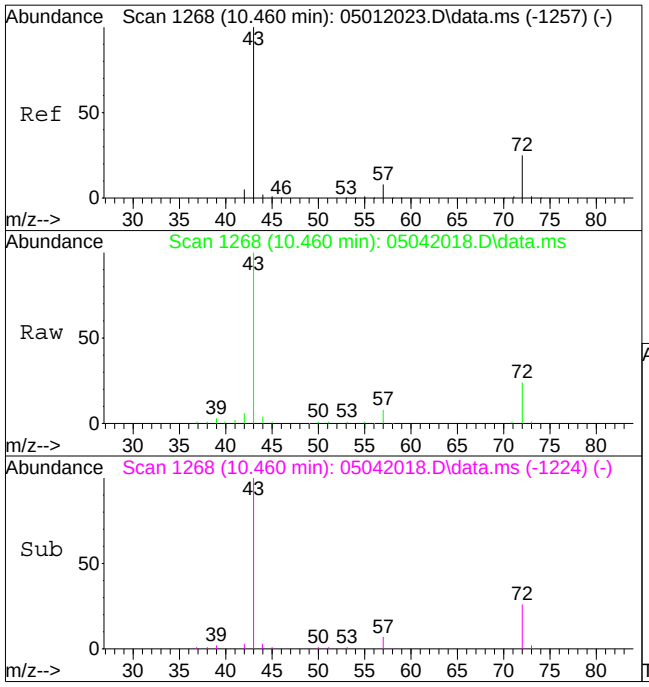


#22
Carbon Disulfide
Concen: 4.93 ng
RT: 8.68 min Scan# 944
Delta R.T. -0.016 min
Lab File: 05042018.D
Acq: 4 May 2020 16:21

Tgt Ion: 76 Resp: 550047

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	29.2

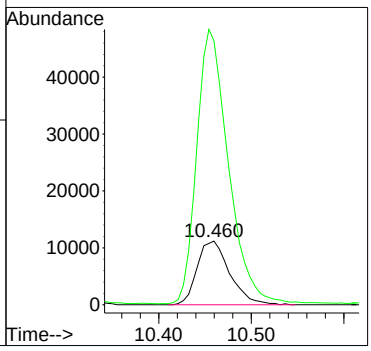


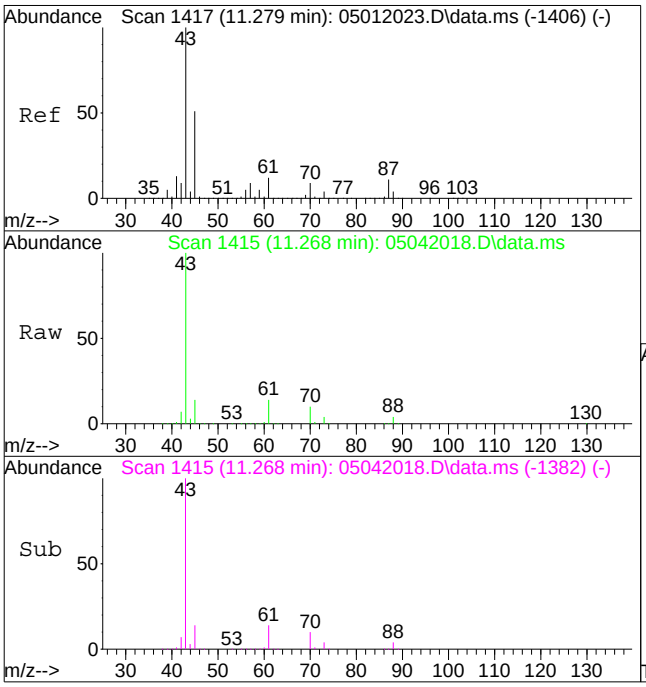


#27
2-Butanone (MEK)
Concen: 1.34 ng
RT: 10.46 min Scan# 1268
Delta R.T. -0.006 min
Lab File: 05042018.D
Acq: 4 May 2020 16:21

Tgt Ion: 72 Resp: 27319

Ion	Ratio	Lower	Upper
72	100		
43	420.2	389.7	429.7

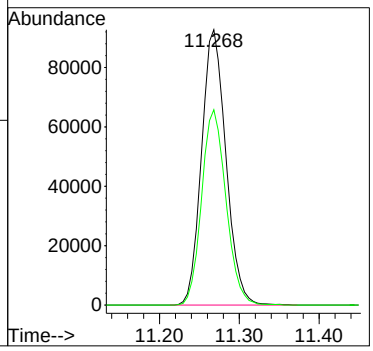


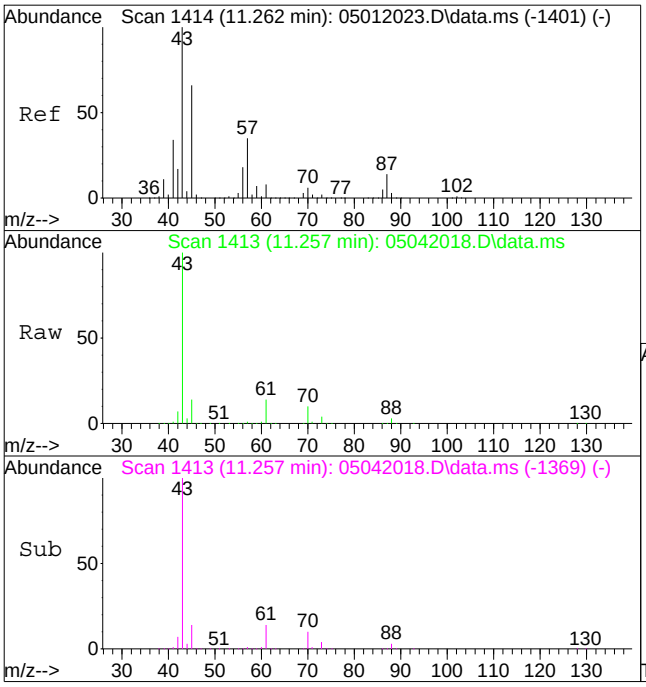


#30
Ethyl Acetate
Concen: 16.71 ng
RT: 11.27 min Scan# 1415
Delta R.T. -0.017 min
Lab File: 05042018.D
Acq: 4 May 2020 16:21

Tgt Ion: 61 Resp: 196896

Ion	Ratio	Lower	Upper
61	100		
70	70.7	57.9	97.9

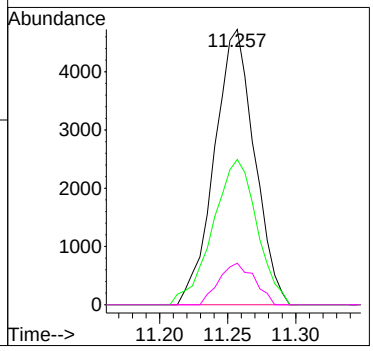


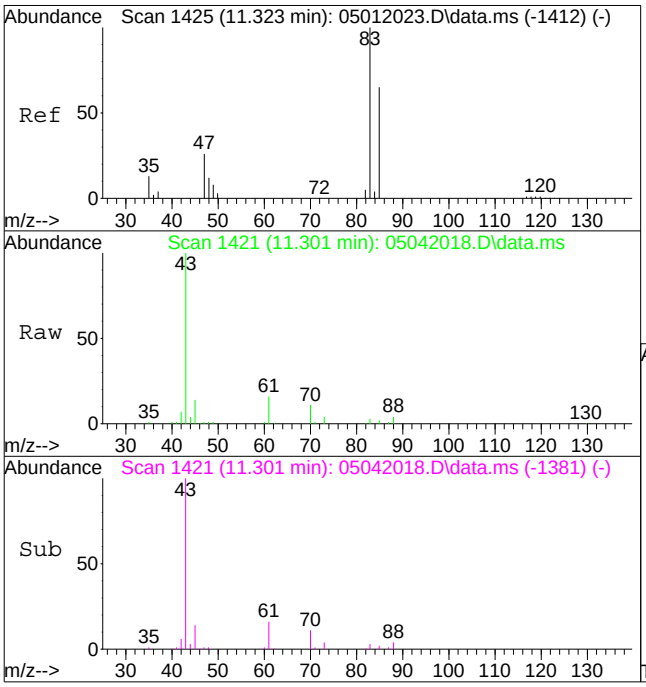


#31
n-Hexane
Concen: 0.19 ng
RT: 11.26 min Scan# 1413
Delta R.T. -0.005 min
Lab File: 05042018.D
Acq: 4 May 2020 16:21

Tgt Ion: 57 Resp: 9679

Ion	Ratio	Lower	Upper
57	100		
56	58.1	41.4	62.0
86	13.4	12.4	18.6

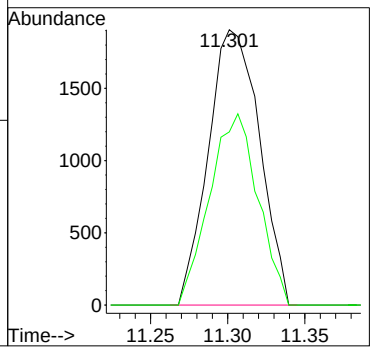


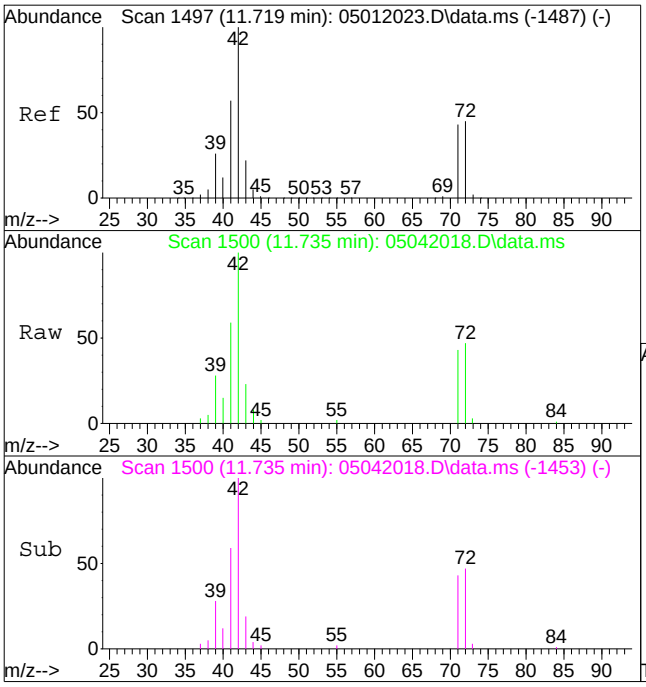


#32
Chloroform
Concen: 0.08 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.027 min
Lab File: 05042018.D
Acq: 4 May 2020 16:21

Tgt Ion: 83 Resp: 4407

Ion	Ratio	Lower	Upper
83	100		
85	65.5	45.5	85.5

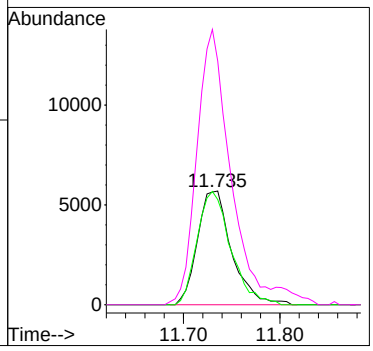


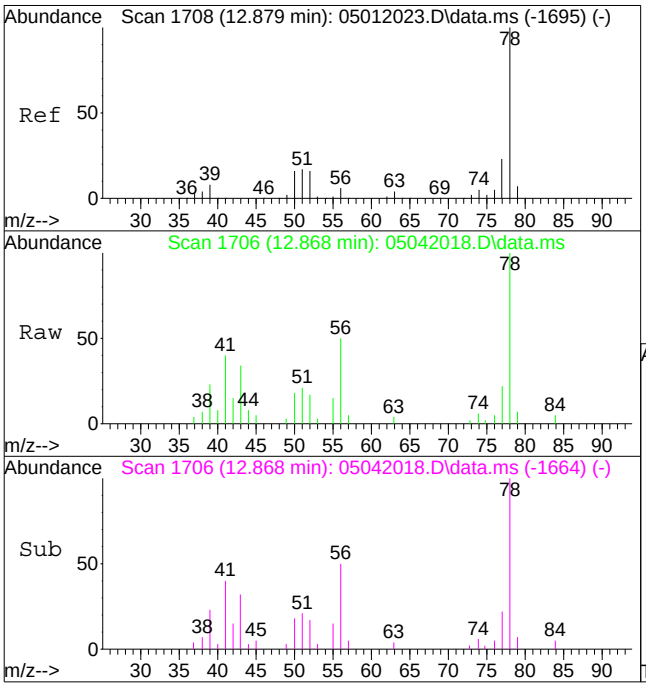


#34
Tetrahydrofuran (THF)
Concen: 0.71 ng
RT: 11.74 min Scan# 1500
Delta R.T. 0.011 min
Lab File: 05042018.D
Acq: 4 May 2020 16:21

Tgt Ion: 72 Resp: 14087

Ion	Ratio	Lower	Upper
72	100		
71	97.7	77.0	117.0
42	243.6	204.6	244.6

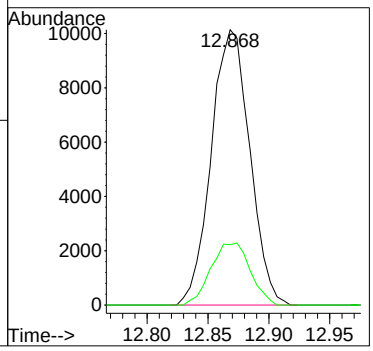


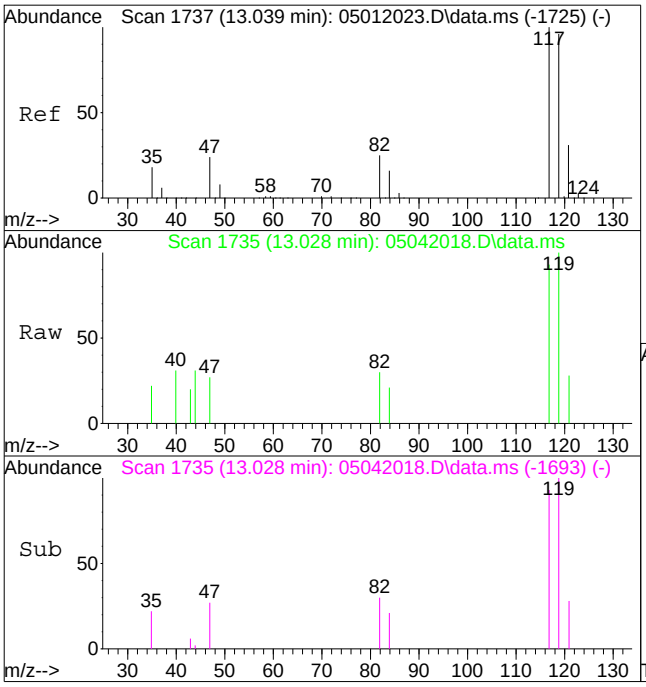


#41
Benzene
Concen: 0.18 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.016 min
Lab File: 05042018.D
Acq: 4 May 2020 16:21

Tgt Ion: 78 Resp: 22310

Ion	Ratio	Lower	Upper
78	100		
77	23.0	3.4	43.4

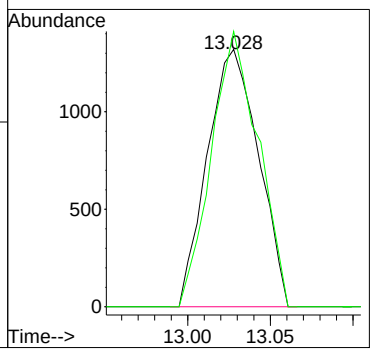


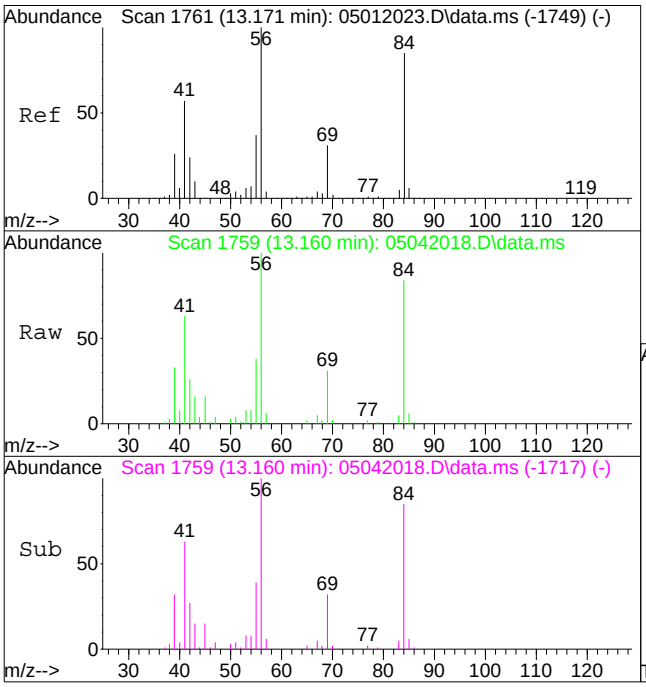


#42
Carbon Tetrachloride
Concen: 0.07 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.016 min
Lab File: 05042018.D
Acq: 4 May 2020 16:21

Tgt Ion:117 Resp: 2834

Ion	Ratio	Lower	Upper
117	100		
119	98.2	76.2	116.2

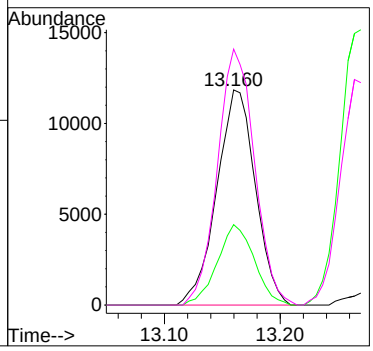


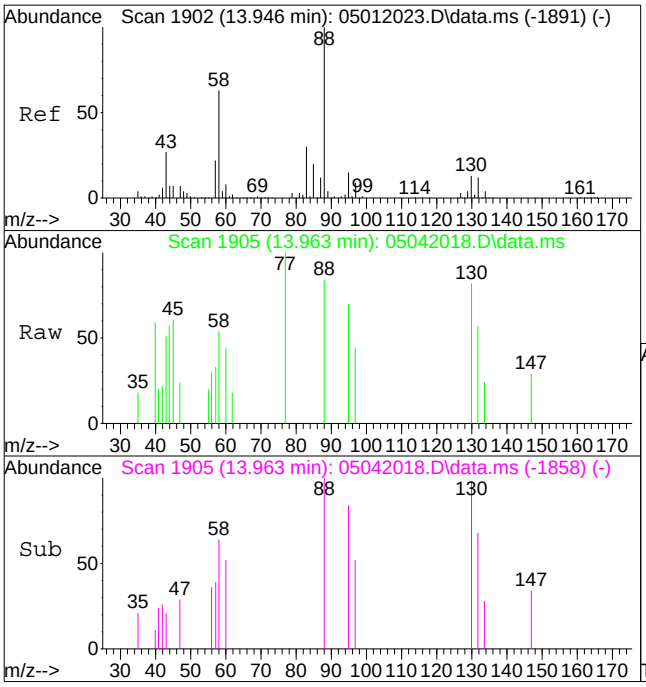


#43
Cyclohexane
Concen: 0.59 ng
RT: 13.16 min Scan# 1759
Delta R.T. -0.016 min
Lab File: 05042018.D
Acq: 4 May 2020 16:21

Tgt Ion: 84 Resp: 27552

Ion	Ratio	Lower	Upper
84	100		
69	35.7	16.5	56.5
56	114.4	97.4	137.4

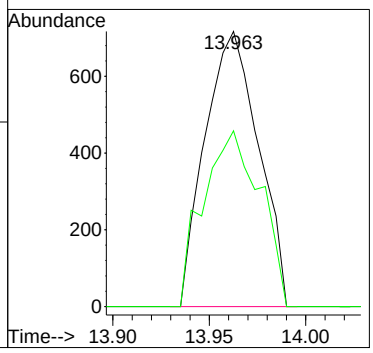


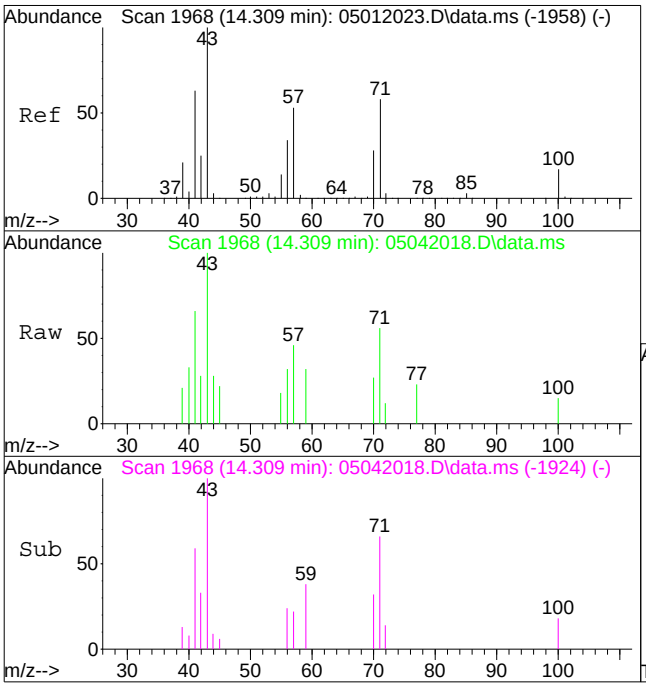


#48
1,4-Dioxane
Concen: 0.05 ng
RT: 13.96 min Scan# 1905
Delta R.T. 0.011 min
Lab File: 05042018.D
Acq: 4 May 2020 16:21

Tgt Ion: 88 Resp: 1382

Ion	Ratio	Lower	Upper
88	100		
58	68.2	42.8	82.8

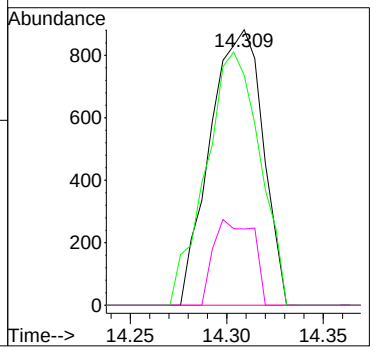


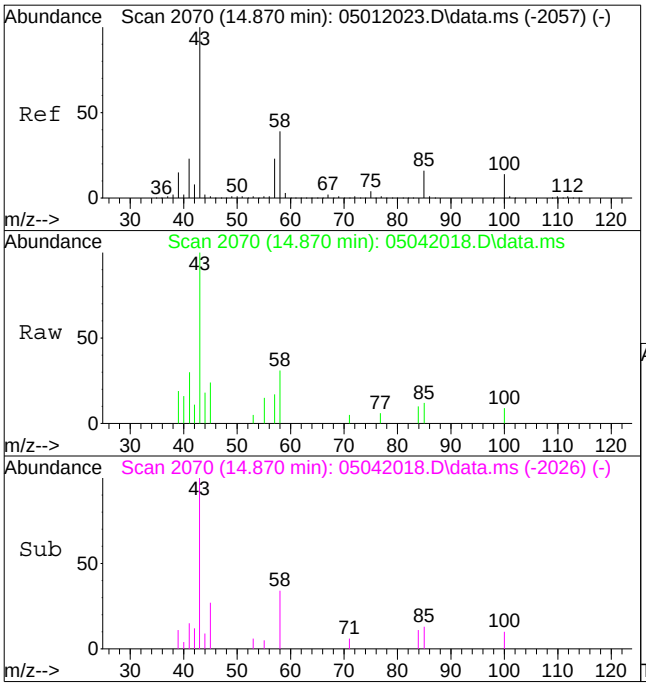


#51
n-Heptane
Concen: 0.06 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.005 min
Lab File: 05042018.D
Acq: 4 May 2020 16:21

Tgt Ion: 71 Resp: 1682

Ion	Ratio	Lower	Upper
71	100		
57	93.5	71.0	111.0
100	23.4	8.4	48.4

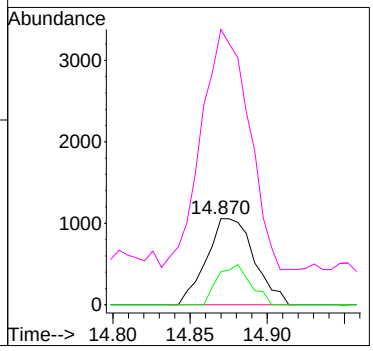


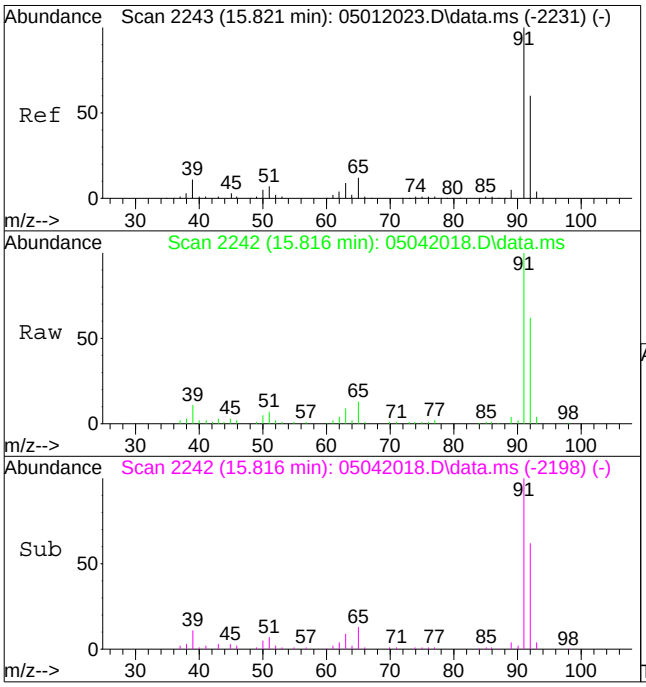


#53
4-Methyl-2-pentanone
Concen: 0.08 ng
RT: 14.87 min Scan# 2070
Delta R.T. -0.005 min
Lab File: 05042018.D
Acq: 4 May 2020 16:21

Tgt Ion: 58 Resp: 2270

Ion	Ratio	Lower	Upper
58	100		
85	32.2	35.4	53.2#
43	294.8	203.3	304.9

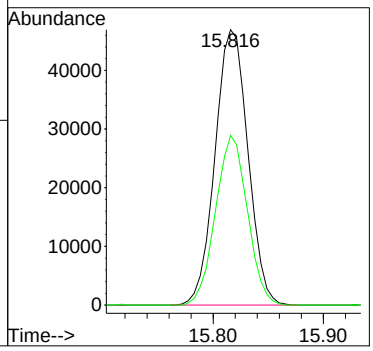


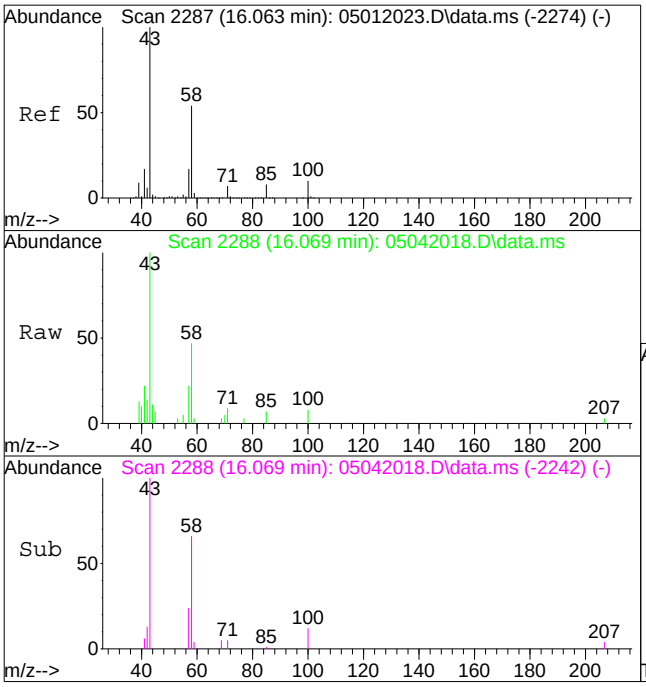


#58
Toluene
Concen: 0.78 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.005 min
Lab File: 05042018.D
Acq: 4 May 2020 16:21

Tgt Ion: 91 Resp: 97484

Ion	Ratio	Lower	Upper
91	100		
92	59.5	39.4	79.4

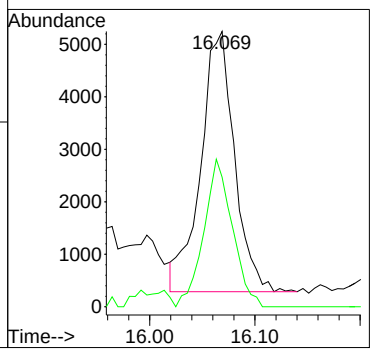


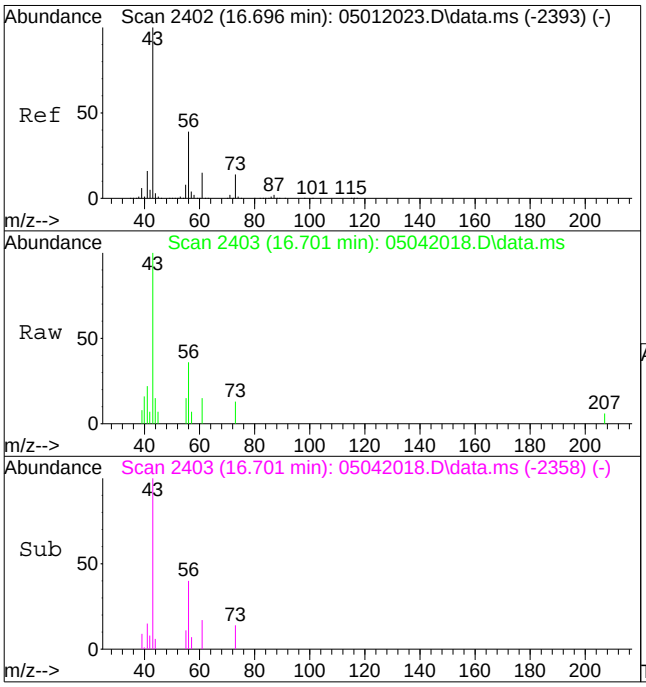


#59
2-Hexanone
Concen: 0.16 ng
RT: 16.07 min Scan# 2288
Delta R.T. 0.006 min
Lab File: 05042018.D
Acq: 4 May 2020 16:21

Tgt Ion: 43 Resp: 11068

Ion	Ratio	Lower	Upper
43	100		
58	47.9	34.5	74.5

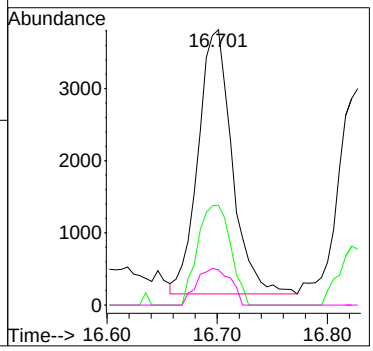


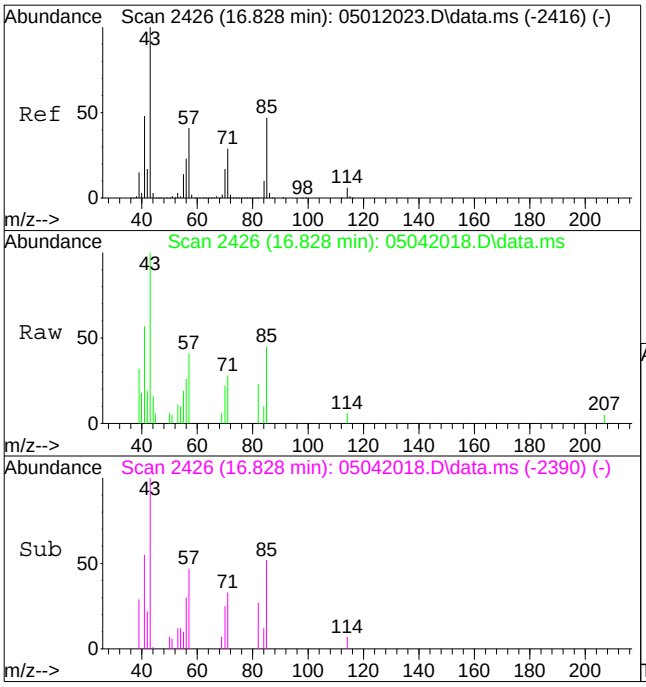


#62
n-Butyl Acetate
Concen: 0.11 ng
RT: 16.70 min Scan# 2403
Delta R.T. 0.000 min
Lab File: 05042018.D
Acq: 4 May 2020 16:21

Tgt Ion: 43 Resp: 7838

Ion	Ratio	Lower	Upper
43	100		
56	36.7	19.2	59.2
73	13.8	0.0	34.4

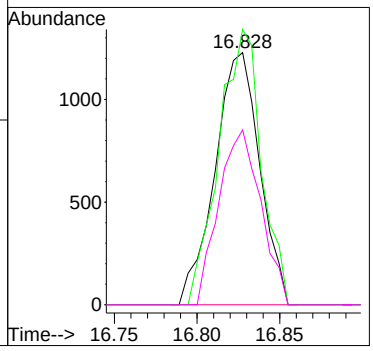


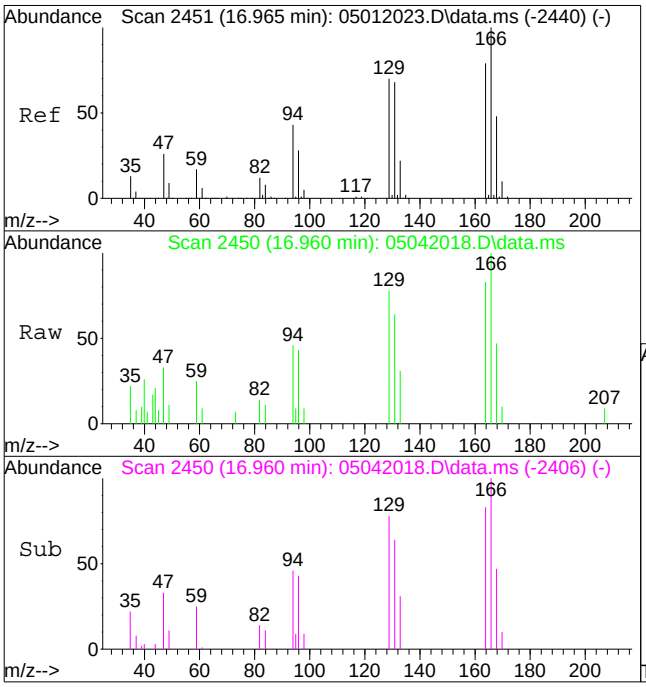


#63
n-Octane
Concen: 0.09 ng
RT: 16.83 min Scan# 2426
Delta R.T. 0.000 min
Lab File: 05042018.D
Acq: 4 May 2020 16:21

Tgt Ion: 57 Resp: 2316

Ion	Ratio	Lower	Upper
57	100		
85	103.6	91.0	136.4
71	64.9	56.2	84.2

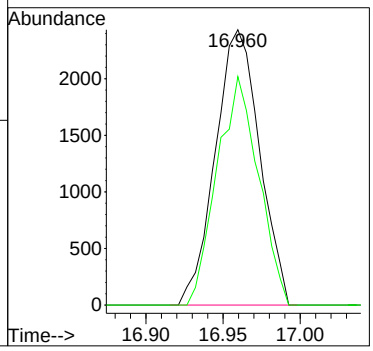


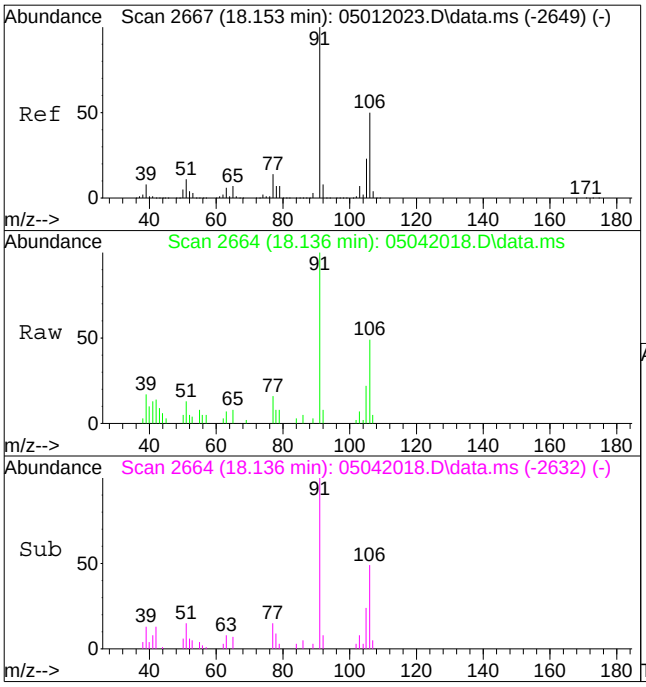


#64
Tetrachloroethene
Concen: 0.14 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05042018.D
Acq: 4 May 2020 16:21

Tgt Ion:166 Resp: 4872

Ion	Ratio	Lower	Upper
166	100		
164	77.3	58.4	98.4

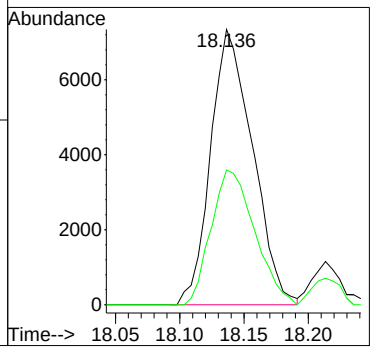


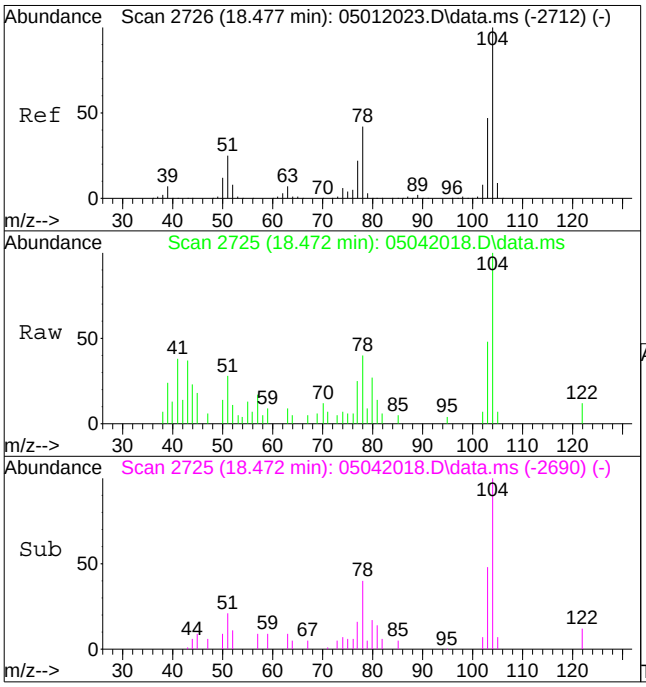


#67
m- & p-Xylenes
Concen: 0.15 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05042018.D
Acq: 4 May 2020 16:21

Tgt Ion: 91 Resp: 16665

Ion	Ratio	Lower	Upper
91	100		
106	50.8	29.7	69.7

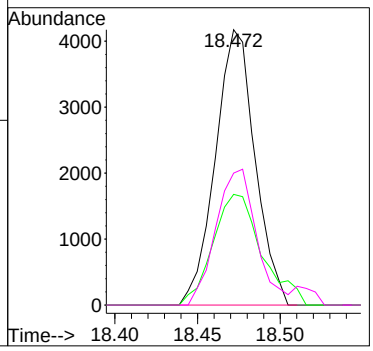


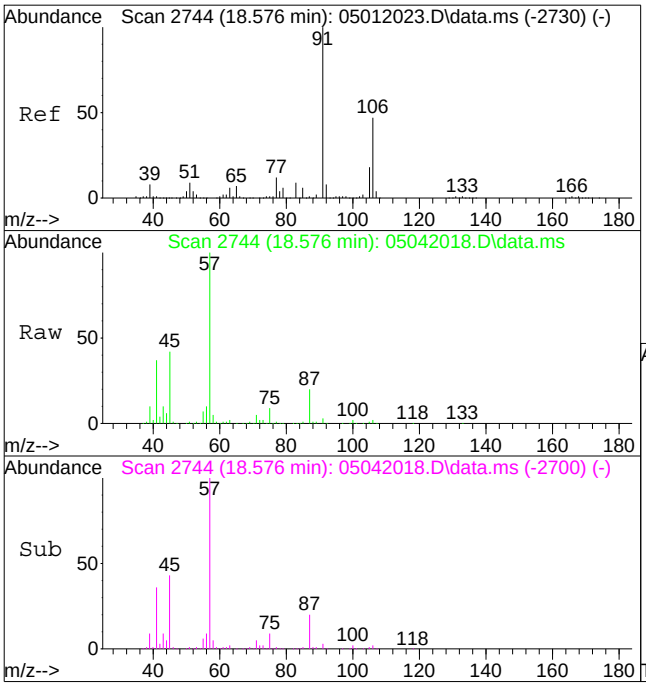


#69
Styrene
Concen: 0.08 ng
RT: 18.47 min Scan# 2725
Delta R.T. -0.005 min
Lab File: 05042018.D
Acq: 4 May 2020 16:21

Tgt Ion:104 Resp: 6966

Ion	Ratio	Lower	Upper
104	100		
78	49.4	22.5	62.5
103	50.4	27.0	67.0

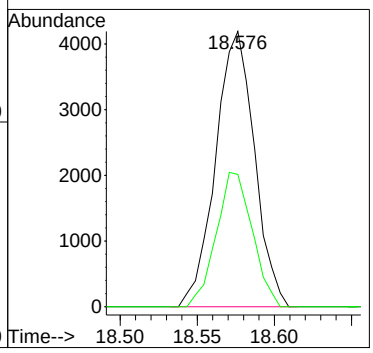


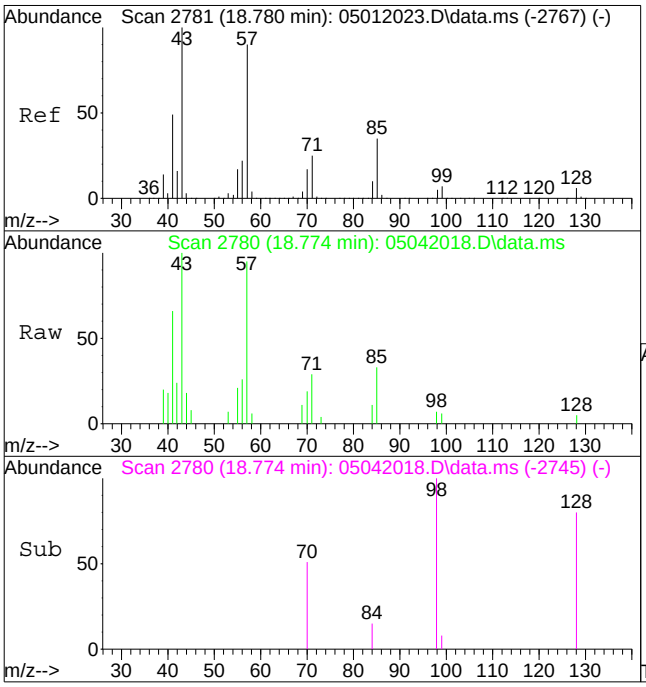


#70
o-Xylene
Concen: 0.07 ng
RT: 18.58 min Scan# 2744
Delta R.T. -0.006 min
Lab File: 05042018.D
Acq: 4 May 2020 16:21

Tgt Ion: 91 Resp: 7345

Ion	Ratio	Lower	Upper
91	100		
106	45.3	27.5	67.5

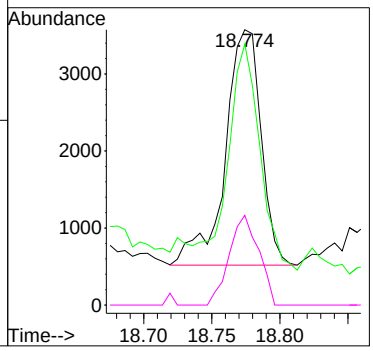


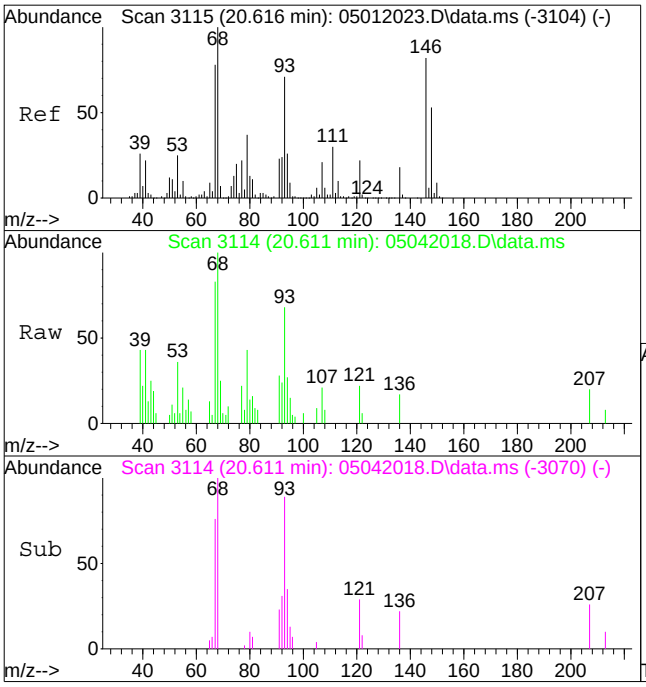


#71
n-Nonane
Concen: 0.09 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.005 min
Lab File: 05042018.D
Acq: 4 May 2020 16:21

Tgt Ion: 43 Resp: 5619

Ion	Ratio	Lower	Upper
43	100		
57	83.7	69.0	109.0
85	31.2	14.6	54.6

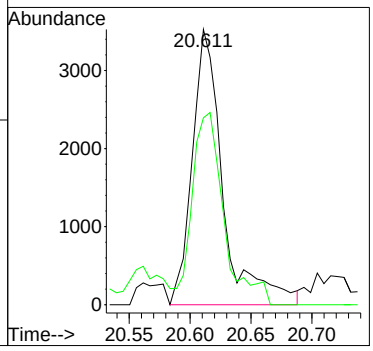




#91
d-Limonene
Concen: 0.14 ng
RT: 20.61 min Scan# 3114
Delta R.T. -0.005 min
Lab File: 05042018.D
Acq: 4 May 2020 16:21

Tgt Ion: 68 Resp: 6207

Ion	Ratio	Lower	Upper
68	100		
93	71.9	51.1	91.1



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042019.D Vial: 4
Acq On : 4 May 2020 16:55 Operator: TD
Sample : P2002105-007 (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 19:30:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/4/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	288890	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1257126	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	598117	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	486275	12.421	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.36%				
57) Toluene-d8 (SS2)	15.72	98	1317596	12.997	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.00%				
73) Bromofluorobenzene (SS3)	18.98	174	435731	11.945	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.52%				
Target Compounds							Qvalue
2) Propene	4.12	42	3433	0.103	ng		94
3) Dichlorodifluoromethan...	4.27	85	47974	0.733	ng		100
4) Chloromethane	4.54	50	22931	0.447	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	730	N.D.			
6) Vinyl Chloride	4.96	62	5703	0.101	ng		95
7) 1,3-Butadiene	5.16	54	925	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.98	64	1819	0.082	ng		99
10) Ethanol	6.32	45	16220	0.628	ng		92
11) Acetonitrile	6.59	41	656	N.D.			
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	7.25	101	4534	0.078	ng		97
15) 2-Propanol (Isopropanol)	7.52	45	5481	0.070	ng	#	43
16) Acrylonitrile	7.84	53	1565	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	1292	N.D.			
20) 3-Chloro-1-propene (Al...	8.50	41	684	N.D.			
21) Trichlorotrifluoroethane	8.85	151	180	N.D.			
22) Carbon Disulfide	8.69	76	286434	2.380	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	9.94	63	3037	0.055	ng		94
25) Methyl tert-Butyl Ether	10.07	73	3247	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.46	72	17845	0.810	ng		94
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.27	87	382	N.D.			
30) Ethyl Acetate	11.28	61	12776	1.006	ng		94
31) n-Hexane	11.27	57	21791	0.395	ng		99
32) Chloroform	11.30	83	867	N.D.			
34) Tetrahydrofuran (THF)	11.72	72	50373	2.344	ng		96
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	1396	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	12.88	56	983	N.D.			
41) Benzene	12.87	78	230009	1.706	ng		99
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	13.17	84	30928	0.616	ng		98
44) tert-Amyl Methyl Ether	13.46	73	532	N.D.			
45) 1,2-Dichloropropane	13.57	63	107	N.D.			
46) Bromodichloromethane	13.95	83	1046	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.31	100	666	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042019.D Vial: 4
Acq On : 4 May 2020 16:55 Operator: TD
Sample : P2002105-007 (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 19:30:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

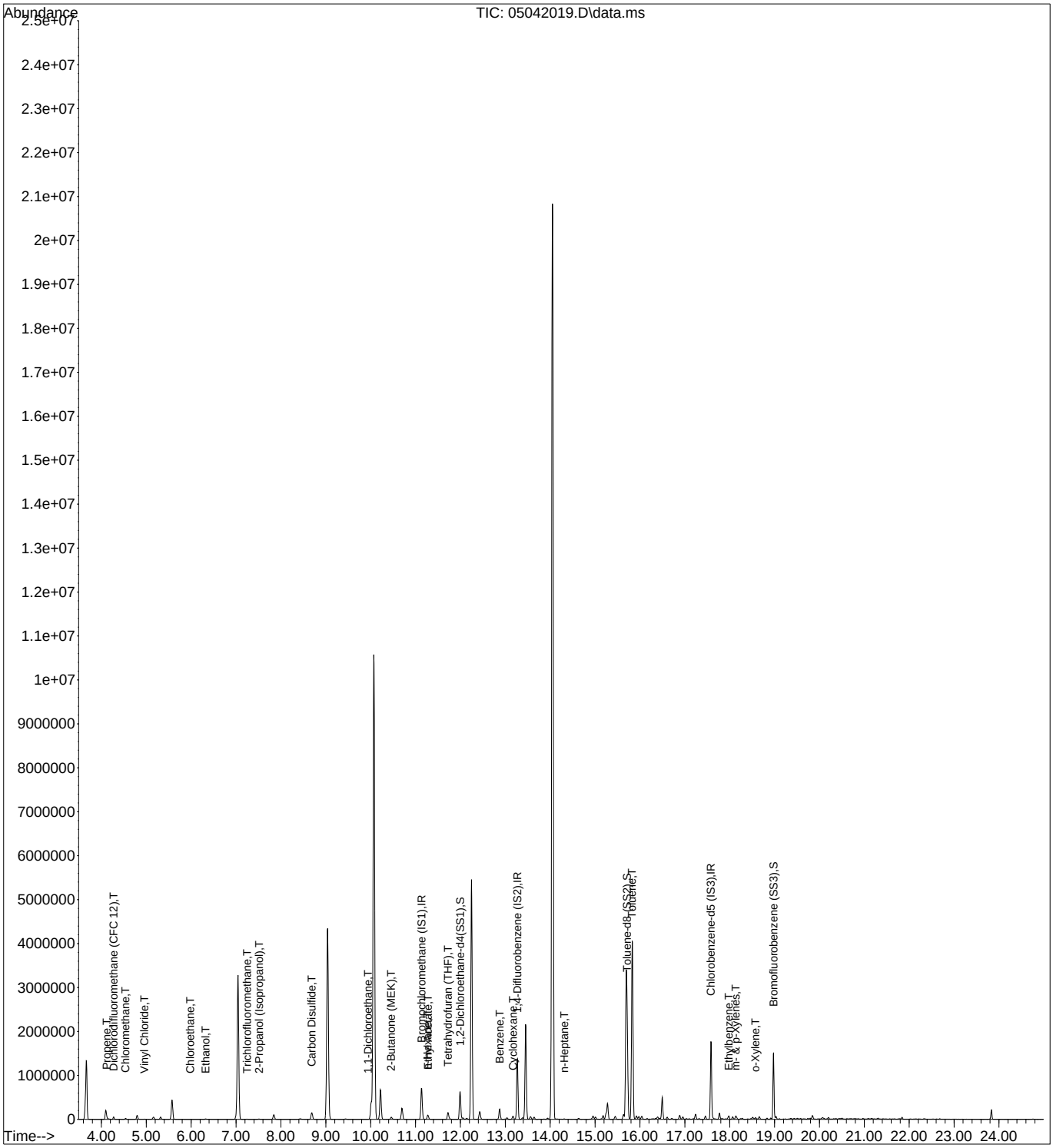
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	2530	0.080 ng #	69
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.93	58	374	N.D.	
54) trans-1,3-Dichloropropene	15.14	75	1467	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	15.82	91	930420	7.120 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.71	43	2675	N.D.	
63) n-Octane	16.83	57	1089	N.D.	
64) Tetrachloroethene	16.97	166	437	N.D.	
65) Chlorobenzene	17.63	112	2274	N.D.	
66) Ethylbenzene	17.98	91	44260	0.304 ng	99
67) m- & p-Xylenes	18.14	91	58549	0.506 ng	99
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	973	N.D.	
70) o-Xylene	18.58	91	19719	0.168 ng	100
71) n-Nonane	18.77	43	330	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	19.10	105	5170	N.D.	
75) alpha-Pinene	19.46	93	287	N.D.	
76) n-Propylbenzene	19.55	91	5048	N.D.	
77) 3-Ethyltoluene	19.64	105	5385	N.D.	
78) 4-Ethyltoluene	19.68	105	2198	N.D.	
79) 1,3,5-Trimethylbenzene	19.75	105	3391	N.D.	
80) alpha-Methylstyrene	19.88	118	1578	N.D.	
81) 2-Ethyltoluene	19.91	105	2133	N.D.	
82) 1,2,4-Trimethylbenzene	20.11	105	3449	N.D.	
83) n-Decane	20.20	57	2423	N.D.	
84) Benzyl Chloride	20.22	91	498	N.D.	
85) 1,3-Dichlorobenzene	20.24	146	112	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	268	N.D.	
87) sec-Butylbenzene	20.35	105	357	N.D.	
88) 4-Isopropyltoluene (p-...	20.49	119	412	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	1619	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.61	68	1109	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.30	57	1926	N.D.	
94) 1,2,4-Trichlorobenzene	22.12	180	219	N.D.	
95) Naphthalene	22.22	128	1463	N.D.	
96) n-Dodecane	22.21	57	736	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.11	119	872	N.D.	
100) n-Butylbenzene	20.85	91	1124	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042019.D Vial: 4
Acq On : 4 May 2020 16:55 Operator: TD
Sample : P2002105-007 (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 19:30:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042019.D Vial: 4
Acq On : 4 May 2020 16:55 Operator: TD
Sample : P2002105-007 (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 19:30:41 2020
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QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/4/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	288890	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1257126	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	598117	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	486275	12.421	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.36%				
57) Toluene-d8 (SS2)	15.72	98	1317596	12.997	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.00%				
73) Bromofluorobenzene (SS3)	18.98	174	435731	11.945	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.52%				
Target Compounds							Qvalue
2) Propene	4.12	42	3433	0.103	ng		94
3) Dichlorodifluoromethan...	4.27	85	47974	0.733	ng		100
4) Chloromethane	4.54	50	22931	0.447	ng		99
6) Vinyl Chloride	4.96	62	5703	0.101	ng		95
9) Chloroethane	5.98	64	1819	0.082	ng		99
10) Ethanol	6.32	45	16220	0.628	ng		92
14) Trichlorofluoromethane	7.25	101	4534	0.078	ng		97
15) 2-Propanol (Isopropanol)	7.52	45	5481	0.070	ng	#	43
22) Carbon Disulfide	8.69	76	286434	2.380	ng		99
24) 1,1-Dichloroethane	9.94	63	3037	0.055	ng		94
27) 2-Butanone (MEK)	10.46	72	17845	0.810	ng		94
30) Ethyl Acetate	11.28	61	12776	1.006	ng		94
31) n-Hexane	11.27	57	21791	0.395	ng		99
34) Tetrahydrofuran (THF)	11.72	72	50373	2.344	ng		96
41) Benzene	12.87	78	230009	1.706	ng		99
43) Cyclohexane	13.17	84	30928	0.616	ng		98
51) n-Heptane	14.31	71	2530	0.080	ng	#	69
58) Toluene	15.82	91	930420	7.120	ng		100
66) Ethylbenzene	17.98	91	44260	0.304	ng		99
67) m- & p-Xylenes	18.14	91	58549	0.506	ng		99
70) o-Xylene	18.58	91	19719	0.168	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042019.D Vial: 4
Acq On : 4 May 2020 16:55 Operator: TD
Sample : P2002105-007 (20mL) Inst : GCMS-16
Misc : S31-02112001

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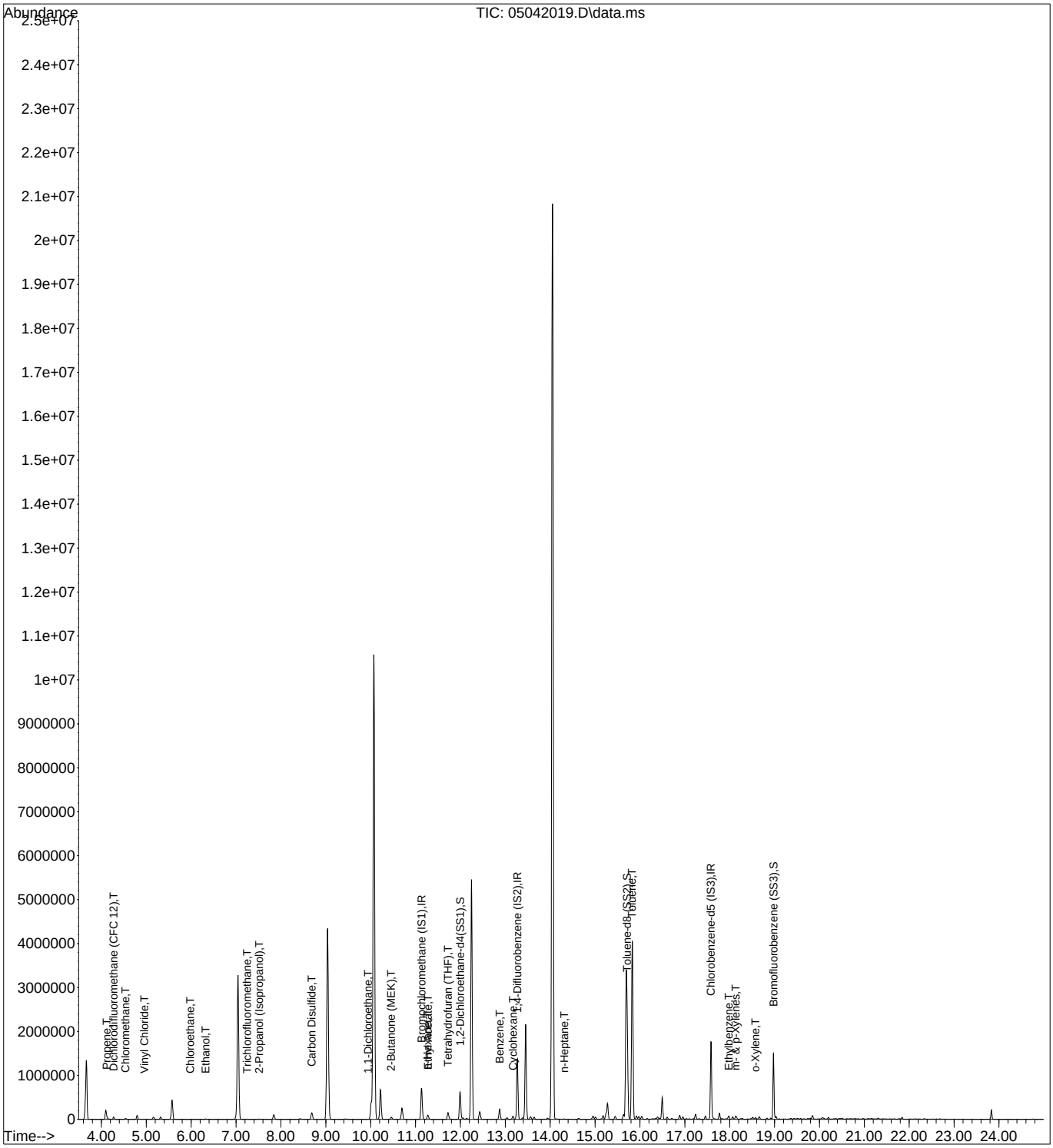
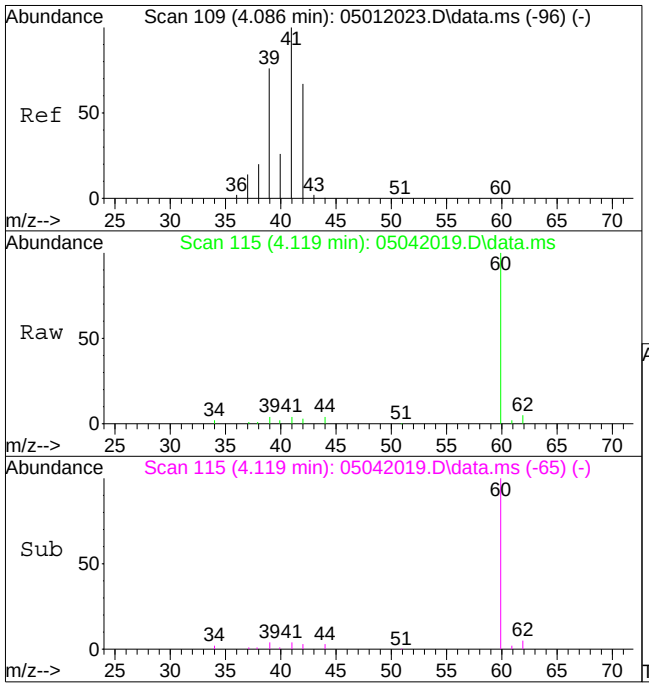
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

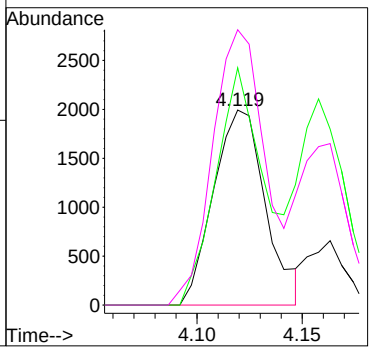


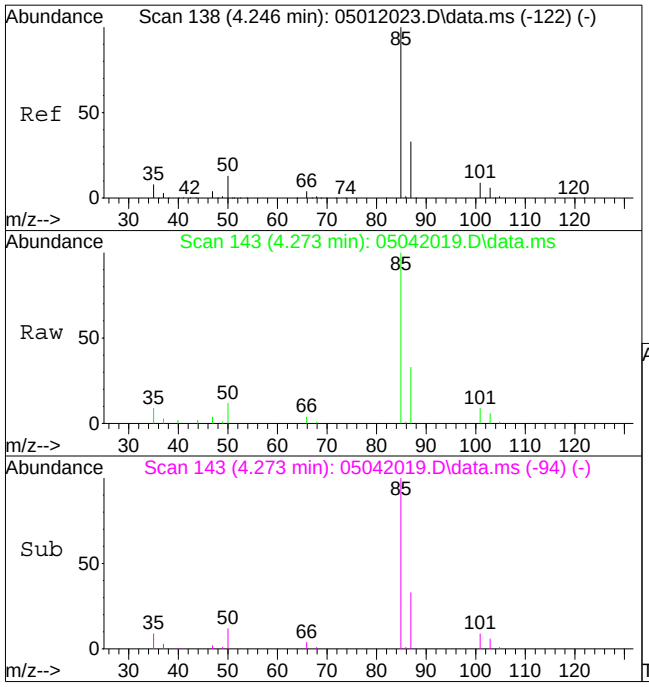


#2
Propene
Concen: 0.10 ng
RT: 4.12 min Scan# 115
Delta R.T. 0.027 min
Lab File: 05042019.D
Acq: 4 May 2020 16:55

Tgt Ion: 42 Resp: 3433

Ion	Ratio	Lower	Upper
42	100		
39	112.3	96.1	136.1
41	141.3	131.9	171.9

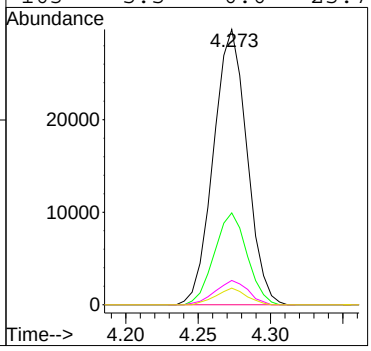


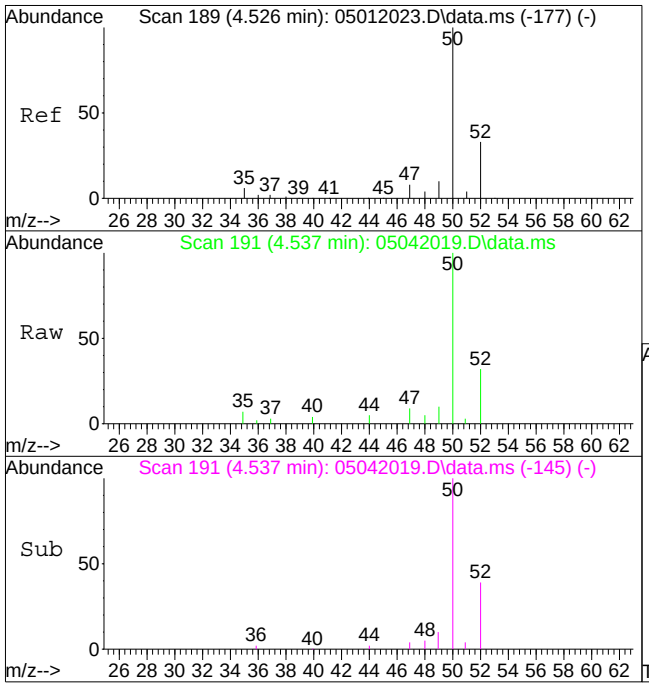


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.73 ng
RT: 4.27 min Scan# 143
Delta R.T. 0.022 min
Lab File: 05042019.D
Acq: 4 May 2020 16:55

Tgt Ion: 85 Resp: 47974

Ion	Ratio	Lower	Upper
85	100		
87	32.6	12.4	52.4
101	8.6	0.0	28.8
103	5.5	0.0	25.7

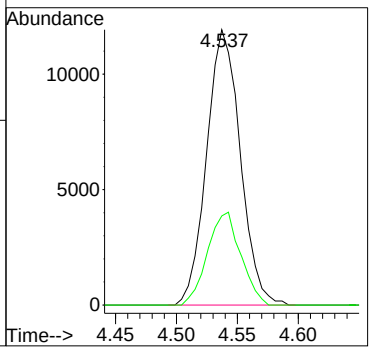


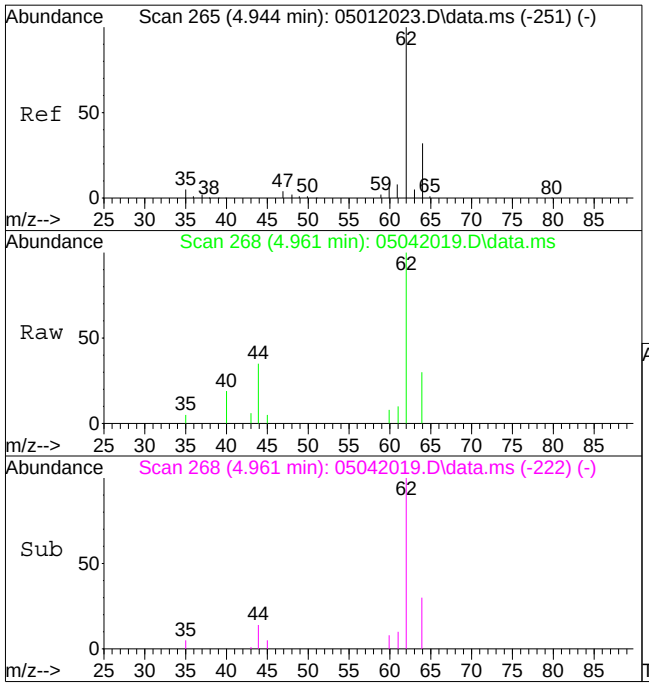


#4
Chloromethane
Concen: 0.45 ng
RT: 4.54 min Scan# 191
Delta R.T. 0.005 min
Lab File: 05042019.D
Acq: 4 May 2020 16:55

Tgt Ion: 50 Resp: 22931

Ion	Ratio	Lower	Upper
50	100		
52	33.2	12.5	52.5

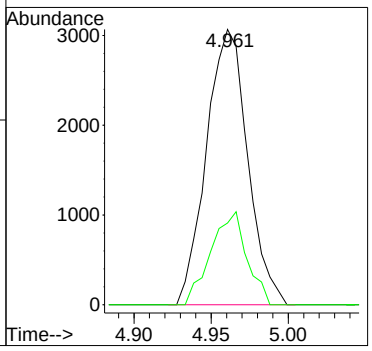


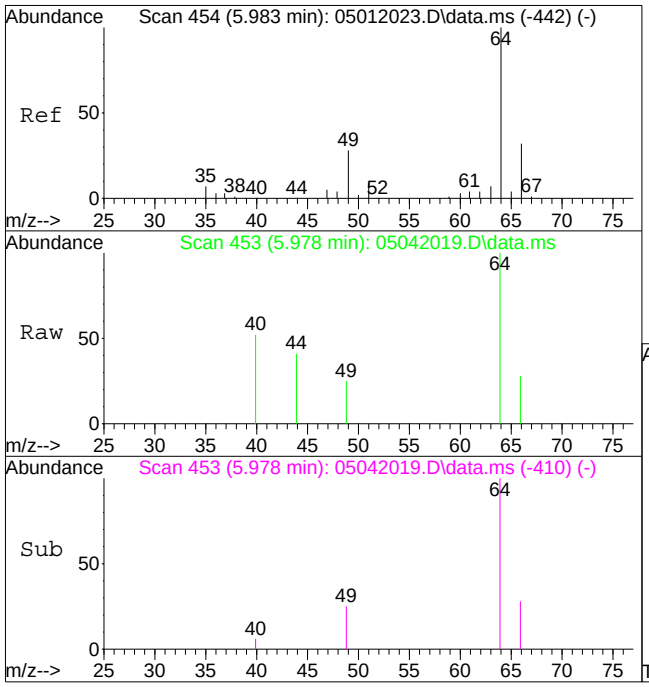


#6
Vinyl Chloride
Concen: 0.10 ng
RT: 4.96 min Scan# 268
Delta R.T. 0.005 min
Lab File: 05042019.D
Acq: 4 May 2020 16:55

Tgt Ion: 62 Resp: 5703

Ion	Ratio	Lower	Upper
62	100		
64	29.4	12.1	52.1

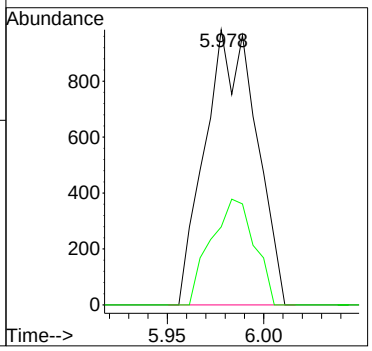


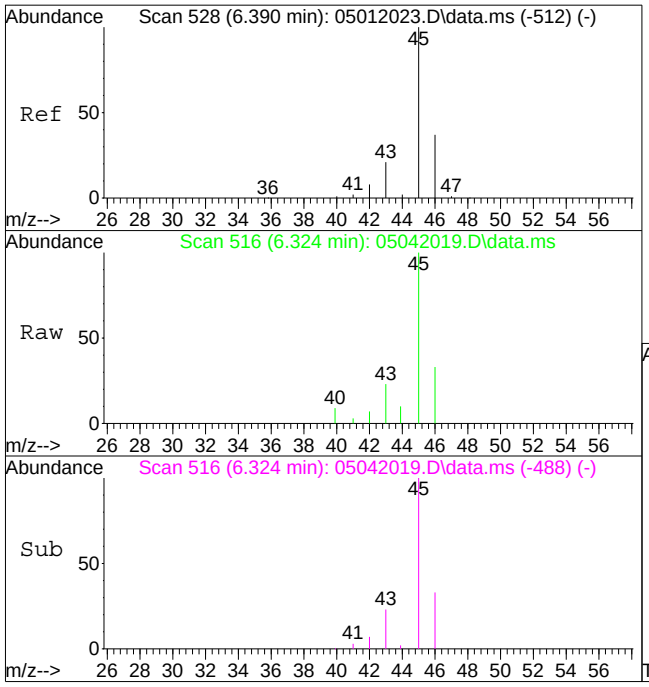


#9
Chloroethane
Concen: 0.08 ng
RT: 5.98 min Scan# 453
Delta R.T. -0.011 min
Lab File: 05042019.D
Acq: 4 May 2020 16:55

Tgt Ion: 64 Resp: 1819

Ion	Ratio	Lower	Upper
64	100		
66	32.7	12.1	52.1

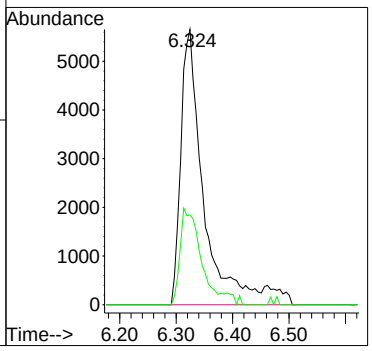


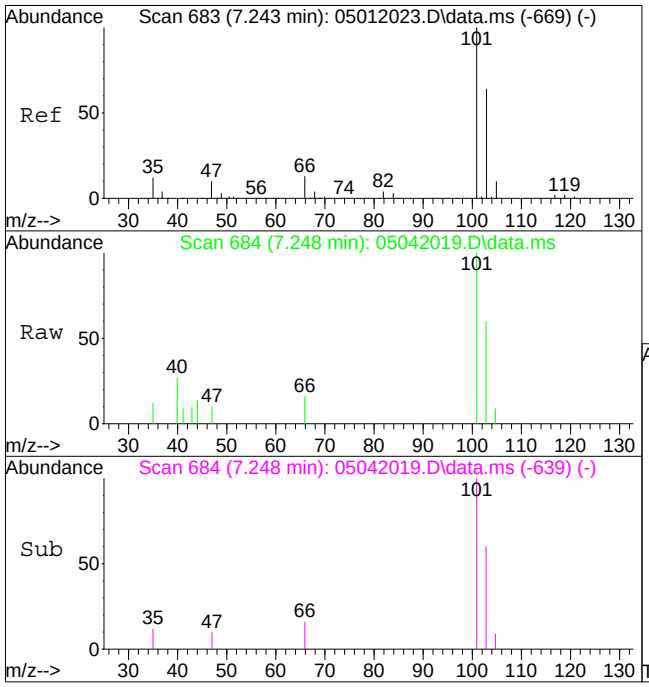


#10
Ethanol
Concen: 0.63 ng
RT: 6.32 min Scan# 516
Delta R.T. -0.093 min
Lab File: 05042019.D
Acq: 4 May 2020 16:55

Tgt Ion: 45 Resp: 16220

Ion	Ratio	Lower	Upper
45	100		
46	32.6	17.2	57.2

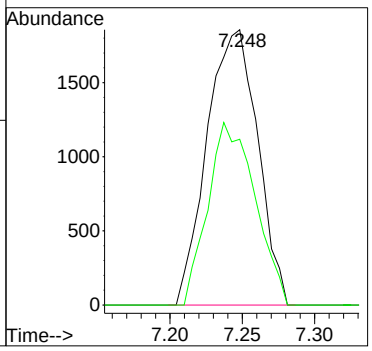


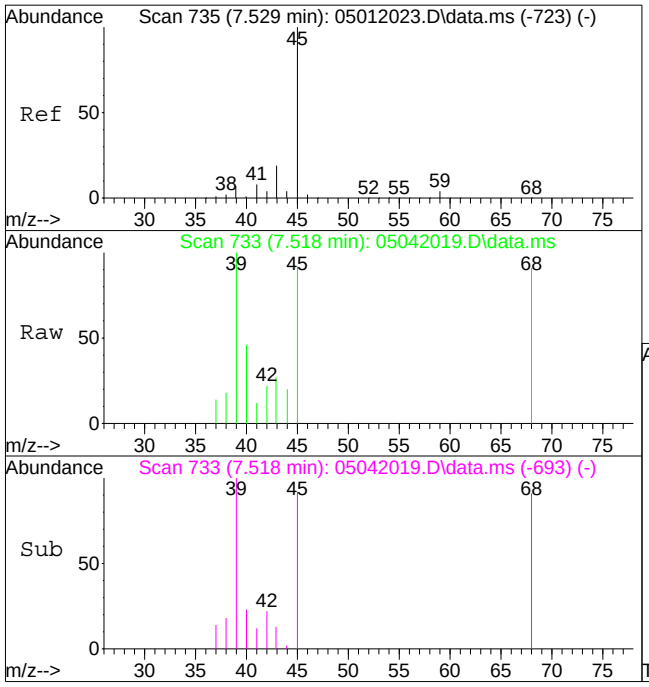


#14
Trichlorofluoromethane
Concen: 0.08 ng
RT: 7.25 min Scan# 684
Delta R.T. -0.000 min
Lab File: 05042019.D
Acq: 4 May 2020 16:55

Tgt Ion:101 Resp: 4534

Ion	Ratio	Lower	Upper
101	100		
103	61.7	44.4	84.4

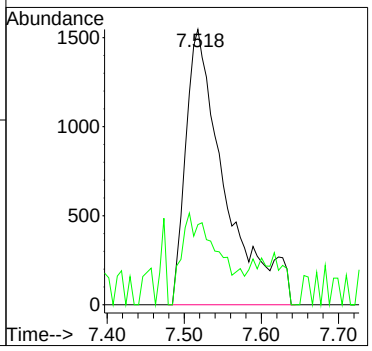


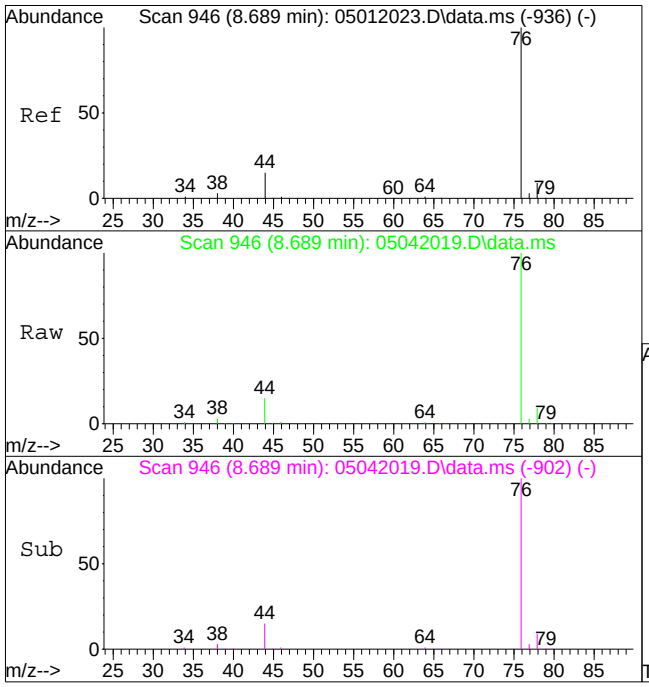


#15
2-Propanol (Isopropanol)
Concen: 0.07 ng
RT: 7.52 min Scan# 733
Delta R.T. -0.028 min
Lab File: 05042019.D
Acq: 4 May 2020 16:55

Tgt Ion: 45 Resp: 5481

Ion	Ratio	Lower	Upper
45	100		
43	45.5	0.0	39.5#

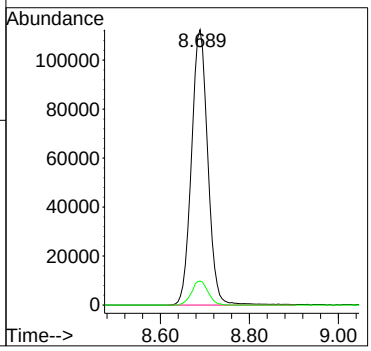


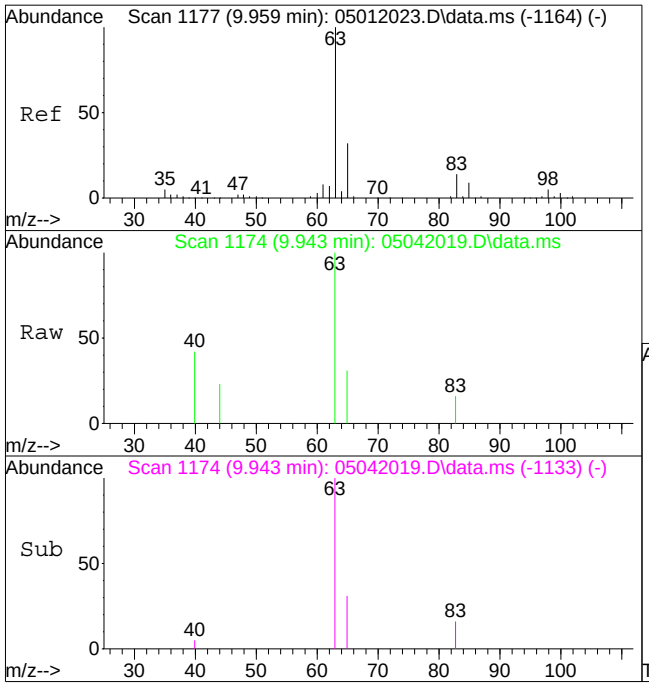


#22
Carbon Disulfide
Concen: 2.38 ng
RT: 8.69 min Scan# 946
Delta R.T. -0.006 min
Lab File: 05042019.D
Acq: 4 May 2020 16:55

Tgt Ion: 76 Resp: 286434

Ion	Ratio	Lower	Upper
76	100		
78	8.8	0.0	29.2

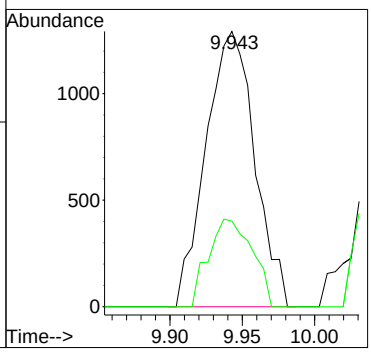


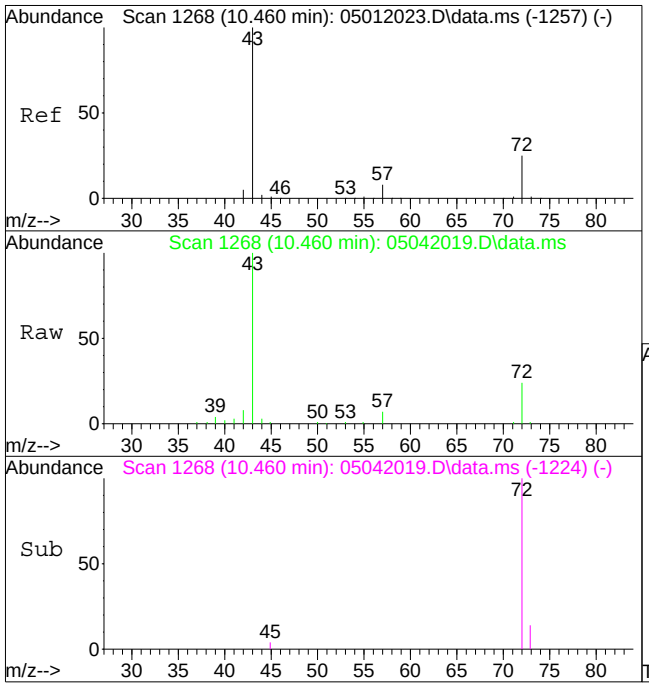


#24
1,1-Dichloroethane
Concen: 0.06 ng
RT: 9.94 min Scan# 1174
Delta R.T. -0.022 min
Lab File: 05042019.D
Acq: 4 May 2020 16:55

Tgt Ion: 63 Resp: 3037

Ion	Ratio	Lower	Upper
63	100		
65	28.5	11.8	51.8

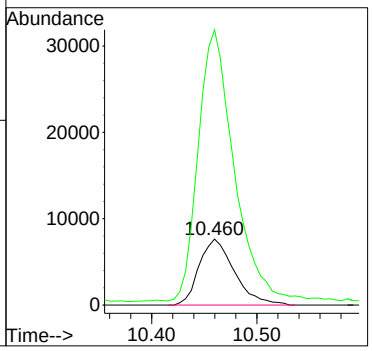


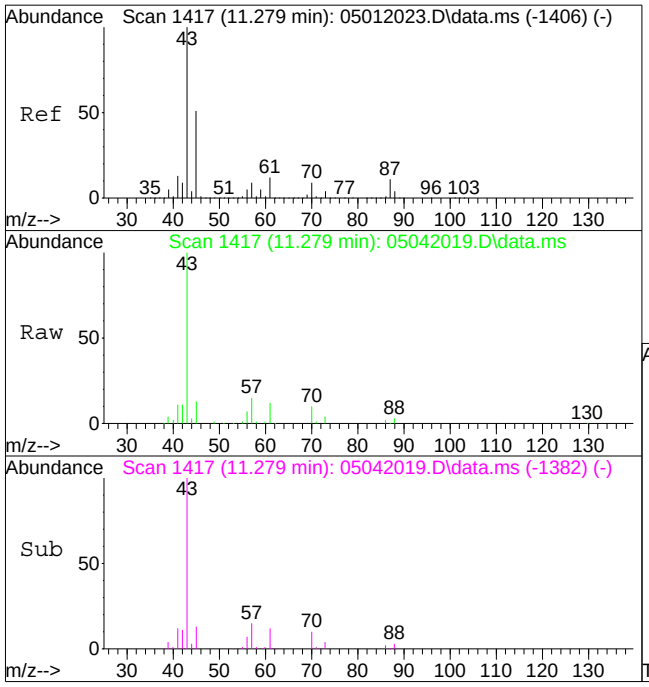


#27
2-Butanone (MEK)
Concen: 0.81 ng
RT: 10.46 min Scan# 1268
Delta R.T. -0.006 min
Lab File: 05042019.D
Acq: 4 May 2020 16:55

Tgt Ion: 72 Resp: 17845

Ion	Ratio	Lower	Upper
72	100		
43	423.3	389.7	429.7

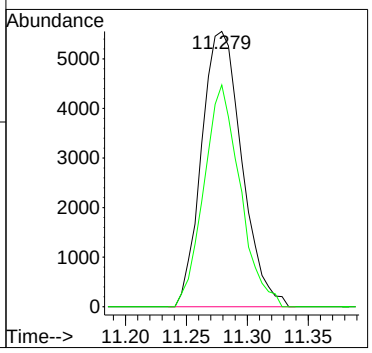


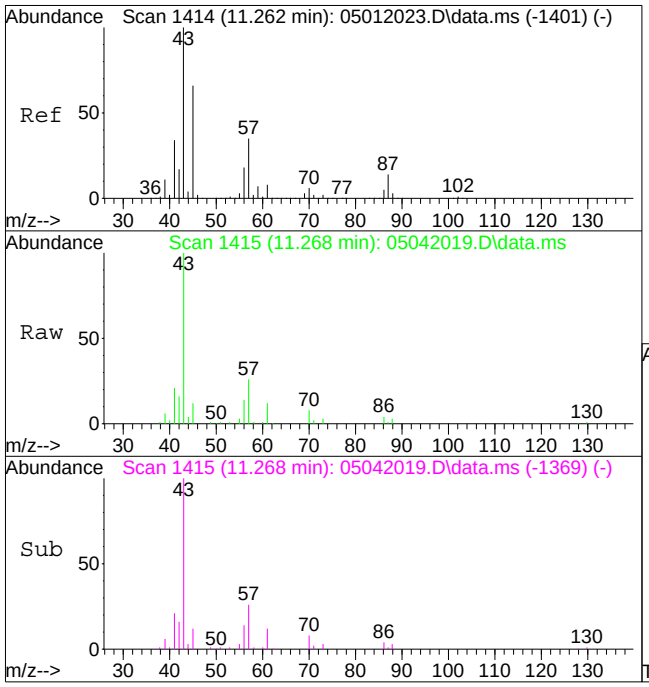


#30
Ethyl Acetate
Concen: 1.01 ng
RT: 11.28 min Scan# 1417
Delta R.T. -0.006 min
Lab File: 05042019.D
Acq: 4 May 2020 16:55

Tgt Ion: 61 Resp: 12776

Ion	Ratio	Lower	Upper
61	100		
70	72.4	57.9	97.9

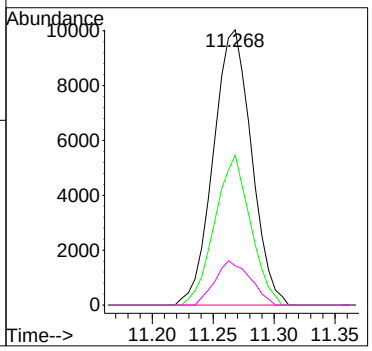


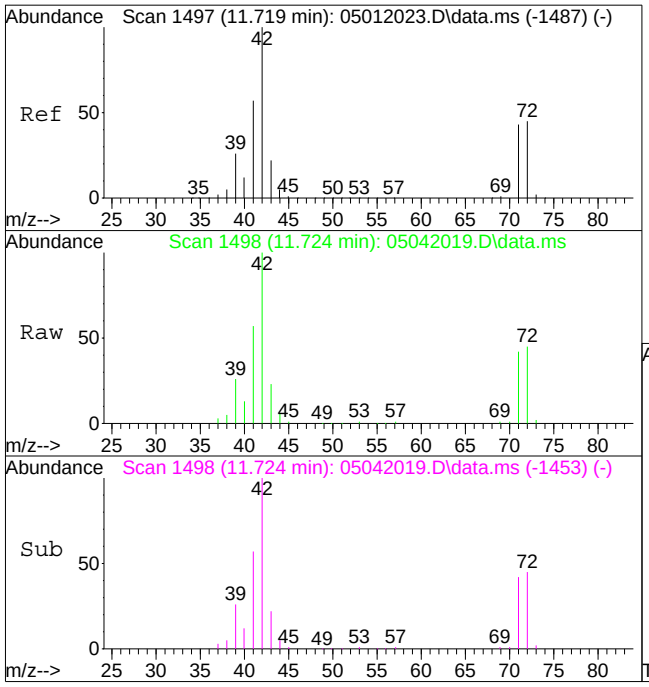


#31
n-Hexane
Concen: 0.40 ng
RT: 11.27 min Scan# 1415
Delta R.T. 0.005 min
Lab File: 05042019.D
Acq: 4 May 2020 16:55

Tgt Ion: 57 Resp: 21791

Ion	Ratio	Lower	Upper
57	100		
56	51.0	41.4	62.0
86	14.9	12.4	18.6

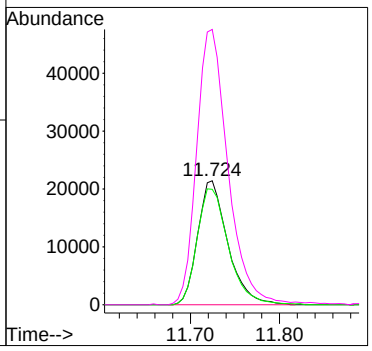


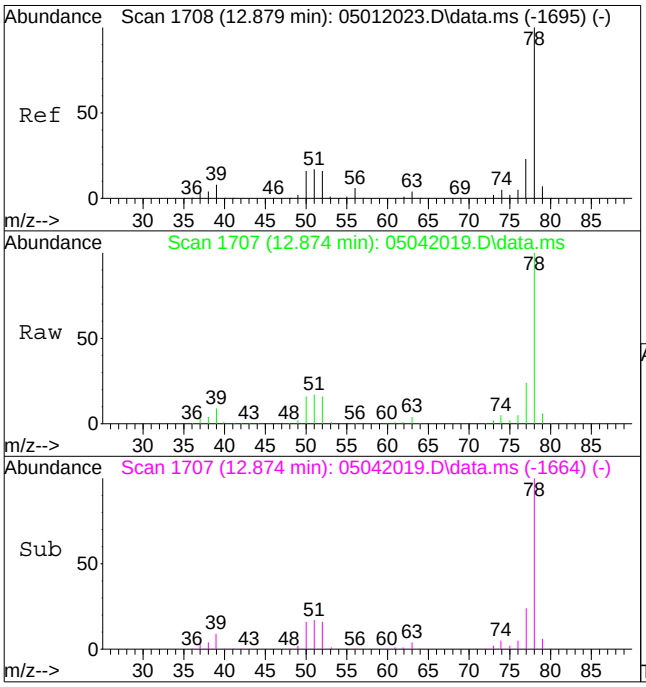


#34
Tetrahydrofuran (THF)
Concen: 2.34 ng
RT: 11.72 min Scan# 1498
Delta R.T. -0.000 min
Lab File: 05042019.D
Acq: 4 May 2020 16:55

Tgt Ion: 72 Resp: 50373

Ion	Ratio	Lower	Upper
72	100		
71	97.5	77.0	117.0
42	232.6	204.6	244.6

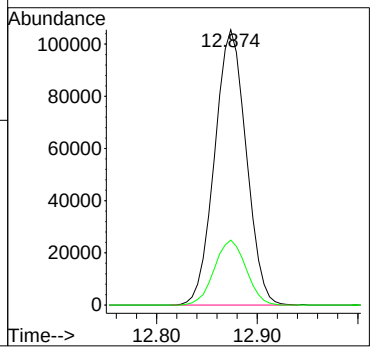


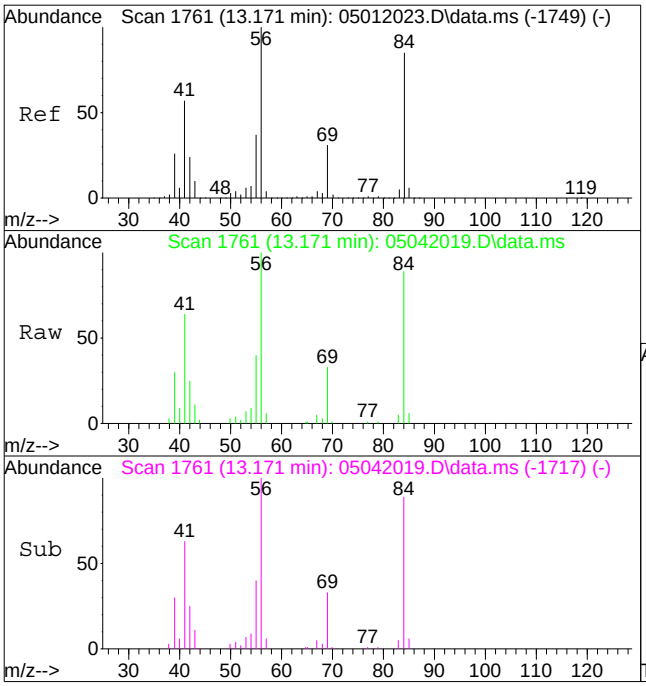


#41
Benzene
Concen: 1.71 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05042019.D
Acq: 4 May 2020 16:55

Tgt Ion: 78 Resp: 230009

Ion	Ratio	Lower	Upper
78	100		
77	23.7	3.4	43.4

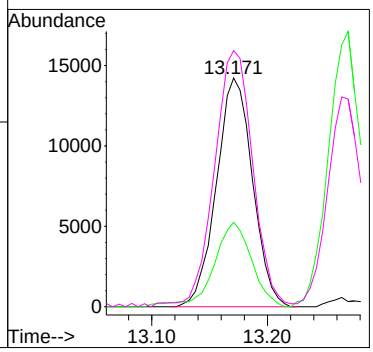


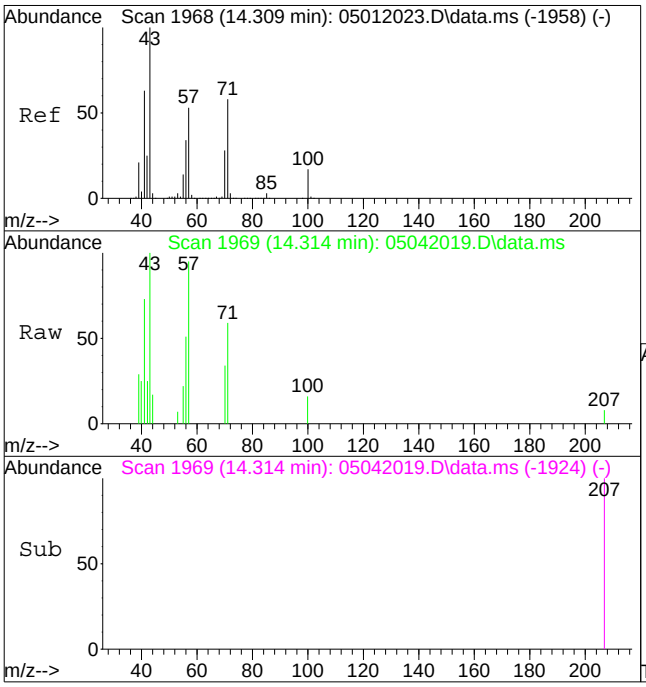


#43
Cyclohexane
Concen: 0.62 ng
RT: 13.17 min Scan# 1761
Delta R.T. -0.006 min
Lab File: 05042019.D
Acq: 4 May 2020 16:55

Tgt Ion: 84 Resp: 30928

Ion	Ratio	Lower	Upper
84	100		
69	38.4	16.5	56.5
56	119.5	97.4	137.4

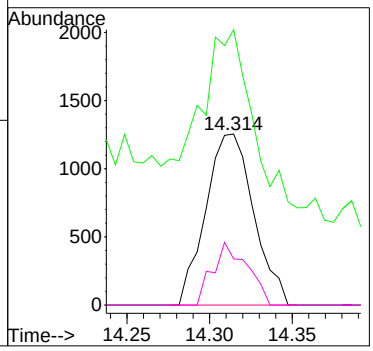


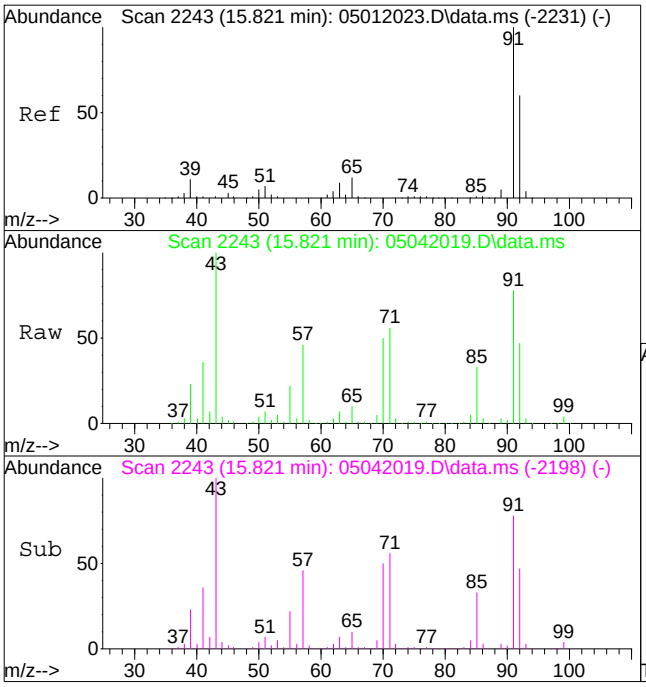


#51
n-Heptane
Concen: 0.08 ng
RT: 14.31 min Scan# 1969
Delta R.T. -0.000 min
Lab File: 05042019.D
Acq: 4 May 2020 16:55

Tgt Ion: 71 Resp: 2530

Ion	Ratio	Lower	Upper
71	100		
57	128.9	71.0	111.0#
100	26.3	8.4	48.4

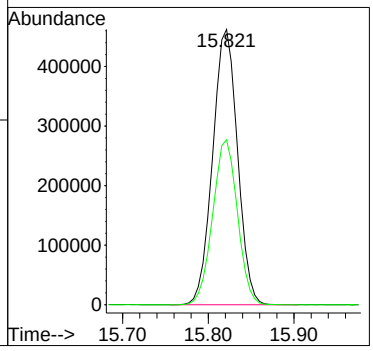


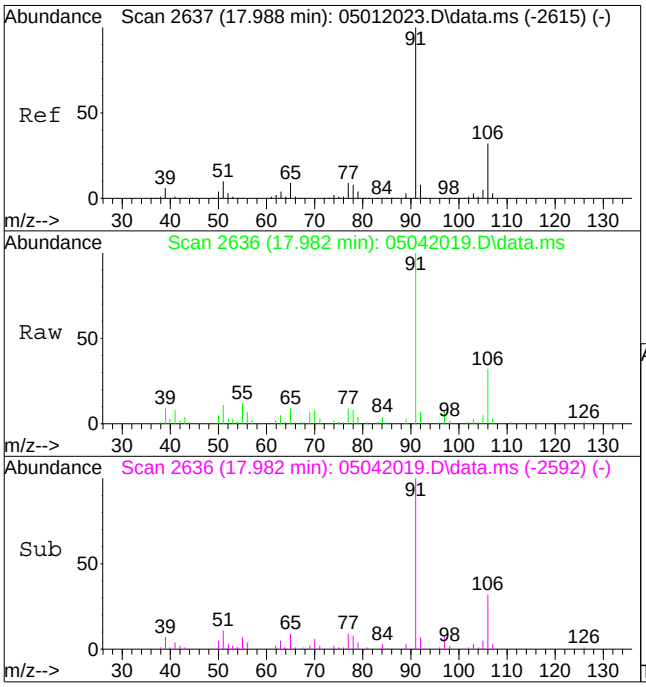


#58
Toluene
Concen: 7.12 ng
RT: 15.82 min Scan# 2243
Delta R.T. -0.000 min
Lab File: 05042019.D
Acq: 4 May 2020 16:55

Tgt Ion: 91 Resp: 930420

Ion	Ratio	Lower	Upper
91	100		
92	59.6	39.4	79.4

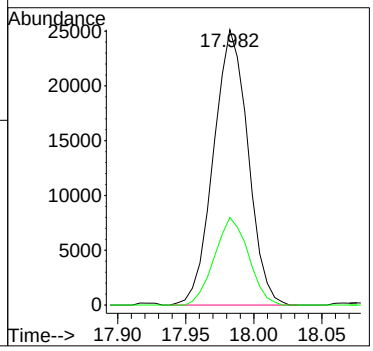


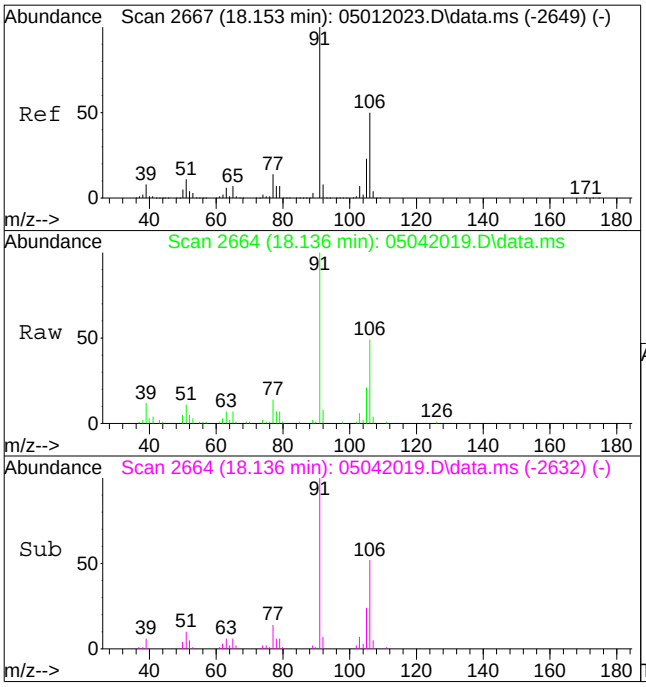


#66
Ethylbenzene
Concen: 0.30 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05042019.D
Acq: 4 May 2020 16:55

Tgt Ion: 91 Resp: 44260

Ion	Ratio	Lower	Upper
91	100		
106	31.3	11.6	51.6

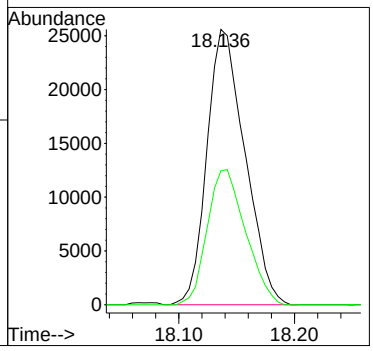


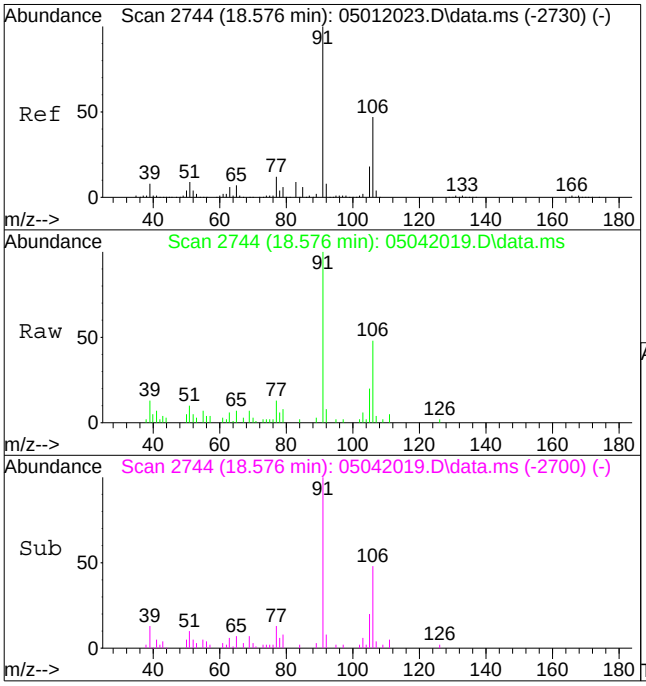


#67
m- & p-Xylenes
Concen: 0.51 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05042019.D
Acq: 4 May 2020 16:55

Tgt Ion: 91 Resp: 58549

Ion	Ratio	Lower	Upper
91	100		
106	49.3	29.7	69.7

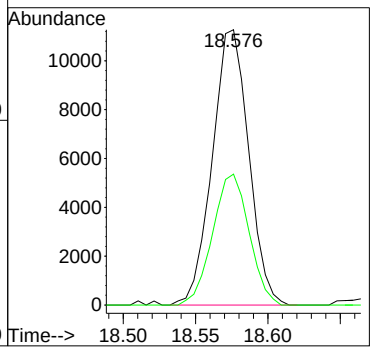




#70
o-Xylene
Concen: 0.17 ng
RT: 18.58 min Scan# 2744
Delta R.T. -0.006 min
Lab File: 05042019.D
Acq: 4 May 2020 16:55

Tgt Ion: 91 Resp: 19719

Ion	Ratio	Lower	Upper
91	100		
106	47.6	27.5	67.5



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042021.D Vial: 10
Acq On : 4 May 2020 18:03 Operator: TD
Sample : P2002105-008 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 19:34:24 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/4/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	250040	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1087892	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	523484	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	423422	12.496	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.00%				
57) Toluene-d8 (SS2)	15.72	98	1096927	12.363	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.88%				
73) Bromofluorobenzene (SS3)	18.98	174	388436	12.166	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.36%				
Target Compounds							Qvalue
2) Propene	4.10	42	32263	1.114	ng		99
3) Dichlorodifluoromethan...	4.27	85	42024	0.742	ng		99
4) Chloromethane	4.54	50	3515	0.079	ng		92
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	1045	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.22	54	840	N.D.			
8) Bromomethane	5.65	94	259	N.D.			
9) Chloroethane	5.98	64	398	N.D.			
10) Ethanol	6.34	45	211003	9.436	ng		100
11) Acetonitrile	6.62	41	10823	0.212	ng		99
12) Acrolein	6.82	56	9033	0.511	ng		97
13) Acetone	7.02	58	150377m	6.724	ng		
14) Trichlorofluoromethane	7.24	101	14464	0.289	ng		99
15) 2-Propanol (Isopropanol)	7.51	45	50849	0.751	ng		90
16) Acrylonitrile	7.79	53	574	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	20989	0.722	ng		97
20) 3-Chloro-1-propene (Al...	8.51	41	1629	N.D.			
21) Trichlorotrifluoroethane	8.84	151	2989	0.126	ng		99
22) Carbon Disulfide	8.68	76	104844	1.006	ng		100
23) trans-1,2-Dichloroethene	9.68	61	369	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.09	73	1652	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.46	72	27277	1.430	ng		94
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.27	61	100410	9.130	ng	#	52
31) n-Hexane	11.26	57	52269	1.096	ng	#	32
32) Chloroform	11.30	83	5338873	107.267	ng		99
34) Tetrahydrofuran (THF)	11.74	72	8961	0.482	ng	#	87
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.13	62	459	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	30916	0.265	ng		99
42) Carbon Tetrachloride	13.03	117	33100	0.834	ng		100
43) Cyclohexane	13.16	84	59683	1.373	ng		99
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	13.91	83	1548400	39.272	ng		99
47) Trichloroethene	13.97	130	8343	0.277	ng		98
48) 1,4-Dioxane	13.96	88	4286	0.182	ng		94
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.18	100	401	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042021.D Vial: 10
Acq On : 4 May 2020 18:03 Operator: TD
Sample : P2002105-008 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 19:34:24 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

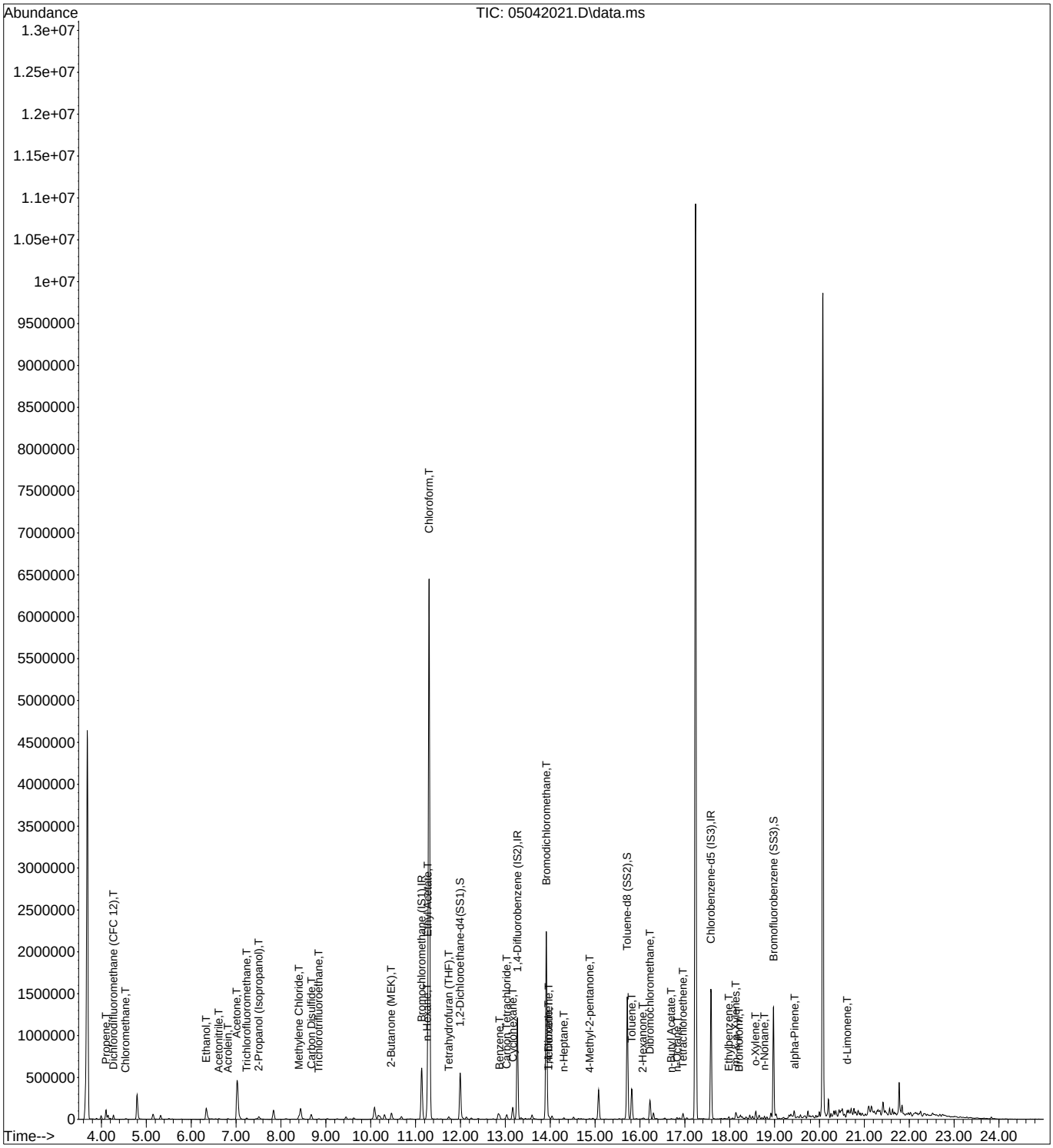
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.30	71	4073	0.149 ng		94
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.88	58	1984	0.076 ng	#	21
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.82	91	300008	2.623 ng		100
59) 2-Hexanone	16.06	43	9556	0.152 ng		86
60) Dibromochloromethane	16.22	129	137919	4.211 ng		100
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.70	43	6415	0.095 ng		96
63) n-Octane	16.83	57	3807	0.161 ng		97
64) Tetrachloroethene	16.96	166	21821	0.675 ng		99
65) Chlorobenzene	17.63	112	489	N.D.		
66) Ethylbenzene	17.98	91	18890	0.148 ng		100
67) m- & p-Xylenes	18.14	91	61260	0.605 ng		98
68) Bromoform	18.21	173	2686	0.095 ng		98
69) Styrene	18.47	104	3299	N.D.		
70) o-Xylene	18.58	91	20502	0.200 ng		99
71) n-Nonane	18.77	43	12777	0.234 ng		93
72) 1,1,2,2-Tetrachloroethane	18.59	83	1204	N.D.		
74) Cumene	19.10	105	1783	N.D.		
75) alpha-Pinene	19.45	93	4376	0.065 ng	#	43
76) n-Propylbenzene	0.00	91	0	N.D. d		
77) 3-Ethyltoluene	19.64	105	5835	N.D.		
78) 4-Ethyltoluene	19.68	105	2433	N.D.		
79) 1,3,5-Trimethylbenzene	19.75	105	4526	N.D.		
80) alpha-Methylstyrene	19.88	118	2020	N.D.		
81) 2-Ethyltoluene	19.91	105	2489	N.D.		
82) 1,2,4-Trimethylbenzene	0.00	105	0	N.D. d		
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.20	91	1321	N.D.		
85) 1,3-Dichlorobenzene	20.24	146	216	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	716	N.D.		
87) sec-Butylbenzene	20.35	105	1728	N.D.		
88) 4-Isopropyltoluene (p-...	20.48	119	4852	N.D.		
89) 1,2,3-Trimethylbenzene	20.48	105	3211	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.62	68	7616m	0.187 ng		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.11	180	1105	N.D.		
95) Naphthalene	22.22	128	2417	N.D.		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	20.85	91	3032	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042021.D Vial: 10
Acq On : 4 May 2020 18:03 Operator: TD
Sample : P2002105-008 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 19:34:24 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042021.D Vial: 10
Acq On : 4 May 2020 18:03 Operator: TD
Sample : P2002105-008 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 19:34:24 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/4/20

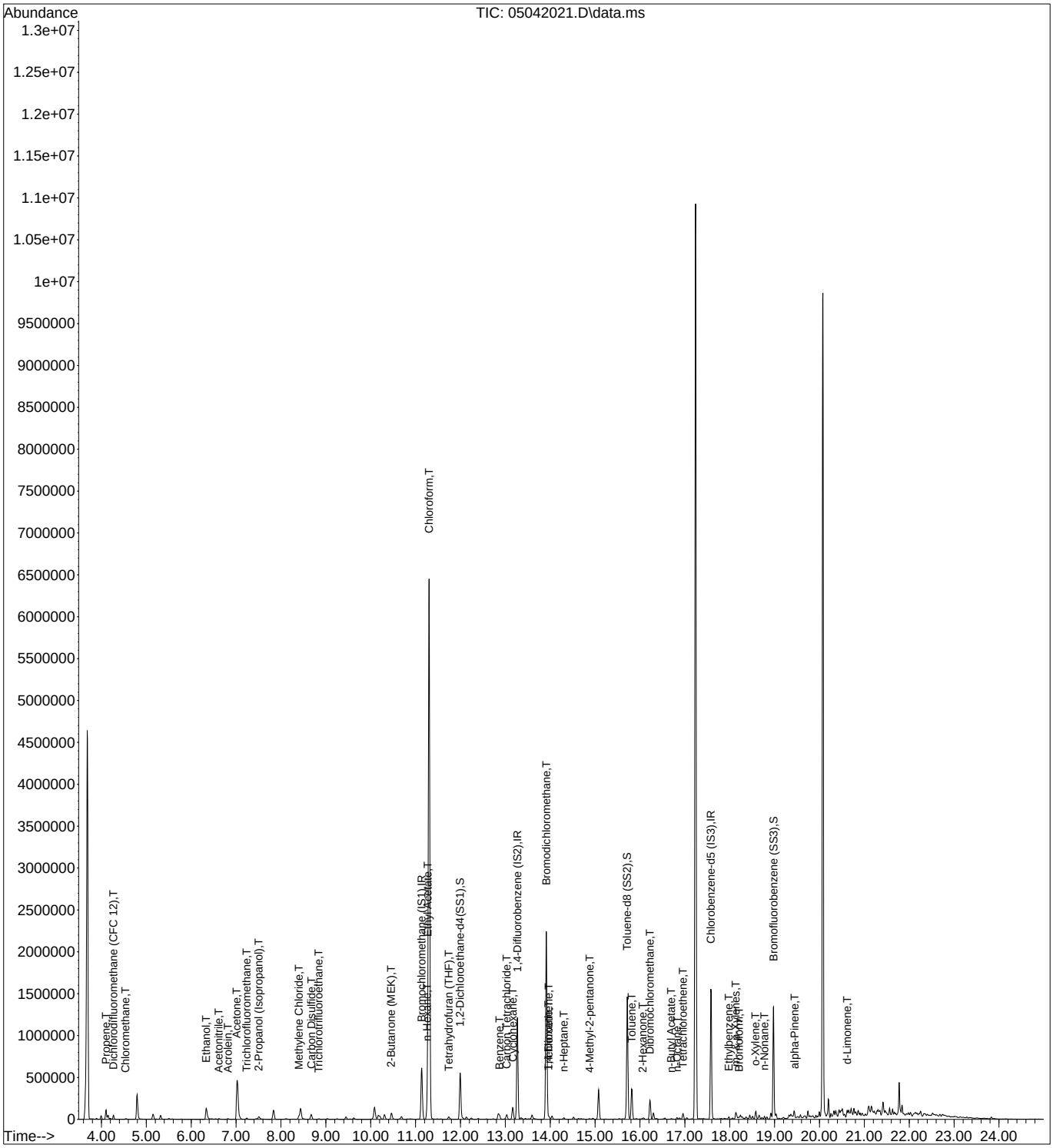
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	250040	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1087892	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	523484	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	423422	12.496	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.00%				
57) Toluene-d8 (SS2)	15.72	98	1096927	12.363	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.88%				
73) Bromofluorobenzene (SS3)	18.98	174	388436	12.166	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.36%				
Target Compounds							Qvalue
2) Propene	4.10	42	32263	1.114	ng		99
3) Dichlorodifluoromethan...	4.27	85	42024	0.742	ng		99
4) Chloromethane	4.54	50	3515	0.079	ng		92
10) Ethanol	6.34	45	211003	9.436	ng		100
11) Acetonitrile	6.62	41	10823	0.212	ng		99
12) Acrolein	6.82	56	9033	0.511	ng		97
13) Acetone	7.02	58	150377m	6.724	ng		
14) Trichlorofluoromethane	7.24	101	14464	0.289	ng		99
15) 2-Propanol (Isopropanol)	7.51	45	50849	0.751	ng		90
19) Methylene Chloride	8.40	84	20989	0.722	ng		97
21) Trichlorotrifluoroethane	8.84	151	2989	0.126	ng		99
22) Carbon Disulfide	8.68	76	104844	1.006	ng		100
27) 2-Butanone (MEK)	10.46	72	27277	1.430	ng		94
30) Ethyl Acetate	11.27	61	100410	9.130	ng	#	52
31) n-Hexane	11.26	57	52269	1.096	ng	#	32
32) Chloroform	11.30	83	5338873	107.267	ng		99
34) Tetrahydrofuran (THF)	11.74	72	8961	0.482	ng	#	87
41) Benzene	12.87	78	30916	0.265	ng		99
42) Carbon Tetrachloride	13.03	117	33100	0.834	ng		100
43) Cyclohexane	13.16	84	59683	1.373	ng		99
46) Bromodichloromethane	13.91	83	1548400	39.272	ng		99
47) Trichloroethene	13.97	130	8343	0.277	ng		98
48) 1,4-Dioxane	13.96	88	4286	0.182	ng		94
51) n-Heptane	14.30	71	4073	0.149	ng		94
53) 4-Methyl-2-pentanone	14.88	58	1984	0.076	ng	#	21
58) Toluene	15.82	91	300008	2.623	ng		100
59) 2-Hexanone	16.06	43	9556	0.152	ng		86
60) Dibromochloromethane	16.22	129	137919	4.211	ng		100
62) n-Butyl Acetate	16.70	43	6415	0.095	ng		96
63) n-Octane	16.83	57	3807	0.161	ng		97
64) Tetrachloroethene	16.96	166	21821	0.675	ng		99
66) Ethylbenzene	17.98	91	18890	0.148	ng		100
67) m- & p-Xylenes	18.14	91	61260	0.605	ng		98
68) Bromoform	18.21	173	2686	0.095	ng		98
70) o-Xylene	18.58	91	20502	0.200	ng		99
71) n-Nonane	18.77	43	12777	0.234	ng		93
75) alpha-Pinene	19.45	93	4376	0.065	ng	#	43
91) d-Limonene	20.62	68	7616m	0.187	ng		

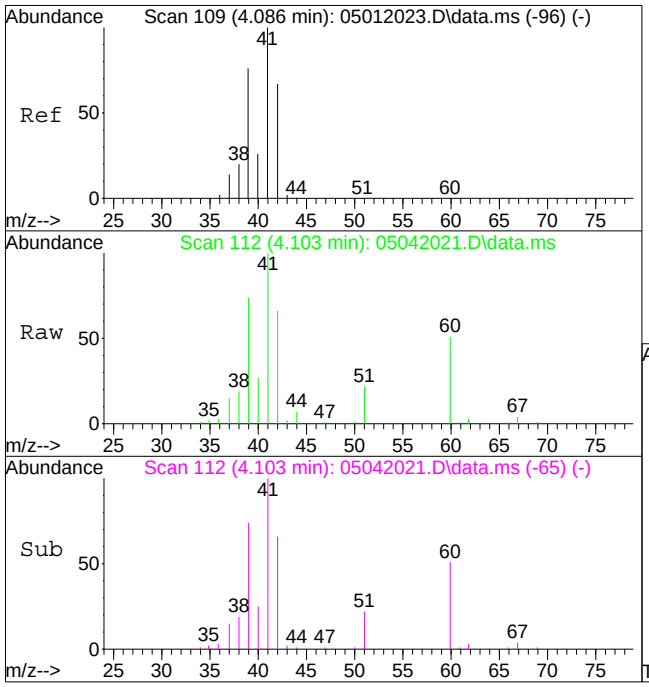
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042021.D Vial: 10
Acq On : 4 May 2020 18:03 Operator: TD
Sample : P2002105-008 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 19:34:24 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

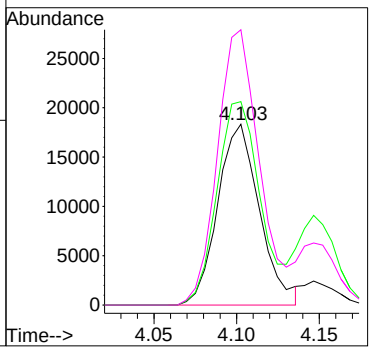


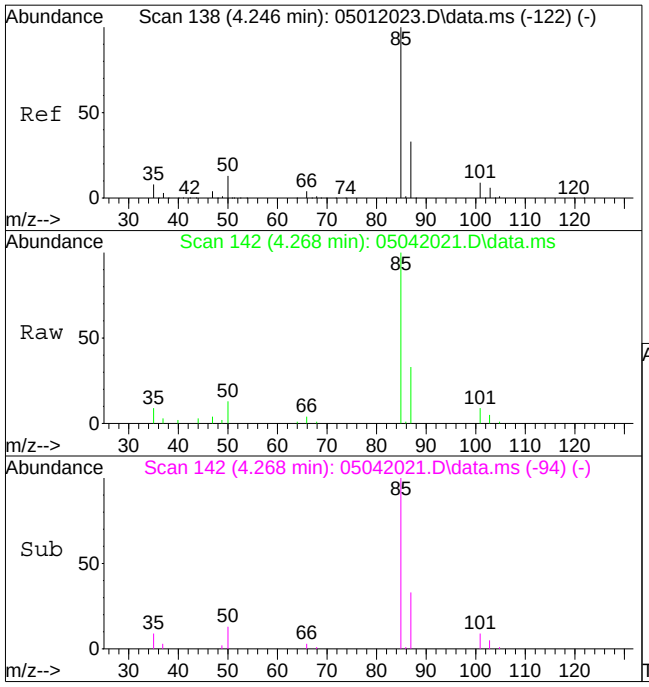


#2
Propene
Concen: 1.11 ng
RT: 4.10 min Scan# 112
Delta R.T. 0.011 min
Lab File: 05042021.D
Acq: 4 May 2020 18:03

Tgt Ion: 42 Resp: 32263

Ion	Ratio	Lower	Upper
42	100		
39	117.9	96.1	136.1
41	151.8	131.9	171.9

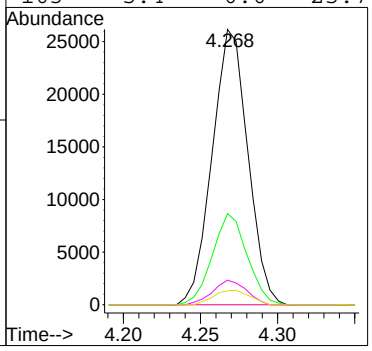


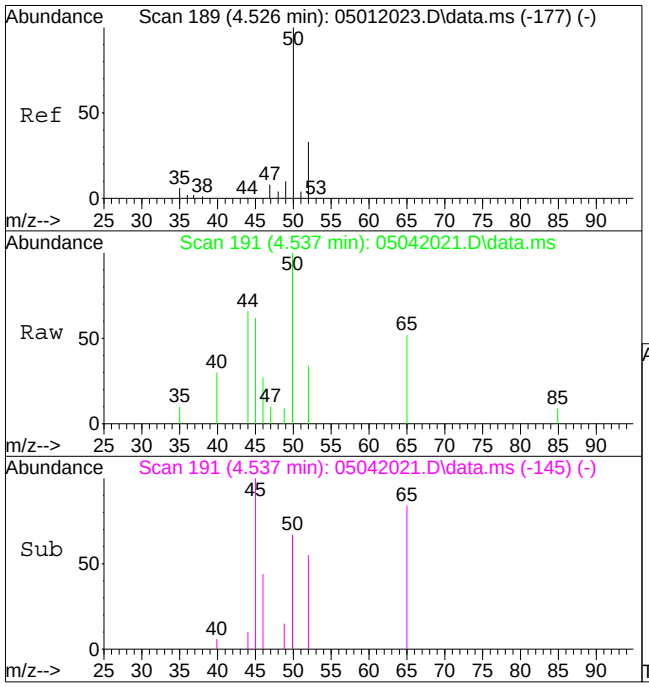


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.74 ng
RT: 4.27 min Scan# 142
Delta R.T. 0.016 min
Lab File: 05042021.D
Acq: 4 May 2020 18:03

Tgt Ion: 85 Resp: 42024

Ion	Ratio	Lower	Upper
85	100		
87	32.2	12.4	52.4
101	8.4	0.0	28.8
103	5.4	0.0	25.7

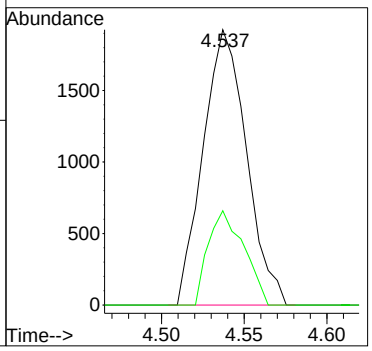


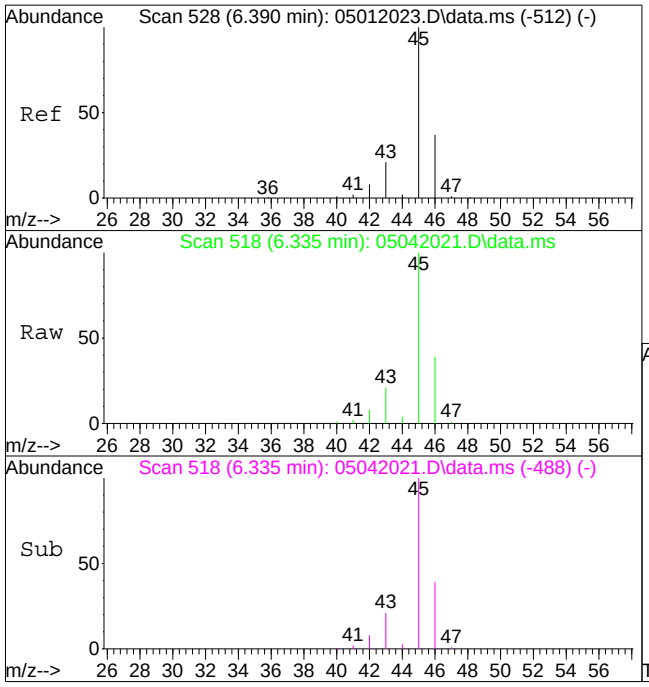


#4
Chloromethane
Concen: 0.08 ng
RT: 4.54 min Scan# 191
Delta R.T. 0.005 min
Lab File: 05042021.D
Acq: 4 May 2020 18:03

Tgt Ion: 50 Resp: 3515

Ion	Ratio	Lower	Upper
50	100		
52	28.2	12.5	52.5

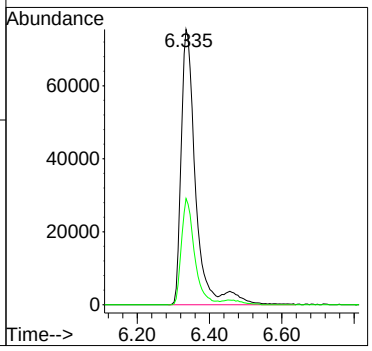


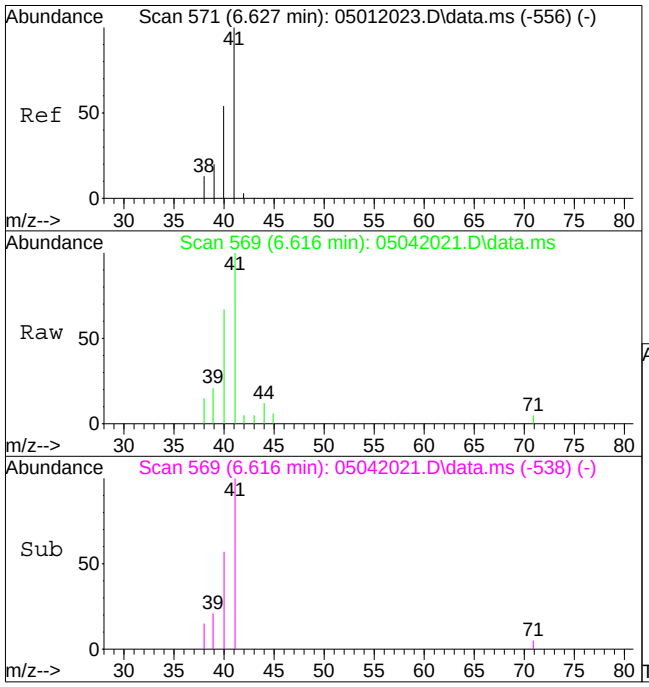


#10
Ethanol
Concen: 9.44 ng
RT: 6.34 min Scan# 518
Delta R.T. -0.083 min
Lab File: 05042021.D
Acq: 4 May 2020 18:03

Tgt Ion: 45 Resp: 211003

Ion	Ratio	Lower	Upper
45	100		
46	37.2	17.2	57.2

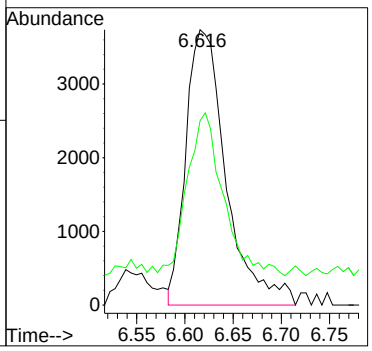


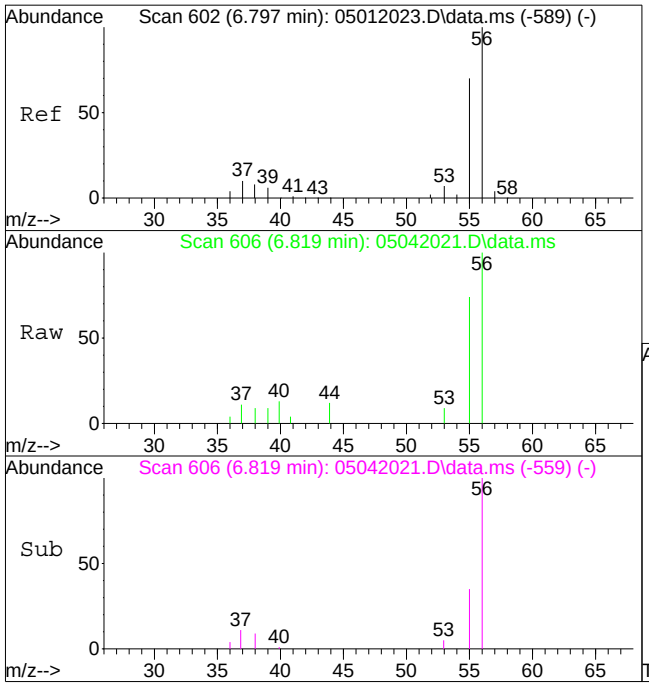


#11
Acetonitrile
Concen: 0.21 ng
RT: 6.62 min Scan# 569
Delta R.T. -0.028 min
Lab File: 05042021.D
Acq: 4 May 2020 18:03

Tgt Ion: 41 Resp: 10823

Ion	Ratio	Lower	Upper
41	100		
40	53.2	33.6	73.6

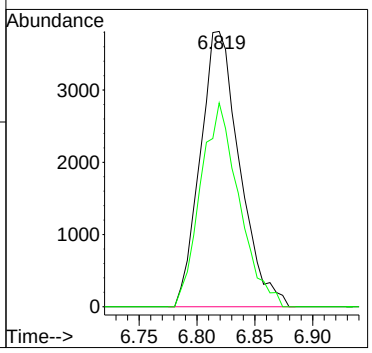


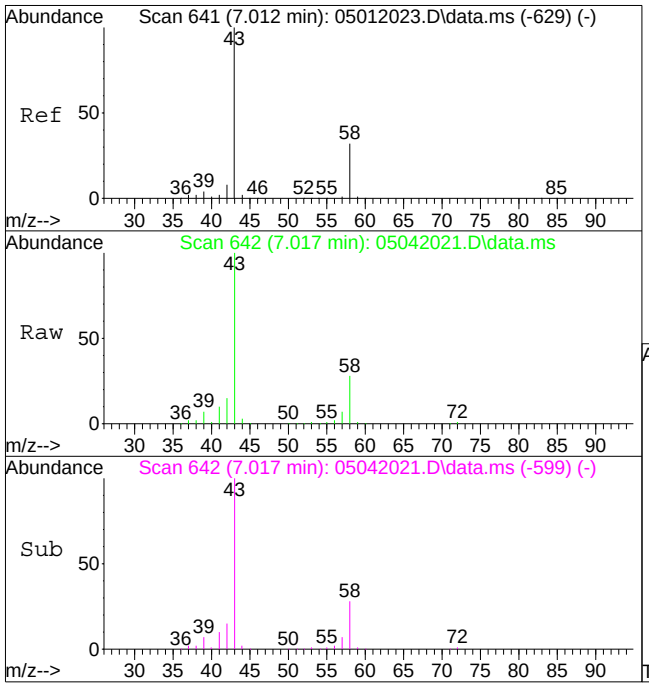


#12
Acrolein
Concen: 0.51 ng
RT: 6.82 min Scan# 606
Delta R.T. 0.011 min
Lab File: 05042021.D
Acq: 4 May 2020 18:03

Tgt Ion: 56 Resp: 9033

Ion	Ratio	Lower	Upper
56	100		
55	72.3	50.2	90.2

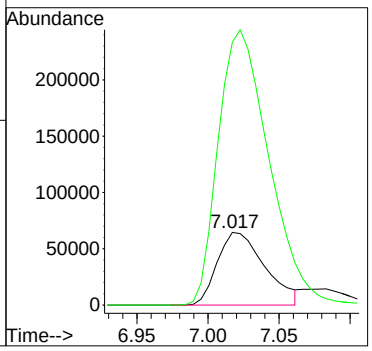


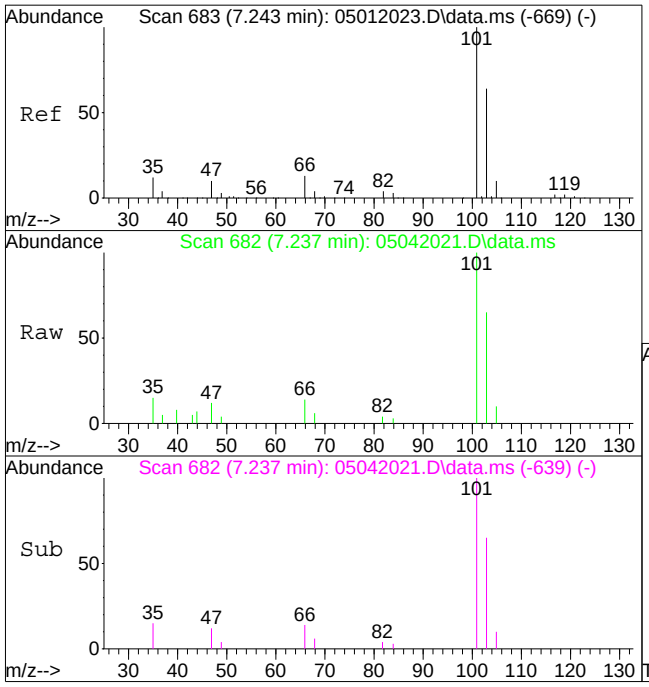


#13
Acetone
Concen: 6.72 ng m
RT: 7.02 min Scan# 642
Delta R.T. -0.011 min
Lab File: 05042021.D
Acq: 4 May 2020 18:03

Tgt Ion: 58 Resp: 150377

Ion	Ratio	Lower	Upper
58	100		
43	407.5	294.4	354.4#

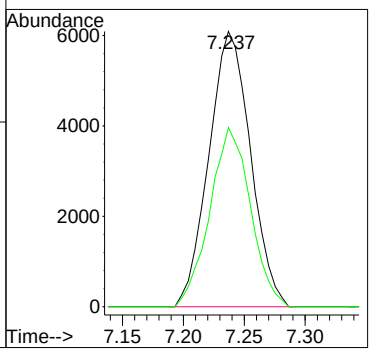


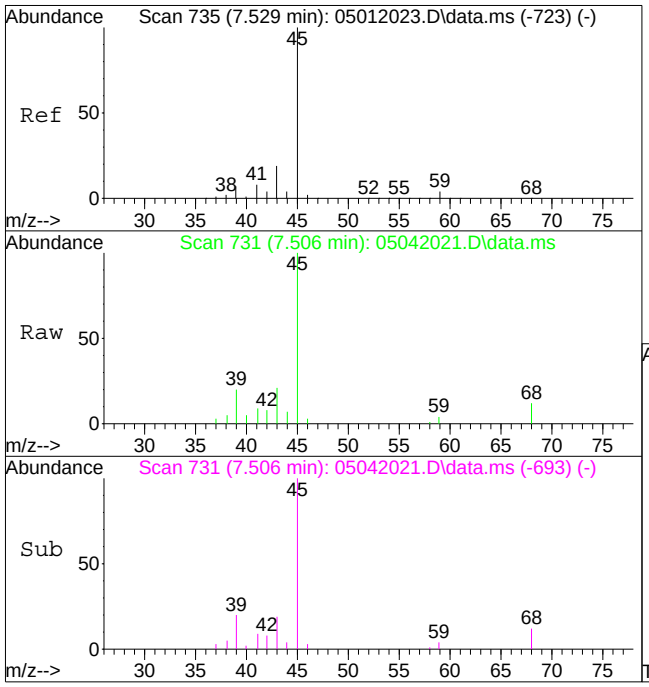


#14
Trichlorofluoromethane
Concen: 0.29 ng
RT: 7.24 min Scan# 682
Delta R.T. -0.011 min
Lab File: 05042021.D
Acq: 4 May 2020 18:03

Tgt Ion:101 Resp: 14464

Ion	Ratio	Lower	Upper
101	100		
103	63.6	44.4	84.4

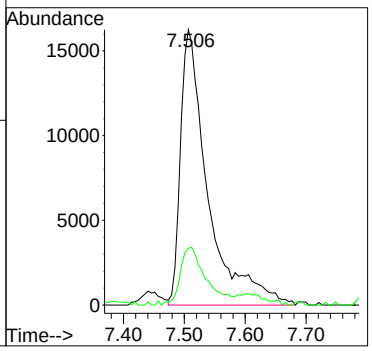


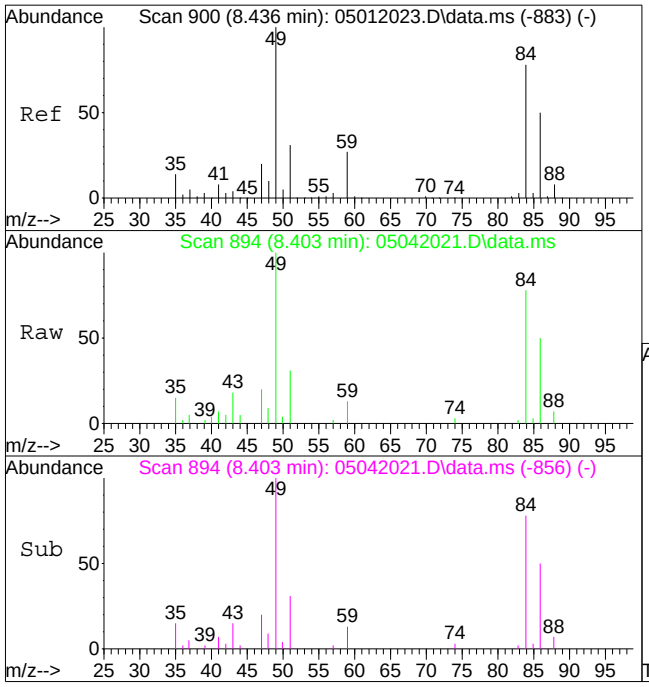


#15
2-Propanol (Isopropanol)
Concen: 0.75 ng
RT: 7.51 min Scan# 731
Delta R.T. -0.039 min
Lab File: 05042021.D
Acq: 4 May 2020 18:03

Tgt Ion: 45 Resp: 50849

Ion	Ratio	Lower	Upper
45	100		
43	23.9	0.0	39.5

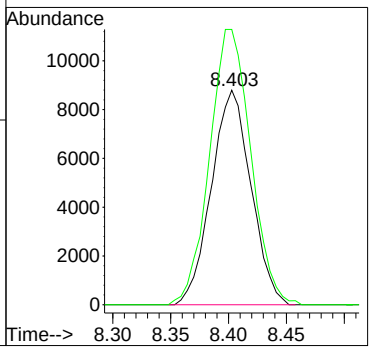


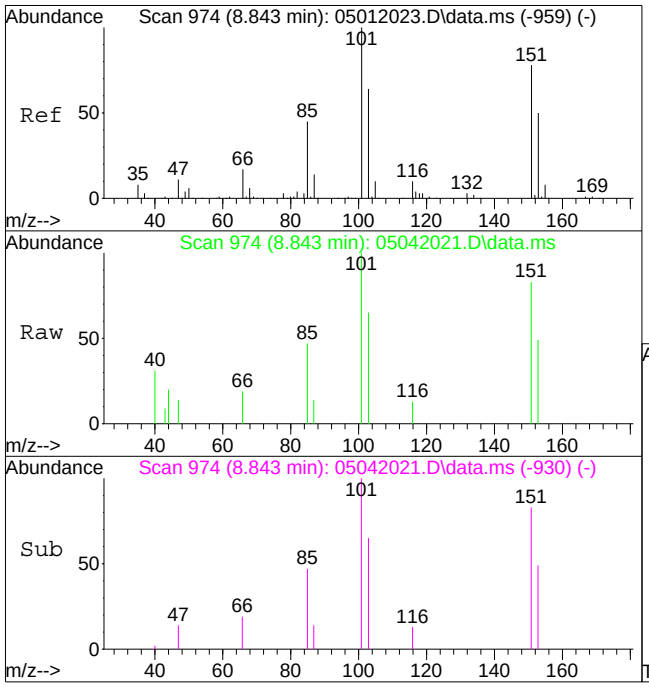


#19
Methylene Chloride
Concen: 0.72 ng
RT: 8.40 min Scan# 894
Delta R.T. -0.039 min
Lab File: 05042021.D
Acq: 4 May 2020 18:03

Tgt Ion: 84 Resp: 20989

Ion	Ratio	Lower	Upper
84	100		
49	133.5	104.8	154.8

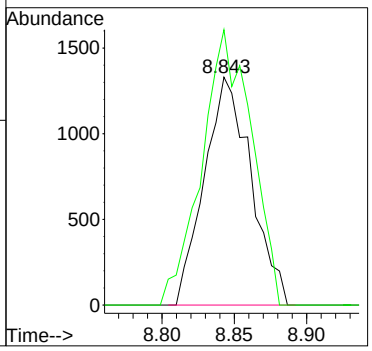


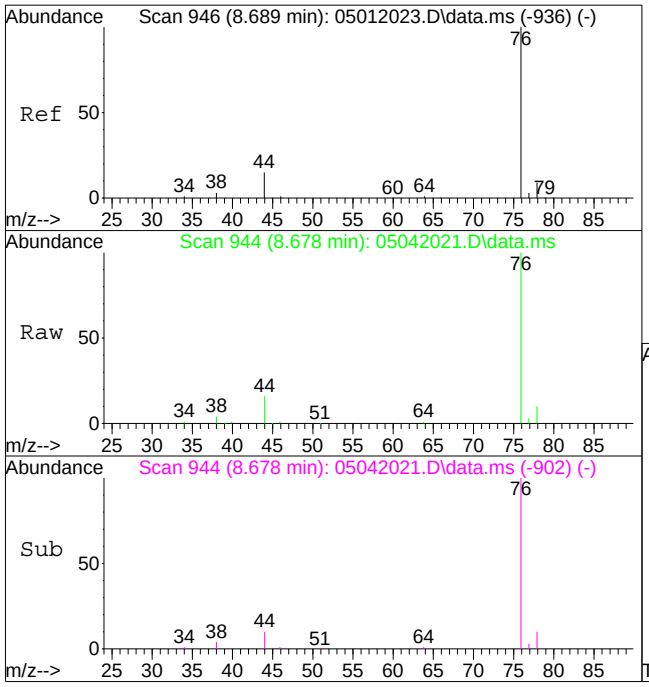


#21
Trichlorotrifluoroethane
Concen: 0.13 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05042021.D
Acq: 4 May 2020 18:03

Tgt Ion:151 Resp: 2989

Ion	Ratio	Lower	Upper
151	100		
101	128.8	107.3	147.3

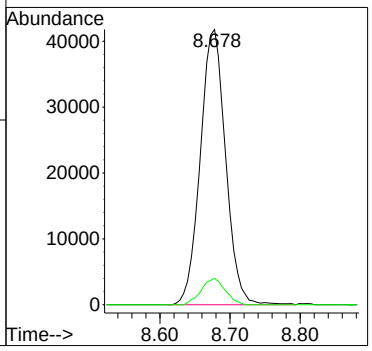


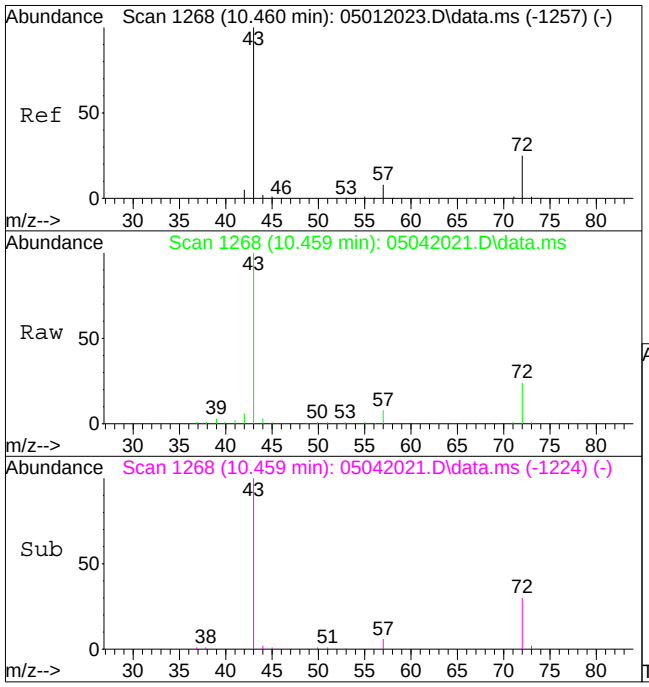


#22
Carbon Disulfide
Concen: 1.01 ng
RT: 8.68 min Scan# 944
Delta R.T. -0.017 min
Lab File: 05042021.D
Acq: 4 May 2020 18:03

Tgt Ion: 76 Resp: 104844

Ion	Ratio	Lower	Upper
76	100		
78	9.1	0.0	29.2

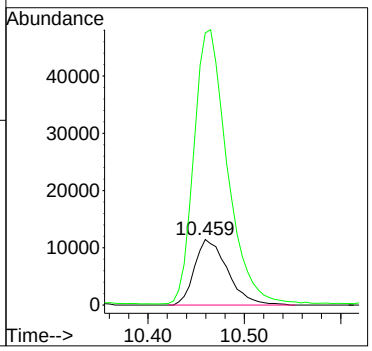


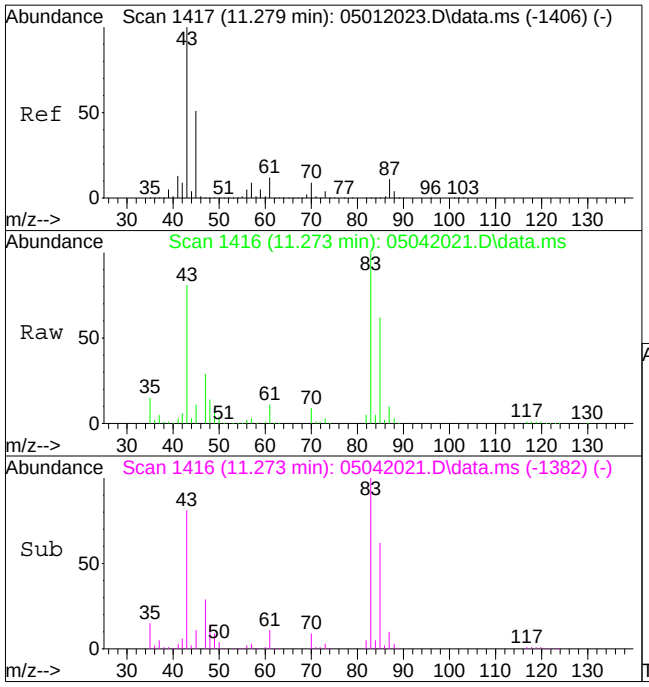


#27
2-Butanone (MEK)
Concen: 1.43 ng
RT: 10.46 min Scan# 1268
Delta R.T. -0.006 min
Lab File: 05042021.D
Acq: 4 May 2020 18:03

Tgt Ion: 72 Resp: 27277

Ion	Ratio	Lower	Upper
72	100		
43	423.0	389.7	429.7

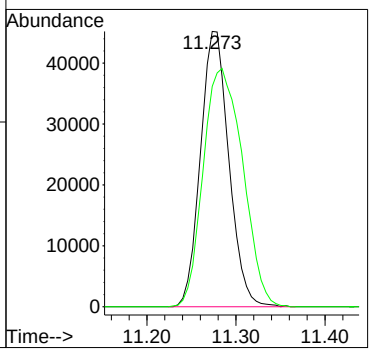


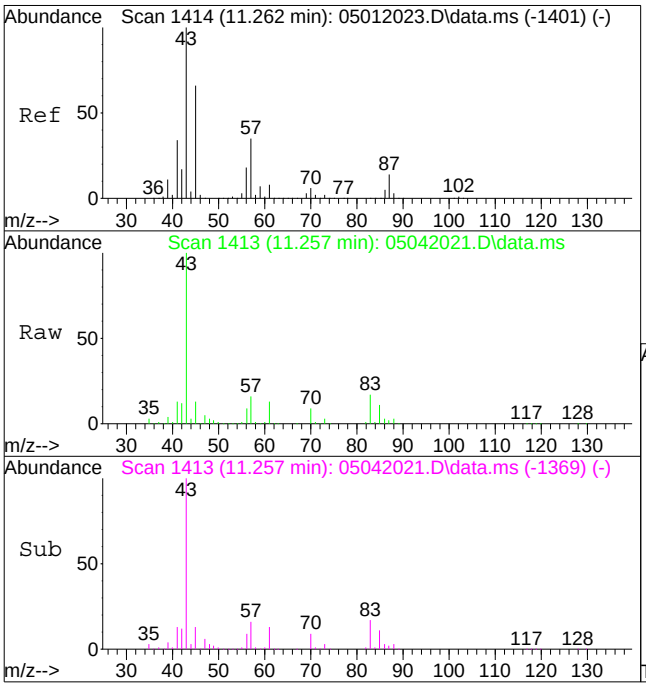


#30
Ethyl Acetate
Concen: 9.13 ng
RT: 11.27 min Scan# 1416
Delta R.T. -0.011 min
Lab File: 05042021.D
Acq: 4 May 2020 18:03

Tgt Ion: 61 Resp: 100410

Ion	Ratio	Lower	Upper
61	100		
70	120.0	57.9	97.9#

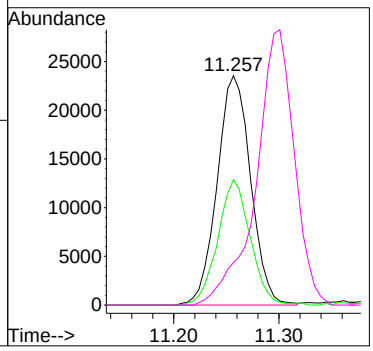


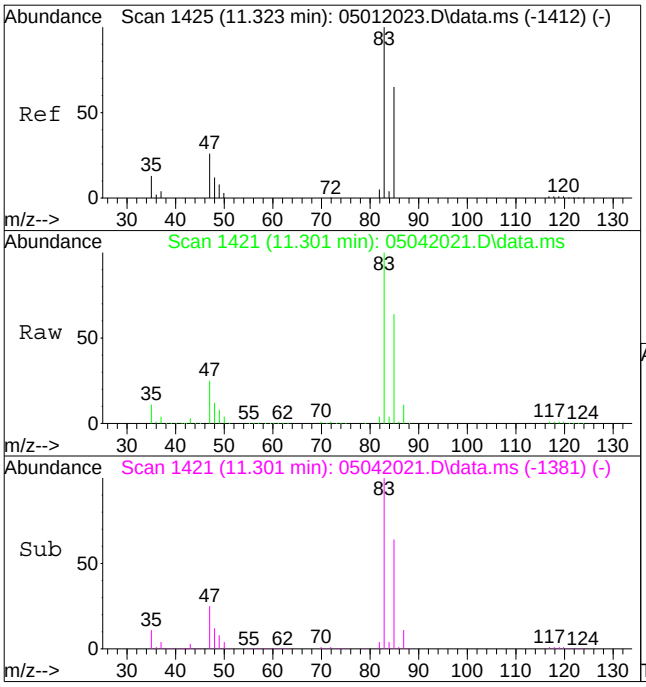


#31
n-Hexane
Concen: 1.10 ng
RT: 11.26 min Scan# 1413
Delta R.T. -0.006 min
Lab File: 05042021.D
Acq: 4 May 2020 18:03

Tgt Ion: 57 Resp: 52269

Ion	Ratio	Lower	Upper
57	100		
56	53.0	41.4	62.0
86	136.1	12.4	18.6#

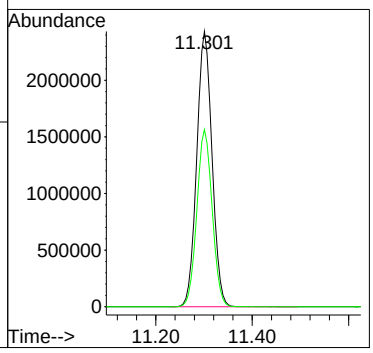


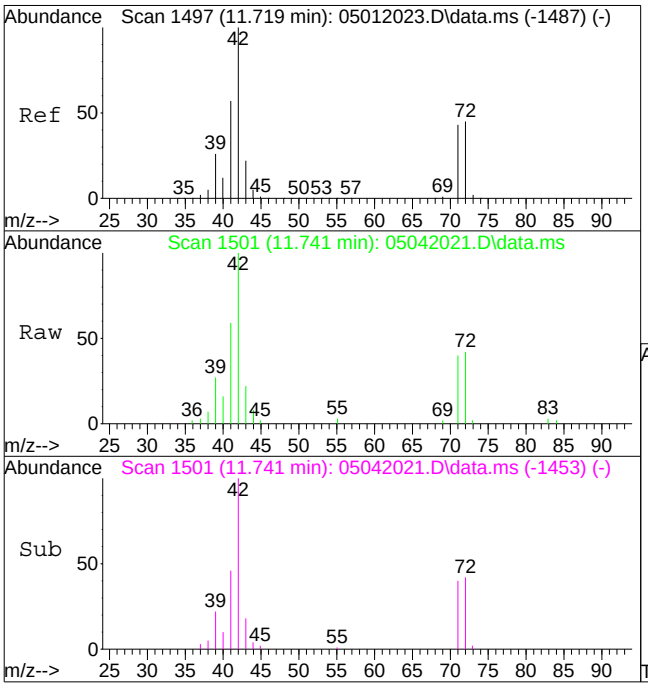


#32
Chloroform
Concen: 107.27 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.028 min
Lab File: 05042021.D
Acq: 4 May 2020 18:03

Tgt Ion: 83 Resp: 5338873

Ion	Ratio	Lower	Upper
83	100		
85	64.5	45.5	85.5

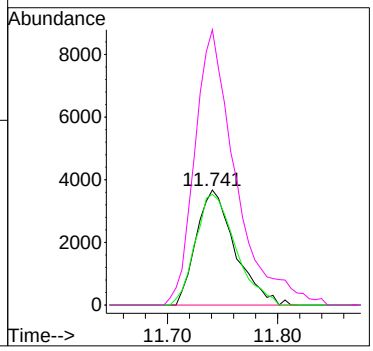


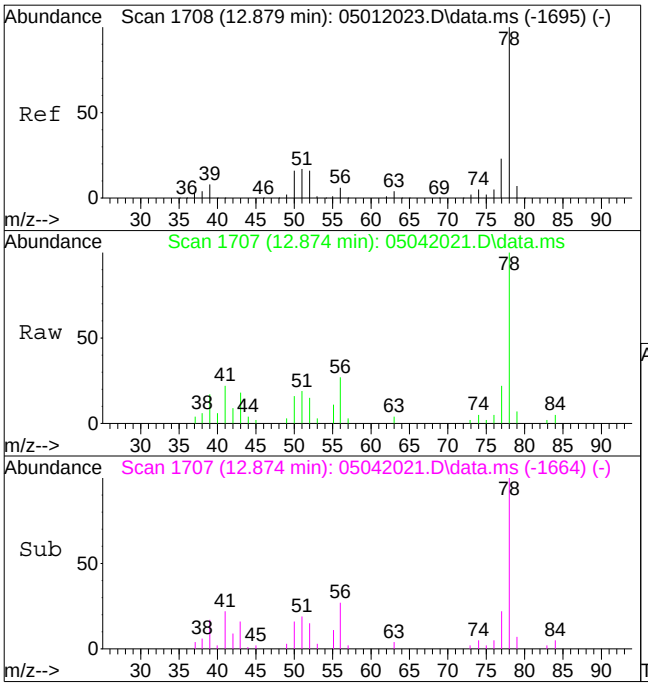


#34
Tetrahydrofuran (THF)
Concen: 0.48 ng
RT: 11.74 min Scan# 1501
Delta R.T. 0.016 min
Lab File: 05042021.D
Acq: 4 May 2020 18:03

Tgt Ion: 72 Resp: 8961

Ion	Ratio	Lower	Upper
72	100		
71	100.1	77.0	117.0
42	252.9	204.6	244.6#

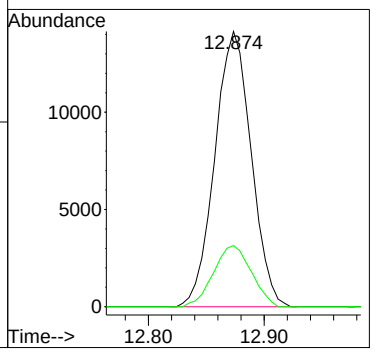


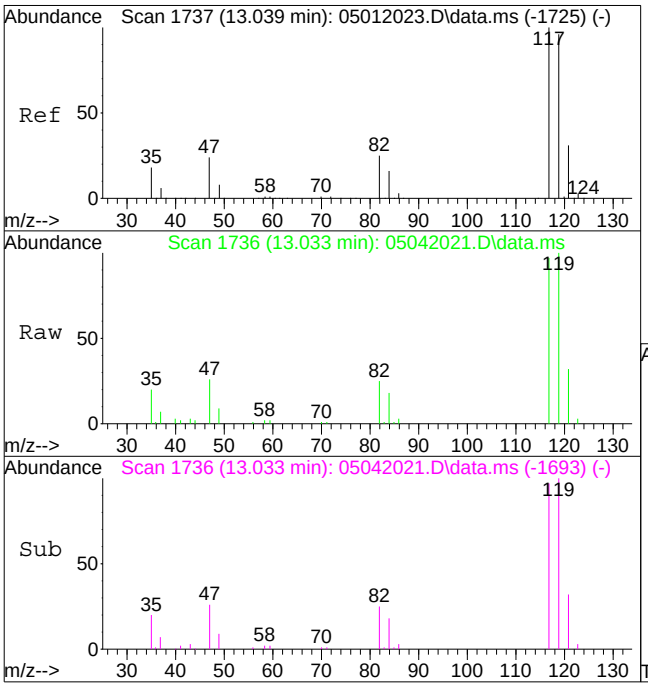


#41
Benzene
Concen: 0.26 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05042021.D
Acq: 4 May 2020 18:03

Tgt Ion: 78 Resp: 30916

Ion	Ratio	Lower	Upper
78	100		
77	23.1	3.4	43.4

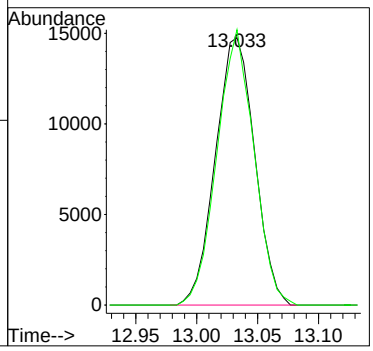


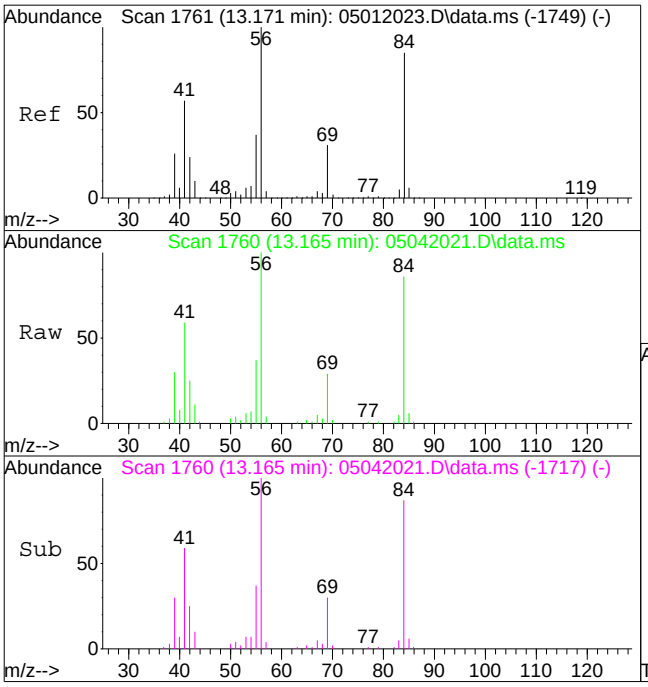


#42
Carbon Tetrachloride
Concen: 0.83 ng
RT: 13.03 min Scan# 1736
Delta R.T. -0.011 min
Lab File: 05042021.D
Acq: 4 May 2020 18:03

Tgt Ion:117 Resp: 33100

Ion	Ratio	Lower	Upper
117	100		
119	96.7	76.2	116.2

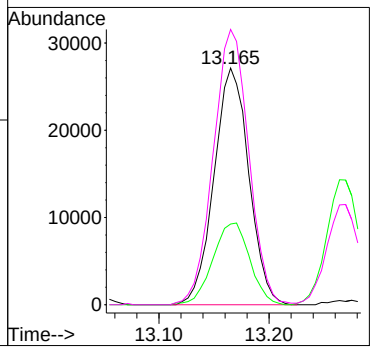


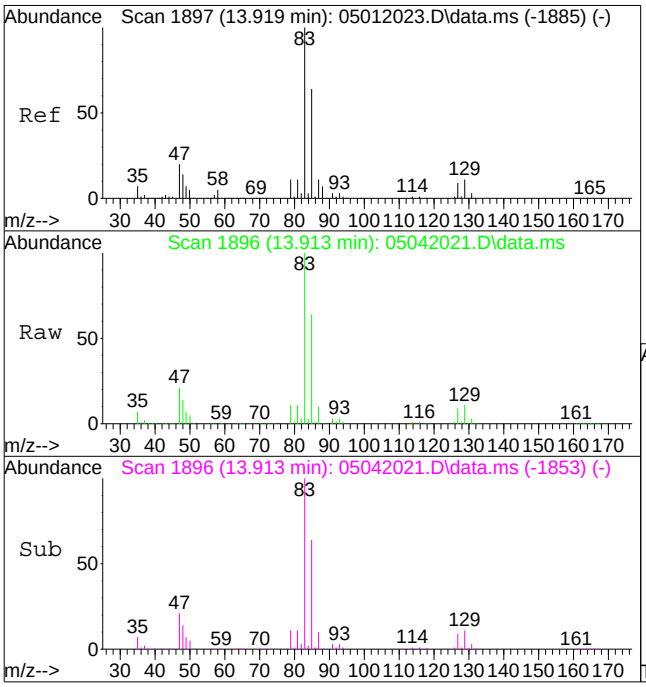


#43
Cyclohexane
Concen: 1.37 ng
RT: 13.16 min Scan# 1760
Delta R.T. -0.011 min
Lab File: 05042021.D
Acq: 4 May 2020 18:03

Tgt Ion: 84 Resp: 59683

Ion	Ratio	Lower	Upper
84	100		
69	36.6	16.5	56.5
56	118.6	97.4	137.4

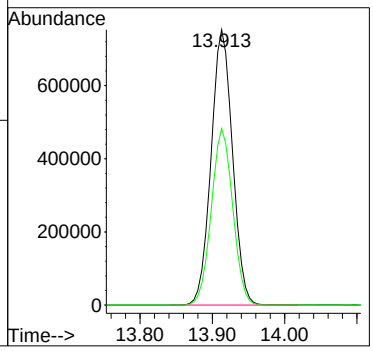


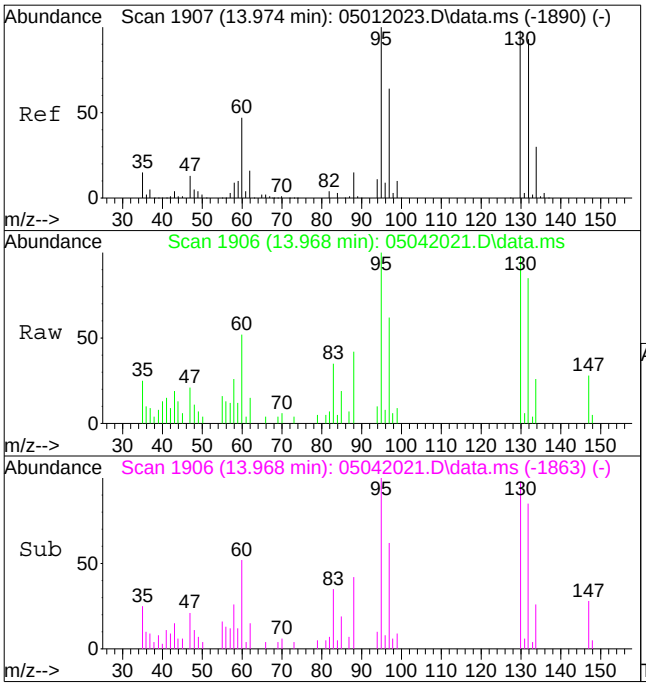


#46
Bromodichloromethane
Concen: 39.27 ng
RT: 13.91 min Scan# 1896
Delta R.T. -0.011 min
Lab File: 05042021.D
Acq: 4 May 2020 18:03

Tgt Ion: 83 Resp: 1548400

Ion	Ratio	Lower	Upper
83	100		
85	64.0	44.4	84.4

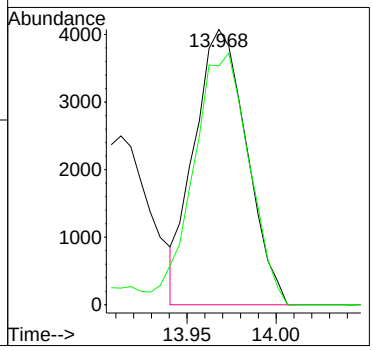


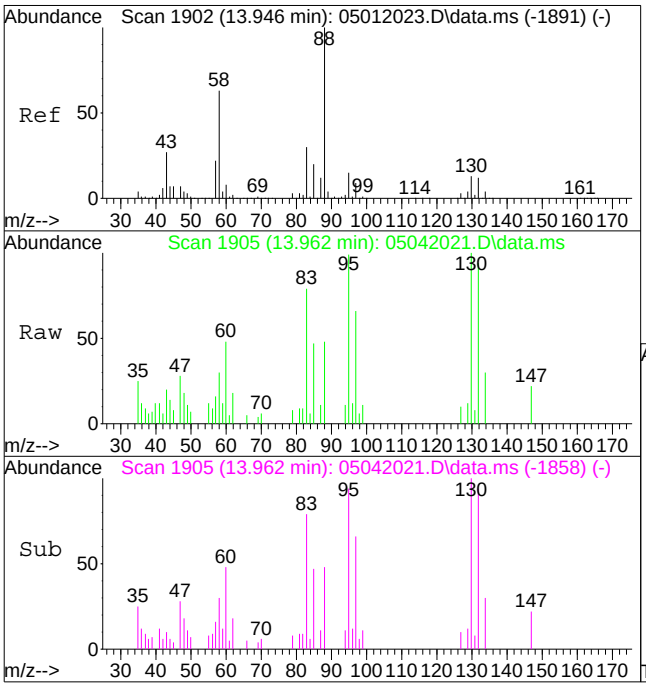


#47
Trichloroethene
Concen: 0.28 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05042021.D
Acq: 4 May 2020 18:03

Tgt Ion:130 Resp: 8343

Ion	Ratio	Lower	Upper
130	100		
132	96.5	74.9	114.9

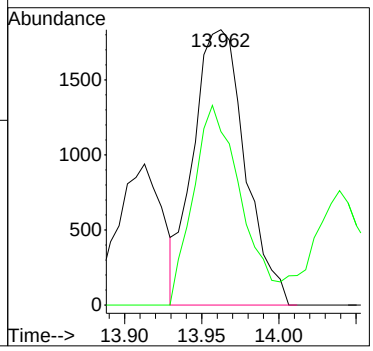


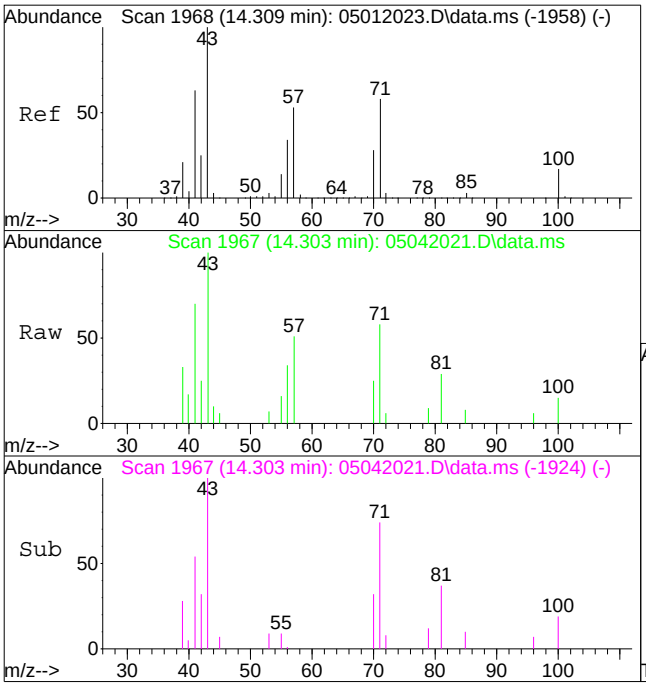


#48
1,4-Dioxane
Concen: 0.18 ng
RT: 13.96 min Scan# 1905
Delta R.T. 0.011 min
Lab File: 05042021.D
Acq: 4 May 2020 18:03

Tgt Ion: 88 Resp: 4286

Ion	Ratio	Lower	Upper
88	100		
58	67.3	42.8	82.8

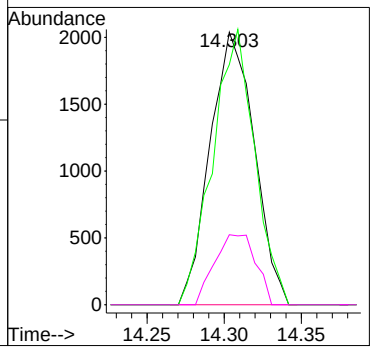


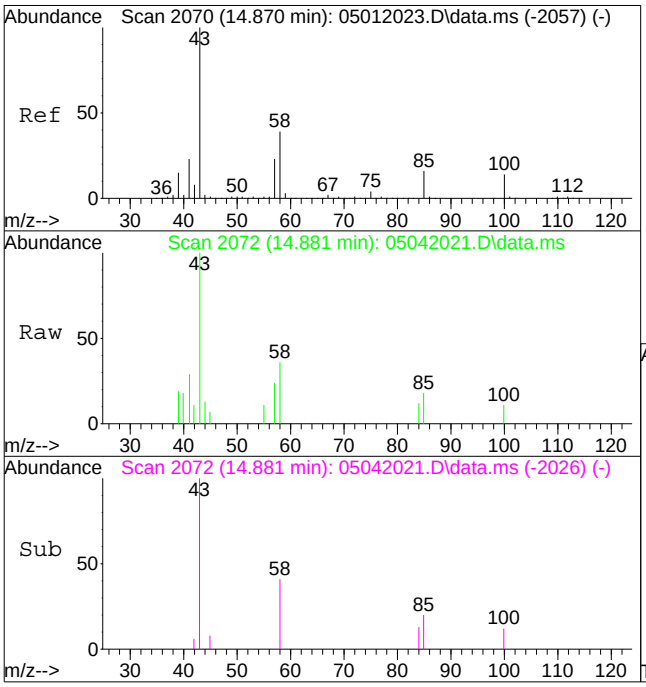


#51
n-Heptane
Concen: 0.15 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05042021.D
Acq: 4 May 2020 18:03

Tgt Ion: 71 Resp: 4073

Ion	Ratio	Lower	Upper
71	100		
57	95.4	71.0	111.0
100	23.9	8.4	48.4

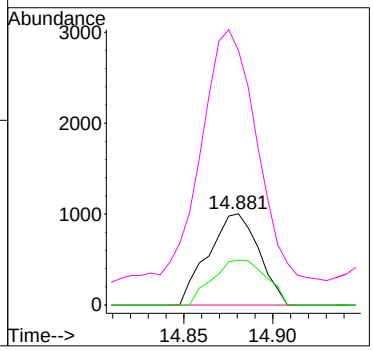


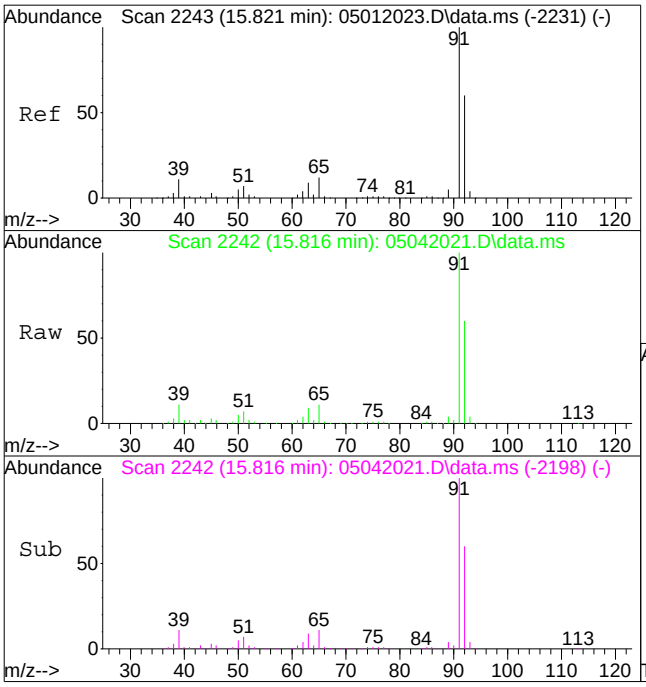


#53
4-Methyl-2-pentanone
Concen: 0.08 ng
RT: 14.88 min Scan# 2072
Delta R.T. 0.005 min
Lab File: 05042021.D
Acq: 4 May 2020 18:03

Tgt Ion: 58 Resp: 1984

Ion	Ratio	Lower	Upper
58	100		
85	52.0	35.4	53.2
43	415.0	203.3	304.9#

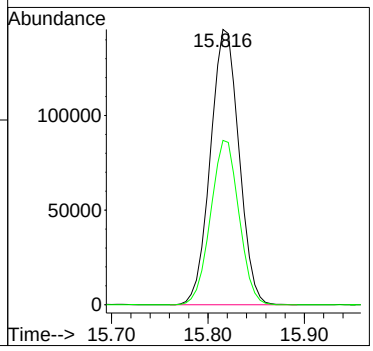


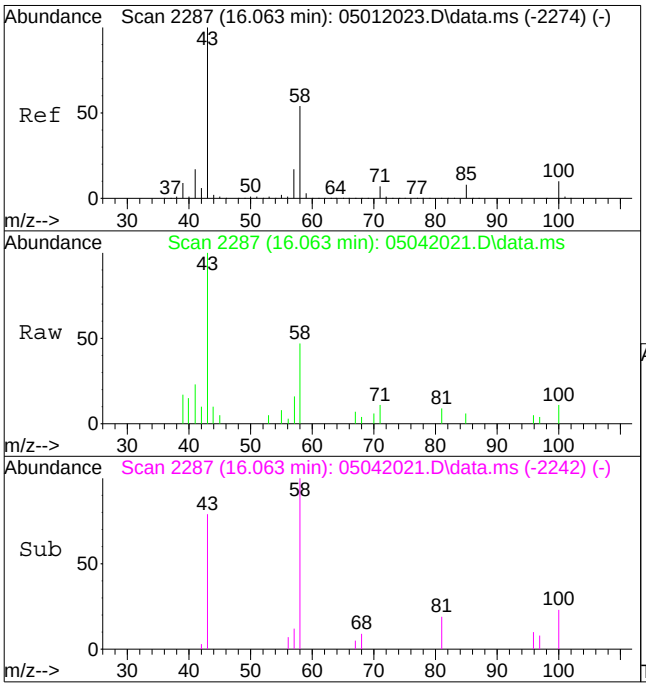


#58
Toluene
Concen: 2.62 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05042021.D
Acq: 4 May 2020 18:03

Tgt Ion: 91 Resp: 300008

Ion	Ratio	Lower	Upper
91	100		
92	59.2	39.4	79.4

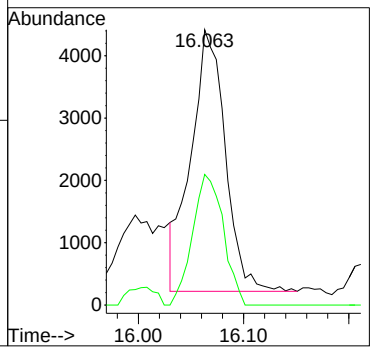


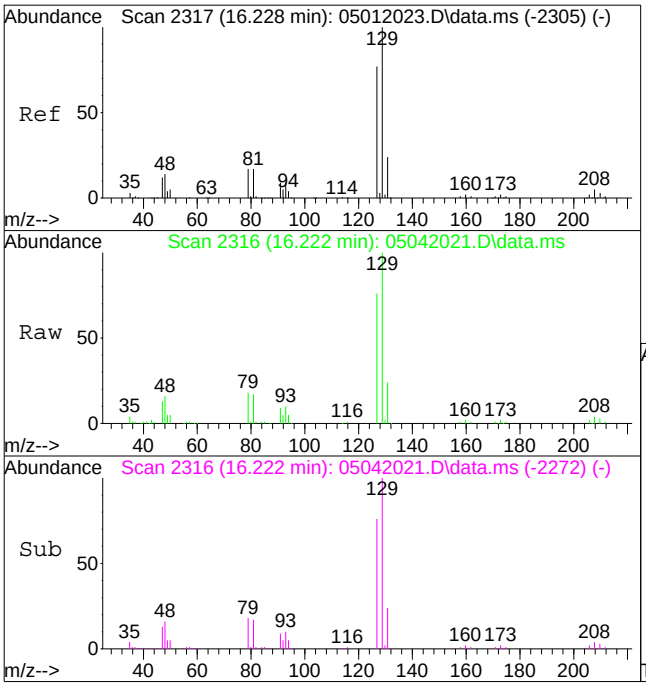


#59
2-Hexanone
Concen: 0.15 ng
RT: 16.06 min Scan# 2287
Delta R.T. -0.000 min
Lab File: 05042021.D
Acq: 4 May 2020 18:03

Tgt Ion: 43 Resp: 9556

Ion	Ratio	Lower	Upper
43	100		
58	44.5	34.5	74.5

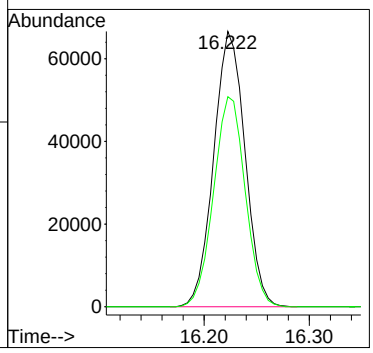


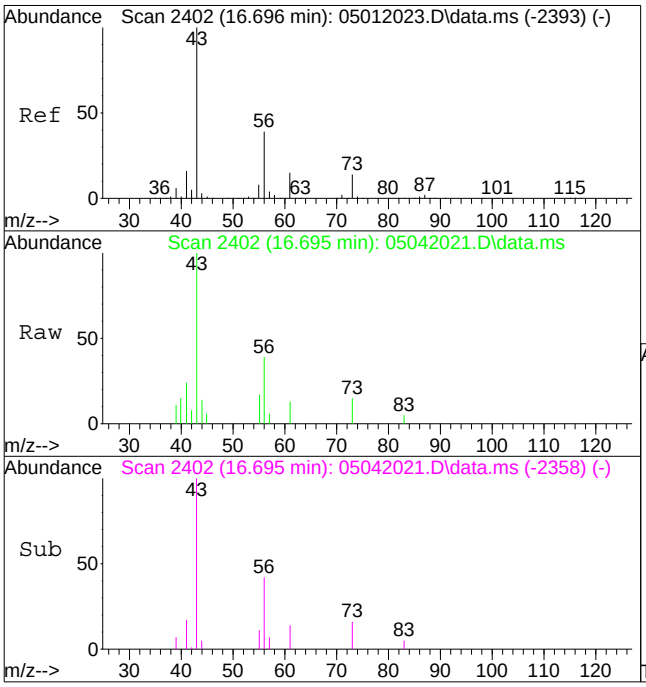


#60
Dibromochloromethane
Concen: 4.21 ng
RT: 16.22 min Scan# 2316
Delta R.T. -0.006 min
Lab File: 05042021.D
Acq: 4 May 2020 18:03

Tgt Ion:129 Resp: 137919

Ion	Ratio	Lower	Upper
129	100		
127	77.0	57.3	97.3

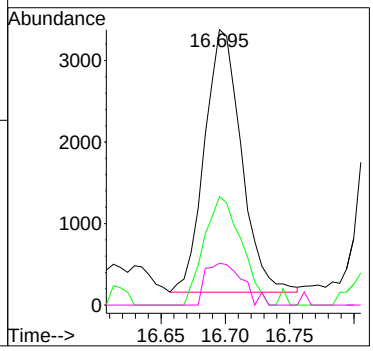


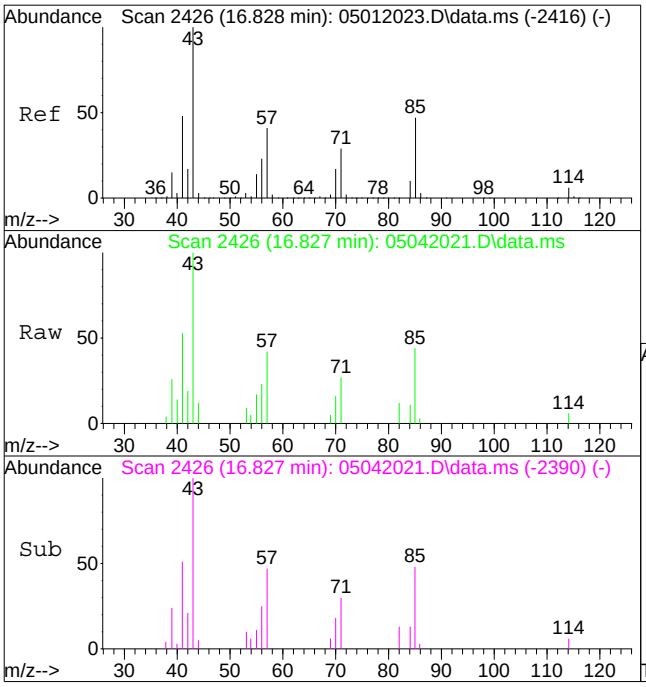


#62
n-Butyl Acetate
Concen: 0.09 ng
RT: 16.70 min Scan# 2402
Delta R.T. -0.006 min
Lab File: 05042021.D
Acq: 4 May 2020 18:03

Tgt Ion: 43 Resp: 6415

Ion	Ratio	Lower	Upper
43	100		
56	41.7	19.2	59.2
73	16.0	0.0	34.4

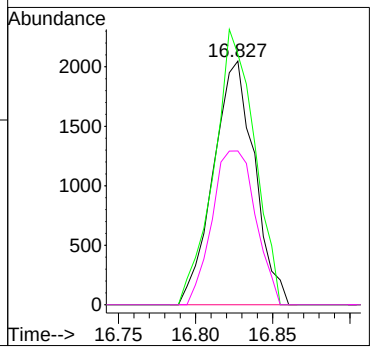


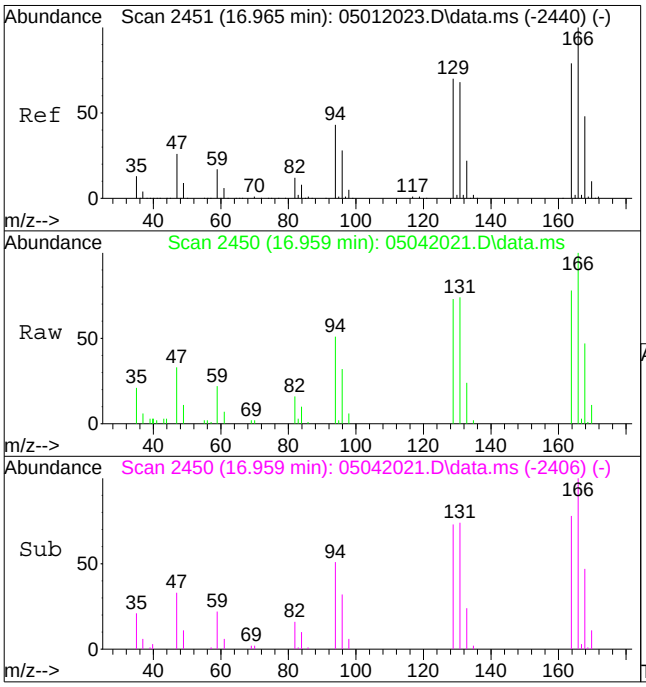


#63
n-Octane
Concen: 0.16 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05042021.D
Acq: 4 May 2020 18:03

Tgt Ion: 57 Resp: 3807

Ion	Ratio	Lower	Upper
57	100		
85	110.7	91.0	136.4
71	66.6	56.2	84.2

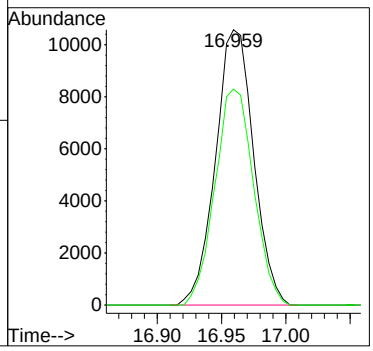


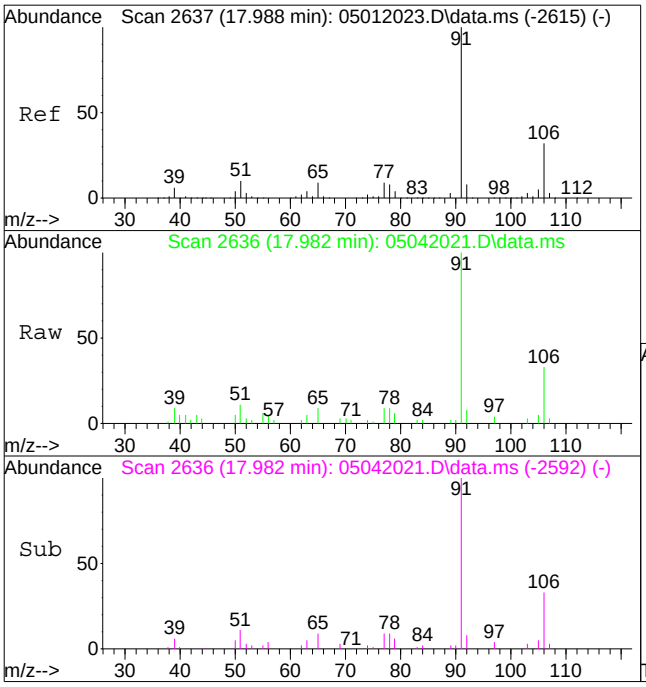


#64
Tetrachloroethene
Concen: 0.68 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05042021.D
Acq: 4 May 2020 18:03

Tgt Ion:166 Resp: 21821

Ion	Ratio	Lower	Upper
166	100		
164	79.5	58.4	98.4

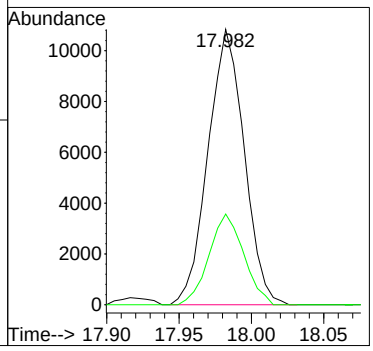


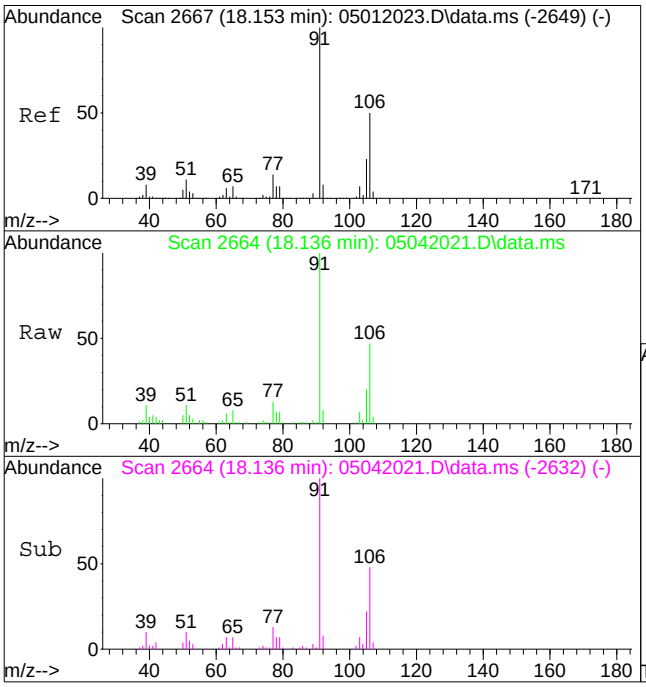


#66
Ethylbenzene
Concen: 0.15 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05042021.D
Acq: 4 May 2020 18:03

Tgt Ion: 91 Resp: 18890

Ion	Ratio	Lower	Upper
91	100		
106	31.6	11.6	51.6

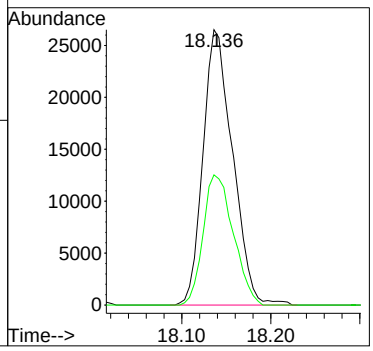


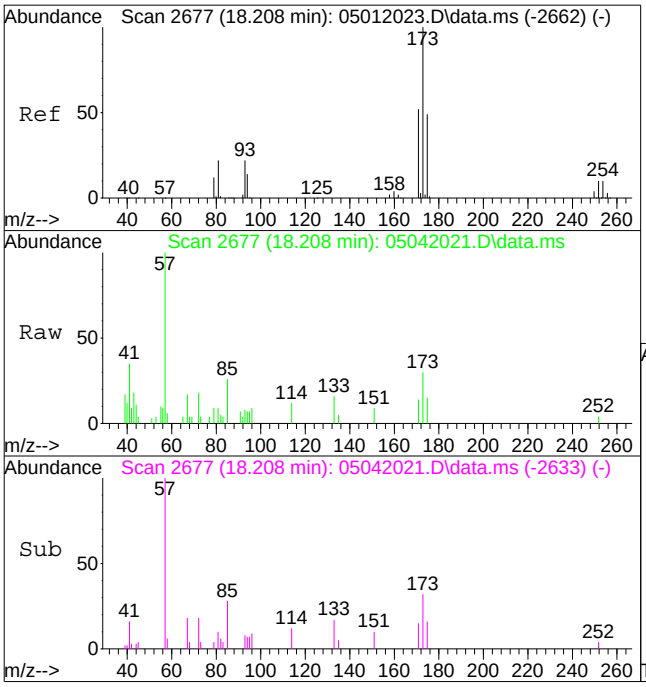


#67
m- & p-Xylenes
Concen: 0.61 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05042021.D
Acq: 4 May 2020 18:03

Tgt Ion: 91 Resp: 61260

Ion	Ratio	Lower	Upper
91	100		
106	48.1	29.7	69.7

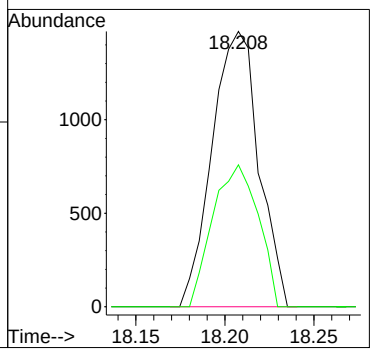


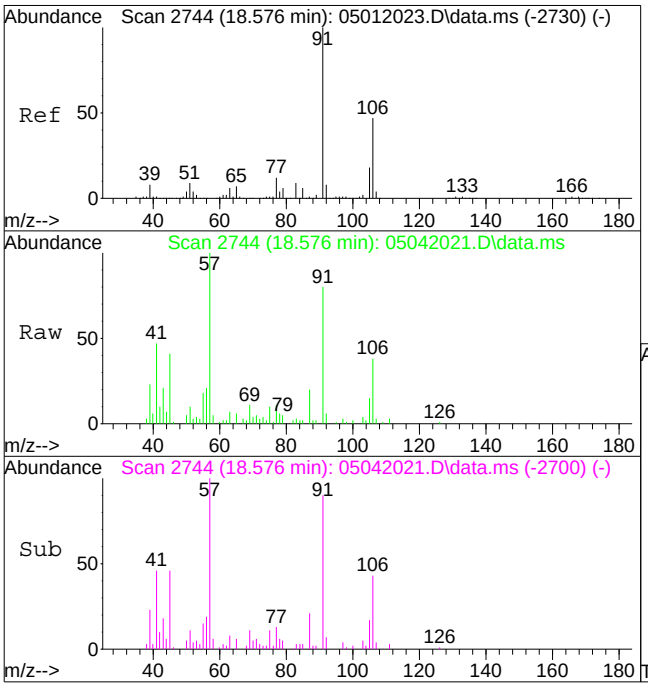


#68
Bromoform
Concen: 0.09 ng
RT: 18.21 min Scan# 2677
Delta R.T. -0.005 min
Lab File: 05042021.D
Acq: 4 May 2020 18:03

Tgt Ion:173 Resp: 2686

Ion	Ratio	Lower	Upper
173	100		
175	50.1	29.0	69.0

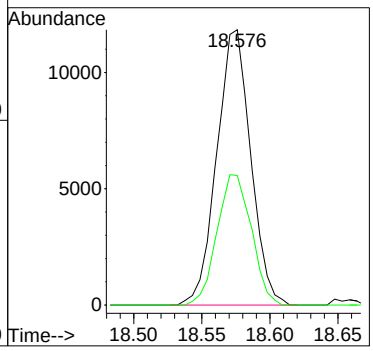


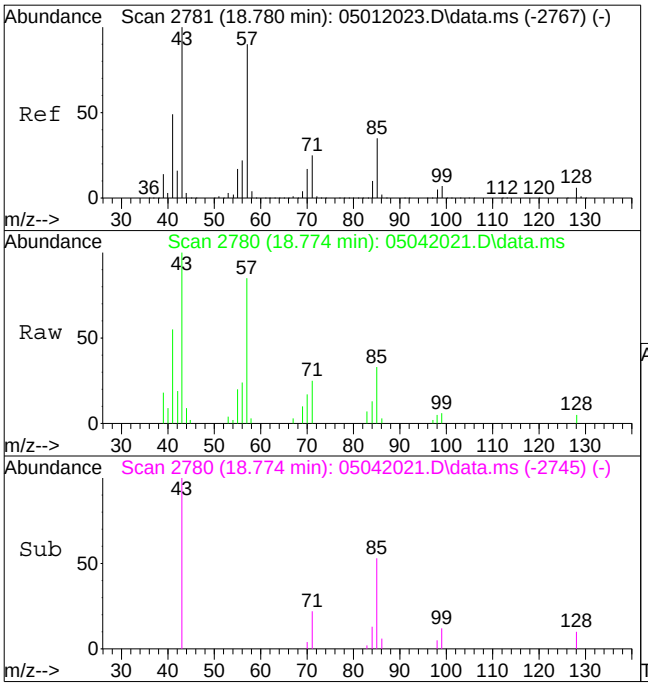


#70
o-Xylene
Concen: 0.20 ng
RT: 18.58 min Scan# 2744
Delta R.T. -0.006 min
Lab File: 05042021.D
Acq: 4 May 2020 18:03

Tgt Ion: 91 Resp: 20502

Ion	Ratio	Lower	Upper
91	100		
106	47.9	27.5	67.5

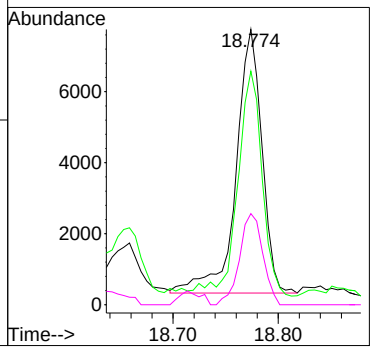


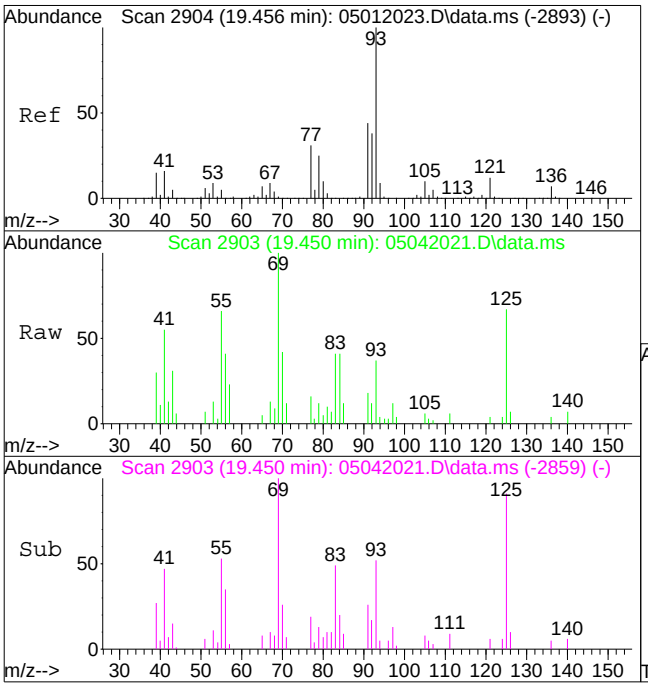


#71
n-Nonane
Concen: 0.23 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05042021.D
Acq: 4 May 2020 18:03

Tgt Ion: 43 Resp: 12777

Ion	Ratio	Lower	Upper
43	100		
57	82.4	69.0	109.0
85	30.9	14.6	54.6

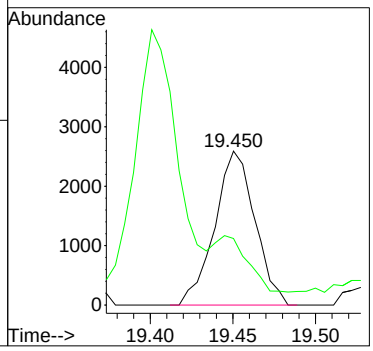


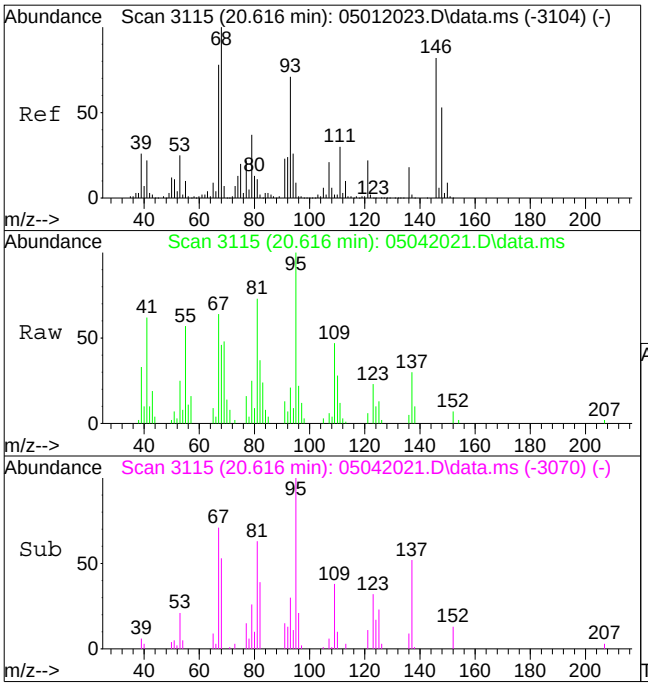


#75
alpha-Pinene
Concen: 0.07 ng
RT: 19.45 min Scan# 2903
Delta R.T. -0.006 min
Lab File: 05042021.D
Acq: 4 May 2020 18:03

Tgt Ion: 93 Resp: 4376

Ion	Ratio	Lower	Upper
93	100		
77	0.0	11.2	51.2#

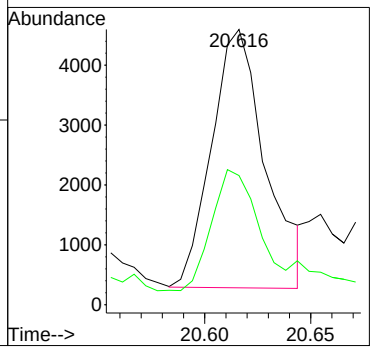




#91
d-Limonene
Concen: 0.19 ng m
RT: 20.62 min Scan# 3115
Delta R.T. -0.000 min
Lab File: 05042021.D
Acq: 4 May 2020 18:03

Tgt Ion: 68 Resp: 7616

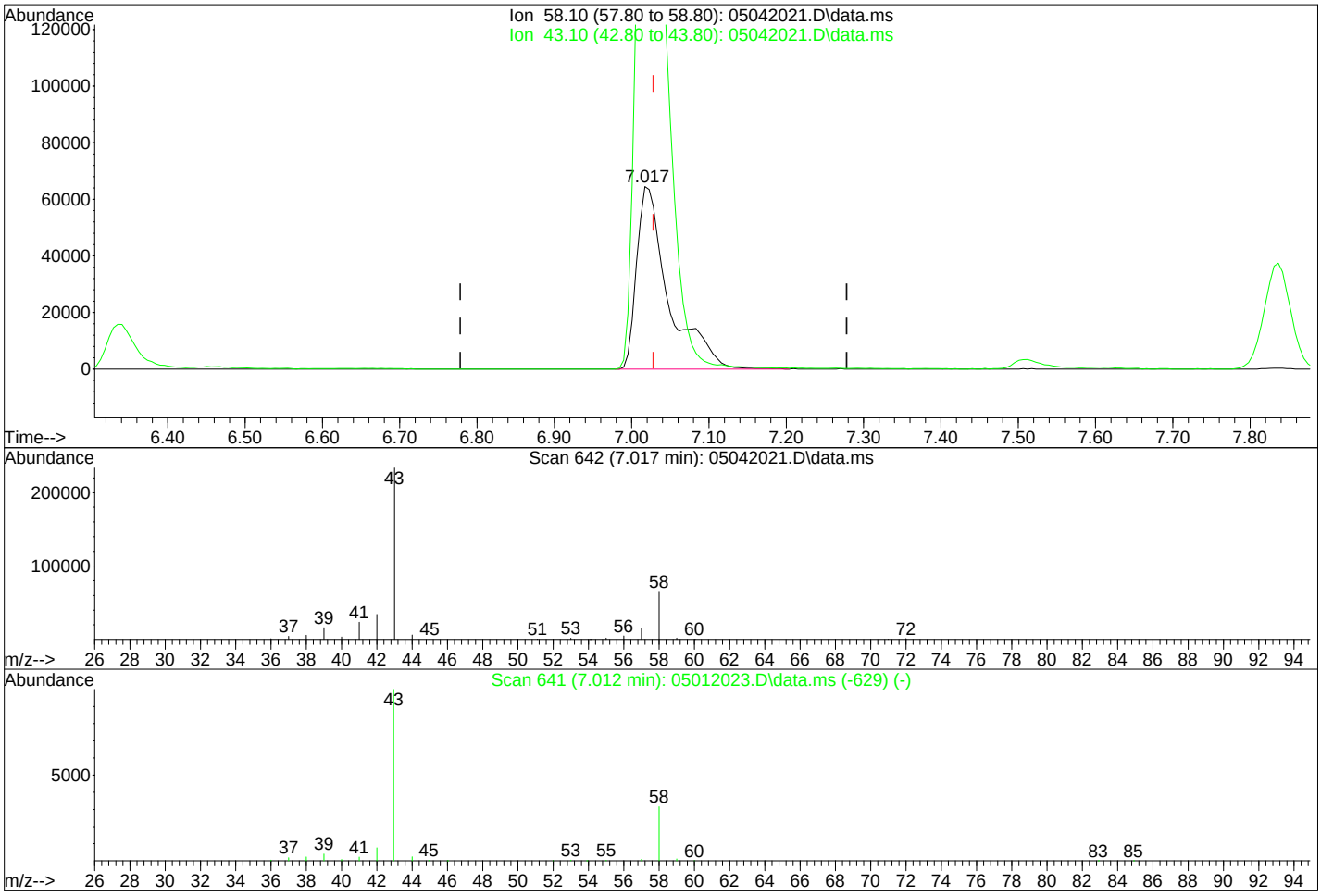
Ion	Ratio	Lower	Upper
68	100		
93	52.4	51.1	91.1



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\04\05042021.D Vial: 10
Acq On : 4 May 2020 18:03 Operator: TD
Sample : P2002105-008 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 19:32:01 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05042021.D\data.ms

(13) Acetone (T)

7.017min (-0.011) 8.27ng

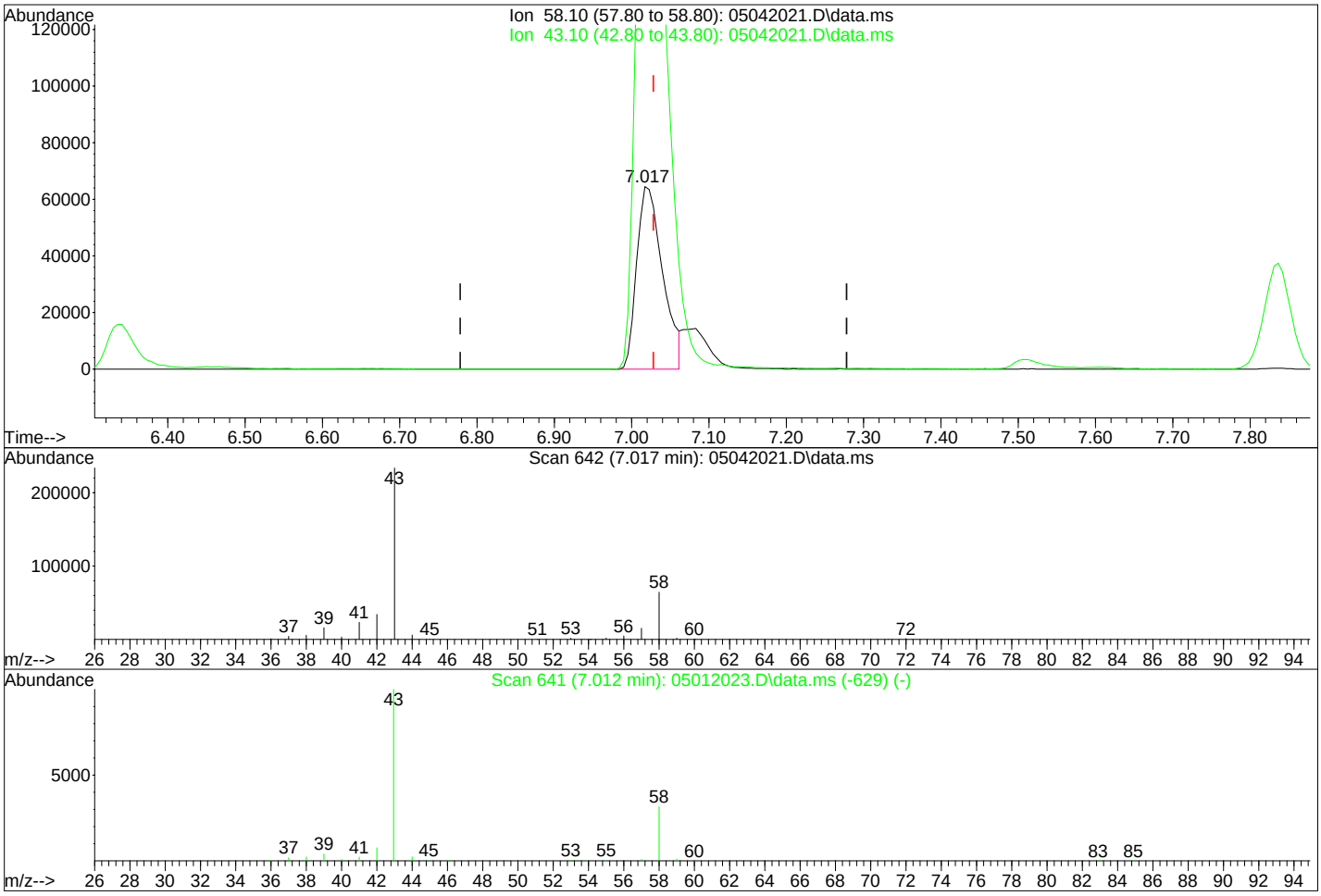
response 184917

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	331.40
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\04\05042021.D Vial: 10
Acq On : 4 May 2020 18:03 Operator: TD
Sample : P2002105-008 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 19:32:01 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05042021.D\data.ms

(13) Acetone (T)

7.017min (-0.011) 6.72ng m

response 150377

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	407.52#
0.00	0.00	0.00
0.00	0.00	0.00

IPC

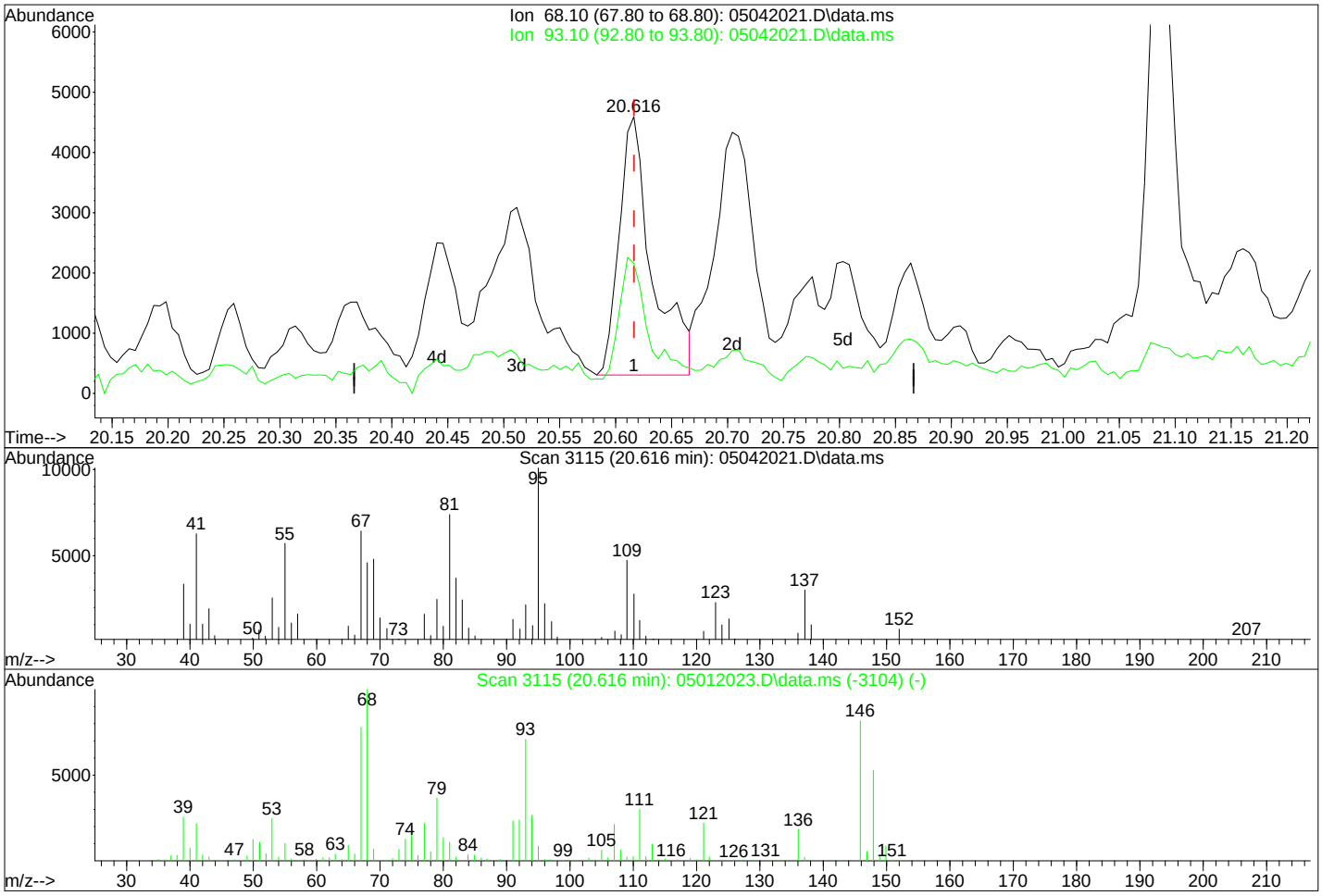
LH 5/4/20

5/7/20

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\04\05042021.D Vial: 10
Acq On : 4 May 2020 18:03 Operator: TD
Sample : P2002105-008 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 19:32:01 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05042021.D\data.ms

(91) d-Limonene (T)

20.616min (-0.000) 0.22ng

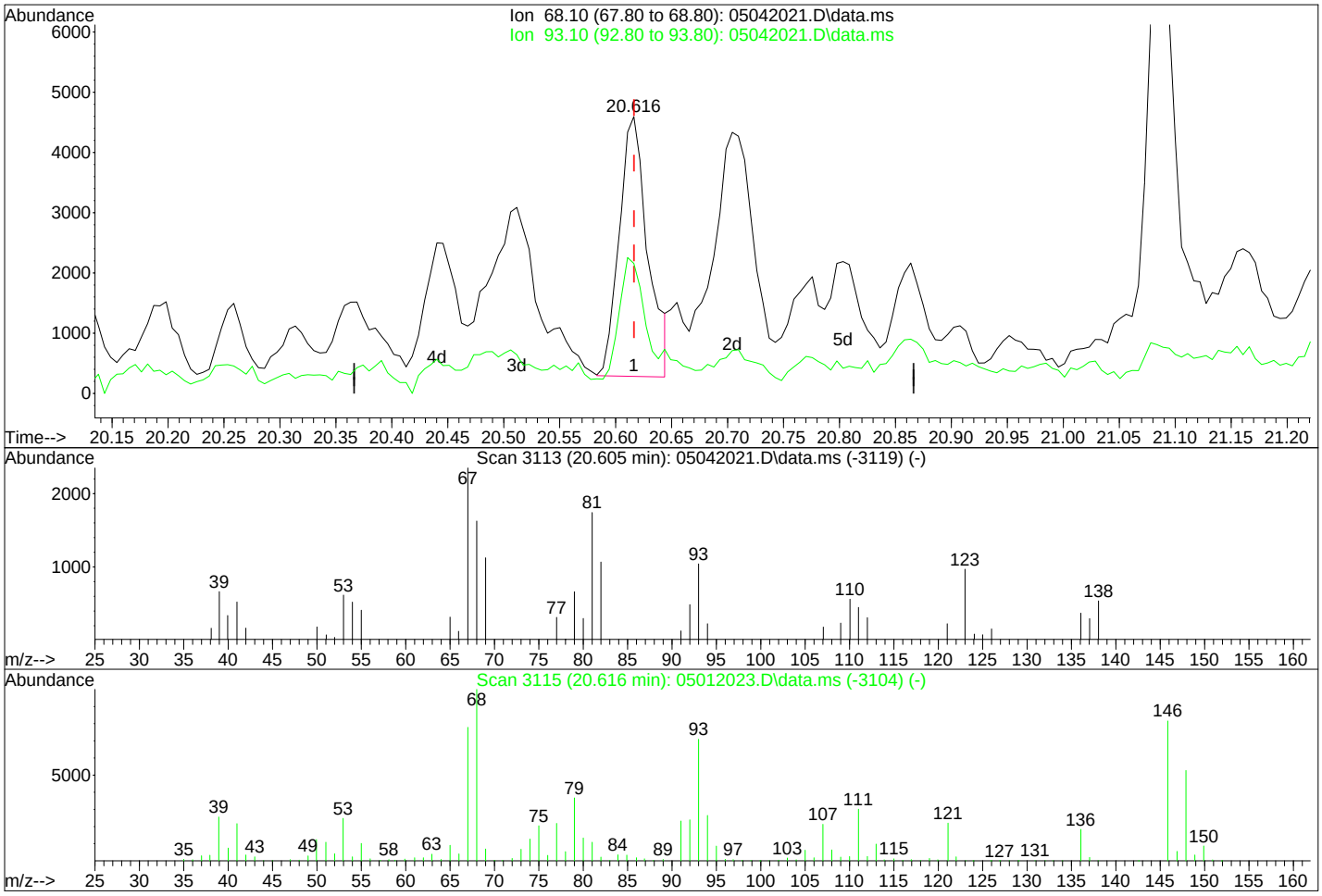
response 8820

Ion	Exp%	Act%
68.10	100	100
93.10	71.10	45.20#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\04\05042021.D Vial: 10
Acq On : 4 May 2020 18:03 Operator: TD
Sample : P2002105-008 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 19:32:01 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05042021.D\data.ms

(91) d-Limonene (T)

20.616min (-0.000) 0.19ng m

response 7616

Ion	Exp%	Act%
68.10	100	100
93.10	71.10	52.35
0.00	0.00	0.00
0.00	0.00	0.00

IPC

LH 5/4/20

5/7/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042023.D Vial: 10
Acq On : 4 May 2020 19:11 Operator: TD
Sample : P2002105-008dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 19:37:04 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/4/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	270420	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1190589	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	566415	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	464479	12.674	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.36%				
57) Toluene-d8 (SS2)	15.72	98	1195783	12.455	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.68%				
73) Bromofluorobenzene (SS3)	18.98	174	400217	11.585	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.72%				
Target Compounds							Qvalue
2) Propene	4.11	42	2551	0.081	ng		96
3) Dichlorodifluoromethan...	4.28	85	3576	0.058	ng		96
4) Chloromethane	4.55	50	493	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.32	45	18280	0.756	ng		93
11) Acetonitrile	6.64	41	60	N.D.			
12) Acrolein	6.81	56	621	N.D.			
13) Acetone	7.02	58	16855	0.697	ng		95
14) Trichlorofluoromethane	7.24	101	1174	N.D.			
15) 2-Propanol (Isopropanol)	7.51	45	5558	0.076	ng		98
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.43	59	3228	N.D.			
19) Methylene Chloride	8.40	84	1921	0.061	ng		92
20) 3-Chloro-1-propene (Al...	8.44	41	491	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.68	76	9875	0.088	ng		97
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.48	72	2059	0.100	ng	#	77
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.27	61	7097	0.597	ng	#	51
31) n-Hexane	11.26	57	4075	0.079	ng	#	39
32) Chloroform	11.30	83	391250	7.268	ng		98
34) Tetrahydrofuran (THF)	11.75	72	812	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	2907	N.D.			
42) Carbon Tetrachloride	13.03	117	2745	0.063	ng		96
43) Cyclohexane	13.17	84	4998	0.105	ng		99
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	13.91	83	116570	2.702	ng		99
47) Trichloroethene	13.97	130	705	N.D.			
48) 1,4-Dioxane	13.97	88	190	N.D.			
49) 2,2,4-Trimethylpentane...	14.04	57	584	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042023.D Vial: 10
Acq On : 4 May 2020 19:11 Operator: TD
Sample : P2002105-008dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 19:37:04 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

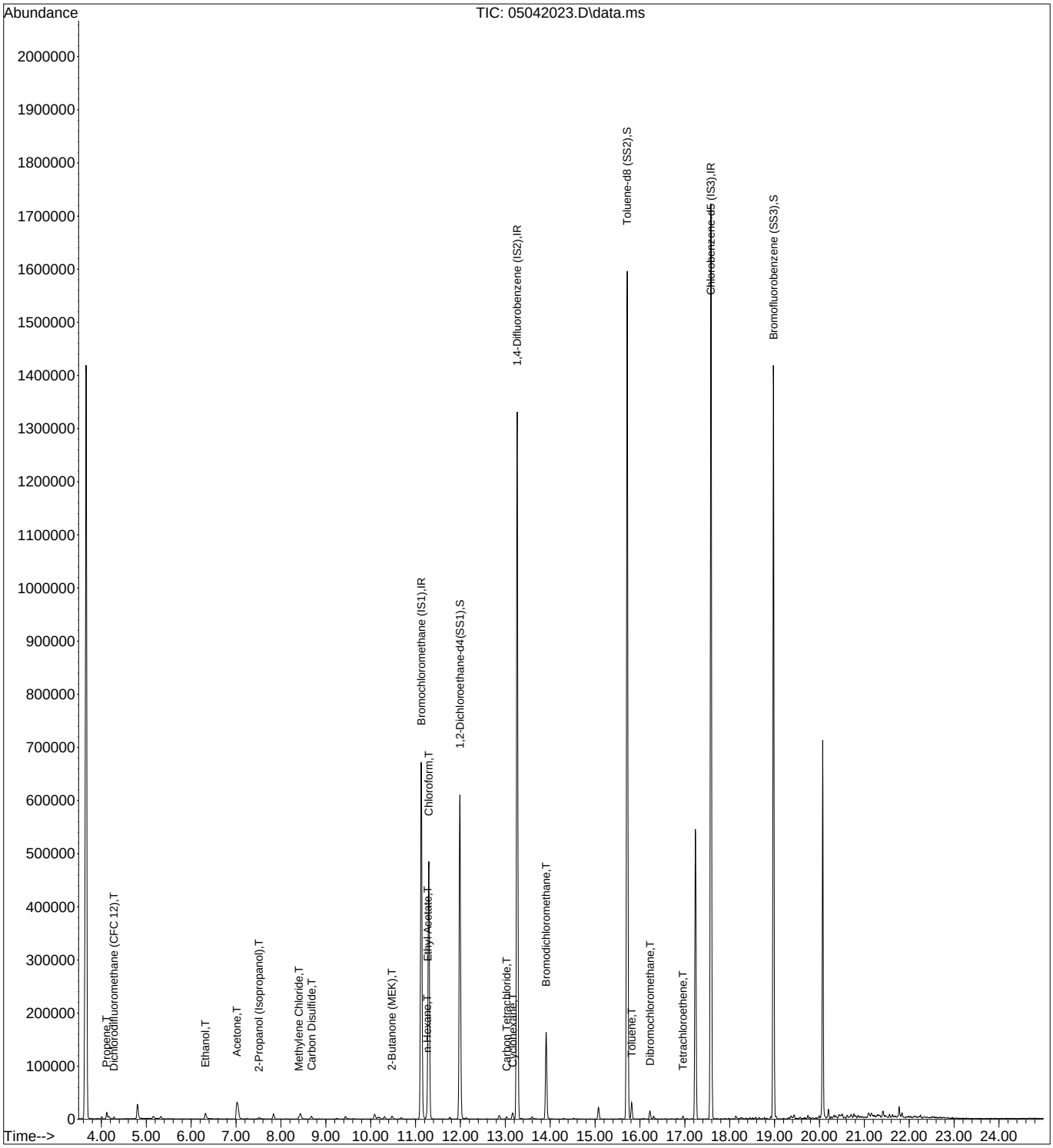
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	304	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.82	91	25105	0.203 ng	97
59) 2-Hexanone	16.08	43	859	N.D.	
60) Dibromochloromethane	16.23	129	10205	0.288 ng	95
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.70	43	673	N.D.	
63) n-Octane	16.82	57	195	N.D.	
64) Tetrachloroethene	16.96	166	1807	0.052 ng	97
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	17.98	91	1667	N.D.	
67) m- & p-Xylenes	18.14	91	4759	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	255	N.D.	
70) o-Xylene	18.57	91	1682	N.D.	
71) n-Nonane	18.77	43	1019	N.D.	
72) 1,1,2,2-Tetrachloroethane	18.40	83	260	N.D.	
74) Cumene	19.10	105	157	N.D.	
75) alpha-Pinene	19.46	93	146	N.D.	
76) n-Propylbenzene	19.55	91	548	N.D.	
77) 3-Ethyltoluene	19.64	105	394	N.D.	
78) 4-Ethyltoluene	19.68	105	309	N.D.	
79) 1,3,5-Trimethylbenzene	19.75	105	389	N.D.	
80) alpha-Methylstyrene	19.88	118	167	N.D.	
81) 2-Ethyltoluene	19.91	105	202	N.D.	
82) 1,2,4-Trimethylbenzene	20.07	105	3491	N.D.	
83) n-Decane	20.20	57	2084	N.D.	
84) Benzyl Chloride	20.07	91	381	N.D.	
85) 1,3-Dichlorobenzene	20.07	146	514	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	20.48	105	266	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	370	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	266	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.62	68	708	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.30	57	1839	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.22	128	919	N.D.	
96) n-Dodecane	22.22	57	478	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.28	55	1386	N.D.	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	20.86	91	332	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042023.D Vial: 10
Acq On : 4 May 2020 19:11 Operator: TD
Sample : P2002105-008dil (40mL) Inst : GCMS-16
Misc : S31-02112001

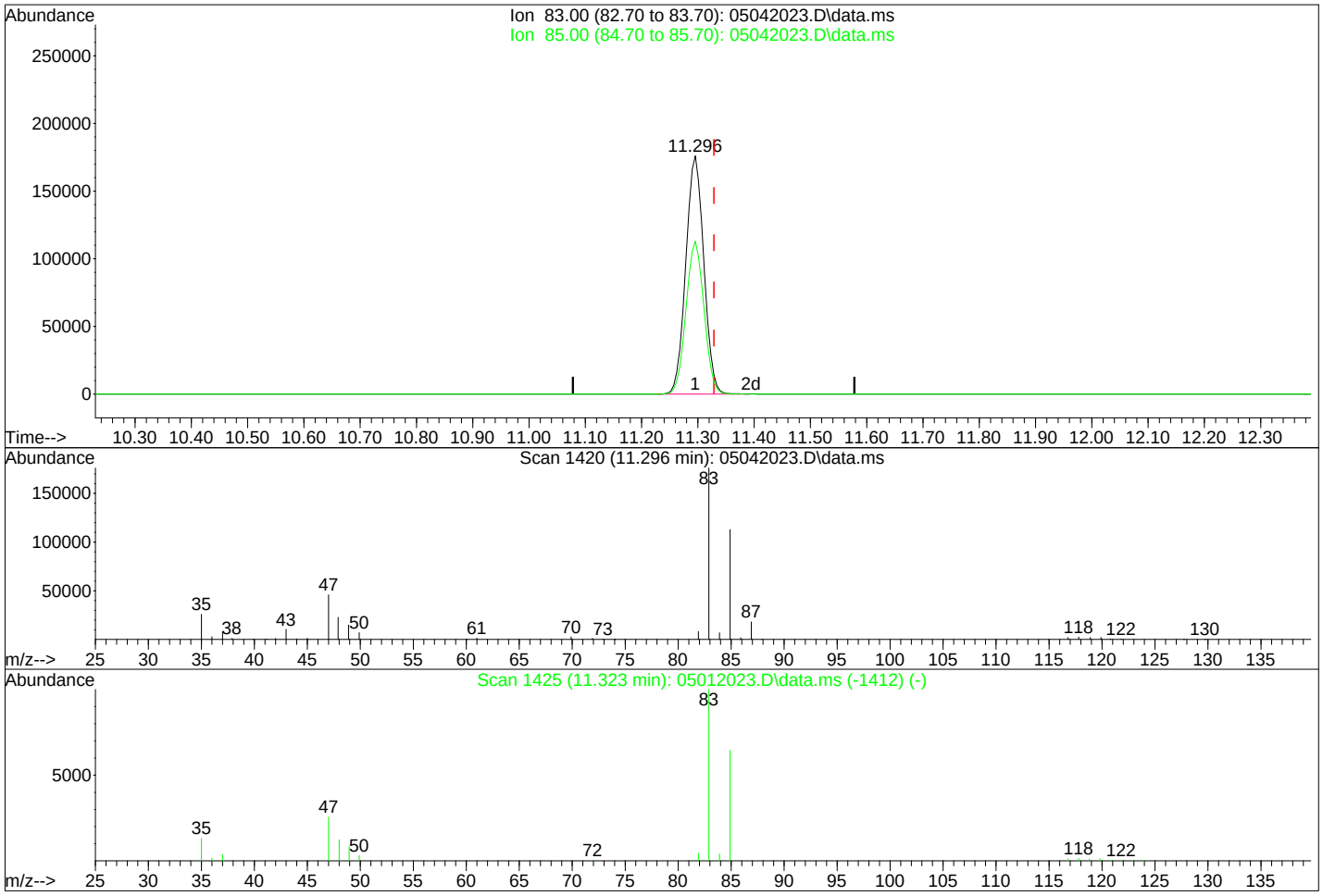
Quant Time: May 04 19:37:04 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\04\05042023.D Vial: 10
Acq On : 4 May 2020 19:11 Operator: TD
Sample : P2002105-008dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 19:36:31 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05042023.D\data.ms

(32) Chloroform (T)

11.296min (-0.033) 7.27ng

response 391250

Ion	Exp%	Act%
83.00	100	100
85.00	65.50	64.13
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042024.D Vial: 11
Acq On : 4 May 2020 19:44 Operator: TD
Sample : P2002105-009 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 14:18:24 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/6/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	247061	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.27	114	1054297	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	518089	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	414730	12.387	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.12%				
57) Toluene-d8 (SS2)	15.72	98	1074843	12.240	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.92%				
73) Bromofluorobenzene (SS3)	18.98	174	378814	11.989	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.92%				
Target Compounds							Qvalue
2) Propene	4.10	42	9327	0.326	ng		97
3) Dichlorodifluoromethan...	4.26	85	135736	2.425	ng		100
4) Chloromethane	4.54	50	3588	0.082	ng		95
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	3247	0.097	ng		94
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.23	54	222	N.D.			
8) Bromomethane	5.65	94	106	N.D.			
9) Chloroethane	5.97	64	1298	0.068	ng		86
10) Ethanol	6.33	45	59215	2.680	ng		99
11) Acetonitrile	6.63	41	4434	0.088	ng	#	69
12) Acrolein	6.84	56	8967	0.514	ng		100
13) Acetone	7.03	58	78951	3.573	ng	#	71
14) Trichlorofluoromethane	7.24	101	21317	0.431	ng		100
15) 2-Propanol (Isopropanol)	7.51	45	26710	0.399	ng		82
16) Acrylonitrile	7.79	53	62	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	80088	2.788	ng		97
20) 3-Chloro-1-propene (Al...	8.48	41	835	N.D.			
21) Trichlorotrifluoroethane	8.84	151	5424	0.232	ng		97
22) Carbon Disulfide	8.68	76	27220	0.264	ng		100
23) trans-1,2-Dichloroethene	9.68	61	921	N.D.			
24) 1,1-Dichloroethane	9.95	63	509	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	10.17	86	6632	0.964	ng	#	42
27) 2-Butanone (MEK)	10.47	72	15799	0.838	ng		94
28) cis-1,2-Dichloroethene	10.95	61	477	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.28	61	187000	17.209	ng	#	21
31) n-Hexane	11.26	57	6795	0.144	ng	#	1
32) Chloroform	11.30	83	14849146	301.943	ng		100
34) Tetrahydrofuran (THF)	11.76	72	1178	0.064	ng	#	15
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	410	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.88	78	9831	0.087	ng		100
42) Carbon Tetrachloride	13.03	117	174460	4.536	ng		100
43) Cyclohexane	13.16	84	6020	0.143	ng		96
44) tert-Amyl Methyl Ether	13.52	73	204	N.D.			
45) 1,2-Dichloropropane	13.73	63	265	N.D.			
46) Bromodichloromethane	13.91	83	5289589	138.434	ng		100
47) Trichloroethene	13.97	130	27264	0.933	ng		98
48) 1,4-Dioxane	0.00	88	0	N.D.	d		
49) 2,2,4-Trimethylpentane...	14.04	57	3851	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042024.D Vial: 11
Acq On : 4 May 2020 19:44 Operator: TD
Sample : P2002105-009 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 14:18:24 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

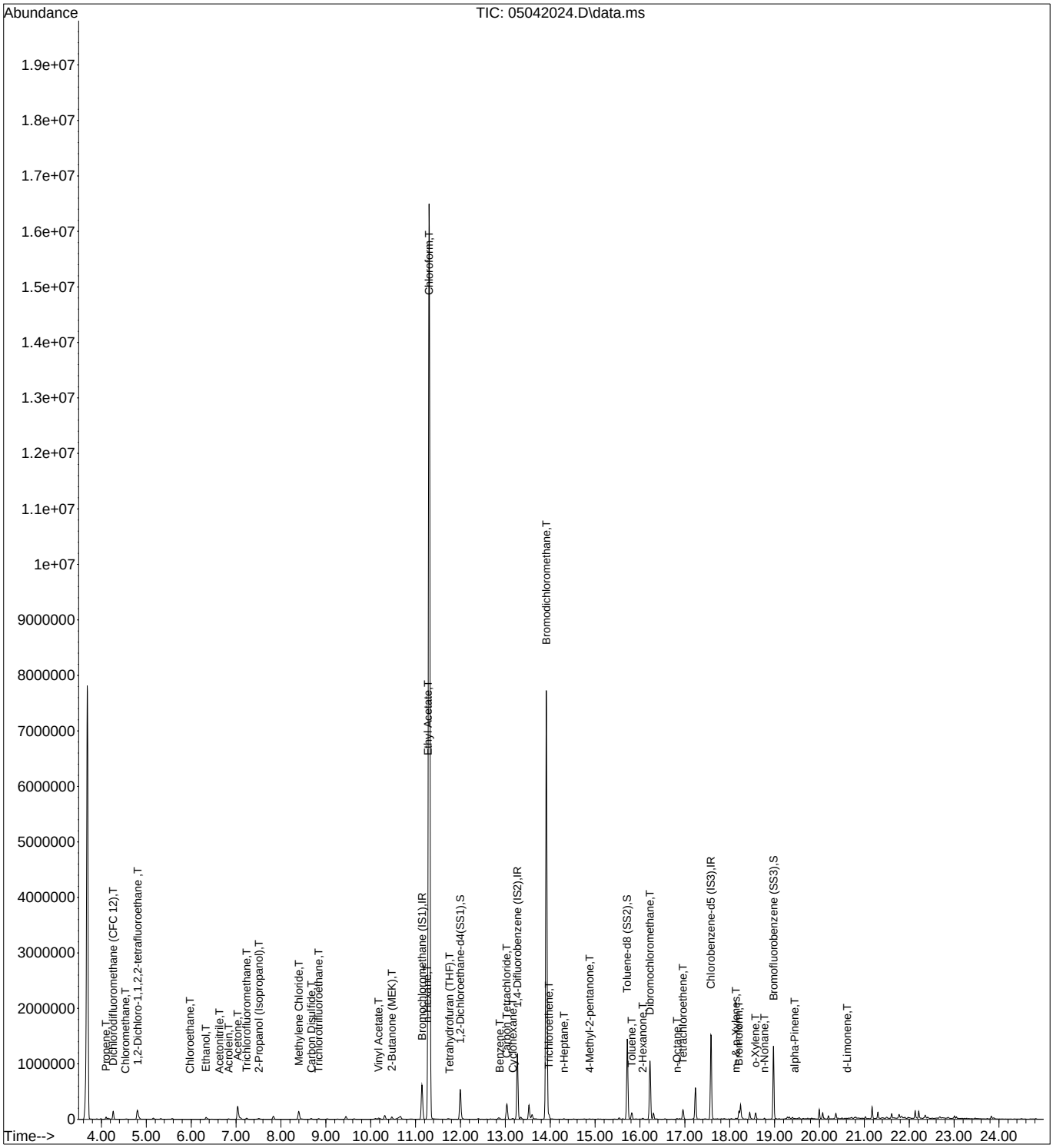
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.31	71	2319	0.088 ng		94
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.88	58	1890	0.075 ng	#	87
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.82	91	95141	0.840 ng		99
59) 2-Hexanone	16.06	43	15174	0.245 ng		93
60) Dibromochloromethane	16.22	129	630831	19.462 ng		100
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.70	43	2884	N.D.		
63) n-Octane	16.83	57	2357	0.101 ng		97
64) Tetrachloroethene	16.96	166	56606	1.770 ng		99
65) Chlorobenzene	17.63	112	227	N.D.		
66) Ethylbenzene	17.98	91	4819	N.D.		
67) m- & p-Xylenes	18.14	91	11679	0.117 ng		99
68) Bromoform	18.20	173	43327	1.542 ng		99
69) Styrene	18.48	104	2871	N.D.		
70) o-Xylene	18.58	91	5189	0.051 ng		94
71) n-Nonane	18.77	43	7654	0.142 ng		92
72) 1,1,2,2-Tetrachloroethane	18.59	83	689	N.D.		
74) Cumene	19.10	105	836	N.D.		
75) alpha-Pinene	19.45	93	5432	0.082 ng		93
76) n-Propylbenzene	19.55	91	3256	N.D.		
77) 3-Ethyltoluene	19.64	105	3085	N.D.		
78) 4-Ethyltoluene	19.68	105	1340	N.D.		
79) 1,3,5-Trimethylbenzene	19.75	105	1931	N.D.		
80) alpha-Methylstyrene	19.88	118	1847	N.D.		
81) 2-Ethyltoluene	19.91	105	1560	N.D.		
82) 1,2,4-Trimethylbenzene	20.11	105	4921	N.D.		
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.31	91	577	N.D.		
85) 1,3-Dichlorobenzene	20.30	146	196	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	196	N.D.		
87) sec-Butylbenzene	20.35	105	1378	N.D.		
88) 4-Isopropyltoluene (p-...	20.48	119	1439	N.D.		
89) 1,2,3-Trimethylbenzene	20.48	105	2182	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.62	68	3210	0.079 ng		95
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.11	180	129	N.D.		
95) Naphthalene	22.22	128	3684	N.D.		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	20.10	119	573	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042024.D Vial: 11
Acq On : 4 May 2020 19:44 Operator: TD
Sample : P2002105-009 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 14:18:24 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042024.D Vial: 11
Acq On : 4 May 2020 19:44 Operator: TD
Sample : P2002105-009 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 14:18:24 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/6/20

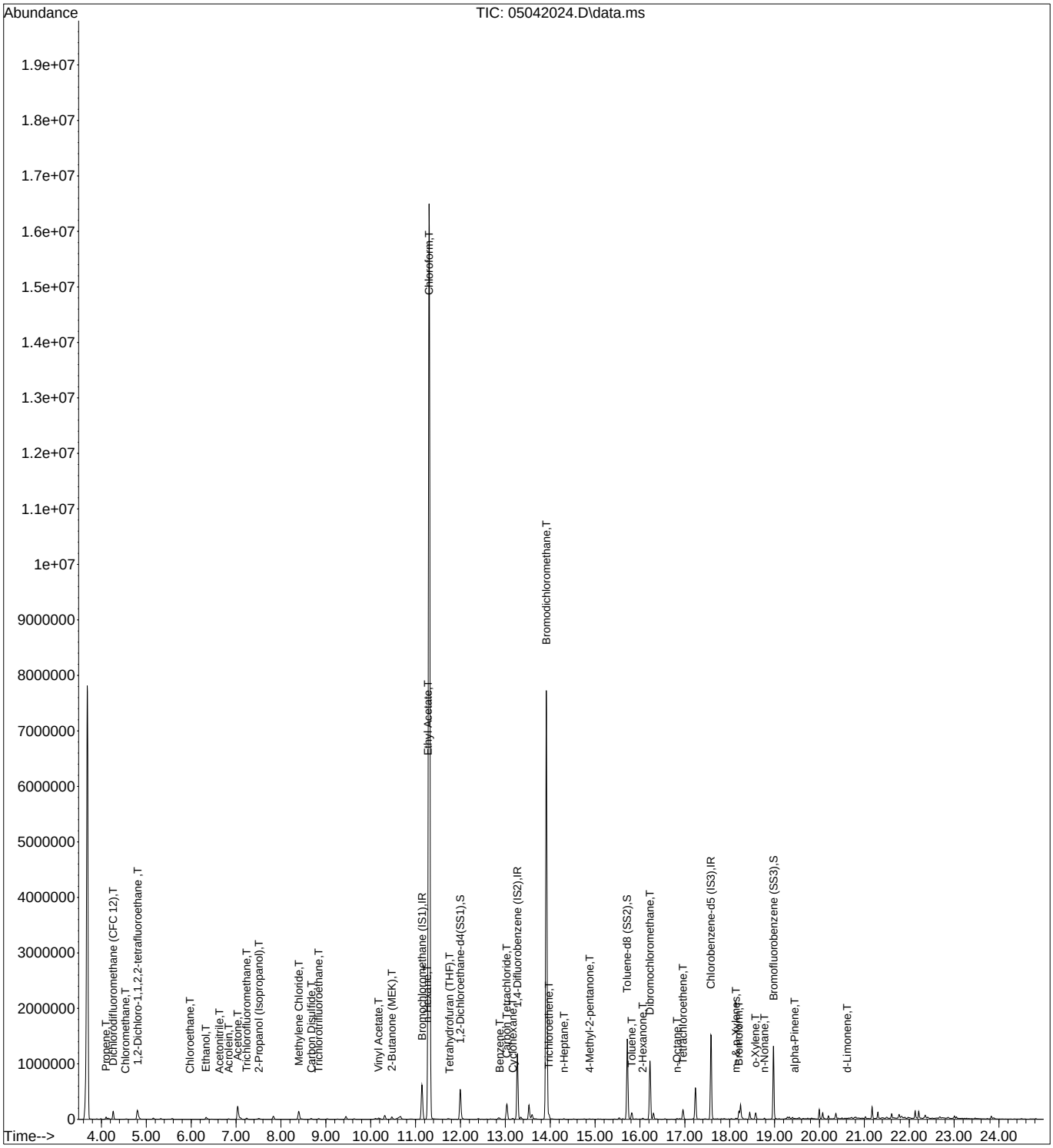
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	247061	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.27	114	1054297	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	518089	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	414730	12.387	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.12%				
57) Toluene-d8 (SS2)	15.72	98	1074843	12.240	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.92%				
73) Bromofluorobenzene (SS3)	18.98	174	378814	11.989	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.92%				
Target Compounds							Qvalue
2) Propene	4.10	42	9327	0.326	ng		97
3) Dichlorodifluoromethan...	4.26	85	135736	2.425	ng		100
4) Chloromethane	4.54	50	3588	0.082	ng		95
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	3247	0.097	ng		94
9) Chloroethane	5.97	64	1298	0.068	ng		86
10) Ethanol	6.33	45	59215	2.680	ng		99
11) Acetonitrile	6.63	41	4434	0.088	ng	#	69
12) Acrolein	6.84	56	8967	0.514	ng		100
13) Acetone	7.03	58	78951	3.573	ng	#	71
14) Trichlorofluoromethane	7.24	101	21317	0.431	ng		100
15) 2-Propanol (Isopropanol)	7.51	45	26710	0.399	ng		82
19) Methylene Chloride	8.40	84	80088	2.788	ng		97
21) Trichlorotrifluoroethane	8.84	151	5424	0.232	ng		97
22) Carbon Disulfide	8.68	76	27220	0.264	ng		100
26) Vinyl Acetate	10.17	86	6632	0.964	ng	#	42
27) 2-Butanone (MEK)	10.47	72	15799	0.838	ng		94
30) Ethyl Acetate	11.28	61	187000	17.209	ng	#	21
31) n-Hexane	11.26	57	6795	0.144	ng	#	1
32) Chloroform	11.30	83	14849146	301.943	ng		100
34) Tetrahydrofuran (THF)	11.76	72	1178	0.064	ng	#	15
41) Benzene	12.88	78	9831	0.087	ng		100
42) Carbon Tetrachloride	13.03	117	174460	4.536	ng		100
43) Cyclohexane	13.16	84	6020	0.143	ng		96
46) Bromodichloromethane	13.91	83	5289589	138.434	ng		100
47) Trichloroethene	13.97	130	27264	0.933	ng		98
51) n-Heptane	14.31	71	2319	0.088	ng		94
53) 4-Methyl-2-pentanone	14.88	58	1890	0.075	ng	#	87
58) Toluene	15.82	91	95141	0.840	ng		99
59) 2-Hexanone	16.06	43	15174	0.245	ng		93
60) Dibromochloromethane	16.22	129	630831	19.462	ng		100
63) n-Octane	16.83	57	2357	0.101	ng		97
64) Tetrachloroethene	16.96	166	56606	1.770	ng		99
67) m- & p-Xylenes	18.14	91	11679	0.117	ng		99
68) Bromoform	18.20	173	43327	1.542	ng		99
70) o-Xylene	18.58	91	5189	0.051	ng		94
71) n-Nonane	18.77	43	7654	0.142	ng		92
75) alpha-Pinene	19.45	93	5432	0.082	ng		93
91) d-Limonene	20.62	68	3210	0.079	ng		95

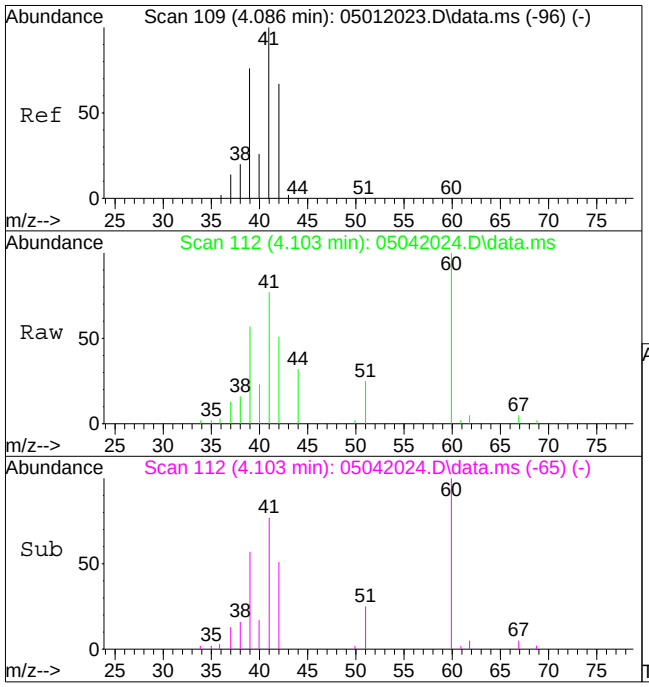
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042024.D Vial: 11
Acq On : 4 May 2020 19:44 Operator: TD
Sample : P2002105-009 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 14:18:24 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

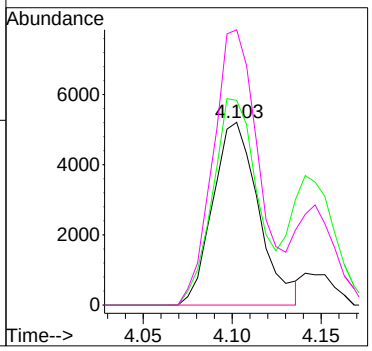


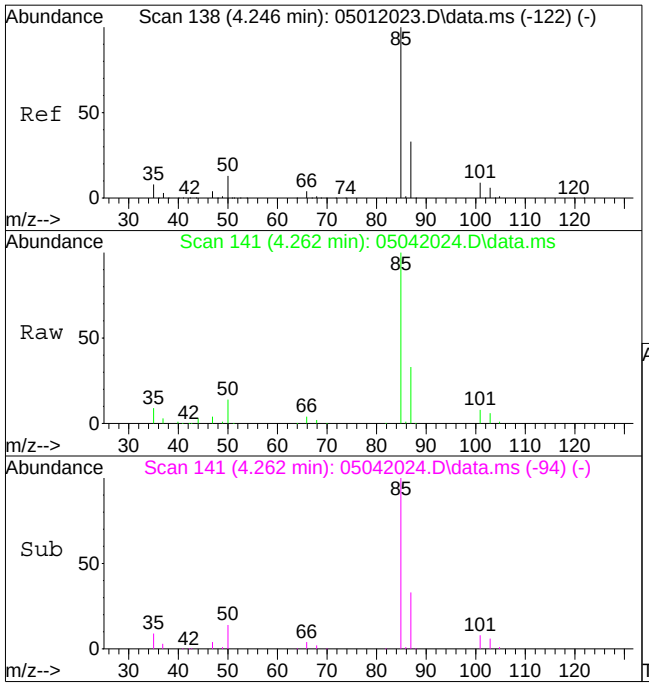


#2
Propene
Concen: 0.33 ng
RT: 4.10 min Scan# 112
Delta R.T. 0.011 min
Lab File: 05042024.D
Acq: 4 May 2020 19:44

Tgt Ion: 42 Resp: 9327

Ion	Ratio	Lower	Upper
42	100		
39	110.9	96.1	136.1
41	150.7	131.9	171.9

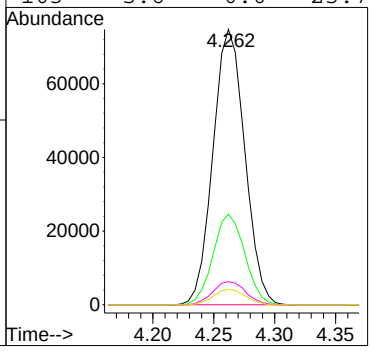


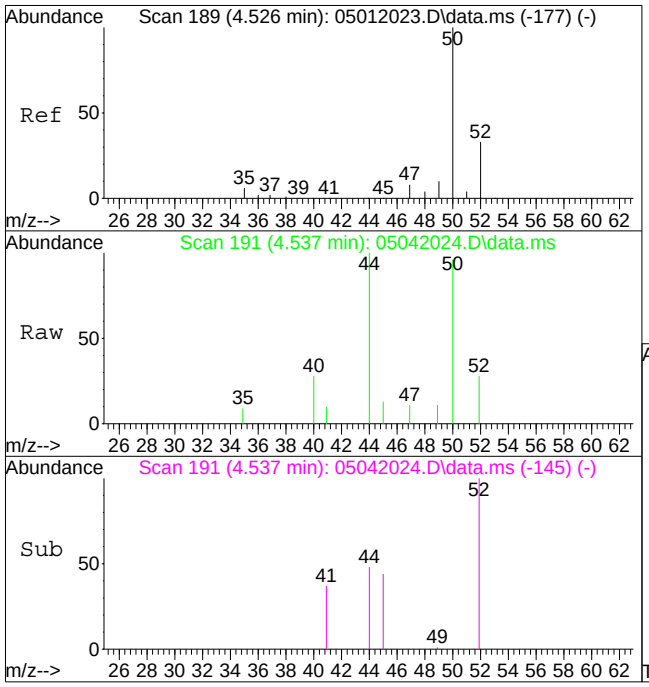


#3
Dichlorodifluoromethane (CFC 12)
Concen: 2.43 ng
RT: 4.26 min Scan# 141
Delta R.T. 0.011 min
Lab File: 05042024.D
Acq: 4 May 2020 19:44

Tgt Ion: 85 Resp: 135736

Ion	Ratio	Lower	Upper
85	100		
87	32.7	12.4	52.4
101	8.6	0.0	28.8
103	5.6	0.0	25.7

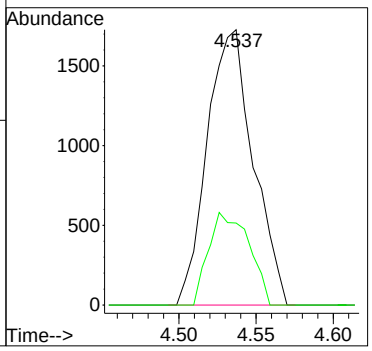


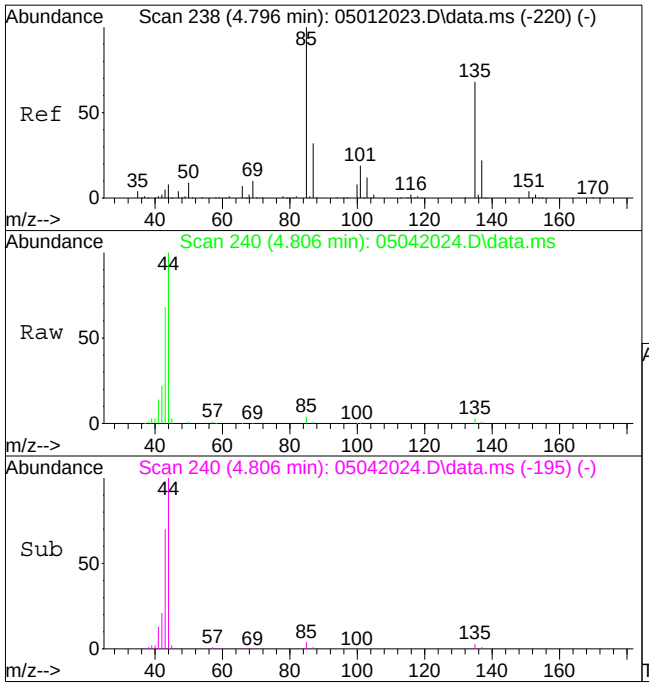


#4
Chloromethane
Concen: 0.08 ng
RT: 4.54 min Scan# 191
Delta R.T. 0.005 min
Lab File: 05042024.D
Acq: 4 May 2020 19:44

Tgt Ion: 50 Resp: 3588

Ion	Ratio	Lower	Upper
50	100		
52	29.5	12.5	52.5

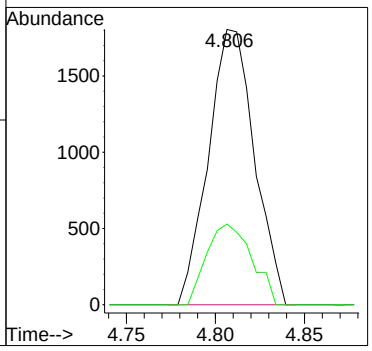


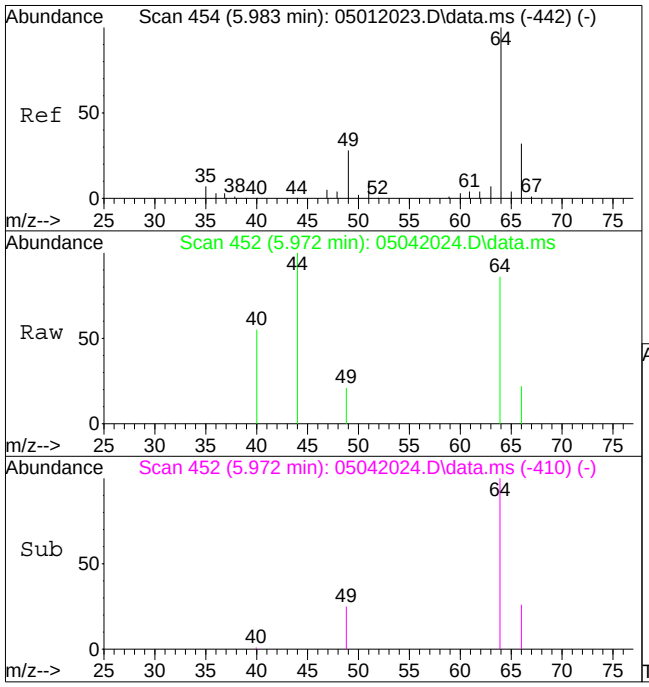


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 0.10 ng
RT: 4.81 min Scan# 240
Delta R.T. -0.000 min
Lab File: 05042024.D
Acq: 4 May 2020 19:44

Tgt Ion:135 Resp: 3247

Ion	Ratio	Lower	Upper
135	100		
137	28.7	12.1	52.1

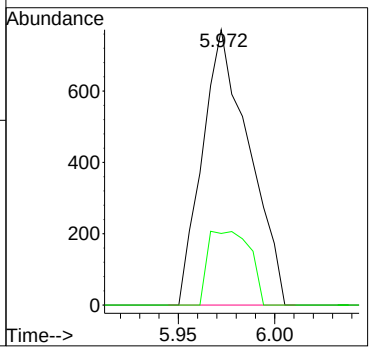


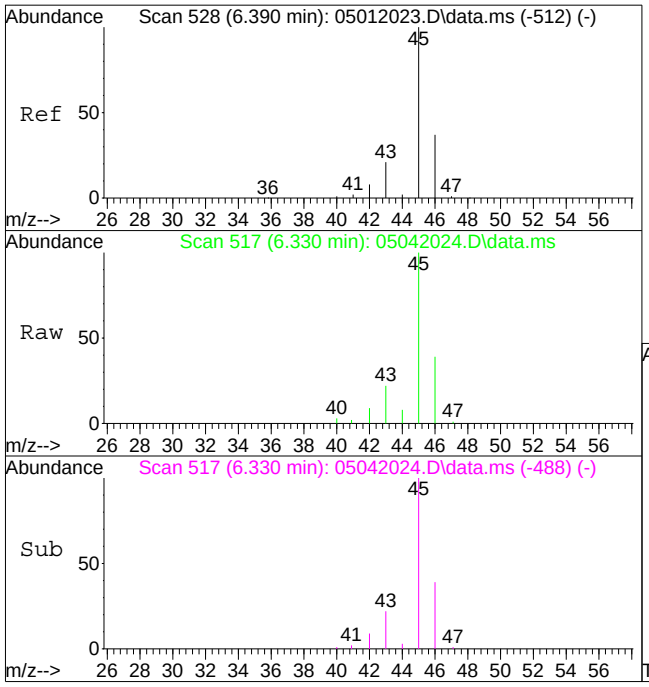


#9
Chloroethane
Concen: 0.07 ng
RT: 5.97 min Scan# 452
Delta R.T. -0.017 min
Lab File: 05042024.D
Acq: 4 May 2020 19:44

Tgt Ion: 64 Resp: 1298

Ion	Ratio	Lower	Upper
64	100		
66	24.2	12.1	52.1

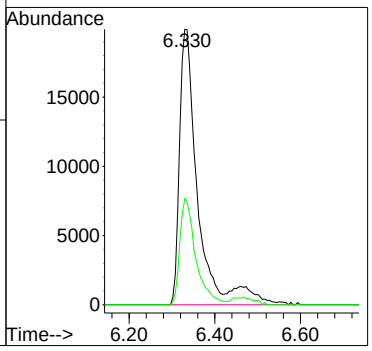


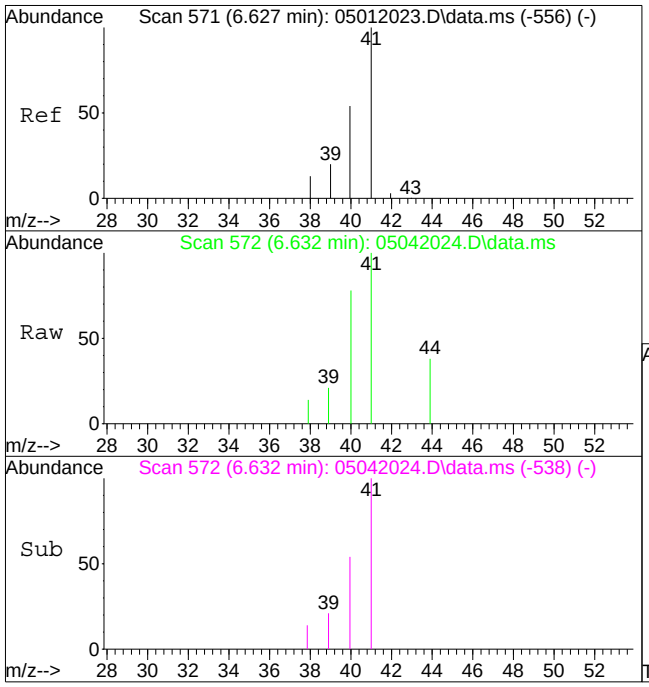


#10
Ethanol
Concen: 2.68 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.088 min
Lab File: 05042024.D
Acq: 4 May 2020 19:44

Tgt Ion: 45 Resp: 59215

Ion	Ratio	Lower	Upper
45	100		
46	36.9	17.2	57.2

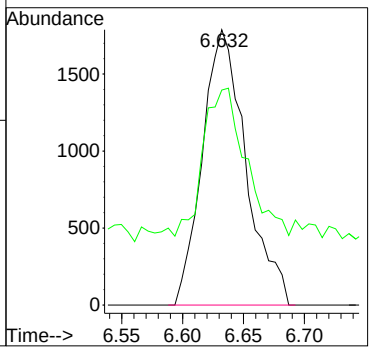


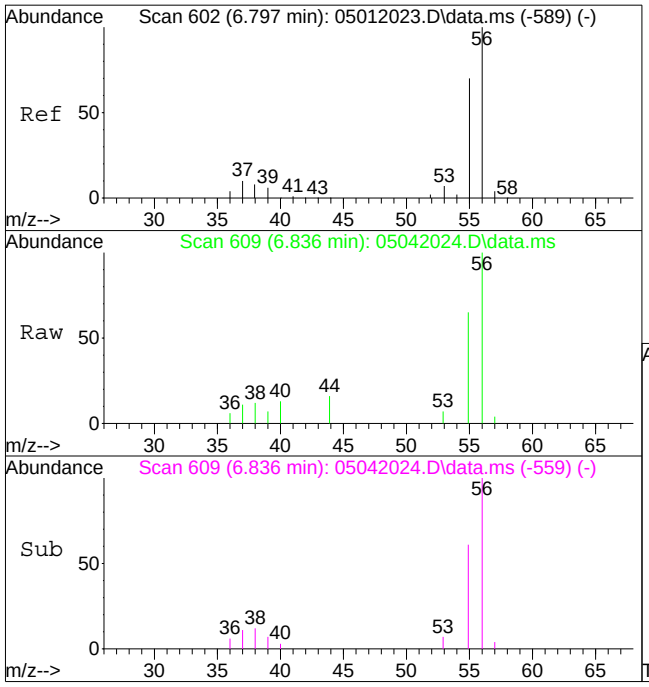


#11
Acetonitrile
Concen: 0.09 ng
RT: 6.63 min Scan# 572
Delta R.T. -0.011 min
Lab File: 05042024.D
Acq: 4 May 2020 19:44

Tgt Ion: 41 Resp: 4434

Ion	Ratio	Lower	Upper
41	100		
40	75.6	33.6	73.6#

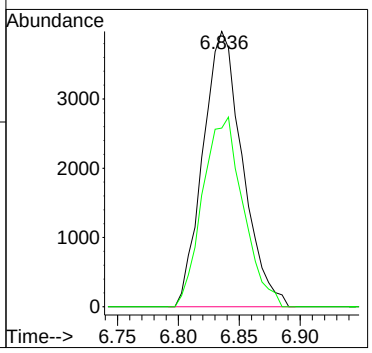


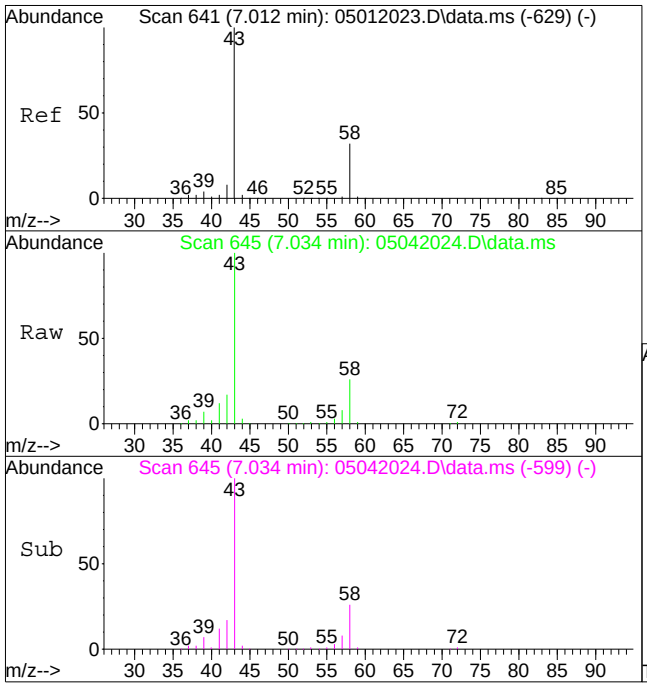


#12
Acrolein
Concen: 0.51 ng
RT: 6.84 min Scan# 609
Delta R.T. 0.027 min
Lab File: 05042024.D
Acq: 4 May 2020 19:44

Tgt Ion: 56 Resp: 8967

Ion	Ratio	Lower	Upper
56	100		
55	70.6	50.2	90.2

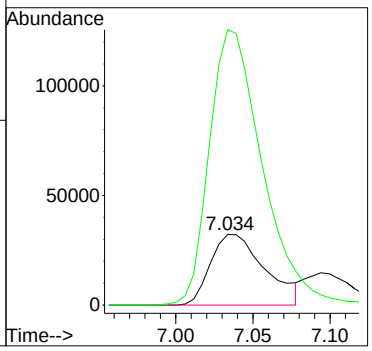


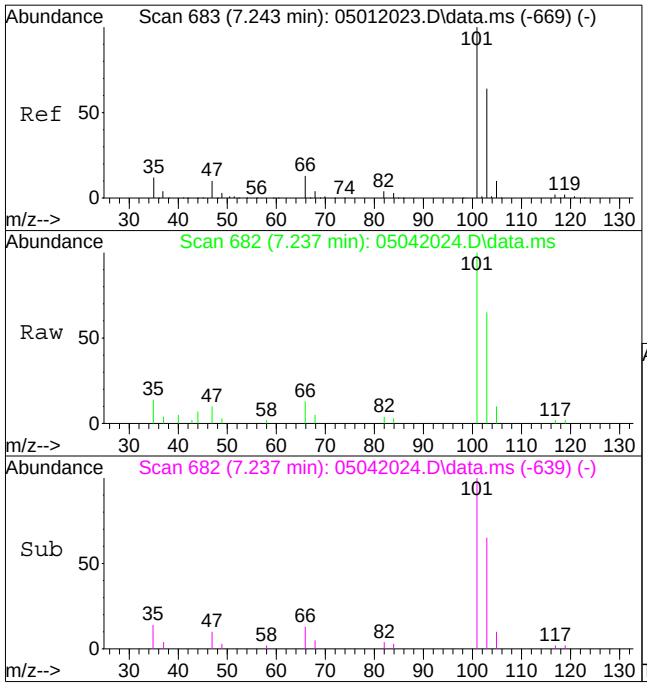


#13
Acetone
Concen: 3.57 ng
RT: 7.03 min Scan# 645
Delta R.T. 0.005 min
Lab File: 05042024.D
Acq: 4 May 2020 19:44

Tgt Ion: 58 Resp: 78951

Ion	Ratio	Lower	Upper
58	100		
43	384.3	294.4	354.4#

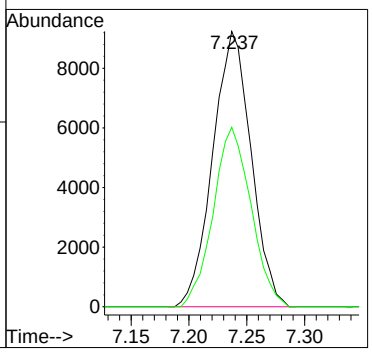


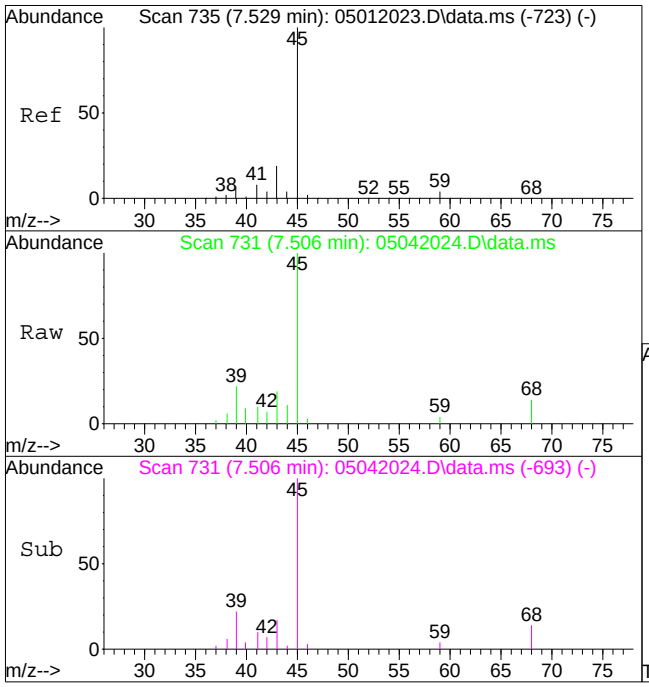


#14
Trichlorofluoromethane
Concen: 0.43 ng
RT: 7.24 min Scan# 682
Delta R.T. -0.011 min
Lab File: 05042024.D
Acq: 4 May 2020 19:44

Tgt Ion:101 Resp: 21317

Ion	Ratio	Lower	Upper
101	100		
103	64.2	44.4	84.4

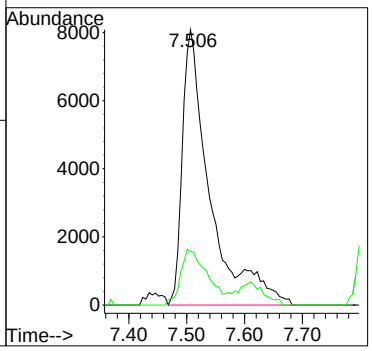


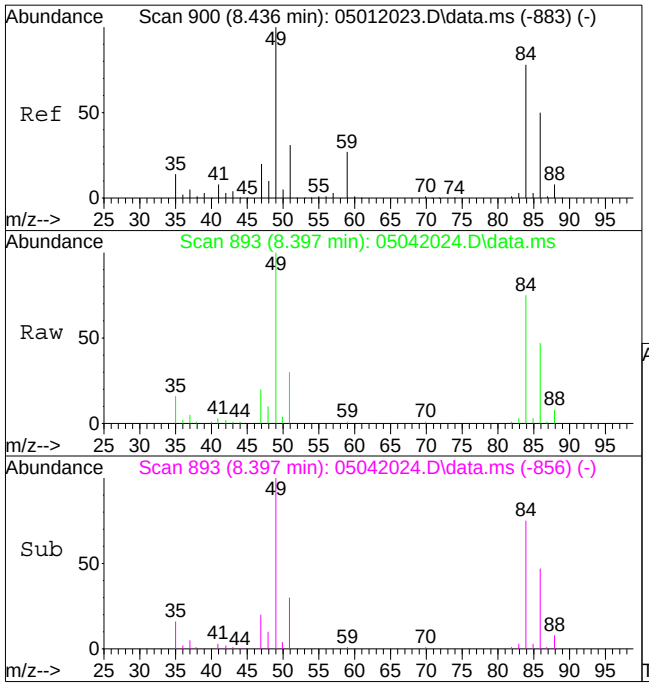


#15
2-Propanol (Isopropanol)
Concen: 0.40 ng
RT: 7.51 min Scan# 731
Delta R.T. -0.039 min
Lab File: 05042024.D
Acq: 4 May 2020 19:44

Tgt Ion: 45 Resp: 26710

Ion	Ratio	Lower	Upper
45	100		
43	27.8	0.0	39.5

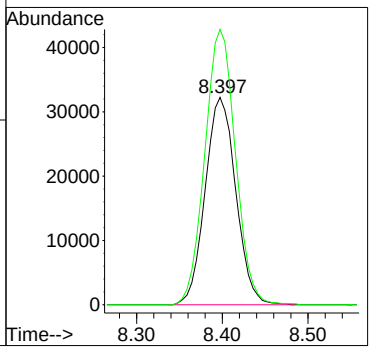


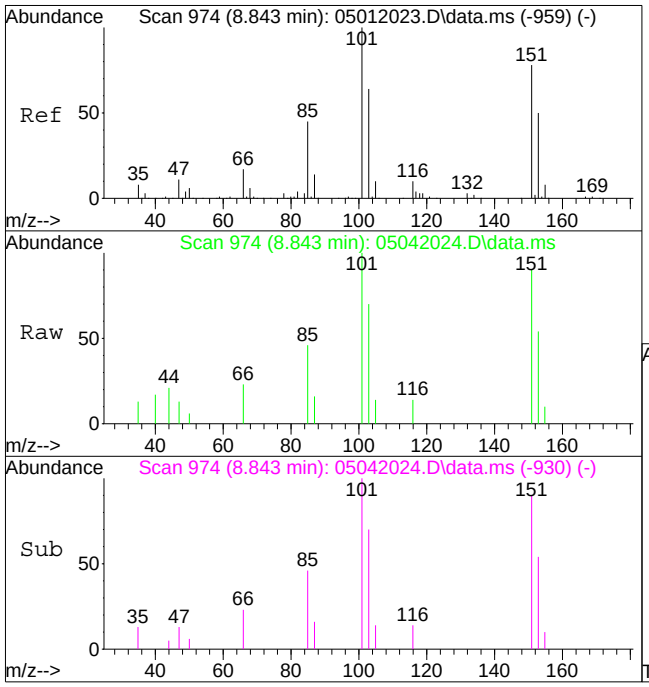


#19
Methylene Chloride
Concen: 2.79 ng
RT: 8.40 min Scan# 893
Delta R.T. -0.044 min
Lab File: 05042024.D
Acq: 4 May 2020 19:44

Tgt Ion: 84 Resp: 80088

Ion	Ratio	Lower	Upper
84	100		
49	133.0	104.8	154.8

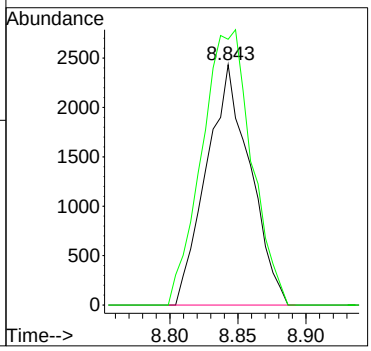


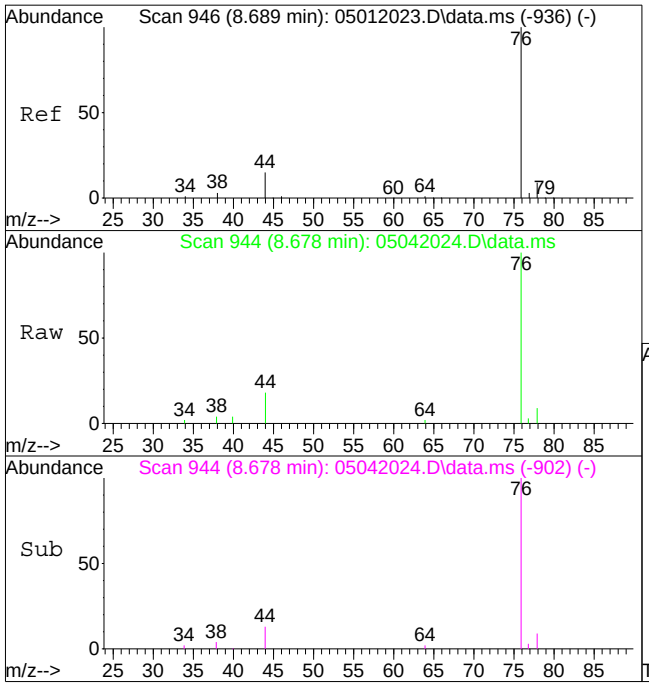


#21
Trichlorotrifluoroethane
Concen: 0.23 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05042024.D
Acq: 4 May 2020 19:44

Tgt Ion:151 Resp: 5424

Ion	Ratio	Lower	Upper
151	100		
101	130.9	107.3	147.3

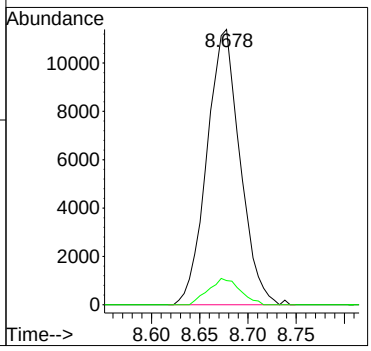


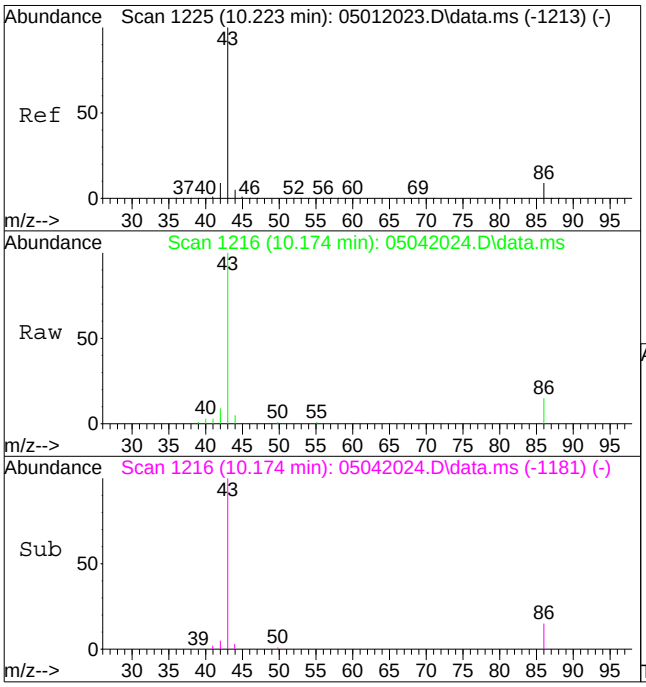


#22
Carbon Disulfide
Concen: 0.26 ng
RT: 8.68 min Scan# 944
Delta R.T. -0.017 min
Lab File: 05042024.D
Acq: 4 May 2020 19:44

Tgt Ion: 76 Resp: 27220

Ion	Ratio	Lower	Upper
76	100		
78	9.1	0.0	29.2

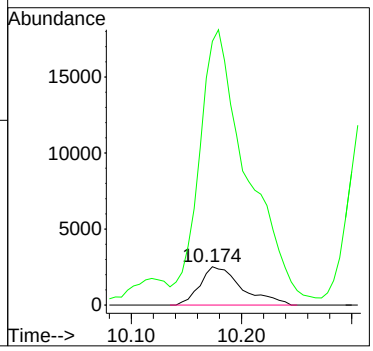


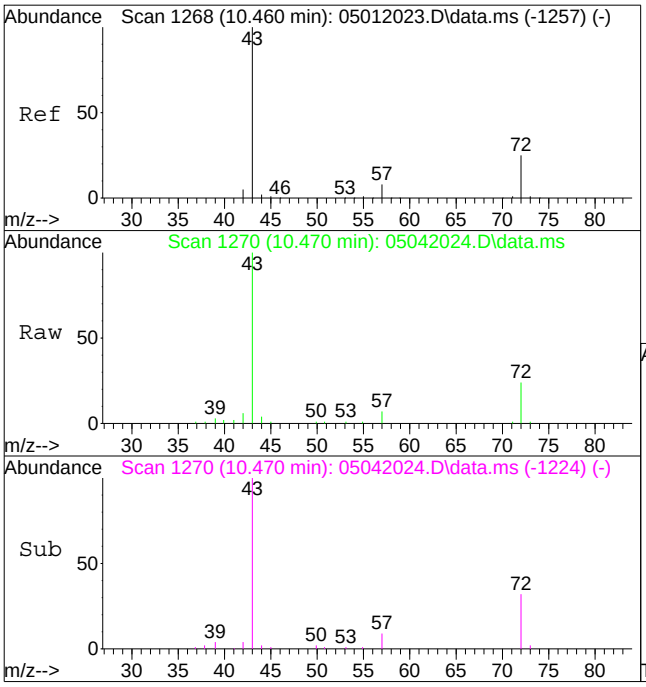


#26
Vinyl Acetate
Concen: 0.96 ng
RT: 10.17 min Scan# 1216
Delta R.T. -0.055 min
Lab File: 05042024.D
Acq: 4 May 2020 19:44

Tgt Ion: 86 Resp: 6632

Ion	Ratio	Lower	Upper
86	100		
43	841.1	1103.0	1143.0#

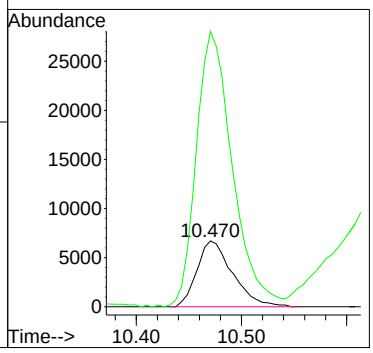


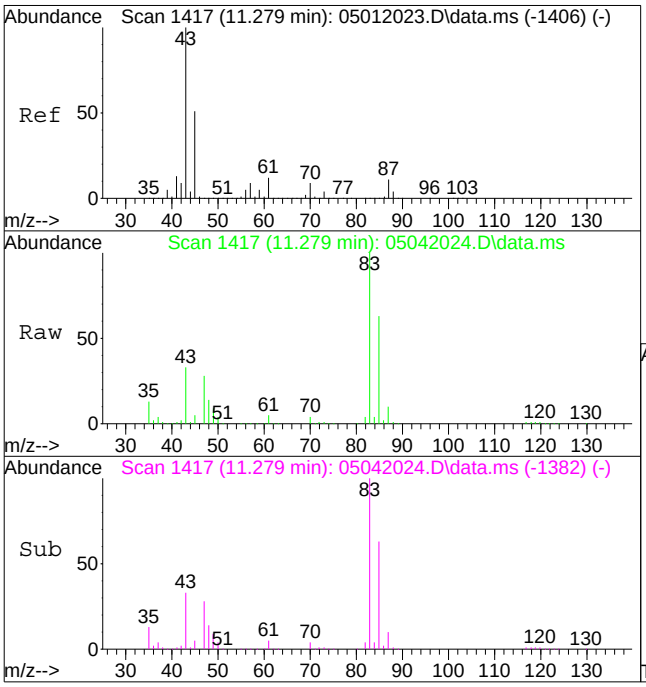


#27
2-Butanone (MEK)
Concen: 0.84 ng
RT: 10.47 min Scan# 1270
Delta R.T. 0.005 min
Lab File: 05042024.D
Acq: 4 May 2020 19:44

Tgt Ion: 72 Resp: 15799

Ion	Ratio	Lower	Upper
72	100		
43	424.4	389.7	429.7

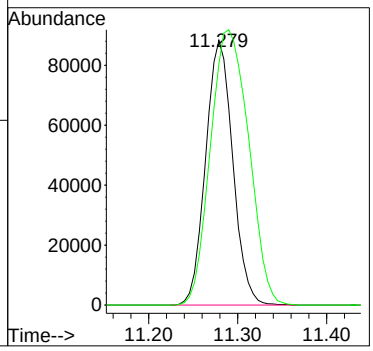


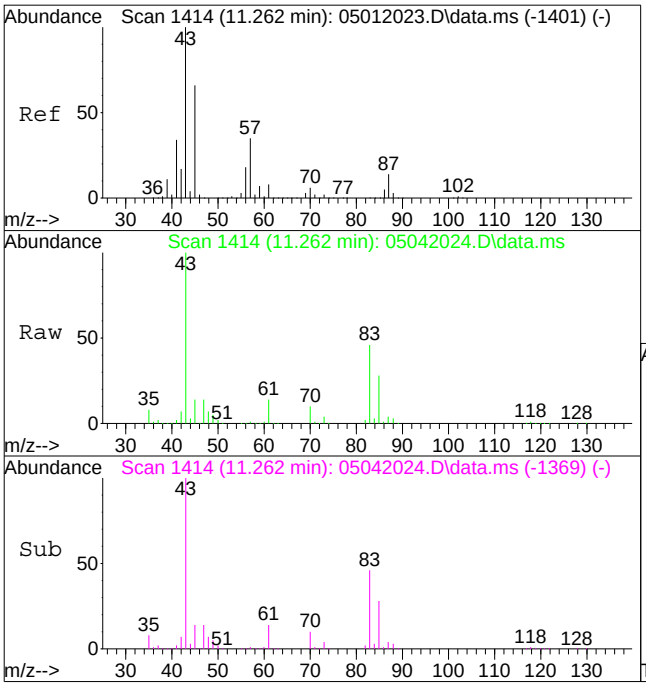


#30
Ethyl Acetate
Concen: 17.21 ng
RT: 11.28 min Scan# 1417
Delta R.T. -0.006 min
Lab File: 05042024.D
Acq: 4 May 2020 19:44

Tgt Ion: 61 Resp: 187000

Ion	Ratio	Lower	Upper
61	100		
70	146.6	57.9	97.9#

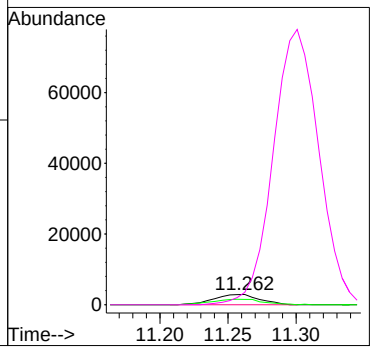


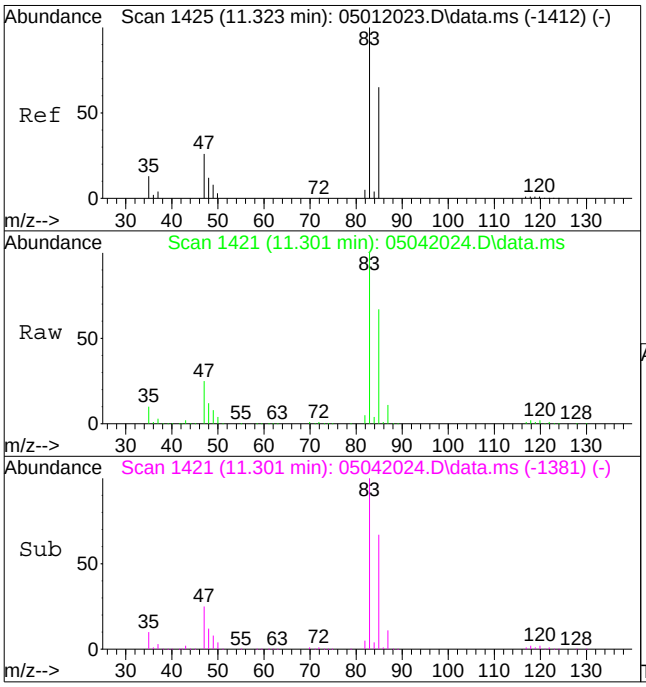


#31
n-Hexane
Concen: 0.14 ng
RT: 11.26 min Scan# 1414
Delta R.T. -0.000 min
Lab File: 05042024.D
Acq: 4 May 2020 19:44

Tgt Ion: 57 Resp: 6795

Ion	Ratio	Lower	Upper
57	100		
56	60.3	41.4	62.0
86	2672.4	12.4	18.6#

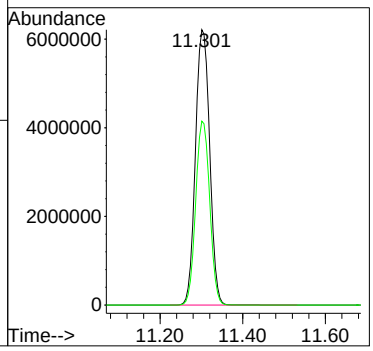


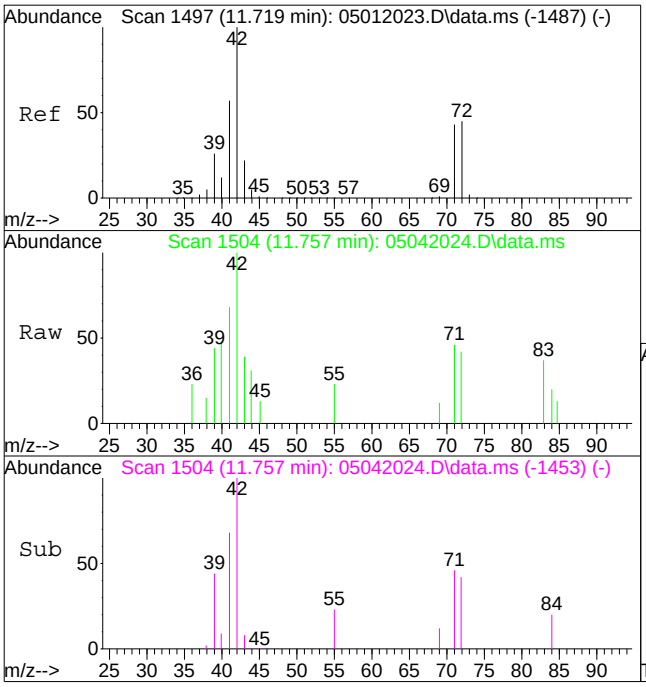


#32
Chloroform
Concen: 301.94 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.028 min
Lab File: 05042024.D
Acq: 4 May 2020 19:44

Tgt Ion: 83 Resp:14849146

Ion	Ratio	Lower	Upper
83	100		
85	65.8	45.5	85.5

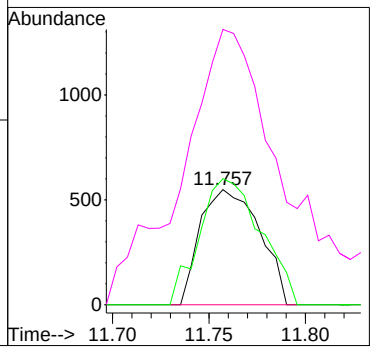


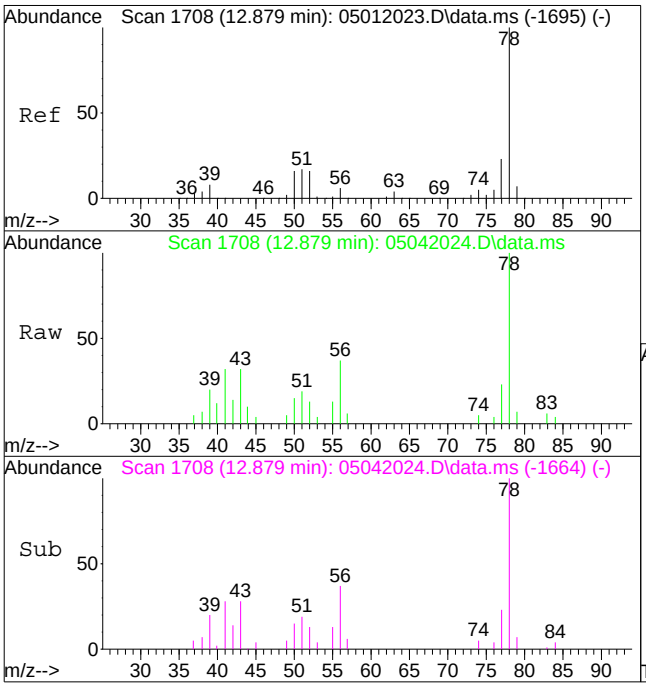


#34
Tetrahydrofuran (THF)
Concen: 0.06 ng
RT: 11.76 min Scan# 1504
Delta R.T. 0.033 min
Lab File: 05042024.D
Acq: 4 May 2020 19:44

Tgt Ion: 72 Resp: 1178

Ion	Ratio	Lower	Upper
72	100		
71	113.7	77.0	117.0
42	411.4	204.6	244.6#

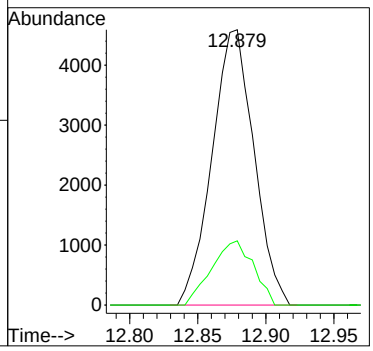


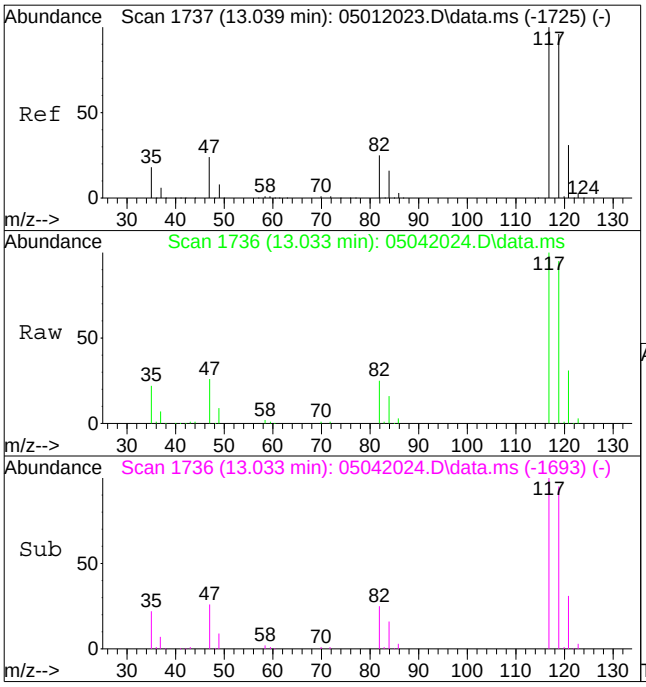


#41
Benzene
Concen: 0.09 ng
RT: 12.88 min Scan# 1708
Delta R.T. -0.006 min
Lab File: 05042024.D
Acq: 4 May 2020 19:44

Tgt Ion: 78 Resp: 9831

Ion	Ratio	Lower	Upper
78	100		
77	23.2	3.4	43.4

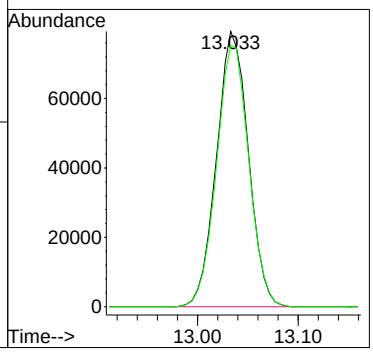


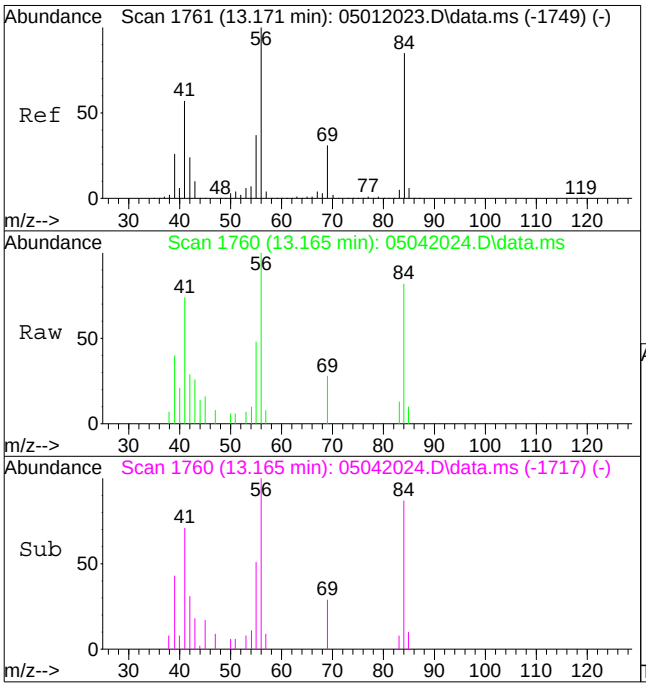


#42
Carbon Tetrachloride
Concen: 4.54 ng
RT: 13.03 min Scan# 1736
Delta R.T. -0.011 min
Lab File: 05042024.D
Acq: 4 May 2020 19:44

Tgt Ion:117 Resp: 174460

Ion	Ratio	Lower	Upper
117	100		
119	96.3	76.2	116.2

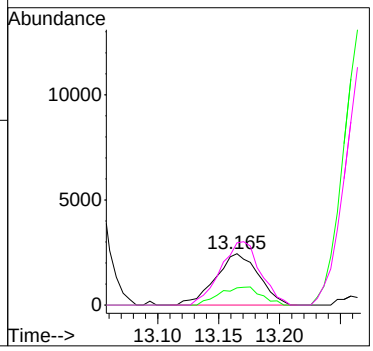


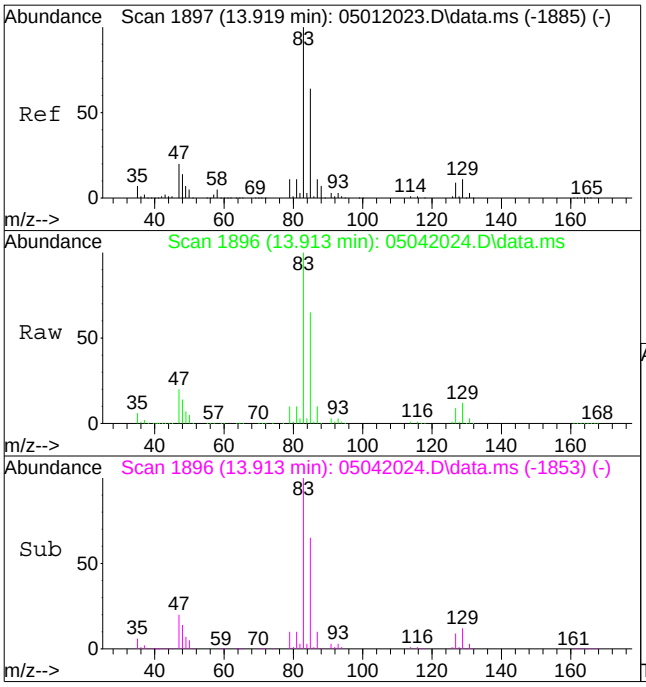


#43
Cyclohexane
Concen: 0.14 ng
RT: 13.16 min Scan# 1760
Delta R.T. -0.011 min
Lab File: 05042024.D
Acq: 4 May 2020 19:44

Tgt Ion: 84 Resp: 6020

Ion	Ratio	Lower	Upper
84	100		
69	33.9	16.5	56.5
56	113.5	97.4	137.4

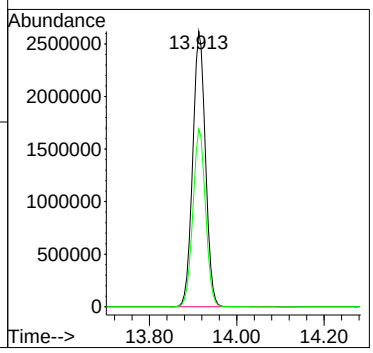


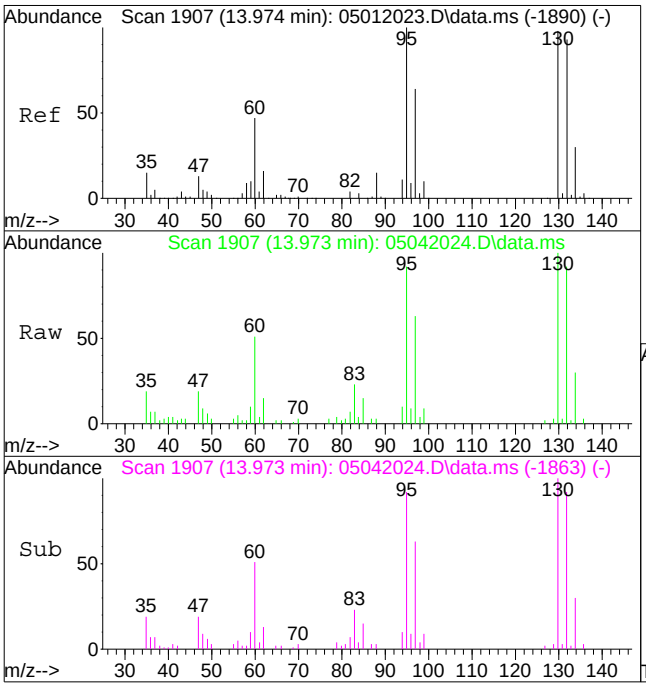


#46
Bromodichloromethane
Concen: 138.43 ng
RT: 13.91 min Scan# 1896
Delta R.T. -0.011 min
Lab File: 05042024.D
Acq: 4 May 2020 19:44

Tgt Ion: 83 Resp: 5289589

Ion	Ratio	Lower	Upper
83	100		
85	64.4	44.4	84.4

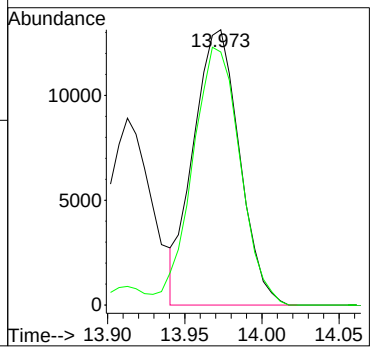


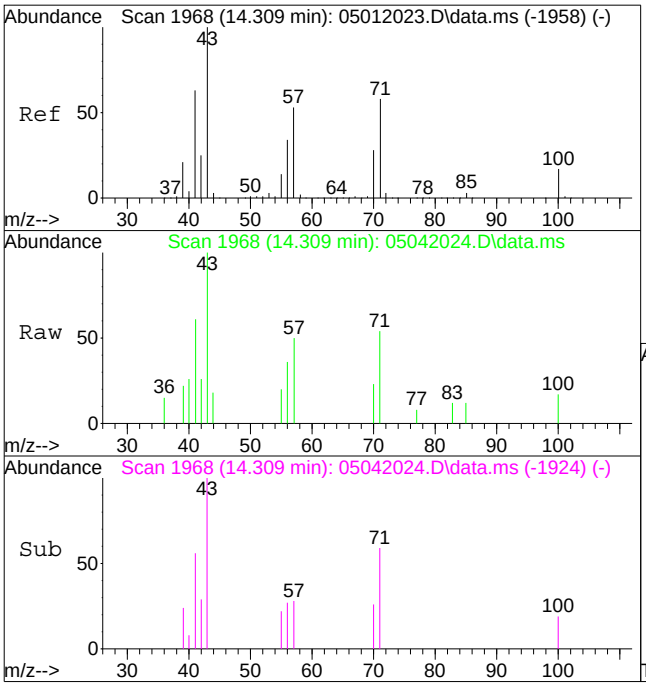


#47
Trichloroethene
Concen: 0.93 ng
RT: 13.97 min Scan# 1907
Delta R.T. -0.006 min
Lab File: 05042024.D
Acq: 4 May 2020 19:44

Tgt Ion:130 Resp: 27264

Ion	Ratio	Lower	Upper
130	100		
132	96.9	74.9	114.9

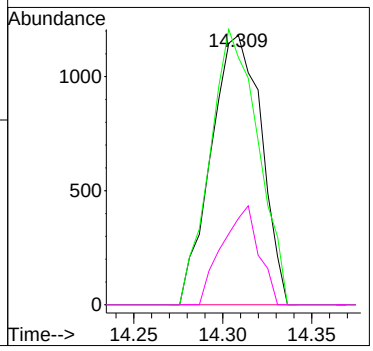


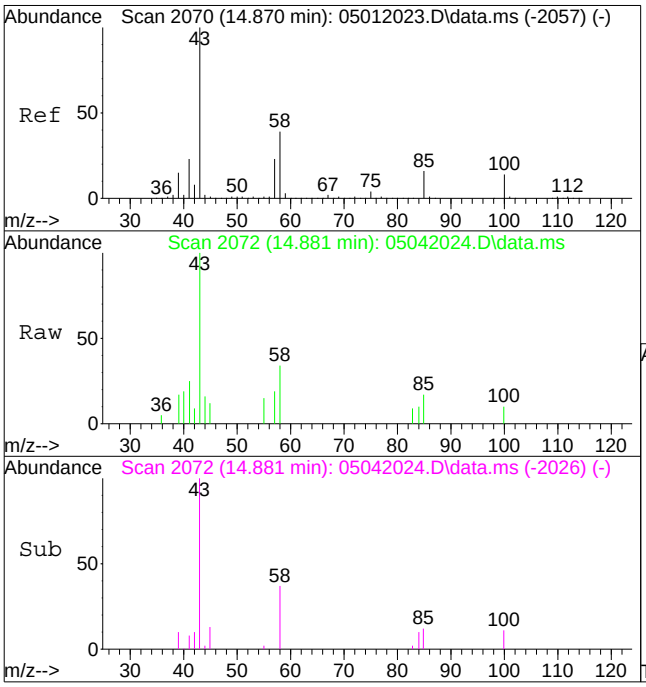


#51
n-Heptane
Concen: 0.09 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05042024.D
Acq: 4 May 2020 19:44

Tgt Ion: 71 Resp: 2319

Ion	Ratio	Lower	Upper
71	100		
57	97.7	71.0	111.0
100	26.9	8.4	48.4

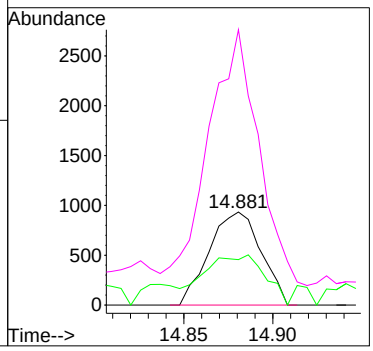


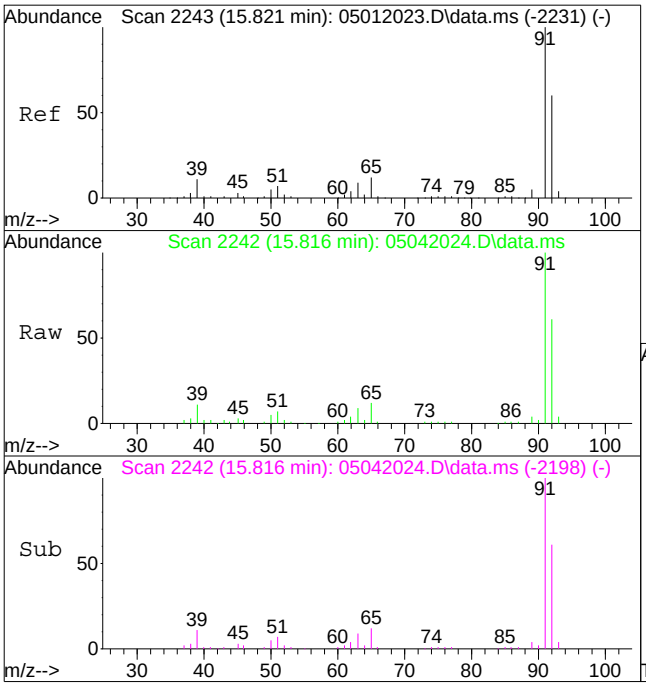


#53
4-Methyl-2-pentanone
Concen: 0.07 ng
RT: 14.88 min Scan# 2072
Delta R.T. 0.005 min
Lab File: 05042024.D
Acq: 4 May 2020 19:44

Tgt Ion: 58 Resp: 1890

Ion	Ratio	Lower	Upper
58	100		
85	62.9	35.4	53.2#
43	273.1	203.3	304.9

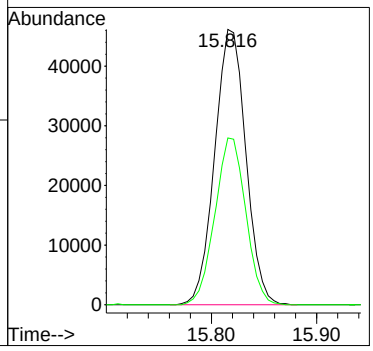


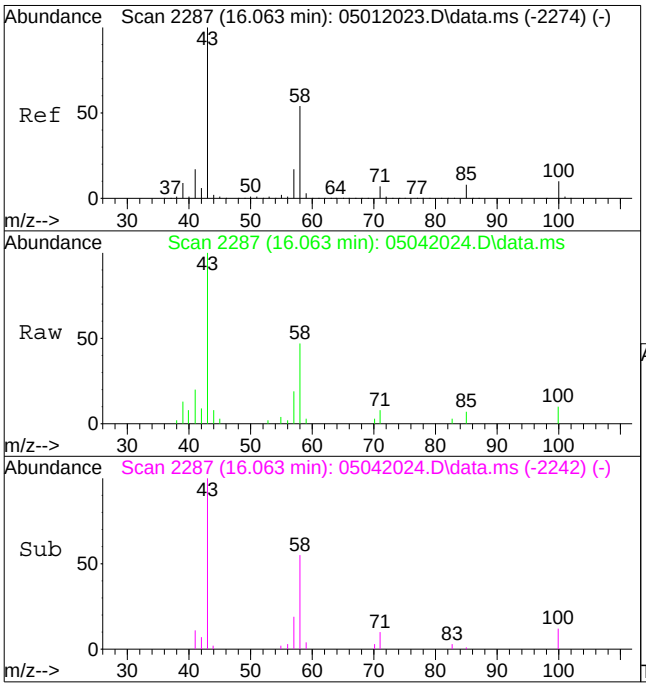


#58
Toluene
Concen: 0.84 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05042024.D
Acq: 4 May 2020 19:44

Tgt Ion: 91 Resp: 95141

Ion	Ratio	Lower	Upper
91	100		
92	60.0	39.4	79.4

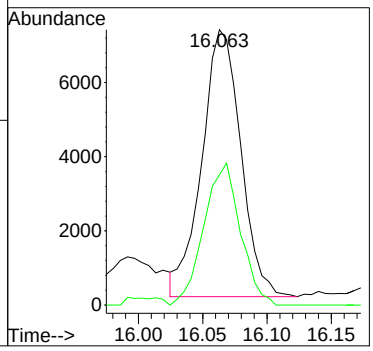


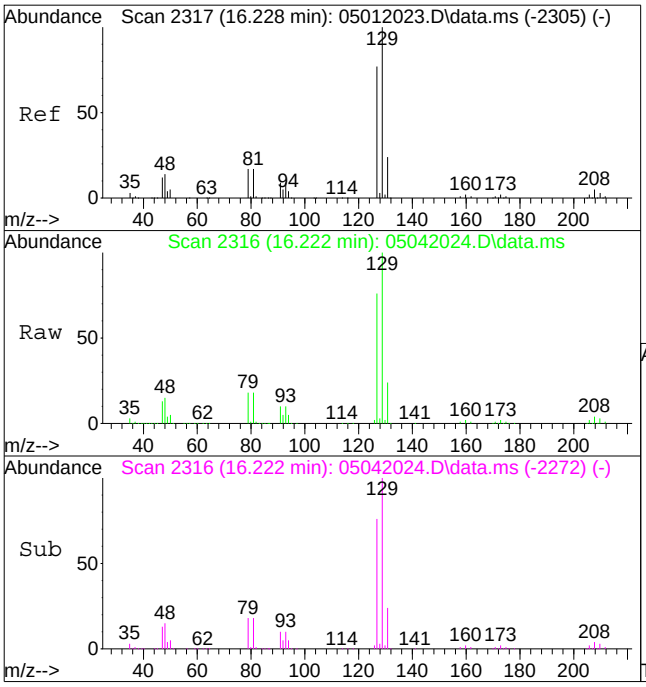


#59
2-Hexanone
Concen: 0.24 ng
RT: 16.06 min Scan# 2287
Delta R.T. -0.000 min
Lab File: 05042024.D
Acq: 4 May 2020 19:44

Tgt Ion: 43 Resp: 15174

Ion	Ratio	Lower	Upper
43	100		
58	49.7	34.5	74.5

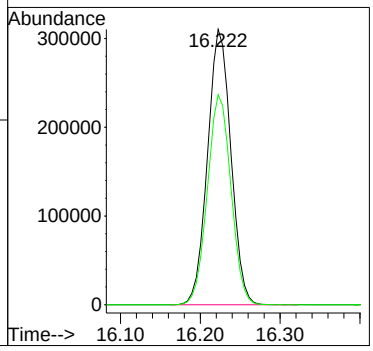


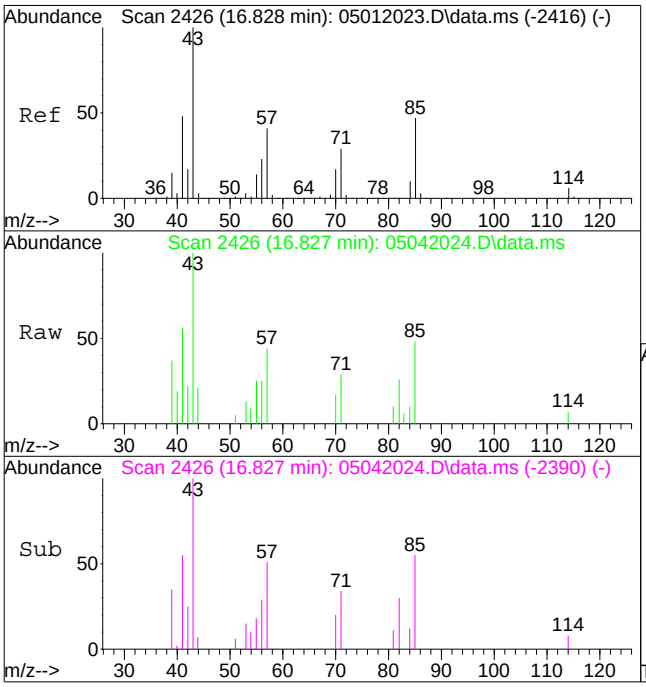


#60
Dibromochloromethane
Concen: 19.46 ng
RT: 16.22 min Scan# 2316
Delta R.T. -0.006 min
Lab File: 05042024.D
Acq: 4 May 2020 19:44

Tgt Ion:129 Resp: 630831

Ion	Ratio	Lower	Upper
129	100		
127	77.0	57.3	97.3

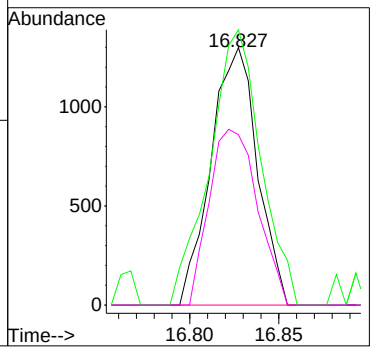


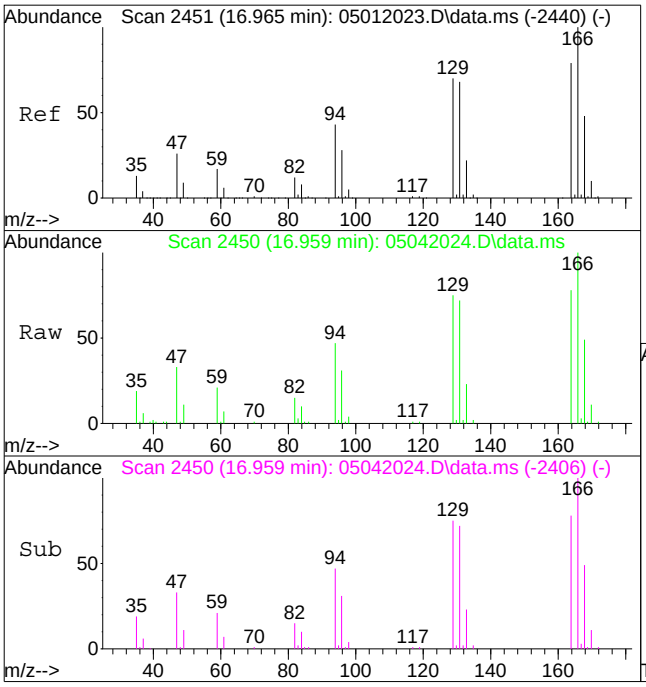


#63
n-Octane
Concen: 0.10 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05042024.D
Acq: 4 May 2020 19:44

Tgt Ion: 57 Resp: 2357

Ion	Ratio	Lower	Upper
57	100		
85	117.9	91.0	136.4
71	71.0	56.2	84.2

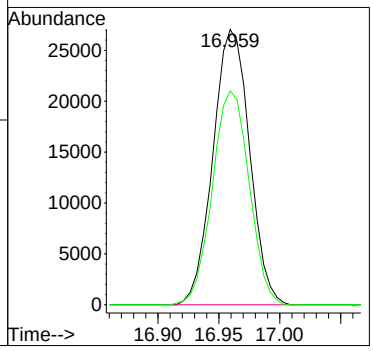


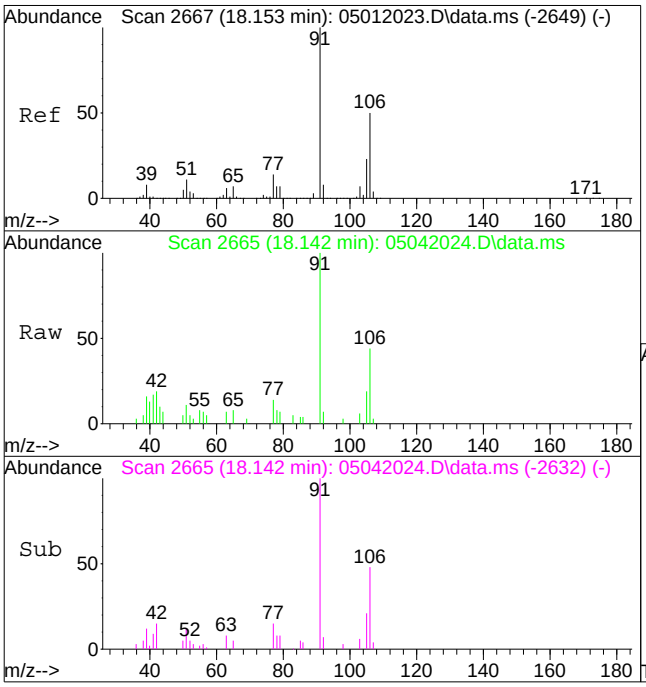


#64
Tetrachloroethene
Concen: 1.77 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05042024.D
Acq: 4 May 2020 19:44

Tgt Ion:166 Resp: 56606

Ion	Ratio	Lower	Upper
166	100		
164	78.0	58.4	98.4

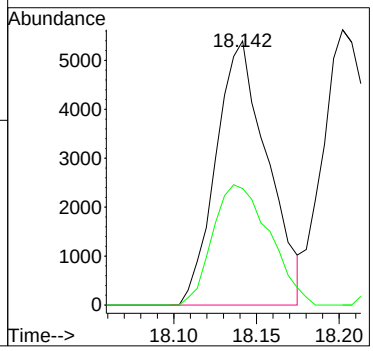


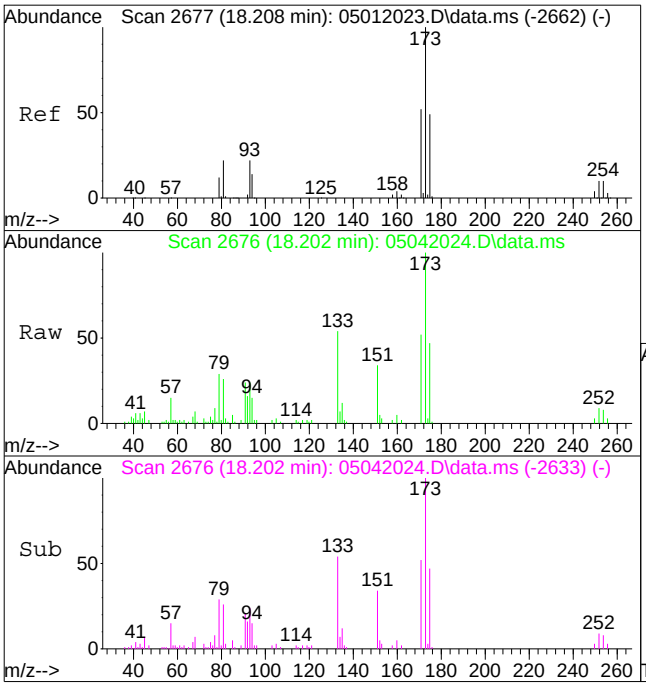


#67
m- & p-Xylenes
Concen: 0.12 ng
RT: 18.14 min Scan# 2665
Delta R.T. -0.017 min
Lab File: 05042024.D
Acq: 4 May 2020 19:44

Tgt Ion: 91 Resp: 11679

Ion	Ratio	Lower	Upper
91	100		
106	50.3	29.7	69.7

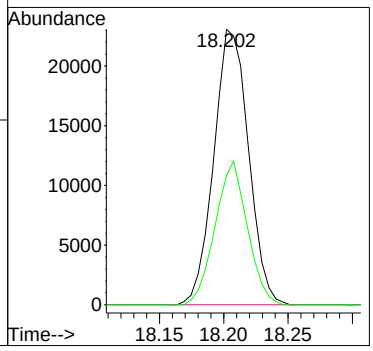


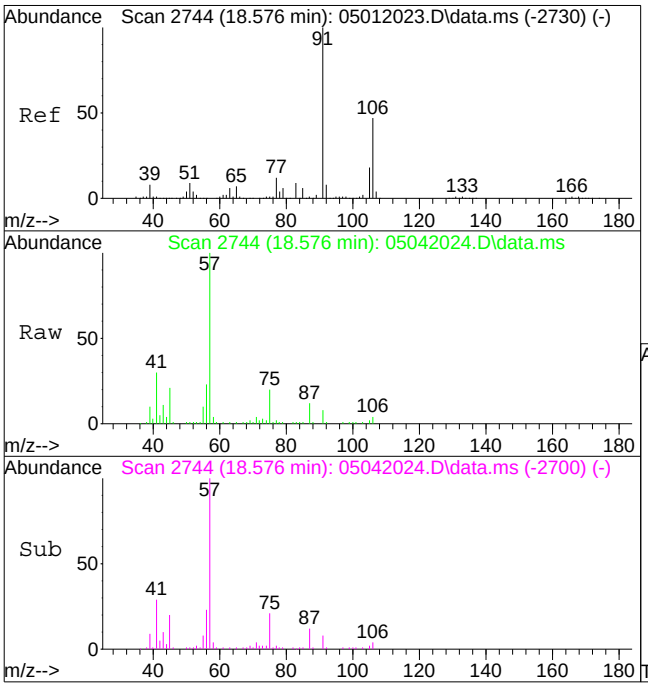


#68
Bromoform
Concen: 1.54 ng
RT: 18.20 min Scan# 2676
Delta R.T. -0.011 min
Lab File: 05042024.D
Acq: 4 May 2020 19:44

Tgt Ion:173 Resp: 43327

Ion	Ratio	Lower	Upper
173	100		
175	48.4	29.0	69.0

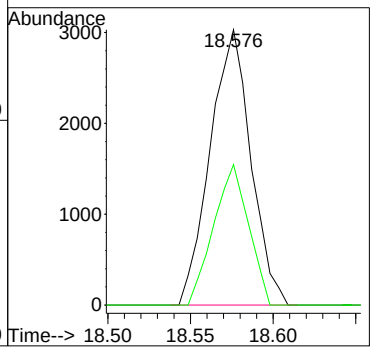


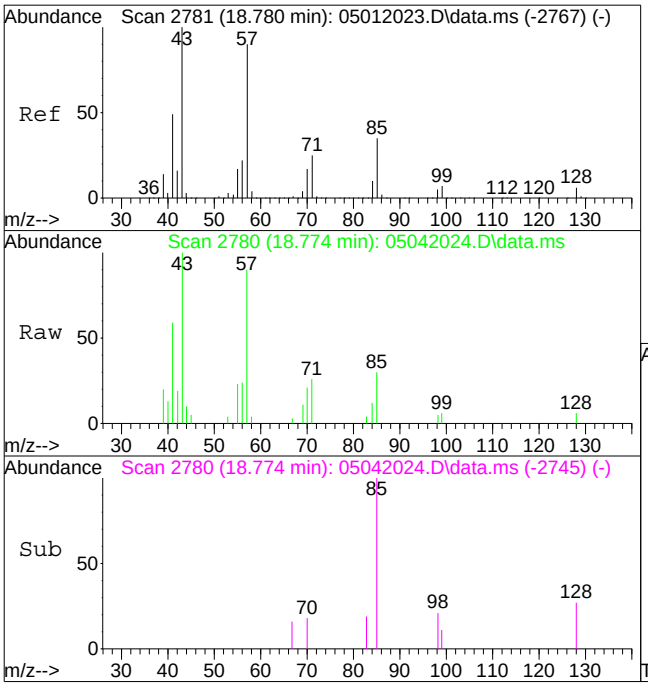


#70
o-Xylene
Concen: 0.05 ng
RT: 18.58 min Scan# 2744
Delta R.T. -0.006 min
Lab File: 05042024.D
Acq: 4 May 2020 19:44

Tgt Ion: 91 Resp: 5189

Ion	Ratio	Lower	Upper
91	100		
106	43.8	27.5	67.5

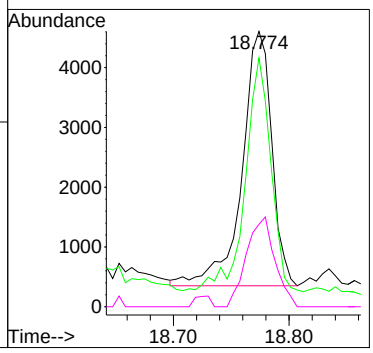


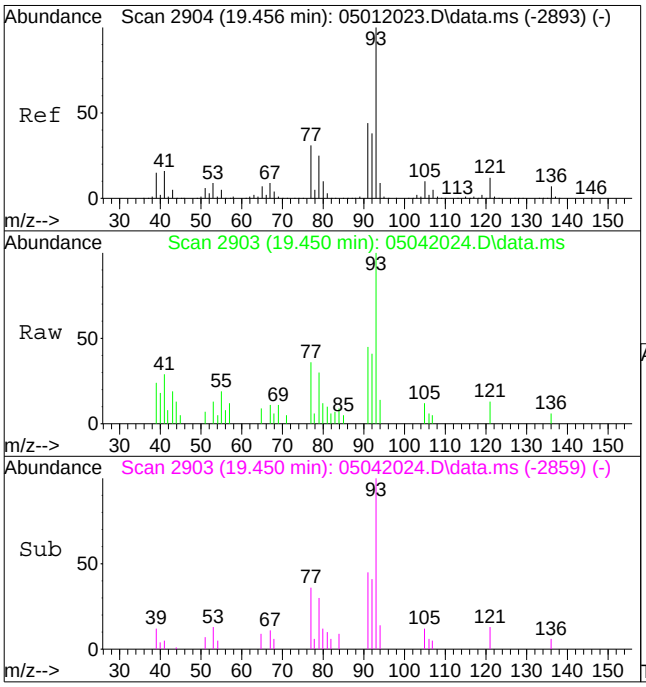


#71
n-Nonane
Concen: 0.14 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05042024.D
Acq: 4 May 2020 19:44

Tgt Ion: 43 Resp: 7654

Ion	Ratio	Lower	Upper
43	100		
57	78.9	69.0	109.0
85	33.4	14.6	54.6

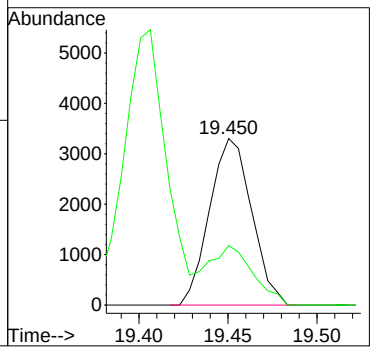


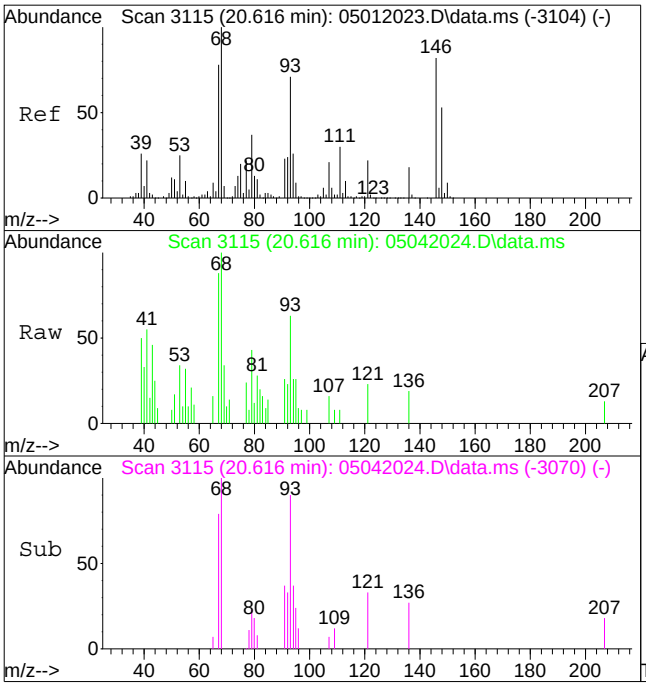


#75
alpha-Pinene
Concen: 0.08 ng
RT: 19.45 min Scan# 2903
Delta R.T. -0.006 min
Lab File: 05042024.D
Acq: 4 May 2020 19:44

Tgt Ion: 93 Resp: 5432

Ion	Ratio	Lower	Upper
93	100		
77	35.1	11.2	51.2

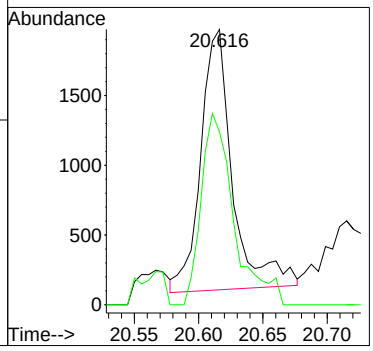




#91
d-Limonene
Concen: 0.08 ng
RT: 20.62 min Scan# 3115
Delta R.T. -0.000 min
Lab File: 05042024.D
Acq: 4 May 2020 19:44

Tgt Ion: 68 Resp: 3210

Ion	Ratio	Lower	Upper
68	100		
93	75.4	51.1	91.1



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042025.D Vial: 11
Acq On : 4 May 2020 20:18 Operator: TD
Sample : P2002105-009dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 14:19:55 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/6/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	282285	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1233062	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	607357	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	485670	12.695	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.60%				
57) Toluene-d8 (SS2)	15.72	98	1277960	12.414	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.28%				
73) Bromofluorobenzene (SS3)	18.98	174	435056	11.745	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.92%				
Target Compounds							Qvalue
2) Propene	4.11	42	1761	0.054	ng		96
3) Dichlorodifluoromethan...	4.27	85	16419	0.257	ng		98
4) Chloromethane	4.54	50	2318	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	255	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.32	45	20103	0.796	ng		94
11) Acetonitrile	6.61	41	3295	0.057	ng		80
12) Acrolein	6.80	56	1755	0.088	ng		98
13) Acetone	7.02	58	23642	0.936	ng	#	75
14) Trichlorofluoromethane	7.24	101	2828	0.050	ng		91
15) 2-Propanol (Isopropanol)	7.51	45	6390	0.084	ng		99
16) Acrylonitrile	7.77	53	467	N.D.			
17) 1,1-Dichloroethene	8.19	96	906	N.D.			
18) 2-Methyl-2-Propanol (t...	8.45	59	2547	N.D.			
19) Methylene Chloride	8.40	84	9291	0.283	ng		94
20) 3-Chloro-1-propene (Al...	8.45	41	199	N.D.			
21) Trichlorotrifluoroethane	8.84	151	584	N.D.			
22) Carbon Disulfide	8.67	76	8373	0.071	ng		92
23) trans-1,2-Dichloroethene	9.68	61	132	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.48	72	2287	0.106	ng		93
28) cis-1,2-Dichloroethene	10.95	61	427	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.28	61	14609	1.177	ng	#	28
31) n-Hexane	11.25	57	1116	N.D.			
32) Chloroform	11.30	83	1148651	20.442	ng		99
34) Tetrahydrofuran (THF)	11.76	72	1005	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.10	62	245	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	4130	N.D.			
42) Carbon Tetrachloride	13.03	117	15528	0.345	ng		100
43) Cyclohexane	13.17	84	842	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	13.91	63	266	N.D.			
46) Bromodichloromethane	13.91	83	399091	8.930	ng		100
47) Trichloroethene	13.97	130	4455	0.130	ng		97
48) 1,4-Dioxane	13.90	88	426	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.03	100	549	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042025.D Vial: 11
Acq On : 4 May 2020 20:18 Operator: TD
Sample : P2002105-009dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 14:19:55 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

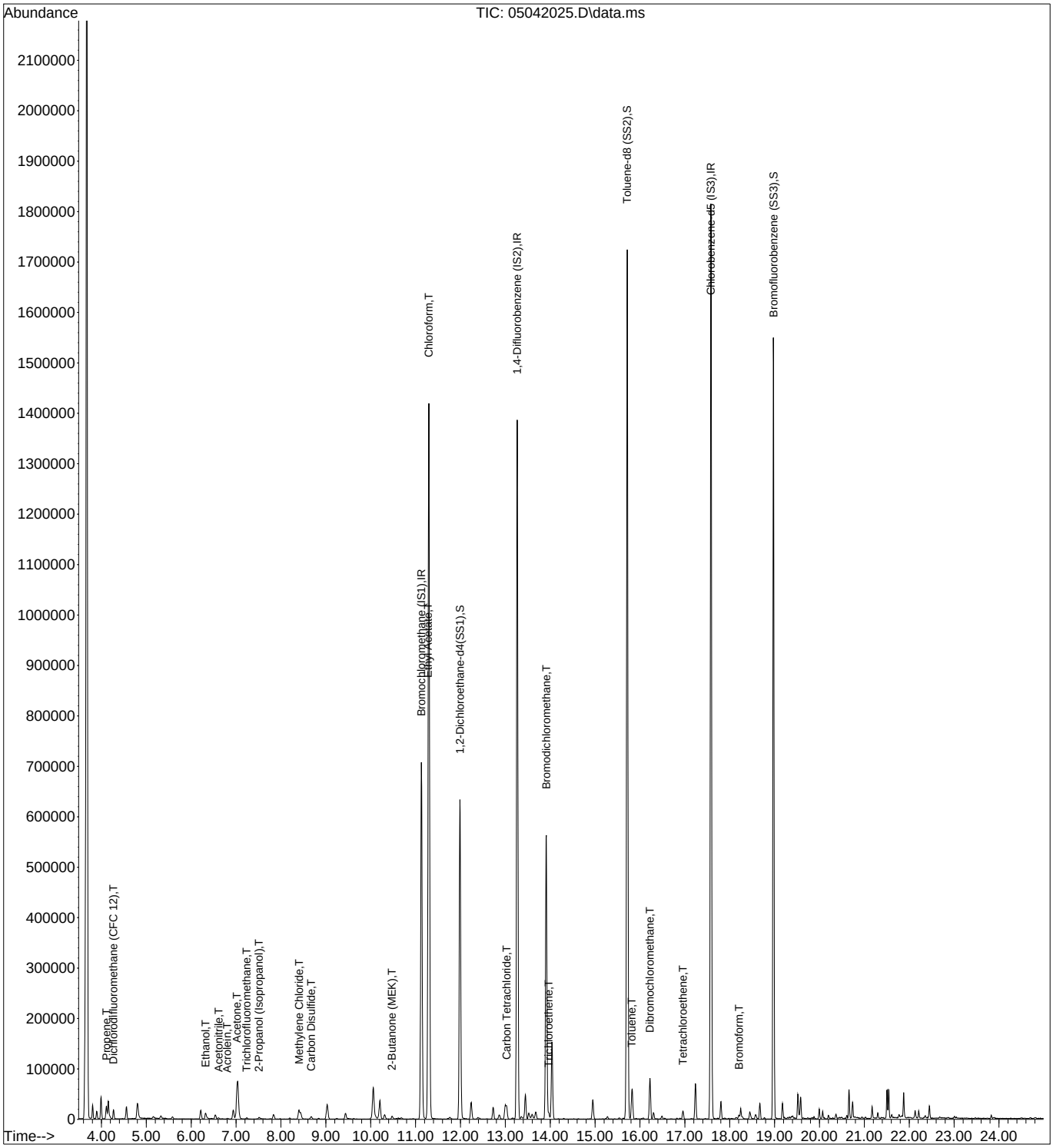
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.30	71	246	N.D.	
52) cis-1,3-Dichloropropene	14.83	75	192	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	15.35	75	388	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.82	91	19642	0.148 ng	99
59) 2-Hexanone	16.07	43	2135	N.D.	
60) Dibromochloromethane	16.22	129	48304	1.271 ng	98
61) 1,2-Dibromoethane	16.48	107	461	N.D.	
62) n-Butyl Acetate	16.70	43	852	N.D.	
63) n-Octane	16.82	57	241	N.D.	
64) Tetrachloroethene	16.96	166	5097	0.136 ng	97
65) Chlorobenzene	17.63	112	596	N.D.	
66) Ethylbenzene	17.98	91	1507	N.D.	
67) m- & p-Xylenes	18.14	91	3152	N.D.	
68) Bromoform	18.21	173	3350	0.102 ng	95
69) Styrene	18.48	104	1485	N.D.	
70) o-Xylene	18.57	91	1125	N.D.	
71) n-Nonane	18.77	43	1347	N.D.	
72) 1,1,2,2-Tetrachloroethane	18.59	83	107	N.D.	
74) Cumene	19.10	105	300	N.D.	
75) alpha-Pinene	19.45	93	1037	N.D.	
76) n-Propylbenzene	0.00	91	0	N.D. d	
77) 3-Ethyltoluene	19.64	105	922	N.D.	
78) 4-Ethyltoluene	19.68	105	666	N.D.	
79) 1,3,5-Trimethylbenzene	19.74	105	428	N.D.	
80) alpha-Methylstyrene	19.88	118	409	N.D.	
81) 2-Ethyltoluene	19.92	105	367	N.D.	
82) 1,2,4-Trimethylbenzene	20.11	105	996	N.D.	
83) n-Decane	20.20	57	2351	N.D.	
84) Benzyl Chloride	20.22	91	546	N.D.	
85) 1,3-Dichlorobenzene	20.24	146	625	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	792	N.D.	
87) sec-Butylbenzene	20.34	105	293	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	924	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	600	N.D.	
90) 1,2-Dichlorobenzene	20.59	146	479	N.D.	
91) d-Limonene	20.61	68	1358	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.11	180	492	N.D.	
95) Naphthalene	22.22	128	2745	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.28	55	2060	N.D.	
99) tert-Butylbenzene	20.10	119	128	N.D.	
100) n-Butylbenzene	20.85	91	1278	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042025.D Vial: 11
Acq On : 4 May 2020 20:18 Operator: TD
Sample : P2002105-009dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 14:19:55 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

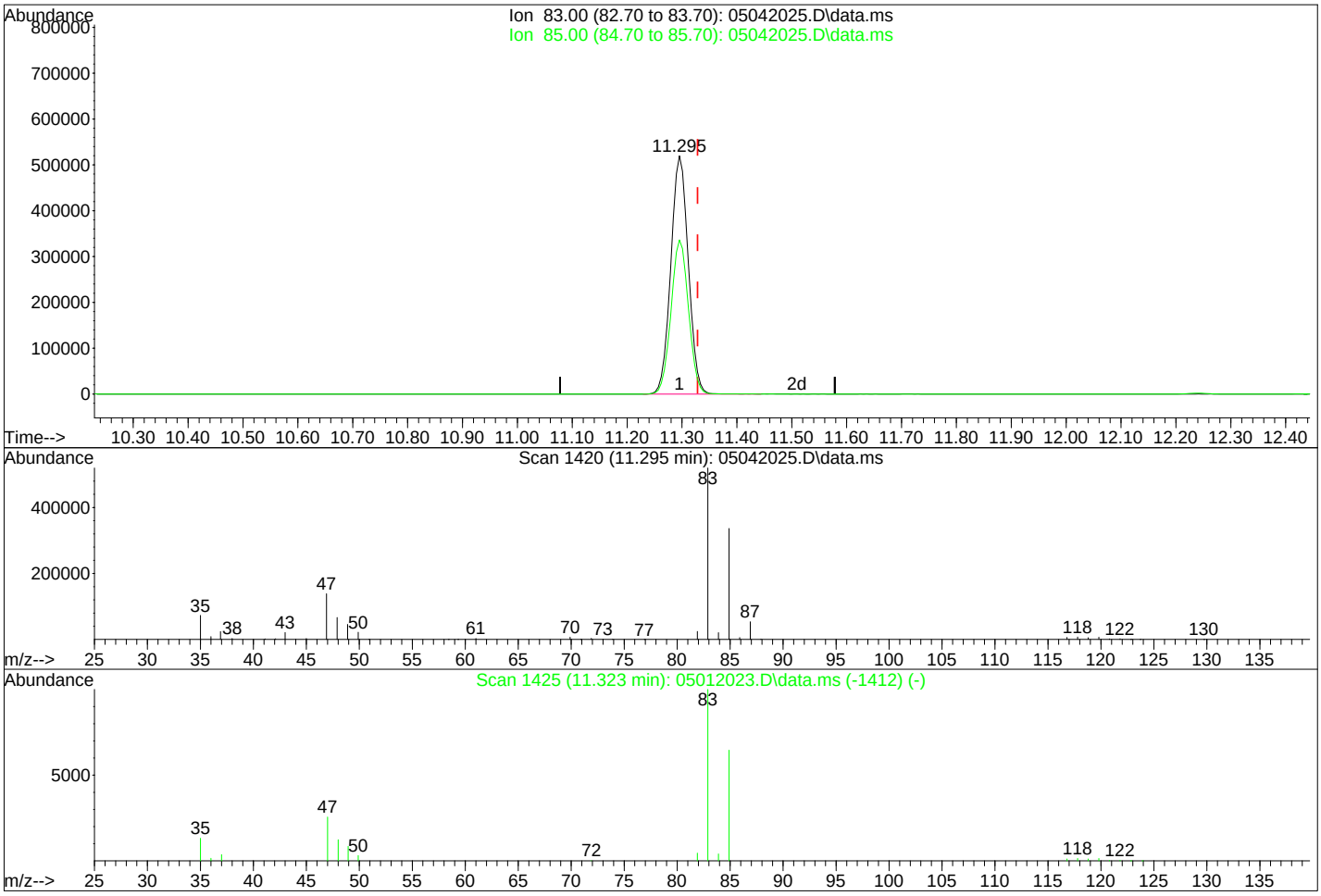


R16050120.M Wed May 06 16:34:57 2020 Page: 3

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\04\05042025.D Vial: 11
Acq On : 4 May 2020 20:18 Operator: TD
Sample : P2002105-009dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 14:19:55 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05042025.D\data.ms

(32) Chloroform (T)

11.295min (-0.033) 20.44ng

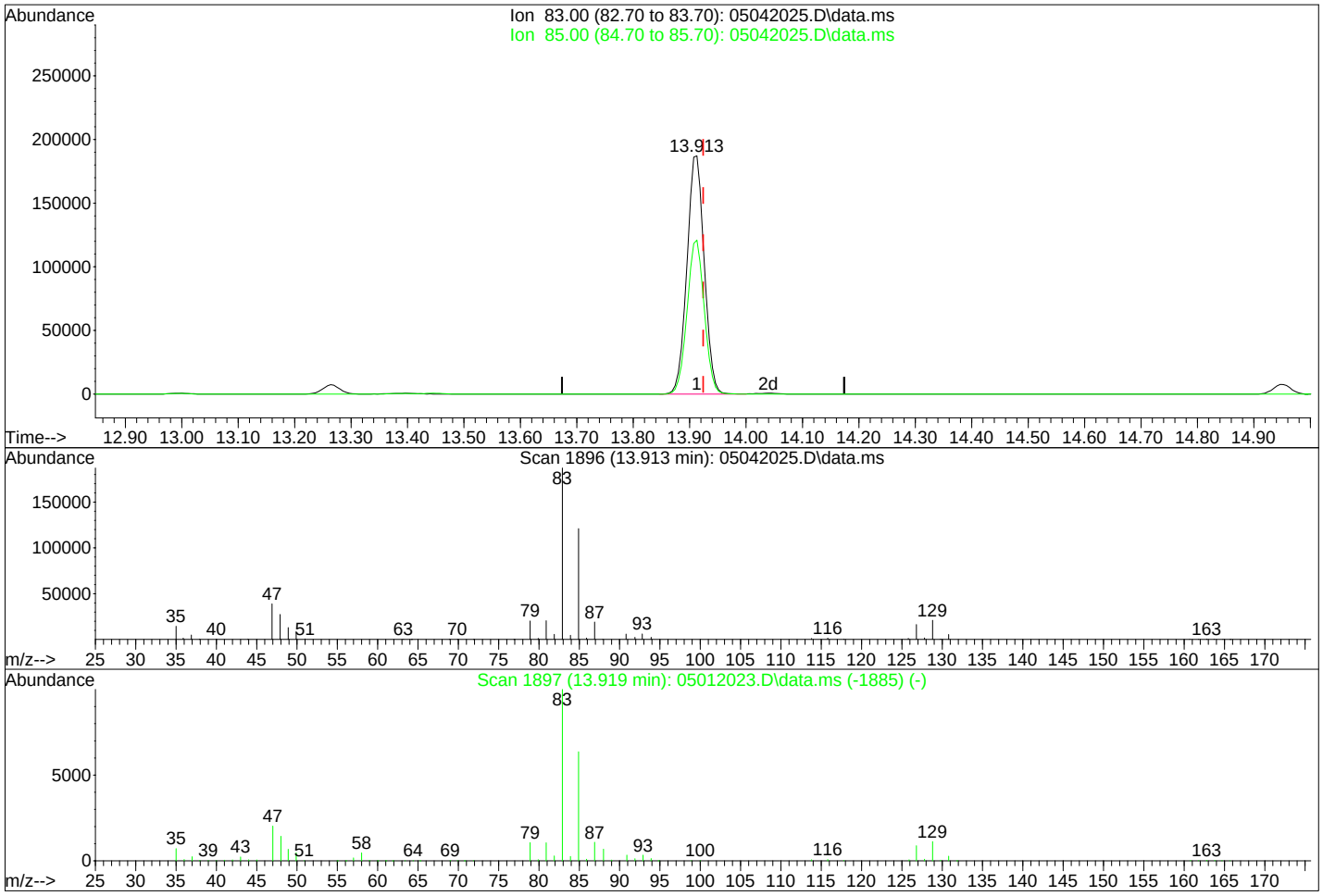
response 1148651

Ion	Exp%	Act%
83.00	100	100
85.00	65.50	64.71
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\04\05042025.D Vial: 11
Acq On : 4 May 2020 20:18 Operator: TD
Sample : P2002105-009dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 14:19:55 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05042025.D\data.ms

(46) Bromodichloromethane (T)

13.913min (-0.011) 8.93ng

response 399091

Ion	Exp%	Act%
83.00	100	100
85.00	64.40	64.07
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042026.D Vial: 12
Acq On : 4 May 2020 20:54 Operator: TD
Sample : P2002105-010 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 14:26:05 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/6/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	248029	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1085249	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	543289	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	426487	12.688	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.52%				
57) Toluene-d8 (SS2)	15.72	98	1129282	12.263	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.08%				
73) Bromofluorobenzene (SS3)	18.98	174	393760	11.884	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.04%				
Target Compounds							Qvalue
2) Propene	4.11	42	4445	0.155	ng		98
3) Dichlorodifluoromethan...	4.26	85	333574	5.937	ng		100
4) Chloromethane	4.55	50	1890	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	6746	0.201	ng		98
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.15	54	434	N.D.			
8) Bromomethane	5.65	94	105	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.32	45	27159	1.224	ng		92
11) Acetonitrile	6.60	41	3396	0.067	ng		90
12) Acrolein	6.79	56	3549	0.202	ng		98
13) Acetone	7.01	58	39163	1.765	ng		86
14) Trichlorofluoromethane	7.24	101	23104	0.465	ng		100
15) 2-Propanol (Isopropanol)	7.51	45	11310	0.168	ng		97
16) Acrylonitrile	7.76	53	423	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	2876	0.100	ng		99
20) 3-Chloro-1-propene (Al...	8.51	41	418	N.D.			
21) Trichlorotrifluoroethane	8.84	151	6682	0.285	ng		95
22) Carbon Disulfide	8.67	76	64172	0.621	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.47	72	4610	0.244	ng	#	90
28) cis-1,2-Dichloroethene	10.96	61	415	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.28	61	3215	0.295	ng	#	13
31) n-Hexane	11.25	57	7340	0.155	ng	#	74
32) Chloroform	11.30	83	276970	5.610	ng		98
34) Tetrahydrofuran (THF)	11.74	72	4601	0.249	ng	#	87
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.10	62	162	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	12166	0.105	ng		98
42) Carbon Tetrachloride	13.03	117	131486	3.321	ng		100
43) Cyclohexane	13.16	84	6500	0.150	ng		96
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	13.91	83	32962	0.838	ng		98
47) Trichloroethene	13.97	130	4833	0.161	ng		100
48) 1,4-Dioxane	13.97	88	558	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042026.D Vial: 12
Acq On : 4 May 2020 20:54 Operator: TD
Sample : P2002105-010 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 14:26:05 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

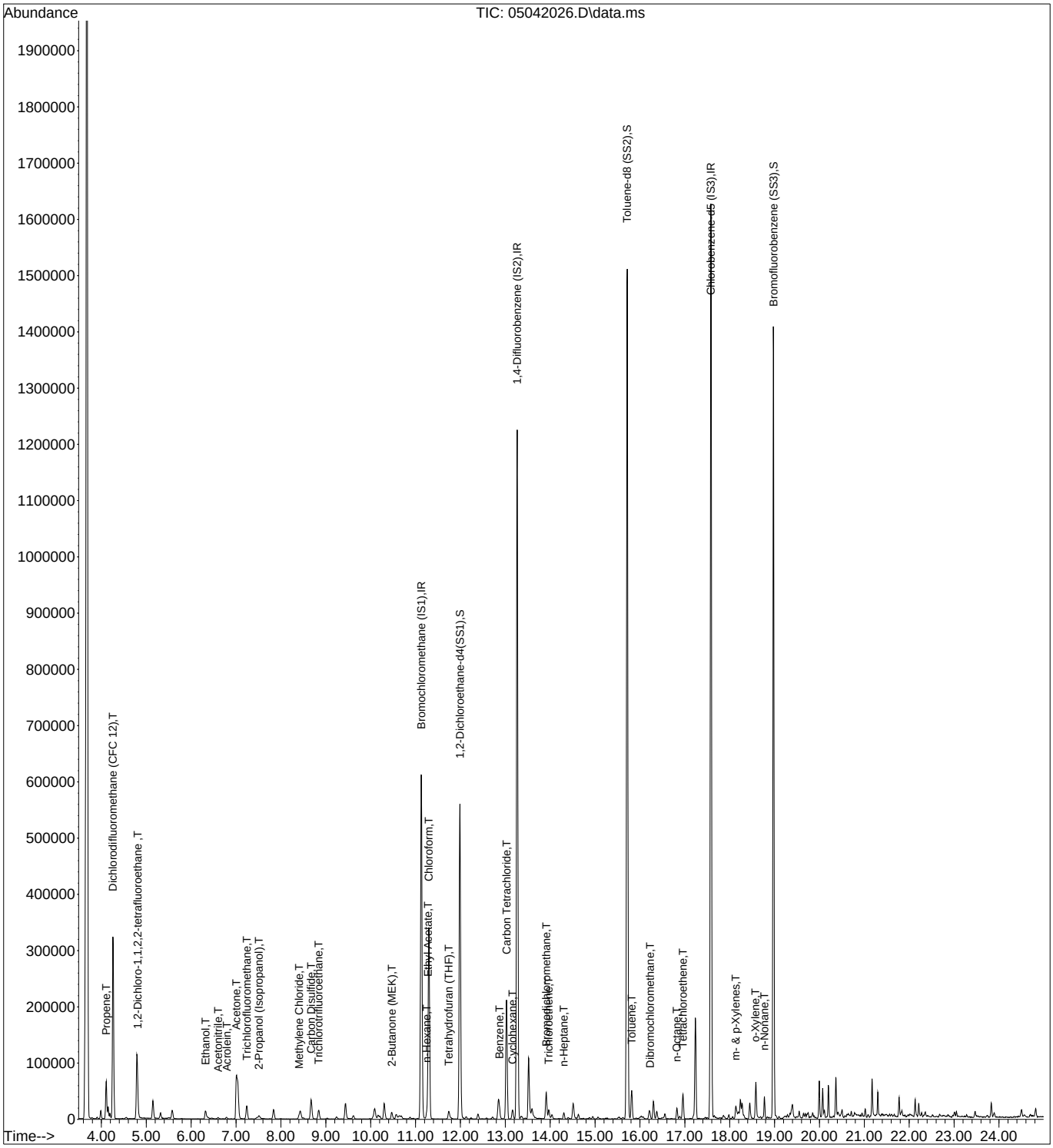
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.30	71	2871	0.105 ng	95
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.88	58	515	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.82	91	41016	0.346 ng	100
59) 2-Hexanone	16.07	43	3006	N.D.	
60) Dibromochloromethane	16.23	129	2674	0.079 ng	98
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.71	43	1200	N.D.	
63) n-Octane	16.82	57	3994	0.163 ng	89
64) Tetrachloroethene	16.96	166	14378	0.429 ng	99
65) Chlorobenzene	17.63	112	409	N.D.	
66) Ethylbenzene	17.98	91	5607	N.D.	
67) m- & p-Xylenes	18.14	91	17030	0.162 ng	97
68) Bromoform	18.21	173	173	N.D.	
69) Styrene	18.47	104	956	N.D.	
70) o-Xylene	18.58	91	6300	0.059 ng	99
71) n-Nonane	18.77	43	14381	0.254 ng	94
72) 1,1,2,2-Tetrachloroethane	18.59	83	458	N.D.	
74) Cumene	19.10	105	1136	N.D.	
75) alpha-Pinene	19.46	93	579	N.D.	
76) n-Propylbenzene	19.55	91	3952	N.D.	
77) 3-Ethyltoluene	19.64	105	3597	N.D.	
78) 4-Ethyltoluene	19.68	105	1667	N.D.	
79) 1,3,5-Trimethylbenzene	19.75	105	2223	N.D.	
80) alpha-Methylstyrene	19.89	118	1016	N.D.	
81) 2-Ethyltoluene	19.91	105	1418	N.D.	
82) 1,2,4-Trimethylbenzene	20.11	105	5033	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.22	91	570	N.D.	
85) 1,3-Dichlorobenzene	20.25	146	283	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	407	N.D.	
87) sec-Butylbenzene	20.35	105	1456	N.D.	
88) 4-Isopropyltoluene (p-...	20.49	119	1215	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	2040	N.D.	
90) 1,2-Dichlorobenzene	20.60	146	164	N.D.	
91) d-Limonene	20.61	68	1202	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.11	180	126	N.D.	
95) Naphthalene	22.21	128	2133	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.11	119	797	N.D.	
100) n-Butylbenzene	20.85	91	2245	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042026.D Vial: 12
Acq On : 4 May 2020 20:54 Operator: TD
Sample : P2002105-010 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 14:26:05 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042026.D Vial: 12
Acq On : 4 May 2020 20:54 Operator: TD
Sample : P2002105-010 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 14:26:05 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/6/20

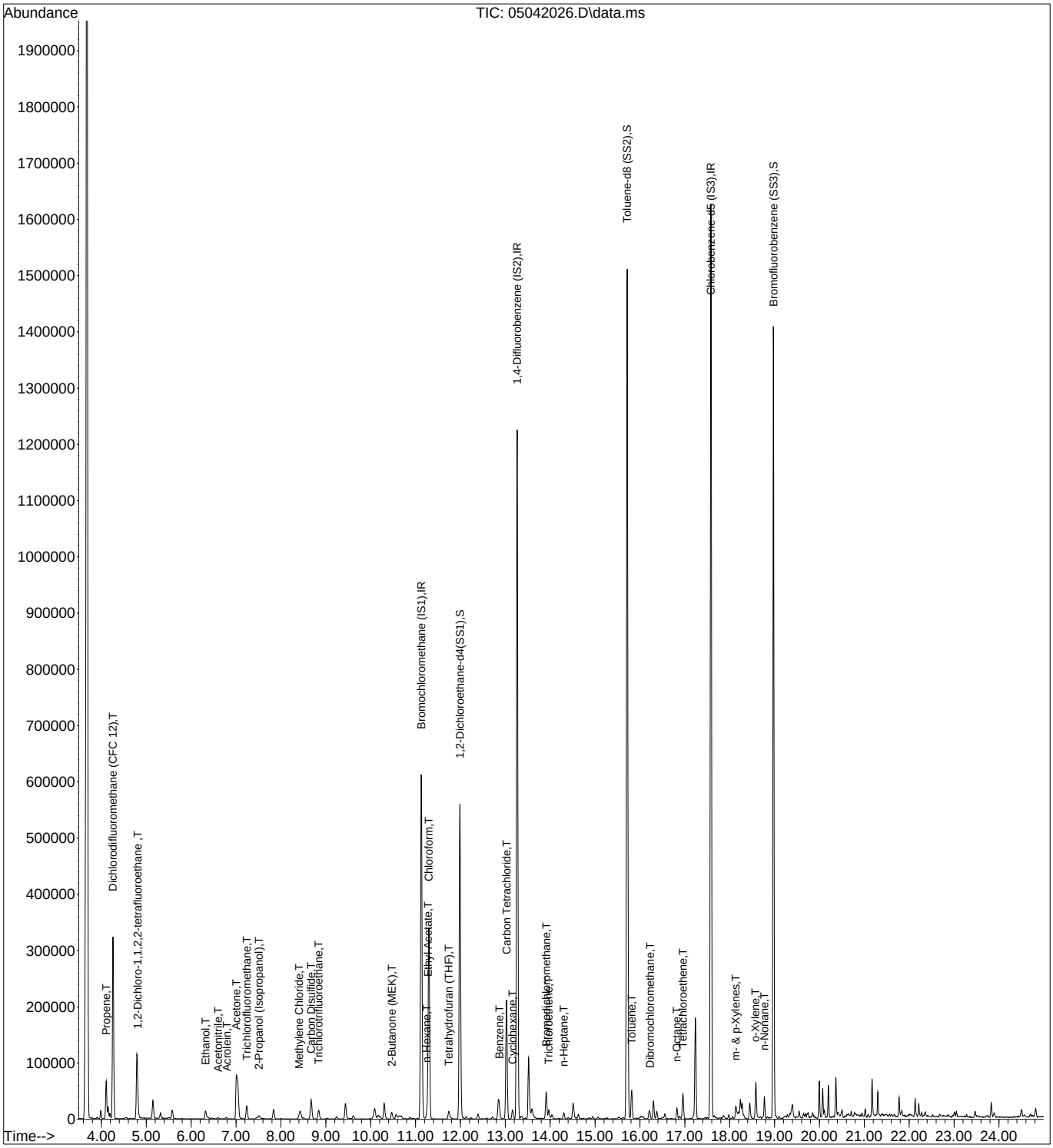
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	248029	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1085249	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	543289	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	426487	12.688	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.52%				
57) Toluene-d8 (SS2)	15.72	98	1129282	12.263	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.08%				
73) Bromofluorobenzene (SS3)	18.98	174	393760	11.884	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.04%				
Target Compounds							Qvalue
2) Propene	4.11	42	4445	0.155	ng		98
3) Dichlorodifluoromethan...	4.26	85	333574	5.937	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	6746	0.201	ng		98
10) Ethanol	6.32	45	27159	1.224	ng		92
11) Acetonitrile	6.60	41	3396	0.067	ng		90
12) Acrolein	6.79	56	3549	0.202	ng		98
13) Acetone	7.01	58	39163	1.765	ng		86
14) Trichlorofluoromethane	7.24	101	23104	0.465	ng		100
15) 2-Propanol (Isopropanol)	7.51	45	11310	0.168	ng		97
19) Methylene Chloride	8.40	84	2876	0.100	ng		99
21) Trichlorotrifluoroethane	8.84	151	6682	0.285	ng		95
22) Carbon Disulfide	8.67	76	64172	0.621	ng		99
27) 2-Butanone (MEK)	10.47	72	4610	0.244	ng	#	90
30) Ethyl Acetate	11.28	61	3215	0.295	ng	#	13
31) n-Hexane	11.25	57	7340	0.155	ng	#	74
32) Chloroform	11.30	83	276970	5.610	ng		98
34) Tetrahydrofuran (THF)	11.74	72	4601	0.249	ng	#	87
41) Benzene	12.87	78	12166	0.105	ng		98
42) Carbon Tetrachloride	13.03	117	131486	3.321	ng		100
43) Cyclohexane	13.16	84	6500	0.150	ng		96
46) Bromodichloromethane	13.91	83	32962	0.838	ng		98
47) Trichloroethene	13.97	130	4833	0.161	ng		100
51) n-Heptane	14.30	71	2871	0.105	ng		95
58) Toluene	15.82	91	41016	0.346	ng		100
60) Dibromochloromethane	16.23	129	2674	0.079	ng		98
63) n-Octane	16.82	57	3994	0.163	ng		89
64) Tetrachloroethene	16.96	166	14378	0.429	ng		99
67) m- & p-Xylenes	18.14	91	17030	0.162	ng		97
70) o-Xylene	18.58	91	6300	0.059	ng		99
71) n-Nonane	18.77	43	14381	0.254	ng		94

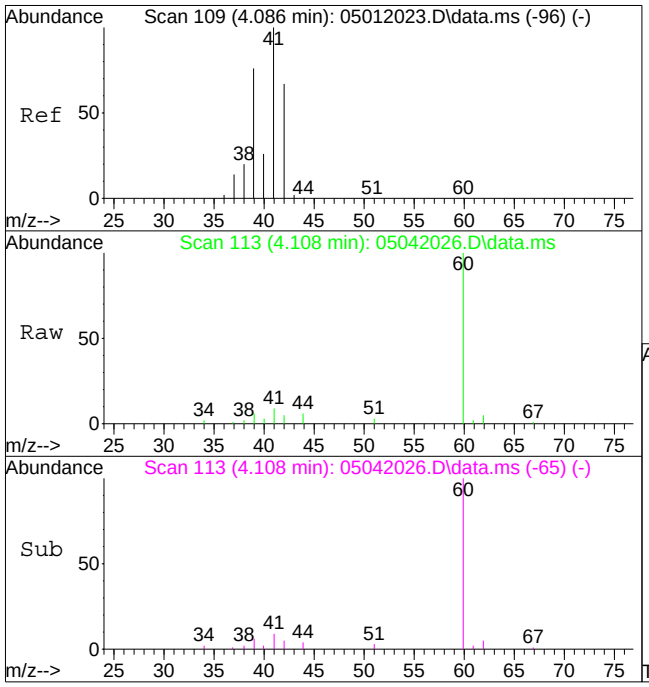
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042026.D Vial: 12
Acq On : 4 May 2020 20:54 Operator: TD
Sample : P2002105-010 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 14:26:05 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

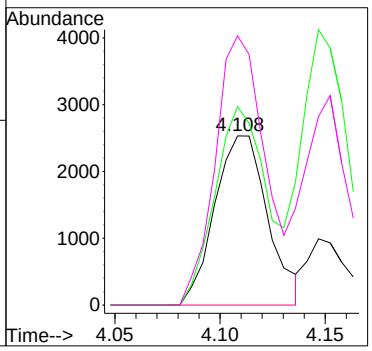


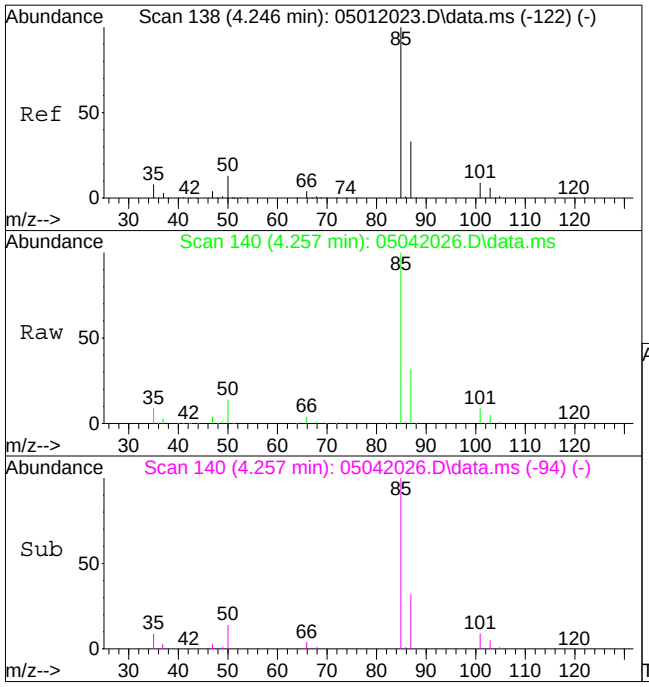


#2
Propene
Concen: 0.15 ng
RT: 4.11 min Scan# 113
Delta R.T. 0.017 min
Lab File: 05042026.D
Acq: 4 May 2020 20:54

Tgt Ion: 42 Resp: 4445

Ion	Ratio	Lower	Upper
42	100		
39	115.7	96.1	136.1
41	148.8	131.9	171.9

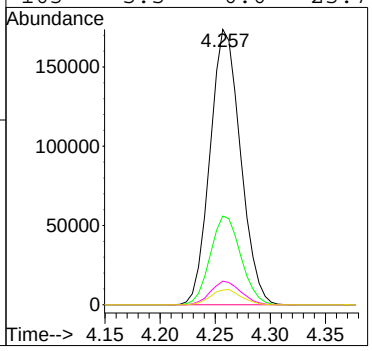


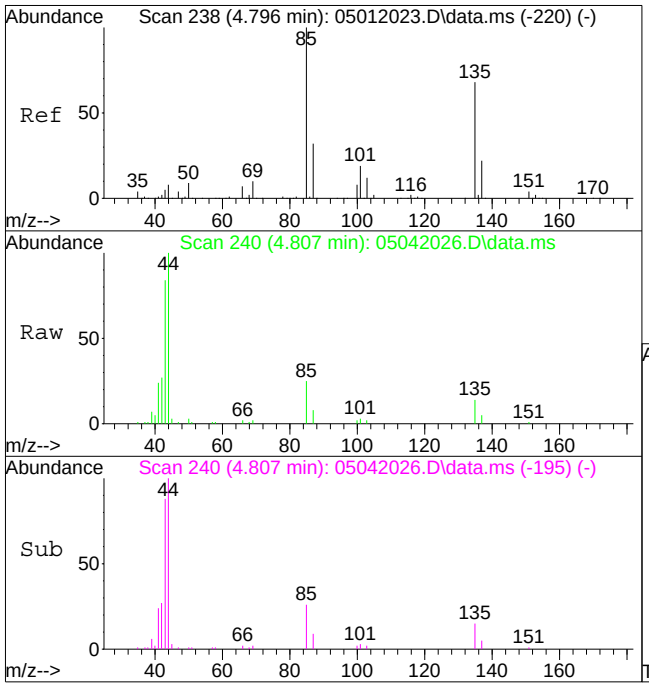


#3
Dichlorodifluoromethane (CFC 12)
Concen: 5.94 ng
RT: 4.26 min Scan# 140
Delta R.T. 0.006 min
Lab File: 05042026.D
Acq: 4 May 2020 20:54

Tgt Ion: 85 Resp: 333574

Ion	Ratio	Lower	Upper
85	100		
87	32.3	12.4	52.4
101	8.5	0.0	28.8
103	5.5	0.0	25.7

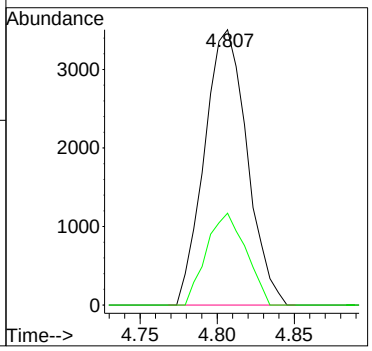


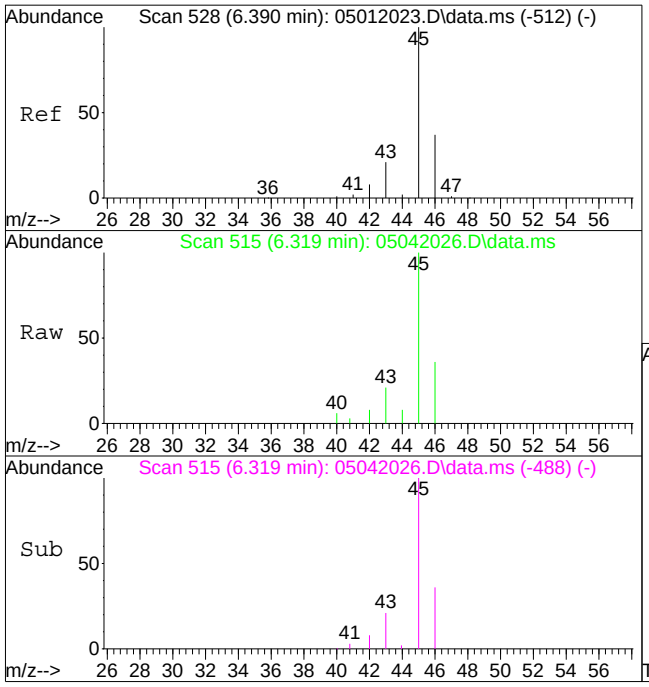


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 0.20 ng
RT: 4.81 min Scan# 240
Delta R.T. 0.000 min
Lab File: 05042026.D
Acq: 4 May 2020 20:54

Tgt Ion:135 Resp: 6746

Ion	Ratio	Lower	Upper
135	100		
137	30.9	12.1	52.1

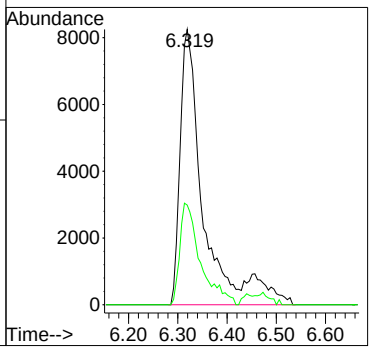


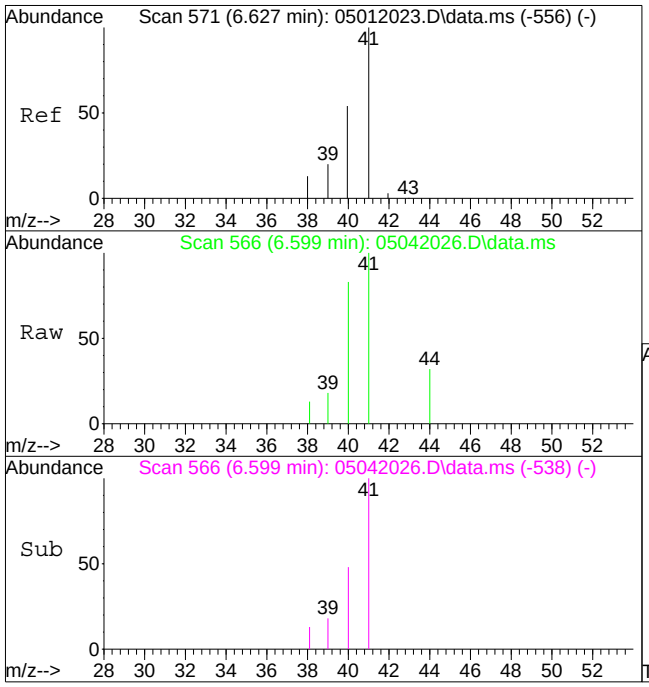


#10
Ethanol
Concen: 1.22 ng
RT: 6.32 min Scan# 515
Delta R.T. -0.099 min
Lab File: 05042026.D
Acq: 4 May 2020 20:54

Tgt Ion: 45 Resp: 27159

Ion	Ratio	Lower	Upper
45	100		
46	32.5	17.2	57.2

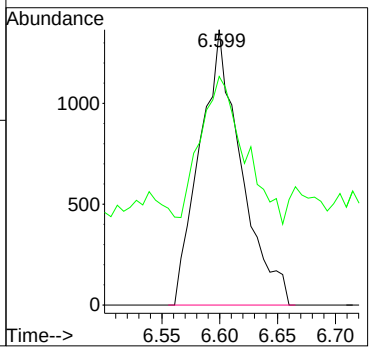


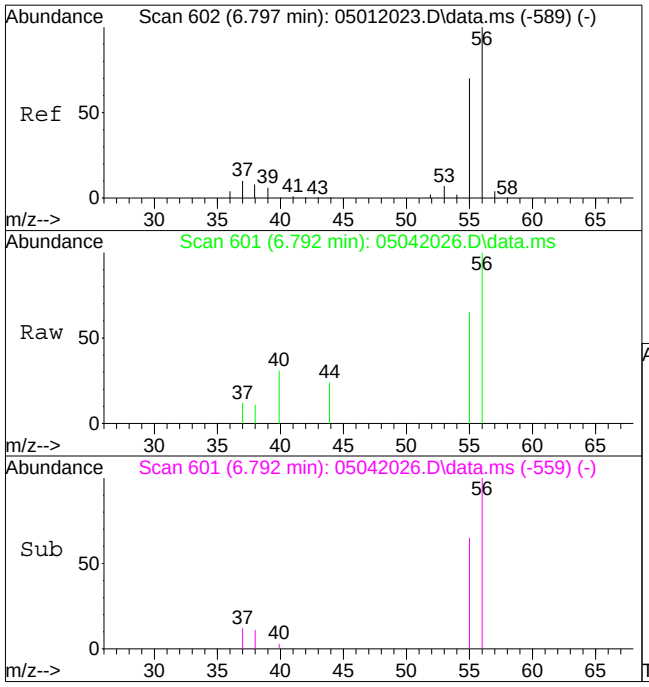


#11
Acetonitrile
Concen: 0.07 ng
RT: 6.60 min Scan# 566
Delta R.T. -0.044 min
Lab File: 05042026.D
Acq: 4 May 2020 20:54

Tgt Ion: 41 Resp: 3396

Ion	Ratio	Lower	Upper
41	100		
40	60.8	33.6	73.6

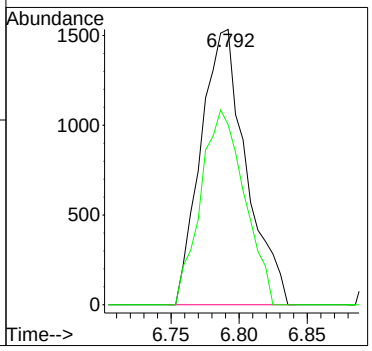


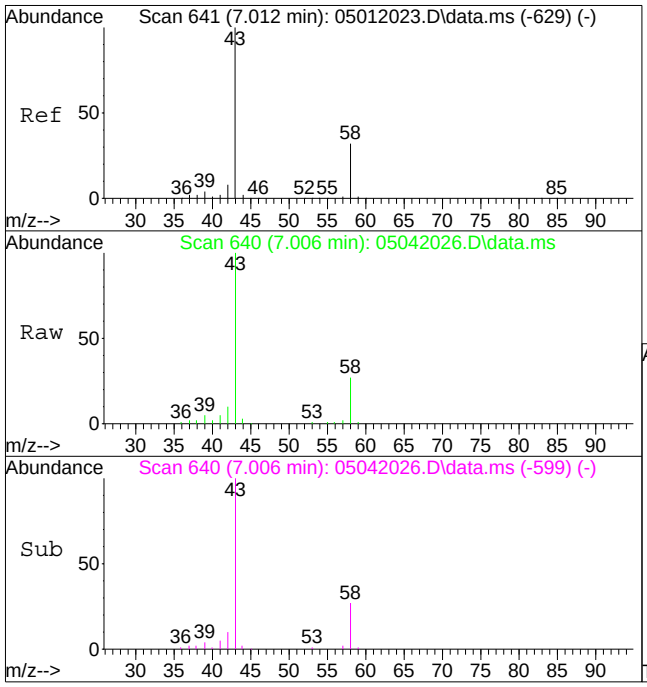


#12
Acrolein
Concen: 0.20 ng
RT: 6.79 min Scan# 601
Delta R.T. -0.016 min
Lab File: 05042026.D
Acq: 4 May 2020 20:54

Tgt Ion: 56 Resp: 3549

Ion	Ratio	Lower	Upper
56	100		
55	68.3	50.2	90.2

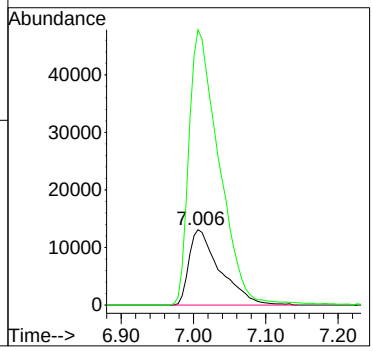


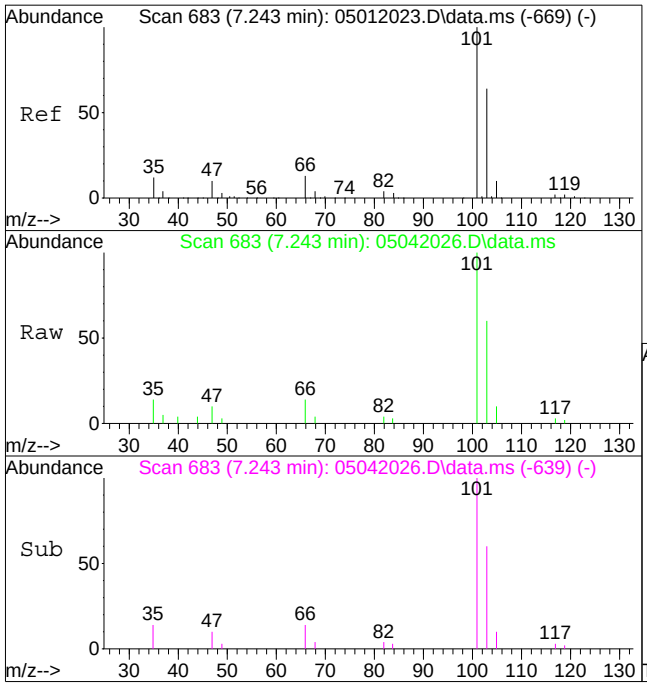


#13
Acetone
Concen: 1.77 ng
RT: 7.01 min Scan# 640
Delta R.T. -0.022 min
Lab File: 05042026.D
Acq: 4 May 2020 20:54

Tgt Ion: 58 Resp: 39163

Ion	Ratio	Lower	Upper
58	100		
43	354.3	294.4	354.4

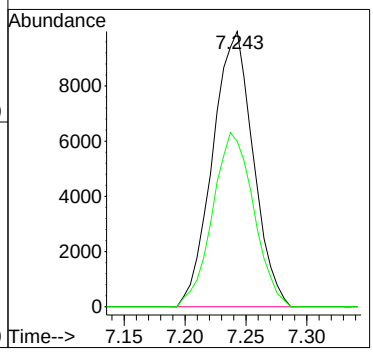


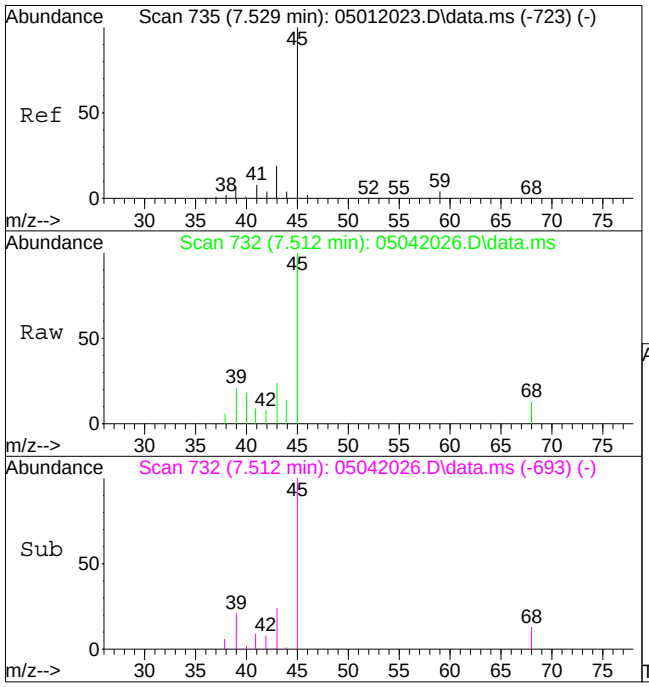


#14
Trichlorofluoromethane
Concen: 0.47 ng
RT: 7.24 min Scan# 683
Delta R.T. -0.005 min
Lab File: 05042026.D
Acq: 4 May 2020 20:54

Tgt Ion:101 Resp: 23104

Ion	Ratio	Lower	Upper
101	100		
103	64.0	44.4	84.4

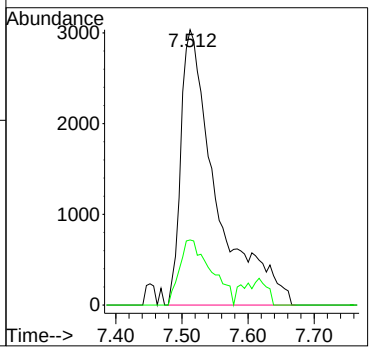


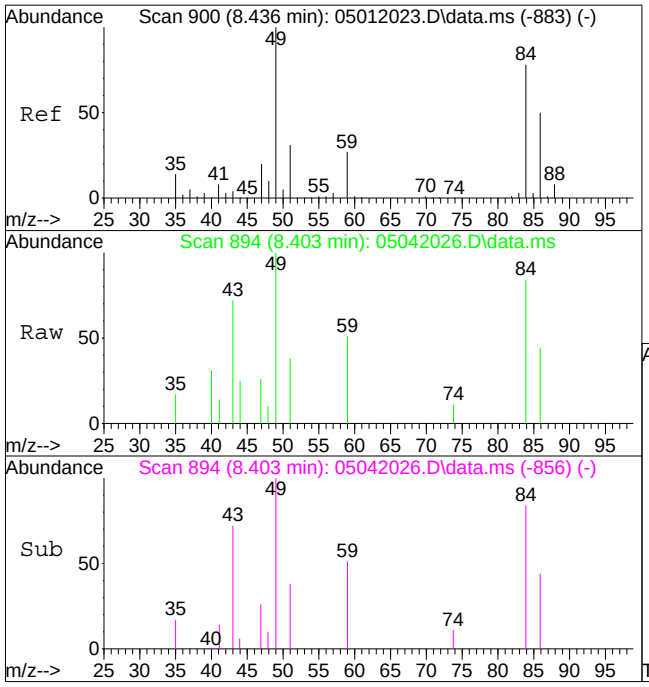


#15
2-Propanol (Isopropanol)
Concen: 0.17 ng
RT: 7.51 min Scan# 732
Delta R.T. -0.033 min
Lab File: 05042026.D
Acq: 4 May 2020 20:54

Tgt Ion: 45 Resp: 11310

Ion	Ratio	Lower	Upper
45	100		
43	20.9	0.0	39.5

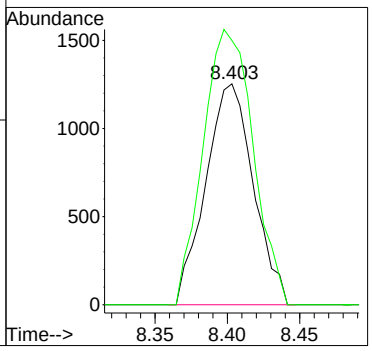


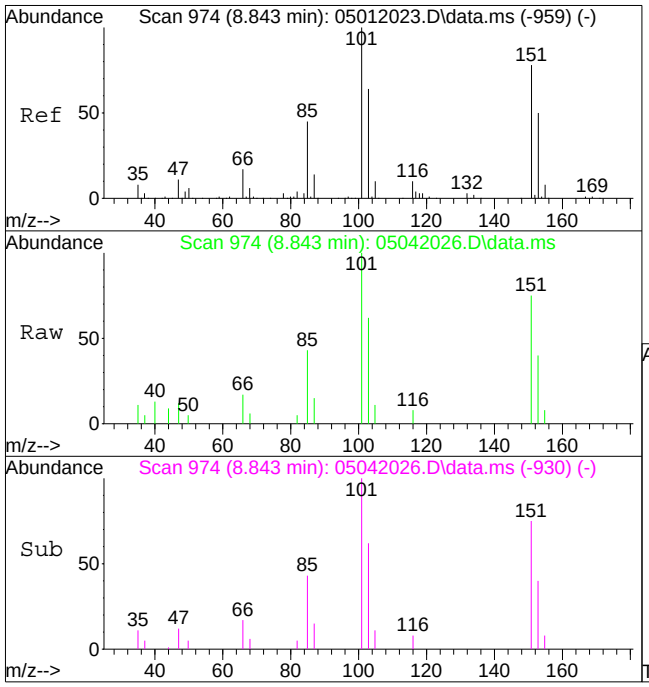


#19
Methylene Chloride
Concen: 0.10 ng
RT: 8.40 min Scan# 894
Delta R.T. -0.038 min
Lab File: 05042026.D
Acq: 4 May 2020 20:54

Tgt Ion: 84 Resp: 2876

Ion	Ratio	Lower	Upper
84	100		
49	130.9	104.8	154.8

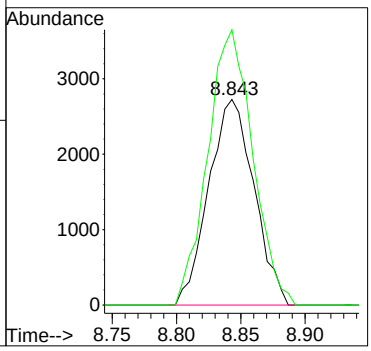


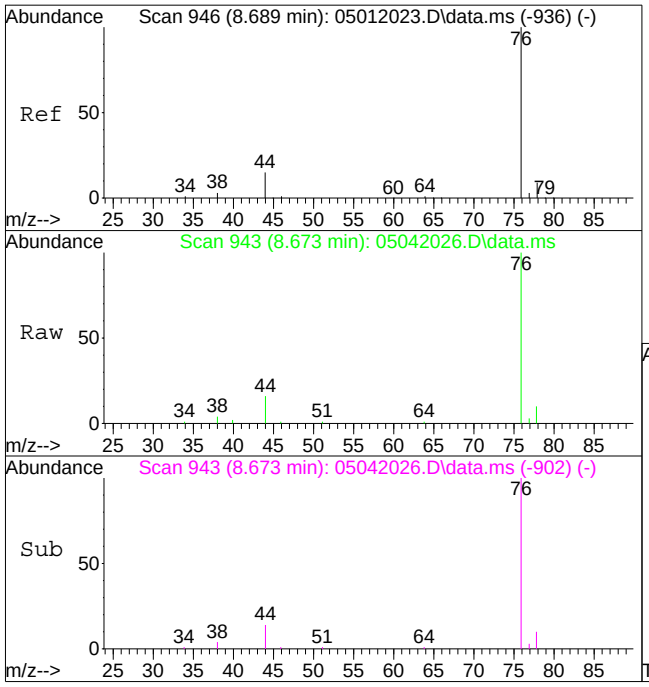


#21
Trichlorotrifluoroethane
Concen: 0.29 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.005 min
Lab File: 05042026.D
Acq: 4 May 2020 20:54

Tgt Ion:151 Resp: 6682

Ion	Ratio	Lower	Upper
151	100		
101	133.1	107.3	147.3

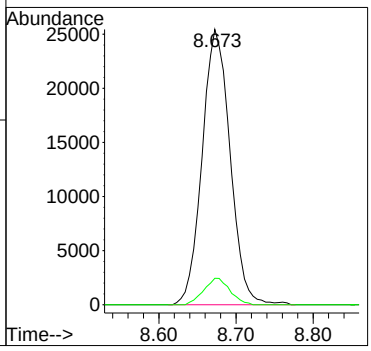


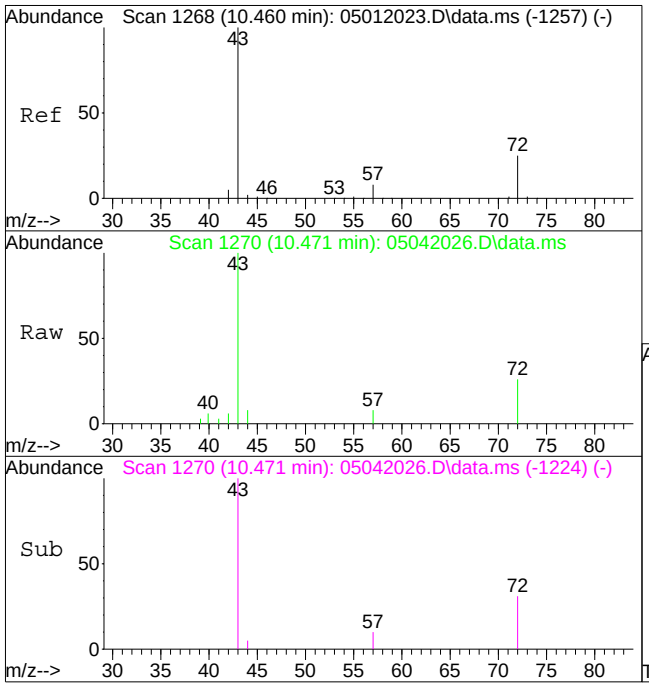


#22
Carbon Disulfide
Concen: 0.62 ng
RT: 8.67 min Scan# 943
Delta R.T. -0.022 min
Lab File: 05042026.D
Acq: 4 May 2020 20:54

Tgt Ion: 76 Resp: 64172

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	29.2

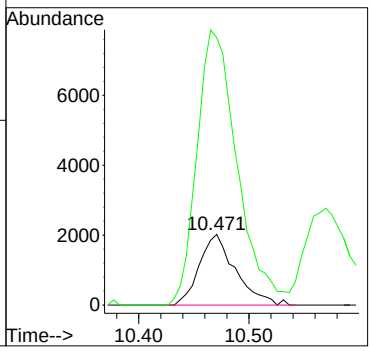


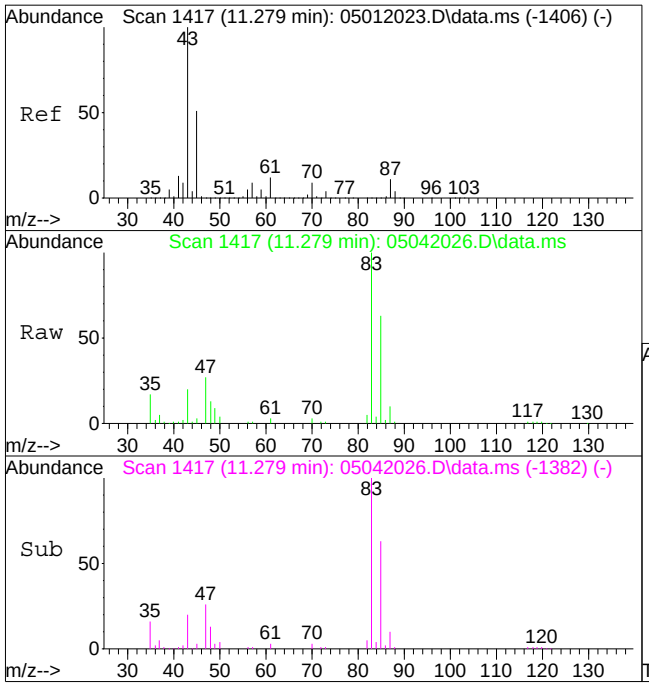


#27
2-Butanone (MEK)
Concen: 0.24 ng
RT: 10.47 min Scan# 1270
Delta R.T. 0.006 min
Lab File: 05042026.D
Acq: 4 May 2020 20:54

Tgt Ion: 72 Resp: 4610

Ion	Ratio	Lower	Upper
72	100		
43	434.3	389.7	429.7#

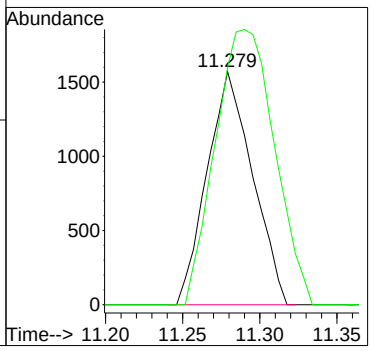


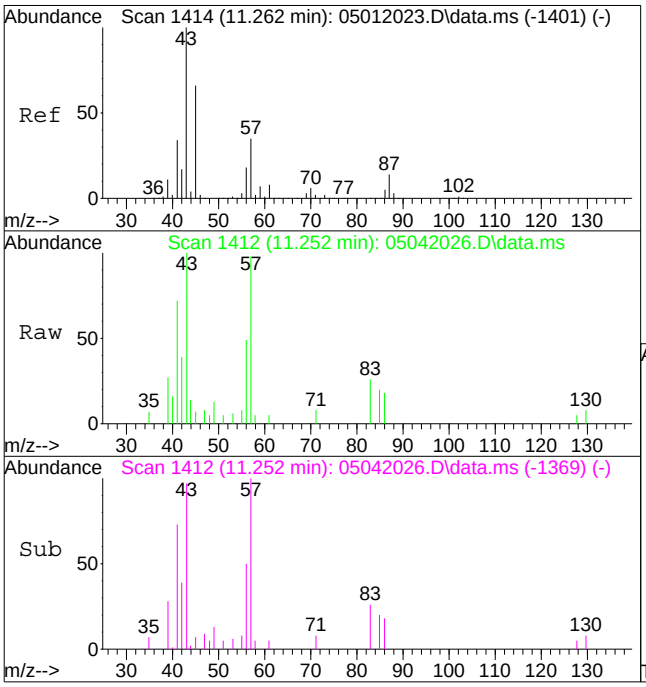


#30
Ethyl Acetate
Concen: 0.29 ng
RT: 11.28 min Scan# 1417
Delta R.T. -0.005 min
Lab File: 05042026.D
Acq: 4 May 2020 20:54

Tgt Ion: 61 Resp: 3215

Ion	Ratio	Lower	Upper
61	100		
70	153.9	57.9	97.9#

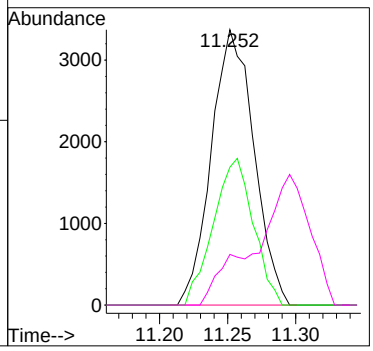


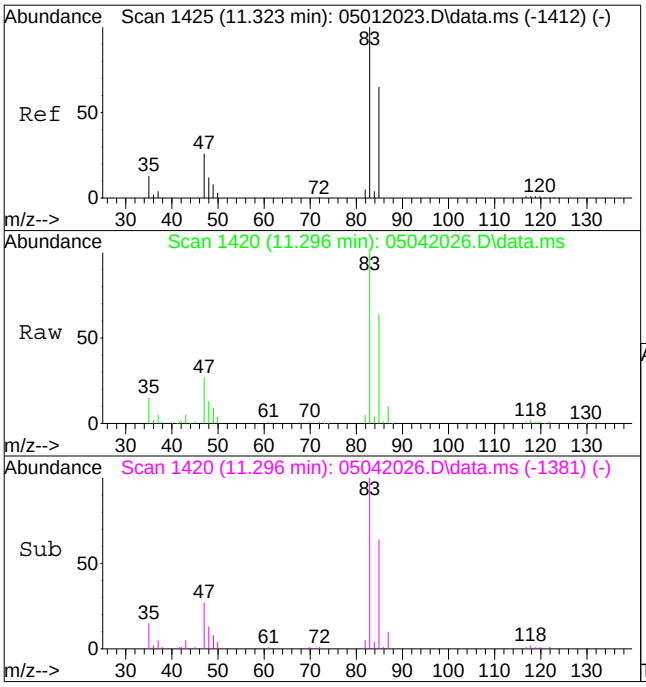


#31
n-Hexane
Concen: 0.16 ng
RT: 11.25 min Scan# 1412
Delta R.T. -0.011 min
Lab File: 05042026.D
Acq: 4 May 2020 20:54

Tgt Ion: 57 Resp: 7340

Ion	Ratio	Lower	Upper
57	100		
56	50.1	41.4	62.0
86	60.3	12.4	18.6#

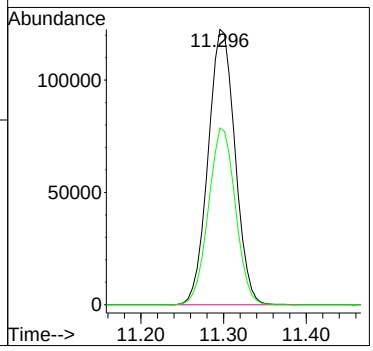


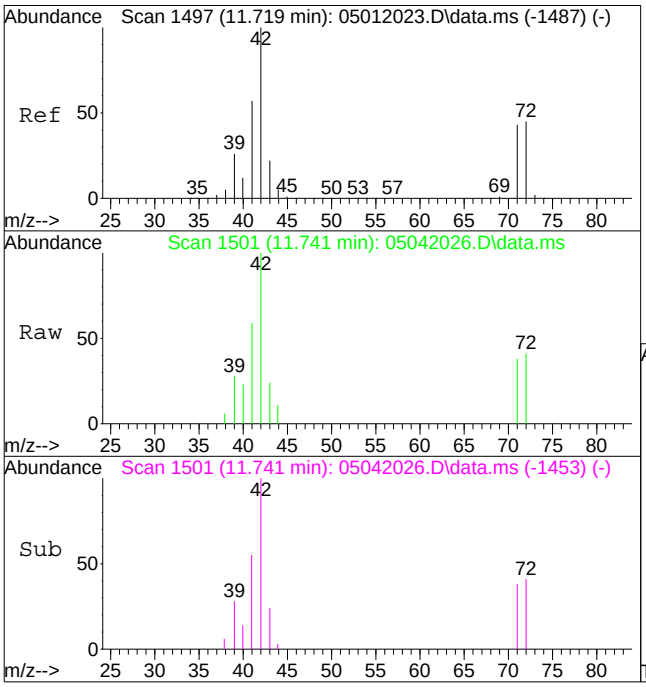


#32
Chloroform
Concen: 5.61 ng
RT: 11.30 min Scan# 1420
Delta R.T. -0.033 min
Lab File: 05042026.D
Acq: 4 May 2020 20:54

Tgt Ion: 83 Resp: 276970

Ion	Ratio	Lower	Upper
83	100		
85	64.3	45.5	85.5

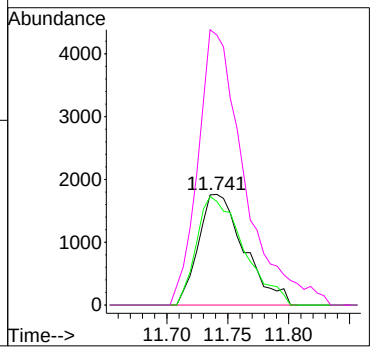


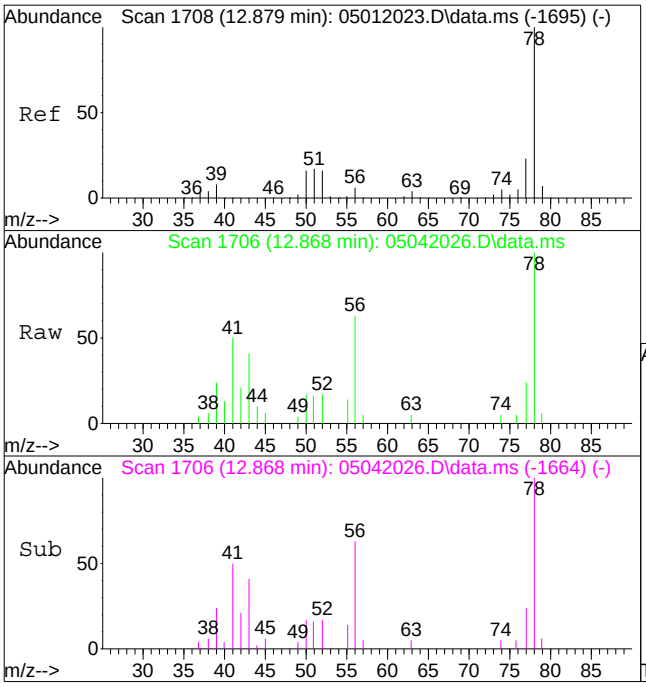


#34
Tetrahydrofuran (THF)
Concen: 0.25 ng
RT: 11.74 min Scan# 1501
Delta R.T. 0.017 min
Lab File: 05042026.D
Acq: 4 May 2020 20:54

Tgt Ion: 72 Resp: 4601

Ion	Ratio	Lower	Upper
72	100		
71	100.8	77.0	117.0
42	252.5	204.6	244.6#

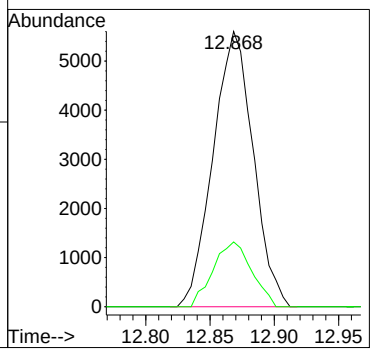


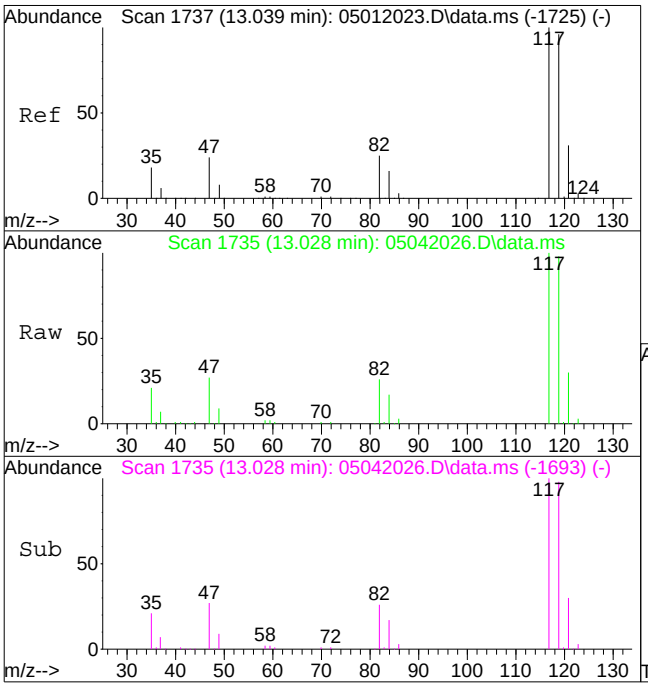


#41
Benzene
Concen: 0.10 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.016 min
Lab File: 05042026.D
Acq: 4 May 2020 20:54

Tgt Ion: 78 Resp: 12166

Ion	Ratio	Lower	Upper
78	100		
77	22.6	3.4	43.4

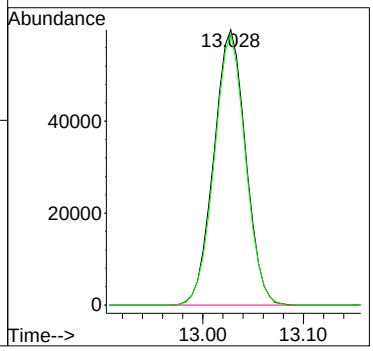


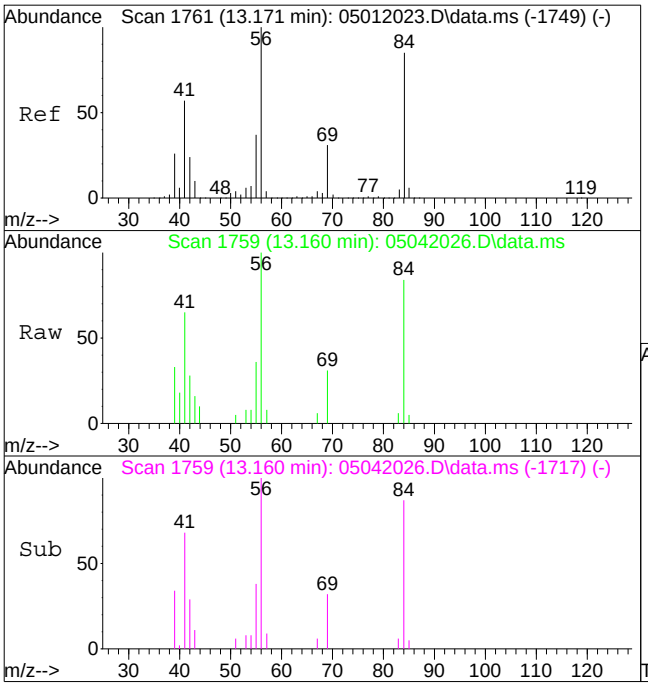


#42
Carbon Tetrachloride
Concen: 3.32 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.016 min
Lab File: 05042026.D
Acq: 4 May 2020 20:54

Tgt Ion:117 Resp: 131486

Ion	Ratio	Lower	Upper
117	100		
119	96.3	76.2	116.2

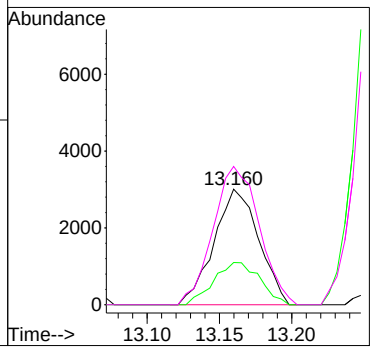


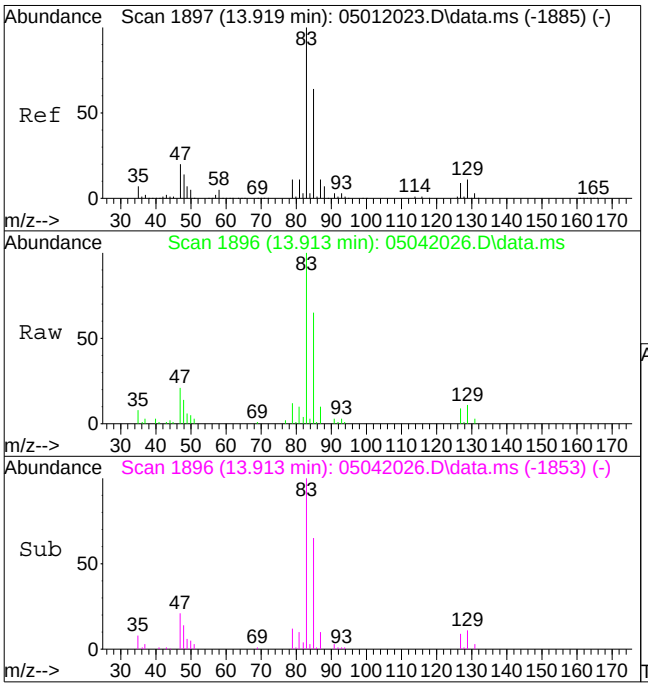


#43
Cyclohexane
Concen: 0.15 ng
RT: 13.16 min Scan# 1759
Delta R.T. -0.016 min
Lab File: 05042026.D
Acq: 4 May 2020 20:54

Tgt Ion: 84 Resp: 6500

Ion	Ratio	Lower	Upper
84	100		
69	37.4	16.5	56.5
56	123.1	97.4	137.4

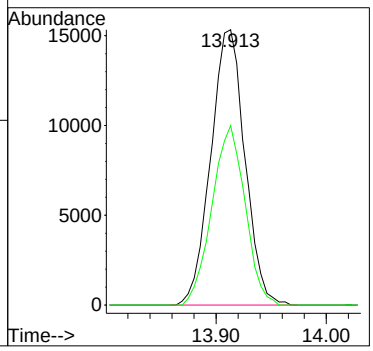


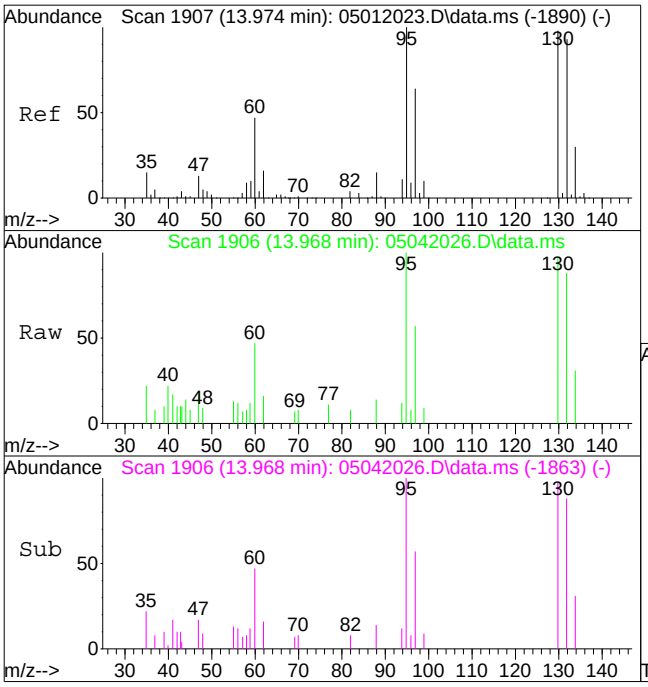


#46
Bromodichloromethane
Concen: 0.84 ng
RT: 13.91 min Scan# 1896
Delta R.T. -0.011 min
Lab File: 05042026.D
Acq: 4 May 2020 20:54

Tgt Ion: 83 Resp: 32962

Ion	Ratio	Lower	Upper
83	100		
85	63.2	44.4	84.4

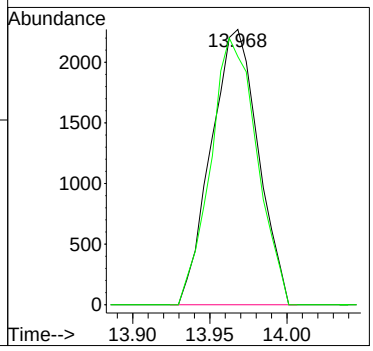


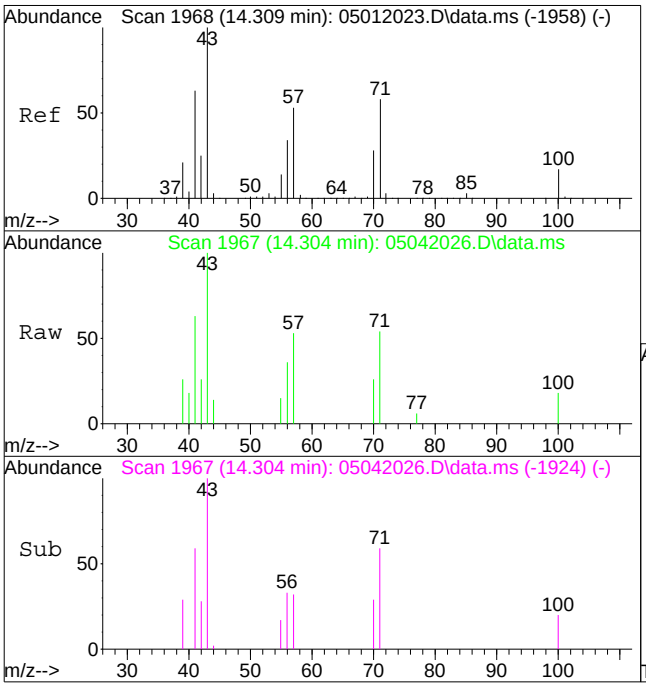


#47
Trichloroethene
Concen: 0.16 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05042026.D
Acq: 4 May 2020 20:54

Tgt Ion:130 Resp: 4833

Ion	Ratio	Lower	Upper
130	100		
132	95.0	74.9	114.9

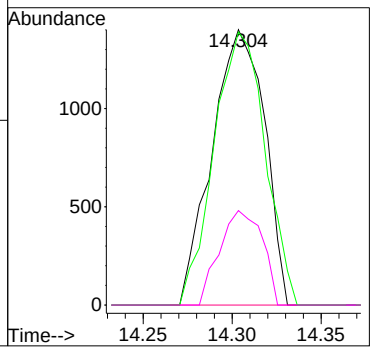


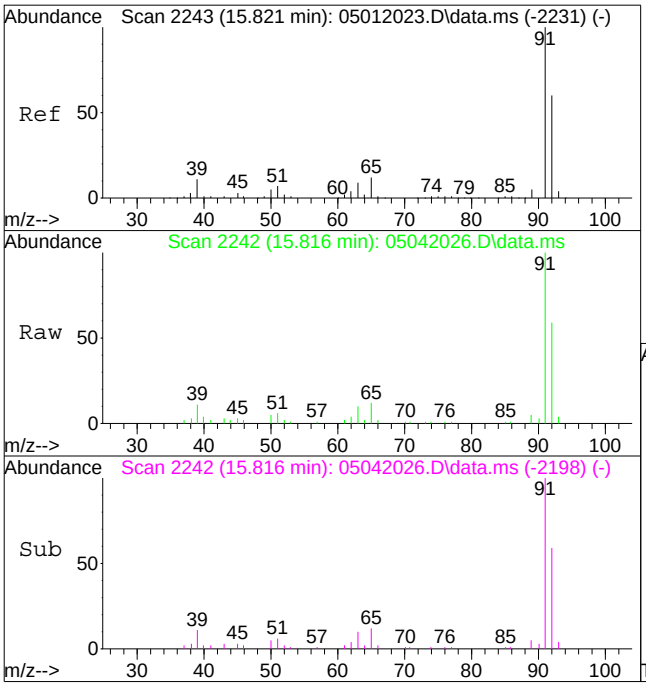


#51
n-Heptane
Concen: 0.11 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05042026.D
Acq: 4 May 2020 20:54

Tgt Ion: 71 Resp: 2871

Ion	Ratio	Lower	Upper
71	100		
57	96.6	71.0	111.0
100	28.0	8.4	48.4

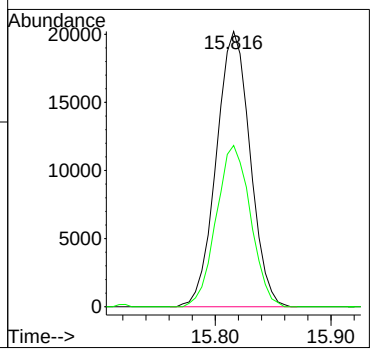


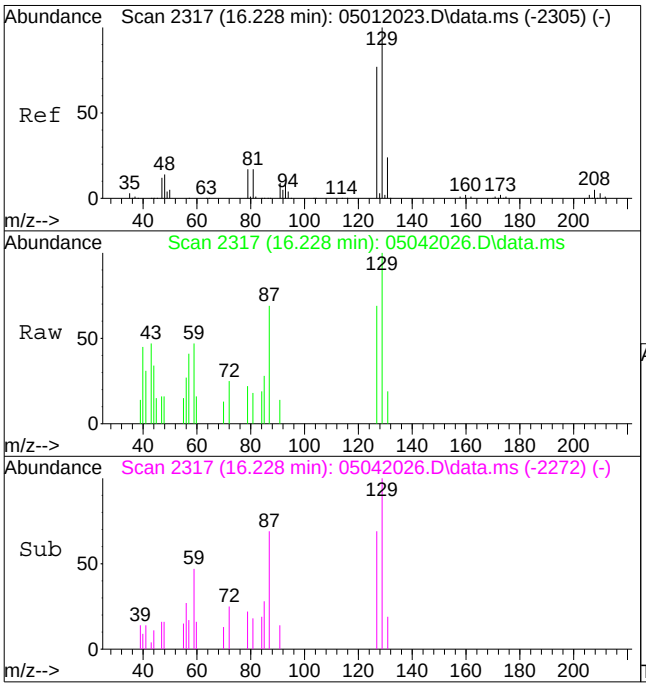


#58
Toluene
Concen: 0.35 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.005 min
Lab File: 05042026.D
Acq: 4 May 2020 20:54

Tgt Ion: 91 Resp: 41016

Ion	Ratio	Lower	Upper
91	100		
92	59.5	39.4	79.4

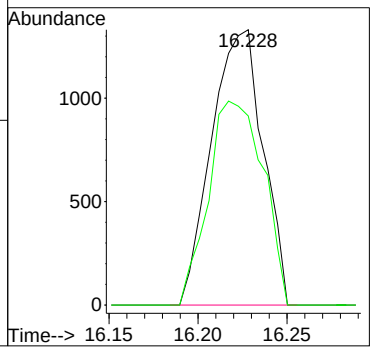


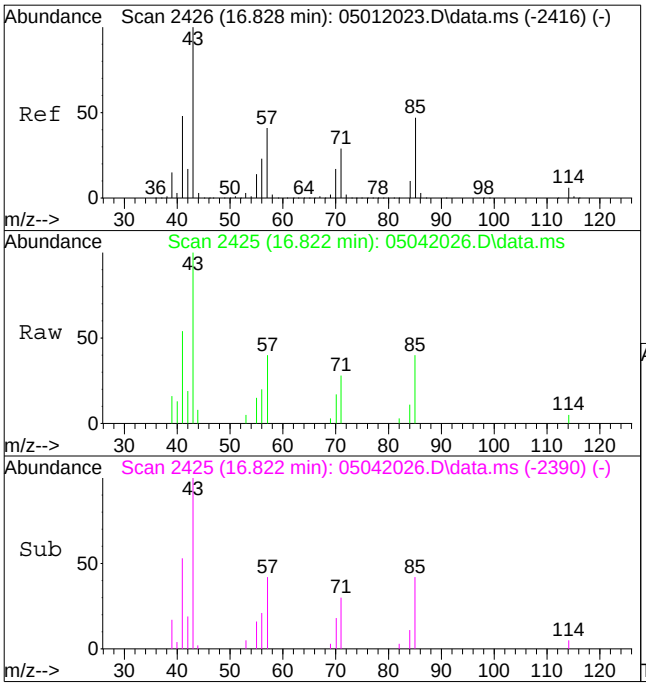


#60
Dibromochloromethane
Concen: 0.08 ng
RT: 16.23 min Scan# 2317
Delta R.T. 0.000 min
Lab File: 05042026.D
Acq: 4 May 2020 20:54

Tgt Ion:129 Resp: 2674

Ion	Ratio	Lower	Upper
129	100		
127	78.9	57.3	97.3

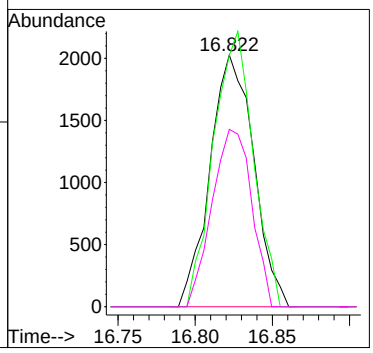


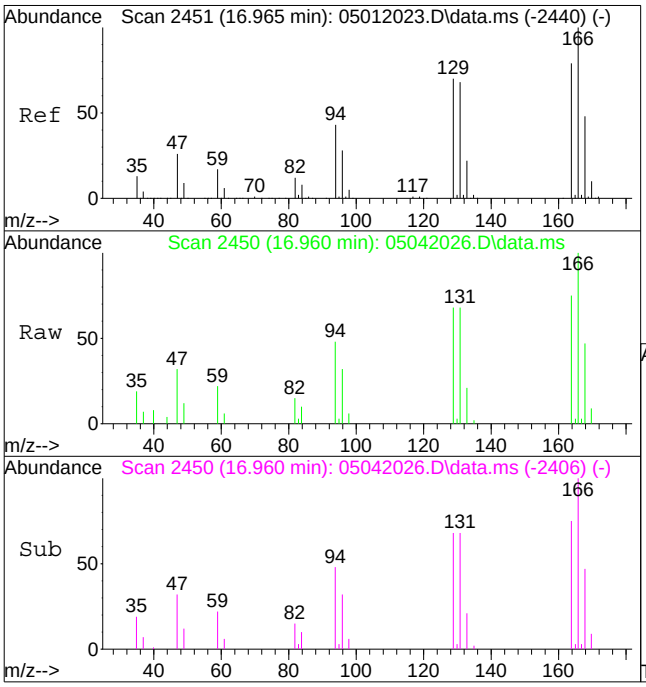


#63
n-Octane
Concen: 0.16 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.005 min
Lab File: 05042026.D
Acq: 4 May 2020 20:54

Tgt Ion: 57 Resp: 3994

Ion	Ratio	Lower	Upper
57	100		
85	99.5	91.0	136.4
71	63.8	56.2	84.2

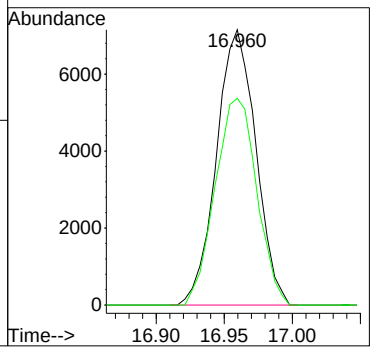


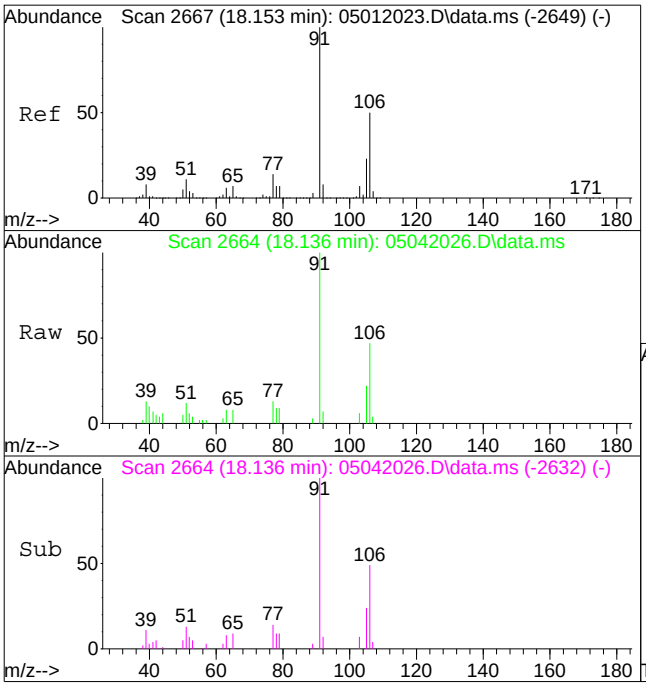


#64
Tetrachloroethene
Concen: 0.43 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.005 min
Lab File: 05042026.D
Acq: 4 May 2020 20:54

Tgt Ion:166 Resp: 14378

Ion	Ratio	Lower	Upper
166	100		
164	79.4	58.4	98.4

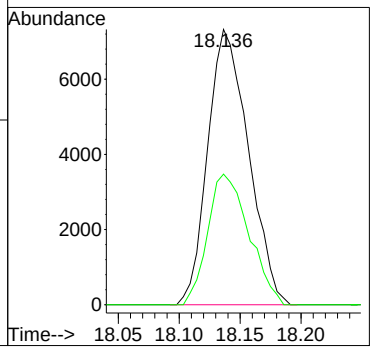


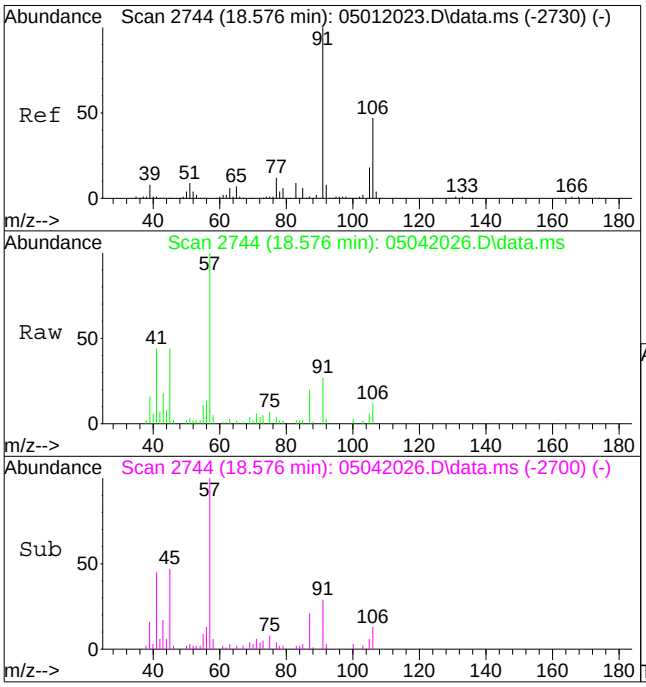


#67
m- & p-Xylenes
Concen: 0.16 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05042026.D
Acq: 4 May 2020 20:54

Tgt Ion: 91 Resp: 17030

Ion	Ratio	Lower	Upper
91	100		
106	47.9	29.7	69.7

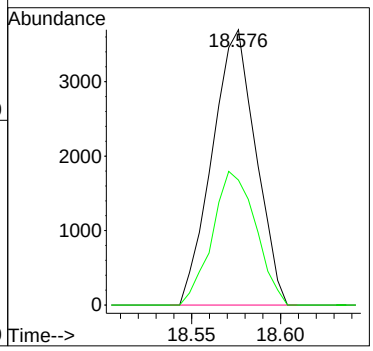


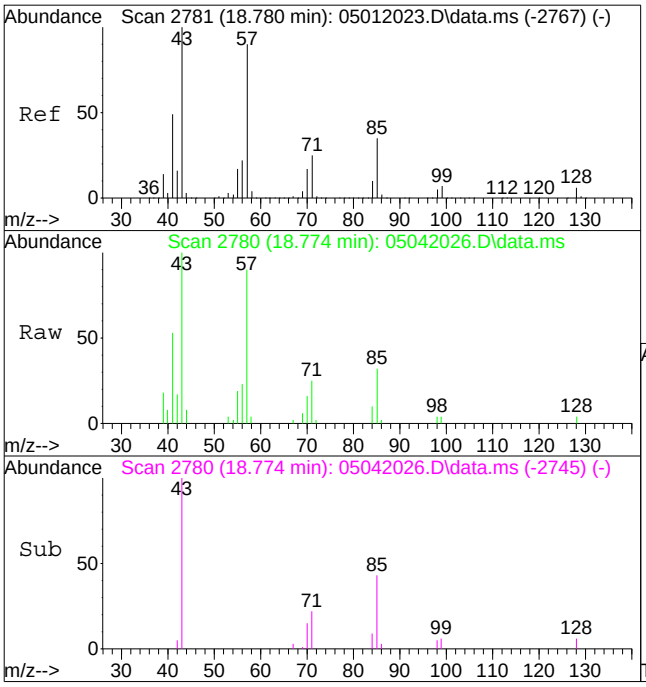


#70
o-Xylene
Concen: 0.06 ng
RT: 18.58 min Scan# 2744
Delta R.T. -0.005 min
Lab File: 05042026.D
Acq: 4 May 2020 20:54

Tgt Ion: 91 Resp: 6300

Ion	Ratio	Lower	Upper
91	100		
106	48.3	27.5	67.5

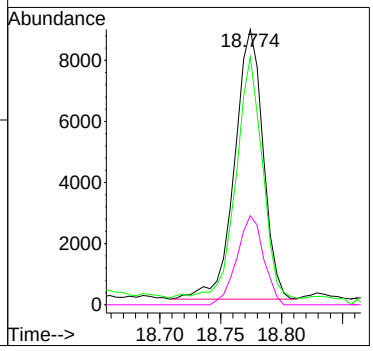




#71
n-Nonane
Concen: 0.25 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.005 min
Lab File: 05042026.D
Acq: 4 May 2020 20:54

Tgt Ion: 43 Resp: 14381

Ion	Ratio	Lower	Upper
43	100		
57	83.1	69.0	109.0
85	30.7	14.6	54.6



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042027.D Vial: 13
Acq On : 4 May 2020 21:28 Operator: TD
Sample : P2002105-011 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 14:27:11 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/6/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	243531	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1055690	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	537204	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	418974	12.695	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.52%				
57) Toluene-d8 (SS2)	15.72	98	1082460	11.888	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.12%				
73) Bromofluorobenzene (SS3)	18.98	174	400578	12.226	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.84%				
Target Compounds							Qvalue
2) Propene	4.11	42	4896	0.174	ng		97
3) Dichlorodifluoromethan...	4.25	85	881186	15.973	ng		100
4) Chloromethane	4.55	50	2971	0.069	ng		93
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	21942	0.666	ng		99
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.22	54	122	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.97	64	358	N.D.			
10) Ethanol	6.32	45	48649	2.234	ng		99
11) Acetonitrile	6.60	41	3467	0.070	ng		80
12) Acrolein	6.78	56	6634	0.385	ng		95
13) Acetone	7.00	58	79580	3.654	ng	#	77
14) Trichlorofluoromethane	7.24	101	65028	1.334	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	11337	0.172	ng		78
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	1943	0.069	ng		95
20) 3-Chloro-1-propene (Al...	8.43	41	555	N.D.			
21) Trichlorotrifluoroethane	8.84	151	15425	0.670	ng		92
22) Carbon Disulfide	8.68	76	44865	0.442	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	10.07	63	184	N.D.			
25) Methyl tert-Butyl Ether	10.09	73	3002	N.D.			
26) Vinyl Acetate	10.16	86	5705	0.841	ng	#	31
27) 2-Butanone (MEK)	10.46	72	11808	0.636	ng	#	84
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.28	61	1625	0.152	ng	#	15
31) n-Hexane	11.25	57	1004	N.D.			
32) Chloroform	11.30	83	122858	2.534	ng		99
34) Tetrahydrofuran (THF)	11.75	72	2783	0.154	ng	#	75
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	5689	0.050	ng		98
42) Carbon Tetrachloride	13.03	117	61336	1.593	ng		99
43) Cyclohexane	13.14	84	549	N.D.			
44) tert-Amyl Methyl Ether	13.57	73	166	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	13.91	83	47553	1.243	ng		100
47) Trichloroethene	13.97	130	690	N.D.			
48) 1,4-Dioxane	13.97	88	1664	0.073	ng		93
49) 2,2,4-Trimethylpentane...	14.03	57	2938	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042027.D Vial: 13
Acq On : 4 May 2020 21:28 Operator: TD
Sample : P2002105-011 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 14:27:11 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

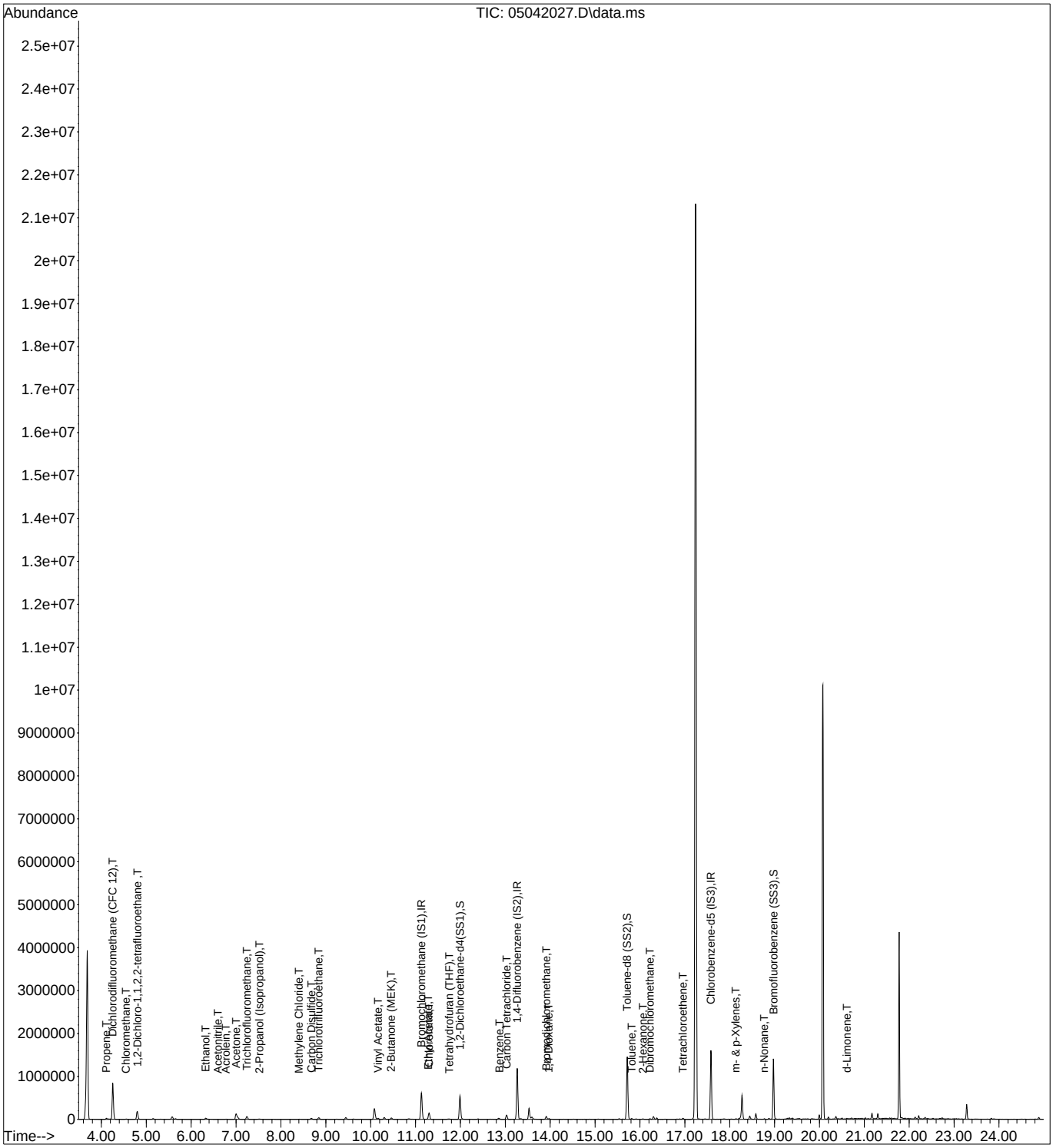
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	791	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.87	58	990	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.82	91	14858	0.127	ng	99
59) 2-Hexanone	16.07	43	8682	0.135	ng	94
60) Dibromochloromethane	16.22	129	8477	0.252	ng	99
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.70	43	999	N.D.		
63) n-Octane	16.83	57	1143	N.D.		
64) Tetrachloroethene	16.96	166	7739	0.233	ng	96
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	17.98	91	2543	N.D.		
67) m- & p-Xylenes	18.14	91	7830	0.075	ng	96
68) Bromoform	18.21	173	1108	N.D.		
69) Styrene	18.47	104	763	N.D.		
70) o-Xylene	18.58	91	3543	N.D.		
71) n-Nonane	18.77	43	5295	0.095	ng	92
72) 1,1,2,2-Tetrachloroethane	18.59	83	781	N.D.		
74) Cumene	19.10	105	712	N.D.		
75) alpha-Pinene	19.45	93	576	N.D.		
76) n-Propylbenzene	19.55	91	2685	N.D.		
77) 3-Ethyltoluene	19.64	105	2728	N.D.		
78) 4-Ethyltoluene	19.68	105	1157	N.D.		
79) 1,3,5-Trimethylbenzene	19.75	105	1882	N.D.		
80) alpha-Methylstyrene	19.88	118	960	N.D.		
81) 2-Ethyltoluene	19.91	105	1370	N.D.		
82) 1,2,4-Trimethylbenzene	0.00	105	0	N.D. d		
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.22	91	647	N.D.		
85) 1,3-Dichlorobenzene	20.30	146	425	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	425	N.D.		
87) sec-Butylbenzene	20.35	105	1748	N.D.		
88) 4-Isopropyltoluene (p-...	20.48	119	1861	N.D.		
89) 1,2,3-Trimethylbenzene	20.48	105	2459	N.D.		
90) 1,2-Dichlorobenzene	20.59	146	114	N.D.		
91) d-Limonene	20.61	68	4206	0.100	ng	99
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.12	180	227	N.D.		
95) Naphthalene	22.22	128	2176	N.D.		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	20.14	119	137	N.D.		
100) n-Butylbenzene	20.85	91	3676	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042027.D Vial: 13
Acq On : 4 May 2020 21:28 Operator: TD
Sample : P2002105-011 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 14:27:11 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042027.D Vial: 13
Acq On : 4 May 2020 21:28 Operator: TD
Sample : P2002105-011 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 14:27:11 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/6/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

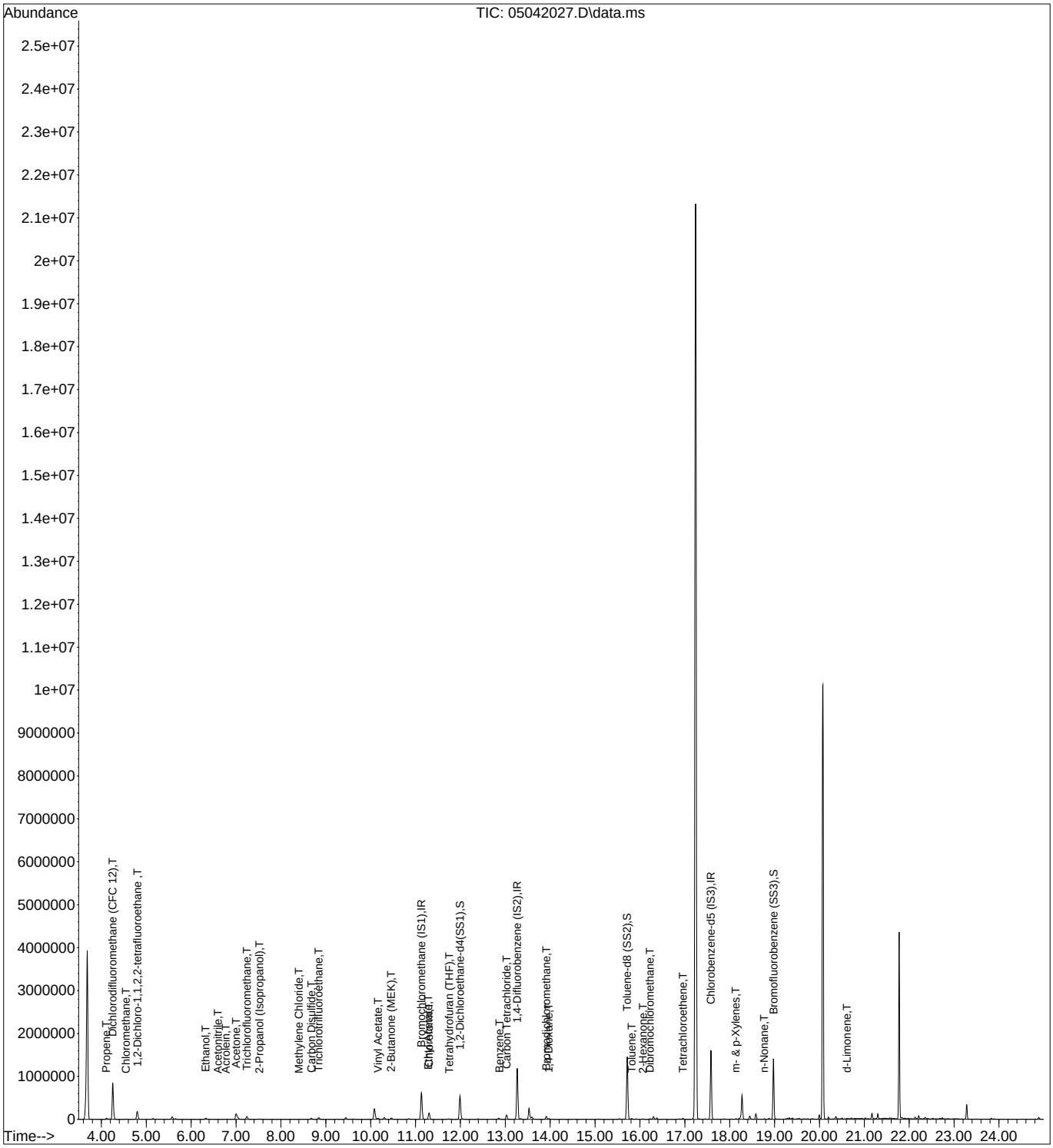
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	243531	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1055690	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	537204	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	418974	12.695	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.52%				
57) Toluene-d8 (SS2)	15.72	98	1082460	11.888	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.12%				
73) Bromofluorobenzene (SS3)	18.98	174	400578	12.226	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.84%				
Target Compounds							Qvalue
2) Propene	4.11	42	4896	0.174	ng		97
3) Dichlorodifluoromethan...	4.25	85	881186	15.973	ng		100
4) Chloromethane	4.55	50	2971	0.069	ng		93
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	21942	0.666	ng		99
10) Ethanol	6.32	45	48649	2.234	ng		99
11) Acetonitrile	6.60	41	3467	0.070	ng		80
12) Acrolein	6.78	56	6634	0.385	ng		95
13) Acetone	7.00	58	79580	3.654	ng	#	77
14) Trichlorofluoromethane	7.24	101	65028	1.334	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	11337	0.172	ng		78
19) Methylene Chloride	8.40	84	1943	0.069	ng		95
21) Trichlorotrifluoroethane	8.84	151	15425	0.670	ng		92
22) Carbon Disulfide	8.68	76	44865	0.442	ng		99
26) Vinyl Acetate	10.16	86	5705	0.841	ng	#	31
27) 2-Butanone (MEK)	10.46	72	11808	0.636	ng	#	84
30) Ethyl Acetate	11.28	61	1625	0.152	ng	#	15
32) Chloroform	11.30	83	122858	2.534	ng		99
34) Tetrahydrofuran (THF)	11.75	72	2783	0.154	ng	#	75
41) Benzene	12.87	78	5689	0.050	ng		98
42) Carbon Tetrachloride	13.03	117	61336	1.593	ng		99
46) Bromodichloromethane	13.91	83	47553	1.243	ng		100
48) 1,4-Dioxane	13.97	88	1664	0.073	ng		93
58) Toluene	15.82	91	14858	0.127	ng		99
59) 2-Hexanone	16.07	43	8682	0.135	ng		94
60) Dibromochloromethane	16.22	129	8477	0.252	ng		99
64) Tetrachloroethene	16.96	166	7739	0.233	ng		96
67) m- & p-Xylenes	18.14	91	7830	0.075	ng		96
71) n-Nonane	18.77	43	5295	0.095	ng		92
91) d-Limonene	20.61	68	4206	0.100	ng		99

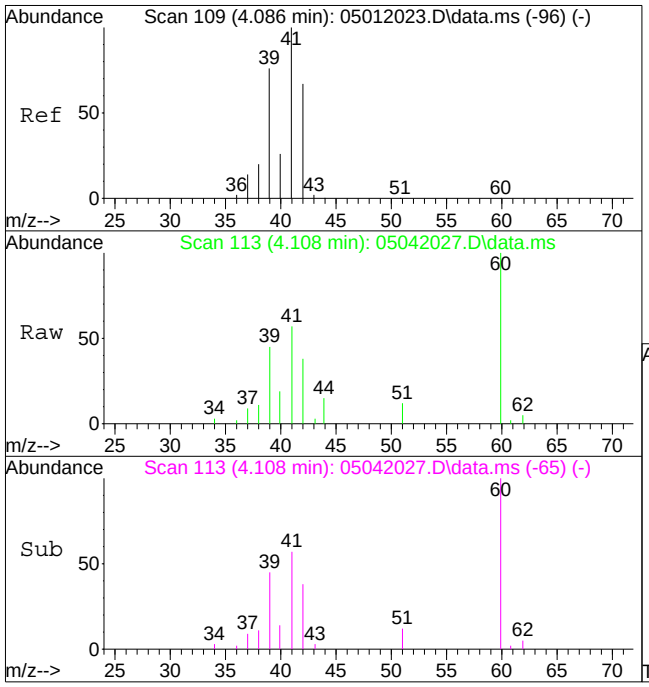
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042027.D Vial: 13
Acq On : 4 May 2020 21:28 Operator: TD
Sample : P2002105-011 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 14:27:11 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

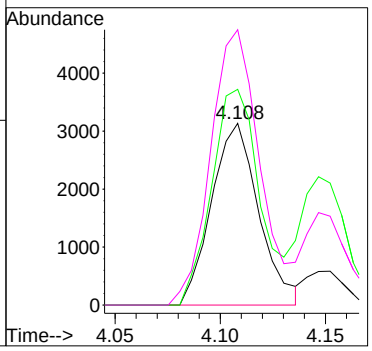


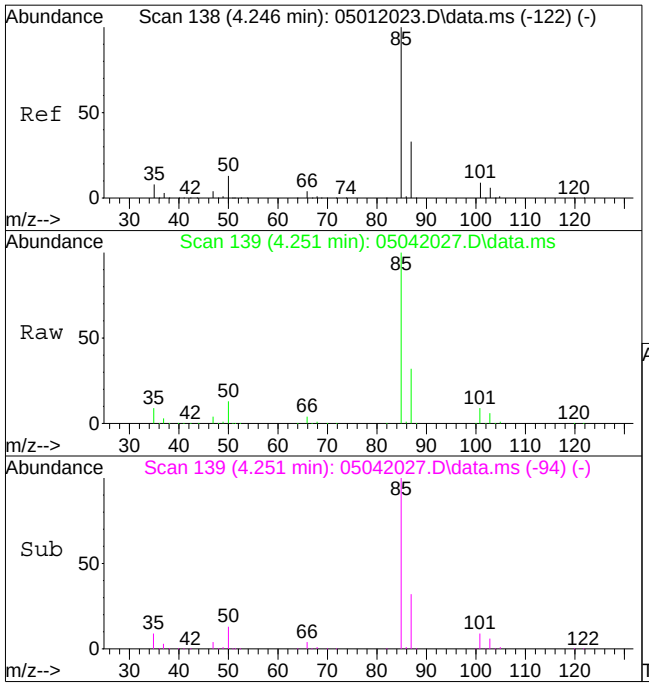


#2
Propene
Concen: 0.17 ng
RT: 4.11 min Scan# 113
Delta R.T. 0.016 min
Lab File: 05042027.D
Acq: 4 May 2020 21:28

Tgt Ion: 42 Resp: 4896

Ion	Ratio	Lower	Upper
42	100		
39	121.7	96.1	136.1
41	154.6	131.9	171.9

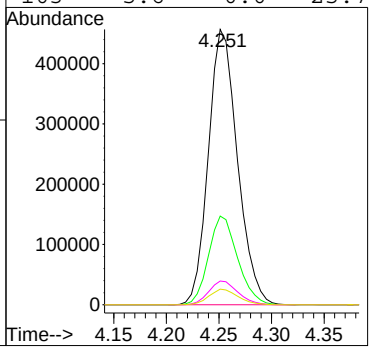


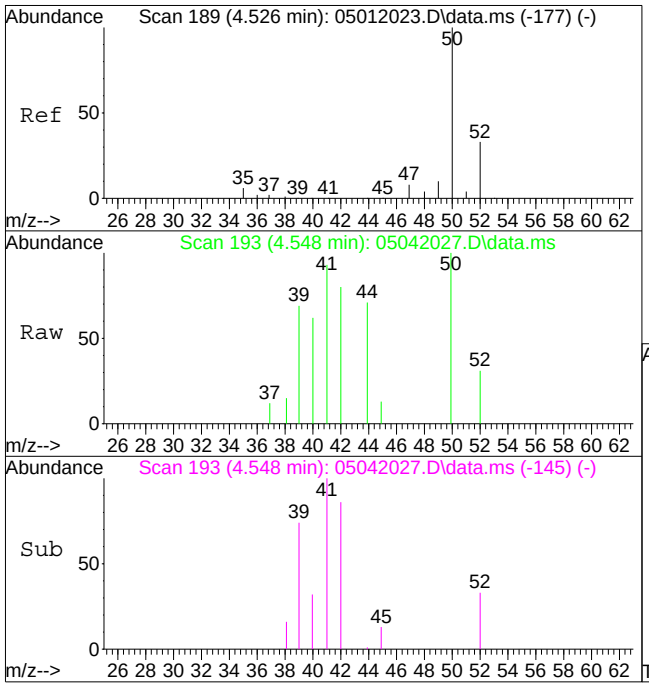


#3
Dichlorodifluoromethane (CFC 12)
Concen: 15.97 ng
RT: 4.25 min Scan# 139
Delta R.T. -0.000 min
Lab File: 05042027.D
Acq: 4 May 2020 21:28

Tgt Ion: 85 Resp: 881186

Ion	Ratio	Lower	Upper
85	100		
87	32.1	12.4	52.4
101	8.6	0.0	28.8
103	5.6	0.0	25.7

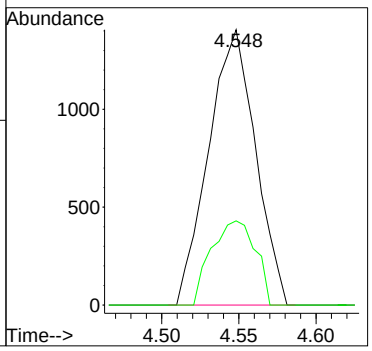


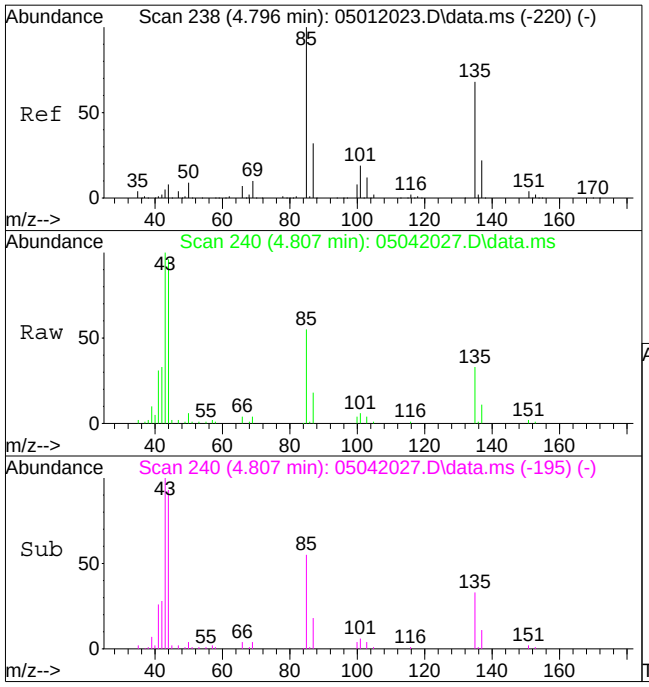


#4
Chloromethane
Concen: 0.07 ng
RT: 4.55 min Scan# 193
Delta R.T. 0.016 min
Lab File: 05042027.D
Acq: 4 May 2020 21:28

Tgt Ion: 50 Resp: 2971

Ion	Ratio	Lower	Upper
50	100		
52	28.8	12.5	52.5

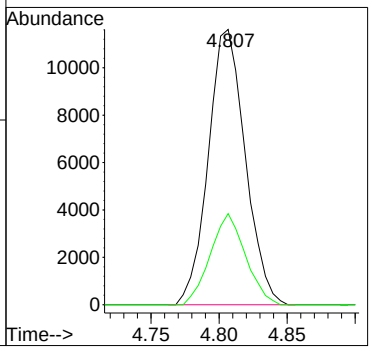


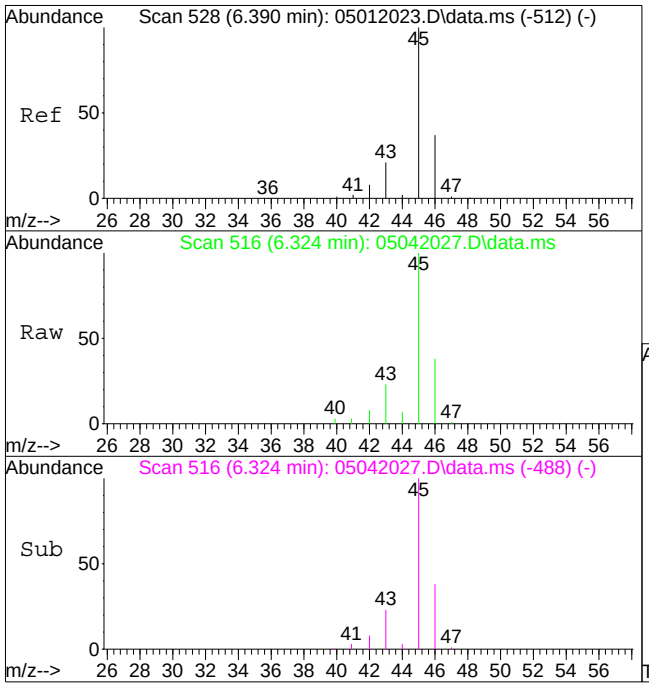


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 0.67 ng
RT: 4.81 min Scan# 240
Delta R.T. -0.000 min
Lab File: 05042027.D
Acq: 4 May 2020 21:28

Tgt Ion:135 Resp: 21942

Ion	Ratio	Lower	Upper
135	100		
137	31.4	12.1	52.1

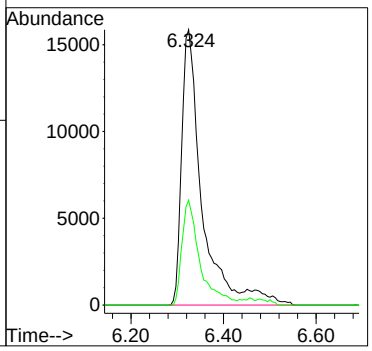


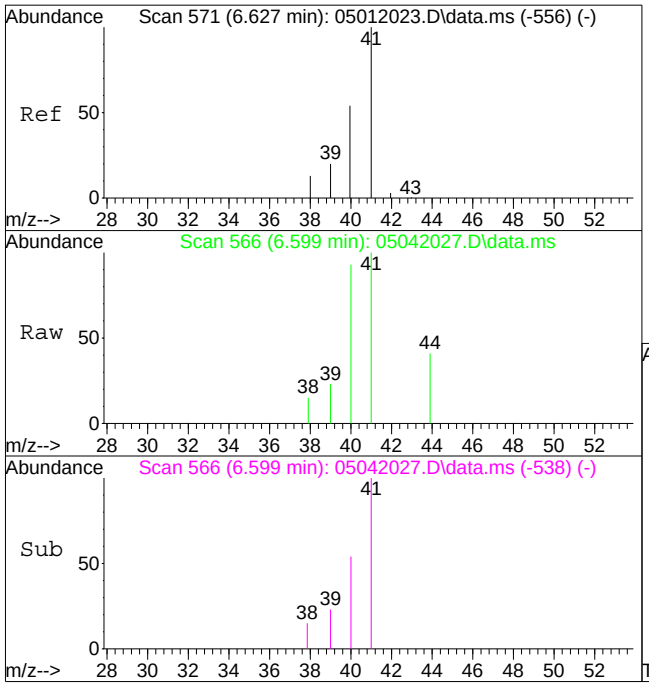


#10
Ethanol
Concen: 2.23 ng
RT: 6.32 min Scan# 516
Delta R.T. -0.094 min
Lab File: 05042027.D
Acq: 4 May 2020 21:28

Tgt Ion: 45 Resp: 48649

Ion	Ratio	Lower	Upper
45	100		
46	36.5	17.2	57.2

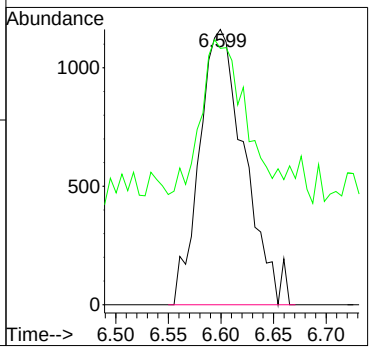


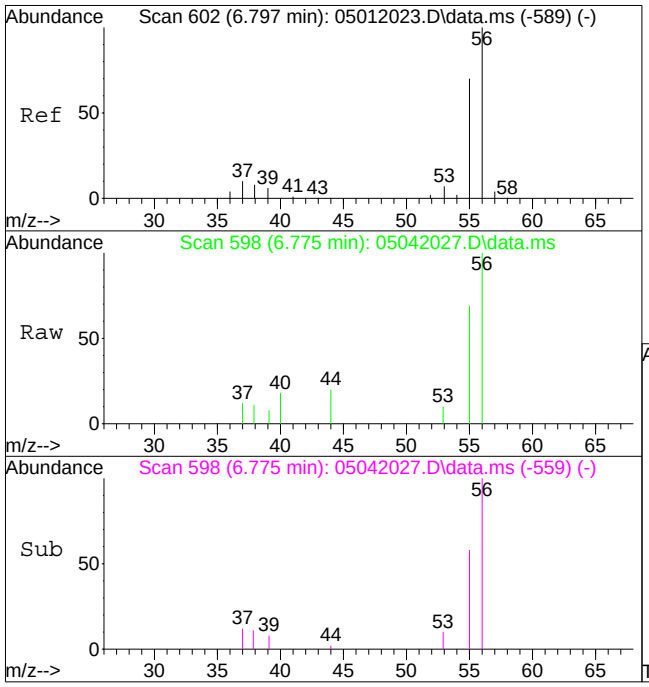


#11
Acetonitrile
Concen: 0.07 ng
RT: 6.60 min Scan# 566
Delta R.T. -0.044 min
Lab File: 05042027.D
Acq: 4 May 2020 21:28

Tgt Ion: 41 Resp: 3467

Ion	Ratio	Lower	Upper
41	100		
40	68.0	33.6	73.6

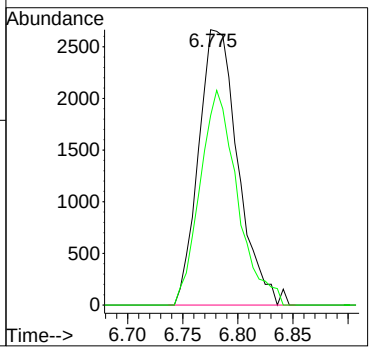


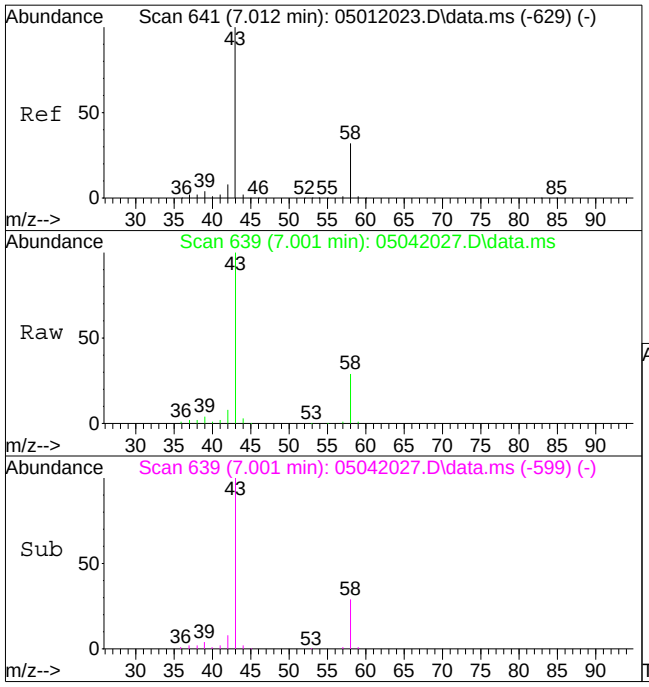


#12
Acrolein
Concen: 0.39 ng
RT: 6.78 min Scan# 598
Delta R.T. -0.033 min
Lab File: 05042027.D
Acq: 4 May 2020 21:28

Tgt Ion: 56 Resp: 6634

Ion	Ratio	Lower	Upper
56	100		
55	74.1	50.2	90.2

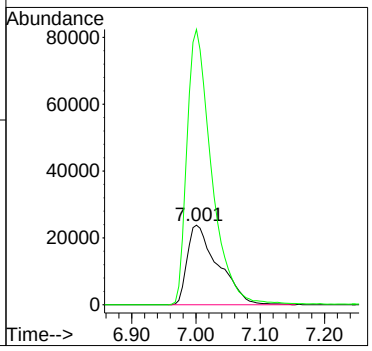


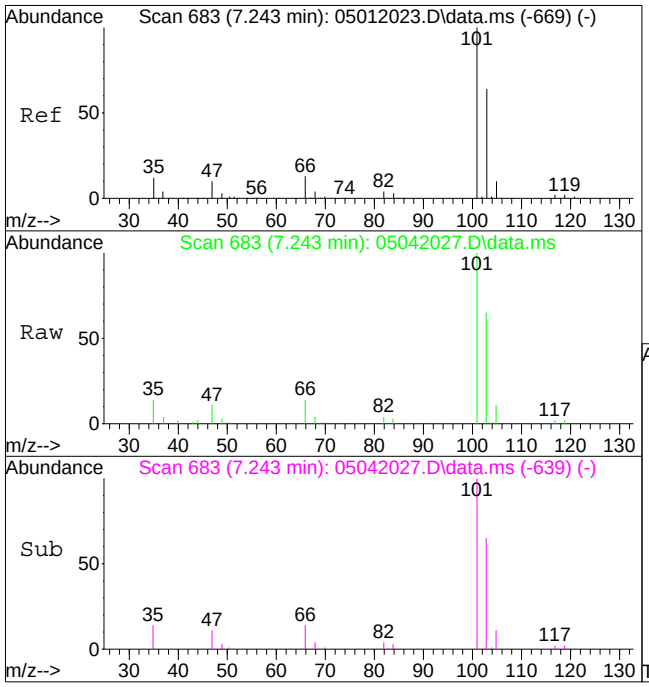


#13
Acetone
Concen: 3.65 ng
RT: 7.00 min Scan# 639
Delta R.T. -0.028 min
Lab File: 05042027.D
Acq: 4 May 2020 21:28

Tgt Ion: 58 Resp: 79580

Ion	Ratio	Lower	Upper
58	100		
43	276.3	294.4	354.4#

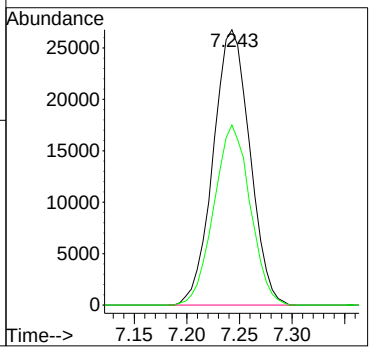


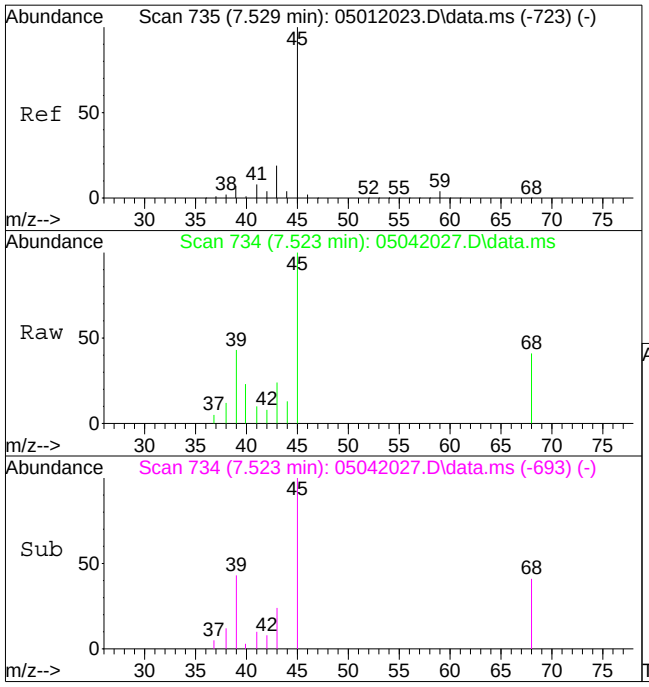


#14
Trichlorofluoromethane
Concen: 1.33 ng
RT: 7.24 min Scan# 683
Delta R.T. -0.006 min
Lab File: 05042027.D
Acq: 4 May 2020 21:28

Tgt Ion:101 Resp: 65028

Ion	Ratio	Lower	Upper
101	100		
103	64.7	44.4	84.4

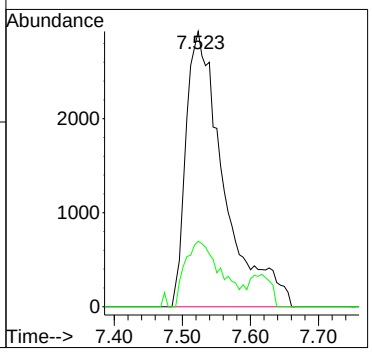


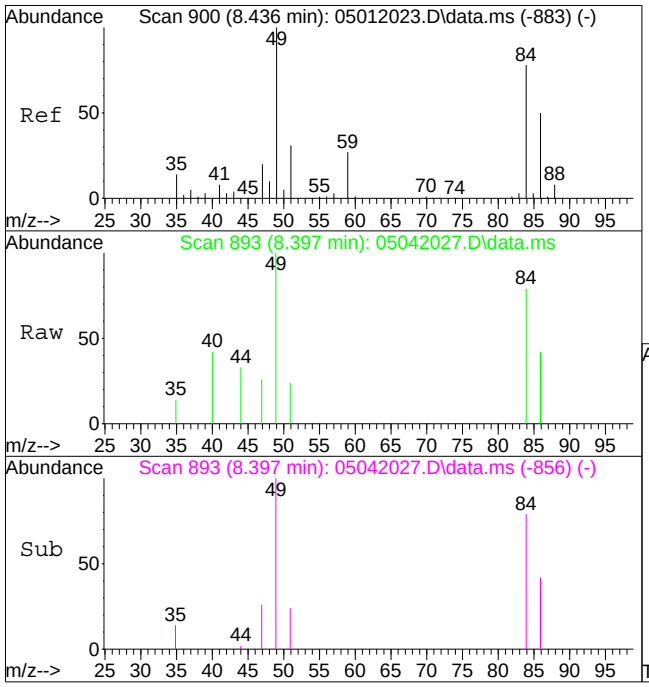


#15
2-Propanol (Isopropanol)
Concen: 0.17 ng
RT: 7.52 min Scan# 734
Delta R.T. -0.022 min
Lab File: 05042027.D
Acq: 4 May 2020 21:28

Tgt Ion: 45 Resp: 11337

Ion	Ratio	Lower	Upper
45	100		
43	29.4	0.0	39.5

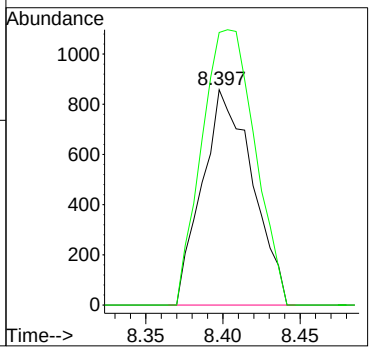


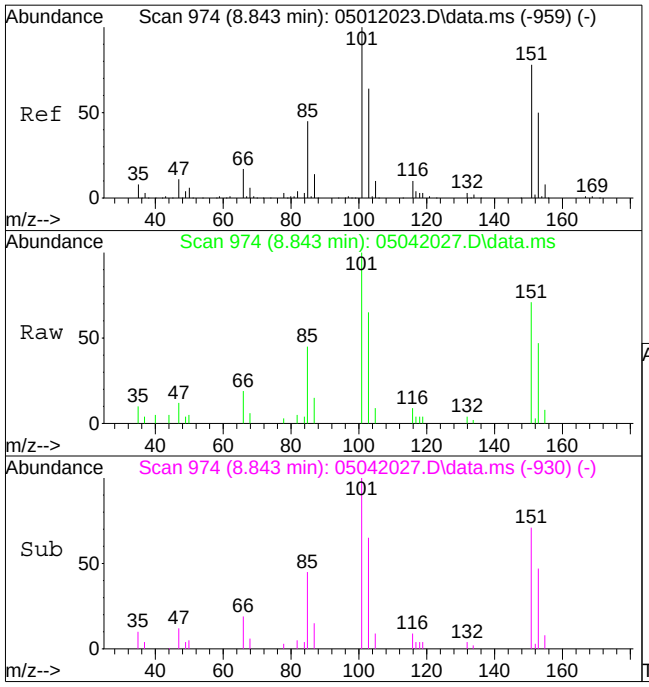


#19
Methylene Chloride
Concen: 0.07 ng
RT: 8.40 min Scan# 893
Delta R.T. -0.044 min
Lab File: 05042027.D
Acq: 4 May 2020 21:28

Tgt Ion: 84 Resp: 1943

Ion	Ratio	Lower	Upper
84	100		
49	135.7	104.8	154.8

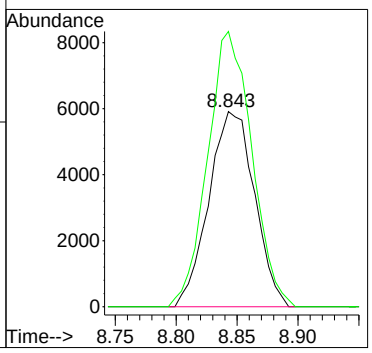


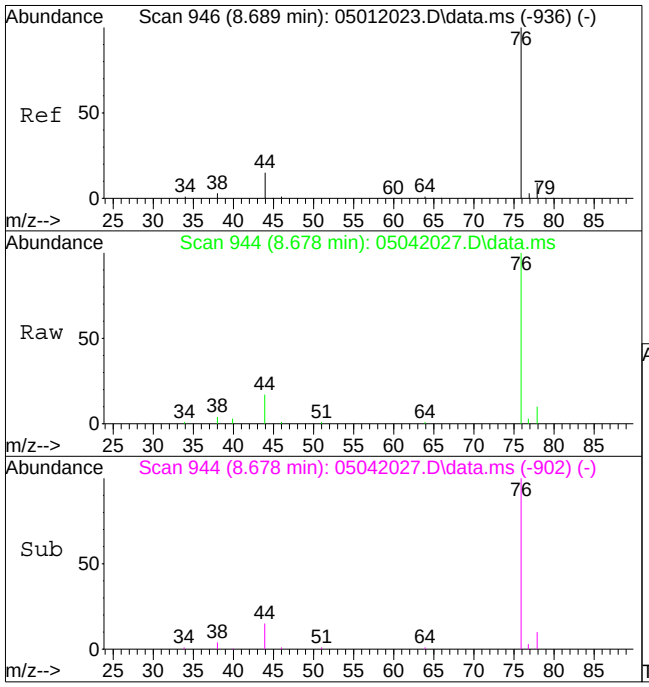


#21
Trichlorotrifluoroethane
Concen: 0.67 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05042027.D
Acq: 4 May 2020 21:28

Tgt Ion:151 Resp: 15425

Ion	Ratio	Lower	Upper
151	100		
101	136.3	107.3	147.3

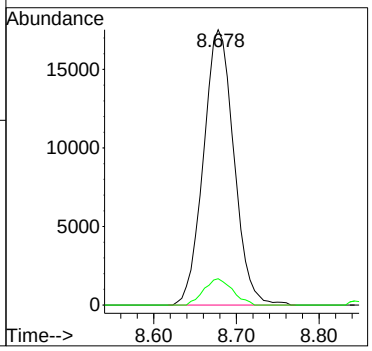


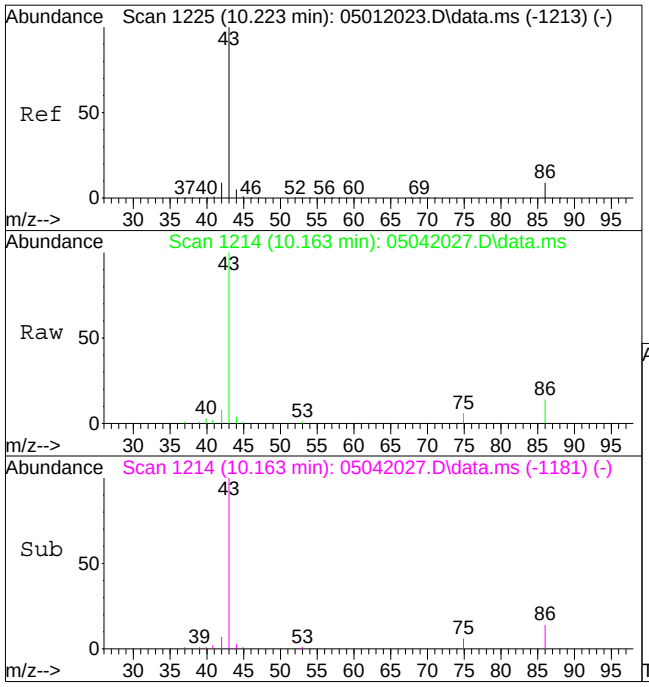


#22
Carbon Disulfide
Concen: 0.44 ng
RT: 8.68 min Scan# 944
Delta R.T. -0.017 min
Lab File: 05042027.D
Acq: 4 May 2020 21:28

Tgt Ion: 76 Resp: 44865

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	29.2

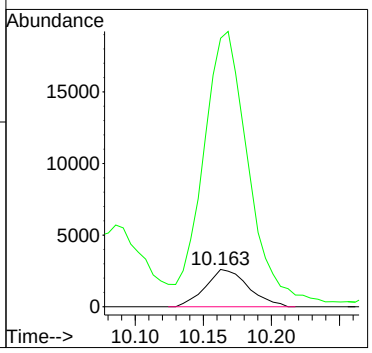


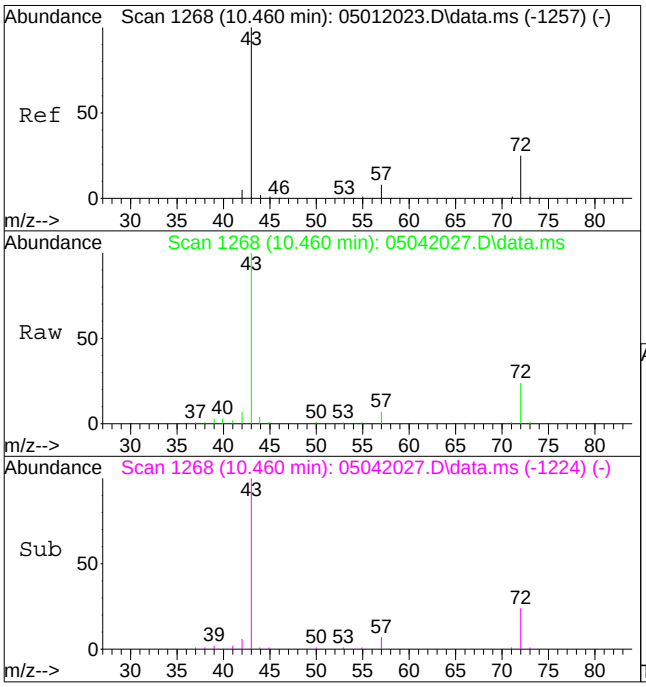


#26
Vinyl Acetate
Concen: 0.84 ng
RT: 10.16 min Scan# 1214
Delta R.T. -0.066 min
Lab File: 05042027.D
Acq: 4 May 2020 21:28

Tgt Ion: 86 Resp: 5705

Ion	Ratio	Lower	Upper
86	100		
43	786.5	1103.0	1143.0#

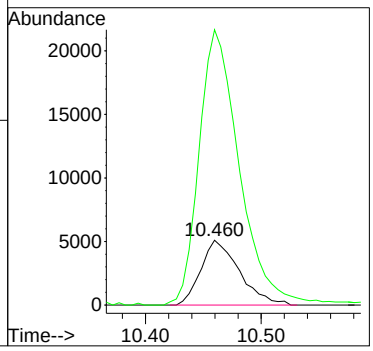


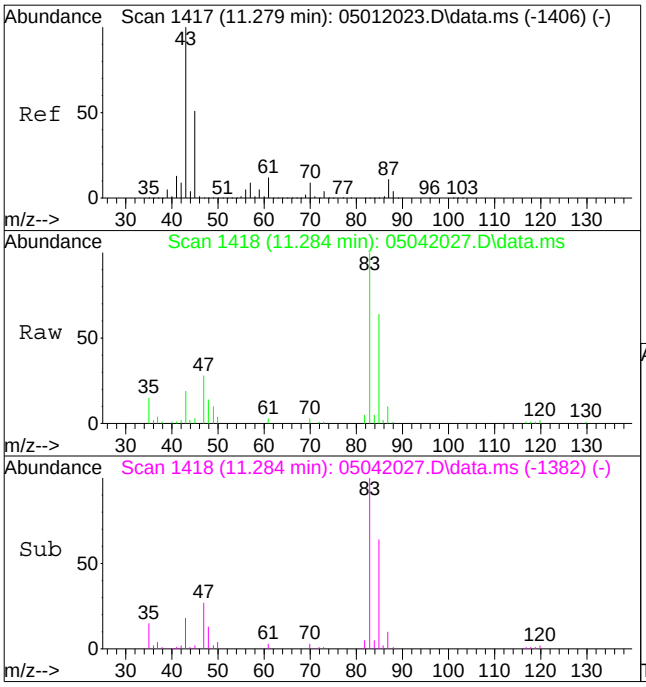


#27
2-Butanone (MEK)
Concen: 0.64 ng
RT: 10.46 min Scan# 1268
Delta R.T. -0.006 min
Lab File: 05042027.D
Acq: 4 May 2020 21:28

Tgt Ion: 72 Resp: 11808

Ion	Ratio	Lower	Upper
72	100		
43	448.6	389.7	429.7#

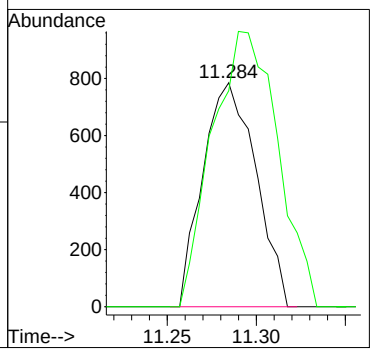


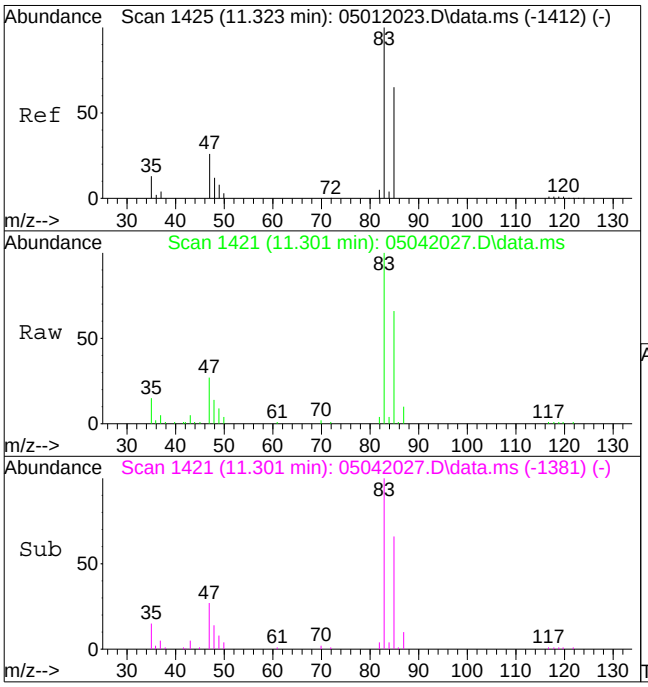


#30
Ethyl Acetate
Concen: 0.15 ng
RT: 11.28 min Scan# 1418
Delta R.T. -0.000 min
Lab File: 05042027.D
Acq: 4 May 2020 21:28

Tgt Ion: 61 Resp: 1625

Ion	Ratio	Lower	Upper
61	100		
70	151.6	57.9	97.9#

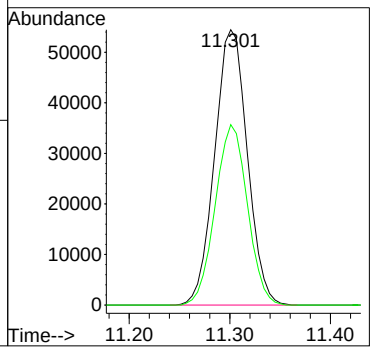


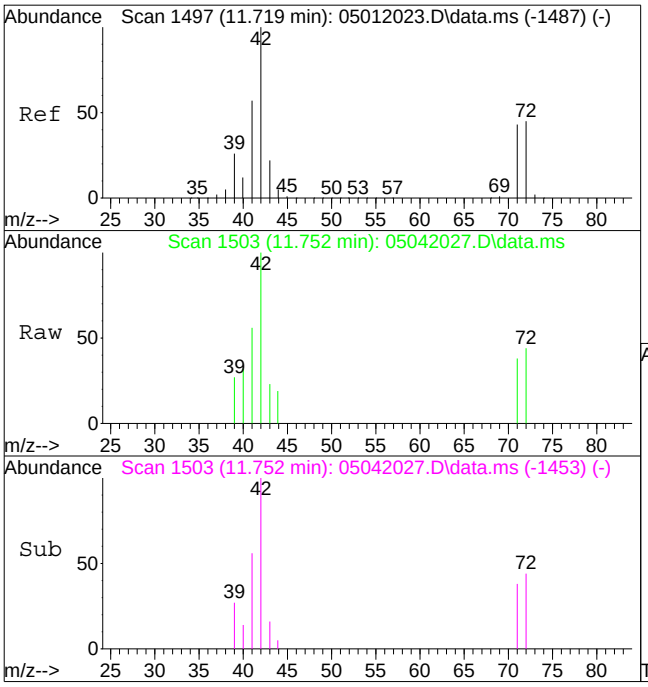


#32
Chloroform
Concen: 2.53 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.028 min
Lab File: 05042027.D
Acq: 4 May 2020 21:28

Tgt Ion: 83 Resp: 122858

Ion	Ratio	Lower	Upper
83	100		
85	64.5	45.5	85.5

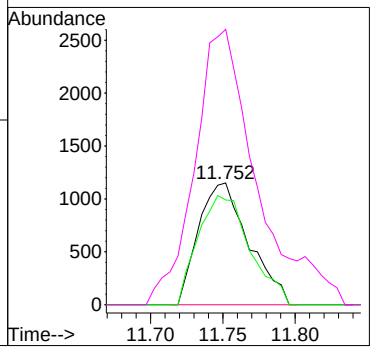


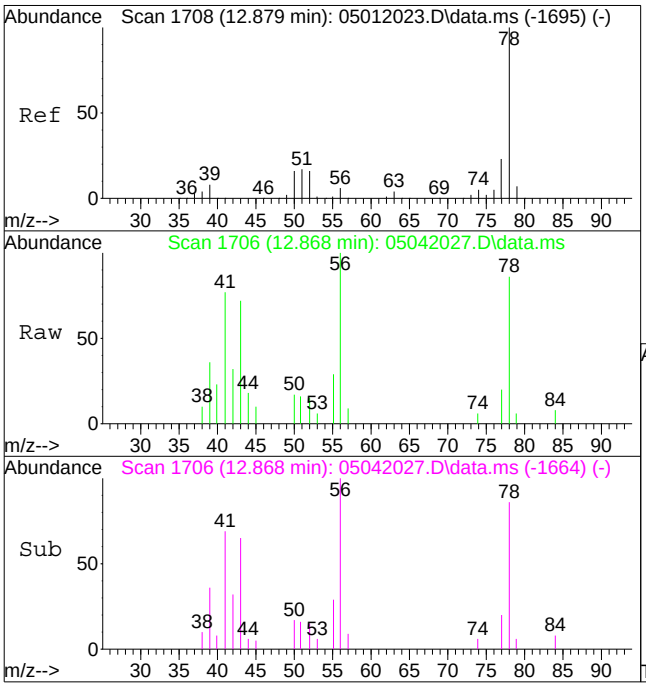


#34
Tetrahydrofuran (THF)
Concen: 0.15 ng
RT: 11.75 min Scan# 1503
Delta R.T. 0.027 min
Lab File: 05042027.D
Acq: 4 May 2020 21:28

Tgt Ion: 72 Resp: 2783

Ion	Ratio	Lower	Upper
72	100		
71	92.5	77.0	117.0
42	278.9	204.6	244.6#

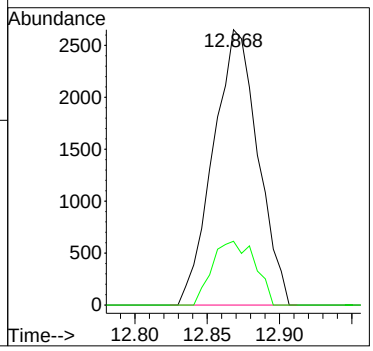


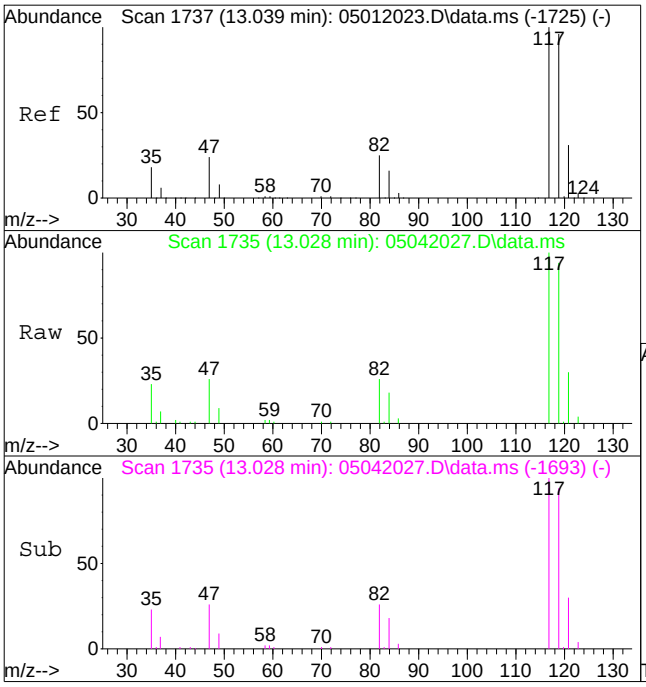


#41
Benzene
Concen: 0.05 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05042027.D
Acq: 4 May 2020 21:28

Tgt Ion: 78 Resp: 5689

Ion	Ratio	Lower	Upper
78	100		
77	22.3	3.4	43.4

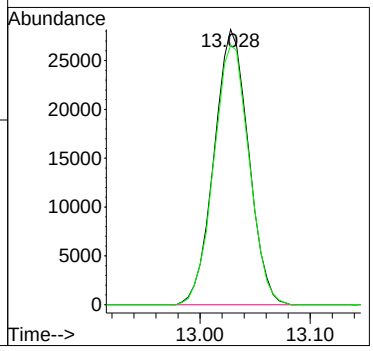


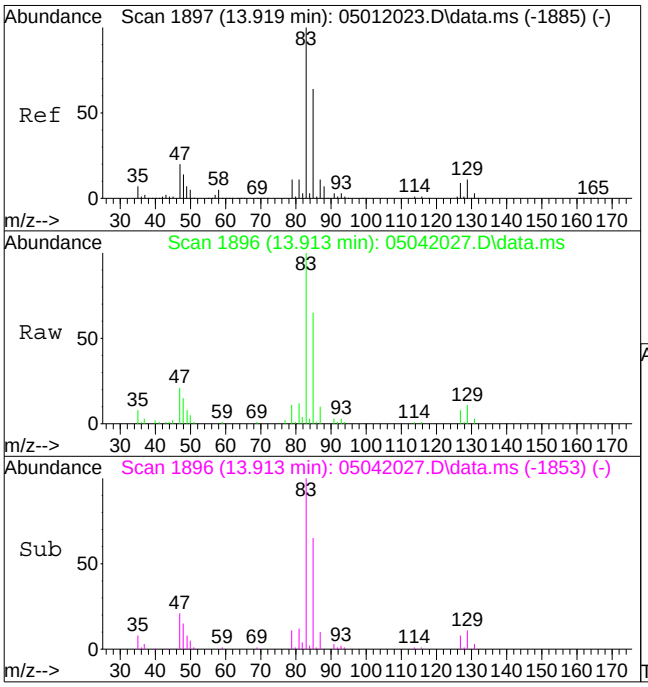


#42
Carbon Tetrachloride
Concen: 1.59 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05042027.D
Acq: 4 May 2020 21:28

Tgt Ion:117 Resp: 61336

Ion	Ratio	Lower	Upper
117	100		
119	96.7	76.2	116.2

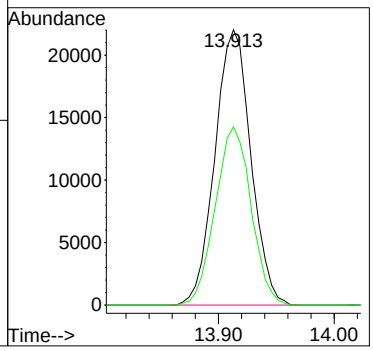


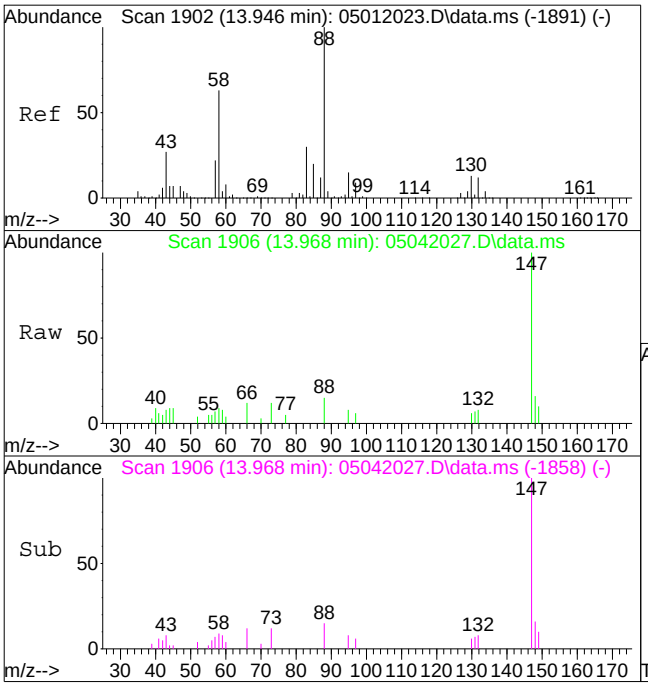


#46
Bromodichloromethane
Concen: 1.24 ng
RT: 13.91 min Scan# 1896
Delta R.T. -0.011 min
Lab File: 05042027.D
Acq: 4 May 2020 21:28

Tgt Ion: 83 Resp: 47553

Ion	Ratio	Lower	Upper
83	100		
85	64.4	44.4	84.4

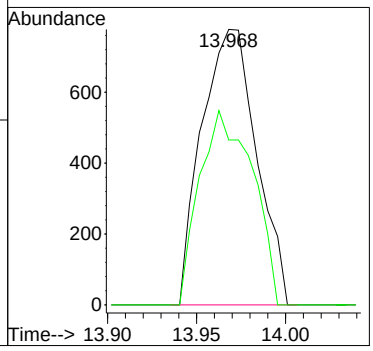


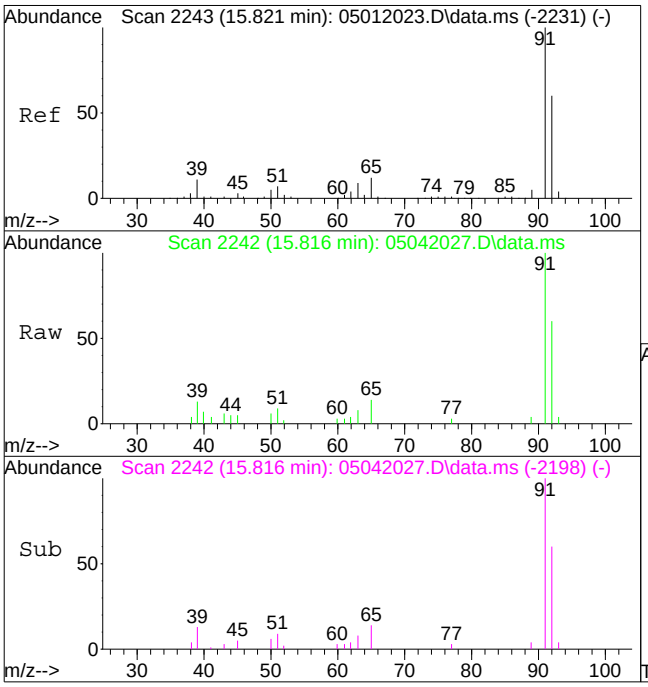


#48
1,4-Dioxane
Concen: 0.07 ng
RT: 13.97 min Scan# 1906
Delta R.T. 0.016 min
Lab File: 05042027.D
Acq: 4 May 2020 21:28

Tgt Ion: 88 Resp: 1664

Ion	Ratio	Lower	Upper
88	100		
58	68.3	42.8	82.8

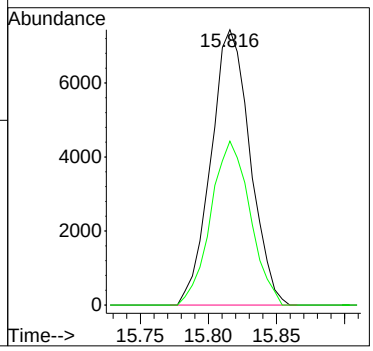


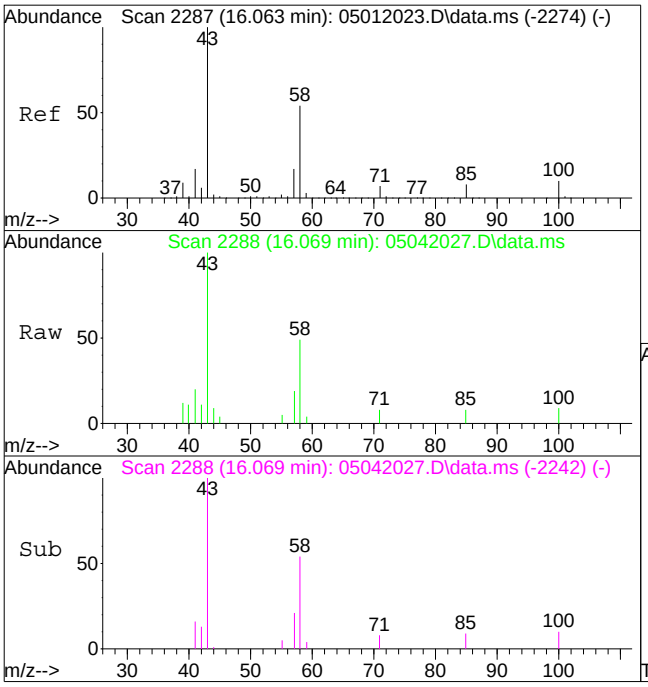


#58
Toluene
Concen: 0.13 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05042027.D
Acq: 4 May 2020 21:28

Tgt Ion: 91 Resp: 14858

Ion	Ratio	Lower	Upper
91	100		
92	59.8	39.4	79.4

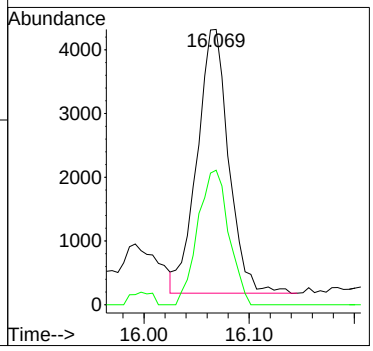


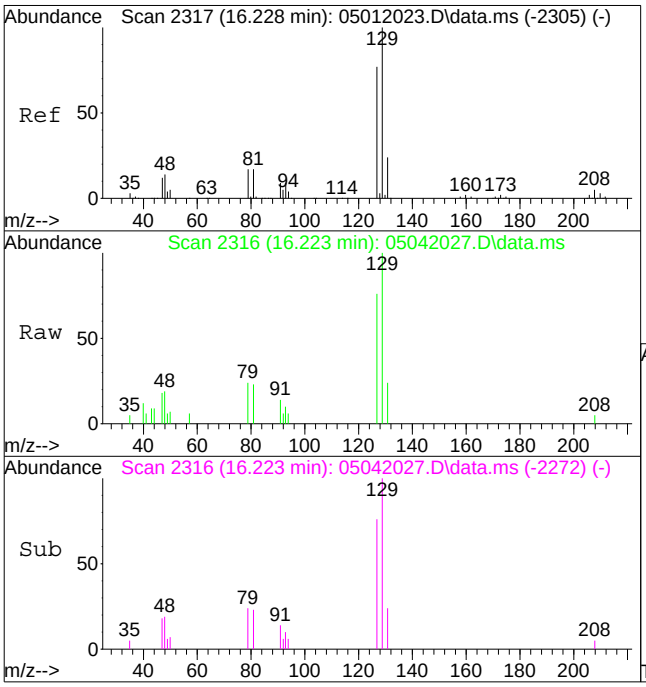


#59
2-Hexanone
Concen: 0.13 ng
RT: 16.07 min Scan# 2288
Delta R.T. 0.005 min
Lab File: 05042027.D
Acq: 4 May 2020 21:28

Tgt Ion: 43 Resp: 8682

Ion	Ratio	Lower	Upper
43	100		
58	50.0	34.5	74.5

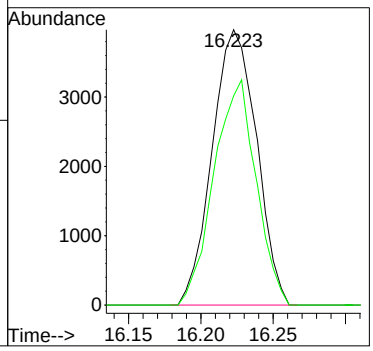


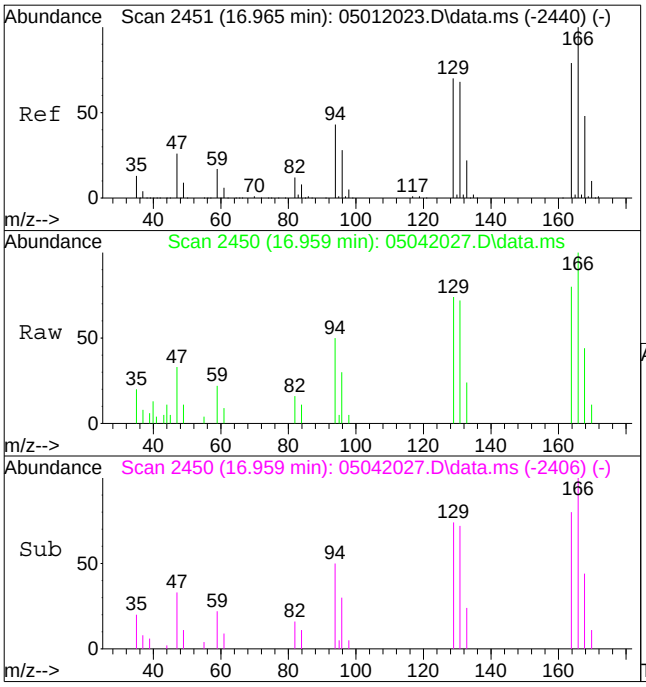


#60
Dibromochloromethane
Concen: 0.25 ng
RT: 16.22 min Scan# 2316
Delta R.T. -0.006 min
Lab File: 05042027.D
Acq: 4 May 2020 21:28

Tgt Ion:129 Resp: 8477

Ion	Ratio	Lower	Upper
129	100		
127	77.8	57.3	97.3

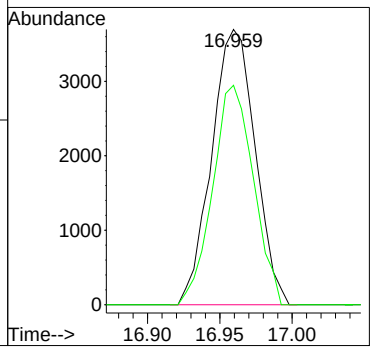


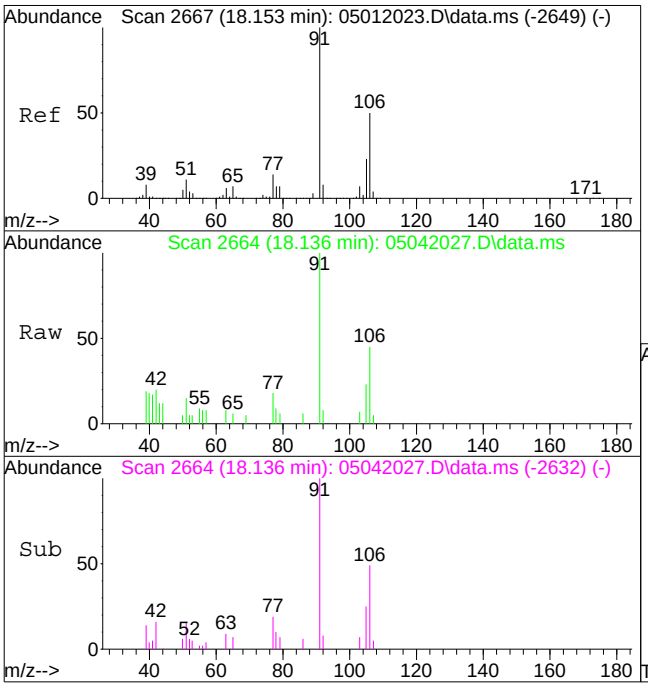


#64
Tetrachloroethene
Concen: 0.23 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05042027.D
Acq: 4 May 2020 21:28

Tgt Ion:166 Resp: 7739

Ion	Ratio	Lower	Upper
166	100		
164	74.6	58.4	98.4

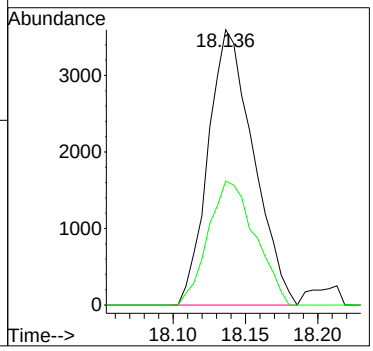


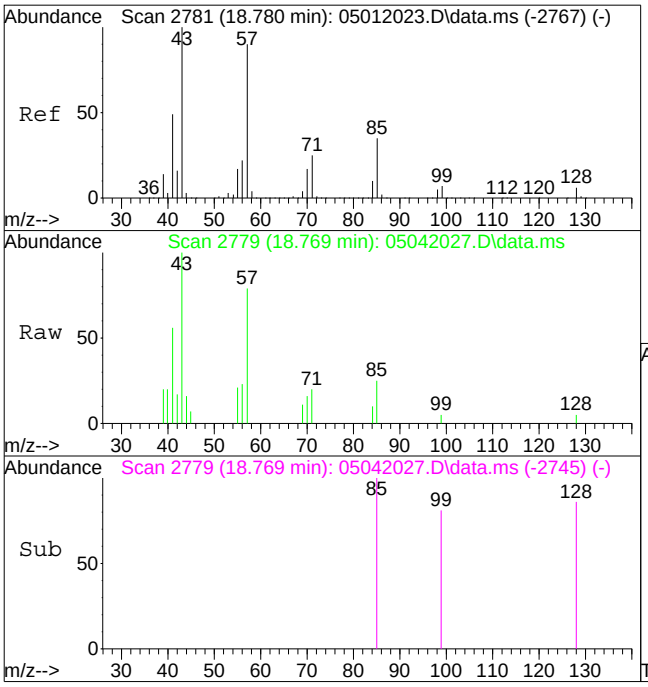


#67
m- & p-Xylenes
Concen: 0.08 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05042027.D
Acq: 4 May 2020 21:28

Tgt Ion: 91 Resp: 7830

Ion	Ratio	Lower	Upper
91	100		
106	46.8	29.7	69.7

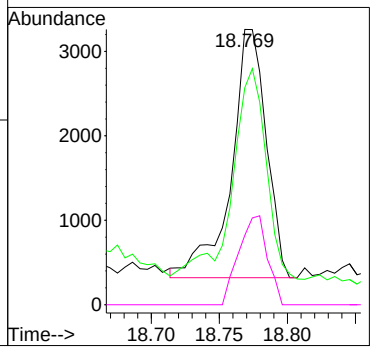


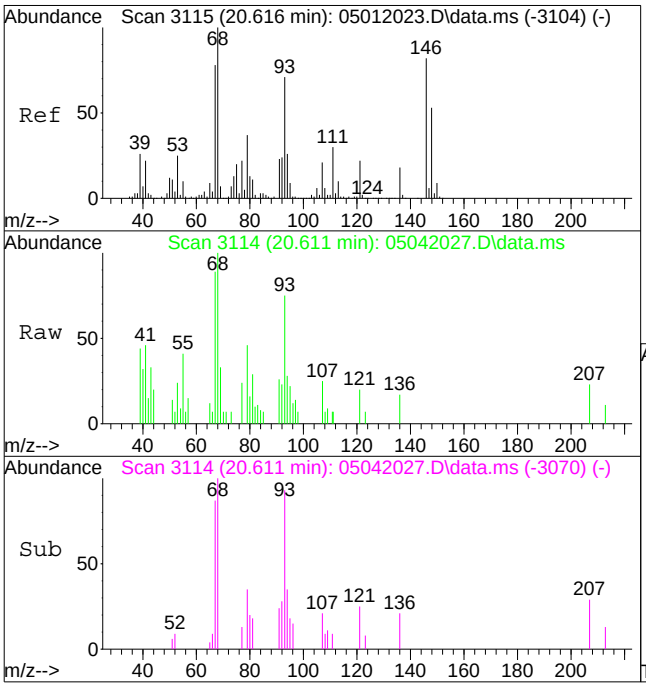


#71
n-Nonane
Concen: 0.09 ng
RT: 18.77 min Scan# 2779
Delta R.T. -0.011 min
Lab File: 05042027.D
Acq: 4 May 2020 21:28

Tgt Ion: 43 Resp: 5295

Ion	Ratio	Lower	Upper
43	100		
57	82.2	69.0	109.0
85	29.1	14.6	54.6

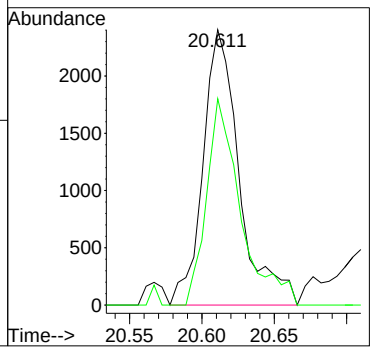




#91
d-Limonene
Concen: 0.10 ng
RT: 20.61 min Scan# 3114
Delta R.T. -0.006 min
Lab File: 05042027.D
Acq: 4 May 2020 21:28

Tgt Ion: 68 Resp: 4206

Ion	Ratio	Lower	Upper
68	100		
93	70.1	51.1	91.1



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042028.D Vial: 14
Acq On : 4 May 2020 22:02 Operator: TD
Sample : P2002105-012 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 14:28:12 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/6/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	247126	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1068054	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	543013	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	421935	12.598	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.80%				
57) Toluene-d8 (SS2)	15.72	98	1109753	12.057	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.48%				
73) Bromofluorobenzene (SS3)	18.98	174	389537	11.762	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.08%				
Target Compounds							Qvalue
2) Propene	4.09	42	6323	0.221	ng		99
3) Dichlorodifluoromethan...	4.24	85	3290832	58.784	ng		100
4) Chloromethane	4.52	50	4214	0.096	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.79	135	64742	1.936	ng		100
6) Vinyl Chloride	4.78	62	481	N.D.			
7) 1,3-Butadiene	5.22	54	217	N.D.			
8) Bromomethane	5.64	94	188	N.D.			
9) Chloroethane	5.97	64	272	N.D.			
10) Ethanol	6.32	45	47593	2.153	ng		100
11) Acetonitrile	6.59	41	8044	0.159	ng		82
12) Acrolein	6.78	56	5958	0.341	ng		95
13) Acetone	7.00	58	84096	3.805	ng		99
14) Trichlorofluoromethane	7.23	101	301449	6.093	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	16355	0.244	ng		85
16) Acrylonitrile	7.74	53	116	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	6309	0.220	ng		97
20) 3-Chloro-1-propene (Al...	8.42	41	1283	N.D.			
21) Trichlorotrifluoroethane	8.84	151	35412	1.516	ng		93
22) Carbon Disulfide	8.67	76	63323	0.615	ng		100
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.09	73	981	N.D.			
26) Vinyl Acetate	10.17	86	5986	0.869	ng	#	35
27) 2-Butanone (MEK)	10.47	72	9930	0.527	ng	#	89
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.28	61	6790	0.625	ng		88
31) n-Hexane	11.26	57	14960	0.317	ng		98
32) Chloroform	11.30	83	131856	2.680	ng		100
34) Tetrahydrofuran (THF)	11.73	72	18066	0.983	ng	#	90
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.10	62	1309	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	15723	0.137	ng		98
42) Carbon Tetrachloride	13.03	117	14408	0.370	ng		99
43) Cyclohexane	13.17	84	17009	0.399	ng		99
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	13.91	83	8394	0.217	ng		99
47) Trichloroethene	13.96	130	2884	0.097	ng		100
48) 1,4-Dioxane	13.96	88	1872	0.081	ng		97
49) 2,2,4-Trimethylpentane...	14.03	57	2762	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042028.D Vial: 14
Acq On : 4 May 2020 22:02 Operator: TD
Sample : P2002105-012 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 14:28:12 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

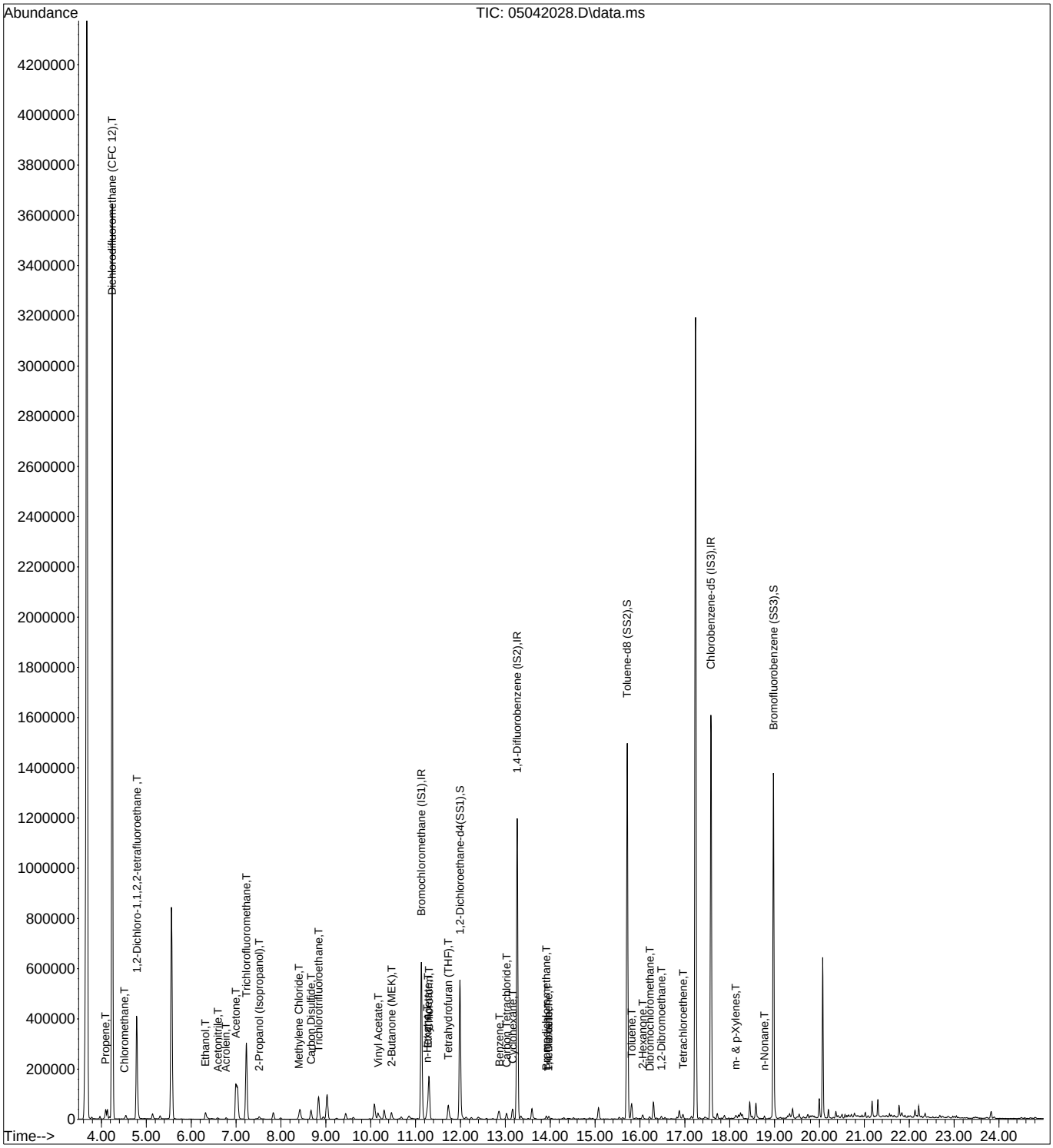
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.30	71	1051	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.88	58	937	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.82	91	38687	0.326 ng	98
59) 2-Hexanone	16.06	43	11207	0.172 ng	78
60) Dibromochloromethane	16.22	129	2850	0.084 ng	99
61) 1,2-Dibromoethane	16.48	107	7920	0.243 ng	97
62) n-Butyl Acetate	16.70	43	2940	N.D.	
63) n-Octane	16.82	57	985	N.D.	
64) Tetrachloroethene	16.96	166	5175	0.154 ng	99
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	17.98	91	3002	N.D.	
67) m- & p-Xylenes	18.14	91	8218	0.078 ng	98
68) Bromoform	18.21	173	259	N.D.	
69) Styrene	18.48	104	2559	N.D.	
70) o-Xylene	18.58	91	3513	N.D.	
71) n-Nonane	18.77	43	4819	0.085 ng	89
72) 1,1,2,2-Tetrachloroethane	18.59	83	461	N.D.	
74) Cumene	19.10	105	603	N.D.	
75) alpha-Pinene	19.44	93	837	N.D.	
76) n-Propylbenzene	19.54	91	1904	N.D.	
77) 3-Ethyltoluene	19.64	105	2038	N.D.	
78) 4-Ethyltoluene	19.68	105	878	N.D.	
79) 1,3,5-Trimethylbenzene	19.75	105	1300	N.D.	
80) alpha-Methylstyrene	19.88	118	1346	N.D.	
81) 2-Ethyltoluene	19.92	105	912	N.D.	
82) 1,2,4-Trimethylbenzene	20.11	105	3539	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.22	91	356	N.D.	
85) 1,3-Dichlorobenzene	20.30	146	238	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	238	N.D.	
87) sec-Butylbenzene	20.35	105	1113	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	1234	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	1781	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.61	68	1650	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.22	128	2509	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	20.85	91	3717	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042028.D Vial: 14
Acq On : 4 May 2020 22:02 Operator: TD
Sample : P2002105-012 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 14:28:12 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042028.D Vial: 14
Acq On : 4 May 2020 22:02 Operator: TD
Sample : P2002105-012 (400mL) Inst : GCMS-16
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QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/6/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	247126	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1068054	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	543013	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	421935	12.598	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.80%				
57) Toluene-d8 (SS2)	15.72	98	1109753	12.057	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.48%				
73) Bromofluorobenzene (SS3)	18.98	174	389537	11.762	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.08%				
Target Compounds							Qvalue
2) Propene	4.09	42	6323	0.221	ng		99
3) Dichlorodifluoromethan...	4.24	85	3290832	58.784	ng		100
4) Chloromethane	4.52	50	4214	0.096	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.79	135	64742	1.936	ng		100
10) Ethanol	6.32	45	47593	2.153	ng		100
11) Acetonitrile	6.59	41	8044	0.159	ng		82
12) Acrolein	6.78	56	5958	0.341	ng		95
13) Acetone	7.00	58	84096	3.805	ng		99
14) Trichlorofluoromethane	7.23	101	301449	6.093	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	16355	0.244	ng		85
19) Methylene Chloride	8.40	84	6309	0.220	ng		97
21) Trichlorotrifluoroethane	8.84	151	35412	1.516	ng		93
22) Carbon Disulfide	8.67	76	63323	0.615	ng		100
26) Vinyl Acetate	10.17	86	5986	0.869	ng	#	35
27) 2-Butanone (MEK)	10.47	72	9930	0.527	ng	#	89
30) Ethyl Acetate	11.28	61	6790	0.625	ng		88
31) n-Hexane	11.26	57	14960	0.317	ng		98
32) Chloroform	11.30	83	131856	2.680	ng		100
34) Tetrahydrofuran (THF)	11.73	72	18066	0.983	ng	#	90
41) Benzene	12.87	78	15723	0.137	ng		98
42) Carbon Tetrachloride	13.03	117	14408	0.370	ng		99
43) Cyclohexane	13.17	84	17009	0.399	ng		99
46) Bromodichloromethane	13.91	83	8394	0.217	ng		99
47) Trichloroethene	13.96	130	2884	0.097	ng		100
48) 1,4-Dioxane	13.96	88	1872	0.081	ng		97
58) Toluene	15.82	91	38687	0.326	ng		98
59) 2-Hexanone	16.06	43	11207	0.172	ng		78
60) Dibromochloromethane	16.22	129	2850	0.084	ng		99
61) 1,2-Dibromoethane	16.48	107	7920	0.243	ng		97
64) Tetrachloroethene	16.96	166	5175	0.154	ng		99
67) m- & p-Xylenes	18.14	91	8218	0.078	ng		98
71) n-Nonane	18.77	43	4819	0.085	ng		89

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042028.D Vial: 14
Acq On : 4 May 2020 22:02 Operator: TD
Sample : P2002105-012 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 14:28:12 2020
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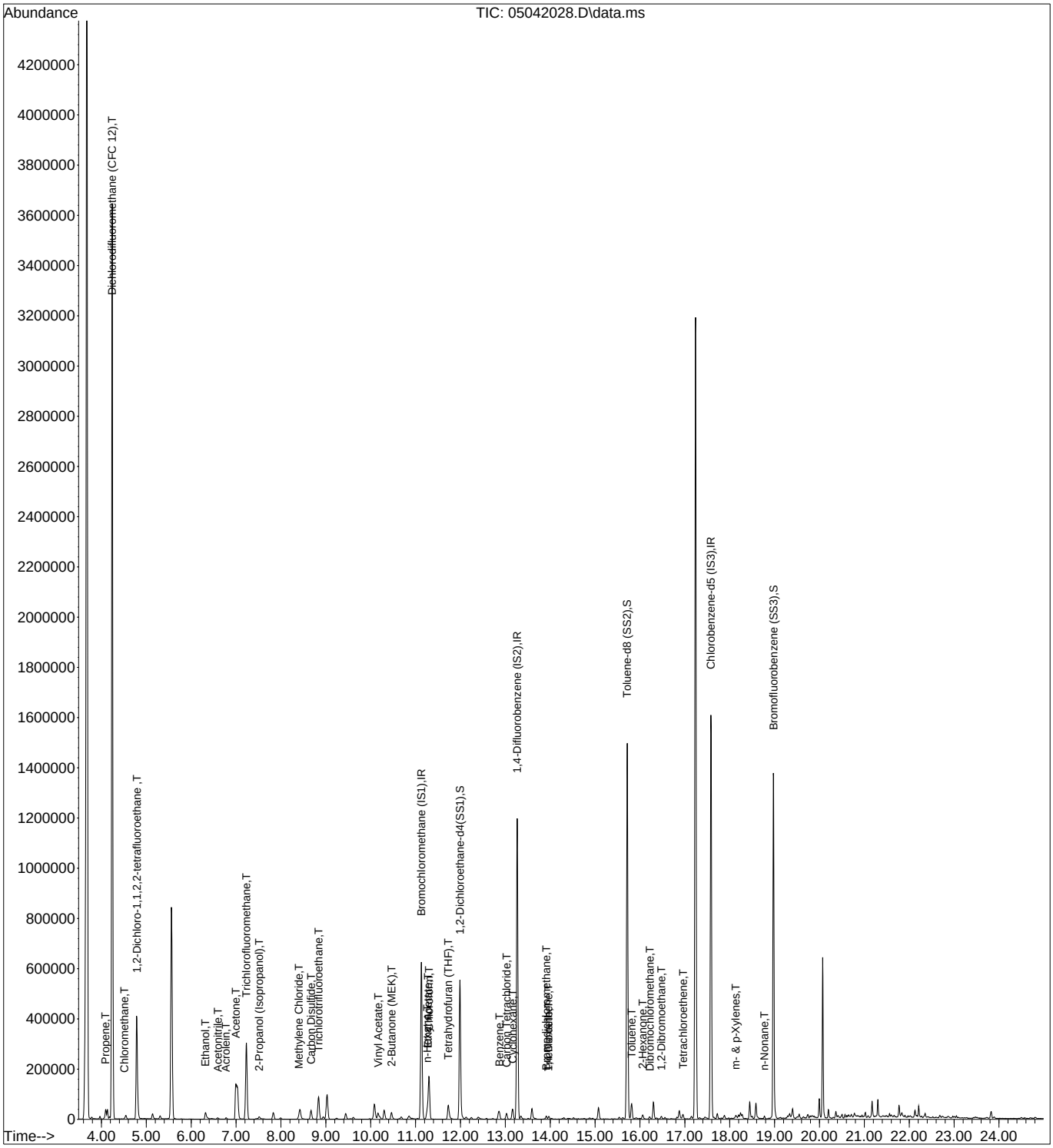
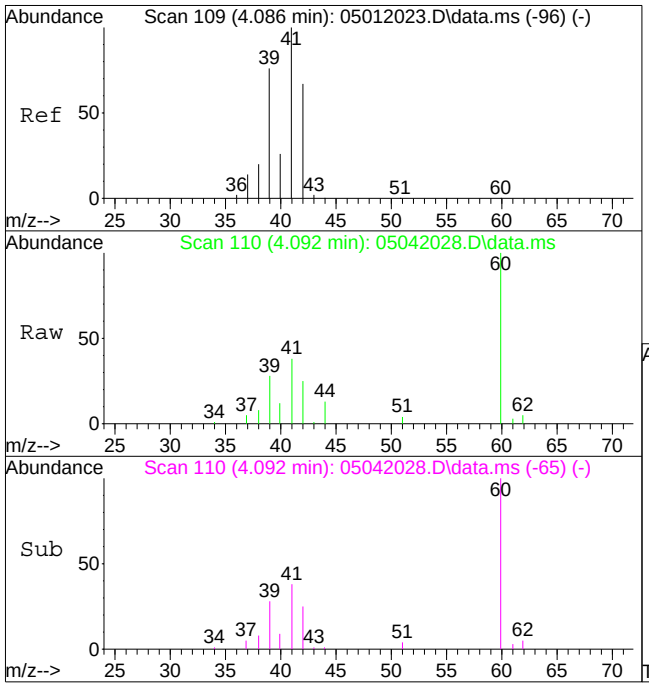
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

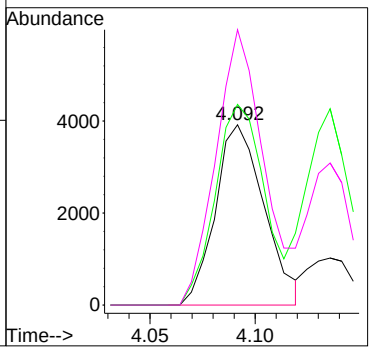


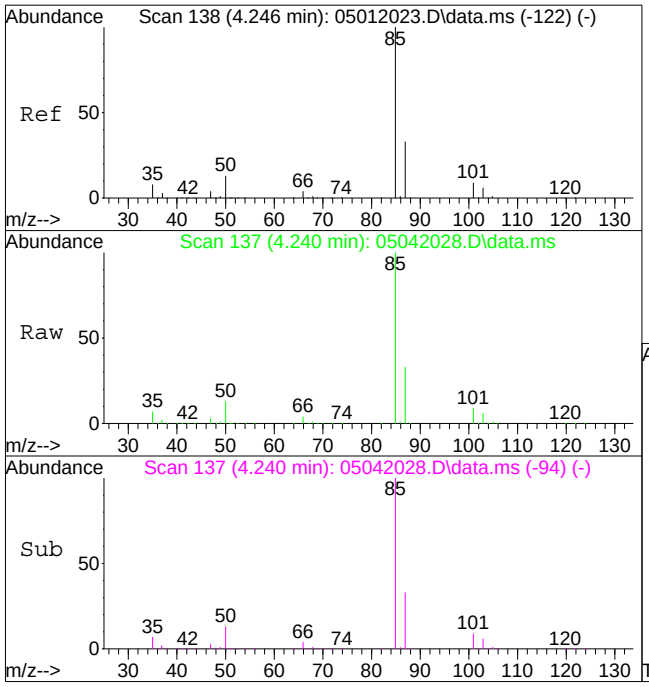


#2
Propene
Concen: 0.22 ng
RT: 4.09 min Scan# 110
Delta R.T. -0.000 min
Lab File: 05042028.D
Acq: 4 May 2020 22:02

Tgt Ion: 42 Resp: 6323

Ion	Ratio	Lower	Upper
42	100		
39	112.6	96.1	136.1
41	151.7	131.9	171.9

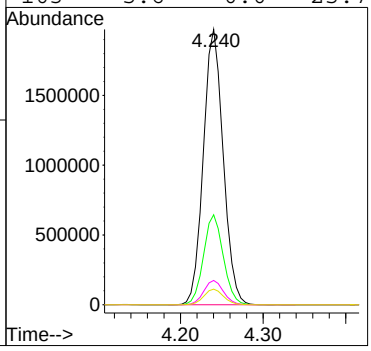


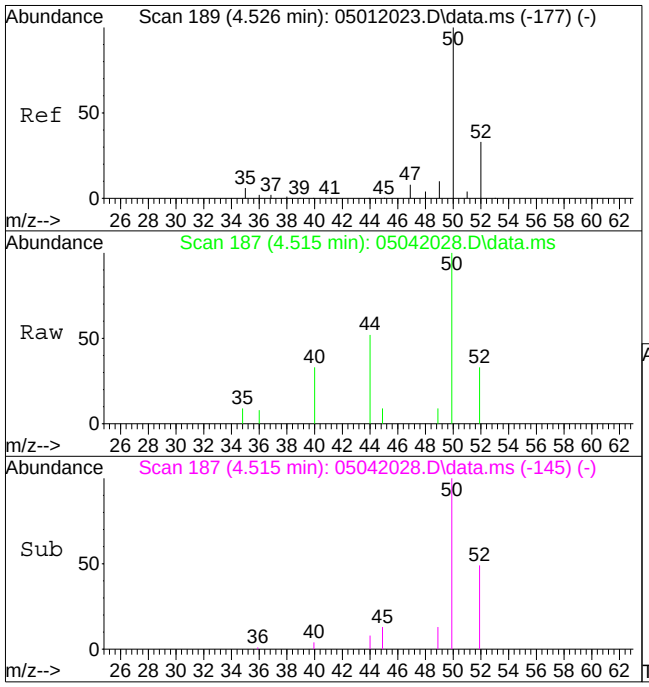


#3
Dichlorodifluoromethane (CFC 12)
Concen: 58.78 ng
RT: 4.24 min Scan# 137
Delta R.T. -0.011 min
Lab File: 05042028.D
Acq: 4 May 2020 22:02

Tgt Ion: 85 Resp: 3290832

Ion	Ratio	Lower	Upper
85	100		
87	32.4	12.4	52.4
101	8.8	0.0	28.8
103	5.6	0.0	25.7

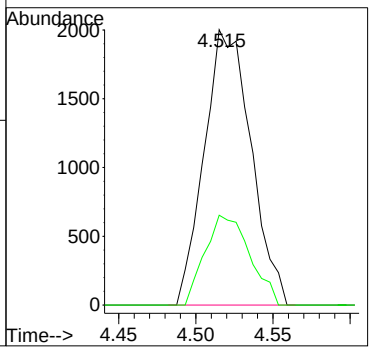


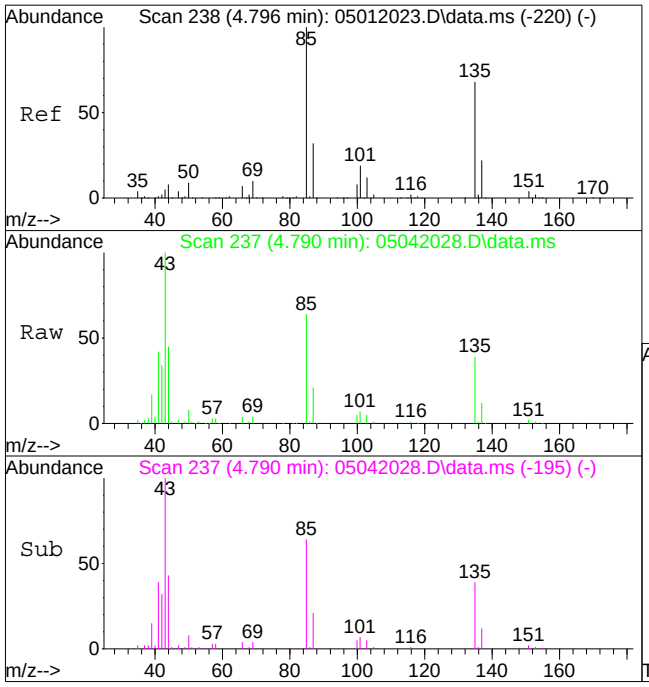


#4
Chloromethane
Concen: 0.10 ng
RT: 4.52 min Scan# 187
Delta R.T. -0.017 min
Lab File: 05042028.D
Acq: 4 May 2020 22:02

Tgt Ion: 50 Resp: 4214

Ion	Ratio	Lower	Upper
50	100		
52	31.2	12.5	52.5

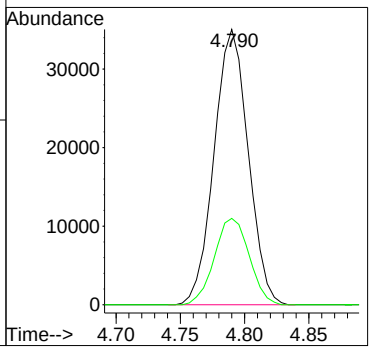


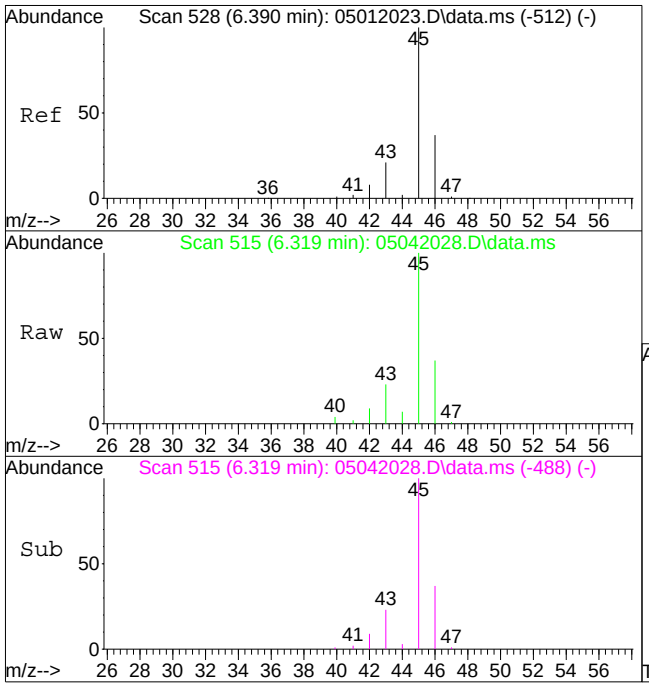


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 1.94 ng
RT: 4.79 min Scan# 237
Delta R.T. -0.017 min
Lab File: 05042028.D
Acq: 4 May 2020 22:02

Tgt Ion:135 Resp: 64742

Ion	Ratio	Lower	Upper
135	100		
137	32.0	12.1	52.1

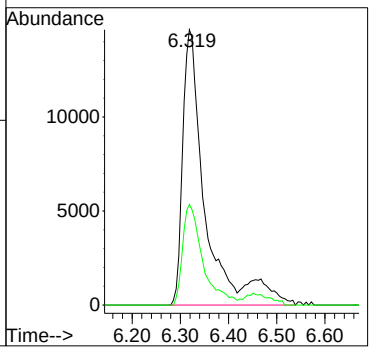


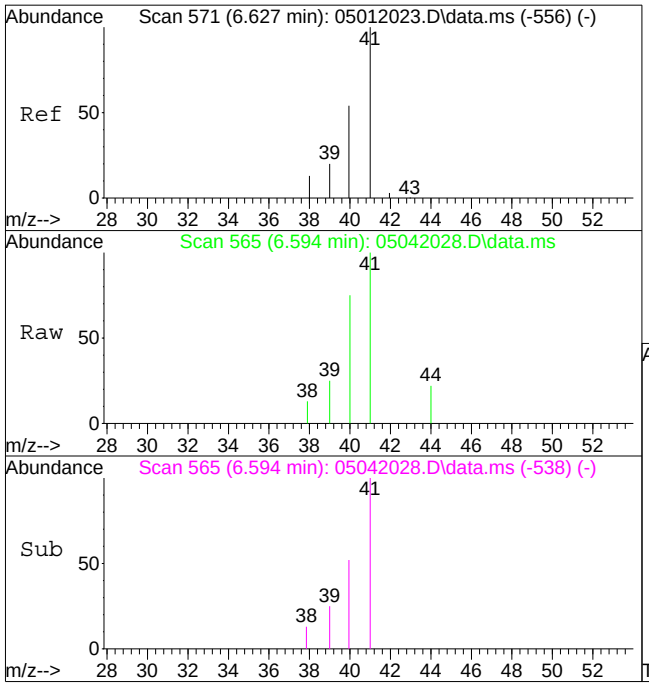


#10
Ethanol
Concen: 2.15 ng
RT: 6.32 min Scan# 515
Delta R.T. -0.099 min
Lab File: 05042028.D
Acq: 4 May 2020 22:02

Tgt Ion: 45 Resp: 47593

Ion	Ratio	Lower	Upper
45	100		
46	37.5	17.2	57.2

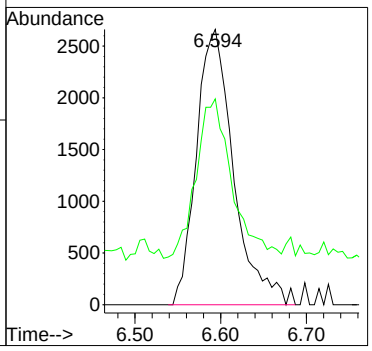


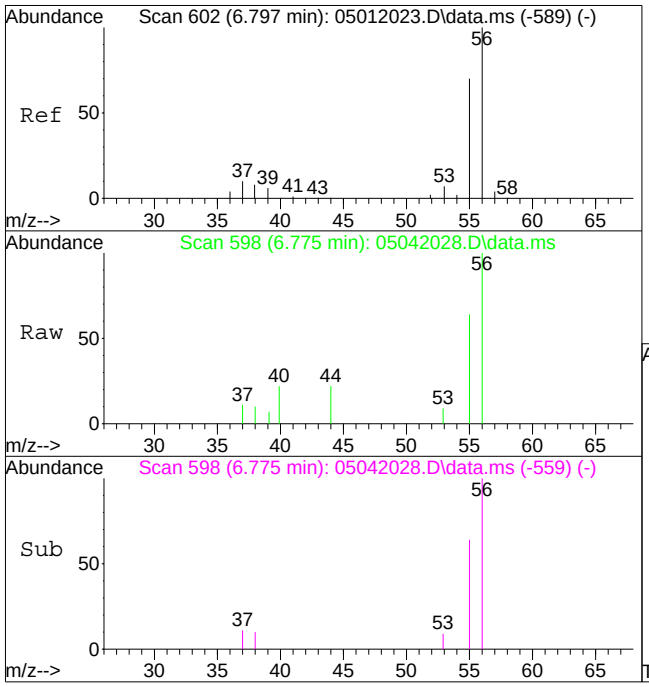


#11
Acetonitrile
Concen: 0.16 ng
RT: 6.59 min Scan# 565
Delta R.T. -0.050 min
Lab File: 05042028.D
Acq: 4 May 2020 22:02

Tgt Ion: 41 Resp: 8044

Ion	Ratio	Lower	Upper
41	100		
40	66.5	33.6	73.6

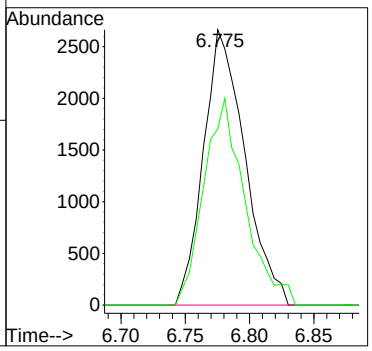


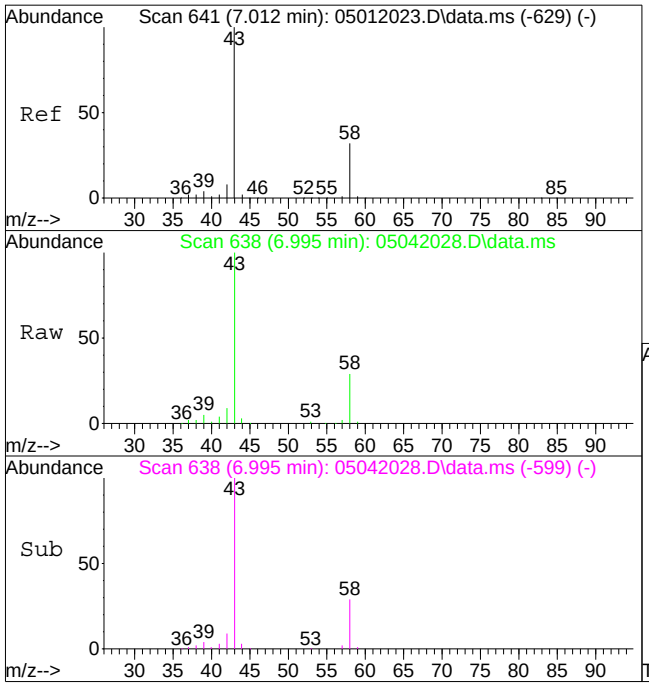


#12
Acrolein
Concen: 0.34 ng
RT: 6.78 min Scan# 598
Delta R.T. -0.033 min
Lab File: 05042028.D
Acq: 4 May 2020 22:02

Tgt Ion: 56 Resp: 5958

Ion	Ratio	Lower	Upper
56	100		
55	74.6	50.2	90.2

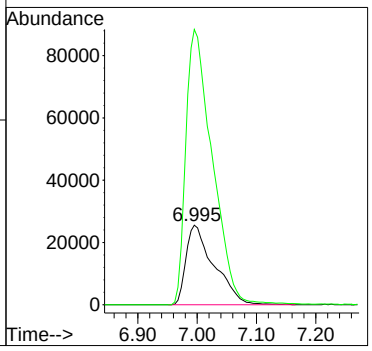


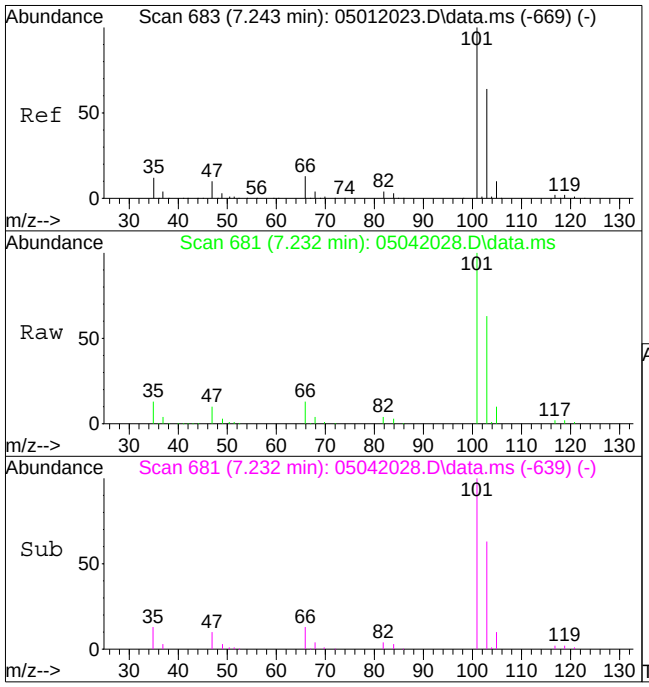


#13
Acetone
Concen: 3.80 ng
RT: 7.00 min Scan# 638
Delta R.T. -0.033 min
Lab File: 05042028.D
Acq: 4 May 2020 22:02

Tgt Ion: 58 Resp: 84096

Ion	Ratio	Lower	Upper
58	100		
43	327.0	294.4	354.4

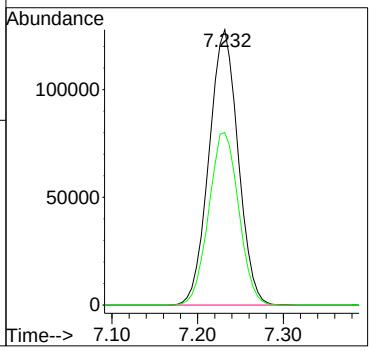


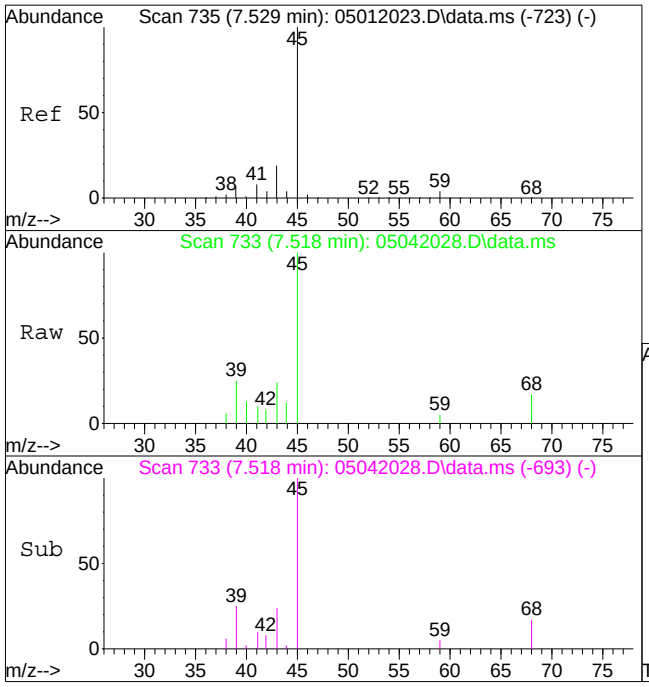


#14
Trichlorofluoromethane
Concen: 6.09 ng
RT: 7.23 min Scan# 681
Delta R.T. -0.017 min
Lab File: 05042028.D
Acq: 4 May 2020 22:02

Tgt Ion:101 Resp: 301449

Ion	Ratio	Lower	Upper
101	100		
103	64.5	44.4	84.4

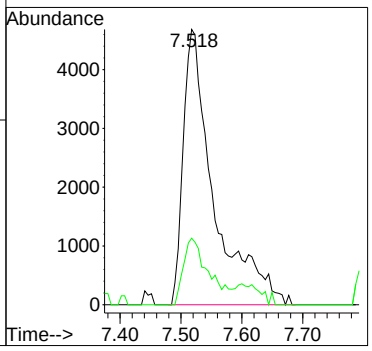


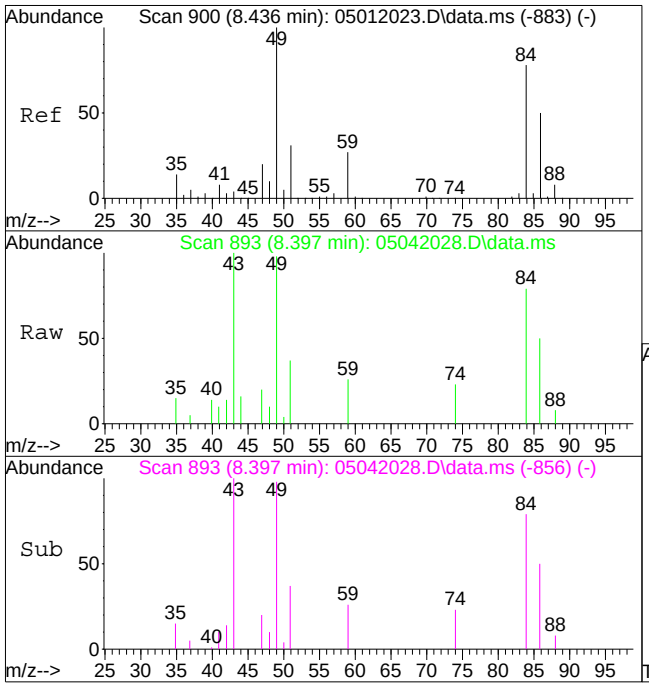


#15
2-Propanol (Isopropanol)
Concen: 0.24 ng
RT: 7.52 min Scan# 733
Delta R.T. -0.028 min
Lab File: 05042028.D
Acq: 4 May 2020 22:02

Tgt Ion: 45 Resp: 16355

Ion	Ratio	Lower	Upper
45	100		
43	26.4	0.0	39.5

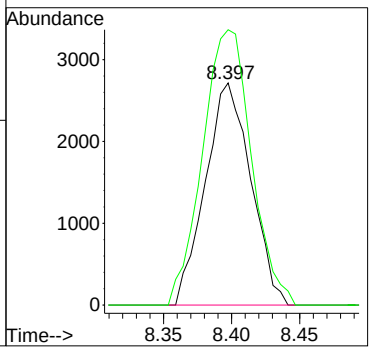


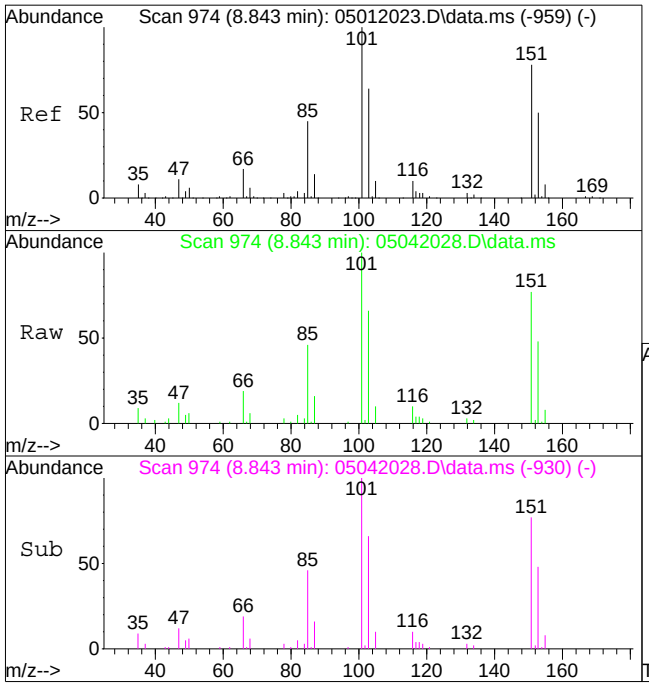


#19
Methylene Chloride
Concen: 0.22 ng
RT: 8.40 min Scan# 893
Delta R.T. -0.044 min
Lab File: 05042028.D
Acq: 4 May 2020 22:02

Tgt Ion: 84 Resp: 6309

Ion	Ratio	Lower	Upper
84	100		
49	133.4	104.8	154.8

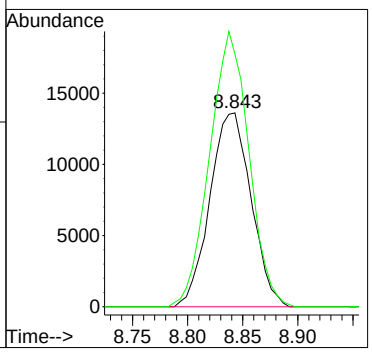


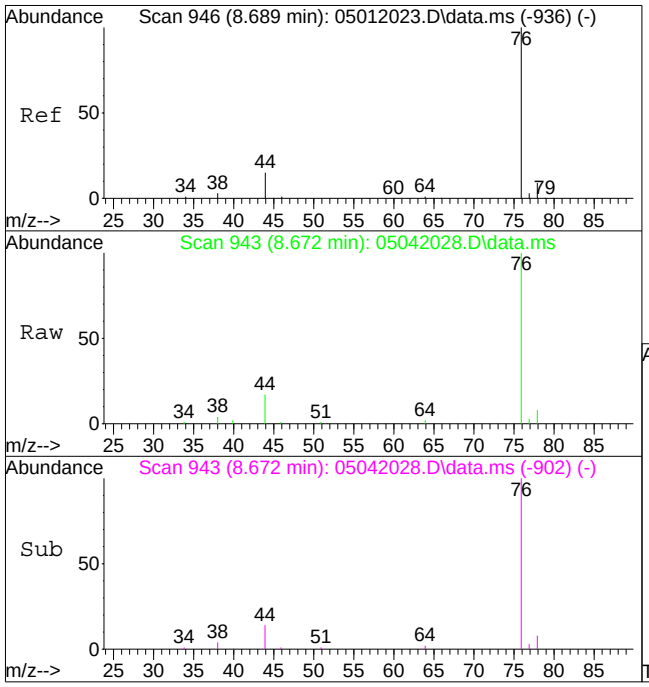


#21
Trichlorotrifluoroethane
Concen: 1.52 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05042028.D
Acq: 4 May 2020 22:02

Tgt Ion:151 Resp: 35412

Ion	Ratio	Lower	Upper
151	100		
101	135.3	107.3	147.3

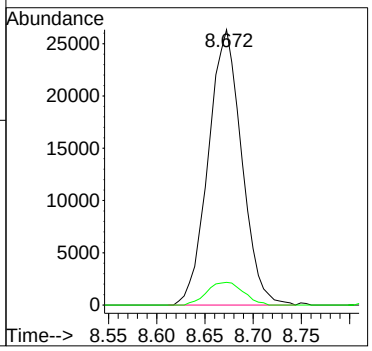


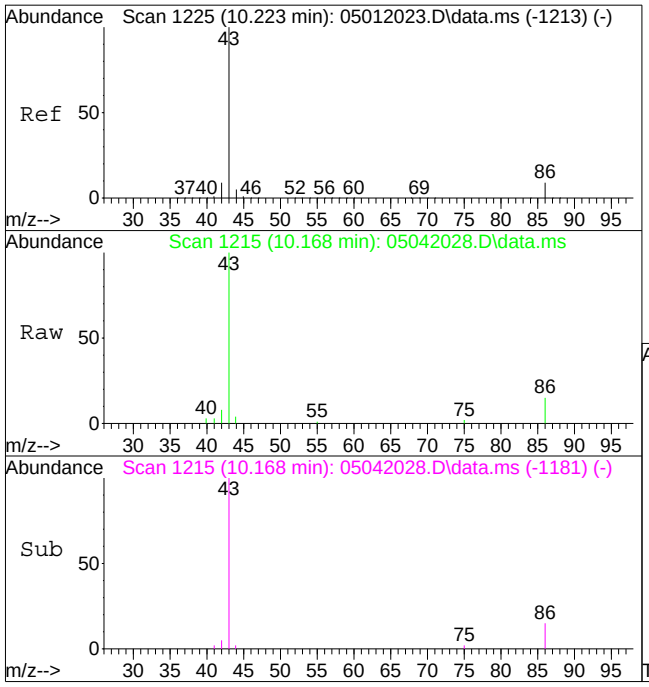


#22
Carbon Disulfide
Concen: 0.62 ng
RT: 8.67 min Scan# 943
Delta R.T. -0.022 min
Lab File: 05042028.D
Acq: 4 May 2020 22:02

Tgt Ion: 76 Resp: 63323

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	29.2

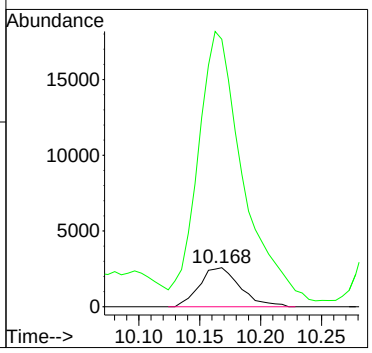


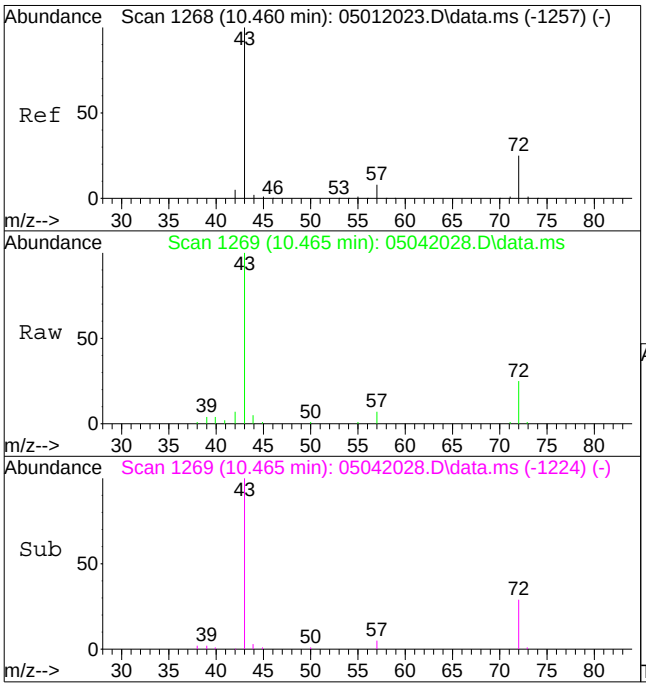


#26
Vinyl Acetate
Concen: 0.87 ng
RT: 10.17 min Scan# 1215
Delta R.T. -0.061 min
Lab File: 05042028.D
Acq: 4 May 2020 22:02

Tgt Ion: 86 Resp: 5986

Ion	Ratio	Lower	Upper
86	100		
43	806.5	1103.0	1143.0#

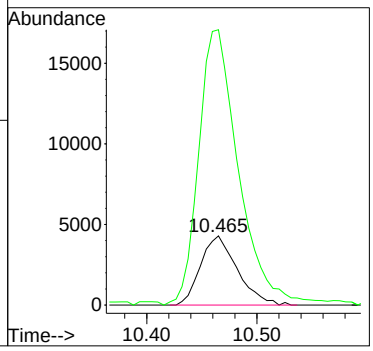


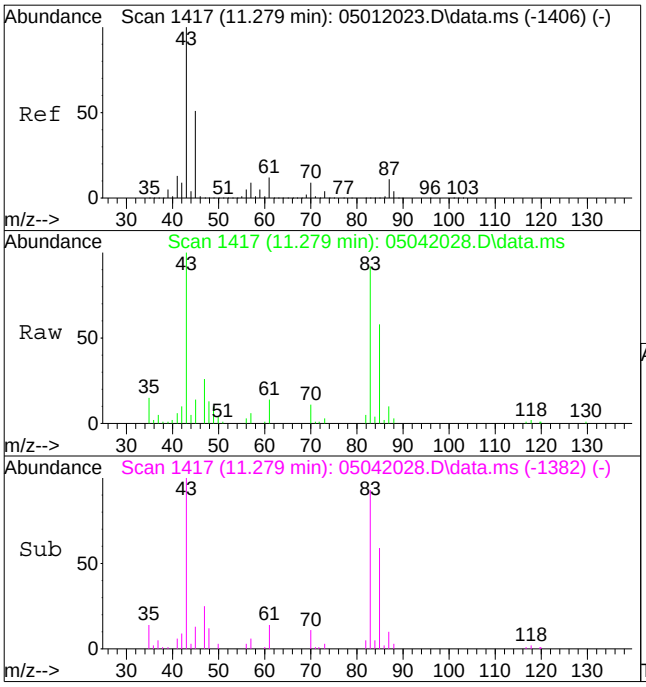


#27
2-Butanone (MEK)
Concen: 0.53 ng
RT: 10.47 min Scan# 1269
Delta R.T. -0.000 min
Lab File: 05042028.D
Acq: 4 May 2020 22:02

Tgt Ion: 72 Resp: 9930

Ion	Ratio	Lower	Upper
72	100		
43	436.3	389.7	429.7#

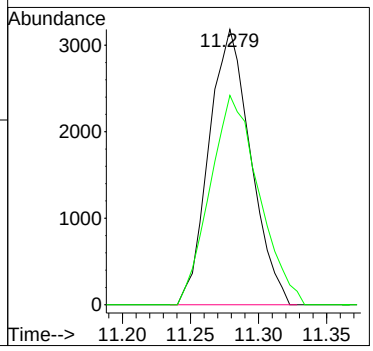


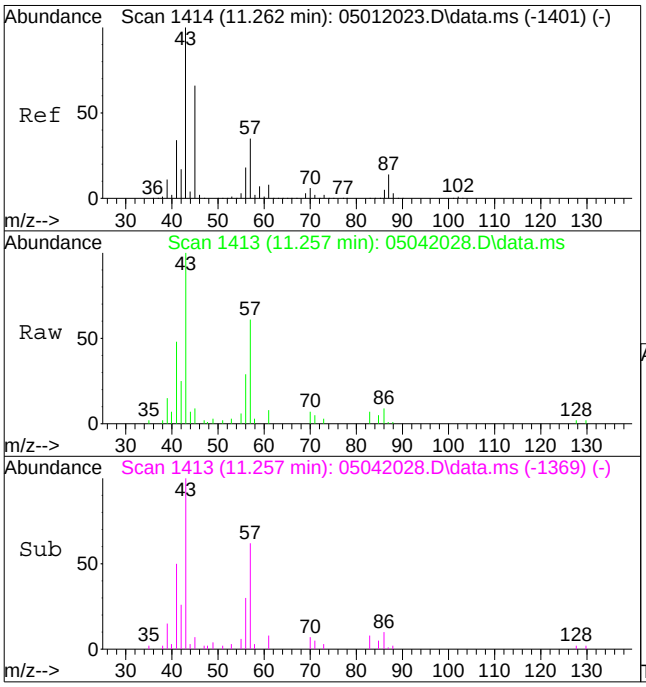


#30
Ethyl Acetate
Concen: 0.62 ng
RT: 11.28 min Scan# 1417
Delta R.T. -0.006 min
Lab File: 05042028.D
Acq: 4 May 2020 22:02

Tgt Ion: 61 Resp: 6790

Ion	Ratio	Lower	Upper
61	100		
70	88.8	57.9	97.9

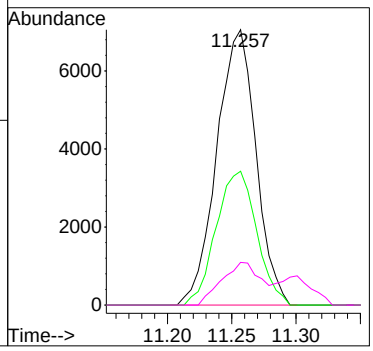


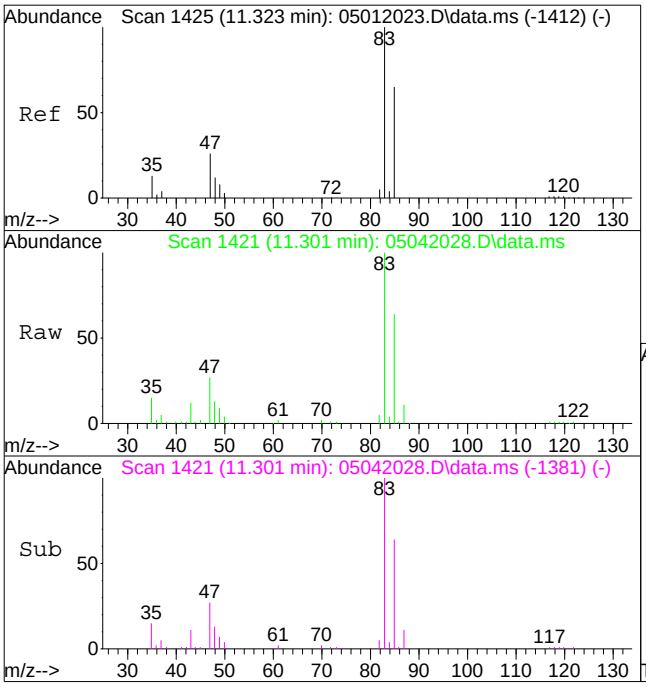


#31
n-Hexane
Concen: 0.32 ng
RT: 11.26 min Scan# 1413
Delta R.T. -0.006 min
Lab File: 05042028.D
Acq: 4 May 2020 22:02

Tgt Ion: 57 Resp: 14960

Ion	Ratio	Lower	Upper
57	100		
56	50.3	41.4	62.0
86	16.6	12.4	18.6

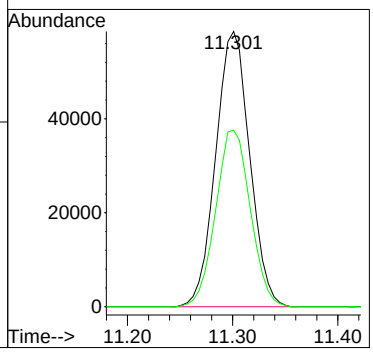


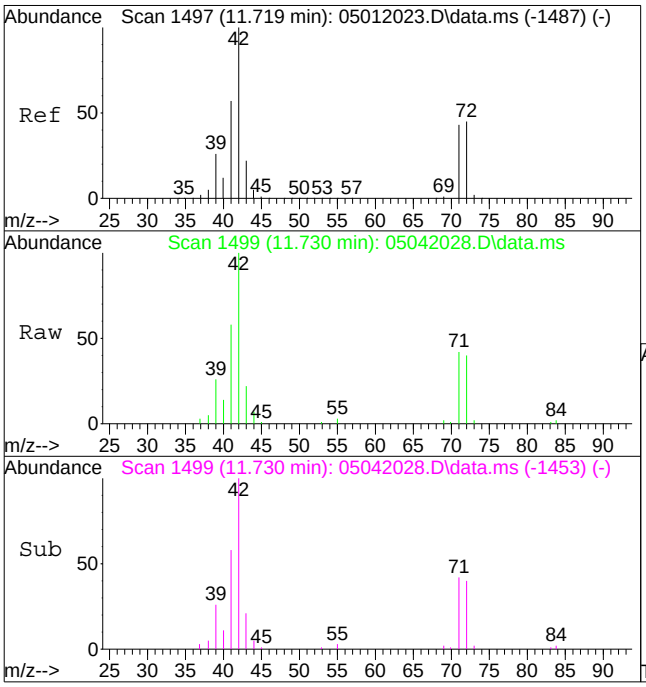


#32
Chloroform
Concen: 2.68 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.028 min
Lab File: 05042028.D
Acq: 4 May 2020 22:02

Tgt Ion: 83 Resp: 131856

Ion	Ratio	Lower	Upper
83	100		
85	65.5	45.5	85.5

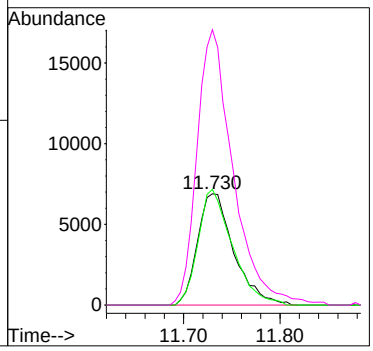


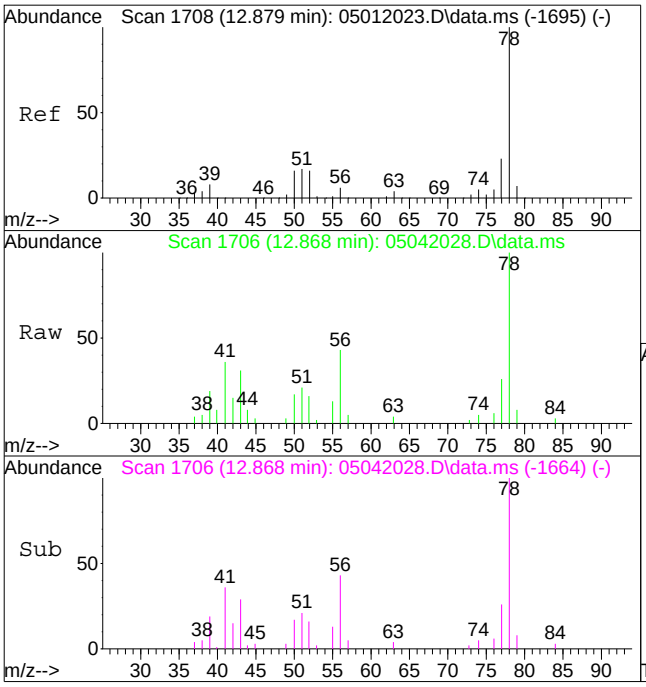


#34
Tetrahydrofuran (THF)
Concen: 0.98 ng
RT: 11.73 min Scan# 1499
Delta R.T. 0.005 min
Lab File: 05042028.D
Acq: 4 May 2020 22:02

Tgt Ion: 72 Resp: 18066

Ion	Ratio	Lower	Upper
72	100		
71	98.1	77.0	117.0
42	246.2	204.6	244.6#

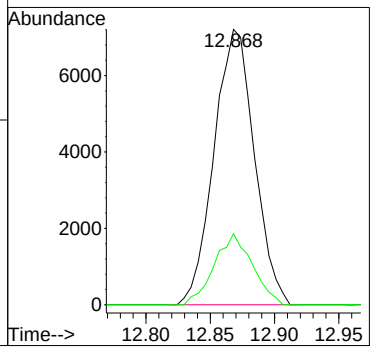


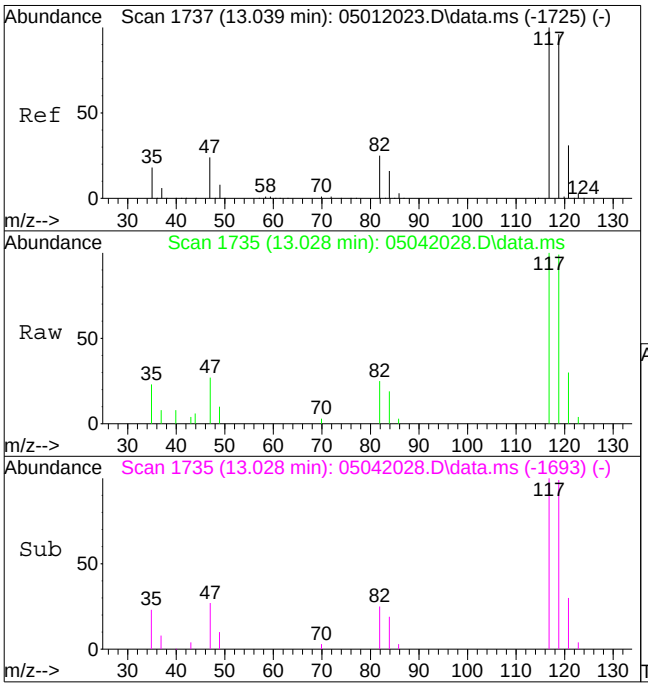


#41
Benzene
Concen: 0.14 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05042028.D
Acq: 4 May 2020 22:02

Tgt Ion: 78 Resp: 15723

Ion	Ratio	Lower	Upper
78	100		
77	24.3	3.4	43.4

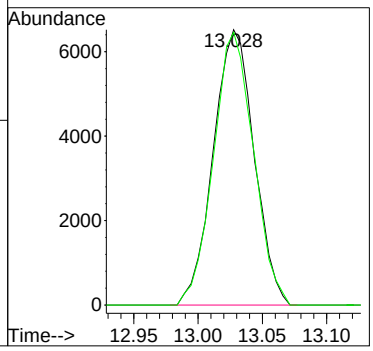


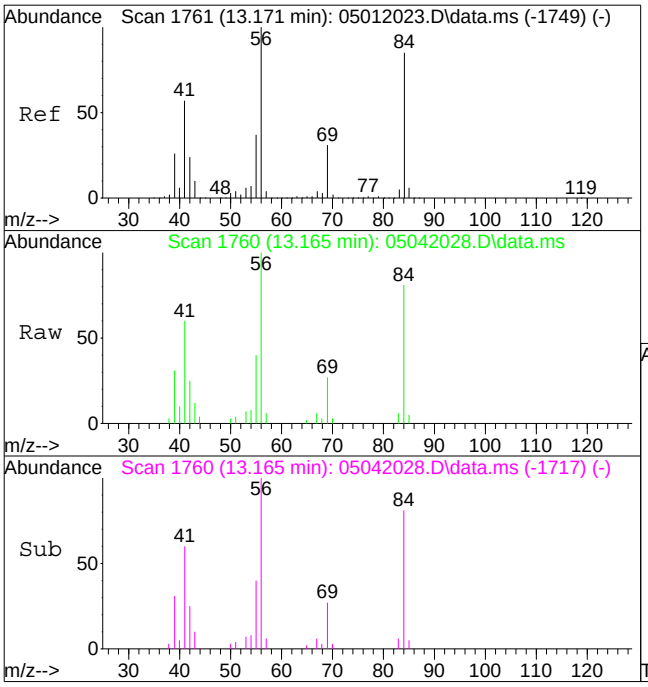


#42
Carbon Tetrachloride
Concen: 0.37 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05042028.D
Acq: 4 May 2020 22:02

Tgt Ion:117 Resp: 14408

Ion	Ratio	Lower	Upper
117	100		
119	97.2	76.2	116.2

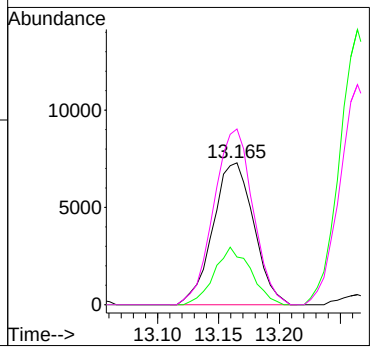


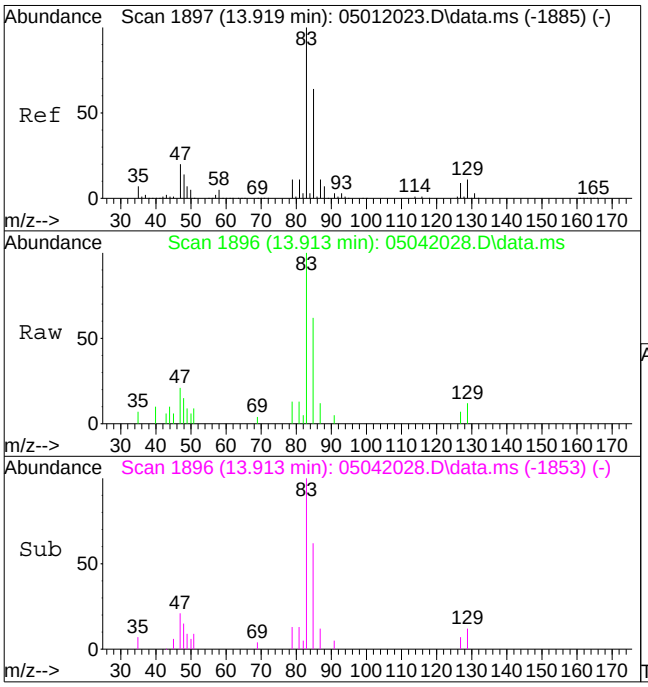


#43
Cyclohexane
Concen: 0.40 ng
RT: 13.17 min Scan# 1760
Delta R.T. -0.011 min
Lab File: 05042028.D
Acq: 4 May 2020 22:02

Tgt Ion: 84 Resp: 17009

Ion	Ratio	Lower	Upper
84	100		
69	36.3	16.5	56.5
56	118.8	97.4	137.4

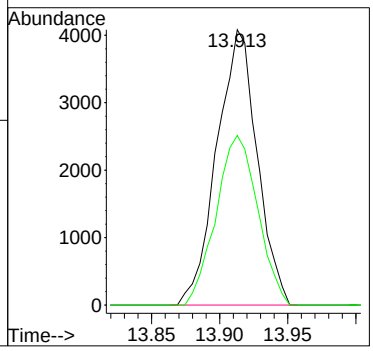


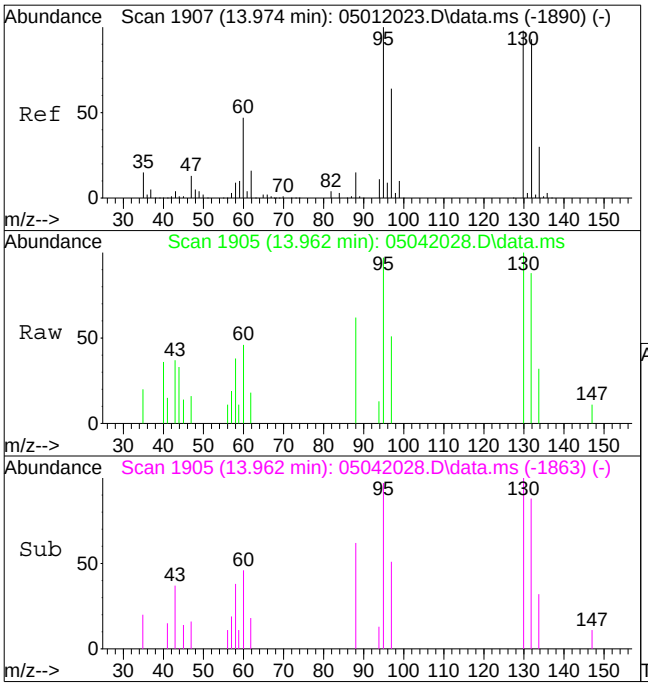


#46
Bromodichloromethane
Concen: 0.22 ng
RT: 13.91 min Scan# 1896
Delta R.T. -0.011 min
Lab File: 05042028.D
Acq: 4 May 2020 22:02

Tgt Ion: 83 Resp: 8394

Ion	Ratio	Lower	Upper
83	100		
85	63.6	44.4	84.4

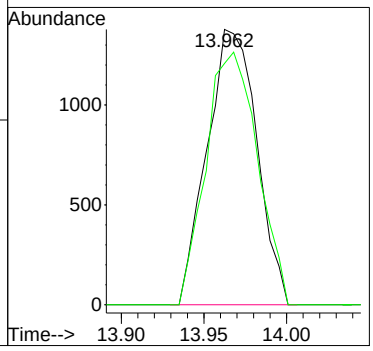


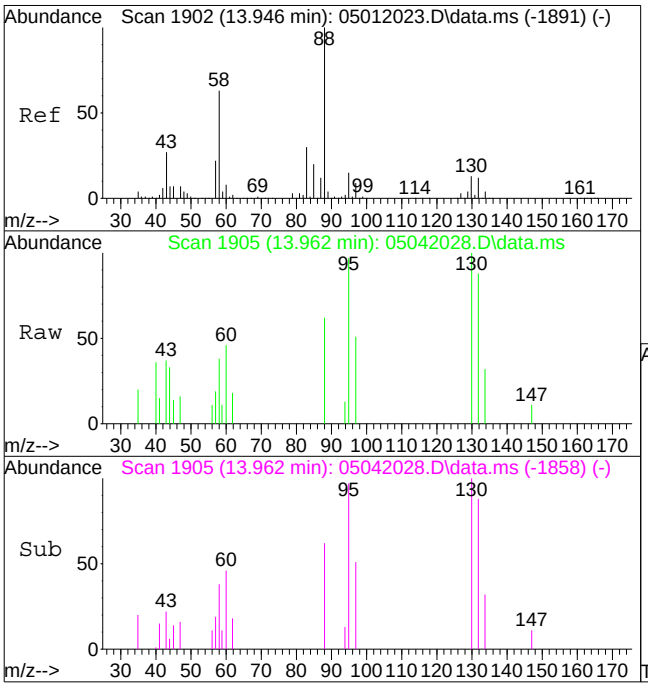


#47
Trichloroethene
Concen: 0.10 ng
RT: 13.96 min Scan# 1905
Delta R.T. -0.017 min
Lab File: 05042028.D
Acq: 4 May 2020 22:02

Tgt Ion:130 Resp: 2884

Ion	Ratio	Lower	Upper
130	100		
132	95.1	74.9	114.9

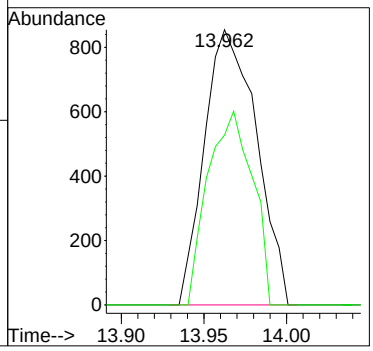


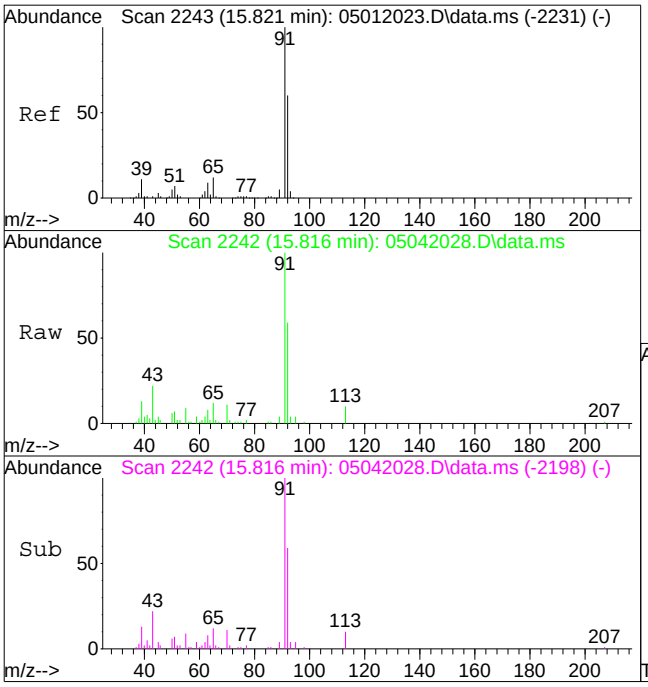


#48
1,4-Dioxane
Concen: 0.08 ng
RT: 13.96 min Scan# 1905
Delta R.T. 0.011 min
Lab File: 05042028.D
Acq: 4 May 2020 22:02

Tgt Ion: 88 Resp: 1872

Ion	Ratio	Lower	Upper
88	100		
58	60.4	42.8	82.8

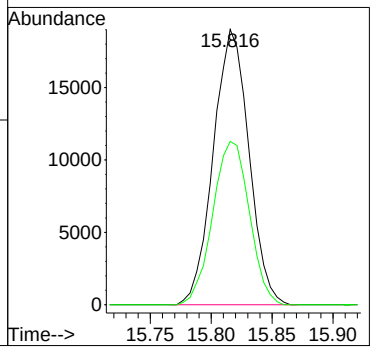


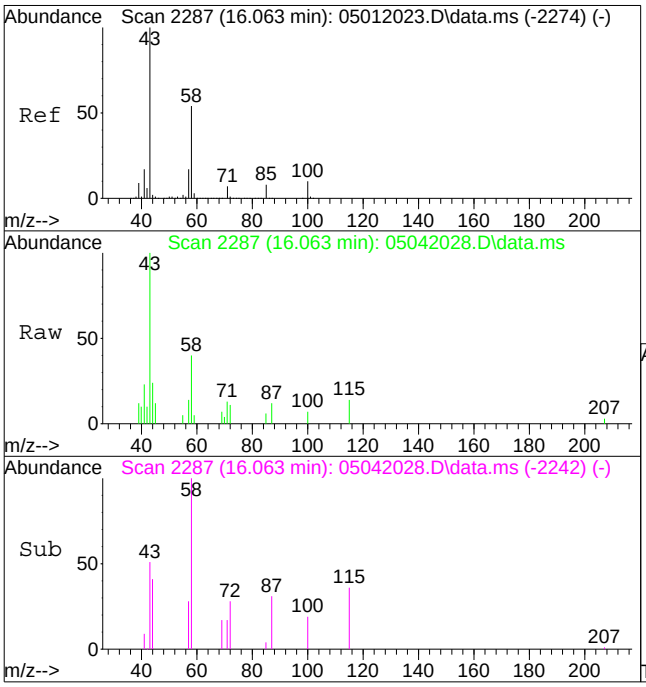


#58
Toluene
Concen: 0.33 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05042028.D
Acq: 4 May 2020 22:02

Tgt Ion: 91 Resp: 38687

Ion	Ratio	Lower	Upper
91	100		
92	61.0	39.4	79.4

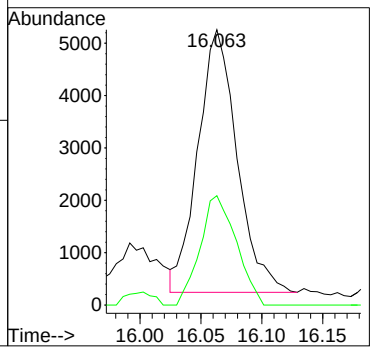


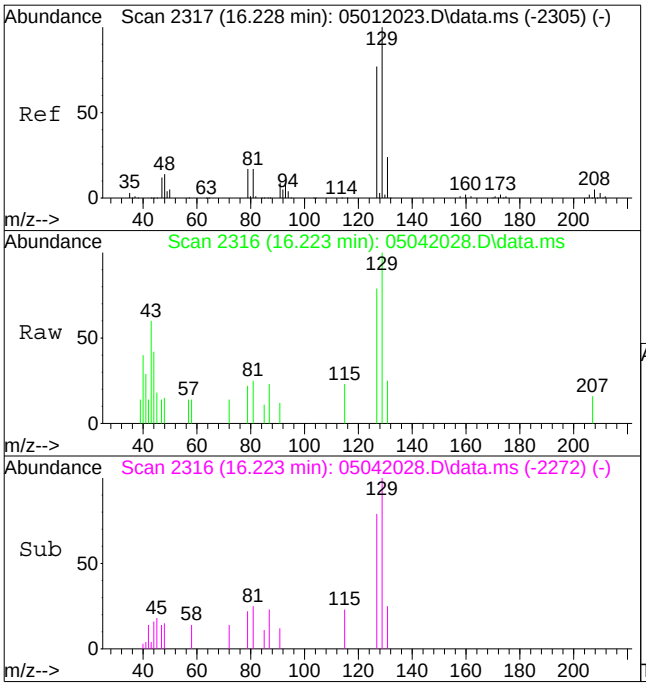


#59
2-Hexanone
Concen: 0.17 ng
RT: 16.06 min Scan# 2287
Delta R.T. -0.000 min
Lab File: 05042028.D
Acq: 4 May 2020 22:02

Tgt Ion: 43 Resp: 11207

Ion	Ratio	Lower	Upper
43	100		
58	38.4	34.5	74.5

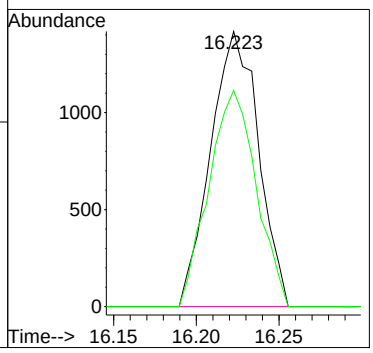


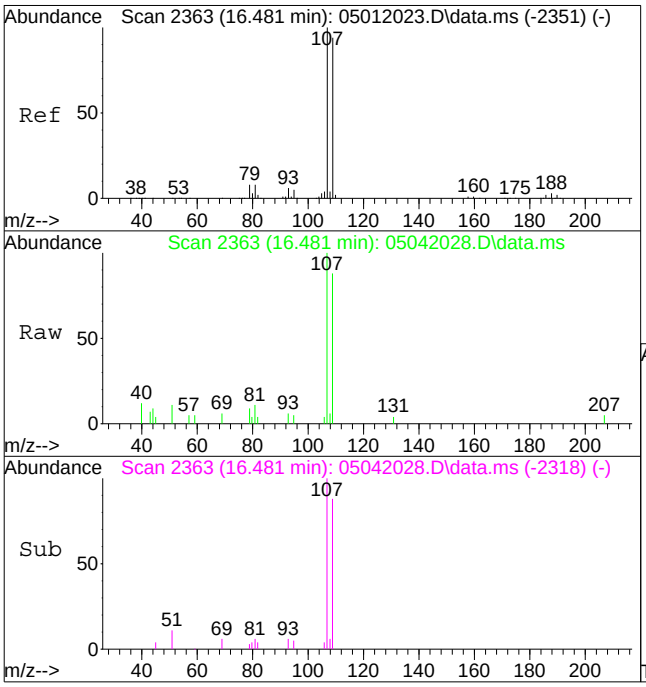


#60
Dibromochloromethane
Concen: 0.08 ng
RT: 16.22 min Scan# 2316
Delta R.T. -0.006 min
Lab File: 05042028.D
Acq: 4 May 2020 22:02

Tgt Ion:129 Resp: 2850

Ion	Ratio	Lower	Upper
129	100		
127	77.9	57.3	97.3

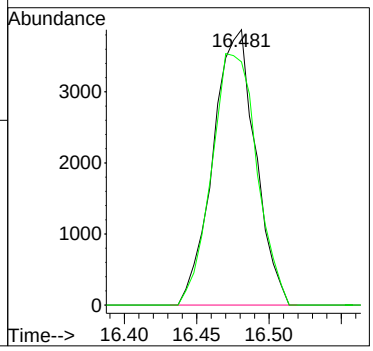


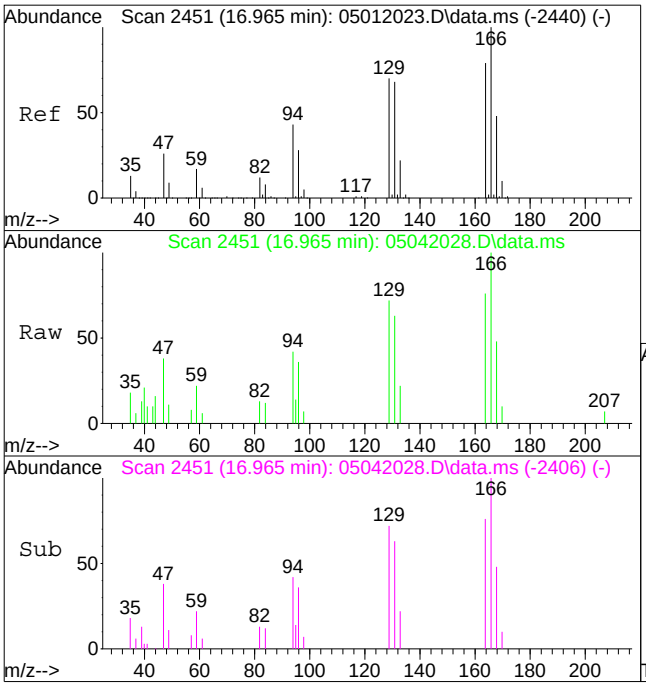


#61
1,2-Dibromoethane
Concen: 0.24 ng
RT: 16.48 min Scan# 2363
Delta R.T. -0.000 min
Lab File: 05042028.D
Acq: 4 May 2020 22:02

Tgt Ion:107 Resp: 7920

Ion	Ratio	Lower	Upper
107	100		
109	97.2	74.5	114.5

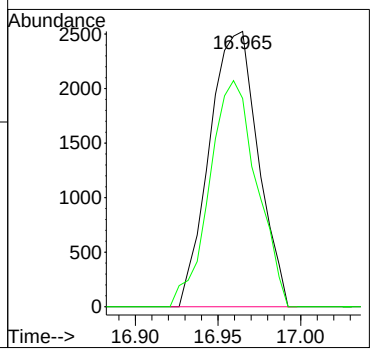


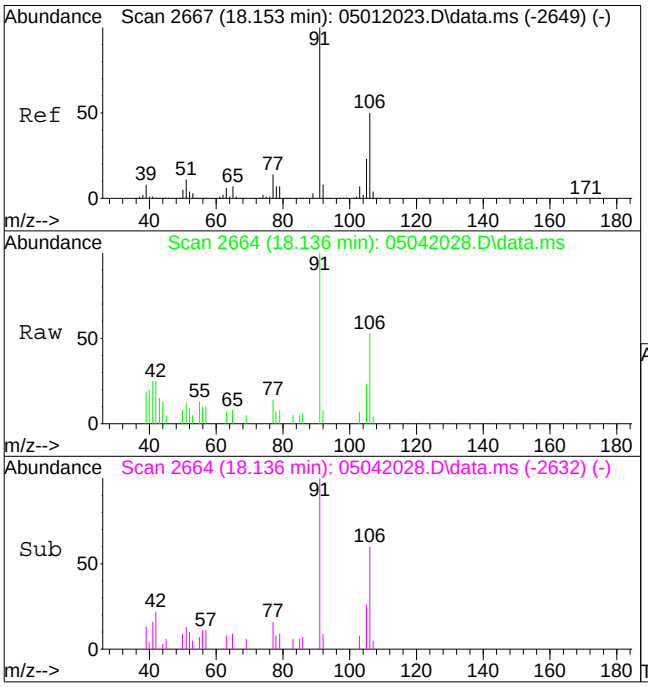


#64
Tetrachloroethene
Concen: 0.15 ng
RT: 16.96 min Scan# 2451
Delta R.T. -0.000 min
Lab File: 05042028.D
Acq: 4 May 2020 22:02

Tgt Ion:166 Resp: 5175

Ion	Ratio	Lower	Upper
166	100		
164	79.7	58.4	98.4

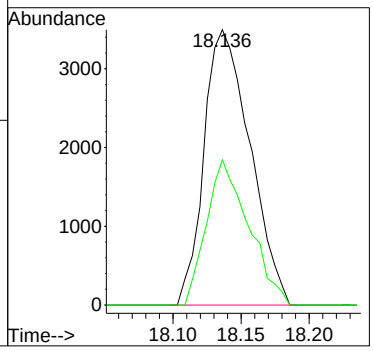


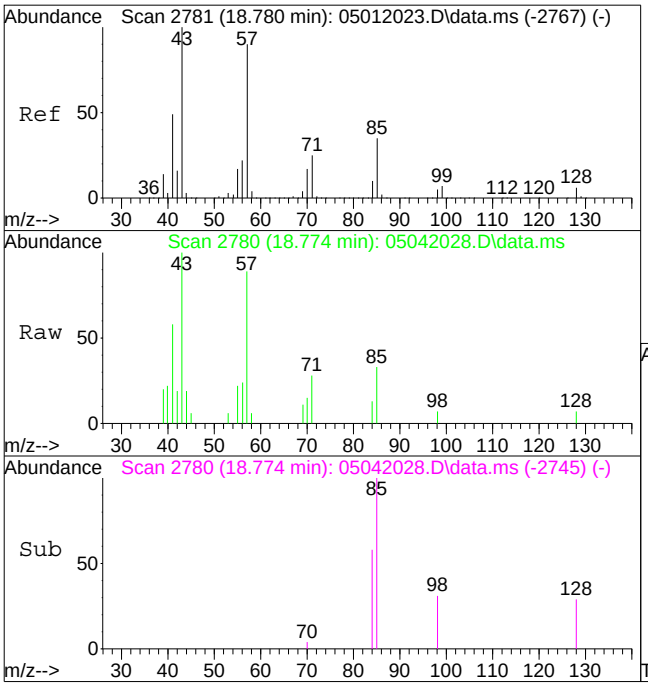


#67
m- & p-Xylenes
Concen: 0.08 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05042028.D
Acq: 4 May 2020 22:02

Tgt Ion: 91 Resp: 8218

Ion	Ratio	Lower	Upper
91	100		
106	48.3	29.7	69.7

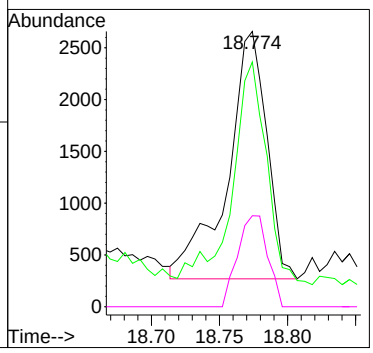




#71
n-Nonane
Concen: 0.09 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05042028.D
Acq: 4 May 2020 22:02

Tgt Ion: 43 Resp: 4819

Ion	Ratio	Lower	Upper
43	100		
57	78.9	69.0	109.0
85	28.0	14.6	54.6



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042029.D Vial: 15
Acq On : 4 May 2020 22:36 Operator: TD
Sample : P2002105-013 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 14:29:58 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/6/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	245020	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1056299	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	533176	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	420333	12.658	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.28%				
57) Toluene-d8 (SS2)	15.72	98	1095923	12.127	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.04%				
73) Bromofluorobenzene (SS3)	18.98	174	384236	11.816	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.56%				
Target Compounds							Qvalue
2) Propene	4.10	42	14545	0.513	ng		99
3) Dichlorodifluoromethan...	4.25	85	3640805	65.594	ng		100
4) Chloromethane	4.54	50	6624	0.152	ng		97
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	67737	2.043	ng		99
6) Vinyl Chloride	4.95	62	2490	0.052	ng		95
7) 1,3-Butadiene	5.14	54	871	N.D.			
8) Bromomethane	5.64	94	351	N.D.			
9) Chloroethane	5.96	64	1069	0.057	ng		86
10) Ethanol	6.33	45	305294	13.932	ng		100
11) Acetonitrile	6.59	41	4317	0.086	ng		88
12) Acrolein	6.78	56	3580	0.207	ng		99
13) Acetone	6.98	58	109306m	4.988	ng		
14) Trichlorofluoromethane	7.24	101	334180	6.813	ng		100
15) 2-Propanol (Isopropanol)	7.50	45	74171	1.118	ng		94
16) Acrylonitrile	7.76	53	107	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	10136	0.356	ng		97
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	8.84	151	34725	1.499	ng		93
22) Carbon Disulfide	8.68	76	153319	1.502	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	9.94	63	1653	N.D.			
25) Methyl tert-Butyl Ether	10.08	73	1155	N.D.			
26) Vinyl Acetate	10.17	86	5327	0.780	ng	#	78
27) 2-Butanone (MEK)	10.45	72	33671	1.802	ng	#	89
28) cis-1,2-Dichloroethene	10.96	61	385	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.27	61	108541	10.072	ng		92
31) n-Hexane	11.26	57	36456	0.780	ng		98
32) Chloroform	11.30	83	82286	1.687	ng		99
34) Tetrahydrofuran (THF)	11.72	72	37411	2.052	ng		92
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	1340	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	12.87	61	396	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	72615	0.641	ng		100
42) Carbon Tetrachloride	13.03	117	2400	0.062	ng		98
43) Cyclohexane	13.17	84	38802	0.919	ng		98
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	13.91	83	52030	1.359	ng		100
47) Trichloroethene	13.97	130	1252	N.D.			
48) 1,4-Dioxane	13.97	88	644	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.11	100	107	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042029.D Vial: 15
Acq On : 4 May 2020 22:36 Operator: TD
Sample : P2002105-013 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 14:29:58 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

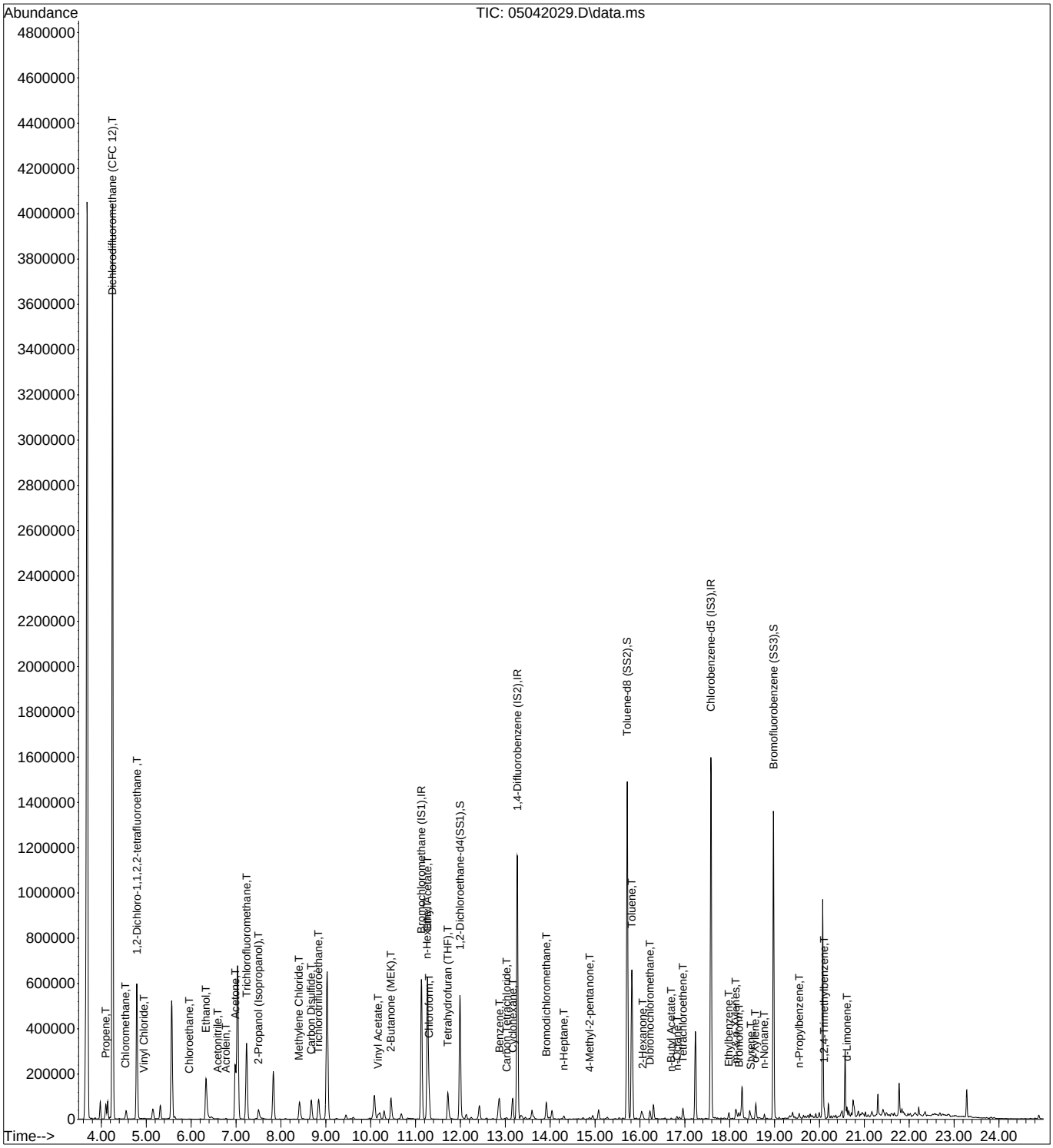
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.30	71	3454	0.130 ng		94
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.88	58	1991	0.079 ng	#	55
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.82	91	389786	3.346 ng		99
59) 2-Hexanone	16.06	43	16566	0.260 ng		81
60) Dibromochloromethane	16.22	129	19627	0.588 ng		100
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.70	43	4765	0.069 ng		89
63) n-Octane	16.83	57	2284	0.095 ng		96
64) Tetrachloroethene	16.96	166	14843	0.451 ng		98
65) Chlorobenzene	17.65	112	112	N.D.		
66) Ethylbenzene	17.98	91	22098	0.170 ng		97
67) m- & p-Xylenes	18.14	91	35577	0.345 ng		97
68) Bromoform	18.21	173	3136	0.108 ng		97
69) Styrene	18.47	104	5684	0.073 ng		94
70) o-Xylene	18.57	91	14511	0.139 ng		96
71) n-Nonane	18.77	43	8009	0.144 ng		89
72) 1,1,2,2-Tetrachloroethane	18.58	83	336	N.D.		
74) Cumene	19.10	105	2196	N.D.		
75) alpha-Pinene	19.45	93	3203	N.D.		
76) n-Propylbenzene	19.55	91	9178	0.060 ng	#	52
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.68	105	3295	N.D.		
79) 1,3,5-Trimethylbenzene	19.75	105	3248	N.D.		
80) alpha-Methylstyrene	19.88	118	1335	N.D.		
81) 2-Ethyltoluene	19.92	105	3239	N.D.		
82) 1,2,4-Trimethylbenzene	20.10	105	9648	0.092 ng		85
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.22	91	455	N.D.		
85) 1,3-Dichlorobenzene	20.30	146	600	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	600	N.D.		
87) sec-Butylbenzene	20.35	105	1864	N.D.		
88) 4-Isopropyltoluene (p-...	20.48	119	5259	N.D.		
89) 1,2,3-Trimethylbenzene	20.48	105	4068	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.61	68	11106	0.267 ng		100
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.11	180	233	N.D.		
95) Naphthalene	22.21	128	1979	N.D.		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	20.85	91	4593	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042029.D Vial: 15
Acq On : 4 May 2020 22:36 Operator: TD
Sample : P2002105-013 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 14:29:58 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042029.D Vial: 15
Acq On : 4 May 2020 22:36 Operator: TD
Sample : P2002105-013 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 14:29:58 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/6/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

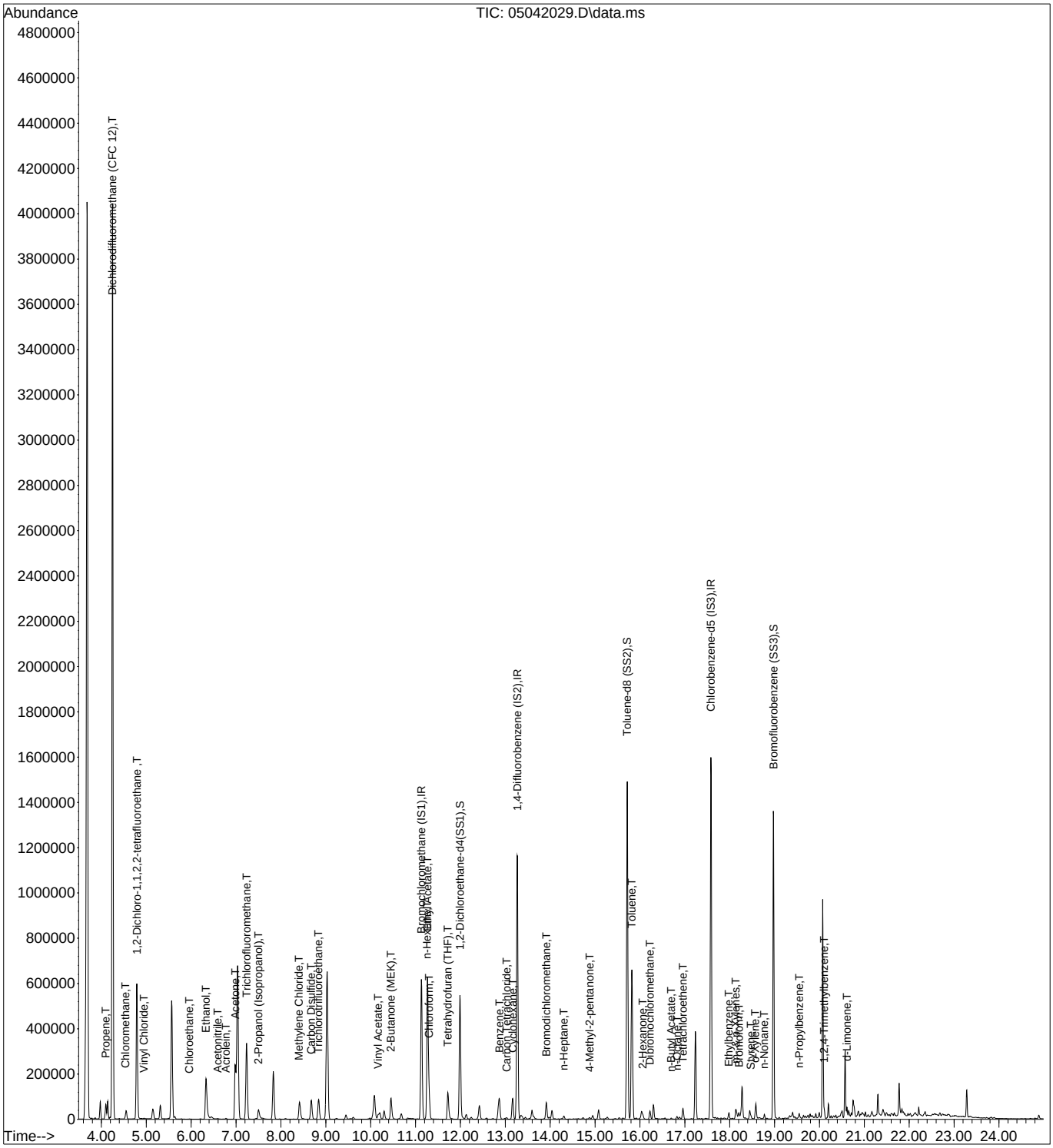
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	245020	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1056299	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	533176	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	420333	12.658	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.28%				
57) Toluene-d8 (SS2)	15.72	98	1095923	12.127	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.04%				
73) Bromofluorobenzene (SS3)	18.98	174	384236	11.816	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.56%				
Target Compounds							Qvalue
2) Propene	4.10	42	14545	0.513	ng		99
3) Dichlorodifluoromethan...	4.25	85	3640805	65.594	ng		100
4) Chloromethane	4.54	50	6624	0.152	ng		97
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	67737	2.043	ng		99
6) Vinyl Chloride	4.95	62	2490	0.052	ng		95
9) Chloroethane	5.96	64	1069	0.057	ng		86
10) Ethanol	6.33	45	305294	13.932	ng		100
11) Acetonitrile	6.59	41	4317	0.086	ng		88
12) Acrolein	6.78	56	3580	0.207	ng		99
13) Acetone	6.98	58	109306m	4.988	ng		
14) Trichlorofluoromethane	7.24	101	334180	6.813	ng		100
15) 2-Propanol (Isopropanol)	7.50	45	74171	1.118	ng		94
19) Methylene Chloride	8.40	84	10136	0.356	ng		97
21) Trichlorotrifluoroethane	8.84	151	34725	1.499	ng		93
22) Carbon Disulfide	8.68	76	153319	1.502	ng		99
26) Vinyl Acetate	10.17	86	5327	0.780	ng	#	78
27) 2-Butanone (MEK)	10.45	72	33671	1.802	ng	#	89
30) Ethyl Acetate	11.27	61	108541	10.072	ng		92
31) n-Hexane	11.26	57	36456	0.780	ng		98
32) Chloroform	11.30	83	82286	1.687	ng		99
34) Tetrahydrofuran (THF)	11.72	72	37411	2.052	ng		92
41) Benzene	12.87	78	72615	0.641	ng		100
42) Carbon Tetrachloride	13.03	117	2400	0.062	ng		98
43) Cyclohexane	13.17	84	38802	0.919	ng		98
46) Bromodichloromethane	13.91	83	52030	1.359	ng		100
51) n-Heptane	14.30	71	3454	0.130	ng		94
53) 4-Methyl-2-pentanone	14.88	58	1991	0.079	ng	#	55
58) Toluene	15.82	91	389786	3.346	ng		99
59) 2-Hexanone	16.06	43	16566	0.260	ng		81
60) Dibromochloromethane	16.22	129	19627	0.588	ng		100
62) n-Butyl Acetate	16.70	43	4765	0.069	ng		89
63) n-Octane	16.83	57	2284	0.095	ng		96
64) Tetrachloroethene	16.96	166	14843	0.451	ng		98
66) Ethylbenzene	17.98	91	22098	0.170	ng		97
67) m- & p-Xylenes	18.14	91	35577	0.345	ng		97
68) Bromoform	18.21	173	3136	0.108	ng		97
69) Styrene	18.47	104	5684	0.073	ng		94
70) o-Xylene	18.57	91	14511	0.139	ng		96
71) n-Nonane	18.77	43	8009	0.144	ng		89
76) n-Propylbenzene	19.55	91	9178	0.060	ng	#	52
82) 1,2,4-Trimethylbenzene	20.10	105	9648	0.092	ng		85
91) d-Limonene	20.61	68	11106	0.267	ng		100

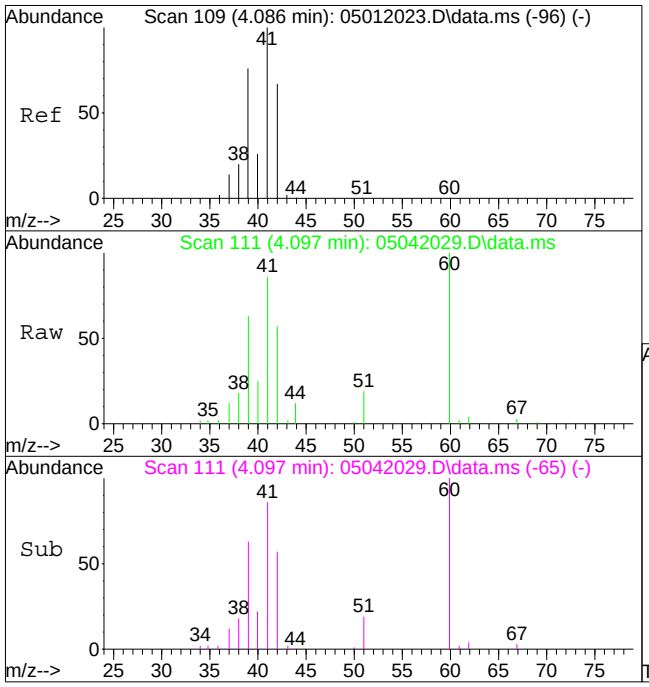
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042029.D Vial: 15
Acq On : 4 May 2020 22:36 Operator: TD
Sample : P2002105-013 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 14:29:58 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

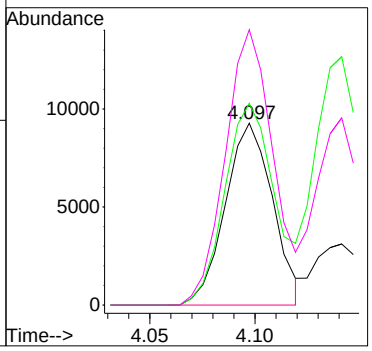


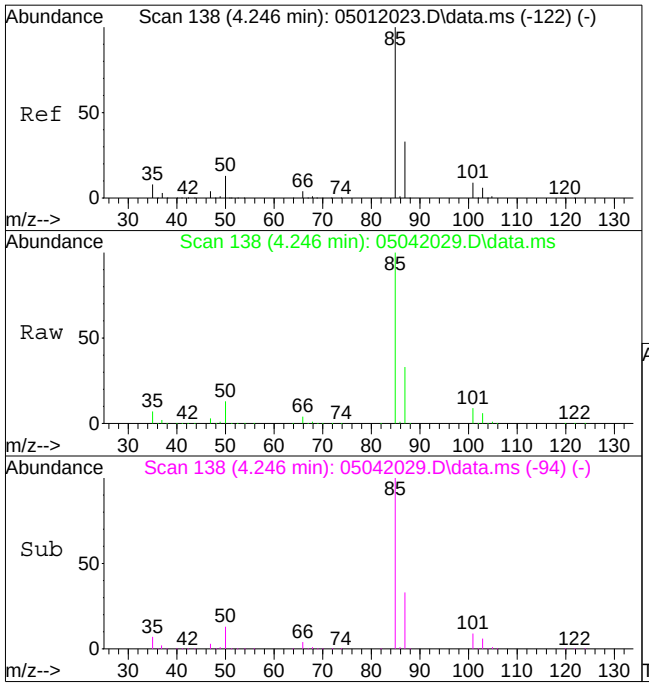


#2
Propene
Concen: 0.51 ng
RT: 4.10 min Scan# 111
Delta R.T. 0.005 min
Lab File: 05042029.D
Acq: 4 May 2020 22:36

Tgt Ion: 42 Resp: 14545

Ion	Ratio	Lower	Upper
42	100		
39	117.9	96.1	136.1
41	152.5	131.9	171.9

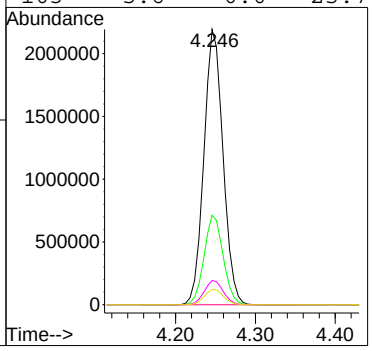


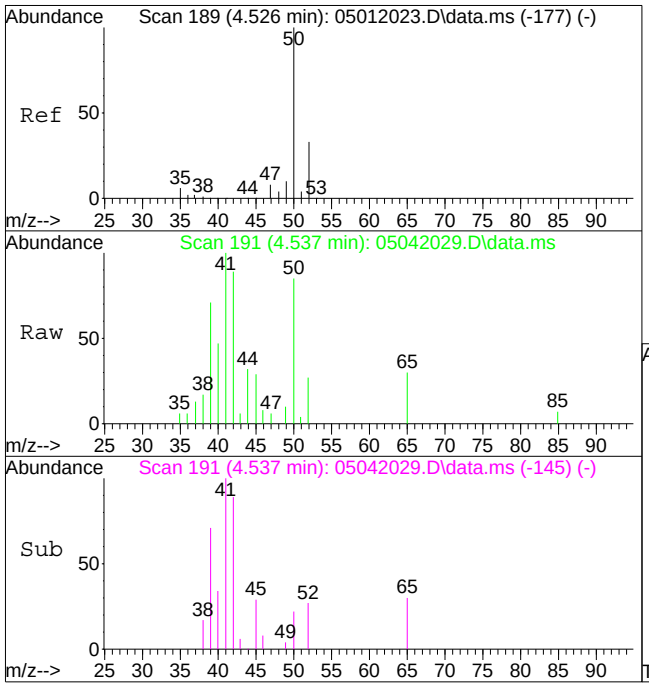


#3
Dichlorodifluoromethane (CFC 12)
Concen: 65.59 ng
RT: 4.25 min Scan# 138
Delta R.T. -0.006 min
Lab File: 05042029.D
Acq: 4 May 2020 22:36

Tgt Ion: 85 Resp: 3640805

Ion	Ratio	Lower	Upper
85	100		
87	32.4	12.4	52.4
101	8.8	0.0	28.8
103	5.6	0.0	25.7

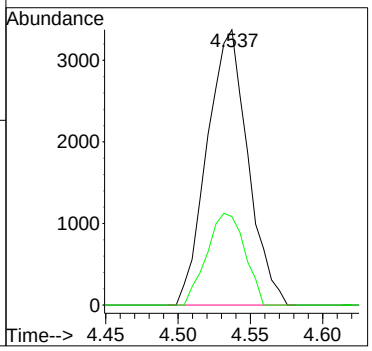


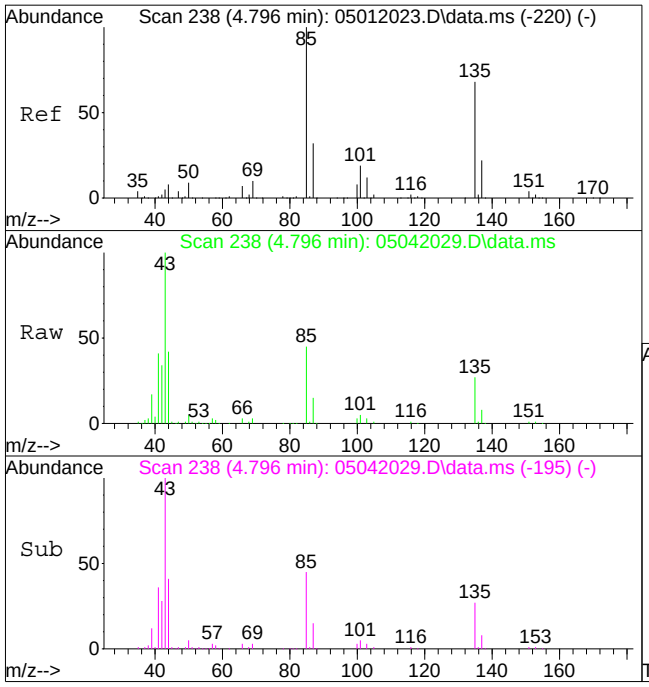


#4
Chloromethane
Concen: 0.15 ng
RT: 4.54 min Scan# 191
Delta R.T. 0.005 min
Lab File: 05042029.D
Acq: 4 May 2020 22:36

Tgt Ion: 50 Resp: 6624

Ion	Ratio	Lower	Upper
50	100		
52	31.0	12.5	52.5

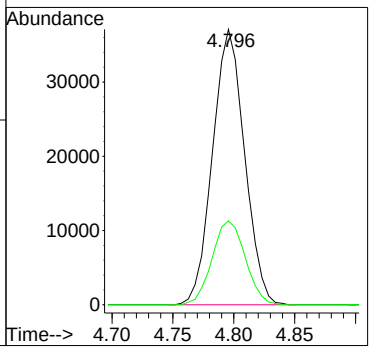


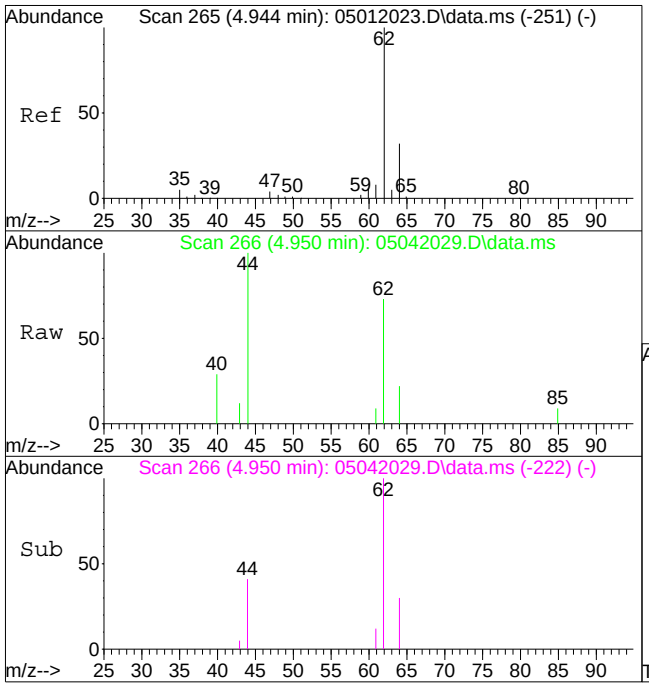


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 2.04 ng
RT: 4.80 min Scan# 238
Delta R.T. -0.011 min
Lab File: 05042029.D
Acq: 4 May 2020 22:36

Tgt Ion:135 Resp: 67737

Ion	Ratio	Lower	Upper
135	100		
137	31.5	12.1	52.1

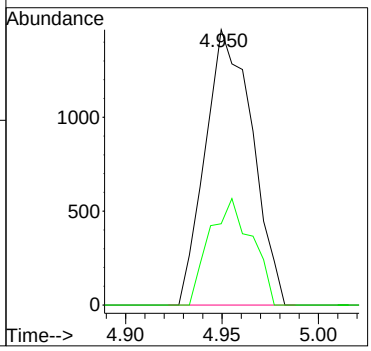


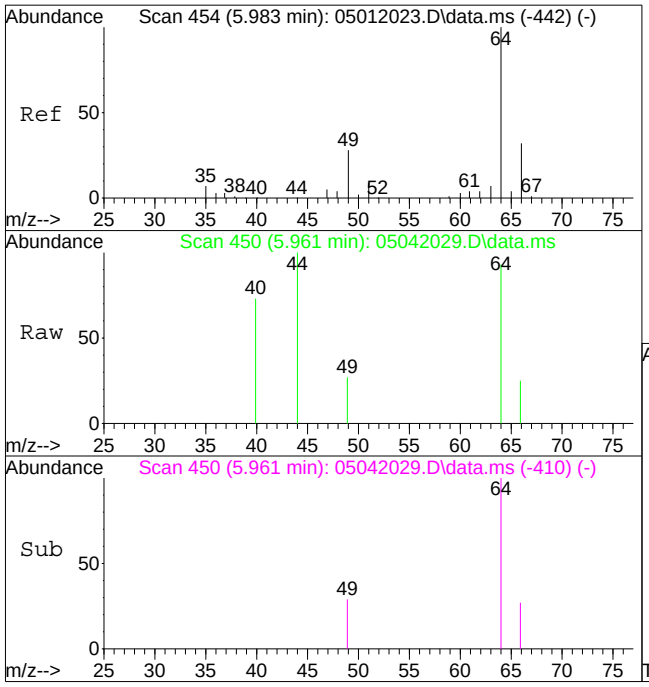


#6
Vinyl Chloride
Concen: 0.05 ng
RT: 4.95 min Scan# 266
Delta R.T. -0.006 min
Lab File: 05042029.D
Acq: 4 May 2020 22:36

Tgt Ion: 62 Resp: 2490

Ion	Ratio	Lower	Upper
62	100		
64	34.9	12.1	52.1

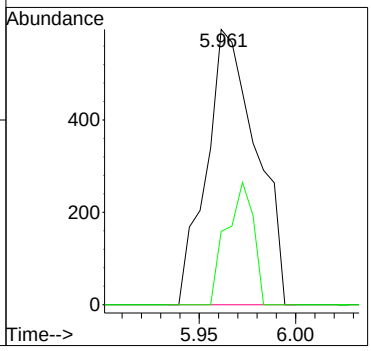


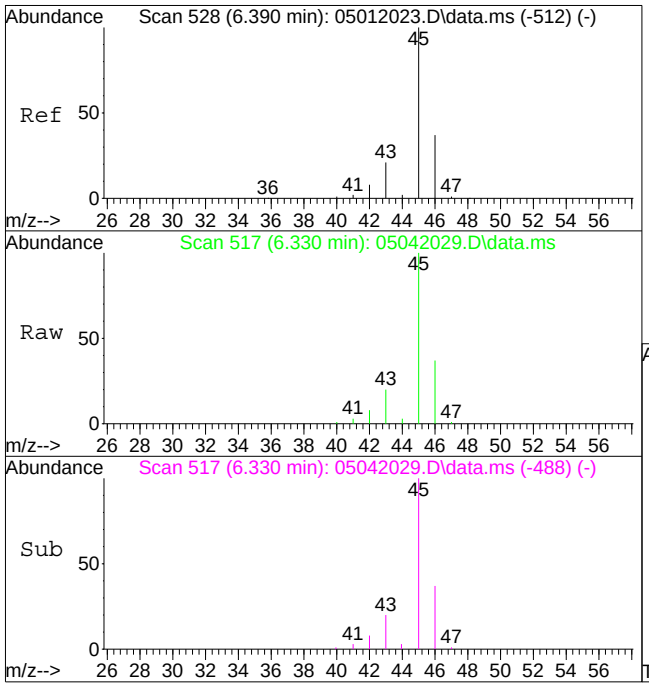


#9
Chloroethane
Concen: 0.06 ng
RT: 5.96 min Scan# 450
Delta R.T. -0.028 min
Lab File: 05042029.D
Acq: 4 May 2020 22:36

Tgt Ion: 64 Resp: 1069

Ion	Ratio	Lower	Upper
64	100		
66	24.3	12.1	52.1

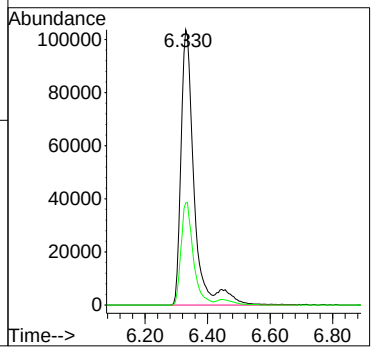


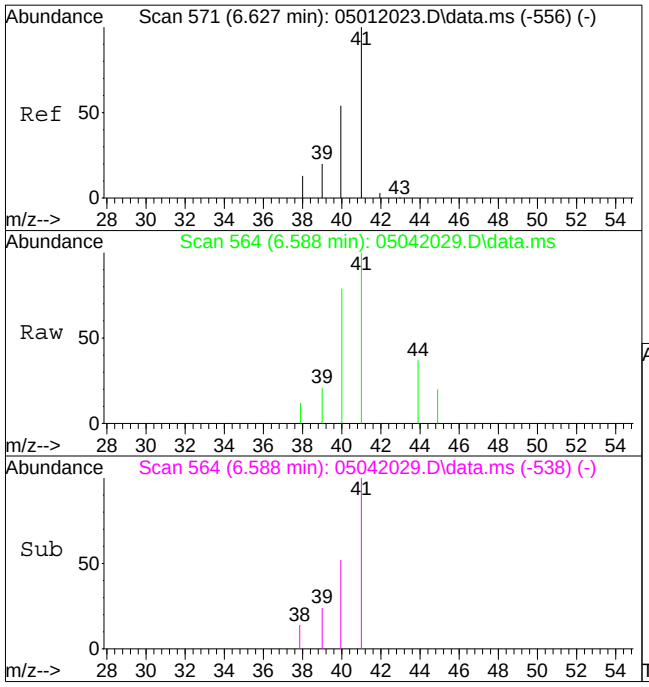


#10
Ethanol
Concen: 13.93 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.088 min
Lab File: 05042029.D
Acq: 4 May 2020 22:36

Tgt Ion: 45 Resp: 305294

Ion	Ratio	Lower	Upper
45	100		
46	37.0	17.2	57.2

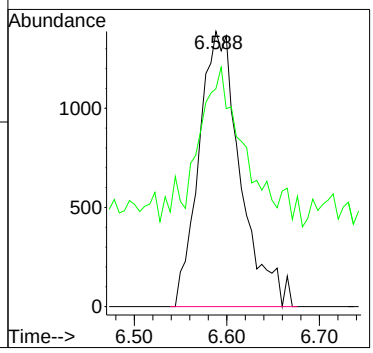


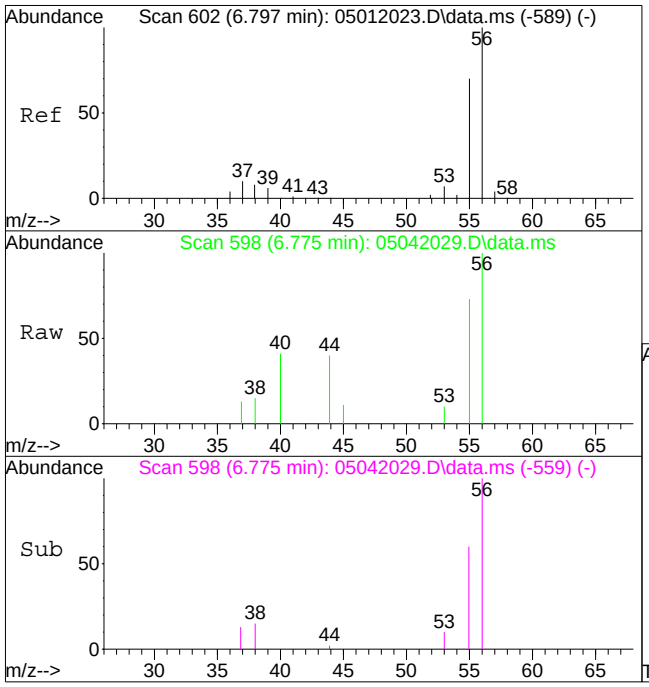


#11
Acetonitrile
Concen: 0.09 ng
RT: 6.59 min Scan# 564
Delta R.T. -0.055 min
Lab File: 05042029.D
Acq: 4 May 2020 22:36

Tgt Ion: 41 Resp: 4317

Ion	Ratio	Lower	Upper
41	100		
40	62.1	33.6	73.6

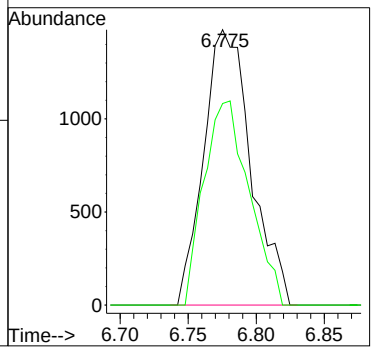


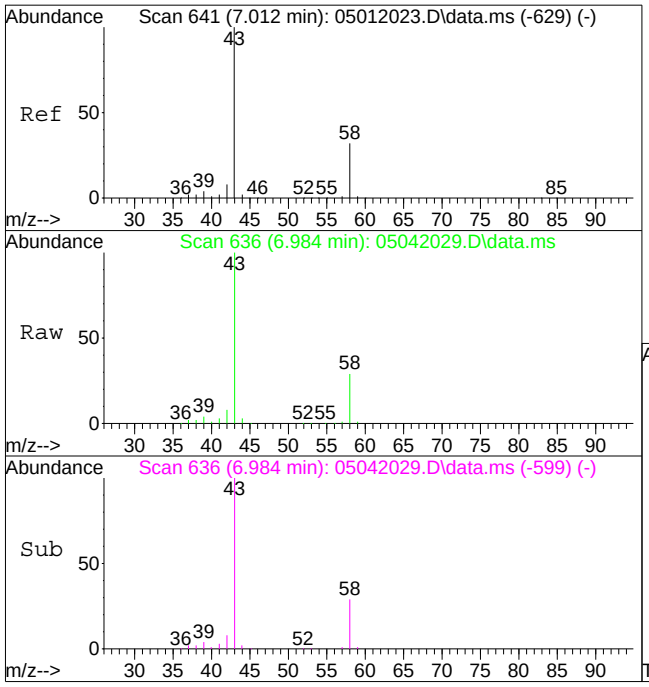


#12
Acrolein
Concen: 0.21 ng
RT: 6.78 min Scan# 598
Delta R.T. -0.033 min
Lab File: 05042029.D
Acq: 4 May 2020 22:36

Tgt Ion: 56 Resp: 3580

Ion	Ratio	Lower	Upper
56	100		
55	70.9	50.2	90.2

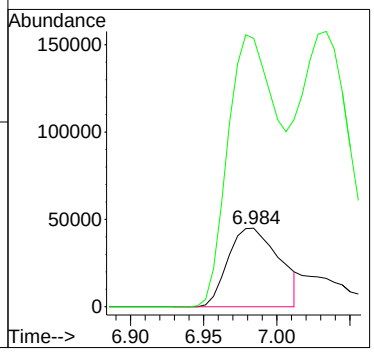


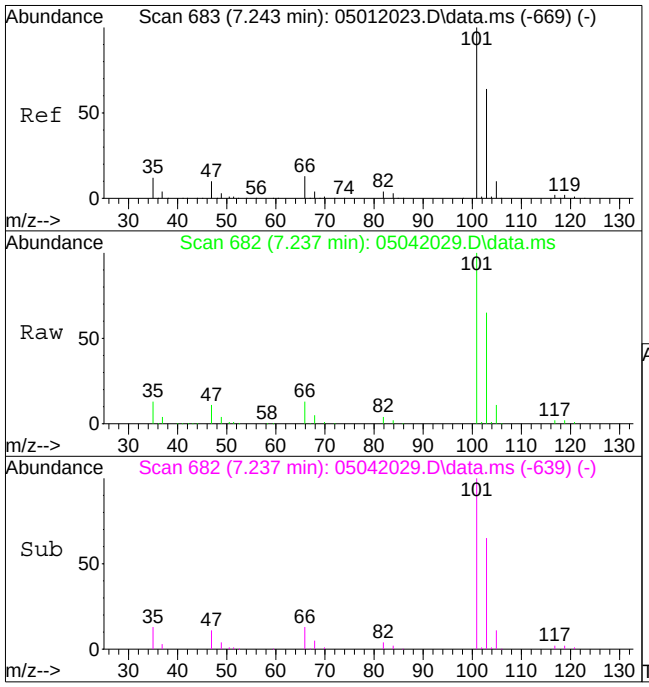


#13
Acetone
Concen: 4.99 ng m
RT: 6.98 min Scan# 636
Delta R.T. -0.044 min
Lab File: 05042029.D
Acq: 4 May 2020 22:36

Tgt Ion: 58 Resp: 109306

Ion	Ratio	Lower	Upper
58	100		
43	334.5	294.4	354.4

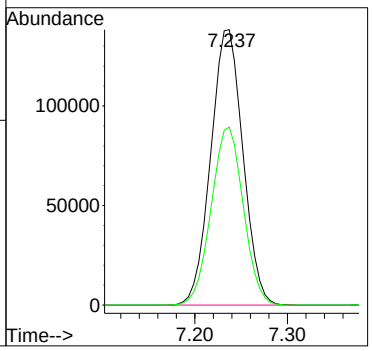


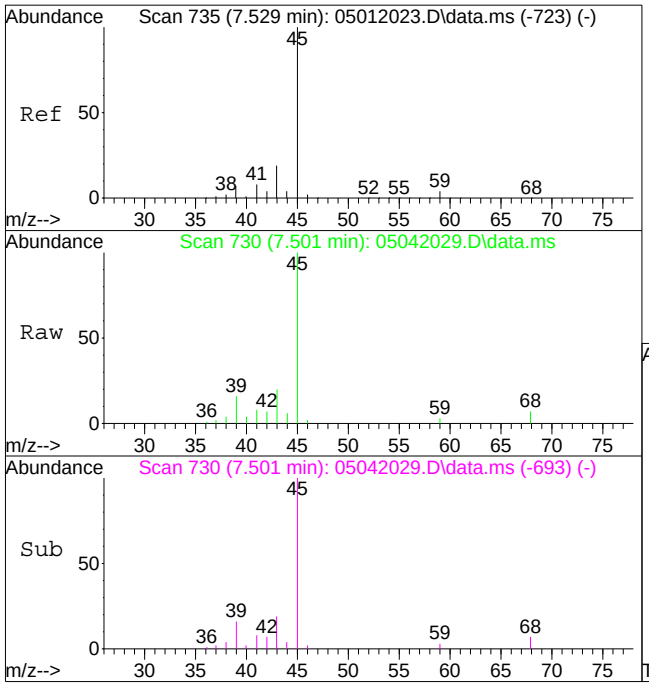


#14
Trichlorofluoromethane
Concen: 6.81 ng
RT: 7.24 min Scan# 682
Delta R.T. -0.011 min
Lab File: 05042029.D
Acq: 4 May 2020 22:36

Tgt Ion:101 Resp: 334180

Ion	Ratio	Lower	Upper
101	100		
103	64.5	44.4	84.4

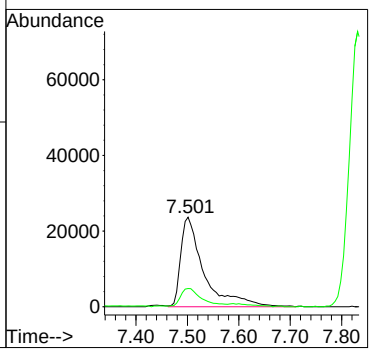


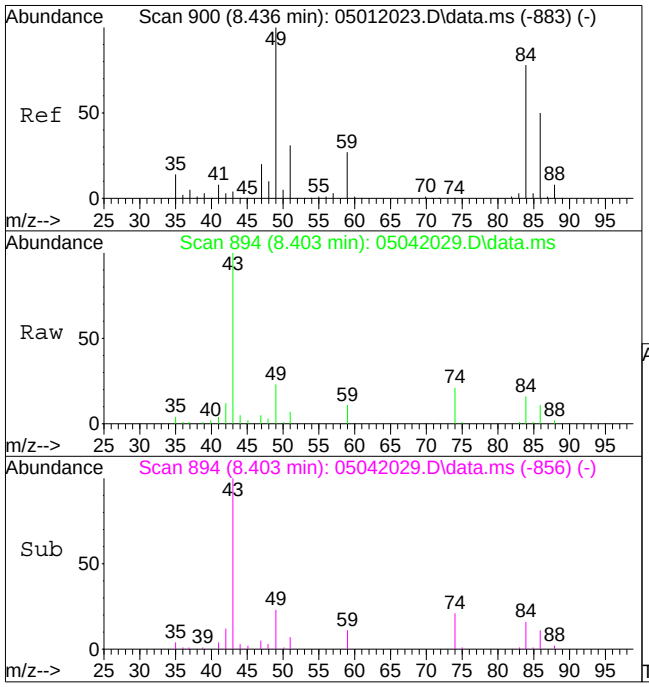


#15
2-Propanol (Isopropanol)
Concen: 1.12 ng
RT: 7.50 min Scan# 730
Delta R.T. -0.044 min
Lab File: 05042029.D
Acq: 4 May 2020 22:36

Tgt Ion: 45 Resp: 74171

Ion	Ratio	Lower	Upper
45	100		
43	22.3	0.0	39.5

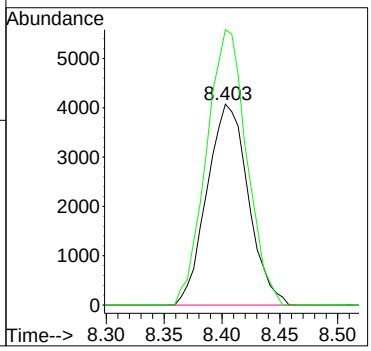


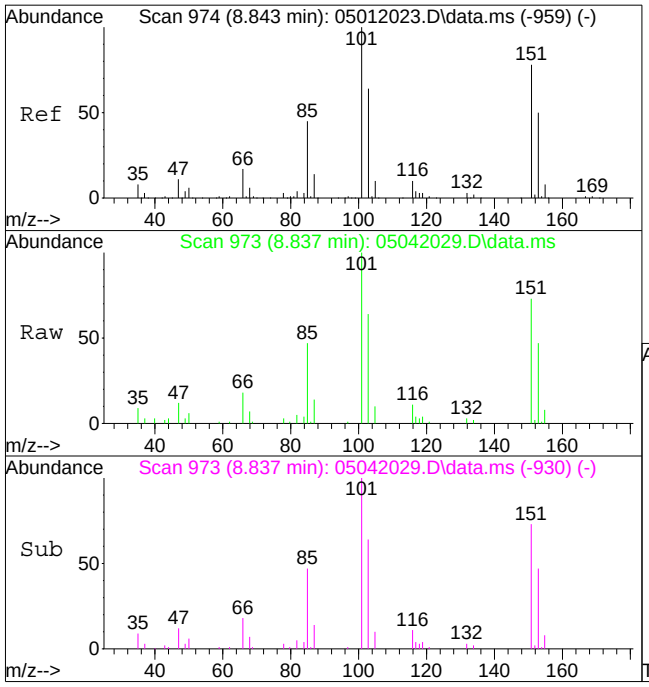


#19
Methylene Chloride
Concen: 0.36 ng
RT: 8.40 min Scan# 894
Delta R.T. -0.039 min
Lab File: 05042029.D
Acq: 4 May 2020 22:36

Tgt Ion: 84 Resp: 10136

Ion	Ratio	Lower	Upper
84	100		
49	133.7	104.8	154.8

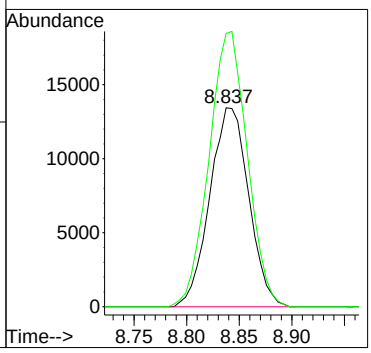


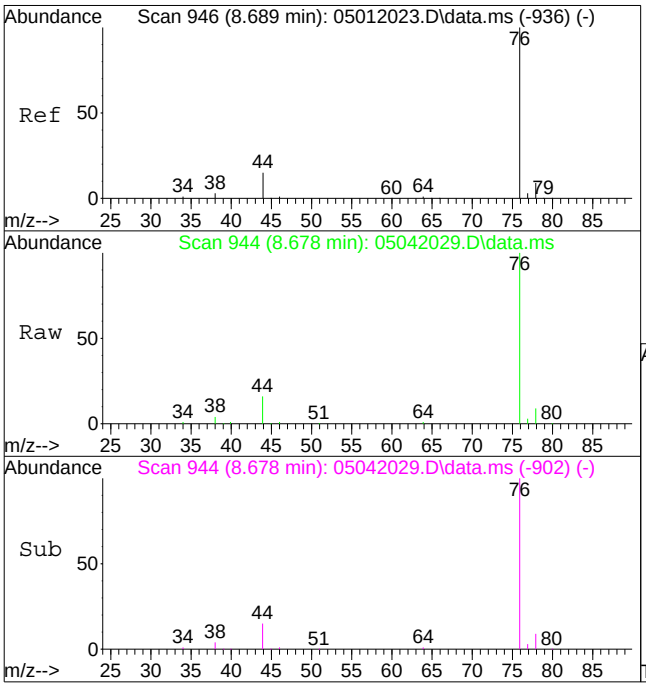


#21
Trichlorotrifluoroethane
Concen: 1.50 ng
RT: 8.84 min Scan# 973
Delta R.T. -0.011 min
Lab File: 05042029.D
Acq: 4 May 2020 22:36

Tgt Ion:151 Resp: 34725

Ion	Ratio	Lower	Upper
151	100		
101	135.8	107.3	147.3

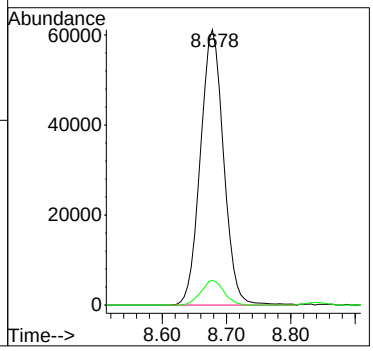


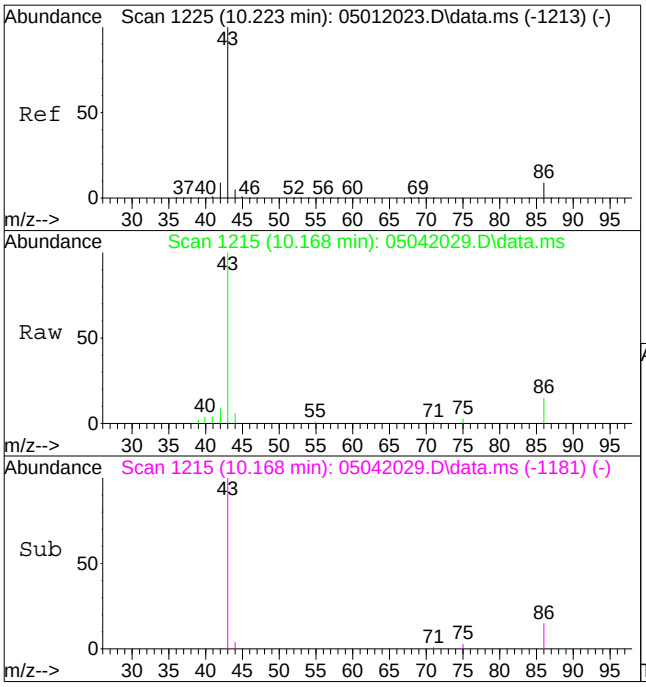


#22
Carbon Disulfide
Concen: 1.50 ng
RT: 8.68 min Scan# 944
Delta R.T. -0.017 min
Lab File: 05042029.D
Acq: 4 May 2020 22:36

Tgt Ion: 76 Resp: 153319

Ion	Ratio	Lower	Upper
76	100		
78	8.8	0.0	29.2

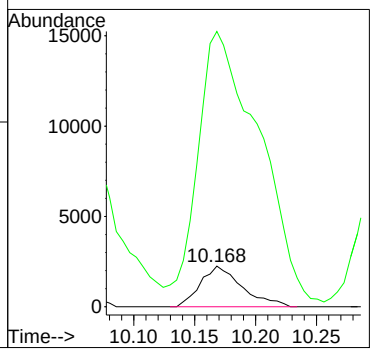


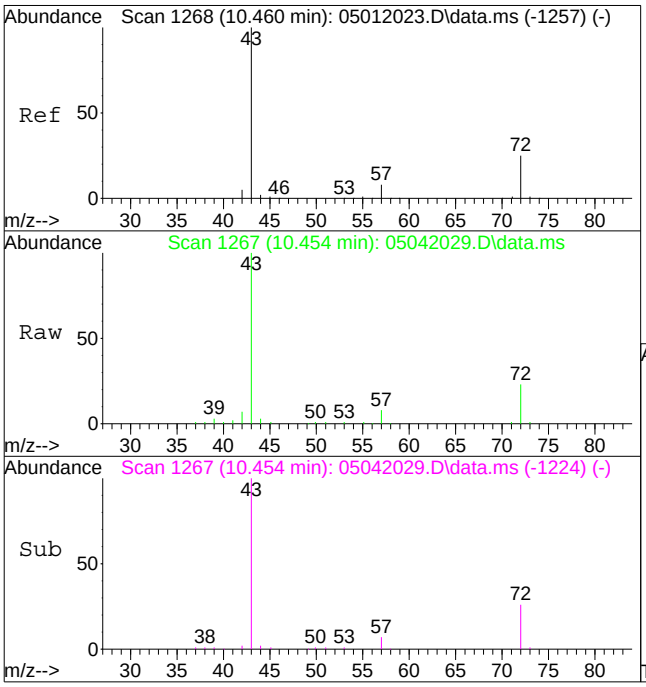


#26
Vinyl Acetate
Concen: 0.78 ng
RT: 10.17 min Scan# 1215
Delta R.T. -0.061 min
Lab File: 05042029.D
Acq: 4 May 2020 22:36

Tgt Ion: 86 Resp: 5327

Ion	Ratio	Lower	Upper
86	100		
43	1016.1	1103.0	1143.0#

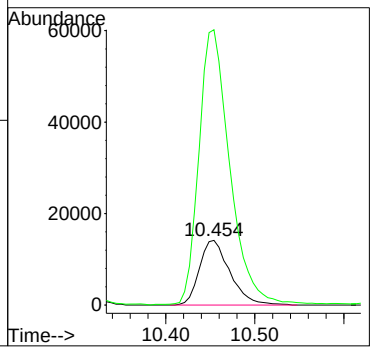


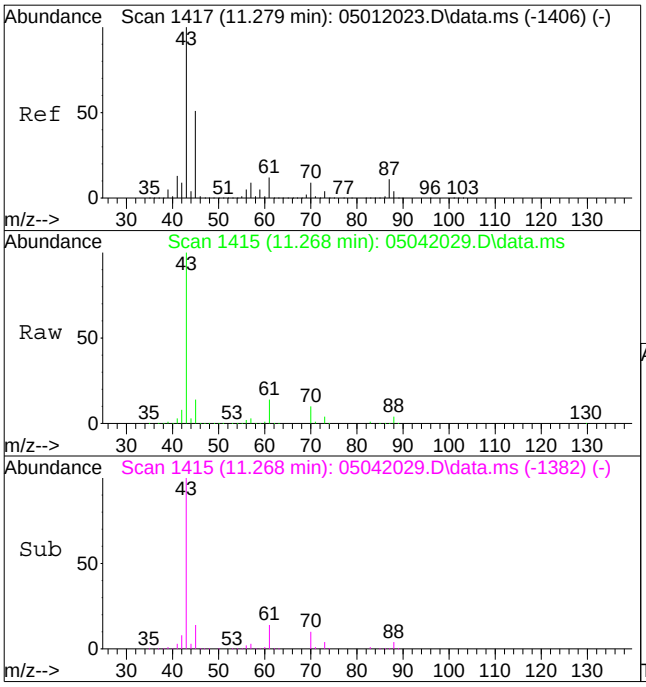


#27
2-Butanone (MEK)
Concen: 1.80 ng
RT: 10.45 min Scan# 1267
Delta R.T. -0.011 min
Lab File: 05042029.D
Acq: 4 May 2020 22:36

Tgt Ion: 72 Resp: 33671

Ion	Ratio	Lower	Upper
72	100		
43	435.8	389.7	429.7#

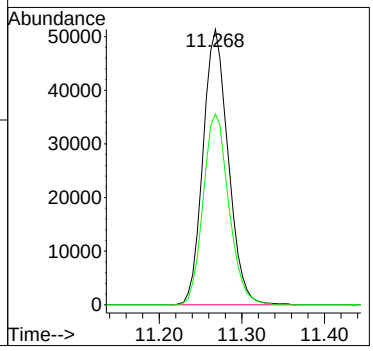


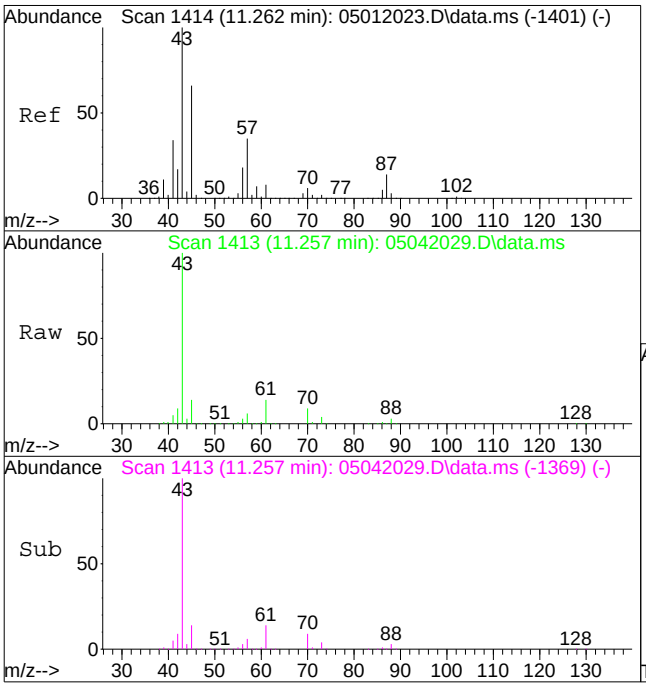


#30
Ethyl Acetate
Concen: 10.07 ng
RT: 11.27 min Scan# 1415
Delta R.T. -0.017 min
Lab File: 05042029.D
Acq: 4 May 2020 22:36

Tgt Ion: 61 Resp: 108541

Ion	Ratio	Lower	Upper
61	100		
70	70.6	57.9	97.9

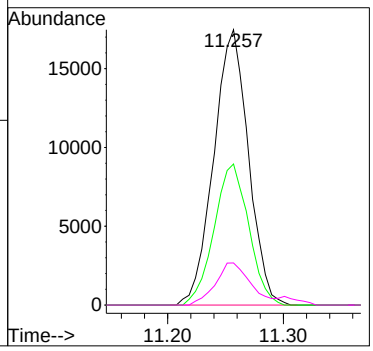


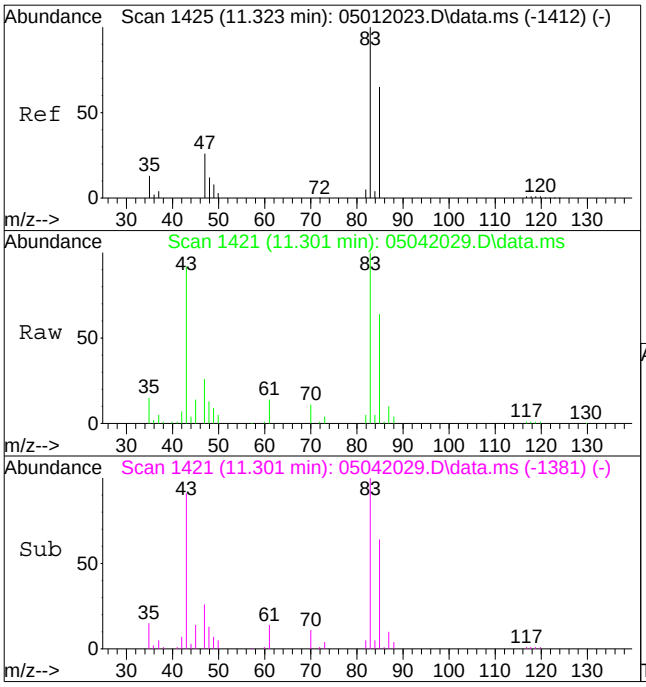


#31
n-Hexane
Concen: 0.78 ng
RT: 11.26 min Scan# 1413
Delta R.T. -0.006 min
Lab File: 05042029.D
Acq: 4 May 2020 22:36

Tgt Ion: 57 Resp: 36456

Ion	Ratio	Lower	Upper
57	100		
56	51.1	41.4	62.0
86	17.2	12.4	18.6

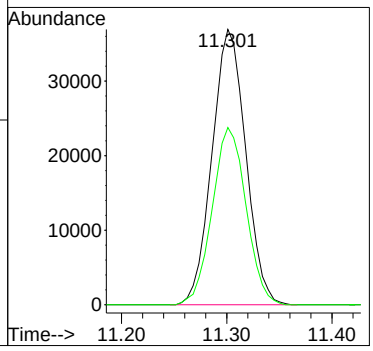


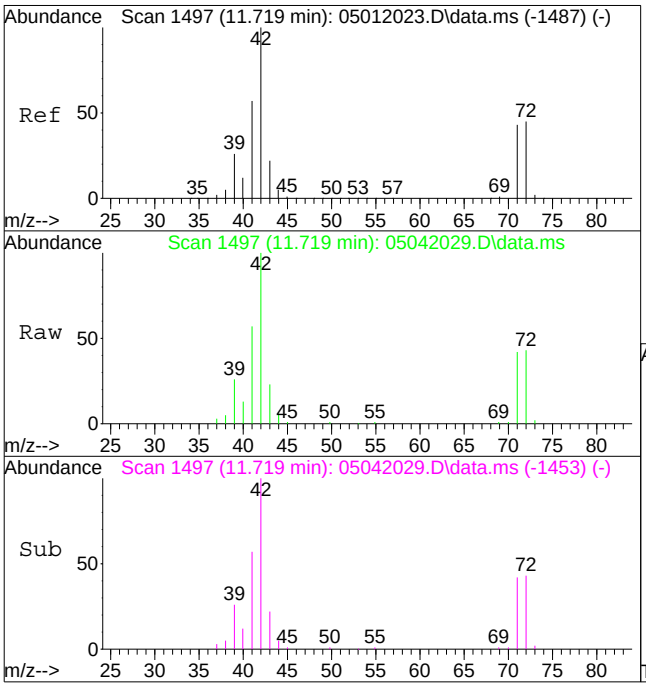


#32
Chloroform
Concen: 1.69 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.028 min
Lab File: 05042029.D
Acq: 4 May 2020 22:36

Tgt Ion: 83 Resp: 82286

Ion	Ratio	Lower	Upper
83	100		
85	64.6	45.5	85.5

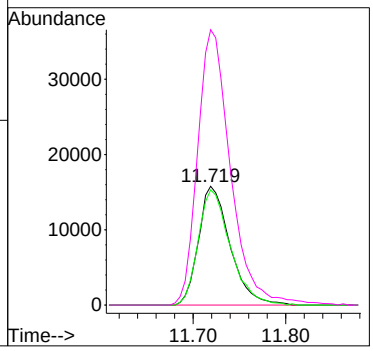


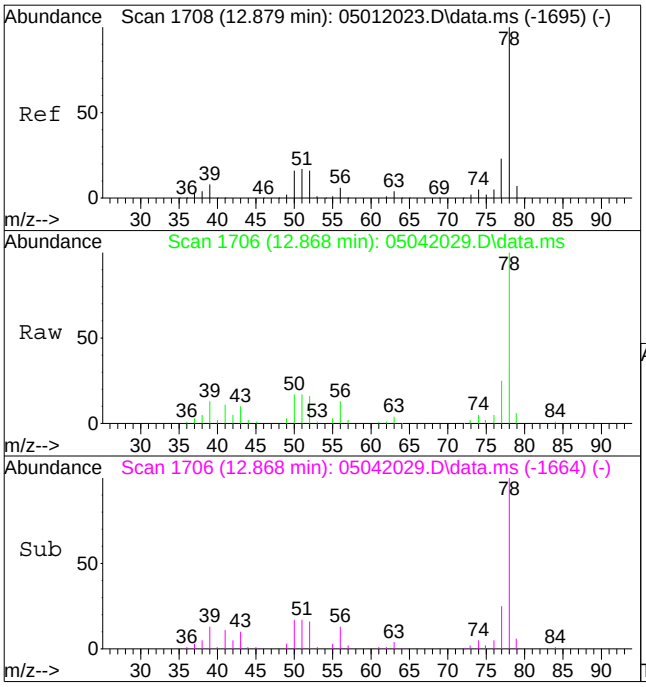


#34
Tetrahydrofuran (THF)
Concen: 2.05 ng
RT: 11.72 min Scan# 1497
Delta R.T. -0.006 min
Lab File: 05042029.D
Acq: 4 May 2020 22:36

Tgt Ion: 72 Resp: 37411

Ion	Ratio	Lower	Upper
72	100		
71	98.5	77.0	117.0
42	242.1	204.6	244.6

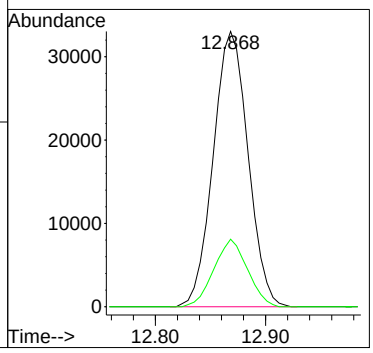


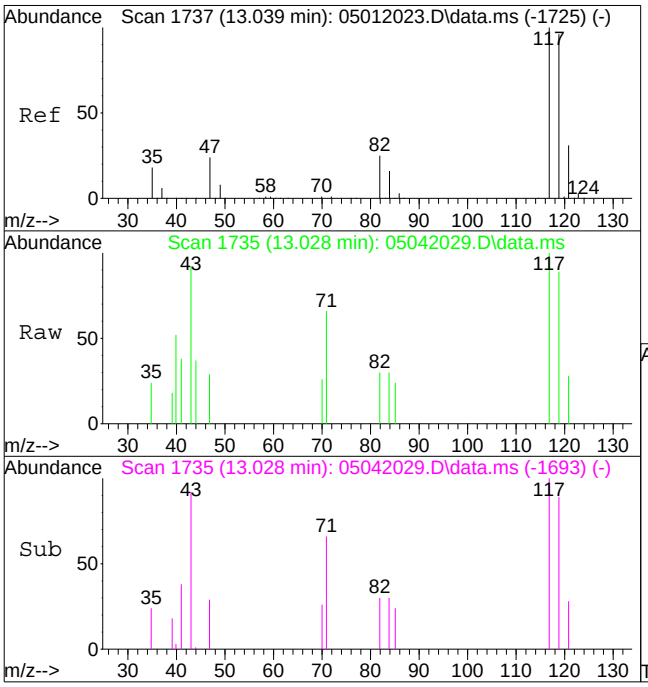


#41
Benzene
Concen: 0.64 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05042029.D
Acq: 4 May 2020 22:36

Tgt Ion: 78 Resp: 72615

Ion	Ratio	Lower	Upper
78	100		
77	23.6	3.4	43.4

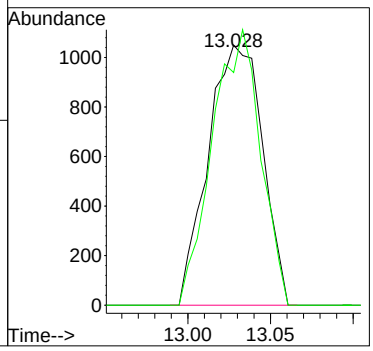


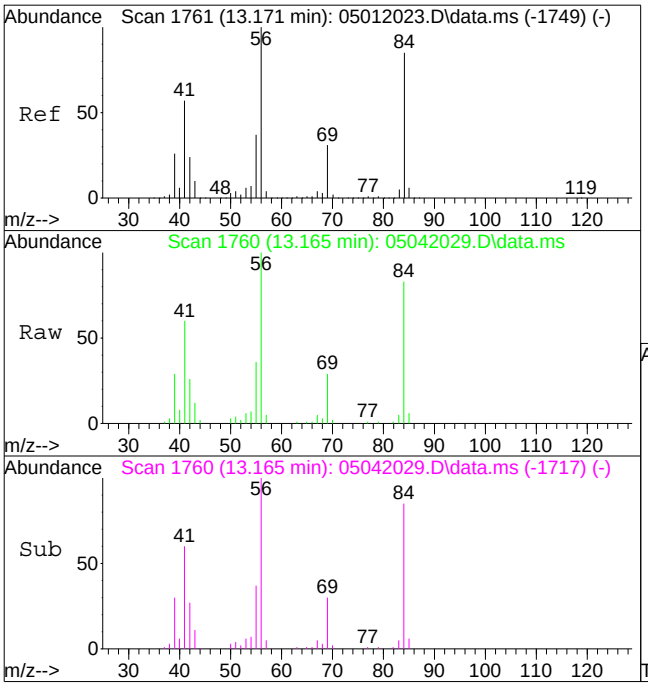


#42
Carbon Tetrachloride
Concen: 0.06 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05042029.D
Acq: 4 May 2020 22:36

Tgt Ion:117 Resp: 2400

Ion	Ratio	Lower	Upper
117	100		
119	94.0	76.2	116.2

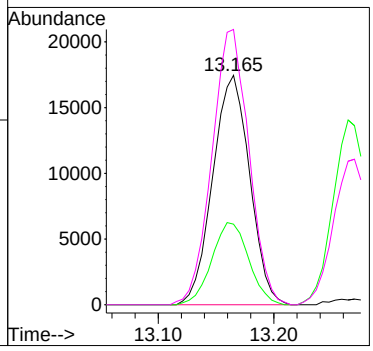


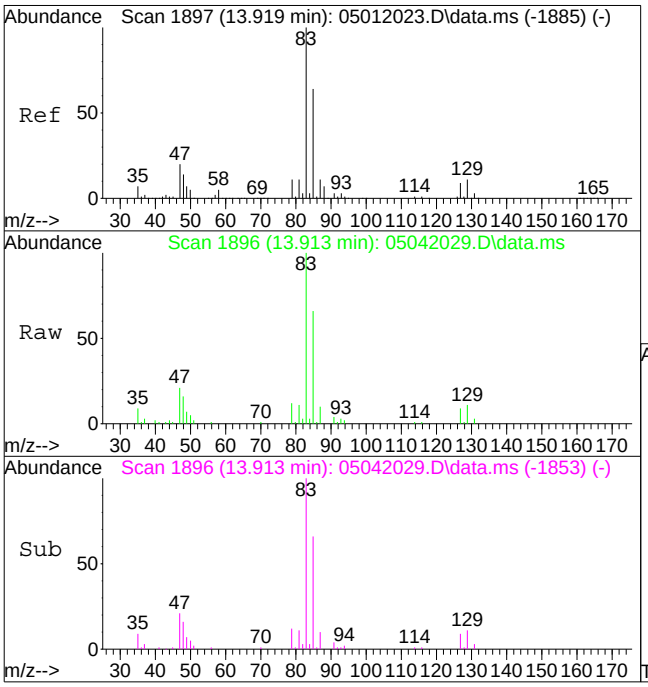


#43
Cyclohexane
Concen: 0.92 ng
RT: 13.17 min Scan# 1760
Delta R.T. -0.011 min
Lab File: 05042029.D
Acq: 4 May 2020 22:36

Tgt Ion: 84 Resp: 38802

Ion	Ratio	Lower	Upper
84	100		
69	35.8	16.5	56.5
56	120.2	97.4	137.4

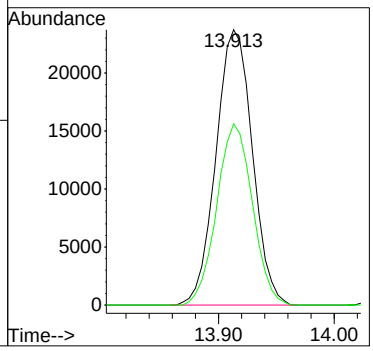


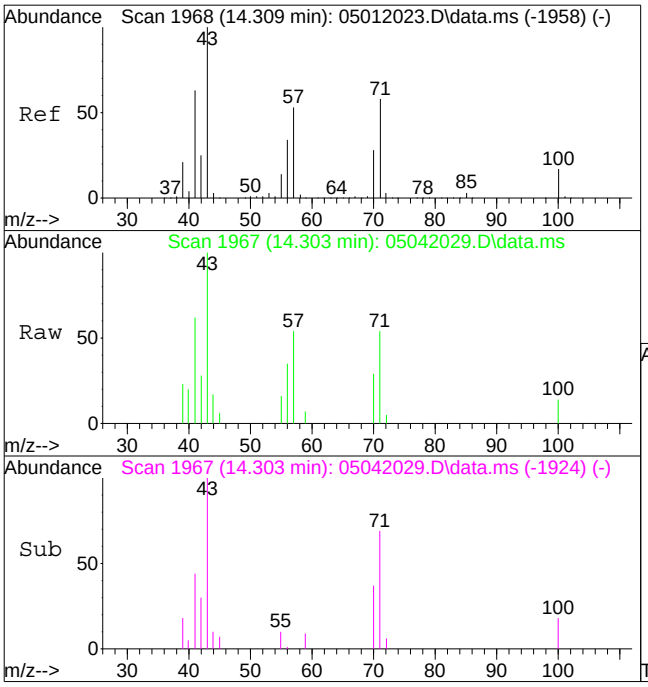


#46
Bromodichloromethane
Concen: 1.36 ng
RT: 13.91 min Scan# 1896
Delta R.T. -0.011 min
Lab File: 05042029.D
Acq: 4 May 2020 22:36

Tgt Ion: 83 Resp: 52030

Ion	Ratio	Lower	Upper
83	100		
85	64.4	44.4	84.4

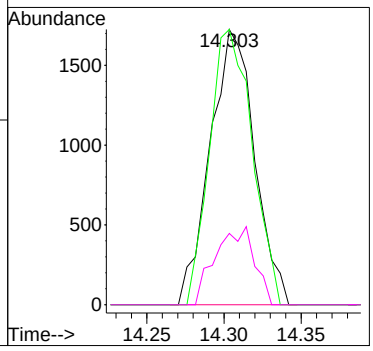


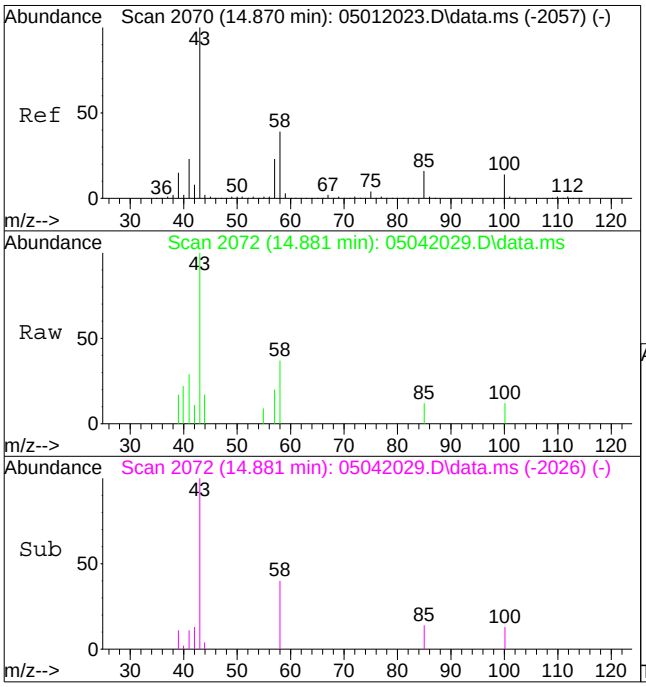


#51
n-Heptane
Concen: 0.13 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05042029.D
Acq: 4 May 2020 22:36

Tgt Ion: 71 Resp: 3454

Ion	Ratio	Lower	Upper
71	100		
57	96.0	71.0	111.0
100	24.9	8.4	48.4

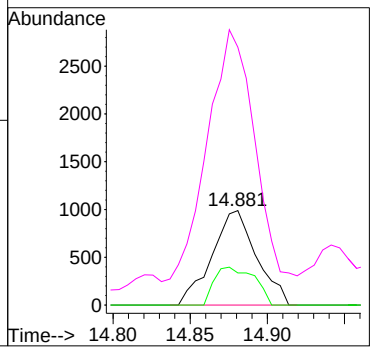


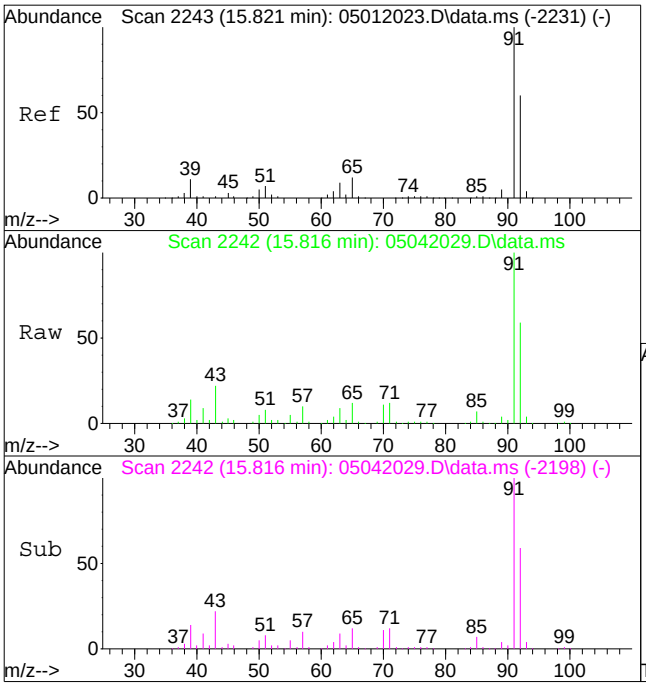


#53
4-Methyl-2-pentanone
Concen: 0.08 ng
RT: 14.88 min Scan# 2072
Delta R.T. 0.005 min
Lab File: 05042029.D
Acq: 4 May 2020 22:36

Tgt Ion: 58 Resp: 1991

Ion	Ratio	Lower	Upper
58	100		
85	35.9	35.4	53.2
43	343.8	203.3	304.9#

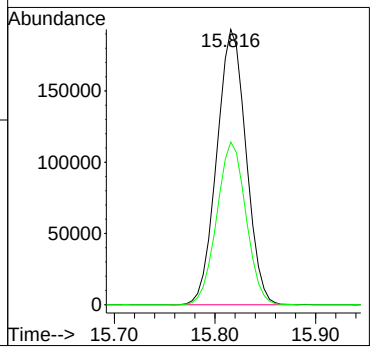


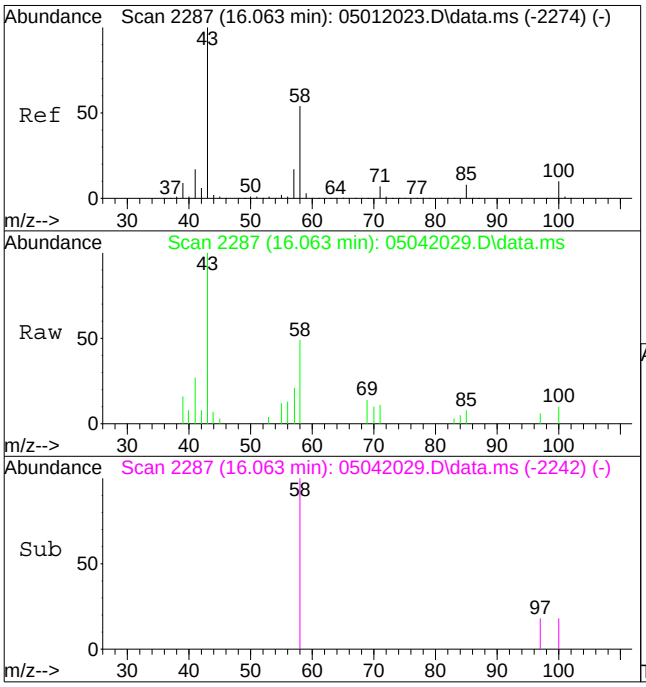


#58
Toluene
Concen: 3.35 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05042029.D
Acq: 4 May 2020 22:36

Tgt Ion: 91 Resp: 389786

Ion	Ratio	Lower	Upper
91	100		
92	58.8	39.4	79.4

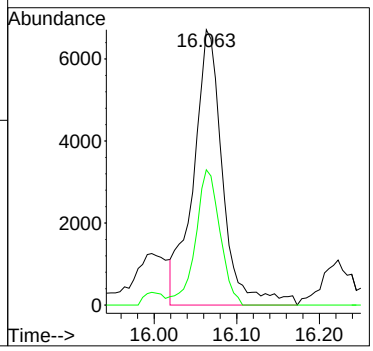


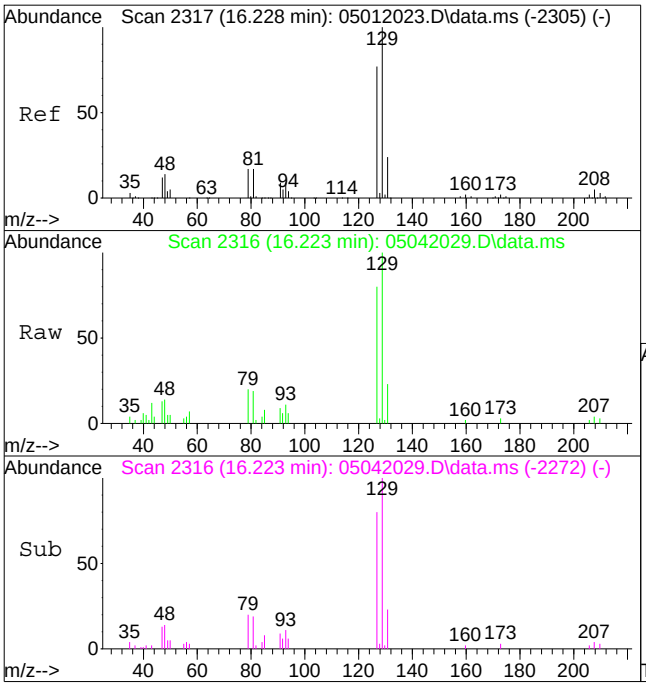


#59
2-Hexanone
Concen: 0.26 ng
RT: 16.06 min Scan# 2287
Delta R.T. -0.000 min
Lab File: 05042029.D
Acq: 4 May 2020 22:36

Tgt Ion: 43 Resp: 16566

Ion	Ratio	Lower	Upper
43	100		
58	40.6	34.5	74.5

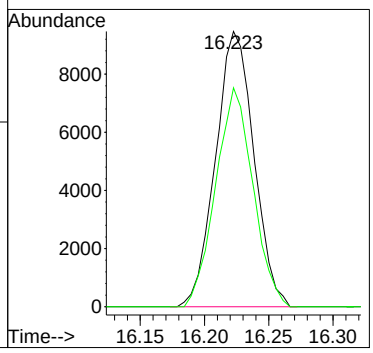


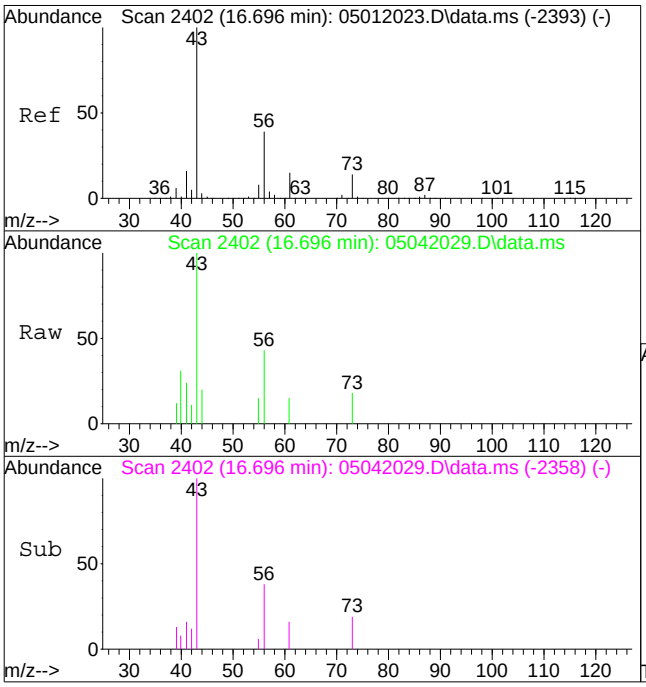


#60
Dibromochloromethane
Concen: 0.59 ng
RT: 16.22 min Scan# 2316
Delta R.T. -0.006 min
Lab File: 05042029.D
Acq: 4 May 2020 22:36

Tgt Ion:129 Resp: 19627

Ion	Ratio	Lower	Upper
129	100		
127	77.4	57.3	97.3

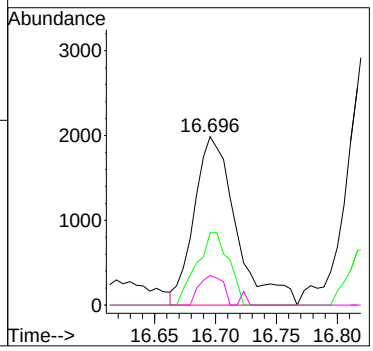


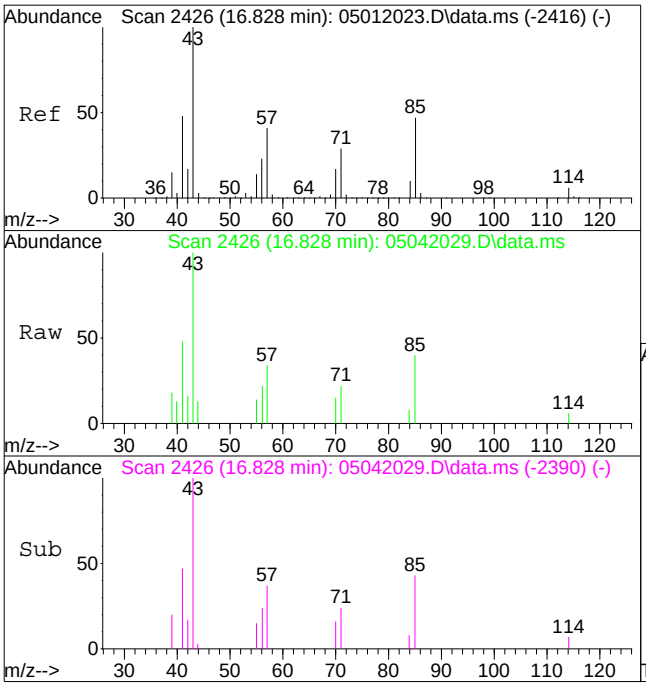


#62
n-Butyl Acetate
Concen: 0.07 ng
RT: 16.70 min Scan# 2402
Delta R.T. -0.006 min
Lab File: 05042029.D
Acq: 4 May 2020 22:36

Tgt Ion: 43 Resp: 4765

Ion	Ratio	Lower	Upper
43	100		
56	32.8	19.2	59.2
73	9.9	0.0	34.4

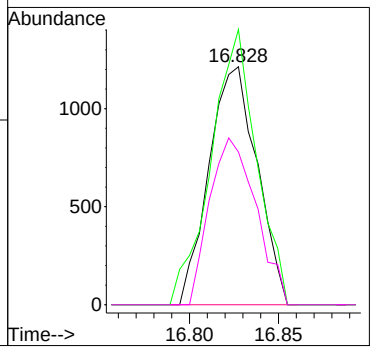


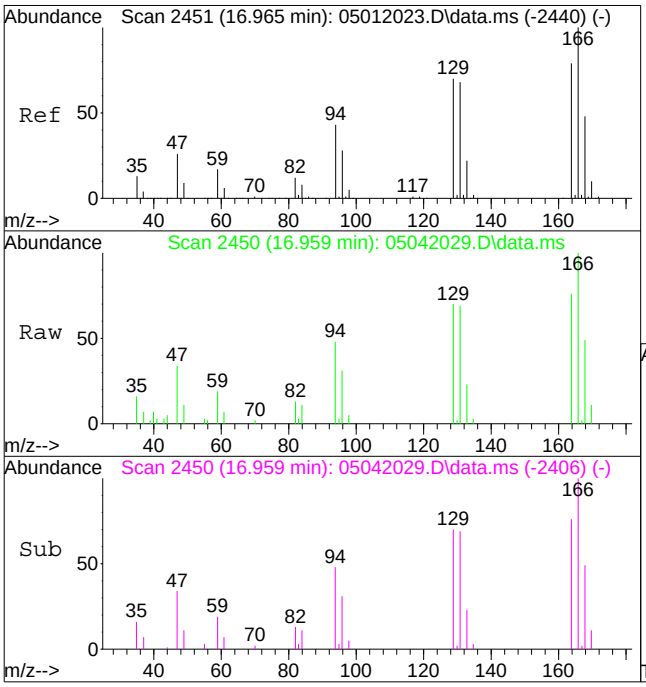


#63
n-Octane
Concen: 0.09 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05042029.D
Acq: 4 May 2020 22:36

Tgt Ion: 57 Resp: 2284

Ion	Ratio	Lower	Upper
57	100		
85	109.2	91.0	136.4
71	67.4	56.2	84.2

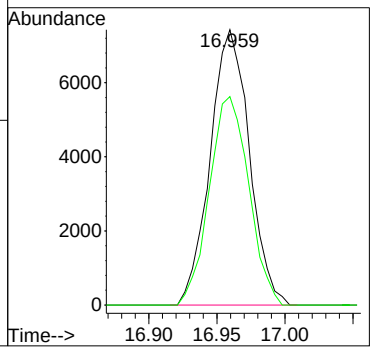


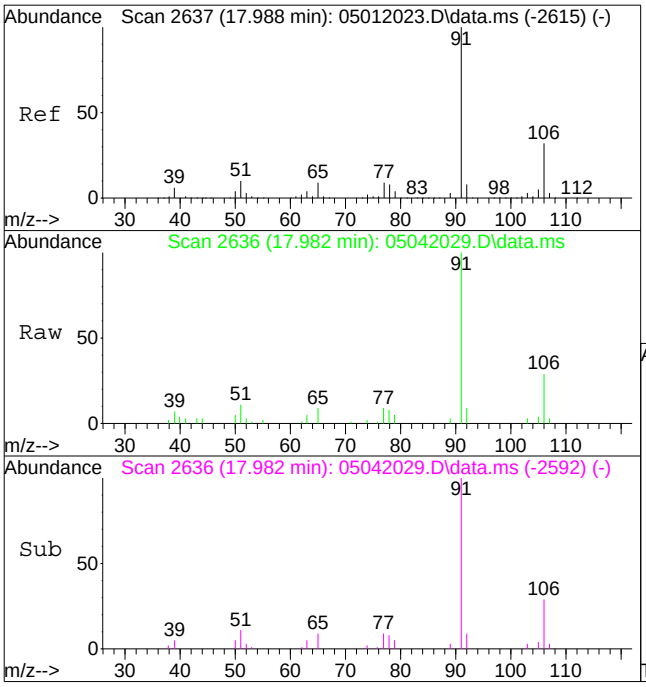


#64
Tetrachloroethene
Concen: 0.45 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05042029.D
Acq: 4 May 2020 22:36

Tgt Ion:166 Resp: 14843

Ion	Ratio	Lower	Upper
166	100		
164	76.3	58.4	98.4

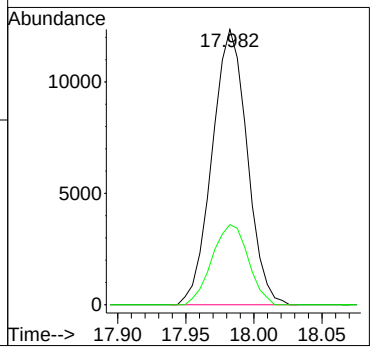


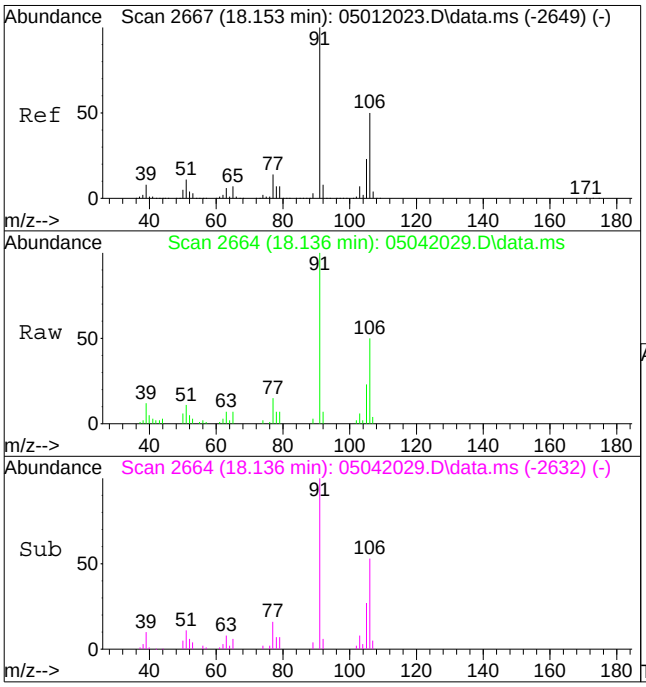


#66
Ethylbenzene
Concen: 0.17 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05042029.D
Acq: 4 May 2020 22:36

Tgt Ion: 91 Resp: 22098

Ion	Ratio	Lower	Upper
91	100		
106	30.1	11.6	51.6

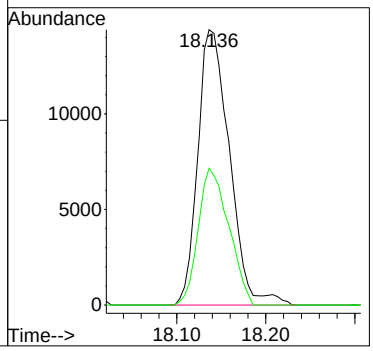


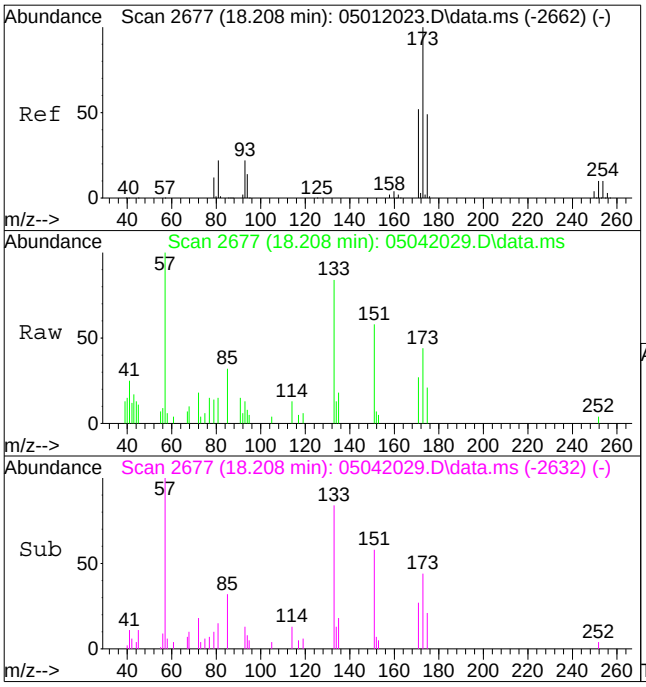


#67
m- & p-Xylenes
Concen: 0.35 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05042029.D
Acq: 4 May 2020 22:36

Tgt Ion: 91 Resp: 35577

Ion	Ratio	Lower	Upper
91	100		
106	47.9	29.7	69.7

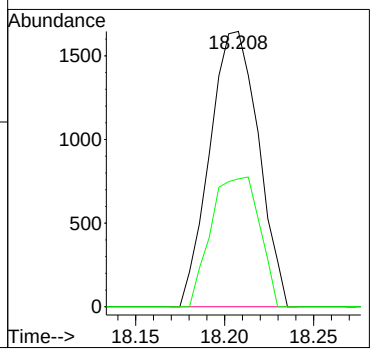


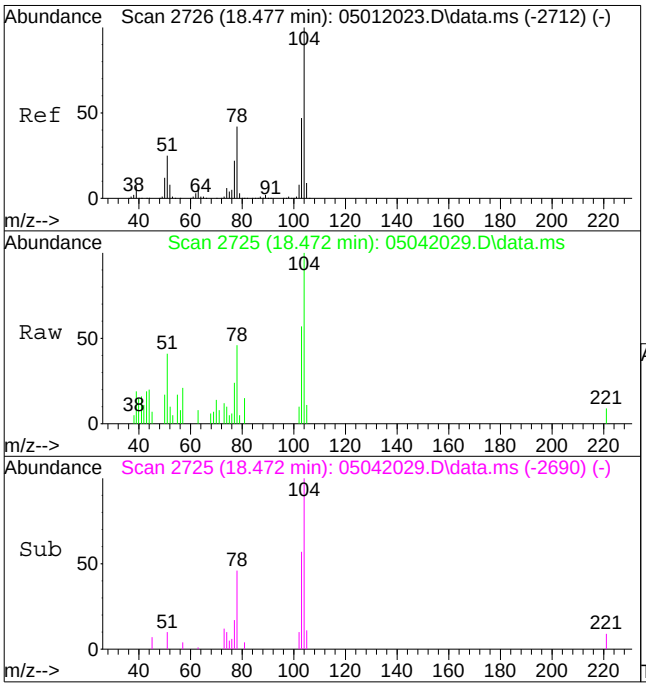


#68
Bromoform
Concen: 0.11 ng
RT: 18.21 min Scan# 2677
Delta R.T. -0.005 min
Lab File: 05042029.D
Acq: 4 May 2020 22:36

Tgt Ion:173 Resp: 3136

Ion	Ratio	Lower	Upper
173	100		
175	46.9	29.0	69.0

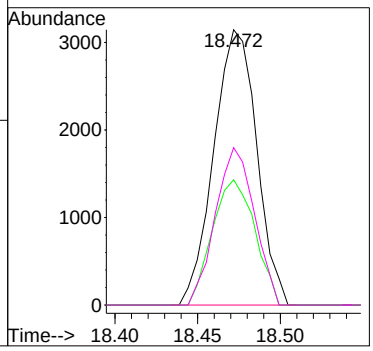


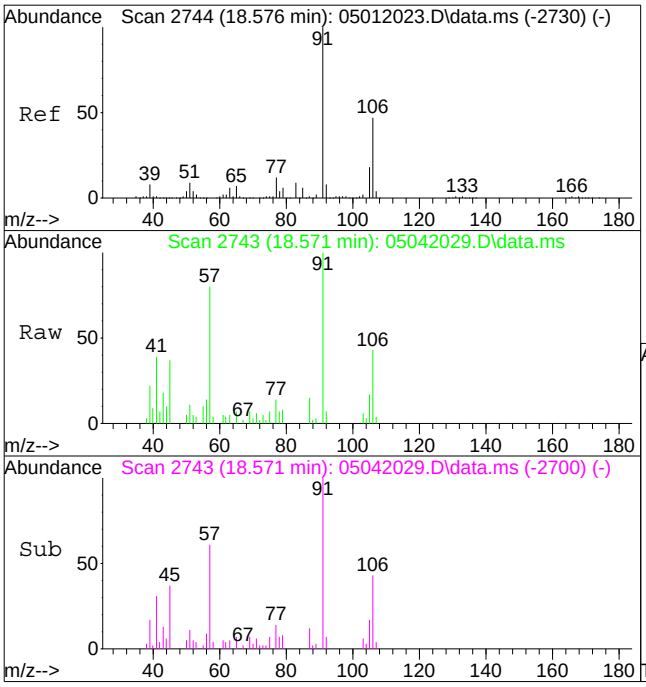


#69
Styrene
Concen: 0.07 ng
RT: 18.47 min Scan# 2725
Delta R.T. -0.006 min
Lab File: 05042029.D
Acq: 4 May 2020 22:36

Tgt Ion:104 Resp: 5684

Ion	Ratio	Lower	Upper
104	100		
78	45.0	22.5	62.5
103	51.9	27.0	67.0

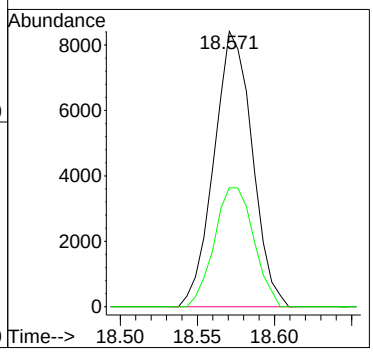


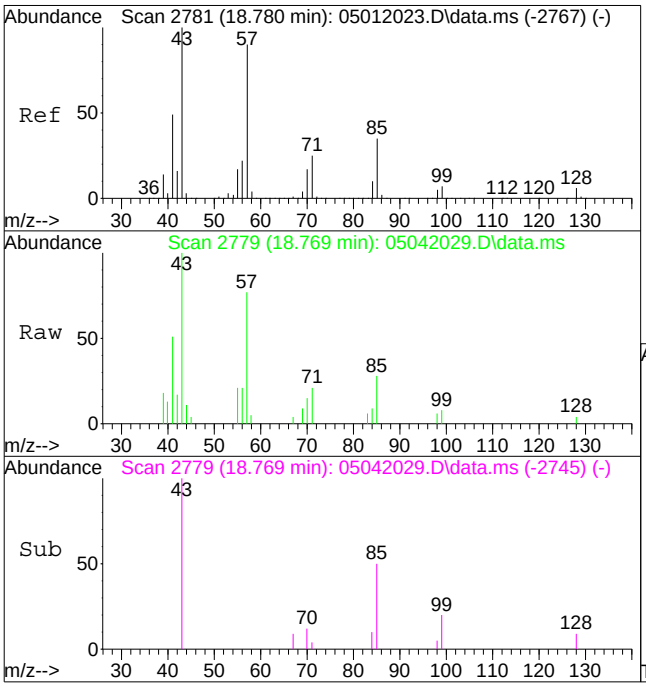


#70
o-Xylene
Concen: 0.14 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05042029.D
Acq: 4 May 2020 22:36

Tgt Ion: 91 Resp: 14511

Ion	Ratio	Lower	Upper
91	100		
106	44.6	27.5	67.5

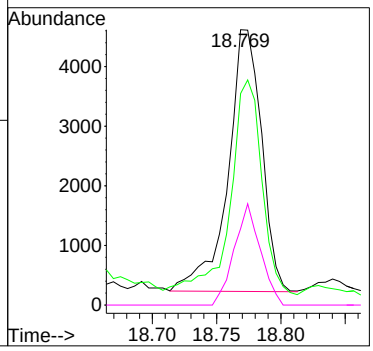


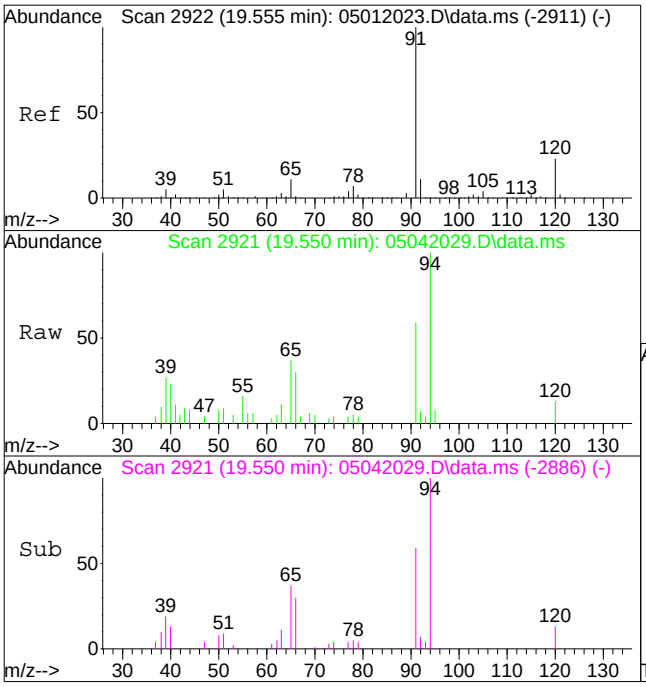


#71
n-Nonane
Concen: 0.14 ng
RT: 18.77 min Scan# 2779
Delta R.T. -0.011 min
Lab File: 05042029.D
Acq: 4 May 2020 22:36

Tgt Ion: 43 Resp: 8009

Ion	Ratio	Lower	Upper
43	100		
57	77.6	69.0	109.0
85	29.9	14.6	54.6

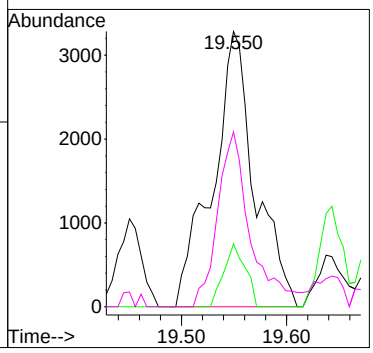


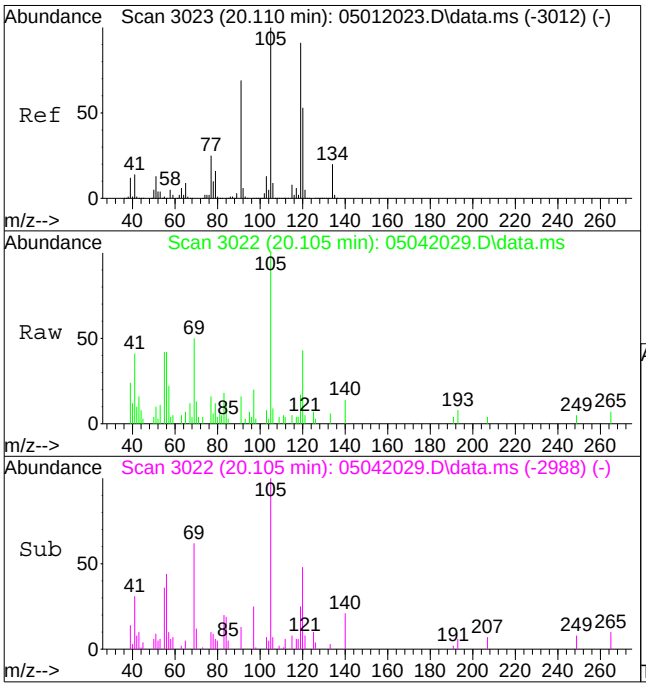


#76
n-Propylbenzene
Concen: 0.06 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05042029.D
Acq: 4 May 2020 22:36

Tgt Ion: 91 Resp: 9178

Ion	Ratio	Lower	Upper
91	100		
120	11.7	3.1	43.1
65	49.0	0.0	30.9#

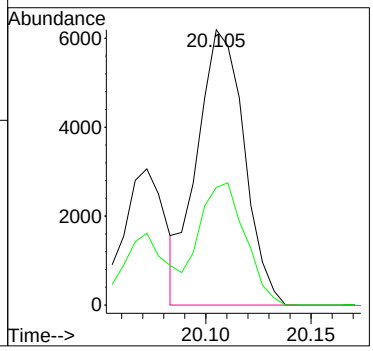


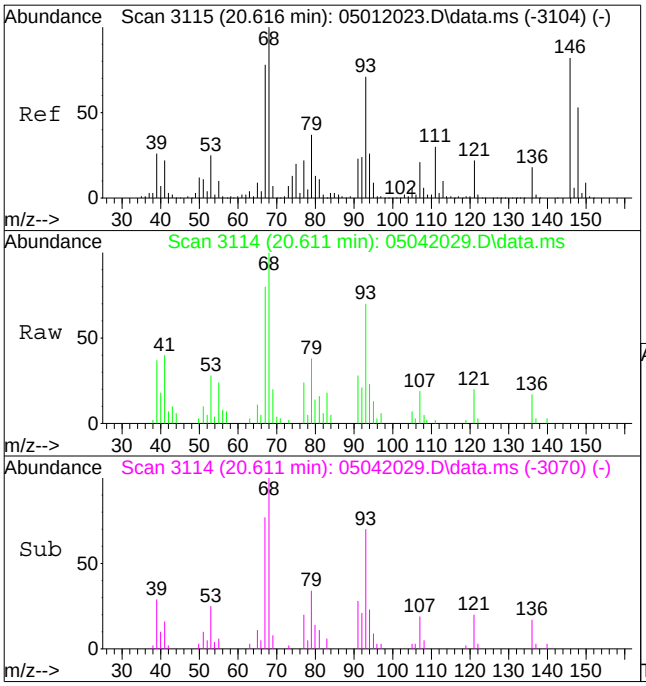


#82
1,2,4-Trimethylbenzene
Concen: 0.09 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05042029.D
Acq: 4 May 2020 22:36

Tgt Ion:105 Resp: 9648

Ion	Ratio	Lower	Upper
105	100		
120	42.9	33.6	73.6

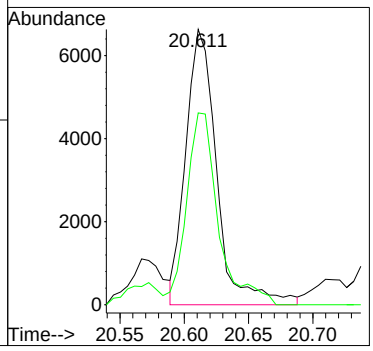




#91
d-Limonene
Concen: 0.27 ng
RT: 20.61 min Scan# 3114
Delta R.T. -0.006 min
Lab File: 05042029.D
Acq: 4 May 2020 22:36

Tgt Ion: 68 Resp: 11106

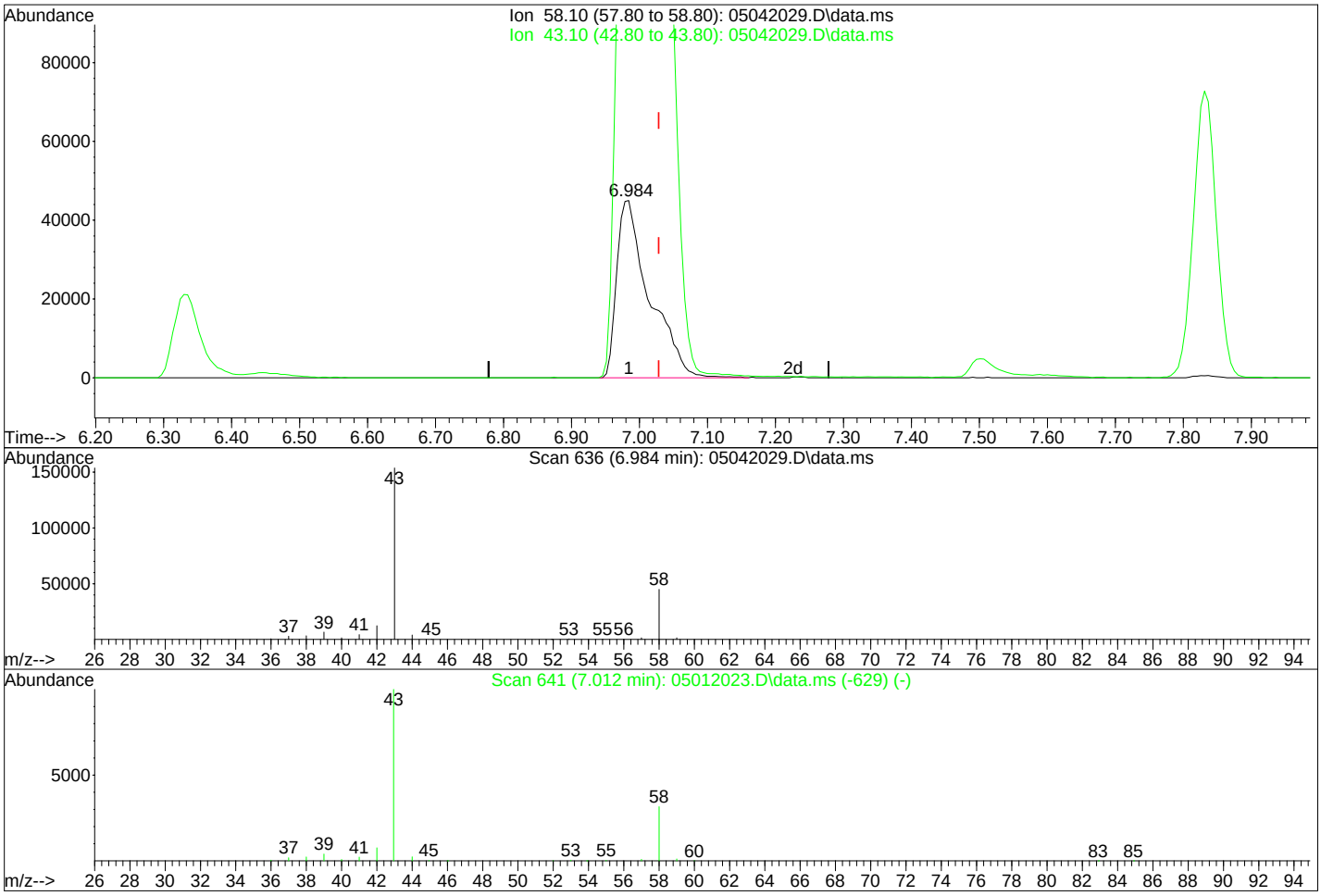
Ion	Ratio	Lower	Upper
68	100		
93	71.0	51.1	91.1



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\04\05042029.D Vial: 15
Acq On : 4 May 2020 22:36 Operator: TD
Sample : P2002105-013 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 05 07:10:55 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05042029.D\data.ms

(13) Acetone (T)

6.984min (-0.044) 6.89ng

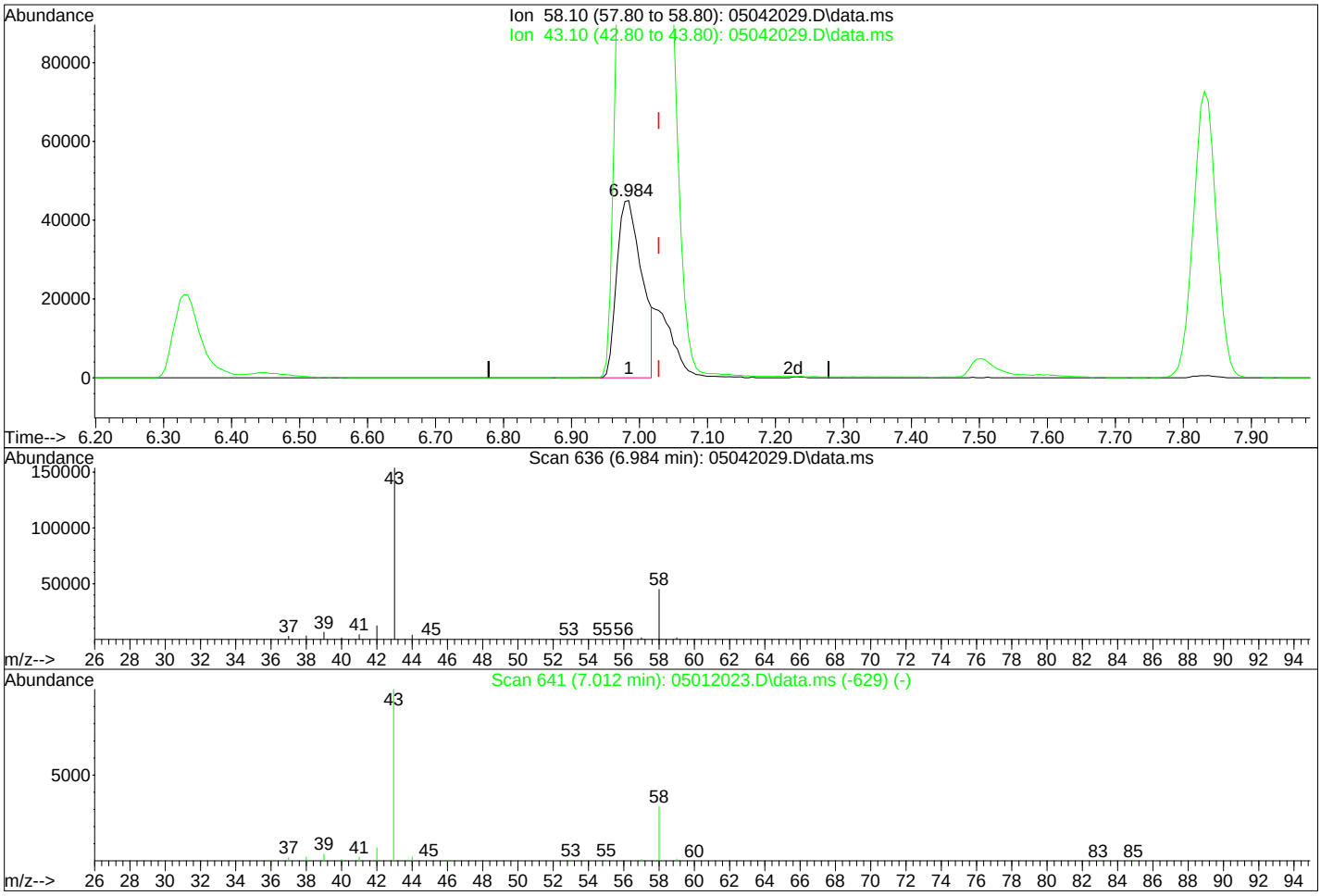
response 151014

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	242.09#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\04\05042029.D Vial: 15
Acq On : 4 May 2020 22:36 Operator: TD
Sample : P2002105-013 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 05 07:10:55 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05042029.D\data.ms

(13) Acetone (T)

6.984min (-0.044) 4.99ng m

response 115207

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	317.34
0.00	0.00	0.00
0.00	0.00	0.00

IPC

LH 5/6/20

5/7/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042030.D Vial: 16
Acq On : 4 May 2020 23:10 Operator: TD
Sample : P2002105-014 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 14:54:44 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/6/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	271908	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.28	114	1142174	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	567392	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	503327	13.659	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.28%				
57) Toluene-d8 (SS2)	15.72	98	1169809	12.164	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.28%				
73) Bromofluorobenzene (SS3)	18.98	174	469016	13.553	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.40%				
Target Compounds							Qvalue
2) Propene	4.09	42	87252	2.771	ng		100
3) Dichlorodifluoromethan...	4.25	85	1562215	25.362	ng		100
4) Chloromethane	4.53	50	2112	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	50081	1.361	ng		100
6) Vinyl Chloride	4.80	62	278	N.D.			
7) 1,3-Butadiene	5.21	54	10826	0.247	ng		96
8) Bromomethane	5.65	94	692	N.D.			
9) Chloroethane	5.98	64	700	N.D.			
10) Ethanol	6.37	45	657984	27.058	ng		100
11) Acetonitrile	6.63	41	1523287	27.412	ng		100
12) Acrolein	6.82	56	32833	1.709	ng		98
13) Acetone	7.02	58	3252096	133.726	ng		97
14) Trichlorofluoromethane	7.24	101	153691	2.823	ng		100
15) 2-Propanol (Isopropanol)	7.51	45	582144	7.909	ng		99
16) Acrylonitrile	7.79	53	38698	0.973	ng		99
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.44	84	2387	0.076	ng		83
20) 3-Chloro-1-propene (Al...	8.66	41	543	N.D.			
21) Trichlorotrifluoroethane	8.85	151	156508	6.090	ng		97
22) Carbon Disulfide	8.68	76	3482110	30.739	ng		100
23) trans-1,2-Dichloroethene	9.70	61	1373	N.D.			
24) 1,1-Dichloroethane	10.14	63	1812	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	d		
26) Vinyl Acetate	10.18	86	307837	40.638	ng	#	10
27) 2-Butanone (MEK)	10.46	72	320364	15.447	ng		98
28) cis-1,2-Dichloroethene	10.99	61	476	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	0.00	57	0	N.D.	d		
32) Chloroform	11.32	83	31179	0.576	ng		98
34) Tetrahydrofuran (THF)	11.93	72	103	N.D.			
35) Ethyl tert-Butyl Ether	11.87	87	516	N.D.			
36) 1,2-Dichloroethane	12.12	62	116	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.88	78	29308	0.239	ng		96
42) Carbon Tetrachloride	13.03	117	84298	2.023	ng		99
43) Cyclohexane	13.17	84	3905	0.086	ng	#	60
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.	d		
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	13.92	83	1510	N.D.			
47) Trichloroethene	13.97	130	451	N.D.			
48) 1,4-Dioxane	13.96	88	78419	3.179	ng		85
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.18	100	9631	0.793	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042030.D Vial: 16
Acq On : 4 May 2020 23:10 Operator: TD
Sample : P2002105-014 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 14:54:44 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

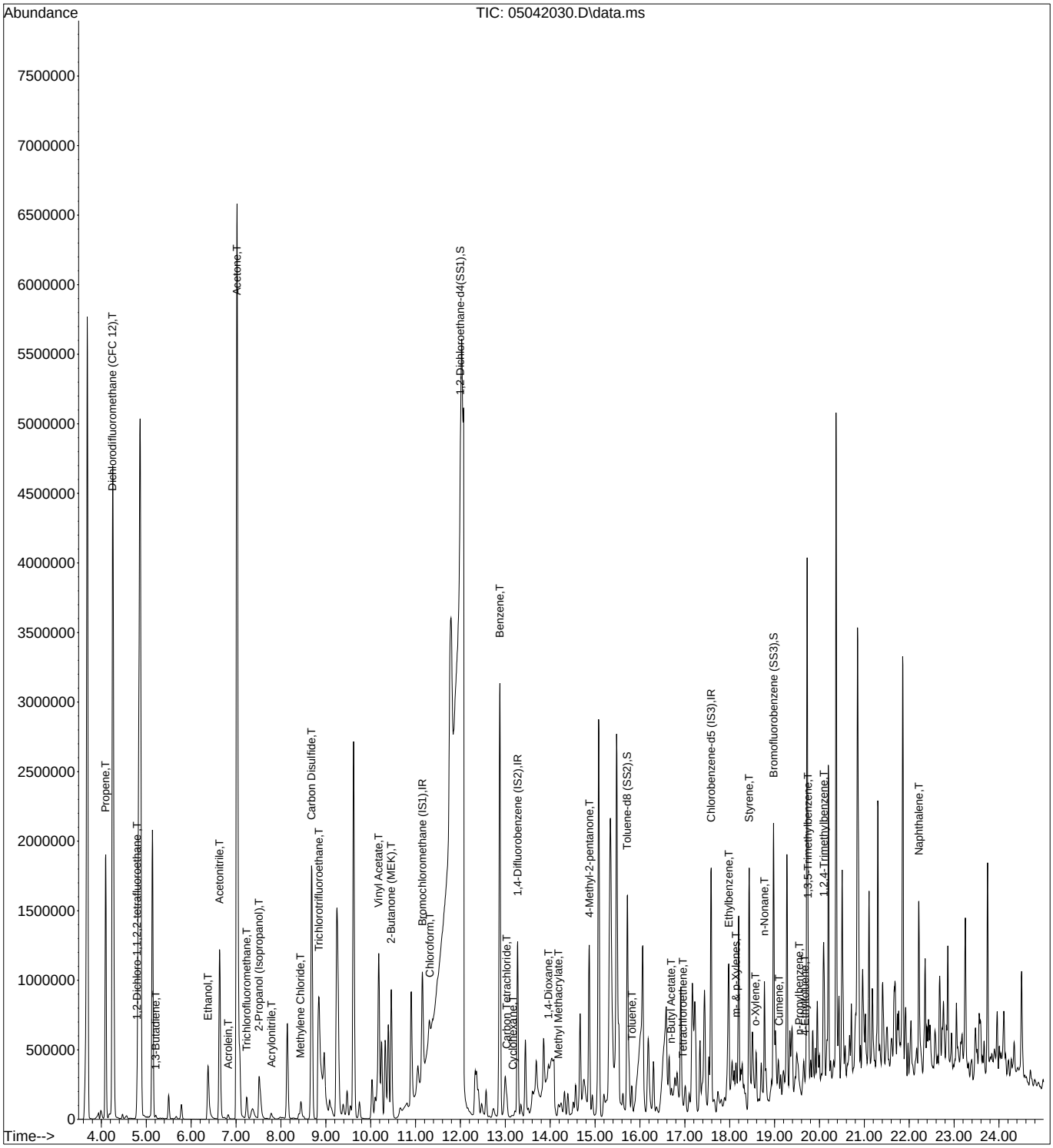
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	0.00	71	0	N.D. d		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d		
53) 4-Methyl-2-pentanone	14.88	58	194211	7.113 ng	#	67
54) trans-1,3-Dichloropropene	0.00	75	0	N.D. d		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d		
58) Toluene	15.82	91	161712	1.304 ng		100
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.70	43	59889	0.816 ng	#	78
63) n-Octane	0.00	57	0	N.D. d		
64) Tetrachloroethene	16.96	166	2899	0.083 ng		94
65) Chlorobenzene	17.66	112	2804	N.D.		
66) Ethylbenzene	17.98	91	27663	0.200 ng	#	1
67) m- & p-Xylenes	18.14	91	150710	1.374 ng		98
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.43	104	9052	0.110 ng	#	1
70) o-Xylene	18.58	91	48559	0.436 ng		94
71) n-Nonane	18.77	43	306973	5.197 ng		95
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d		
74) Cumene	19.10	105	8429	0.062 ng	#	1
75) alpha-Pinene	19.44	93	144	N.D.		
76) n-Propylbenzene	19.55	91	46844	0.289 ng		89
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.68	105	10405	0.081 ng		97
79) 1,3,5-Trimethylbenzene	19.75	105	58527	0.525 ng		71
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	20.09	105	163432	1.459 ng	#	56
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.20	91	1348	N.D.		
85) 1,3-Dichlorobenzene	20.25	146	822	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	186	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D. d		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	20.61	146	654	N.D.		
91) d-Limonene	0.00	68	0	N.D. d		
92) 1,2-Dibromo-3-Chloropr...	21.04	157	272	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.11	180	329	N.D.		
95) Naphthalene	22.22	128	22802m	0.167 ng		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042030.D Vial: 16
Acq On : 4 May 2020 23:10 Operator: TD
Sample : P2002105-014 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 14:54:44 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

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Acq On : 4 May 2020 23:10 Operator: TD
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QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/6/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	271908	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.28	114	1142174	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	567392	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	503327	13.659	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.28%				
57) Toluene-d8 (SS2)	15.72	98	1169809	12.164	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.28%				
73) Bromofluorobenzene (SS3)	18.98	174	469016	13.553	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.40%				
Target Compounds							Qvalue
2) Propene	4.09	42	87252	2.771	ng		100
3) Dichlorodifluoromethan...	4.25	85	1562215	25.362	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	50081	1.361	ng		100
7) 1,3-Butadiene	5.21	54	10826	0.247	ng		96
10) Ethanol	6.37	45	657984	27.058	ng		100
11) Acetonitrile	6.63	41	1523287	27.412	ng		100
12) Acrolein	6.82	56	32833	1.709	ng		98
13) Acetone	7.02	58	3252096	133.726	ng		97
14) Trichlorofluoromethane	7.24	101	153691	2.823	ng		100
15) 2-Propanol (Isopropanol)	7.51	45	582144	7.909	ng		99
16) Acrylonitrile	7.79	53	38698	0.973	ng		99
19) Methylene Chloride	8.44	84	2387	0.076	ng		83
21) Trichlorotrifluoroethane	8.85	151	156508	6.090	ng		97
22) Carbon Disulfide	8.68	76	3482110	30.739	ng		100
26) Vinyl Acetate	10.18	86	307837	40.638	ng	#	10
27) 2-Butanone (MEK)	10.46	72	320364	15.447	ng		98
32) Chloroform	11.32	83	31179	0.576	ng		98
41) Benzene	12.88	78	29308	0.239	ng		96
42) Carbon Tetrachloride	13.03	117	84298	2.023	ng		99
43) Cyclohexane	13.17	84	3905	0.086	ng	#	60
48) 1,4-Dioxane	13.96	88	78419	3.179	ng		85
50) Methyl Methacrylate	14.18	100	9631	0.793	ng		98
53) 4-Methyl-2-pentanone	14.88	58	194211	7.113	ng	#	67
58) Toluene	15.82	91	161712	1.304	ng		100
62) n-Butyl Acetate	16.70	43	59889	0.816	ng	#	78
64) Tetrachloroethene	16.96	166	2899	0.083	ng		94
66) Ethylbenzene	17.98	91	27663	0.200	ng	#	1
67) m- & p-Xylenes	18.14	91	150710	1.374	ng		98
69) Styrene	18.43	104	9052	0.110	ng	#	1
70) o-Xylene	18.58	91	48559	0.436	ng		94
71) n-Nonane	18.77	43	306973	5.197	ng		95
74) Cumene	19.10	105	8429	0.062	ng	#	1
76) n-Propylbenzene	19.55	91	46844	0.289	ng		89
78) 4-Ethyltoluene	19.68	105	10405	0.081	ng		97
79) 1,3,5-Trimethylbenzene	19.75	105	58527	0.525	ng		71
82) 1,2,4-Trimethylbenzene	20.09	105	163432	1.459	ng	#	56
95) Naphthalene	22.22	128	22802m	0.167	ng		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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Acq On : 4 May 2020 23:10 Operator: TD
Sample : P2002105-014 (400mL) Inst : GCMS-16
Misc : S31-02112001

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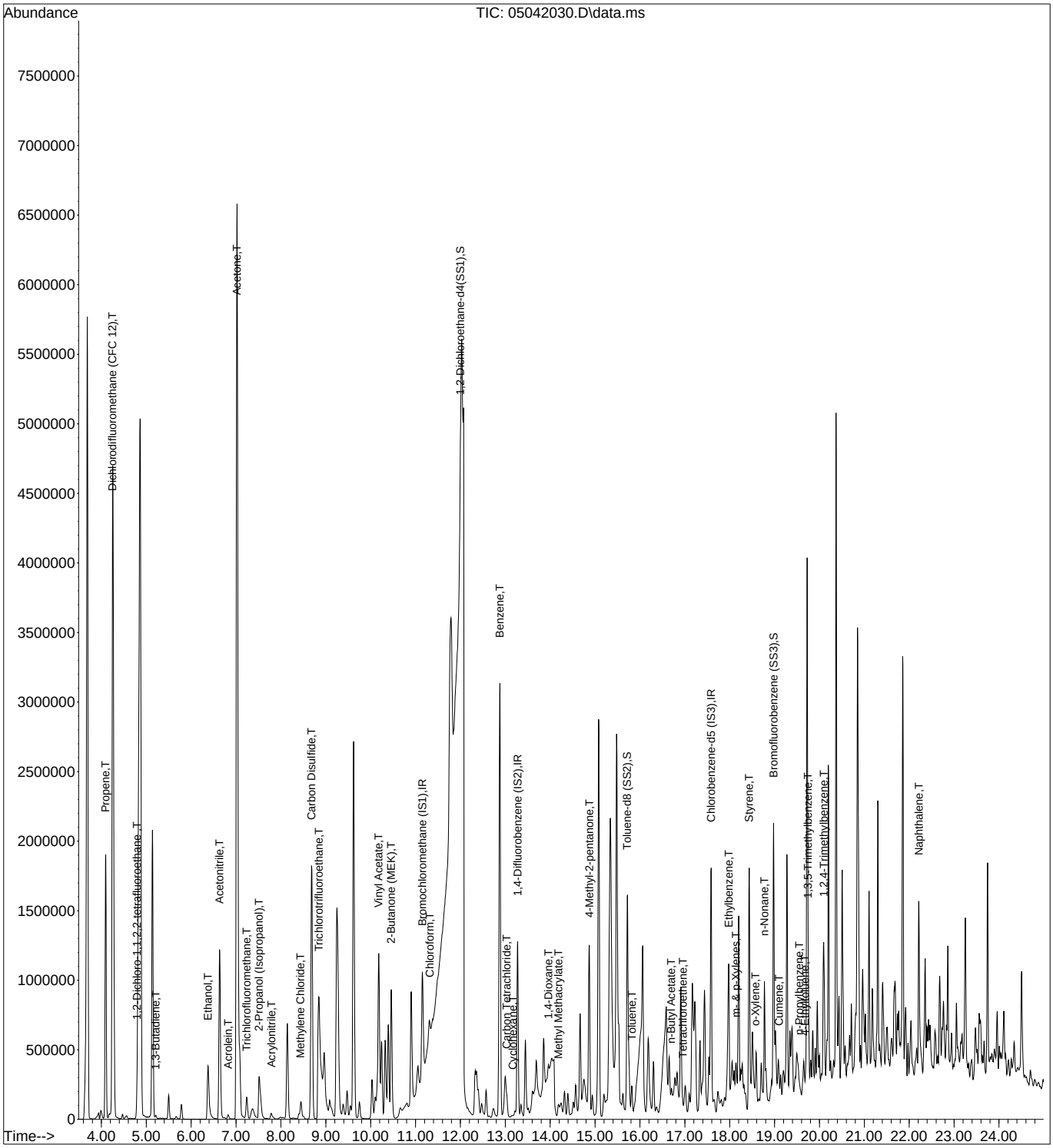
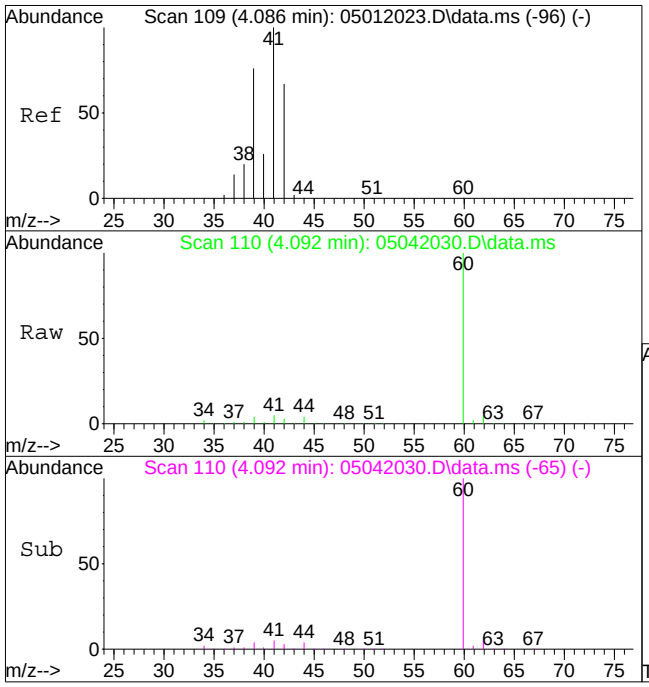
Response via : Initial Calibration
DataAcq Meth:TO15.M

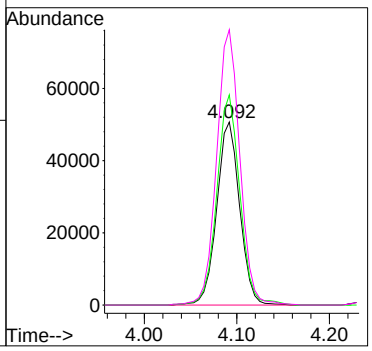


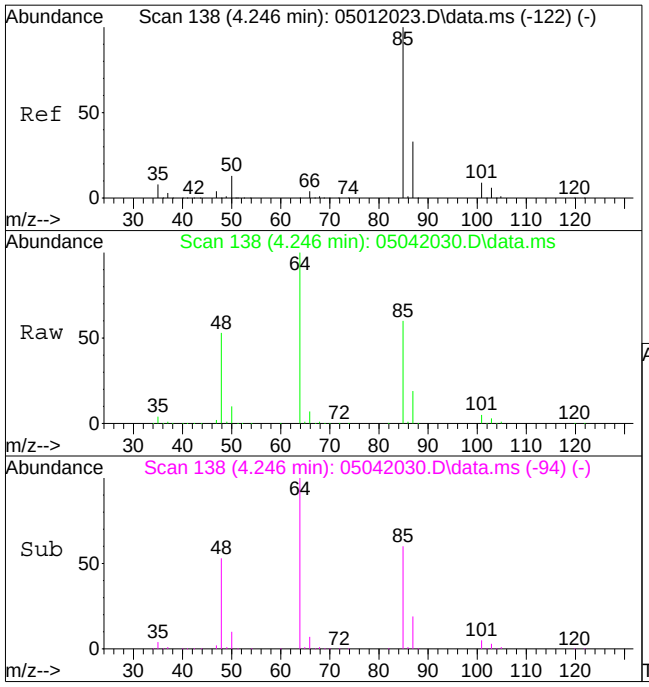


#2
Propene
Concen: 2.77 ng
RT: 4.09 min Scan# 110
Delta R.T. 0.000 min
Lab File: 05042030.D
Acq: 4 May 2020 23:10

Tgt Ion: 42 Resp: 87252

Ion	Ratio	Lower	Upper
42	100		
39	115.8	96.1	136.1
41	152.3	131.9	171.9

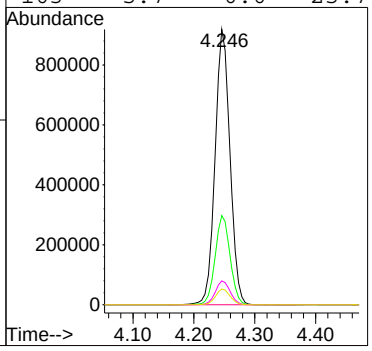


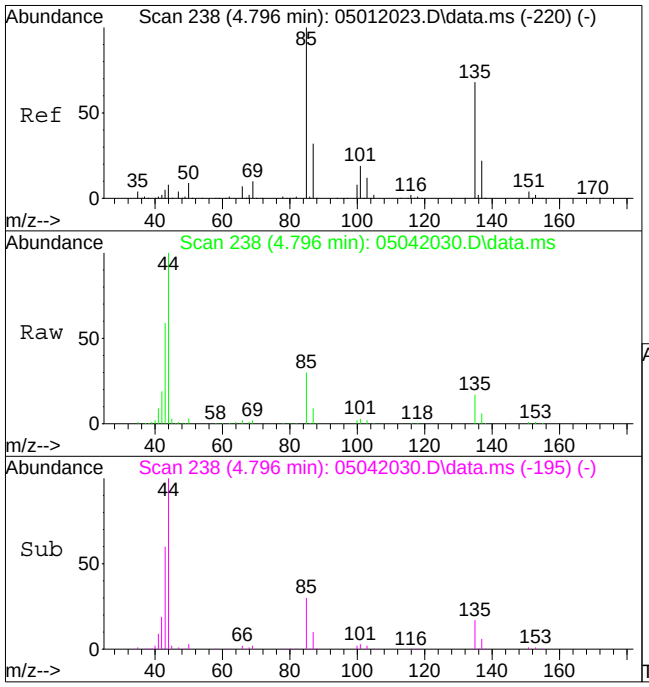


#3
Dichlorodifluoromethane (CFC 12)
Concen: 25.36 ng
RT: 4.25 min Scan# 138
Delta R.T. -0.006 min
Lab File: 05042030.D
Acq: 4 May 2020 23:10

Tgt Ion: 85 Resp: 1562215

Ion	Ratio	Lower	Upper
85	100		
87	32.5	12.4	52.4
101	8.7	0.0	28.8
103	5.7	0.0	25.7

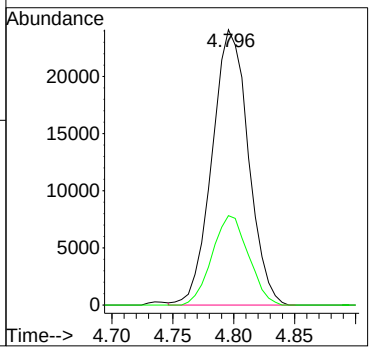


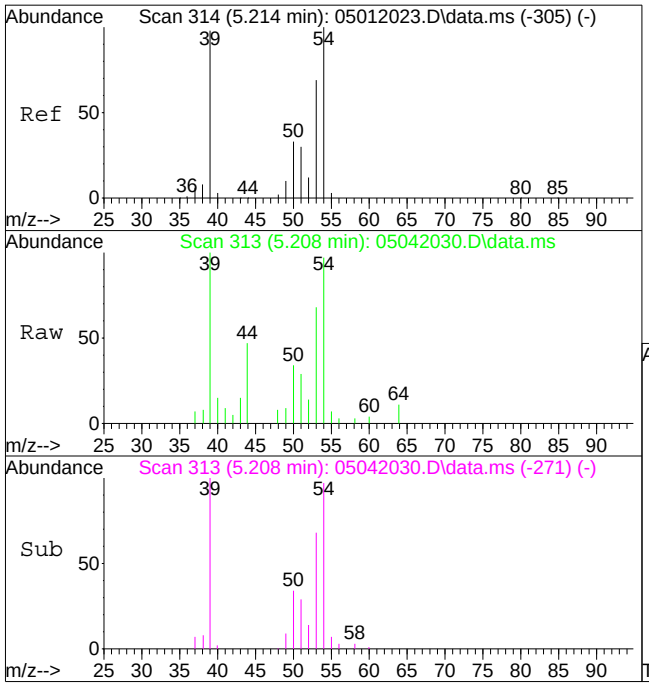


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 1.36 ng
RT: 4.80 min Scan# 238
Delta R.T. -0.011 min
Lab File: 05042030.D
Acq: 4 May 2020 23:10

Tgt Ion:135 Resp: 50081

Ion	Ratio	Lower	Upper
135	100		
137	32.4	12.1	52.1

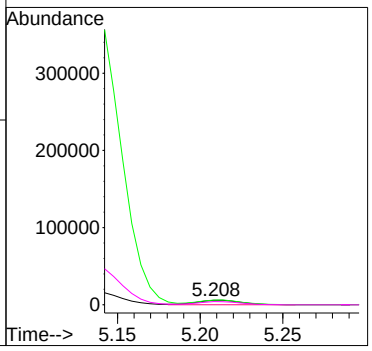


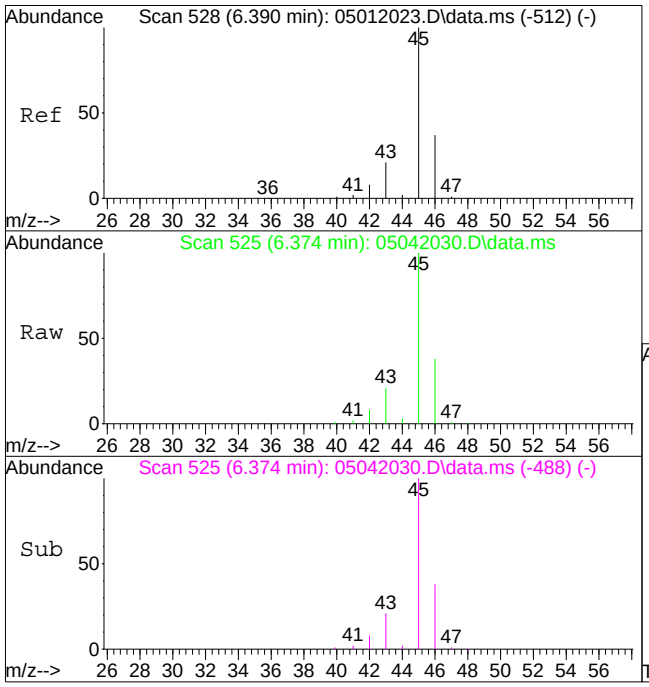


#7
1,3-Butadiene
Concen: 0.25 ng
RT: 5.21 min Scan# 313
Delta R.T. -0.016 min
Lab File: 05042030.D
Acq: 4 May 2020 23:10

Tgt Ion: 54 Resp: 10826

Ion	Ratio	Lower	Upper
54	100		
39	107.0	80.6	120.6
53	70.5	49.4	89.4

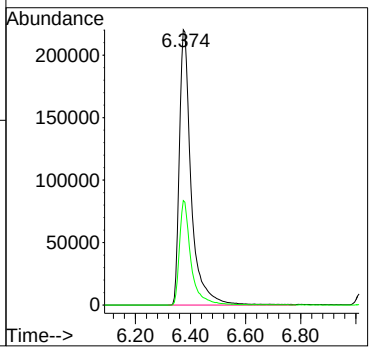


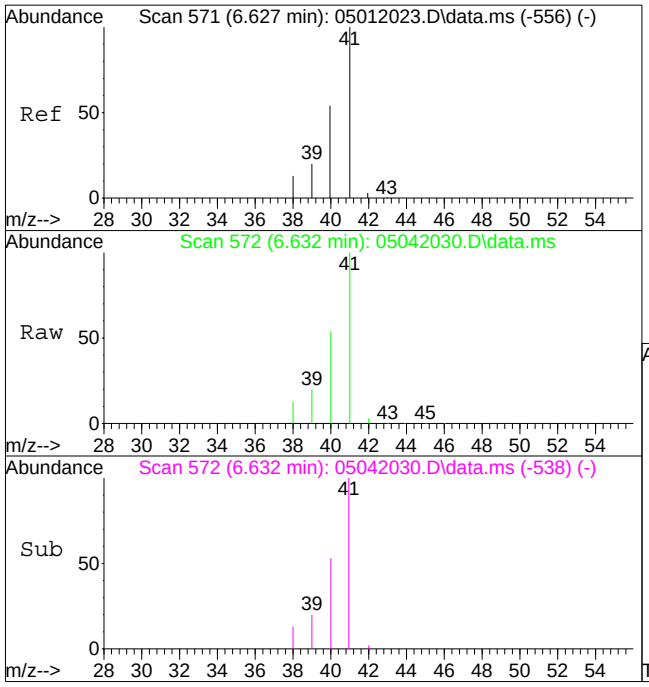


#10
Ethanol
Concen: 27.06 ng
RT: 6.37 min Scan# 525
Delta R.T. -0.044 min
Lab File: 05042030.D
Acq: 4 May 2020 23:10

Tgt Ion: 45 Resp: 657984

Ion	Ratio	Lower	Upper
45	100		
46	37.3	17.2	57.2

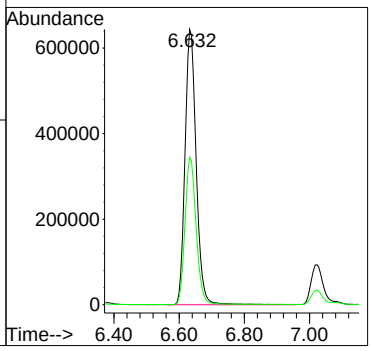


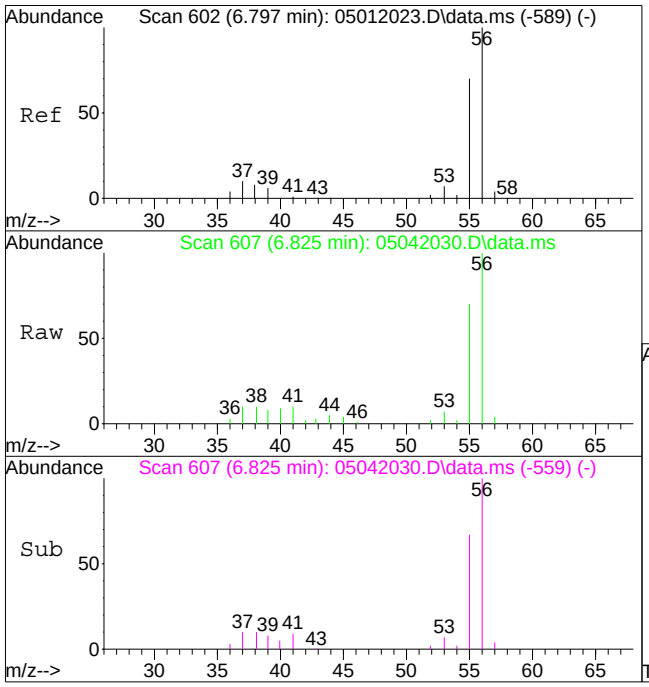


#11
Acetonitrile
Concen: 27.41 ng
RT: 6.63 min Scan# 572
Delta R.T. -0.011 min
Lab File: 05042030.D
Acq: 4 May 2020 23:10

Tgt Ion: 41 Resp: 1523287

Ion	Ratio	Lower	Upper
41	100		
40	53.7	33.6	73.6

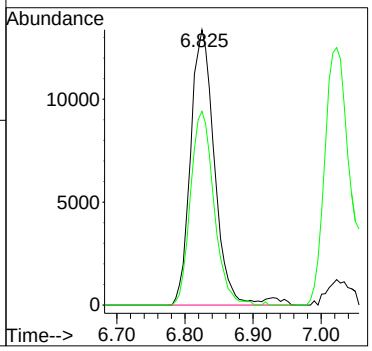


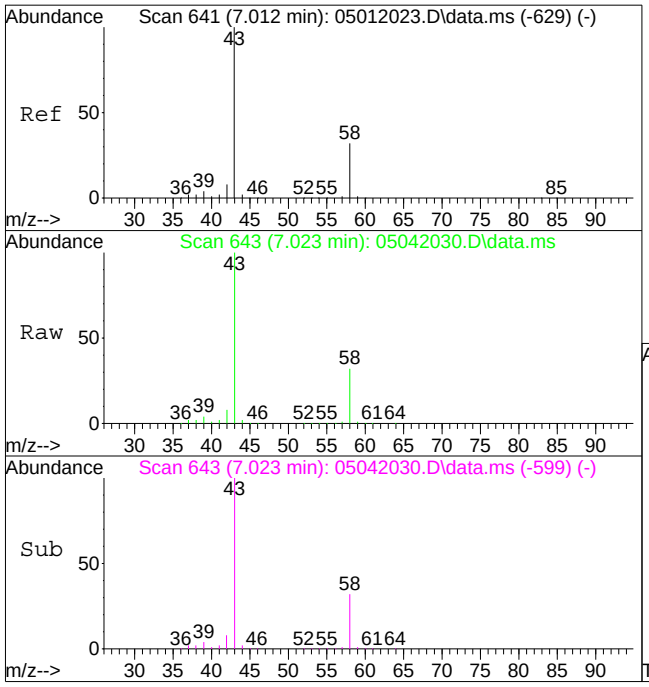


#12
Acrolein
Concen: 1.71 ng
RT: 6.82 min Scan# 607
Delta R.T. 0.017 min
Lab File: 05042030.D
Acq: 4 May 2020 23:10

Tgt Ion: 56 Resp: 32833

Ion	Ratio	Lower	Upper
56	100		
55	68.4	50.2	90.2

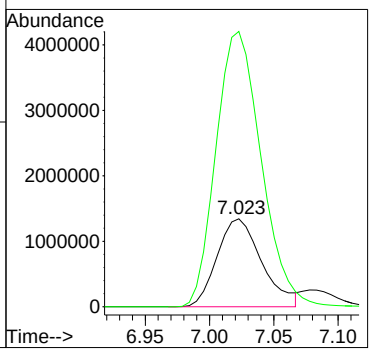


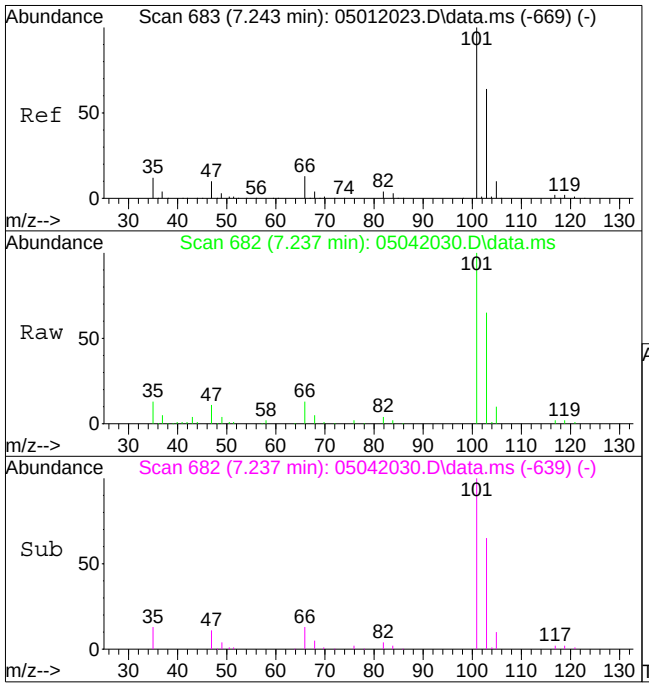


#13
Acetone
Concen: 133.73 ng
RT: 7.02 min Scan# 643
Delta R.T. -0.006 min
Lab File: 05042030.D
Acq: 4 May 2020 23:10

Tgt Ion: 58 Resp: 3252096

Ion	Ratio	Lower	Upper
58	100		
43	318.0	294.4	354.4

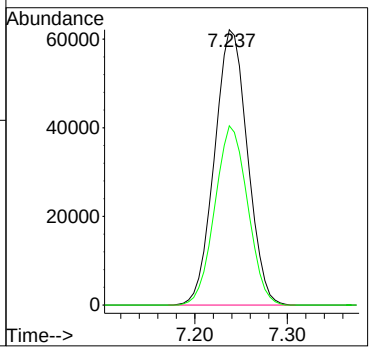


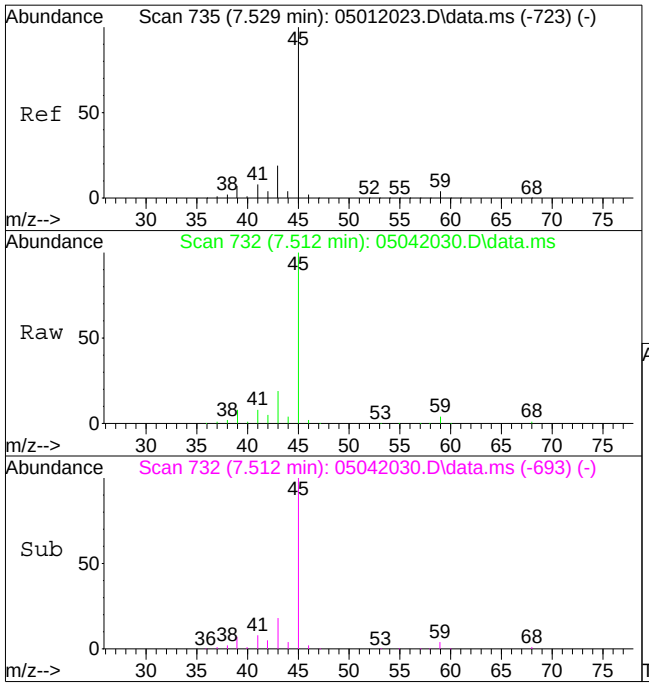


#14
Trichlorofluoromethane
Concen: 2.82 ng
RT: 7.24 min Scan# 682
Delta R.T. -0.011 min
Lab File: 05042030.D
Acq: 4 May 2020 23:10

Tgt Ion:101 Resp: 153691

Ion	Ratio	Lower	Upper
101	100		
103	64.7	44.4	84.4

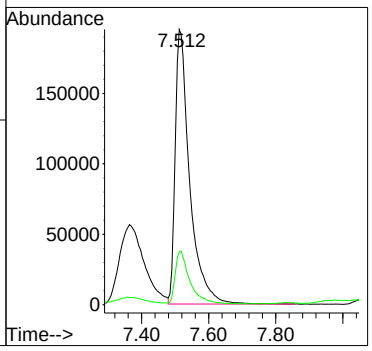


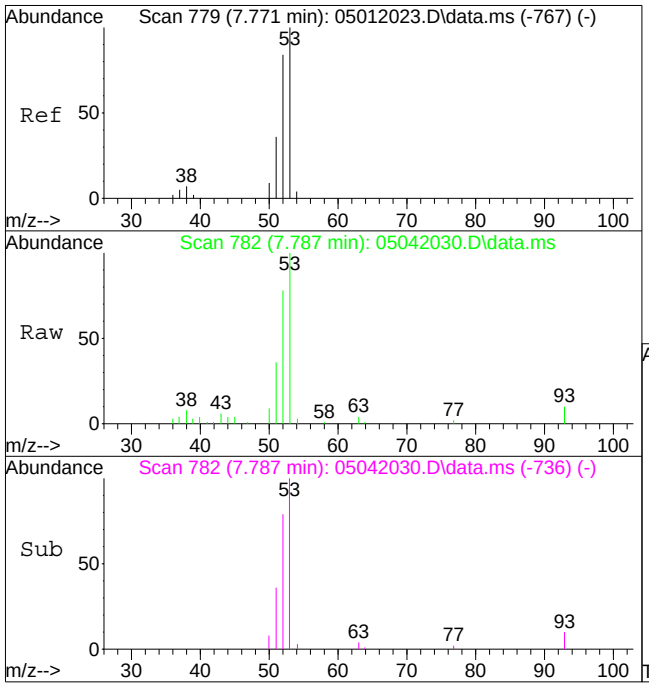


#15
2-Propanol (Isopropanol)
Concen: 7.91 ng
RT: 7.51 min Scan# 732
Delta R.T. -0.033 min
Lab File: 05042030.D
Acq: 4 May 2020 23:10

Tgt Ion: 45 Resp: 582144

Ion	Ratio	Lower	Upper
45	100		
43	19.2	0.0	39.5

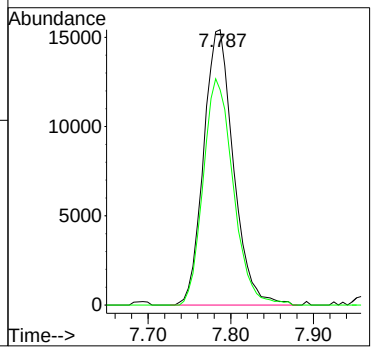


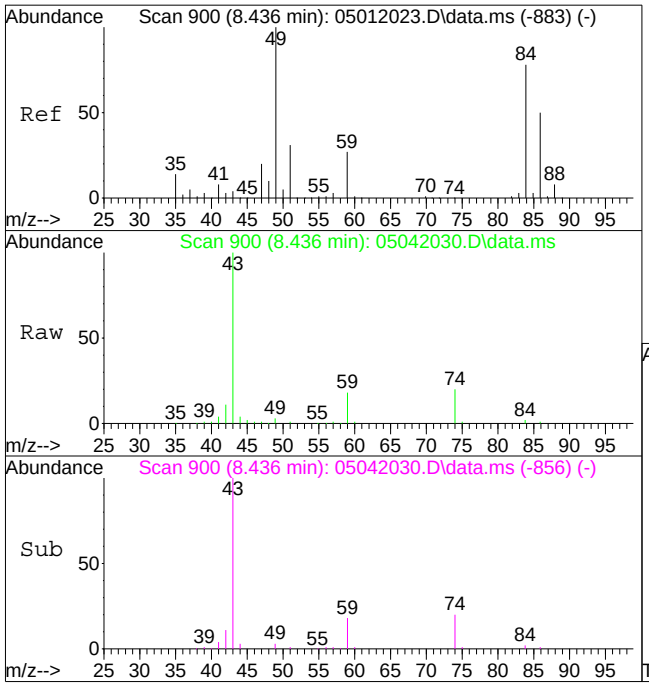


#16
Acrylonitrile
Concen: 0.97 ng
RT: 7.79 min Scan# 782
Delta R.T. 0.005 min
Lab File: 05042030.D
Acq: 4 May 2020 23:10

Tgt Ion: 53 Resp: 38698

Ion	Ratio	Lower	Upper
53	100		
52	82.7	63.7	103.7

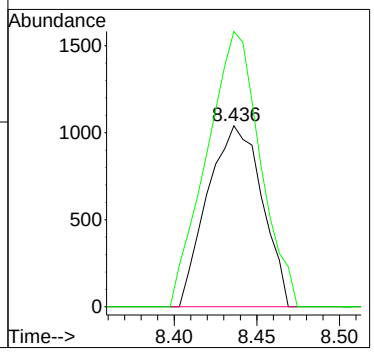


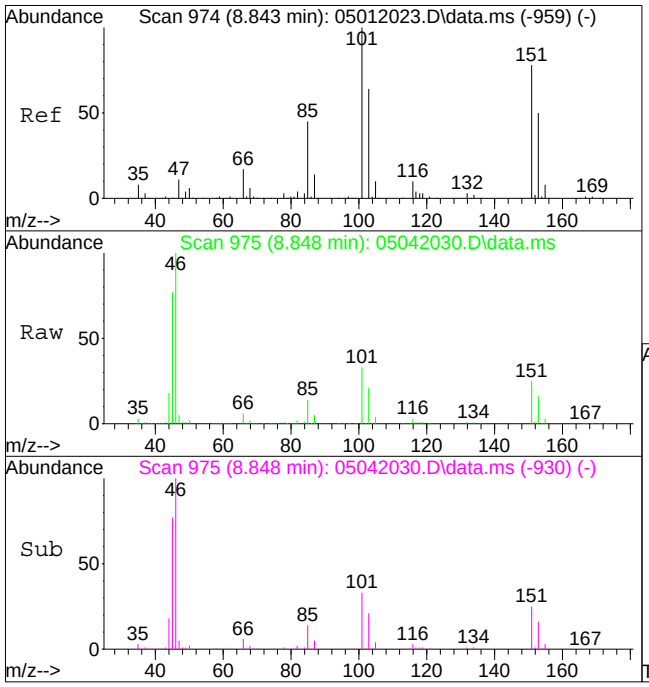


#19
Methylene Chloride
Concen: 0.08 ng
RT: 8.44 min Scan# 900
Delta R.T. -0.005 min
Lab File: 05042030.D
Acq: 4 May 2020 23:10

Tgt Ion: 84 Resp: 2387

Ion	Ratio	Lower	Upper
84	100		
49	149.6	104.8	154.8

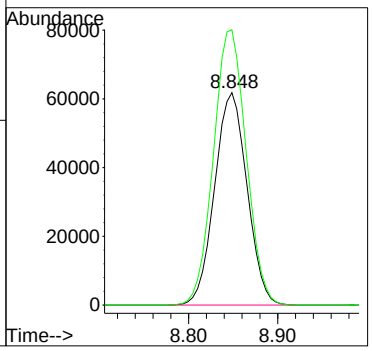


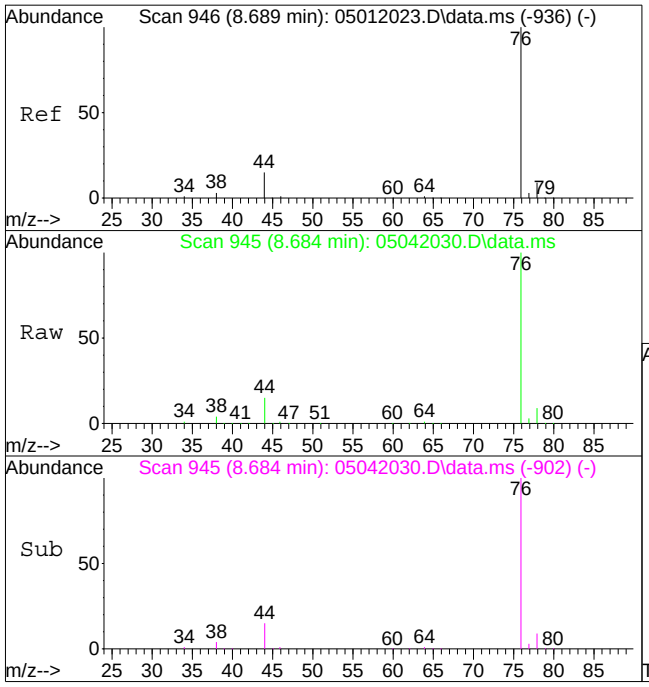


#21
Trichlorotrifluoroethane
Concen: 6.09 ng
RT: 8.85 min Scan# 975
Delta R.T. 0.000 min
Lab File: 05042030.D
Acq: 4 May 2020 23:10

Tgt Ion:151 Resp: 156508

Ion	Ratio	Lower	Upper
151	100		
101	131.0	107.3	147.3

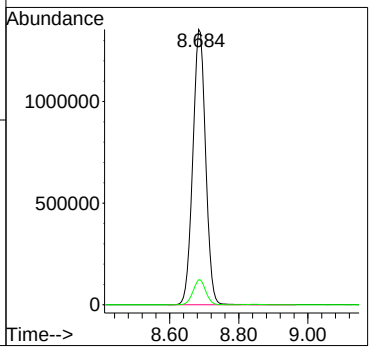


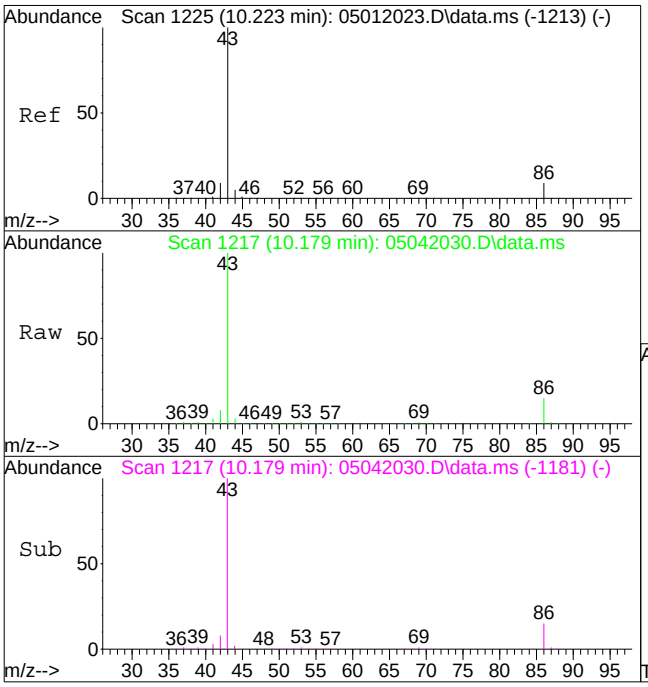


#22
Carbon Disulfide
Concen: 30.74 ng
RT: 8.68 min Scan# 945
Delta R.T. -0.011 min
Lab File: 05042030.D
Acq: 4 May 2020 23:10

Tgt Ion: 76 Resp: 3482110

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	29.2

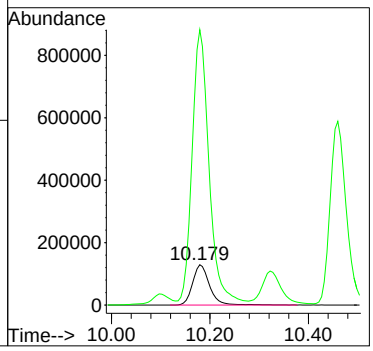


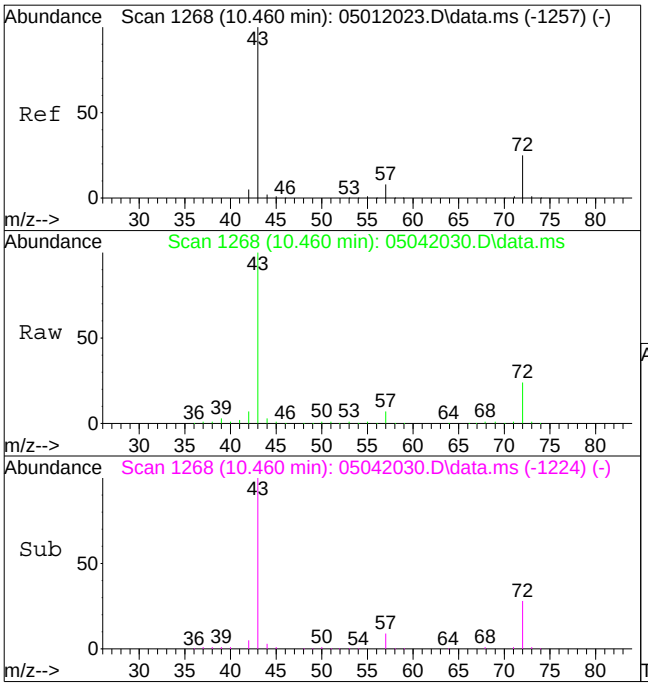


#26
Vinyl Acetate
Concen: 40.64 ng
RT: 10.18 min Scan# 1217
Delta R.T. -0.050 min
Lab File: 05042030.D
Acq: 4 May 2020 23:10

Tgt Ion: 86 Resp: 307837

Ion	Ratio	Lower	Upper
86	100		
43	686.3	1103.0	1143.0#

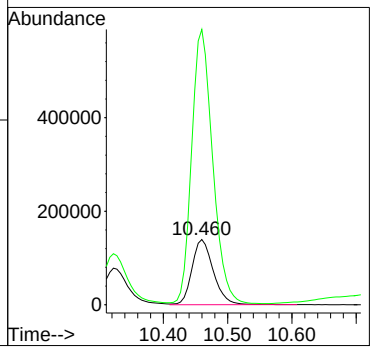


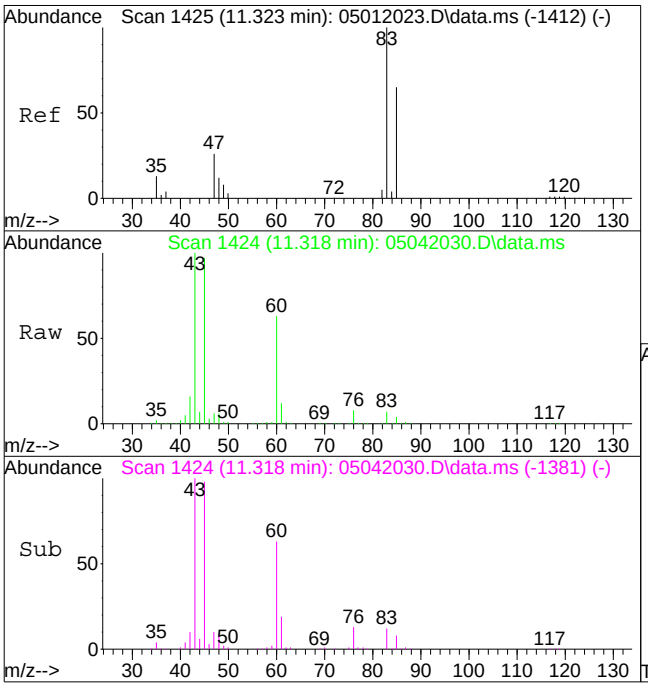


#27
2-Butanone (MEK)
Concen: 15.45 ng
RT: 10.46 min Scan# 1268
Delta R.T. -0.006 min
Lab File: 05042030.D
Acq: 4 May 2020 23:10

Tgt Ion: 72 Resp: 320364

Ion	Ratio	Lower	Upper
72	100		
43	414.1	389.7	429.7

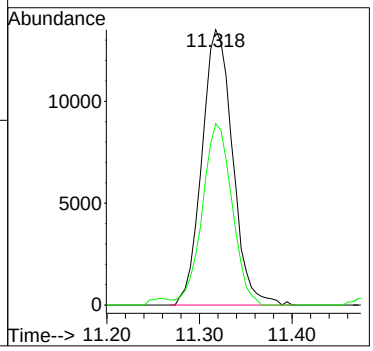


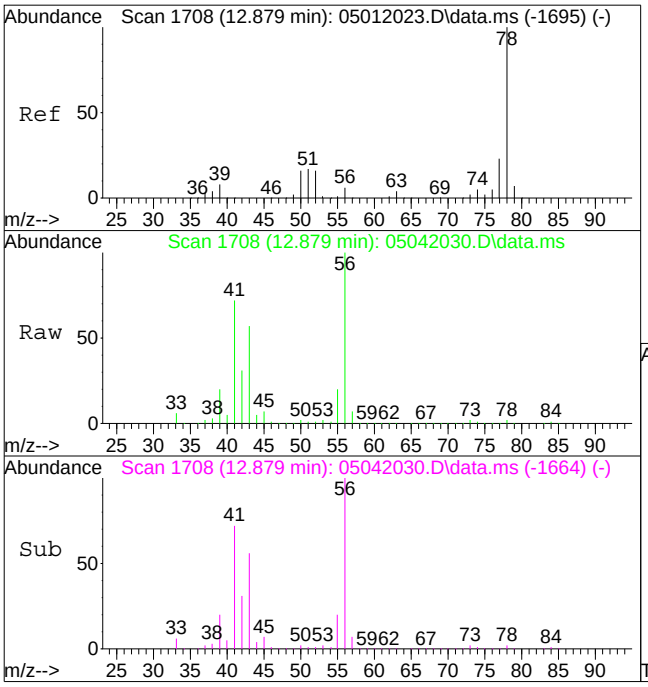


#32
Chloroform
Concen: 0.58 ng
RT: 11.32 min Scan# 1424
Delta R.T. -0.011 min
Lab File: 05042030.D
Acq: 4 May 2020 23:10

Tgt Ion: 83 Resp: 31179

Ion	Ratio	Lower	Upper
83	100		
85	63.8	45.5	85.5

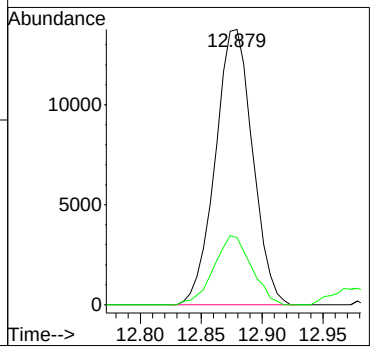


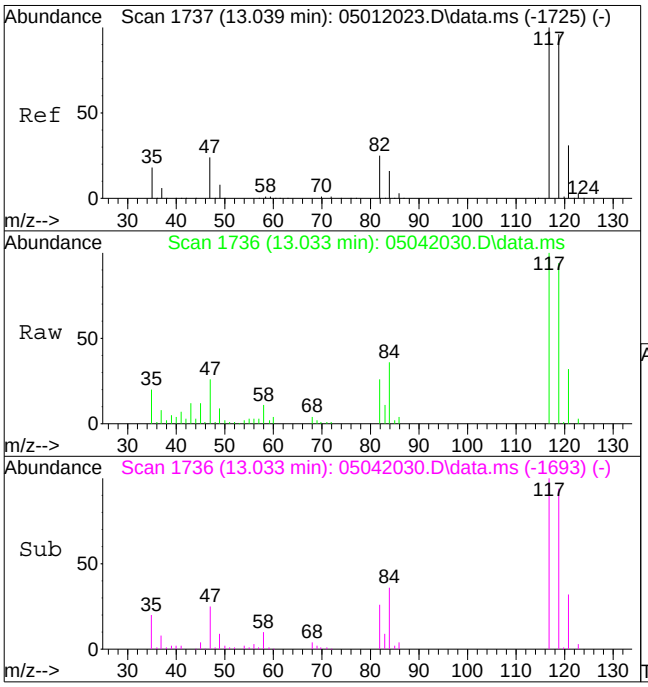


#41
Benzene
Concen: 0.24 ng
RT: 12.88 min Scan# 1708
Delta R.T. -0.005 min
Lab File: 05042030.D
Acq: 4 May 2020 23:10

Tgt Ion: 78 Resp: 29308

Ion	Ratio	Lower	Upper
78	100		
77	25.3	3.4	43.4

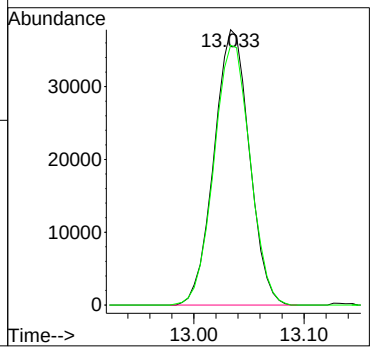


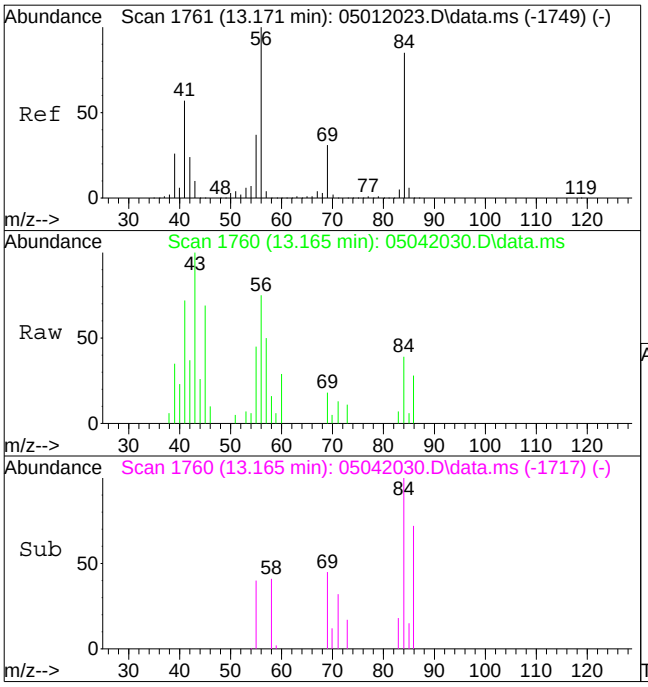


#42
Carbon Tetrachloride
Concen: 2.02 ng
RT: 13.03 min Scan# 1736
Delta R.T. -0.011 min
Lab File: 05042030.D
Acq: 4 May 2020 23:10

Tgt Ion:117 Resp: 84298

Ion	Ratio	Lower	Upper
117	100		
119	97.0	76.2	116.2

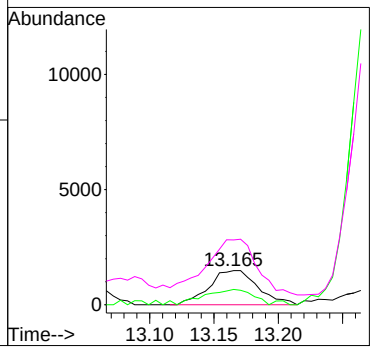


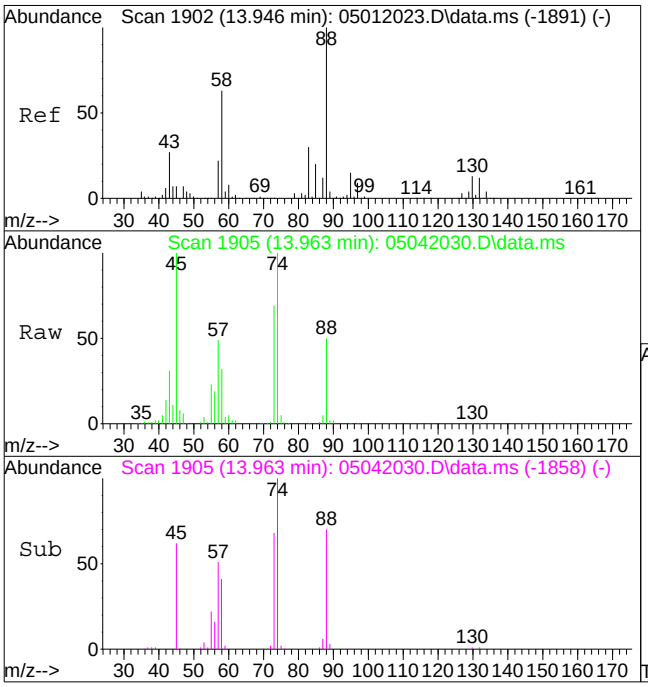


#43
Cyclohexane
Concen: 0.09 ng
RT: 13.17 min Scan# 1760
Delta R.T. -0.011 min
Lab File: 05042030.D
Acq: 4 May 2020 23:10

Tgt Ion: 84 Resp: 3905

Ion	Ratio	Lower	Upper
84	100		
69	44.1	16.5	56.5
56	170.1	97.4	137.4#

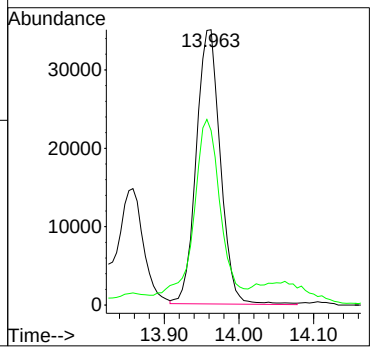


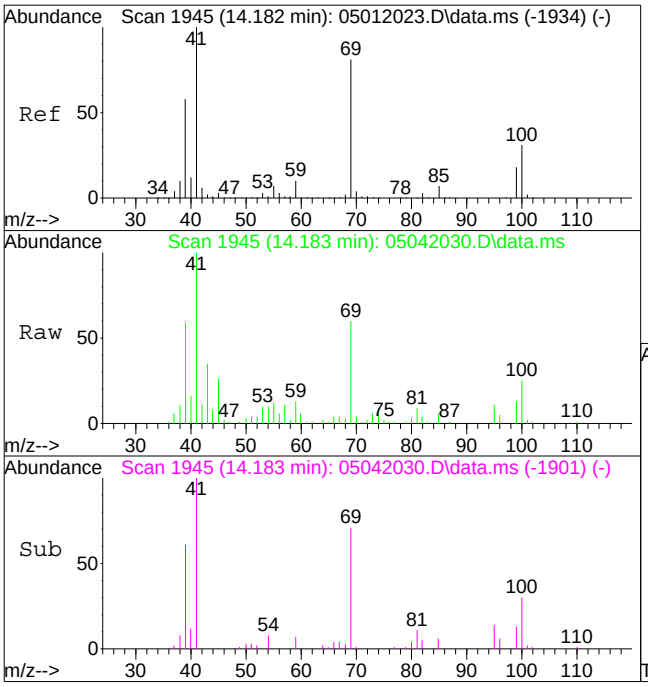


#48
1,4-Dioxane
Concen: 3.18 ng
RT: 13.96 min Scan# 1905
Delta R.T. 0.011 min
Lab File: 05042030.D
Acq: 4 May 2020 23:10

Tgt Ion: 88 Resp: 78419

Ion	Ratio	Lower	Upper
88	100		
58	74.0	42.8	82.8

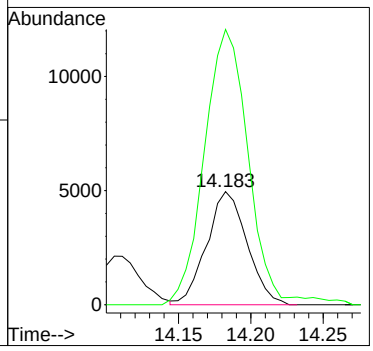


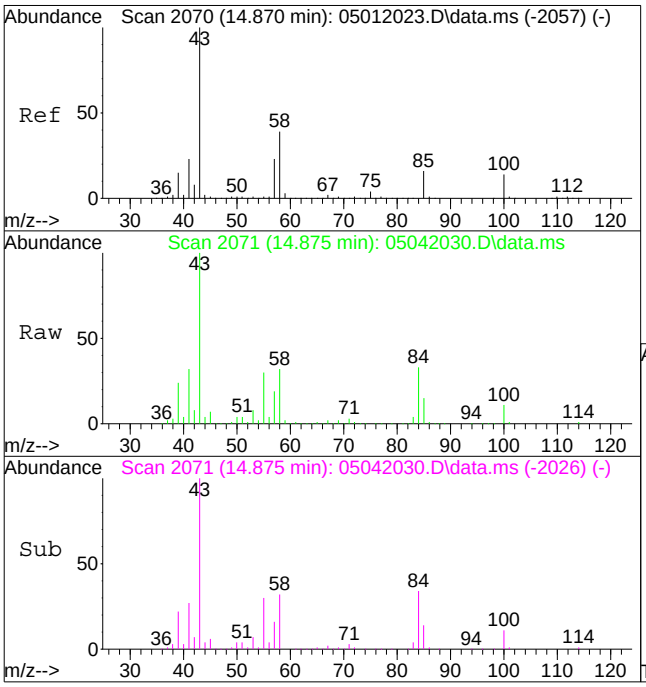


#50
Methyl Methacrylate
Concen: 0.79 ng
RT: 14.18 min Scan# 1945
Delta R.T. -0.005 min
Lab File: 05042030.D
Acq: 4 May 2020 23:10

Tgt Ion:100 Resp: 9631

Ion	Ratio	Lower	Upper
100	100		
69	266.1	241.8	281.8

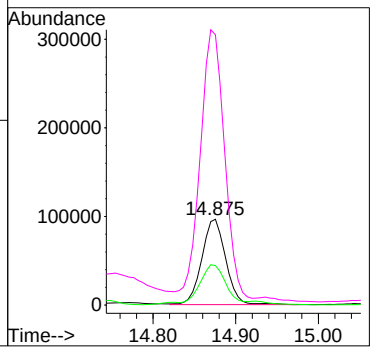


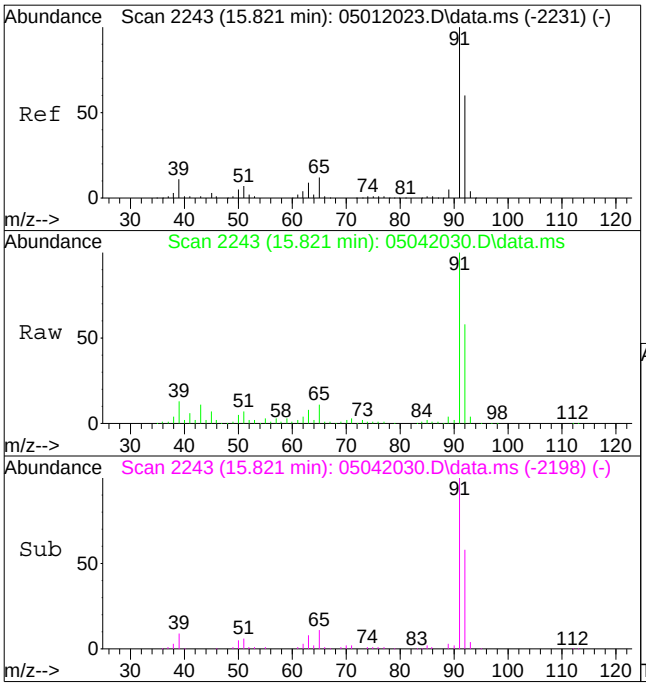


#53
4-Methyl-2-pentanone
Concen: 7.11 ng
RT: 14.88 min Scan# 2071
Delta R.T. 0.000 min
Lab File: 05042030.D
Acq: 4 May 2020 23:10

Tgt Ion: 58 Resp: 194211

Ion	Ratio	Lower	Upper
58	100		
85	56.7	35.4	53.2#
43	316.2	203.3	304.9#

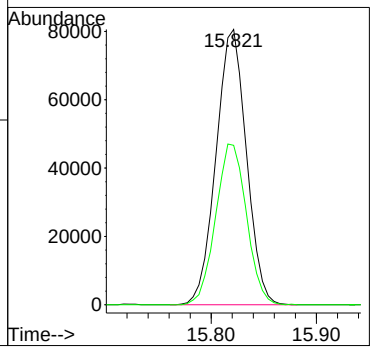


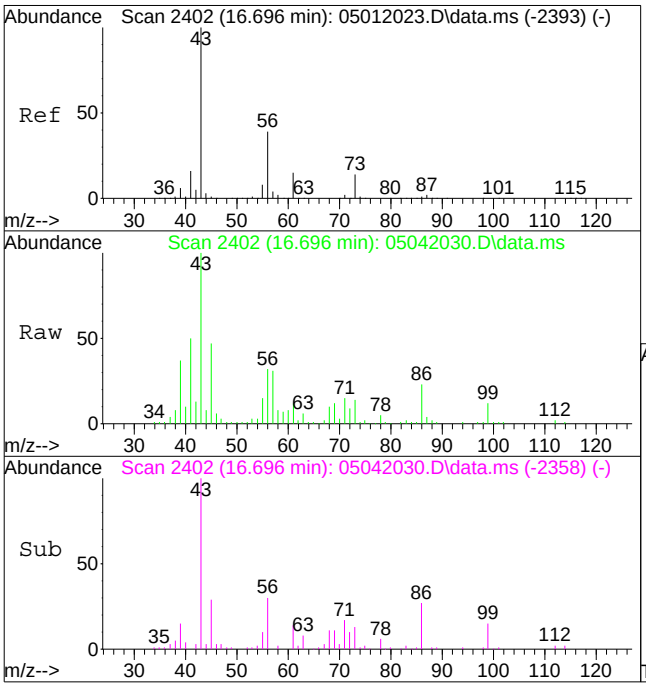


#58
Toluene
Concen: 1.30 ng
RT: 15.82 min Scan# 2243
Delta R.T. 0.000 min
Lab File: 05042030.D
Acq: 4 May 2020 23:10

Tgt Ion: 91 Resp: 161712

Ion	Ratio	Lower	Upper
91	100		
92	59.3	39.4	79.4

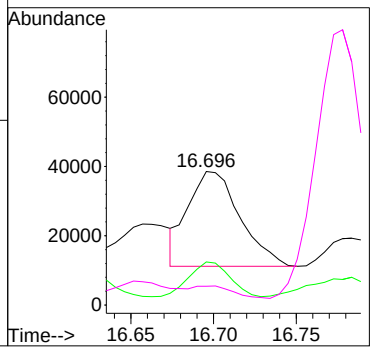


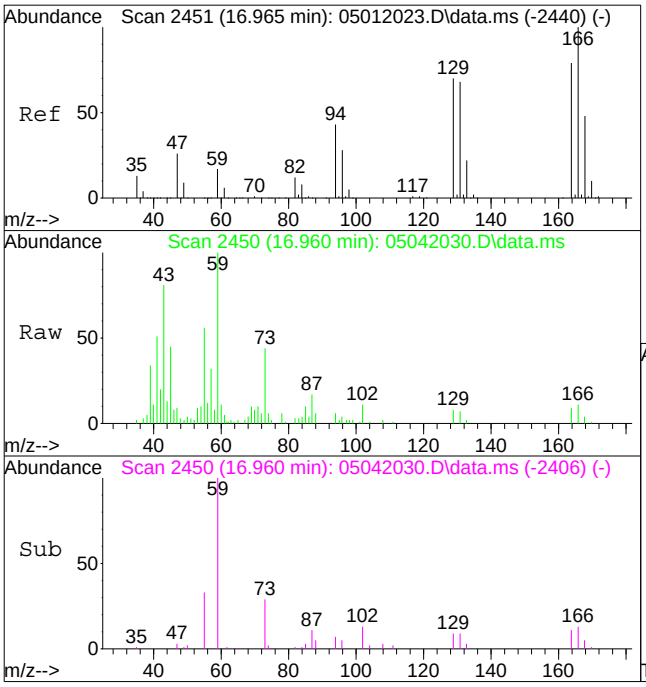


#62
n-Butyl Acetate
Concen: 0.82 ng
RT: 16.70 min Scan# 2402
Delta R.T. -0.005 min
Lab File: 05042030.D
Acq: 4 May 2020 23:10

Tgt Ion: 43 Resp: 59889

Ion	Ratio	Lower	Upper
43	100		
56	28.4	19.2	59.2
73	0.0	0.0	34.4

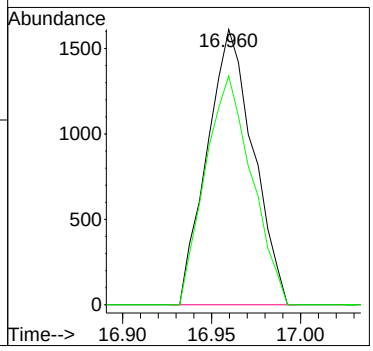


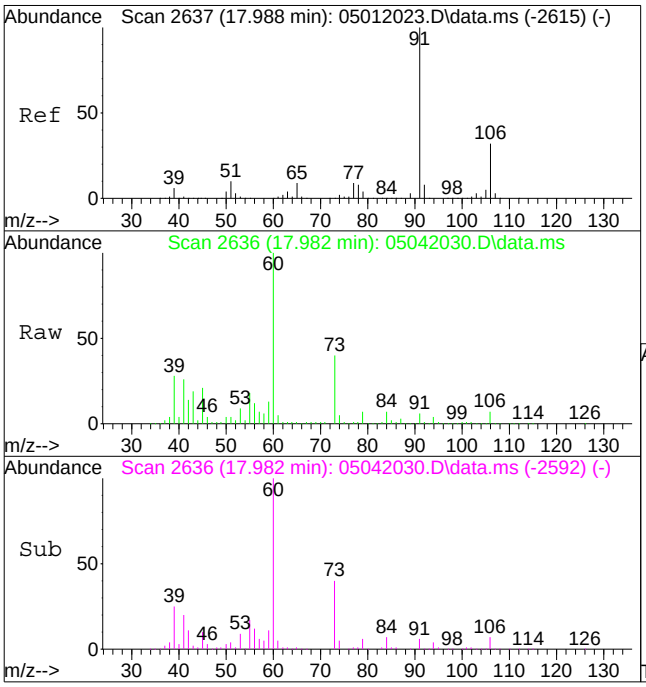


#64
Tetrachloroethene
Concen: 0.08 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05042030.D
Acq: 4 May 2020 23:10

Tgt Ion:166 Resp: 2899

Ion	Ratio	Lower	Upper
166	100		
164	84.0	58.4	98.4

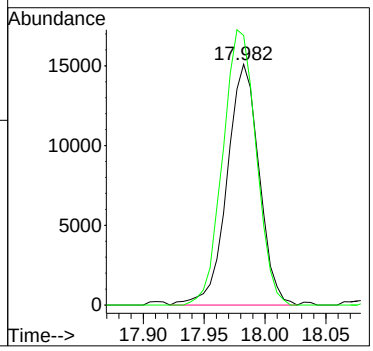


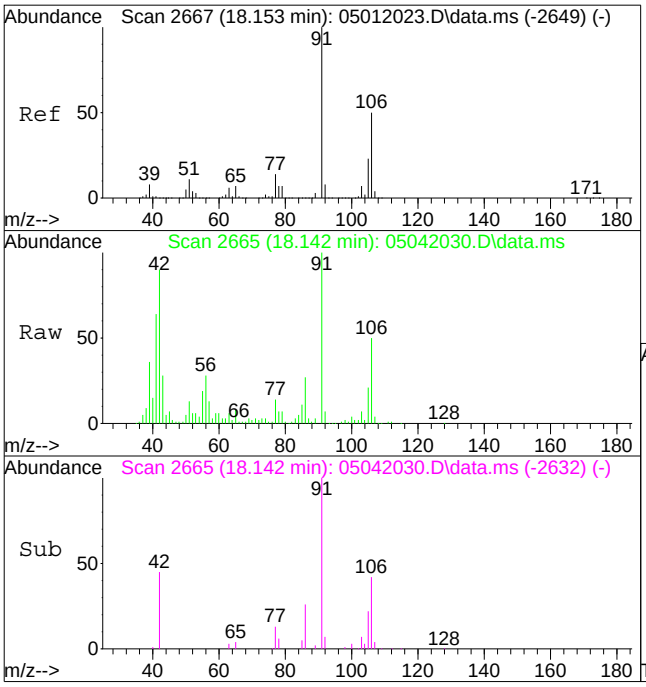


#66
Ethylbenzene
Concen: 0.20 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.005 min
Lab File: 05042030.D
Acq: 4 May 2020 23:10

Tgt Ion: 91 Resp: 27663

Ion	Ratio	Lower	Upper
91	100		
106	119.1	11.6	51.6#

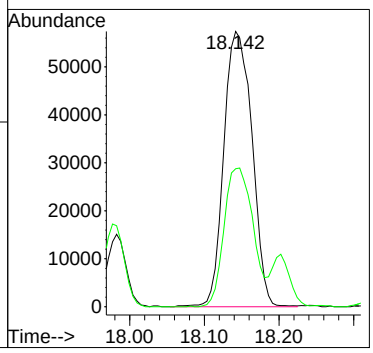


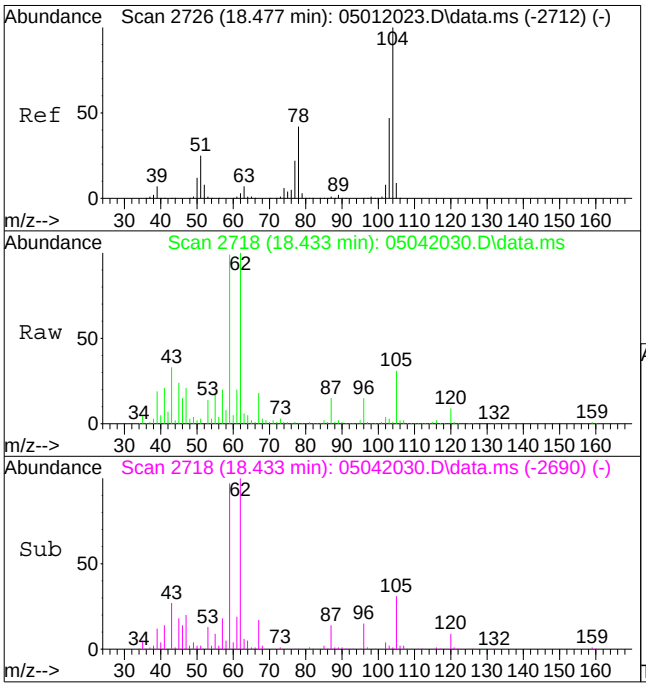


#67
m- & p-Xylenes
Concen: 1.37 ng
RT: 18.14 min Scan# 2665
Delta R.T. -0.016 min
Lab File: 05042030.D
Acq: 4 May 2020 23:10

Tgt Ion: 91 Resp: 150710

Ion	Ratio	Lower	Upper
91	100		
106	51.4	29.7	69.7

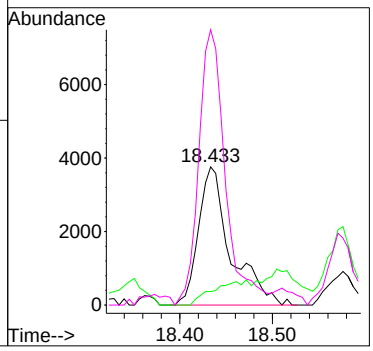


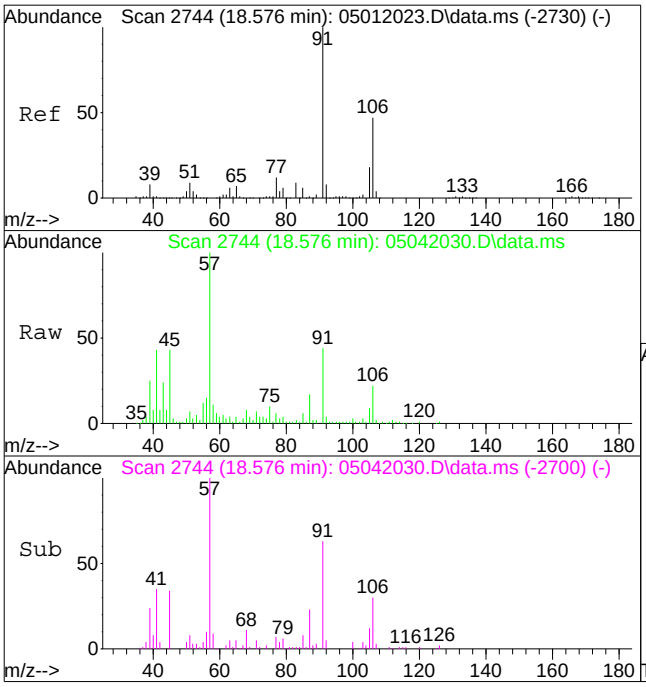


#69
Styrene
Concen: 0.11 ng
RT: 18.43 min Scan# 2718
Delta R.T. -0.044 min
Lab File: 05042030.D
Acq: 4 May 2020 23:10

Tgt Ion:104 Resp: 9052

Ion	Ratio	Lower	Upper
104	100		
78	25.0	22.5	62.5
103	165.9	27.0	67.0#

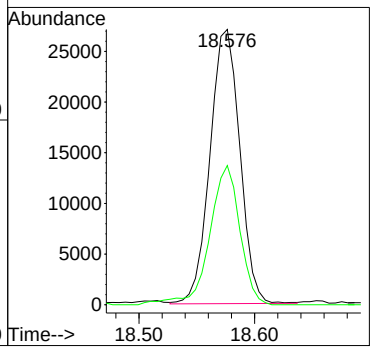


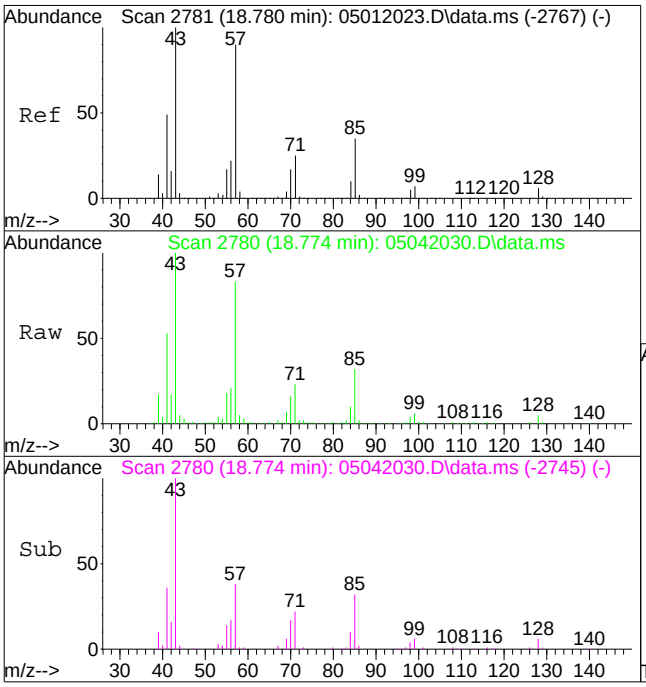


#70
o-Xylene
Concen: 0.44 ng
RT: 18.58 min Scan# 2744
Delta R.T. -0.006 min
Lab File: 05042030.D
Acq: 4 May 2020 23:10

Tgt Ion: 91 Resp: 48559

Ion	Ratio	Lower	Upper
91	100		
106	51.5	27.5	67.5

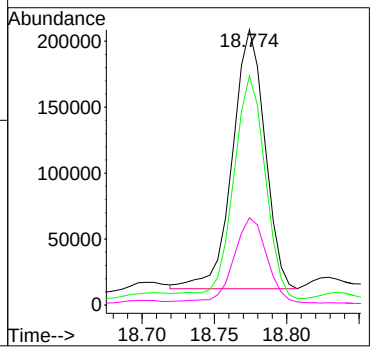


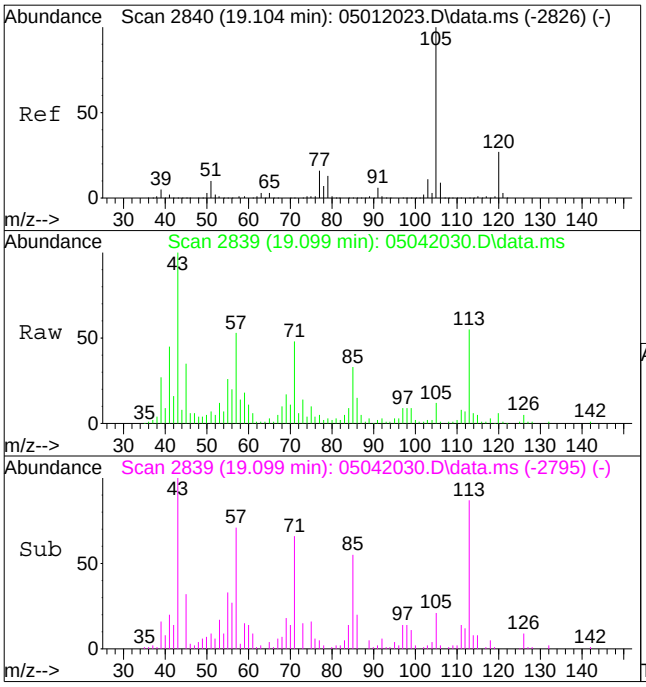


#71
n-Nonane
Concen: 5.20 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.005 min
Lab File: 05042030.D
Acq: 4 May 2020 23:10

Tgt Ion: 43 Resp: 306973

Ion	Ratio	Lower	Upper
43	100		
57	83.2	69.0	109.0
85	35.6	14.6	54.6

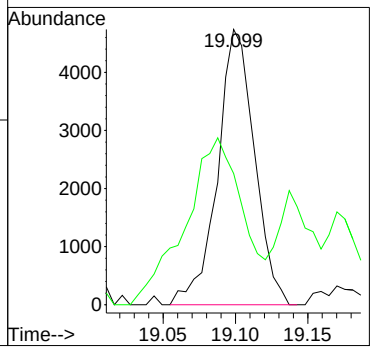


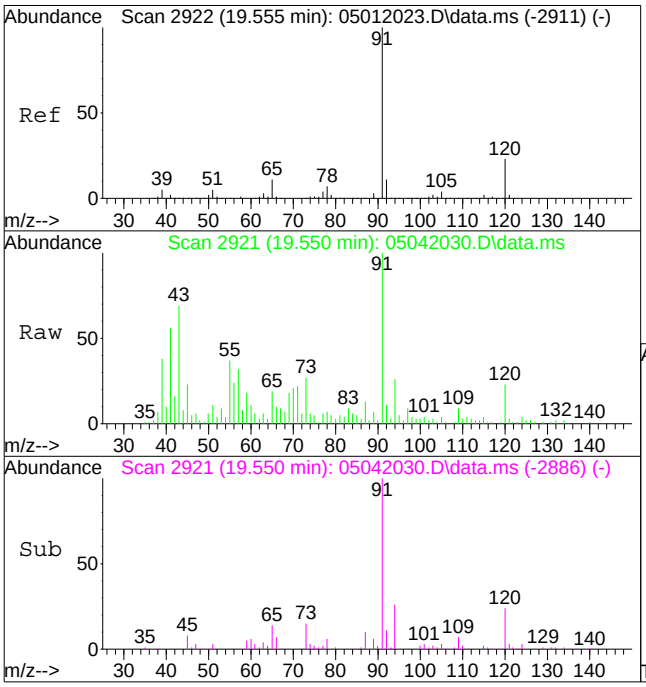


#74
Cumene
Concen: 0.06 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.005 min
Lab File: 05042030.D
Acq: 4 May 2020 23:10

Tgt Ion:105 Resp: 8429

Ion	Ratio	Lower	Upper
105	100		
120	94.9	6.8	46.8#

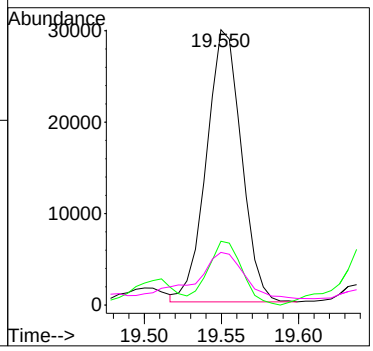


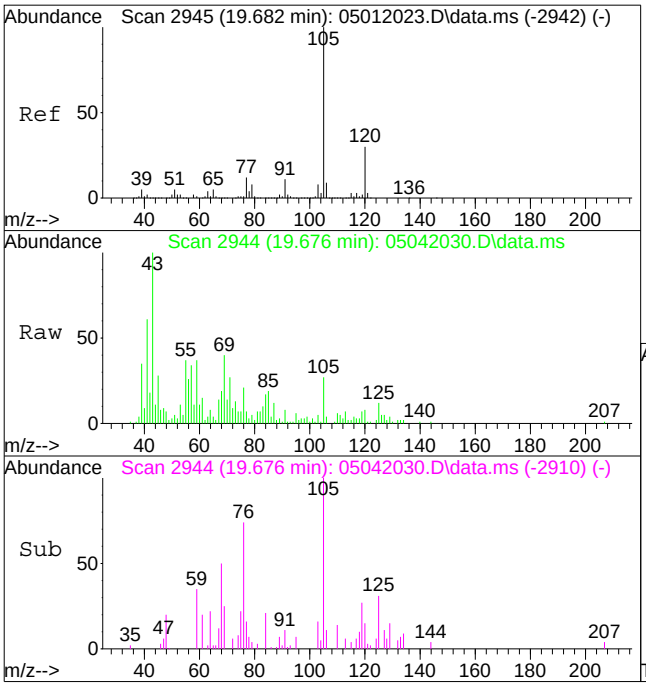


#76
n-Propylbenzene
Concen: 0.29 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.005 min
Lab File: 05042030.D
Acq: 4 May 2020 23:10

Tgt Ion: 91 Resp: 46844

Ion	Ratio	Lower	Upper
91	100		
120	23.1	3.1	43.1
65	23.8	0.0	30.9

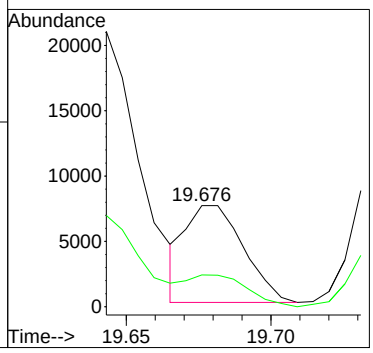


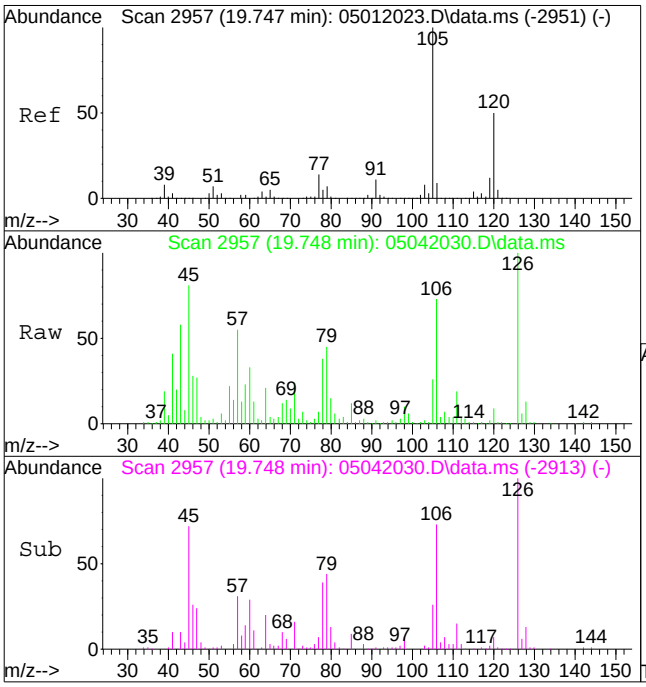


#78
4-Ethyltoluene
Concen: 0.08 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05042030.D
Acq: 4 May 2020 23:10

Tgt Ion:105 Resp: 10405

Ion	Ratio	Lower	Upper
105	100		
120	28.8	10.4	50.4

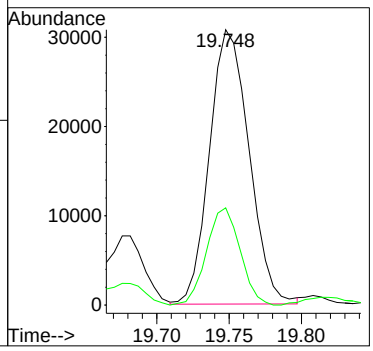


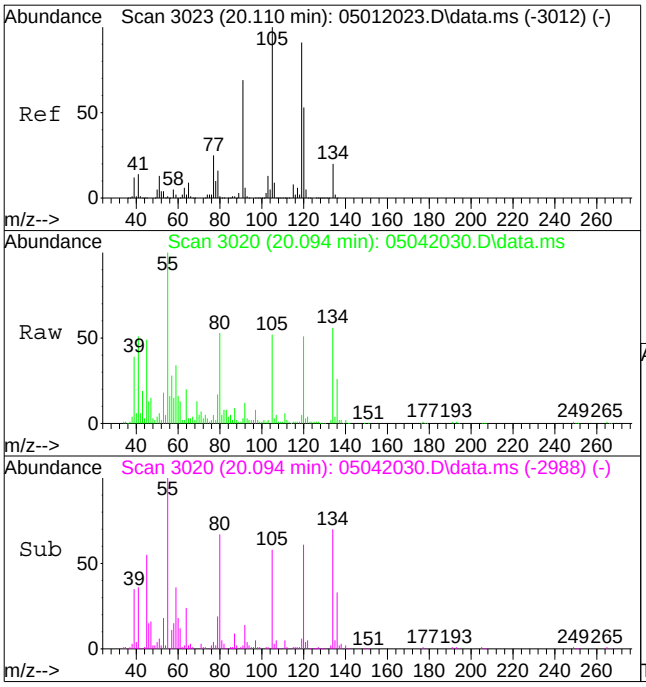


#79
1,3,5-Trimethylbenzene
Concen: 0.53 ng
RT: 19.75 min Scan# 2957
Delta R.T. -0.005 min
Lab File: 05042030.D
Acq: 4 May 2020 23:10

Tgt Ion:105 Resp: 58527

Ion	Ratio	Lower	Upper
105	100		
120	29.9	29.9	69.9

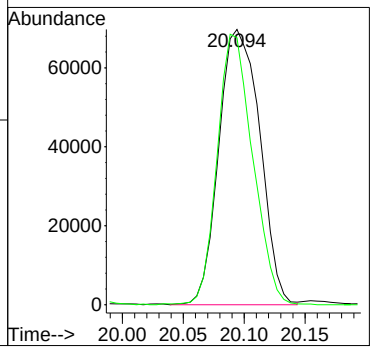


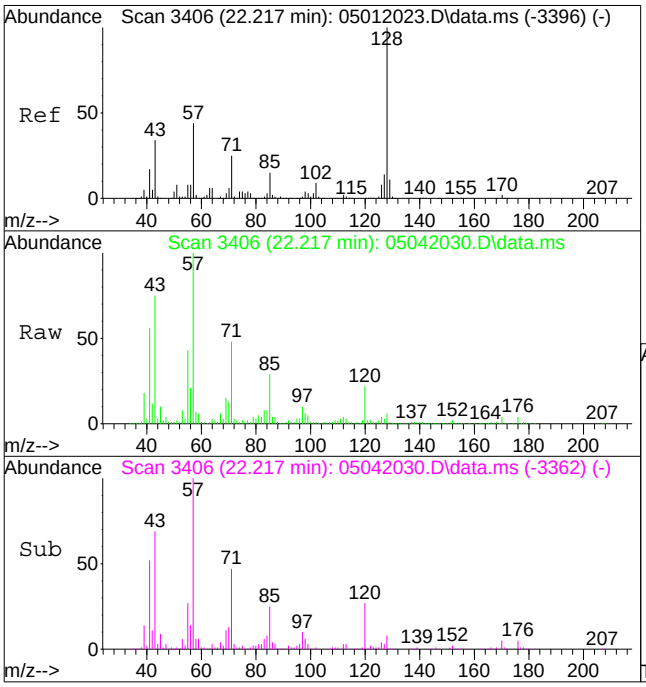


#82
1,2,4-Trimethylbenzene
Concen: 1.46 ng
RT: 20.09 min Scan# 3020
Delta R.T. -0.022 min
Lab File: 05042030.D
Acq: 4 May 2020 23:10

Tgt Ion:105 Resp: 163432

Ion	Ratio	Lower	Upper
105	100		
120	85.0	33.6	73.6#

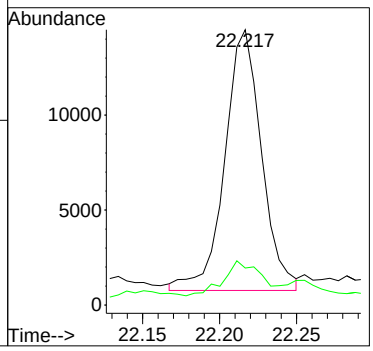




#95
Naphthalene
Concen: 0.17 ng m
RT: 22.22 min Scan# 3406
Delta R.T. -0.005 min
Lab File: 05042030.D
Acq: 4 May 2020 23:10

Tgt Ion:128 Resp: 22802

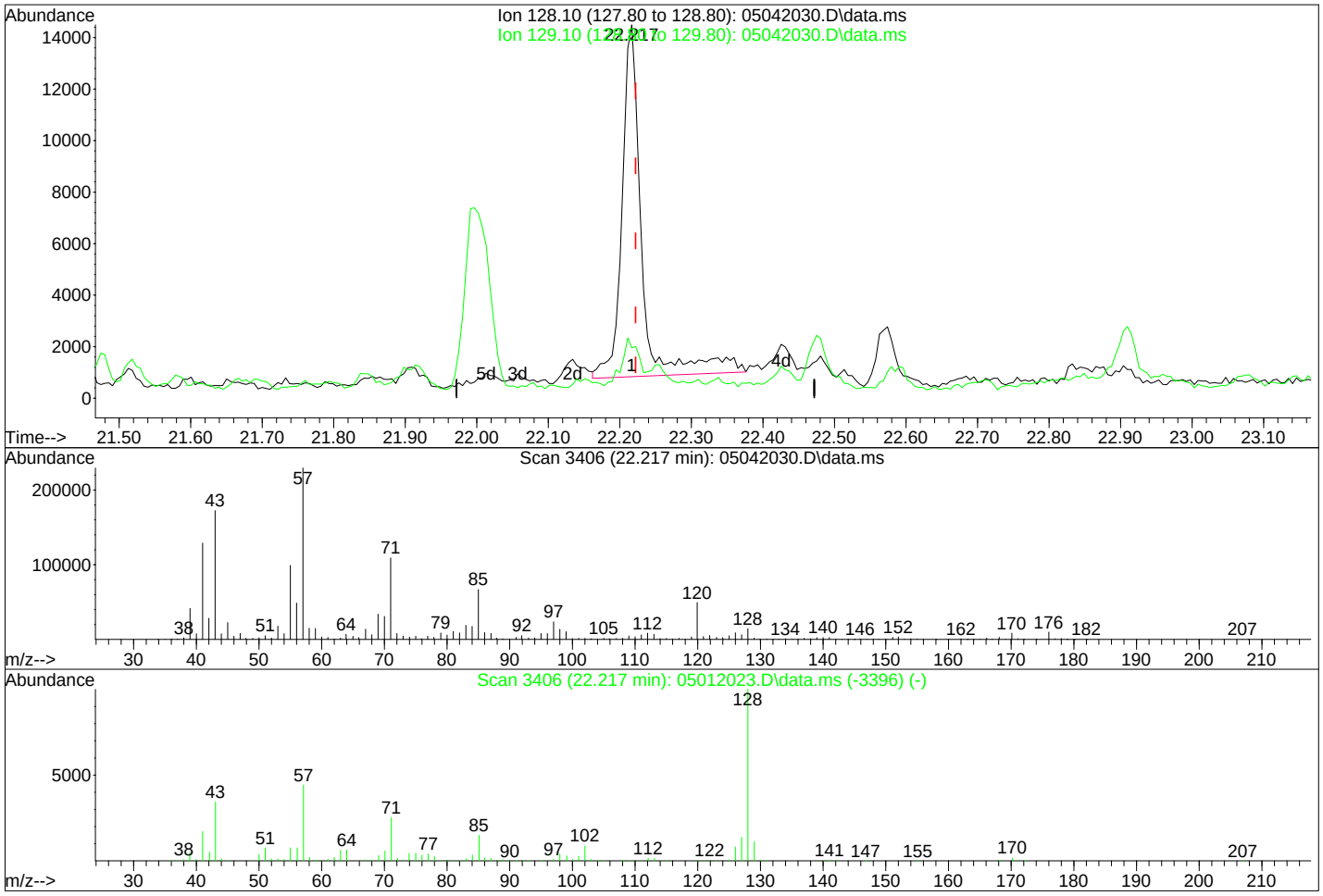
Ion	Ratio	Lower	Upper
128	100		
129	13.7	0.0	31.0



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\04\05042030.D Vial: 16
Acq On : 4 May 2020 23:10 Operator: TD
Sample : P2002105-014 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 05 07:10:57 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05042030.D\data.ms

(95) Naphthalene (T)

22.217min (-0.005) 0.19ng

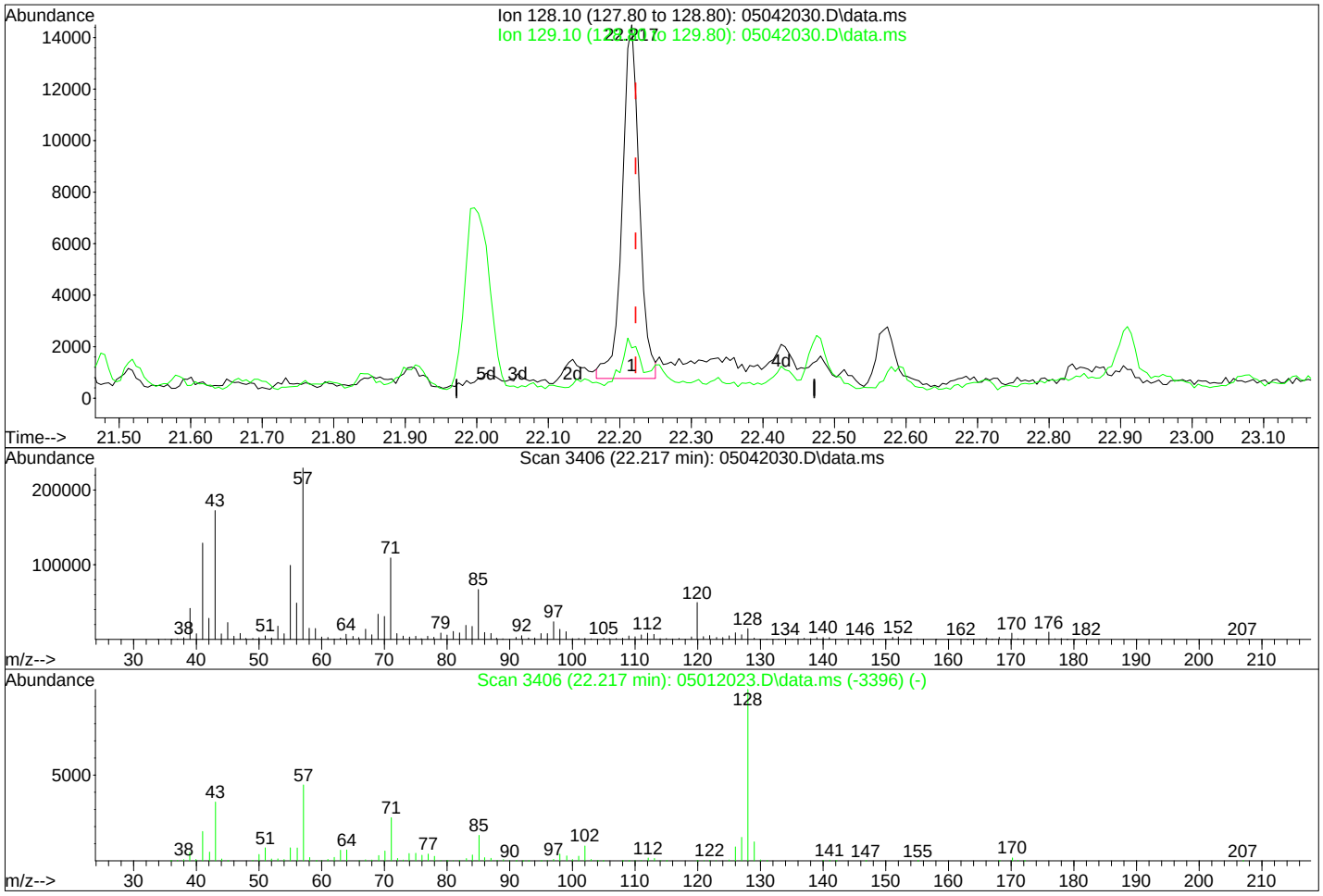
response 26141

Ion	Exp%	Act%
128.10	100	100
129.10	11.00	11.95
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\04\05042030.D Vial: 16
Acq On : 4 May 2020 23:10 Operator: TD
Sample : P2002105-014 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 05 07:10:57 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05042030.D\data.ms

(95) Naphthalene (T)

22.217min (-0.005) 0.17ng m

response 22802

Ion	Exp%	Act%
128.10	100	100
129.10	11.00	13.70
0.00	0.00	0.00
0.00	0.00	0.00

IPC

LH 5/6/20

5/7/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042031.D Vial: 1
Acq On : 4 May 2020 23:44 Operator: TD
Sample : P2002105-015 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 14:57:25 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/6/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	279922	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1170349	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	555309	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	442517	11.665	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.28%				
57) Toluene-d8 (SS2)	15.72	98	1165065	12.378	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.04%				
73) Bromofluorobenzene (SS3)	18.98	174	456334	13.474	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.76%				
Target Compounds							Qvalue
2) Propene	4.10	42	13393	0.413	ng		99
3) Dichlorodifluoromethan...	4.25	85	2372720	37.418	ng		100
4) Chloromethane	4.52	50	23872	0.481	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	80052	2.113	ng		99
6) Vinyl Chloride	4.81	62	624	N.D.			
7) 1,3-Butadiene	5.21	54	404	N.D.			
8) Bromomethane	5.64	94	17269	0.600	ng		99
9) Chloroethane	5.98	64	2025	0.094	ng		95
10) Ethanol	6.34	45	122090	4.877	ng		99
11) Acetonitrile	6.59	41	20465	0.358	ng		91
12) Acrolein	6.79	56	11558	0.584	ng		99
13) Acetone	6.98	58	249373	9.961	ng		98
14) Trichlorofluoromethane	7.24	101	222785	3.975	ng		100
15) 2-Propanol (Isopropanol)	7.50	45	53702	0.709	ng		93
16) Acrylonitrile	7.75	53	1128	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	13824	0.425	ng		99
20) 3-Chloro-1-propene (Al...	8.57	41	778	N.D.			
21) Trichlorotrifluoroethane	8.84	151	199913	7.556	ng		99
22) Carbon Disulfide	8.67	76	228551	1.960	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.09	73	887	N.D.			
26) Vinyl Acetate	10.17	86	12558	1.610	ng	#	35
27) 2-Butanone (MEK)	10.45	72	29132	1.364	ng		99
28) cis-1,2-Dichloroethene	10.95	61	1176	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.26	61	397213	32.264	ng		93
31) n-Hexane	11.26	57	56111	1.051	ng		97
32) Chloroform	11.31	83	12945	0.232	ng		98
34) Tetrahydrofuran (THF)	11.72	72	12621	0.606	ng		93
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	514	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	12.87	61	326	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	50173	0.400	ng		100
42) Carbon Tetrachloride	13.03	117	116434	2.727	ng		99
43) Cyclohexane	13.17	84	62391	1.334	ng		99
44) tert-Amyl Methyl Ether	13.46	73	3227	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	13.92	83	1381	N.D.			
47) Trichloroethene	13.96	130	1781	0.055	ng		92
48) 1,4-Dioxane	13.96	88	2716	0.107	ng		97
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.19	100	313	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042031.D Vial: 1
Acq On : 4 May 2020 23:44 Operator: TD
Sample : P2002105-015 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 14:57:25 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

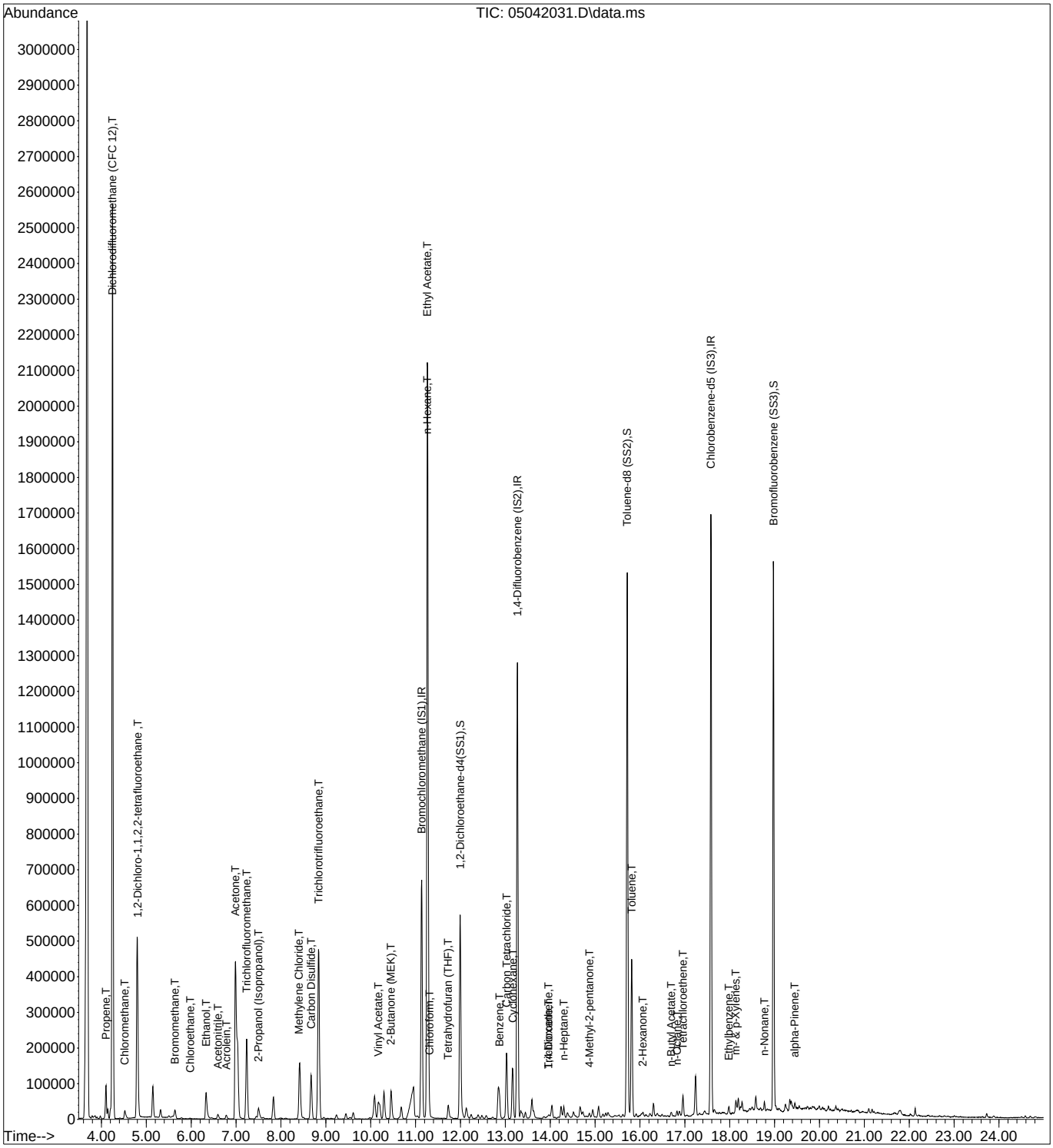
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.30	71	8385	0.286 ng	95
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.88	58	3183	0.114 ng	76
54) trans-1,3-Dichloropropene	0.00	75	0	N.D. d	
55) 1,1,2-Trichloroethane	15.54	97	316	N.D.	
58) Toluene	15.82	91	364874	3.007 ng	100
59) 2-Hexanone	16.06	43	8242m	0.124 ng	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	16.48	107	252	N.D.	
62) n-Butyl Acetate	16.70	43	7723	0.108 ng	90
63) n-Octane	16.83	57	2574	0.102 ng	89
64) Tetrachloroethene	16.96	166	19519	0.570 ng	100
65) Chlorobenzene	17.66	112	2119	N.D.	
66) Ethylbenzene	17.98	91	16406	0.121 ng	97
67) m- & p-Xylenes	18.14	91	22257	0.207 ng	95
68) Bromoform	18.20	173	300	N.D.	
69) Styrene	18.47	104	885	N.D.	
70) o-Xylene	18.58	91	5191	N.D.	
71) n-Nonane	18.77	43	9166	0.159 ng	96
72) 1,1,2,2-Tetrachloroethane	18.52	83	352	N.D.	
74) Cumene	19.10	105	1599	N.D.	
75) alpha-Pinene	19.45	93	7890	0.111 ng	92
76) n-Propylbenzene	19.55	91	2640	N.D.	
77) 3-Ethyltoluene	19.64	105	2293	N.D.	
78) 4-Ethyltoluene	19.68	105	1125	N.D.	
79) 1,3,5-Trimethylbenzene	19.75	105	1173	N.D.	
80) alpha-Methylstyrene	19.88	118	474	N.D.	
81) 2-Ethyltoluene	19.91	105	1325	N.D.	
82) 1,2,4-Trimethylbenzene	20.10	105	2206	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.23	91	489	N.D.	
85) 1,3-Dichlorobenzene	20.25	146	169	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	490	N.D.	
87) sec-Butylbenzene	20.35	105	1703	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	1196	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	736	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.61	68	958	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.29	57	1062	N.D.	
94) 1,2,4-Trichlorobenzene	22.11	180	315	N.D.	
95) Naphthalene	22.21	128	1975	N.D.	
96) n-Dodecane	22.21	57	601	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.11	119	535	N.D.	
100) n-Butylbenzene	20.85	91	1209	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042031.D Vial: 1
Acq On : 4 May 2020 23:44 Operator: TD
Sample : P2002105-015 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 14:57:25 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042031.D Vial: 1
Acq On : 4 May 2020 23:44 Operator: TD
Sample : P2002105-015 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 14:57:25 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/6/20

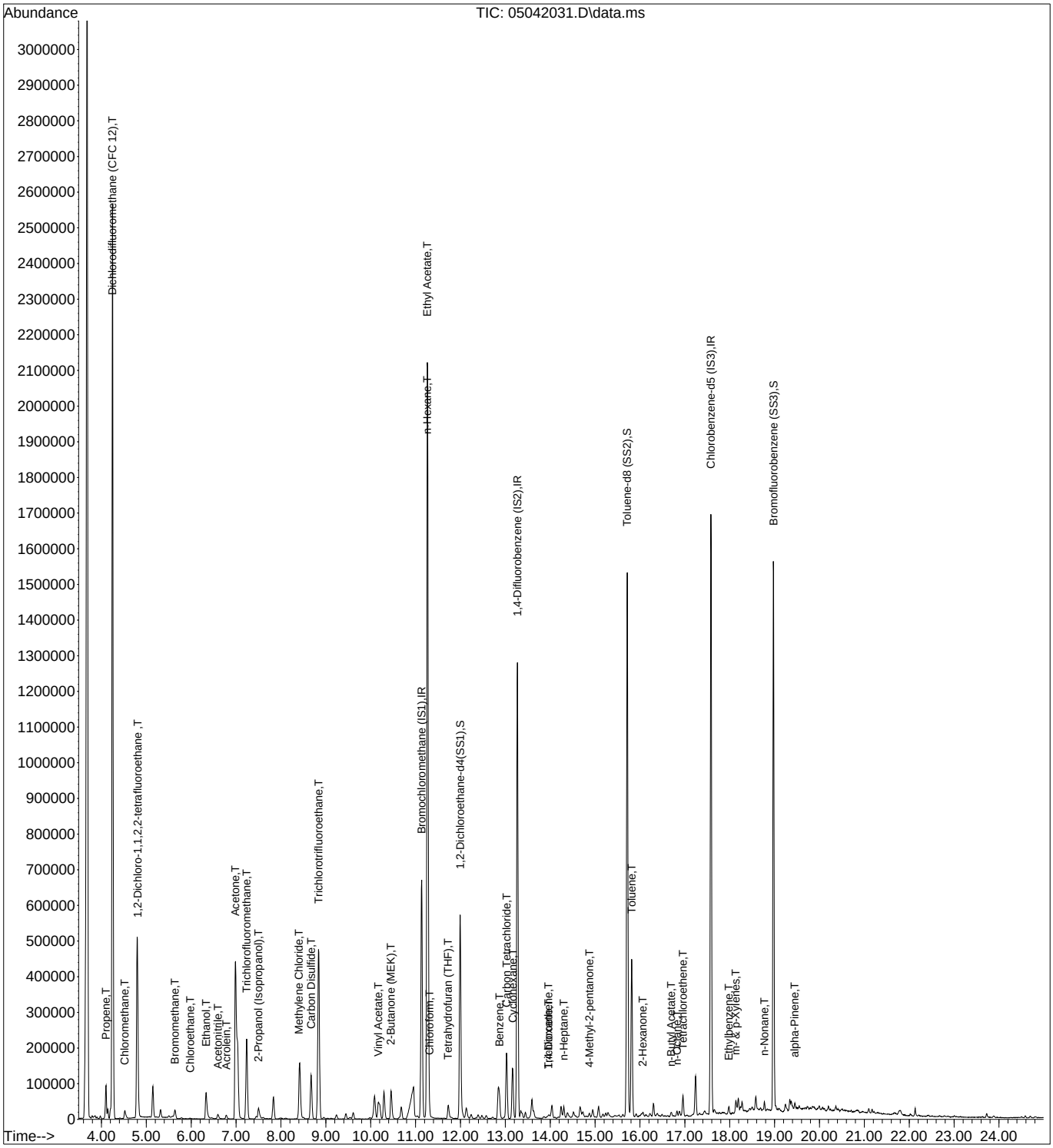
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	279922	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1170349	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	555309	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	442517	11.665	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.28%				
57) Toluene-d8 (SS2)	15.72	98	1165065	12.378	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.04%				
73) Bromofluorobenzene (SS3)	18.98	174	456334	13.474	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.76%				
Target Compounds							Qvalue
2) Propene	4.10	42	13393	0.413	ng		99
3) Dichlorodifluoromethan...	4.25	85	2372720	37.418	ng		100
4) Chloromethane	4.52	50	23872	0.481	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	80052	2.113	ng		99
8) Bromomethane	5.64	94	17269	0.600	ng		99
9) Chloroethane	5.98	64	2025	0.094	ng		95
10) Ethanol	6.34	45	122090	4.877	ng		99
11) Acetonitrile	6.59	41	20465	0.358	ng		91
12) Acrolein	6.79	56	11558	0.584	ng		99
13) Acetone	6.98	58	249373	9.961	ng		98
14) Trichlorofluoromethane	7.24	101	222785	3.975	ng		100
15) 2-Propanol (Isopropanol)	7.50	45	53702	0.709	ng		93
19) Methylene Chloride	8.40	84	13824	0.425	ng		99
21) Trichlorotrifluoroethane	8.84	151	199913	7.556	ng		99
22) Carbon Disulfide	8.67	76	228551	1.960	ng		99
26) Vinyl Acetate	10.17	86	12558	1.610	ng	#	35
27) 2-Butanone (MEK)	10.45	72	29132	1.364	ng		99
30) Ethyl Acetate	11.26	61	397213	32.264	ng		93
31) n-Hexane	11.26	57	56111	1.051	ng		97
32) Chloroform	11.31	83	12945	0.232	ng		98
34) Tetrahydrofuran (THF)	11.72	72	12621	0.606	ng		93
41) Benzene	12.87	78	50173	0.400	ng		100
42) Carbon Tetrachloride	13.03	117	116434	2.727	ng		99
43) Cyclohexane	13.17	84	62391	1.334	ng		99
47) Trichloroethene	13.96	130	1781	0.055	ng		92
48) 1,4-Dioxane	13.96	88	2716	0.107	ng		97
51) n-Heptane	14.30	71	8385	0.286	ng		95
53) 4-Methyl-2-pentanone	14.88	58	3183	0.114	ng		76
58) Toluene	15.82	91	364874	3.007	ng		100
59) 2-Hexanone	16.06	43	8242m	0.124	ng		
62) n-Butyl Acetate	16.70	43	7723	0.108	ng		90
63) n-Octane	16.83	57	2574	0.102	ng		89
64) Tetrachloroethene	16.96	166	19519	0.570	ng		100
66) Ethylbenzene	17.98	91	16406	0.121	ng		97
67) m- & p-Xylenes	18.14	91	22257	0.207	ng		95
71) n-Nonane	18.77	43	9166	0.159	ng		96
75) alpha-Pinene	19.45	93	7890	0.111	ng		92

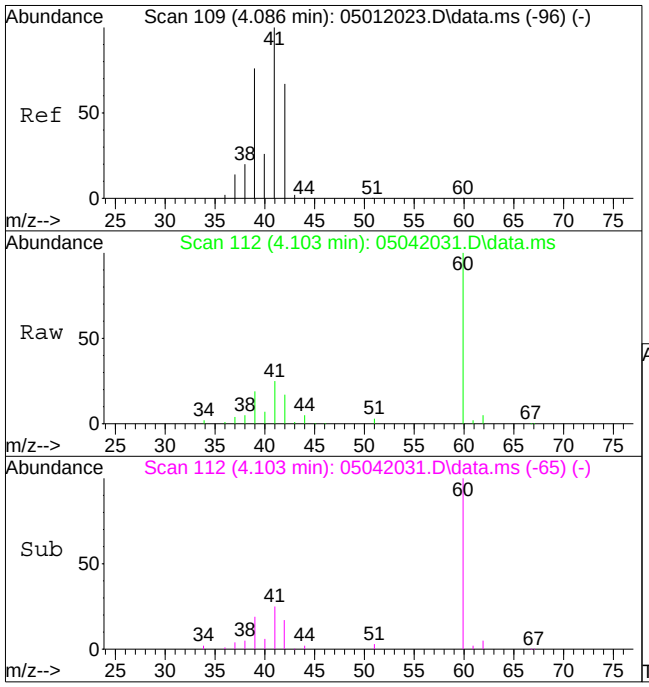
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042031.D Vial: 1
Acq On : 4 May 2020 23:44 Operator: TD
Sample : P2002105-015 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 14:57:25 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

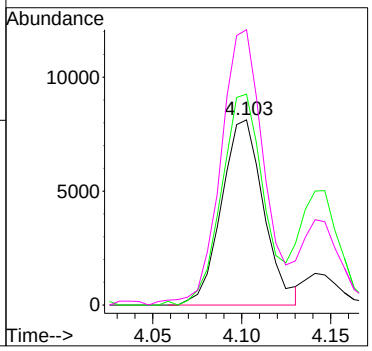


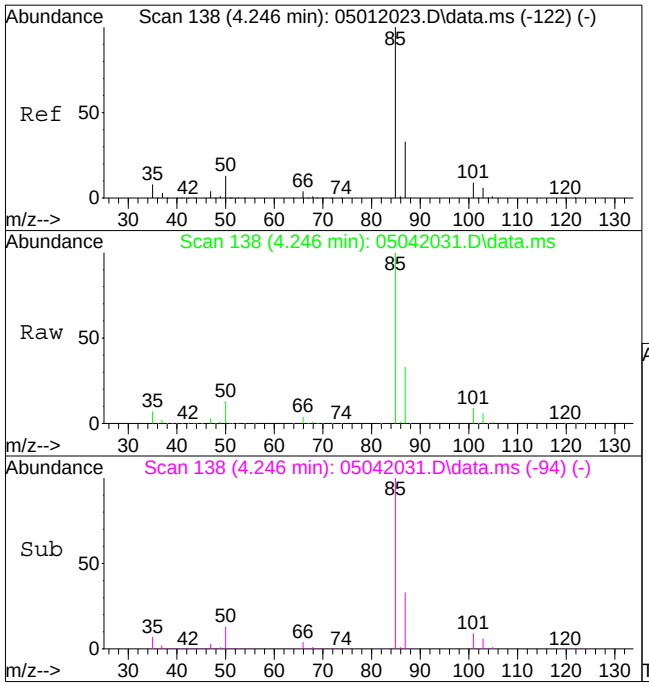


#2
Propene
Concen: 0.41 ng
RT: 4.10 min Scan# 112
Delta R.T. 0.011 min
Lab File: 05042031.D
Acq: 4 May 2020 23:44

Tgt Ion: 42 Resp: 13393

Ion	Ratio	Lower	Upper
42	100		
39	115.1	96.1	136.1
41	150.1	131.9	171.9

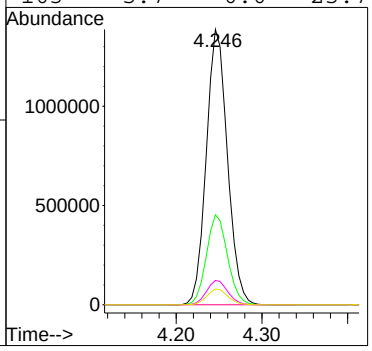


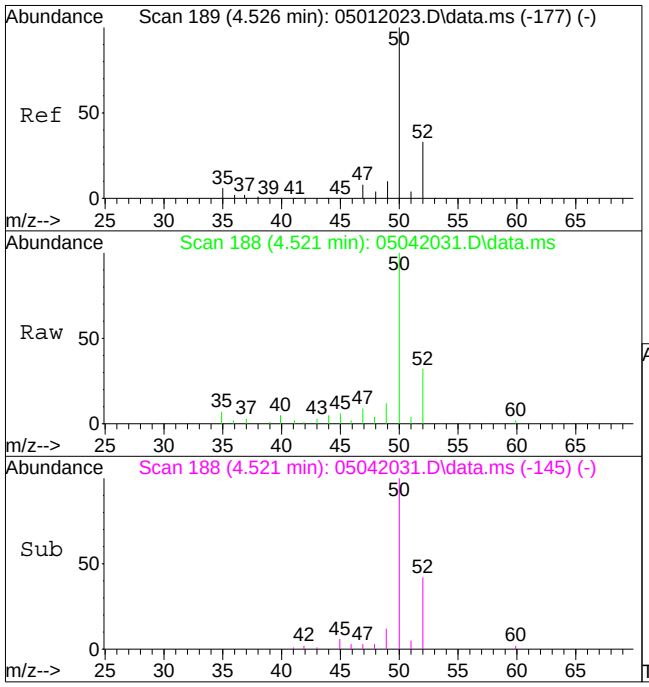


#3
Dichlorodifluoromethane (CFC 12)
Concen: 37.42 ng
RT: 4.25 min Scan# 138
Delta R.T. -0.006 min
Lab File: 05042031.D
Acq: 4 May 2020 23:44

Tgt Ion: 85 Resp: 2372720

Ion	Ratio	Lower	Upper
85	100		
87	32.6	12.4	52.4
101	8.9	0.0	28.8
103	5.7	0.0	25.7

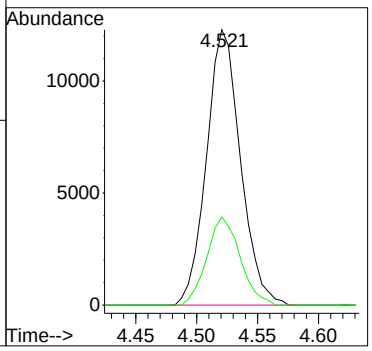


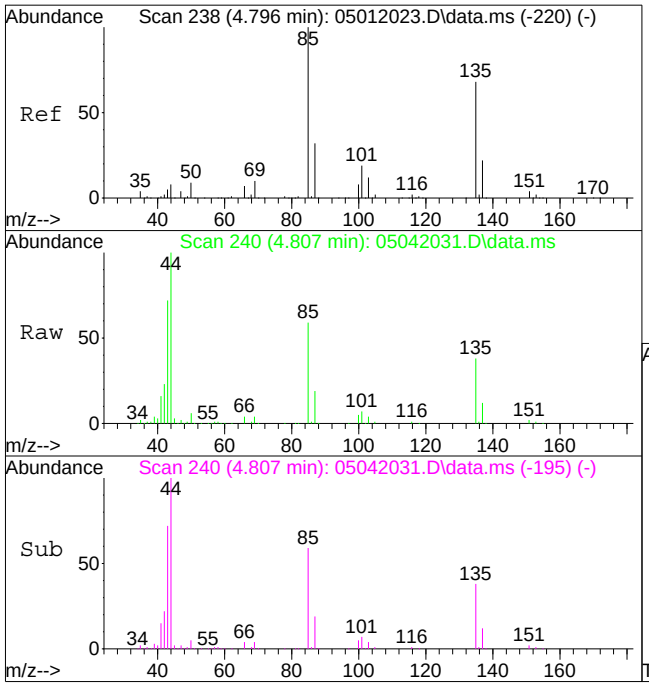


#4
Chloromethane
Concen: 0.48 ng
RT: 4.52 min Scan# 188
Delta R.T. -0.011 min
Lab File: 05042031.D
Acq: 4 May 2020 23:44

Tgt Ion: 50 Resp: 23872

Ion	Ratio	Lower	Upper
50	100		
52	31.2	12.5	52.5

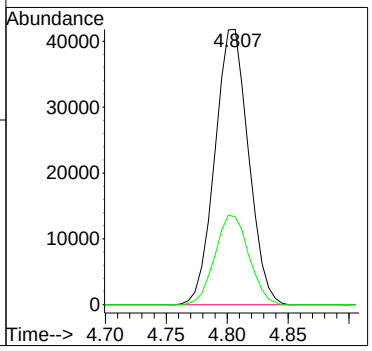


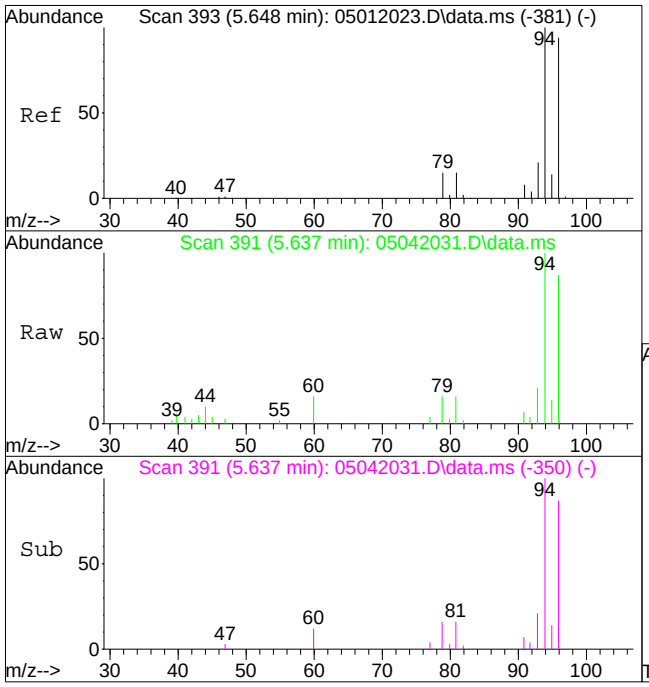


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 2.11 ng
RT: 4.81 min Scan# 240
Delta R.T. -0.000 min
Lab File: 05042031.D
Acq: 4 May 2020 23:44

Tgt Ion:135 Resp: 80052

Ion	Ratio	Lower	Upper
135	100		
137	32.9	12.1	52.1

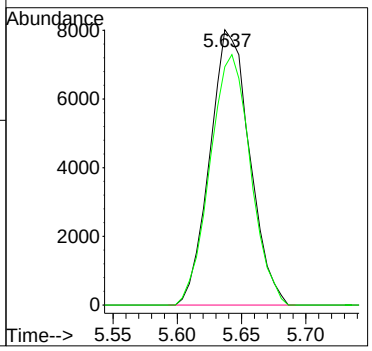


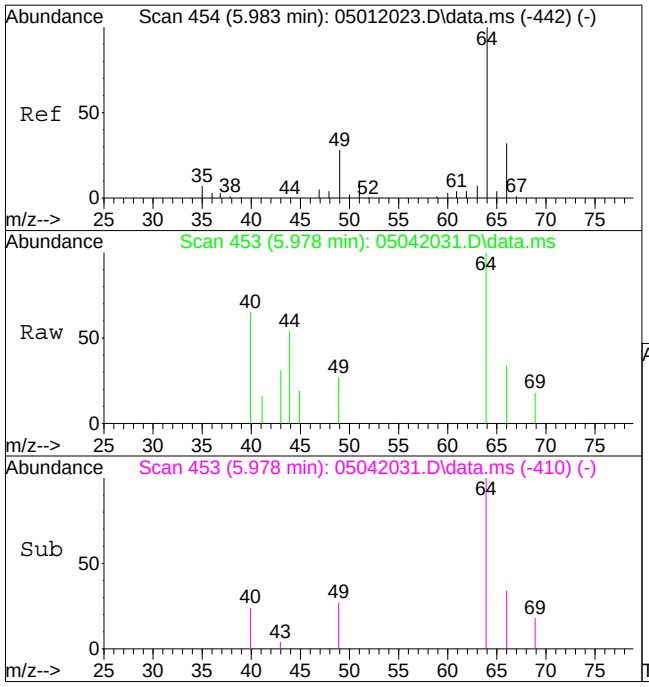


#8
Bromomethane
Concen: 0.60 ng
RT: 5.64 min Scan# 391
Delta R.T. -0.022 min
Lab File: 05042031.D
Acq: 4 May 2020 23:44

Tgt Ion: 94 Resp: 17269

Ion	Ratio	Lower	Upper
94	100		
96	92.5	73.7	113.7

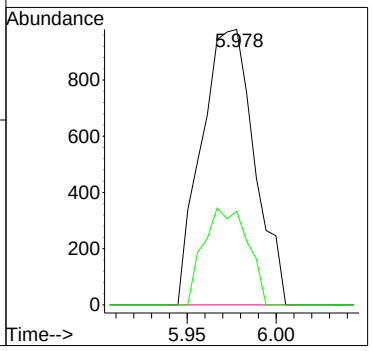


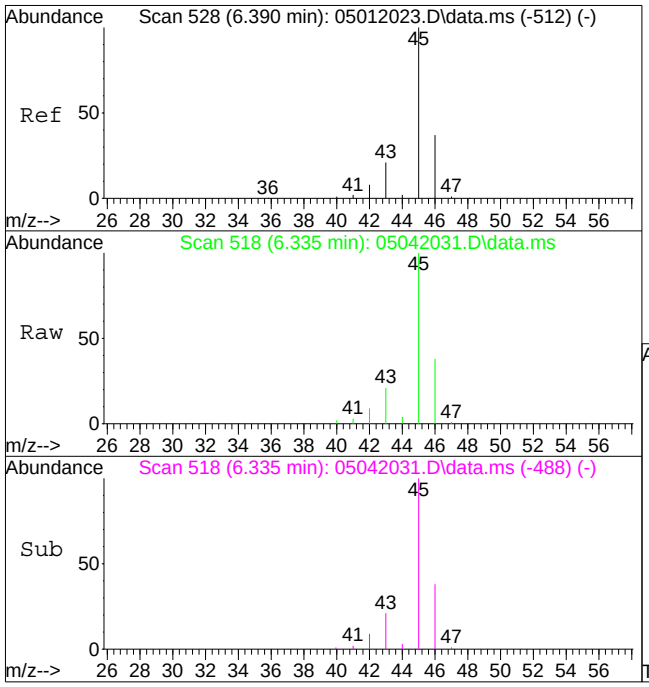


#9
Chloroethane
Concen: 0.09 ng
RT: 5.98 min Scan# 453
Delta R.T. -0.011 min
Lab File: 05042031.D
Acq: 4 May 2020 23:44

Tgt Ion: 64 Resp: 2025

Ion	Ratio	Lower	Upper
64	100		
66	29.3	12.1	52.1

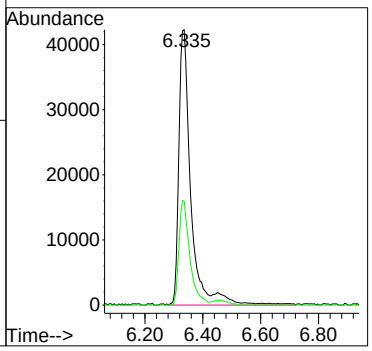


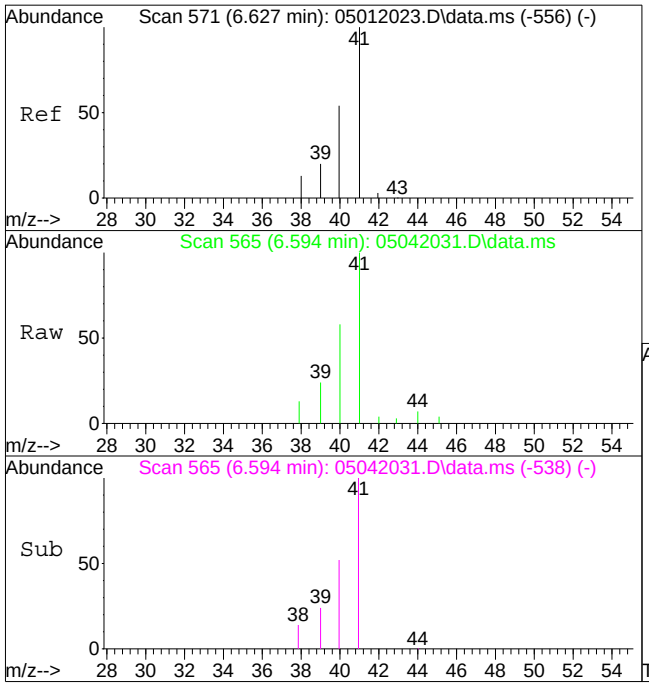


#10
Ethanol
Concen: 4.88 ng
RT: 6.34 min Scan# 518
Delta R.T. -0.083 min
Lab File: 05042031.D
Acq: 4 May 2020 23:44

Tgt Ion: 45 Resp: 122090

Ion	Ratio	Lower	Upper
45	100		
46	36.5	17.2	57.2

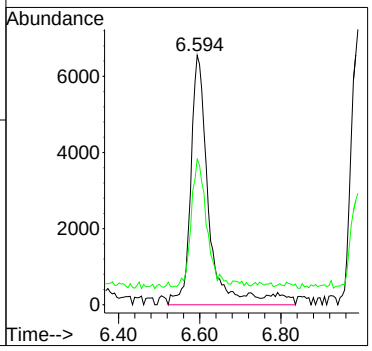


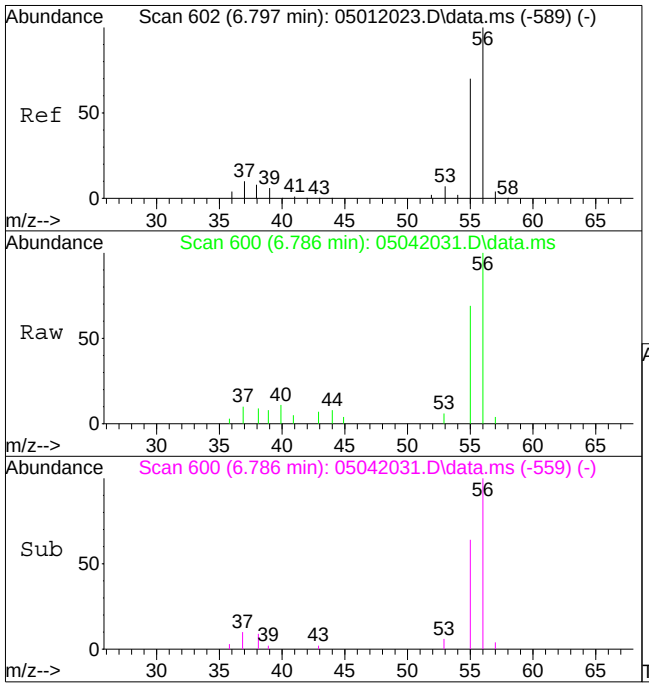


#11
Acetonitrile
Concen: 0.36 ng
RT: 6.59 min Scan# 565
Delta R.T. -0.050 min
Lab File: 05042031.D
Acq: 4 May 2020 23:44

Tgt Ion: 41 Resp: 20465

Ion	Ratio	Lower	Upper
41	100		
40	47.2	33.6	73.6

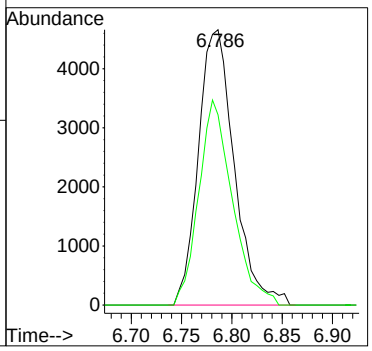


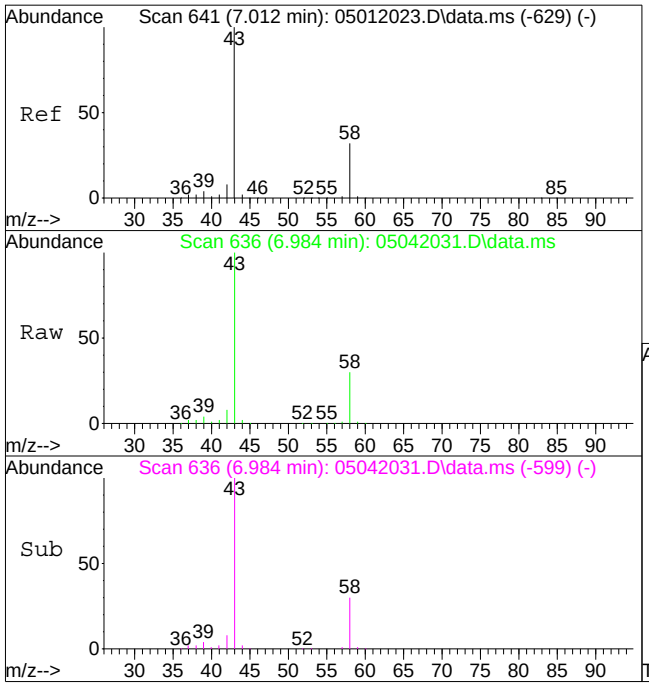


#12
Acrolein
Concen: 0.58 ng
RT: 6.79 min Scan# 600
Delta R.T. -0.022 min
Lab File: 05042031.D
Acq: 4 May 2020 23:44

Tgt Ion: 56 Resp: 11558

Ion	Ratio	Lower	Upper
56	100		
55	69.8	50.2	90.2

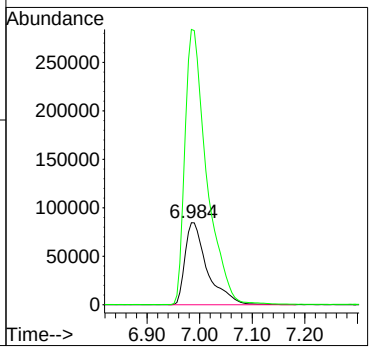


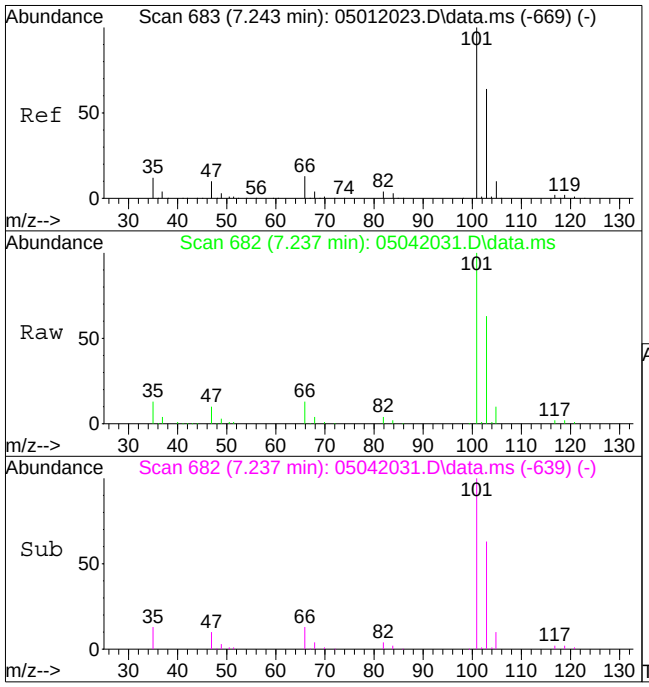


#13
Acetone
Concen: 9.96 ng
RT: 6.98 min Scan# 636
Delta R.T. -0.044 min
Lab File: 05042031.D
Acq: 4 May 2020 23:44

Tgt Ion: 58 Resp: 249373

Ion	Ratio	Lower	Upper
58	100		
43	328.4	294.4	354.4

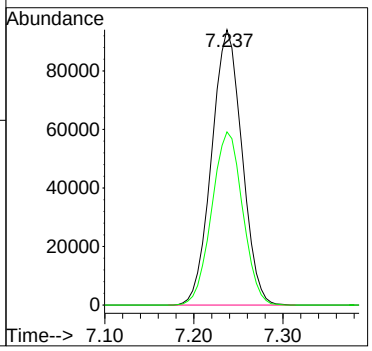


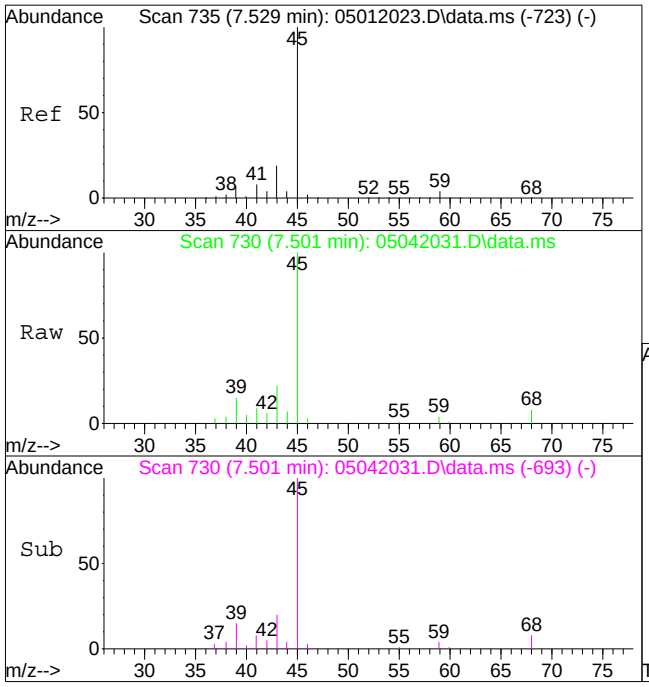


#14
Trichlorofluoromethane
Concen: 3.98 ng
RT: 7.24 min Scan# 682
Delta R.T. -0.011 min
Lab File: 05042031.D
Acq: 4 May 2020 23:44

Tgt Ion:101 Resp: 222785

Ion	Ratio	Lower	Upper
101	100		
103	64.1	44.4	84.4

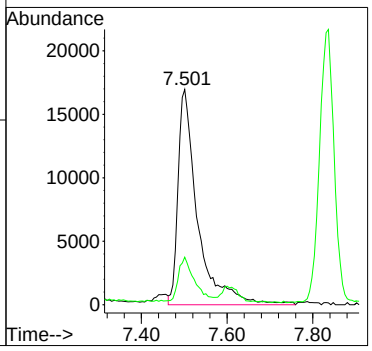


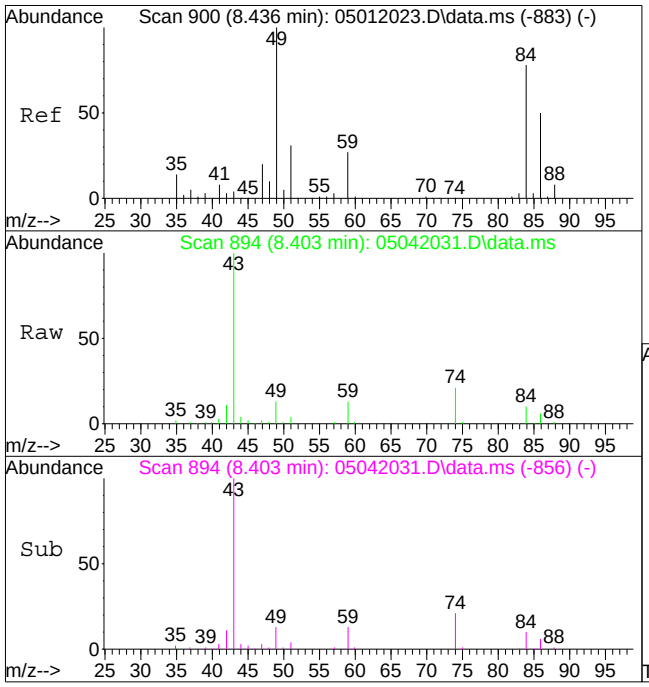


#15
2-Propanol (Isopropanol)
Concen: 0.71 ng
RT: 7.50 min Scan# 730
Delta R.T. -0.044 min
Lab File: 05042031.D
Acq: 4 May 2020 23:44

Tgt Ion: 45 Resp: 53702

Ion	Ratio	Lower	Upper
45	100		
43	16.2	0.0	39.5

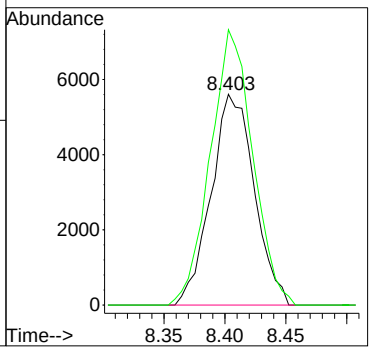


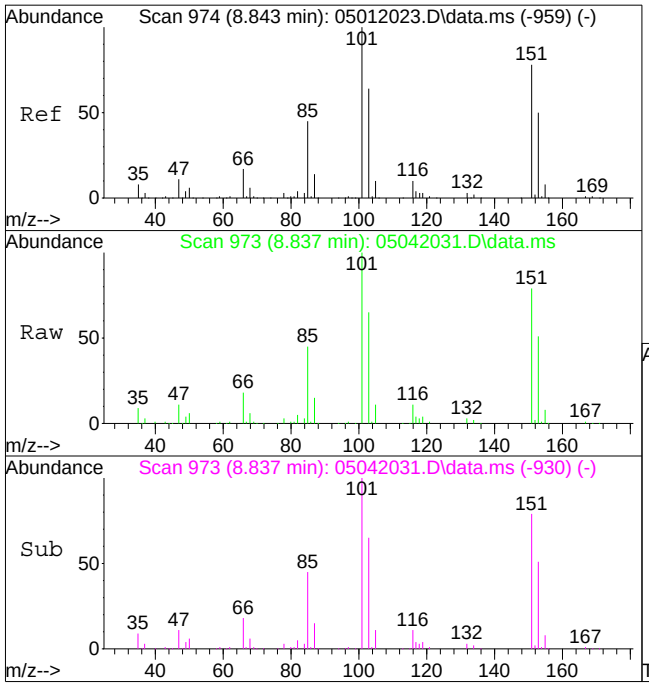


#19
Methylene Chloride
Concen: 0.42 ng
RT: 8.40 min Scan# 894
Delta R.T. -0.039 min
Lab File: 05042031.D
Acq: 4 May 2020 23:44

Tgt Ion: 84 Resp: 13824

Ion	Ratio	Lower	Upper
84	100		
49	128.1	104.8	154.8

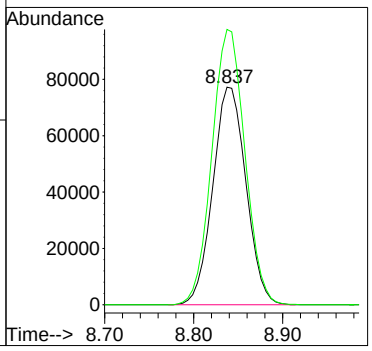


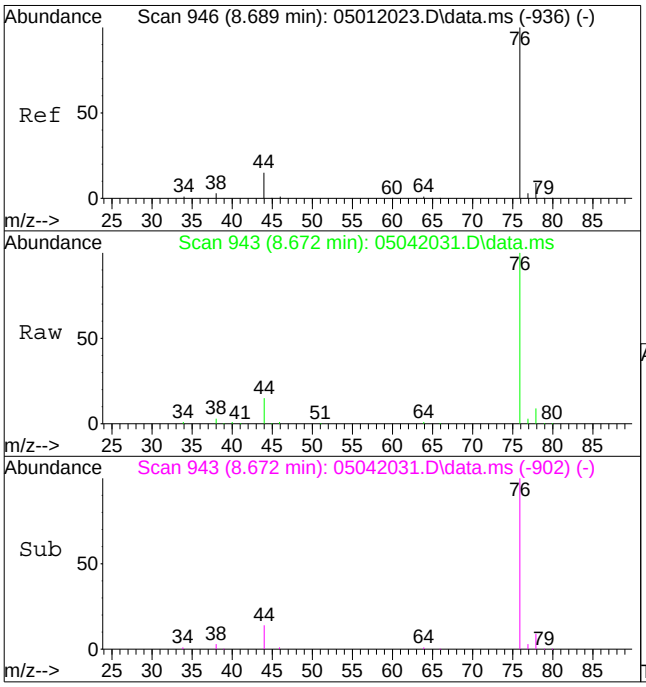


#21
Trichlorotrifluoroethane
Concen: 7.56 ng
RT: 8.84 min Scan# 973
Delta R.T. -0.011 min
Lab File: 05042031.D
Acq: 4 May 2020 23:44

Tgt Ion:151 Resp: 199913

Ion	Ratio	Lower	Upper
151	100		
101	126.2	107.3	147.3

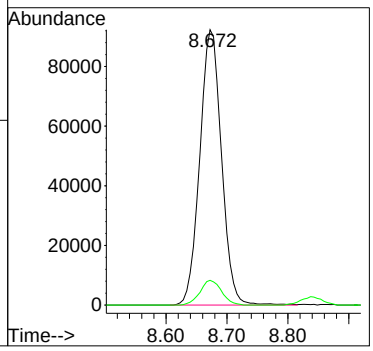


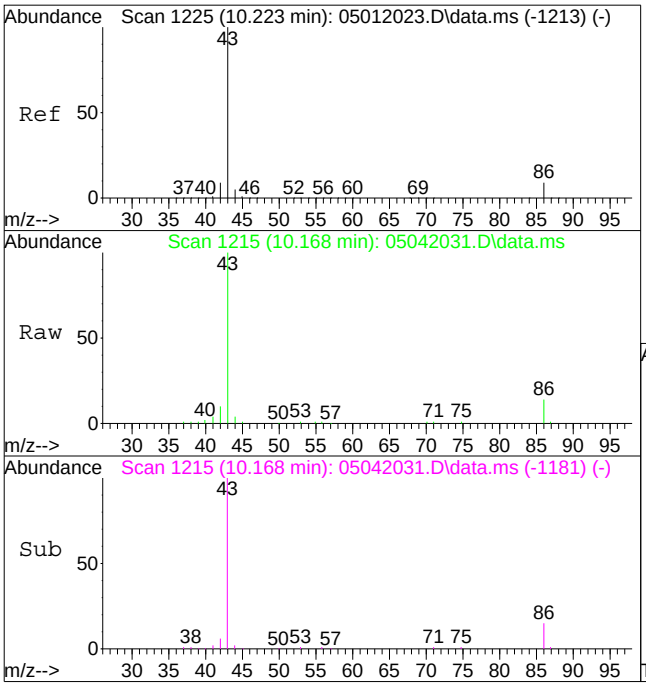


#22
Carbon Disulfide
Concen: 1.96 ng
RT: 8.67 min Scan# 943
Delta R.T. -0.022 min
Lab File: 05042031.D
Acq: 4 May 2020 23:44

Tgt Ion: 76 Resp: 228551

Ion	Ratio	Lower	Upper
76	100		
78	8.9	0.0	29.2

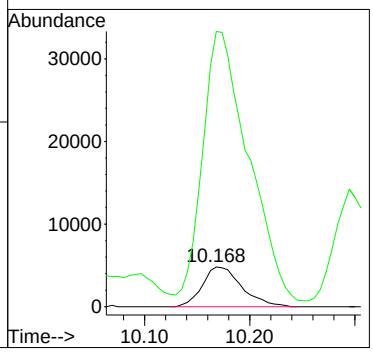


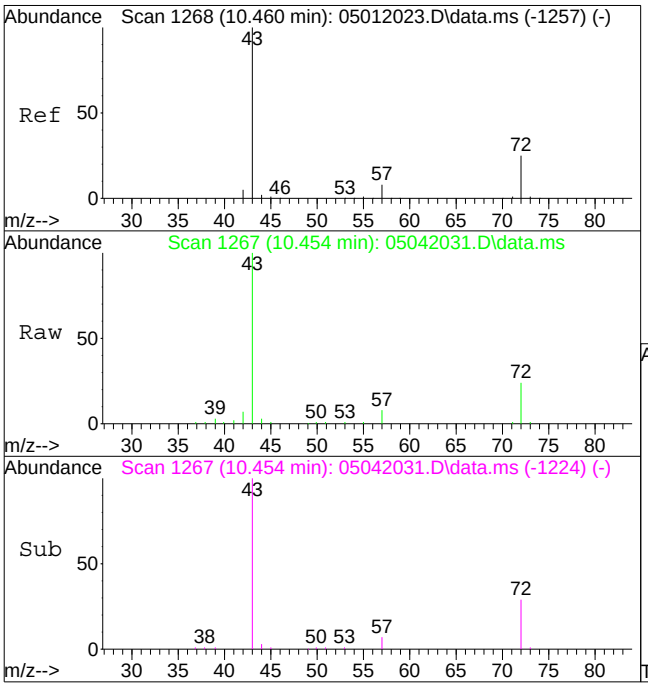


#26
Vinyl Acetate
Concen: 1.61 ng
RT: 10.17 min Scan# 1215
Delta R.T. -0.061 min
Lab File: 05042031.D
Acq: 4 May 2020 23:44

Tgt Ion: 86 Resp: 12558

Ion	Ratio	Lower	Upper
86	100		
43	809.5	1103.0	1143.0#

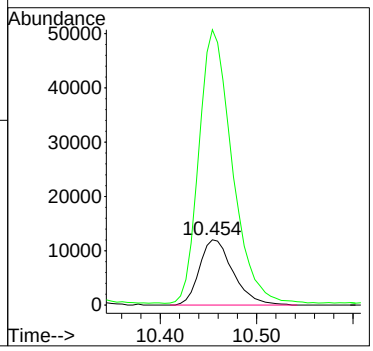


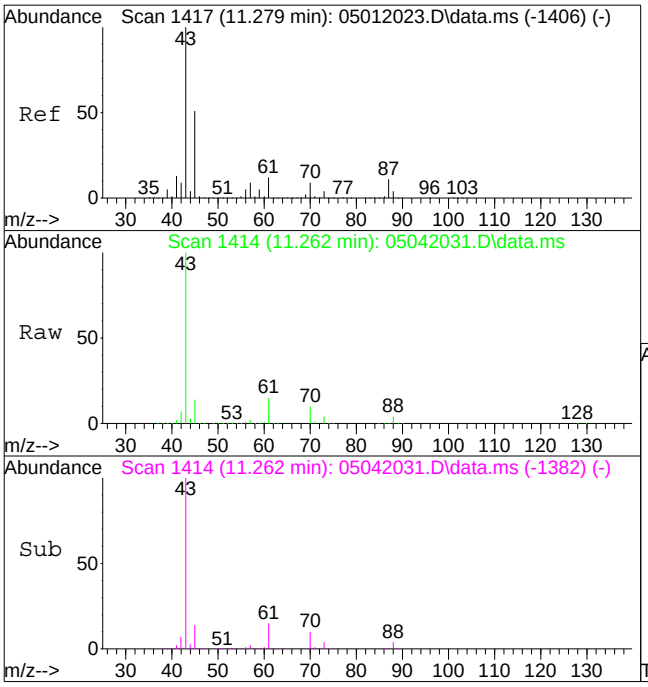


#27
2-Butanone (MEK)
Concen: 1.36 ng
RT: 10.45 min Scan# 1267
Delta R.T. -0.011 min
Lab File: 05042031.D
Acq: 4 May 2020 23:44

Tgt Ion: 72 Resp: 29132

Ion	Ratio	Lower	Upper
72	100		
43	412.8	389.7	429.7

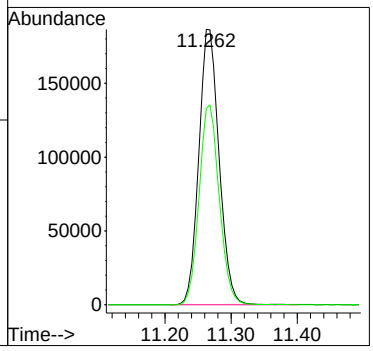


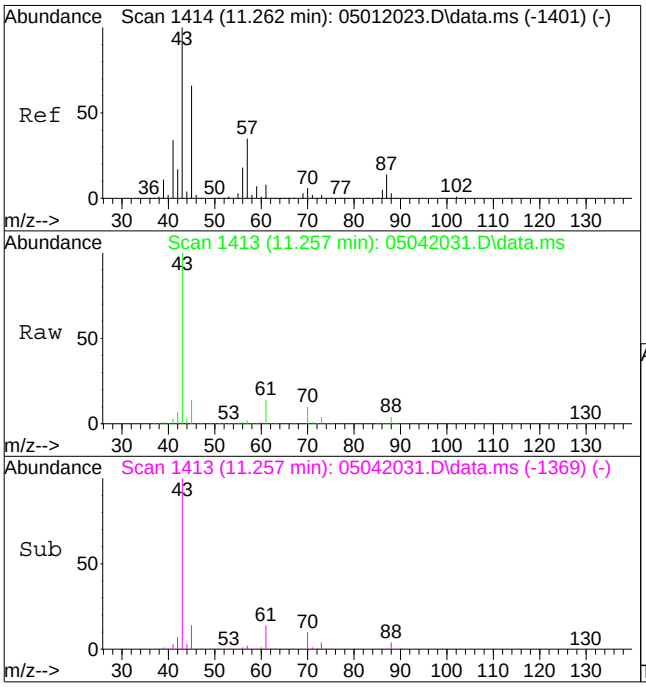


#30
Ethyl Acetate
Concen: 32.26 ng
RT: 11.26 min Scan# 1414
Delta R.T. -0.022 min
Lab File: 05042031.D
Acq: 4 May 2020 23:44

Tgt Ion: 61 Resp: 397213

Ion	Ratio	Lower	Upper
61	100		
70	72.2	57.9	97.9

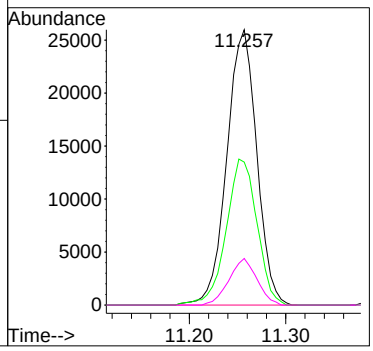


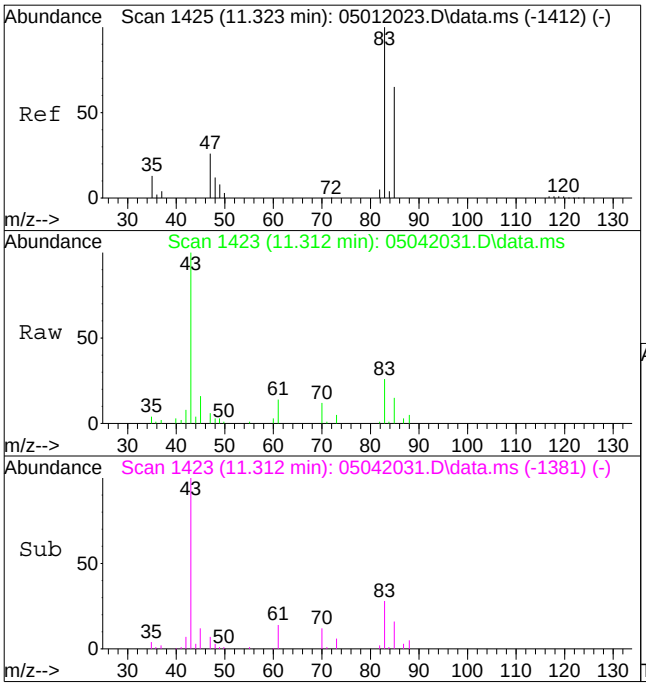


#31
n-Hexane
Concen: 1.05 ng
RT: 11.26 min Scan# 1413
Delta R.T. -0.006 min
Lab File: 05042031.D
Acq: 4 May 2020 23:44

Tgt Ion: 57 Resp: 56111

Ion	Ratio	Lower	Upper
57	100		
56	54.5	41.4	62.0
86	15.8	12.4	18.6

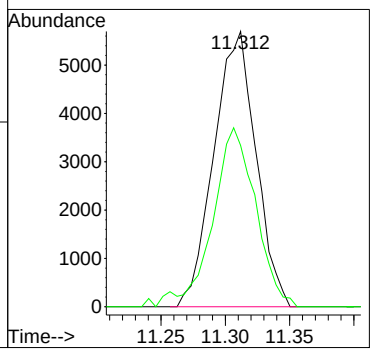


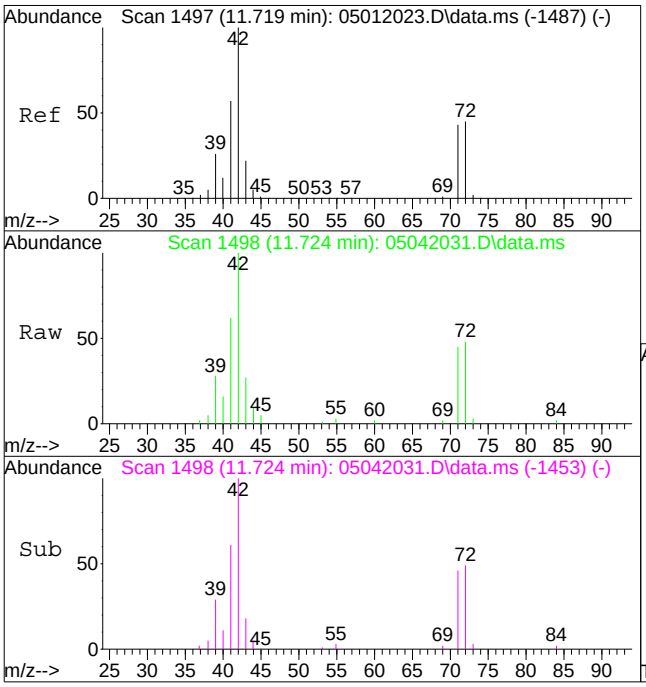


#32
Chloroform
Concen: 0.23 ng
RT: 11.31 min Scan# 1423
Delta R.T. -0.017 min
Lab File: 05042031.D
Acq: 4 May 2020 23:44

Tgt Ion: 83 Resp: 12945

Ion	Ratio	Lower	Upper
83	100		
85	66.9	45.5	85.5

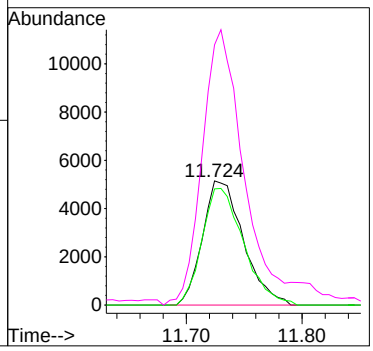


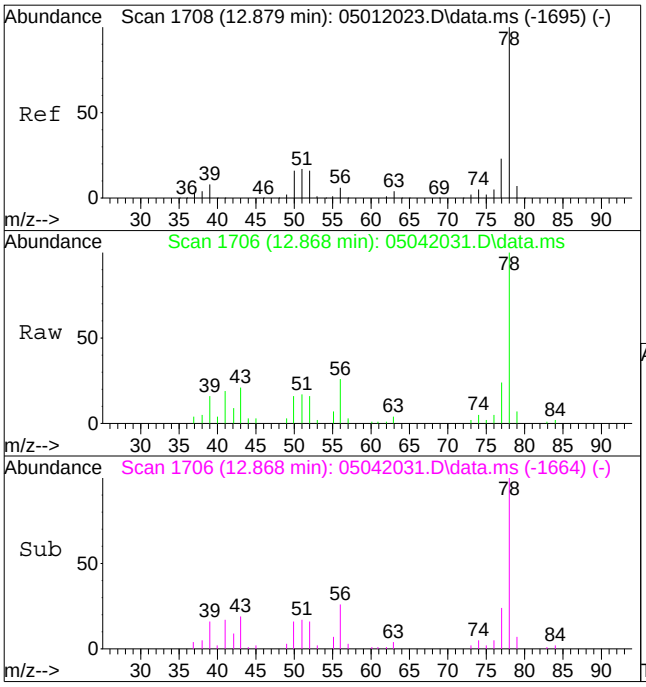


#34
Tetrahydrofuran (THF)
Concen: 0.61 ng
RT: 11.72 min Scan# 1498
Delta R.T. -0.000 min
Lab File: 05042031.D
Acq: 4 May 2020 23:44

Tgt Ion: 72 Resp: 12621

Ion	Ratio	Lower	Upper
72	100		
71	95.4	77.0	117.0
42	239.5	204.6	244.6

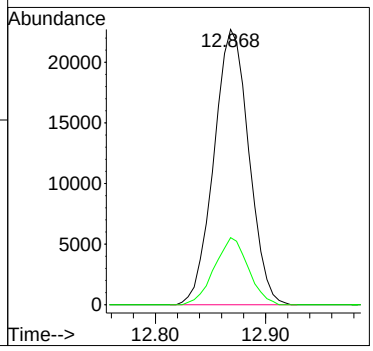


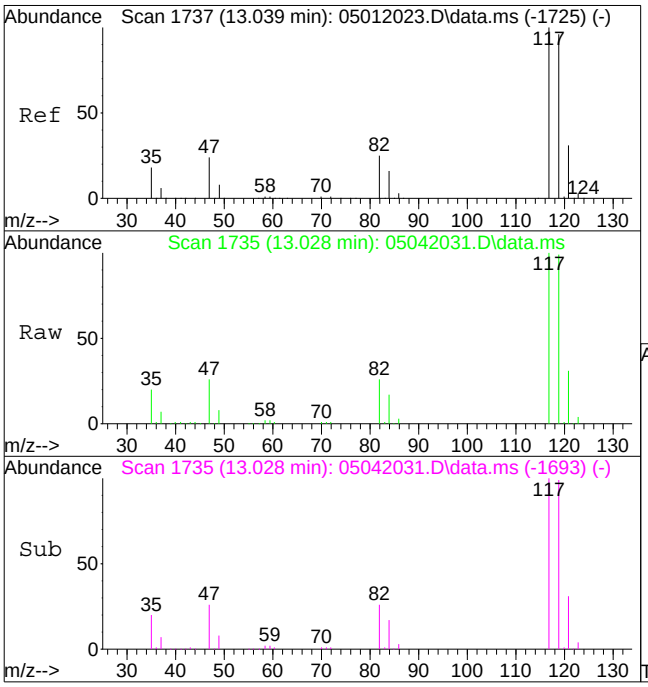


#41
Benzene
Concen: 0.40 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05042031.D
Acq: 4 May 2020 23:44

Tgt Ion: 78 Resp: 50173

Ion	Ratio	Lower	Upper
78	100		
77	23.5	3.4	43.4

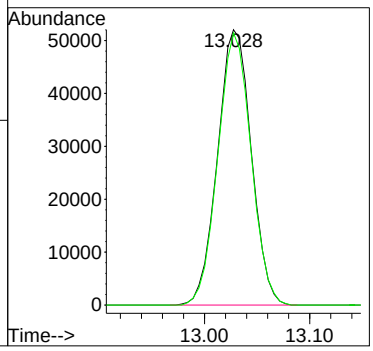


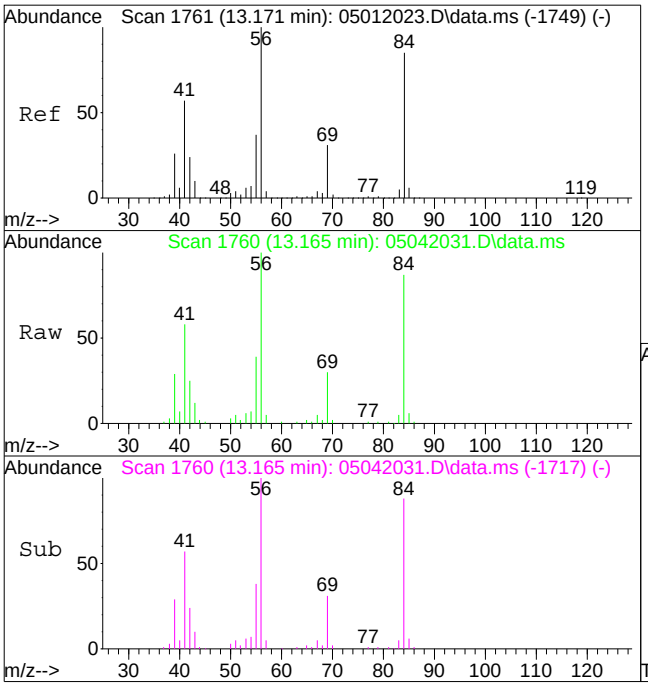


#42
Carbon Tetrachloride
Concen: 2.73 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05042031.D
Acq: 4 May 2020 23:44

Tgt Ion:117 Resp: 116434

Ion	Ratio	Lower	Upper
117	100		
119	96.9	76.2	116.2

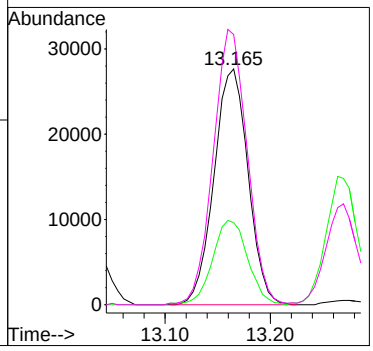


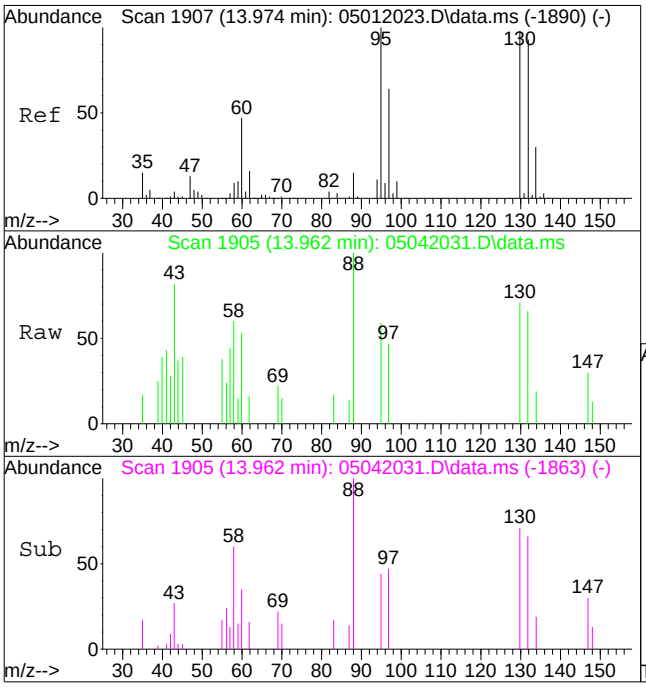


#43
Cyclohexane
Concen: 1.33 ng
RT: 13.17 min Scan# 1760
Delta R.T. -0.011 min
Lab File: 05042031.D
Acq: 4 May 2020 23:44

Tgt Ion: 84 Resp: 62391

Ion	Ratio	Lower	Upper
84	100		
69	36.9	16.5	56.5
56	116.5	97.4	137.4

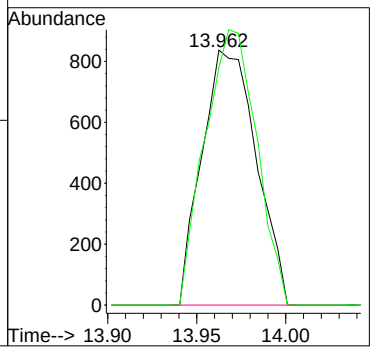


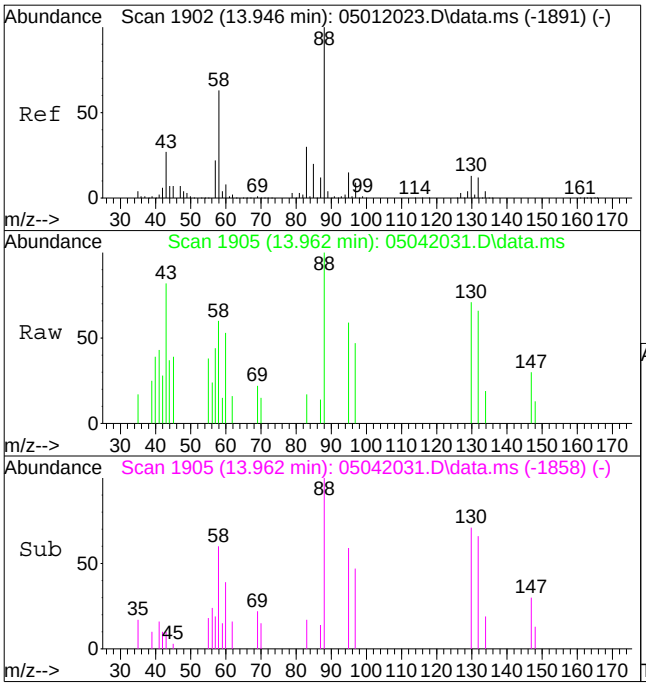


#47
Trichloroethene
Concen: 0.05 ng
RT: 13.96 min Scan# 1905
Delta R.T. -0.017 min
Lab File: 05042031.D
Acq: 4 May 2020 23:44

Tgt Ion:130 Resp: 1781

Ion	Ratio	Lower	Upper
130	100		
132	102.7	74.9	114.9

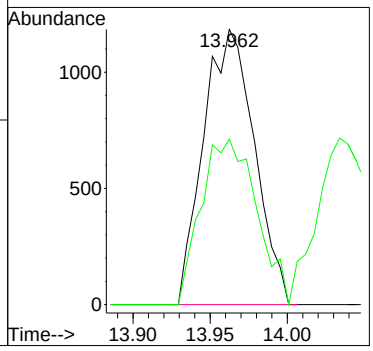


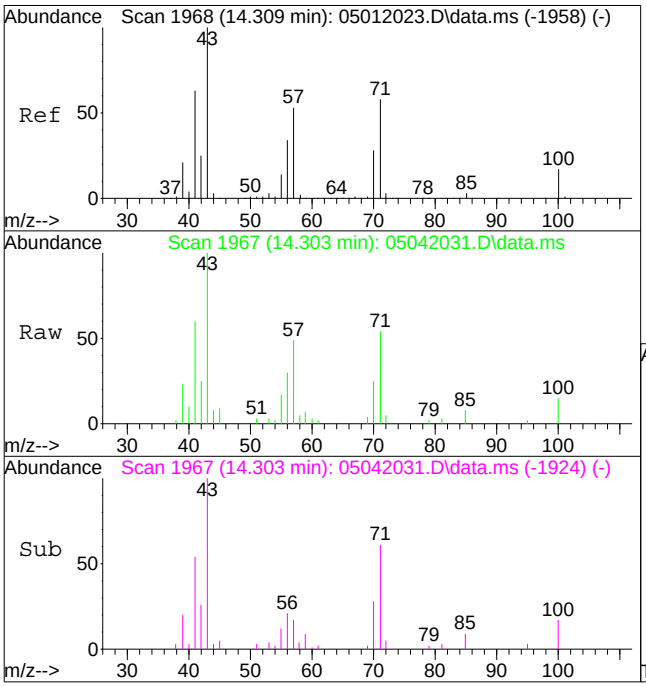


#48
1,4-Dioxane
Concen: 0.11 ng
RT: 13.96 min Scan# 1905
Delta R.T. 0.011 min
Lab File: 05042031.D
Acq: 4 May 2020 23:44

Tgt Ion: 88 Resp: 2716

Ion	Ratio	Lower	Upper
88	100		
58	65.4	42.8	82.8

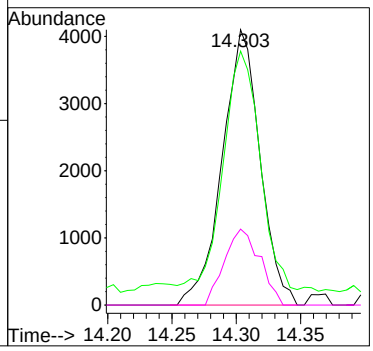


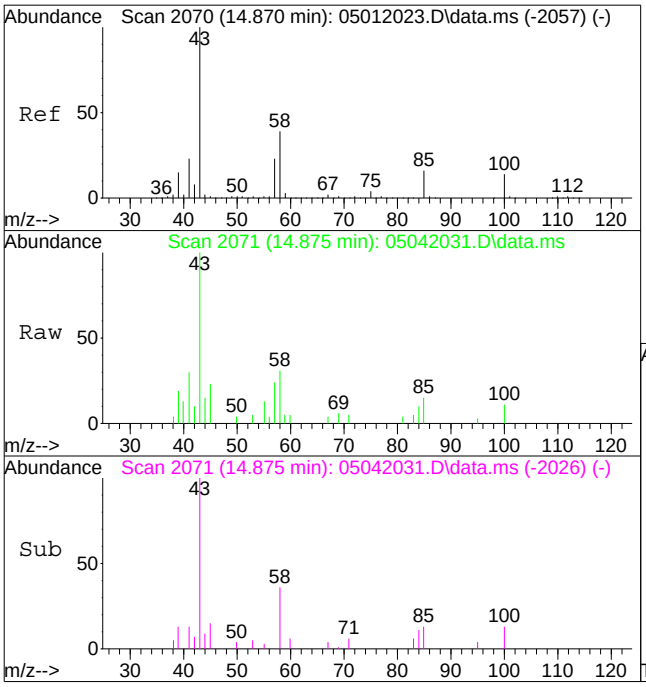


#51
n-Heptane
Concen: 0.29 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05042031.D
Acq: 4 May 2020 23:44

Tgt Ion: 71 Resp: 8385

Ion	Ratio	Lower	Upper
71	100		
57	86.1	71.0	111.0
100	25.9	8.4	48.4

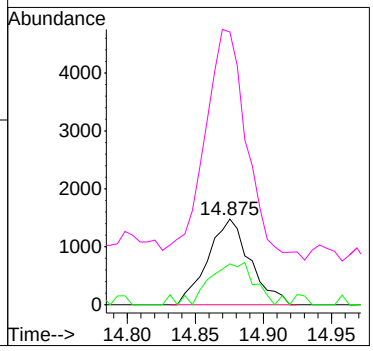


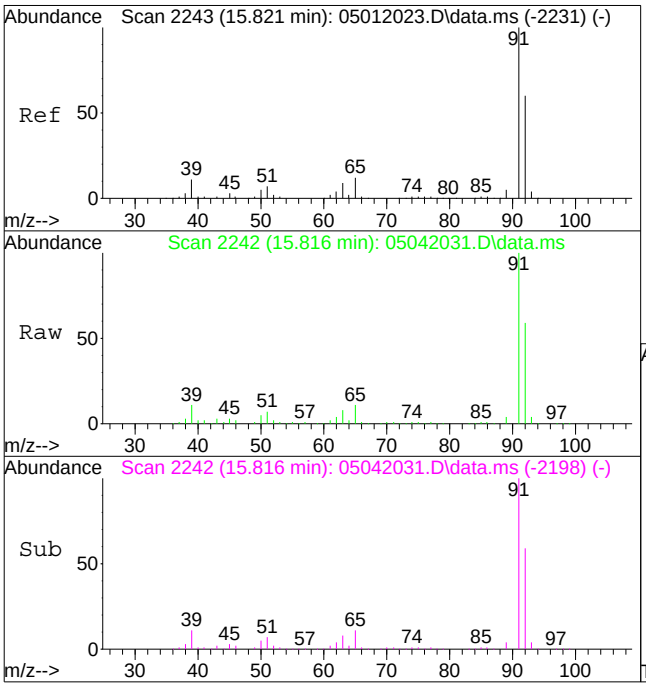


#53
4-Methyl-2-pentanone
Concen: 0.11 ng
RT: 14.88 min Scan# 2071
Delta R.T. -0.000 min
Lab File: 05042031.D
Acq: 4 May 2020 23:44

Tgt Ion: 58 Resp: 3183

Ion	Ratio	Lower	Upper
58	100		
85	51.3	35.4	53.2
43	301.2	203.3	304.9

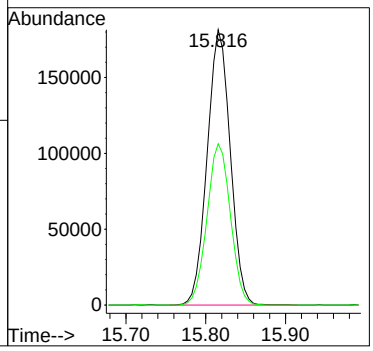


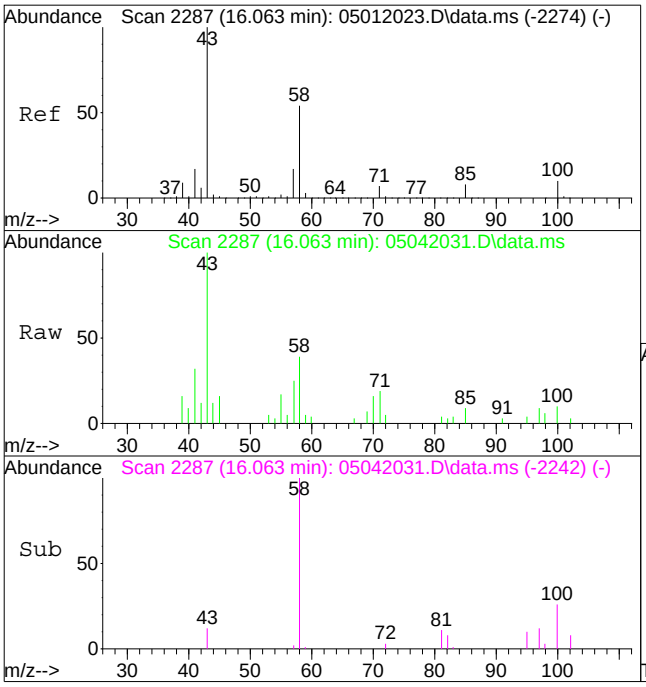


#58
Toluene
Concen: 3.01 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05042031.D
Acq: 4 May 2020 23:44

Tgt Ion: 91 Resp: 364874

Ion	Ratio	Lower	Upper
91	100		
92	59.4	39.4	79.4

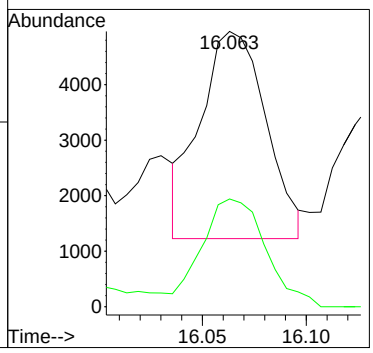


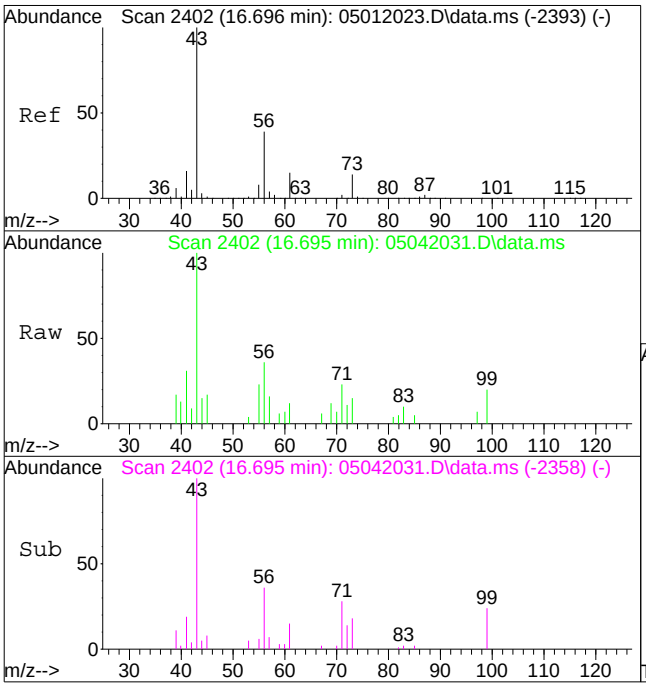


#59
2-Hexanone
Concen: 0.12 ng m
RT: 16.06 min Scan# 2287
Delta R.T. -0.000 min
Lab File: 05042031.D
Acq: 4 May 2020 23:44

Tgt Ion: 43 Resp: 8242

Ion	Ratio	Lower	Upper
43	100		
58	50.1	34.5	74.5

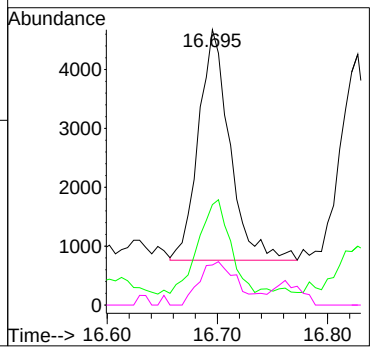


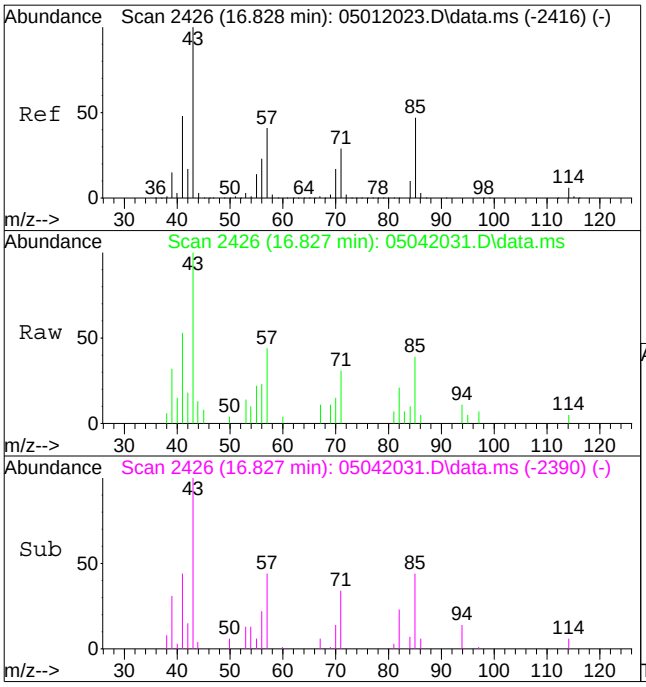


#62
n-Butyl Acetate
Concen: 0.11 ng
RT: 16.70 min Scan# 2402
Delta R.T. -0.006 min
Lab File: 05042031.D
Acq: 4 May 2020 23:44

Tgt Ion: 43 Resp: 7723

Ion	Ratio	Lower	Upper
43	100		
56	42.1	19.2	59.2
73	23.9	0.0	34.4

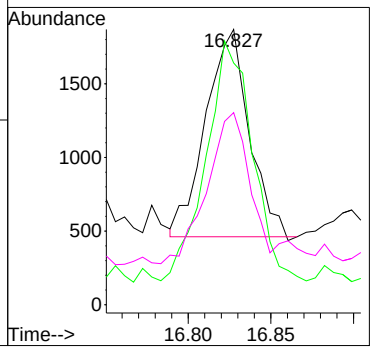


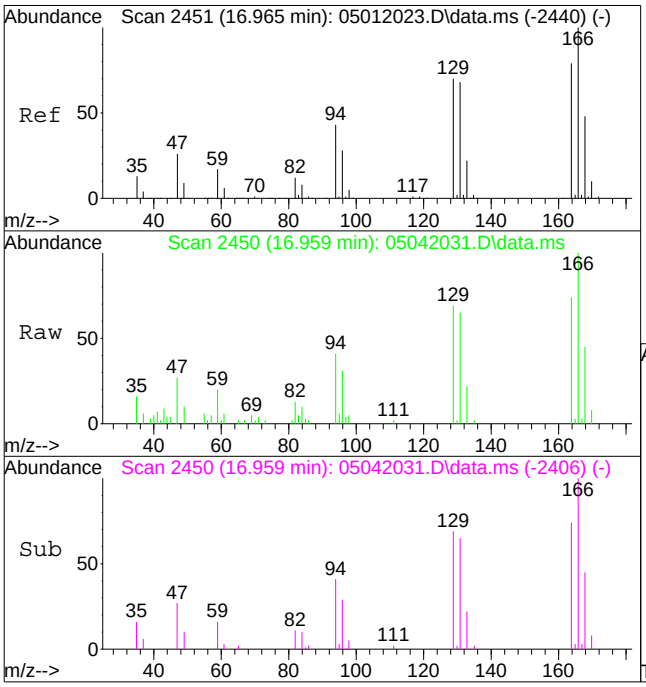


#63
n-Octane
Concen: 0.10 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05042031.D
Acq: 4 May 2020 23:44

Tgt Ion: 57 Resp: 2574

Ion	Ratio	Lower	Upper
57	100		
85	123.1	91.0	136.4
71	82.5	56.2	84.2

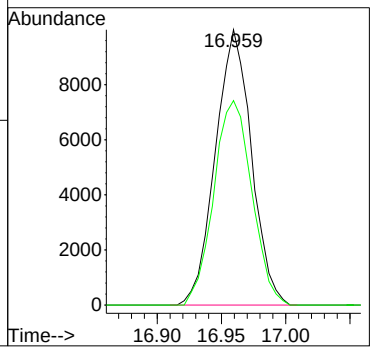


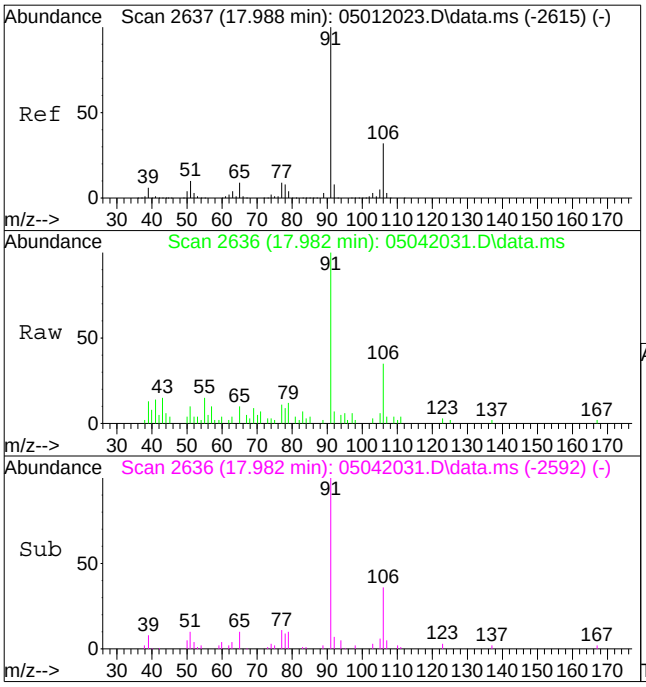


#64
Tetrachloroethene
Concen: 0.57 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05042031.D
Acq: 4 May 2020 23:44

Tgt Ion:166 Resp: 19519

Ion	Ratio	Lower	Upper
166	100		
164	78.3	58.4	98.4

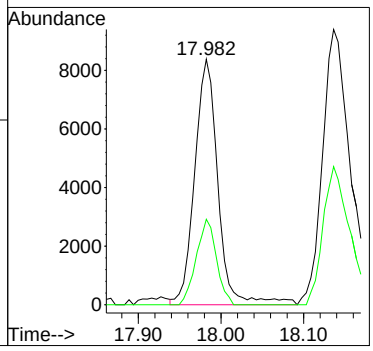


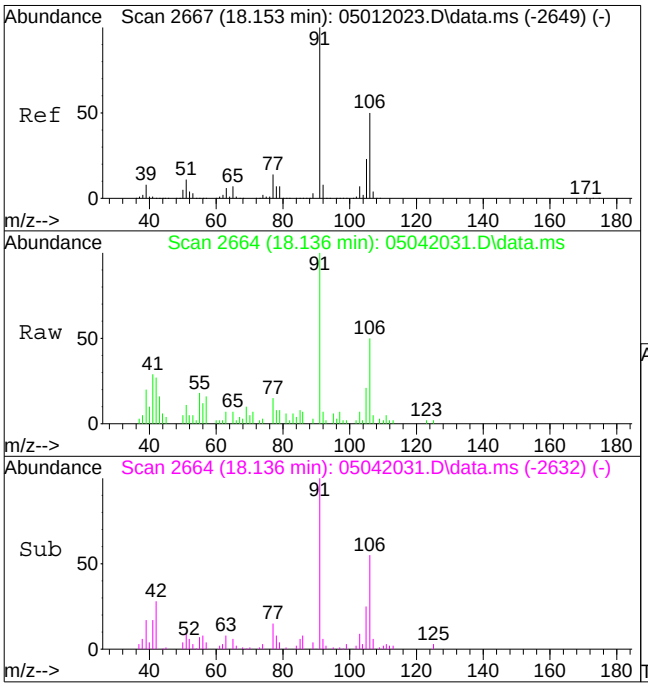


#66
Ethylbenzene
Concen: 0.12 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05042031.D
Acq: 4 May 2020 23:44

Tgt Ion: 91 Resp: 16406

Ion	Ratio	Lower	Upper
91	100		
106	30.1	11.6	51.6

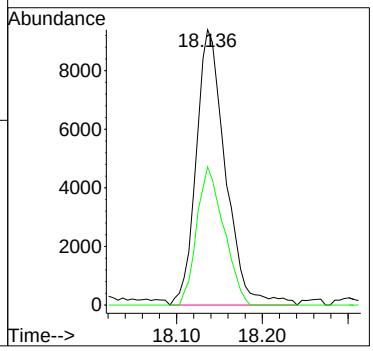


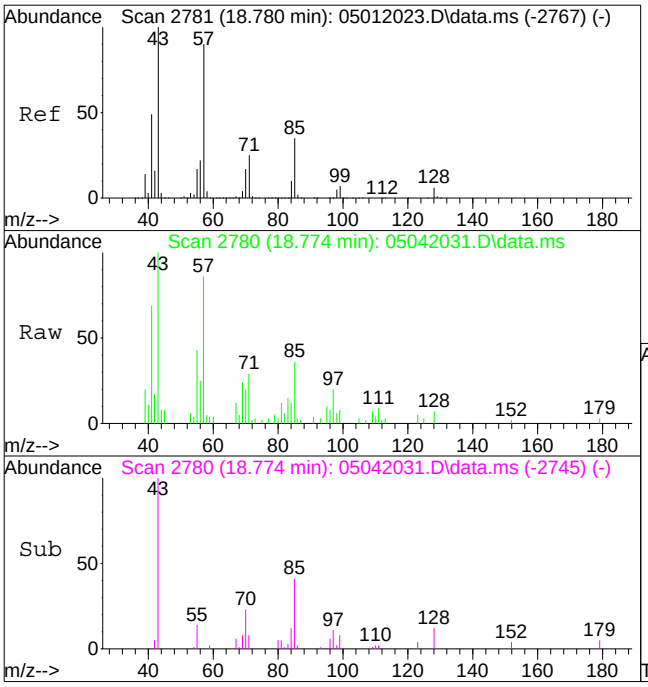


#67
m- & p-Xylenes
Concen: 0.21 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05042031.D
Acq: 4 May 2020 23:44

Tgt Ion: 91 Resp: 22257

Ion	Ratio	Lower	Upper
91	100		
106	46.4	29.7	69.7

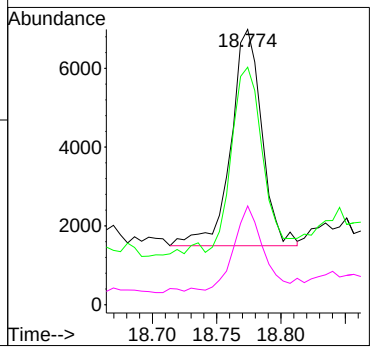


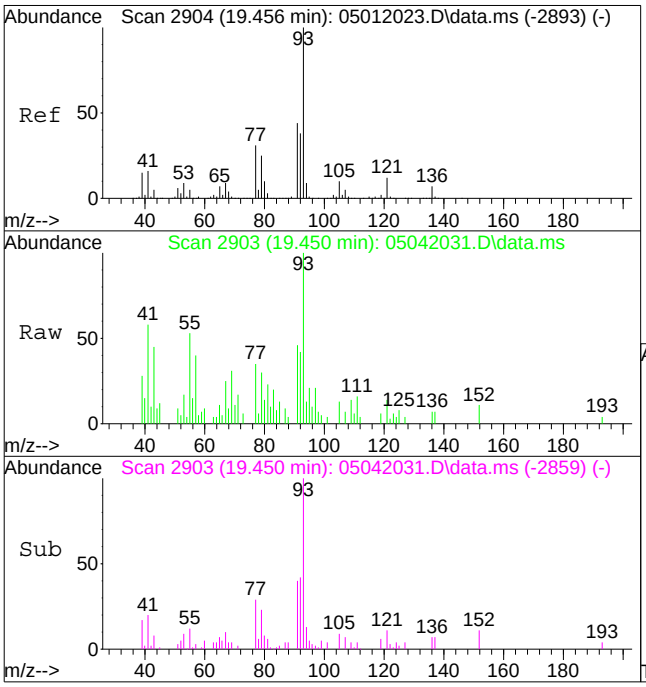


#71
n-Nonane
Concen: 0.16 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05042031.D
Acq: 4 May 2020 23:44

Tgt Ion: 43 Resp: 9166

Ion	Ratio	Lower	Upper
43	100		
57	86.2	69.0	109.0
85	37.9	14.6	54.6

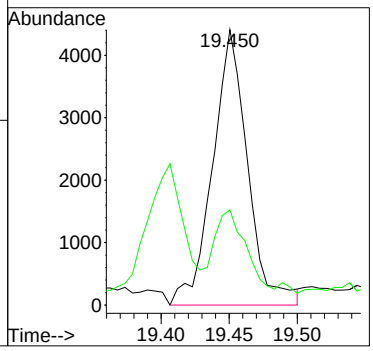




#75
alpha-Pinene
Concen: 0.11 ng
RT: 19.45 min Scan# 2903
Delta R.T. -0.006 min
Lab File: 05042031.D
Acq: 4 May 2020 23:44

Tgt Ion: 93 Resp: 7890

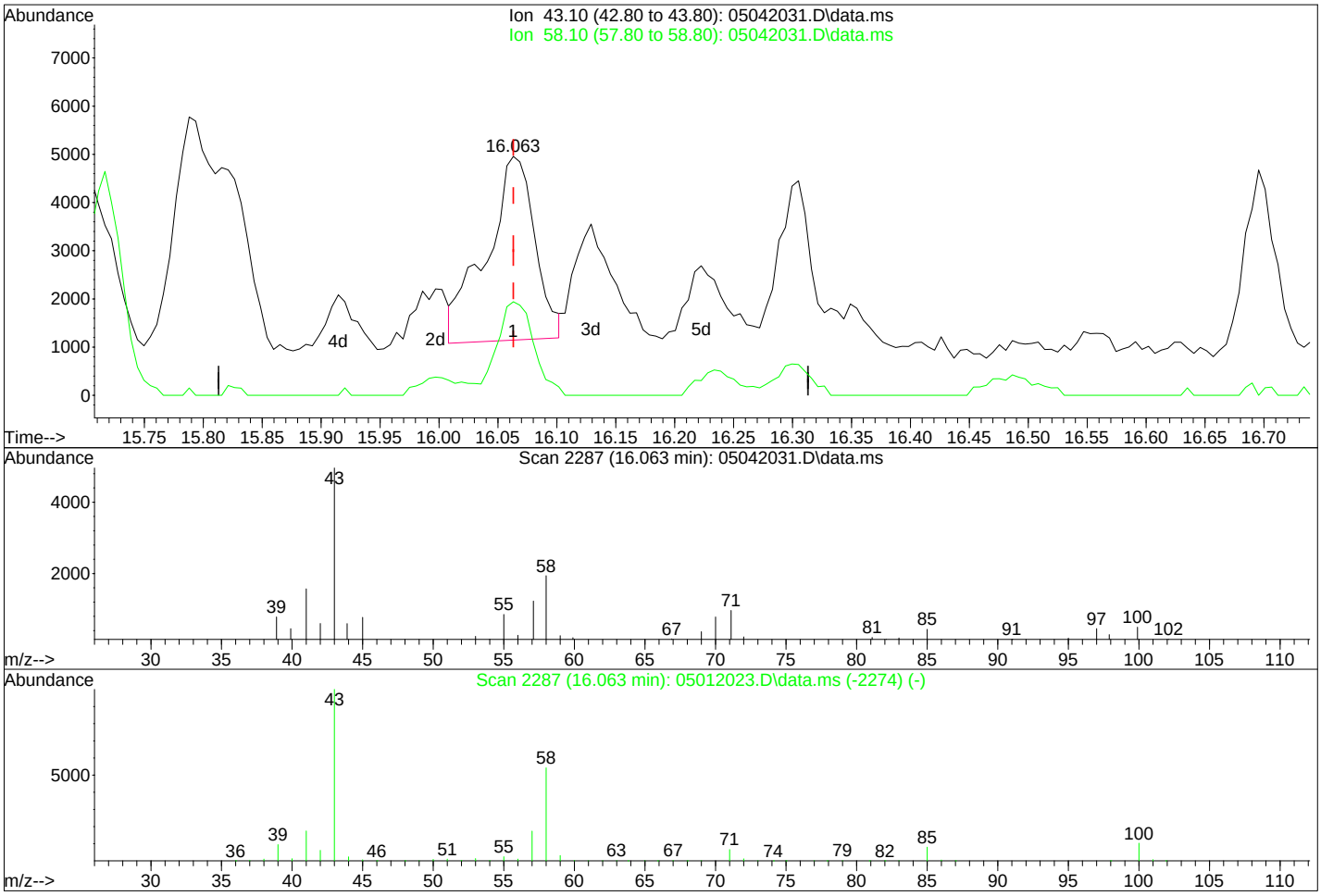
Ion	Ratio	Lower	Upper
93	100		
77	26.7	11.2	51.2



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\04\05042031.D Vial: 1
Acq On : 4 May 2020 23:44 Operator: TD
Sample : P2002105-015 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 05 07:10:59 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05042031.D\data.ms

(59) 2-Hexanone (T)

16.063min (-0.000) 0.16ng

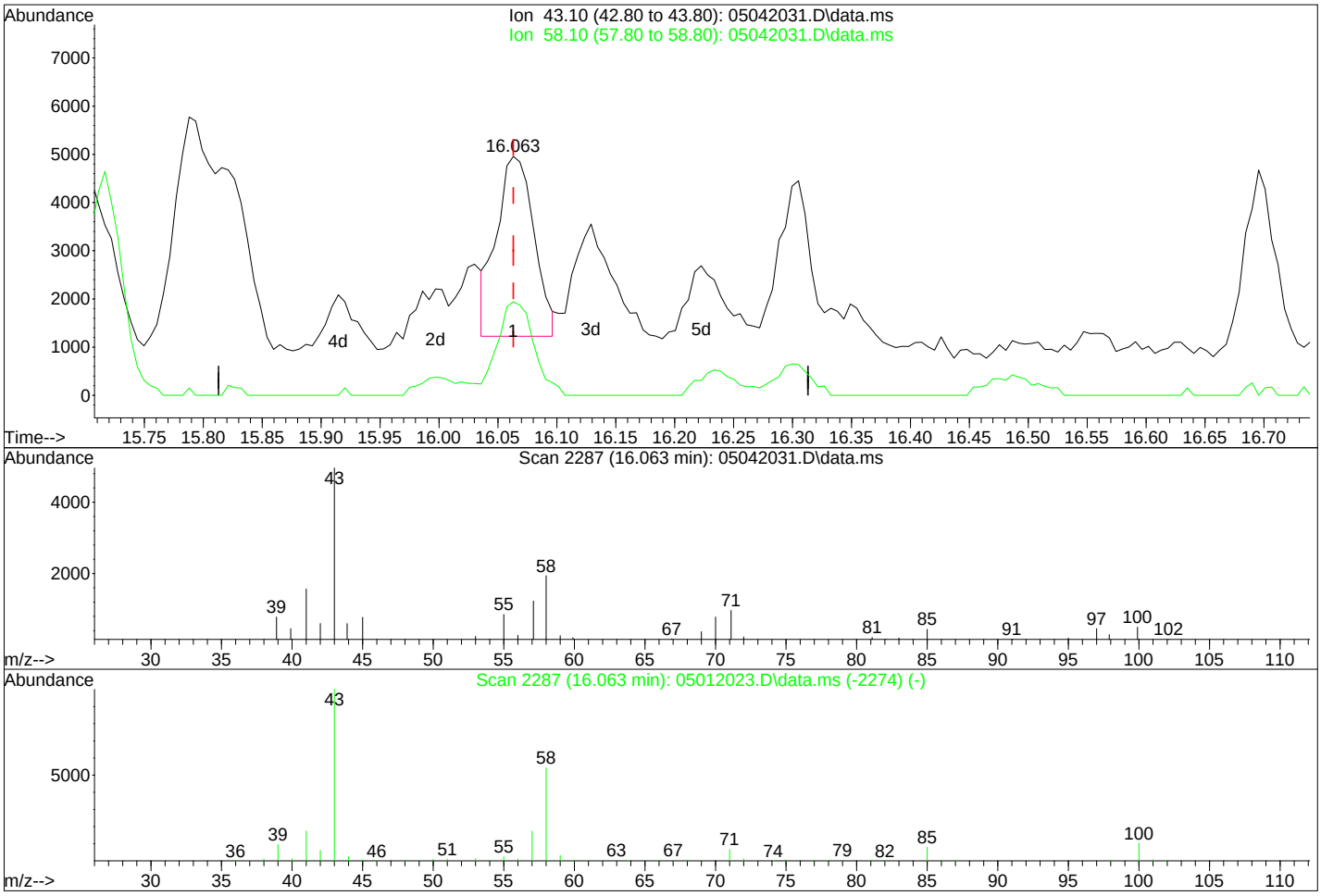
response 10909

Ion	Exp%	Act%
43.10	100	100
58.10	54.50	37.87
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\04\05042031.D Vial: 1
Acq On : 4 May 2020 23:44 Operator: TD
Sample : P2002105-015 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 05 07:10:59 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05042031.D\data.ms

(59) 2-Hexanone (T)

16.063min (-0.000) 0.12ng m

response 8242

Ion	Exp%	Act%
43.10	100	100
58.10	54.50	50.12
0.00	0.00	0.00
0.00	0.00	0.00

IPC

LH 5/6/20

5/7/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042032.D Vial: 4
Acq On : 5 May 2020 00:18 Operator: TD
Sample : P2002105-016 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 14:59:49 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/6/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	268957	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1130372	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	547593	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	429898	11.794	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.32%				
57) Toluene-d8 (SS2)	15.72	98	1143262	12.317	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.56%				
73) Bromofluorobenzene (SS3)	18.98	174	452203	13.540	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.32%				
Target Compounds							Qvalue
2) Propene	4.11	42	7500	0.241	ng		94
3) Dichlorodifluoromethan...	4.25	85	7064793	115.954	ng		99
4) Chloromethane	4.53	50	4890	0.102	ng		96
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	221771	6.092	ng		99
6) Vinyl Chloride	4.97	62	302	N.D.			
7) 1,3-Butadiene	5.21	54	485	N.D.			
8) Bromomethane	5.65	94	483	N.D.			
9) Chloroethane	5.97	64	690	N.D.			
10) Ethanol	6.32	45	32541	1.353	ng		98
11) Acetonitrile	6.59	41	6545	0.119	ng		94
12) Acrolein	6.78	56	9937	0.523	ng		100
13) Acetone	6.99	58	99793m	4.148	ng		
14) Trichlorofluoromethane	7.24	101	559387	10.389	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	17930	0.246	ng		71
16) Acrylonitrile	7.75	53	1091	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	551	N.D.			
20) 3-Chloro-1-propene (Al...	8.51	41	260	N.D.			
21) Trichlorotrifluoroethane	8.84	151	217647	8.561	ng		99
22) Carbon Disulfide	8.67	76	113328	1.011	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.09	73	836	N.D.			
26) Vinyl Acetate	10.17	86	9198	1.228	ng	#	15
27) 2-Butanone (MEK)	10.46	72	20861	1.017	ng		97
28) cis-1,2-Dichloroethene	10.90	61	760	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.28	61	1393	0.118	ng		98
31) n-Hexane	11.26	57	2437	N.D.			
32) Chloroform	11.30	83	22400	0.418	ng		99
34) Tetrahydrofuran (THF)	11.72	72	30195	1.509	ng		97
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	1195	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	8656	0.071	ng		97
42) Carbon Tetrachloride	13.03	117	194665	4.721	ng		100
43) Cyclohexane	13.16	84	2208	N.D.			
44) tert-Amyl Methyl Ether	13.45	73	1652	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	13.68	83	269	N.D.			
47) Trichloroethene	13.96	130	2800	0.089	ng		92
48) 1,4-Dioxane	13.96	88	1492	0.061	ng		99
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.30	100	558	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042032.D Vial: 4
Acq On : 5 May 2020 00:18 Operator: TD
Sample : P2002105-016 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 14:59:49 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

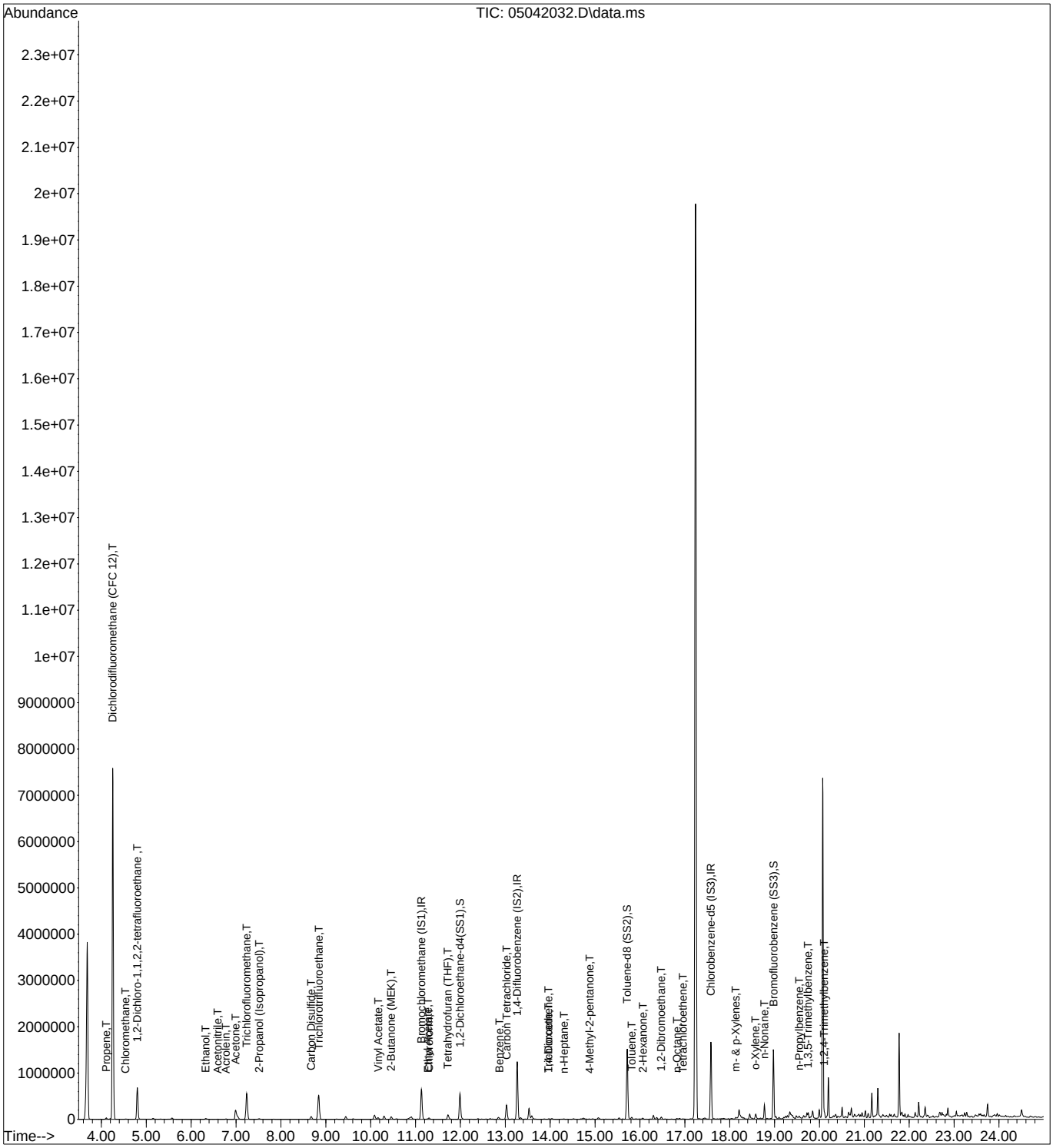
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	2276	0.080 ng	95
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.88	58	1764	0.065 ng	89
54) trans-1,3-Dichloropropene	15.35	75	600	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.82	91	32714	0.273 ng	99
59) 2-Hexanone	16.06	43	19861	0.303 ng	99
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	16.48	107	36501	1.109 ng	98
62) n-Butyl Acetate	16.71	43	2447	N.D.	
63) n-Octane	16.83	57	2962	0.120 ng	87
64) Tetrachloroethene	16.96	166	2736	0.081 ng	99
65) Chlorobenzene	17.66	112	1180	N.D.	
66) Ethylbenzene	17.98	91	4877	N.D.	
67) m- & p-Xylenes	18.14	91	18311	0.173 ng	99
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	1752	N.D.	
70) o-Xylene	18.57	91	9223	0.086 ng	97
71) n-Nonane	18.77	43	108204	1.898 ng	98
72) 1,1,2,2-Tetrachloroethane	18.58	83	1077	N.D.	
74) Cumene	19.10	105	2727	N.D.	
75) alpha-Pinene	19.55	93	470	N.D.	
76) n-Propylbenzene	19.55	91	17681	0.113 ng	80
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.68	105	2181	N.D.	
79) 1,3,5-Trimethylbenzene	19.74	105	9999	0.093 ng	97
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	19.91	105	3010	N.D.	
82) 1,2,4-Trimethylbenzene	20.10	105	13551	0.125 ng	90
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.22	91	1758	N.D.	
85) 1,3-Dichlorobenzene	20.24	146	451	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	653	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	20.48	119	2393	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	20.61	146	313	N.D.	
91) d-Limonene	20.61	68	1679	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.11	180	660	N.D.	
95) Naphthalene	22.22	128	5446	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	22.73	225	191	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042032.D Vial: 4
Acq On : 5 May 2020 00:18 Operator: TD
Sample : P2002105-016 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 14:59:49 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042032.D Vial: 4
Acq On : 5 May 2020 00:18 Operator: TD
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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/6/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	268957	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1130372	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	547593	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	429898	11.794	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.32%				
57) Toluene-d8 (SS2)	15.72	98	1143262	12.317	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.56%				
73) Bromofluorobenzene (SS3)	18.98	174	452203	13.540	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.32%				
Target Compounds							Qvalue
2) Propene	4.11	42	7500	0.241	ng		94
3) Dichlorodifluoromethan...	4.25	85	7064793	115.954	ng		99
4) Chloromethane	4.53	50	4890	0.102	ng		96
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	221771	6.092	ng		99
10) Ethanol	6.32	45	32541	1.353	ng		98
11) Acetonitrile	6.59	41	6545	0.119	ng		94
12) Acrolein	6.78	56	9937	0.523	ng		100
13) Acetone	6.99	58	99793m	4.148	ng		
14) Trichlorofluoromethane	7.24	101	559387	10.389	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	17930	0.246	ng		71
21) Trichlorotrifluoroethane	8.84	151	217647	8.561	ng		99
22) Carbon Disulfide	8.67	76	113328	1.011	ng		99
26) Vinyl Acetate	10.17	86	9198	1.228	ng	#	15
27) 2-Butanone (MEK)	10.46	72	20861	1.017	ng		97
30) Ethyl Acetate	11.28	61	1393	0.118	ng		98
32) Chloroform	11.30	83	22400	0.418	ng		99
34) Tetrahydrofuran (THF)	11.72	72	30195	1.509	ng		97
41) Benzene	12.87	78	8656	0.071	ng		97
42) Carbon Tetrachloride	13.03	117	194665	4.721	ng		100
47) Trichloroethene	13.96	130	2800	0.089	ng		92
48) 1,4-Dioxane	13.96	88	1492	0.061	ng		99
51) n-Heptane	14.31	71	2276	0.080	ng		95
53) 4-Methyl-2-pentanone	14.88	58	1764	0.065	ng		89
58) Toluene	15.82	91	32714	0.273	ng		99
59) 2-Hexanone	16.06	43	19861	0.303	ng		99
61) 1,2-Dibromoethane	16.48	107	36501	1.109	ng		98
63) n-Octane	16.83	57	2962	0.120	ng		87
64) Tetrachloroethene	16.96	166	2736	0.081	ng		99
67) m- & p-Xylenes	18.14	91	18311	0.173	ng		99
70) o-Xylene	18.57	91	9223	0.086	ng		97
71) n-Nonane	18.77	43	108204	1.898	ng		98
76) n-Propylbenzene	19.55	91	17681	0.113	ng		80
79) 1,3,5-Trimethylbenzene	19.74	105	9999	0.093	ng		97
82) 1,2,4-Trimethylbenzene	20.10	105	13551	0.125	ng		90

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042032.D Vial: 4
Acq On : 5 May 2020 00:18 Operator: TD
Sample : P2002105-016 (400mL) Inst : GCMS-16
Misc : S31-02112001

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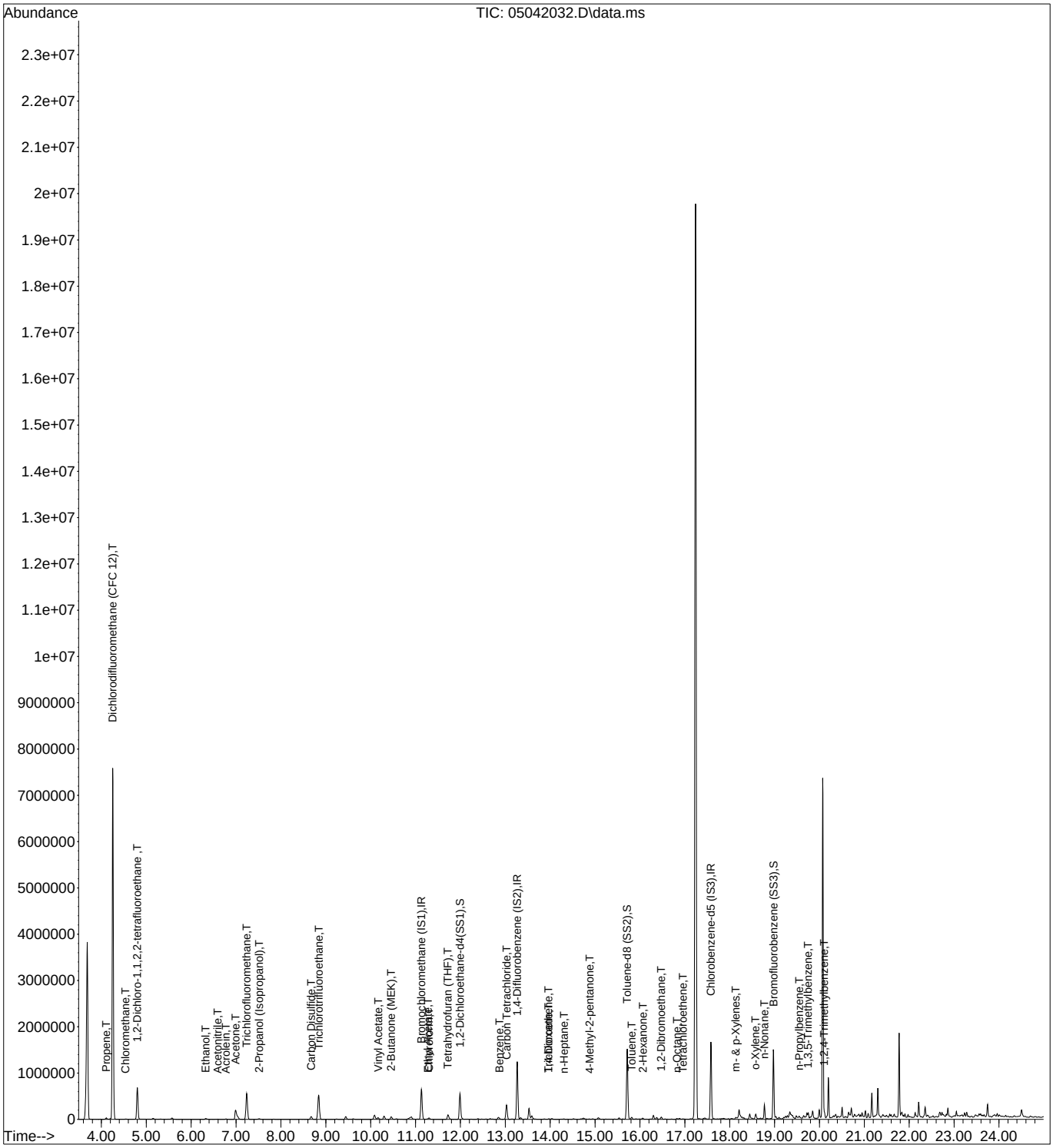
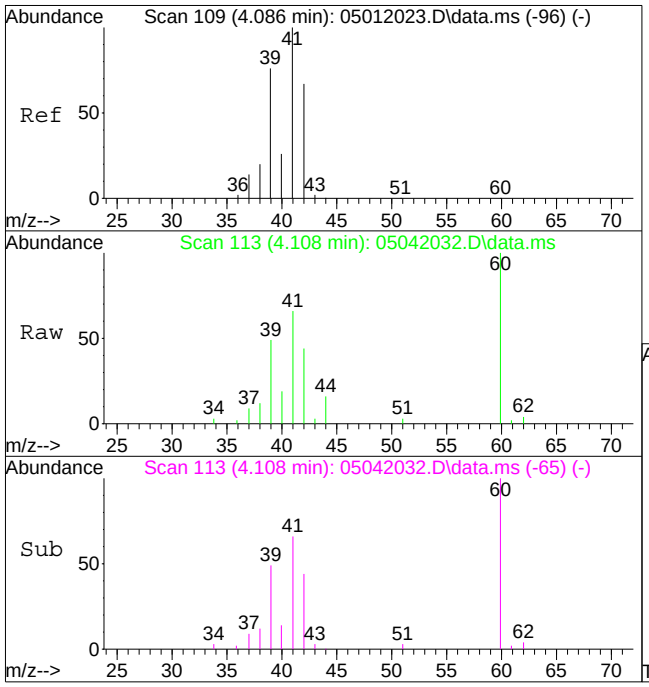
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

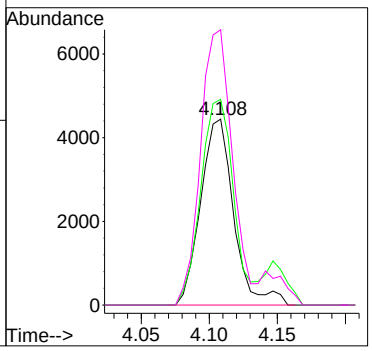


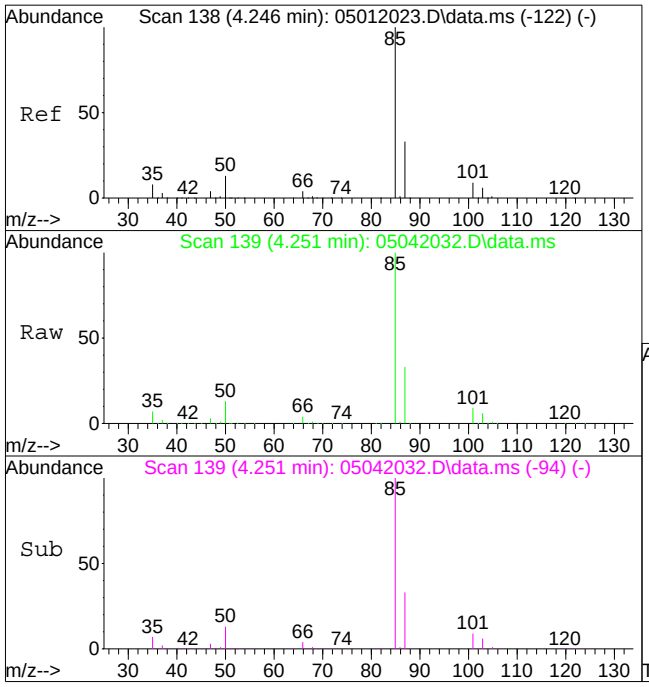


#2
Propene
Concen: 0.24 ng
RT: 4.11 min Scan# 113
Delta R.T. 0.016 min
Lab File: 05042032.D
Acq: 5 May 2020 00:18

Tgt Ion: 42 Resp: 7500

Ion	Ratio	Lower	Upper
42	100		
39	111.2	96.1	136.1
41	143.9	131.9	171.9

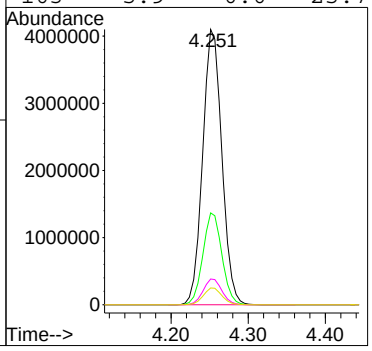


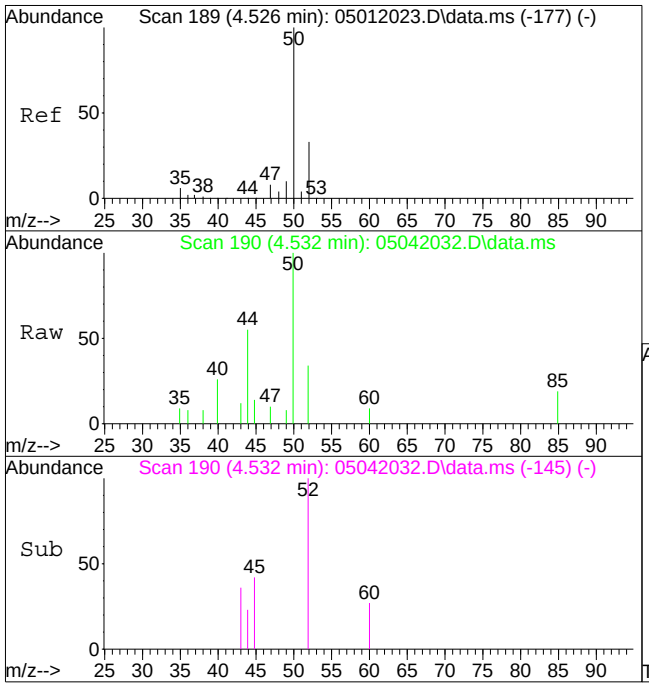


#3
Dichlorodifluoromethane (CFC 12)
Concen: 115.95 ng
RT: 4.25 min Scan# 139
Delta R.T. -0.000 min
Lab File: 05042032.D
Acq: 5 May 2020 00:18

Tgt Ion: 85 Resp: 7064793

Ion	Ratio	Lower	Upper
85	100		
87	33.1	12.4	52.4
101	9.2	0.0	28.8
103	5.9	0.0	25.7

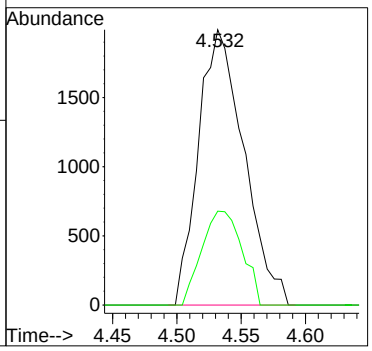


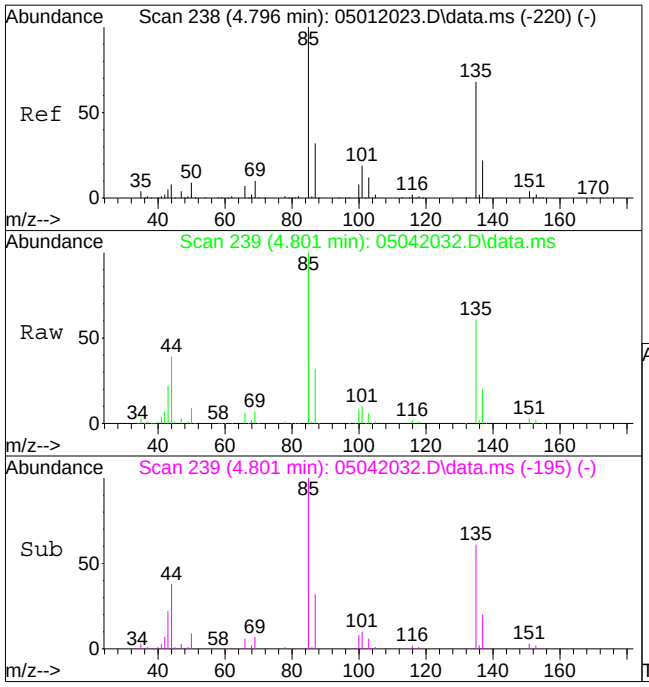


#4
Chloromethane
Concen: 0.10 ng
RT: 4.53 min Scan# 190
Delta R.T. -0.000 min
Lab File: 05042032.D
Acq: 5 May 2020 00:18

Tgt Ion: 50 Resp: 4890

Ion	Ratio	Lower	Upper
50	100		
52	30.2	12.5	52.5

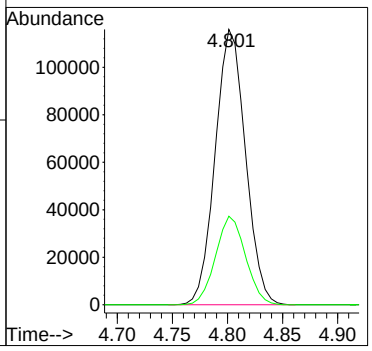


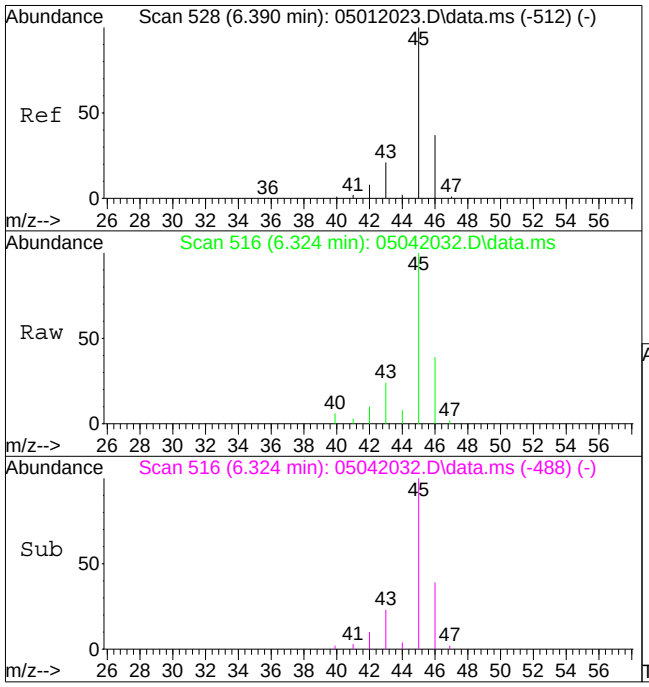


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 6.09 ng
RT: 4.80 min Scan# 239
Delta R.T. -0.005 min
Lab File: 05042032.D
Acq: 5 May 2020 00:18

Tgt Ion:135 Resp: 221771

Ion	Ratio	Lower	Upper
135	100		
137	31.8	12.1	52.1

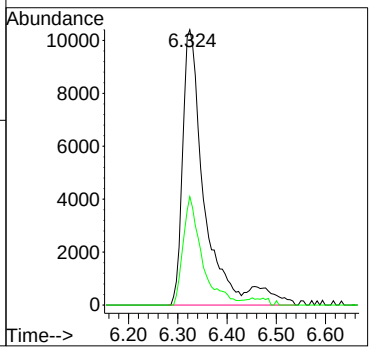


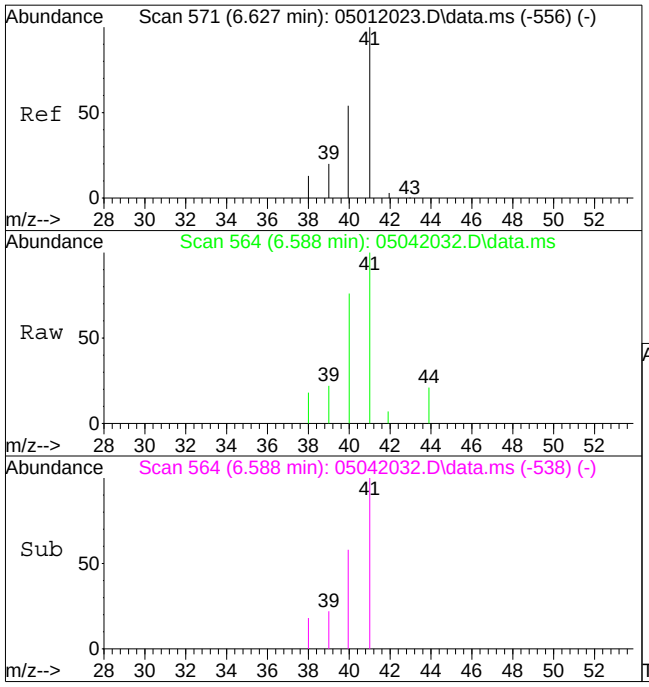


#10
Ethanol
Concen: 1.35 ng
RT: 6.32 min Scan# 516
Delta R.T. -0.093 min
Lab File: 05042032.D
Acq: 5 May 2020 00:18

Tgt Ion: 45 Resp: 32541

Ion	Ratio	Lower	Upper
45	100		
46	36.0	17.2	57.2

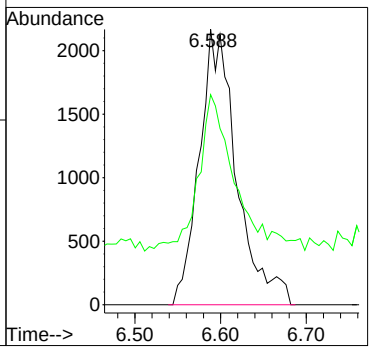


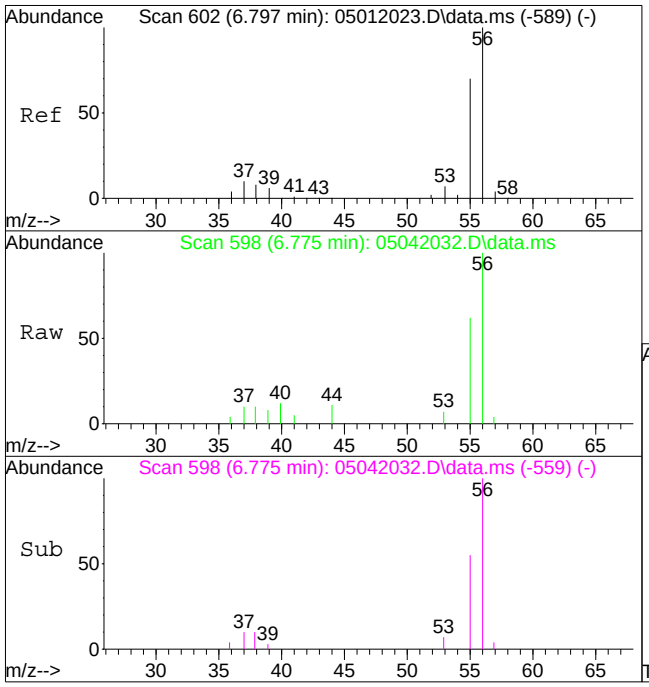


#11
Acetonitrile
Concen: 0.12 ng
RT: 6.59 min Scan# 564
Delta R.T. -0.055 min
Lab File: 05042032.D
Acq: 5 May 2020 00:18

Tgt Ion: 41 Resp: 6545

Ion	Ratio	Lower	Upper
41	100		
40	58.0	33.6	73.6

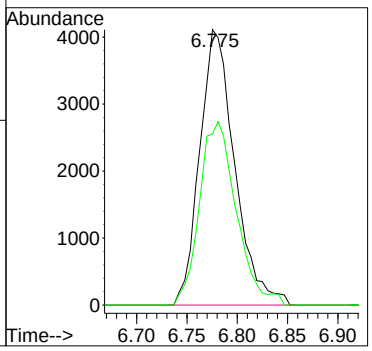


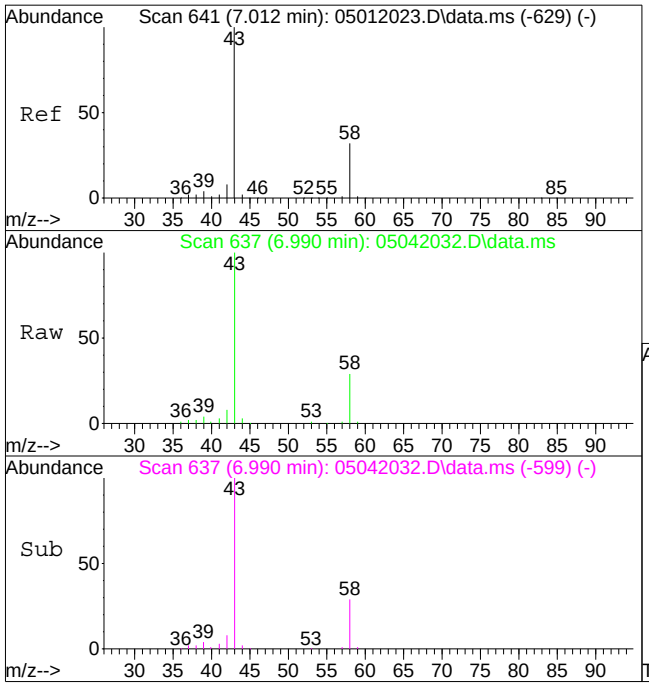


#12
Acrolein
Concen: 0.52 ng
RT: 6.78 min Scan# 598
Delta R.T. -0.033 min
Lab File: 05042032.D
Acq: 5 May 2020 00:18

Tgt Ion: 56 Resp: 9937

Ion	Ratio	Lower	Upper
56	100		
55	70.1	50.2	90.2

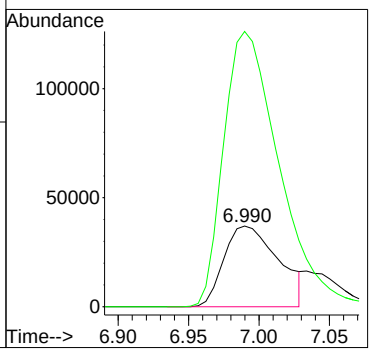


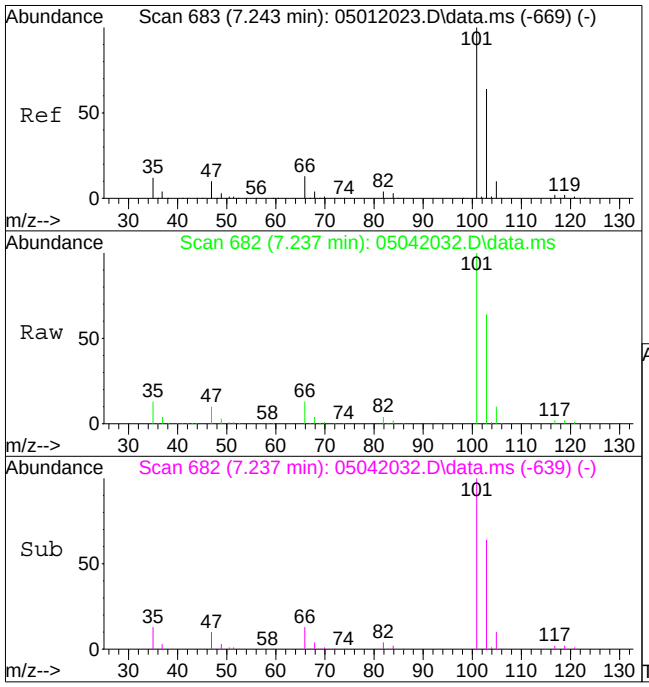


#13
Acetone
Concen: 4.15 ng m
RT: 6.99 min Scan# 637
Delta R.T. -0.038 min
Lab File: 05042032.D
Acq: 5 May 2020 00:18

Tgt Ion: 58 Resp: 99793

Ion	Ratio	Lower	Upper
58	100		
43	352.2	294.4	354.4

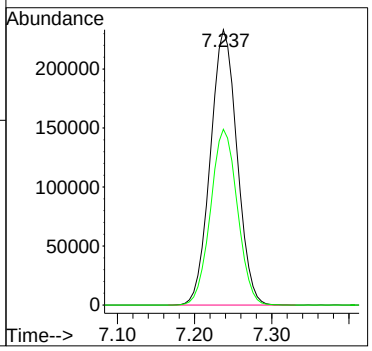


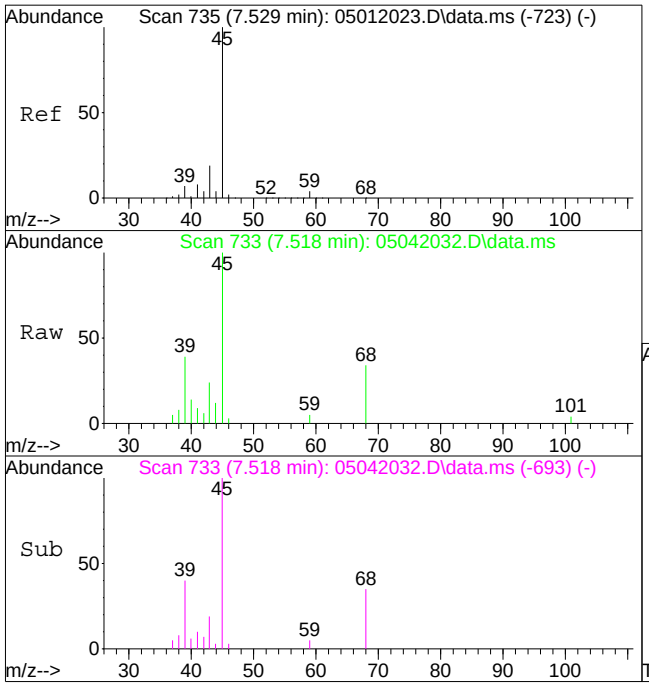


#14
Trichlorofluoromethane
Concen: 10.39 ng
RT: 7.24 min Scan# 682
Delta R.T. -0.011 min
Lab File: 05042032.D
Acq: 5 May 2020 00:18

Tgt Ion:101 Resp: 559387

Ion	Ratio	Lower	Upper
101	100		
103	64.4	44.4	84.4

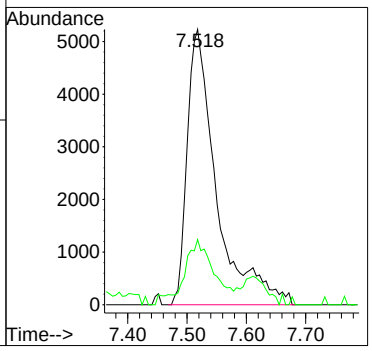


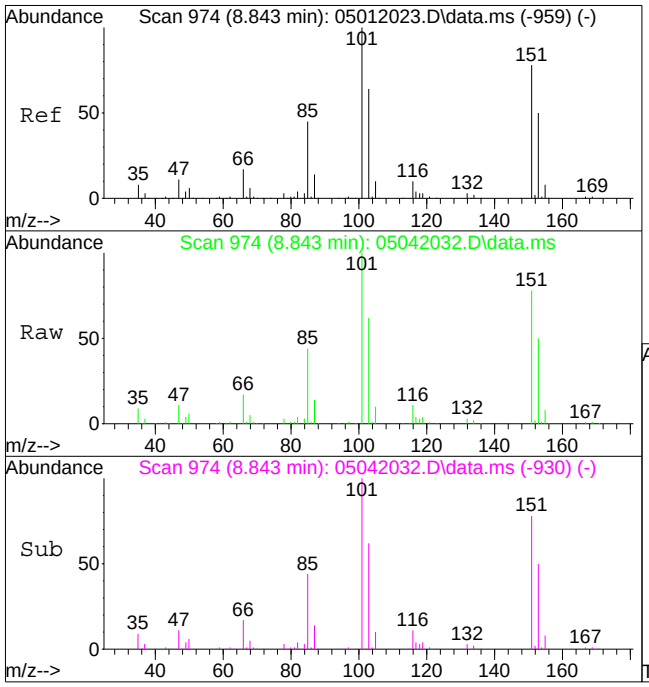


#15
2-Propanol (Isopropanol)
Concen: 0.25 ng
RT: 7.52 min Scan# 733
Delta R.T. -0.027 min
Lab File: 05042032.D
Acq: 5 May 2020 00:18

Tgt Ion: 45 Resp: 17930

Ion	Ratio	Lower	Upper
45	100		
43	32.7	0.0	39.5

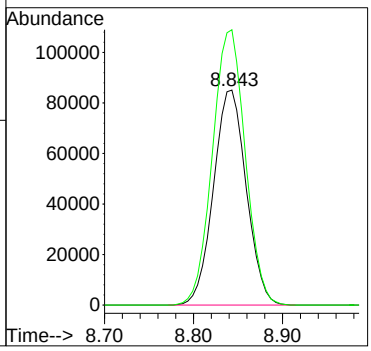


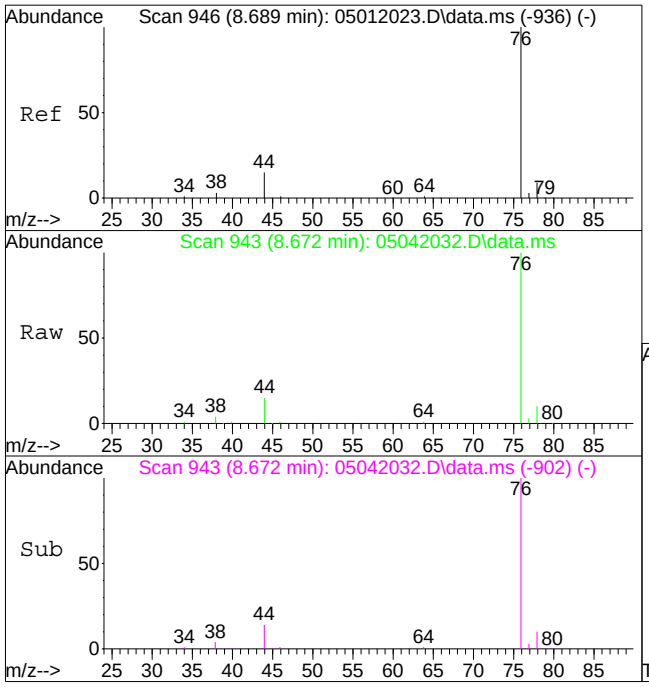


#21
Trichlorotrifluoroethane
Concen: 8.56 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05042032.D
Acq: 5 May 2020 00:18

Tgt Ion:151 Resp: 217647

Ion	Ratio	Lower	Upper
151	100		
101	128.4	107.3	147.3

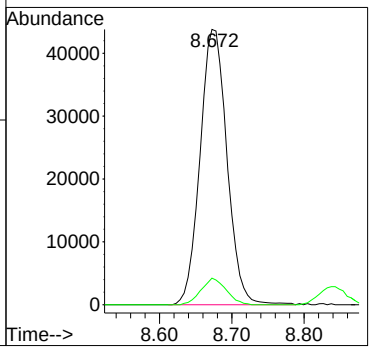


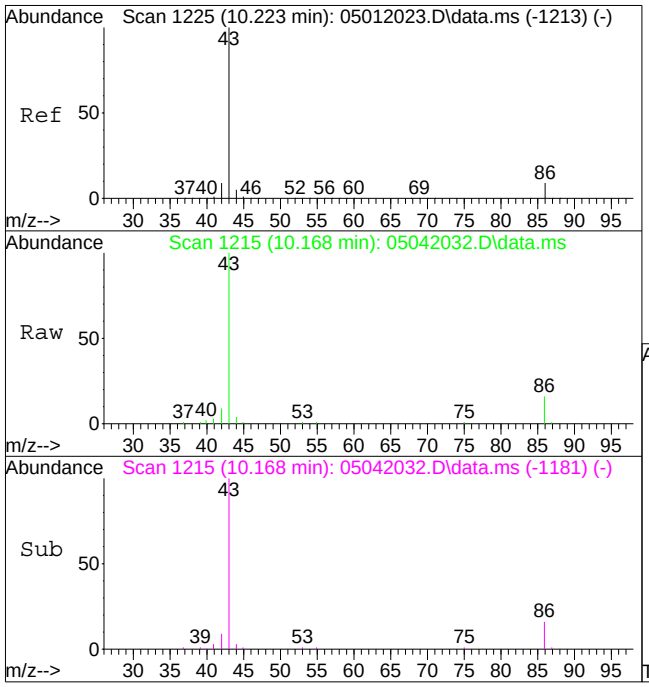


#22
Carbon Disulfide
Concen: 1.01 ng
RT: 8.67 min Scan# 943
Delta R.T. -0.022 min
Lab File: 05042032.D
Acq: 5 May 2020 00:18

Tgt Ion: 76 Resp: 113328

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	29.2

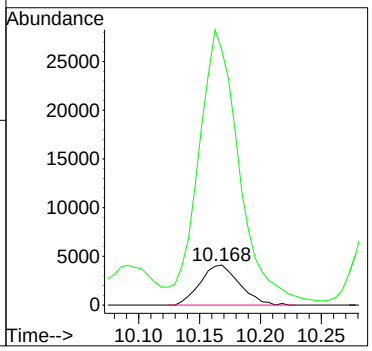


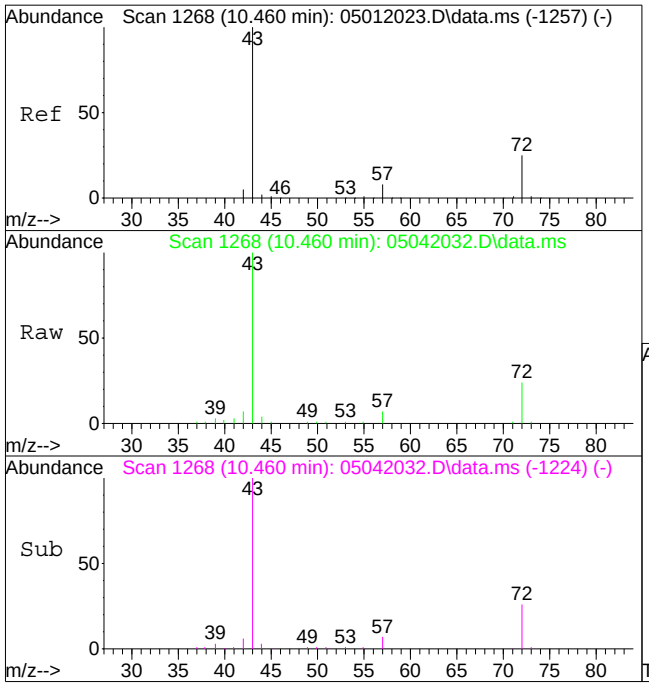


#26
Vinyl Acetate
Concen: 1.23 ng
RT: 10.17 min Scan# 1215
Delta R.T. -0.061 min
Lab File: 05042032.D
Acq: 5 May 2020 00:18

Tgt Ion: 86 Resp: 9198

Ion	Ratio	Lower	Upper
86	100		
43	713.0	1103.0	1143.0#

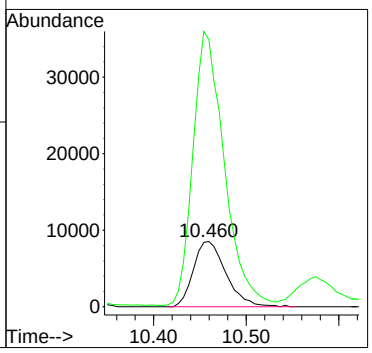


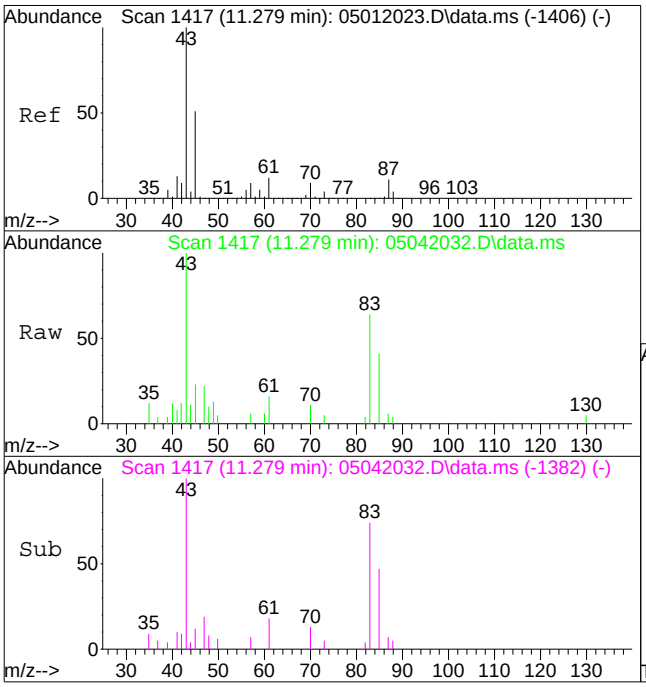


#27
2-Butanone (MEK)
Concen: 1.02 ng
RT: 10.46 min Scan# 1268
Delta R.T. -0.006 min
Lab File: 05042032.D
Acq: 5 May 2020 00:18

Tgt Ion: 72 Resp: 20861

Ion	Ratio	Lower	Upper
72	100		
43	402.6	389.7	429.7

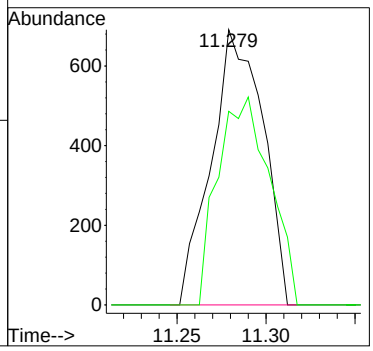


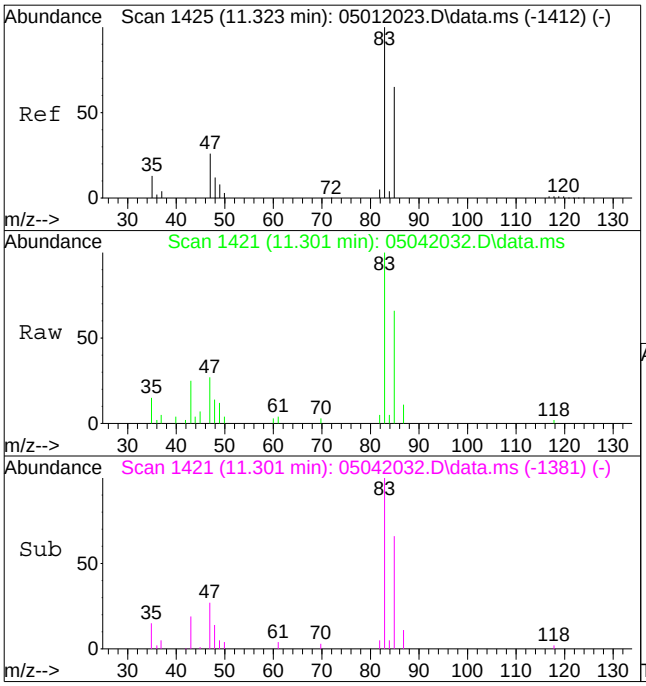


#30
Ethyl Acetate
Concen: 0.12 ng
RT: 11.28 min Scan# 1417
Delta R.T. -0.006 min
Lab File: 05042032.D
Acq: 5 May 2020 00:18

Tgt Ion: 61 Resp: 1393

Ion	Ratio	Lower	Upper
61	100		
70	76.2	57.9	97.9

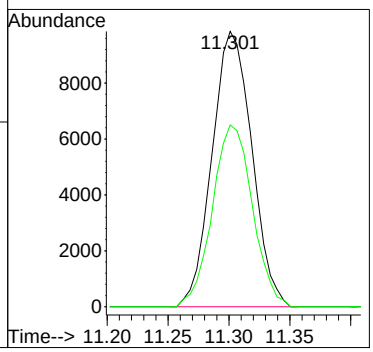


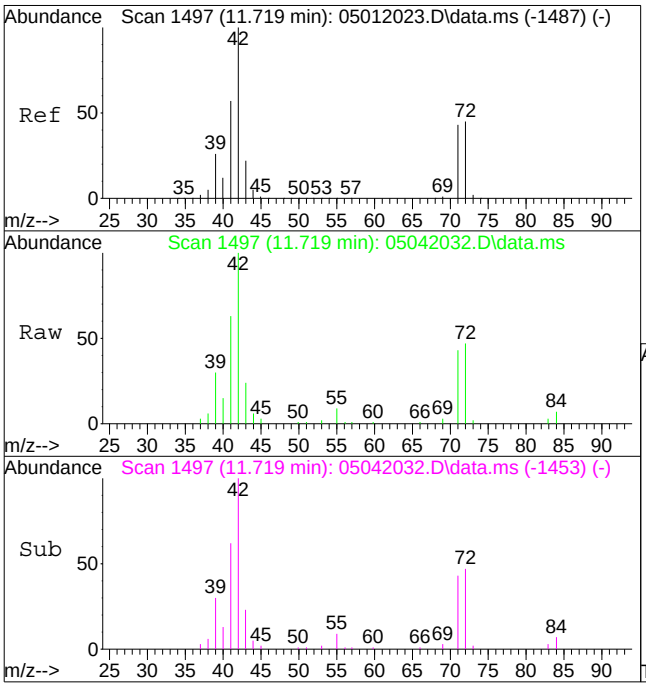


#32
Chloroform
Concen: 0.42 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.028 min
Lab File: 05042032.D
Acq: 5 May 2020 00:18

Tgt Ion: 83 Resp: 22400

Ion	Ratio	Lower	Upper
83	100		
85	66.3	45.5	85.5

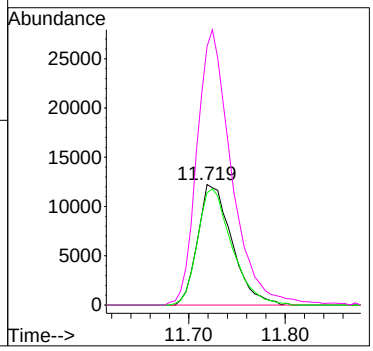


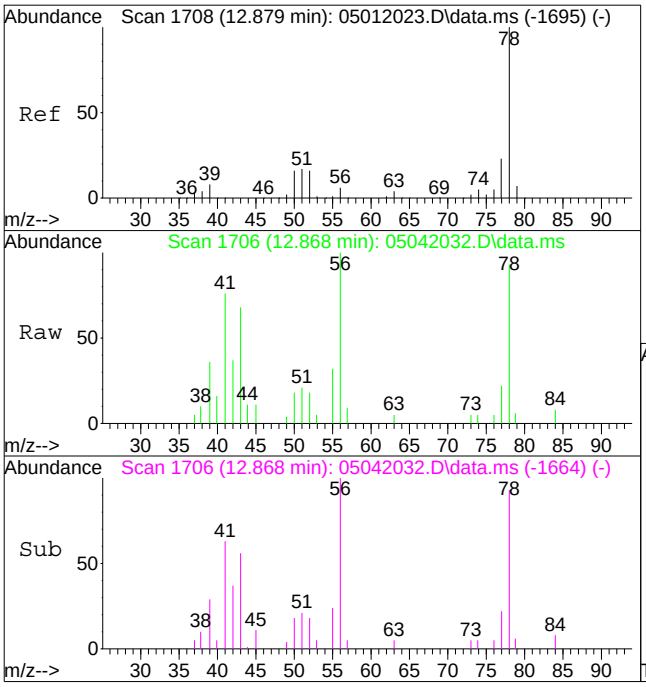


#34
Tetrahydrofuran (THF)
Concen: 1.51 ng
RT: 11.72 min Scan# 1497
Delta R.T. -0.006 min
Lab File: 05042032.D
Acq: 5 May 2020 00:18

Tgt Ion: 72 Resp: 30195

Ion	Ratio	Lower	Upper
72	100		
71	97.0	77.0	117.0
42	231.0	204.6	244.6

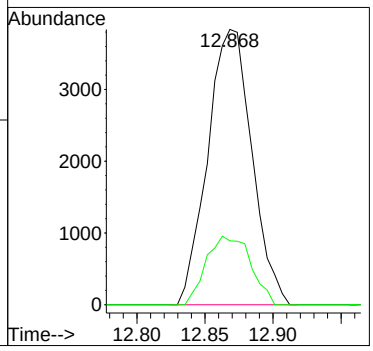


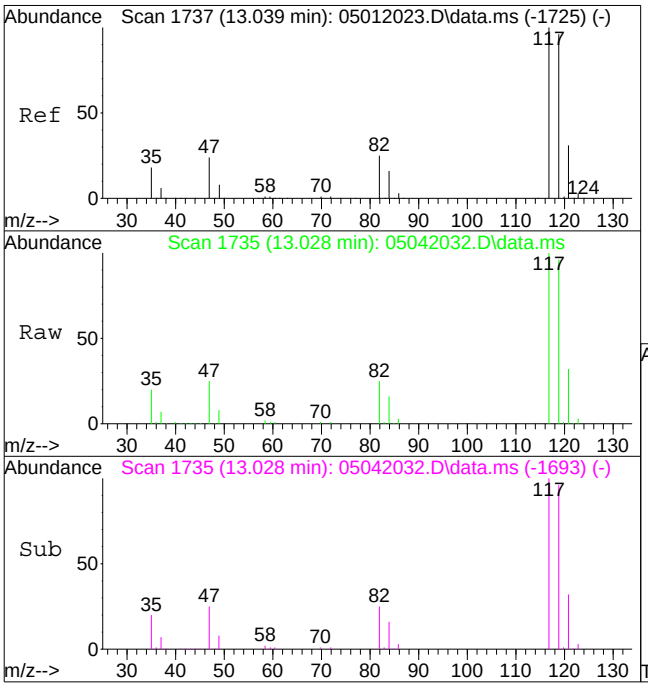


#41
Benzene
Concen: 0.07 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05042032.D
Acq: 5 May 2020 00:18

Tgt Ion: 78 Resp: 8656

Ion	Ratio	Lower	Upper
78	100		
77	25.0	3.4	43.4

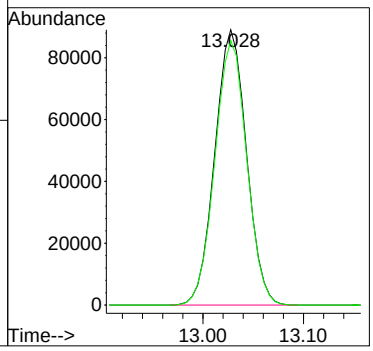


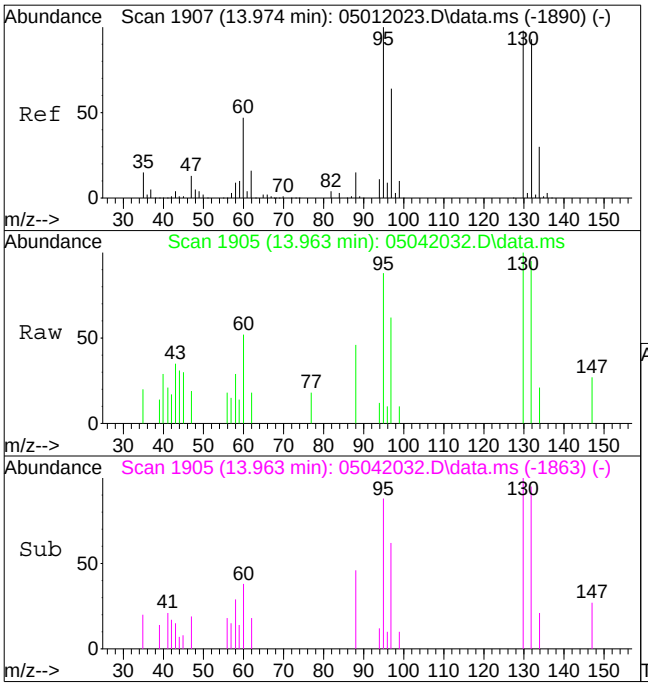


#42
Carbon Tetrachloride
Concen: 4.72 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05042032.D
Acq: 5 May 2020 00:18

Tgt Ion:117 Resp: 194665

Ion	Ratio	Lower	Upper
117	100		
119	96.6	76.2	116.2

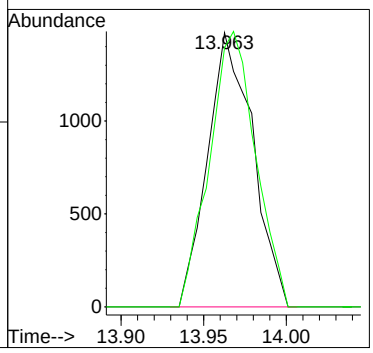


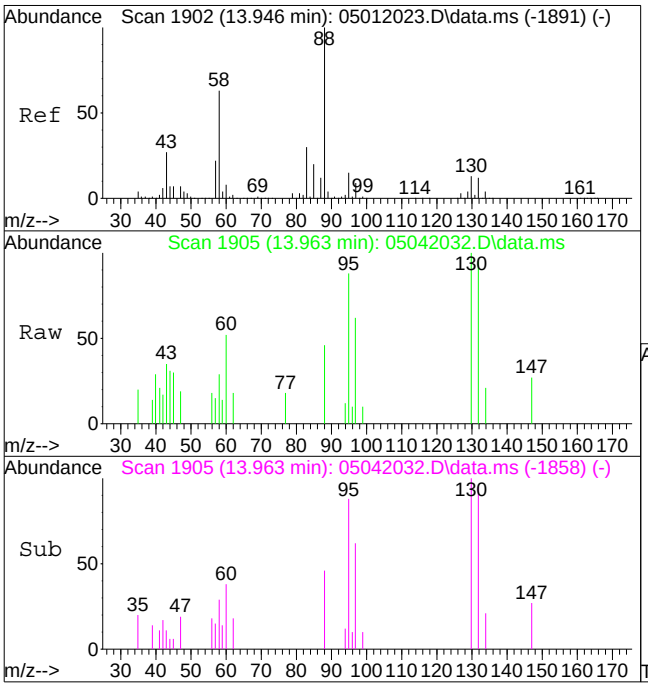


#47
Trichloroethene
Concen: 0.09 ng
RT: 13.96 min Scan# 1905
Delta R.T. -0.017 min
Lab File: 05042032.D
Acq: 5 May 2020 00:18

Tgt Ion:130 Resp: 2800

Ion	Ratio	Lower	Upper
130	100		
132	102.7	74.9	114.9

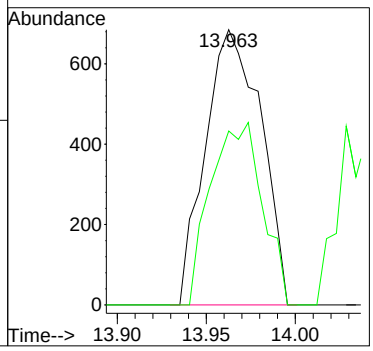


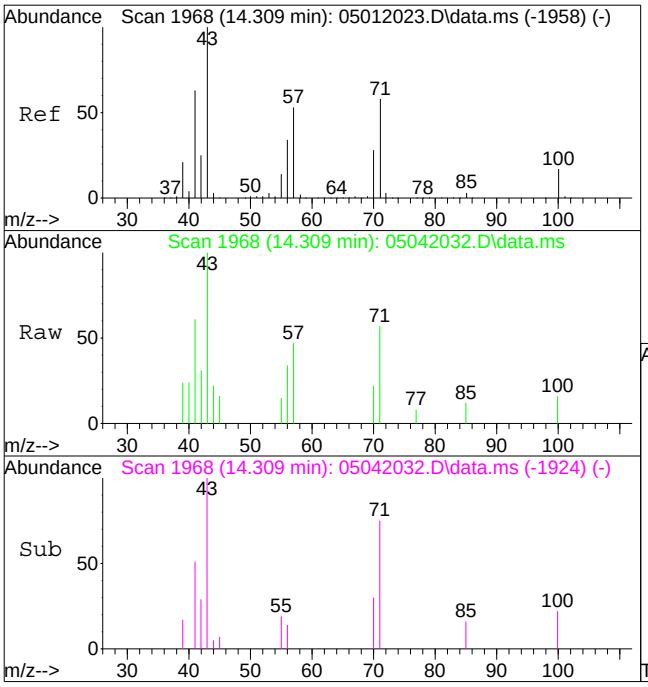


#48
1,4-Dioxane
Concen: 0.06 ng
RT: 13.96 min Scan# 1905
Delta R.T. 0.011 min
Lab File: 05042032.D
Acq: 5 May 2020 00:18

Tgt Ion: 88 Resp: 1492

Ion	Ratio	Lower	Upper
88	100		
58	61.7	42.8	82.8

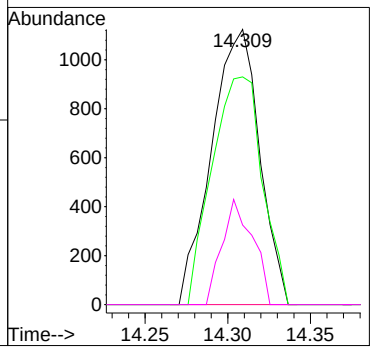


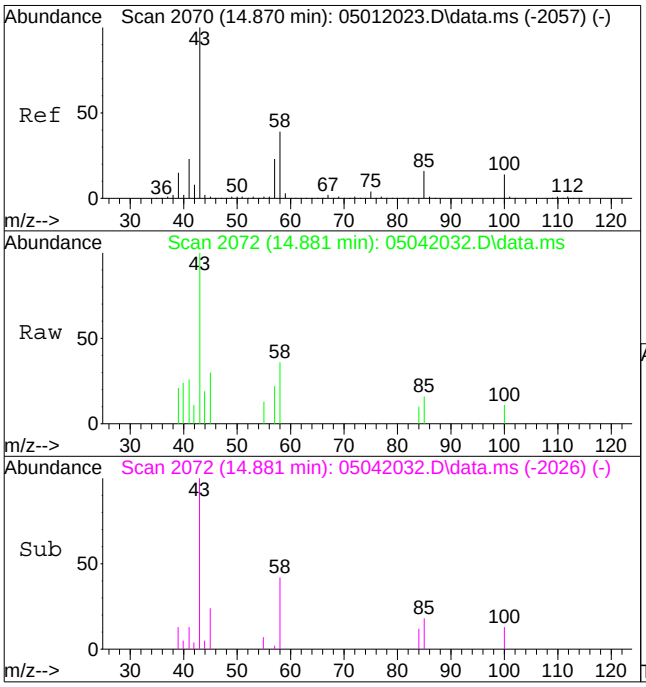


#51
n-Heptane
Concen: 0.08 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05042032.D
Acq: 5 May 2020 00:18

Tgt Ion: 71 Resp: 2276

Ion	Ratio	Lower	Upper
71	100		
57	86.7	71.0	111.0
100	24.5	8.4	48.4

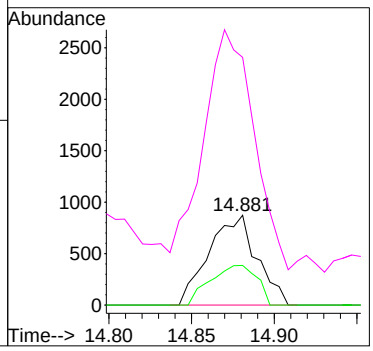


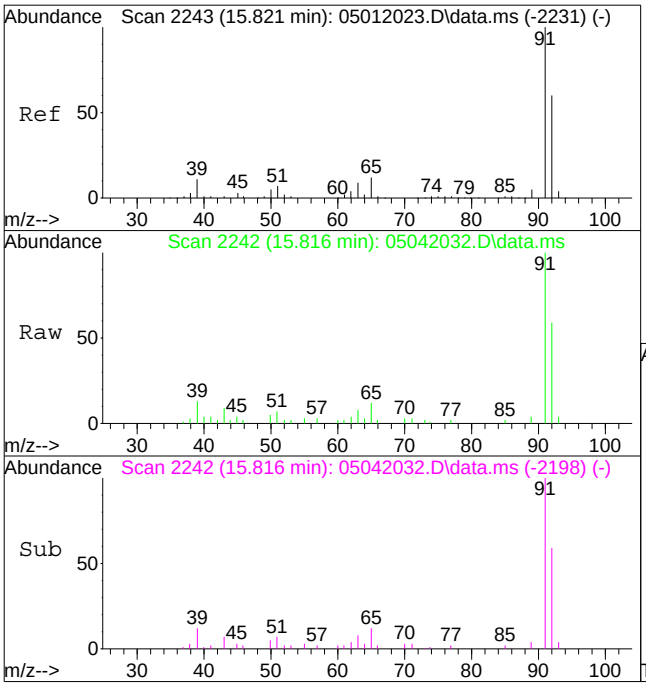


#53
4-Methyl-2-pentanone
Concen: 0.07 ng
RT: 14.88 min Scan# 2072
Delta R.T. 0.005 min
Lab File: 05042032.D
Acq: 5 May 2020 00:18

Tgt Ion: 58 Resp: 1764

Ion	Ratio	Lower	Upper
58	100		
85	42.9	35.4	53.2
43	275.3	203.3	304.9

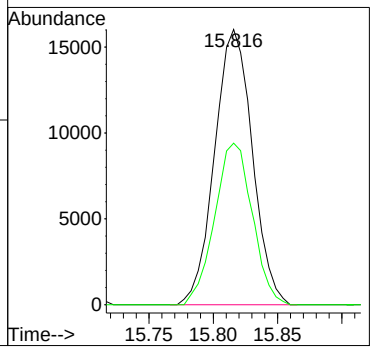


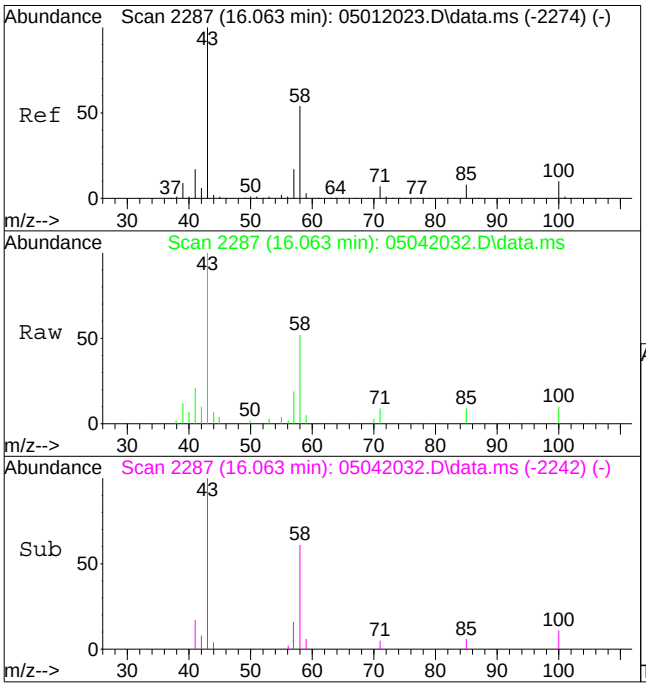


#58
Toluene
Concen: 0.27 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05042032.D
Acq: 5 May 2020 00:18

Tgt Ion: 91 Resp: 32714

Ion	Ratio	Lower	Upper
91	100		
92	58.5	39.4	79.4

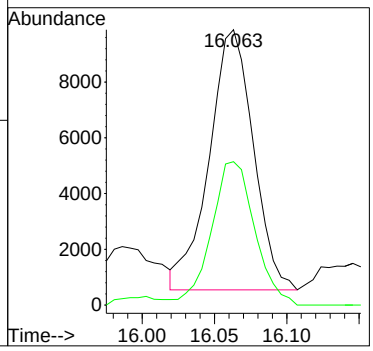


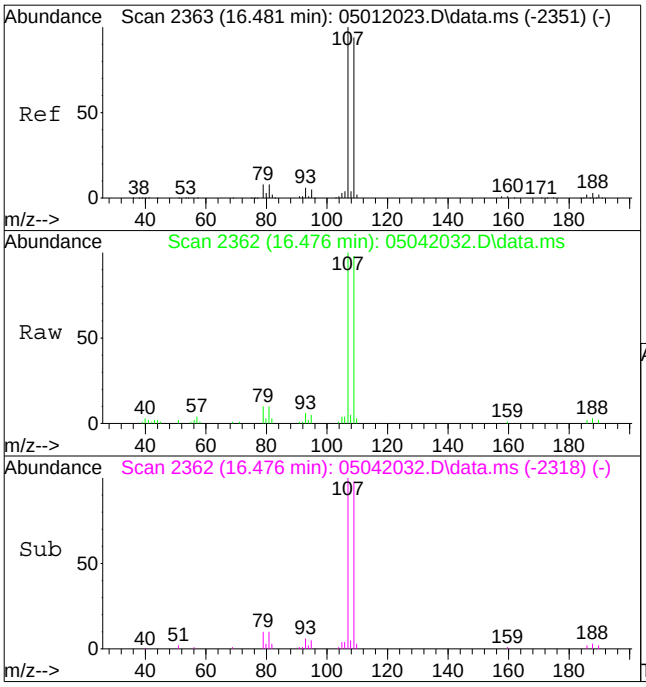


#59
2-Hexanone
Concen: 0.30 ng
RT: 16.06 min Scan# 2287
Delta R.T. -0.000 min
Lab File: 05042032.D
Acq: 5 May 2020 00:18

Tgt Ion: 43 Resp: 19861

Ion	Ratio	Lower	Upper
43	100		
58	53.9	34.5	74.5

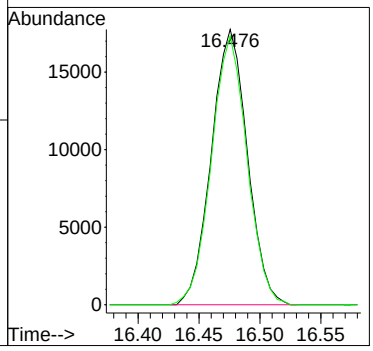


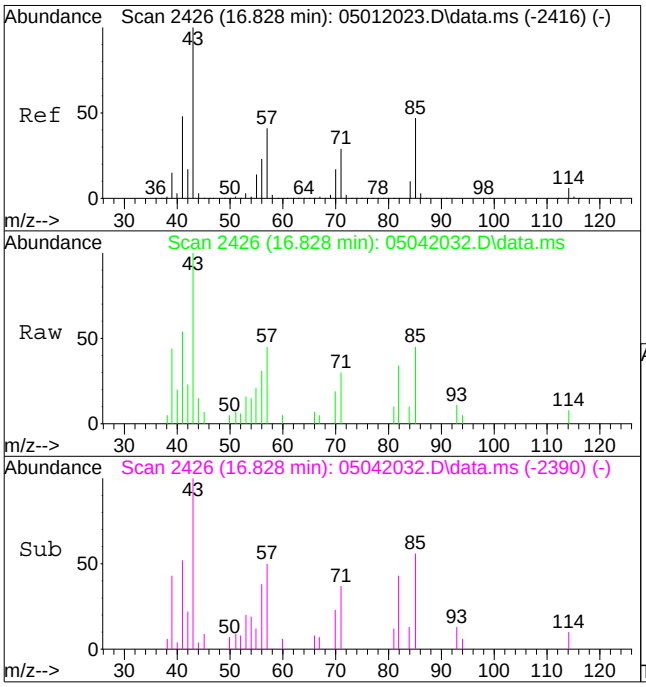


#61
1,2-Dibromoethane
Concen: 1.11 ng
RT: 16.48 min Scan# 2362
Delta R.T. -0.006 min
Lab File: 05042032.D
Acq: 5 May 2020 00:18

Tgt Ion:107 Resp: 36501

Ion	Ratio	Lower	Upper
107	100		
109	96.3	74.5	114.5

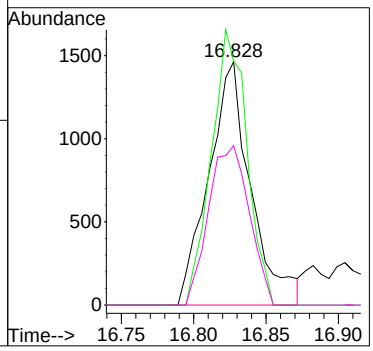


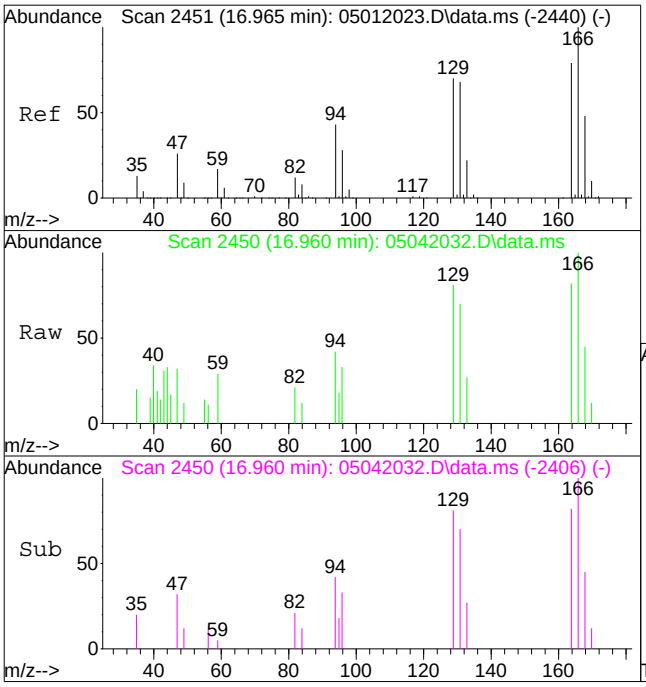


#63
n-Octane
Concen: 0.12 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05042032.D
Acq: 5 May 2020 00:18

Tgt Ion: 57 Resp: 2962

Ion	Ratio	Lower	Upper
57	100		
85	95.7	91.0	136.4
71	63.5	56.2	84.2

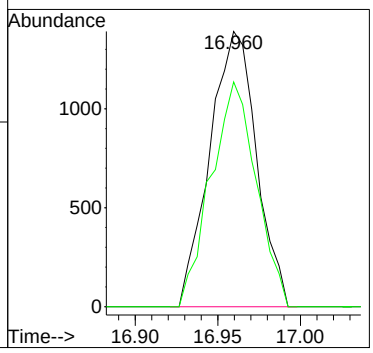


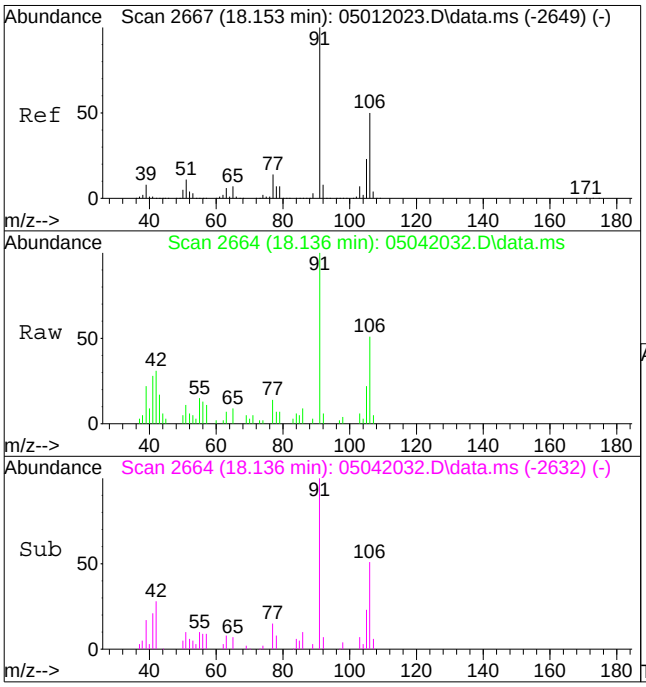


#64
Tetrachloroethene
Concen: 0.08 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05042032.D
Acq: 5 May 2020 00:18

Tgt Ion:166 Resp: 2736

Ion	Ratio	Lower	Upper
166	100		
164	79.1	58.4	98.4

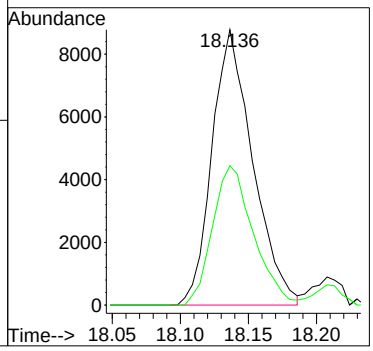


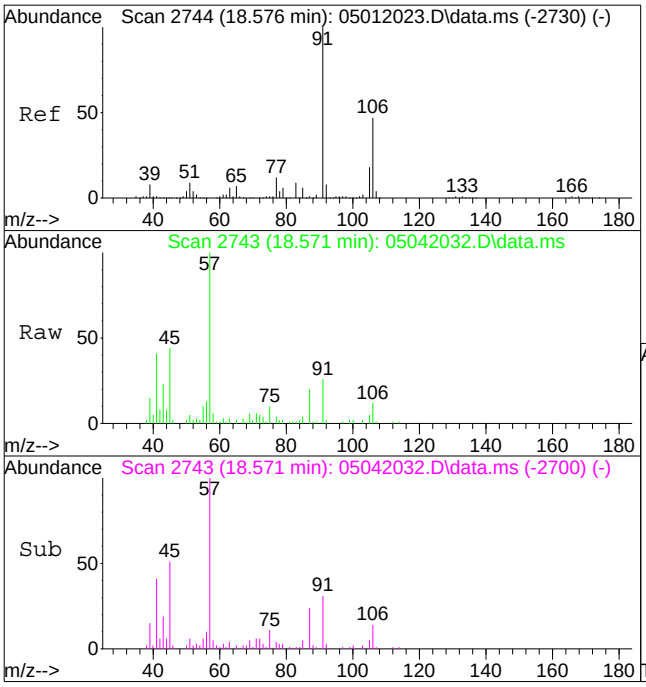


#67
m- & p-Xylenes
Concen: 0.17 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05042032.D
Acq: 5 May 2020 00:18

Tgt Ion: 91 Resp: 18311

Ion	Ratio	Lower	Upper
91	100		
106	50.5	29.7	69.7

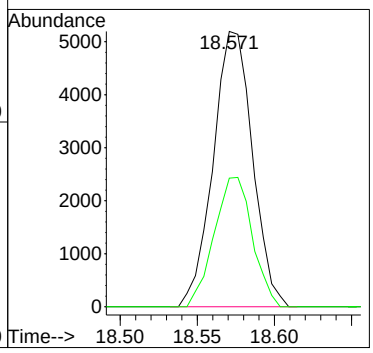


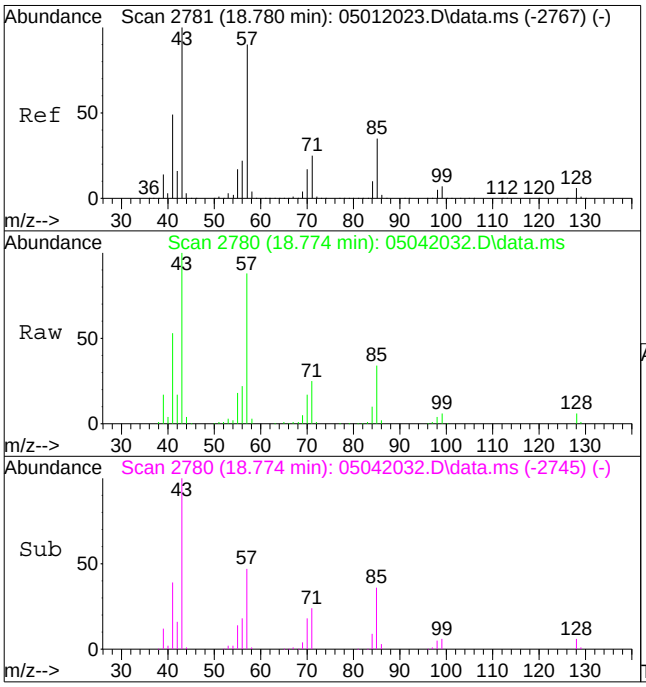


#70
o-Xylene
Concen: 0.09 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05042032.D
Acq: 5 May 2020 00:18

Tgt Ion: 91 Resp: 9223

Ion	Ratio	Lower	Upper
91	100		
106	45.5	27.5	67.5

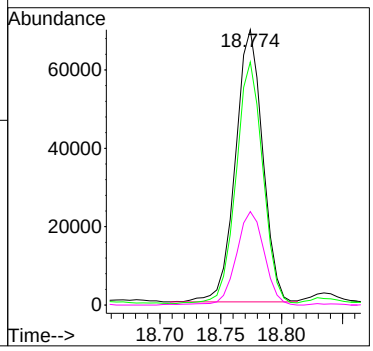


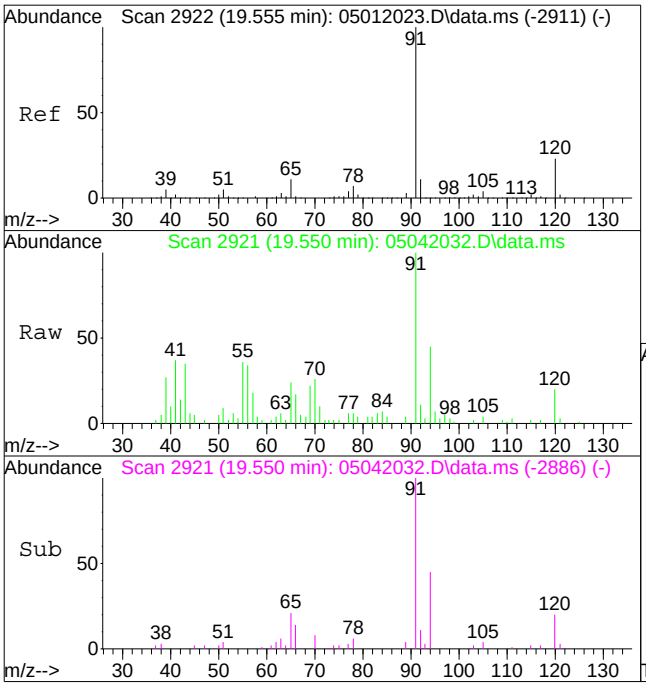


#71
n-Nonane
Concen: 1.90 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05042032.D
Acq: 5 May 2020 00:18

Tgt Ion: 43 Resp: 108204

Ion	Ratio	Lower	Upper
43	100		
57	87.4	69.0	109.0
85	35.3	14.6	54.6

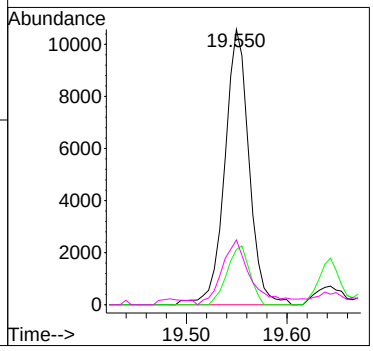


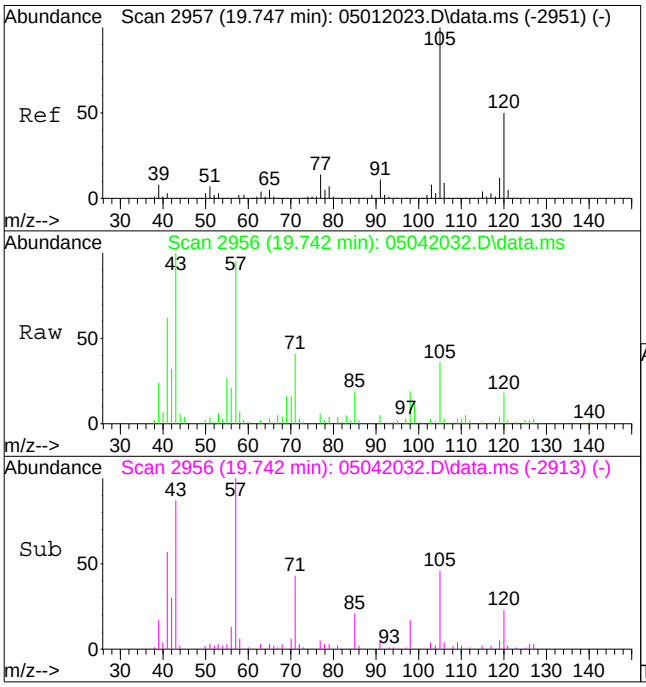


#76
n-Propylbenzene
Concen: 0.11 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.005 min
Lab File: 05042032.D
Acq: 5 May 2020 00:18

Tgt Ion: 91 Resp: 17681

Ion	Ratio	Lower	Upper
91	100		
120	19.9	3.1	43.1
65	29.1	0.0	30.9

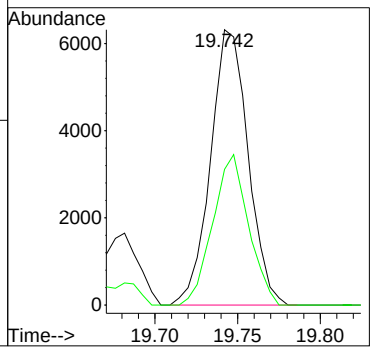


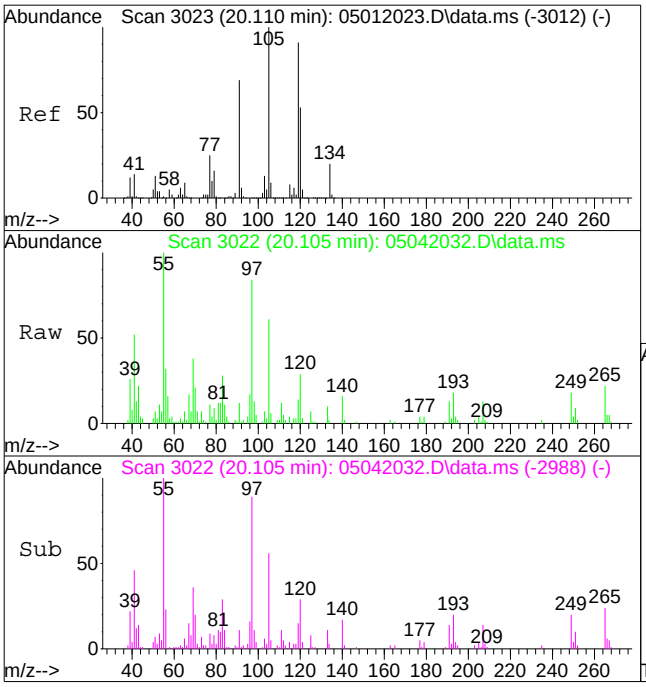


#79
1,3,5-Trimethylbenzene
Concen: 0.09 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05042032.D
Acq: 5 May 2020 00:18

Tgt Ion:105 Resp: 9999

Ion	Ratio	Lower	Upper
105	100		
120	51.8	29.9	69.9

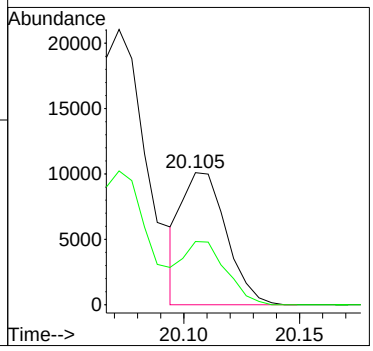




#82
1,2,4-Trimethylbenzene
Concen: 0.13 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05042032.D
Acq: 5 May 2020 00:18

Tgt Ion:105 Resp: 13551

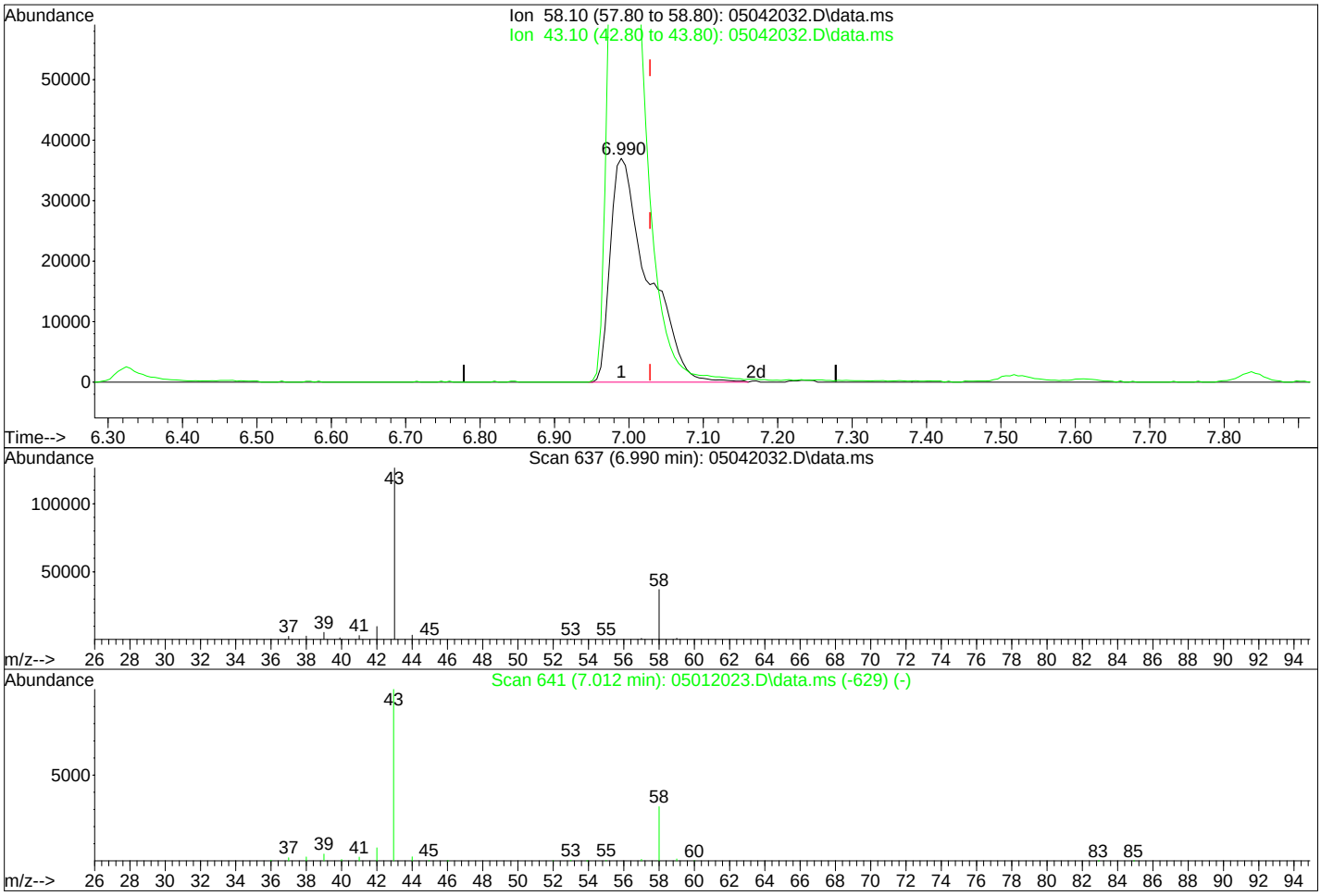
Ion	Ratio	Lower	Upper
105	100		
120	46.6	33.6	73.6



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\04\05042032.D Vial: 4
Acq On : 5 May 2020 00:18 Operator: TD
Sample : P2002105-016 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 05 07:11:01 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05042032.D\data.ms

(13) Acetone (T)

6.990min (-0.038) 5.43ng

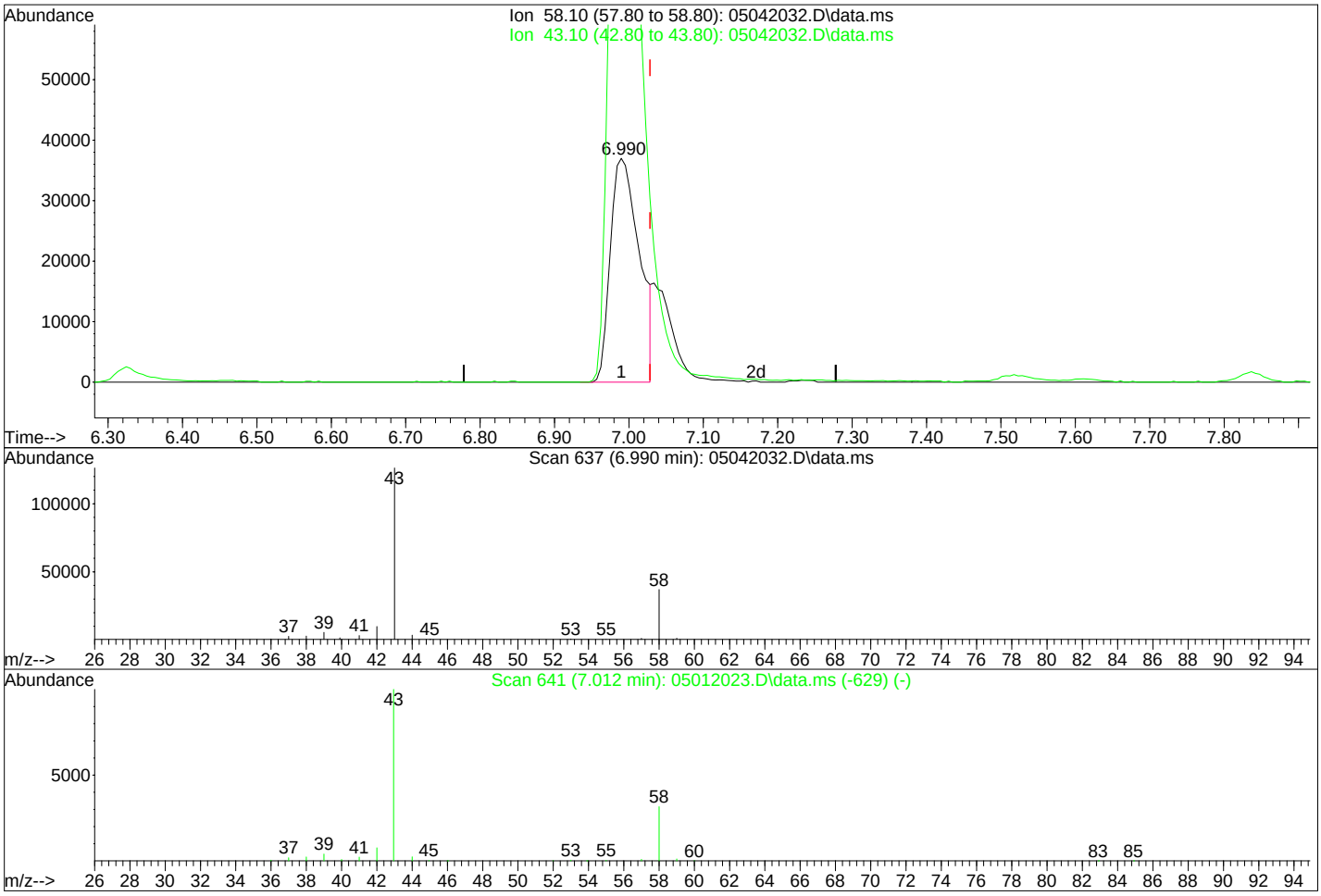
response 130696

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	268.92#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\04\05042032.D Vial: 4
Acq On : 5 May 2020 00:18 Operator: TD
Sample : P2002105-016 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 05 07:11:01 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05042032.D\data.ms

(13) Acetone (T)

6.990min (-0.038) 4.15ng m

response 99793

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	352.20
0.00	0.00	0.00
0.00	0.00	0.00

IPC

LH 5/6/20

5/7/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\06\05062028.D Vial: 16
Acq On : 6 May 2020 19:42 Operator: LH
Sample : P2002105-016dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 20:46:28 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/6/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	275953	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1200241	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	580495	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	457916	12.244	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.92%				
57) Toluene-d8 (SS2)	15.72	98	1202972	12.226	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.84%				
73) Bromofluorobenzene (SS3)	18.97	174	431171	12.179	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.44%				
Target Compounds							Qvalue
2) Propene	4.11	42	527	N.D.			
3) Dichlorodifluoromethan...	4.25	85	522464	8.358	ng		100
4) Chloromethane	4.55	50	821	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	17793	0.476	ng		99
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.34	45	3406	0.138	ng		92
11) Acetonitrile	6.60	41	639	N.D.			
12) Acrolein	6.81	56	769	N.D.			
13) Acetone	7.02	58	13747	0.557	ng	#	82
14) Trichlorofluoromethane	7.24	101	45238	0.819	ng		100
15) 2-Propanol (Isopropanol)	7.53	45	3730	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.44	59	1174	N.D.			
19) Methylene Chloride	8.40	84	223	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	8.84	151	17557	0.673	ng		99
22) Carbon Disulfide	8.68	76	9993	0.087	ng		96
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.48	72	1716	0.082	ng	#	90
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	11.30	83	2034	N.D.			
34) Tetrahydrofuran (THF)	11.75	72	2611	0.127	ng		95
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.00	62	181	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	1298	N.D.			
42) Carbon Tetrachloride	13.03	117	14277	0.326	ng		98
43) Cyclohexane	13.26	84	797	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	13.96	83	172	N.D.			
47) Trichloroethene	13.97	130	28609	0.860	ng		99
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.04	57	1338	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\06\05062028.D Vial: 16
Acq On : 6 May 2020 19:42 Operator: LH
Sample : P2002105-016dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 20:46:28 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

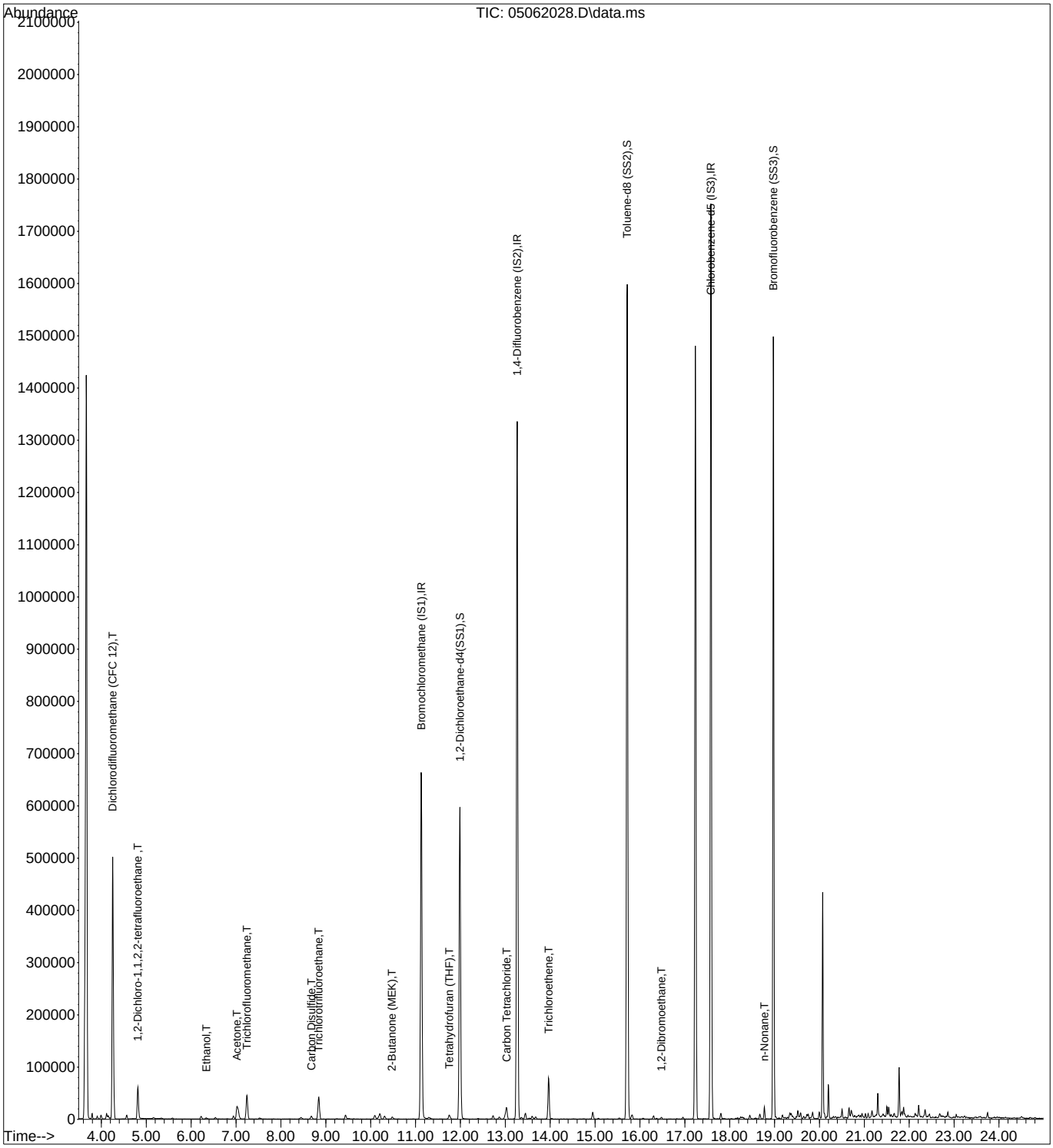
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.82	91	3517	N.D.	
59) 2-Hexanone	16.06	43	1536	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	16.48	107	2740	0.078 ng	94
62) n-Butyl Acetate	16.83	43	609	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	16.97	166	1222	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	17.98	91	599	N.D.	
67) m- & p-Xylenes	18.14	91	1769	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	18.58	91	903	N.D.	
71) n-Nonane	18.77	43	8214	0.136 ng	95
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	18.97	105	691	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	19.58	91	6793	N.D.	
77) 3-Ethyltoluene	19.64	105	722	N.D.	
78) 4-Ethyltoluene	19.68	105	214	N.D.	
79) 1,3,5-Trimethylbenzene	19.74	105	799	N.D.	
80) alpha-Methylstyrene	19.88	118	148	N.D.	
81) 2-Ethyltoluene	19.91	105	199	N.D.	
82) 1,2,4-Trimethylbenzene	20.10	105	1151	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.31	91	457	N.D.	
85) 1,3-Dichlorobenzene	20.31	146	176	N.D.	
86) 1,4-Dichlorobenzene	20.31	146	176	N.D.	
87) sec-Butylbenzene	20.35	105	1173	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	365	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	454	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.61	68	130	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.22	128	969	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	20.85	91	1246	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\06\05062028.D Vial: 16
Acq On : 6 May 2020 19:42 Operator: LH
Sample : P2002105-016dil (40mL) Inst : GCMS-16
Misc : S31-02112001

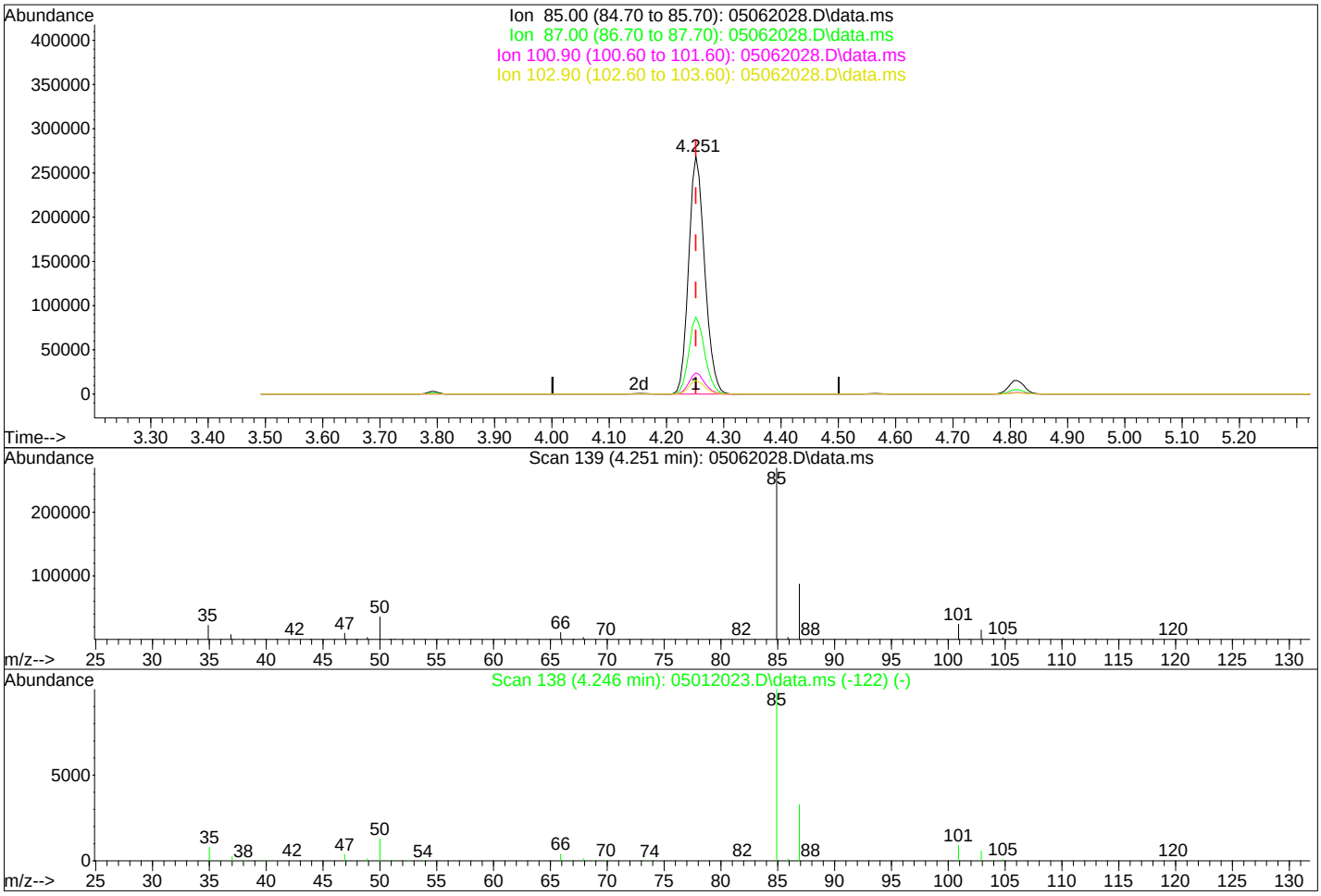
Quant Time: May 06 20:46:28 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\06\05062028.D Vial: 16
Acq On : 6 May 2020 19:42 Operator: LH
Sample : P2002105-016dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 20:45:43 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05062028.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

4.251min (-0.000) 8.36ng

response 522464

Ion	Exp%	Act%
85.00	100	100
87.00	32.40	32.22
100.90	8.80	8.73
102.90	5.70	5.61

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042033.D Vial: 5
Acq On : 5 May 2020 00:52 Operator: TD
Sample : P2002105-017 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 15:02:55 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/6/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	268872	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1150234	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	551161	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	428222	11.752	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.00%				
57) Toluene-d8 (SS2)	15.72	98	1160752	12.425	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.36%				
73) Bromofluorobenzene (SS3)	18.98	174	446030	13.269	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.16%				
Target Compounds							Qvalue
2) Propene	4.10	42	11453	0.368	ng		95
3) Dichlorodifluoromethan...	4.25	85	8199588	134.622	ng		99
4) Chloromethane	4.53	50	29406	0.616	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	248604	6.832	ng		100
6) Vinyl Chloride	4.95	62	1255	N.D.			
7) 1,3-Butadiene	5.21	54	446	N.D.			
8) Bromomethane	5.64	94	3106	0.112	ng		97
9) Chloroethane	5.98	64	2750	0.133	ng		97
10) Ethanol	6.33	45	46105	1.917	ng		100
11) Acetonitrile	6.60	41	25503	0.464	ng		96
12) Acrolein	6.79	56	18019	0.948	ng		99
13) Acetone	6.99	58	255721m	10.634	ng		
14) Trichlorofluoromethane	7.24	101	655550	12.178	ng		100
15) 2-Propanol (Isopropanol)	7.51	45	19266	0.265	ng		91
16) Acrylonitrile	7.76	53	720	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	1075	N.D.			
20) 3-Chloro-1-propene (Al...	8.57	41	475	N.D.			
21) Trichlorotrifluoroethane	8.84	151	152195	5.989	ng		100
22) Carbon Disulfide	8.67	76	201919	1.803	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.07	73	647	N.D.			
26) Vinyl Acetate	10.17	86	24376	3.254	ng	#	11
27) 2-Butanone (MEK)	10.45	72	40838	1.991	ng		96
28) cis-1,2-Dichloroethene	10.89	61	180	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.28	61	1485	0.126	ng	#	67
31) n-Hexane	0.00	57	0	N.D.	d		
32) Chloroform	11.31	83	63148	1.180	ng		98
34) Tetrahydrofuran (THF)	11.71	72	279077	13.953	ng		99
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.12	62	166	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	32883	0.267	ng		98
42) Carbon Tetrachloride	13.03	117	256363	6.110	ng		99
43) Cyclohexane	13.16	84	2117	N.D.			
44) tert-Amyl Methyl Ether	13.45	73	2890	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	14.04	83	1041	N.D.			
47) Trichloroethene	13.97	130	2803	0.088	ng		97
48) 1,4-Dioxane	13.96	88	1704	0.069	ng		80
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.12	100	542	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042033.D Vial: 5
Acq On : 5 May 2020 00:52 Operator: TD
Sample : P2002105-017 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 15:02:55 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

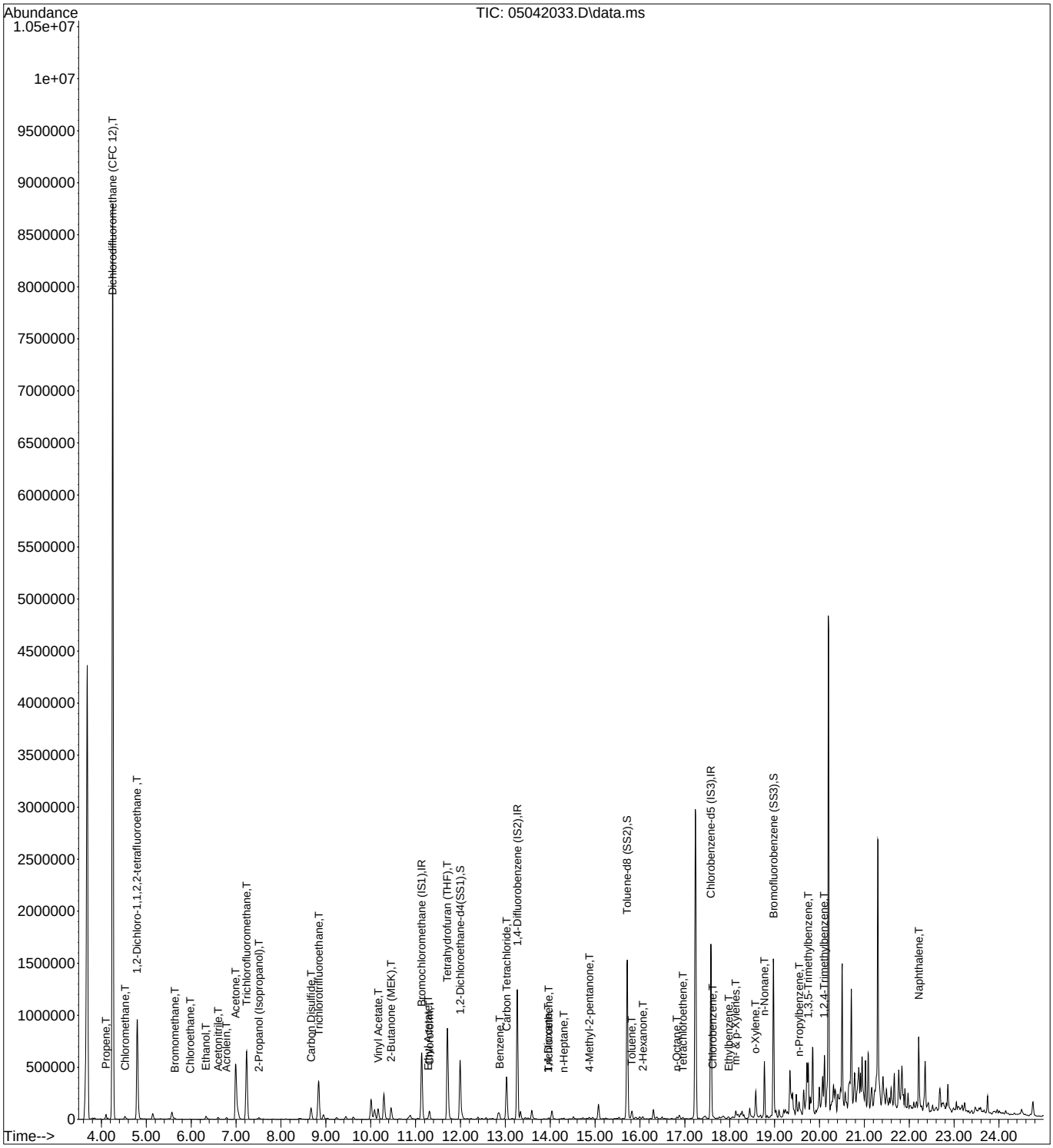
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.30	71	2306	0.080 ng		96
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.88	58	5406	0.197 ng		87
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	15.49	97	554	N.D.		
58) Toluene	15.82	91	41718	0.346 ng		98
59) 2-Hexanone	16.06	43	17359	0.263 ng		99
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.70	43	2352	N.D.		
63) n-Octane	16.82	57	2602	0.104 ng		89
64) Tetrachloroethene	16.96	166	3660	0.108 ng		97
65) Chlorobenzene	17.62	112	7127	0.086 ng		95
66) Ethylbenzene	17.98	91	6780	0.050 ng		96
67) m- & p-Xylenes	18.14	91	26332	0.247 ng		100
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	1172	N.D.		
70) o-Xylene	18.57	91	14947	0.138 ng		95
71) n-Nonane	18.77	43	189410	3.301 ng		98
72) 1,1,2,2-Tetrachloroethane	18.59	83	600	N.D.		
74) Cumene	19.10	105	4949	N.D.		
75) alpha-Pinene	19.45	93	535	N.D.		
76) n-Propylbenzene	19.55	91	44860	0.285 ng	#	81
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.68	105	4082	N.D.		
79) 1,3,5-Trimethylbenzene	19.75	105	32245	0.298 ng		99
80) alpha-Methylstyrene	19.88	118	2760	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	20.10	105	51291	0.471 ng		92
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.22	91	3256	N.D.		
85) 1,3-Dichlorobenzene	20.25	146	241	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	633	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D. d		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	20.59	146	292	N.D.		
91) d-Limonene	0.00	68	0	N.D. d		
92) 1,2-Dibromo-3-Chloropr...	20.88	157	103	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.11	180	424	N.D.		
95) Naphthalene	22.22	128	9875	0.074 ng		95
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042033.D Vial: 5
Acq On : 5 May 2020 00:52 Operator: TD
Sample : P2002105-017 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 15:02:55 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

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QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/6/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	268872	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1150234	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	551161	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	428222	11.752	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.00%				
57) Toluene-d8 (SS2)	15.72	98	1160752	12.425	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.36%				
73) Bromofluorobenzene (SS3)	18.98	174	446030	13.269	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.16%				
Target Compounds							Qvalue
2) Propene	4.10	42	11453	0.368	ng		95
3) Dichlorodifluoromethan...	4.25	85	8199588	134.622	ng		99
4) Chloromethane	4.53	50	29406	0.616	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	248604	6.832	ng		100
8) Bromomethane	5.64	94	3106	0.112	ng		97
9) Chloroethane	5.98	64	2750	0.133	ng		97
10) Ethanol	6.33	45	46105	1.917	ng		100
11) Acetonitrile	6.60	41	25503	0.464	ng		96
12) Acrolein	6.79	56	18019	0.948	ng		99
13) Acetone	6.99	58	255721m	10.634	ng		
14) Trichlorofluoromethane	7.24	101	655550	12.178	ng		100
15) 2-Propanol (Isopropanol)	7.51	45	19266	0.265	ng		91
21) Trichlorotrifluoroethane	8.84	151	152195	5.989	ng		100
22) Carbon Disulfide	8.67	76	201919	1.803	ng		99
26) Vinyl Acetate	10.17	86	24376	3.254	ng	#	11
27) 2-Butanone (MEK)	10.45	72	40838	1.991	ng		96
30) Ethyl Acetate	11.28	61	1485	0.126	ng	#	67
32) Chloroform	11.31	83	63148	1.180	ng		98
34) Tetrahydrofuran (THF)	11.71	72	279077	13.953	ng		99
41) Benzene	12.87	78	32883	0.267	ng		98
42) Carbon Tetrachloride	13.03	117	256363	6.110	ng		99
47) Trichloroethene	13.97	130	2803	0.088	ng		97
48) 1,4-Dioxane	13.96	88	1704	0.069	ng		80
51) n-Heptane	14.30	71	2306	0.080	ng		96
53) 4-Methyl-2-pentanone	14.88	58	5406	0.197	ng		87
58) Toluene	15.82	91	41718	0.346	ng		98
59) 2-Hexanone	16.06	43	17359	0.263	ng		99
63) n-Octane	16.82	57	2602	0.104	ng		89
64) Tetrachloroethene	16.96	166	3660	0.108	ng		97
65) Chlorobenzene	17.62	112	7127	0.086	ng		95
66) Ethylbenzene	17.98	91	6780	0.050	ng		96
67) m- & p-Xylenes	18.14	91	26332	0.247	ng		100
70) o-Xylene	18.57	91	14947	0.138	ng		95
71) n-Nonane	18.77	43	189410	3.301	ng		98
76) n-Propylbenzene	19.55	91	44860	0.285	ng	#	81
79) 1,3,5-Trimethylbenzene	19.75	105	32245	0.298	ng		99
82) 1,2,4-Trimethylbenzene	20.10	105	51291	0.471	ng		92
95) Naphthalene	22.22	128	9875	0.074	ng		95

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Quantitation Report (QT Reviewed)

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Acq On : 5 May 2020 00:52 Operator: TD
Sample : P2002105-017 (400mL) Inst : GCMS-16
Misc : S31-02112001

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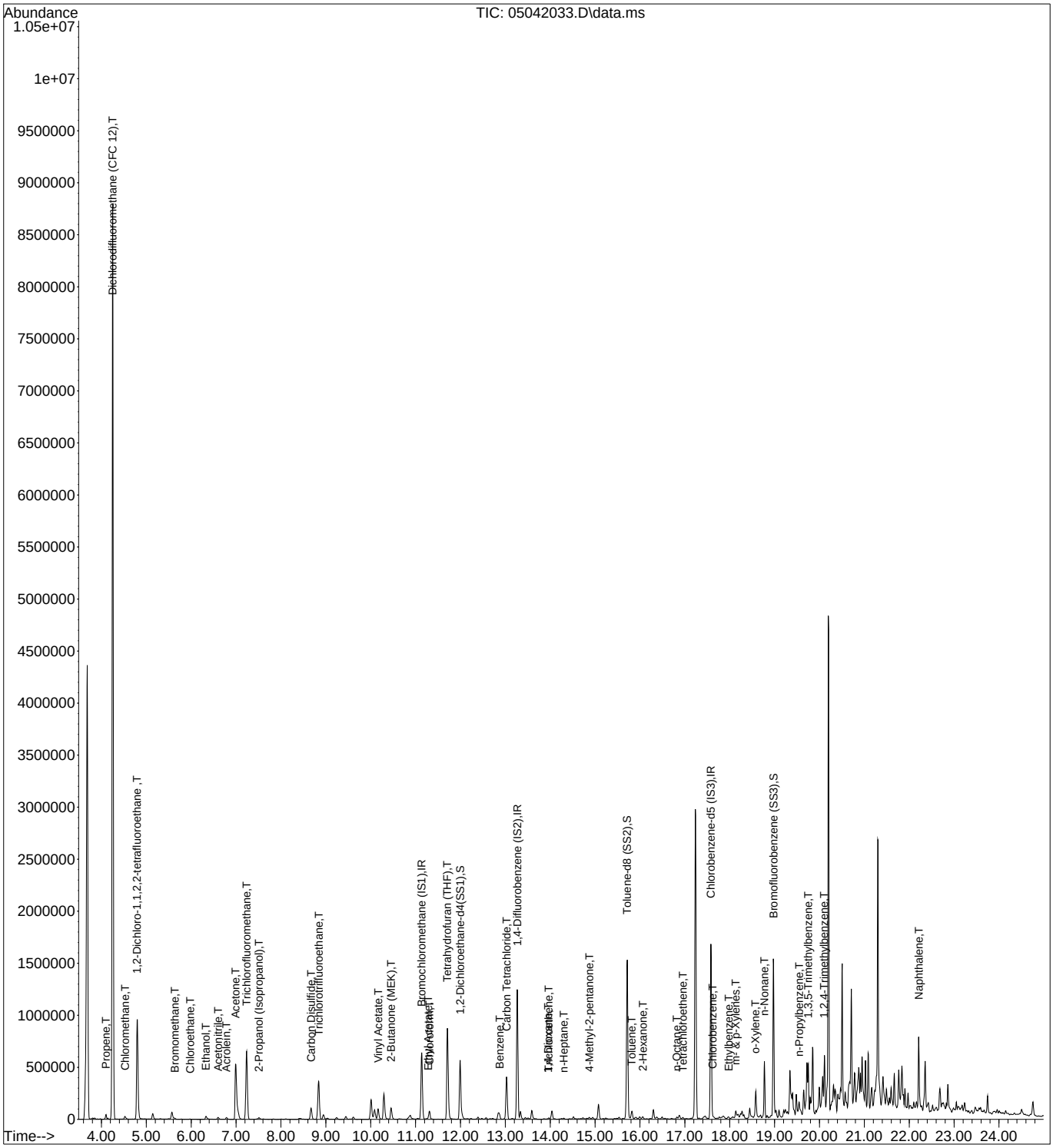
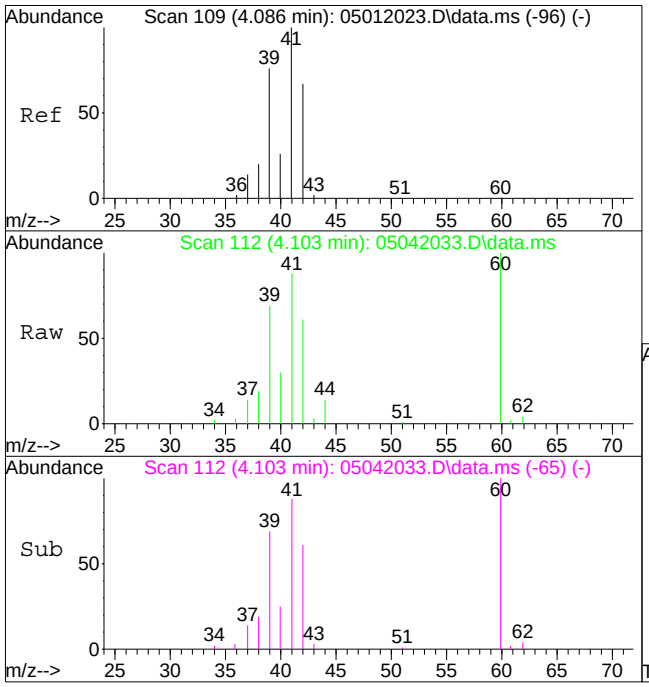
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

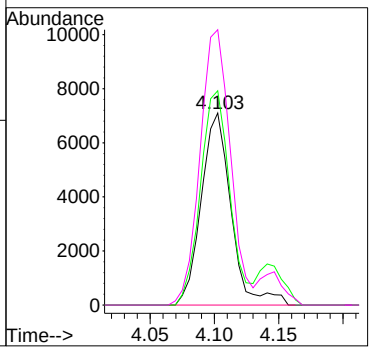


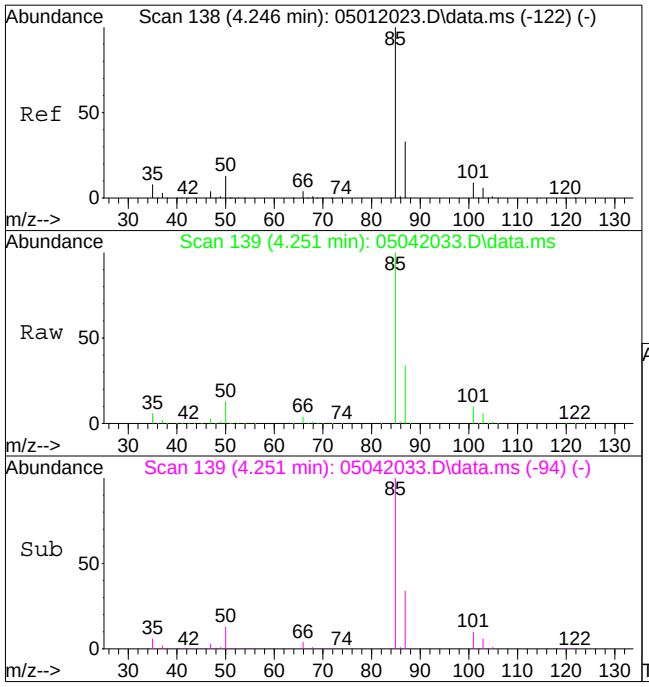


#2
Propene
Concen: 0.37 ng
RT: 4.10 min Scan# 112
Delta R.T. 0.011 min
Lab File: 05042033.D
Acq: 5 May 2020 00:52

Tgt Ion: 42 Resp: 11453

Ion	Ratio	Lower	Upper
42	100		
39	110.7	96.1	136.1
41	146.0	131.9	171.9

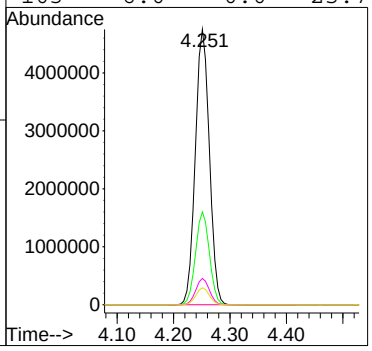


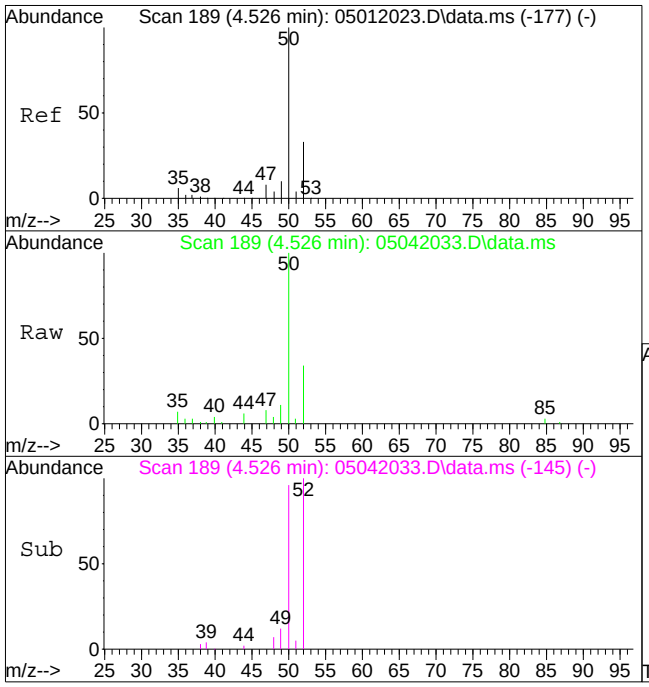


#3
Dichlorodifluoromethane (CFC 12)
Concen: 134.62 ng
RT: 4.25 min Scan# 139
Delta R.T. -0.000 min
Lab File: 05042033.D
Acq: 5 May 2020 00:52

Tgt Ion: 85 Resp: 8199588

Ion	Ratio	Lower	Upper
85	100		
87	33.2	12.4	52.4
101	9.3	0.0	28.8
103	6.0	0.0	25.7

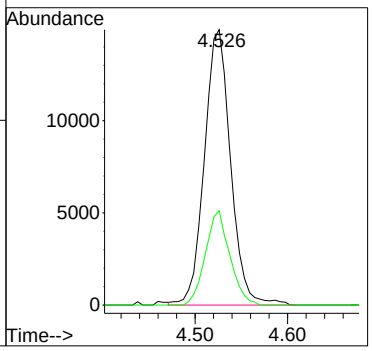


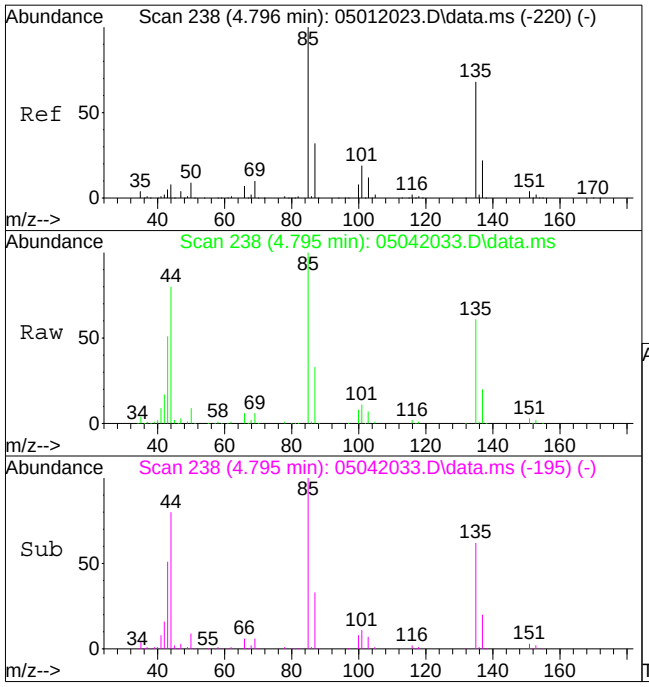


#4
Chloromethane
Concen: 0.62 ng
RT: 4.53 min Scan# 189
Delta R.T. -0.006 min
Lab File: 05042033.D
Acq: 5 May 2020 00:52

Tgt Ion: 50 Resp: 29406

Ion	Ratio	Lower	Upper
50	100		
52	31.8	12.5	52.5

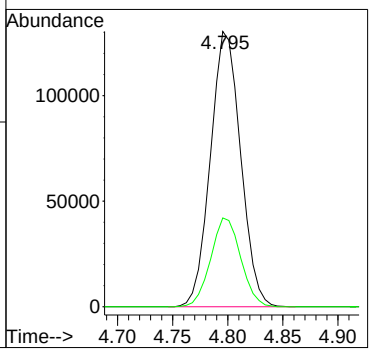


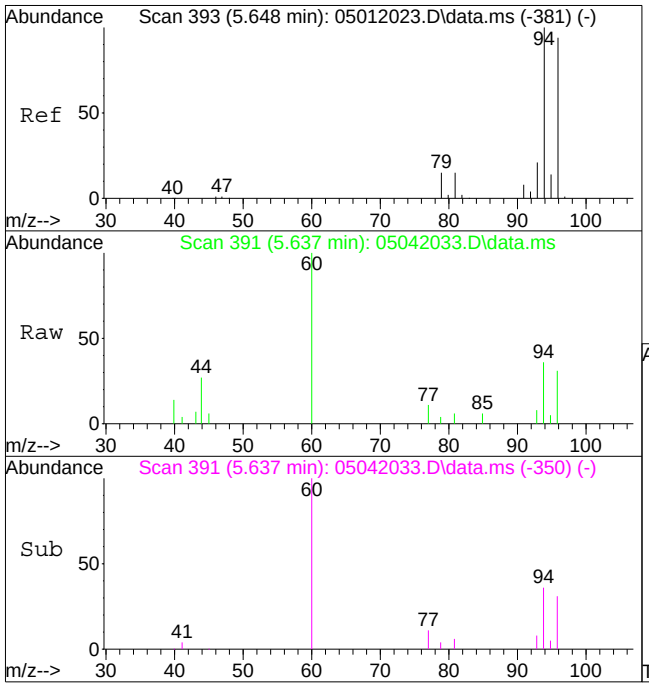


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 6.83 ng
RT: 4.80 min Scan# 238
Delta R.T. -0.011 min
Lab File: 05042033.D
Acq: 5 May 2020 00:52

Tgt Ion:135 Resp: 248604

Ion	Ratio	Lower	Upper
135	100		
137	32.1	12.1	52.1

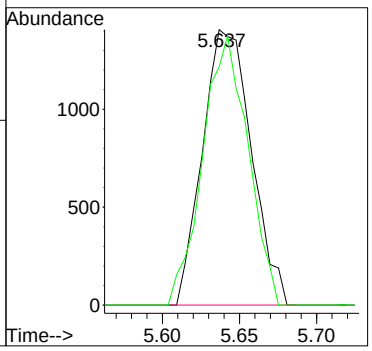


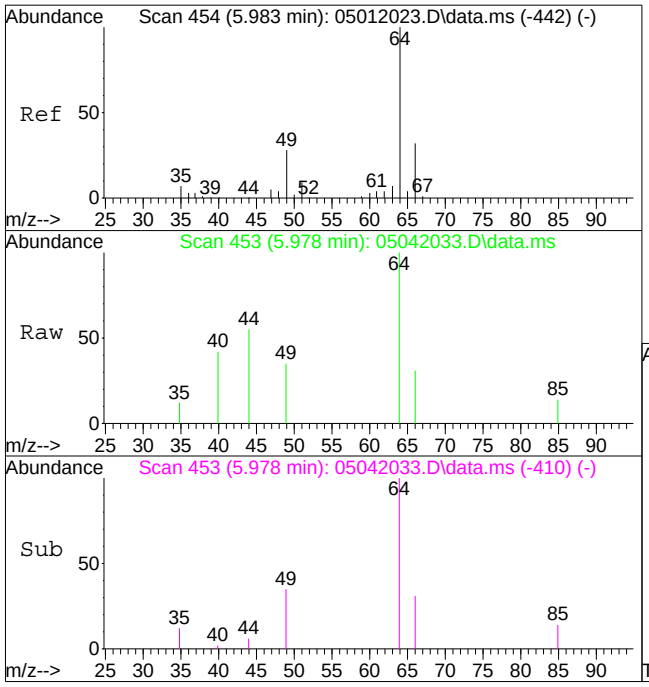


#8
Bromomethane
Concen: 0.11 ng
RT: 5.64 min Scan# 391
Delta R.T. -0.022 min
Lab File: 05042033.D
Acq: 5 May 2020 00:52

Tgt Ion: 94 Resp: 3106

Ion	Ratio	Lower	Upper
94	100		
96	90.4	73.7	113.7

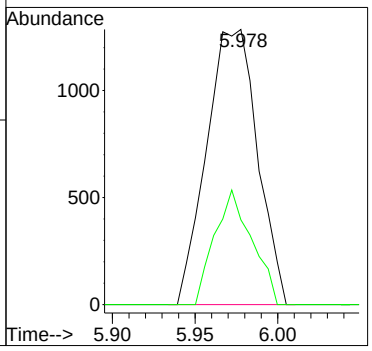


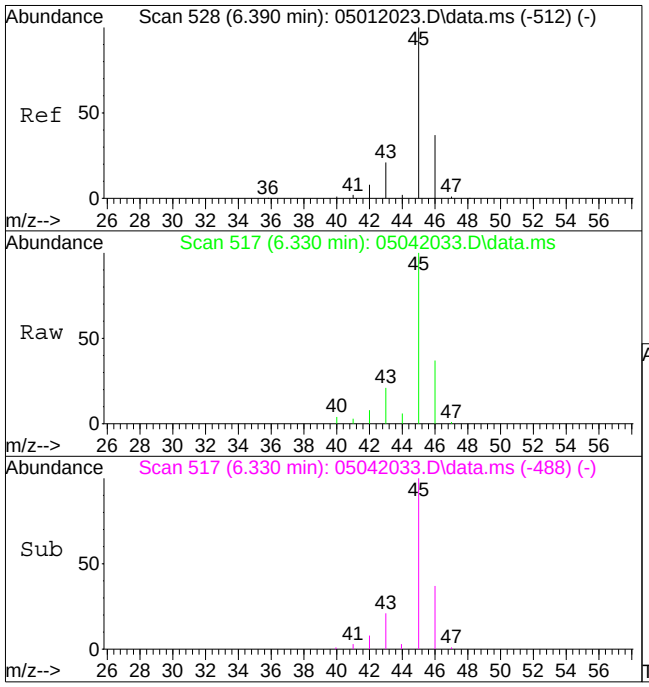


#9
Chloroethane
Concen: 0.13 ng
RT: 5.98 min Scan# 453
Delta R.T. -0.011 min
Lab File: 05042033.D
Acq: 5 May 2020 00:52

Tgt Ion: 64 Resp: 2750

Ion	Ratio	Lower	Upper
64	100		
66	30.5	12.1	52.1

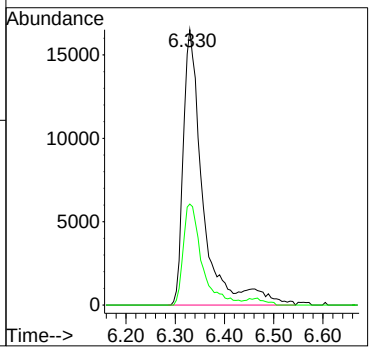


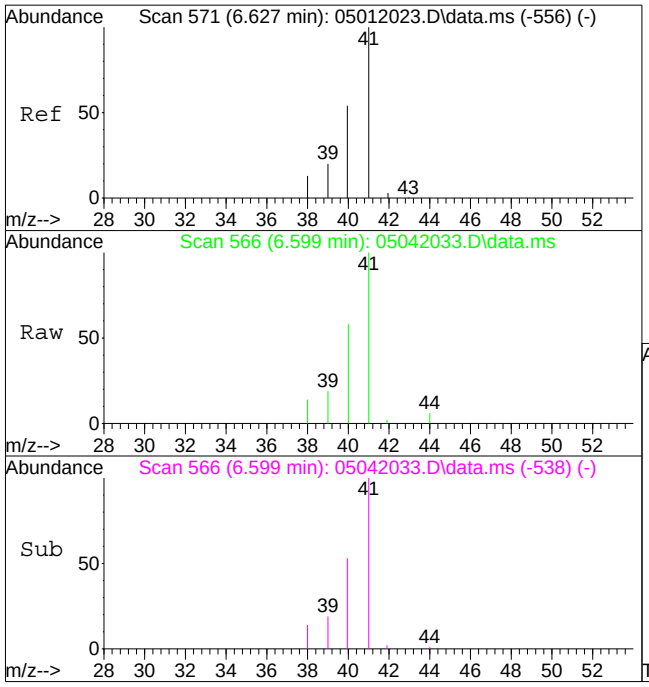


#10
Ethanol
Concen: 1.92 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.088 min
Lab File: 05042033.D
Acq: 5 May 2020 00:52

Tgt Ion: 45 Resp: 46105

Ion	Ratio	Lower	Upper
45	100		
46	37.2	17.2	57.2

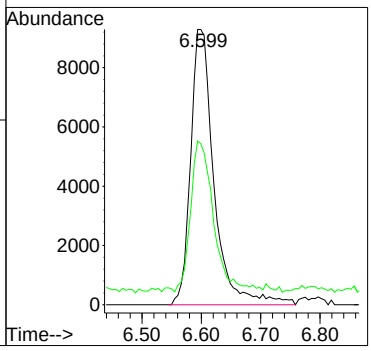


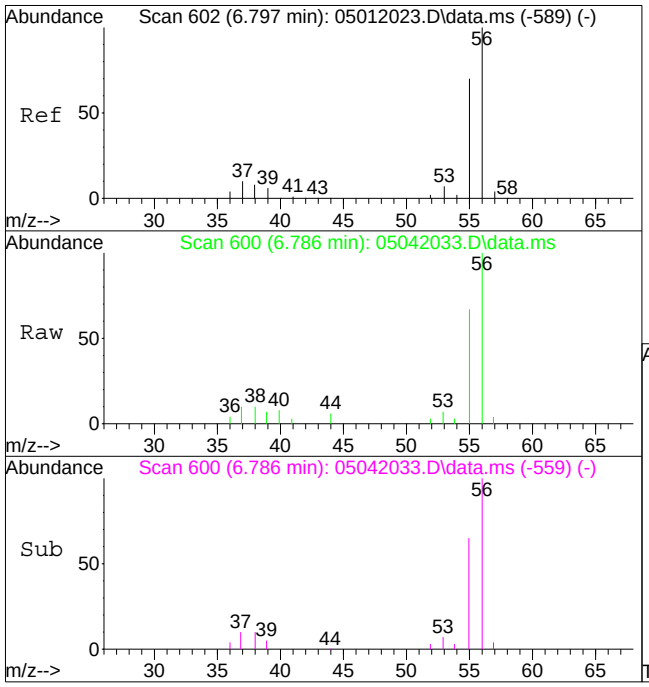


#11
Acetonitrile
Concen: 0.46 ng
RT: 6.60 min Scan# 566
Delta R.T. -0.044 min
Lab File: 05042033.D
Acq: 5 May 2020 00:52

Tgt Ion: 41 Resp: 25503

Ion	Ratio	Lower	Upper
41	100		
40	56.2	33.6	73.6

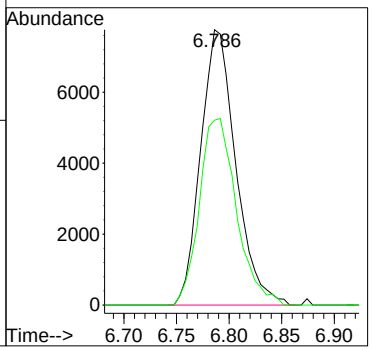


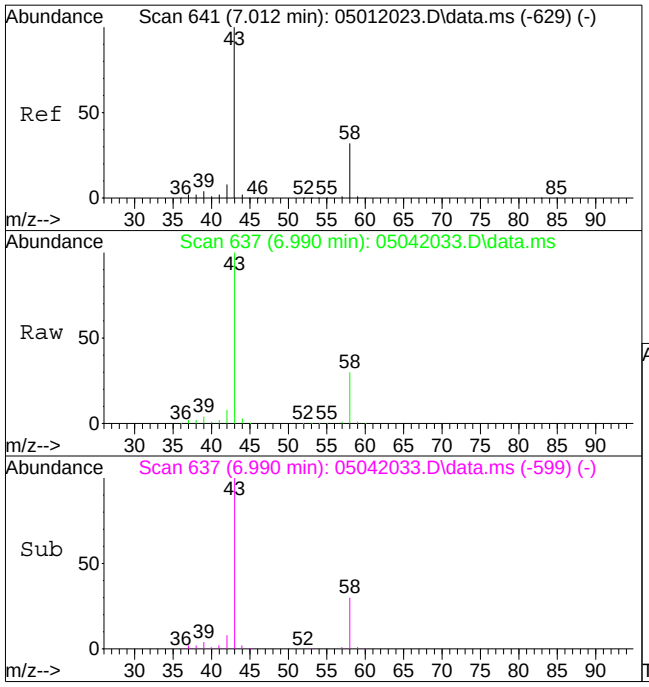


#12
Acrolein
Concen: 0.95 ng
RT: 6.79 min Scan# 600
Delta R.T. -0.022 min
Lab File: 05042033.D
Acq: 5 May 2020 00:52

Tgt Ion: 56 Resp: 18019

Ion	Ratio	Lower	Upper
56	100		
55	71.4	50.2	90.2

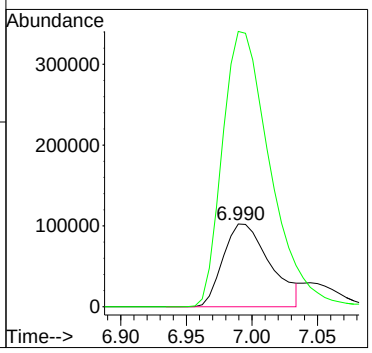


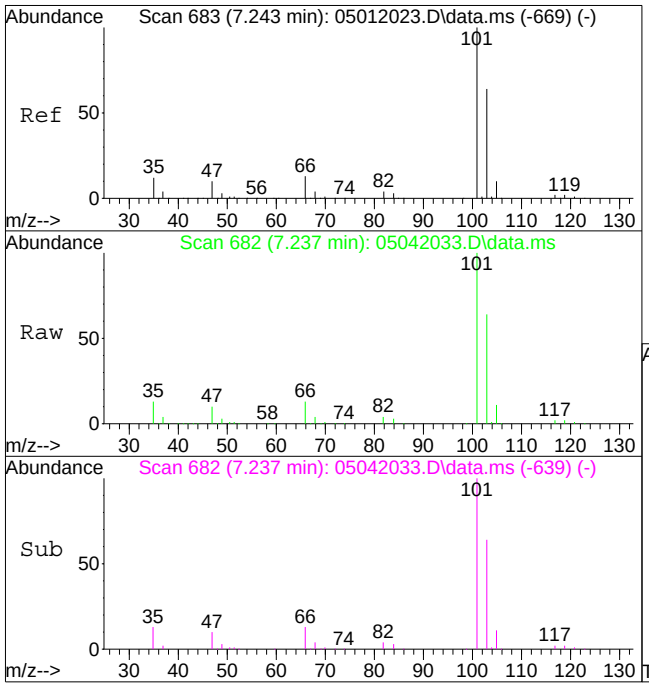


#13
Acetone
Concen: 10.63 ng m
RT: 6.99 min Scan# 637
Delta R.T. -0.039 min
Lab File: 05042033.D
Acq: 5 May 2020 00:52

Tgt Ion: 58 Resp: 255721

Ion	Ratio	Lower	Upper
58	100		
43	341.5	294.4	354.4

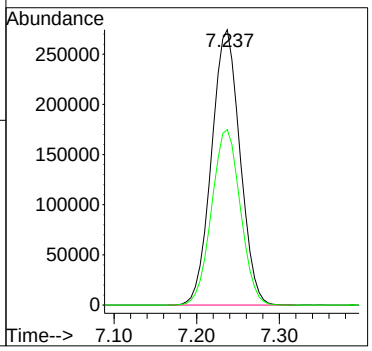


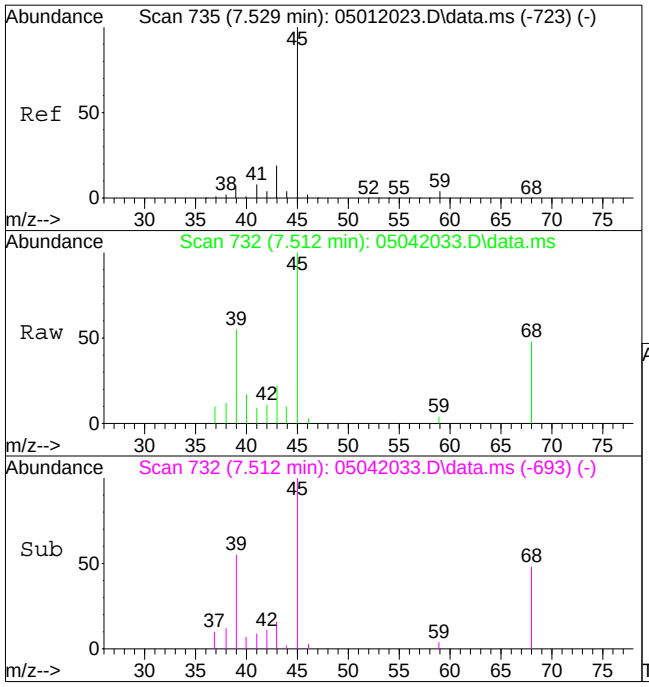


#14
Trichlorofluoromethane
Concen: 12.18 ng
RT: 7.24 min Scan# 682
Delta R.T. -0.011 min
Lab File: 05042033.D
Acq: 5 May 2020 00:52

Tgt Ion:101 Resp: 655550

Ion	Ratio	Lower	Upper
101	100		
103	64.4	44.4	84.4

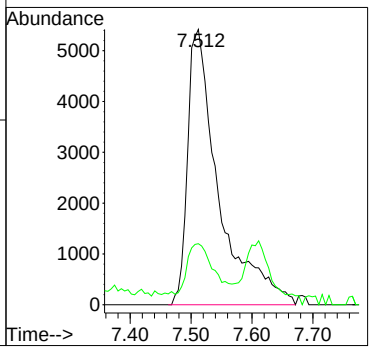


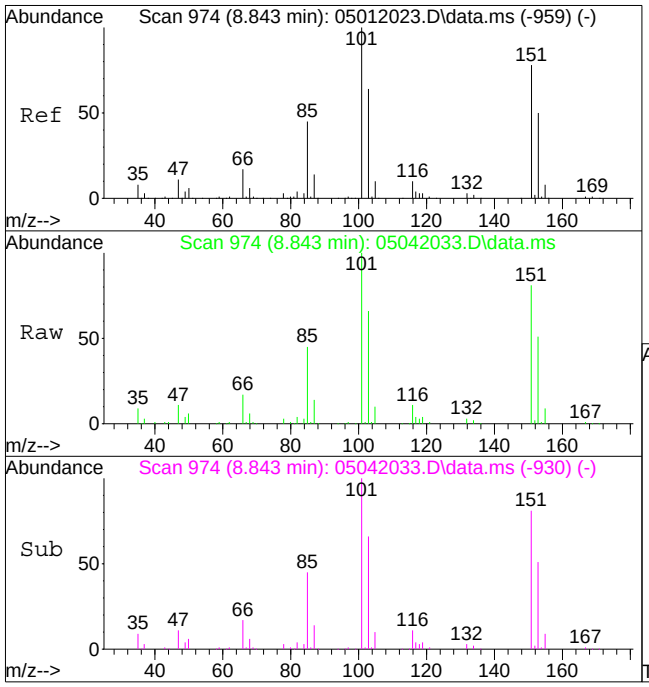


#15
2-Propanol (Isopropanol)
Concen: 0.26 ng
RT: 7.51 min Scan# 732
Delta R.T. -0.033 min
Lab File: 05042033.D
Acq: 5 May 2020 00:52

Tgt Ion: 45 Resp: 19266

Ion	Ratio	Lower	Upper
45	100		
43	15.4	0.0	39.5

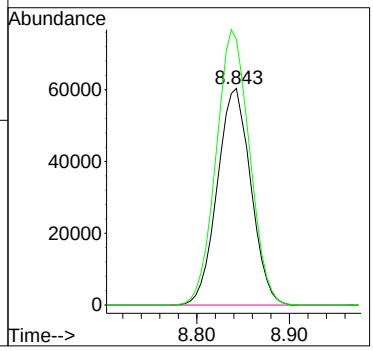


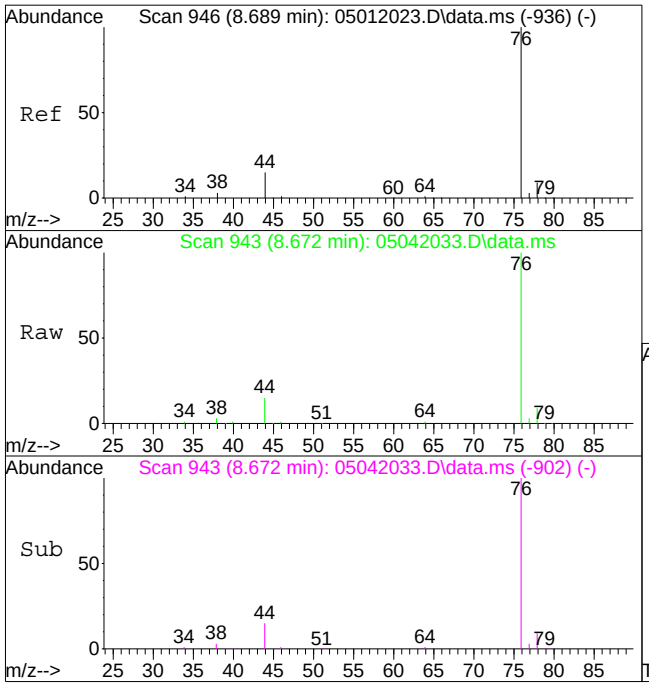


#21
Trichlorotrifluoroethane
Concen: 5.99 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05042033.D
Acq: 5 May 2020 00:52

Tgt Ion:151 Resp: 152195

Ion	Ratio	Lower	Upper
151	100		
101	126.9	107.3	147.3

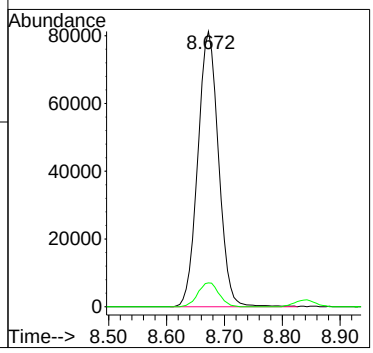


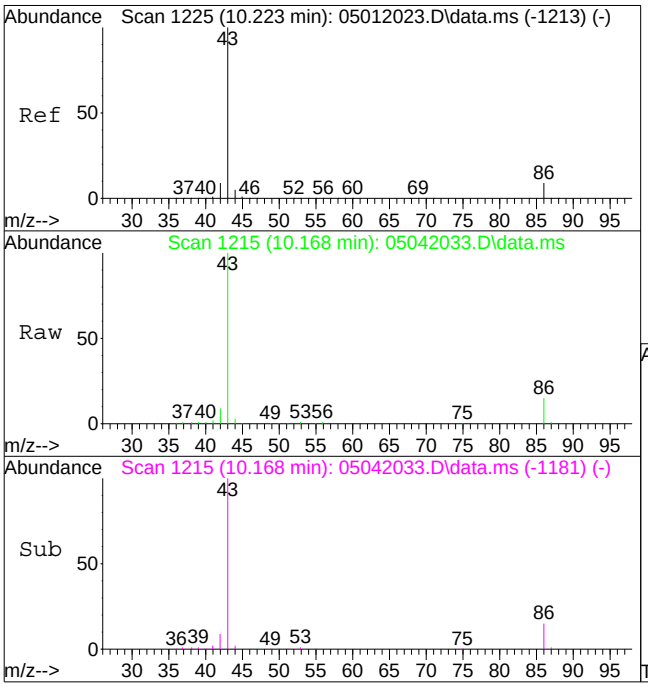


#22
Carbon Disulfide
Concen: 1.80 ng
RT: 8.67 min Scan# 943
Delta R.T. -0.022 min
Lab File: 05042033.D
Acq: 5 May 2020 00:52

Tgt Ion: 76 Resp: 201919

Ion	Ratio	Lower	Upper
76	100		
78	8.8	0.0	29.2

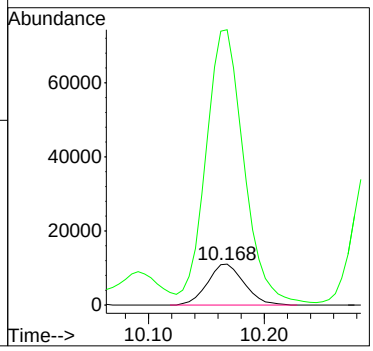


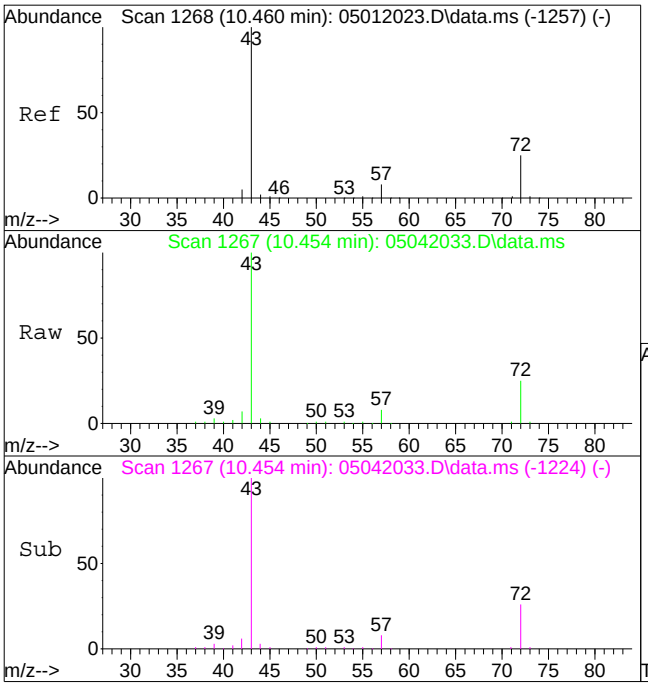


#26
Vinyl Acetate
Concen: 3.25 ng
RT: 10.17 min Scan# 1215
Delta R.T. -0.061 min
Lab File: 05042033.D
Acq: 5 May 2020 00:52

Tgt Ion: 86 Resp: 24376

Ion	Ratio	Lower	Upper
86	100		
43	691.0	1103.0	1143.0#

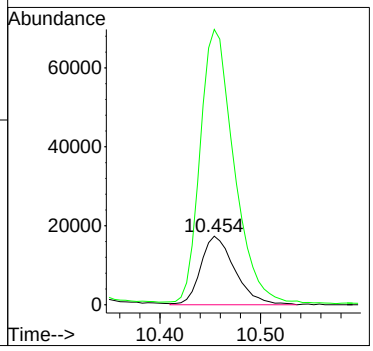


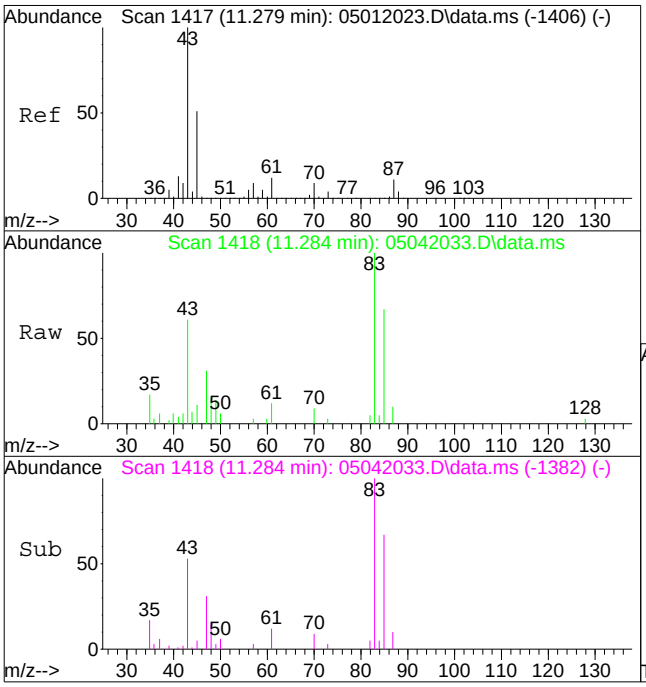


#27
2-Butanone (MEK)
Concen: 1.99 ng
RT: 10.45 min Scan# 1267
Delta R.T. -0.011 min
Lab File: 05042033.D
Acq: 5 May 2020 00:52

Tgt Ion: 72 Resp: 40838

Ion	Ratio	Lower	Upper
72	100		
43	399.9	389.7	429.7

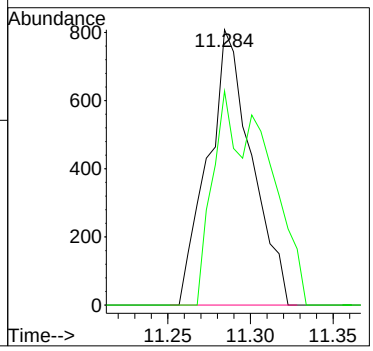


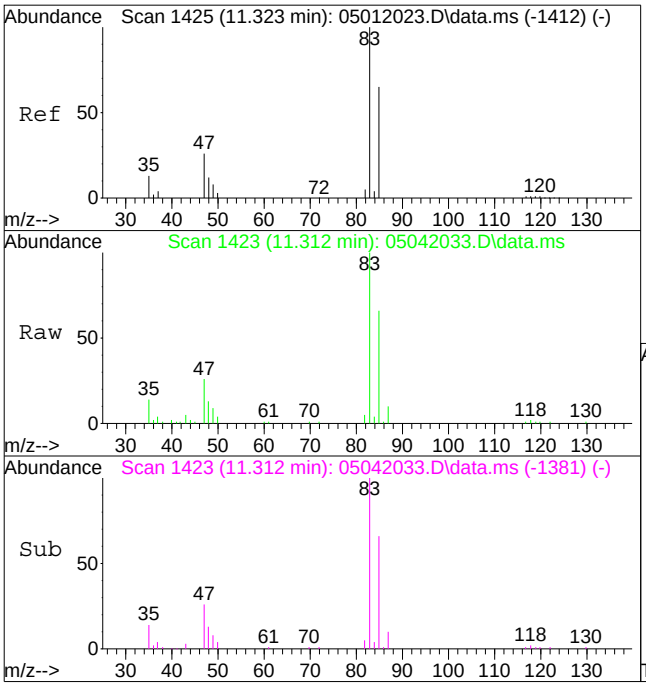


#30
Ethyl Acetate
Concen: 0.13 ng
RT: 11.28 min Scan# 1418
Delta R.T. -0.000 min
Lab File: 05042033.D
Acq: 5 May 2020 00:52

Tgt Ion: 61 Resp: 1485

Ion	Ratio	Lower	Upper
61	100		
70	49.1	57.9	97.9#

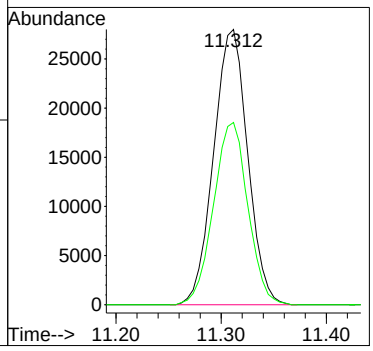


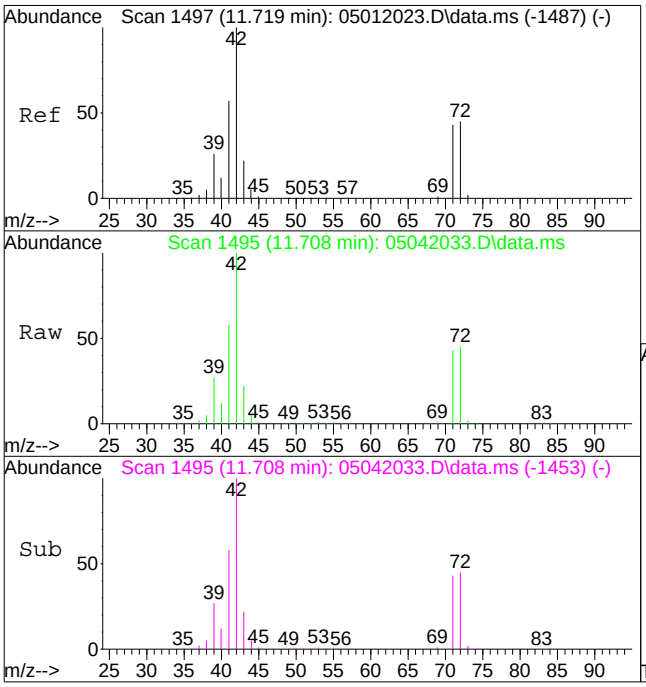


#32
Chloroform
Concen: 1.18 ng
RT: 11.31 min Scan# 1423
Delta R.T. -0.017 min
Lab File: 05042033.D
Acq: 5 May 2020 00:52

Tgt Ion: 83 Resp: 63148

Ion	Ratio	Lower	Upper
83	100		
85	66.7	45.5	85.5

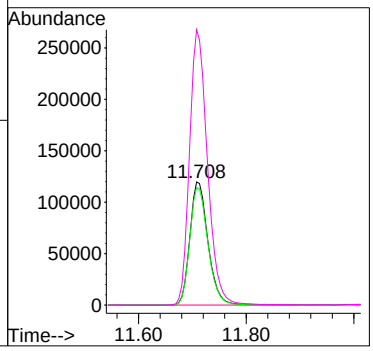


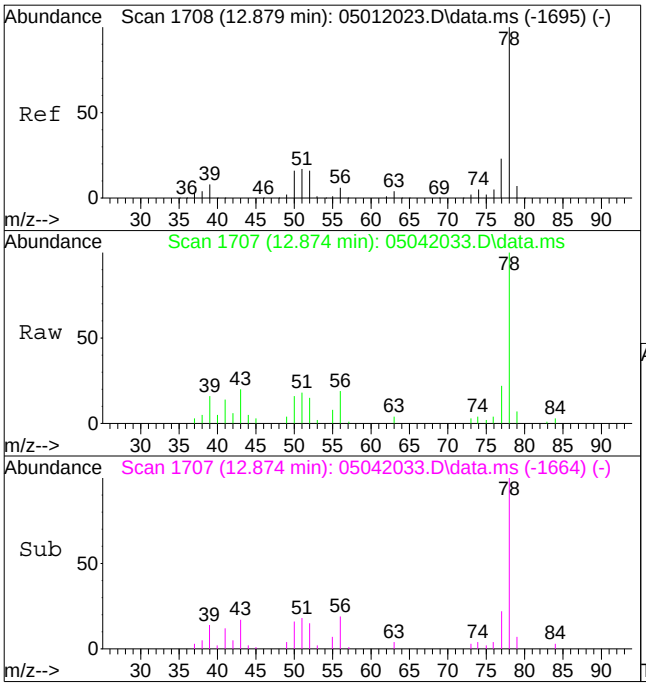


#34
Tetrahydrofuran (THF)
Concen: 13.95 ng
RT: 11.71 min Scan# 1495
Delta R.T. -0.017 min
Lab File: 05042033.D
Acq: 5 May 2020 00:52

Tgt Ion: 72 Resp: 279077

Ion	Ratio	Lower	Upper
72	100		
71	95.9	77.0	117.0
42	222.0	204.6	244.6

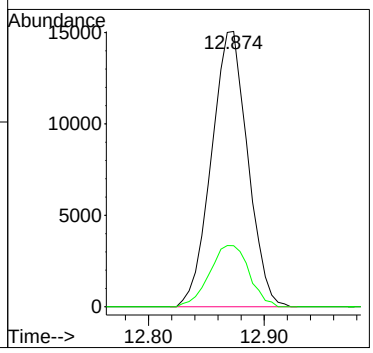


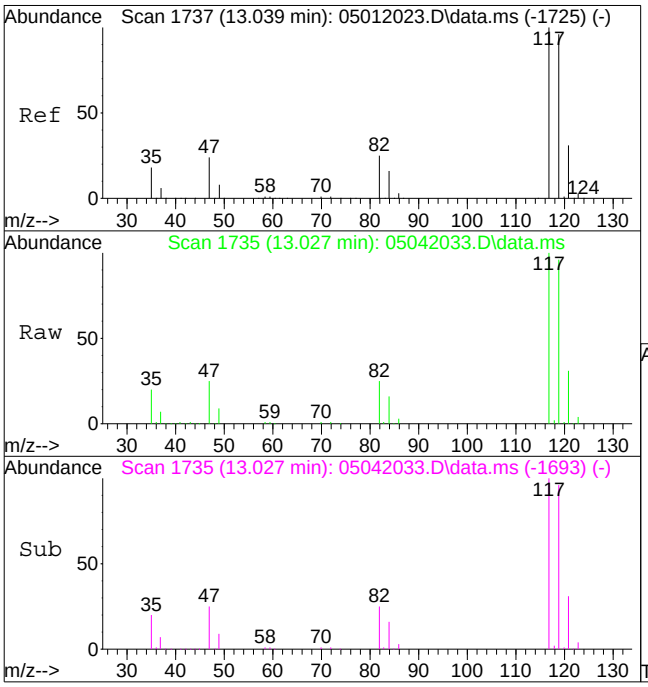


#41
Benzene
Concen: 0.27 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05042033.D
Acq: 5 May 2020 00:52

Tgt Ion: 78 Resp: 32883

Ion	Ratio	Lower	Upper
78	100		
77	24.2	3.4	43.4

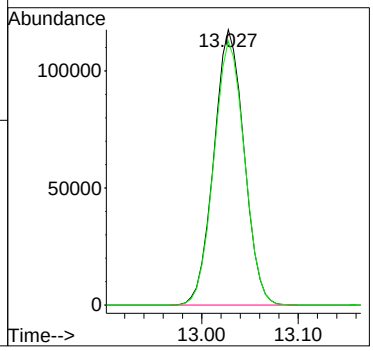


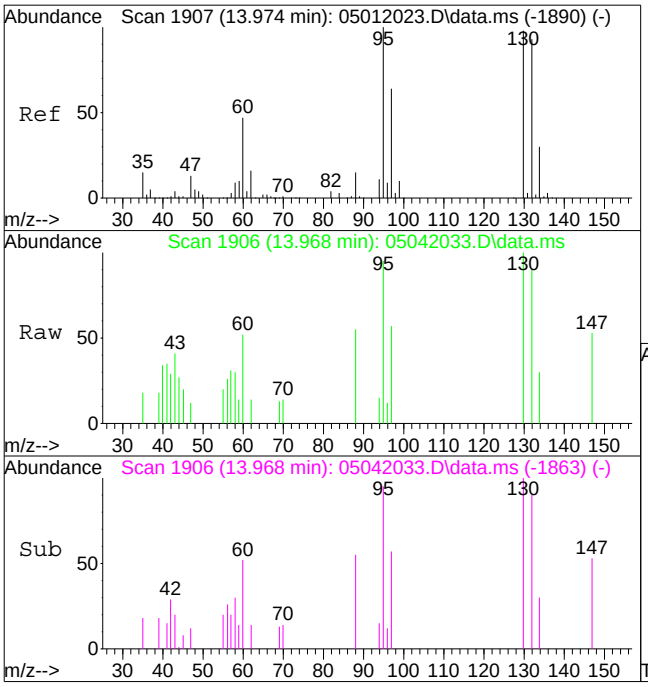


#42
Carbon Tetrachloride
Concen: 6.11 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05042033.D
Acq: 5 May 2020 00:52

Tgt Ion:117 Resp: 256363

Ion	Ratio	Lower	Upper
117	100		
119	97.0	76.2	116.2

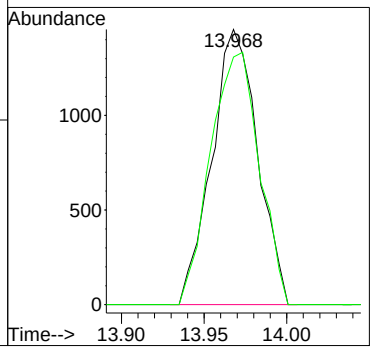


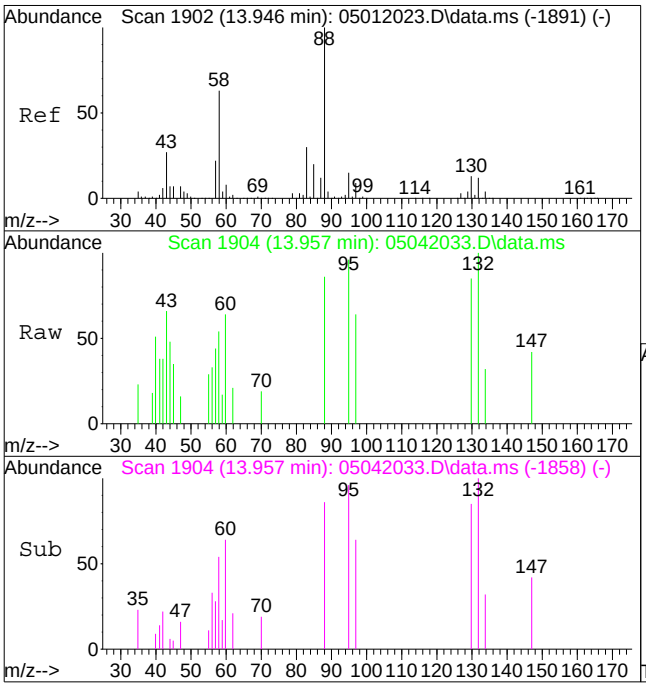


#47
Trichloroethene
Concen: 0.09 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05042033.D
Acq: 5 May 2020 00:52

Tgt Ion:130 Resp: 2803

Ion	Ratio	Lower	Upper
130	100		
132	97.6	74.9	114.9

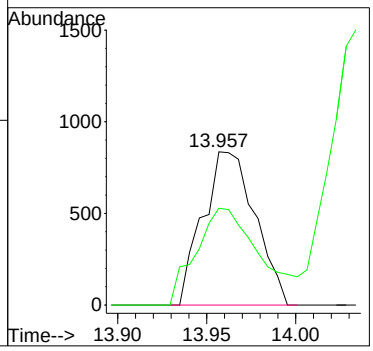


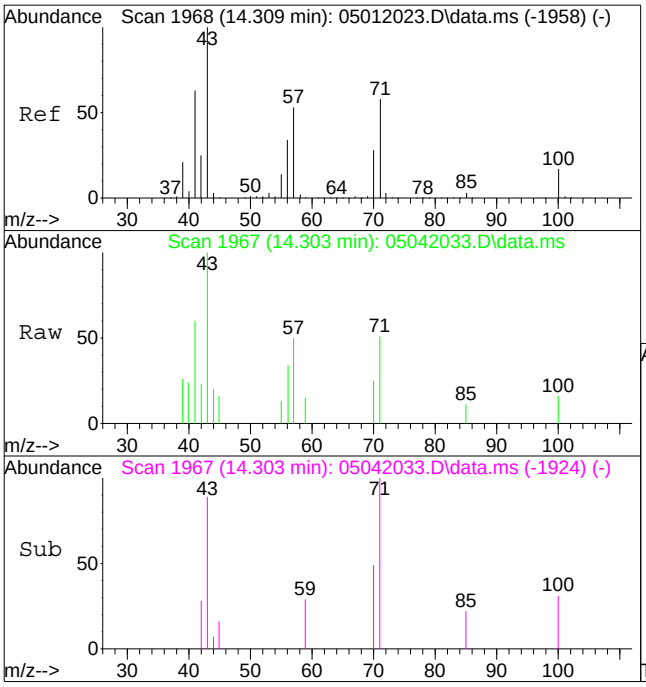


#48
1,4-Dioxane
Concen: 0.07 ng
RT: 13.96 min Scan# 1904
Delta R.T. 0.005 min
Lab File: 05042033.D
Acq: 5 May 2020 00:52

Tgt Ion: 88 Resp: 1704

Ion	Ratio	Lower	Upper
88	100		
58	78.0	42.8	82.8

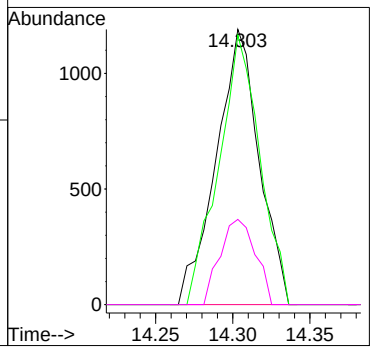


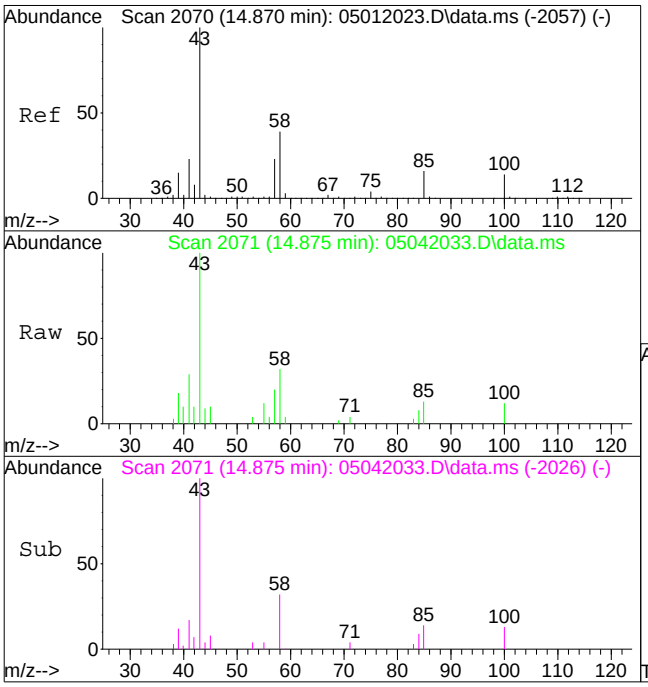


#51
n-Heptane
Concen: 0.08 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05042033.D
Acq: 5 May 2020 00:52

Tgt Ion: 71 Resp: 2306

Ion	Ratio	Lower	Upper
71	100		
57	94.1	71.0	111.0
100	25.6	8.4	48.4

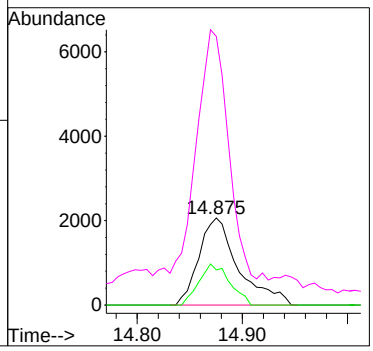


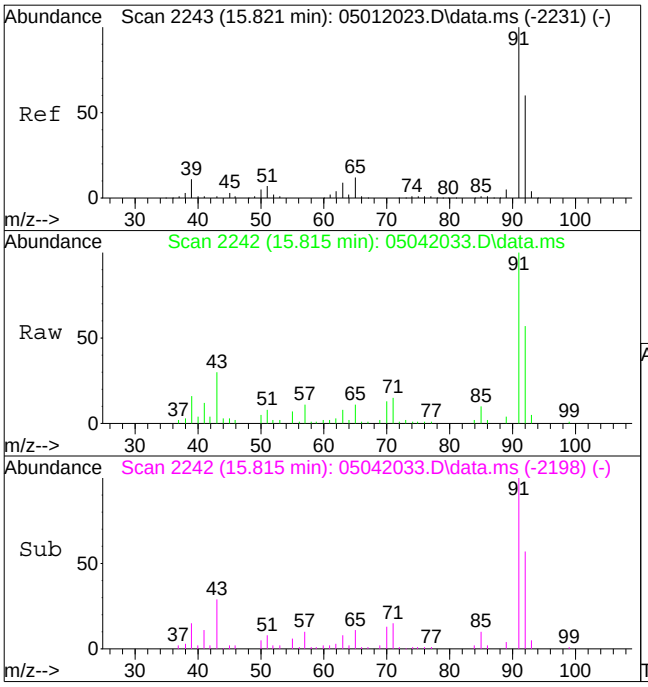


#53
4-Methyl-2-pentanone
Concen: 0.20 ng
RT: 14.88 min Scan# 2071
Delta R.T. -0.000 min
Lab File: 05042033.D
Acq: 5 May 2020 00:52

Tgt Ion: 58 Resp: 5406

Ion	Ratio	Lower	Upper
58	100		
85	36.5	35.4	53.2
43	276.7	203.3	304.9

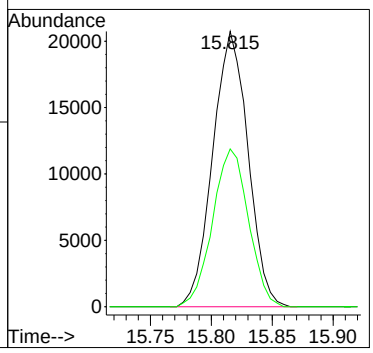


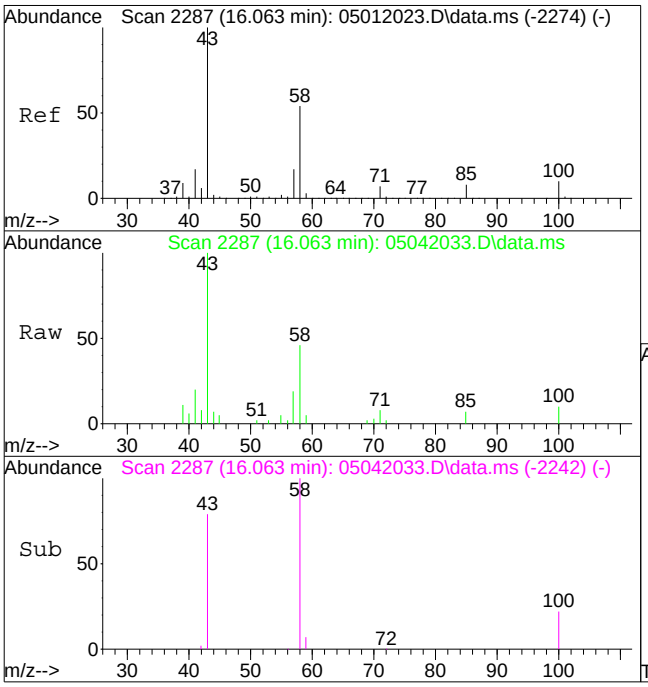


#58
Toluene
Concen: 0.35 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05042033.D
Acq: 5 May 2020 00:52

Tgt Ion: 91 Resp: 41718

Ion	Ratio	Lower	Upper
91	100		
92	58.3	39.4	79.4

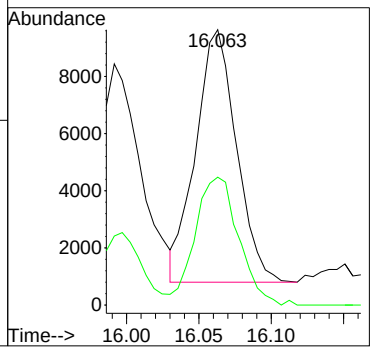


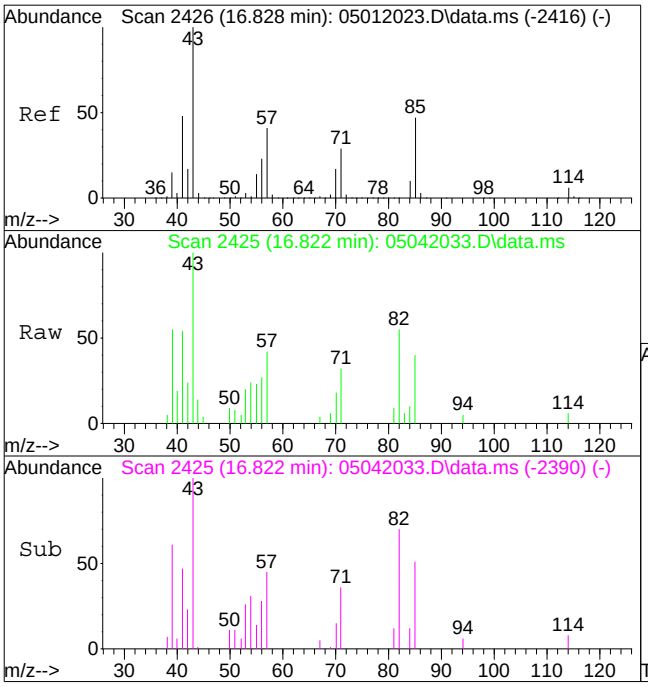


#59
2-Hexanone
Concen: 0.26 ng
RT: 16.06 min Scan# 2287
Delta R.T. -0.000 min
Lab File: 05042033.D
Acq: 5 May 2020 00:52

Tgt Ion: 43 Resp: 17359

Ion	Ratio	Lower	Upper
43	100		
58	54.0	34.5	74.5

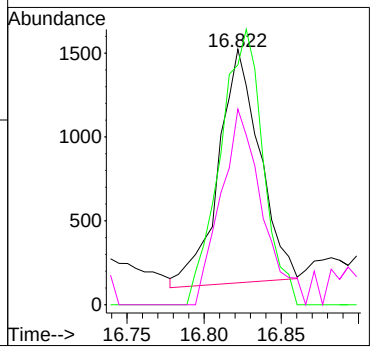


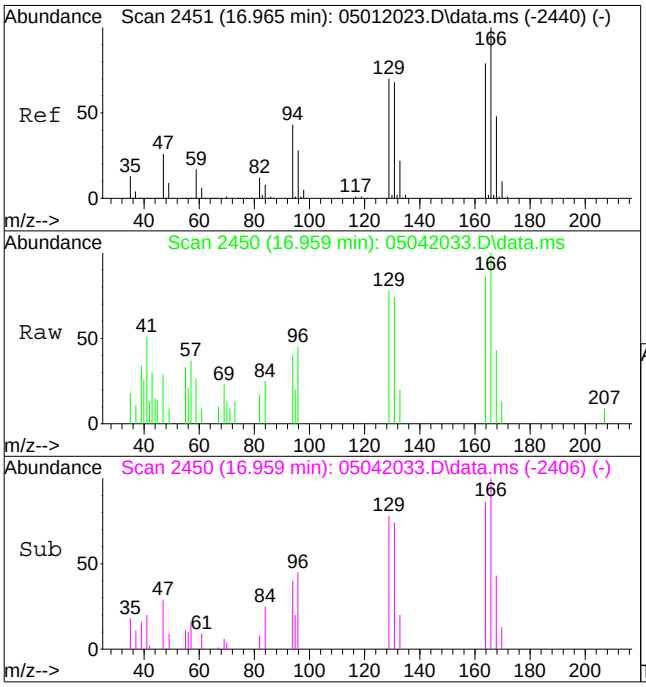


#63
n-Octane
Concen: 0.10 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05042033.D
Acq: 5 May 2020 00:52

Tgt Ion: 57 Resp: 2602

Ion	Ratio	Lower	Upper
57	100		
85	121.7	91.0	136.4
71	83.1	56.2	84.2

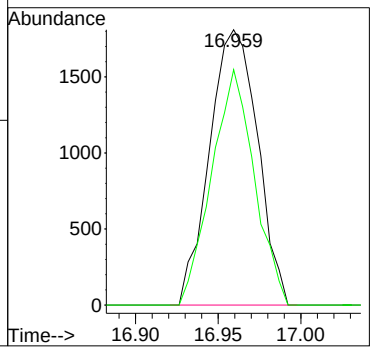


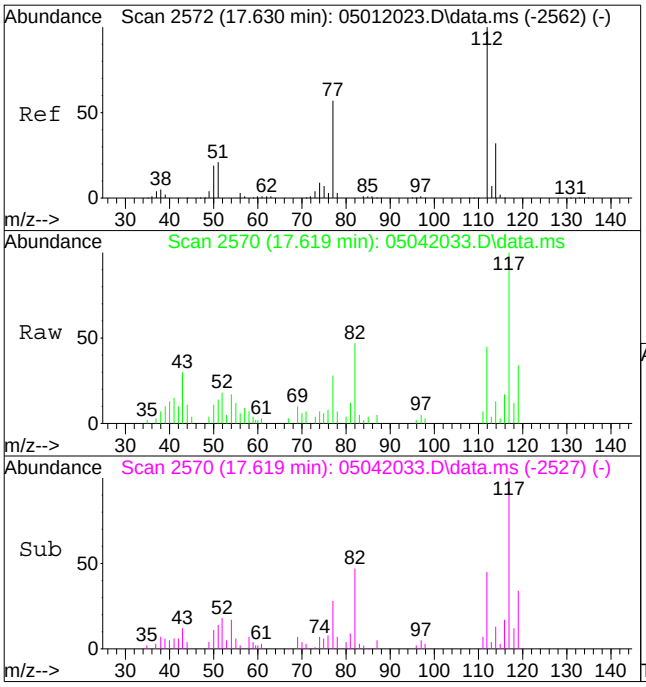


#64
Tetrachloroethene
Concen: 0.11 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05042033.D
Acq: 5 May 2020 00:52

Tgt Ion:166 Resp: 3660

Ion	Ratio	Lower	Upper
166	100		
164	75.8	58.4	98.4

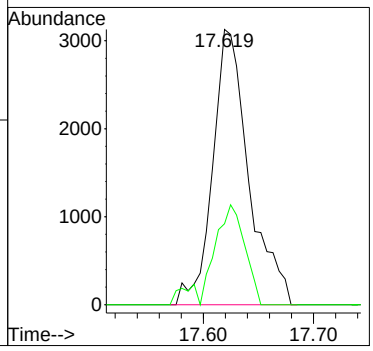


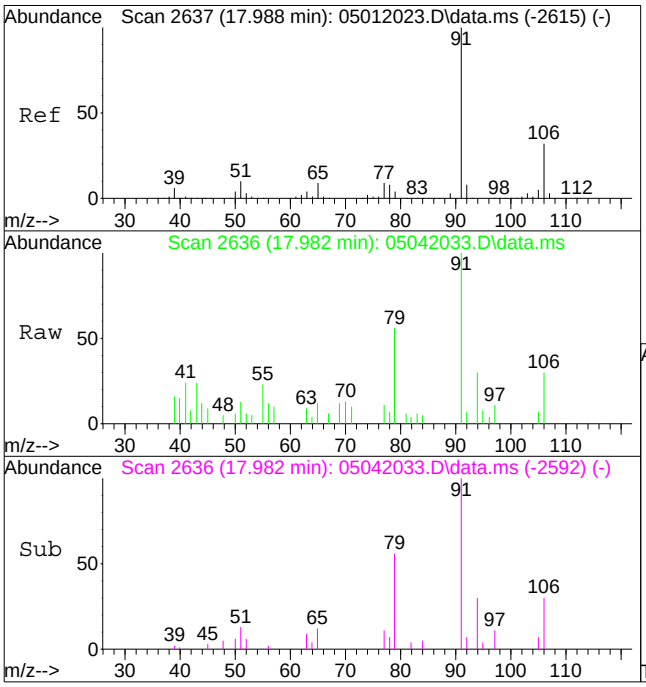


#65
Chlorobenzene
Concen: 0.09 ng
RT: 17.62 min Scan# 2570
Delta R.T. -0.011 min
Lab File: 05042033.D
Acq: 5 May 2020 00:52

Tgt Ion:112 Resp: 7127

Ion	Ratio	Lower	Upper
112	100		
114	29.4	12.3	52.3

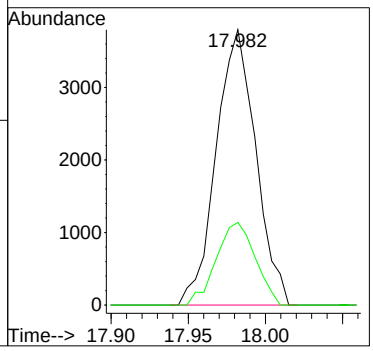


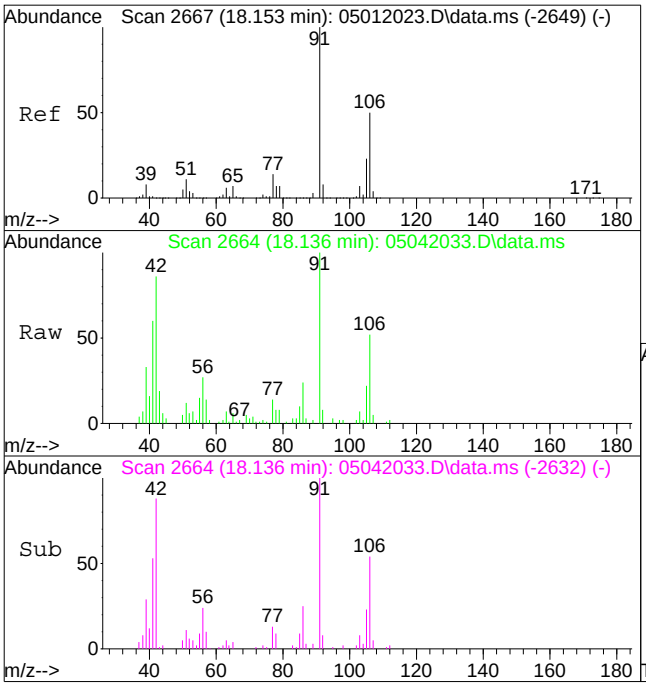


#66
Ethylbenzene
Concen: 0.05 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05042033.D
Acq: 5 May 2020 00:52

Tgt Ion: 91 Resp: 6780

Ion	Ratio	Lower	Upper
91	100		
106	29.5	11.6	51.6

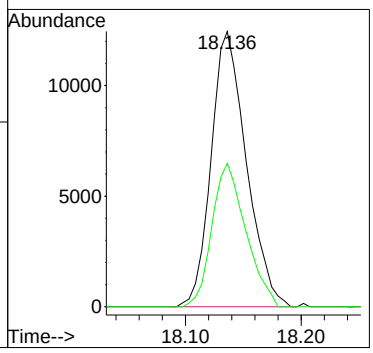


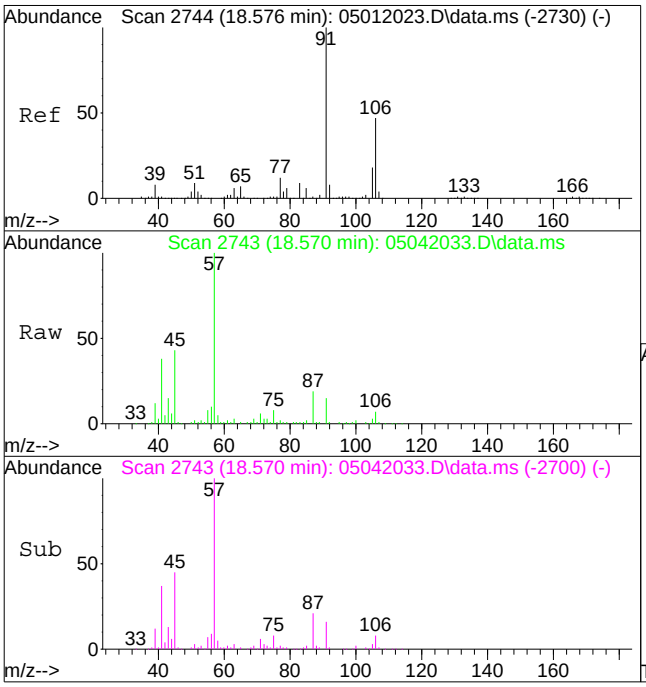


#67
m- & p-Xylenes
Concen: 0.25 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05042033.D
Acq: 5 May 2020 00:52

Tgt Ion: 91 Resp: 26332

Ion	Ratio	Lower	Upper
91	100		
106	49.9	29.7	69.7

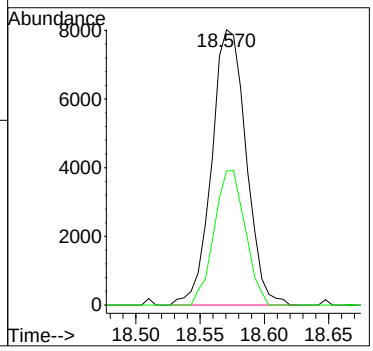


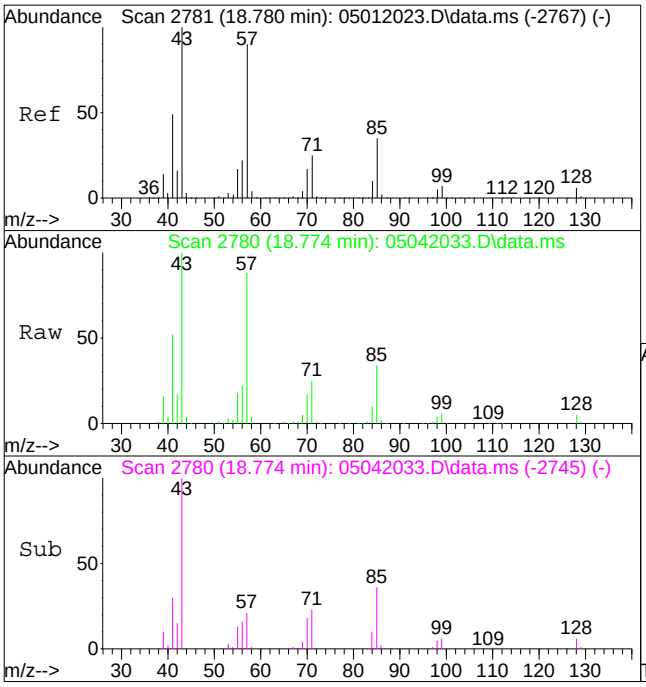


#70
o-Xylene
Concen: 0.14 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05042033.D
Acq: 5 May 2020 00:52

Tgt Ion: 91 Resp: 14947

Ion	Ratio	Lower	Upper
91	100		
106	44.2	27.5	67.5

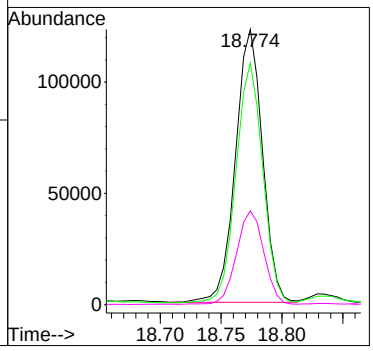


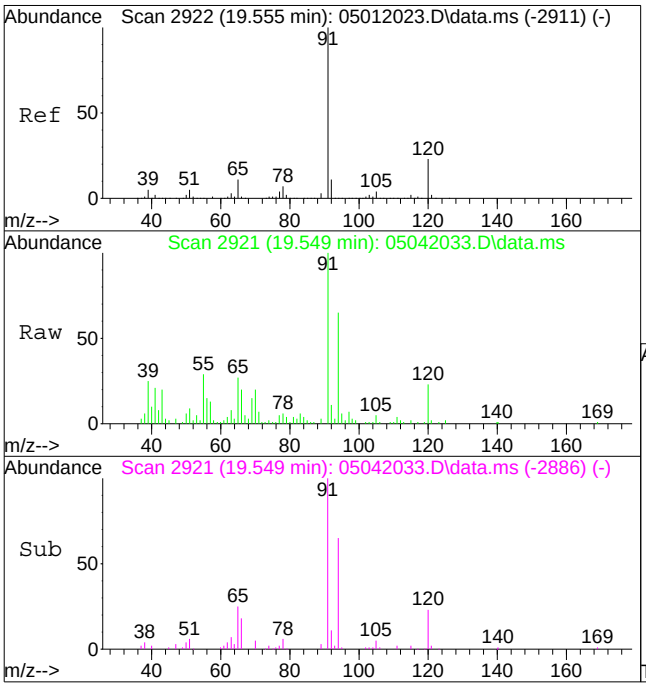


#71
n-Nonane
Concen: 3.30 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05042033.D
Acq: 5 May 2020 00:52

Tgt Ion: 43 Resp: 189410

Ion	Ratio	Lower	Upper
43	100		
57	87.2	69.0	109.0
85	34.3	14.6	54.6

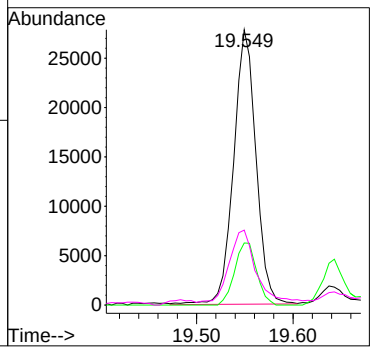


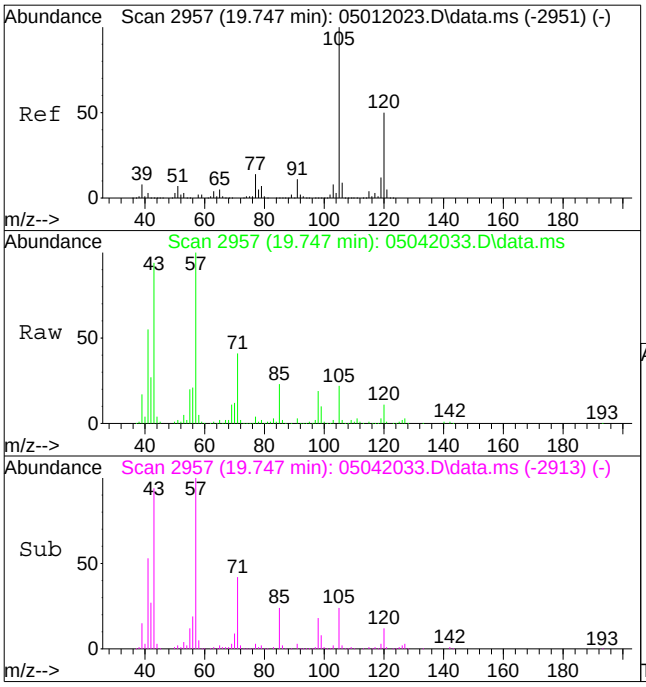


#76
n-Propylbenzene
Concen: 0.28 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05042033.D
Acq: 5 May 2020 00:52

Tgt Ion: 91 Resp: 44860

Ion	Ratio	Lower	Upper
91	100		
120	22.3	3.1	43.1
65	32.3	0.0	30.9#

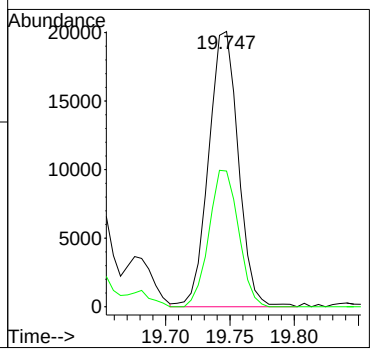


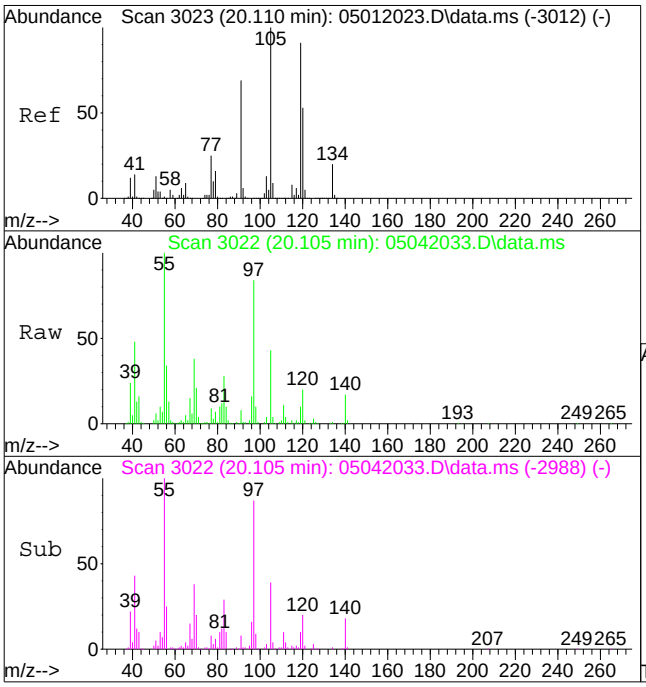


#79
1,3,5-Trimethylbenzene
Concen: 0.30 ng
RT: 19.75 min Scan# 2957
Delta R.T. -0.006 min
Lab File: 05042033.D
Acq: 5 May 2020 00:52

Tgt Ion:105 Resp: 32245

Ion	Ratio	Lower	Upper
105	100		
120	49.3	29.9	69.9

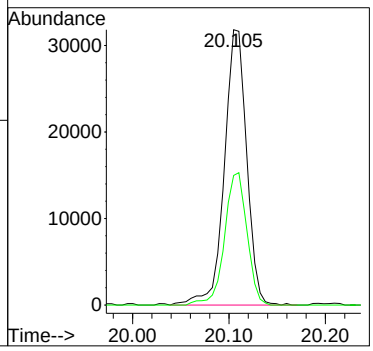


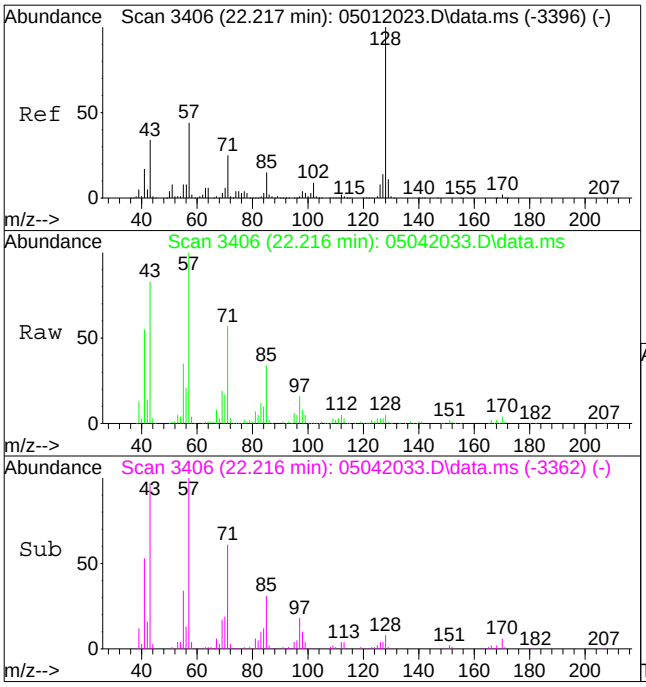


#82
1,2,4-Trimethylbenzene
Concen: 0.47 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05042033.D
Acq: 5 May 2020 00:52

Tgt Ion:105 Resp: 51291

Ion	Ratio	Lower	Upper
105	100		
120	48.2	33.6	73.6

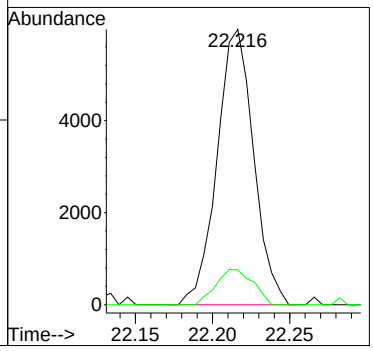




#95
Naphthalene
Concen: 0.07 ng
RT: 22.22 min Scan# 3406
Delta R.T. -0.006 min
Lab File: 05042033.D
Acq: 5 May 2020 00:52

Tgt Ion:128 Resp: 9875

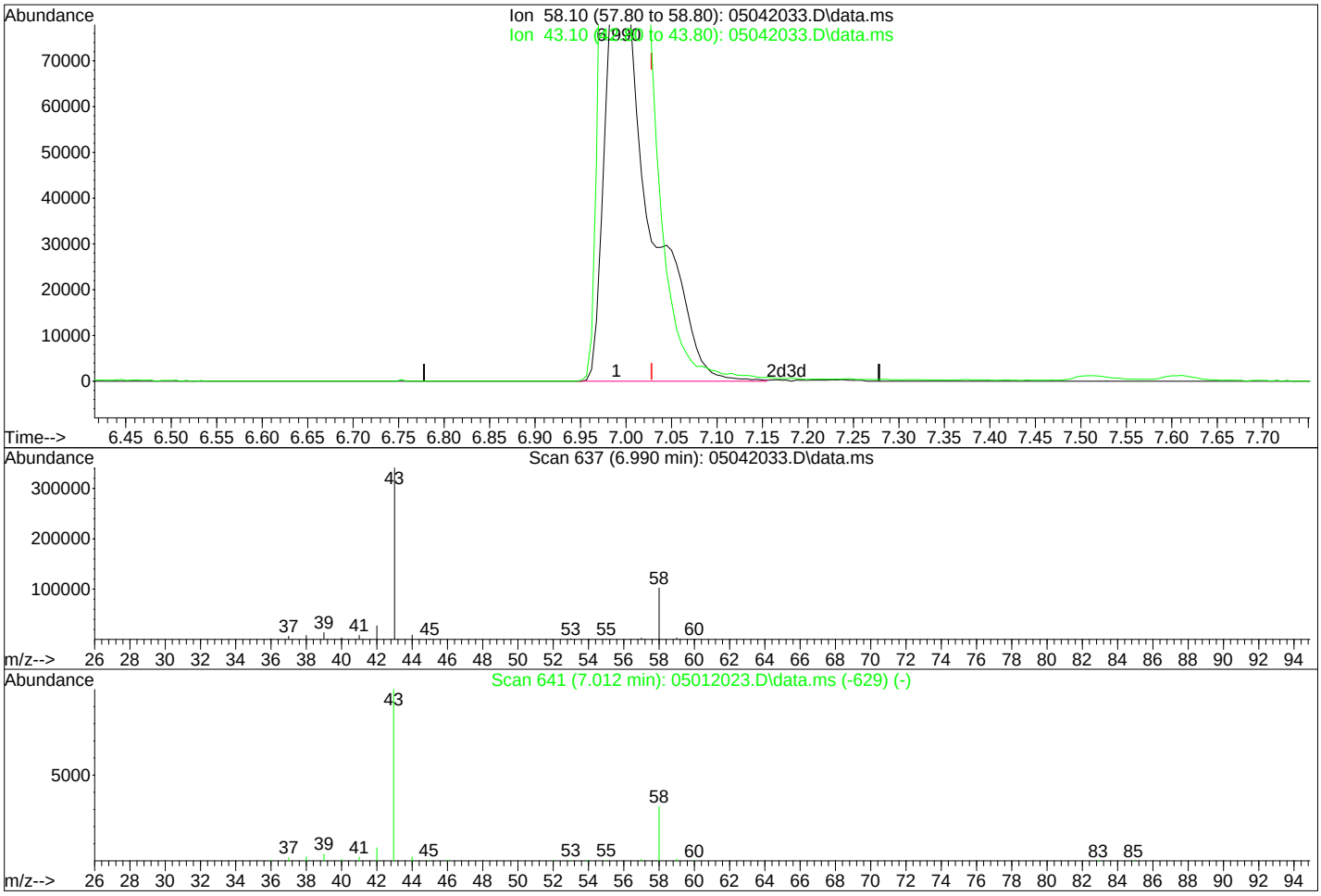
Ion	Ratio	Lower	Upper
128	100		
129	13.0	0.0	31.0



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\04\05042033.D Vial: 5
Acq On : 5 May 2020 00:52 Operator: TD
Sample : P2002105-017 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 05 07:11:03 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05042033.D\data.ms

(13) Acetone (T)

6.990min (-0.039) 13.18ng

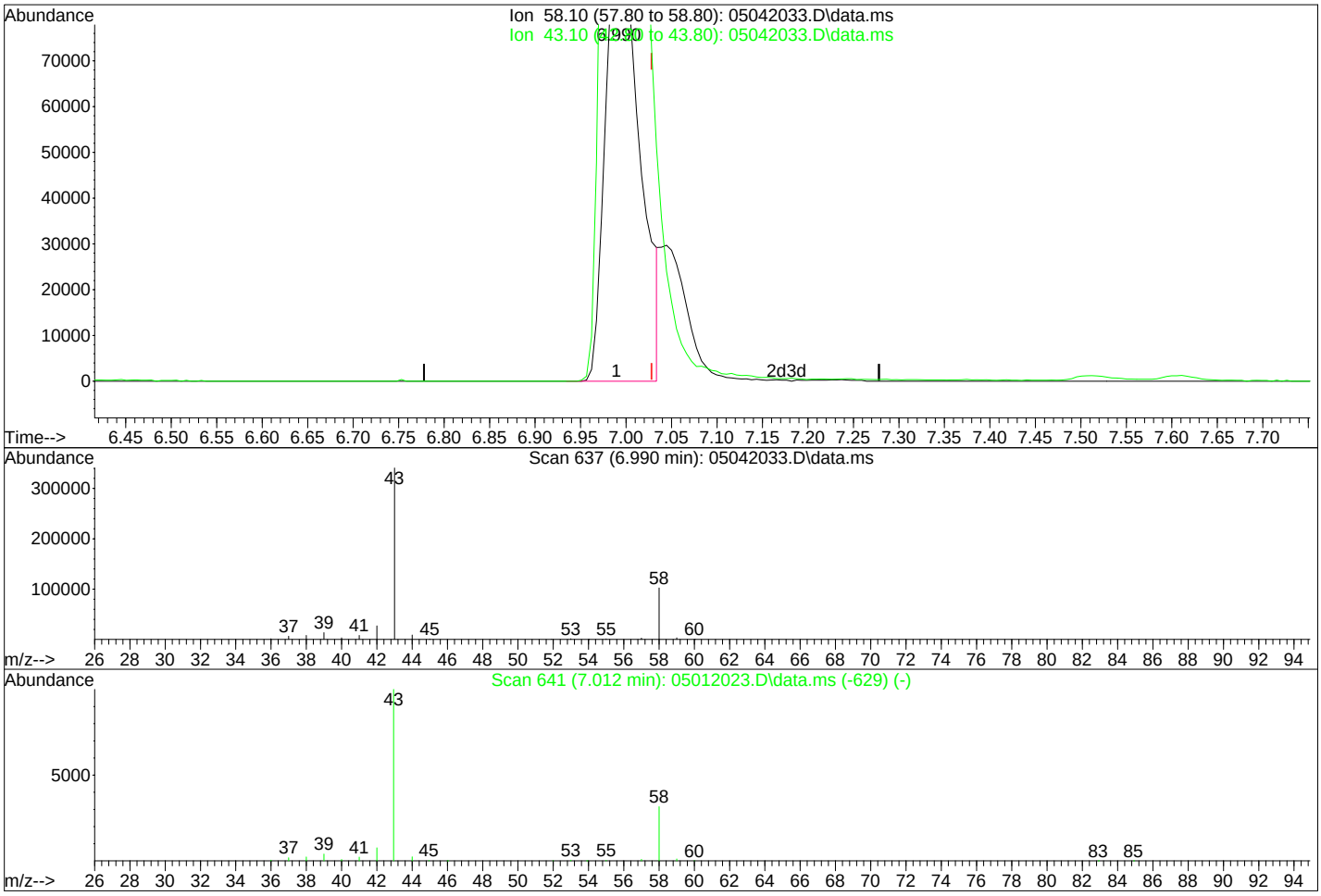
response 317020

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	275.45#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\04\05042033.D Vial: 5
Acq On : 5 May 2020 00:52 Operator: TD
Sample : P2002105-017 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 05 07:11:03 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05042033.D\data.ms

(13) Acetone (T)

6.990min (-0.039) 10.63ng m

response 255721

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	341.48
0.00	0.00	0.00
0.00	0.00	0.00

IPC

LH 5/6/20

5/7/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052017.D Vial: 5
Acq On : 5 May 2020 12:48 Operator: WA
Sample : P2002105-017dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 16:47:11 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/6/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	298411	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1299216	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	604869	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	494148	12.219	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.76%				
57) Toluene-d8 (SS2)	15.72	98	1286086	12.544	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.32%				
73) Bromofluorobenzene (SS3)	18.98	174	462446	12.536	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.32%				
Target Compounds							Qvalue
2) Propene	4.11	42	1055	N.D.			
3) Dichlorodifluoromethan...	4.26	85	629712	9.315	ng		100
4) Chloromethane	4.56	50	3676	0.069	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	20699	0.513	ng		98
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	5.65	94	107	N.D.			
9) Chloroethane	5.98	64	115	N.D.			
10) Ethanol	6.34	45	4797	0.180	ng		84
11) Acetonitrile	6.61	41	2117	N.D.			
12) Acrolein	6.80	56	1514	0.072	ng		95
13) Acetone	7.02	58	28864	1.081	ng	#	70
14) Trichlorofluoromethane	7.25	101	53714	0.899	ng		99
15) 2-Propanol (Isopropanol)	7.56	45	1947	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.44	59	3004	N.D.			
19) Methylene Chloride	8.41	84	190	N.D.			
20) 3-Chloro-1-propene (Al...	8.44	41	542	N.D.			
21) Trichlorotrifluoroethane	8.85	151	12562	0.445	ng		97
22) Carbon Disulfide	8.68	76	17109	0.138	ng		100
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	10.17	86	1799	0.216	ng	#	34
27) 2-Butanone (MEK)	10.47	72	3168	0.139	ng	#	87
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.31	87	533	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	11.26	57	422	N.D.			
32) Chloroform	11.31	83	5424	0.091	ng		98
34) Tetrahydrofuran (THF)	11.73	72	22682	1.022	ng		99
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	3298	N.D.			
42) Carbon Tetrachloride	13.03	117	19811	0.418	ng		98
43) Cyclohexane	13.26	84	874	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052017.D Vial: 5
Acq On : 5 May 2020 12:48 Operator: WA
Sample : P2002105-017dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 16:47:11 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

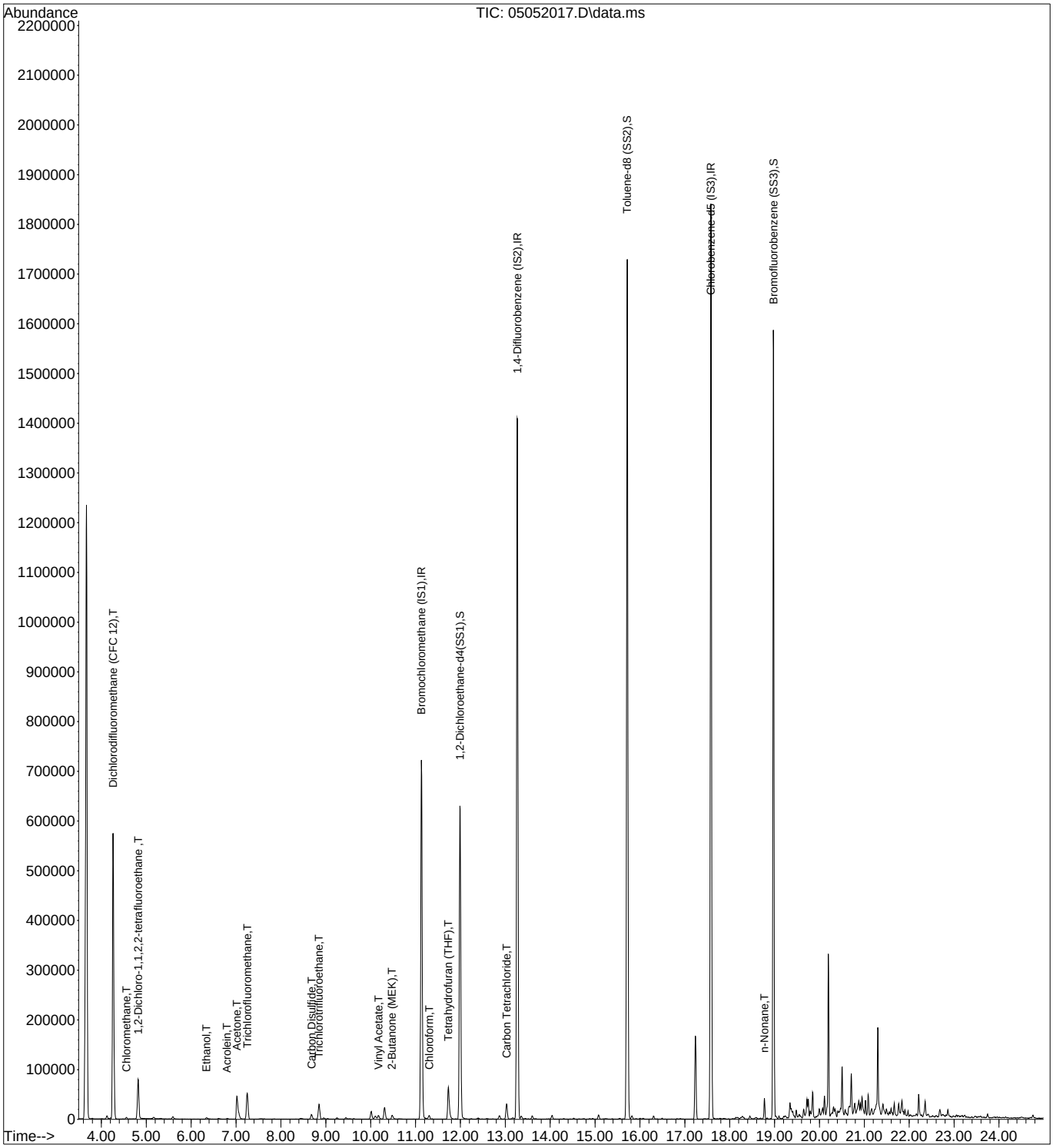
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.88	58	234	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.82	91	4061	N.D.	
59) 2-Hexanone	16.07	43	1684	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.70	43	209	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	16.96	166	188	N.D.	
65) Chlorobenzene	17.62	112	632	N.D.	
66) Ethylbenzene	17.98	91	670	N.D.	
67) m- & p-Xylenes	18.14	91	2904	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	18.58	91	1553	N.D.	
71) n-Nonane	18.77	43	14880	0.236 ng	96
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.10	105	502	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	19.56	91	3854	N.D.	
77) 3-Ethyltoluene	19.64	105	1921	N.D.	
78) 4-Ethyltoluene	19.68	105	551	N.D.	
79) 1,3,5-Trimethylbenzene	19.75	105	2690	N.D.	
80) alpha-Methylstyrene	19.88	118	188	N.D.	
81) 2-Ethyltoluene	19.92	105	768	N.D.	
82) 1,2,4-Trimethylbenzene	20.11	105	3835	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.22	91	325	N.D.	
85) 1,3-Dichlorobenzene	20.30	146	259	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	259	N.D.	
87) sec-Butylbenzene	20.35	105	6048	N.D.	
88) 4-Isopropyltoluene (p-...	20.49	119	701	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	1891	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.61	68	499	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.12	180	253	N.D.	
95) Naphthalene	22.22	128	2188	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.11	119	817	N.D.	
100) n-Butylbenzene	20.85	91	4068	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052017.D Vial: 5
Acq On : 5 May 2020 12:48 Operator: WA
Sample : P2002105-017dil (40mL) Inst : GCMS-16
Misc : S31-02112001

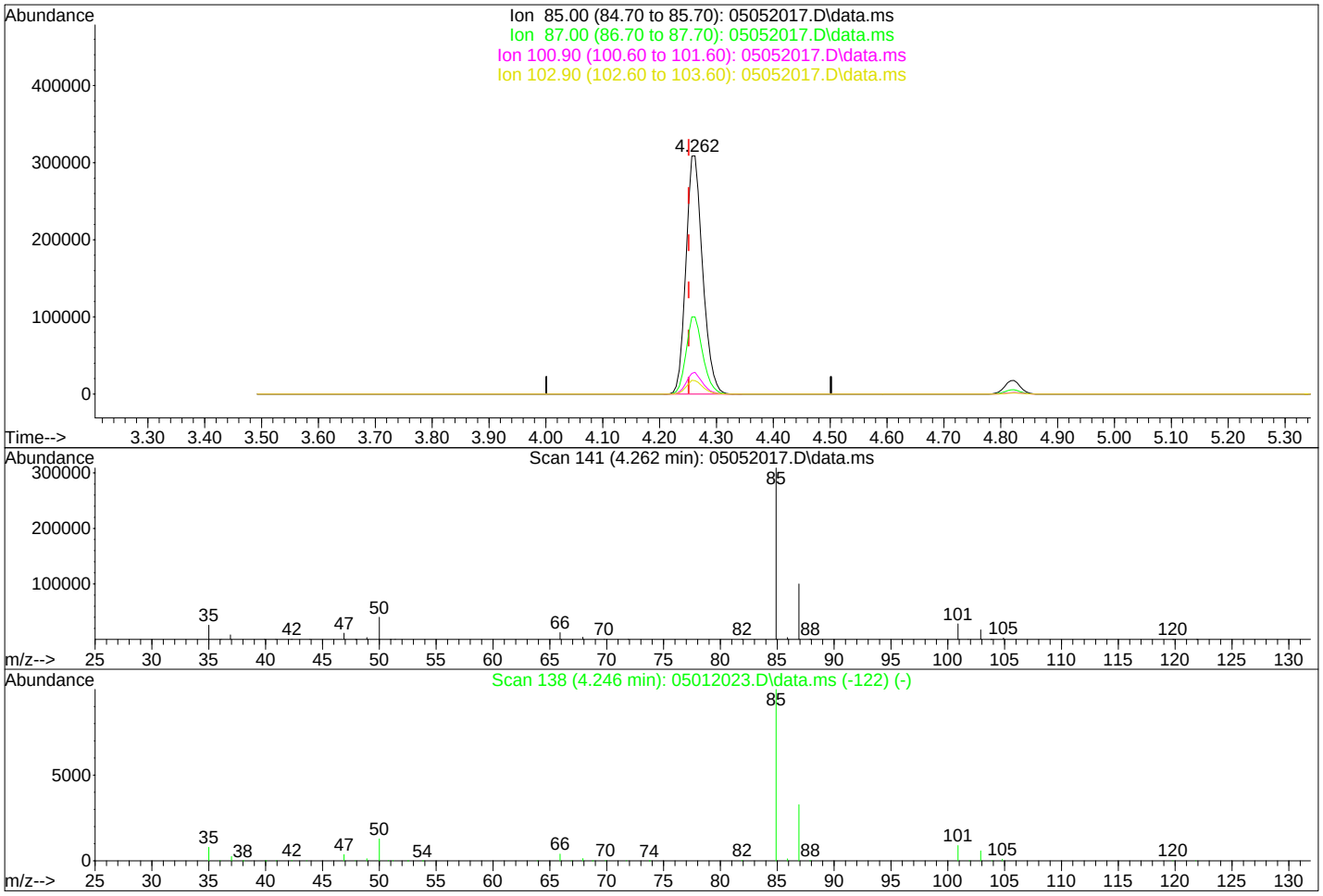
Quant Time: May 06 16:47:11 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\05\05052017.D Vial: 5
Acq On : 5 May 2020 12:48 Operator: WA
Sample : P2002105-017dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 03:56:26 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05052017.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

4.262min (+0.011) 9.32ng

response 629712

Ion	Exp%	Act%
85.00	100	100
87.00	32.40	32.26
100.90	8.80	8.78
102.90	5.70	5.67

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042034.D Vial: 6
Acq On : 5 May 2020 1:27 Operator: TD
Sample : P2002105-018 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 15:06:05 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/6/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	269379	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1140900	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	544164	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	427794	11.718	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.76%				
57) Toluene-d8 (SS2)	15.72	98	1144421	12.408	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.28%				
73) Bromofluorobenzene (SS3)	18.98	174	443499	13.363	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.88%				
Target Compounds							Qvalue
2) Propene	4.09	42	42489	1.362	ng		98
3) Dichlorodifluoromethan...	4.26	85	39042461	639.797	ng	#	69
4) Chloromethane	0.00	50	0	N.D.	d		
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	3280340	89.974	ng		100
6) Vinyl Chloride	4.97	62	347	N.D.			
7) 1,3-Butadiene	5.22	54	105	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.32	45	12234	0.508	ng		92
11) Acetonitrile	6.60	41	5582	0.101	ng		88
12) Acrolein	6.79	56	3893	0.205	ng		97
13) Acetone	7.01	58	65362	2.713	ng	#	47
14) Trichlorofluoromethane	7.25	101	15010439	278.329	ng		98
15) 2-Propanol (Isopropanol)	7.53	45	9406	0.129	ng		84
16) Acrylonitrile	7.74	53	1694	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.44	59	2767	N.D.			
19) Methylene Chloride	8.41	84	743	N.D.			
20) 3-Chloro-1-propene (Al...	8.57	41	110	N.D.			
21) Trichlorotrifluoroethane	8.85	151	2391396	93.920	ng		98
22) Carbon Disulfide	8.69	76	364579	3.249	ng		99
23) trans-1,2-Dichloroethene	9.69	61	492	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.09	73	851	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.47	72	5196	0.253	ng		93
28) cis-1,2-Dichloroethene	10.96	61	455	N.D.			
29) Diisopropyl Ether	11.25	87	306	N.D.			
30) Ethyl Acetate	11.28	61	943	0.080	ng		93
31) n-Hexane	11.25	57	7293	0.142	ng	#	94
32) Chloroform	11.30	83	13584	0.253	ng		99
34) Tetrahydrofuran (THF)	11.73	72	18491	0.923	ng		99
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.10	62	939	N.D.			
38) 1,1,1-Trichloroethane	12.39	97	1550	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	37988	0.310	ng		100
42) Carbon Tetrachloride	13.03	117	116882	2.809	ng		99
43) Cyclohexane	13.17	84	6739	0.148	ng		94
44) tert-Amyl Methyl Ether	13.56	73	121	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	13.91	83	629	N.D.			
47) Trichloroethene	13.97	130	3371	0.107	ng		92
48) 1,4-Dioxane	13.96	88	4505	0.183	ng		95
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.19	100	234	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042034.D Vial: 6
Acq On : 5 May 2020 1:27 Operator: TD
Sample : P2002105-018 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 15:06:05 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

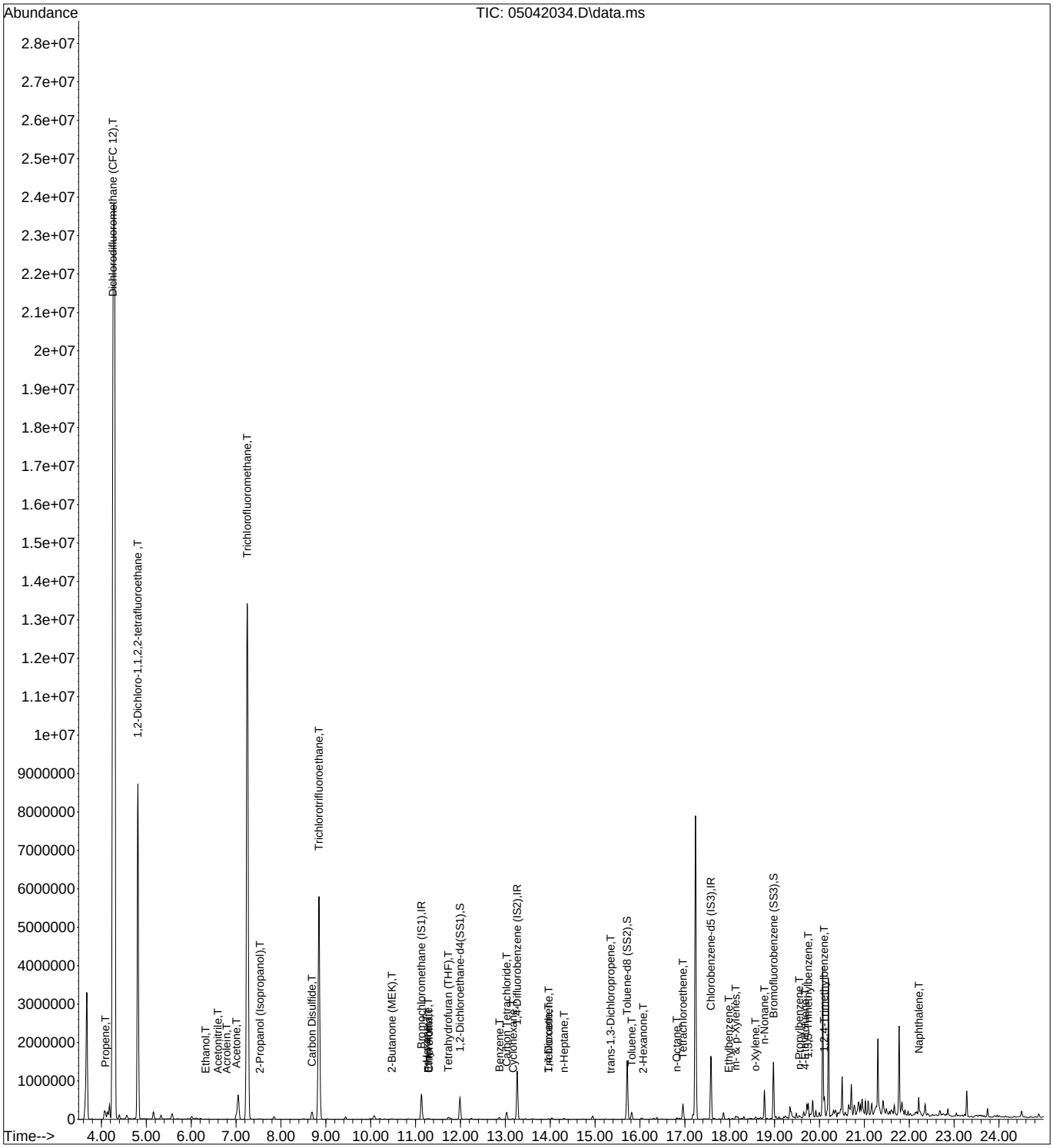
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	7531	0.263 ng	100
52) cis-1,3-Dichloropropene	14.83	75	1308	N.D.	
53) 4-Methyl-2-pentanone	14.88	58	880	N.D.	
54) trans-1,3-Dichloropropene	15.35	75	2265	0.054 ng	94
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.82	91	143539	1.207 ng	99
59) 2-Hexanone	16.07	43	4881	0.075 ng	83
60) Dibromochloromethane	16.23	129	276	N.D.	
61) 1,2-Dibromoethane	16.48	107	1311	N.D.	
62) n-Butyl Acetate	16.70	43	1450	N.D.	
63) n-Octane	16.82	57	7924	0.322 ng	92
64) Tetrachloroethene	16.96	166	129216	3.848 ng	99
65) Chlorobenzene	17.62	112	2358	N.D.	
66) Ethylbenzene	17.98	91	15991	0.121 ng	97
67) m- & p-Xylenes	18.14	91	53405	0.508 ng	99
68) Bromoform	18.21	173	365	N.D.	
69) Styrene	18.47	104	2373	N.D.	
70) o-Xylene	18.58	91	23479	0.220 ng	99
71) n-Nonane	18.77	43	254602	4.494 ng	100
72) 1,1,2,2-Tetrachloroethane	18.55	83	432	N.D.	
74) Cumene	19.10	105	6323	N.D.	
75) alpha-Pinene	19.45	93	591	N.D.	
76) n-Propylbenzene	19.55	91	42982	0.276 ng	95
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.68	105	6418	0.052 ng	89
79) 1,3,5-Trimethylbenzene	19.75	105	27909	0.261 ng	99
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.10	105	43944	0.409 ng	92
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.21	91	3769	N.D.	
85) 1,3-Dichlorobenzene	20.24	146	1692	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	2224	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	20.60	146	1326	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	20.99	157	263	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D. d	
95) Naphthalene	22.22	128	8407	0.064 ng	94
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042034.D Vial: 6
Acq On : 5 May 2020 1:27 Operator: TD
Sample : P2002105-018 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 15:06:05 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042034.D Vial: 6
Acq On : 5 May 2020 1:27 Operator: TD
Sample : P2002105-018 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 15:06:05 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/6/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

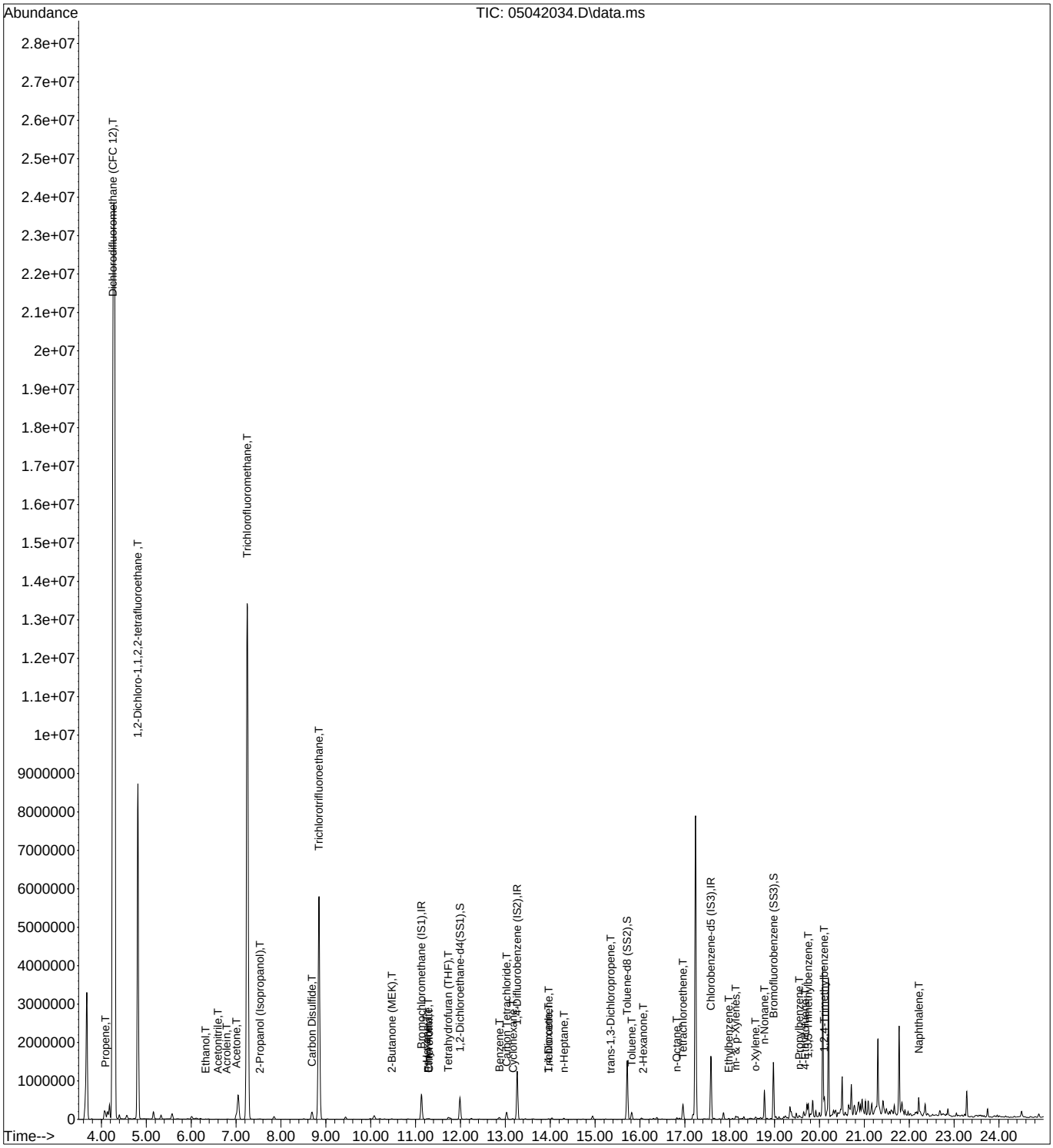
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	269379	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1140900	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	544164	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	427794	11.718	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.76%				
57) Toluene-d8 (SS2)	15.72	98	1144421	12.408	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.28%				
73) Bromofluorobenzene (SS3)	18.98	174	443499	13.363	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.88%				
Target Compounds							Qvalue
2) Propene	4.09	42	42489	1.362	ng		98
3) Dichlorodifluoromethan...	4.26	85	39042461	639.797	ng	#	69
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	3280340	89.974	ng		100
10) Ethanol	6.32	45	12234	0.508	ng		92
11) Acetonitrile	6.60	41	5582	0.101	ng		88
12) Acrolein	6.79	56	3893	0.205	ng		97
13) Acetone	7.01	58	65362	2.713	ng	#	47
14) Trichlorofluoromethane	7.25	101	15010439	278.329	ng		98
15) 2-Propanol (Isopropanol)	7.53	45	9406	0.129	ng		84
21) Trichlorotrifluoroethane	8.85	151	2391396	93.920	ng		98
22) Carbon Disulfide	8.69	76	364579	3.249	ng		99
27) 2-Butanone (MEK)	10.47	72	5196	0.253	ng		93
30) Ethyl Acetate	11.28	61	943	0.080	ng		93
31) n-Hexane	11.25	57	7293	0.142	ng	#	94
32) Chloroform	11.30	83	13584	0.253	ng		99
34) Tetrahydrofuran (THF)	11.73	72	18491	0.923	ng		99
41) Benzene	12.87	78	37988	0.310	ng		100
42) Carbon Tetrachloride	13.03	117	116882	2.809	ng		99
43) Cyclohexane	13.17	84	6739	0.148	ng		94
47) Trichloroethene	13.97	130	3371	0.107	ng		92
48) 1,4-Dioxane	13.96	88	4505	0.183	ng		95
51) n-Heptane	14.31	71	7531	0.263	ng		100
54) trans-1,3-Dichloropropene	15.35	75	2265	0.054	ng		94
58) Toluene	15.82	91	143539	1.207	ng		99
59) 2-Hexanone	16.07	43	4881	0.075	ng		83
63) n-Octane	16.82	57	7924	0.322	ng		92
64) Tetrachloroethene	16.96	166	129216	3.848	ng		99
66) Ethylbenzene	17.98	91	15991	0.121	ng		97
67) m- & p-Xylenes	18.14	91	53405	0.508	ng		99
70) o-Xylene	18.58	91	23479	0.220	ng		99
71) n-Nonane	18.77	43	254602	4.494	ng		100
76) n-Propylbenzene	19.55	91	42982	0.276	ng		95
78) 4-Ethyltoluene	19.68	105	6418	0.052	ng		89
79) 1,3,5-Trimethylbenzene	19.75	105	27909	0.261	ng		99
82) 1,2,4-Trimethylbenzene	20.10	105	43944	0.409	ng		92
95) Naphthalene	22.22	128	8407	0.064	ng		94

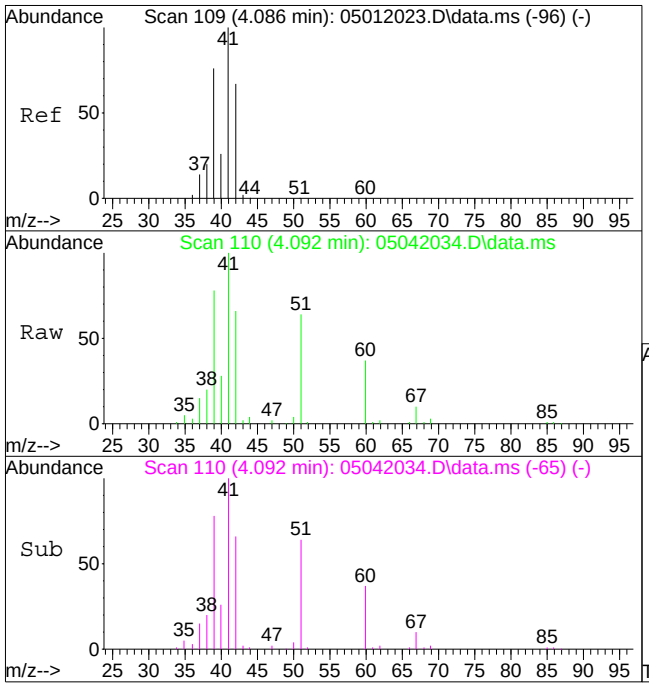
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042034.D Vial: 6
Acq On : 5 May 2020 1:27 Operator: TD
Sample : P2002105-018 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 15:06:05 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

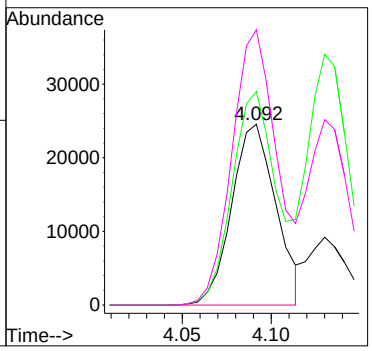


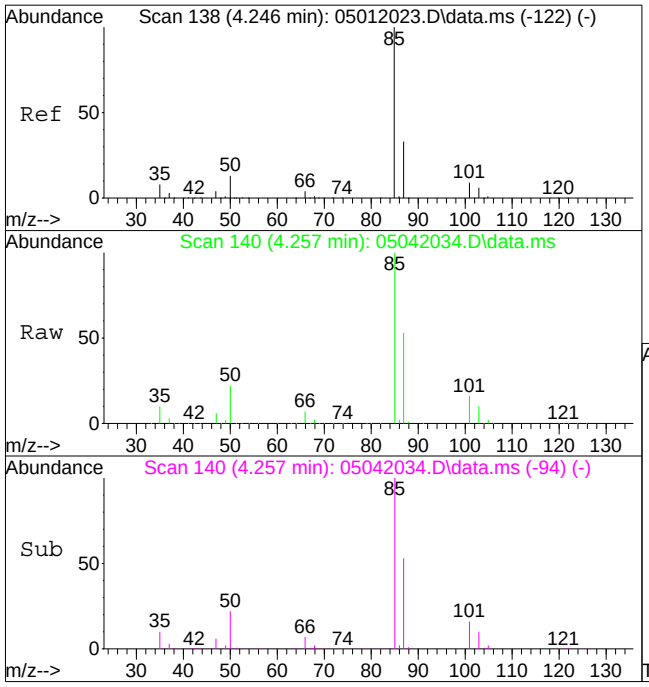


#2
Propene
Concen: 1.36 ng
RT: 4.09 min Scan# 110
Delta R.T. -0.000 min
Lab File: 05042034.D
Acq: 5 May 2020 1:27

Tgt Ion: 42 Resp: 42489

Ion	Ratio	Lower	Upper
42	100		
39	113.7	96.1	136.1
41	155.0	131.9	171.9

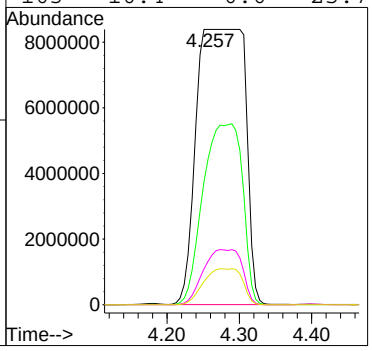


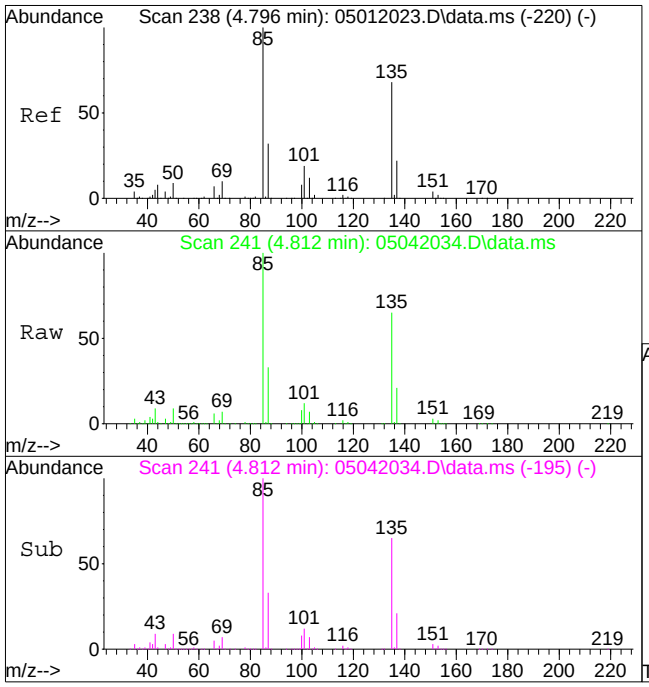


#3
Dichlorodifluoromethane (CFC 12)
Concen: 639.80 ng
RT: 4.26 min Scan# 140
Delta R.T. 0.005 min
Lab File: 05042034.D
Acq: 5 May 2020 1:27

Tgt Ion: 85 Resp:39042461

Ion	Ratio	Lower	Upper
85	100		
87	53.1	12.4	52.4#
101	16.0	0.0	28.8
103	10.4	0.0	25.7

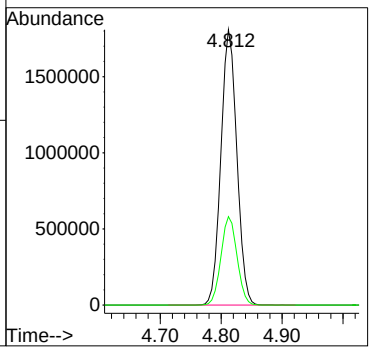


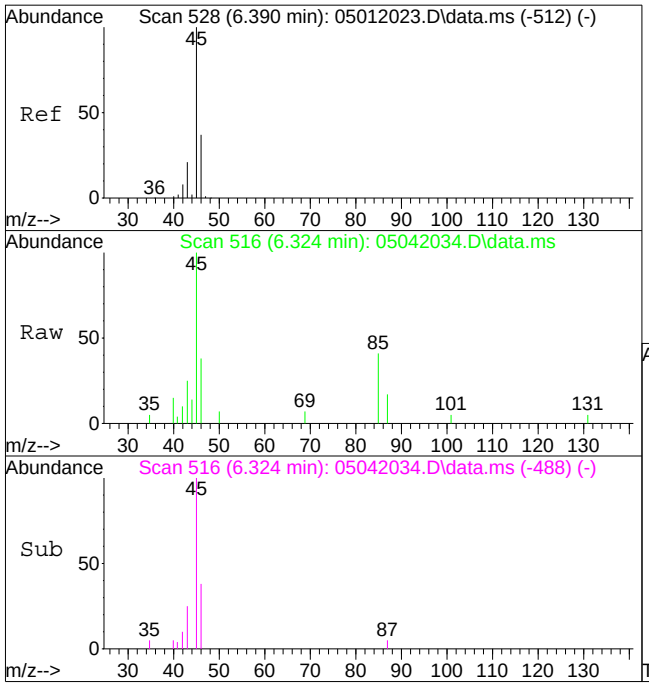


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 89.97 ng
RT: 4.81 min Scan# 241
Delta R.T. 0.005 min
Lab File: 05042034.D
Acq: 5 May 2020 1:27

Tgt Ion:135 Resp: 3280340

Ion	Ratio	Lower	Upper
135	100		
137	32.3	12.1	52.1

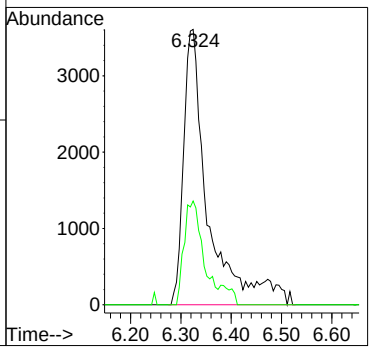


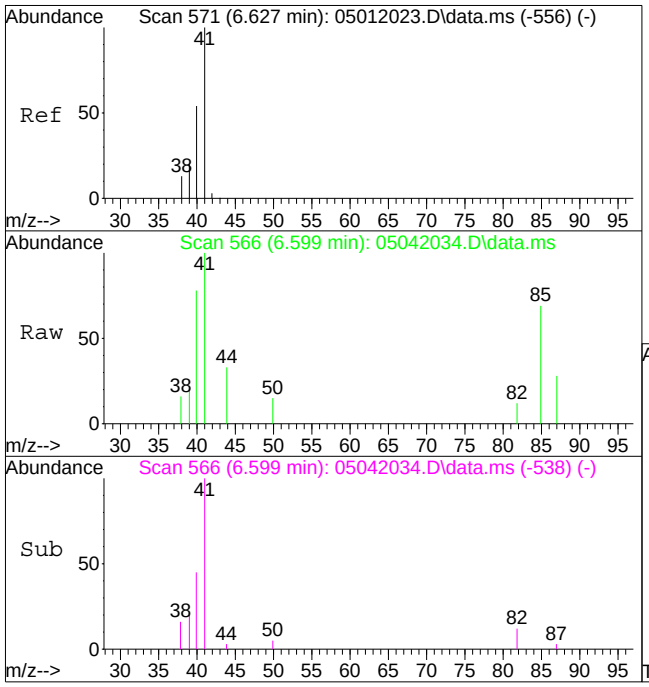


#10
Ethanol
Concen: 0.51 ng
RT: 6.32 min Scan# 516
Delta R.T. -0.094 min
Lab File: 05042034.D
Acq: 5 May 2020 1:27

Tgt Ion: 45 Resp: 12234

Ion	Ratio	Lower	Upper
45	100		
46	32.5	17.2	57.2

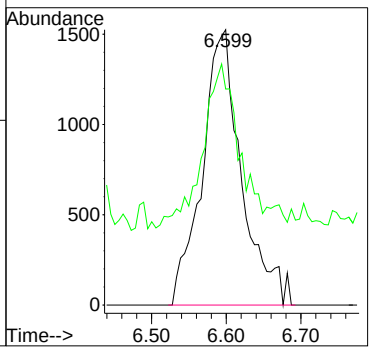


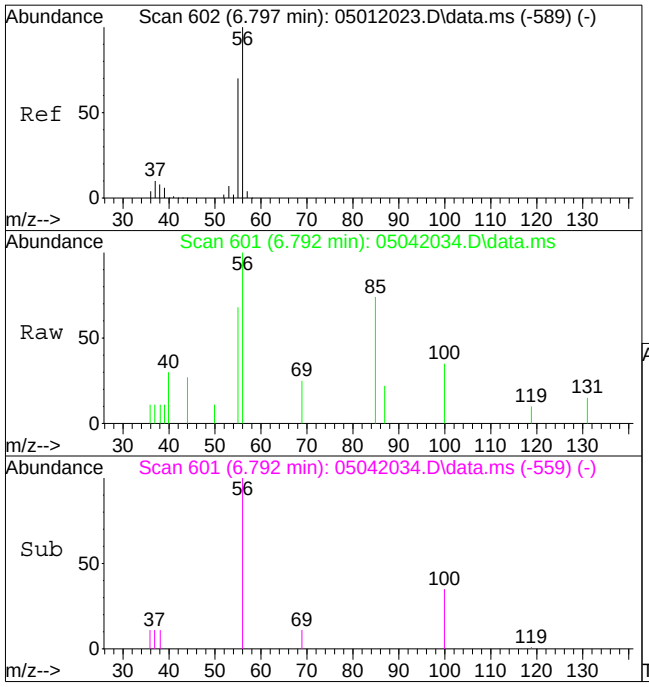


#11
Acetonitrile
Concen: 0.10 ng
RT: 6.60 min Scan# 566
Delta R.T. -0.044 min
Lab File: 05042034.D
Acq: 5 May 2020 1:27

Tgt Ion: 41 Resp: 5582

Ion	Ratio	Lower	Upper
41	100		
40	62.0	33.6	73.6

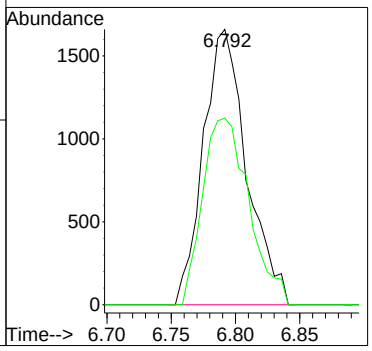


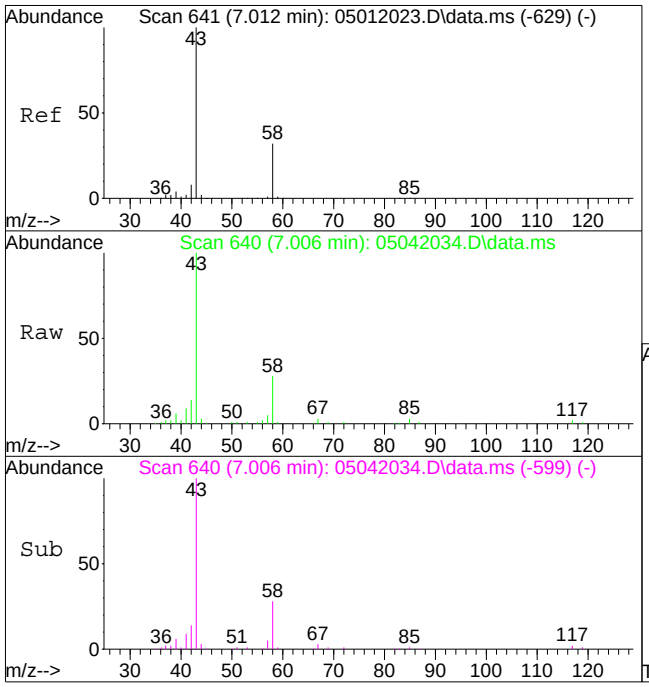


#12
Acrolein
Concen: 0.20 ng
RT: 6.79 min Scan# 601
Delta R.T. -0.017 min
Lab File: 05042034.D
Acq: 5 May 2020 1:27

Tgt Ion: 56 Resp: 3893

Ion	Ratio	Lower	Upper
56	100		
55	72.3	50.2	90.2

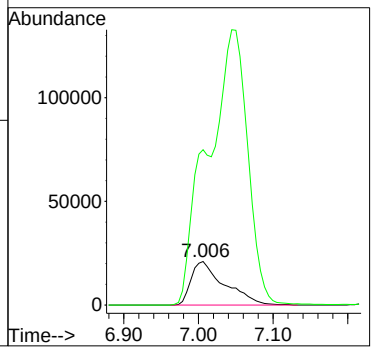


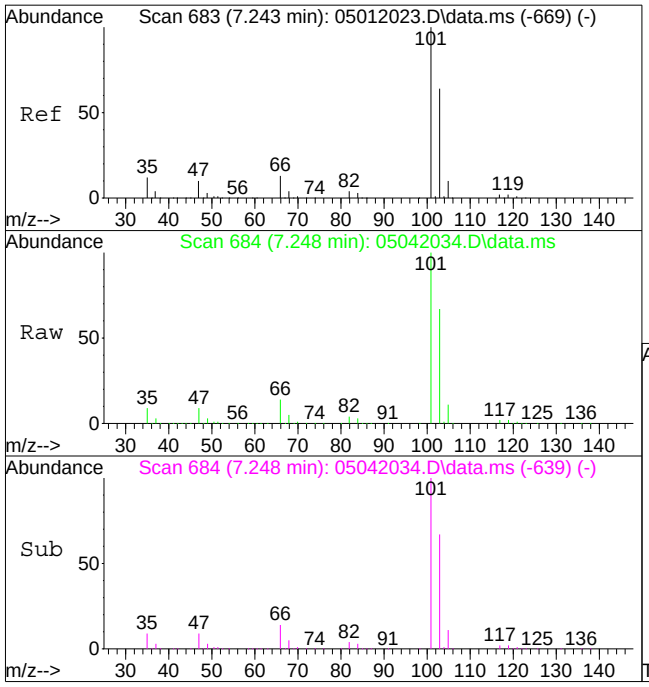


#13
Acetone
Concen: 2.71 ng
RT: 7.01 min Scan# 640
Delta R.T. -0.022 min
Lab File: 05042034.D
Acq: 5 May 2020 1:27

Tgt Ion: 58 Resp: 65362

Ion	Ratio	Lower	Upper
58	100		
43	216.0	294.4	354.4#

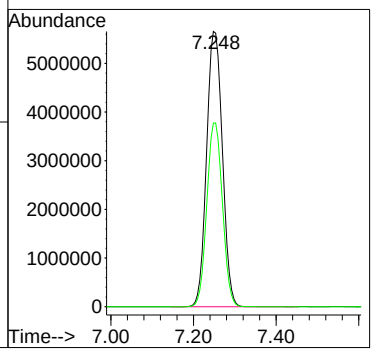


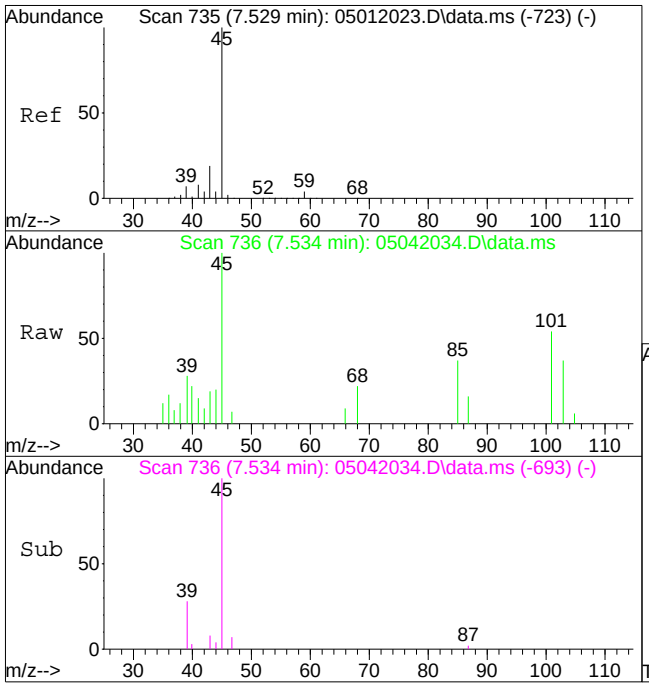


#14
Trichlorofluoromethane
Concen: 278.33 ng
RT: 7.25 min Scan# 684
Delta R.T. -0.000 min
Lab File: 05042034.D
Acq: 5 May 2020 1:27

Tgt Ion:101 Resp:15010439

Ion	Ratio	Lower	Upper
101	100		
103	66.0	44.4	84.4

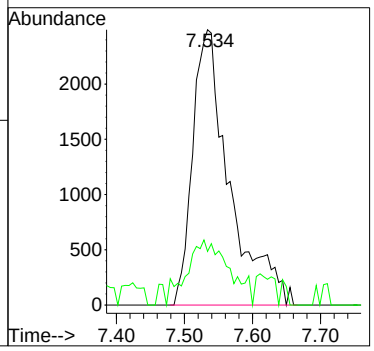


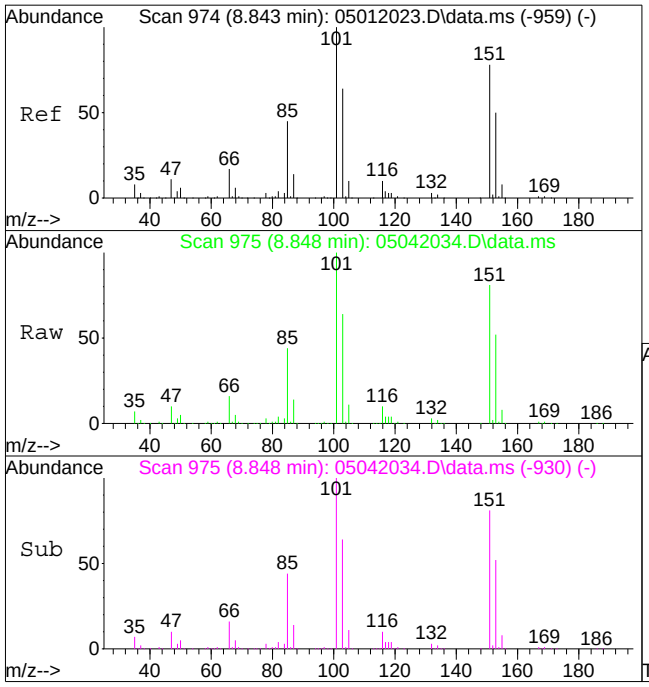


#15
2-Propanol (Isopropanol)
Concen: 0.13 ng
RT: 7.53 min Scan# 736
Delta R.T. -0.011 min
Lab File: 05042034.D
Acq: 5 May 2020 1:27

Tgt Ion: 45 Resp: 9406

Ion	Ratio	Lower	Upper
45	100		
43	26.7	0.0	39.5

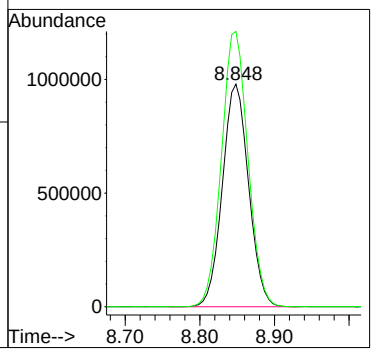


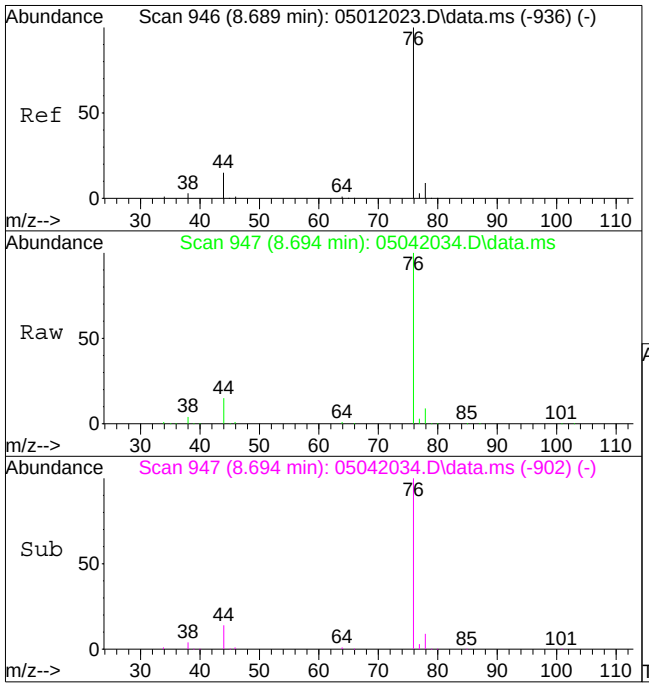


#21
Trichlorotrifluoroethane
Concen: 93.92 ng
RT: 8.85 min Scan# 975
Delta R.T. -0.000 min
Lab File: 05042034.D
Acq: 5 May 2020 1:27

Tgt Ion:151 Resp: 2391396

Ion	Ratio	Lower	Upper
151	100		
101	125.0	107.3	147.3

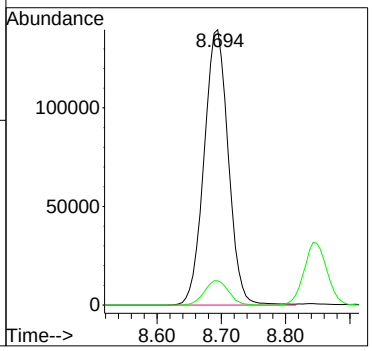


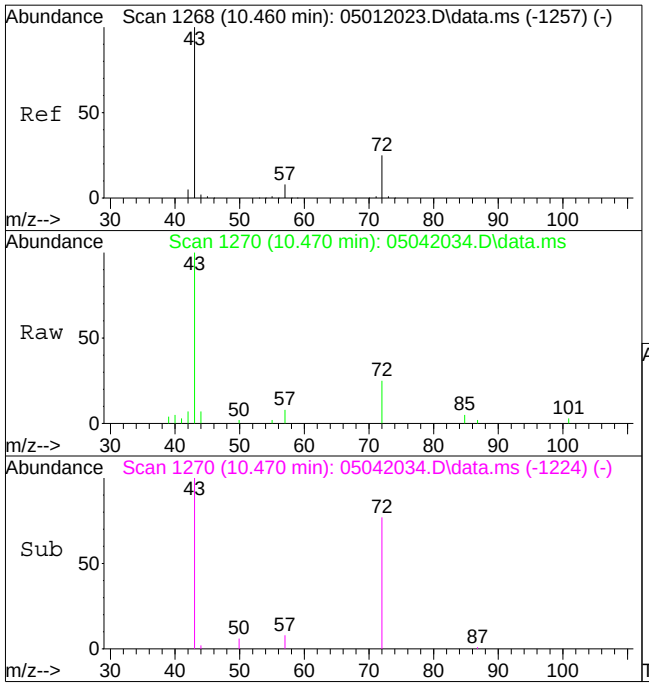


#22
Carbon Disulfide
Concen: 3.25 ng
RT: 8.69 min Scan# 947
Delta R.T. -0.000 min
Lab File: 05042034.D
Acq: 5 May 2020 1:27

Tgt Ion: 76 Resp: 364579

Ion	Ratio	Lower	Upper
76	100		
78	8.9	0.0	29.2

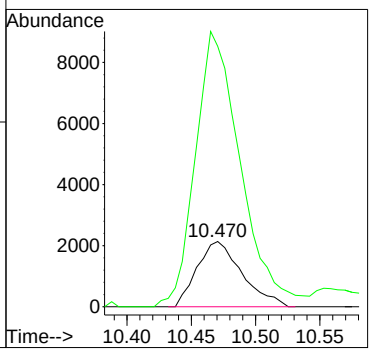


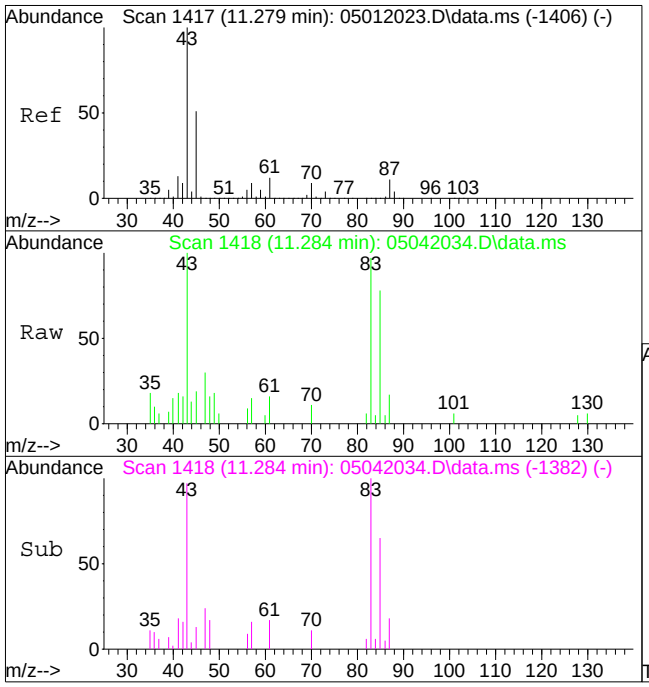


#27
2-Butanone (MEK)
Concen: 0.25 ng
RT: 10.47 min Scan# 1270
Delta R.T. 0.005 min
Lab File: 05042034.D
Acq: 5 May 2020 1:27

Tgt Ion: 72 Resp: 5196

Ion	Ratio	Lower	Upper
72	100		
43	425.5	389.7	429.7

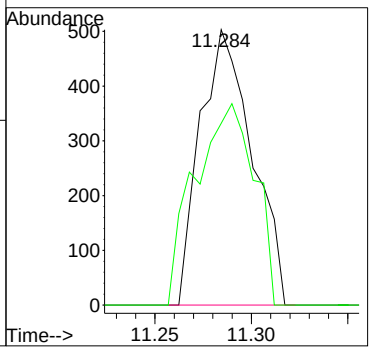


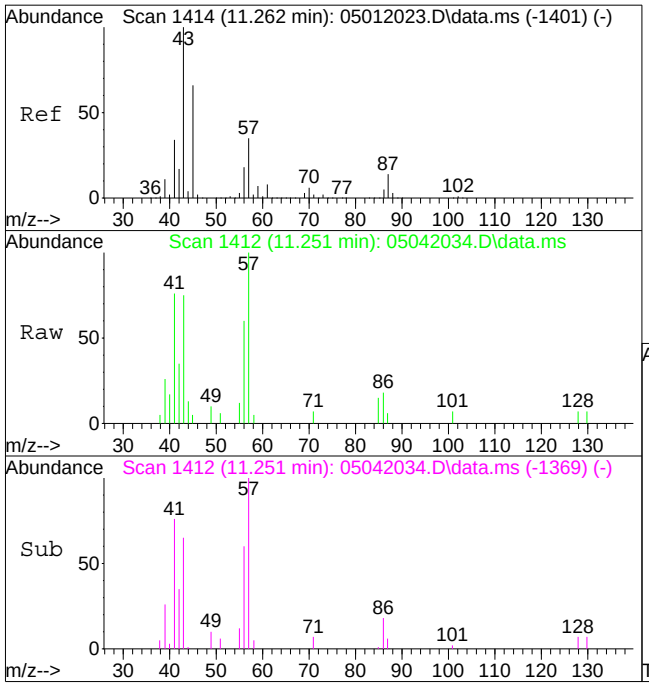


#30
Ethyl Acetate
Concen: 0.08 ng
RT: 11.28 min Scan# 1418
Delta R.T. -0.000 min
Lab File: 05042034.D
Acq: 5 May 2020 1:27

Tgt Ion: 61 Resp: 943

Ion	Ratio	Lower	Upper
61	100		
70	83.7	57.9	97.9

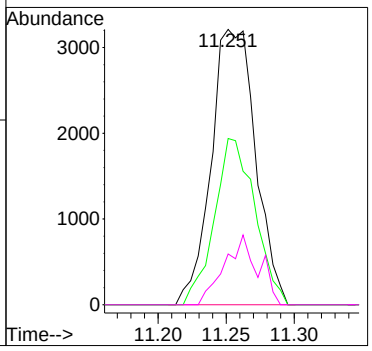


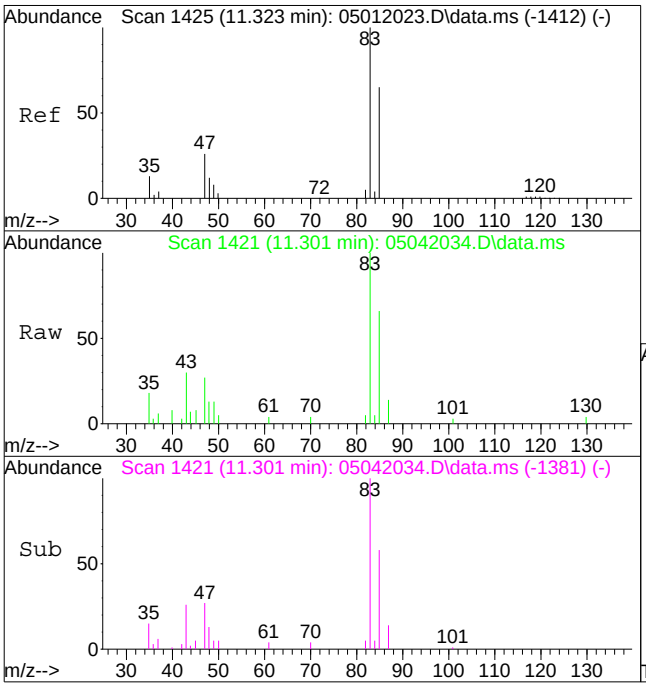


#31
n-Hexane
Concen: 0.14 ng
RT: 11.25 min Scan# 1412
Delta R.T. -0.011 min
Lab File: 05042034.D
Acq: 5 May 2020 1:27

Tgt Ion: 57 Resp: 7293

Ion	Ratio	Lower	Upper
57	100		
56	55.1	41.4	62.0
86	19.3	12.4	18.6#

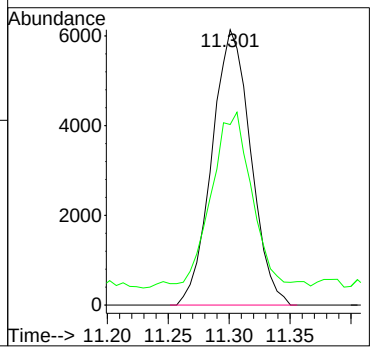


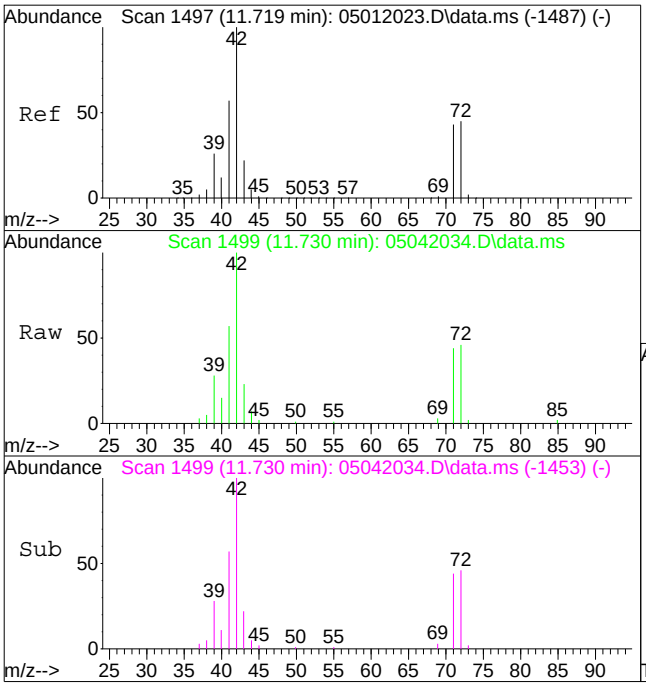


#32
Chloroform
Concen: 0.25 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.028 min
Lab File: 05042034.D
Acq: 5 May 2020 1:27

Tgt Ion: 83 Resp: 13584

Ion	Ratio	Lower	Upper
83	100		
85	66.3	45.5	85.5

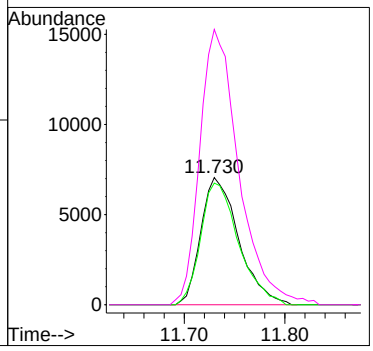


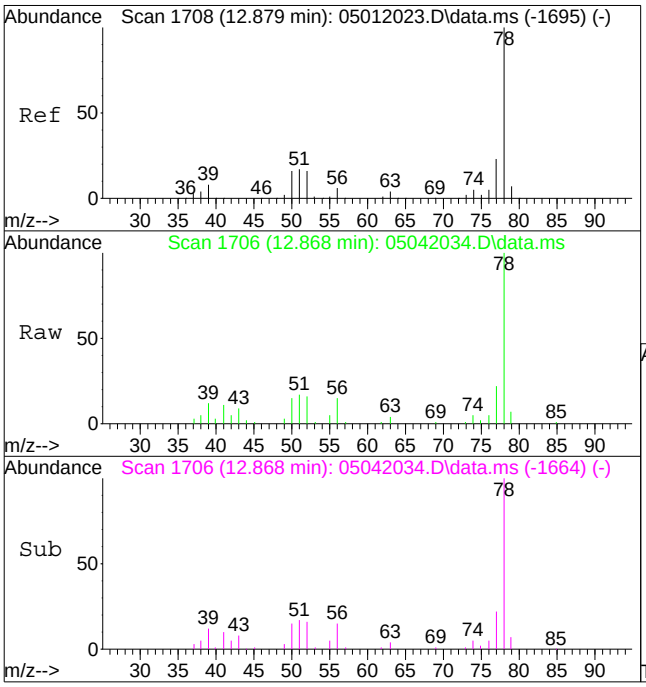


#34
Tetrahydrofuran (THF)
Concen: 0.92 ng
RT: 11.73 min Scan# 1499
Delta R.T. 0.005 min
Lab File: 05042034.D
Acq: 5 May 2020 1:27

Tgt Ion: 72 Resp: 18491

Ion	Ratio	Lower	Upper
72	100		
71	96.0	77.0	117.0
42	222.7	204.6	244.6

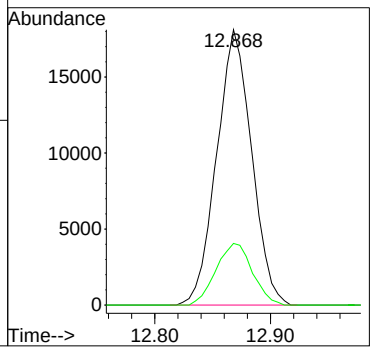


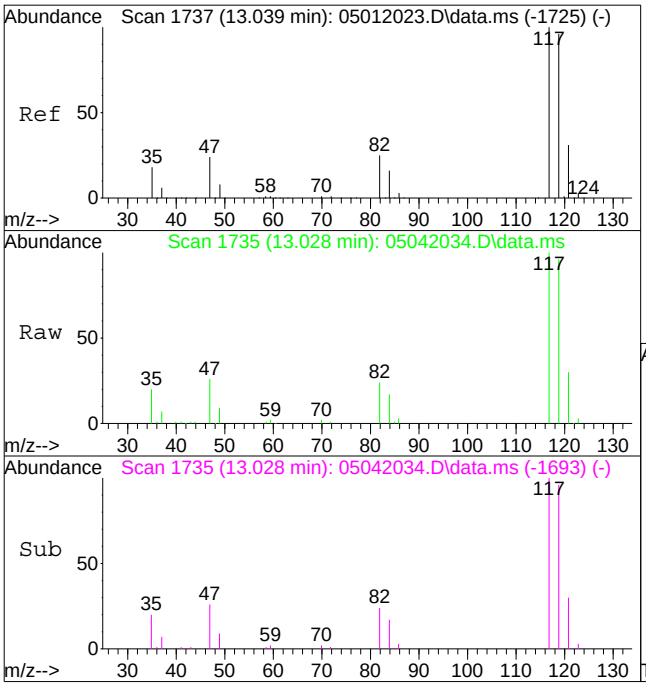


#41
Benzene
Concen: 0.31 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05042034.D
Acq: 5 May 2020 1:27

Tgt Ion: 78 Resp: 37988

Ion	Ratio	Lower	Upper
78	100		
77	23.2	3.4	43.4

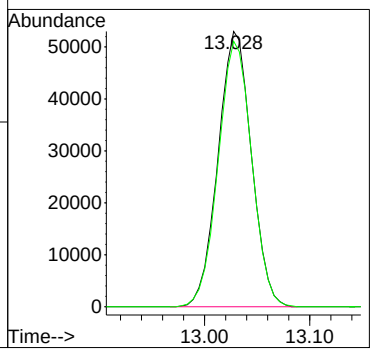


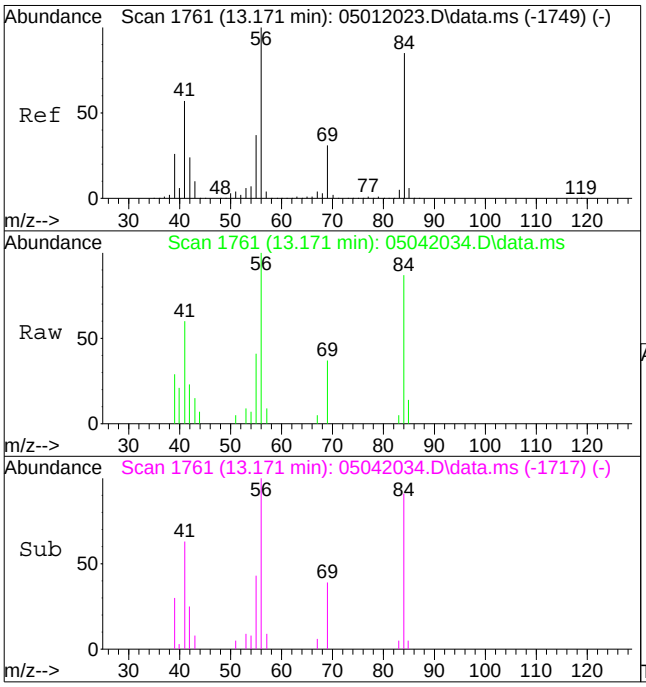


#42
Carbon Tetrachloride
Concen: 2.81 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05042034.D
Acq: 5 May 2020 1:27

Tgt Ion:117 Resp: 116882

Ion	Ratio	Lower	Upper
117	100		
119	97.0	76.2	116.2

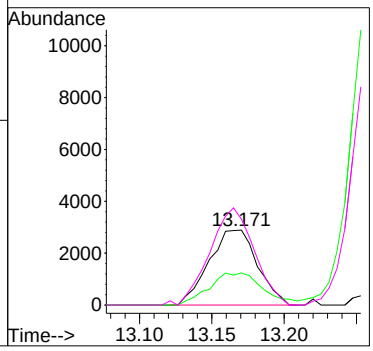


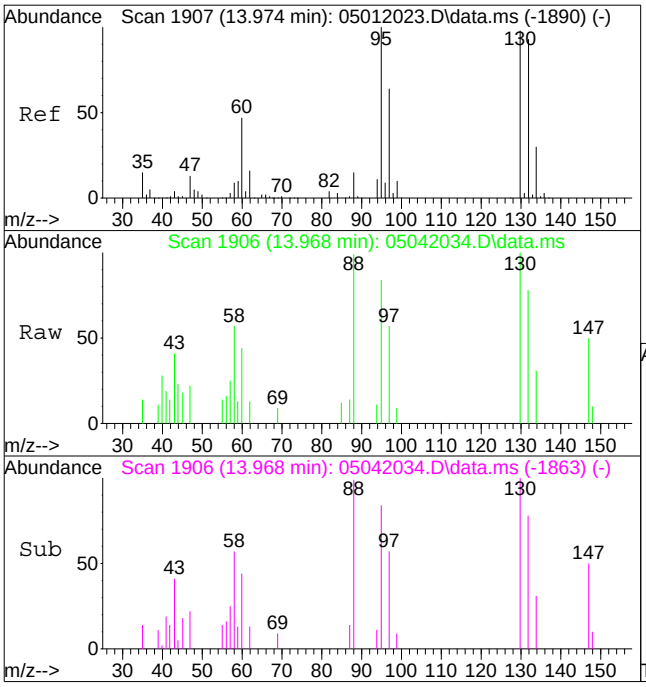


#43
Cyclohexane
Concen: 0.15 ng
RT: 13.17 min Scan# 1761
Delta R.T. -0.006 min
Lab File: 05042034.D
Acq: 5 May 2020 1:27

Tgt Ion: 84 Resp: 6739

Ion	Ratio	Lower	Upper
84	100		
69	47.6	16.5	56.5
56	119.3	97.4	137.4

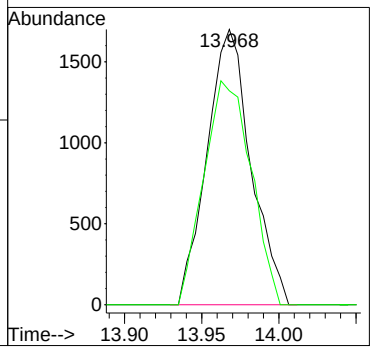


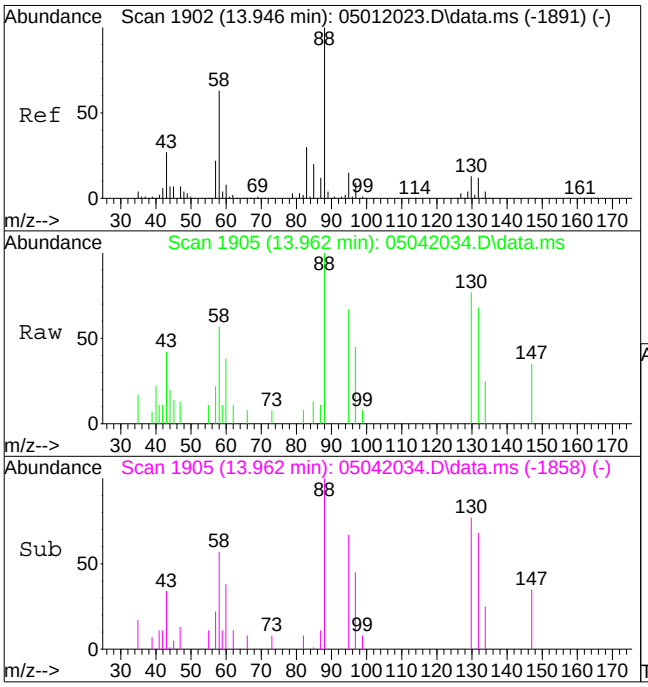


#47
Trichloroethene
Concen: 0.11 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05042034.D
Acq: 5 May 2020 1:27

Tgt Ion:130 Resp: 3371

Ion	Ratio	Lower	Upper
130	100		
132	87.1	74.9	114.9

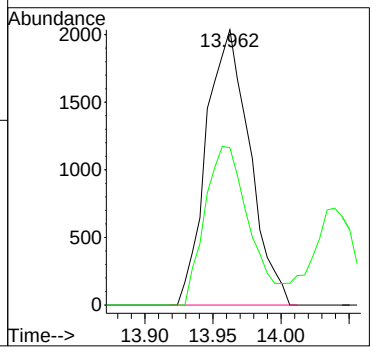


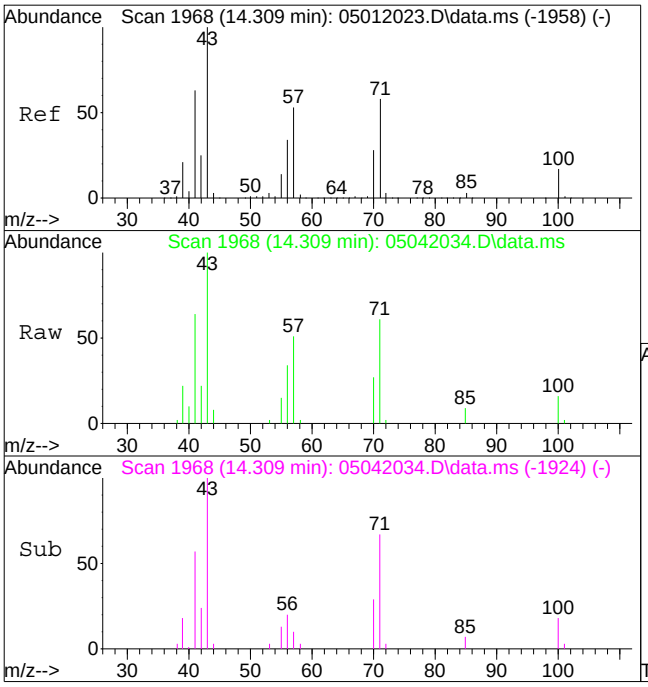


#48
1,4-Dioxane
Concen: 0.18 ng
RT: 13.96 min Scan# 1905
Delta R.T. 0.011 min
Lab File: 05042034.D
Acq: 5 May 2020 1:27

Tgt Ion: 88 Resp: 4505

Ion	Ratio	Lower	Upper
88	100		
58	58.9	42.8	82.8

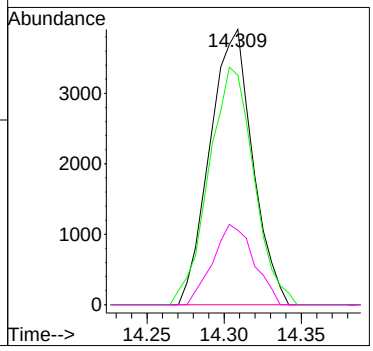


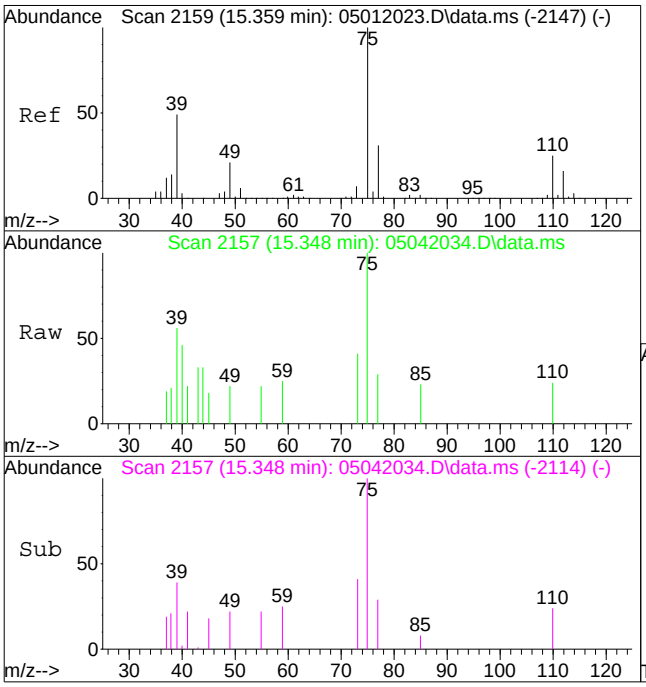


#51
n-Heptane
Concen: 0.26 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05042034.D
Acq: 5 May 2020 1:27

Tgt Ion: 71 Resp: 7531

Ion	Ratio	Lower	Upper
71	100		
57	90.7	71.0	111.0
100	28.0	8.4	48.4

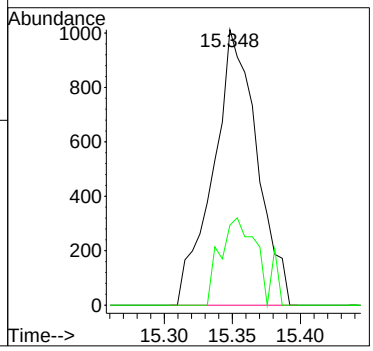


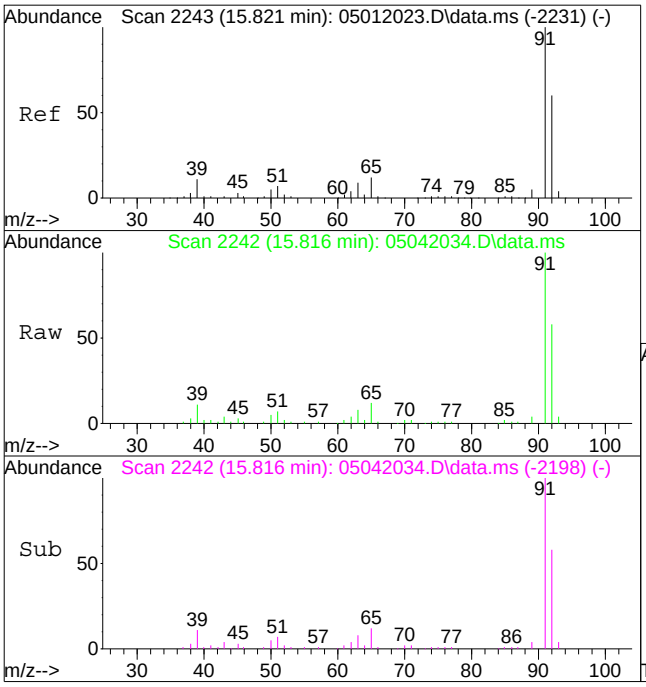


#54
trans-1,3-Dichloropropene
Concen: 0.05 ng
RT: 15.35 min Scan# 2157
Delta R.T. -0.011 min
Lab File: 05042034.D
Acq: 5 May 2020 1:27

Tgt Ion: 75 Resp: 2265

Ion	Ratio	Lower	Upper
75	100		
77	28.0	11.5	51.5

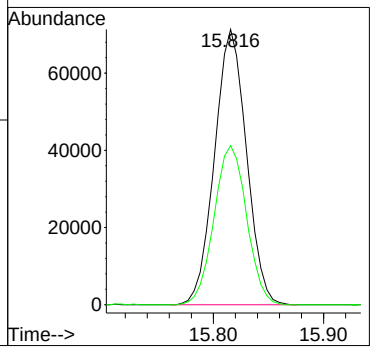


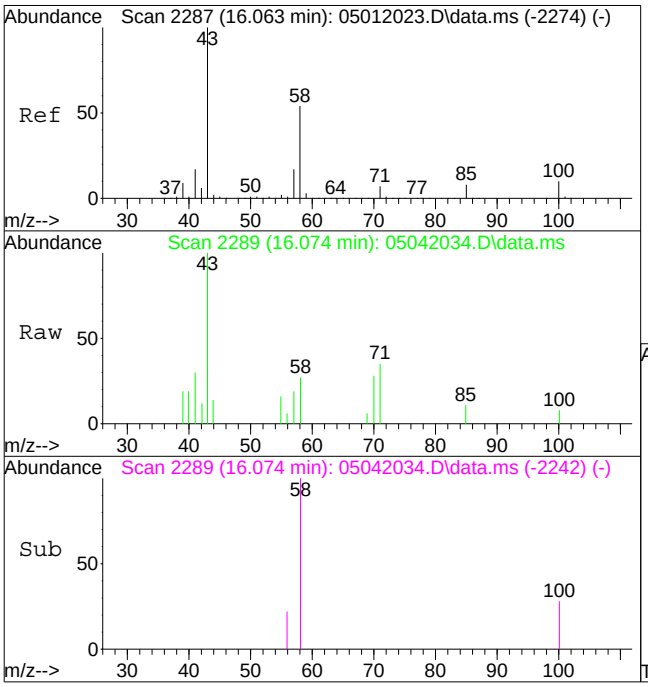


#58
Toluene
Concen: 1.21 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05042034.D
Acq: 5 May 2020 1:27

Tgt Ion: 91 Resp: 143539

Ion	Ratio	Lower	Upper
91	100		
92	59.0	39.4	79.4

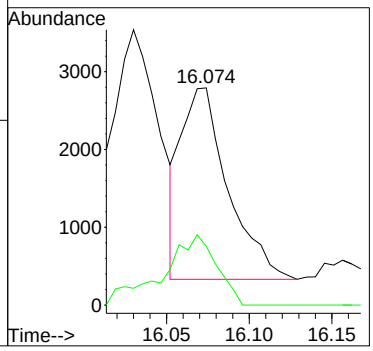


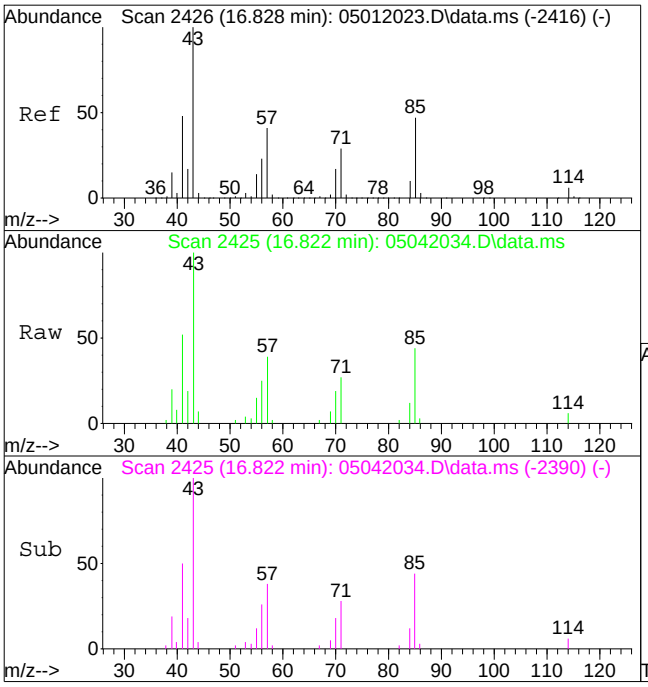


#59
2-Hexanone
Concen: 0.07 ng
RT: 16.07 min Scan# 2289
Delta R.T. 0.011 min
Lab File: 05042034.D
Acq: 5 May 2020 1:27

Tgt Ion: 43 Resp: 4881

Ion	Ratio	Lower	Upper
43	100		
58	42.0	34.5	74.5

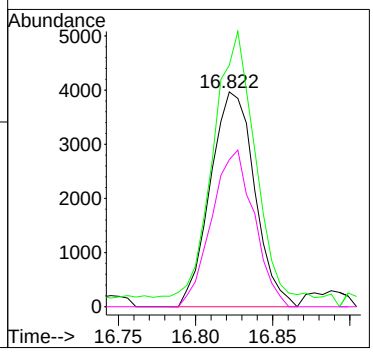


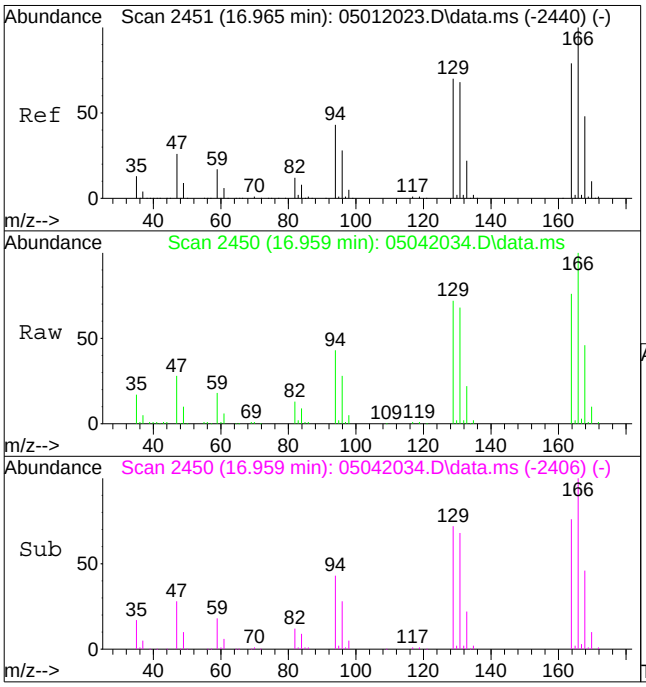


#63
n-Octane
Concen: 0.32 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05042034.D
Acq: 5 May 2020 1:27

Tgt Ion: 57 Resp: 7924

Ion	Ratio	Lower	Upper
57	100		
85	127.9	91.0	136.4
71	69.6	56.2	84.2

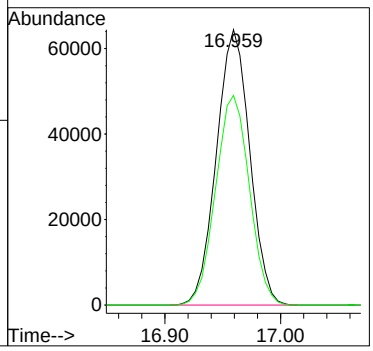


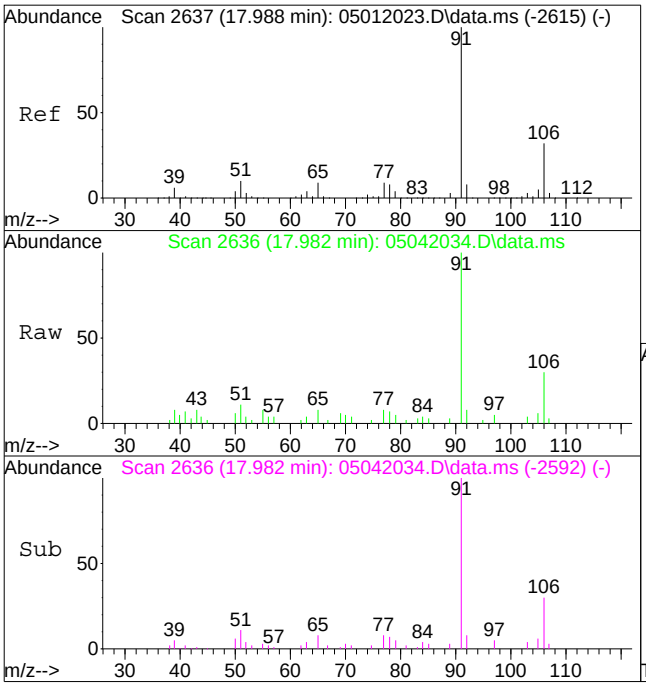


#64
Tetrachloroethene
Concen: 3.85 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05042034.D
Acq: 5 May 2020 1:27

Tgt Ion:166 Resp: 129216

Ion	Ratio	Lower	Upper
166	100		
164	77.2	58.4	98.4

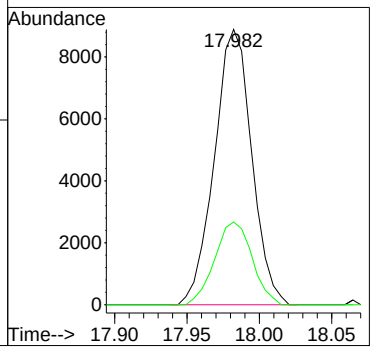


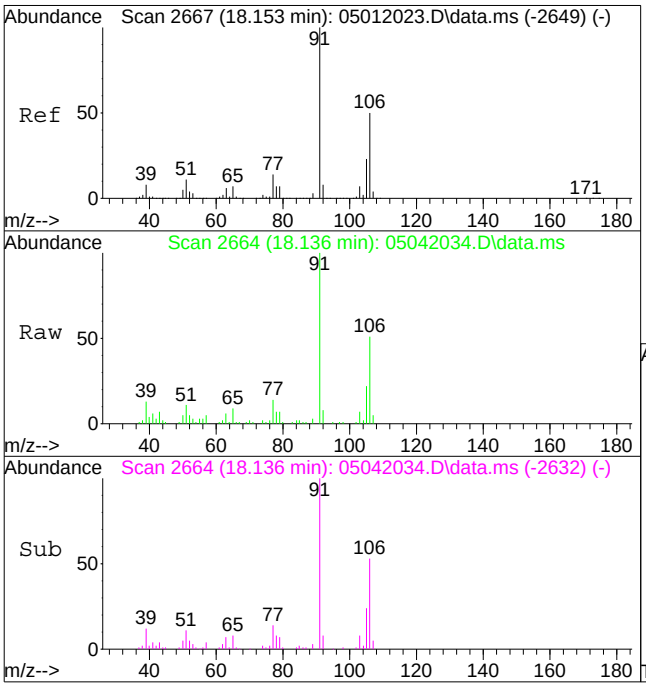


#66
Ethylbenzene
Concen: 0.12 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05042034.D
Acq: 5 May 2020 1:27

Tgt Ion: 91 Resp: 15991

Ion	Ratio	Lower	Upper
91	100		
106	30.0	11.6	51.6

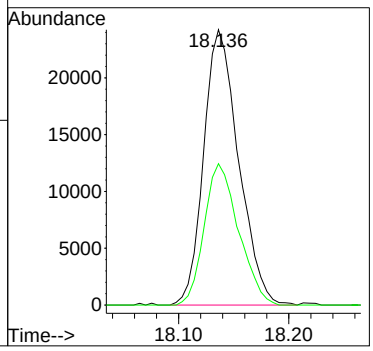


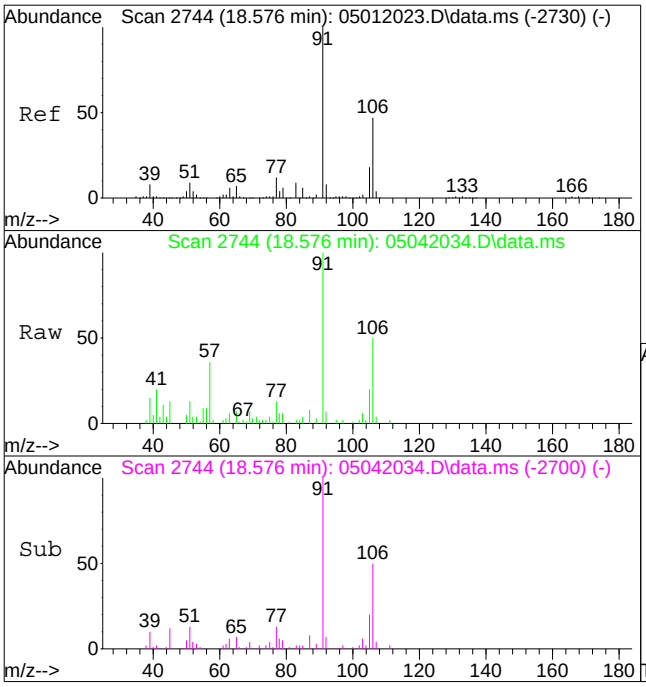


#67
m- & p-Xylenes
Concen: 0.51 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05042034.D
Acq: 5 May 2020 1:27

Tgt Ion: 91 Resp: 53405

Ion	Ratio	Lower	Upper
91	100		
106	50.4	29.7	69.7

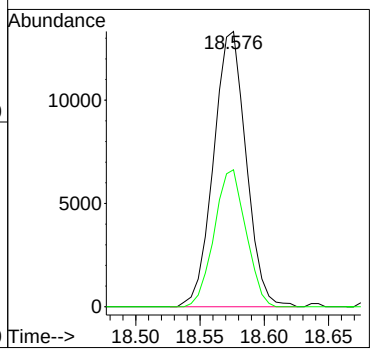


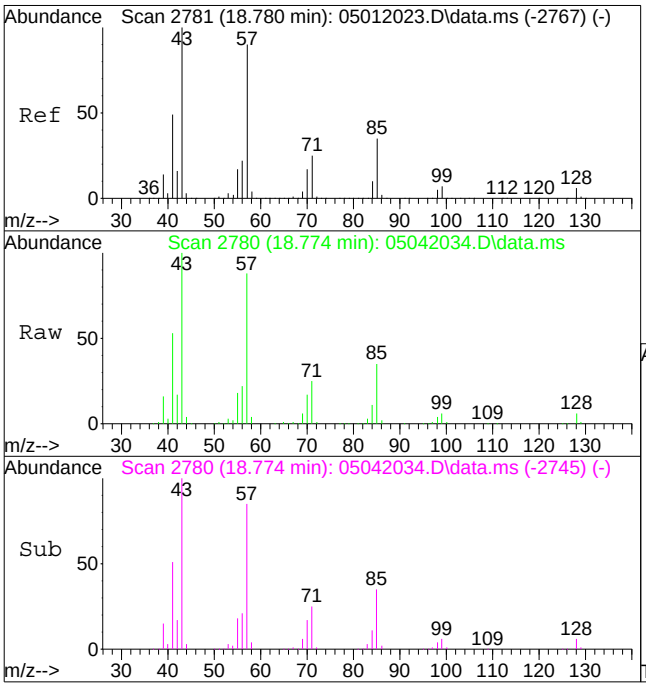


#70
o-Xylene
Concen: 0.22 ng
RT: 18.58 min Scan# 2744
Delta R.T. -0.006 min
Lab File: 05042034.D
Acq: 5 May 2020 1:27

Tgt Ion: 91 Resp: 23479

Ion	Ratio	Lower	Upper
91	100		
106	48.4	27.5	67.5

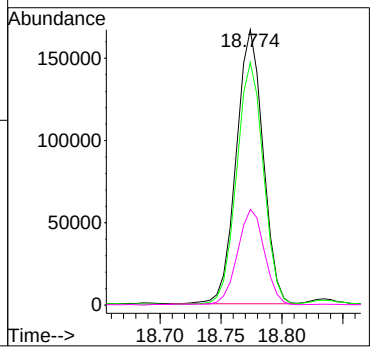


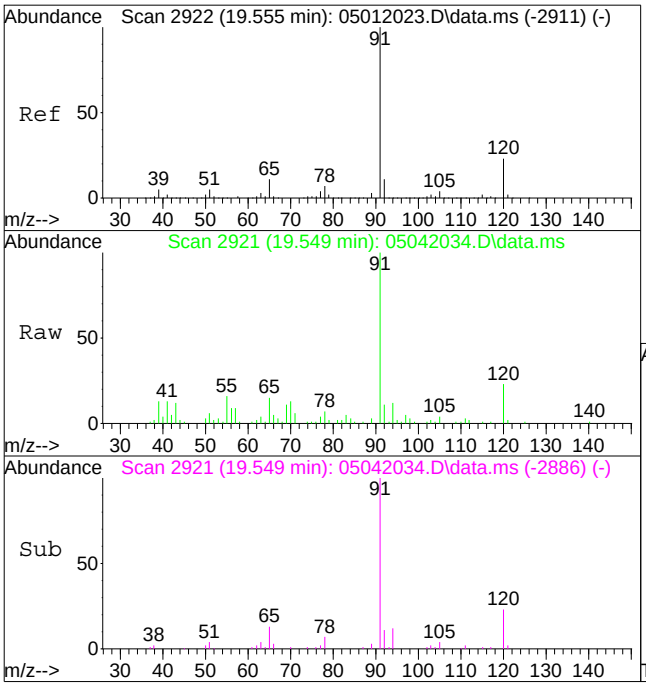


#71
n-Nonane
Concen: 4.49 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05042034.D
Acq: 5 May 2020 1:27

Tgt Ion: 43 Resp: 254602

Ion	Ratio	Lower	Upper
43	100		
57	88.7	69.0	109.0
85	34.9	14.6	54.6

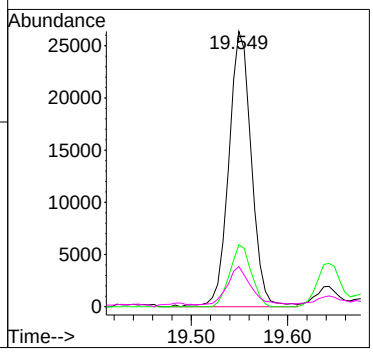


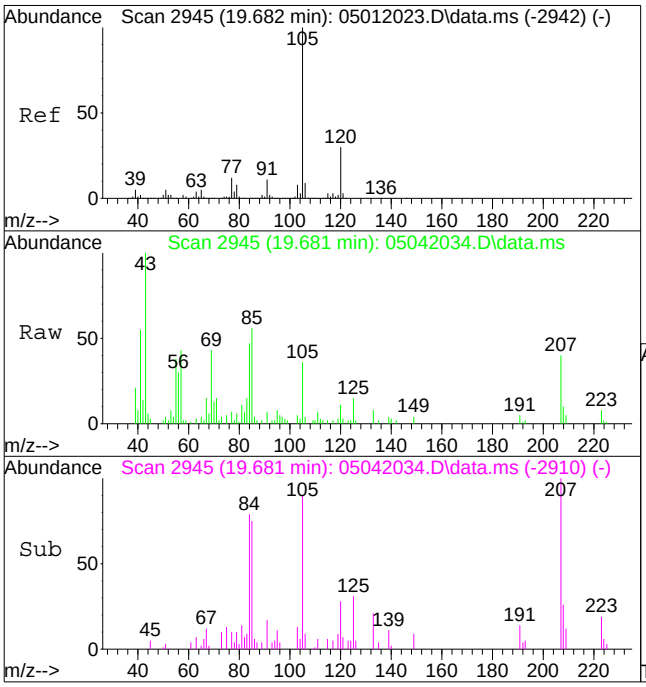


#76
n-Propylbenzene
Concen: 0.28 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05042034.D
Acq: 5 May 2020 1:27

Tgt Ion: 91 Resp: 42982

Ion	Ratio	Lower	Upper
91	100		
120	21.4	3.1	43.1
65	14.4	0.0	30.9

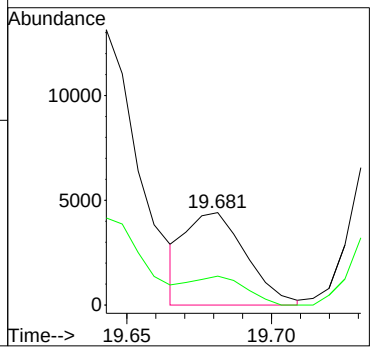


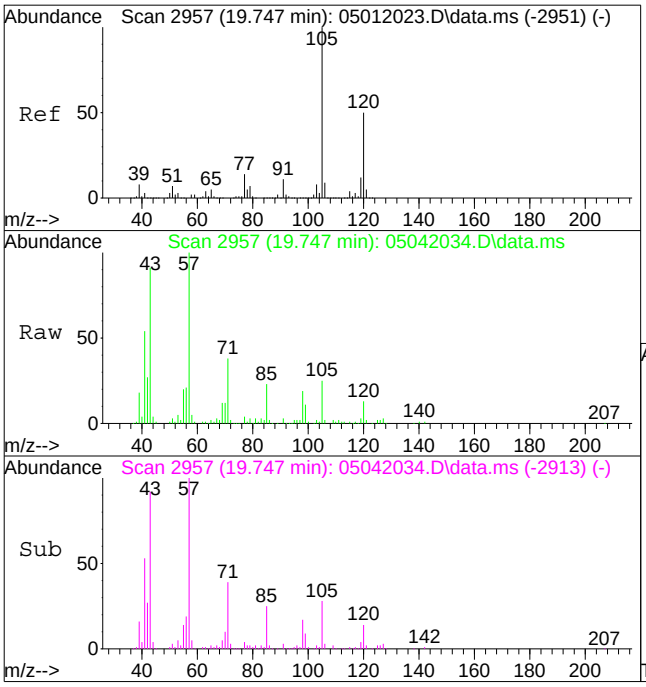


#78
4-Ethyltoluene
Concen: 0.05 ng
RT: 19.68 min Scan# 2945
Delta R.T. -0.006 min
Lab File: 05042034.D
Acq: 5 May 2020 1:27

Tgt Ion:105 Resp: 6418

Ion	Ratio	Lower	Upper
105	100		
120	24.4	10.4	50.4

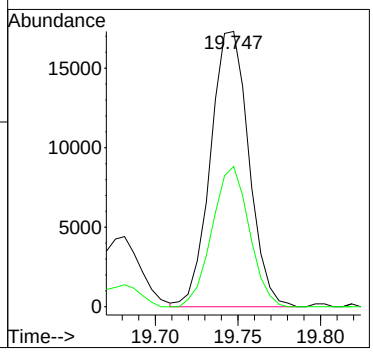


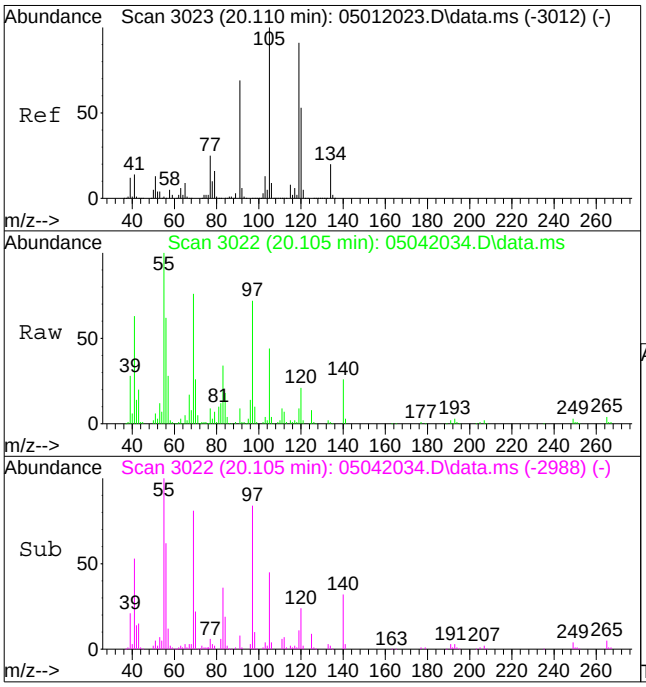


#79
1,3,5-Trimethylbenzene
Concen: 0.26 ng
RT: 19.75 min Scan# 2957
Delta R.T. -0.006 min
Lab File: 05042034.D
Acq: 5 May 2020 1:27

Tgt Ion:105 Resp: 27909

Ion	Ratio	Lower	Upper
105	100		
120	49.3	29.9	69.9

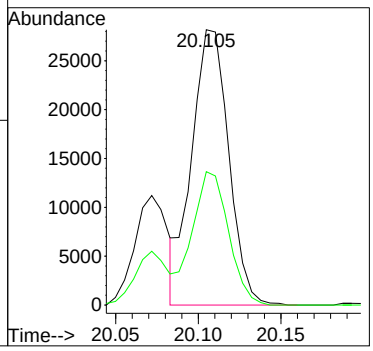


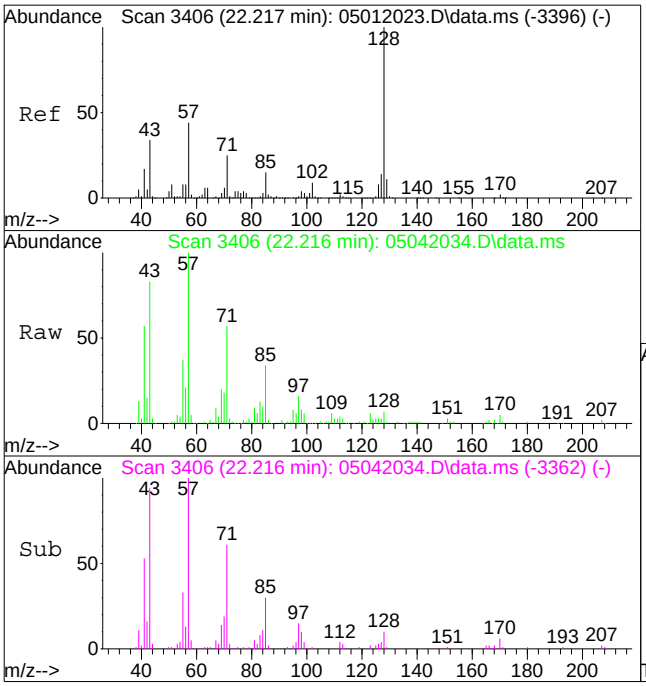


#82
1,2,4-Trimethylbenzene
Concen: 0.41 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05042034.D
Acq: 5 May 2020 1:27

Tgt Ion:105 Resp: 43944

Ion	Ratio	Lower	Upper
105	100		
120	47.9	33.6	73.6

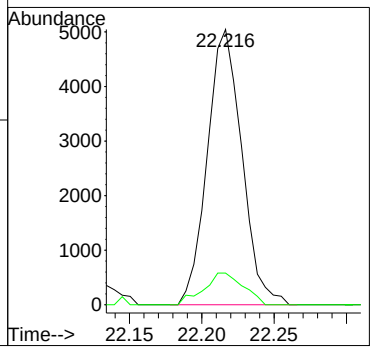




#95
Naphthalene
Concen: 0.06 ng
RT: 22.22 min Scan# 3406
Delta R.T. -0.006 min
Lab File: 05042034.D
Acq: 5 May 2020 1:27

Tgt Ion:128 Resp: 8407

Ion	Ratio	Lower	Upper
128	100		
129	13.2	0.0	31.0



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052018.D Vial: 6
Acq On : 5 May 2020 13:22 Operator: WA
Sample : P2002105-018dil (25mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 16:49:22 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/6/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	286182	12.500 ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1238425	12.500 ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	585368	12.500 ng	0.00
System Monitoring Compounds					
33) 1,2-Dichloroethane-d4(...	11.99	65	468266	12.074 ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.56%		
57) Toluene-d8 (SS2)	15.72	98	1236201	12.459 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.68%		
73) Bromofluorobenzene (SS3)	18.98	174	436615	12.230 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.84%		
Target Compounds					Qvalue
2) Propene	4.11	42	2032	0.061 ng	96
3) Dichlorodifluoromethan...	4.26	85	4576709	70.596 ng	99
4) Chloromethane	4.57	50	161	N.D.	
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	132101	3.411 ng	100
6) Vinyl Chloride	4.81	62	1073	N.D.	
7) 1,3-Butadiene	0.00	54	0	N.D.	
8) Bromomethane	0.00	94	0	N.D.	
9) Chloroethane	0.00	64	0	N.D.	
10) Ethanol	6.36	45	1849	0.072 ng	86
11) Acetonitrile	6.64	41	636	N.D.	
12) Acrolein	6.82	56	55	N.D.	
13) Acetone	0.00	58	0	N.D. d	
14) Trichlorofluoromethane	7.25	101	578062	10.089 ng	100
15) 2-Propanol (Isopropanol)	7.57	45	697	N.D.	
16) Acrylonitrile	0.00	53	0	N.D.	
17) 1,1-Dichloroethene	0.00	96	0	N.D.	
18) 2-Methyl-2-Propanol (t...	8.47	59	76	N.D.	
19) Methylene Chloride	8.41	84	197	N.D.	
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	
21) Trichlorotrifluoroethane	8.85	151	91281	3.374 ng	99
22) Carbon Disulfide	8.69	76	16453	0.138 ng	98
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.	
24) 1,1-Dichloroethane	0.00	63	0	N.D.	
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	
26) Vinyl Acetate	0.00	86	0	N.D.	
27) 2-Butanone (MEK)	0.00	72	0	N.D.	
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.	
29) Diisopropyl Ether	0.00	87	0	N.D.	
30) Ethyl Acetate	0.00	61	0	N.D.	
31) n-Hexane	11.26	57	254	N.D.	
32) Chloroform	11.31	83	604	N.D.	
34) Tetrahydrofuran (THF)	11.77	72	865	N.D.	
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.	
36) 1,2-Dichloroethane	0.00	62	0	N.D.	
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.	
39) Isopropyl Acetate	0.00	61	0	N.D.	
40) 1-Butanol	12.88	56	458	N.D.	
41) Benzene	12.87	78	2391	N.D.	
42) Carbon Tetrachloride	13.03	117	4784	0.106 ng	96
43) Cyclohexane	13.16	84	249	N.D.	
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.	
45) 1,2-Dichloropropane	0.00	63	0	N.D.	
46) Bromodichloromethane	0.00	83	0	N.D.	
47) Trichloroethene	13.97	130	224	N.D.	
48) 1,4-Dioxane	0.00	88	0	N.D.	
49) 2,2,4-Trimethylpentane...	14.05	57	1708	N.D.	
50) Methyl Methacrylate	0.00	100	0	N.D.	

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052018.D Vial: 6
Acq On : 5 May 2020 13:22 Operator: WA
Sample : P2002105-018dil (25mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 16:49:22 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

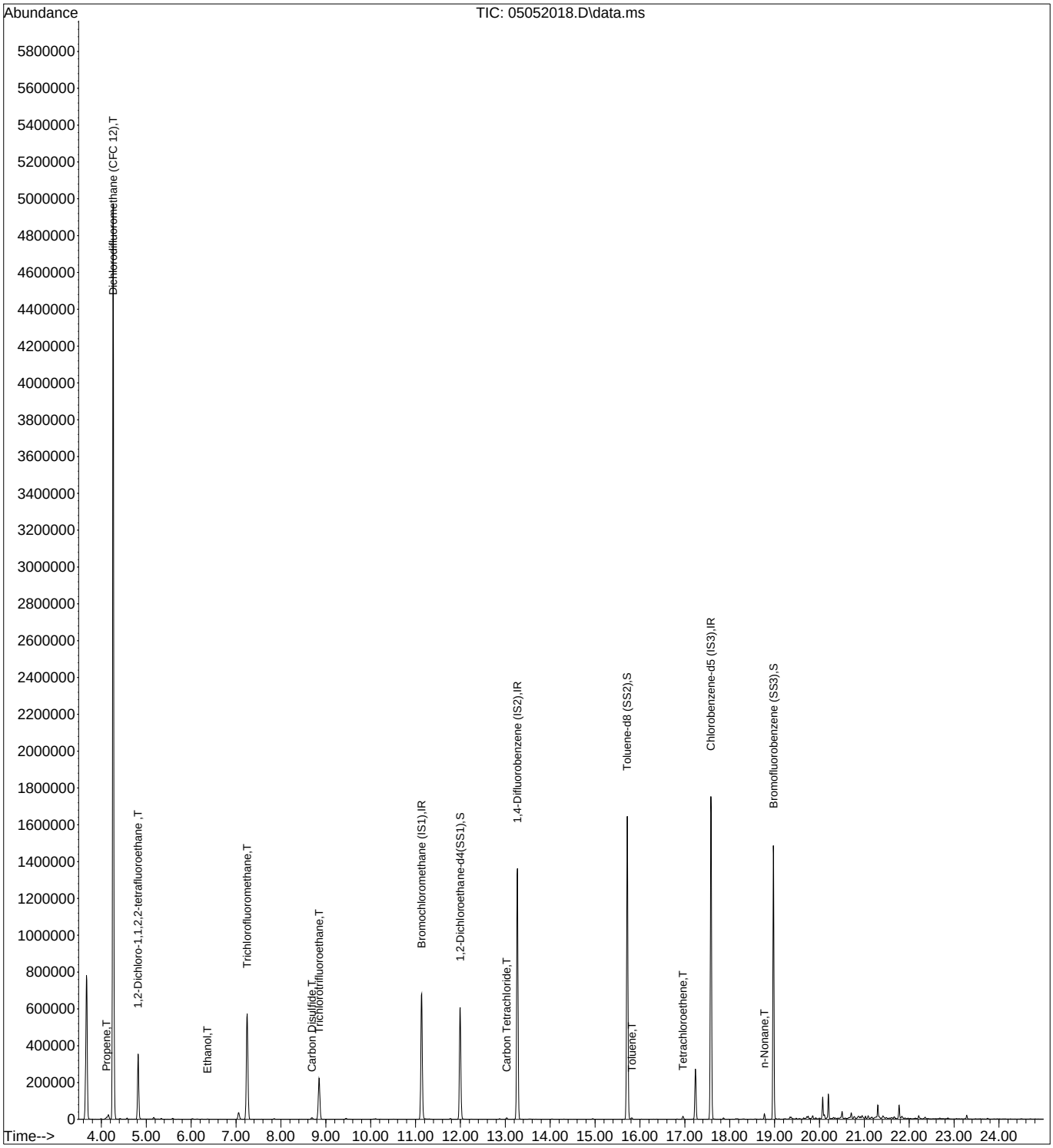
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	130	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	15.36	75	121	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.82	91	7106	0.056	ng	100
59) 2-Hexanone	16.08	43	370	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.70	43	111	N.D.		
63) n-Octane	16.82	57	179	N.D.		
64) Tetrachloroethene	16.96	166	5411	0.150	ng	98
65) Chlorobenzene	17.62	112	255	N.D.		
66) Ethylbenzene	17.98	91	884	N.D.		
67) m- & p-Xylenes	18.13	91	3196	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.48	104	277	N.D.		
70) o-Xylene	18.57	91	1273	N.D.		
71) n-Nonane	18.77	43	10363	0.170	ng	97
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.10	105	284	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	19.56	91	2141	N.D.		
77) 3-Ethyltoluene	19.64	105	1165	N.D.		
78) 4-Ethyltoluene	19.68	105	463	N.D.		
79) 1,3,5-Trimethylbenzene	19.74	105	1268	N.D.		
80) alpha-Methylstyrene	19.89	118	484	N.D.		
81) 2-Ethyltoluene	19.91	105	600	N.D.		
82) 1,2,4-Trimethylbenzene	20.11	105	1913	N.D.		
83) n-Decane	0.00	57	0	N.D.	d	
84) Benzyl Chloride	20.21	91	122	N.D.		
85) 1,3-Dichlorobenzene	20.24	146	342	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	409	N.D.		
87) sec-Butylbenzene	20.35	105	2448	N.D.		
88) 4-Isopropyltoluene (p-...	20.48	119	454	N.D.		
89) 1,2,3-Trimethylbenzene	20.48	105	981	N.D.		
90) 1,2-Dichlorobenzene	20.60	146	127	N.D.		
91) d-Limonene	20.61	68	250	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	22.11	180	282	N.D.		
95) Naphthalene	22.22	128	1678	N.D.		
96) n-Dodecane	0.00	57	0	N.D.	d	
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.28	55	923	N.D.		
99) tert-Butylbenzene	20.11	119	344	N.D.		
100) n-Butylbenzene	20.86	91	1782	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052018.D Vial: 6
Acq On : 5 May 2020 13:22 Operator: WA
Sample : P2002105-018dil (25mL) Inst : GCMS-16
Misc : S31-02112001

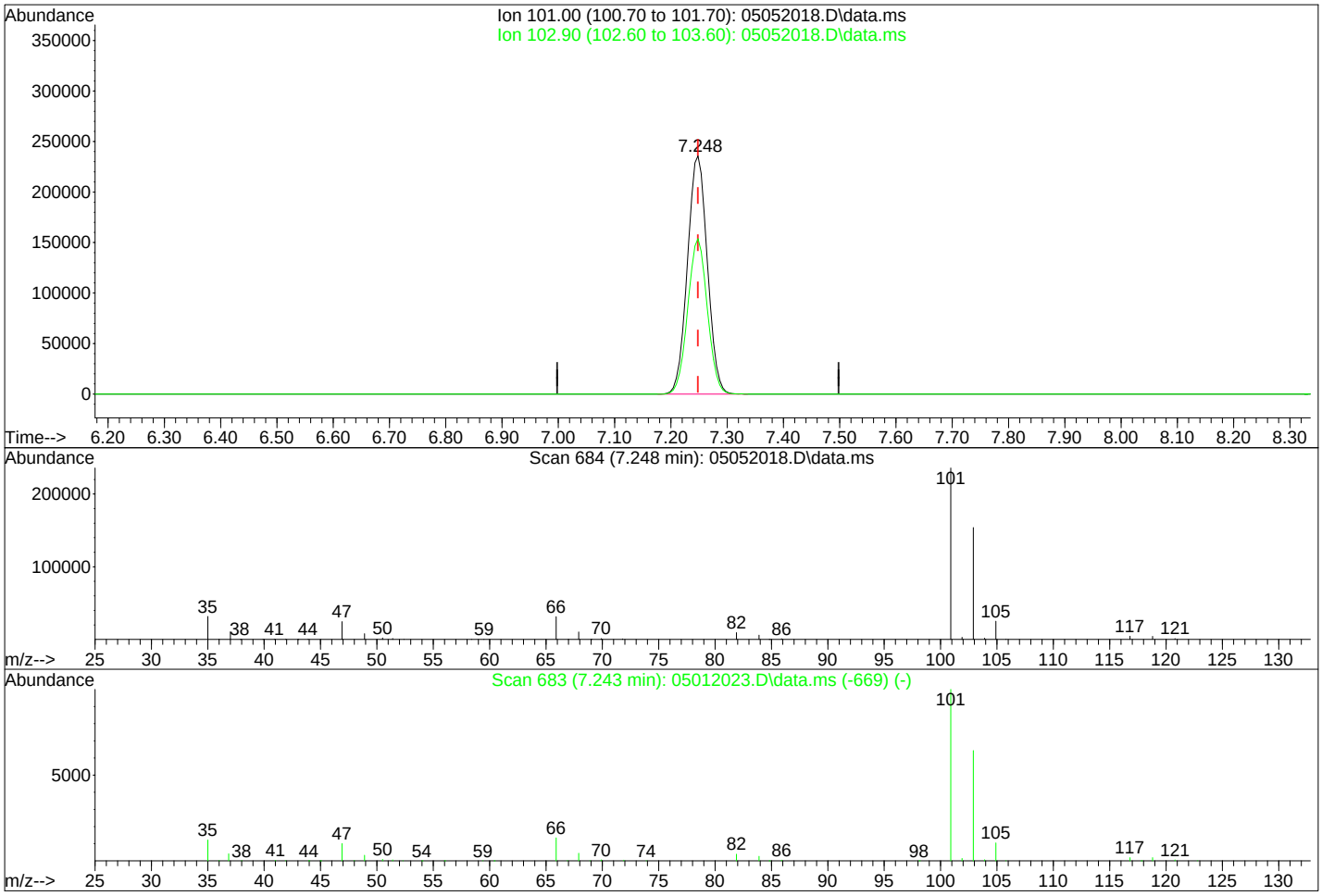
Quant Time: May 06 16:49:22 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\05\05052018.D Vial: 6
Acq On : 5 May 2020 13:22 Operator: WA
Sample : P2002105-018dil (25mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 03:56:28 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05052018.D\data.ms

(14) Trichlorofluoromethane (T)

7.248min (-0.000) 10.09ng

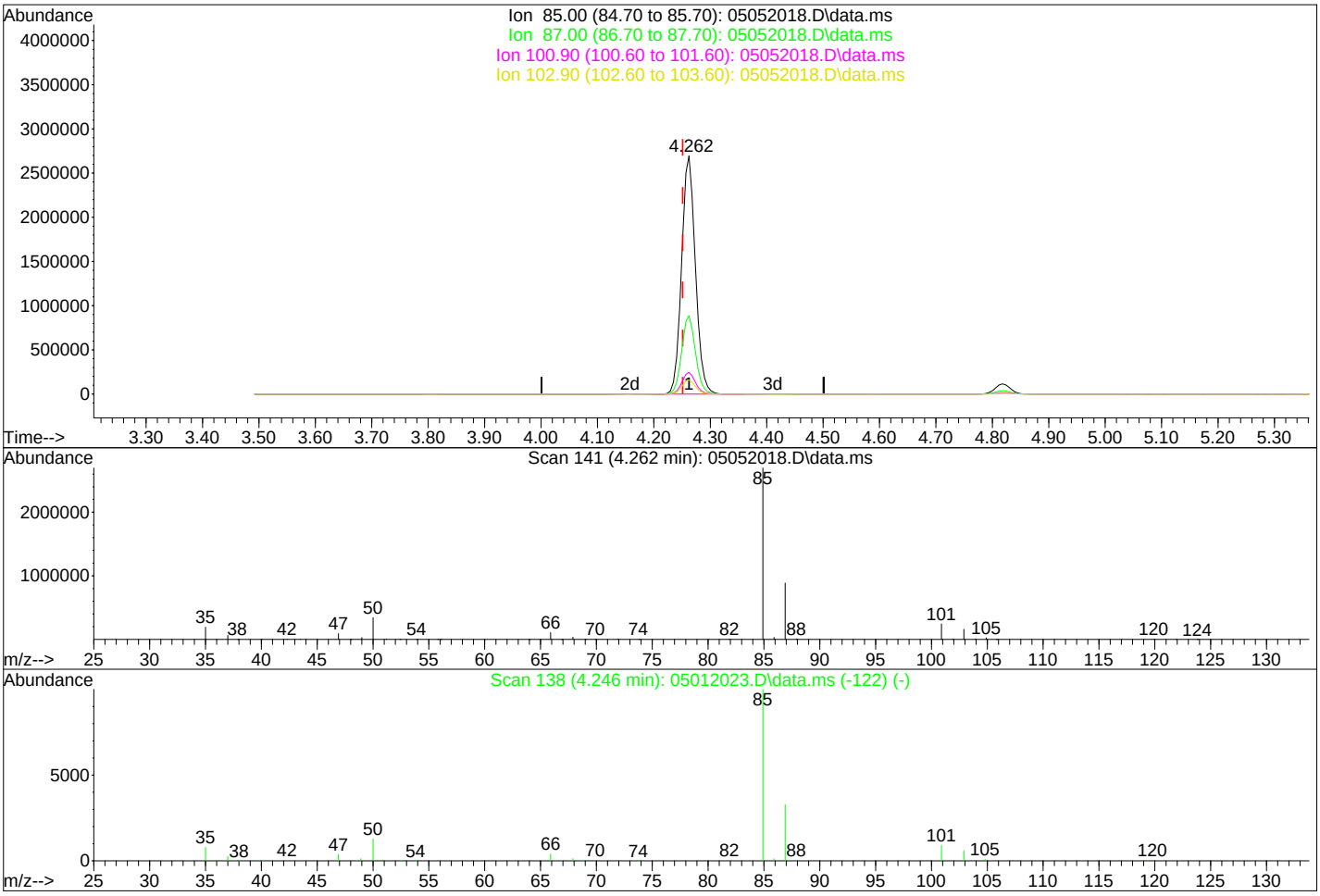
response 578062

Ion	Exp%	Act%
101.00	100	100
102.90	64.40	64.37
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\05\05052018.D Vial: 6
Acq On : 5 May 2020 13:22 Operator: WA
Sample : P2002105-018dil (25mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 03:56:28 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05052018.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

4.262min (+0.011) 70.60ng

response 4576709

Ion	Exp%	Act%
85.00	100	100
87.00	32.40	32.79
100.90	8.80	8.95
102.90	5.70	5.83

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042012.D Vial: 1
Acq On : 4 May 2020 12:53 Operator: TD
Sample : P2002105-019 (3.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 19:18:58 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/4/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	252995	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1112708	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	572428	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	432988	12.629	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.04%			
57) Toluene-d8 (SS2)	15.72	98	1289846	13.294	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.32%			
73) Bromofluorobenzene (SS3)	18.98	174	448426	12.844	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.72%			
Target Compounds						Qvalue
2) Propene	4.11	42	5577	0.190	ng	97
3) Dichlorodifluoromethan...	4.26	85	647355	11.295	ng	100
4) Chloromethane	4.55	50	2949	0.066	ng	93
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	20710	0.605	ng	99
6) Vinyl Chloride	4.97	62	577	N.D.		
7) 1,3-Butadiene	5.16	54	235	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.34	45	1917	0.085	ng	82
11) Acetonitrile	6.61	41	434	N.D.		
12) Acrolein	6.80	56	812	N.D.		
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	7.24	101	87195	1.722	ng	100
15) 2-Propanol (Isopropanol)	7.54	45	3050	N.D.		
16) Acrylonitrile	7.76	53	56	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d	
19) Methylene Chloride	8.40	84	183	N.D.		
20) 3-Chloro-1-propene (Al...	8.42	41	1543	N.D.		
21) Trichlorotrifluoroethane	8.84	151	13661	0.571	ng	96
22) Carbon Disulfide	8.68	76	49481	0.469	ng	100
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	9.94	63	291	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	10.50	72	423	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	11.26	87	344	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	11.26	57	46023	0.954	ng	99
32) Chloroform	11.30	83	670	N.D.		
34) Tetrahydrofuran (THF)	11.76	72	2366	0.126	ng	93
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.11	62	572	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.	d	
40) 1-Butanol	12.86	56	850	N.D.		
41) Benzene	12.87	78	739891	6.201	ng	100
42) Carbon Tetrachloride	13.03	117	441	N.D.		
43) Cyclohexane	13.17	84	103200	2.321	ng	99
44) tert-Amyl Methyl Ether	13.45	73	481	N.D.		
45) 1,2-Dichloropropane	13.64	63	620	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042012.D Vial: 1
Acq On : 4 May 2020 12:53 Operator: TD
Sample : P2002105-019 (3.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 19:18:58 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

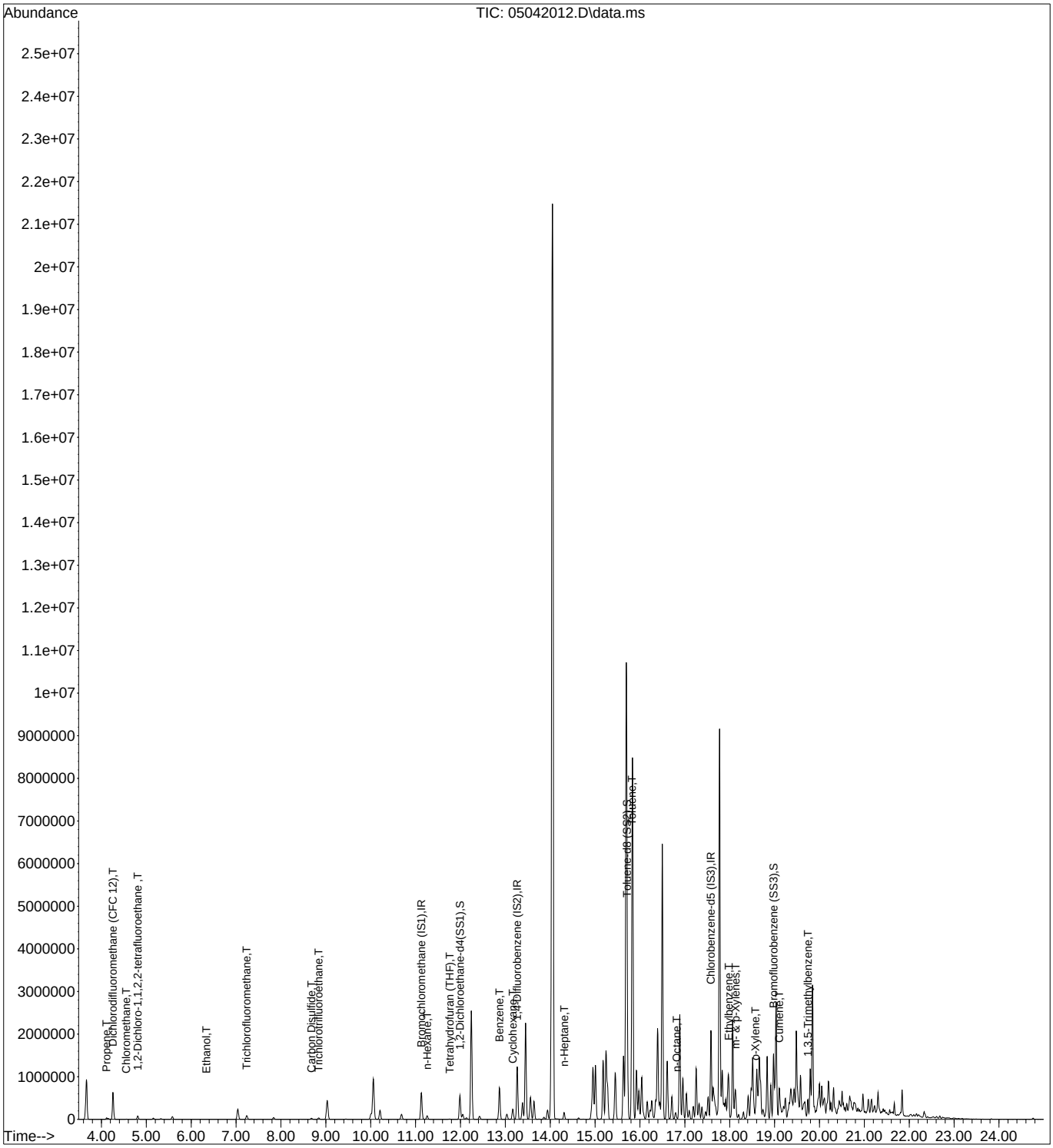
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.31	71	40912	1.466 ng		93
52) cis-1,3-Dichloropropene	14.95	75	179	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d		
54) trans-1,3-Dichloropropene	15.13	75	1281	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d		
58) Toluene	15.82	91	654603	5.234 ng		100
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	16.48	107	453	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D. d		
63) n-Octane	16.82	57	4933	0.191 ng	#	79
64) Tetrachloroethene	16.96	166	923	N.D.		
65) Chlorobenzene	0.00	112	0	N.D. d		
66) Ethylbenzene	17.98	91	30478	0.219 ng		97
67) m- & p-Xylenes	18.14	91	53877	0.487 ng		100
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.48	104	318	N.D.		
70) o-Xylene	18.58	91	26886	0.239 ng		94
71) n-Nonane	0.00	43	0	N.D. d		
72) 1,1,2,2-Tetrachloroethane	18.58	83	2373	N.D.		
74) Cumene	19.10	105	22972	0.167 ng		100
75) alpha-Pinene	19.44	93	939	N.D.		
76) n-Propylbenzene	0.00	91	0	N.D. d		
77) 3-Ethyltoluene	19.64	105	4037	N.D.		
78) 4-Ethyltoluene	19.68	105	1601	N.D.		
79) 1,3,5-Trimethylbenzene	19.75	105	16981	0.151 ng		96
80) alpha-Methylstyrene	19.88	118	434	N.D.		
81) 2-Ethyltoluene	19.92	105	3088	N.D.		
82) 1,2,4-Trimethylbenzene	20.10	105	3820	N.D.		
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.20	91	4225	N.D.		
85) 1,3-Dichlorobenzene	20.25	146	218	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	524	N.D.		
87) sec-Butylbenzene	20.35	105	3420	N.D.		
88) 4-Isopropyltoluene (p-...	20.48	119	877	N.D.		
89) 1,2,3-Trimethylbenzene	20.49	105	3530	N.D.		
90) 1,2-Dichlorobenzene	20.61	146	221	N.D.		
91) d-Limonene	0.00	68	0	N.D. d		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.12	180	739	N.D.		
95) Naphthalene	22.22	128	3077	N.D.		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	20.11	119	4895	N.D.		
100) n-Butylbenzene	20.85	91	1247	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042012.D Vial: 1
Acq On : 4 May 2020 12:53 Operator: TD
Sample : P2002105-019 (3.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 19:18:58 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042012.D Vial: 1
Acq On : 4 May 2020 12:53 Operator: TD
Sample : P2002105-019 (3.0mL) Inst : GCMS-16
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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/4/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	252995	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1112708	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	572428	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	432988	12.629	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.04%				
57) Toluene-d8 (SS2)	15.72	98	1289846	13.294	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.32%				
73) Bromofluorobenzene (SS3)	18.98	174	448426	12.844	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.72%				
Target Compounds							Qvalue
2) Propene	4.11	42	5577	0.190	ng		97
3) Dichlorodifluoromethan...	4.26	85	647355	11.295	ng		100
4) Chloromethane	4.55	50	2949	0.066	ng		93
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	20710	0.605	ng		99
10) Ethanol	6.34	45	1917	0.085	ng		82
14) Trichlorofluoromethane	7.24	101	87195	1.722	ng		100
21) Trichlorotrifluoroethane	8.84	151	13661	0.571	ng		96
22) Carbon Disulfide	8.68	76	49481	0.469	ng		100
31) n-Hexane	11.26	57	46023	0.954	ng		99
34) Tetrahydrofuran (THF)	11.76	72	2366	0.126	ng		93
41) Benzene	12.87	78	739891	6.201	ng		100
43) Cyclohexane	13.17	84	103200	2.321	ng		99
51) n-Heptane	14.31	71	40912	1.466	ng		93
58) Toluene	15.82	91	654603	5.234	ng		100
63) n-Octane	16.82	57	4933	0.191	ng	#	79
66) Ethylbenzene	17.98	91	30478	0.219	ng		97
67) m- & p-Xylenes	18.14	91	53877	0.487	ng		100
70) o-Xylene	18.58	91	26886	0.239	ng		94
74) Cumene	19.10	105	22972	0.167	ng		100
79) 1,3,5-Trimethylbenzene	19.75	105	16981	0.151	ng		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042012.D Vial: 1
Acq On : 4 May 2020 12:53 Operator: TD
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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
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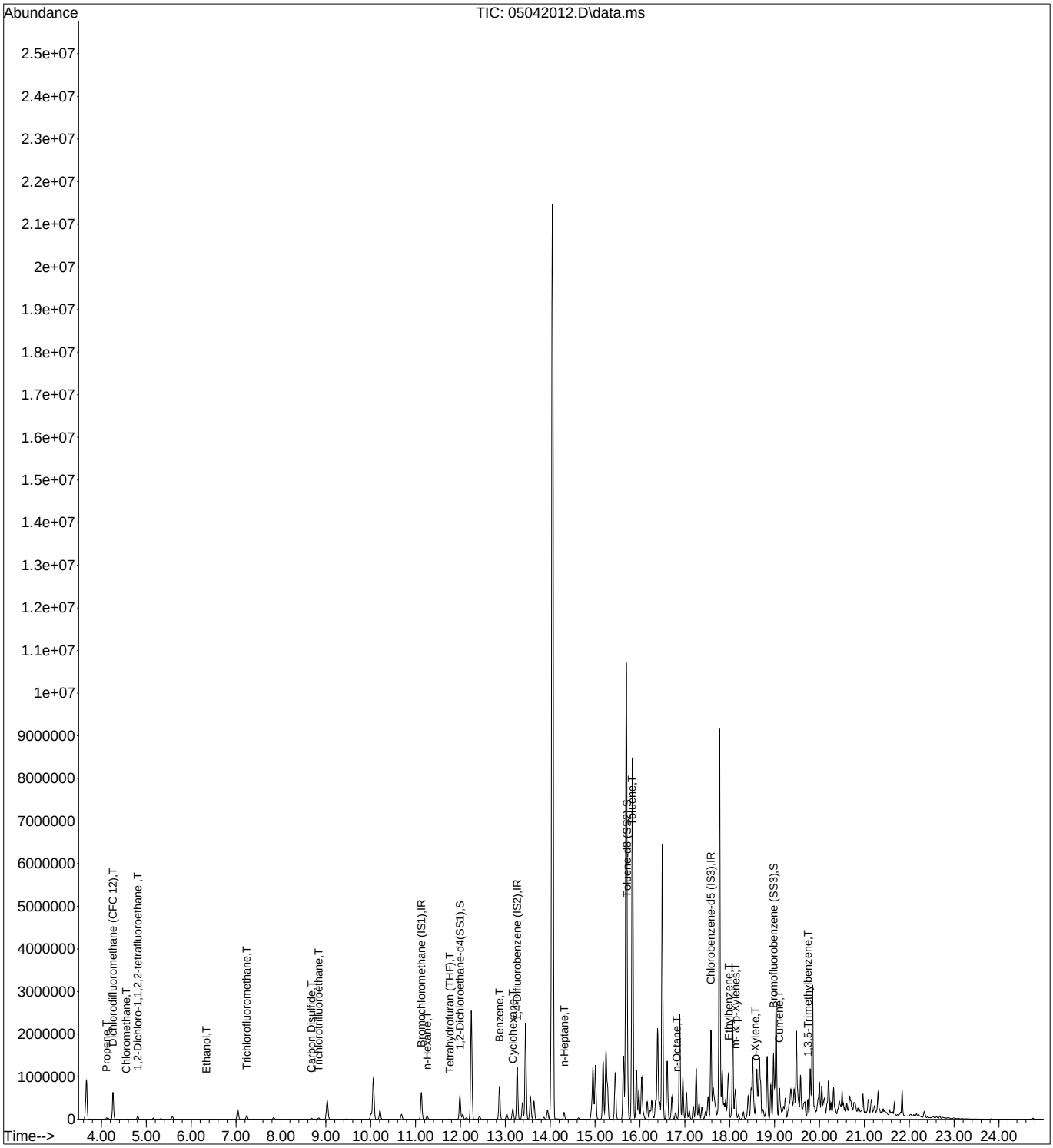
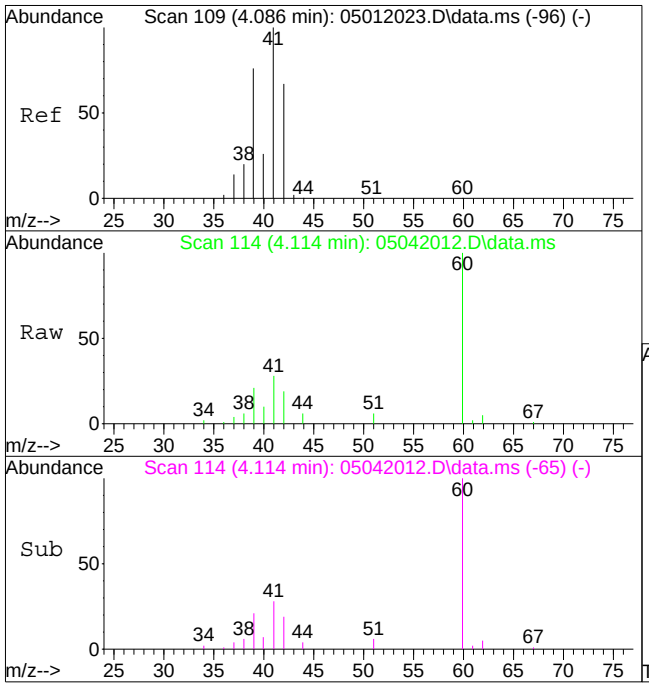
Response via : Initial Calibration
DataAcq Meth:TO15.M

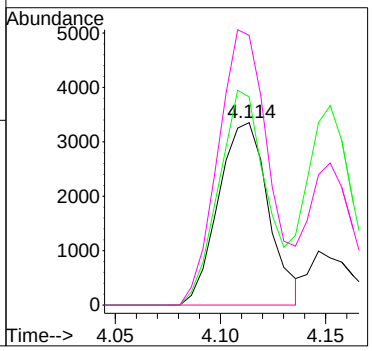


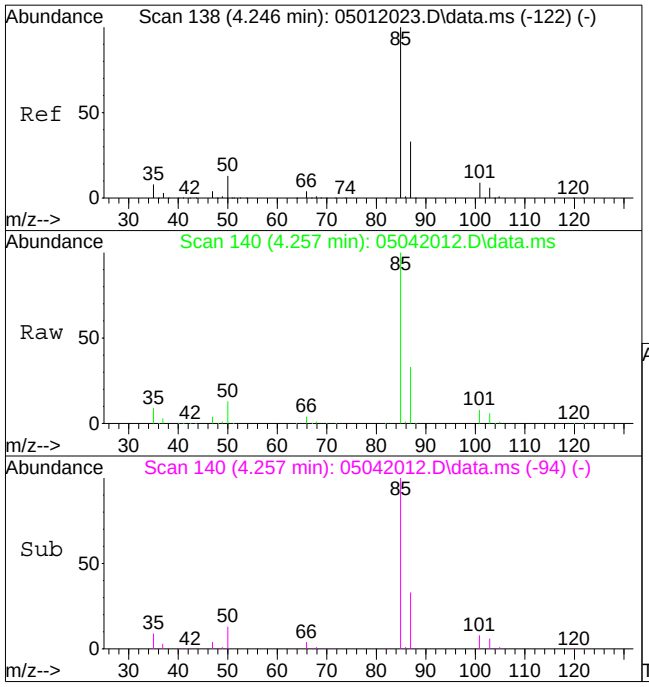


#2
Propene
Concen: 0.19 ng
RT: 4.11 min Scan# 114
Delta R.T. 0.022 min
Lab File: 05042012.D
Acq: 4 May 2020 12:53

Tgt Ion: 42 Resp: 5577

Ion	Ratio	Lower	Upper
42	100		
39	111.4	96.1	136.1
41	153.6	131.9	171.9

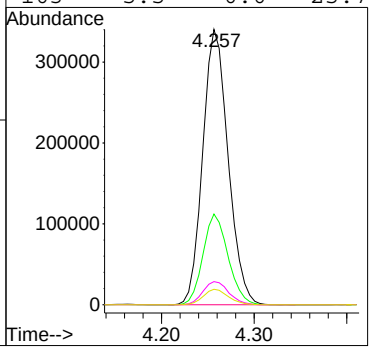


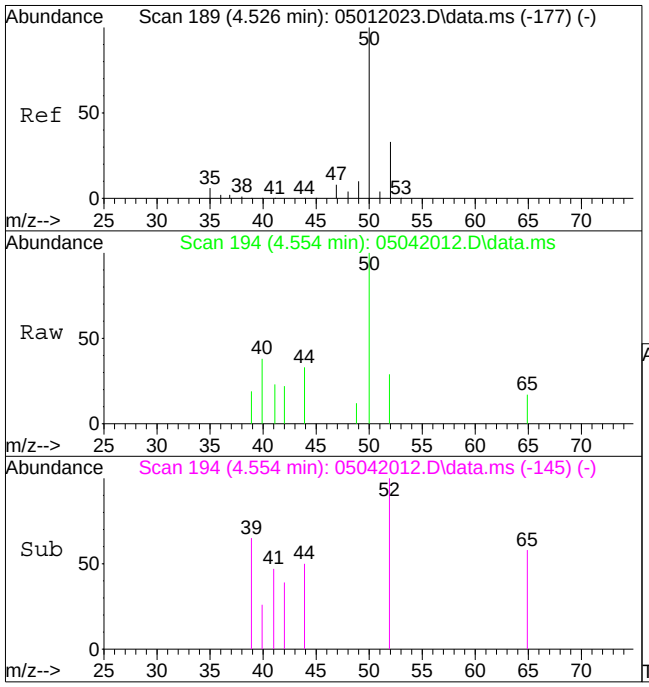


#3
Dichlorodifluoromethane (CFC 12)
Concen: 11.30 ng
RT: 4.26 min Scan# 140
Delta R.T. 0.005 min
Lab File: 05042012.D
Acq: 4 May 2020 12:53

Tgt Ion: 85 Resp: 647355

Ion	Ratio	Lower	Upper
85	100		
87	32.5	12.4	52.4
101	8.6	0.0	28.8
103	5.5	0.0	25.7

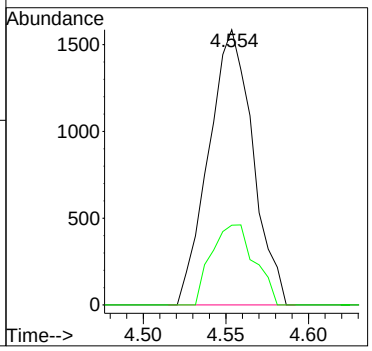


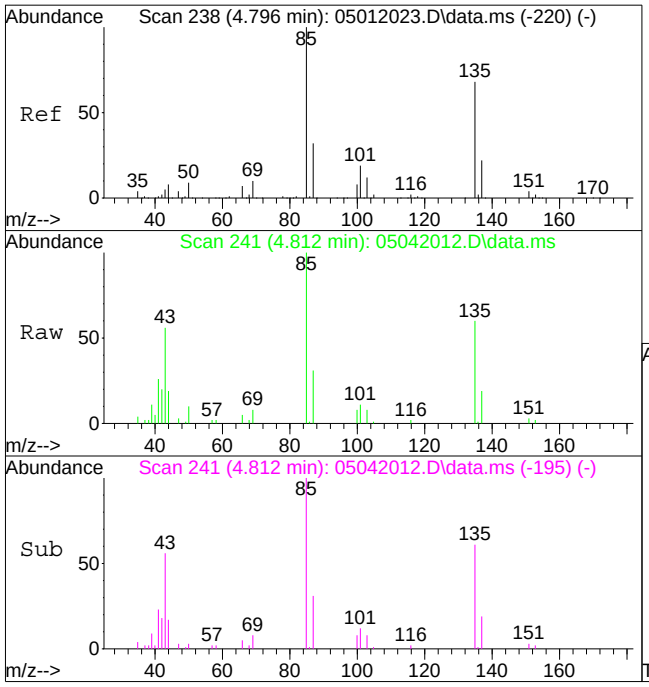


#4
Chloromethane
Concen: 0.07 ng
RT: 4.55 min Scan# 194
Delta R.T. 0.022 min
Lab File: 05042012.D
Acq: 4 May 2020 12:53

Tgt Ion: 50 Resp: 2949

Ion	Ratio	Lower	Upper
50	100		
52	28.5	12.5	52.5

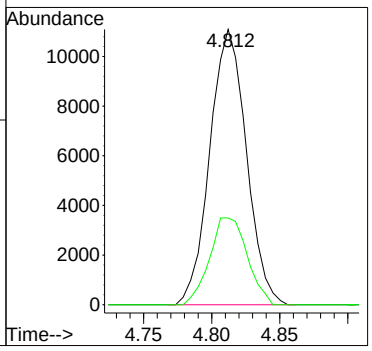


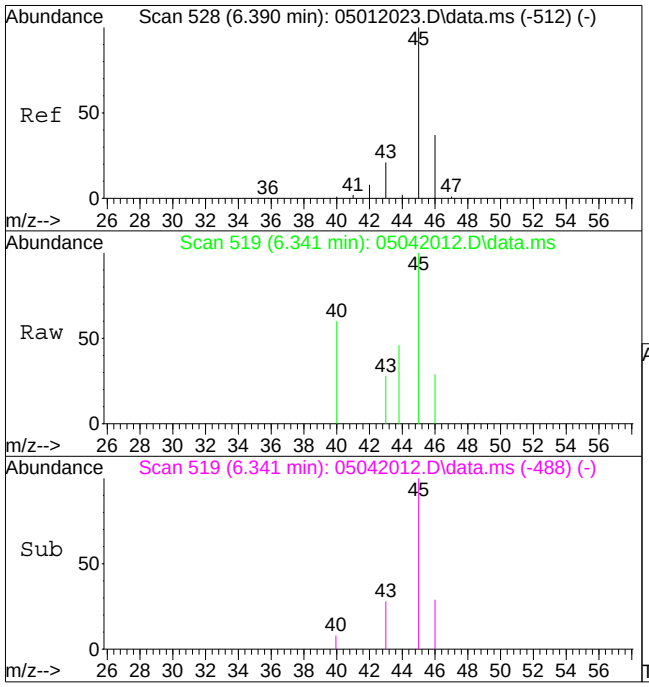


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 0.60 ng
RT: 4.81 min Scan# 241
Delta R.T. 0.005 min
Lab File: 05042012.D
Acq: 4 May 2020 12:53

Tgt Ion:135 Resp: 20710

Ion	Ratio	Lower	Upper
135	100		
137	32.5	12.1	52.1

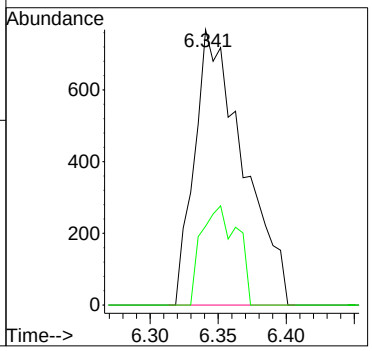


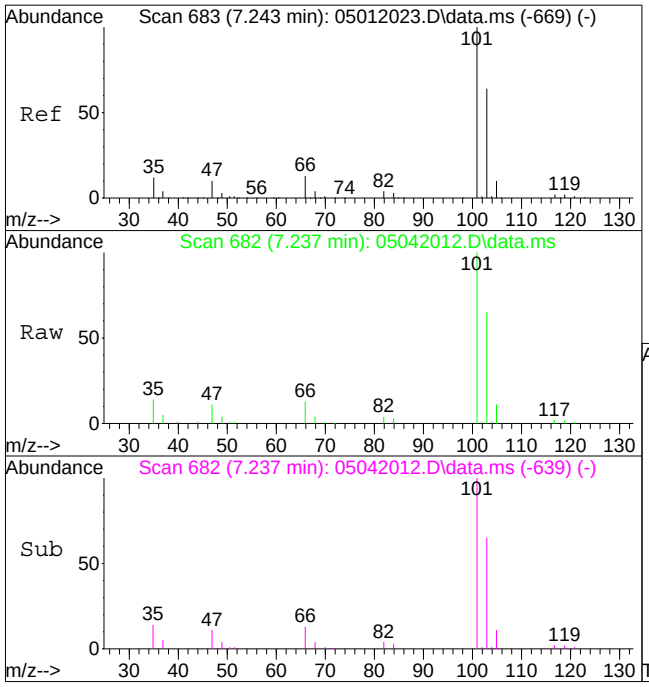


#10
Ethanol
Concen: 0.08 ng
RT: 6.34 min Scan# 519
Delta R.T. -0.077 min
Lab File: 05042012.D
Acq: 4 May 2020 12:53

Tgt Ion: 45 Resp: 1917

Ion	Ratio	Lower	Upper
45	100		
46	26.6	17.2	57.2

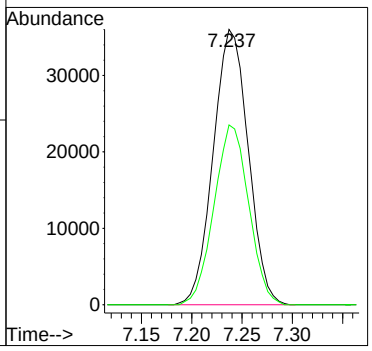


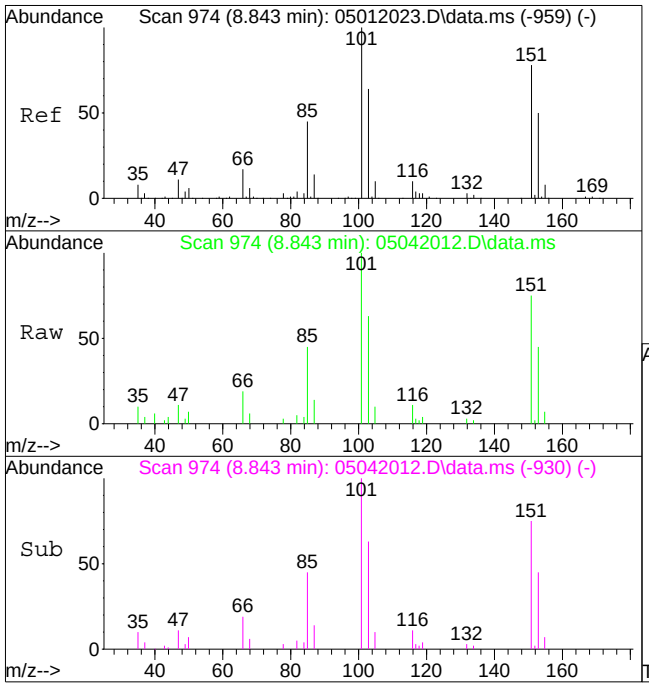


#14
Trichlorofluoromethane
Concen: 1.72 ng
RT: 7.24 min Scan# 682
Delta R.T. -0.011 min
Lab File: 05042012.D
Acq: 4 May 2020 12:53

Tgt Ion:101 Resp: 87195

Ion	Ratio	Lower	Upper
101	100		
103	64.6	44.4	84.4

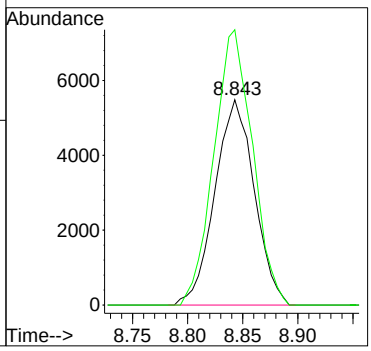


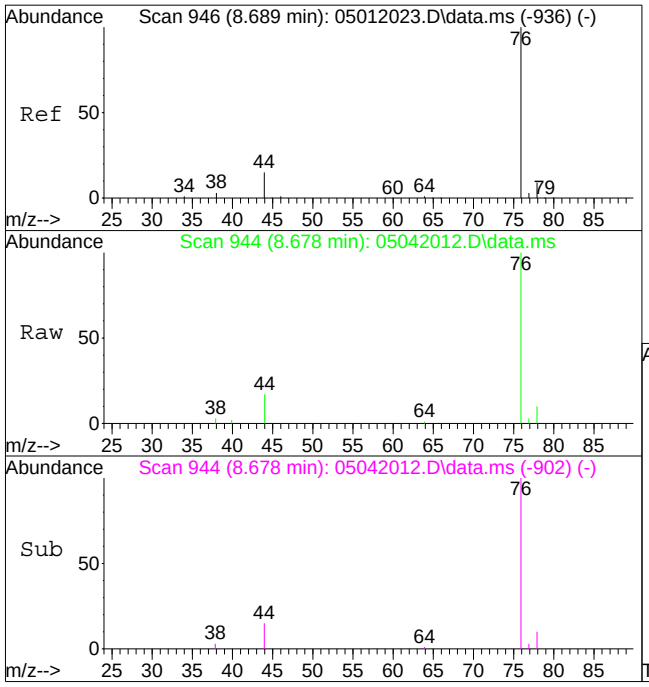


#21
Trichlorotrifluoroethane
Concen: 0.57 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05042012.D
Acq: 4 May 2020 12:53

Tgt Ion:151 Resp: 13661

Ion	Ratio	Lower	Upper
151	100		
101	131.3	107.3	147.3

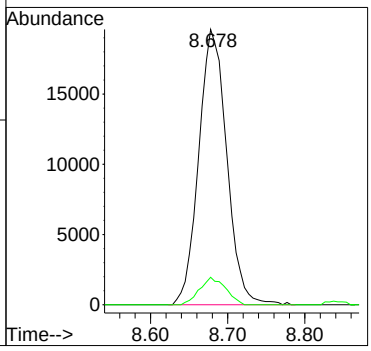


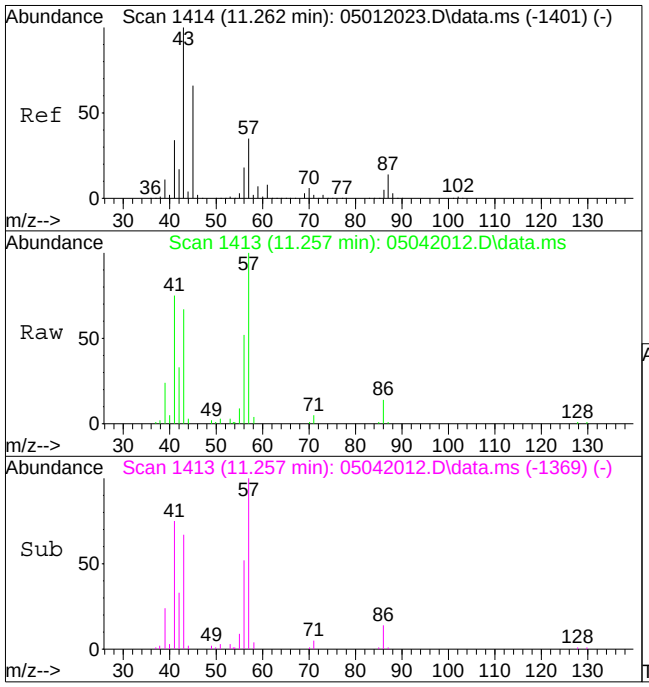


#22
Carbon Disulfide
Concen: 0.47 ng
RT: 8.68 min Scan# 944
Delta R.T. -0.017 min
Lab File: 05042012.D
Acq: 4 May 2020 12:53

Tgt Ion: 76 Resp: 49481

Ion	Ratio	Lower	Upper
76	100		
78	9.2	0.0	29.2

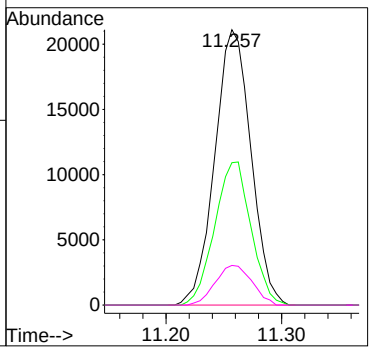


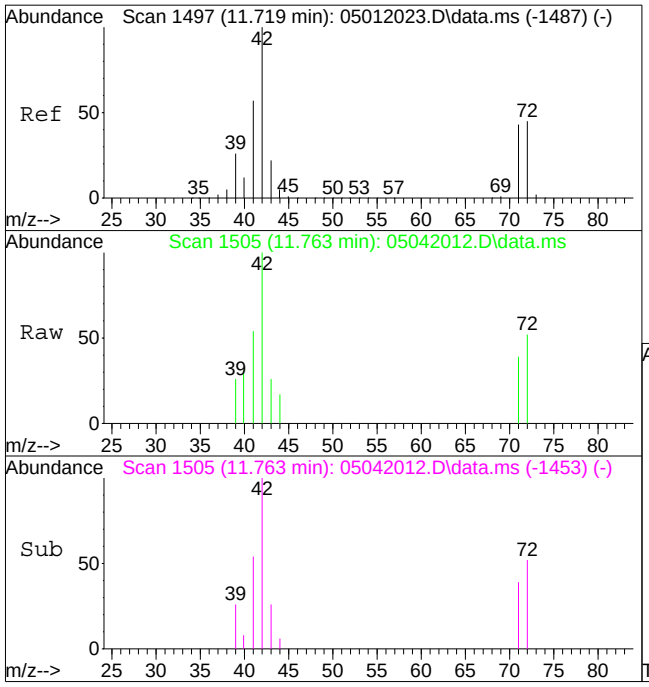


#31
n-Hexane
Concen: 0.95 ng
RT: 11.26 min Scan# 1413
Delta R.T. -0.006 min
Lab File: 05042012.D
Acq: 4 May 2020 12:53

Tgt Ion: 57 Resp: 46023

Ion	Ratio	Lower	Upper
57	100		
56	52.0	41.4	62.0
86	14.6	12.4	18.6

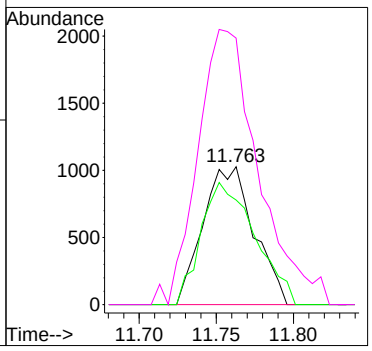


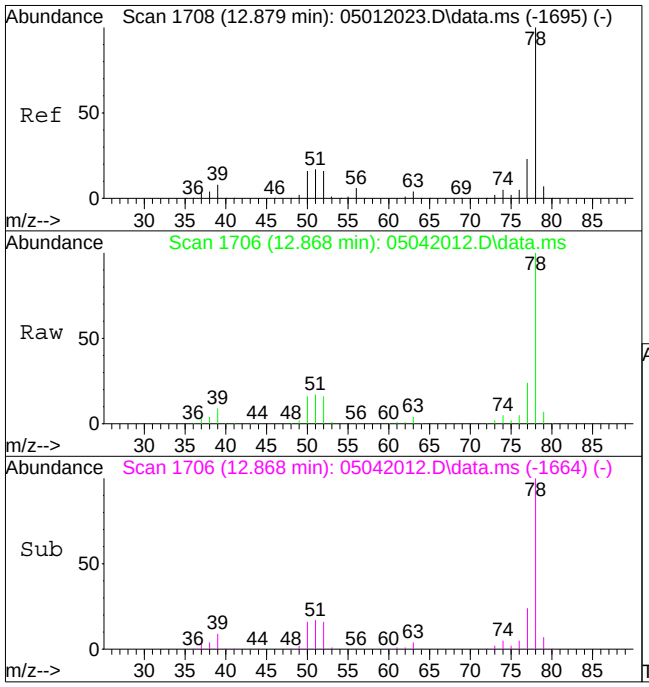


#34
Tetrahydrofuran (THF)
Concen: 0.13 ng
RT: 11.76 min Scan# 1505
Delta R.T. 0.038 min
Lab File: 05042012.D
Acq: 4 May 2020 12:53

Tgt Ion: 72 Resp: 2366

Ion	Ratio	Lower	Upper
72	100		
71	93.7	77.0	117.0
42	237.7	204.6	244.6

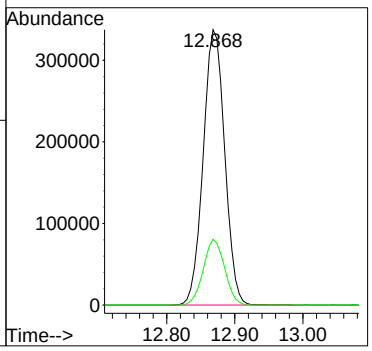


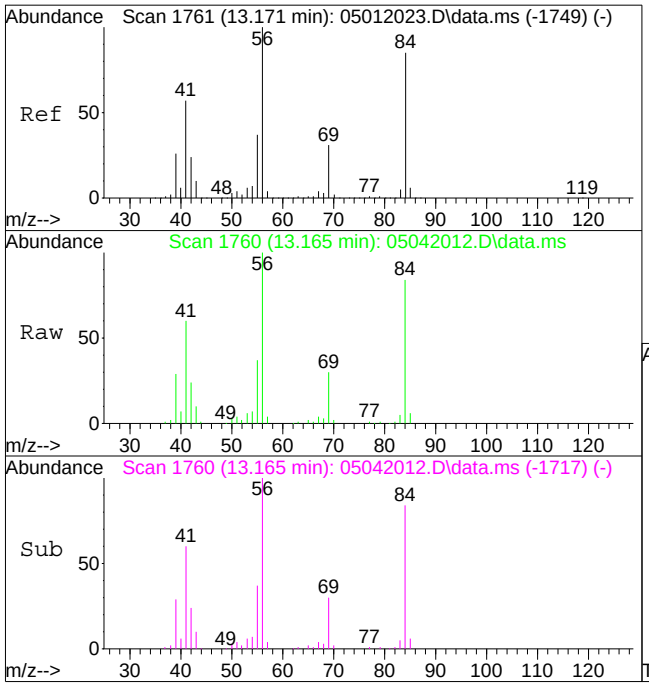


#41
Benzene
Concen: 6.20 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05042012.D
Acq: 4 May 2020 12:53

Tgt Ion: 78 Resp: 739891

Ion	Ratio	Lower	Upper
78	100		
77	23.6	3.4	43.4

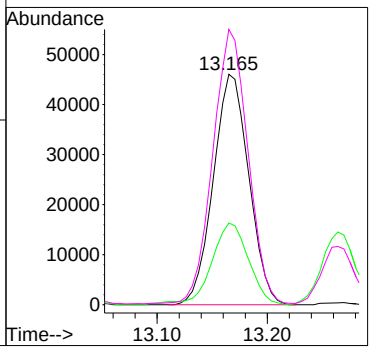


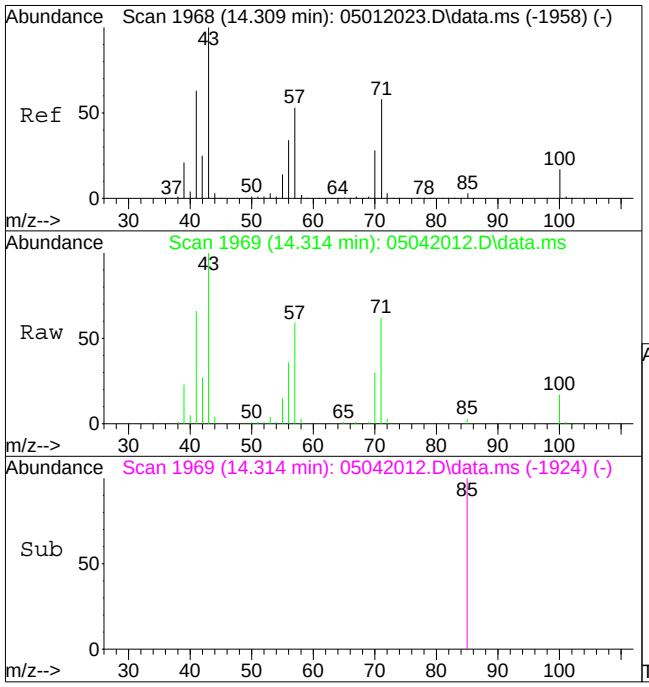


#43
Cyclohexane
Concen: 2.32 ng
RT: 13.17 min Scan# 1760
Delta R.T. -0.011 min
Lab File: 05042012.D
Acq: 4 May 2020 12:53

Tgt Ion: 84 Resp: 103200

Ion	Ratio	Lower	Upper
84	100		
69	36.8	16.5	56.5
56	119.1	97.4	137.4

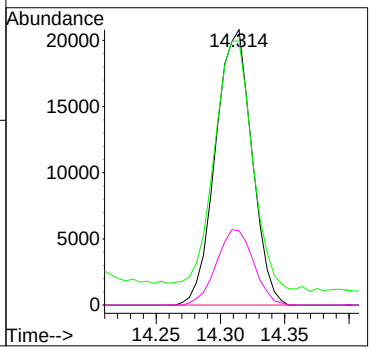


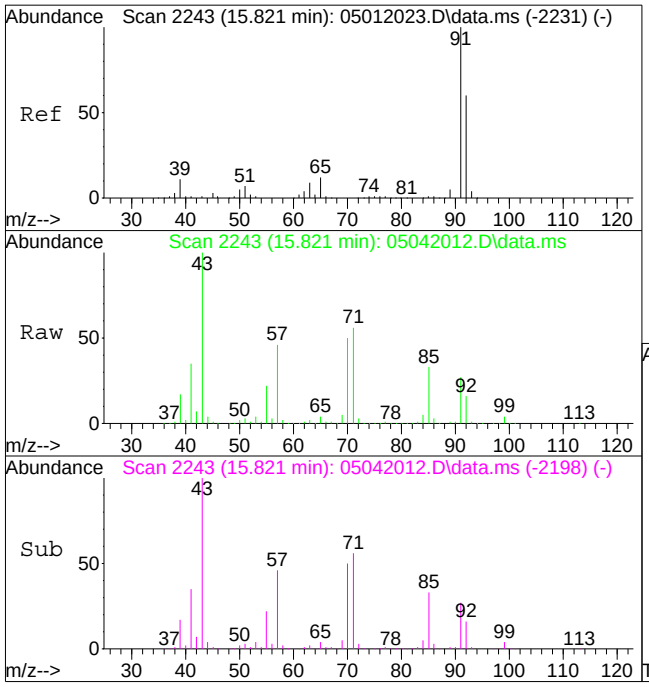


#51
n-Heptane
Concen: 1.47 ng
RT: 14.31 min Scan# 1969
Delta R.T. -0.000 min
Lab File: 05042012.D
Acq: 4 May 2020 12:53

Tgt Ion: 71 Resp: 40912

Ion	Ratio	Lower	Upper
71	100		
57	100.0	71.0	111.0
100	28.0	8.4	48.4

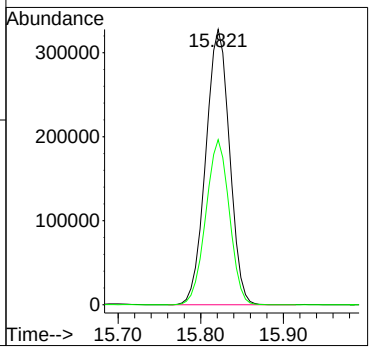


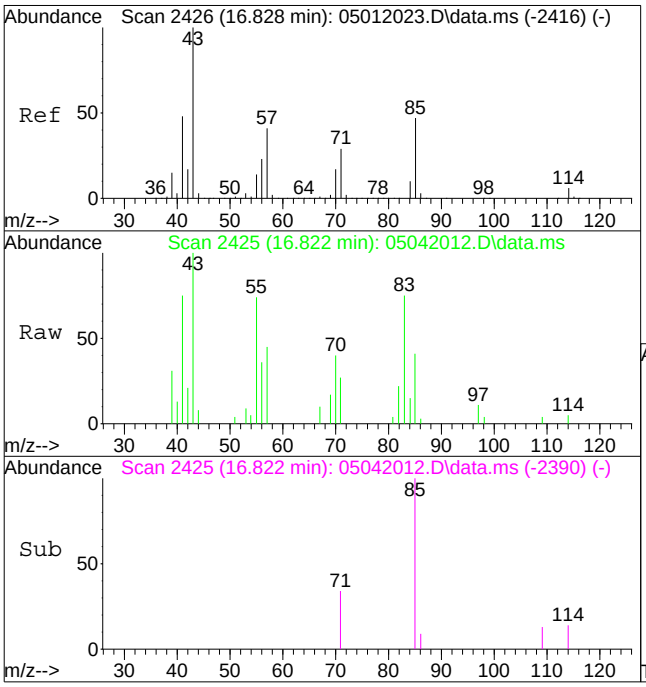


#58
Toluene
Concen: 5.23 ng
RT: 15.82 min Scan# 2243
Delta R.T. -0.000 min
Lab File: 05042012.D
Acq: 4 May 2020 12:53

Tgt Ion: 91 Resp: 654603

Ion	Ratio	Lower	Upper
91	100		
92	59.3	39.4	79.4

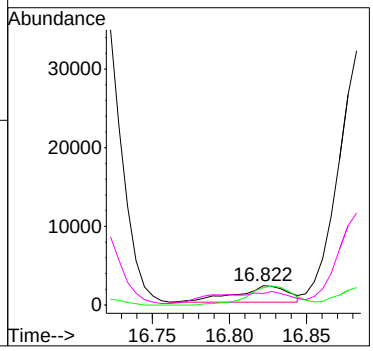


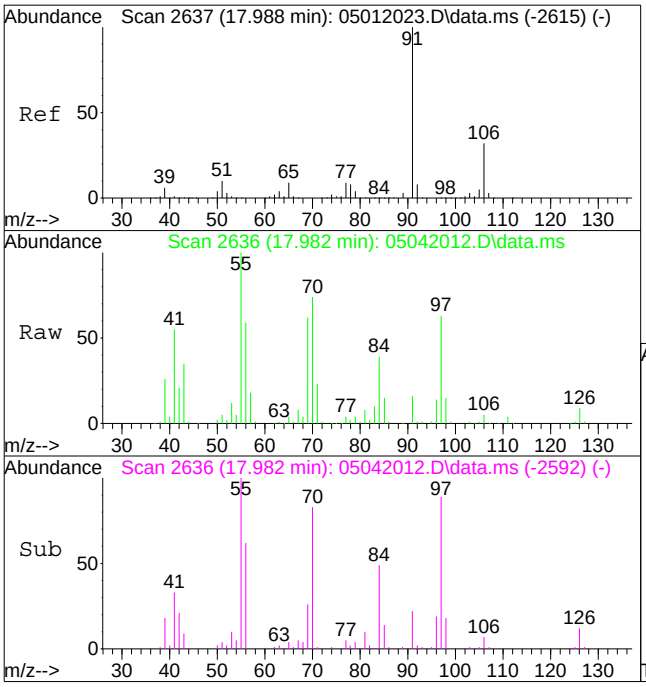


#63
n-Octane
Concen: 0.19 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05042012.D
Acq: 4 May 2020 12:53

Tgt Ion: 57 Resp: 4933

Ion	Ratio	Lower	Upper
57	100		
85	101.1	91.0	136.4
71	99.6	56.2	84.2#

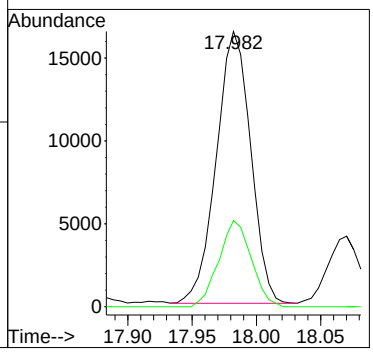


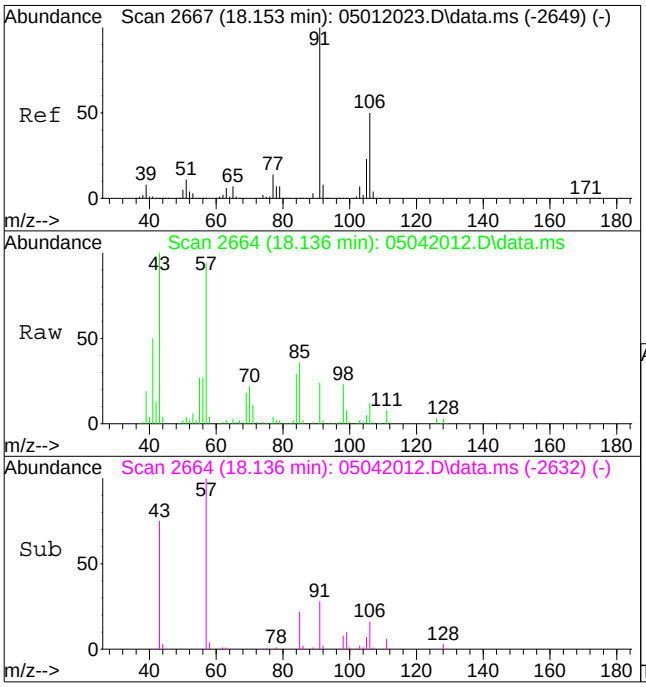


#66
Ethylbenzene
Concen: 0.22 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05042012.D
Acq: 4 May 2020 12:53

Tgt Ion: 91 Resp: 30478

Ion	Ratio	Lower	Upper
91	100		
106	30.0	11.6	51.6

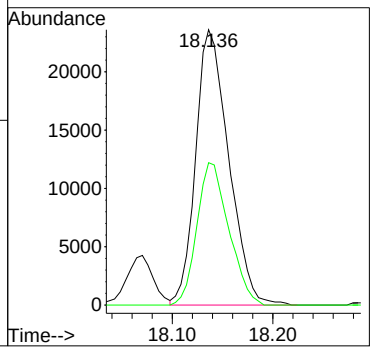


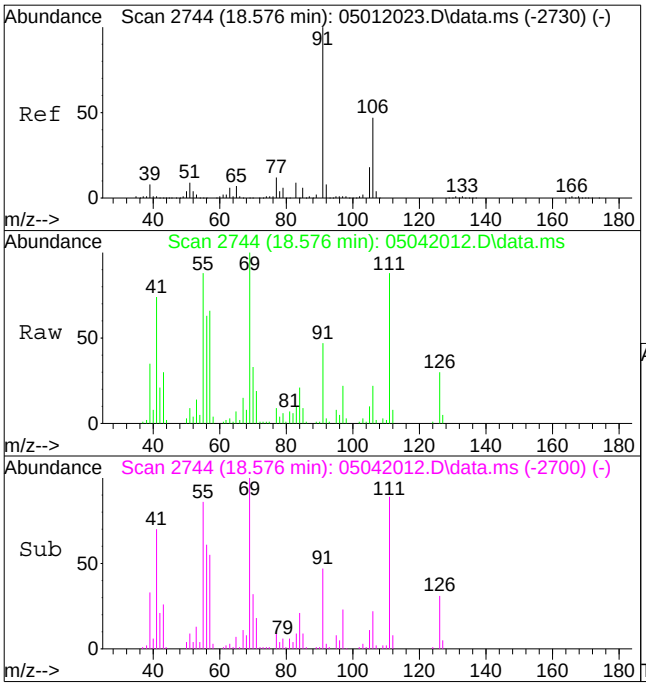


#67
m- & p-Xylenes
Concen: 0.49 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05042012.D
Acq: 4 May 2020 12:53

Tgt Ion: 91 Resp: 53877

Ion	Ratio	Lower	Upper
91	100		
106	49.8	29.7	69.7

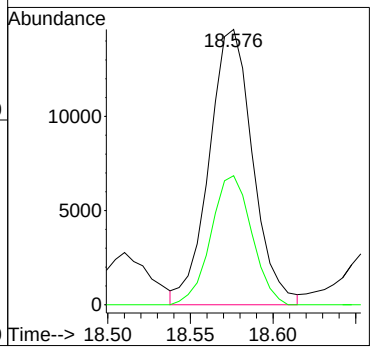


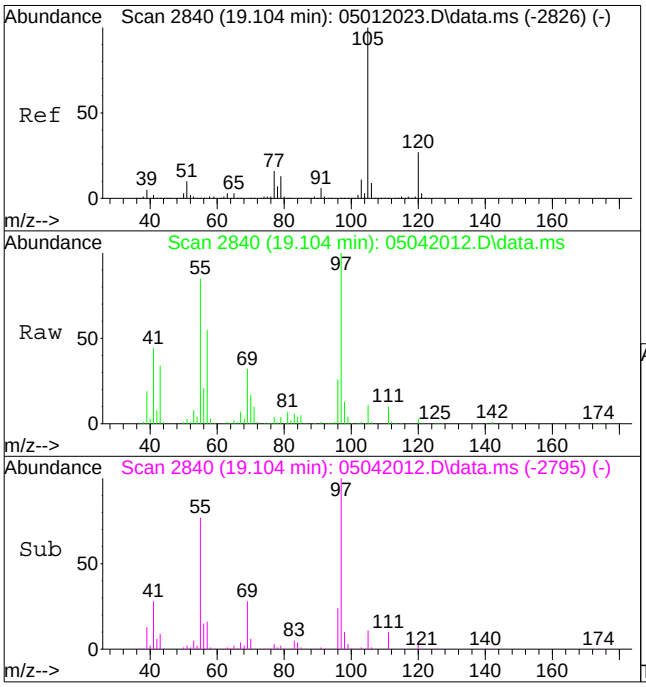


#70
o-Xylene
Concen: 0.24 ng
RT: 18.58 min Scan# 2744
Delta R.T. -0.006 min
Lab File: 05042012.D
Acq: 4 May 2020 12:53

Tgt Ion: 91 Resp: 26886

Ion	Ratio	Lower	Upper
91	100		
106	43.7	27.5	67.5

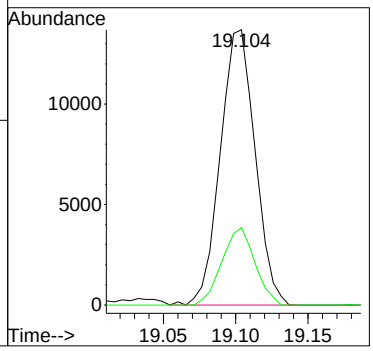


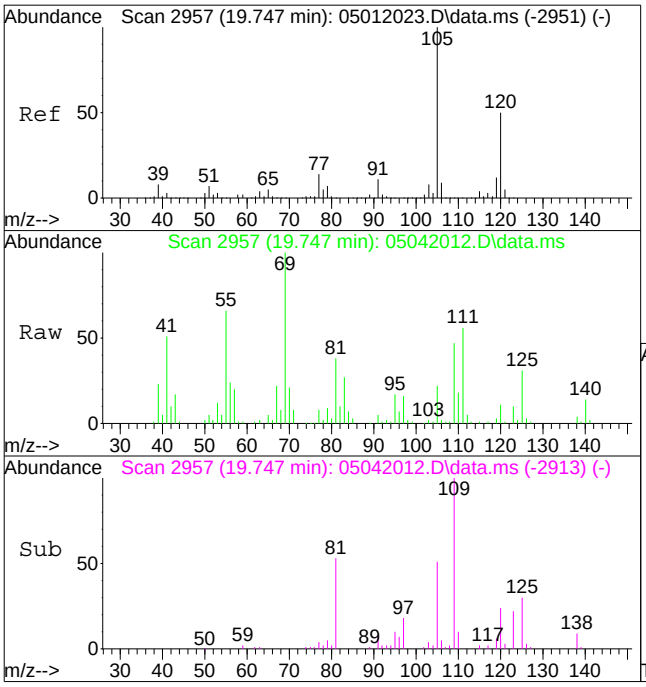


#74
Cumene
Concen: 0.17 ng
RT: 19.10 min Scan# 2840
Delta R.T. -0.000 min
Lab File: 05042012.D
Acq: 4 May 2020 12:53

Tgt Ion:105 Resp: 22972

Ion	Ratio	Lower	Upper
105	100		
120	26.6	6.8	46.8

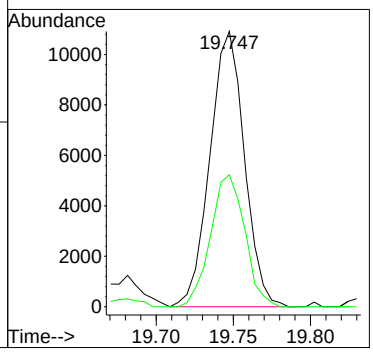




#79
1,3,5-Trimethylbenzene
Concen: 0.15 ng
RT: 19.75 min Scan# 2957
Delta R.T. -0.006 min
Lab File: 05042012.D
Acq: 4 May 2020 12:53

Tgt Ion:105 Resp: 16981

Ion	Ratio	Lower	Upper
105	100		
120	47.5	29.9	69.9



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042035.D Vial: 7
Acq On : 5 May 2020 2:01 Operator: TD
Sample : P2002105-020 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 15:09:30 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/6/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	267653	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.28	114	1146237	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.58	82	539733	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	429151	11.831	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.64%				
57) Toluene-d8 (SS2)	15.72	98	1130731	12.360	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.88%				
73) Bromofluorobenzene (SS3)	18.98	174	445835	13.544	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.32%				
Target Compounds							Qvalue
2) Propene	4.11	42	4717	0.152	ng		98
3) Dichlorodifluoromethan...	4.26	85	60817	1.003	ng		100
4) Chloromethane	4.54	50	1610	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	1152	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.32	45	36307	1.517	ng		99
11) Acetonitrile	6.59	41	3222	0.059	ng	#	65
12) Acrolein	6.80	56	2042	0.108	ng		99
13) Acetone	7.01	58	63373	2.647	ng		98
14) Trichlorofluoromethane	7.25	101	20263	0.378	ng		99
15) 2-Propanol (Isopropanol)	7.52	45	26716	0.369	ng		91
16) Acrylonitrile	7.75	53	268	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.44	59	2548	N.D.			
19) Methylene Chloride	8.40	84	961	N.D.			
20) 3-Chloro-1-propene (Al...	8.49	41	619	N.D.			
21) Trichlorotrifluoroethane	8.84	151	88498	3.498	ng		99
22) Carbon Disulfide	8.67	76	140810	1.263	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.09	73	1498	N.D.			
26) Vinyl Acetate	10.19	86	3754	0.503	ng	#	30
27) 2-Butanone (MEK)	10.48	72	30334	1.486	ng		97
28) cis-1,2-Dichloroethene	10.84	61	238	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.30	61	1051	0.089	ng	#	9
31) n-Hexane	11.26	57	1143	N.D.			
32) Chloroform	11.30	83	111259	2.088	ng		99
34) Tetrahydrofuran (THF)	11.77	72	2463	0.124	ng	#	53
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	14950	0.122	ng		98
42) Carbon Tetrachloride	13.03	117	73252	1.752	ng		100
43) Cyclohexane	13.17	84	2030	N.D.			
44) tert-Amyl Methyl Ether	13.55	73	579	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	13.97	130	21010229m	661.266	ng		
48) 1,4-Dioxane	13.97	88	606	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042035.D Vial: 7
Acq On : 5 May 2020 2:01 Operator: TD
Sample : P2002105-020 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 15:09:30 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

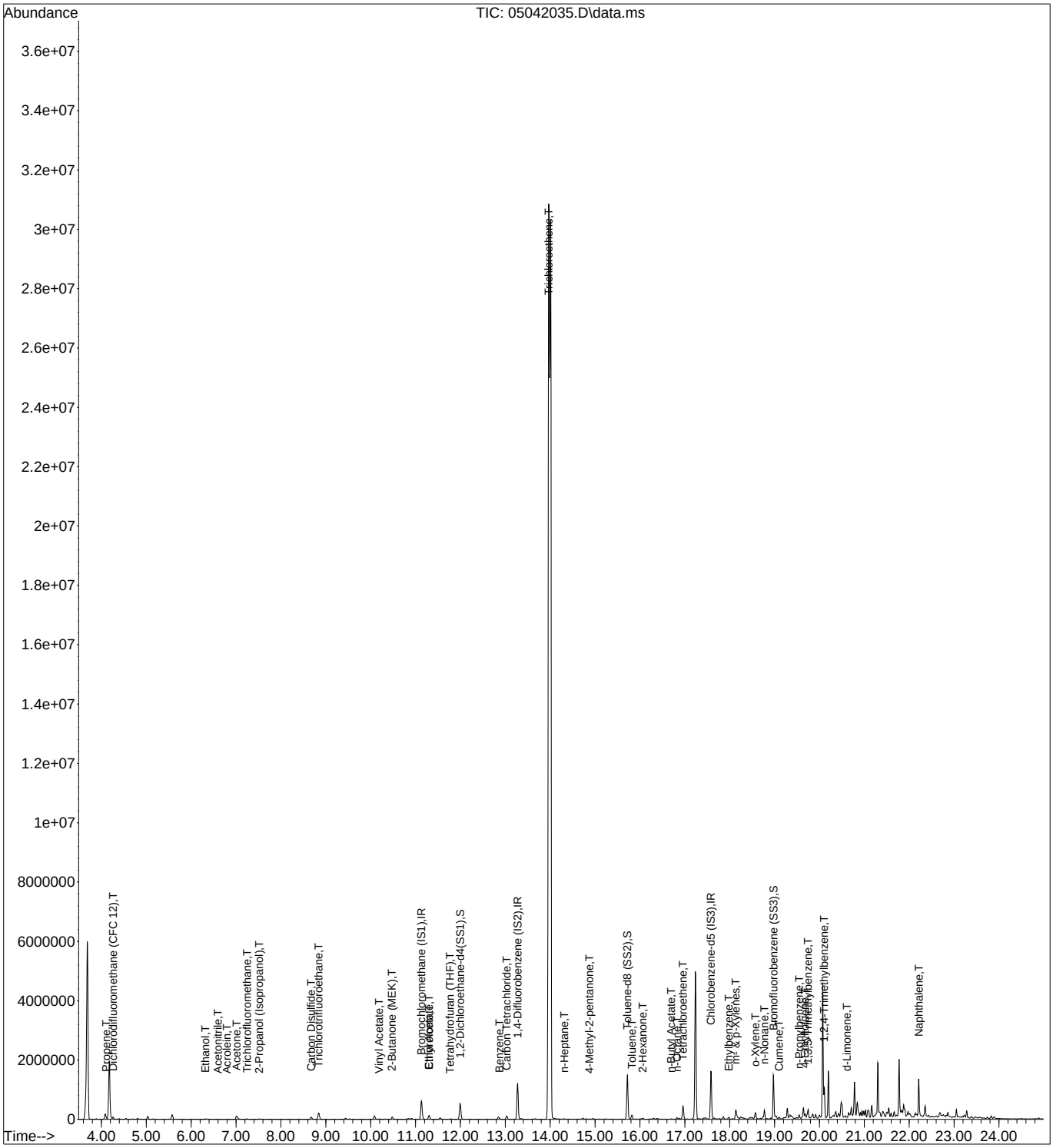
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.31	71	3797	0.132 ng		96
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.88	58	3181	0.116 ng		82
54) trans-1,3-Dichloropropene	15.35	75	121	N.D.		
55) 1,1,2-Trichloroethane	15.55	97	124	N.D.		
58) Toluene	15.82	91	119056	1.010 ng		100
59) 2-Hexanone	16.06	43	26072m	0.403 ng		
60) Dibromochloromethane	16.22	129	131	N.D.		
61) 1,2-Dibromoethane	16.48	107	946	N.D.		
62) n-Butyl Acetate	16.70	43	10646	0.153 ng		90
63) n-Octane	16.83	57	11734	0.481 ng		94
64) Tetrachloroethene	16.96	166	146551	4.400 ng		100
65) Chlorobenzene	17.66	112	3717	N.D.		
66) Ethylbenzene	17.98	91	46679	0.355 ng		99
67) m- & p-Xylenes	18.14	91	214682	2.058 ng		98
68) Bromoform	18.21	173	193	N.D.		
69) Styrene	18.47	104	1602	N.D.		
70) o-Xylene	18.57	91	105183	0.993 ng		99
71) n-Nonane	18.77	43	113245m	2.015 ng		
72) 1,1,2,2-Tetrachloroethane	18.57	83	414	N.D.		
74) Cumene	19.10	105	20074	0.154 ng		99
75) alpha-Pinene	19.45	93	1118	N.D.		
76) n-Propylbenzene	19.55	91	83188	0.539 ng		96
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.68	105	72515	0.594 ng		100
79) 1,3,5-Trimethylbenzene	19.74	105	103486	0.976 ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	20.10	105	511252	4.799 ng		91
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.20	91	778	N.D.		
85) 1,3-Dichlorobenzene	20.25	146	289	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	739	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D. d		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	20.61	146	344	N.D.		
91) d-Limonene	20.61	68	3852	0.092 ng	#	73
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.11	180	736	N.D.		
95) Naphthalene	22.22	128	231690	1.782 ng		97
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	22.54	225	266	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042035.D Vial: 7
Acq On : 5 May 2020 2:01 Operator: TD
Sample : P2002105-020 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 15:09:30 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042035.D Vial: 7
Acq On : 5 May 2020 2:01 Operator: TD
Sample : P2002105-020 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 15:09:30 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/6/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

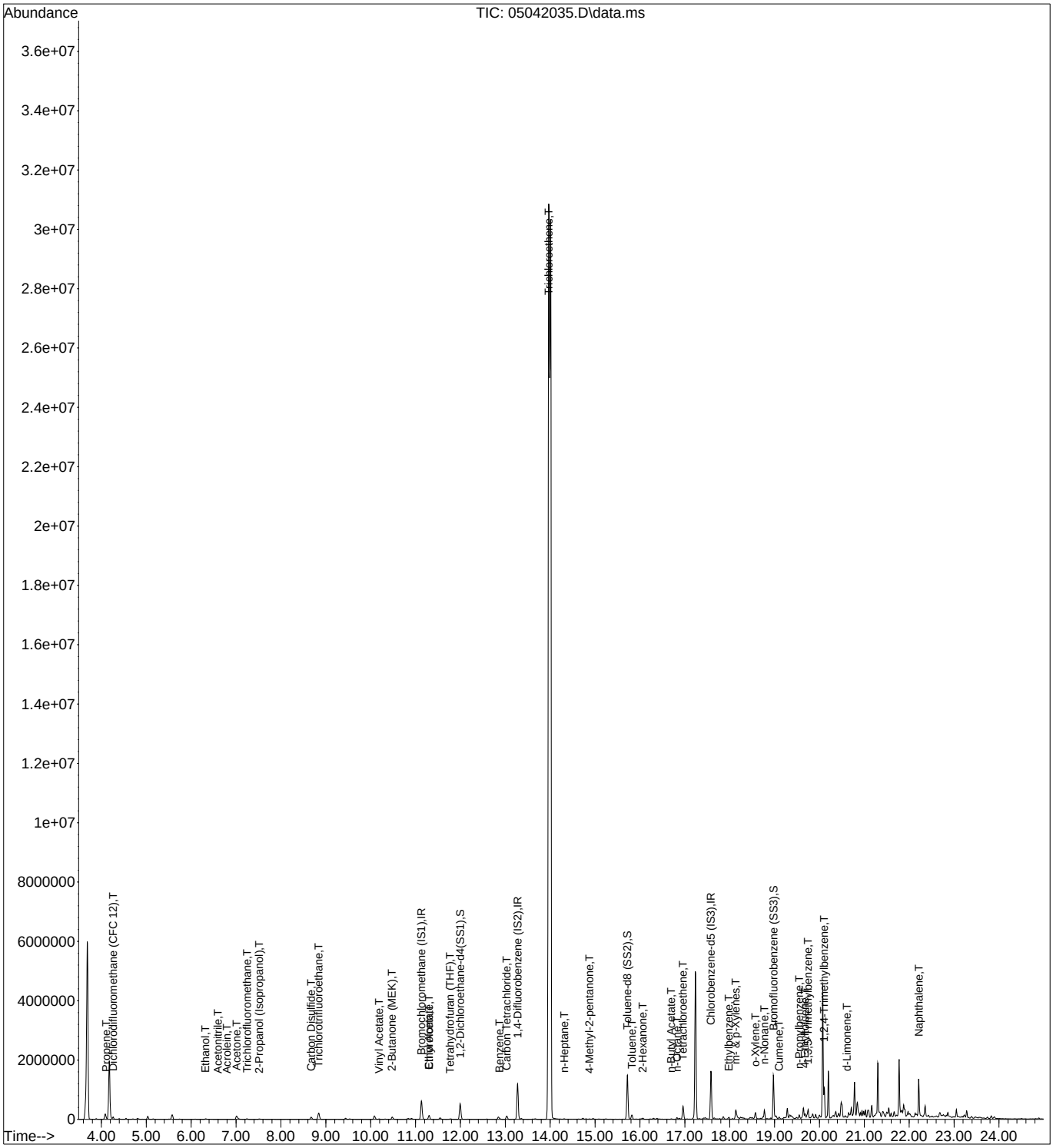
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	267653	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.28	114	1146237	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.58	82	539733	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	429151	11.831	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.64%				
57) Toluene-d8 (SS2)	15.72	98	1130731	12.360	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.88%				
73) Bromofluorobenzene (SS3)	18.98	174	445835	13.544	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.32%				
Target Compounds							Qvalue
2) Propene	4.11	42	4717	0.152	ng		98
3) Dichlorodifluoromethan...	4.26	85	60817	1.003	ng		100
10) Ethanol	6.32	45	36307	1.517	ng		99
11) Acetonitrile	6.59	41	3222	0.059	ng	#	65
12) Acrolein	6.80	56	2042	0.108	ng		99
13) Acetone	7.01	58	63373	2.647	ng		98
14) Trichlorofluoromethane	7.25	101	20263	0.378	ng		99
15) 2-Propanol (Isopropanol)	7.52	45	26716	0.369	ng		91
21) Trichlorotrifluoroethane	8.84	151	88498	3.498	ng		99
22) Carbon Disulfide	8.67	76	140810	1.263	ng		99
26) Vinyl Acetate	10.19	86	3754	0.503	ng	#	30
27) 2-Butanone (MEK)	10.48	72	30334	1.486	ng		97
30) Ethyl Acetate	11.30	61	1051	0.089	ng	#	9
32) Chloroform	11.30	83	111259	2.088	ng		99
34) Tetrahydrofuran (THF)	11.77	72	2463	0.124	ng	#	53
41) Benzene	12.87	78	14950	0.122	ng		98
42) Carbon Tetrachloride	13.03	117	73252	1.752	ng		100
47) Trichloroethene	13.97	130	21010229m	661.266	ng		
51) n-Heptane	14.31	71	3797	0.132	ng		96
53) 4-Methyl-2-pentanone	14.88	58	3181	0.116	ng		82
58) Toluene	15.82	91	119056	1.010	ng		100
59) 2-Hexanone	16.06	43	26072m	0.403	ng		
62) n-Butyl Acetate	16.70	43	10646	0.153	ng		90
63) n-Octane	16.83	57	11734	0.481	ng		94
64) Tetrachloroethene	16.96	166	146551	4.400	ng		100
66) Ethylbenzene	17.98	91	46679	0.355	ng		99
67) m- & p-Xylenes	18.14	91	214682	2.058	ng		98
70) o-Xylene	18.57	91	105183	0.993	ng		99
71) n-Nonane	18.77	43	113245m	2.015	ng		
74) Cumene	19.10	105	20074	0.154	ng		99
76) n-Propylbenzene	19.55	91	83188	0.539	ng		96
78) 4-Ethyltoluene	19.68	105	72515	0.594	ng		100
79) 1,3,5-Trimethylbenzene	19.74	105	103486	0.976	ng		99
82) 1,2,4-Trimethylbenzene	20.10	105	511252	4.799	ng		91
91) d-Limonene	20.61	68	3852	0.092	ng	#	73
95) Naphthalene	22.22	128	231690	1.782	ng		97

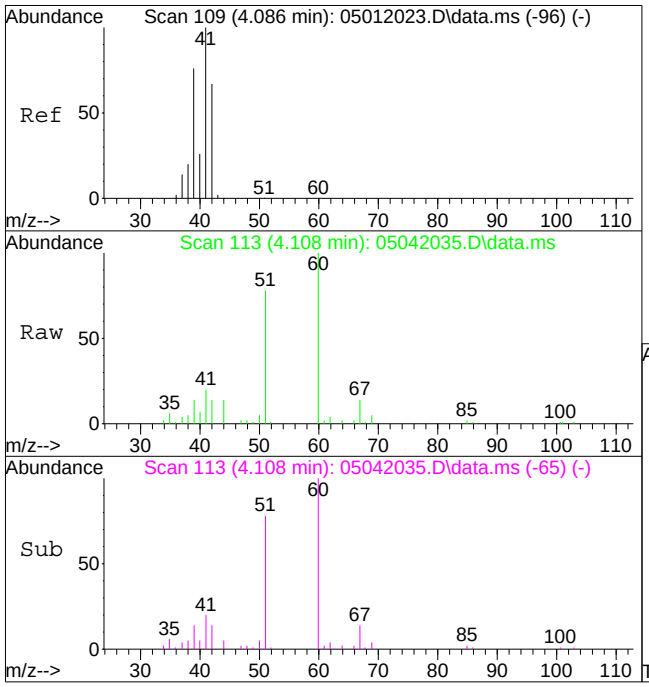
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042035.D Vial: 7
Acq On : 5 May 2020 2:01 Operator: TD
Sample : P2002105-020 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 15:09:30 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

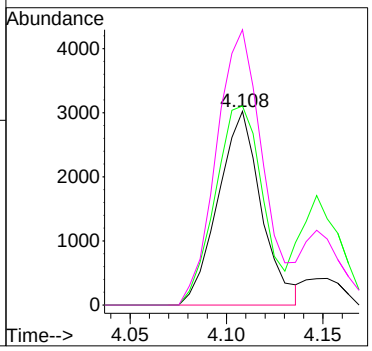


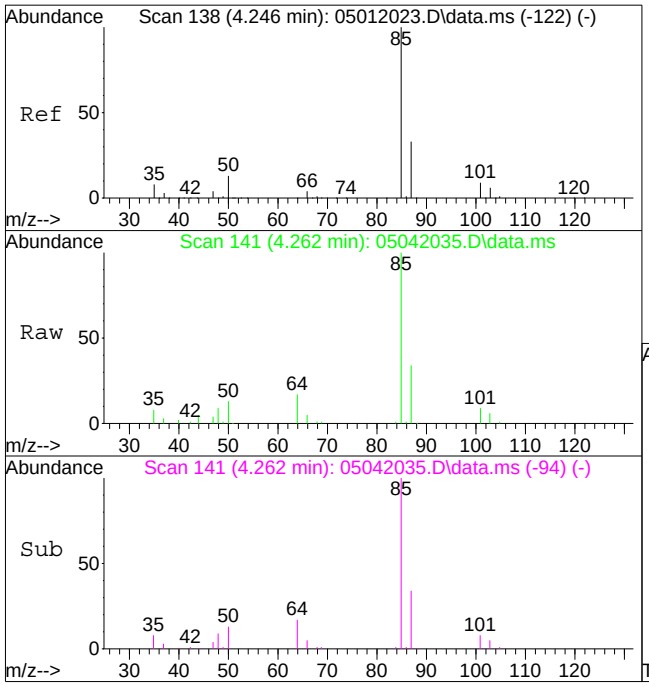


#2
Propene
Concen: 0.15 ng
RT: 4.11 min Scan# 113
Delta R.T. 0.016 min
Lab File: 05042035.D
Acq: 5 May 2020 2:01

Tgt Ion: 42 Resp: 4717

Ion	Ratio	Lower	Upper
42	100		
39	113.3	96.1	136.1
41	154.0	131.9	171.9

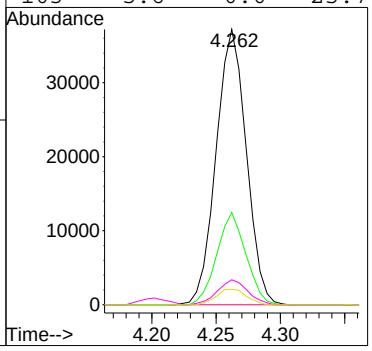


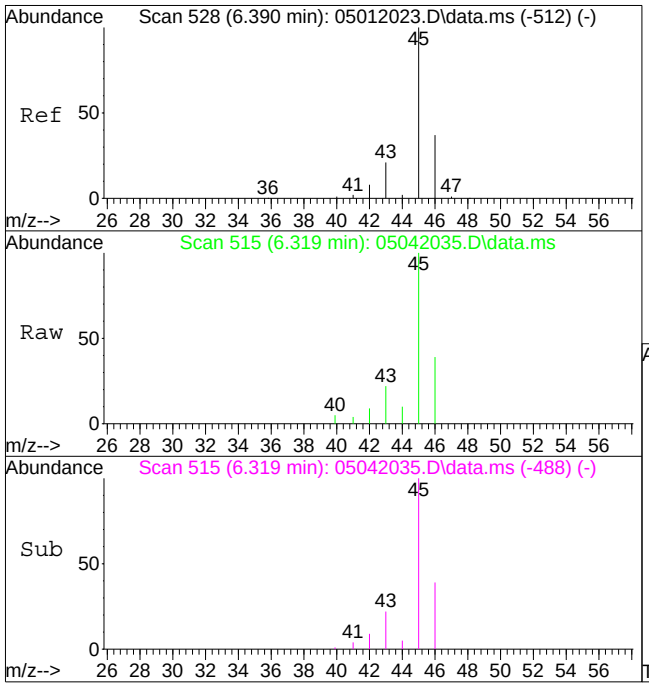


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.00 ng
RT: 4.26 min Scan# 141
Delta R.T. 0.011 min
Lab File: 05042035.D
Acq: 5 May 2020 2:01

Tgt Ion: 85 Resp: 60817

Ion	Ratio	Lower	Upper
85	100		
87	32.2	12.4	52.4
101	9.1	0.0	28.8
103	5.6	0.0	25.7

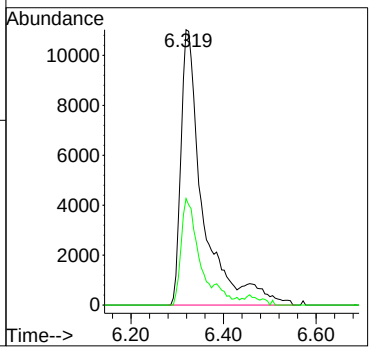


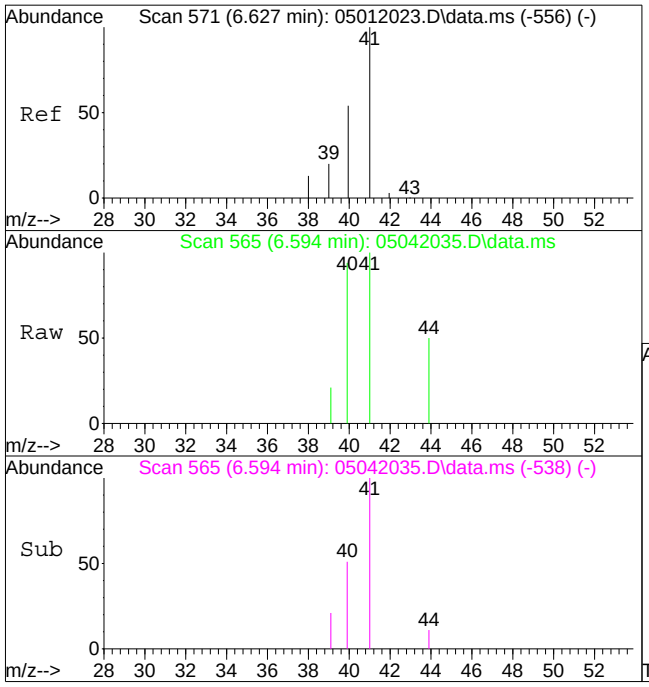


#10
Ethanol
Concen: 1.52 ng
RT: 6.32 min Scan# 515
Delta R.T. -0.099 min
Lab File: 05042035.D
Acq: 5 May 2020 2:01

Tgt Ion: 45 Resp: 36307

Ion	Ratio	Lower	Upper
45	100		
46	36.9	17.2	57.2

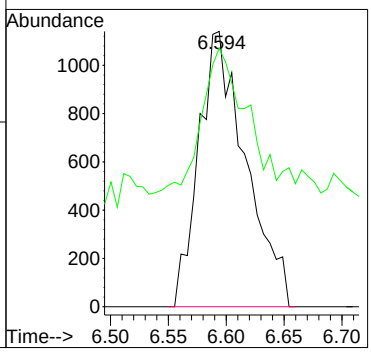


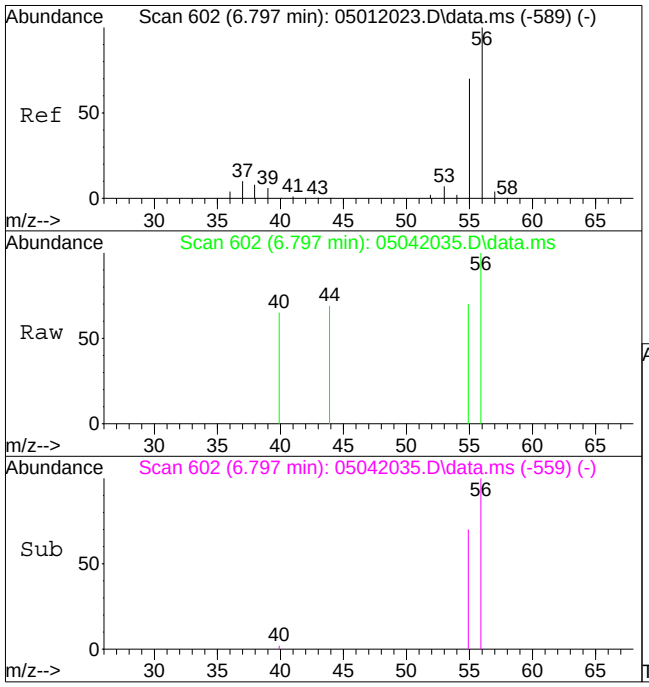


#11
Acetonitrile
Concen: 0.06 ng
RT: 6.59 min Scan# 565
Delta R.T. -0.050 min
Lab File: 05042035.D
Acq: 5 May 2020 2:01

Tgt Ion: 41 Resp: 3222

Ion	Ratio	Lower	Upper
41	100		
40	78.6	33.6	73.6#

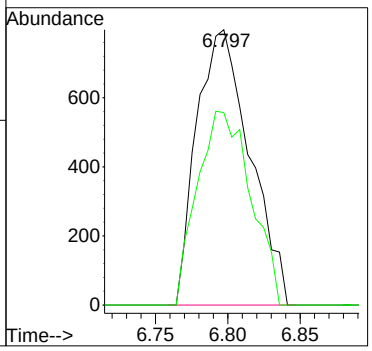


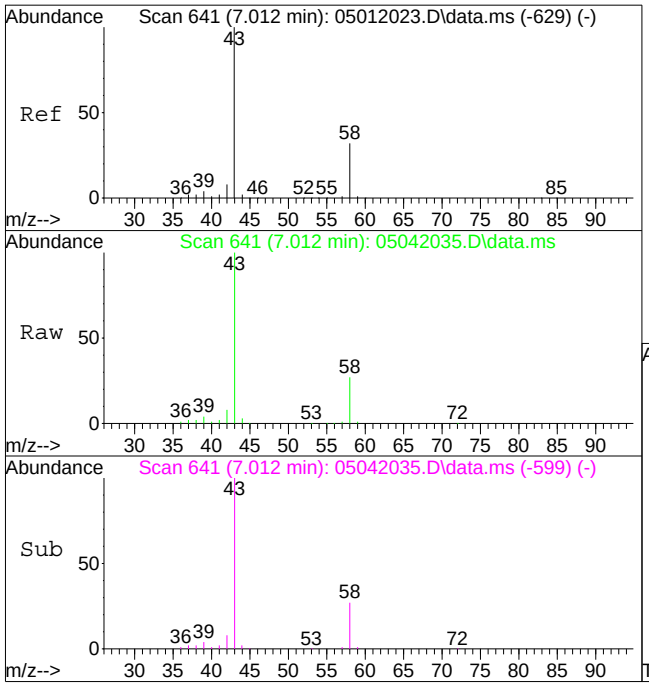


#12
Acrolein
Concen: 0.11 ng
RT: 6.80 min Scan# 602
Delta R.T. -0.011 min
Lab File: 05042035.D
Acq: 5 May 2020 2:01

Tgt Ion: 56 Resp: 2042

Ion	Ratio	Lower	Upper
56	100		
55	70.6	50.2	90.2

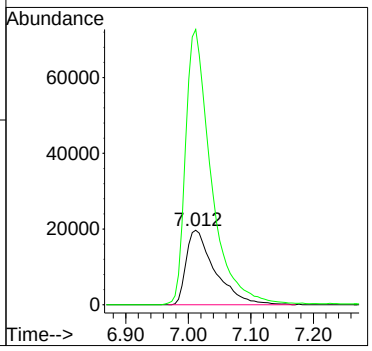


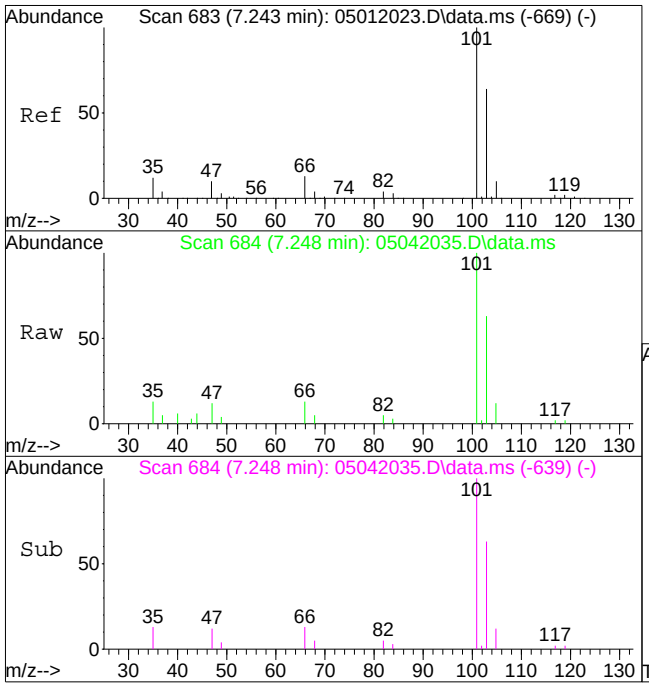


#13
Acetone
Concen: 2.65 ng
RT: 7.01 min Scan# 641
Delta R.T. -0.017 min
Lab File: 05042035.D
Acq: 5 May 2020 2:01

Tgt Ion: 58 Resp: 63373

Ion	Ratio	Lower	Upper
58	100		
43	328.5	294.4	354.4

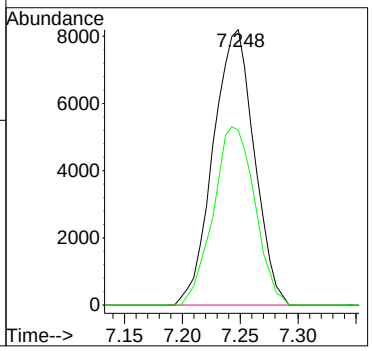


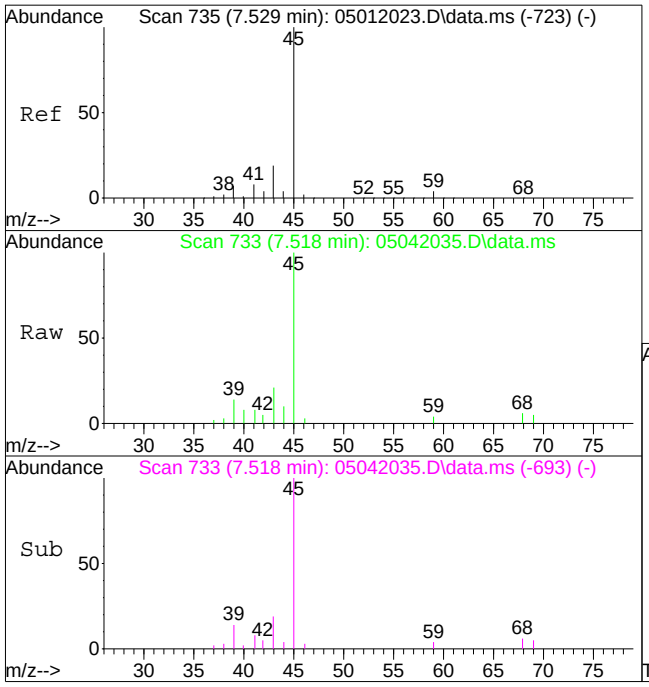


#14
Trichlorofluoromethane
Concen: 0.38 ng
RT: 7.25 min Scan# 684
Delta R.T. -0.000 min
Lab File: 05042035.D
Acq: 5 May 2020 2:01

Tgt Ion:101 Resp: 20263

Ion	Ratio	Lower	Upper
101	100		
103	65.3	44.4	84.4

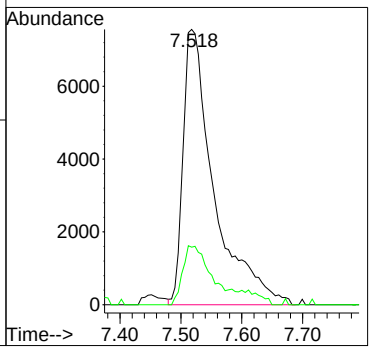


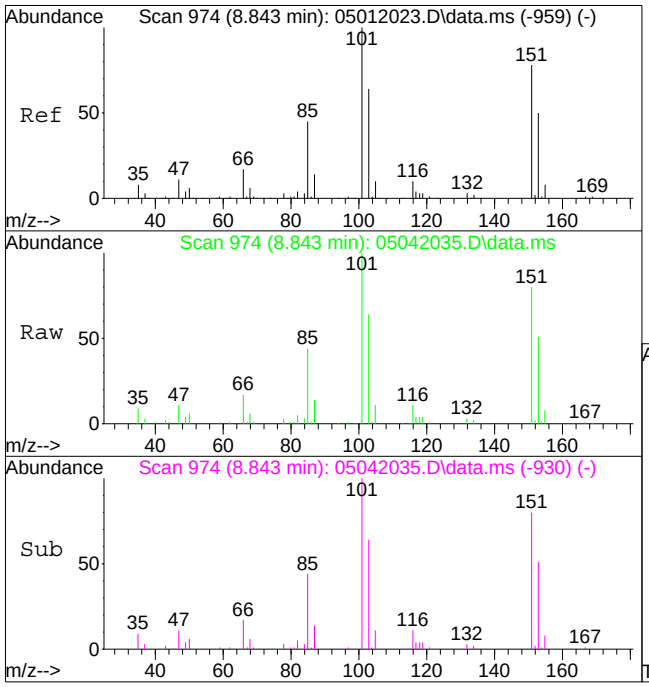


#15
2-Propanol (Isopropanol)
Concen: 0.37 ng
RT: 7.52 min Scan# 733
Delta R.T. -0.028 min
Lab File: 05042035.D
Acq: 5 May 2020 2:01

Tgt Ion: 45 Resp: 26716

Ion	Ratio	Lower	Upper
45	100		
43	23.7	0.0	39.5

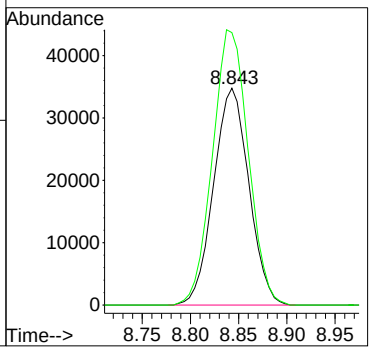


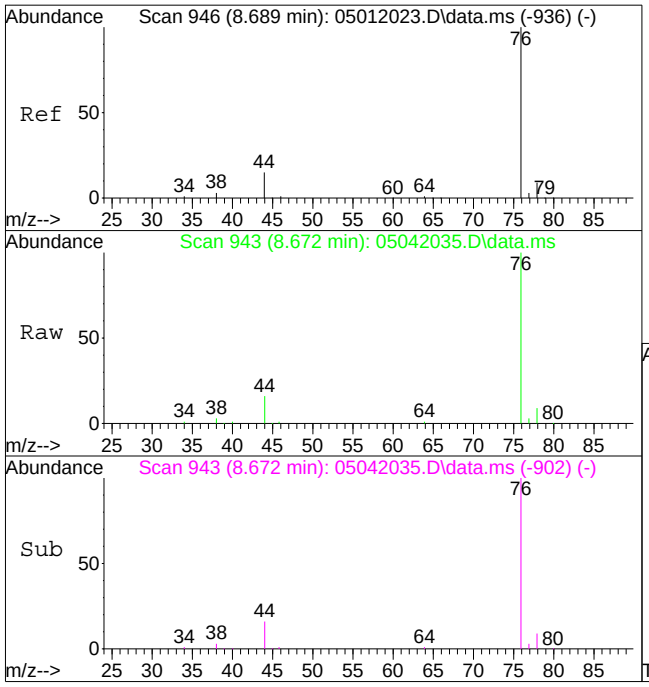


#21
Trichlorotrifluoroethane
Concen: 3.50 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05042035.D
Acq: 5 May 2020 2:01

Tgt Ion:151 Resp: 88498

Ion	Ratio	Lower	Upper
151	100		
101	128.6	107.3	147.3

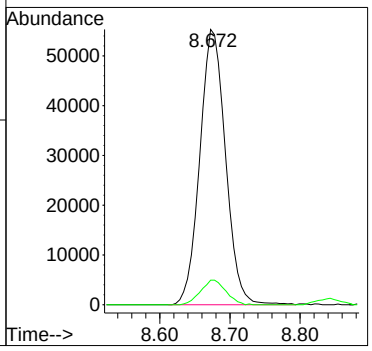


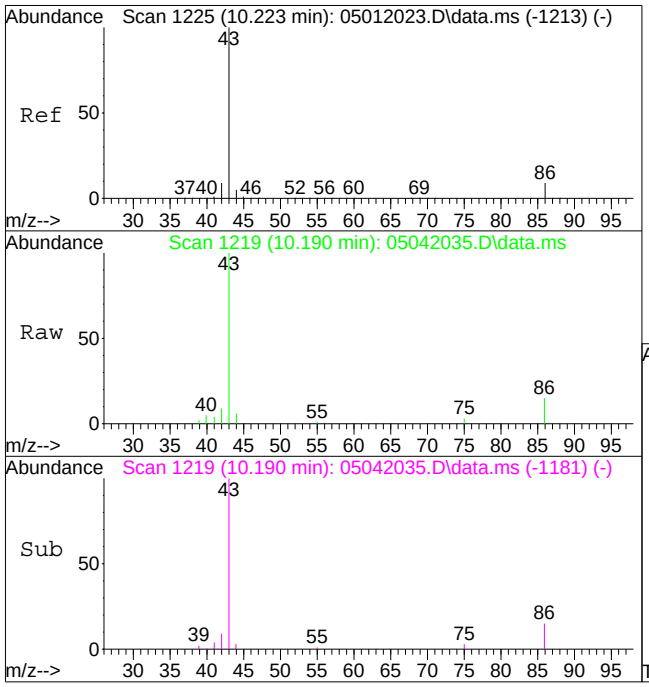


#22
Carbon Disulfide
Concen: 1.26 ng
RT: 8.67 min Scan# 943
Delta R.T. -0.022 min
Lab File: 05042035.D
Acq: 5 May 2020 2:01

Tgt Ion: 76 Resp: 140810

Ion	Ratio	Lower	Upper
76	100		
78	8.8	0.0	29.2

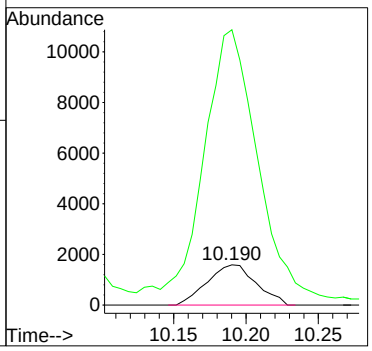


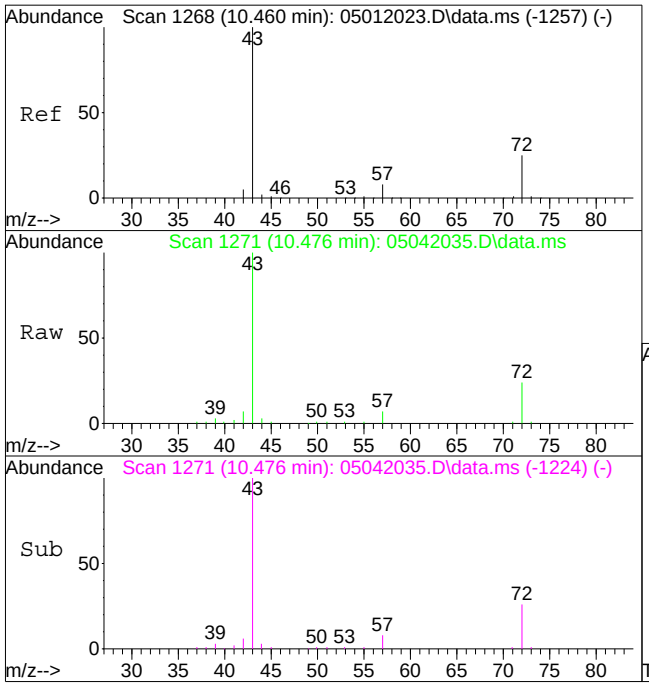


#26
Vinyl Acetate
Concen: 0.50 ng
RT: 10.19 min Scan# 1219
Delta R.T. -0.039 min
Lab File: 05042035.D
Acq: 5 May 2020 2:01

Tgt Ion: 86 Resp: 3754

Ion	Ratio	Lower	Upper
86	100		
43	785.6	1103.0	1143.0#

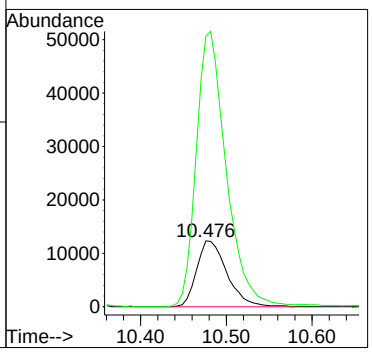


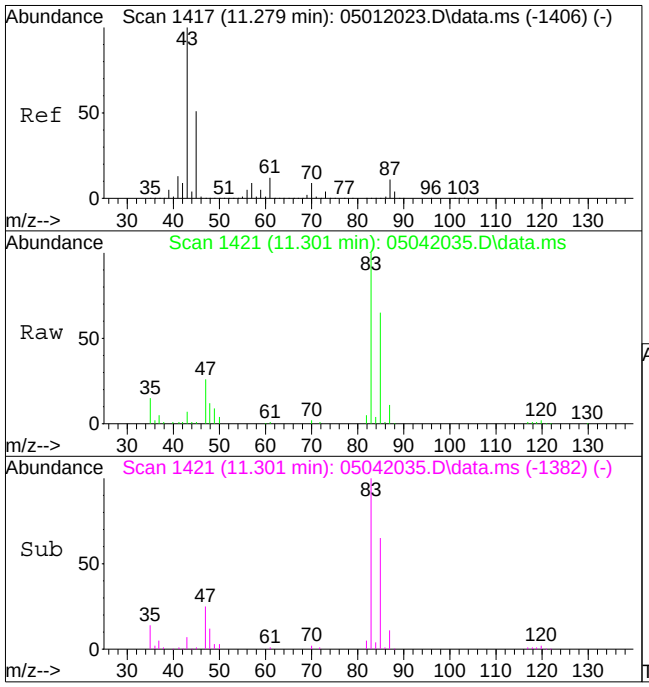


#27
2-Butanone (MEK)
Concen: 1.49 ng
RT: 10.48 min Scan# 1271
Delta R.T. 0.011 min
Lab File: 05042035.D
Acq: 5 May 2020 2:01

Tgt Ion: 72 Resp: 30334

Ion	Ratio	Lower	Upper
72	100		
43	416.7	389.7	429.7

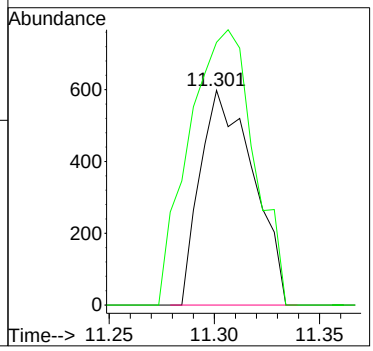


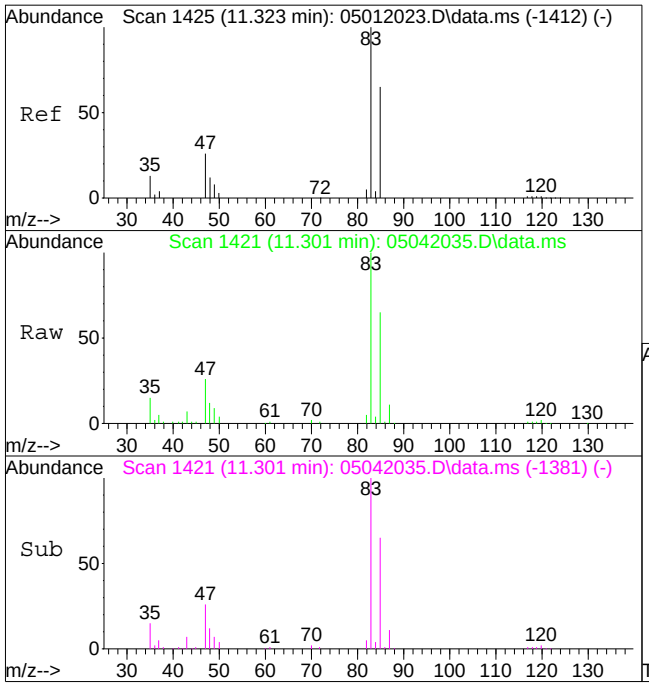


#30
Ethyl Acetate
Concen: 0.09 ng
RT: 11.30 min Scan# 1421
Delta R.T. 0.016 min
Lab File: 05042035.D
Acq: 5 May 2020 2:01

Tgt Ion: 61 Resp: 1051

Ion	Ratio	Lower	Upper
61	100		
70	156.6	57.9	97.9#

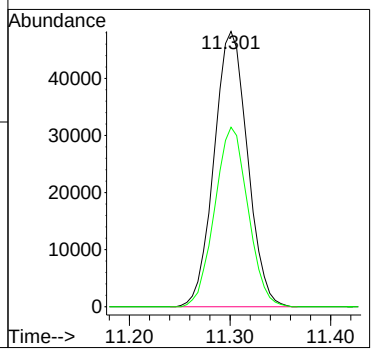


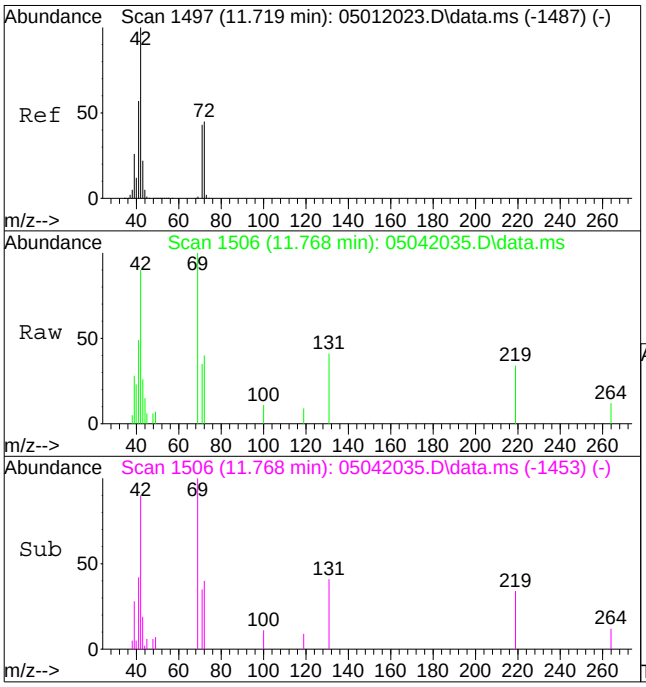


#32
Chloroform
Concen: 2.09 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.028 min
Lab File: 05042035.D
Acq: 5 May 2020 2:01

Tgt Ion: 83 Resp: 111259

Ion	Ratio	Lower	Upper
83	100		
85	64.9	45.5	85.5

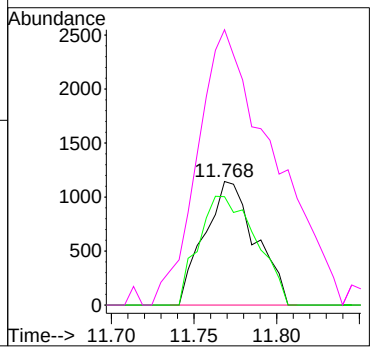


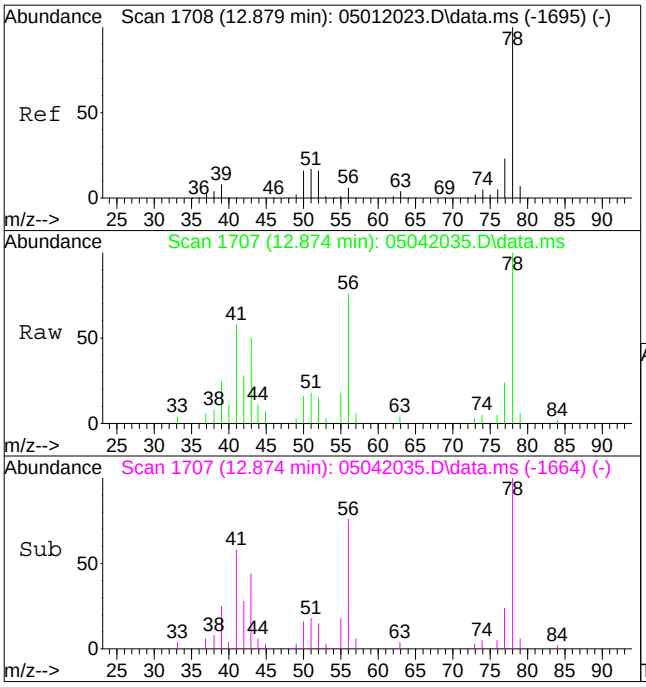


#34
Tetrahydrofuran (THF)
Concen: 0.12 ng
RT: 11.77 min Scan# 1506
Delta R.T. 0.044 min
Lab File: 05042035.D
Acq: 5 May 2020 2:01

Tgt Ion: 72 Resp: 2463

Ion	Ratio	Lower	Upper
72	100		
71	98.5	77.0	117.0
42	333.0	204.6	244.6#

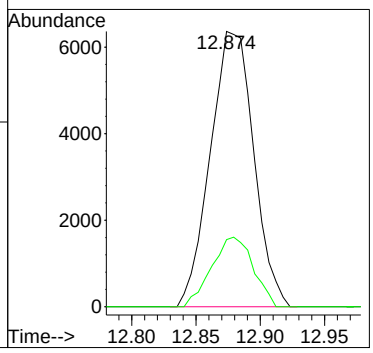


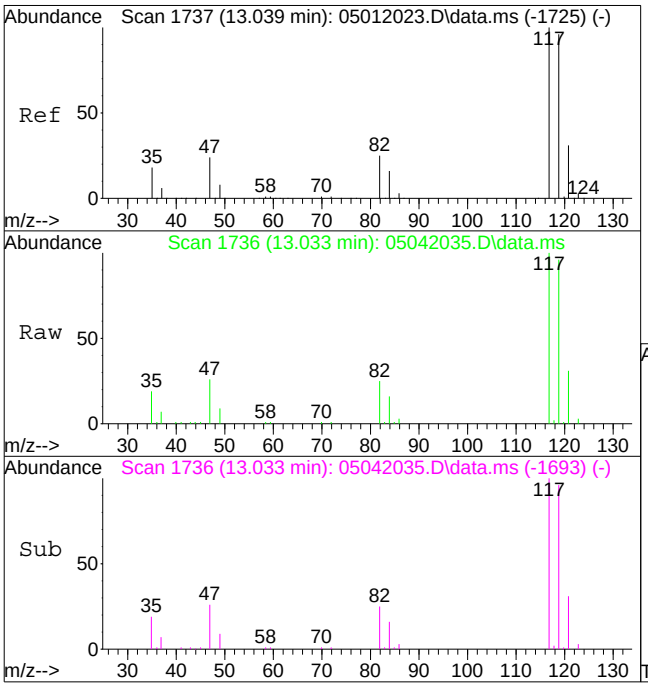


#41
Benzene
Concen: 0.12 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05042035.D
Acq: 5 May 2020 2:01

Tgt Ion: 78 Resp: 14950

Ion	Ratio	Lower	Upper
78	100		
77	24.1	3.4	43.4

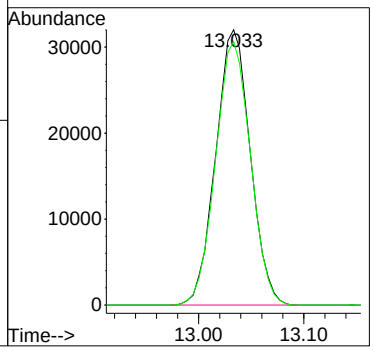


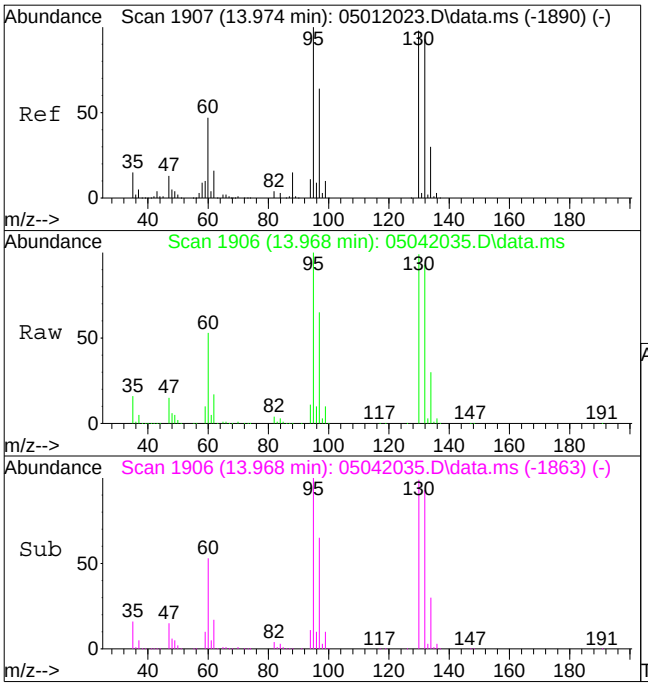


#42
Carbon Tetrachloride
Concen: 1.75 ng
RT: 13.03 min Scan# 1736
Delta R.T. -0.011 min
Lab File: 05042035.D
Acq: 5 May 2020 2:01

Tgt Ion:117 Resp: 73252

Ion	Ratio	Lower	Upper
117	100		
119	96.6	76.2	116.2

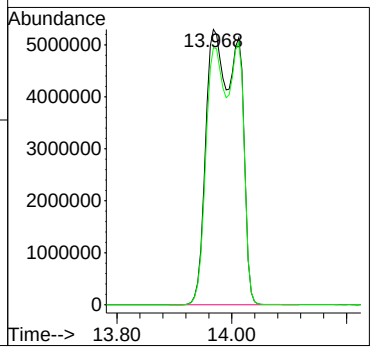


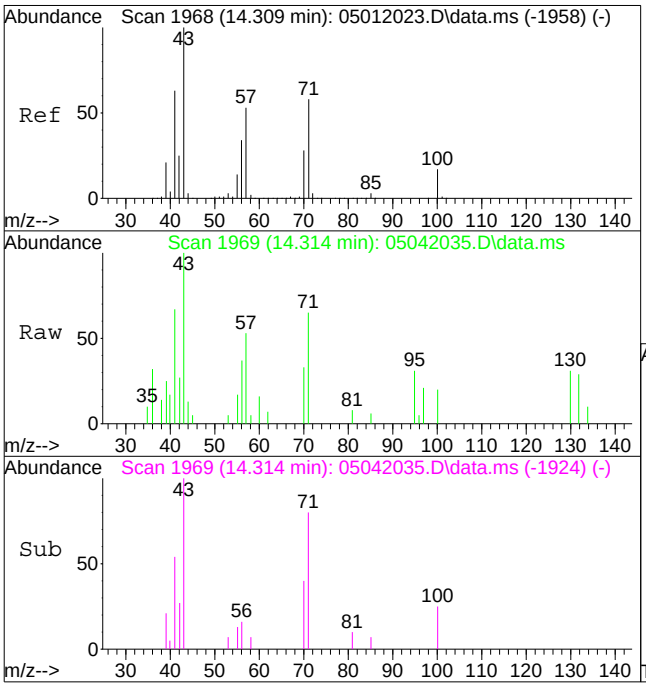


#47
Trichloroethene
Concen: 661.27 ng m
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05042035.D
Acq: 5 May 2020 2:01

Tgt Ion:130 Resp:21010229

Ion	Ratio	Lower	Upper
130	100		
132	60.1	74.9	114.9#

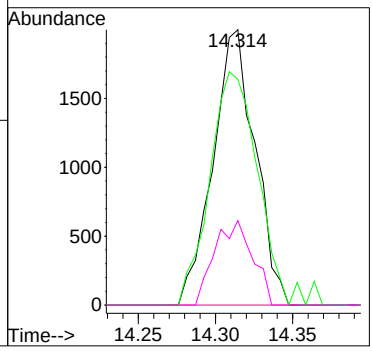


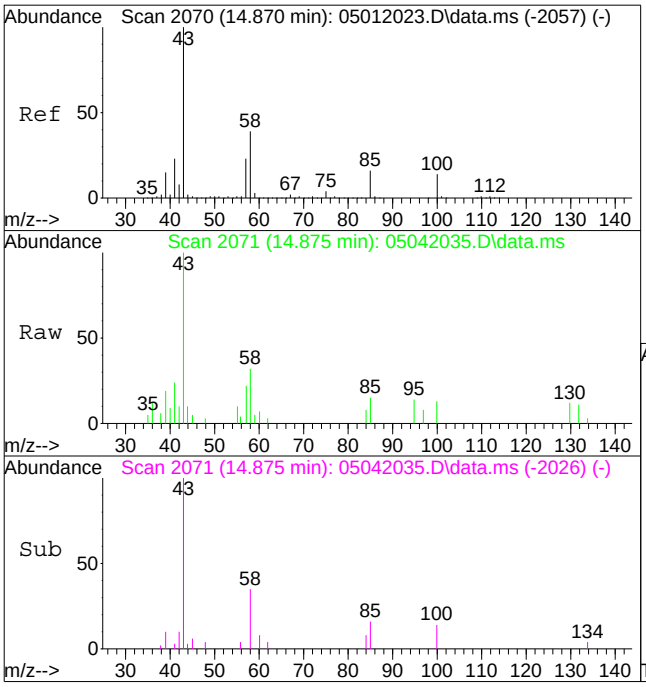


#51
n-Heptane
Concen: 0.13 ng
RT: 14.31 min Scan# 1969
Delta R.T. -0.000 min
Lab File: 05042035.D
Acq: 5 May 2020 2:01

Tgt Ion: 71 Resp: 3797

Ion	Ratio	Lower	Upper
71	100		
57	95.2	71.0	111.0
100	27.7	8.4	48.4

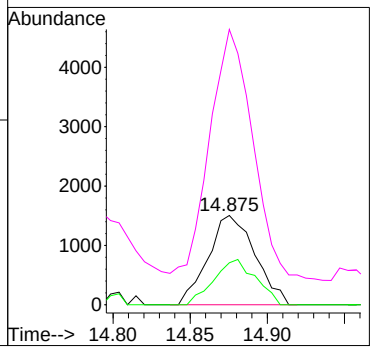


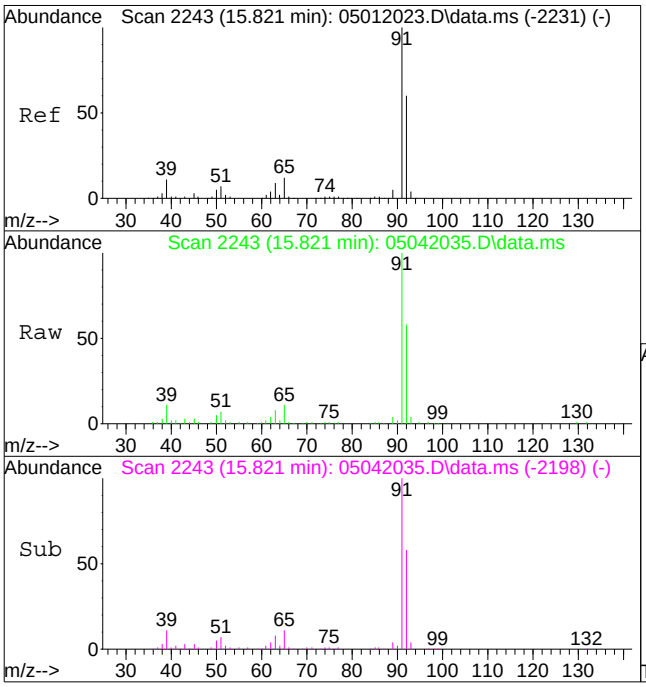


#53
4-Methyl-2-pentanone
Concen: 0.12 ng
RT: 14.88 min Scan# 2071
Delta R.T. -0.000 min
Lab File: 05042035.D
Acq: 5 May 2020 2:01

Tgt Ion: 58 Resp: 3181

Ion	Ratio	Lower	Upper
58	100		
85	45.2	35.4	53.2
43	290.2	203.3	304.9

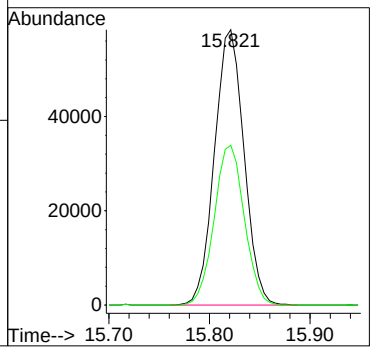


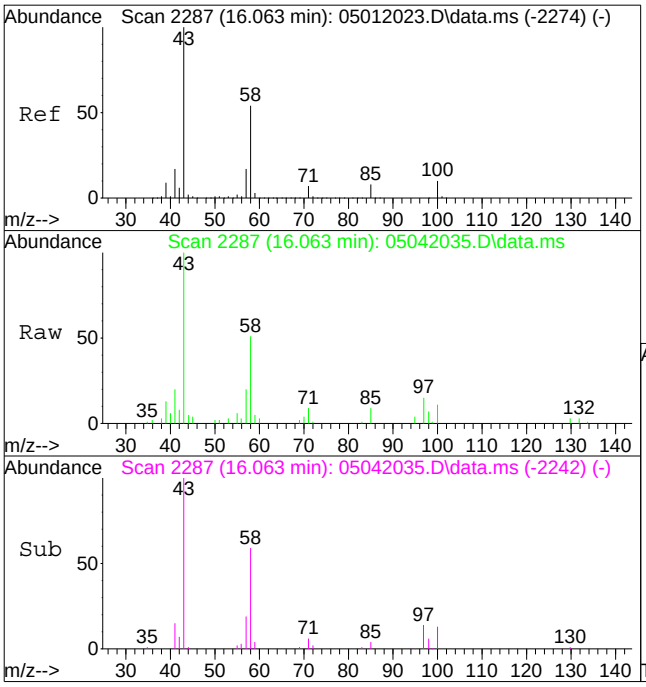


#58
Toluene
Concen: 1.01 ng
RT: 15.82 min Scan# 2243
Delta R.T. -0.000 min
Lab File: 05042035.D
Acq: 5 May 2020 2:01

Tgt Ion: 91 Resp: 119056

Ion	Ratio	Lower	Upper
91	100		
92	59.1	39.4	79.4

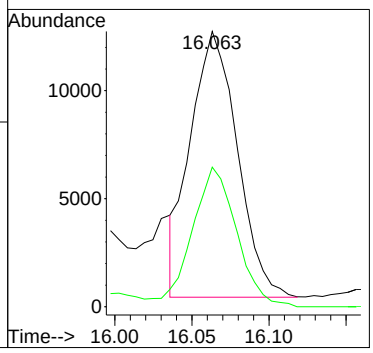


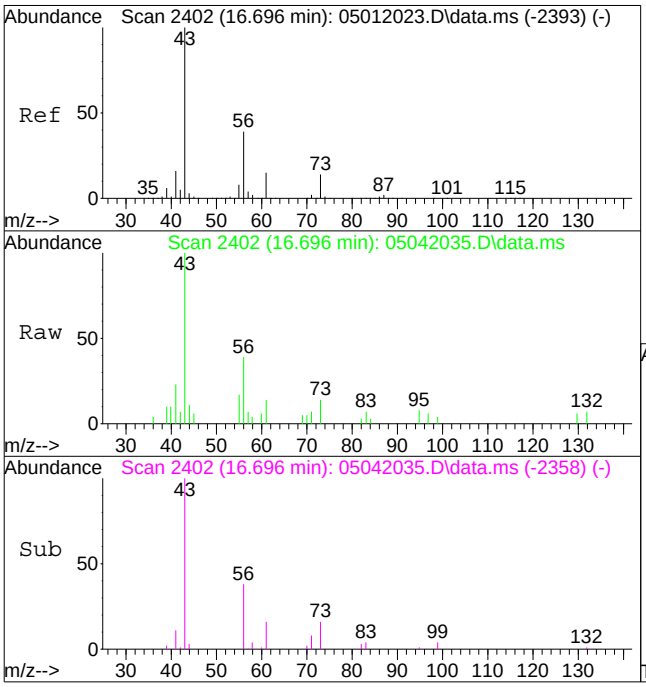


#59
2-Hexanone
Concen: 0.40 ng m
RT: 16.06 min Scan# 2287
Delta R.T. -0.000 min
Lab File: 05042035.D
Acq: 5 May 2020 2:01

Tgt Ion: 43 Resp: 26072

Ion	Ratio	Lower	Upper
43	100		
58	50.1	34.5	74.5

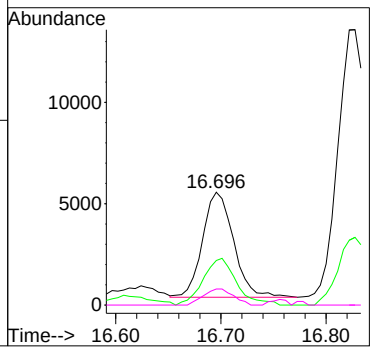


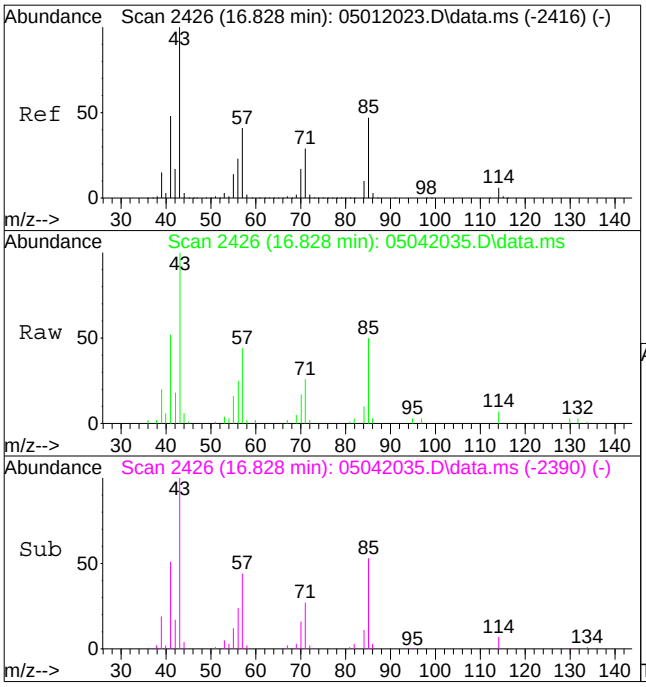


#62
n-Butyl Acetate
Concen: 0.15 ng
RT: 16.70 min Scan# 2402
Delta R.T. -0.006 min
Lab File: 05042035.D
Acq: 5 May 2020 2:01

Tgt Ion: 43 Resp: 10646

Ion	Ratio	Lower	Upper
43	100		
56	47.5	19.2	59.2
73	14.7	0.0	34.4

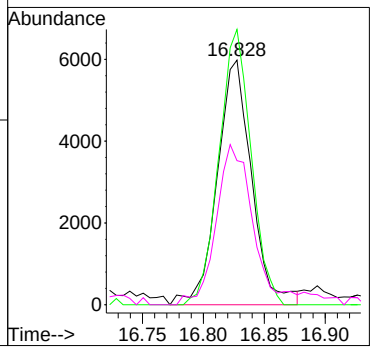


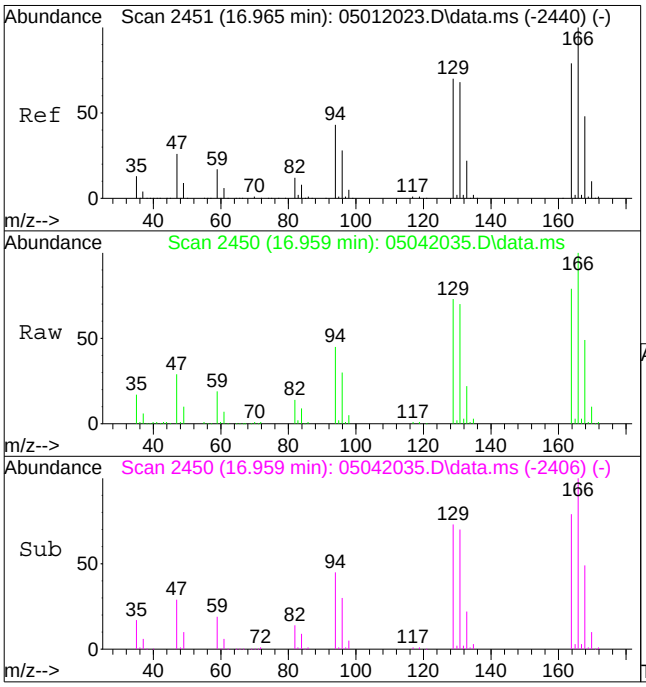


#63
n-Octane
Concen: 0.48 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05042035.D
Acq: 5 May 2020 2:01

Tgt Ion: 57 Resp: 11734

Ion	Ratio	Lower	Upper
57	100		
85	105.4	91.0	136.4
71	73.6	56.2	84.2

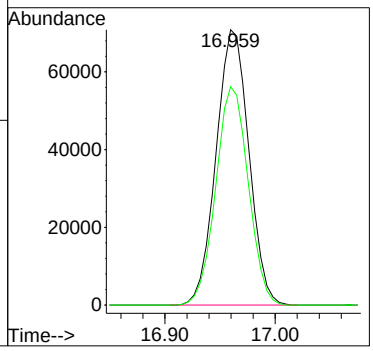


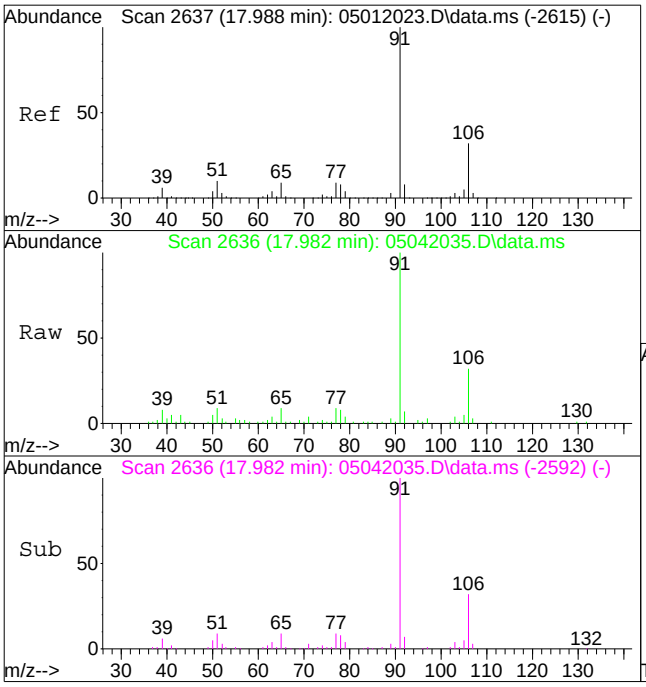


#64
Tetrachloroethene
Concen: 4.40 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05042035.D
Acq: 5 May 2020 2:01

Tgt Ion:166 Resp: 146551

Ion	Ratio	Lower	Upper
166	100		
164	78.6	58.4	98.4

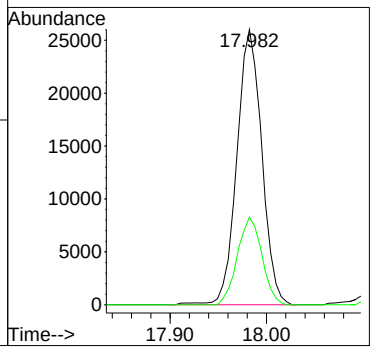


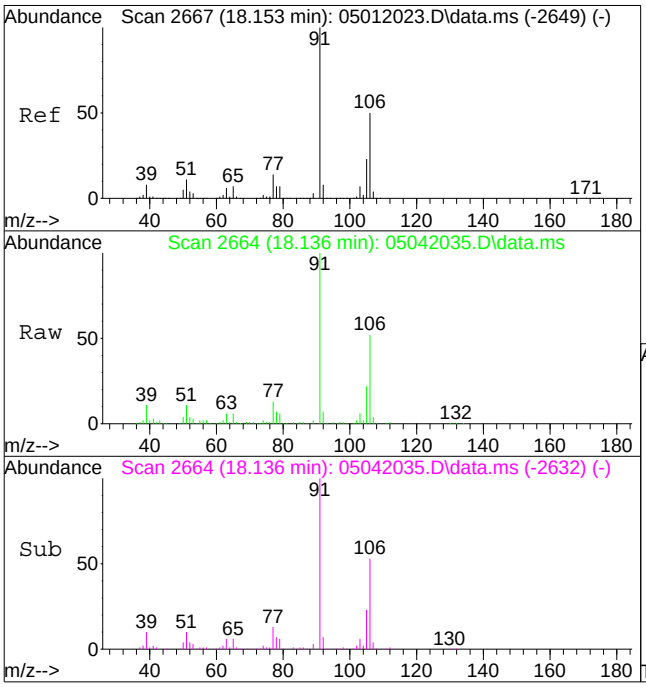


#66
Ethylbenzene
Concen: 0.35 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05042035.D
Acq: 5 May 2020 2:01

Tgt Ion: 91 Resp: 46679

Ion	Ratio	Lower	Upper
91	100		
106	31.2	11.6	51.6

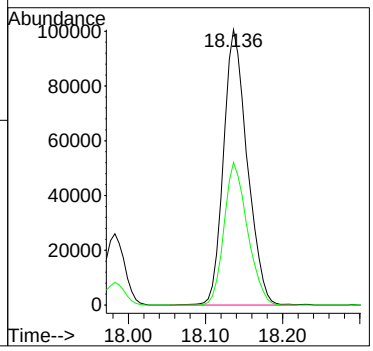


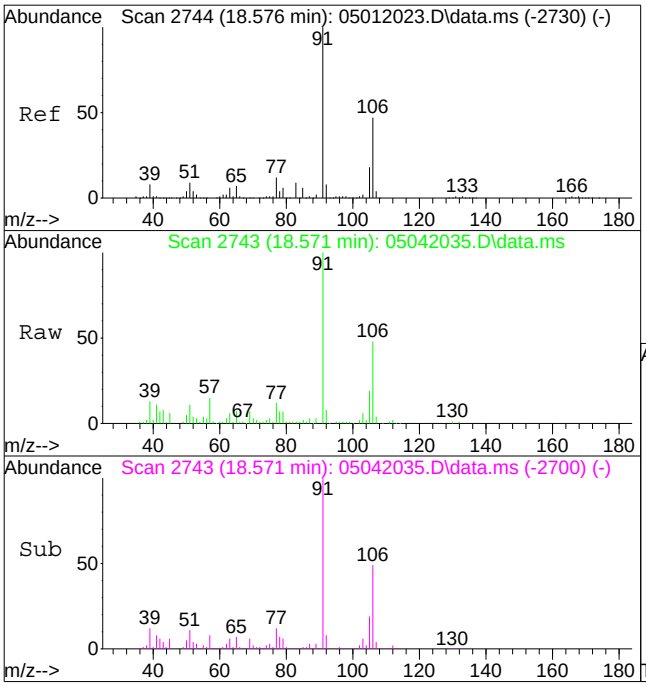


#67
m- & p-Xylenes
Concen: 2.06 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05042035.D
Acq: 5 May 2020 2:01

Tgt Ion: 91 Resp: 214682

Ion	Ratio	Lower	Upper
91	100		
106	51.1	29.7	69.7

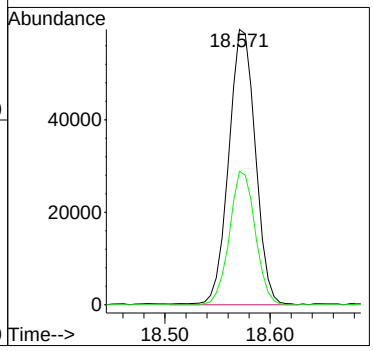


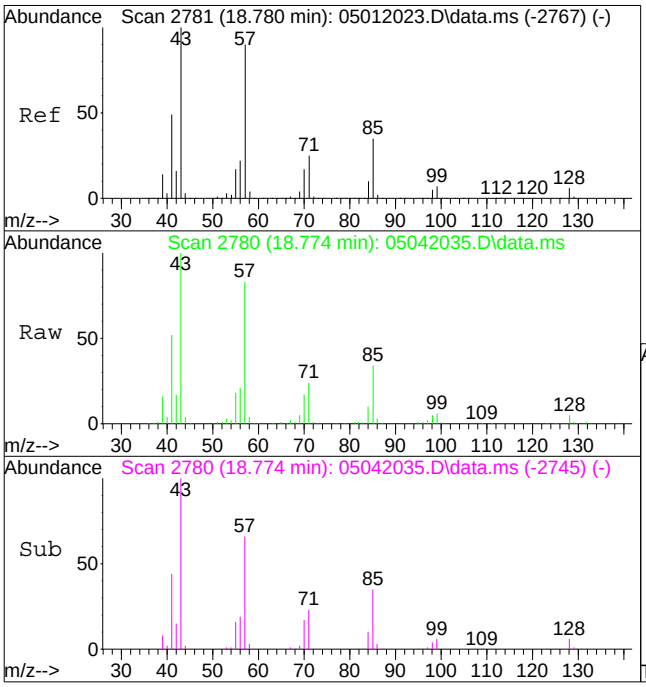


#70
o-Xylene
Concen: 0.99 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05042035.D
Acq: 5 May 2020 2:01

Tgt Ion: 91 Resp: 105183

Ion	Ratio	Lower	Upper
91	100		
106	46.7	27.5	67.5

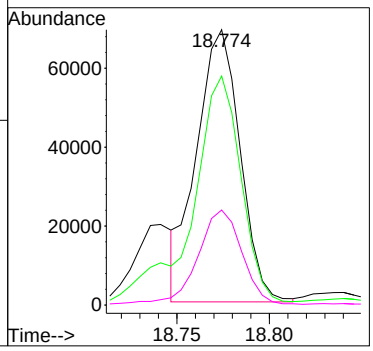


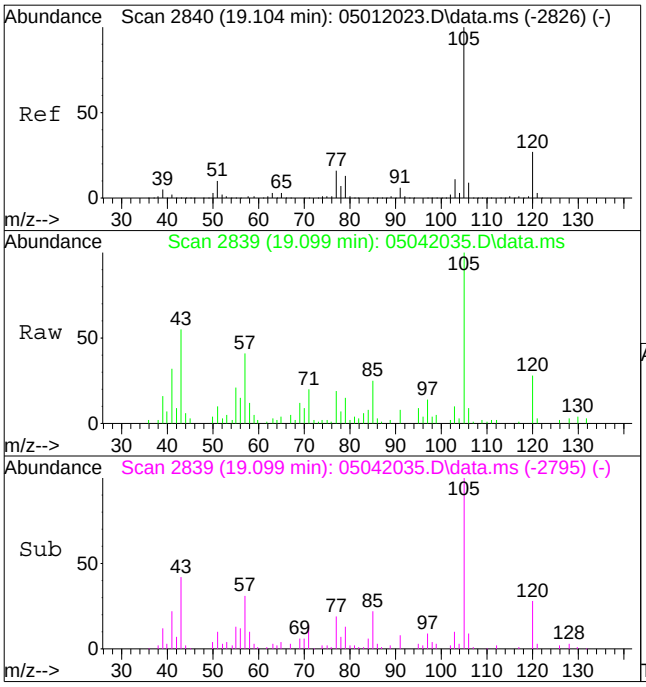


#71
n-Nonane
Concen: 2.02 ng m
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05042035.D
Acq: 5 May 2020 2:01

Tgt Ion: 43 Resp: 113245

Ion	Ratio	Lower	Upper
43	100		
57	91.7	69.0	109.0
85	34.8	14.6	54.6

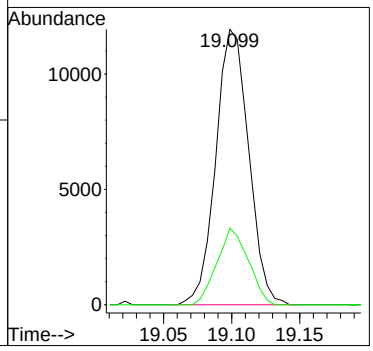


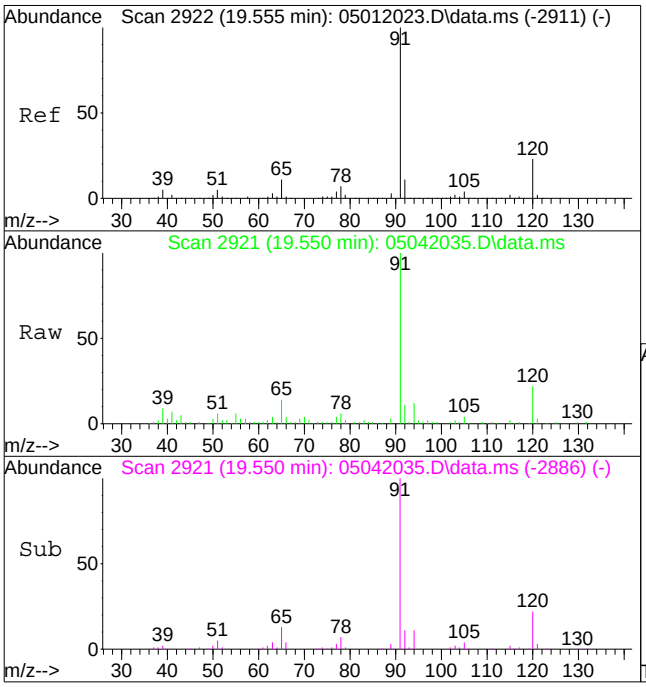


#74
Cumene
Concen: 0.15 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05042035.D
Acq: 5 May 2020 2:01

Tgt Ion:105 Resp: 20074

Ion	Ratio	Lower	Upper
105	100		
120	26.4	6.8	46.8

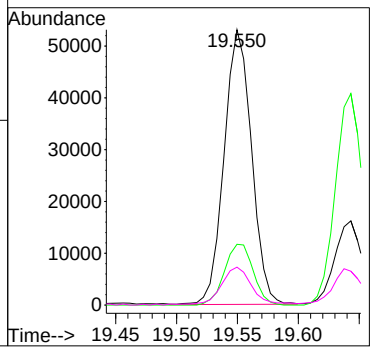


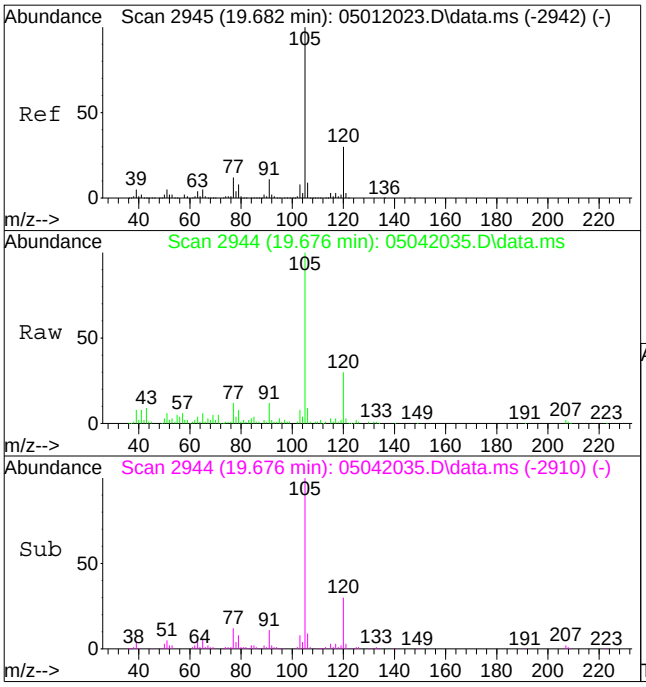


#76
n-Propylbenzene
Concen: 0.54 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05042035.D
Acq: 5 May 2020 2:01

Tgt Ion: 91 Resp: 83188

Ion	Ratio	Lower	Upper
91	100		
120	23.1	3.1	43.1
65	15.6	0.0	30.9

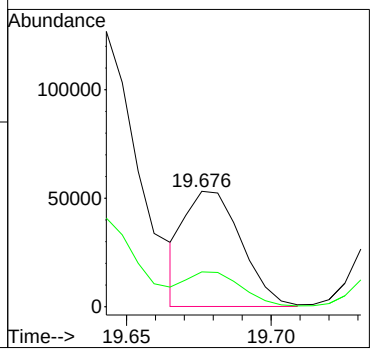


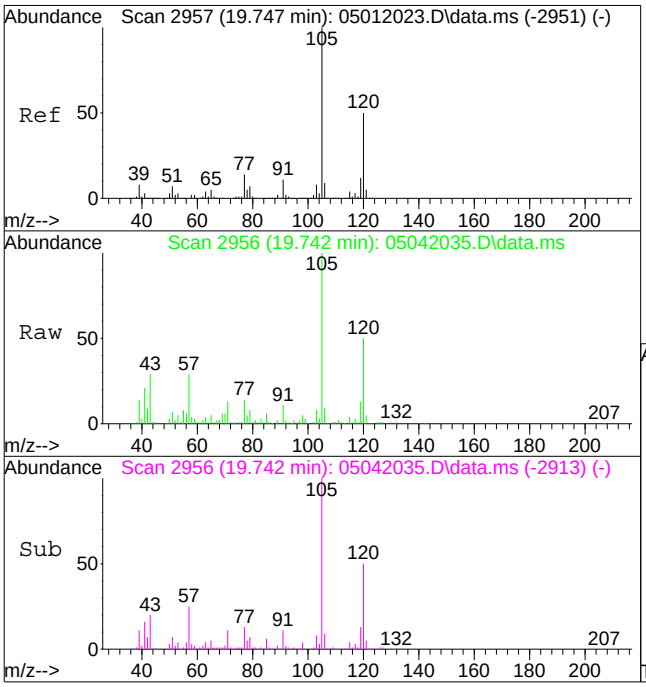


#78
4-Ethyltoluene
Concen: 0.59 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05042035.D
Acq: 5 May 2020 2:01

Tgt Ion:105 Resp: 72515

Ion	Ratio	Lower	Upper
105	100		
120	30.3	10.4	50.4

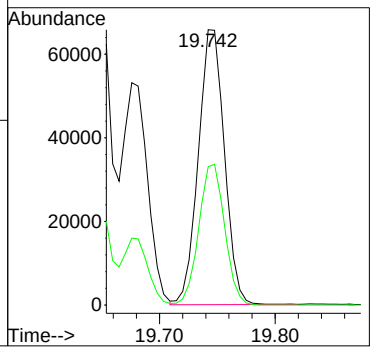


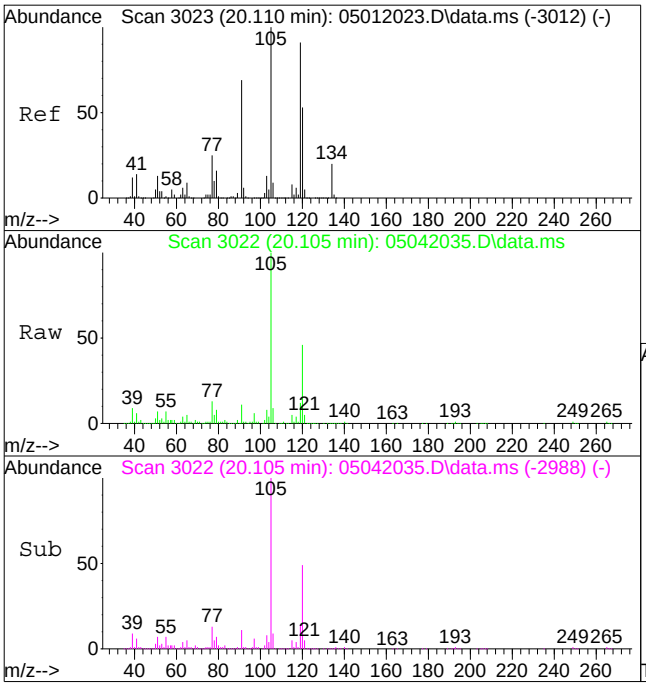


#79
1,3,5-Trimethylbenzene
Concen: 0.98 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05042035.D
Acq: 5 May 2020 2:01

Tgt Ion:105 Resp: 103486

Ion	Ratio	Lower	Upper
105	100		
120	50.7	29.9	69.9

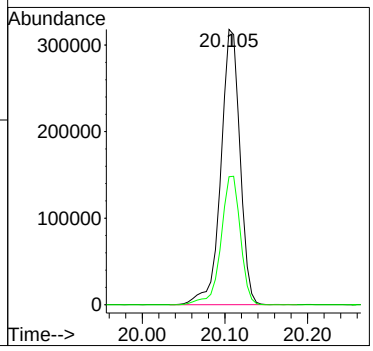


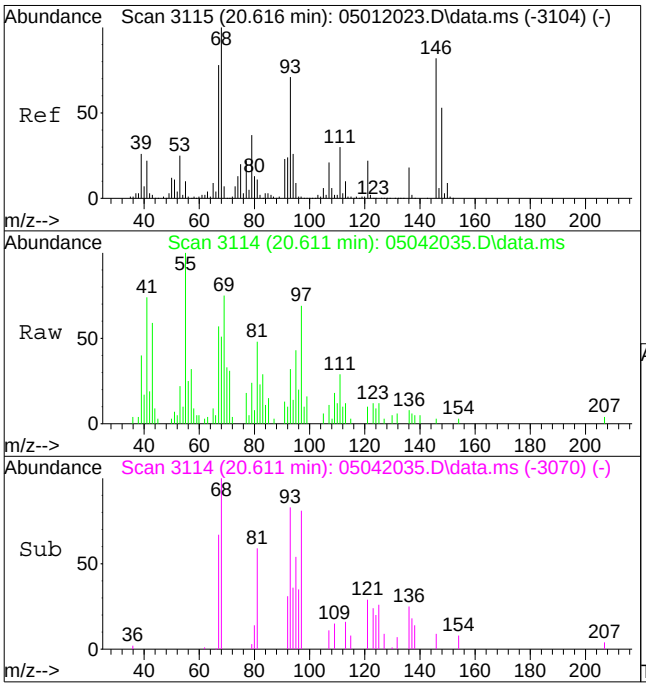


#82
1,2,4-Trimethylbenzene
Concen: 4.80 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05042035.D
Acq: 5 May 2020 2:01

Tgt Ion:105 Resp: 511252

Ion	Ratio	Lower	Upper
105	100		
120	47.4	33.6	73.6

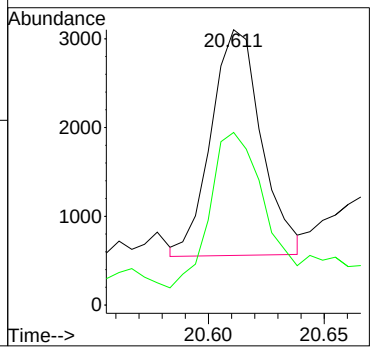


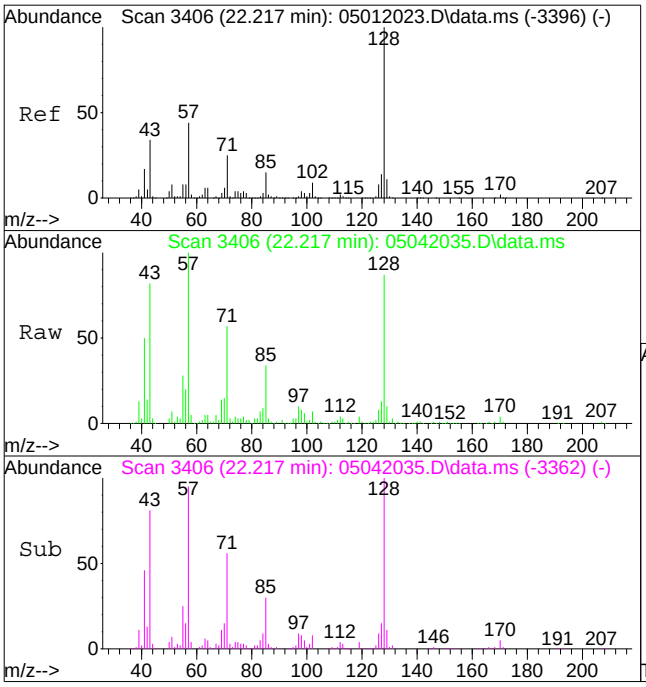


#91
d-Limonene
Concen: 0.09 ng
RT: 20.61 min Scan# 3114
Delta R.T. -0.006 min
Lab File: 05042035.D
Acq: 5 May 2020 2:01

Tgt Ion: 68 Resp: 3852

Ion	Ratio	Lower	Upper
68	100		
93	93.7	51.1	91.1#

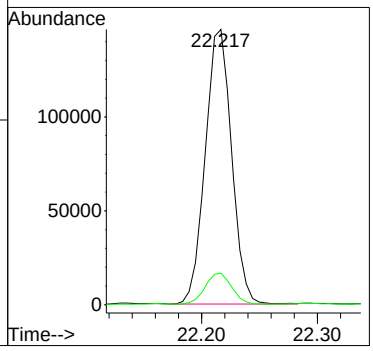




#95
Naphthalene
Concen: 1.78 ng
RT: 22.22 min Scan# 3406
Delta R.T. -0.005 min
Lab File: 05042035.D
Acq: 5 May 2020 2:01

Tgt Ion:128 Resp: 231690

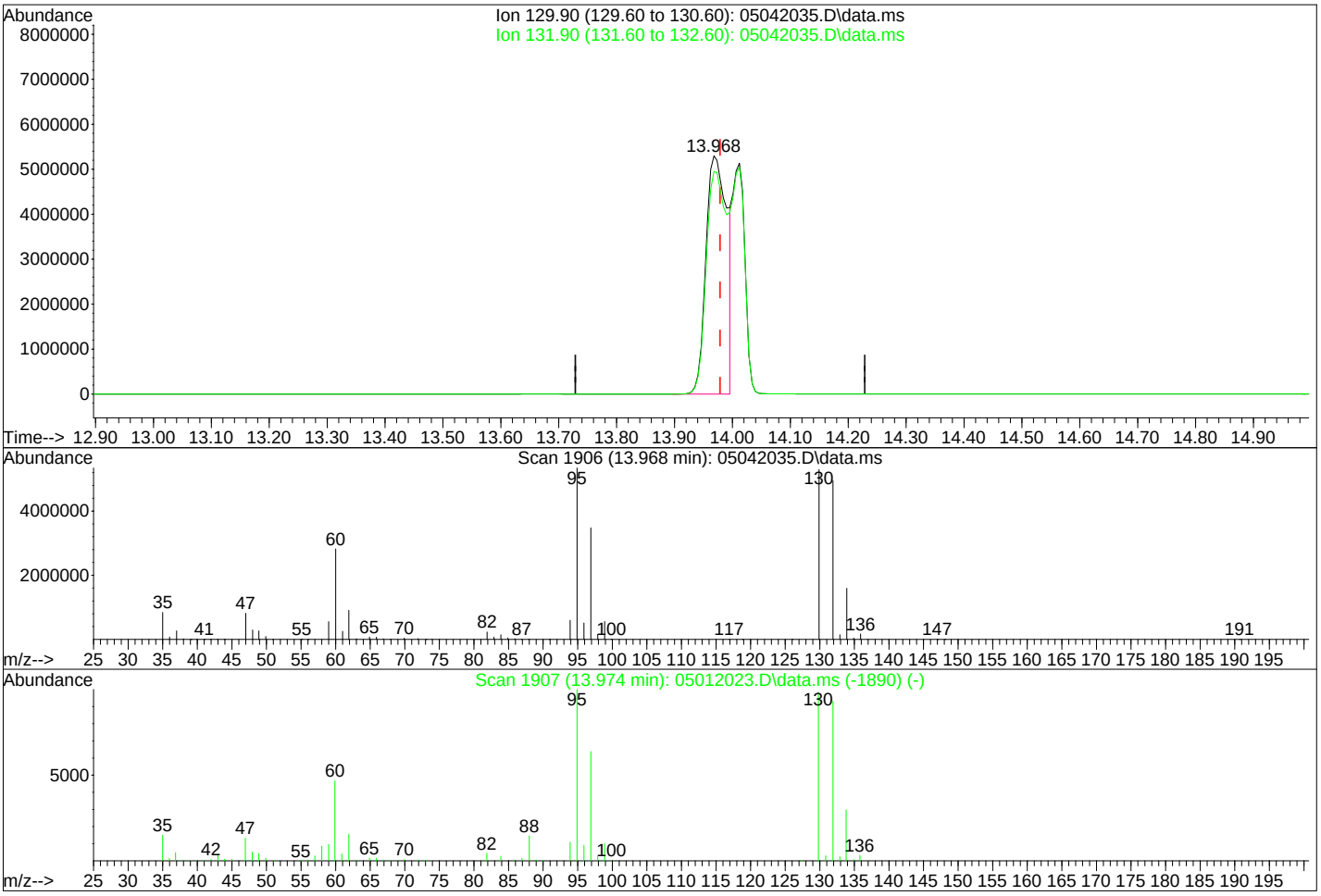
Ion	Ratio	Lower	Upper
128	100		
129	12.0	0.0	31.0



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\04\05042035.D Vial: 7
Acq On : 5 May 2020 2:01 Operator: TD
Sample : P2002105-020 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 05 07:11:07 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05042035.D\data.ms

(47) Trichloroethene (T)

13.968min (-0.011) 423.74ng

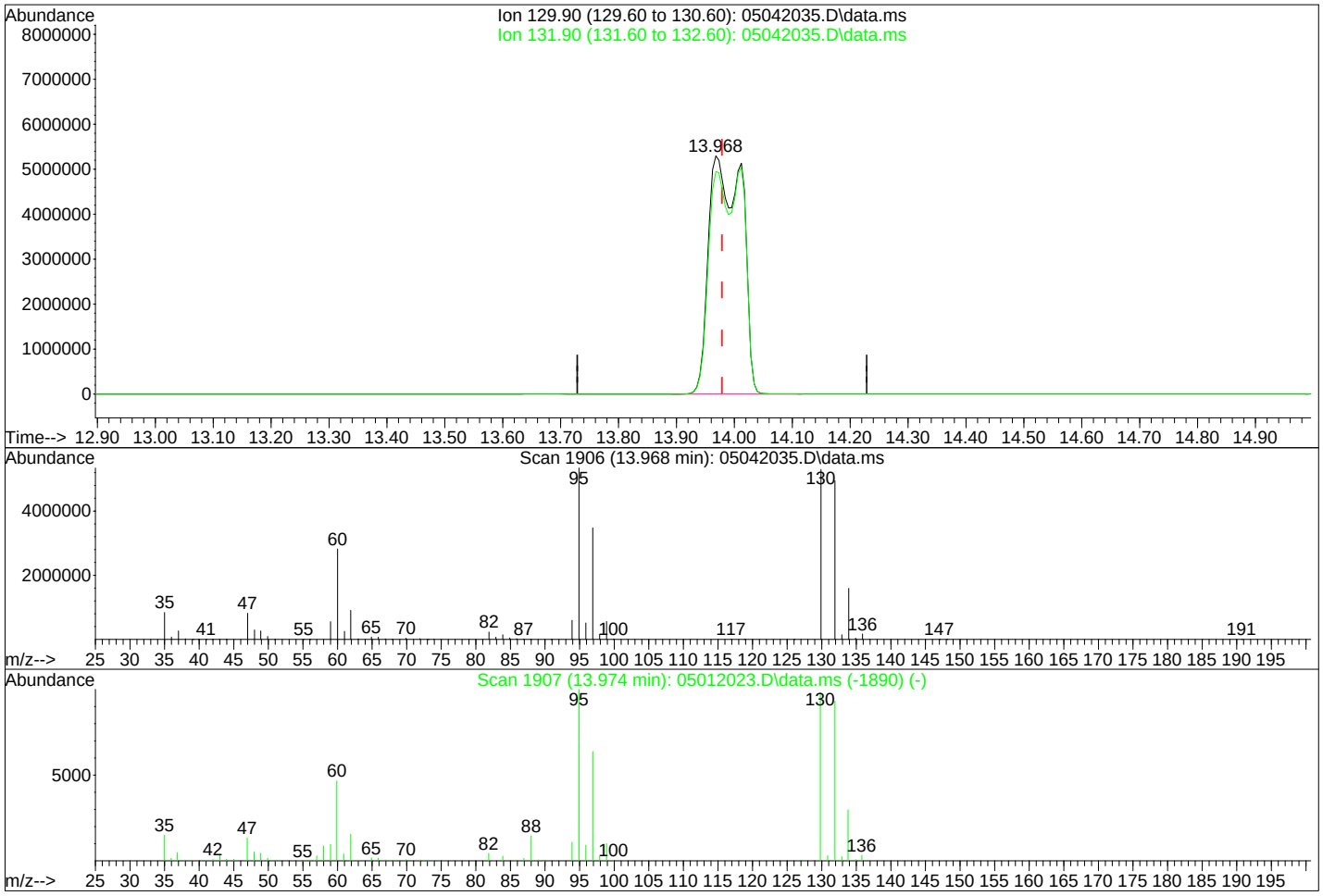
response 13463270

Ion	Exp%	Act%
129.90	100	100
131.90	94.90	93.84
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\04\05042035.D Vial: 7
Acq On : 5 May 2020 2:01 Operator: TD
Sample : P2002105-020 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 05 07:11:07 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05042035.D\data.ms

(47) Trichloroethene (T)

13.968min (-0.011) 661.27ng m

response 21010229

Ion	Exp%	Act%
129.90	100	100
131.90	94.90	60.13#
0.00	0.00	0.00
0.00	0.00	0.00

SP

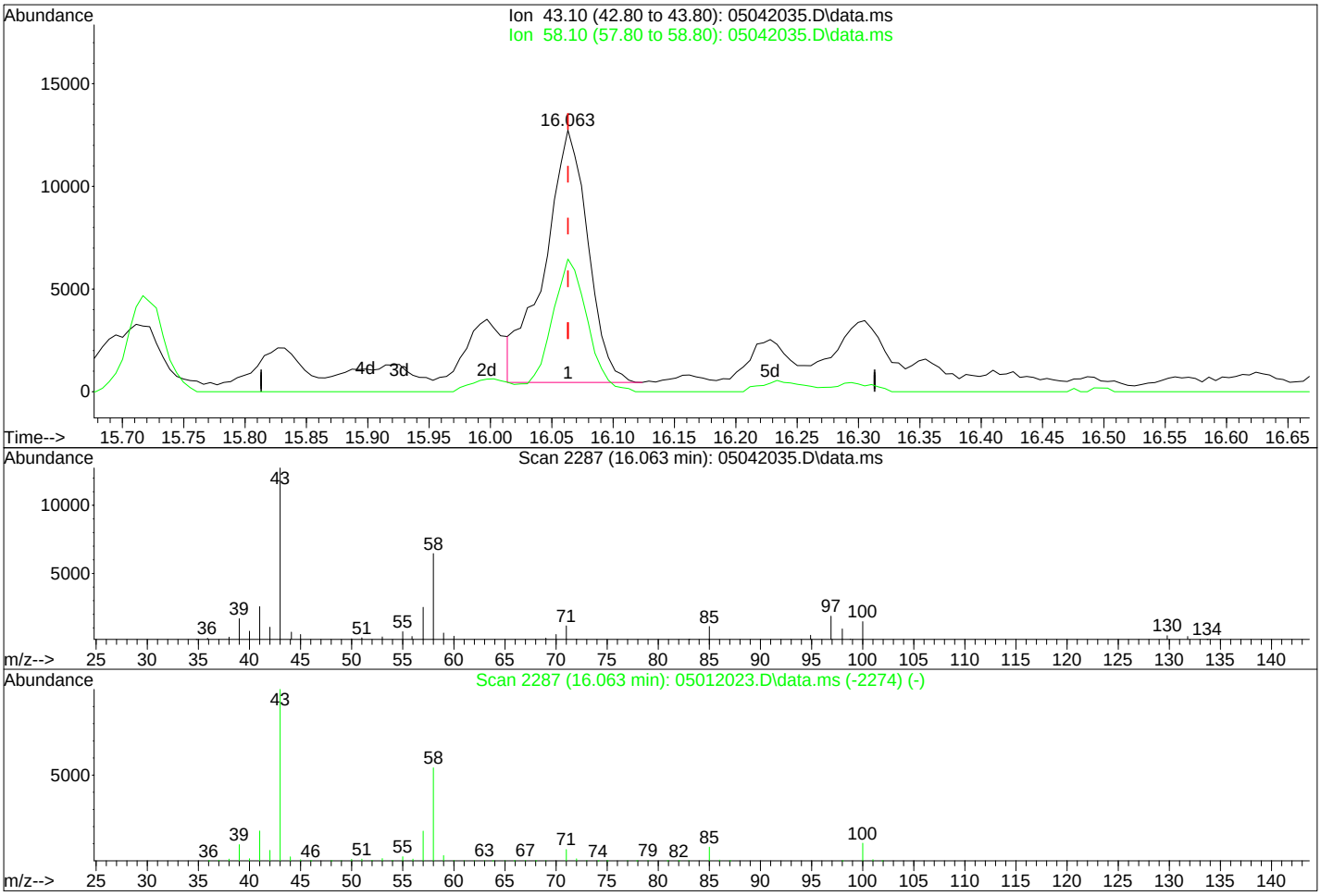
LH 5/6/20

5/7/20

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\04\05042035.D Vial: 7
Acq On : 5 May 2020 2:01 Operator: TD
Sample : P2002105-020 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 05 07:11:07 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05042035.D\data.ms

(59) 2-Hexanone (T)

16.063min (-0.000) 0.47ng

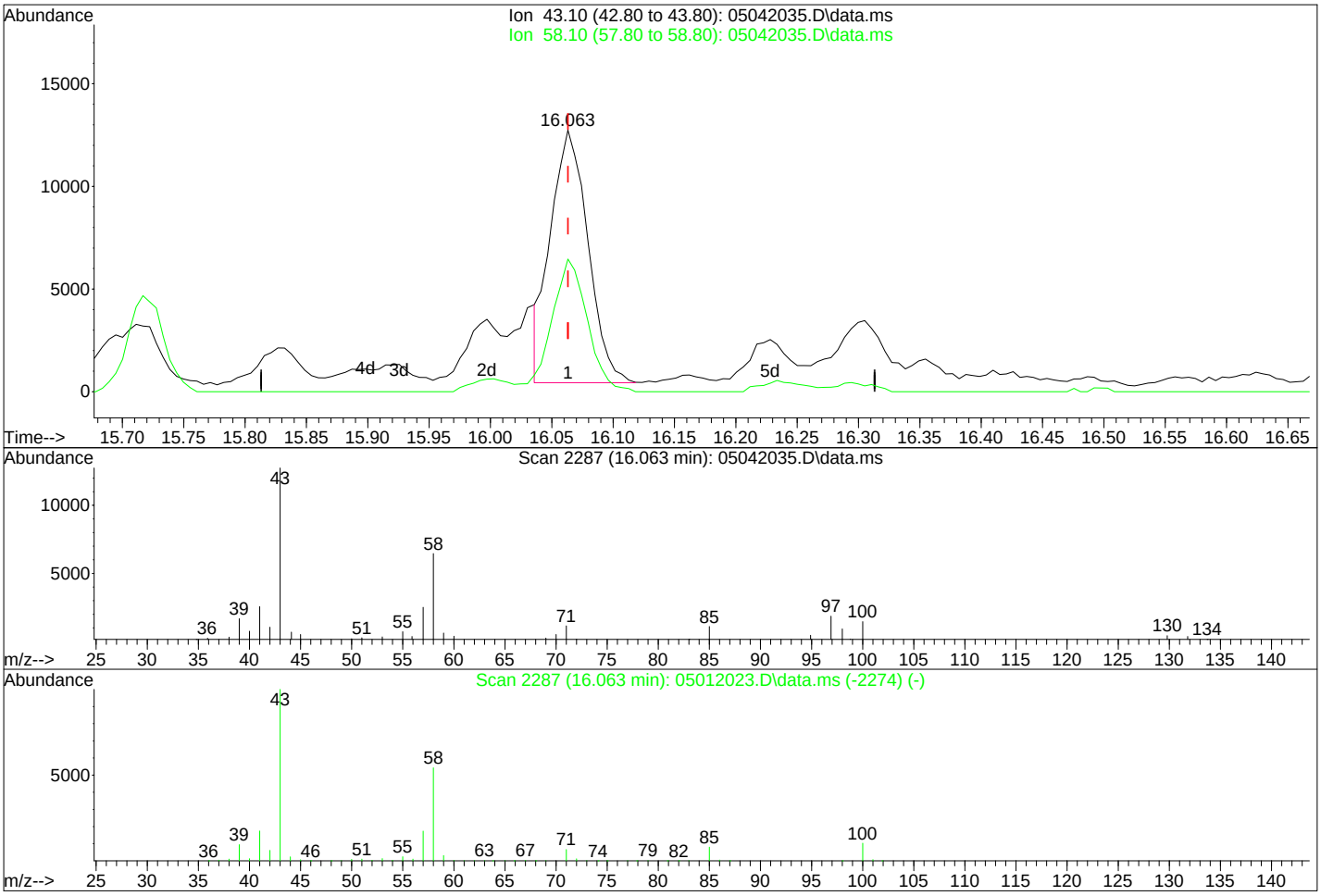
response 30161

Ion	Exp%	Act%
43.10	100	100
58.10	54.50	43.29
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\04\05042035.D Vial: 7
Acq On : 5 May 2020 2:01 Operator: TD
Sample : P2002105-020 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 05 07:11:07 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05042035.D\data.ms

(59) 2-Hexanone (T)

16.063min (-0.000) 0.40ng m

response 26072

Ion	Exp%	Act%
43.10	100	100
58.10	54.50	50.08
0.00	0.00	0.00
0.00	0.00	0.00

IPC

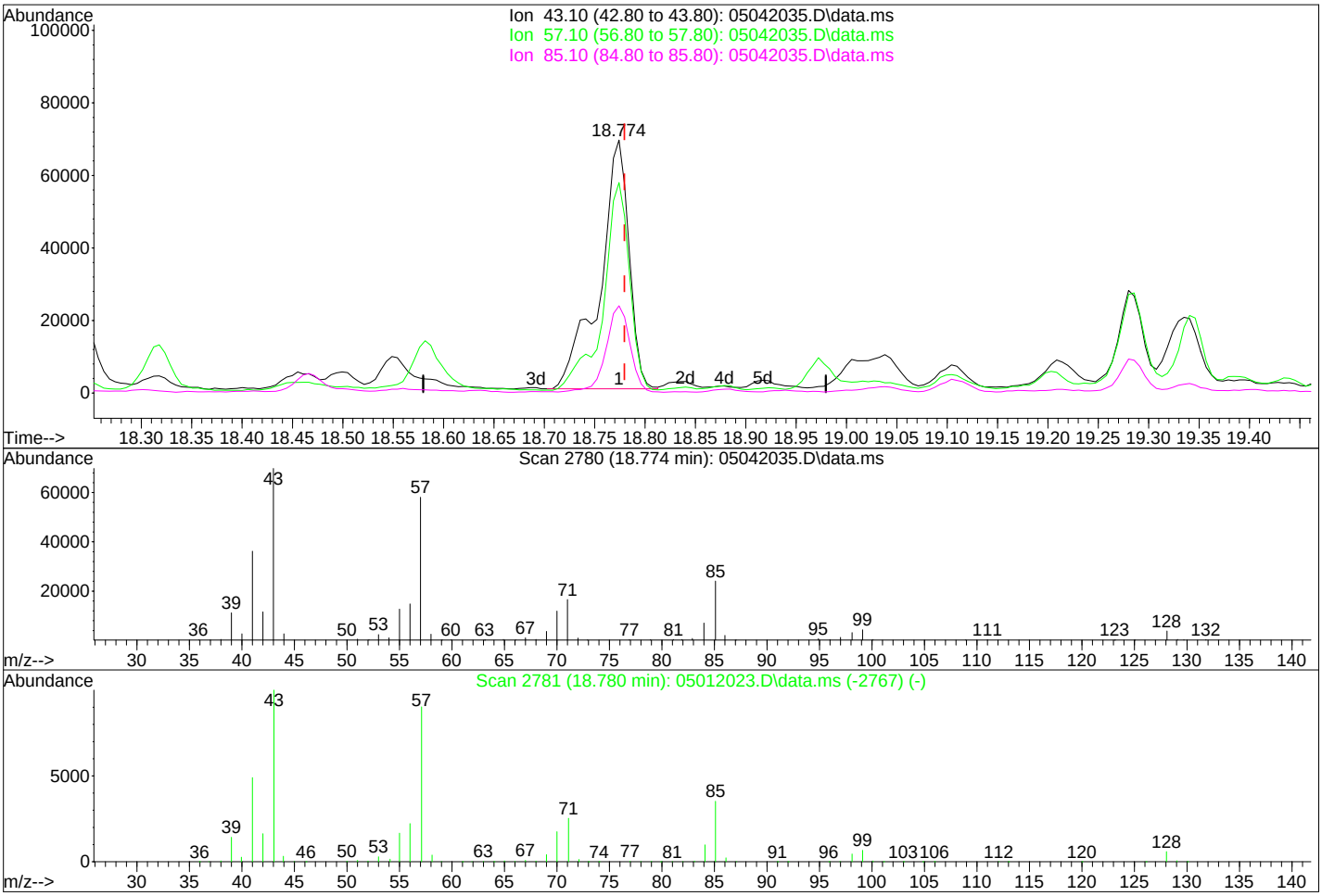
LH 5/6/20

5/7/20

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\04\05042035.D Vial: 7
Acq On : 5 May 2020 2:01 Operator: TD
Sample : P2002105-020 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 05 07:11:07 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05042035.D\data.ms

(71) n-Nonane (T)

18.774min (-0.006) 2.47ng

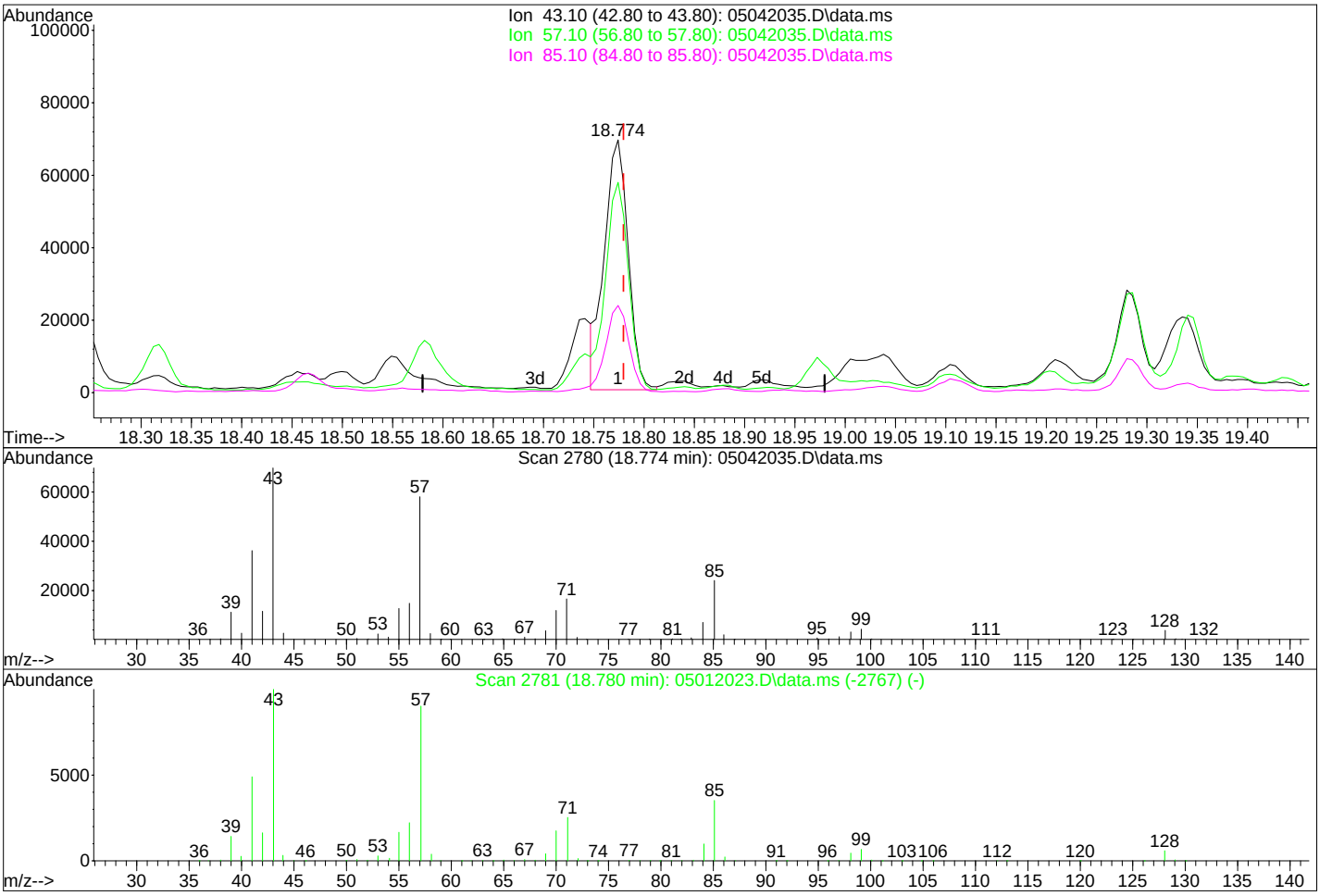
response 139068

Ion	Exp%	Act%
43.10	100	100
57.10	89.00	74.69
85.10	34.60	28.33
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\04\05042035.D Vial: 7
Acq On : 5 May 2020 2:01 Operator: TD
Sample : P2002105-020 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 05 07:11:07 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05042035.D\data.ms

(71) n-Nonane (T)

18.774min (-0.006) 2.02ng m

response 113245

Ion	Exp%	Act%
43.10	100	100
57.10	89.00	91.73
85.10	34.60	34.79
0.00	0.00	0.00

IPC

LH 5/6/20

5/7/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\06\05062011.D Vial: 13
Acq On : 6 May 2020 9:31 Operator: WA
Sample : P2002105-020dil (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 19:00:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/6/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	280345	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1203360	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	571504	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	456107	12.005	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.08%			
57) Toluene-d8 (SS2)	15.72	98	1212567	12.518	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.16%			
73) Bromofluorobenzene (SS3)	18.97	174	432864	12.419	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.36%			
Target Compounds						Qvalue
2) Propene	4.12	42	5952	0.183	ng	98
3) Dichlorodifluoromethan...	4.26	85	10879	0.171	ng	99
4) Chloromethane	4.54	50	5673	0.114	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	4.95	62	111393	2.042	ng	99
7) 1,3-Butadiene	5.23	54	116	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	5.98	64	1178	0.055	ng	72
10) Ethanol	6.32	45	36279	1.447	ng	100
11) Acetonitrile	6.59	41	4820	0.084	ng	72
12) Acrolein	6.79	56	1866	0.094	ng	100
13) Acetone	0.00	58	0	N.D. d		
14) Trichlorofluoromethane	7.24	101	2170	N.D.		
15) 2-Propanol (Isopropanol)	7.52	45	10494	0.138	ng	96
16) Acrylonitrile	7.75	53	1179	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	8.44	59	1334	N.D.		
19) Methylene Chloride	8.40	84	1900	0.058	ng	98
20) 3-Chloro-1-propene (Al...	8.50	41	434	N.D.		
21) Trichlorotrifluoroethane	8.84	151	3345	0.126	ng	91
22) Carbon Disulfide	8.67	76	101529	0.869	ng	99
23) trans-1,2-Dichloroethene	9.68	61	169	N.D.		
24) 1,1-Dichloroethane	9.93	63	108	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D. d		
27) 2-Butanone (MEK)	10.47	72	4776	0.223	ng	94
28) cis-1,2-Dichloroethene	10.96	61	617	N.D.		
29) Diisopropyl Ether	11.30	87	543	N.D.		
30) Ethyl Acetate	11.28	61	483	N.D.		
31) n-Hexane	11.26	57	12051	0.225	ng	100
32) Chloroform	11.30	83	5234	0.094	ng	97
34) Tetrahydrofuran (THF)	11.74	72	11407	0.547	ng	97
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.11	62	746	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D. d		
41) Benzene	12.87	78	28601	0.222	ng	100
42) Carbon Tetrachloride	13.03	117	4063	0.093	ng	99
43) Cyclohexane	13.16	84	11197	0.233	ng	97
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	13.85	83	645	N.D.		
47) Trichloroethene	13.97	130	1579534	47.354	ng	99
48) 1,4-Dioxane	13.97	88	436	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d		
50) Methyl Methacrylate	0.00	100	0	N.D. d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\06\05062011.D Vial: 13
Acq On : 6 May 2020 9:31 Operator: WA
Sample : P2002105-020dil (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 19:00:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

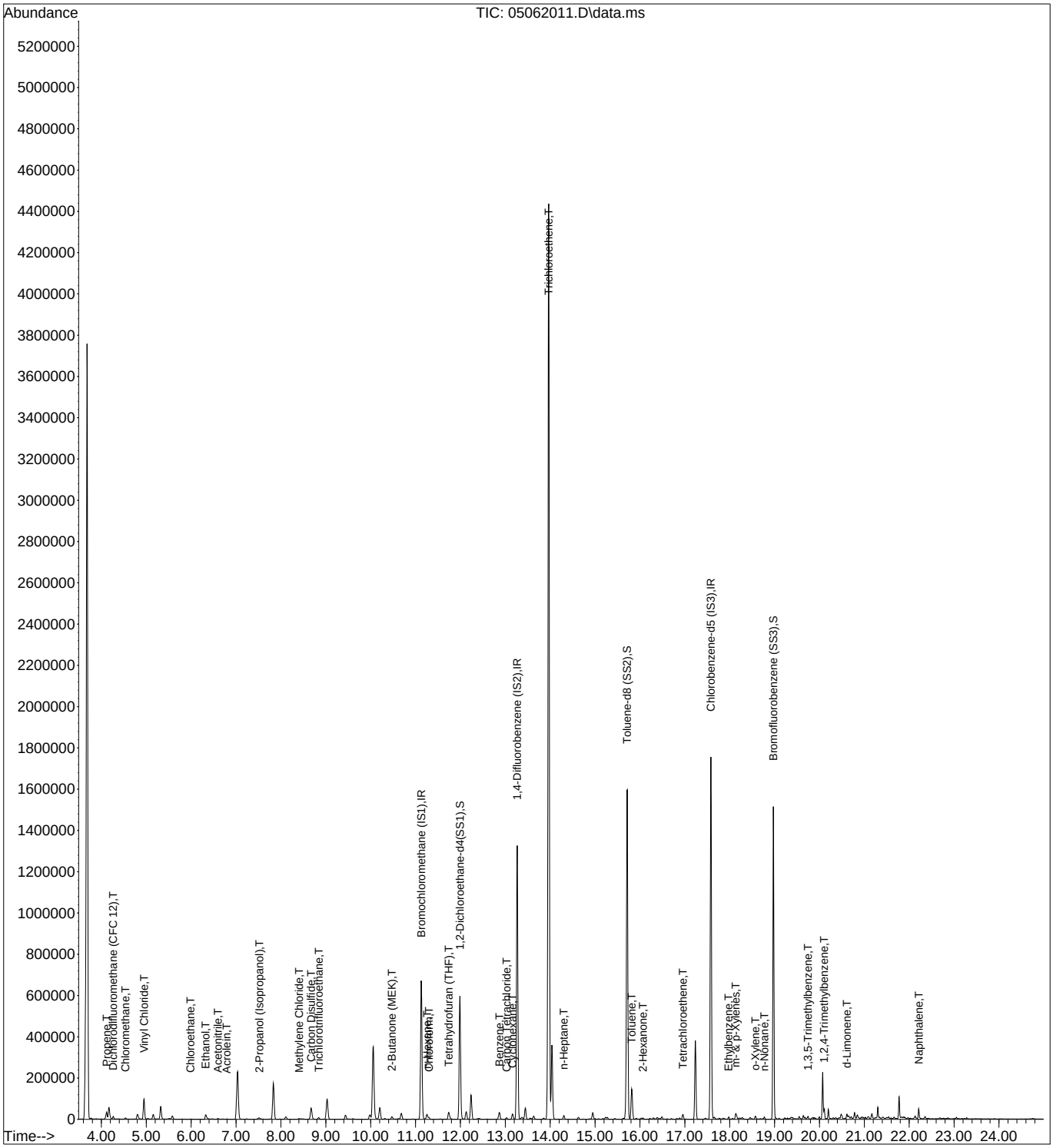
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.30	71	4721	0.156 ng		99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.88	58	623	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.82	91	95386	0.764 ng		100
59) 2-Hexanone	16.07	43	4442	0.065 ng		75
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	16.47	107	351	N.D.		
62) n-Butyl Acetate	16.70	43	1839	N.D.		
63) n-Octane	16.82	57	716	N.D.		
64) Tetrachloroethene	16.96	166	7202	0.204 ng		100
65) Chlorobenzene	17.62	112	740	N.D.		
66) Ethylbenzene	17.98	91	8614	0.062 ng		100
67) m- & p-Xylenes	18.14	91	22014	0.199 ng		99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.48	104	1133	N.D.		
70) o-Xylene	18.57	91	7338	0.065 ng		100
71) n-Nonane	18.77	43	5475	0.092 ng	#	79
72) 1,1,2,2-Tetrachloroethane	18.56	83	176	N.D.		
74) Cumene	19.10	105	2037	N.D.		
75) alpha-Pinene	19.45	93	1298	N.D.		
76) n-Propylbenzene	19.55	91	5939	N.D.		
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.68	105	5201	N.D.		
79) 1,3,5-Trimethylbenzene	19.74	105	5640	0.050 ng		96
80) alpha-Methylstyrene	19.88	118	1188	N.D.		
81) 2-Ethyltoluene	19.92	105	3913	N.D.		
82) 1,2,4-Trimethylbenzene	20.10	105	24876	0.221 ng		90
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.21	91	747	N.D.		
85) 1,3-Dichlorobenzene	20.24	146	1236	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	1783	N.D.		
87) sec-Butylbenzene	20.35	105	2480	N.D.		
88) 4-Isopropyltoluene (p-...	20.48	119	4057	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	20.60	146	900	N.D.		
91) d-Limonene	20.61	68	4903	0.110 ng		76
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.11	180	1511	N.D.		
95) Naphthalene	22.22	128	13631	0.099 ng		98
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	20.10	119	2803	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\06\05062011.D Vial: 13
Acq On : 6 May 2020 9:31 Operator: WA
Sample : P2002105-020dil (20mL) Inst : GCMS-16
Misc : S31-02112001

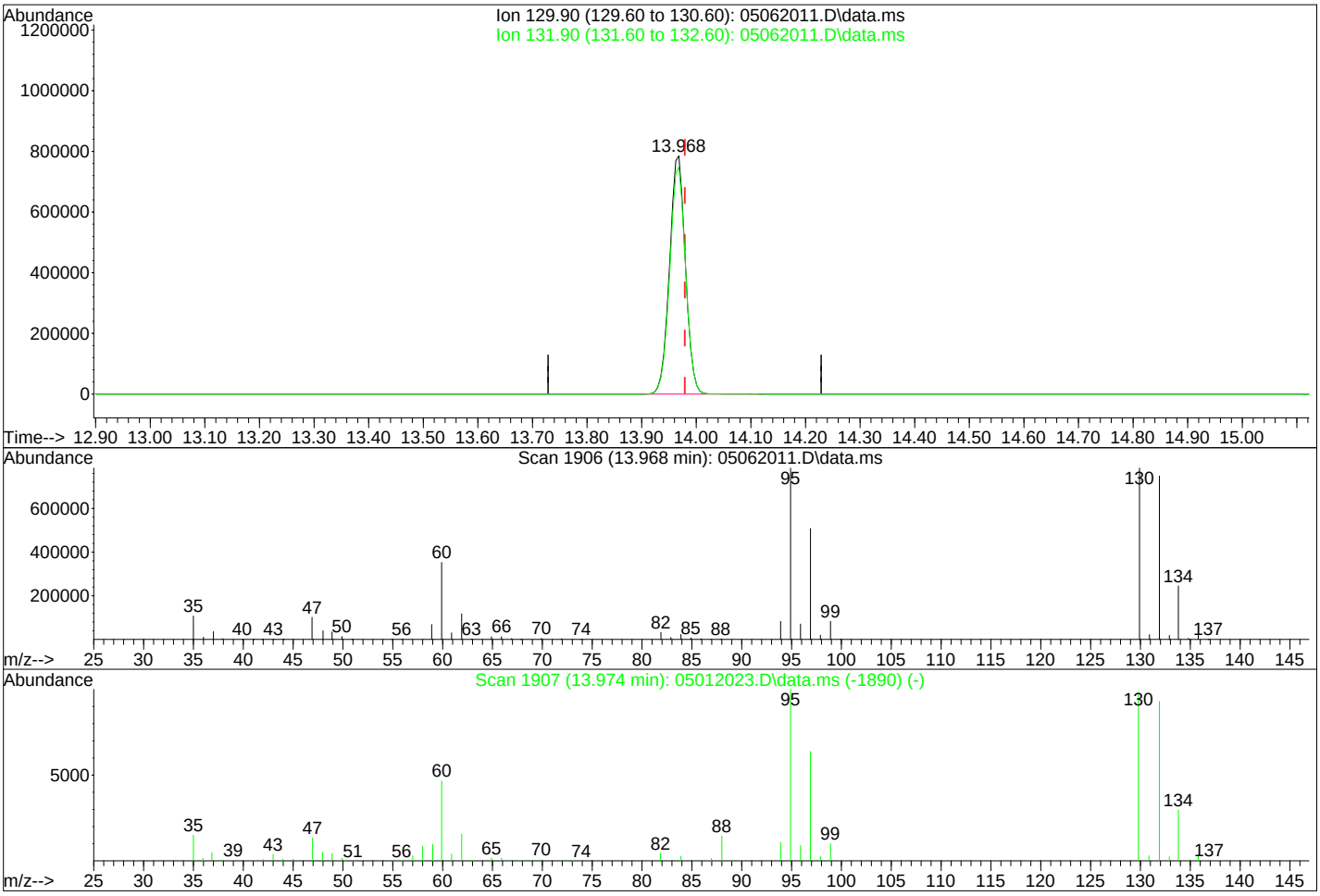
Quant Time: May 06 19:00:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\06\05062011.D Vial: 13
Acq On : 6 May 2020 9:31 Operator: WA
Sample : P2002105-020dil (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 11:02:23 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05062011.D\data.ms

(47) Trichloroethene (T)

13.968min (-0.011) 47.35ng

response 1579534

Ion	Exp%	Act%
129.90	100	100
131.90	94.90	95.56
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042004.D Vial: 2
Acq On : 4 May 2020 7:28 Operator: TD
Sample : MB R16050420_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

TD 5/4/20

Quant Time: May 04 08:04:01 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	248677	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1093796	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	506331	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	424671	12.601	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.80%				
57) Toluene-d8 (SS2)	15.72	98	1092099	12.725	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.84%				
73) Bromofluorobenzene (SS3)	18.98	174	368362	11.928	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.44%				
Target Compounds							Qvalue
2) Propene	4.13	42	414	N.D.			
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.34	45	9384	0.422	ng		89
11) Acetonitrile	6.60	41	4417	0.087	ng	#	46
12) Acrolein	6.80	56	758	N.D.			
13) Acetone	7.04	58	3874	0.174	ng		88
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	7.55	45	1582	N.D.			
16) Acrylonitrile	7.75	53	1667	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.69	76	2336	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	10.50	72	122	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	11.78	72	372	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.00	62	108	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	12.87	56	2377	0.087	ng	#	75
41) Benzene	12.87	78	988	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	13.26	84	682	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042004.D Vial: 2
Acq On : 4 May 2020 7:28 Operator: TD
Sample : MB R16050420_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: May 04 08:04:01 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

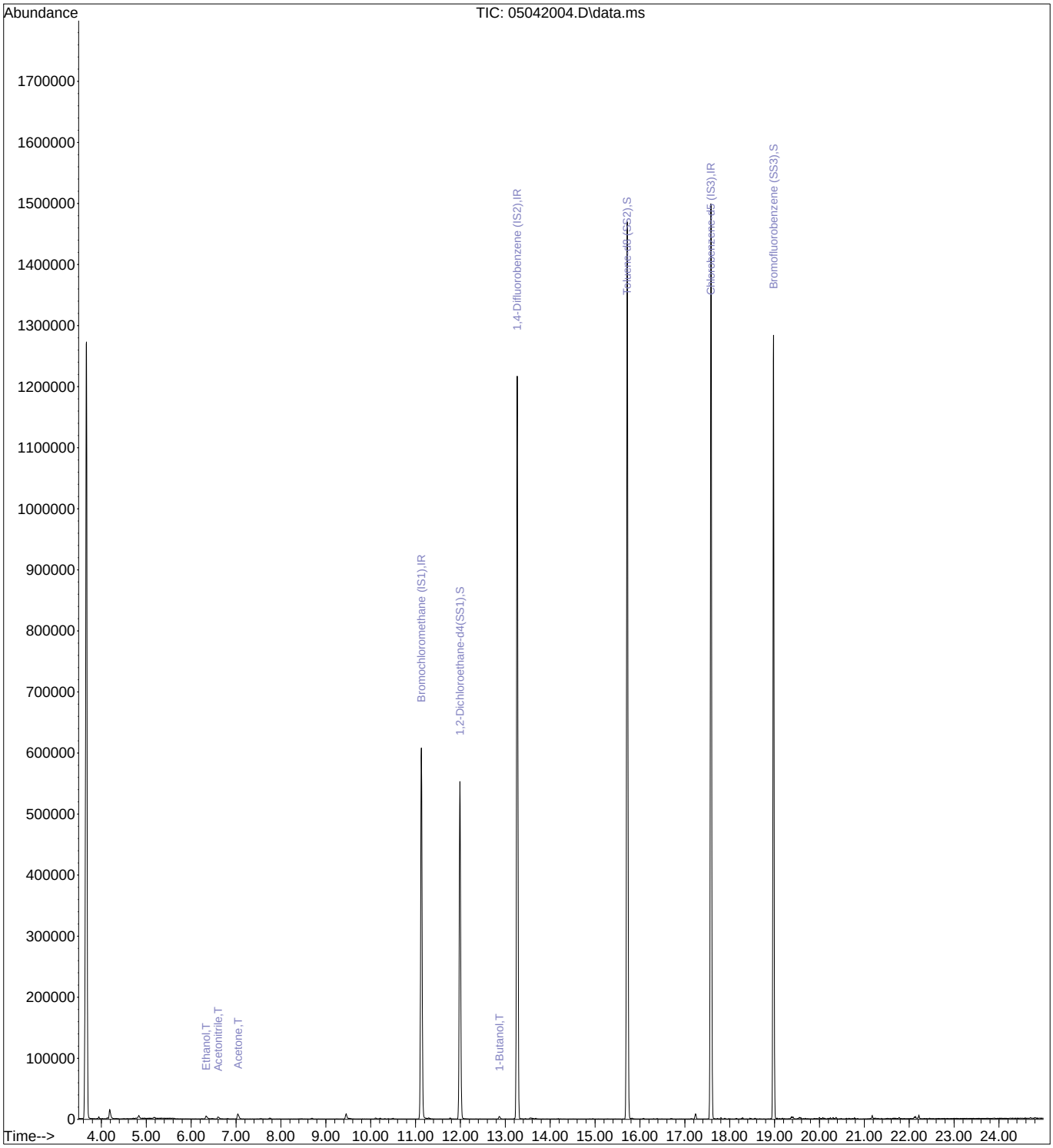
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.82	91	1522	N.D.		
59) 2-Hexanone	16.07	43	1053	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.71	43	838	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	17.62	112	308	N.D.		
66) Ethylbenzene	17.98	91	506	N.D.		
67) m- & p-Xylenes	18.16	91	1275	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	573	N.D.		
70) o-Xylene	18.58	91	593	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.10	105	724	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	19.55	91	687	N.D.		
77) 3-Ethyltoluene	19.64	105	357	N.D.		
78) 4-Ethyltoluene	19.69	105	767	N.D.		
79) 1,3,5-Trimethylbenzene	19.74	105	793	N.D.		
80) alpha-Methylstyrene	19.88	118	118	N.D.		
81) 2-Ethyltoluene	19.91	105	537	N.D.		
82) 1,2,4-Trimethylbenzene	20.12	105	935	N.D.		
83) n-Decane	20.19	57	170	N.D.		
84) Benzyl Chloride	20.23	91	1173	N.D.		
85) 1,3-Dichlorobenzene	20.25	146	829	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	1087	N.D.		
87) sec-Butylbenzene	20.35	105	475	N.D.		
88) 4-Isopropyltoluene (p-...	20.48	119	299	N.D.		
89) 1,2,3-Trimethylbenzene	20.48	105	329	N.D.		
90) 1,2-Dichlorobenzene	20.61	146	485	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.30	57	258	N.D.		
94) 1,2,4-Trichlorobenzene	22.11	180	791	N.D.		
95) Naphthalene	22.22	128	4295	N.D.		
96) n-Dodecane	22.21	57	275	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.28	55	941	N.D.		
99) tert-Butylbenzene	20.10	119	360	N.D.		
100) n-Butylbenzene	20.85	91	563	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042004.D Vial: 2
Acq On : 4 May 2020 7:28 Operator: TD
Sample : MB R16050420_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: May 04 08:04:01 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



R16050120.M Mon May 04 08:04:44 2020

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052004.D Vial: 2
Acq On : 5 May 2020 4:52 Operator: TD
Sample : MB R16050520_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: May 05 07:11:17 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/6/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	258335	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1123652	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	524091	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	423889	12.108	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.88%				
57) Toluene-d8 (SS2)	15.72	98	1117682	12.582	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.64%				
73) Bromofluorobenzene (SS3)	18.98	174	401632	12.565	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.56%				
Target Compounds							Qvalue
2) Propene	4.14	42	537	N.D.			
3) Dichlorodifluoromethan...	4.29	85	539	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.34	45	9499	0.411	ng		88
11) Acetonitrile	6.60	41	4618	0.087	ng	#	39
12) Acrolein	6.81	56	661	N.D.			
13) Acetone	7.04	58	3942	0.171	ng		89
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	7.55	45	1576	N.D.			
16) Acrylonitrile	7.75	53	1586	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	8.40	84	131	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.69	76	1595	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	10.50	72	125	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	11.77	72	256	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	12.87	56	2508	0.089	ng	#	75
41) Benzene	12.87	78	988	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	13.26	84	658	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	13.96	130	585	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052004.D Vial: 2
Acq On : 5 May 2020 4:52 Operator: TD
Sample : MB R16050520_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: May 05 07:11:17 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

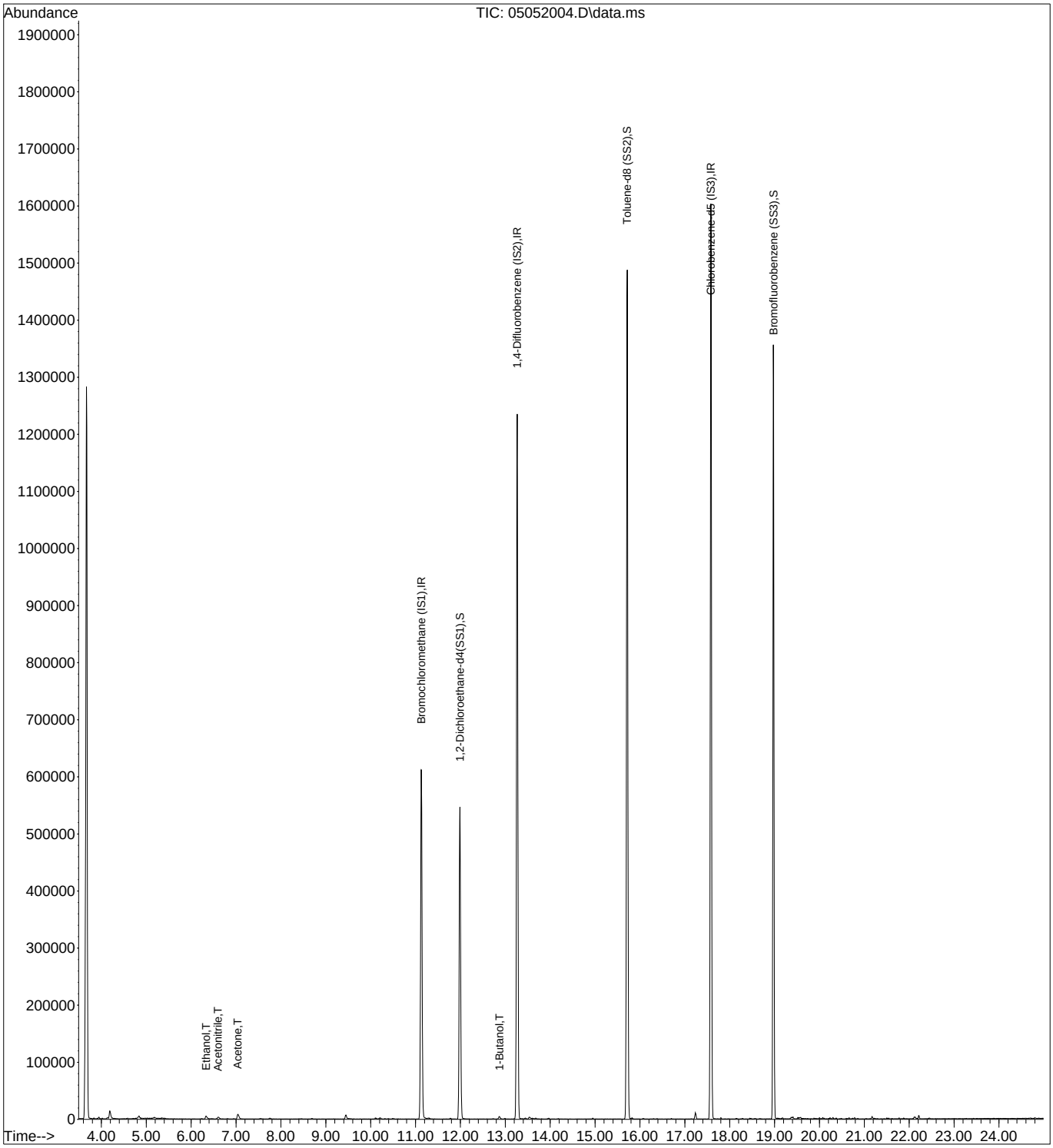
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.82	91	1210	N.D.		
59) 2-Hexanone	16.08	43	1145	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.70	43	817	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	17.62	112	356	N.D.		
66) Ethylbenzene	17.98	91	784	N.D.		
67) m- & p-Xylenes	18.14	91	1223	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	664	N.D.		
70) o-Xylene	18.57	91	448	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.10	105	899	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	19.58	91	2023	N.D.		
77) 3-Ethyltoluene	19.64	105	1232	N.D.		
78) 4-Ethyltoluene	19.68	105	1073	N.D.		
79) 1,3,5-Trimethylbenzene	19.75	105	626	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	19.91	105	583	N.D.		
82) 1,2,4-Trimethylbenzene	20.11	105	807	N.D.		
83) n-Decane	20.19	57	285	N.D.		
84) Benzyl Chloride	20.22	91	1127	N.D.		
85) 1,3-Dichlorobenzene	20.24	146	864	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	1306	N.D.		
87) sec-Butylbenzene	20.35	105	323	N.D.		
88) 4-Isopropyltoluene (p-...	20.48	119	358	N.D.		
89) 1,2,3-Trimethylbenzene	20.48	105	251	N.D.		
90) 1,2-Dichlorobenzene	20.60	146	646	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.30	57	174	N.D.		
94) 1,2,4-Trichlorobenzene	22.11	180	1076	N.D.		
95) Naphthalene	22.22	128	5165	N.D.		
96) n-Dodecane	22.21	57	204	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.28	55	644	N.D.		
99) tert-Butylbenzene	20.11	119	176	N.D.		
100) n-Butylbenzene	20.85	91	711	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052004.D Vial: 2
Acq On : 5 May 2020 4:52 Operator: TD
Sample : MB R16050520_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: May 05 07:11:17 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\06\05062004.D Vial: 2
Acq On : 6 May 2020 1:18 Operator: WA
Sample : MB R16050620_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: May 06 03:57:06 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 5/6/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	254427	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1099157	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	529021	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	414929	12.034	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.24%				
57) Toluene-d8 (SS2)	15.72	98	1103359	12.305	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.40%				
73) Bromofluorobenzene (SS3)	18.97	174	414715	12.854	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.80%				
Target Compounds							Qvalue
2) Propene	4.14	42	435	N.D.			
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.32	45	8917	0.392	ng		90
11) Acetonitrile	6.59	41	4462	0.086	ng	#	37
12) Acrolein	6.80	56	650	N.D.			
13) Acetone	7.03	58	3943	0.173	ng		93
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	7.55	45	1486	N.D.			
16) Acrylonitrile	7.75	53	1469	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	8.40	84	128	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.69	76	2050	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	10.49	72	200	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	11.77	72	252	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	11.98	62	114	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	12.86	56	2605	0.095	ng	#	70
41) Benzene	12.86	78	1002	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	13.27	84	661	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\06\05062004.D Vial: 2
Acq On : 6 May 2020 1:18 Operator: WA
Sample : MB R16050620_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: May 06 03:57:06 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

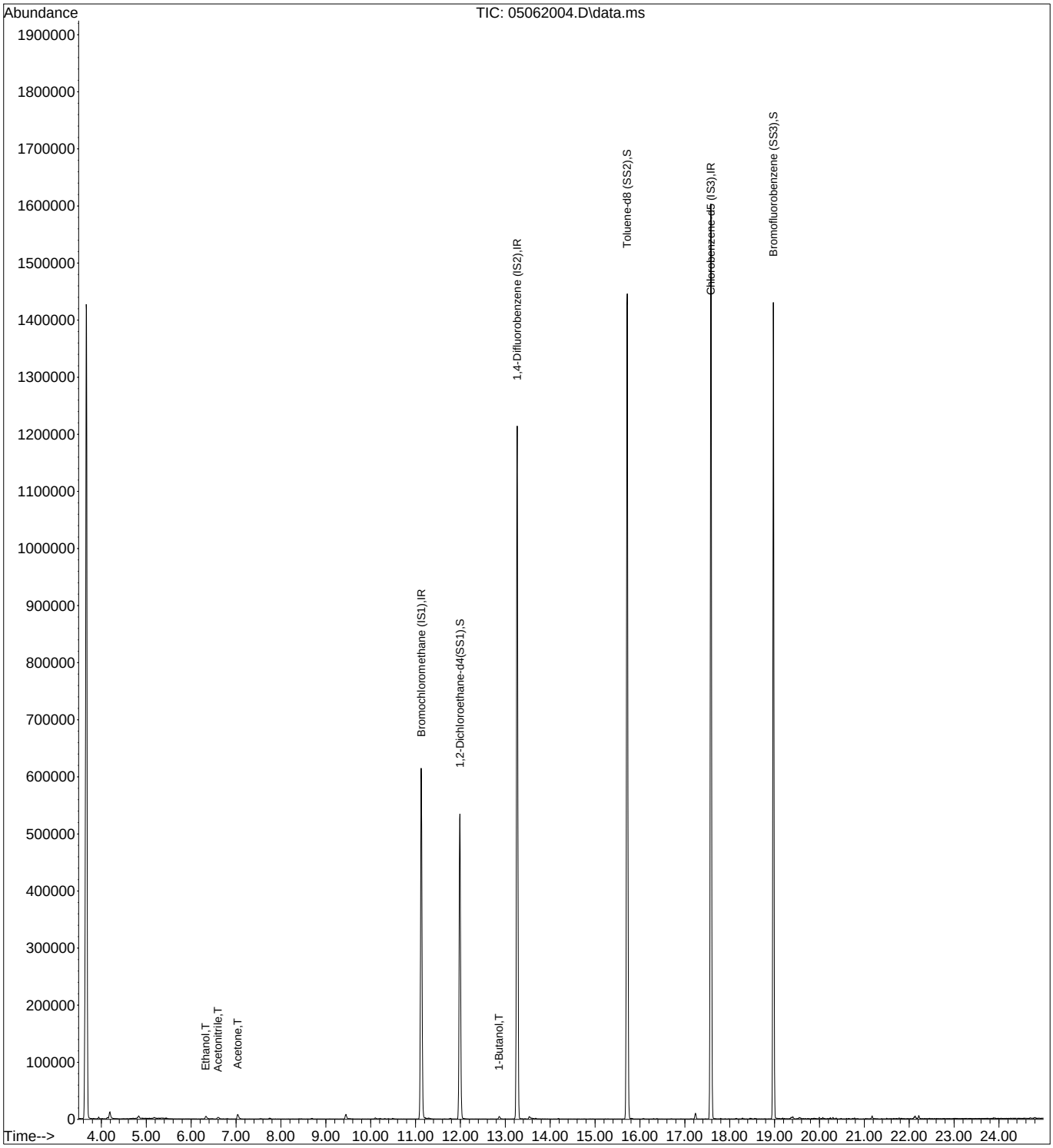
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.82	91	1202	N.D.		
59) 2-Hexanone	16.08	43	1112	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.70	43	842	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	17.62	112	363	N.D.		
66) Ethylbenzene	17.98	91	844	N.D.		
67) m- & p-Xylenes	18.14	91	1188	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	550	N.D.		
70) o-Xylene	18.57	91	610	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.10	105	410	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	19.56	91	730	N.D.		
77) 3-Ethyltoluene	19.65	105	1074	N.D.		
78) 4-Ethyltoluene	19.68	105	1134	N.D.		
79) 1,3,5-Trimethylbenzene	19.75	105	552	N.D.		
80) alpha-Methylstyrene	19.87	118	113	N.D.		
81) 2-Ethyltoluene	19.92	105	675	N.D.		
82) 1,2,4-Trimethylbenzene	20.12	105	767	N.D.		
83) n-Decane	20.19	57	105	N.D.		
84) Benzyl Chloride	20.23	91	846	N.D.		
85) 1,3-Dichlorobenzene	20.24	146	746	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	1277	N.D.		
87) sec-Butylbenzene	20.34	105	451	N.D.		
88) 4-Isopropyltoluene (p-...	20.48	119	367	N.D.		
89) 1,2,3-Trimethylbenzene	20.48	105	369	N.D.		
90) 1,2-Dichlorobenzene	20.61	146	586	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.24	57	265	N.D.		
94) 1,2,4-Trichlorobenzene	22.11	180	1053	N.D.		
95) Naphthalene	22.21	128	4790	N.D.		
96) n-Dodecane	22.21	57	173	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.28	55	677	N.D.		
99) tert-Butylbenzene	20.09	119	414	N.D.		
100) n-Butylbenzene	20.85	91	569	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\06\05062004.D Vial: 2
Acq On : 6 May 2020 1:18 Operator: WA
Sample : MB R16050620_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: May 06 03:57:06 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042005.D Vial: 2
Acq On : 4 May 2020 8:01 Operator: TD
Sample : LCS R16050420_25ng Inst : GCMS-16 TD 5/4/20
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 04 08:27:09 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	275674	12.500	ng	-0.01
37) 1,4-Difluorobenzene (IS2)	13.28	114	1187682	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	541004	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.00	65	444296	11.892	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.12%			
57) Toluene-d8 (SS2)	15.72	98	1156521	12.612	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.88%			
73) Bromofluorobenzene (SS3)	18.98	174	437715	13.266	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.16%			
Target Compounds						Qvalue
2) Propene	4.09	42	844211	26.440	ng	99
3) Dichlorodifluoromethan...	4.25	85	1539237	24.648	ng	100
4) Chloromethane	4.53	50	1157994	23.669	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	881043	23.614	ng	100
6) Vinyl Chloride	4.95	62	1311807	24.452	ng	100
7) 1,3-Butadiene	5.22	54	1123461	25.309	ng	100
8) Bromomethane	5.65	94	671167	23.682	ng	99
9) Chloroethane	5.98	64	518743	24.476	ng	100
10) Ethanol	6.39	45	3019356	122.469	ng	100
11) Acetonitrile	6.63	41	1354183	24.036	ng	100
12) Acrolein	6.80	56	468121	24.030	ng	100
13) Acetone	7.01	58	3137806	127.263	ng	99
14) Trichlorofluoromethane	7.24	101	1371139	24.844	ng	100
15) 2-Propanol (Isopropanol)	7.52	45	3856360	51.676	ng	100
16) Acrylonitrile	7.77	53	1001913	24.857	ng	100
17) 1,1-Dichloroethene	8.20	96	749064	25.891	ng	99
18) 2-Methyl-2-Propanol (t...	8.39	59	3614819	51.959	ng	100
19) Methylene Chloride	8.44	84	786421	24.536	ng	100
20) 3-Chloro-1-propene (Al...	8.59	41	1094984	24.867	ng	99
21) Trichlorotrifluoroethane	8.84	151	685400	26.304	ng	100
22) Carbon Disulfide	8.69	76	2915757	25.388	ng	100
23) trans-1,2-Dichloroethene	9.71	61	1104089	25.062	ng	99
24) 1,1-Dichloroethane	9.96	63	1282571	24.523	ng	100
25) Methyl tert-Butyl Ether	10.05	73	1979037	24.057	ng	100
26) Vinyl Acetate	10.22	86	1057109	137.643	ng	99
27) 2-Butanone (MEK)	10.46	72	528322	25.126	ng	99
28) cis-1,2-Dichloroethene	10.98	61	1074301	24.931	ng	99
29) Diisopropyl Ether	11.27	87	756149	25.421	ng	99
30) Ethyl Acetate	11.28	61	693355	57.186	ng	99
31) n-Hexane	11.26	57	1423857	27.075	ng	100
32) Chloroform	11.32	83	1395108	25.424	ng	100
34) Tetrahydrofuran (THF)	11.72	72	520582	25.385	ng	99
35) Ethyl tert-Butyl Ether	11.87	87	934912	26.010	ng	100
36) 1,2-Dichloroethane	12.12	62	1073338	24.688	ng	100
38) 1,1,1-Trichloroethane	12.40	97	1254618	26.227	ng	100
39) Isopropyl Acetate	12.83	61	1162099	55.538	ng	96
40) 1-Butanol	12.85	56	1818896	61.099	ng	96
41) Benzene	12.88	78	3192052	25.062	ng	100
42) Carbon Tetrachloride	13.04	117	1114206	25.718	ng	99
43) Cyclohexane	13.17	84	2516308	53.017	ng	99
44) tert-Amyl Methyl Ether	13.52	73	2277617	26.668	ng	100
45) 1,2-Dichloropropane	13.73	63	775121	26.277	ng	99
46) Bromodichloromethane	13.92	83	1158131	26.906	ng	100
47) Trichloroethene	13.97	130	872350	26.498	ng	100
48) 1,4-Dioxane	13.95	88	694924	27.090	ng	99
49) 2,2,4-Trimethylpentane...	14.05	57	3200847	25.826	ng	100
50) Methyl Methacrylate	14.18	100	699618	55.369	ng	99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042005.D Vial: 2
Acq On : 4 May 2020 8:01 Operator: TD
Sample : LCS R16050420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 04 08:27:09 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

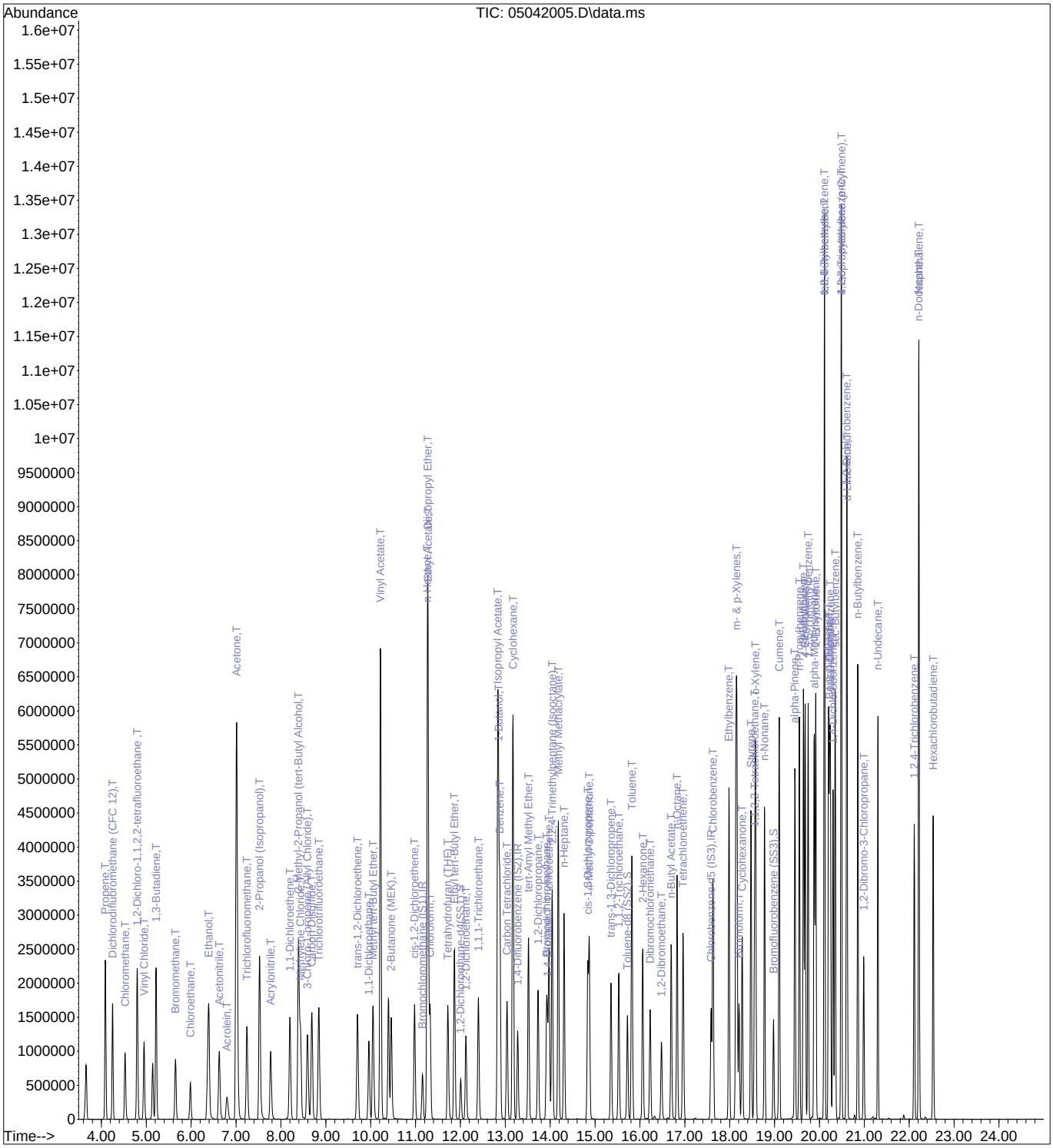
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	760222	25.524	ng	100
52) cis-1,3-Dichloropropene	14.84	75	1402975	27.703	ng	100
53) 4-Methyl-2-pentanone	14.87	58	767802	27.042	ng	99
54) trans-1,3-Dichloropropene	15.35	75	1202539	27.752	ng	100
55) 1,1,2-Trichloroethane	15.53	97	776501	26.545	ng	100
58) Toluene	15.82	91	3166655	26.790	ng	100
59) 2-Hexanone	16.06	43	1880762	29.038	ng	100
60) Dibromochloromethane	16.23	129	981794	29.007	ng	100
61) 1,2-Dibromoethane	16.48	107	904047	27.791	ng	100
62) n-Butyl Acetate	16.70	43	2101979	30.045	ng	100
63) n-Octane	16.83	57	670459	27.398	ng	100
64) Tetrachloroethene	16.96	166	919295	27.534	ng	100
65) Chlorobenzene	17.62	112	2140593	26.319	ng	100
66) Ethylbenzene	17.98	91	3736067	28.346	ng	100
67) m- & p-Xylenes	18.15	91	6034688	57.713	ng	100
68) Bromoform	18.21	173	859167	29.281	ng	100
69) Styrene	18.48	104	2348017	29.856	ng	100
70) o-Xylene	18.58	91	3006260	28.320	ng	100
71) n-Nonane	18.77	43	1580675	28.064	ng	100
72) 1,1,2,2-Tetrachloroethane	18.55	83	1516385	28.794	ng	100
74) Cumene	19.10	105	3776444	28.988	ng	100
75) alpha-Pinene	19.45	93	1967863	28.310	ng	100
76) n-Propylbenzene	19.56	91	4569631	29.526	ng	100
77) 3-Ethyltoluene	19.64	105	3969992	31.484	ng	100
78) 4-Ethyltoluene	19.68	105	3402201	27.807	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	3118776	29.357	ng	100
80) alpha-Methylstyrene	19.89	118	1689342	28.212	ng	99
81) 2-Ethyltoluene	19.92	105	3701684	29.762	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3490190	32.686	ng	100
83) n-Decane	20.20	57	1686365	28.232	ng	99
84) Benzyl Chloride	20.23	91	2978786	29.930	ng	100
85) 1,3-Dichlorobenzene	20.24	146	1912726	30.849	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1865485	30.831	ng	100
87) sec-Butylbenzene	20.35	105	4153203	29.964	ng	100
88) 4-Isopropyltoluene (p-...	20.49	119	4089594	31.158	ng	100
89) 1,2,3-Trimethylbenzene	20.48	105	3420194	30.605	ng	99
90) 1,2-Dichlorobenzene	20.61	146	1899804	32.002	ng	100
91) d-Limonene	20.62	68	1304675	30.936	ng	99
92) 1,2-Dibromo-3-Chloropr...	20.98	157	646475	28.881	ng	98
93) n-Undecane	21.30	57	1670647	30.219	ng	100
94) 1,2,4-Trichlorobenzene	22.11	180	1291705	31.372	ng	100
95) Naphthalene	22.22	128	4413055	33.864	ng	100
96) n-Dodecane	22.21	57	1618209	33.806	ng	100
97) Hexachlorobutadiene	22.54	225	807870	28.366	ng	100
98) Cyclohexanone	18.28	55	1146700	27.714	ng	100
99) tert-Butylbenzene	20.11	119	3258614	31.006	ng	100
100) n-Butylbenzene	20.85	91	3396052	31.237	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042005.D Vial: 2
Acq On : 4 May 2020 8:01 Operator: TD
Sample : LCS R16050420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 04 08:27:09 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042006.D Vial: 2
Acq On : 4 May 2020 8:35 Operator: TD
Sample : LCSD R16050420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

TD 5/4/20

Quant Time: May 04 11:29:25 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	282890	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	13.28	114	1215518	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	556100	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.01	65	454377	11.852	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.80%			
57) Toluene-d8 (SS2)	15.72	98	1177873	12.496	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.00%			
73) Bromofluorobenzene (SS3)	18.98	174	450444	13.281	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.24%			
Target Compounds						Qvalue
2) Propene	4.09	42	870370	26.564	ng	100
3) Dichlorodifluoromethan...	4.25	85	1611151	25.141	ng	100
4) Chloromethane	4.53	50	1239443	24.688	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	932429	24.354	ng	100
6) Vinyl Chloride	4.96	62	1381309	25.090	ng	99
7) 1,3-Butadiene	5.22	54	1155360	25.363	ng	100
8) Bromomethane	5.66	94	727723	25.022	ng	99
9) Chloroethane	5.99	64	548411	25.216	ng	100
10) Ethanol	6.40	45	3125741	123.550	ng	100
11) Acetonitrile	6.63	41	1417230	24.513	ng	100
12) Acrolein	6.80	56	484087	24.216	ng	99
13) Acetone	7.02	58	3266107	129.088	ng	99
14) Trichlorofluoromethane	7.25	101	1418288	25.042	ng	100
15) 2-Propanol (Isopropanol)	7.53	45	3964657	51.772	ng	100
16) Acrylonitrile	7.78	53	1043240	25.223	ng	100
17) 1,1-Dichloroethene	8.21	96	765349	25.779	ng	98
18) 2-Methyl-2-Propanol (t...	8.40	59	3753063	52.570	ng	100
19) Methylene Chloride	8.44	84	811836	24.683	ng	99
20) 3-Chloro-1-propene (Al...	8.60	41	1123846	24.871	ng	99
21) Trichlorotrifluoroethane	8.85	151	707348	26.454	ng	98
22) Carbon Disulfide	8.69	76	2937739	24.927	ng	100
23) trans-1,2-Dichloroethene	9.71	61	1158112	25.618	ng	99
24) 1,1-Dichloroethane	9.96	63	1345671	25.074	ng	100
25) Methyl tert-Butyl Ether	10.05	73	2053058	24.320	ng	100
26) Vinyl Acetate	10.22	86	1096434	139.121	ng	100
27) 2-Butanone (MEK)	10.46	72	546288	25.318	ng	99
28) cis-1,2-Dichloroethene	10.98	61	1107654	25.049	ng	99
29) Diisopropyl Ether	11.27	87	765781	25.088	ng	98
30) Ethyl Acetate	11.28	61	707797	56.888	ng	99
31) n-Hexane	11.26	57	1462308	27.097	ng	100
32) Chloroform	11.33	83	1435673	25.496	ng	100
34) Tetrahydrofuran (THF)	11.72	72	534078	25.378	ng	100
35) Ethyl tert-Butyl Ether	11.87	87	971358	26.334	ng	99
36) 1,2-Dichloroethane	12.13	62	1101385	24.687	ng	100
38) 1,1,1-Trichloroethane	12.40	97	1293378	26.418	ng	100
39) Isopropyl Acetate	12.84	61	1188952	55.520	ng	97
40) 1-Butanol	12.85	56	1870002	61.377	ng	95
41) Benzene	12.88	78	3287135	25.217	ng	100
42) Carbon Tetrachloride	13.04	117	1143544	25.791	ng	100
43) Cyclohexane	13.17	84	2598950	53.504	ng	100
44) tert-Amyl Methyl Ether	13.52	73	2345209	26.830	ng	100
45) 1,2-Dichloropropane	13.73	63	790506	26.185	ng	99
46) Bromodichloromethane	13.92	83	1174478	26.660	ng	100
47) Trichloroethene	13.97	130	890417	26.427	ng	100
48) 1,4-Dioxane	13.95	88	708037	26.970	ng	99
49) 2,2,4-Trimethylpentane...	14.04	57	3290012	25.938	ng	99
50) Methyl Methacrylate	14.18	100	712340	55.085	ng	100

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042006.D Vial: 2
Acq On : 4 May 2020 8:35 Operator: TD
Sample : LCSD R16050420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 04 11:29:25 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

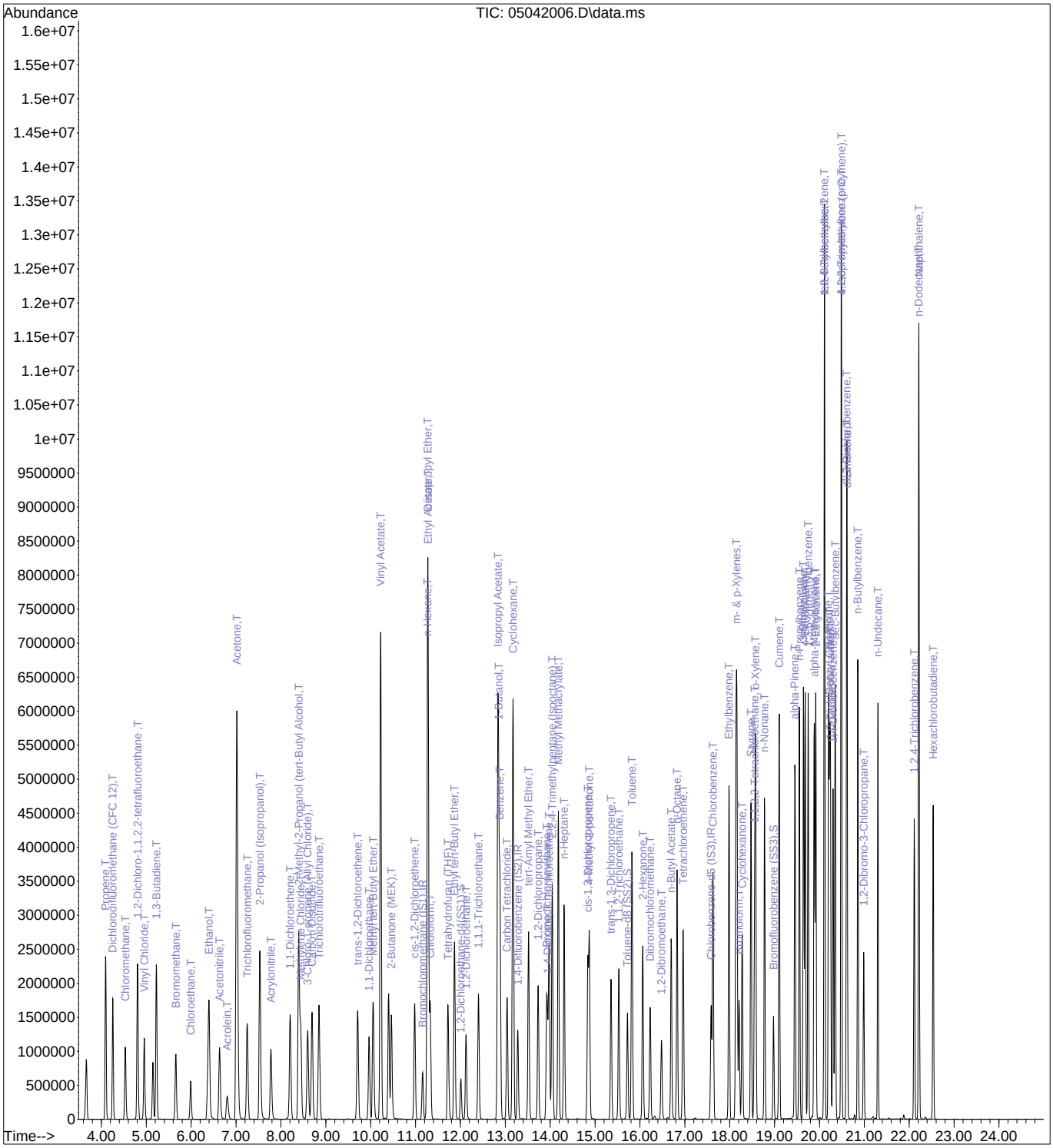
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	788816	25.877	ng	100
52) cis-1,3-Dichloropropene	14.84	75	1439279	27.769	ng	100
53) 4-Methyl-2-pentanone	14.87	58	791244	27.230	ng	100
54) trans-1,3-Dichloropropene	15.35	75	1248856	28.161	ng	100
55) 1,1,2-Trichloroethane	15.53	97	797589	26.642	ng	100
58) Toluene	15.82	91	3228428	26.571	ng	100
59) 2-Hexanone	16.06	43	1930154	28.991	ng	100
60) Dibromochloromethane	16.23	129	1003616	28.847	ng	100
61) 1,2-Dibromoethane	16.48	107	932609	27.890	ng	100
62) n-Butyl Acetate	16.70	43	2167342	30.138	ng	100
63) n-Octane	16.83	57	684322	27.205	ng	100
64) Tetrachloroethene	16.96	166	939493	27.376	ng	100
65) Chlorobenzene	17.62	112	2180743	26.085	ng	100
66) Ethylbenzene	17.98	91	3809517	28.118	ng	100
67) m- & p-Xylenes	18.15	91	6156341	57.278	ng	100
68) Bromoform	18.21	173	877382	29.090	ng	100
69) Styrene	18.48	104	2406125	29.764	ng	100
70) o-Xylene	18.58	91	3073954	28.171	ng	100
71) n-Nonane	18.77	43	1624574	28.061	ng	100
72) 1,1,2,2-Tetrachloroethane	18.55	83	1547880	28.594	ng	100
74) Cumene	19.10	105	3841884	28.690	ng	100
75) alpha-Pinene	19.45	93	2022057	28.299	ng	99
76) n-Propylbenzene	19.56	91	4660267	29.294	ng	100
77) 3-Ethyltoluene	19.64	105	4011158	30.947	ng	100
78) 4-Ethyltoluene	19.68	105	3495647	27.795	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	3178650	29.109	ng	100
80) alpha-Methylstyrene	19.88	118	1730166	28.110	ng	100
81) 2-Ethyltoluene	19.92	105	3766074	29.457	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3545503	32.303	ng	100
83) n-Decane	20.20	57	1727418	28.134	ng	100
84) Benzyl Chloride	20.23	91	3054544	29.858	ng	100
85) 1,3-Dichlorobenzene	20.25	146	1943335	30.492	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1895717	30.480	ng	100
87) sec-Butylbenzene	20.35	105	4211672	29.561	ng	100
88) 4-Isopropyltoluene (p-...	20.49	119	4112375	30.481	ng	100
89) 1,2,3-Trimethylbenzene	20.48	105	3462654	30.144	ng	99
90) 1,2-Dichlorobenzene	20.61	146	1917677	31.426	ng	100
91) d-Limonene	20.62	68	1327339	30.619	ng	100
92) 1,2-Dibromo-3-Chloropr...	20.98	157	657300	28.567	ng	99
93) n-Undecane	21.30	57	1710891	30.107	ng	100
94) 1,2,4-Trichlorobenzene	22.11	180	1320433	31.199	ng	100
95) Naphthalene	22.22	128	4487400	33.500	ng	100
96) n-Dodecane	22.21	57	1650288	33.541	ng	100
97) Hexachlorobutadiene	22.54	225	829253	28.326	ng	100
98) Cyclohexanone	18.28	55	1181052	27.770	ng	100
99) tert-Butylbenzene	20.11	119	3305979	30.603	ng	100
100) n-Butylbenzene	20.85	91	3457915	30.943	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042006.D Vial: 2
Acq On : 4 May 2020 8:35 Operator: TD
Sample : LCSD R16050420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 04 11:29:25 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052005.D Vial: 2
Acq On : 5 May 2020 5:26 Operator: TD
Sample : LCS R16050520_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 05 07:11:19 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 5/6/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	280171	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.28	114	1195033	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	544800	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	436386	11.493	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.92%				
57) Toluene-d8 (SS2)	15.72	98	1151422	12.469	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.76%				
73) Bromofluorobenzene (SS3)	18.98	174	454188	13.669	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.36%				
Target Compounds							Qvalue
2) Propene	4.09	42	814388	25.097	ng		99
3) Dichlorodifluoromethan...	4.25	85	1516955	23.901	ng		100
4) Chloromethane	4.53	50	1133164	22.790	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	875877	23.098	ng		100
6) Vinyl Chloride	4.95	62	1296629	23.781	ng		99
7) 1,3-Butadiene	5.22	54	1070446	23.727	ng		100
8) Bromomethane	5.65	94	668927	23.224	ng		100
9) Chloroethane	5.98	64	505491	23.468	ng		100
10) Ethanol	6.39	45	2894376	115.515	ng		100
11) Acetonitrile	6.63	41	1301808	22.735	ng		100
12) Acrolein	6.80	56	456379	23.052	ng		99
13) Acetone	7.01	58	3057241	122.006	ng		100
14) Trichlorofluoromethane	7.24	101	1347556	24.024	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	3714803	48.981	ng		100
16) Acrylonitrile	7.77	53	967293	23.613	ng		100
17) 1,1-Dichloroethene	8.20	96	740409	25.181	ng		97
18) 2-Methyl-2-Propanol (t...	8.39	59	3508334	49.619	ng		99
19) Methylene Chloride	8.44	84	774957	23.790	ng		98
20) 3-Chloro-1-propene (Al...	8.59	41	1044635	23.343	ng		98
21) Trichlorotrifluoroethane	8.84	151	693551	26.189	ng		97
22) Carbon Disulfide	8.69	76	2824790	24.201	ng		100
23) trans-1,2-Dichloroethene	9.71	61	1087331	24.285	ng		97
24) 1,1-Dichloroethane	9.96	63	1266750	23.832	ng		100
25) Methyl tert-Butyl Ether	10.05	73	1948066	23.301	ng		99
26) Vinyl Acetate	10.22	86	1053742	135.002	ng	#	95
27) 2-Butanone (MEK)	10.46	72	516446	24.167	ng		97
28) cis-1,2-Dichloroethene	10.98	61	1035025	23.634	ng		98
29) Diisopropyl Ether	11.27	87	735578	24.333	ng		98
30) Ethyl Acetate	11.28	61	671704	54.511	ng		99
31) n-Hexane	11.26	57	1381047	25.839	ng		100
32) Chloroform	11.32	83	1375393	24.662	ng		100
34) Tetrahydrofuran (THF)	11.72	72	505253	24.242	ng		98
35) Ethyl tert-Butyl Ether	11.87	87	919518	25.171	ng		98
36) 1,2-Dichloroethane	12.12	62	1046834	23.692	ng		100
38) 1,1,1-Trichloroethane	12.40	97	1230107	25.557	ng		100
39) Isopropyl Acetate	12.83	61	1125908	53.478	ng		98
40) 1-Butanol	12.85	56	1760637	58.778	ng		95
41) Benzene	12.88	78	3133860	24.454	ng		100
42) Carbon Tetrachloride	13.04	117	1097745	25.183	ng		100
43) Cyclohexane	13.17	84	2475237	51.831	ng		98
44) tert-Amyl Methyl Ether	13.52	73	2227799	25.924	ng		99
45) 1,2-Dichloropropane	13.73	63	751733	25.327	ng		100
46) Bromodichloromethane	13.92	83	1124344	25.960	ng		100
47) Trichloroethene	13.97	130	866974	26.173	ng		100
48) 1,4-Dioxane	13.95	88	677379	26.244	ng		98
49) 2,2,4-Trimethylpentane...	14.05	57	3081564	24.711	ng		99
50) Methyl Methacrylate	14.18	100	690315	54.297	ng		97

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052005.D Vial: 2
Acq On : 5 May 2020 5:26 Operator: TD
Sample : LCS R16050520_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 05 07:11:19 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

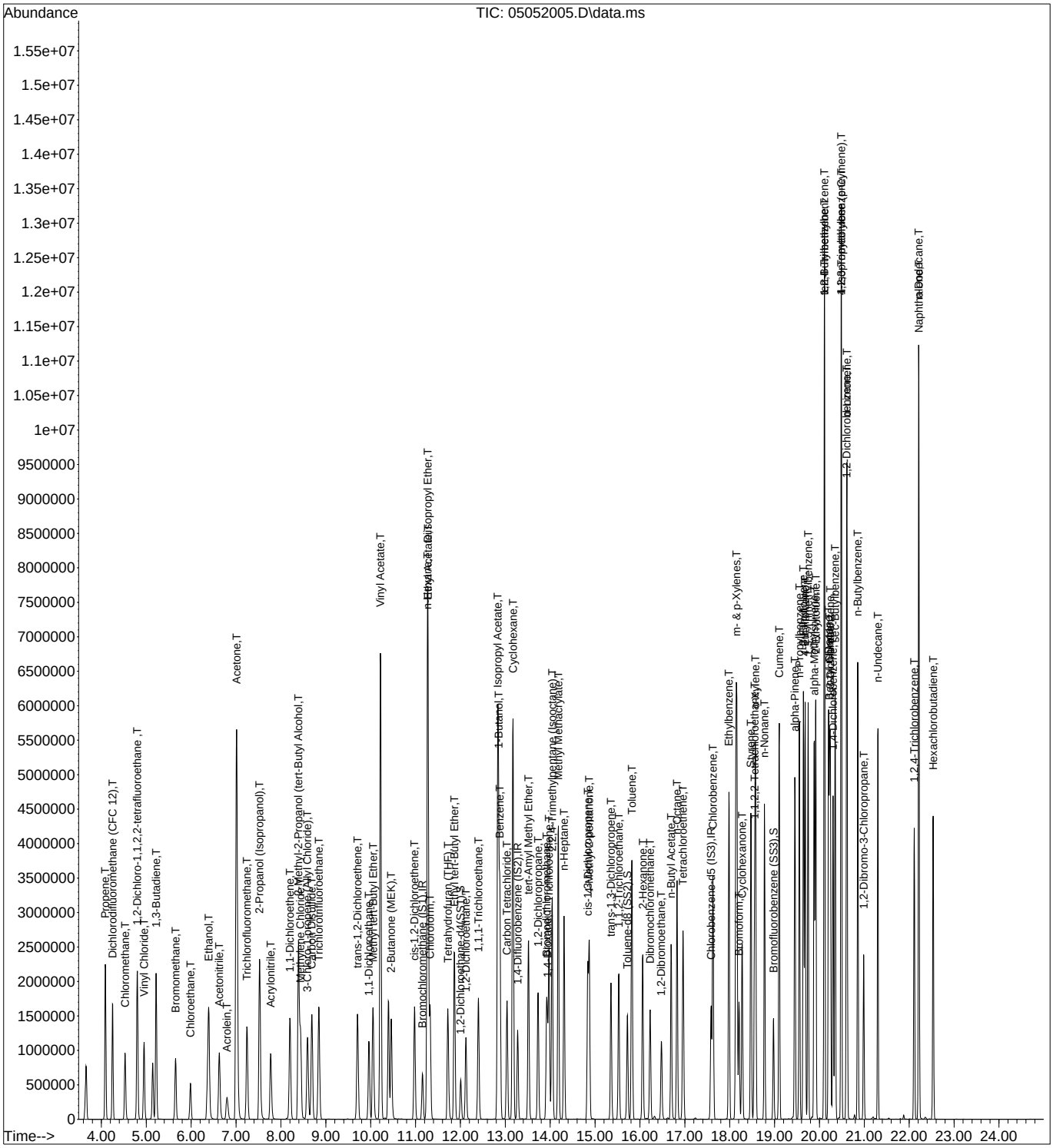
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	746923	24.923	ng	99
52) cis-1,3-Dichloropropene	14.84	75	1370930	26.904	ng	100
53) 4-Methyl-2-pentanone	14.87	58	747351	26.160	ng	99
54) trans-1,3-Dichloropropene	15.35	75	1185154	27.183	ng	100
55) 1,1,2-Trichloroethane	15.53	97	770138	26.166	ng	99
58) Toluene	15.82	91	3118495	26.199	ng	100
59) 2-Hexanone	16.06	43	1814535	27.820	ng	99
60) Dibromochloromethane	16.23	129	977368	28.675	ng	100
61) 1,2-Dibromoethane	16.48	107	902377	27.546	ng	100
62) n-Butyl Acetate	16.70	43	2027750	28.782	ng	100
63) n-Octane	16.83	57	645780	26.205	ng	99
64) Tetrachloroethene	16.96	166	922907	27.450	ng	100
65) Chlorobenzene	17.62	112	2125526	25.952	ng	100
66) Ethylbenzene	17.98	91	3675857	27.694	ng	100
67) m- & p-Xylenes	18.15	91	5925272	56.272	ng	99
68) Bromoform	18.21	173	858423	29.051	ng	100
69) Styrene	18.47	104	2308993	29.155	ng	99
70) o-Xylene	18.58	91	2951861	27.613	ng	99
71) n-Nonane	18.77	43	1527531	26.932	ng	100
72) 1,1,2,2-Tetrachloroethane	18.55	83	1494125	28.174	ng	100
74) Cumene	19.10	105	3712764	28.301	ng	100
75) alpha-Pinene	19.45	93	1929248	27.561	ng	100
76) n-Propylbenzene	19.56	91	4493735	28.833	ng	99
77) 3-Ethyltoluene	19.64	105	3939063	31.021	ng	100
78) 4-Ethyltoluene	19.68	105	3332625	27.048	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	3079758	28.788	ng	99
80) alpha-Methylstyrene	19.88	118	1667717	27.657	ng	100
81) 2-Ethyltoluene	19.92	105	3654923	29.181	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3442216	32.012	ng	99
83) n-Decane	20.20	57	1637497	27.223	ng	99
84) Benzyl Chloride	20.23	91	2913935	29.075	ng	99
85) 1,3-Dichlorobenzene	20.24	146	1893638	30.328	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1843374	30.253	ng	100
87) sec-Butylbenzene	20.35	105	4091676	29.314	ng	100
88) 4-Isopropyltoluene (p-...	20.48	119	4025447	30.455	ng	99
89) 1,2,3-Trimethylbenzene	20.48	105	3367084	29.920	ng	99
90) 1,2-Dichlorobenzene	20.61	146	1876093	31.383	ng	100
91) d-Limonene	20.61	68	1266677	29.826	ng	99
92) 1,2-Dibromo-3-Chloropr...	20.98	157	645308	28.628	ng	96
93) n-Undecane	21.30	57	1622155	29.138	ng	100
94) 1,2,4-Trichlorobenzene	22.11	180	1294689	31.226	ng	100
95) Naphthalene	22.22	128	4352404	33.166	ng	100
96) n-Dodecane	22.21	57	1580251	32.783	ng	100
97) Hexachlorobutadiene	22.54	225	821056	28.628	ng	100
98) Cyclohexanone	18.28	55	1118117	26.835	ng	99
99) tert-Butylbenzene	20.11	119	3222495	30.449	ng	100
100) n-Butylbenzene	20.85	91	3329536	30.412	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052005.D Vial: 2
Acq On : 5 May 2020 5:26 Operator: TD
Sample : LCS R16050520_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 05 07:11:19 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052006.D Vial: 2
Acq On : 5 May 2020 6:00 Operator: TD
Sample : LCSD R16050520_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 05 07:11:21 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/6/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	287594	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	13.28	114	1213206	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.58	82	552360	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.00	65	446288	11.451	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.60%			
57) Toluene-d8 (SS2)	15.72	98	1184244	12.649	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.20%			
73) Bromofluorobenzene (SS3)	18.98	174	458632	13.614	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.88%			
Target Compounds						Qvalue
2) Propene	4.09	42	832997	25.008	ng	100
3) Dichlorodifluoromethan...	4.25	85	1564531	24.014	ng	100
4) Chloromethane	4.53	50	1177256	23.066	ng	99
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	903287	23.206	ng	100
6) Vinyl Chloride	4.95	62	1308096	23.372	ng	100
7) 1,3-Butadiene	5.22	54	1104162	23.843	ng	100
8) Bromomethane	5.65	94	703749	23.802	ng	99
9) Chloroethane	5.98	64	530891	24.011	ng	100
10) Ethanol	6.39	45	3029205	117.776	ng	100
11) Acetonitrile	6.63	41	1354985	23.053	ng	100
12) Acrolein	6.80	56	466572	22.958	ng	100
13) Acetone	7.01	58	3170797	123.271	ng	100
14) Trichlorofluoromethane	7.24	101	1380535	23.977	ng	100
15) 2-Propanol (Isopropanol)	7.52	45	3863509	49.626	ng	100
16) Acrylonitrile	7.77	53	1001909	23.827	ng	100
17) 1,1-Dichloroethene	8.20	96	754744	25.006	ng	96
18) 2-Methyl-2-Propanol (t...	8.39	59	3713187	51.161	ng	99
19) Methylene Chloride	8.44	84	793617	23.734	ng	98
20) 3-Chloro-1-propene (Al...	8.59	41	1084959	23.618	ng	98
21) Trichlorotrifluoroethane	8.85	151	711416	26.171	ng	97
22) Carbon Disulfide	8.69	76	2888910	24.112	ng	100
23) trans-1,2-Dichloroethene	9.71	61	1103793	24.017	ng	97
24) 1,1-Dichloroethane	9.96	63	1286738	23.583	ng	100
25) Methyl tert-Butyl Ether	10.05	73	2003569	23.346	ng	100
26) Vinyl Acetate	10.22	86	1072808	133.897	ng	98
27) 2-Butanone (MEK)	10.46	72	530175	24.169	ng	98
28) cis-1,2-Dichloroethene	10.98	61	1062011	23.624	ng	97
29) Diisopropyl Ether	11.27	87	740730	23.871	ng	98
30) Ethyl Acetate	11.28	61	684405	54.108	ng	100
31) n-Hexane	11.26	57	1413335	25.761	ng	100
32) Chloroform	11.32	83	1400892	24.471	ng	100
34) Tetrahydrofuran (THF)	11.72	72	519480	24.281	ng	98
35) Ethyl tert-Butyl Ether	11.87	87	952537	25.402	ng	99
36) 1,2-Dichloroethane	12.12	62	1063351	23.445	ng	100
38) 1,1,1-Trichloroethane	12.40	97	1261677	25.820	ng	99
39) Isopropyl Acetate	12.83	61	1158804	54.216	ng	98
40) 1-Butanol	12.85	56	1825691	60.037	ng	94
41) Benzene	12.88	78	3193152	24.543	ng	100
42) Carbon Tetrachloride	13.04	117	1122984	25.376	ng	100
43) Cyclohexane	13.17	84	2516850	51.913	ng	99
44) tert-Amyl Methyl Ether	13.52	73	2300261	26.366	ng	99
45) 1,2-Dichloropropane	13.73	63	766398	25.435	ng	100
46) Bromodichloromethane	13.92	83	1153291	26.229	ng	100
47) Trichloroethene	13.97	130	878258	26.116	ng	99
48) 1,4-Dioxane	13.95	88	690147	26.338	ng	98
49) 2,2,4-Trimethylpentane...	14.04	57	3156655	24.934	ng	100
50) Methyl Methacrylate	14.18	100	701934	54.384	ng	98

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052006.D Vial: 2
Acq On : 5 May 2020 6:00 Operator: TD
Sample : LCSD R16050520_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 05 07:11:21 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

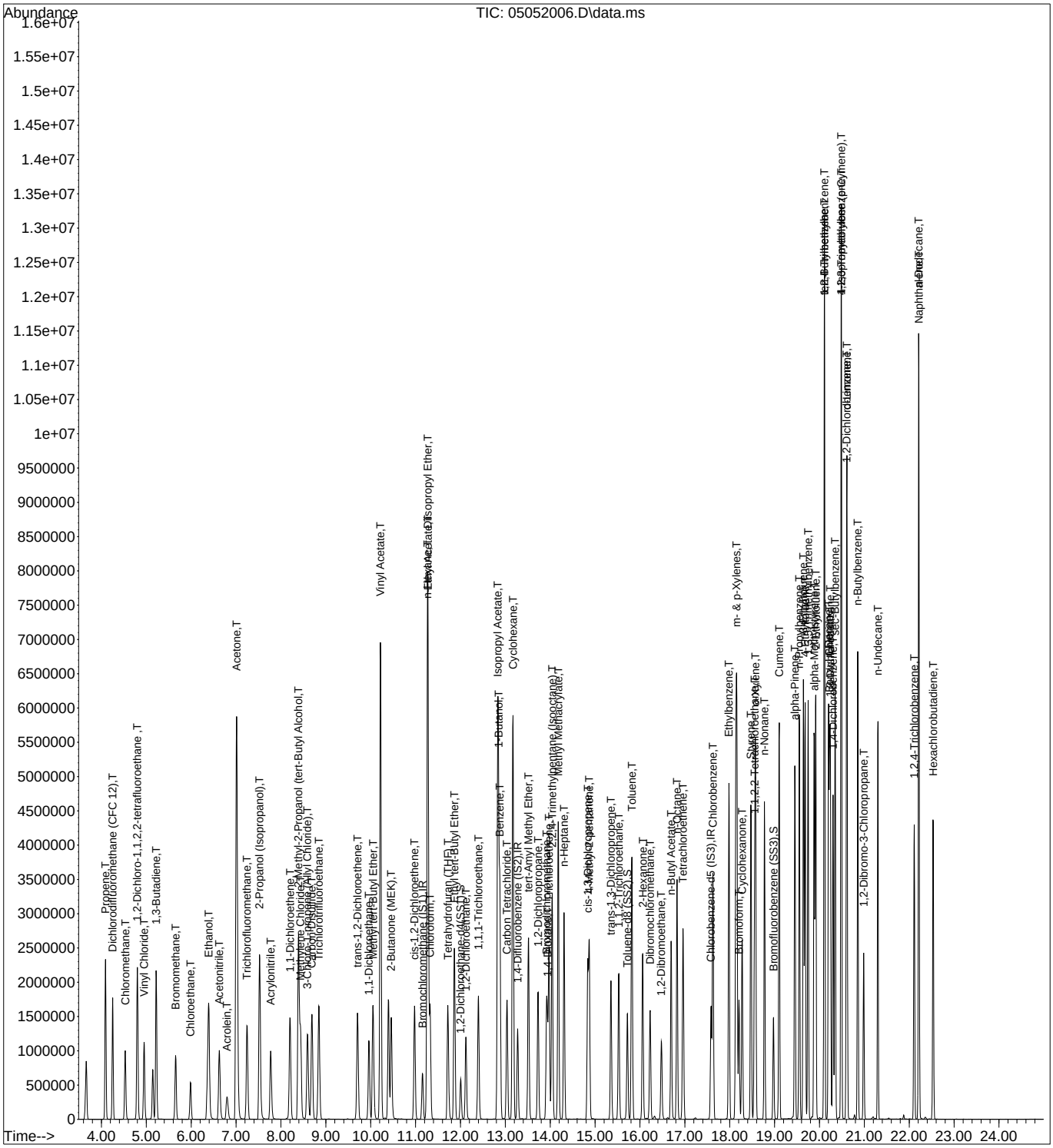
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	759857	24.975	ng	100
52) cis-1,3-Dichloropropene	14.84	75	1401917	27.100	ng	100
53) 4-Methyl-2-pentanone	14.87	58	764632	26.364	ng	99
54) trans-1,3-Dichloropropene	15.35	75	1210181	27.341	ng	100
55) 1,1,2-Trichloroethane	15.53	97	782352	26.182	ng	99
58) Toluene	15.82	91	3175612	26.313	ng	100
59) 2-Hexanone	16.06	43	1865093	28.204	ng	100
60) Dibromochloromethane	16.23	129	990794	28.671	ng	100
61) 1,2-Dibromoethane	16.48	107	913737	27.511	ng	100
62) n-Butyl Acetate	16.70	43	2094747	29.326	ng	100
63) n-Octane	16.83	57	660490	26.436	ng	99
64) Tetrachloroethene	16.96	166	937811	27.512	ng	100
65) Chlorobenzene	17.62	112	2141614	25.790	ng	100
66) Ethylbenzene	17.98	91	3728103	27.704	ng	100
67) m- & p-Xylenes	18.15	91	6035750	56.537	ng	100
68) Bromoform	18.21	173	872811	29.134	ng	100
69) Styrene	18.47	104	2354459	29.322	ng	100
70) o-Xylene	18.58	91	2998477	27.666	ng	99
71) n-Nonane	18.77	43	1559471	27.119	ng	100
72) 1,1,2,2-Tetrachloroethane	18.55	83	1513172	28.142	ng	100
74) Cumene	19.10	105	3768857	28.335	ng	100
75) alpha-Pinene	19.45	93	1974155	27.816	ng	100
76) n-Propylbenzene	19.55	91	4553742	28.818	ng	100
77) 3-Ethyltoluene	19.64	105	3725802	28.940	ng	95
78) 4-Ethyltoluene	19.68	105	3651437	29.230	ng	96
79) 1,3,5-Trimethylbenzene	19.75	105	3123301	28.795	ng	100
80) alpha-Methylstyrene	19.88	118	1693814	27.705	ng	99
81) 2-Ethyltoluene	19.92	105	3708921	29.207	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3482398	31.943	ng	99
83) n-Decane	20.20	57	1674647	27.459	ng	99
84) Benzyl Chloride	20.23	91	2986618	29.392	ng	99
85) 1,3-Dichlorobenzene	20.24	146	1924507	30.401	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1871844	30.300	ng	100
87) sec-Butylbenzene	20.35	105	4133996	29.212	ng	100
88) 4-Isopropyltoluene (p-...	20.48	119	4055487	30.262	ng	99
89) 1,2,3-Trimethylbenzene	20.48	105	3408354	29.872	ng	99
90) 1,2-Dichlorobenzene	20.61	146	1906056	31.447	ng	100
91) d-Limonene	20.61	68	1293281	30.036	ng	99
92) 1,2-Dibromo-3-Chloropr...	20.98	157	651607	28.512	ng	97
93) n-Undecane	21.30	57	1649430	29.222	ng	100
94) 1,2,4-Trichlorobenzene	22.11	180	1316002	31.305	ng	100
95) Naphthalene	22.22	128	4414406	33.178	ng	100
96) n-Dodecane	22.21	57	1602186	32.783	ng	100
97) Hexachlorobutadiene	22.54	225	829838	28.538	ng	100
98) Cyclohexanone	18.28	55	1147420	27.162	ng	99
99) tert-Butylbenzene	20.11	119	3249044	30.279	ng	100
100) n-Butylbenzene	20.85	91	3384802	30.494	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052006.D Vial: 2
Acq On : 5 May 2020 6:00 Operator: TD
Sample : LCSD R16050520_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 05 07:11:21 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\06\05062005.D Vial: 2
Acq On : 6 May 2020 1:52 Operator: WA
Sample : LCS R16050620_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 06 03:57:08 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) WA 5/6/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	276696	12.500	ng	-0.01
37) 1,4-Difluorobenzene (IS2)	13.28	114	1162464	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.58	82	552930	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.00	65	430812	11.489	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.92%			
57) Toluene-d8 (SS2)	15.72	98	1149298	12.263	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.08%			
73) Bromofluorobenzene (SS3)	18.98	174	470518	13.952	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.60%			
Target Compounds						Qvalue
2) Propene	4.09	42	823053	25.683	ng	100
3) Dichlorodifluoromethan...	4.25	85	1511131	24.108	ng	100
4) Chloromethane	4.53	50	1130624	23.025	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	868881	23.202	ng	100
6) Vinyl Chloride	4.94	62	1280031	23.771	ng	100
7) 1,3-Butadiene	5.21	54	1077346	24.180	ng	100
8) Bromomethane	5.65	94	655263	23.035	ng	99
9) Chloroethane	5.98	64	492831	23.167	ng	100
10) Ethanol	6.38	45	2879076	116.348	ng	100
11) Acetonitrile	6.62	41	1300749	23.002	ng	100
12) Acrolein	6.80	56	446756	22.849	ng	100
13) Acetone	7.01	58	3031533	122.499	ng	100
14) Trichlorofluoromethane	7.24	101	1303883	23.538	ng	100
15) 2-Propanol (Isopropanol)	7.52	45	3689674	49.260	ng	100
16) Acrylonitrile	7.77	53	958854	23.701	ng	100
17) 1,1-Dichloroethene	8.20	96	717025	24.692	ng	98
18) 2-Methyl-2-Propanol (t...	8.39	59	3451511	49.428	ng	100
19) Methylene Chloride	8.44	84	755918	23.497	ng	98
20) 3-Chloro-1-propene (Al...	8.59	41	1035869	23.437	ng	99
21) Trichlorotrifluoroethane	8.84	151	668803	25.572	ng	97
22) Carbon Disulfide	8.69	76	2753282	23.885	ng	100
23) trans-1,2-Dichloroethene	9.71	61	1064006	24.063	ng	98
24) 1,1-Dichloroethane	9.96	63	1237344	23.571	ng	100
25) Methyl tert-Butyl Ether	10.05	73	1933678	23.419	ng	100
26) Vinyl Acetate	10.22	86	1025656	133.054	ng	100
27) 2-Butanone (MEK)	10.46	72	504855	23.921	ng	98
28) cis-1,2-Dichloroethene	10.98	61	1024839	23.695	ng	99
29) Diisopropyl Ether	11.27	87	711273	23.824	ng	97
30) Ethyl Acetate	11.28	61	656056	53.909	ng	99
31) n-Hexane	11.26	57	1347488	25.528	ng	100
32) Chloroform	11.32	83	1341847	24.363	ng	100
34) Tetrahydrofuran (THF)	11.72	72	497808	24.184	ng	99
35) Ethyl tert-Butyl Ether	11.86	87	902374	25.012	ng	99
36) 1,2-Dichloroethane	12.12	62	1017529	23.318	ng	100
38) 1,1,1-Trichloroethane	12.40	97	1205779	25.753	ng	100
39) Isopropyl Acetate	12.83	61	1102868	53.851	ng	96
40) 1-Butanol	12.85	56	1743257	59.828	ng	95
41) Benzene	12.88	78	3058323	24.533	ng	100
42) Carbon Tetrachloride	13.04	117	1070065	25.235	ng	100
43) Cyclohexane	13.17	84	2419352	52.080	ng	99
44) tert-Amyl Methyl Ether	13.52	73	2185251	26.141	ng	100
45) 1,2-Dichloropropane	13.73	63	732253	25.362	ng	100
46) Bromodichloromethane	13.92	83	1097278	26.045	ng	100
47) Trichloroethene	13.97	130	844141	26.197	ng	100
48) 1,4-Dioxane	13.95	88	664784	26.478	ng	98
49) 2,2,4-Trimethylpentane...	14.05	57	3048209	25.128	ng	100
50) Methyl Methacrylate	14.18	100	667931	54.008	ng	99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\06\05062005.D Vial: 2
Acq On : 6 May 2020 1:52 Operator: WA
Sample : LCS R16050620_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 06 03:57:08 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

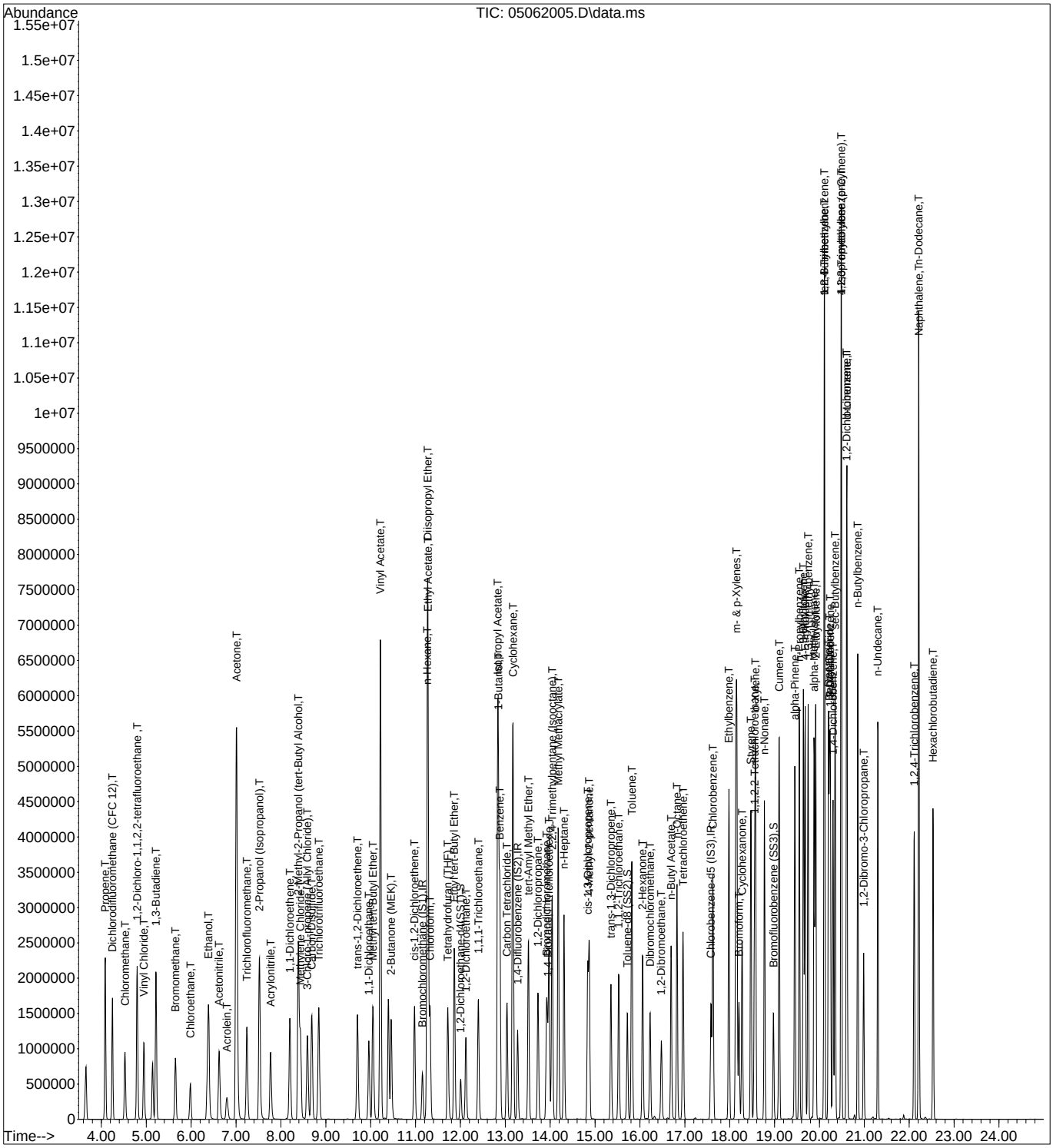
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	727127	24.942 ng	99
52) cis-1,3-Dichloropropene	14.84	75	1332155	26.875 ng	100
53) 4-Methyl-2-pentanone	14.87	58	737343	26.533 ng	100
54) trans-1,3-Dichloropropene	15.35	75	1144042	26.975 ng	99
55) 1,1,2-Trichloroethane	15.52	97	750792	26.223 ng	99
58) Toluene	15.82	91	3033199	25.107 ng	100
59) 2-Hexanone	16.06	43	1792828	27.083 ng	100
60) Dibromochloromethane	16.23	129	947512	27.390 ng	100
61) 1,2-Dibromoethane	16.48	107	876043	26.349 ng	100
62) n-Butyl Acetate	16.70	43	2002455	28.005 ng	100
63) n-Octane	16.83	57	637341	25.483 ng	100
64) Tetrachloroethene	16.96	166	890804	26.106 ng	100
65) Chlorobenzene	17.62	112	2068582	24.885 ng	100
66) Ethylbenzene	17.98	91	3577181	26.555 ng	100
67) m- & p-Xylenes	18.15	91	5786459	54.146 ng	99
68) Bromoform	18.21	173	827636	27.598 ng	100
69) Styrene	18.47	104	2250880	28.003 ng	99
70) o-Xylene	18.58	91	2887148	26.611 ng	99
71) n-Nonane	18.77	43	1517310	26.358 ng	99
72) 1,1,2,2-Tetrachloroethane	18.55	83	1456407	27.059 ng	100
74) Cumene	19.10	105	3616816	27.164 ng	100
75) alpha-Pinene	19.45	93	1885013	26.533 ng	99
76) n-Propylbenzene	19.55	91	4380432	27.693 ng	100
77) 3-Ethyltoluene	19.64	105	3593835	27.886 ng	99
78) 4-Ethyltoluene	19.68	105	3478237	27.815 ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	2983249	27.476 ng	99
80) alpha-Methylstyrene	19.88	118	1616213	26.409 ng	99
81) 2-Ethyltoluene	19.92	105	3561820	28.019 ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3349626	30.693 ng	100
83) n-Decane	20.20	57	1604903	26.289 ng	99
84) Benzyl Chloride	20.23	91	2835713	27.878 ng	100
85) 1,3-Dichlorobenzene	20.24	146	1842745	29.079 ng	100
86) 1,4-Dichlorobenzene	20.30	146	1786065	28.881 ng	100
87) sec-Butylbenzene	20.35	105	3982850	28.115 ng	100
88) 4-Isopropyltoluene (p-...	20.48	119	3919014	29.214 ng	99
89) 1,2,3-Trimethylbenzene	20.48	105	3286861	28.778 ng	99
90) 1,2-Dichlorobenzene	20.61	146	1823267	30.050 ng	100
91) d-Limonene	20.61	68	1241911	28.813 ng	100
92) 1,2-Dibromo-3-Chloropr...	20.98	157	625553	27.343 ng	97
93) n-Undecane	21.30	57	1608317	28.464 ng	100
94) 1,2,4-Trichlorobenzene	22.11	180	1263600	30.028 ng	100
95) Naphthalene	22.22	128	4287311	32.190 ng	100
96) n-Dodecane	22.21	57	1594060	32.583 ng	100
97) Hexachlorobutadiene	22.53	225	805203	27.662 ng	100
98) Cyclohexanone	18.27	55	1094750	25.888 ng	100
99) tert-Butylbenzene	20.11	119	3140569	29.238 ng	100
100) n-Butylbenzene	20.85	91	3261545	29.353 ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\06\05062005.D Vial: 2
Acq On : 6 May 2020 1:52 Operator: WA
Sample : LCS R16050620_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 06 03:57:08 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\06\05062006.D Vial: 2
Acq On : 6 May 2020 2:26 Operator: WA
Sample : LCSD R16050620_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 06 03:57:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/6/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	284494	12.500	ng	-0.01
37) 1,4-Difluorobenzene (IS2)	13.28	114	1195943	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.58	82	564101	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.00	65	444528	11.530	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.24%			
57) Toluene-d8 (SS2)	15.72	98	1172869	12.267	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.16%			
73) Bromofluorobenzene (SS3)	18.98	174	477039	13.866	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.96%			
Target Compounds						Qvalue
2) Propene	4.09	42	835217	25.348	ng	100
3) Dichlorodifluoromethan...	4.25	85	1551469	24.073	ng	100
4) Chloromethane	4.52	50	1165532	23.085	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	884628	22.975	ng	100
6) Vinyl Chloride	4.94	62	1286169	23.231	ng	100
7) 1,3-Butadiene	5.21	54	1093832	23.877	ng	100
8) Bromomethane	5.65	94	684218	23.394	ng	99
9) Chloroethane	5.98	64	520237	23.785	ng	100
10) Ethanol	6.38	45	2965450	116.553	ng	100
11) Acetonitrile	6.62	41	1334444	22.951	ng	100
12) Acrolein	6.79	56	453956	22.581	ng	100
13) Acetone	7.01	58	3100287	121.843	ng	100
14) Trichlorofluoromethane	7.24	101	1341460	23.552	ng	100
15) 2-Propanol (Isopropanol)	7.52	45	3789311	49.204	ng	100
16) Acrylonitrile	7.77	53	987311	23.736	ng	100
17) 1,1-Dichloroethene	8.20	96	733888	24.580	ng	97
18) 2-Methyl-2-Propanol (t...	8.39	59	3567495	49.689	ng	100
19) Methylene Chloride	8.44	84	771600	23.327	ng	99
20) 3-Chloro-1-propene (Al...	8.59	41	1059490	23.315	ng	99
21) Trichlorotrifluoroethane	8.84	151	684989	25.473	ng	97
22) Carbon Disulfide	8.69	76	2815504	23.755	ng	100
23) trans-1,2-Dichloroethene	9.71	61	1081175	23.781	ng	98
24) 1,1-Dichloroethane	9.96	63	1267374	23.482	ng	100
25) Methyl tert-Butyl Ether	10.05	73	1971903	23.227	ng	100
26) Vinyl Acetate	10.22	86	1044235	131.751	ng	99
27) 2-Butanone (MEK)	10.46	72	519376	23.935	ng	99
28) cis-1,2-Dichloroethene	10.98	61	1047847	23.563	ng	98
29) Diisopropyl Ether	11.27	87	724097	23.589	ng	97
30) Ethyl Acetate	11.28	61	672393	53.737	ng	99
31) n-Hexane	11.26	57	1368468	25.215	ng	100
32) Chloroform	11.32	83	1368723	24.170	ng	100
34) Tetrahydrofuran (THF)	11.72	72	507239	23.967	ng	100
35) Ethyl tert-Butyl Ether	11.87	87	924665	24.927	ng	100
36) 1,2-Dichloroethane	12.12	62	1040491	23.191	ng	100
38) 1,1,1-Trichloroethane	12.40	97	1231698	25.570	ng	99
39) Isopropyl Acetate	12.83	61	1128053	53.539	ng	97
40) 1-Butanol	12.85	56	1787377	59.625	ng	95
41) Benzene	12.88	78	3123919	24.358	ng	100
42) Carbon Tetrachloride	13.04	117	1094984	25.100	ng	100
43) Cyclohexane	13.17	84	2460619	51.486	ng	99
44) tert-Amyl Methyl Ether	13.52	73	2243998	26.092	ng	99
45) 1,2-Dichloropropane	13.73	63	748450	25.198	ng	100
46) Bromodichloromethane	13.92	83	1113702	25.695	ng	100
47) Trichloroethene	13.97	130	856638	25.841	ng	100
48) 1,4-Dioxane	13.95	88	674675	26.119	ng	98
49) 2,2,4-Trimethylpentane...	14.04	57	3123053	25.025	ng	100
50) Methyl Methacrylate	14.18	100	682184	53.617	ng	99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\06\05062006.D Vial: 2
Acq On : 6 May 2020 2:26 Operator: WA
Sample : LCSD R16050620_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 06 03:57:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

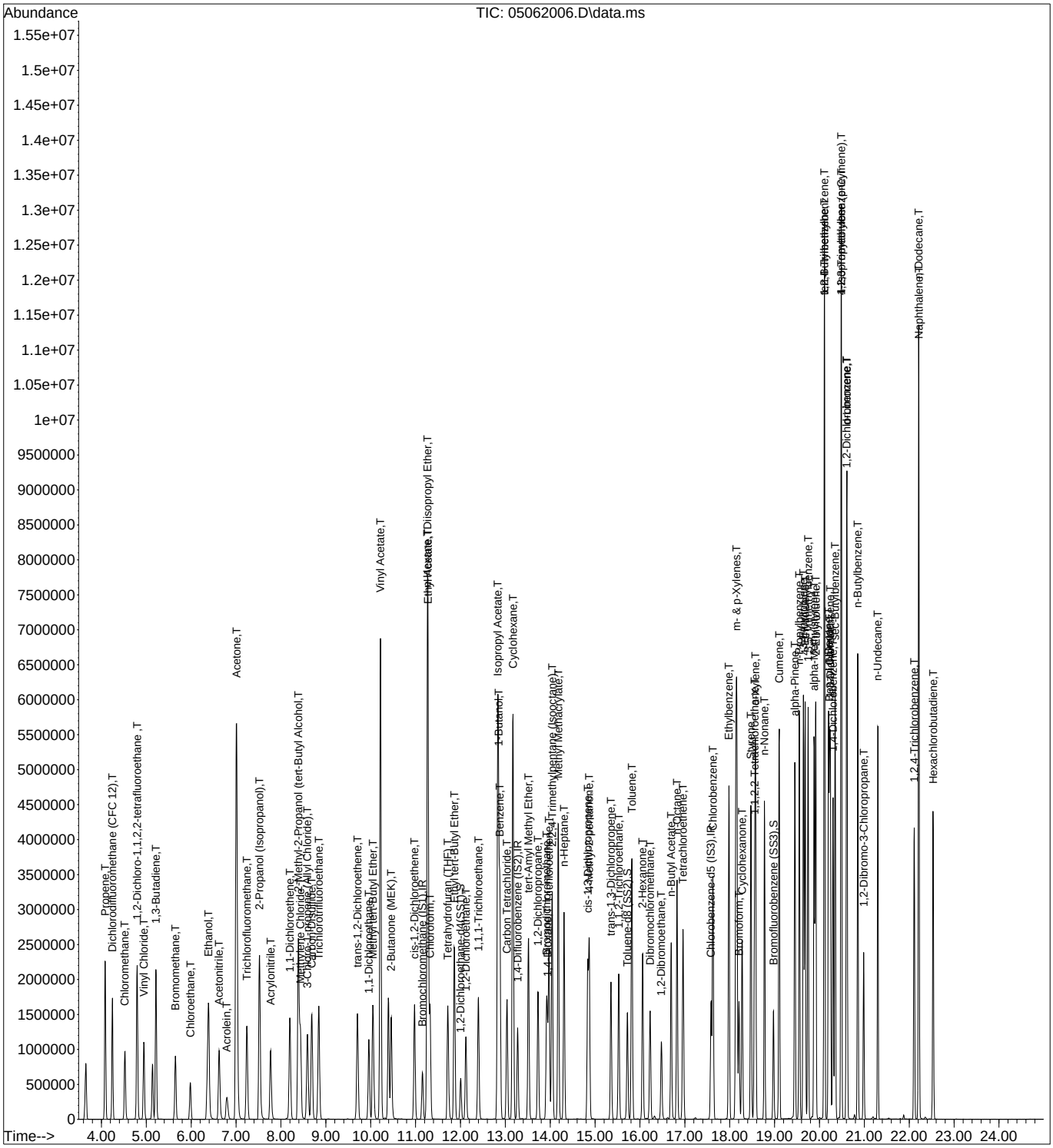
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	744929	24.838	ng	100
52) cis-1,3-Dichloropropene	14.84	75	1362694	26.722	ng	100
53) 4-Methyl-2-pentanone	14.87	58	753165	26.343	ng	100
54) trans-1,3-Dichloropropene	15.35	75	1173317	26.891	ng	99
55) 1,1,2-Trichloroethane	15.53	97	763994	25.937	ng	100
58) Toluene	15.82	91	3078819	24.980	ng	100
59) 2-Hexanone	16.06	43	1832974	27.141	ng	100
60) Dibromochloromethane	16.23	129	959150	27.178	ng	100
61) 1,2-Dibromoethane	16.48	107	891067	26.270	ng	100
62) n-Butyl Acetate	16.70	43	2051618	28.124	ng	100
63) n-Octane	16.83	57	642864	25.195	ng	99
64) Tetrachloroethene	16.96	166	901527	25.897	ng	100
65) Chlorobenzene	17.62	112	2086902	24.608	ng	100
66) Ethylbenzene	17.98	91	3627250	26.393	ng	100
67) m- & p-Xylenes	18.15	91	5860611	53.753	ng	100
68) Bromoform	18.21	173	841658	27.510	ng	100
69) Styrene	18.47	104	2278670	27.788	ng	100
70) o-Xylene	18.58	91	2915576	26.341	ng	99
71) n-Nonane	18.77	43	1538240	26.193	ng	100
72) 1,1,2,2-Tetrachloroethane	18.55	83	1471105	26.791	ng	100
74) Cumene	19.10	105	3657365	26.924	ng	100
75) alpha-Pinene	19.45	93	1915000	26.421	ng	100
76) n-Propylbenzene	19.55	91	4448598	27.567	ng	100
77) 3-Ethyltoluene	19.64	105	3610794	27.463	ng	95
78) 4-Ethyltoluene	19.68	105	3539930	27.748	ng	96
79) 1,3,5-Trimethylbenzene	19.75	105	3022440	27.285	ng	99
80) alpha-Methylstyrene	19.88	118	1640884	26.281	ng	99
81) 2-Ethyltoluene	19.92	105	3596091	27.729	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3375962	30.322	ng	99
83) n-Decane	20.20	57	1639462	26.323	ng	99
84) Benzyl Chloride	20.23	91	2896732	27.914	ng	100
85) 1,3-Dichlorobenzene	20.24	146	1869620	28.919	ng	99
86) 1,4-Dichlorobenzene	20.30	146	1810352	28.694	ng	100
87) sec-Butylbenzene	20.35	105	4019470	27.812	ng	100
88) 4-Isopropyltoluene (p-...	20.48	119	3962508	28.953	ng	99
89) 1,2,3-Trimethylbenzene	20.48	105	3311468	28.419	ng	99
90) 1,2-Dichlorobenzene	20.61	146	1844406	29.797	ng	100
91) d-Limonene	20.61	68	1257047	28.587	ng	100
92) 1,2-Dibromo-3-Chloropr...	20.98	157	633348	27.136	ng	97
93) n-Undecane	21.30	57	1634932	28.362	ng	100
94) 1,2,4-Trichlorobenzene	22.11	180	1282049	29.863	ng	100
95) Naphthalene	22.22	128	4310484	31.723	ng	100
96) n-Dodecane	22.21	57	1616206	32.382	ng	100
97) Hexachlorobutadiene	22.54	225	815295	27.454	ng	100
98) Cyclohexanone	18.27	55	1120148	25.964	ng	99
99) tert-Butylbenzene	20.11	119	3168778	28.917	ng	100
100) n-Butylbenzene	20.85	91	3304241	29.148	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\06\05062006.D Vial: 2
Acq On : 6 May 2020 2:26 Operator: WA
Sample : LCSD R16050620_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 06 03:57:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042020.D Vial: 4
Acq On : 4 May 2020 17:29 Operator: TD
Sample : P2002105-007dup (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 19:31:40 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/4/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	285055	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1256268	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	599351	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	484941	12.553	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.40%				
57) Toluene-d8 (SS2)	15.72	98	1315742	12.952	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.60%				
73) Bromofluorobenzene (SS3)	18.98	174	435201	11.906	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.28%				
Target Compounds							Qvalue
2) Propene	4.11	42	3191	0.097	ng		97
3) Dichlorodifluoromethan...	4.27	85	46388	0.718	ng		100
4) Chloromethane	4.53	50	22102	0.437	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	771	N.D.			
6) Vinyl Chloride	4.95	62	5348	0.096	ng		98
7) 1,3-Butadiene	5.16	54	1112	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.98	64	1796	0.082	ng		88
10) Ethanol	6.32	45	14788	0.580	ng		96
11) Acetonitrile	6.58	41	972	N.D.			
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	7.24	101	4288	0.075	ng		98
15) 2-Propanol (Isopropanol)	7.51	45	5178	0.067	ng	#	53
16) Acrylonitrile	7.83	53	1507	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	1320	N.D.			
20) 3-Chloro-1-propene (Al...	8.50	41	821	N.D.			
21) Trichlorotrifluoroethane	8.84	151	285	N.D.			
22) Carbon Disulfide	8.68	76	276453	2.328	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	9.94	63	2840	0.053	ng		97
25) Methyl tert-Butyl Ether	10.07	73	3067	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.46	72	17077	0.785	ng		94
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.27	87	196	N.D.			
30) Ethyl Acetate	11.28	61	12246	0.977	ng		92
31) n-Hexane	11.27	57	21221	0.390	ng		99
32) Chloroform	11.30	83	921	N.D.			
34) Tetrahydrofuran (THF)	11.72	72	48484	2.286	ng		96
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	1371	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	227625	1.690	ng		99
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	13.17	84	29604	0.590	ng		99
44) tert-Amyl Methyl Ether	13.45	73	427	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	13.94	83	1073	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.31	100	577	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042020.D Vial: 4
Acq On : 4 May 2020 17:29 Operator: TD
Sample : P2002105-007dup (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 19:31:40 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

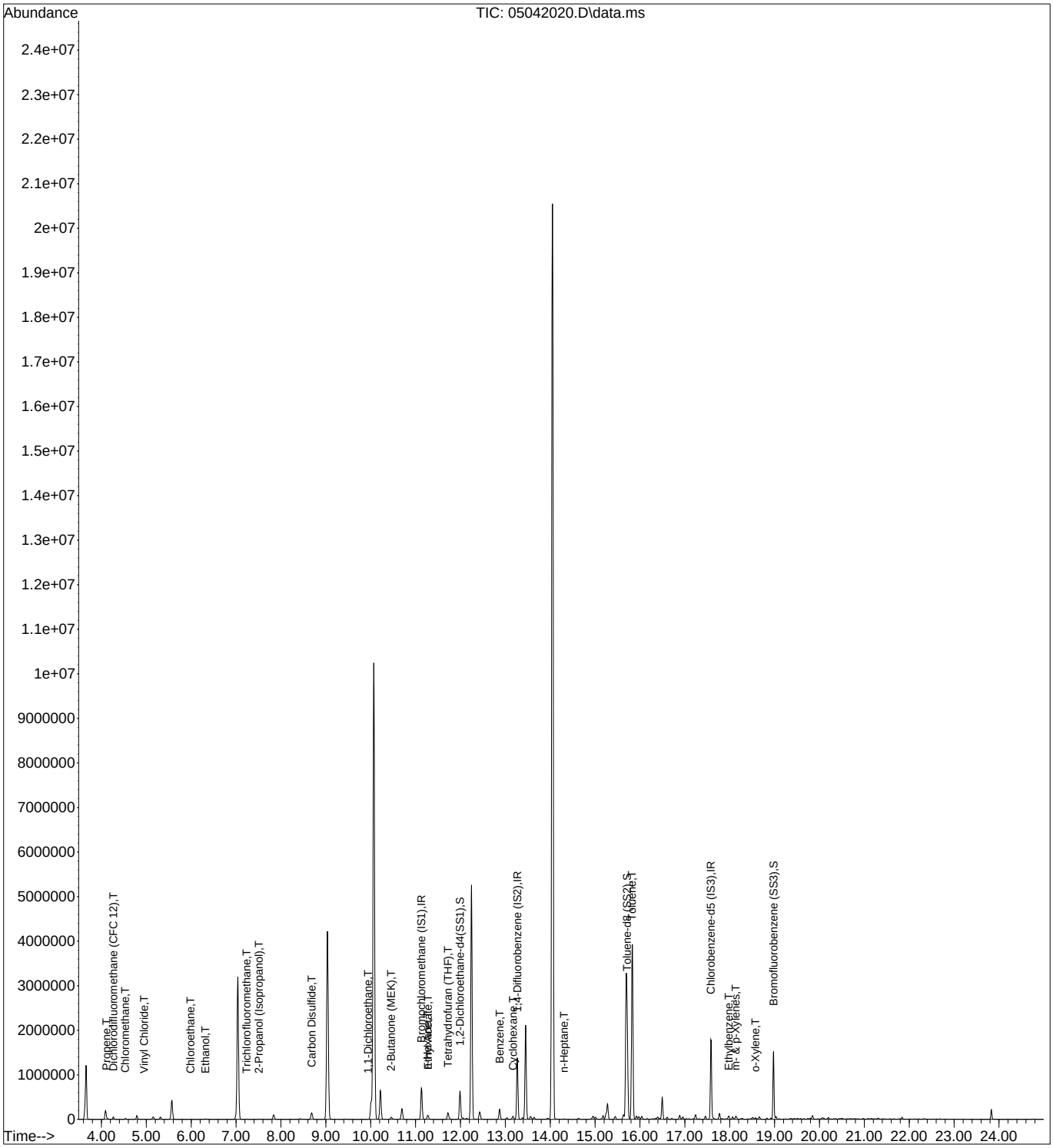
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	2401	0.076 ng #	65
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.93	58	128	N.D.	
54) trans-1,3-Dichloropropene	15.14	75	1398	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	15.82	91	903202	6.897 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.70	43	2533	N.D.	
63) n-Octane	16.83	57	666	N.D.	
64) Tetrachloroethene	16.96	166	407	N.D.	
65) Chlorobenzene	17.64	112	1210	N.D.	
66) Ethylbenzene	17.98	91	42422	0.291 ng	100
67) m- & p-Xylenes	18.14	91	56445	0.487 ng	99
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	880	N.D.	
70) o-Xylene	18.58	91	19026	0.162 ng	98
71) n-Nonane	18.77	43	250	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	19.10	105	5104	N.D.	
75) alpha-Pinene	19.46	93	274	N.D.	
76) n-Propylbenzene	19.55	91	4926	N.D.	
77) 3-Ethyltoluene	19.64	105	4966	N.D.	
78) 4-Ethyltoluene	19.68	105	2003	N.D.	
79) 1,3,5-Trimethylbenzene	19.74	105	3234	N.D.	
80) alpha-Methylstyrene	19.88	118	1353	N.D.	
81) 2-Ethyltoluene	19.92	105	1950	N.D.	
82) 1,2,4-Trimethylbenzene	20.10	105	3273	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.21	91	204	N.D.	
85) 1,3-Dichlorobenzene	20.24	146	114	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	226	N.D.	
87) sec-Butylbenzene	20.34	105	413	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	410	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	1501	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.62	68	993	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.31	57	1972	N.D.	
94) 1,2,4-Trichlorobenzene	22.11	180	163	N.D.	
95) Naphthalene	22.21	128	1275	N.D.	
96) n-Dodecane	22.21	57	721	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.10	119	884	N.D.	
100) n-Butylbenzene	20.85	91	986	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042020.D Vial: 4
Acq On : 4 May 2020 17:29 Operator: TD
Sample : P2002105-007dup (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 19:31:40 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042020.D Vial: 4
Acq On : 4 May 2020 17:29 Operator: TD
Sample : P2002105-007dup (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 19:31:40 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/4/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

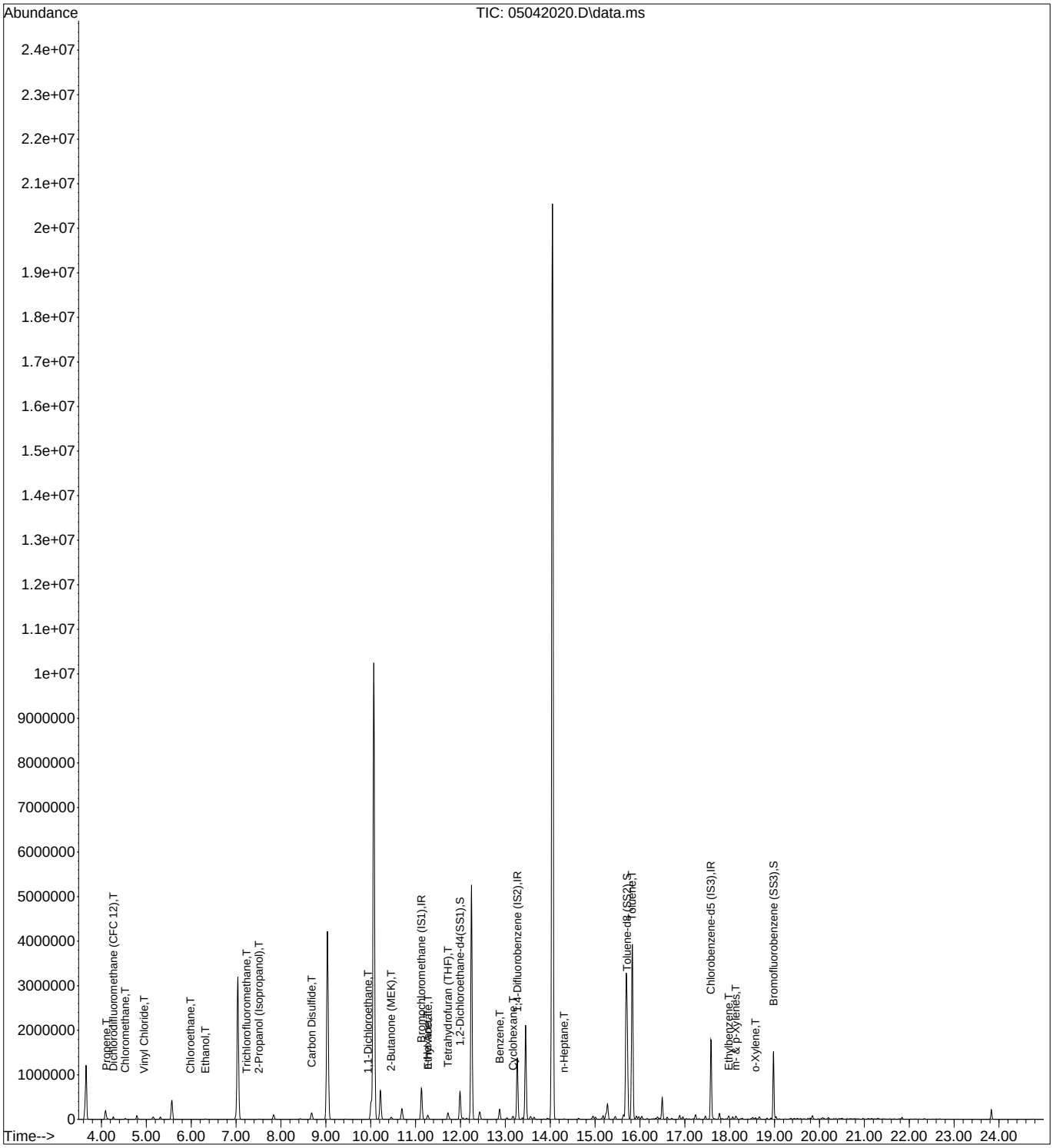
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	285055	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1256268	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	599351	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	484941	12.553	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.40%				
57) Toluene-d8 (SS2)	15.72	98	1315742	12.952	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.60%				
73) Bromofluorobenzene (SS3)	18.98	174	435201	11.906	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.28%				
Target Compounds							Qvalue
2) Propene	4.11	42	3191	0.097	ng		97
3) Dichlorodifluoromethan...	4.27	85	46388	0.718	ng		100
4) Chloromethane	4.53	50	22102	0.437	ng		100
6) Vinyl Chloride	4.95	62	5348	0.096	ng		98
9) Chloroethane	5.98	64	1796	0.082	ng		88
10) Ethanol	6.32	45	14788	0.580	ng		96
14) Trichlorofluoromethane	7.24	101	4288	0.075	ng		98
15) 2-Propanol (Isopropanol)	7.51	45	5178	0.067	ng	#	53
22) Carbon Disulfide	8.68	76	276453	2.328	ng		99
24) 1,1-Dichloroethane	9.94	63	2840	0.053	ng		97
27) 2-Butanone (MEK)	10.46	72	17077	0.785	ng		94
30) Ethyl Acetate	11.28	61	12246	0.977	ng		92
31) n-Hexane	11.27	57	21221	0.390	ng		99
34) Tetrahydrofuran (THF)	11.72	72	48484	2.286	ng		96
41) Benzene	12.87	78	227625	1.690	ng		99
43) Cyclohexane	13.17	84	29604	0.590	ng		99
51) n-Heptane	14.31	71	2401	0.076	ng	#	65
58) Toluene	15.82	91	903202	6.897	ng		100
66) Ethylbenzene	17.98	91	42422	0.291	ng		100
67) m- & p-Xylenes	18.14	91	56445	0.487	ng		99
70) o-Xylene	18.58	91	19026	0.162	ng		98

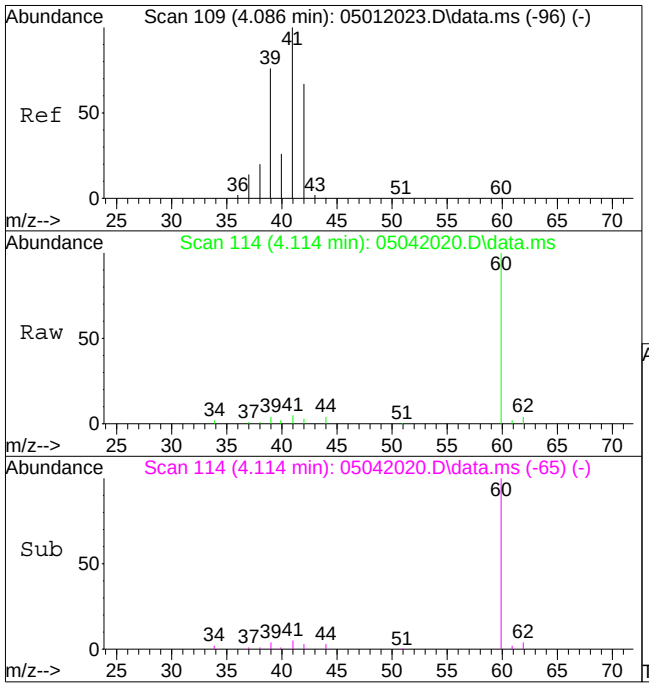
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042020.D Vial: 4
Acq On : 4 May 2020 17:29 Operator: TD
Sample : P2002105-007dup (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 04 19:31:40 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

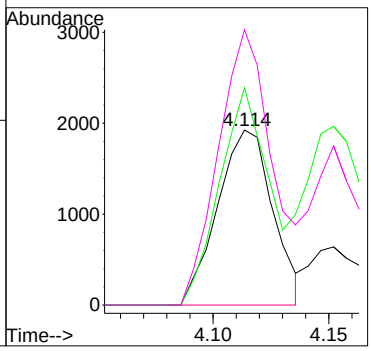


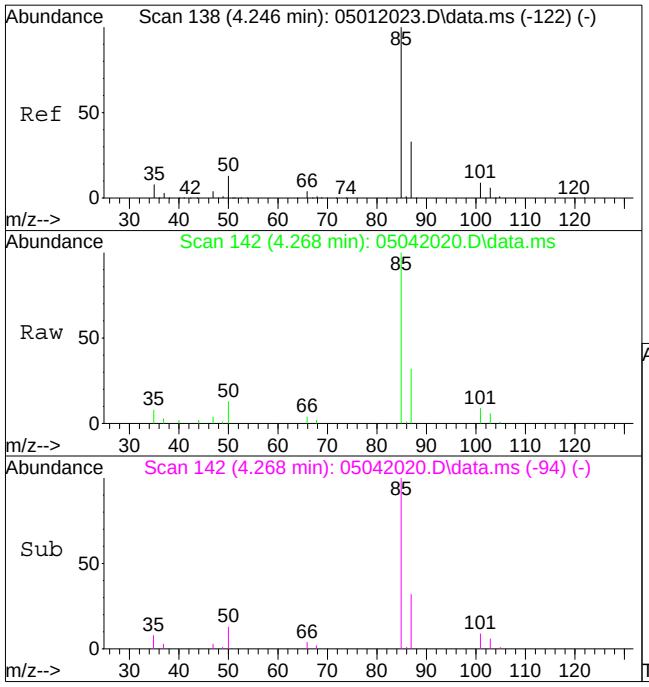


#2
Propene
Concen: 0.10 ng
RT: 4.11 min Scan# 114
Delta R.T. 0.022 min
Lab File: 05042020.D
Acq: 4 May 2020 17:29

Tgt Ion: 42 Resp: 3191

Ion	Ratio	Lower	Upper
42	100		
39	109.9	96.1	136.1
41	153.7	131.9	171.9

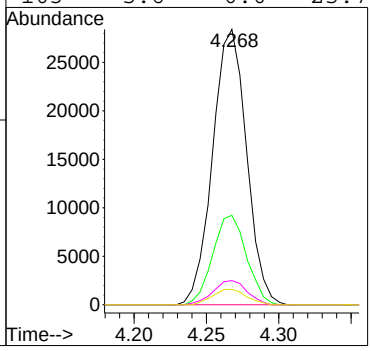


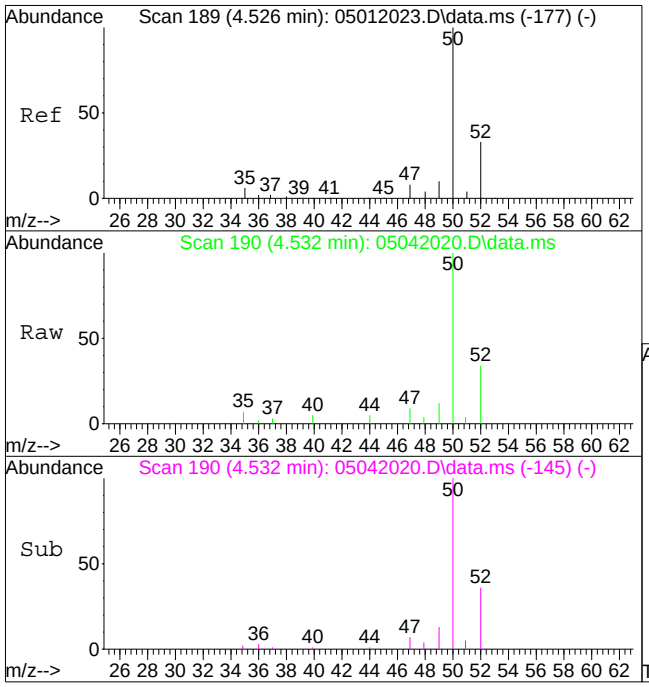


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.72 ng
RT: 4.27 min Scan# 142
Delta R.T. 0.016 min
Lab File: 05042020.D
Acq: 4 May 2020 17:29

Tgt Ion: 85 Resp: 46388

Ion	Ratio	Lower	Upper
85	100		
87	32.2	12.4	52.4
101	8.8	0.0	28.8
103	5.6	0.0	25.7

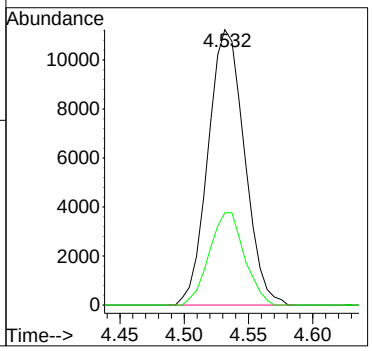


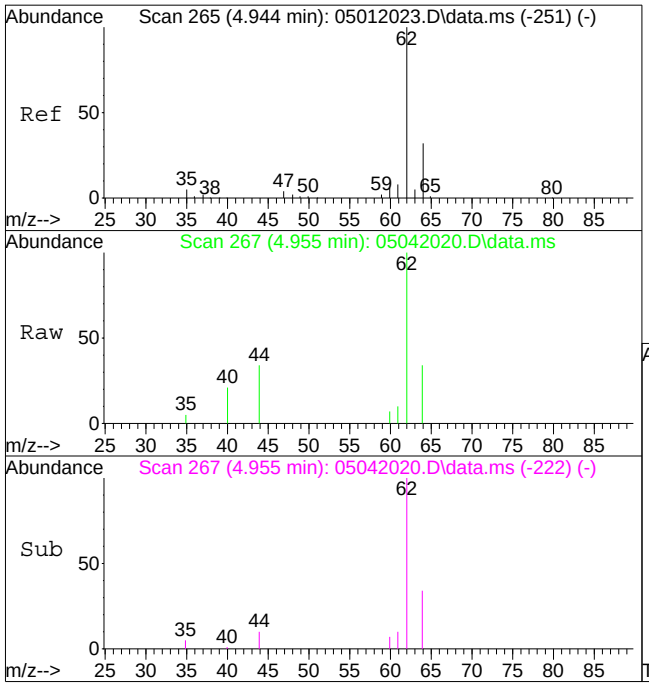


#4
Chloromethane
Concen: 0.44 ng
RT: 4.53 min Scan# 190
Delta R.T. -0.000 min
Lab File: 05042020.D
Acq: 4 May 2020 17:29

Tgt Ion: 50 Resp: 22102

Ion	Ratio	Lower	Upper
50	100		
52	32.4	12.5	52.5

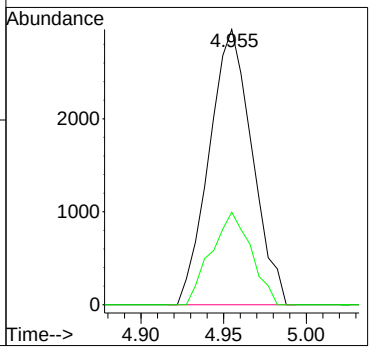


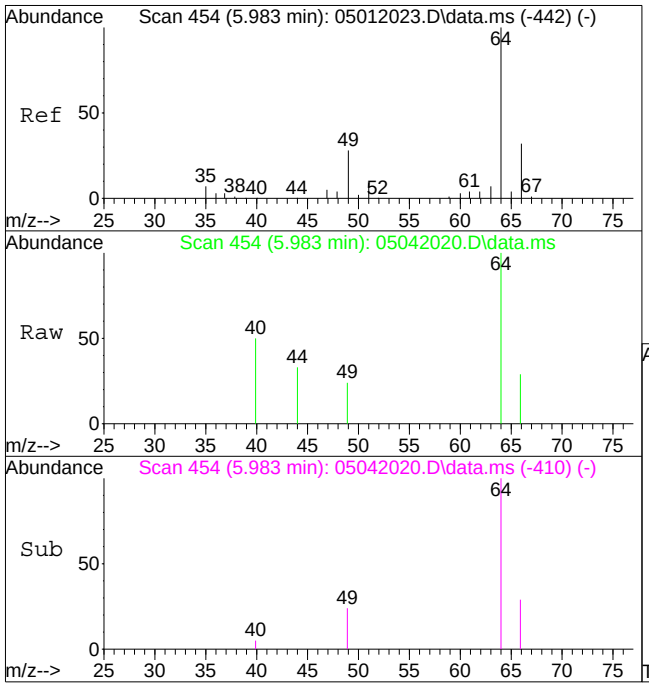


#6
Vinyl Chloride
Concen: 0.10 ng
RT: 4.95 min Scan# 267
Delta R.T. -0.000 min
Lab File: 05042020.D
Acq: 4 May 2020 17:29

Tgt Ion: 62 Resp: 5348

Ion	Ratio	Lower	Upper
62	100		
64	31.2	12.1	52.1

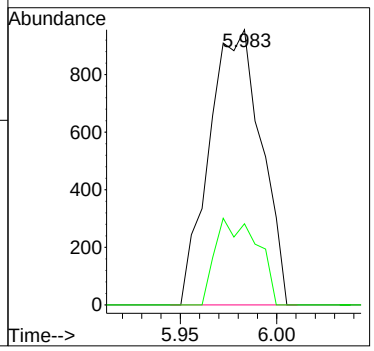


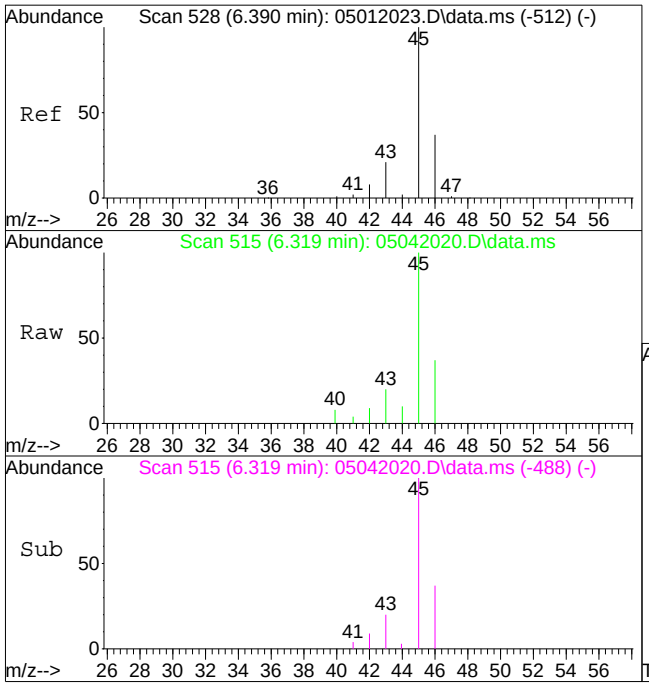


#9
Chloroethane
Concen: 0.08 ng
RT: 5.98 min Scan# 454
Delta R.T. -0.006 min
Lab File: 05042020.D
Acq: 4 May 2020 17:29

Tgt Ion: 64 Resp: 1796

Ion	Ratio	Lower	Upper
64	100		
66	25.5	12.1	52.1

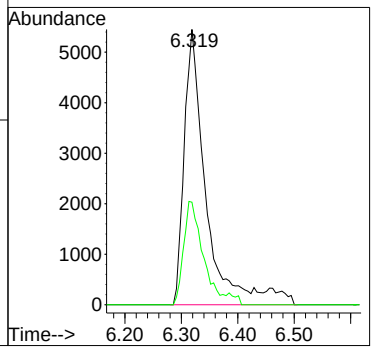


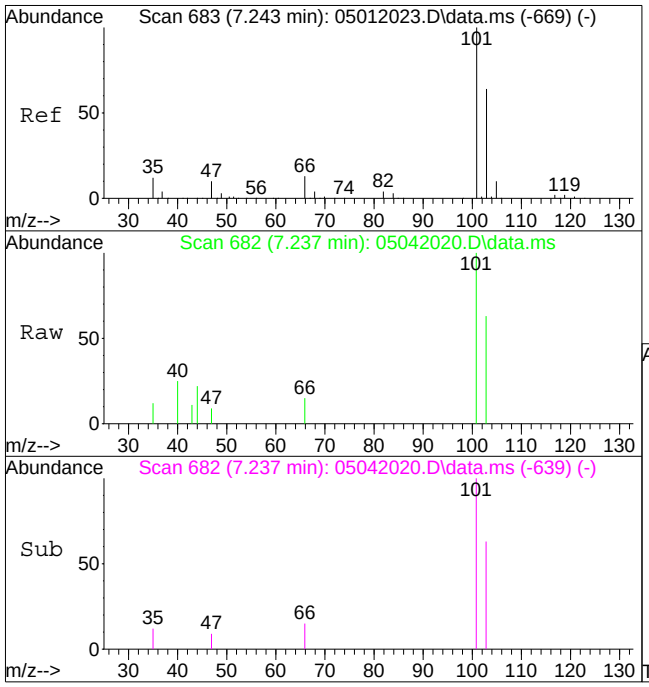


#10
Ethanol
Concen: 0.58 ng
RT: 6.32 min Scan# 515
Delta R.T. -0.099 min
Lab File: 05042020.D
Acq: 4 May 2020 17:29

Tgt Ion: 45 Resp: 14788

Ion	Ratio	Lower	Upper
45	100		
46	34.6	17.2	57.2

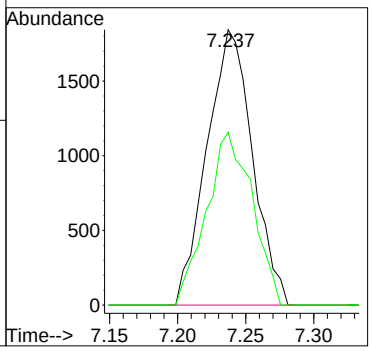


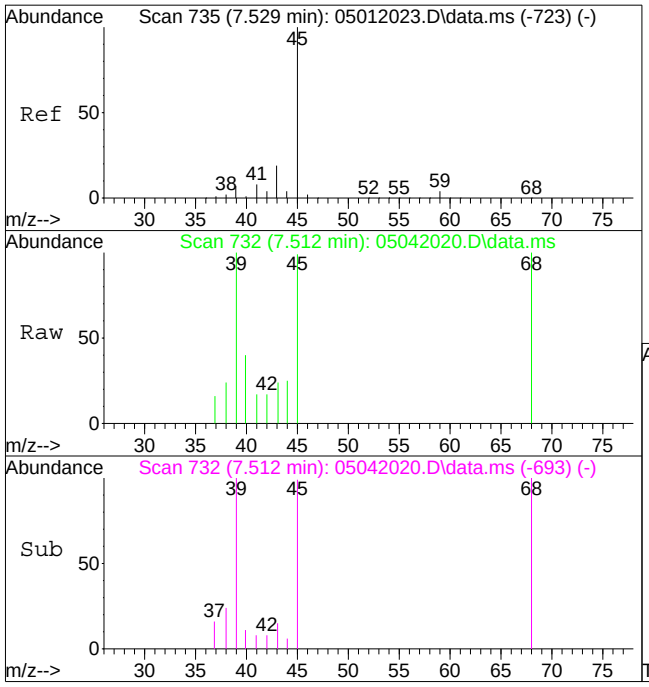


#14
Trichlorofluoromethane
Concen: 0.08 ng
RT: 7.24 min Scan# 682
Delta R.T. -0.011 min
Lab File: 05042020.D
Acq: 4 May 2020 17:29

Tgt Ion:101 Resp: 4288

Ion	Ratio	Lower	Upper
101	100		
103	63.0	44.4	84.4

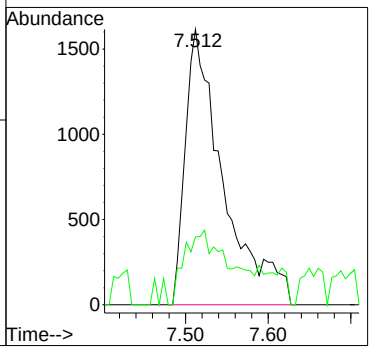


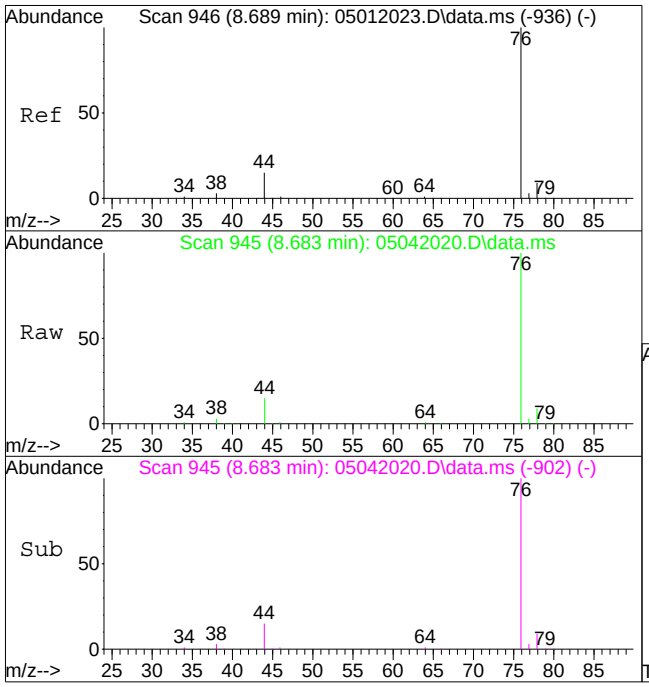


#15
2-Propanol (Isopropanol)
Concen: 0.07 ng
RT: 7.51 min Scan# 732
Delta R.T. -0.033 min
Lab File: 05042020.D
Acq: 4 May 2020 17:29

Tgt Ion: 45 Resp: 5178

Ion	Ratio	Lower	Upper
45	100		
43	40.9	0.0	39.5#

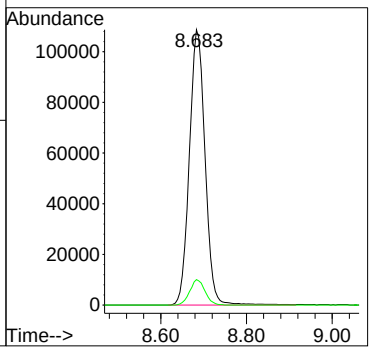


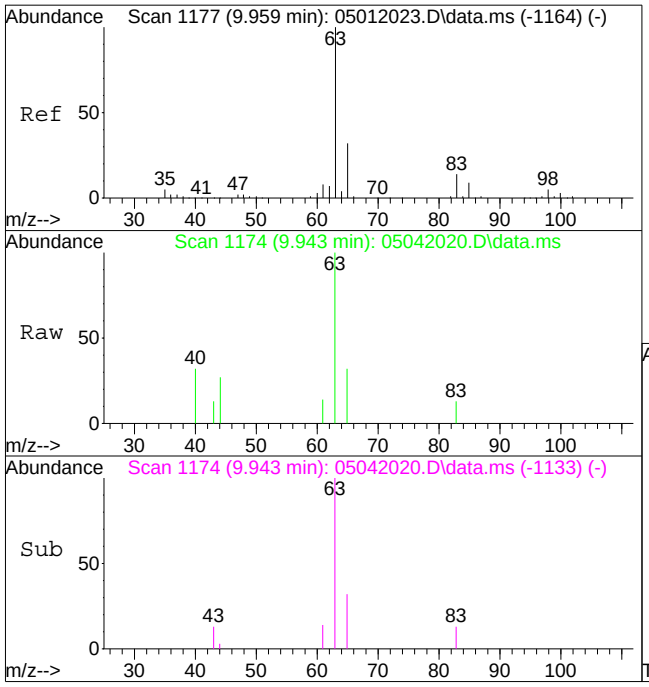


#22
Carbon Disulfide
Concen: 2.33 ng
RT: 8.68 min Scan# 945
Delta R.T. -0.011 min
Lab File: 05042020.D
Acq: 4 May 2020 17:29

Tgt Ion: 76 Resp: 276453

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	29.2

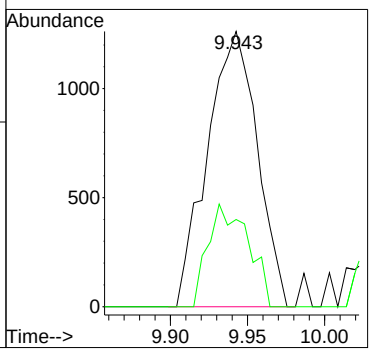


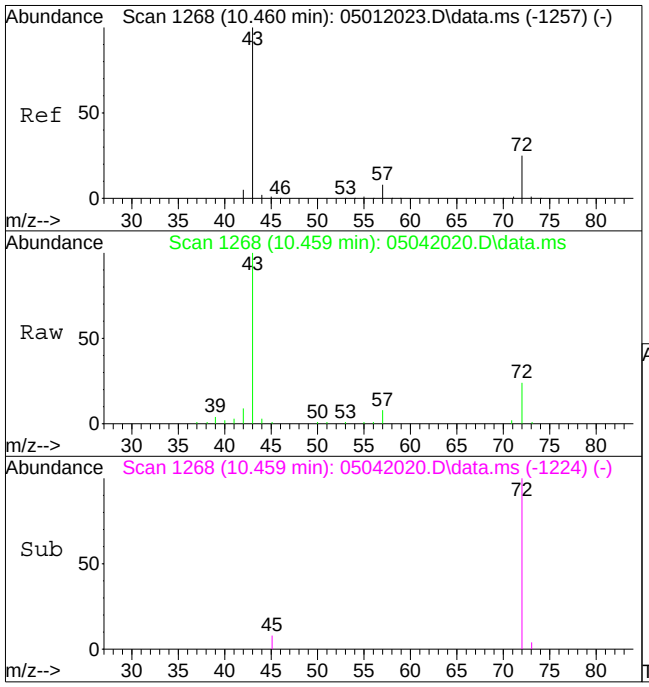


#24
1,1-Dichloroethane
Concen: 0.05 ng
RT: 9.94 min Scan# 1174
Delta R.T. -0.022 min
Lab File: 05042020.D
Acq: 4 May 2020 17:29

Tgt Ion: 63 Resp: 2840

Ion	Ratio	Lower	Upper
63	100		
65	30.1	11.8	51.8

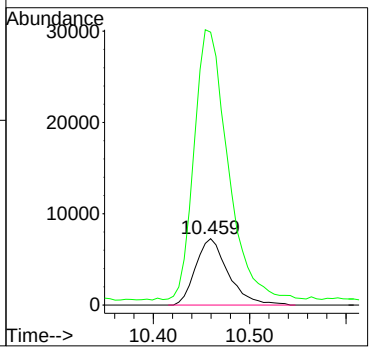


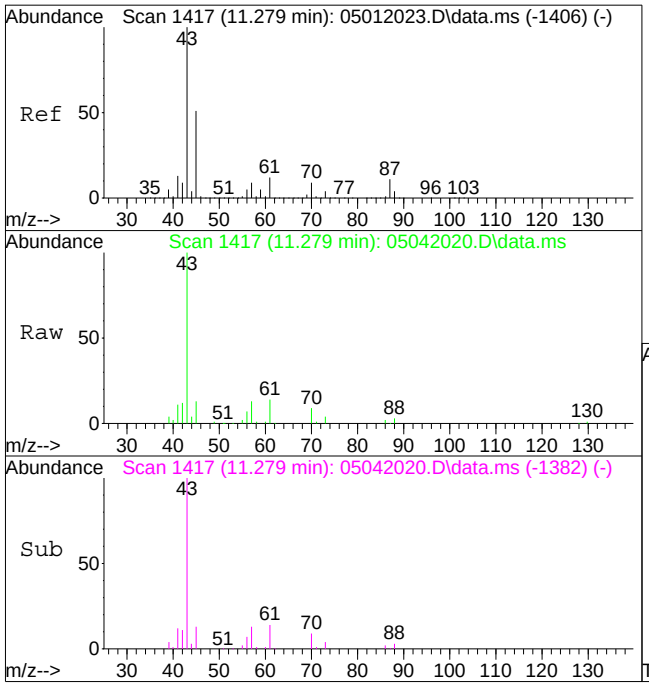


#27
2-Butanone (MEK)
Concen: 0.79 ng
RT: 10.46 min Scan# 1268
Delta R.T. -0.006 min
Lab File: 05042020.D
Acq: 4 May 2020 17:29

Tgt Ion: 72 Resp: 17077

Ion	Ratio	Lower	Upper
72	100		
43	424.4	389.7	429.7

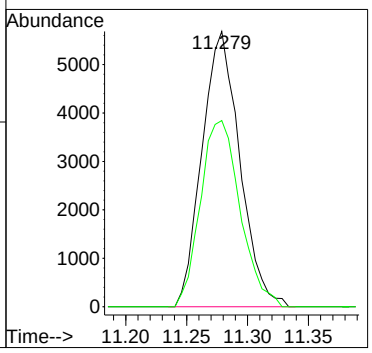


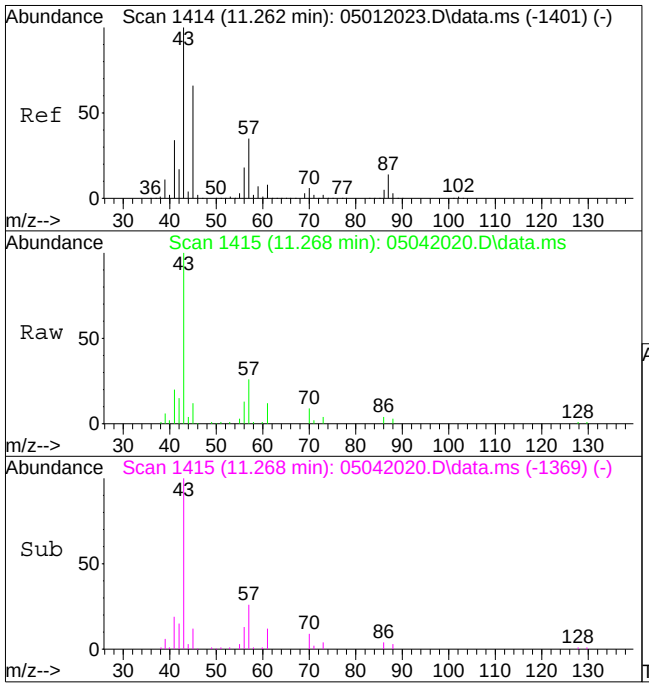


#30
Ethyl Acetate
Concen: 0.98 ng
RT: 11.28 min Scan# 1417
Delta R.T. -0.006 min
Lab File: 05042020.D
Acq: 4 May 2020 17:29

Tgt Ion: 61 Resp: 12246

Ion	Ratio	Lower	Upper
61	100		
70	71.1	57.9	97.9

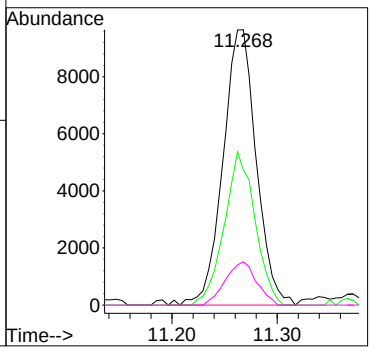


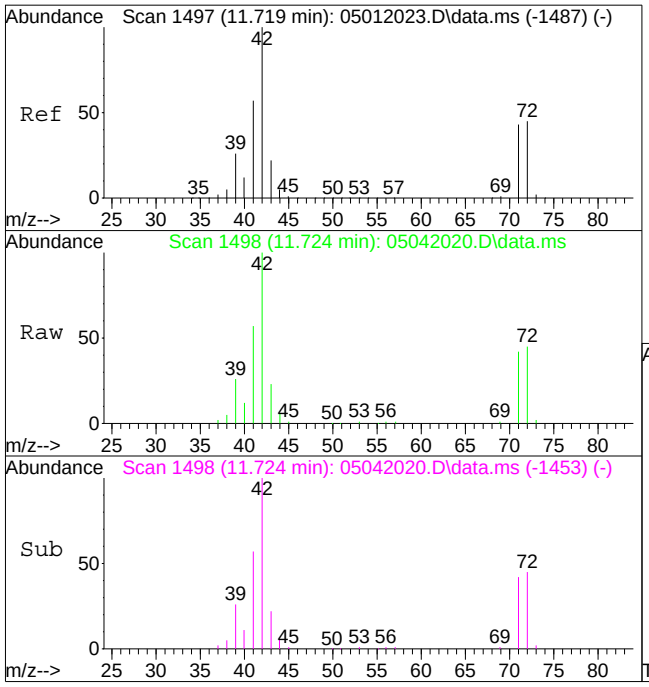


#31
n-Hexane
Concen: 0.39 ng
RT: 11.27 min Scan# 1415
Delta R.T. 0.005 min
Lab File: 05042020.D
Acq: 4 May 2020 17:29

Tgt Ion: 57 Resp: 21221

Ion	Ratio	Lower	Upper
57	100		
56	51.5	41.4	62.0
86	14.7	12.4	18.6

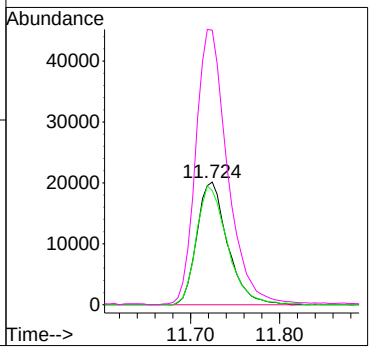


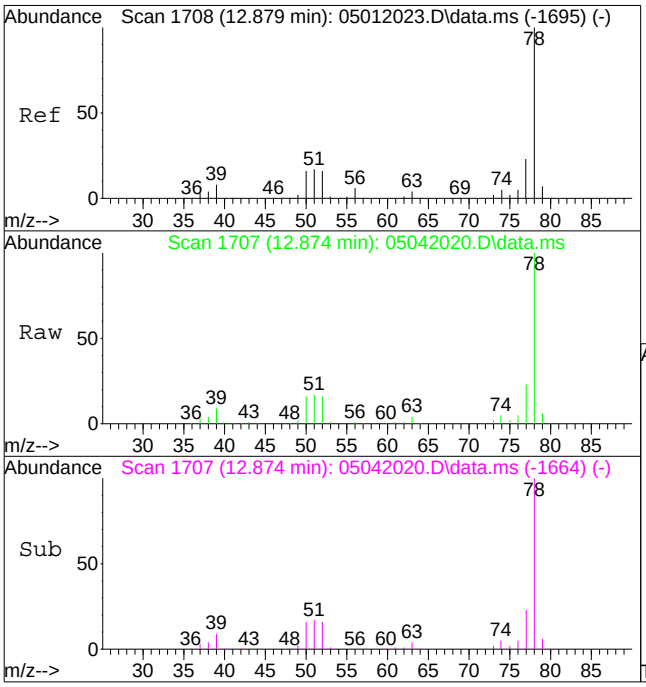


#34
Tetrahydrofuran (THF)
Concen: 2.29 ng
RT: 11.72 min Scan# 1498
Delta R.T. -0.000 min
Lab File: 05042020.D
Acq: 4 May 2020 17:29

Tgt Ion: 72 Resp: 48484

Ion	Ratio	Lower	Upper
72	100		
71	98.0	77.0	117.0
42	232.8	204.6	244.6

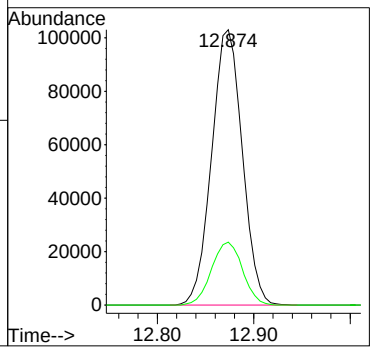


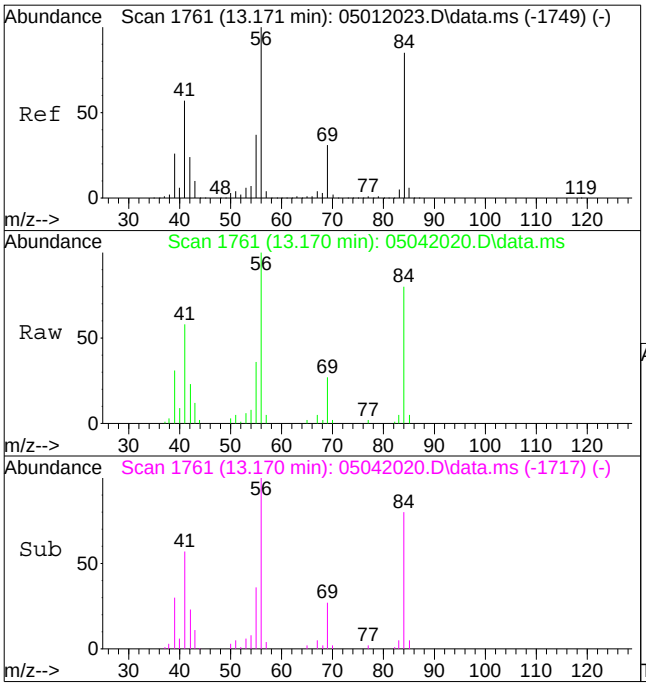


#41
Benzene
Concen: 1.69 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05042020.D
Acq: 4 May 2020 17:29

Tgt Ion: 78 Resp: 227625

Ion	Ratio	Lower	Upper
78	100		
77	23.1	3.4	43.4

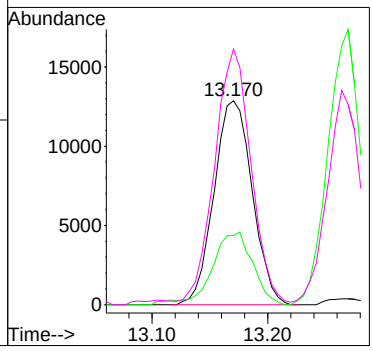


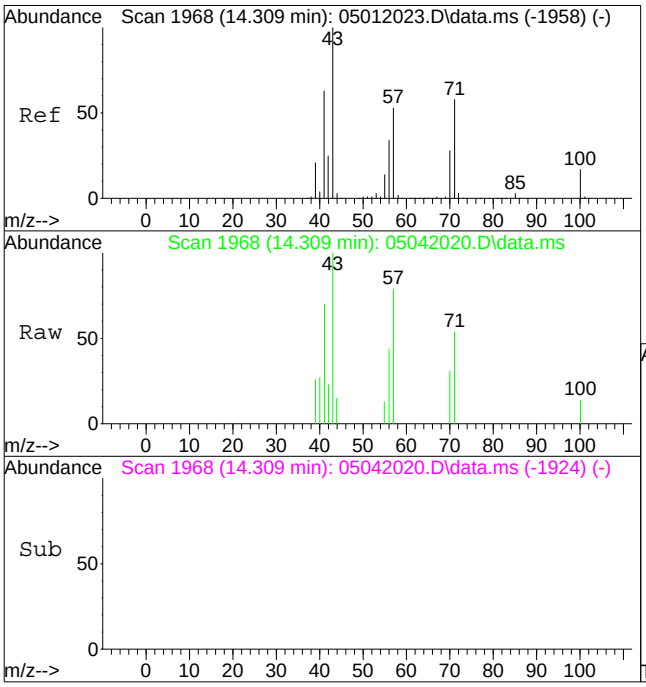


#43
Cyclohexane
Concen: 0.59 ng
RT: 13.17 min Scan# 1761
Delta R.T. -0.006 min
Lab File: 05042020.D
Acq: 4 May 2020 17:29

Tgt Ion: 84 Resp: 29604

Ion	Ratio	Lower	Upper
84	100		
69	37.6	16.5	56.5
56	117.1	97.4	137.4

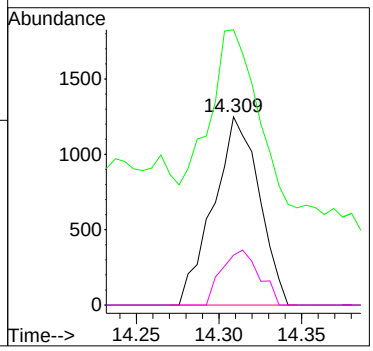


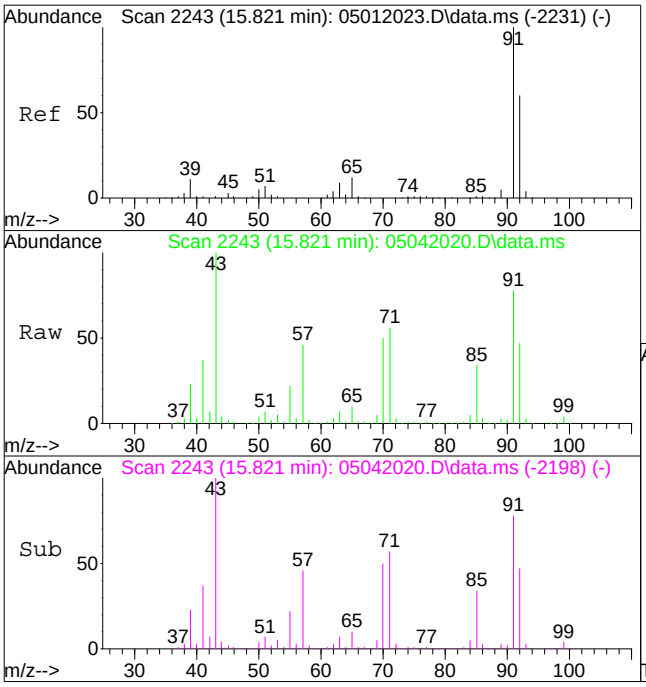


#51
n-Heptane
Concen: 0.08 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05042020.D
Acq: 4 May 2020 17:29

Tgt Ion: 71 Resp: 2401

Ion	Ratio	Lower	Upper
71	100		
57	131.5	71.0	111.0#
100	24.0	8.4	48.4

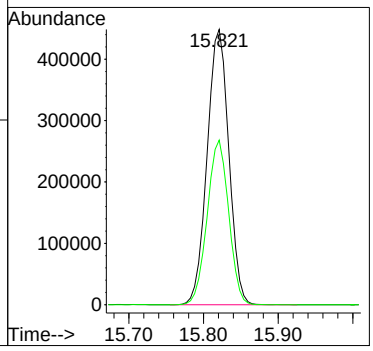


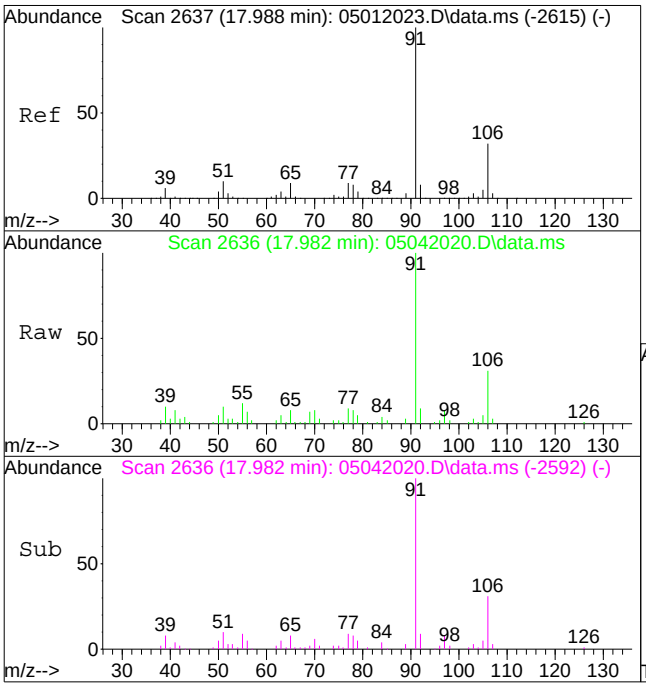


#58
Toluene
Concen: 6.90 ng
RT: 15.82 min Scan# 2243
Delta R.T. -0.000 min
Lab File: 05042020.D
Acq: 4 May 2020 17:29

Tgt Ion: 91 Resp: 903202

Ion	Ratio	Lower	Upper
91	100		
92	59.2	39.4	79.4

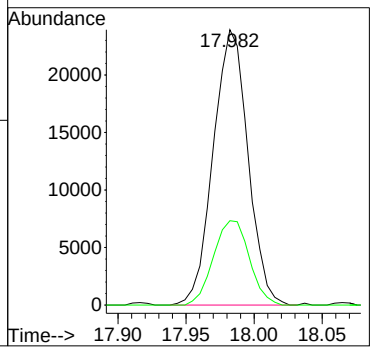


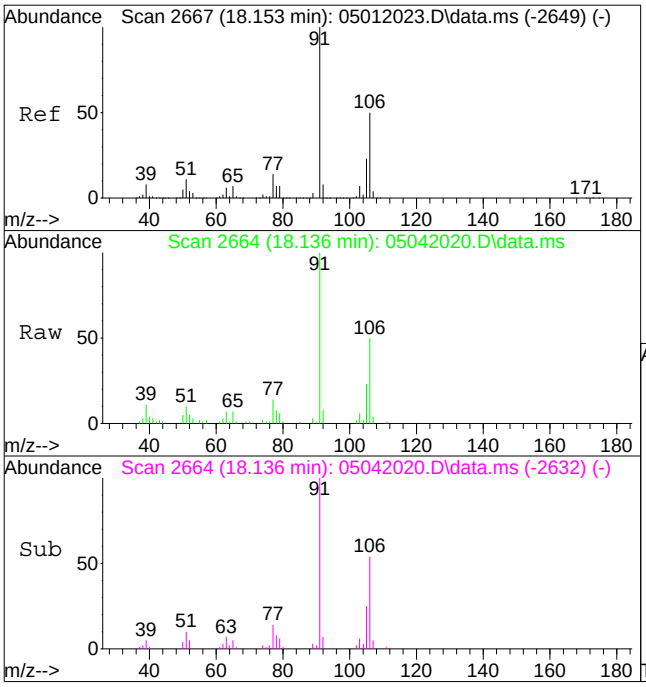


#66
Ethylbenzene
Concen: 0.29 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05042020.D
Acq: 4 May 2020 17:29

Tgt Ion: 91 Resp: 42422

Ion	Ratio	Lower	Upper
91	100		
106	31.7	11.6	51.6

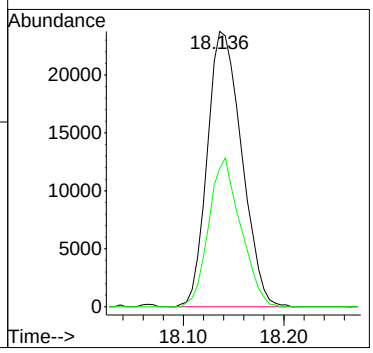


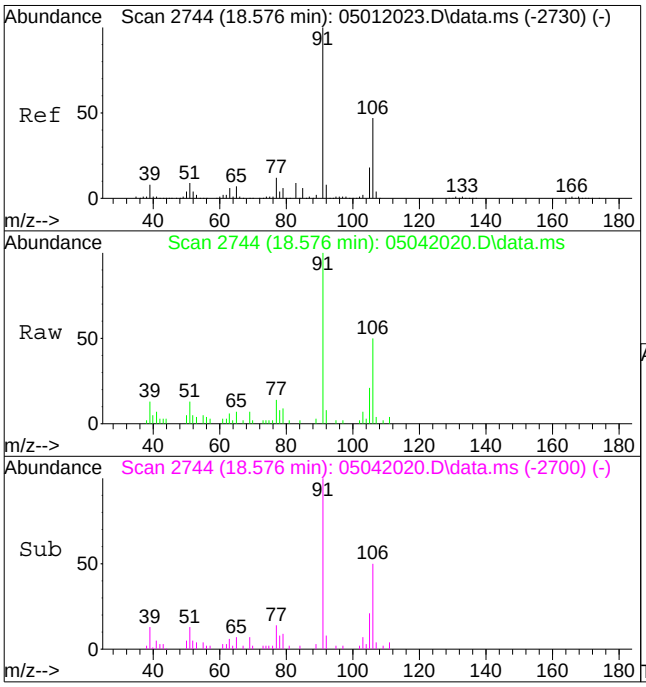


#67
m- & p-Xylenes
Concen: 0.49 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05042020.D
Acq: 4 May 2020 17:29

Tgt Ion: 91 Resp: 56445

Ion	Ratio	Lower	Upper
91	100		
106	50.1	29.7	69.7

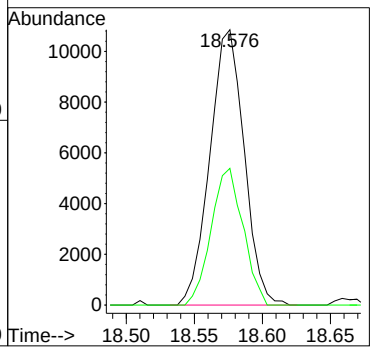




#70
o-Xylene
Concen: 0.16 ng
RT: 18.58 min Scan# 2744
Delta R.T. -0.006 min
Lab File: 05042020.D
Acq: 4 May 2020 17:29

Tgt Ion: 91 Resp: 19026

Ion	Ratio	Lower	Upper
91	100		
106	46.1	27.5	67.5



Response Factor Report GCMS-16

Method Path : I:\MS16\METHODS\
Method File : R16050120.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri May 01 18:22:00 2020
Response Via : Initial Calibration

LH 5/1/20

Calibration Files
0.1 =05012018.D 0.2 =05012019.D 0.5 =05012020.D 1.0 =05012021.D 5.0 =05012022.D 25 =05012
100 =03112009.D

		Compound	0.1	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------			ISTD	----------					
2)	T	Propene	1.611	1.539	1.503	1.380	1.499	1.474	1.430	1.147	1.448	9.66
3)	T	Dichlorodifluo...	3.202	3.003	3.068	2.842	3.010	2.737	2.537	2.254	2.832	11.03
4)	T	Chloromethane	2.604	2.435	2.388	2.238	2.356	2.193	2.172	1.361	2.218	16.88
5)	T	1,2-Dichloro-1...	1.897	1.683	1.822	1.625	1.745	1.600	1.555	1.607	1.692	7.08
6)	T	Vinyl Chloride	2.717	2.540	2.556	2.389	2.585	2.348	2.256	2.069	2.433	8.56
7)	T	1,3-Butadiene	2.247	2.061	2.143	1.977	2.145	1.964	1.905	1.660	2.013	9.02
8)	T	Bromomethane	1.419	1.343	1.315	1.211	1.293	1.245	1.264	1.190	1.285	5.79
9)	T	Chloroethane	1.050	0.952	0.985	0.919	0.990	0.943	0.960	0.887	0.961	5.13
10)	T	Ethanol	1.410	1.184	1.009	0.940	1.092	1.112	1.151	1.046	1.118	12.66
11)	T	Acetonitrile	3.482	2.840	2.383	2.251	2.529	2.471	2.438	2.042	2.555	17.16
12)	T	Acrolein	1.059	0.868	0.880	0.829	0.918	0.879	0.863	0.770	0.883	9.44
13)	T	Acetone	1.252	1.110	1.062	0.988	1.109	1.131	1.179	1.113	1.118	6.92
14)	T	Trichlorofluor...	2.713	2.523	2.575	2.359	2.565	2.454	2.411	2.421	2.503	4.58
15)	T	2-Propanol (Is...	3.870	3.534	3.450	3.257	3.738	3.508	3.156	2.557	3.384	12.00
16)	T	Acrylonitrile	2.202	1.897	1.701	1.617	1.893	1.829	1.828	1.654	1.828	10.12
17)	T	1,1-Dichloroet...	1.408	1.288	1.314	1.236	1.342	1.312	1.299	1.297	1.312	3.73
18)	T	2-Methyl-2-Pro...	3.534	3.198	3.325	3.089	3.578	3.200	2.158		3.155	15.06
19)	T	Methylene Chlo...	1.693	1.502	1.403	1.354	1.469	1.431	1.419	1.356	1.453	7.53
20)	T	3-Chloro-1-pro...	2.223	1.929	1.964	1.905	2.142	2.028	2.036	1.746	1.997	7.37
21)	T	Trichlorotrifl...	1.264	1.065	1.154	1.097	1.218	1.201	1.208	1.246	1.182	5.97
22)	T	Carbon Disulfide	6.112	5.388	5.148	4.831	5.368	5.134	5.024	4.656	5.208	8.48
23)	T	trans-1,2-Dich...	2.284	2.004	1.981	1.860	2.050	1.980	1.964	1.858	1.998	6.70
24)	T	1,1-Dichloroet...	2.569	2.334	2.469	2.238	2.450	2.380	2.330	2.202	2.371	5.15
25)	T	Methyl tert-Bu...	4.195	3.994	4.129	3.762	3.968	3.534	3.241	3.018	3.730	11.49
26)	T	Vinyl Acetate			0.280	0.275	0.355	0.375	0.393	0.412	0.348	16.73
27)	T	2-Butanone (MEK)	1.010	0.938	0.937	0.883	1.007	0.953	0.956	0.944	0.953	4.27
28)	T	cis-1,2-Dichlo...	2.186	1.950	1.950	1.831	2.014	1.928	1.927	1.846	1.954	5.66
29)	T	Diisopropyl Ether	1.400	1.264	1.362	1.283	1.461	1.320	1.346	1.353	1.349	4.68
30)	T	Ethyl Acetate	0.528	0.515	0.507	0.480	0.567	0.596	0.638	0.567	0.550	9.48
31)	T	n-Hexane	2.506	2.242	2.328	2.176	2.400	2.485	2.588	2.351	2.385	5.82
32)	T	Chloroform	2.635	2.393	2.541	2.359	2.618	2.470	2.464	2.425	2.488	4.07
33)	S	1,2-Dichloroet...	1.759	1.788	1.757	1.756	1.704	1.635	1.616	1.538	1.694	5.22
34)	T	Tetrahydrofura...	1.068	0.962	0.909	0.857	0.954	0.901	0.903	0.885	0.930	7.02
35)	T	Ethyl tert-But...	1.603	1.564	1.583	1.487	1.688	1.661	1.680	1.772	1.630	5.43
36)	T	1,2-Dichloroet...	2.204	2.065	2.007	1.843	2.020	1.911	1.892	1.830	1.971	6.45
37)	IR	1,4-Difluorobenzen...	----------			ISTD	----------					
38)	T	1,1,1-Trichlor...	0.520	0.477	0.504	0.469	0.521	0.513	0.513	0.511	0.503	3.91
39)	T	Isopropyl Acetate	0.217	0.187	0.204	0.189	0.226	0.238	0.254	0.247	0.220	11.50
40)	T	1-Butanol	0.335	0.286	0.247	0.231	0.307	0.333	0.362	0.405	0.313	18.51
41)	T	Benzene	1.454	1.263	1.288	1.194	1.366	1.343	1.417	1.400	1.340	6.50
42)	T	Carbon Tetrach...	0.446	0.414	0.449	0.410	0.482	0.473	0.477	0.496	0.456	6.99
43)	T	Cyclohexane	0.491	0.450	0.481	0.443	0.512	0.523	0.544	0.553	0.500	8.14
44)	T	tert-Amyl Meth...	0.895	0.829	0.881	0.824	0.950	0.934	0.955	0.923	0.899	5.70
45)	T	1,2-Dichloropr...	0.322	0.296	0.311	0.288	0.327	0.317	0.320	0.303	0.310	4.42
46)	T	Bromodichlorom...	0.443	0.421	0.437	0.406	0.477	0.479	0.482	0.480	0.453	6.69
47)	T	Trichloroethene	0.348	0.318	0.331	0.303	0.355	0.355	0.366	0.396	0.346	8.37
48)	T	1,4-Dioxane	0.278	0.250	0.253	0.238	0.274	0.278	0.286	0.303	0.270	7.97
49)	T	2,2,4-Trimethy...	1.365	1.266	1.317	1.213	1.370	1.328	1.346	1.231	1.304	4.63
50)	T	Methyl Methacr...	0.126	0.113	0.118	0.116	0.138	0.143	0.149	0.161	0.133	13.21
51)	T	n-Heptane	0.325	0.297	0.306	0.286	0.318	0.310	0.324	0.342	0.313	5.60
52)	T	cis-1,3-Dichlo...	0.535	0.486	0.494	0.468	0.562	0.566	0.581	0.572	0.533	8.30
53)	T	4-Methyl-2-pen...	0.303	0.265	0.287	0.272	0.311	0.319	0.318	0.299	7.10	
54)	T	trans-1,3-Dich...	0.418	0.389	0.410	0.399	0.496	0.508	0.521	0.506	0.456	12.35

55)	T	1,1,2-Trichlor...	0.300	0.292	0.301	0.279	0.324	0.321	0.324	0.323	0.308	5.60
56)	IR	Chlorobenzene-d5 (...	----------ISTD----------									
57)	S	Toluene-d8 (SS2)	2.112	2.125	2.110	2.107	2.097	2.123	2.090	2.186	2.119	1.40
58)	T	Toluene	3.003	2.567	2.666	2.473	2.815	2.802	2.780	2.744	2.731	5.97
59)	T	2-Hexanone	1.547	1.361	1.410	1.339	1.614	1.583	1.602	1.515	1.497	7.42
60)	T	Dibromochlorom...	0.735	0.677	0.704	0.667	0.834	0.868	0.864	0.909	0.782	12.37
61)	T	1,2-Dibromoethane	0.757	0.686	0.705	0.663	0.792	0.804	0.797	0.809	0.752	7.82
62)	T	n-Butyl Acetate	1.611	1.401	1.545	1.456	1.756	1.742	1.751	1.671	1.616	8.55
63)	T	n-Octane	0.572	0.504	0.542	0.504	0.578	0.591	0.613	0.620	0.565	7.95
64)	T	Tetrachloroethene	0.764	0.679	0.700	0.653	0.778	0.829	0.838	0.931	0.771	12.10
65)	T	Chlorobenzene	1.873	1.701	1.737	1.609	1.870	1.882	2.340	2.020	1.879	12.02
66)	T	Ethylbenzene	3.030	2.763	2.965	2.768	3.264	3.313	3.301	2.958	3.045	7.41
67)	T	m- & p-Xylenes	2.416	2.101	2.285	2.203	2.562	2.656	2.741	2.363	2.416	9.24
68)	T	Bromoform			0.523	0.502	0.708	0.751	0.755	0.828	0.678	19.74
69)	T	Styrene	1.554	1.405	1.689	1.594	2.029	2.068	2.060	2.138	1.817	15.77
70)	T	o-Xylene	2.442	2.173	2.312	2.170	2.597	2.662	2.680	2.586	2.453	8.61
71)	T	n-Nonane	1.287	1.140	1.243	1.181	1.387	1.412	1.455	1.306	1.301	8.60
72)	T	1,1,2,2-Tetrac...	1.206	1.074	1.114	1.057	1.298	1.323	1.337	1.325	1.217	9.86
73)	S	Bromofluoroben...	0.715	0.714	0.725	0.724	0.787	0.802	0.783	0.849	0.762	6.56
74)	T	Cumene	3.035	2.729	2.906	2.711	3.284	3.320	3.265	2.830	3.010	8.41
75)	T	alpha-Pinene	1.511	1.362	1.446	1.393	1.701	1.785	1.795	1.856	1.606	12.43
76)	T	n-Propylbenzene	3.631	3.223	3.513	3.346	3.994	4.033	3.904	2.964	3.576	10.84
77)	T	3-Ethyltoluene	2.929	2.407	2.714	2.579	3.163	3.387	3.232	2.897	2.913	11.58
78)	T	4-Ethyltoluene	2.513	2.455	2.758	2.630	3.275	3.167	3.181	2.637	2.827	11.64
79)	T	1,3,5-Trimethy...	2.364	2.022	2.272	2.212	2.706	2.770	2.730	2.561	2.455	11.29
80)	T	alpha-Methylst...			1.138	1.116	1.443	1.485	1.469	1.649	1.384	15.29
81)	T	2-Ethyltoluene	2.821	2.480	2.756	2.582	3.185	3.223	3.148	2.796	2.874	9.82
82)	T	1,2,4-Trimethy...	2.215	1.944	2.255	2.185	2.813	3.050	2.878	2.397	2.467	16.03
83)	T	n-Decane			1.125	1.102	1.410	1.517	1.611	1.515	1.380	15.65
84)	T	Benzyl Chloride				1.519	2.279	2.600	2.687	2.413	2.300	20.21
85)	T	1,3-Dichlorobe...	1.252	1.034	1.264	1.221	1.626	1.660	1.639	1.766	1.433	18.79
86)	T	1,4-Dichlorobe...	1.206	1.004	1.283	1.196	1.601	1.620	1.581	1.693	1.398	18.29
87)	T	sec-Butylbenzene	3.179	2.829	3.093	2.947	3.632	3.636	3.486	2.818	3.203	10.67
88)	T	4-Isopropyltol...			2.761	2.656	3.414	3.547	3.227	2.590	3.033	13.68
89)	T	1,2,3-Trimethy...			2.234	2.175	2.830	3.061	2.870	2.323	2.582	14.77
90)	T	1,2-Dichlorobe...	1.199	1.054	1.223	1.173	1.569	1.646	1.594	1.513	1.372	16.90
91)	T	d-Limonene	0.811	0.750	0.867	0.867	1.070	1.169	1.205	1.057	0.974	17.65
92)	T	1,2-Dibromo-3-...			0.388	0.391	0.568	0.581	0.581	0.595	0.517	19.22
93)	T	n-Undecane			0.906	0.866	1.357	1.474	1.565	1.496	1.277	24.32
94)	T	1,2,4-Trichlor...			0.655	0.635	1.013	1.144	1.183	1.078	0.951	25.70
95)	T	Naphthalene			2.173	2.044	3.472	3.864	3.717	2.796	3.011	26.24
96)	T	n-Dodecane			0.500	0.482	1.251	1.474	1.554	1.375	1.106	44.05
97)	T	Hexachlorobuta...			0.463	0.446	0.622	0.725	0.766	0.927	0.658	28.24
98)	T	Cyclohexanone	1.048	0.943	0.832	0.804	0.983	0.979	0.980	1.079	0.956	10.00
99)	T	tert-Butylbenzene	2.363	2.071	2.240	2.164	2.722	2.855	2.658	2.351	2.428	11.70
100)	T	n-Butylbenzene	2.187	1.921	2.417	2.334	2.916	2.966	2.883	2.471	2.512	15.09

(#) = Out of Range

R16050120.M Fri May 01 18:44:38 2020

Primary Source Standards Concentrations (Working & Initial Calibration)

LH 5/1/20

1ng/L Std. ID:		40ng/L Std. ID:	
4ng/L Std. ID:	S34-04272015	200ng/L Std. ID:	S31-04292003
20ng/L Std. ID:	S34-05012002	1000ng/L Std. ID:	

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	200	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.0250	0.050	0.025	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
Propene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Dichlorodifluoromethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Chloromethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Freon-114	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Vinyl Chloride	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3-Butadiene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Bromomethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Chloroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Ethanol	5.21	5210	1042	208.4	104.2	20.84	5.21		0.521	1.042	2.605	5.21	26.05	130.25	260.5	521
Acetonitrile	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Acrolein	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Acetone	5.33	5330	1066	213.2	106.6	21.32	5.33		0.533	1.066	2.665	5.33	26.65	133.25	266.5	533
Trichlorofluoromethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Isopropanol	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
Acrylonitrile	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,1-Dichloroethene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
tert-Butanol	2.16	2160	432	86.4	43.2	8.64	2.16		0.216	0.432	1.080	2.16	10.80	54.00	108.0	216
Methylene Chloride	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Allyl Chloride	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Dichlorotrifluoroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Carbon Disulfide	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
trans-1,2-Dichloroethene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1-Dichloroethane	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
Methyl tert-Butyl Ether	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Vinyl Acetate	5.35	5350	1070	214.0	107.0	21.40	5.35		0.535	1.070	2.675	5.35	26.75	133.75	267.5	535
2-Butanone	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
cis-1,2-Dichloroethene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Diisopropyl Ether	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Ethyl Acetate	2.17	2170	434	86.8	43.4	8.68	2.17		0.217	0.434	1.085	2.17	10.85	54.25	108.5	217
n-Hexane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Chloroform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Tetrahydrofuran	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
Ethyl tert-Butyl Ether	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dichloroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1,1-Trichloroethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Isopropyl Acetate	2.11	2110	422	84.4	42.2	8.44	2.11		0.211	0.422	1.055	2.11	10.55	52.75	105.5	211
1-Butanol	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
Benzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Carbon Tetrachloride	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Cyclohexane	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
tert-Amyl Methyl Ether	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dichloropropane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Bromodichloromethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Trichloroethene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,4-Dioxane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Isooctane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Methyl Methacrylate	2.15	2150	430	86.0	43.0	8.60	2.15		0.215	0.430	1.075	2.15	10.75	53.75	107.5	215
n-Heptane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108

Q:\TO15 Std. Concentrations\MS16 Std. Conc\2020\R16050120\ICAL Conc. (Primary Source)

Date Updated: 04/22/20
Version: 3

LH 5/1/20

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID:
4ng/L Std. ID: S34-04272015
20ng/L Std. ID: S34-05012002
40ng/L Std. ID:
200ng/L Std. ID: S31-04292003
1000ng/L Std. ID:

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	200	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.0250	0.050	0.025	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
cis-1,3-Dichloropropene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
4-Methyl-2-pentanone	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
trans-1,3-Dichloropropene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1,2-Trichloroethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Toluene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
2-Hexanone	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Dibromochloromethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,2-Dibromoethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Butyl Acetate	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
n-Octane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Tetrachloroethene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Chlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Ethylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
m-&p-Xylene	2.14	2140	428	85.6	42.8	8.56	2.14		0.214	0.428	1.070	2.14	10.70	53.50	107.0	214
Bromoform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Styrene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
o-Xylene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Nonane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,1,2,2-Tetrachloroethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Cumene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
alpha-Pinene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Propylbenzene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
3-Ethyltoluene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
4-Ethyltoluene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3,5-Trimethylbenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
alpha-Methylstyrene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
2-Ethyltoluene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2,4-Trimethylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Decane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Benzyl Chloride	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3-Dichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,4-Dichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
sec-Butylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
p-Isopropyltoluene	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
1,2,3-Trimethylbenzene	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
1,2-Dichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
d-Limonene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dibromo-3-chloropropane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
n-Undecane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2,4-Trichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Naphthalene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
n-Dodecane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Hexachloro-1,3-butadiene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Methacrylonitrile	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Cyclohexanone	1.00	1000	200	40.0	20.0	4.00	1.00		0.100	0.200	0.500	1.00	5.00	25.00	50.0	100
tert-Butylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Butylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107

Q:\TO15 Std. Concentrations\MS16 Std. Conc\2020\R16050120\ICAL Conc. (Primary Source)

Calibration Status Report GCMS-16

Method : I:\MS16\METHODS\R16050120.M (RTE Integrator)
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	0.1	0	13	I:\MS16\DATA\2020_05\01\05012018.D
2	0.2	0	13	I:\MS16\DATA\2020_05\01\05012019.D
3	0.5	1	13	I:\MS16\DATA\2020_05\01\05012020.D
4	1.0	1	13	I:\MS16\DATA\2020_05\01\05012021.D
5	5.0	5	13	I:\MS16\DATA\2020_05\01\05012022.D
6	25	27	13	I:\MS16\DATA\2020_05\01\05012023.D
7	50	53	13	I:\MS16\DATA\2020_05\01\05012024.D
8	100	106	13	I:\MS16\DATA\2020_03\11\03112009.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.1	May 01 17:28 2020	May 01 17:26 2020	1 May 2020 14:09
2	0.2	May 01 17:28 2020	May 01 17:26 2020	1 May 2020 14:42
3	0.5	May 01 17:28 2020	May 01 17:26 2020	1 May 2020 15:16
4	1.0	May 01 17:29 2020	May 01 17:26 2020	1 May 2020 15:51
5	5.0	May 01 17:29 2020	May 01 17:26 2020	1 May 2020 16:25
6	25	May 01 17:29 2020	May 01 17:26 2020	1 May 2020 16:59
7	50	May 01 18:22 2020	May 01 18:21 2020	1 May 2020 17:33
8	100	May 01 17:01 2020	Mar 11 10:34 2020	11 Mar 2020 4:52

R16050120.M Fri May 01 18:52:03 2020

LH 5/1/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012018.D Vial: 6
Acq On : 1 May 2020 14:09 Operator: LH
Sample : 0.1ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04272015 (5/26)

Quant Time: May 01 17:26:08 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	289278	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1281029	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	612084	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	508980	12.744	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.92%				
57) Toluene-d8 (SS2)	15.72	98	1292505	11.971	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.76%				
73) Bromofluorobenzene (SS3)	18.98	174	437866	11.415	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.28%				
Target Compounds							Qvalue
2) Propene	4.13	42	3951	0.128	ng		96
3) Dichlorodifluoromethan...	4.28	85	7854	0.120	ng		99
4) Chloromethane	4.55	50	6389	0.124	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.83	135	4609	0.112	ng		98
6) Vinyl Chloride	4.97	62	6791	0.124	ng		98
7) 1,3-Butadiene	5.24	54	5512	0.135	ng		93
8) Bromomethane	5.66	94	3547	0.129	ng		100
9) Chloroethane	5.99	64	2625	0.124	ng		97
10) Ethanol	6.32	45	16999	0.700	ng		96
11) Acetonitrile	6.59	41	8460	0.157	ng		84
12) Acrolein	6.79	56	2525	0.141	ng		97
13) Acetone	7.01	58	15440	0.650	ng	#	85
14) Trichlorofluoromethane	7.25	101	6656	0.116	ng		97
15) 2-Propanol (Isopropanol)	7.50	45	18806	0.266	ng		91
16) Acrylonitrile	7.74	53	5351	0.149	ng		99
17) 1,1-Dichloroethene	8.21	96	3518	0.123	ng		97
18) 2-Methyl-2-Propanol (t...	8.40	59	17666	0.282	ng		93
19) Methylene Chloride	8.40	84	4154	0.134	ng		94
20) 3-Chloro-1-propene (Al...	8.58	41	5555	0.137	ng		88
21) Trichlorotrifluoroethane	8.84	151	3158	0.114	ng		96
22) Carbon Disulfide	8.69	76	15135	0.136	ng		97
23) trans-1,2-Dichloroethene	9.68	61	5709	0.137	ng		99
24) 1,1-Dichloroethane	9.93	63	6480	0.122	ng		98
25) Methyl tert-Butyl Ether	10.09	73	10484	0.124	ng		100
26) Vinyl Acetate	10.21	86	3501	0.438	ng	#	69
27) 2-Butanone (MEK)	10.48	72	2477	0.126	ng	#	74
28) cis-1,2-Dichloroethene	10.95	61	5362	0.125	ng		95
29) Diisopropyl Ether	11.29	87	3500	0.113	ng	#	86
30) Ethyl Acetate	11.28	61	2653	0.229	ng		98
31) n-Hexane	11.26	57	6264	0.117	ng		97
32) Chloroform	11.30	83	6525	0.114	ng		100
34) Tetrahydrofuran (THF)	11.75	72	2693	0.133	ng		91
35) Ethyl tert-Butyl Ether	11.87	87	4007	0.109	ng		93
36) 1,2-Dichloroethane	12.11	62	5509	0.123	ng		98
38) 1,1,1-Trichloroethane	12.39	97	5705	0.113	ng		98
39) Isopropyl Acetate	12.84	61	4697	0.226	ng	#	91
40) 1-Butanol	12.85	56	7144	0.220	ng		93
41) Benzene	12.87	78	15792	0.120	ng		98
42) Carbon Tetrachloride	13.03	117	4803	0.106	ng		98
43) Cyclohexane	13.17	84	10671	0.211	ng		98
44) tert-Amyl Methyl Ether	13.53	73	9904	0.115	ng		97
45) 1,2-Dichloropropane	13.72	63	3569	0.117	ng		99
46) Bromodichloromethane	13.91	83	4900	0.109	ng		98
47) Trichloroethene	13.96	130	3818	0.102	ng		96
48) 1,4-Dioxane	13.96	88	3076	0.120	ng		99
49) 2,2,4-Trimethylpentane...	14.05	57	14967	0.118	ng		97
50) Methyl Methacrylate	14.18	100	2774	0.218	ng		96

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012018.D Vial: 6
Acq On : 1 May 2020 14:09 Operator: LH
Sample : 0.1ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04272015 (5/26)

Quant Time: May 01 17:26:08 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

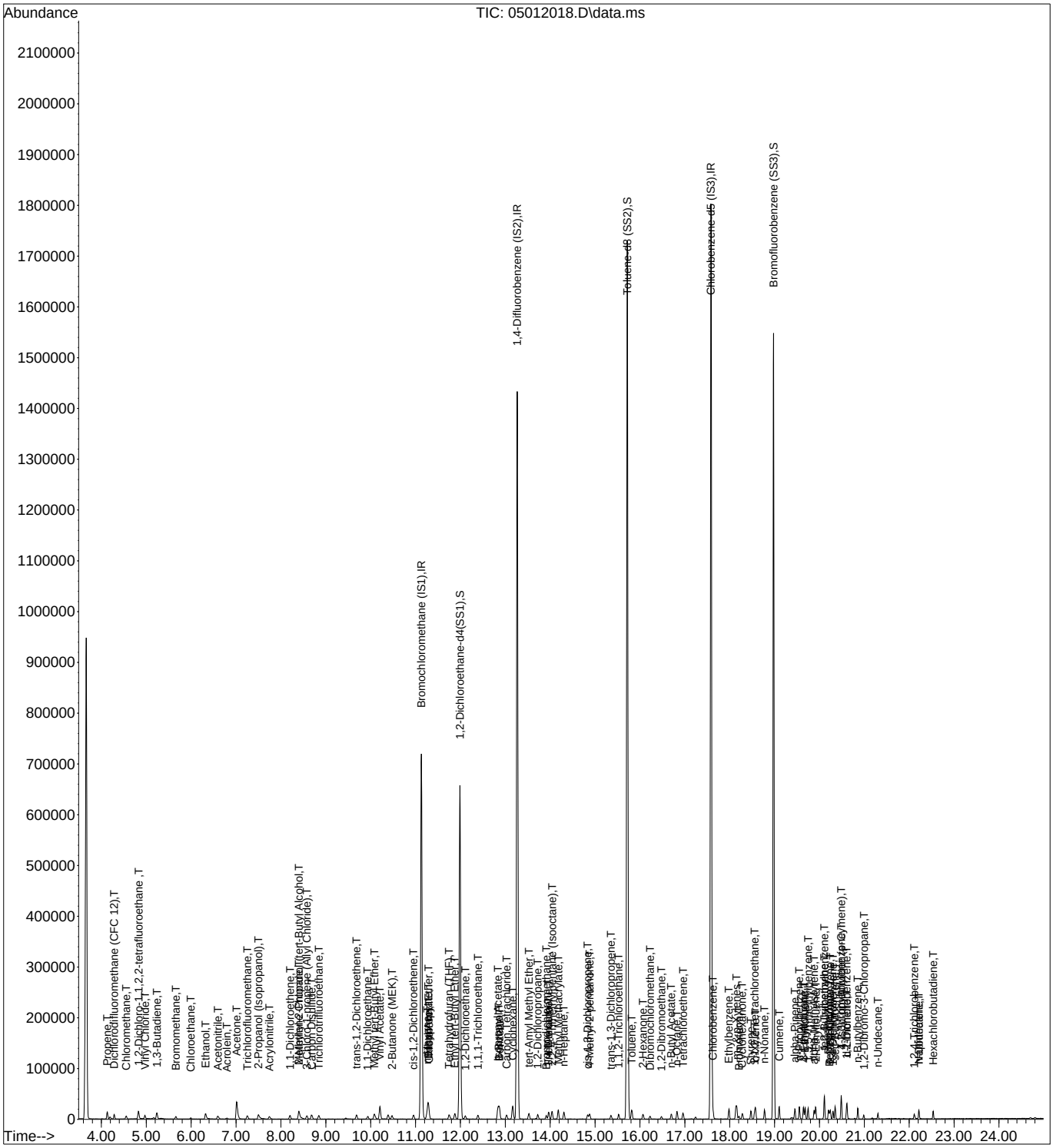
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.30	71	3595	0.117	ng		97
52) cis-1,3-Dichloropropene	14.83	75	5704	0.116	ng		96
53) 4-Methyl-2-pentanone	14.88	58	3296	0.119	ng		93
54) trans-1,3-Dichloropropene	15.35	75	4544	0.099	ng		98
55) 1,1,2-Trichloroethane	15.52	97	3290	0.107	ng		92
58) Toluene	15.82	91	15732	0.118	ng		98
59) 2-Hexanone	16.07	43	8108	0.120	ng		95
60) Dibromochloromethane	16.23	129	3850	0.107	ng		98
61) 1,2-Dibromoethane	16.48	107	3967	0.115	ng		99
62) n-Butyl Acetate	16.70	43	8599	0.119	ng		100
63) n-Octane	16.82	57	3026	0.113	ng		95
64) Tetrachloroethene	16.96	166	3889	0.104	ng		96
65) Chlorobenzene	17.62	112	9815	0.109	ng		97
66) Ethylbenzene	17.98	91	15876	0.108	ng		99
67) m- & p-Xylenes	18.15	91	25313	0.213	ng		97
68) Bromoform	18.21	173	2794	0.087	ng		97
69) Styrene	18.47	104	8068	0.087	ng		98
70) o-Xylene	18.58	91	12796	0.107	ng		97
71) n-Nonane	18.77	43	6742	0.112	ng		94
72) 1,1,2,2-Tetrachloroethane	18.55	83	6321	0.110	ng		99
74) Cumene	19.10	105	16051	0.107	ng		99
75) alpha-Pinene	19.45	93	7915	0.104	ng		98
76) n-Propylbenzene	19.55	91	19200	0.109	ng		96
77) 3-Ethyltoluene	19.64	105	15205	0.102	ng		95
78) 4-Ethyltoluene	19.68	105	13291	0.094	ng		97
79) 1,3,5-Trimethylbenzene	19.75	105	12270	0.097	ng		98
80) alpha-Methylstyrene	19.88	118	5286	0.077	ng		90
81) 2-Ethyltoluene	19.92	105	14918	0.102	ng		98
82) 1,2,4-Trimethylbenzene	20.11	105	11607	0.089	ng		98
83) n-Decane	20.20	57	5622	0.088	ng		96
84) Benzyl Chloride	20.23	91	6198	0.059	ng		94
85) 1,3-Dichlorobenzene	20.24	146	6559	0.093	ng		97
86) 1,4-Dichlorobenzene	20.30	146	6317	0.090	ng		95
87) sec-Butylbenzene	20.35	105	16656	0.102	ng		97
88) 4-Isopropyltoluene (p-...	20.48	119	14335	0.094	ng		98
89) 1,2,3-Trimethylbenzene	20.48	105	11912	0.091	ng		98
90) 1,2-Dichlorobenzene	20.61	146	6284	0.088	ng		97
91) d-Limonene	20.61	68	4287	0.084	ng		100
92) 1,2-Dibromo-3-Chloropr...	20.99	157	1904	0.078	ng	#	68
93) n-Undecane	21.30	57	3299	0.050	ng		96
94) 1,2,4-Trichlorobenzene	22.11	180	2902	0.065	ng		95
95) Naphthalene	22.22	128	9207	0.061	ng		99
96) n-Dodecane	22.22	57	1759	0.027	ng		84
97) Hexachlorobutadiene	22.54	225	2672	0.079	ng		98
98) Cyclohexanone	18.28	55	5130	0.112	ng		96
99) tert-Butylbenzene	20.11	119	12381	0.098	ng		100
100) n-Butylbenzene	20.85	91	11459	0.087	ng		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012018.D Vial: 6
Acq On : 1 May 2020 14:09 Operator: LH
Sample : 0.1ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04272015 (5/26)

Quant Time: May 01 17:26:08 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012019.D Vial: 6
Acq On : 1 May 2020 14:42 Operator: LH
Sample : 0.2ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04272015 (5/26)

Quant Time: May 01 17:26:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	281203	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1265644	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	605249	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	502682	12.948	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.60%				
57) Toluene-d8 (SS2)	15.72	98	1286177	12.047	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.40%				
73) Bromofluorobenzene (SS3)	18.98	174	432138	11.393	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.12%				
Target Compounds							Qvalue
2) Propene	4.12	42	7340	0.244	ng		98
3) Dichlorodifluoromethan...	4.28	85	14321	0.225	ng		98
4) Chloromethane	4.54	50	11611	0.231	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	7949	0.198	ng		100
6) Vinyl Chloride	4.97	62	12344	0.232	ng		98
7) 1,3-Butadiene	5.22	54	9830	0.247	ng		96
8) Bromomethane	5.65	94	6528	0.244	ng		95
9) Chloroethane	5.98	64	4628	0.226	ng		98
10) Ethanol	6.31	45	27749	1.175	ng		96
11) Acetonitrile	6.59	41	13417	0.257	ng		87
12) Acrolein	6.79	56	4024	0.232	ng		98
13) Acetone	7.01	58	26616	1.152	ng		88
14) Trichlorofluoromethane	7.25	101	12031	0.215	ng		96
15) 2-Propanol (Isopropanol)	7.48	45	33389	0.485	ng		93
16) Acrylonitrile	7.74	53	8962	0.257	ng		98
17) 1,1-Dichloroethene	8.20	96	6259	0.225	ng		97
18) 2-Methyl-2-Propanol (t...	8.39	59	31078	0.511	ng		95
19) Methylene Chloride	8.40	84	7162	0.238	ng		95
20) 3-Chloro-1-propene (Al...	8.57	41	9375	0.238	ng		97
21) Trichlorotrifluoroethane	8.85	151	5174	0.193	ng		91
22) Carbon Disulfide	8.68	76	25939	0.240	ng		98
23) trans-1,2-Dichloroethene	9.69	61	9736	0.240	ng		99
24) 1,1-Dichloroethane	9.93	63	11448	0.222	ng		100
25) Methyl tert-Butyl Ether	10.07	73	19408	0.236	ng		100
26) Vinyl Acetate	10.20	86	6257	0.806	ng	#	65
27) 2-Butanone (MEK)	10.47	72	4473	0.235	ng	#	85
28) cis-1,2-Dichloroethene	10.95	61	9299	0.222	ng		95
29) Diisopropyl Ether	11.27	87	6141	0.203	ng	#	89
30) Ethyl Acetate	11.28	61	5026	0.447	ng		94
31) n-Hexane	11.26	57	10892	0.209	ng		100
32) Chloroform	11.30	83	11522	0.207	ng		100
34) Tetrahydrofuran (THF)	11.74	72	4717	0.239	ng		96
35) Ethyl tert-Butyl Ether	11.87	87	7599	0.213	ng		99
36) 1,2-Dichloroethane	12.11	62	10033	0.231	ng		97
38) 1,1,1-Trichloroethane	12.39	97	10336	0.208	ng		99
39) Isopropyl Acetate	12.84	61	8005	0.390	ng	#	82
40) 1-Butanol	12.85	56	12049	0.376	ng		93
41) Benzene	12.87	78	27102	0.208	ng		100
42) Carbon Tetrachloride	13.03	117	8801	0.196	ng		99
43) Cyclohexane	13.17	84	19302	0.386	ng		99
44) tert-Amyl Methyl Ether	13.52	73	18140	0.213	ng		97
45) 1,2-Dichloropropane	13.72	63	6464	0.215	ng		100
46) Bromodichloromethane	13.91	83	9202	0.208	ng		97
47) Trichloroethene	13.97	130	6883	0.185	ng		99
48) 1,4-Dioxane	13.96	88	5469	0.215	ng		98
49) 2,2,4-Trimethylpentane...	14.04	57	27442	0.219	ng		99
50) Methyl Methacrylate	14.18	100	4902	0.390	ng		92

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012019.D Vial: 6
Acq On : 1 May 2020 14:42 Operator: LH
Sample : 0.2ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04272015 (5/26)

Quant Time: May 01 17:26:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

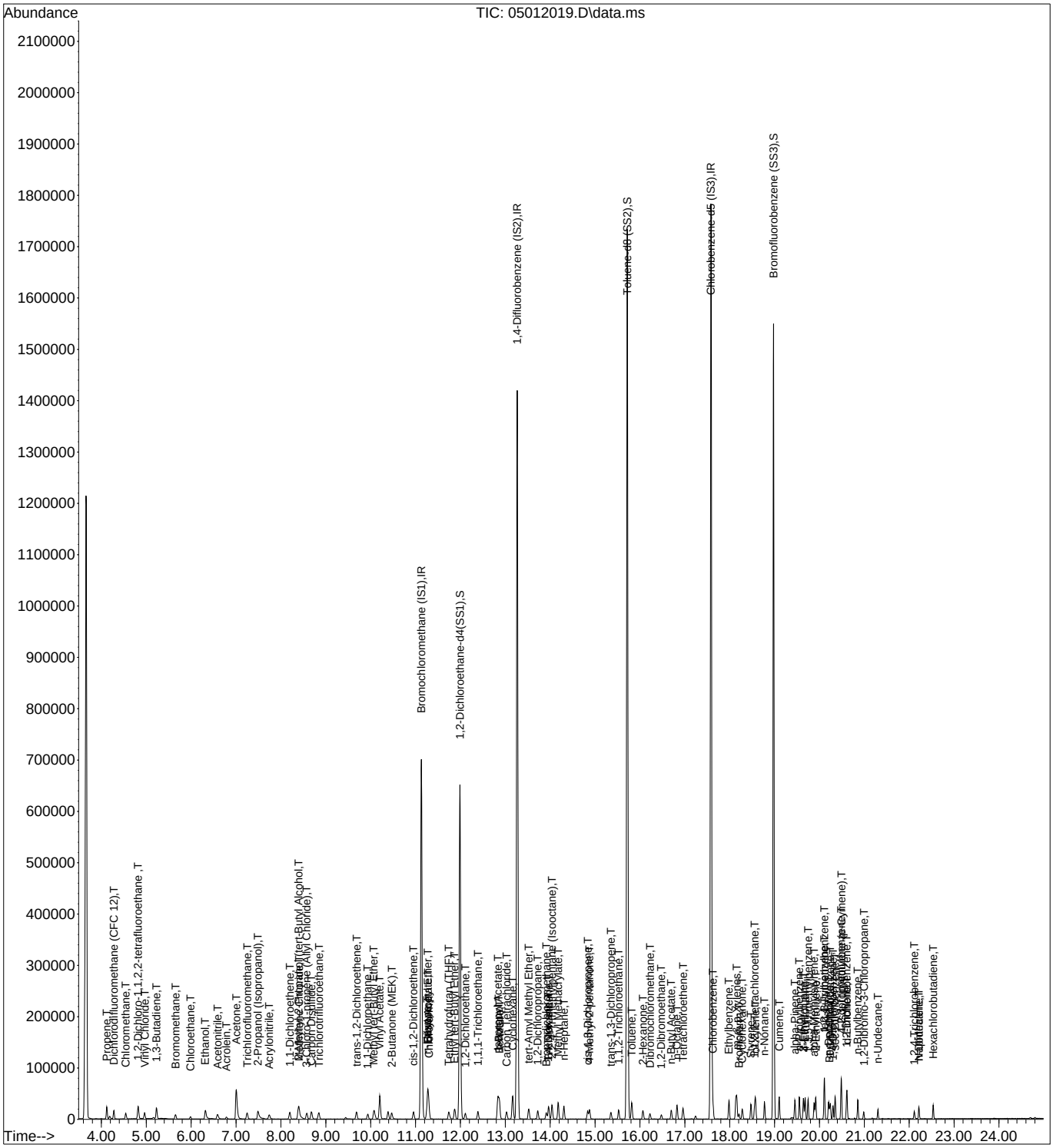
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.31	71	6485	0.213	ng		99
52) cis-1,3-Dichloropropene	14.84	75	10229	0.211	ng		99
53) 4-Methyl-2-pentanone	14.88	58	5691	0.207	ng		91
54) trans-1,3-Dichloropropene	15.35	75	8360	0.185	ng		96
55) 1,1,2-Trichloroethane	15.52	97	6328	0.209	ng		98
58) Toluene	15.82	91	26600	0.201	ng		99
59) 2-Hexanone	16.06	43	14103	0.211	ng		96
60) Dibromochloromethane	16.23	129	7014	0.198	ng		97
61) 1,2-Dibromoethane	16.48	107	7112	0.208	ng		98
62) n-Butyl Acetate	16.70	43	14786	0.207	ng		99
63) n-Octane	16.82	57	5273	0.199	ng		99
64) Tetrachloroethene	16.96	166	6836	0.184	ng		98
65) Chlorobenzene	17.62	112	17628	0.198	ng		99
66) Ethylbenzene	17.98	91	28627	0.197	ng		98
67) m- & p-Xylenes	18.15	91	43549	0.370	ng		100
68) Bromoform	18.21	173	4948	0.156	ng		97
69) Styrene	18.47	104	14427	0.157	ng		98
70) o-Xylene	18.58	91	22519	0.191	ng		99
71) n-Nonane	18.77	43	11811	0.198	ng		96
72) 1,1,2,2-Tetrachloroethane	18.55	83	11124	0.196	ng		98
74) Cumene	19.10	105	28539	0.192	ng		97
75) alpha-Pinene	19.45	93	14109	0.187	ng		97
76) n-Propylbenzene	19.55	91	33704	0.194	ng		96
77) 3-Ethyltoluene	19.64	105	24706	0.167	ng		95
78) 4-Ethyltoluene	19.68	105	25673	0.184	ng		92
79) 1,3,5-Trimethylbenzene	19.75	105	20755	0.166	ng		100
80) alpha-Methylstyrene	19.88	118	9566	0.141	ng		98
81) 2-Ethyltoluene	19.92	105	25934	0.179	ng		98
82) 1,2,4-Trimethylbenzene	20.11	105	20144	0.156	ng		100
83) n-Decane	20.20	57	9540	0.150	ng		99
84) Benzyl Chloride	20.22	91	10864	0.105	ng		96
85) 1,3-Dichlorobenzene	20.24	146	10709	0.154	ng		98
86) 1,4-Dichlorobenzene	20.30	146	10405	0.150	ng		99
87) sec-Butylbenzene	20.35	105	29313	0.182	ng		98
88) 4-Isopropyltoluene (p-...	20.49	119	25509	0.168	ng		98
89) 1,2,3-Trimethylbenzene	20.48	105	20308	0.157	ng		97
90) 1,2-Dichlorobenzene	20.61	146	10926	0.154	ng		99
91) d-Limonene	20.61	68	7844	0.156	ng		98
92) 1,2-Dibromo-3-Chloropr...	20.99	157	3246	0.134	ng	#	68
93) n-Undecane	21.30	57	5419	0.083	ng		99
94) 1,2,4-Trichlorobenzene	22.11	180	4530	0.103	ng		98
95) Naphthalene	22.22	128	12645	0.085	ng		100
96) n-Dodecane	22.22	57	2203	0.035	ng		95
97) Hexachlorobutadiene	22.54	225	4472	0.134	ng		100
98) Cyclohexanone	18.28	55	9134	0.201	ng		98
99) tert-Butylbenzene	20.11	119	21458	0.172	ng		100
100) n-Butylbenzene	20.85	91	19904	0.152	ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012019.D Vial: 6
Acq On : 1 May 2020 14:42 Operator: LH
Sample : 0.2ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04272015 (5/26)

Quant Time: May 01 17:26:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012020.D Vial: 13
Acq On : 1 May 2020 15:16 Operator: LH
Sample : 0.5ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-05012002 (5/30)

Quant Time: May 01 17:26:12 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	282762	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1246042	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	597894	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	496699	12.724	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.76%				
57) Toluene-d8 (SS2)	15.72	98	1261623	11.962	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.68%				
73) Bromofluorobenzene (SS3)	18.98	174	433440	11.568	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.56%				
Target Compounds							Qvalue
2) Propene	4.12	42	18019	0.595	ng		100
3) Dichlorodifluoromethan...	4.27	85	36783	0.574	ng		100
4) Chloromethane	4.54	50	28625	0.567	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	21643	0.536	ng		98
6) Vinyl Chloride	4.96	62	31225	0.584	ng		99
7) 1,3-Butadiene	5.22	54	25691	0.642	ng		97
8) Bromomethane	5.65	94	16060	0.596	ng		100
9) Chloroethane	5.98	64	12037	0.584	ng		100
10) Ethanol	6.32	45	59441	2.504	ng		99
11) Acetonitrile	6.58	41	28303	0.538	ng		92
12) Acrolein	6.78	56	10249	0.587	ng		99
13) Acetone	7.00	58	64034	2.757	ng		90
14) Trichlorofluoromethane	7.24	101	30869	0.549	ng		99
15) 2-Propanol (Isopropanol)	7.49	45	81950	1.184	ng		94
16) Acrylonitrile	7.74	53	20199	0.576	ng		99
17) 1,1-Dichloroethene	8.19	96	16045	0.574	ng		99
18) 2-Methyl-2-Propanol (t...	8.38	59	81236	1.327	ng		97
19) Methylene Chloride	8.40	84	16818	0.555	ng		93
20) 3-Chloro-1-propene (Al...	8.57	41	23985	0.605	ng		100
21) Trichlorotrifluoroethane	8.84	151	14094	0.522	ng		90
22) Carbon Disulfide	8.68	76	62306	0.573	ng		100
23) trans-1,2-Dichloroethene	9.68	61	24198	0.594	ng		98
24) 1,1-Dichloroethane	9.94	63	30445	0.588	ng		98
25) Methyl tert-Butyl Ether	10.06	73	50440	0.609	ng		100
26) Vinyl Acetate	10.20	86	16921	2.167	ng	#	71
27) 2-Butanone (MEK)	10.46	72	11237	0.586	ng	#	91
28) cis-1,2-Dichloroethene	10.95	61	23378	0.555	ng		97
29) Diisopropyl Ether	11.27	87	16633	0.547	ng	#	80
30) Ethyl Acetate	11.28	61	12444	1.100	ng		99
31) n-Hexane	11.26	57	28441	0.542	ng		99
32) Chloroform	11.30	83	30757	0.550	ng		100
34) Tetrahydrofuran (THF)	11.74	72	11211	0.565	ng		97
35) Ethyl tert-Butyl Ether	11.87	87	19341	0.539	ng		95
36) 1,2-Dichloroethane	12.11	62	24513	0.560	ng		98
38) 1,1,1-Trichloroethane	12.39	97	26870	0.549	ng		98
39) Isopropyl Acetate	12.83	61	21414	1.060	ng		94
40) 1-Butanol	12.85	56	25610	0.811	ng		84
41) Benzene	12.87	78	68060	0.531	ng		99
42) Carbon Tetrachloride	13.03	117	23499	0.531	ng		100
43) Cyclohexane	13.17	84	50782	1.030	ng		99
44) tert-Amyl Methyl Ether	13.52	73	47408	0.566	ng		98
45) 1,2-Dichloropropane	13.73	63	16720	0.564	ng		98
46) Bromodichloromethane	13.91	83	23539	0.540	ng		99
47) Trichloroethene	13.97	130	17666	0.483	ng		98
48) 1,4-Dioxane	13.95	88	13607	0.544	ng		98
49) 2,2,4-Trimethylpentane...	14.04	57	70232	0.570	ng		98
50) Methyl Methacrylate	14.18	100	12679	1.026	ng		89

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012020.D Vial: 13
Acq On : 1 May 2020 15:16 Operator: LH
Sample : 0.5ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-05012002 (5/30)

Quant Time: May 01 17:26:12 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

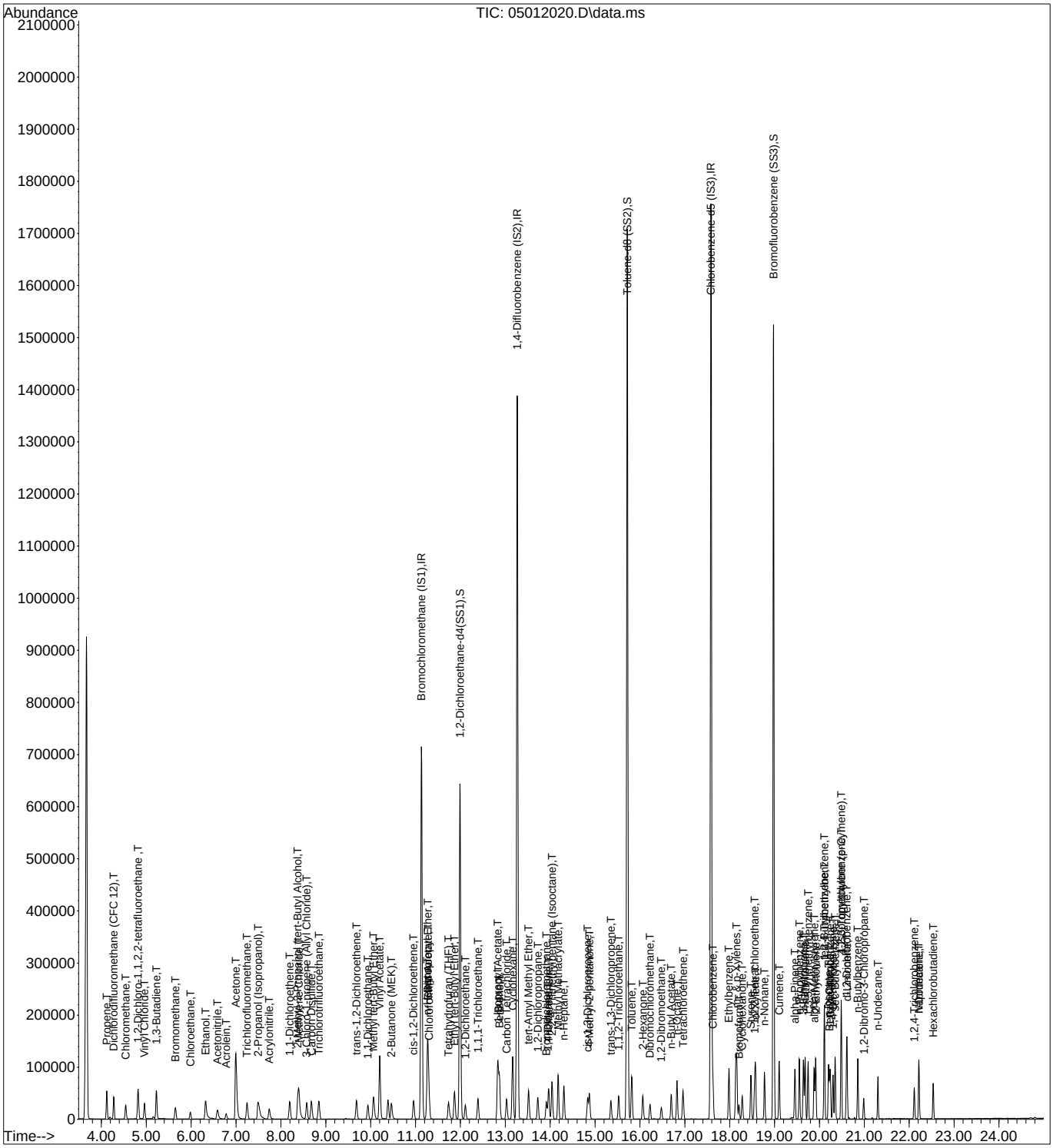
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.30	71	16470	0.549 ng		99
52) cis-1,3-Dichloropropene	14.83	75	25622	0.537 ng		100
53) 4-Methyl-2-pentanone	14.88	58	15185	0.562 ng		96
54) trans-1,3-Dichloropropene	15.35	75	21678	0.488 ng		100
55) 1,1,2-Trichloroethane	15.52	97	16061	0.538 ng		99
58) Toluene	15.82	91	68212	0.522 ng		99
59) 2-Hexanone	16.06	43	36076	0.547 ng		97
60) Dibromochloromethane	16.22	129	18007	0.513 ng		100
61) 1,2-Dibromoethane	16.48	107	18032	0.535 ng		99
62) n-Butyl Acetate	16.70	43	40268	0.571 ng		99
63) n-Octane	16.83	57	14009	0.536 ng		98
64) Tetrachloroethene	16.96	166	17406	0.474 ng		98
65) Chlorobenzene	17.62	112	44455	0.505 ng		99
66) Ethylbenzene	17.98	91	75877	0.529 ng		99
67) m- & p-Xylenes	18.15	91	116955	1.007 ng		99
68) Bromoform	18.21	173	13392	0.426 ng		100
69) Styrene	18.47	104	42807	0.472 ng		99
70) o-Xylene	18.58	91	59151	0.509 ng		98
71) n-Nonane	18.77	43	31809	0.539 ng		98
72) 1,1,2,2-Tetrachloroethane	18.55	83	28515	0.507 ng		100
74) Cumene	19.10	105	75062	0.513 ng		98
75) alpha-Pinene	19.45	93	36992	0.496 ng		98
76) n-Propylbenzene	19.56	91	90744	0.529 ng		97
77) 3-Ethyltoluene	19.64	105	68792	0.472 ng		99
78) 4-Ethyltoluene	19.68	105	71240	0.516 ng		99
79) 1,3,5-Trimethylbenzene	19.75	105	57590	0.466 ng		100
80) alpha-Methylstyrene	19.88	118	29121	0.435 ng		98
81) 2-Ethyltoluene	19.92	105	71176	0.498 ng		98
82) 1,2,4-Trimethylbenzene	20.11	105	57697	0.454 ng		98
83) n-Decane	20.20	57	28801	0.460 ng		98
84) Benzyl Chloride	20.23	91	38679	0.379 ng		97
85) 1,3-Dichlorobenzene	20.24	146	32341	0.470 ng		99
86) 1,4-Dichlorobenzene	20.30	146	32829	0.480 ng		98
87) sec-Butylbenzene	20.35	105	79152	0.499 ng		98
88) 4-Isopropyltoluene (p-...	20.48	119	71971	0.481 ng		98
89) 1,2,3-Trimethylbenzene	20.48	105	58236	0.457 ng		97
90) 1,2-Dichlorobenzene	20.61	146	31295	0.447 ng		100
91) d-Limonene	20.62	68	22394	0.451 ng		99
92) 1,2-Dibromo-3-Chloropr...	20.99	157	9748	0.406 ng	#	80
93) n-Undecane	21.30	57	23411	0.364 ng		98
94) 1,2,4-Trichlorobenzene	22.11	180	16758	0.385 ng		99
95) Naphthalene	22.22	128	53528	0.365 ng		100
96) n-Dodecane	22.22	57	12440	0.198 ng		98
97) Hexachlorobutadiene	22.54	225	11744	0.356 ng		99
98) Cyclohexanone	18.28	55	19899	0.444 ng		97
99) tert-Butylbenzene	20.11	119	57329	0.464 ng		99
100) n-Butylbenzene	20.85	91	61839	0.478 ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012020.D Vial: 13
Acq On : 1 May 2020 15:16 Operator: LH
Sample : 0.5ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-05012002 (5/30)

Quant Time: May 01 17:26:12 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012021.D Vial: 13
Acq On : 1 May 2020 15:51 Operator: LH
Sample : 1.0ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-05012002 (5/30)

Quant Time: May 01 17:26:14 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	283099	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1255557	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	599231	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	497020	12.717	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.76%				
57) Toluene-d8 (SS2)	15.72	98	1262658	11.945	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.60%				
73) Bromofluorobenzene (SS3)	18.98	174	433746	11.550	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.40%				
Target Compounds							Qvalue
2) Propene	4.11	42	33126	1.093	ng		99
3) Dichlorodifluoromethan...	4.27	85	68235	1.064	ng		99
4) Chloromethane	4.53	50	53718	1.062	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	38642	0.956	ng		99
6) Vinyl Chloride	4.96	62	58432	1.092	ng		100
7) 1,3-Butadiene	5.22	54	47465	1.185	ng		98
8) Bromomethane	5.64	94	29630	1.099	ng		100
9) Chloroethane	5.98	64	22473	1.088	ng		99
10) Ethanol	6.32	45	110869	4.665	ng		99
11) Acetonitrile	6.58	41	53541	1.017	ng		100
12) Acrolein	6.78	56	19340	1.106	ng		100
13) Acetone	6.98	58	119315	5.130	ng		90
14) Trichlorofluoromethane	7.24	101	56632	1.006	ng		99
15) 2-Propanol (Isopropanol)	7.48	45	154892	2.235	ng		96
16) Acrylonitrile	7.74	53	38461	1.095	ng		99
17) 1,1-Dichloroethene	8.19	96	30236	1.080	ng		97
18) 2-Methyl-2-Propanol (t...	8.36	59	151128	2.466	ng		98
19) Methylene Chloride	8.40	84	32502	1.072	ng		97
20) 3-Chloro-1-propene (Al...	8.57	41	46601	1.174	ng		98
21) Trichlorotrifluoroethane	8.84	151	26828	0.993	ng		96
22) Carbon Disulfide	8.68	76	117066	1.075	ng		99
23) trans-1,2-Dichloroethene	9.68	61	45490	1.115	ng		97
24) 1,1-Dichloroethane	9.94	63	55243	1.065	ng		99
25) Methyl tert-Butyl Ether	10.06	73	92006	1.109	ng		99
26) Vinyl Acetate	10.20	86	33295	4.258	ng	#	76
27) 2-Butanone (MEK)	10.46	72	21197	1.105	ng		96
28) cis-1,2-Dichloroethene	10.96	61	43960	1.043	ng		97
29) Diisopropyl Ether	11.27	87	31384	1.031	ng	#	79
30) Ethyl Acetate	11.27	61	23578	2.083	ng		97
31) n-Hexane	11.26	57	53227	1.014	ng		99
32) Chloroform	11.30	83	57167	1.020	ng		98
34) Tetrahydrofuran (THF)	11.73	72	21166	1.066	ng		97
35) Ethyl tert-Butyl Ether	11.87	87	36365	1.013	ng		97
36) 1,2-Dichloroethane	12.11	62	45068	1.029	ng		100
38) 1,1,1-Trichloroethane	12.39	97	50409	1.021	ng		98
39) Isopropyl Acetate	12.83	61	40161	1.973	ng	#	92
40) 1-Butanol	12.84	56	48310	1.519	ng		82
41) Benzene	12.87	78	127091	0.984	ng		100
42) Carbon Tetrachloride	13.03	117	43210	0.970	ng		98
43) Cyclohexane	13.17	84	94431	1.902	ng		98
44) tert-Amyl Methyl Ether	13.52	73	89386	1.060	ng		98
45) 1,2-Dichloropropane	13.73	63	31276	1.047	ng		99
46) Bromodichloromethane	13.91	83	44019	1.002	ng		99
47) Trichloroethene	13.97	130	32599	0.885	ng		100
48) 1,4-Dioxane	13.95	88	25788	1.023	ng		99
49) 2,2,4-Trimethylpentane...	14.04	57	130371	1.050	ng		98
50) Methyl Methacrylate	14.18	100	24994	2.007	ng		96

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012021.D Vial: 13
Acq On : 1 May 2020 15:51 Operator: LH
Sample : 1.0ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-05012002 (5/30)

Quant Time: May 01 17:26:14 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

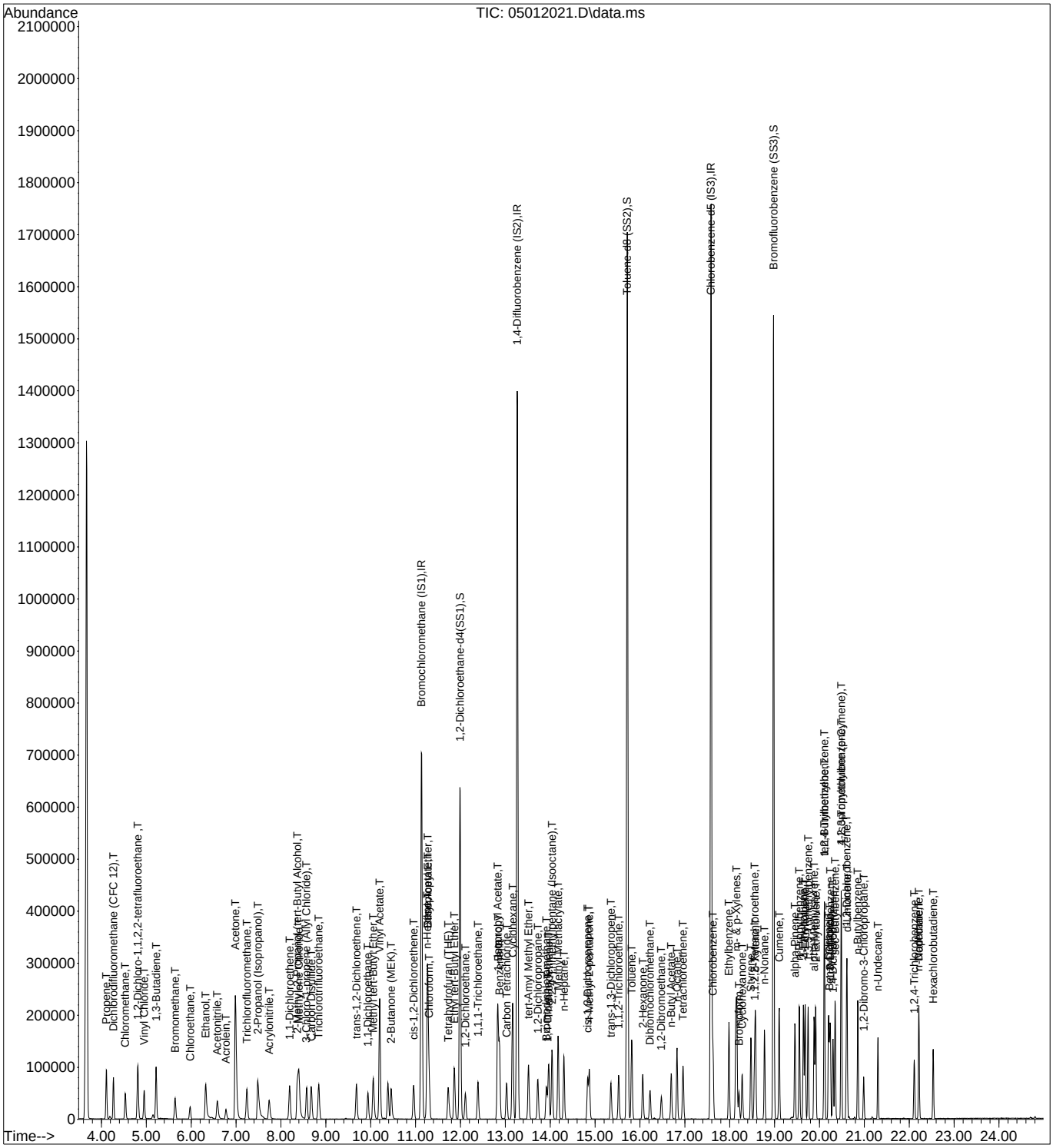
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	31052	1.028	ng	99
52) cis-1,3-Dichloropropene	14.83	75	48884	1.016	ng	100
53) 4-Methyl-2-pentanone	14.87	58	28992	1.064	ng	98
54) trans-1,3-Dichloropropene	15.35	75	42499	0.949	ng	99
55) 1,1,2-Trichloroethane	15.52	97	29976	0.997	ng	99
58) Toluene	15.82	91	126852	0.968	ng	100
59) 2-Hexanone	16.06	43	68688	1.039	ng	98
60) Dibromochloromethane	16.22	129	34198	0.973	ng	100
61) 1,2-Dibromoethane	16.48	107	33986	1.006	ng	99
62) n-Butyl Acetate	16.70	43	76066	1.076	ng	98
63) n-Octane	16.83	57	26077	0.995	ng	99
64) Tetrachloroethene	16.96	166	32577	0.886	ng	100
65) Chlorobenzene	17.62	112	82545	0.935	ng	98
66) Ethylbenzene	17.98	91	142006	0.988	ng	99
67) m- & p-Xylenes	18.15	91	225991	1.941	ng	98
68) Bromoform	18.21	173	25763	0.818	ng	100
69) Styrene	18.47	104	80976	0.891	ng	99
70) o-Xylene	18.58	91	111310	0.955	ng	99
71) n-Nonane	18.77	43	60557	1.023	ng	97
72) 1,1,2,2-Tetrachloroethane	18.55	83	54222	0.963	ng	99
74) Cumene	19.10	105	140371	0.956	ng	99
75) alpha-Pinene	19.45	93	71471	0.956	ng	99
76) n-Propylbenzene	19.55	91	173225	1.008	ng	98
77) 3-Ethyltoluene	19.64	105	131045	0.897	ng	99
78) 4-Ethyltoluene	19.68	105	136161	0.983	ng	99
79) 1,3,5-Trimethylbenzene	19.75	105	112385	0.908	ng	99
80) alpha-Methylstyrene	19.88	118	57239	0.853	ng	99
81) 2-Ethyltoluene	19.92	105	133665	0.933	ng	99
82) 1,2,4-Trimethylbenzene	20.11	105	112073	0.879	ng	99
83) n-Decane	20.20	57	56537	0.900	ng	99
84) Benzyl Chloride	20.23	91	78621	0.769	ng	97
85) 1,3-Dichlorobenzene	20.24	146	62650	0.909	ng	99
86) 1,4-Dichlorobenzene	20.30	146	61324	0.895	ng	100
87) sec-Butylbenzene	20.35	105	151180	0.950	ng	98
88) 4-Isopropyltoluene (p-...	20.48	119	138806	0.925	ng	99
89) 1,2,3-Trimethylbenzene	20.48	105	113653	0.890	ng	99
90) 1,2-Dichlorobenzene	20.61	146	60175	0.857	ng	99
91) d-Limonene	20.62	68	44904	0.903	ng	98
92) 1,2-Dibromo-3-Chloropr...	20.98	157	19657	0.817	ng	85
93) n-Undecane	21.30	57	44833	0.696	ng	99
94) 1,2,4-Trichlorobenzene	22.11	180	32560	0.746	ng	100
95) Naphthalene	22.22	128	100929	0.687	ng	100
96) n-Dodecane	22.21	57	24009	0.380	ng	99
97) Hexachlorobutadiene	22.54	225	22641	0.684	ng	99
98) Cyclohexanone	18.28	55	38554	0.858	ng	99
99) tert-Butylbenzene	20.11	119	111007	0.897	ng	99
100) n-Butylbenzene	20.85	91	119734	0.924	ng	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012021.D Vial: 13
Acq On : 1 May 2020 15:51 Operator: LH
Sample : 1.0ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-05012002 (5/30)

Quant Time: May 01 17:26:14 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012022.D Vial: 2
Acq On : 1 May 2020 16:25 Operator: LH
Sample : 5.0ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 17:26:16 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	303798	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.27	114	1318017	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	623963	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	517657	12.342	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.72%				
57) Toluene-d8 (SS2)	15.72	98	1308528	11.889	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.12%				
73) Bromofluorobenzene (SS3)	18.98	174	490919	12.554	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.40%				
Target Compounds							Qvalue
2) Propene	4.09	42	193048	5.934	ng		100
3) Dichlorodifluoromethan...	4.25	85	387745	5.637	ng		100
4) Chloromethane	4.52	50	303525	5.594	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	222610	5.132	ng		100
6) Vinyl Chloride	4.94	62	339270	5.907	ng		100
7) 1,3-Butadiene	5.21	54	276281	6.430	ng		99
8) Bromomethane	5.64	94	169682	5.863	ng		98
9) Chloroethane	5.97	64	129957	5.865	ng		100
10) Ethanol	6.35	45	691643	27.117	ng		100
11) Acetonitrile	6.60	41	322707	5.712	ng		100
12) Acrolein	6.78	56	114887	6.125	ng		99
13) Acetone	6.99	58	718205	28.778	ng		93
14) Trichlorofluoromethane	7.24	101	330361	5.469	ng		100
15) 2-Propanol (Isopropanol)	7.50	45	953934	12.829	ng		99
16) Acrylonitrile	7.75	53	241513	6.410	ng		100
17) 1,1-Dichloroethene	8.19	96	176135	5.860	ng		97
18) 2-Methyl-2-Propanol (t...	8.36	59	939029	14.278	ng		99
19) Methylene Chloride	8.42	84	189273	5.818	ng		97
20) 3-Chloro-1-propene (Al...	8.58	41	281181	6.602	ng		99
21) Trichlorotrifluoroethane	8.84	151	159827	5.511	ng		97
22) Carbon Disulfide	8.68	76	697922	5.971	ng		100
23) trans-1,2-Dichloroethene	9.70	61	269106	6.148	ng		99
24) 1,1-Dichloroethane	9.95	63	324467	5.829	ng		100
25) Methyl tert-Butyl Ether	10.05	73	520731	5.850	ng		100
26) Vinyl Acetate	10.21	86	230843	27.513	ng	#	86
27) 2-Butanone (MEK)	10.45	72	129697	6.298	ng		97
28) cis-1,2-Dichloroethene	10.97	61	259456	5.737	ng		98
29) Diisopropyl Ether	11.27	87	191800	5.871	ng	#	79
30) Ethyl Acetate	11.27	61	149560	12.310	ng		98
31) n-Hexane	11.26	57	314981	5.592	ng		99
32) Chloroform	11.31	83	340357	5.661	ng		99
34) Tetrahydrofuran (THF)	11.72	72	126370	5.930	ng		99
35) Ethyl tert-Butyl Ether	11.86	87	221593	5.751	ng		97
36) 1,2-Dichloroethane	12.11	62	265122	5.640	ng		100
38) 1,1,1-Trichloroethane	12.40	97	293872	5.672	ng		100
39) Isopropyl Acetate	12.83	61	250912	11.741	ng	#	94
40) 1-Butanol	12.84	56	336318	10.073	ng		93
41) Benzene	12.87	78	763486	5.631	ng		100
42) Carbon Tetrachloride	13.03	117	266893	5.707	ng		100
43) Cyclohexane	13.17	84	572113	10.975	ng		100
44) tert-Amyl Methyl Ether	13.52	73	541195	6.112	ng		99
45) 1,2-Dichloropropane	13.73	63	186128	5.938	ng		99
46) Bromodichloromethane	13.92	83	271708	5.892	ng		100
47) Trichloroethene	13.97	130	200472	5.185	ng		100
48) 1,4-Dioxane	13.95	88	156033	5.899	ng		100
49) 2,2,4-Trimethylpentane...	14.04	57	772648	5.931	ng		99
50) Methyl Methacrylate	14.18	100	156609	11.977	ng		97

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012022.D Vial: 2
Acq On : 1 May 2020 16:25 Operator: LH
Sample : 5.0ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 17:26:16 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

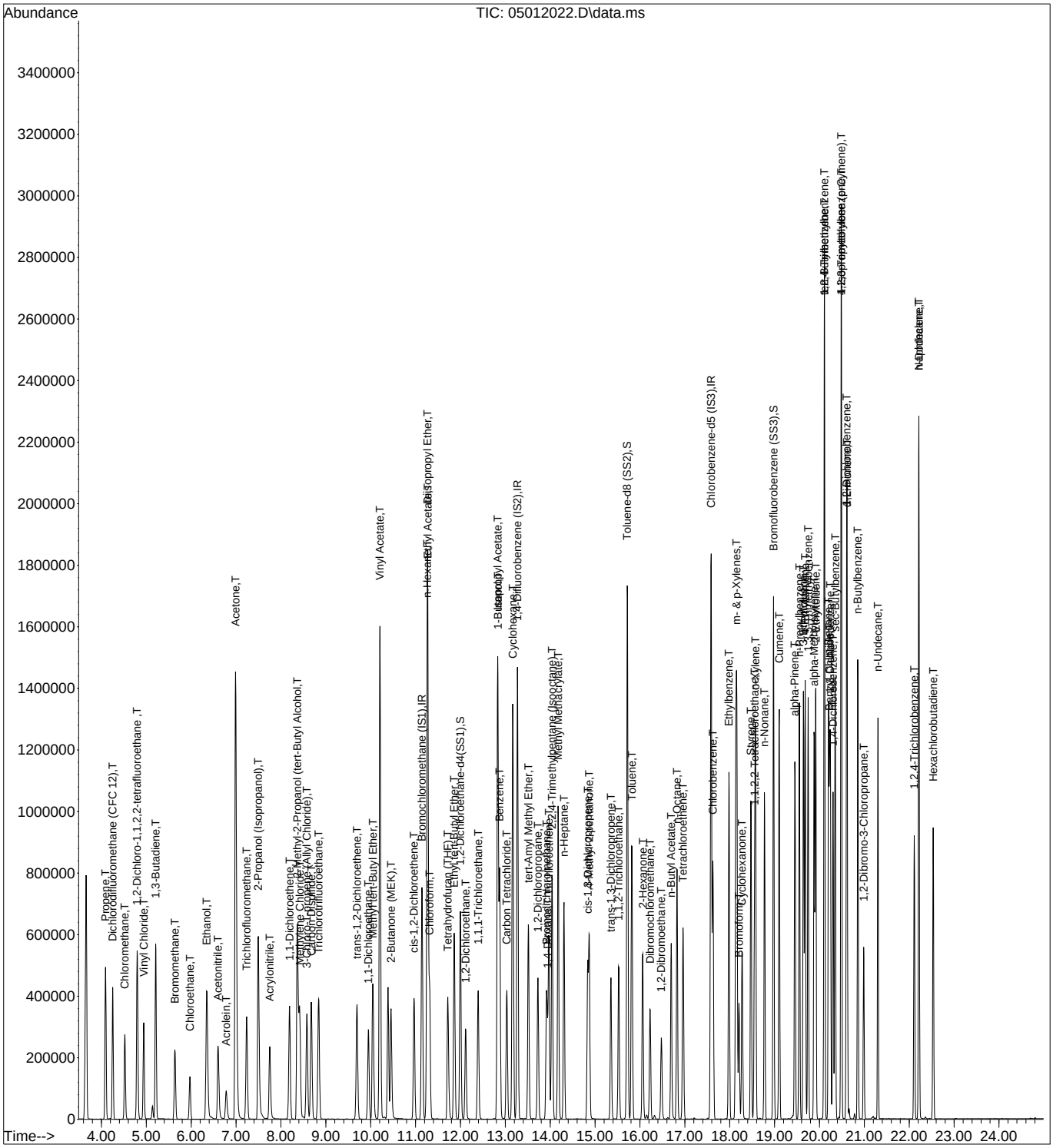
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	180946	5.706	ng	99
52) cis-1,3-Dichloropropene	14.84	75	308293	6.105	ng	100
53) 4-Methyl-2-pentanone	14.87	58	175513	6.138	ng	97
54) trans-1,3-Dichloropropene	15.35	75	277438	5.899	ng	100
55) 1,1,2-Trichloroethane	15.52	97	182608	5.786	ng	99
58) Toluene	15.82	91	751701	5.508	ng	100
59) 2-Hexanone	16.06	43	431067	6.262	ng	99
60) Dibromochloromethane	16.23	129	222764	6.086	ng	99
61) 1,2-Dibromoethane	16.48	107	211443	6.008	ng	100
62) n-Butyl Acetate	16.70	43	477782	6.493	ng	100
63) n-Octane	16.83	57	155673	5.704	ng	100
64) Tetrachloroethene	16.96	166	201840	5.271	ng	100
65) Chlorobenzene	17.62	112	499525	5.435	ng	100
66) Ethylbenzene	17.98	91	871724	5.827	ng	99
67) m- & p-Xylenes	18.15	91	1368621	11.288	ng	100
68) Bromoform	18.21	173	189068	5.768	ng	100
69) Styrene	18.47	104	536906	5.670	ng	100
70) o-Xylene	18.58	91	693423	5.713	ng	100
71) n-Nonane	18.77	43	370451	6.012	ng	98
72) 1,1,2,2-Tetrachloroethane	18.55	83	346585	5.910	ng	100
74) Cumene	19.10	105	885174	5.792	ng	99
75) alpha-Pinene	19.45	93	454351	5.834	ng	100
76) n-Propylbenzene	19.55	91	1076654	6.015	ng	99
77) 3-Ethyltoluene	19.64	105	836770	5.500	ng	95
78) 4-Ethyltoluene	19.68	105	882656	6.121	ng	95
79) 1,3,5-Trimethylbenzene	19.75	105	715909	5.552	ng	99
80) alpha-Methylstyrene	19.88	118	385478	5.515	ng	100
81) 2-Ethyltoluene	19.92	105	858573	5.755	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	751354	5.662	ng	98
83) n-Decane	20.20	57	376639	5.759	ng	99
84) Benzyl Chloride	20.23	91	614231	5.773	ng	99
85) 1,3-Dichlorobenzene	20.24	146	434270	6.049	ng	100
86) 1,4-Dichlorobenzene	20.30	146	427551	5.990	ng	100
87) sec-Butylbenzene	20.35	105	969884	5.855	ng	99
88) 4-Isopropyltoluene (p-...	20.48	119	928906	5.944	ng	98
89) 1,2,3-Trimethylbenzene	20.48	105	769774	5.787	ng	98
90) 1,2-Dichlorobenzene	20.61	146	419115	5.732	ng	100
91) d-Limonene	20.62	68	288464	5.570	ng	99
92) 1,2-Dibromo-3-Chloropr...	20.98	157	148727	5.940	ng	97
93) n-Undecane	21.30	57	365721	5.450	ng	100
94) 1,2,4-Trichlorobenzene	22.11	180	270469	5.951	ng	99
95) Naphthalene	22.22	128	892593	5.833	ng	100
96) n-Dodecane	22.22	57	324655	4.939	ng	99
97) Hexachlorobutadiene	22.54	225	164461	4.774	ng	100
98) Cyclohexanone	18.27	55	245365	5.243	ng	99
99) tert-Butylbenzene	20.11	119	727041	5.643	ng	100
100) n-Butylbenzene	20.85	91	778801	5.771	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012022.D Vial: 2
Acq On : 1 May 2020 16:25 Operator: LH
Sample : 5.0ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 17:26:16 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012023.D Vial: 2
Acq On : 1 May 2020 16:59 Operator: LH
Sample : 25ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 17:26:18 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	286303	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	13.28	114	1228912	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	571123	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.01	65	468097	11.843	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.72%			
57) Toluene-d8 (SS2)	15.72	98	1212242	12.033	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.24%			
73) Bromofluorobenzene (SS3)	18.98	174	458310	12.805	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.40%			
Target Compounds						Qvalue
2) Propene	4.09	42	894762	29.187	ng	100
3) Dichlorodifluoromethan...	4.25	85	1661240	25.625	ng	100
4) Chloromethane	4.53	50	1331334	26.035	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	962170	23.538	ng	100
6) Vinyl Chloride	4.94	62	1452200	26.828	ng	100
7) 1,3-Butadiene	5.21	54	1192249	29.444	ng	100
8) Bromomethane	5.65	94	769909	28.228	ng	100
9) Chloroethane	5.98	64	583429	27.941	ng	100
10) Ethanol	6.39	45	3316498	137.974	ng	100
11) Acetonitrile	6.63	41	1485800	27.907	ng	100
12) Acrolein	6.80	56	518321	29.321	ng	100
13) Acetone	7.01	58	3451253	146.739	ng	100
14) Trichlorofluoromethane	7.24	101	1489634	26.165	ng	100
15) 2-Propanol (Isopropanol)	7.53	45	4218436	60.200	ng	100
16) Acrylonitrile	7.77	53	1099575	30.969	ng	100
17) 1,1-Dichloroethene	8.20	96	811190	28.639	ng	100
18) 2-Methyl-2-Propanol (t...	8.39	59	3958148	63.861	ng	100
19) Methylene Chloride	8.44	84	868569	28.330	ng	100
20) 3-Chloro-1-propene (Al...	8.59	41	1253954	31.243	ng	100
21) Trichlorotrifluoroethane	8.84	151	743004	27.185	ng	100
22) Carbon Disulfide	8.69	76	3145335	28.555	ng	100
23) trans-1,2-Dichloroethene	9.71	61	1224632	29.687	ng	100
24) 1,1-Dichloroethane	9.96	63	1485162	28.313	ng	100
25) Methyl tert-Butyl Ether	10.05	73	2185564	26.052	ng	100
26) Vinyl Acetate	10.22	86	1147538	145.128	ng	100
27) 2-Butanone (MEK)	10.46	72	578422	29.805	ng	100
28) cis-1,2-Dichloroethene	10.98	61	1170190	27.455	ng	100
29) Diisopropyl Ether	11.27	87	816119	26.509	ng	100
30) Ethyl Acetate	11.28	61	740753	64.696	ng	100
31) n-Hexane	11.26	57	1536846	28.951	ng	100
32) Chloroform	11.32	83	1513438	26.712	ng	100
34) Tetrahydrofuran (THF)	11.72	72	562319	27.999	ng	100
35) Ethyl tert-Butyl Ether	11.87	87	1027494	28.295	ng	100
36) 1,2-Dichloroethane	12.12	62	1181488	26.670	ng	100
38) 1,1,1-Trichloroethane	12.40	97	1349990	27.947	ng	100
39) Isopropyl Acetate	12.84	61	1233560	61.905	ng	100
40) 1-Butanol	12.85	56	1704801	54.762	ng	100
41) Benzene	12.88	78	3498072	27.670	ng	100
42) Carbon Tetrachloride	13.04	117	1221860	28.021	ng	100
43) Cyclohexane	13.17	84	2724355	56.049	ng	100
44) tert-Amyl Methyl Ether	13.52	73	2480433	30.042	ng	100
45) 1,2-Dichloropropane	13.73	63	842781	28.835	ng	100
46) Bromodichloromethane	13.92	83	1270274	29.545	ng	100
47) Trichloroethene	13.97	130	932766	25.873	ng	100
48) 1,4-Dioxane	13.95	88	738598	29.950	ng	100
49) 2,2,4-Trimethylpentane...	14.05	57	3492402	28.751	ng	100
50) Methyl Methacrylate	14.18	100	756519	62.050	ng	100

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012023.D Vial: 2
Acq On : 1 May 2020 16:59 Operator: LH
Sample : 25ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 17:26:18 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

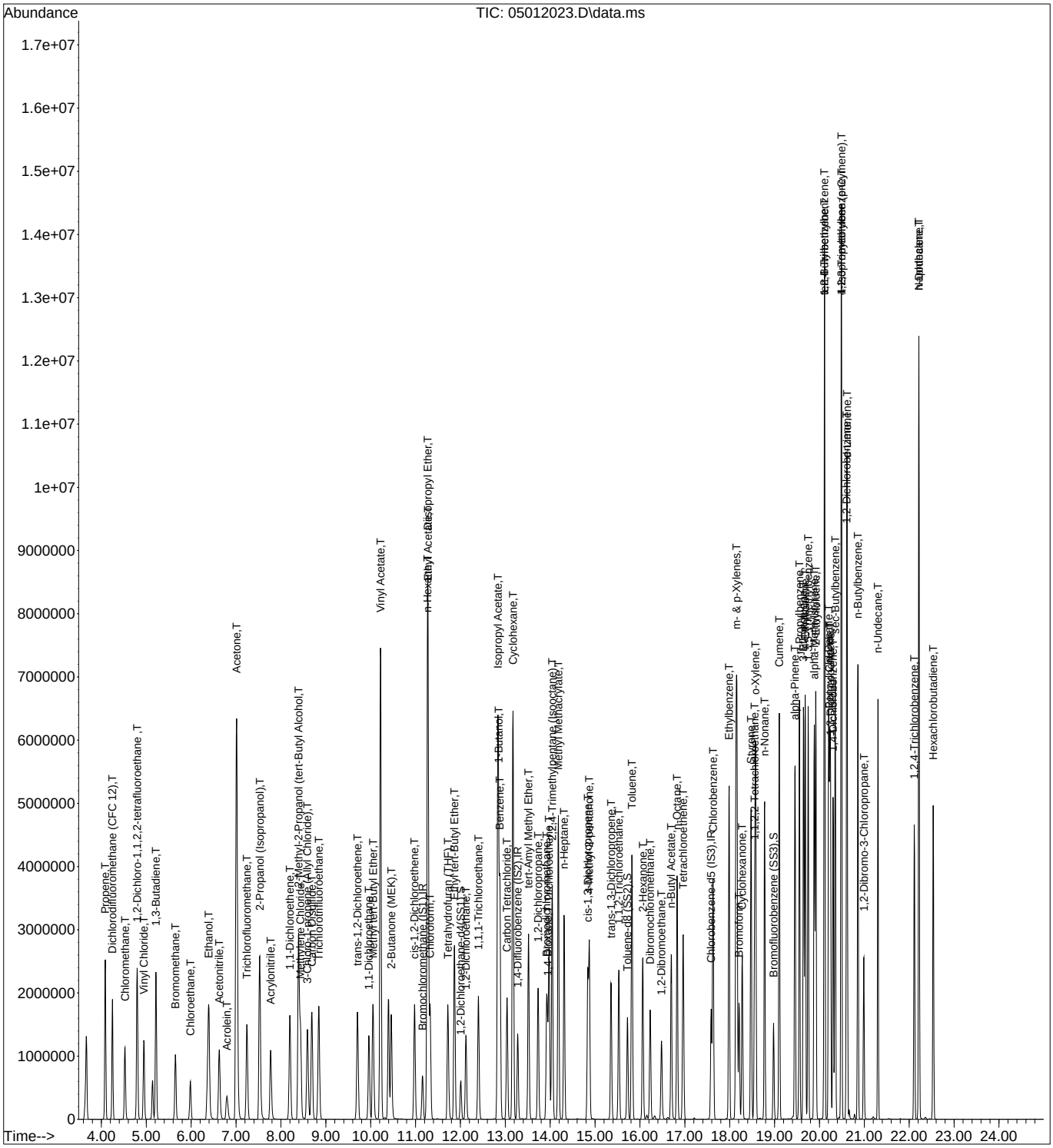
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	823934	27.865	ng	100
52) cis-1,3-Dichloropropene	14.84	75	1447687	30.747	ng	100
53) 4-Methyl-2-pentanone	14.87	58	811075	30.423	ng	100
54) trans-1,3-Dichloropropene	15.36	75	1324553	30.205	ng	100
55) 1,1,2-Trichloroethane	15.53	97	843984	28.682	ng	100
58) Toluene	15.82	91	3424256	27.410	ng	100
59) 2-Hexanone	16.06	43	1935226	30.714	ng	100
60) Dibromochloromethane	16.23	129	1060385	31.652	ng	100
61) 1,2-Dibromoethane	16.48	107	982343	30.496	ng	100
62) n-Butyl Acetate	16.70	43	2168912	32.203	ng	100
63) n-Octane	16.83	57	728475	29.163	ng	100
64) Tetrachloroethene	16.96	166	984776	28.099	ng	100
65) Chlorobenzene	17.63	112	2300188	27.341	ng	100
66) Ethylbenzene	17.99	91	4049520	29.572	ng	100
67) m- & p-Xylenes	18.15	91	6491657	58.495	ng	100
68) Bromoform	18.21	173	917591	30.583	ng	100
69) Styrene	18.48	104	2503836	28.891	ng	100
70) o-Xylene	18.58	91	3253541	29.284	ng	100
71) n-Nonane	18.78	43	1726340	30.608	ng	100
72) 1,1,2,2-Tetrachloroethane	18.55	83	1616722	30.117	ng	100
74) Cumene	19.10	105	4096128	29.280	ng	100
75) alpha-Pinene	19.46	93	2182133	30.613	ng	100
76) n-Propylbenzene	19.56	91	4975591	30.367	ng	100
77) 3-Ethyltoluene	19.64	105	4101218	29.451	ng	100
78) 4-Ethyltoluene	19.68	105	3906607	29.596	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	3353822	28.417	ng	100
80) alpha-Methylstyrene	19.88	118	1815476	28.379	ng	100
81) 2-Ethyltoluene	19.92	105	3976342	29.119	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3727437	30.689	ng	100
83) n-Decane	20.20	57	1854354	30.977	ng	100
84) Benzyl Chloride	20.23	91	3206821	32.930	ng	100
85) 1,3-Dichlorobenzene	20.25	146	2028248	30.866	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1980369	30.311	ng	100
87) sec-Butylbenzene	20.35	105	4443941	29.308	ng	100
88) 4-Isopropyltoluene (p-...	20.49	119	4416603	30.875	ng	100
89) 1,2,3-Trimethylbenzene	20.49	105	3810515	31.296	ng	100
90) 1,2-Dichlorobenzene	20.61	146	2012317	30.068	ng	100
91) d-Limonene	20.62	68	1441613	30.414	ng	100
92) 1,2-Dibromo-3-Chloropr...	20.99	157	697199	30.419	ng	100
93) n-Undecane	21.30	57	1818070	29.597	ng	100
94) 1,2,4-Trichlorobenzene	22.11	180	1398370	33.614	ng	100
95) Naphthalene	22.22	128	4546028	32.455	ng	100
96) n-Dodecane	22.22	57	1750966	29.104	ng	100
97) Hexachlorobutadiene	22.54	225	878145	27.851	ng	100
98) Cyclohexanone	18.28	55	1117925	26.097	ng	100
99) tert-Butylbenzene	20.11	119	3489996	29.594	ng	100
100) n-Butylbenzene	20.86	91	3625532	29.353	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012023.D Vial: 2
Acq On : 1 May 2020 16:59 Operator: LH
Sample : 25ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 17:26:18 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012024.D Vial: 2
Acq On : 1 May 2020 17:33 Operator: LH
Sample : 50ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 18:21:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:29:13 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	296329	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.28	114	1261474	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	593519	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.01	65	478735	11.900	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.20%				
57) Toluene-d8 (SS2)	15.72	98	1240425	12.243	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.92%				
73) Bromofluorobenzene (SS3)	18.98	174	464734	12.717	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.76%				
Target Compounds							Qvalue
2) Propene	4.09	42	1796953	52.860	ng		99
3) Dichlorodifluoromethan...	4.25	85	3187990	47.567	ng		100
4) Chloromethane	4.53	50	2729050	52.530	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	1935925	47.940	ng		100
6) Vinyl Chloride	4.96	62	2887895	50.326	ng		100
7) 1,3-Butadiene	5.22	54	2393303	50.778	ng		99
8) Bromomethane	5.66	94	1618002	53.561	ng		100
9) Chloroethane	5.99	64	1229227	54.539	ng		99
10) Ethanol	6.42	45	7106079	270.958	ng		100
11) Acetonitrile	6.64	41	3034898	50.934	ng		100
12) Acrolein	6.81	56	1054165	50.758	ng		100
13) Acetone	7.03	58	7450473	282.417	ng	#	85
14) Trichlorofluoromethane	7.25	101	3028815	50.994	ng		100
15) 2-Propanol (Isopropanol)	7.55	45	7855441	98.616	ng		99
16) Acrylonitrile	7.78	53	2274854	52.994	ng		100
17) 1,1-Dichloroethene	8.21	96	1662670	53.624	ng		99
18) 2-Methyl-2-Propanol (t...	8.41	59	5524708	78.677	ng		100
19) Methylene Chloride	8.44	84	1782729	52.018	ng		100
20) 3-Chloro-1-propene (Al...	8.60	41	2606826	55.998	ng		100
21) Trichlorotrifluoroethane	8.85	151	1546599	55.362	ng		98
22) Carbon Disulfide	8.69	76	6372275	51.854	ng		100
23) trans-1,2-Dichloroethene	9.71	61	2513808	53.485	ng		99
24) 1,1-Dichloroethane	9.96	63	3010944	53.864	ng		100
25) Methyl tert-Butyl Ether	10.05	73	4149230	46.527	ng		100
26) Vinyl Acetate	10.23	86	2491407	314.423	ng	#	57
27) 2-Butanone (MEK)	10.47	72	1200800	53.091	ng		100
28) cis-1,2-Dichloroethene	10.98	61	2420682	52.524	ng		99
29) Diisopropyl Ether	11.27	87	1723473	53.021	ng	#	93
30) Ethyl Acetate	11.28	61	1642236	125.490	ng		100
31) n-Hexane	11.26	57	3312834	58.268	ng		100
32) Chloroform	11.33	83	3125242	52.888	ng		100
34) Tetrahydrofuran (THF)	11.72	72	1166647	53.025	ng		100
35) Ethyl tert-Butyl Ether	11.87	87	2150206	55.497	ng		100
36) 1,2-Dichloroethane	12.13	62	2421427	51.847	ng		100
38) 1,1,1-Trichloroethane	12.40	97	2767260	54.541	ng		100
39) Isopropyl Acetate	12.84	61	2703577	121.791	ng	#	89
40) 1-Butanol	12.86	56	3801241	117.283	ng		94
41) Benzene	12.88	78	7578608	55.786	ng		100
42) Carbon Tetrachloride	13.04	117	2525594	54.795	ng		100
43) Cyclohexane	13.18	84	5820559	114.692	ng		99
44) tert-Amyl Methyl Ether	13.52	73	5201775	57.533	ng		99
45) 1,2-Dichloropropane	13.73	63	1741280	55.926	ng		99
46) Bromodichloromethane	13.92	83	2627252	57.456	ng		100
47) Trichloroethene	13.98	130	1973429	56.342	ng		100
48) 1,4-Dioxane	13.95	88	1556720	57.092	ng		99
49) 2,2,4-Trimethylpentane...	14.05	57	7264805	55.532	ng		98
50) Methyl Methacrylate	14.19	100	1612357	118.946	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012024.D Vial: 2
Acq On : 1 May 2020 17:33 Operator: LH
Sample : 50ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 18:21:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:29:13 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

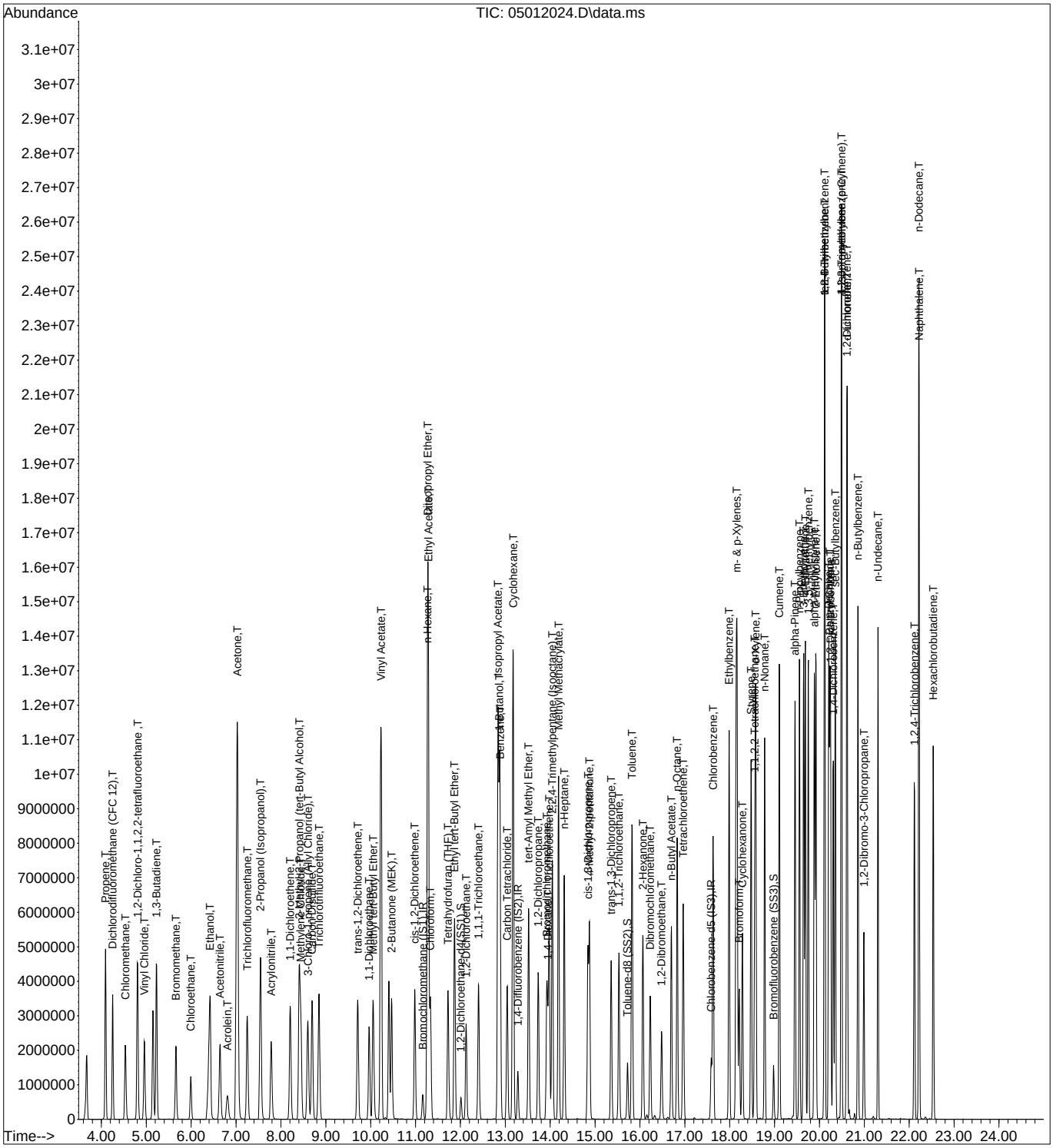
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	1767254	55.726	ng	100
52) cis-1,3-Dichloropropene	14.84	75	3046439	56.787	ng	100
53) 4-Methyl-2-pentanone	14.88	58	1706203	56.697	ng	99
54) trans-1,3-Dichloropropene	15.36	75	2784226	60.799	ng	100
55) 1,1,2-Trichloroethane	15.53	97	1746966	56.334	ng	99
58) Toluene	15.82	91	7061705	54.313	ng	99
59) 2-Hexanone	16.06	43	4070739	57.784	ng	99
60) Dibromochloromethane	16.23	129	2194267	59.071	ng	100
61) 1,2-Dibromoethane	16.48	107	2025699	56.837	ng	100
62) n-Butyl Acetate	16.70	43	4530163	59.421	ng	99
63) n-Octane	16.83	57	1570654	58.903	ng	100
64) Tetrachloroethene	16.97	166	2068921	56.346	ng	100
65) Chlorobenzene	17.63	112	4832830	53.780	ng	100
66) Ethylbenzene	17.99	91	8386382	57.841	ng	99
67) m- & p-Xylenes	18.16	91	13925432	121.021	ng	98
68) Bromoform	18.21	173	1918060	63.108	ng	100
69) Styrene	18.48	104	5183954	59.571	ng	99
70) o-Xylene	18.58	91	6807386	58.156	ng	100
71) n-Nonane	18.78	43	3697140	60.502	ng	98
72) 1,1,2,2-Tetrachloroethane	18.56	83	3397226	58.901	ng	100
74) Cumene	19.10	105	8370559	58.039	ng	99
75) alpha-Pinene	19.46	93	4559119	59.324	ng	99
76) n-Propylbenzene	19.56	91	10009459	58.692	ng	98
77) 3-Ethyltoluene	19.65	105	8132559	58.352	ng	99
78) 4-Ethyltoluene	19.69	105	8156559	59.940	ng	99
79) 1,3,5-Trimethylbenzene	19.75	105	6870991	58.237	ng	99
80) alpha-Methylstyrene	19.89	118	3732298	60.194	ng	98
81) 2-Ethyltoluene	19.92	105	8070320	58.450	ng	99
82) 1,2,4-Trimethylbenzene	20.12	105	7311702	61.264	ng	100
83) n-Decane	20.20	57	4092282	67.333	ng	100
84) Benzyl Chloride	20.23	91	6890327	76.746	ng	99
85) 1,3-Dichlorobenzene	20.25	146	4163439	60.293	ng	100
86) 1,4-Dichlorobenzene	20.31	146	4017198	59.763	ng	100
87) sec-Butylbenzene	20.35	105	8855378	57.530	ng	98
88) 4-Isopropyltoluene (p-...	20.49	119	8351171	59.057	ng	98
89) 1,2,3-Trimethylbenzene	20.49	105	7426933	62.512	ng	99
90) 1,2-Dichlorobenzene	20.61	146	4049033	60.984	ng	100
91) d-Limonene	20.62	68	3089607	66.195	ng	98
92) 1,2-Dibromo-3-Chloropr...	20.99	157	1448206	64.485	ng	98
93) n-Undecane	21.30	57	4012904	76.685	ng	100
94) 1,2,4-Trichlorobenzene	22.12	180	3005308	77.697	ng	99
95) Naphthalene	22.22	128	9089253	72.417	ng	99
96) n-Dodecane	22.22	57	3837089	87.820	ng	99
97) Hexachlorobutadiene	22.54	225	1927632	64.992	ng	100
98) Cyclohexanone	18.28	55	2325790	50.761	ng	99
99) tert-Butylbenzene	20.12	119	6753035	57.139	ng	100
100) n-Butylbenzene	20.86	91	7324522	61.000	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012024.D Vial: 2
Acq On : 1 May 2020 17:33 Operator: LH
Sample : 50ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 18:21:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:29:13 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012025.D Vial: 2
Acq On : 1 May 2020 18:07 Operator: LH
Sample : 100ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 18:32:42 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/1/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	307101	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.29	114	1302649	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	623928	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	496605	11.932	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.44%				
57) Toluene-d8 (SS2)	15.73	98	1277690	12.082	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.64%				
73) Bromofluorobenzene (SS3)	18.98	174	482815	12.688	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.52%				
Target Compounds							Qvalue
2) Propene	4.09	42	2805564	78.878	ng		99
3) Dichlorodifluoromethan...	4.25	85	5430136	78.055	ng		99
4) Chloromethane	4.53	50	5012802	91.976	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	3608284	86.813	ng		100
6) Vinyl Chloride	4.96	62	5582487	93.407	ng		100
7) 1,3-Butadiene	5.24	54	4618053	93.386	ng		97
8) Bromomethane	5.67	94	3307082	104.747	ng		100
9) Chloroethane	6.00	64	2534746	107.357	ng		100
10) Ethanol	6.47	45	15131456	550.944	ng		99
11) Acetonitrile	6.67	41	6424952	102.369	ng		100
12) Acrolein	6.82	56	2202179	101.477	ng		100
13) Acetone	7.05	58	15042025	547.644	ng	#	56
14) Trichlorofluoromethane	7.25	101	6310121	102.633	ng		100
15) 2-Propanol (Isopropanol)	7.58	45	15078880	181.384	ng		98
16) Acrylonitrile	7.80	53	4844904	107.901	ng		100
17) 1,1-Dichloroethene	8.22	96	3526226	109.408	ng		99
18) 2-Methyl-2-Propanol (t...	8.43	59	5971963	83.578	ng		99
19) Methylene Chloride	8.45	84	3794776	106.281	ng		99
20) 3-Chloro-1-propene (Al...	8.61	41	5538474	112.906	ng		99
21) Trichlorotrifluoroethane	8.85	151	3229354	111.251	ng		98
22) Carbon Disulfide	8.71	76	13073755	102.186	ng		99
23) trans-1,2-Dichloroethene	9.72	61	5348726	108.987	ng		100
24) 1,1-Dichloroethane	9.97	63	6355885	109.091	ng		100
25) Methyl tert-Butyl Ether	10.06	73	6522340	71.172	ng		99
26) Vinyl Acetate	10.25	86	4839363	598.679	ng	#	3
27) 2-Butanone (MEK)	10.48	72	2544981	108.649	ng		97
28) cis-1,2-Dichloroethene	10.99	61	5160701	107.507	ng		99
29) Diisopropyl Ether	11.28	87	3334523	100.633	ng	#	74
30) Ethyl Acetate	11.30	61	3181460	235.544	ng		97
31) n-Hexane	11.26	57	6466041	110.371	ng		100
32) Chloroform	11.34	83	6496904	106.280	ng		100
34) Tetrahydrofuran (THF)	11.73	72	2481850	108.635	ng		99
35) Ethyl tert-Butyl Ether	11.87	87	4598768	114.847	ng		98
36) 1,2-Dichloroethane	12.13	62	5046702	104.202	ng		100
38) 1,1,1-Trichloroethane	12.41	97	5801042	110.565	ng		100
39) Isopropyl Acetate	12.85	61	5612819	244.569	ng	#	65
40) 1-Butanol	12.88	56	7686632	235.415	ng		89
41) Benzene	12.89	78	15377837	110.081	ng		99
42) Carbon Tetrachloride	13.04	117	5341272	112.408	ng		99
43) Cyclohexane	13.18	84	11703238	224.817	ng		99
44) tert-Amyl Methyl Ether	13.52	73	10906653	116.431	ng		98
45) 1,2-Dichloropropane	13.74	63	3747744	115.837	ng		100
46) Bromodichloromethane	13.93	83	5488917	116.263	ng		100
47) Trichloroethene	13.98	130	4190784	116.061	ng		99
48) 1,4-Dioxane	13.96	88	3428858	121.871	ng		97
49) 2,2,4-Trimethylpentane...	14.05	57	14950897	109.987	ng		97
50) Methyl Methacrylate	14.19	100	3386785	244.382	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012025.D Vial: 2
Acq On : 1 May 2020 18:07 Operator: LH
Sample : 100ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 18:32:42 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

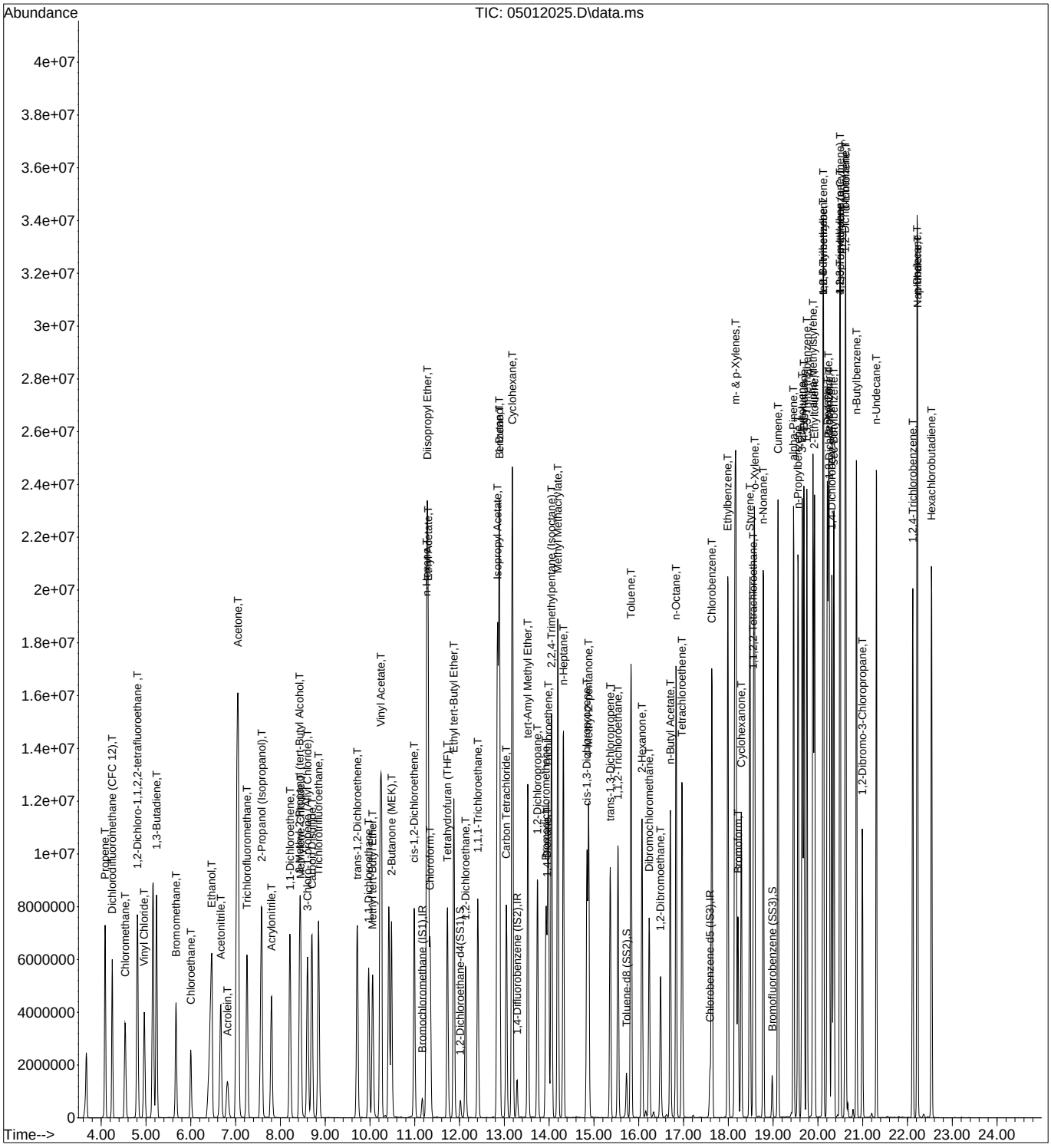
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.32	71	3860770	118.183	ng	99
52) cis-1,3-Dichloropropene	14.84	75	6512364	117.244	ng	99
53) 4-Methyl-2-pentanone	14.88	58	3720592	119.475	ng	94
54) trans-1,3-Dichloropropene	15.36	75	5980136	125.830	ng	100
55) 1,1,2-Trichloroethane	15.54	97	3694486	115.151	ng	98
58) Toluene	15.83	91	14122055	103.594	ng	97
59) 2-Hexanone	16.07	43	8538604	114.309	ng	97
60) Dibromochloromethane	16.23	129	4599117	117.821	ng	98
61) 1,2-Dibromoethane	16.49	107	4236452	112.921	ng	99
62) n-Butyl Acetate	16.71	43	9464801	117.306	ng	97
63) n-Octane	16.83	57	3422153	121.258	ng	99
64) Tetrachloroethene	16.96	166	4251324	110.411	ng	98
65) Chlorobenzene	17.63	112	10058959	107.240	ng	99
66) Ethylbenzene	17.99	91	15775647	103.782	ng	94
67) m- & p-Xylenes	18.16	91	24994911	207.270	ng	97
68) Bromoform	18.22	173	4017610	126.792	ng	100
69) Styrene	18.48	104	10371248	114.347	ng	96
70) o-Xylene	18.59	91	13044798	106.553	ng	98
71) n-Nonane	18.78	43	7415015	114.154	ng	95
72) 1,1,2,2-Tetrachloroethane	18.56	83	6995233	115.177	ng	100
74) Cumene	19.11	105	14928599	99.362	ng	93
75) alpha-Pinene	19.46	93	9103677	113.559	ng	97
76) n-Propylbenzene	19.56	91	16348034	91.592	ng	88
77) 3-Ethyltoluene	19.65	105	15320091	105.349	ng	94
78) 4-Ethyltoluene	19.69	105	13577066	96.220	ng	91
79) 1,3,5-Trimethylbenzene	19.75	105	12866248	105.014	ng	96
80) alpha-Methylstyrene	19.89	118	7332836	114.848	ng	89
81) 2-Ethyltoluene	19.92	105	14549504	101.431	ng	94
82) 1,2,4-Trimethylbenzene	20.12	105	11677289	94.825	ng	99
83) n-Decane	20.21	57	7901549	123.258	ng	99
84) Benzyl Chloride	20.24	91	12745970	134.347	ng	96
85) 1,3-Dichlorobenzene	20.25	146	7870539	110.067	ng	99
86) 1,4-Dichlorobenzene	20.31	146	7896122	113.154	ng	100
87) sec-Butylbenzene	20.36	105	15000490	93.840	ng	91
88) 4-Isopropyltoluene (p-...	20.50	119	12758034	87.765	ng	95
89) 1,2,3-Trimethylbenzene	20.49	105	11655993	95.082	ng	99
90) 1,2-Dichlorobenzene	20.61	146	7018237	102.510	ng	100
91) d-Limonene	20.62	68	5329834	109.584	ng	99
92) 1,2-Dibromo-3-Chloropr...	21.00	157	2996254	126.618	ng	94
93) n-Undecane	21.30	57	7881239	143.443	ng	98
94) 1,2,4-Trichlorobenzene	22.12	180	6156917	147.306	ng	99
95) Naphthalene	22.23	128	14689712	111.271	ng	97
96) n-Dodecane	22.22	57	6472005	144.069	ng	99
97) Hexachlorobutadiene	22.54	225	3985864	130.408	ng	100
98) Cyclohexanone	18.29	55	4951545	103.767	ng	97
99) tert-Butylbenzene	20.12	119	10982141	90.608	ng	99
100) n-Butylbenzene	20.86	91	12973286	103.470	ng	92

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012025.D Vial: 2
Acq On : 1 May 2020 18:07 Operator: LH
Sample : 100ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 18:32:42 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012026.D Vial: 2
Acq On : 1 May 2020 18:41 Operator: LH
Sample : 25ng TO15 ICV STD Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 01 19:07:38 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	306012	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.28	114	1305280	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	605237	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	502495	12.117	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.96%				
57) Toluene-d8 (SS2)	15.72	98	1272559	12.405	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.20%				
73) Bromofluorobenzene (SS3)	18.98	174	479316	12.985	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.84%				
Target Compounds							Qvalue
2) Propene	4.08	42	966787	27.278	ng		100
3) Dichlorodifluoromethan...	4.23	85	1760370	25.394	ng		100
4) Chloromethane	4.52	50	1357331	24.993	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.79	135	976267	23.572	ng		100
6) Vinyl Chloride	4.94	62	1467519	24.642	ng		99
7) 1,3-Butadiene	5.21	54	1260843	25.588	ng		100
8) Bromomethane	5.64	94	787063	25.018	ng		99
9) Chloroethane	5.97	64	602406	25.605	ng		99
10) Ethanol	6.38	45	3553289	129.837	ng		100
11) Acetonitrile	6.62	41	1622424	25.942	ng		100
12) Acrolein	6.79	56	555653	25.696	ng		100
13) Acetone	7.01	58	3611891	131.968	ng		99
14) Trichlorofluoromethane	7.24	101	1552897	25.347	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	4510536	54.450	ng		99
16) Acrylonitrile	7.77	53	1180769	26.391	ng		100
17) 1,1-Dichloroethene	8.19	96	847883	26.401	ng		100
18) 2-Methyl-2-Propanol (t...	8.39	59	4343249	56.240	ng		99
19) Methylene Chloride	8.43	84	892462	25.084	ng		99
20) 3-Chloro-1-propene (Al...	8.58	41	1276351	26.112	ng		100
21) Trichlorotrifluoroethane	8.84	151	781006	27.001	ng		99
22) Carbon Disulfide	8.68	76	3274656	25.686	ng		100
23) trans-1,2-Dichloroethene	9.70	61	1280278	26.180	ng		100
24) 1,1-Dichloroethane	9.96	63	1484365	25.568	ng		100
25) Methyl tert-Butyl Ether	10.05	73	2264086	24.794	ng		100
26) Vinyl Acetate	10.22	86	1192344	139.859	ng		100
27) 2-Butanone (MEK)	10.45	72	609878	26.129	ng		99
28) cis-1,2-Dichloroethene	10.98	61	1232559	25.768	ng		100
29) Diisopropyl Ether	11.27	87	824575	24.973	ng	#	95
30) Ethyl Acetate	11.27	61	776633	57.704	ng		100
31) n-Hexane	11.26	57	1581365	27.089	ng		100
32) Chloroform	11.32	83	1591321	26.124	ng		100
34) Tetrahydrofuran (THF)	11.72	72	595371	26.153	ng		100
35) Ethyl tert-Butyl Ether	11.86	87	1068978	26.791	ng		99
36) 1,2-Dichloroethane	12.12	62	1234056	25.571	ng		100
38) 1,1,1-Trichloroethane	12.40	97	1423725	27.081	ng		100
39) Isopropyl Acetate	12.83	61	1293737	56.259	ng		97
40) 1-Butanol	12.85	56	2086238	63.765	ng		94
41) Benzene	12.88	78	3590944	25.654	ng		100
42) Carbon Tetrachloride	13.04	117	1259961	26.463	ng		100
43) Cyclohexane	13.17	84	2795016	53.584	ng		99
44) tert-Amyl Methyl Ether	13.52	73	2599327	27.692	ng		100
45) 1,2-Dichloropropane	13.73	63	867296	26.753	ng		99
46) Bromodichloromethane	13.92	83	1295074	27.376	ng		100
47) Trichloroethene	13.97	130	967338	26.736	ng		100
48) 1,4-Dioxane	13.95	88	775383	27.504	ng		100
49) 2,2,4-Trimethylpentane...	14.04	57	3603157	26.453	ng		100
50) Methyl Methacrylate	14.18	100	775781	55.866	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012026.D Vial: 2
Acq On : 1 May 2020 18:41 Operator: LH
Sample : 25ng TO15 ICV STD Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 01 19:07:38 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

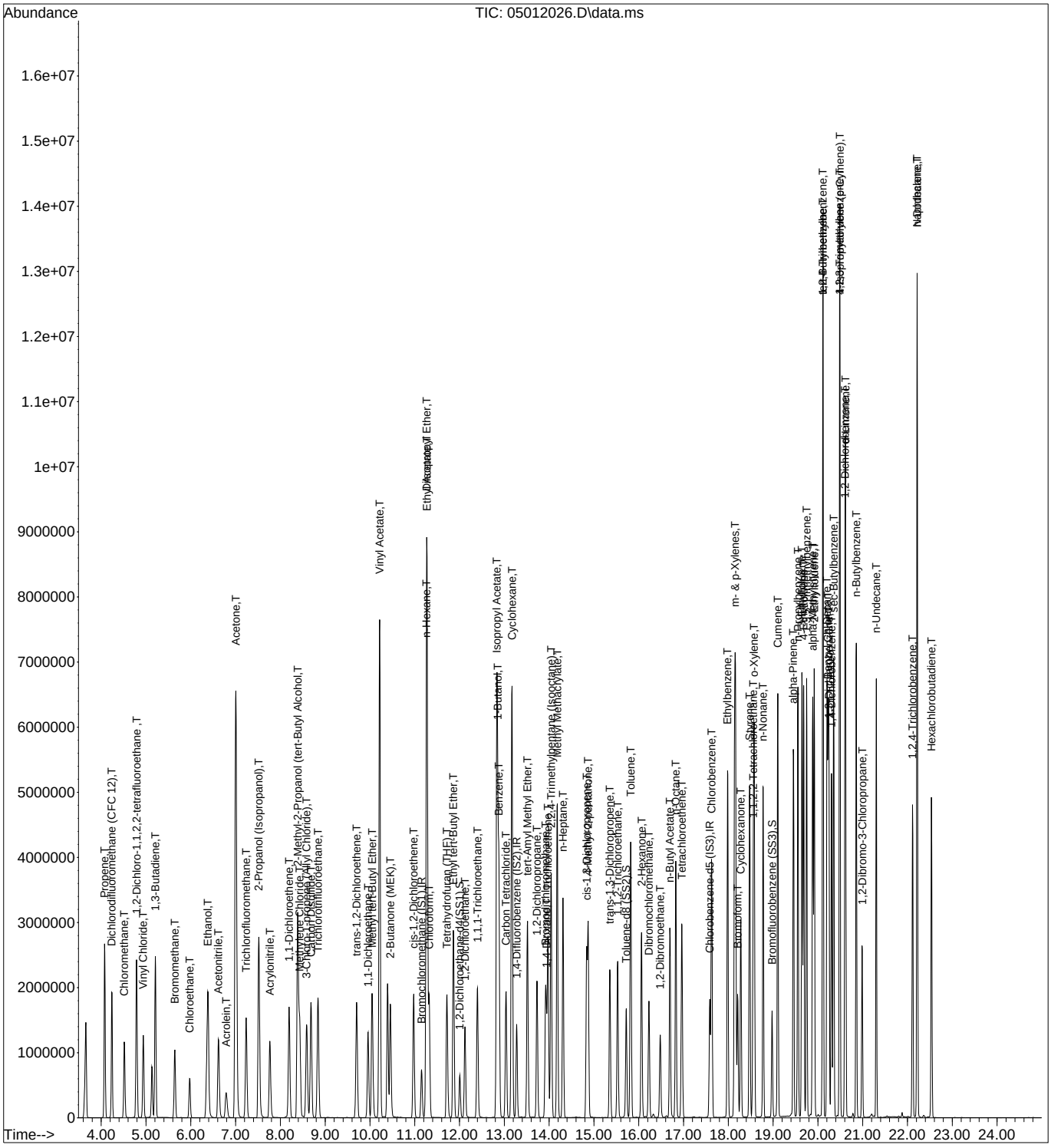
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	851667	26.018	ng	100
52) cis-1,3-Dichloropropene	14.84	75	1585771	28.492	ng	100
53) 4-Methyl-2-pentanone	14.87	58	872253	27.953	ng	100
54) trans-1,3-Dichloropropene	15.35	75	1387054	29.127	ng	100
55) 1,1,2-Trichloroethane	15.53	97	867139	26.973	ng	100
58) Toluene	15.82	91	3509323	26.538	ng	100
59) 2-Hexanone	16.06	43	2142962	29.574	ng	100
60) Dibromochloromethane	16.23	129	1094576	28.907	ng	100
61) 1,2-Dibromoethane	16.48	107	1019112	28.003	ng	100
62) n-Butyl Acetate	16.70	43	2398863	30.649	ng	100
63) n-Octane	16.83	57	741607	27.089	ng	100
64) Tetrachloroethene	16.96	166	1010020	27.041	ng	99
65) Chlorobenzene	17.62	112	2369161	26.038	ng	100
66) Ethylbenzene	17.98	91	4140285	28.079	ng	100
67) m- & p-Xylenes	18.15	91	6646028	56.814	ng	100
68) Bromoform	18.21	173	952116	29.005	ng	100
69) Styrene	18.48	104	2615334	29.726	ng	100
70) o-Xylene	18.58	91	3318680	27.945	ng	100
71) n-Nonane	18.77	43	1768593	28.068	ng	100
72) 1,1,2,2-Tetrachloroethane	18.55	83	1670094	28.347	ng	100
74) Cumene	19.10	105	4140007	28.406	ng	100
75) alpha-Pinene	19.45	93	2192080	28.188	ng	99
76) n-Propylbenzene	19.55	91	5034559	29.078	ng	100
77) 3-Ethyltoluene	19.64	105	4294103	30.440	ng	100
78) 4-Ethyltoluene	19.68	105	3790629	27.694	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	3430468	28.864	ng	100
80) alpha-Methylstyrene	19.88	118	1874877	27.988	ng	100
81) 2-Ethyltoluene	19.92	105	4065181	29.215	ng	99
82) 1,2,4-Trimethylbenzene	20.11	105	3770591	31.564	ng	100
83) n-Decane	20.20	57	1887277	28.242	ng	100
84) Benzyl Chloride	20.23	91	3366173	30.233	ng	100
85) 1,3-Dichlorobenzene	20.25	146	2073075	29.887	ng	100
86) 1,4-Dichlorobenzene	20.30	146	2047327	30.245	ng	100
87) sec-Butylbenzene	20.35	105	4505729	29.057	ng	100
88) 4-Isopropyltoluene (p-...	20.49	119	4352844	29.644	ng	100
89) 1,2,3-Trimethylbenzene	20.48	105	3682695	29.457	ng	100
90) 1,2-Dichlorobenzene	20.61	146	2035560	30.650	ng	100
91) d-Limonene	20.62	68	1446579	30.661	ng	100
92) 1,2-Dibromo-3-Chloropr...	20.99	157	709248	28.322	ng	99
93) n-Undecane	21.30	57	1877490	30.357	ng	99
94) 1,2,4-Trichlorobenzene	22.11	180	1445626	31.384	ng	100
95) Naphthalene	22.22	128	4860431	33.339	ng	100
96) n-Dodecane	22.22	57	1815131	33.896	ng	100
97) Hexachlorobutadiene	22.54	225	900762	28.271	ng	99
98) Cyclohexanone	18.28	55	1308763	28.274	ng	99
99) tert-Butylbenzene	20.11	119	3490399	29.687	ng	100
100) n-Butylbenzene	20.86	91	3725548	30.631	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012026.D Vial: 2
Acq On : 1 May 2020 18:41 Operator: LH
Sample : 25ng TO15 ICV STD Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 01 19:07:38 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



LH 5/1/20

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **05012026.D** Acq. Method File: **TO15.M**
Data File Path: **I:\MS16\DATA\2020_05\01** Sample Name: **25ng TO15 ICV STD**
Operator: **LH** Misc Info: **S31-02112001/S34-04302003 (**
Date Acquired: **5/1/2020 18:41** Instrument Name: **GCMS-16**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
2)	**Propene**	**4.08**	**27.3**	26.25	104	**51**	**133**	*	*
3)	**Dichlorodifluoromethane (CFC 1**	**4.23**	**25.4**	**26.25**	97	**64**	**115**	*	*
4)	**Chloromethane**	**4.52**	**25.0**	**26.50**	94	**49**	**127**	*	*
5)	**1,2-Dichloro-1,1,2,2-tetrafluoroet**	**4.79**	**23.6**	**25.75**	92	**65**	**114**	*	*
6)	**Vinyl Chloride**	**4.94**	**24.6**	**26.50**	93	**61**	**129**	*	*
7)	**1,3-Butadiene**	**5.21**	**25.6**	**26.50**	97	**54**	**140**	*	*
8)	**Bromomethane**	**5.64**	**25.0**	**26.50**	94	**68**	**120**	*	*
9)	**Chloroethane**	**5.97**	**25.6**	**26.75**	96	**63**	**123**	*	*
10)	**Ethanol**	**6.38**	**130**	**132.50**	98	**49**	**134**	*	*
11)	**Acetonitrile**	**6.62**	**25.9**	**26.75**	97	**50**	**137**	*	*
12)	**Acrolein**	**6.79**	**25.7**	**25.75**	100	**62**	**128**	*	*
13)	**Acetone**	**7.01**	**132**	**133.50**	99	**56**	**125**	*	*
14)	**Trichlorofluoromethane**	**7.24**	**25.3**	**26.50**	95	**64**	**115**	*	*
15)	**2-Propanol (Isopropanol)**	**7.52**	**54.5**	**52.75**	103	**57**	**133**	*	*
16)	**Acrylonitrile**	**7.77**	**26.4**	**26.50**	100	**64**	**136**	*	*
17)	**1,1-Dichloroethene**	**8.19**	**26.4**	**26.75**	99	**68**	**115**	*	*
18)	2-Methyl-2-Propanol (tert-Butyl Alc	8.39	56.2	53.75	105	56	132	*	*
19)	**Methylene Chloride**	**8.43**	**25.1**	**26.25**	96	**68**	**114**	*	*
20)	**3-Chloro-1-propene (Allyl Chloric**	**8.58**	**26.1**	**26.75**	98	**55**	**139**	*	*
21)	**Trichlorotrifluoroethane**	**8.84**	**27.0**	**27.00**	100	**65**	**115**	*	*
22)	**Carbon Disulfide**	**8.68**	**25.7**	**26.50**	97	**68**	**113**	*	*
23)	**trans-1,2-Dichloroethene**	**9.70**	**26.2**	**26.75**	98	**65**	**122**	*	*
24)	**1,1-Dichloroethane**	**9.96**	**25.6**	**26.50**	97	**63**	**118**	*	*
25)	**Methyl tert-Butyl Ether**	**10.05**	**24.8**	**26.75**	93	**57**	**131**	*	*
26)	**Vinyl Acetate**	**10.22**	**140**	**133.25**	105	**71**	**128**	*	*
27)	**2-Butanone (MEK)**	**10.45**	**26.1**	**26.50**	98	**67**	**123**	*	*
28)	**cis-1,2-Dichloroethene**	**10.98**	**25.8**	**26.50**	97	**64**	**120**	*	*
29)	Diisopropyl Ether	11.27	25.0	27.00	93	62	121	*	*
30)	**Ethyl Acetate**	**11.27**	**57.7**	**54.00**	107	**64**	**131**	*	*
31)	**n-Hexane**	**11.26**	**27.1**	**27.00**	100	**58**	**125**	*	*
32)	**Chloroform**	**11.32**	**26.1**	**26.75**	98	**65**	**114**	*	*
34)	**Tetrahydrofuran (THF)**	**11.72**	**26.2**	**27.50**	95	**65**	**115**	*	*
35)	Ethyl tert-Butyl Ether	11.86	26.8	26.75	100	61	130	*	*
36)	**1,2-Dichloroethane**	**12.12**	**25.6**	**26.75**	96	**59**	**120**	*	*
38)	**1,1,1-Trichloroethane**	**12.40**	**27.1**	**26.75**	101	**66**	**115**	*	*
39)	Isopropyl Acetate	12.83	56.3	52.50	107	65	129	*	*
40)	1-Butanol	12.85	63.8	53.25	120	58	140	*	*
41)	**Benzene**	**12.88**	**25.7**	**26.25**	98	**66**	**109**	*	*
42)	**Carbon Tetrachloride**	**13.04**	**26.5**	**26.00**	102	**66**	**119**	*	*
43)	**Cyclohexane**	**13.17**	**53.6**	**52.75**	102	**67**	**117**	*	*
44)	tert-Amyl Methyl Ether	13.52	27.7	**26.75**	104	62	133	*	*
45)	**1,2-Dichloropropane**	**13.73**	**26.8**	**26.75**	100	**66**	**119**	*	*
46)	**Bromodichloromethane**	**13.92**	**27.4**	**27.25**	101	**71**	**119**	*	*
47)	**Trichloroethene**	**13.97**	**26.7**	**27.00**	99	**70**	**114**	*	*
48)	**1,4-Dioxane**	**13.95**	**27.5**	**27.00**	102	**71**	**117**	*	*
49)	2,2,4-Trimethylpentane (Isooctane)	14.04	26.5	26.75	99	61	122	*	*

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **05012026.D** **TO15.M**
Data File Path: **I:\MS16\DATA\2020_05\01** Sample Name: **25ng TO15 ICV STD**
Operator: **LH** Misc Info: **S31-02112001/S34-04302003 (**
Date Acquired: **5/1/2020** **18:41** Instrument Name: **GCMS-16**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
50)	**Methyl Methacrylate**	**14.18**	**55.9**	**53.75**	104	**76**	**121**	*	*
51)	**n-Heptane**	**14.31**	**26.0**	**26.75**	97	**66**	**119**	*	*
52)	**cis-1,3-Dichloropropene**	**14.84**	**28.5**	**26.75**	107	**72**	**125**	*	*
53)	**4-Methyl-2-pentanone**	**14.87**	**28.0**	**26.50**	106	**68**	**130**	*	*
54)	**trans-1,3-Dichloropropene**	**15.35**	**29.1**	**26.50**	110	**71**	**132**	*	*
55)	**1,1,2-Trichloroethane**	**15.53**	**27.0**	**26.75**	101	**70**	**117**	*	*
58)	**Toluene**	**15.82**	**26.5**	**26.50**	100	**67**	**113**	*	*
59)	**2-Hexanone**	**16.06**	**29.6**	**27.00**	110	**62**	**135**	*	*
60)	**Dibromochloromethane**	**16.23**	**28.9**	**26.75**	108	**73**	**126**	*	*
61)	**1,2-Dibromoethane**	**16.48**	**28.0**	**26.75**	105	**71**	**122**	*	*
62)	**n-Butyl Acetate**	**16.70**	**30.6**	**27.25**	112	**65**	**134**	*	*
63)	**n-Octane**	**16.83**	**27.1**	**27.00**	100	**63**	**120**	*	*
64)	**Tetrachloroethene**	**16.96**	**27.0**	**26.00**	104	**64**	**120**	*	*
65)	**Chlorobenzene**	**17.62**	**26.0**	**26.75**	97	**65**	**116**	*	*
66)	**Ethylbenzene**	**17.98**	**28.1**	**26.50**	106	**65**	**117**	*	*
67)	**m- & p-Xylenes**	**18.15**	**56.8**	**53.25**	107	**64**	**121**	*	*
68)	**Bromoform**	**18.21**	**29.0**	**26.75**	108	**72**	**130**	*	*
69)	**Styrene**	**18.48**	**29.7**	**26.50**	112	**72**	**126**	*	*
70)	**o-Xylene**	**18.58**	**27.9**	**26.75**	104	**64**	**120**	*	*
71)	**n-Nonane**	**18.77**	**28.1**	**26.75**	105	**56**	**132**	*	*
72)	**1,1,2,2-Tetrachloroethane**	**18.55**	**28.3**	**26.75**	106	**66**	**122**	*	*
74)	**Cumene**	**19.10**	**28.4**	**26.75**	106	**64**	**121**	*	*
75)	**alpha-Pinene**	**19.45**	**28.2**	**26.50**	106	**62**	**136**	*	*
76)	**n-Propylbenzene**	**19.55**	**29.1**	**26.75**	109	**65**	**123**	*	*
77)	3-Ethyltoluene	19.64	30.4	26.75	114	62	123	*	*
78)	**4-Ethyltoluene**	**19.68**	**27.7**	**26.25**	**106**	**71**	**126**	*	*
79)	**1,3,5-Trimethylbenzene**	**19.75**	**28.9**	**26.50**	**109**	**65**	**120**	*	*
80)	alpha-Methylstyrene	19.88	28.0	26.50	**106**	70	132	*	*
81)	2-Ethyltoluene	19.92	29.2	26.75	**109**	66	121	*	*
82)	**1,2,4-Trimethylbenzene**	**20.11**	**31.6**	**26.50**	**119**	**63**	**129**	*	*
83)	n-Decane	20.20	28.2	26.75	**105**	61	131	*	*
84)	**Benzyl Chloride**	**20.23**	**30.2**	**26.75**	**113**	**66**	**138**	*	*
85)	**1,3-Dichlorobenzene**	**20.25**	**29.9**	**26.75**	**112**	**65**	**127**	*	*
86)	**1,4-Dichlorobenzene**	**20.30**	**30.2**	**26.75**	**113**	**66**	**125**	*	*
87)	sec-Butylbenzene	20.35	29.1	26.50	**110**	68	123	*	*
88)	4-Isopropyltoluene (p-Cymene)	20.49	29.6	27.25	**109**	61	129	*	*
89)	1,2,3-Trimethylbenzene	20.48	29.5	27.00	**109**	60	134	*	*
90)	**1,2-Dichlorobenzene**	**20.61**	**30.6**	**26.75**	**114**	**67**	**128**	*	*
91)	**d-Limonene**	**20.62**	**30.7**	**26.50**	**116**	**65**	**136**	*	*
92)	**1,2-Dibromo-3-Chloropropane**	**20.99**	**28.3**	**26.75**	**106**	**73**	**133**	*	*
93)	n-Undecane	21.30	30.4	27.00	**113**	64	131	*	*
94)	**1,2,4-Trichlorobenzene**	**22.11**	**31.4**	**27.00**	**116**	**62**	**140**	*	*
95)	**Naphthalene**	**22.22**	**33.3**	**26.50**	**126**	**57**	**149**	*	*
96)	n-Dodecane	22.22	33.9	26.50	**128**	41	181	*	*
97)	**Hexachlorobutadiene**	**22.54**	**28.3**	**26.75**	**106**	57	129	*	*
98)	Cyclohexanone	18.28	28.3	25.25	112	61	131	*	*
99)	tert-Butylbenzene	20.11	29.7	26.50	112	62	130	*	*
100)	n-Butylbenzene	20.86	30.6	26.75	114	67	124	*	*

Bold = 75 Compound List

 *** = Pass** **I:\MS16\0-Instrument Info\0-Security Certificates\ICV_LCS_2019_10111902.CRT** 5/1/2020 7:08 PM

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\04\05042002.D Vial: 2
Acq On : 4 May 2020 6:20 Operator: TD
Sample : CCV R16050420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

TD 5/4/20

Quant Time: May 04 07:29:36 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	99	-0.01
2	T	Propene	1.448	1.440	0.6	97	0.00
3	T	Dichlorodifluoromethane (CF	2.832	2.642	6.7	96	0.00
4	T	Chloromethane	2.218	2.095	5.5	95	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.692	1.573	7.0	98	-0.01
6	T	Vinyl Chloride	2.433	2.272	6.6	96	0.00
7	T	1,3-Butadiene	2.013	1.898	5.7	96	0.00
8	T	Bromomethane	1.285	1.212	5.7	97	-0.01
9	T	Chloroethane	0.961	0.908	5.5	96	0.00
10	T	Ethanol	1.118	1.045	6.5	93	-0.03
11	T	Acetonitrile	2.555	2.326	9.0	94	-0.02
12	T	Acrolein	0.883	0.820	7.1	93	-0.01
13	T	Acetone	1.118	1.077	3.7	95	-0.02
14	T	Trichlorofluoromethane	2.503	2.330	6.9	94	0.00
15	T	2-Propanol (Isopropanol)	3.384	3.265	3.5	92	-0.02
16	T	Acrylonitrile	1.828	1.719	6.0	93	-0.01
17	T	1,1-Dichloroethene	1.312	1.253	4.5	95	0.00
18	T	2-Methyl-2-Propanol (tert-B	3.155	2.920	7.4	91	-0.02
19	T	Methylene Chloride	1.453	1.354	6.8	94	0.00
20	T	3-Chloro-1-propene (Allyl C	1.997	1.902	4.8	93	-0.01
21	T	Trichlorotrifluoroethane	1.182	1.156	2.2	96	0.00
22	T	Carbon Disulfide	5.208	4.896	6.0	95	0.00
23	T	trans-1,2-Dichloroethene	1.998	1.868	6.5	94	0.00
24	T	1,1-Dichloroethane	2.371	2.252	5.0	94	0.00
25	T	Methyl tert-Butyl Ether	3.730	3.374	9.5	95	0.00
26	T	Vinyl Acetate	0.348	0.351	-0.9	93	-0.01
27	T	2-Butanone (MEK)	0.953	0.903	5.2	94	0.00
28	T	cis-1,2-Dichloroethene	1.954	1.811	7.3	93	0.00
29	T	Diisopropyl Ether	1.349	1.264	6.3	95	0.00
30	T	Ethyl Acetate	0.550	0.571	-3.8	95	0.00
31	T	n-Hexane	2.385	2.359	1.1	94	0.00
32	T	Chloroform	2.488	2.353	5.4	95	0.00
33	S	1,2-Dichloroethane-d4(SS1)	1.694	1.588	6.3	97	0.00
34	T	Tetrahydrofuran (THF)	0.930	0.853	8.3	94	0.00
35	T	Ethyl tert-Butyl Ether	1.630	1.570	3.7	94	0.00
36	T	1,2-Dichloroethane	1.971	1.792	9.1	93	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	98	0.00
38	T	1,1,1-Trichloroethane	0.503	0.491	2.4	94	0.00
39	T	Isopropyl Acetate	0.220	0.229	-4.1	95	0.00
40	T	1-Butanol	0.313	0.312	0.3	92	-0.02
41	T	Benzene	1.340	1.296	3.3	95	0.00
42	T	Carbon Tetrachloride	0.456	0.458	-0.4	95	0.00
43	T	Cyclohexane	0.500	0.507	-1.4	95	0.00
44	T	tert-Amyl Methyl Ether	0.899	0.897	0.2	94	0.00
45	T	1,2-Dichloropropane	0.310	0.304	1.9	94	0.00
46	T	Bromodichloromethane	0.453	0.458	-1.1	94	0.00
47	T	Trichloroethene	0.346	0.348	-0.6	96	0.00
48	T	1,4-Dioxane	0.270	0.267	1.1	94	0.00
49	T	2,2,4-Trimethylpentane (Iso	1.304	1.272	2.5	94	0.00
50	T	Methyl Methacrylate	0.133	0.137	-3.0	94	0.00
51	T	n-Heptane	0.313	0.299	4.5	95	0.00
52	T	cis-1,3-Dichloropropene	0.533	0.540	-1.3	94	0.00
53	T	4-Methyl-2-pentanone	0.299	0.297	0.7	94	0.00
54	T	trans-1,3-Dichloropropene	0.456	0.481	-5.5	93	0.00
55	T	1,1,2-Trichloroethane	0.308	0.310	-0.6	95	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\04\05042002.D Vial: 2
Acq On : 4 May 2020 6:20 Operator: TD
Sample : CCV R16050420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 04 07:29:36 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	98	0.00
57	S	Toluene-d8 (SS2)	2.119	2.117	0.1	97	0.00
58	T	Toluene	2.731	2.720	0.4	95	0.00
59	T	2-Hexanone	1.497	1.513	-1.1	93	0.00
60	T	Dibromochloromethane	0.782	0.848	-8.4	95	0.00
61	T	1,2-Dibromoethane	0.752	0.780	-3.7	95	0.00
62	T	n-Butyl Acetate	1.616	1.646	-1.9	92	0.00
63	T	n-Octane	0.565	0.570	-0.9	94	0.00
64	T	Tetrachloroethene	0.771	0.818	-6.1	96	0.00
65	T	Chlorobenzene	1.879	1.844	1.9	96	0.00
66	T	Ethylbenzene	3.045	3.216	-5.6	95	0.00
67	T	m- & p-Xylenes	2.416	2.591	-7.2	95	0.00
68	T	Bromoform	0.678	0.741	-9.3	96	0.00
69	T	Styrene	1.817	2.006	-10.4	95	0.00
70	T	o-Xylene	2.453	2.605	-6.2	95	0.00
71	T	n-Nonane	1.301	1.376	-5.8	95	0.00
72	T	1,1,2,2-Tetrachloroethane	1.217	1.298	-6.7	96	0.00
73	S	Bromofluorobenzene (SS3)	0.762	0.811	-6.4	99	0.00
74	T	Cumene	3.010	3.268	-8.6	96	0.00
75	T	alpha-Pinene	1.606	1.724	-7.3	94	0.00
76	T	n-Propylbenzene	3.576	3.940	-10.2	95	0.00
77	T	3-Ethyltoluene	2.913	3.364	-15.5	97	0.00
78	T	4-Ethyltoluene	2.827	3.042	-7.6	94	0.00
79	T	1,3,5-Trimethylbenzene	2.455	2.701	-10.0	95	0.00
80	T	alpha-Methylstyrene	1.384	1.430	-3.3	94	0.00
81	T	2-Ethyltoluene	2.874	3.162	-10.0	96	0.00
82	T	1,2,4-Trimethylbenzene	2.467	3.001	-21.6	96	0.00
83	T	n-Decane	1.380	1.475	-6.9	95	0.00
84	T	Benzyl Chloride	2.300	2.502	-8.8	94	0.00
85	T	1,3-Dichlorobenzene	1.433	1.635	-14.1	96	0.00
86	T	1,4-Dichlorobenzene	1.398	1.587	-13.5	96	0.00
87	T	sec-Butylbenzene	3.203	3.586	-12.0	96	0.00
88	T	4-Isopropyltoluene (p-Cymen	3.033	3.524	-16.2	97	0.00
89	T	1,2,3-Trimethylbenzene	2.582	3.025	-17.2	96	0.00
90	T	1,2-Dichlorobenzene	1.372	1.634	-19.1	97	0.00
91	T	d-Limonene	0.974	1.137	-16.7	95	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.517	0.568	-9.9	95	0.00
93	T	n-Undecane	1.277	1.428	-11.8	95	0.00
94	T	1,2,4-Trichlorobenzene	0.951	1.117	-17.5	95	0.00
95	T	Naphthalene	3.011	3.714	-23.3	94	0.00
96	T	n-Dodecane	1.106	1.409	-27.4	93	0.00
97	T	Hexachlorobutadiene	0.658	0.718	-9.1	97	0.00
98	T	Cyclohexanone	0.956	0.925	3.2	92	0.00
99	T	tert-Butylbenzene	2.428	2.835	-16.8	97	0.00
100	T	n-Butylbenzene	2.512	2.894	-15.2	95	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042002.D Vial: 2
Acq On : 4 May 2020 6:20 Operator: TD
Sample : CCV R16050420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

TD 5/4/20

Quant Time: May 04 07:29:36 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	284513	12.500	ng	-0.01
37) 1,4-Difluorobenzene (IS2)	13.27	114	1207365	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	557091	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.00	65	451908	11.720	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.76%			
57) Toluene-d8 (SS2)	15.72	98	1179620	12.492	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.92%			
73) Bromofluorobenzene (SS3)	18.98	174	451883	13.300	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.40%			
Target Compounds						Qvalue
2) Propene	4.09	42	868412	26.353	ng	100
3) Dichlorodifluoromethan...	4.25	85	1593858	24.730	ng	100
4) Chloromethane	4.53	50	1263378	25.021	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	939969	24.410	ng	100
6) Vinyl Chloride	4.95	62	1396324	25.218	ng	100
7) 1,3-Butadiene	5.22	54	1145113	24.995	ng	100
8) Bromomethane	5.65	94	745051	25.472	ng	100
9) Chloroethane	5.98	64	558171	25.518	ng	100
10) Ethanol	6.39	45	3097298	121.727	ng	100
11) Acetonitrile	6.63	41	1389671	23.900	ng	100
12) Acrolein	6.80	56	480691	23.909	ng	100
13) Acetone	7.01	58	3267213	128.395	ng	100
14) Trichlorofluoromethane	7.24	101	1405565	24.676	ng	100
15) 2-Propanol (Isopropanol)	7.52	45	3901898	50.662	ng	100
16) Acrylonitrile	7.77	53	1027067	24.690	ng	100
17) 1,1-Dichloroethene	8.20	96	770040	25.789	ng	99
18) 2-Methyl-2-Propanol (t...	8.39	59	3589286	49.989	ng	100
19) Methylene Chloride	8.44	84	816730	24.690	ng	100
20) 3-Chloro-1-propene (Al...	8.59	41	1168691	25.716	ng	99
21) Trichlorotrifluoroethane	8.84	151	710677	26.426	ng	99
22) Carbon Disulfide	8.69	76	2980910	25.149	ng	100
23) trans-1,2-Dichloroethene	9.71	61	1147694	25.242	ng	99
24) 1,1-Dichloroethane	9.96	63	1396624	25.874	ng	100
25) Methyl tert-Butyl Ether	10.05	73	2073578	24.423	ng	100
26) Vinyl Acetate	10.22	86	1070005	134.993	ng	99
27) 2-Butanone (MEK)	10.46	72	544399	25.086	ng	99
28) cis-1,2-Dichloroethene	10.98	61	1092363	24.563	ng	99
29) Diisopropyl Ether	11.27	87	776688	25.301	ng	99
30) Ethyl Acetate	11.28	61	704809	56.324	ng	99
31) n-Hexane	11.26	57	1449930	26.714	ng	100
32) Chloroform	11.32	83	1432593	25.296	ng	100
34) Tetrahydrofuran (THF)	11.72	72	528872	24.988	ng	99
35) Ethyl tert-Butyl Ether	11.87	87	964876	26.009	ng	99
36) 1,2-Dichloroethane	12.12	62	1101483	24.549	ng	100
38) 1,1,1-Trichloroethane	12.40	97	1267530	26.065	ng	100
39) Isopropyl Acetate	12.83	61	1166285	54.830	ng	99
40) 1-Butanol	12.85	56	1566264	51.755	ng	98
41) Benzene	12.88	78	3316295	25.613	ng	100
42) Carbon Tetrachloride	13.04	117	1161097	26.364	ng	100
43) Cyclohexane	13.17	84	2595377	53.791	ng	100
44) tert-Amyl Methyl Ether	13.52	73	2339963	26.951	ng	100
45) 1,2-Dichloropropane	13.73	63	792816	26.439	ng	100
46) Bromodichloromethane	13.92	83	1193874	27.284	ng	100
47) Trichloroethene	13.97	130	898525	26.848	ng	100
48) 1,4-Dioxane	13.95	88	695954	26.688	ng	99
49) 2,2,4-Trimethylpentane...	14.04	57	3286809	26.088	ng	100
50) Methyl Methacrylate	14.18	100	711450	55.388	ng	100

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042002.D Vial: 2
Acq On : 4 May 2020 6:20 Operator: TD
Sample : CCV R16050420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 04 07:29:36 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

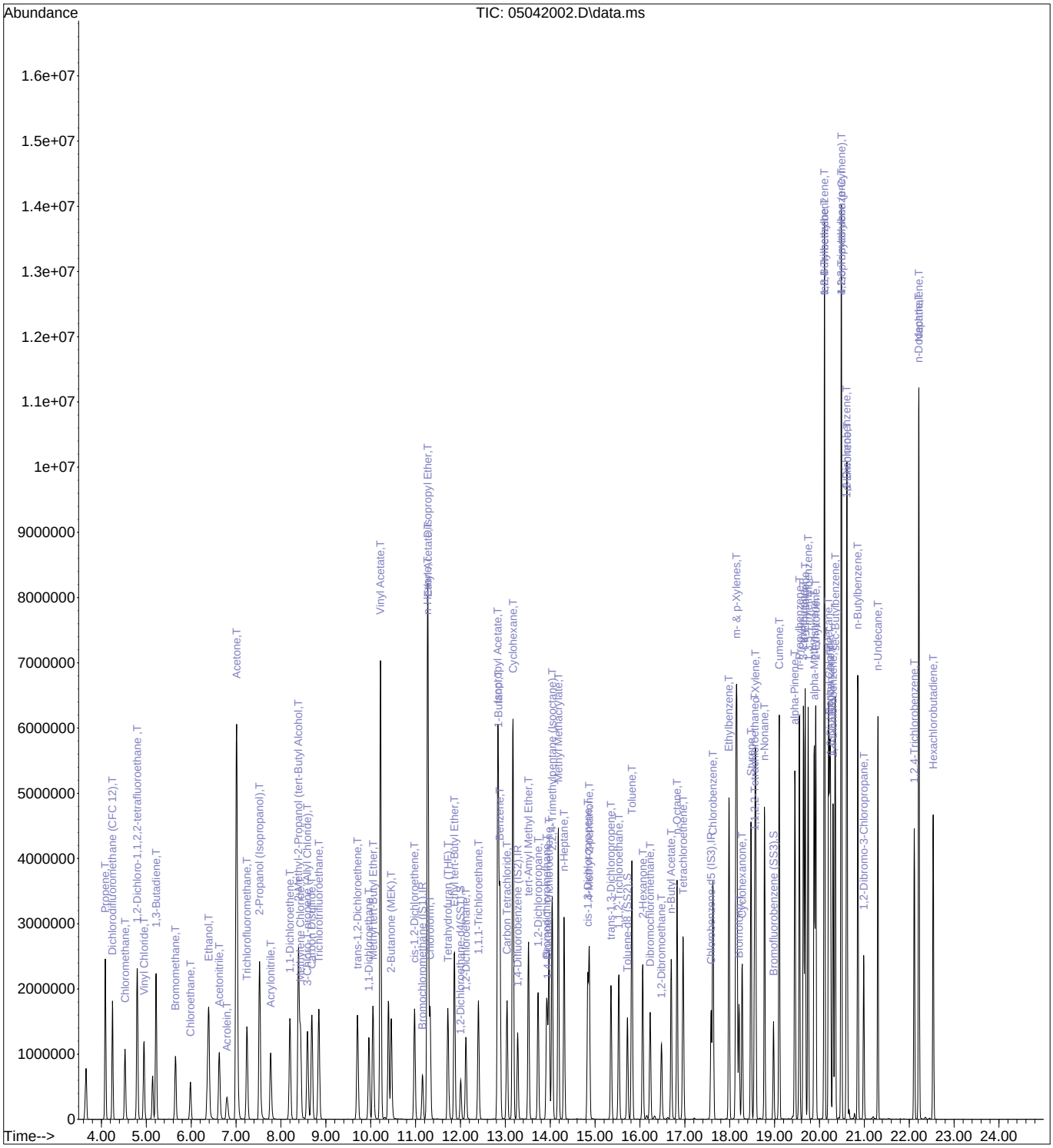
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	780581	25.780	ng	100
52) cis-1,3-Dichloropropene	14.84	75	1355097	26.322	ng	100
53) 4-Methyl-2-pentanone	14.87	58	760268	26.340	ng	100
54) trans-1,3-Dichloropropene	15.35	75	1231552	27.959	ng	100
55) 1,1,2-Trichloroethane	15.53	97	801435	26.951	ng	100
58) Toluene	15.82	91	3242356	26.638	ng	100
59) 2-Hexanone	16.06	43	1804171	27.051	ng	100
60) Dibromochloromethane	16.23	129	1011214	29.013	ng	100
61) 1,2-Dibromoethane	16.48	107	930410	27.775	ng	100
62) n-Butyl Acetate	16.70	43	1999586	27.756	ng	100
63) n-Octane	16.83	57	686431	27.240	ng	100
64) Tetrachloroethene	16.96	166	948300	27.583	ng	100
65) Chlorobenzene	17.62	112	2198173	26.247	ng	100
66) Ethylbenzene	17.98	91	3834289	28.251	ng	100
67) m- & p-Xylenes	18.15	91	6177740	57.375	ng	100
68) Bromoform	18.21	173	883270	29.233	ng	100
69) Styrene	18.48	104	2369548	29.260	ng	100
70) o-Xylene	18.58	91	3105492	28.410	ng	100
71) n-Nonane	18.77	43	1640349	28.283	ng	100
72) 1,1,2,2-Tetrachloroethane	18.55	83	1547696	28.540	ng	100
74) Cumene	19.10	105	3932031	29.311	ng	100
75) alpha-Pinene	19.45	93	2054832	28.707	ng	100
76) n-Propylbenzene	19.55	91	4741555	29.752	ng	100
77) 3-Ethyltoluene	19.64	105	3972479	30.594	ng	100
78) 4-Ethyltoluene	19.68	105	3660041	29.050	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	3189536	29.156	ng	99
80) alpha-Methylstyrene	19.88	118	1704981	27.651	ng	100
81) 2-Ethyltoluene	19.92	105	3804475	29.705	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3577421	32.536	ng	100
83) n-Decane	20.20	57	1758983	28.597	ng	100
84) Benzyl Chloride	20.23	91	3011131	29.382	ng	100
85) 1,3-Dichlorobenzene	20.25	146	1949138	30.528	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1892567	30.375	ng	100
87) sec-Butylbenzene	20.35	105	4274789	29.951	ng	100
88) 4-Isopropyltoluene (p-...	20.49	119	4280333	31.669	ng	100
89) 1,2,3-Trimethylbenzene	20.48	105	3673824	31.926	ng	100
90) 1,2-Dichlorobenzene	20.61	146	1948032	31.867	ng	100
91) d-Limonene	20.62	68	1367683	31.494	ng	100
92) 1,2-Dibromo-3-Chloropr...	20.98	157	664596	28.833	ng	98
93) n-Undecane	21.30	57	1718191	30.182	ng	100
94) 1,2,4-Trichlorobenzene	22.11	180	1331160	31.397	ng	100
95) Naphthalene	22.22	128	4261654	31.758	ng	100
96) n-Dodecane	22.21	57	1632753	33.125	ng	100
97) Hexachlorobutadiene	22.54	225	848325	28.926	ng	100
98) Cyclohexanone	18.28	55	1031138	24.202	ng	100
99) tert-Butylbenzene	20.11	119	3379798	31.230	ng	100
100) n-Butylbenzene	20.85	91	3450658	30.823	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042002.D Vial: 2
Acq On : 4 May 2020 6:20 Operator: TD
Sample : CCV R16050420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 04 07:29:36 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\04\05042036.D Vial: 2
Acq On : 5 May 2020 2:35 Operator: TD
Sample : CCVend R16050420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 05 07:11:09 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 5/5/20

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	101	-0.01
2	T	Propene	1.448	1.424	1.7	98	0.00
3	T	Dichlorodifluoromethane (CF	2.832	2.638	6.9	98	0.00
4	T	Chloromethane	2.218	2.078	6.3	96	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.692	1.583	6.4	100	-0.01
6	T	Vinyl Chloride	2.433	2.212	9.1	95	0.00
7	T	1,3-Butadiene	2.013	1.861	7.6	96	0.00
8	T	Bromomethane	1.285	1.231	4.2	100	-0.01
9	T	Chloroethane	0.961	0.911	5.2	98	0.00
10	T	Ethanol	1.118	1.025	8.3	93	-0.03
11	T	Acetonitrile	2.555	2.267	11.3	93	-0.02
12	T	Acrolein	0.883	0.799	9.5	92	-0.01
13	T	Acetone	1.118	1.059	5.3	95	-0.02
14	T	Trichlorofluoromethane	2.503	2.330	6.9	96	0.00
15	T	2-Propanol (Isopropanol)	3.384	3.221	4.8	93	-0.02
16	T	Acrylonitrile	1.828	1.693	7.4	94	-0.01
17	T	1,1-Dichloroethene	1.312	1.257	4.2	97	0.00
18	T	2-Methyl-2-Propanol (tert-B	3.155	2.863	9.3	90	-0.02
19	T	Methylene Chloride	1.453	1.334	8.2	94	0.00
20	T	3-Chloro-1-propene (Allyl C	1.997	1.865	6.6	93	-0.01
21	T	Trichlorotrifluoroethane	1.182	1.175	0.6	99	0.00
22	T	Carbon Disulfide	5.208	4.853	6.8	96	0.00
23	T	trans-1,2-Dichloroethene	1.998	1.814	9.2	93	0.00
24	T	1,1-Dichloroethane	2.371	2.186	7.8	93	0.00
25	T	Methyl tert-Butyl Ether	3.730	3.293	11.7	94	0.00
26	T	Vinyl Acetate	0.348	0.349	-0.3	94	-0.01
27	T	2-Butanone (MEK)	0.953	0.887	6.9	94	0.00
28	T	cis-1,2-Dichloroethene	1.954	1.774	9.2	93	0.00
29	T	Diisopropyl Ether	1.349	1.227	9.0	94	0.00
30	T	Ethyl Acetate	0.550	0.558	-1.5	95	0.00
31	T	n-Hexane	2.385	2.308	3.2	94	0.00
32	T	Chloroform	2.488	2.320	6.8	95	0.00
33	S	1,2-Dichloroethane-d4(SS1)	1.694	1.537	9.3	95	0.00
34	T	Tetrahydrofuran (THF)	0.930	0.839	9.8	94	0.00
35	T	Ethyl tert-Butyl Ether	1.630	1.561	4.2	95	0.00
36	T	1,2-Dichloroethane	1.971	1.744	11.5	92	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	99	0.00
38	T	1,1,1-Trichloroethane	0.503	0.495	1.6	95	0.00
39	T	Isopropyl Acetate	0.220	0.227	-3.2	94	0.00
40	T	1-Butanol	0.313	0.313	0.0	92	-0.02
41	T	Benzene	1.340	1.291	3.7	95	0.00
42	T	Carbon Tetrachloride	0.456	0.459	-0.7	96	0.00
43	T	Cyclohexane	0.500	0.504	-0.8	95	0.00
44	T	tert-Amyl Methyl Ether	0.899	0.899	0.0	95	0.00
45	T	1,2-Dichloropropane	0.310	0.298	3.9	93	0.00
46	T	Bromodichloromethane	0.453	0.458	-1.1	94	0.00
47	T	Trichloroethene	0.346	0.355	-2.6	99	0.00
48	T	1,4-Dioxane	0.270	0.267	1.1	95	0.00
49	T	2,2,4-Trimethylpentane (Iso	1.304	1.253	3.9	93	0.00
50	T	Methyl Methacrylate	0.133	0.138	-3.8	95	0.00
51	T	n-Heptane	0.313	0.298	4.8	95	0.00
52	T	cis-1,3-Dichloropropene	0.533	0.540	-1.3	94	0.00
53	T	4-Methyl-2-pentanone	0.299	0.292	2.3	92	0.00
54	T	trans-1,3-Dichloropropene	0.456	0.483	-5.9	94	0.00
55	T	1,1,2-Trichloroethane	0.308	0.312	-1.3	96	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\04\05042036.D Vial: 2
Acq On : 5 May 2020 2:35 Operator: TD
Sample : CCVend R16050420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 05 07:11:09 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	100	0.00
57	S	Toluene-d8 (SS2)	2.119	2.095	1.1	98	0.00
58	T	Toluene	2.731	2.672	2.2	95	0.00
59	T	2-Hexanone	1.497	1.460	2.5	92	0.00
60	T	Dibromochloromethane	0.782	0.841	-7.5	97	0.00
61	T	1,2-Dibromoethane	0.752	0.773	-2.8	96	0.00
62	T	n-Butyl Acetate	1.616	1.593	1.4	91	0.00
63	T	n-Octane	0.565	0.553	2.1	93	0.00
64	T	Tetrachloroethene	0.771	0.816	-5.8	98	0.00
65	T	Chlorobenzene	1.879	1.817	3.3	96	0.00
66	T	Ethylbenzene	3.045	3.140	-3.1	94	0.00
67	T	m- & p-Xylenes	2.416	2.534	-4.9	95	0.00
68	T	Bromoform	0.678	0.733	-8.1	97	0.00
69	T	Styrene	1.817	1.967	-8.3	95	0.00
70	T	o-Xylene	2.453	2.537	-3.4	95	0.00
71	T	n-Nonane	1.301	1.328	-2.1	94	0.00
72	T	1,1,2,2-Tetrachloroethane	1.217	1.259	-3.5	95	0.00
73	S	Bromofluorobenzene (SS3)	0.762	0.838	-10.0	104	0.00
74	T	Cumene	3.010	3.174	-5.4	95	0.00
75	T	alpha-Pinene	1.606	1.682	-4.7	94	0.00
76	T	n-Propylbenzene	3.576	3.815	-6.7	94	0.00
77	T	3-Ethyltoluene	2.913	3.072	-5.5	90	0.00
78	T	4-Ethyltoluene	2.827	3.150	-11.4	99	0.00
79	T	1,3,5-Trimethylbenzene	2.455	2.646	-7.8	95	0.00
80	T	alpha-Methylstyrene	1.384	1.387	-0.2	93	0.00
81	T	2-Ethyltoluene	2.874	3.074	-7.0	95	0.00
82	T	1,2,4-Trimethylbenzene	2.467	2.919	-18.3	95	0.00
83	T	n-Decane	1.380	1.424	-3.2	94	0.00
84	T	Benzyl Chloride	2.300	2.415	-5.0	93	0.00
85	T	1,3-Dichlorobenzene	1.433	1.601	-11.7	96	0.00
86	T	1,4-Dichlorobenzene	1.398	1.544	-10.4	95	0.00
87	T	sec-Butylbenzene	3.203	3.480	-8.6	95	0.00
88	T	4-Isopropyltoluene (p-Cymen	3.033	3.440	-13.4	97	0.00
89	T	1,2,3-Trimethylbenzene	2.582	2.925	-13.3	95	0.00
90	T	1,2-Dichlorobenzene	1.372	1.601	-16.7	97	0.00
91	T	d-Limonene	0.974	1.091	-12.0	93	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.517	0.565	-9.3	97	0.00
93	T	n-Undecane	1.277	1.381	-8.1	93	0.00
94	T	1,2,4-Trichlorobenzene	0.951	1.112	-16.9	97	0.00
95	T	Naphthalene	3.011	3.649	-21.2	94	0.00
96	T	n-Dodecane	1.106	1.395	-26.1	94	0.00
97	T	Hexachlorobutadiene	0.658	0.719	-9.3	99	0.00
98	T	Cyclohexanone	0.956	0.885	7.4	90	-0.01
99	T	tert-Butylbenzene	2.428	2.780	-14.5	97	0.00
100	T	n-Butylbenzene	2.512	2.812	-11.9	95	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042036.D Vial: 2
Acq On : 5 May 2020 2:35 Operator: TD
Sample : CCVend R16050420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 05 07:11:09 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/5/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	289618	12.500	ng	-0.01
37) 1,4-Difluorobenzene (IS2)	13.28	114	1211502	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.58	82	569498	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.00	65	445075	11.340	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.72%			
57) Toluene-d8 (SS2)	15.72	98	1192856	12.357	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.88%			
73) Bromofluorobenzene (SS3)	18.98	174	477492	13.747	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.00%			
Target Compounds						Qvalue
2) Propene	4.09	42	874543	26.072	ng	99
3) Dichlorodifluoromethan...	4.25	85	1619818	24.689	ng	100
4) Chloromethane	4.53	50	1275612	24.818	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	962660	24.559	ng	100
6) Vinyl Chloride	4.95	62	1383548	24.547	ng	100
7) 1,3-Butadiene	5.22	54	1142435	24.497	ng	99
8) Bromomethane	5.65	94	770216	25.868	ng	99
9) Chloroethane	5.98	64	569613	25.582	ng	100
10) Ethanol	6.38	45	3092880	119.411	ng	100
11) Acetonitrile	6.62	41	1378504	23.290	ng	100
12) Acrolein	6.80	56	476972	23.306	ng	100
13) Acetone	7.01	58	3270534	126.260	ng	99
14) Trichlorofluoromethane	7.24	101	1430506	24.671	ng	100
15) 2-Propanol (Isopropanol)	7.52	45	3917700	49.971	ng	99
16) Acrylonitrile	7.77	53	1029708	24.317	ng	100
17) 1,1-Dichloroethene	8.20	96	786323	25.870	ng	96
18) 2-Methyl-2-Propanol (t...	8.39	59	3582072	49.009	ng	99
19) Methylene Chloride	8.44	84	819295	24.331	ng	98
20) 3-Chloro-1-propene (Al...	8.59	41	1166950	25.225	ng	99
21) Trichlorotrifluoroethane	8.84	151	735267	26.859	ng	97
22) Carbon Disulfide	8.69	76	3007590	24.927	ng	100
23) trans-1,2-Dichloroethene	9.71	61	1135032	24.524	ng	97
24) 1,1-Dichloroethane	9.96	63	1380093	25.118	ng	100
25) Methyl tert-Butyl Ether	10.05	73	2060004	23.836	ng	99
26) Vinyl Acetate	10.22	86	1081020	133.979	ng	96
27) 2-Butanone (MEK)	10.46	72	544879	24.666	ng	97
28) cis-1,2-Dichloroethene	10.98	61	1089204	24.060	ng	98
29) Diisopropyl Ether	11.27	87	767285	24.554	ng	99
30) Ethyl Acetate	11.28	61	701031	55.035	ng	100
31) n-Hexane	11.26	57	1444117	26.138	ng	100
32) Chloroform	11.32	83	1437889	24.942	ng	100
34) Tetrahydrofuran (THF)	11.72	72	529536	24.578	ng	99
35) Ethyl tert-Butyl Ether	11.86	87	976464	25.858	ng	98
36) 1,2-Dichloroethane	12.12	62	1091093	23.888	ng	100
38) 1,1,1-Trichloroethane	12.40	97	1282274	26.278	ng	99
39) Isopropyl Acetate	12.83	61	1161829	54.434	ng	99
40) 1-Butanol	12.85	56	1575918	51.896	ng	100
41) Benzene	12.88	78	3316975	25.531	ng	100
42) Carbon Tetrachloride	13.04	117	1168818	26.449	ng	100
43) Cyclohexane	13.17	84	2590761	53.512	ng	98
44) tert-Amyl Methyl Ether	13.52	73	2352426	27.002	ng	99
45) 1,2-Dichloropropane	13.73	63	781084	25.958	ng	100
46) Bromodichloromethane	13.92	83	1197499	27.273	ng	100
47) Trichloroethene	13.97	130	920664	27.416	ng	100
48) 1,4-Dioxane	13.95	88	699063	26.716	ng	98
49) 2,2,4-Trimethylpentane...	14.04	57	3248217	25.693	ng	100
50) Methyl Methacrylate	14.18	100	719270	55.805	ng	98

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042036.D Vial: 2
Acq On : 5 May 2020 2:35 Operator: TD
Sample : CCVend R16050420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 05 07:11:09 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

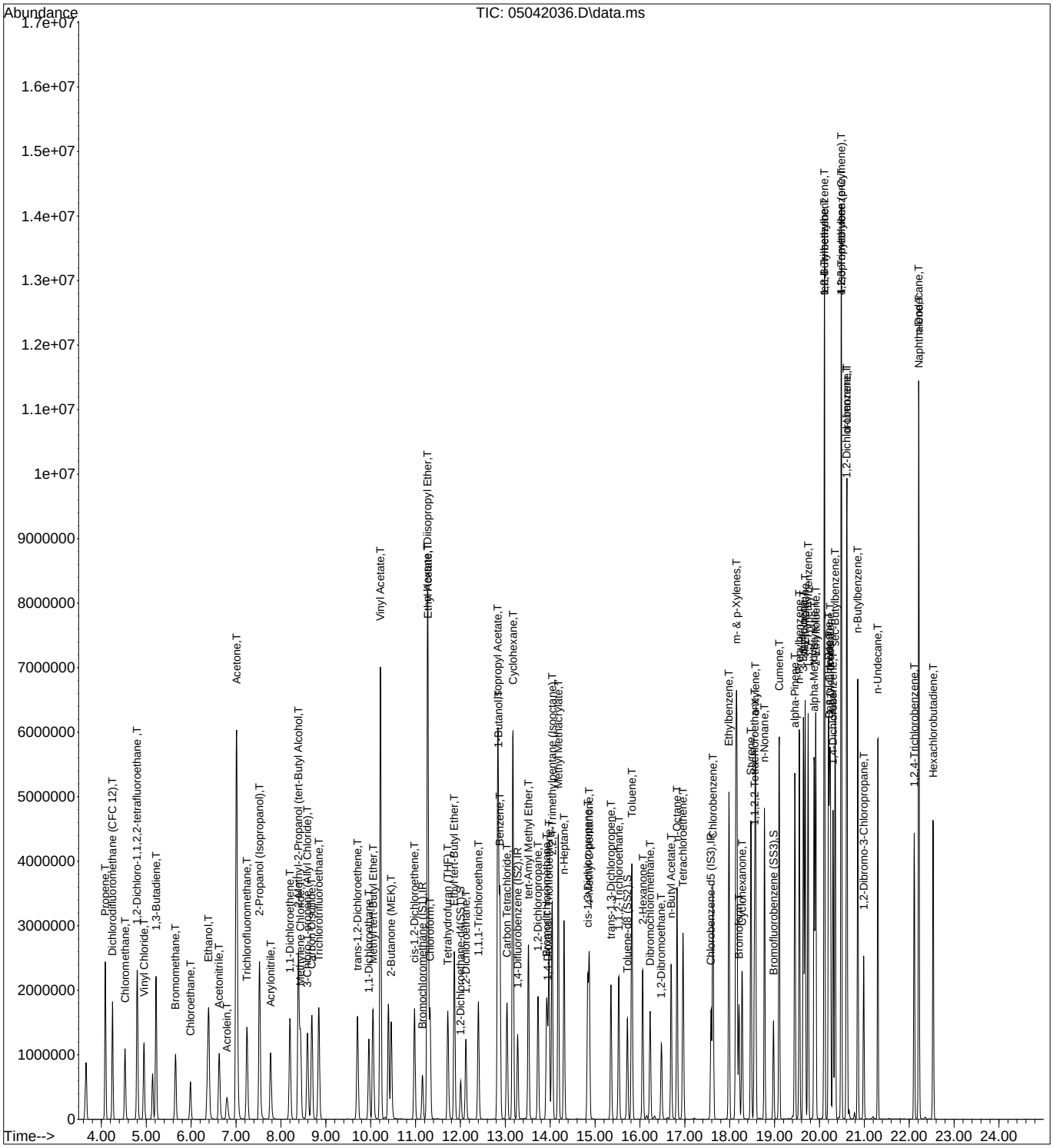
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	780179	25.679	ng	100
52) cis-1,3-Dichloropropene	14.84	75	1361982	26.365	ng	100
53) 4-Methyl-2-pentanone	14.87	58	749651	25.884	ng	100
54) trans-1,3-Dichloropropene	15.35	75	1240492	28.065	ng	100
55) 1,1,2-Trichloroethane	15.53	97	809209	27.119	ng	99
58) Toluene	15.82	91	3256450	26.171	ng	100
59) 2-Hexanone	16.06	43	1779112	26.094	ng	100
60) Dibromochloromethane	16.23	129	1025215	28.774	ng	100
61) 1,2-Dibromoethane	16.48	107	941573	27.496	ng	100
62) n-Butyl Acetate	16.70	43	1977962	26.858	ng	100
63) n-Octane	16.83	57	679761	26.388	ng	98
64) Tetrachloroethene	16.96	166	966476	27.499	ng	100
65) Chlorobenzene	17.62	112	2214783	25.869	ng	100
66) Ethylbenzene	17.98	91	3826639	27.580	ng	100
67) m- & p-Xylenes	18.15	91	6176727	56.116	ng	100
68) Bromoform	18.21	173	893580	28.930	ng	100
69) Styrene	18.47	104	2374488	28.682	ng	99
70) o-Xylene	18.58	91	3091395	27.665	ng	99
71) n-Nonane	18.77	43	1618237	27.294	ng	100
72) 1,1,2,2-Tetrachloroethane	18.55	83	1534723	27.684	ng	100
74) Cumene	19.10	105	3904550	28.472	ng	100
75) alpha-Pinene	19.45	93	2050089	28.017	ng	99
76) n-Propylbenzene	19.55	91	4692741	28.804	ng	100
77) 3-Ethyltoluene	19.64	105	3709055	27.943	ng	95
78) 4-Ethyltoluene	19.68	105	3874717	30.084	ng	96
79) 1,3,5-Trimethylbenzene	19.75	105	3194797	28.568	ng	99
80) alpha-Methylstyrene	19.88	118	1690681	26.822	ng	99
81) 2-Ethyltoluene	19.92	105	3781253	28.880	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3557092	31.646	ng	99
83) n-Decane	20.20	57	1734961	27.592	ng	99
84) Benzyl Chloride	20.23	91	2970668	28.355	ng	99
85) 1,3-Dichlorobenzene	20.24	146	1950604	29.886	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1882191	29.550	ng	100
87) sec-Butylbenzene	20.35	105	4241489	29.070	ng	100
88) 4-Isopropyltoluene (p-...	20.48	119	4270899	30.911	ng	99
89) 1,2,3-Trimethylbenzene	20.48	105	3632009	30.875	ng	99
90) 1,2-Dichlorobenzene	20.61	146	1950796	31.217	ng	100
91) d-Limonene	20.61	68	1342113	30.232	ng	100
92) 1,2-Dibromo-3-Chloropr...	20.98	157	676247	28.699	ng	96
93) n-Undecane	21.30	57	1698708	29.189	ng	100
94) 1,2,4-Trichlorobenzene	22.11	180	1355028	31.264	ng	100
95) Naphthalene	22.22	128	4280649	31.205	ng	100
96) n-Dodecane	22.21	57	1652247	32.790	ng	100
97) Hexachlorobutadiene	22.54	225	868328	28.963	ng	99
98) Cyclohexanone	18.27	55	1008042	23.144	ng	99
99) tert-Butylbenzene	20.11	119	3388515	30.629	ng	99
100) n-Butylbenzene	20.85	91	3427398	29.948	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\04\05042036.D Vial: 2
Acq On : 5 May 2020 2:35 Operator: TD
Sample : CCVend R16050420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 05 07:11:09 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\05\05052002.D Vial: 2
Acq On : 5 May 2020 3:43 Operator: TD
Sample : CCV R16050520_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 05 07:11:13 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

5/6/20

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	101	-0.01
2	T	Propene	1.448	1.402	3.2	96	0.00
3	T	Dichlorodifluoromethane (CF	2.832	2.657	6.2	98	0.00
4	T	Chloromethane	2.218	2.069	6.7	95	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.692	1.582	6.5	100	-0.01
6	T	Vinyl Chloride	2.433	2.210	9.2	95	0.00
7	T	1,3-Butadiene	2.013	1.829	9.1	94	0.00
8	T	Bromomethane	1.285	1.203	6.4	98	-0.01
9	T	Chloroethane	0.961	0.891	7.3	96	0.00
10	T	Ethanol	1.118	1.011	9.6	92	-0.03
11	T	Acetonitrile	2.555	2.230	12.7	91	-0.02
12	T	Acrolein	0.883	0.792	10.3	91	-0.02
13	T	Acetone	1.118	1.043	6.7	93	-0.02
14	T	Trichlorofluoromethane	2.503	2.318	7.4	96	0.00
15	T	2-Propanol (Isopropanol)	3.384	3.187	5.8	92	-0.03
16	T	Acrylonitrile	1.828	1.671	8.6	92	-0.02
17	T	1,1-Dichloroethene	1.312	1.238	5.6	95	0.00
18	T	2-Methyl-2-Propanol (tert-B	3.155	2.916	7.6	92	-0.02
19	T	Methylene Chloride	1.453	1.325	8.8	94	0.00
20	T	3-Chloro-1-propene (Allyl C	1.997	1.836	8.1	92	-0.01
21	T	Trichlorotrifluoroethane	1.182	1.163	1.6	98	0.00
22	T	Carbon Disulfide	5.208	4.799	7.9	95	0.00
23	T	trans-1,2-Dichloroethene	1.998	1.796	10.1	92	0.00
24	T	1,1-Dichloroethane	2.371	2.163	8.8	92	0.00
25	T	Methyl tert-Butyl Ether	3.730	3.285	11.9	94	0.00
26	T	Vinyl Acetate	0.348	0.342	1.7	92	-0.01
27	T	2-Butanone (MEK)	0.953	0.877	8.0	93	-0.01
28	T	cis-1,2-Dichloroethene	1.954	1.753	10.3	92	0.00
29	T	Diisopropyl Ether	1.349	1.214	10.0	93	0.00
30	T	Ethyl Acetate	0.550	0.550	0.0	93	-0.01
31	T	n-Hexane	2.385	2.271	4.8	92	0.00
32	T	Chloroform	2.488	2.291	7.9	94	0.00
33	S	1,2-Dichloroethane-d4(SS1)	1.694	1.551	8.4	96	0.00
34	T	Tetrahydrofuran (THF)	0.930	0.831	10.6	93	0.00
35	T	Ethyl tert-Butyl Ether	1.630	1.541	5.5	94	0.00
36	T	1,2-Dichloroethane	1.971	1.725	12.5	91	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	99	0.00
38	T	1,1,1-Trichloroethane	0.503	0.486	3.4	94	0.00
39	T	Isopropyl Acetate	0.220	0.223	-1.4	93	0.00
40	T	1-Butanol	0.313	0.305	2.6	91	-0.02
41	T	Benzene	1.340	1.265	5.6	93	0.00
42	T	Carbon Tetrachloride	0.456	0.454	0.4	95	0.00
43	T	Cyclohexane	0.500	0.497	0.6	94	0.00
44	T	tert-Amyl Methyl Ether	0.899	0.888	1.2	94	0.00
45	T	1,2-Dichloropropane	0.310	0.294	5.2	92	0.00
46	T	Bromodichloromethane	0.453	0.449	0.9	93	0.00
47	T	Trichloroethene	0.346	0.345	0.3	96	0.00
48	T	1,4-Dioxane	0.270	0.261	3.3	93	0.00
49	T	2,2,4-Trimethylpentane (Iso	1.304	1.233	5.4	92	0.00
50	T	Methyl Methacrylate	0.133	0.136	-2.3	94	0.00
51	T	n-Heptane	0.313	0.292	6.7	93	0.00
52	T	cis-1,3-Dichloropropene	0.533	0.529	0.8	92	0.00
53	T	4-Methyl-2-pentanone	0.299	0.288	3.7	92	0.00
54	T	trans-1,3-Dichloropropene	0.456	0.474	-3.9	92	0.00
55	T	1,1,2-Trichloroethane	0.308	0.308	0.0	95	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\05\05052002.D Vial: 2
Acq On : 5 May 2020 3:43 Operator: TD
Sample : CCV R16050520_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 05 07:11:13 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	99	0.00
57	S	Toluene-d8 (SS2)	2.119	2.116	0.1	98	0.00
58	T	Toluene	2.731	2.664	2.5	94	0.00
59	T	2-Hexanone	1.497	1.455	2.8	91	0.00
60	T	Dibromochloromethane	0.782	0.845	-8.1	96	0.00
61	T	1,2-Dibromoethane	0.752	0.772	-2.7	95	0.00
62	T	n-Butyl Acetate	1.616	1.582	2.1	90	0.00
63	T	n-Octane	0.565	0.550	2.7	92	0.00
64	T	Tetrachloroethene	0.771	0.816	-5.8	97	0.00
65	T	Chlorobenzene	1.879	1.813	3.5	95	0.00
66	T	Ethylbenzene	3.045	3.128	-2.7	93	0.00
67	T	m- & p-Xylenes	2.416	2.515	-4.1	94	0.00
68	T	Bromoform	0.678	0.734	-8.3	97	0.00
69	T	Styrene	1.817	1.957	-7.7	93	0.00
70	T	o-Xylene	2.453	2.520	-2.7	93	0.00
71	T	n-Nonane	1.301	1.316	-1.2	92	0.00
72	T	1,1,2,2-Tetrachloroethane	1.217	1.264	-3.9	94	0.00
73	S	Bromofluorobenzene (SS3)	0.762	0.843	-10.6	104	0.00
74	T	Cumene	3.010	3.179	-5.6	95	0.00
75	T	alpha-Pinene	1.606	1.695	-5.5	94	0.00
76	T	n-Propylbenzene	3.576	3.838	-7.3	94	0.00
77	T	3-Ethyltoluene	2.913	3.080	-5.7	90	0.00
78	T	4-Ethyltoluene	2.827	3.186	-12.7	99	0.00
79	T	1,3,5-Trimethylbenzene	2.455	2.644	-7.7	94	0.00
80	T	alpha-Methylstyrene	1.384	1.399	-1.1	93	0.00
81	T	2-Ethyltoluene	2.874	3.098	-7.8	95	0.00
82	T	1,2,4-Trimethylbenzene	2.467	2.926	-18.6	95	0.00
83	T	n-Decane	1.380	1.422	-3.0	93	0.00
84	T	Benzyl Chloride	2.300	2.444	-6.3	93	0.00
85	T	1,3-Dichlorobenzene	1.433	1.616	-12.8	96	0.00
86	T	1,4-Dichlorobenzene	1.398	1.562	-11.7	95	0.00
87	T	sec-Butylbenzene	3.203	3.512	-9.6	95	0.00
88	T	4-Isopropyltoluene (p-Cymen	3.033	3.441	-13.5	96	0.00
89	T	1,2,3-Trimethylbenzene	2.582	2.951	-14.3	95	0.00
90	T	1,2-Dichlorobenzene	1.372	1.604	-16.9	96	0.00
91	T	d-Limonene	0.974	1.091	-12.0	92	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.517	0.562	-8.7	96	0.00
93	T	n-Undecane	1.277	1.387	-8.6	93	0.00
94	T	1,2,4-Trichlorobenzene	0.951	1.115	-17.2	96	0.00
95	T	Naphthalene	3.011	3.649	-21.2	93	0.00
96	T	n-Dodecane	1.106	1.386	-25.3	93	0.00
97	T	Hexachlorobutadiene	0.658	0.722	-9.7	98	0.00
98	T	Cyclohexanone	0.956	0.887	7.2	90	-0.01
99	T	tert-Butylbenzene	2.428	2.761	-13.7	95	0.00
100	T	n-Butylbenzene	2.512	2.838	-13.0	94	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052002.D Vial: 2
Acq On : 5 May 2020 3:43 Operator: TD
Sample : CCV R16050520_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 05 07:11:13 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/6/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	289532	12.500	ng	-0.01
37) 1,4-Difluorobenzene (IS2)	13.28	114	1217379	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	564088	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.00	65	449186	11.448	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.60%			
57) Toluene-d8 (SS2)	15.72	98	1193385	12.481	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.84%			
73) Bromofluorobenzene (SS3)	18.98	174	475303	13.816	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.56%			
Target Compounds						Qvalue
2) Propene	4.09	42	860865	25.672	ng	99
3) Dichlorodifluoromethan...	4.25	85	1630605	24.861	ng	100
4) Chloromethane	4.53	50	1270109	24.718	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	961962	24.548	ng	100
6) Vinyl Chloride	4.95	62	1382052	24.528	ng	100
7) 1,3-Butadiene	5.22	54	1122945	24.086	ng	100
8) Bromomethane	5.65	94	752326	25.275	ng	99
9) Chloroethane	5.98	64	557401	25.041	ng	100
10) Ethanol	6.38	45	3051186	117.837	ng	100
11) Acetonitrile	6.62	41	1356027	22.917	ng	100
12) Acrolein	6.79	56	472101	23.075	ng	100
13) Acetone	7.01	58	3218355	124.283	ng	99
14) Trichlorofluoromethane	7.24	101	1423079	24.551	ng	100
15) 2-Propanol (Isopropanol)	7.52	45	3875006	49.441	ng	100
16) Acrylonitrile	7.77	53	1015710	23.994	ng	100
17) 1,1-Dichloroethene	8.20	96	774023	25.473	ng	95
18) 2-Methyl-2-Propanol (t...	8.39	59	3647459	49.919	ng	99
19) Methylene Chloride	8.44	84	813100	24.154	ng	97
20) 3-Chloro-1-propene (Al...	8.59	41	1147982	24.822	ng	98
21) Trichlorotrifluoroethane	8.84	151	727264	26.574	ng	97
22) Carbon Disulfide	8.69	76	2973231	24.649	ng	100
23) trans-1,2-Dichloroethene	9.71	61	1123264	24.277	ng	97
24) 1,1-Dichloroethane	9.96	63	1365505	24.859	ng	100
25) Methyl tert-Butyl Ether	10.05	73	2054226	23.776	ng	100
26) Vinyl Acetate	10.22	86	1060289	131.449	ng	97
27) 2-Butanone (MEK)	10.45	72	538533	24.386	ng	97
28) cis-1,2-Dichloroethene	10.98	61	1076302	23.782	ng	97
29) Diisopropyl Ether	11.27	87	759248	24.304	ng	98
30) Ethyl Acetate	11.27	61	691169	54.277	ng	99
31) n-Hexane	11.26	57	1420475	25.718	ng	100
32) Chloroform	11.32	83	1419195	24.625	ng	100
34) Tetrahydrofuran (THF)	11.72	72	524220	24.338	ng	98
35) Ethyl tert-Butyl Ether	11.86	87	963853	25.531	ng	99
36) 1,2-Dichloroethane	12.12	62	1078571	23.621	ng	100
38) 1,1,1-Trichloroethane	12.40	97	1266640	25.832	ng	100
39) Isopropyl Acetate	12.83	61	1145504	53.410	ng	98
40) 1-Butanol	12.85	56	1545038	50.634	ng	100
41) Benzene	12.88	78	3263824	25.000	ng	100
42) Carbon Tetrachloride	13.04	117	1161197	26.149	ng	100
43) Cyclohexane	13.17	84	2567185	52.769	ng	99
44) tert-Amyl Methyl Ether	13.51	73	2336321	26.688	ng	99
45) 1,2-Dichloropropane	13.73	63	771965	25.532	ng	100
46) Bromodichloromethane	13.92	83	1179373	26.731	ng	100
47) Trichloroethene	13.97	130	898528	26.627	ng	99
48) 1,4-Dioxane	13.95	88	686706	26.117	ng	98
49) 2,2,4-Trimethylpentane...	14.04	57	3211790	25.283	ng	100
50) Methyl Methacrylate	14.18	100	710389	54.850	ng	98

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052002.D Vial: 2
Acq On : 5 May 2020 3:43 Operator: TD
Sample : CCV R16050520_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 05 07:11:13 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

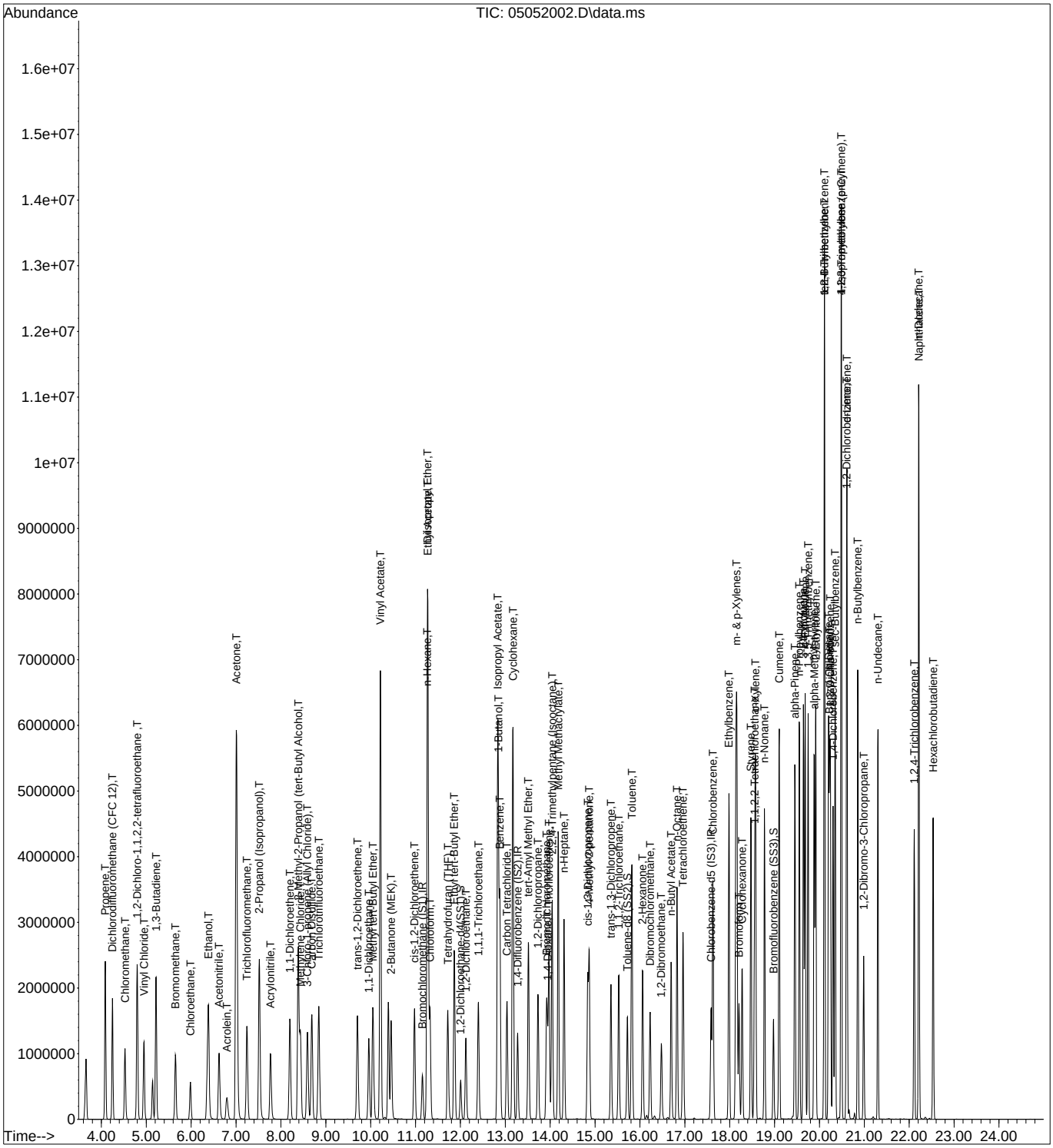
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	768718	25.180	ng	100
52) cis-1,3-Dichloropropene	14.84	75	1338380	25.783	ng	100
53) 4-Methyl-2-pentanone	14.87	58	744227	25.572	ng	99
54) trans-1,3-Dichloropropene	15.35	75	1224226	27.564	ng	100
55) 1,1,2-Trichloroethane	15.53	97	802978	26.781	ng	99
58) Toluene	15.82	91	3216354	26.097	ng	100
59) 2-Hexanone	16.06	43	1756102	26.003	ng	100
60) Dibromochloromethane	16.23	129	1020103	28.905	ng	100
61) 1,2-Dibromoethane	16.48	107	932308	27.487	ng	100
62) n-Butyl Acetate	16.70	43	1944882	26.662	ng	99
63) n-Octane	16.83	57	670050	26.261	ng	99
64) Tetrachloroethene	16.96	166	957155	27.495	ng	100
65) Chlorobenzene	17.62	112	2189122	25.814	ng	100
66) Ethylbenzene	17.98	91	3776480	27.480	ng	99
67) m- & p-Xylenes	18.15	91	6071082	55.685	ng	99
68) Bromoform	18.21	173	885911	28.957	ng	100
69) Styrene	18.47	104	2340574	28.543	ng	100
70) o-Xylene	18.58	91	3042004	27.484	ng	99
71) n-Nonane	18.77	43	1588009	27.041	ng	100
72) 1,1,2,2-Tetrachloroethane	18.55	83	1526050	27.792	ng	100
74) Cumene	19.10	105	3873951	28.520	ng	100
75) alpha-Pinene	19.45	93	2046681	28.238	ng	100
76) n-Propylbenzene	19.55	91	4676290	28.979	ng	99
77) 3-Ethyltoluene	19.64	105	3683826	28.019	ng	95
78) 4-Ethyltoluene	19.68	105	3881811	30.429	ng	96
79) 1,3,5-Trimethylbenzene	19.75	105	3162064	28.547	ng	99
80) alpha-Methylstyrene	19.88	118	1689221	27.056	ng	99
81) 2-Ethyltoluene	19.92	105	3774265	29.103	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3531927	31.723	ng	99
83) n-Decane	20.20	57	1716376	27.558	ng	99
84) Benzyl Chloride	20.23	91	2977455	28.693	ng	99
85) 1,3-Dichlorobenzene	20.24	146	1950897	30.177	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1885059	29.879	ng	100
87) sec-Butylbenzene	20.35	105	4239202	29.333	ng	100
88) 4-Isopropyltoluene (p-...	20.48	119	4231143	30.917	ng	99
89) 1,2,3-Trimethylbenzene	20.48	105	3628570	31.141	ng	100
90) 1,2-Dichlorobenzene	20.61	146	1936038	31.278	ng	100
91) d-Limonene	20.61	68	1329441	30.234	ng	99
92) 1,2-Dibromo-3-Chloropr...	20.98	157	666244	28.546	ng	97
93) n-Undecane	21.30	57	1690202	29.322	ng	100
94) 1,2,4-Trichlorobenzene	22.11	180	1346301	31.360	ng	100
95) Naphthalene	22.22	128	4240583	31.209	ng	100
96) n-Dodecane	22.21	57	1625735	32.574	ng	100
97) Hexachlorobutadiene	22.54	225	863968	29.094	ng	100
98) Cyclohexanone	18.27	55	1000940	23.201	ng	99
99) tert-Butylbenzene	20.11	119	3332410	30.411	ng	99
100) n-Butylbenzene	20.85	91	3425371	30.218	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052002.D Vial: 2
Acq On : 5 May 2020 3:43 Operator: TD
Sample : CCV R16050520_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 05 07:11:13 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\05\05052033.D Vial: 2
Acq On : 5 May 2020 23:01 Operator: WA
Sample : CCVend R16050520_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 06 03:56:58 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 WA 5/6/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	99	0.00
2	T	Propene	1.448	1.420	1.9	96	0.00
3	T	Dichlorodifluoromethane (CF	2.832	2.630	7.1	95	0.00
4	T	Chloromethane	2.218	2.062	7.0	93	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.692	1.541	8.9	95	0.00
6	T	Vinyl Chloride	2.433	2.229	8.4	94	0.00
7	T	1,3-Butadiene	2.013	1.822	9.5	92	0.00
8	T	Bromomethane	1.285	1.172	8.8	93	0.00
9	T	Chloroethane	0.961	0.883	8.1	93	0.00
10	T	Ethanol	1.118	1.015	9.2	91	-0.02
11	T	Acetonitrile	2.555	2.254	11.8	90	-0.01
12	T	Acrolein	0.883	0.786	11.0	89	0.00
13	T	Acetone	1.118	1.041	6.9	91	-0.01
14	T	Trichlorofluoromethane	2.503	2.276	9.1	92	0.00
15	T	2-Propanol (Isopropanol)	3.384	3.180	6.0	90	-0.02
16	T	Acrylonitrile	1.828	1.670	8.6	91	0.00
17	T	1,1-Dichloroethene	1.312	1.226	6.6	93	0.00
18	T	2-Methyl-2-Propanol (tert-B	3.155	2.825	10.5	88	-0.02
19	T	Methylene Chloride	1.453	1.304	10.3	90	0.00
20	T	3-Chloro-1-propene (Allyl C	1.997	1.840	7.9	90	0.00
21	T	Trichlorotrifluoroethane	1.182	1.130	4.4	93	0.00
22	T	Carbon Disulfide	5.208	4.772	8.4	92	0.00
23	T	trans-1,2-Dichloroethene	1.998	1.794	10.2	90	0.00
24	T	1,1-Dichloroethane	2.371	2.158	9.0	90	0.00
25	T	Methyl tert-Butyl Ether	3.730	3.248	12.9	91	0.00
26	T	Vinyl Acetate	0.348	0.339	2.6	90	0.00
27	T	2-Butanone (MEK)	0.953	0.873	8.4	91	0.00
28	T	cis-1,2-Dichloroethene	1.954	1.745	10.7	90	0.00
29	T	Diisopropyl Ether	1.349	1.214	10.0	91	0.00
30	T	Ethyl Acetate	0.550	0.551	-0.2	92	0.00
31	T	n-Hexane	2.385	2.278	4.5	91	0.00
32	T	Chloroform	2.488	2.271	8.7	91	0.00
33	S	1,2-Dichloroethane-d4(SS1)	1.694	1.554	8.3	94	0.00
34	T	Tetrahydrofuran (THF)	0.930	0.826	11.2	91	0.00
35	T	Ethyl tert-Butyl Ether	1.630	1.524	6.5	91	0.00
36	T	1,2-Dichloroethane	1.971	1.713	13.1	89	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	97	0.00
38	T	1,1,1-Trichloroethane	0.503	0.480	4.6	91	0.00
39	T	Isopropyl Acetate	0.220	0.223	-1.4	91	0.00
40	T	1-Butanol	0.313	0.306	2.2	89	-0.01
41	T	Benzene	1.340	1.264	5.7	91	0.00
42	T	Carbon Tetrachloride	0.456	0.447	2.0	91	0.00
43	T	Cyclohexane	0.500	0.493	1.4	91	0.00
44	T	tert-Amyl Methyl Ether	0.899	0.879	2.2	91	0.00
45	T	1,2-Dichloropropane	0.310	0.295	4.8	90	0.00
46	T	Bromodichloromethane	0.453	0.443	2.2	90	0.00
47	T	Trichloroethene	0.346	0.342	1.2	93	0.00
48	T	1,4-Dioxane	0.270	0.259	4.1	90	0.00
49	T	2,2,4-Trimethylpentane (Iso	1.304	1.240	4.9	90	0.00
50	T	Methyl Methacrylate	0.133	0.134	-0.8	90	0.00
51	T	n-Heptane	0.313	0.293	6.4	91	0.00
52	T	cis-1,3-Dichloropropene	0.533	0.523	1.9	89	0.00
53	T	4-Methyl-2-pentanone	0.299	0.288	3.7	89	0.00
54	T	trans-1,3-Dichloropropene	0.456	0.466	-2.2	89	0.00
55	T	1,1,2-Trichloroethane	0.308	0.302	1.9	91	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\05\05052033.D Vial: 2
Acq On : 5 May 2020 23:01 Operator: WA
Sample : CCVend R16050520_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 06 03:56:58 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	100	0.00
57	S	Toluene-d8 (SS2)	2.119	2.059	2.8	97	0.00
58	T	Toluene	2.731	2.539	7.0	91	0.00
59	T	2-Hexanone	1.497	1.405	6.1	89	0.00
60	T	Dibromochloromethane	0.782	0.795	-1.7	92	0.00
61	T	1,2-Dibromoethane	0.752	0.729	3.1	91	0.00
62	T	n-Butyl Acetate	1.616	1.526	5.6	88	0.00
63	T	n-Octane	0.565	0.530	6.2	90	0.00
64	T	Tetrachloroethene	0.771	0.771	0.0	93	0.00
65	T	Chlorobenzene	1.879	1.723	8.3	92	0.00
66	T	Ethylbenzene	3.045	3.001	1.4	91	0.00
67	T	m- & p-Xylenes	2.416	2.419	-0.1	91	0.00
68	T	Bromoform	0.678	0.689	-1.6	92	0.00
69	T	Styrene	1.817	1.873	-3.1	91	0.00
70	T	o-Xylene	2.453	2.424	1.2	91	0.00
71	T	n-Nonane	1.301	1.283	1.4	91	0.00
72	T	1,1,2,2-Tetrachloroethane	1.217	1.209	0.7	92	0.00
73	S	Bromofluorobenzene (SS3)	0.762	0.849	-11.4	106	0.00
74	T	Cumene	3.010	3.041	-1.0	92	0.00
75	T	alpha-Pinene	1.606	1.609	-0.2	90	0.00
76	T	n-Propylbenzene	3.576	3.658	-2.3	91	0.00
77	T	3-Ethyltoluene	2.913	2.944	-1.1	87	0.00
78	T	4-Ethyltoluene	2.827	3.034	-7.3	96	0.00
79	T	1,3,5-Trimethylbenzene	2.455	2.523	-2.8	91	0.00
80	T	alpha-Methylstyrene	1.384	1.322	4.5	89	0.00
81	T	2-Ethyltoluene	2.874	2.957	-2.9	92	0.00
82	T	1,2,4-Trimethylbenzene	2.467	2.813	-14.0	92	0.00
83	T	n-Decane	1.380	1.364	1.2	90	0.00
84	T	Benzyl Chloride	2.300	2.311	-0.5	89	0.00
85	T	1,3-Dichlorobenzene	1.433	1.532	-6.9	93	0.00
86	T	1,4-Dichlorobenzene	1.398	1.479	-5.8	91	0.00
87	T	sec-Butylbenzene	3.203	3.350	-4.6	92	0.00
88	T	4-Isopropyltoluene (p-Cymen	3.033	3.301	-8.8	93	0.00
89	T	1,2,3-Trimethylbenzene	2.582	2.830	-9.6	93	0.00
90	T	1,2-Dichlorobenzene	1.372	1.531	-11.6	93	0.00
91	T	d-Limonene	0.974	1.051	-7.9	90	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.517	0.536	-3.7	92	0.00
93	T	n-Undecane	1.277	1.332	-4.3	91	0.00
94	T	1,2,4-Trichlorobenzene	0.951	1.054	-10.8	92	0.00
95	T	Naphthalene	3.011	3.503	-16.3	91	0.00
96	T	n-Dodecane	1.106	1.352	-22.2	92	0.00
97	T	Hexachlorobutadiene	0.658	0.688	-4.6	95	0.00
98	T	Cyclohexanone	0.956	0.843	11.8	86	-0.01
99	T	tert-Butylbenzene	2.428	2.663	-9.7	94	0.00
100	T	n-Butylbenzene	2.512	2.703	-7.6	91	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052033.D Vial: 2
Acq On : 5 May 2020 23:01 Operator: WA
Sample : CCVend R16050520_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 06 03:56:58 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 5/6/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	283963	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	13.27	114	1188588	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	572586	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.01	65	441169	11.464	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.68%			
57) Toluene-d8 (SS2)	15.72	98	1178753	12.145	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.20%			
73) Bromofluorobenzene (SS3)	18.98	174	485904	13.914	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.28%			
Target Compounds						Qvalue
2) Propene	4.09	42	855103	26.000	ng	100
3) Dichlorodifluoromethan...	4.25	85	1583331	24.614	ng	100
4) Chloromethane	4.53	50	1241420	24.634	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	918851	23.908	ng	100
6) Vinyl Chloride	4.95	62	1367309	24.742	ng	100
7) 1,3-Butadiene	5.22	54	1096703	23.985	ng	100
8) Bromomethane	5.65	94	719051	24.631	ng	100
9) Chloroethane	5.99	64	541416	24.800	ng	99
10) Ethanol	6.40	45	3004576	118.312	ng	100
11) Acetonitrile	6.63	41	1343995	23.159	ng	100
12) Acrolein	6.80	56	459615	22.905	ng	100
13) Acetone	7.02	58	3150297	124.040	ng	100
14) Trichlorofluoromethane	7.25	101	1370127	24.101	ng	100
15) 2-Propanol (Isopropanol)	7.53	45	3792374	49.336	ng	99
16) Acrylonitrile	7.78	53	995957	23.988	ng	100
17) 1,1-Dichloroethene	8.20	96	752074	25.236	ng	98
18) 2-Methyl-2-Propanol (t...	8.39	59	3465127	48.353	ng	100
19) Methylene Chloride	8.44	84	785281	23.785	ng	98
20) 3-Chloro-1-propene (Al...	8.60	41	1128299	24.875	ng	99
21) Trichlorotrifluoroethane	8.85	151	692920	25.816	ng	99
22) Carbon Disulfide	8.69	76	2899604	24.510	ng	100
23) trans-1,2-Dichloroethene	9.71	61	1100514	24.251	ng	98
24) 1,1-Dichloroethane	9.96	63	1336056	24.800	ng	100
25) Methyl tert-Butyl Ether	10.05	73	1991966	23.508	ng	100
26) Vinyl Acetate	10.22	86	1028564	130.016	ng	99
27) 2-Butanone (MEK)	10.46	72	525648	24.269	ng	98
28) cis-1,2-Dichloroethene	10.98	61	1050721	23.672	ng	98
29) Diisopropyl Ether	11.27	87	744328	24.294	ng	100
30) Ethyl Acetate	11.28	61	679113	54.376	ng	99
31) n-Hexane	11.26	57	1397430	25.797	ng	100
32) Chloroform	11.33	83	1379932	24.413	ng	100
34) Tetrahydrofuran (THF)	11.72	72	511401	24.209	ng	99
35) Ethyl tert-Butyl Ether	11.87	87	934723	25.245	ng	99
36) 1,2-Dichloroethane	12.13	62	1050772	23.464	ng	100
38) 1,1,1-Trichloroethane	12.40	97	1222060	25.527	ng	100
39) Isopropyl Acetate	12.84	61	1118771	53.427	ng	99
40) 1-Butanol	12.85	56	1513065	50.787	ng	99
41) Benzene	12.88	78	3185558	24.992	ng	100
42) Carbon Tetrachloride	13.04	117	1115961	25.739	ng	100
43) Cyclohexane	13.17	84	2485045	52.318	ng	99
44) tert-Amyl Methyl Ether	13.52	73	2256057	26.395	ng	99
45) 1,2-Dichloropropane	13.73	63	756626	25.630	ng	100
46) Bromodichloromethane	13.92	83	1136905	26.392	ng	100
47) Trichloroethene	13.97	130	869348	26.387	ng	100
48) 1,4-Dioxane	13.95	88	664825	25.897	ng	98
49) 2,2,4-Trimethylpentane...	14.04	57	3155199	25.439	ng	100
50) Methyl Methacrylate	14.18	100	683305	54.037	ng	99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052033.D Vial: 2
Acq On : 5 May 2020 23:01 Operator: WA
Sample : CCVend R16050520_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 06 03:56:58 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

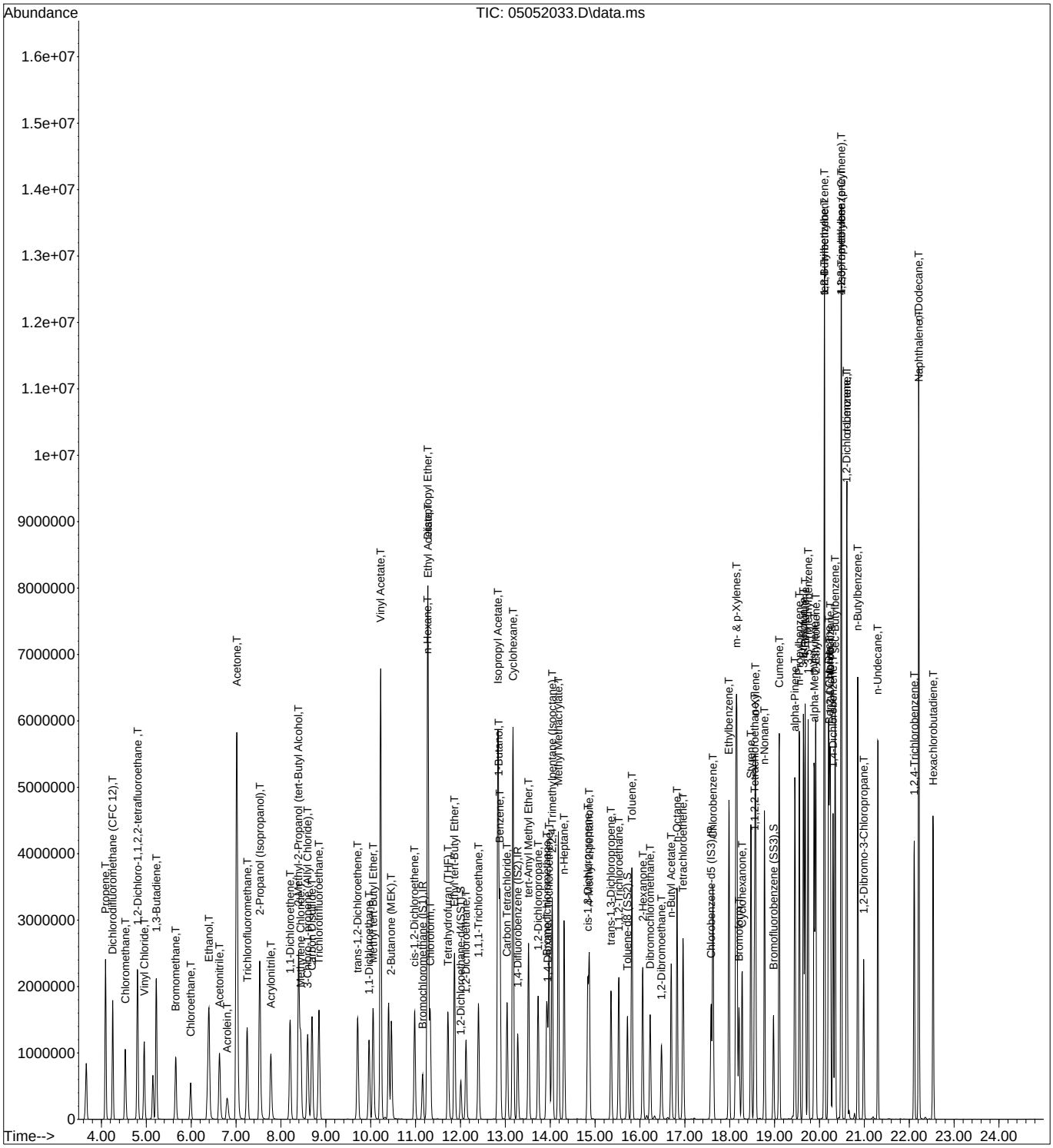
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	752047	25.230	ng	100
52) cis-1,3-Dichloropropene	14.84	75	1292986	25.512	ng	100
53) 4-Methyl-2-pentanone	14.87	58	725908	25.547	ng	99
54) trans-1,3-Dichloropropene	15.35	75	1174701	27.089	ng	100
55) 1,1,2-Trichloroethane	15.53	97	768884	26.265	ng	99
58) Toluene	15.82	91	3110793	24.866	ng	100
59) 2-Hexanone	16.06	43	1721986	25.120	ng	100
60) Dibromochloromethane	16.23	129	974117	27.193	ng	100
61) 1,2-Dibromoethane	16.48	107	893598	25.954	ng	100
62) n-Butyl Acetate	16.70	43	1904318	25.718	ng	100
63) n-Octane	16.83	57	655499	25.309	ng	99
64) Tetrachloroethene	16.96	166	918319	25.988	ng	100
65) Chlorobenzene	17.62	112	2111386	24.528	ng	100
66) Ethylbenzene	17.98	91	3677598	26.363	ng	100
67) m- & p-Xylenes	18.15	91	5927572	53.562	ng	100
68) Bromoform	18.21	173	843844	27.172	ng	100
69) Styrene	18.47	104	2274140	27.322	ng	99
70) o-Xylene	18.58	91	2970052	26.435	ng	100
71) n-Nonane	18.77	43	1571806	26.368	ng	99
72) 1,1,2,2-Tetrachloroethane	18.55	83	1481174	26.574	ng	100
74) Cumene	19.10	105	3761484	27.281	ng	100
75) alpha-Pinene	19.45	93	1972061	26.805	ng	99
76) n-Propylbenzene	19.55	91	4523805	27.618	ng	99
77) 3-Ethyltoluene	19.64	105	3573784	26.779	ng	95
78) 4-Ethyltoluene	19.68	105	3752027	28.975	ng	96
79) 1,3,5-Trimethylbenzene	19.75	105	3063035	27.242	ng	99
80) alpha-Methylstyrene	19.88	118	1619938	25.561	ng	99
81) 2-Ethyltoluene	19.92	105	3657570	27.785	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3447209	30.503	ng	100
83) n-Decane	20.20	57	1671581	26.441	ng	99
84) Benzyl Chloride	20.23	91	2858625	27.139	ng	100
85) 1,3-Dichlorobenzene	20.24	146	1877383	28.609	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1811954	28.294	ng	100
87) sec-Butylbenzene	20.35	105	4105454	27.986	ng	100
88) 4-Isopropyltoluene (p-...	20.48	119	4119991	29.658	ng	99
89) 1,2,3-Trimethylbenzene	20.48	105	3531889	29.862	ng	100
90) 1,2-Dichlorobenzene	20.61	146	1875933	29.857	ng	100
91) d-Limonene	20.61	68	1299583	29.116	ng	100
92) 1,2-Dibromo-3-Chloropr...	20.98	157	644323	27.197	ng	97
93) n-Undecane	21.30	57	1647393	28.155	ng	100
94) 1,2,4-Trichlorobenzene	22.11	180	1290906	29.624	ng	100
95) Naphthalene	22.22	128	4131905	29.958	ng	100
96) n-Dodecane	22.21	57	1610189	31.783	ng	100
97) Hexachlorobutadiene	22.54	225	834990	27.701	ng	100
98) Cyclohexanone	18.27	55	965306	22.043	ng	100
99) tert-Butylbenzene	20.11	119	3263553	29.340	ng	100
100) n-Butylbenzene	20.85	91	3312063	28.784	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052033.D Vial: 2
Acq On : 5 May 2020 23:01 Operator: WA
Sample : CCVend R16050520_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 06 03:56:58 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\06\05062002.D Vial: 2
Acq On : 6 May 2020 00:10 Operator: WA
Sample : CCV R16050620_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 06 03:57:02 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 5/6/20

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	100	-0.01
2	T	Propene	1.448	1.400	3.3	95	-0.01
3	T	Dichlorodifluoromethane (CF	2.832	2.596	8.3	94	0.00
4	T	Chloromethane	2.218	2.037	8.2	92	-0.01
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.692	1.546	8.6	96	-0.01
6	T	Vinyl Chloride	2.433	2.200	9.6	93	-0.01
7	T	1,3-Butadiene	2.013	1.801	10.5	91	-0.01
8	T	Bromomethane	1.285	1.177	8.4	94	-0.01
9	T	Chloroethane	0.961	0.871	9.4	92	0.00
10	T	Ethanol	1.118	0.995	11.0	89	-0.03
11	T	Acetonitrile	2.555	2.217	13.2	89	-0.02
12	T	Acrolein	0.883	0.772	12.6	87	-0.02
13	T	Acetone	1.118	1.023	8.5	90	-0.02
14	T	Trichlorofluoromethane	2.503	2.252	10.0	91	0.00
15	T	2-Propanol (Isopropanol)	3.384	3.119	7.8	89	-0.03
16	T	Acrylonitrile	1.828	1.642	10.2	89	-0.01
17	T	1,1-Dichloroethene	1.312	1.207	8.0	92	0.00
18	T	2-Methyl-2-Propanol (tert-B	3.155	2.775	12.0	86	-0.02
19	T	Methylene Chloride	1.453	1.293	11.0	90	0.00
20	T	3-Chloro-1-propene (Allyl C	1.997	1.811	9.3	89	-0.01
21	T	Trichlorotrifluoroethane	1.182	1.114	5.8	92	0.00
22	T	Carbon Disulfide	5.208	4.668	10.4	91	0.00
23	T	trans-1,2-Dichloroethene	1.998	1.774	11.2	89	0.00
24	T	1,1-Dichloroethane	2.371	2.127	10.3	89	0.00
25	T	Methyl tert-Butyl Ether	3.730	3.201	14.2	90	0.00
26	T	Vinyl Acetate	0.348	0.332	4.6	88	-0.01
27	T	2-Butanone (MEK)	0.953	0.858	10.0	90	0.00
28	T	cis-1,2-Dichloroethene	1.954	1.727	11.6	89	0.00
29	T	Diisopropyl Ether	1.349	1.187	12.0	90	0.00
30	T	Ethyl Acetate	0.550	0.543	1.3	91	0.00
31	T	n-Hexane	2.385	2.243	6.0	90	0.00
32	T	Chloroform	2.488	2.250	9.6	91	0.00
33	S	1,2-Dichloroethane-d4(SS1)	1.694	1.555	8.2	95	0.00
34	T	Tetrahydrofuran (THF)	0.930	0.814	12.5	90	0.00
35	T	Ethyl tert-Butyl Ether	1.630	1.513	7.2	91	0.00
36	T	1,2-Dichloroethane	1.971	1.700	13.7	89	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	97	0.00
38	T	1,1,1-Trichloroethane	0.503	0.476	5.4	90	0.00
39	T	Isopropyl Acetate	0.220	0.219	0.5	89	0.00
40	T	1-Butanol	0.313	0.301	3.8	88	-0.02
41	T	Benzene	1.340	1.250	6.7	90	0.00
42	T	Carbon Tetrachloride	0.456	0.444	2.6	91	0.00
43	T	Cyclohexane	0.500	0.490	2.0	91	0.00
44	T	tert-Amyl Methyl Ether	0.899	0.871	3.1	91	0.00
45	T	1,2-Dichloropropane	0.310	0.289	6.8	89	0.00
46	T	Bromodichloromethane	0.453	0.441	2.6	89	0.00
47	T	Trichloroethene	0.346	0.339	2.0	93	0.00
48	T	1,4-Dioxane	0.270	0.257	4.8	90	0.00
49	T	2,2,4-Trimethylpentane (Iso	1.304	1.230	5.7	90	0.00
50	T	Methyl Methacrylate	0.133	0.133	0.0	90	0.00
51	T	n-Heptane	0.313	0.289	7.7	91	0.00
52	T	cis-1,3-Dichloropropene	0.533	0.519	2.6	89	0.00
53	T	4-Methyl-2-pentanone	0.299	0.285	4.7	89	0.00
54	T	trans-1,3-Dichloropropene	0.456	0.463	-1.5	89	0.00
55	T	1,1,2-Trichloroethane	0.308	0.303	1.6	92	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\06\05062002.D Vial: 2
Acq On : 6 May 2020 00:10 Operator: WA
Sample : CCV R16050620_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 06 03:57:02 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	101	0.00
57	S	Toluene-d8 (SS2)	2.119	2.071	2.3	98	0.00
58	T	Toluene	2.731	2.527	7.5	91	0.00
59	T	2-Hexanone	1.497	1.394	6.9	89	0.00
60	T	Dibromochloromethane	0.782	0.796	-1.8	92	0.00
61	T	1,2-Dibromoethane	0.752	0.730	2.9	91	0.00
62	T	n-Butyl Acetate	1.616	1.514	6.3	87	0.00
63	T	n-Octane	0.565	0.525	7.1	89	0.00
64	T	Tetrachloroethene	0.771	0.771	0.0	93	0.00
65	T	Chlorobenzene	1.879	1.718	8.6	92	0.00
66	T	Ethylbenzene	3.045	2.983	2.0	91	0.00
67	T	m- & p-Xylenes	2.416	2.402	0.6	91	0.00
68	T	Bromoform	0.678	0.689	-1.6	92	0.00
69	T	Styrene	1.817	1.853	-2.0	90	0.00
70	T	o-Xylene	2.453	2.402	2.1	91	0.00
71	T	n-Nonane	1.301	1.268	2.5	90	0.00
72	T	1,1,2,2-Tetrachloroethane	1.217	1.199	1.5	91	0.00
73	S	Bromofluorobenzene (SS3)	0.762	0.847	-11.2	106	0.00
74	T	Cumene	3.010	3.008	0.1	91	0.00
75	T	alpha-Pinene	1.606	1.600	0.4	90	0.00
76	T	n-Propylbenzene	3.576	3.629	-1.5	90	0.00
77	T	3-Ethyltoluene	2.913	2.949	-1.2	88	0.00
78	T	4-Ethyltoluene	2.827	2.988	-5.7	95	0.00
79	T	1,3,5-Trimethylbenzene	2.455	2.511	-2.3	91	0.00
80	T	alpha-Methylstyrene	1.384	1.316	4.9	89	0.00
81	T	2-Ethyltoluene	2.874	2.934	-2.1	92	0.00
82	T	1,2,4-Trimethylbenzene	2.467	2.785	-12.9	92	0.00
83	T	n-Decane	1.380	1.354	1.9	90	0.00
84	T	Benzyl Chloride	2.300	2.292	0.3	89	0.00
85	T	1,3-Dichlorobenzene	1.433	1.522	-6.2	92	0.00
86	T	1,4-Dichlorobenzene	1.398	1.463	-4.6	91	0.00
87	T	sec-Butylbenzene	3.203	3.329	-3.9	92	0.00
88	T	4-Isopropyltoluene (p-Cymen	3.033	3.260	-7.5	92	0.00
89	T	1,2,3-Trimethylbenzene	2.582	2.794	-8.2	92	0.00
90	T	1,2-Dichlorobenzene	1.372	1.515	-10.4	93	0.00
91	T	d-Limonene	0.974	1.041	-6.9	90	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.517	0.532	-2.9	92	0.00
93	T	n-Undecane	1.277	1.318	-3.2	90	0.00
94	T	1,2,4-Trichlorobenzene	0.951	1.048	-10.2	92	0.00
95	T	Naphthalene	3.011	3.467	-15.1	90	0.00
96	T	n-Dodecane	1.106	1.331	-20.3	91	0.00
97	T	Hexachlorobutadiene	0.658	0.684	-4.0	95	0.00
98	T	Cyclohexanone	0.956	0.835	12.7	86	-0.01
99	T	tert-Butylbenzene	2.428	2.634	-8.5	93	0.00
100	T	n-Butylbenzene	2.512	2.687	-7.0	91	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\06\05062002.D Vial: 2
Acq On : 6 May 2020 00:10 Operator: WA
Sample : CCV R16050620_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 06 03:57:02 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 5/6/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	284972	12.500	ng	-0.01
37) 1,4-Difluorobenzene (IS2)	13.28	114	1193817	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.58	82	574358	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.00	65	443077	11.473	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.76%			
57) Toluene-d8 (SS2)	15.72	98	1189412	12.218	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.76%			
73) Bromofluorobenzene (SS3)	18.98	174	486544	13.889	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.12%			
Target Compounds						Qvalue
2) Propene	4.08	42	845591	25.620	ng	100
3) Dichlorodifluoromethan...	4.25	85	1568650	24.299	ng	100
4) Chloromethane	4.52	50	1230471	24.330	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	924980	23.982	ng	100
6) Vinyl Chloride	4.94	62	1354096	24.416	ng	100
7) 1,3-Butadiene	5.21	54	1088283	23.716	ng	100
8) Bromomethane	5.65	94	724404	24.726	ng	99
9) Chloroethane	5.98	64	536122	24.470	ng	100
10) Ethanol	6.38	45	2953777	115.900	ng	100
11) Acetonitrile	6.62	41	1326831	22.782	ng	100
12) Acrolein	6.79	56	453208	22.506	ng	100
13) Acetone	7.01	58	3107801	121.934	ng	100
14) Trichlorofluoromethane	7.24	101	1360302	23.843	ng	100
15) 2-Propanol (Isopropanol)	7.52	45	3733356	48.396	ng	100
16) Acrylonitrile	7.77	53	982354	23.577	ng	100
17) 1,1-Dichloroethene	8.20	96	742812	24.837	ng	96
18) 2-Methyl-2-Propanol (t...	8.39	59	3416179	47.501	ng	100
19) Methylene Chloride	8.44	84	781012	23.572	ng	98
20) 3-Chloro-1-propene (Al...	8.59	41	1114837	24.492	ng	99
21) Trichlorotrifluoroethane	8.84	151	685867	25.463	ng	97
22) Carbon Disulfide	8.69	76	2846787	23.979	ng	100
23) trans-1,2-Dichloroethene	9.71	61	1091690	23.972	ng	97
24) 1,1-Dichloroethane	9.96	63	1321083	24.436	ng	100
25) Methyl tert-Butyl Ether	10.05	73	1970162	23.168	ng	100
26) Vinyl Acetate	10.22	86	1013499	127.659	ng	99
27) 2-Butanone (MEK)	10.46	72	518532	23.856	ng	99
28) cis-1,2-Dichloroethene	10.98	61	1043458	23.425	ng	98
29) Diisopropyl Ether	11.27	87	730659	23.763	ng	99
30) Ethyl Acetate	11.28	61	670970	53.534	ng	99
31) n-Hexane	11.26	57	1380665	25.397	ng	100
32) Chloroform	11.32	83	1372033	24.187	ng	100
34) Tetrahydrofuran (THF)	11.72	72	505435	23.842	ng	99
35) Ethyl tert-Butyl Ether	11.86	87	931153	25.060	ng	99
36) 1,2-Dichloroethane	12.12	62	1046675	23.289	ng	100
38) 1,1,1-Trichloroethane	12.40	97	1215286	25.274	ng	100
39) Isopropyl Acetate	12.83	61	1103275	52.456	ng	100
40) 1-Butanol	12.85	56	1495276	49.970	ng	99
41) Benzene	12.88	78	3163674	24.711	ng	100
42) Carbon Tetrachloride	13.04	117	1113407	25.568	ng	100
43) Cyclohexane	13.17	84	2478360	51.949	ng	99
44) tert-Amyl Methyl Ether	13.52	73	2246957	26.173	ng	99
45) 1,2-Dichloropropane	13.73	63	746495	25.176	ng	100
46) Bromodichloromethane	13.92	83	1136392	26.265	ng	100
47) Trichloroethene	13.97	130	866907	26.197	ng	100
48) 1,4-Dioxane	13.95	88	662842	25.707	ng	99
49) 2,2,4-Trimethylpentane...	14.04	57	3141239	25.215	ng	100
50) Methyl Methacrylate	14.18	100	681419	53.652	ng	99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\06\05062002.D Vial: 2
Acq On : 6 May 2020 00:10 Operator: WA
Sample : CCV R16050620_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 06 03:57:02 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

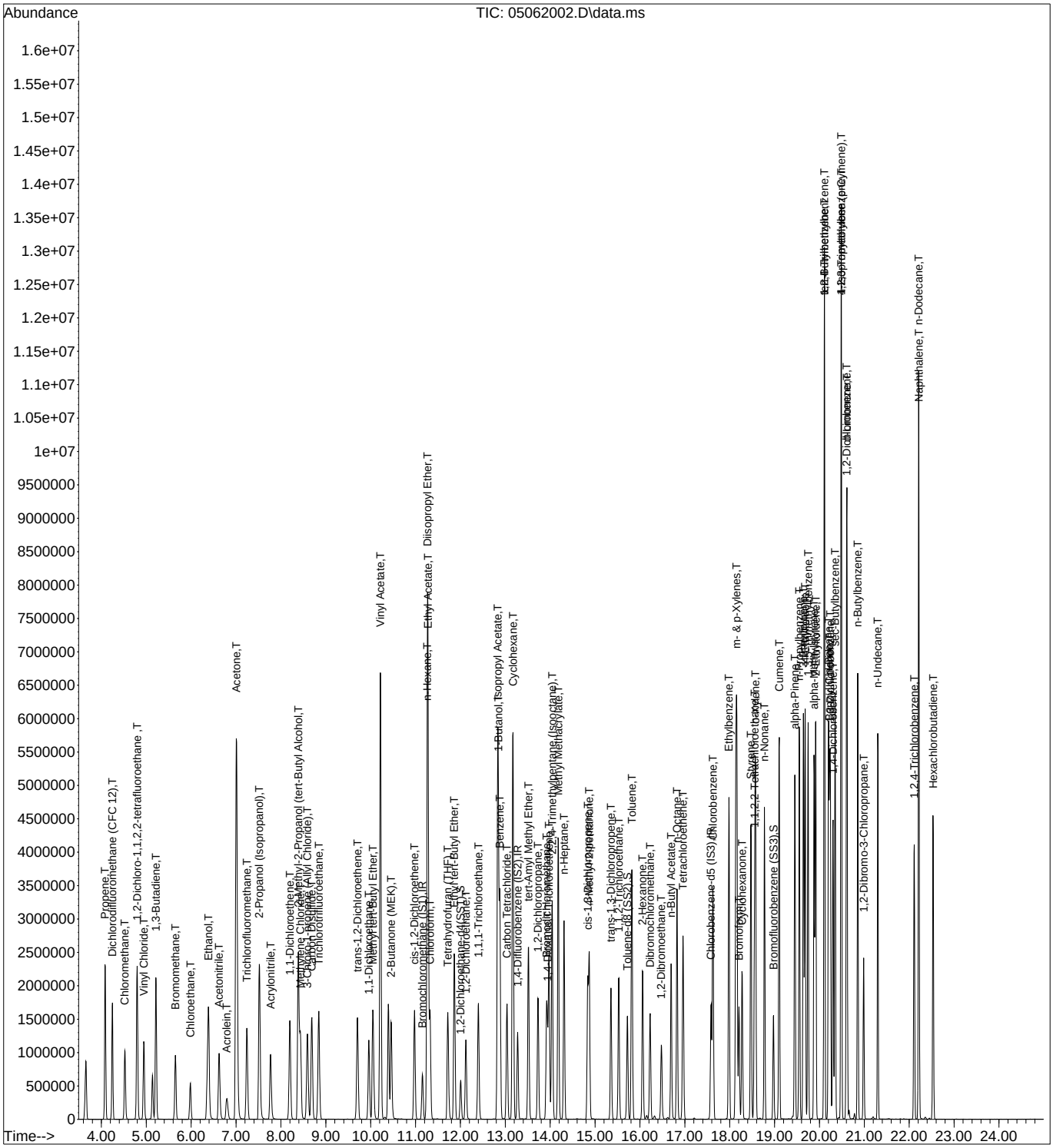
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	745837	24.912	ng	100
52) cis-1,3-Dichloropropene	14.84	75	1288281	25.308	ng	100
53) 4-Methyl-2-pentanone	14.87	58	721111	25.267	ng	100
54) trans-1,3-Dichloropropene	15.35	75	1172561	26.921	ng	99
55) 1,1,2-Trichloroethane	15.53	97	772849	26.284	ng	99
58) Toluene	15.82	91	3105665	24.748	ng	100
59) 2-Hexanone	16.06	43	1713470	24.918	ng	100
60) Dibromochloromethane	16.23	129	978796	27.239	ng	100
61) 1,2-Dibromoethane	16.48	107	896769	25.966	ng	99
62) n-Butyl Acetate	16.70	43	1895108	25.515	ng	100
63) n-Octane	16.83	57	650752	25.048	ng	99
64) Tetrachloroethene	16.96	166	920646	25.974	ng	100
65) Chlorobenzene	17.62	112	2112152	24.461	ng	100
66) Ethylbenzene	17.98	91	3666501	26.202	ng	100
67) m- & p-Xylenes	18.15	91	5904913	53.193	ng	100
68) Bromoform	18.21	173	847160	27.195	ng	100
69) Styrene	18.47	104	2256420	27.025	ng	99
70) o-Xylene	18.58	91	2952847	26.201	ng	99
71) n-Nonane	18.77	43	1558662	26.066	ng	100
72) 1,1,2,2-Tetrachloroethane	18.55	83	1473505	26.355	ng	100
74) Cumene	19.10	105	3732000	26.983	ng	100
75) alpha-Pinene	19.45	93	1966381	26.645	ng	99
76) n-Propylbenzene	19.55	91	4501826	27.399	ng	100
77) 3-Ethyltoluene	19.64	105	3590372	26.820	ng	99
78) 4-Ethyltoluene	19.68	105	3706384	28.534	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	3057304	27.107	ng	99
80) alpha-Methylstyrene	19.88	118	1617928	25.451	ng	99
81) 2-Ethyltoluene	19.92	105	3640539	27.570	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3422580	30.192	ng	99
83) n-Decane	20.20	57	1663928	26.239	ng	99
84) Benzyl Chloride	20.23	91	2843749	26.914	ng	100
85) 1,3-Dichlorobenzene	20.24	146	1871219	28.427	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1797965	27.989	ng	100
87) sec-Butylbenzene	20.35	105	4092305	27.810	ng	100
88) 4-Isopropyltoluene (p-...	20.48	119	4082288	29.296	ng	99
89) 1,2,3-Trimethylbenzene	20.48	105	3498589	29.489	ng	100
90) 1,2-Dichlorobenzene	20.61	146	1862202	29.547	ng	100
91) d-Limonene	20.61	68	1291456	28.845	ng	100
92) 1,2-Dibromo-3-Chloropr...	20.98	157	641538	26.996	ng	97
93) n-Undecane	21.30	57	1635460	27.865	ng	100
94) 1,2,4-Trichlorobenzene	22.11	180	1287658	29.458	ng	100
95) Naphthalene	22.22	128	4101728	29.647	ng	100
96) n-Dodecane	22.21	57	1590226	31.292	ng	100
97) Hexachlorobutadiene	22.54	225	832730	27.541	ng	99
98) Cyclohexanone	18.27	55	958946	21.831	ng	99
99) tert-Butylbenzene	20.11	119	3237499	29.016	ng	100
100) n-Butylbenzene	20.85	91	3302362	28.612	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\06\05062002.D Vial: 2
Acq On : 6 May 2020 00:10 Operator: WA
Sample : CCV R16050620_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 06 03:57:02 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\06\05062039.D Vial: 2
Acq On : 7 May 2020 2:03 Operator: LH
Sample : CCVend R16050620_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 07 03:16:45 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/7/20

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	89	-0.01
2	T	Propene	1.448	1.588	-9.7	96	0.00
3	T	Dichlorodifluoromethane (CF	2.832	2.702	4.6	88	0.00
4	T	Chloromethane	2.218	2.265	-2.1	92	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.692	1.531	9.5	85	-0.01
6	T	Vinyl Chloride	2.433	2.382	2.1	90	-0.01
7	T	1,3-Butadiene	2.013	1.999	0.7	90	-0.01
8	T	Bromomethane	1.285	1.204	6.3	86	-0.01
9	T	Chloroethane	0.961	0.930	3.2	88	0.00
10	T	Ethanol	1.118	1.122	-0.4	90	-0.04
11	T	Acetonitrile	2.555	2.510	1.8	90	-0.02
12	T	Acrolein	0.883	0.849	3.9	86	-0.02
13	T	Acetone	1.118	1.120	-0.2	88	-0.02
14	T	Trichlorofluoromethane	2.503	2.309	7.8	84	0.00
15	T	2-Propanol (Isopropanol)	3.384	3.444	-1.8	87	-0.03
16	T	Acrylonitrile	1.828	1.808	1.1	88	-0.02
17	T	1,1-Dichloroethene	1.312	1.263	3.7	86	0.00
18	T	2-Methyl-2-Propanol (tert-B	3.155	2.866	9.2	80	-0.02
19	T	Methylene Chloride	1.453	1.360	6.4	84	-0.01
20	T	3-Chloro-1-propene (Allyl C	1.997	2.016	-1.0	88	-0.01
21	T	Trichlorotrifluoroethane	1.182	1.138	3.7	84	0.00
22	T	Carbon Disulfide	5.208	5.039	3.2	87	0.00
23	T	trans-1,2-Dichloroethene	1.998	1.897	5.1	85	-0.01
24	T	1,1-Dichloroethane	2.371	2.286	3.6	85	0.00
25	T	Methyl tert-Butyl Ether	3.730	3.502	6.1	88	0.00
26	T	Vinyl Acetate	0.348	0.348	0.0	83	-0.01
27	T	2-Butanone (MEK)	0.953	0.924	3.0	86	-0.01
28	T	cis-1,2-Dichloroethene	1.954	1.864	4.6	86	0.00
29	T	Diisopropyl Ether	1.349	1.257	6.8	85	0.00
30	T	Ethyl Acetate	0.550	0.597	-8.5	89	-0.01
31	T	n-Hexane	2.385	2.470	-3.6	88	0.00
32	T	Chloroform	2.488	2.379	4.4	86	0.00
33	S	1,2-Dichloroethane-d4(SS1)	1.694	1.617	4.5	88	0.00
34	T	Tetrahydrofuran (THF)	0.930	0.879	5.5	87	0.00
35	T	Ethyl tert-Butyl Ether	1.630	1.573	3.5	84	0.00
36	T	1,2-Dichloroethane	1.971	1.819	7.7	85	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	88	0.00
38	T	1,1,1-Trichloroethane	0.503	0.487	3.2	83	0.00
39	T	Isopropyl Acetate	0.220	0.236	-7.3	87	0.00
40	T	1-Butanol	0.313	0.322	-2.9	85	-0.02
41	T	Benzene	1.340	1.316	1.8	86	0.00
42	T	Carbon Tetrachloride	0.456	0.445	2.4	83	0.00
43	T	Cyclohexane	0.500	0.509	-1.8	85	0.00
44	T	tert-Amyl Methyl Ether	0.899	0.910	-1.2	86	0.00
45	T	1,2-Dichloropropane	0.310	0.313	-1.0	86	0.00
46	T	Bromodichloromethane	0.453	0.460	-1.5	84	0.00
47	T	Trichloroethene	0.346	0.346	0.0	86	0.00
48	T	1,4-Dioxane	0.270	0.268	0.7	85	0.00
49	T	2,2,4-Trimethylpentane (Iso	1.304	1.323	-1.5	87	0.00
50	T	Methyl Methacrylate	0.133	0.136	-2.3	83	0.00
51	T	n-Heptane	0.313	0.307	1.9	87	0.00
52	T	cis-1,3-Dichloropropene	0.533	0.545	-2.3	84	0.00
53	T	4-Methyl-2-pentanone	0.299	0.305	-2.0	86	0.00
54	T	trans-1,3-Dichloropropene	0.456	0.481	-5.5	83	0.00
55	T	1,1,2-Trichloroethane	0.308	0.312	-1.3	85	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\06\05062039.D Vial: 2
Acq On : 7 May 2020 2:03 Operator: LH
Sample : CCVend R16050620_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 07 03:16:45 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	93	0.00
57	S	Toluene-d8 (SS2)	2.119	2.049	3.3	90	0.00
58	T	Toluene	2.731	2.579	5.6	85	0.00
59	T	2-Hexanone	1.497	1.491	0.4	87	0.00
60	T	Dibromochloromethane	0.782	0.789	-0.9	84	0.00
61	T	1,2-Dibromoethane	0.752	0.730	2.9	84	0.00
62	T	n-Butyl Acetate	1.616	1.614	0.1	86	0.00
63	T	n-Octane	0.565	0.556	1.6	87	0.00
64	T	Tetrachloroethene	0.771	0.755	2.1	84	0.00
65	T	Chlorobenzene	1.879	1.726	8.1	85	0.00
66	T	Ethylbenzene	3.045	3.046	-0.0	85	0.00
67	T	m- & p-Xylenes	2.416	2.452	-1.5	86	0.00
68	T	Bromoform	0.678	0.670	1.2	83	0.00
69	T	Styrene	1.817	1.876	-3.2	84	0.00
70	T	o-Xylene	2.453	2.463	-0.4	86	0.00
71	T	n-Nonane	1.301	1.368	-5.1	90	0.00
72	T	1,1,2,2-Tetrachloroethane	1.217	1.238	-1.7	87	0.00
73	S	Bromofluorobenzene (SS3)	0.762	0.818	-7.3	94	0.00
74	T	Cumene	3.010	3.053	-1.4	85	0.00
75	T	alpha-Pinene	1.606	1.627	-1.3	85	0.00
76	T	n-Propylbenzene	3.576	3.720	-4.0	86	0.00
77	T	3-Ethyltoluene	2.913	2.972	-2.0	81	0.00
78	T	4-Ethyltoluene	2.827	3.049	-7.9	89	0.00
79	T	1,3,5-Trimethylbenzene	2.455	2.546	-3.7	85	0.00
80	T	alpha-Methylstyrene	1.384	1.315	5.0	82	0.00
81	T	2-Ethyltoluene	2.874	2.986	-3.9	86	0.00
82	T	1,2,4-Trimethylbenzene	2.467	2.858	-15.8	87	0.00
83	T	n-Decane	1.380	1.435	-4.0	88	0.00
84	T	Benzyl Chloride	2.300	2.299	0.0	82	0.00
85	T	1,3-Dichlorobenzene	1.433	1.526	-6.5	85	0.00
86	T	1,4-Dichlorobenzene	1.398	1.468	-5.0	84	0.00
87	T	sec-Butylbenzene	3.203	3.405	-6.3	87	0.00
88	T	4-Isopropyltoluene (p-Cymen	3.033	3.366	-11.0	88	0.00
89	T	1,2,3-Trimethylbenzene	2.582	2.890	-11.9	88	0.00
90	T	1,2-Dichlorobenzene	1.372	1.546	-12.7	87	0.00
91	T	d-Limonene	0.974	1.092	-12.1	87	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.517	0.529	-2.3	84	0.00
93	T	n-Undecane	1.277	1.400	-9.6	88	0.00
94	T	1,2,4-Trichlorobenzene	0.951	1.043	-9.7	85	0.00
95	T	Naphthalene	3.011	3.514	-16.7	84	0.00
96	T	n-Dodecane	1.106	1.430	-29.3	90	0.00
97	T	Hexachlorobutadiene	0.658	0.671	-2.0	86	0.00
98	T	Cyclohexanone	0.956	0.873	8.7	83	-0.01
99	T	tert-Butylbenzene	2.428	2.692	-10.9	87	0.00
100	T	n-Butylbenzene	2.512	2.761	-9.9	86	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\06\05062039.D Vial: 2
Acq On : 7 May 2020 2:03 Operator: LH
Sample : CCVend R16050620_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 07 03:16:45 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 5/7/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	254451	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.27	114	1078878	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.58	82	529760	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	411526	11.934	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.44%				
57) Toluene-d8 (SS2)	15.72	98	1085392	12.088	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.72%				
73) Bromofluorobenzene (SS3)	18.98	174	433100	13.405	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.20%				
Target Compounds							Qvalue
2) Propene	4.09	42	856735	29.071	ng		99
3) Dichlorodifluoromethan...	4.25	85	1457619	25.288	ng		100
4) Chloromethane	4.53	50	1221919	27.059	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	818132	23.757	ng		100
6) Vinyl Chloride	4.94	62	1309236	26.439	ng		100
7) 1,3-Butadiene	5.21	54	1078398	26.320	ng		99
8) Bromomethane	5.65	94	661469	25.286	ng		100
9) Chloroethane	5.98	64	511333	26.138	ng		100
10) Ethanol	6.38	45	2974446	130.710	ng		100
11) Acetonitrile	6.62	41	1341174	25.791	ng		100
12) Acrolein	6.79	56	444980	24.748	ng		100
13) Acetone	7.01	58	3037307	133.462	ng		99
14) Trichlorofluoromethane	7.24	101	1245566	24.451	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	3680812	53.438	ng		99
16) Acrylonitrile	7.76	53	965934	25.964	ng		100
17) 1,1-Dichloroethene	8.20	96	694153	25.994	ng		99
18) 2-Methyl-2-Propanol (t...	8.39	59	3150560	49.063	ng		99
19) Methylene Chloride	8.43	84	733656	24.799	ng		96
20) 3-Chloro-1-propene (Al...	8.59	41	1108214	27.266	ng		98
21) Trichlorotrifluoroethane	8.84	151	625201	25.995	ng		99
22) Carbon Disulfide	8.69	76	2743931	25.885	ng		100
23) trans-1,2-Dichloroethene	9.70	61	1042609	25.640	ng		100
24) 1,1-Dichloroethane	9.96	63	1268286	26.273	ng		100
25) Methyl tert-Butyl Ether	10.05	73	1924542	25.346	ng		99
26) Vinyl Acetate	10.22	86	947391	133.645	ng	#	86
27) 2-Butanone (MEK)	10.45	72	498307	25.675	ng		95
28) cis-1,2-Dichloroethene	10.98	61	1005252	25.274	ng		99
29) Diisopropyl Ether	11.27	87	690591	25.154	ng	#	86
30) Ethyl Acetate	11.27	61	658827	58.870	ng		97
31) n-Hexane	11.26	57	1357558	27.967	ng		99
32) Chloroform	11.32	83	1295566	25.579	ng		100
34) Tetrahydrofuran (THF)	11.72	72	487691	25.764	ng		97
35) Ethyl tert-Butyl Ether	11.86	87	864510	26.057	ng		97
36) 1,2-Dichloroethane	12.12	62	999950	24.919	ng		100
38) 1,1,1-Trichloroethane	12.40	97	1124647	25.881	ng		100
39) Isopropyl Acetate	12.83	61	1075114	56.563	ng		97
40) 1-Butanol	12.85	56	1444405	53.412	ng		97
41) Benzene	12.88	78	3008897	26.006	ng		100
42) Carbon Tetrachloride	13.04	117	1009058	25.640	ng		100
43) Cyclohexane	13.17	84	2327032	53.974	ng		98
44) tert-Amyl Methyl Ether	13.51	73	2120959	27.338	ng		99
45) 1,2-Dichloropropane	13.73	63	728900	27.202	ng		99
46) Bromodichloromethane	13.92	83	1070919	27.388	ng		100
47) Trichloroethene	13.97	130	797987	26.684	ng		100
48) 1,4-Dioxane	13.95	88	624501	26.800	ng		99
49) 2,2,4-Trimethylpentane...	14.04	57	3055179	27.137	ng		99
50) Methyl Methacrylate	14.18	100	630311	54.915	ng		96

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\06\05062039.D Vial: 2
Acq On : 7 May 2020 2:03 Operator: LH
Sample : CCVend R16050620_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 07 03:16:45 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

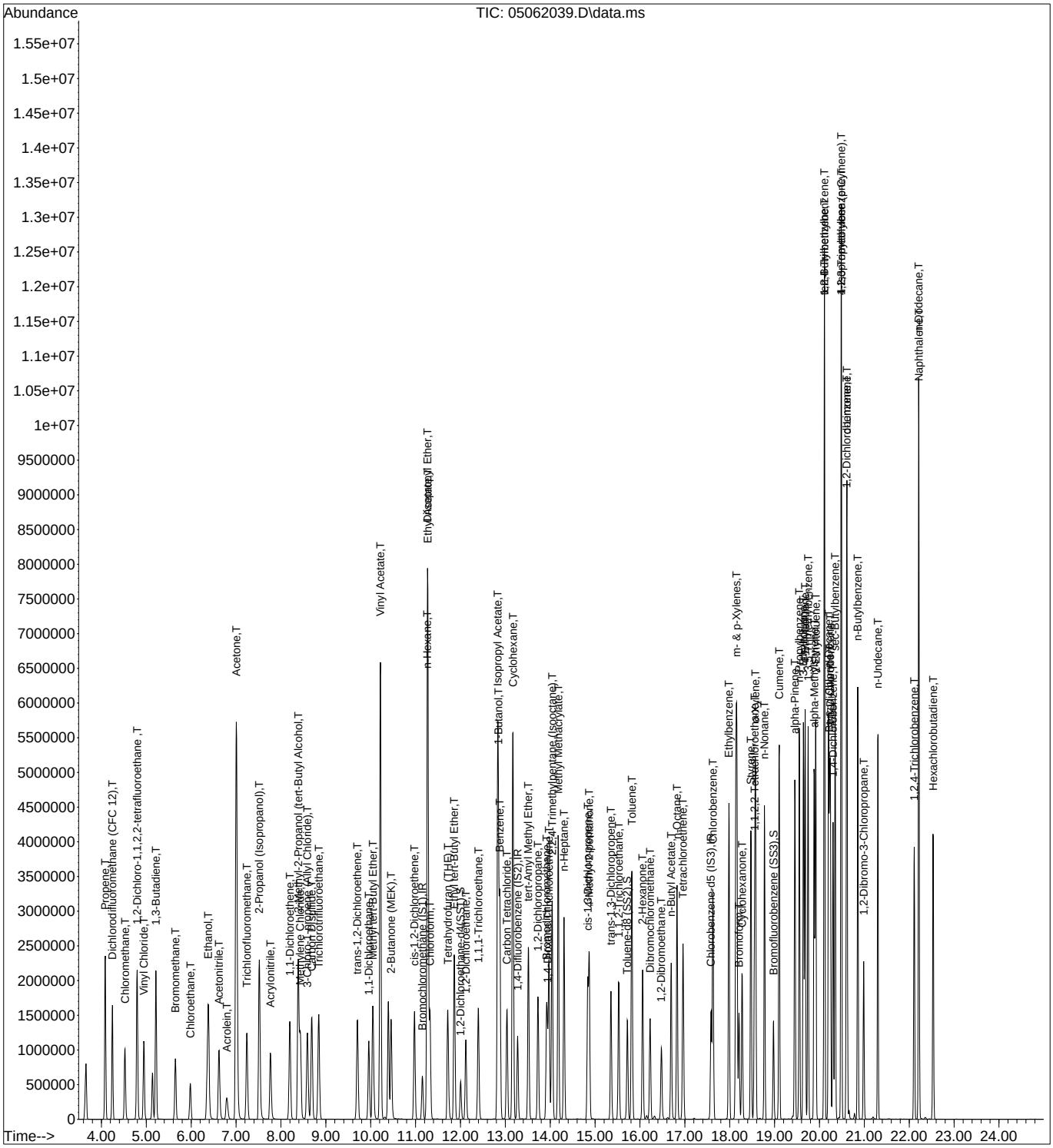
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	714625	26.413	ng	98
52) cis-1,3-Dichloropropene	14.84	75	1222076	26.565	ng	100
53) 4-Methyl-2-pentanone	14.87	58	698657	27.088	ng	97
54) trans-1,3-Dichloropropene	15.35	75	1099799	27.941	ng	100
55) 1,1,2-Trichloroethane	15.53	97	721245	27.143	ng	100
58) Toluene	15.82	91	2924253	25.264	ng	100
59) 2-Hexanone	16.06	43	1690215	26.650	ng	98
60) Dibromochloromethane	16.23	129	894253	26.981	ng	100
61) 1,2-Dibromoethane	16.48	107	827408	25.975	ng	100
62) n-Butyl Acetate	16.70	43	1863990	27.209	ng	99
63) n-Octane	16.83	57	636431	26.559	ng	98
64) Tetrachloroethene	16.96	166	832123	25.452	ng	100
65) Chlorobenzene	17.62	112	1956517	24.567	ng	100
66) Ethylbenzene	17.98	91	3452670	26.751	ng	100
67) m- & p-Xylenes	18.15	91	5558796	54.290	ng	100
68) Bromoform	18.21	173	759508	26.434	ng	100
69) Styrene	18.47	104	2107199	27.362	ng	100
70) o-Xylene	18.58	91	2792045	26.860	ng	100
71) n-Nonane	18.77	43	1550775	28.118	ng	97
72) 1,1,2,2-Tetrachloroethane	18.55	83	1403886	27.224	ng	100
74) Cumene	19.10	105	3493368	27.384	ng	100
75) alpha-Pinene	19.45	93	1844675	27.101	ng	100
76) n-Propylbenzene	19.55	91	4256259	28.085	ng	100
77) 3-Ethyltoluene	19.64	105	3337634	27.031	ng	95
78) 4-Ethyltoluene	19.68	105	3488972	29.121	ng	95
79) 1,3,5-Trimethylbenzene	19.75	105	2859380	27.487	ng	100
80) alpha-Methylstyrene	19.88	118	1490888	25.426	ng	99
81) 2-Ethyltoluene	19.92	105	3416296	28.050	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3240259	30.989	ng	99
83) n-Decane	20.20	57	1626873	27.814	ng	99
84) Benzyl Chloride	20.23	91	2630530	26.992	ng	100
85) 1,3-Dichlorobenzene	20.24	146	1729533	28.486	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1663939	28.083	ng	100
87) sec-Butylbenzene	20.35	105	3859773	28.438	ng	100
88) 4-Isopropyltoluene (p-...	20.48	119	3887521	30.247	ng	100
89) 1,2,3-Trimethylbenzene	20.48	105	3337924	30.503	ng	100
90) 1,2-Dichlorobenzene	20.61	146	1752215	30.142	ng	100
91) d-Limonene	20.61	68	1249400	30.255	ng	99
92) 1,2-Dibromo-3-Chloropr...	20.98	157	588870	26.866	ng	99
93) n-Undecane	21.30	57	1601641	29.586	ng	99
94) 1,2,4-Trichlorobenzene	22.11	180	1181967	29.316	ng	100
95) Naphthalene	22.22	128	3834970	30.053	ng	100
96) n-Dodecane	22.21	57	1575442	33.611	ng	98
97) Hexachlorobutadiene	22.54	225	753435	27.016	ng	100
98) Cyclohexanone	18.27	55	924648	22.822	ng	99
99) tert-Butylbenzene	20.11	119	3052210	29.659	ng	100
100) n-Butylbenzene	20.85	91	3130122	29.402	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\06\05062039.D Vial: 2
Acq On : 7 May 2020 2:03 Operator: LH
Sample : CCVend R16050620_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 07 03:16:45 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

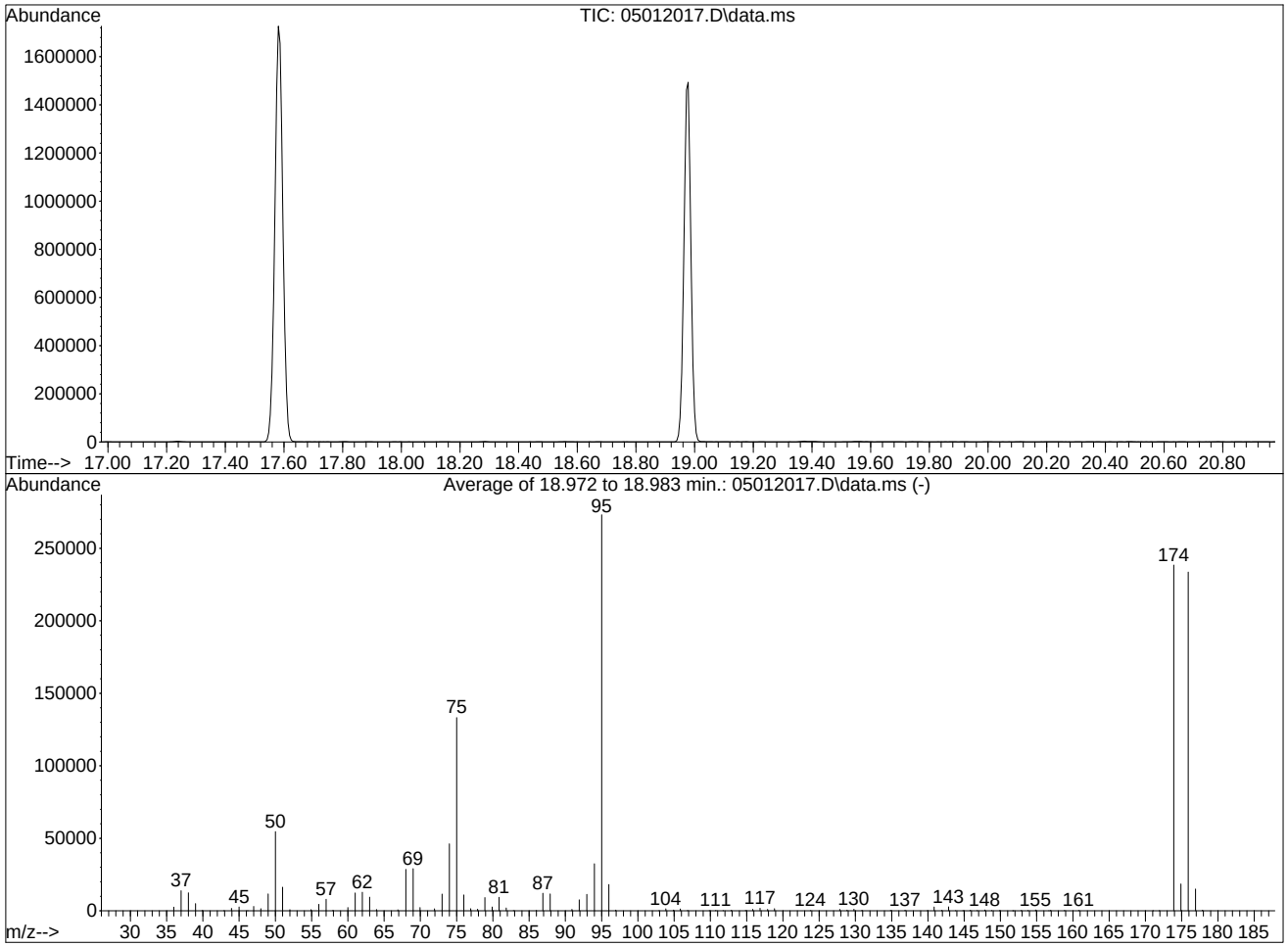


BFB

Data Path : I:\MS16\DATA\2020_05\01\
Data File : 05012017.D
Acq On : 1 May 2020 13:35
Operator : LH
Sample : 12.5ng TO15 BFB
Misc : S31-02112001
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16050120.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri May 01 17:25:50 2020



AutoFind: Scans 2816, 2817, 2818; Background Corrected with Scan 2808

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	20.0	54576	PASS
75	95	30	66	48.8	133227	PASS
95	95	100	100	100.0	273088	PASS
96	95	5	9	6.6	18099	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	87.3	238485	PASS
175	174	4	9	7.8	18527	PASS
176	174	93	101	98.0	233621	PASS
177	176	5	9	6.4	15004	PASS

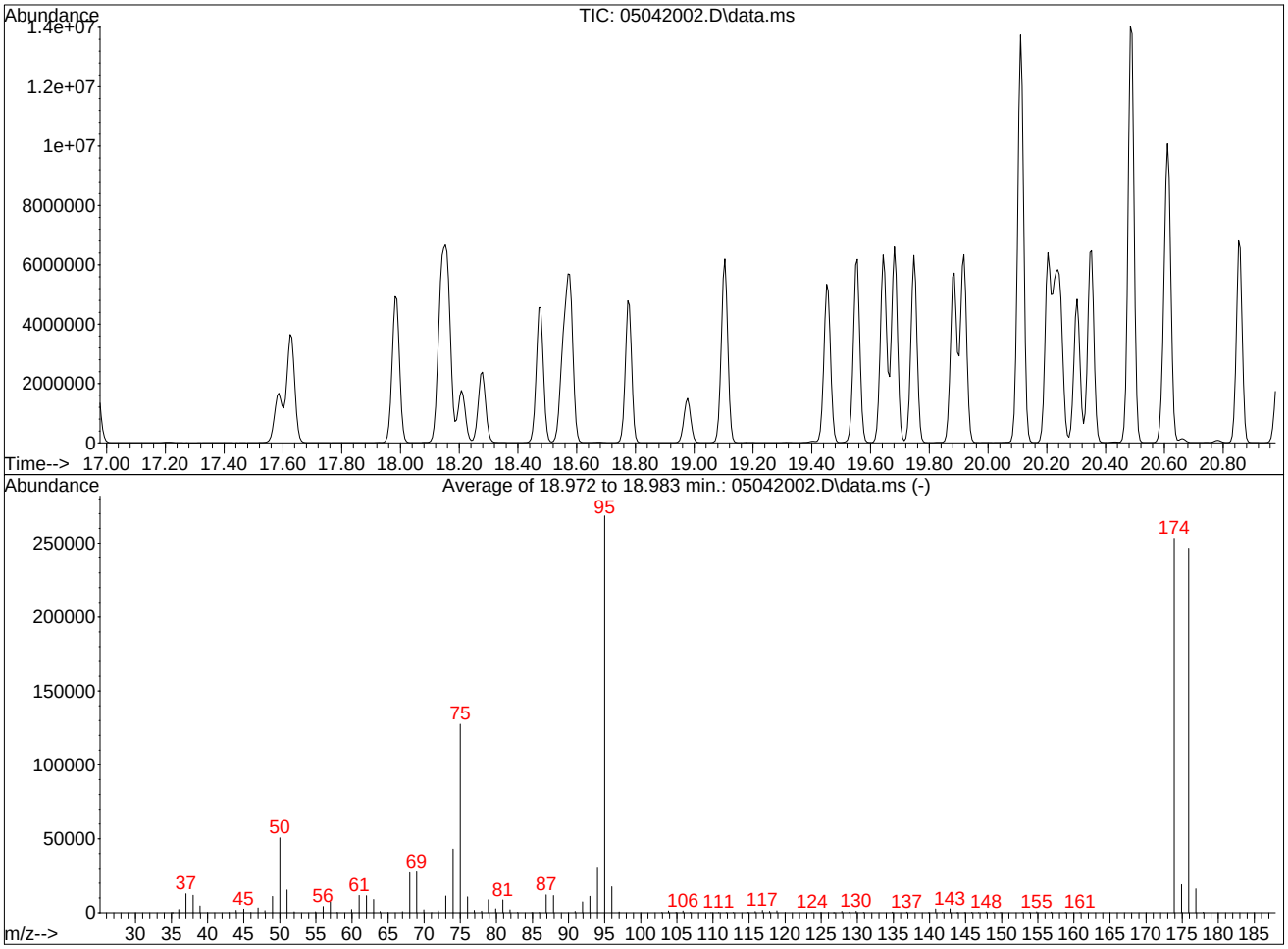
LH 5/1/20

BFB

Data Path : I:\MS16\DATA\2020_05\04\
Data File : 05042002.D
Acq On : 4 May 2020 6:20
Operator : TD
Sample : CCV R16050420_25ng
Misc : S31-02112001/S34-04292003 (5/28)
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16050120.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri May 01 18:22:00 2020



AutoFind: Scans 2816, 2817, 2818; Background Corrected with Scan 2807

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	18.9	50661	PASS
75	95	30	66	47.5	127571	PASS
95	95	100	100	100.0	268501	PASS
96	95	5	9	6.6	17658	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	94.3	253291	PASS
175	174	4	9	7.5	19040	PASS
176	174	93	101	97.4	246763	PASS
177	176	5	9	6.5	16153	PASS

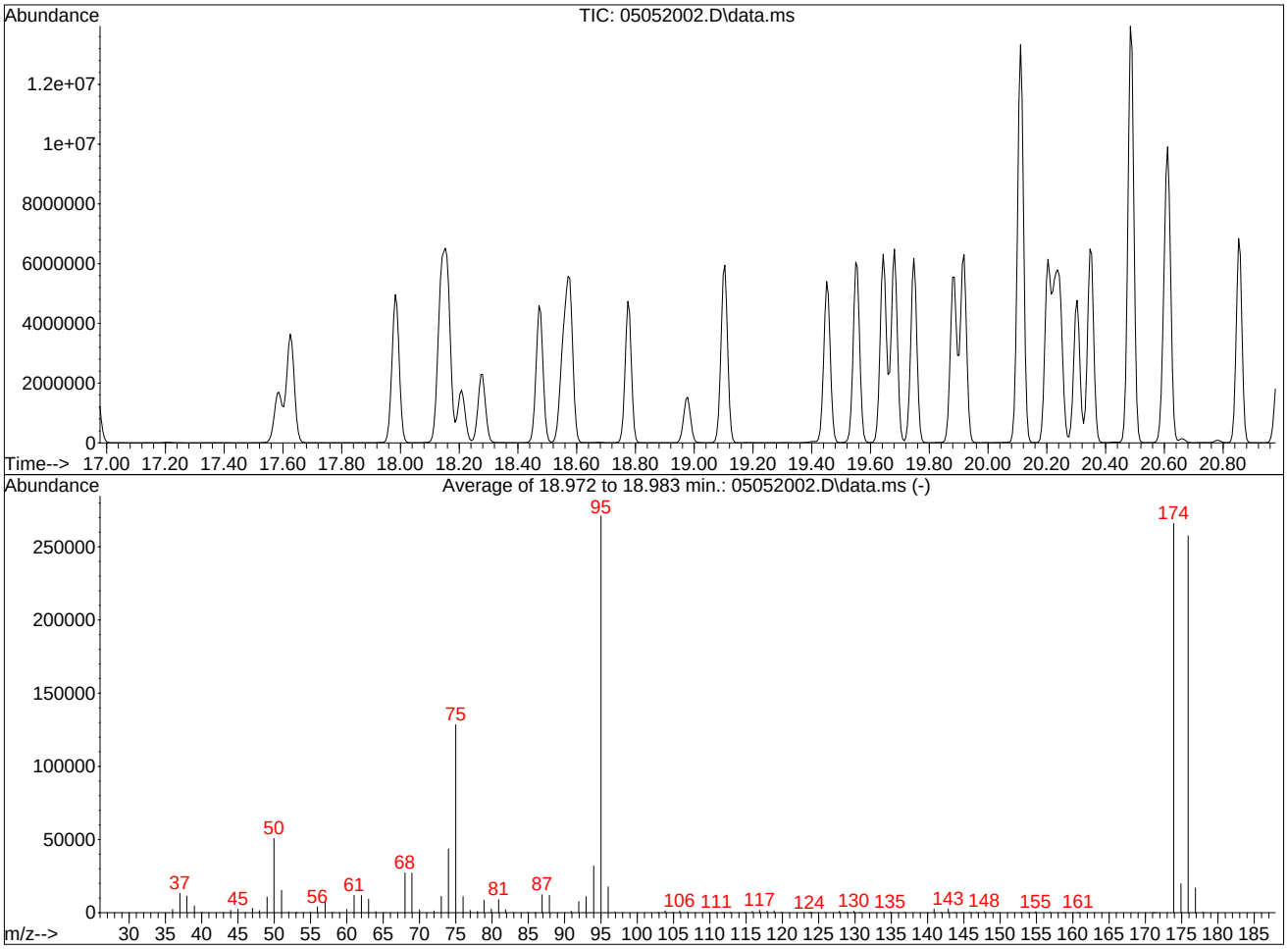
TD 5/4/20

BFB

Data Path : I:\MS16\DATA\2020_05\05\
Data File : 05052002.D
Acq On : 5 May 2020 3:43
Operator : TD
Sample : CCV R16050520_25ng
Misc : S31-02112001/S34-04292003 (5/28)
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16050120.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri May 01 18:22:00 2020



AutoFind: Scans 2816, 2817, 2818; Background Corrected with Scan 2807

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	18.7	50790	PASS
75	95	30	66	47.4	128437	PASS
95	95	100	100	100.0	271147	PASS
96	95	5	9	6.5	17675	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	98.1	266005	PASS
175	174	4	9	7.5	19829	PASS
176	174	93	101	96.8	257600	PASS
177	176	5	9	6.6	16924	PASS

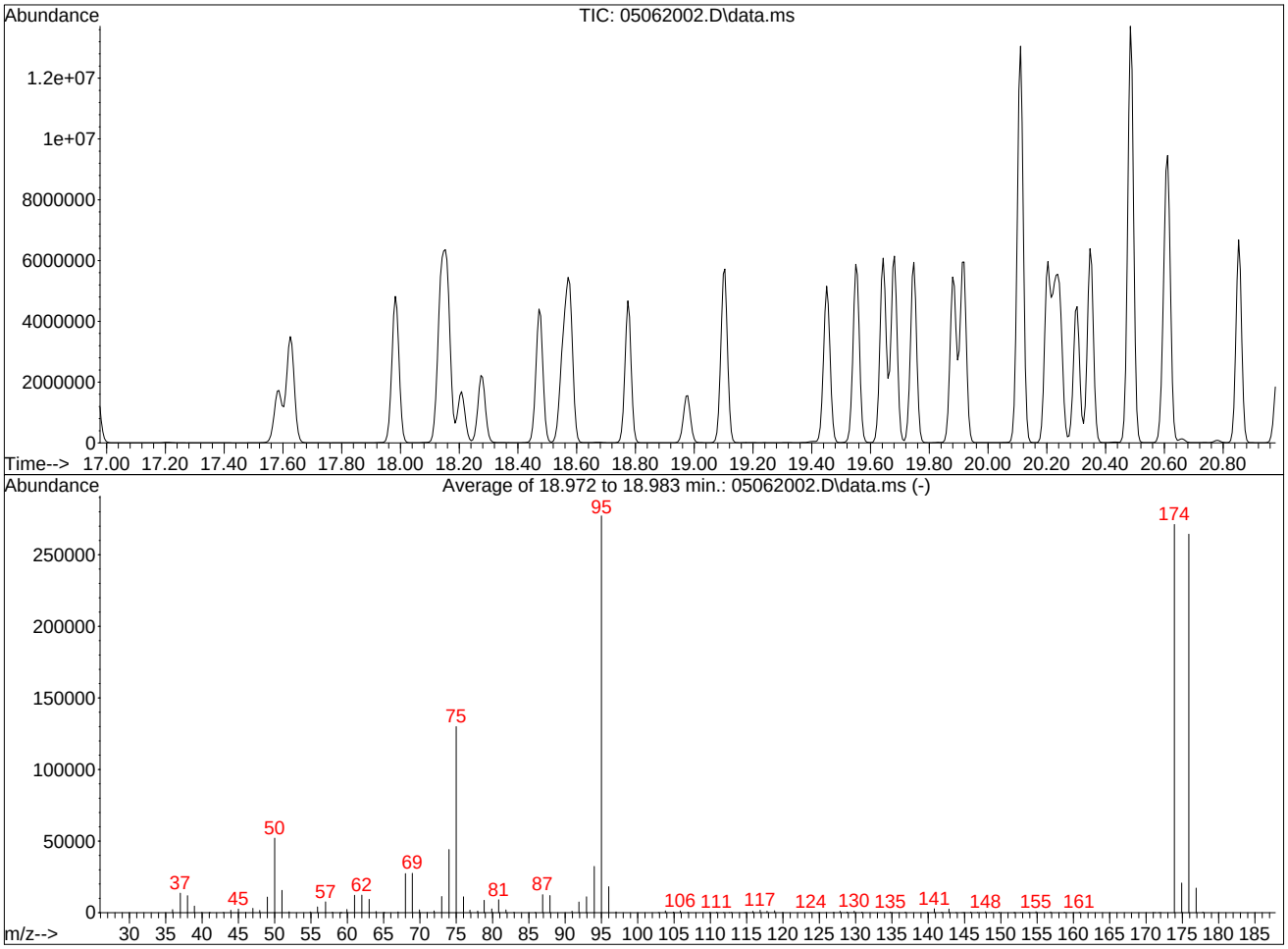
5/6/20

BFB

Data Path : I:\MS16\DATA\2020_05\06\
Data File : 05062002.D
Acq On : 6 May 2020 00:10
Operator : WA
Sample : CCV R16050620_25ng
Misc : S31-02112001/S34-04292003 (5/28)
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16050120.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri May 01 18:22:00 2020



AutoFind: Scans 2816, 2817, 2818; Background Corrected with Scan 2807

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	18.8	52075	PASS
75	95	30	66	46.9	129968	PASS
95	95	100	100	100.0	277163	PASS
96	95	5	9	6.6	18227	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	97.8	271125	PASS
175	174	4	9	7.6	20715	PASS
176	174	93	101	97.5	264427	PASS
177	176	5	9	6.5	17201	PASS

WA 5/6/20

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
17	5/1/20 13:35	05012017.D	12.5ng TO15 BFB	S31-02112001	LH	2	
18	5/1/20 14:09	05012018.D	0.1ng TO15 ICAL STD	S31-02112001/S34-04272015 (5/26)	LH	6	
19	5/1/20 14:42	05012019.D	0.2ng TO15 ICAL STD	S31-02112001/S34-04272015 (5/26)	LH	6	
20	5/1/20 15:16	05012020.D	0.5ng TO15 ICAL STD	S31-02112001/S34-05012002 (5/30)	LH	13	
21	5/1/20 15:51	05012021.D	1.0ng TO15 ICAL STD	S31-02112001/S34-05012002 (5/30)	LH	13	
22	5/1/20 16:25	05012022.D	5.0ng TO15 ICAL STD	S31-02112001/S34-04292003 (5/28)	LH	2	
23	5/1/20 16:59	05012023.D	25ng TO15 ICAL STD	S31-02112001/S34-04292003 (5/28)	LH	2	
24	5/1/20 17:33	05012024.D	50ng TO15 ICAL STD	S31-02112001/S34-04292003 (5/28)	LH	2	
25	5/1/20 18:07	05012025.D	100ng TO15 ICAL STD	S31-02112001/S34-04292003 (5/28)	LH	2	
26	5/1/20 18:41	05012026.D	25ng TO15 ICV STD	S31-02112001/S34-04302003 (5/29)	LH	2	
	ICAL R16050120.M passed for all compounds 0.1ng-100ng, except: tert butanol 0.1ng-50ng, vinyl acetate 2.5ng-500ng, bromoform,						
	alpha-methylstyrene, n-decane, 4-isopropyltolune, 1,2,3-trtimethylbenzene, 1,2-dibromo-3-chloropropane, n-undecane, 1,2,4-trichlorobenzene,						
	naphthalene, n-dodecane, hexachlorobutadiene 0.5ng-100ng, benzyl chloride 1.0ng-100ng.						

LH 5/4/20

Injection Log

Directory: I:\MS16\DATA\2020_05\04\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	5/4/20 5:46	05042001.D	CCV C16050420_25ng	S31-02112001/S34-04162002 (5/15)	TD	3	Passed
2	5/4/20 6:20	05042002.D	CCV R16050420_25ng	S31-02112001/S34-04292003 (5/28)	TD	2	Passed
3	5/4/20 6:54	05042003.D	Blank (100mL)	S31-02112001/S34-04102011 (6/7)	TD	4	
4	5/4/20 7:28	05042004.D	MB R16050420_1000mL	S31-02112001/AS01319	TD	2	Passed
5	5/4/20 8:01	05042005.D	LCS R16050420_25ng	S31-02112001/S34-04302003 (5/29)	TD	2	Passed
6	5/4/20 8:35	05042006.D	LCSD R16050420_25ng	S31-02112001/S34-04302003 (5/29)	TD	2	Passed
7	5/4/20 9:09	05042007.D	Blank (100mL)	S31-02112001	TD	2	
8	5/4/20 9:43	05042008.D	P2002104-015dil (40mL)	S31-02112001	TD	4	
9	5/4/20 10:17	05042009.D	P2002104-016dil (40mL)	S31-02112001	TD	5	
10	5/4/20 11:39	05042010.D	P2002105-001 (20mL)	S31-02112001	TD	3	
11	5/4/20 12:13	05042011.D	P2002105-007 (5.0mL)	S31-02112001	TD	1	
12	5/4/20 12:53	05042012.D	P2002105-019 (3.0mL)	S31-02112001	TD	1	
13	5/4/20 13:27	05042013.D	P2002105-001 (150mL)	S31-02112001	TD	4	
14	5/4/20 14:02	05042014.D	P2002105-002 (400mL)	S31-02112001	TD	5	
15	5/4/20 14:36	05042015.D	P2002105-003 (400mL)	S31-02112001	TD	6	
16	5/4/20 15:10	05042016.D	P2002105-004 (400mL)	S31-02112001	TD	7	
17	5/4/20 15:44	05042017.D	P2002105-005 (400mL)	S31-02112001	TD	8	
18	5/4/20 16:21	05042018.D	P2002105-006 (400mL)	S31-02112001	TD	9	
19	5/4/20 16:55	05042019.D	P2002105-007 (20mL)	S31-02112001	TD	4	
20	5/4/20 17:29	05042020.D	P2002105-007dup (20mL)	S31-02112001	TD	4	Passed
21	5/4/20 18:03	05042021.D	P2002105-008 (400mL)	S31-02112001	TD	10	
22	5/4/20 18:37	05042022.D	screen (1.0mL)	S31-02112001	TD	1	
23	5/4/20 19:11	05042023.D	P2002105-008dil (40mL)	S31-02112001	TD	10	
24	5/4/20 19:44	05042024.D	P2002105-009 (400mL)	S31-02112001	TD	11	
25	5/4/20 20:18	05042025.D	P2002105-009dil (40mL)	S31-02112001	TD	11	
26	5/4/20 20:54	05042026.D	P2002105-010 (400mL)	S31-02112001	TD	12	
27	5/4/20 21:28	05042027.D	P2002105-011 (400mL)	S31-02112001	TD	13	
28	5/4/20 22:02	05042028.D	P2002105-012 (400mL)	S31-02112001	TD	14	
29	5/4/20 22:36	05042029.D	P2002105-013 (400mL)	S31-02112001	TD	15	
30	5/4/20 23:10	05042030.D	P2002105-014 (400mL)	S31-02112001	TD	16	
31	5/4/20 23:44	05042031.D	P2002105-015 (400mL)	S31-02112001	TD	1	
32	5/5/20 0:18	05042032.D	P2002105-016 (400mL)	S31-02112001	TD	4	
33	5/5/20 0:52	05042033.D	P2002105-017 (400mL)	S31-02112001	TD	5	
34	5/5/20 1:27	05042034.D	P2002105-018 (400mL)	S31-02112001	TD	6	
35	5/5/20 2:01	05042035.D	P2002105-020 (400mL)	S31-02112001	TD	7	
36	5/5/20 2:35	05042036.D	CCVend R16050420_25ng	S31-02112001/S34-04292003 (5/28)	TD	2	Passed
					5/5/20		

Injection Log

Directory: I:\MS16\DATA\2020_05\05\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	5/5/20 3:09	05052001.D	CCV C16050520_25ng	S31-02112001/S34-04162002 (5/15)	TD	3	
2	5/5/20 3:43	05052002.D	CCV R16050520_25ng	S31-02112001/S34-04292003 (5/28)	TD	2	Passed
3	5/5/20 4:17	05052003.D	Blank (100mL)	S31-02112001/S34-04102011 (6/7)	TD	4	
4	5/5/20 4:52	05052004.D	MB R16050520_1000mL	S31-02112001/AS01319	TD	2	Passed
5	5/5/20 5:26	05052005.D	LCS R16050520_25ng	S31-02112001/S34-04302003 (5/29)	TD	2	Passed
6	5/5/20 6:00	05052006.D	LCSD R16050520_25ng	S31-02112001/S34-04302003 (5/29)	TD	2	Passed
7	5/5/20 6:34	05052007.D	Blank (100mL)	S31-02112001	TD	2	
8	5/5/20 7:08	05052008.D	P2002107-001 (400mL)	S31-02112001	TD	8	
9	5/5/20 7:42	05052009.D	P2002107-002 (400mL)	S31-02112001	TD	9	
10	5/5/20 8:16	05052010.D	P2002107-003 (400mL)	S31-02112001	TD	10	
11	5/5/20 8:50	05052011.D	P2002107-004 (400mL)	S31-02112001	TD	11	
12	5/5/20 9:24	05052012.D	P2002107-006 (400mL)	S31-02112001	TD	12	
13	5/5/20 10:05	05052013.D	P2002107-005 (3.0mL)	S31-02112001	WA	1	
14	5/5/20 10:43	05052014.D	P2002107-005dup (3.0mL)	S31-02112001	WA	1	Passed
15	5/5/20 11:32	05052015.D	P2002107-021 (0.2mL)	S31-02112001	WA	1	
16	5/5/20 12:07	05052016.D	P2002107-022 (0.4mL)	S31-02112001	WA	1	
17	5/5/20 12:48	05052017.D	P2002105-017dil (40mL)	S31-02112001	WA	5	
18	5/5/20 13:22	05052018.D	P2002105-018dil (25mL)	S31-02112001	WA	6	
19	5/5/20 15:05	05052019.D	P2002105-020dil (40mL)	S31-02112001	WA	7	need higher dil
20	5/5/20 15:37	05052020.D	P2002107-017 (200mL) Pf2	S31-02112001	WA	14	
21	5/5/20 16:12	05052021.D	P2002107-007 (400mL)	S31-02112001	WA	4	
22	5/5/20 16:46	05052022.D	P2002107-008 (400mL) pf2	S31-02112001	WA	5	
23	5/5/20 17:20	05052023.D	P2002107-009 (400mL)	S31-02112001	WA	6	
24	5/5/20 17:54	05052024.D	P2002107-009dil (40mL)	S31-02112001	WA	6	
25	5/5/20 18:28	05052025.D	P2002107-010 (400mL)	S31-02112001	WA	7	need dil
26	5/5/20 19:02	05052026.D	P2002107-011 (400mL)	S31-02112001	WA	8	need dil
27	5/5/20 19:36	05052027.D	P2002107-012 (400mL)	S31-02112001	WA	9	
28	5/5/20 20:10	05052028.D	P2002107-013 (400mL)	S31-02112001	WA	10	
29	5/5/20 20:45	05052029.D	P2002107-014 (400mL)	S31-02112001	WA	11	
30	5/5/20 21:19	05052030.D	P2002107-015 (400mL)	S31-02112001	WA	12	
31	5/5/20 21:53	05052031.D	P2002107-016 (400mL)	S31-02112001	WA	13	
32	5/5/20 22:27	05052032.D	P2002107-020 (400mL)	S31-02112001	WA	15	
33	5/5/20 23:01	05052033.D	CCVend R16050520_25ng	S31-02112001/S34-04292003 (5/28)	WA	2	Passed

WA 5/6/20

Injection Log

Directory: I:\MS16\DATA\2020_05\06\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	5/5/20 23:35	05062001.D	CCV C16050620_25ng	S31-02112001/S34-04162002 (5/15)	WA	3	passed
2	5/6/20 0:10	05062002.D	CCV R16050620_25ng	S31-02112001/S34-04292003 (5/28)	WA	2	passed
3	5/6/20 0:44	05062003.D	Blank (100mL)	S31-02112001/S34-04102011 (6/7)	WA	1	
4	5/6/20 1:18	05062004.D	MB R16050620_1000mL	S31-02112001/AS01319	WA	2	passed
5	5/6/20 1:52	05062005.D	LCS R16050620_25ng	S31-02112001/S34-04302003 (5/29)	WA	2	passed
6	5/6/20 2:26	05062006.D	LCSD R16050620_25ng	S31-02112001/S34-04302003 (5/29)	WA	2	passed
7	5/6/20 3:00	05062007.D	Blank (100mL)	S31-02112001	WA	1	
8	5/6/20 3:34	05062008.D	P2002107-023 (200mL)	S31-02112001	WA	16	over diluted
9	5/6/20 5:45	05062009.D	P2002107-010dil (40mL)	S31-02112001	WA	7	
10	5/6/20 6:19	05062010.D	P2002107-011dil (40mL)	S31-02112001	WA	8	
11	5/6/20 9:31	05062011.D	P2002105-020dil (20mL)	S31-02112001	WA	13	
12	5/6/20 10:05	05062012.D	P2002107-023 (400mL)	S31-02112001	WA	16	
13	5/6/20 10:38	05062013.D	P2002107-018 (50mL)	S31-02112001	WA	5	
14	5/6/20 11:19	05062014.D	P2002107-019 (50mL)	S31-02112001	WA	6	
15	5/6/20 11:53	05062015.D	P2002107-019dup (50mL)	S31-02112001	WA	6	passed
16	5/6/20 12:27	05062016.D	P2002107-024 (120mL)	S31-02112001	WA	7	
17	5/6/20 13:00	05062017.D	P2002107-025 (400mL)	S31-02112001	WA	8	
18	5/6/20 13:34	05062018.D	P2002107-025dil (40mL)	S31-02112001	WA	8	
19	5/6/20 14:08	05062019.D	P2002107-026 (400mL)	S31-02112001	WA	9	
20	5/6/20 14:41	05062020.D	P2002107-027 (400mL)	S31-02112001	WA	10	
21	5/6/20 15:30	05062021.D	P2002107-024 (300mL)	S31-02112001	LH	7	
22	5/6/20 16:04	05062022.D	P2002107-026dil (40mL)	S31-02112001	LH	9	
23	5/6/20 16:38	05062023.D	P2002107-028 (400mL)	S31-02112001 pf2	LH	11	
24	5/6/20 17:13	05062024.D	P2002107-029 (400mL)	S31-02112001	LH	12	
25	5/6/20 18:00	05062025.D	P2002198-001 (25mL)	S31-02112001	LH	4	
26	5/6/20 18:33	05062026.D	P2002198-002 (20mL)	S31-02112001	LH	5	
27	5/6/20 19:08	05062027.D	P2002198-003 (25mL)	S31-02112001	LH	6	
28	5/6/20 19:42	05062028.D	P2002105-016dil (40mL)	S31-02112001	LH	16	
29	5/6/20 20:19	05062029.D	P2002198-004 (70mL)	S31-02112001	LH	7	
30	5/6/20 20:53	05062030.D	P2002198-005 (15mL)	S31-02112001	LH	8	
31	5/6/20 21:28	05062031.D	P2002198-006 (100mL)	S31-02112001	LH	9	
32	5/6/20 22:02	05062032.D	P2002198-007 (400mL)	S31-02112001	LH	10	
33	5/6/20 22:37	05062033.D	P2002198-007dil (40mL)	S31-02112001	LH	10	
34	5/6/20 23:11	05062034.D	P2002198-008 (20mL)	S31-02112001	LH	11	
35	5/6/20 23:45	05062035.D	P2002198-009 (400mL)	S31-02112001	LH	12	
36	5/7/20 0:20	05062036.D	P2002198-009dil (40mL)	S31-02112001	LH	12	
37	5/7/20 0:54	05062037.D	P2002198-010 (400mL)	S31-02112001	LH	13	
38	5/7/20 1:28	05062038.D	P2002198-011 (400mL)	S31-02112001	LH	14	
39	5/7/20 2:03	05062039.D	CCVend R16050620_25ng	S31-02112001/S34-04292003 (5/28)	LH	2	passed

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PAGE: 1 of 4

Primary

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Propylene	115-07-1	1.00 mg/m3	1.06 mg/m3
Freon-12	75-71-8	1.00 mg/m3	1.06 mg/m3
Chloromethane	74-87-3	1.00 mg/m3	1.06 mg/m3
Freon-114	76-14-2	1.00 mg/m3	1.05 mg/m3
Vinyl Chloride	75-01-4	1.00 mg/m3	1.08 mg/m3
1,3-Butadiene	106-99-0	1.00 mg/m3	1.06 mg/m3
Bromomethane	74-83-9	1.00 mg/m3	1.08 mg/m3
Chloroethane	75-00-3	1.00 mg/m3	1.08 mg/m3
Ethanol	64-17-5	5.00 mg/m3	5.21 mg/m3
Acetonitrile	75-05-8	1.00 mg/m3	1.05 mg/m3
Acrolein	107-02-8	1.00 mg/m3	1.03 mg/m3
Acetone	67-64-1	5.00 mg/m3	5.33 mg/m3
Freon-11	75-69-4	1.00 mg/m3	1.06 mg/m3
Isopropyl Alcohol	67-63-0	2.00 mg/m3	2.10 mg/m3
Acrylonitrile	107-13-1	1.00 mg/m3	1.05 mg/m3
1,1-Dichloroethene	75-35-4	1.00 mg/m3	1.08 mg/m3
Carbon Disulfide	75-15-0	1.00 mg/m3	1.07 mg/m3
Methylene Chloride	75-09-2	1.00 mg/m3	1.06 mg/m3
Tert-Butanol	75-65-0	2.00 mg/m3	2.16 mg/m3
Allyl Chloride	107-05-1	1.00 mg/m3	1.08 mg/m3
Freon-113	76-13-1	1.00 mg/m3	1.08 mg/m3
Trans-1,2-Dichloroethene	156-60-5	1.00 mg/m3	1.08 mg/m3
1,1-Dichloroethane	75-34-3	1.00 mg/m3	1.09 mg/m3
Methyl Tert Butyl Ether	1634-04-4	1.00 mg/m3	1.08 mg/m3
Vinyl Acetate	108-05-4	5.00 mg/m3	5.35 mg/m3
Methacrylonitrile	126-98-7	1.00 mg/m3	1.06 mg/m3
Methyl Ethyl Ketone	78-93-3	1.00 mg/m3	1.06 mg/m3
Cis-1,2-Dichloroethene	156-59-2	1.00 mg/m3	1.06 mg/m3
Hexane	110-54-3	1.00 mg/m3	1.08 mg/m3
Di-isopropyl Ether	108-20-3	1.00 mg/m3	1.08 mg/m3

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PAGE: 2 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chloroform	67-66-3	1.00 mg/m3	1.07 mg/m3
Ethyl Acetate	141-78-6	2.00 mg/m3	2.17 mg/m3
Tetrahydrofuran	109-99-9	1.00 mg/m3	1.09 mg/m3
Ethyl Tert-Butyl Ether	637-92-3	1.00 mg/m3	1.08 mg/m3
1,2-Dichloroethane	107-06-2	1.00 mg/m3	1.08 mg/m3
1,1,1-Trichloroethane	71-55-6	1.00 mg/m3	1.07 mg/m3
Benzene	71-43-2	1.00 mg/m3	1.06 mg/m3
Isopropyl Acetate	108-21-4	2.00 mg/m3	2.11 mg/m3
1-Butanol	71-36-3	2.00 mg/m3	2.08 mg/m3
Carbon Tetrachloride	56-23-5	1.00 mg/m3	1.05 mg/m3
Cyclohexane	110-82-7	2.00 mg/m3	2.12 mg/m3
Tert Amyl Methyl Ether	994-05-8	1.00 mg/m3	1.08 mg/m3
1,2-Dichloropropane	78-87-5	1.00 mg/m3	1.08 mg/m3
Trichloroethylene	79-01-6	1.00 mg/m3	1.07 mg/m3
Bromodichloromethane	75-27-4	1.00 mg/m3	1.08 mg/m3
1,4-Dioxane	123-91-1	1.00 mg/m3	1.08 mg/m3
Isooctane	540-84-1	1.00 mg/m3	1.07 mg/m3
Methyl Methacrylate	80-62-6	2.00 mg/m3	2.15 mg/m3
Heptane	142-82-5	1.00 mg/m3	1.08 mg/m3
Cis-1,3-Dichloropropene	10061-01-5	1.00 mg/m3	1.04 mg/m3
Methyl Isobutyl Ketone	108-10-1	1.00 mg/m3	1.06 mg/m3
Trans-1,3-Dichloropropene	10061-02-6	1.00 mg/m3	1.06 mg/m3
1,1,2-Trichloroethane	79-00-5	1.00 mg/m3	1.07 mg/m3
Toluene	108-88-3	1.00 mg/m3	1.07 mg/m3
Methyl Butyl Ketone	591-78-6	1.00 mg/m3	1.07 mg/m3
Dibromochloromethane	124-48-1	1.00 mg/m3	1.07 mg/m3
1,2-Dibromoethane	106-93-4	1.00 mg/m3	1.07 mg/m3
n-Butyl Acetate	123-86-4	1.00 mg/m3	1.09 mg/m3
n-Octane	111-65-9	1.00 mg/m3	1.08 mg/m3
Tetrachloroethylene	127-18-4	1.00 mg/m3	1.04 mg/m3

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PAGE: 3 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chlorobenzene	108-90-7	1.00 mg/m3	1.07 mg/m3
Ethylbenzene	100-41-4	1.00 mg/m3	1.07 mg/m3
p-xylene	106-42-3	1.00 mg/m3	1.07 mg/m3
m-xylene	108-38-3	1.00 mg/m3	1.07 mg/m3
Bromoform	75-25-2	1.00 mg/m3	1.07 mg/m3
Cyclohexanone	108-94-1	1.00 mg/m3	1.00 mg/m3
Styrene	100-42-5	1.00 mg/m3	1.06 mg/m3
o-xylene	95-47-6	1.00 mg/m3	1.07 mg/m3
1,1,2,2-Tetrachloroethane	79-34-5	1.00 mg/m3	1.07 mg/m3
Nonane	111-84-2	1.00 mg/m3	1.07 mg/m3
Isopropylbenzene	98-82-8	1.00 mg/m3	1.08 mg/m3
alpha-Pinene	80-56-8	1.00 mg/m3	1.07 mg/m3
n-Propylbenzene	103-65-1	1.00 mg/m3	1.08 mg/m3
3-Ethyltoluene	620-14-4	1.00 mg/m3	1.06 mg/m3
4-Ethyltoluene	622-96-8	1.00 mg/m3	1.08 mg/m3
2-Ethyltoluene	611-14-3	1.00 mg/m3	1.08 mg/m3
1,3,5-Trimethylbenzene	108-67-8	1.00 mg/m3	1.06 mg/m3
alpha-Methylstyrene	98-83-9	1.00 mg/m3	1.07 mg/m3
Tert-Butyl Benzene	98-06-6	1.00 mg/m3	1.07 mg/m3
1,2,4-Trimethylbenzene	95-63-6	1.00 mg/m3	1.07 mg/m3
1,3-Dichlorobenzene	541-73-1	1.00 mg/m3	1.07 mg/m3
Benzyl Chloride	100-44-7	1.00 mg/m3	1.08 mg/m3
n-Decane	124-18-5	1.00 mg/m3	1.07 mg/m3
1,4-Dichlorobenzene	106-46-7	1.00 mg/m3	1.07 mg/m3
Sec-Butyl Benzene	135-98-8	1.00 mg/m3	1.07 mg/m3
p-Isopropyltoluene	99-87-6	1.00 mg/m3	1.09 mg/m3
1,2,3-Trimethylbenzene	526-73-8	1.00 mg/m3	1.09 mg/m3
1,2-Dichlorobenzene	95-50-1	1.00 mg/m3	1.07 mg/m3

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ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
d-Limonene	5989-27-5	1.00 mg/m3	1.08 mg/m3
n-Butyl Benzene	104-51-8	1.00 mg/m3	1.07 mg/m3
1,2-Dibromo-3-Chloropropane	96-12-8	1.00 mg/m3	1.05 mg/m3
n-Undecane	1120-21-4	1.00 mg/m3	1.08 mg/m3
1,2,4-Trichlorobenzene	120-82-1	1.00 mg/m3	1.07 mg/m3
Naphthalene	91-20-3	1.00 mg/m3	1.03 mg/m3
n-Dodecane	112-40-3	1.00 mg/m3	1.04 mg/m3
Hexachloro-1,3-Butadiene	87-68-3	1.00 mg/m3	1.06 mg/m3
Nitrogen	7727-37-9	Balance	Balance

ANALYST: Lou Lorenzetti **DATE:** Sep-24-2019

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PAGE: 1 of 4

Secondary

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Propylene	115-07-1	1.00 mg/m3	1.05 mg/m3
Freon-12	75-71-8	1.00 mg/m3	1.05 mg/m3
Chloromethane	74-87-3	1.00 mg/m3	1.06 mg/m3
Freon-114	76-14-2	1.00 mg/m3	1.03 mg/m3
Vinyl Chloride	75-01-4	1.00 mg/m3	1.06 mg/m3
1,3-Butadiene	106-99-0	1.00 mg/m3	1.06 mg/m3
Bromomethane	74-83-9	1.00 mg/m3	1.06 mg/m3
Chloroethane	75-00-3	1.00 mg/m3	1.07 mg/m3
Ethanol	64-17-5	5.00 mg/m3	5.30 mg/m3
Acetonitrile	75-05-8	1.00 mg/m3	1.07 mg/m3
Acrolein	107-02-8	1.00 mg/m3	1.03 mg/m3
Acetone	67-64-1	5.00 mg/m3	5.34 mg/m3
Freon-11	75-69-4	1.00 mg/m3	1.06 mg/m3
Isopropyl Alcohol	67-63-0	2.00 mg/m3	2.11 mg/m3
Acrylonitrile	107-13-1	1.00 mg/m3	1.06 mg/m3
1,1-Dichloroethene	75-35-4	1.00 mg/m3	1.07 mg/m3
Carbon Disulfide	75-15-0	1.00 mg/m3	1.06 mg/m3
Methylene Chloride	75-09-2	1.00 mg/m3	1.05 mg/m3
Tert-Butanol	75-65-0	2.00 mg/m3	2.15 mg/m3
Allyl Chloride	107-05-1	1.00 mg/m3	1.07 mg/m3
Freon-113	76-13-1	1.00 mg/m3	1.08 mg/m3
Trans-1,2-Dichloroethene	156-60-5	1.00 mg/m3	1.07 mg/m3
1,1-Dichloroethane	75-34-3	1.00 mg/m3	1.06 mg/m3
Methyl Tert Butyl Ether	1634-04-4	1.00 mg/m3	1.07 mg/m3
Vinyl Acetate	108-05-4	5.00 mg/m3	5.33 mg/m3
Methacrylonitrile	126-98-7	1.00 mg/m3	1.06 mg/m3
Methyl Ethyl Ketone	78-93-3	1.00 mg/m3	1.06 mg/m3
Cis-1,2-Dichloroethene	156-59-2	1.00 mg/m3	1.06 mg/m3
Hexane	110-54-3	1.00 mg/m3	1.08 mg/m3
Di-isopropyl Ether	108-20-3	1.00 mg/m3	1.08 mg/m3

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PAGE: 2 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chloroform	67-66-3	1.00 mg/m3	1.07 mg/m3
Ethyl Acetate	141-78-6	2.00 mg/m3	2.16 mg/m3
Tetrahydrofuran	109-99-9	1.00 mg/m3	1.10 mg/m3
Ethyl Tert-Butyl Ether	637-92-3	1.00 mg/m3	1.07 mg/m3
1,2-Dichloroethane	107-06-2	1.00 mg/m3	1.07 mg/m3
1,1,1-Trichloroethane	71-55-6	1.00 mg/m3	1.07 mg/m3
Benzene	71-43-2	1.00 mg/m3	1.05 mg/m3
Isopropyl Acetate	108-21-4	2.00 mg/m3	2.10 mg/m3
1-Butanol	71-36-3	2.00 mg/m3	2.13 mg/m3
Carbon Tetrachloride	56-23-5	1.00 mg/m3	1.04 mg/m3
Cyclohexane	110-82-7	2.00 mg/m3	2.11 mg/m3
Tert Amyl Methyl Ether	994-05-8	1.00 mg/m3	1.07 mg/m3
1,2-Dichloropropane	78-87-5	1.00 mg/m3	1.07 mg/m3
Trichloroethylene	79-01-6	1.00 mg/m3	1.08 mg/m3
Bromodichloromethane	75-27-4	1.00 mg/m3	1.09 mg/m3
1,4-Dioxane	123-91-1	1.00 mg/m3	1.08 mg/m3
Isooctane	540-84-1	1.00 mg/m3	1.07 mg/m3
Methyl Methacrylate	80-62-6	2.00 mg/m3	2.15 mg/m3
Heptane	142-82-5	1.00 mg/m3	1.07 mg/m3
Cis-1,3-Dichloropropene	10061-01-5	1.00 mg/m3	1.07 mg/m3
Methyl Isobutyl Ketone	108-10-1	1.00 mg/m3	1.06 mg/m3
Trans-1,3-Dichloropropene	10061-02-6	1.00 mg/m3	1.06 mg/m3
1,1,2-Trichloroethane	79-00-5	1.00 mg/m3	1.07 mg/m3
Toluene	108-88-3	1.00 mg/m3	1.06 mg/m3
Methyl Butyl Ketone	591-78-6	1.00 mg/m3	1.08 mg/m3
Dibromochloromethane	124-48-1	1.00 mg/m3	1.07 mg/m3
1,2-Dibromoethane	106-93-4	1.00 mg/m3	1.07 mg/m3
n-Butyl Acetate	123-86-4	1.00 mg/m3	1.09 mg/m3
n-Octane	111-65-9	1.00 mg/m3	1.08 mg/m3
Tetrachloroethylene	127-18-4	1.00 mg/m3	1.04 mg/m3

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PAGE: 3 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chlorobenzene	108-90-7	1.00 mg/m3	1.07 mg/m3
Ethylbenzene	100-41-4	1.00 mg/m3	1.06 mg/m3
p-xylene	106-42-3	1.00 mg/m3	1.07 mg/m3
m-xylene	108-38-3	1.00 mg/m3	1.06 mg/m3
Bromoform	75-25-2	1.00 mg/m3	1.07 mg/m3
Cyclohexanone	108-94-1	1.00 mg/m3	1.01 mg/m3
Styrene	100-42-5	1.00 mg/m3	1.06 mg/m3
o-xylene	95-47-6	1.00 mg/m3	1.07 mg/m3
1,1,2,2-Tetrachloroethane	79-34-5	1.00 mg/m3	1.07 mg/m3
Nonane	111-84-2	1.00 mg/m3	1.07 mg/m3
Isopropylbenzene	98-82-8	1.00 mg/m3	1.07 mg/m3
alpha-Pinene	80-56-8	1.00 mg/m3	1.06 mg/m3
n-Propylbenzene	103-65-1	1.00 mg/m3	1.07 mg/m3
3-Ethyltoluene	620-14-4	1.00 mg/m3	1.07 mg/m3
4-Ethyltoluene	622-96-8	1.00 mg/m3	1.05 mg/m3
2-Ethyltoluene	611-14-3	1.00 mg/m3	1.07 mg/m3
1,3,5-Trimethylbenzene	108-67-8	1.00 mg/m3	1.06 mg/m3
alpha-Methylstyrene	98-83-9	1.00 mg/m3	1.06 mg/m3
Tert-Butyl Benzene	98-06-6	1.00 mg/m3	1.06 mg/m3
1,2,4-Trimethylbenzene	95-63-6	1.00 mg/m3	1.06 mg/m3
1,3-Dichlorobenzene	541-73-1	1.00 mg/m3	1.07 mg/m3
Benzyl Chloride	100-44-7	1.00 mg/m3	1.07 mg/m3
n-Decane	124-18-5	1.00 mg/m3	1.07 mg/m3
1,4-Dichlorobenzene	106-46-7	1.00 mg/m3	1.07 mg/m3
Sec-Butyl Benzene	135-98-8	1.00 mg/m3	1.06 mg/m3
p-Isopropyltoluene	99-87-6	1.00 mg/m3	1.09 mg/m3
1,2,3-Trimethylbenzene	526-73-8	1.00 mg/m3	1.08 mg/m3
1,2-Dichlorobenzene	95-50-1	1.00 mg/m3	1.07 mg/m3

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(908) 329-9700 Main (908) 329-9740 Fax
www.Lindeus.com

ISO 9001:2015 Linde **SPECTRA** Environmental Gases, 80 Industrial Drive, Alpha, NJ 08865

THE LINDE GROUP

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2655 Park Center Dr Ste A Dept 130
Simi Valley, CA 93065

PAGE: 4 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
d-Limonene	5989-27-5	1.00 mg/m3	1.06 mg/m3
n-Butyl Benzene	104-51-8	1.00 mg/m3	1.07 mg/m3
1,2-Dibromo-3-Chloropropane	96-12-8	1.00 mg/m3	1.07 mg/m3
n-Undecane	1120-21-4	1.00 mg/m3	1.08 mg/m3
1,2,4-Trichlorobenzene	120-82-1	1.00 mg/m3	1.08 mg/m3
Naphthalene	91-20-3	1.00 mg/m3	1.06 mg/m3
n-Dodecane	112-40-3	1.00 mg/m3	1.06 mg/m3
Hexachloro-1,3-Butadiene	87-68-3	1.00 mg/m3	1.07 mg/m3
Nitrogen	7727-37-9	Balance	Balance

ANALYST: _____
Lou Lorenzetti

DATE: Sep-24-2019

Linde Gas North America LLC

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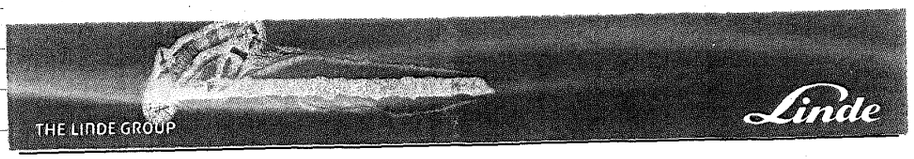
1/6/20 VH

TO-15 MAPH STD				20ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of S31-11061903 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-01062006	20 ng/L	STD00164	1/6/20	**3/4/20**	LH

1/6/20 S31-01062007 TO-15 IS/SURR STD ~0,5 mg/m³

ISO 9001:2015 Linde **SPECTRA** Environmental Gases, 80 Industrial Drive, Alpha, NJ 08865



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PAGE: 1 of 1

S31-01062007 **ANALYSIS REPORT** IS/SURR STD.

Sales#:	117350975	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1502527	**Cylinder # :**	CC-430401
Report Date:	Dec-23-2019	**Cylinder Pressure:**	2000 psig
P.O.# :	SM003000	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24086333	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	4000 Liters
Expiration Date:	Dec-23-~~2020~~ 2021	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	10% Relative

VH 1/7/20

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Bromochloromethane	74-97-5	0.50 mg/m3	0.55 mg/m3
1,2-Dichloroethane-d4	17060-07-0	0.50 mg/m3	0.55 mg/m3
1,4-Difluorobenzene	540-36-3	0.50 mg/m3	0.55 mg/m3
Toluene-d8	2037-26-5	0.50 mg/m3	0.55 mg/m3
Chlorobenzene-d5	3114-55-4	0.50 mg/m3	0.55 mg/m3
4-Bromofluorobenzene	460-00-4	0.50 mg/m3	0.53 mg/m3
Nitrogen	7727-37-9	Balance	Balance

1/7/20 VH

EPA 325B STD	BTEX 1° Working Standard	200 µg/mL
S31-01072001	Expires:	1/21/2020
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 2000µg/mL BTEX stock standard S31-11271903 (expires 1/27/20).		

VH

EPA 325B STD	BTEX 2° Working Standard	200 µg/mL
S31-01072002	Expires:	1/21/2020
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 2000µg/mL BTEX stock standard S31-11271904 (expires 1/27/20).		

VH

2/5/2020
RVT

		TO-15 STD		4 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S31-01292007**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02052009	4 ng/L	STD00094	2/5/20	3/5/20	RVT

RVT

TO-15 STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111901**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02052010	200 ng/L	STD00224	2/5/20	3/5/20	RVT

2/6/2020
RVT

TO-15 STD **20 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S31-02052007**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02062001	20 ng/L	STD00064	2/6/20	3/6/20	RVT

RVT

TO-15 ICV/ LCS STD **20 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S31-02052002**
with HZA Lot # 70086915004 using 4700 diluter

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02062002	20 ng/L	STD00113	2/6/20	3/6/2020	RVT

RVT

TO15 STD 1000 ng/L
S31-02062003
Filled Can STD00136 w/ S31-10111901 To ~ 5.61 psig
Exp. 3/6/2020

2/7/20
CV

S31-02072001 Toluene-d8 2.0 µg/ml
Spiked 4.2 µl S29-04281601 into 2010 ml glass SDB
purged w/ helium. Exp. 3/7/20.

02/11/20
VH

S31-02112001 TO-15 IS/SURR 500 ng/L
FILLED CAN # STD00214 TO ~ 20 PSIG WITH S31-01062007
EXP 08/09/20

4/15/20
RVT

TO-15 STD **4 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S34-04102010**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04152001	4 ng/L	STD00161	4/15/20	**5/14/20**	RVT

TO-15 Custom STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with
HZA Lot # 70086915004 using 4700 diluter

TD 4/16/20

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04162001	200 ng/L	STD00009	4/16/2020	**5/15/2020**	TD
S34-04162002	200 ng/L	STD00124	4/16/2020	**5/15/2020**	TD

4/16/20
RVT

TO-15 STD **4 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of **S34-04102003**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04162003	4 ng/L	STD00227	4/16/20	**5/15/20**	RVT

4/20/20
RVT

TO-15 STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111901**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04202001	200 ng/L	STD00128	4/20/20	**5/19/20**	RVT
S34-04202002	200 ng/L	STD00112	4/20/20	**5/19/20**	RVT
S34-04202003	200 ng/L	STD00105	4/20/20	**5/19/20**	RVT
S34-04202004	200 ng/L	STD00047	4/20/20	**5/19/20**	RVT

TO-15 Custom STD **20 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of S31-06251901 with
HZA Lot # 70086915004 using 4700 diluter

TD 4/21/20

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04212001	20 ng/L	STD00049	4/21/2020	**5/20/2020**	TD

TD 4/2/20

18
4/22/20
RVT
4/27/20
RVT

TO-15 Custom STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272005	200 ng/L	STD00024	4/27/2020	**5/26/2020**	RVT
S34-04272006	200 ng/L	STD00066	4/27/2020	**5/26/2020**	RVT

RVT

TO-15 ICV/LCS STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111902** with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272007	200 ng/L	STD00063	4/27/20	**5/26/20**	RVT
S34-04272008	200 ng/L	STD00072	4/27/20	**5/26/20**	RVT

RVT

TO-15 ICV/ LCS STD				20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04272007** with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272009	20 ng/L	STD00015	4/27/20	**5/26/20**	RVT

RVT

TO-15 STD				20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04202001** using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272010	20 ng/L	STD00026	4/27/20	**5/26/20**	RVT

LH
4/27/20

TO-15 STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-10111901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272011	200 ng/L	STD00028	4/27/2020	**5/26/2020**	LH

LH

TO-15 STD				20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of S34-04272011 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272012	20 ng/L	STD00061	4/27/2020	**5/26/2020**	LH

4/27/20 LH

	TO-15 STD		**20 ng/L**		
Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of S31-10111901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272013	20 ng/L	STD00217	4/27/2020	**5/26/2020**	LH

LH

	TO-15 STD		**4 ng/L**		
Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of S34-04272011 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272014	4 ng/L	STD00131	4/27/2020	**5/26/2020**	LH

LH

	TO-15 STD		**4 ng/L**		
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S34-04272012 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272015	4 ng/L	STD00184	4/27/2020	**5/26/2020**	LH

4/28/20 RVT

	TO-15 Custom STD		**20 ng/L**		
Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04282001	20 ng/L	STD00037	4/28/2020	**5/27/2020**	RVT
S34-04282002	20 ng/L	STD00207	4/28/2020	**5/27/2020**	RVT

RVT

	TO-15 Custom STD		**20 ng/L**		
Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04282003	20 ng/L	STD00086	4/28/2020	**5/27/2020**	RVT

RVT

	TO-15 Custom STD		**200 ng/L**		
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04282004	200 ng/L	STD00102	4/28/2020	**5/27/2020**	RVT
S34-04282005	200 ng/L	STD00121	4/28/2020	**5/27/2020**	RVT
S34-04282006	200 ng/L	STD00192	4/28/2020	**5/27/2020**	RVT
S34-04282007	200 ng/L	STD00017	4/28/2020	**5/27/2020**	RVT

20

4/28/20
RVT

TO-15 Custom STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04282008	200 ng/L	STD00017	4/28/2020	5/27/2020	RVT

RVT

S34-04282009 TO-15 STD 1000 ng/L
ICV/LCS
Pressurized can: STD00136 w/ S31-10111902 To 11 psig
RVT
EXP: 5/27/2020

MA

EPA 325B STD	BTEX 1° Working Standard	200 µg/mL
S34-04282010	Expires:	5/12/2020
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 2000µg/mL BTEX stock standard S34-03312005 (expires 5/31/20).		

MA

EPA 325B STD	BTEX 2° Working Standard	200 µg/mL
S34-04282011	Expires:	5/12/2020
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 2000µg/mL BTEX stock standard S34-04142001 (expires 6/14/20).		

4/29/20

RVT

TO-15 STD				20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04202001**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04292001	20 ng/L	STD00007	4/29/20	5/28/20	RVT

RVT

TO-15 STD				1 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 20X dilution of **S34-04292001**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04292002	1 ng/L	STD00069	4/29/20	5/28/20	RVT

RVT

TO-15 STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111901**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04292003	200 ng/L	STD00088	4/29/20	5/28/20	RVT
S34-04292004	200 ng/L	STD00019	4/29/20	5/28/20	RVT

TD 4/29/20

TO-15 ICV/LCS STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111902** with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04292005	200 ng/L	STD00099	4/29/20	**5/28/20**	TD

4/30/20 RVT

TO-15 ICV/LCS STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111902** with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04302001	200 ng/L	STD00172	4/30/20	**5/29/20**	RVT
S34-04302002	200 ng/L	STD00205	4/30/20	**5/29/20**	RVT
S34-04302003	200 ng/L	STD00194	4/30/20	**5/29/20**	RVT

RVT

TO-15 Custom ICV/LCS				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251902 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04302004	200 ng/L	STD00150	4/30/2020	**5/29/2020**	RVT
S34-04302005	200 ng/L	STD00100	4/30/2020	**5/29/2020**	RVT
S34-04302006	200 ng/L	STD00006	4/30/2020	**5/29/2020**	RVT

5/1/2020 RVT

TO-15 STD				20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04202001** using 4700 diluter HZA Lot #70086915004					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-05012001	20 ng/L	STD00221	5/1/20	**5/30/20**	RVT

RVT

TO-15 STD				20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of **S31-10111901** using 4700 diluter HZA Lot #70086915004					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-05012002	20 ng/L	STD00113	5/1/20	**5/30/20**	RVT

5/14/2020

M.A.

EPA 325B STD	BTEX 1° Working Standard	20 µg/mL
S34-05052001	Expires:	**5/19/2020**
Into 1mL mininert vial with 990µL B&J P&T methanol, Lot #DL535, added 10µL 2000µg/mL BTEX Stock standard S34-03312005 (expires 5/31/20).		

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LABORATORY REPORT

May 11, 2020

Pamela Moss
EA Engineering, Science, and Technology, Inc.
7995 E. Prentice Ave, Suite 206E
Greenwood Village, CO 80111

RE: Kirtland AFB Bulk Fuels Facility / 62735DM02

Dear Pamela:

Enclosed are the results of the samples submitted to our laboratory on April 20, 2020. For your reference, these analyses have been assigned our service request number P2002106.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

Kate Kaneko
May 11, 2020, 1:40 pm

Kate Kaneko
Project Manager

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

Client: EA Engineering, Science, and Technology, Inc. Service Request No: P2002106
Project: Kirtland AFB Bulk Fuels Facility / 62735DM02

CASE NARRATIVE

The samples were received intact under chain of custody on April 20, 2020 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

Manual integrations were performed on the following sample(s) and analyte(s). Refer to the raw data for additional information.

Sample Identification(s)	Analyte(s)
P2002106-003, 010	Acetone
P2002106-007, 015	1,2,4-Trimethylbenzene
P2002106-008, 013	Propene

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.1 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

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Simi Valley, CA 93065
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www.alsglobal.com

ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1776326
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-007
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272019-10
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: EA Engineering, Science, and Technology, Inc. Service Request: P2002106
Project ID: Kirtland AFB Bulk Fuels Facility / 62735DM02

Date Received: 4/20/2020
Time Received: 12:20

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	TO-15 - VOC Cans
SV132-050-202	P2002106-001	Air	4/14/2020	08:07	1SS00939	-1.75	5.78	X
SV132-175-202	P2002106-002	Air	4/14/2020	08:10	1SC00050	-2.37	5.61	X
SV132-250-202	P2002106-003	Air	4/14/2020	08:13	1SC01001	-2.08	5.22	X
SV132-350-202	P2002106-004	Air	4/14/2020	08:16	1SS00985	-3.14	5.77	X
SV132-450-202	P2002106-005	Air	4/14/2020	08:25	1SC00991	-2.80	5.92	X
SV134-025-202	P2002106-006	Air	4/14/2020	12:51	1SS01011	-3.81	6.09	X
SV134-050-202	P2002106-007	Air	4/14/2020	12:53	1SC00478	-3.61	5.65	X
SV134-170-202	P2002106-008	Air	4/14/2020	12:56	1SS00857	-2.46	5.51	X
SV134-250-202	P2002106-009	Air	4/14/2020	13:00	1SS00087	-2.92	5.99	X
SV134-350-202	P2002106-010	Air	4/14/2020	13:03	1SC00384	-2.84	5.57	X
SV134-350-602	P2002106-011	Air	4/14/2020	13:03	1SC01044	-3.62	5.74	X
SV134-450-202	P2002106-012	Air	4/14/2020	13:13	1SC00502	-2.56	6.01	X
SV135-025-202	P2002106-013	Air	4/14/2020	09:14	1SC00812	-3.40	4.49	X
SV135-050-202	P2002106-014	Air	4/14/2020	09:17	1SS00851	-2.19	5.84	X
SV135-150-202	P2002106-015	Air	4/14/2020	09:21	1SC00115	-2.84	5.73	X
SV135-250-202	P2002106-016	Air	4/14/2020	09:24	1SS01034	-1.85	5.45	X
SV135-250-602	P2002106-017	Air	4/14/2020	09:24	1SS00739	-3.52	5.84	X
SV135-350-202	P2002106-018	Air	4/14/2020	09:29	1SC00509	-2.77	5.82	X
SV135-450-202	P2002106-019	Air	4/14/2020	09:38	1SS00812	-1.79	7.30	X
SV137-025-202	P2002106-020	Air	4/14/2020	10:17	1SS00990	-3.50	5.84	X

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

COC #: COC-SV202-10

Requested Turnaround Time in Business Days
10 Day-Standard

ALS Project No. P1002106

Company Name & Address (Reporting Information)	EA Engineering, Science, and Technology, Inc., PBC 225 Schilling Circle Suite 400, Hunt Valley, MD (410) 584-7000
Project Manager / Project Chemist	Bernie Bockish (505) 234-1105 / Pam Moss (303) 590-9143
Email Address for Result Reporting	Tara Lamond: tlamond@eaest.com Amanda Smith: asmith@eaest.com Pam Moss: pmoss@eaest.com
Project Name	Kirtland AFB Bulk Fuels Facility
Project Number	62735DM02
P.O. # / Billing Information	17682
Sampler (Print & Sign)	Ryan Wortman

ALS Contact: Kate Kaneko
1 (805) 577-2089

Analysis Method

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg	Sample Volume	TO-15 Project Specific List	Comments e.g. Actual Preservative or specific instructions
SV132-050-202		4/14/2020	0807	1SS00939	AVG04457	-27.0	-2.0	1L	X	None
SV132-175-202		4/14/2020	0810	1SC00050	AVG03813	-26.0	-2.5	1L	X	None
SV132-250-202		4/14/2020	0813	1SC01001	NA	-25.0	-1.5	1L	X	None
SV132-350-202		4/14/2020	0816	1SS00985	NA	-25.0	-3.0	1L	X	None
SV132-450-202		4/14/2020	0825	1SC00991	AVG0444	-25.0	-3.0	1L	X	None
SV134-025-202		4/14/2020	1251	1SS01011	NA	-26.5	-5.0	1L	X	None
SV134-050-202		4/14/2020	1253	1SC00478	NA	-25.0	-5.0	1L	X	None
SV134-170-202		4/14/2020	1256	1SS00857	NA	-26.0	-2.0	1L	X	None
SV134-250-202		4/14/2020	1300	1SS00087	AVG04776	-25.0	-2.0	1L	X	None
SV134-350-202		4/14/2020	1303	1SC00384	NA	-25.0	-1.5	1L	X	None

FedEX Tracking Number: 1028 3396 7655

Associated with Trip blank: SVTB-202-02

Shipping information: Box number 4 of 6

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____ Tier III (Results + QC & Calibration Summaries) ____
Tier II (Results + QC Summaries) ____ Tier IV (Data Validation Package) X

EDD required: **Yes**
Type: ERPIMS / EQuIS

Chain of Custody Seal: (Circle)
INTACT BROKEN ABSENT

Project Requirements: QAPP

Relinquished by: (Signature)	Date: 4/16/20	Time: 1100	Received by: (Signature)	Date: 4-16-20	Time: 1220	Cooler / Blank Temperature NA °C
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

COC #: COC-SV202-10

Requested Turnaround Time in Business Days
10 Day-Standard

ALS Project No. P200106

Company Name & Address (Reporting Information)	EA Engineering, Science, and Technology, Inc., PBC 225 Schilling Circle Suite 400, Hunt Valley, MD (410) 584-7000
Project Manager / Project Chemist	Bernie Bockish (505) 234-1105 / Pam Moss (303) 590-9143
Email Address for Result Reporting	Tara Lamond: tlamond@eaest.com Amanda Smith: asmith@eaest.com Pam Moss: pmoss@eaest.com
Project Name	Kirtland AFB Bulk Fuels Facility
Project Number	62735DM02
P.O. # / Billing Information	17682
Sampler (Print & Sign)	Ryan Wortman

ALS Contact: Kate Kaneko
1 (805) 577-2089

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg	Sample Volume	Analysis Method: TO-15 Project Specific List	Comments e.g. Actual Preservative or specific instructions
SV134-350-602		4/14/2020	1303	1SC01044	AVG048##	-25.0	-3.0	1L	X	None
SV134-450-202		4/14/2020	1313	1SC00502	NA	-26.0	-1.5	1L	X	None
SV135-025-202		4/14/2020	0914	1SC00812	AVG04834	-25.0	-1.0	1L	X	None
SV135-050-202		4/14/2020	0917	1SS00851	AVG05152	-24.0	-1.0	1L	X	None
SV135-150-202		4/14/2020	0921	1SC00115	AVG03946	-26.0	-3.0	1L	X	None
SV135-250-202		4/14/2020	0924	1SS01034	NA	-25.0	-1.0	1L	X	None
SV135-250-602		4/14/2020	0924	1SS00739	AVG04##9	-24.0	-3.5	1L	X	None
SV135-350-202		4/14/2020	0929	1SC00509	NA	-24.0	-2.0	1L	X	None
SV135-450-202		4/14/2020	0938	1SS00812	NA	-25.0	-3.0	1L	X	None
SV137-025-202		4/14/2020	1017	1SS00990	NA	-25.0	-3.0	1L	X	None

FedEX Tracking Number: 1028 3396 7655

Associated with Trip blank: SVTB-202-02

Shipping information: Box number 4 of 6

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____ Tier III (Results + QC & Calibration Summaries) ____
Tier II (Results + QC Summaries) ____ Tier IV (Data Validation Package) X

EDD required: Yes
Type: ERPIMS / EQuIS

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements: QAPP

Relinquished by: (Signature)	Date: 4/16/20	Time: 1100	Received by: (Signature)	Date: 4-20-20	Time: 1220
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Cooler / Blank Temperature NA °C

ALS Environmental

Sample Acceptance Check Form

Client: EA Engineering, Science, and Technology, Inc. Work order: P2002106

Project: Kirtland AFB Bulk Fuels Facility / 62735DM02

Sample(s) received on: 04/20/20 Date opened: 04/20/20 by: ADAVID

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☒	☐	☐
	Location of seal(s)? _____ Sealing Lid?	☒	☐	☐
	Were signature and date included?	☒	☐	☐
	Were seals intact?	☒	☐	☐
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2002106-001.01	1.0 L Source Silonite Canister					
P2002106-002.01	1.0 L Source Can					
P2002106-003.01	1.0 L Source Can					
P2002106-004.01	1.0 L Source Silonite Canister					
P2002106-005.01	1.0 L Source Can					
P2002106-006.01	1.0 L Source Silonite Canister					
P2002106-007.01	1.0 L Source Can					
P2002106-008.01	1.0 L Source Silonite Canister					
P2002106-009.01	1.0 L Source Silonite Canister					
P2002106-010.01	1.0 L Source Can					
P2002106-011.01	1.0 L Source Can					
P2002106-012.01	1.0 L Source Can					
P2002106-013.01	1.0 L Source Can					
P2002106-014.01	1.0 L Source Silonite Canister					
P2002106-015.01	1.0 L Source Can					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS Environmental

Sample Acceptance Check Form

Client: EA Engineering, Science, and Technology, Inc. Work order: P2002106

Project: Kirtland AFB Bulk Fuels Facility / 62735DM02

Sample(s) received on: 04/20/20 Date opened: 04/20/20 by: ADAVID

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2002106-016.01	1.0 L Source Silonite Canister					
P2002106-017.01	1.0 L Source Silonite Canister					
P2002106-018.01	1.0 L Source Can					
P2002106-019.01	1.0 L Source Silonite Canister					
P2002106-020.01	1.0 L Source Silonite Canister					

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV132-050-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-001

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4 - 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes: 0.015 Liter(s)
Container ID: 1SS00939

Initial Pressure (psig): -1.75 Final Pressure (psig): 5.78

Container Dilution Factor: 1.58

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	15	24	15	6.0	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	5.1	8.5	5.1	1.4	**U**
74-87-3	Chloromethane	12	20	12	3.3	**U**
75-01-4	Vinyl Chloride	5.3	17	5.3	1.8	**U**
106-99-0	1,3-Butadiene	11	19	11	3.1	**U**
75-00-3	Chloroethane	9.6	16	9.6	2.0	**U**
64-17-5	Ethanol	35	220	35	16	**U**
67-64-1	Acetone	90	180	90	40	**U**
75-69-4	Trichlorofluoromethane	4.5	7.5	4.5	1.1	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	20	68	20	7.1	**U**
75-09-2	Methylene Chloride	7.3	12	7.3	3.4	**U**
76-13-1	Trichlorotrifluoroethane	**2.6**	5.6	1.8	0.78	**J**
75-15-0	Carbon Disulfide	14	28	14	4.1	**U**
75-34-3	1,1-Dichloroethane	6.4	11	6.4	1.5	**U**
78-93-3	2-Butanone (MEK)	8.6	29	8.6	2.9	**U**
141-78-6	Ethyl Acetate	14	24	14	6.1	**U**
110-54-3	n-Hexane	7.2	12	7.2	2.5	**U**
67-66-3	Chloroform	**3.2**	8.7	2.8	1.1	**J**
109-99-9	Tetrahydrofuran (THF)	4.6	15	4.6	1.8	**U**
107-06-2	1,2-Dichloroethane	3.3	11	3.3	1.2	**U**
71-43-2	Benzene	4.2	13	4.2	1.9	**U**
56-23-5	Carbon Tetrachloride	**1.8**	6.7	2.1	0.93	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV132-050-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-001

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4 - 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes: 0.015 Liter(s)
Container ID: 1SS00939

Initial Pressure (psig): -1.75 Final Pressure (psig): 5.78

Container Dilution Factor: 1.58

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	7.8	25	7.8	3.4	**U**
75-27-4	Bromodichloromethane	2.0	6.4	2.0	0.91	**U**
79-01-6	Trichloroethene	**1,600**	11	3.3	1.4	**D**
123-91-1	1,4-Dioxane	3.7	12	3.7	1.4	**U**
142-82-5	n-Heptane	6.2	10	6.2	1.6	**U**
108-10-1	4-Methyl-2-pentanone	3.3	10	3.3	1.4	**U**
108-88-3	Toluene	3.6	11	3.6	1.4	**U**
591-78-6	2-Hexanone	3.3	10	3.3	1.3	**U**
124-48-1	Dibromochloromethane	1.6	5.0	1.6	0.65	**U**
106-93-4	1,2-Dibromoethane	1.7	5.6	1.7	0.64	**U**
127-18-4	Tetrachloroethene	**4.1**	6.1	2.0	0.80	**J**
100-41-4	Ethylbenzene	3.1	9.8	3.1	1.4	**U**
179601-23-1	m,p-Xylenes	6.2	20	6.2	2.5	**U**
75-25-2	Bromoform	2.4	4.1	2.4	0.84	**U**
100-42-5	Styrene	5.9	9.8	5.9	1.6	**U**
95-47-6	o-Xylene	3.1	9.8	3.1	1.4	**U**
108-67-8	1,3,5-Trimethylbenzene	2.7	8.5	2.7	1.2	**U**
95-63-6	1,2,4-Trimethylbenzene	**1.9**	8.7	2.7	1.2	**J**
120-82-1	1,2,4-Trichlorobenzene	3.4	5.7	3.4	1.4	**U**
91-20-3	Naphthalene	4.7	7.8	4.7	2.0	**U**
1330-20-7	Xylenes, Total	6.2	20	6.2	2.5	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV132-175-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-002

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.040 Liter(s)
Test Notes: 0.0040 Liter(s)
Container ID: 1SC00050

Initial Pressure (psig): -2.37 Final Pressure (psig): 5.61

Container Dilution Factor: 1.65

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	7.7	13	7.7	3.1	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.81**	4.4	2.7	0.73	**J**
74-87-3	Chloromethane	6.4	11	6.4	1.7	**U**
75-01-4	Vinyl Chloride	2.7	8.7	2.7	0.92	**U**
106-99-0	1,3-Butadiene	6.0	9.9	6.0	1.6	**U**
75-00-3	Chloroethane	5.0	8.4	5.0	1.0	**U**
64-17-5	Ethanol	18	110	18	8.1	**U**
67-64-1	Acetone	**28**	92	47	21	**J**
75-69-4	Trichlorofluoromethane	2.3	3.9	2.3	0.59	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	11	35	11	3.7	**U**
75-09-2	Methylene Chloride	3.8	6.3	3.8	1.8	**U**
76-13-1	Trichlorotrifluoroethane	**4.7**	2.9	0.92	0.41	
75-15-0	Carbon Disulfide	7.2	15	7.2	2.1	**U**
75-34-3	1,1-Dichloroethane	3.4	5.6	3.4	0.80	**U**
78-93-3	2-Butanone (MEK)	**2.4**	15	4.5	1.5	**J**
141-78-6	Ethyl Acetate	7.4	13	7.4	3.2	**U**
110-54-3	n-Hexane	3.7	6.3	3.7	1.3	**U**
67-66-3	Chloroform	**5.4**	4.6	1.4	0.60	
109-99-9	Tetrahydrofuran (THF)	**1.8**	7.7	2.4	0.94	**J**
107-06-2	1,2-Dichloroethane	1.7	5.5	1.7	0.60	**U**
71-43-2	Benzene	2.2	6.8	2.2	0.99	**U**
56-23-5	Carbon Tetrachloride	**3.7**	3.5	1.1	0.49	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV132-175-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-002

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.040 Liter(s)
Test Notes: 0.0040 Liter(s)
Container ID: 1SC00050

Initial Pressure (psig): -2.37 Final Pressure (psig): 5.61

Container Dilution Factor: 1.65

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	4.1	13	4.1	1.8	**U**
75-27-4	Bromodichloromethane	1.0	3.3	1.0	0.47	**U**
79-01-6	Trichloroethene	**6,600**	41	13	5.5	**D**
123-91-1	1,4-Dioxane	1.9	6.2	1.9	0.72	**U**
142-82-5	n-Heptane	3.2	5.4	3.2	0.86	**U**
108-10-1	4-Methyl-2-pentanone	1.7	5.3	1.7	0.74	**U**
108-88-3	Toluene	1.9	5.9	1.9	0.71	**U**
591-78-6	2-Hexanone	1.7	5.4	1.7	0.66	**U**
124-48-1	Dibromochloromethane	0.82	2.6	0.82	0.34	**U**
106-93-4	1,2-Dibromoethane	0.91	2.9	0.91	0.33	**U**
127-18-4	Tetrachloroethene	**10**	3.2	1.0	0.42	
100-41-4	Ethylbenzene	1.6	5.1	1.6	0.71	**U**
179601-23-1	m,p-Xylenes	3.2	10	3.2	1.3	**U**
75-25-2	Bromoform	1.3	2.2	1.3	0.44	**U**
100-42-5	Styrene	3.1	5.1	3.1	0.83	**U**
95-47-6	o-Xylene	1.6	5.1	1.6	0.73	**U**
108-67-8	1,3,5-Trimethylbenzene	1.4	4.4	1.4	0.65	**U**
95-63-6	1,2,4-Trimethylbenzene	**0.99**	4.5	1.4	0.62	**J**
120-82-1	1,2,4-Trichlorobenzene	1.8	3.0	1.8	0.72	**U**
91-20-3	Naphthalene	2.4	4.1	2.4	1.0	**U**
1330-20-7	Xylenes, Total	3.2	10	3.2	1.3	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV132-250-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-003

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.040 Liter(s)
Test Notes: 0.0040 Liter(s)
Container ID: 1SC01001

Initial Pressure (psig): -2.08 Final Pressure (psig): 5.22

Container Dilution Factor: 1.58

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	7.3	12	7.3	3.0	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	2.6	4.2	2.6	0.70	**U**
74-87-3	Chloromethane	6.1	10	6.1	1.6	**U**
75-01-4	Vinyl Chloride	2.6	8.3	2.6	0.88	**U**
106-99-0	1,3-Butadiene	5.7	9.5	5.7	1.6	**U**
75-00-3	Chloroethane	4.8	8.1	4.8	0.99	**U**
64-17-5	Ethanol	17	110	17	7.8	**U**
67-64-1	Acetone	45	88	45	20	**U**
75-69-4	Trichlorofluoromethane	2.3	3.7	2.3	0.57	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	10	34	10	3.5	**U**
75-09-2	Methylene Chloride	3.6	6.0	3.6	1.7	**U**
76-13-1	Trichlorotrifluoroethane	**1.6**	2.8	0.88	0.39	**J**
75-15-0	Carbon Disulfide	6.9	14	6.9	2.0	**U**
75-34-3	1,1-Dichloroethane	3.2	5.4	3.2	0.76	**U**
78-93-3	2-Butanone (MEK)	**2.9**	15	4.3	1.5	**J**
141-78-6	Ethyl Acetate	7.1	12	7.1	3.1	**U**
110-54-3	n-Hexane	3.6	6.1	3.6	1.2	**U**
67-66-3	Chloroform	**7.0**	4.4	1.4	0.57	
109-99-9	Tetrahydrofuran (THF)	**110**	7.4	2.3	0.90	
107-06-2	1,2-Dichloroethane	1.7	5.3	1.7	0.58	**U**
71-43-2	Benzene	2.1	6.6	2.1	0.95	**U**
56-23-5	Carbon Tetrachloride	**2.5**	3.3	1.1	0.46	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV132-250-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-003

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.040 Liter(s)
Test Notes: 0.0040 Liter(s)
Container ID: 1SC01001

Initial Pressure (psig): -2.08 Final Pressure (psig): 5.22

Container Dilution Factor: 1.58

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	3.9	13	3.9	1.7	**U**
75-27-4	Bromodichloromethane	1.0	3.2	1.0	0.45	**U**
79-01-6	Trichloroethene	**4,800**	40	12	5.3	**D**
123-91-1	1,4-Dioxane	1.9	5.9	1.9	0.69	**U**
142-82-5	n-Heptane	3.1	5.2	3.1	0.82	**U**
108-10-1	4-Methyl-2-pentanone	1.6	5.1	1.6	0.70	**U**
108-88-3	Toluene	1.8	5.7	1.8	0.68	**U**
591-78-6	2-Hexanone	1.6	5.2	1.6	0.64	**U**
124-48-1	Dibromochloromethane	0.79	2.5	0.79	0.32	**U**
106-93-4	1,2-Dibromoethane	0.87	2.8	0.87	0.32	**U**
127-18-4	Tetrachloroethene	**5.1**	3.0	0.99	0.40	
100-41-4	Ethylbenzene	1.5	4.9	1.5	0.68	**U**
179601-23-1	m,p-Xylenes	3.1	10	3.1	1.3	**U**
75-25-2	Bromoform	1.2	2.1	1.2	0.42	**U**
100-42-5	Styrene	3.0	4.9	3.0	0.80	**U**
95-47-6	o-Xylene	1.5	4.9	1.5	0.70	**U**
108-67-8	1,3,5-Trimethylbenzene	1.4	4.3	1.4	0.62	**U**
95-63-6	1,2,4-Trimethylbenzene	**0.82**	4.3	1.4	0.59	**J**
120-82-1	1,2,4-Trichlorobenzene	1.7	2.9	1.7	0.69	**U**
91-20-3	Naphthalene	2.3	3.9	2.3	0.98	**U**
1330-20-7	Xylenes, Total	3.1	10	3.1	1.3	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV132-350-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-004

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4 - 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00985

Initial Pressure (psig): -3.14 Final Pressure (psig): 5.77

Container Dilution Factor: 1.77

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.43**	1.4	0.82	0.33	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.29	0.47	0.29	0.078	**U**
74-87-3	Chloromethane	0.69	1.1	0.69	0.18	**U**
75-01-4	Vinyl Chloride	0.29	0.94	0.29	0.099	**U**
106-99-0	1,3-Butadiene	0.64	1.1	0.64	0.18	**U**
75-00-3	Chloroethane	0.54	0.91	0.54	0.11	**U**
64-17-5	Ethanol	1.9	12	1.9	0.87	**U**
67-64-1	Acetone	5.0	9.9	5.0	2.2	**U**
75-69-4	Trichlorofluoromethane	**0.073**	0.42	0.25	0.064	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.1	3.8	1.1	0.40	**U**
75-09-2	Methylene Chloride	0.41	0.68	0.41	0.19	**U**
76-13-1	Trichlorotrifluoroethane	**0.13**	0.31	0.098	0.044	**J**
75-15-0	Carbon Disulfide	**2.1**	1.6	0.77	0.23	
75-34-3	1,1-Dichloroethane	0.36	0.60	0.36	0.085	**U**
78-93-3	2-Butanone (MEK)	0.48	1.7	0.48	0.17	**U**
141-78-6	Ethyl Acetate	0.80	1.4	0.80	0.34	**U**
110-54-3	n-Hexane	0.40	0.68	0.40	0.14	**U**
67-66-3	Chloroform	**1.5**	0.49	0.15	0.064	
109-99-9	Tetrahydrofuran (THF)	**3.6**	0.83	0.26	0.10	
107-06-2	1,2-Dichloroethane	0.19	0.59	0.19	0.065	**U**
71-43-2	Benzene	**0.37**	0.73	0.24	0.11	**J**
56-23-5	Carbon Tetrachloride	**0.27**	0.37	0.12	0.052	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV132-350-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-004

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4 - 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00985

Initial Pressure (psig): -3.14 Final Pressure (psig): 5.77

Container Dilution Factor: 1.77

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.44	1.4	0.44	0.19	**U**
75-27-4	Bromodichloromethane	0.11	0.36	0.11	0.051	**U**
79-01-6	Trichloroethene	**130**	4.4	1.4	0.59	**D**
123-91-1	1,4-Dioxane	0.21	0.66	0.21	0.077	**U**
142-82-5	n-Heptane	0.35	0.58	0.35	0.092	**U**
108-10-1	4-Methyl-2-pentanone	0.18	0.57	0.18	0.079	**U**
108-88-3	Toluene	**0.26**	0.63	0.20	0.076	**J**
591-78-6	2-Hexanone	0.18	0.58	0.18	0.071	**U**
124-48-1	Dibromochloromethane	0.088	0.28	0.088	0.036	**U**
106-93-4	1,2-Dibromoethane	0.098	0.31	0.098	0.036	**U**
127-18-4	Tetrachloroethene	**0.33**	0.34	0.11	0.045	**J**
100-41-4	Ethylbenzene	0.17	0.55	0.17	0.076	**U**
179601-23-1	m,p-Xylenes	**0.30**	1.1	0.35	0.14	**J**
75-25-2	Bromoform	0.14	0.23	0.14	0.047	**U**
100-42-5	Styrene	0.33	0.55	0.33	0.089	**U**
95-47-6	o-Xylene	**0.12**	0.55	0.17	0.078	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.17**	0.48	0.15	0.069	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.77**	0.49	0.15	0.067	
120-82-1	1,2,4-Trichlorobenzene	0.19	0.32	0.19	0.078	**U**
91-20-3	Naphthalene	**0.21**	0.44	0.26	0.11	**J**
1330-20-7	Xylenes, Total	**0.42**	1.1	0.35	0.14	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV132-450-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-005

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4 - 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00991

Initial Pressure (psig): -2.80 Final Pressure (psig): 5.92

Container Dilution Factor: 1.73

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**2.8**		1.3	0.80	0.33	
75-71-8	Dichlorodifluoromethane (CFC 12)		0.28	0.46	0.28	0.076	**U**
74-87-3	Chloromethane	**7.0**		1.1	0.67	0.18	
75-01-4	Vinyl Chloride	**1.8**		0.91	0.29	0.096	
106-99-0	1,3-Butadiene		0.63	1.0	0.63	0.17	**U**
75-00-3	Chloroethane	**1.3**		0.89	0.52	0.11	
64-17-5	Ethanol	**2.8**		12	1.9	0.85	**J**
67-64-1	Acetone	**17**		9.7	4.9	2.2	
75-69-4	Trichlorofluoromethane		0.25	0.41	0.25	0.062	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	**2.0**		3.7	1.1	0.39	**J**
75-09-2	Methylene Chloride		0.40	0.66	0.40	0.19	**U**
76-13-1	Trichlorotrifluoroethane	**0.12**		0.30	0.096	0.043	**J**
75-15-0	Carbon Disulfide	**9.9**		1.5	0.75	0.22	
75-34-3	1,1-Dichloroethane	**0.74**		0.59	0.35	0.083	
78-93-3	2-Butanone (MEK)	**4.9**		1.6	0.47	0.16	
141-78-6	Ethyl Acetate		0.78	1.3	0.78	0.34	**U**
110-54-3	n-Hexane	**0.28**		0.66	0.39	0.14	**J**
67-66-3	Chloroform	**0.55**		0.48	0.15	0.063	
109-99-9	Tetrahydrofuran (THF)	**11**		0.81	0.25	0.098	
107-06-2	1,2-Dichloroethane	**0.35**		0.58	0.18	0.063	**J**
71-43-2	Benzene	**0.62**		0.72	0.23	0.10	**J**
56-23-5	Carbon Tetrachloride	**0.13**		0.36	0.12	0.051	**J**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV132-450-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-005

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4 - 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00991

Initial Pressure (psig): -2.80 Final Pressure (psig): 5.92

Container Dilution Factor: 1.73

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.43	1.4	0.43	0.19	**U**
75-27-4	Bromodichloromethane	0.11	0.35	0.11	0.050	**U**
79-01-6	Trichloroethene	**170**	4.3	1.4	0.58	**D**
123-91-1	1,4-Dioxane	0.20	0.65	0.20	0.076	**U**
142-82-5	n-Heptane	**0.26**	0.57	0.34	0.090	**J**
108-10-1	4-Methyl-2-pentanone	**0.27**	0.56	0.18	0.077	**J**
108-88-3	Toluene	**3.5**	0.62	0.20	0.075	
591-78-6	2-Hexanone	**0.40**	0.57	0.18	0.070	**J**
124-48-1	Dibromochloromethane	0.086	0.27	0.086	0.036	**U**
106-93-4	1,2-Dibromoethane	0.096	0.30	0.096	0.035	**U**
127-18-4	Tetrachloroethene	**0.32**	0.33	0.11	0.044	**J**
100-41-4	Ethylbenzene	**0.18**	0.54	0.17	0.075	**J**
179601-23-1	m,p-Xylenes	**0.71**	1.1	0.34	0.14	**J**
75-25-2	Bromoform	0.13	0.23	0.13	0.046	**U**
100-42-5	Styrene	0.33	0.54	0.33	0.087	**U**
95-47-6	o-Xylene	**0.27**	0.54	0.17	0.077	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.24**	0.47	0.15	0.068	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.96**	0.48	0.15	0.065	
120-82-1	1,2,4-Trichlorobenzene	0.19	0.31	0.19	0.076	**U**
91-20-3	Naphthalene	**0.12**	0.43	0.26	0.11	**J**
1330-20-7	Xylenes, Total	**0.99**	1.1	0.34	0.14	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV134-025-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-006

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01011

Initial Pressure (psig): -3.81 Final Pressure (psig): 6.09

Container Dilution Factor: 1.91

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**1.3**	1.5	0.89	0.36	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.49**	0.51	0.31	0.084	**J**
74-87-3	Chloromethane	**13**	1.2	0.74	0.20	
75-01-4	Vinyl Chloride	0.32	1.0	0.32	0.11	**U**
106-99-0	1,3-Butadiene	0.69	1.1	0.69	0.19	**U**
75-00-3	Chloroethane	**0.64**	0.98	0.58	0.12	**J**
64-17-5	Ethanol	**2.7**	13	2.1	0.94	**J**
67-64-1	Acetone	**38**	11	5.4	2.4	
75-69-4	Trichlorofluoromethane	**0.19**	0.45	0.27	0.069	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.71**	4.1	1.2	0.43	**J**
75-09-2	Methylene Chloride	0.44	0.73	0.44	0.21	**U**
76-13-1	Trichlorotrifluoroethane	**0.14**	0.34	0.11	0.047	**J**
75-15-0	Carbon Disulfide	**0.87**	1.7	0.83	0.25	**J**
75-34-3	1,1-Dichloroethane	0.39	0.65	0.39	0.092	**U**
78-93-3	2-Butanone (MEK)	**4.3**	1.8	0.52	0.18	
141-78-6	Ethyl Acetate	0.86	1.5	0.86	0.37	**U**
110-54-3	n-Hexane	0.43	0.73	0.43	0.15	**U**
67-66-3	Chloroform	**0.42**	0.53	0.17	0.069	**J**
109-99-9	Tetrahydrofuran (THF)	**0.19**	0.89	0.28	0.11	**J**
107-06-2	1,2-Dichloroethane	0.20	0.64	0.20	0.070	**U**
71-43-2	Benzene	**0.21**	0.79	0.25	0.12	**J**
56-23-5	Carbon Tetrachloride	**0.069**	0.40	0.13	0.056	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV134-025-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-006

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01011

Initial Pressure (psig): -3.81 Final Pressure (psig): 6.09

Container Dilution Factor: 1.91

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.47	1.5	0.47	0.21	**U**
75-27-4	Bromodichloromethane	0.12	0.39	0.12	0.055	**U**
79-01-6	Trichloroethene	**3.6**	0.48	0.15	0.064	
123-91-1	1,4-Dioxane	0.23	0.72	0.23	0.084	**U**
142-82-5	n-Heptane	0.37	0.63	0.37	0.099	**U**
108-10-1	4-Methyl-2-pentanone	0.20	0.62	0.20	0.085	**U**
108-88-3	Toluene	**1.3**	0.68	0.22	0.082	
591-78-6	2-Hexanone	**0.36**	0.63	0.20	0.077	**J**
124-48-1	Dibromochloromethane	0.095	0.30	0.095	0.039	**U**
106-93-4	1,2-Dibromoethane	0.11	0.34	0.11	0.039	**U**
127-18-4	Tetrachloroethene	**0.11**	0.37	0.12	0.049	**J**
100-41-4	Ethylbenzene	**0.22**	0.59	0.19	0.082	**J**
179601-23-1	m,p-Xylenes	**1.1**	1.2	0.37	0.15	**J**
75-25-2	Bromoform	0.15	0.25	0.15	0.051	**U**
100-42-5	Styrene	0.36	0.59	0.36	0.096	**U**
95-47-6	o-Xylene	**0.55**	0.59	0.19	0.085	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.28**	0.51	0.17	0.075	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.75**	0.52	0.17	0.072	
120-82-1	1,2,4-Trichlorobenzene	0.21	0.35	0.21	0.084	**U**
91-20-3	Naphthalene	**0.58**	0.47	0.28	0.12	
1330-20-7	Xylenes, Total	**1.6**	1.2	0.37	0.15	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV134-050-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-007

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00478

Initial Pressure (psig): -3.61 Final Pressure (psig): 5.65

Container Dilution Factor: 1.83

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.83**	1.4	0.85	0.35	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.50**	0.49	0.30	0.081	
74-87-3	Chloromethane	0.71	1.2	0.71	0.19	**U**
75-01-4	Vinyl Chloride	0.30	0.97	0.30	0.10	**U**
106-99-0	1,3-Butadiene	0.66	1.1	0.66	0.18	**U**
75-00-3	Chloroethane	0.56	0.94	0.56	0.11	**U**
64-17-5	Ethanol	**3.0**	13	2.0	0.90	**J**
67-64-1	Acetone	**13**	10	5.2	2.3	
75-69-4	Trichlorofluoromethane	**0.19**	0.43	0.26	0.066	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.50**	3.9	1.2	0.41	**J**
75-09-2	Methylene Chloride	0.42	0.70	0.42	0.20	**U**
76-13-1	Trichlorotrifluoroethane	**0.16**	0.32	0.10	0.045	**J**
75-15-0	Carbon Disulfide	**0.34**	1.6	0.79	0.24	**J**
75-34-3	1,1-Dichloroethane	0.37	0.62	0.37	0.088	**U**
78-93-3	2-Butanone (MEK)	**2.2**	1.7	0.50	0.17	
141-78-6	Ethyl Acetate	0.83	1.4	0.83	0.36	**U**
110-54-3	n-Hexane	0.42	0.70	0.42	0.14	**U**
67-66-3	Chloroform	0.16	0.51	0.16	0.067	**U**
109-99-9	Tetrahydrofuran (THF)	0.26	0.85	0.26	0.10	**U**
107-06-2	1,2-Dichloroethane	0.19	0.61	0.19	0.067	**U**
71-43-2	Benzene	0.24	0.76	0.24	0.11	**U**
56-23-5	Carbon Tetrachloride	**0.054**	0.39	0.12	0.054	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV134-050-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-007

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00478

Initial Pressure (psig): -3.61 Final Pressure (psig): 5.65

Container Dilution Factor: 1.83

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.45	1.5	0.45	0.20	**U**
75-27-4	Bromodichloromethane	0.12	0.37	0.12	0.053	**U**
79-01-6	Trichloroethene	**4.8**	0.46	0.14	0.061	
123-91-1	1,4-Dioxane	0.22	0.69	0.22	0.080	**U**
142-82-5	n-Heptane	0.36	0.60	0.36	0.095	**U**
108-10-1	4-Methyl-2-pentanone	0.19	0.59	0.19	0.082	**U**
108-88-3	Toluene	**0.18**	0.66	0.21	0.079	**J**
591-78-6	2-Hexanone	**0.38**	0.60	0.19	0.074	**J**
124-48-1	Dibromochloromethane	0.091	0.29	0.091	0.038	**U**
106-93-4	1,2-Dibromoethane	0.10	0.32	0.10	0.037	**U**
127-18-4	Tetrachloroethene	**0.17**	0.35	0.11	0.047	**J**
100-41-4	Ethylbenzene	0.18	0.57	0.18	0.079	**U**
179601-23-1	m,p-Xylenes	**0.32**	1.2	0.36	0.15	**J**
75-25-2	Bromoform	0.14	0.24	0.14	0.049	**U**
100-42-5	Styrene	0.34	0.57	0.34	0.092	**U**
95-47-6	o-Xylene	**0.17**	0.57	0.18	0.081	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.12**	0.49	0.16	0.072	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.41**	0.50	0.16	0.069	**J**
120-82-1	1,2,4-Trichlorobenzene	0.20	0.33	0.20	0.080	**U**
91-20-3	Naphthalene	0.27	0.45	0.27	0.11	**U**
1330-20-7	Xylenes, Total	**0.49**	1.2	0.36	0.15	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV134-170-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-008

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00857

Initial Pressure (psig): -2.46 Final Pressure (psig): 5.51

Container Dilution Factor: 1.65

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.48**	1.3	0.77	0.31	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.42**	0.44	0.27	0.073	**J**
74-87-3	Chloromethane	**0.20**	1.1	0.64	0.17	**J**
75-01-4	Vinyl Chloride	0.27	0.87	0.27	0.092	**U**
106-99-0	1,3-Butadiene	0.60	0.99	0.60	0.16	**U**
75-00-3	Chloroethane	0.50	0.84	0.50	0.10	**U**
64-17-5	Ethanol	**2.7**	11	1.8	0.81	**J**
67-64-1	Acetone	**21**	9.2	4.7	2.1	
75-69-4	Trichlorofluoromethane	**0.16**	0.39	0.23	0.059	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.1	3.5	1.1	0.37	**U**
75-09-2	Methylene Chloride	0.38	0.63	0.38	0.18	**U**
76-13-1	Trichlorotrifluoroethane	**0.26**	0.29	0.092	0.041	**J**
75-15-0	Carbon Disulfide	**3.2**	1.5	0.72	0.21	
75-34-3	1,1-Dichloroethane	0.34	0.56	0.34	0.080	**U**
78-93-3	2-Butanone (MEK)	**6.5**	1.5	0.45	0.15	
141-78-6	Ethyl Acetate	**0.68**	1.3	0.74	0.32	**J**
110-54-3	n-Hexane	**0.29**	0.63	0.37	0.13	**J**
67-66-3	Chloroform	**0.12**	0.46	0.14	0.060	**J**
109-99-9	Tetrahydrofuran (THF)	**4.5**	0.77	0.24	0.094	
107-06-2	1,2-Dichloroethane	0.17	0.55	0.17	0.060	**U**
71-43-2	Benzene	**0.22**	0.68	0.22	0.099	**J**
56-23-5	Carbon Tetrachloride	**0.10**	0.35	0.11	0.049	**J**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV134-170-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-008

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00857

Initial Pressure (psig): -2.46 Final Pressure (psig): 5.51

Container Dilution Factor: 1.65

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**0.34**		1.3	0.41	0.18	**J**
75-27-4	Bromodichloromethane		0.10	0.33	0.10	0.047	**U**
79-01-6	Trichloroethene	**22**		0.41	0.13	0.055	
123-91-1	1,4-Dioxane		0.19	0.62	0.19	0.072	**U**
142-82-5	n-Heptane	**0.11**		0.54	0.32	0.086	**J**
108-10-1	4-Methyl-2-pentanone		0.17	0.53	0.17	0.074	**U**
108-88-3	Toluene	**0.78**		0.59	0.19	0.071	
591-78-6	2-Hexanone		0.17	0.54	0.17	0.066	**U**
124-48-1	Dibromochloromethane		0.082	0.26	0.082	0.034	**U**
106-93-4	1,2-Dibromoethane		0.091	0.29	0.091	0.033	**U**
127-18-4	Tetrachloroethene	**0.29**		0.32	0.10	0.042	**J**
100-41-4	Ethylbenzene	**0.13**		0.51	0.16	0.071	**J**
179601-23-1	m,p-Xylenes	**1.1**		1.0	0.32	0.13	
75-25-2	Bromoform		0.13	0.22	0.13	0.044	**U**
100-42-5	Styrene		0.31	0.51	0.31	0.083	**U**
95-47-6	o-Xylene	**0.53**		0.51	0.16	0.073	
108-67-8	1,3,5-Trimethylbenzene	**0.33**		0.44	0.14	0.065	**J**
95-63-6	1,2,4-Trimethylbenzene	**1.4**		0.45	0.14	0.062	
120-82-1	1,2,4-Trichlorobenzene		0.18	0.30	0.18	0.072	**U**
91-20-3	Naphthalene	**0.20**		0.41	0.24	0.10	**J**
1330-20-7	Xylenes, Total	**1.7**		1.0	0.32	0.13	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV134-250-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-009

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00087

Initial Pressure (psig): -2.92 Final Pressure (psig): 5.99

Container Dilution Factor: 1.76

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.41**	1.4	0.82	0.33	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.39**	0.47	0.28	0.077	**J**
74-87-3	Chloromethane	0.68	1.1	0.68	0.18	**U**
75-01-4	Vinyl Chloride	0.29	0.93	0.29	0.098	**U**
106-99-0	1,3-Butadiene	0.64	1.1	0.64	0.18	**U**
75-00-3	Chloroethane	0.53	0.90	0.53	0.11	**U**
64-17-5	Ethanol	**1.8**	12	1.9	0.86	**J**
67-64-1	Acetone	**4.4**	9.8	5.0	2.2	**J**
75-69-4	Trichlorofluoromethane	**0.14**	0.42	0.25	0.063	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.1	3.8	1.1	0.39	**U**
75-09-2	Methylene Chloride	0.41	0.67	0.41	0.19	**U**
76-13-1	Trichlorotrifluoroethane	**0.18**	0.31	0.098	0.044	**J**
75-15-0	Carbon Disulfide	**7.2**	1.6	0.76	0.23	
75-34-3	1,1-Dichloroethane	0.36	0.60	0.36	0.085	**U**
78-93-3	2-Butanone (MEK)	**0.75**	1.6	0.48	0.16	**J**
141-78-6	Ethyl Acetate	0.79	1.3	0.79	0.34	**U**
110-54-3	n-Hexane	0.40	0.67	0.40	0.14	**U**
67-66-3	Chloroform	**0.12**	0.49	0.15	0.064	**J**
109-99-9	Tetrahydrofuran (THF)	**3.0**	0.82	0.25	0.10	
107-06-2	1,2-Dichloroethane	0.18	0.59	0.18	0.064	**U**
71-43-2	Benzene	**0.21**	0.73	0.23	0.11	**J**
56-23-5	Carbon Tetrachloride	**0.092**	0.37	0.12	0.052	**J**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV134-250-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-009

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00087

Initial Pressure (psig): -2.92 Final Pressure (psig): 5.99

Container Dilution Factor: 1.76

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.43	1.4	0.43	0.19	**U**
75-27-4	Bromodichloromethane	0.11	0.35	0.11	0.051	**U**
79-01-6	Trichloroethene	**17**	0.44	0.14	0.059	
123-91-1	1,4-Dioxane	0.21	0.66	0.21	0.077	**U**
142-82-5	n-Heptane	0.34	0.58	0.34	0.091	**U**
108-10-1	4-Methyl-2-pentanone	0.18	0.57	0.18	0.078	**U**
108-88-3	Toluene	**0.20**	0.63	0.20	0.076	**J**
591-78-6	2-Hexanone	0.18	0.58	0.18	0.071	**U**
124-48-1	Dibromochloromethane	0.088	0.28	0.088	0.036	**U**
106-93-4	1,2-Dibromoethane	0.097	0.31	0.097	0.036	**U**
127-18-4	Tetrachloroethene	**0.24**	0.34	0.11	0.045	**J**
100-41-4	Ethylbenzene	0.17	0.55	0.17	0.076	**U**
179601-23-1	m,p-Xylenes	**0.33**	1.1	0.34	0.14	**J**
75-25-2	Bromoform	0.14	0.23	0.14	0.047	**U**
100-42-5	Styrene	0.33	0.55	0.33	0.089	**U**
95-47-6	o-Xylene	**0.16**	0.55	0.17	0.078	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.11**	0.47	0.15	0.069	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.45**	0.48	0.15	0.066	**J**
120-82-1	1,2,4-Trichlorobenzene	0.19	0.32	0.19	0.077	**U**
91-20-3	Naphthalene	0.26	0.44	0.26	0.11	**U**
1330-20-7	Xylenes, Total	**0.49**	1.1	0.34	0.14	**J**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV134-350-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-010

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00384

Initial Pressure (psig): -2.84 Final Pressure (psig): 5.57

Container Dilution Factor: 1.71

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.80	1.3	0.80	0.32	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.36**	0.46	0.28	0.075	**J**
74-87-3	Chloromethane	0.66	1.1	0.66	0.18	**U**
75-01-4	Vinyl Chloride	0.28	0.90	0.28	0.095	**U**
106-99-0	1,3-Butadiene	0.62	1.0	0.62	0.17	**U**
75-00-3	Chloroethane	0.52	0.88	0.52	0.11	**U**
64-17-5	Ethanol	**6.0**	12	1.9	0.84	**J**
67-64-1	Acetone	**8.3**	9.5	4.9	2.2	**J**
75-69-4	Trichlorofluoromethane	**0.13**	0.40	0.24	0.062	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.0**	3.7	1.1	0.38	**J**
75-09-2	Methylene Chloride	0.39	0.65	0.39	0.18	**U**
76-13-1	Trichlorotrifluoroethane	**0.098**	0.30	0.095	0.042	**J**
75-15-0	Carbon Disulfide	**4.3**	1.5	0.74	0.22	
75-34-3	1,1-Dichloroethane	0.35	0.58	0.35	0.082	**U**
78-93-3	2-Butanone (MEK)	**2.0**	1.6	0.46	0.16	
141-78-6	Ethyl Acetate	**8.7**	1.3	0.77	0.33	
110-54-3	n-Hexane	**1.4**	0.66	0.39	0.13	
67-66-3	Chloroform	**0.19**	0.47	0.15	0.062	**J**
109-99-9	Tetrahydrofuran (THF)	**5.6**	0.80	0.25	0.097	
107-06-2	1,2-Dichloroethane	0.18	0.57	0.18	0.062	**U**
71-43-2	Benzene	**0.53**	0.71	0.23	0.10	**J**
56-23-5	Carbon Tetrachloride	**0.088**	0.36	0.12	0.050	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV134-350-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-010

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00384

Initial Pressure (psig): -2.84 Final Pressure (psig): 5.57

Container Dilution Factor: 1.71

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**11**	1.4	0.42	0.19	
75-27-4	Bromodichloromethane	0.11	0.34	0.11	0.049	**U**
79-01-6	Trichloroethene	**18**	0.43	0.14	0.057	
123-91-1	1,4-Dioxane	0.20	0.64	0.20	0.075	**U**
142-82-5	n-Heptane	0.33	0.56	0.33	0.089	**U**
108-10-1	4-Methyl-2-pentanone	0.18	0.55	0.18	0.076	**U**
108-88-3	Toluene	**1.3**	0.61	0.19	0.074	
591-78-6	2-Hexanone	**0.20**	0.56	0.18	0.069	**J**
124-48-1	Dibromochloromethane	0.085	0.27	0.085	0.035	**U**
106-93-4	1,2-Dibromoethane	0.095	0.30	0.095	0.035	**U**
127-18-4	Tetrachloroethene	**0.11**	0.33	0.11	0.044	**J**
100-41-4	Ethylbenzene	**0.23**	0.53	0.17	0.074	**J**
179601-23-1	m,p-Xylenes	**1.3**	1.1	0.33	0.14	
75-25-2	Bromoform	0.13	0.22	0.13	0.045	**U**
100-42-5	Styrene	0.32	0.53	0.32	0.086	**U**
95-47-6	o-Xylene	**0.45**	0.53	0.17	0.076	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.22**	0.46	0.15	0.067	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.76**	0.47	0.15	0.064	
120-82-1	1,2,4-Trichlorobenzene	0.18	0.31	0.18	0.075	**U**
91-20-3	Naphthalene	**0.11**	0.42	0.25	0.11	**J**
1330-20-7	Xylenes, Total	**1.7**	1.1	0.33	0.14	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV134-350-602** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-011

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01044

Initial Pressure (psig): -3.62 Final Pressure (psig): 5.74

Container Dilution Factor: 1.84

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.86	1.4	0.86	0.35	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.38**	0.49	0.30	0.081	**J**
74-87-3	Chloromethane	0.71	1.2	0.71	0.19	**U**
75-01-4	Vinyl Chloride	0.31	0.97	0.31	0.10	**U**
106-99-0	1,3-Butadiene	0.67	1.1	0.67	0.18	**U**
75-00-3	Chloroethane	0.56	0.94	0.56	0.12	**U**
64-17-5	Ethanol	**5.2**	13	2.0	0.90	**J**
67-64-1	Acetone	5.2	10	5.2	2.3	**U**
75-69-4	Trichlorofluoromethane	**0.14**	0.43	0.26	0.066	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.2	3.9	1.2	0.41	**U**
75-09-2	Methylene Chloride	0.42	0.70	0.42	0.20	**U**
76-13-1	Trichlorotrifluoroethane	**0.098**	0.32	0.10	0.046	**J**
75-15-0	Carbon Disulfide	**4.1**	1.6	0.80	0.24	
75-34-3	1,1-Dichloroethane	0.38	0.63	0.38	0.089	**U**
78-93-3	2-Butanone (MEK)	**1.1**	1.7	0.50	0.17	**J**
141-78-6	Ethyl Acetate	0.83	1.4	0.83	0.36	**U**
110-54-3	n-Hexane	**1.1**	0.71	0.42	0.14	
67-66-3	Chloroform	**0.17**	0.51	0.16	0.067	**J**
109-99-9	Tetrahydrofuran (THF)	**6.1**	0.86	0.27	0.10	
107-06-2	1,2-Dichloroethane	0.19	0.61	0.19	0.067	**U**
71-43-2	Benzene	**0.49**	0.76	0.24	0.11	**J**
56-23-5	Carbon Tetrachloride	**0.083**	0.39	0.12	0.054	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV134-350-602** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-011

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01044

Initial Pressure (psig): -3.62 Final Pressure (psig): 5.74

Container Dilution Factor: 1.84

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**11**	1.5	0.45	0.20	
75-27-4	Bromodichloromethane	0.12	0.37	0.12	0.053	**U**
79-01-6	Trichloroethene	**17**	0.46	0.15	0.062	
123-91-1	1,4-Dioxane	0.22	0.69	0.22	0.080	**U**
142-82-5	n-Heptane	**0.14**	0.61	0.36	0.095	**J**
108-10-1	4-Methyl-2-pentanone	0.19	0.60	0.19	0.082	**U**
108-88-3	Toluene	**0.96**	0.66	0.21	0.079	
591-78-6	2-Hexanone	0.19	0.61	0.19	0.074	**U**
124-48-1	Dibromochloromethane	0.092	0.29	0.092	0.038	**U**
106-93-4	1,2-Dibromoethane	0.10	0.32	0.10	0.037	**U**
127-18-4	Tetrachloroethene	**0.23**	0.35	0.12	0.047	**J**
100-41-4	Ethylbenzene	**0.17**	0.57	0.18	0.079	**J**
179601-23-1	m,p-Xylenes	**1.6**	1.2	0.36	0.15	
75-25-2	Bromoform	0.14	0.24	0.14	0.049	**U**
100-42-5	Styrene	0.35	0.57	0.35	0.093	**U**
95-47-6	o-Xylene	**0.71**	0.57	0.18	0.082	
108-67-8	1,3,5-Trimethylbenzene	**0.57**	0.50	0.16	0.072	
95-63-6	1,2,4-Trimethylbenzene	**2.2**	0.51	0.16	0.069	
120-82-1	1,2,4-Trichlorobenzene	0.20	0.33	0.20	0.081	**U**
91-20-3	Naphthalene	**0.20**	0.46	0.27	0.11	**J**
1330-20-7	Xylenes, Total	**2.3**	1.2	0.36	0.15	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV134-450-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-012

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.015 Liter(s)
Test Notes:
Container ID: 1SC00502

Initial Pressure (psig): -2.56 Final Pressure (psig): 6.01

Container Dilution Factor: 1.71

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	21	35	21	8.6	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	7.4	12	7.4	2.0	**U**
74-87-3	Chloromethane	18	29	18	4.7	**U**
75-01-4	Vinyl Chloride	7.6	24	7.6	2.5	**U**
106-99-0	1,3-Butadiene	16	27	16	4.5	**U**
75-00-3	Chloroethane	14	23	14	2.9	**U**
64-17-5	Ethanol	50	310	50	22	**U**
67-64-1	Acetone	130	250	130	58	**U**
75-69-4	Trichlorofluoromethane	6.5	11	6.5	1.6	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	29	97	29	10	**U**
75-09-2	Methylene Chloride	11	17	11	4.9	**U**
76-13-1	Trichlorotrifluoroethane	2.5	8.0	2.5	1.1	**U**
75-15-0	Carbon Disulfide	**11**	40	20	5.9	**J**
75-34-3	1,1-Dichloroethane	9.3	15	9.3	2.2	**U**
78-93-3	2-Butanone (MEK)	12	43	12	4.3	**U**
141-78-6	Ethyl Acetate	21	35	21	8.9	**U**
110-54-3	n-Hexane	**100**	17	10	3.6	
67-66-3	Chloroform	4.0	13	4.0	1.7	**U**
109-99-9	Tetrahydrofuran (THF)	6.6	21	6.6	2.6	**U**
107-06-2	1,2-Dichloroethane	4.8	15	4.8	1.7	**U**
71-43-2	Benzene	**120**	19	6.1	2.7	
56-23-5	Carbon Tetrachloride	3.1	9.6	3.1	1.3	**U**

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV134-450-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-012

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.015 Liter(s)
Test Notes:
Container ID: 1SC00502

Initial Pressure (psig): -2.56 Final Pressure (psig): 6.01

Container Dilution Factor: 1.71

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**120**	36	11	5.0	
75-27-4	Bromodichloromethane	2.9	9.2	2.9	1.3	**U**
79-01-6	Trichloroethene	**44**	11	3.6	1.5	
123-91-1	1,4-Dioxane	5.4	17	5.4	2.0	**U**
142-82-5	n-Heptane	**30**	15	8.9	2.4	
108-10-1	4-Methyl-2-pentanone	4.7	15	4.7	2.0	**U**
108-88-3	Toluene	5.1	16	5.1	2.0	**U**
591-78-6	2-Hexanone	4.7	15	4.7	1.8	**U**
124-48-1	Dibromochloromethane	2.3	7.2	2.3	0.94	**U**
106-93-4	1,2-Dibromoethane	2.5	8.0	2.5	0.92	**U**
127-18-4	Tetrachloroethene	2.9	8.7	2.9	1.2	**U**
100-41-4	Ethylbenzene	4.5	14	4.5	2.0	**U**
179601-23-1	m,p-Xylenes	8.9	29	8.9	3.7	**U**
75-25-2	Bromoform	3.5	6.0	3.5	1.2	**U**
100-42-5	Styrene	8.6	14	8.6	2.3	**U**
95-47-6	o-Xylene	**6.1**	14	4.5	2.0	**J**
108-67-8	1,3,5-Trimethylbenzene	**10**	12	3.9	1.8	**J**
95-63-6	1,2,4-Trimethylbenzene	3.9	13	3.9	1.7	**U**
120-82-1	1,2,4-Trichlorobenzene	4.9	8.3	4.9	2.0	**U**
91-20-3	Naphthalene	6.7	11	6.7	2.8	**U**
1330-20-7	Xylenes, Total	**6.1**	29	8.9	3.7	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV135-025-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-013

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00812

Initial Pressure (psig): -3.40 Final Pressure (psig): 4.49

Container Dilution Factor: 1.70

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**1.9**	1.3	0.79	0.32	
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.15**	0.46	0.28	0.075	**J**
74-87-3	Chloromethane	**9.3**	1.1	0.66	0.18	
75-01-4	Vinyl Chloride	**2.1**	0.90	0.28	0.095	
106-99-0	1,3-Butadiene	**0.22**	1.0	0.62	0.17	**J**
75-00-3	Chloroethane	**2.4**	0.87	0.52	0.11	
64-17-5	Ethanol	**3.0**	12	1.9	0.83	**J**
67-64-1	Acetone	**6.2**	9.5	4.8	2.1	**J**
75-69-4	Trichlorofluoromethane	**0.089**	0.40	0.24	0.061	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.1	3.6	1.1	0.38	**U**
75-09-2	Methylene Chloride	0.39	0.65	0.39	0.18	**U**
76-13-1	Trichlorotrifluoroethane	**0.060**	0.30	0.094	0.042	**J**
75-15-0	Carbon Disulfide	**24**	1.5	0.74	0.22	
75-34-3	1,1-Dichloroethane	**0.24**	0.58	0.35	0.082	**J**
78-93-3	2-Butanone (MEK)	**1.1**	1.6	0.46	0.16	**J**
141-78-6	Ethyl Acetate	0.77	1.3	0.77	0.33	**U**
110-54-3	n-Hexane	**0.18**	0.65	0.39	0.13	**J**
67-66-3	Chloroform	**0.14**	0.47	0.15	0.062	**J**
109-99-9	Tetrahydrofuran (THF)	**14**	0.79	0.25	0.097	
107-06-2	1,2-Dichloroethane	**0.85**	0.57	0.18	0.062	
71-43-2	Benzene	**0.53**	0.71	0.23	0.10	**J**
56-23-5	Carbon Tetrachloride	**0.10**	0.36	0.11	0.050	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV135-025-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-013

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00812

Initial Pressure (psig): -3.40 Final Pressure (psig): 4.49

Container Dilution Factor: 1.70

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.42	1.4	0.42	0.19	**U**
75-27-4	Bromodichloromethane	0.11	0.34	0.11	0.049	**U**
79-01-6	Trichloroethene	**15**	0.43	0.13	0.057	
123-91-1	1,4-Dioxane	0.20	0.64	0.20	0.074	**U**
142-82-5	n-Heptane	**0.27**	0.56	0.33	0.088	**J**
108-10-1	4-Methyl-2-pentanone	**1.3**	0.55	0.18	0.076	
108-88-3	Toluene	**0.82**	0.61	0.19	0.073	
591-78-6	2-Hexanone	**0.082**	0.56	0.18	0.069	**J**
124-48-1	Dibromochloromethane	0.085	0.27	0.085	0.035	**U**
106-93-4	1,2-Dibromoethane	0.094	0.30	0.094	0.034	**U**
127-18-4	Tetrachloroethene	0.11	0.33	0.11	0.043	**U**
100-41-4	Ethylbenzene	**0.32**	0.53	0.17	0.073	**J**
179601-23-1	m,p-Xylenes	**1.1**	1.1	0.33	0.14	
75-25-2	Bromoform	0.13	0.22	0.13	0.045	**U**
100-42-5	Styrene	0.32	0.53	0.32	0.086	**U**
95-47-6	o-Xylene	**0.25**	0.53	0.17	0.075	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.11**	0.46	0.15	0.067	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.55**	0.47	0.15	0.064	
120-82-1	1,2,4-Trichlorobenzene	0.18	0.31	0.18	0.074	**U**
91-20-3	Naphthalene	0.25	0.42	0.25	0.11	**U**
1330-20-7	Xylenes, Total	**1.3**	1.1	0.33	0.14	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV135-050-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-014

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00851

Initial Pressure (psig): -2.19 Final Pressure (psig): 5.84

Container Dilution Factor: 1.64

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.76	1.3	0.76	0.31	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.43**	0.44	0.27	0.072	**J**
74-87-3	Chloromethane	0.64	1.1	0.64	0.17	**U**
75-01-4	Vinyl Chloride	0.27	0.87	0.27	0.091	**U**
106-99-0	1,3-Butadiene	0.59	0.98	0.59	0.16	**U**
75-00-3	Chloroethane	0.50	0.84	0.50	0.10	**U**
64-17-5	Ethanol	**3.3**	11	1.8	0.81	**J**
67-64-1	Acetone	4.7	9.2	4.7	2.1	**U**
75-69-4	Trichlorofluoromethane	**0.21**	0.39	0.23	0.059	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.1	3.5	1.1	0.37	**U**
75-09-2	Methylene Chloride	0.38	0.63	0.38	0.18	**U**
76-13-1	Trichlorotrifluoroethane	**0.14**	0.29	0.091	0.041	**J**
75-15-0	Carbon Disulfide	**1.0**	1.4	0.71	0.21	**J**
75-34-3	1,1-Dichloroethane	0.33	0.56	0.33	0.079	**U**
78-93-3	2-Butanone (MEK)	**0.35**	1.5	0.45	0.15	**J**
141-78-6	Ethyl Acetate	**1.6**	1.3	0.74	0.32	
110-54-3	n-Hexane	0.37	0.63	0.37	0.13	**U**
67-66-3	Chloroform	**0.15**	0.45	0.14	0.060	**J**
109-99-9	Tetrahydrofuran (THF)	**5.7**	0.76	0.24	0.093	
107-06-2	1,2-Dichloroethane	0.17	0.55	0.17	0.060	**U**
71-43-2	Benzene	0.22	0.68	0.22	0.099	**U**
56-23-5	Carbon Tetrachloride	**0.074**	0.35	0.11	0.048	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV135-050-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-014

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00851

Initial Pressure (psig): -2.19 Final Pressure (psig): 5.84

Container Dilution Factor: 1.64

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.41	1.3	0.41	0.18	**U**
75-27-4	Bromodichloromethane	0.10	0.33	0.10	0.047	**U**
79-01-6	Trichloroethene	**53**	0.41	0.13	0.055	
123-91-1	1,4-Dioxane	0.19	0.61	0.19	0.072	**U**
142-82-5	n-Heptane	**0.14**	0.54	0.32	0.085	**J**
108-10-1	4-Methyl-2-pentanone	0.17	0.53	0.17	0.073	**U**
108-88-3	Toluene	**0.68**	0.59	0.19	0.071	
591-78-6	2-Hexanone	0.17	0.54	0.17	0.066	**U**
124-48-1	Dibromochloromethane	0.082	0.26	0.082	0.034	**U**
106-93-4	1,2-Dibromoethane	0.091	0.29	0.091	0.033	**U**
127-18-4	Tetrachloroethene	**0.094**	0.31	0.10	0.042	**J**
100-41-4	Ethylbenzene	**0.15**	0.51	0.16	0.071	**J**
179601-23-1	m,p-Xylenes	**0.82**	1.0	0.32	0.13	**J**
75-25-2	Bromoform	0.13	0.21	0.13	0.044	**U**
100-42-5	Styrene	0.31	0.51	0.31	0.083	**U**
95-47-6	o-Xylene	**0.27**	0.51	0.16	0.073	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.40**	0.44	0.14	0.064	**J**
95-63-6	1,2,4-Trimethylbenzene	**2.0**	0.45	0.14	0.062	
120-82-1	1,2,4-Trichlorobenzene	0.18	0.30	0.18	0.072	**U**
91-20-3	Naphthalene	**0.40**	0.41	0.24	0.10	**J**
1330-20-7	Xylenes, Total	**1.1**	1.0	0.32	0.13	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV135-150-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-015

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4 - 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00115

Initial Pressure (psig): -2.84 Final Pressure (psig): 5.73

Container Dilution Factor: 1.72

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.46**	1.3	0.80	0.32	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.42**	0.46	0.28	0.076	**J**
74-87-3	Chloromethane	0.67	1.1	0.67	0.18	**U**
75-01-4	Vinyl Chloride	0.29	0.91	0.29	0.096	**U**
106-99-0	1,3-Butadiene	0.62	1.0	0.62	0.17	**U**
75-00-3	Chloroethane	0.52	0.88	0.52	0.11	**U**
64-17-5	Ethanol	**14**	12	1.9	0.84	
67-64-1	Acetone	**9.6**	9.6	4.9	2.2	
75-69-4	Trichlorofluoromethane	**0.18**	0.41	0.24	0.062	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.53**	3.7	1.1	0.39	**J**
75-09-2	Methylene Chloride	0.40	0.66	0.40	0.19	**U**
76-13-1	Trichlorotrifluoroethane	**0.32**	0.30	0.095	0.043	
75-15-0	Carbon Disulfide	**2.8**	1.5	0.75	0.22	
75-34-3	1,1-Dichloroethane	0.35	0.58	0.35	0.083	**U**
78-93-3	2-Butanone (MEK)	**9.2**	1.6	0.47	0.16	
141-78-6	Ethyl Acetate	**9.1**	1.3	0.78	0.33	
110-54-3	n-Hexane	0.39	0.66	0.39	0.13	**U**
67-66-3	Chloroform	**0.37**	0.48	0.15	0.063	**J**
109-99-9	Tetrahydrofuran (THF)	**16**	0.80	0.25	0.098	
107-06-2	1,2-Dichloroethane	0.18	0.57	0.18	0.063	**U**
71-43-2	Benzene	0.23	0.71	0.23	0.10	**U**
56-23-5	Carbon Tetrachloride	**0.26**	0.36	0.12	0.051	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV135-150-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-015

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4 - 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00115

Initial Pressure (psig): -2.84 Final Pressure (psig): 5.73

Container Dilution Factor: 1.72

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.42	1.4	0.42	0.19	**U**
75-27-4	Bromodichloromethane	0.11	0.35	0.11	0.049	**U**
79-01-6	Trichloroethene	**280**	4.3	1.4	0.58	**D**
123-91-1	1,4-Dioxane	0.20	0.64	0.20	0.075	**U**
142-82-5	n-Heptane	0.34	0.57	0.34	0.089	**U**
108-10-1	4-Methyl-2-pentanone	0.18	0.56	0.18	0.077	**U**
108-88-3	Toluene	**0.58**	0.62	0.19	0.074	**J**
591-78-6	2-Hexanone	**0.12**	0.57	0.18	0.069	**J**
124-48-1	Dibromochloromethane	0.086	0.27	0.086	0.035	**U**
106-93-4	1,2-Dibromoethane	0.095	0.30	0.095	0.035	**U**
127-18-4	Tetrachloroethene	**0.38**	0.33	0.11	0.044	
100-41-4	Ethylbenzene	0.17	0.53	0.17	0.074	**U**
179601-23-1	m,p-Xylenes	**0.30**	1.1	0.34	0.14	**J**
75-25-2	Bromoform	0.13	0.22	0.13	0.046	**U**
100-42-5	Styrene	0.32	0.54	0.32	0.087	**U**
95-47-6	o-Xylene	**0.11**	0.53	0.17	0.076	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.14**	0.46	0.15	0.067	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.64**	0.47	0.15	0.065	
120-82-1	1,2,4-Trichlorobenzene	0.19	0.31	0.19	0.075	**U**
91-20-3	Naphthalene	0.25	0.43	0.25	0.11	**U**
1330-20-7	Xylenes, Total	**0.41**	1.1	0.34	0.14	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV135-250-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-016

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS01034

Initial Pressure (psig): -1.85 Final Pressure (psig): 5.45

Container Dilution Factor: 1.57

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.73	1.2	0.73	0.30	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.23**	0.42	0.25	0.069	**J**
74-87-3	Chloromethane	0.61	1.0	0.61	0.16	**U**
75-01-4	Vinyl Chloride	0.26	0.83	0.26	0.088	**U**
106-99-0	1,3-Butadiene	0.57	0.94	0.57	0.16	**U**
75-00-3	Chloroethane	0.48	0.80	0.48	0.098	**U**
64-17-5	Ethanol	**2.8**	11	1.7	0.77	**J**
67-64-1	Acetone	**2.7**	8.8	4.5	2.0	**J**
75-69-4	Trichlorofluoromethane	**0.11**	0.37	0.22	0.057	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.0	3.4	1.0	0.35	**U**
75-09-2	Methylene Chloride	0.36	0.60	0.36	0.17	**U**
76-13-1	Trichlorotrifluoroethane	**0.17**	0.28	0.087	0.039	**J**
75-15-0	Carbon Disulfide	**2.0**	1.4	0.68	0.20	
75-34-3	1,1-Dichloroethane	0.32	0.53	0.32	0.076	**U**
78-93-3	2-Butanone (MEK)	**0.80**	1.5	0.43	0.15	**J**
141-78-6	Ethyl Acetate	0.71	1.2	0.71	0.31	**U**
110-54-3	n-Hexane	0.36	0.60	0.36	0.12	**U**
67-66-3	Chloroform	**0.35**	0.43	0.14	0.057	**J**
109-99-9	Tetrahydrofuran (THF)	**8.0**	0.73	0.23	0.089	
107-06-2	1,2-Dichloroethane	0.16	0.52	0.16	0.057	**U**
71-43-2	Benzene	0.21	0.65	0.21	0.095	**U**
56-23-5	Carbon Tetrachloride	**0.13**	0.33	0.11	0.046	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV135-250-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-016

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS01034

Initial Pressure (psig): -1.85 Final Pressure (psig): 5.45

Container Dilution Factor: 1.57

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.39	1.3	0.39	0.17	**U**
75-27-4	Bromodichloromethane	0.10	0.32	0.10	0.045	**U**
79-01-6	Trichloroethene	**80**	3.9	1.2	0.53	**D**
123-91-1	1,4-Dioxane	0.19	0.59	0.19	0.069	**U**
142-82-5	n-Heptane	**0.11**	0.52	0.31	0.081	**J**
108-10-1	4-Methyl-2-pentanone	0.16	0.51	0.16	0.070	**U**
108-88-3	Toluene	**0.54**	0.56	0.18	0.068	**J**
591-78-6	2-Hexanone	0.16	0.52	0.16	0.063	**U**
124-48-1	Dibromochloromethane	0.078	0.25	0.078	0.032	**U**
106-93-4	1,2-Dibromoethane	0.087	0.28	0.087	0.032	**U**
127-18-4	Tetrachloroethene	**0.17**	0.30	0.098	0.040	**J**
100-41-4	Ethylbenzene	**0.11**	0.49	0.15	0.068	**J**
179601-23-1	m,p-Xylenes	**0.64**	0.99	0.31	0.13	**J**
75-25-2	Bromoform	0.12	0.21	0.12	0.042	**U**
100-42-5	Styrene	0.30	0.49	0.30	0.079	**U**
95-47-6	o-Xylene	**0.21**	0.49	0.15	0.070	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.31**	0.42	0.14	0.062	**J**
95-63-6	1,2,4-Trimethylbenzene	**1.4**	0.43	0.14	0.059	
120-82-1	1,2,4-Trichlorobenzene	0.17	0.29	0.17	0.069	**U**
91-20-3	Naphthalene	**0.18**	0.39	0.23	0.097	**J**
1330-20-7	Xylenes, Total	**0.85**	0.99	0.31	0.13	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV135-250-602** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-017

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00739

Initial Pressure (psig): -3.52 Final Pressure (psig): 5.84

Container Dilution Factor: 1.84

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.86	1.4	0.86	0.35	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.23**	0.49	0.30	0.081	**J**
74-87-3	Chloromethane	**0.19**	1.2	0.71	0.19	**J**
75-01-4	Vinyl Chloride	0.31	0.97	0.31	0.10	**U**
106-99-0	1,3-Butadiene	0.67	1.1	0.67	0.18	**U**
75-00-3	Chloroethane	0.56	0.94	0.56	0.12	**U**
64-17-5	Ethanol	**3.3**	13	2.0	0.90	**J**
67-64-1	Acetone	**3.1**	10	5.2	2.3	**J**
75-69-4	Trichlorofluoromethane	**0.12**	0.43	0.26	0.066	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.2	3.9	1.2	0.41	**U**
75-09-2	Methylene Chloride	0.42	0.70	0.42	0.20	**U**
76-13-1	Trichlorotrifluoroethane	**0.17**	0.32	0.10	0.046	**J**
75-15-0	Carbon Disulfide	**3.5**	1.6	0.80	0.24	
75-34-3	1,1-Dichloroethane	0.38	0.63	0.38	0.089	**U**
78-93-3	2-Butanone (MEK)	**0.97**	1.7	0.50	0.17	**J**
141-78-6	Ethyl Acetate	0.83	1.4	0.83	0.36	**U**
110-54-3	n-Hexane	0.42	0.71	0.42	0.14	**U**
67-66-3	Chloroform	**0.35**	0.51	0.16	0.067	**J**
109-99-9	Tetrahydrofuran (THF)	**9.1**	0.86	0.27	0.10	
107-06-2	1,2-Dichloroethane	0.19	0.61	0.19	0.067	**U**
71-43-2	Benzene	0.24	0.76	0.24	0.11	**U**
56-23-5	Carbon Tetrachloride	**0.13**	0.39	0.12	0.054	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV135-250-602** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-017

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00739

Initial Pressure (psig): -3.52 Final Pressure (psig): 5.84

Container Dilution Factor: 1.84

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.45	1.5	0.45	0.20	**U**
75-27-4	Bromodichloromethane	0.12	0.37	0.12	0.053	**U**
79-01-6	Trichloroethene	**87**	0.46	0.15	0.062	
123-91-1	1,4-Dioxane	0.22	0.69	0.22	0.080	**U**
142-82-5	n-Heptane	**0.22**	0.61	0.36	0.095	**J**
108-10-1	4-Methyl-2-pentanone	0.19	0.60	0.19	0.082	**U**
108-88-3	Toluene	**0.98**	0.66	0.21	0.079	
591-78-6	2-Hexanone	0.19	0.61	0.19	0.074	**U**
124-48-1	Dibromochloromethane	0.092	0.29	0.092	0.038	**U**
106-93-4	1,2-Dibromoethane	0.10	0.32	0.10	0.037	**U**
127-18-4	Tetrachloroethene	**0.22**	0.35	0.12	0.047	**J**
100-41-4	Ethylbenzene	**0.22**	0.57	0.18	0.079	**J**
179601-23-1	m,p-Xylenes	**1.2**	1.2	0.36	0.15	**J**
75-25-2	Bromoform	0.14	0.24	0.14	0.049	**U**
100-42-5	Styrene	0.35	0.57	0.35	0.093	**U**
95-47-6	o-Xylene	**0.38**	0.57	0.18	0.082	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.57**	0.50	0.16	0.072	
95-63-6	1,2,4-Trimethylbenzene	**2.8**	0.51	0.16	0.069	
120-82-1	1,2,4-Trichlorobenzene	0.20	0.33	0.20	0.081	**U**
91-20-3	Naphthalene	**0.28**	0.46	0.27	0.11	**J**
1330-20-7	Xylenes, Total	**1.5**	1.2	0.36	0.15	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV135-350-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-018

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00509

Initial Pressure (psig): -2.77 Final Pressure (psig): 5.82

Container Dilution Factor: 1.72

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.57**	1.3	0.80	0.32	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.13**	0.46	0.28	0.076	**J**
74-87-3	Chloromethane	**0.23**	1.1	0.67	0.18	**J**
75-01-4	Vinyl Chloride	0.29	0.91	0.29	0.096	**U**
106-99-0	1,3-Butadiene	0.62	1.0	0.62	0.17	**U**
75-00-3	Chloroethane	0.52	0.88	0.52	0.11	**U**
64-17-5	Ethanol	**5.3**	12	1.9	0.84	**J**
67-64-1	Acetone	**9.2**	9.6	4.9	2.2	**J**
75-69-4	Trichlorofluoromethane	**0.087**	0.41	0.24	0.062	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.1	3.7	1.1	0.39	**U**
75-09-2	Methylene Chloride	0.40	0.66	0.40	0.19	**U**
76-13-1	Trichlorotrifluoroethane	**0.047**	0.30	0.095	0.043	**J**
75-15-0	Carbon Disulfide	**1.7**	1.5	0.75	0.22	
75-34-3	1,1-Dichloroethane	0.35	0.58	0.35	0.083	**U**
78-93-3	2-Butanone (MEK)	**2.0**	1.6	0.47	0.16	
141-78-6	Ethyl Acetate	0.78	1.3	0.78	0.33	**U**
110-54-3	n-Hexane	0.39	0.66	0.39	0.13	**U**
67-66-3	Chloroform	**0.20**	0.48	0.15	0.063	**J**
109-99-9	Tetrahydrofuran (THF)	**14**	0.80	0.25	0.098	
107-06-2	1,2-Dichloroethane	0.18	0.57	0.18	0.063	**U**
71-43-2	Benzene	0.23	0.71	0.23	0.10	**U**
56-23-5	Carbon Tetrachloride	**0.088**	0.36	0.12	0.051	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV135-350-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-018

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00509

Initial Pressure (psig): -2.77 Final Pressure (psig): 5.82

Container Dilution Factor: 1.72

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.42	1.4	0.42	0.19	**U**
75-27-4	Bromodichloromethane	0.11	0.35	0.11	0.049	**U**
79-01-6	Trichloroethene	**7.4**	0.43	0.14	0.058	
123-91-1	1,4-Dioxane	0.20	0.64	0.20	0.075	**U**
142-82-5	n-Heptane	0.34	0.57	0.34	0.089	**U**
108-10-1	4-Methyl-2-pentanone	**0.12**	0.56	0.18	0.077	**J**
108-88-3	Toluene	**0.25**	0.62	0.19	0.074	**J**
591-78-6	2-Hexanone	**0.26**	0.57	0.18	0.069	**J**
124-48-1	Dibromochloromethane	0.086	0.27	0.086	0.035	**U**
106-93-4	1,2-Dibromoethane	0.095	0.30	0.095	0.035	**U**
127-18-4	Tetrachloroethene	0.11	0.33	0.11	0.044	**U**
100-41-4	Ethylbenzene	0.17	0.53	0.17	0.074	**U**
179601-23-1	m,p-Xylenes	**0.19**	1.1	0.34	0.14	**J**
75-25-2	Bromoform	0.13	0.22	0.13	0.046	**U**
100-42-5	Styrene	0.32	0.54	0.32	0.087	**U**
95-47-6	o-Xylene	0.17	0.53	0.17	0.076	**U**
108-67-8	1,3,5-Trimethylbenzene	**0.084**	0.46	0.15	0.067	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.39**	0.47	0.15	0.065	**J**
120-82-1	1,2,4-Trichlorobenzene	0.19	0.31	0.19	0.075	**U**
91-20-3	Naphthalene	0.25	0.43	0.25	0.11	**U**
1330-20-7	Xylenes, Total	**0.19**	1.1	0.34	0.14	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV135-450-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-019

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00812

Initial Pressure (psig): -1.79 Final Pressure (psig): 7.30

Container Dilution Factor: 1.70

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.56**	1.3	0.79	0.32	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.45**	0.46	0.28	0.075	**J**
74-87-3	Chloromethane	0.66	1.1	0.66	0.18	**U**
75-01-4	Vinyl Chloride	0.28	0.90	0.28	0.095	**U**
106-99-0	1,3-Butadiene	0.62	1.0	0.62	0.17	**U**
75-00-3	Chloroethane	0.52	0.87	0.52	0.11	**U**
64-17-5	Ethanol	**12**	12	1.9	0.83	**J**
67-64-1	Acetone	**7.3**	9.5	4.8	2.1	**J**
75-69-4	Trichlorofluoromethane	**0.22**	0.40	0.24	0.061	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.53**	3.6	1.1	0.38	**J**
75-09-2	Methylene Chloride	0.39	0.65	0.39	0.18	**U**
76-13-1	Trichlorotrifluoroethane	**0.12**	0.30	0.094	0.042	**J**
75-15-0	Carbon Disulfide	**0.58**	1.5	0.74	0.22	**J**
75-34-3	1,1-Dichloroethane	0.35	0.58	0.35	0.082	**U**
78-93-3	2-Butanone (MEK)	**0.91**	1.6	0.46	0.16	**J**
141-78-6	Ethyl Acetate	**3.2**	1.3	0.77	0.33	
110-54-3	n-Hexane	**0.17**	0.65	0.39	0.13	**J**
67-66-3	Chloroform	**0.12**	0.47	0.15	0.062	**J**
109-99-9	Tetrahydrofuran (THF)	**0.65**	0.79	0.25	0.097	**J**
107-06-2	1,2-Dichloroethane	0.18	0.57	0.18	0.062	**U**
71-43-2	Benzene	**0.22**	0.71	0.23	0.10	**J**
56-23-5	Carbon Tetrachloride	**0.061**	0.36	0.11	0.050	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV135-450-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-019

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00812

Initial Pressure (psig): -1.79 Final Pressure (psig): 7.30

Container Dilution Factor: 1.70

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**0.26**		1.4	0.42	0.19	**J**
75-27-4	Bromodichloromethane		0.11	0.34	0.11	0.049	**U**
79-01-6	Trichloroethene	**36**		0.43	0.13	0.057	
123-91-1	1,4-Dioxane		0.20	0.64	0.20	0.074	**U**
142-82-5	n-Heptane	**0.38**		0.56	0.33	0.088	**J**
108-10-1	4-Methyl-2-pentanone		0.18	0.55	0.18	0.076	**U**
108-88-3	Toluene	**1.9**		0.61	0.19	0.073	
591-78-6	2-Hexanone		0.18	0.56	0.18	0.069	**U**
124-48-1	Dibromochloromethane		0.085	0.27	0.085	0.035	**U**
106-93-4	1,2-Dibromoethane		0.094	0.30	0.094	0.034	**U**
127-18-4	Tetrachloroethene	**0.083**		0.33	0.11	0.043	**J**
100-41-4	Ethylbenzene	**0.32**		0.53	0.17	0.073	**J**
179601-23-1	m,p-Xylenes	**1.4**		1.1	0.33	0.14	
75-25-2	Bromoform		0.13	0.22	0.13	0.045	**U**
100-42-5	Styrene		0.32	0.53	0.32	0.086	**U**
95-47-6	o-Xylene	**0.54**		0.53	0.17	0.075	
108-67-8	1,3,5-Trimethylbenzene	**0.56**		0.46	0.15	0.067	
95-63-6	1,2,4-Trimethylbenzene	**2.6**		0.47	0.15	0.064	
120-82-1	1,2,4-Trichlorobenzene		0.18	0.31	0.18	0.074	**U**
91-20-3	Naphthalene	**0.19**		0.42	0.25	0.11	**J**
1330-20-7	Xylenes, Total	**2.0**		1.1	0.33	0.14	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV137-025-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-020

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00990

Initial Pressure (psig): -3.50 Final Pressure (psig): 5.84

Container Dilution Factor: 1.83

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.85	1.4	0.85	0.35	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.46**	0.49	0.30	0.081	**J**
74-87-3	Chloromethane	0.71	1.2	0.71	0.19	**U**
75-01-4	Vinyl Chloride	0.30	0.97	0.30	0.10	**U**
106-99-0	1,3-Butadiene	0.66	1.1	0.66	0.18	**U**
75-00-3	Chloroethane	0.56	0.94	0.56	0.11	**U**
64-17-5	Ethanol	2.0	13	2.0	0.90	**U**
67-64-1	Acetone	5.2	10	5.2	2.3	**U**
75-69-4	Trichlorofluoromethane	**0.20**	0.43	0.26	0.066	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.2	3.9	1.2	0.41	**U**
75-09-2	Methylene Chloride	0.42	0.70	0.42	0.20	**U**
76-13-1	Trichlorotrifluoroethane	**0.064**	0.32	0.10	0.045	**J**
75-15-0	Carbon Disulfide	0.79	1.6	0.79	0.24	**U**
75-34-3	1,1-Dichloroethane	0.37	0.62	0.37	0.088	**U**
78-93-3	2-Butanone (MEK)	0.50	1.7	0.50	0.17	**U**
141-78-6	Ethyl Acetate	0.83	1.4	0.83	0.36	**U**
110-54-3	n-Hexane	0.42	0.70	0.42	0.14	**U**
67-66-3	Chloroform	**0.16**	0.51	0.16	0.067	**J**
109-99-9	Tetrahydrofuran (THF)	0.26	0.85	0.26	0.10	**U**
107-06-2	1,2-Dichloroethane	0.19	0.61	0.19	0.067	**U**
71-43-2	Benzene	0.24	0.76	0.24	0.11	**U**
56-23-5	Carbon Tetrachloride	0.12	0.39	0.12	0.054	**U**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV137-025-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-020

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00990

Initial Pressure (psig): -3.50 Final Pressure (psig): 5.84

Container Dilution Factor: 1.83

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.45	1.5	0.45	0.20	**U**
75-27-4	Bromodichloromethane	0.12	0.37	0.12	0.053	**U**
79-01-6	Trichloroethene	0.14	0.46	0.14	0.061	**U**
123-91-1	1,4-Dioxane	0.22	0.69	0.22	0.080	**U**
142-82-5	n-Heptane	0.36	0.60	0.36	0.095	**U**
108-10-1	4-Methyl-2-pentanone	0.19	0.59	0.19	0.082	**U**
108-88-3	Toluene	**0.28**	0.66	0.21	0.079	**J**
591-78-6	2-Hexanone	0.19	0.60	0.19	0.074	**U**
124-48-1	Dibromochloromethane	0.091	0.29	0.091	0.038	**U**
106-93-4	1,2-Dibromoethane	0.10	0.32	0.10	0.037	**U**
127-18-4	Tetrachloroethene	0.11	0.35	0.11	0.047	**U**
100-41-4	Ethylbenzene	0.18	0.57	0.18	0.079	**U**
179601-23-1	m,p-Xylenes	**0.35**	1.2	0.36	0.15	**J**
75-25-2	Bromoform	0.14	0.24	0.14	0.049	**U**
100-42-5	Styrene	0.34	0.57	0.34	0.092	**U**
95-47-6	o-Xylene	**0.11**	0.57	0.18	0.081	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.18**	0.49	0.16	0.072	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.88**	0.50	0.16	0.069	
120-82-1	1,2,4-Trichlorobenzene	0.20	0.33	0.20	0.080	**U**
91-20-3	Naphthalene	**0.30**	0.45	0.27	0.11	**J**
1330-20-7	Xylenes, Total	**0.46**	1.2	0.36	0.15	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200504-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.19	0.31	0.19	0.076	U
75-71-8	Dichlorodifluoromethane (CFC 12)	0.065	0.11	0.065	0.018	U
74-87-3	Chloromethane	0.16	0.26	0.16	0.042	U
75-01-4	Vinyl Chloride	0.067	0.21	0.067	0.022	U
106-99-0	1,3-Butadiene	0.14	0.24	0.14	0.040	U
75-00-3	Chloroethane	0.12	0.20	0.12	0.025	U
64-17-5	Ethanol	0.44	2.8	0.44	0.20	U
67-64-1	Acetone	1.1	2.2	1.1	0.51	U
75-69-4	Trichlorofluoromethane	0.057	0.094	0.057	0.014	U
67-63-0	2-Propanol (Isopropyl Alcohol)	0.26	0.85	0.26	0.090	U
75-09-2	Methylene Chloride	0.092	0.15	0.092	0.043	U
76-13-1	Trichlorotrifluoroethane	0.022	0.070	0.022	0.0099	U
75-15-0	Carbon Disulfide	0.17	0.35	0.17	0.051	U
75-34-3	1,1-Dichloroethane	0.082	0.14	0.082	0.019	U
78-93-3	2-Butanone (MEK)	0.11	0.37	0.11	0.037	U
141-78-6	Ethyl Acetate	0.18	0.31	0.18	0.078	U
110-54-3	n-Hexane	0.091	0.15	0.091	0.031	U
67-66-3	Chloroform	0.035	0.11	0.035	0.015	U
109-99-9	Tetrahydrofuran (THF)	0.058	0.19	0.058	0.023	U
107-06-2	1,2-Dichloroethane	0.042	0.13	0.042	0.015	U
71-43-2	Benzene	0.053	0.17	0.053	0.024	U
56-23-5	Carbon Tetrachloride	0.027	0.084	0.027	0.012	U

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200504-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.099	0.32	0.099	0.044	**U**
75-27-4	Bromodichloromethane	0.025	0.081	0.025	0.011	**U**
79-01-6	Trichloroethene	0.032	0.10	0.032	0.013	**U**
123-91-1	1,4-Dioxane	0.047	0.15	0.047	0.017	**U**
142-82-5	n-Heptane	0.078	0.13	0.078	0.021	**U**
108-10-1	4-Methyl-2-pentanone	0.041	0.13	0.041	0.018	**U**
108-88-3	Toluene	0.045	0.14	0.045	0.017	**U**
591-78-6	2-Hexanone	0.042	0.13	0.042	0.016	**U**
124-48-1	Dibromochloromethane	0.020	0.063	0.020	0.0082	**U**
106-93-4	1,2-Dibromoethane	0.022	0.070	0.022	0.0081	**U**
127-18-4	Tetrachloroethene	0.025	0.077	0.025	0.010	**U**
100-41-4	Ethylbenzene	0.039	0.12	0.039	0.017	**U**
179601-23-1	m,p-Xylenes	0.078	0.25	0.078	0.032	**U**
75-25-2	Bromoform	0.031	0.052	0.031	0.011	**U**
100-42-5	Styrene	0.075	0.12	0.075	0.020	**U**
95-47-6	o-Xylene	0.039	0.12	0.039	0.018	**U**
108-67-8	1,3,5-Trimethylbenzene	0.035	0.11	0.035	0.016	**U**
95-63-6	1,2,4-Trimethylbenzene	0.035	0.11	0.035	0.015	**U**
120-82-1	1,2,4-Trichlorobenzene	0.043	0.073	0.043	0.018	**U**
91-20-3	Naphthalene	0.059	0.099	0.059	0.025	**U**
1330-20-7	Xylenes, Total	0.078	0.25	0.078	0.032	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200505-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.19	0.31	0.19	0.076	U
75-71-8	Dichlorodifluoromethane (CFC 12)	0.065	0.11	0.065	0.018	U
74-87-3	Chloromethane	0.16	0.26	0.16	0.042	U
75-01-4	Vinyl Chloride	0.067	0.21	0.067	0.022	U
106-99-0	1,3-Butadiene	0.14	0.24	0.14	0.040	U
75-00-3	Chloroethane	0.12	0.20	0.12	0.025	U
64-17-5	Ethanol	0.44	2.8	0.44	0.20	U
67-64-1	Acetone	1.1	2.2	1.1	0.51	U
75-69-4	Trichlorofluoromethane	0.057	0.094	0.057	0.014	U
67-63-0	2-Propanol (Isopropyl Alcohol)	0.26	0.85	0.26	0.090	U
75-09-2	Methylene Chloride	0.092	0.15	0.092	0.043	U
76-13-1	Trichlorotrifluoroethane	0.022	0.070	0.022	0.0099	U
75-15-0	Carbon Disulfide	0.17	0.35	0.17	0.051	U
75-34-3	1,1-Dichloroethane	0.082	0.14	0.082	0.019	U
78-93-3	2-Butanone (MEK)	0.11	0.37	0.11	0.037	U
141-78-6	Ethyl Acetate	0.18	0.31	0.18	0.078	U
110-54-3	n-Hexane	0.091	0.15	0.091	0.031	U
67-66-3	Chloroform	0.035	0.11	0.035	0.015	U
109-99-9	Tetrahydrofuran (THF)	0.058	0.19	0.058	0.023	U
107-06-2	1,2-Dichloroethane	0.042	0.13	0.042	0.015	U
71-43-2	Benzene	0.053	0.17	0.053	0.024	U
56-23-5	Carbon Tetrachloride	0.027	0.084	0.027	0.012	U

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200505-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.099	0.32	0.099	0.044	**U**
75-27-4	Bromodichloromethane	0.025	0.081	0.025	0.011	**U**
79-01-6	Trichloroethene	0.032	0.10	0.032	0.013	**U**
123-91-1	1,4-Dioxane	0.047	0.15	0.047	0.017	**U**
142-82-5	n-Heptane	0.078	0.13	0.078	0.021	**U**
108-10-1	4-Methyl-2-pentanone	0.041	0.13	0.041	0.018	**U**
108-88-3	Toluene	0.045	0.14	0.045	0.017	**U**
591-78-6	2-Hexanone	0.042	0.13	0.042	0.016	**U**
124-48-1	Dibromochloromethane	0.020	0.063	0.020	0.0082	**U**
106-93-4	1,2-Dibromoethane	0.022	0.070	0.022	0.0081	**U**
127-18-4	Tetrachloroethene	0.025	0.077	0.025	0.010	**U**
100-41-4	Ethylbenzene	0.039	0.12	0.039	0.017	**U**
179601-23-1	m,p-Xylenes	0.078	0.25	0.078	0.032	**U**
75-25-2	Bromoform	0.031	0.052	0.031	0.011	**U**
100-42-5	Styrene	0.075	0.12	0.075	0.020	**U**
95-47-6	o-Xylene	0.039	0.12	0.039	0.018	**U**
108-67-8	1,3,5-Trimethylbenzene	0.035	0.11	0.035	0.016	**U**
95-63-6	1,2,4-Trimethylbenzene	0.035	0.11	0.035	0.015	**U**
120-82-1	1,2,4-Trichlorobenzene	0.043	0.073	0.043	0.018	**U**
91-20-3	Naphthalene	0.059	0.099	0.059	0.025	**U**
1330-20-7	Xylenes, Total	0.078	0.25	0.078	0.032	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Project ID: P2002106

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date(s) Collected: 4/14/20
Analyst: Simon Cao/Topacio De Leon Date(s) Received: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister(s) / 1.0 L Summa Canister(s) Date(s) Analyzed: 5/4 - 5/5/20
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P200504-MB	**92**	**104**	**100**	70-130	
Method Blank	P200505-MB	**93**	**103**	**100**	70-130	
Lab Control Sample	P200504-LCS	**94**	**104**	**101**	70-130	
Lab Control Sample	P200505-LCS	**93**	**102**	**102**	70-130	
Duplicate Lab Control Sample	P200504-DLCS	**93**	**104**	**101**	70-130	
Duplicate Lab Control Sample	P200505-DLCS	**94**	**103**	**101**	70-130	
SV132-050-202	P2002106-001	**96**	**104**	**99**	70-130	
SV132-175-202	P2002106-002	**96**	**104**	**101**	70-130	
SV132-250-202	P2002106-003	**94**	**104**	**101**	70-130	
SV132-350-202	P2002106-004	**94**	**102**	**102**	70-130	
SV132-450-202	P2002106-005	**94**	**102**	**102**	70-130	
SV134-025-202	P2002106-006	**93**	**103**	**103**	70-130	
SV134-050-202	P2002106-007	**92**	**102**	**101**	70-130	
SV134-170-202	P2002106-008	**93**	**102**	**103**	70-130	
SV134-250-202	P2002106-009	**93**	**101**	**103**	70-130	
SV134-350-202	P2002106-010	**92**	**101**	**103**	70-130	
SV134-350-602	P2002106-011	**92**	**101**	**103**	70-130	
SV134-450-202	P2002106-012	**94**	**101**	**100**	70-130	
SV135-025-202	P2002106-013	**92**	**101**	**104**	70-130	
SV135-050-202	P2002106-014	**92**	**101**	**103**	70-130	
SV135-150-202	P2002106-015	**92**	**102**	**104**	70-130	
SV135-250-202	P2002106-016	**93**	**102**	**103**	70-130	
SV135-250-602	P2002106-017	**94**	**102**	**101**	70-130	
SV135-350-202	P2002106-018	**92**	**102**	**100**	70-130	
SV135-450-202	P2002106-019	**93**	**103**	**101**	70-130	
SV137-025-202	P2002106-020	**93**	**102**	**102**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200504-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	122	125	127	**102**	**104**	57-136	2	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	42.5	39.3	39.8	**92**	**94**	59-128	2	25	
74-87-3	Chloromethane	103	103	106	**100**	**103**	59-132	3	25	
75-01-4	Vinyl Chloride	83.0	83.1	84.7	**100**	**102**	64-127	2	25	
106-99-0	1,3-Butadiene	95.9	107	110	**112**	**115**	66-134	3	25	
75-00-3	Chloroethane	81.1	76.7	83.9	**95**	**103**	63-127	8	25	
64-17-5	Ethanol	563	544	551	**97**	**98**	59-125	1	25	
67-64-1	Acetone	450	427	425	**95**	**94**	58-128	1	25	
75-69-4	Trichlorofluoromethane	37.7	34.5	33.9	**92**	**90**	62-126	2	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	172	166	168	**97**	**98**	52-125	1	25	
75-09-2	Methylene Chloride	60.5	59.9	59.6	**99**	**99**	62-115	0	25	
76-13-1	Trichlorotrifluoroethane	28.2	26.4	26.1	**94**	**93**	66-126	1	25	
75-15-0	Carbon Disulfide	68.1	69.2	68.8	**102**	**101**	57-134	1	25	
75-34-3	1,1-Dichloroethane	52.4	48.8	48.9	**93**	**93**	68-126	0	25	
78-93-3	2-Butanone (MEK)	71.9	76.9	76.5	**107**	**106**	67-130	0.9	25	
141-78-6	Ethyl Acetate	120	127	127	**106**	**106**	65-128	0	25	
110-54-3	n-Hexane	61.3	61.3	60.9	**100**	**99**	63-120	1	25	
67-66-3	Chloroform	43.8	41.4	40.9	**95**	**93**	68-123	2	25	
109-99-9	Tetrahydrofuran (THF)	74.6	75.0	74.6	**101**	**100**	64-123	1	25	
107-06-2	1,2-Dichloroethane	52.9	50.1	49.2	**95**	**93**	65-128	2	25	
71-43-2	Benzene	65.8	63.3	63.5	**96**	**97**	69-119	1	25	
56-23-5	Carbon Tetrachloride	33.1	30.9	30.5	**93**	**92**	68-132	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200504-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	123	120	120	**98**	**98**	70-117	0	25	
75-27-4	Bromodichloromethane	32.6	30.2	30.1	**93**	**92**	72-128	1	25	
79-01-6	Trichloroethene	40.2	39.2	38.6	**98**	**96**	71-123	2	25	
123-91-1	1,4-Dioxane	60.0	63.2	63.3	**105**	**106**	71-122	0.9	25	
142-82-5	n-Heptane	52.2	52.5	52.8	**101**	**101**	69-123	0	25	
108-10-1	4-Methyl-2-pentanone	51.8	55.3	55.9	**107**	**108**	67-130	0.9	25	
108-88-3	Toluene	56.3	58.8	58.1	**104**	**103**	66-119	1	25	
591-78-6	2-Hexanone	52.7	63.8	63.5	**121**	**120**	62-128	0.8	25	
124-48-1	Dibromochloromethane	25.1	27.0	26.5	**108**	**106**	70-130	2	25	
106-93-4	1,2-Dibromoethane	27.9	30.4	30.0	**109**	**108**	74-122	0.9	25	
127-18-4	Tetrachloroethene	30.7	31.2	30.7	**102**	**100**	66-124	2	25	
100-41-4	Ethylbenzene	48.8	51.1	50.2	**105**	**103**	70-124	2	25	
179601-23-1	m,p-Xylenes	98.1	100	98.4	**102**	**100**	61-134	2	25	
75-25-2	Bromoform	20.7	22.9	22.4	**111**	**108**	66-139	3	25	
100-42-5	Styrene	49.8	55.3	54.8	**111**	**110**	73-127	0.9	25	
95-47-6	o-Xylene	49.3	50.3	49.4	**102**	**100**	67-125	2	25	
108-67-8	1,3,5-Trimethylbenzene	43.1	43.8	43.6	**102**	**101**	67-130	1	25	
95-63-6	1,2,4-Trimethylbenzene	43.1	44.5	44.5	**103**	**103**	66-132	0	25	
120-82-1	1,2,4-Trichlorobenzene	29.1	31.1	32.4	**107**	**111**	55-142	4	25	
91-20-3	Naphthalene	40.5	39.9	42.4	**99**	**105**	57-138	6	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200505-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	122	126	128	**103**	**105**	57-136	2	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	42.5	40.2	40.1	**95**	**94**	59-128	1	25	
74-87-3	Chloromethane	103	104	109	**101**	**106**	59-132	5	25	
75-01-4	Vinyl Chloride	83.0	84.0	86.2	**101**	**104**	64-127	3	25	
106-99-0	1,3-Butadiene	95.9	107	108	**112**	**113**	66-134	0.9	25	
75-00-3	Chloroethane	81.1	75.8	77.2	**93**	**95**	63-127	2	25	
64-17-5	Ethanol	563	538	549	**96**	**98**	59-125	2	25	
67-64-1	Acetone	450	420	424	**93**	**94**	58-128	1	25	
75-69-4	Trichlorofluoromethane	37.7	34.8	34.5	**92**	**92**	62-126	0	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	172	164	165	**95**	**96**	52-125	1	25	
75-09-2	Methylene Chloride	60.5	59.7	60.0	**99**	**99**	62-115	0	25	
76-13-1	Trichlorotrifluoroethane	28.2	26.5	26.6	**94**	**94**	66-126	0	25	
75-15-0	Carbon Disulfide	68.1	68.9	69.1	**101**	**101**	57-134	0	25	
75-34-3	1,1-Dichloroethane	52.4	49.1	48.8	**94**	**93**	68-126	1	25	
78-93-3	2-Butanone (MEK)	71.9	77.0	76.9	**107**	**107**	67-130	0	25	
141-78-6	Ethyl Acetate	120	126	127	**105**	**106**	65-128	0.9	25	
110-54-3	n-Hexane	61.3	60.7	61.2	**99**	**100**	63-120	1	25	
67-66-3	Chloroform	43.8	41.4	41.2	**95**	**94**	68-123	1	25	
109-99-9	Tetrahydrofuran (THF)	74.6	73.9	75.2	**99**	**101**	64-123	2	25	
107-06-2	1,2-Dichloroethane	52.9	50.2	49.5	**95**	**94**	65-128	1	25	
71-43-2	Benzene	65.8	63.7	63.6	**97**	**97**	69-119	0	25	
56-23-5	Carbon Tetrachloride	33.1	31.2	30.8	**94**	**93**	68-132	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200505-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	123	120	121	**98**	**98**	70-117	0	25	
75-27-4	Bromodichloromethane	32.6	30.3	30.1	**93**	**92**	72-128	1	25	
79-01-6	Trichloroethene	40.2	39.2	39.2	**98**	**98**	71-123	0	25	
123-91-1	1,4-Dioxane	60.0	63.1	63.1	**105**	**105**	71-122	0	25	
142-82-5	n-Heptane	52.2	52.0	52.9	**100**	**101**	69-123	1	25	
108-10-1	4-Methyl-2-pentanone	51.8	54.8	54.8	**106**	**106**	67-130	0	25	
108-88-3	Toluene	56.3	58.3	58.2	**104**	**103**	66-119	1	25	
591-78-6	2-Hexanone	52.7	62.3	63.0	**118**	**120**	62-128	2	25	
124-48-1	Dibromochloromethane	25.1	26.8	26.8	**107**	**107**	70-130	0	25	
106-93-4	1,2-Dibromoethane	27.9	30.1	30.1	**108**	**108**	74-122	0	25	
127-18-4	Tetrachloroethene	30.7	31.0	31.0	**101**	**101**	66-124	0	25	
100-41-4	Ethylbenzene	48.8	50.3	50.4	**103**	**103**	70-124	0	25	
179601-23-1	m,p-Xylenes	98.1	99.1	99.4	**101**	**101**	61-134	0	25	
75-25-2	Bromoform	20.7	22.8	22.5	**110**	**109**	66-139	0.9	25	
100-42-5	Styrene	49.8	54.7	54.8	**110**	**110**	73-127	0	25	
95-47-6	o-Xylene	49.3	49.6	49.6	**101**	**101**	67-125	0	25	
108-67-8	1,3,5-Trimethylbenzene	43.1	43.3	43.9	**100**	**102**	67-130	2	25	
95-63-6	1,2,4-Trimethylbenzene	43.1	44.1	44.9	**102**	**104**	66-132	2	25	
120-82-1	1,2,4-Trichlorobenzene	29.1	31.7	32.7	**109**	**112**	55-142	3	25	
91-20-3	Naphthalene	40.5	40.6	42.9	**100**	**106**	57-138	6	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV132-050-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-001

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4 - 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes: 0.015 Liter(s)
Container ID: 1SS00939

Initial Pressure (psig): -1.75 Final Pressure (psig): 5.78

Container Dilution Factor: 1.58

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	25	42	25	10	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	25	42	25	6.9	**U**
74-87-3	Chloromethane	25	42	25	6.8	**U**
75-01-4	Vinyl Chloride	13	43	13	4.5	**U**
106-99-0	1,3-Butadiene	25	42	25	7.0	**U**
75-00-3	Chloroethane	25	43	25	5.2	**U**
64-17-5	Ethanol	66	410	66	29	**U**
67-64-1	Acetone	210	420	210	95	**U**
75-69-4	Trichlorofluoromethane	25	42	25	6.4	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	50	170	50	17	**U**
75-09-2	Methylene Chloride	25	42	25	12	**U**
76-13-1	Trichlorotrifluoroethane	**20**	43	13	6.0	**J**
75-15-0	Carbon Disulfide	43	87	43	13	**U**
75-34-3	1,1-Dichloroethane	26	43	26	6.2	**U**
78-93-3	2-Butanone (MEK)	25	87	25	8.7	**U**
141-78-6	Ethyl Acetate	51	87	51	22	**U**
110-54-3	n-Hexane	25	43	25	8.7	**U**
67-66-3	Chloroform	**16**	43	13	5.6	**J**
109-99-9	Tetrahydrofuran (THF)	13	43	13	5.3	**U**
107-06-2	1,2-Dichloroethane	13	43	13	4.7	**U**
71-43-2	Benzene	13	42	13	6.1	**U**
56-23-5	Carbon Tetrachloride	**11**	42	13	5.8	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV132-050-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-001

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4 - 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes: 0.015 Liter(s)
Container ID: 1SS00939

Initial Pressure (psig): -1.75 Final Pressure (psig): 5.78

Container Dilution Factor: 1.58

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	27	87	27	12	**U**
75-27-4	Bromodichloromethane	13	43	13	6.1	**U**
79-01-6	Trichloroethene	**8,800**	57	18	7.6	**D**
123-91-1	1,4-Dioxane	13	43	13	5.0	**U**
142-82-5	n-Heptane	25	43	25	6.7	**U**
108-10-1	4-Methyl-2-pentanone	13	42	13	5.8	**U**
108-88-3	Toluene	13	43	13	5.1	**U**
591-78-6	2-Hexanone	13	43	13	5.2	**U**
124-48-1	Dibromochloromethane	13	43	13	5.5	**U**
106-93-4	1,2-Dibromoethane	13	43	13	4.9	**U**
127-18-4	Tetrachloroethene	**28**	41	13	5.5	**J**
100-41-4	Ethylbenzene	13	43	13	5.9	**U**
179601-23-1	m,p-Xylenes	27	87	27	11	**U**
75-25-2	Bromoform	25	43	25	8.7	**U**
100-42-5	Styrene	25	42	25	6.8	**U**
95-47-6	o-Xylene	13	43	13	6.1	**U**
108-67-8	1,3,5-Trimethylbenzene	13	42	13	6.1	**U**
95-63-6	1,2,4-Trimethylbenzene	**9.6**	43	13	5.8	**J**
120-82-1	1,2,4-Trichlorobenzene	25	43	25	10	**U**
91-20-3	Naphthalene	24	41	24	10	**U**
1330-20-7	Xylenes, Total	27	87	27	11	**U**

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D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV132-175-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-002

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.040 Liter(s)
Test Notes: 0.0040 Liter(s)
Container ID: 1SC00050

Initial Pressure (psig): -2.37 Final Pressure (psig): 5.61

Container Dilution Factor: 1.65

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	13	22	13	5.4	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**4.0**	22	13	3.6	**J**
74-87-3	Chloromethane	13	22	13	3.5	**U**
75-01-4	Vinyl Chloride	7.0	22	7.0	2.4	**U**
106-99-0	1,3-Butadiene	13	22	13	3.6	**U**
75-00-3	Chloroethane	13	22	13	2.7	**U**
64-17-5	Ethanol	34	210	34	15	**U**
67-64-1	Acetone	**67**	220	110	50	**J**
75-69-4	Trichlorofluoromethane	13	22	13	3.3	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	26	87	26	9.1	**U**
75-09-2	Methylene Chloride	13	22	13	6.2	**U**
76-13-1	Trichlorotrifluoroethane	**36**	22	7.0	3.1	
75-15-0	Carbon Disulfide	22	45	22	6.6	**U**
75-34-3	1,1-Dichloroethane	14	23	14	3.2	**U**
78-93-3	2-Butanone (MEK)	**7.1**	45	13	4.5	**J**
141-78-6	Ethyl Acetate	27	45	27	12	**U**
110-54-3	n-Hexane	13	22	13	4.5	**U**
67-66-3	Chloroform	**26**	22	7.0	2.9	
109-99-9	Tetrahydrofuran (THF)	**5.4**	23	7.0	2.8	**J**
107-06-2	1,2-Dichloroethane	7.0	22	7.0	2.4	**U**
71-43-2	Benzene	7.0	22	7.0	3.2	**U**
56-23-5	Carbon Tetrachloride	**23**	22	7.0	3.1	

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV132-175-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-002

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.040 Liter(s)
Test Notes: 0.0040 Liter(s)
Container ID: 1SC00050

Initial Pressure (psig): -2.37 Final Pressure (psig): 5.61

Container Dilution Factor: 1.65

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	14	45	14	6.2	**U**
75-27-4	Bromodichloromethane	7.0	22	7.0	3.2	**U**
79-01-6	Trichloroethene	**36,000**	220	70	30	**D**
123-91-1	1,4-Dioxane	7.0	22	7.0	2.6	**U**
142-82-5	n-Heptane	13	22	13	3.5	**U**
108-10-1	4-Methyl-2-pentanone	7.0	22	7.0	3.0	**U**
108-88-3	Toluene	7.0	22	7.0	2.7	**U**
591-78-6	2-Hexanone	7.0	22	7.0	2.7	**U**
124-48-1	Dibromochloromethane	7.0	22	7.0	2.9	**U**
106-93-4	1,2-Dibromoethane	7.0	22	7.0	2.6	**U**
127-18-4	Tetrachloroethene	**70**	21	7.0	2.8	
100-41-4	Ethylbenzene	7.0	22	7.0	3.1	**U**
179601-23-1	m,p-Xylenes	14	45	14	5.8	**U**
75-25-2	Bromoform	13	22	13	4.5	**U**
100-42-5	Styrene	13	22	13	3.5	**U**
95-47-6	o-Xylene	7.0	22	7.0	3.2	**U**
108-67-8	1,3,5-Trimethylbenzene	7.0	22	7.0	3.2	**U**
95-63-6	1,2,4-Trimethylbenzene	**4.9**	22	7.0	3.1	**J**
120-82-1	1,2,4-Trichlorobenzene	13	22	13	5.4	**U**
91-20-3	Naphthalene	13	21	13	5.4	**U**
1330-20-7	Xylenes, Total	14	45	14	5.8	**U**

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D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV132-250-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-003

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.040 Liter(s)
Test Notes: 0.0040 Liter(s)
Container ID: 1SC01001

Initial Pressure (psig): -2.08 Final Pressure (psig): 5.22

Container Dilution Factor: 1.58

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	13	21	13	5.1	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	13	21	13	3.4	**U**
74-87-3	Chloromethane	13	21	13	3.4	**U**
75-01-4	Vinyl Chloride	6.7	21	6.7	2.3	**U**
106-99-0	1,3-Butadiene	13	21	13	3.5	**U**
75-00-3	Chloroethane	13	21	13	2.6	**U**
64-17-5	Ethanol	33	210	33	15	**U**
67-64-1	Acetone	110	210	110	47	**U**
75-69-4	Trichlorofluoromethane	13	21	13	3.2	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	25	83	25	8.7	**U**
75-09-2	Methylene Chloride	13	21	13	5.9	**U**
76-13-1	Trichlorotrifluoroethane	**12**	21	6.7	3.0	**J**
75-15-0	Carbon Disulfide	21	43	21	6.3	**U**
75-34-3	1,1-Dichloroethane	13	22	13	3.1	**U**
78-93-3	2-Butanone (MEK)	**8.6**	43	13	4.3	**J**
141-78-6	Ethyl Acetate	26	43	26	11	**U**
110-54-3	n-Hexane	13	21	13	4.3	**U**
67-66-3	Chloroform	**34**	21	6.7	2.8	
109-99-9	Tetrahydrofuran (THF)	**320**	22	6.7	2.6	
107-06-2	1,2-Dichloroethane	6.7	21	6.7	2.3	**U**
71-43-2	Benzene	6.7	21	6.7	3.0	**U**
56-23-5	Carbon Tetrachloride	**16**	21	6.7	2.9	**J**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV132-250-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-003

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.040 Liter(s)
Test Notes: 0.0040 Liter(s)
Container ID: 1SC01001

Initial Pressure (psig): -2.08 Final Pressure (psig): 5.22

Container Dilution Factor: 1.58

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	13	43	13	5.9	**U**
75-27-4	Bromodichloromethane	6.7	21	6.7	3.0	**U**
79-01-6	Trichloroethene	**26,000**	210	67	28	**D**
123-91-1	1,4-Dioxane	6.7	21	6.7	2.5	**U**
142-82-5	n-Heptane	13	21	13	3.4	**U**
108-10-1	4-Methyl-2-pentanone	6.7	21	6.7	2.9	**U**
108-88-3	Toluene	6.7	21	6.7	2.6	**U**
591-78-6	2-Hexanone	6.7	21	6.7	2.6	**U**
124-48-1	Dibromochloromethane	6.7	21	6.7	2.8	**U**
106-93-4	1,2-Dibromoethane	6.7	21	6.7	2.4	**U**
127-18-4	Tetrachloroethene	**34**	21	6.7	2.7	
100-41-4	Ethylbenzene	6.7	21	6.7	3.0	**U**
179601-23-1	m,p-Xylenes	13	43	13	5.5	**U**
75-25-2	Bromoform	13	21	13	4.3	**U**
100-42-5	Styrene	13	21	13	3.4	**U**
95-47-6	o-Xylene	6.7	21	6.7	3.0	**U**
108-67-8	1,3,5-Trimethylbenzene	6.7	21	6.7	3.0	**U**
95-63-6	1,2,4-Trimethylbenzene	**4.0**	21	6.7	2.9	**J**
120-82-1	1,2,4-Trichlorobenzene	13	21	13	5.1	**U**
91-20-3	Naphthalene	12	21	12	5.1	**U**
1330-20-7	Xylenes, Total	13	43	13	5.5	**U**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV132-350-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-004

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4 - 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00985

Initial Pressure (psig): -3.14 Final Pressure (psig): 5.77

Container Dilution Factor: 1.77

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**0.75**	2.3	1.4	0.58	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	1.4	2.3	1.4	0.38	**U**
74-87-3	Chloromethane	1.4	2.3	1.4	0.38	**U**
75-01-4	Vinyl Chloride	0.75	2.4	0.75	0.25	**U**
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.39	**U**
75-00-3	Chloroethane	1.4	2.4	1.4	0.29	**U**
64-17-5	Ethanol	3.7	23	3.7	1.6	**U**
67-64-1	Acetone	12	23	12	5.3	**U**
75-69-4	Trichlorofluoromethane	**0.41**	2.3	1.4	0.36	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	2.8	9.3	2.8	0.97	**U**
75-09-2	Methylene Chloride	1.4	2.3	1.4	0.66	**U**
76-13-1	Trichlorotrifluoroethane	**0.96**	2.4	0.75	0.34	**J**
75-15-0	Carbon Disulfide	**6.6**	4.9	2.4	0.71	
75-34-3	1,1-Dichloroethane	1.5	2.4	1.5	0.35	**U**
78-93-3	2-Butanone (MEK)	1.4	4.9	1.4	0.49	**U**
141-78-6	Ethyl Acetate	2.9	4.9	2.9	1.2	**U**
110-54-3	n-Hexane	1.4	2.4	1.4	0.49	**U**
67-66-3	Chloroform	**7.1**	2.4	0.75	0.31	
109-99-9	Tetrahydrofuran (THF)	**11**	2.4	0.75	0.30	
107-06-2	1,2-Dichloroethane	0.75	2.4	0.75	0.26	**U**
71-43-2	Benzene	**1.2**	2.3	0.75	0.34	**J**
56-23-5	Carbon Tetrachloride	**1.7**	2.3	0.75	0.33	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV132-350-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-004

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4 - 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00985

Initial Pressure (psig): -3.14 Final Pressure (psig): 5.77

Container Dilution Factor: 1.77

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.5	4.9	1.5	0.66	**U**
75-27-4	Bromodichloromethane	0.75	2.4	0.75	0.34	**U**
79-01-6	Trichloroethene	**670**	24	7.5	3.2	**D**
123-91-1	1,4-Dioxane	0.75	2.4	0.75	0.28	**U**
142-82-5	n-Heptane	1.4	2.4	1.4	0.38	**U**
108-10-1	4-Methyl-2-pentanone	0.75	2.3	0.75	0.32	**U**
108-88-3	Toluene	**0.96**	2.4	0.75	0.29	**J**
591-78-6	2-Hexanone	0.75	2.4	0.75	0.29	**U**
124-48-1	Dibromochloromethane	0.75	2.4	0.75	0.31	**U**
106-93-4	1,2-Dibromoethane	0.75	2.4	0.75	0.27	**U**
127-18-4	Tetrachloroethene	**2.2**	2.3	0.75	0.31	**J**
100-41-4	Ethylbenzene	0.75	2.4	0.75	0.33	**U**
179601-23-1	m,p-Xylenes	**1.3**	4.9	1.5	0.62	**J**
75-25-2	Bromoform	1.4	2.4	1.4	0.49	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.38	**U**
95-47-6	o-Xylene	**0.50**	2.4	0.75	0.34	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.82**	2.3	0.75	0.34	**J**
95-63-6	1,2,4-Trimethylbenzene	**3.8**	2.4	0.75	0.33	
120-82-1	1,2,4-Trichlorobenzene	1.4	2.4	1.4	0.58	**U**
91-20-3	Naphthalene	**1.1**	2.3	1.4	0.58	**J**
1330-20-7	Xylenes, Total	**1.8**	4.9	1.5	0.62	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV132-450-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-005

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4 - 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00991

Initial Pressure (psig): -2.80 Final Pressure (psig): 5.92

Container Dilution Factor: 1.73

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**4.9**	2.3	1.4	0.56	
75-71-8	Dichlorodifluoromethane (CFC 12)	1.4	2.3	1.4	0.38	**U**
74-87-3	Chloromethane	**15**	2.3	1.4	0.37	
75-01-4	Vinyl Chloride	**4.7**	2.3	0.74	0.25	
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.38	**U**
75-00-3	Chloroethane	**3.4**	2.3	1.4	0.29	
64-17-5	Ethanol	**5.4**	22	3.6	1.6	**J**
67-64-1	Acetone	**42**	23	12	5.2	
75-69-4	Trichlorofluoromethane	1.4	2.3	1.4	0.35	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	**5.0**	9.1	2.7	0.95	**J**
75-09-2	Methylene Chloride	1.4	2.3	1.4	0.65	**U**
76-13-1	Trichlorotrifluoroethane	**0.96**	2.3	0.74	0.33	**J**
75-15-0	Carbon Disulfide	**31**	4.8	2.3	0.69	
75-34-3	1,1-Dichloroethane	**3.0**	2.4	1.4	0.34	
78-93-3	2-Butanone (MEK)	**14**	4.8	1.4	0.48	
141-78-6	Ethyl Acetate	2.8	4.8	2.8	1.2	**U**
110-54-3	n-Hexane	**1.0**	2.3	1.4	0.48	**J**
67-66-3	Chloroform	**2.7**	2.3	0.74	0.31	
109-99-9	Tetrahydrofuran (THF)	**34**	2.4	0.74	0.29	
107-06-2	1,2-Dichloroethane	**1.4**	2.3	0.74	0.26	**J**
71-43-2	Benzene	**2.0**	2.3	0.74	0.33	**J**
56-23-5	Carbon Tetrachloride	**0.82**	2.3	0.74	0.32	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV132-450-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-005

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4 - 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00991

Initial Pressure (psig): -2.80 Final Pressure (psig): 5.92

Container Dilution Factor: 1.73

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.5	4.8	1.5	0.65	**U**
75-27-4	Bromodichloromethane	0.74	2.3	0.74	0.33	**U**
79-01-6	Trichloroethene	**910**	23	7.4	3.1	**D**
123-91-1	1,4-Dioxane	0.74	2.3	0.74	0.27	**U**
142-82-5	n-Heptane	**1.1**	2.3	1.4	0.37	**J**
108-10-1	4-Methyl-2-pentanone	**1.1**	2.3	0.74	0.32	**J**
108-88-3	Toluene	**13**	2.3	0.74	0.28	
591-78-6	2-Hexanone	**1.7**	2.3	0.74	0.29	**J**
124-48-1	Dibromochloromethane	0.74	2.3	0.74	0.30	**U**
106-93-4	1,2-Dibromoethane	0.74	2.3	0.74	0.27	**U**
127-18-4	Tetrachloroethene	**2.2**	2.2	0.74	0.30	**J**
100-41-4	Ethylbenzene	**0.79**	2.3	0.74	0.32	**J**
179601-23-1	m,p-Xylenes	**3.1**	4.8	1.5	0.61	**J**
75-25-2	Bromoform	1.4	2.3	1.4	0.48	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.37	**U**
95-47-6	o-Xylene	**1.2**	2.3	0.74	0.33	**J**
108-67-8	1,3,5-Trimethylbenzene	**1.2**	2.3	0.74	0.33	**J**
95-63-6	1,2,4-Trimethylbenzene	**4.7**	2.3	0.74	0.32	
120-82-1	1,2,4-Trichlorobenzene	1.4	2.3	1.4	0.56	**U**
91-20-3	Naphthalene	**0.65**	2.2	1.3	0.56	**J**
1330-20-7	Xylenes, Total	**4.3**	4.8	1.5	0.61	**J**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV134-025-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-006

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01011

Initial Pressure (psig): -3.81 Final Pressure (psig): 6.09

Container Dilution Factor: 1.91

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**2.3**	2.5	1.5	0.62	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.4**	2.5	1.5	0.42	**J**
74-87-3	Chloromethane	**26**	2.5	1.5	0.41	
75-01-4	Vinyl Chloride	0.81	2.6	0.81	0.27	**U**
106-99-0	1,3-Butadiene	1.5	2.5	1.5	0.42	**U**
75-00-3	Chloroethane	**1.7**	2.6	1.5	0.32	**J**
64-17-5	Ethanol	**5.1**	25	4.0	1.8	**J**
67-64-1	Acetone	**91**	25	13	5.7	
75-69-4	Trichlorofluoromethane	**1.1**	2.5	1.5	0.39	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.7**	10	3.0	1.1	**J**
75-09-2	Methylene Chloride	1.5	2.5	1.5	0.72	**U**
76-13-1	Trichlorotrifluoroethane	**1.1**	2.6	0.81	0.36	**J**
75-15-0	Carbon Disulfide	**2.7**	5.3	2.6	0.76	**J**
75-34-3	1,1-Dichloroethane	1.6	2.6	1.6	0.37	**U**
78-93-3	2-Butanone (MEK)	**13**	5.3	1.5	0.53	
141-78-6	Ethyl Acetate	3.1	5.3	3.1	1.3	**U**
110-54-3	n-Hexane	1.5	2.6	1.5	0.53	**U**
67-66-3	Chloroform	**2.0**	2.6	0.81	0.34	**J**
109-99-9	Tetrahydrofuran (THF)	**0.57**	2.6	0.81	0.32	**J**
107-06-2	1,2-Dichloroethane	0.81	2.6	0.81	0.28	**U**
71-43-2	Benzene	**0.66**	2.5	0.81	0.37	**J**
56-23-5	Carbon Tetrachloride	**0.43**	2.5	0.81	0.35	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV134-025-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-006

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01011

Initial Pressure (psig): -3.81 Final Pressure (psig): 6.09

Container Dilution Factor: 1.91

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.6	5.3	1.6	0.72	**U**
75-27-4	Bromodichloromethane	0.81	2.6	0.81	0.37	**U**
79-01-6	Trichloroethene	**19**	2.6	0.81	0.34	
123-91-1	1,4-Dioxane	0.81	2.6	0.81	0.30	**U**
142-82-5	n-Heptane	1.5	2.6	1.5	0.41	**U**
108-10-1	4-Methyl-2-pentanone	0.81	2.5	0.81	0.35	**U**
108-88-3	Toluene	**5.0**	2.6	0.81	0.31	
591-78-6	2-Hexanone	**1.5**	2.6	0.81	0.32	**J**
124-48-1	Dibromochloromethane	0.81	2.6	0.81	0.33	**U**
106-93-4	1,2-Dibromoethane	0.81	2.6	0.81	0.30	**U**
127-18-4	Tetrachloroethene	**0.75**	2.5	0.81	0.33	**J**
100-41-4	Ethylbenzene	**0.94**	2.6	0.81	0.36	**J**
179601-23-1	m,p-Xylenes	**4.8**	5.3	1.6	0.67	**J**
75-25-2	Bromoform	1.5	2.6	1.5	0.53	**U**
100-42-5	Styrene	1.5	2.5	1.5	0.41	**U**
95-47-6	o-Xylene	**2.4**	2.6	0.81	0.37	**J**
108-67-8	1,3,5-Trimethylbenzene	**1.4**	2.5	0.81	0.37	**J**
95-63-6	1,2,4-Trimethylbenzene	**3.7**	2.6	0.81	0.35	
120-82-1	1,2,4-Trichlorobenzene	1.5	2.6	1.5	0.62	**U**
91-20-3	Naphthalene	**3.0**	2.5	1.5	0.62	
1330-20-7	Xylenes, Total	**7.2**	5.3	1.6	0.67	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV134-050-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-007

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00478

Initial Pressure (psig): -3.61 Final Pressure (psig): 5.65

Container Dilution Factor: 1.83

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.4**	2.4	1.5	0.59	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.4**	2.4	1.5	0.40	
74-87-3	Chloromethane	1.5	2.4	1.5	0.39	**U**
75-01-4	Vinyl Chloride	0.78	2.5	0.78	0.26	**U**
106-99-0	1,3-Butadiene	1.5	2.4	1.5	0.40	**U**
75-00-3	Chloroethane	1.5	2.5	1.5	0.30	**U**
64-17-5	Ethanol	**5.7**	24	3.8	1.7	**J**
67-64-1	Acetone	**30**	24	12	5.5	
75-69-4	Trichlorofluoromethane	**1.1**	2.4	1.5	0.37	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.2**	9.6	2.9	1.0	**J**
75-09-2	Methylene Chloride	1.5	2.4	1.5	0.69	**U**
76-13-1	Trichlorotrifluoroethane	**1.2**	2.5	0.78	0.35	**J**
75-15-0	Carbon Disulfide	**1.0**	5.0	2.5	0.73	**J**
75-34-3	1,1-Dichloroethane	1.5	2.5	1.5	0.36	**U**
78-93-3	2-Butanone (MEK)	**6.6**	5.0	1.5	0.50	
141-78-6	Ethyl Acetate	3.0	5.0	3.0	1.3	**U**
110-54-3	n-Hexane	1.5	2.5	1.5	0.50	**U**
67-66-3	Chloroform	0.78	2.5	0.78	0.32	**U**
109-99-9	Tetrahydrofuran (THF)	0.78	2.5	0.78	0.31	**U**
107-06-2	1,2-Dichloroethane	0.78	2.5	0.78	0.27	**U**
71-43-2	Benzene	0.78	2.4	0.78	0.35	**U**
56-23-5	Carbon Tetrachloride	**0.34**	2.4	0.78	0.34	**J**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV134-050-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-007

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00478

Initial Pressure (psig): -3.61 Final Pressure (psig): 5.65

Container Dilution Factor: 1.83

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.6	5.0	1.6	0.69	**U**
75-27-4	Bromodichloromethane	0.78	2.5	0.78	0.35	**U**
79-01-6	Trichloroethene	**26**	2.5	0.78	0.33	
123-91-1	1,4-Dioxane	0.78	2.5	0.78	0.29	**U**
142-82-5	n-Heptane	1.5	2.5	1.5	0.39	**U**
108-10-1	4-Methyl-2-pentanone	0.78	2.4	0.78	0.33	**U**
108-88-3	Toluene	**0.68**	2.5	0.78	0.30	**J**
591-78-6	2-Hexanone	**1.6**	2.5	0.78	0.30	**J**
124-48-1	Dibromochloromethane	0.78	2.5	0.78	0.32	**U**
106-93-4	1,2-Dibromoethane	0.78	2.5	0.78	0.28	**U**
127-18-4	Tetrachloroethene	**1.2**	2.4	0.78	0.32	**J**
100-41-4	Ethylbenzene	0.78	2.5	0.78	0.34	**U**
179601-23-1	m,p-Xylenes	**1.4**	5.0	1.6	0.64	**J**
75-25-2	Bromoform	1.5	2.5	1.5	0.50	**U**
100-42-5	Styrene	1.5	2.4	1.5	0.39	**U**
95-47-6	o-Xylene	**0.74**	2.5	0.78	0.35	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.59**	2.4	0.78	0.35	**J**
95-63-6	1,2,4-Trimethylbenzene	**2.0**	2.5	0.78	0.34	**J**
120-82-1	1,2,4-Trichlorobenzene	1.5	2.5	1.5	0.59	**U**
91-20-3	Naphthalene	1.4	2.4	1.4	0.59	**U**
1330-20-7	Xylenes, Total	**2.1**	5.0	1.6	0.64	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV134-170-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-008

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00857

Initial Pressure (psig): -2.46 Final Pressure (psig): 5.51

Container Dilution Factor: 1.65

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**0.83**	2.2	1.3	0.54	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.1**	2.2	1.3	0.36	**J**
74-87-3	Chloromethane	**0.42**	2.2	1.3	0.35	**J**
75-01-4	Vinyl Chloride	0.70	2.2	0.70	0.24	**U**
106-99-0	1,3-Butadiene	1.3	2.2	1.3	0.36	**U**
75-00-3	Chloroethane	1.3	2.2	1.3	0.27	**U**
64-17-5	Ethanol	**5.2**	21	3.4	1.5	**J**
67-64-1	Acetone	**49**	22	11	5.0	
75-69-4	Trichlorofluoromethane	**0.92**	2.2	1.3	0.33	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	2.6	8.7	2.6	0.91	**U**
75-09-2	Methylene Chloride	1.3	2.2	1.3	0.62	**U**
76-13-1	Trichlorotrifluoroethane	**2.0**	2.2	0.70	0.31	**J**
75-15-0	Carbon Disulfide	**10**	4.5	2.2	0.66	
75-34-3	1,1-Dichloroethane	1.4	2.3	1.4	0.32	**U**
78-93-3	2-Butanone (MEK)	**19**	4.5	1.3	0.45	
141-78-6	Ethyl Acetate	**2.4**	4.5	2.7	1.2	**J**
110-54-3	n-Hexane	**1.0**	2.2	1.3	0.45	**J**
67-66-3	Chloroform	**0.60**	2.2	0.70	0.29	**J**
109-99-9	Tetrahydrofuran (THF)	**13**	2.3	0.70	0.28	
107-06-2	1,2-Dichloroethane	0.70	2.2	0.70	0.24	**U**
71-43-2	Benzene	**0.71**	2.2	0.70	0.32	**J**
56-23-5	Carbon Tetrachloride	**0.64**	2.2	0.70	0.31	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV134-170-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-008

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00857

Initial Pressure (psig): -2.46 Final Pressure (psig): 5.51

Container Dilution Factor: 1.65

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**1.2**	4.5	1.4	0.62	**J**
75-27-4	Bromodichloromethane	0.70	2.2	0.70	0.32	**U**
79-01-6	Trichloroethene	**120**	2.2	0.70	0.30	
123-91-1	1,4-Dioxane	0.70	2.2	0.70	0.26	**U**
142-82-5	n-Heptane	**0.45**	2.2	1.3	0.35	**J**
108-10-1	4-Methyl-2-pentanone	0.70	2.2	0.70	0.30	**U**
108-88-3	Toluene	**2.9**	2.2	0.70	0.27	
591-78-6	2-Hexanone	0.70	2.2	0.70	0.27	**U**
124-48-1	Dibromochloromethane	0.70	2.2	0.70	0.29	**U**
106-93-4	1,2-Dibromoethane	0.70	2.2	0.70	0.26	**U**
127-18-4	Tetrachloroethene	**2.0**	2.1	0.70	0.28	**J**
100-41-4	Ethylbenzene	**0.56**	2.2	0.70	0.31	**J**
179601-23-1	m,p-Xylenes	**4.9**	4.5	1.4	0.58	
75-25-2	Bromoform	1.3	2.2	1.3	0.45	**U**
100-42-5	Styrene	1.3	2.2	1.3	0.35	**U**
95-47-6	o-Xylene	**2.3**	2.2	0.70	0.32	
108-67-8	1,3,5-Trimethylbenzene	**1.6**	2.2	0.70	0.32	**J**
95-63-6	1,2,4-Trimethylbenzene	**6.8**	2.2	0.70	0.31	
120-82-1	1,2,4-Trichlorobenzene	1.3	2.2	1.3	0.54	**U**
91-20-3	Naphthalene	**1.0**	2.1	1.3	0.54	**J**
1330-20-7	Xylenes, Total	**7.2**	4.5	1.4	0.58	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV134-250-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-009

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00087

Initial Pressure (psig): -2.92 Final Pressure (psig): 5.99

Container Dilution Factor: 1.76

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**0.71**	2.3	1.4	0.57	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.9**	2.3	1.4	0.38	**J**
74-87-3	Chloromethane	1.4	2.3	1.4	0.38	**U**
75-01-4	Vinyl Chloride	0.75	2.4	0.75	0.25	**U**
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.39	**U**
75-00-3	Chloroethane	1.4	2.4	1.4	0.29	**U**
64-17-5	Ethanol	**3.4**	23	3.7	1.6	**J**
67-64-1	Acetone	**10**	23	12	5.3	**J**
75-69-4	Trichlorofluoromethane	**0.81**	2.3	1.4	0.36	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	2.8	9.2	2.8	0.97	**U**
75-09-2	Methylene Chloride	1.4	2.3	1.4	0.66	**U**
76-13-1	Trichlorotrifluoroethane	**1.4**	2.4	0.75	0.33	**J**
75-15-0	Carbon Disulfide	**23**	4.8	2.4	0.70	
75-34-3	1,1-Dichloroethane	1.5	2.4	1.5	0.34	**U**
78-93-3	2-Butanone (MEK)	**2.2**	4.8	1.4	0.48	**J**
141-78-6	Ethyl Acetate	2.9	4.8	2.9	1.2	**U**
110-54-3	n-Hexane	1.4	2.4	1.4	0.48	**U**
67-66-3	Chloroform	**0.59**	2.4	0.75	0.31	**J**
109-99-9	Tetrahydrofuran (THF)	**8.9**	2.4	0.75	0.29	
107-06-2	1,2-Dichloroethane	0.75	2.4	0.75	0.26	**U**
71-43-2	Benzene	**0.66**	2.3	0.75	0.34	**J**
56-23-5	Carbon Tetrachloride	**0.58**	2.3	0.75	0.33	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV134-250-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-009

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00087

Initial Pressure (psig): -2.92 Final Pressure (psig): 5.99

Container Dilution Factor: 1.76

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.5	4.8	1.5	0.66	**U**
75-27-4	Bromodichloromethane	0.75	2.4	0.75	0.34	**U**
79-01-6	Trichloroethene	**90**	2.4	0.75	0.32	
123-91-1	1,4-Dioxane	0.75	2.4	0.75	0.28	**U**
142-82-5	n-Heptane	1.4	2.4	1.4	0.37	**U**
108-10-1	4-Methyl-2-pentanone	0.75	2.3	0.75	0.32	**U**
108-88-3	Toluene	**0.77**	2.4	0.75	0.29	**J**
591-78-6	2-Hexanone	0.75	2.4	0.75	0.29	**U**
124-48-1	Dibromochloromethane	0.75	2.4	0.75	0.31	**U**
106-93-4	1,2-Dibromoethane	0.75	2.4	0.75	0.27	**U**
127-18-4	Tetrachloroethene	**1.6**	2.3	0.75	0.30	**J**
100-41-4	Ethylbenzene	0.75	2.4	0.75	0.33	**U**
179601-23-1	m,p-Xylenes	**1.4**	4.8	1.5	0.62	**J**
75-25-2	Bromoform	1.4	2.4	1.4	0.48	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.38	**U**
95-47-6	o-Xylene	**0.70**	2.4	0.75	0.34	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.56**	2.3	0.75	0.34	**J**
95-63-6	1,2,4-Trimethylbenzene	**2.2**	2.4	0.75	0.33	**J**
120-82-1	1,2,4-Trichlorobenzene	1.4	2.4	1.4	0.57	**U**
91-20-3	Naphthalene	1.4	2.3	1.4	0.57	**U**
1330-20-7	Xylenes, Total	**2.1**	4.8	1.5	0.62	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV134-350-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-010

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00384

Initial Pressure (psig): -2.84 Final Pressure (psig): 5.57

Container Dilution Factor: 1.71

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	1.4	2.3	1.4	0.56	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.8**	2.3	1.4	0.37	**J**
74-87-3	Chloromethane	1.4	2.3	1.4	0.37	**U**
75-01-4	Vinyl Chloride	0.73	2.3	0.73	0.24	**U**
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.38	**U**
75-00-3	Chloroethane	1.4	2.3	1.4	0.28	**U**
64-17-5	Ethanol	**11**	22	3.5	1.6	**J**
67-64-1	Acetone	**20**	23	12	5.1	**J**
75-69-4	Trichlorofluoromethane	**0.72**	2.3	1.4	0.35	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**2.5**	9.0	2.7	0.94	**J**
75-09-2	Methylene Chloride	1.4	2.3	1.4	0.64	**U**
76-13-1	Trichlorotrifluoroethane	**0.75**	2.3	0.73	0.32	**J**
75-15-0	Carbon Disulfide	**13**	4.7	2.3	0.68	
75-34-3	1,1-Dichloroethane	1.4	2.4	1.4	0.33	**U**
78-93-3	2-Butanone (MEK)	**6.0**	4.7	1.4	0.47	
141-78-6	Ethyl Acetate	**31**	4.7	2.8	1.2	
110-54-3	n-Hexane	**4.9**	2.3	1.4	0.47	
67-66-3	Chloroform	**0.91**	2.3	0.73	0.30	**J**
109-99-9	Tetrahydrofuran (THF)	**17**	2.4	0.73	0.29	
107-06-2	1,2-Dichloroethane	0.73	2.3	0.73	0.25	**U**
71-43-2	Benzene	**1.7**	2.3	0.73	0.33	**J**
56-23-5	Carbon Tetrachloride	**0.55**	2.3	0.73	0.32	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV134-350-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-010

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00384

Initial Pressure (psig): -2.84 Final Pressure (psig): 5.57

Container Dilution Factor: 1.71

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**39**	4.7	1.5	0.64	
75-27-4	Bromodichloromethane	0.73	2.3	0.73	0.33	**U**
79-01-6	Trichloroethene	**95**	2.3	0.73	0.31	
123-91-1	1,4-Dioxane	0.73	2.3	0.73	0.27	**U**
142-82-5	n-Heptane	1.4	2.3	1.4	0.36	**U**
108-10-1	4-Methyl-2-pentanone	0.73	2.3	0.73	0.31	**U**
108-88-3	Toluene	**4.9**	2.3	0.73	0.28	
591-78-6	2-Hexanone	**0.81**	2.3	0.73	0.28	**J**
124-48-1	Dibromochloromethane	0.73	2.3	0.73	0.30	**U**
106-93-4	1,2-Dibromoethane	0.73	2.3	0.73	0.27	**U**
127-18-4	Tetrachloroethene	**0.77**	2.2	0.73	0.29	**J**
100-41-4	Ethylbenzene	**0.99**	2.3	0.73	0.32	**J**
179601-23-1	m,p-Xylenes	**5.5**	4.7	1.5	0.60	
75-25-2	Bromoform	1.4	2.3	1.4	0.47	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.37	**U**
95-47-6	o-Xylene	**1.9**	2.3	0.73	0.33	**J**
108-67-8	1,3,5-Trimethylbenzene	**1.1**	2.3	0.73	0.33	**J**
95-63-6	1,2,4-Trimethylbenzene	**3.7**	2.3	0.73	0.32	
120-82-1	1,2,4-Trichlorobenzene	1.4	2.3	1.4	0.56	**U**
91-20-3	Naphthalene	**0.56**	2.2	1.3	0.56	**J**
1330-20-7	Xylenes, Total	**7.4**	4.7	1.5	0.60	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV134-350-602** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-011

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01044

Initial Pressure (psig): -3.62 Final Pressure (psig): 5.74

Container Dilution Factor: 1.84

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	1.5	2.4	1.5	0.60	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.9**	2.4	1.5	0.40	**J**
74-87-3	Chloromethane	1.5	2.4	1.5	0.40	**U**
75-01-4	Vinyl Chloride	0.78	2.5	0.78	0.26	**U**
106-99-0	1,3-Butadiene	1.5	2.4	1.5	0.40	**U**
75-00-3	Chloroethane	1.5	2.5	1.5	0.30	**U**
64-17-5	Ethanol	**9.8**	24	3.8	1.7	**J**
67-64-1	Acetone	12	24	12	5.5	**U**
75-69-4	Trichlorofluoromethane	**0.78**	2.4	1.5	0.37	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	2.9	9.7	2.9	1.0	**U**
75-09-2	Methylene Chloride	1.5	2.4	1.5	0.69	**U**
76-13-1	Trichlorotrifluoroethane	**0.75**	2.5	0.78	0.35	**J**
75-15-0	Carbon Disulfide	**13**	5.1	2.5	0.74	
75-34-3	1,1-Dichloroethane	1.5	2.5	1.5	0.36	**U**
78-93-3	2-Butanone (MEK)	**3.3**	5.1	1.5	0.51	**J**
141-78-6	Ethyl Acetate	3.0	5.1	3.0	1.3	**U**
110-54-3	n-Hexane	**4.0**	2.5	1.5	0.51	
67-66-3	Chloroform	**0.82**	2.5	0.78	0.33	**J**
109-99-9	Tetrahydrofuran (THF)	**18**	2.5	0.78	0.31	
107-06-2	1,2-Dichloroethane	0.78	2.5	0.78	0.27	**U**
71-43-2	Benzene	**1.6**	2.4	0.78	0.35	**J**
56-23-5	Carbon Tetrachloride	**0.52**	2.4	0.78	0.34	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV134-350-602** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-011

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01044

Initial Pressure (psig): -3.62 Final Pressure (psig): 5.74

Container Dilution Factor: 1.84

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**36**	5.1	1.6	0.69	
75-27-4	Bromodichloromethane	0.78	2.5	0.78	0.35	**U**
79-01-6	Trichloroethene	**89**	2.5	0.78	0.33	
123-91-1	1,4-Dioxane	0.78	2.5	0.78	0.29	**U**
142-82-5	n-Heptane	**0.58**	2.5	1.5	0.39	**J**
108-10-1	4-Methyl-2-pentanone	0.78	2.4	0.78	0.34	**U**
108-88-3	Toluene	**3.6**	2.5	0.78	0.30	
591-78-6	2-Hexanone	0.78	2.5	0.78	0.30	**U**
124-48-1	Dibromochloromethane	0.78	2.5	0.78	0.32	**U**
106-93-4	1,2-Dibromoethane	0.78	2.5	0.78	0.29	**U**
127-18-4	Tetrachloroethene	**1.5**	2.4	0.78	0.32	**J**
100-41-4	Ethylbenzene	**0.75**	2.5	0.78	0.35	**J**
179601-23-1	m,p-Xylenes	**7.0**	5.1	1.6	0.64	
75-25-2	Bromoform	1.5	2.5	1.5	0.51	**U**
100-42-5	Styrene	1.5	2.4	1.5	0.40	**U**
95-47-6	o-Xylene	**3.1**	2.5	0.78	0.35	
108-67-8	1,3,5-Trimethylbenzene	**2.8**	2.4	0.78	0.35	
95-63-6	1,2,4-Trimethylbenzene	**11**	2.5	0.78	0.34	
120-82-1	1,2,4-Trichlorobenzene	1.5	2.5	1.5	0.60	**U**
91-20-3	Naphthalene	**1.1**	2.4	1.4	0.60	**J**
1330-20-7	Xylenes, Total	**10**	5.1	1.6	0.64	

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV134-450-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-012

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.015 Liter(s)
Test Notes:
Container ID: 1SC00502

Initial Pressure (psig): -2.56 Final Pressure (psig): 6.01

Container Dilution Factor: 1.71

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	36	60	36	15	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	36	60	36	9.9	**U**
74-87-3	Chloromethane	36	60	36	9.8	**U**
75-01-4	Vinyl Chloride	19	62	19	6.5	**U**
106-99-0	1,3-Butadiene	36	60	36	10	**U**
75-00-3	Chloroethane	36	62	36	7.5	**U**
64-17-5	Ethanol	95	590	95	42	**U**
67-64-1	Acetone	310	600	310	140	**U**
75-69-4	Trichlorofluoromethane	36	60	36	9.2	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	72	240	72	25	**U**
75-09-2	Methylene Chloride	36	60	36	17	**U**
76-13-1	Trichlorotrifluoroethane	19	62	19	8.7	**U**
75-15-0	Carbon Disulfide	**34**	130	62	18	**J**
75-34-3	1,1-Dichloroethane	38	63	38	8.9	**U**
78-93-3	2-Butanone (MEK)	36	130	36	13	**U**
141-78-6	Ethyl Acetate	74	130	74	32	**U**
110-54-3	n-Hexane	**370**	62	36	13	
67-66-3	Chloroform	19	62	19	8.1	**U**
109-99-9	Tetrahydrofuran (THF)	19	63	19	7.6	**U**
107-06-2	1,2-Dichloroethane	19	62	19	6.7	**U**
71-43-2	Benzene	**400**	60	19	8.8	
56-23-5	Carbon Tetrachloride	19	60	19	8.4	**U**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV134-450-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-012

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.015 Liter(s)
Test Notes:
Container ID: 1SC00502

Initial Pressure (psig): -2.56 Final Pressure (psig): 6.01

Container Dilution Factor: 1.71

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**410**	130	39	17	
75-27-4	Bromodichloromethane	19	62	19	8.8	**U**
79-01-6	Trichloroethene	**240**	62	19	8.2	
123-91-1	1,4-Dioxane	19	62	19	7.2	**U**
142-82-5	n-Heptane	**120**	62	36	9.7	
108-10-1	4-Methyl-2-pentanone	19	60	19	8.3	**U**
108-88-3	Toluene	19	62	19	7.4	**U**
591-78-6	2-Hexanone	19	62	19	7.5	**U**
124-48-1	Dibromochloromethane	19	62	19	8.0	**U**
106-93-4	1,2-Dibromoethane	19	62	19	7.1	**U**
127-18-4	Tetrachloroethene	19	59	19	7.9	**U**
100-41-4	Ethylbenzene	19	62	19	8.6	**U**
179601-23-1	m,p-Xylenes	39	130	39	16	**U**
75-25-2	Bromoform	36	62	36	13	**U**
100-42-5	Styrene	36	60	36	9.8	**U**
95-47-6	o-Xylene	**26**	62	19	8.8	**J**
108-67-8	1,3,5-Trimethylbenzene	**50**	60	19	8.8	**J**
95-63-6	1,2,4-Trimethylbenzene	19	62	19	8.4	**U**
120-82-1	1,2,4-Trichlorobenzene	36	62	36	15	**U**
91-20-3	Naphthalene	35	59	35	15	**U**
1330-20-7	Xylenes, Total	**26**	130	39	16	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV135-025-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-013

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00812

Initial Pressure (psig): -3.40 Final Pressure (psig): 4.49

Container Dilution Factor: 1.70

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**3.3**	2.3	1.4	0.55	
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.72**	2.3	1.4	0.37	**J**
74-87-3	Chloromethane	**19**	2.3	1.4	0.37	
75-01-4	Vinyl Chloride	**5.5**	2.3	0.72	0.24	
106-99-0	1,3-Butadiene	**0.49**	2.3	1.4	0.37	**J**
75-00-3	Chloroethane	**6.4**	2.3	1.4	0.28	
64-17-5	Ethanol	**5.6**	22	3.5	1.6	**J**
67-64-1	Acetone	**15**	23	11	5.1	**J**
75-69-4	Trichlorofluoromethane	**0.50**	2.3	1.4	0.34	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	2.7	8.9	2.7	0.94	**U**
75-09-2	Methylene Chloride	1.4	2.3	1.4	0.64	**U**
76-13-1	Trichlorotrifluoroethane	**0.46**	2.3	0.72	0.32	**J**
75-15-0	Carbon Disulfide	**73**	4.7	2.3	0.68	
75-34-3	1,1-Dichloroethane	**0.99**	2.3	1.4	0.33	**J**
78-93-3	2-Butanone (MEK)	**3.2**	4.7	1.4	0.47	**J**
141-78-6	Ethyl Acetate	2.8	4.7	2.8	1.2	**U**
110-54-3	n-Hexane	**0.64**	2.3	1.4	0.47	**J**
67-66-3	Chloroform	**0.69**	2.3	0.72	0.30	**J**
109-99-9	Tetrahydrofuran (THF)	**42**	2.3	0.72	0.28	
107-06-2	1,2-Dichloroethane	**3.4**	2.3	0.72	0.25	
71-43-2	Benzene	**1.7**	2.3	0.72	0.33	**J**
56-23-5	Carbon Tetrachloride	**0.64**	2.3	0.72	0.31	**J**

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV135-025-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-013

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00812

Initial Pressure (psig): -3.40 Final Pressure (psig): 4.49

Container Dilution Factor: 1.70

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.4	4.7	1.4	0.64	**U**
75-27-4	Bromodichloromethane	0.72	2.3	0.72	0.33	**U**
79-01-6	Trichloroethene	**79**	2.3	0.72	0.31	
123-91-1	1,4-Dioxane	0.72	2.3	0.72	0.27	**U**
142-82-5	n-Heptane	**1.1**	2.3	1.4	0.36	**J**
108-10-1	4-Methyl-2-pentanone	**5.4**	2.3	0.72	0.31	
108-88-3	Toluene	**3.1**	2.3	0.72	0.28	
591-78-6	2-Hexanone	**0.34**	2.3	0.72	0.28	**J**
124-48-1	Dibromochloromethane	0.72	2.3	0.72	0.30	**U**
106-93-4	1,2-Dibromoethane	0.72	2.3	0.72	0.26	**U**
127-18-4	Tetrachloroethene	0.72	2.2	0.72	0.29	**U**
100-41-4	Ethylbenzene	**1.4**	2.3	0.72	0.32	**J**
179601-23-1	m,p-Xylenes	**4.7**	4.7	1.4	0.60	
75-25-2	Bromoform	1.4	2.3	1.4	0.47	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.37	**U**
95-47-6	o-Xylene	**1.1**	2.3	0.72	0.33	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.55**	2.3	0.72	0.33	**J**
95-63-6	1,2,4-Trimethylbenzene	**2.7**	2.3	0.72	0.31	
120-82-1	1,2,4-Trichlorobenzene	1.4	2.3	1.4	0.55	**U**
91-20-3	Naphthalene	1.3	2.2	1.3	0.55	**U**
1330-20-7	Xylenes, Total	**5.8**	4.7	1.4	0.60	

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV135-050-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-014

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00851

Initial Pressure (psig): -2.19 Final Pressure (psig): 5.84

Container Dilution Factor: 1.64

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	1.3	2.2	1.3	0.53	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.1**	2.2	1.3	0.36	**J**
74-87-3	Chloromethane	1.3	2.2	1.3	0.35	**U**
75-01-4	Vinyl Chloride	0.70	2.2	0.70	0.23	**U**
106-99-0	1,3-Butadiene	1.3	2.2	1.3	0.36	**U**
75-00-3	Chloroethane	1.3	2.2	1.3	0.27	**U**
64-17-5	Ethanol	**6.3**	21	3.4	1.5	**J**
67-64-1	Acetone	11	22	11	4.9	**U**
75-69-4	Trichlorofluoromethane	**1.2**	2.2	1.3	0.33	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	2.6	8.6	2.6	0.90	**U**
75-09-2	Methylene Chloride	1.3	2.2	1.3	0.62	**U**
76-13-1	Trichlorotrifluoroethane	**1.0**	2.2	0.70	0.31	**J**
75-15-0	Carbon Disulfide	**3.2**	4.5	2.2	0.66	**J**
75-34-3	1,1-Dichloroethane	1.4	2.3	1.4	0.32	**U**
78-93-3	2-Butanone (MEK)	**1.0**	4.5	1.3	0.45	**J**
141-78-6	Ethyl Acetate	**5.6**	4.5	2.7	1.1	
110-54-3	n-Hexane	1.3	2.2	1.3	0.45	**U**
67-66-3	Chloroform	**0.73**	2.2	0.70	0.29	**J**
109-99-9	Tetrahydrofuran (THF)	**17**	2.3	0.70	0.27	
107-06-2	1,2-Dichloroethane	0.70	2.2	0.70	0.24	**U**
71-43-2	Benzene	0.70	2.2	0.70	0.32	**U**
56-23-5	Carbon Tetrachloride	**0.47**	2.2	0.70	0.30	**J**

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV135-050-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-014

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00851

Initial Pressure (psig): -2.19 Final Pressure (psig): 5.84

Container Dilution Factor: 1.64

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.4	4.5	1.4	0.62	**U**
75-27-4	Bromodichloromethane	0.70	2.2	0.70	0.32	**U**
79-01-6	Trichloroethene	**280**	2.2	0.70	0.30	
123-91-1	1,4-Dioxane	0.70	2.2	0.70	0.26	**U**
142-82-5	n-Heptane	**0.56**	2.2	1.3	0.35	**J**
108-10-1	4-Methyl-2-pentanone	0.70	2.2	0.70	0.30	**U**
108-88-3	Toluene	**2.6**	2.2	0.70	0.27	
591-78-6	2-Hexanone	0.70	2.2	0.70	0.27	**U**
124-48-1	Dibromochloromethane	0.70	2.2	0.70	0.29	**U**
106-93-4	1,2-Dibromoethane	0.70	2.2	0.70	0.25	**U**
127-18-4	Tetrachloroethene	**0.64**	2.1	0.70	0.28	**J**
100-41-4	Ethylbenzene	**0.67**	2.2	0.70	0.31	**J**
179601-23-1	m,p-Xylenes	**3.6**	4.5	1.4	0.57	**J**
75-25-2	Bromoform	1.3	2.2	1.3	0.45	**U**
100-42-5	Styrene	1.3	2.2	1.3	0.35	**U**
95-47-6	o-Xylene	**1.2**	2.2	0.70	0.32	**J**
108-67-8	1,3,5-Trimethylbenzene	**2.0**	2.2	0.70	0.32	**J**
95-63-6	1,2,4-Trimethylbenzene	**9.9**	2.2	0.70	0.30	
120-82-1	1,2,4-Trichlorobenzene	1.3	2.2	1.3	0.53	**U**
91-20-3	Naphthalene	**2.1**	2.1	1.3	0.53	**J**
1330-20-7	Xylenes, Total	**4.7**	4.5	1.4	0.57	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV135-150-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-015

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4 - 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00115

Initial Pressure (psig): -2.84 Final Pressure (psig): 5.73

Container Dilution Factor: 1.72

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**0.79**	2.3	1.4	0.56	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.1**	2.3	1.4	0.37	**J**
74-87-3	Chloromethane	1.4	2.3	1.4	0.37	**U**
75-01-4	Vinyl Chloride	0.73	2.3	0.73	0.25	**U**
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.38	**U**
75-00-3	Chloroethane	1.4	2.3	1.4	0.28	**U**
64-17-5	Ethanol	**27**	22	3.6	1.6	
67-64-1	Acetone	**23**	23	12	5.2	
75-69-4	Trichlorofluoromethane	**1.0**	2.3	1.4	0.35	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.3**	9.0	2.7	0.95	**J**
75-09-2	Methylene Chloride	1.4	2.3	1.4	0.65	**U**
76-13-1	Trichlorotrifluoroethane	**2.4**	2.3	0.73	0.33	
75-15-0	Carbon Disulfide	**8.9**	4.7	2.3	0.69	
75-34-3	1,1-Dichloroethane	1.4	2.4	1.4	0.34	**U**
78-93-3	2-Butanone (MEK)	**27**	4.7	1.4	0.47	
141-78-6	Ethyl Acetate	**33**	4.7	2.8	1.2	
110-54-3	n-Hexane	1.4	2.3	1.4	0.47	**U**
67-66-3	Chloroform	**1.8**	2.3	0.73	0.31	**J**
109-99-9	Tetrahydrofuran (THF)	**48**	2.4	0.73	0.29	
107-06-2	1,2-Dichloroethane	0.73	2.3	0.73	0.25	**U**
71-43-2	Benzene	0.73	2.3	0.73	0.33	**U**
56-23-5	Carbon Tetrachloride	**1.6**	2.3	0.73	0.32	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV135-150-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-015

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/4 - 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00115

Initial Pressure (psig): -2.84 Final Pressure (psig): 5.73

Container Dilution Factor: 1.72

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.5	4.7	1.5	0.65	**U**
75-27-4	Bromodichloromethane	0.73	2.3	0.73	0.33	**U**
79-01-6	Trichloroethene	**1,500**	23	7.3	3.1	**D**
123-91-1	1,4-Dioxane	0.73	2.3	0.73	0.27	**U**
142-82-5	n-Heptane	1.4	2.3	1.4	0.37	**U**
108-10-1	4-Methyl-2-pentanone	0.73	2.3	0.73	0.31	**U**
108-88-3	Toluene	**2.2**	2.3	0.73	0.28	**J**
591-78-6	2-Hexanone	**0.49**	2.3	0.73	0.28	**J**
124-48-1	Dibromochloromethane	0.73	2.3	0.73	0.30	**U**
106-93-4	1,2-Dibromoethane	0.73	2.3	0.73	0.27	**U**
127-18-4	Tetrachloroethene	**2.6**	2.2	0.73	0.30	
100-41-4	Ethylbenzene	0.73	2.3	0.73	0.32	**U**
179601-23-1	m,p-Xylenes	**1.3**	4.7	1.5	0.60	**J**
75-25-2	Bromoform	1.4	2.3	1.4	0.47	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.37	**U**
95-47-6	o-Xylene	**0.47**	2.3	0.73	0.33	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.68**	2.3	0.73	0.33	**J**
95-63-6	1,2,4-Trimethylbenzene	**3.1**	2.3	0.73	0.32	
120-82-1	1,2,4-Trichlorobenzene	1.4	2.3	1.4	0.56	**U**
91-20-3	Naphthalene	1.3	2.2	1.3	0.56	**U**
1330-20-7	Xylenes, Total	**1.8**	4.7	1.5	0.60	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV135-250-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-016

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS01034

Initial Pressure (psig): -1.85 Final Pressure (psig): 5.45

Container Dilution Factor: 1.57

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	1.3	2.1	1.3	0.51	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.1**	2.1	1.3	0.34	**J**
74-87-3	Chloromethane	1.3	2.1	1.3	0.34	**U**
75-01-4	Vinyl Chloride	0.67	2.1	0.67	0.22	**U**
106-99-0	1,3-Butadiene	1.3	2.1	1.3	0.35	**U**
75-00-3	Chloroethane	1.3	2.1	1.3	0.26	**U**
64-17-5	Ethanol	**5.2**	20	3.3	1.5	**J**
67-64-1	Acetone	**6.5**	21	11	4.7	**J**
75-69-4	Trichlorofluoromethane	**0.62**	2.1	1.3	0.32	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	2.5	8.2	2.5	0.86	**U**
75-09-2	Methylene Chloride	1.3	2.1	1.3	0.59	**U**
76-13-1	Trichlorotrifluoroethane	**1.3**	2.1	0.67	0.30	**J**
75-15-0	Carbon Disulfide	**6.4**	4.3	2.1	0.63	
75-34-3	1,1-Dichloroethane	1.3	2.2	1.3	0.31	**U**
78-93-3	2-Butanone (MEK)	**2.4**	4.3	1.3	0.43	**J**
141-78-6	Ethyl Acetate	2.6	4.3	2.6	1.1	**U**
110-54-3	n-Hexane	1.3	2.1	1.3	0.43	**U**
67-66-3	Chloroform	**1.7**	2.1	0.67	0.28	**J**
109-99-9	Tetrahydrofuran (THF)	**23**	2.2	0.67	0.26	
107-06-2	1,2-Dichloroethane	0.67	2.1	0.67	0.23	**U**
71-43-2	Benzene	0.67	2.1	0.67	0.30	**U**
56-23-5	Carbon Tetrachloride	**0.80**	2.1	0.67	0.29	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV135-250-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-016

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Simon Cao Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS01034

Initial Pressure (psig): -1.85 Final Pressure (psig): 5.45

Container Dilution Factor: 1.57

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.3	4.3	1.3	0.59	**U**
75-27-4	Bromodichloromethane	0.67	2.1	0.67	0.30	**U**
79-01-6	Trichloroethene	**430**	21	6.7	2.8	**D**
123-91-1	1,4-Dioxane	0.67	2.1	0.67	0.25	**U**
142-82-5	n-Heptane	**0.47**	2.1	1.3	0.33	**J**
108-10-1	4-Methyl-2-pentanone	0.67	2.1	0.67	0.29	**U**
108-88-3	Toluene	**2.0**	2.1	0.67	0.26	**J**
591-78-6	2-Hexanone	0.67	2.1	0.67	0.26	**U**
124-48-1	Dibromochloromethane	0.67	2.1	0.67	0.27	**U**
106-93-4	1,2-Dibromoethane	0.67	2.1	0.67	0.24	**U**
127-18-4	Tetrachloroethene	**1.2**	2.0	0.67	0.27	**J**
100-41-4	Ethylbenzene	**0.47**	2.1	0.67	0.29	**J**
179601-23-1	m,p-Xylenes	**2.8**	4.3	1.3	0.55	**J**
75-25-2	Bromoform	1.3	2.1	1.3	0.43	**U**
100-42-5	Styrene	1.3	2.1	1.3	0.34	**U**
95-47-6	o-Xylene	**0.91**	2.1	0.67	0.30	**J**
108-67-8	1,3,5-Trimethylbenzene	**1.5**	2.1	0.67	0.30	**J**
95-63-6	1,2,4-Trimethylbenzene	**7.1**	2.1	0.67	0.29	
120-82-1	1,2,4-Trichlorobenzene	1.3	2.1	1.3	0.51	**U**
91-20-3	Naphthalene	**0.96**	2.0	1.2	0.51	**J**
1330-20-7	Xylenes, Total	**3.7**	4.3	1.3	0.55	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV135-250-602** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-017

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00739

Initial Pressure (psig): -3.52 Final Pressure (psig): 5.84

Container Dilution Factor: 1.84

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	1.5	2.4	1.5	0.60	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.1**	2.4	1.5	0.40	**J**
74-87-3	Chloromethane	**0.40**	2.4	1.5	0.40	**J**
75-01-4	Vinyl Chloride	0.78	2.5	0.78	0.26	**U**
106-99-0	1,3-Butadiene	1.5	2.4	1.5	0.40	**U**
75-00-3	Chloroethane	1.5	2.5	1.5	0.30	**U**
64-17-5	Ethanol	**6.2**	24	3.8	1.7	**J**
67-64-1	Acetone	**7.5**	24	12	5.5	**J**
75-69-4	Trichlorofluoromethane	**0.66**	2.4	1.5	0.37	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	2.9	9.7	2.9	1.0	**U**
75-09-2	Methylene Chloride	1.5	2.4	1.5	0.69	**U**
76-13-1	Trichlorotrifluoroethane	**1.3**	2.5	0.78	0.35	**J**
75-15-0	Carbon Disulfide	**11**	5.1	2.5	0.74	
75-34-3	1,1-Dichloroethane	1.5	2.5	1.5	0.36	**U**
78-93-3	2-Butanone (MEK)	**2.9**	5.1	1.5	0.51	**J**
141-78-6	Ethyl Acetate	3.0	5.1	3.0	1.3	**U**
110-54-3	n-Hexane	1.5	2.5	1.5	0.51	**U**
67-66-3	Chloroform	**1.7**	2.5	0.78	0.33	**J**
109-99-9	Tetrahydrofuran (THF)	**27**	2.5	0.78	0.31	
107-06-2	1,2-Dichloroethane	0.78	2.5	0.78	0.27	**U**
71-43-2	Benzene	0.78	2.4	0.78	0.35	**U**
56-23-5	Carbon Tetrachloride	**0.81**	2.4	0.78	0.34	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV135-250-602** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-017

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00739

Initial Pressure (psig): -3.52 Final Pressure (psig): 5.84

Container Dilution Factor: 1.84

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.6	5.1	1.6	0.69	**U**
75-27-4	Bromodichloromethane	0.78	2.5	0.78	0.35	**U**
79-01-6	Trichloroethene	**470**	2.5	0.78	0.33	
123-91-1	1,4-Dioxane	0.78	2.5	0.78	0.29	**U**
142-82-5	n-Heptane	**0.88**	2.5	1.5	0.39	**J**
108-10-1	4-Methyl-2-pentanone	0.78	2.4	0.78	0.34	**U**
108-88-3	Toluene	**3.7**	2.5	0.78	0.30	
591-78-6	2-Hexanone	0.78	2.5	0.78	0.30	**U**
124-48-1	Dibromochloromethane	0.78	2.5	0.78	0.32	**U**
106-93-4	1,2-Dibromoethane	0.78	2.5	0.78	0.29	**U**
127-18-4	Tetrachloroethene	**1.5**	2.4	0.78	0.32	**J**
100-41-4	Ethylbenzene	**0.97**	2.5	0.78	0.35	**J**
179601-23-1	m,p-Xylenes	**5.0**	5.1	1.6	0.64	**J**
75-25-2	Bromoform	1.5	2.5	1.5	0.51	**U**
100-42-5	Styrene	1.5	2.4	1.5	0.40	**U**
95-47-6	o-Xylene	**1.6**	2.5	0.78	0.35	**J**
108-67-8	1,3,5-Trimethylbenzene	**2.8**	2.4	0.78	0.35	
95-63-6	1,2,4-Trimethylbenzene	**14**	2.5	0.78	0.34	
120-82-1	1,2,4-Trichlorobenzene	1.5	2.5	1.5	0.60	**U**
91-20-3	Naphthalene	**1.5**	2.4	1.4	0.60	**J**
1330-20-7	Xylenes, Total	**6.7**	5.1	1.6	0.64	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV135-350-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-018

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00509

Initial Pressure (psig): -2.77 Final Pressure (psig): 5.82

Container Dilution Factor: 1.72

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**0.98**	2.3	1.4	0.56	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.63**	2.3	1.4	0.37	**J**
74-87-3	Chloromethane	**0.47**	2.3	1.4	0.37	**J**
75-01-4	Vinyl Chloride	0.73	2.3	0.73	0.25	**U**
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.38	**U**
75-00-3	Chloroethane	1.4	2.3	1.4	0.28	**U**
64-17-5	Ethanol	**10**	22	3.6	1.6	**J**
67-64-1	Acetone	**22**	23	12	5.2	**J**
75-69-4	Trichlorofluoromethane	**0.49**	2.3	1.4	0.35	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	2.7	9.0	2.7	0.95	**U**
75-09-2	Methylene Chloride	1.4	2.3	1.4	0.65	**U**
76-13-1	Trichlorotrifluoroethane	**0.36**	2.3	0.73	0.33	**J**
75-15-0	Carbon Disulfide	**5.4**	4.7	2.3	0.69	
75-34-3	1,1-Dichloroethane	1.4	2.4	1.4	0.34	**U**
78-93-3	2-Butanone (MEK)	**5.8**	4.7	1.4	0.47	
141-78-6	Ethyl Acetate	2.8	4.7	2.8	1.2	**U**
110-54-3	n-Hexane	1.4	2.3	1.4	0.47	**U**
67-66-3	Chloroform	**0.95**	2.3	0.73	0.31	**J**
109-99-9	Tetrahydrofuran (THF)	**41**	2.4	0.73	0.29	
107-06-2	1,2-Dichloroethane	0.73	2.3	0.73	0.25	**U**
71-43-2	Benzene	0.73	2.3	0.73	0.33	**U**
56-23-5	Carbon Tetrachloride	**0.55**	2.3	0.73	0.32	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV135-350-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-018

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00509

Initial Pressure (psig): -2.77 Final Pressure (psig): 5.82

Container Dilution Factor: 1.72

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.5	4.7	1.5	0.65	**U**
75-27-4	Bromodichloromethane	0.73	2.3	0.73	0.33	**U**
79-01-6	Trichloroethene	**40**	2.3	0.73	0.31	
123-91-1	1,4-Dioxane	0.73	2.3	0.73	0.27	**U**
142-82-5	n-Heptane	1.4	2.3	1.4	0.37	**U**
108-10-1	4-Methyl-2-pentanone	**0.48**	2.3	0.73	0.31	**J**
108-88-3	Toluene	**0.94**	2.3	0.73	0.28	**J**
591-78-6	2-Hexanone	**1.1**	2.3	0.73	0.28	**J**
124-48-1	Dibromochloromethane	0.73	2.3	0.73	0.30	**U**
106-93-4	1,2-Dibromoethane	0.73	2.3	0.73	0.27	**U**
127-18-4	Tetrachloroethene	0.73	2.2	0.73	0.30	**U**
100-41-4	Ethylbenzene	0.73	2.3	0.73	0.32	**U**
179601-23-1	m,p-Xylenes	**0.83**	4.7	1.5	0.60	**J**
75-25-2	Bromoform	1.4	2.3	1.4	0.47	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.37	**U**
95-47-6	o-Xylene	0.73	2.3	0.73	0.33	**U**
108-67-8	1,3,5-Trimethylbenzene	**0.41**	2.3	0.73	0.33	**J**
95-63-6	1,2,4-Trimethylbenzene	**1.9**	2.3	0.73	0.32	**J**
120-82-1	1,2,4-Trichlorobenzene	1.4	2.3	1.4	0.56	**U**
91-20-3	Naphthalene	1.3	2.2	1.3	0.56	**U**
1330-20-7	Xylenes, Total	**0.83**	4.7	1.5	0.60	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV135-450-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-019

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00812

Initial Pressure (psig): -1.79 Final Pressure (psig): 7.30

Container Dilution Factor: 1.70

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**0.96**	2.3	1.4	0.55	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.2**	2.3	1.4	0.37	**J**
74-87-3	Chloromethane	1.4	2.3	1.4	0.37	**U**
75-01-4	Vinyl Chloride	0.72	2.3	0.72	0.24	**U**
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.37	**U**
75-00-3	Chloroethane	1.4	2.3	1.4	0.28	**U**
64-17-5	Ethanol	**22**	22	3.5	1.6	**J**
67-64-1	Acetone	**17**	23	11	5.1	**J**
75-69-4	Trichlorofluoromethane	**1.2**	2.3	1.4	0.34	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.3**	8.9	2.7	0.94	**J**
75-09-2	Methylene Chloride	1.4	2.3	1.4	0.64	**U**
76-13-1	Trichlorotrifluoroethane	**0.90**	2.3	0.72	0.32	**J**
75-15-0	Carbon Disulfide	**1.8**	4.7	2.3	0.68	**J**
75-34-3	1,1-Dichloroethane	1.4	2.3	1.4	0.33	**U**
78-93-3	2-Butanone (MEK)	**2.7**	4.7	1.4	0.47	**J**
141-78-6	Ethyl Acetate	**12**	4.7	2.8	1.2	
110-54-3	n-Hexane	**0.58**	2.3	1.4	0.47	**J**
67-66-3	Chloroform	**0.60**	2.3	0.72	0.30	**J**
109-99-9	Tetrahydrofuran (THF)	**1.9**	2.3	0.72	0.28	**J**
107-06-2	1,2-Dichloroethane	0.72	2.3	0.72	0.25	**U**
71-43-2	Benzene	**0.70**	2.3	0.72	0.33	**J**
56-23-5	Carbon Tetrachloride	**0.38**	2.3	0.72	0.31	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV135-450-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-019

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00812

Initial Pressure (psig): -1.79 Final Pressure (psig): 7.30

Container Dilution Factor: 1.70

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**0.90**	4.7	1.4	0.64	**J**
75-27-4	Bromodichloromethane	0.72	2.3	0.72	0.33	**U**
79-01-6	Trichloroethene	**200**	2.3	0.72	0.31	
123-91-1	1,4-Dioxane	0.72	2.3	0.72	0.27	**U**
142-82-5	n-Heptane	**1.5**	2.3	1.4	0.36	**J**
108-10-1	4-Methyl-2-pentanone	0.72	2.3	0.72	0.31	**U**
108-88-3	Toluene	**7.0**	2.3	0.72	0.28	
591-78-6	2-Hexanone	0.72	2.3	0.72	0.28	**U**
124-48-1	Dibromochloromethane	0.72	2.3	0.72	0.30	**U**
106-93-4	1,2-Dibromoethane	0.72	2.3	0.72	0.26	**U**
127-18-4	Tetrachloroethene	**0.56**	2.2	0.72	0.29	**J**
100-41-4	Ethylbenzene	**1.4**	2.3	0.72	0.32	**J**
179601-23-1	m,p-Xylenes	**6.3**	4.7	1.4	0.60	
75-25-2	Bromoform	1.4	2.3	1.4	0.47	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.37	**U**
95-47-6	o-Xylene	**2.4**	2.3	0.72	0.33	
108-67-8	1,3,5-Trimethylbenzene	**2.7**	2.3	0.72	0.33	
95-63-6	1,2,4-Trimethylbenzene	**13**	2.3	0.72	0.31	
120-82-1	1,2,4-Trichlorobenzene	1.4	2.3	1.4	0.55	**U**
91-20-3	Naphthalene	**0.99**	2.2	1.3	0.55	**J**
1330-20-7	Xylenes, Total	**8.6**	4.7	1.4	0.60	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV137-025-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-020

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00990

Initial Pressure (psig): -3.50 Final Pressure (psig): 5.84

Container Dilution Factor: 1.83

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	1.5	2.4	1.5	0.59	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	2.4	1.5	0.40	**J**
74-87-3	Chloromethane	1.5	2.4	1.5	0.39	**U**
75-01-4	Vinyl Chloride	0.78	2.5	0.78	0.26	**U**
106-99-0	1,3-Butadiene	1.5	2.4	1.5	0.40	**U**
75-00-3	Chloroethane	1.5	2.5	1.5	0.30	**U**
64-17-5	Ethanol	3.8	24	3.8	1.7	**U**
67-64-1	Acetone	12	24	12	5.5	**U**
75-69-4	Trichlorofluoromethane	**1.1**	2.4	1.5	0.37	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	2.9	9.6	2.9	1.0	**U**
75-09-2	Methylene Chloride	1.5	2.4	1.5	0.69	**U**
76-13-1	Trichlorotrifluoroethane	**0.49**	2.5	0.78	0.35	**J**
75-15-0	Carbon Disulfide	2.5	5.0	2.5	0.73	**U**
75-34-3	1,1-Dichloroethane	1.5	2.5	1.5	0.36	**U**
78-93-3	2-Butanone (MEK)	1.5	5.0	1.5	0.50	**U**
141-78-6	Ethyl Acetate	3.0	5.0	3.0	1.3	**U**
110-54-3	n-Hexane	1.5	2.5	1.5	0.50	**U**
67-66-3	Chloroform	**0.80**	2.5	0.78	0.32	**J**
109-99-9	Tetrahydrofuran (THF)	0.78	2.5	0.78	0.31	**U**
107-06-2	1,2-Dichloroethane	0.78	2.5	0.78	0.27	**U**
71-43-2	Benzene	0.78	2.4	0.78	0.35	**U**
56-23-5	Carbon Tetrachloride	0.78	2.4	0.78	0.34	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV137-025-202** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002106-020

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00990

Initial Pressure (psig): -3.50 Final Pressure (psig): 5.84

Container Dilution Factor: 1.83

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.6	5.0	1.6	0.69	**U**
75-27-4	Bromodichloromethane	0.78	2.5	0.78	0.35	**U**
79-01-6	Trichloroethene	0.78	2.5	0.78	0.33	**U**
123-91-1	1,4-Dioxane	0.78	2.5	0.78	0.29	**U**
142-82-5	n-Heptane	1.5	2.5	1.5	0.39	**U**
108-10-1	4-Methyl-2-pentanone	0.78	2.4	0.78	0.33	**U**
108-88-3	Toluene	**1.1**	2.5	0.78	0.30	**J**
591-78-6	2-Hexanone	0.78	2.5	0.78	0.30	**U**
124-48-1	Dibromochloromethane	0.78	2.5	0.78	0.32	**U**
106-93-4	1,2-Dibromoethane	0.78	2.5	0.78	0.28	**U**
127-18-4	Tetrachloroethene	0.78	2.4	0.78	0.32	**U**
100-41-4	Ethylbenzene	0.78	2.5	0.78	0.34	**U**
179601-23-1	m,p-Xylenes	**1.5**	5.0	1.6	0.64	**J**
75-25-2	Bromoform	1.5	2.5	1.5	0.50	**U**
100-42-5	Styrene	1.5	2.4	1.5	0.39	**U**
95-47-6	o-Xylene	**0.48**	2.5	0.78	0.35	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.88**	2.4	0.78	0.35	**J**
95-63-6	1,2,4-Trimethylbenzene	**4.3**	2.5	0.78	0.34	
120-82-1	1,2,4-Trichlorobenzene	1.5	2.5	1.5	0.59	**U**
91-20-3	Naphthalene	**1.6**	2.4	1.4	0.59	**J**
1330-20-7	Xylenes, Total	**2.0**	5.0	1.6	0.64	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200504-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	0.32	0.53	0.32	0.13	U
75-71-8	Dichlorodifluoromethane (CFC 12)	0.32	0.53	0.32	0.087	U
74-87-3	Chloromethane	0.32	0.53	0.32	0.086	U
75-01-4	Vinyl Chloride	0.17	0.54	0.17	0.057	U
106-99-0	1,3-Butadiene	0.32	0.53	0.32	0.088	U
75-00-3	Chloroethane	0.32	0.54	0.32	0.066	U
64-17-5	Ethanol	0.83	5.2	0.83	0.37	U
67-64-1	Acetone	2.7	5.3	2.7	1.2	U
75-69-4	Trichlorofluoromethane	0.32	0.53	0.32	0.081	U
67-63-0	2-Propanol (Isopropyl Alcohol)	0.63	2.1	0.63	0.22	U
75-09-2	Methylene Chloride	0.32	0.53	0.32	0.15	U
76-13-1	Trichlorotrifluoroethane	0.17	0.54	0.17	0.076	U
75-15-0	Carbon Disulfide	0.54	1.1	0.54	0.16	U
75-34-3	1,1-Dichloroethane	0.33	0.55	0.33	0.078	U
78-93-3	2-Butanone (MEK)	0.32	1.1	0.32	0.11	U
141-78-6	Ethyl Acetate	0.65	1.1	0.65	0.28	U
110-54-3	n-Hexane	0.32	0.54	0.32	0.11	U
67-66-3	Chloroform	0.17	0.54	0.17	0.071	U
109-99-9	Tetrahydrofuran (THF)	0.17	0.55	0.17	0.067	U
107-06-2	1,2-Dichloroethane	0.17	0.54	0.17	0.059	U
71-43-2	Benzene	0.17	0.53	0.17	0.077	U
56-23-5	Carbon Tetrachloride	0.17	0.53	0.17	0.074	U

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200504-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	0.34	1.1	0.34	0.15	U
75-27-4	Bromodichloromethane	0.17	0.54	0.17	0.077	U
79-01-6	Trichloroethene	0.17	0.54	0.17	0.072	U
123-91-1	1,4-Dioxane	0.17	0.54	0.17	0.063	U
142-82-5	n-Heptane	0.32	0.54	0.32	0.085	U
108-10-1	4-Methyl-2-pentanone	0.17	0.53	0.17	0.073	U
108-88-3	Toluene	0.17	0.54	0.17	0.065	U
591-78-6	2-Hexanone	0.17	0.54	0.17	0.066	U
124-48-1	Dibromochloromethane	0.17	0.54	0.17	0.070	U
106-93-4	1,2-Dibromoethane	0.17	0.54	0.17	0.062	U
127-18-4	Tetrachloroethene	0.17	0.52	0.17	0.069	U
100-41-4	Ethylbenzene	0.17	0.54	0.17	0.075	U
179601-23-1	m,p-Xylenes	0.34	1.1	0.34	0.14	U
75-25-2	Bromoform	0.32	0.54	0.32	0.11	U
100-42-5	Styrene	0.32	0.53	0.32	0.086	U
95-47-6	o-Xylene	0.17	0.54	0.17	0.077	U
108-67-8	1,3,5-Trimethylbenzene	0.17	0.53	0.17	0.077	U
95-63-6	1,2,4-Trimethylbenzene	0.17	0.54	0.17	0.074	U
120-82-1	1,2,4-Trichlorobenzene	0.32	0.54	0.32	0.13	U
91-20-3	Naphthalene	0.31	0.52	0.31	0.13	U
1330-20-7	Xylenes, Total	0.34	1.1	0.34	0.14	U

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200505-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	0.32	0.53	0.32	0.13	U
75-71-8	Dichlorodifluoromethane (CFC 12)	0.32	0.53	0.32	0.087	U
74-87-3	Chloromethane	0.32	0.53	0.32	0.086	U
75-01-4	Vinyl Chloride	0.17	0.54	0.17	0.057	U
106-99-0	1,3-Butadiene	0.32	0.53	0.32	0.088	U
75-00-3	Chloroethane	0.32	0.54	0.32	0.066	U
64-17-5	Ethanol	0.83	5.2	0.83	0.37	U
67-64-1	Acetone	2.7	5.3	2.7	1.2	U
75-69-4	Trichlorofluoromethane	0.32	0.53	0.32	0.081	U
67-63-0	2-Propanol (Isopropyl Alcohol)	0.63	2.1	0.63	0.22	U
75-09-2	Methylene Chloride	0.32	0.53	0.32	0.15	U
76-13-1	Trichlorotrifluoroethane	0.17	0.54	0.17	0.076	U
75-15-0	Carbon Disulfide	0.54	1.1	0.54	0.16	U
75-34-3	1,1-Dichloroethane	0.33	0.55	0.33	0.078	U
78-93-3	2-Butanone (MEK)	0.32	1.1	0.32	0.11	U
141-78-6	Ethyl Acetate	0.65	1.1	0.65	0.28	U
110-54-3	n-Hexane	0.32	0.54	0.32	0.11	U
67-66-3	Chloroform	0.17	0.54	0.17	0.071	U
109-99-9	Tetrahydrofuran (THF)	0.17	0.55	0.17	0.067	U
107-06-2	1,2-Dichloroethane	0.17	0.54	0.17	0.059	U
71-43-2	Benzene	0.17	0.53	0.17	0.077	U
56-23-5	Carbon Tetrachloride	0.17	0.53	0.17	0.074	U

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200505-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	0.34	1.1	0.34	0.15	U
75-27-4	Bromodichloromethane	0.17	0.54	0.17	0.077	U
79-01-6	Trichloroethene	0.17	0.54	0.17	0.072	U
123-91-1	1,4-Dioxane	0.17	0.54	0.17	0.063	U
142-82-5	n-Heptane	0.32	0.54	0.32	0.085	U
108-10-1	4-Methyl-2-pentanone	0.17	0.53	0.17	0.073	U
108-88-3	Toluene	0.17	0.54	0.17	0.065	U
591-78-6	2-Hexanone	0.17	0.54	0.17	0.066	U
124-48-1	Dibromochloromethane	0.17	0.54	0.17	0.070	U
106-93-4	1,2-Dibromoethane	0.17	0.54	0.17	0.062	U
127-18-4	Tetrachloroethene	0.17	0.52	0.17	0.069	U
100-41-4	Ethylbenzene	0.17	0.54	0.17	0.075	U
179601-23-1	m,p-Xylenes	0.34	1.1	0.34	0.14	U
75-25-2	Bromoform	0.32	0.54	0.32	0.11	U
100-42-5	Styrene	0.32	0.53	0.32	0.086	U
95-47-6	o-Xylene	0.17	0.54	0.17	0.077	U
108-67-8	1,3,5-Trimethylbenzene	0.17	0.53	0.17	0.077	U
95-63-6	1,2,4-Trimethylbenzene	0.17	0.54	0.17	0.074	U
120-82-1	1,2,4-Trichlorobenzene	0.32	0.54	0.32	0.13	U
91-20-3	Naphthalene	0.31	0.52	0.31	0.13	U
1330-20-7	Xylenes, Total	0.34	1.1	0.34	0.14	U

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Project ID: P2002106

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date(s) Collected: 4/14/20
Analyst: Simon Cao/Topacio De Leon Date(s) Received: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister(s) / 1.0 L Summa Canister(s) Date(s) Analyzed: 5/4 - 5/5/20
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P200504-MB	**92**	**104**	**100**	70-130	
Method Blank	P200505-MB	**93**	**103**	**100**	70-130	
Lab Control Sample	P200504-LCS	**94**	**104**	**101**	70-130	
Lab Control Sample	P200505-LCS	**94**	**103**	**102**	70-130	
Duplicate Lab Control Sample	P200504-DLCS	**93**	**104**	**101**	70-130	
Duplicate Lab Control Sample	P200505-DLCS	**94**	**103**	**101**	70-130	
SV132-050-202	P2002106-001	**96**	**104**	**99**	70-130	
SV132-175-202	P2002106-002	**96**	**104**	**101**	70-130	
SV132-250-202	P2002106-003	**94**	**104**	**101**	70-130	
SV132-350-202	P2002106-004	**94**	**103**	**102**	70-130	
SV132-450-202	P2002106-005	**95**	**103**	**102**	70-130	
SV134-025-202	P2002106-006	**94**	**103**	**103**	70-130	
SV134-050-202	P2002106-007	**92**	**103**	**101**	70-130	
SV134-170-202	P2002106-008	**94**	**102**	**103**	70-130	
SV134-250-202	P2002106-009	**93**	**101**	**103**	70-130	
SV134-350-202	P2002106-010	**93**	**101**	**103**	70-130	
SV134-350-602	P2002106-011	**92**	**101**	**103**	70-130	
SV134-450-202	P2002106-012	**94**	**101**	**100**	70-130	
SV135-025-202	P2002106-013	**93**	**101**	**104**	70-130	
SV135-050-202	P2002106-014	**93**	**101**	**103**	70-130	
SV135-150-202	P2002106-015	**92**	**102**	**104**	70-130	
SV135-250-202	P2002106-016	**94**	**102**	**103**	70-130	
SV135-250-602	P2002106-017	**94**	**103**	**101**	70-130	
SV135-350-202	P2002106-018	**93**	**102**	**100**	70-130	
SV135-450-202	P2002106-019	**93**	**103**	**101**	70-130	
SV137-025-202	P2002106-020	**94**	**103**	**102**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200504-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	210	215	219	**102**	**104**	57-136	2	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	194	197	**92**	**94**	59-128	2	25	
74-87-3	Chloromethane	212	213	219	**100**	**103**	59-132	3	25	
75-01-4	Vinyl Chloride	212	212	217	**100**	**102**	64-127	2	25	
106-99-0	1,3-Butadiene	212	236	243	**111**	**115**	66-134	4	25	
75-00-3	Chloroethane	214	202	221	**94**	**103**	63-127	9	25	
64-17-5	Ethanol	1,060	1020	1040	**96**	**98**	59-125	2	25	
67-64-1	Acetone	1,070	1010	1010	**94**	**94**	58-128	0	25	
75-69-4	Trichlorofluoromethane	212	194	190	**92**	**90**	62-126	2	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	422	408	413	**97**	**98**	52-125	1	25	
75-09-2	Methylene Chloride	210	208	207	**99**	**99**	62-115	0	25	
76-13-1	Trichlorotrifluoroethane	216	203	200	**94**	**93**	66-126	1	25	
75-15-0	Carbon Disulfide	212	215	214	**101**	**101**	57-134	0	25	
75-34-3	1,1-Dichloroethane	212	198	198	**93**	**93**	68-126	0	25	
78-93-3	2-Butanone (MEK)	212	227	225	**107**	**106**	67-130	0.9	25	
141-78-6	Ethyl Acetate	432	457	457	**106**	**106**	65-128	0	25	
110-54-3	n-Hexane	216	216	215	**100**	**100**	63-120	0	25	
67-66-3	Chloroform	214	202	199	**94**	**93**	68-123	1	25	
109-99-9	Tetrahydrofuran (THF)	220	221	220	**100**	**100**	64-123	0	25	
107-06-2	1,2-Dichloroethane	214	203	199	**95**	**93**	65-128	2	25	
71-43-2	Benzene	210	202	203	**96**	**97**	69-119	1	25	
56-23-5	Carbon Tetrachloride	208	194	192	**93**	**92**	68-132	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200504-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	422	414	415	**98**	**98**	70-117	0	25	
75-27-4	Bromodichloromethane	218	202	202	**93**	**93**	72-128	0	25	
79-01-6	Trichloroethene	216	210	207	**97**	**96**	71-123	1	25	
123-91-1	1,4-Dioxane	216	228	228	**106**	**106**	71-122	0	25	
142-82-5	n-Heptane	214	215	216	**100**	**101**	69-123	1	25	
108-10-1	4-Methyl-2-pentanone	212	227	229	**107**	**108**	67-130	0.9	25	
108-88-3	Toluene	212	222	219	**105**	**103**	66-119	2	25	
591-78-6	2-Hexanone	216	261	260	**121**	**120**	62-128	0.8	25	
124-48-1	Dibromochloromethane	214	230	226	**107**	**106**	70-130	0.9	25	
106-93-4	1,2-Dibromoethane	214	234	230	**109**	**107**	74-122	2	25	
127-18-4	Tetrachloroethene	208	212	208	**102**	**100**	66-124	2	25	
100-41-4	Ethylbenzene	212	222	218	**105**	**103**	70-124	2	25	
179601-23-1	m,p-Xylenes	426	435	427	**102**	**100**	61-134	2	25	
75-25-2	Bromoform	214	237	231	**111**	**108**	66-139	3	25	
100-42-5	Styrene	212	235	233	**111**	**110**	73-127	0.9	25	
95-47-6	o-Xylene	214	218	214	**102**	**100**	67-125	2	25	
108-67-8	1,3,5-Trimethylbenzene	212	215	214	**101**	**101**	67-130	0	25	
95-63-6	1,2,4-Trimethylbenzene	212	219	219	**103**	**103**	66-132	0	25	
120-82-1	1,2,4-Trichlorobenzene	216	231	241	**107**	**112**	55-142	5	25	
91-20-3	Naphthalene	212	209	222	**99**	**105**	57-138	6	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200505-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	210	218	220	**104**	**105**	57-136	1	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	198	198	**94**	**94**	59-128	0	25	
74-87-3	Chloromethane	212	214	225	**101**	**106**	59-132	5	25	
75-01-4	Vinyl Chloride	212	215	220	**101**	**104**	64-127	3	25	
106-99-0	1,3-Butadiene	212	236	238	**111**	**112**	66-134	0.9	25	
75-00-3	Chloroethane	214	200	204	**93**	**95**	63-127	2	25	
64-17-5	Ethanol	1,060	1010	1030	**95**	**97**	59-125	2	25	
67-64-1	Acetone	1,070	998	1010	**93**	**94**	58-128	1	25	
75-69-4	Trichlorofluoromethane	212	195	194	**92**	**92**	62-126	0	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	422	403	405	**95**	**96**	52-125	1	25	
75-09-2	Methylene Chloride	210	207	208	**99**	**99**	62-115	0	25	
76-13-1	Trichlorotrifluoroethane	216	203	204	**94**	**94**	66-126	0	25	
75-15-0	Carbon Disulfide	212	214	215	**101**	**101**	57-134	0	25	
75-34-3	1,1-Dichloroethane	212	199	198	**94**	**93**	68-126	1	25	
78-93-3	2-Butanone (MEK)	212	227	227	**107**	**107**	67-130	0	25	
141-78-6	Ethyl Acetate	432	454	457	**105**	**106**	65-128	0.9	25	
110-54-3	n-Hexane	216	214	216	**99**	**100**	63-120	1	25	
67-66-3	Chloroform	214	202	201	**94**	**94**	68-123	0	25	
109-99-9	Tetrahydrofuran (THF)	220	218	222	**99**	**101**	64-123	2	25	
107-06-2	1,2-Dichloroethane	214	203	200	**95**	**93**	65-128	2	25	
71-43-2	Benzene	210	203	203	**97**	**97**	69-119	0	25	
56-23-5	Carbon Tetrachloride	208	196	194	**94**	**93**	68-132	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200505-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	422	414	415	**98**	**98**	70-117	0	25	
75-27-4	Bromodichloromethane	218	203	202	**93**	**93**	72-128	0	25	
79-01-6	Trichloroethene	216	210	211	**97**	**98**	71-123	1	25	
123-91-1	1,4-Dioxane	216	227	227	**105**	**105**	71-122	0	25	
142-82-5	n-Heptane	214	213	217	**100**	**101**	69-123	1	25	
108-10-1	4-Methyl-2-pentanone	212	224	224	**106**	**106**	67-130	0	25	
108-88-3	Toluene	212	219	219	**103**	**103**	66-119	0	25	
591-78-6	2-Hexanone	216	255	258	**118**	**119**	62-128	0.8	25	
124-48-1	Dibromochloromethane	214	228	228	**107**	**107**	70-130	0	25	
106-93-4	1,2-Dibromoethane	214	231	231	**108**	**108**	74-122	0	25	
127-18-4	Tetrachloroethene	208	210	210	**101**	**101**	66-124	0	25	
100-41-4	Ethylbenzene	212	218	219	**103**	**103**	70-124	0	25	
179601-23-1	m,p-Xylenes	426	430	431	**101**	**101**	61-134	0	25	
75-25-2	Bromoform	214	235	233	**110**	**109**	66-139	0.9	25	
100-42-5	Styrene	212	233	233	**110**	**110**	73-127	0	25	
95-47-6	o-Xylene	214	216	215	**101**	**100**	67-125	1	25	
108-67-8	1,3,5-Trimethylbenzene	212	213	216	**100**	**102**	67-130	2	25	
95-63-6	1,2,4-Trimethylbenzene	212	217	221	**102**	**104**	66-132	2	25	
120-82-1	1,2,4-Trichlorobenzene	216	235	243	**109**	**113**	55-142	4	25	
91-20-3	Naphthalene	212	212	225	**100**	**106**	57-138	6	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 05042002.D
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister(s) Time Analyzed: 06:13
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	151662		9.16	633057		11.12		274601		15.46	
	Upper Limit	212327		9.49	886280		11.45		384441		15.79	
	Lower Limit	90997		8.83	379834		10.79		164761		15.13	
	Client Sample ID											
01	Method Blank	137755		9.13	578970		11.11		248450		15.46	
02	Lab Control Sample	146490		9.16	613259		11.12		263913		15.46	
03	Duplicate Lab Control Sample	151128		9.16	628119		11.12		273829		15.46	
04	SV132-175-202	135836		9.14	578622		11.12		254243		15.46	
05	SV132-250-202	134849		9.14	568826		11.11		246897		15.46	
06	SV134-450-202	134723		9.13	566071		11.11		252284		15.46	
07	SV132-175-202 (Dilution)	143458		9.13	596386		11.11		257768		15.45	
08	SV132-250-202 (Dilution)	139695		9.13	585921		11.11		254915		15.45	
09	SV132-050-202	133347		9.13	560545		11.11		243438		15.45	
10	SV132-350-202	132558		9.13	557341		11.11		243788		15.46	
11	SV132-450-202	136361		9.13	576484		11.11		252022		15.46	
12	SV134-025-202	138063		9.13	577745		11.11		254758		15.46	
13	SV134-050-202	140103		9.13	585801		11.11		259712		15.46	
14	SV134-170-202	143102		9.13	599785		11.11		269843		15.45	
15	SV134-250-202	141179		9.13	591976		11.11		269114		15.45	
16	SV134-350-202	141281		9.13	594791		11.11		271745		15.46	
17	SV134-350-602	144289		9.13	607864		11.11		276164		15.46	
18	SV135-025-202	143566		9.13	599277		11.11		271402		15.46	
19	SV135-050-202	142369		9.13	596994		11.11		270405		15.46	
20	SV135-150-202	142232		9.13	595263		11.11		267821		15.45	

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 05042002.D
Analyst: Topacio De Leon Date Analyzed: 5/4/20
Sampling Media: 1.0 L Silonite Summa Canister(s) Time Analyzed: 06:13
Test Notes:

		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	24 Hour Standard	151662	9.16	633057	11.12	274601	15.46
	Upper Limit	212327	9.49	886280	11.45	384441	15.79
	Lower Limit	90997	8.83	379834	10.79	164761	15.13
	Client Sample ID						
21	SV135-250-202	140111	9.13	592352	11.11	265623	15.46
22	SV132-050-202 (Dilution)	140973	9.13	589193	11.11	262691	15.46
23	SV132-350-202 (Dilution)	138514	9.13	582997	11.11	257671	15.45
24	SV132-450-202 (Dilution)	137717	9.13	573209	11.11	254384	15.45
25							
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31							
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35							
36							
37							
38							
39							
40							

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
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RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: **EA Engineering, Science, and Technology, Inc.** ALS Project ID: P2002106
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 05052002.D
Analyst: Simon Cao Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister(s) Time Analyzed: 04:07
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	151918		9.16	628924		11.12		276891		15.46	
	Upper Limit	212685		9.49	880494		11.45		387647		15.79	
	Lower Limit	91151		8.83	377354		10.79		166135		15.13	
	Client Sample ID											
01	Method Blank	134033		9.13	563209		11.10		246913		15.45	
02	Lab Control Sample	143087		9.16	598082		11.12		260967		15.46	
03	Duplicate Lab Control Sample	145177		9.16	604831		11.12		264217		15.46	
04	SV135-150-202 (Dilution)	134056		9.13	567585		11.11		250770		15.46	
05	SV135-250-202 (Dilution)	131743		9.13	556283		11.11		243025		15.45	
06	SV135-250-602	142416		9.13	601914		11.11		266068		15.46	
07	SV135-350-202	141911		9.14	595484		11.11		267899		15.46	
08	SV135-450-202	141599		9.13	597971		11.11		265541		15.46	
09	SV137-025-202	140304		9.13	592227		11.11		261813		15.45	
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042020.D Vial: 4
Acq On : 4 May 2020 17:29 Operator: SC
Sample : P2002106-001 (20mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 04 17:57:02 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/4/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	133347	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	560545	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.45	82	243438	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	206684	11.963	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.68%				
57) Toluene-d8 (SS2)	13.54	98	610260	12.983	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.84%				
73) Bromofluorobenzene (SS3)	17.05	174	234642	12.421	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.36%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.			
3) Dichlorodifluoromethan...	4.00	85	937	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	0.00	45	0	N.D.			
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	5.93	58	130	N.D.			
14) Trichlorofluoromethane	6.05	101	443	N.D.			
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	7.19	151	2790	0.250	ng		100
22) Carbon Disulfide	7.18	76	354	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	0.00	72	0	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	9.28	87	168	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	9.27	83	3594	0.197	ng		95
34) Tetrahydrofuran (THF)	9.74	72	278	0.052	ng	#	81
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	10.77	78	170	N.D.			
42) Carbon Tetrachloride	10.90	117	2712	0.144	ng		83
43) Cyclohexane	11.10	84	517	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	11.81	130	1420550	112.251	ng		99
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	11.86	57	114	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042020.D Vial: 4
Acq On : 4 May 2020 17:29 Operator: SC
Sample : P2002106-001 (20mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 04 17:57:02 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

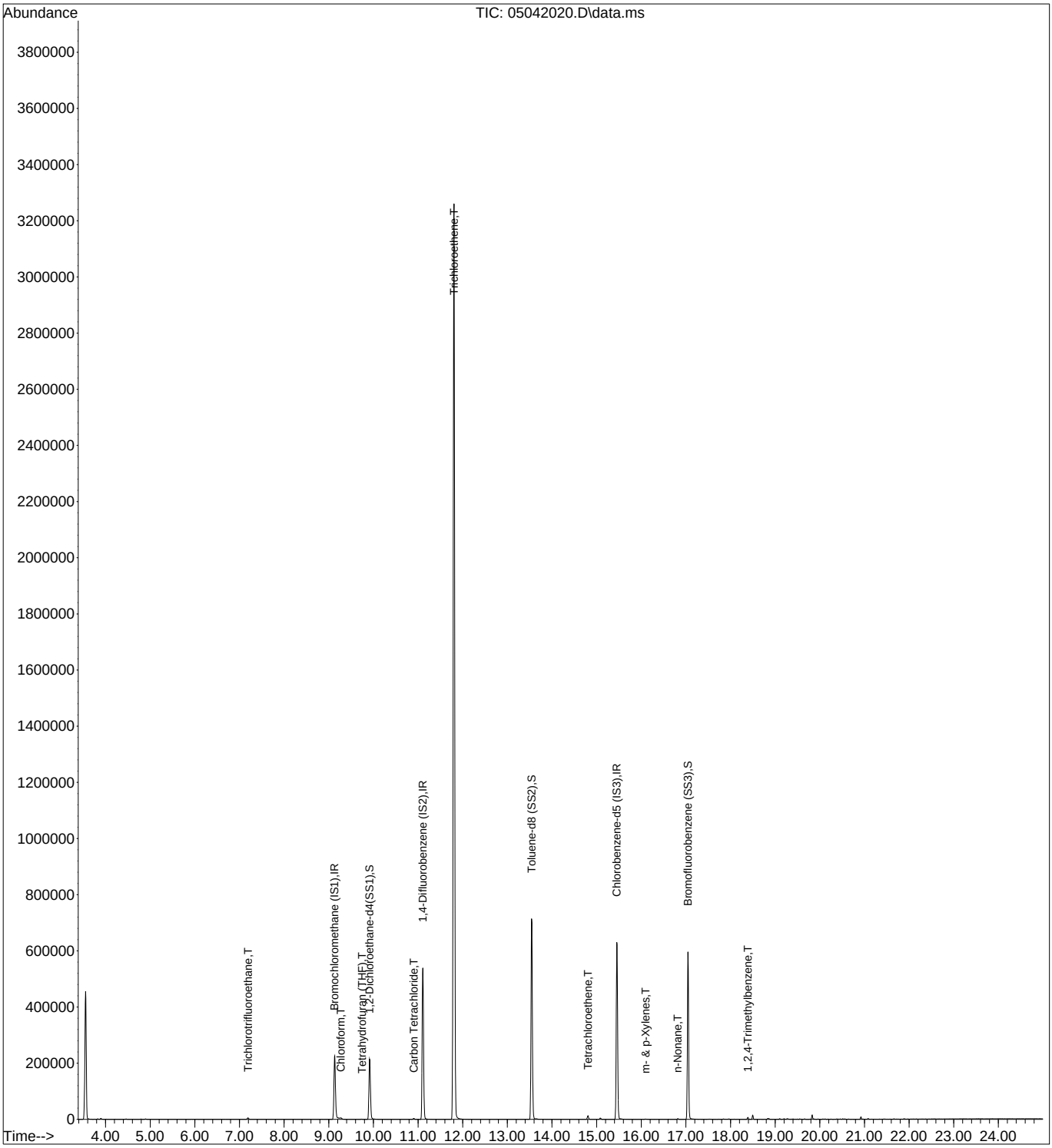
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.65	91	1463	N.D.	
59) 2-Hexanone	0.00	43	0	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	14.67	43	175	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.81	166	5250	0.353 ng	100
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.93	91	352	N.D.	
67) m- & p-Xylenes	16.10	91	2215	0.057 ng	93
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.60	91	719	N.D.	
71) n-Nonane	16.82	43	984	0.080 ng	99
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	17.05	105	120	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.70	91	119	N.D.	
77) 3-Ethyltoluene	17.84	105	1746	N.D.	
78) 4-Ethyltoluene	17.89	105	907	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	1431	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	18.16	105	774	N.D.	
82) 1,2,4-Trimethylbenzene	18.39	105	5118	0.121 ng	90
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.38	91	501	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	18.67	105	600	N.D.	
88) 4-Isopropyltoluene (p-...	18.84	119	796	N.D.	
89) 1,2,3-Trimethylbenzene	18.83	105	2046	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.92	128	785	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.39	119	729	N.D.	
100) n-Butylbenzene	19.28	91	1270	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042020.D Vial: 4
Acq On : 4 May 2020 17:29 Operator: SC
Sample : P2002106-001 (20mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 04 17:57:02 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042020.D Vial: 4
Acq On : 4 May 2020 17:29 Operator: SC
Sample : P2002106-001 (20mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 04 17:57:02 2020 5/4/20
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

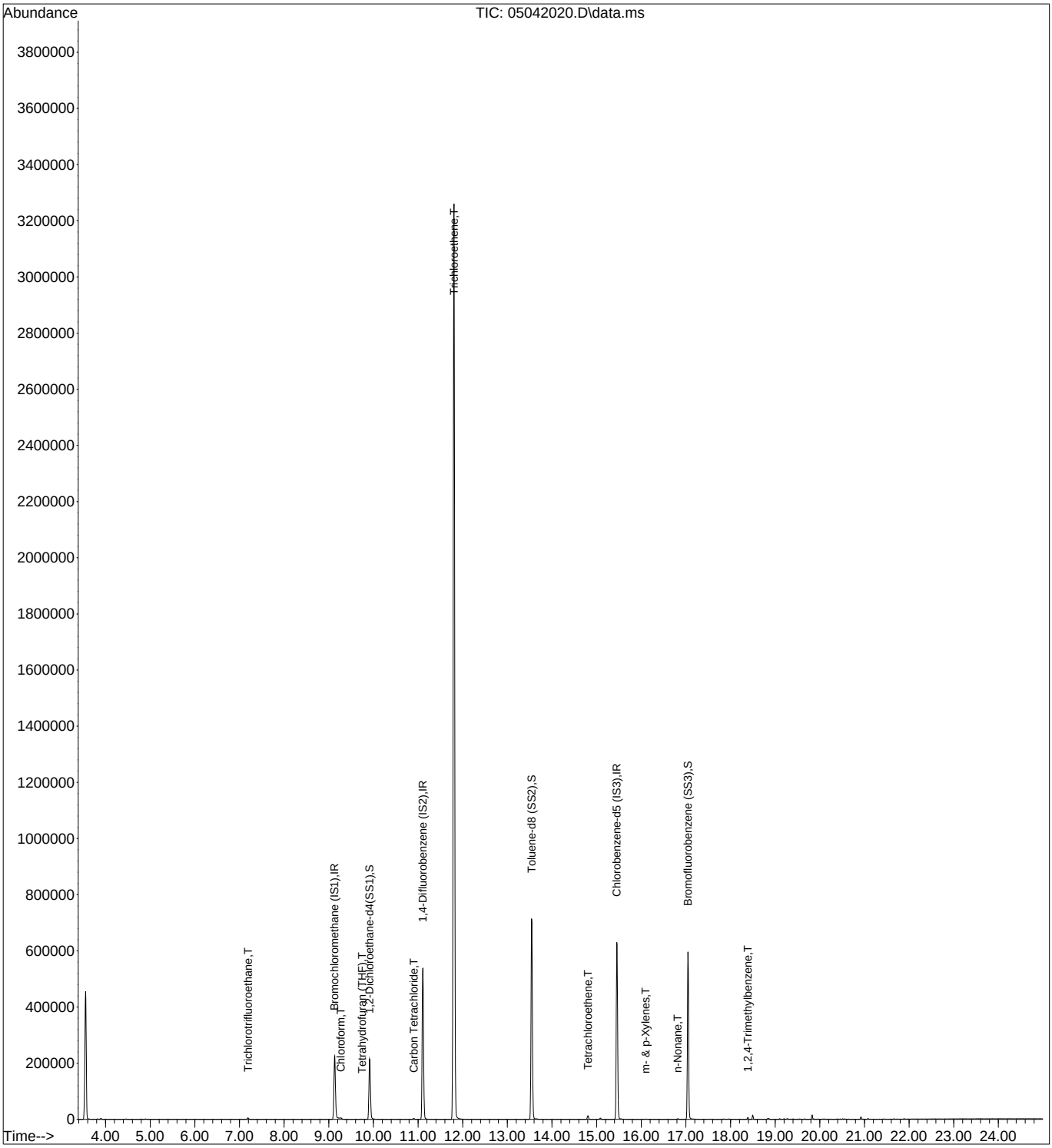
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	133347	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	560545	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.45	82	243438	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	206684	11.963	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.68%				
57) Toluene-d8 (SS2)	13.54	98	610260	12.983	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.84%				
73) Bromofluorobenzene (SS3)	17.05	174	234642	12.421	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.36%				
Target Compounds							Qvalue
21) Trichlorotrifluoroethane	7.19	151	2790	0.250	ng		100
32) Chloroform	9.27	83	3594	0.197	ng		95
34) Tetrahydrofuran (THF)	9.74	72	278	0.052	ng	#	81
42) Carbon Tetrachloride	10.90	117	2712	0.144	ng		83
47) Trichloroethene	11.81	130	1420550	112.251	ng		99
64) Tetrachloroethene	14.81	166	5250	0.353	ng		100
67) m- & p-Xylenes	16.10	91	2215	0.057	ng		93
71) n-Nonane	16.82	43	984	0.080	ng		99
82) 1,2,4-Trimethylbenzene	18.39	105	5118	0.121	ng		90

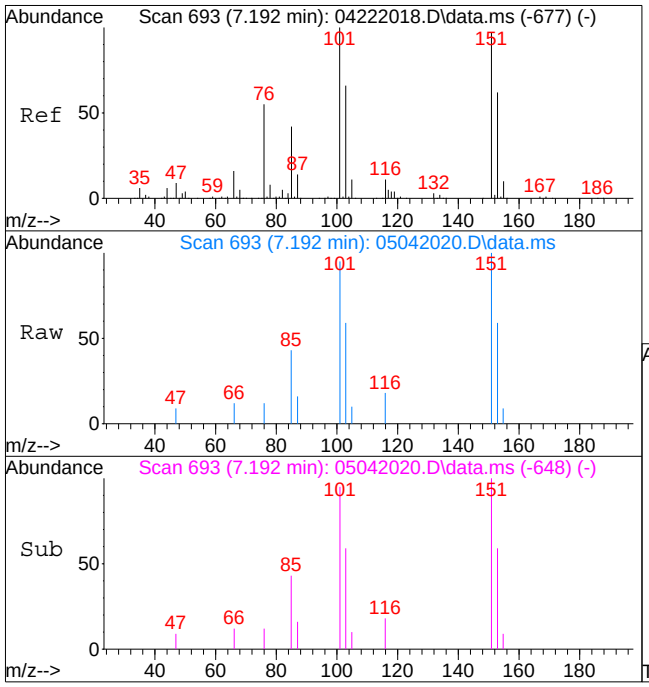
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042020.D Vial: 4
Acq On : 4 May 2020 17:29 Operator: SC
Sample : P2002106-001 (20mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 04 17:57:02 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

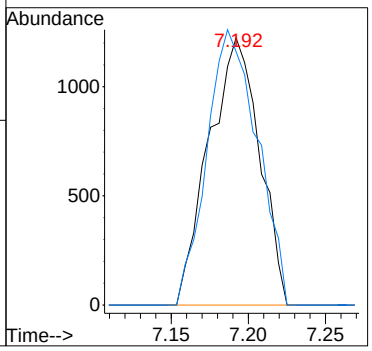


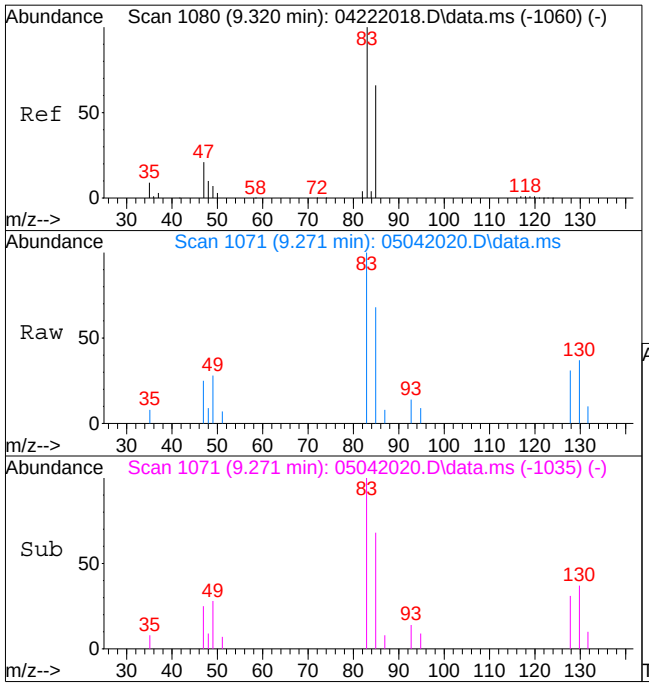


#21
Trichlorotrifluoroethane
Concen: 0.25 ng
RT: 7.19 min Scan# 693
Delta R.T. -0.000 min
Lab File: 05042020.D
Acq: 4 May 2020 17:29

Tgt Ion:151 Resp: 2790

Ion	Ratio	Lower	Upper
151	100		
101	102.9	82.9	122.9

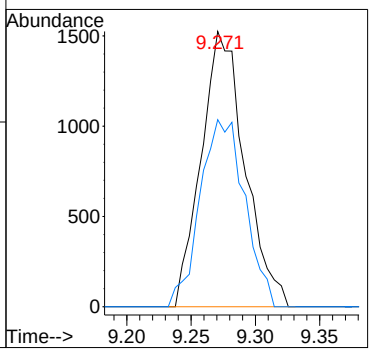


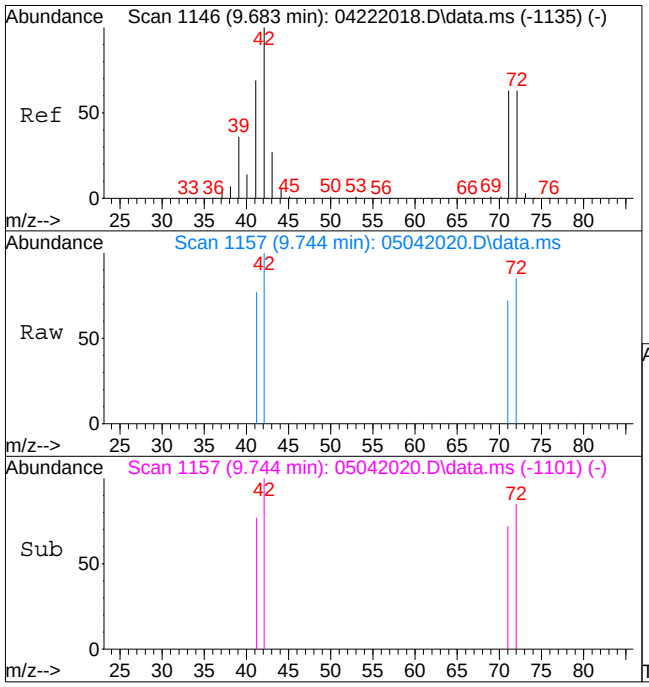


#32
Chloroform
Concen: 0.20 ng
RT: 9.27 min Scan# 1071
Delta R.T. -0.050 min
Lab File: 05042020.D
Acq: 4 May 2020 17:29

Tgt Ion: 83 Resp: 3594

Ion	Ratio	Lower	Upper
83	100		
85	69.5	45.8	85.8

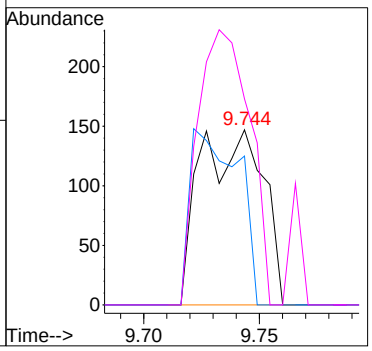


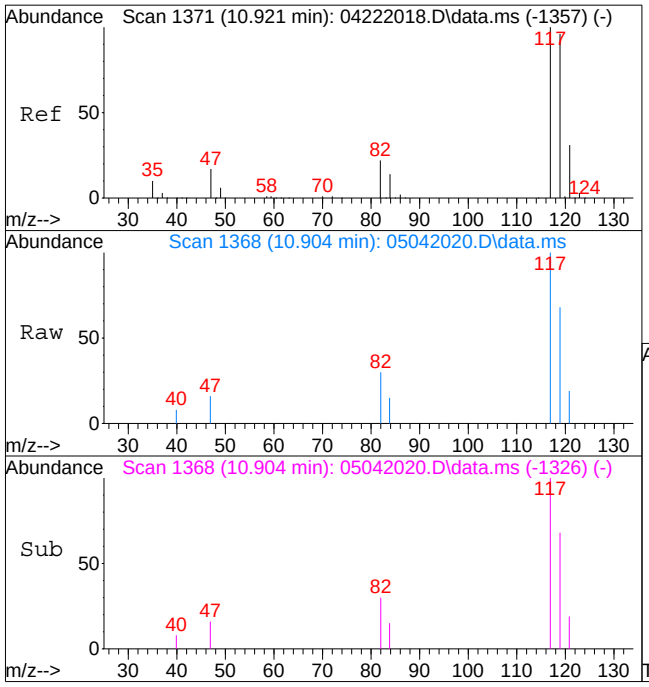


#34
Tetrahydrofuran (THF)
Concen: 0.05 ng
RT: 9.74 min Scan# 1157
Delta R.T. 0.060 min
Lab File: 05042020.D
Acq: 4 May 2020 17:29

Tgt Ion: 72 Resp: 278

Ion	Ratio	Lower	Upper
72	100		
71	77.0	77.9	117.9#
42	130.2	133.9	173.9#

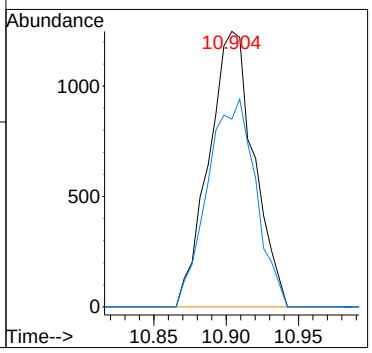


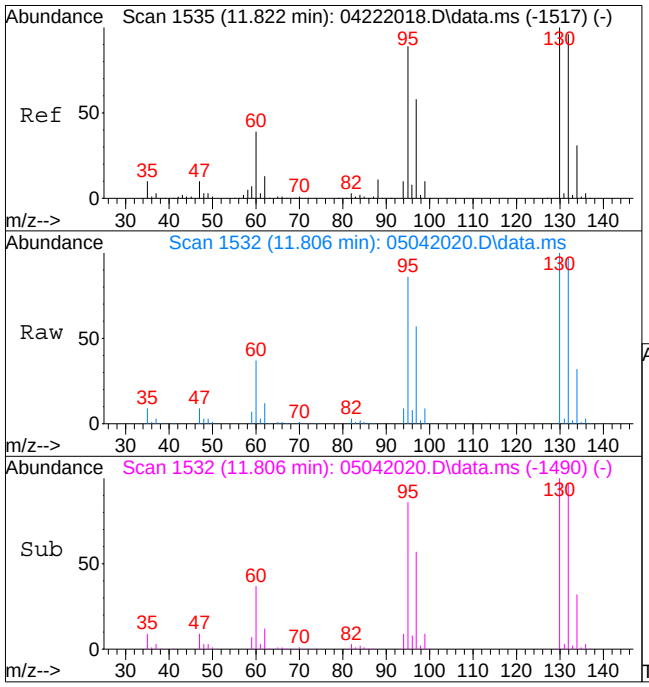


#42
Carbon Tetrachloride
Concen: 0.14 ng
RT: 10.90 min Scan# 1368
Delta R.T. -0.017 min
Lab File: 05042020.D
Acq: 4 May 2020 17:29

Tgt Ion:117 Resp: 2712

Ion	Ratio	Lower	Upper
117	100		
119	80.3	76.5	116.5

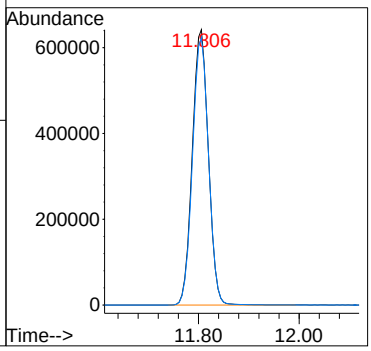


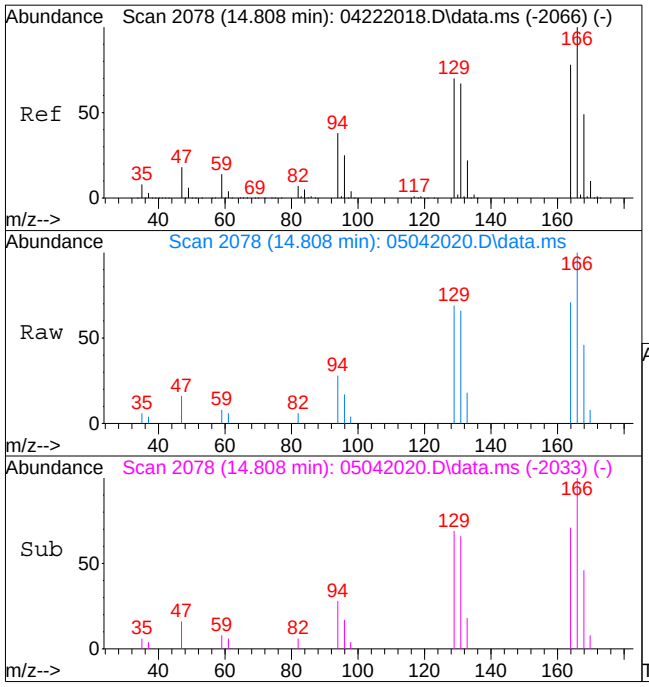


#47
Trichloroethene
Concen: 112.25 ng
RT: 11.81 min Scan# 1532
Delta R.T. -0.017 min
Lab File: 05042020.D
Acq: 4 May 2020 17:29

Tgt Ion:130 Resp: 1420550

Ion	Ratio	Lower	Upper
130	100		
132	97.2	76.4	116.4

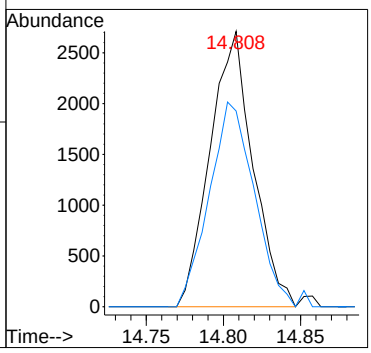


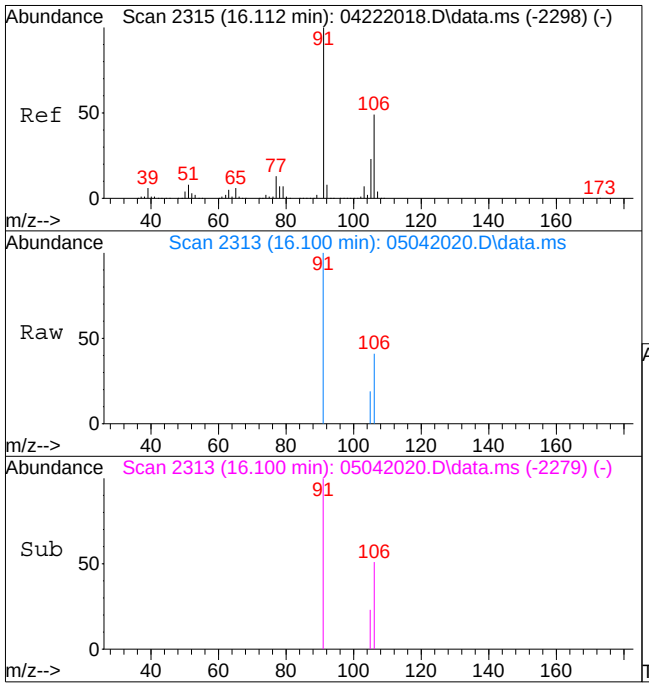


#64
Tetrachloroethene
Concen: 0.35 ng
RT: 14.81 min Scan# 2078
Delta R.T. -0.000 min
Lab File: 05042020.D
Acq: 4 May 2020 17:29

Tgt Ion:166 Resp: 5250

Ion	Ratio	Lower	Upper
166	100		
164	77.9	57.7	97.7

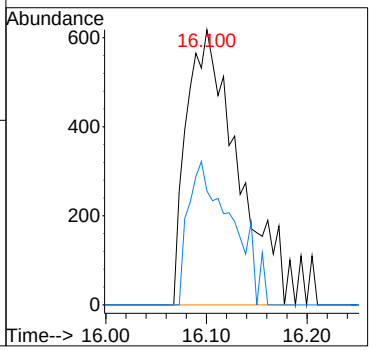


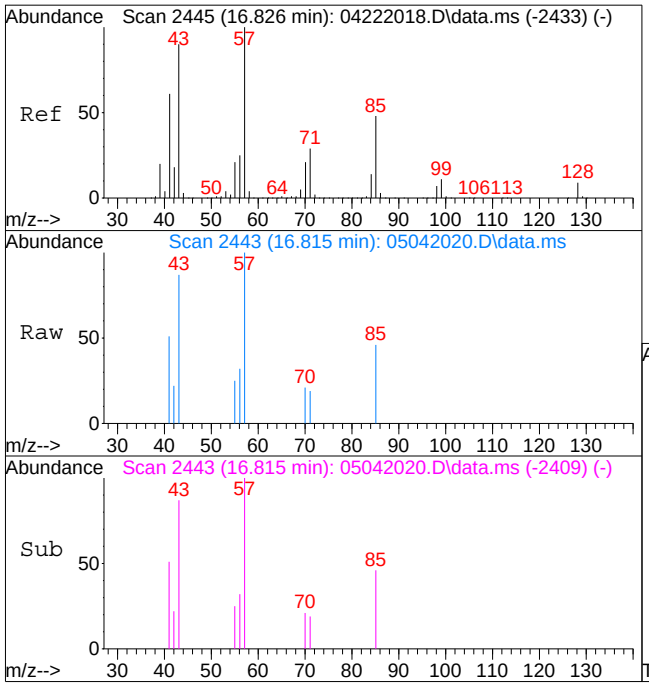


#67
m- & p-Xylenes
Concen: 0.06 ng
RT: 16.10 min Scan# 2313
Delta R.T. -0.011 min
Lab File: 05042020.D
Acq: 4 May 2020 17:29

Tgt Ion: 91 Resp: 2215

Ion	Ratio	Lower	Upper
91	100		
106	43.7	28.3	68.3

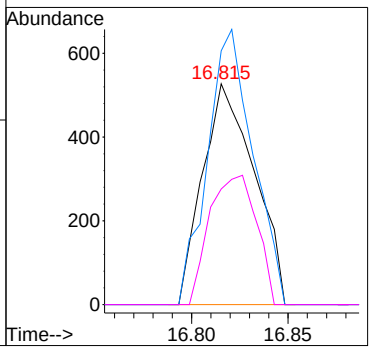


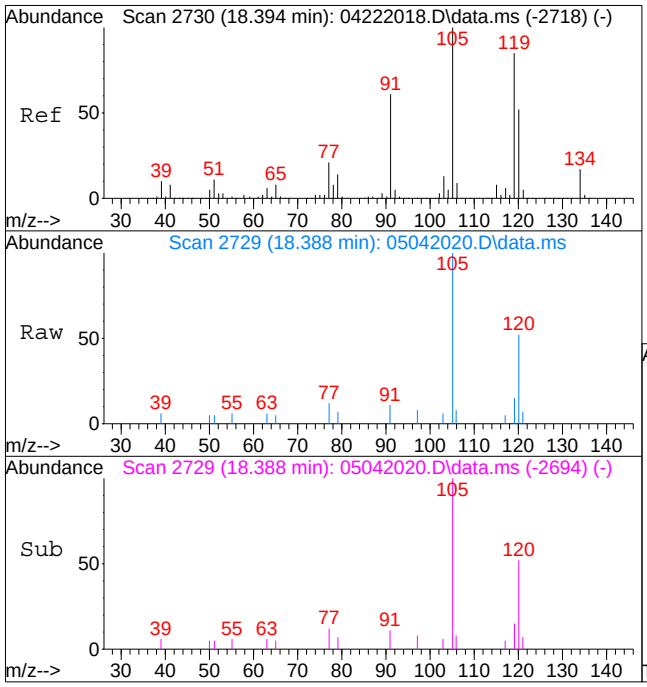


#71
n-Nonane
Concen: 0.08 ng
RT: 16.82 min Scan# 2443
Delta R.T. -0.011 min
Lab File: 05042020.D
Acq: 4 May 2020 17:29

Tgt Ion: 43 Resp: 984

Ion	Ratio	Lower	Upper
43	100		
57	109.6	90.8	130.8
85	53.3	32.1	72.1

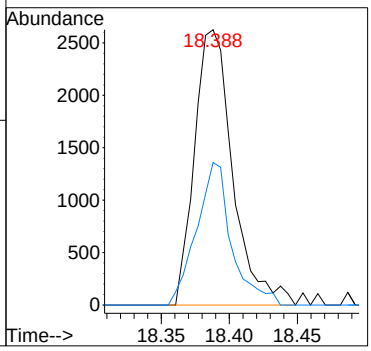




#82
1,2,4-Trimethylbenzene
Concen: 0.12 ng
RT: 18.39 min Scan# 2729
Delta R.T. -0.006 min
Lab File: 05042020.D
Acq: 4 May 2020 17:29

Tgt Ion:105 Resp: 5118

Ion	Ratio	Lower	Upper
105	100		
120	47.4	34.5	74.5



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042033.D Vial: 4
Acq On : 5 May 2020 00:46 Operator: SC
Sample : P2002106-001Dil (15mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 14:39:42 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 5/5/20
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	140973	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	589193	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	262691	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	213764	11.704	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.60%			
57) Toluene-d8 (SS2)	13.54	98	646029	12.737	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.92%			
73) Bromofluorobenzene (SS3)	17.05	174	259119	12.711	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.68%			
Target Compounds						Qvalue
2) Propene	0.00	42	0	N.D.		
3) Dichlorodifluoromethan...	4.00	85	669	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	0.00	45	0	N.D.		
11) Acetonitrile	0.00	41	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) Acetone	5.92	58	244	N.D.		
14) Trichlorofluoromethane	6.05	101	285	N.D.		
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	0.00	84	0	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	7.19	151	2126	0.180	ng	96
22) Carbon Disulfide	7.19	76	238	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	0.00	72	0	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	9.28	87	167	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	9.28	83	2800	0.145	ng	94
34) Tetrahydrofuran (THF)	9.74	72	107	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.		
41) Benzene	10.76	78	277	N.D.		
42) Carbon Tetrachloride	10.90	117	1953	0.098	ng	95
43) Cyclohexane	11.09	84	157	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	11.81	130	1110766	83.504	ng	99
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042033.D Vial: 4
Acq On : 5 May 2020 00:46 Operator: SC
Sample : P2002106-001Dil (15mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 14:39:42 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

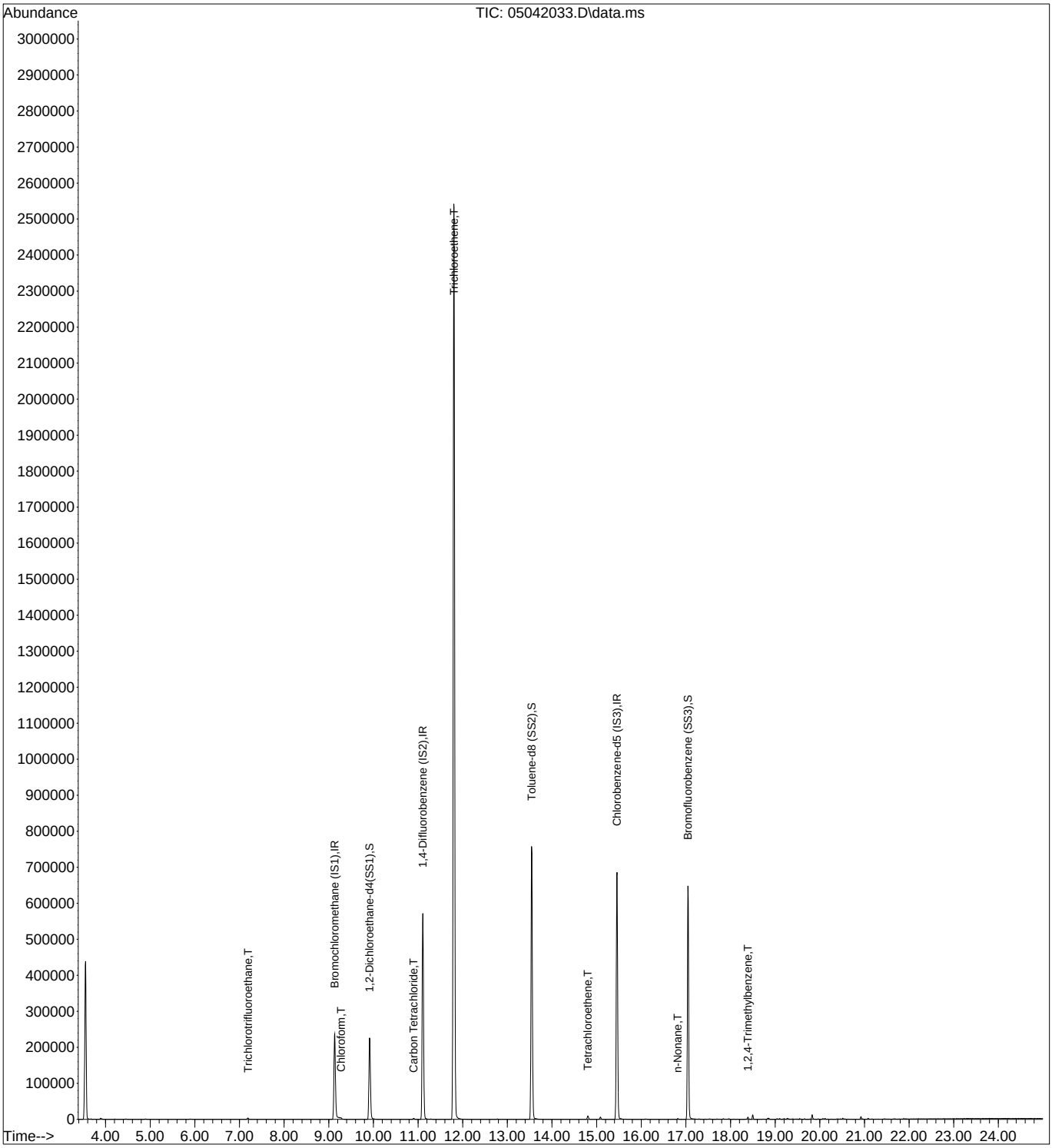
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.66	91	1113	N.D.	
59) 2-Hexanone	0.00	43	0	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	14.68	43	126	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.80	166	4012	0.250 ng	98
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.92	91	197	N.D.	
67) m- & p-Xylenes	16.10	91	2072	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.59	91	713	N.D.	
71) n-Nonane	16.82	43	801	0.060 ng	89
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	17.21	105	220	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.73	91	666	N.D.	
77) 3-Ethyltoluene	17.84	105	1662	N.D.	
78) 4-Ethyltoluene	17.89	105	766	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	1341	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	18.16	105	832	N.D.	
82) 1,2,4-Trimethylbenzene	18.39	105	4411	0.097 ng	86
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.39	91	512	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	18.67	105	668	N.D.	
88) 4-Isopropyltoluene (p-...	18.84	119	868	N.D.	
89) 1,2,3-Trimethylbenzene	18.83	105	1765	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.93	128	1010	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.39	119	650	N.D.	
100) n-Butylbenzene	19.28	91	1241	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042033.D Vial: 4
Acq On : 5 May 2020 00:46 Operator: SC
Sample : P2002106-001Dil (15mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 14:39:42 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

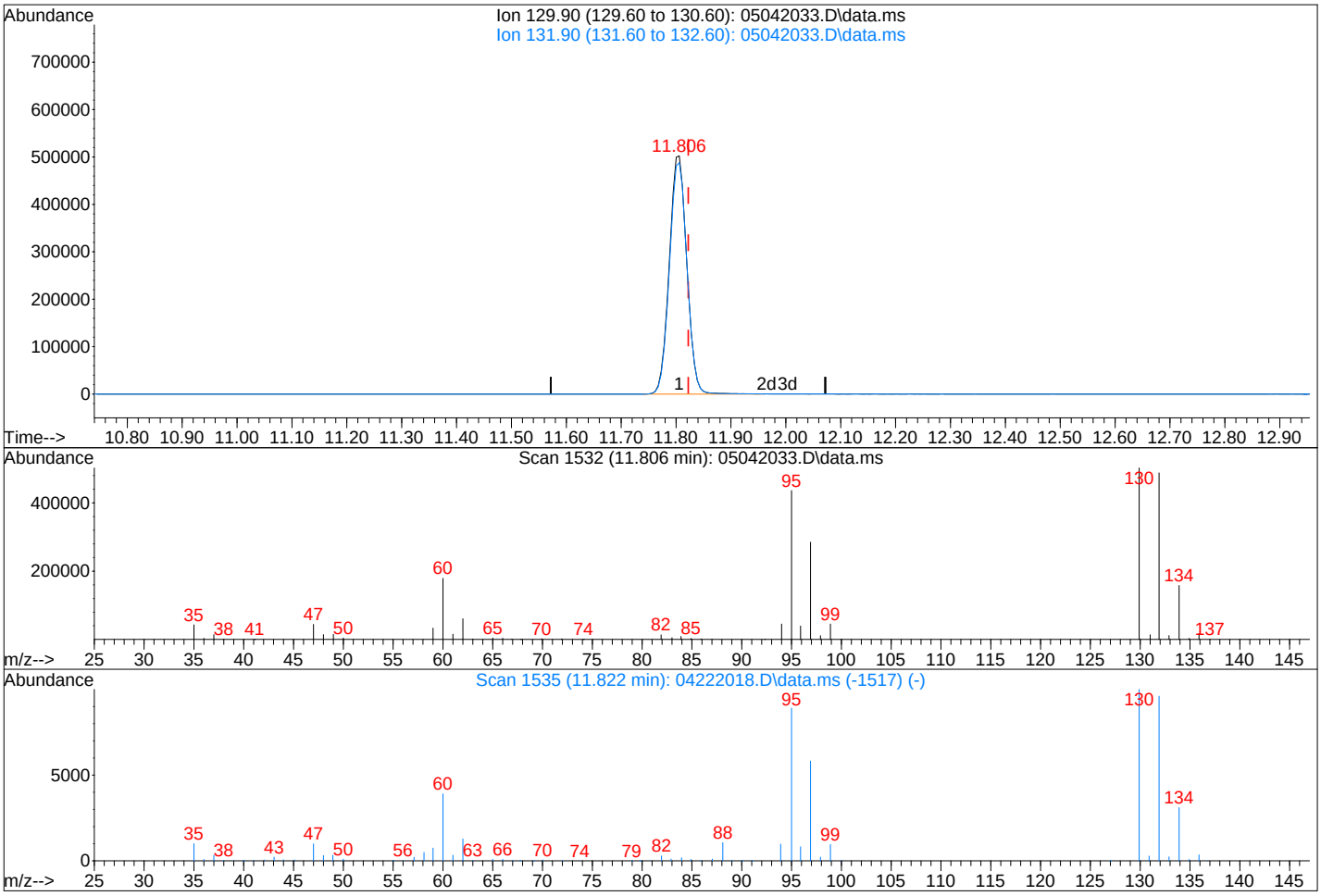


R9042220.M Tue May 05 14:39:48 2020 Page: 3

Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_05\04\05042033.D Vial: 4
Acq On : 5 May 2020 00:46 Operator: SC
Sample : P2002106-001Dil (15mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 05:34:15 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05042033.D\data.ms

(47) Trichloroethene (T)

11.806min (-0.017) 83.50ng

response 1110766

Ion	Exp%	Act%
129.90	100	100
131.90	96.40	97.22
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042015.D Vial: 6
Acq On : 4 May 2020 14:17 Operator: SC
Sample : P2002106-002 (40mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 04 14:45:25 2020 5/4/20
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	9.14	130	135836	12.500 ng	-0.03
37) 1,4-Difluorobenzene (IS2)	11.12	114	578622	12.500 ng	-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	254243	12.500 ng	0.00
System Monitoring Compounds					
33) 1,2-Dichloroethane-d4(...	9.93	65	211309	12.007 ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.08%		
57) Toluene-d8 (SS2)	13.55	98	636238	12.961 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.68%		
73) Bromofluorobenzene (SS3)	17.05	174	248628	12.602 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.80%		
Target Compounds					Qvalue
2) Propene	0.00	42	0	N.D.	
3) Dichlorodifluoromethan...	4.00	85	2135	0.097 ng #	93
4) Chloromethane	4.00	50	169	N.D.	
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.	
6) Vinyl Chloride	0.00	62	0	N.D.	
7) 1,3-Butadiene	0.00	54	0	N.D.	
8) Bromomethane	0.00	94	0	N.D.	
9) Chloroethane	0.00	64	0	N.D.	
10) Ethanol	5.39	45	763	0.175 ng #	49
11) Acetonitrile	0.00	41	0	N.D.	
12) Acrolein	5.76	56	36	N.D.	
13) Acetone	5.88	58	8527	1.625 ng #	64
14) Trichlorofluoromethane	6.04	101	1486	0.068 ng	96
15) 2-Propanol (Isopropanol)	6.25	45	50	N.D.	
16) Acrylonitrile	0.00	53	0	N.D.	
17) 1,1-Dichloroethene	0.00	96	0	N.D.	
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	
19) Methylene Chloride	0.00	84	0	N.D.	
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	
21) Trichlorotrifluoroethane	7.19	151	9808	0.864 ng	93
22) Carbon Disulfide	7.18	76	3497	0.114 ng	89
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.	
24) 1,1-Dichloroethane	0.00	63	0	N.D.	
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	
26) Vinyl Acetate	0.00	86	0	N.D.	
27) 2-Butanone (MEK)	8.59	72	932	0.173 ng #	63
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.	
29) Diisopropyl Ether	0.00	87	0	N.D. d	
30) Ethyl Acetate	0.00	61	0	N.D.	
31) n-Hexane	0.00	57	0	N.D.	
32) Chloroform	9.28	83	11875	0.638 ng	98
34) Tetrahydrofuran (THF)	9.73	72	713	0.131 ng #	88
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.	
36) 1,2-Dichloroethane	0.00	62	0	N.D.	
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.	
39) Isopropyl Acetate	0.00	61	0	N.D.	
40) 1-Butanol	10.77	56	229	N.D.	
41) Benzene	10.76	78	208	N.D.	
42) Carbon Tetrachloride	10.91	117	11069	0.568 ng	98
43) Cyclohexane	11.11	84	435	N.D.	
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.	
45) 1,2-Dichloropropane	0.00	63	0	N.D.	
46) Bromodichloromethane	0.00	83	0	N.D. d	
47) Trichloroethene	11.82	130	9862059	754.947 ng	100
48) 1,4-Dioxane	0.00	88	0	N.D.	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d	
50) Methyl Methacrylate	0.00	100	0	N.D. d	

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042015.D Vial: 6
Acq On : 4 May 2020 14:17 Operator: SC
Sample : P2002106-002 (40mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 04 14:45:25 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

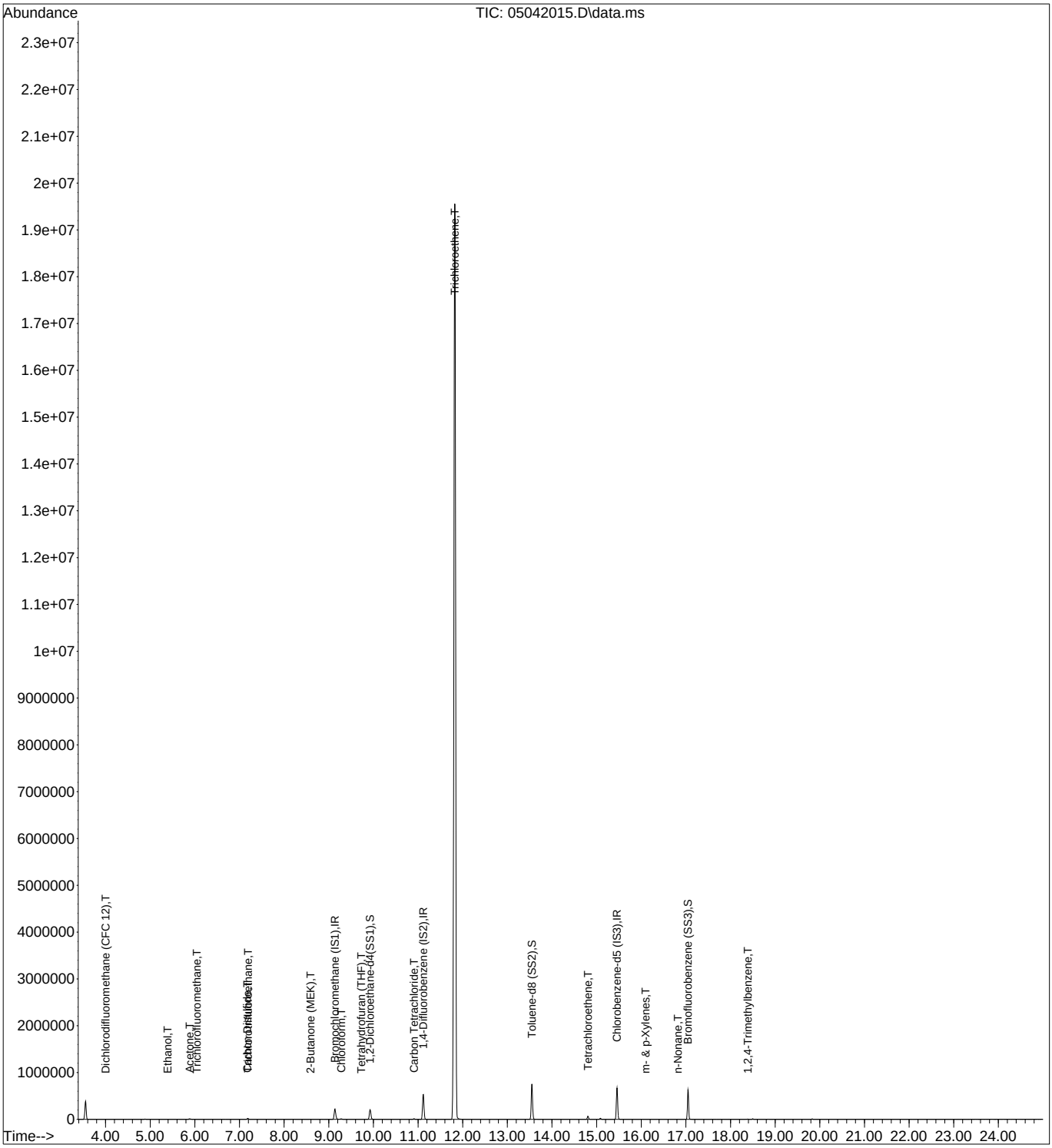
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.65	91	1626	N.D.	
59) 2-Hexanone	13.98	43	117	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	14.66	43	257	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.81	166	26400	1.701 ng	100
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.92	91	415	N.D.	
67) m- & p-Xylenes	16.10	91	2110	0.052 ng	85
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.58	91	872	N.D.	
71) n-Nonane	16.82	43	1081	0.084 ng	93
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	17.21	105	179	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.73	91	773	N.D.	
77) 3-Ethyltoluene	17.84	105	1750	N.D.	
78) 4-Ethyltoluene	17.88	105	1004	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	1409	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	18.16	105	728	N.D.	
82) 1,2,4-Trimethylbenzene	18.39	105	5191	0.118 ng	81
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.39	91	468	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	18.67	105	541	N.D.	
88) 4-Isopropyltoluene (p-...	18.83	119	819	N.D.	
89) 1,2,3-Trimethylbenzene	18.83	105	1908	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.96	128	126	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	18.38	119	740	N.D.	
100) n-Butylbenzene	19.28	91	1161	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042015.D Vial: 6
Acq On : 4 May 2020 14:17 Operator: SC
Sample : P2002106-002 (40mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 04 14:45:25 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042015.D Vial: 6
Acq On : 4 May 2020 14:17 Operator: SC
Sample : P2002106-002 (40mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 04 14:45:25 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/4/20

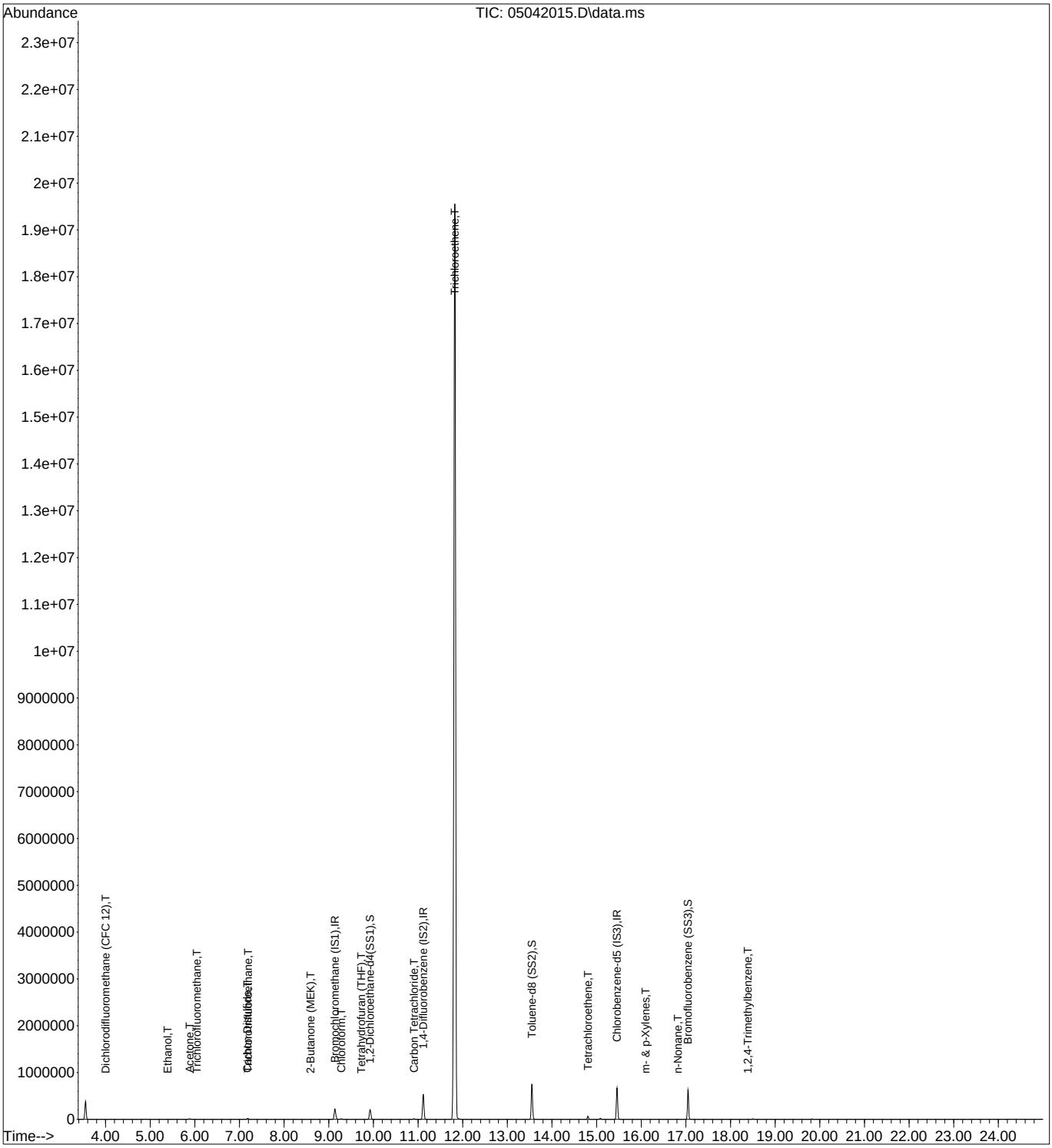
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.14	130	135836	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	11.12	114	578622	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	254243	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.93	65	211309	12.007	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.08%				
57) Toluene-d8 (SS2)	13.55	98	636238	12.961	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.68%				
73) Bromofluorobenzene (SS3)	17.05	174	248628	12.602	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.80%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.00	85	2135	0.097	ng	#	93
10) Ethanol	5.39	45	763	0.175	ng	#	49
13) Acetone	5.88	58	8527	1.625	ng	#	64
14) Trichlorofluoromethane	6.04	101	1486	0.068	ng		96
21) Trichlorotrifluoroethane	7.19	151	9808	0.864	ng		93
22) Carbon Disulfide	7.18	76	3497	0.114	ng		89
27) 2-Butanone (MEK)	8.59	72	932	0.173	ng	#	63
32) Chloroform	9.28	83	11875	0.638	ng		98
34) Tetrahydrofuran (THF)	9.73	72	713	0.131	ng	#	88
42) Carbon Tetrachloride	10.91	117	11069	0.568	ng		98
47) Trichloroethene	11.82	130	9862059	754.947	ng		100
64) Tetrachloroethene	14.81	166	26400	1.701	ng		100
67) m- & p-Xylenes	16.10	91	2110	0.052	ng		85
71) n-Nonane	16.82	43	1081	0.084	ng		93
82) 1,2,4-Trimethylbenzene	18.39	105	5191	0.118	ng		81

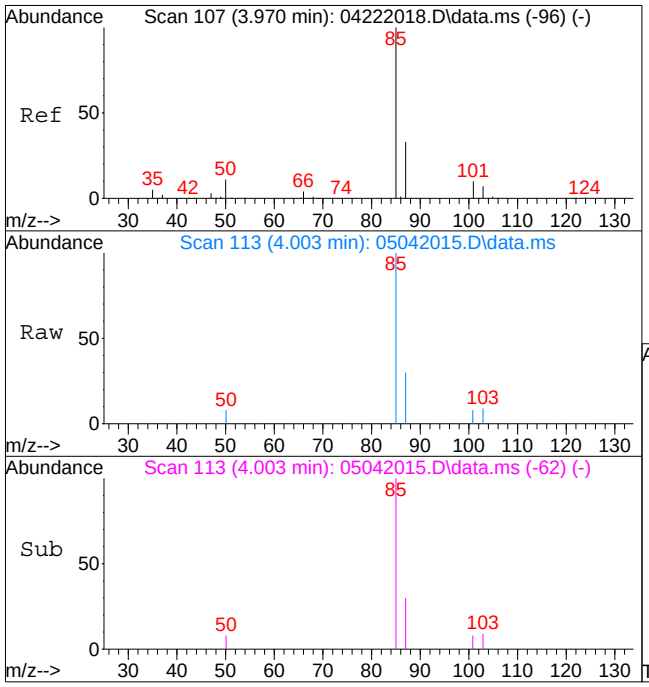
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042015.D Vial: 6
Acq On : 4 May 2020 14:17 Operator: SC
Sample : P2002106-002 (40mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 04 14:45:25 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

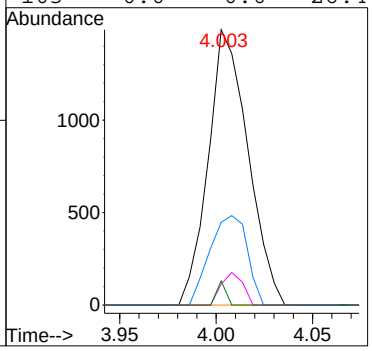


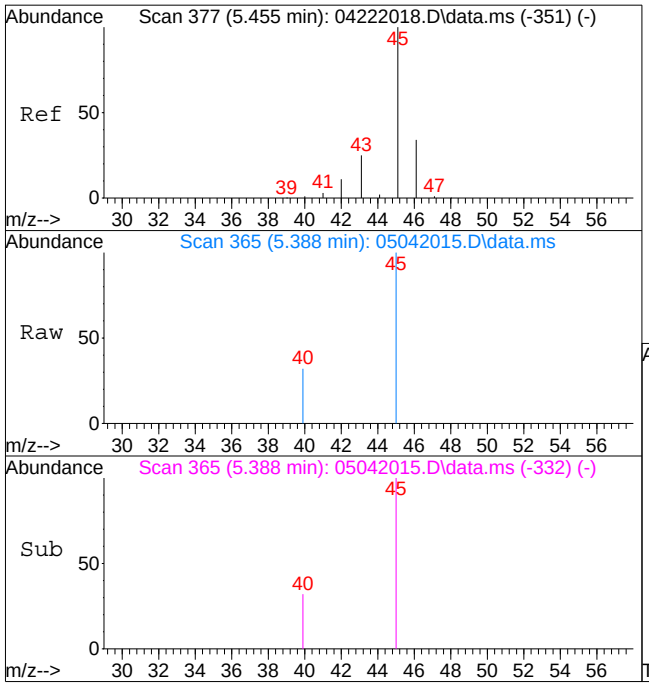


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.10 ng
RT: 4.00 min Scan# 113
Delta R.T. 0.033 min
Lab File: 05042015.D
Acq: 4 May 2020 14:17

Tgt Ion: 85 Resp: 2135

Ion	Ratio	Lower	Upper
85	100		
87	30.4	12.4	52.4
101	6.4	0.0	29.9
103	0.0	0.0	26.4

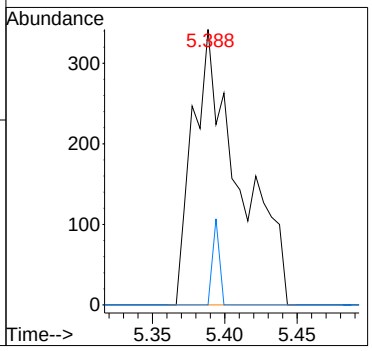


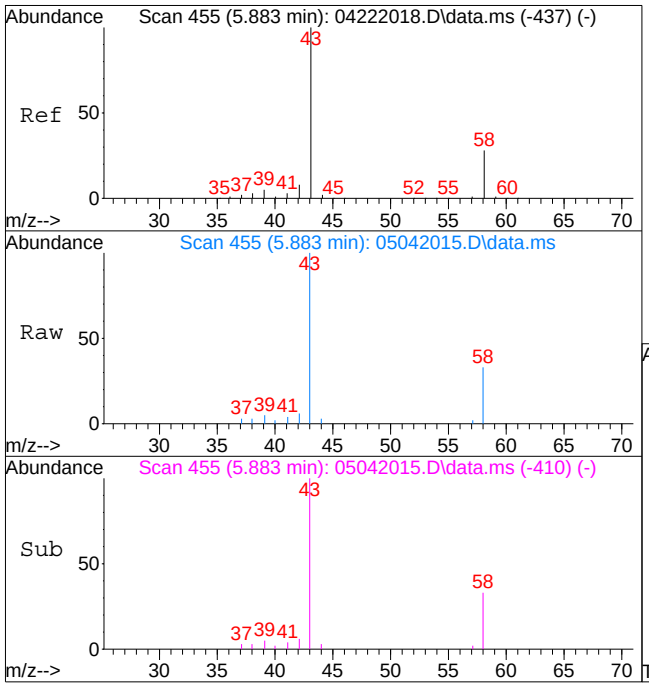


#10
Ethanol
Concen: 0.17 ng
RT: 5.39 min Scan# 365
Delta R.T. -0.066 min
Lab File: 05042015.D
Acq: 4 May 2020 14:17

Tgt Ion: 45 Resp: 763

Ion	Ratio	Lower	Upper
45	100		
46	4.6	14.0	54.0#

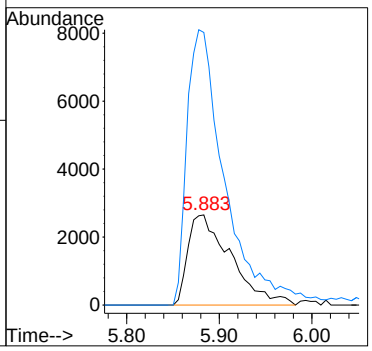


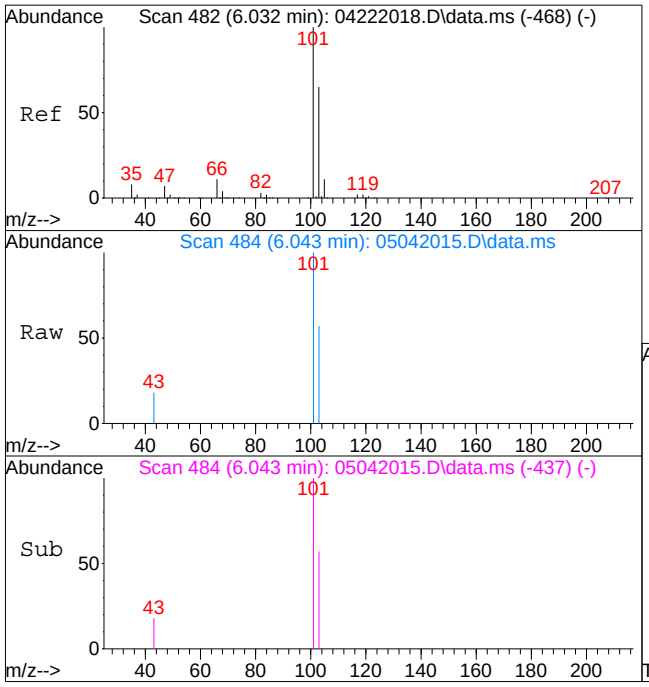


#13
Acetone
Concen: 1.63 ng
RT: 5.88 min Scan# 455
Delta R.T. -0.000 min
Lab File: 05042015.D
Acq: 4 May 2020 14:17

Tgt Ion: 58 Resp: 8527

Ion	Ratio	Lower	Upper
58	100		
43	272.3	319.3	379.3#

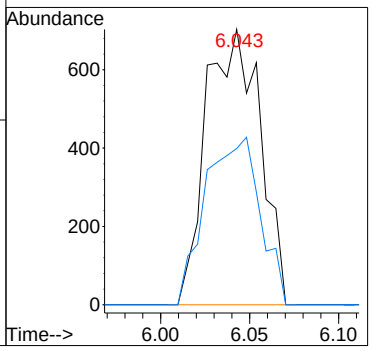


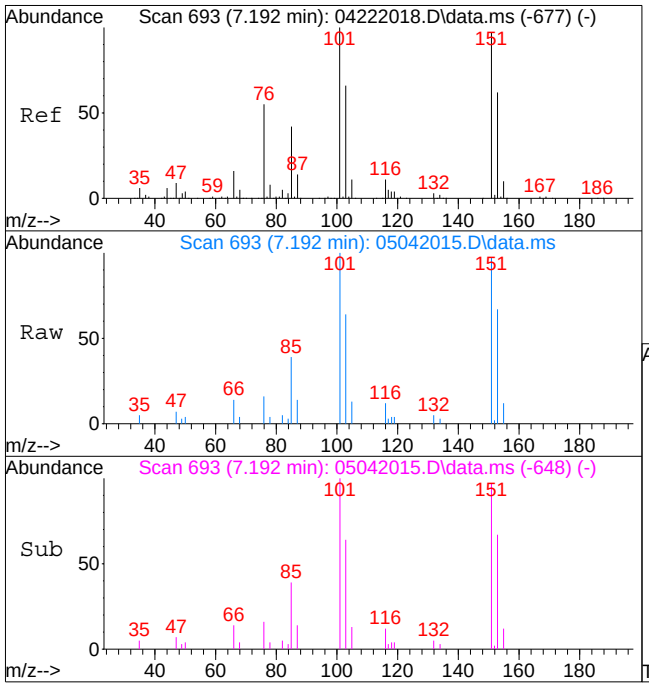


#14
Trichlorofluoromethane
Concen: 0.07 ng
RT: 6.04 min Scan# 484
Delta R.T. 0.011 min
Lab File: 05042015.D
Acq: 4 May 2020 14:17

Tgt Ion:101 Resp: 1486

Ion	Ratio	Lower	Upper
101	100		
103	61.4	44.7	84.7

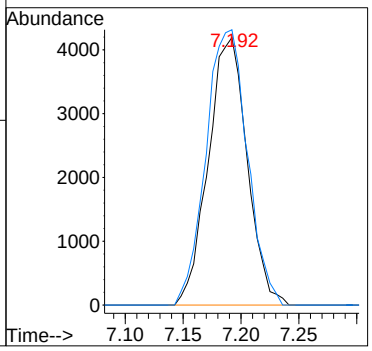


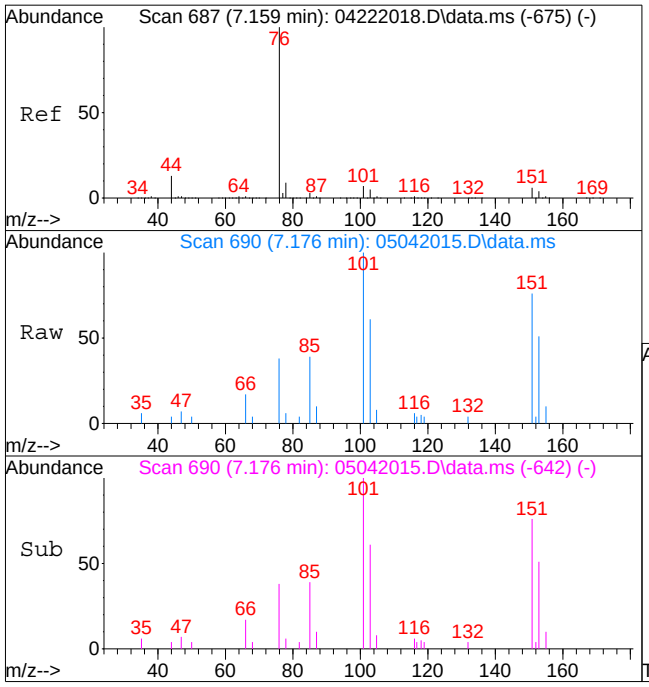


#21
Trichlorotrifluoroethane
Concen: 0.86 ng
RT: 7.19 min Scan# 693
Delta R.T. -0.000 min
Lab File: 05042015.D
Acq: 4 May 2020 14:17

Tgt Ion:151 Resp: 9808

Ion	Ratio	Lower	Upper
151	100		
101	109.5	82.9	122.9

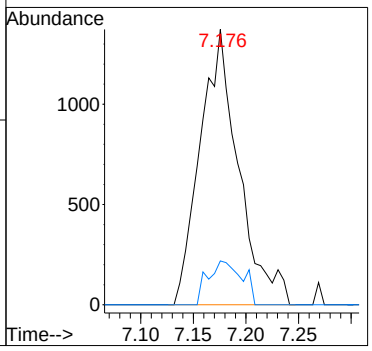


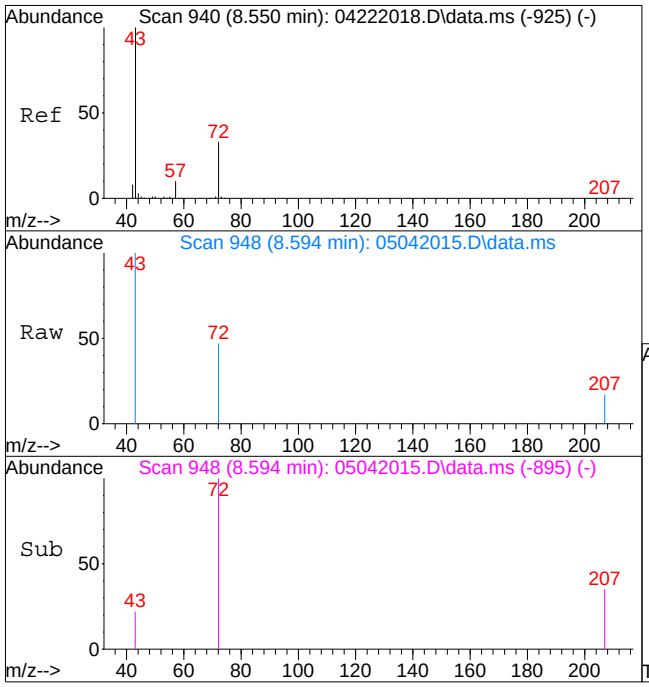


#22
Carbon Disulfide
Concen: 0.11 ng
RT: 7.18 min Scan# 690
Delta R.T. 0.016 min
Lab File: 05042015.D
Acq: 4 May 2020 14:17

Tgt Ion: 76 Resp: 3497

Ion	Ratio	Lower	Upper
76	100		
78	14.2	0.0	30.2

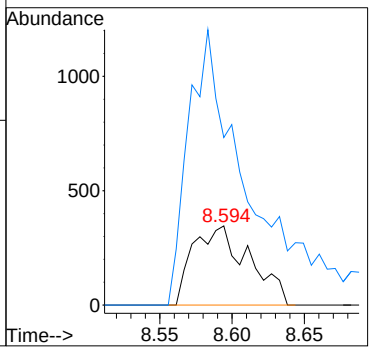


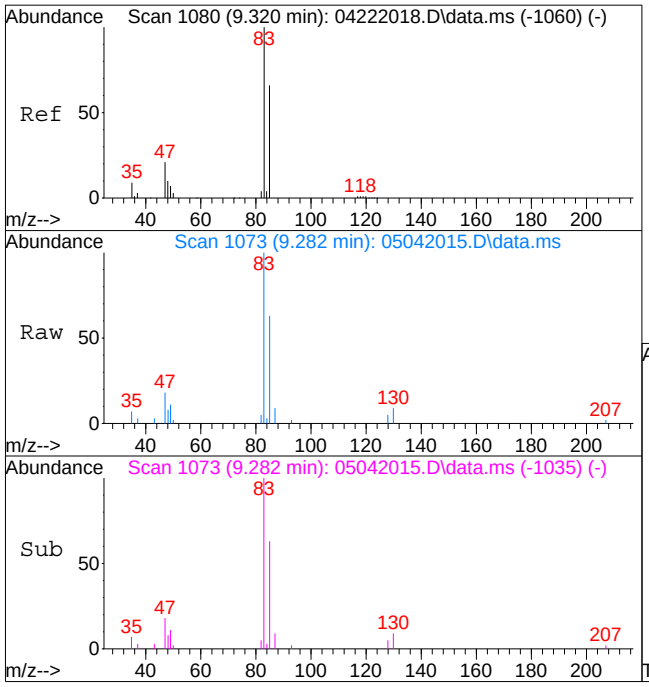


#27
2-Butanone (MEK)
Concen: 0.17 ng
RT: 8.59 min Scan# 948
Delta R.T. 0.044 min
Lab File: 05042015.D
Acq: 4 May 2020 14:17

Tgt Ion: 72 Resp: 932

Ion	Ratio	Lower	Upper
72	100		
43	372.1	278.8	318.8#

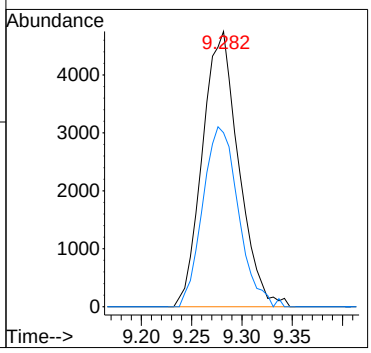


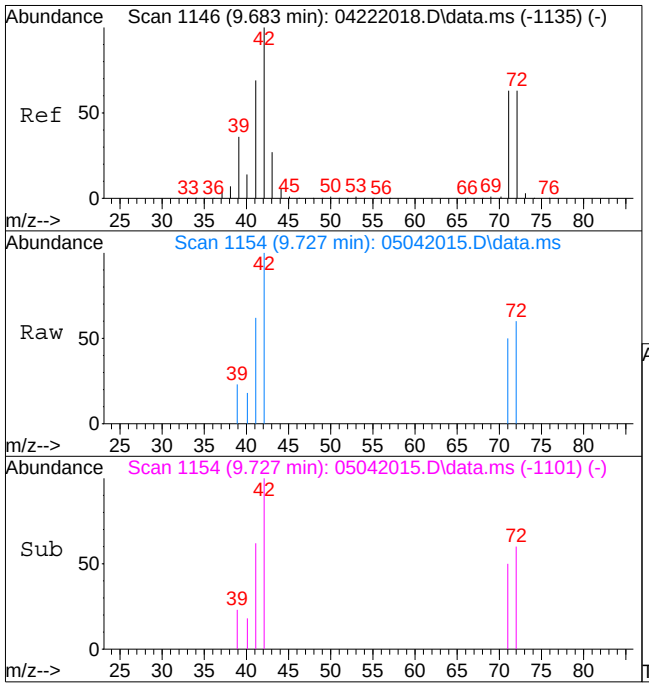


#32
Chloroform
Concen: 0.64 ng
RT: 9.28 min Scan# 1073
Delta R.T. -0.039 min
Lab File: 05042015.D
Acq: 4 May 2020 14:17

Tgt Ion: 83 Resp: 11875

Ion	Ratio	Lower	Upper
83	100		
85	64.4	45.8	85.8

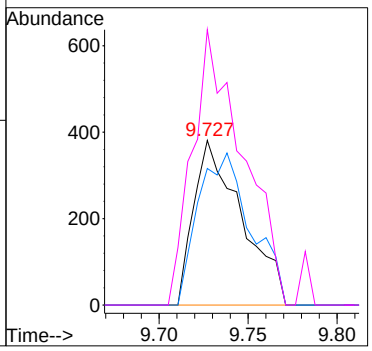


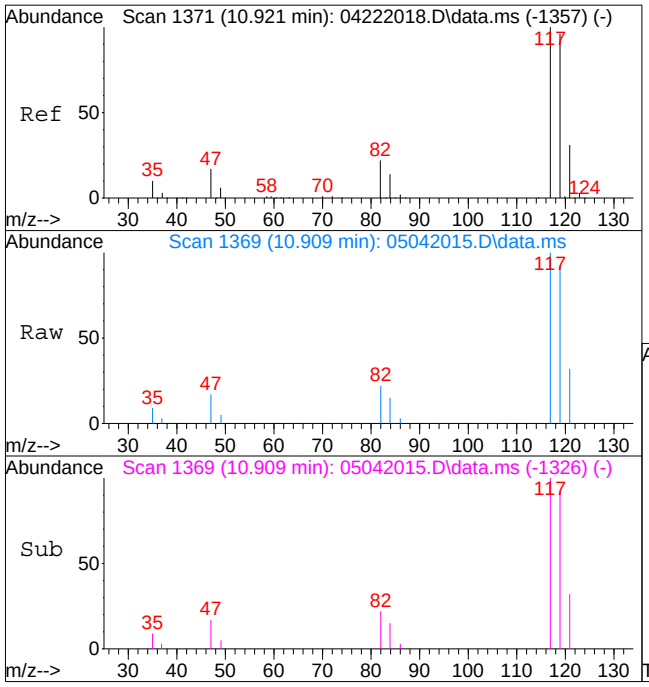


#34
Tetrahydrofuran (THF)
Concen: 0.13 ng
RT: 9.73 min Scan# 1154
Delta R.T. 0.044 min
Lab File: 05042015.D
Acq: 4 May 2020 14:17

Tgt Ion: 72 Resp: 713

Ion	Ratio	Lower	Upper
72	100		
71	101.7	77.9	117.9
42	177.0	133.9	173.9#

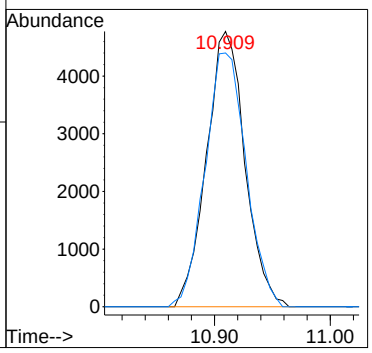


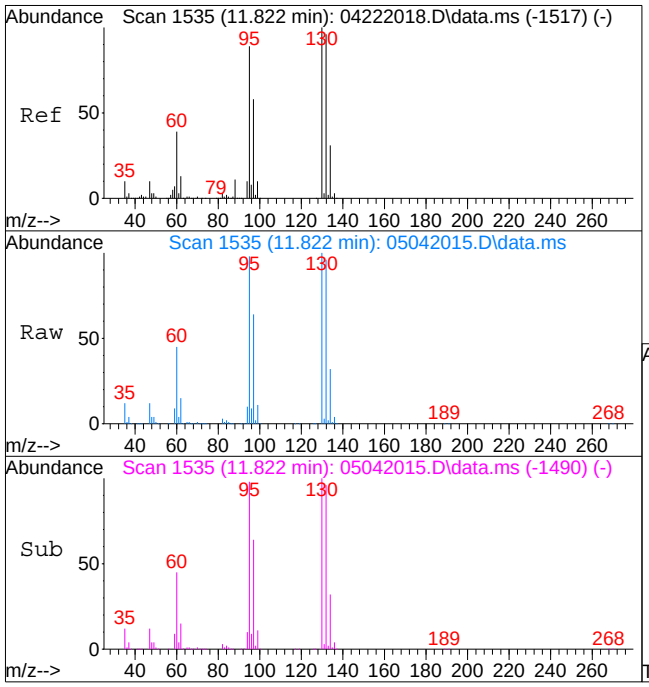


#42
Carbon Tetrachloride
Concen: 0.57 ng
RT: 10.91 min Scan# 1369
Delta R.T. -0.011 min
Lab File: 05042015.D
Acq: 4 May 2020 14:17

Tgt Ion:117 Resp: 11069

Ion	Ratio	Lower	Upper
117	100		
119	98.2	76.5	116.5

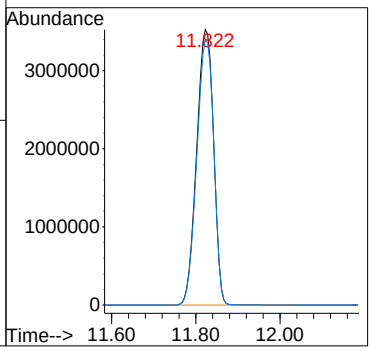


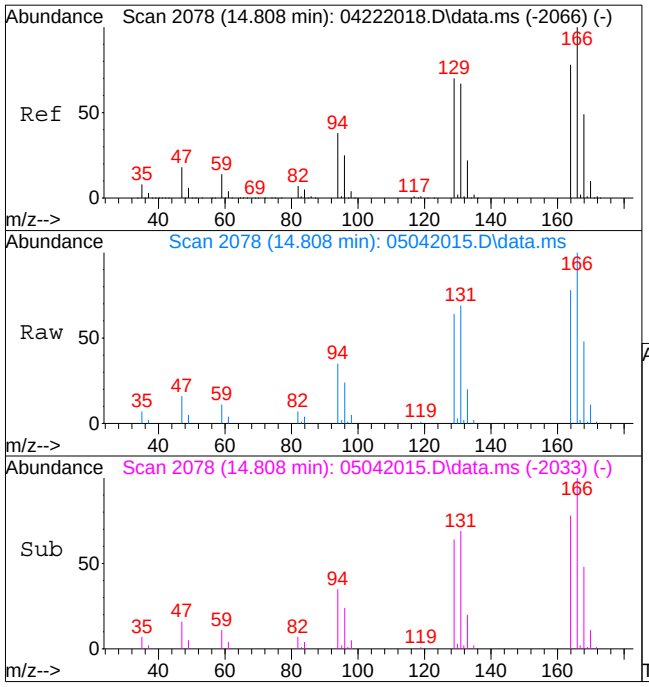


#47
Trichloroethene
Concen: 754.95 ng
RT: 11.82 min Scan# 1535
Delta R.T. -0.000 min
Lab File: 05042015.D
Acq: 4 May 2020 14:17

Tgt Ion:130 Resp: 9862059

Ion	Ratio	Lower	Upper
130	100		
132	96.6	76.4	116.4

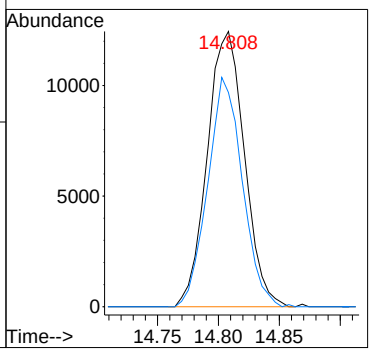


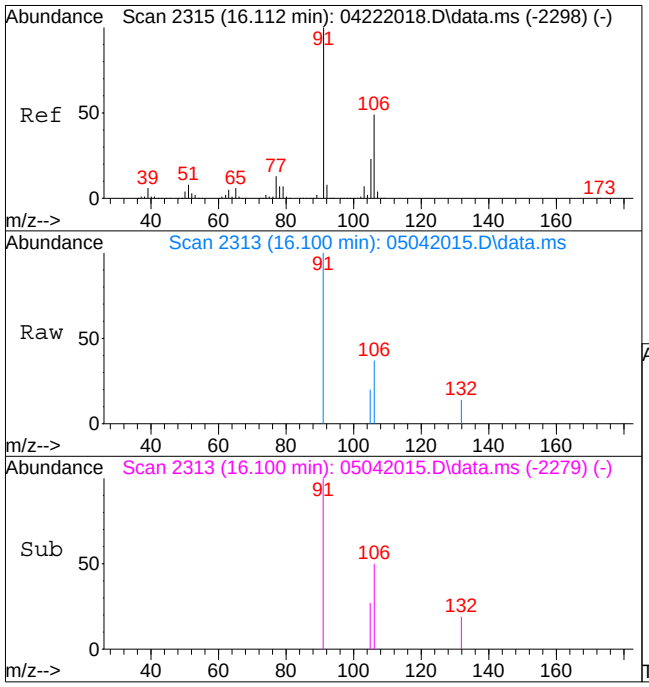


#64
Tetrachloroethene
Concen: 1.70 ng
RT: 14.81 min Scan# 2078
Delta R.T. -0.000 min
Lab File: 05042015.D
Acq: 4 May 2020 14:17

Tgt Ion:166 Resp: 26400

Ion	Ratio	Lower	Upper
166	100		
164	77.7	57.7	97.7

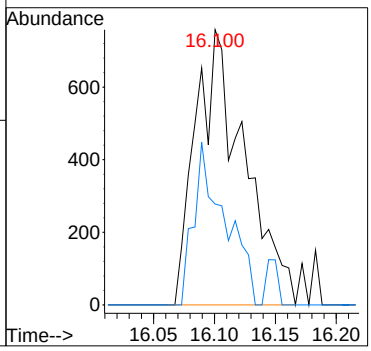


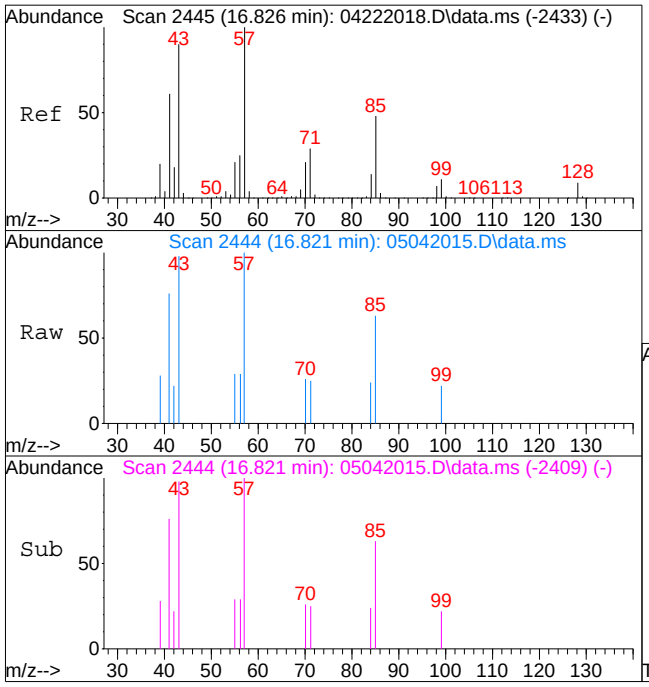


#67
m- & p-Xylenes
Concen: 0.05 ng
RT: 16.10 min Scan# 2313
Delta R.T. -0.011 min
Lab File: 05042015.D
Acq: 4 May 2020 14:17

Tgt Ion: 91 Resp: 2110

Ion	Ratio	Lower	Upper
91	100		
106	38.1	28.3	68.3

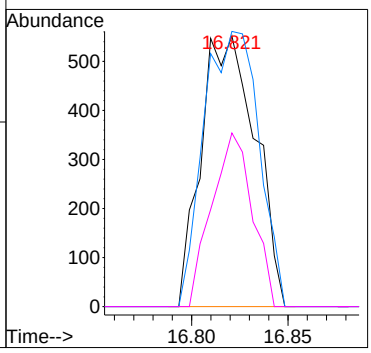


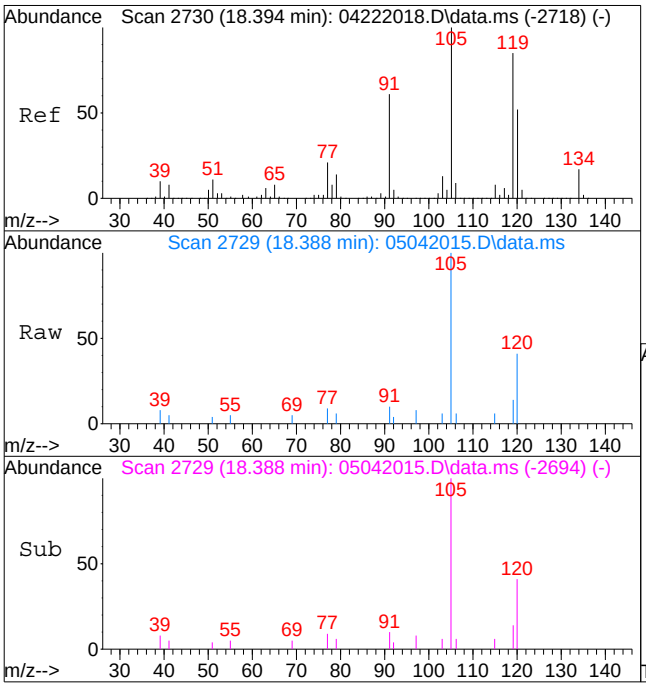


#71
n-Nonane
Concen: 0.08 ng
RT: 16.82 min Scan# 2444
Delta R.T. -0.006 min
Lab File: 05042015.D
Acq: 4 May 2020 14:17

Tgt Ion: 43 Resp: 1081

Ion	Ratio	Lower	Upper
43	100		
57	103.1	90.8	130.8
85	47.9	32.1	72.1

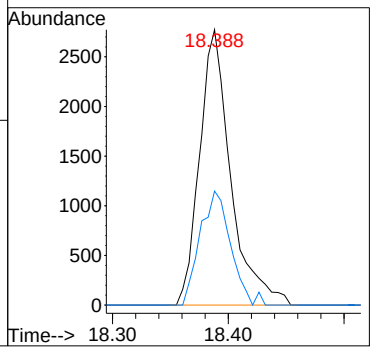




#82
1,2,4-Trimethylbenzene
Concen: 0.12 ng
RT: 18.39 min Scan# 2729
Delta R.T. -0.006 min
Lab File: 05042015.D
Acq: 4 May 2020 14:17

Tgt Ion:105 Resp: 5191

Ion	Ratio	Lower	Upper
105	100		
120	40.6	34.5	74.5



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042018.D Vial: 1
Acq On : 4 May 2020 16:10 Operator: SC
Sample : P2002106-002Dil (4.0mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 04 16:41:11 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/4/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	143458	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	596386	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.45	82	257768	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	218230	11.741	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.92%				
57) Toluene-d8 (SS2)	13.54	98	644654	12.952	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.60%				
73) Bromofluorobenzene (SS3)	17.05	174	252160	12.606	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.88%				
Target Compounds							Qvalue
2) Propene	3.91	42	417	0.068	ng	#	66
3) Dichlorodifluoromethan...	4.00	85	205	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.43	45	83	N.D.			
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	5.90	56	186	N.D.			
13) Acetone	5.90	58	2168	0.391	ng		96
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	6.74	96	664	0.066	ng		94
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	6.87	84	2111	0.217	ng		97
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	7.19	151	8692	0.725	ng		93
22) Carbon Disulfide	7.18	76	336	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	8.10	63	196	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	0.00	72	0	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	9.27	83	924	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	10.29	97	9510	0.464	ng		97
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	10.77	78	509	N.D.			
42) Carbon Tetrachloride	10.90	117	816	N.D.			
43) Cyclohexane	11.04	84	1070	0.070	ng	#	81
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	11.81	130	1160369	86.181	ng		99
48) 1,4-Dioxane	0.00	88	0	N.D.	d		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042018.D Vial: 1
Acq On : 4 May 2020 16:10 Operator: SC
Sample : P2002106-002Dil (4.0mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 04 16:41:11 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

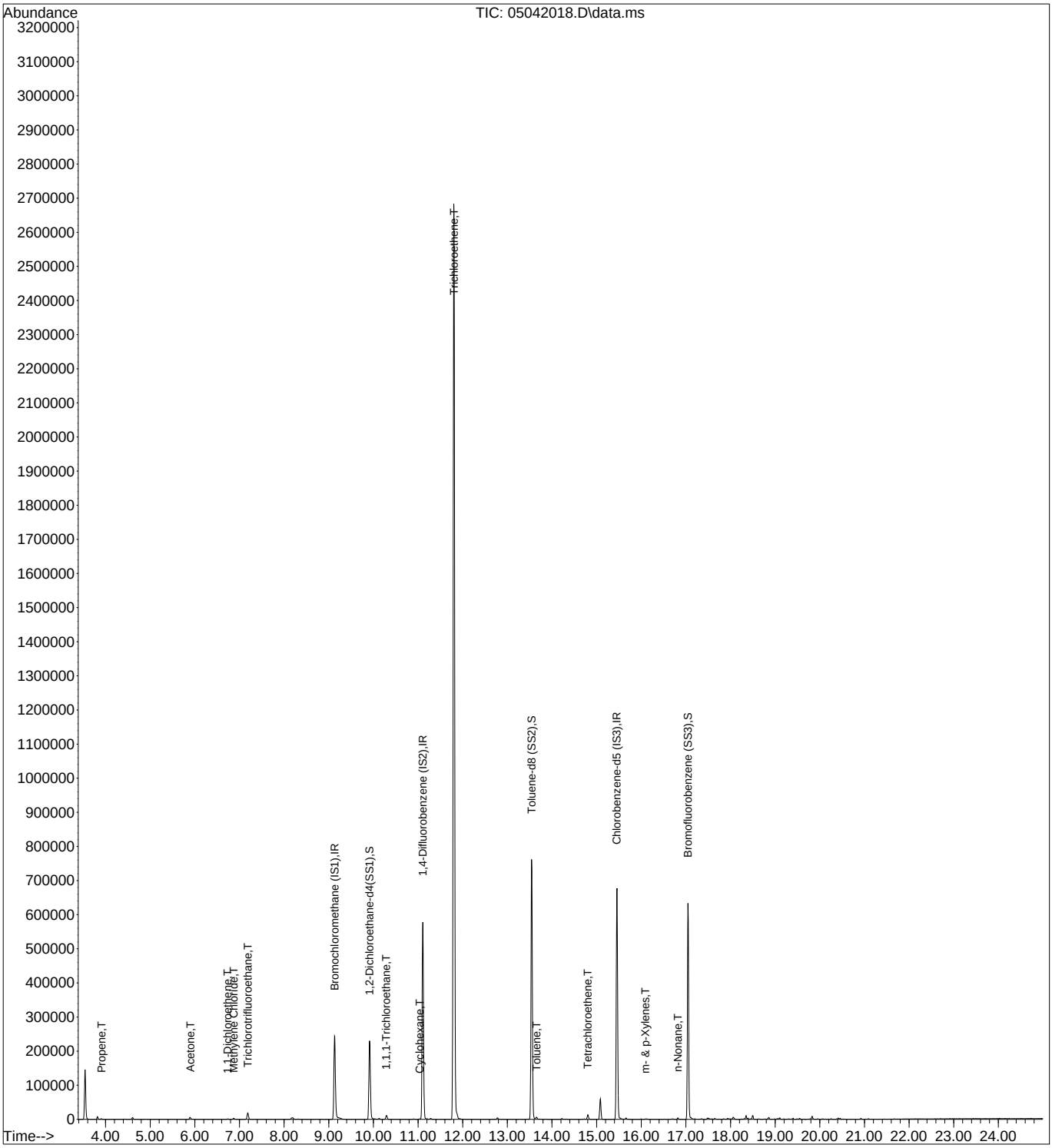
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.65	91	3648	0.087 ng	96
59) 2-Hexanone	13.85	43	101	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	14.67	43	177	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.80	166	5694	0.362 ng	98
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.92	91	503	N.D.	
67) m- & p-Xylenes	16.10	91	2231	0.054 ng	97
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.60	91	916	N.D.	
71) n-Nonane	16.82	43	1378	0.106 ng	94
72) 1,1,2,2-Tetrachloroethane	16.68	83	191	N.D.	
74) Cumene	17.05	105	126	N.D.	
75) alpha-Pinene	17.60	93	313	N.D.	
76) n-Propylbenzene	17.70	91	488	N.D.	
77) 3-Ethyltoluene	17.84	105	288	N.D.	
78) 4-Ethyltoluene	17.90	105	324	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	651	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	18.16	105	382	N.D.	
82) 1,2,4-Trimethylbenzene	18.39	105	1558	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	18.68	105	438	N.D.	
88) 4-Isopropyltoluene (p-...	18.84	119	461	N.D.	
89) 1,2,3-Trimethylbenzene	18.84	105	600	N.D.	
90) 1,2-Dichlorobenzene	18.98	146	240	N.D.	
91) d-Limonene	19.00	68	264	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	0.00	128	0	N.D.	
96) n-Dodecane	20.92	57	702	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.38	119	117	N.D.	
100) n-Butylbenzene	19.28	91	126	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042018.D Vial: 1
Acq On : 4 May 2020 16:10 Operator: SC
Sample : P2002106-002Dil (4.0mL) Inst : MS09
Misc : S34-04212006

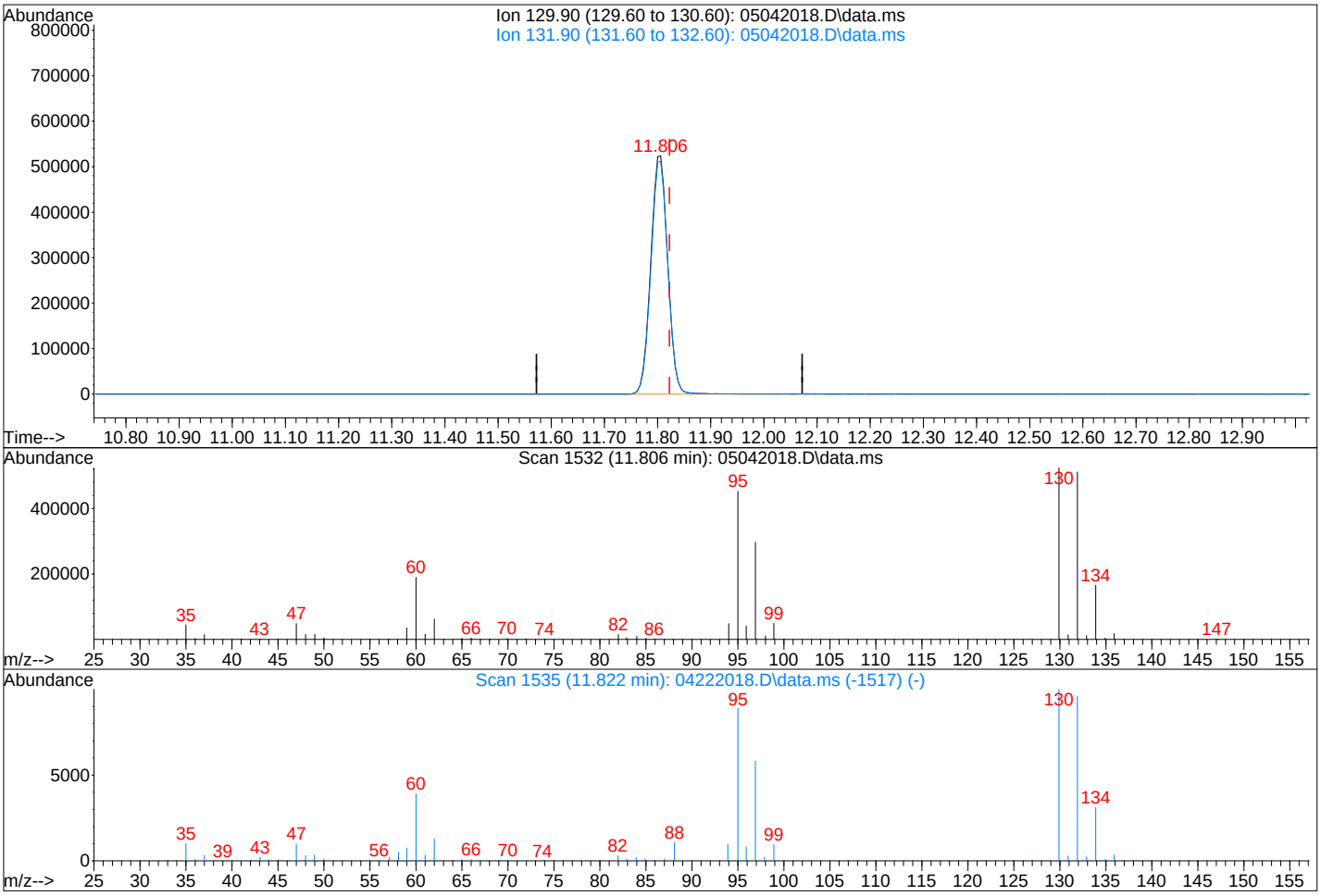
Quant Time: May 04 16:41:11 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_05\04\05042018.D Vial: 1
Acq On : 4 May 2020 16:10 Operator: SC
Sample : P2002106-002Dil (4.0mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 04 16:37:49 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05042018.D\data.ms

(47) Trichloroethene (T)

11.806min (-0.017) 86.18ng

response 1160369

Ion	Exp%	Act%
129.90	100	100
131.90	96.40	97.58
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042016.D Vial: 7
Acq On : 4 May 2020 14:51 Operator: SC
Sample : P2002106-003 (40mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 04 15:20:46 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/4/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.14	130	134849	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	11.11	114	568826	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	246897	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.93	65	205558	11.765	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.16%				
57) Toluene-d8 (SS2)	13.55	98	619151	12.988	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.92%				
73) Bromofluorobenzene (SS3)	17.05	174	241317	12.595	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.80%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.			
3) Dichlorodifluoromethan...	4.01	85	1057	N.D.			
4) Chloromethane	4.22	50	171	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	0.00	45	0	N.D.	d		
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	5.74	56	182	N.D.			
13) Acetone	5.88	58	3742m	0.718	ng		
14) Trichlorofluoromethane	6.03	101	881	N.D.			
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	7.19	151	3558	0.316	ng		96
22) Carbon Disulfide	0.00	76	0	N.D.	d		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	8.58	72	1164	0.218	ng	#	69
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	9.23	57	108	N.D.			
32) Chloroform	9.28	83	16062	0.869	ng		99
34) Tetrahydrofuran (THF)	9.69	72	43848	8.090	ng		98
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.77	78	883	N.D.			
42) Carbon Tetrachloride	10.91	117	7603	0.397	ng		99
43) Cyclohexane	11.11	84	347	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	11.82	130	7372337	574.076	ng		100
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042016.D Vial: 7
Acq On : 4 May 2020 14:51 Operator: SC
Sample : P2002106-003 (40mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 04 15:20:46 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

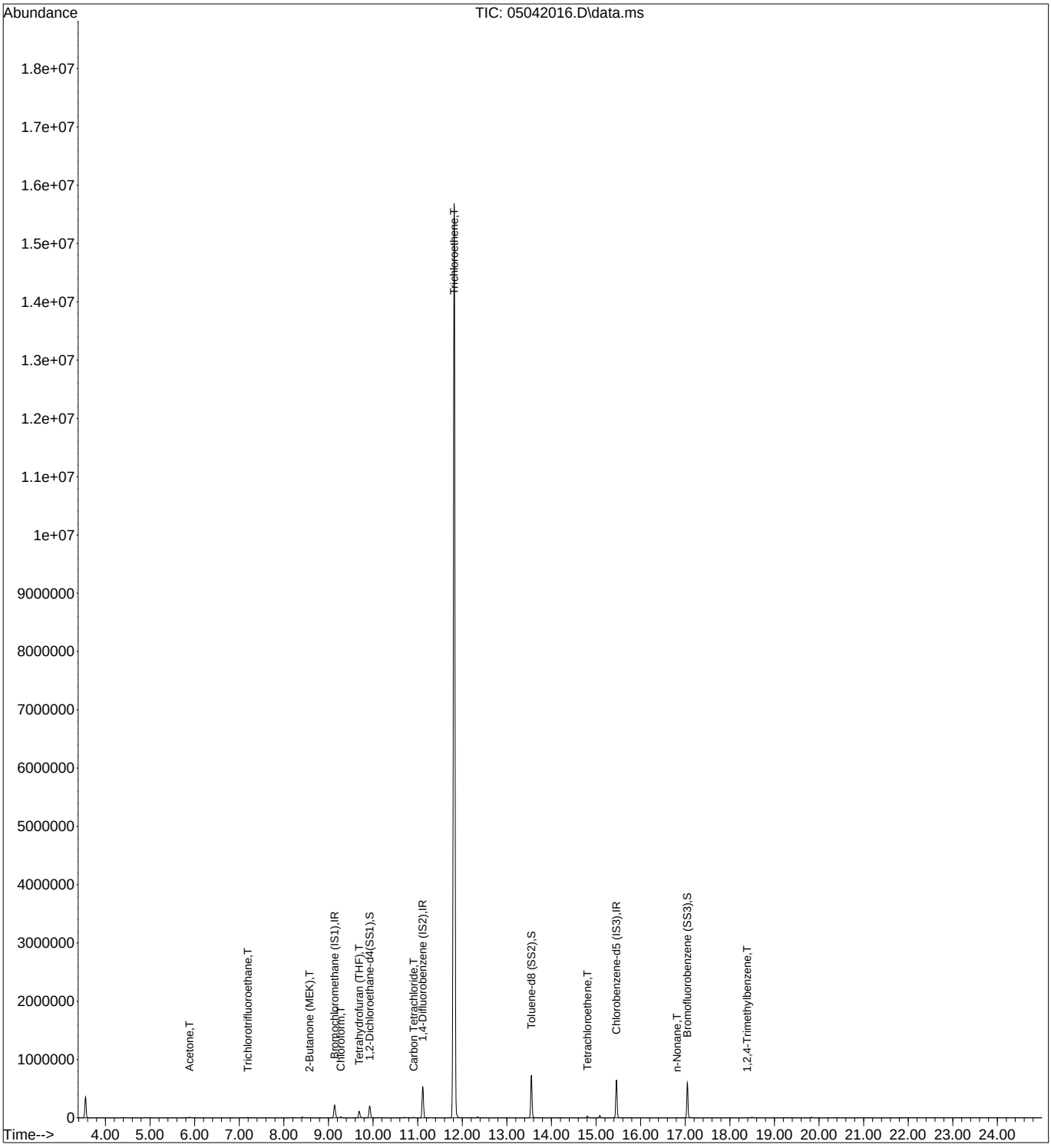
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.65	91	1917	N.D.	
59) 2-Hexanone	13.80	43	113	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	14.66	43	321	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.81	166	13100	0.869 ng	98
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.92	91	463	N.D.	
67) m- & p-Xylenes	16.09	91	1831	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.60	91	750	N.D.	
71) n-Nonane	16.82	43	958	0.077 ng	95
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	17.20	105	293	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.73	91	680	N.D.	
77) 3-Ethyltoluene	17.83	105	1433	N.D.	
78) 4-Ethyltoluene	17.88	105	1014	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	1163	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	18.16	105	664	N.D.	
82) 1,2,4-Trimethylbenzene	18.39	105	4385	0.102 ng	90
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.38	91	414	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	18.67	105	463	N.D.	
88) 4-Isopropyltoluene (p-...	18.84	119	731	N.D.	
89) 1,2,3-Trimethylbenzene	18.84	105	1992	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.96	128	117	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	18.38	119	626	N.D.	
100) n-Butylbenzene	19.27	91	1100	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042016.D Vial: 7
Acq On : 4 May 2020 14:51 Operator: SC
Sample : P2002106-003 (40mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 04 15:20:46 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042016.D Vial: 7
Acq On : 4 May 2020 14:51 Operator: SC
Sample : P2002106-003 (40mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 04 15:20:46 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/4/20

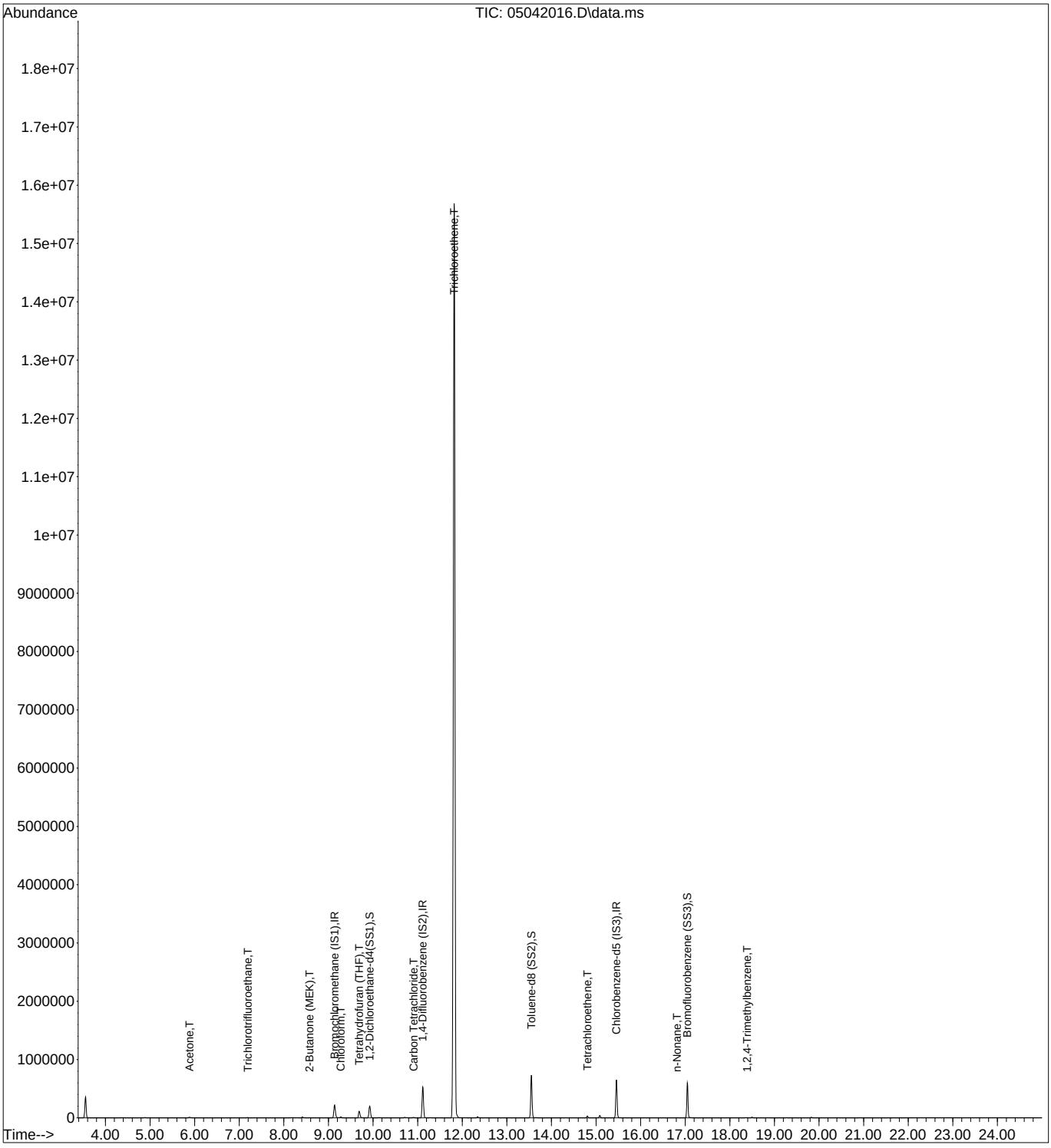
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.14	130	134849	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	11.11	114	568826	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	246897	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.93	65	205558	11.765	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.16%				
57) Toluene-d8 (SS2)	13.55	98	619151	12.988	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.92%				
73) Bromofluorobenzene (SS3)	17.05	174	241317	12.595	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.80%				
Target Compounds							Qvalue
13) Acetone	5.88	58	3742m	0.718	ng		
21) Trichlorotrifluoroethane	7.19	151	3558	0.316	ng		96
27) 2-Butanone (MEK)	8.58	72	1164	0.218	ng	#	69
32) Chloroform	9.28	83	16062	0.869	ng		99
34) Tetrahydrofuran (THF)	9.69	72	43848	8.090	ng		98
42) Carbon Tetrachloride	10.91	117	7603	0.397	ng		99
47) Trichloroethene	11.82	130	7372337	574.076	ng		100
64) Tetrachloroethene	14.81	166	13100	0.869	ng		98
71) n-Nonane	16.82	43	958	0.077	ng		95
82) 1,2,4-Trimethylbenzene	18.39	105	4385	0.102	ng		90

(#) = qualifier out of range (m) = manual integration (+) = signals summed

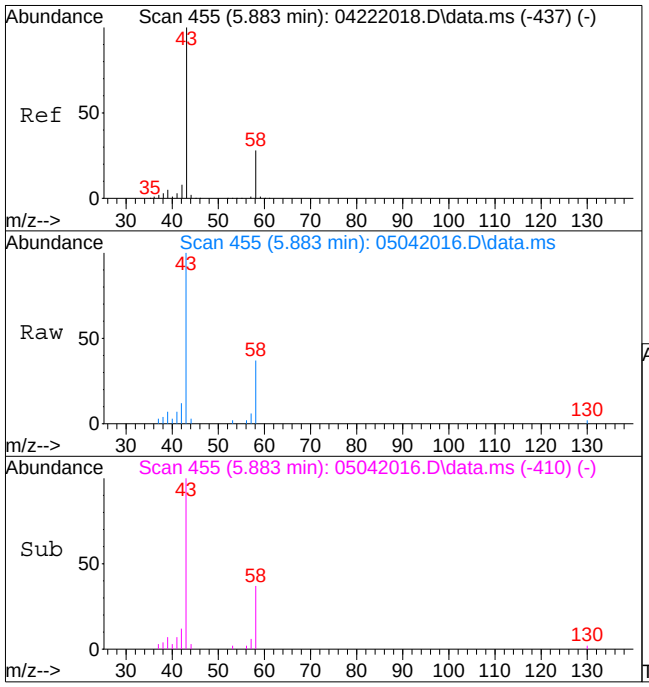
Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042016.D Vial: 7
Acq On : 4 May 2020 14:51 Operator: SC
Sample : P2002106-003 (40mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 04 15:20:46 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



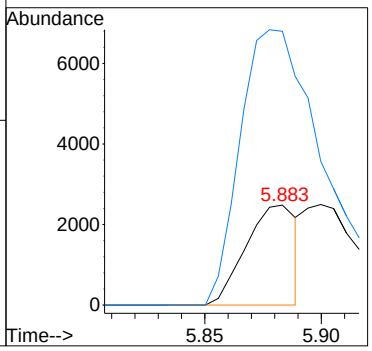
R9042220.M Mon May 04 15:20:58 2020

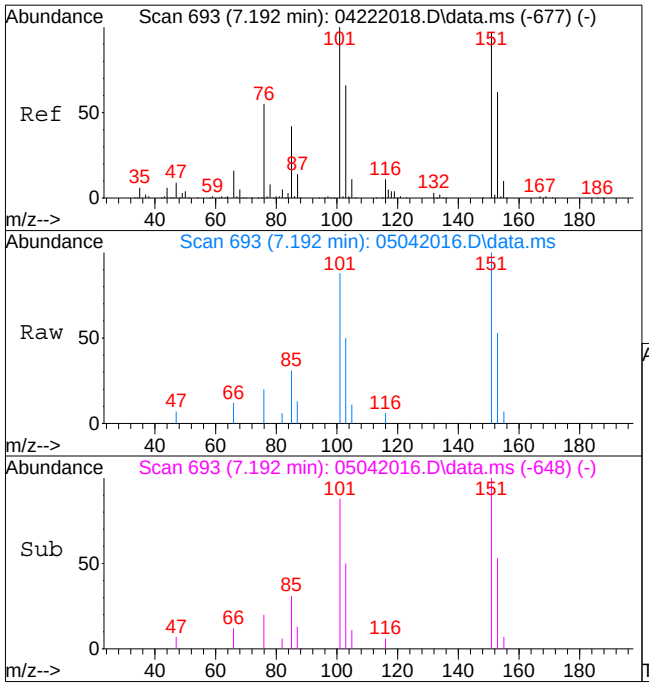


#13
Acetone
Concen: 0.72 ng m
RT: 5.88 min Scan# 455
Delta R.T. -0.000 min
Lab File: 05042016.D
Acq: 4 May 2020 14:51

Tgt Ion: 58 Resp: 3742

Ion	Ratio	Lower	Upper
58	100		
43	507.7	319.3	379.3#

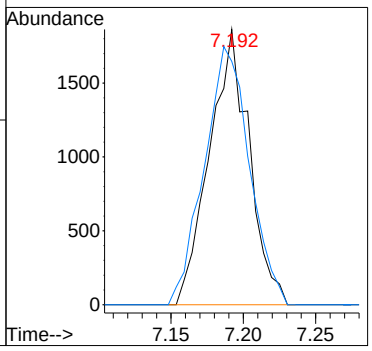


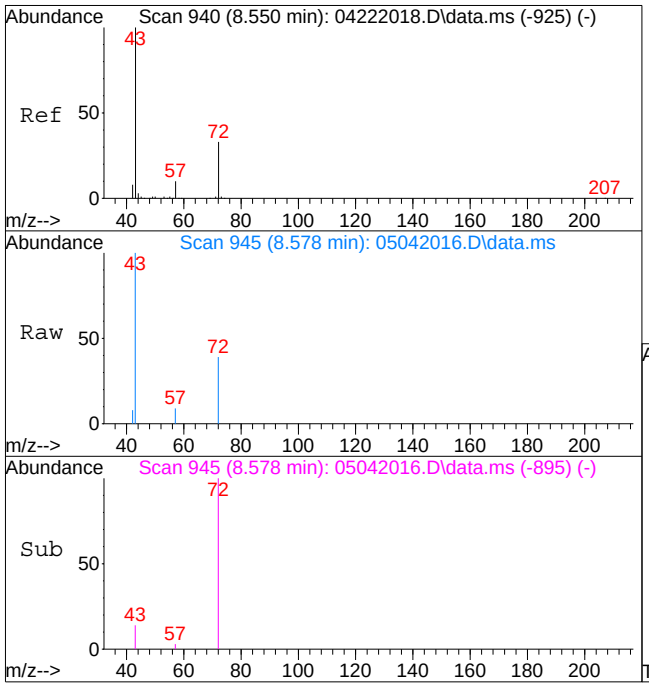


#21
Trichlorotrifluoroethane
Concen: 0.32 ng
RT: 7.19 min Scan# 693
Delta R.T. -0.000 min
Lab File: 05042016.D
Acq: 4 May 2020 14:51

Tgt Ion:151 Resp: 3558

Ion	Ratio	Lower	Upper
151	100		
101	106.9	82.9	122.9

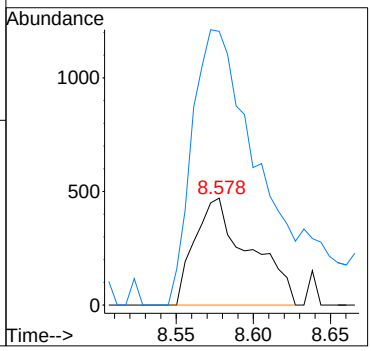


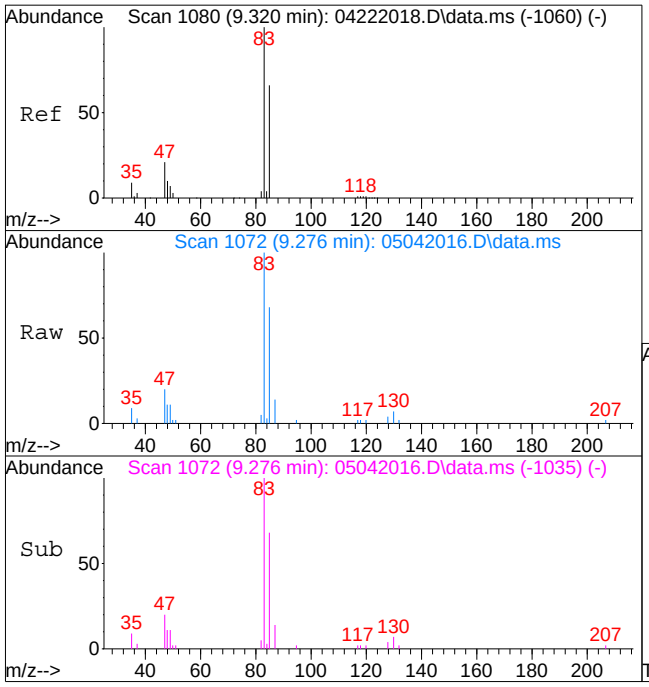


#27
2-Butanone (MEK)
Concen: 0.22 ng
RT: 8.58 min Scan# 945
Delta R.T. 0.027 min
Lab File: 05042016.D
Acq: 4 May 2020 14:51

Tgt Ion: 72 Resp: 1164

Ion	Ratio	Lower	Upper
72	100		
43	358.6	278.8	318.8#

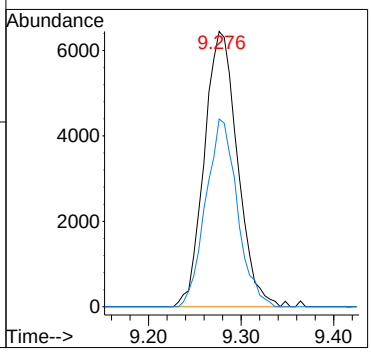


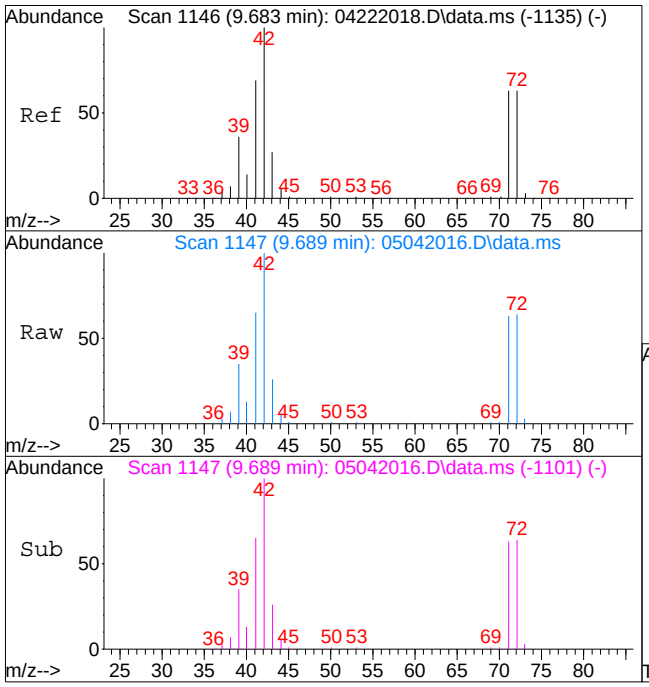


#32
Chloroform
Concen: 0.87 ng
RT: 9.28 min Scan# 1072
Delta R.T. -0.044 min
Lab File: 05042016.D
Acq: 4 May 2020 14:51

Tgt Ion: 83 Resp: 16062

Ion	Ratio	Lower	Upper
83	100		
85	64.9	45.8	85.8

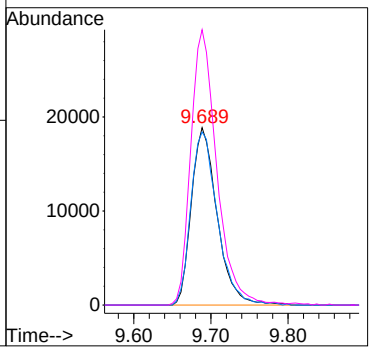


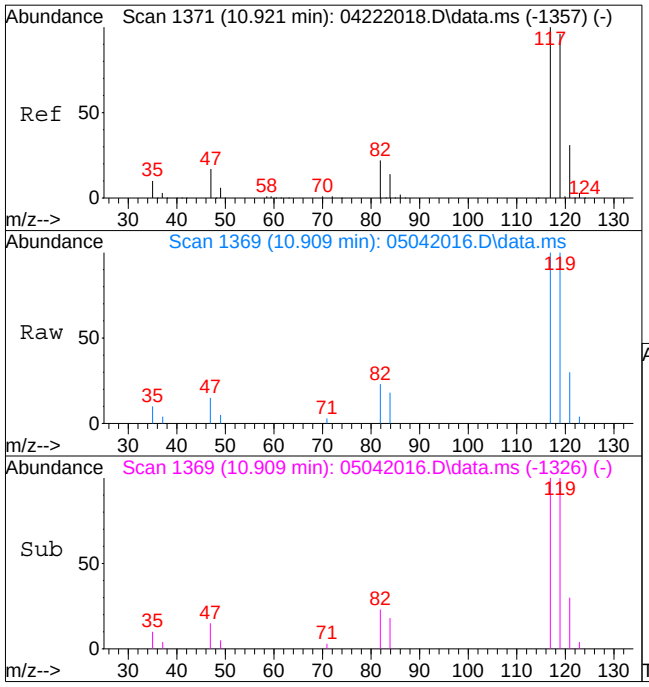


#34
Tetrahydrofuran (THF)
Concen: 8.09 ng
RT: 9.69 min Scan# 1147
Delta R.T. 0.005 min
Lab File: 05042016.D
Acq: 4 May 2020 14:51

Tgt Ion: 72 Resp: 43848

Ion	Ratio	Lower	Upper
72	100		
71	100.9	77.9	117.9
42	156.2	133.9	173.9

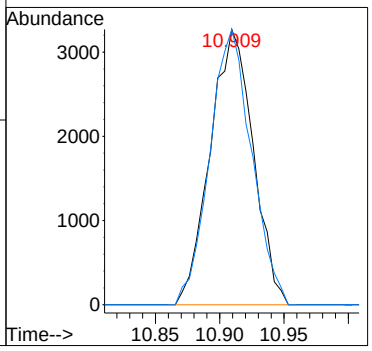


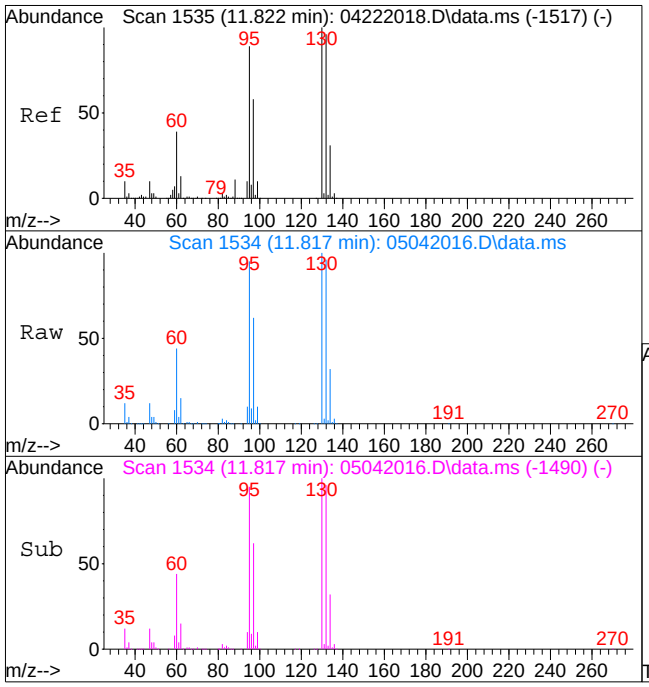


#42
Carbon Tetrachloride
Concen: 0.40 ng
RT: 10.91 min Scan# 1369
Delta R.T. -0.011 min
Lab File: 05042016.D
Acq: 4 May 2020 14:51

Tgt Ion:117 Resp: 7603

Ion	Ratio	Lower	Upper
117	100		
119	97.4	76.5	116.5

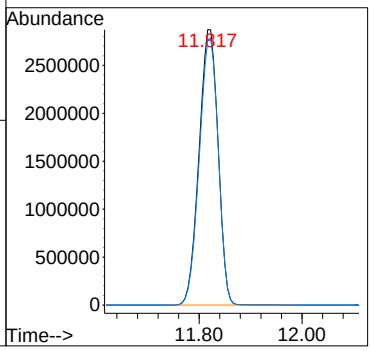


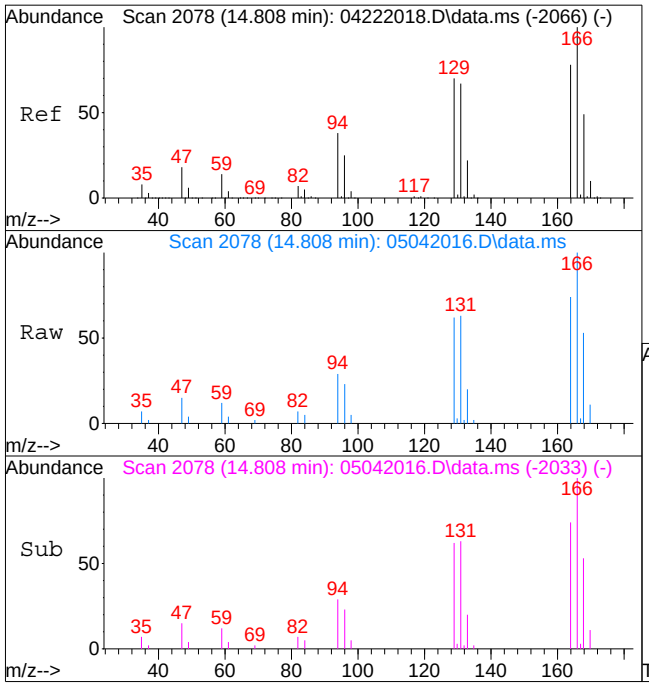


#47
Trichloroethene
Concen: 574.08 ng
RT: 11.82 min Scan# 1534
Delta R.T. -0.006 min
Lab File: 05042016.D
Acq: 4 May 2020 14:51

Tgt Ion:130 Resp: 7372337

Ion	Ratio	Lower	Upper
130	100		
132	96.7	76.4	116.4

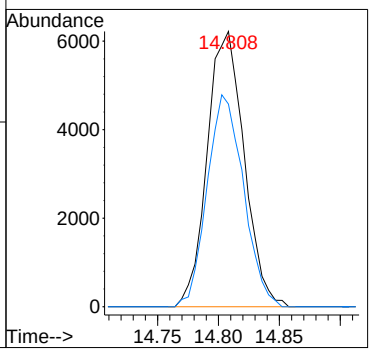


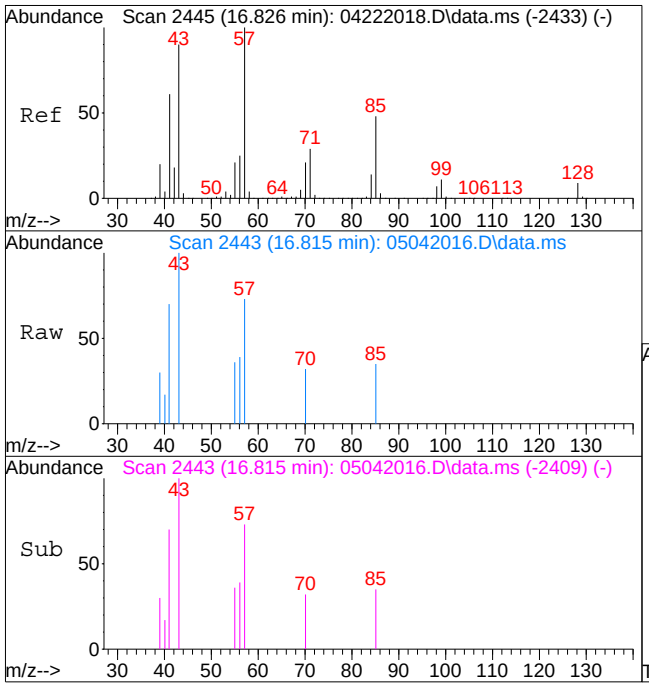


#64
Tetrachloroethene
Concen: 0.87 ng
RT: 14.81 min Scan# 2078
Delta R.T. -0.000 min
Lab File: 05042016.D
Acq: 4 May 2020 14:51

Tgt Ion:166 Resp: 13100

Ion	Ratio	Lower	Upper
166	100		
164	75.9	57.7	97.7

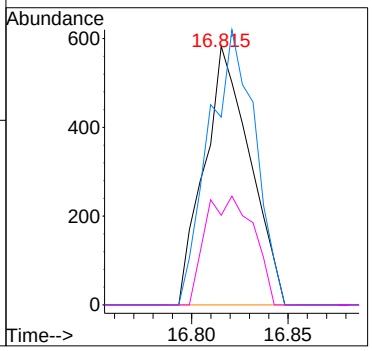


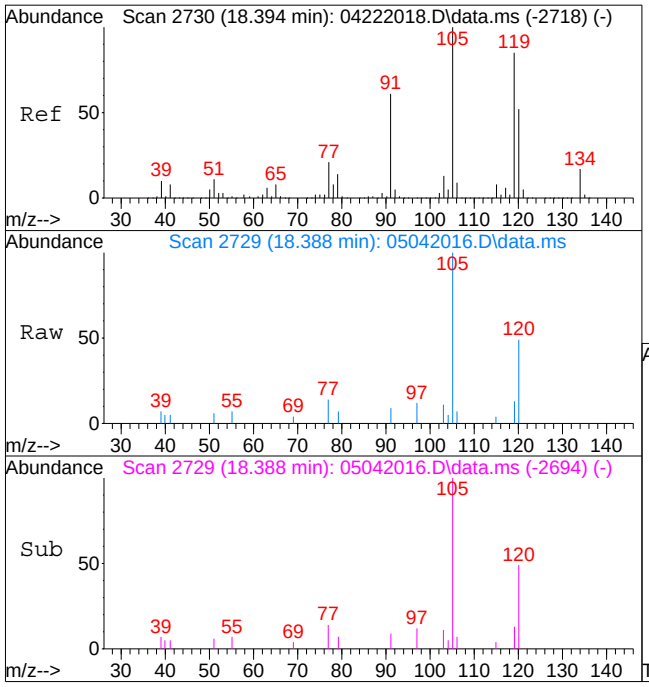


#71
n-Nonane
Concen: 0.08 ng
RT: 16.82 min Scan# 2443
Delta R.T. -0.011 min
Lab File: 05042016.D
Acq: 4 May 2020 14:51

Tgt Ion: 43 Resp: 958

Ion	Ratio	Lower	Upper
43	100		
57	108.0	90.8	130.8
85	44.6	32.1	72.1

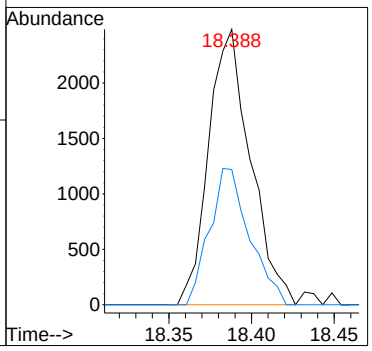




#82
1,2,4-Trimethylbenzene
Concen: 0.10 ng
RT: 18.39 min Scan# 2729
Delta R.T. -0.006 min
Lab File: 05042016.D
Acq: 4 May 2020 14:51

Tgt Ion:105 Resp: 4385

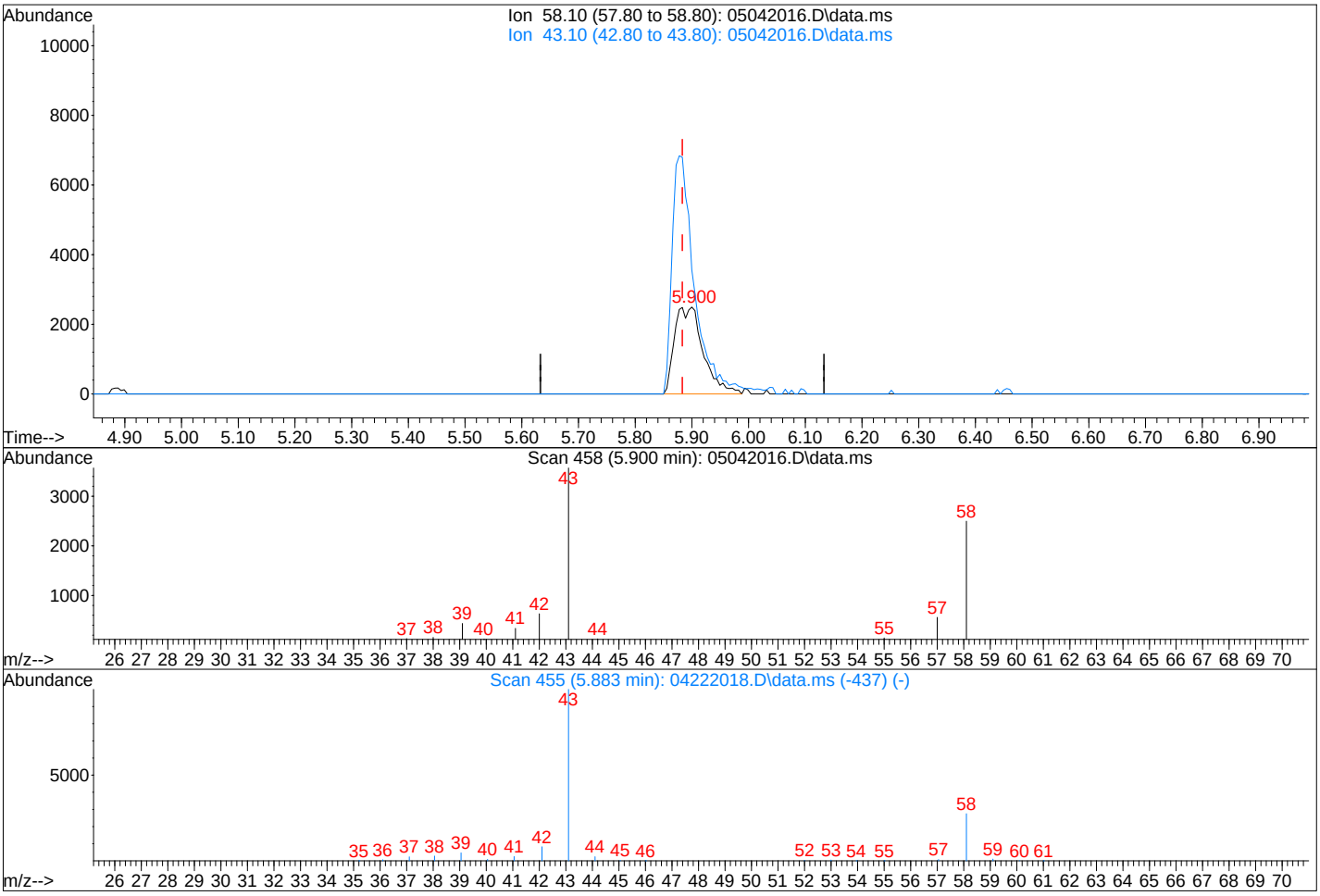
Ion	Ratio	Lower	Upper
105	100		
120	47.2	34.5	74.5



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_05\04\05042016.D Vial: 7
Acq On : 4 May 2020 14:51 Operator: SC
Sample : P2002106-003 (40mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 04 15:19:06 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05042016.D\data.ms

(13) Acetone (T)

5.900min (+0.016) 1.68ng

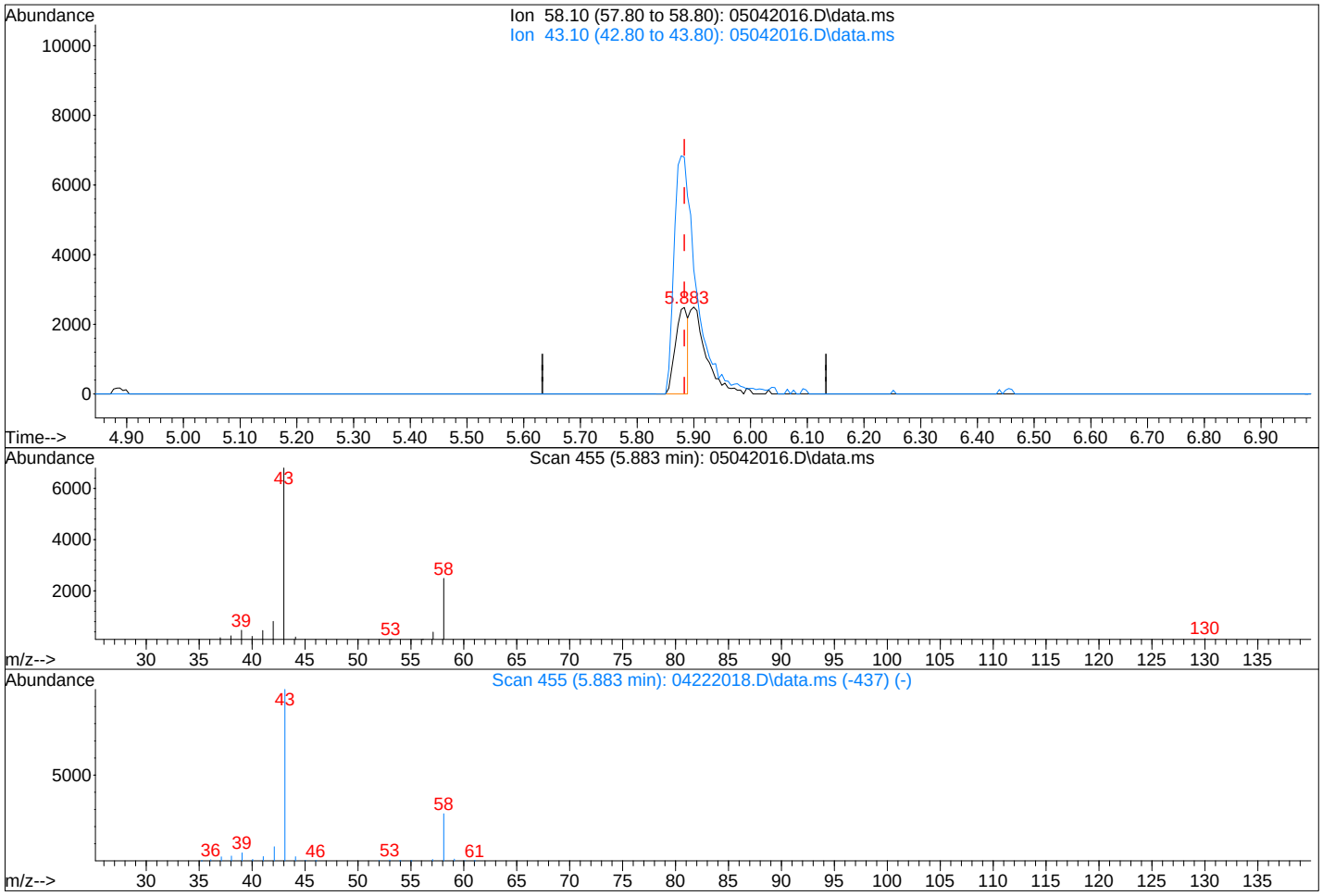
response 8776

Ion	Exp%	Act%
58.10	100	100
43.10	349.30	216.47#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_05\04\05042016.D Vial: 7
Acq On : 4 May 2020 14:51 Operator: SC
Sample : P2002106-003 (40mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 04 15:19:06 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05042016.D\data.ms

(13) Acetone (T)

5.883min (-0.000) 0.72ng m

response 3742

Ion	Exp%	Act%
58.10	100	100
43.10	349.30	507.67#
0.00	0.00	0.00
0.00	0.00	0.00

IPC

5/4/20

TD 5/7/20

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042019.D Vial: 1
Acq On : 4 May 2020 16:43 Operator: SC
Sample : P2002106-003Dil (4.0mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 04 17:10:47 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/4/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	139695	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	585921	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.45	82	254915	12.500	ng	-0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	215811	11.924	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.36%			
57) Toluene-d8 (SS2)	13.54	98	642206	13.048	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.40%			
73) Bromofluorobenzene (SS3)	17.05	174	252126	12.746	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.00%			
Target Compounds						Qvalue
2) Propene	3.90	42	475	0.080	ng	# 78
3) Dichlorodifluoromethan...	4.01	85	126	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.39	45	39	N.D.		
11) Acetonitrile	0.00	41	0	N.D.		
12) Acrolein	0.00	56	0	N.D.	d	
13) Acetone	5.89	58	1658	0.307	ng	94
14) Trichlorofluoromethane	6.04	101	127	N.D.		
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	6.74	96	788	0.080	ng	93
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	6.87	84	2204	0.233	ng	99
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	7.19	151	8348	0.715	ng	97
22) Carbon Disulfide	7.19	76	109	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	8.10	63	113	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	0.00	72	0	N.D.	d	
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	9.23	57	410	N.D.		
32) Chloroform	9.28	83	1449	0.076	ng	91
34) Tetrahydrofuran (THF)	9.71	72	3558	0.634	ng	98
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	10.29	97	8944	0.444	ng	97
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	10.78	56	194	N.D.		
41) Benzene	10.77	78	712	N.D.		
42) Carbon Tetrachloride	10.90	117	540	N.D.		
43) Cyclohexane	11.03	84	1130	0.076	ng	91
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	11.81	130	855910	64.704	ng	100
48) 1,4-Dioxane	0.00	88	0	N.D.	d	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042019.D Vial: 1
Acq On : 4 May 2020 16:43 Operator: SC
Sample : P2002106-003Dil (4.0mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 04 17:10:47 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

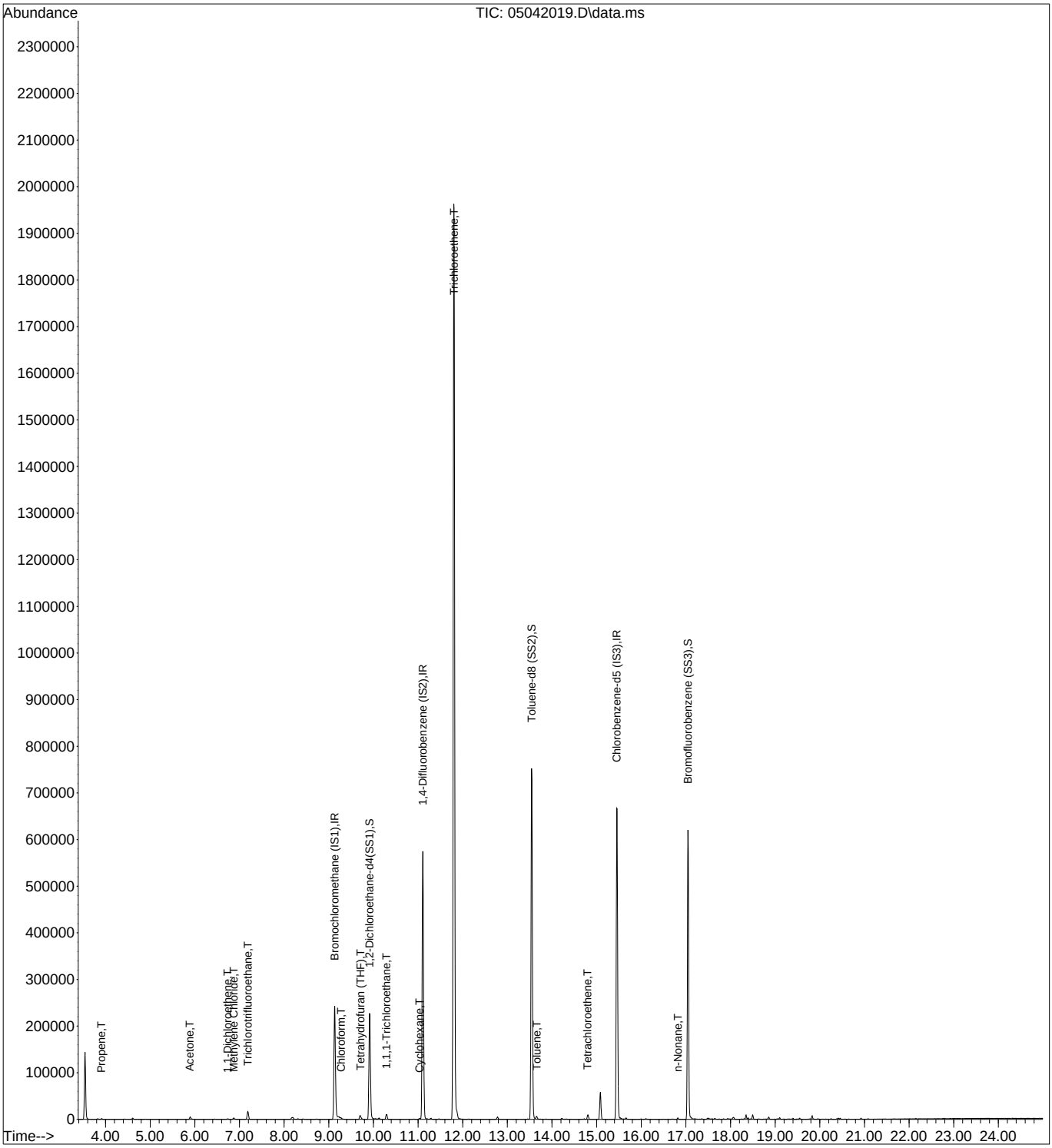
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.13	71	312	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.66	91	3730	0.090 ng	100
59) 2-Hexanone	13.86	43	288	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	14.66	43	246	N.D.	
63) n-Octane	14.67	57	110	N.D.	
64) Tetrachloroethene	14.80	166	4120	0.265 ng	98
65) Chlorobenzene	15.54	112	106	N.D.	
66) Ethylbenzene	15.93	91	545	N.D.	
67) m- & p-Xylenes	16.10	91	1825	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.60	91	789	N.D.	
71) n-Nonane	16.82	43	1055	0.082 ng	96
72) 1,1,2,2-Tetrachloroethane	16.68	83	114	N.D.	
74) Cumene	17.05	105	141	N.D.	
75) alpha-Pinene	17.60	93	176	N.D.	
76) n-Propylbenzene	17.74	91	471	N.D.	
77) 3-Ethyltoluene	17.85	105	662	N.D.	
78) 4-Ethyltoluene	17.89	105	455	N.D.	
79) 1,3,5-Trimethylbenzene	17.95	105	281	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	18.16	105	377	N.D.	
82) 1,2,4-Trimethylbenzene	18.39	105	1435	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	18.67	105	413	N.D.	
88) 4-Isopropyltoluene (p-...	18.85	119	448	N.D.	
89) 1,2,3-Trimethylbenzene	18.84	105	601	N.D.	
90) 1,2-Dichlorobenzene	18.98	146	129	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	0.00	128	0	N.D.	
96) n-Dodecane	20.92	57	715	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.38	119	187	N.D.	
100) n-Butylbenzene	19.30	91	254	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042019.D Vial: 1
Acq On : 4 May 2020 16:43 Operator: SC
Sample : P2002106-003Dil (4.0mL) Inst : MS09
Misc : S34-04212006

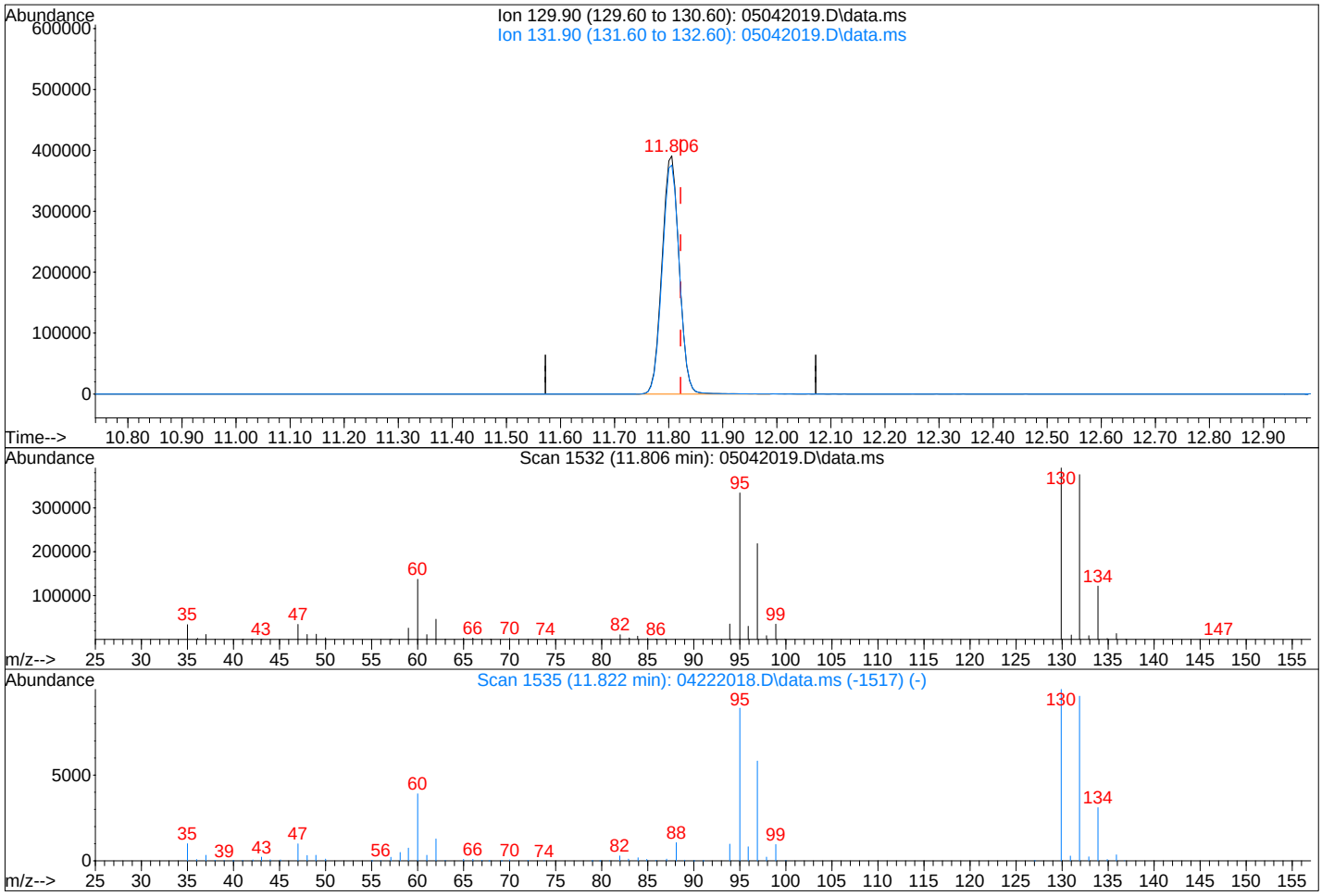
Quant Time: May 04 17:10:47 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_05\04\05042019.D Vial: 1
Acq On : 4 May 2020 16:43 Operator: SC
Sample : P2002106-003Dil (4.0mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 04 17:09:36 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05042019.D\data.ms

(47) Trichloroethene (T)

11.806min (-0.017) 64.70ng

response 855910

Ion	Exp%	Act%
129.90	100	100
131.90	96.40	96.62
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042021.D Vial: 5
Acq On : 4 May 2020 18:02 Operator: SC
Sample : P2002106-004 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 04 18:55:37 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/4/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	132558	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	557341	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	243788	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.92	65	202209	11.774	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.16%				
57) Toluene-d8 (SS2)	13.54	98	603700	12.825	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.64%				
73) Bromofluorobenzene (SS3)	17.05	174	240858	12.732	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.84%				
Target Compounds							Qvalue
2) Propene	3.89	42	950	0.169	ng		87
3) Dichlorodifluoromethan...	3.99	85	1727	0.081	ng	#	93
4) Chloromethane	4.20	50	346	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	0.00	45	0	N.D.	d		
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	0.00	56	0	N.D.	d		
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	6.02	101	1974	0.093	ng		98
15) 2-Propanol (Isopropanol)	6.23	45	49	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	6.87	59	352	N.D.			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	6.92	41	312	N.D.			
21) Trichlorotrifluoroethane	7.18	151	2405	0.217	ng		94
22) Carbon Disulfide	7.15	76	44510	1.491	ng		96
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	8.19	63	596	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	8.58	72	135	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	9.23	57	318	N.D.			
32) Chloroform	9.27	83	29099	1.601	ng		100
34) Tetrahydrofuran (THF)	9.69	72	12768	2.396	ng		97
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	10.15	62	167	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.76	78	9657	0.266	ng		97
42) Carbon Tetrachloride	10.90	117	7077	0.377	ng		100
43) Cyclohexane	11.04	84	448	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	11.81	130	1972569	156.767	ng		100
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	11.86	100	102	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042021.D Vial: 5
Acq On : 4 May 2020 18:02 Operator: SC
Sample : P2002106-004 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 04 18:55:37 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

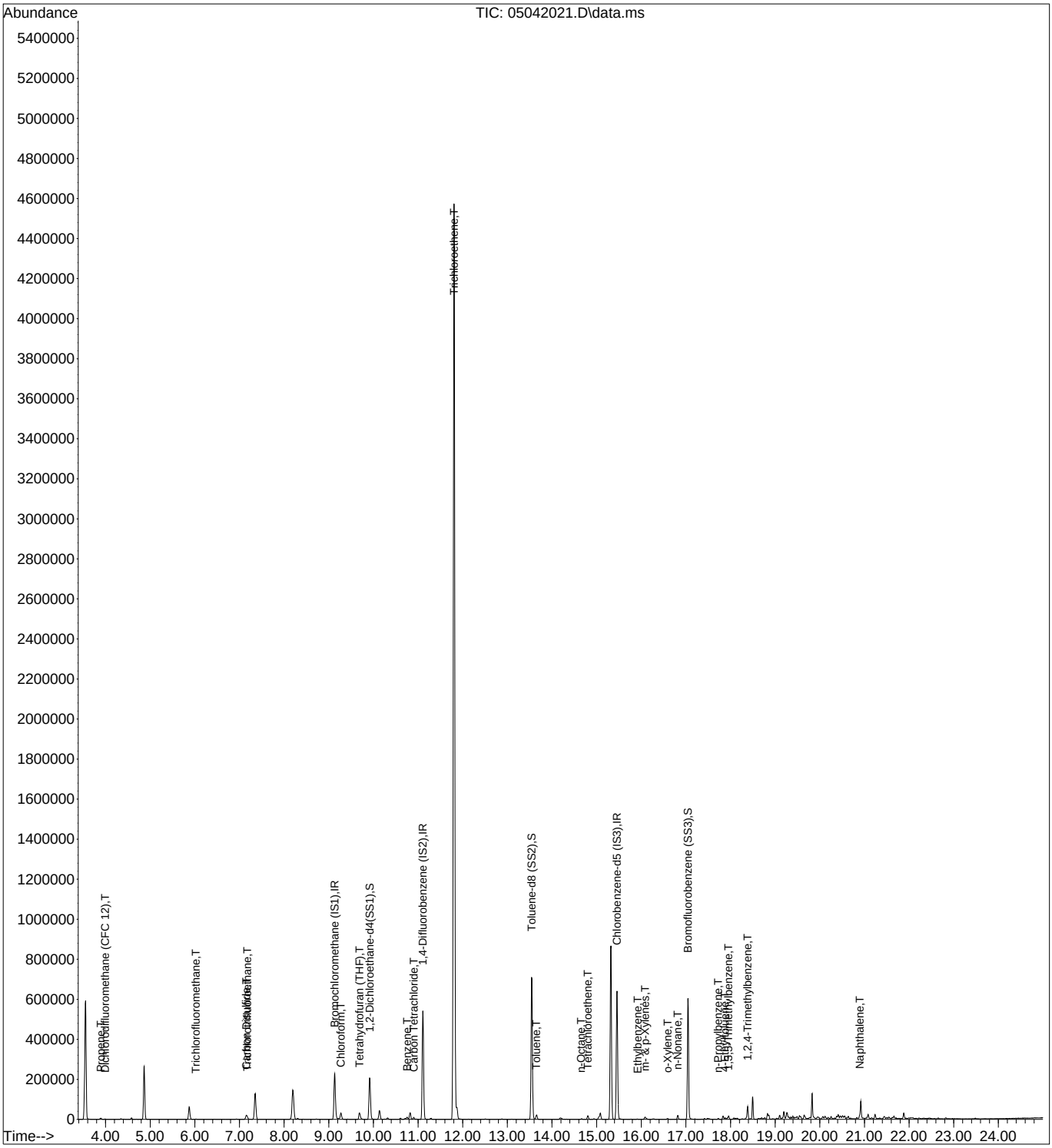
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.14	71	347	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.65	91	8627	0.218 ng	99
59) 2-Hexanone	13.86	43	173	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.65	57	749	0.119 ng	79
64) Tetrachloroethene	14.80	166	7434	0.499 ng	98
65) Chlorobenzene	15.53	112	122	N.D.	
66) Ethylbenzene	15.92	91	2591	0.056 ng	91
67) m- & p-Xylenes	16.09	91	11535	0.297 ng	94
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.59	91	4320	0.113 ng	100
71) n-Nonane	16.82	43	7169	0.582 ng	89
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	17.20	105	1327	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.72	91	5297	0.098 ng	92
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.87	105	5373	0.114 ng	94
79) 1,3,5-Trimethylbenzene	17.95	105	8091	0.185 ng	99
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	36075	0.853 ng	91
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.62	91	1001	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.90	128	13639	0.250 ng	98
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042021.D Vial: 5
Acq On : 4 May 2020 18:02 Operator: SC
Sample : P2002106-004 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 04 18:55:37 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042021.D Vial: 5
Acq On : 4 May 2020 18:02 Operator: SC
Sample : P2002106-004 (400mL) Inst : MS09
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Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/4/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	132558	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	557341	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	243788	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.92	65	202209	11.774	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.16%				
57) Toluene-d8 (SS2)	13.54	98	603700	12.825	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.64%				
73) Bromofluorobenzene (SS3)	17.05	174	240858	12.732	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.84%				
Target Compounds							Qvalue
2) Propene	3.89	42	950	0.169	ng		87
3) Dichlorodifluoromethan...	3.99	85	1727	0.081	ng	#	93
14) Trichlorofluoromethane	6.02	101	1974	0.093	ng		98
21) Trichlorotrifluoroethane	7.18	151	2405	0.217	ng		94
22) Carbon Disulfide	7.15	76	44510	1.491	ng		96
32) Chloroform	9.27	83	29099	1.601	ng		100
34) Tetrahydrofuran (THF)	9.69	72	12768	2.396	ng		97
41) Benzene	10.76	78	9657	0.266	ng		97
42) Carbon Tetrachloride	10.90	117	7077	0.377	ng		100
47) Trichloroethene	11.81	130	1972569	156.767	ng		100
58) Toluene	13.65	91	8627	0.218	ng		99
63) n-Octane	14.65	57	749	0.119	ng		79
64) Tetrachloroethene	14.80	166	7434	0.499	ng		98
66) Ethylbenzene	15.92	91	2591	0.056	ng		91
67) m- & p-Xylenes	16.09	91	11535	0.297	ng		94
70) o-Xylene	16.59	91	4320	0.113	ng		100
71) n-Nonane	16.82	43	7169	0.582	ng		89
76) n-Propylbenzene	17.72	91	5297	0.098	ng		92
78) 4-Ethyltoluene	17.87	105	5373	0.114	ng		94
79) 1,3,5-Trimethylbenzene	17.95	105	8091	0.185	ng		99
82) 1,2,4-Trimethylbenzene	18.38	105	36075	0.853	ng		91
95) Naphthalene	20.90	128	13639	0.250	ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042021.D Vial: 5
Acq On : 4 May 2020 18:02 Operator: SC
Sample : P2002106-004 (400mL) Inst : MS09
Misc : S34-04212006

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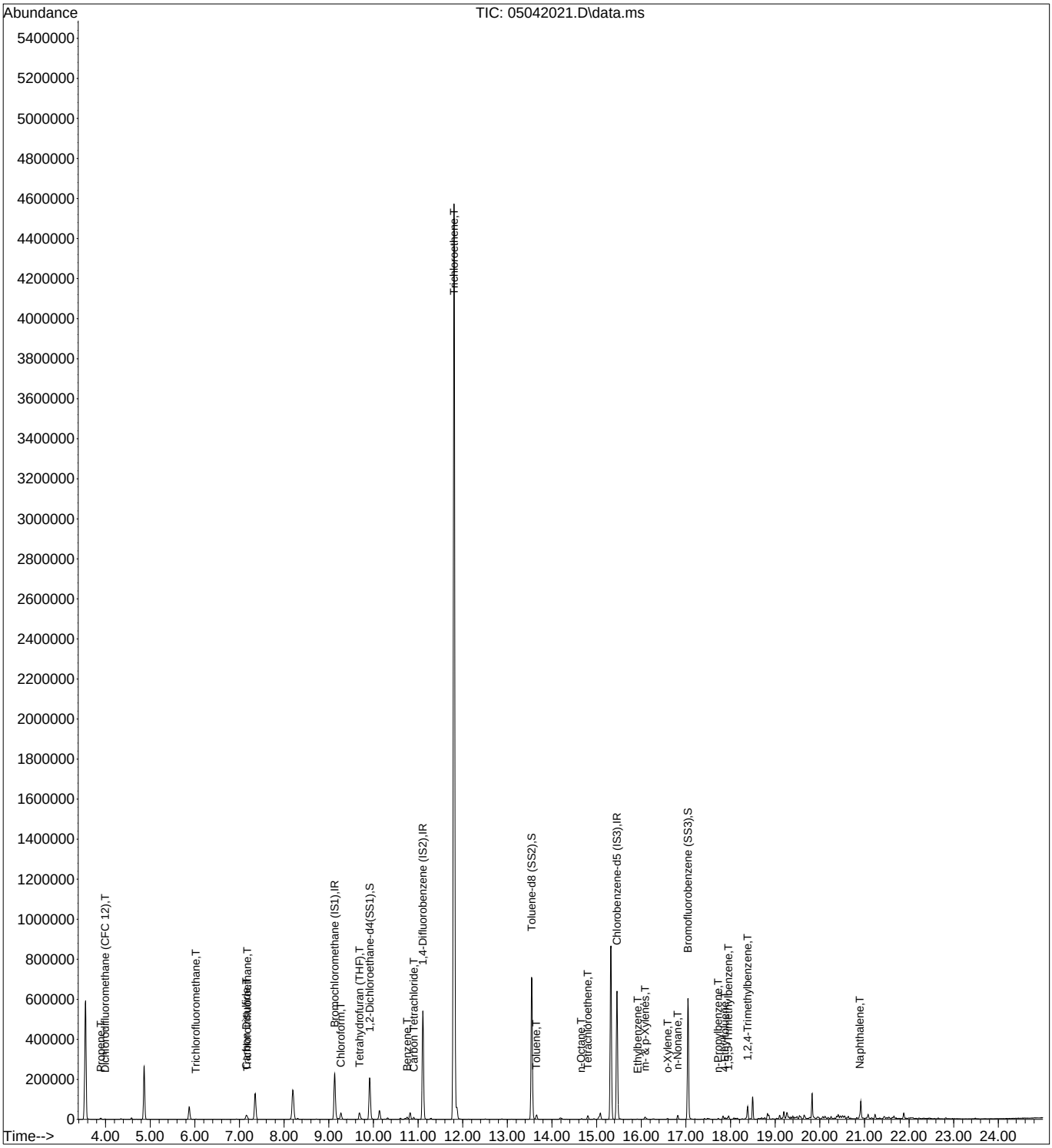
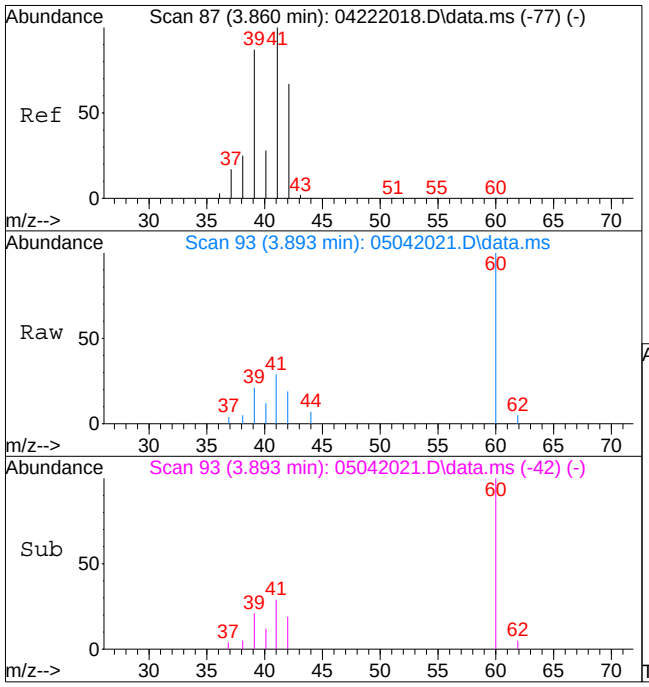
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

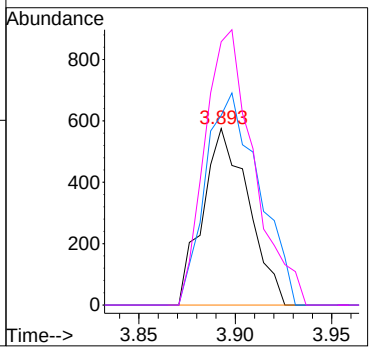


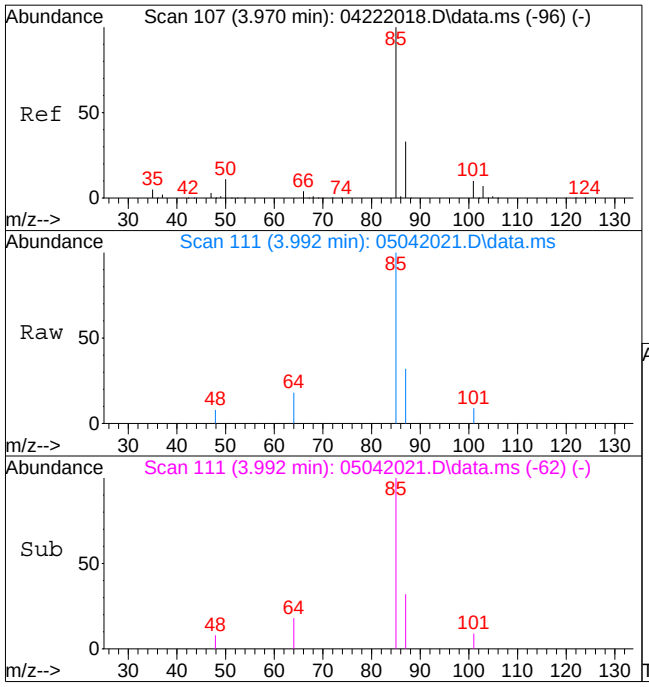


#2
Propene
Concen: 0.17 ng
RT: 3.89 min Scan# 93
Delta R.T. 0.033 min
Lab File: 05042021.D
Acq: 4 May 2020 18:02

Tgt Ion: 42 Resp: 950

Ion	Ratio	Lower	Upper
42	100		
39	140.1	106.4	146.4
41	167.1	128.8	168.8

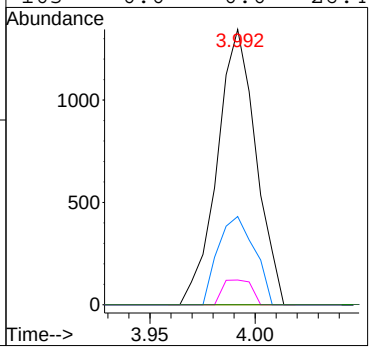


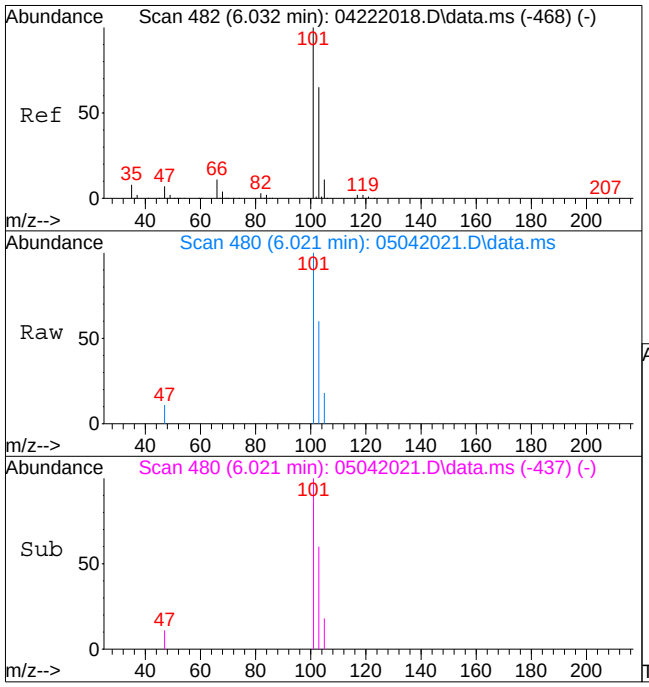


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.08 ng
RT: 3.99 min Scan# 111
Delta R.T. 0.022 min
Lab File: 05042021.D
Acq: 4 May 2020 18:02

Tgt Ion: 85 Resp: 1727

Ion	Ratio	Lower	Upper
85	100		
87	30.2	12.4	52.4
101	6.7	0.0	29.9
103	0.0	0.0	26.4

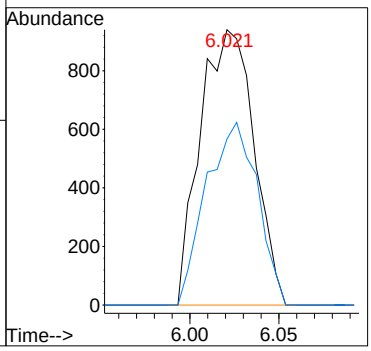


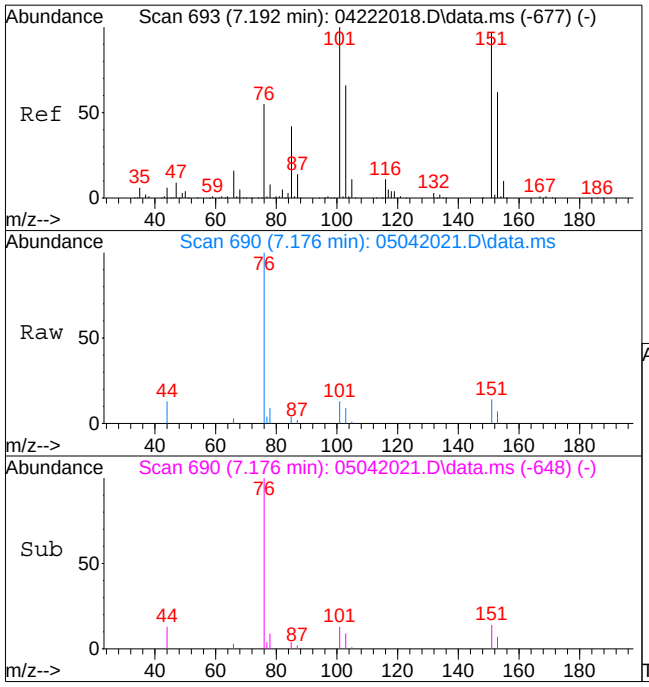


#14
Trichlorofluoromethane
Concen: 0.09 ng
RT: 6.02 min Scan# 480
Delta R.T. -0.011 min
Lab File: 05042021.D
Acq: 4 May 2020 18:02

Tgt Ion:101 Resp: 1974

Ion	Ratio	Lower	Upper
101	100		
103	63.2	44.7	84.7

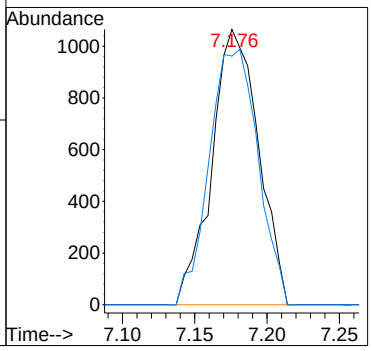


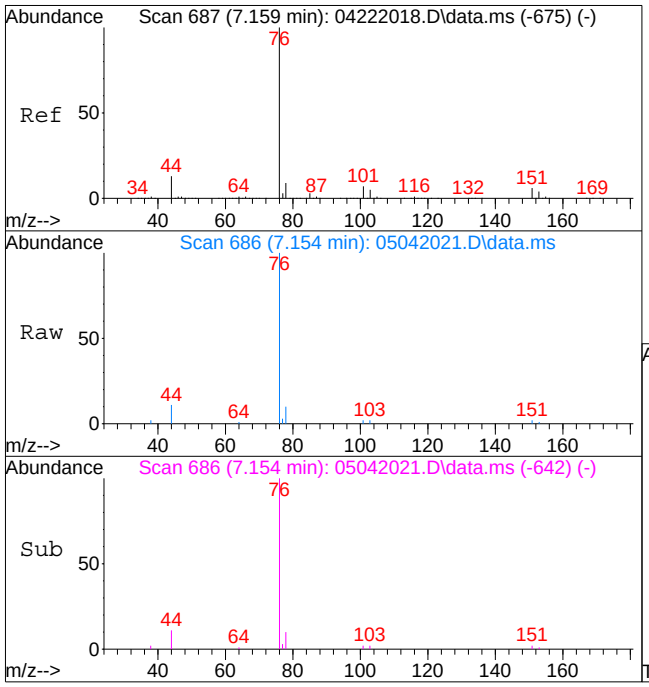


#21
Trichlorotrifluoroethane
Concen: 0.22 ng
RT: 7.18 min Scan# 690
Delta R.T. -0.017 min
Lab File: 05042021.D
Acq: 4 May 2020 18:02

Tgt Ion:151 Resp: 2405

Ion	Ratio	Lower	Upper
151	100		
101	96.9	82.9	122.9

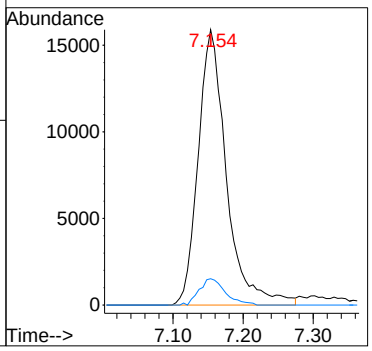


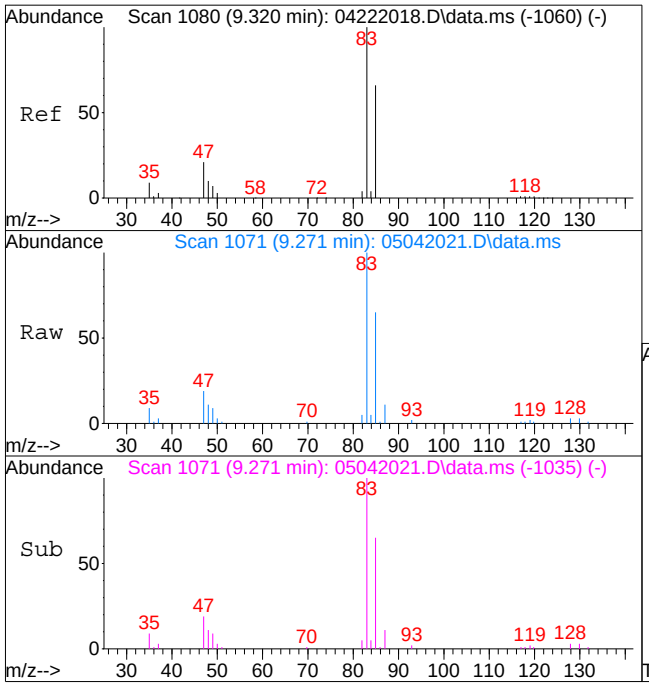


#22
Carbon Disulfide
Concen: 1.49 ng
RT: 7.15 min Scan# 686
Delta R.T. -0.006 min
Lab File: 05042021.D
Acq: 4 May 2020 18:02

Tgt Ion: 76 Resp: 44510

Ion	Ratio	Lower	Upper
76	100		
78	8.9	0.0	30.2

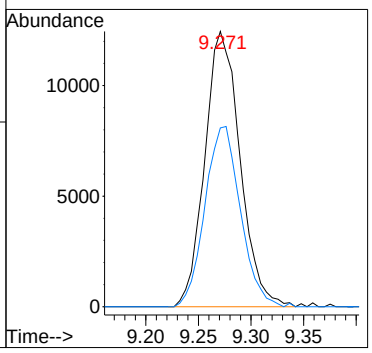


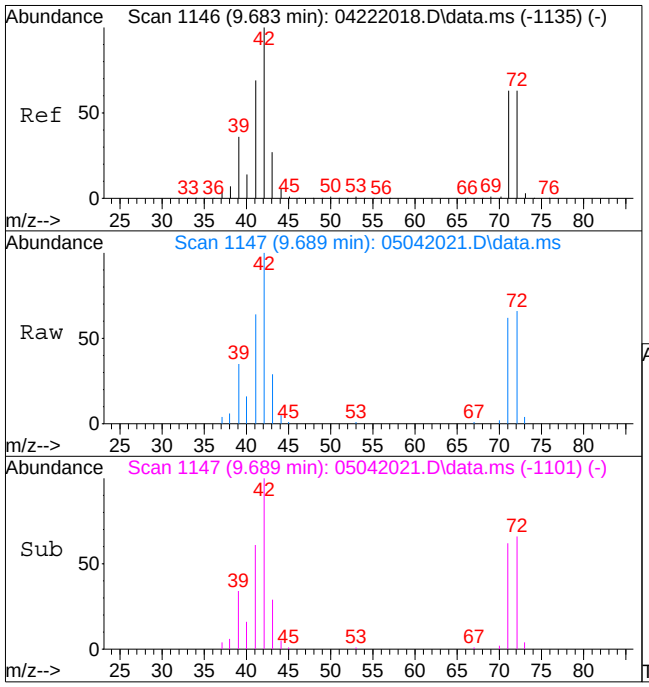


#32
Chloroform
Concen: 1.60 ng
RT: 9.27 min Scan# 1071
Delta R.T. -0.050 min
Lab File: 05042021.D
Acq: 4 May 2020 18:02

Tgt Ion: 83 Resp: 29099

Ion	Ratio	Lower	Upper
83	100		
85	65.8	45.8	85.8

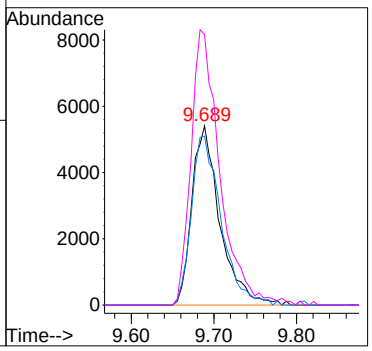


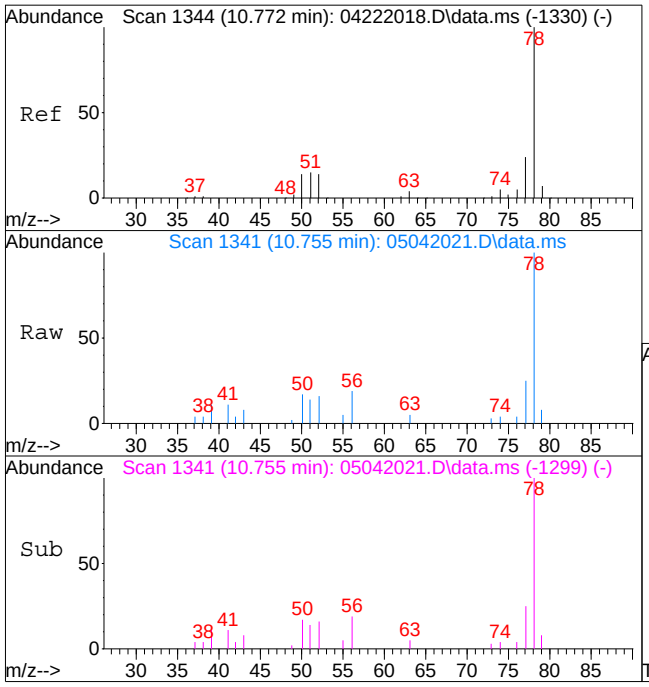


#34
Tetrahydrofuran (THF)
Concen: 2.40 ng
RT: 9.69 min Scan# 1147
Delta R.T. 0.005 min
Lab File: 05042021.D
Acq: 4 May 2020 18:02

Tgt Ion: 72 Resp: 12768

Ion	Ratio	Lower	Upper
72	100		
71	100.0	77.9	117.9
42	158.8	133.9	173.9

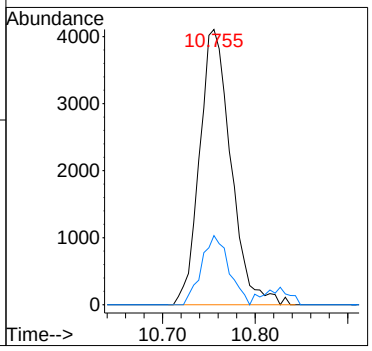


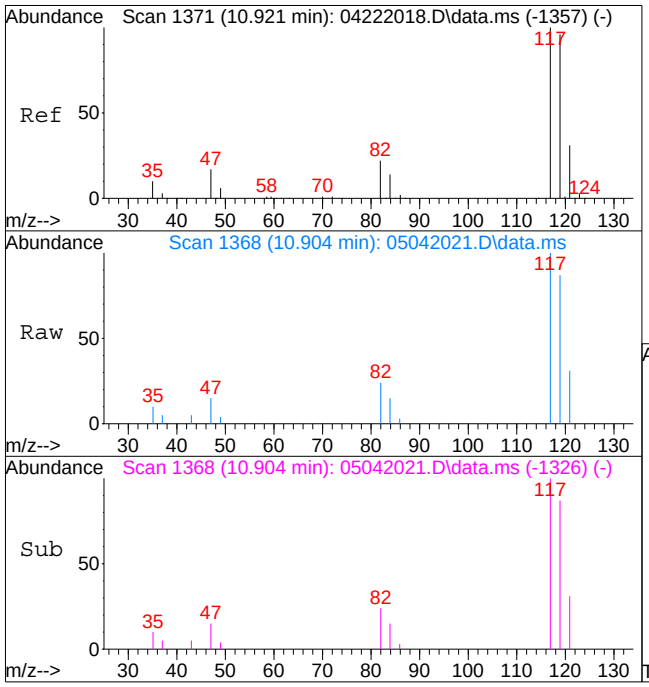


#41
Benzene
Concen: 0.27 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.017 min
Lab File: 05042021.D
Acq: 4 May 2020 18:02

Tgt Ion: 78 Resp: 9657

Ion	Ratio	Lower	Upper
78	100		
77	22.0	3.6	43.6

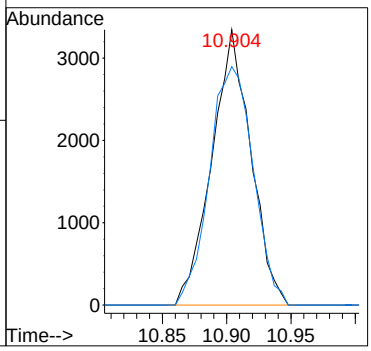


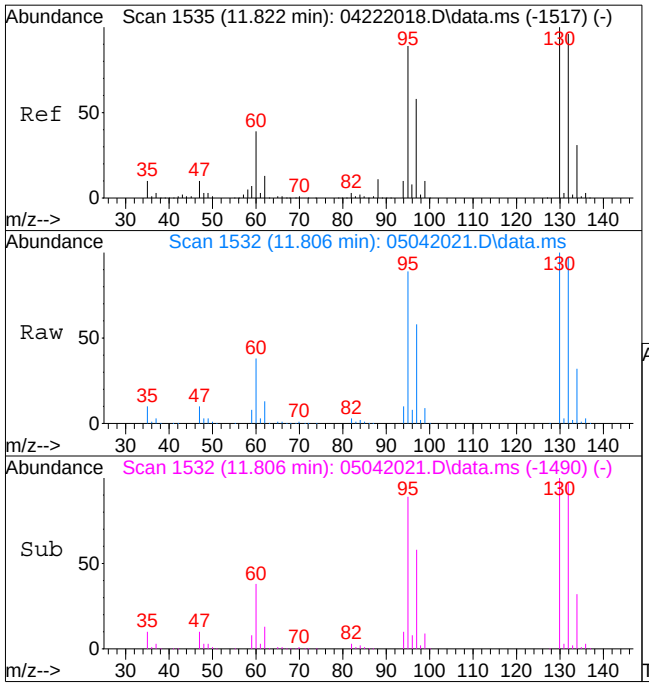


#42
Carbon Tetrachloride
Concen: 0.38 ng
RT: 10.90 min Scan# 1368
Delta R.T. -0.017 min
Lab File: 05042021.D
Acq: 4 May 2020 18:02

Tgt Ion:117 Resp: 7077

Ion	Ratio	Lower	Upper
117	100		
119	96.9	76.5	116.5

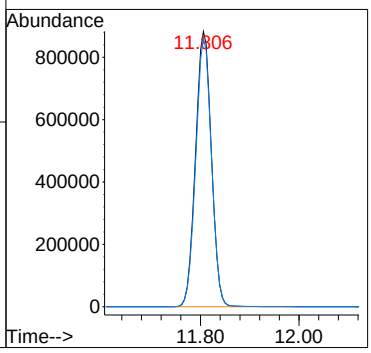


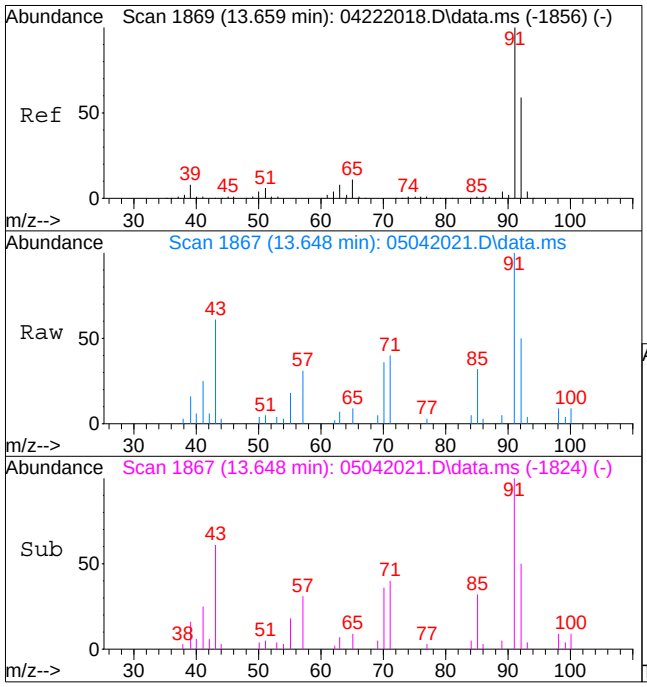


#47
Trichloroethene
Concen: 156.77 ng
RT: 11.81 min Scan# 1532
Delta R.T. -0.017 min
Lab File: 05042021.D
Acq: 4 May 2020 18:02

Tgt Ion:130 Resp: 1972569

Ion	Ratio	Lower	Upper
130	100		
132	96.8	76.4	116.4

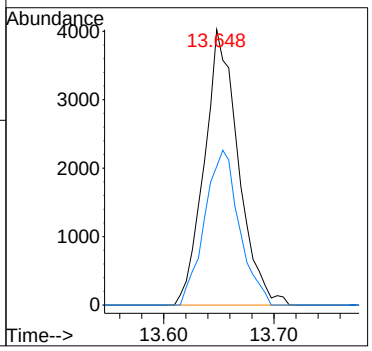


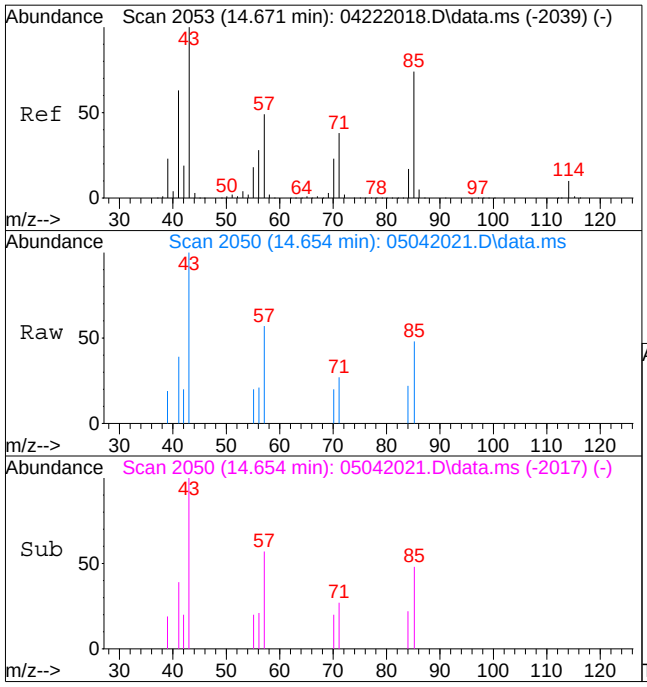


#58
Toluene
Concen: 0.22 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.011 min
Lab File: 05042021.D
Acq: 4 May 2020 18:02

Tgt Ion: 91 Resp: 8627

Ion	Ratio	Lower	Upper
91	100		
92	57.3	38.2	78.2

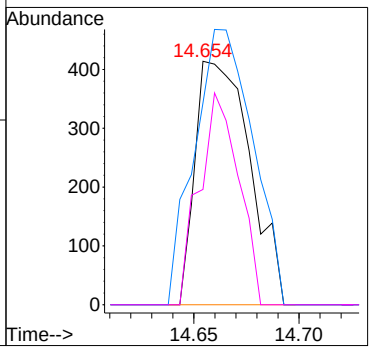


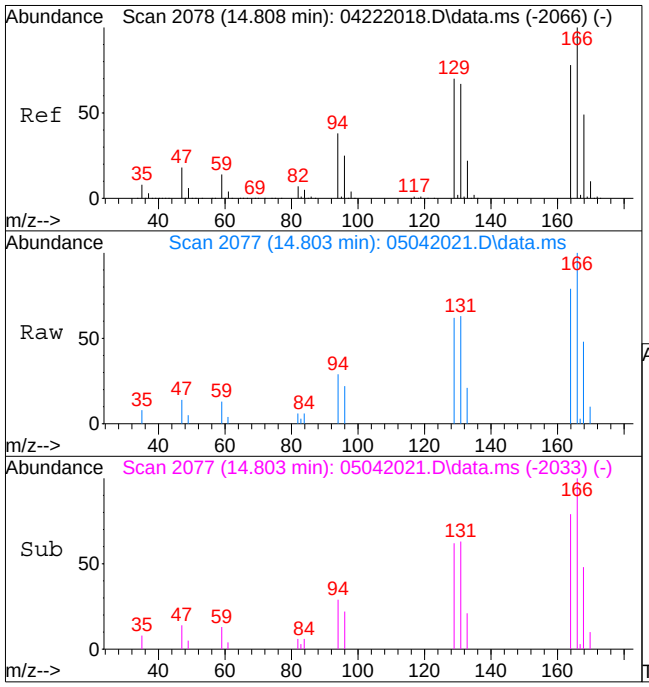


#63
n-Octane
Concen: 0.12 ng
RT: 14.65 min Scan# 2050
Delta R.T. -0.017 min
Lab File: 05042021.D
Acq: 4 May 2020 18:02

Tgt Ion: 57 Resp: 749

Ion	Ratio	Lower	Upper
57	100		
85	121.1	120.7	181.1
71	62.6	61.1	91.7

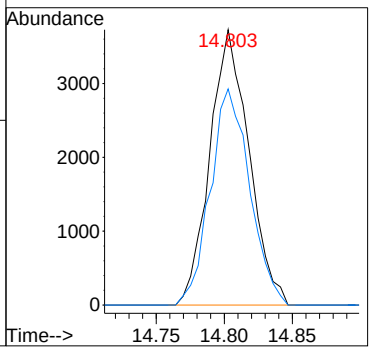


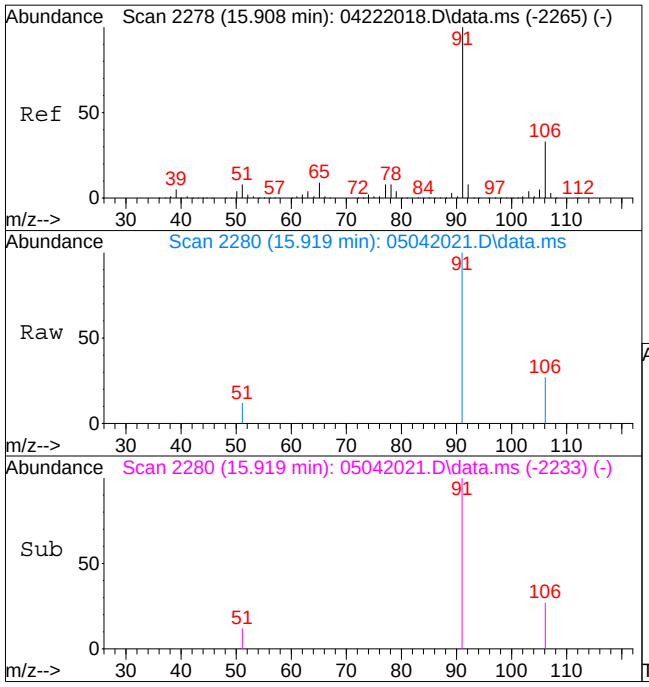


#64
Tetrachloroethene
Concen: 0.50 ng
RT: 14.80 min Scan# 2077
Delta R.T. -0.006 min
Lab File: 05042021.D
Acq: 4 May 2020 18:02

Tgt Ion:166 Resp: 7434

Ion	Ratio	Lower	Upper
166	100		
164	79.1	57.7	97.7

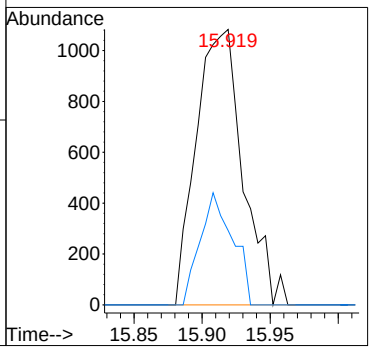


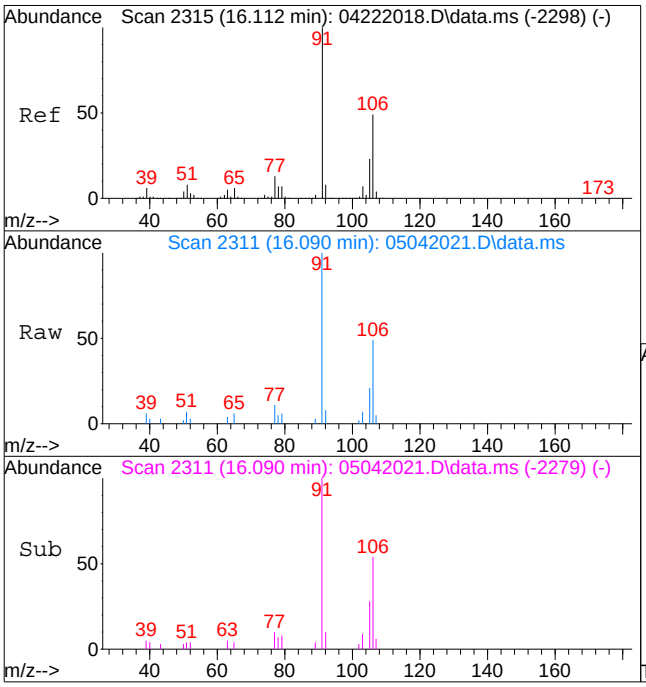


#66
Ethylbenzene
Concen: 0.06 ng
RT: 15.92 min Scan# 2280
Delta R.T. 0.011 min
Lab File: 05042021.D
Acq: 4 May 2020 18:02

Tgt Ion: 91 Resp: 2591

Ion	Ratio	Lower	Upper
91	100		
106	28.4	13.4	53.4

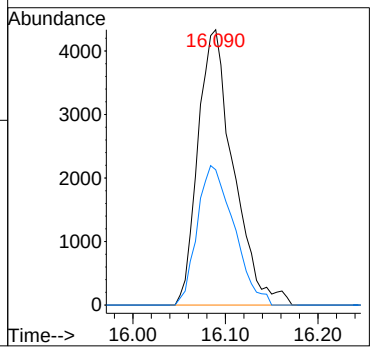


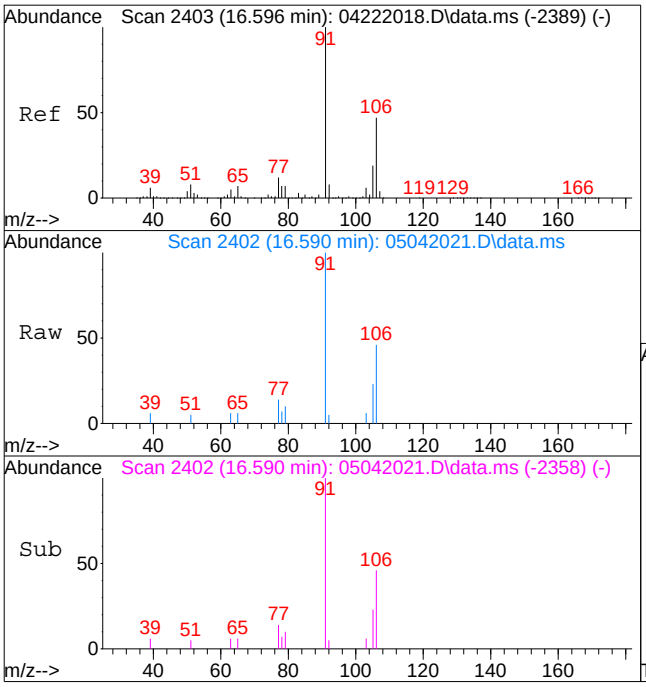


#67
m- & p-Xylenes
Concen: 0.30 ng
RT: 16.09 min Scan# 2311
Delta R.T. -0.022 min
Lab File: 05042021.D
Acq: 4 May 2020 18:02

Tgt Ion: 91 Resp: 11535

Ion	Ratio	Lower	Upper
91	100		
106	52.4	28.3	68.3

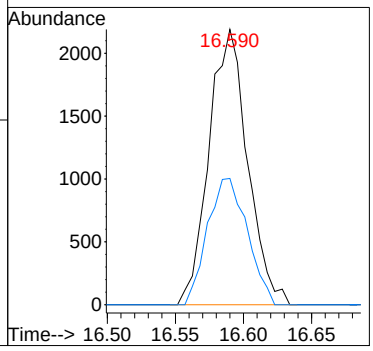


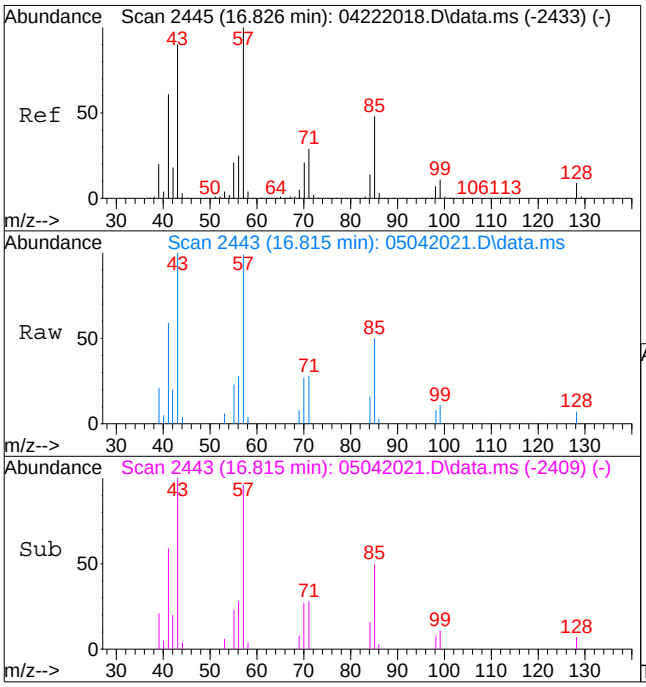


#70
o-Xylene
Concen: 0.11 ng
RT: 16.59 min Scan# 2402
Delta R.T. -0.006 min
Lab File: 05042021.D
Acq: 4 May 2020 18:02

Tgt Ion: 91 Resp: 4320

Ion	Ratio	Lower	Upper
91	100		
106	47.2	27.5	67.5

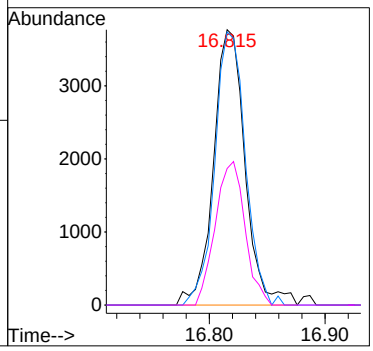


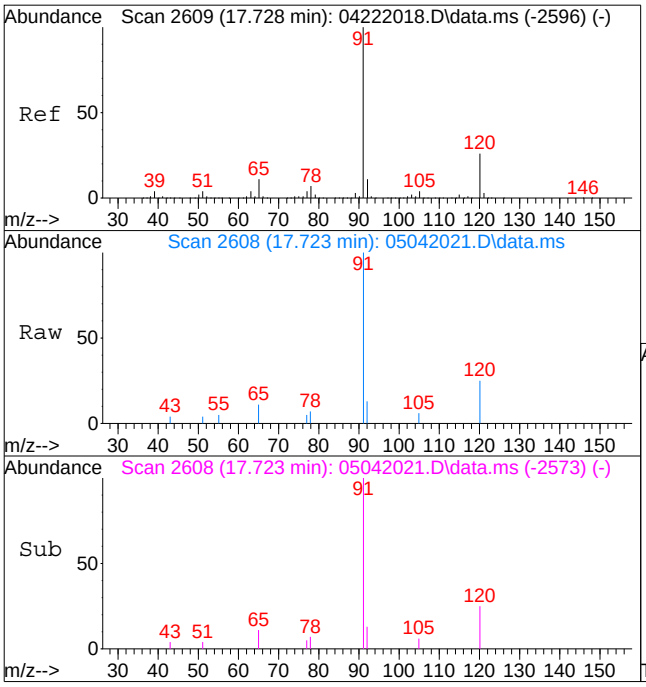


#71
n-Nonane
Concen: 0.58 ng
RT: 16.82 min Scan# 2443
Delta R.T. -0.011 min
Lab File: 05042021.D
Acq: 4 May 2020 18:02

Tgt Ion: 43 Resp: 7169

Ion	Ratio	Lower	Upper
43	100		
57	95.9	90.8	130.8
85	48.9	32.1	72.1

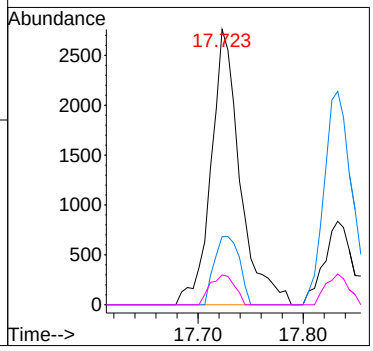


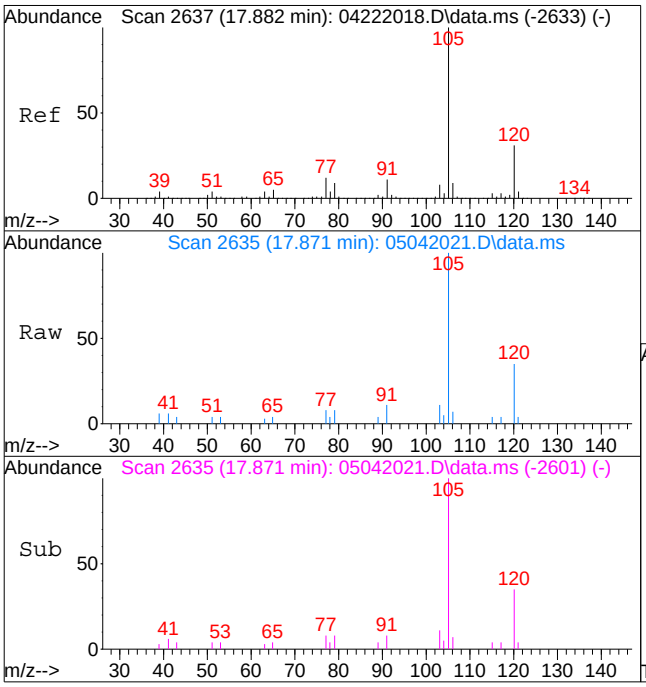


#76
n-Propylbenzene
Concen: 0.10 ng
RT: 17.72 min Scan# 2608
Delta R.T. -0.006 min
Lab File: 05042021.D
Acq: 4 May 2020 18:02

Tgt Ion: 91 Resp: 5297

Ion	Ratio	Lower	Upper
91	100		
120	21.4	6.1	46.1
65	9.1	0.0	30.7

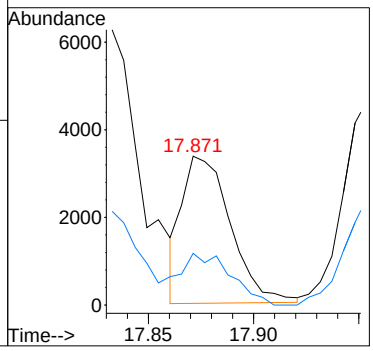


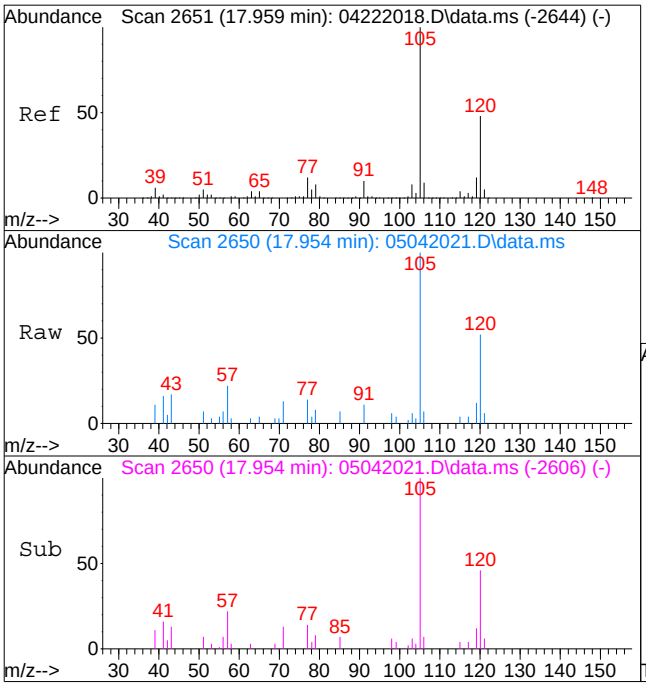


#78
4-Ethyltoluene
Concen: 0.11 ng
RT: 17.87 min Scan# 2635
Delta R.T. -0.011 min
Lab File: 05042021.D
Acq: 4 May 2020 18:02

Tgt Ion:105 Resp: 5373

Ion	Ratio	Lower	Upper
105	100		
120	34.8	11.4	51.4

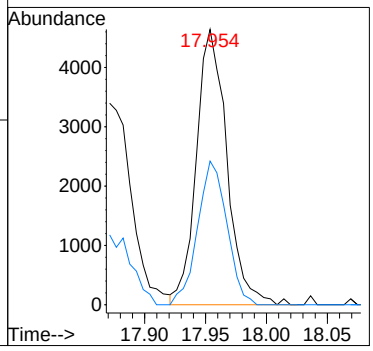


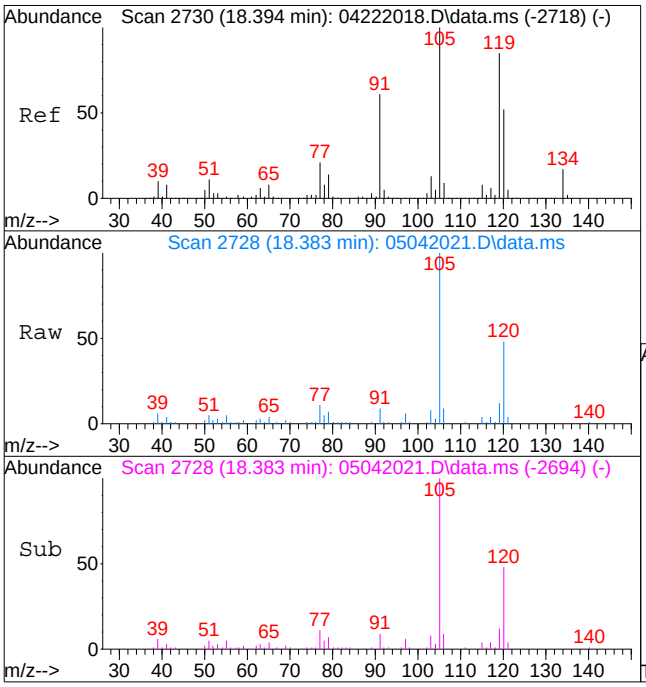


#79
1,3,5-Trimethylbenzene
Concen: 0.19 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 05042021.D
Acq: 4 May 2020 18:02

Tgt Ion:105 Resp: 8091

Ion	Ratio	Lower	Upper
105	100		
120	50.0	29.5	69.5

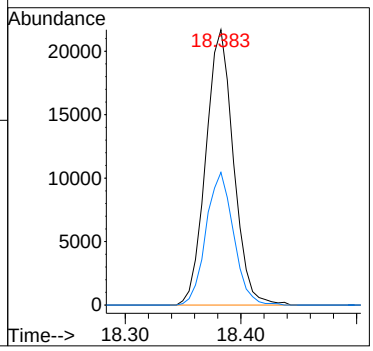


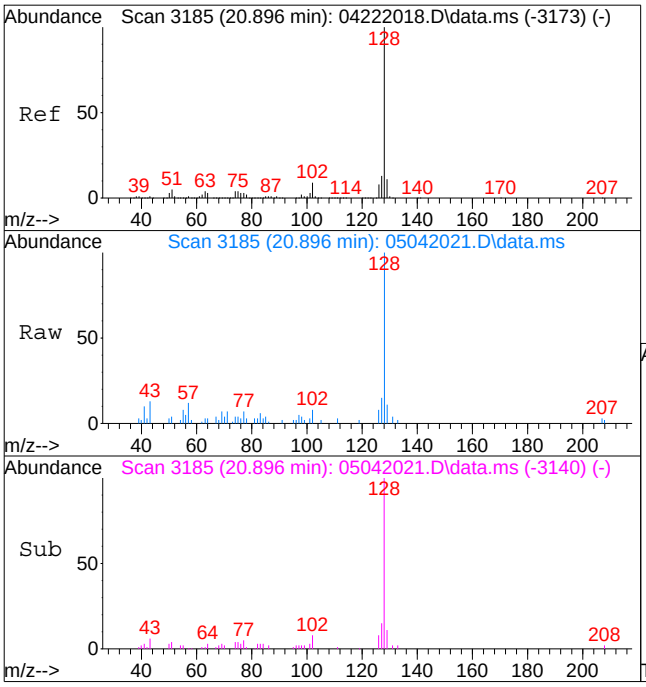


#82
1,2,4-Trimethylbenzene
Concen: 0.85 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 05042021.D
Acq: 4 May 2020 18:02

Tgt Ion:105 Resp: 36075

Ion	Ratio	Lower	Upper
105	100		
120	47.8	34.5	74.5

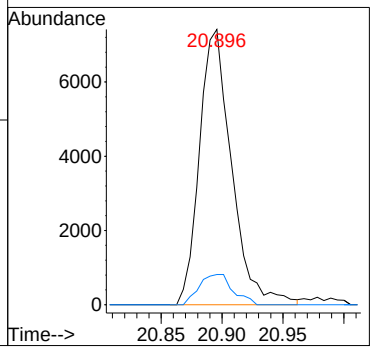




#95
Naphthalene
Concen: 0.25 ng
RT: 20.90 min Scan# 3185
Delta R.T. -0.000 min
Lab File: 05042021.D
Acq: 4 May 2020 18:02

Tgt Ion:128 Resp: 13639

Ion	Ratio	Lower	Upper
128	100		
129	11.5	0.0	30.9



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042034.D Vial: 5
Acq On : 5 May 2020 1:19 Operator: SC
Sample : P2002106-004Dil (40mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 14:38:33 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/5/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	138514	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	582997	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.45	82	257671	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	211921	11.809	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.48%				
57) Toluene-d8 (SS2)	13.54	98	637765	12.819	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.56%				
73) Bromofluorobenzene (SS3)	17.05	174	255774	12.792	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.32%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.			
3) Dichlorodifluoromethan...	4.01	85	160	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	0.00	45	0	N.D.			
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	0.00	56	0	N.D.	d		
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	7.19	151	115	N.D.			
22) Carbon Disulfide	7.18	76	4472	0.143	ng		80
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	0.00	72	0	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	9.27	87	213	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	9.27	83	2796	0.147	ng		99
34) Tetrahydrofuran (THF)	9.72	72	982	0.176	ng	#	85
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	10.60	56	154	N.D.			
41) Benzene	10.76	78	921	N.D.			
42) Carbon Tetrachloride	10.90	117	514	N.D.			
43) Cyclohexane	11.09	84	412	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	11.80	130	200581	15.239	ng		99
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042034.D Vial: 5
Acq On : 5 May 2020 1:19 Operator: SC
Sample : P2002106-004Dil (40mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 14:38:33 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

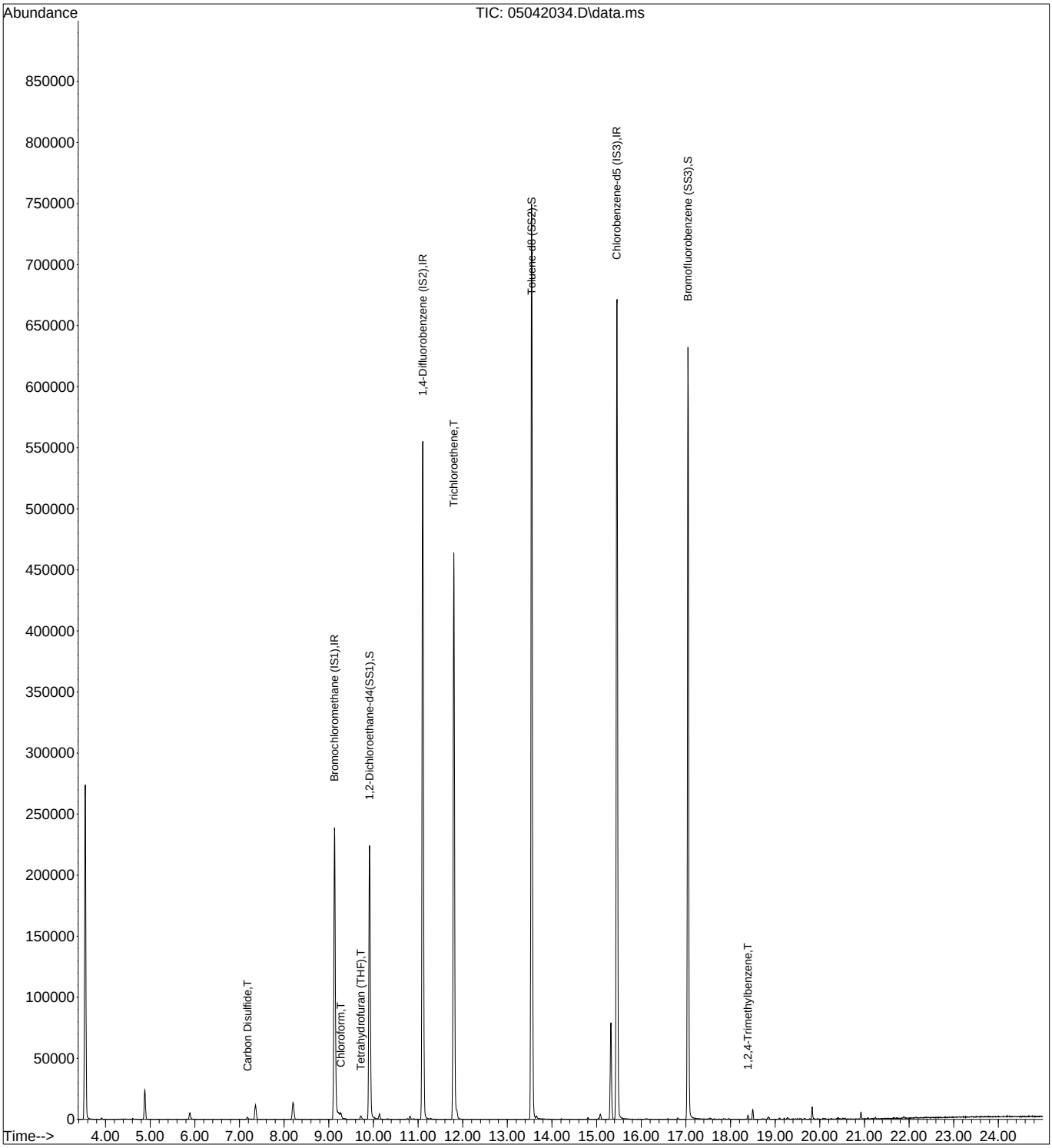
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.65	91	769	N.D.	
59) 2-Hexanone	0.00	43	0	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.81	166	728	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	0.00	91	0	N.D.	
67) m- & p-Xylenes	16.09	91	1217	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.60	91	358	N.D.	
71) n-Nonane	16.82	43	539	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	17.21	105	135	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.75	91	442	N.D.	
77) 3-Ethyltoluene	17.84	105	885	N.D.	
78) 4-Ethyltoluene	17.84	105	885	N.D.	
79) 1,3,5-Trimethylbenzene	17.97	105	716	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	18.17	105	290	N.D.	
82) 1,2,4-Trimethylbenzene	18.39	105	2718	0.061 ng	82
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.39	91	207	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	18.67	105	338	N.D.	
88) 4-Isopropyltoluene (p-...	18.85	119	551	N.D.	
89) 1,2,3-Trimethylbenzene	18.83	105	1244	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.92	128	577	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.40	119	350	N.D.	
100) n-Butylbenzene	19.27	91	674	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042034.D Vial: 5
Acq On : 5 May 2020 1:19 Operator: SC
Sample : P2002106-004Dil (40mL) Inst : MS09
Misc : S34-04212006

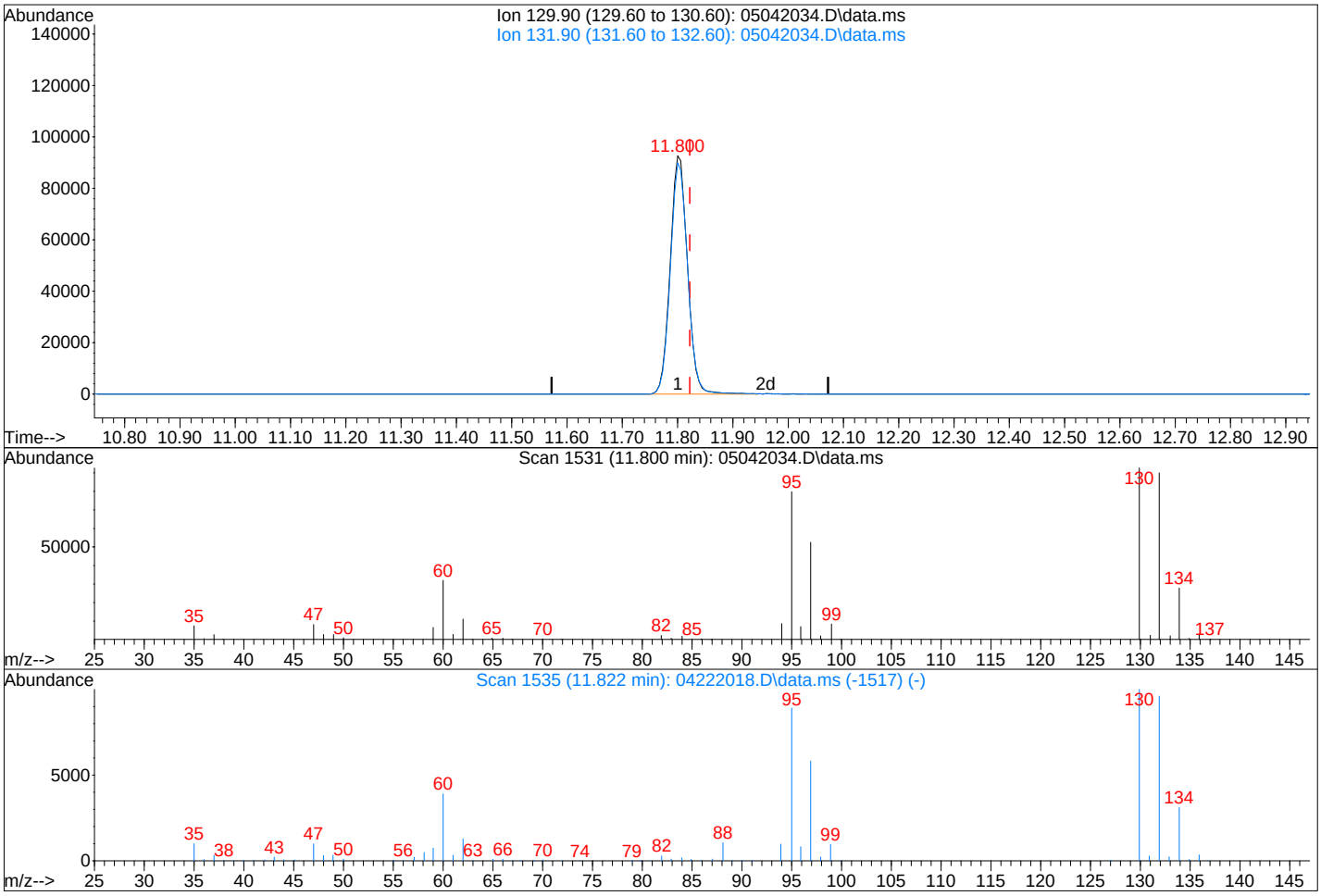
Quant Time: May 05 14:38:33 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_05\04\05042034.D Vial: 5
Acq On : 5 May 2020 1:19 Operator: SC
Sample : P2002106-004Dil (40mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 05:34:17 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05042034.D\data.ms

(47) Trichloroethene (T)

11.800min (-0.022) 15.24ng

response 200581

Ion	Exp%	Act%
129.90	100	100
131.90	96.40	97.04
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042022.D Vial: 6
Acq On : 4 May 2020 18:36 Operator: SC
Sample : P2002106-005 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 04 19:03:58 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/4/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	136361	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	576484	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	252022	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.92	65	209071	11.834	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.64%				
57) Toluene-d8 (SS2)	13.55	98	625174	12.847	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.80%				
73) Bromofluorobenzene (SS3)	17.05	174	249079	12.736	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.92%				
Target Compounds							Qvalue
2) Propene	3.88	42	6550	1.131	ng		93
3) Dichlorodifluoromethan...	3.99	85	1858	0.084	ng	#	90
4) Chloromethane	4.17	50	27221	3.353	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	4.45	62	11603	1.090	ng		100
7) 1,3-Butadiene	4.64	54	510	0.075	ng	#	42
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.15	64	4280	0.795	ng		96
10) Ethanol	5.36	45	5441m	1.240	ng		
11) Acetonitrile	5.59	41	199	N.D.			
12) Acrolein	5.71	56	2611	0.651	ng		92
13) Acetone	5.85	58	50573	9.602	ng	#	82
14) Trichlorofluoromethane	6.02	101	1346	0.061	ng		92
15) 2-Propanol (Isopropanol)	6.16	45	19241	1.150	ng		83
16) Acrylonitrile	6.44	53	126	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d			
19) Methylene Chloride	6.86	84	132	N.D.			
20) 3-Chloro-1-propene (Al...	6.99	41	231	N.D.			
21) Trichlorotrifluoroethane	7.18	151	2516	0.221	ng		94
22) Carbon Disulfide	7.14	76	218449	7.113	ng		97
23) trans-1,2-Dichloroethene	8.09	61	375	N.D.			
24) 1,1-Dichloroethane	8.10	63	10473	0.690	ng		99
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	8.26	86	3172	1.650	ng	#	91
27) 2-Butanone (MEK)	8.53	72	18053	3.336	ng		98
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D. d			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	9.23	57	2714	0.232	ng	#	94
32) Chloroform	9.28	83	11647	0.623	ng		99
34) Tetrahydrofuran (THF)	9.68	72	42595	7.772	ng		98
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	10.04	62	5001	0.325	ng		98
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D. d			
41) Benzene	10.76	78	17125	0.456	ng		99
42) Carbon Tetrachloride	10.90	117	3667	0.189	ng		95
43) Cyclohexane	11.03	84	1718	0.117	ng	#	80
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D. d			
47) Trichloroethene	11.81	130	2630735	202.131	ng		99
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d			
50) Methyl Methacrylate	0.00	100	0	N.D. d			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042022.D Vial: 6
Acq On : 4 May 2020 18:36 Operator: SC
Sample : P2002106-005 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 04 19:03:58 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	12.12	71	2126	0.243 ng		93
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	12.71	58	1676	0.255 ng	#	78
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	13.65	91	123216	3.016 ng		100
59) 2-Hexanone	13.91	43	4657	0.382 ng		79
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	14.54	43	2649	0.195 ng		93
63) n-Octane	14.67	57	1686	0.259 ng		96
64) Tetrachloroethene	14.80	166	7822	0.508 ng		98
65) Chlorobenzene	15.54	112	577	N.D.		
66) Ethylbenzene	15.90	91	8710	0.183 ng		99
67) m- & p-Xylenes	16.08	91	28679	0.714 ng		97
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.48	104	816	N.D.		
70) o-Xylene	16.58	91	10859	0.275 ng		99
71) n-Nonane	16.82	43	9300	0.731 ng		95
72) 1,1,2,2-Tetrachloroethane	16.57	83	375	N.D.		
74) Cumene	17.19	105	16788	0.326 ng		100
75) alpha-Pinene	17.60	93	448	N.D.		
76) n-Propylbenzene	17.72	91	8517	0.152 ng		95
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	17.88	105	9212	0.188 ng		98
79) 1,3,5-Trimethylbenzene	17.95	105	12227	0.271 ng		98
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	18.38	105	47757	1.093 ng		90
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	18.54	91	133	N.D.		
85) 1,3-Dichlorobenzene	18.62	146	211	N.D.		
86) 1,4-Dichlorobenzene	18.62	146	211	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D. d		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	18.98	68	1792	0.145 ng		93
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	20.90	128	8463	0.150 ng		98
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

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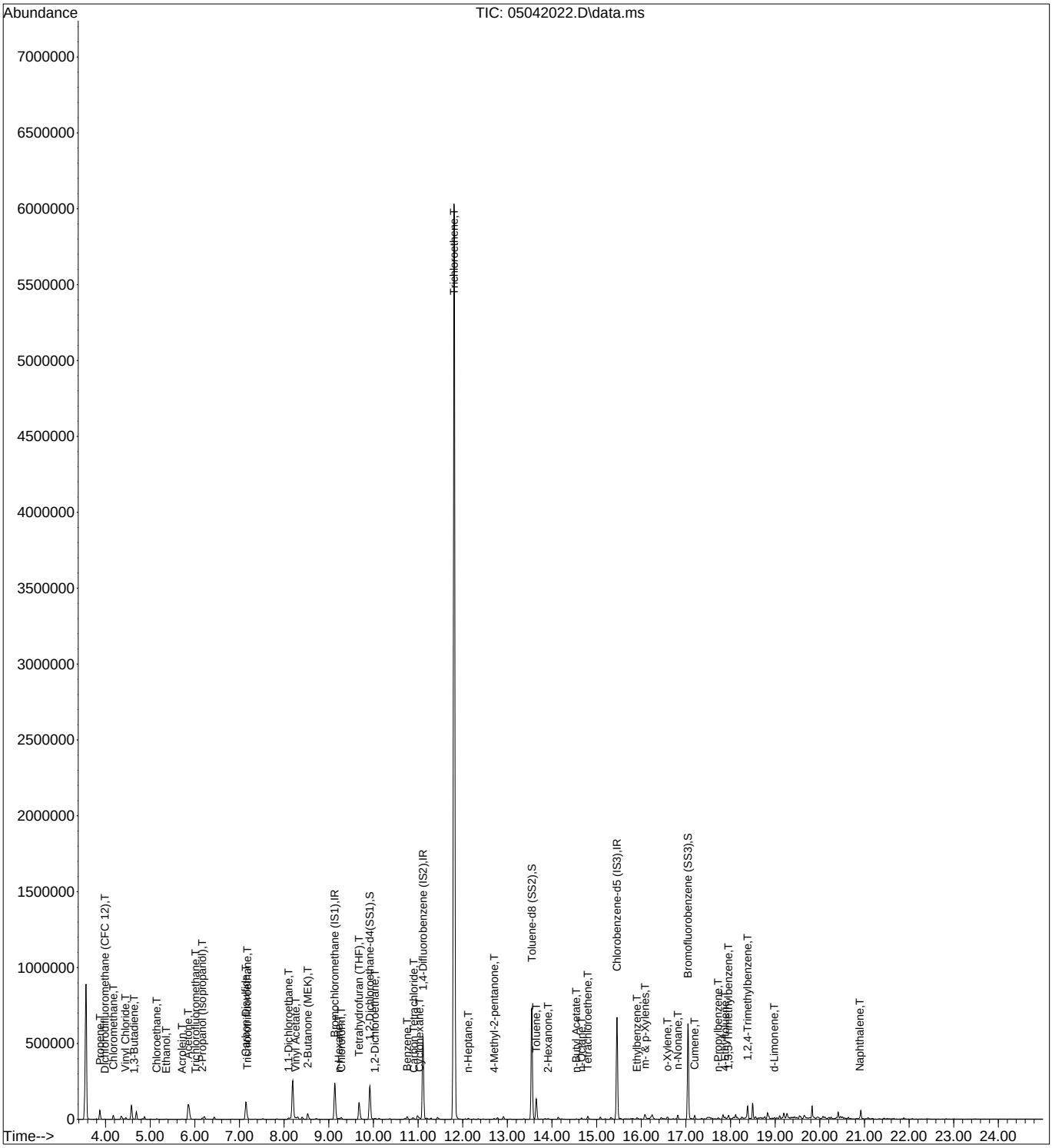
Data File : I:\MS09\Data\2020_05\04\05042022.D Vial: 6
Acq On : 4 May 2020 18:36 Operator: SC
Sample : P2002106-005 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 04 19:03:58 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042022.D Vial: 6
Acq On : 4 May 2020 18:36 Operator: SC
Sample : P2002106-005 (400mL) Inst : MS09
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Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
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Response via : Initial Calibration
DataAcq Meth:TO15.M

5/4/20

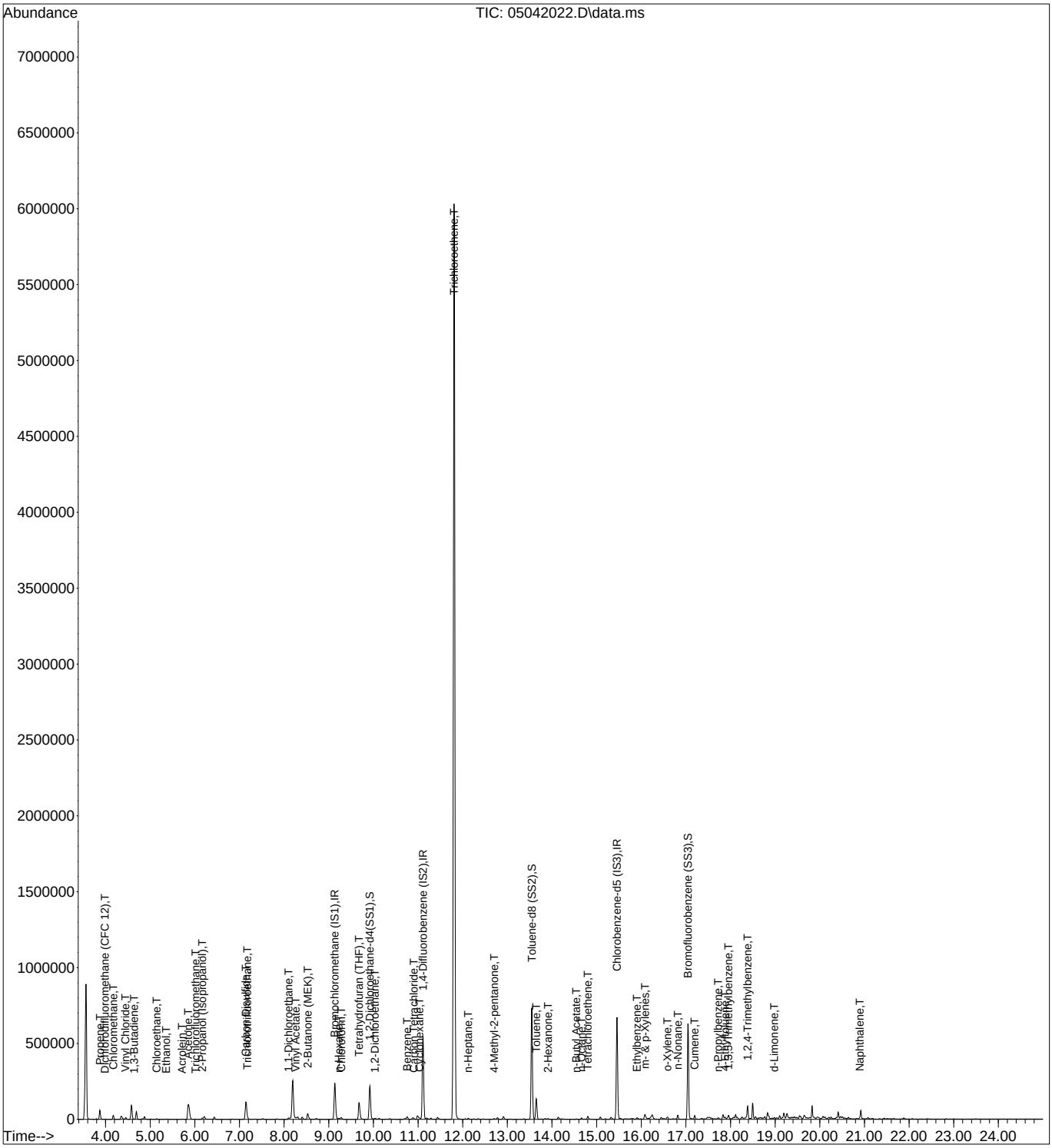
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	136361	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	576484	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	252022	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.92	65	209071	11.834	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.64%				
57) Toluene-d8 (SS2)	13.55	98	625174	12.847	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.80%				
73) Bromofluorobenzene (SS3)	17.05	174	249079	12.736	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.92%				
Target Compounds							Qvalue
2) Propene	3.88	42	6550	1.131	ng		93
3) Dichlorodifluoromethan...	3.99	85	1858	0.084	ng	#	90
4) Chloromethane	4.17	50	27221	3.353	ng		98
6) Vinyl Chloride	4.45	62	11603	1.090	ng		100
7) 1,3-Butadiene	4.64	54	510	0.075	ng	#	42
9) Chloroethane	5.15	64	4280	0.795	ng		96
10) Ethanol	5.36	45	5441m	1.240	ng		
12) Acrolein	5.71	56	2611	0.651	ng		92
13) Acetone	5.85	58	50573	9.602	ng	#	82
14) Trichlorofluoromethane	6.02	101	1346	0.061	ng		92
15) 2-Propanol (Isopropanol)	6.16	45	19241	1.150	ng		83
21) Trichlorotrifluoroethane	7.18	151	2516	0.221	ng		94
22) Carbon Disulfide	7.14	76	218449	7.113	ng		97
24) 1,1-Dichloroethane	8.10	63	10473	0.690	ng		99
26) Vinyl Acetate	8.26	86	3172	1.650	ng	#	91
27) 2-Butanone (MEK)	8.53	72	18053	3.336	ng		98
31) n-Hexane	9.23	57	2714	0.232	ng	#	94
32) Chloroform	9.28	83	11647	0.623	ng		99
34) Tetrahydrofuran (THF)	9.68	72	42595	7.772	ng		98
36) 1,2-Dichloroethane	10.04	62	5001	0.325	ng		98
41) Benzene	10.76	78	17125	0.456	ng		99
42) Carbon Tetrachloride	10.90	117	3667	0.189	ng		95
43) Cyclohexane	11.03	84	1718	0.117	ng	#	80
47) Trichloroethene	11.81	130	2630735	202.131	ng		99
51) n-Heptane	12.12	71	2126	0.243	ng		93
53) 4-Methyl-2-pentanone	12.71	58	1676	0.255	ng	#	78
58) Toluene	13.65	91	123216	3.016	ng		100
59) 2-Hexanone	13.91	43	4657	0.382	ng		79
62) n-Butyl Acetate	14.54	43	2649	0.195	ng		93
63) n-Octane	14.67	57	1686	0.259	ng		96
64) Tetrachloroethene	14.80	166	7822	0.508	ng		98
66) Ethylbenzene	15.90	91	8710	0.183	ng		99
67) m- & p-Xylenes	16.08	91	28679	0.714	ng		97
70) o-Xylene	16.58	91	10859	0.275	ng		99
71) n-Nonane	16.82	43	9300	0.731	ng		95
74) Cumene	17.19	105	16788	0.326	ng		100
76) n-Propylbenzene	17.72	91	8517	0.152	ng		95
78) 4-Ethyltoluene	17.88	105	9212	0.188	ng		98
79) 1,3,5-Trimethylbenzene	17.95	105	12227	0.271	ng		98
82) 1,2,4-Trimethylbenzene	18.38	105	47757	1.093	ng		90
91) d-Limonene	18.98	68	1792	0.145	ng		93
95) Naphthalene	20.90	128	8463	0.150	ng		98

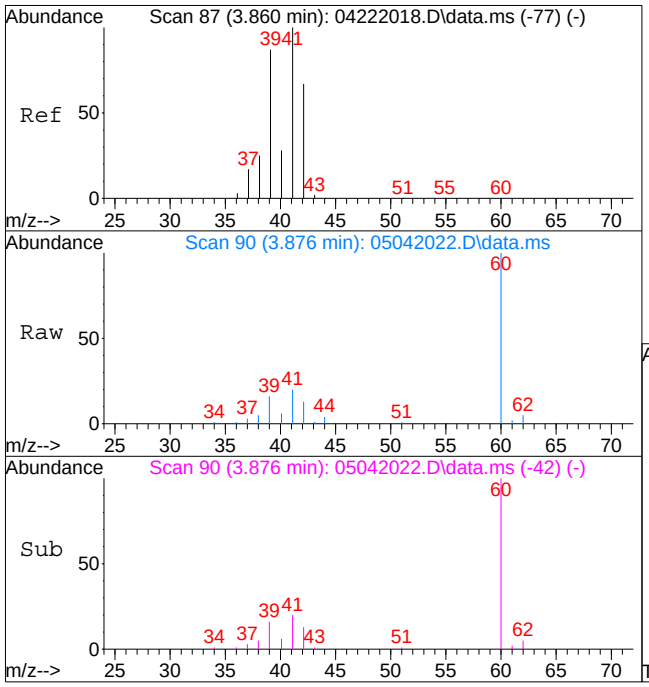
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042022.D Vial: 6
Acq On : 4 May 2020 18:36 Operator: SC
Sample : P2002106-005 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 04 19:03:58 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

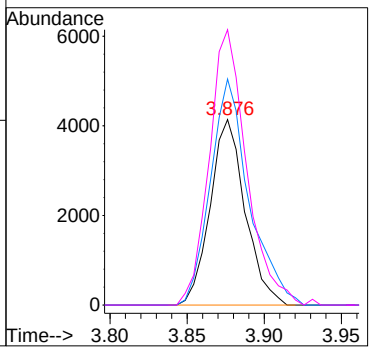


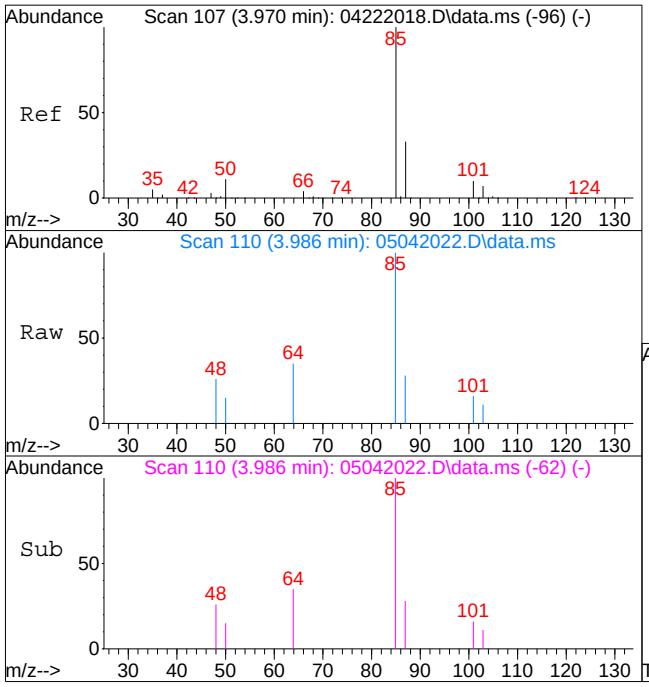


#2
Propene
Concen: 1.13 ng
RT: 3.88 min Scan# 90
Delta R.T. 0.016 min
Lab File: 05042022.D
Acq: 4 May 2020 18:36

Tgt Ion: 42 Resp: 6550

Ion	Ratio	Lower	Upper
42	100		
39	134.5	106.4	146.4
41	158.5	128.8	168.8

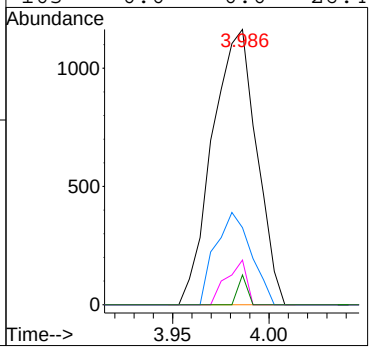


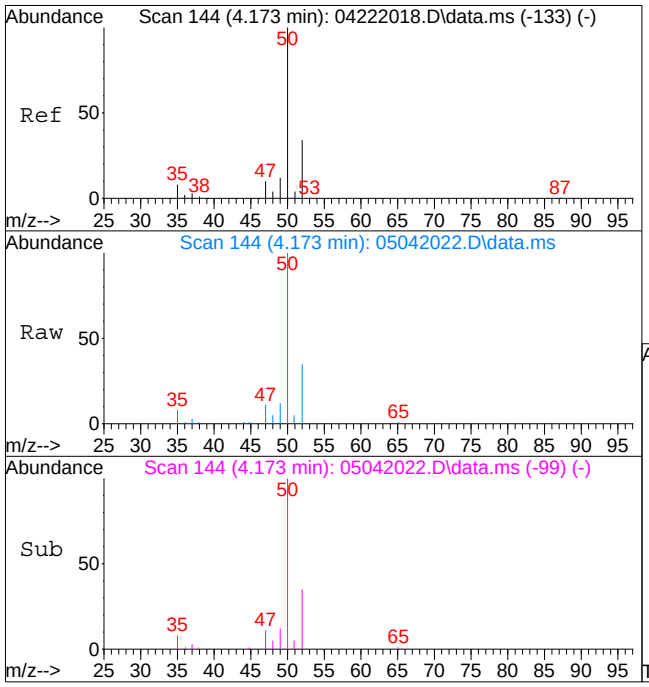


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.08 ng
RT: 3.99 min Scan# 110
Delta R.T. 0.016 min
Lab File: 05042022.D
Acq: 4 May 2020 18:36

Tgt Ion: 85 Resp: 1858

Ion	Ratio	Lower	Upper
85	100		
87	27.1	12.4	52.4
101	7.4	0.0	29.9
103	0.0	0.0	26.4

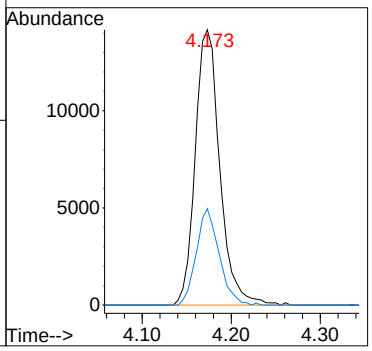


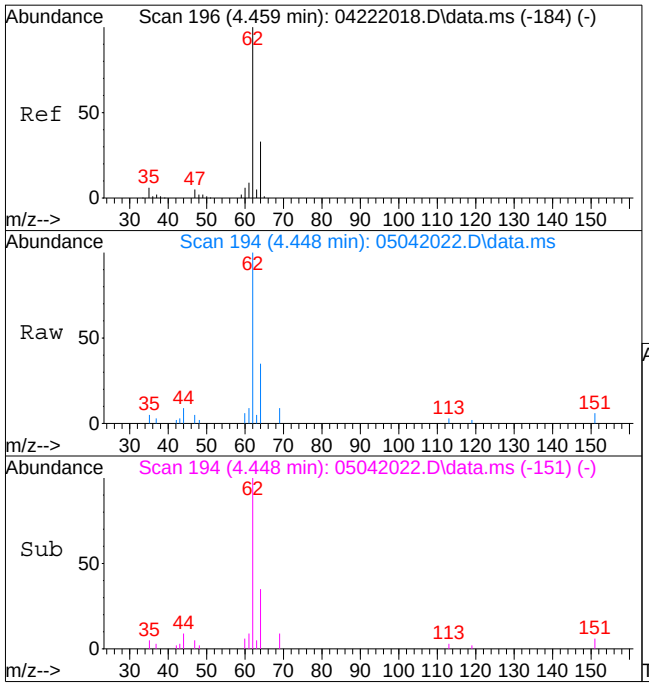


#4
Chloromethane
Concen: 3.35 ng
RT: 4.17 min Scan# 144
Delta R.T. -0.000 min
Lab File: 05042022.D
Acq: 4 May 2020 18:36

Tgt Ion: 50 Resp: 27221

Ion	Ratio	Lower	Upper
50	100		
52	32.5	13.7	53.7

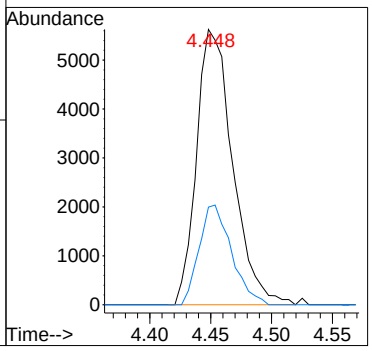


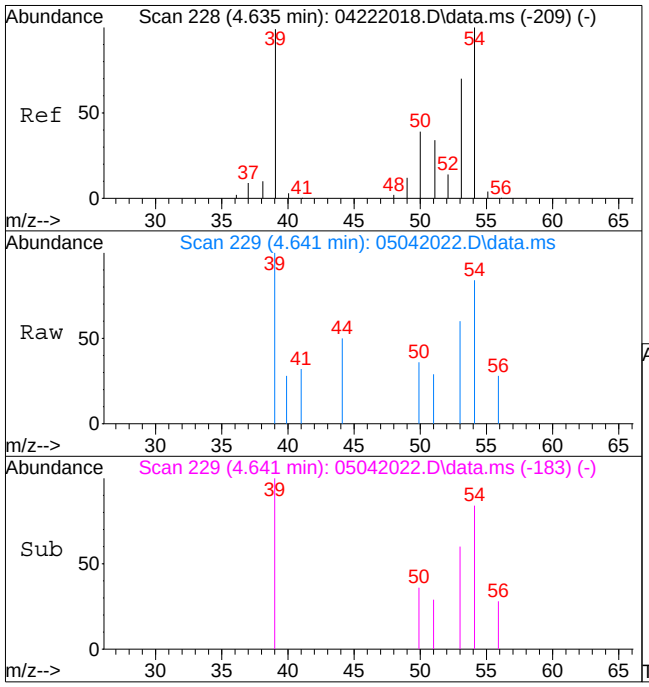


#6
Vinyl Chloride
Concen: 1.09 ng
RT: 4.45 min Scan# 194
Delta R.T. -0.011 min
Lab File: 05042022.D
Acq: 4 May 2020 18:36

Tgt Ion: 62 Resp: 11603

Ion	Ratio	Lower	Upper
62	100		
64	32.4	12.7	52.7

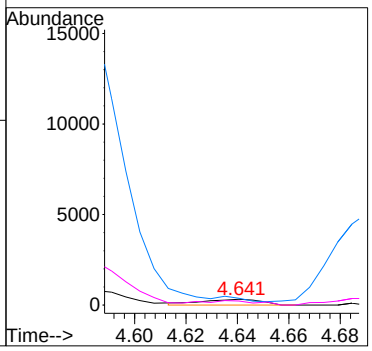


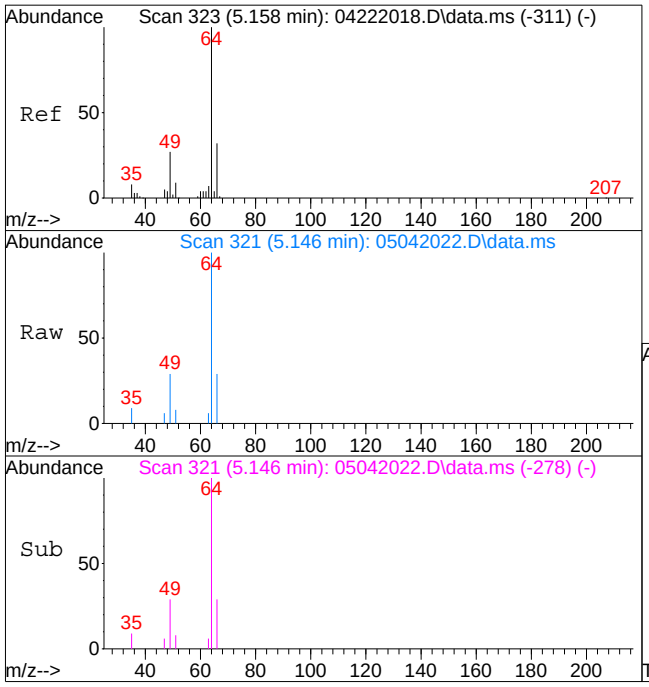


#7
1,3-Butadiene
Concen: 0.07 ng
RT: 4.64 min Scan# 229
Delta R.T. 0.005 min
Lab File: 05042022.D
Acq: 4 May 2020 18:36

Tgt Ion: 54 Resp: 510

Ion	Ratio	Lower	Upper
54	100		
39	0.0	75.4	115.4#
53	71.4	49.6	89.6

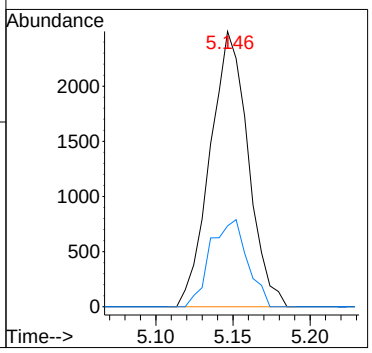


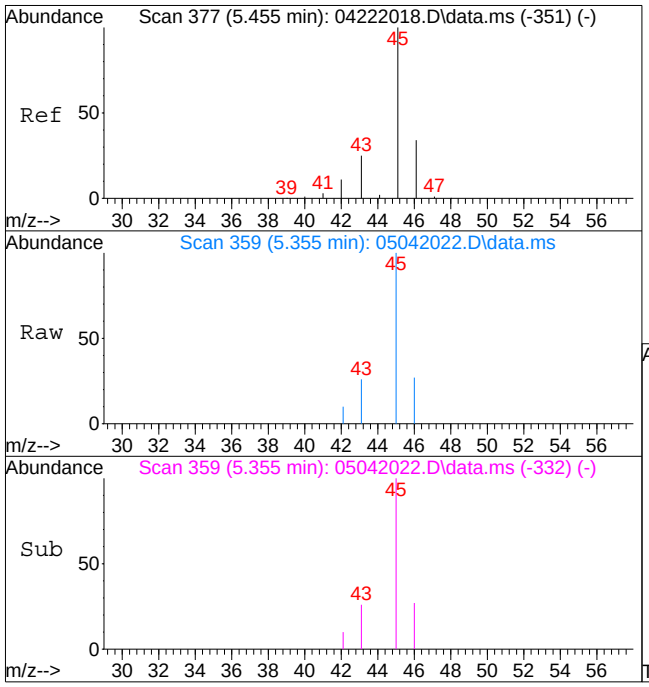


#9
Chloroethane
Concen: 0.79 ng
RT: 5.15 min Scan# 321
Delta R.T. -0.011 min
Lab File: 05042022.D
Acq: 4 May 2020 18:36

Tgt Ion: 64 Resp: 4280

Ion	Ratio	Lower	Upper
64	100		
66	30.7	12.7	52.7

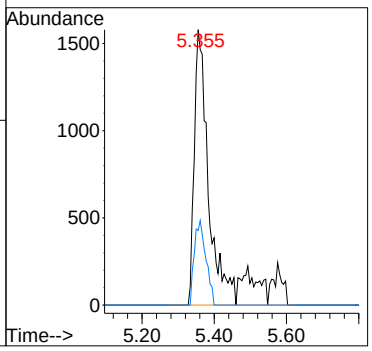


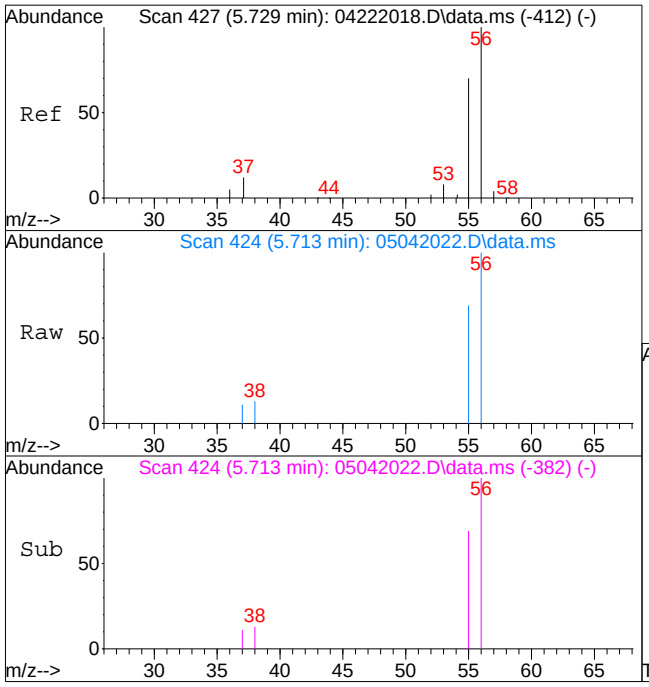


#10
Ethanol
Concen: 1.24 ng m
RT: 5.36 min Scan# 359
Delta R.T. -0.099 min
Lab File: 05042022.D
Acq: 4 May 2020 18:36

Tgt Ion: 45 Resp: 5441

Ion	Ratio	Lower	Upper
45	100		
46	0.0	14.0	54.0#

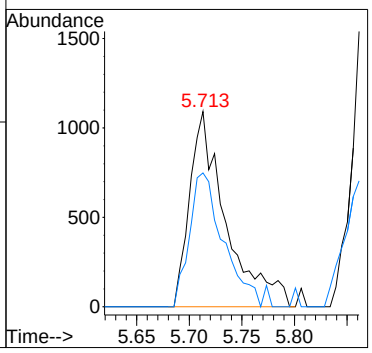


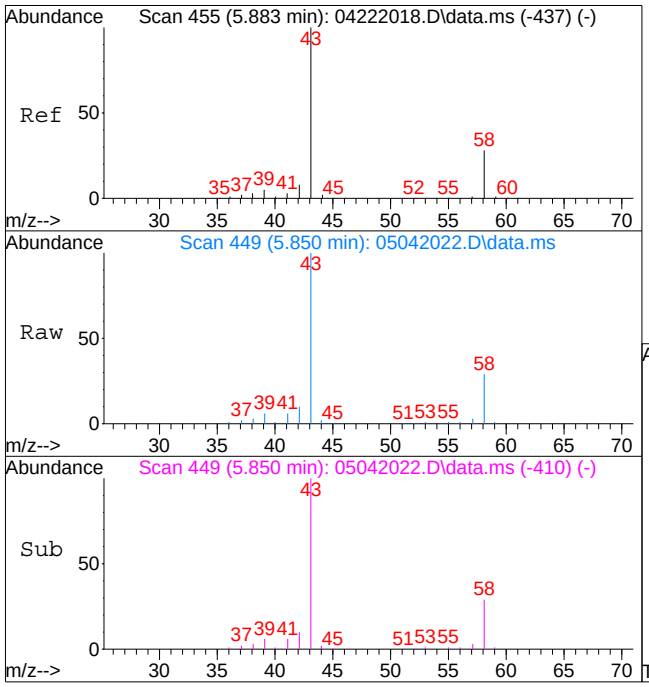


#12
Acrolein
Concen: 0.65 ng
RT: 5.71 min Scan# 424
Delta R.T. -0.017 min
Lab File: 05042022.D
Acq: 4 May 2020 18:36

Tgt Ion: 56 Resp: 2611

Ion	Ratio	Lower	Upper
56	100		
55	64.2	50.4	90.4

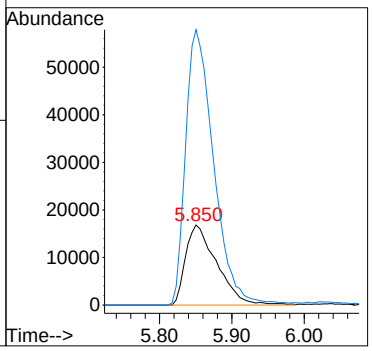


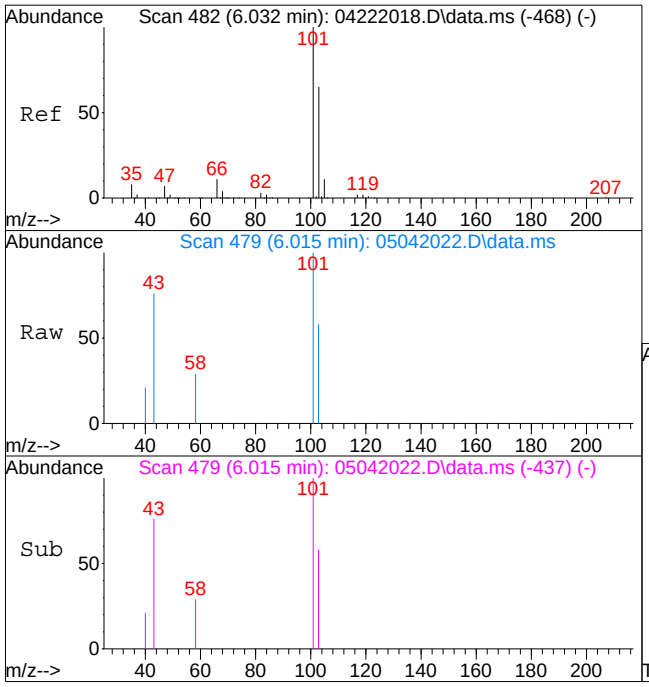


#13
Acetone
Concen: 9.60 ng
RT: 5.85 min Scan# 449
Delta R.T. -0.033 min
Lab File: 05042022.D
Acq: 4 May 2020 18:36

Tgt Ion: 58 Resp: 50573

Ion	Ratio	Lower	Upper
58	100		
43	309.8	319.3	379.3#

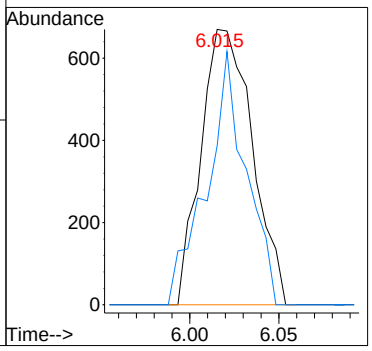


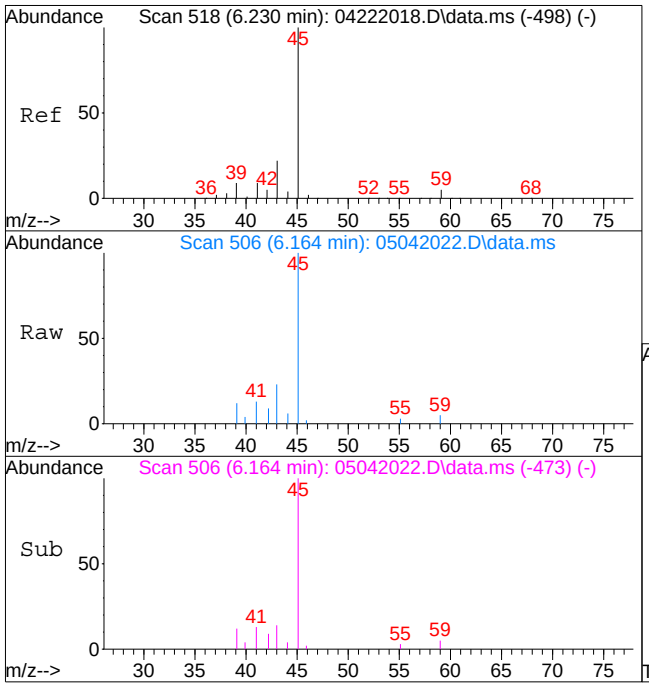


#14
Trichlorofluoromethane
Concen: 0.06 ng
RT: 6.02 min Scan# 479
Delta R.T. -0.017 min
Lab File: 05042022.D
Acq: 4 May 2020 18:36

Tgt Ion:101 Resp: 1346

Ion	Ratio	Lower	Upper
101	100		
103	70.7	44.7	84.7

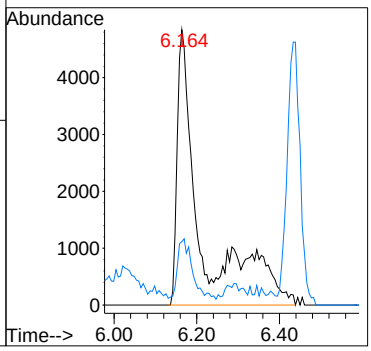


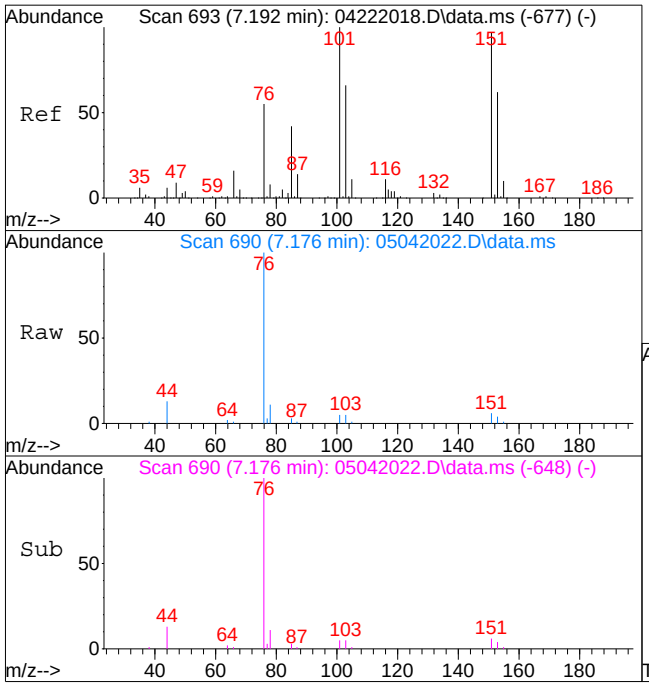


#15
2-Propanol (Isopropanol)
Concen: 1.15 ng
RT: 6.16 min Scan# 506
Delta R.T. -0.066 min
Lab File: 05042022.D
Acq: 4 May 2020 18:36

Tgt Ion: 45 Resp: 19241

Ion	Ratio	Lower	Upper
45	100		
43	14.6	2.6	42.6

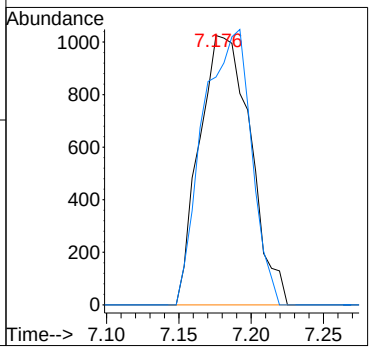


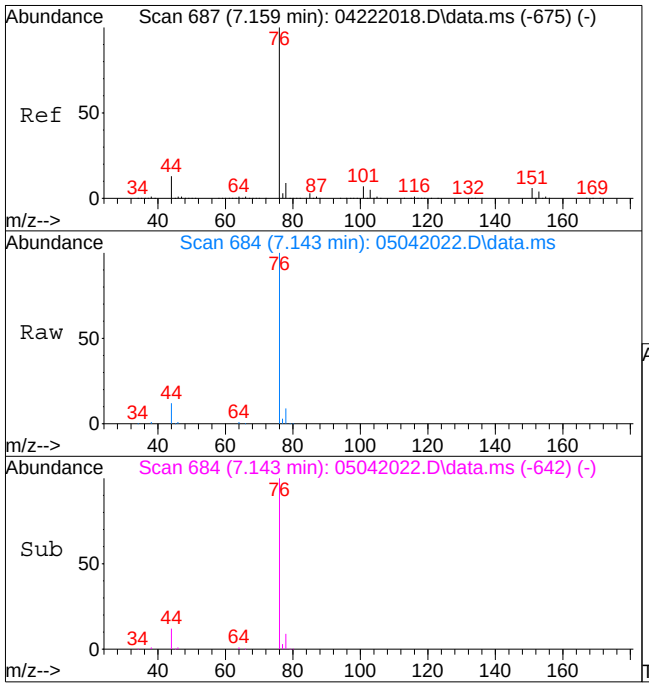


#21
Trichlorotrifluoroethane
Concen: 0.22 ng
RT: 7.18 min Scan# 690
Delta R.T. -0.017 min
Lab File: 05042022.D
Acq: 4 May 2020 18:36

Tgt Ion:151 Resp: 2516

Ion	Ratio	Lower	Upper
151	100		
101	97.0	82.9	122.9

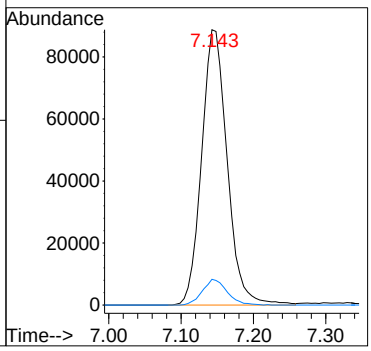


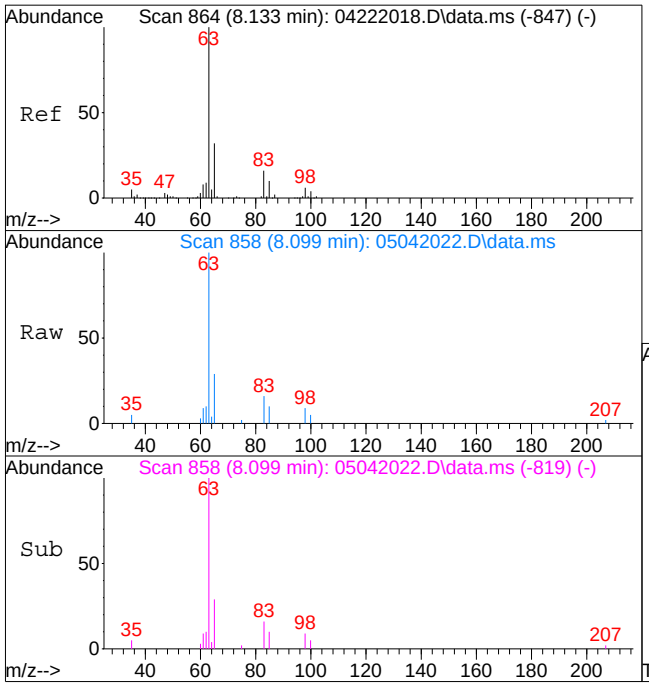


#22
Carbon Disulfide
Concen: 7.11 ng
RT: 7.14 min Scan# 684
Delta R.T. -0.017 min
Lab File: 05042022.D
Acq: 4 May 2020 18:36

Tgt Ion: 76 Resp: 218449

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	30.2

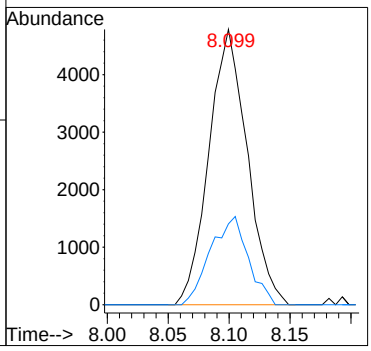


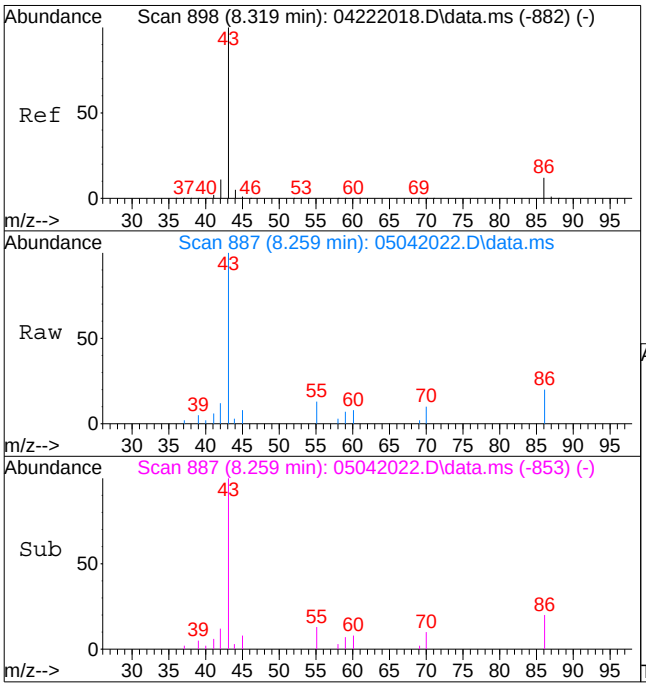


#24
1,1-Dichloroethane
Concen: 0.69 ng
RT: 8.10 min Scan# 858
Delta R.T. -0.033 min
Lab File: 05042022.D
Acq: 4 May 2020 18:36

Tgt Ion: 63 Resp: 10473

Ion	Ratio	Lower	Upper
63	100		
65	31.5	12.1	52.1

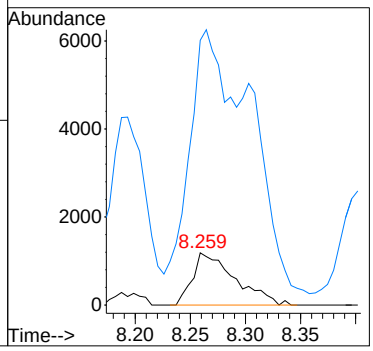


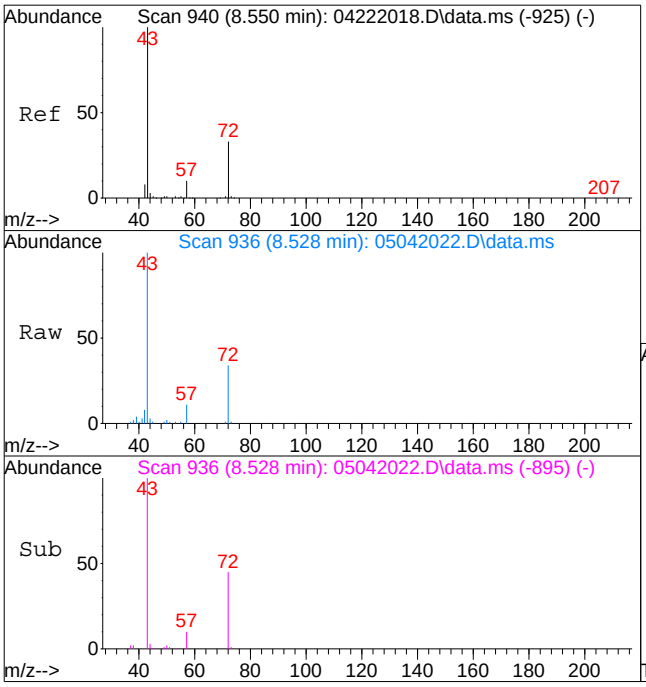


#26
Vinyl Acetate
Concen: 1.65 ng
RT: 8.26 min Scan# 887
Delta R.T. -0.061 min
Lab File: 05042022.D
Acq: 4 May 2020 18:36

Tgt Ion: 86 Resp: 3172

Ion	Ratio	Lower	Upper
86	100		
43	787.8	803.0	843.0#

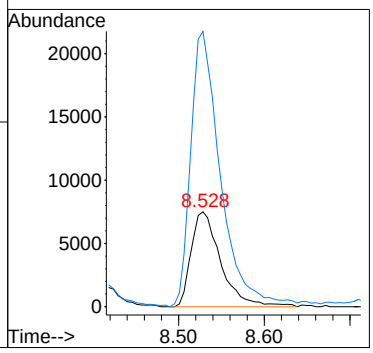


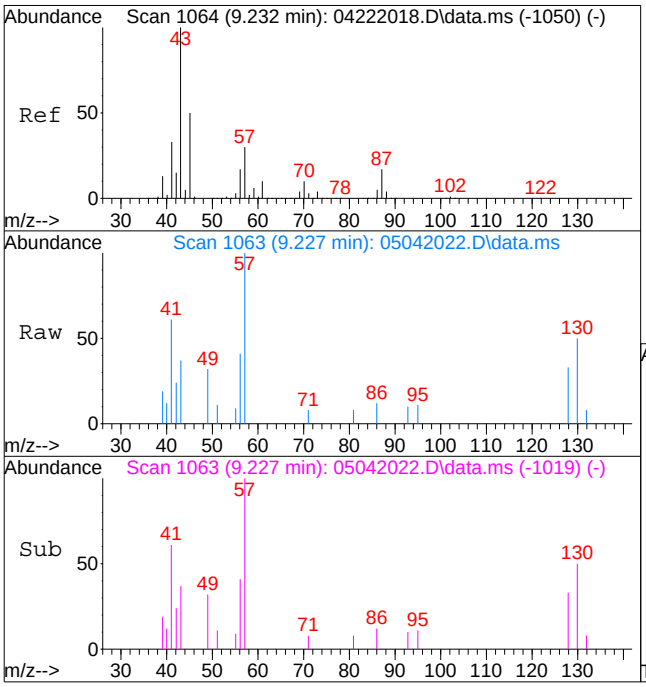


#27
2-Butanone (MEK)
Concen: 3.34 ng
RT: 8.53 min Scan# 936
Delta R.T. -0.022 min
Lab File: 05042022.D
Acq: 4 May 2020 18:36

Tgt Ion: 72 Resp: 18053

Ion	Ratio	Lower	Upper
72	100		
43	294.3	278.8	318.8

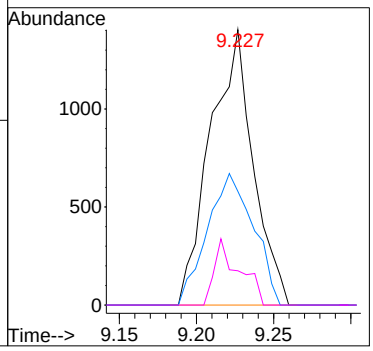


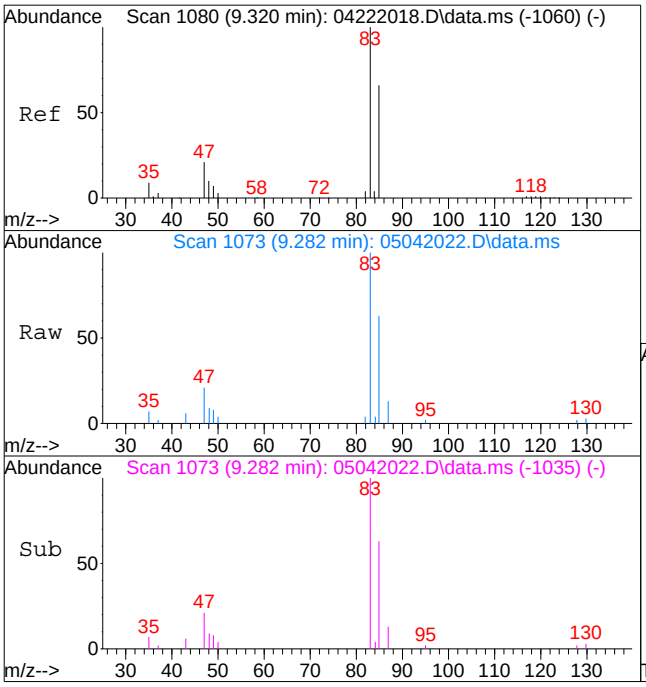


#31
n-Hexane
Concen: 0.23 ng
RT: 9.23 min Scan# 1063
Delta R.T. -0.006 min
Lab File: 05042022.D
Acq: 4 May 2020 18:36

Tgt Ion: 57 Resp: 2714

Ion	Ratio	Lower	Upper
57	100		
56	51.4	44.0	66.0
86	14.0	15.0	22.4#

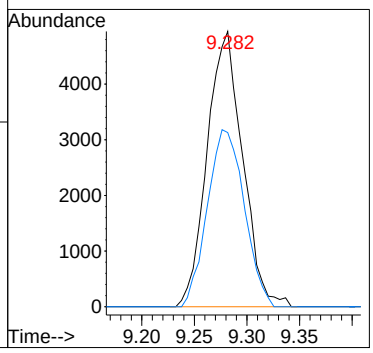


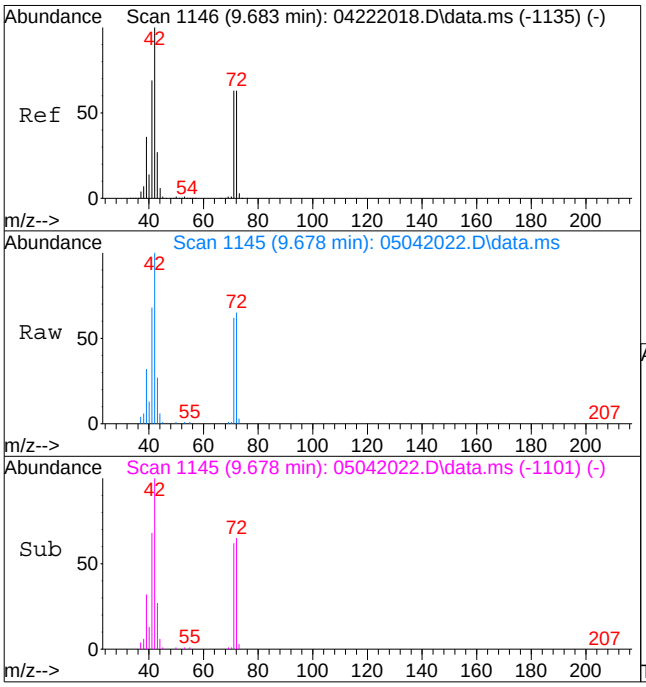


#32
Chloroform
Concen: 0.62 ng
RT: 9.28 min Scan# 1073
Delta R.T. -0.039 min
Lab File: 05042022.D
Acq: 4 May 2020 18:36

Tgt Ion: 83 Resp: 11647

Ion	Ratio	Lower	Upper
83	100		
85	66.8	45.8	85.8

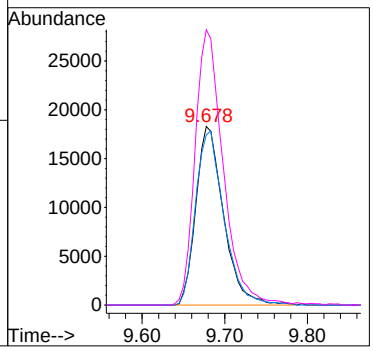


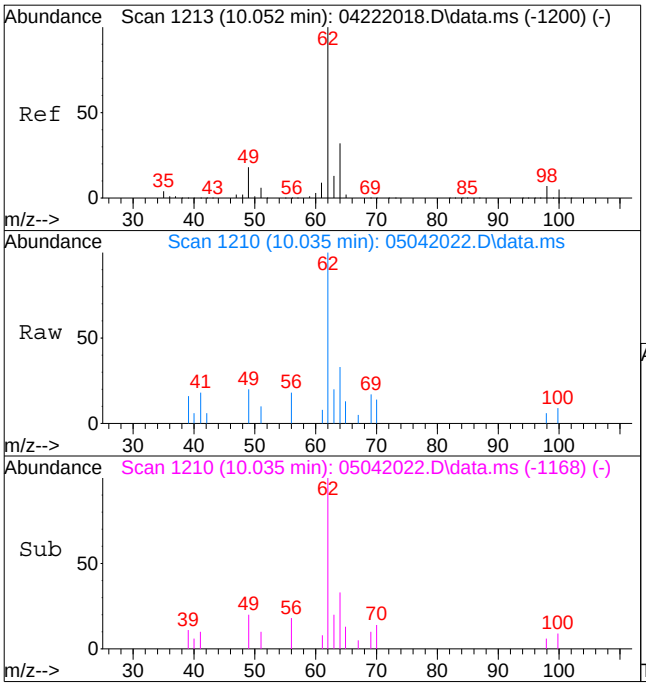


#34
Tetrahydrofuran (THF)
Concen: 7.77 ng
RT: 9.68 min Scan# 1145
Delta R.T. -0.006 min
Lab File: 05042022.D
Acq: 4 May 2020 18:36

Tgt Ion: 72 Resp: 42595

Ion	Ratio	Lower	Upper
72	100		
71	100.2	77.9	117.9
42	156.9	133.9	173.9

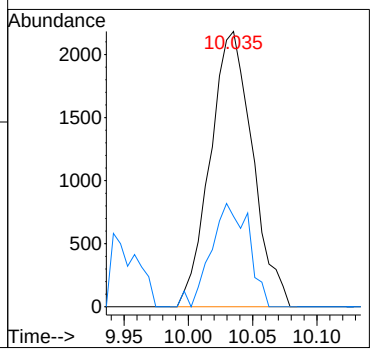


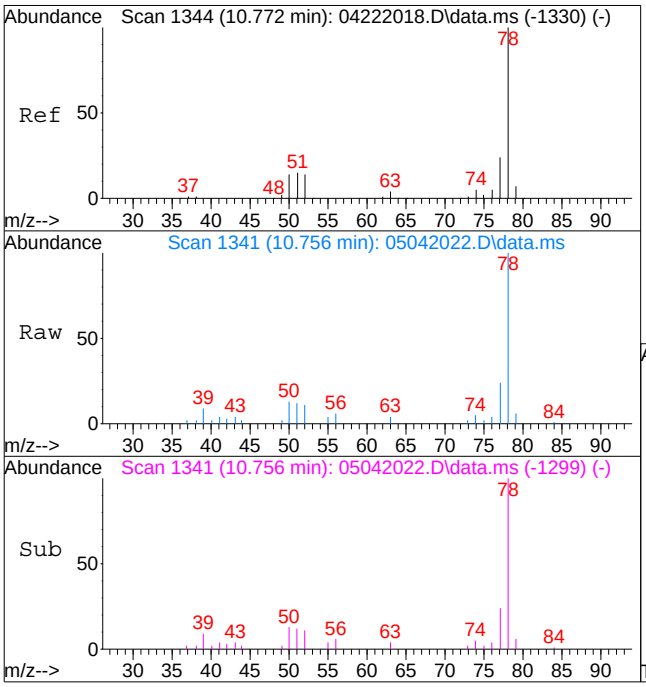


#36
1,2-Dichloroethane
Concen: 0.33 ng
RT: 10.04 min Scan# 1210
Delta R.T. -0.017 min
Lab File: 05042022.D
Acq: 4 May 2020 18:36

Tgt Ion: 62 Resp: 5001

Ion	Ratio	Lower	Upper
62	100		
64	33.6	12.7	52.7

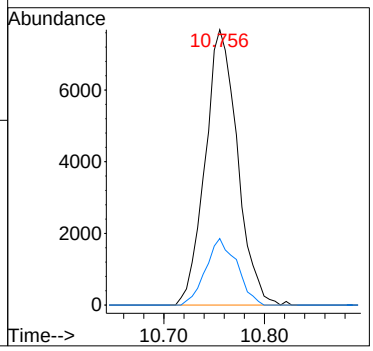


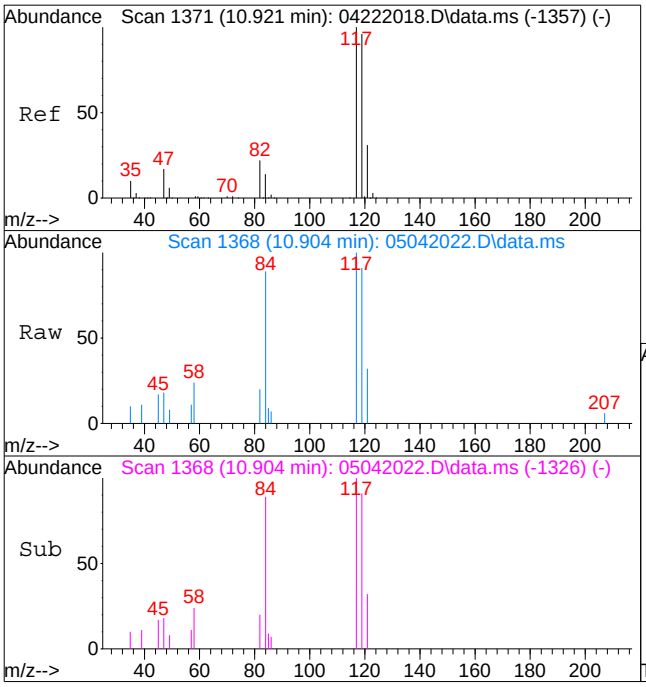


#41
Benzene
Concen: 0.46 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.017 min
Lab File: 05042022.D
Acq: 4 May 2020 18:36

Tgt Ion: 78 Resp: 17125

Ion	Ratio	Lower	Upper
78	100		
77	23.3	3.6	43.6

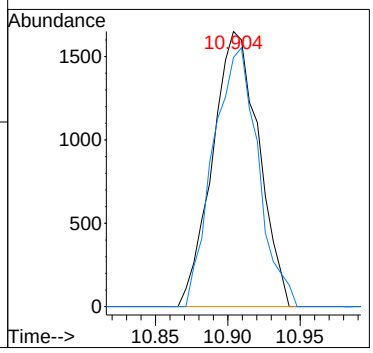


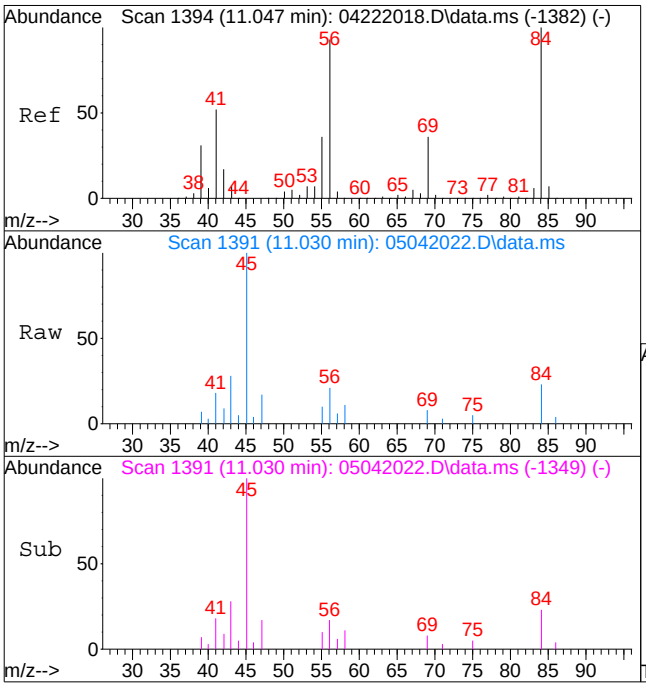


#42
Carbon Tetrachloride
Concen: 0.19 ng
RT: 10.90 min Scan# 1368
Delta R.T. -0.017 min
Lab File: 05042022.D
Acq: 4 May 2020 18:36

Tgt Ion:117 Resp: 3667

Ion	Ratio	Lower	Upper
117	100		
119	91.5	76.5	116.5

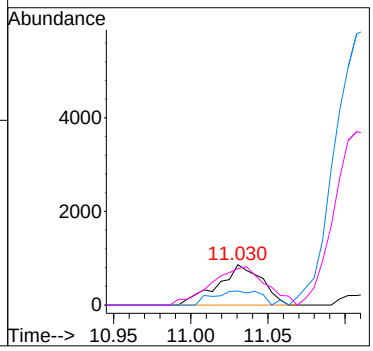


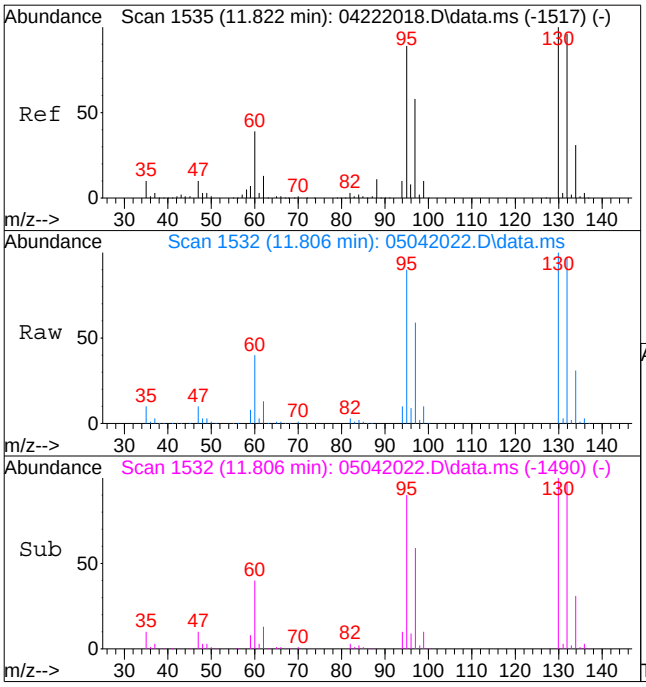


#43
Cyclohexane
Concen: 0.12 ng
RT: 11.03 min Scan# 1391
Delta R.T. -0.017 min
Lab File: 05042022.D
Acq: 4 May 2020 18:36

Tgt Ion: 84 Resp: 1718

Ion	Ratio	Lower	Upper
84	100		
69	39.3	15.8	55.8
56	116.7	72.0	112.0#

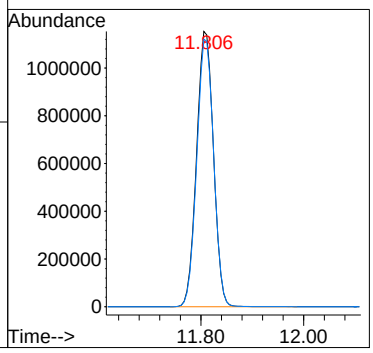


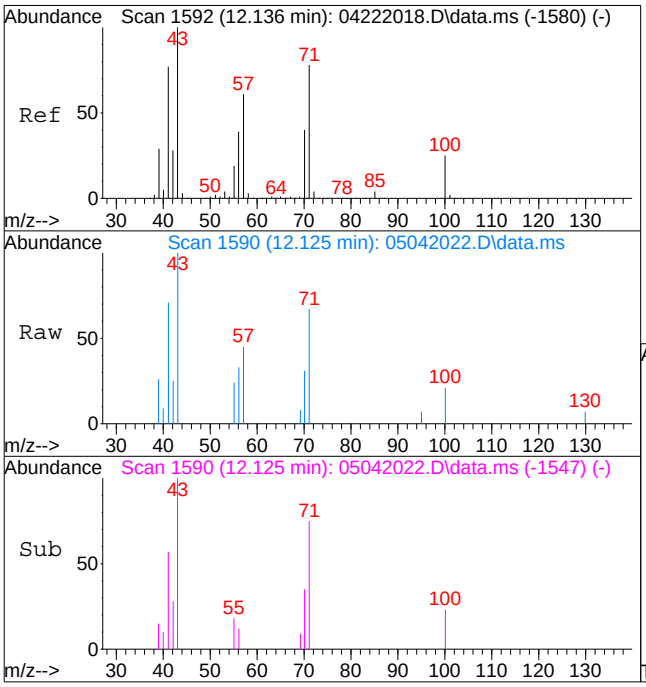


#47
Trichloroethene
Concen: 202.13 ng
RT: 11.81 min Scan# 1532
Delta R.T. -0.017 min
Lab File: 05042022.D
Acq: 4 May 2020 18:36

Tgt Ion:130 Resp: 2630735

Ion	Ratio	Lower	Upper
130	100		
132	97.3	76.4	116.4

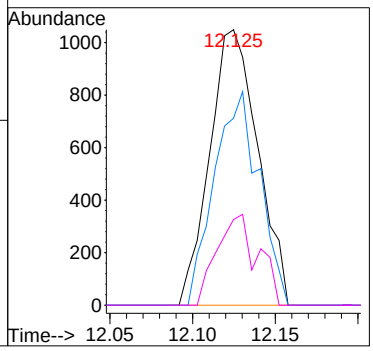


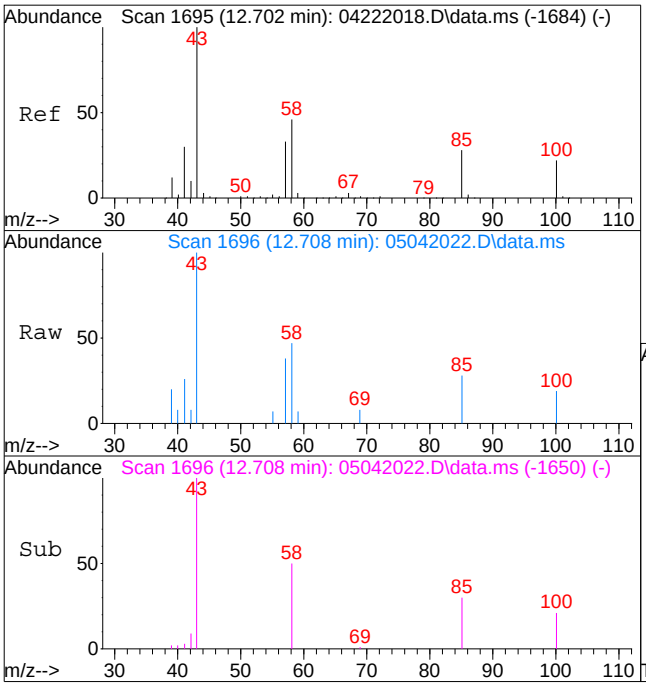


#51
n-Heptane
Concen: 0.24 ng
RT: 12.12 min Scan# 1590
Delta R.T. -0.011 min
Lab File: 05042022.D
Acq: 4 May 2020 18:36

Tgt Ion: 71 Resp: 2126

Ion	Ratio	Lower	Upper
71	100		
57	72.1	57.4	97.4
100	27.8	12.0	52.0

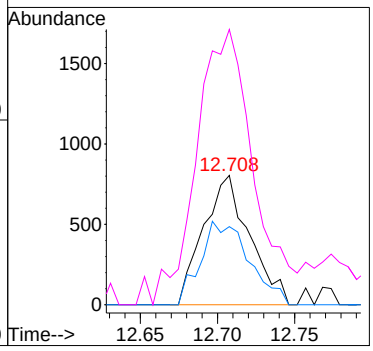


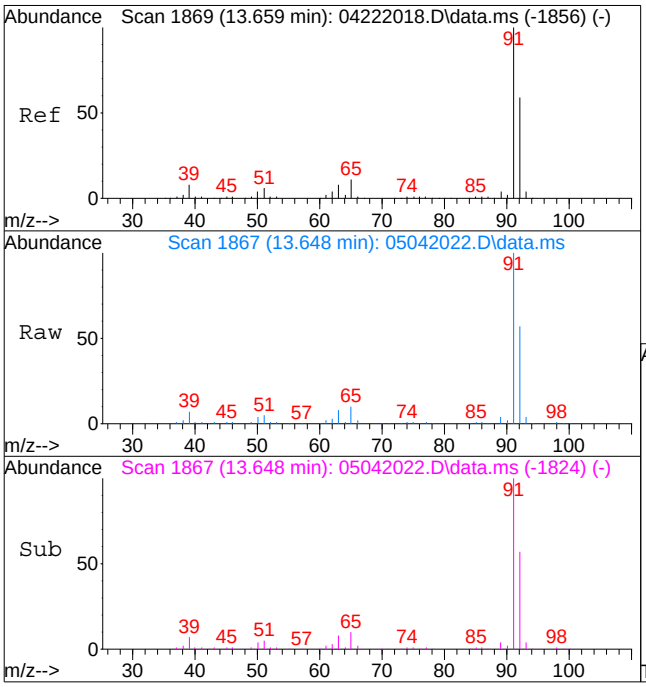


#53
4-Methyl-2-pentanone
Concen: 0.25 ng
RT: 12.71 min Scan# 1696
Delta R.T. 0.005 min
Lab File: 05042022.D
Acq: 4 May 2020 18:36

Tgt Ion: 58 Resp: 1676

Ion	Ratio	Lower	Upper
58	100		
85	67.6	52.2	78.2
43	265.3	176.2	264.4#

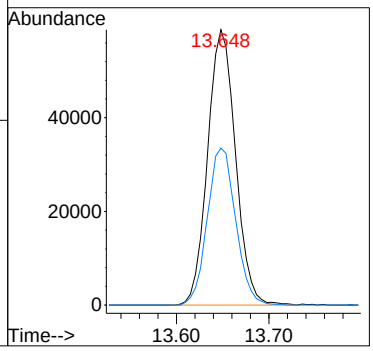


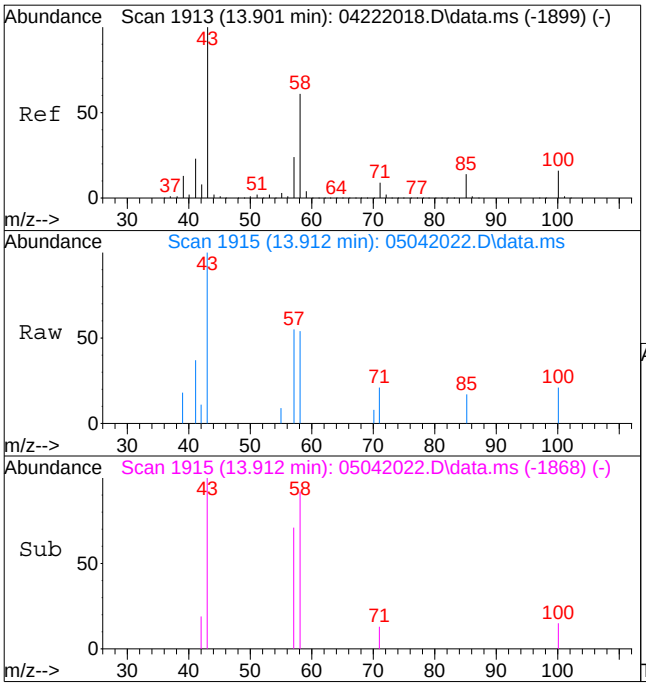


#58
Toluene
Concen: 3.02 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.011 min
Lab File: 05042022.D
Acq: 4 May 2020 18:36

Tgt Ion: 91 Resp: 123216

Ion	Ratio	Lower	Upper
91	100		
92	57.8	38.2	78.2

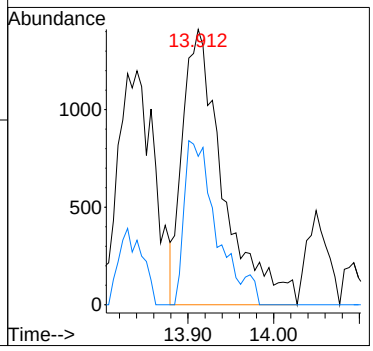


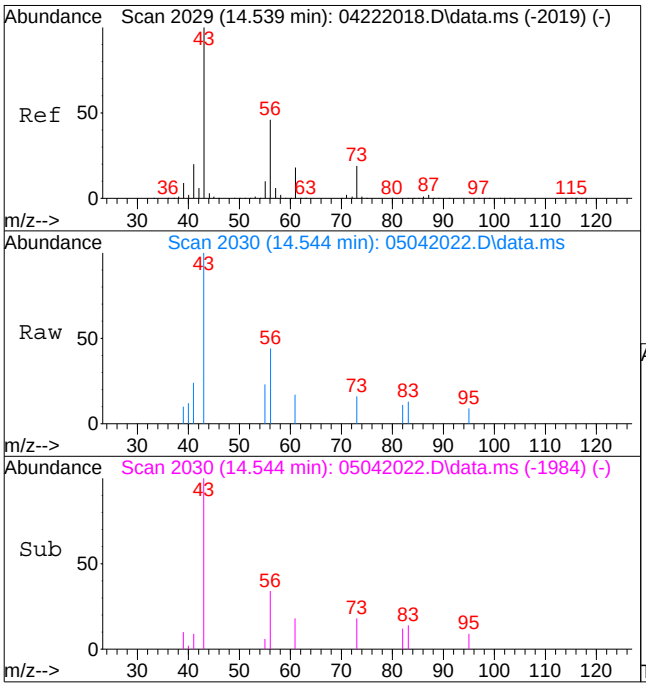


#59
2-Hexanone
Concen: 0.38 ng
RT: 13.91 min Scan# 1915
Delta R.T. 0.011 min
Lab File: 05042022.D
Acq: 4 May 2020 18:36

Tgt Ion: 43 Resp: 4657

Ion	Ratio	Lower	Upper
43	100		
58	44.9	41.1	81.1

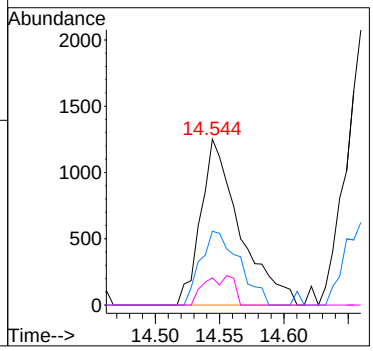


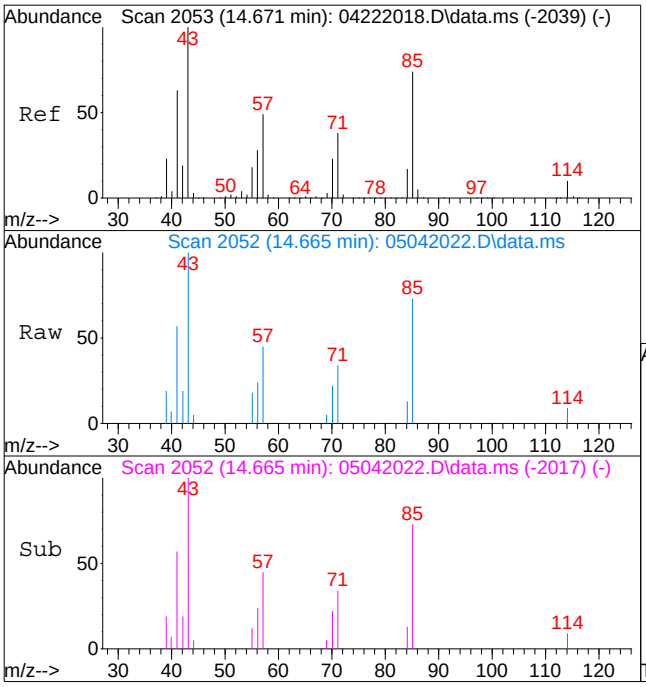


#62
n-Butyl Acetate
Concen: 0.19 ng
RT: 14.54 min Scan# 2030
Delta R.T. 0.005 min
Lab File: 05042022.D
Acq: 4 May 2020 18:36

Tgt Ion: 43 Resp: 2649

Ion	Ratio	Lower	Upper
43	100		
56	44.0	26.6	66.6
73	13.4	0.0	39.3

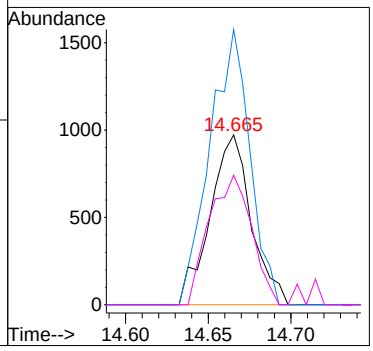


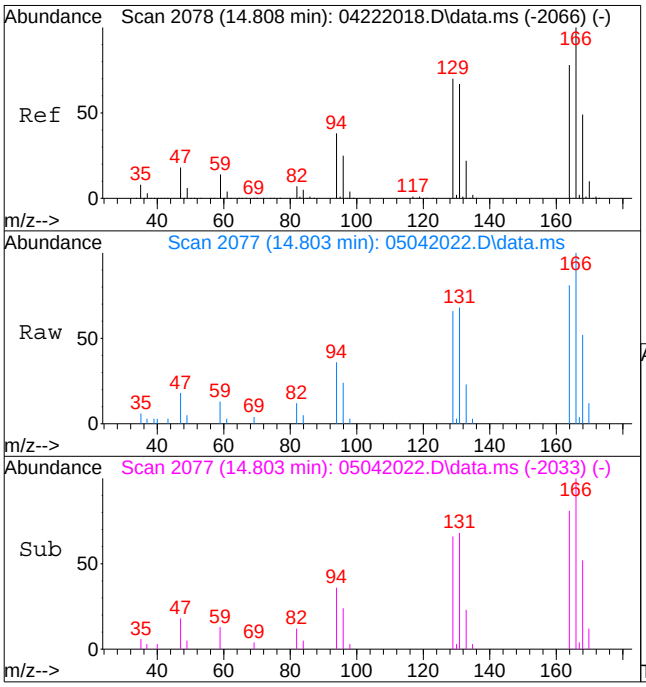


#63
n-Octane
Concen: 0.26 ng
RT: 14.67 min Scan# 2052
Delta R.T. -0.006 min
Lab File: 05042022.D
Acq: 4 May 2020 18:36

Tgt Ion: 57 Resp: 1686

Ion	Ratio	Lower	Upper
57	100		
85	157.5	120.7	181.1
71	78.9	61.1	91.7

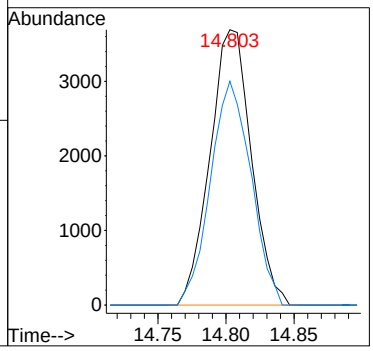


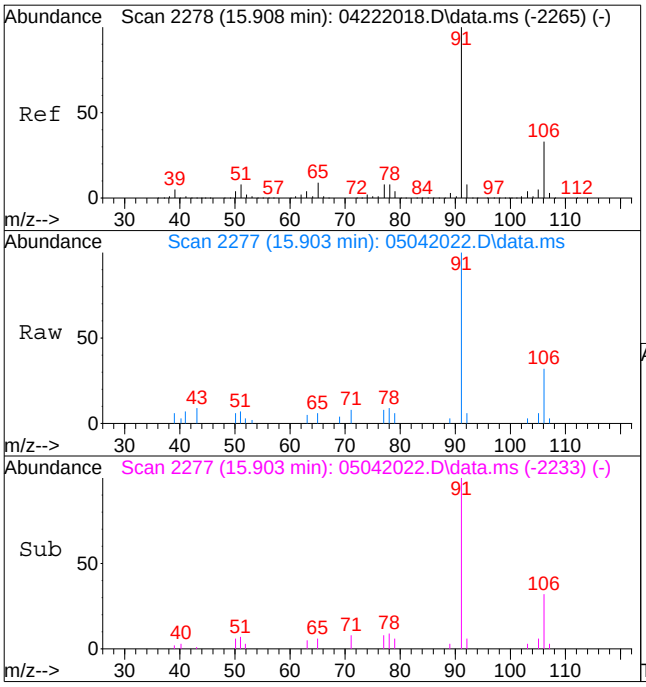


#64
Tetrachloroethene
Concen: 0.51 ng
RT: 14.80 min Scan# 2077
Delta R.T. -0.006 min
Lab File: 05042022.D
Acq: 4 May 2020 18:36

Tgt Ion:166 Resp: 7822

Ion	Ratio	Lower	Upper
166	100		
164	79.4	57.7	97.7

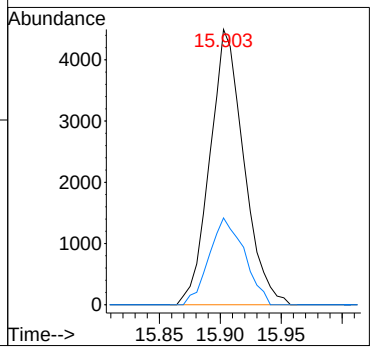


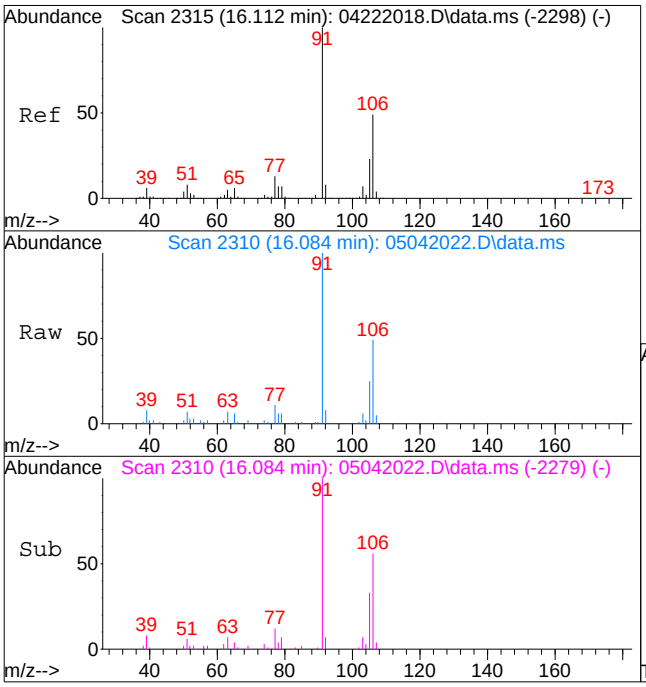


#66
Ethylbenzene
Concen: 0.18 ng
RT: 15.90 min Scan# 2277
Delta R.T. -0.006 min
Lab File: 05042022.D
Acq: 4 May 2020 18:36

Tgt Ion: 91 Resp: 8710

Ion	Ratio	Lower	Upper
91	100		
106	32.8	13.4	53.4

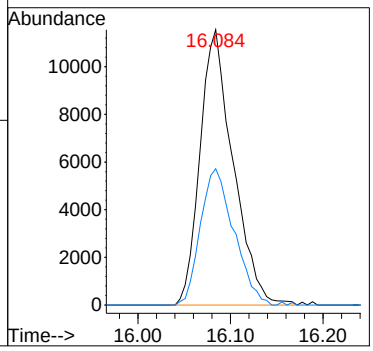


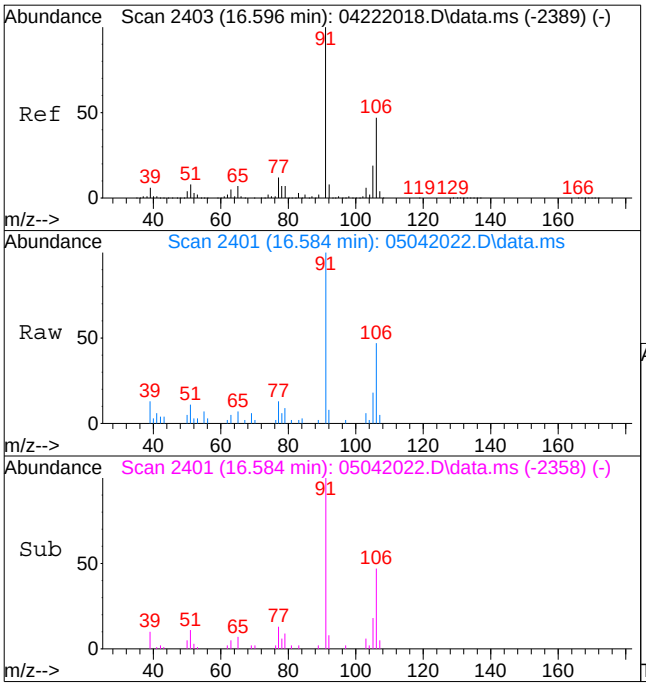


#67
m- & p-Xylenes
Concen: 0.71 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.028 min
Lab File: 05042022.D
Acq: 4 May 2020 18:36

Tgt Ion: 91 Resp: 28679

Ion	Ratio	Lower	Upper
91	100		
106	50.3	28.3	68.3

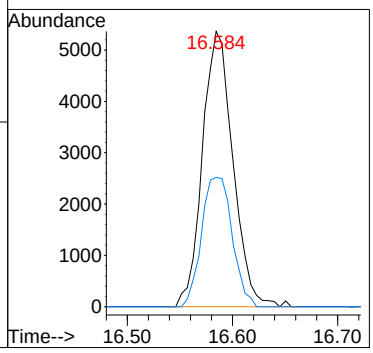


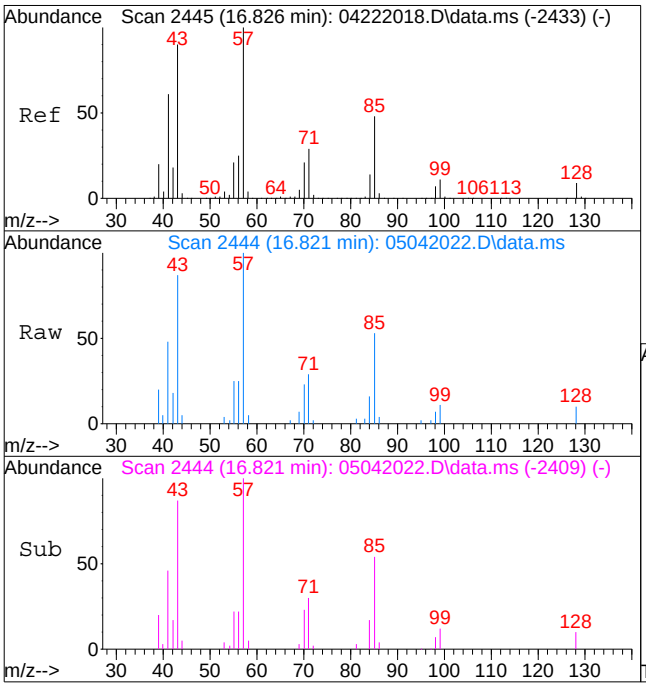


#70
o-Xylene
Concen: 0.28 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 05042022.D
Acq: 4 May 2020 18:36

Tgt Ion: 91 Resp: 10859

Ion	Ratio	Lower	Upper
91	100		
106	47.1	27.5	67.5

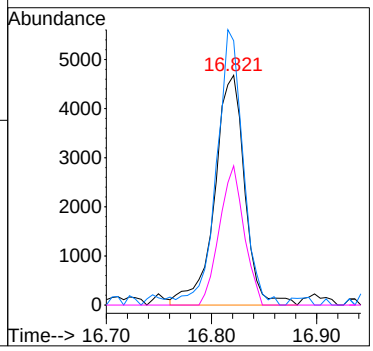


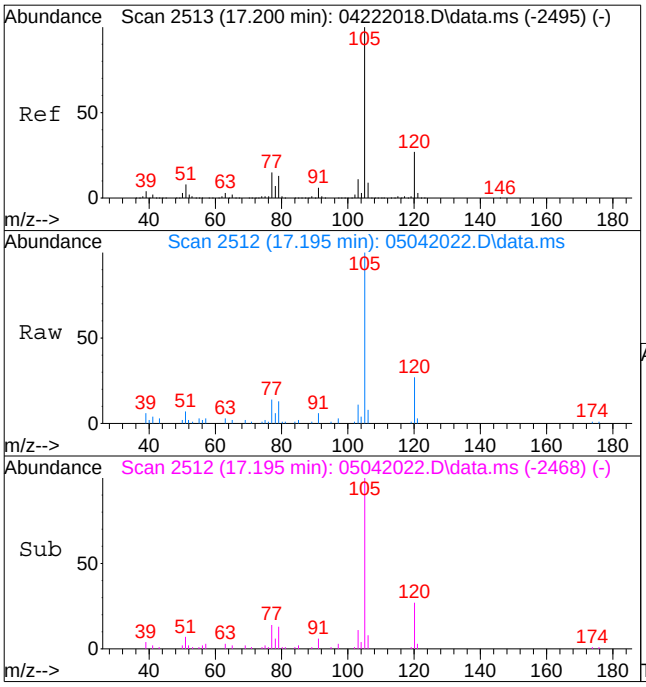


#71
n-Nonane
Concen: 0.73 ng
RT: 16.82 min Scan# 2444
Delta R.T. -0.006 min
Lab File: 05042022.D
Acq: 4 May 2020 18:36

Tgt Ion: 43 Resp: 9300

Ion	Ratio	Lower	Upper
43	100		
57	105.4	90.8	130.8
85	49.4	32.1	72.1

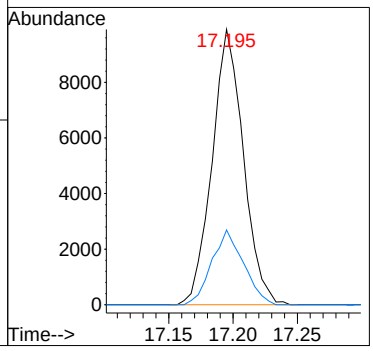


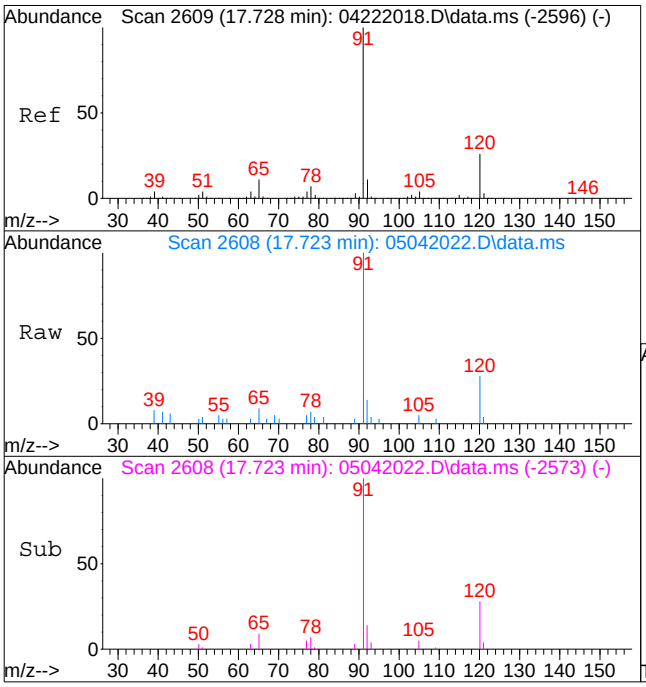


#74
Cumene
Concen: 0.33 ng
RT: 17.19 min Scan# 2512
Delta R.T. -0.006 min
Lab File: 05042022.D
Acq: 4 May 2020 18:36

Tgt Ion:105 Resp: 16788

Ion	Ratio	Lower	Upper
105	100		
120	27.5	7.3	47.3

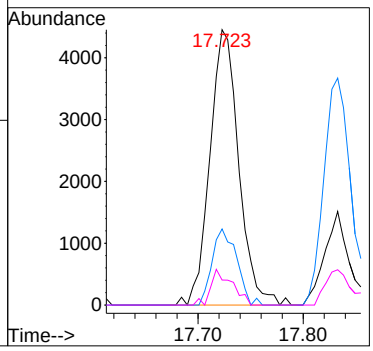


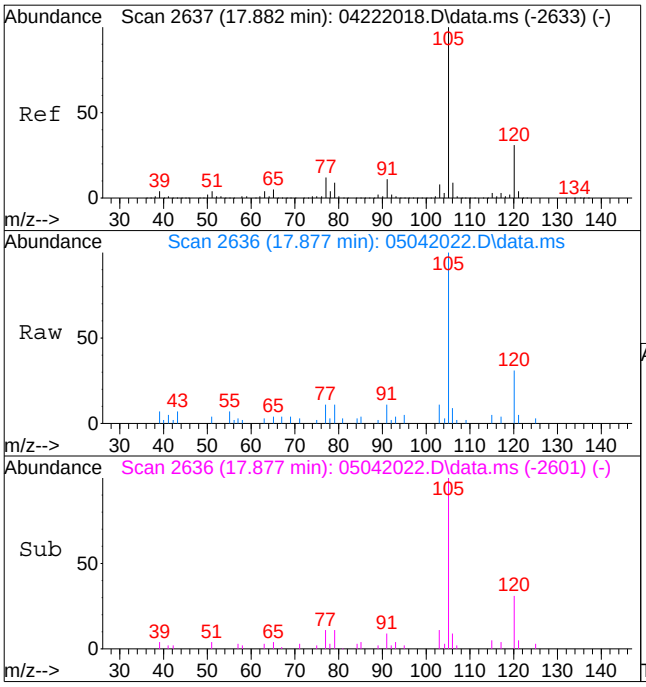


#76
n-Propylbenzene
Concen: 0.15 ng
RT: 17.72 min Scan# 2608
Delta R.T. -0.006 min
Lab File: 05042022.D
Acq: 4 May 2020 18:36

Tgt Ion: 91 Resp: 8517

Ion	Ratio	Lower	Upper
91	100		
120	23.5	6.1	46.1
65	9.5	0.0	30.7

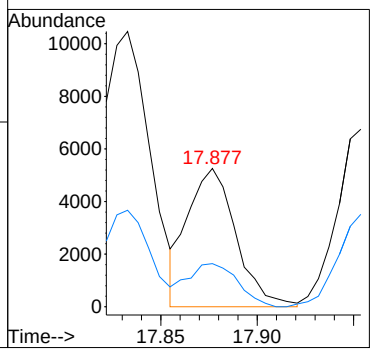


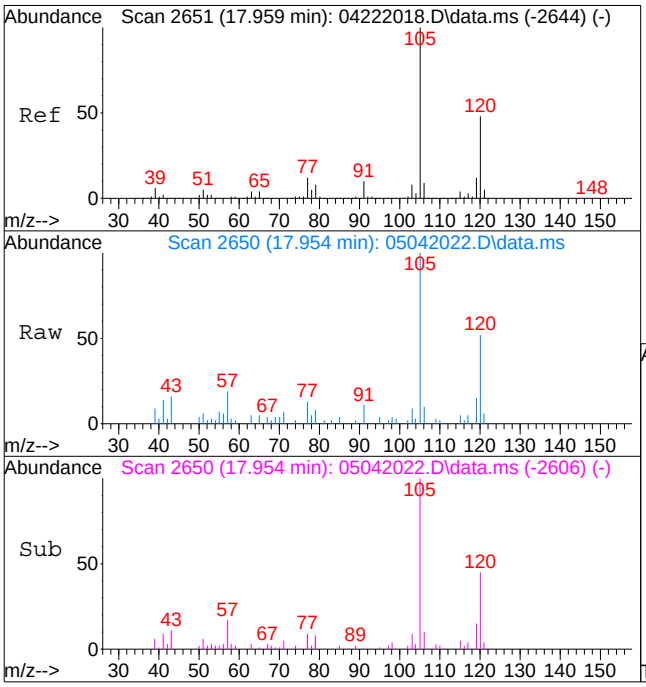


#78
4-Ethyltoluene
Concen: 0.19 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05042022.D
Acq: 4 May 2020 18:36

Tgt Ion:105 Resp: 9212

Ion	Ratio	Lower	Upper
105	100		
120	32.6	11.4	51.4

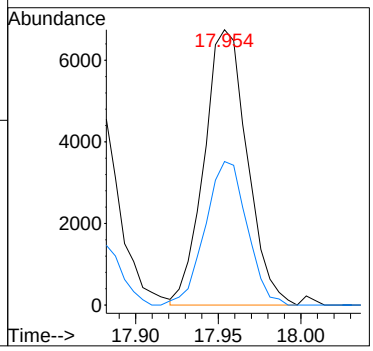


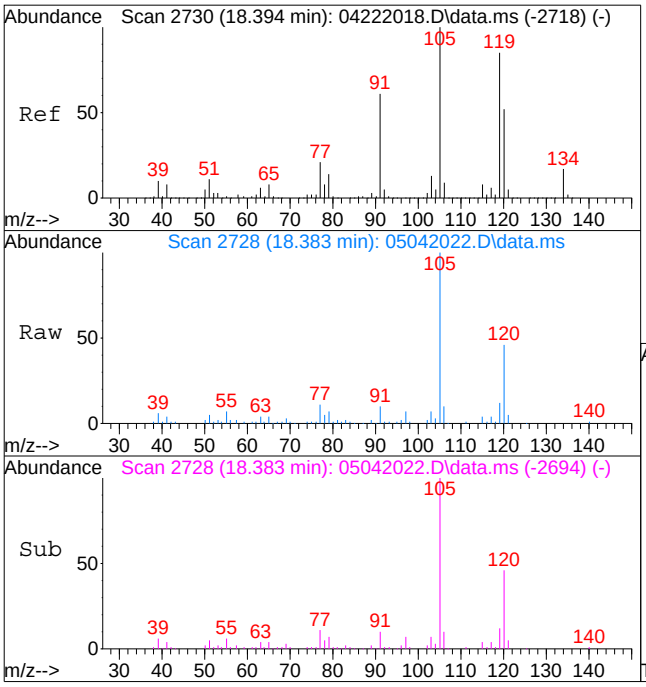


#79
1,3,5-Trimethylbenzene
Concen: 0.27 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 05042022.D
Acq: 4 May 2020 18:36

Tgt Ion:105 Resp: 12227

Ion	Ratio	Lower	Upper
105	100		
120	50.6	29.5	69.5

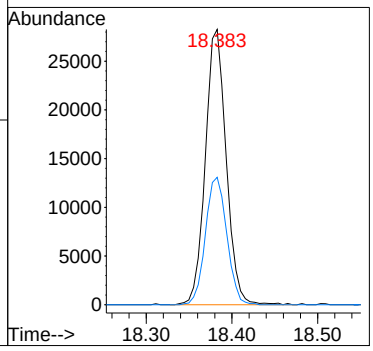


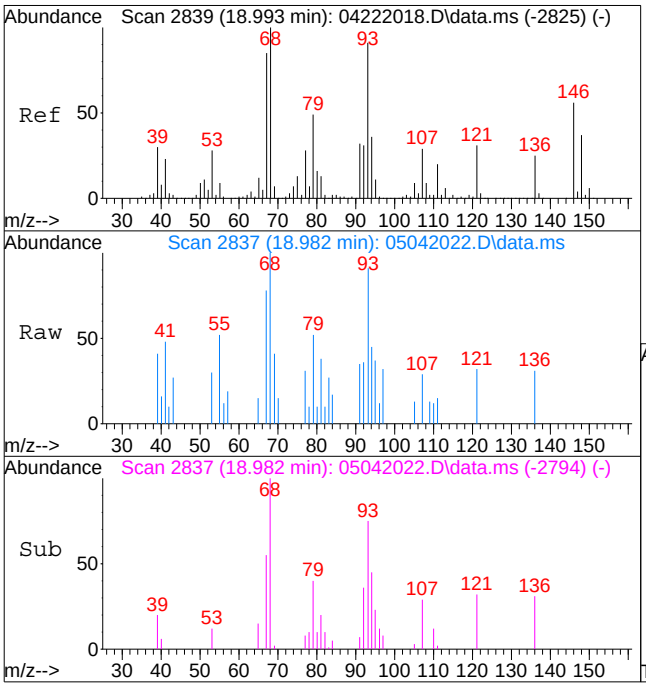


#82
1,2,4-Trimethylbenzene
Concen: 1.09 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 05042022.D
Acq: 4 May 2020 18:36

Tgt Ion:105 Resp: 47757

Ion	Ratio	Lower	Upper
105	100		
120	47.5	34.5	74.5

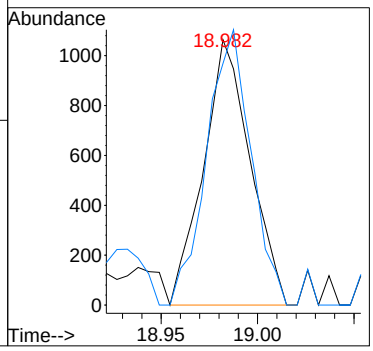


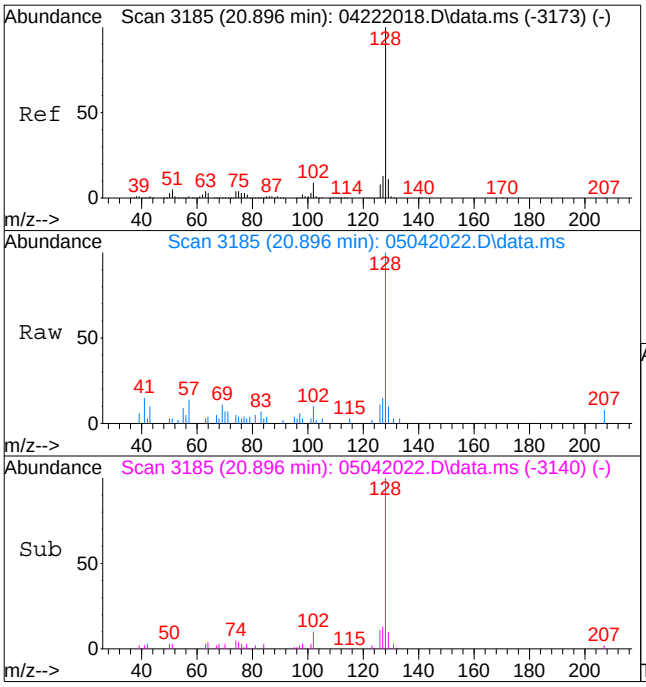


#91
d-Limonene
Concen: 0.15 ng
RT: 18.98 min Scan# 2837
Delta R.T. -0.011 min
Lab File: 05042022.D
Acq: 4 May 2020 18:36

Tgt Ion: 68 Resp: 1792

Ion	Ratio	Lower	Upper
68	100		
93	98.4	71.6	111.6

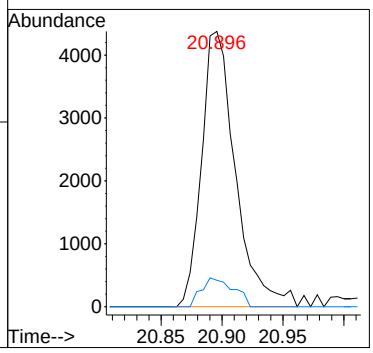




#95
Naphthalene
Concen: 0.15 ng
RT: 20.90 min Scan# 3185
Delta R.T. -0.000 min
Lab File: 05042022.D
Acq: 4 May 2020 18:36

Tgt Ion:128 Resp: 8463

Ion	Ratio	Lower	Upper
128	100		
129	10.0	0.0	30.9



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042035.D Vial: 6
Acq On : 5 May 2020 1:53 Operator: SC
Sample : P2002106-005Dil (40mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 14:37:23 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/5/20

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	137717	12.500 ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	573209	12.500 ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.45	82	254384	12.500 ng	-0.01
System Monitoring Compounds					
33) 1,2-Dichloroethane-d4(...	9.91	65	209230	11.726 ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.84%		
57) Toluene-d8 (SS2)	13.54	98	624513	12.715 ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.68%		
73) Bromofluorobenzene (SS3)	17.05	174	253361	12.835 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.64%		
Target Compounds					Qvalue
2) Propene	3.91	42	388	0.066 ng	# 78
3) Dichlorodifluoromethan...	4.00	85	171	N.D.	
4) Chloromethane	4.20	50	4180	0.510 ng	96
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.	
6) Vinyl Chloride	4.48	62	1105	0.103 ng	85
7) 1,3-Butadiene	0.00	54	0	N.D.	
8) Bromomethane	0.00	94	0	N.D.	
9) Chloroethane	0.00	64	0	N.D. d	
10) Ethanol	5.42	45	55	N.D.	
11) Acetonitrile	0.00	41	0	N.D.	
12) Acrolein	5.76	56	45	N.D.	
13) Acetone	5.88	58	4985	0.937 ng	# 76
14) Trichlorofluoromethane	0.00	101	0	N.D.	
15) 2-Propanol (Isopropanol)	6.21	45	1431	0.085 ng	91
16) Acrylonitrile	0.00	53	0	N.D.	
17) 1,1-Dichloroethene	0.00	96	0	N.D.	
18) 2-Methyl-2-Propanol (t...	6.95	59	398	N.D.	
19) Methylene Chloride	0.00	84	0	N.D.	
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	
21) Trichlorotrifluoroethane	7.19	151	140	N.D.	
22) Carbon Disulfide	7.16	76	19206	0.619 ng	94
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.	
24) 1,1-Dichloroethane	8.10	63	889	0.058 ng	78
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	
26) Vinyl Acetate	0.00	86	0	N.D.	
27) 2-Butanone (MEK)	8.56	72	970	0.177 ng	# 33
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.	
29) Diisopropyl Ether	9.27	87	148	N.D.	
30) Ethyl Acetate	0.00	61	0	N.D.	
31) n-Hexane	0.00	57	0	N.D.	
32) Chloroform	9.28	83	2937	0.156 ng	97
34) Tetrahydrofuran (THF)	9.70	72	3696	0.668 ng	95
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.	
36) 1,2-Dichloroethane	10.04	62	346	N.D.	
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.	
39) Isopropyl Acetate	0.00	61	0	N.D.	
40) 1-Butanol	0.00	56	0	N.D.	
41) Benzene	10.76	78	1540	N.D.	
42) Carbon Tetrachloride	10.91	117	335	N.D.	
43) Cyclohexane	11.10	84	457	N.D.	
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.	
45) 1,2-Dichloropropane	0.00	63	0	N.D.	
46) Bromodichloromethane	0.00	83	0	N.D. d	
47) Trichloroethene	11.80	130	271695	20.995 ng	99
48) 1,4-Dioxane	0.00	88	0	N.D.	
49) 2,2,4-Trimethylpentane...	11.88	57	518	N.D.	
50) Methyl Methacrylate	0.00	100	0	N.D. d	

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042035.D Vial: 6
Acq On : 5 May 2020 1:53 Operator: SC
Sample : P2002106-005Dil (40mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 14:37:23 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

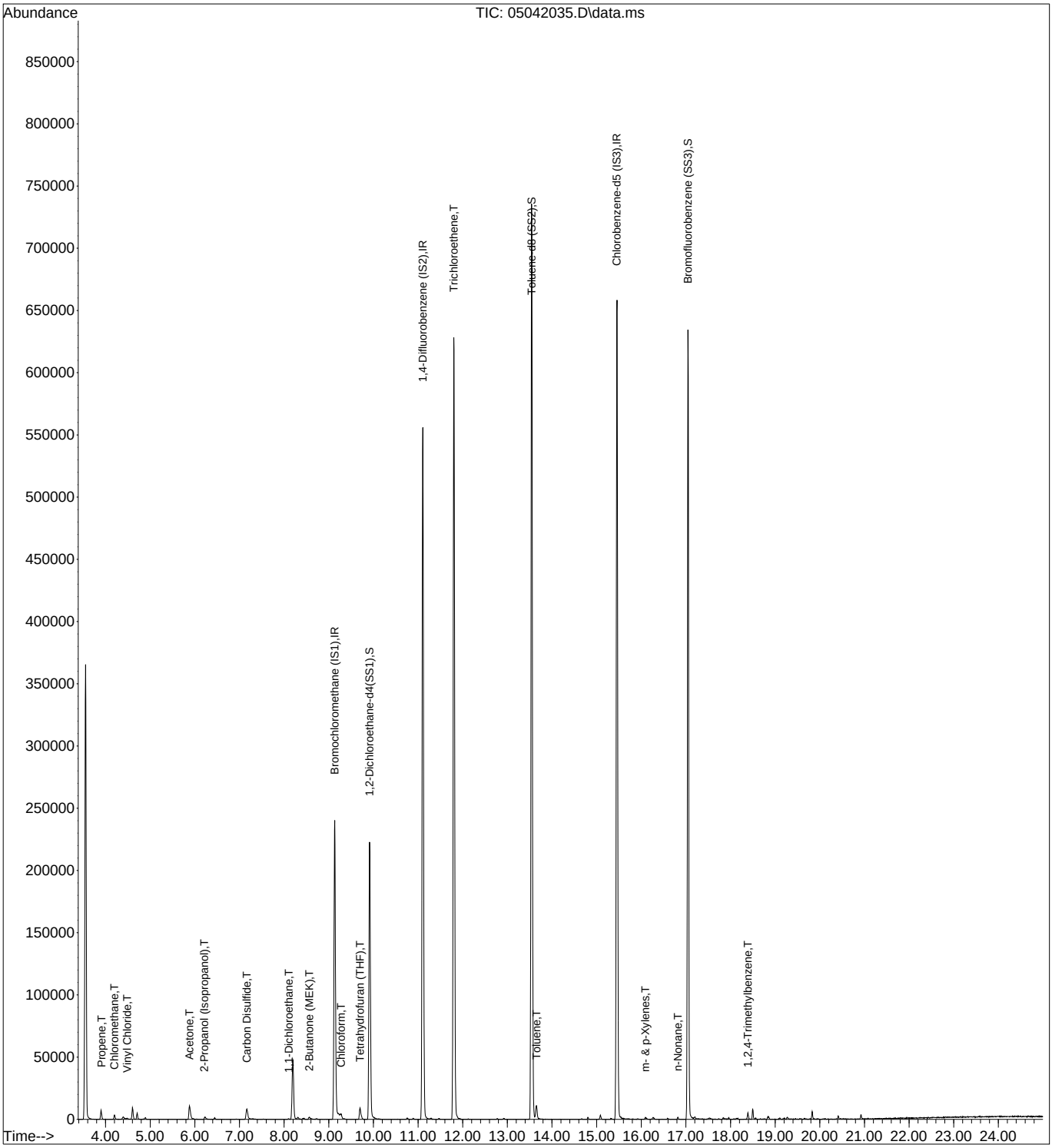
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.12	71	111	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.65	91	11426	0.277 ng	99
59) 2-Hexanone	0.00	43	0	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	14.67	43	239	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.80	166	693	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.92	91	804	N.D.	
67) m- & p-Xylenes	16.09	91	2348	0.058 ng	97
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.59	91	840	N.D.	
71) n-Nonane	16.82	43	683	0.053 ng	92
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	17.21	105	1475	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.74	91	624	N.D.	
77) 3-Ethyltoluene	17.84	105	1722	N.D.	
78) 4-Ethyltoluene	17.88	105	782	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	1274	N.D.	
80) alpha-Methylstyrene	18.12	118	712	N.D.	
81) 2-Ethyltoluene	18.16	105	772	N.D.	
82) 1,2,4-Trimethylbenzene	18.39	105	3871	0.088 ng	82
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.39	91	400	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	18.67	105	543	N.D.	
88) 4-Isopropyltoluene (p-...	18.83	119	726	N.D.	
89) 1,2,3-Trimethylbenzene	18.84	105	1323	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	18.99	68	120	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.93	128	277	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	18.40	119	432	N.D.	
100) n-Butylbenzene	19.29	91	764	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042035.D Vial: 6
Acq On : 5 May 2020 1:53 Operator: SC
Sample : P2002106-005Dil (40mL) Inst : MS09
Misc : S34-04212006

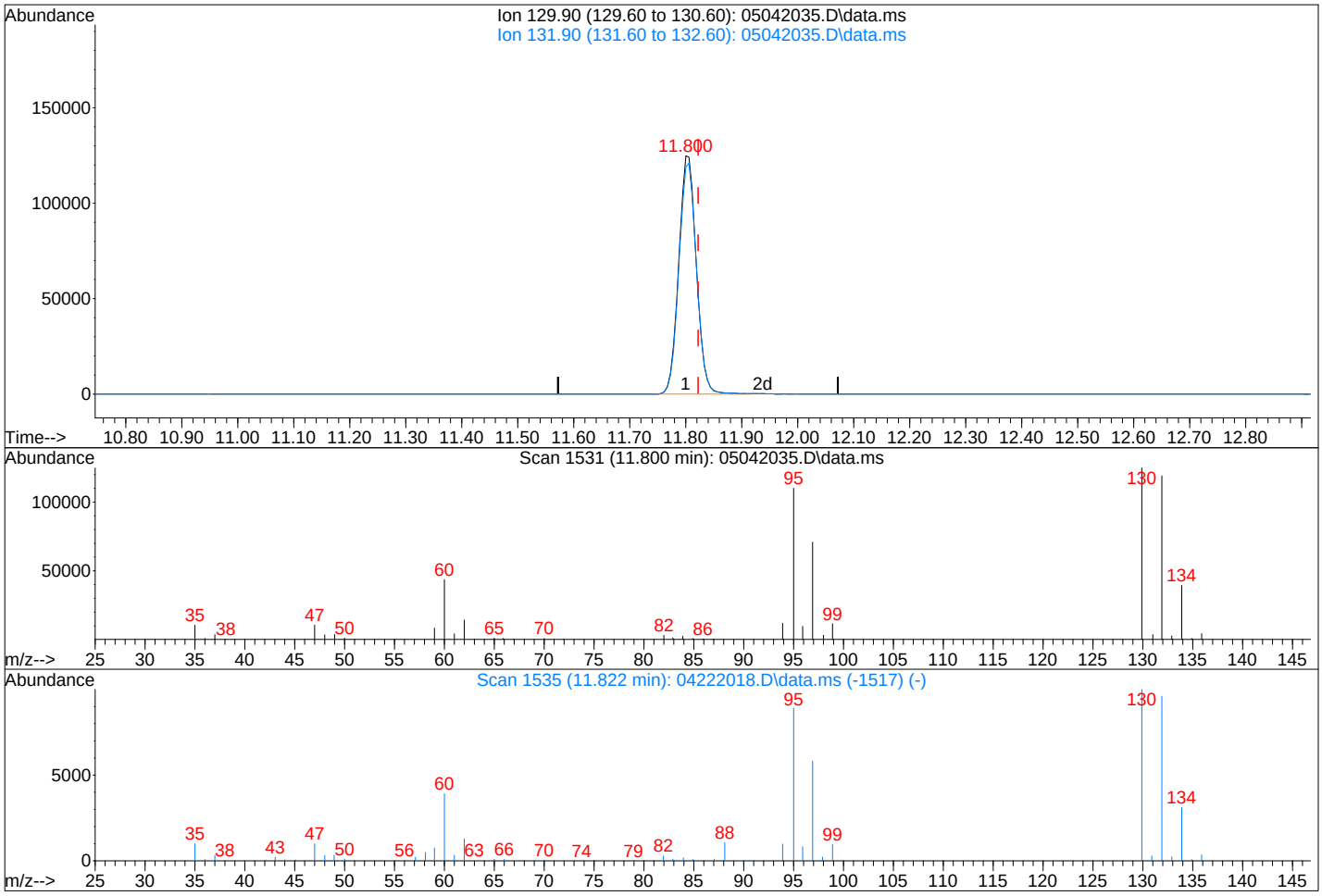
Quant Time: May 05 14:37:23 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_05\04\05042035.D Vial: 6
Acq On : 5 May 2020 1:53 Operator: SC
Sample : P2002106-005Dil (40mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 05:34:19 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05042035.D\data.ms

(47) Trichloroethene (T)

11.800min (-0.022) 20.99ng

response 271695

Ion	Exp%	Act%
129.90	100	100
131.90	96.40	97.03
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042023.D Vial: 7
Acq On : 4 May 2020 19:09 Operator: SC
Sample : P2002106-006 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 16:10:21 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/5/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	138063	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	577745	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	254758	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	209841	11.731	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.84%				
57) Toluene-d8 (SS2)	13.54	98	632901	12.867	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.96%				
73) Bromofluorobenzene (SS3)	17.05	174	253396	12.818	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.56%				
Target Compounds							Qvalue
2) Propene	3.87	42	2812	0.480	ng		91
3) Dichlorodifluoromethan...	3.98	85	11279	0.506	ng		100
4) Chloromethane	4.17	50	44939	5.467	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	139	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	4.57	54	148	N.D.			
8) Bromomethane	4.94	94	4012	0.474	ng		99
9) Chloroethane	5.15	64	1938	0.355	ng		98
10) Ethanol	5.36	45	4766m	1.073	ng		
11) Acetonitrile	5.56	41	2973	0.283	ng		76
12) Acrolein	5.70	56	3959	0.975	ng		91
13) Acetone	5.83	58	102059	19.139	ng	#	82
14) Trichlorofluoromethane	6.02	101	4946	0.223	ng		97
15) 2-Propanol (Isopropanol)	6.17	45	6151	0.363	ng		86
16) Acrylonitrile	0.00	53	0	N.D. d			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d			
19) Methylene Chloride	6.86	84	751	0.080	ng		92
20) 3-Chloro-1-propene (Al...	6.99	41	287	N.D.			
21) Trichlorotrifluoroethane	7.19	151	2575	0.223	ng		97
22) Carbon Disulfide	7.14	76	17668	0.568	ng		97
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	8.25	86	34708	17.834	ng	#	27
27) 2-Butanone (MEK)	8.52	72	14484	2.644	ng		95
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D. d			
30) Ethyl Acetate	9.24	61	371	0.152	ng	#	75
31) n-Hexane	9.22	57	774	0.065	ng	#	59
32) Chloroform	9.27	83	8079	0.427	ng		97
34) Tetrahydrofuran (THF)	9.69	72	663	0.119	ng	#	68
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	10.02	62	375	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D. d			
41) Benzene	10.75	78	5194	0.138	ng		93
42) Carbon Tetrachloride	10.90	117	1779	0.091	ng		90
43) Cyclohexane	10.99	84	402	N.D.			
44) tert-Amyl Methyl Ether	11.36	73	486	N.D.			
45) 1,2-Dichloropropane	11.78	63	148	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D. d			
47) Trichloroethene	11.80	130	53230	4.081	ng		100
48) 1,4-Dioxane	0.00	88	0	N.D. d			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d			
50) Methyl Methacrylate	0.00	100	0	N.D. d			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042023.D Vial: 7
Acq On : 4 May 2020 19:09 Operator: SC
Sample : P2002106-006 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 16:10:21 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

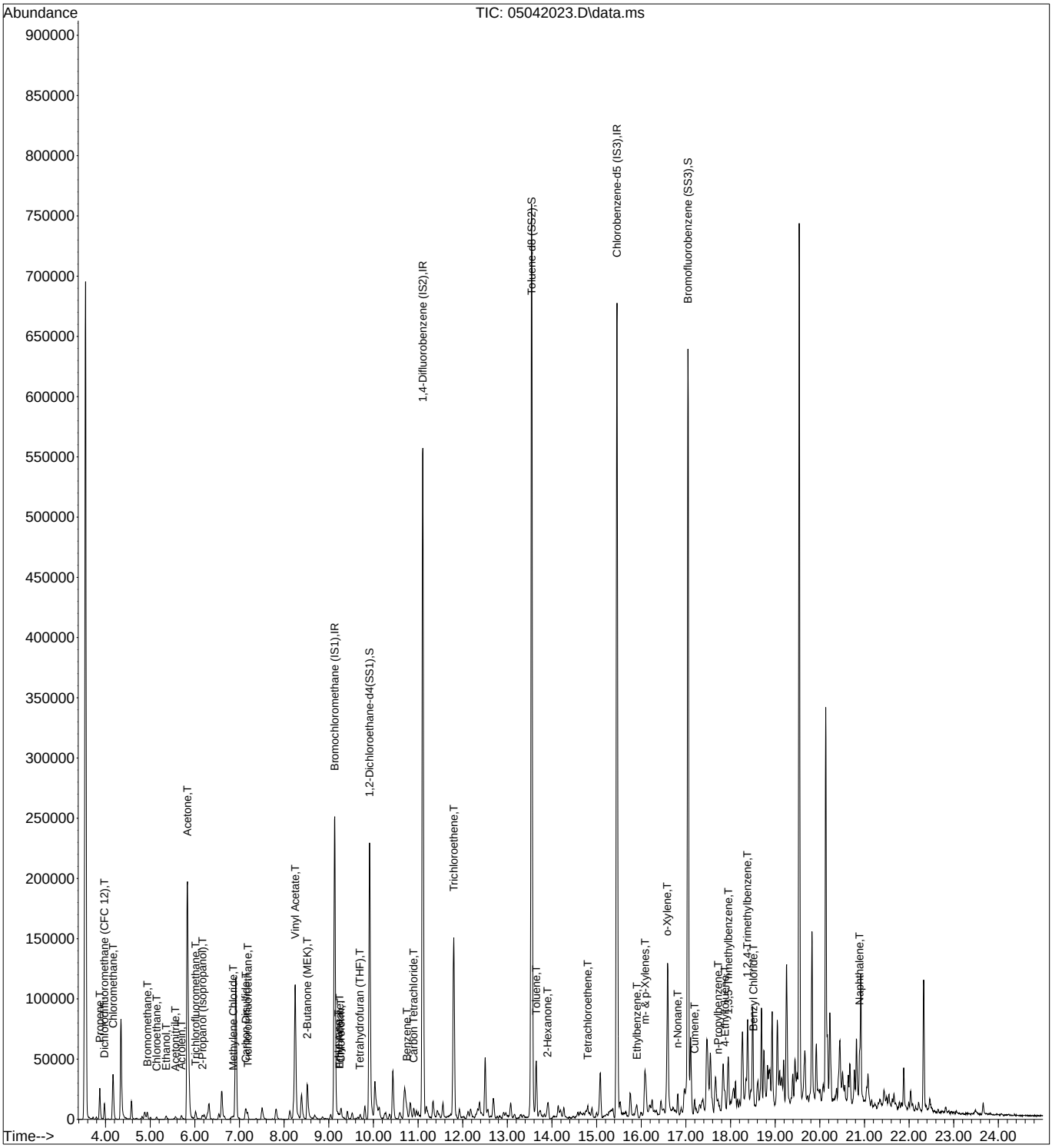
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	0.00	71	0	N.D. d		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	13.65	91	43508	1.053 ng		99
59) 2-Hexanone	13.90	43	3834	0.311 ng	#	72
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	14.53	43	510	N.D.		
63) n-Octane	0.00	57	0	N.D. d		
64) Tetrachloroethene	14.80	166	2456	0.158 ng		89
65) Chlorobenzene	15.50	112	210	N.D.		
66) Ethylbenzene	15.90	91	9456	0.197 ng		96
67) m- & p-Xylenes	16.08	91	40636	1.001 ng		100
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.47	104	1345	N.D.		
70) o-Xylene	16.58	91	19801	0.497 ng		98
71) n-Nonane	16.82	43	6145	0.478 ng		97
72) 1,1,2,2-Tetrachloroethane	16.59	83	384	N.D.		
74) Cumene	17.19	105	3261	0.063 ng		99
75) alpha-Pinene	17.66	93	161	N.D.		
76) n-Propylbenzene	17.72	91	6682	0.118 ng		82
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	17.88	105	6682	0.135 ng		98
79) 1,3,5-Trimethylbenzene	17.95	105	13067	0.286 ng		97
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	18.38	105	34273	0.776 ng		90
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	18.51	91	2989	0.090 ng		59
85) 1,3-Dichlorobenzene	18.60	146	133	N.D.		
86) 1,4-Dichlorobenzene	18.60	146	133	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D. d		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	0.00	68	0	N.D. d		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	20.89	128	36154	0.635 ng		99
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042023.D Vial: 7
Acq On : 4 May 2020 19:09 Operator: SC
Sample : P2002106-006 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 16:10:21 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042023.D Vial: 7
Acq On : 4 May 2020 19:09 Operator: SC
Sample : P2002106-006 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 16:10:21 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/5/20

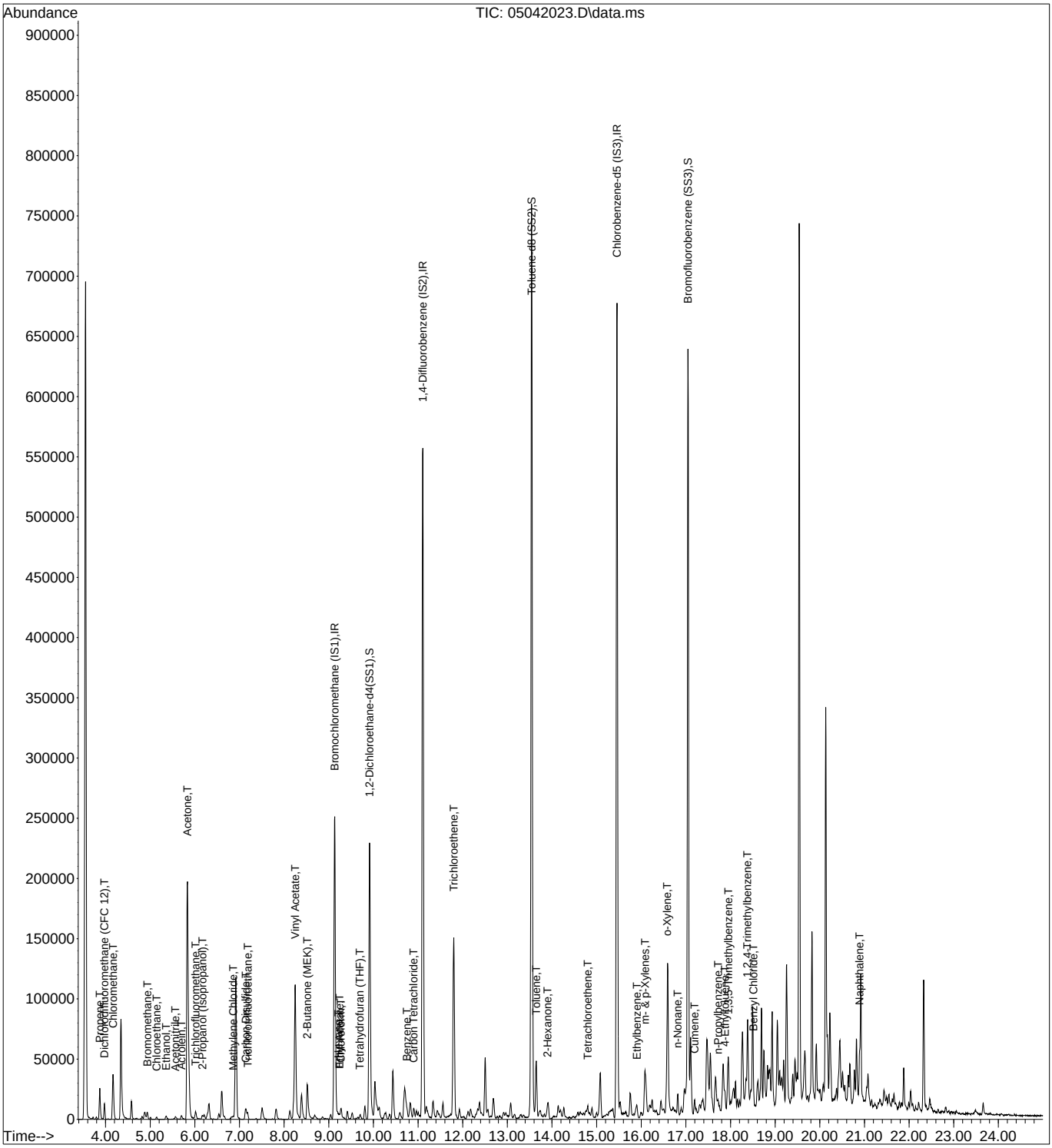
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	138063	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	577745	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	254758	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	209841	11.731	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.84%				
57) Toluene-d8 (SS2)	13.54	98	632901	12.867	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.96%				
73) Bromofluorobenzene (SS3)	17.05	174	253396	12.818	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.56%				
Target Compounds							Qvalue
2) Propene	3.87	42	2812	0.480	ng		91
3) Dichlorodifluoromethan...	3.98	85	11279	0.506	ng		100
4) Chloromethane	4.17	50	44939	5.467	ng		100
8) Bromomethane	4.94	94	4012	0.474	ng		99
9) Chloroethane	5.15	64	1938	0.355	ng		98
10) Ethanol	5.36	45	4766m	1.073	ng		
11) Acetonitrile	5.56	41	2973	0.283	ng		76
12) Acrolein	5.70	56	3959	0.975	ng		91
13) Acetone	5.83	58	102059	19.139	ng	#	82
14) Trichlorofluoromethane	6.02	101	4946	0.223	ng		97
15) 2-Propanol (Isopropanol)	6.17	45	6151	0.363	ng		86
19) Methylene Chloride	6.86	84	751	0.080	ng		92
21) Trichlorotrifluoroethane	7.19	151	2575	0.223	ng		97
22) Carbon Disulfide	7.14	76	17668	0.568	ng		97
26) Vinyl Acetate	8.25	86	34708	17.834	ng	#	27
27) 2-Butanone (MEK)	8.52	72	14484	2.644	ng		95
30) Ethyl Acetate	9.24	61	371	0.152	ng	#	75
31) n-Hexane	9.22	57	774	0.065	ng	#	59
32) Chloroform	9.27	83	8079	0.427	ng		97
34) Tetrahydrofuran (THF)	9.69	72	663	0.119	ng	#	68
41) Benzene	10.75	78	5194	0.138	ng		93
42) Carbon Tetrachloride	10.90	117	1779	0.091	ng		90
47) Trichloroethene	11.80	130	53230	4.081	ng		100
58) Toluene	13.65	91	43508	1.053	ng		99
59) 2-Hexanone	13.90	43	3834	0.311	ng	#	72
64) Tetrachloroethene	14.80	166	2456	0.158	ng		89
66) Ethylbenzene	15.90	91	9456	0.197	ng		96
67) m- & p-Xylenes	16.08	91	40636	1.001	ng		100
70) o-Xylene	16.58	91	19801	0.497	ng		98
71) n-Nonane	16.82	43	6145	0.478	ng		97
74) Cumene	17.19	105	3261	0.063	ng		99
76) n-Propylbenzene	17.72	91	6682	0.118	ng		82
78) 4-Ethyltoluene	17.88	105	6682	0.135	ng		98
79) 1,3,5-Trimethylbenzene	17.95	105	13067	0.286	ng		97
82) 1,2,4-Trimethylbenzene	18.38	105	34273	0.776	ng		90
84) Benzyl Chloride	18.51	91	2989	0.090	ng		59
95) Naphthalene	20.89	128	36154	0.635	ng		99

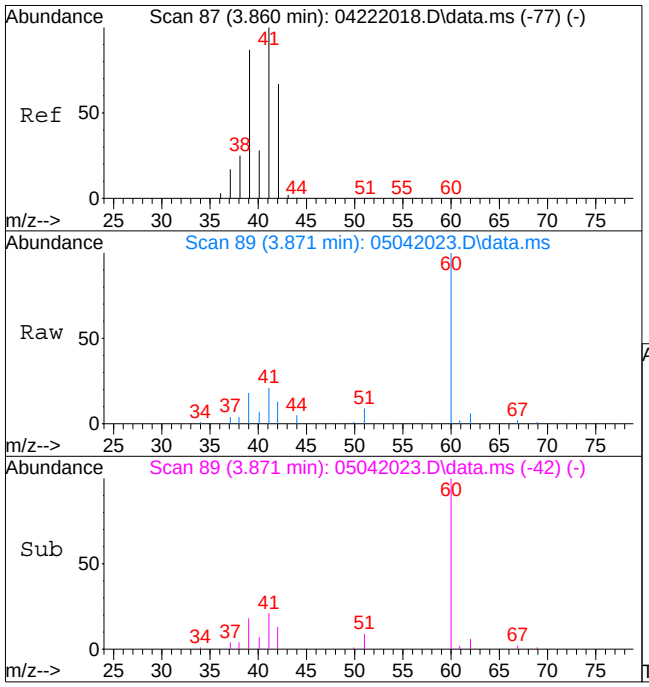
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042023.D Vial: 7
Acq On : 4 May 2020 19:09 Operator: SC
Sample : P2002106-006 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 16:10:21 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

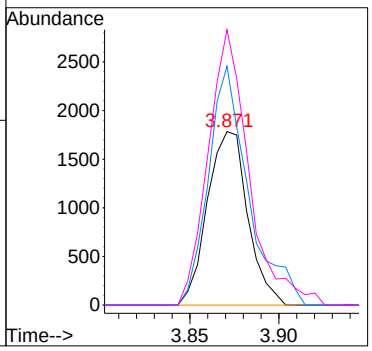


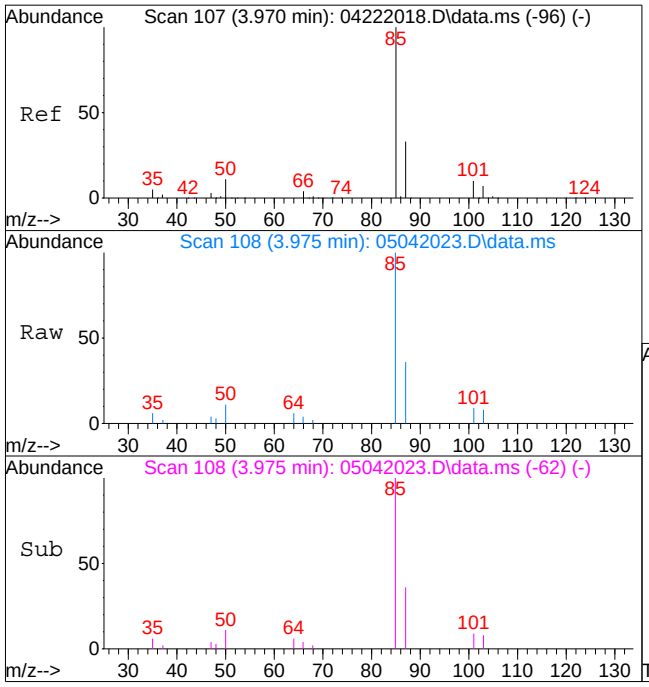


#2
Propene
Concen: 0.48 ng
RT: 3.87 min Scan# 89
Delta R.T. 0.011 min
Lab File: 05042023.D
Acq: 4 May 2020 19:09

Tgt Ion: 42 Resp: 2812

Ion	Ratio	Lower	Upper
42	100		
39	136.9	106.4	146.4
41	160.6	128.8	168.8

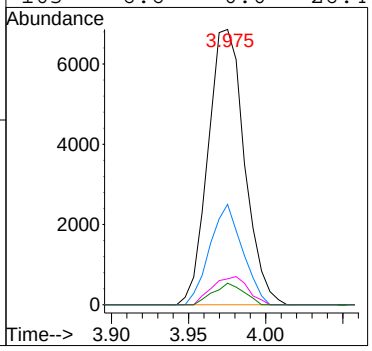


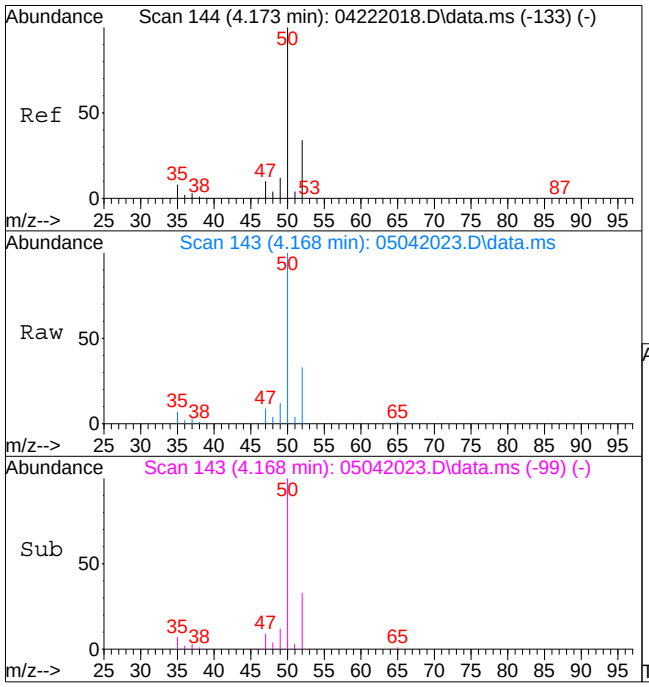


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.51 ng
RT: 3.98 min Scan# 108
Delta R.T. 0.006 min
Lab File: 05042023.D
Acq: 4 May 2020 19:09

Tgt Ion: 85 Resp: 11279

Ion	Ratio	Lower	Upper
85	100		
87	32.7	12.4	52.4
101	10.1	0.0	29.9
103	6.6	0.0	26.4

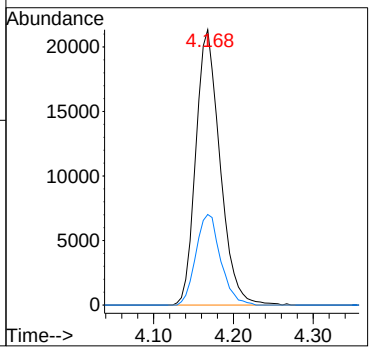


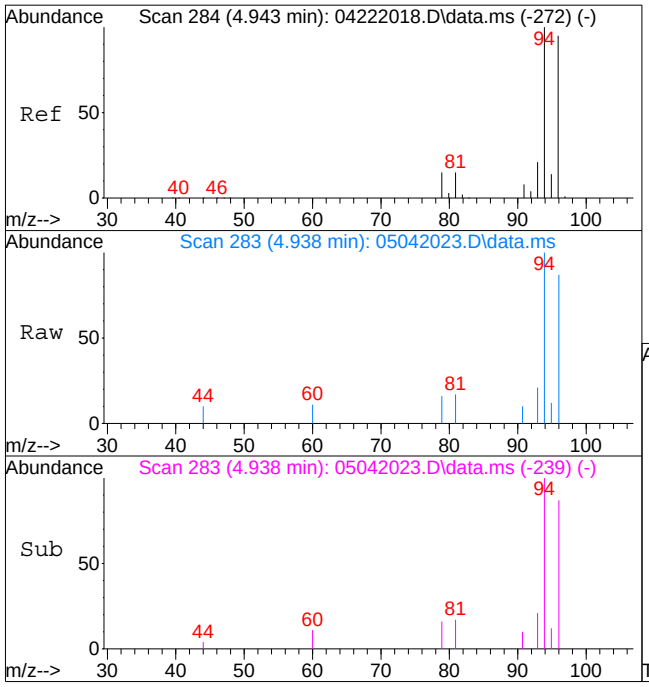


#4
Chloromethane
Concen: 5.47 ng
RT: 4.17 min Scan# 143
Delta R.T. -0.005 min
Lab File: 05042023.D
Acq: 4 May 2020 19:09

Tgt Ion: 50 Resp: 44939

Ion	Ratio	Lower	Upper
50	100		
52	33.6	13.7	53.7

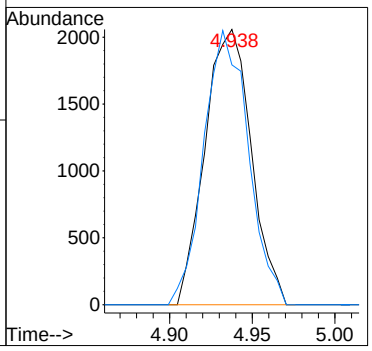


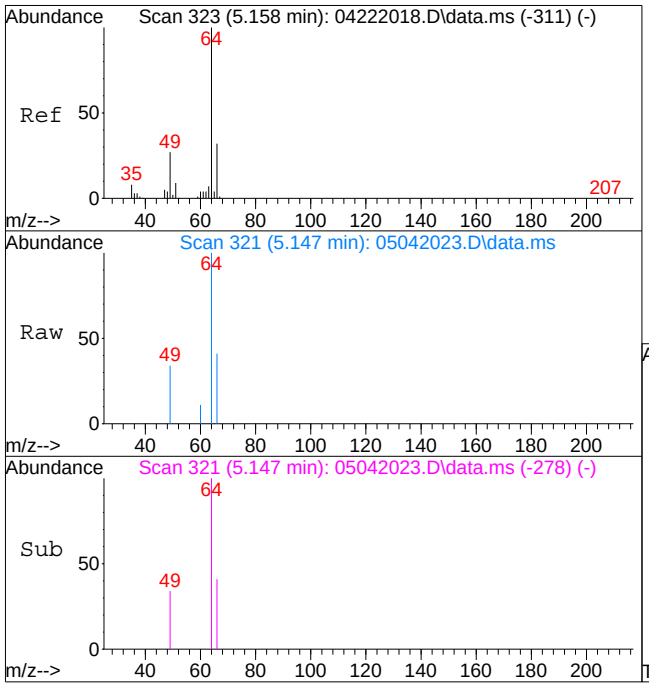


#8
Bromomethane
Concen: 0.47 ng
RT: 4.94 min Scan# 283
Delta R.T. -0.005 min
Lab File: 05042023.D
Acq: 4 May 2020 19:09

Tgt Ion: 94 Resp: 4012

Ion	Ratio	Lower	Upper
94	100		
96	95.8	76.3	116.3

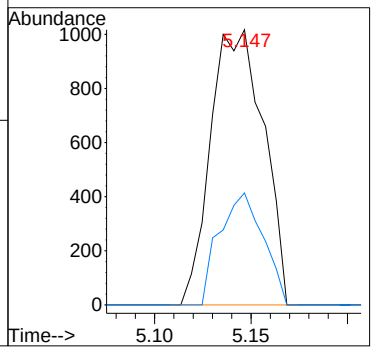


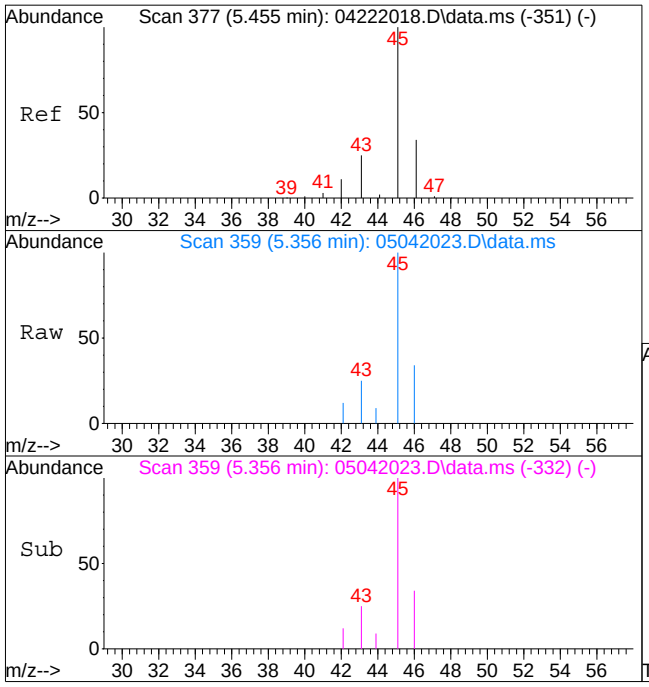


#9
Chloroethane
Concen: 0.36 ng
RT: 5.15 min Scan# 321
Delta R.T. -0.011 min
Lab File: 05042023.D
Acq: 4 May 2020 19:09

Tgt Ion: 64 Resp: 1938

Ion	Ratio	Lower	Upper
64	100		
66	33.8	12.7	52.7

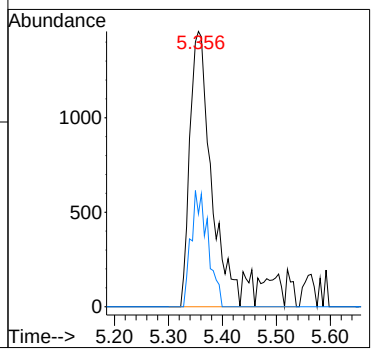


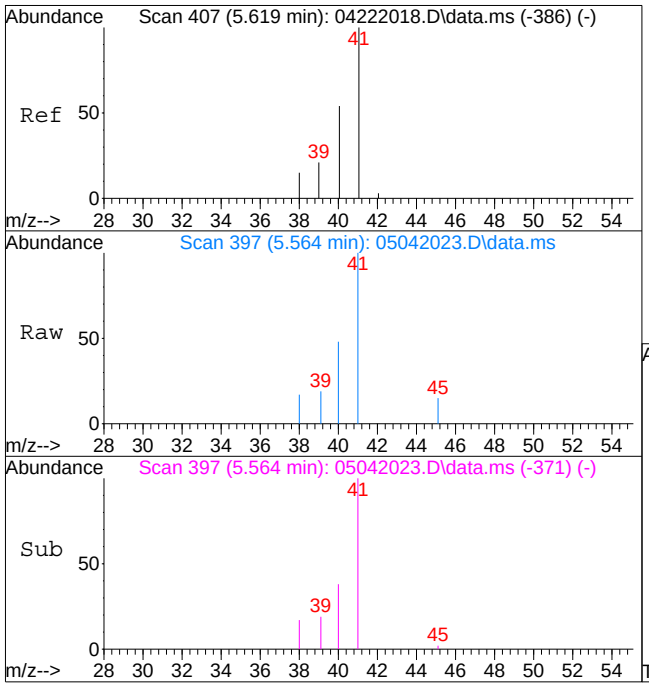


#10
Ethanol
Concen: 1.07 ng m
RT: 5.36 min Scan# 359
Delta R.T. -0.099 min
Lab File: 05042023.D
Acq: 4 May 2020 19:09

Tgt Ion: 45 Resp: 4766

Ion	Ratio	Lower	Upper
45	100		
46	0.0	14.0	54.0#

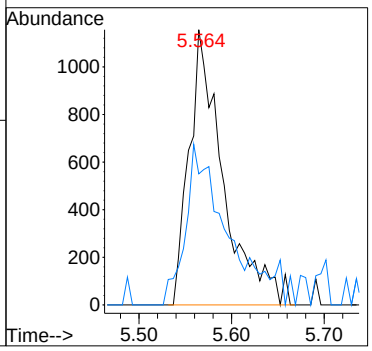


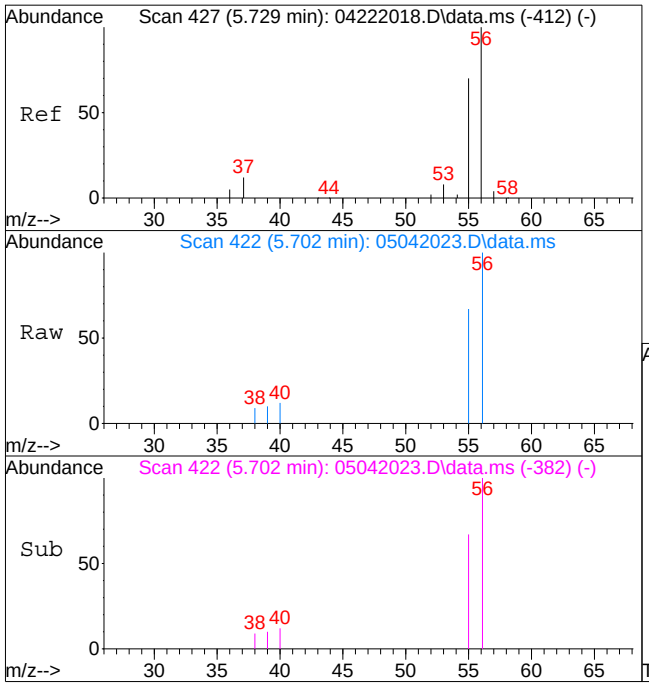


#11
Acetonitrile
Concen: 0.28 ng
RT: 5.56 min Scan# 397
Delta R.T. -0.055 min
Lab File: 05042023.D
Acq: 4 May 2020 19:09

Tgt Ion: 41 Resp: 2973

Ion	Ratio	Lower	Upper
41	100		
40	72.4	34.8	74.8

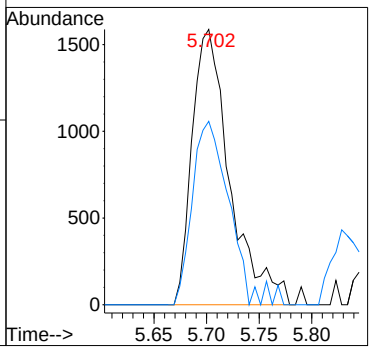


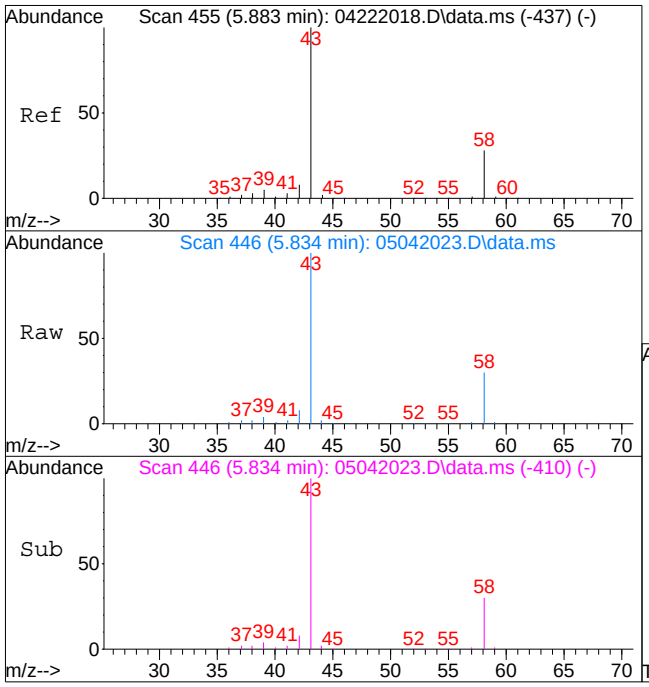


#12
Acrolein
Concen: 0.98 ng
RT: 5.70 min Scan# 422
Delta R.T. -0.027 min
Lab File: 05042023.D
Acq: 4 May 2020 19:09

Tgt Ion: 56 Resp: 3959

Ion	Ratio	Lower	Upper
56	100		
55	63.4	50.4	90.4

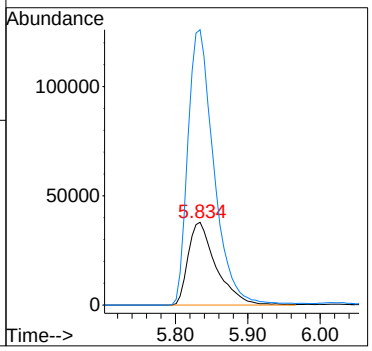


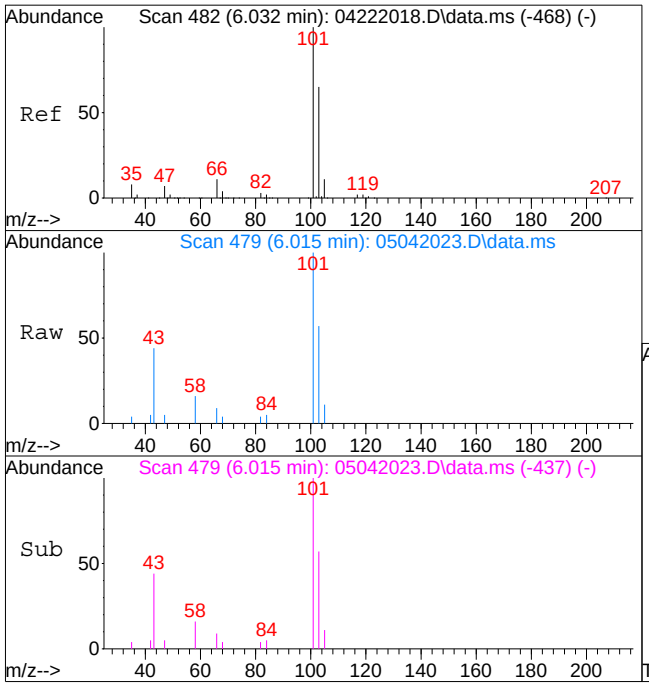


#13
Acetone
Concen: 19.14 ng
RT: 5.83 min Scan# 446
Delta R.T. -0.049 min
Lab File: 05042023.D
Acq: 4 May 2020 19:09

Tgt Ion: 58 Resp: 102059

Ion	Ratio	Lower	Upper
58	100		
43	310.1	319.3	379.3#

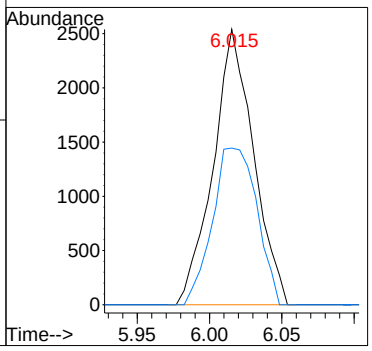


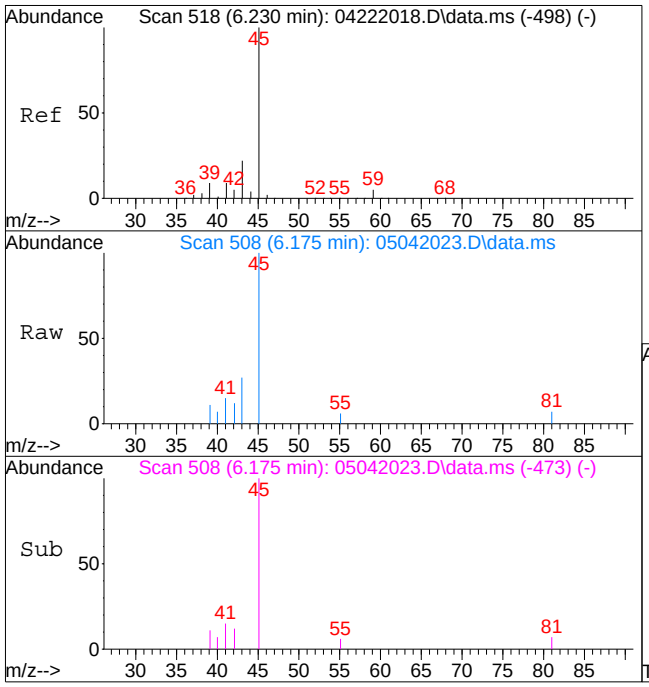


#14
Trichlorofluoromethane
Concen: 0.22 ng
RT: 6.02 min Scan# 479
Delta R.T. -0.017 min
Lab File: 05042023.D
Acq: 4 May 2020 19:09

Tgt Ion:101 Resp: 4946

Ion	Ratio	Lower	Upper
101	100		
103	62.5	44.7	84.7

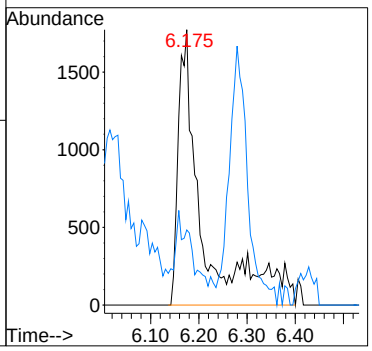


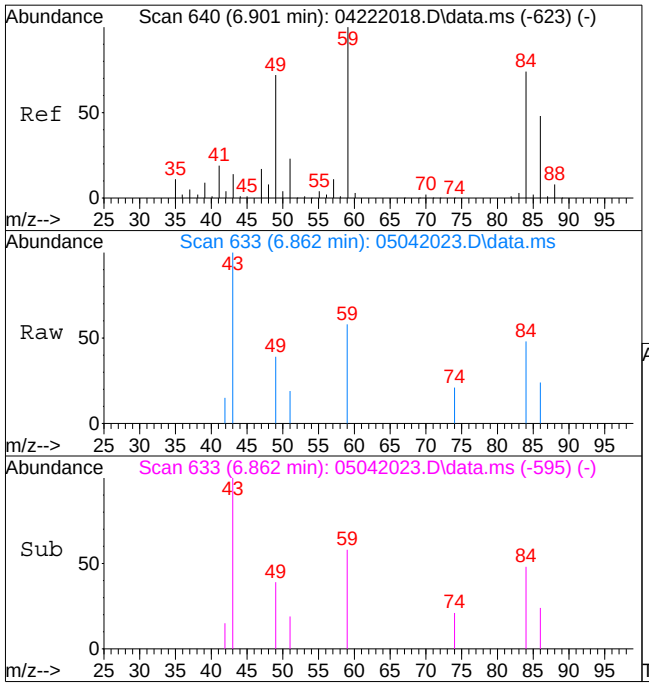


#15
2-Propanol (Isopropanol)
Concen: 0.36 ng
RT: 6.17 min Scan# 508
Delta R.T. -0.055 min
Lab File: 05042023.D
Acq: 4 May 2020 19:09

Tgt Ion: 45 Resp: 6151

Ion	Ratio	Lower	Upper
45	100		
43	16.1	2.6	42.6

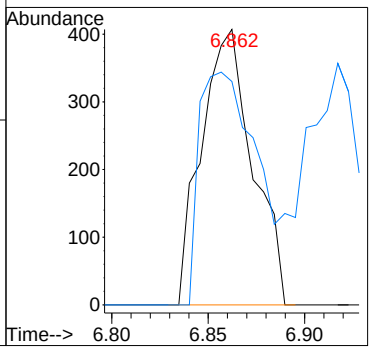


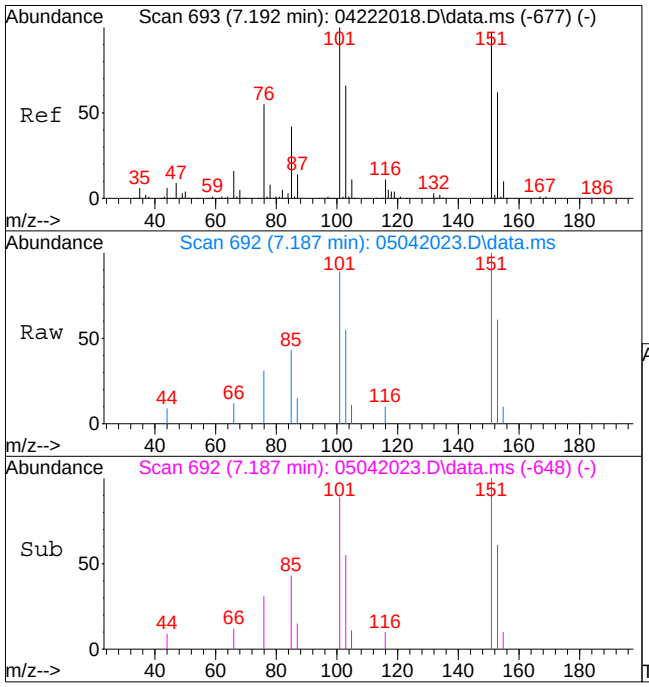


#19
Methylene Chloride
Concen: 0.08 ng
RT: 6.86 min Scan# 633
Delta R.T. -0.038 min
Lab File: 05042023.D
Acq: 4 May 2020 19:09

Tgt Ion: 84 Resp: 751

Ion	Ratio	Lower	Upper
84	100		
49	105.6	73.0	123.0

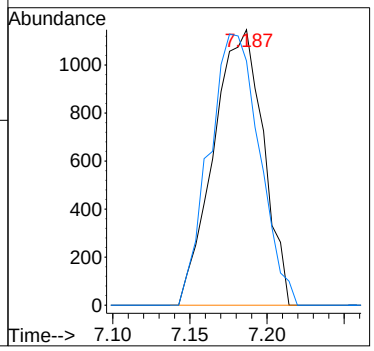


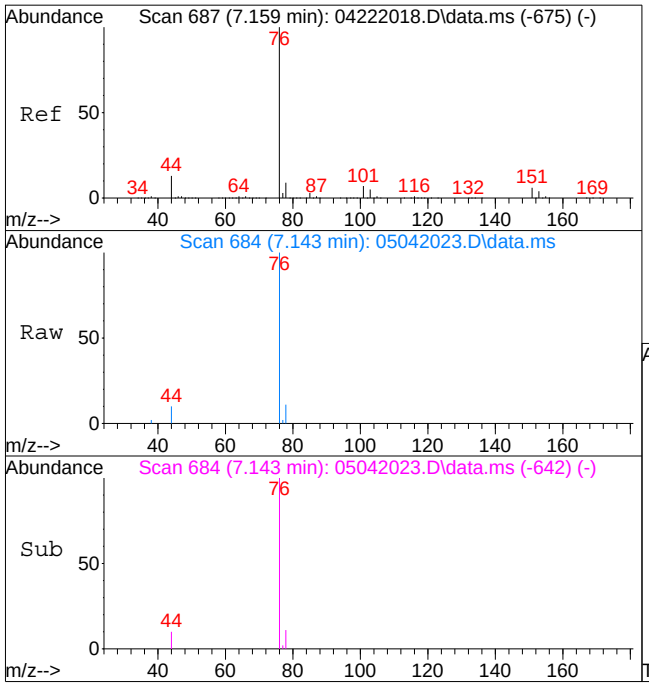


#21
Trichlorotrifluoroethane
Concen: 0.22 ng
RT: 7.19 min Scan# 692
Delta R.T. -0.005 min
Lab File: 05042023.D
Acq: 4 May 2020 19:09

Tgt Ion:151 Resp: 2575

Ion	Ratio	Lower	Upper
151	100		
101	99.6	82.9	122.9

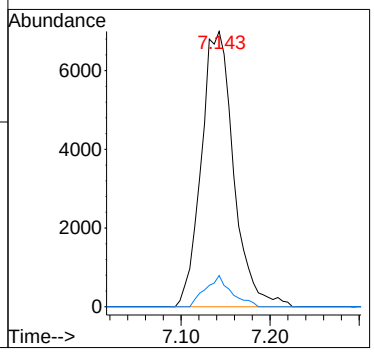


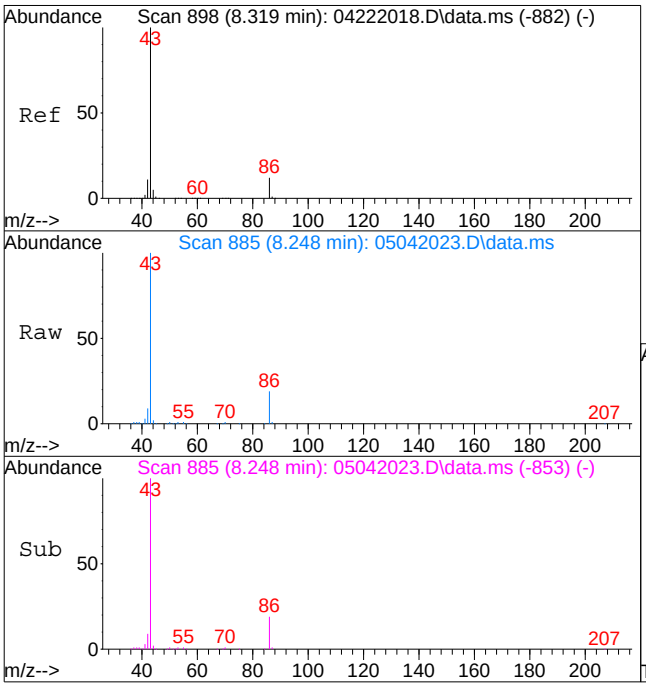


#22
Carbon Disulfide
Concen: 0.57 ng
RT: 7.14 min Scan# 684
Delta R.T. -0.016 min
Lab File: 05042023.D
Acq: 4 May 2020 19:09

Tgt Ion: 76 Resp: 17668

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	30.2

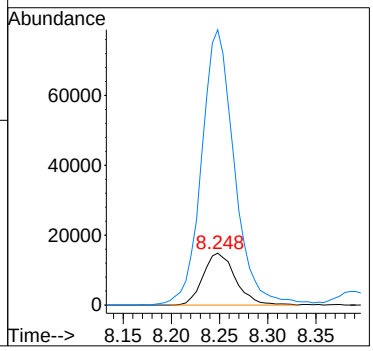


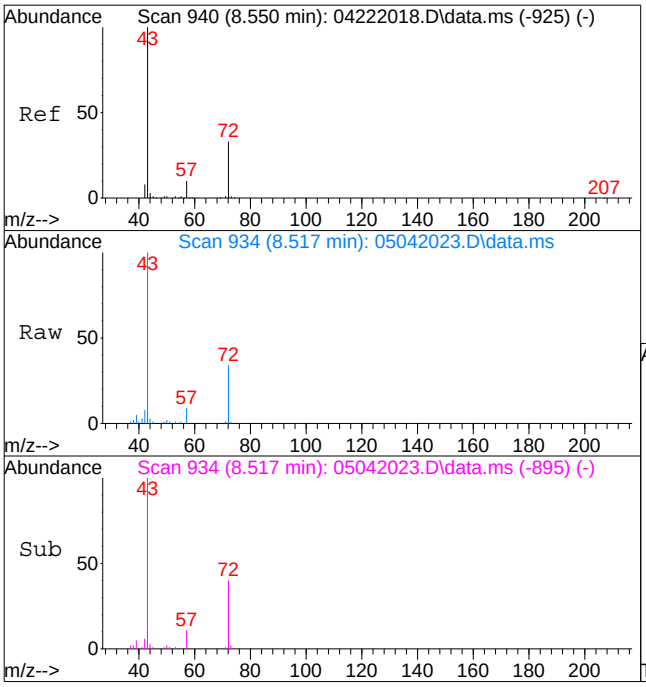


#26
Vinyl Acetate
Concen: 17.83 ng
RT: 8.25 min Scan# 885
Delta R.T. -0.071 min
Lab File: 05042023.D
Acq: 4 May 2020 19:09

Tgt Ion: 86 Resp: 34708

Ion	Ratio	Lower	Upper
86	100		
43	538.4	803.0	843.0#

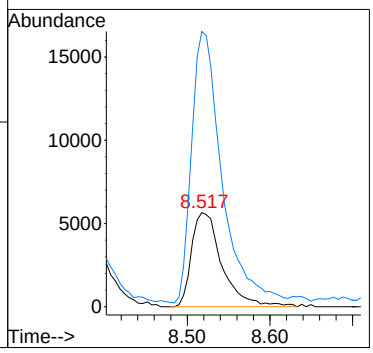


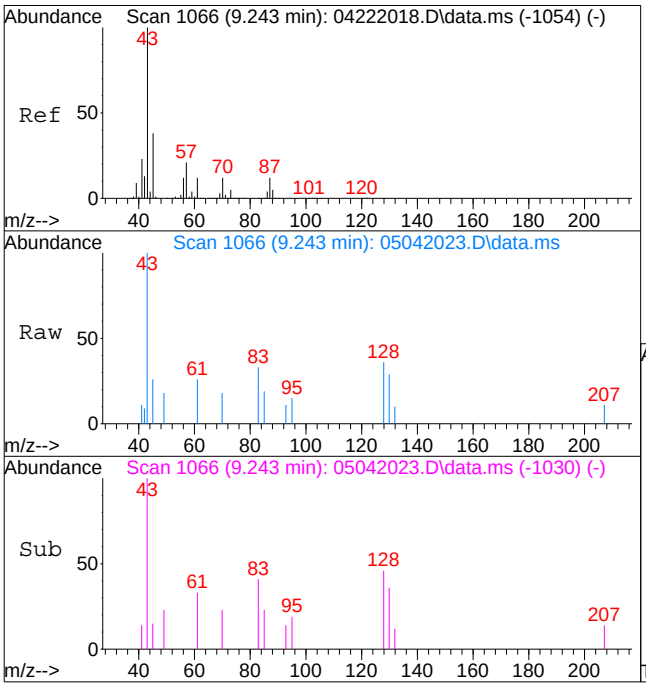


#27
2-Butanone (MEK)
Concen: 2.64 ng
RT: 8.52 min Scan# 934
Delta R.T. -0.033 min
Lab File: 05042023.D
Acq: 4 May 2020 19:09

Tgt Ion: 72 Resp: 14484

Ion	Ratio	Lower	Upper
72	100		
43	288.1	278.8	318.8

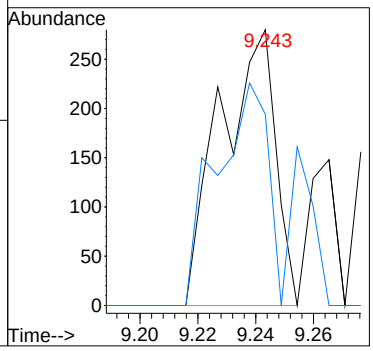


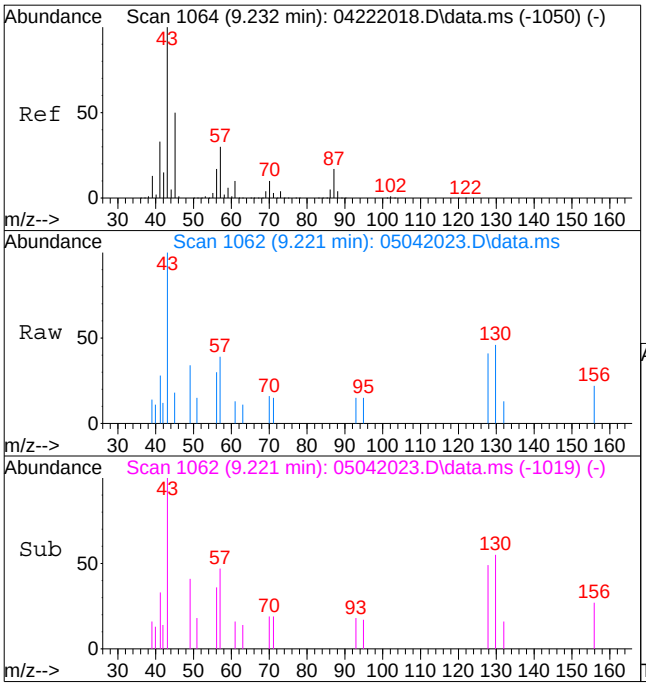


#30
Ethyl Acetate
Concen: 0.15 ng
RT: 9.24 min Scan# 1066
Delta R.T. 0.000 min
Lab File: 05042023.D
Acq: 4 May 2020 19:09

Tgt Ion: 61 Resp: 371

Ion	Ratio	Lower	Upper
61	100		
70	76.0	80.6	120.6#

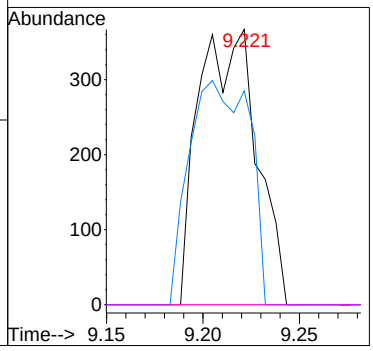


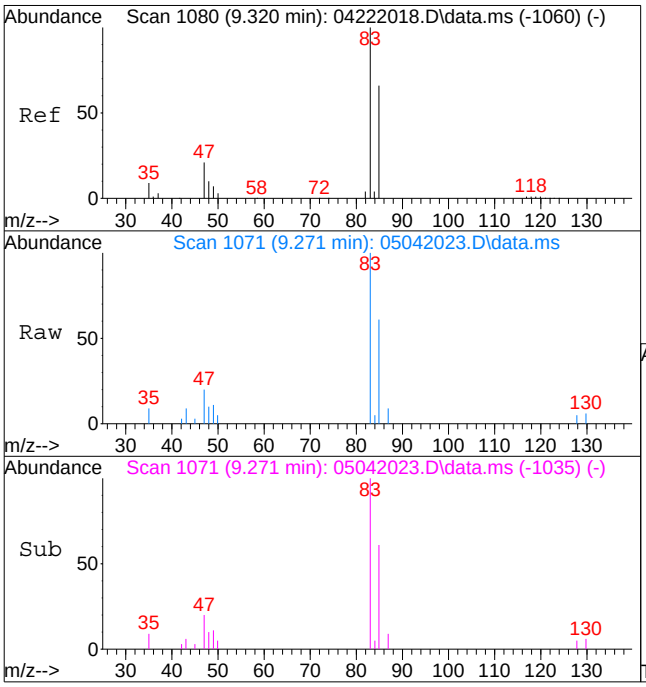


#31
n-Hexane
Concen: 0.07 ng
RT: 9.22 min Scan# 1062
Delta R.T. -0.011 min
Lab File: 05042023.D
Acq: 4 May 2020 19:09

Tgt Ion: 57 Resp: 774

Ion	Ratio	Lower	Upper
57	100		
56	84.1	44.0	66.0#
86	0.0	15.0	22.4#

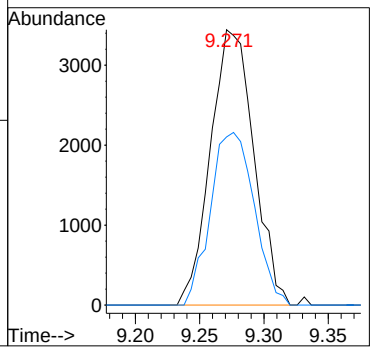


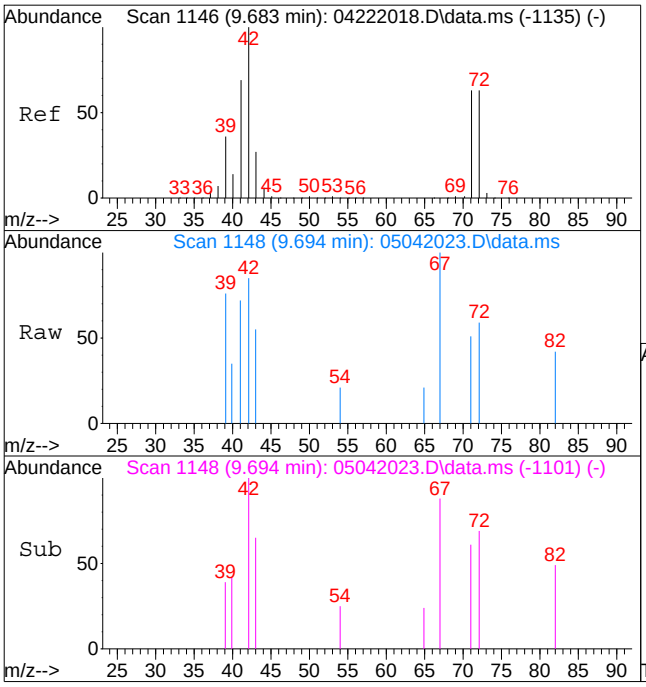


#32
Chloroform
Concen: 0.43 ng
RT: 9.27 min Scan# 1071
Delta R.T. -0.049 min
Lab File: 05042023.D
Acq: 4 May 2020 19:09

Tgt Ion: 83 Resp: 8079

Ion	Ratio	Lower	Upper
83	100		
85	63.3	45.8	85.8

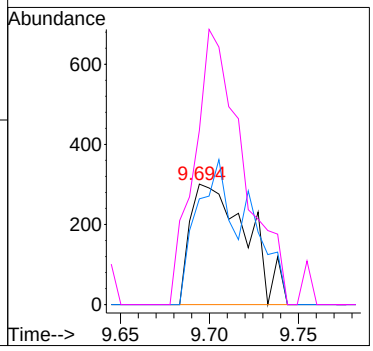


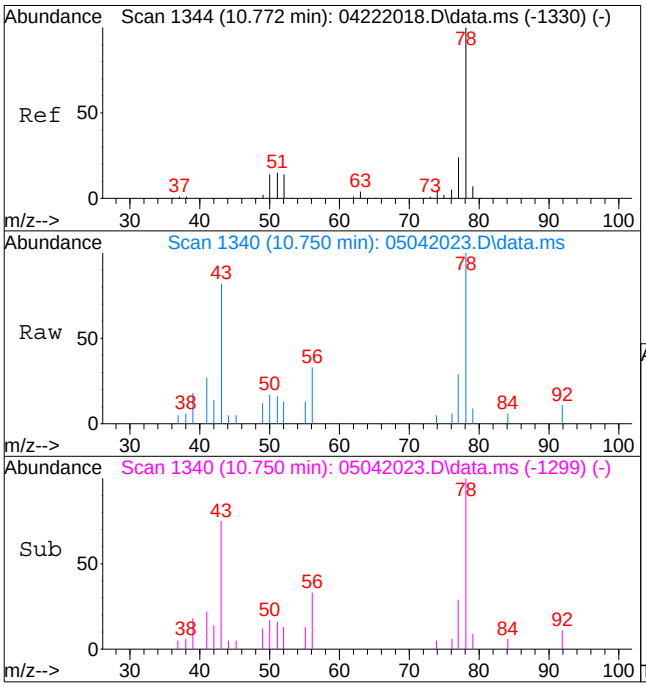


#34
Tetrahydrofuran (THF)
Concen: 0.12 ng
RT: 9.69 min Scan# 1148
Delta R.T. 0.011 min
Lab File: 05042023.D
Acq: 4 May 2020 19:09

Tgt Ion: 72 Resp: 663

Ion	Ratio	Lower	Upper
72	100		
71	72.4	77.9	117.9#
42	199.7	133.9	173.9#

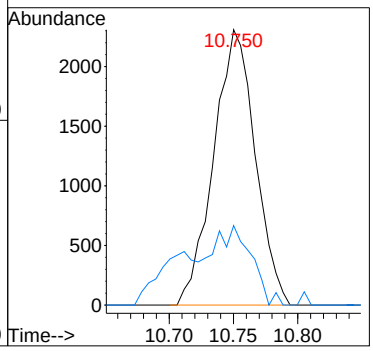


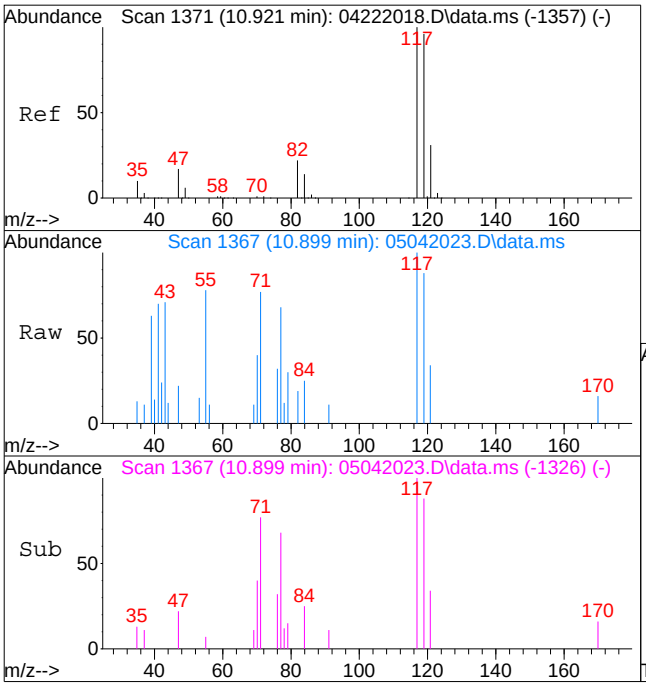


#41
Benzene
Concen: 0.14 ng
RT: 10.75 min Scan# 1340
Delta R.T. -0.022 min
Lab File: 05042023.D
Acq: 4 May 2020 19:09

Tgt Ion: 78 Resp: 5194

Ion	Ratio	Lower	Upper
78	100		
77	27.2	3.6	43.6

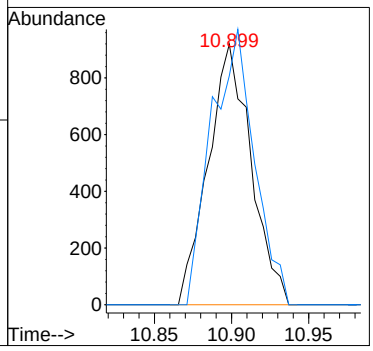


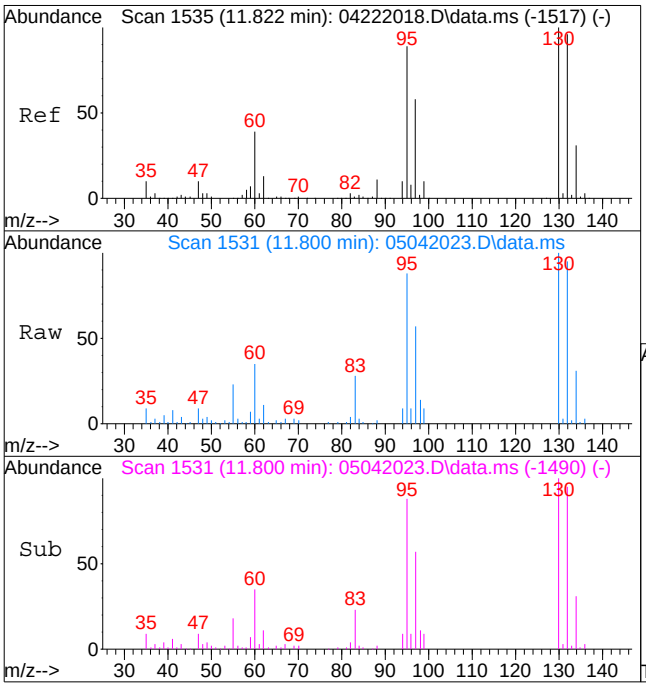


#42
Carbon Tetrachloride
Concen: 0.09 ng
RT: 10.90 min Scan# 1367
Delta R.T. -0.022 min
Lab File: 05042023.D
Acq: 4 May 2020 19:09

Tgt Ion:117 Resp: 1779

Ion	Ratio	Lower	Upper
117	100		
119	106.5	76.5	116.5

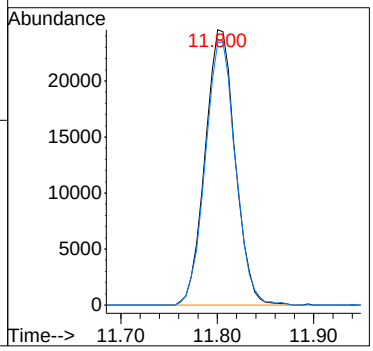


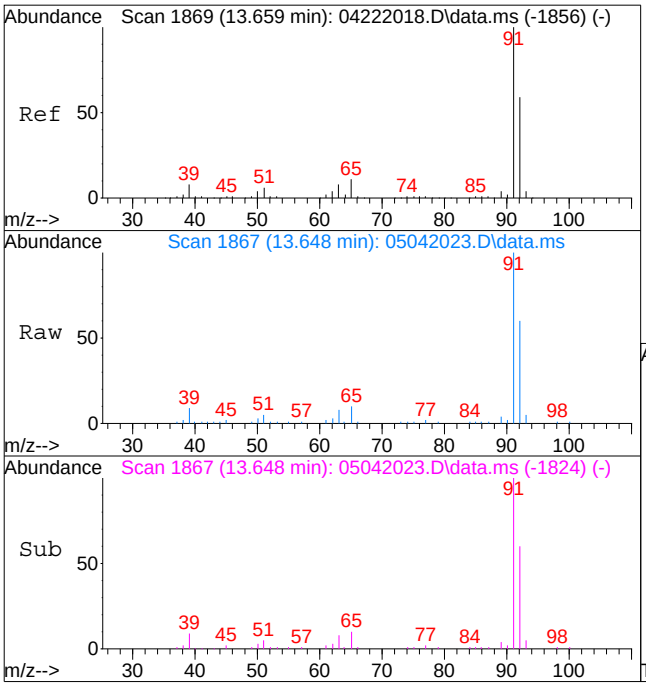


#47
Trichloroethene
Concen: 4.08 ng
RT: 11.80 min Scan# 1531
Delta R.T. -0.022 min
Lab File: 05042023.D
Acq: 4 May 2020 19:09

Tgt Ion:130 Resp: 53230

Ion	Ratio	Lower	Upper
130	100		
132	96.4	76.4	116.4

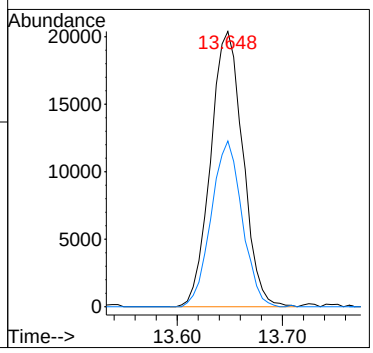


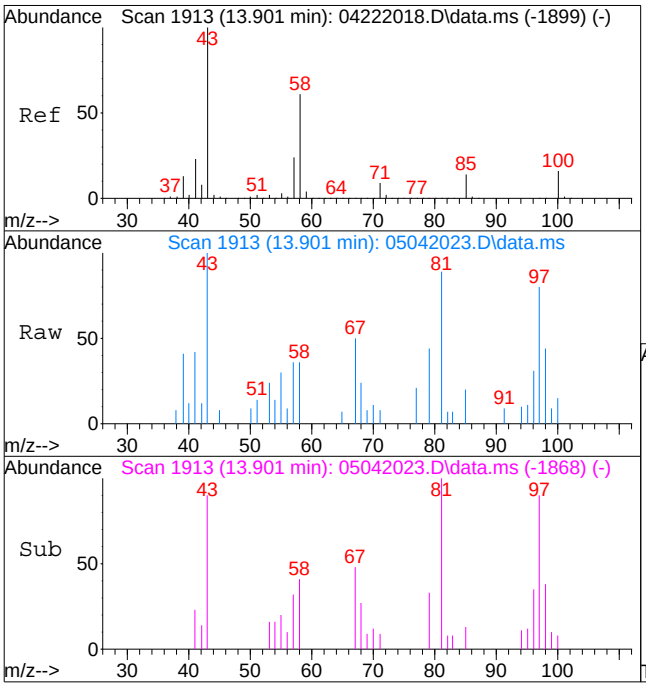


#58
Toluene
Concen: 1.05 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.011 min
Lab File: 05042023.D
Acq: 4 May 2020 19:09

Tgt Ion: 91 Resp: 43508

Ion	Ratio	Lower	Upper
91	100		
92	57.7	38.2	78.2

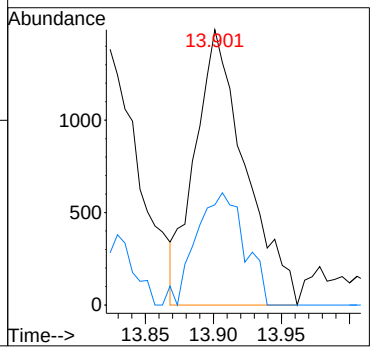


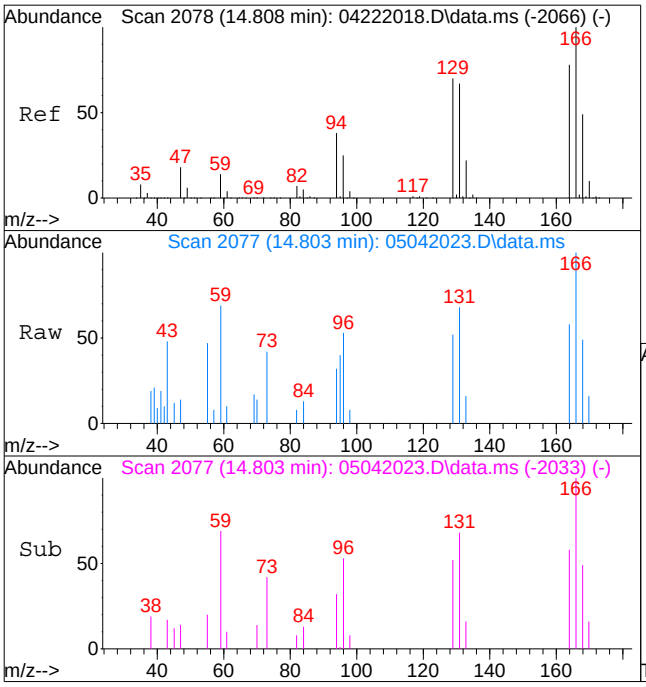


#59
2-Hexanone
Concen: 0.31 ng
RT: 13.90 min Scan# 1913
Delta R.T. 0.000 min
Lab File: 05042023.D
Acq: 4 May 2020 19:09

Tgt Ion: 43 Resp: 3834

Ion	Ratio	Lower	Upper
43	100		
58	39.4	41.1	81.1#

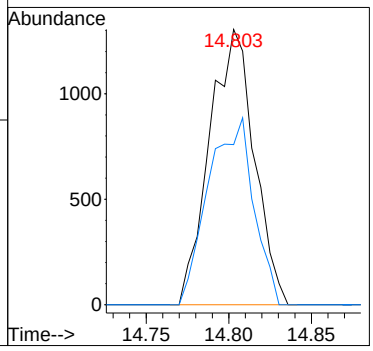


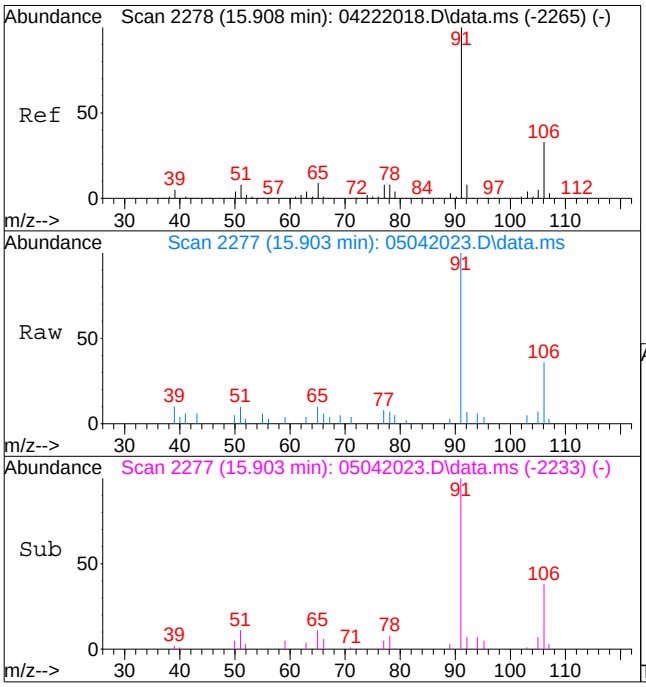


#64
Tetrachloroethene
Concen: 0.16 ng
RT: 14.80 min Scan# 2077
Delta R.T. -0.005 min
Lab File: 05042023.D
Acq: 4 May 2020 19:09

Tgt Ion:166 Resp: 2456

Ion	Ratio	Lower	Upper
166	100		
164	68.5	57.7	97.7

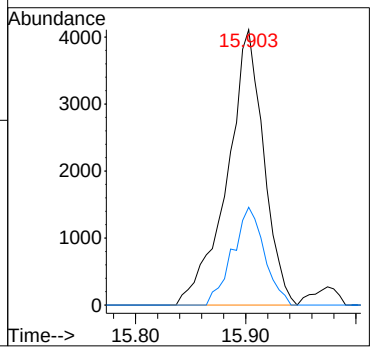


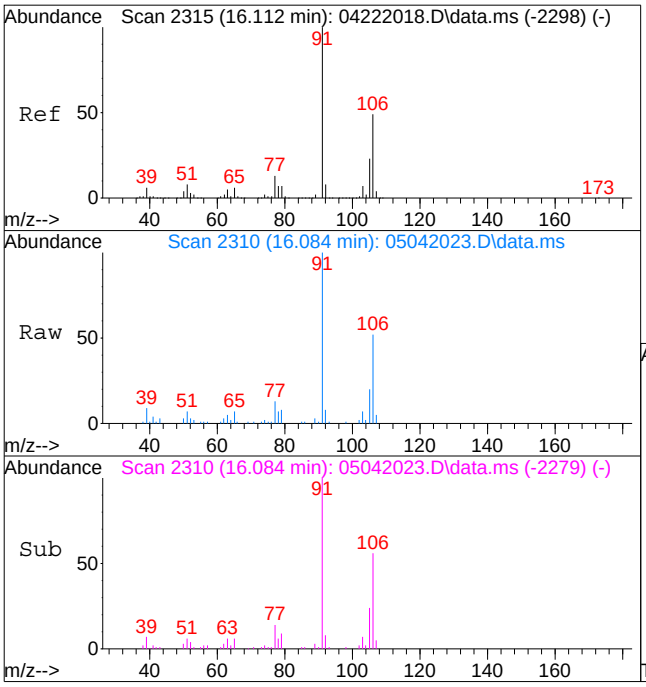


#66
Ethylbenzene
Concen: 0.20 ng
RT: 15.90 min Scan# 2277
Delta R.T. -0.005 min
Lab File: 05042023.D
Acq: 4 May 2020 19:09

Tgt Ion: 91 Resp: 9456

Ion	Ratio	Lower	Upper
91	100		
106	30.9	13.4	53.4

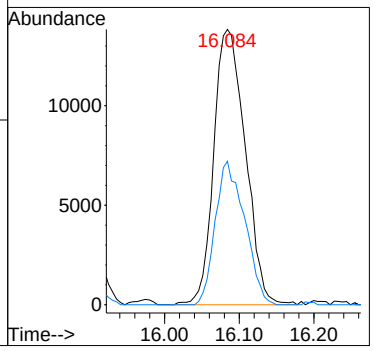


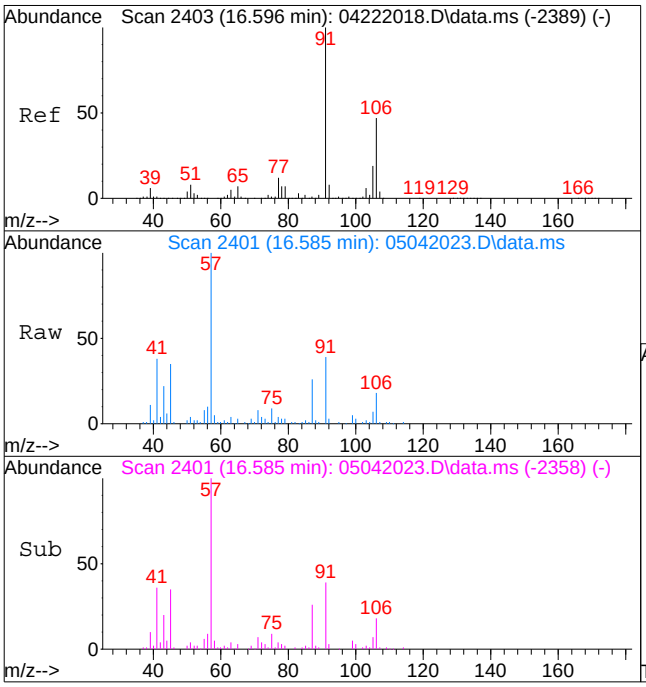


#67
m- & p-Xylenes
Concen: 1.00 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.027 min
Lab File: 05042023.D
Acq: 4 May 2020 19:09

Tgt Ion: 91 Resp: 40636

Ion	Ratio	Lower	Upper
91	100		
106	48.6	28.3	68.3

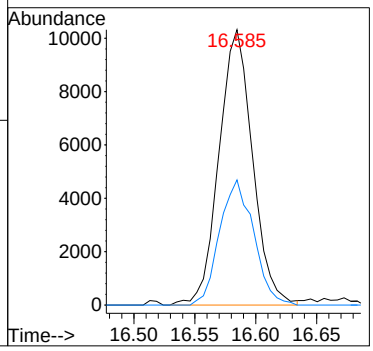


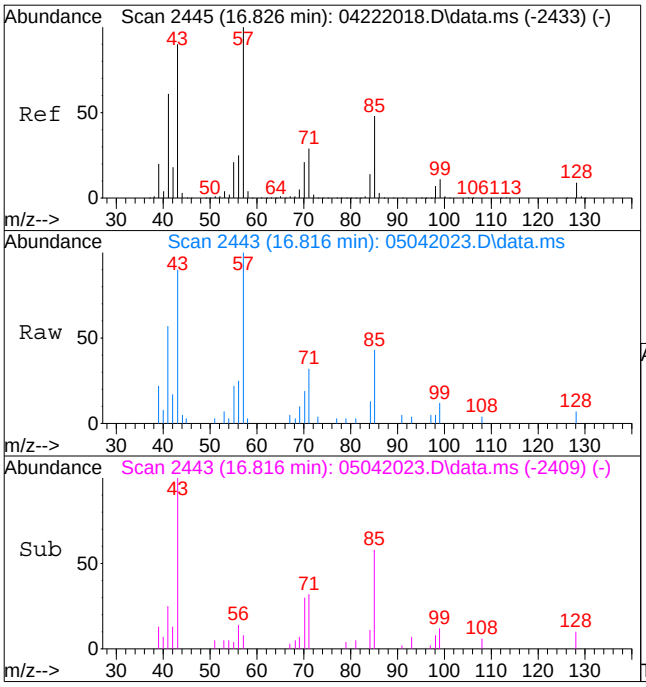


#70
o-Xylene
Concen: 0.50 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 05042023.D
Acq: 4 May 2020 19:09

Tgt Ion: 91 Resp: 19801

Ion	Ratio	Lower	Upper
91	100		
106	46.1	27.5	67.5

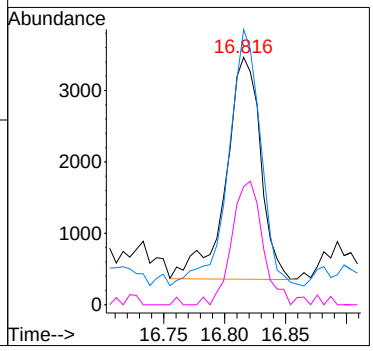


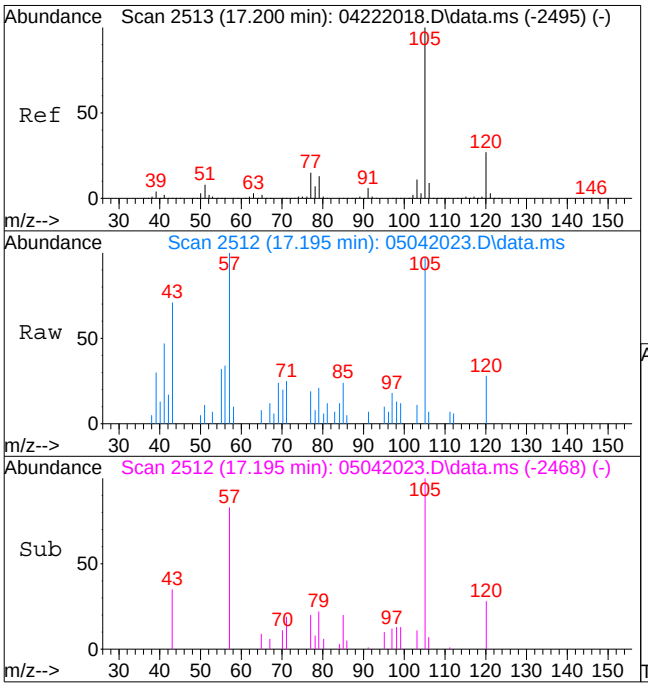


#71
n-Nonane
Concen: 0.48 ng
RT: 16.82 min Scan# 2443
Delta R.T. -0.011 min
Lab File: 05042023.D
Acq: 4 May 2020 19:09

Tgt Ion: 43 Resp: 6145

Ion	Ratio	Lower	Upper
43	100		
57	108.2	90.8	130.8
85	49.8	32.1	72.1

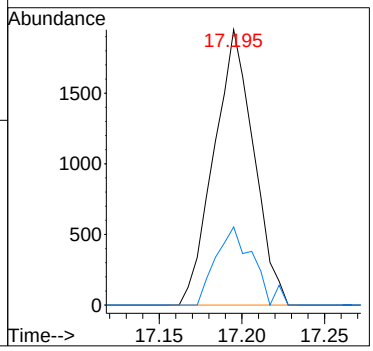


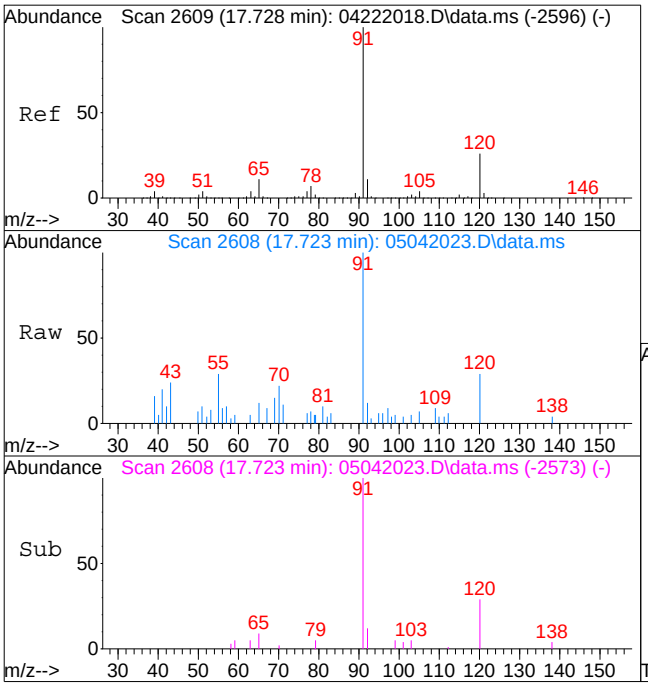


#74
Cumene
Concen: 0.06 ng
RT: 17.19 min Scan# 2512
Delta R.T. -0.005 min
Lab File: 05042023.D
Acq: 4 May 2020 19:09

Tgt Ion:105 Resp: 3261

Ion	Ratio	Lower	Upper
105	100		
120	26.7	7.3	47.3

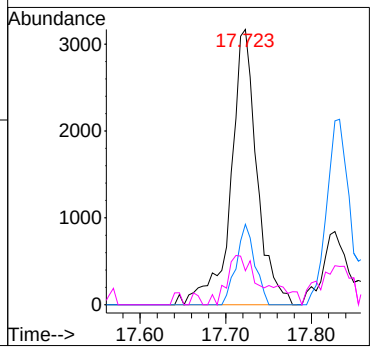


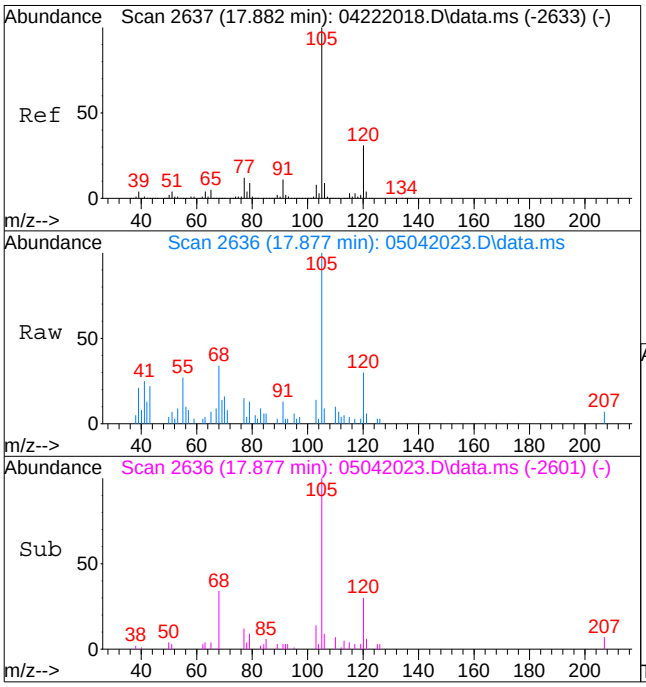


#76
n-Propylbenzene
Concen: 0.12 ng
RT: 17.72 min Scan# 2608
Delta R.T. -0.005 min
Lab File: 05042023.D
Acq: 4 May 2020 19:09

Tgt Ion: 91 Resp: 6682

Ion	Ratio	Lower	Upper
91	100		
120	20.7	6.1	46.1
65	24.6	0.0	30.7

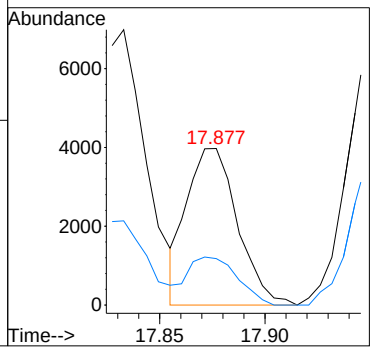


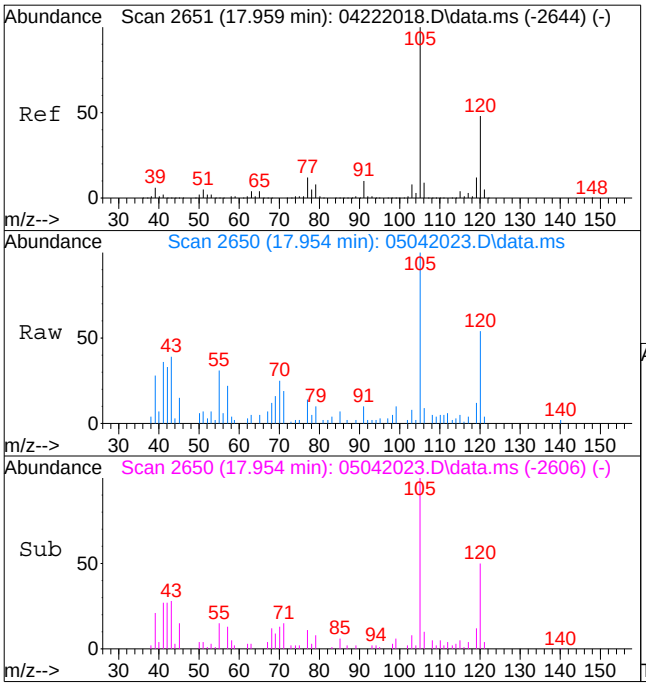


#78
4-Ethyltoluene
Concen: 0.14 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.005 min
Lab File: 05042023.D
Acq: 4 May 2020 19:09

Tgt Ion:105 Resp: 6682

Ion	Ratio	Lower	Upper
105	100		
120	30.6	11.4	51.4

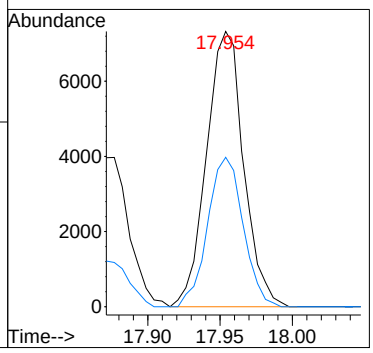


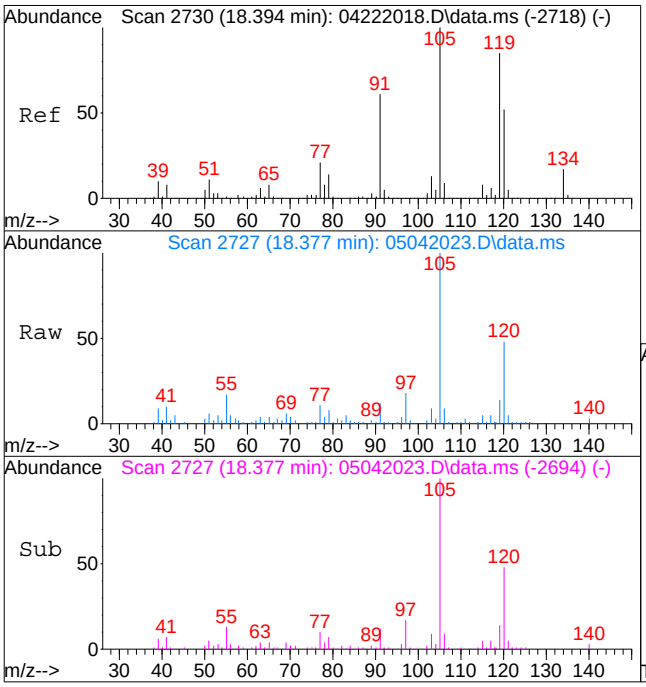


#79
1,3,5-Trimethylbenzene
Concen: 0.29 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.005 min
Lab File: 05042023.D
Acq: 4 May 2020 19:09

Tgt Ion:105 Resp: 13067

Ion	Ratio	Lower	Upper
105	100		
120	51.8	29.5	69.5

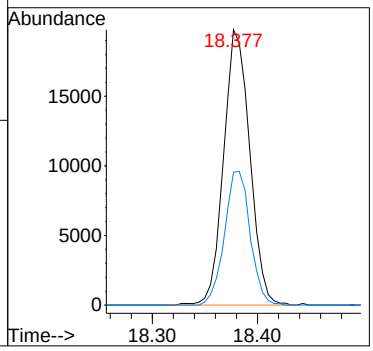


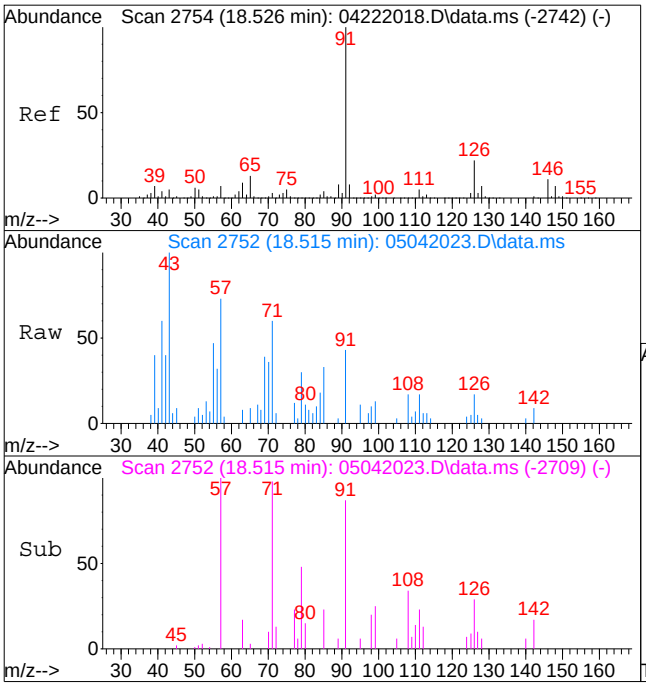


#82
1,2,4-Trimethylbenzene
Concen: 0.78 ng
RT: 18.38 min Scan# 2727
Delta R.T. -0.017 min
Lab File: 05042023.D
Acq: 4 May 2020 19:09

Tgt Ion:105 Resp: 34273

Ion	Ratio	Lower	Upper
105	100		
120	47.6	34.5	74.5

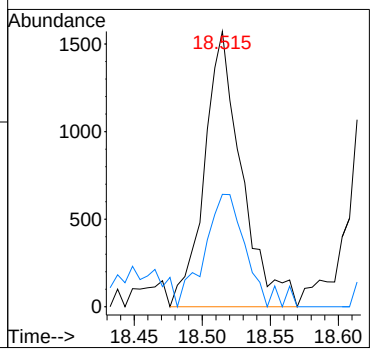


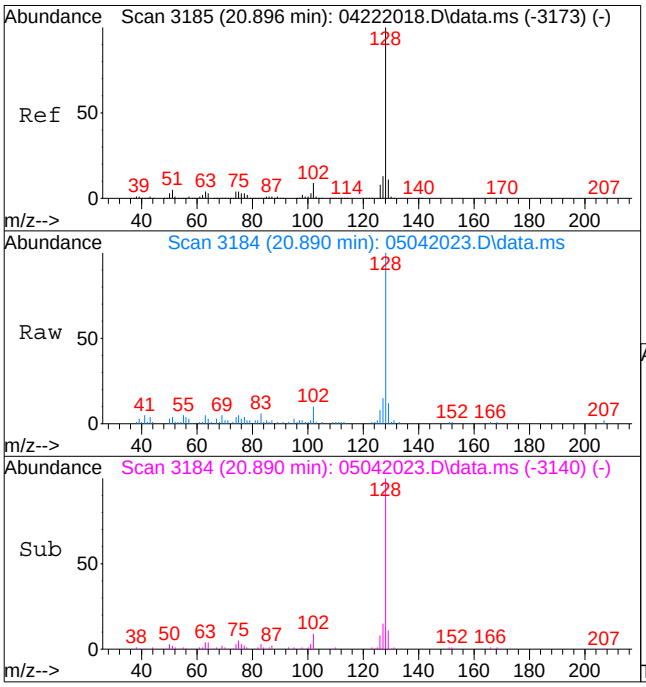


#84
Benzyl Chloride
Concen: 0.09 ng
RT: 18.51 min Scan# 2752
Delta R.T. -0.011 min
Lab File: 05042023.D
Acq: 4 May 2020 19:09

Tgt Ion: 91 Resp: 2989

Ion	Ratio	Lower	Upper
91	100		
126	43.0	3.0	43.0

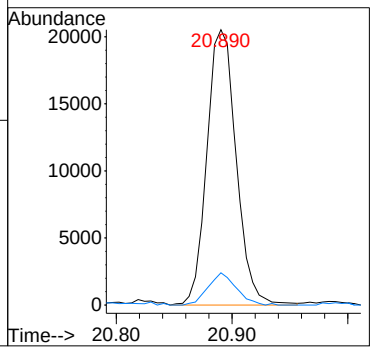




#95
Naphthalene
Concen: 0.64 ng
RT: 20.89 min Scan# 3184
Delta R.T. -0.006 min
Lab File: 05042023.D
Acq: 4 May 2020 19:09

Tgt Ion:128 Resp: 36154

Ion	Ratio	Lower	Upper
128	100		
129	11.3	0.0	30.9



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042024.D Vial: 8
Acq On : 4 May 2020 19:42 Operator: SC
Sample : P2002106-007 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 15:53:07 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/5/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	140103	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	585801	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	259712	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	208764	11.501	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.00%				
57) Toluene-d8 (SS2)	13.54	98	642596	12.814	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.48%				
73) Bromofluorobenzene (SS3)	17.05	174	254047	12.606	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.88%				
Target Compounds							Qvalue
2) Propene	3.89	42	1863	0.313	ng		89
3) Dichlorodifluoromethan...	3.99	85	12097	0.535	ng		98
4) Chloromethane	4.20	50	704	0.084	ng		83
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	174	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.15	64	206	N.D.			
10) Ethanol	5.35	45	5655m	1.255	ng		
11) Acetonitrile	5.59	41	539	0.051	ng	#	1
12) Acrolein	5.71	56	1723	0.418	ng		90
13) Acetone	5.84	58	35873	6.629	ng	#	61
14) Trichlorofluoromethane	6.02	101	5211	0.232	ng		97
15) 2-Propanol (Isopropanol)	6.18	45	4610	0.268	ng		99
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	6.85	59	78	N.D.			
19) Methylene Chloride	6.87	84	164	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	7.18	151	3142	0.268	ng		100
22) Carbon Disulfide	7.14	76	7184	0.228	ng		96
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	8.25	86	39515	20.008	ng	#	23
27) 2-Butanone (MEK)	8.52	72	7962	1.432	ng	#	25
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	9.22	57	334	N.D.			
32) Chloroform	9.28	83	636	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.74	78	1926	0.050	ng		88
42) Carbon Tetrachloride	10.90	117	1453	0.074	ng		96
43) Cyclohexane	11.10	84	386	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	11.80	130	74429	5.628	ng		99
48) 1,4-Dioxane	0.00	88	0	N.D.	d		
49) 2,2,4-Trimethylpentane...	11.87	57	1198	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042024.D Vial: 8
Acq On : 4 May 2020 19:42 Operator: SC
Sample : P2002106-007 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 15:53:07 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

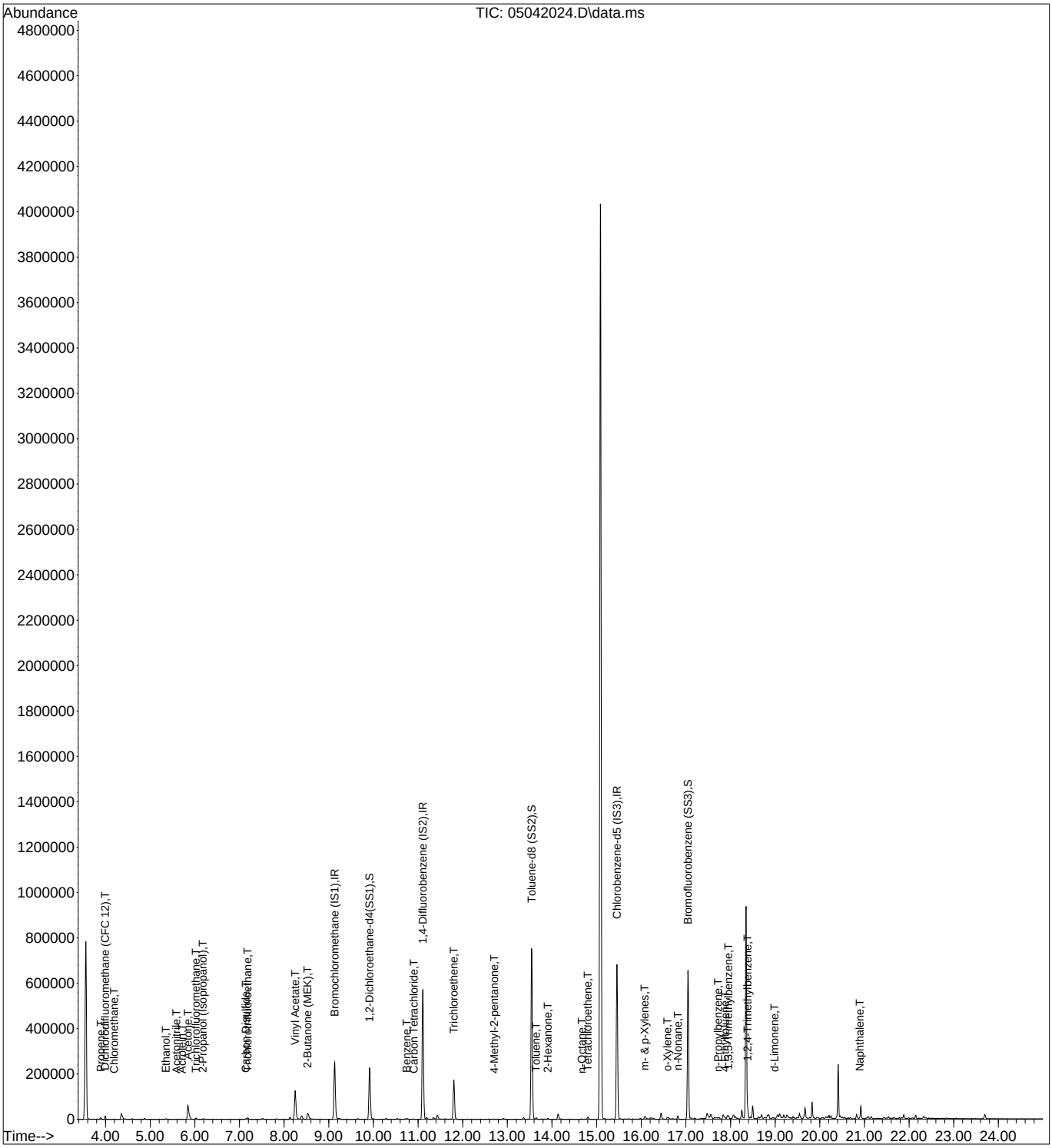
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	12.13	71	312	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	12.71	58	378	0.057 ng	#	1
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	13.64	91	6270	0.149 ng		97
59) 2-Hexanone	13.91	43	4284	0.341 ng		95
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D. d		
63) n-Octane	14.67	57	452	0.067 ng		98
64) Tetrachloroethene	14.80	166	3991	0.252 ng		97
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	15.91	91	1531	N.D.		
67) m- & p-Xylenes	16.08	91	12605	0.305 ng		96
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.49	104	198	N.D.		
70) o-Xylene	16.58	91	6548	0.161 ng		99
71) n-Nonane	16.82	43	4652	0.355 ng		96
72) 1,1,2,2-Tetrachloroethane	16.65	83	230	N.D.		
74) Cumene	17.20	105	1134	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	17.72	91	3670	0.064 ng		92
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	17.88	105	3266	0.065 ng		94
79) 1,3,5-Trimethylbenzene	17.95	105	6045	0.130 ng		97
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	18.38	105	19940m	0.443 ng		
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	18.52	91	569	N.D.		
85) 1,3-Dichlorobenzene	18.35	146	1014	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D. d		
88) 4-Isopropyltoluene (p-...	18.83	119	2665	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	18.99	68	644	0.051 ng	#	70
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	20.90	128	3006	0.052 ng		99
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042024.D Vial: 8
Acq On : 4 May 2020 19:42 Operator: SC
Sample : P2002106-007 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 15:53:07 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042024.D Vial: 8
Acq On : 4 May 2020 19:42 Operator: SC
Sample : P2002106-007 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 15:53:07 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/5/20

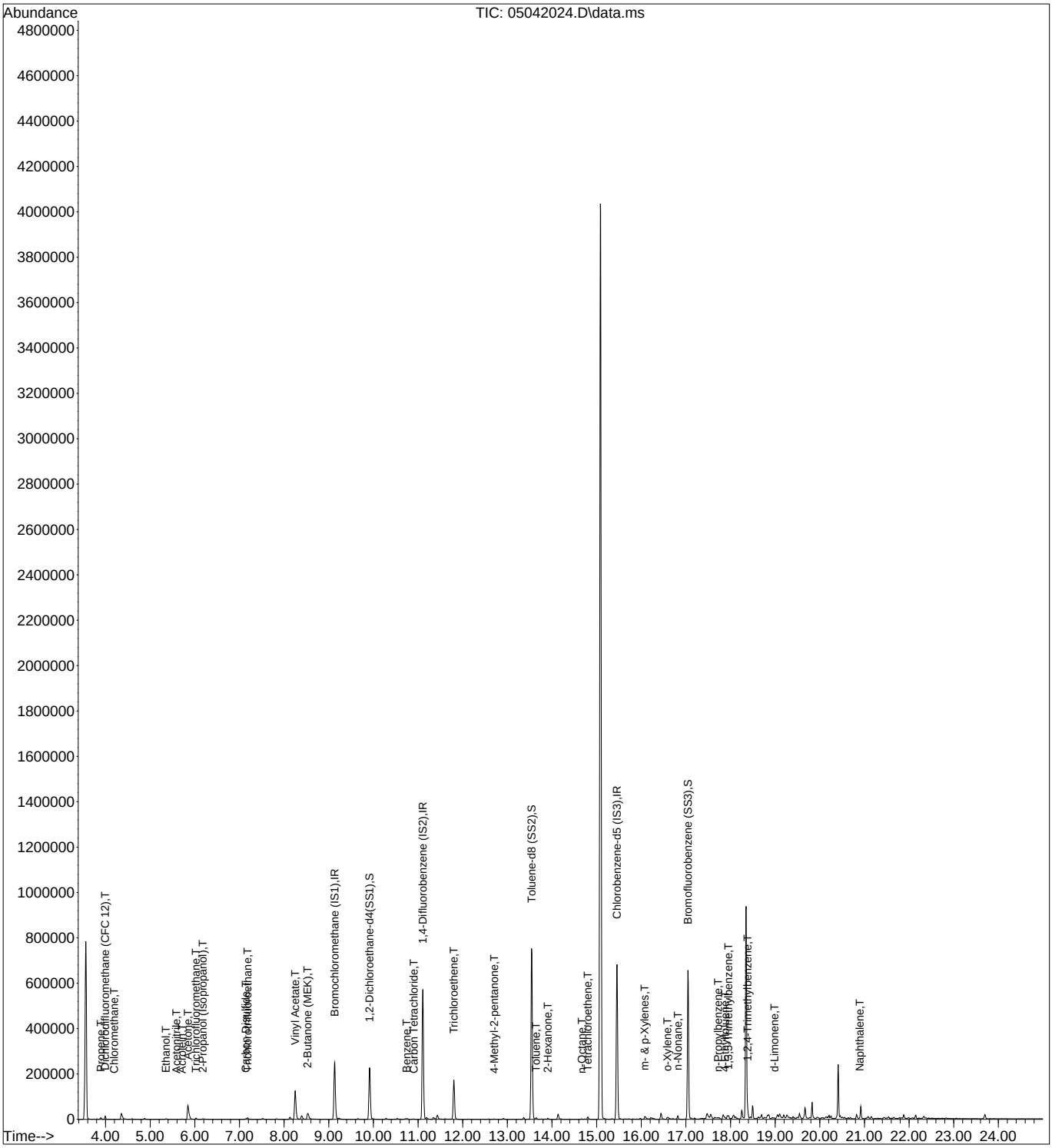
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	140103	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	585801	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	259712	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	208764	11.501	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.00%				
57) Toluene-d8 (SS2)	13.54	98	642596	12.814	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.48%				
73) Bromofluorobenzene (SS3)	17.05	174	254047	12.606	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.88%				
Target Compounds							Qvalue
2) Propene	3.89	42	1863	0.313	ng		89
3) Dichlorodifluoromethan...	3.99	85	12097	0.535	ng		98
4) Chloromethane	4.20	50	704	0.084	ng		83
10) Ethanol	5.35	45	5655m	1.255	ng		
11) Acetonitrile	5.59	41	539	0.051	ng	#	1
12) Acrolein	5.71	56	1723	0.418	ng		90
13) Acetone	5.84	58	35873	6.629	ng	#	61
14) Trichlorofluoromethane	6.02	101	5211	0.232	ng		97
15) 2-Propanol (Isopropanol)	6.18	45	4610	0.268	ng		99
21) Trichlorotrifluoroethane	7.18	151	3142	0.268	ng		100
22) Carbon Disulfide	7.14	76	7184	0.228	ng		96
26) Vinyl Acetate	8.25	86	39515	20.008	ng	#	23
27) 2-Butanone (MEK)	8.52	72	7962	1.432	ng	#	25
41) Benzene	10.74	78	1926	0.050	ng		88
42) Carbon Tetrachloride	10.90	117	1453	0.074	ng		96
47) Trichloroethene	11.80	130	74429	5.628	ng		99
53) 4-Methyl-2-pentanone	12.71	58	378	0.057	ng	#	1
58) Toluene	13.64	91	6270	0.149	ng		97
59) 2-Hexanone	13.91	43	4284	0.341	ng		95
63) n-Octane	14.67	57	452	0.067	ng		98
64) Tetrachloroethene	14.80	166	3991	0.252	ng		97
67) m- & p-Xylenes	16.08	91	12605	0.305	ng		96
70) o-Xylene	16.58	91	6548	0.161	ng		99
71) n-Nonane	16.82	43	4652	0.355	ng		96
76) n-Propylbenzene	17.72	91	3670	0.064	ng		92
78) 4-Ethyltoluene	17.88	105	3266	0.065	ng		94
79) 1,3,5-Trimethylbenzene	17.95	105	6045	0.130	ng		97
82) 1,2,4-Trimethylbenzene	18.38	105	19940m	0.443	ng		
91) d-Limonene	18.99	68	644	0.051	ng	#	70
95) Naphthalene	20.90	128	3006	0.052	ng		99

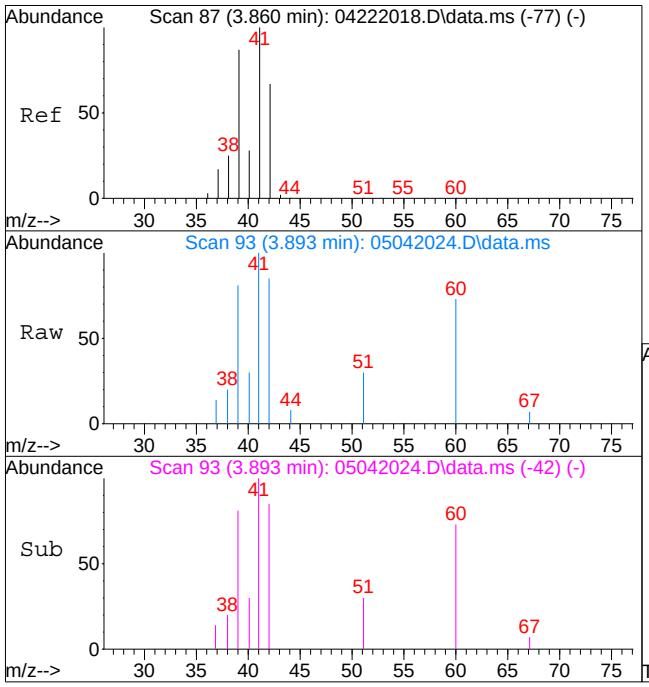
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042024.D Vial: 8
Acq On : 4 May 2020 19:42 Operator: SC
Sample : P2002106-007 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 15:53:07 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

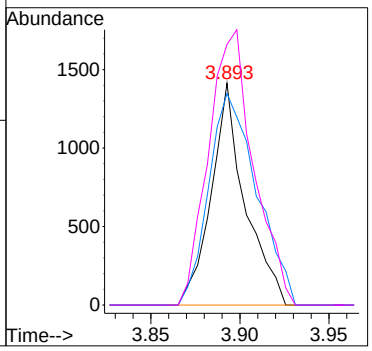


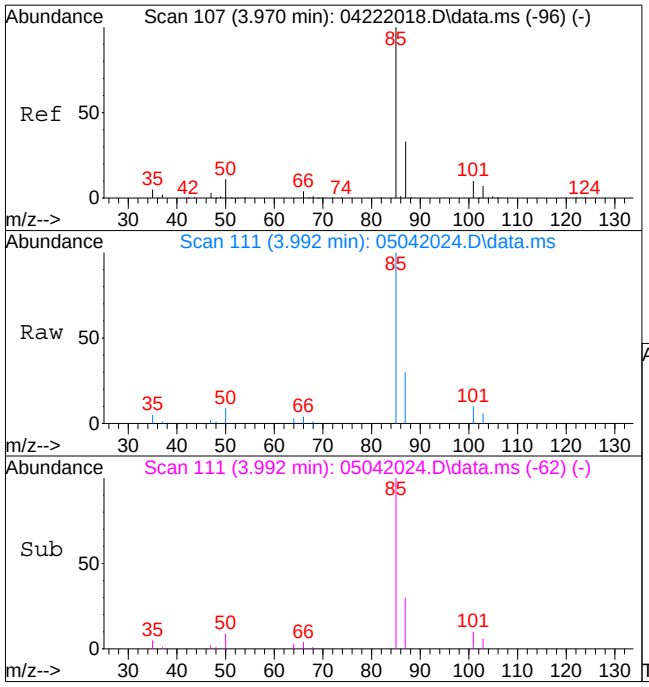


#2
Propene
Concen: 0.31 ng
RT: 3.89 min Scan# 93
Delta R.T. 0.033 min
Lab File: 05042024.D
Acq: 4 May 2020 19:42

Tgt Ion: 42 Resp: 1863

Ion	Ratio	Lower	Upper
42	100		
39	136.2	106.4	146.4
41	166.2	128.8	168.8

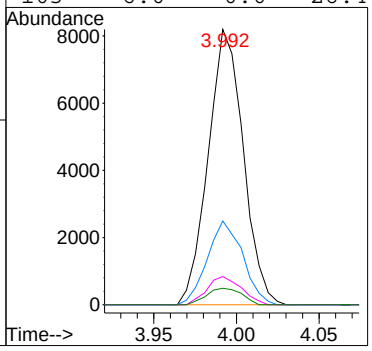


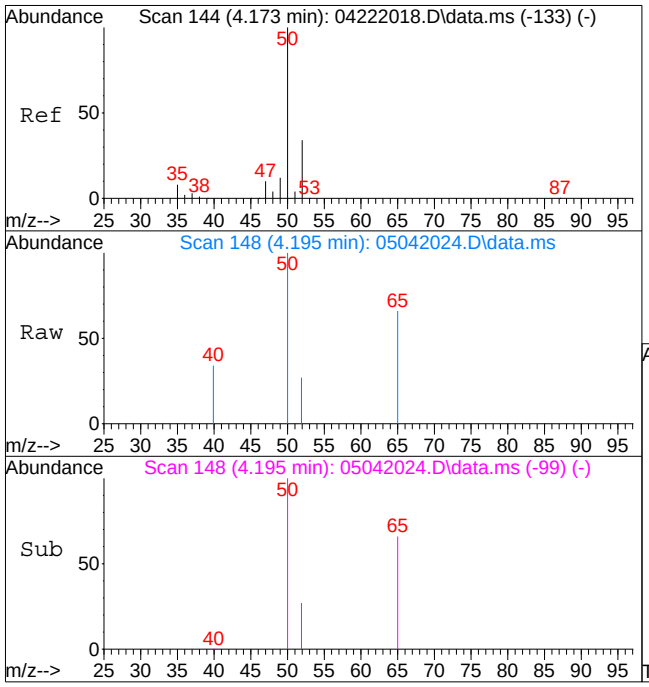


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.54 ng
RT: 3.99 min Scan# 111
Delta R.T. 0.022 min
Lab File: 05042024.D
Acq: 4 May 2020 19:42

Tgt Ion: 85 Resp: 12097

Ion	Ratio	Lower	Upper
85	100		
87	30.6	12.4	52.4
101	10.0	0.0	29.9
103	6.0	0.0	26.4

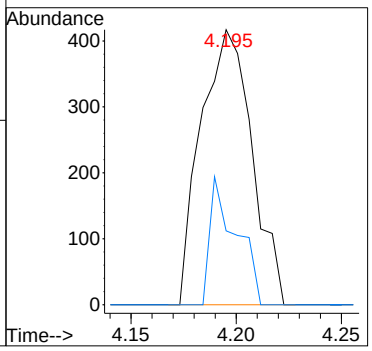


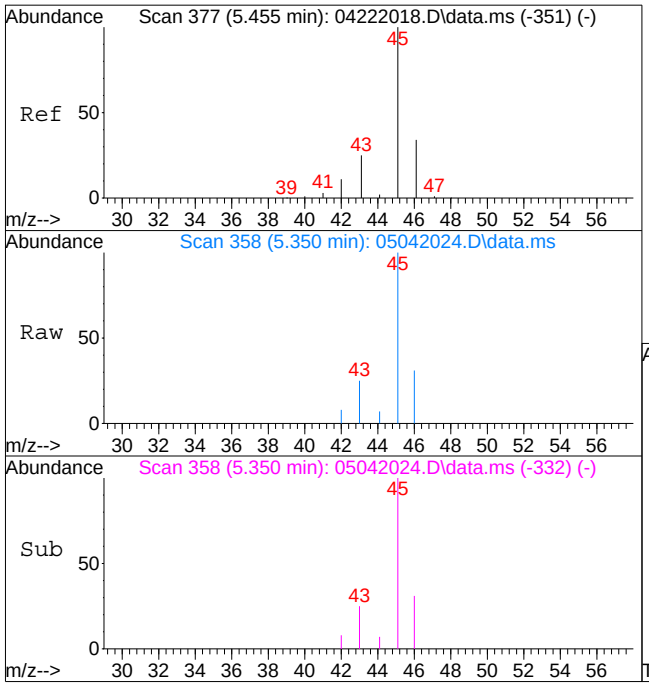


#4
Chloromethane
Concen: 0.08 ng
RT: 4.20 min Scan# 148
Delta R.T. 0.022 min
Lab File: 05042024.D
Acq: 4 May 2020 19:42

Tgt Ion: 50 Resp: 704

Ion	Ratio	Lower	Upper
50	100		
52	24.0	13.7	53.7

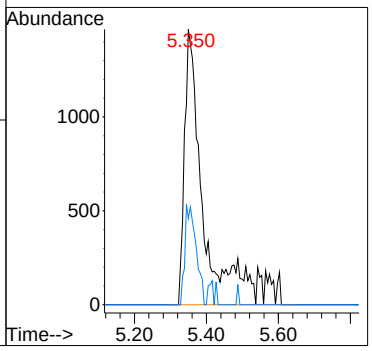


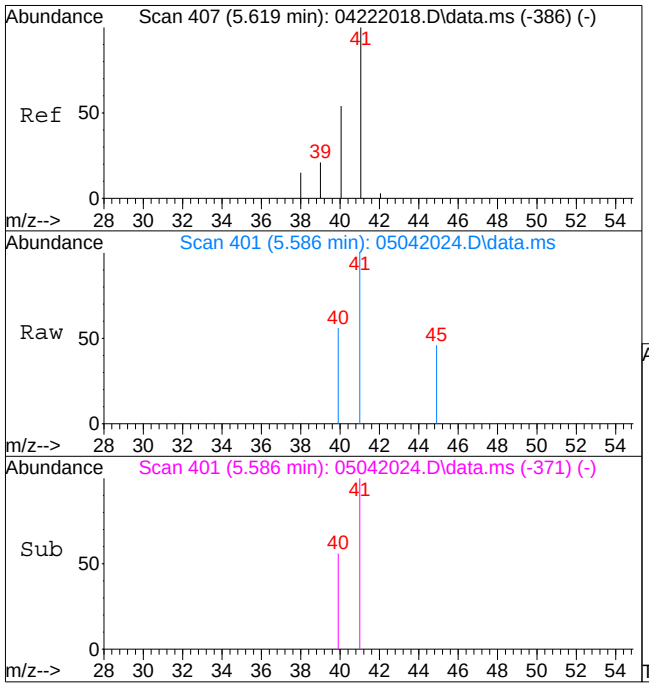


#10
Ethanol
Concen: 1.25 ng m
RT: 5.35 min Scan# 358
Delta R.T. -0.105 min
Lab File: 05042024.D
Acq: 4 May 2020 19:42

Tgt Ion: 45 Resp: 5655

Ion	Ratio	Lower	Upper
45	100		
46	0.6	14.0	54.0#

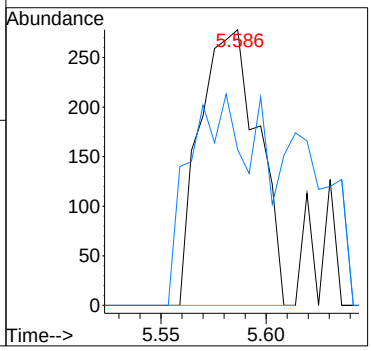


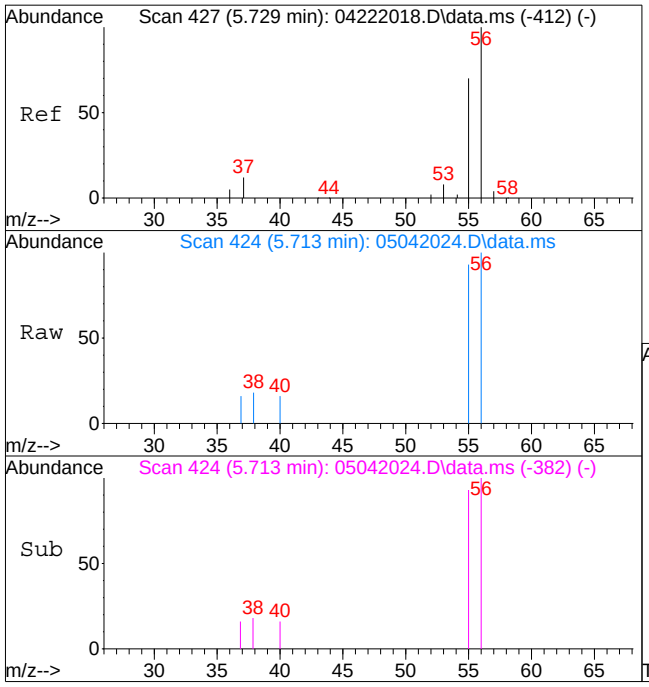


#11
Acetonitrile
Concen: 0.05 ng
RT: 5.59 min Scan# 401
Delta R.T. -0.033 min
Lab File: 05042024.D
Acq: 4 May 2020 19:42

Tgt Ion: 41 Resp: 539

Ion	Ratio	Lower	Upper
41	100		
40	142.1	34.8	74.8#

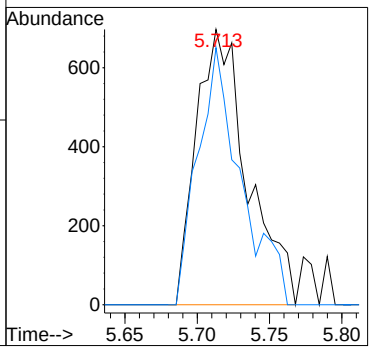


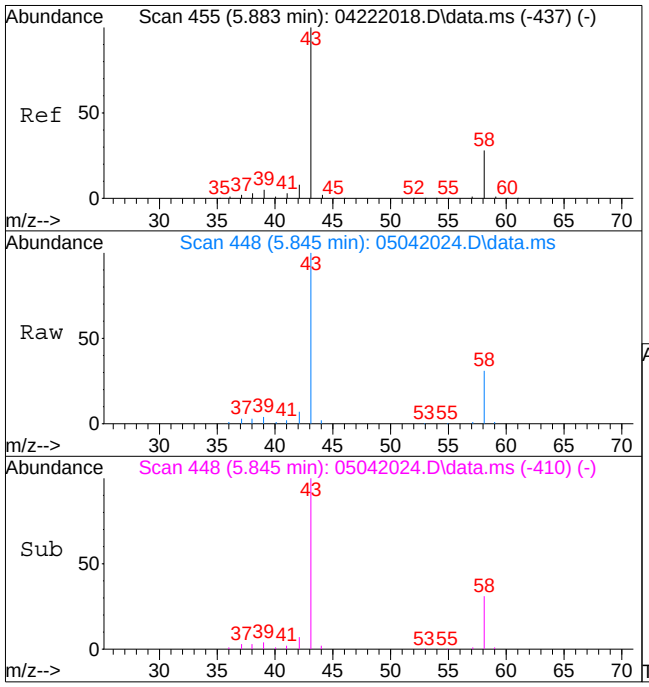


#12
Acrolein
Concen: 0.42 ng
RT: 5.71 min Scan# 424
Delta R.T. -0.017 min
Lab File: 05042024.D
Acq: 4 May 2020 19:42

Tgt Ion: 56 Resp: 1723

Ion	Ratio	Lower	Upper
56	100		
55	78.5	50.4	90.4

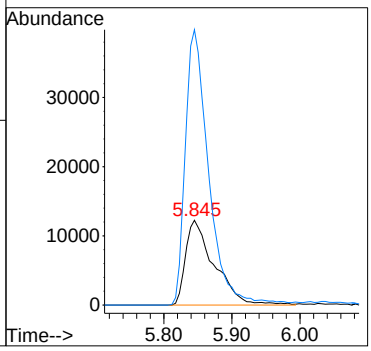


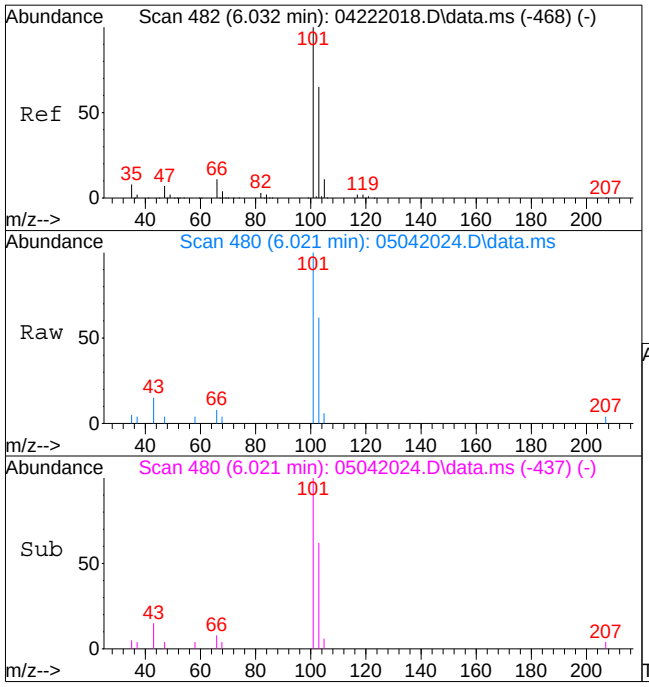


#13
Acetone
Concen: 6.63 ng
RT: 5.84 min Scan# 448
Delta R.T. -0.039 min
Lab File: 05042024.D
Acq: 4 May 2020 19:42

Tgt Ion: 58 Resp: 35873

Ion	Ratio	Lower	Upper
58	100		
43	265.3	319.3	379.3#

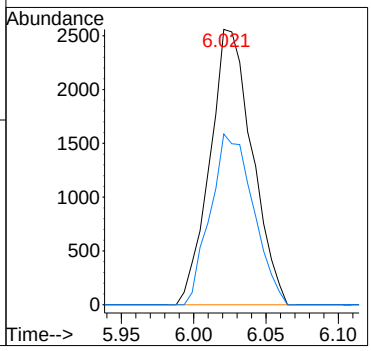


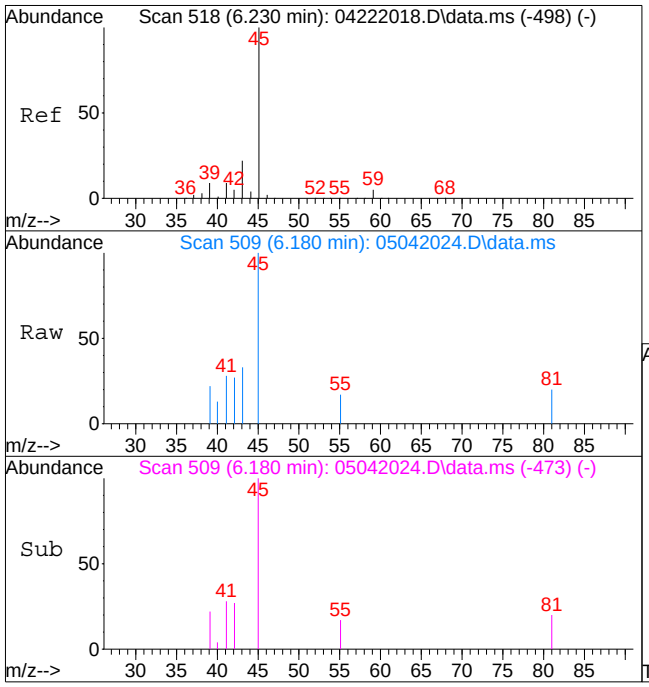


#14
Trichlorofluoromethane
Concen: 0.23 ng
RT: 6.02 min Scan# 480
Delta R.T. -0.011 min
Lab File: 05042024.D
Acq: 4 May 2020 19:42

Tgt Ion:101 Resp: 5211

Ion	Ratio	Lower	Upper
101	100		
103	62.7	44.7	84.7

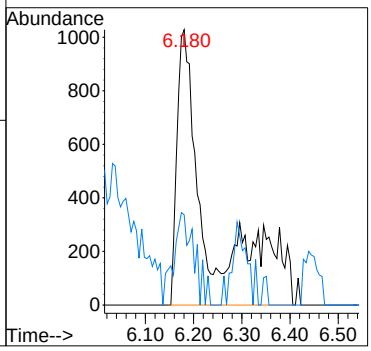


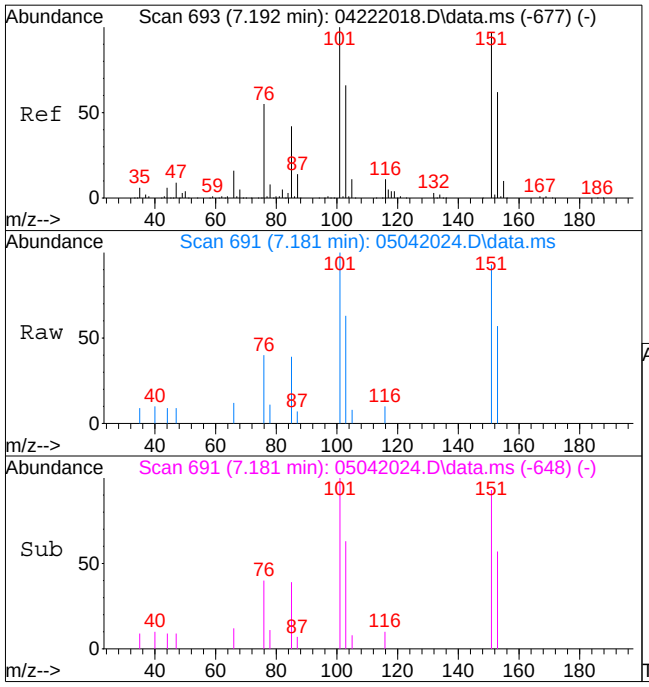


#15
2-Propanol (Isopropanol)
Concen: 0.27 ng
RT: 6.18 min Scan# 509
Delta R.T. -0.050 min
Lab File: 05042024.D
Acq: 4 May 2020 19:42

Tgt Ion: 45 Resp: 4610

Ion	Ratio	Lower	Upper
45	100		
43	22.1	2.6	42.6

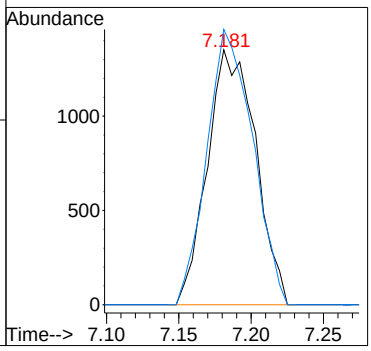


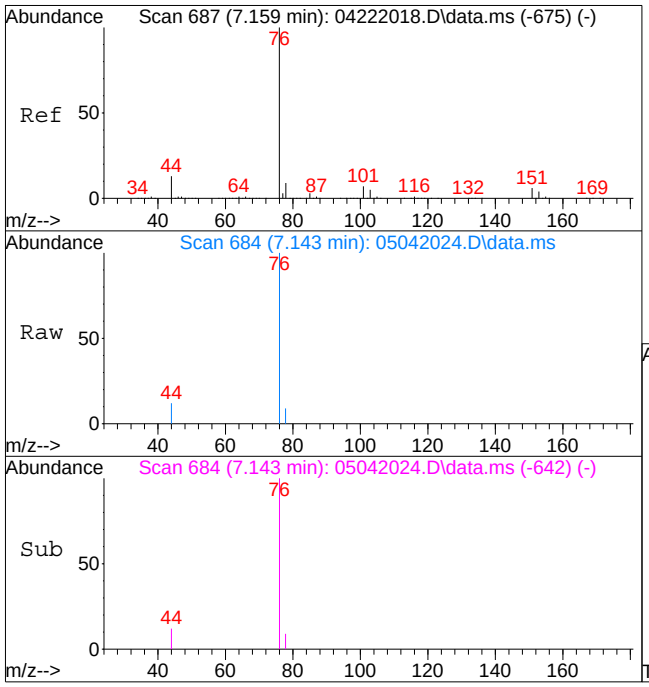


#21
Trichlorotrifluoroethane
Concen: 0.27 ng
RT: 7.18 min Scan# 691
Delta R.T. -0.011 min
Lab File: 05042024.D
Acq: 4 May 2020 19:42

Tgt Ion:151 Resp: 3142

Ion	Ratio	Lower	Upper
151	100		
101	102.6	82.9	122.9

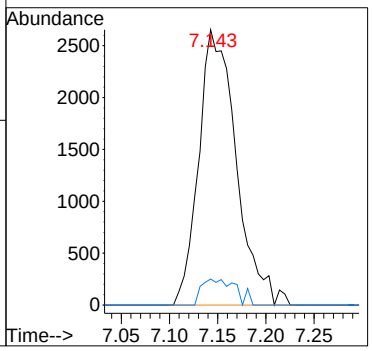


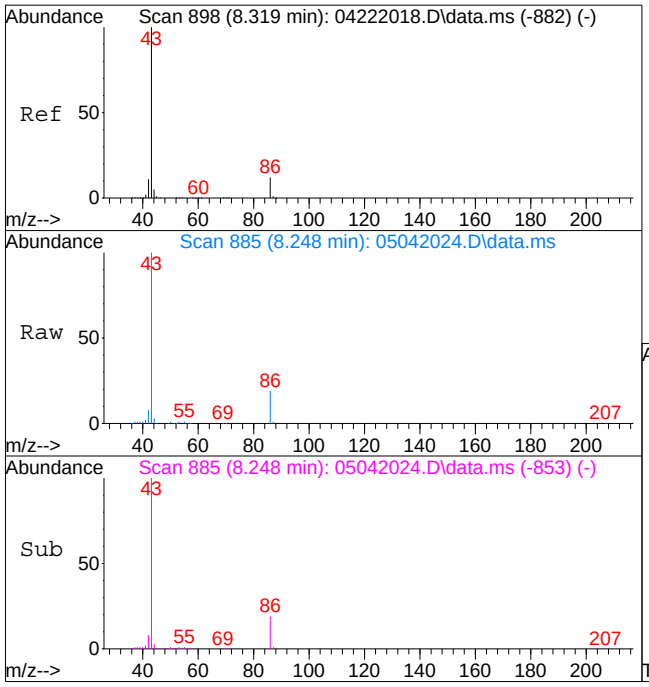


#22
Carbon Disulfide
Concen: 0.23 ng
RT: 7.14 min Scan# 684
Delta R.T. -0.017 min
Lab File: 05042024.D
Acq: 4 May 2020 19:42

Tgt Ion: 76 Resp: 7184

Ion	Ratio	Lower	Upper
76	100		
78	8.5	0.0	30.2

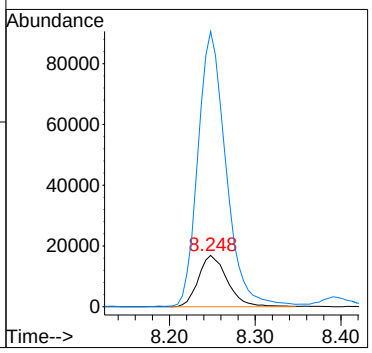


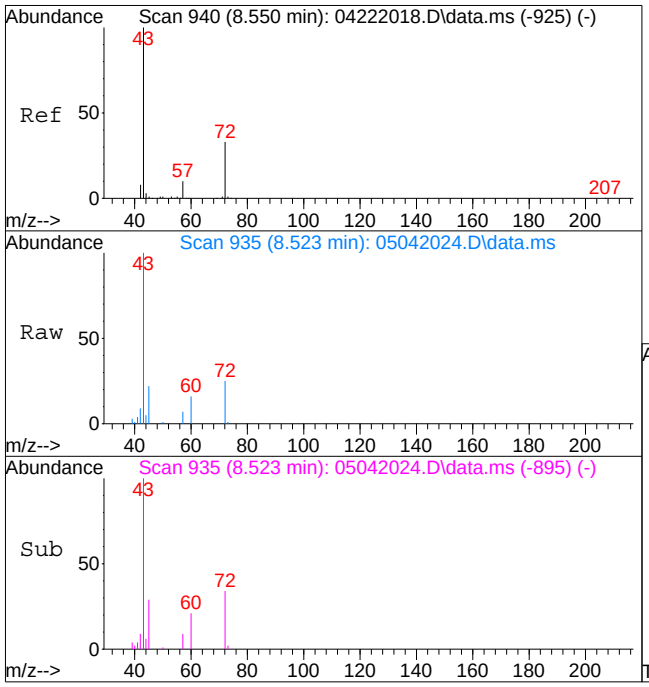


#26
Vinyl Acetate
Concen: 20.01 ng
RT: 8.25 min Scan# 885
Delta R.T. -0.072 min
Lab File: 05042024.D
Acq: 4 May 2020 19:42

Tgt Ion: 86 Resp: 39515

Ion	Ratio	Lower	Upper
86	100		
43	524.8	803.0	843.0#

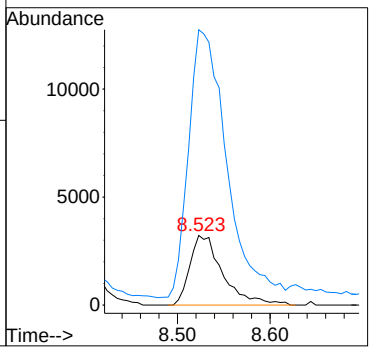


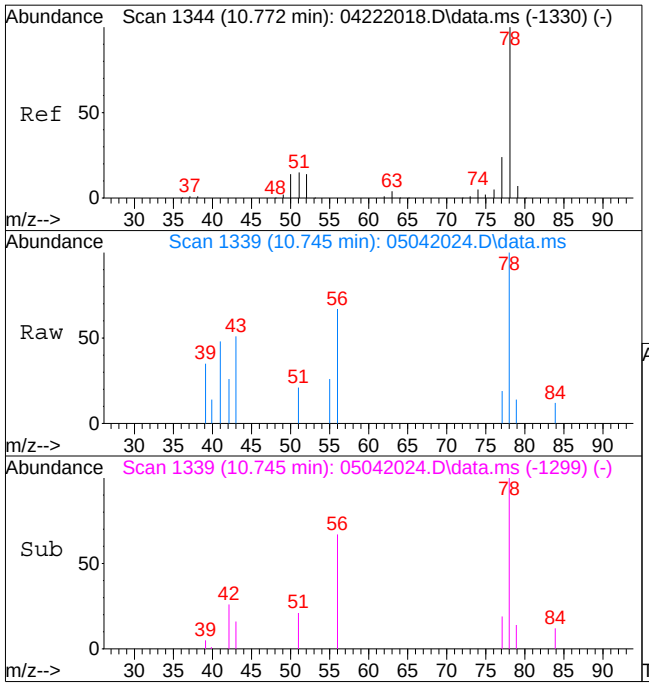


#27
2-Butanone (MEK)
Concen: 1.43 ng
RT: 8.52 min Scan# 935
Delta R.T. -0.028 min
Lab File: 05042024.D
Acq: 4 May 2020 19:42

Tgt Ion: 72 Resp: 7962

Ion	Ratio	Lower	Upper
72	100		
43	446.3	278.8	318.8#

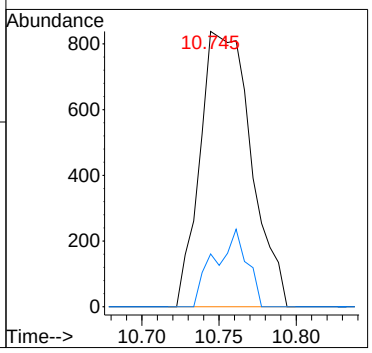


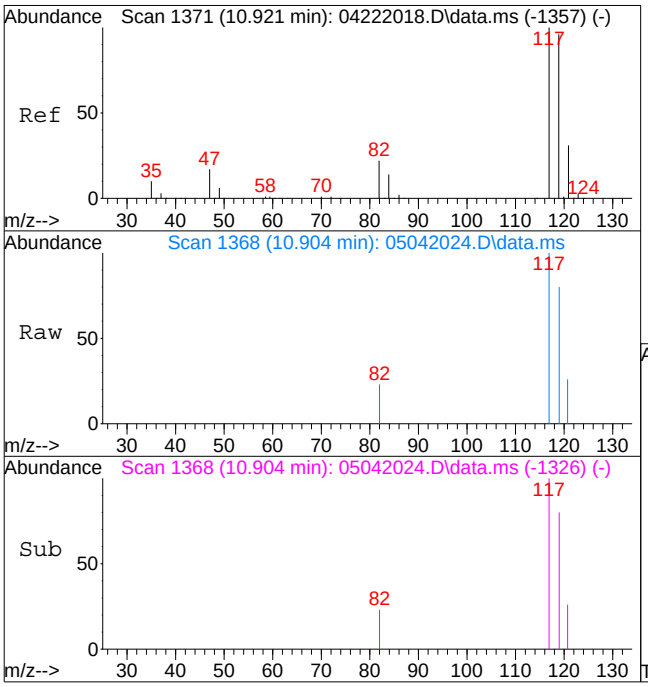


#41
Benzene
Concen: 0.05 ng
RT: 10.74 min Scan# 1339
Delta R.T. -0.028 min
Lab File: 05042024.D
Acq: 4 May 2020 19:42

Tgt Ion: 78 Resp: 1926

Ion	Ratio	Lower	Upper
78	100		
77	17.9	3.6	43.6

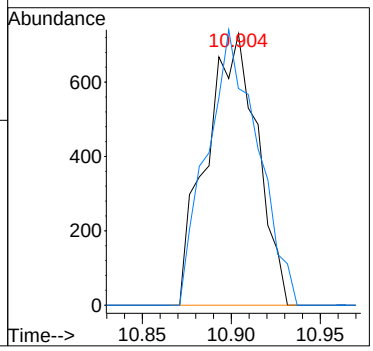


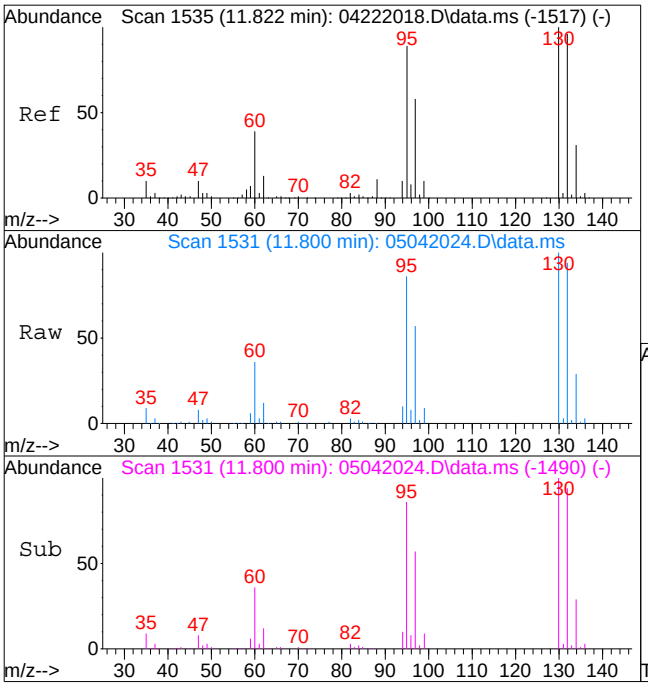


#42
Carbon Tetrachloride
Concen: 0.07 ng
RT: 10.90 min Scan# 1368
Delta R.T. -0.017 min
Lab File: 05042024.D
Acq: 4 May 2020 19:42

Tgt Ion:117 Resp: 1453

Ion	Ratio	Lower	Upper
117	100		
119	100.9	76.5	116.5

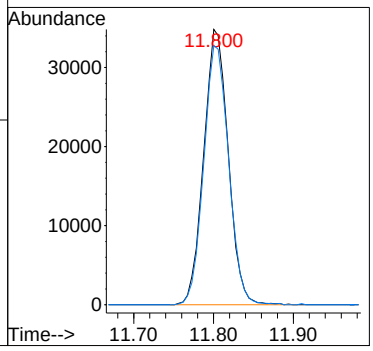


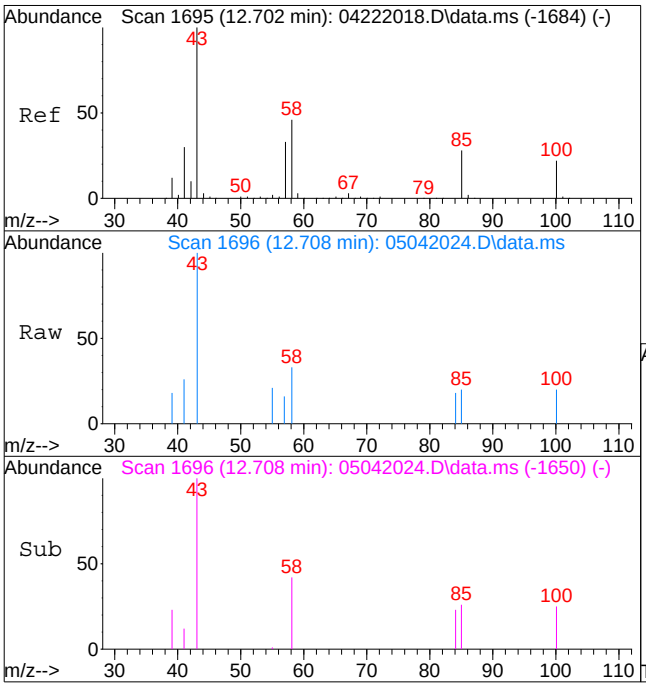


#47
Trichloroethene
Concen: 5.63 ng
RT: 11.80 min Scan# 1531
Delta R.T. -0.022 min
Lab File: 05042024.D
Acq: 4 May 2020 19:42

Tgt Ion:130 Resp: 74429

Ion	Ratio	Lower	Upper
130	100		
132	95.5	76.4	116.4

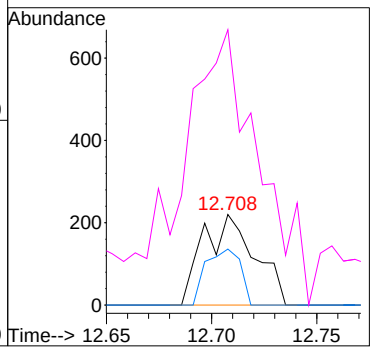


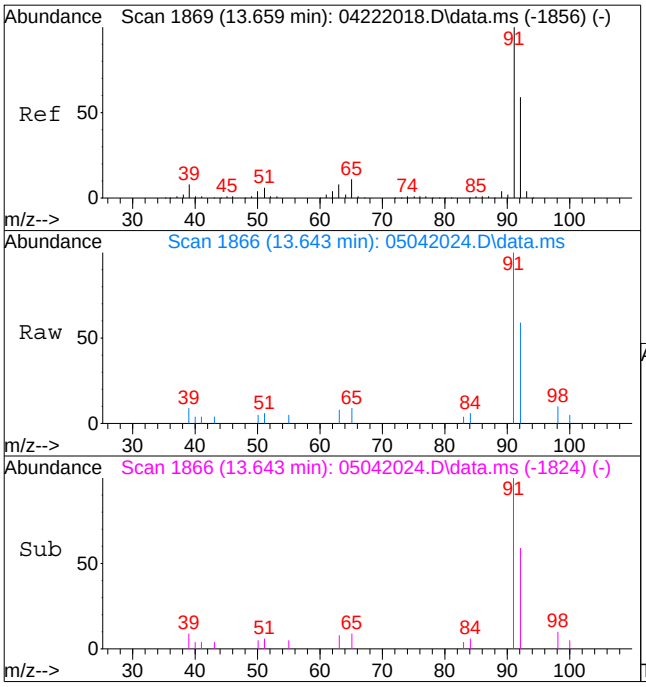


#53
4-Methyl-2-pentanone
Concen: 0.06 ng
RT: 12.71 min Scan# 1696
Delta R.T. 0.005 min
Lab File: 05042024.D
Acq: 4 May 2020 19:42

Tgt Ion: 58 Resp: 378

Ion	Ratio	Lower	Upper
58	100		
85	41.0	52.2	78.2#
43	448.1	176.2	264.4#

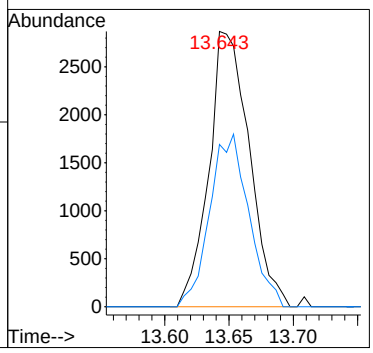


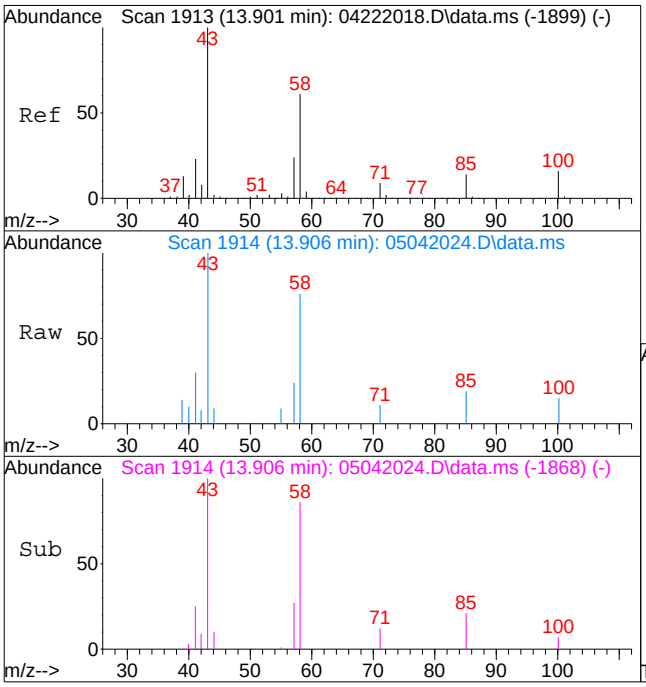


#58
Toluene
Concen: 0.15 ng
RT: 13.64 min Scan# 1866
Delta R.T. -0.017 min
Lab File: 05042024.D
Acq: 4 May 2020 19:42

Tgt Ion: 91 Resp: 6270

Ion	Ratio	Lower	Upper
91	100		
92	60.4	38.2	78.2

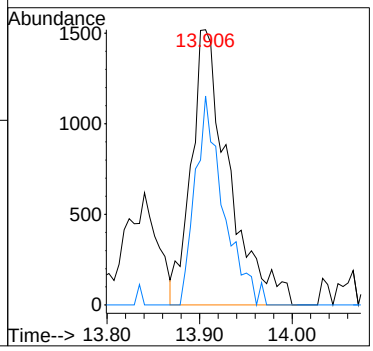


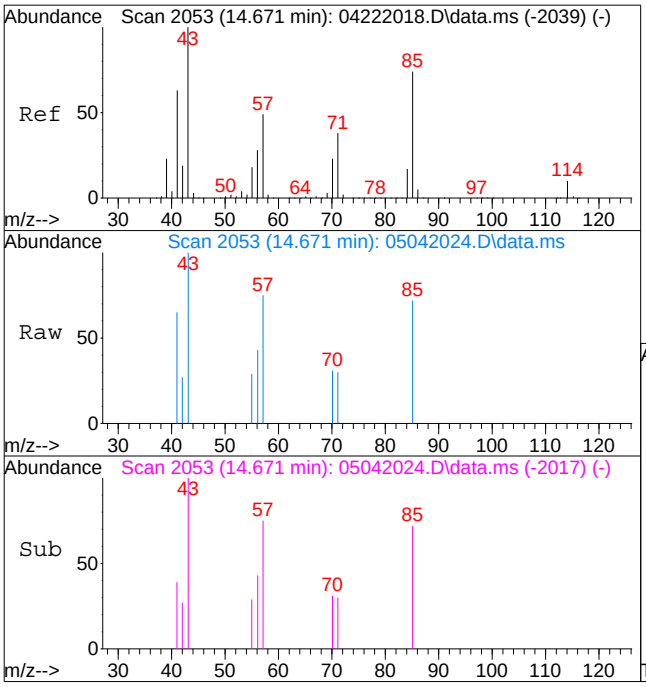


#59
2-Hexanone
Concen: 0.34 ng
RT: 13.91 min Scan# 1914
Delta R.T. 0.005 min
Lab File: 05042024.D
Acq: 4 May 2020 19:42

Tgt Ion: 43 Resp: 4284

Ion	Ratio	Lower	Upper
43	100		
58	57.1	41.1	81.1

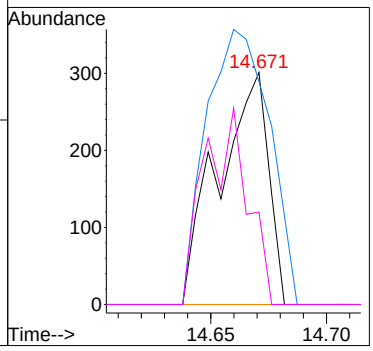


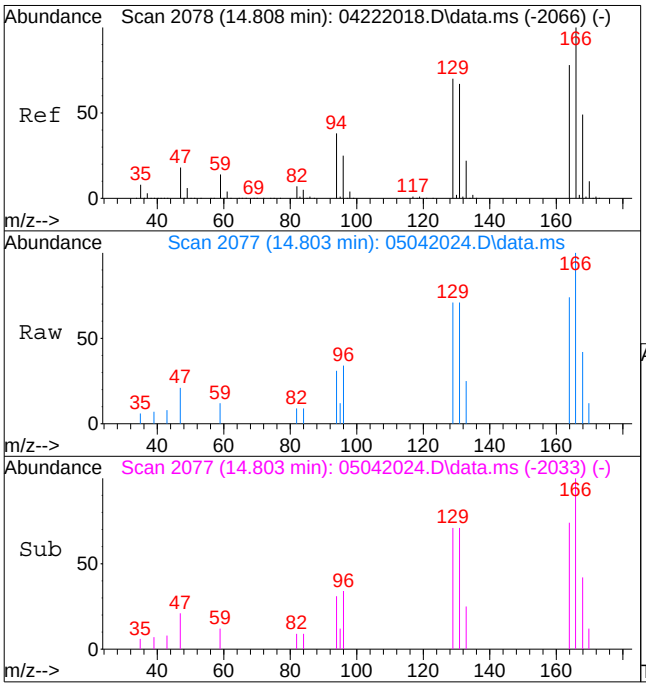


#63
n-Octane
Concen: 0.07 ng
RT: 14.67 min Scan# 2053
Delta R.T. -0.000 min
Lab File: 05042024.D
Acq: 4 May 2020 19:42

Tgt Ion: 57 Resp: 452

Ion	Ratio	Lower	Upper
57	100		
85	150.0	120.7	181.1
71	73.5	61.1	91.7

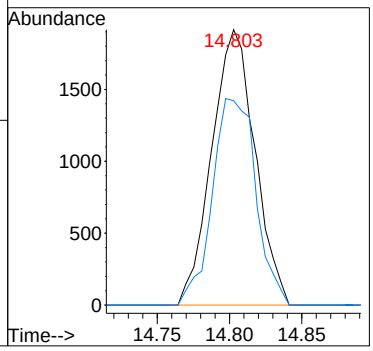


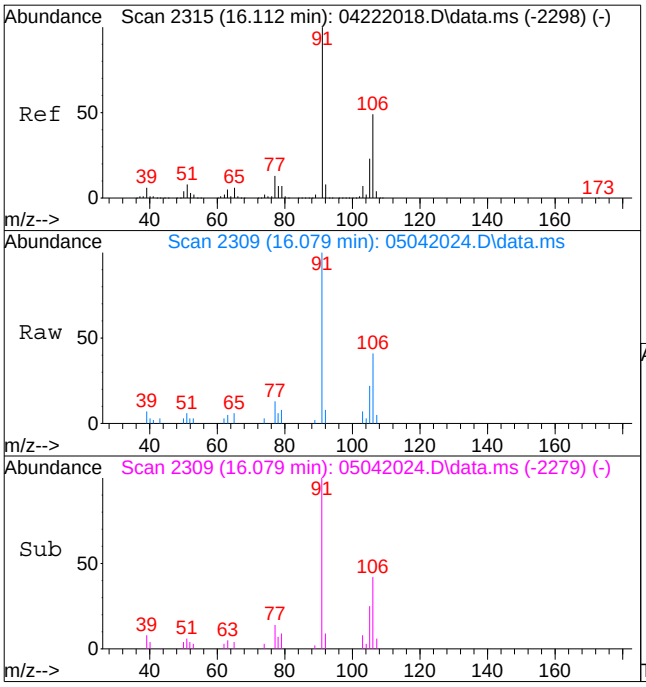


#64
Tetrachloroethene
Concen: 0.25 ng
RT: 14.80 min Scan# 2077
Delta R.T. -0.006 min
Lab File: 05042024.D
Acq: 4 May 2020 19:42

Tgt Ion:166 Resp: 3991

Ion	Ratio	Lower	Upper
166	100		
164	75.3	57.7	97.7

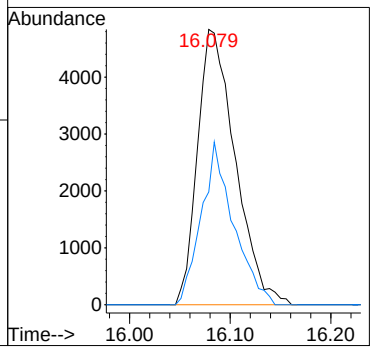


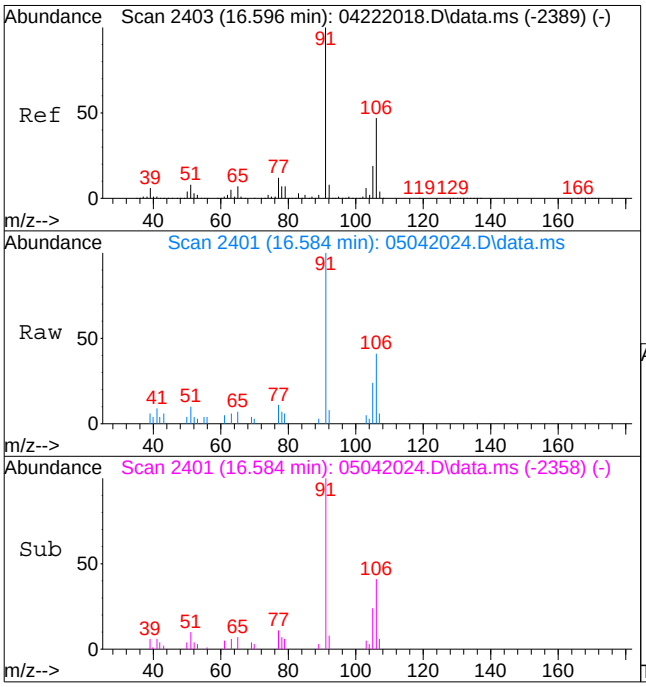


#67
m- & p-Xylenes
Concen: 0.30 ng
RT: 16.08 min Scan# 2309
Delta R.T. -0.033 min
Lab File: 05042024.D
Acq: 4 May 2020 19:42

Tgt Ion: 91 Resp: 12605

Ion	Ratio	Lower	Upper
91	100		
106	50.8	28.3	68.3

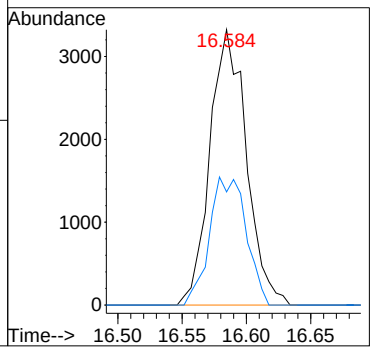


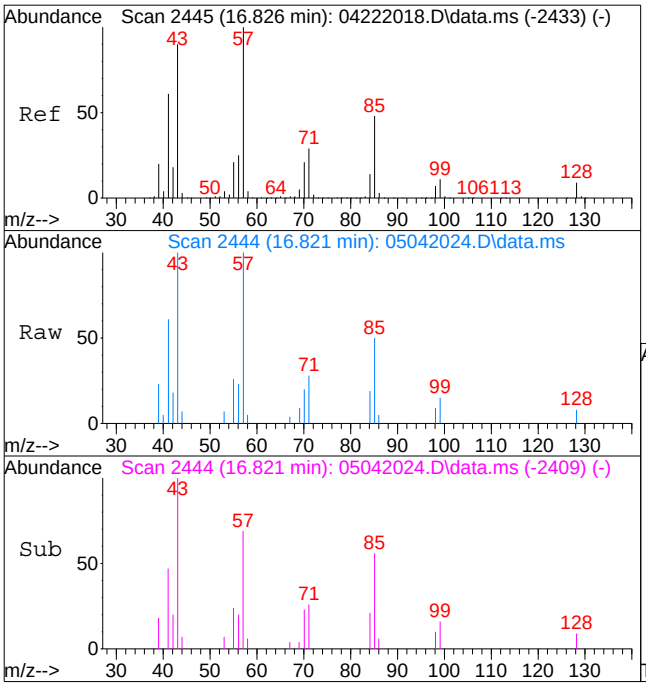


#70
o-Xylene
Concen: 0.16 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 05042024.D
Acq: 4 May 2020 19:42

Tgt Ion: 91 Resp: 6548

Ion	Ratio	Lower	Upper
91	100		
106	46.7	27.5	67.5

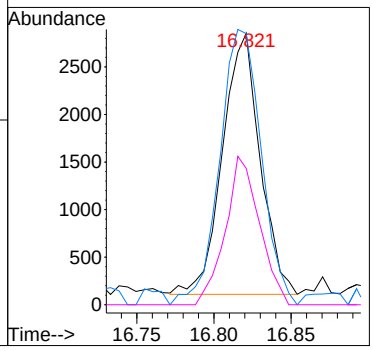


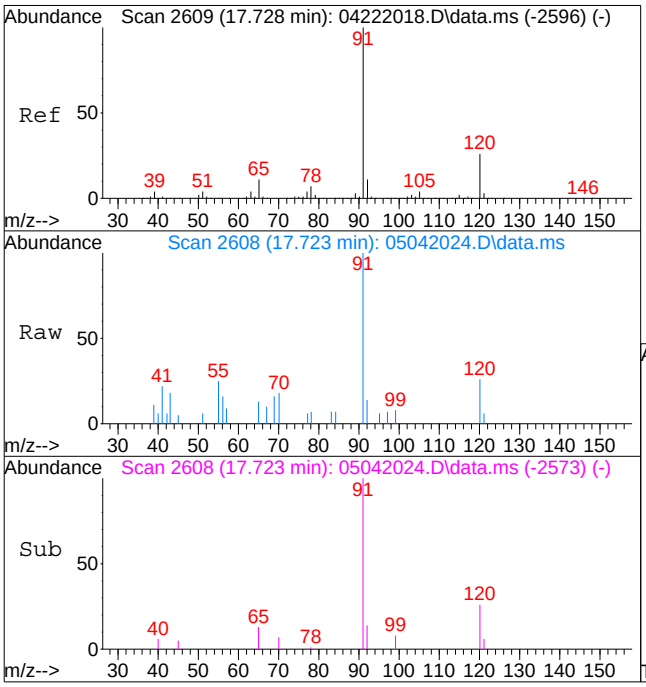


#71
n-Nonane
Concen: 0.35 ng
RT: 16.82 min Scan# 2444
Delta R.T. -0.006 min
Lab File: 05042024.D
Acq: 4 May 2020 19:42

Tgt Ion: 43 Resp: 4652

Ion	Ratio	Lower	Upper
43	100		
57	116.4	90.8	130.8
85	51.6	32.1	72.1

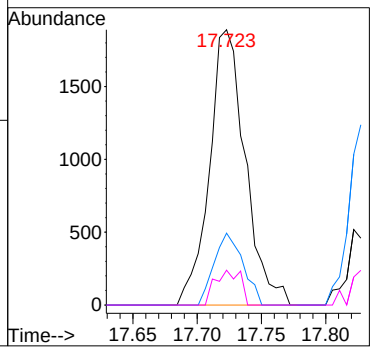


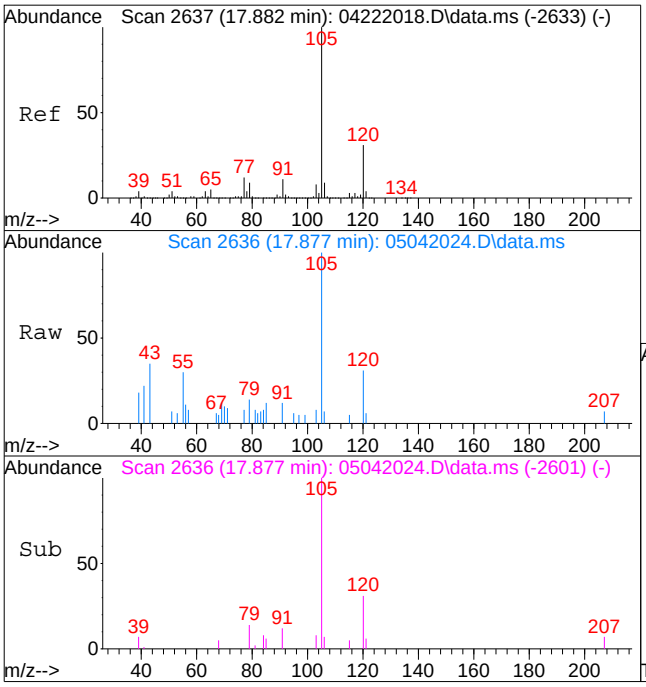


#76
n-Propylbenzene
Concen: 0.06 ng
RT: 17.72 min Scan# 2608
Delta R.T. -0.006 min
Lab File: 05042024.D
Acq: 4 May 2020 19:42

Tgt Ion: 91 Resp: 3670

Ion	Ratio	Lower	Upper
91	100		
120	21.0	6.1	46.1
65	8.9	0.0	30.7

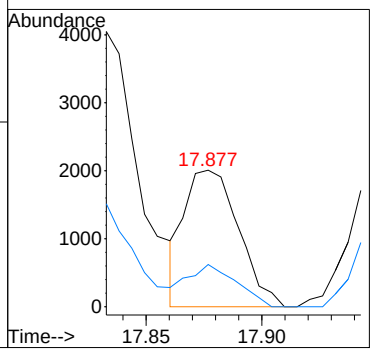


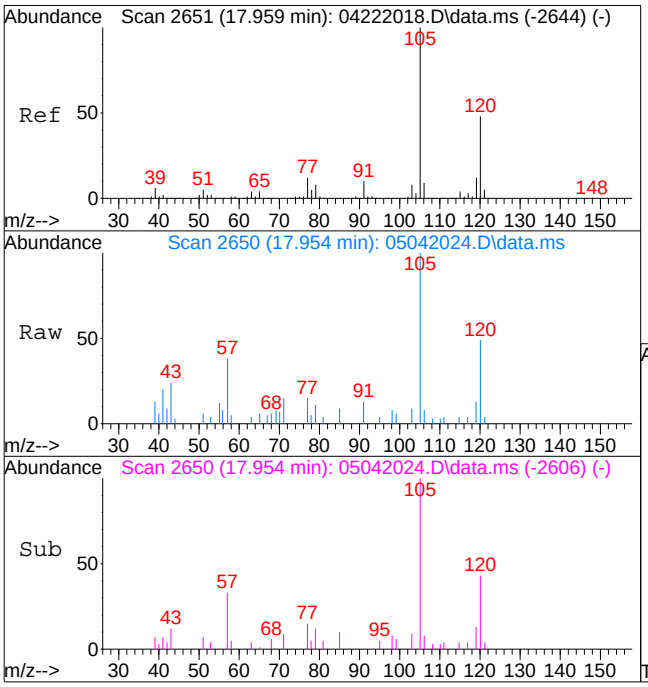


#78
4-Ethyltoluene
Concen: 0.06 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05042024.D
Acq: 4 May 2020 19:42

Tgt Ion:105 Resp: 3266

Ion	Ratio	Lower	Upper
105	100		
120	28.2	11.4	51.4

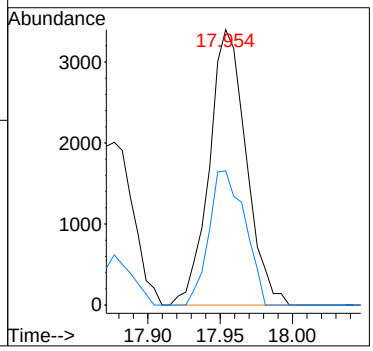


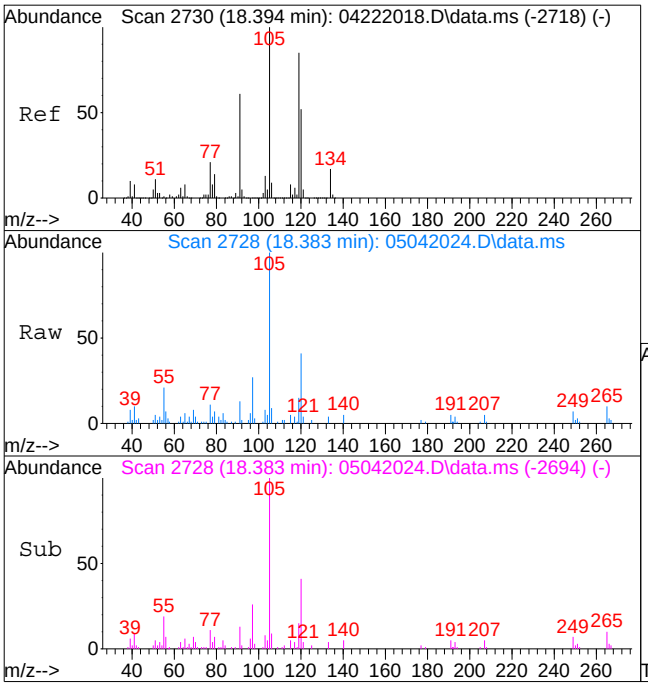


#79
1,3,5-Trimethylbenzene
Concen: 0.13 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 05042024.D
Acq: 4 May 2020 19:42

Tgt Ion:105 Resp: 6045

Ion	Ratio	Lower	Upper
105	100		
120	47.5	29.5	69.5

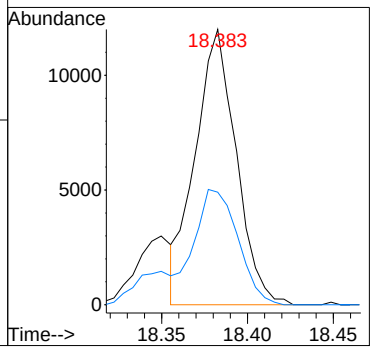


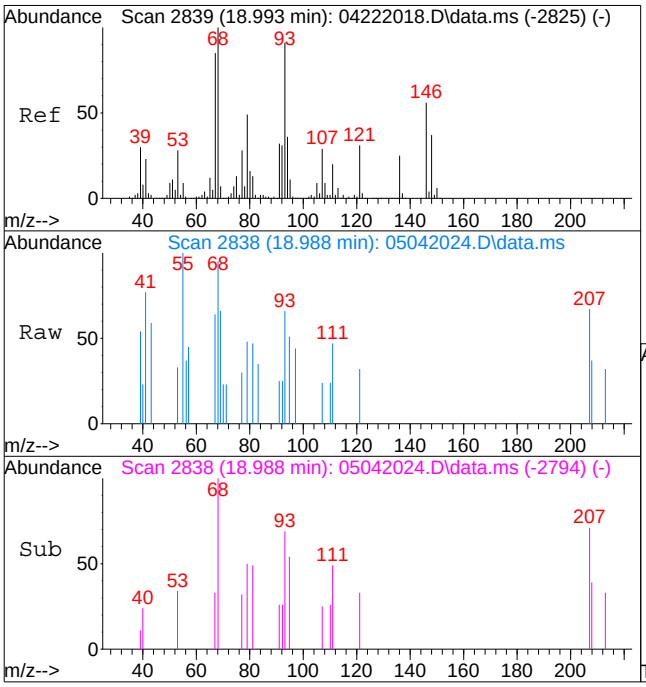


#82
1,2,4-Trimethylbenzene
Concen: 0.44 ng m
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 05042024.D
Acq: 4 May 2020 19:42

Tgt Ion:105 Resp: 19940

Ion	Ratio	Lower	Upper
105	100		
120	56.1	34.5	74.5

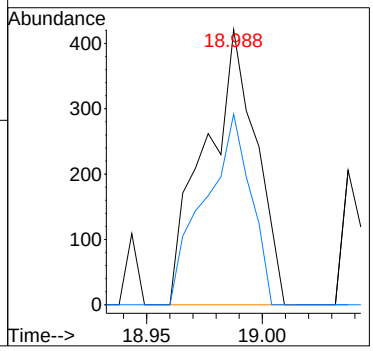


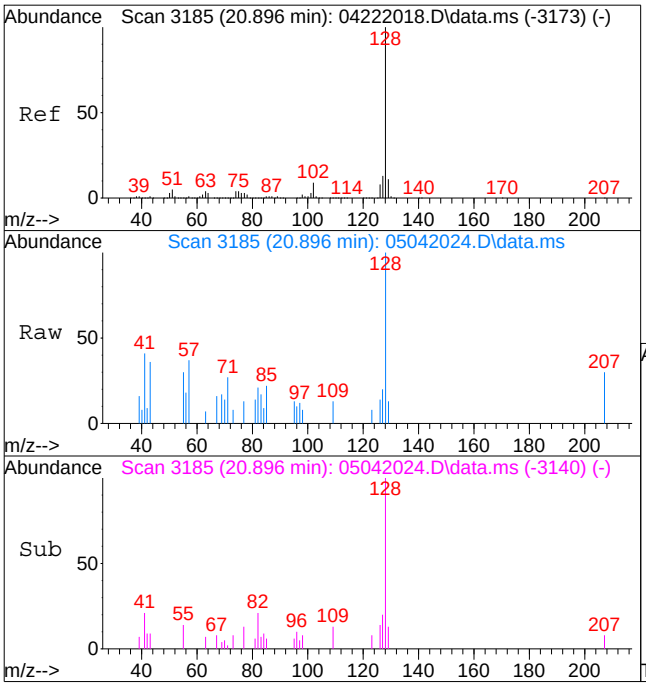


#91
d-Limonene
Concen: 0.05 ng
RT: 18.99 min Scan# 2838
Delta R.T. -0.006 min
Lab File: 05042024.D
Acq: 4 May 2020 19:42

Tgt Ion: 68 Resp: 644

Ion	Ratio	Lower	Upper
68	100		
93	62.7	71.6	111.6#

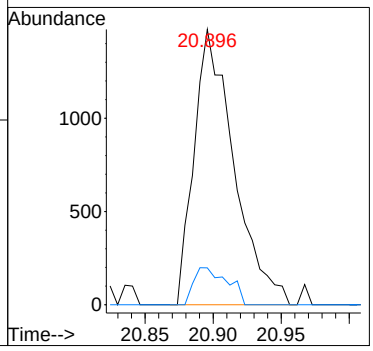




#95
Naphthalene
Concen: 0.05 ng
RT: 20.90 min Scan# 3185
Delta R.T. -0.000 min
Lab File: 05042024.D
Acq: 4 May 2020 19:42

Tgt Ion:128 Resp: 3006

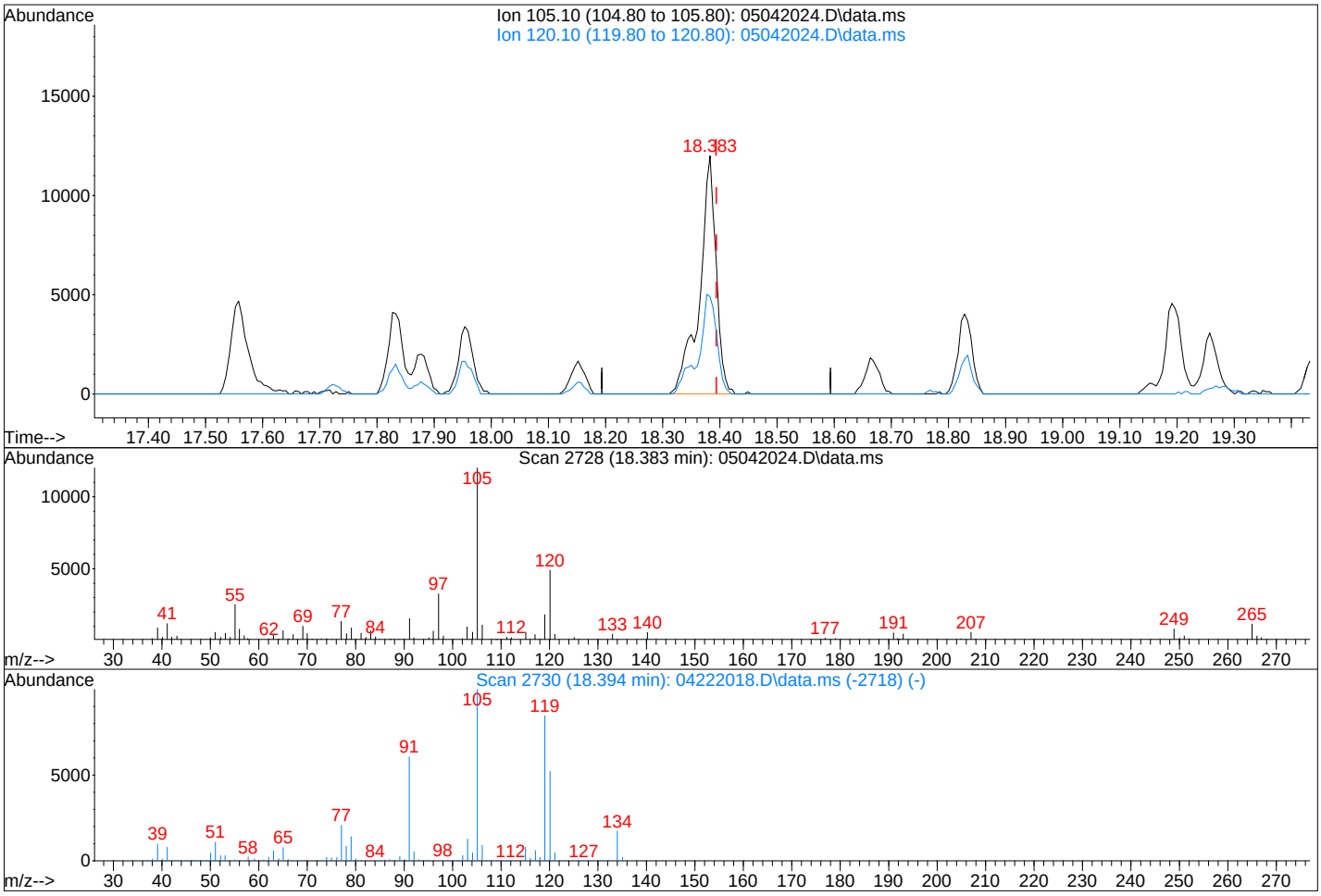
Ion	Ratio	Lower	Upper
128	100		
129	11.4	0.0	30.9



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_05\04\05042024.D Vial: 8
Acq On : 4 May 2020 19:42 Operator: SC
Sample : P2002106-007 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 04 20:34:36 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05042024.D\data.ms

(82) 1,2,4-Trimethylbenzene (T)

18.383min (-0.011) 0.54ng

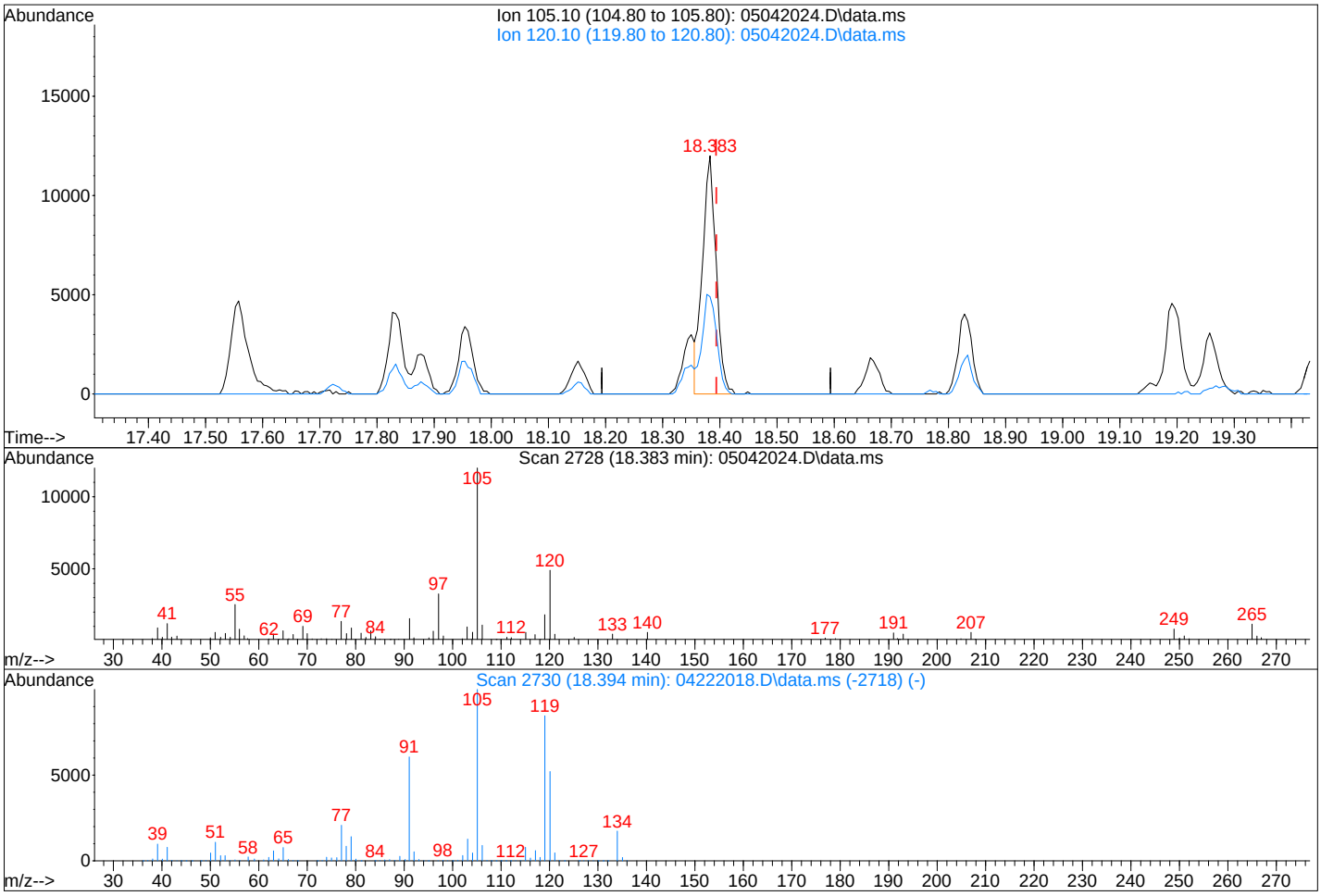
response 24282

Ion	Exp%	Act%
105.10	100	100
120.10	54.50	46.08
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_05\04\05042024.D Vial: 8
Acq On : 4 May 2020 19:42 Operator: SC
Sample : P2002106-007 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 04 20:34:36 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05042024.D\data.ms

(82) 1,2,4-Trimethylbenzene (T)

18.383min (-0.011) 0.44ng m

response 19940

Ion	Exp%	Act%
105.10	100	100
120.10	54.50	56.12
0.00	0.00	0.00
0.00	0.00	0.00

IPC

5/5/20

TD 5/7/20

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042025.D Vial: 9
Acq On : 4 May 2020 20:16 Operator: SC
Sample : P2002106-008 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 15:48:47 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/5/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	143102	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	599785	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.45	82	269843	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	217419	11.727	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.84%				
57) Toluene-d8 (SS2)	13.54	98	662410	12.714	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.68%				
73) Bromofluorobenzene (SS3)	17.05	174	270713	12.928	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.44%				
Target Compounds							Qvalue
2) Propene	3.89	42	1216m	0.200	ng		
3) Dichlorodifluoromethan...	3.99	85	11686	0.506	ng		98
4) Chloromethane	4.18	50	867	0.102	ng		92
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	230	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	4.95	94	219	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.35	45	5773m	1.254	ng		
11) Acetonitrile	5.58	41	680	0.062	ng	#	22
12) Acrolein	5.72	56	1131	0.269	ng		94
13) Acetone	5.84	58	65328	11.819	ng		93
14) Trichlorofluoromethane	6.02	101	5143	0.224	ng		96
15) 2-Propanol (Isopropanol)	6.19	45	2655	0.151	ng	#	57
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	6.87	84	897	0.093	ng		95
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	7.18	151	5765	0.482	ng		91
22) Carbon Disulfide	7.14	76	78360	2.431	ng		97
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	8.26	86	2074	1.028	ng	#	48
27) 2-Butanone (MEK)	8.52	72	26257	4.624	ng		94
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	9.28	87	227	N.D.			
30) Ethyl Acetate	9.23	61	1497	0.592	ng		92
31) n-Hexane	9.22	57	2999	0.245	ng		95
32) Chloroform	9.28	83	2869	0.146	ng		91
34) Tetrahydrofuran (THF)	9.68	72	18598	3.234	ng		97
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.76	78	6723	0.172	ng		98
42) Carbon Tetrachloride	10.90	117	3150	0.156	ng		95
43) Cyclohexane	11.03	84	4358	0.285	ng		97
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	11.81	130	384881	28.423	ng		99
48) 1,4-Dioxane	0.00	88	0	N.D.	d		
49) 2,2,4-Trimethylpentane...	11.86	57	691	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042025.D Vial: 9
Acq On : 4 May 2020 20:16 Operator: SC
Sample : P2002106-008 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 15:48:47 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

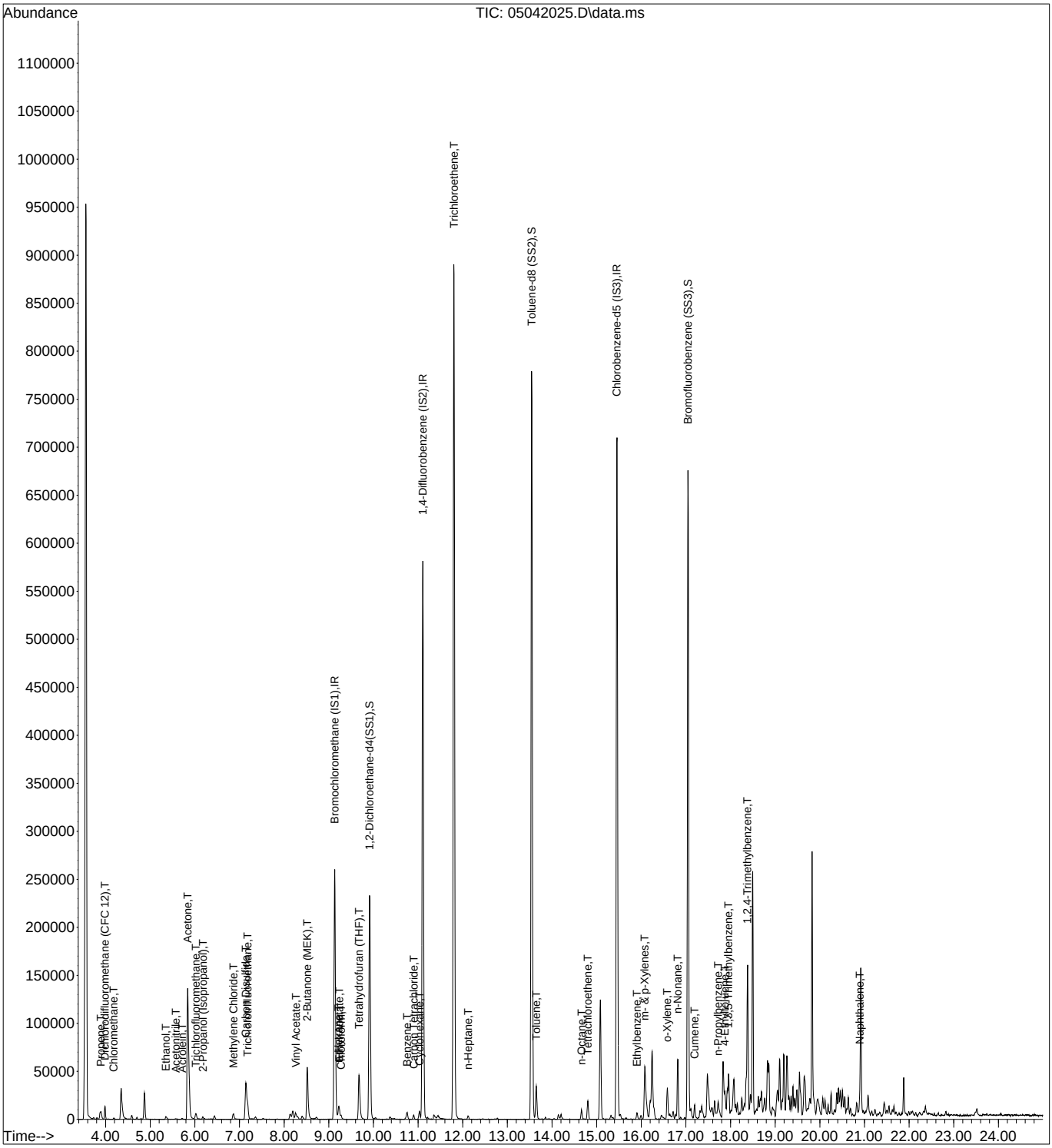
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.12	71	994	0.109 ng	99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.65	91	31050	0.710 ng	97
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.67	57	1872	0.269 ng	96
64) Tetrachloroethene	14.80	166	7839	0.476 ng	99
65) Chlorobenzene	15.54	112	345	N.D.	
66) Ethylbenzene	15.90	91	6874	0.135 ng	99
67) m- & p-Xylenes	16.08	91	51413	1.196 ng	96
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.49	104	257	N.D.	
70) o-Xylene	16.58	91	23598	0.559 ng	100
71) n-Nonane	16.82	43	20005	1.468 ng	99
72) 1,1,2,2-Tetrachloroethane	16.63	83	542	N.D.	
74) Cumene	17.19	105	4317	0.078 ng	99
75) alpha-Pinene	17.60	93	100	N.D.	
76) n-Propylbenzene	17.72	91	13294	0.222 ng	97
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.87	105	14599	0.279 ng	99
79) 1,3,5-Trimethylbenzene	17.95	105	18999	0.393 ng	99
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	77140	1.648 ng	89
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.51	91	116	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	18.98	68	466	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.90	128	14941	0.248 ng	100
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042025.D Vial: 9
Acq On : 4 May 2020 20:16 Operator: SC
Sample : P2002106-008 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 15:48:47 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042025.D Vial: 9
Acq On : 4 May 2020 20:16 Operator: SC
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QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/5/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	143102	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	599785	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.45	82	269843	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	217419	11.727	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.84%				
57) Toluene-d8 (SS2)	13.54	98	662410	12.714	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.68%				
73) Bromofluorobenzene (SS3)	17.05	174	270713	12.928	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.44%				
Target Compounds							Qvalue
2) Propene	3.89	42	1216m	0.200	ng		
3) Dichlorodifluoromethan...	3.99	85	11686	0.506	ng		98
4) Chloromethane	4.18	50	867	0.102	ng		92
10) Ethanol	5.35	45	5773m	1.254	ng		
11) Acetonitrile	5.58	41	680	0.062	ng	#	22
12) Acrolein	5.72	56	1131	0.269	ng		94
13) Acetone	5.84	58	65328	11.819	ng		93
14) Trichlorofluoromethane	6.02	101	5143	0.224	ng		96
15) 2-Propanol (Isopropanol)	6.19	45	2655	0.151	ng	#	57
19) Methylene Chloride	6.87	84	897	0.093	ng		95
21) Trichlorotrifluoroethane	7.18	151	5765	0.482	ng		91
22) Carbon Disulfide	7.14	76	78360	2.431	ng		97
26) Vinyl Acetate	8.26	86	2074	1.028	ng	#	48
27) 2-Butanone (MEK)	8.52	72	26257	4.624	ng		94
30) Ethyl Acetate	9.23	61	1497	0.592	ng		92
31) n-Hexane	9.22	57	2999	0.245	ng		95
32) Chloroform	9.28	83	2869	0.146	ng		91
34) Tetrahydrofuran (THF)	9.68	72	18598	3.234	ng		97
41) Benzene	10.76	78	6723	0.172	ng		98
42) Carbon Tetrachloride	10.90	117	3150	0.156	ng		95
43) Cyclohexane	11.03	84	4358	0.285	ng		97
47) Trichloroethene	11.81	130	384881	28.423	ng		99
51) n-Heptane	12.12	71	994	0.109	ng		99
58) Toluene	13.65	91	31050	0.710	ng		97
63) n-Octane	14.67	57	1872	0.269	ng		96
64) Tetrachloroethene	14.80	166	7839	0.476	ng		99
66) Ethylbenzene	15.90	91	6874	0.135	ng		99
67) m- & p-Xylenes	16.08	91	51413	1.196	ng		96
70) o-Xylene	16.58	91	23598	0.559	ng		100
71) n-Nonane	16.82	43	20005	1.468	ng		99
74) Cumene	17.19	105	4317	0.078	ng		99
76) n-Propylbenzene	17.72	91	13294	0.222	ng		97
78) 4-Ethyltoluene	17.87	105	14599	0.279	ng		99
79) 1,3,5-Trimethylbenzene	17.95	105	18999	0.393	ng		99
82) 1,2,4-Trimethylbenzene	18.38	105	77140	1.648	ng		89
95) Naphthalene	20.90	128	14941	0.248	ng		100

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Acq On : 4 May 2020 20:16 Operator: SC
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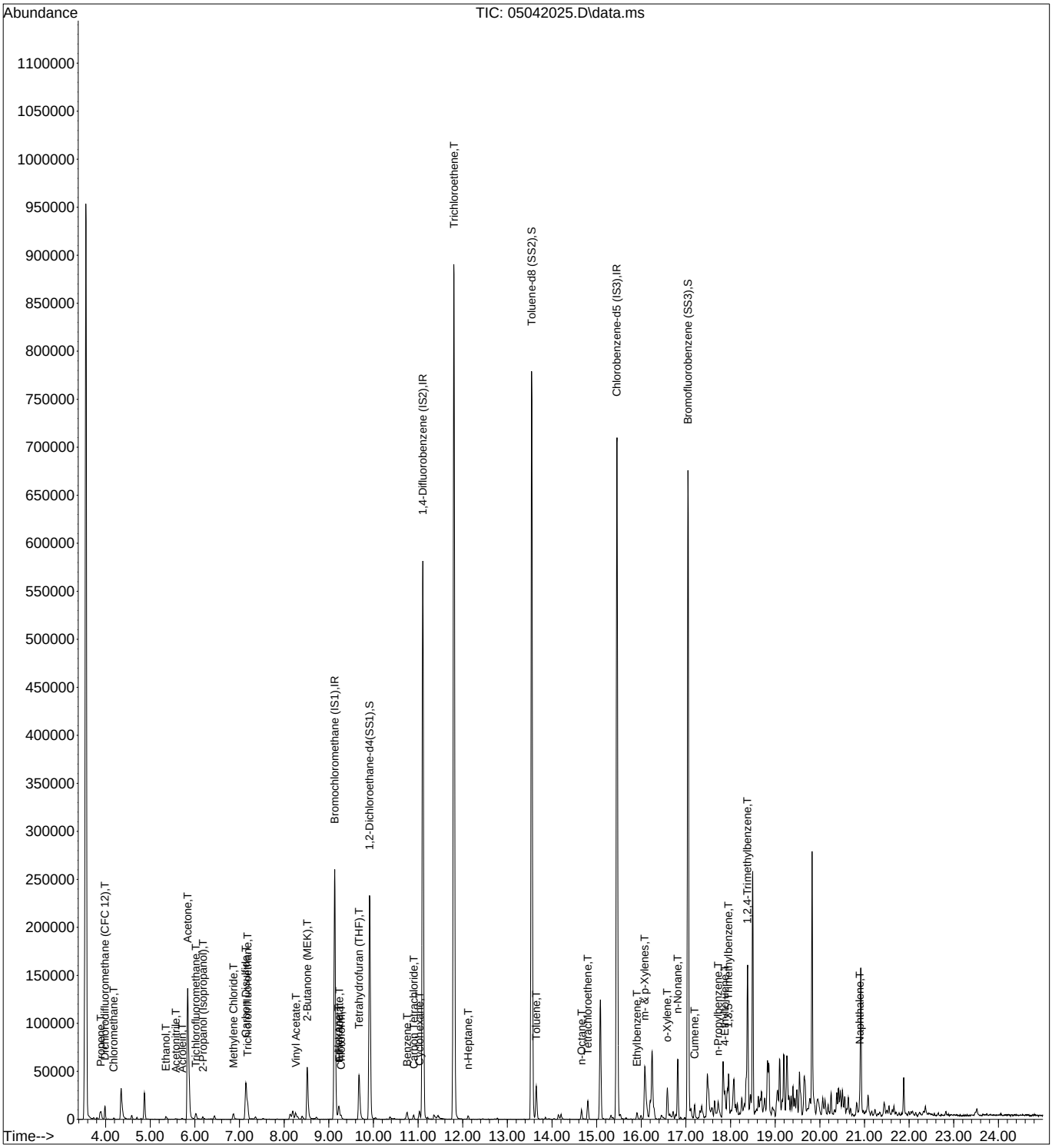
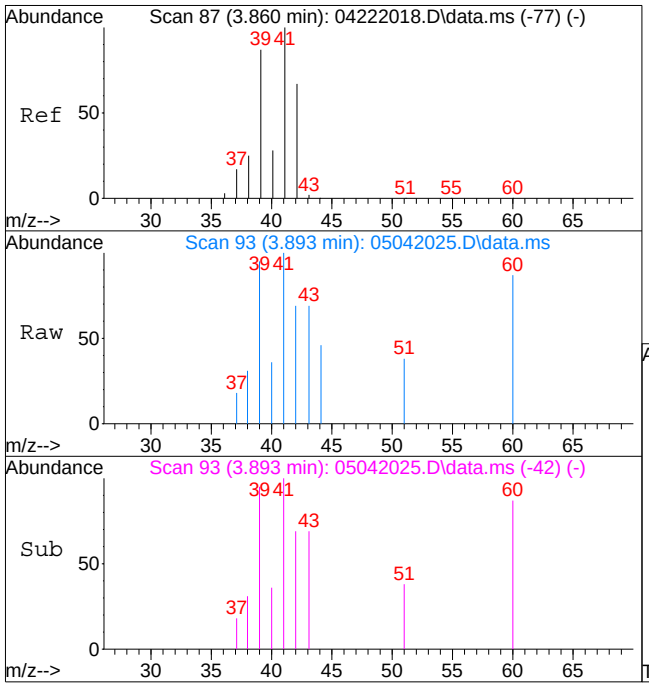
DataAcq Meth:TO15.M

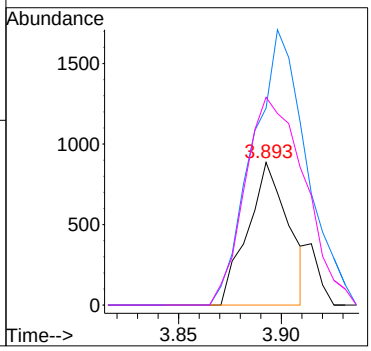


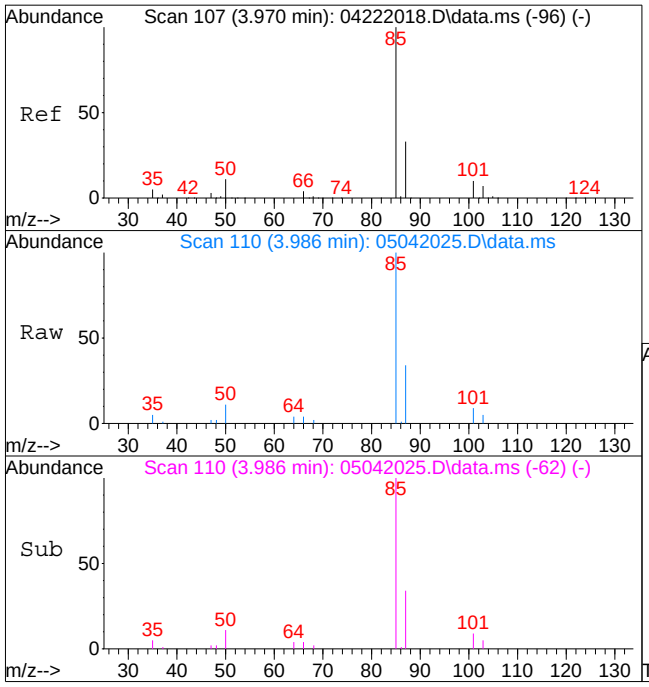


#2
Propene
Concen: 0.20 ng m
RT: 3.89 min Scan# 93
Delta R.T. 0.033 min
Lab File: 05042025.D
Acq: 4 May 2020 20:16

Tgt Ion: 42 Resp: 1216

Ion	Ratio	Lower	Upper
42	100		
39	256.2	106.4	146.4#
41	215.0	128.8	168.8#

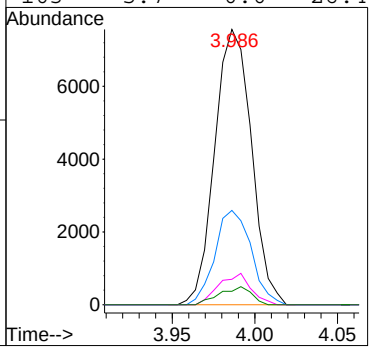


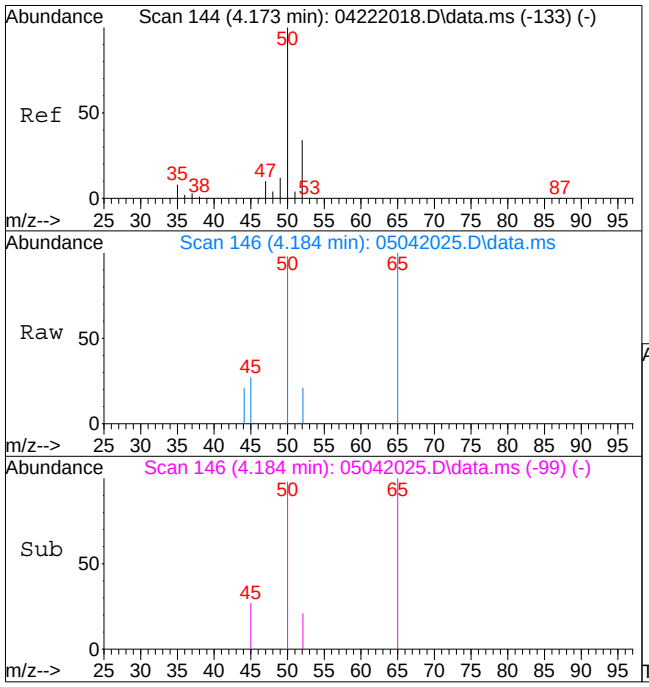


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.51 ng
RT: 3.99 min Scan# 110
Delta R.T. 0.016 min
Lab File: 05042025.D
Acq: 4 May 2020 20:16

Tgt Ion: 85 Resp: 11686

Ion	Ratio	Lower	Upper
85	100		
87	33.8	12.4	52.4
101	10.0	0.0	29.9
103	5.7	0.0	26.4

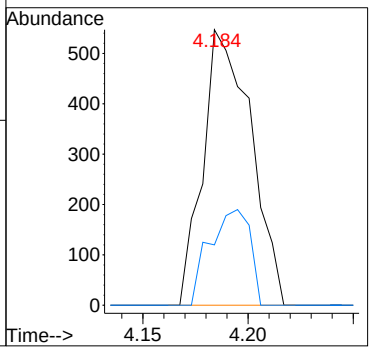


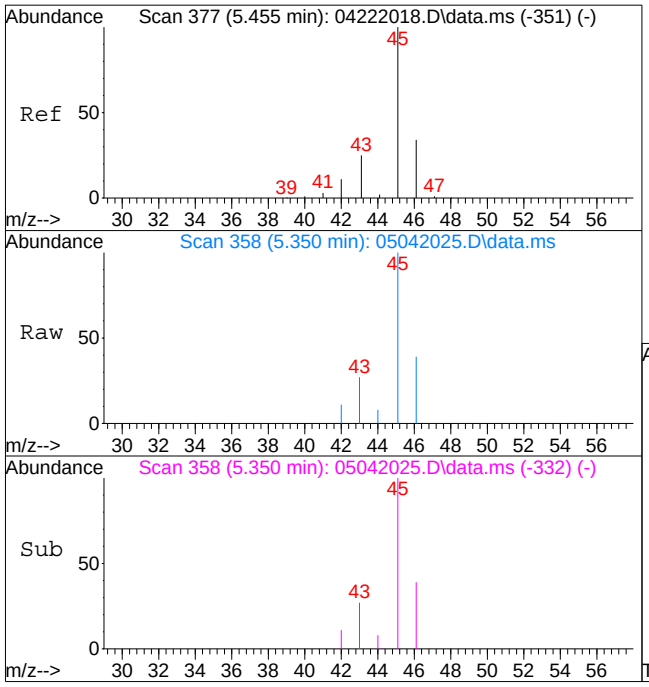


#4
Chloromethane
Concen: 0.10 ng
RT: 4.18 min Scan# 146
Delta R.T. 0.011 min
Lab File: 05042025.D
Acq: 4 May 2020 20:16

Tgt Ion: 50 Resp: 867

Ion	Ratio	Lower	Upper
50	100		
52	29.4	13.7	53.7

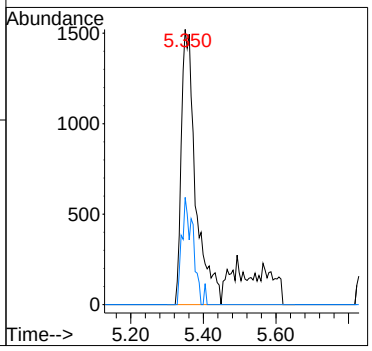


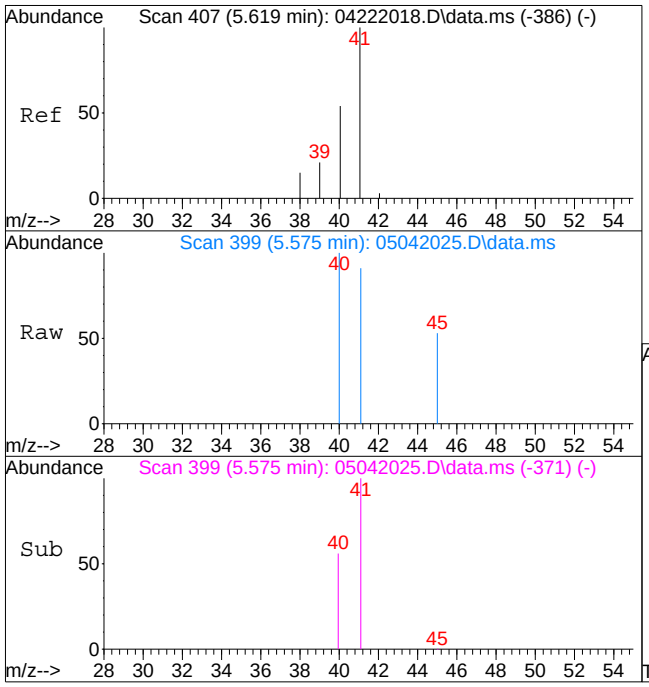


#10
Ethanol
Concen: 1.25 ng m
RT: 5.35 min Scan# 358
Delta R.T. -0.105 min
Lab File: 05042025.D
Acq: 4 May 2020 20:16

Tgt Ion: 45 Resp: 5773

Ion	Ratio	Lower	Upper
45	100		
46	0.0	14.0	54.0#

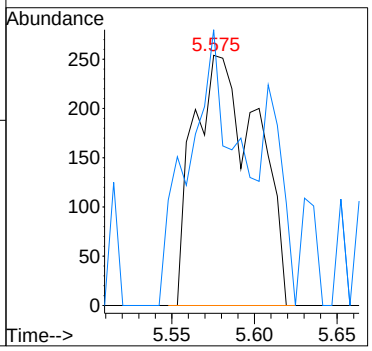


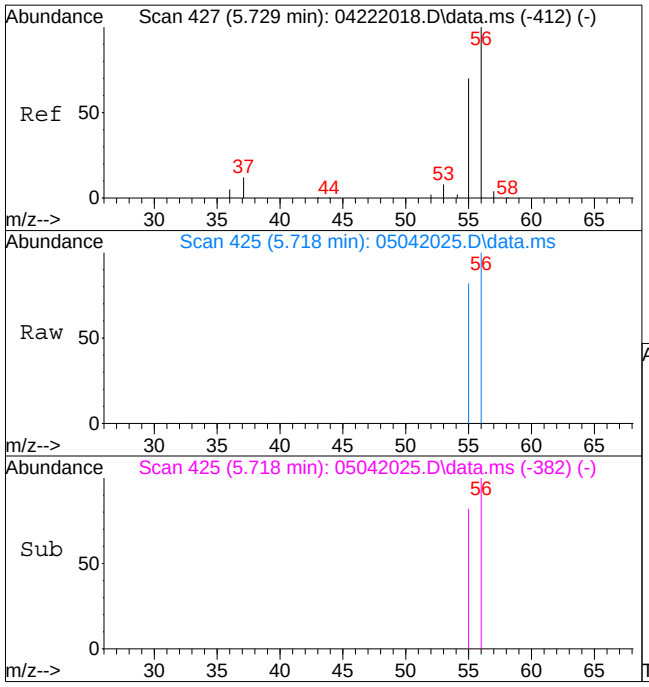


#11
Acetonitrile
Concen: 0.06 ng
RT: 5.58 min Scan# 399
Delta R.T. -0.044 min
Lab File: 05042025.D
Acq: 4 May 2020 20:16

Tgt Ion: 41 Resp: 680

Ion	Ratio	Lower	Upper
41	100		
40	111.3	34.8	74.8#

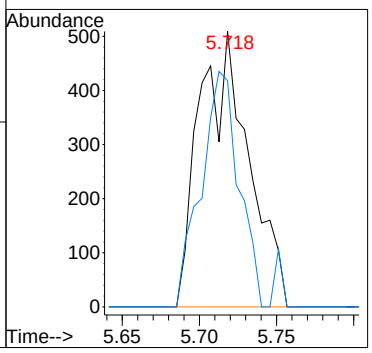


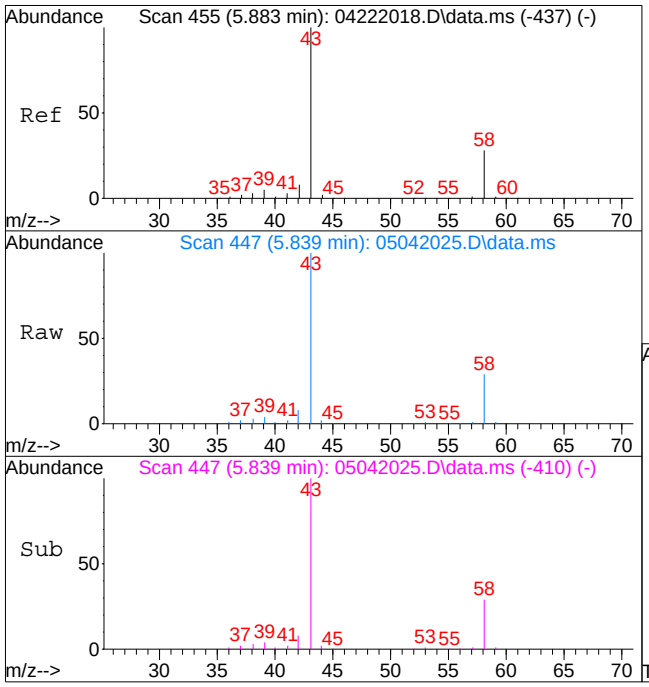


#12
Acrolein
Concen: 0.27 ng
RT: 5.72 min Scan# 425
Delta R.T. -0.011 min
Lab File: 05042025.D
Acq: 4 May 2020 20:16

Tgt Ion: 56 Resp: 1131

Ion	Ratio	Lower	Upper
56	100		
55	65.6	50.4	90.4

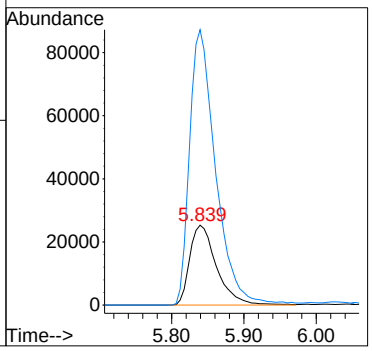


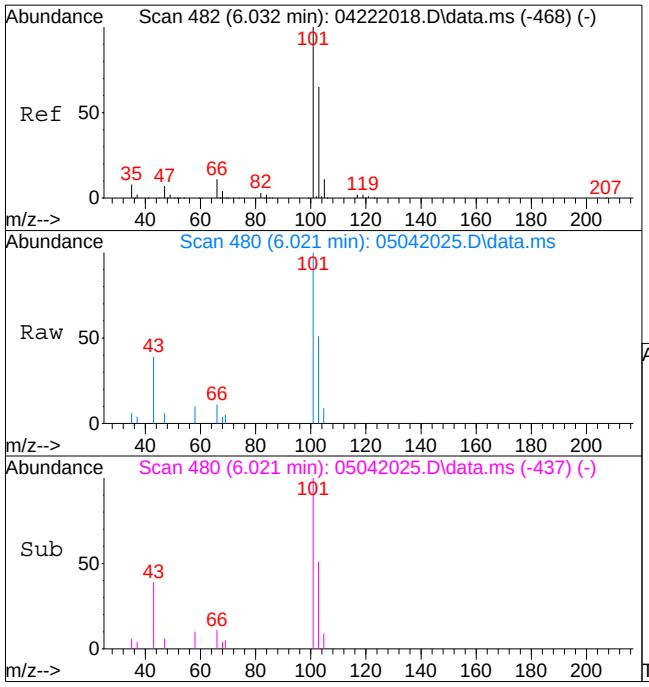


#13
Acetone
Concen: 11.82 ng
RT: 5.84 min Scan# 447
Delta R.T. -0.044 min
Lab File: 05042025.D
Acq: 4 May 2020 20:16

Tgt Ion: 58 Resp: 65328

Ion	Ratio	Lower	Upper
58	100		
43	334.9	319.3	379.3

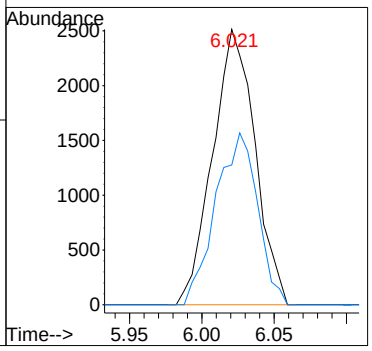


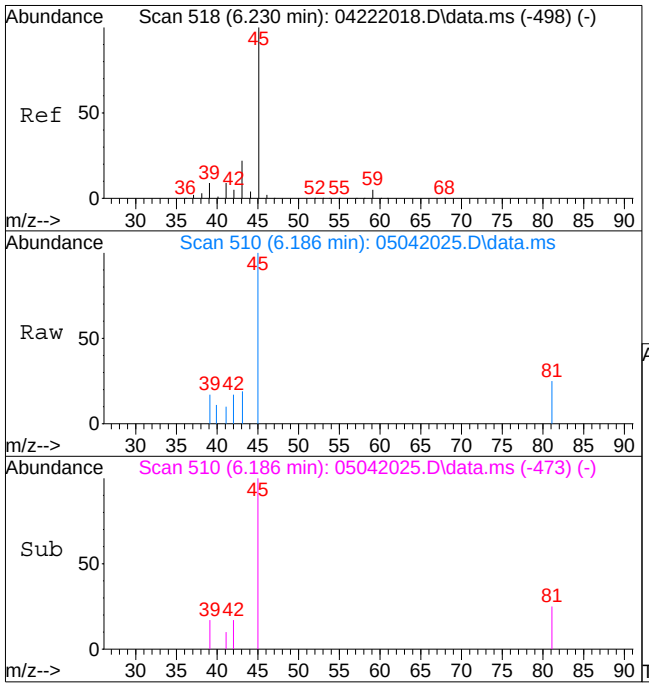


#14
Trichlorofluoromethane
Concen: 0.22 ng
RT: 6.02 min Scan# 480
Delta R.T. -0.011 min
Lab File: 05042025.D
Acq: 4 May 2020 20:16

Tgt Ion:101 Resp: 5143

Ion	Ratio	Lower	Upper
101	100		
103	61.4	44.7	84.7

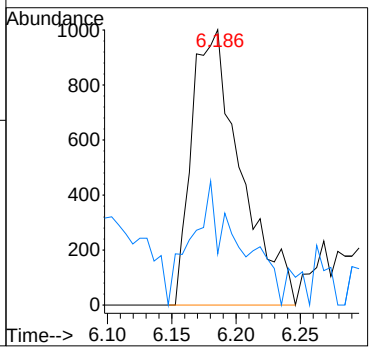


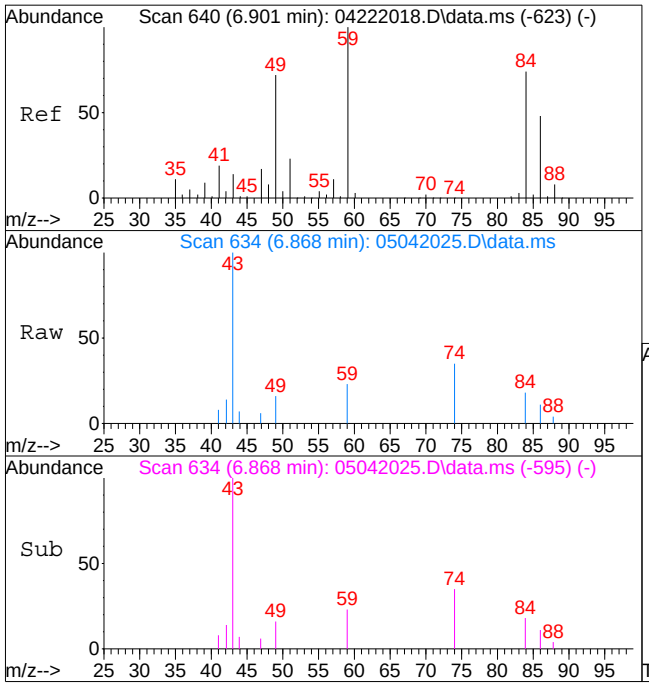


#15
2-Propanol (Isopropanol)
Concen: 0.15 ng
RT: 6.19 min Scan# 510
Delta R.T. -0.044 min
Lab File: 05042025.D
Acq: 4 May 2020 20:16

Tgt Ion: 45 Resp: 2655

Ion	Ratio	Lower	Upper
45	100		
43	43.3	2.6	42.6#

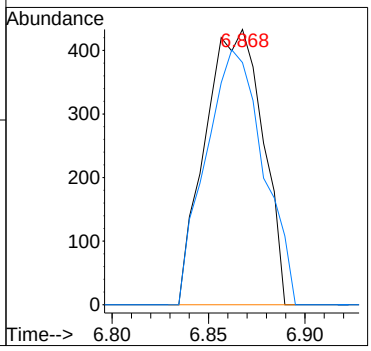


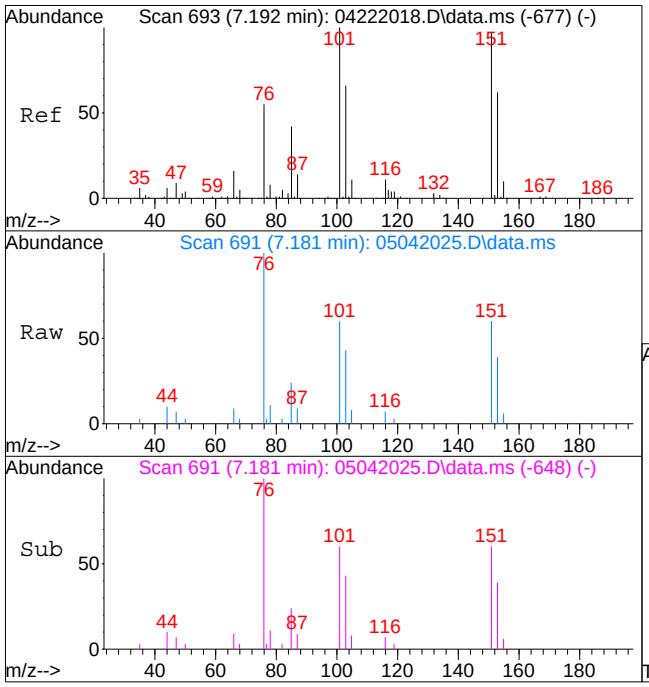


#19
Methylene Chloride
Concen: 0.09 ng
RT: 6.87 min Scan# 634
Delta R.T. -0.033 min
Lab File: 05042025.D
Acq: 4 May 2020 20:16

Tgt Ion: 84 Resp: 897

Ion	Ratio	Lower	Upper
84	100		
49	92.6	73.0	123.0

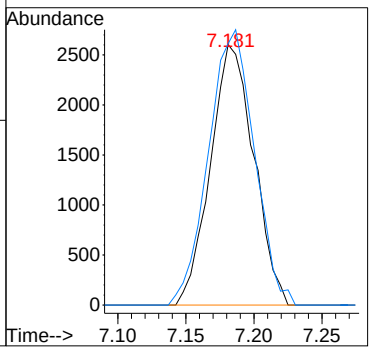


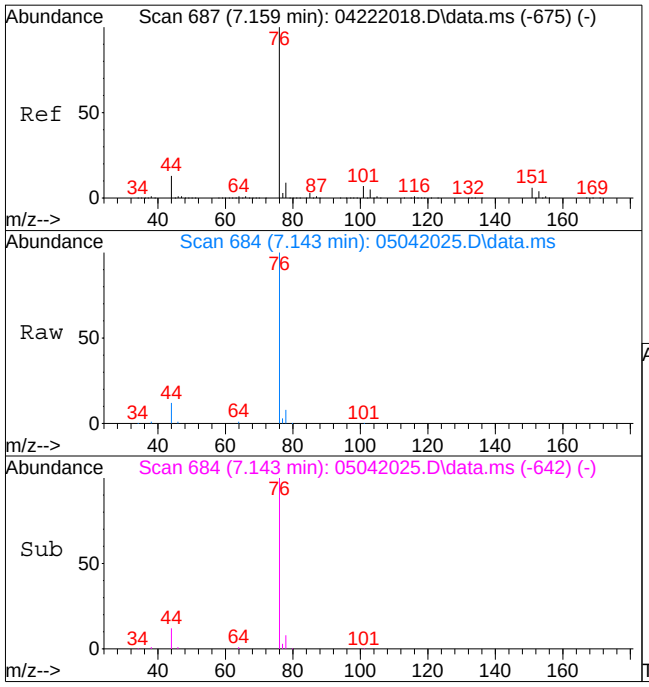


#21
Trichlorotrifluoroethane
Concen: 0.48 ng
RT: 7.18 min Scan# 691
Delta R.T. -0.011 min
Lab File: 05042025.D
Acq: 4 May 2020 20:16

Tgt Ion:151 Resp: 5765

Ion	Ratio	Lower	Upper
151	100		
101	111.7	82.9	122.9

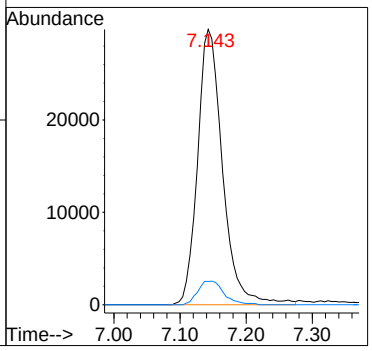


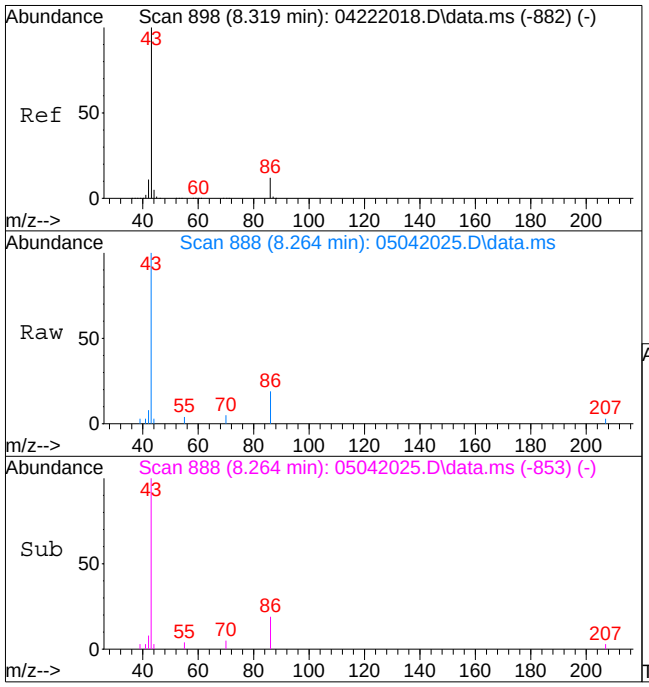


#22
Carbon Disulfide
Concen: 2.43 ng
RT: 7.14 min Scan# 684
Delta R.T. -0.017 min
Lab File: 05042025.D
Acq: 4 May 2020 20:16

Tgt Ion: 76 Resp: 78360

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	30.2

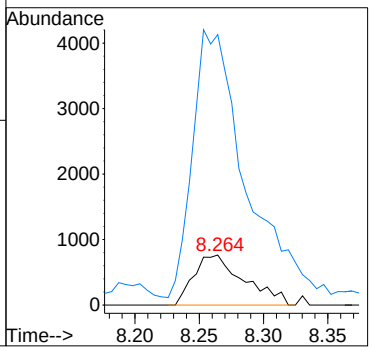


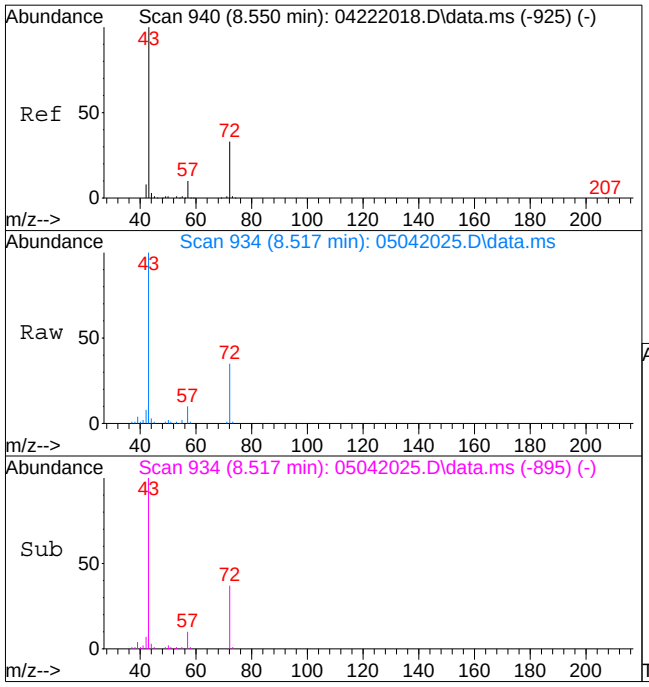


#26
Vinyl Acetate
Concen: 1.03 ng
RT: 8.26 min Scan# 888
Delta R.T. -0.055 min
Lab File: 05042025.D
Acq: 4 May 2020 20:16

Tgt Ion: 86 Resp: 2074

Ion	Ratio	Lower	Upper
86	100		
43	620.4	803.0	843.0#

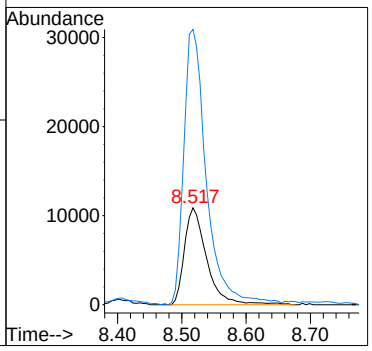


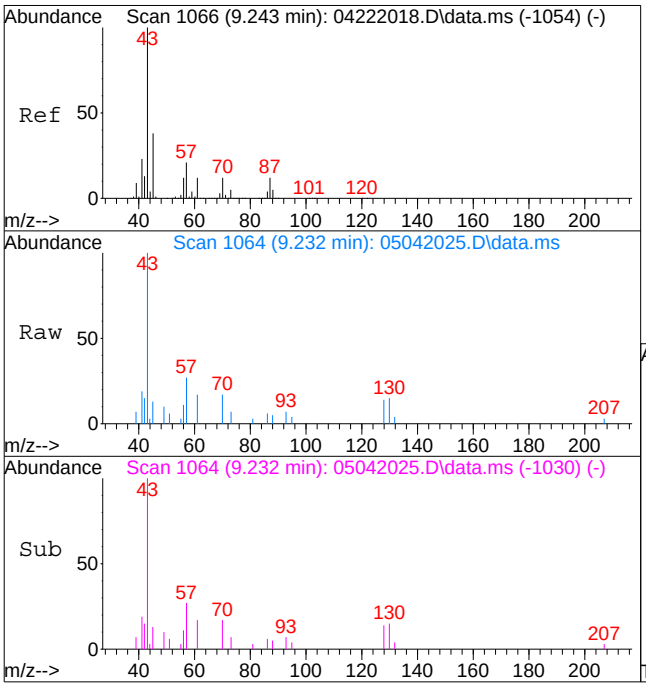


#27
2-Butanone (MEK)
Concen: 4.62 ng
RT: 8.52 min Scan# 934
Delta R.T. -0.033 min
Lab File: 05042025.D
Acq: 4 May 2020 20:16

Tgt Ion: 72 Resp: 26257

Ion	Ratio	Lower	Upper
72	100		
43	287.5	278.8	318.8

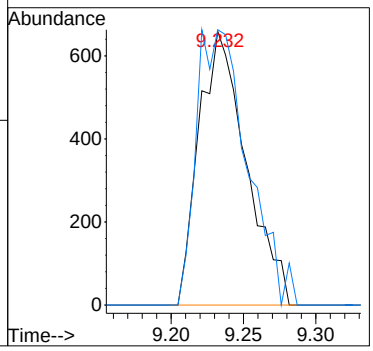


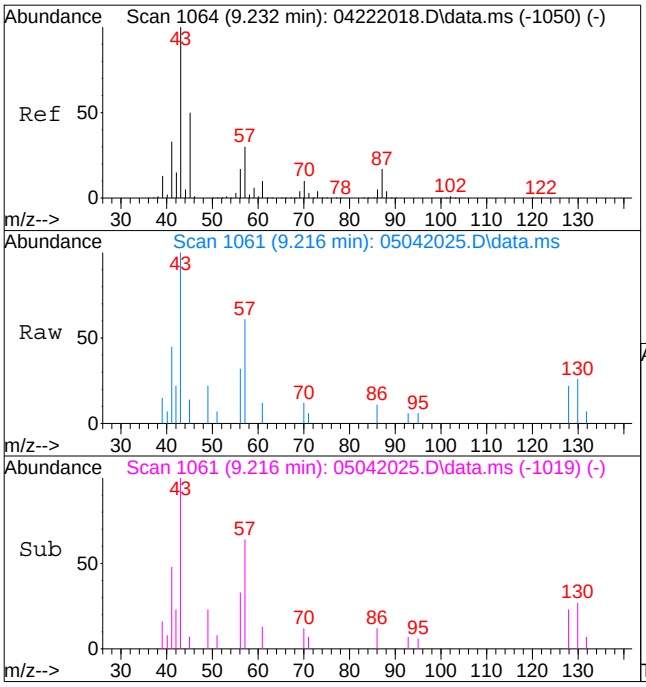


#30
Ethyl Acetate
Concen: 0.59 ng
RT: 9.23 min Scan# 1064
Delta R.T. -0.011 min
Lab File: 05042025.D
Acq: 4 May 2020 20:16

Tgt Ion: 61 Resp: 1497

Ion	Ratio	Lower	Upper
61	100		
70	109.0	80.6	120.6

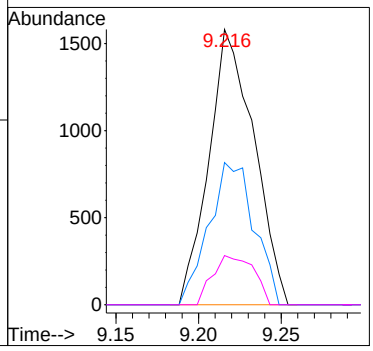


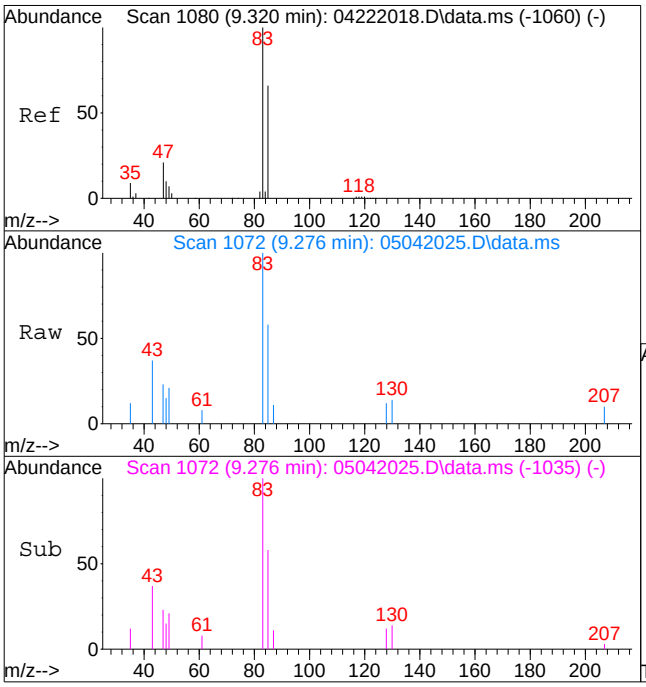


#31
n-Hexane
Concen: 0.24 ng
RT: 9.22 min Scan# 1061
Delta R.T. -0.017 min
Lab File: 05042025.D
Acq: 4 May 2020 20:16

Tgt Ion: 57 Resp: 2999

Ion	Ratio	Lower	Upper
57	100		
56	52.0	44.0	66.0
86	16.3	15.0	22.4

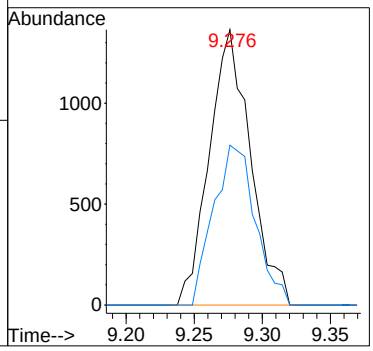


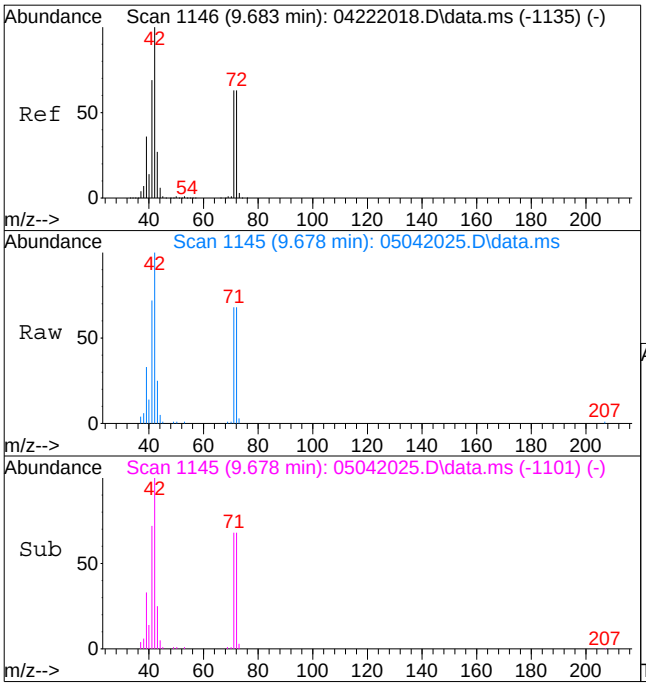


#32
Chloroform
Concen: 0.15 ng
RT: 9.28 min Scan# 1072
Delta R.T. -0.044 min
Lab File: 05042025.D
Acq: 4 May 2020 20:16

Tgt Ion: 83 Resp: 2869

Ion	Ratio	Lower	Upper
83	100		
85	59.0	45.8	85.8

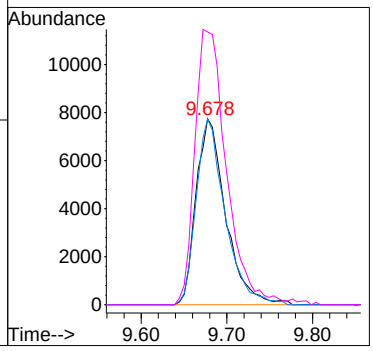


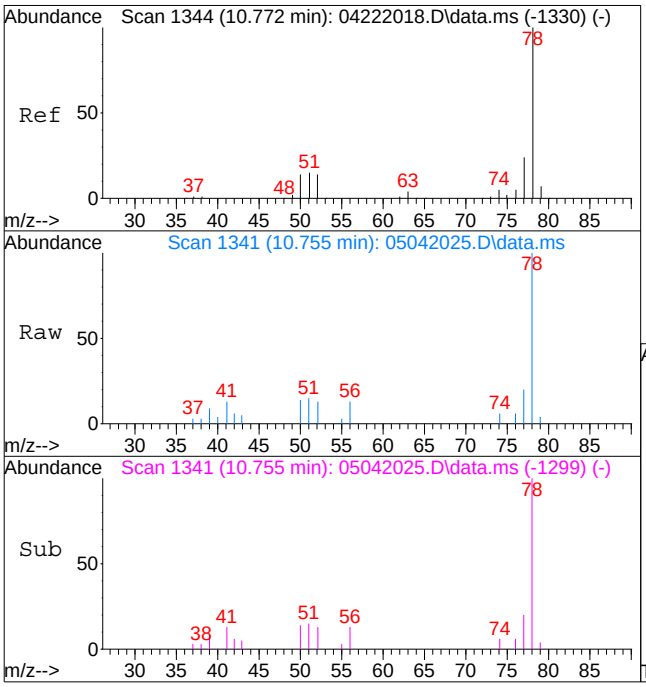


#34
Tetrahydrofuran (THF)
Concen: 3.23 ng
RT: 9.68 min Scan# 1145
Delta R.T. -0.006 min
Lab File: 05042025.D
Acq: 4 May 2020 20:16

Tgt Ion: 72 Resp: 18598

Ion	Ratio	Lower	Upper
72	100		
71	97.5	77.9	117.9
42	158.9	133.9	173.9

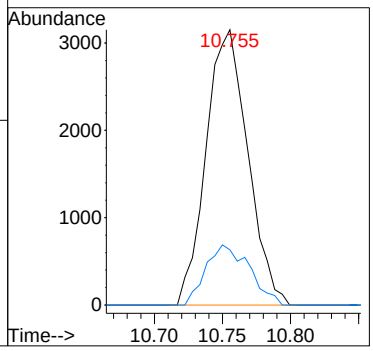


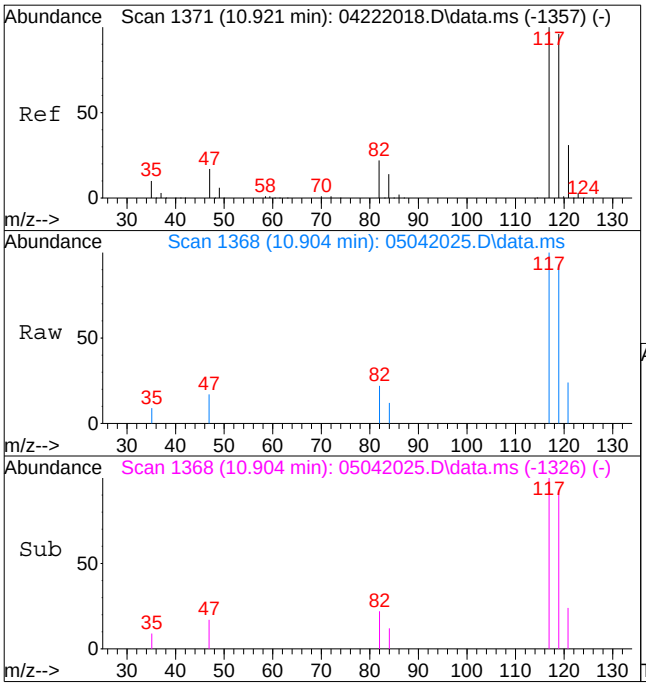


#41
Benzene
Concen: 0.17 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.017 min
Lab File: 05042025.D
Acq: 4 May 2020 20:16

Tgt Ion: 78 Resp: 6723

Ion	Ratio	Lower	Upper
78	100		
77	22.8	3.6	43.6

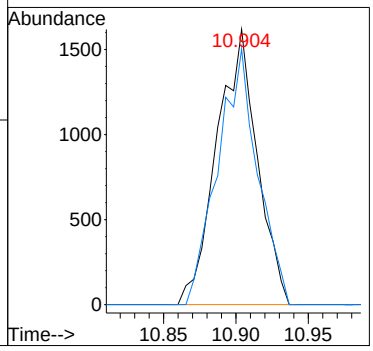


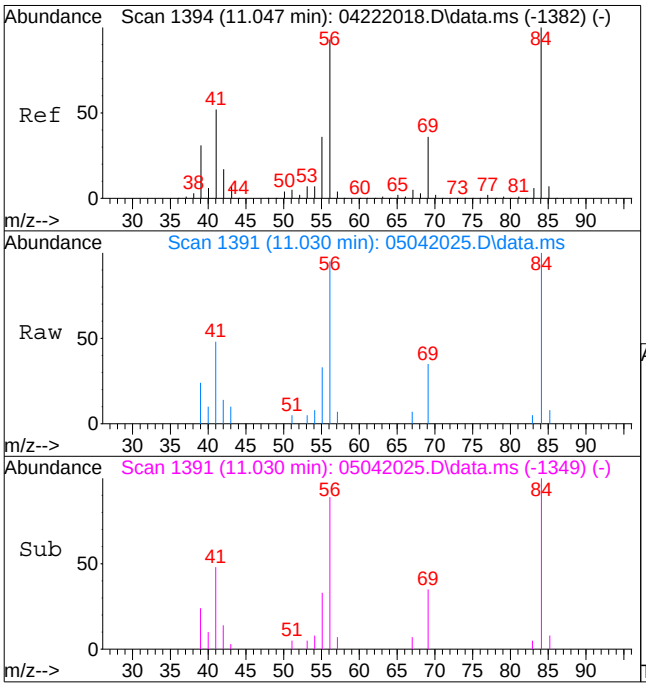


#42
Carbon Tetrachloride
Concen: 0.16 ng
RT: 10.90 min Scan# 1368
Delta R.T. -0.017 min
Lab File: 05042025.D
Acq: 4 May 2020 20:16

Tgt Ion:117 Resp: 3150

Ion	Ratio	Lower	Upper
117	100		
119	91.8	76.5	116.5

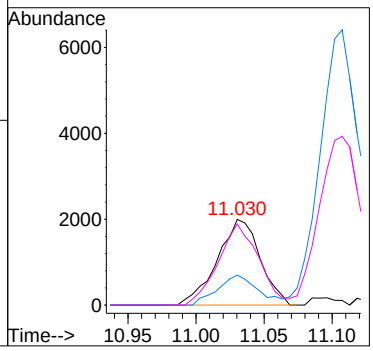


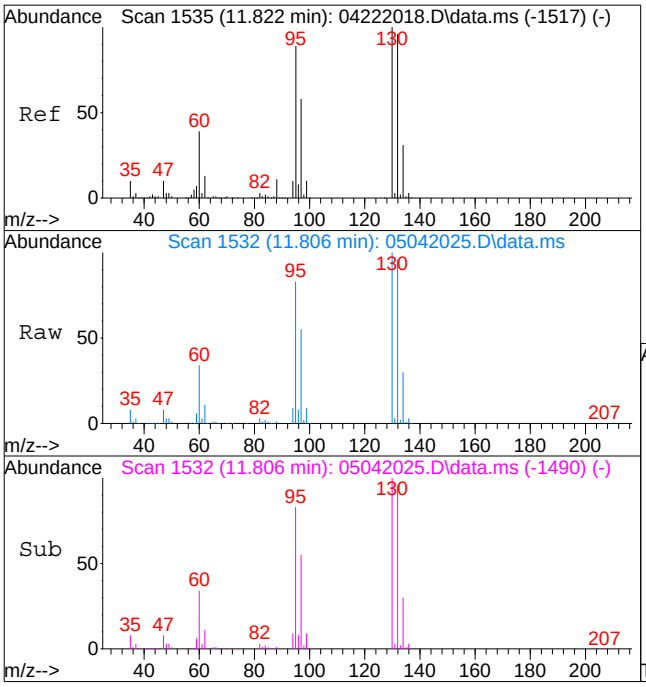


#43
Cyclohexane
Concen: 0.28 ng
RT: 11.03 min Scan# 1391
Delta R.T. -0.017 min
Lab File: 05042025.D
Acq: 4 May 2020 20:16

Tgt Ion: 84 Resp: 4358

Ion	Ratio	Lower	Upper
84	100		
69	33.0	15.8	55.8
56	90.0	72.0	112.0

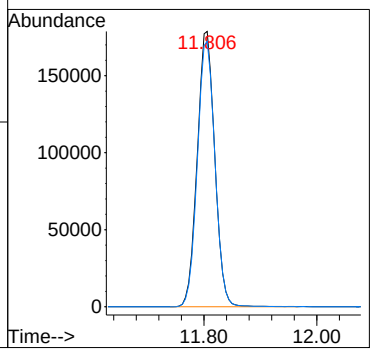


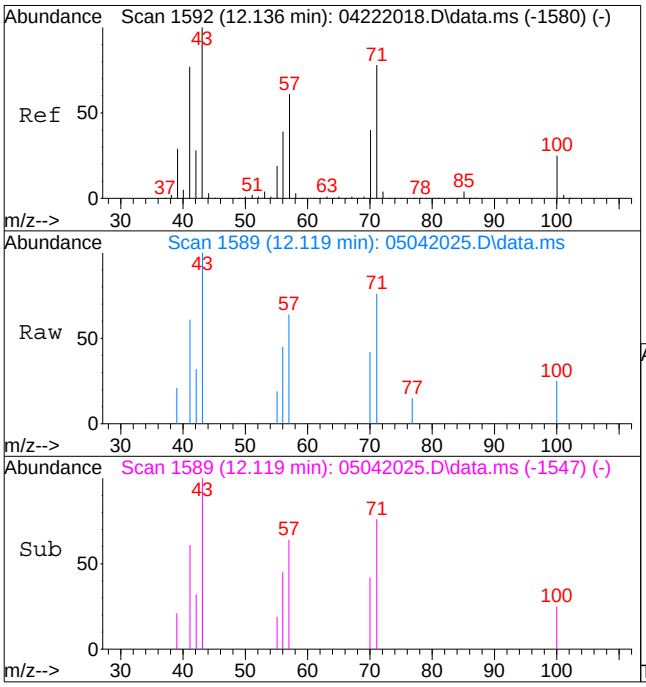


#47
Trichloroethene
Concen: 28.42 ng
RT: 11.81 min Scan# 1532
Delta R.T. -0.017 min
Lab File: 05042025.D
Acq: 4 May 2020 20:16

Tgt Ion:130 Resp: 384881

Ion	Ratio	Lower	Upper
130	100		
132	96.9	76.4	116.4

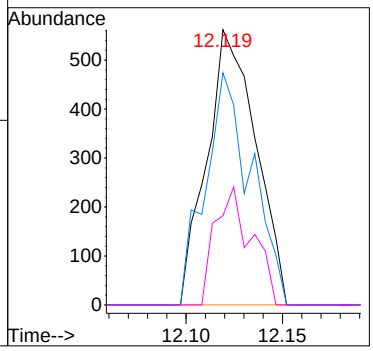


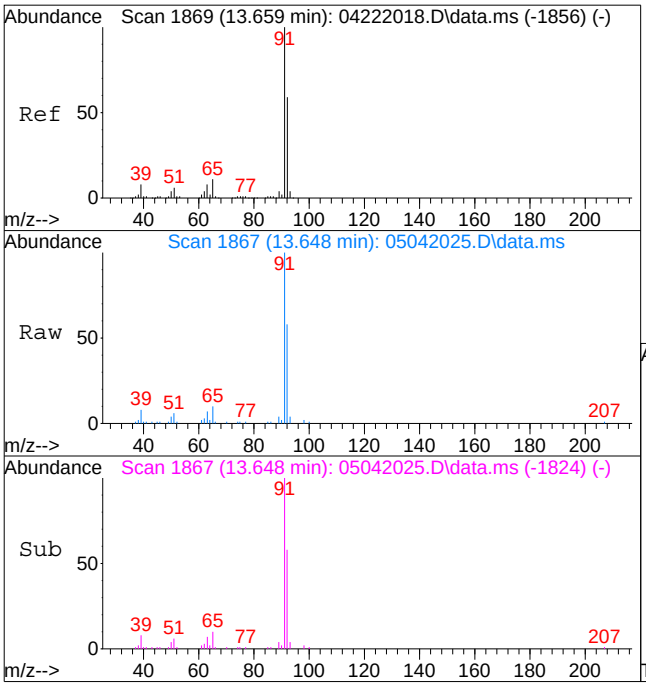


#51
n-Heptane
Concen: 0.11 ng
RT: 12.12 min Scan# 1589
Delta R.T. -0.017 min
Lab File: 05042025.D
Acq: 4 May 2020 20:16

Tgt Ion: 71 Resp: 994

Ion	Ratio	Lower	Upper
71	100		
57	79.1	57.4	97.4
100	31.9	12.0	52.0

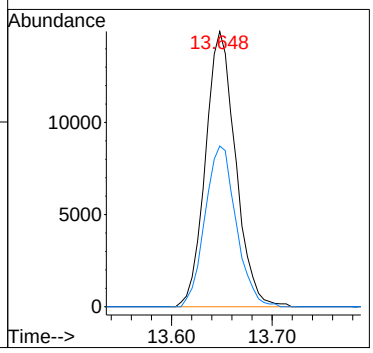


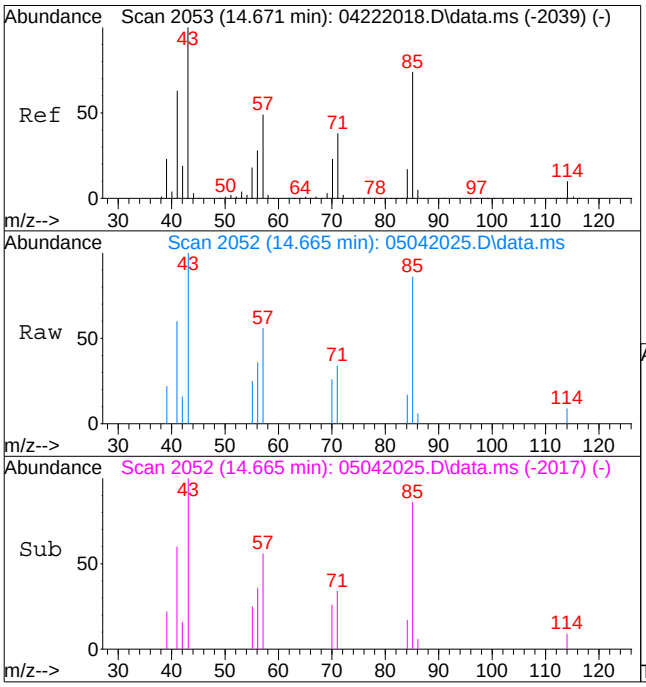


#58
Toluene
Concen: 0.71 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.011 min
Lab File: 05042025.D
Acq: 4 May 2020 20:16

Tgt Ion: 91 Resp: 31050

Ion	Ratio	Lower	Upper
91	100		
92	60.2	38.2	78.2

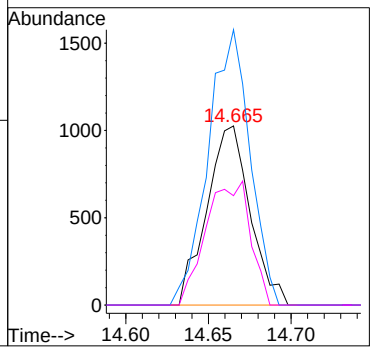


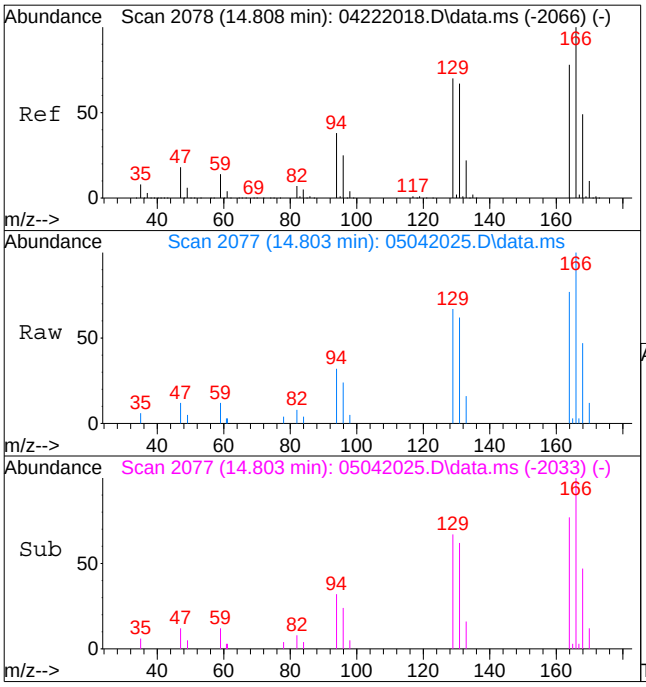


#63
n-Octane
Concen: 0.27 ng
RT: 14.67 min Scan# 2052
Delta R.T. -0.006 min
Lab File: 05042025.D
Acq: 4 May 2020 20:16

Tgt Ion: 57 Resp: 1872

Ion	Ratio	Lower	Upper
57	100		
85	148.2	120.7	181.1
71	70.6	61.1	91.7

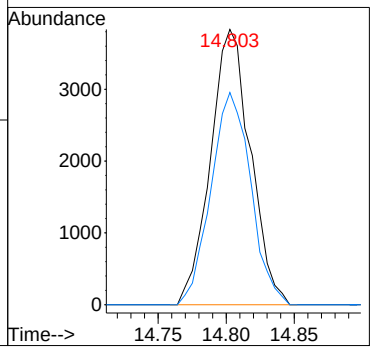


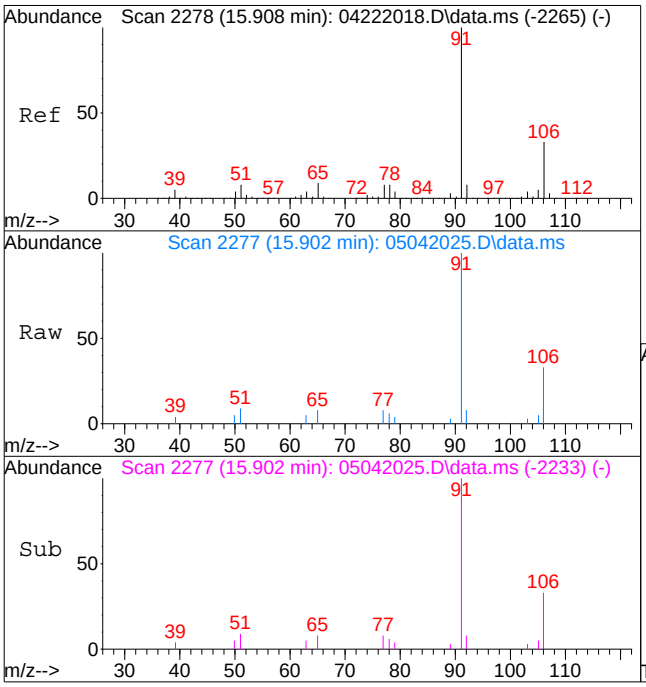


#64
Tetrachloroethene
Concen: 0.48 ng
RT: 14.80 min Scan# 2077
Delta R.T. -0.006 min
Lab File: 05042025.D
Acq: 4 May 2020 20:16

Tgt Ion:166 Resp: 7839

Ion	Ratio	Lower	Upper
166	100		
164	76.6	57.7	97.7

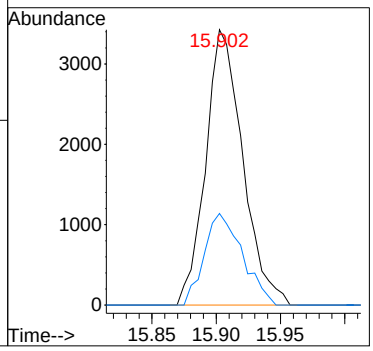


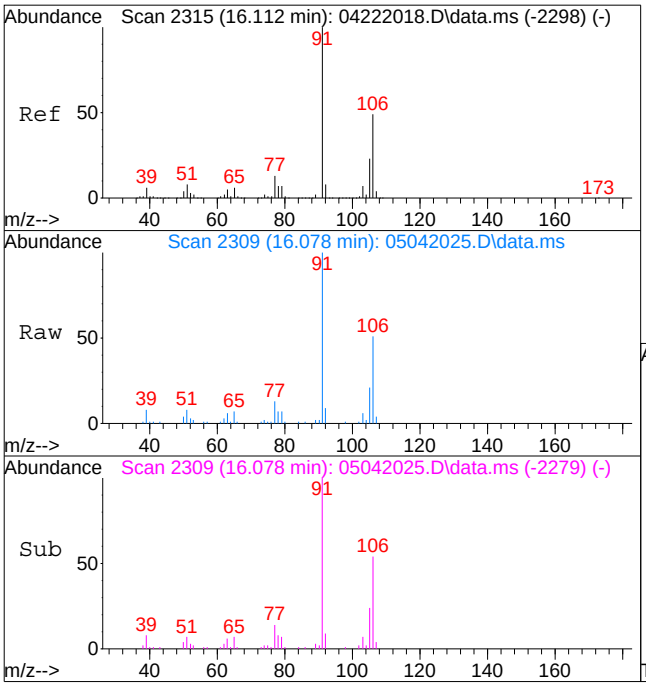


#66
Ethylbenzene
Concen: 0.13 ng
RT: 15.90 min Scan# 2277
Delta R.T. -0.006 min
Lab File: 05042025.D
Acq: 4 May 2020 20:16

Tgt Ion: 91 Resp: 6874

Ion	Ratio	Lower	Upper
91	100		
106	34.2	13.4	53.4

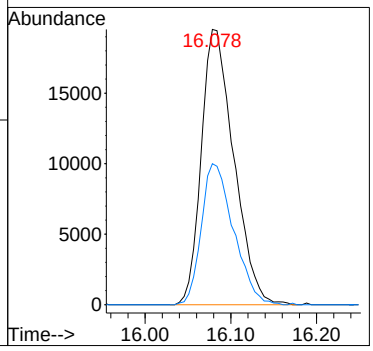


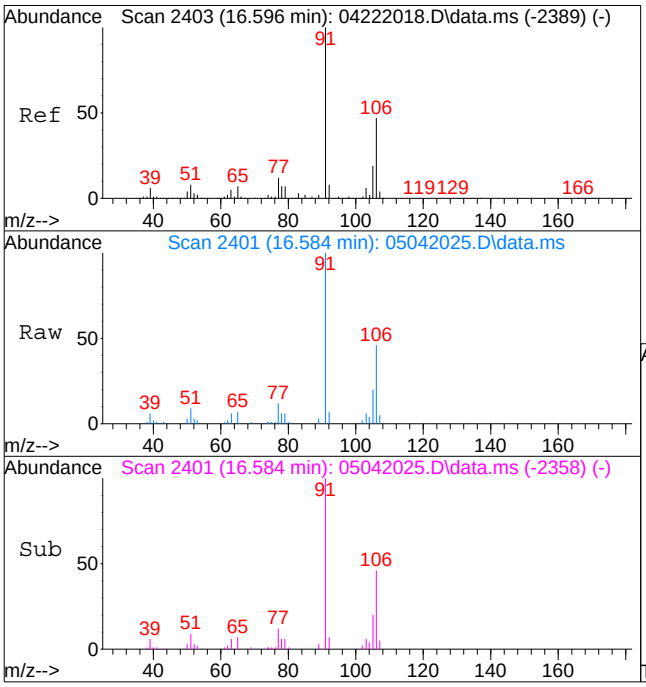


#67
m- & p-Xylenes
Concen: 1.20 ng
RT: 16.08 min Scan# 2309
Delta R.T. -0.033 min
Lab File: 05042025.D
Acq: 4 May 2020 20:16

Tgt Ion: 91 Resp: 51413

Ion	Ratio	Lower	Upper
91	100		
106	50.8	28.3	68.3

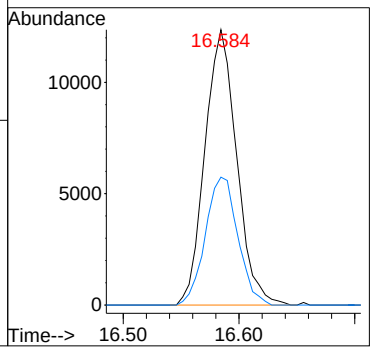


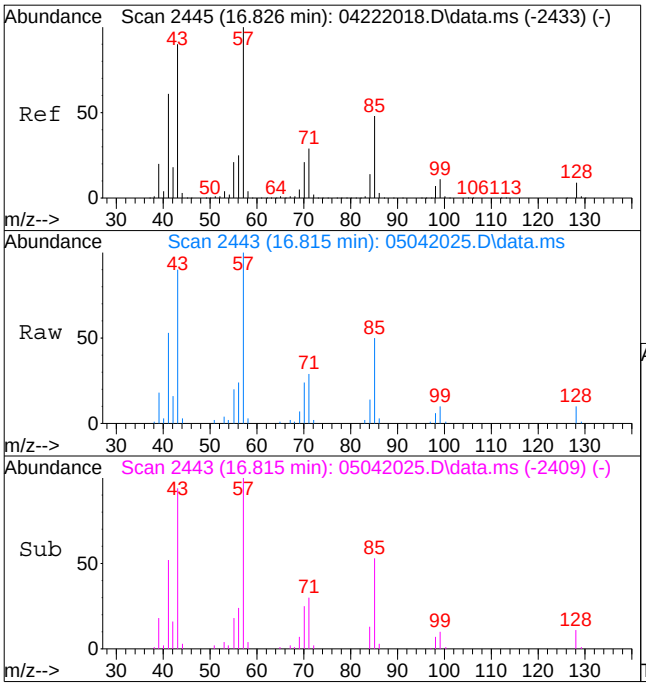


#70
o-Xylene
Concen: 0.56 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 05042025.D
Acq: 4 May 2020 20:16

Tgt Ion: 91 Resp: 23598

Ion	Ratio	Lower	Upper
91	100		
106	47.5	27.5	67.5

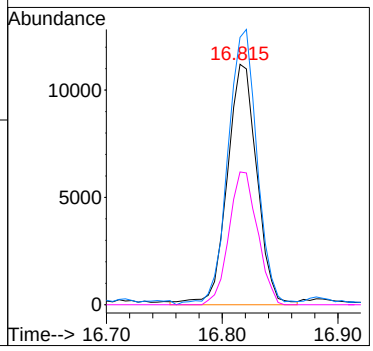


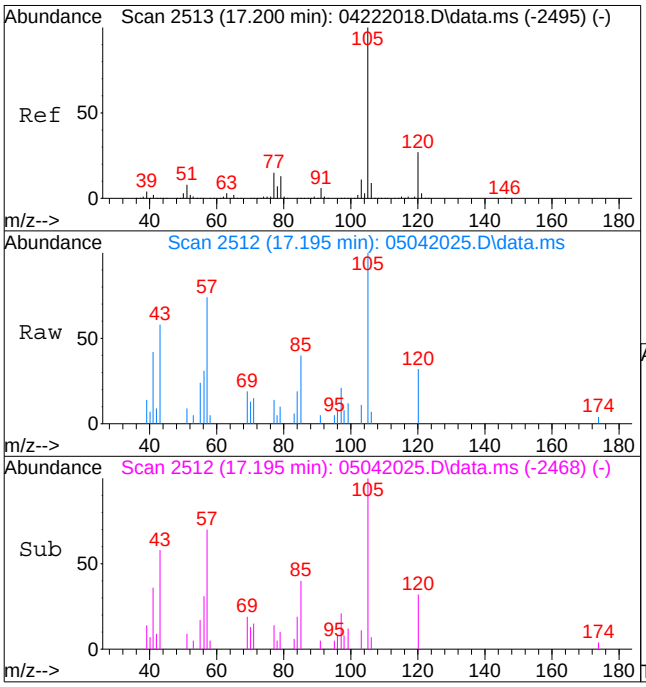


#71
n-Nonane
Concen: 1.47 ng
RT: 16.82 min Scan# 2443
Delta R.T. -0.011 min
Lab File: 05042025.D
Acq: 4 May 2020 20:16

Tgt Ion: 43 Resp: 20005

Ion	Ratio	Lower	Upper
43	100		
57	112.4	90.8	130.8
85	52.9	32.1	72.1

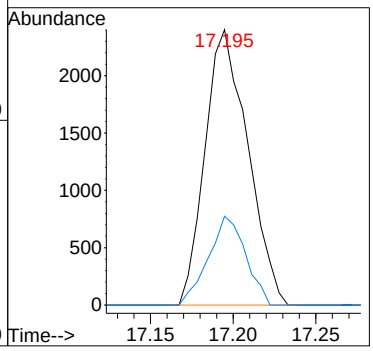


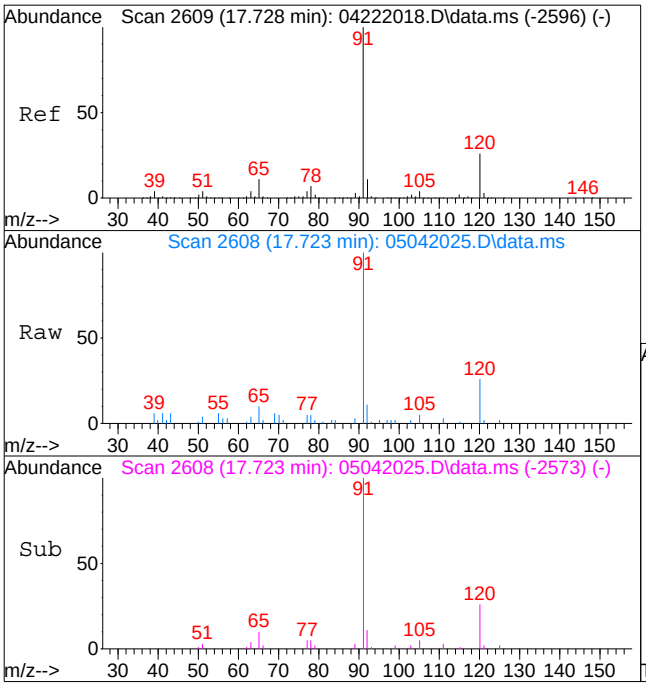


#74
Cumene
Concen: 0.08 ng
RT: 17.19 min Scan# 2512
Delta R.T. -0.006 min
Lab File: 05042025.D
Acq: 4 May 2020 20:16

Tgt Ion:105 Resp: 4317

Ion	Ratio	Lower	Upper
105	100		
120	28.1	7.3	47.3

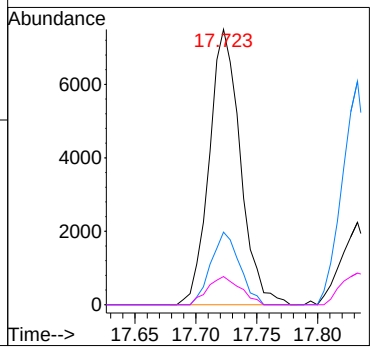


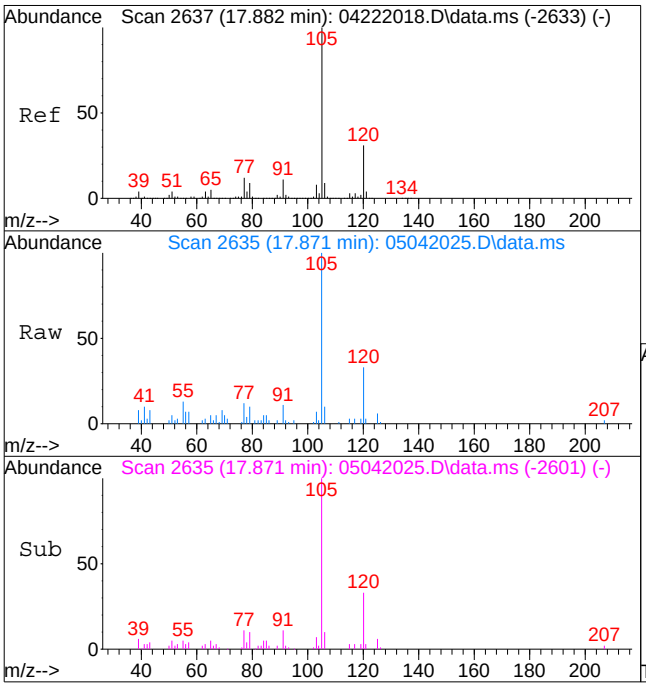


#76
n-Propylbenzene
Concen: 0.22 ng
RT: 17.72 min Scan# 2608
Delta R.T. -0.006 min
Lab File: 05042025.D
Acq: 4 May 2020 20:16

Tgt Ion: 91 Resp: 13294

Ion	Ratio	Lower	Upper
91	100		
120	24.2	6.1	46.1
65	10.7	0.0	30.7

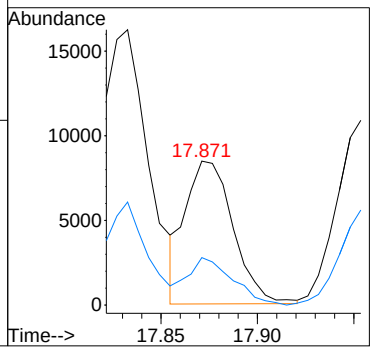


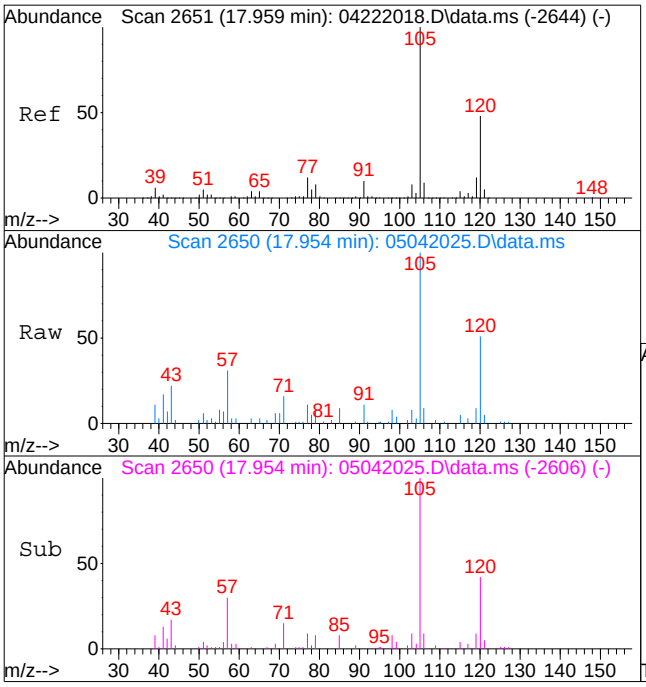


#78
4-Ethyltoluene
Concen: 0.28 ng
RT: 17.87 min Scan# 2635
Delta R.T. -0.011 min
Lab File: 05042025.D
Acq: 4 May 2020 20:16

Tgt Ion:105 Resp: 14599

Ion	Ratio	Lower	Upper
105	100		
120	31.8	11.4	51.4

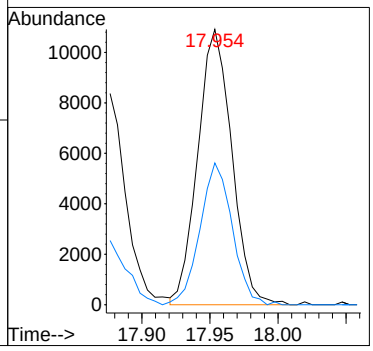


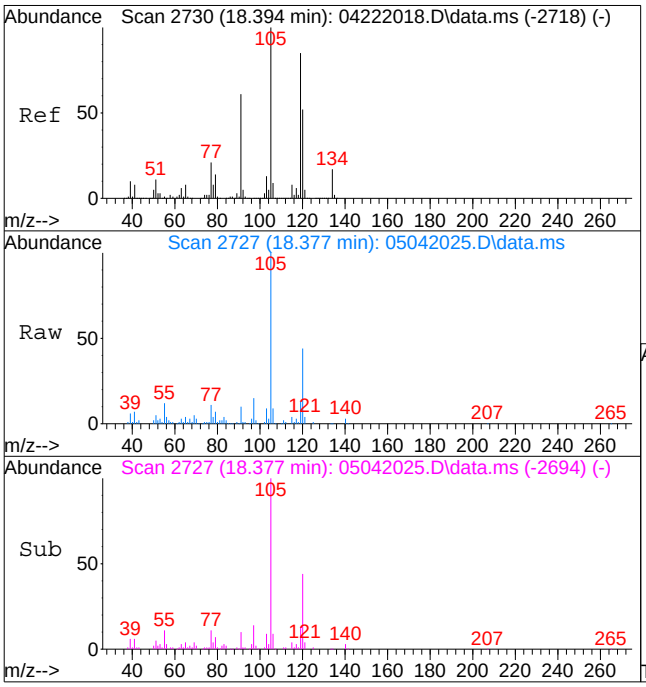


#79
1,3,5-Trimethylbenzene
Concen: 0.39 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 05042025.D
Acq: 4 May 2020 20:16

Tgt Ion:105 Resp: 18999

Ion	Ratio	Lower	Upper
105	100		
120	48.7	29.5	69.5

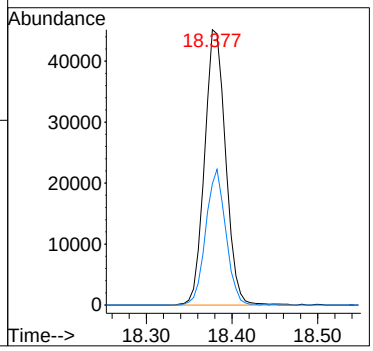


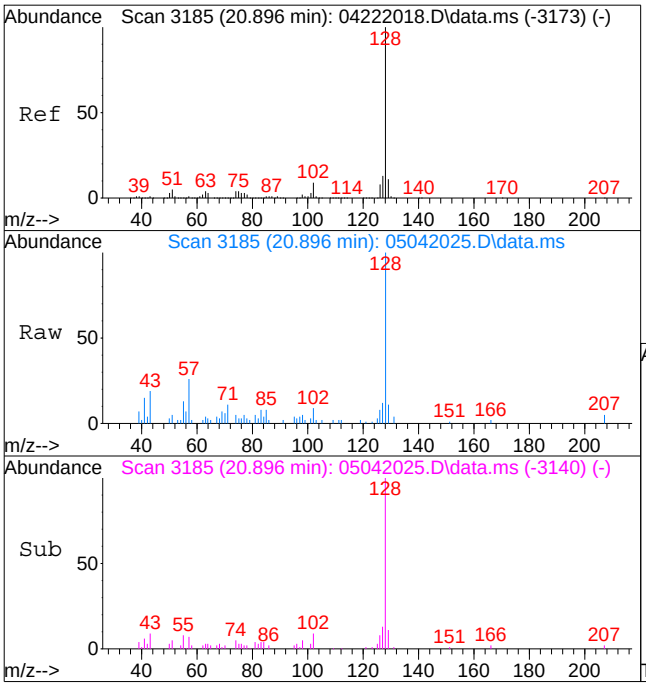


#82
1,2,4-Trimethylbenzene
Concen: 1.65 ng
RT: 18.38 min Scan# 2727
Delta R.T. -0.017 min
Lab File: 05042025.D
Acq: 4 May 2020 20:16

Tgt Ion:105 Resp: 77140

Ion	Ratio	Lower	Upper
105	100		
120	46.9	34.5	74.5

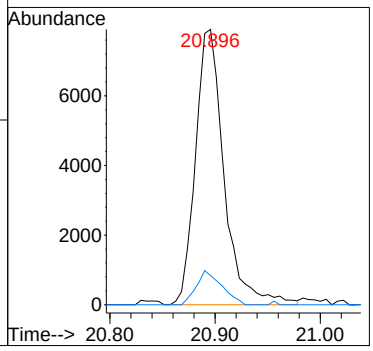




#95
Naphthalene
Concen: 0.25 ng
RT: 20.90 min Scan# 3185
Delta R.T. -0.000 min
Lab File: 05042025.D
Acq: 4 May 2020 20:16

Tgt Ion:128 Resp: 14941

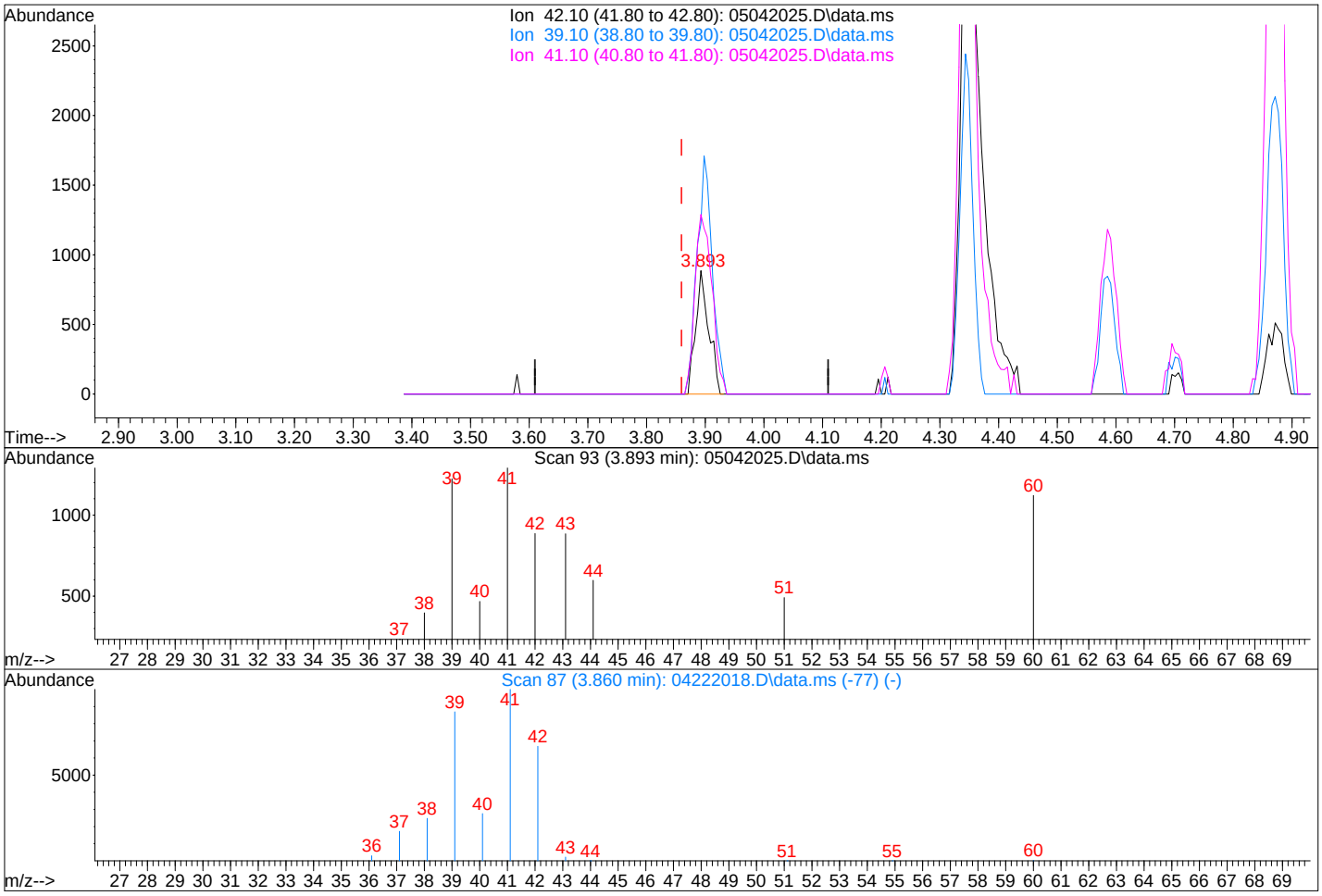
Ion	Ratio	Lower	Upper
128	100		
129	11.0	0.0	30.9



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_05\04\05042025.D Vial: 9
Acq On : 4 May 2020 20:16 Operator: SC
Sample : P2002106-008 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 04 20:43:49 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05042025.D\data.ms

(2) Propene (T)

3.893min (+0.033) 0.23ng

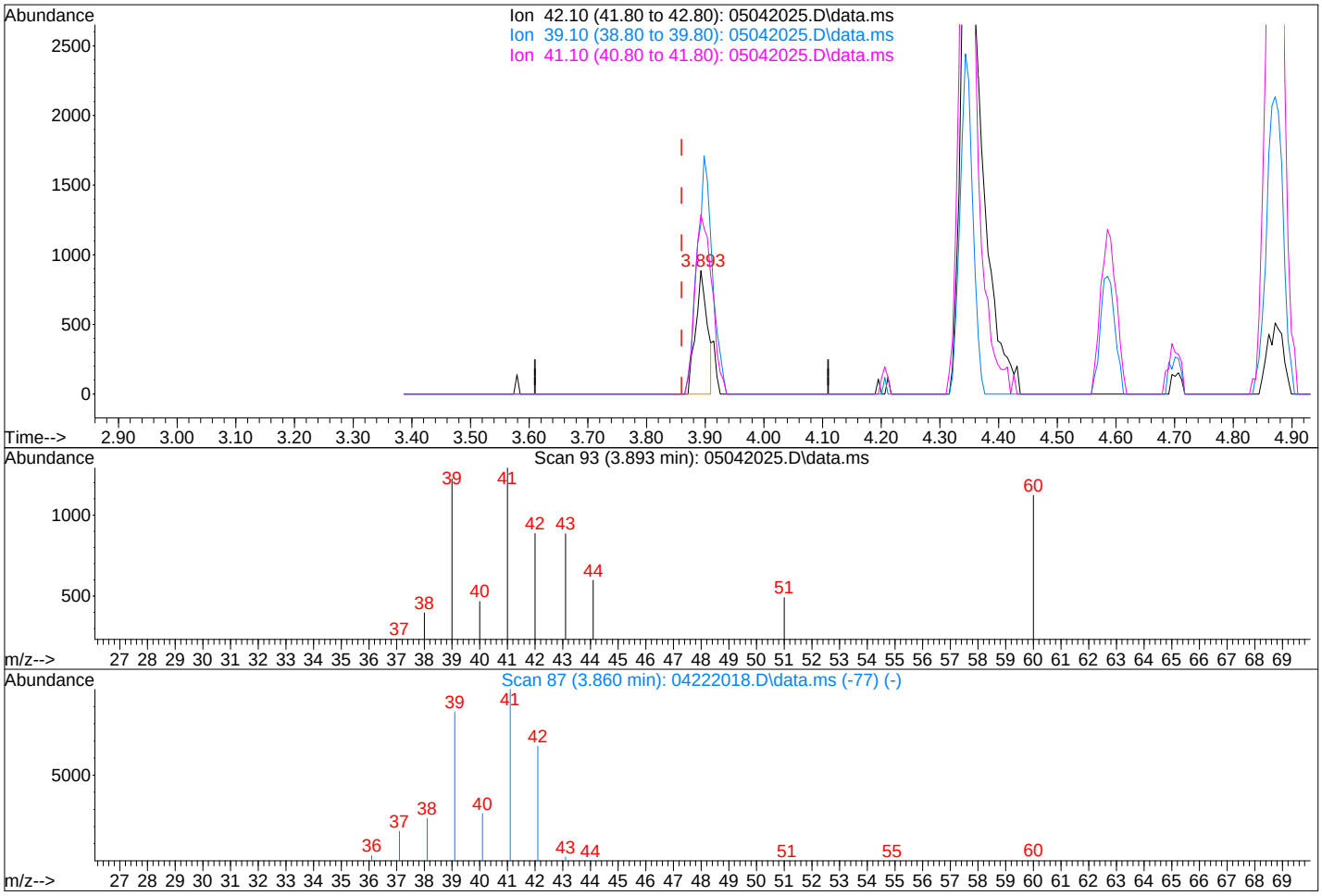
response 1383

Ion	Exp%	Act%
42.10	100	100
39.10	126.40	225.23#
41.10	148.80	189.08#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_05\04\05042025.D Vial: 9
Acq On : 4 May 2020 20:16 Operator: SC
Sample : P2002106-008 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 04 20:43:49 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05042025.D\data.ms

(2) Propene (T)

3.893min (+0.033) 0.20ng m

response 1216

Ion	Exp%	Act%
42.10	100	100
39.10	126.40	256.17#
41.10	148.80	215.05#
0.00	0.00	0.00

IPC

5/5/20 TD 5/7/20

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042026.D Vial: 10
Acq On : 4 May 2020 20:49 Operator: SC
Sample : P2002106-009 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 15:35:44 2020 5/5/20
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	141179	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	591976	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.45	82	269114	12.500	ng	-0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	213384	11.666	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.36%			
57) Toluene-d8 (SS2)	13.54	98	654273	12.591	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.72%			
73) Bromofluorobenzene (SS3)	17.05	174	269719	12.916	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.36%			
Target Compounds						Qvalue
2) Propene	3.89	42	973	0.162	ng	# 16
3) Dichlorodifluoromethan...	3.99	85	9863	0.433	ng	99
4) Chloromethane	4.20	50	190	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	131	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.36	45	3563	0.784	ng	84
11) Acetonitrile	5.59	41	230	N.D.		
12) Acrolein	5.73	56	401	0.097	ng	# 26
13) Acetone	5.86	58	12924	2.370	ng	89
14) Trichlorofluoromethane	6.02	101	4198	0.185	ng	100
15) 2-Propanol (Isopropanol)	6.20	45	849	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	6.90	59	98	N.D.		
19) Methylene Chloride	6.87	84	250	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	7.19	151	3640	0.309	ng	97
22) Carbon Disulfide	7.15	76	162706	5.117	ng	97
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	8.27	86	481	0.242	ng	# 75
27) 2-Butanone (MEK)	8.54	72	2822	0.504	ng	96
28) cis-1,2-Dichloroethene	8.97	61	693	0.055	ng	99
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	9.28	83	2565	0.133	ng	96
34) Tetrahydrofuran (THF)	9.68	72	11463	2.020	ng	98
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D. d		
41) Benzene	10.75	78	5840	0.151	ng	98
42) Carbon Tetrachloride	10.90	117	2628	0.132	ng	97
43) Cyclohexane	11.04	84	117	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D. d		
47) Trichloroethene	11.80	130	271934	20.347	ng	99
48) 1,4-Dioxane	11.82	88	289	N.D.		
49) 2,2,4-Trimethylpentane...	11.86	57	333	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D. d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042026.D Vial: 10
Acq On : 4 May 2020 20:49 Operator: SC
Sample : P2002106-009 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 15:35:44 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

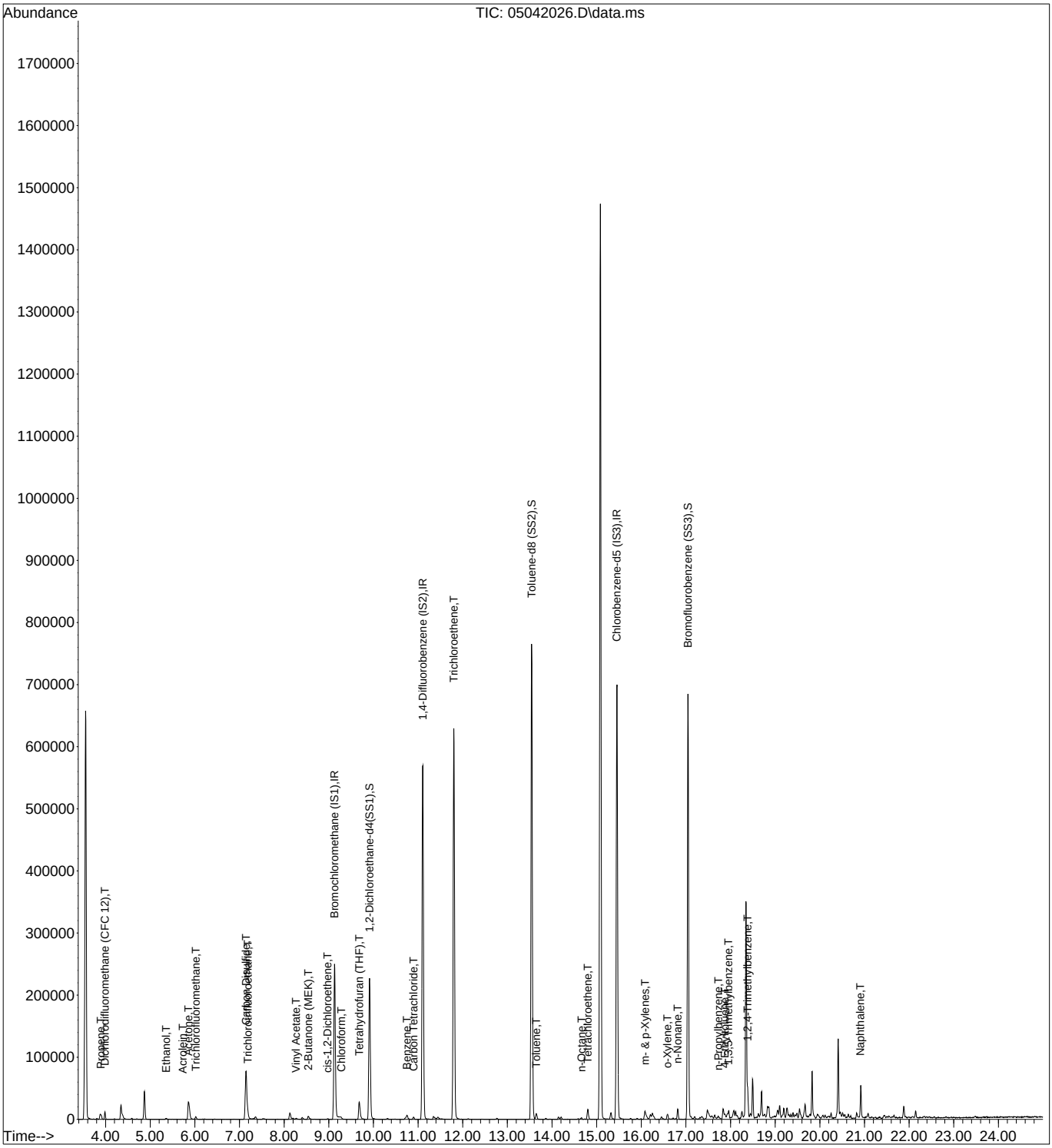
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.12	71	350	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.65	91	7588	0.174 ng	100
59) 2-Hexanone	13.85	43	171	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.67	57	513	0.074 ng	90
64) Tetrachloroethene	14.80	166	6142	0.374 ng	99
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.91	91	2032	N.D.	
67) m- & p-Xylenes	16.08	91	13849	0.323 ng	97
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.50	104	311	N.D.	
70) o-Xylene	16.59	91	6734	0.160 ng	100
71) n-Nonane	16.82	43	4993	0.368 ng	93
72) 1,1,2,2-Tetrachloroethane	16.66	83	257	N.D.	
74) Cumene	17.20	105	1260	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.73	91	3498	0.058 ng	98
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.87	105	3853	0.074 ng	98
79) 1,3,5-Trimethylbenzene	17.95	105	6163	0.128 ng	100
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	23488	0.503 ng	87
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.62	91	1243	N.D.	
85) 1,3-Dichlorobenzene	18.62	146	316	N.D.	
86) 1,4-Dichlorobenzene	18.62	146	316	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	18.98	68	372	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.91	128	3252	0.054 ng	98
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042026.D Vial: 10
Acq On : 4 May 2020 20:49 Operator: SC
Sample : P2002106-009 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 15:35:44 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042026.D Vial: 10
Acq On : 4 May 2020 20:49 Operator: SC
Sample : P2002106-009 (400mL) Inst : MS09
Misc : S34-04212006

5/5/20

Quant Time: May 05 15:35:44 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

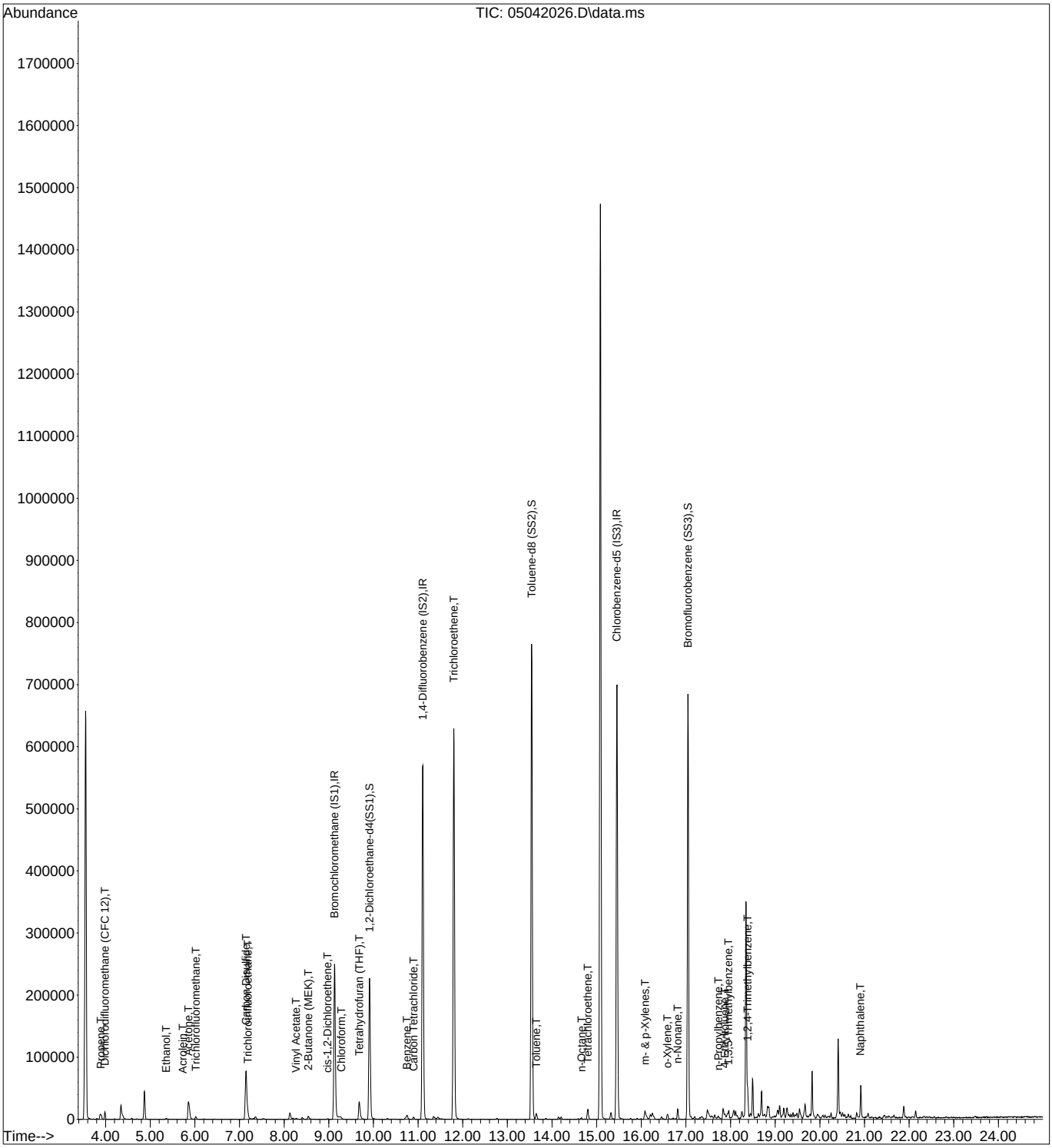
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	141179	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	591976	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.45	82	269114	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	213384	11.666	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.36%				
57) Toluene-d8 (SS2)	13.54	98	654273	12.591	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.72%				
73) Bromofluorobenzene (SS3)	17.05	174	269719	12.916	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.36%				
Target Compounds							Qvalue
2) Propene	3.89	42	973	0.162	ng	#	16
3) Dichlorodifluoromethan...	3.99	85	9863	0.433	ng		99
10) Ethanol	5.36	45	3563	0.784	ng		84
12) Acrolein	5.73	56	401	0.097	ng	#	26
13) Acetone	5.86	58	12924	2.370	ng		89
14) Trichlorofluoromethane	6.02	101	4198	0.185	ng		100
21) Trichlorotrifluoroethane	7.19	151	3640	0.309	ng		97
22) Carbon Disulfide	7.15	76	162706	5.117	ng		97
26) Vinyl Acetate	8.27	86	481	0.242	ng	#	75
27) 2-Butanone (MEK)	8.54	72	2822	0.504	ng		96
28) cis-1,2-Dichloroethene	8.97	61	693	0.055	ng		99
32) Chloroform	9.28	83	2565	0.133	ng		96
34) Tetrahydrofuran (THF)	9.68	72	11463	2.020	ng		98
41) Benzene	10.75	78	5840	0.151	ng		98
42) Carbon Tetrachloride	10.90	117	2628	0.132	ng		97
47) Trichloroethene	11.80	130	271934	20.347	ng		99
58) Toluene	13.65	91	7588	0.174	ng		100
63) n-Octane	14.67	57	513	0.074	ng		90
64) Tetrachloroethene	14.80	166	6142	0.374	ng		99
67) m- & p-Xylenes	16.08	91	13849	0.323	ng		97
70) o-Xylene	16.59	91	6734	0.160	ng		100
71) n-Nonane	16.82	43	4993	0.368	ng		93
76) n-Propylbenzene	17.73	91	3498	0.058	ng		98
78) 4-Ethyltoluene	17.87	105	3853	0.074	ng		98
79) 1,3,5-Trimethylbenzene	17.95	105	6163	0.128	ng		100
82) 1,2,4-Trimethylbenzene	18.38	105	23488	0.503	ng		87
95) Naphthalene	20.91	128	3252	0.054	ng		98

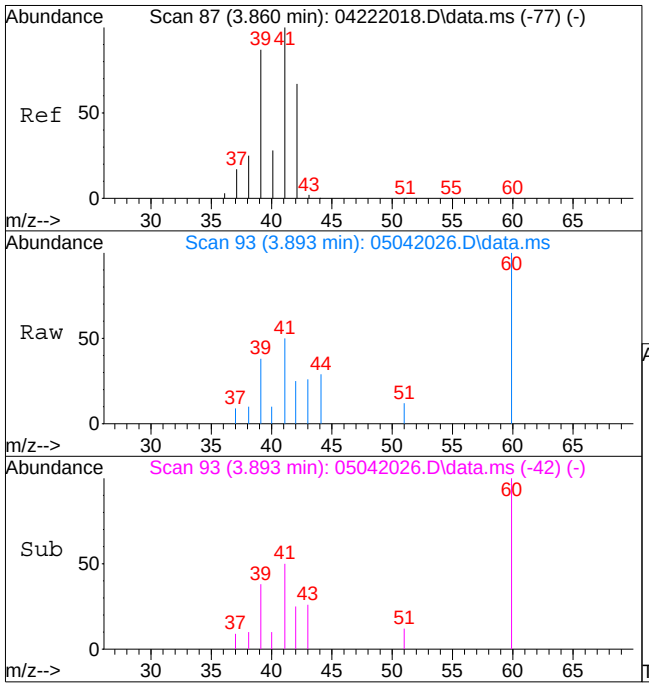
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042026.D Vial: 10
Acq On : 4 May 2020 20:49 Operator: SC
Sample : P2002106-009 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 15:35:44 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

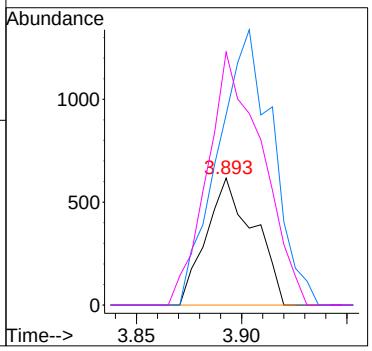


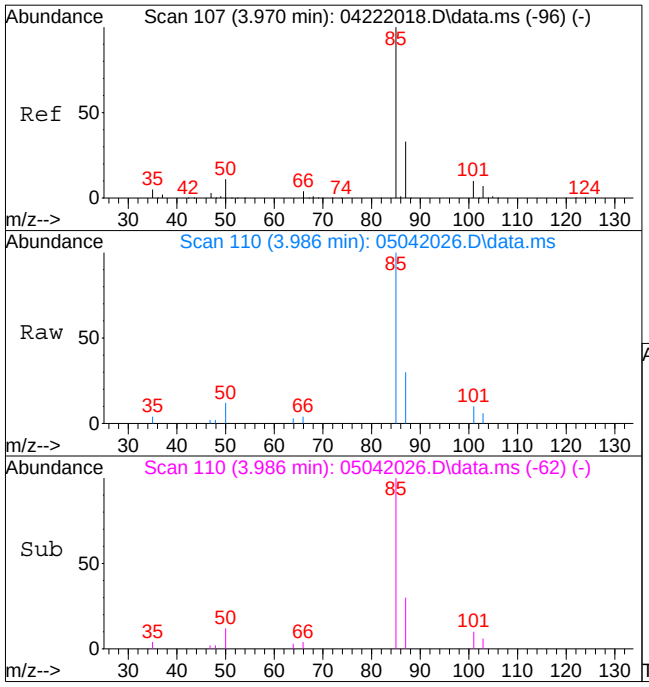


#2
Propene
Concen: 0.16 ng
RT: 3.89 min Scan# 93
Delta R.T. 0.033 min
Lab File: 05042026.D
Acq: 4 May 2020 20:49

Tgt Ion: 42 Resp: 973

Ion	Ratio	Lower	Upper
42	100		
39	249.8	106.4	146.4#
41	228.6	128.8	168.8#

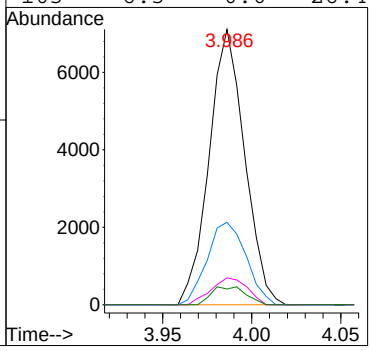


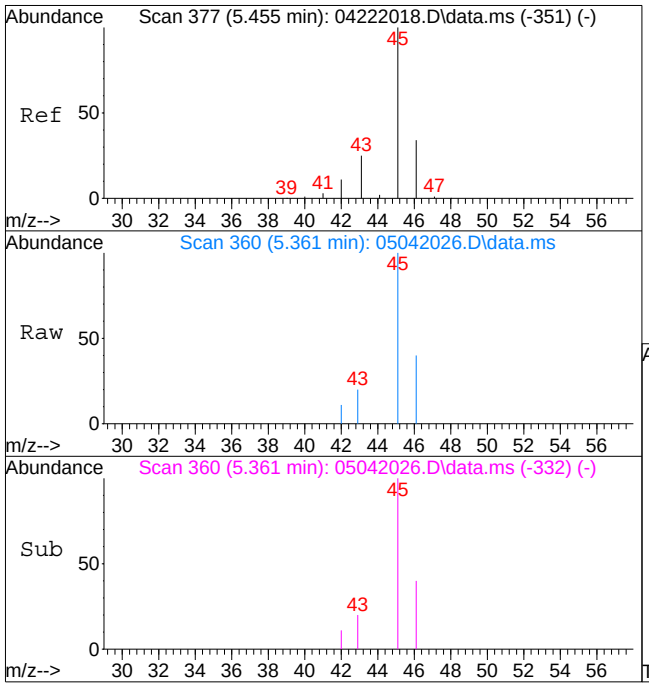


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.43 ng
RT: 3.99 min Scan# 110
Delta R.T. 0.016 min
Lab File: 05042026.D
Acq: 4 May 2020 20:49

Tgt Ion: 85 Resp: 9863

Ion	Ratio	Lower	Upper
85	100		
87	32.8	12.4	52.4
101	10.0	0.0	29.9
103	6.3	0.0	26.4

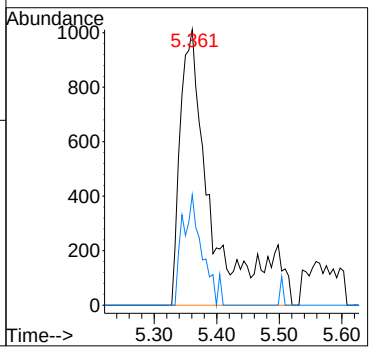


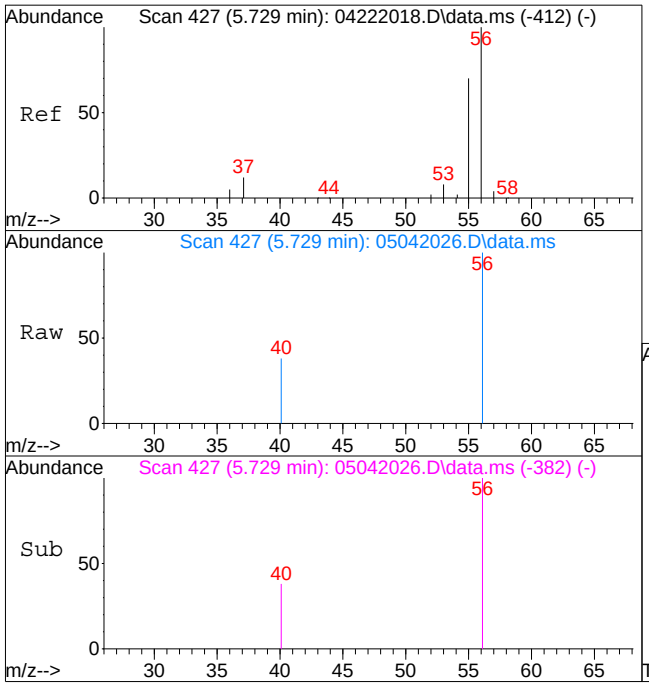


#10
Ethanol
Concen: 0.78 ng
RT: 5.36 min Scan# 360
Delta R.T. -0.094 min
Lab File: 05042026.D
Acq: 4 May 2020 20:49

Tgt Ion: 45 Resp: 3563

Ion	Ratio	Lower	Upper
45	100		
46	24.9	14.0	54.0

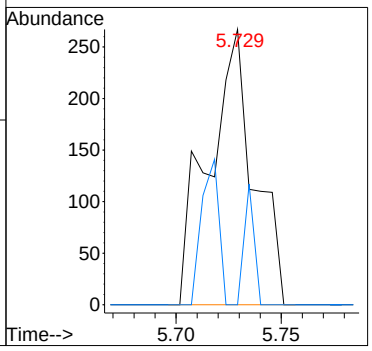


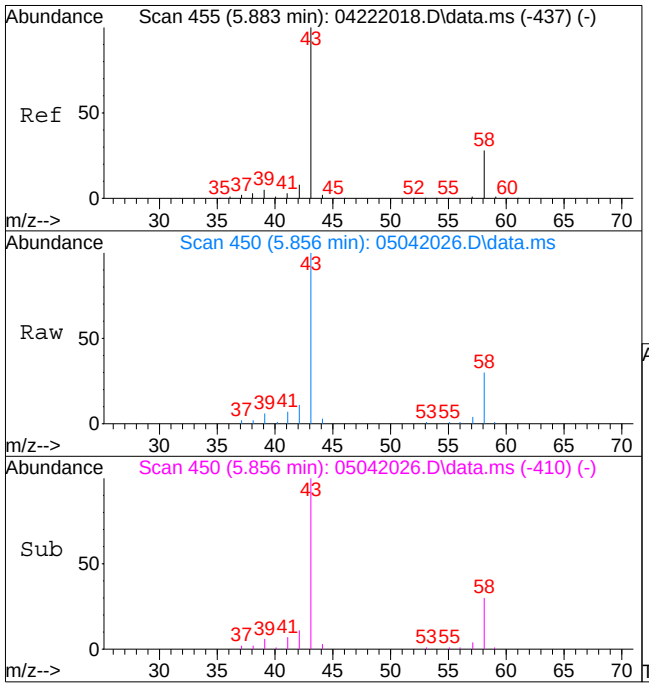


#12
Acrolein
Concen: 0.10 ng
RT: 5.73 min Scan# 427
Delta R.T. -0.000 min
Lab File: 05042026.D
Acq: 4 May 2020 20:49

Tgt Ion: 56 Resp: 401

Ion	Ratio	Lower	Upper
56	100		
55	9.7	50.4	90.4#

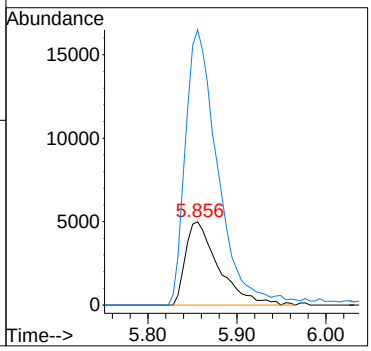


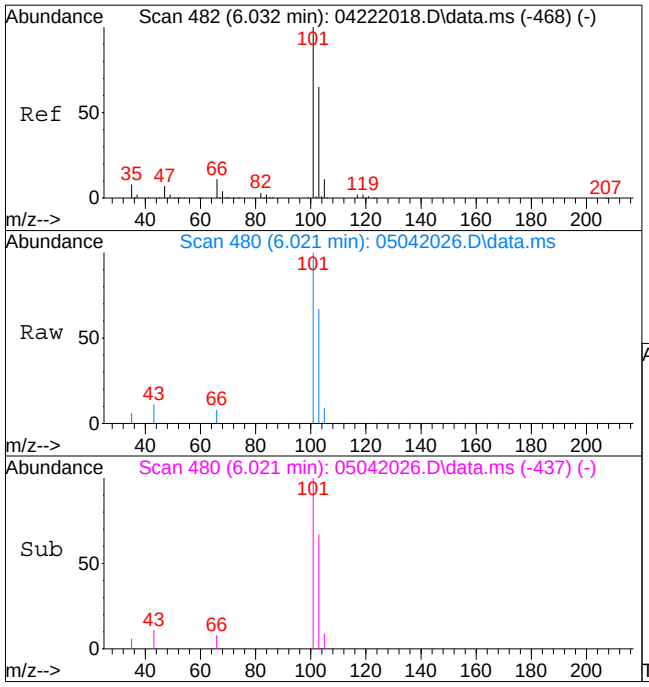


#13
Acetone
Concen: 2.37 ng
RT: 5.86 min Scan# 450
Delta R.T. -0.028 min
Lab File: 05042026.D
Acq: 4 May 2020 20:49

Tgt Ion: 58 Resp: 12924

Ion	Ratio	Lower	Upper
58	100		
43	326.3	319.3	379.3

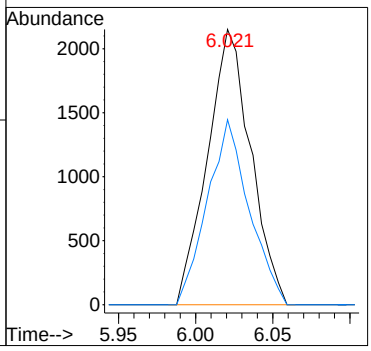


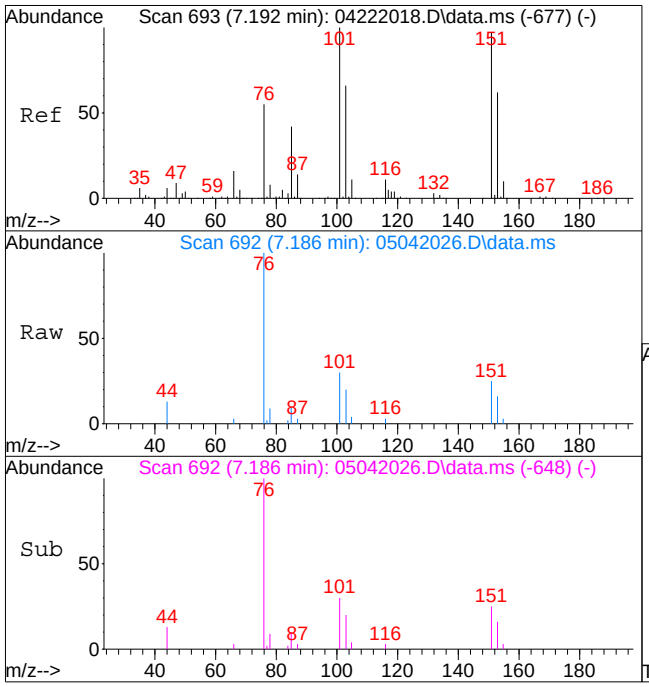


#14
Trichlorofluoromethane
Concen: 0.19 ng
RT: 6.02 min Scan# 480
Delta R.T. -0.011 min
Lab File: 05042026.D
Acq: 4 May 2020 20:49

Tgt Ion:101 Resp: 4198

Ion	Ratio	Lower	Upper
101	100		
103	64.9	44.7	84.7

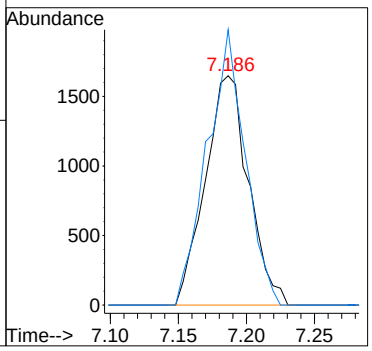


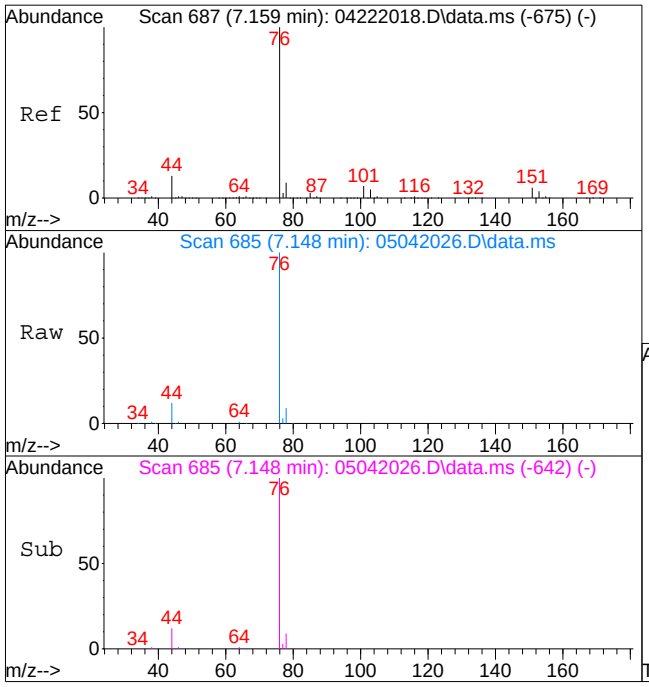


#21
Trichlorotrifluoroethane
Concen: 0.31 ng
RT: 7.19 min Scan# 692
Delta R.T. -0.006 min
Lab File: 05042026.D
Acq: 4 May 2020 20:49

Tgt Ion:151 Resp: 3640

Ion	Ratio	Lower	Upper
151	100		
101	105.9	82.9	122.9

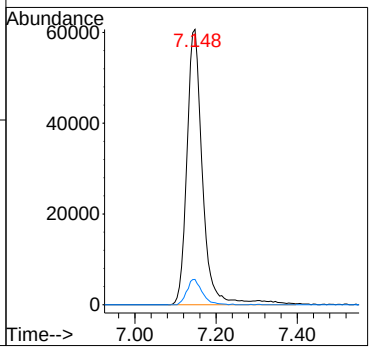


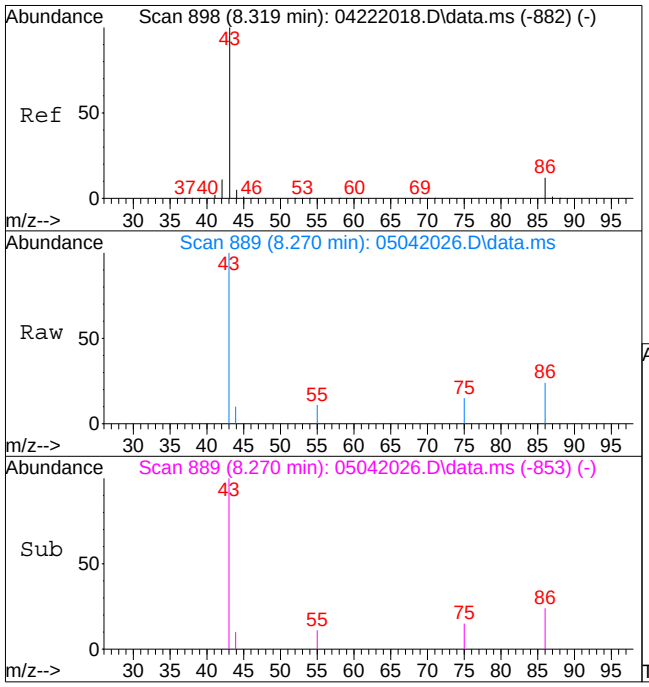


#22
Carbon Disulfide
Concen: 5.12 ng
RT: 7.15 min Scan# 685
Delta R.T. -0.011 min
Lab File: 05042026.D
Acq: 4 May 2020 20:49

Tgt Ion: 76 Resp: 162706

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	30.2

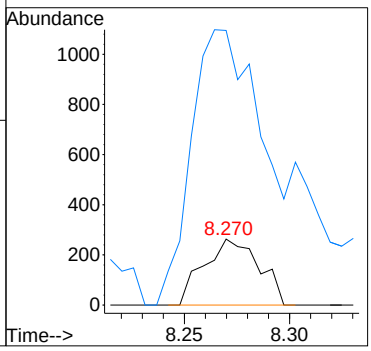


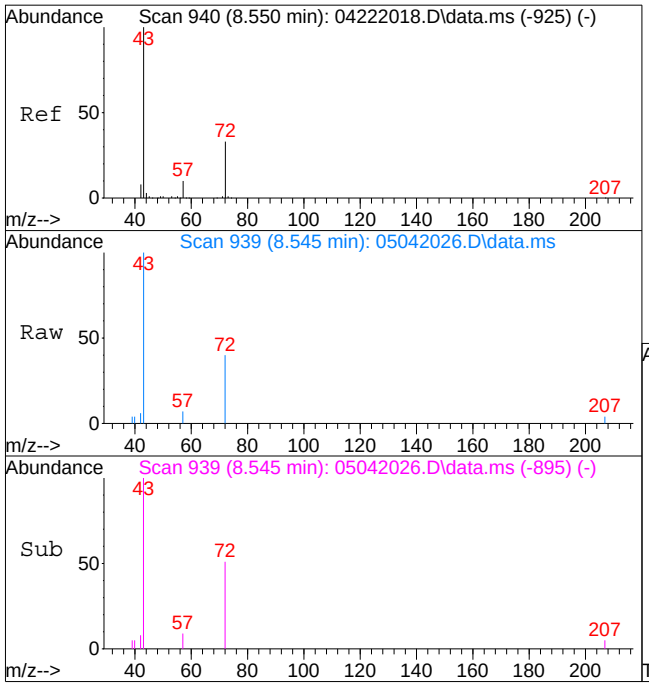


#26
Vinyl Acetate
Concen: 0.24 ng
RT: 8.27 min Scan# 889
Delta R.T. -0.050 min
Lab File: 05042026.D
Acq: 4 May 2020 20:49

Tgt Ion: 86 Resp: 481

Ion	Ratio	Lower	Upper
86	100		
43	724.1	803.0	843.0#

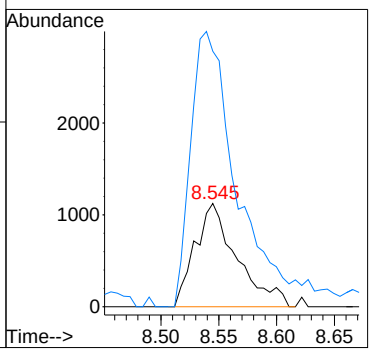


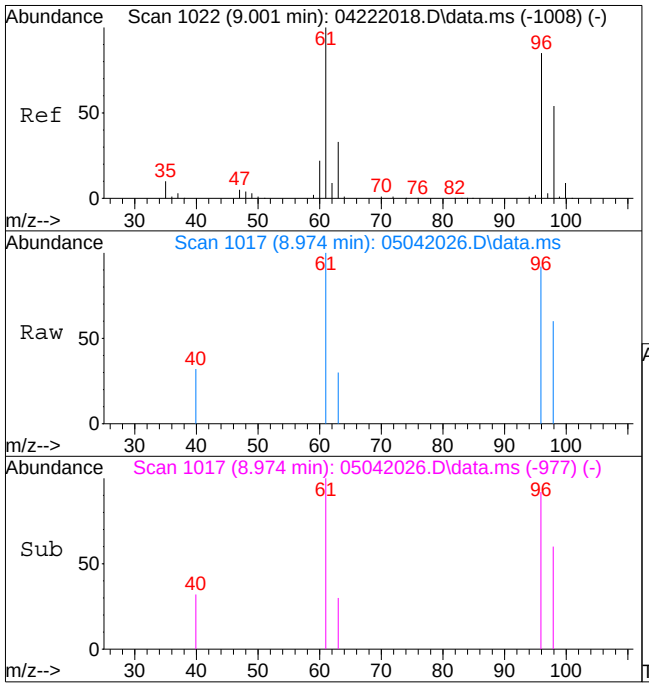


#27
2-Butanone (MEK)
Concen: 0.50 ng
RT: 8.54 min Scan# 939
Delta R.T. -0.006 min
Lab File: 05042026.D
Acq: 4 May 2020 20:49

Tgt Ion: 72 Resp: 2822

Ion	Ratio	Lower	Upper
72	100		
43	306.6	278.8	318.8

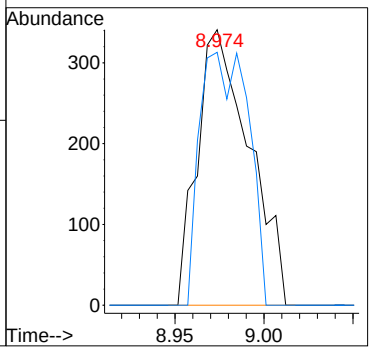


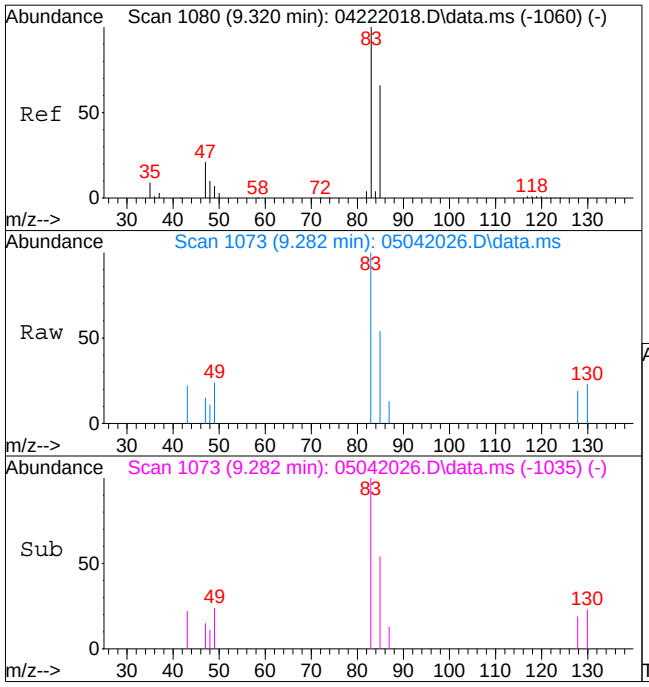


#28
cis-1,2-Dichloroethene
Concen: 0.05 ng
RT: 8.97 min Scan# 1017
Delta R.T. -0.028 min
Lab File: 05042026.D
Acq: 4 May 2020 20:49

Tgt Ion: 61 Resp: 693

Ion	Ratio	Lower	Upper
61	100		
96	86.1	67.0	107.0

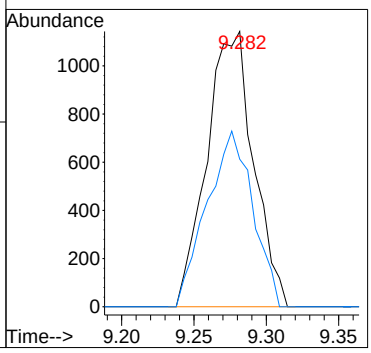


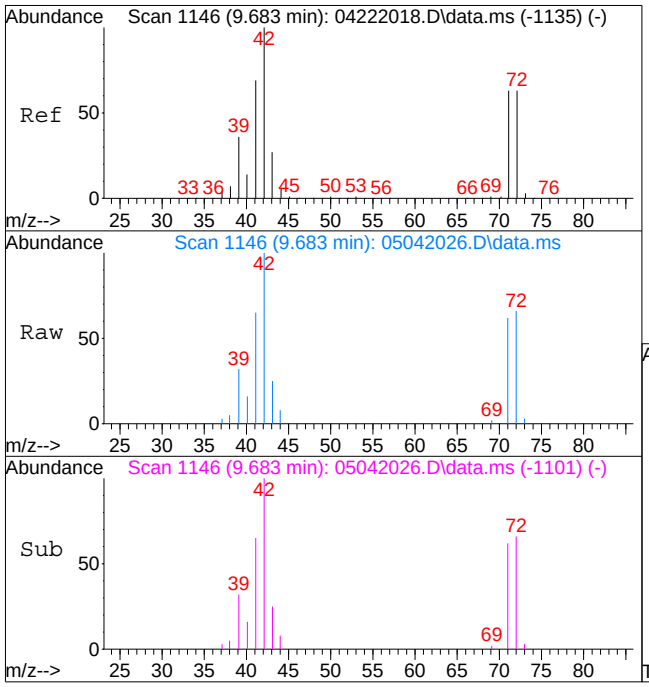


#32
Chloroform
Concen: 0.13 ng
RT: 9.28 min Scan# 1073
Delta R.T. -0.039 min
Lab File: 05042026.D
Acq: 4 May 2020 20:49

Tgt Ion: 83 Resp: 2565

Ion	Ratio	Lower	Upper
83	100		
85	62.8	45.8	85.8

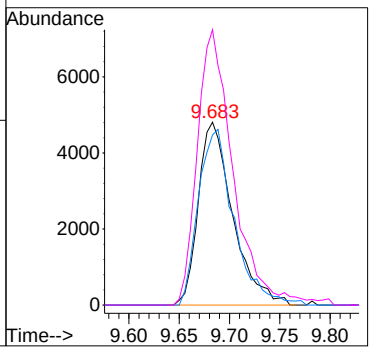


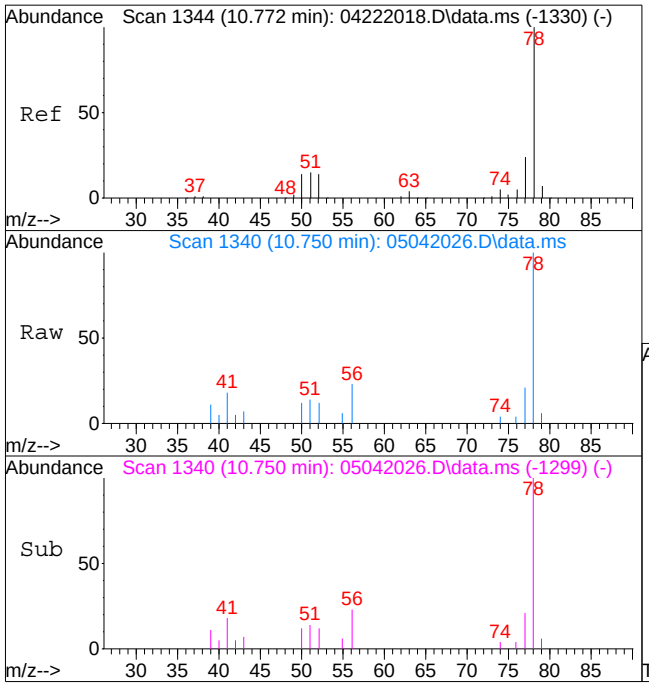


#34
Tetrahydrofuran (THF)
Concen: 2.02 ng
RT: 9.68 min Scan# 1146
Delta R.T. -0.000 min
Lab File: 05042026.D
Acq: 4 May 2020 20:49

Tgt Ion: 72 Resp: 11463

Ion	Ratio	Lower	Upper
72	100		
71	99.2	77.9	117.9
42	157.7	133.9	173.9

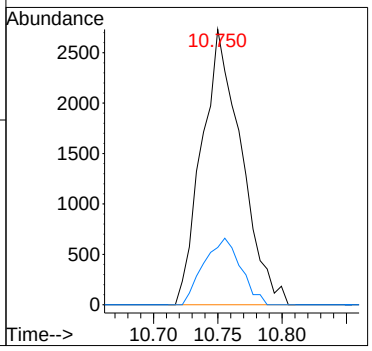


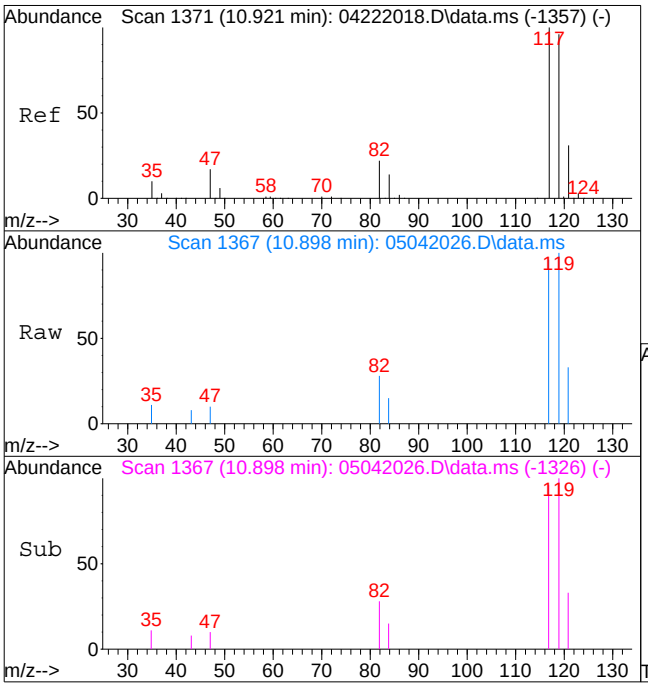


#41
Benzene
Concen: 0.15 ng
RT: 10.75 min Scan# 1340
Delta R.T. -0.022 min
Lab File: 05042026.D
Acq: 4 May 2020 20:49

Tgt Ion: 78 Resp: 5840

Ion	Ratio	Lower	Upper
78	100		
77	22.7	3.6	43.6

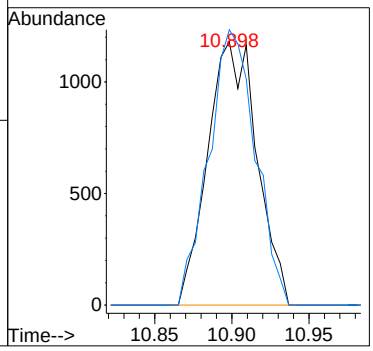


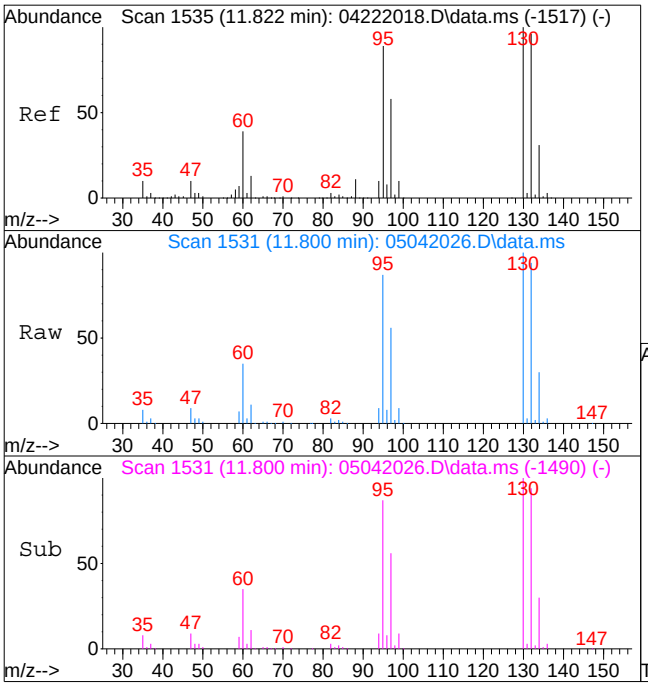


#42
Carbon Tetrachloride
Concen: 0.13 ng
RT: 10.90 min Scan# 1367
Delta R.T. -0.022 min
Lab File: 05042026.D
Acq: 4 May 2020 20:49

Tgt Ion:117 Resp: 2628

Ion	Ratio	Lower	Upper
117	100		
119	99.0	76.5	116.5

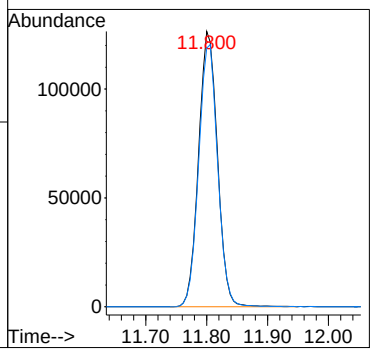


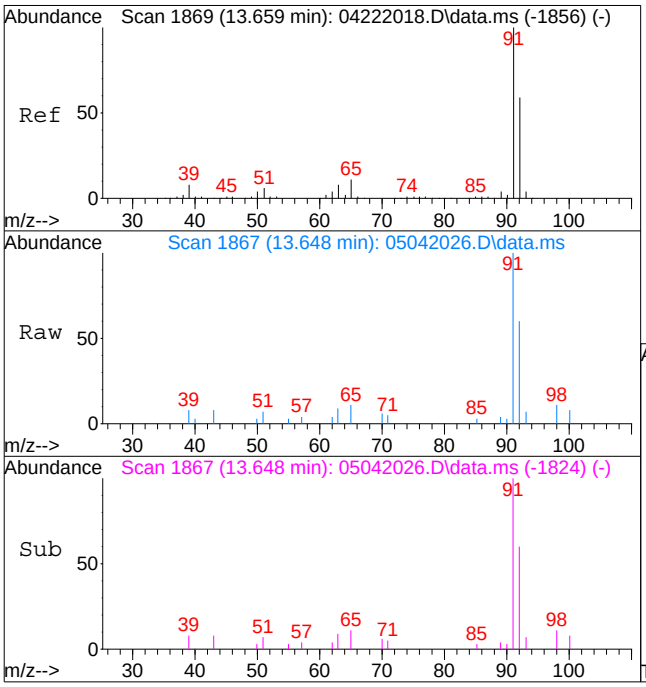


#47
Trichloroethene
Concen: 20.35 ng
RT: 11.80 min Scan# 1531
Delta R.T. -0.022 min
Lab File: 05042026.D
Acq: 4 May 2020 20:49

Tgt Ion:130 Resp: 271934

Ion	Ratio	Lower	Upper
130	100		
132	95.8	76.4	116.4

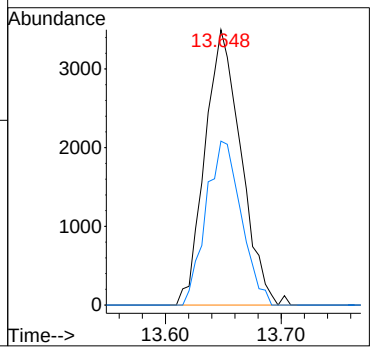


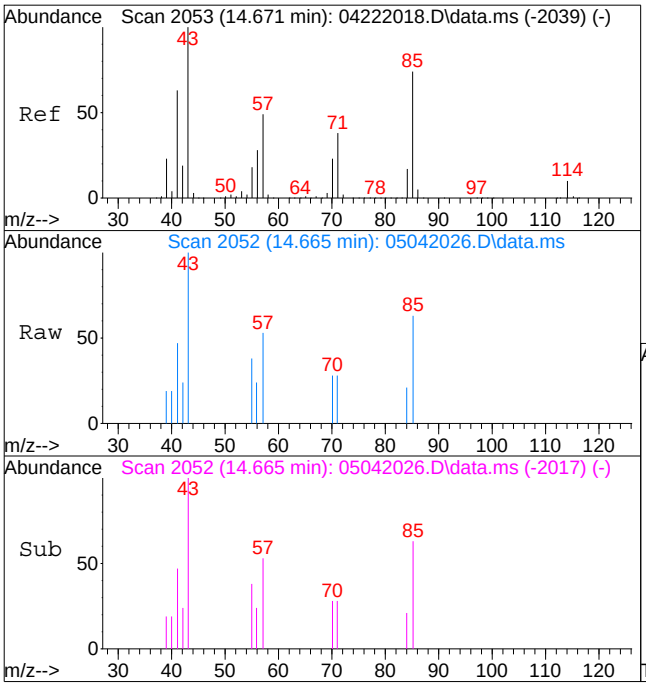


#58
Toluene
Concen: 0.17 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.011 min
Lab File: 05042026.D
Acq: 4 May 2020 20:49

Tgt Ion: 91 Resp: 7588

Ion	Ratio	Lower	Upper
91	100		
92	58.1	38.2	78.2

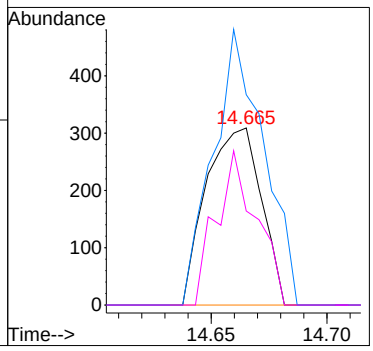


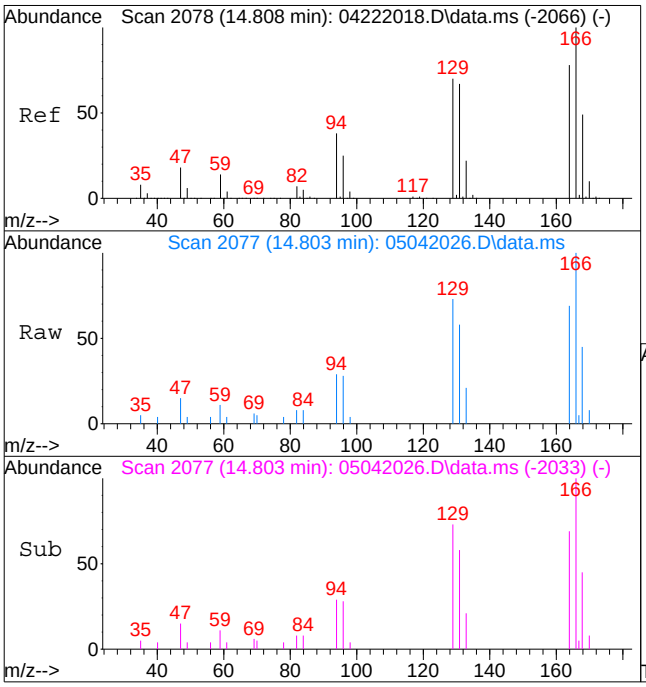


#63
n-Octane
Concen: 0.07 ng
RT: 14.67 min Scan# 2052
Delta R.T. -0.006 min
Lab File: 05042026.D
Acq: 4 May 2020 20:49

Tgt Ion: 57 Resp: 513

Ion	Ratio	Lower	Upper
57	100		
85	142.3	120.7	181.1
71	63.4	61.1	91.7

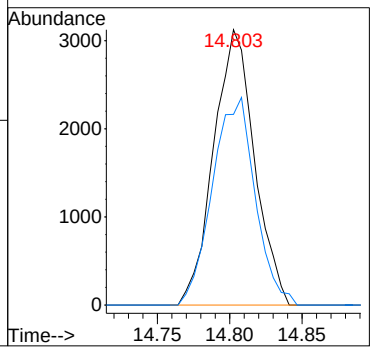


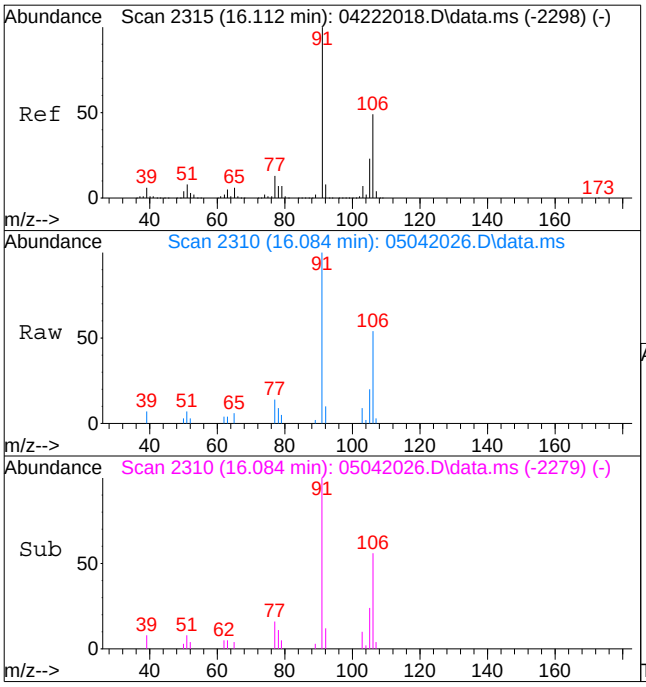


#64
Tetrachloroethene
Concen: 0.37 ng
RT: 14.80 min Scan# 2077
Delta R.T. -0.006 min
Lab File: 05042026.D
Acq: 4 May 2020 20:49

Tgt Ion:166 Resp: 6142

Ion	Ratio	Lower	Upper
166	100		
164	78.8	57.7	97.7

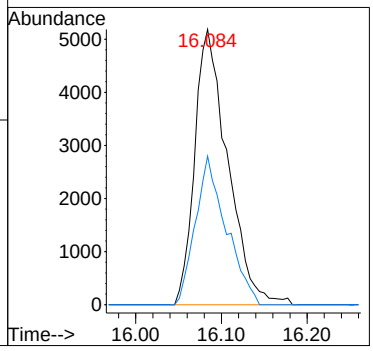


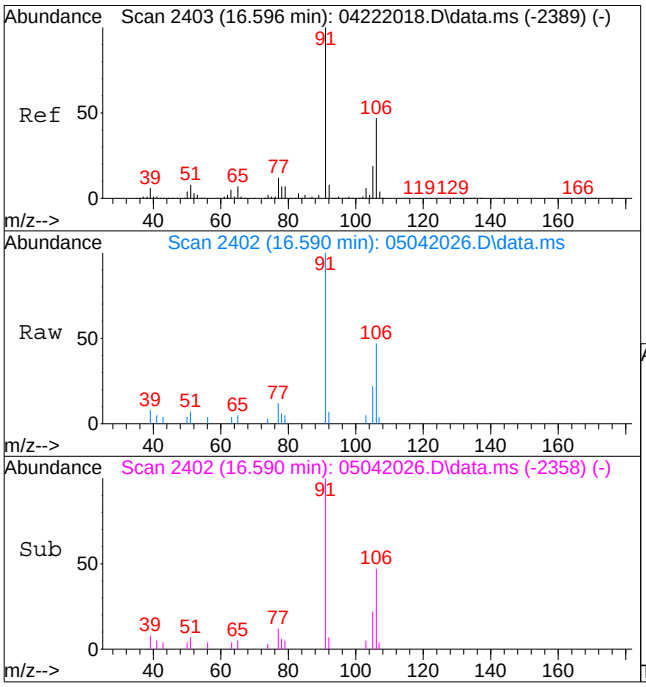


#67
m- & p-Xylenes
Concen: 0.32 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.028 min
Lab File: 05042026.D
Acq: 4 May 2020 20:49

Tgt Ion: 91 Resp: 13849

Ion	Ratio	Lower	Upper
91	100		
106	50.5	28.3	68.3

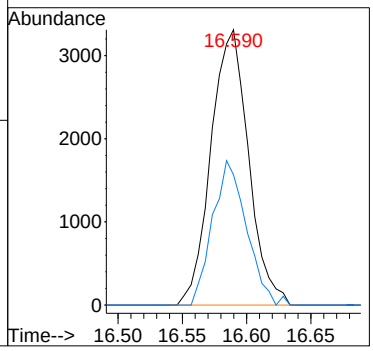


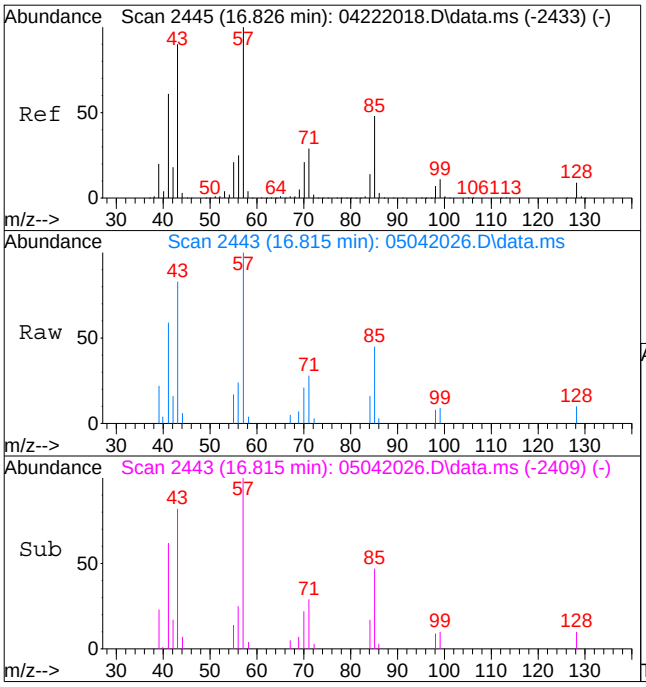


#70
o-Xylene
Concen: 0.16 ng
RT: 16.59 min Scan# 2402
Delta R.T. -0.006 min
Lab File: 05042026.D
Acq: 4 May 2020 20:49

Tgt Ion: 91 Resp: 6734

Ion	Ratio	Lower	Upper
91	100		
106	47.5	27.5	67.5

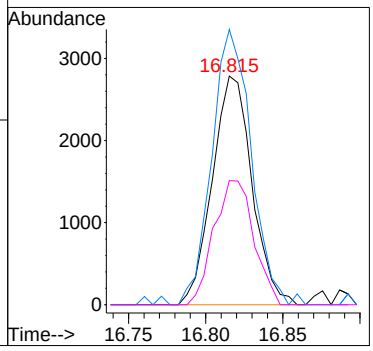


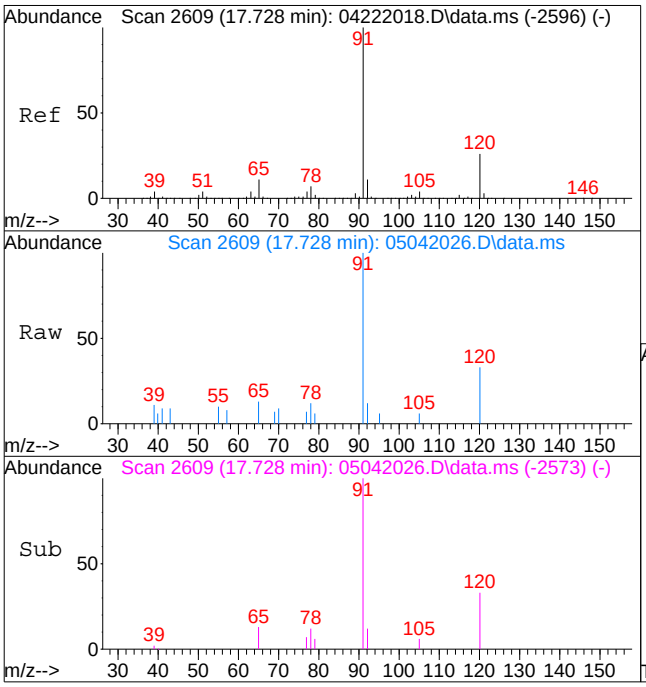


#71
n-Nonane
Concen: 0.37 ng
RT: 16.82 min Scan# 2443
Delta R.T. -0.011 min
Lab File: 05042026.D
Acq: 4 May 2020 20:49

Tgt Ion: 43 Resp: 4993

Ion	Ratio	Lower	Upper
43	100		
57	119.8	90.8	130.8
85	54.3	32.1	72.1

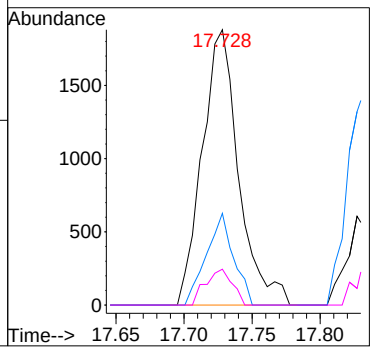


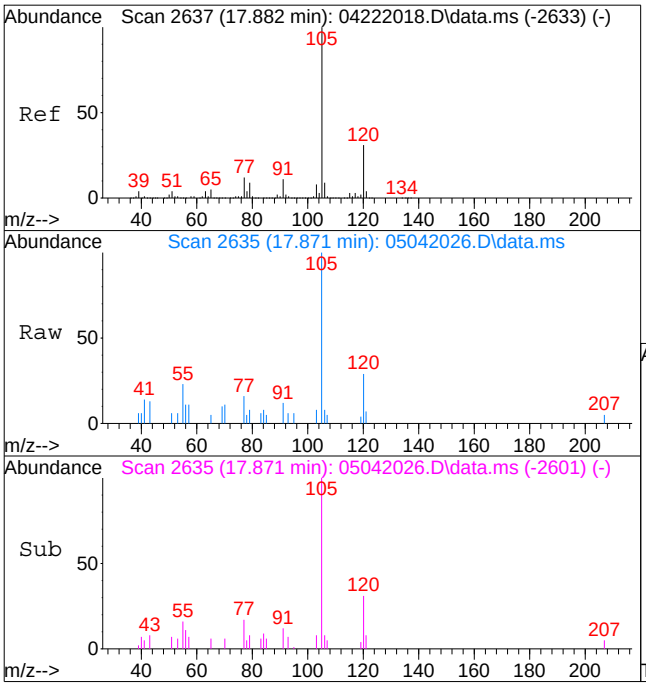


#76
n-Propylbenzene
Concen: 0.06 ng
RT: 17.73 min Scan# 2609
Delta R.T. -0.000 min
Lab File: 05042026.D
Acq: 4 May 2020 20:49

Tgt Ion: 91 Resp: 3498

Ion	Ratio	Lower	Upper
91	100		
120	24.9	6.1	46.1
65	9.6	0.0	30.7

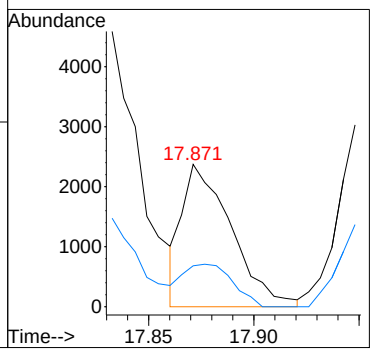


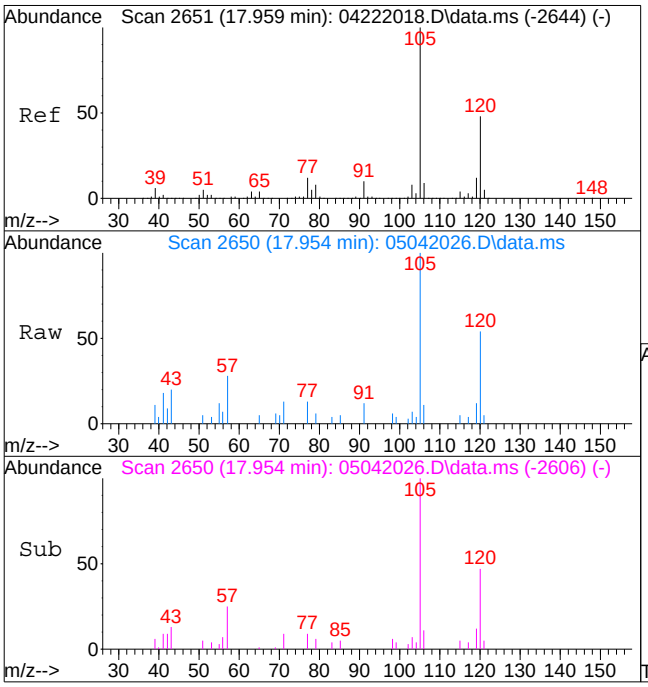


#78
4-Ethyltoluene
Concen: 0.07 ng
RT: 17.87 min Scan# 2635
Delta R.T. -0.011 min
Lab File: 05042026.D
Acq: 4 May 2020 20:49

Tgt Ion:105 Resp: 3853

Ion	Ratio	Lower	Upper
105	100		
120	30.5	11.4	51.4

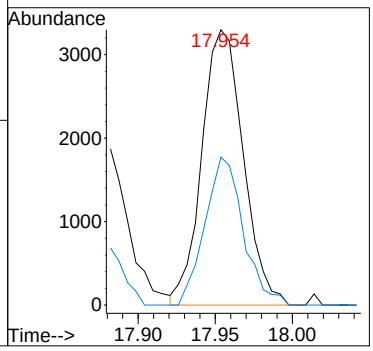


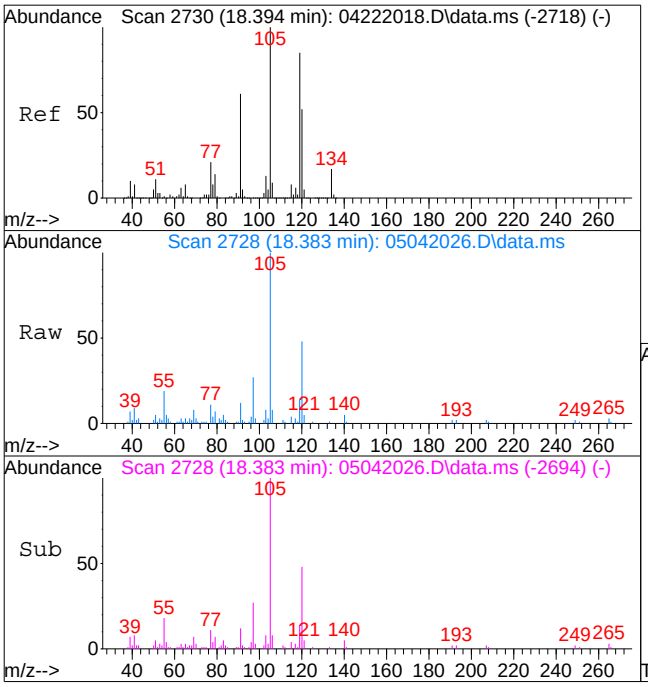


#79
1,3,5-Trimethylbenzene
Concen: 0.13 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 05042026.D
Acq: 4 May 2020 20:49

Tgt Ion:105 Resp: 6163

Ion	Ratio	Lower	Upper
105	100		
120	49.7	29.5	69.5

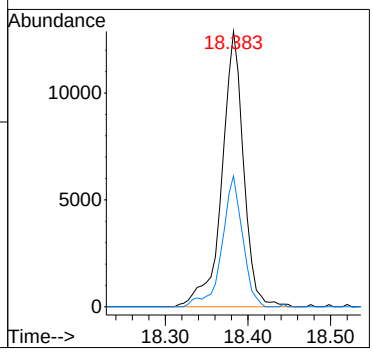


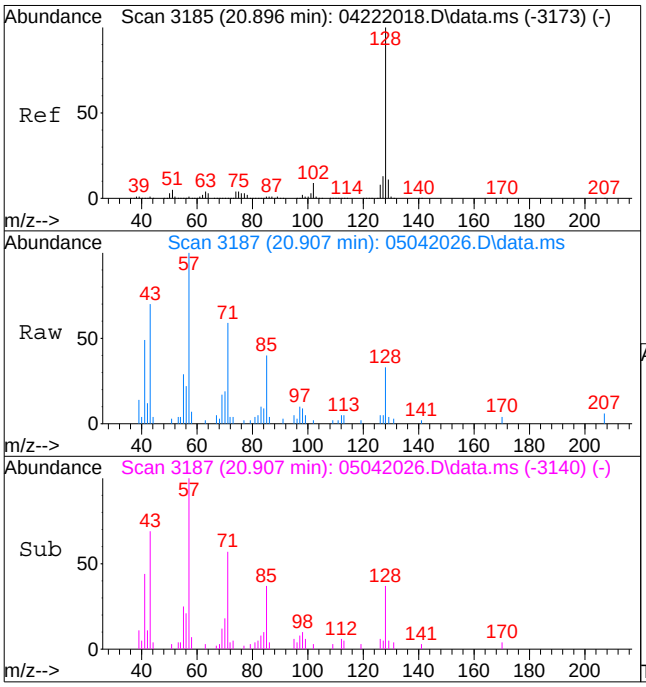


#82
1,2,4-Trimethylbenzene
Concen: 0.50 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 05042026.D
Acq: 4 May 2020 20:49

Tgt Ion:105 Resp: 23488

Ion	Ratio	Lower	Upper
105	100		
120	45.0	34.5	74.5

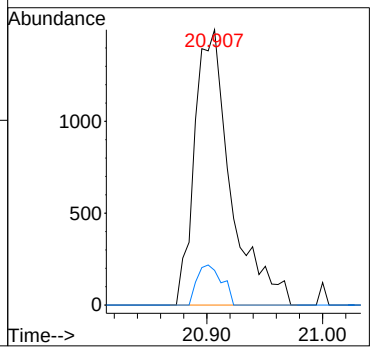




#95
Naphthalene
Concen: 0.05 ng
RT: 20.91 min Scan# 3187
Delta R.T. 0.011 min
Lab File: 05042026.D
Acq: 4 May 2020 20:49

Tgt Ion:128 Resp: 3252

Ion	Ratio	Lower	Upper
128	100		
129	10.0	0.0	30.9



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042027.D Vial: 11
Acq On : 4 May 2020 21:23 Operator: SC
Sample : P2002106-010 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 15:28:58 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/5/20

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	141281	12.500 ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	594791	12.500 ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	271745	12.500 ng	0.00
System Monitoring Compounds					
33) 1,2-Dichloroethane-d4(...	9.91	65	212006	11.582 ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.64%		
57) Toluene-d8 (SS2)	13.54	98	659407	12.567 ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.56%		
73) Bromofluorobenzene (SS3)	17.05	174	272692	12.932 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.44%		
Target Compounds					Qvalue
2) Propene	0.00	42	0	N.D. d	
3) Dichlorodifluoromethan...	3.97	85	9542	0.419 ng	98
4) Chloromethane	4.18	50	671	0.080 ng	84
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.	
6) Vinyl Chloride	0.00	62	0	N.D.	
7) 1,3-Butadiene	0.00	54	0	N.D.	
8) Bromomethane	4.93	94	393	N.D.	
9) Chloroethane	0.00	64	0	N.D.	
10) Ethanol	5.34	45	11969	2.633 ng	81
11) Acetonitrile	0.00	41	0	N.D.	
12) Acrolein	5.71	56	1652	0.398 ng	91
13) Acetone	5.83	58	25220m	4.622 ng	
14) Trichlorofluoromethane	6.02	101	3837	0.169 ng	98
15) 2-Propanol (Isopropanol)	6.16	45	10082	0.582 ng	87
16) Acrylonitrile	0.00	53	0	N.D. d	
17) 1,1-Dichloroethene	0.00	96	0	N.D.	
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d	
19) Methylene Chloride	6.86	84	751	0.078 ng	96
20) 3-Chloro-1-propene (Al...	6.92	41	208	N.D.	
21) Trichlorotrifluoroethane	7.18	151	2072	0.176 ng	92
22) Carbon Disulfide	7.14	76	99209	3.118 ng	97
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.	
24) 1,1-Dichloroethane	0.00	63	0	N.D. d	
25) Methyl tert-Butyl Ether	8.18	73	335	N.D.	
26) Vinyl Acetate	0.00	86	0	N.D. d	
27) 2-Butanone (MEK)	8.52	72	7880	1.406 ng	93
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.	
29) Diisopropyl Ether	0.00	87	0	N.D. d	
30) Ethyl Acetate	9.22	61	18204	7.298 ng	99
31) n-Hexane	9.22	57	13873	1.146 ng	99
32) Chloroform	9.27	83	4105	0.212 ng	96
34) Tetrahydrofuran (THF)	9.67	72	22104	3.893 ng	98
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.	
36) 1,2-Dichloroethane	10.05	62	306	N.D.	
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.	
39) Isopropyl Acetate	0.00	61	0	N.D.	
40) 1-Butanol	0.00	56	0	N.D. d	
41) Benzene	10.75	78	15440	0.398 ng	96
42) Carbon Tetrachloride	10.89	117	2578	0.129 ng	99
43) Cyclohexane	11.03	84	138319	9.106 ng	100
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.	
45) 1,2-Dichloropropane	0.00	63	0	N.D.	
46) Bromodichloromethane	0.00	83	0	N.D. d	
47) Trichloroethene	11.80	130	296891	22.109 ng	100
48) 1,4-Dioxane	0.00	88	0	N.D. d	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d	
50) Methyl Methacrylate	0.00	100	0	N.D. d	

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042027.D Vial: 11
Acq On : 4 May 2020 21:23 Operator: SC
Sample : P2002106-010 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 15:28:58 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

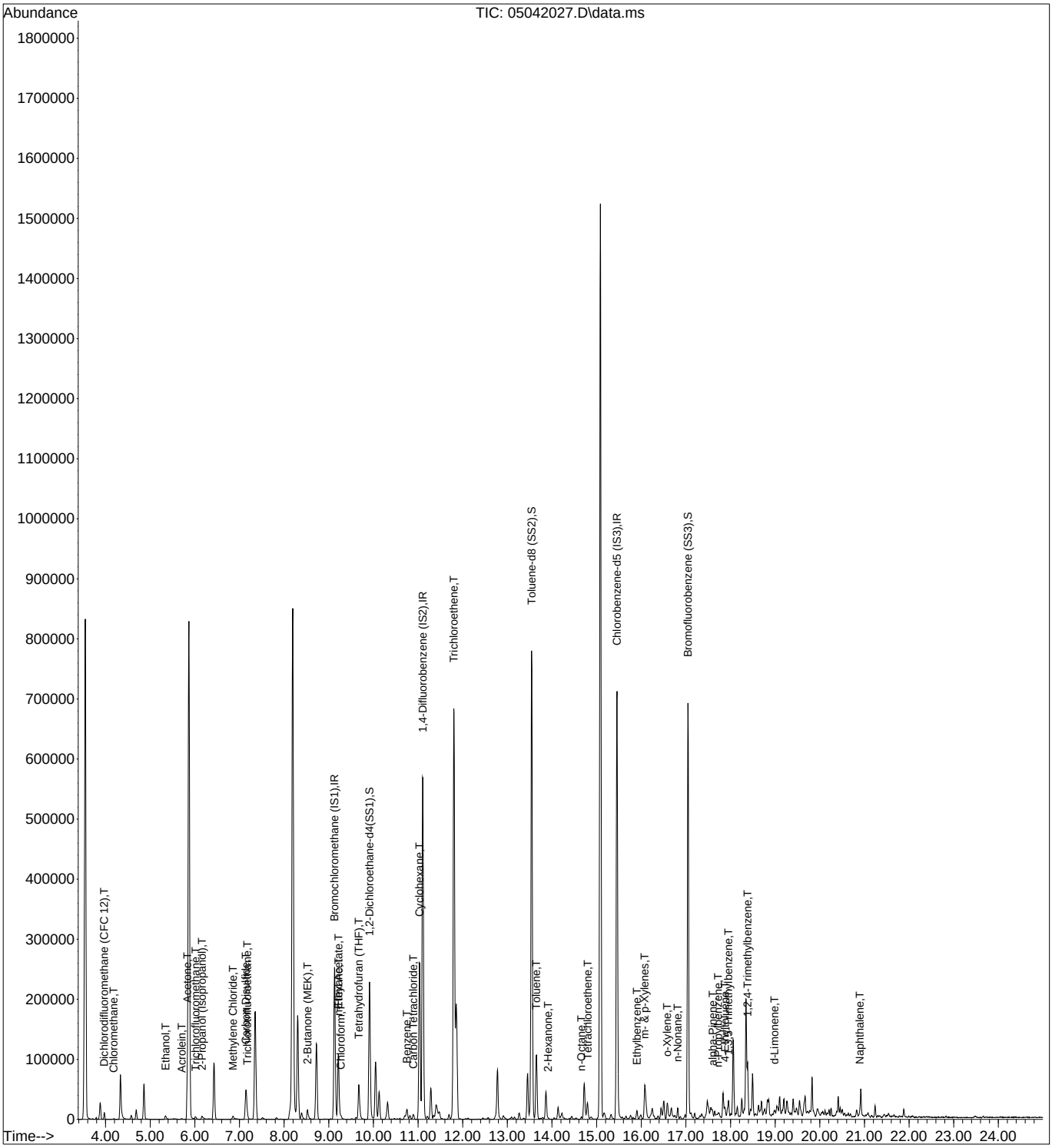
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	0.00	71	0	N.D. d		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	12.73	58	266	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	13.27	97	511	N.D.		
58) Toluene	13.65	91	50313	1.142 ng		97
59) 2-Hexanone	13.91	43	2481	0.189 ng		74
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	14.55	43	729	N.D.		
63) n-Octane	14.66	57	614	0.088 ng		92
64) Tetrachloroethene	14.80	166	2964	0.179 ng		91
65) Chlorobenzene	15.50	112	312	N.D.		
66) Ethylbenzene	15.90	91	11893	0.232 ng		97
67) m- & p-Xylenes	16.08	91	55608	1.284 ng		97
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.48	104	1288	N.D.		
70) o-Xylene	16.58	91	19281	0.453 ng		97
71) n-Nonane	16.82	43	6328	0.461 ng		94
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d		
74) Cumene	17.20	105	2711	N.D.		
75) alpha-Pinene	17.60	93	3487	0.138 ng	#	1
76) n-Propylbenzene	17.72	91	7027	0.116 ng		93
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	17.88	105	10339	0.196 ng		100
79) 1,3,5-Trimethylbenzene	17.95	105	12269	0.252 ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	18.38	105	41160	0.873 ng		90
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	18.51	91	982	N.D.		
85) 1,3-Dichlorobenzene	18.34	146	162	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D. d		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	18.99	68	1446	0.109 ng	#	52
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	20.90	128	7946	0.131 ng		96
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042027.D Vial: 11
Acq On : 4 May 2020 21:23 Operator: SC
Sample : P2002106-010 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 15:28:58 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042027.D Vial: 11
Acq On : 4 May 2020 21:23 Operator: SC
Sample : P2002106-010 (400mL) Inst : MS09
Misc : S34-04212006

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Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/5/20

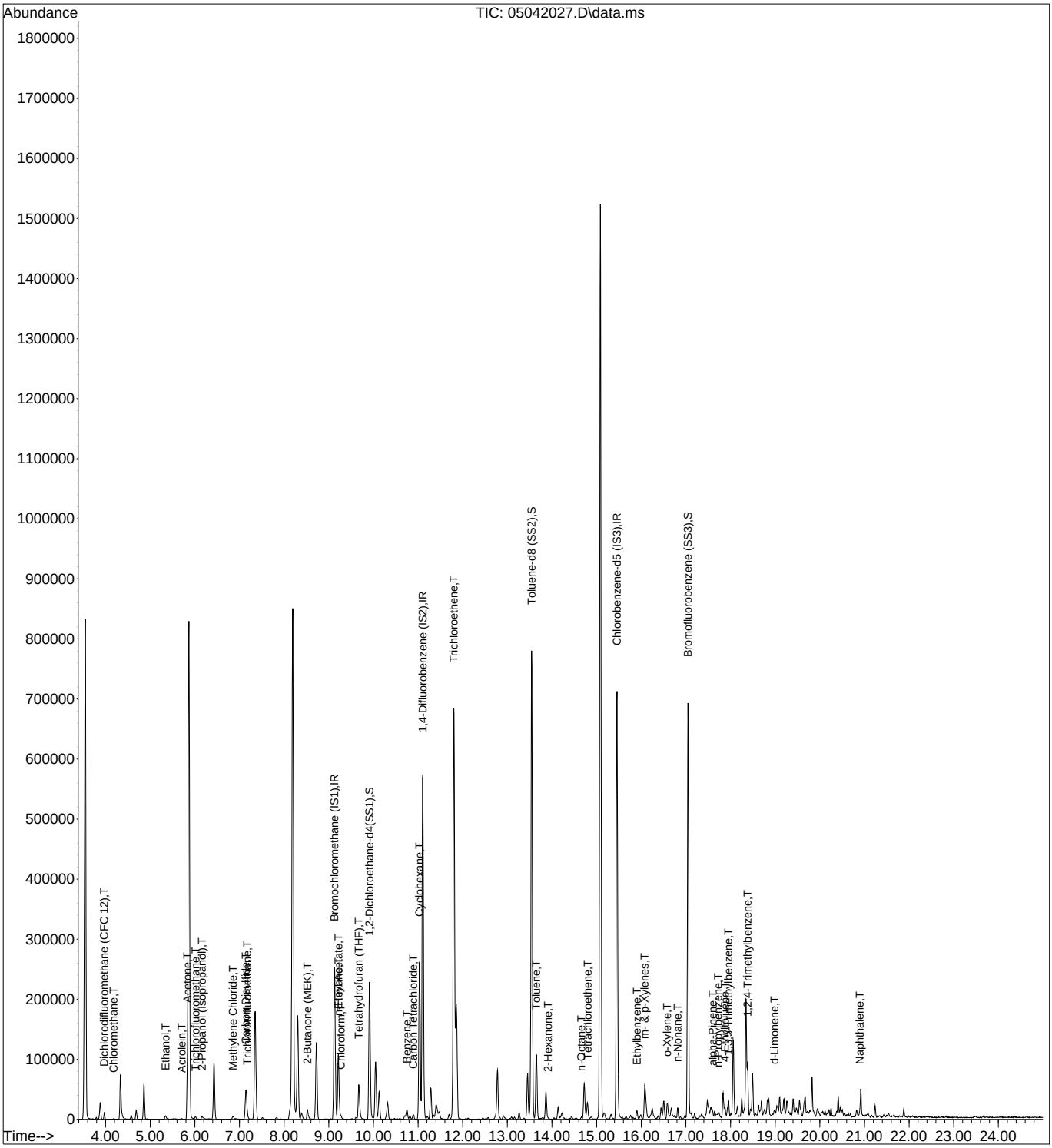
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	141281	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	594791	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	271745	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	212006	11.582	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.64%				
57) Toluene-d8 (SS2)	13.54	98	659407	12.567	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.56%				
73) Bromofluorobenzene (SS3)	17.05	174	272692	12.932	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.44%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.97	85	9542	0.419	ng		98
4) Chloromethane	4.18	50	671	0.080	ng		84
10) Ethanol	5.34	45	11969	2.633	ng		81
12) Acrolein	5.71	56	1652	0.398	ng		91
13) Acetone	5.83	58	25220m	4.622	ng		
14) Trichlorofluoromethane	6.02	101	3837	0.169	ng		98
15) 2-Propanol (Isopropanol)	6.16	45	10082	0.582	ng		87
19) Methylene Chloride	6.86	84	751	0.078	ng		96
21) Trichlorotrifluoroethane	7.18	151	2072	0.176	ng		92
22) Carbon Disulfide	7.14	76	99209	3.118	ng		97
27) 2-Butanone (MEK)	8.52	72	7880	1.406	ng		93
30) Ethyl Acetate	9.22	61	18204	7.298	ng		99
31) n-Hexane	9.22	57	13873	1.146	ng		99
32) Chloroform	9.27	83	4105	0.212	ng		96
34) Tetrahydrofuran (THF)	9.67	72	22104	3.893	ng		98
41) Benzene	10.75	78	15440	0.398	ng		96
42) Carbon Tetrachloride	10.89	117	2578	0.129	ng		99
43) Cyclohexane	11.03	84	138319	9.106	ng		100
47) Trichloroethene	11.80	130	296891	22.109	ng		100
58) Toluene	13.65	91	50313	1.142	ng		97
59) 2-Hexanone	13.91	43	2481	0.189	ng		74
63) n-Octane	14.66	57	614	0.088	ng		92
64) Tetrachloroethene	14.80	166	2964	0.179	ng		91
66) Ethylbenzene	15.90	91	11893	0.232	ng		97
67) m- & p-Xylenes	16.08	91	55608	1.284	ng		97
70) o-Xylene	16.58	91	19281	0.453	ng		97
71) n-Nonane	16.82	43	6328	0.461	ng		94
75) alpha-Pinene	17.60	93	3487	0.138	ng	#	1
76) n-Propylbenzene	17.72	91	7027	0.116	ng		93
78) 4-Ethyltoluene	17.88	105	10339	0.196	ng		100
79) 1,3,5-Trimethylbenzene	17.95	105	12269	0.252	ng		99
82) 1,2,4-Trimethylbenzene	18.38	105	41160	0.873	ng		90
91) d-Limonene	18.99	68	1446	0.109	ng	#	52
95) Naphthalene	20.90	128	7946	0.131	ng		96

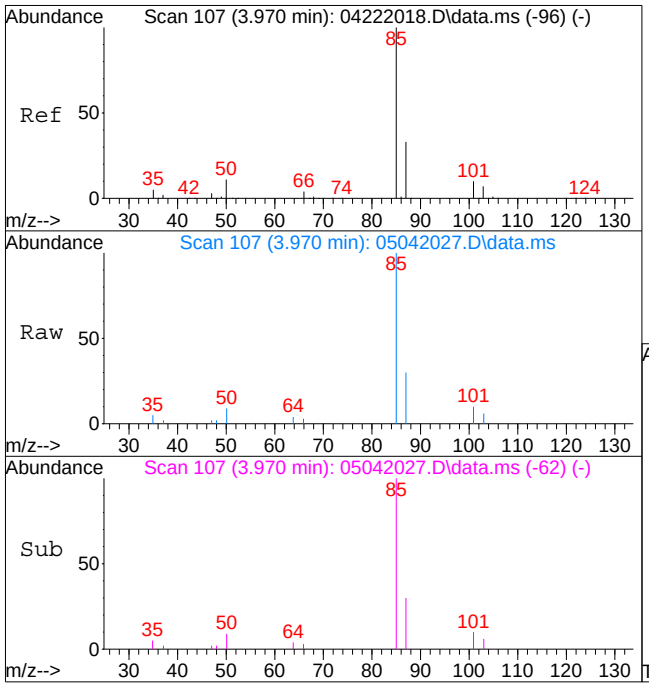
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042027.D Vial: 11
Acq On : 4 May 2020 21:23 Operator: SC
Sample : P2002106-010 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 15:28:58 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

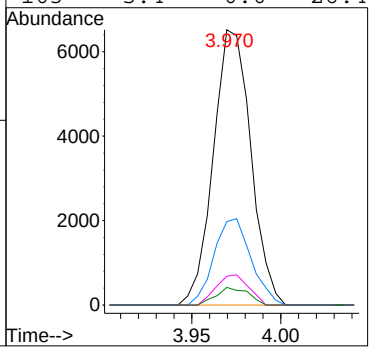


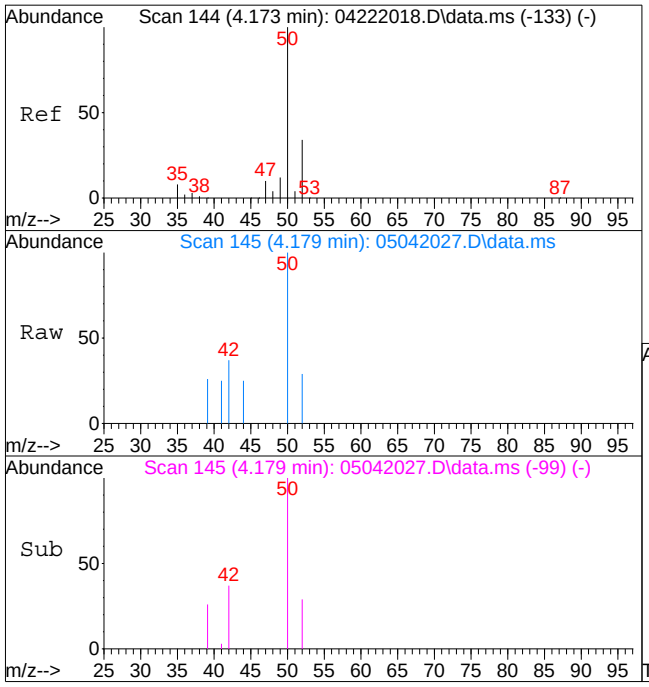


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.42 ng
RT: 3.97 min Scan# 107
Delta R.T. -0.000 min
Lab File: 05042027.D
Acq: 4 May 2020 21:23

Tgt Ion: 85 Resp: 9542

Ion	Ratio	Lower	Upper
85	100		
87	31.0	12.4	52.4
101	9.5	0.0	29.9
103	5.4	0.0	26.4

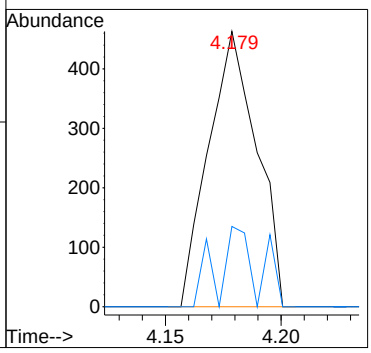


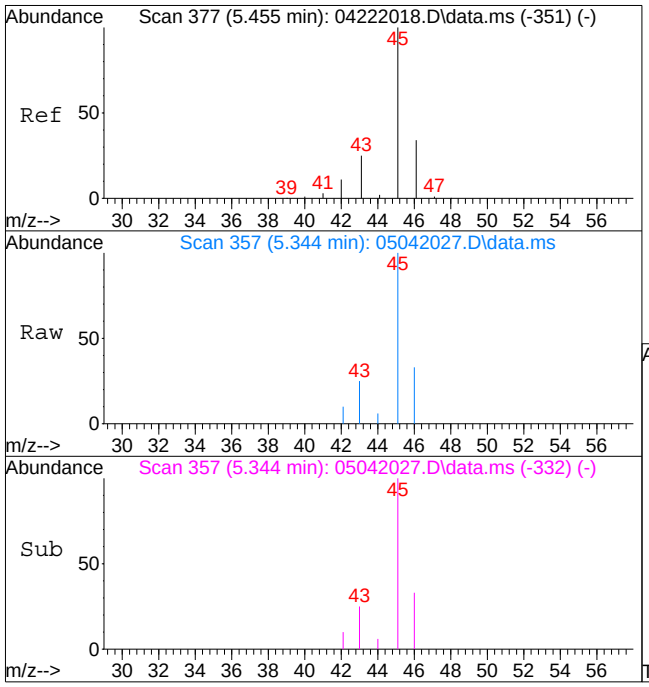


#4
Chloromethane
Concen: 0.08 ng
RT: 4.18 min Scan# 145
Delta R.T. 0.005 min
Lab File: 05042027.D
Acq: 4 May 2020 21:23

Tgt Ion: 50 Resp: 671

Ion	Ratio	Lower	Upper
50	100		
52	24.3	13.7	53.7

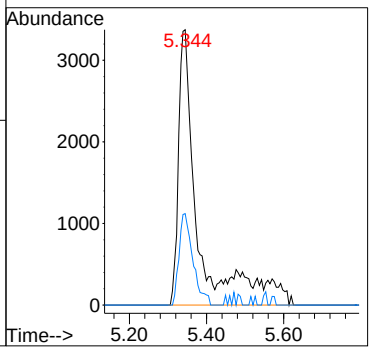


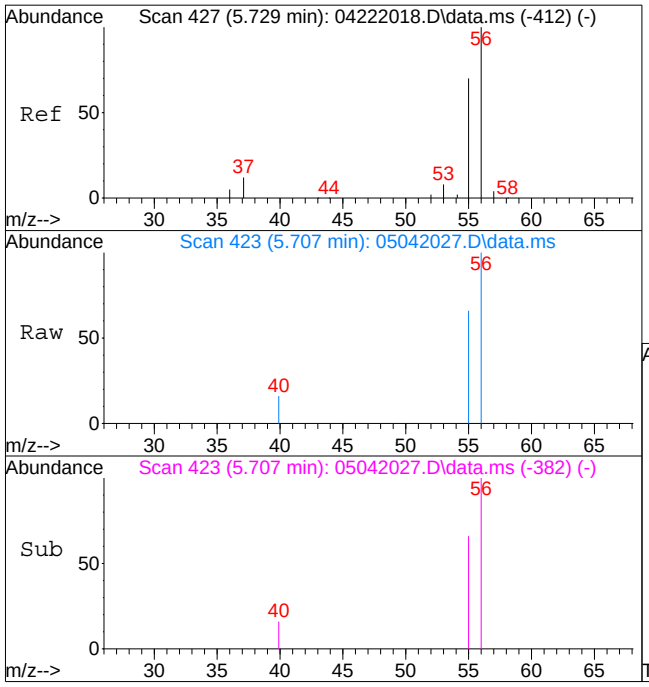


#10
Ethanol
Concen: 2.63 ng
RT: 5.34 min Scan# 357
Delta R.T. -0.110 min
Lab File: 05042027.D
Acq: 4 May 2020 21:23

Tgt Ion: 45 Resp: 11969

Ion	Ratio	Lower	Upper
45	100		
46	23.4	14.0	54.0

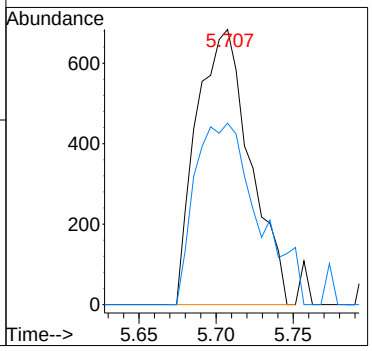


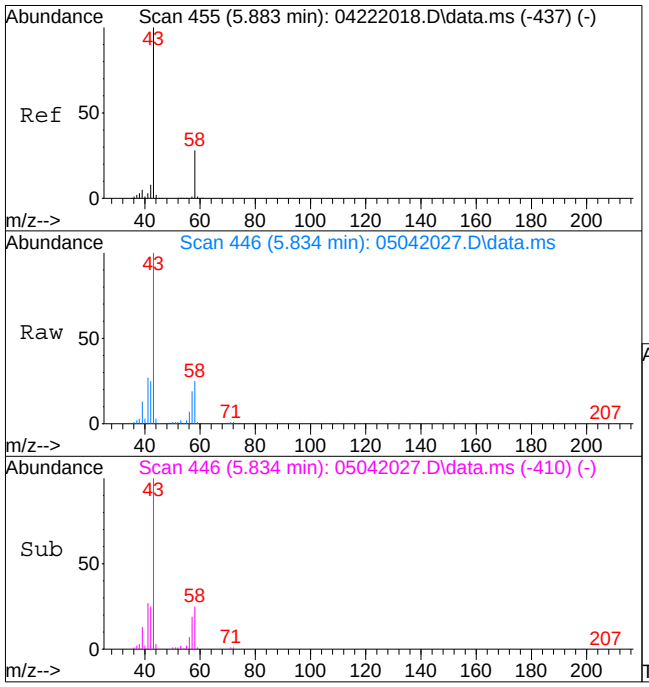


#12
Acrolein
Concen: 0.40 ng
RT: 5.71 min Scan# 423
Delta R.T. -0.022 min
Lab File: 05042027.D
Acq: 4 May 2020 21:23

Tgt Ion: 56 Resp: 1652

Ion	Ratio	Lower	Upper
56	100		
55	78.1	50.4	90.4

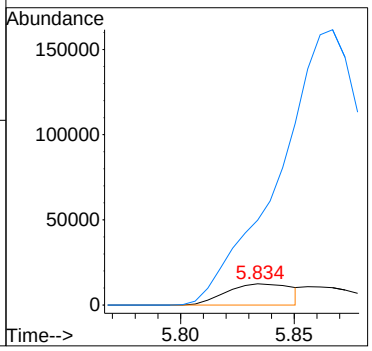


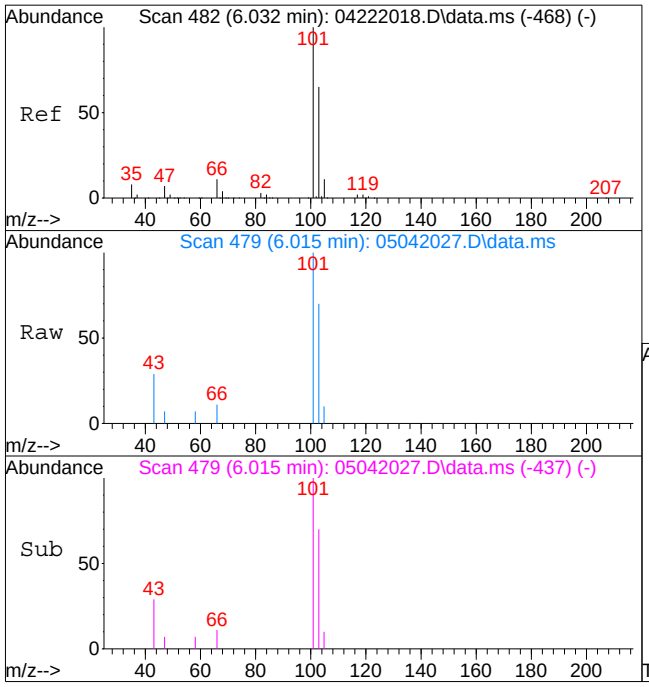


#13
Acetone
Concen: 4.62 ng m
RT: 5.83 min Scan# 446
Delta R.T. -0.050 min
Lab File: 05042027.D
Acq: 4 May 2020 21:23

Tgt Ion: 58 Resp: 25220

Ion	Ratio	Lower	Upper
58	100		
43	1707.6	319.3	379.3#

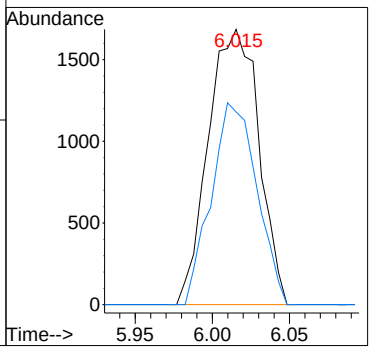


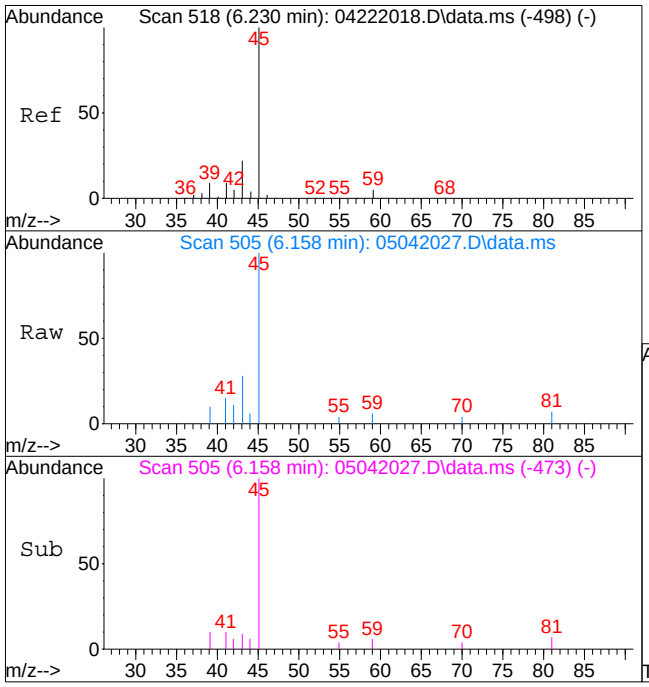


#14
Trichlorofluoromethane
Concen: 0.17 ng
RT: 6.02 min Scan# 479
Delta R.T. -0.017 min
Lab File: 05042027.D
Acq: 4 May 2020 21:23

Tgt Ion:101 Resp: 3837

Ion	Ratio	Lower	Upper
101	100		
103	66.3	44.7	84.7

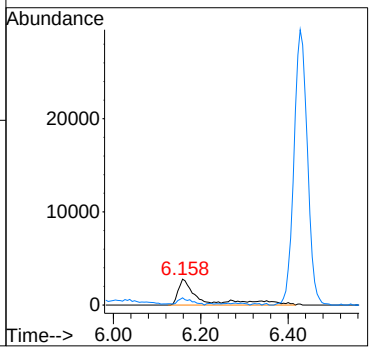


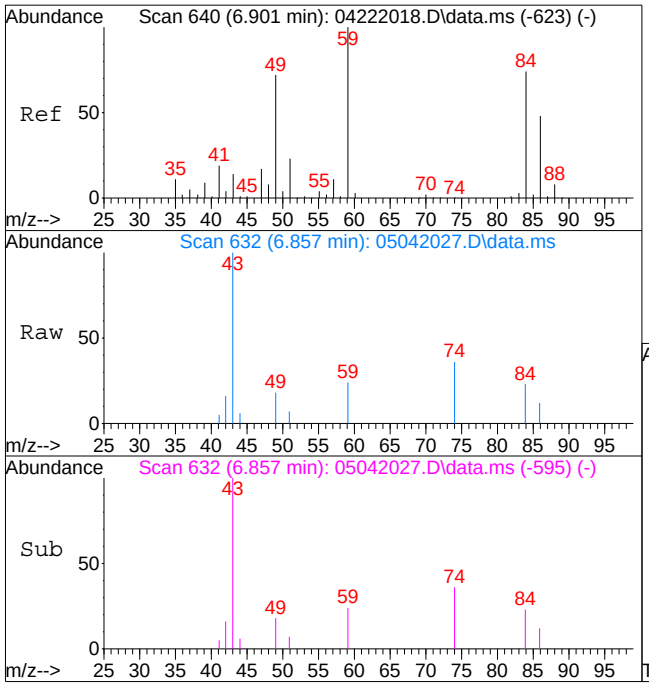


#15
2-Propanol (Isopropanol)
Concen: 0.58 ng
RT: 6.16 min Scan# 505
Delta R.T. -0.072 min
Lab File: 05042027.D
Acq: 4 May 2020 21:23

Tgt Ion: 45 Resp: 10082

Ion	Ratio	Lower	Upper
45	100		
43	16.1	2.6	42.6

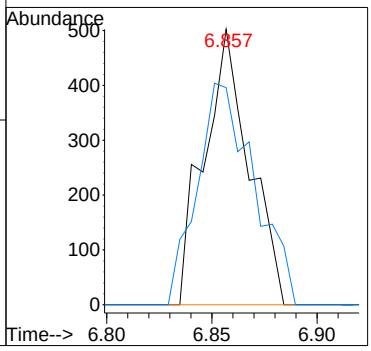


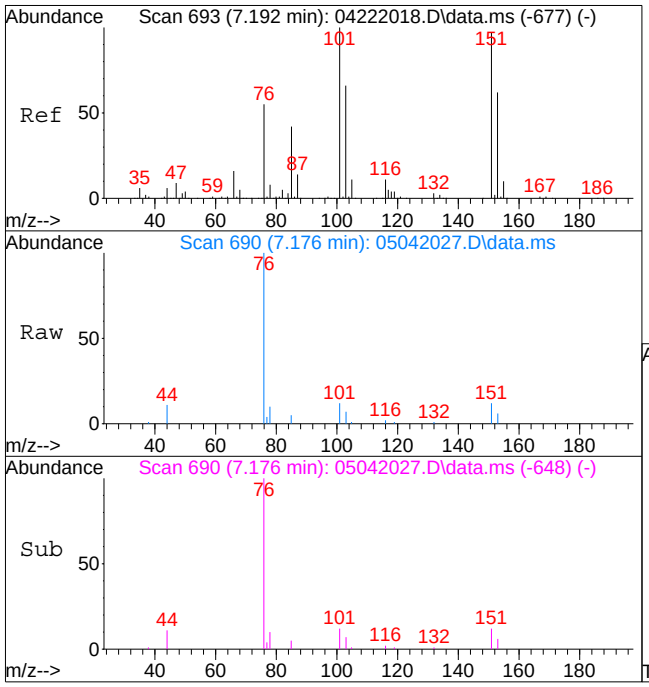


#19
Methylene Chloride
Concen: 0.08 ng
RT: 6.86 min Scan# 632
Delta R.T. -0.044 min
Lab File: 05042027.D
Acq: 4 May 2020 21:23

Tgt Ion: 84 Resp: 751

Ion	Ratio	Lower	Upper
84	100		
49	101.5	73.0	123.0

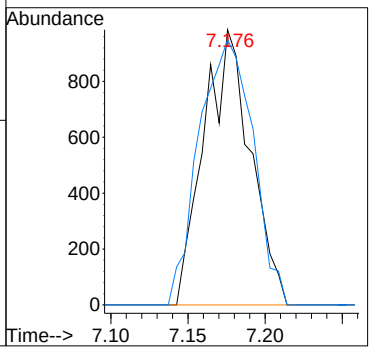


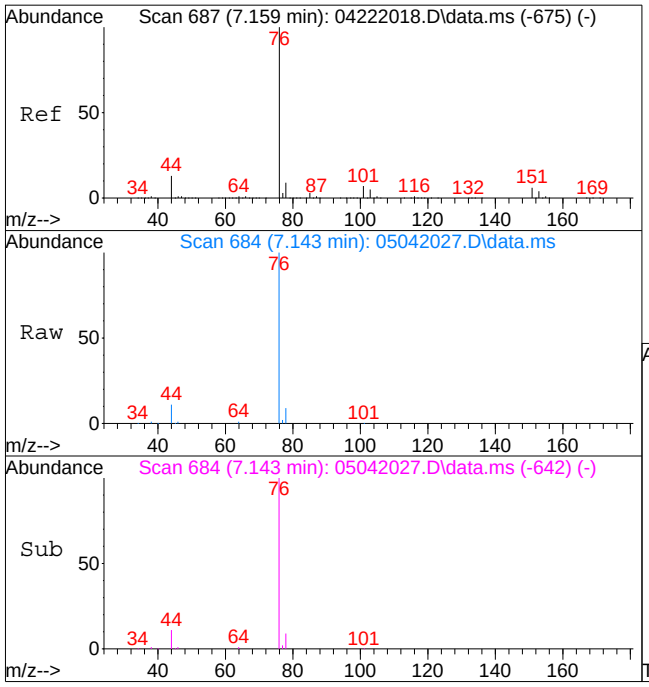


#21
Trichlorotrifluoroethane
Concen: 0.18 ng
RT: 7.18 min Scan# 690
Delta R.T. -0.017 min
Lab File: 05042027.D
Acq: 4 May 2020 21:23

Tgt Ion:151 Resp: 2072

Ion	Ratio	Lower	Upper
151	100		
101	111.4	82.9	122.9

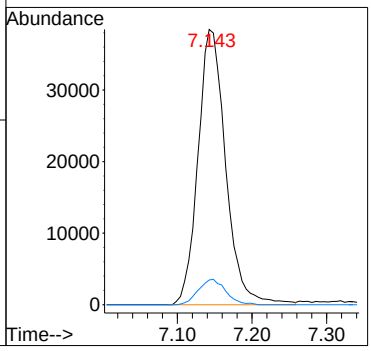


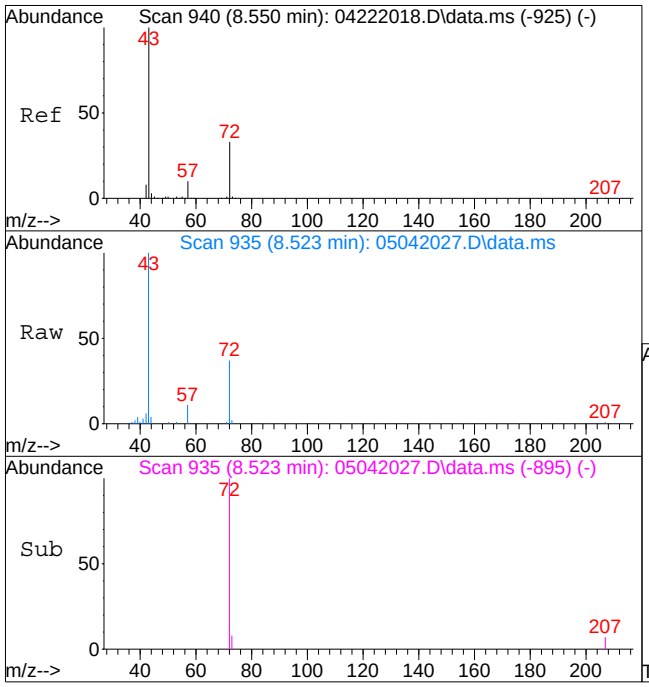


#22
Carbon Disulfide
Concen: 3.12 ng
RT: 7.14 min Scan# 684
Delta R.T. -0.017 min
Lab File: 05042027.D
Acq: 4 May 2020 21:23

Tgt Ion: 76 Resp: 99209

Ion	Ratio	Lower	Upper
76	100		
78	9.1	0.0	30.2

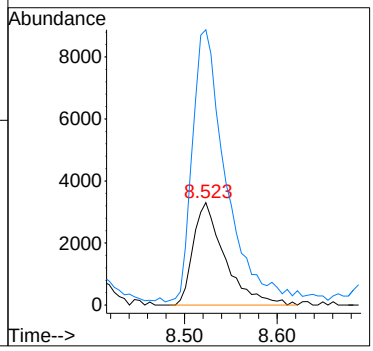


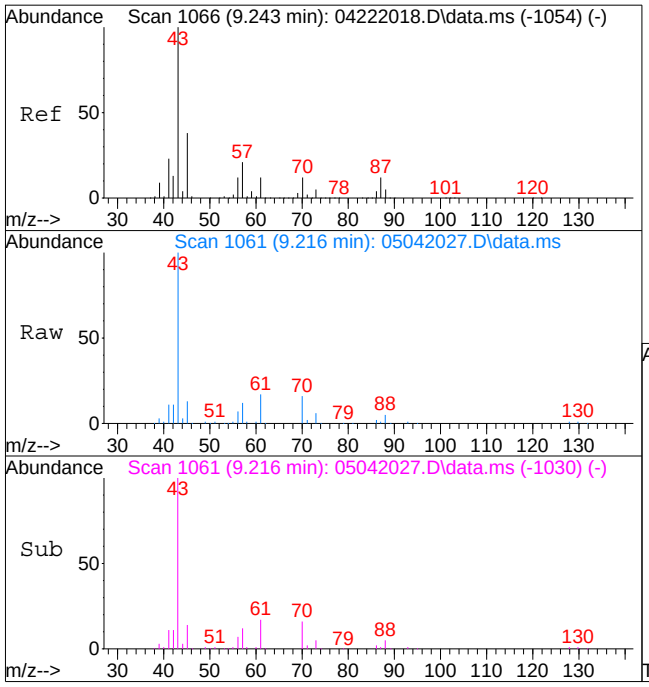


#27
2-Butanone (MEK)
Concen: 1.41 ng
RT: 8.52 min Scan# 935
Delta R.T. -0.028 min
Lab File: 05042027.D
Acq: 4 May 2020 21:23

Tgt Ion: 72 Resp: 7880

Ion	Ratio	Lower	Upper
72	100		
43	284.9	278.8	318.8

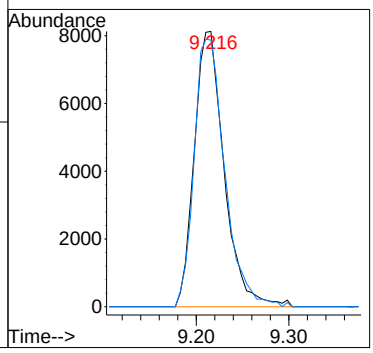


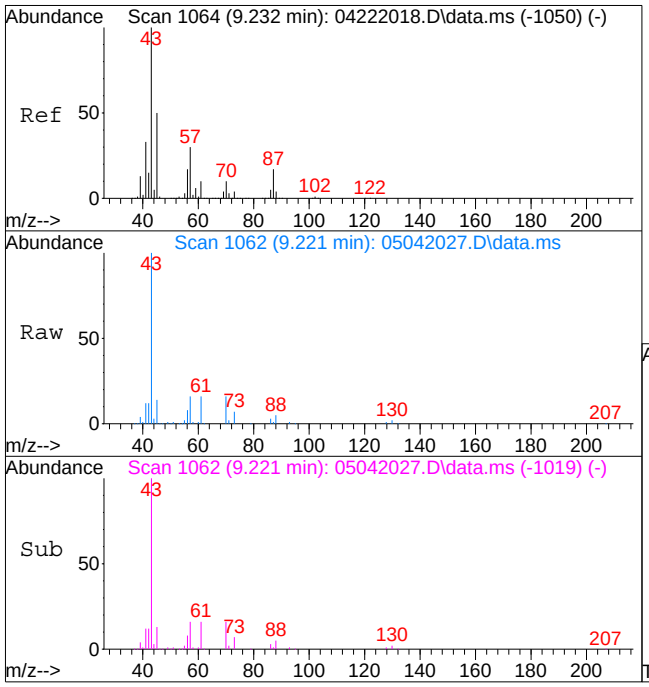


#30
Ethyl Acetate
Concen: 7.30 ng
RT: 9.22 min Scan# 1061
Delta R.T. -0.028 min
Lab File: 05042027.D
Acq: 4 May 2020 21:23

Tgt Ion: 61 Resp: 18204

Ion	Ratio	Lower	Upper
61	100		
70	99.7	80.6	120.6

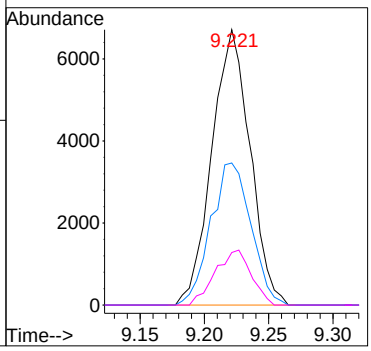


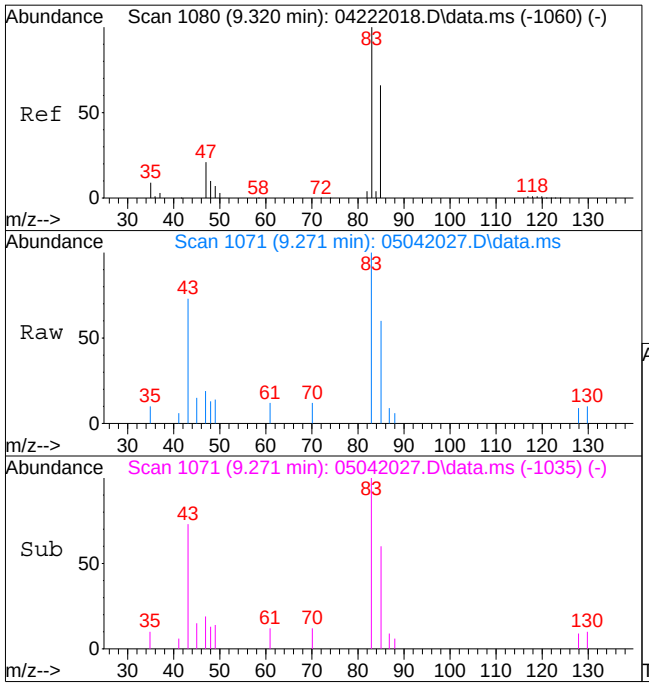


#31
n-Hexane
Concen: 1.15 ng
RT: 9.22 min Scan# 1062
Delta R.T. -0.011 min
Lab File: 05042027.D
Acq: 4 May 2020 21:23

Tgt Ion: 57 Resp: 13873

Ion	Ratio	Lower	Upper
57	100		
56	54.2	44.0	66.0
86	18.8	15.0	22.4

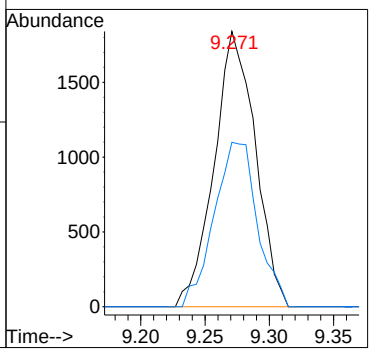


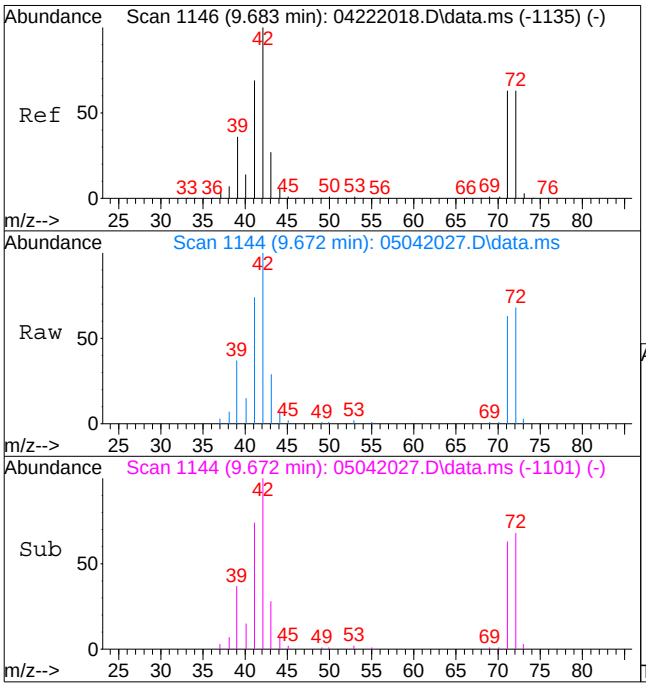


#32
Chloroform
Concen: 0.21 ng
RT: 9.27 min Scan# 1071
Delta R.T. -0.050 min
Lab File: 05042027.D
Acq: 4 May 2020 21:23

Tgt Ion: 83 Resp: 4105

Ion	Ratio	Lower	Upper
83	100		
85	62.6	45.8	85.8

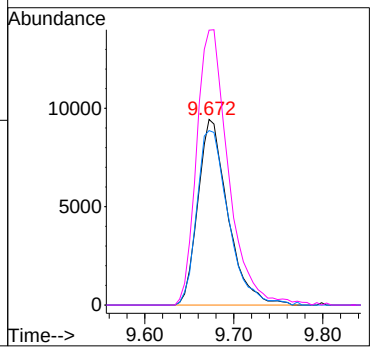


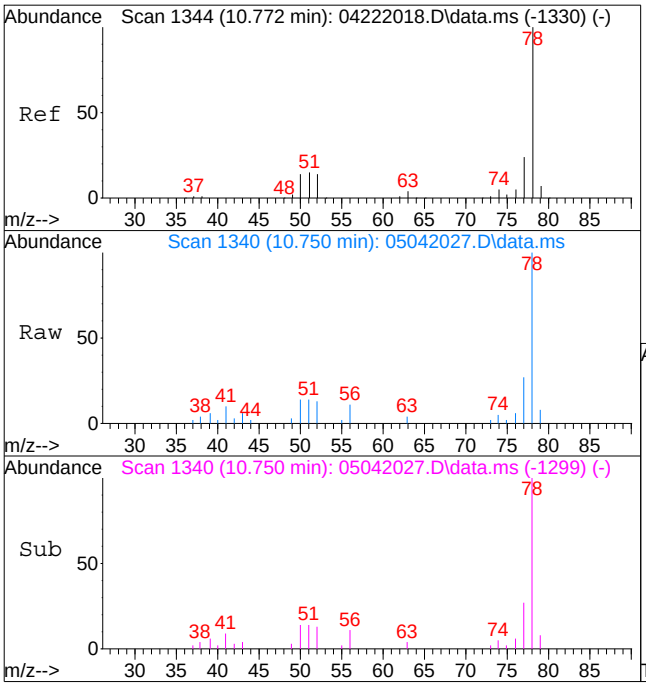


#34
Tetrahydrofuran (THF)
Concen: 3.89 ng
RT: 9.67 min Scan# 1144
Delta R.T. -0.011 min
Lab File: 05042027.D
Acq: 4 May 2020 21:23

Tgt Ion: 72 Resp: 22104

Ion	Ratio	Lower	Upper
72	100		
71	98.9	77.9	117.9
42	157.5	133.9	173.9

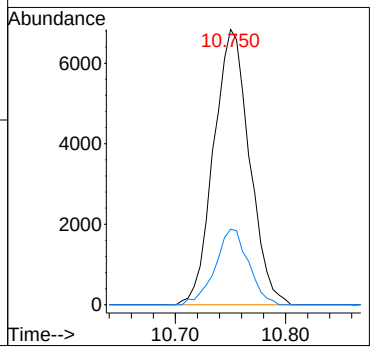


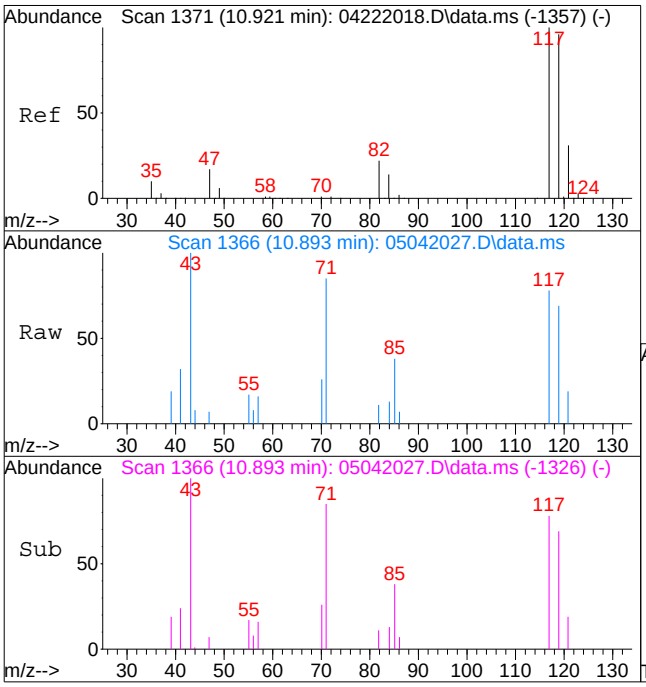


#41
Benzene
Concen: 0.40 ng
RT: 10.75 min Scan# 1340
Delta R.T. -0.022 min
Lab File: 05042027.D
Acq: 4 May 2020 21:23

Tgt Ion: 78 Resp: 15440

Ion	Ratio	Lower	Upper
78	100		
77	25.6	3.6	43.6

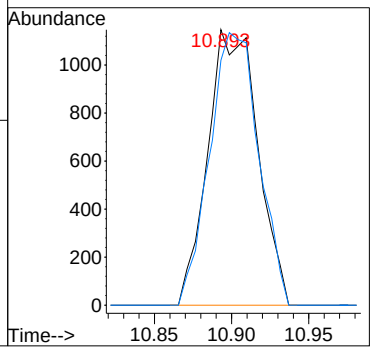


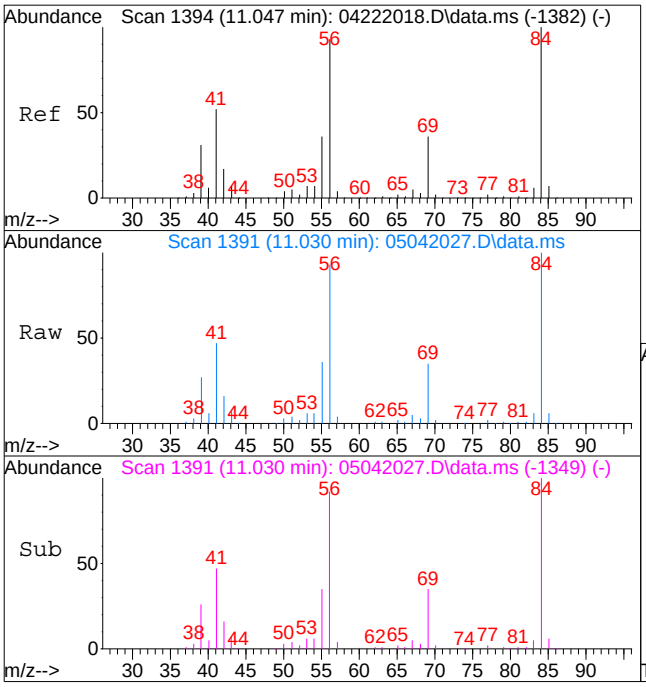


#42
Carbon Tetrachloride
Concen: 0.13 ng
RT: 10.89 min Scan# 1366
Delta R.T. -0.028 min
Lab File: 05042027.D
Acq: 4 May 2020 21:23

Tgt Ion:117 Resp: 2578

Ion	Ratio	Lower	Upper
117	100		
119	97.4	76.5	116.5

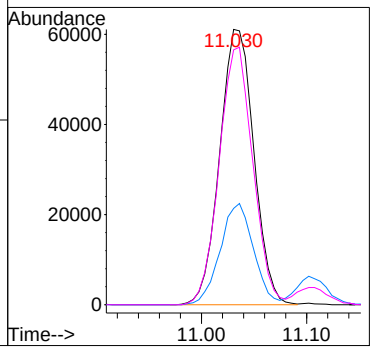


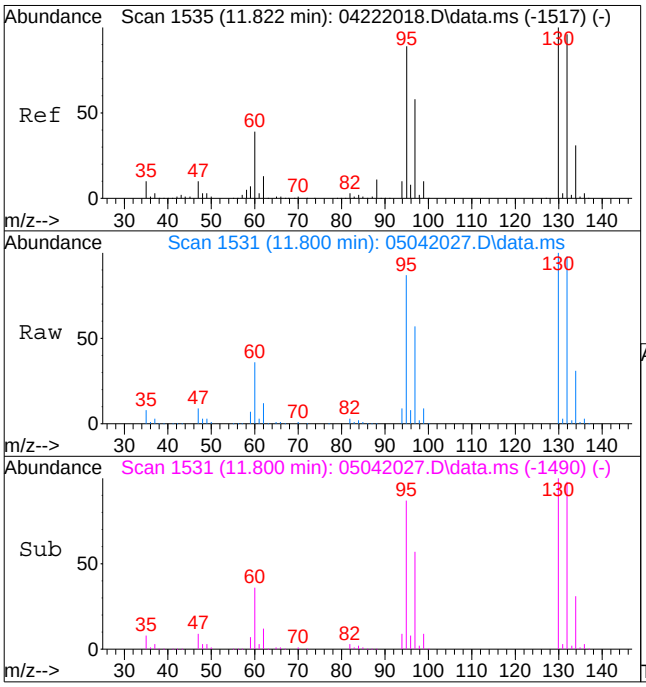


#43
Cyclohexane
Concen: 9.11 ng
RT: 11.03 min Scan# 1391
Delta R.T. -0.017 min
Lab File: 05042027.D
Acq: 4 May 2020 21:23

Tgt Ion: 84 Resp: 138319

Ion	Ratio	Lower	Upper
84	100		
69	35.8	15.8	55.8
56	92.2	72.0	112.0

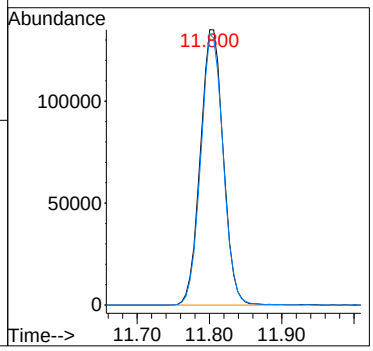


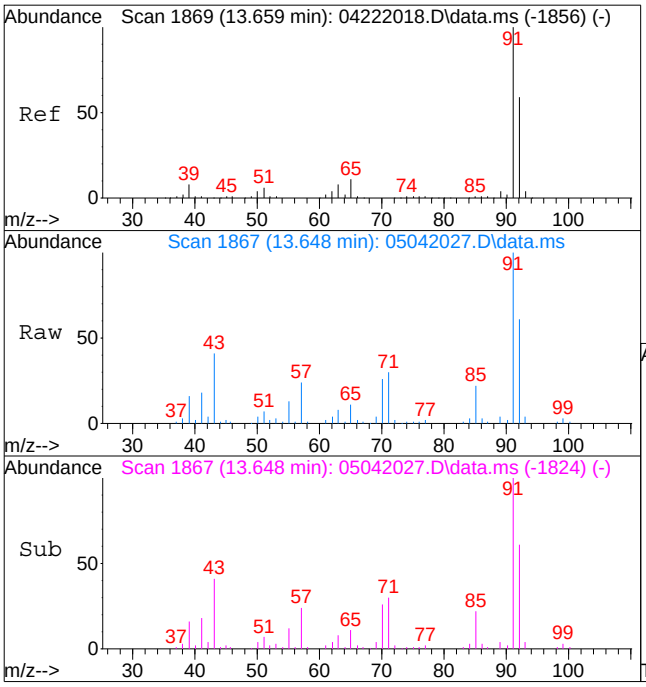


#47
Trichloroethene
Concen: 22.11 ng
RT: 11.80 min Scan# 1531
Delta R.T. -0.022 min
Lab File: 05042027.D
Acq: 4 May 2020 21:23

Tgt Ion:130 Resp: 296891

Ion	Ratio	Lower	Upper
130	100		
132	96.5	76.4	116.4

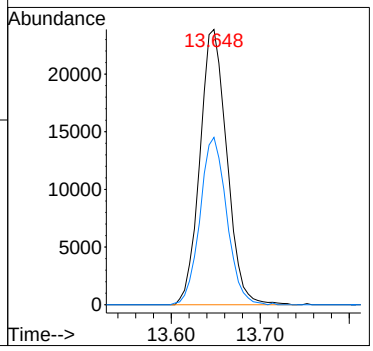


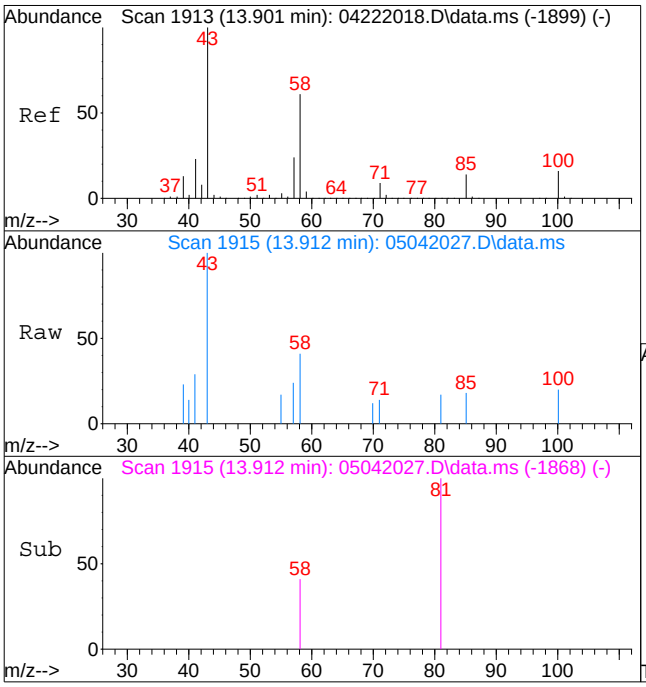


#58
Toluene
Concen: 1.14 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.011 min
Lab File: 05042027.D
Acq: 4 May 2020 21:23

Tgt Ion: 91 Resp: 50313

Ion	Ratio	Lower	Upper
91	100		
92	60.1	38.2	78.2

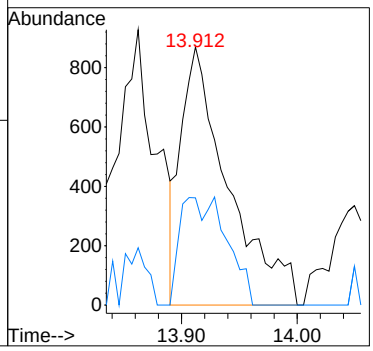


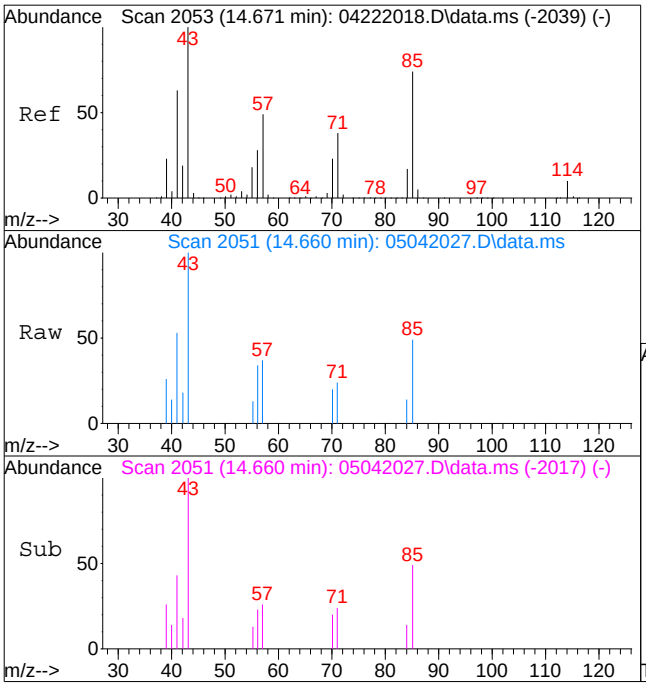


#59
2-Hexanone
Concen: 0.19 ng
RT: 13.91 min Scan# 1915
Delta R.T. 0.011 min
Lab File: 05042027.D
Acq: 4 May 2020 21:23

Tgt Ion: 43 Resp: 2481

Ion	Ratio	Lower	Upper
43	100		
58	41.2	41.1	81.1

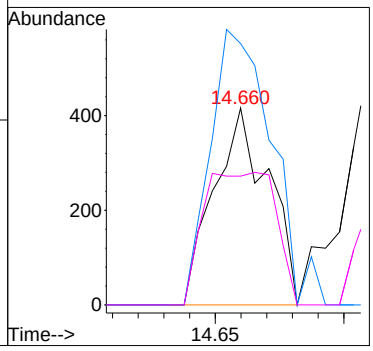


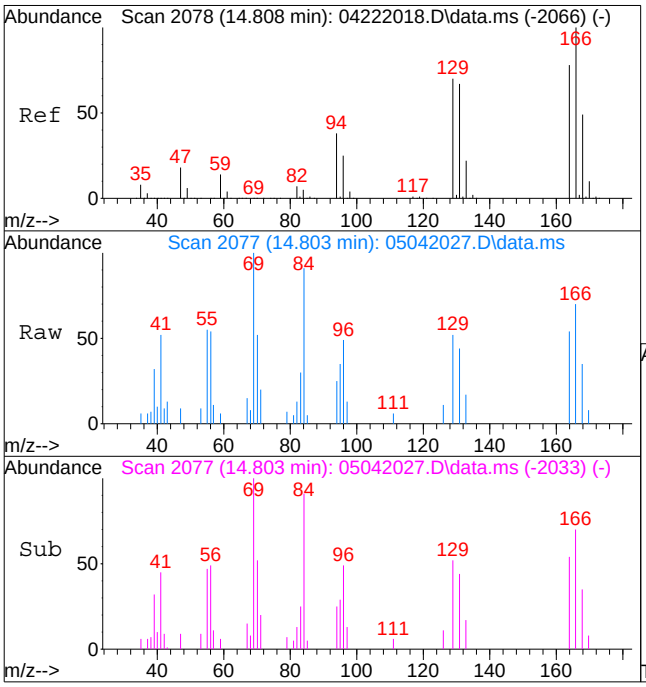


#63
n-Octane
Concen: 0.09 ng
RT: 14.66 min Scan# 2051
Delta R.T. -0.011 min
Lab File: 05042027.D
Acq: 4 May 2020 21:23

Tgt Ion: 57 Resp: 614

Ion	Ratio	Lower	Upper
57	100		
85	157.5	120.7	181.1
71	89.1	61.1	91.7

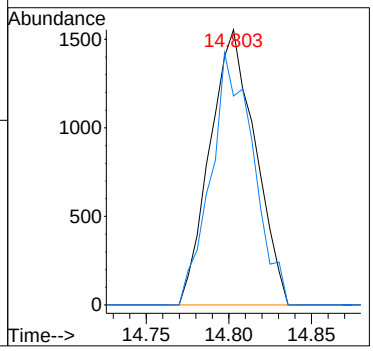


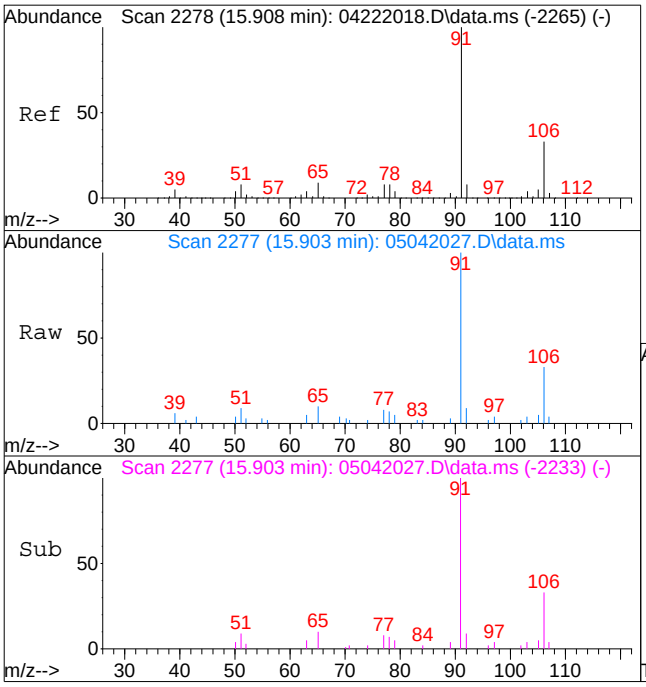


#64
Tetrachloroethene
Concen: 0.18 ng
RT: 14.80 min Scan# 2077
Delta R.T. -0.006 min
Lab File: 05042027.D
Acq: 4 May 2020 21:23

Tgt Ion:166 Resp: 2964

Ion	Ratio	Lower	Upper
166	100		
164	85.9	57.7	97.7

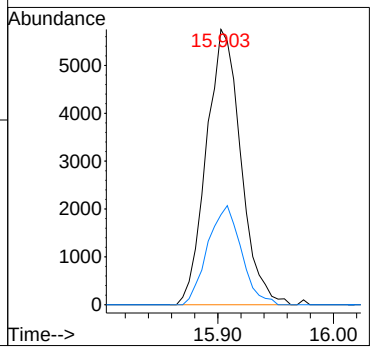


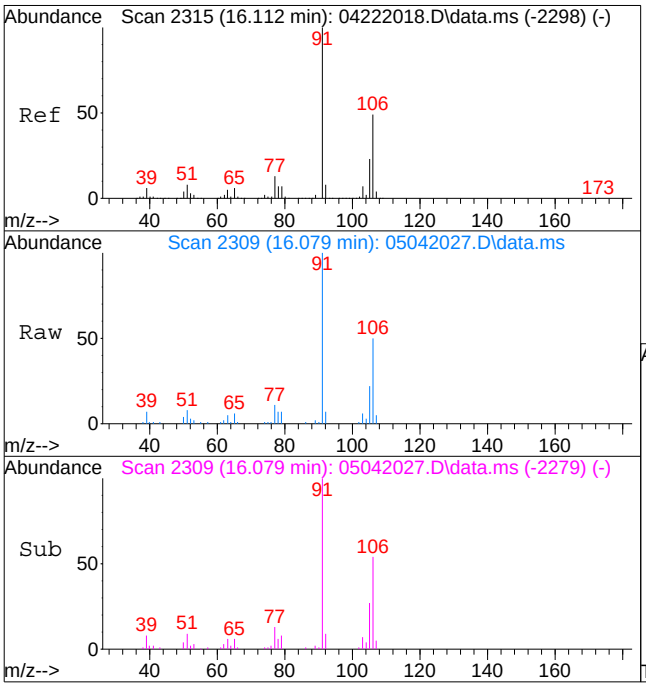


#66
Ethylbenzene
Concen: 0.23 ng
RT: 15.90 min Scan# 2277
Delta R.T. -0.006 min
Lab File: 05042027.D
Acq: 4 May 2020 21:23

Tgt Ion: 91 Resp: 11893

Ion	Ratio	Lower	Upper
91	100		
106	35.1	13.4	53.4

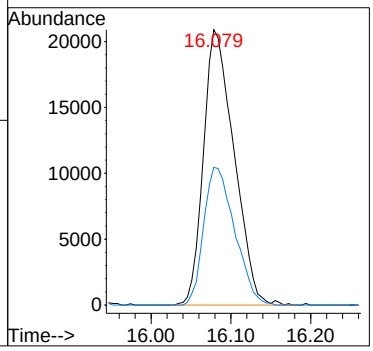


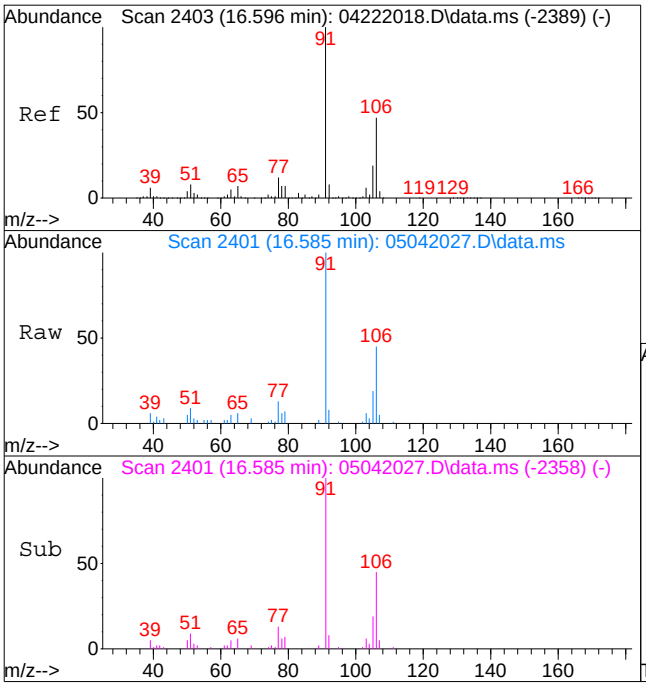


#67
m- & p-Xylenes
Concen: 1.28 ng
RT: 16.08 min Scan# 2309
Delta R.T. -0.033 min
Lab File: 05042027.D
Acq: 4 May 2020 21:23

Tgt Ion: 91 Resp: 55608

Ion	Ratio	Lower	Upper
91	100		
106	50.6	28.3	68.3

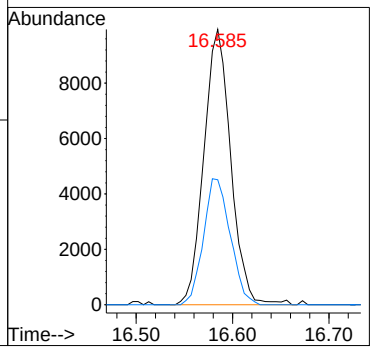


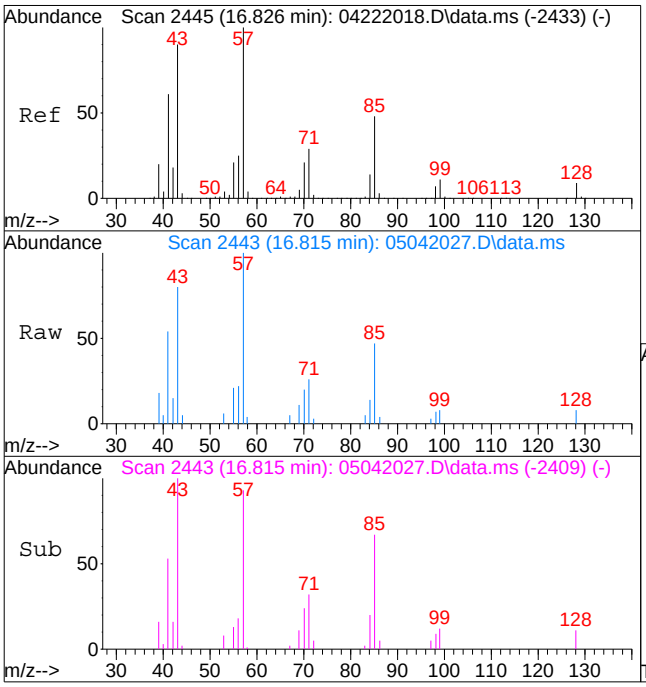


#70
o-Xylene
Concen: 0.45 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 05042027.D
Acq: 4 May 2020 21:23

Tgt Ion: 91 Resp: 19281

Ion	Ratio	Lower	Upper
91	100		
106	45.5	27.5	67.5

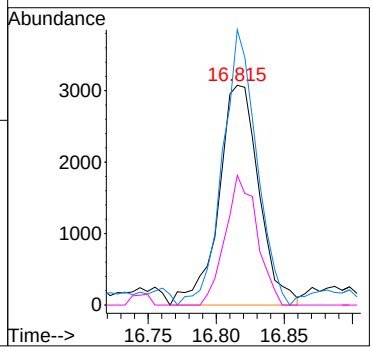


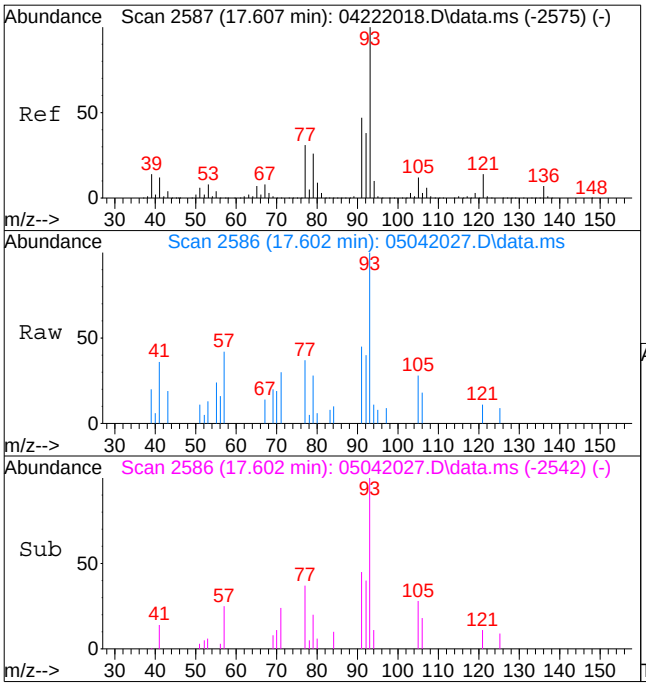


#71
n-Nonane
Concen: 0.46 ng
RT: 16.82 min Scan# 2443
Delta R.T. -0.011 min
Lab File: 05042027.D
Acq: 4 May 2020 21:23

Tgt Ion: 43 Resp: 6328

Ion	Ratio	Lower	Upper
43	100		
57	105.3	90.8	130.8
85	46.4	32.1	72.1

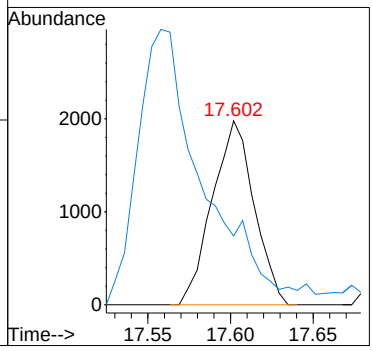


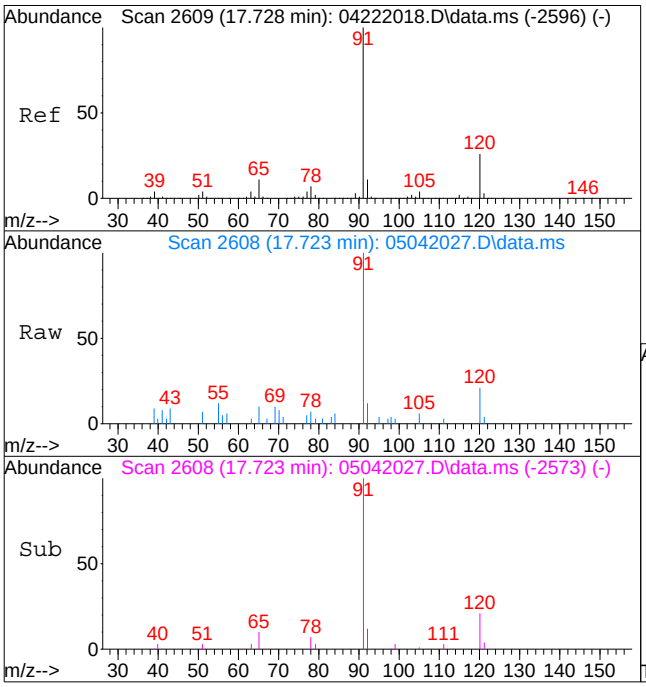


#75
alpha-Pinene
Concen: 0.14 ng
RT: 17.60 min Scan# 2586
Delta R.T. -0.006 min
Lab File: 05042027.D
Acq: 4 May 2020 21:23

Tgt Ion: 93 Resp: 3487

Ion	Ratio	Lower	Upper
93	100		
77	237.0	10.6	50.6#

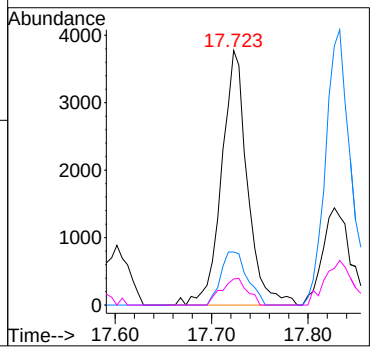


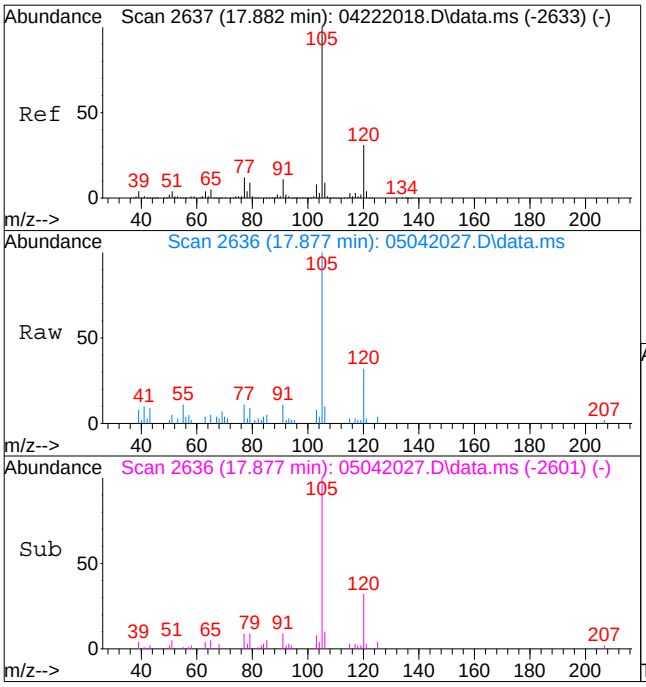


#76
n-Propylbenzene
Concen: 0.12 ng
RT: 17.72 min Scan# 2608
Delta R.T. -0.006 min
Lab File: 05042027.D
Acq: 4 May 2020 21:23

Tgt Ion: 91 Resp: 7027

Ion	Ratio	Lower	Upper
91	100		
120	21.3	6.1	46.1
65	10.5	0.0	30.7

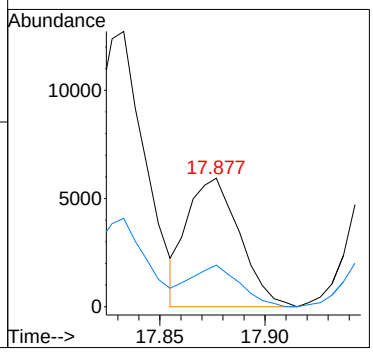


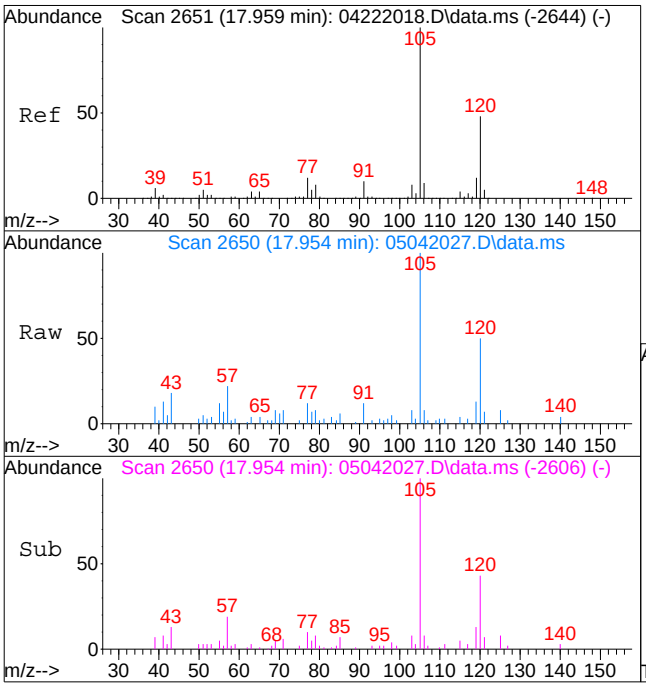


#78
4-Ethyltoluene
Concen: 0.20 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05042027.D
Acq: 4 May 2020 21:23

Tgt Ion:105 Resp: 10339

Ion	Ratio	Lower	Upper
105	100		
120	31.2	11.4	51.4

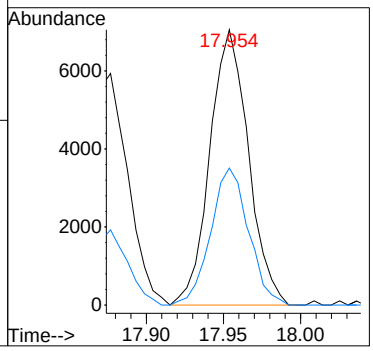


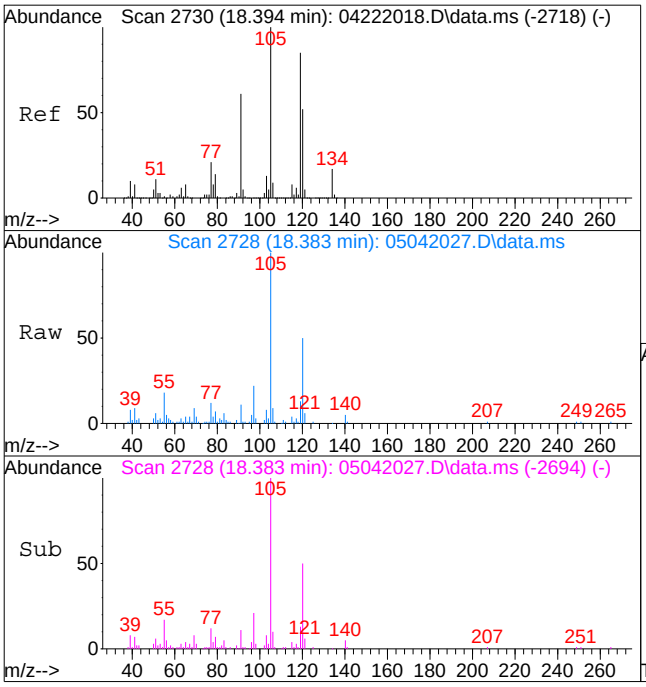


#79
1,3,5-Trimethylbenzene
Concen: 0.25 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 05042027.D
Acq: 4 May 2020 21:23

Tgt Ion:105 Resp: 12269

Ion	Ratio	Lower	Upper
105	100		
120	48.8	29.5	69.5

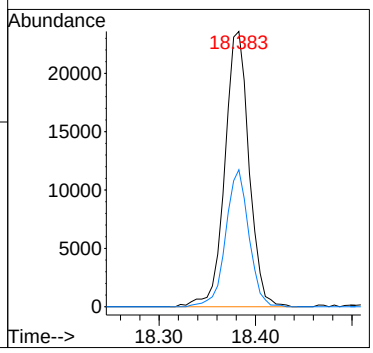


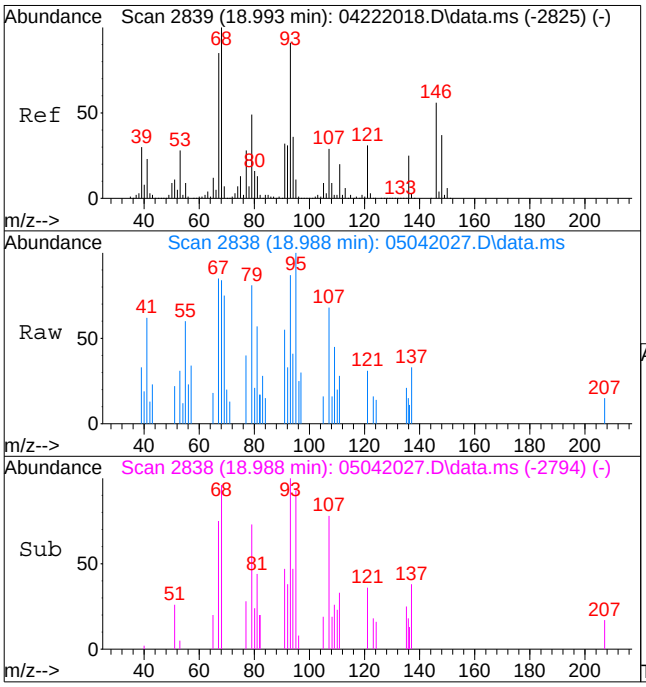


#82
1,2,4-Trimethylbenzene
Concen: 0.87 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 05042027.D
Acq: 4 May 2020 21:23

Tgt Ion:105 Resp: 41160

Ion	Ratio	Lower	Upper
105	100		
120	47.6	34.5	74.5

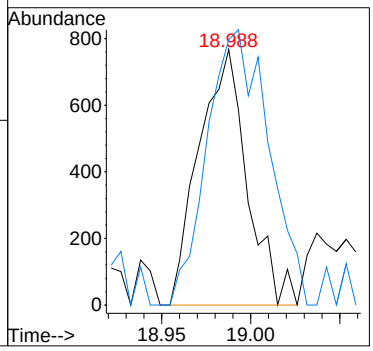


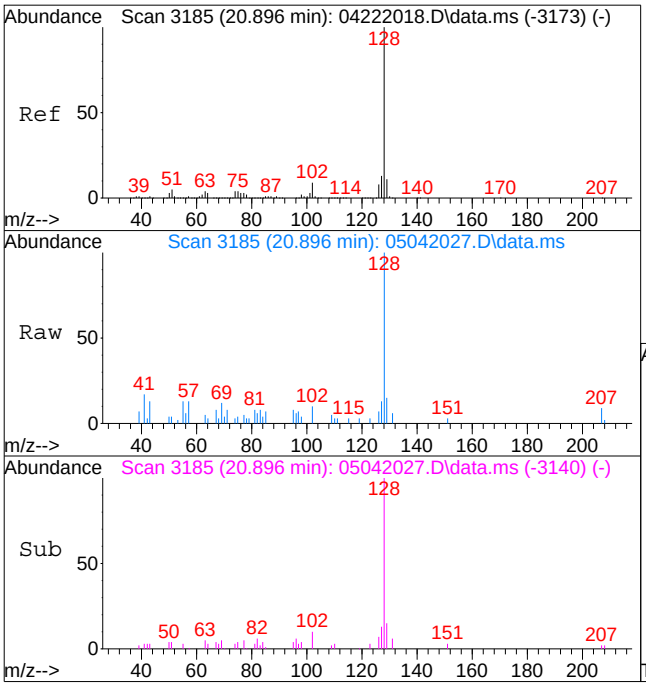


#91
d-Limonene
Concen: 0.11 ng
RT: 18.99 min Scan# 2838
Delta R.T. -0.006 min
Lab File: 05042027.D
Acq: 4 May 2020 21:23

Tgt Ion: 68 Resp: 1446

Ion	Ratio	Lower	Upper
68	100		
93	137.3	71.6	111.6#

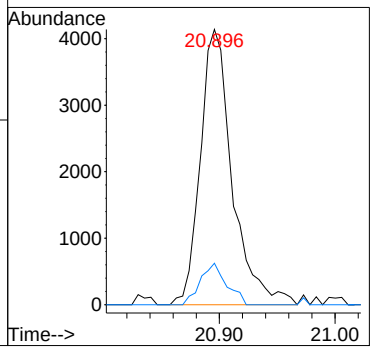




#95
Naphthalene
Concen: 0.13 ng
RT: 20.90 min Scan# 3185
Delta R.T. -0.000 min
Lab File: 05042027.D
Acq: 4 May 2020 21:23

Tgt Ion:128 Resp: 7946

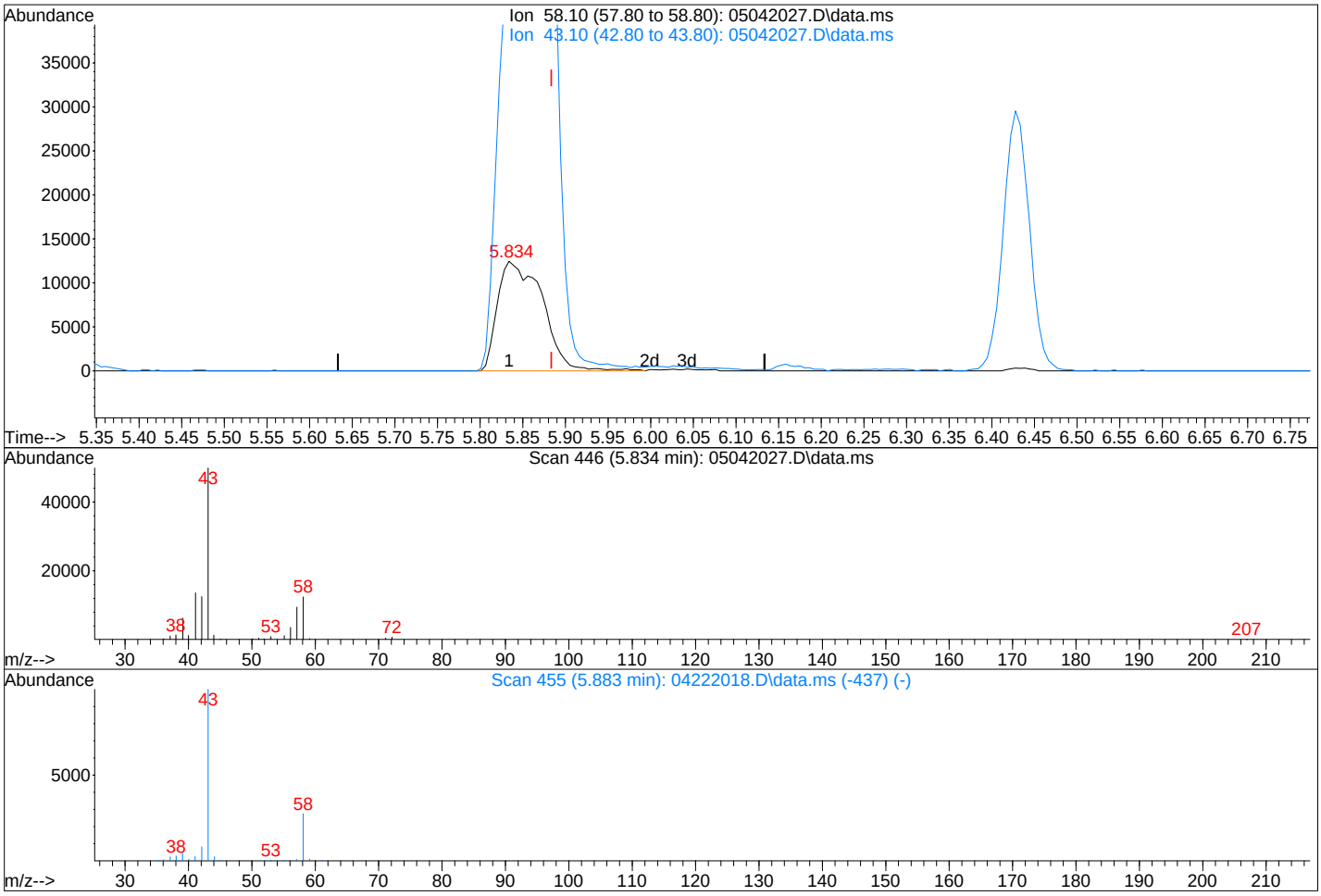
Ion	Ratio	Lower	Upper
128	100		
129	12.4	0.0	30.9



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_05\04\05042027.D Vial: 11
Acq On : 4 May 2020 21:23 Operator: SC
Sample : P2002106-010 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 05:34:03 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05042027.D\data.ms

(13) Acetone (T)

5.834min (-0.050) 8.36ng

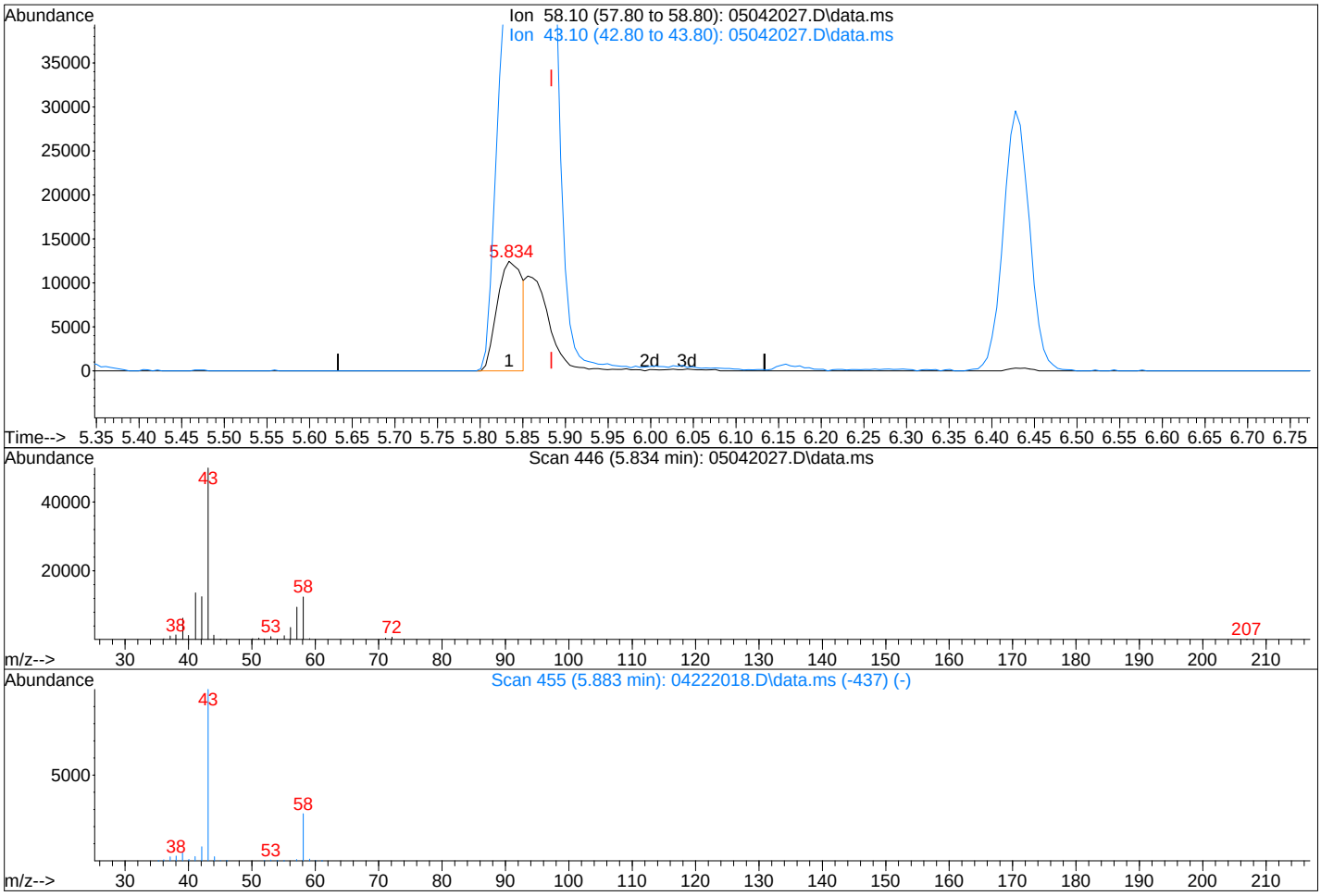
response 45604

Ion	Exp%	Act%
58.10	100	100
43.10	349.30	944.33#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_05\04\05042027.D Vial: 11
Acq On : 4 May 2020 21:23 Operator: SC
Sample : P2002106-010 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 05:34:03 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05042027.D\data.ms

(13) Acetone (T)

5.834min (-0.050) 4.62ng m

response 25220

Ion	Exp%	Act%
58.10	100	100
43.10	349.30	1707.58#
0.00	0.00	0.00
0.00	0.00	0.00

IPC

5/5/20 TD 5/7/20

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042028.D Vial: 12
Acq On : 4 May 2020 21:57 Operator: SC
Sample : P2002106-011 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 15:16:28 2020 5/5/20
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	144289	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	607864	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	276164	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	214657	11.482	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.84%				
57) Toluene-d8 (SS2)	13.54	98	673375	12.628	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.04%				
73) Bromofluorobenzene (SS3)	17.05	174	276957	12.924	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.36%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	3.99	85	9452	0.406	ng		99
4) Chloromethane	4.19	50	677	0.079	ng		69
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.36	45	9841	2.120	ng		82
11) Acetonitrile	5.58	41	699	0.064	ng	#	28
12) Acrolein	5.72	56	616	0.145	ng	#	71
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	6.02	101	3906	0.169	ng		97
15) 2-Propanol (Isopropanol)	6.19	45	1296	0.073	ng		69
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	6.86	84	1129	0.116	ng	#	40
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	7.18	151	1979	0.164	ng		96
22) Carbon Disulfide	7.15	76	90111	2.773	ng		97
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.	d		
25) Methyl tert-Butyl Ether	8.14	73	422	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	8.53	72	4153	0.725	ng		98
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	9.28	87	263	N.D.			
30) Ethyl Acetate	9.25	61	174	0.068	ng	#	32
31) n-Hexane	9.23	57	10856	0.878	ng		98
32) Chloroform	9.27	83	3541	0.179	ng		95
34) Tetrahydrofuran (THF)	9.68	72	22571	3.892	ng		97
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	10.06	62	283	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.75	78	13588	0.343	ng		99
42) Carbon Tetrachloride	10.90	117	2345	0.114	ng		91
43) Cyclohexane	11.04	84	122189	7.871	ng		99
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	11.81	130	266696	19.434	ng		100
48) 1,4-Dioxane	0.00	88	0	N.D.	d		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042028.D Vial: 12
Acq On : 4 May 2020 21:57 Operator: SC
Sample : P2002106-011 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 15:16:28 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

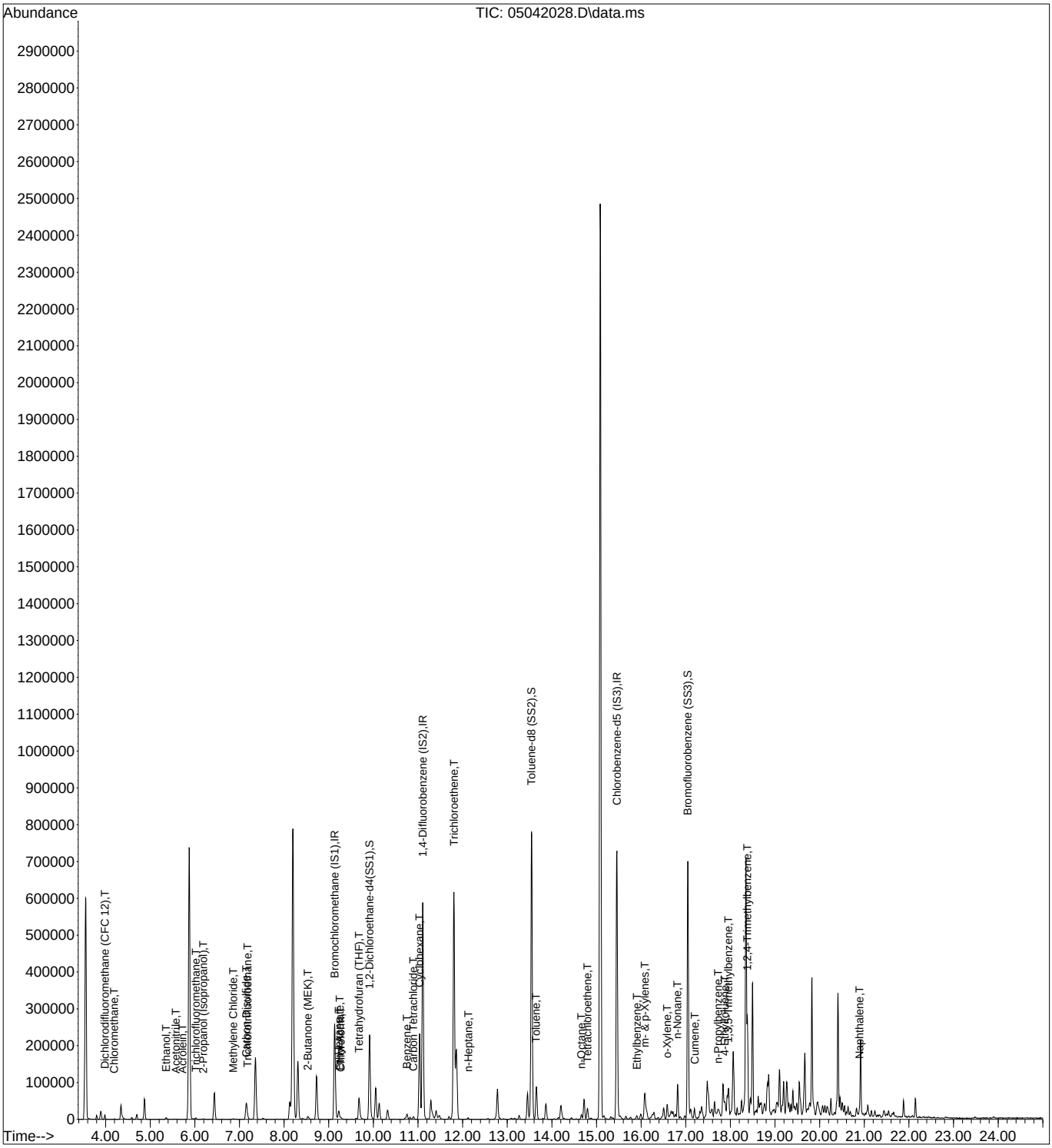
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.13	71	1156	0.126 ng	98
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	13.26	97	442	N.D.	
58) Toluene	13.65	91	35042	0.783 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	14.45	43	160	N.D.	
63) n-Octane	14.66	57	2587	0.363 ng	99
64) Tetrachloroethene	14.80	166	5605	0.332 ng	97
65) Chlorobenzene	15.50	112	423	N.D.	
66) Ethylbenzene	15.91	91	8463	0.162 ng	100
67) m- & p-Xylenes	16.08	91	67003	1.523 ng	98
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.49	104	154	N.D.	
70) o-Xylene	16.58	91	29058	0.672 ng	99
71) n-Nonane	16.82	43	28695	2.058 ng	99
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	17.20	105	5460	0.097 ng	99
75) alpha-Pinene	17.60	93	568	N.D.	
76) n-Propylbenzene	17.72	91	16804	0.274 ng	97
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	19329	0.361 ng	97
79) 1,3,5-Trimethylbenzene	17.95	105	30237	0.611 ng	98
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	113785	2.376 ng	90
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.50	91	833	N.D.	
85) 1,3-Dichlorobenzene	18.62	146	173	N.D.	
86) 1,4-Dichlorobenzene	18.62	146	173	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.90	128	14337	0.232 ng	98
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042028.D Vial: 12
Acq On : 4 May 2020 21:57 Operator: SC
Sample : P2002106-011 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 15:16:28 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042028.D Vial: 12
Acq On : 4 May 2020 21:57 Operator: SC
Sample : P2002106-011 (400mL) Inst : MS09
Misc : S34-04212006

5/5/20

Quant Time: May 05 15:16:28 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

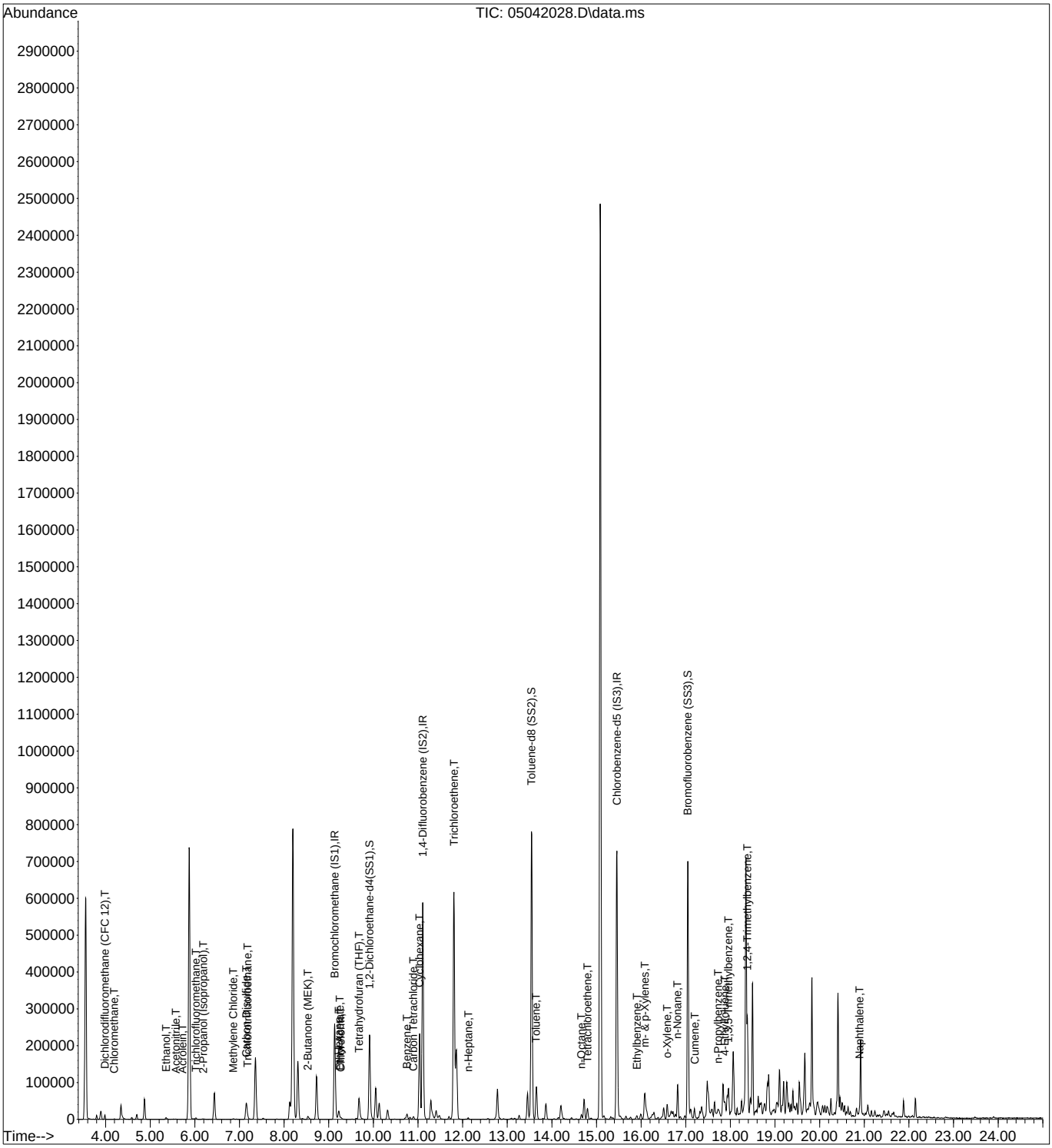
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	144289	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	607864	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	276164	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	214657	11.482	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.84%				
57) Toluene-d8 (SS2)	13.54	98	673375	12.628	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.04%				
73) Bromofluorobenzene (SS3)	17.05	174	276957	12.924	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.36%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.99	85	9452	0.406	ng		99
4) Chloromethane	4.19	50	677	0.079	ng		69
10) Ethanol	5.36	45	9841	2.120	ng		82
11) Acetonitrile	5.58	41	699	0.064	ng	#	28
12) Acrolein	5.72	56	616	0.145	ng	#	71
14) Trichlorofluoromethane	6.02	101	3906	0.169	ng		97
15) 2-Propanol (Isopropanol)	6.19	45	1296	0.073	ng		69
19) Methylene Chloride	6.86	84	1129	0.116	ng	#	40
21) Trichlorotrifluoroethane	7.18	151	1979	0.164	ng		96
22) Carbon Disulfide	7.15	76	90111	2.773	ng		97
27) 2-Butanone (MEK)	8.53	72	4153	0.725	ng		98
30) Ethyl Acetate	9.25	61	174	0.068	ng	#	32
31) n-Hexane	9.23	57	10856	0.878	ng		98
32) Chloroform	9.27	83	3541	0.179	ng		95
34) Tetrahydrofuran (THF)	9.68	72	22571	3.892	ng		97
41) Benzene	10.75	78	13588	0.343	ng		99
42) Carbon Tetrachloride	10.90	117	2345	0.114	ng		91
43) Cyclohexane	11.04	84	122189	7.871	ng		99
47) Trichloroethene	11.81	130	266696	19.434	ng		100
51) n-Heptane	12.13	71	1156	0.126	ng		98
58) Toluene	13.65	91	35042	0.783	ng		100
63) n-Octane	14.66	57	2587	0.363	ng		99
64) Tetrachloroethene	14.80	166	5605	0.332	ng		97
66) Ethylbenzene	15.91	91	8463	0.162	ng		100
67) m- & p-Xylenes	16.08	91	67003	1.523	ng		98
70) o-Xylene	16.58	91	29058	0.672	ng		99
71) n-Nonane	16.82	43	28695	2.058	ng		99
74) Cumene	17.20	105	5460	0.097	ng		99
76) n-Propylbenzene	17.72	91	16804	0.274	ng		97
78) 4-Ethyltoluene	17.88	105	19329	0.361	ng		97
79) 1,3,5-Trimethylbenzene	17.95	105	30237	0.611	ng		98
82) 1,2,4-Trimethylbenzene	18.38	105	113785	2.376	ng		90
95) Naphthalene	20.90	128	14337	0.232	ng		98

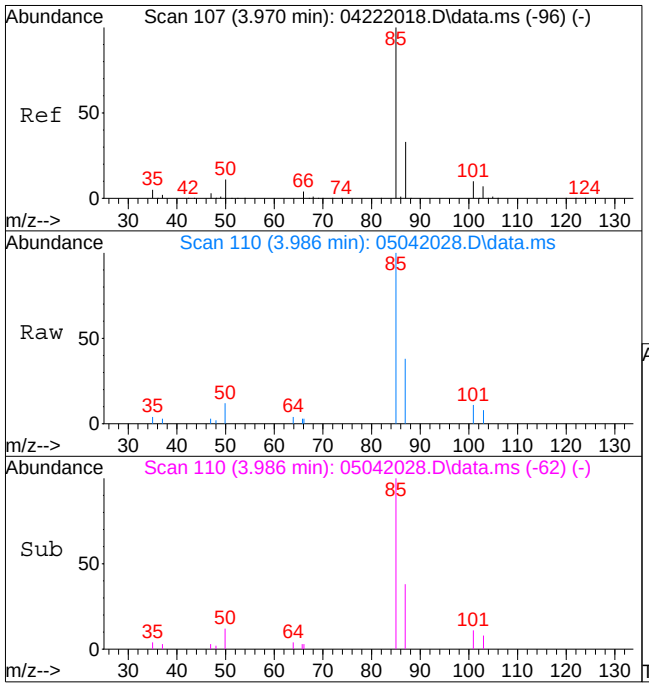
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042028.D Vial: 12
Acq On : 4 May 2020 21:57 Operator: SC
Sample : P2002106-011 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 15:16:28 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

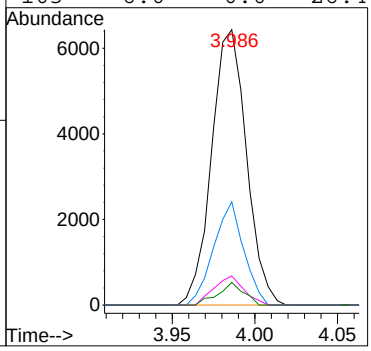


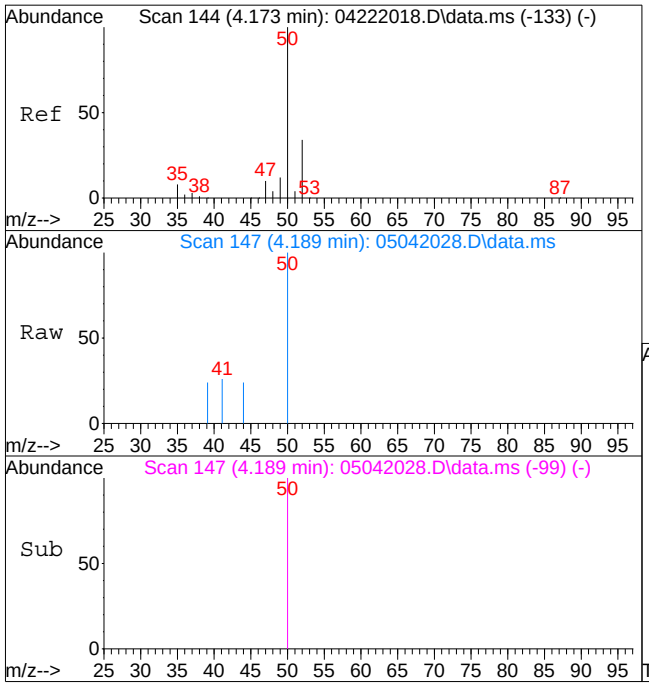


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.41 ng
RT: 3.99 min Scan# 110
Delta R.T. 0.016 min
Lab File: 05042028.D
Acq: 4 May 2020 21:57

Tgt Ion: 85 Resp: 9452

Ion	Ratio	Lower	Upper
85	100		
87	32.3	12.4	52.4
101	9.1	0.0	29.9
103	6.0	0.0	26.4

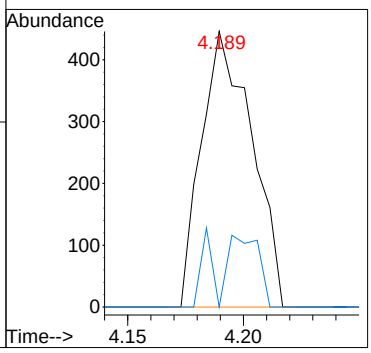


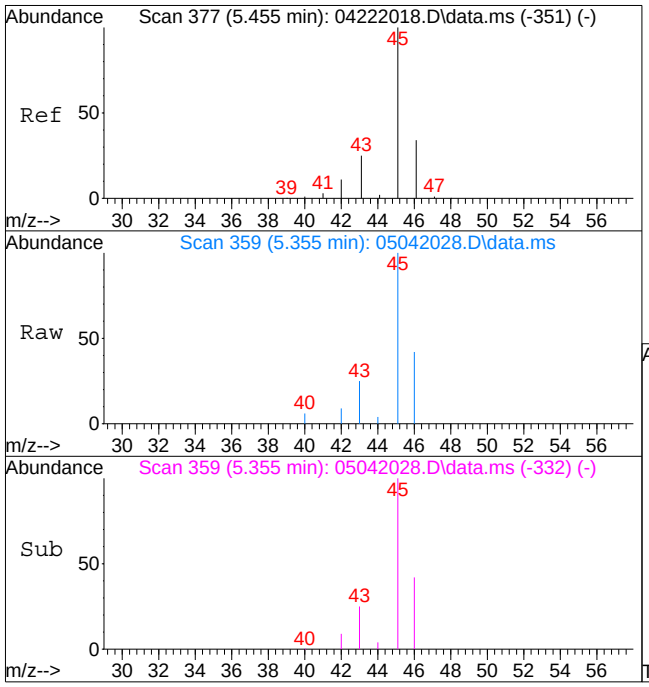


#4
Chloromethane
Concen: 0.08 ng
RT: 4.19 min Scan# 147
Delta R.T. 0.016 min
Lab File: 05042028.D
Acq: 4 May 2020 21:57

Tgt Ion: 50 Resp: 677

Ion	Ratio	Lower	Upper
50	100		
52	16.0	13.7	53.7

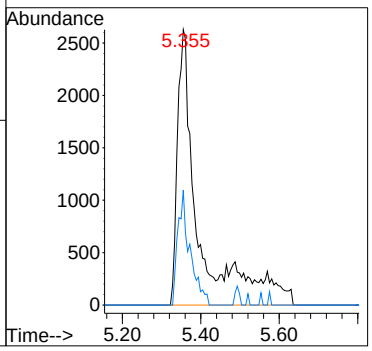


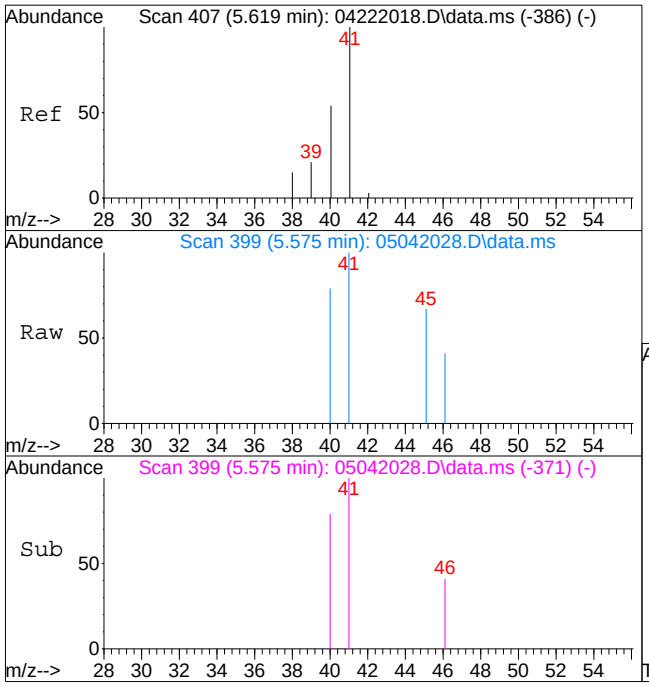


#10
Ethanol
Concen: 2.12 ng
RT: 5.36 min Scan# 359
Delta R.T. -0.099 min
Lab File: 05042028.D
Acq: 4 May 2020 21:57

Tgt Ion: 45 Resp: 9841

Ion	Ratio	Lower	Upper
45	100		
46	23.9	14.0	54.0

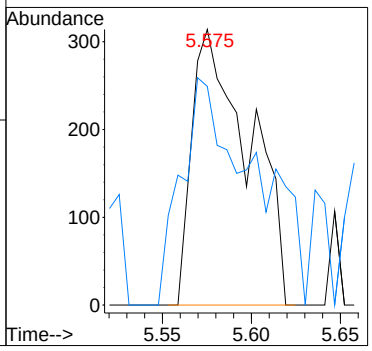


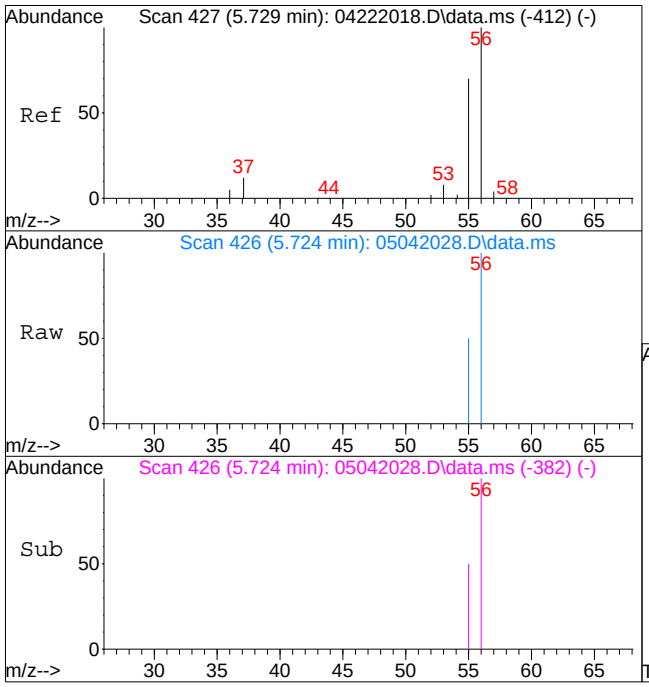


#11
Acetonitrile
Concen: 0.06 ng
RT: 5.58 min Scan# 399
Delta R.T. -0.044 min
Lab File: 05042028.D
Acq: 4 May 2020 21:57

Tgt Ion: 41 Resp: 699

Ion	Ratio	Lower	Upper
41	100		
40	106.4	34.8	74.8#

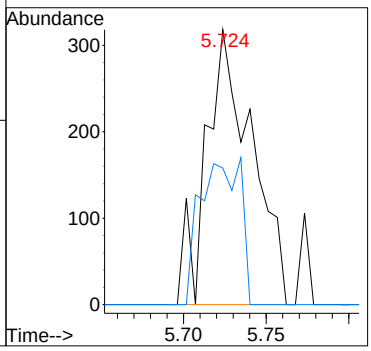


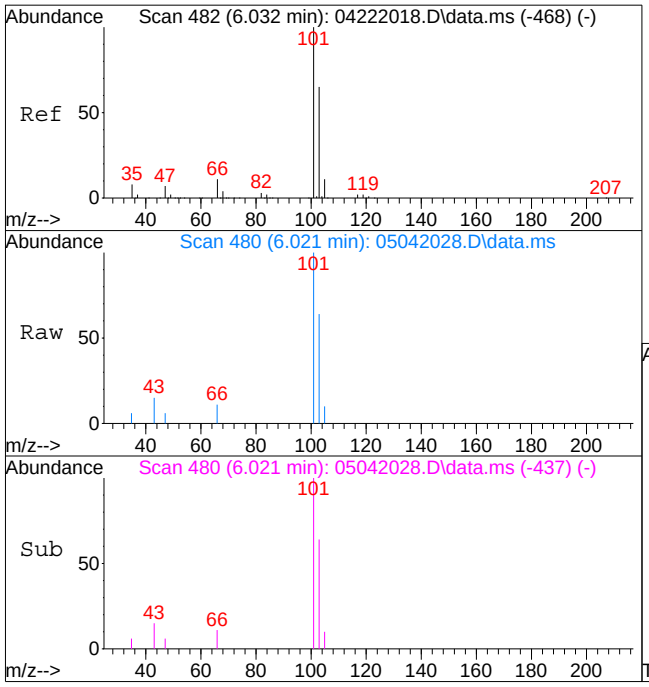


#12
Acrolein
Concen: 0.15 ng
RT: 5.72 min Scan# 426
Delta R.T. -0.006 min
Lab File: 05042028.D
Acq: 4 May 2020 21:57

Tgt Ion: 56 Resp: 616

Ion	Ratio	Lower	Upper
56	100		
55	46.6	50.4	90.4#

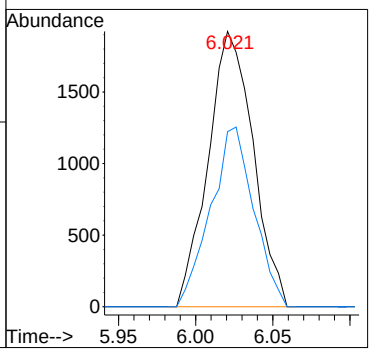


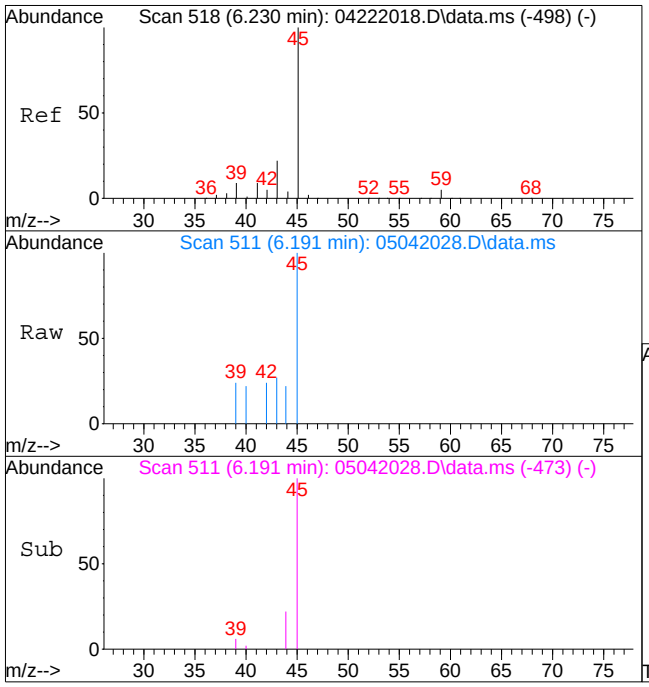


#14
Trichlorofluoromethane
Concen: 0.17 ng
RT: 6.02 min Scan# 480
Delta R.T. -0.011 min
Lab File: 05042028.D
Acq: 4 May 2020 21:57

Tgt Ion:101 Resp: 3906

Ion	Ratio	Lower	Upper
101	100		
103	62.5	44.7	84.7

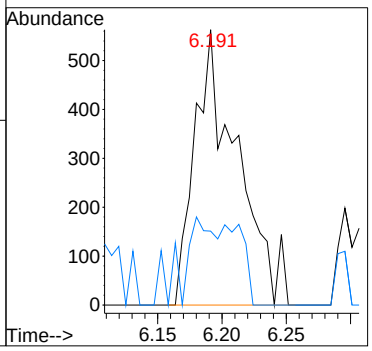


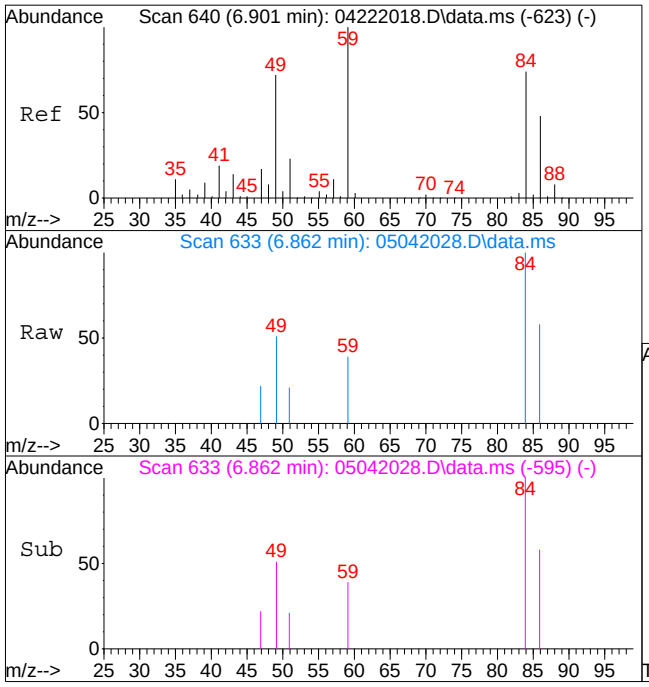


#15
2-Propanol (Isopropanol)
Concen: 0.07 ng
RT: 6.19 min Scan# 511
Delta R.T. -0.039 min
Lab File: 05042028.D
Acq: 4 May 2020 21:57

Tgt Ion: 45 Resp: 1296

Ion	Ratio	Lower	Upper
45	100		
43	37.4	2.6	42.6

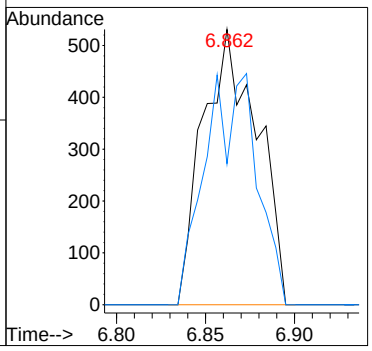


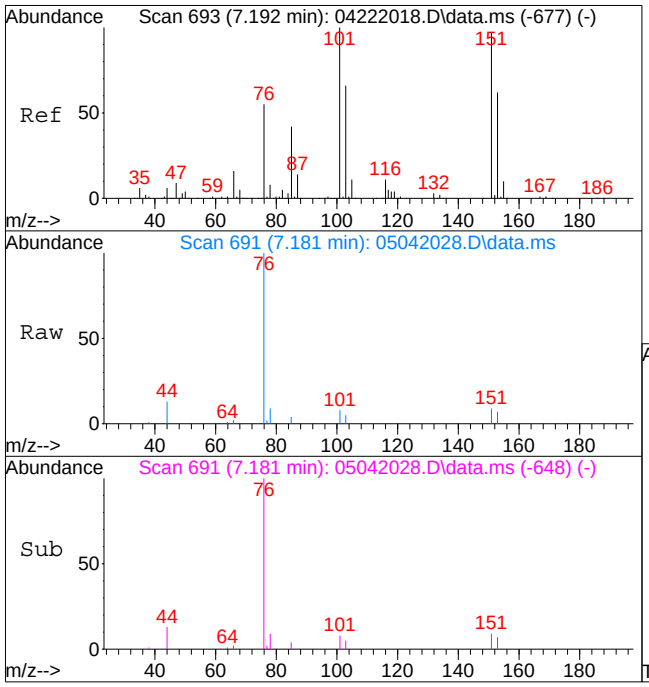


#19
Methylene Chloride
Concen: 0.12 ng
RT: 6.86 min Scan# 633
Delta R.T. -0.039 min
Lab File: 05042028.D
Acq: 4 May 2020 21:57

Tgt Ion: 84 Resp: 1129

Ion	Ratio	Lower	Upper
84	100		
49	39.1	73.0	123.0#

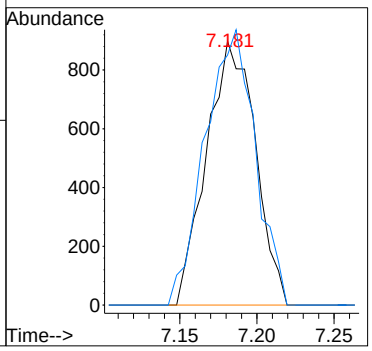


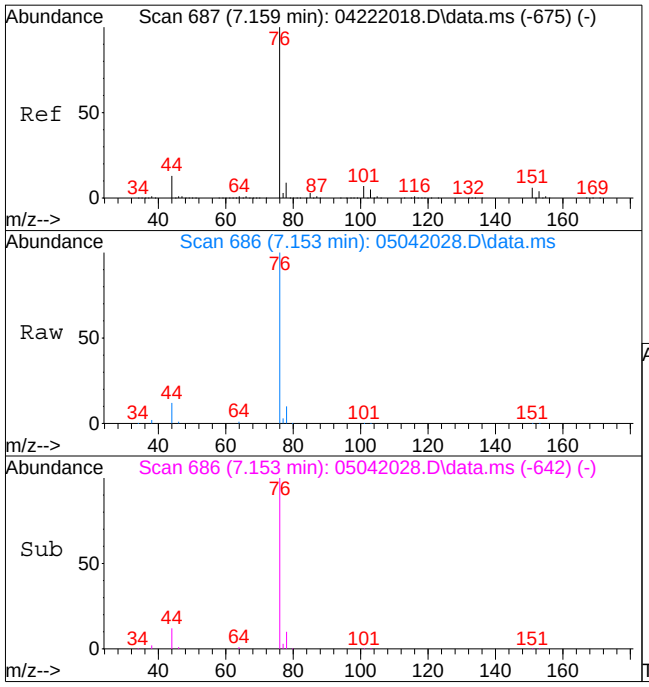


#21
Trichlorotrifluoroethane
Concen: 0.16 ng
RT: 7.18 min Scan# 691
Delta R.T. -0.011 min
Lab File: 05042028.D
Acq: 4 May 2020 21:57

Tgt Ion:151 Resp: 1979

Ion	Ratio	Lower	Upper
151	100		
101	107.3	82.9	122.9

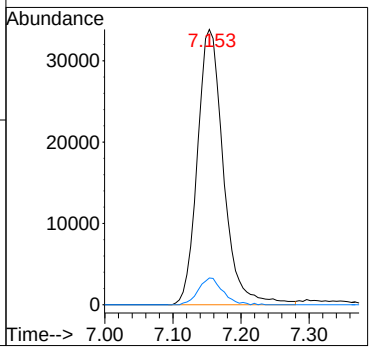


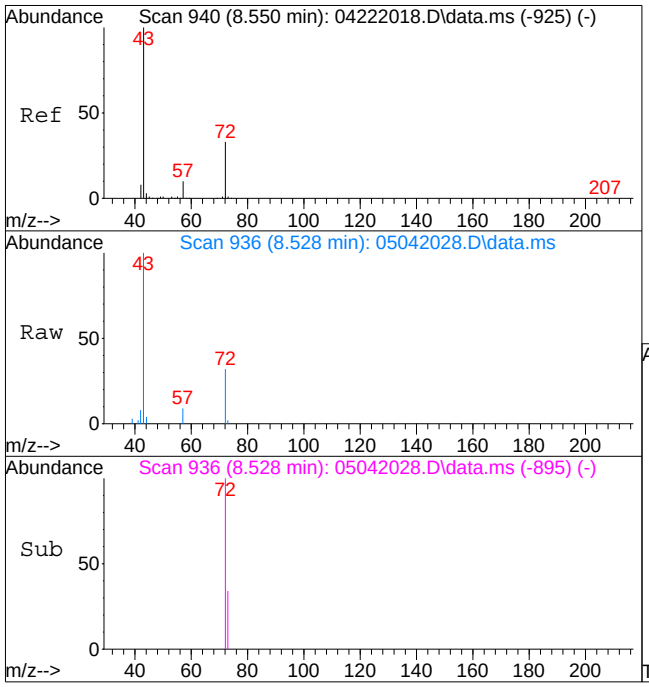


#22
Carbon Disulfide
Concen: 2.77 ng
RT: 7.15 min Scan# 686
Delta R.T. -0.006 min
Lab File: 05042028.D
Acq: 4 May 2020 21:57

Tgt Ion: 76 Resp: 90111

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	30.2

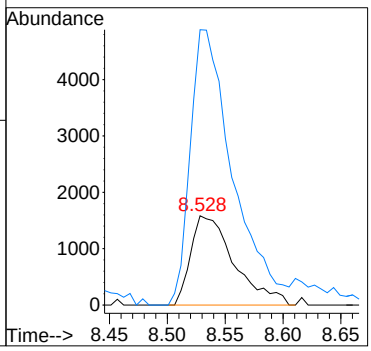


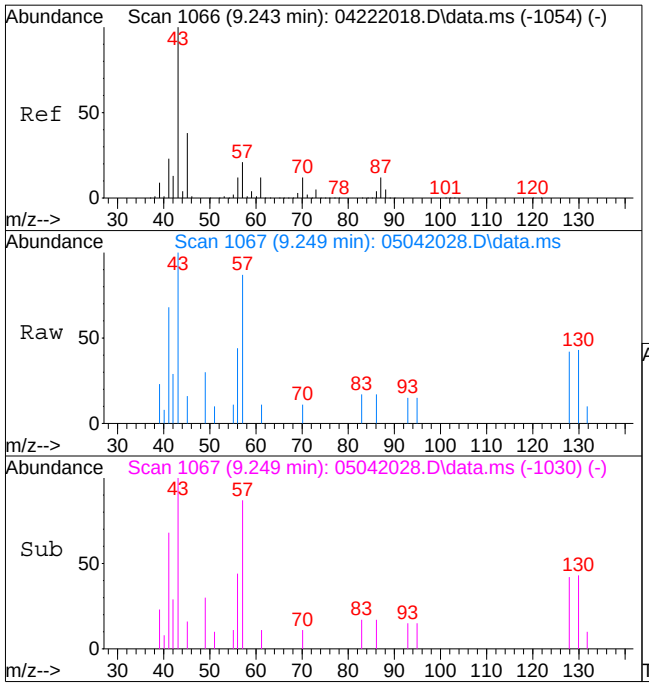


#27
2-Butanone (MEK)
Concen: 0.73 ng
RT: 8.53 min Scan# 936
Delta R.T. -0.022 min
Lab File: 05042028.D
Acq: 4 May 2020 21:57

Tgt Ion: 72 Resp: 4153

Ion	Ratio	Lower	Upper
72	100		
43	302.0	278.8	318.8

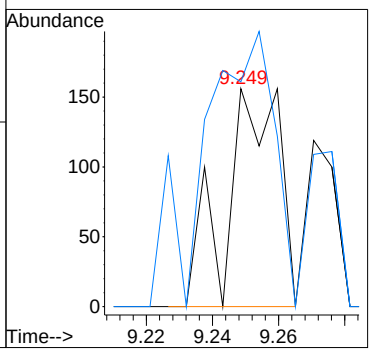


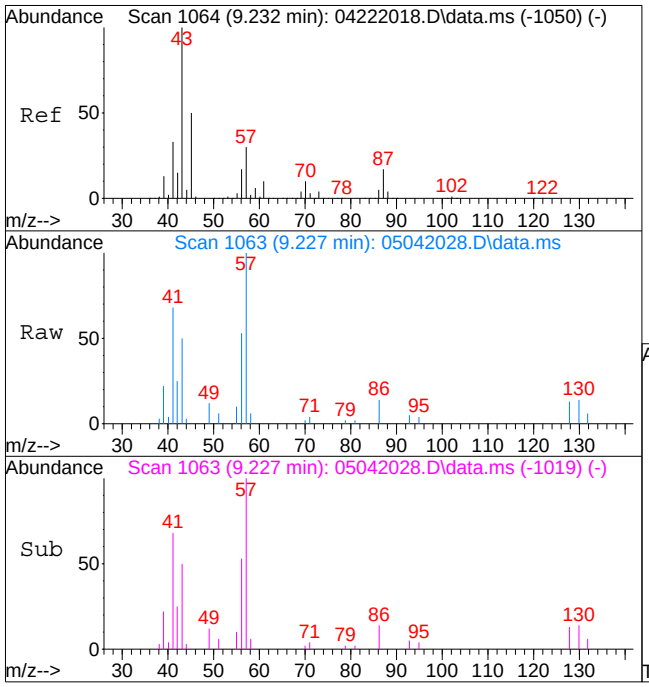


#30
Ethyl Acetate
Concen: 0.07 ng
RT: 9.25 min Scan# 1067
Delta R.T. 0.005 min
Lab File: 05042028.D
Acq: 4 May 2020 21:57

Tgt Ion: 61 Resp: 174

Ion	Ratio	Lower	Upper
61	100		
70	169.0	80.6	120.6#

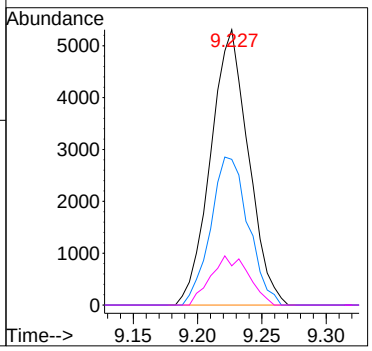


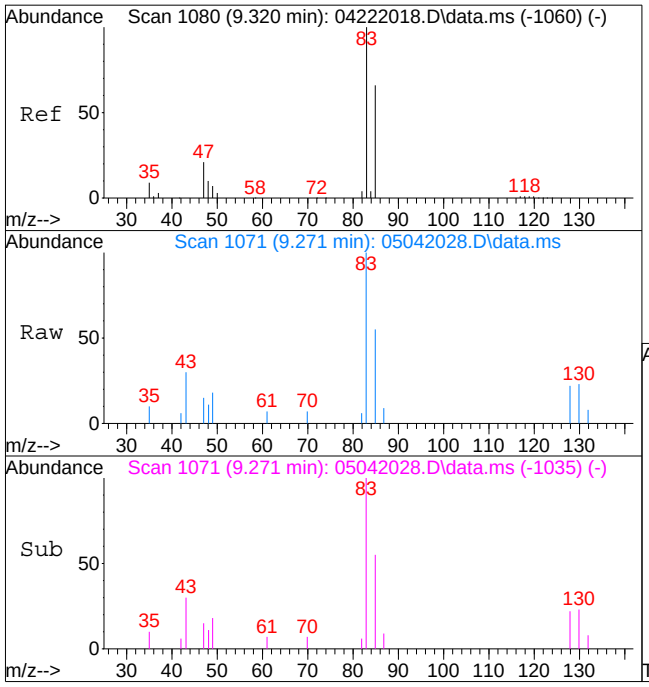


#31
n-Hexane
Concen: 0.88 ng
RT: 9.23 min Scan# 1063
Delta R.T. -0.006 min
Lab File: 05042028.D
Acq: 4 May 2020 21:57

Tgt Ion: 57 Resp: 10856

Ion	Ratio	Lower	Upper
57	100		
56	53.6	44.0	66.0
86	18.0	15.0	22.4

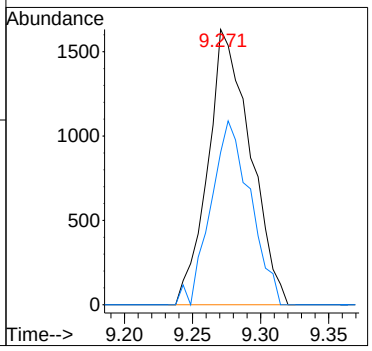


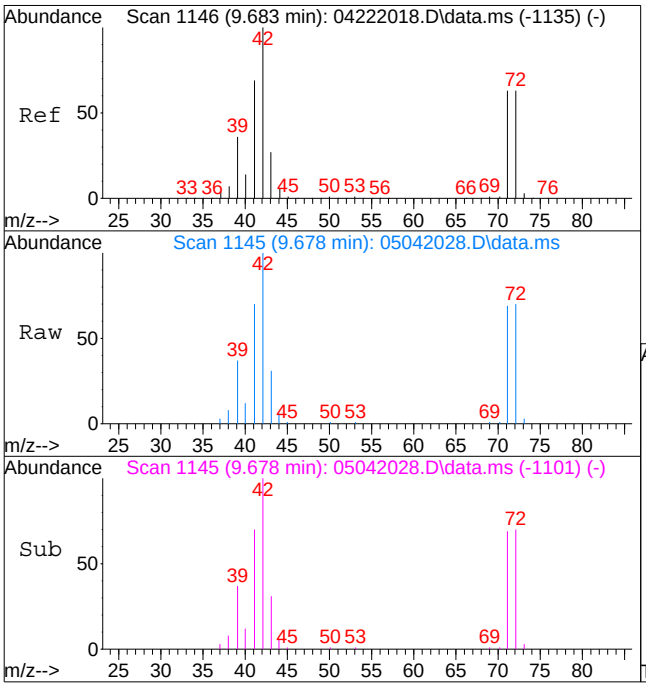


#32
Chloroform
Concen: 0.18 ng
RT: 9.27 min Scan# 1071
Delta R.T. -0.050 min
Lab File: 05042028.D
Acq: 4 May 2020 21:57

Tgt Ion: 83 Resp: 3541

Ion	Ratio	Lower	Upper
83	100		
85	62.2	45.8	85.8

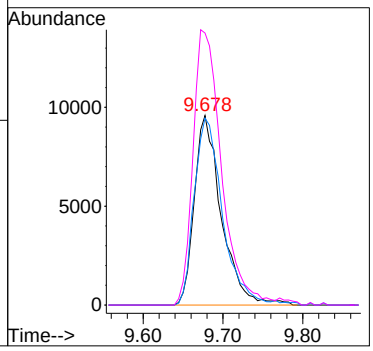


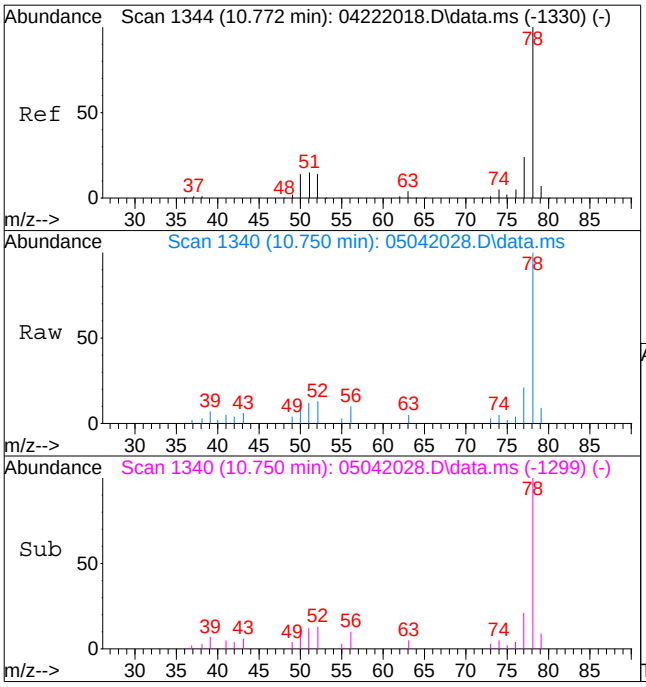


#34
Tetrahydrofuran (THF)
Concen: 3.89 ng
RT: 9.68 min Scan# 1145
Delta R.T. -0.006 min
Lab File: 05042028.D
Acq: 4 May 2020 21:57

Tgt Ion: 72 Resp: 22571

Ion	Ratio	Lower	Upper
72	100		
71	104.1	77.9	117.9
42	152.8	133.9	173.9

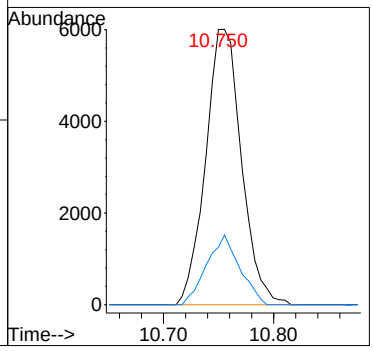


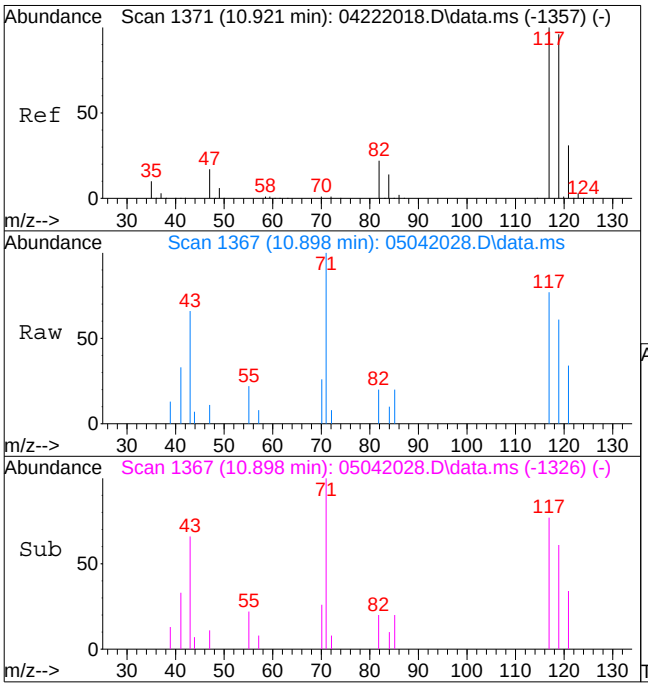


#41
Benzene
Concen: 0.34 ng
RT: 10.75 min Scan# 1340
Delta R.T. -0.022 min
Lab File: 05042028.D
Acq: 4 May 2020 21:57

Tgt Ion: 78 Resp: 13588

Ion	Ratio	Lower	Upper
78	100		
77	23.3	3.6	43.6

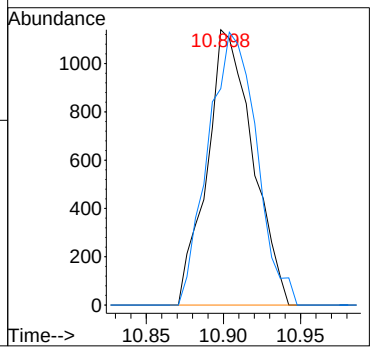


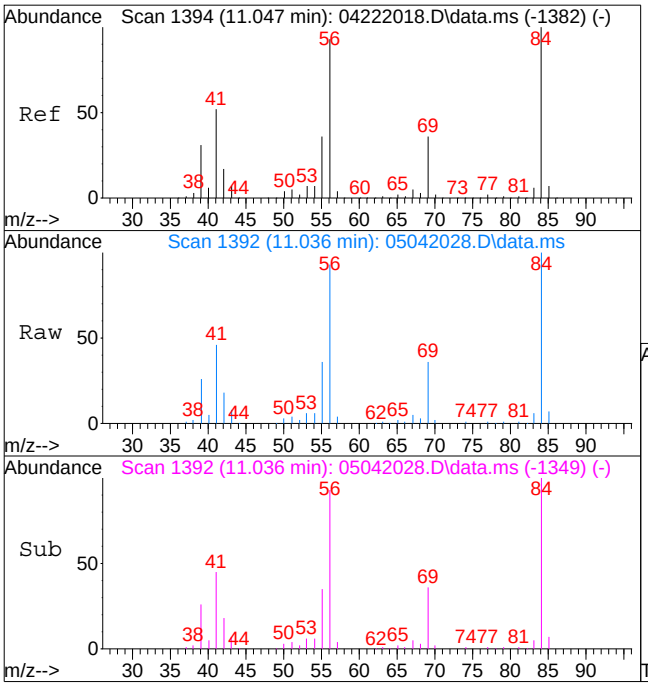


#42
Carbon Tetrachloride
Concen: 0.11 ng
RT: 10.90 min Scan# 1367
Delta R.T. -0.022 min
Lab File: 05042028.D
Acq: 4 May 2020 21:57

Tgt Ion:117 Resp: 2345

Ion	Ratio	Lower	Upper
117	100		
119	105.1	76.5	116.5

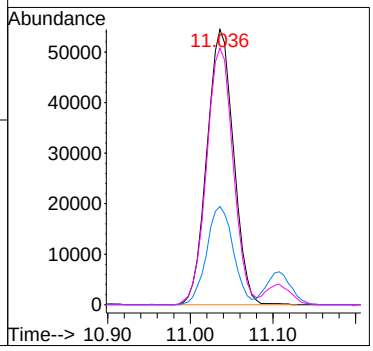


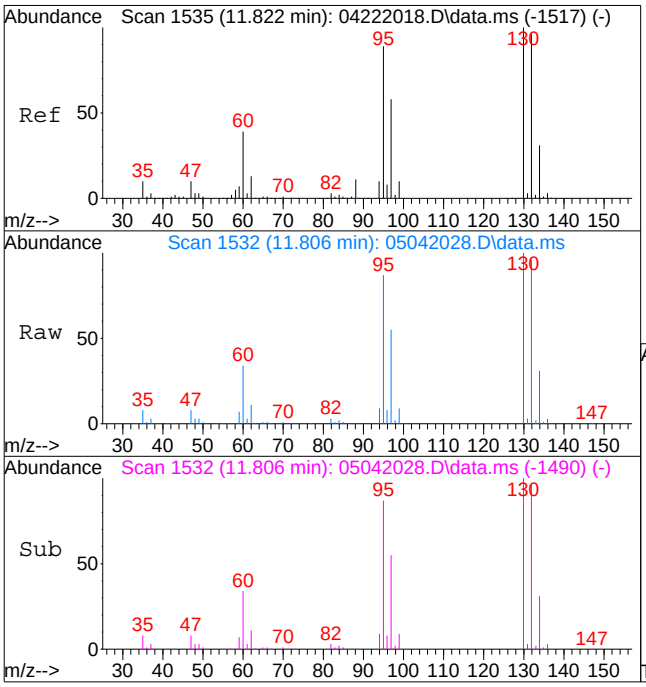


#43
Cyclohexane
Concen: 7.87 ng
RT: 11.04 min Scan# 1392
Delta R.T. -0.011 min
Lab File: 05042028.D
Acq: 4 May 2020 21:57

Tgt Ion: 84 Resp: 122189

Ion	Ratio	Lower	Upper
84	100		
69	35.7	15.8	55.8
56	93.0	72.0	112.0

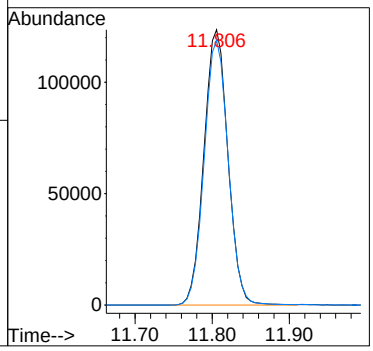


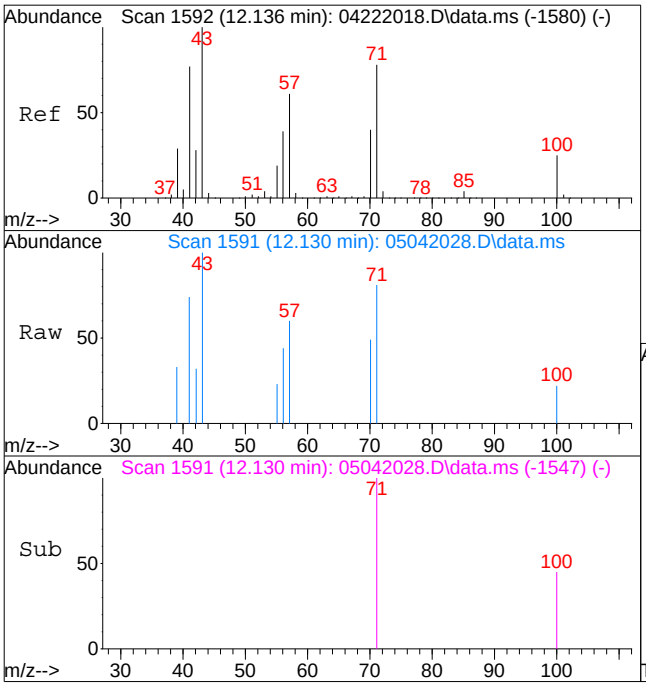


#47
Trichloroethene
Concen: 19.43 ng
RT: 11.81 min Scan# 1532
Delta R.T. -0.017 min
Lab File: 05042028.D
Acq: 4 May 2020 21:57

Tgt Ion:130 Resp: 266696

Ion	Ratio	Lower	Upper
130	100		
132	96.3	76.4	116.4

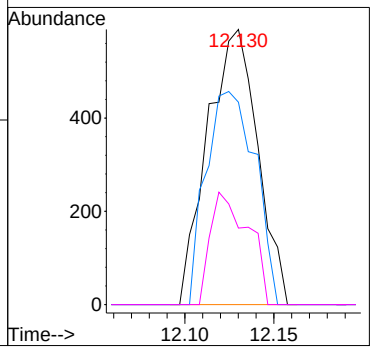


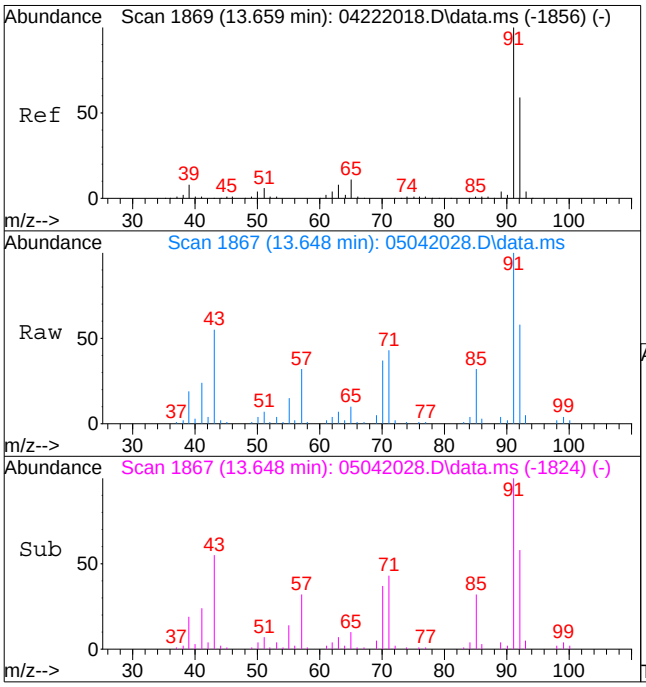


#51
n-Heptane
Concen: 0.13 ng
RT: 12.13 min Scan# 1591
Delta R.T. -0.006 min
Lab File: 05042028.D
Acq: 4 May 2020 21:57

Tgt Ion: 71 Resp: 1156

Ion	Ratio	Lower	Upper
71	100		
57	76.0	57.4	97.4
100	30.9	12.0	52.0

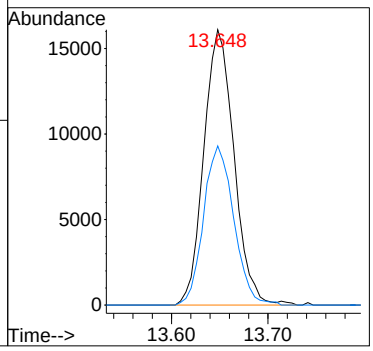


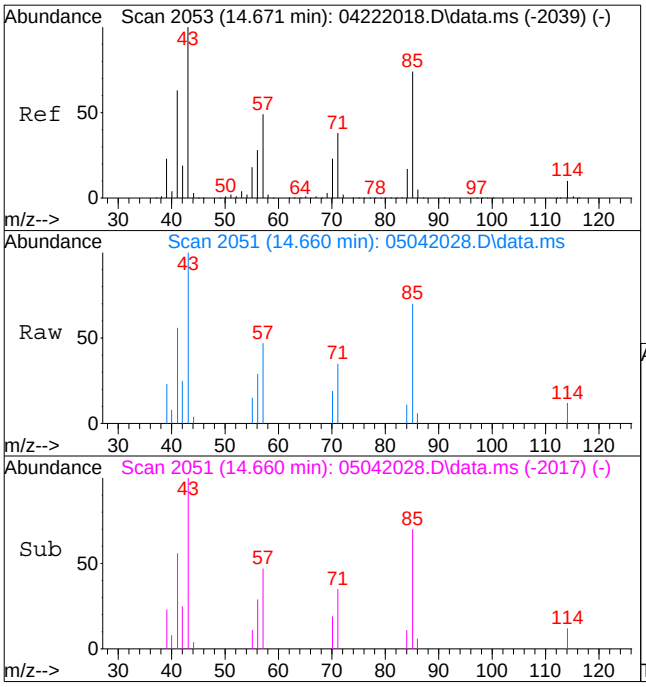


#58
Toluene
Concen: 0.78 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.011 min
Lab File: 05042028.D
Acq: 4 May 2020 21:57

Tgt Ion: 91 Resp: 35042

Ion	Ratio	Lower	Upper
91	100		
92	57.9	38.2	78.2

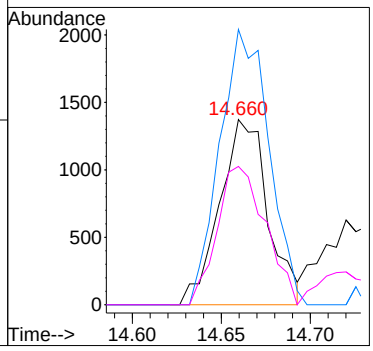


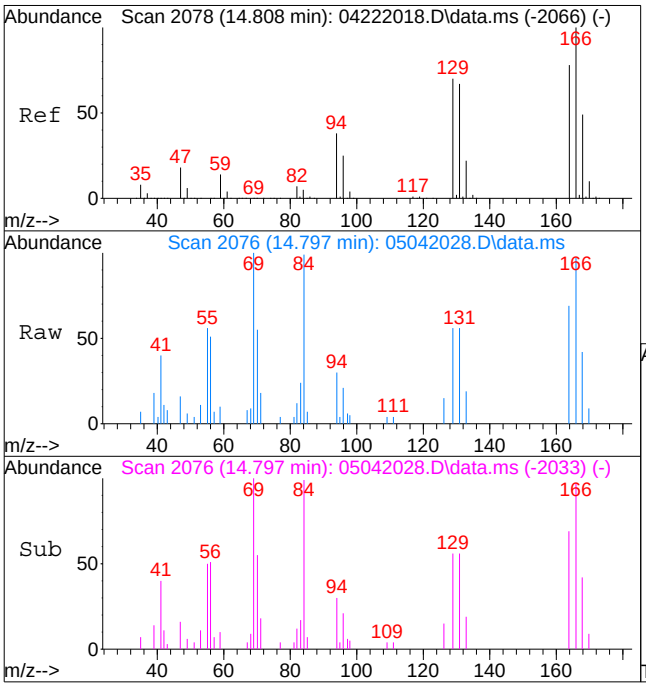


#63
n-Octane
Concen: 0.36 ng
RT: 14.66 min Scan# 2051
Delta R.T. -0.011 min
Lab File: 05042028.D
Acq: 4 May 2020 21:57

Tgt Ion: 57 Resp: 2587

Ion	Ratio	Lower	Upper
57	100		
85	151.4	120.7	181.1
71	74.7	61.1	91.7

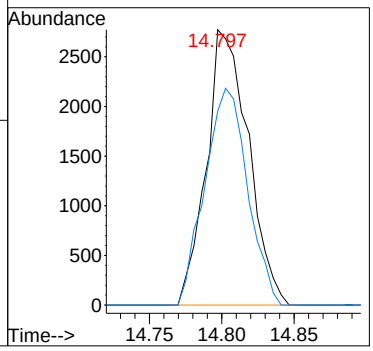


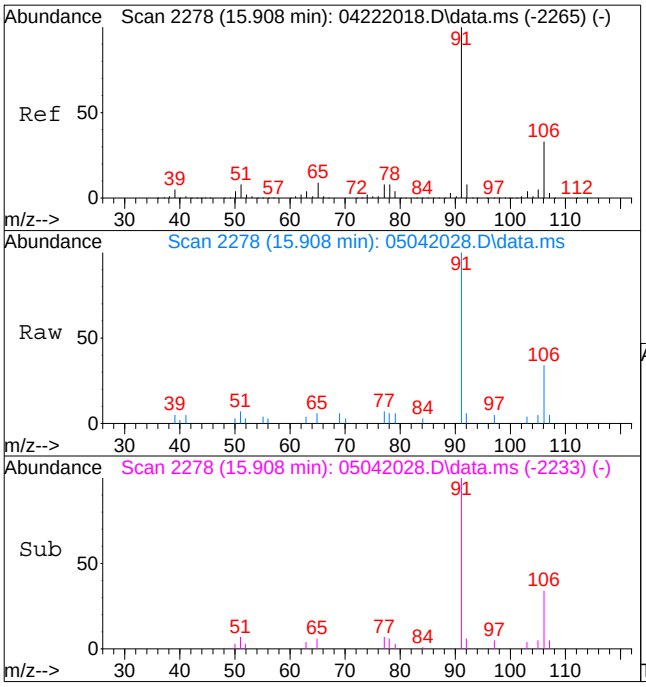


#64
Tetrachloroethene
Concen: 0.33 ng
RT: 14.80 min Scan# 2076
Delta R.T. -0.011 min
Lab File: 05042028.D
Acq: 4 May 2020 21:57

Tgt Ion:166 Resp: 5605

Ion	Ratio	Lower	Upper
166	100		
164	80.1	57.7	97.7

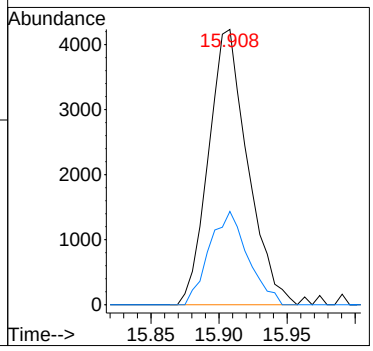


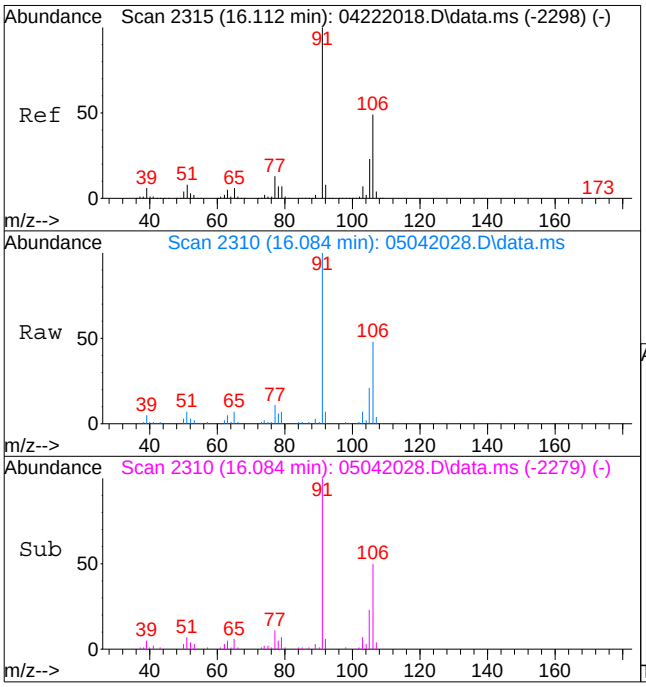


#66
Ethylbenzene
Concen: 0.16 ng
RT: 15.91 min Scan# 2278
Delta R.T. -0.000 min
Lab File: 05042028.D
Acq: 4 May 2020 21:57

Tgt Ion: 91 Resp: 8463

Ion	Ratio	Lower	Upper
91	100		
106	33.4	13.4	53.4

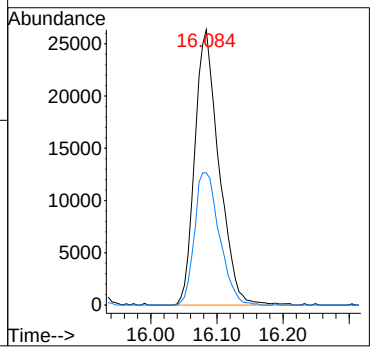


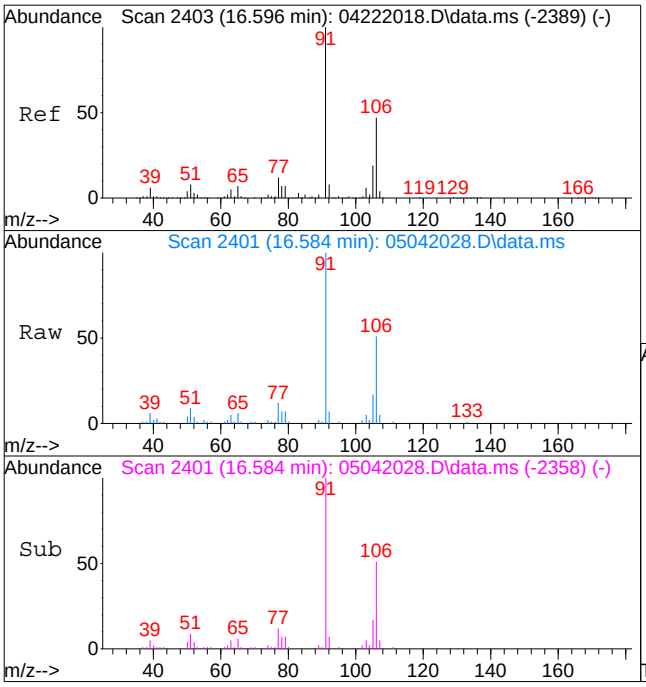


#67
m- & p-Xylenes
Concen: 1.52 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.028 min
Lab File: 05042028.D
Acq: 4 May 2020 21:57

Tgt Ion: 91 Resp: 67003

Ion	Ratio	Lower	Upper
91	100		
106	49.5	28.3	68.3

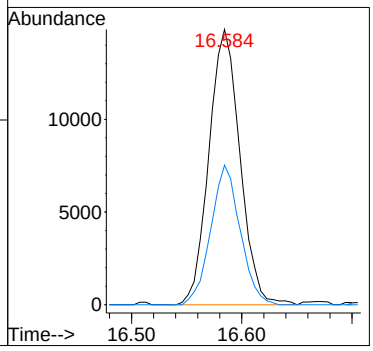


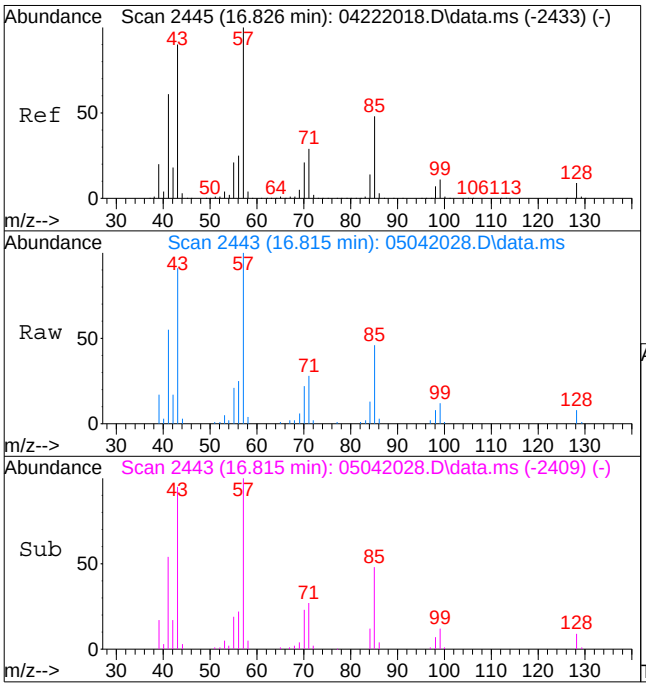


#70
o-Xylene
Concen: 0.67 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 05042028.D
Acq: 4 May 2020 21:57

Tgt Ion: 91 Resp: 29058

Ion	Ratio	Lower	Upper
91	100		
106	48.0	27.5	67.5

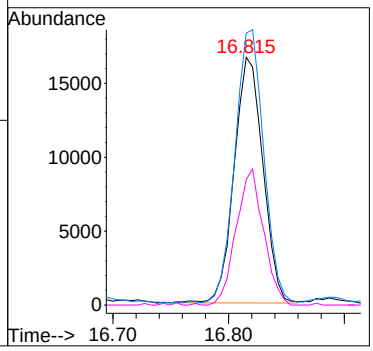


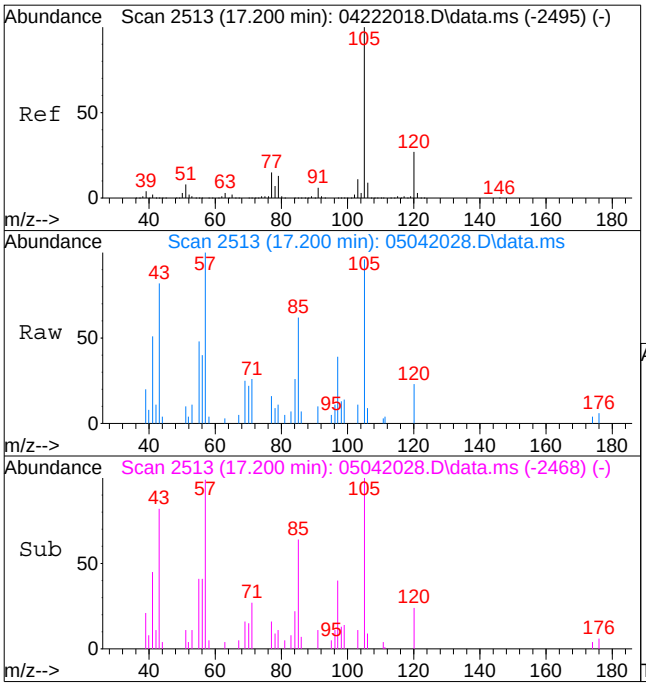


#71
n-Nonane
Concen: 2.06 ng
RT: 16.82 min Scan# 2443
Delta R.T. -0.011 min
Lab File: 05042028.D
Acq: 4 May 2020 21:57

Tgt Ion: 43 Resp: 28695

Ion	Ratio	Lower	Upper
43	100		
57	112.0	90.8	130.8
85	52.7	32.1	72.1

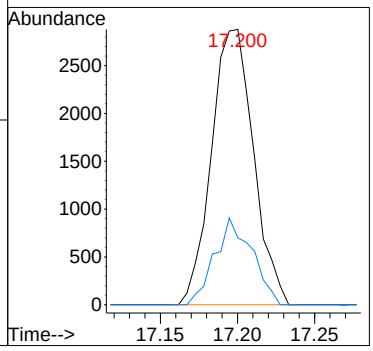


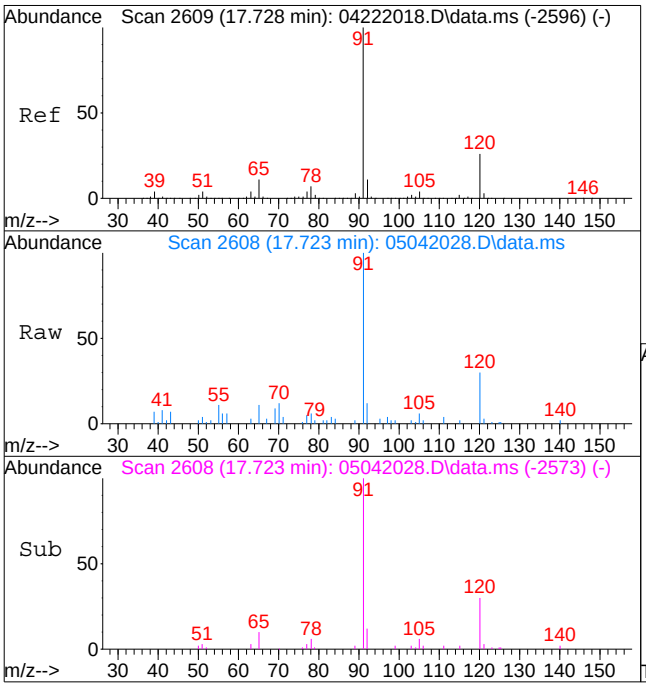


#74
Cumene
Concen: 0.10 ng
RT: 17.20 min Scan# 2513
Delta R.T. -0.000 min
Lab File: 05042028.D
Acq: 4 May 2020 21:57

Tgt Ion:105 Resp: 5460

Ion	Ratio	Lower	Upper
105	100		
120	27.9	7.3	47.3

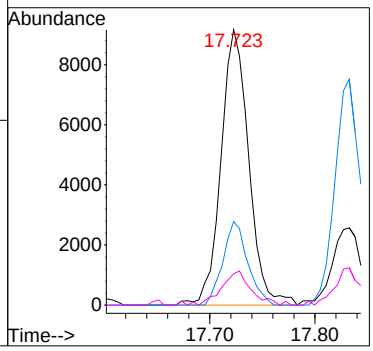


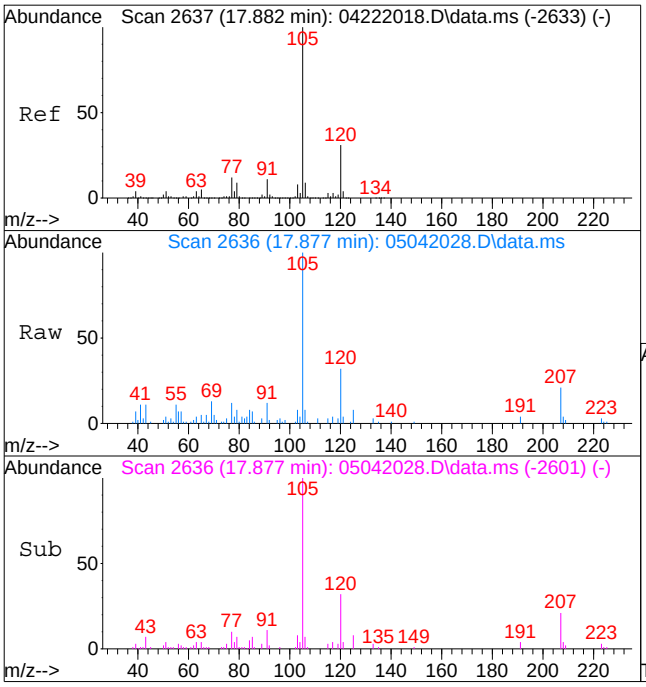


#76
n-Propylbenzene
Concen: 0.27 ng
RT: 17.72 min Scan# 2608
Delta R.T. -0.006 min
Lab File: 05042028.D
Acq: 4 May 2020 21:57

Tgt Ion: 91 Resp: 16804

Ion	Ratio	Lower	Upper
91	100		
120	27.2	6.1	46.1
65	12.9	0.0	30.7

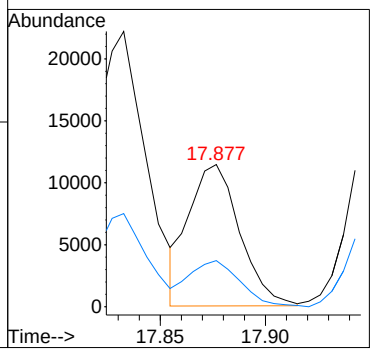


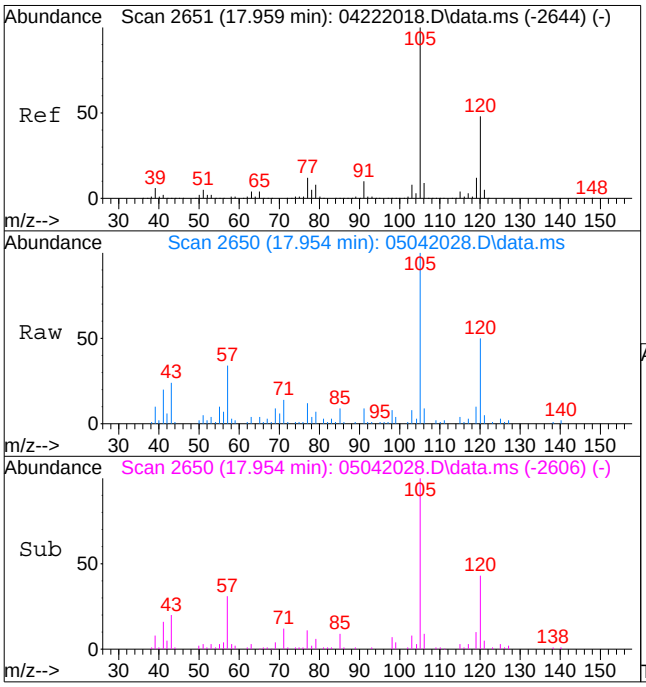


#78
4-Ethyltoluene
Concen: 0.36 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05042028.D
Acq: 4 May 2020 21:57

Tgt Ion:105 Resp: 19329

Ion	Ratio	Lower	Upper
105	100		
120	33.1	11.4	51.4

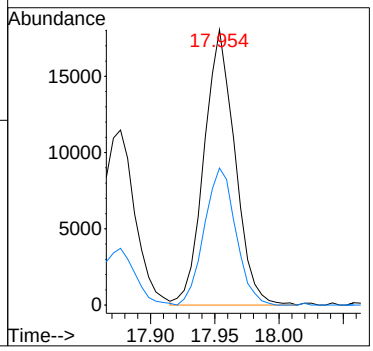


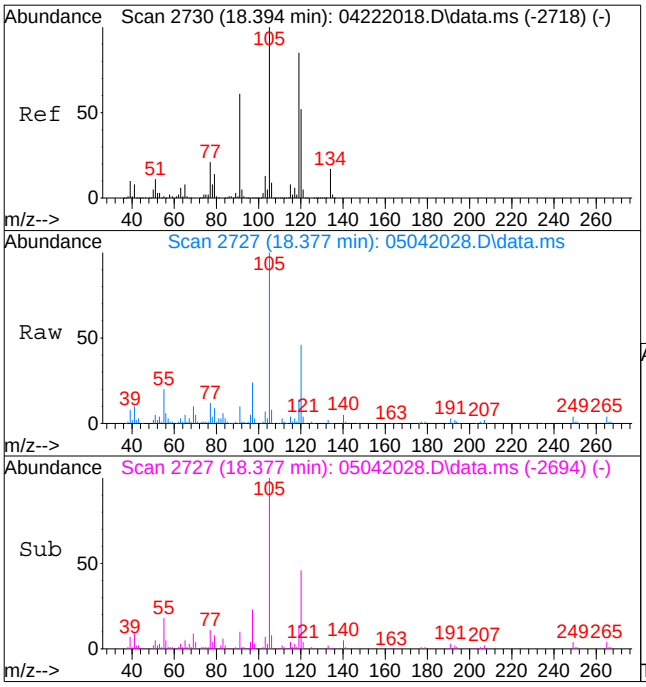


#79
1,3,5-Trimethylbenzene
Concen: 0.61 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 05042028.D
Acq: 4 May 2020 21:57

Tgt Ion:105 Resp: 30237

Ion	Ratio	Lower	Upper
105	100		
120	50.5	29.5	69.5

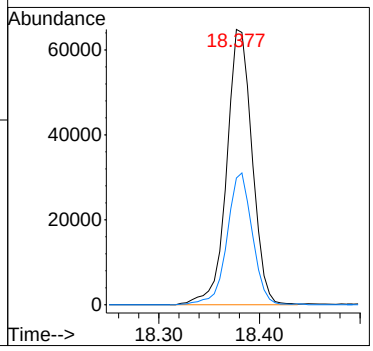


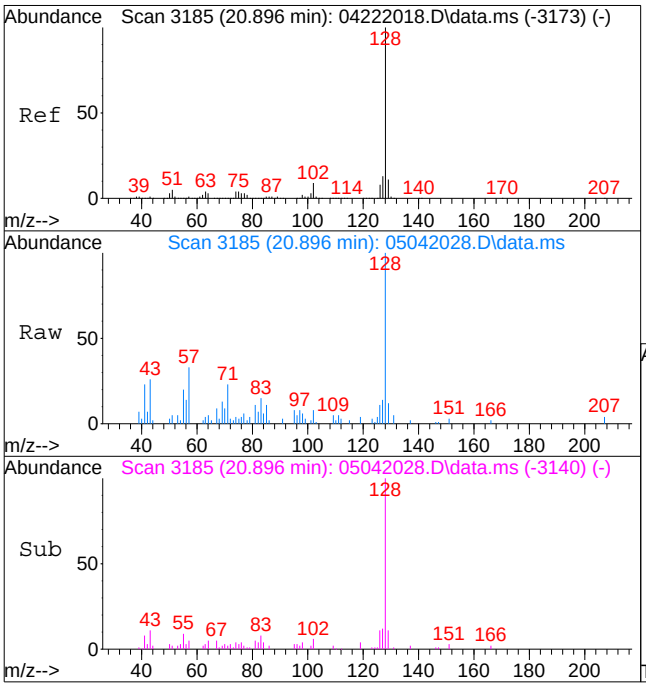


#82
1,2,4-Trimethylbenzene
Concen: 2.38 ng
RT: 18.38 min Scan# 2727
Delta R.T. -0.017 min
Lab File: 05042028.D
Acq: 4 May 2020 21:57

Tgt Ion:105 Resp: 113785

Ion	Ratio	Lower	Upper
105	100		
120	47.6	34.5	74.5

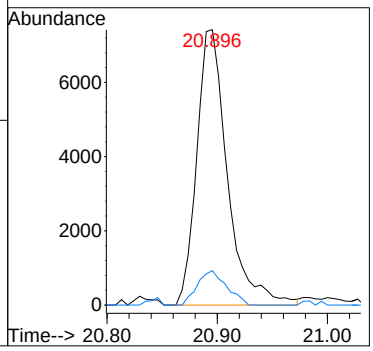




#95
Naphthalene
Concen: 0.23 ng
RT: 20.90 min Scan# 3185
Delta R.T. -0.000 min
Lab File: 05042028.D
Acq: 4 May 2020 21:57

Tgt Ion:128 Resp: 14337

Ion	Ratio	Lower	Upper
128	100		
129	11.8	0.0	30.9



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042017.D Vial: 8
Acq On : 4 May 2020 15:24 Operator: SC
Sample : P2002106-012 (15mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 04 16:56:43 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/4/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	134723	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	566071	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	252284	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	205374	11.766	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.16%			
57) Toluene-d8 (SS2)	13.55	98	615734	12.640	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.12%			
73) Bromofluorobenzene (SS3)	17.05	174	245195	12.525	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.16%			
Target Compounds						Qvalue
2) Propene	0.00	42	0	N.D.	d	
3) Dichlorodifluoromethan...	4.00	85	460	N.D.		
4) Chloromethane	4.21	50	251	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.44	45	35	N.D.		
11) Acetonitrile	0.00	41	0	N.D.		
12) Acrolein	0.00	56	0	N.D.	d	
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.	d	
16) Acrylonitrile	6.44	53	277	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d	
19) Methylene Chloride	0.00	84	0	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	7.16	76	9142	0.301	ng	90
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.	d	
25) Methyl tert-Butyl Ether	8.20	73	732	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	0.00	72	0	N.D.	d	
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	9.24	87	315	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	9.24	57	37159	3.218	ng	100
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	9.74	72	156	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d	
38) 1,1,1-Trichloroethane	10.30	97	258	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.	d	
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	10.76	78	129020	3.496	ng	99
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	11.04	84	51755	3.580	ng	99
44) tert-Amyl Methyl Ether	11.31	73	406	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d	
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	11.81	130	26719	2.091	ng	100
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042017.D Vial: 8
Acq On : 4 May 2020 15:24 Operator: SC
Sample : P2002106-012 (15mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 04 16:56:43 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

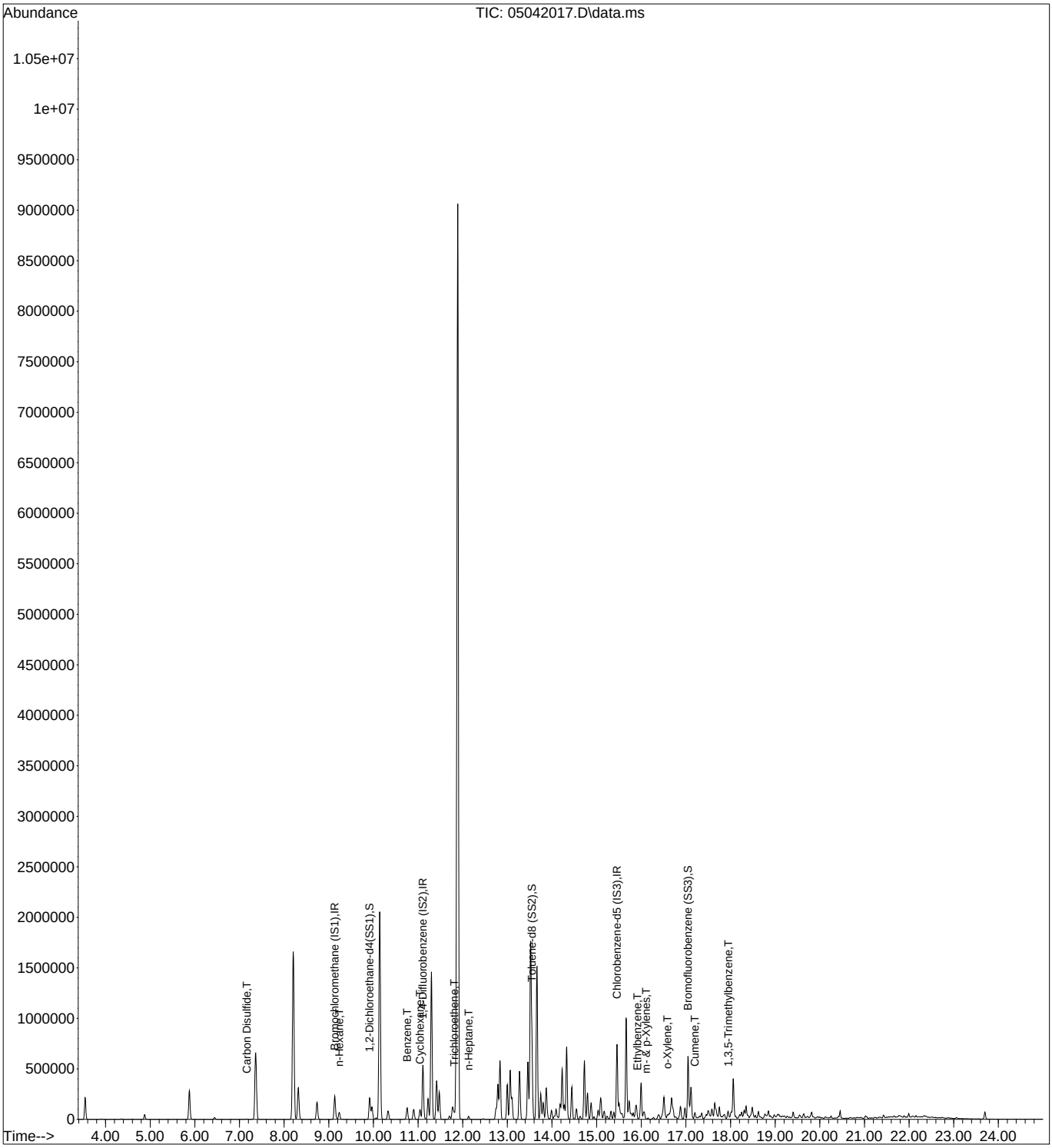
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.14	71	9258	1.080 ng	97
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	12.97	75	659	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	0.00	91	0	N.D. d	
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.63	57	286	N.D.	
64) Tetrachloroethene	14.81	166	556	N.D.	
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	15.91	91	2796	0.059 ng	79
67) m- & p-Xylenes	16.11	91	2475	0.062 ng	90
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.59	104	127	N.D.	
70) o-Xylene	16.58	91	9161	0.232 ng	97
71) n-Nonane	0.00	43	0	N.D. d	
72) 1,1,2,2-Tetrachloroethane	16.58	83	437	N.D.	
74) Cumene	17.20	105	5337	0.104 ng	96
75) alpha-Pinene	17.59	93	149	N.D.	
76) n-Propylbenzene	17.75	91	1830	N.D.	
77) 3-Ethyltoluene	17.84	105	504	N.D.	
78) 4-Ethyltoluene	17.88	105	410	N.D.	
79) 1,3,5-Trimethylbenzene	17.95	105	19809	0.438 ng	98
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	18.16	105	1578	N.D.	
82) 1,2,4-Trimethylbenzene	18.39	105	1026	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	0.00	91	0	N.D. d	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	18.67	105	436	N.D.	
88) 4-Isopropyltoluene (p-...	18.83	119	755	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	20.91	180	165	N.D.	
95) Naphthalene	0.00	128	0	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	18.38	119	1081	N.D.	
100) n-Butylbenzene	19.27	91	953	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042017.D Vial: 8
Acq On : 4 May 2020 15:24 Operator: SC
Sample : P2002106-012 (15mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 04 16:56:43 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042017.D Vial: 8
Acq On : 4 May 2020 15:24 Operator: SC
Sample : P2002106-012 (15mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 04 16:56:43 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/4/20

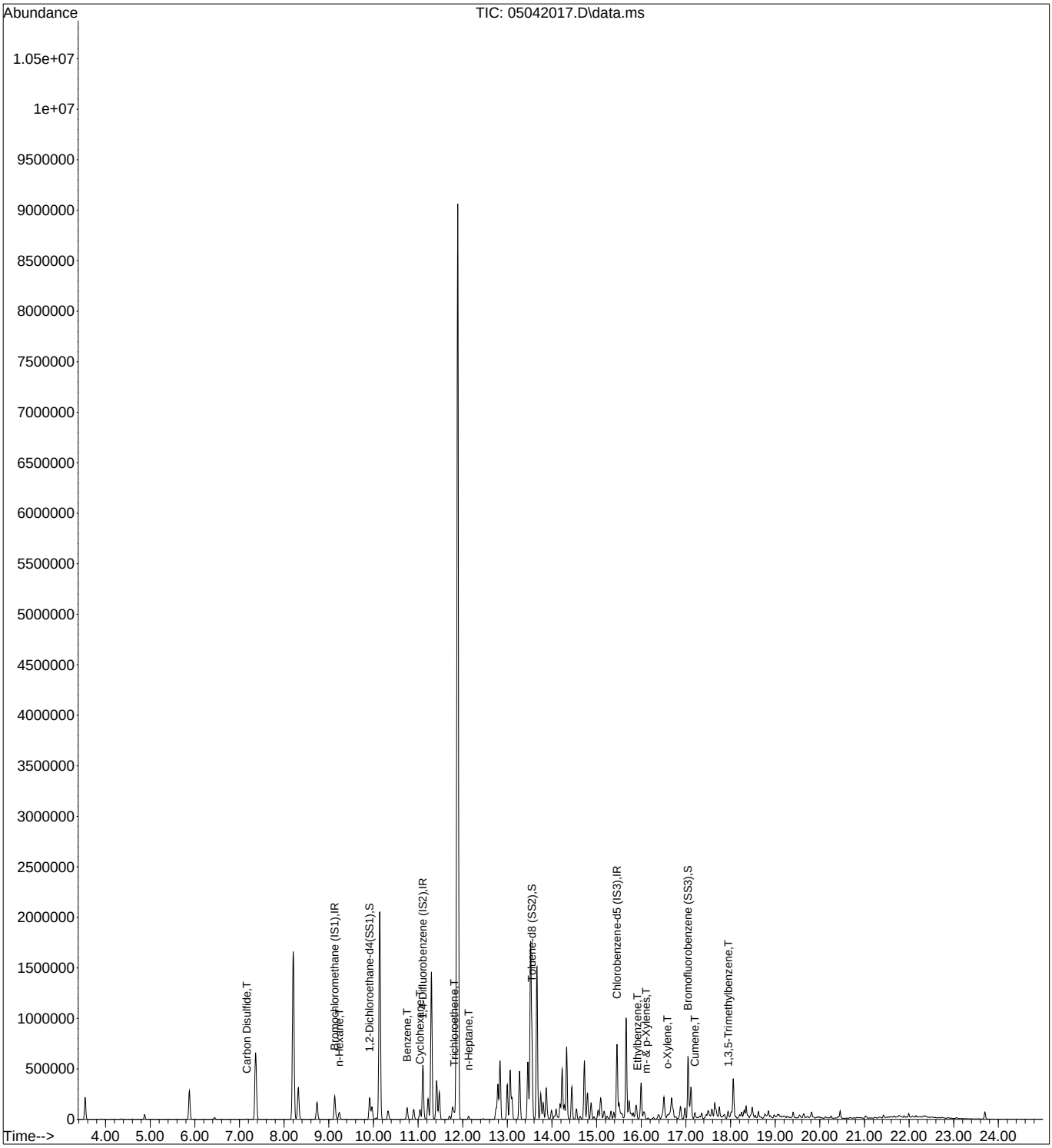
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	134723	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	566071	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	252284	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	205374	11.766	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.16%			
57) Toluene-d8 (SS2)	13.55	98	615734	12.640	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.12%			
73) Bromofluorobenzene (SS3)	17.05	174	245195	12.525	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.16%			
Target Compounds						Qvalue
22) Carbon Disulfide	7.16	76	9142	0.301	ng	90
31) n-Hexane	9.24	57	37159	3.218	ng	100
41) Benzene	10.76	78	129020	3.496	ng	99
43) Cyclohexane	11.04	84	51755	3.580	ng	99
47) Trichloroethene	11.81	130	26719	2.091	ng	100
51) n-Heptane	12.14	71	9258	1.080	ng	97
66) Ethylbenzene	15.91	91	2796	0.059	ng	79
67) m- & p-Xylenes	16.11	91	2475	0.062	ng	90
70) o-Xylene	16.58	91	9161	0.232	ng	97
74) Cumene	17.20	105	5337	0.104	ng	96
79) 1,3,5-Trimethylbenzene	17.95	105	19809	0.438	ng	98

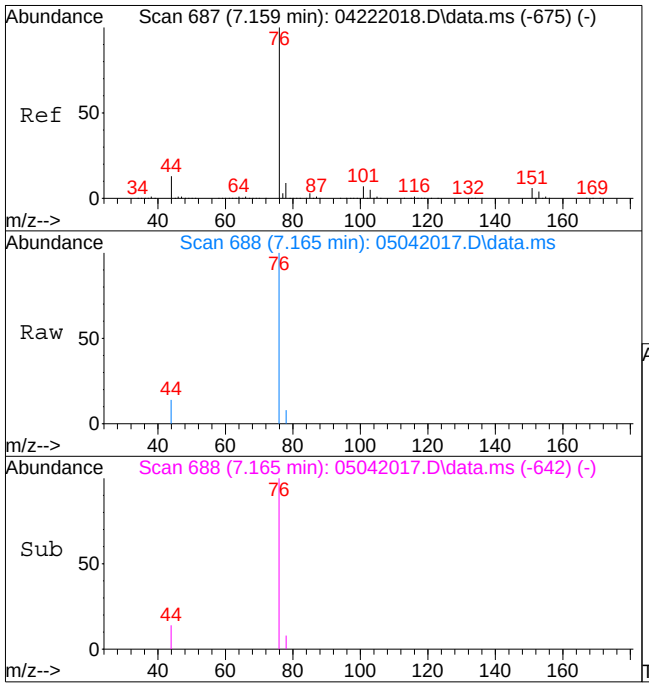
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042017.D Vial: 8
Acq On : 4 May 2020 15:24 Operator: SC
Sample : P2002106-012 (15mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 04 16:56:43 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

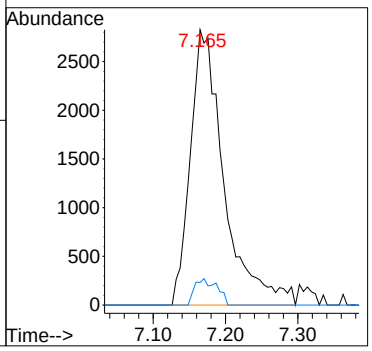


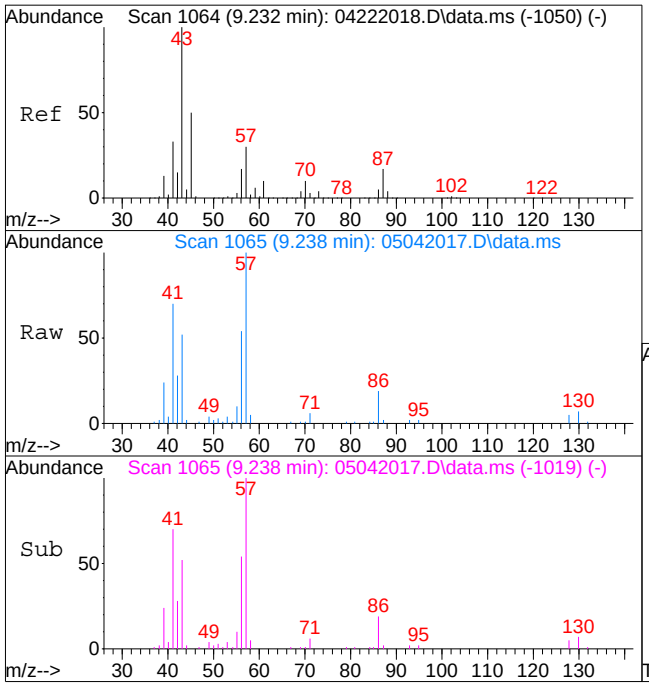


#22
Carbon Disulfide
Concen: 0.30 ng
RT: 7.16 min Scan# 688
Delta R.T. 0.005 min
Lab File: 05042017.D
Acq: 4 May 2020 15:24

Tgt Ion: 76 Resp: 9142

Ion	Ratio	Lower	Upper
76	100		
78	6.3	0.0	30.2

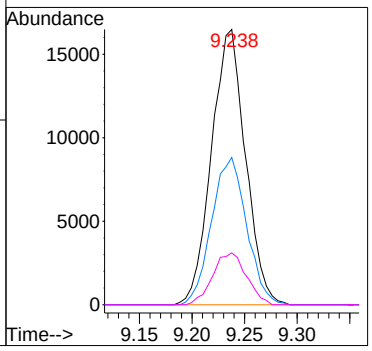


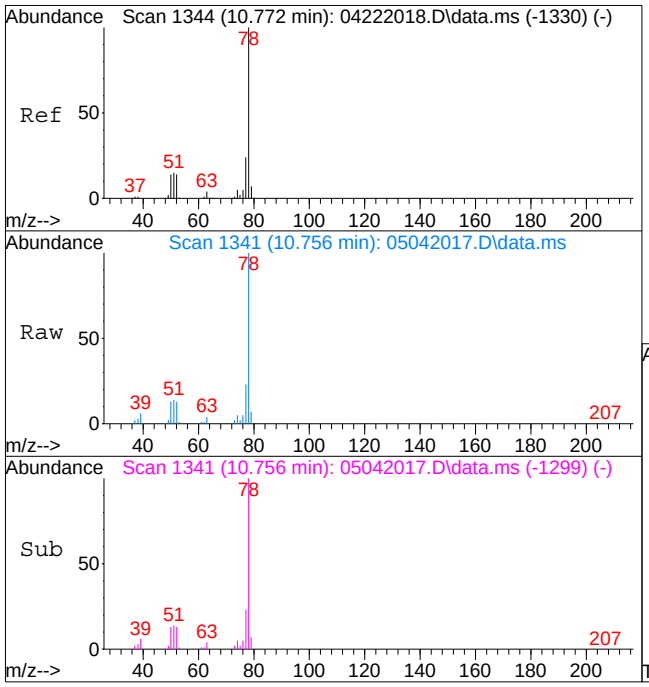


#31
n-Hexane
Concen: 3.22 ng
RT: 9.24 min Scan# 1065
Delta R.T. 0.005 min
Lab File: 05042017.D
Acq: 4 May 2020 15:24

Tgt Ion: 57 Resp: 37159

Ion	Ratio	Lower	Upper
57	100		
56	55.1	44.0	66.0
86	18.7	15.0	22.4

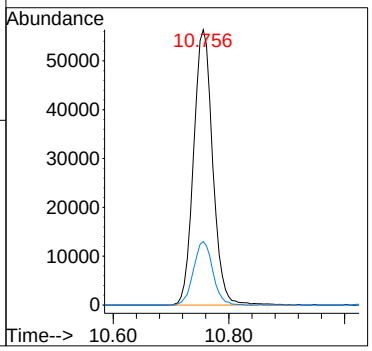


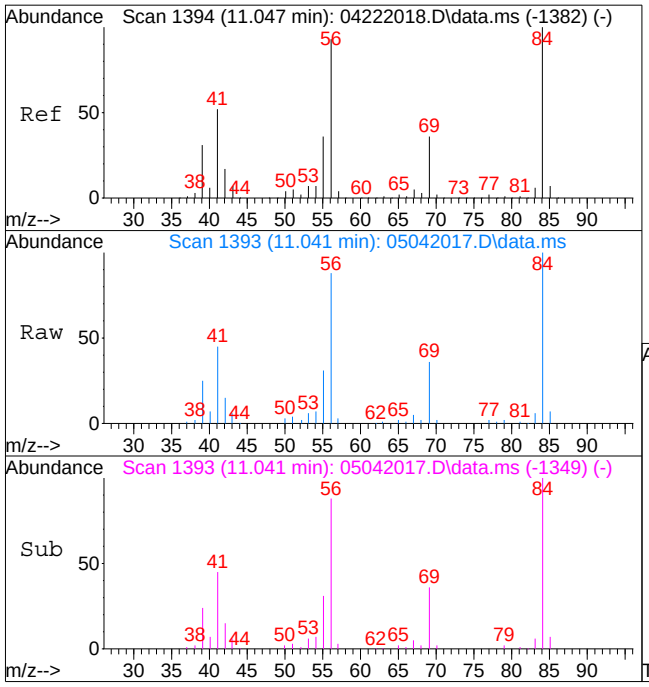


#41
Benzene
Concen: 3.50 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.017 min
Lab File: 05042017.D
Acq: 4 May 2020 15:24

Tgt Ion: 78 Resp: 129020

Ion	Ratio	Lower	Upper
78	100		
77	23.3	3.6	43.6

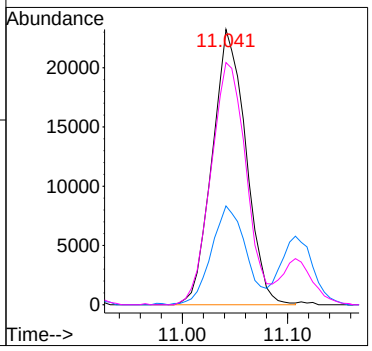


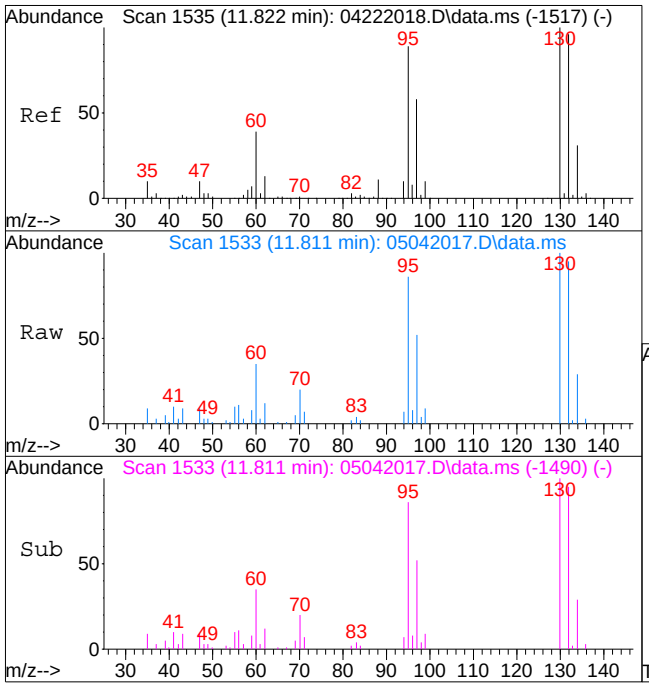


#43
Cyclohexane
Concen: 3.58 ng
RT: 11.04 min Scan# 1393
Delta R.T. -0.006 min
Lab File: 05042017.D
Acq: 4 May 2020 15:24

Tgt Ion: 84 Resp: 51755

Ion	Ratio	Lower	Upper
84	100		
69	37.0	15.8	55.8
56	92.5	72.0	112.0

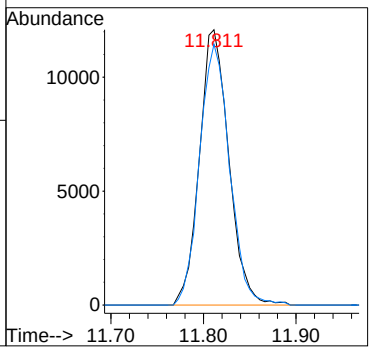


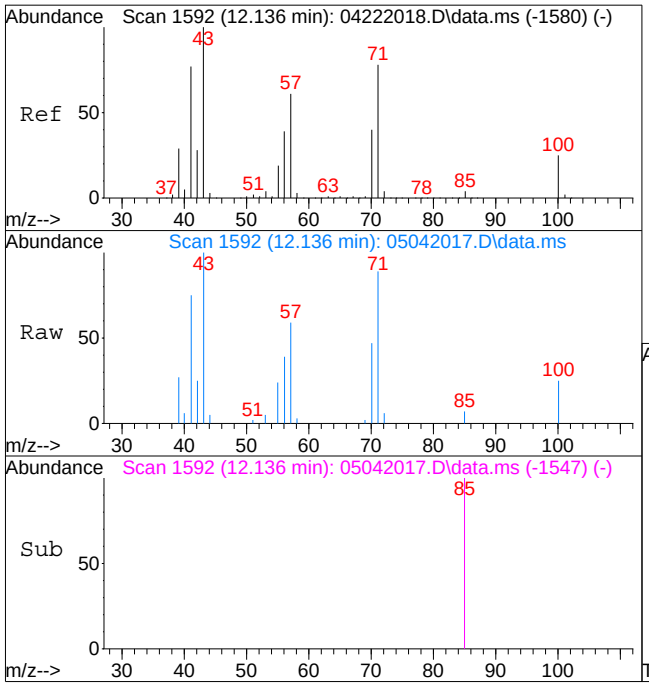


#47
Trichloroethene
Concen: 2.09 ng
RT: 11.81 min Scan# 1533
Delta R.T. -0.011 min
Lab File: 05042017.D
Acq: 4 May 2020 15:24

Tgt Ion:130 Resp: 26719

Ion	Ratio	Lower	Upper
130	100		
132	96.7	76.4	116.4

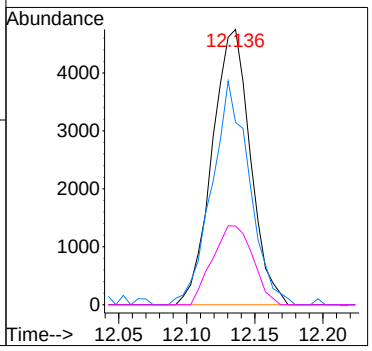


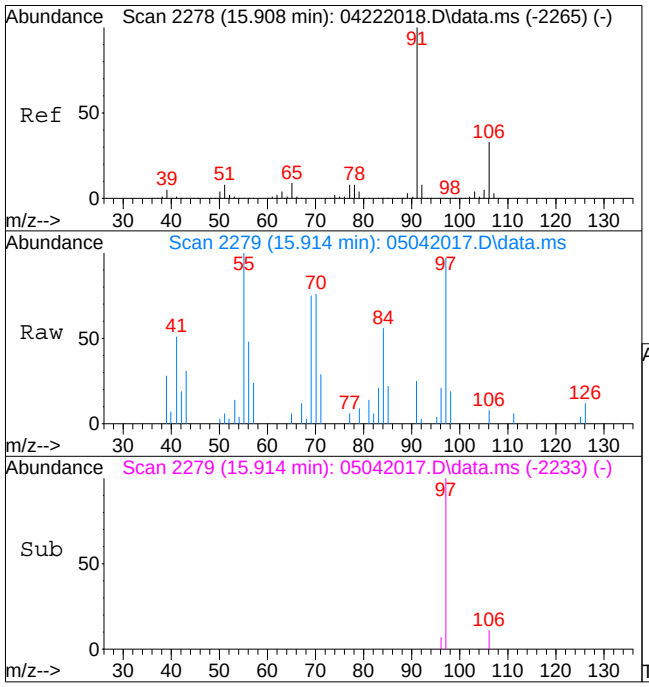


#51
n-Heptane
Concen: 1.08 ng
RT: 12.14 min Scan# 1592
Delta R.T. -0.000 min
Lab File: 05042017.D
Acq: 4 May 2020 15:24

Tgt Ion: 71 Resp: 9258

Ion	Ratio	Lower	Upper
71	100		
57	80.1	57.4	97.4
100	30.3	12.0	52.0

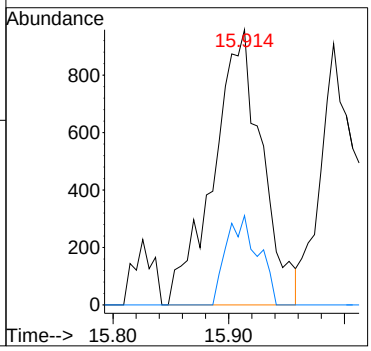


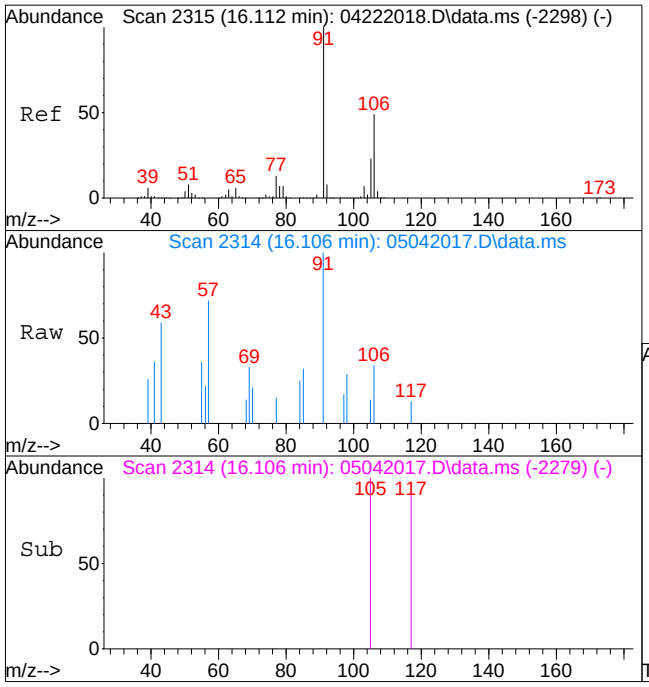


#66
Ethylbenzene
Concen: 0.06 ng
RT: 15.91 min Scan# 2279
Delta R.T. 0.005 min
Lab File: 05042017.D
Acq: 4 May 2020 15:24

Tgt Ion: 91 Resp: 2796

Ion	Ratio	Lower	Upper
91	100		
106	21.3	13.4	53.4

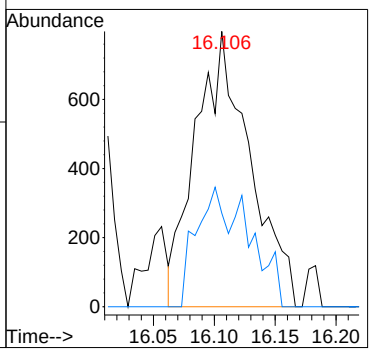


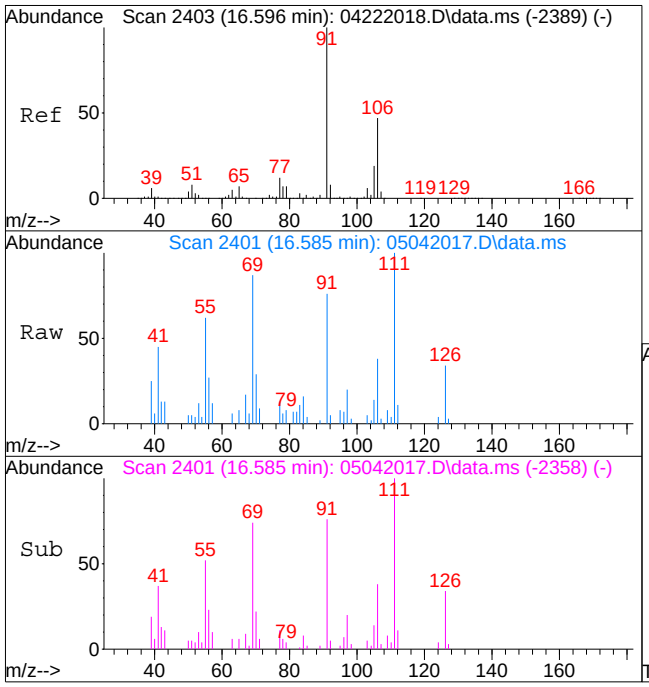


#67
m- & p-Xylenes
Concen: 0.06 ng
RT: 16.11 min Scan# 2314
Delta R.T. -0.006 min
Lab File: 05042017.D
Acq: 4 May 2020 15:24

Tgt Ion: 91 Resp: 2475

Ion	Ratio	Lower	Upper
91	100		
106	41.8	28.3	68.3

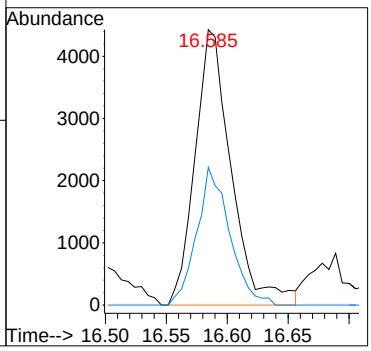


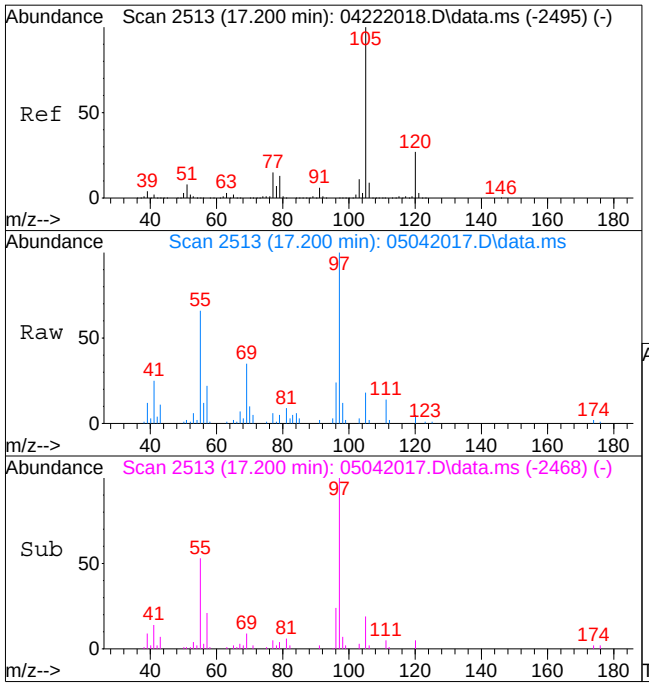


#70
o-Xylene
Concen: 0.23 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 05042017.D
Acq: 4 May 2020 15:24

Tgt Ion: 91 Resp: 9161

Ion	Ratio	Lower	Upper
91	100		
106	45.5	27.5	67.5

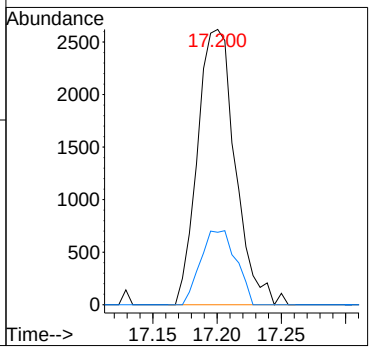


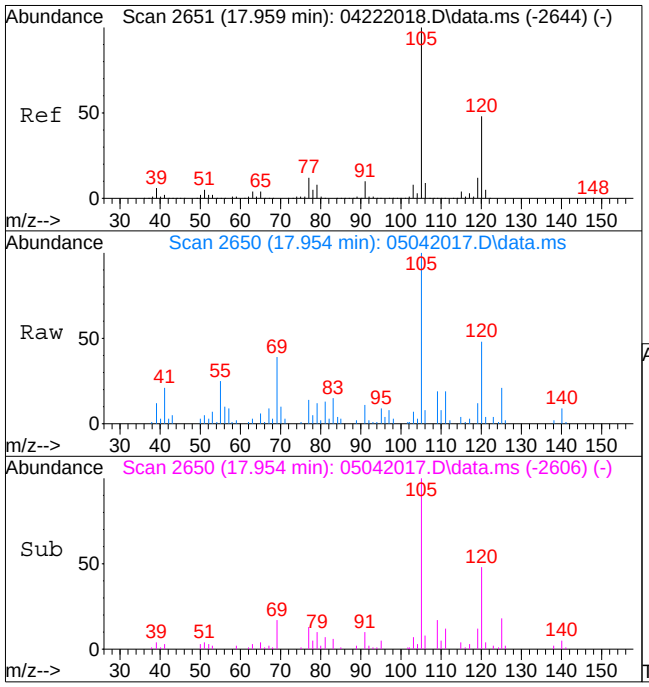


#74
Cumene
Concen: 0.10 ng
RT: 17.20 min Scan# 2513
Delta R.T. 0.000 min
Lab File: 05042017.D
Acq: 4 May 2020 15:24

Tgt Ion:105 Resp: 5337

Ion	Ratio	Lower	Upper
105	100		
120	25.4	7.3	47.3

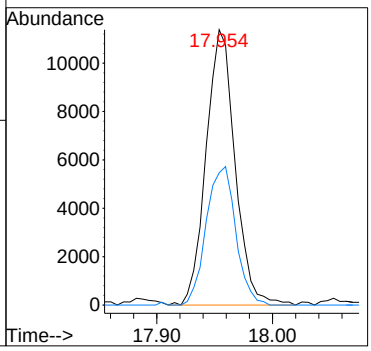




#79
1,3,5-Trimethylbenzene
Concen: 0.44 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 05042017.D
Acq: 4 May 2020 15:24

Tgt Ion:105 Resp: 19809

Ion	Ratio	Lower	Upper
105	100		
120	51.1	29.5	69.5



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042029.D Vial: 13
Acq On : 4 May 2020 22:31 Operator: SC
Sample : P2002106-013 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 14:59:12 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/5/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	143566	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	599277	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	271402	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	216004	11.613	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.88%				
57) Toluene-d8 (SS2)	13.54	98	661232	12.618	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.96%				
73) Bromofluorobenzene (SS3)	17.05	174	272984	12.962	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.68%				
Target Compounds							Qvalue
2) Propene	3.88	42	4679m	0.767	ng		
3) Dichlorodifluoromethan...	3.98	85	3931	0.170	ng		97
4) Chloromethane	4.17	50	38726	4.530	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	4.45	62	14440	1.288	ng		99
7) 1,3-Butadiene	4.62	54	834	0.116	ng	#	7
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.15	64	8510	1.501	ng		97
10) Ethanol	5.35	45	6124	1.326	ng		87
11) Acetonitrile	5.57	41	1225	0.112	ng	#	61
12) Acrolein	5.72	56	470	0.111	ng		94
13) Acetone	5.85	58	19098	3.444	ng		92
14) Trichlorofluoromethane	6.02	101	2726	0.118	ng		96
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D. d			
16) Acrylonitrile	0.00	53	0	N.D. d			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d			
19) Methylene Chloride	6.86	84	1076	0.111	ng		82
20) 3-Chloro-1-propene (Al...	6.99	41	407	N.D.			
21) Trichlorotrifluoroethane	7.18	151	1310	0.109	ng		96
22) Carbon Disulfide	7.15	76	558704	17.278	ng		97
23) trans-1,2-Dichloroethene	8.09	61	194	N.D.			
24) 1,1-Dichloroethane	8.10	63	3705	0.232	ng		99
25) Methyl tert-Butyl Ether	8.13	73	135	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	8.53	72	4319	0.758	ng	#	81
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	9.28	87	244	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	9.23	57	1843	0.150	ng	#	96
32) Chloroform	9.28	83	3190	0.162	ng		95
34) Tetrahydrofuran (THF)	9.67	72	56829	9.849	ng		99
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	10.03	62	13135	0.811	ng		100
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D. d			
41) Benzene	10.75	78	15622	0.400	ng		98
42) Carbon Tetrachloride	10.90	117	3030	0.150	ng		98
43) Cyclohexane	11.03	84	350	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	11.33	63	158	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D. d			
47) Trichloroethene	11.81	130	250569	18.520	ng		100
48) 1,4-Dioxane	0.00	88	0	N.D. d			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d			
50) Methyl Methacrylate	11.93	100	153	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042029.D Vial: 13
Acq On : 4 May 2020 22:31 Operator: SC
Sample : P2002106-013 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 14:59:12 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	12.12	71	2403	0.265 ng		93
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	12.70	58	8653	1.266 ng		97
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	13.65	91	31966	0.727 ng		100
59) 2-Hexanone	13.93	43	1037	0.079 ng	#	71
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D. d		
63) n-Octane	14.66	57	1221	0.174 ng	#	86
64) Tetrachloroethene	14.80	166	944	0.057 ng		94
65) Chlorobenzene	15.50	112	159	N.D.		
66) Ethylbenzene	15.91	91	16518	0.322 ng		99
67) m- & p-Xylenes	16.08	91	48135	1.113 ng		97
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.49	104	534	N.D.		
70) o-Xylene	16.58	91	10740	0.253 ng		99
71) n-Nonane	16.82	43	5217	0.381 ng		99
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	17.19	105	42966	0.776 ng		99
75) alpha-Pinene	17.61	93	233	N.D.		
76) n-Propylbenzene	17.72	91	3817	0.063 ng		97
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	17.87	105	5215	0.099 ng		96
79) 1,3,5-Trimethylbenzene	17.95	105	6307	0.130 ng		98
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	18.38	105	30123	0.640 ng		91
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	18.62	91	526	N.D.		
85) 1,3-Dichlorobenzene	18.61	146	261	N.D.		
86) 1,4-Dichlorobenzene	18.61	146	261	N.D.		
87) sec-Butylbenzene	18.67	105	1701	N.D.		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	18.98	68	628	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	20.90	128	4366	0.072 ng		96
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

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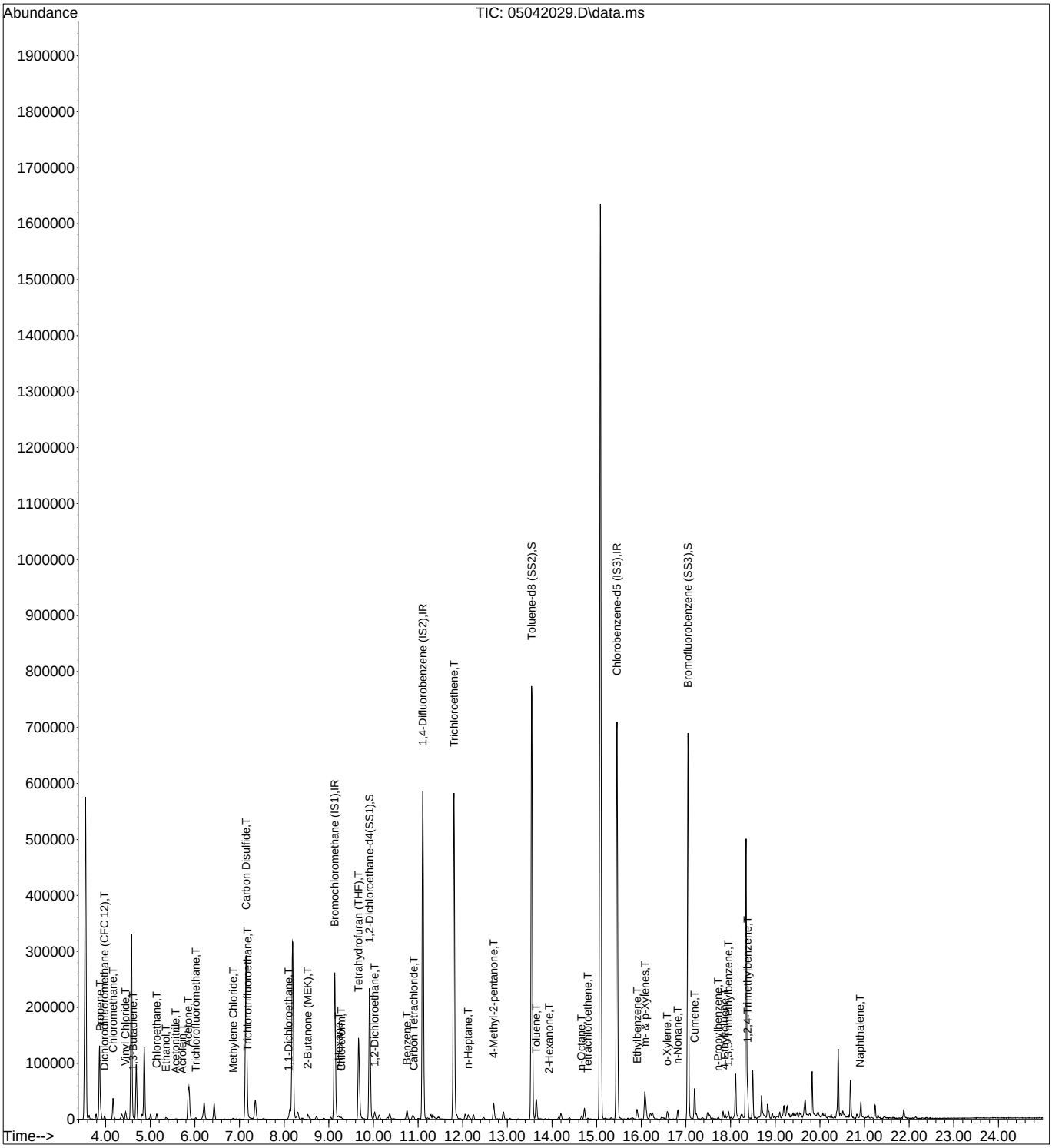
DataAcq Meth:TO15.M



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5/5/20

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56) Chlorobenzene-d5 (IS3)	15.46	82	271402	12.500	ng		0.00
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Spiked Amount 12.500	Range 70 - 130		Recovery = 92.88%				
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Spiked Amount 12.500	Range 70 - 130		Recovery = 100.96%				
73) Bromofluorobenzene (SS3)	17.05	174	272984	12.962	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.68%				
Target Compounds							Qvalue
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3) Dichlorodifluoromethan...	3.98	85	3931	0.170	ng		97
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6) Vinyl Chloride	4.45	62	14440	1.288	ng		99
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9) Chloroethane	5.15	64	8510	1.501	ng		97
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13) Acetone	5.85	58	19098	3.444	ng		92
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22) Carbon Disulfide	7.15	76	558704	17.278	ng		97
24) 1,1-Dichloroethane	8.10	63	3705	0.232	ng		99
27) 2-Butanone (MEK)	8.53	72	4319	0.758	ng	#	81
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32) Chloroform	9.28	83	3190	0.162	ng		95
34) Tetrahydrofuran (THF)	9.67	72	56829	9.849	ng		99
36) 1,2-Dichloroethane	10.03	62	13135	0.811	ng		100
41) Benzene	10.75	78	15622	0.400	ng		98
42) Carbon Tetrachloride	10.90	117	3030	0.150	ng		98
47) Trichloroethene	11.81	130	250569	18.520	ng		100
51) n-Heptane	12.12	71	2403	0.265	ng		93
53) 4-Methyl-2-pentanone	12.70	58	8653	1.266	ng		97
58) Toluene	13.65	91	31966	0.727	ng		100
59) 2-Hexanone	13.93	43	1037	0.079	ng	#	71
63) n-Octane	14.66	57	1221	0.174	ng	#	86
64) Tetrachloroethene	14.80	166	944	0.057	ng		94
66) Ethylbenzene	15.91	91	16518	0.322	ng		99
67) m- & p-Xylenes	16.08	91	48135	1.113	ng		97
70) o-Xylene	16.58	91	10740	0.253	ng		99
71) n-Nonane	16.82	43	5217	0.381	ng		99
74) Cumene	17.19	105	42966	0.776	ng		99
76) n-Propylbenzene	17.72	91	3817	0.063	ng		97
78) 4-Ethyltoluene	17.87	105	5215	0.099	ng		96
79) 1,3,5-Trimethylbenzene	17.95	105	6307	0.130	ng		98
82) 1,2,4-Trimethylbenzene	18.38	105	30123	0.640	ng		91
95) Naphthalene	20.90	128	4366	0.072	ng		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

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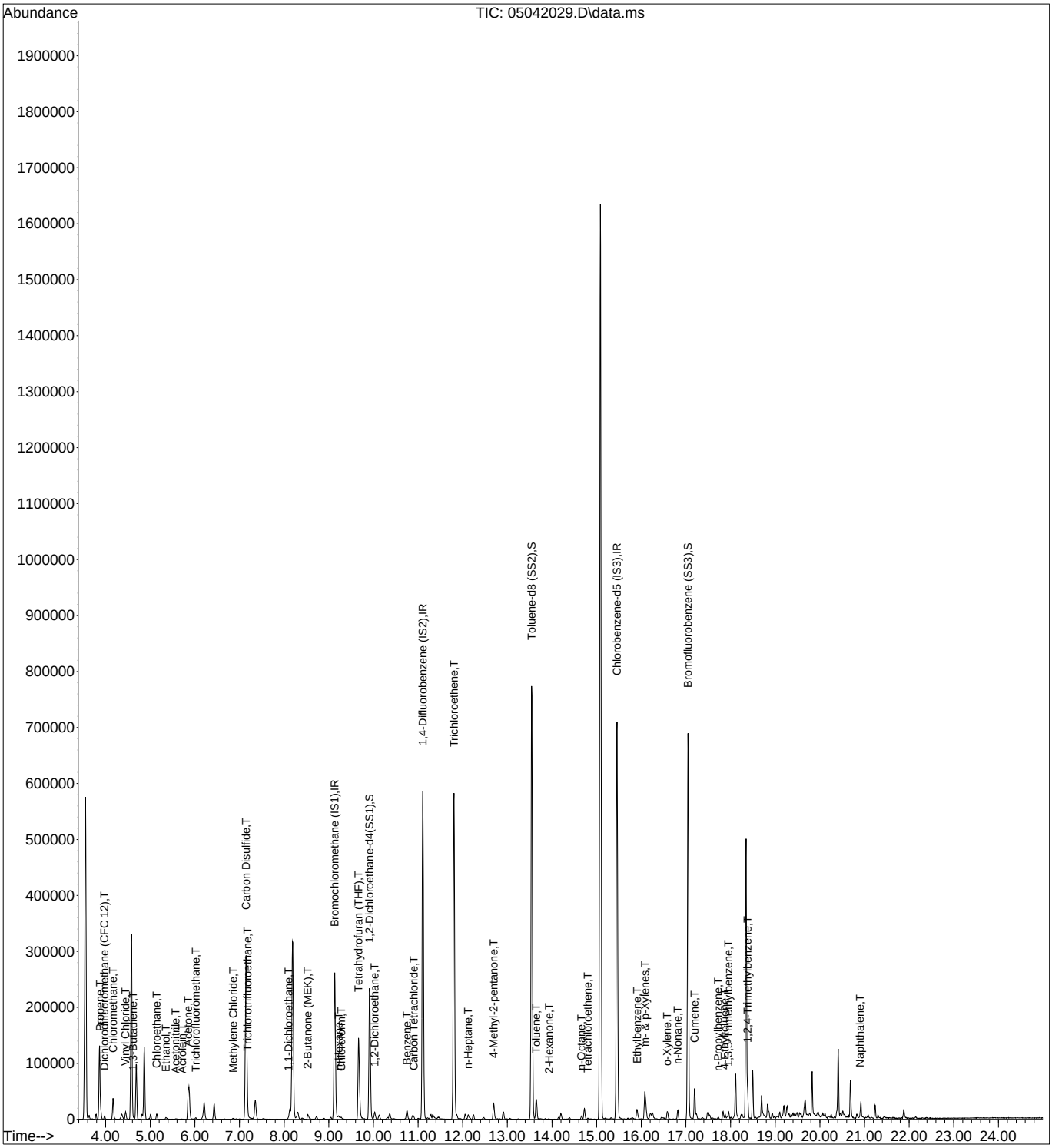
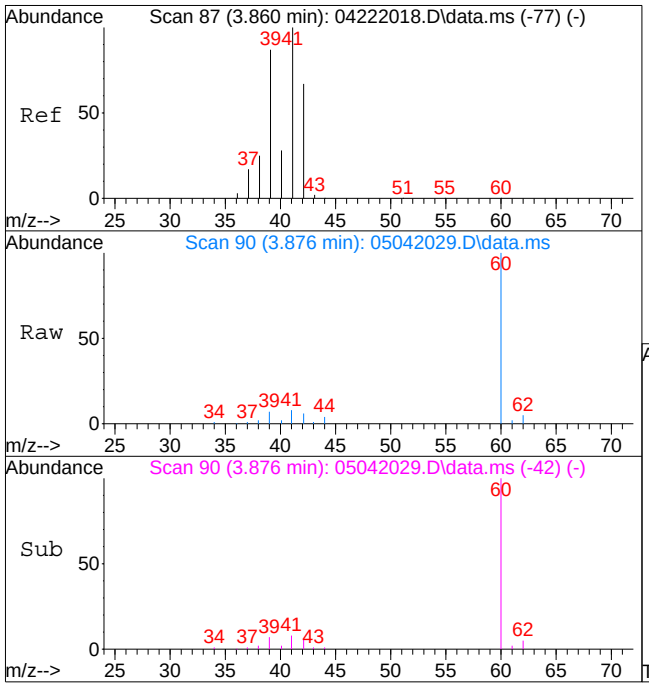
Response via : Initial Calibration
DataAcq Meth:TO15.M

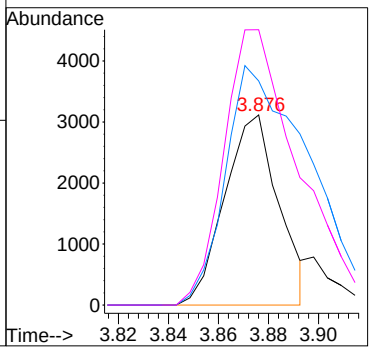


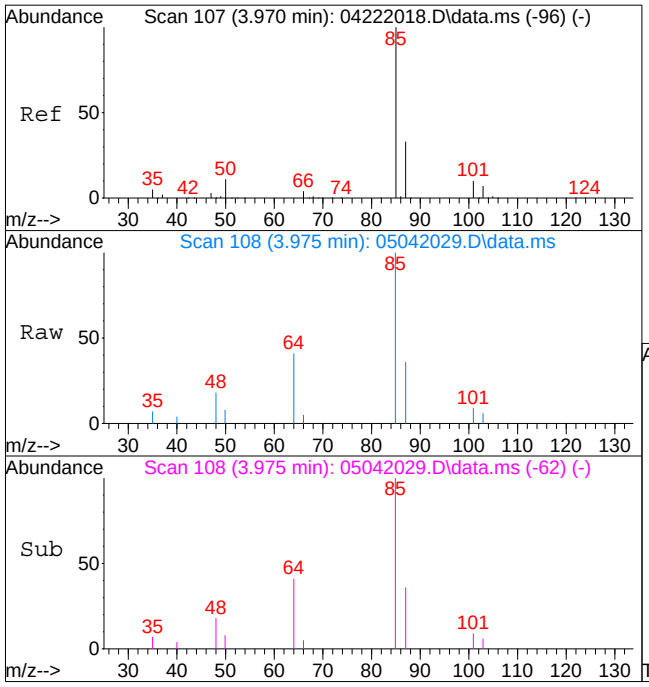


#2
Propene
Concen: 0.77 ng m
RT: 3.88 min Scan# 90
Delta R.T. 0.016 min
Lab File: 05042029.D
Acq: 4 May 2020 22:31

Tgt Ion: 42 Resp: 4679

Ion	Ratio	Lower	Upper
42	100		
39	194.8	106.4	146.4#
41	198.1	128.8	168.8#

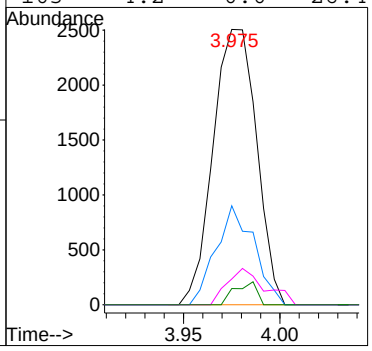


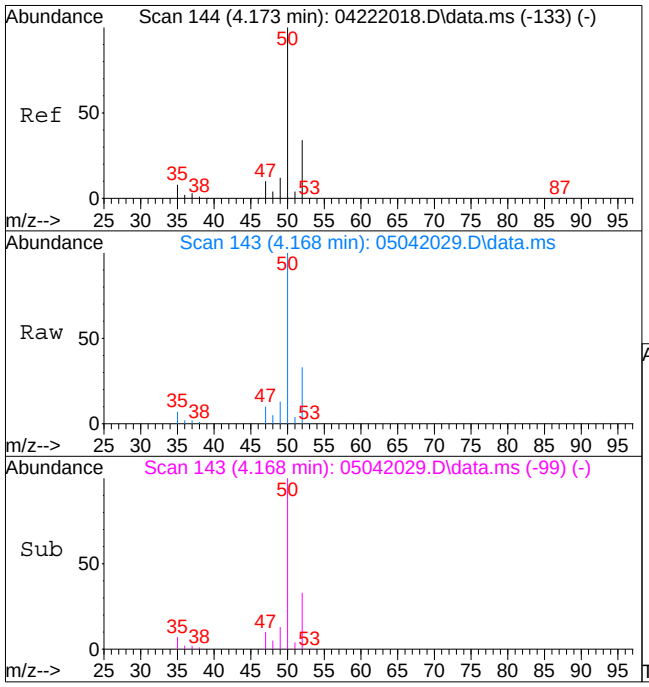


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.17 ng
RT: 3.98 min Scan# 108
Delta R.T. 0.005 min
Lab File: 05042029.D
Acq: 4 May 2020 22:31

Tgt Ion: 85 Resp: 3931

Ion	Ratio	Lower	Upper
85	100		
87	31.6	12.4	52.4
101	11.4	0.0	29.9
103	4.2	0.0	26.4

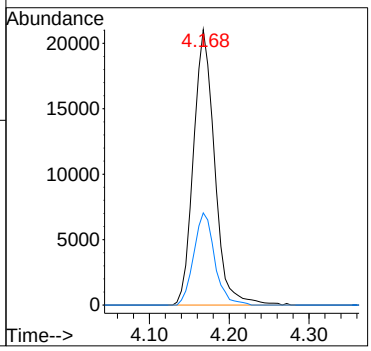


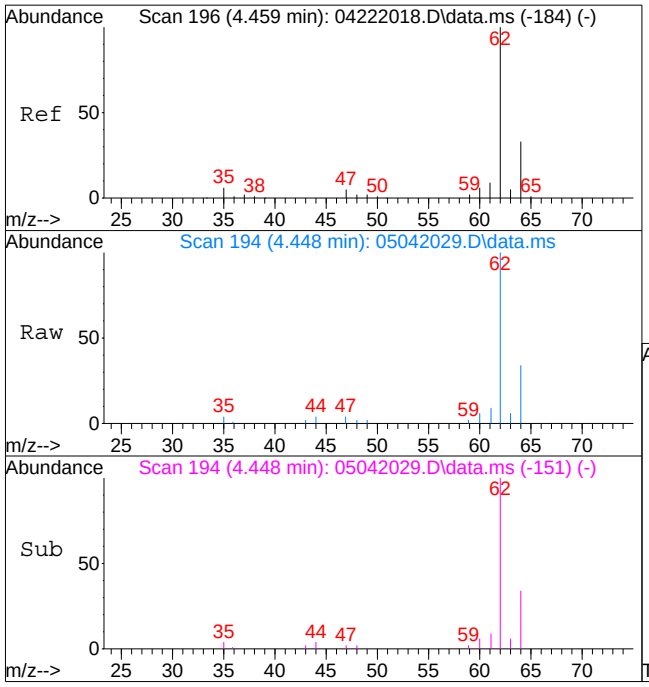


#4
Chloromethane
Concen: 4.53 ng
RT: 4.17 min Scan# 143
Delta R.T. -0.006 min
Lab File: 05042029.D
Acq: 4 May 2020 22:31

Tgt Ion: 50 Resp: 38726

Ion	Ratio	Lower	Upper
50	100		
52	33.1	13.7	53.7

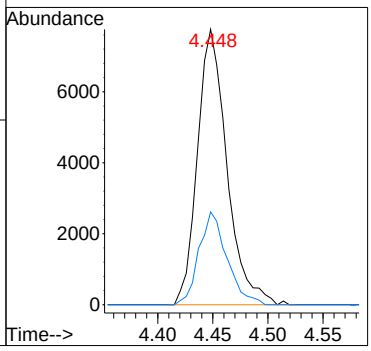


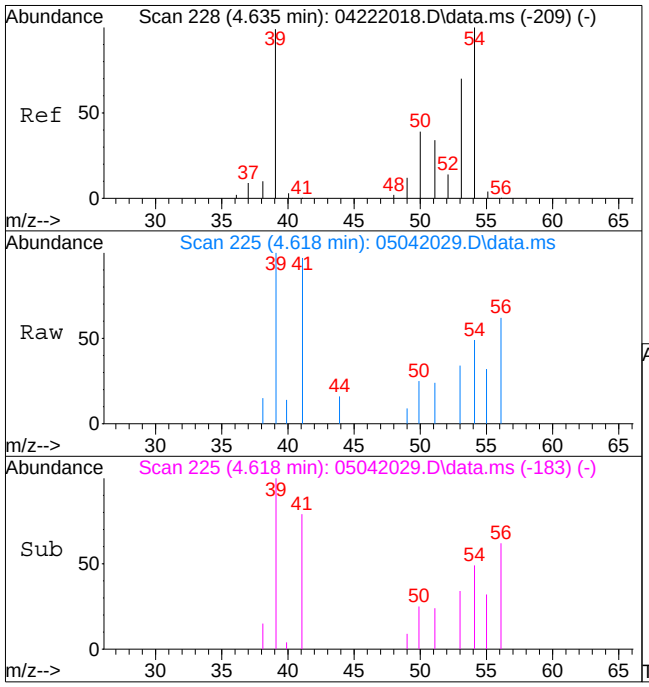


#6
Vinyl Chloride
Concen: 1.29 ng
RT: 4.45 min Scan# 194
Delta R.T. -0.011 min
Lab File: 05042029.D
Acq: 4 May 2020 22:31

Tgt Ion: 62 Resp: 14440

Ion	Ratio	Lower	Upper
62	100		
64	31.9	12.7	52.7

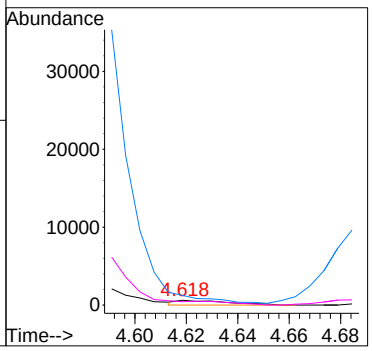


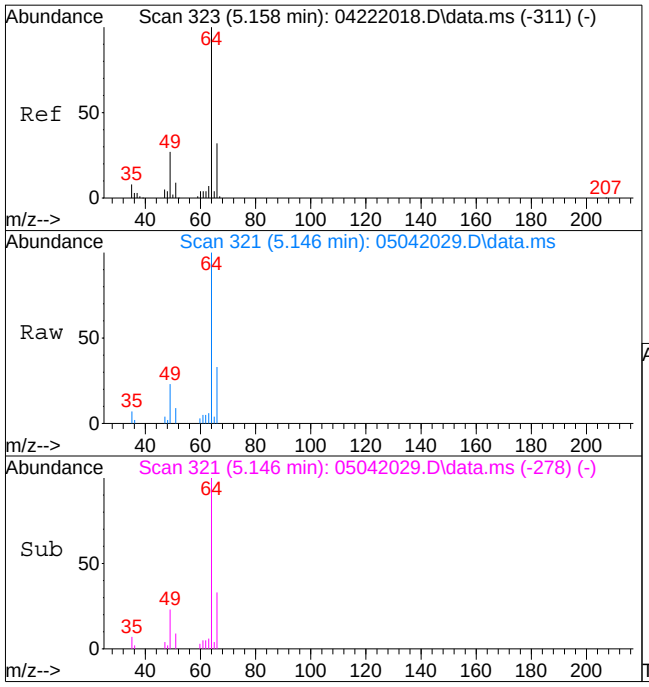


#7
1,3-Butadiene
Concen: 0.12 ng
RT: 4.62 min Scan# 225
Delta R.T. -0.017 min
Lab File: 05042029.D
Acq: 4 May 2020 22:31

Tgt Ion: 54 Resp: 834

Ion	Ratio	Lower	Upper
54	100		
39	0.0	75.4	115.4#
53	0.0	49.6	89.6#

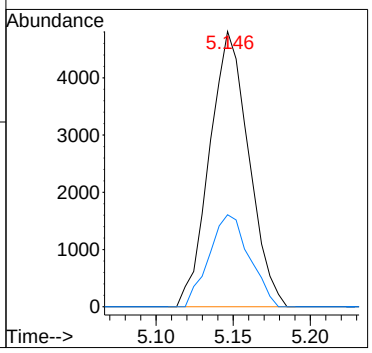


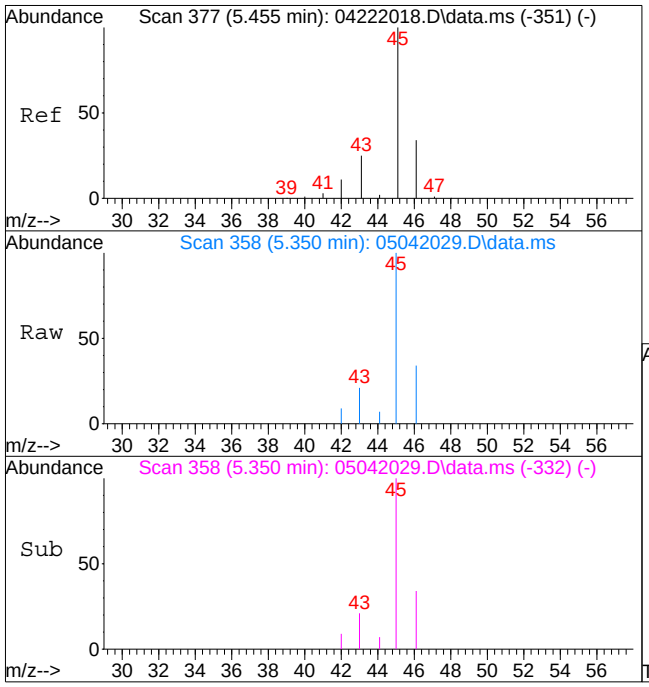


#9
Chloroethane
Concen: 1.50 ng
RT: 5.15 min Scan# 321
Delta R.T. -0.011 min
Lab File: 05042029.D
Acq: 4 May 2020 22:31

Tgt Ion: 64 Resp: 8510

Ion	Ratio	Lower	Upper
64	100		
66	34.2	12.7	52.7

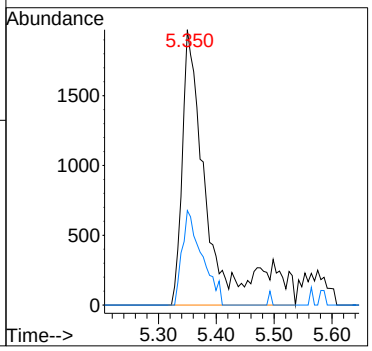


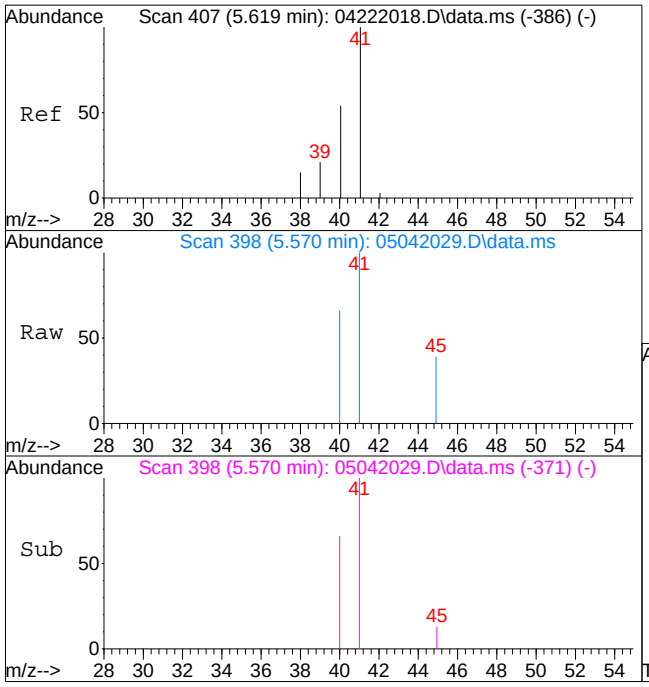


#10
Ethanol
Concen: 1.33 ng
RT: 5.35 min Scan# 358
Delta R.T. -0.105 min
Lab File: 05042029.D
Acq: 4 May 2020 22:31

Tgt Ion: 45 Resp: 6124

Ion	Ratio	Lower	Upper
45	100		
46	26.5	14.0	54.0

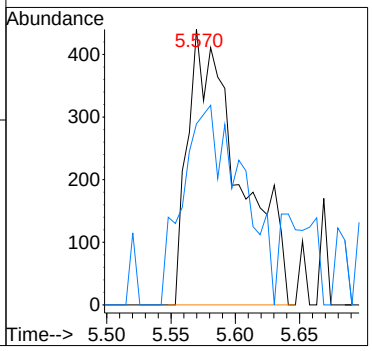


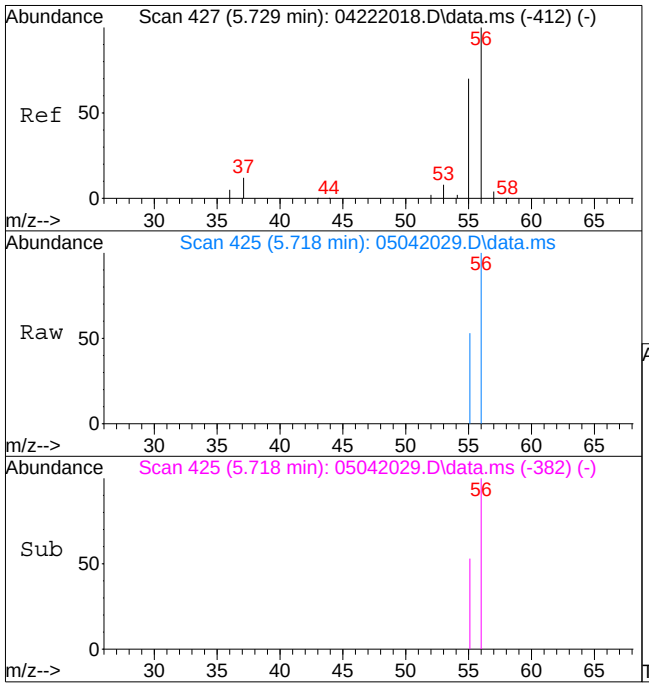


#11
Acetonitrile
Concen: 0.11 ng
RT: 5.57 min Scan# 398
Delta R.T. -0.050 min
Lab File: 05042029.D
Acq: 4 May 2020 22:31

Tgt Ion: 41 Resp: 1225

Ion	Ratio	Lower	Upper
41	100		
40	83.2	34.8	74.8#

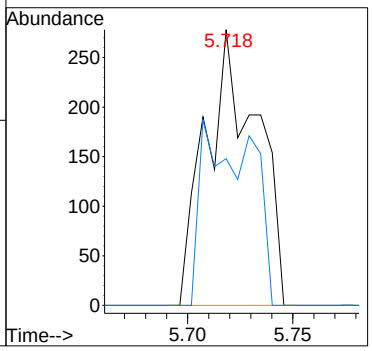


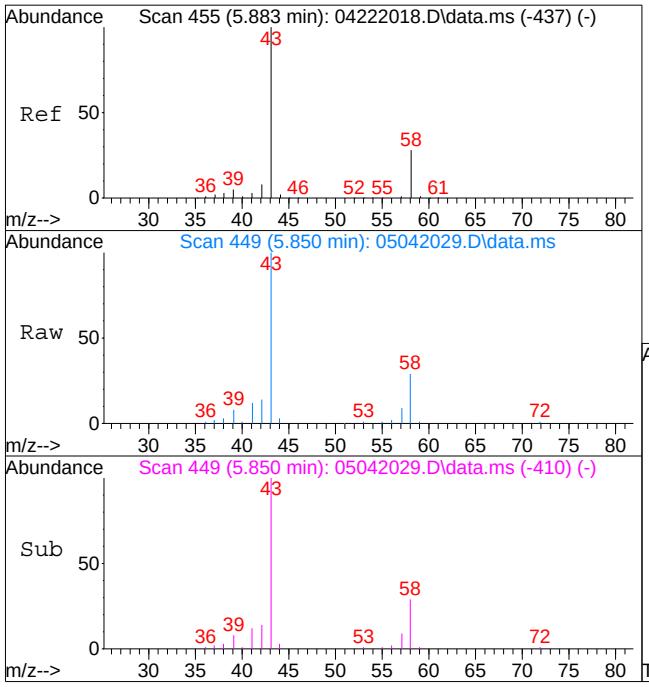


#12
Acrolein
Concen: 0.11 ng
RT: 5.72 min Scan# 425
Delta R.T. -0.011 min
Lab File: 05042029.D
Acq: 4 May 2020 22:31

Tgt Ion: 56 Resp: 470

Ion	Ratio	Lower	Upper
56	100		
55	65.1	50.4	90.4

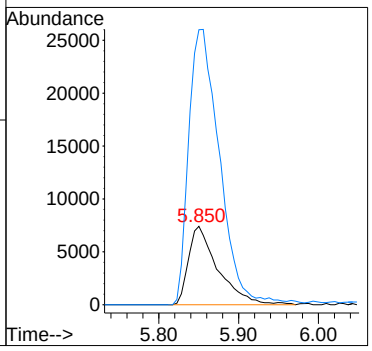


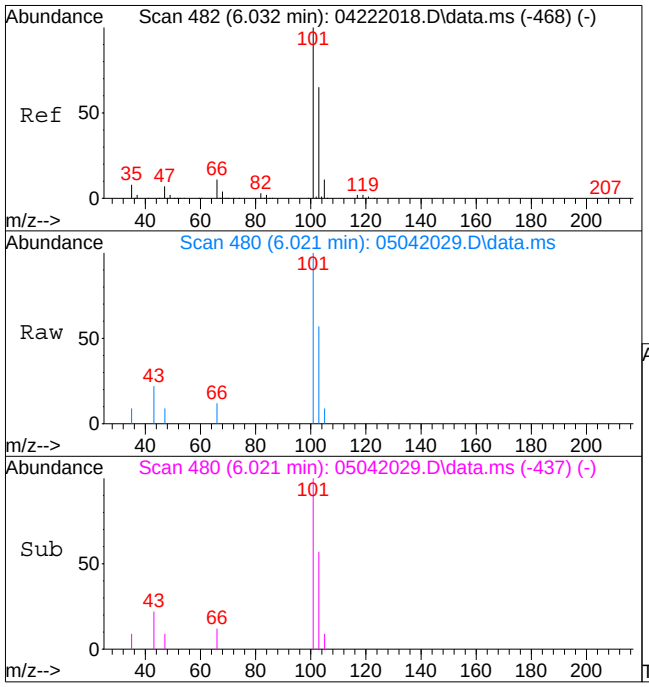


#13
Acetone
Concen: 3.44 ng
RT: 5.85 min Scan# 449
Delta R.T. -0.033 min
Lab File: 05042029.D
Acq: 4 May 2020 22:31

Tgt Ion: 58 Resp: 19098

Ion	Ratio	Lower	Upper
58	100		
43	366.6	319.3	379.3

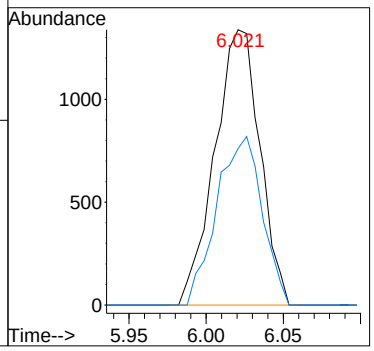


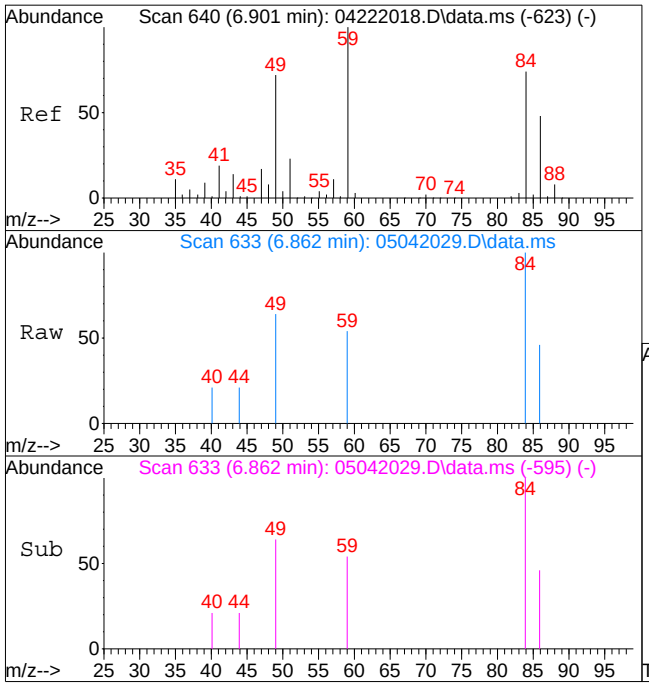


#14
Trichlorofluoromethane
Concen: 0.12 ng
RT: 6.02 min Scan# 480
Delta R.T. -0.011 min
Lab File: 05042029.D
Acq: 4 May 2020 22:31

Tgt Ion:101 Resp: 2726

Ion	Ratio	Lower	Upper
101	100		
103	61.4	44.7	84.7

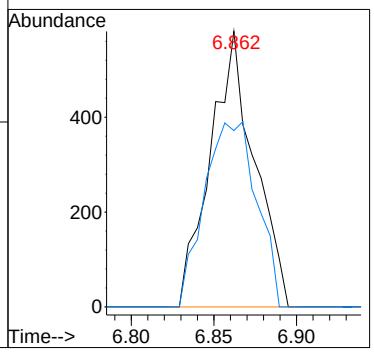


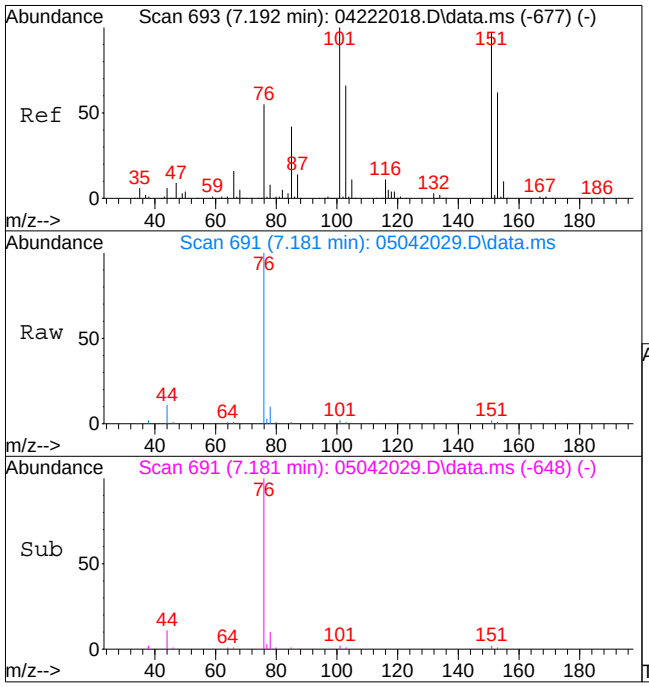


#19
Methylene Chloride
Concen: 0.11 ng
RT: 6.86 min Scan# 633
Delta R.T. -0.039 min
Lab File: 05042029.D
Acq: 4 May 2020 22:31

Tgt Ion: 84 Resp: 1076

Ion	Ratio	Lower	Upper
84	100		
49	79.9	73.0	123.0

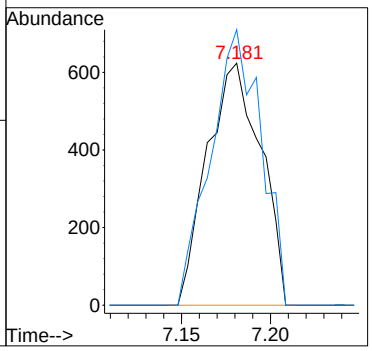


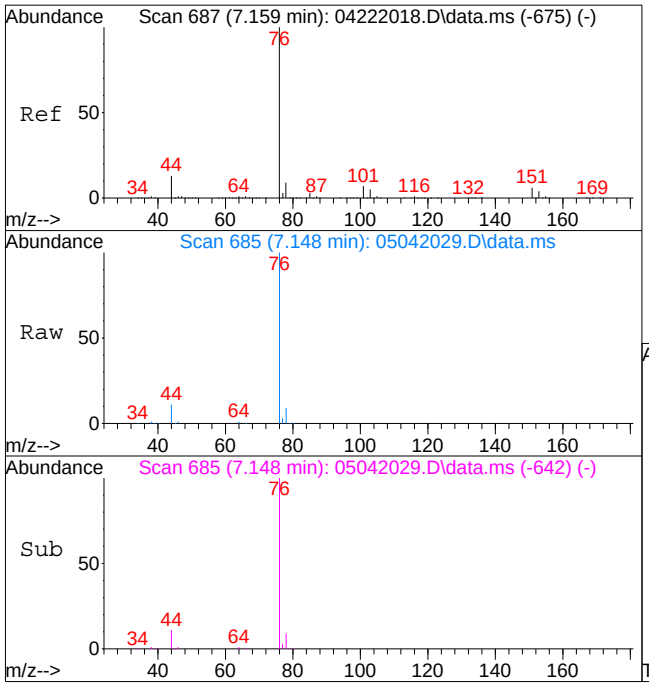


#21
Trichlorotrifluoroethane
Concen: 0.11 ng
RT: 7.18 min Scan# 691
Delta R.T. -0.011 min
Lab File: 05042029.D
Acq: 4 May 2020 22:31

Tgt Ion:151 Resp: 1310

Ion	Ratio	Lower	Upper
151	100		
101	106.9	82.9	122.9

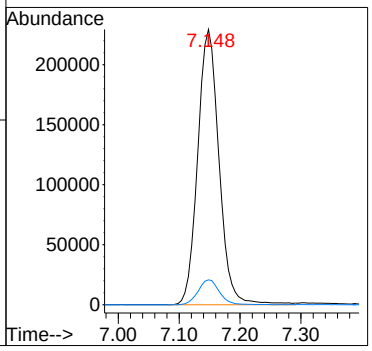


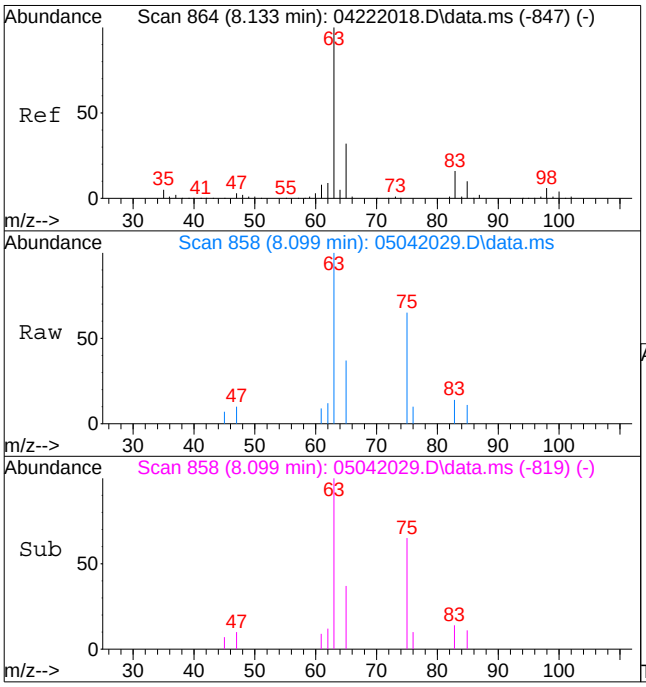


#22
Carbon Disulfide
Concen: 17.28 ng
RT: 7.15 min Scan# 685
Delta R.T. -0.011 min
Lab File: 05042029.D
Acq: 4 May 2020 22:31

Tgt Ion: 76 Resp: 558704

Ion	Ratio	Lower	Upper
76	100		
78	9.1	0.0	30.2

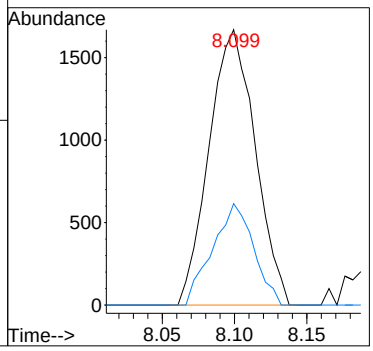


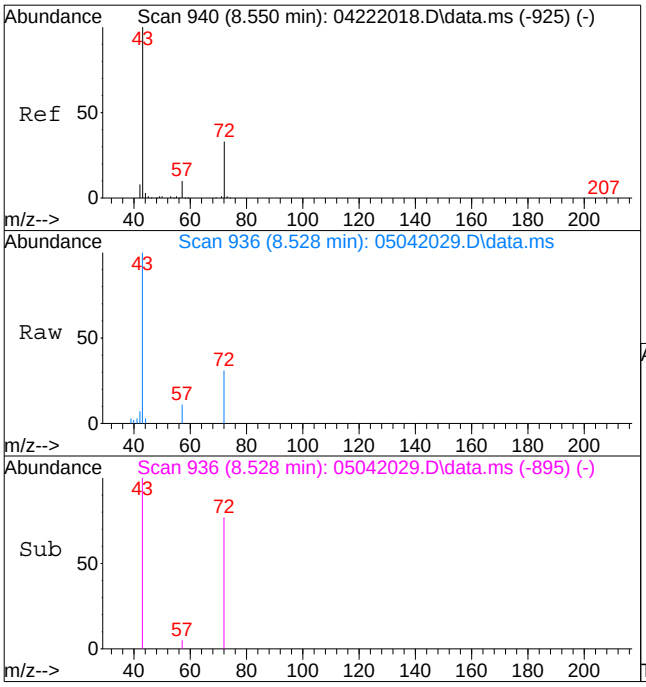


#24
1,1-Dichloroethane
Concen: 0.23 ng
RT: 8.10 min Scan# 858
Delta R.T. -0.033 min
Lab File: 05042029.D
Acq: 4 May 2020 22:31

Tgt Ion: 63 Resp: 3705

Ion	Ratio	Lower	Upper
63	100		
65	32.8	12.1	52.1

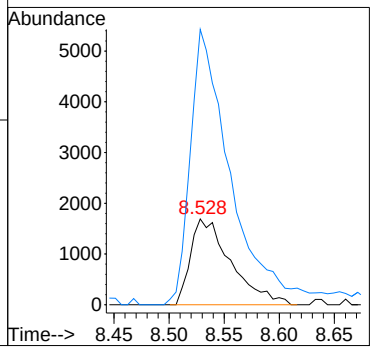


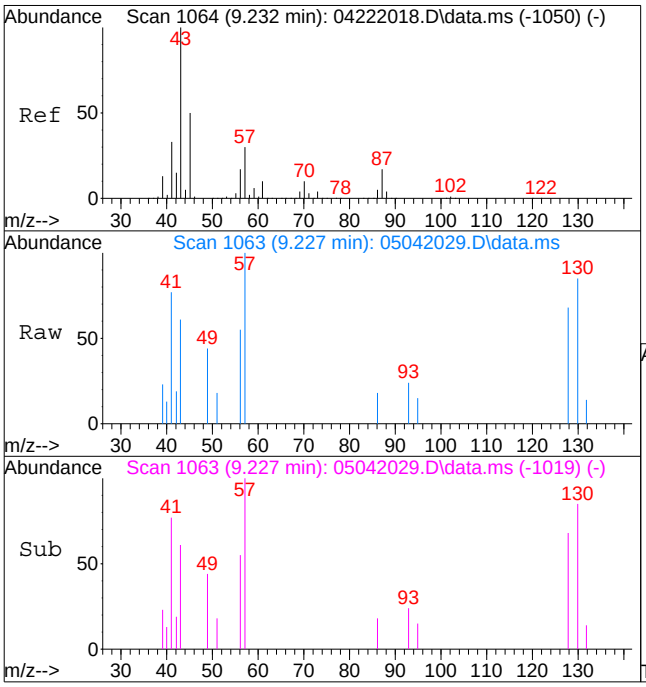


#27
2-Butanone (MEK)
Concen: 0.76 ng
RT: 8.53 min Scan# 936
Delta R.T. -0.022 min
Lab File: 05042029.D
Acq: 4 May 2020 22:31

Tgt Ion: 72 Resp: 4319

Ion	Ratio	Lower	Upper
72	100		
43	335.5	278.8	318.8#

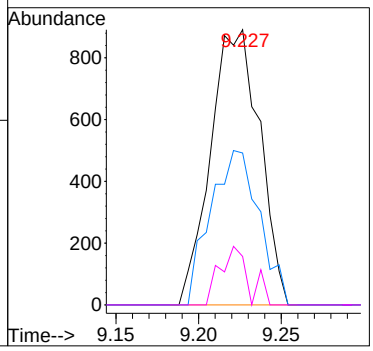


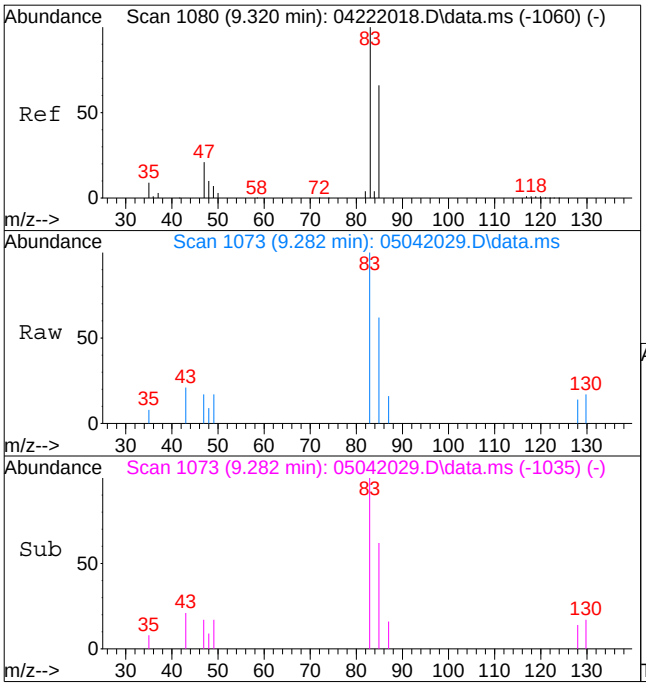


#31
n-Hexane
Concen: 0.15 ng
RT: 9.23 min Scan# 1063
Delta R.T. -0.006 min
Lab File: 05042029.D
Acq: 4 May 2020 22:31

Tgt Ion: 57 Resp: 1843

Ion	Ratio	Lower	Upper
57	100		
56	55.6	44.0	66.0
86	12.5	15.0	22.4#

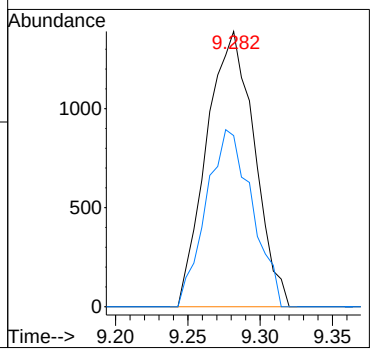


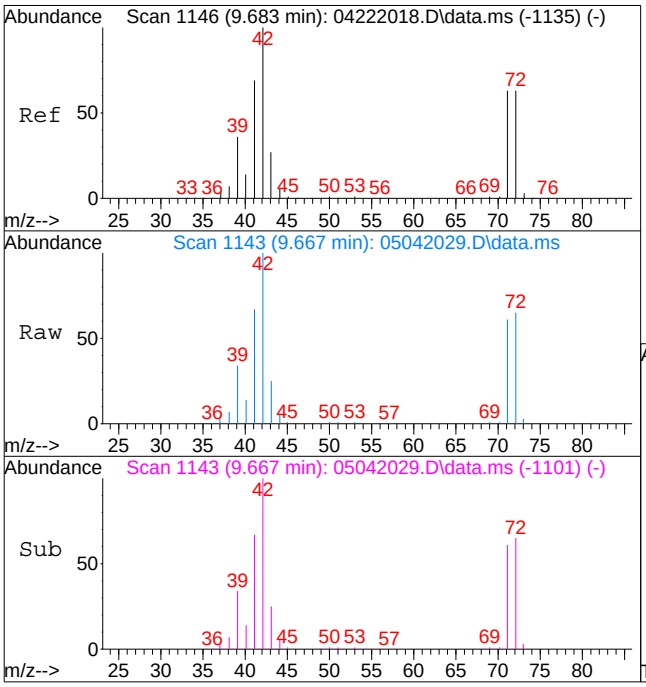


#32
Chloroform
Concen: 0.16 ng
RT: 9.28 min Scan# 1073
Delta R.T. -0.039 min
Lab File: 05042029.D
Acq: 4 May 2020 22:31

Tgt Ion: 83 Resp: 3190

Ion	Ratio	Lower	Upper
83	100		
85	62.1	45.8	85.8

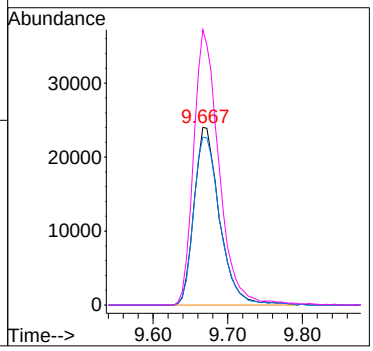


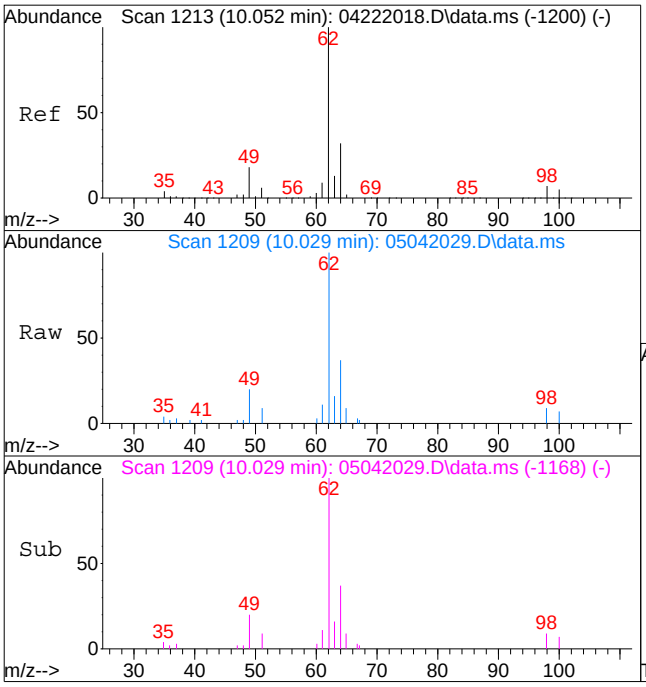


#34
Tetrahydrofuran (THF)
Concen: 9.85 ng
RT: 9.67 min Scan# 1143
Delta R.T. -0.017 min
Lab File: 05042029.D
Acq: 4 May 2020 22:31

Tgt Ion: 72 Resp: 56829

Ion	Ratio	Lower	Upper
72	100		
71	97.1	77.9	117.9
42	154.4	133.9	173.9

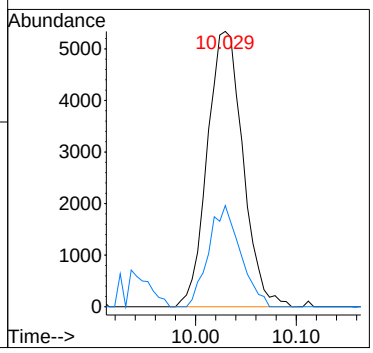


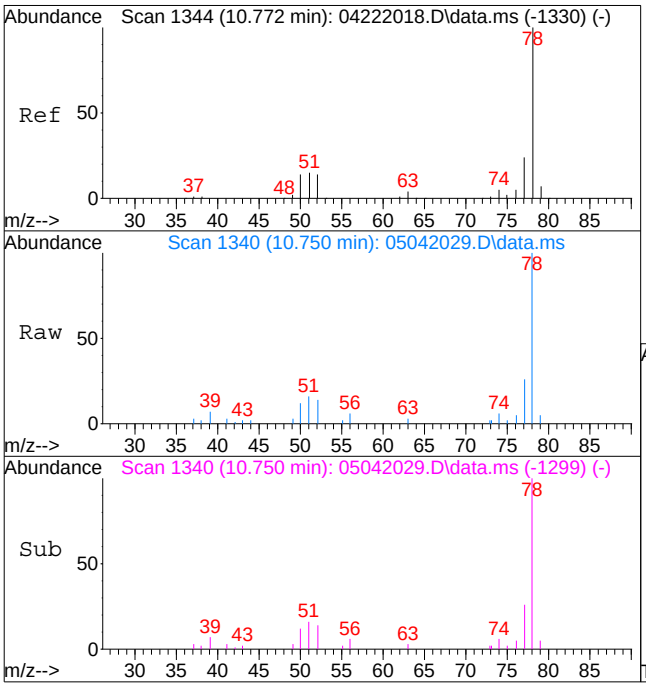


#36
1,2-Dichloroethane
Concen: 0.81 ng
RT: 10.03 min Scan# 1209
Delta R.T. -0.022 min
Lab File: 05042029.D
Acq: 4 May 2020 22:31

Tgt Ion: 62 Resp: 13135

Ion	Ratio	Lower	Upper
62	100		
64	32.9	12.7	52.7

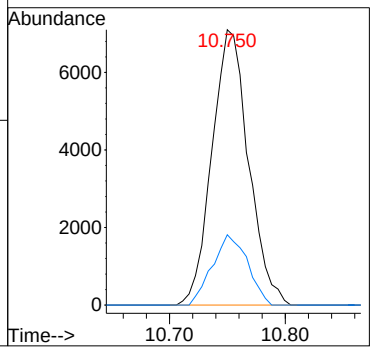


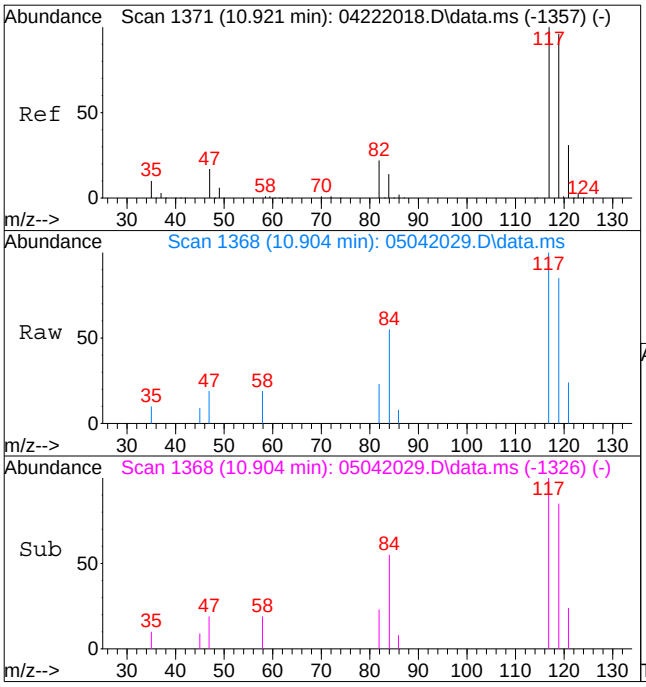


#41
Benzene
Concen: 0.40 ng
RT: 10.75 min Scan# 1340
Delta R.T. -0.022 min
Lab File: 05042029.D
Acq: 4 May 2020 22:31

Tgt Ion: 78 Resp: 15622

Ion	Ratio	Lower	Upper
78	100		
77	24.5	3.6	43.6

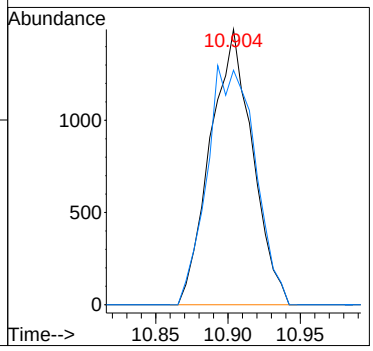


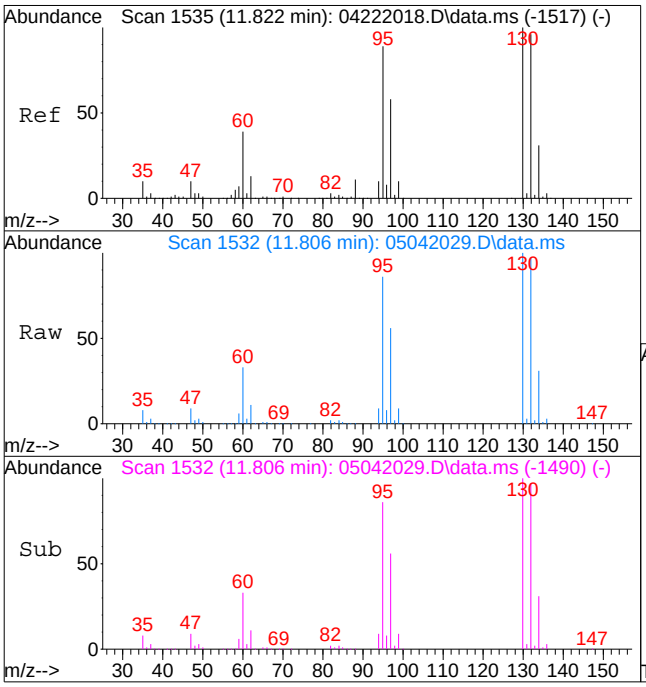


#42
Carbon Tetrachloride
Concen: 0.15 ng
RT: 10.90 min Scan# 1368
Delta R.T. -0.017 min
Lab File: 05042029.D
Acq: 4 May 2020 22:31

Tgt Ion:117 Resp: 3030

Ion	Ratio	Lower	Upper
117	100		
119	98.9	76.5	116.5

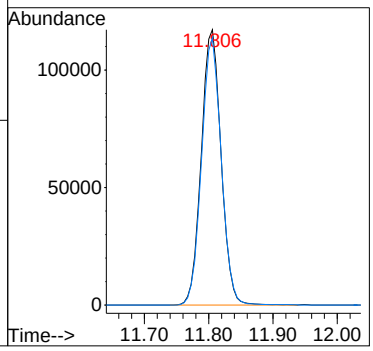


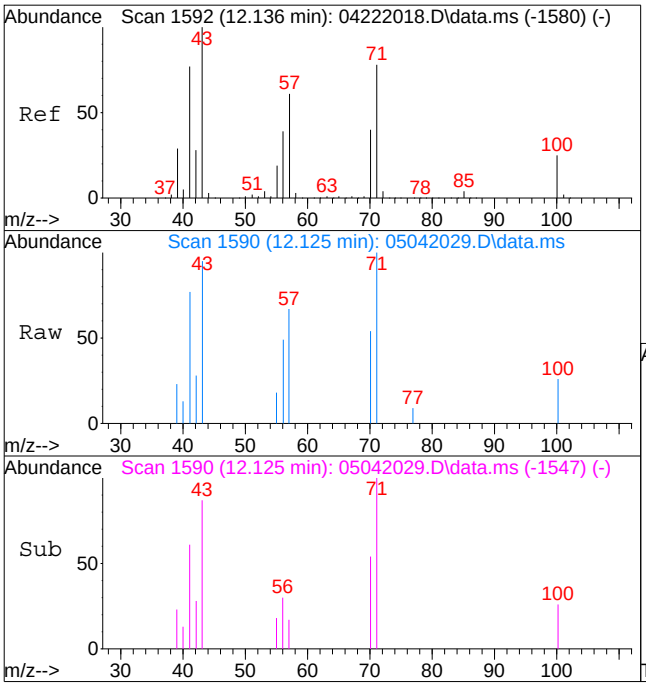


#47
Trichloroethene
Concen: 18.52 ng
RT: 11.81 min Scan# 1532
Delta R.T. -0.017 min
Lab File: 05042029.D
Acq: 4 May 2020 22:31

Tgt Ion:130 Resp: 250569

Ion	Ratio	Lower	Upper
130	100		
132	96.4	76.4	116.4

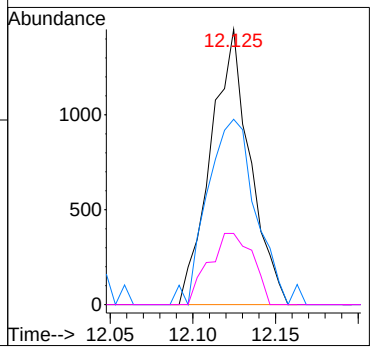


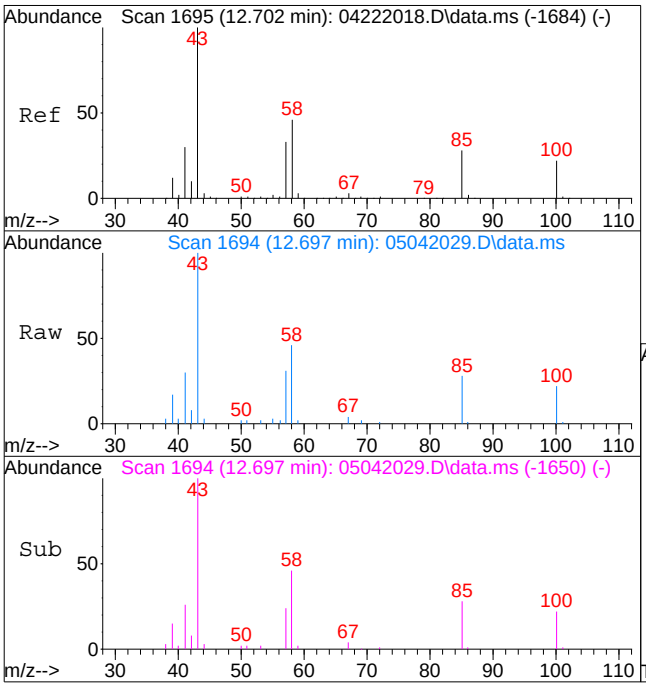


#51
n-Heptane
Concen: 0.26 ng
RT: 12.12 min Scan# 1590
Delta R.T. -0.011 min
Lab File: 05042029.D
Acq: 4 May 2020 22:31

Tgt Ion: 71 Resp: 2403

Ion	Ratio	Lower	Upper
71	100		
57	83.4	57.4	97.4
100	28.7	12.0	52.0

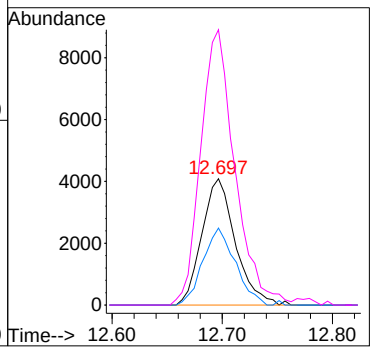


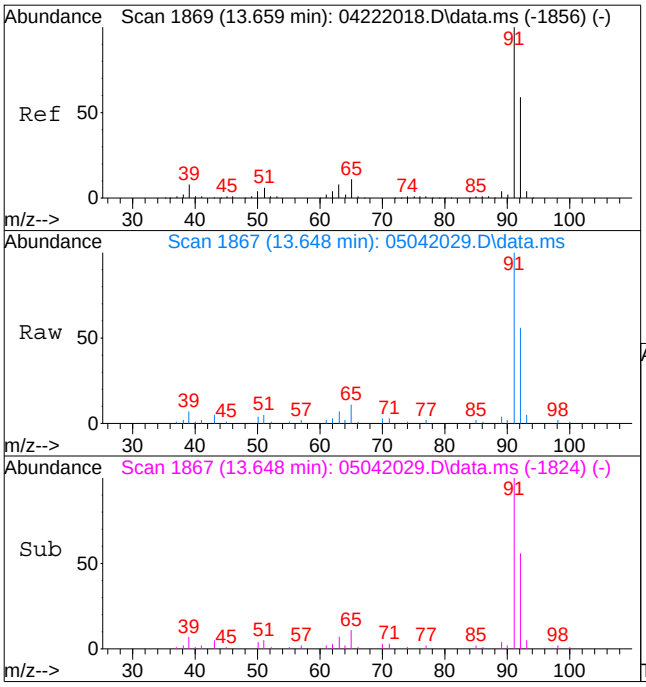


#53
4-Methyl-2-pentanone
Concen: 1.27 ng
RT: 12.70 min Scan# 1694
Delta R.T. -0.006 min
Lab File: 05042029.D
Acq: 4 May 2020 22:31

Tgt Ion: 58 Resp: 8653

Ion	Ratio	Lower	Upper
58	100		
85	59.0	52.2	78.2
43	221.9	176.2	264.4

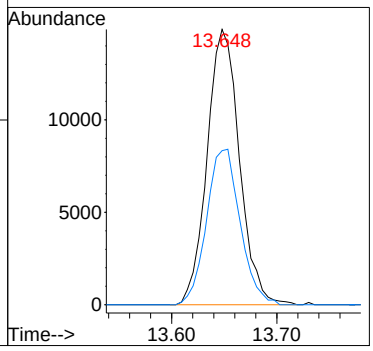


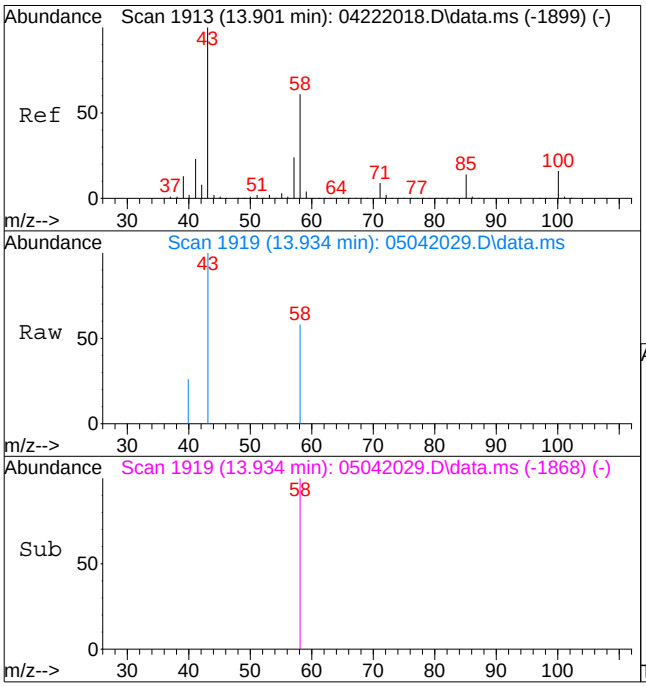


#58
Toluene
Concen: 0.73 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.011 min
Lab File: 05042029.D
Acq: 4 May 2020 22:31

Tgt Ion: 91 Resp: 31966

Ion	Ratio	Lower	Upper
91	100		
92	58.4	38.2	78.2

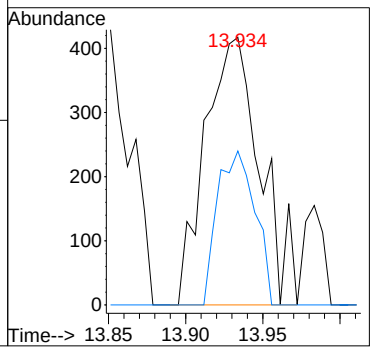


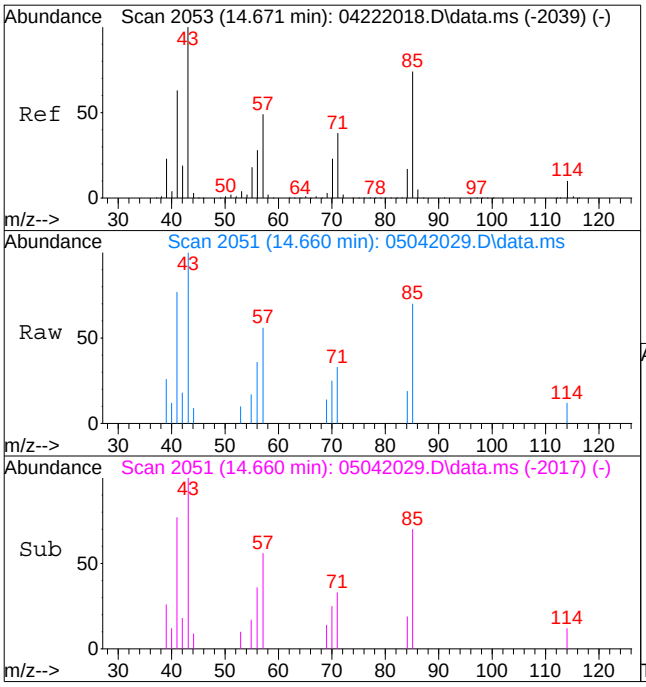


#59
2-Hexanone
Concen: 0.08 ng
RT: 13.93 min Scan# 1919
Delta R.T. 0.033 min
Lab File: 05042029.D
Acq: 4 May 2020 22:31

Tgt Ion: 43 Resp: 1037

Ion	Ratio	Lower	Upper
43	100		
58	39.2	41.1	81.1#

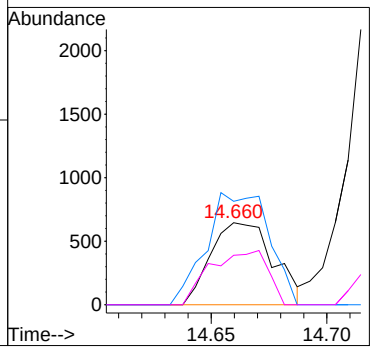


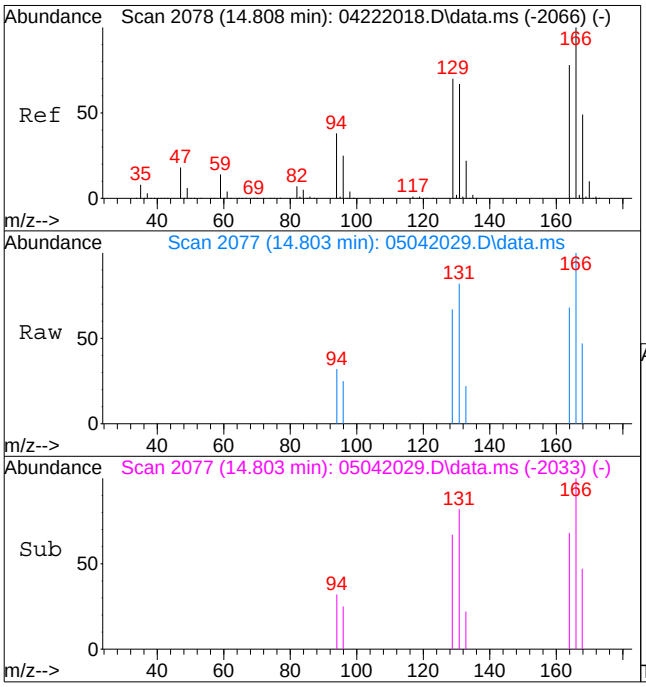


#63
n-Octane
Concen: 0.17 ng
RT: 14.66 min Scan# 2051
Delta R.T. -0.011 min
Lab File: 05042029.D
Acq: 4 May 2020 22:31

Tgt Ion: 57 Resp: 1221

Ion	Ratio	Lower	Upper
57	100		
85	135.9	120.7	181.1
71	60.4	61.1	91.7#

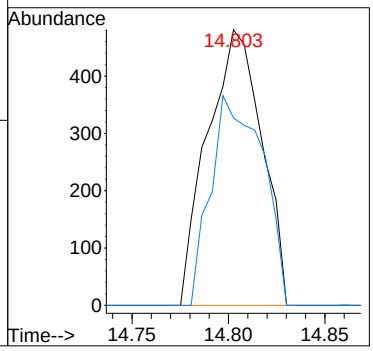


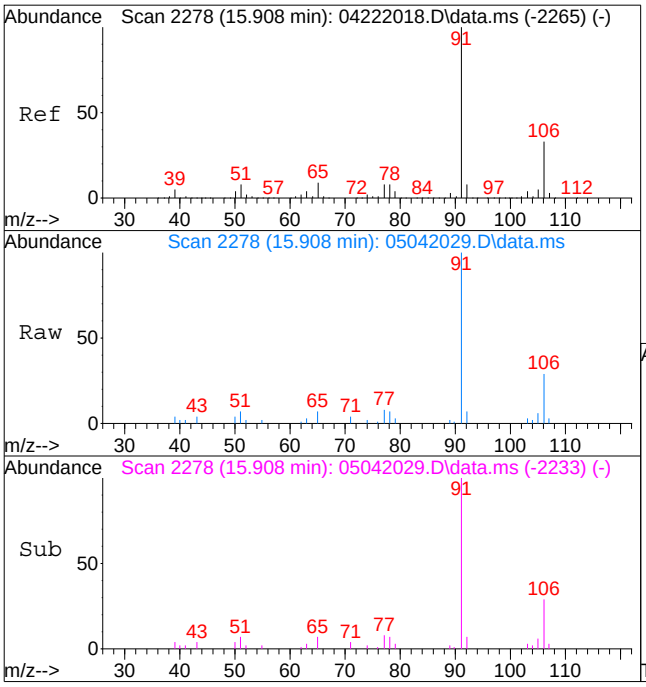


#64
Tetrachloroethene
Concen: 0.06 ng
RT: 14.80 min Scan# 2077
Delta R.T. -0.006 min
Lab File: 05042029.D
Acq: 4 May 2020 22:31

Tgt Ion:166 Resp: 944

Ion	Ratio	Lower	Upper
166	100		
164	72.7	57.7	97.7

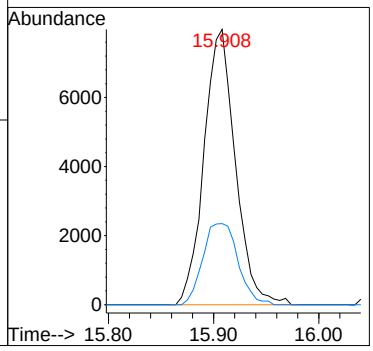


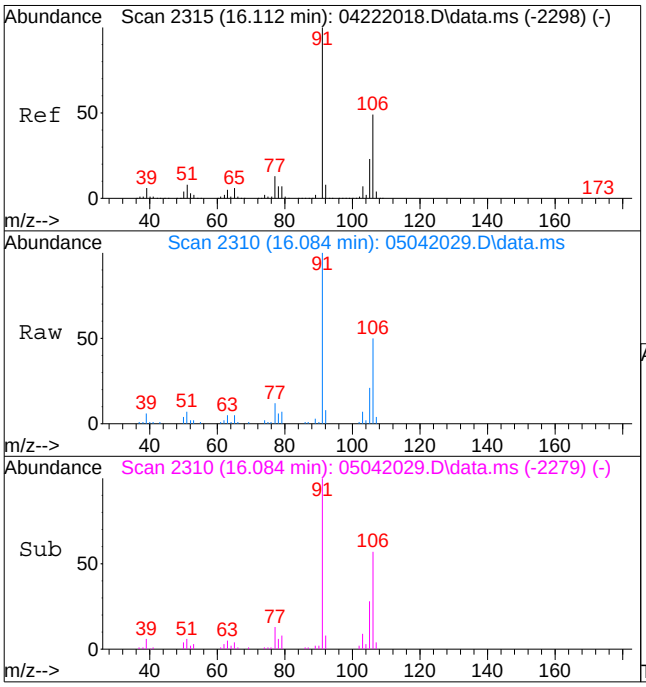


#66
Ethylbenzene
Concen: 0.32 ng
RT: 15.91 min Scan# 2278
Delta R.T. -0.000 min
Lab File: 05042029.D
Acq: 4 May 2020 22:31

Tgt Ion: 91 Resp: 16518

Ion	Ratio	Lower	Upper
91	100		
106	33.0	13.4	53.4

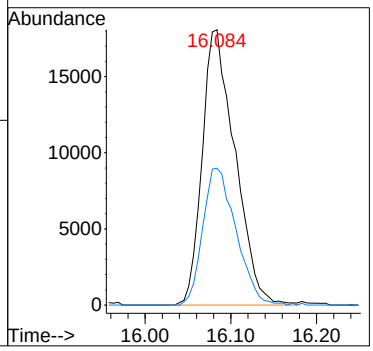


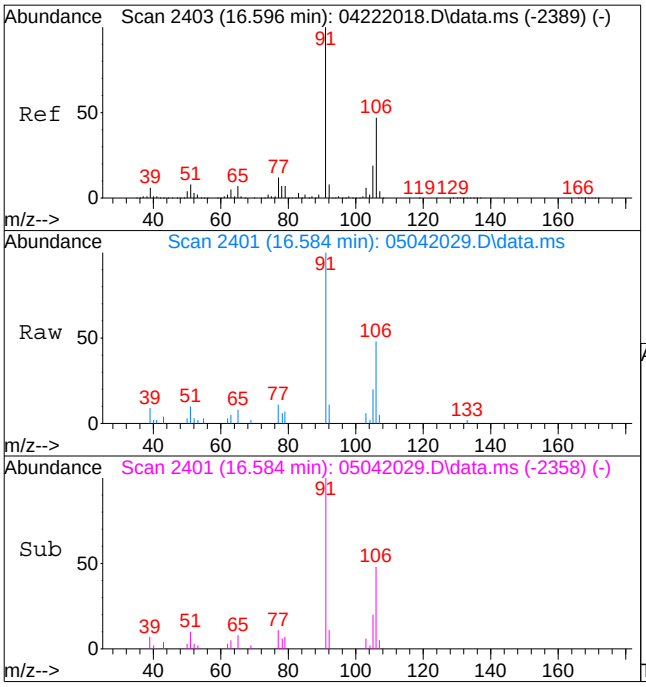


#67
m- & p-Xylenes
Concen: 1.11 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.028 min
Lab File: 05042029.D
Acq: 4 May 2020 22:31

Tgt Ion: 91 Resp: 48135

Ion	Ratio	Lower	Upper
91	100		
106	50.2	28.3	68.3

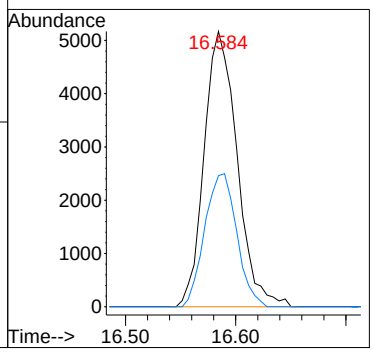


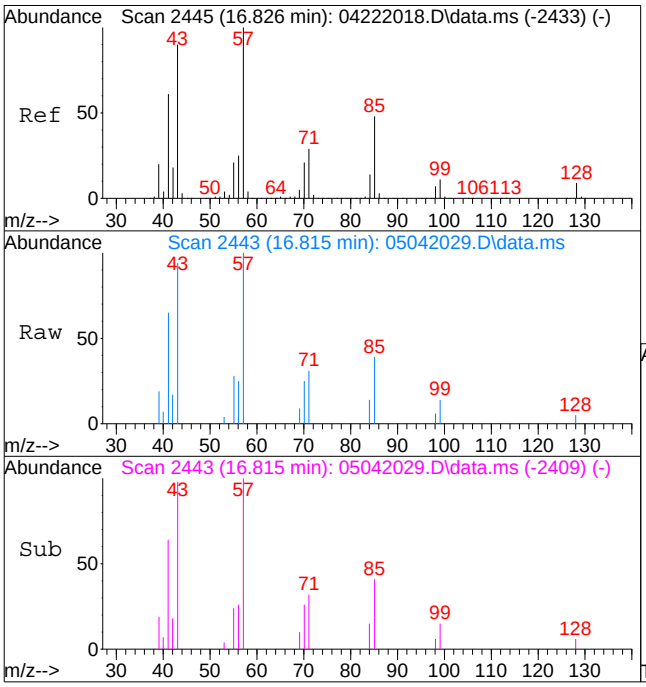


#70
o-Xylene
Concen: 0.25 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 05042029.D
Acq: 4 May 2020 22:31

Tgt Ion: 91 Resp: 10740

Ion	Ratio	Lower	Upper
91	100		
106	46.9	27.5	67.5

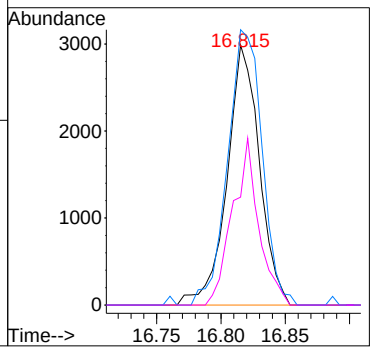


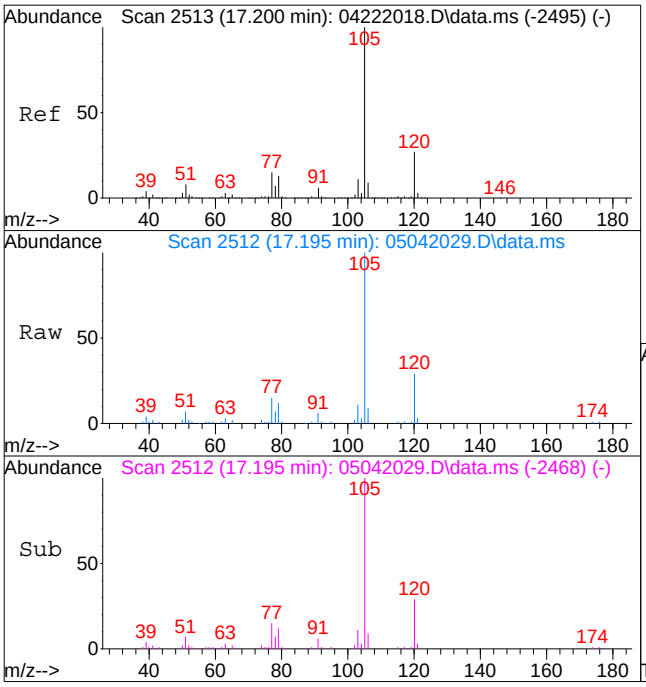


#71
n-Nonane
Concen: 0.38 ng
RT: 16.82 min Scan# 2443
Delta R.T. -0.011 min
Lab File: 05042029.D
Acq: 4 May 2020 22:31

Tgt Ion: 43 Resp: 5217

Ion	Ratio	Lower	Upper
43	100		
57	112.8	90.8	130.8
85	51.8	32.1	72.1

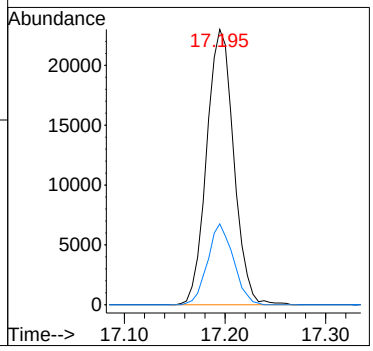


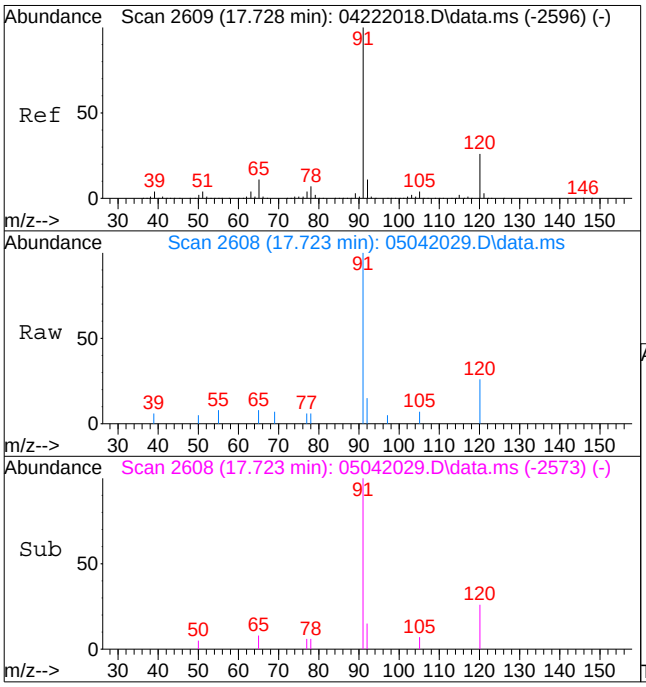


#74
Cumene
Concen: 0.78 ng
RT: 17.19 min Scan# 2512
Delta R.T. -0.006 min
Lab File: 05042029.D
Acq: 4 May 2020 22:31

Tgt Ion:105 Resp: 42966

Ion	Ratio	Lower	Upper
105	100		
120	28.0	7.3	47.3

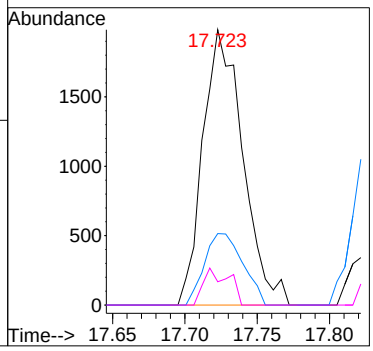


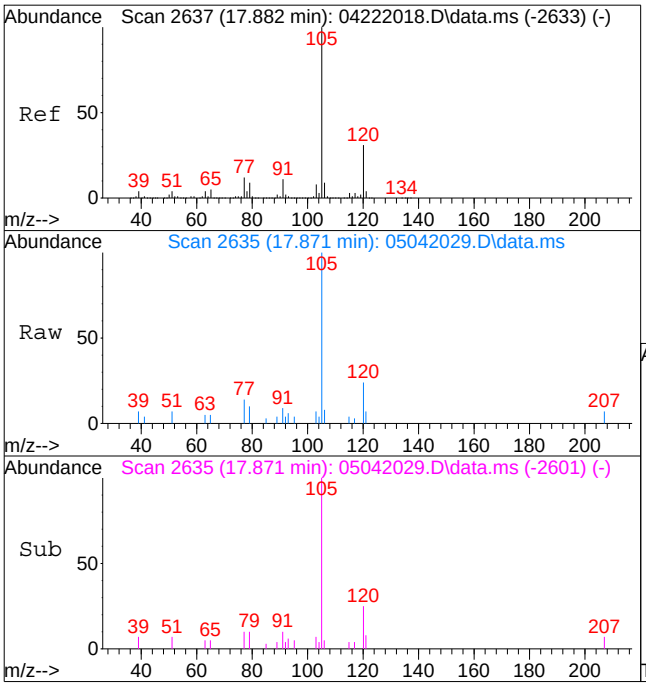


#76
n-Propylbenzene
Concen: 0.06 ng
RT: 17.72 min Scan# 2608
Delta R.T. -0.006 min
Lab File: 05042029.D
Acq: 4 May 2020 22:31

Tgt Ion: 91 Resp: 3817

Ion	Ratio	Lower	Upper
91	100		
120	25.0	6.1	46.1
65	8.5	0.0	30.7

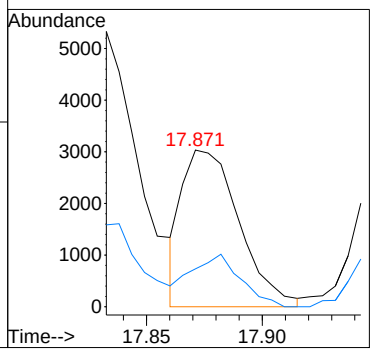


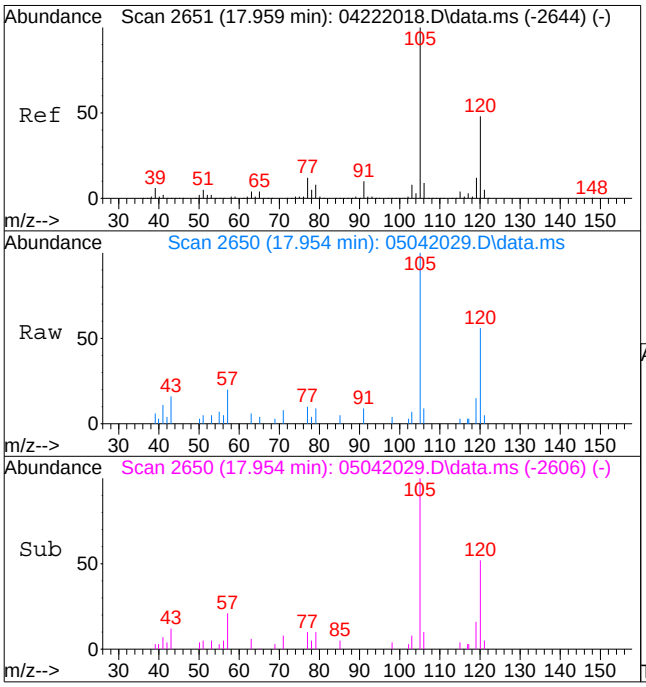


#78
4-Ethyltoluene
Concen: 0.10 ng
RT: 17.87 min Scan# 2635
Delta R.T. -0.011 min
Lab File: 05042029.D
Acq: 4 May 2020 22:31

Tgt Ion:105 Resp: 5215

Ion	Ratio	Lower	Upper
105	100		
120	29.4	11.4	51.4

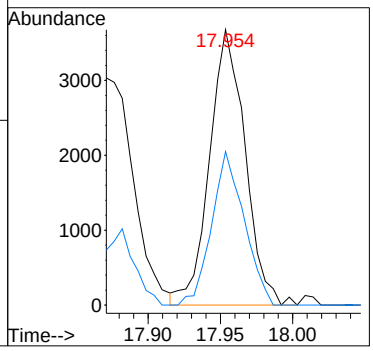


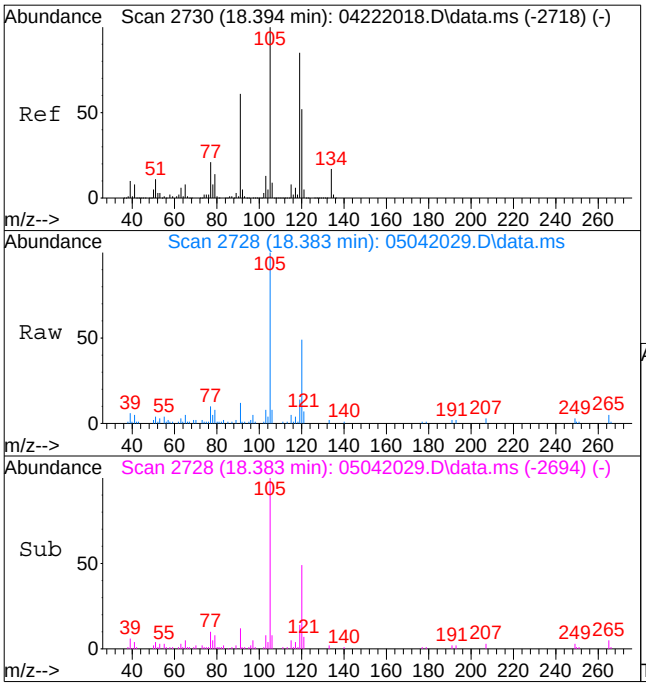


#79
1,3,5-Trimethylbenzene
Concen: 0.13 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 05042029.D
Acq: 4 May 2020 22:31

Tgt Ion:105 Resp: 6307

Ion	Ratio	Lower	Upper
105	100		
120	51.0	29.5	69.5

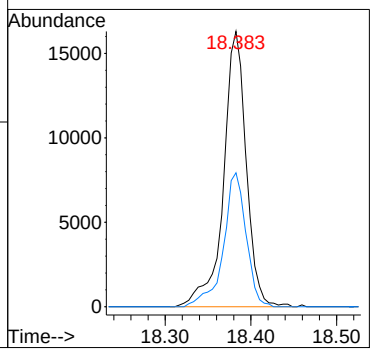


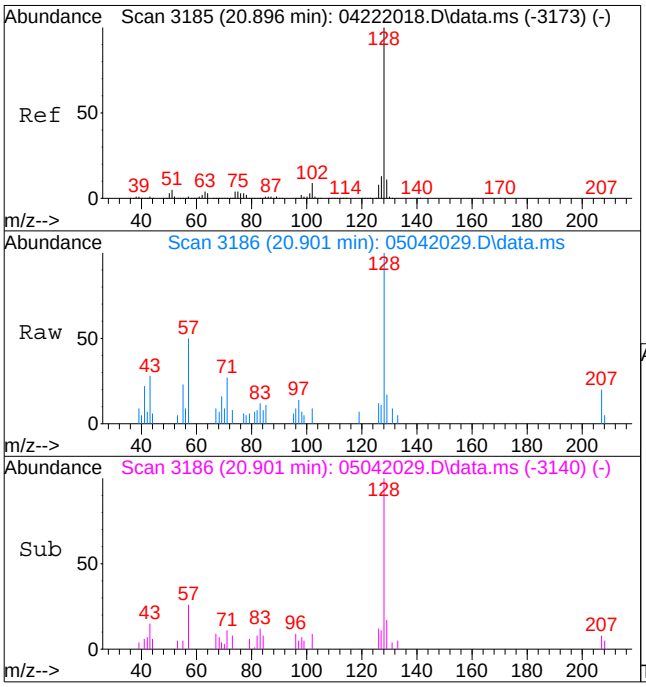


#82
1,2,4-Trimethylbenzene
Concen: 0.64 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 05042029.D
Acq: 4 May 2020 22:31

Tgt Ion:105 Resp: 30123

Ion	Ratio	Lower	Upper
105	100		
120	48.4	34.5	74.5

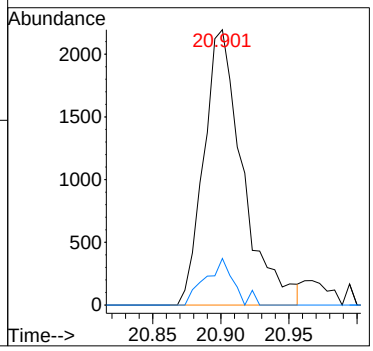




#95
Naphthalene
Concen: 0.07 ng
RT: 20.90 min Scan# 3186
Delta R.T. 0.005 min
Lab File: 05042029.D
Acq: 4 May 2020 22:31

Tgt Ion:128 Resp: 4366

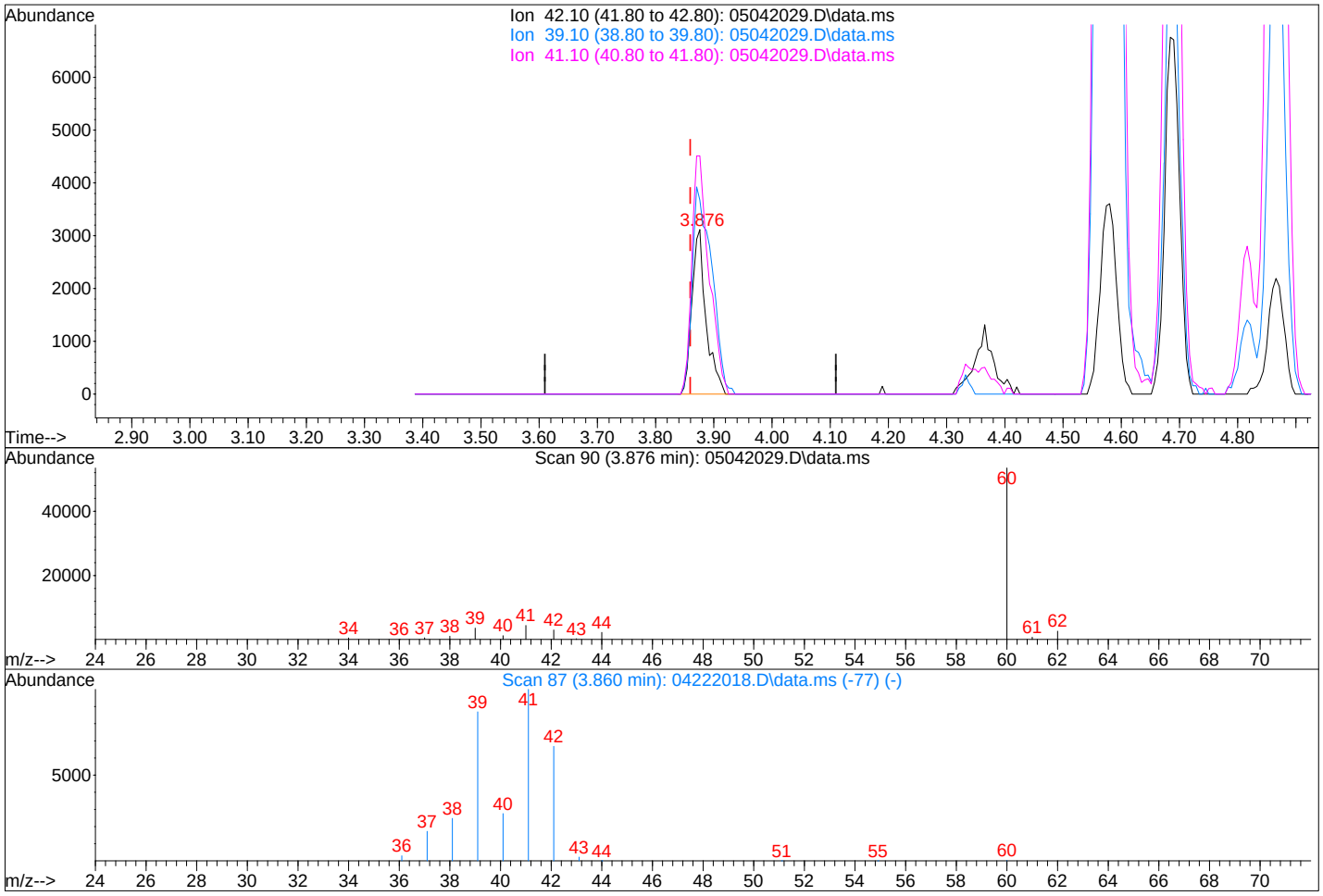
Ion	Ratio	Lower	Upper
128	100		
129	12.3	0.0	30.9



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_05\04\05042029.D Vial: 13
Acq On : 4 May 2020 22:31 Operator: SC
Sample : P2002106-013 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 05:34:07 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05042029.D\data.ms

(2) Propene (T)

3.876min (+0.016) 0.86ng

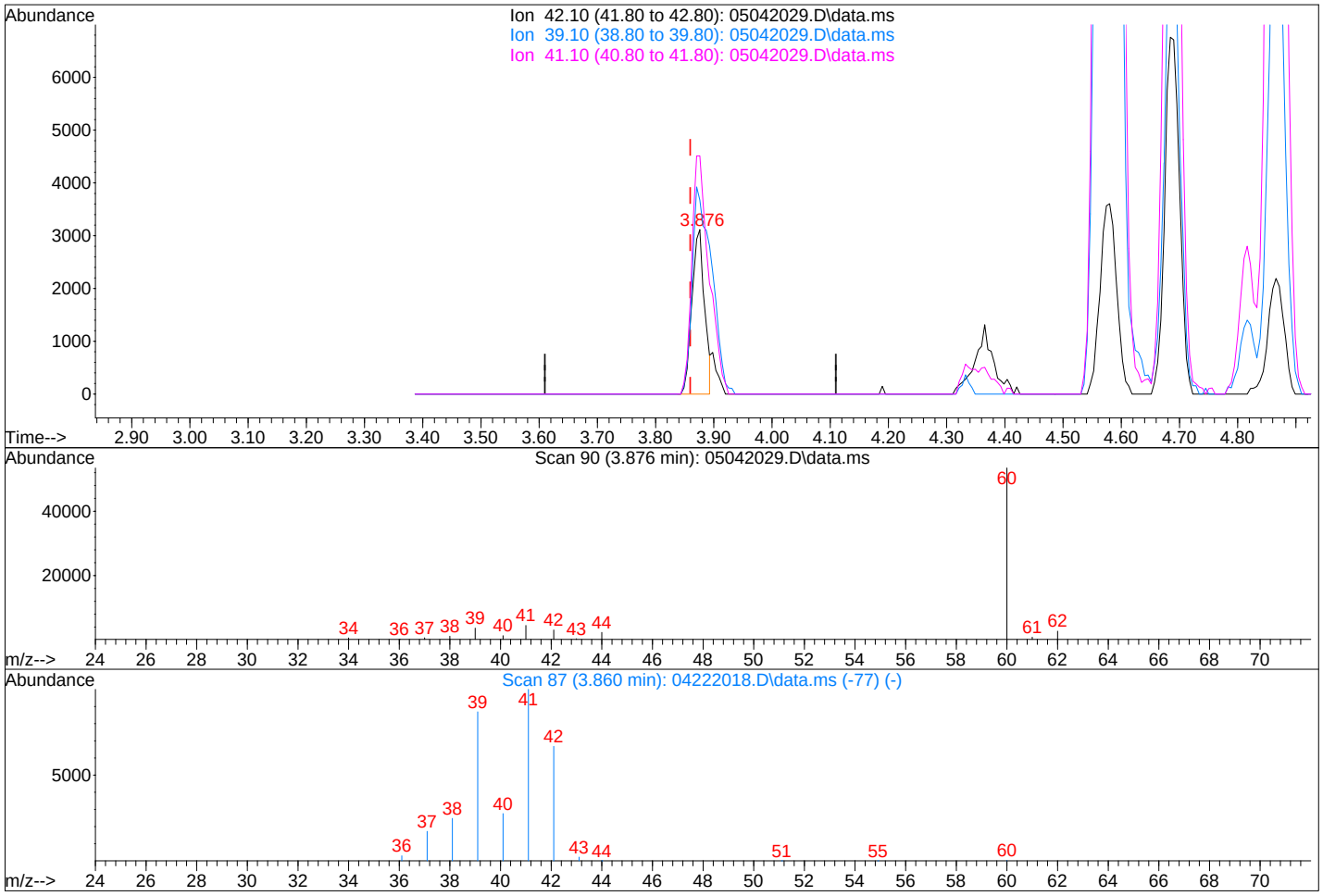
response 5246

Ion	Exp%	Act%
42.10	100	100
39.10	126.40	173.79#
41.10	148.80	176.73#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_05\04\05042029.D Vial: 13
Acq On : 4 May 2020 22:31 Operator: SC
Sample : P2002106-013 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 05:34:07 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05042029.D\data.ms

(2) Propene (T)

3.876min (+0.016) 0.77ng m

response 4679

Ion	Exp%	Act%
42.10	100	100
39.10	126.40	194.85#
41.10	148.80	198.14#
0.00	0.00	0.00

IPC

5/5/20

TD 5/7/20

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042030.D Vial: 14
Acq On : 4 May 2020 23:04 Operator: SC
Sample : P2002106-014 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 14:55:21 2020 5/5/20
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	142369	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	596994	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	270405	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	214159	11.610	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.88%				
57) Toluene-d8 (SS2)	13.54	98	658140	12.605	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.88%				
73) Bromofluorobenzene (SS3)	17.05	174	269010	12.820	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.56%				
Target Compounds							Qvalue
2) Propene	3.89	42	753	0.125	ng	#	61
3) Dichlorodifluoromethan...	4.00	85	11944	0.520	ng		99
4) Chloromethane	4.20	50	150	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	262	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.36	45	7041	1.537	ng		78
11) Acetonitrile	5.59	41	33	N.D.			
12) Acrolein	5.73	56	478	0.114	ng		96
13) Acetone	5.87	58	5812	1.057	ng		100
14) Trichlorofluoromethane	6.03	101	6723	0.294	ng		98
15) 2-Propanol (Isopropanol)	6.19	45	2846	0.163	ng		96
16) Acrylonitrile	6.44	53	185	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	6.88	59	278	N.D.			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	7.19	151	3018	0.254	ng		99
22) Carbon Disulfide	7.16	76	25008	0.780	ng		96
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	8.29	86	331	0.165	ng	#	68
27) 2-Butanone (MEK)	8.56	72	1414	0.250	ng	#	88
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	9.28	87	304	N.D.			
30) Ethyl Acetate	9.23	61	3459	1.376	ng		96
31) n-Hexane	9.23	57	497	N.D.			
32) Chloroform	9.28	83	3462	0.177	ng		94
34) Tetrahydrofuran (THF)	9.68	72	23275	4.068	ng		96
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D. d			
41) Benzene	10.75	78	2235	0.057	ng		93
42) Carbon Tetrachloride	10.90	117	2294	0.114	ng		97
43) Cyclohexane	11.03	84	1058	0.069	ng		93
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D. d			
47) Trichloroethene	11.81	130	935335	69.397	ng		100
48) 1,4-Dioxane	11.82	88	375	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d			
50) Methyl Methacrylate	0.00	100	0	N.D. d			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042030.D Vial: 14
Acq On : 4 May 2020 23:04 Operator: SC
Sample : P2002106-014 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 14:55:21 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

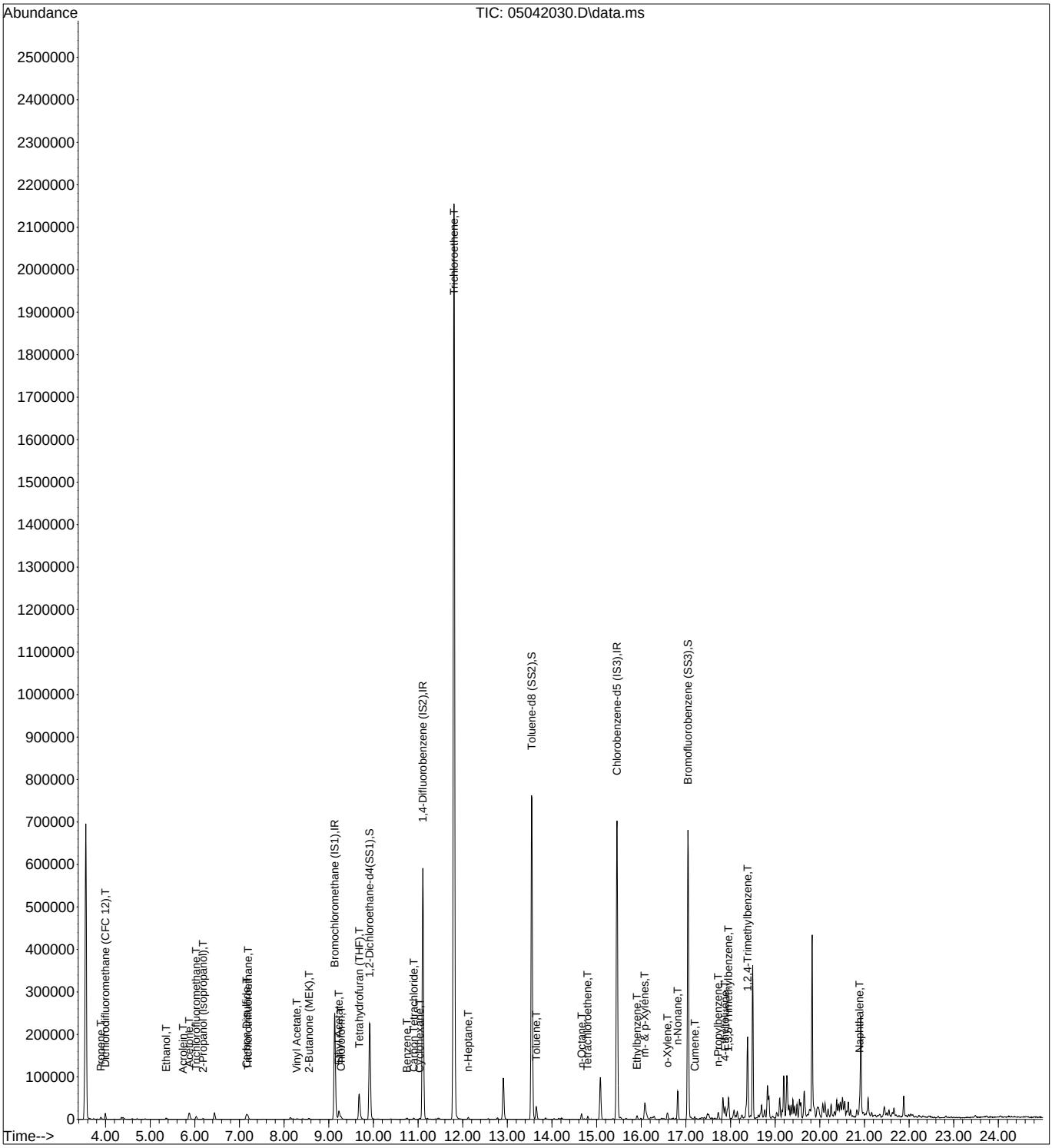
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.12	71	1232	0.136 ng	98
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.65	91	27346	0.624 ng	97
59) 2-Hexanone	13.90	43	428	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	14.58	43	102	N.D.	
63) n-Octane	14.67	57	2635	0.378 ng	94
64) Tetrachloroethene	14.80	166	2561	0.155 ng	97
65) Chlorobenzene	15.55	112	371	N.D.	
66) Ethylbenzene	15.90	91	8362	0.164 ng	95
67) m- & p-Xylenes	16.08	91	37437	0.869 ng	96
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.48	104	272	N.D.	
70) o-Xylene	16.59	91	11958	0.283 ng	98
71) n-Nonane	16.82	43	20621	1.511 ng	97
72) 1,1,2,2-Tetrachloroethane	16.66	83	377	N.D.	
74) Cumene	17.20	105	3027	0.055 ng	96
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.72	91	14820	0.246 ng	100
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	19128	0.364 ng	97
79) 1,3,5-Trimethylbenzene	17.95	105	23068	0.476 ng	97
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	112936	2.408 ng	89
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	0.00	91	0	N.D. d	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	18.98	68	245	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.89	128	31214	0.517 ng	95
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042030.D Vial: 14
Acq On : 4 May 2020 23:04 Operator: SC
Sample : P2002106-014 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 14:55:21 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042030.D Vial: 14
Acq On : 4 May 2020 23:04 Operator: SC
Sample : P2002106-014 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 14:55:21 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/5/20

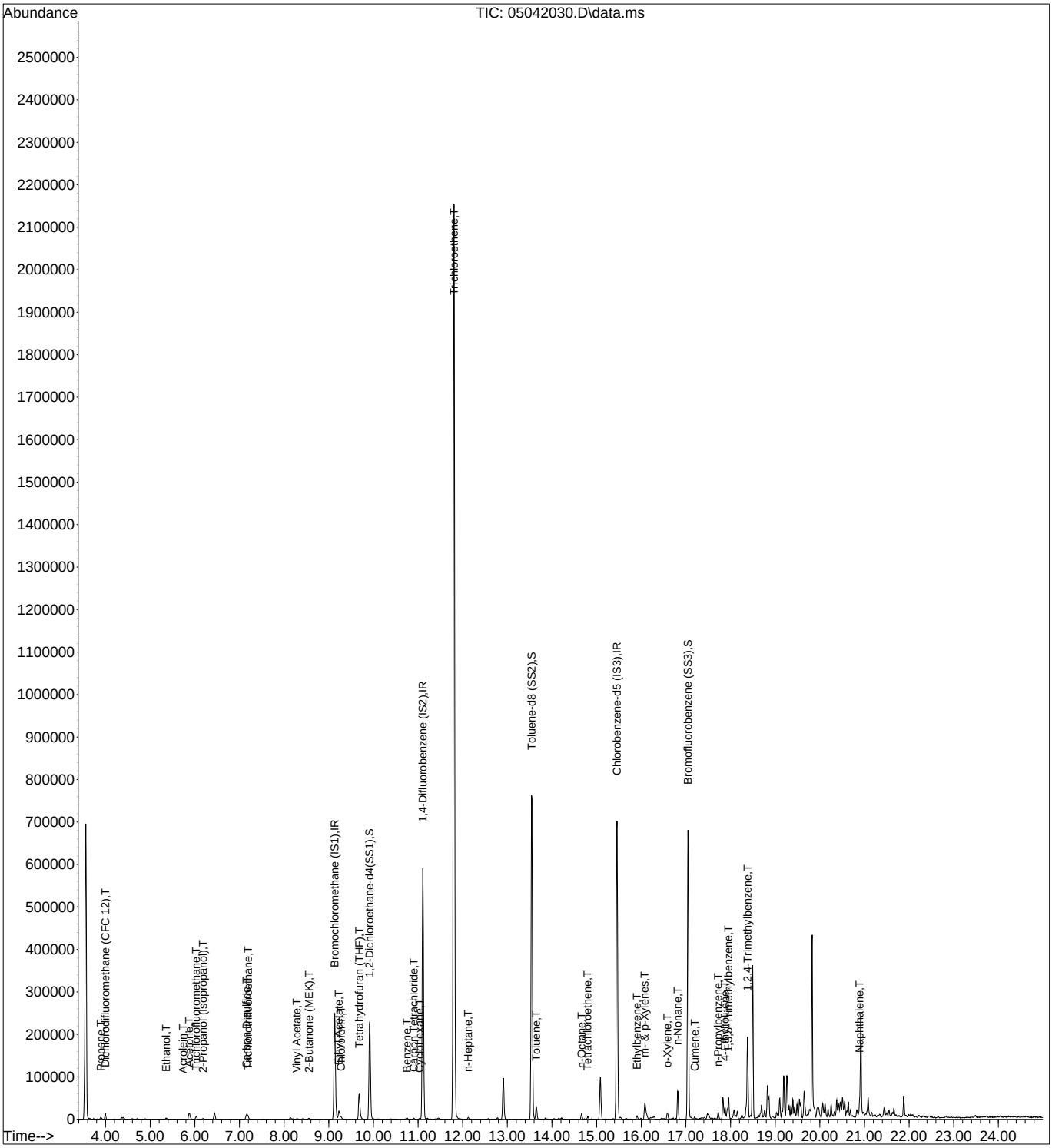
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	142369	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	596994	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	270405	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	214159	11.610	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.88%			
57) Toluene-d8 (SS2)	13.54	98	658140	12.605	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.88%			
73) Bromofluorobenzene (SS3)	17.05	174	269010	12.820	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.56%			
Target Compounds						Qvalue
2) Propene	3.89	42	753	0.125	ng	# 61
3) Dichlorodifluoromethan...	4.00	85	11944	0.520	ng	99
10) Ethanol	5.36	45	7041	1.537	ng	78
12) Acrolein	5.73	56	478	0.114	ng	96
13) Acetone	5.87	58	5812	1.057	ng	100
14) Trichlorofluoromethane	6.03	101	6723	0.294	ng	98
15) 2-Propanol (Isopropanol)	6.19	45	2846	0.163	ng	96
21) Trichlorotrifluoroethane	7.19	151	3018	0.254	ng	99
22) Carbon Disulfide	7.16	76	25008	0.780	ng	96
26) Vinyl Acetate	8.29	86	331	0.165	ng	# 68
27) 2-Butanone (MEK)	8.56	72	1414	0.250	ng	# 88
30) Ethyl Acetate	9.23	61	3459	1.376	ng	96
32) Chloroform	9.28	83	3462	0.177	ng	94
34) Tetrahydrofuran (THF)	9.68	72	23275	4.068	ng	96
41) Benzene	10.75	78	2235	0.057	ng	93
42) Carbon Tetrachloride	10.90	117	2294	0.114	ng	97
43) Cyclohexane	11.03	84	1058	0.069	ng	93
47) Trichloroethene	11.81	130	935335	69.397	ng	100
51) n-Heptane	12.12	71	1232	0.136	ng	98
58) Toluene	13.65	91	27346	0.624	ng	97
63) n-Octane	14.67	57	2635	0.378	ng	94
64) Tetrachloroethene	14.80	166	2561	0.155	ng	97
66) Ethylbenzene	15.90	91	8362	0.164	ng	95
67) m- & p-Xylenes	16.08	91	37437	0.869	ng	96
70) o-Xylene	16.59	91	11958	0.283	ng	98
71) n-Nonane	16.82	43	20621	1.511	ng	97
74) Cumene	17.20	105	3027	0.055	ng	96
76) n-Propylbenzene	17.72	91	14820	0.246	ng	100
78) 4-Ethyltoluene	17.88	105	19128	0.364	ng	97
79) 1,3,5-Trimethylbenzene	17.95	105	23068	0.476	ng	97
82) 1,2,4-Trimethylbenzene	18.38	105	112936	2.408	ng	89
95) Naphthalene	20.89	128	31214	0.517	ng	95

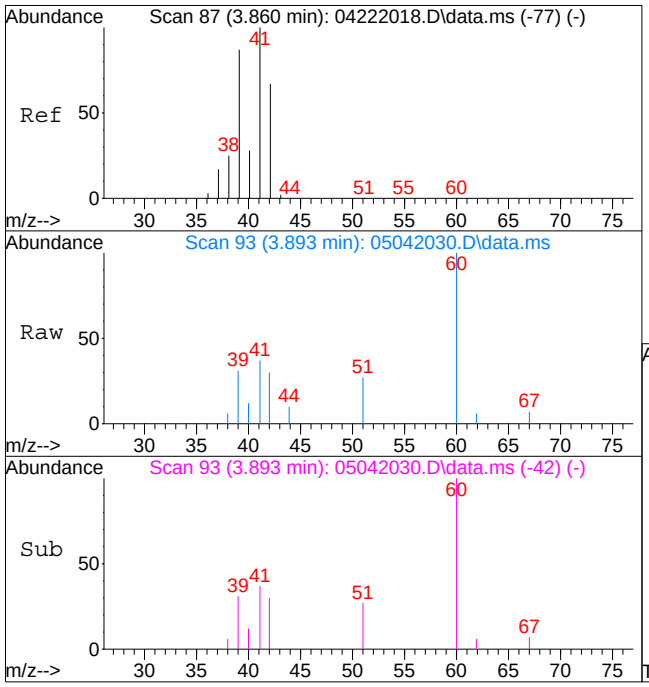
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042030.D Vial: 14
Acq On : 4 May 2020 23:04 Operator: SC
Sample : P2002106-014 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 14:55:21 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

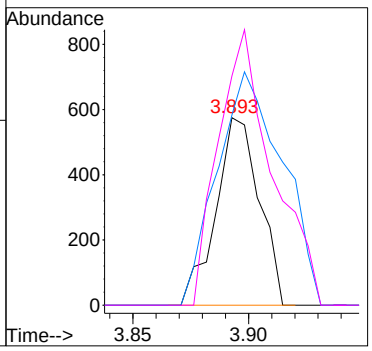


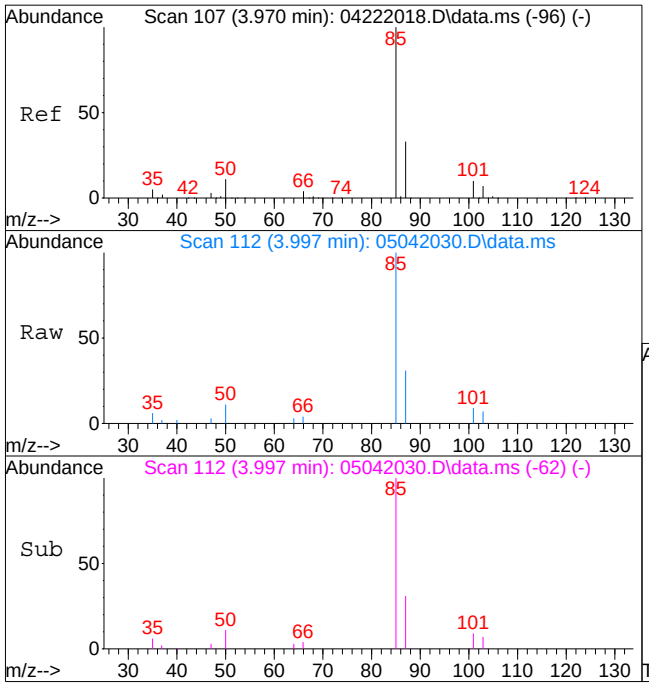


#2
Propene
Concen: 0.12 ng
RT: 3.89 min Scan# 93
Delta R.T. 0.033 min
Lab File: 05042030.D
Acq: 4 May 2020 23:04

Tgt Ion: 42 Resp: 753

Ion	Ratio	Lower	Upper
42	100		
39	187.0	106.4	146.4#
41	182.6	128.8	168.8#

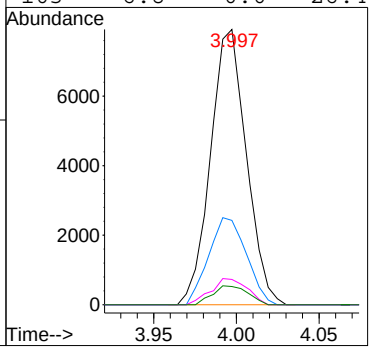


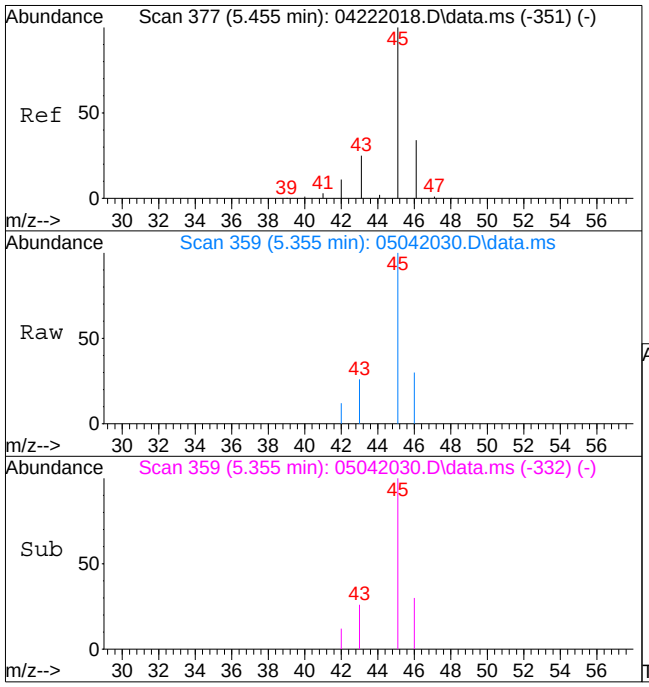


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.52 ng
RT: 4.00 min Scan# 112
Delta R.T. 0.027 min
Lab File: 05042030.D
Acq: 4 May 2020 23:04

Tgt Ion: 85 Resp: 11944

Ion	Ratio	Lower	Upper
85	100		
87	33.2	12.4	52.4
101	9.7	0.0	29.9
103	6.8	0.0	26.4

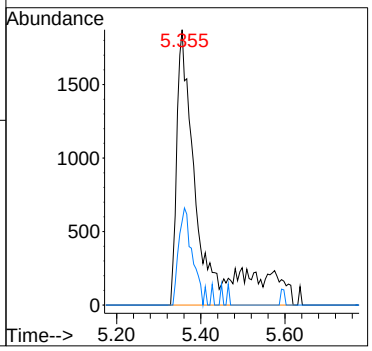


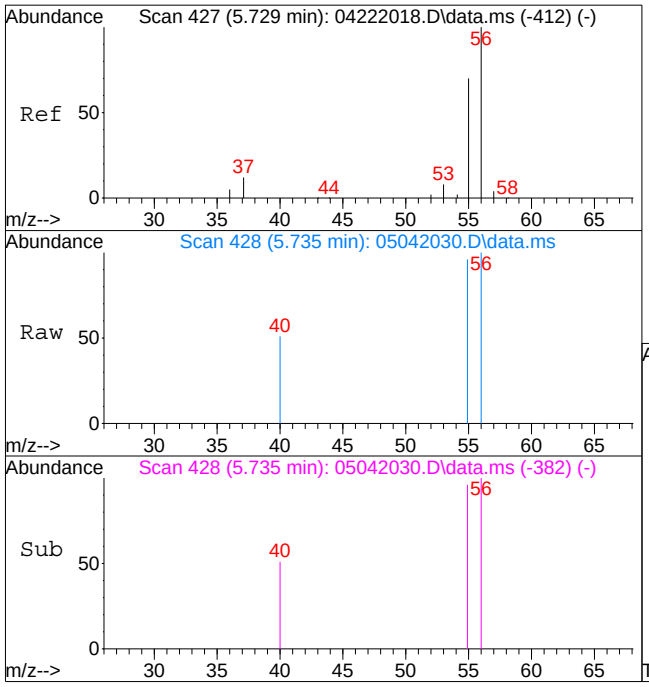


#10
Ethanol
Concen: 1.54 ng
RT: 5.36 min Scan# 359
Delta R.T. -0.099 min
Lab File: 05042030.D
Acq: 4 May 2020 23:04

Tgt Ion: 45 Resp: 7041

Ion	Ratio	Lower	Upper
45	100		
46	21.5	14.0	54.0

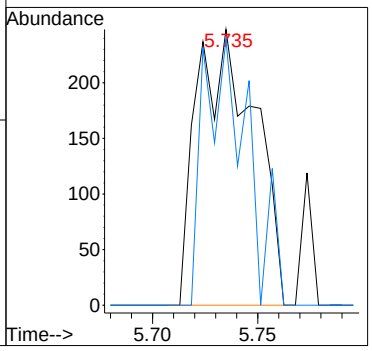


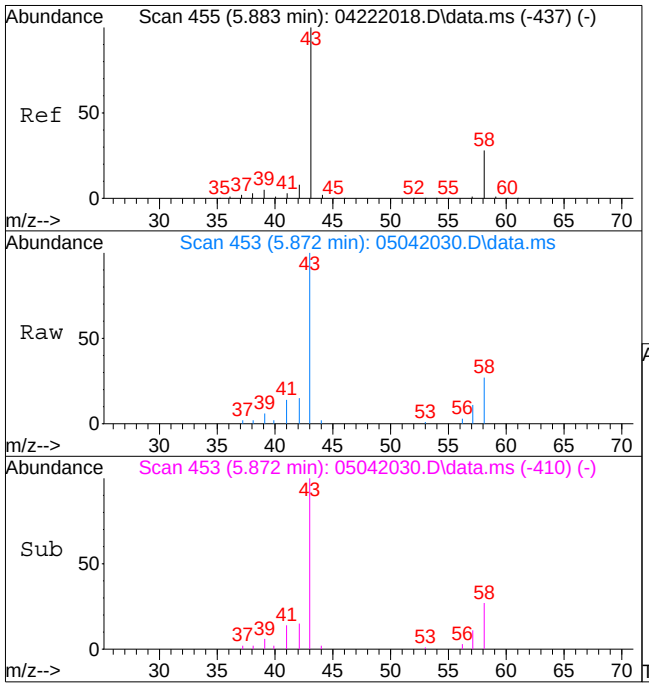


#12
Acrolein
Concen: 0.11 ng
RT: 5.73 min Scan# 428
Delta R.T. 0.005 min
Lab File: 05042030.D
Acq: 4 May 2020 23:04

Tgt Ion: 56 Resp: 478

Ion	Ratio	Lower	Upper
56	100		
55	73.6	50.4	90.4

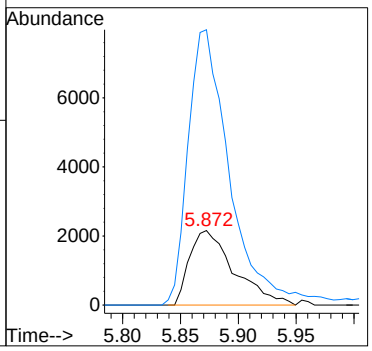


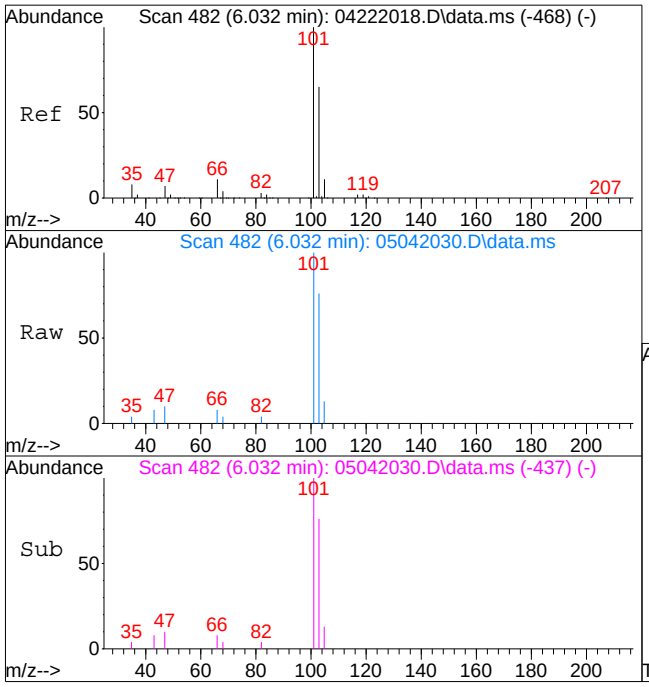


#13
Acetone
Concen: 1.06 ng
RT: 5.87 min Scan# 453
Delta R.T. -0.011 min
Lab File: 05042030.D
Acq: 4 May 2020 23:04

Tgt Ion: 58 Resp: 5812

Ion	Ratio	Lower	Upper
58	100		
43	350.2	319.3	379.3

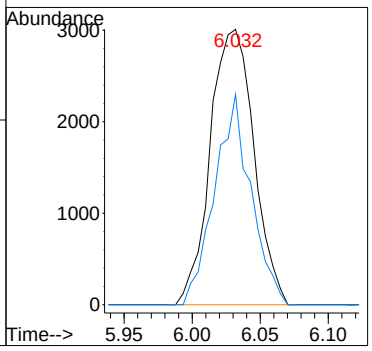


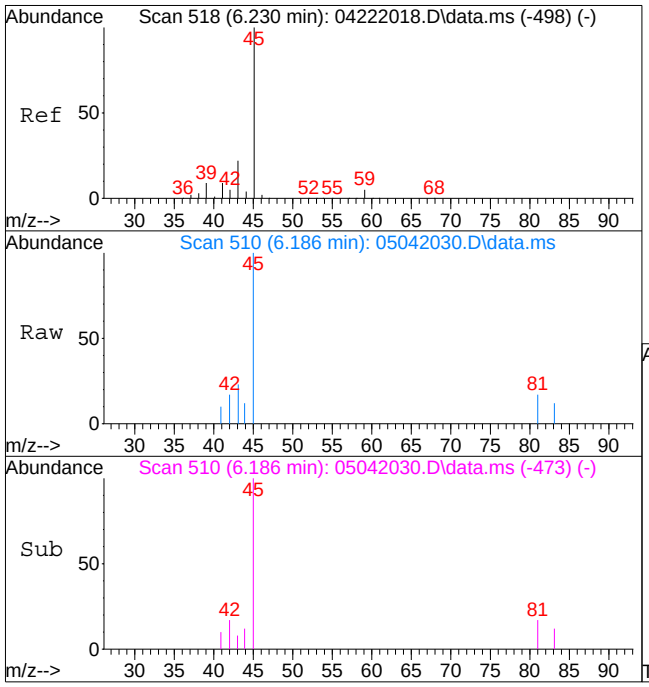


#14
Trichlorofluoromethane
Concen: 0.29 ng
RT: 6.03 min Scan# 482
Delta R.T. -0.000 min
Lab File: 05042030.D
Acq: 4 May 2020 23:04

Tgt Ion:101 Resp: 6723

Ion	Ratio	Lower	Upper
101	100		
103	63.5	44.7	84.7

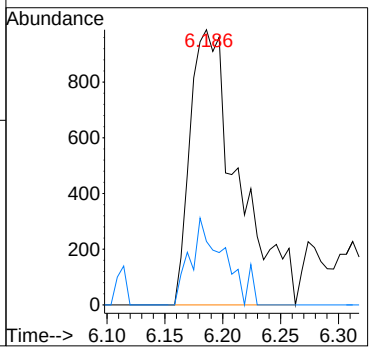


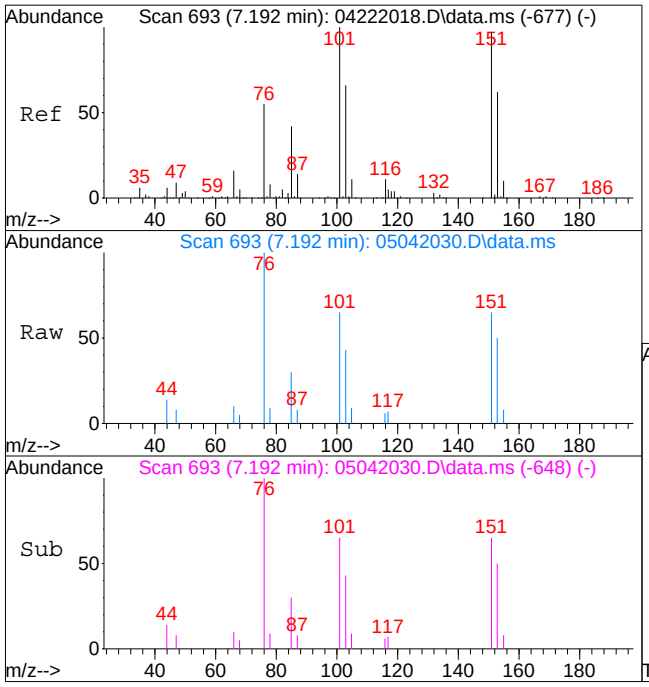


#15
2-Propanol (Isopropanol)
Concen: 0.16 ng
RT: 6.19 min Scan# 510
Delta R.T. -0.044 min
Lab File: 05042030.D
Acq: 4 May 2020 23:04

Tgt Ion: 45 Resp: 2846

Ion	Ratio	Lower	Upper
45	100		
43	20.8	2.6	42.6

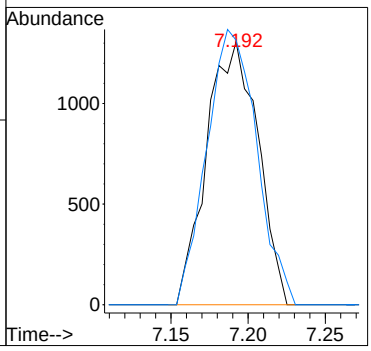


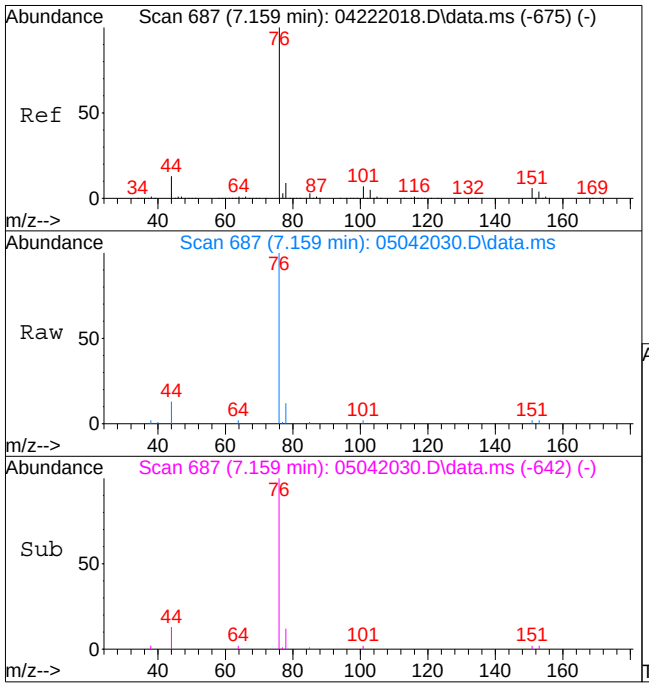


#21
Trichlorotrifluoroethane
Concen: 0.25 ng
RT: 7.19 min Scan# 693
Delta R.T. -0.000 min
Lab File: 05042030.D
Acq: 4 May 2020 23:04

Tgt Ion:151 Resp: 3018

Ion	Ratio	Lower	Upper
151	100		
101	102.1	82.9	122.9

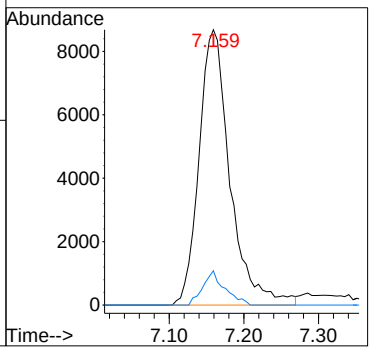


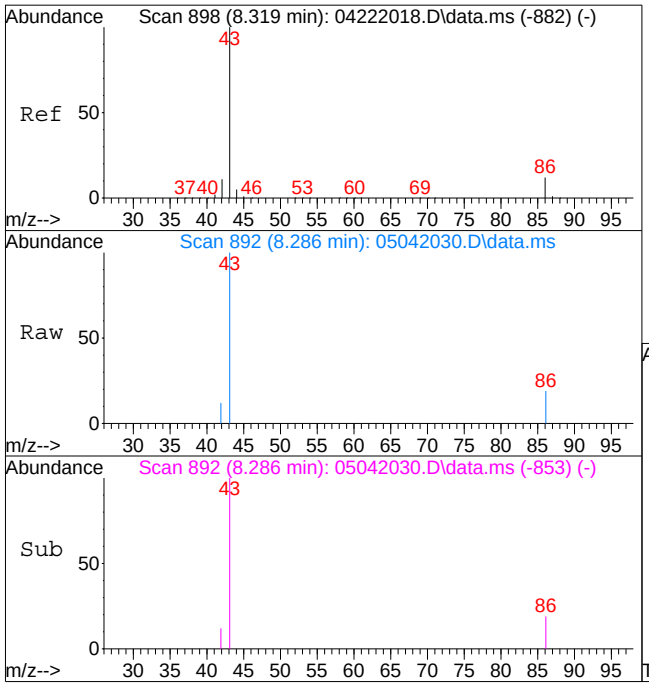


#22
Carbon Disulfide
Concen: 0.78 ng
RT: 7.16 min Scan# 687
Delta R.T. -0.000 min
Lab File: 05042030.D
Acq: 4 May 2020 23:04

Tgt Ion: 76 Resp: 25008

Ion	Ratio	Lower	Upper
76	100		
78	8.8	0.0	30.2

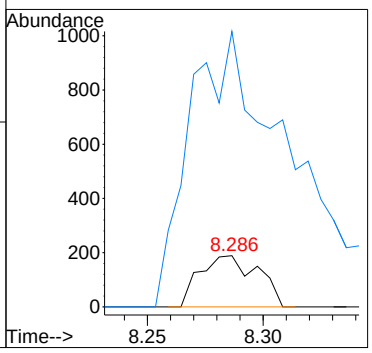


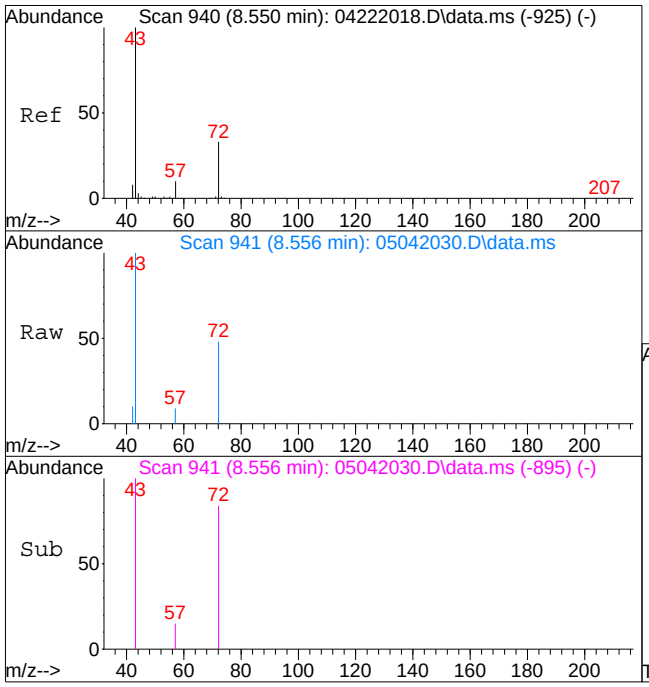


#26
Vinyl Acetate
Concen: 0.16 ng
RT: 8.29 min Scan# 892
Delta R.T. -0.033 min
Lab File: 05042030.D
Acq: 4 May 2020 23:04

Tgt Ion: 86 Resp: 331

Ion	Ratio	Lower	Upper
86	100		
43	946.8	803.0	843.0#

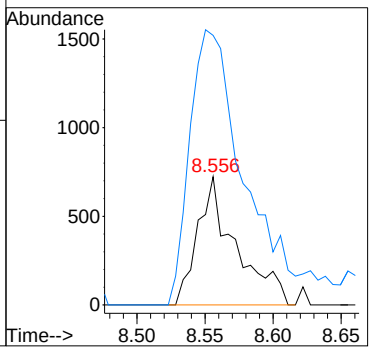


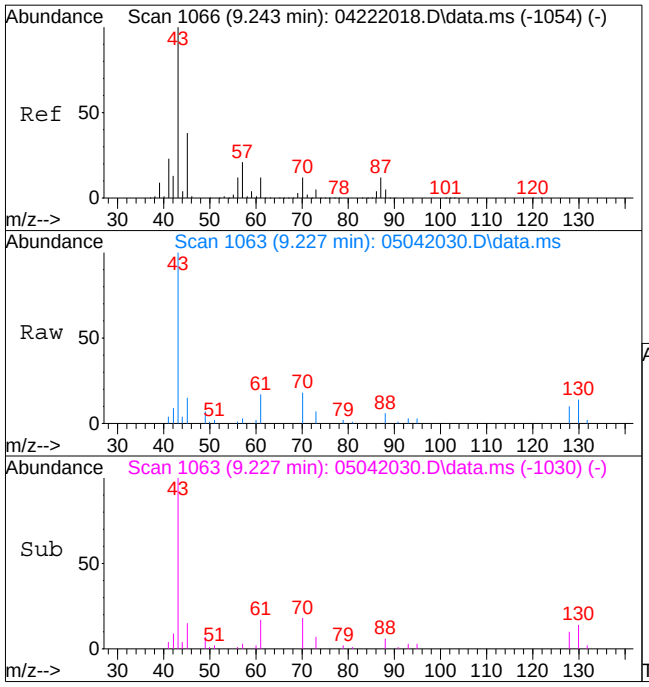


#27
2-Butanone (MEK)
Concen: 0.25 ng
RT: 8.56 min Scan# 941
Delta R.T. 0.005 min
Lab File: 05042030.D
Acq: 4 May 2020 23:04

Tgt Ion: 72 Resp: 1414

Ion	Ratio	Lower	Upper
72	100		
43	322.2	278.8	318.8#

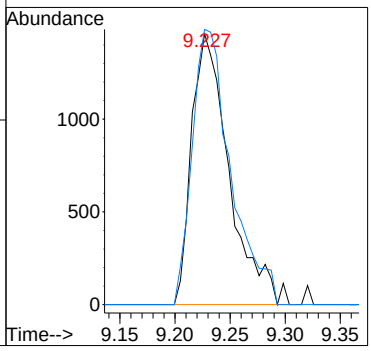


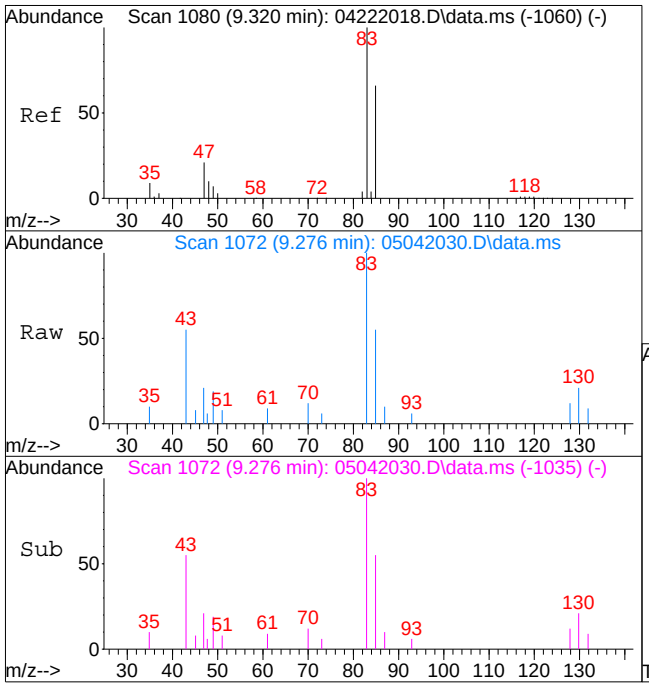


#30
Ethyl Acetate
Concen: 1.38 ng
RT: 9.23 min Scan# 1063
Delta R.T. -0.017 min
Lab File: 05042030.D
Acq: 4 May 2020 23:04

Tgt Ion: 61 Resp: 3459

Ion	Ratio	Lower	Upper
61	100		
70	104.8	80.6	120.6

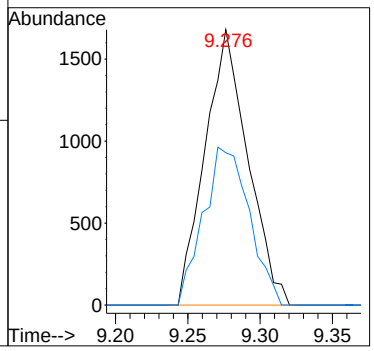


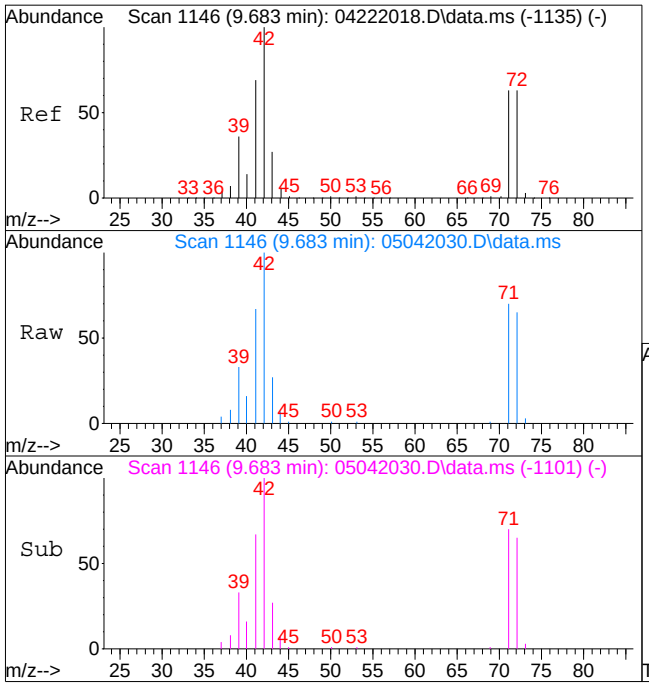


#32
Chloroform
Concen: 0.18 ng
RT: 9.28 min Scan# 1072
Delta R.T. -0.044 min
Lab File: 05042030.D
Acq: 4 May 2020 23:04

Tgt Ion: 83 Resp: 3462

Ion	Ratio	Lower	Upper
83	100		
85	61.3	45.8	85.8

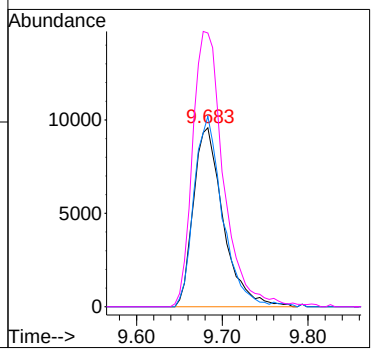


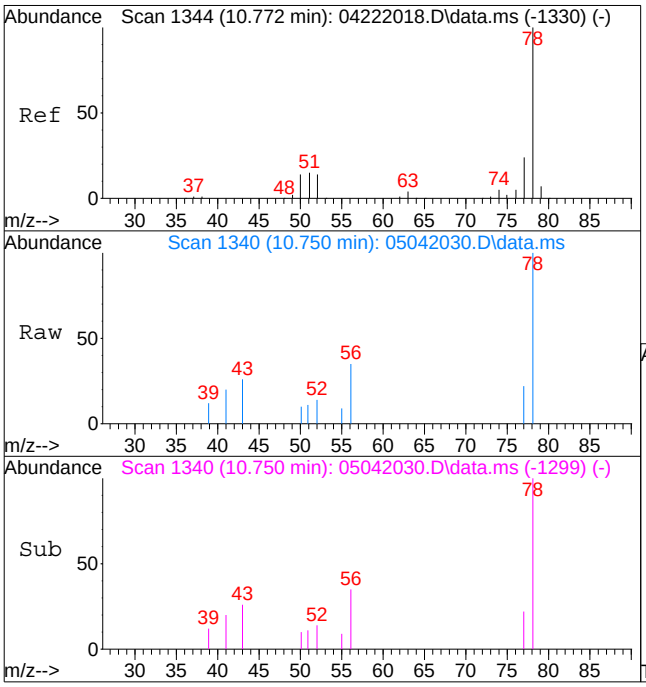


#34
Tetrahydrofuran (THF)
Concen: 4.07 ng
RT: 9.68 min Scan# 1146
Delta R.T. -0.000 min
Lab File: 05042030.D
Acq: 4 May 2020 23:04

Tgt Ion: 72 Resp: 23275

Ion	Ratio	Lower	Upper
72	100		
71	101.2	77.9	117.9
42	159.5	133.9	173.9

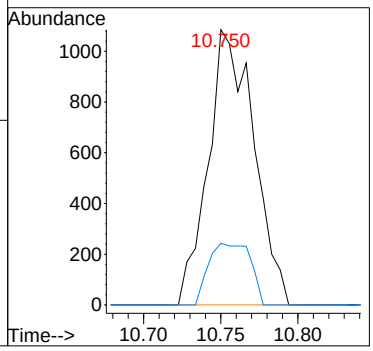


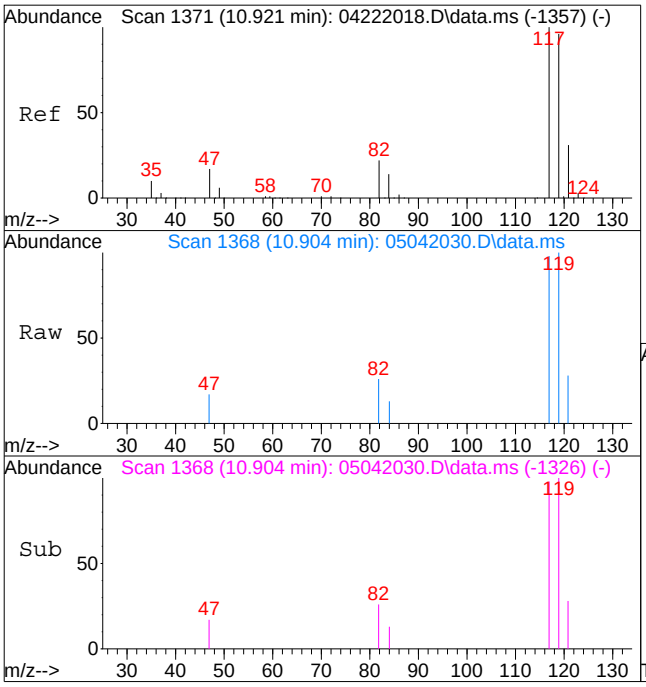


#41
Benzene
Concen: 0.06 ng
RT: 10.75 min Scan# 1340
Delta R.T. -0.022 min
Lab File: 05042030.D
Acq: 4 May 2020 23:04

Tgt Ion: 78 Resp: 2235

Ion	Ratio	Lower	Upper
78	100		
77	20.4	3.6	43.6

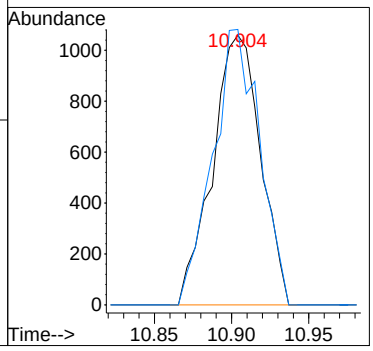


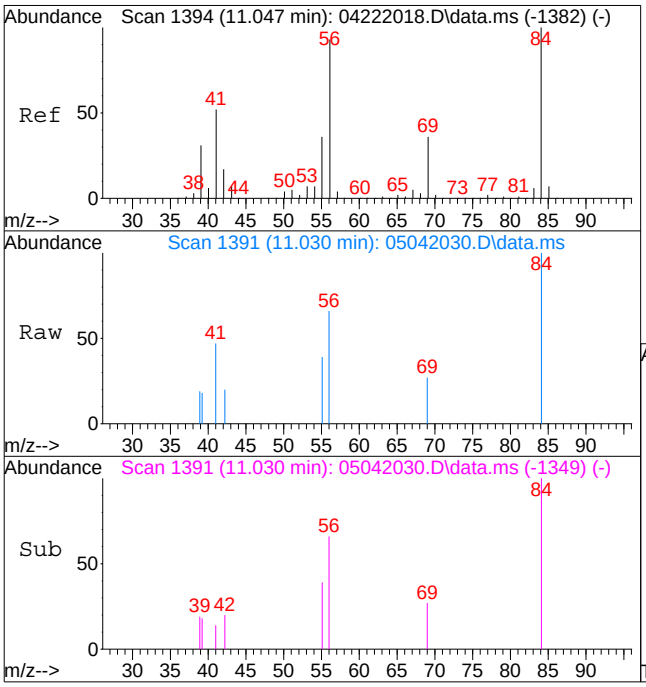


#42
Carbon Tetrachloride
Concen: 0.11 ng
RT: 10.90 min Scan# 1368
Delta R.T. -0.017 min
Lab File: 05042030.D
Acq: 4 May 2020 23:04

Tgt Ion:117 Resp: 2294

Ion	Ratio	Lower	Upper
117	100		
119	99.8	76.5	116.5

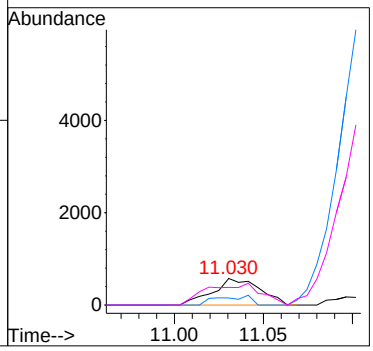


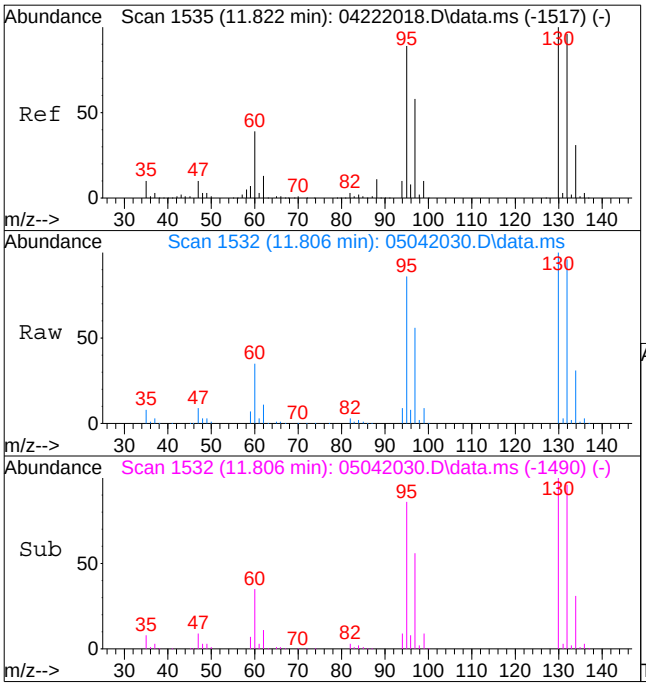


#43
Cyclohexane
Concen: 0.07 ng
RT: 11.03 min Scan# 1391
Delta R.T. -0.017 min
Lab File: 05042030.D
Acq: 4 May 2020 23:04

Tgt Ion: 84 Resp: 1058

Ion	Ratio	Lower	Upper
84	100		
69	24.8	15.8	55.8
56	94.1	72.0	112.0

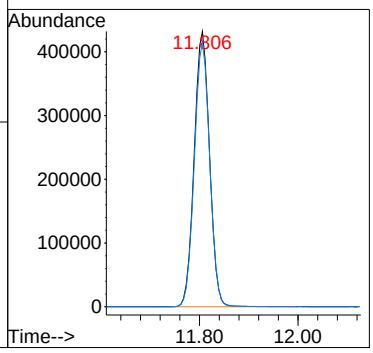


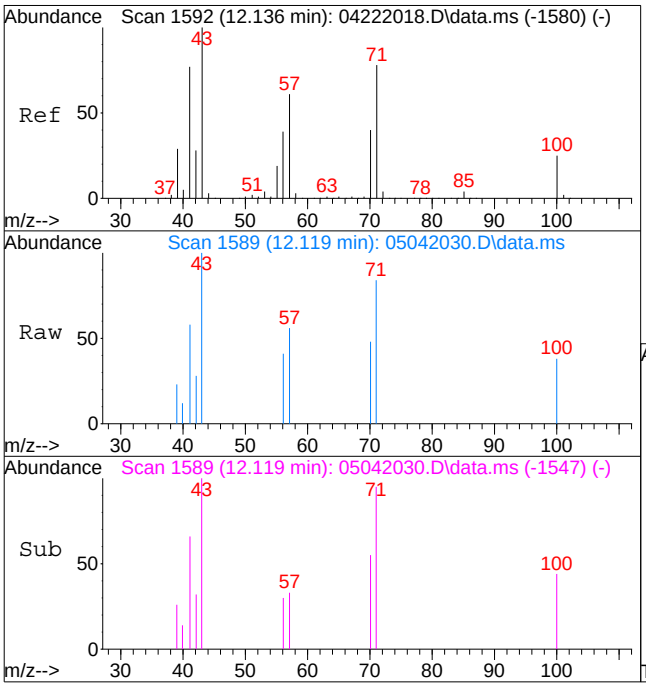


#47
Trichloroethene
Concen: 69.40 ng
RT: 11.81 min Scan# 1532
Delta R.T. -0.017 min
Lab File: 05042030.D
Acq: 4 May 2020 23:04

Tgt Ion:130 Resp: 935335

Ion	Ratio	Lower	Upper
130	100		
132	96.3	76.4	116.4

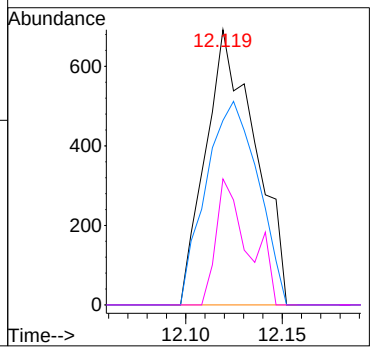


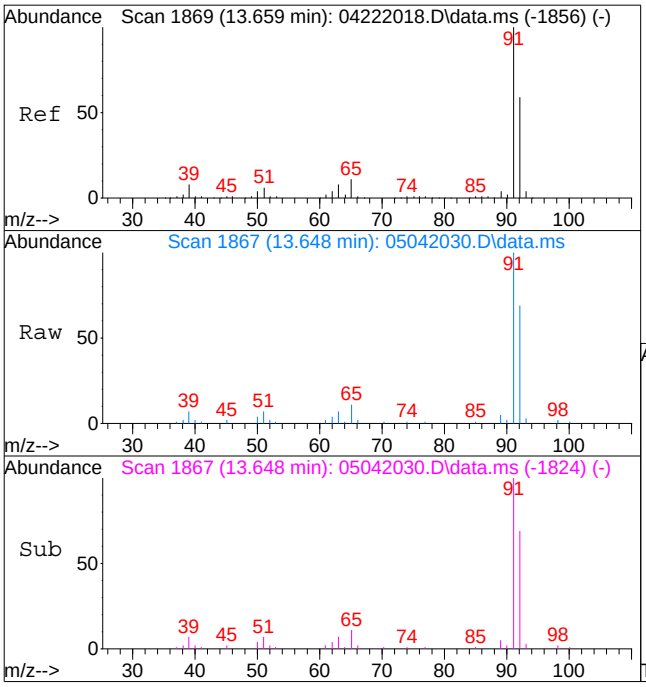


#51
n-Heptane
Concen: 0.14 ng
RT: 12.12 min Scan# 1589
Delta R.T. -0.017 min
Lab File: 05042030.D
Acq: 4 May 2020 23:04

Tgt Ion: 71 Resp: 1232

Ion	Ratio	Lower	Upper
71	100		
57	78.2	57.4	97.4
100	29.7	12.0	52.0

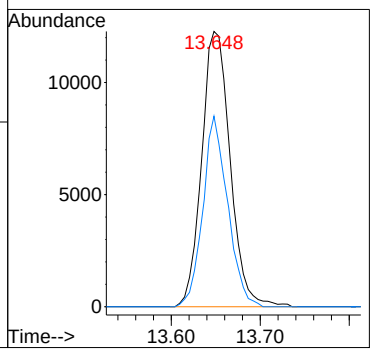


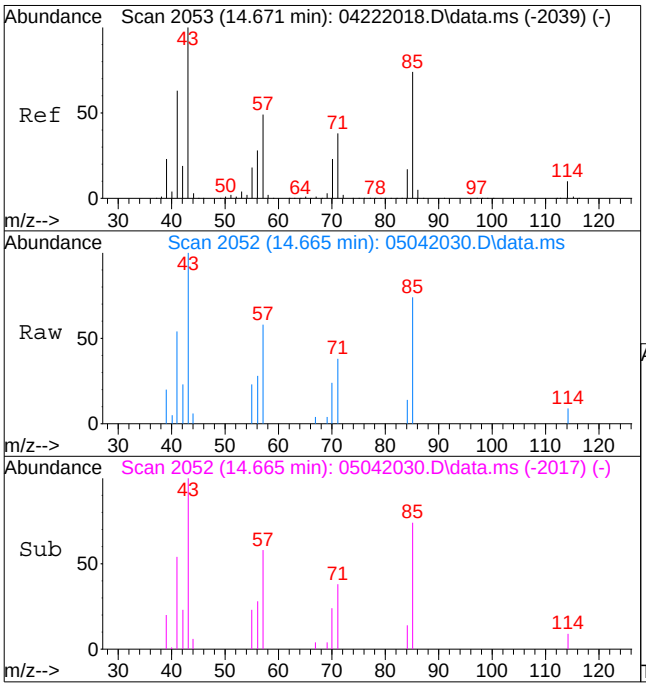


#58
Toluene
Concen: 0.62 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.011 min
Lab File: 05042030.D
Acq: 4 May 2020 23:04

Tgt Ion: 91 Resp: 27346

Ion	Ratio	Lower	Upper
91	100		
92	60.2	38.2	78.2

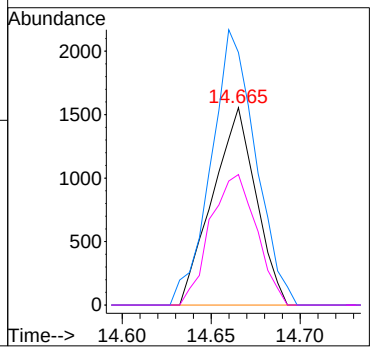


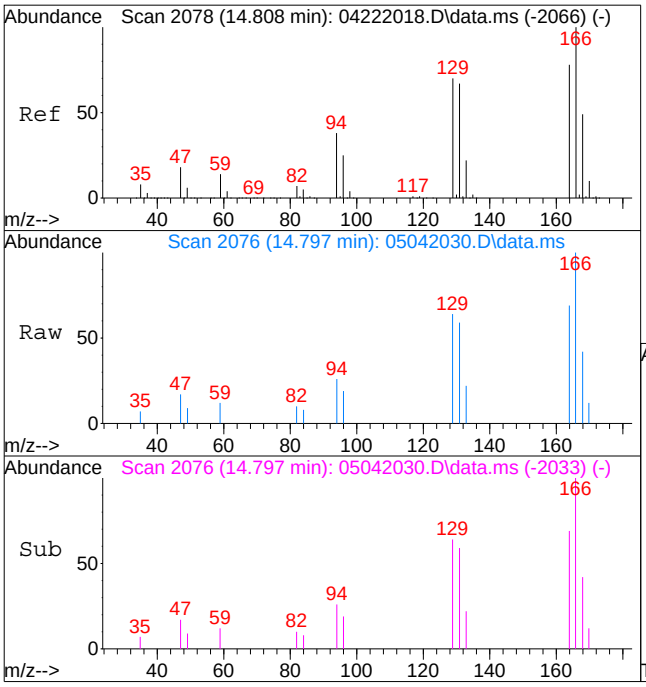


#63
n-Octane
Concen: 0.38 ng
RT: 14.67 min Scan# 2052
Delta R.T. -0.006 min
Lab File: 05042030.D
Acq: 4 May 2020 23:04

Tgt Ion: 57 Resp: 2635

Ion	Ratio	Lower	Upper
57	100		
85	143.2	120.7	181.1
71	70.3	61.1	91.7

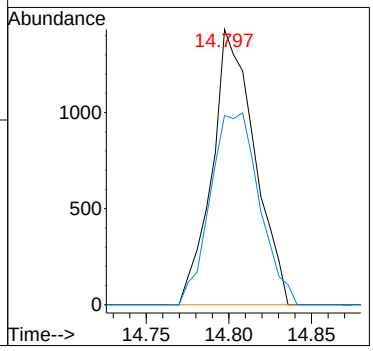


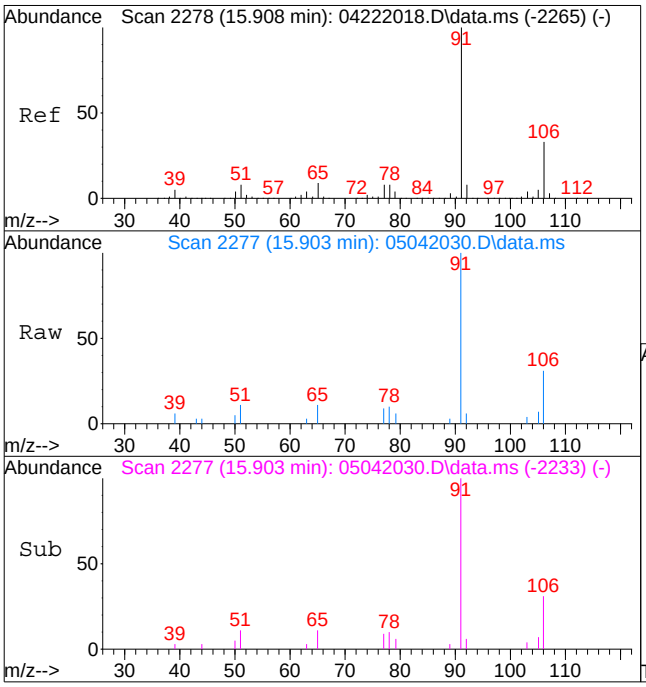


#64
Tetrachloroethene
Concen: 0.16 ng
RT: 14.80 min Scan# 2076
Delta R.T. -0.011 min
Lab File: 05042030.D
Acq: 4 May 2020 23:04

Tgt Ion:166 Resp: 2561

Ion	Ratio	Lower	Upper
166	100		
164	80.5	57.7	97.7

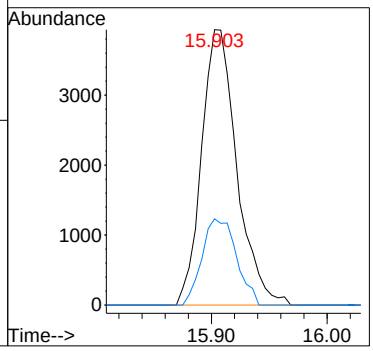


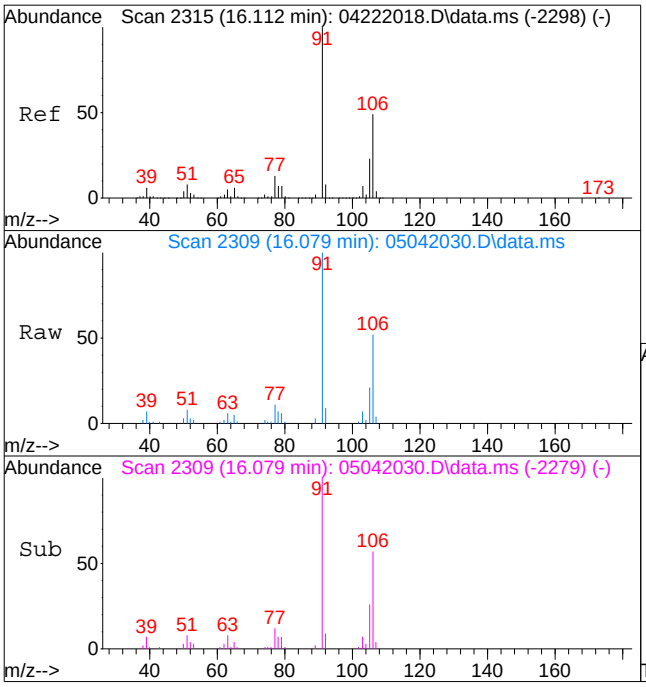


#66
Ethylbenzene
Concen: 0.16 ng
RT: 15.90 min Scan# 2277
Delta R.T. -0.006 min
Lab File: 05042030.D
Acq: 4 May 2020 23:04

Tgt Ion: 91 Resp: 8362

Ion	Ratio	Lower	Upper
91	100		
106	30.5	13.4	53.4

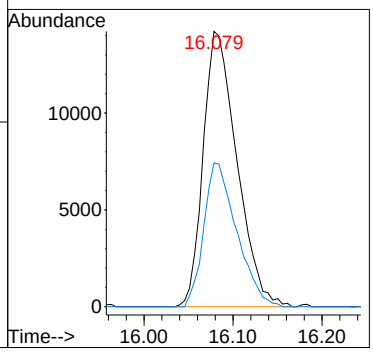


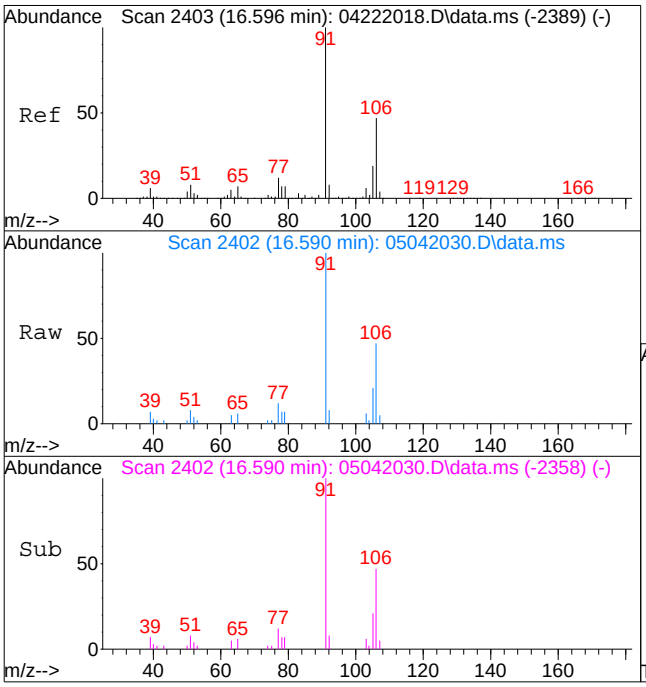


#67
m- & p-Xylenes
Concen: 0.87 ng
RT: 16.08 min Scan# 2309
Delta R.T. -0.033 min
Lab File: 05042030.D
Acq: 4 May 2020 23:04

Tgt Ion: 91 Resp: 37437

Ion	Ratio	Lower	Upper
91	100		
106	50.9	28.3	68.3

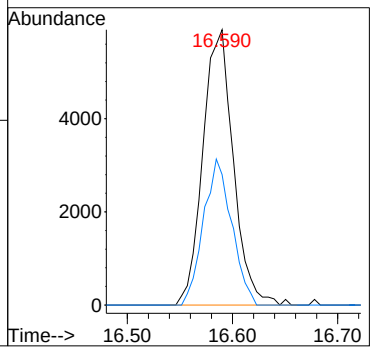


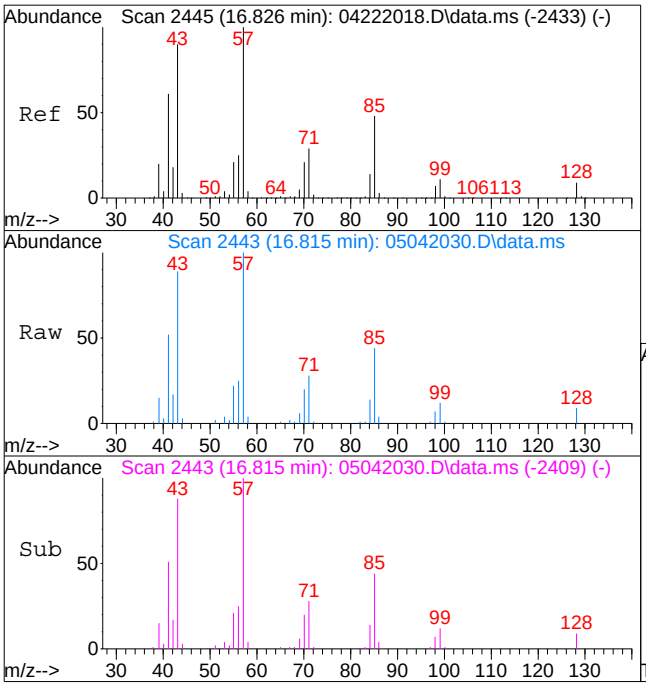


#70
o-Xylene
Concen: 0.28 ng
RT: 16.59 min Scan# 2402
Delta R.T. -0.006 min
Lab File: 05042030.D
Acq: 4 May 2020 23:04

Tgt Ion: 91 Resp: 11958

Ion	Ratio	Lower	Upper
91	100		
106	49.1	27.5	67.5

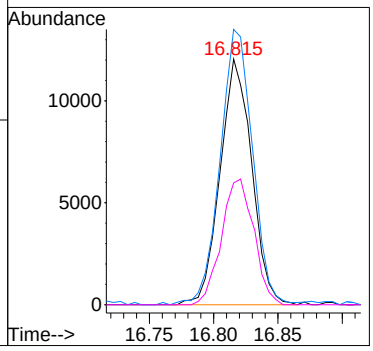


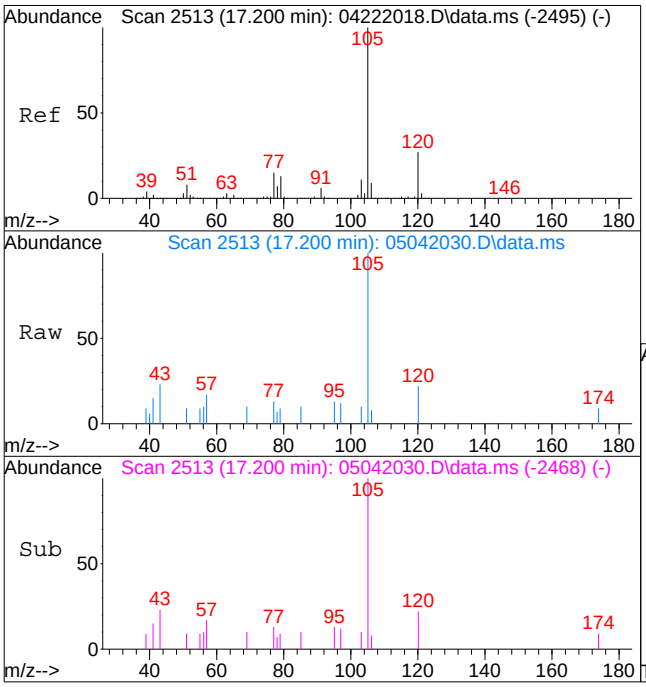


#71
n-Nonane
Concen: 1.51 ng
RT: 16.82 min Scan# 2443
Delta R.T. -0.011 min
Lab File: 05042030.D
Acq: 4 May 2020 23:04

Tgt Ion: 43 Resp: 20621

Ion	Ratio	Lower	Upper
43	100		
57	115.1	90.8	130.8
85	52.3	32.1	72.1

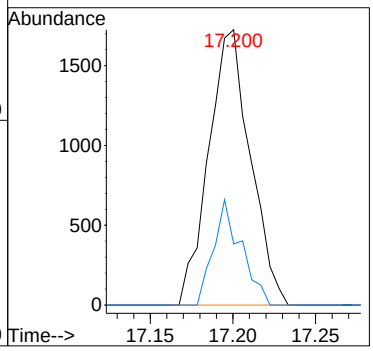


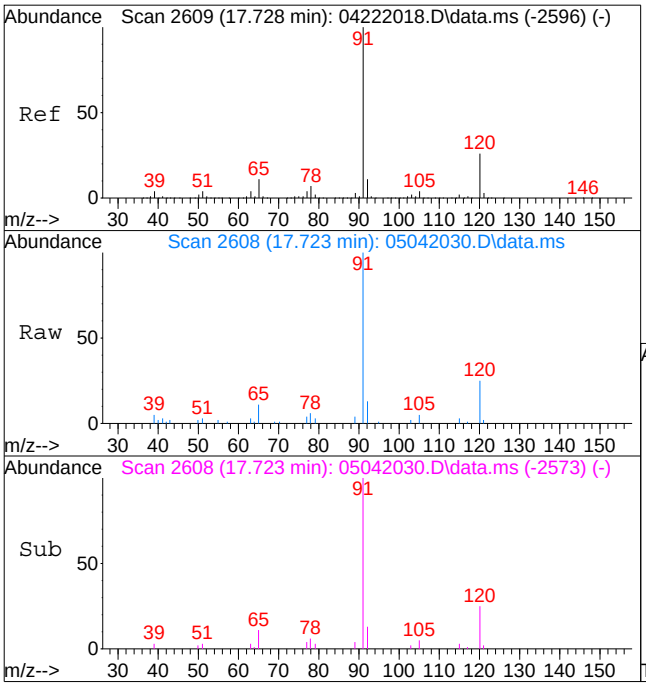


#74
Cumene
Concen: 0.05 ng
RT: 17.20 min Scan# 2513
Delta R.T. -0.000 min
Lab File: 05042030.D
Acq: 4 May 2020 23:04

Tgt Ion:105 Resp: 3027

Ion	Ratio	Lower	Upper
105	100		
120	25.4	7.3	47.3

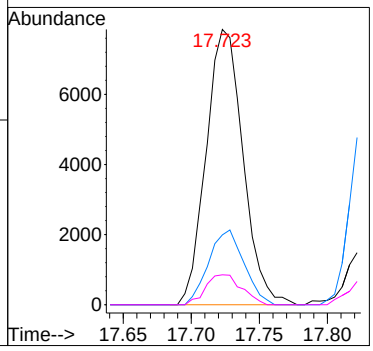


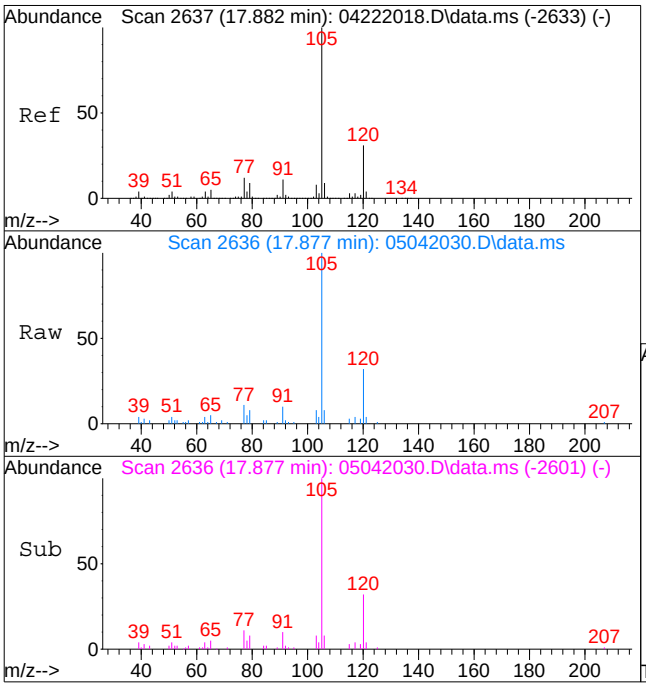


#76
n-Propylbenzene
Concen: 0.25 ng
RT: 17.72 min Scan# 2608
Delta R.T. -0.006 min
Lab File: 05042030.D
Acq: 4 May 2020 23:04

Tgt Ion: 91 Resp: 14820

Ion	Ratio	Lower	Upper
91	100		
120	25.9	6.1	46.1
65	10.6	0.0	30.7

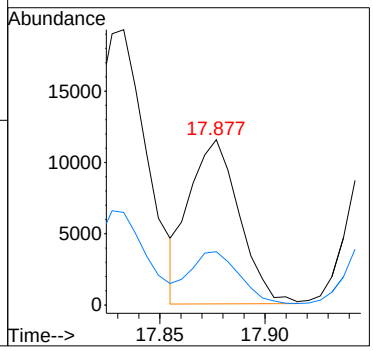


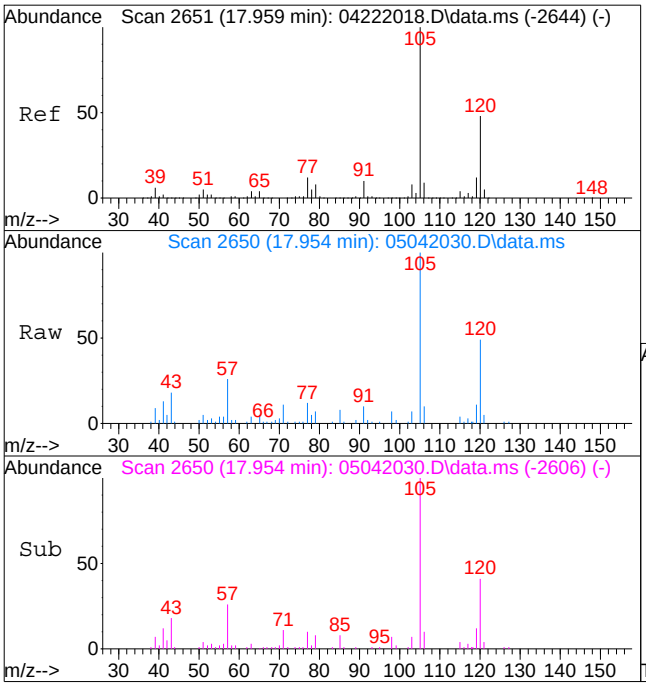


#78
4-Ethyltoluene
Concen: 0.36 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05042030.D
Acq: 4 May 2020 23:04

Tgt Ion:105 Resp: 19128

Ion	Ratio	Lower	Upper
105	100		
120	33.1	11.4	51.4

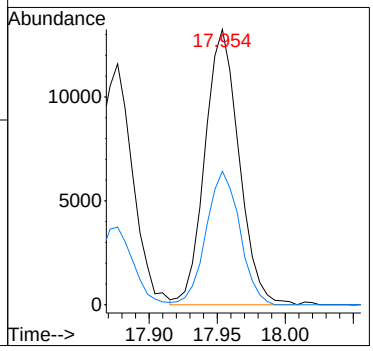


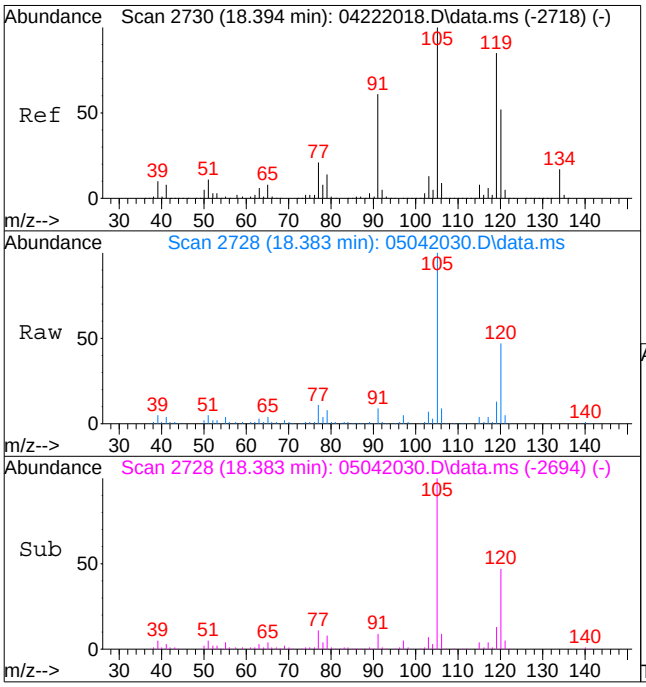


#79
1,3,5-Trimethylbenzene
Concen: 0.48 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 05042030.D
Acq: 4 May 2020 23:04

Tgt Ion:105 Resp: 23068

Ion	Ratio	Lower	Upper
105	100		
120	47.8	29.5	69.5

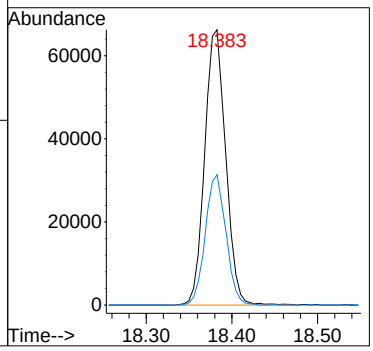


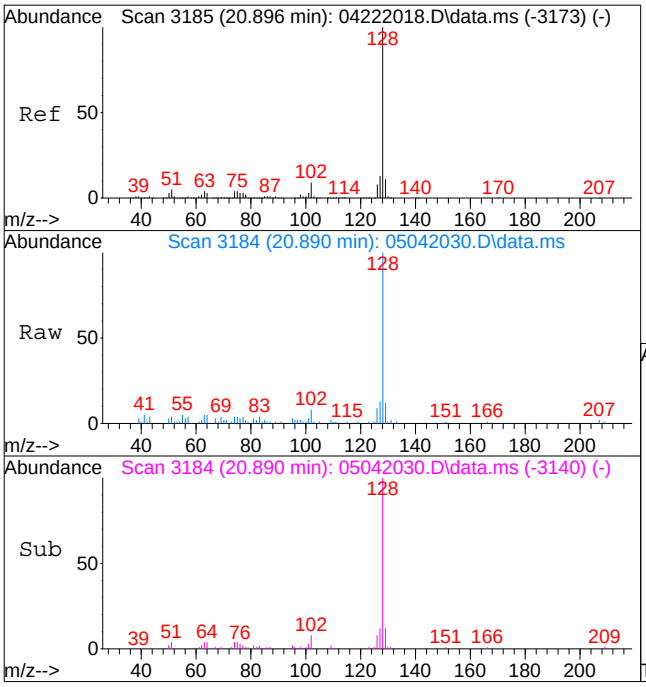


#82
1,2,4-Trimethylbenzene
Concen: 2.41 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 05042030.D
Acq: 4 May 2020 23:04

Tgt Ion:105 Resp: 112936

Ion	Ratio	Lower	Upper
105	100		
120	46.5	34.5	74.5

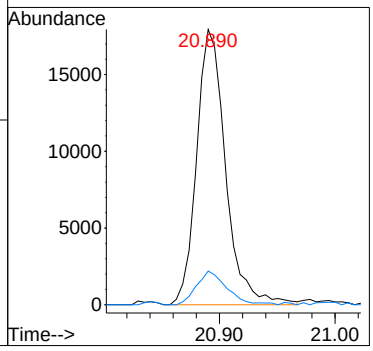




#95
Naphthalene
Concen: 0.52 ng
RT: 20.89 min Scan# 3184
Delta R.T. -0.006 min
Lab File: 05042030.D
Acq: 4 May 2020 23:04

Tgt Ion:128 Resp: 31214

Ion	Ratio	Lower	Upper
128	100		
129	12.7	0.0	30.9



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042031.D Vial: 15
Acq On : 4 May 2020 23:38 Operator: SC
Sample : P2002106-015 (400mL) Inst : MS09
Misc : S34-04212006

5/5/20

Quant Time: May 05 14:47:09 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	142232	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	595263	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.45	82	267821	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.92	65	212164	11.513	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.08%				
57) Toluene-d8 (SS2)	13.55	98	657809	12.721	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.76%				
73) Bromofluorobenzene (SS3)	17.05	174	269836	12.984	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.84%				
Target Compounds							Qvalue
2) Propene	3.89	42	1109	0.184	ng	#	59
3) Dichlorodifluoromethan...	3.99	85	11206	0.488	ng		99
4) Chloromethane	4.20	50	618	0.073	ng		73
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	110	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.36	45	28871	6.309	ng		98
11) Acetonitrile	5.58	41	752	0.069	ng	#	36
12) Acrolein	5.72	56	1134	0.271	ng		85
13) Acetone	5.86	58	29242	5.323	ng	#	81
14) Trichlorofluoromethane	6.02	101	5374	0.235	ng		99
15) 2-Propanol (Isopropanol)	6.19	45	5249	0.301	ng		88
16) Acrylonitrile	0.00	53	0	N.D. d			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	6.86	59	761	N.D.			
19) Methylene Chloride	6.86	84	1118	0.116	ng		99
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	7.19	151	6733	0.567	ng		99
22) Carbon Disulfide	7.15	76	65990	2.060	ng		97
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	8.13	73	317	N.D.			
26) Vinyl Acetate	8.26	86	2520	1.257	ng	#	45
27) 2-Butanone (MEK)	8.53	72	35412	6.274	ng		98
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	9.22	87	349	N.D.			
30) Ethyl Acetate	9.23	61	19185	7.640	ng		100
31) n-Hexane	9.22	57	370	N.D.			
32) Chloroform	9.27	83	8212	0.421	ng		99
34) Tetrahydrofuran (THF)	9.68	72	64409	11.267	ng		97
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D. d			
41) Benzene	10.76	78	2193	0.057	ng		97
42) Carbon Tetrachloride	10.90	117	7626	0.380	ng		99
43) Cyclohexane	11.03	84	1175	0.077	ng		89
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D. d			
47) Trichloroethene	11.81	130	4624799	344.134	ng		100
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	11.88	57	1131	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D. d			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042031.D Vial: 15
Acq On : 4 May 2020 23:38 Operator: SC
Sample : P2002106-015 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 14:47:09 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

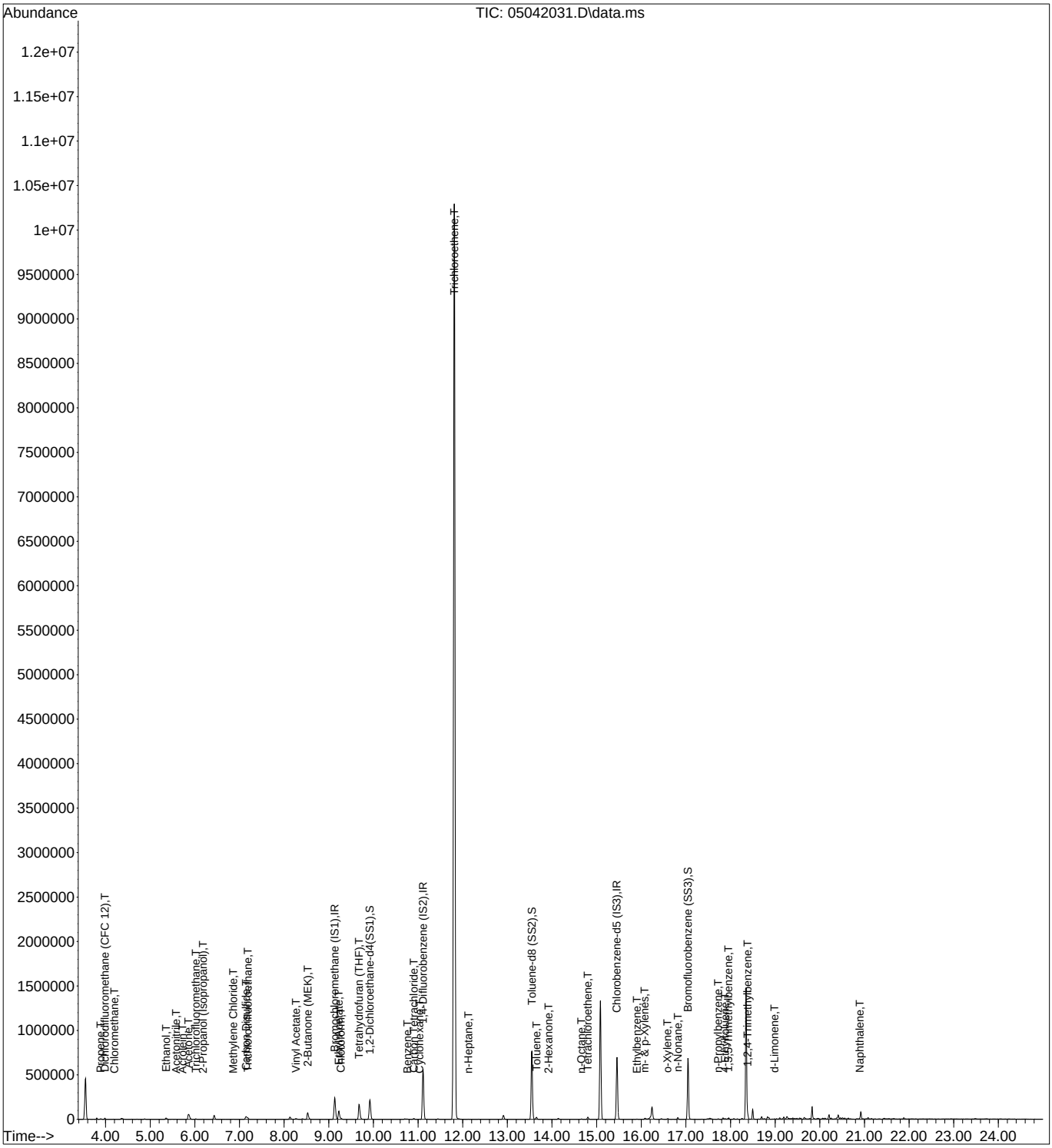
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	12.13	71	570	0.063 ng	#	70
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	12.72	58	151	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	13.65	91	22222	0.512 ng		100
59) 2-Hexanone	13.92	43	1485	0.115 ng	#	51
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	14.56	43	480	N.D.		
63) n-Octane	14.66	57	865	0.125 ng		92
64) Tetrachloroethene	14.80	166	9868	0.603 ng		99
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	15.90	91	3644	0.072 ng		91
67) m- & p-Xylenes	16.08	91	13122	0.307 ng		96
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.49	104	566	N.D.		
70) o-Xylene	16.58	91	4570	0.109 ng		99
71) n-Nonane	16.82	43	6415	0.474 ng		96
72) 1,1,2,2-Tetrachloroethane	16.61	83	298	N.D.		
74) Cumene	17.20	105	1412	N.D.		
75) alpha-Pinene	17.61	93	474	N.D.		
76) n-Propylbenzene	17.72	91	4782	0.080 ng		94
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	17.88	105	6369	0.123 ng		95
79) 1,3,5-Trimethylbenzene	17.95	105	7585	0.158 ng		99
80) alpha-Methylstyrene	18.12	118	476	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	18.38	105	33808m	0.728 ng		
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	18.62	91	981	N.D.		
85) 1,3-Dichlorobenzene	18.61	146	218	N.D.		
86) 1,4-Dichlorobenzene	18.61	146	218	N.D.		
87) sec-Butylbenzene	18.66	105	2428	N.D.		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	18.99	68	1122	0.086 ng		85
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	20.90	128	5074	0.085 ng		97
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042031.D Vial: 15
Acq On : 4 May 2020 23:38 Operator: SC
Sample : P2002106-015 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 14:47:09 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042031.D Vial: 15
Acq On : 4 May 2020 23:38 Operator: SC
Sample : P2002106-015 (400mL) Inst : MS09
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Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/5/20

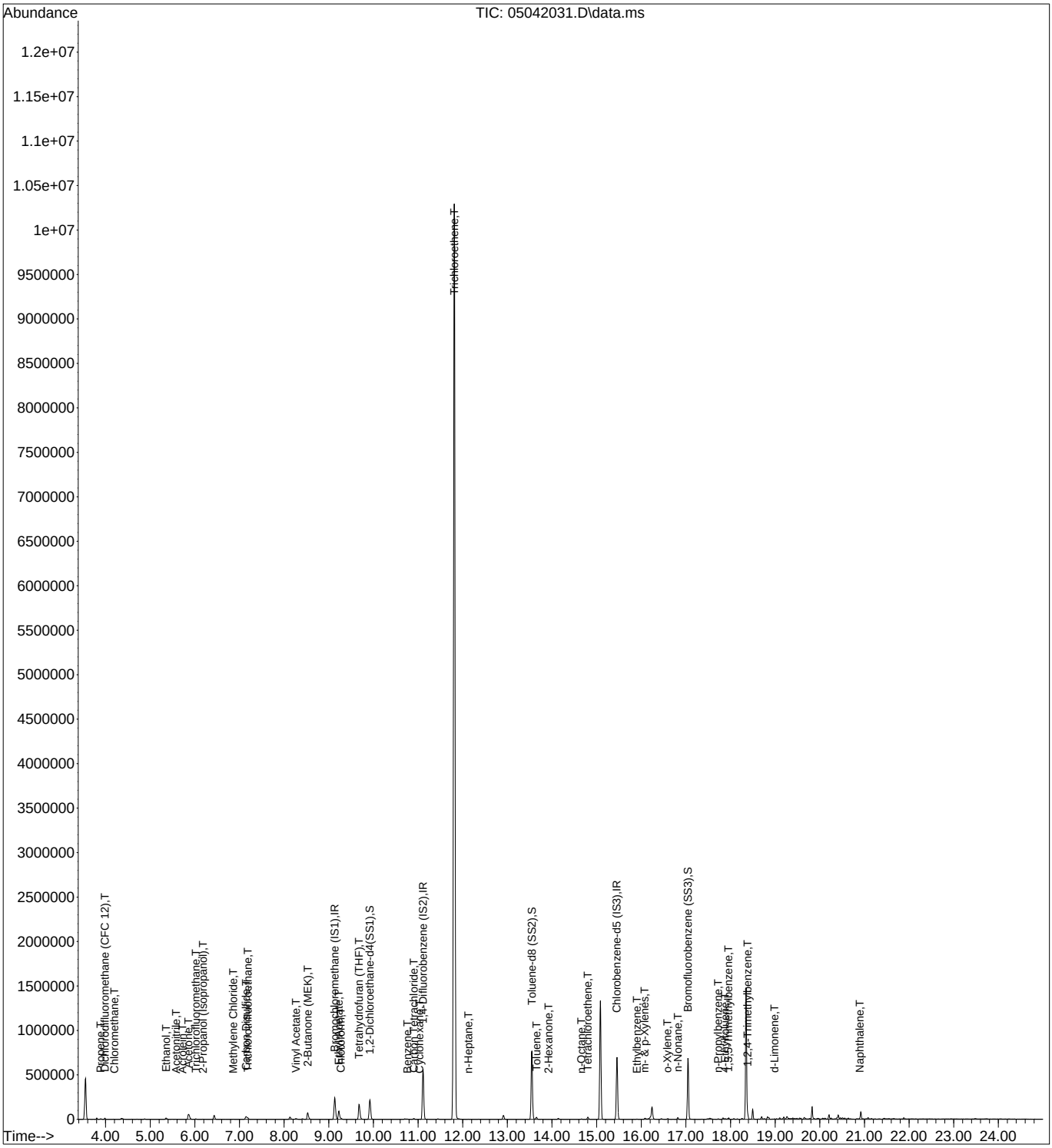
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	142232	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	595263	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.45	82	267821	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.92	65	212164	11.513	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.08%				
57) Toluene-d8 (SS2)	13.55	98	657809	12.721	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.76%				
73) Bromofluorobenzene (SS3)	17.05	174	269836	12.984	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.84%				
Target Compounds							Qvalue
2) Propene	3.89	42	1109	0.184	ng	#	59
3) Dichlorodifluoromethan...	3.99	85	11206	0.488	ng		99
4) Chloromethane	4.20	50	618	0.073	ng		73
10) Ethanol	5.36	45	28871	6.309	ng		98
11) Acetonitrile	5.58	41	752	0.069	ng	#	36
12) Acrolein	5.72	56	1134	0.271	ng		85
13) Acetone	5.86	58	29242	5.323	ng	#	81
14) Trichlorofluoromethane	6.02	101	5374	0.235	ng		99
15) 2-Propanol (Isopropanol)	6.19	45	5249	0.301	ng		88
19) Methylene Chloride	6.86	84	1118	0.116	ng		99
21) Trichlorotrifluoroethane	7.19	151	6733	0.567	ng		99
22) Carbon Disulfide	7.15	76	65990	2.060	ng		97
26) Vinyl Acetate	8.26	86	2520	1.257	ng	#	45
27) 2-Butanone (MEK)	8.53	72	35412	6.274	ng		98
30) Ethyl Acetate	9.23	61	19185	7.640	ng		100
32) Chloroform	9.27	83	8212	0.421	ng		99
34) Tetrahydrofuran (THF)	9.68	72	64409	11.267	ng		97
41) Benzene	10.76	78	2193	0.057	ng		97
42) Carbon Tetrachloride	10.90	117	7626	0.380	ng		99
43) Cyclohexane	11.03	84	1175	0.077	ng		89
47) Trichloroethene	11.81	130	4624799	344.134	ng		100
51) n-Heptane	12.13	71	570	0.063	ng	#	70
58) Toluene	13.65	91	22222	0.512	ng		100
59) 2-Hexanone	13.92	43	1485	0.115	ng	#	51
63) n-Octane	14.66	57	865	0.125	ng		92
64) Tetrachloroethene	14.80	166	9868	0.603	ng		99
66) Ethylbenzene	15.90	91	3644	0.072	ng		91
67) m- & p-Xylenes	16.08	91	13122	0.307	ng		96
70) o-Xylene	16.58	91	4570	0.109	ng		99
71) n-Nonane	16.82	43	6415	0.474	ng		96
76) n-Propylbenzene	17.72	91	4782	0.080	ng		94
78) 4-Ethyltoluene	17.88	105	6369	0.123	ng		95
79) 1,3,5-Trimethylbenzene	17.95	105	7585	0.158	ng		99
82) 1,2,4-Trimethylbenzene	18.38	105	33808m	0.728	ng		
91) d-Limonene	18.99	68	1122	0.086	ng		85
95) Naphthalene	20.90	128	5074	0.085	ng		97

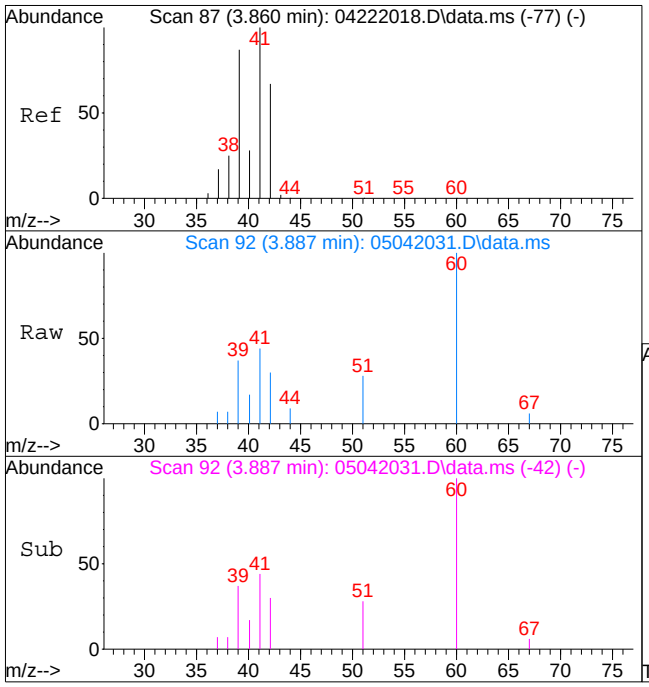
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042031.D Vial: 15
Acq On : 4 May 2020 23:38 Operator: SC
Sample : P2002106-015 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 14:47:09 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

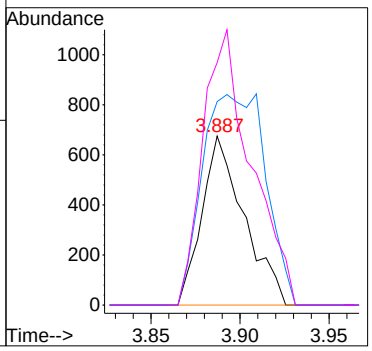


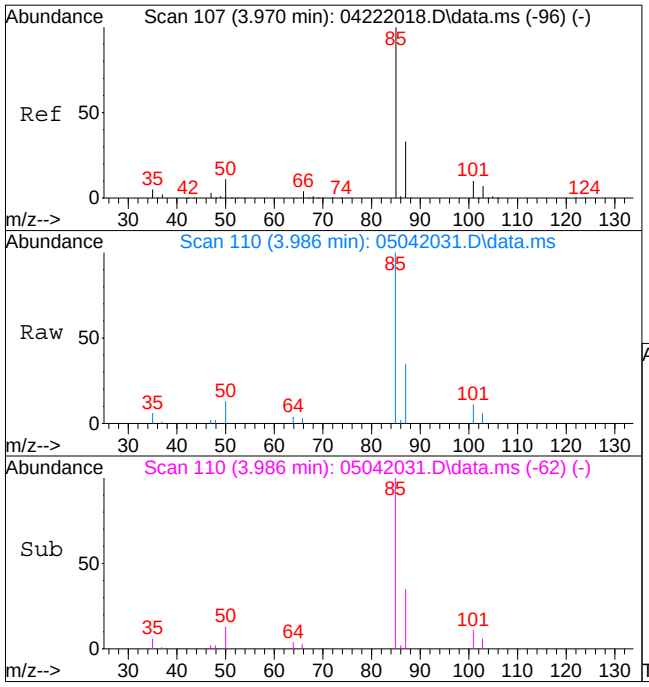


#2
Propene
Concen: 0.18 ng
RT: 3.89 min Scan# 92
Delta R.T. 0.027 min
Lab File: 05042031.D
Acq: 4 May 2020 23:38

Tgt Ion: 42 Resp: 1109

Ion	Ratio	Lower	Upper
42	100		
39	187.7	106.4	146.4#
41	186.9	128.8	168.8#

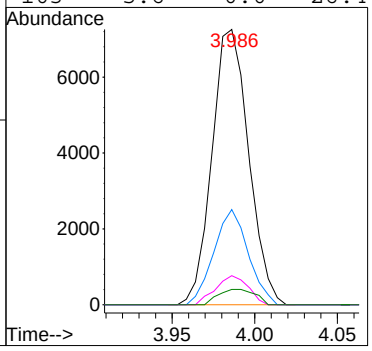


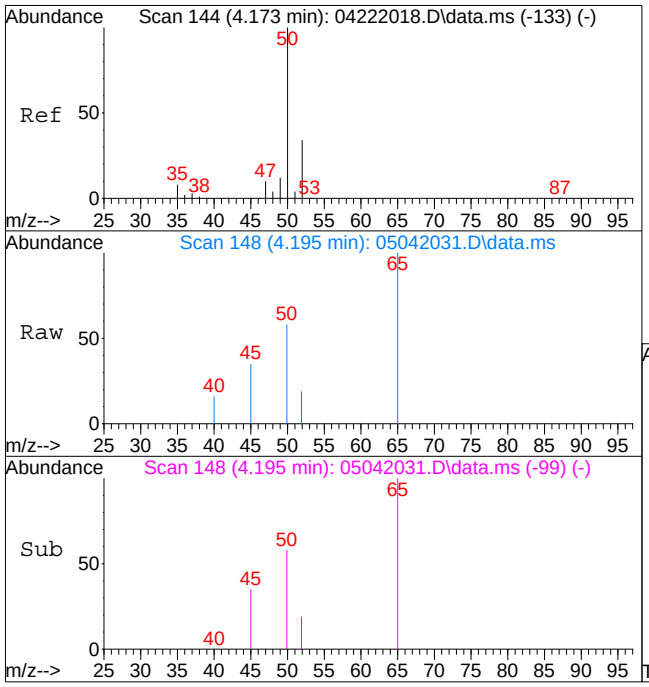


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.49 ng
RT: 3.99 min Scan# 110
Delta R.T. 0.016 min
Lab File: 05042031.D
Acq: 4 May 2020 23:38

Tgt Ion: 85 Resp: 11206

Ion	Ratio	Lower	Upper
85	100		
87	32.4	12.4	52.4
101	9.4	0.0	29.9
103	5.6	0.0	26.4

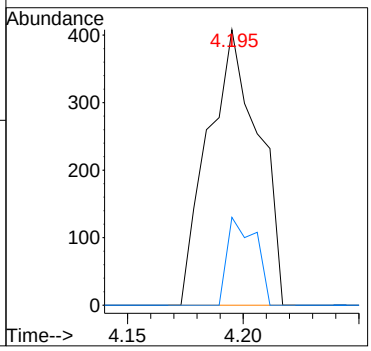


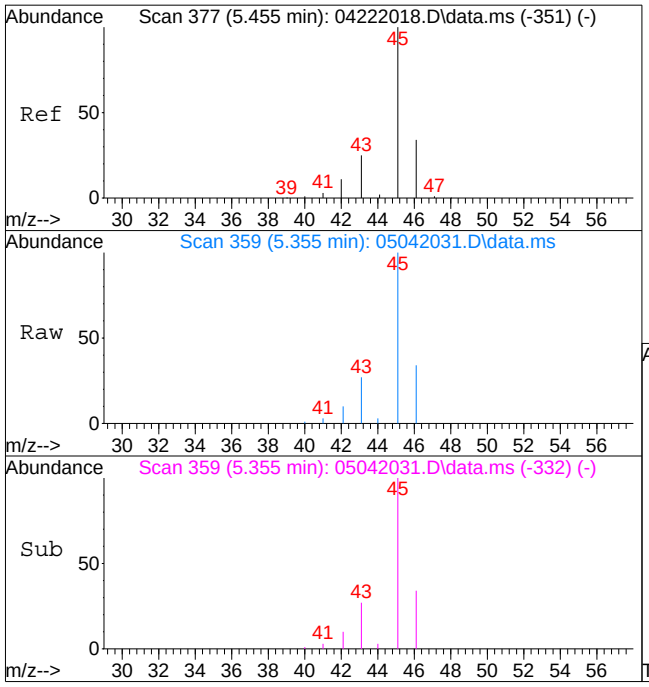


#4
Chloromethane
Concen: 0.07 ng
RT: 4.20 min Scan# 148
Delta R.T. 0.022 min
Lab File: 05042031.D
Acq: 4 May 2020 23:38

Tgt Ion: 50 Resp: 618

Ion	Ratio	Lower	Upper
50	100		
52	18.1	13.7	53.7

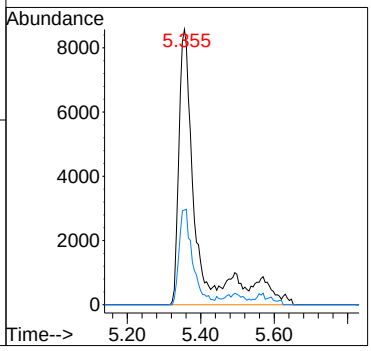


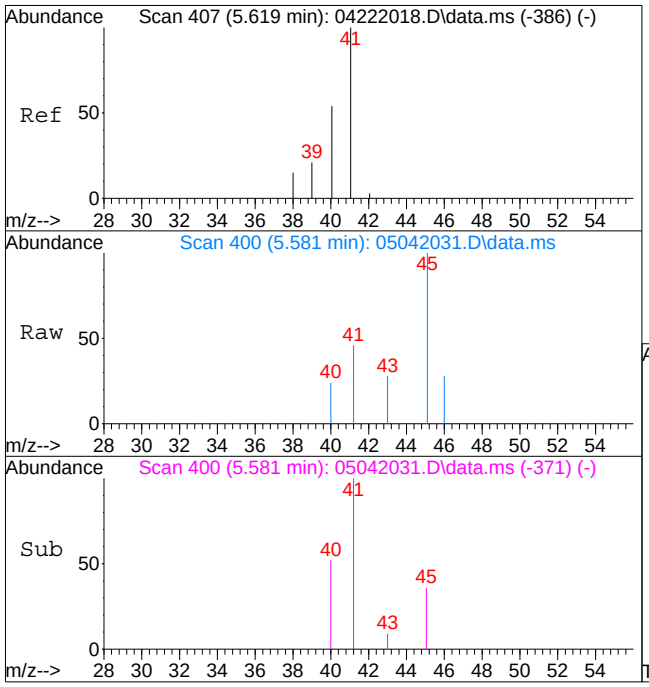


#10
Ethanol
Concen: 6.31 ng
RT: 5.36 min Scan# 359
Delta R.T. -0.099 min
Lab File: 05042031.D
Acq: 4 May 2020 23:38

Tgt Ion: 45 Resp: 28871

Ion	Ratio	Lower	Upper
45	100		
46	35.3	14.0	54.0

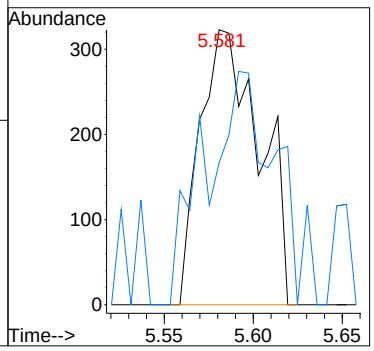


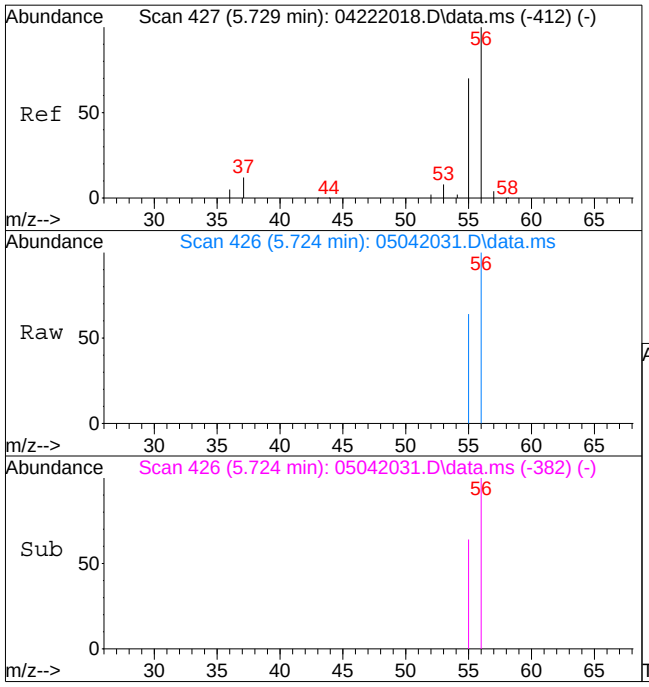


#11
Acetonitrile
Concen: 0.07 ng
RT: 5.58 min Scan# 400
Delta R.T. -0.039 min
Lab File: 05042031.D
Acq: 4 May 2020 23:38

Tgt Ion: 41 Resp: 752

Ion	Ratio	Lower	Upper
41	100		
40	101.3	34.8	74.8#

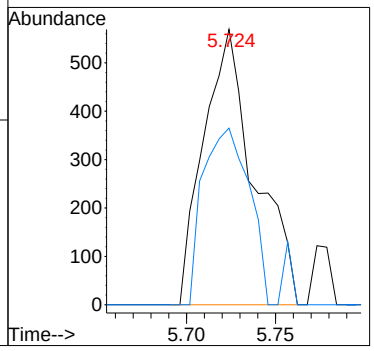


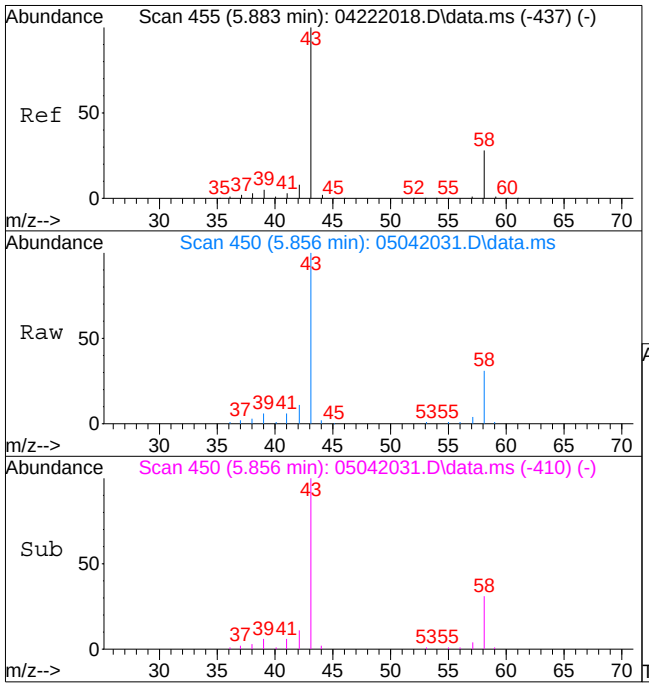


#12
Acrolein
Concen: 0.27 ng
RT: 5.72 min Scan# 426
Delta R.T. -0.006 min
Lab File: 05042031.D
Acq: 4 May 2020 23:38

Tgt Ion: 56 Resp: 1134

Ion	Ratio	Lower	Upper
56	100		
55	58.3	50.4	90.4

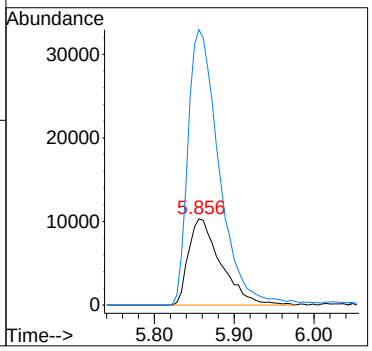


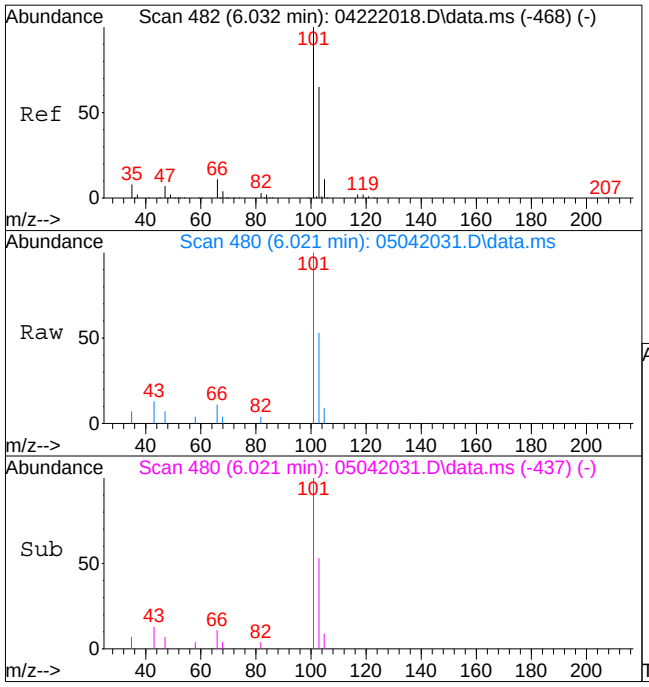


#13
Acetone
Concen: 5.32 ng
RT: 5.86 min Scan# 450
Delta R.T. -0.028 min
Lab File: 05042031.D
Acq: 4 May 2020 23:38

Tgt Ion: 58 Resp: 29242

Ion	Ratio	Lower	Upper
58	100		
43	307.2	319.3	379.3#

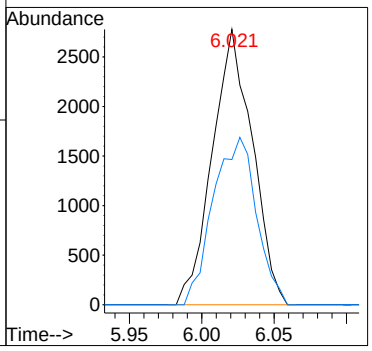


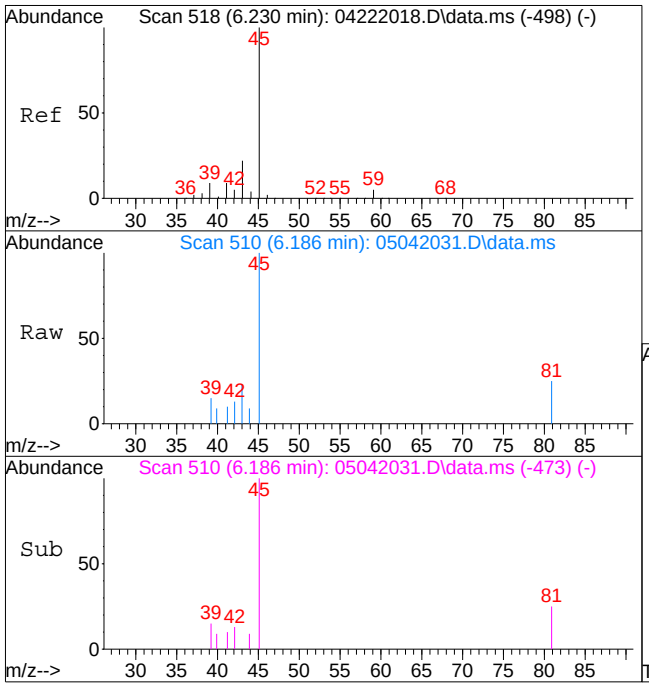


#14
Trichlorofluoromethane
Concen: 0.24 ng
RT: 6.02 min Scan# 480
Delta R.T. -0.011 min
Lab File: 05042031.D
Acq: 4 May 2020 23:38

Tgt Ion:101 Resp: 5374

Ion	Ratio	Lower	Upper
101	100		
103	65.8	44.7	84.7

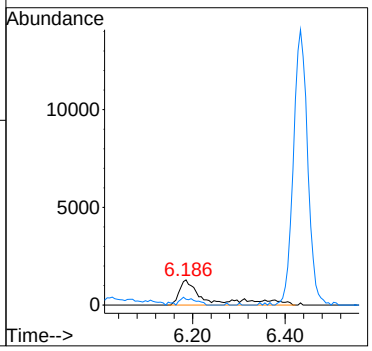


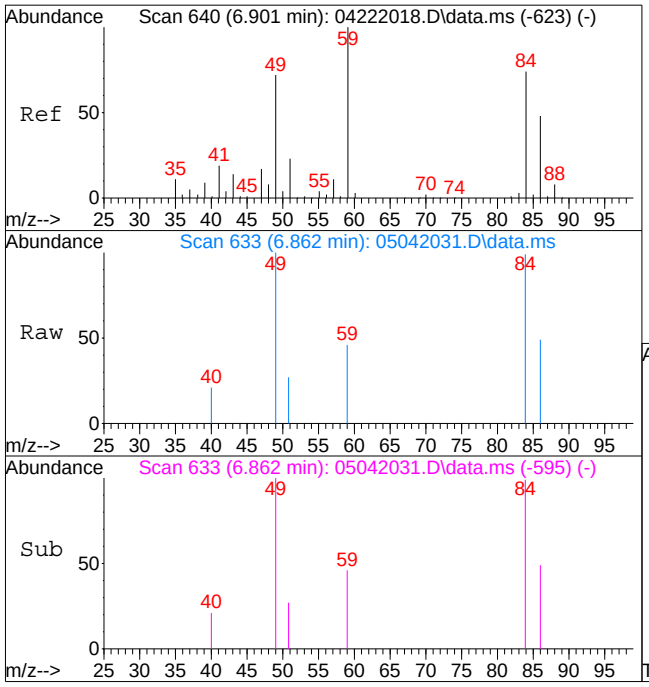


#15
2-Propanol (Isopropanol)
Concen: 0.30 ng
RT: 6.19 min Scan# 510
Delta R.T. -0.044 min
Lab File: 05042031.D
Acq: 4 May 2020 23:38

Tgt Ion: 45 Resp: 5249

Ion	Ratio	Lower	Upper
45	100		
43	16.8	2.6	42.6

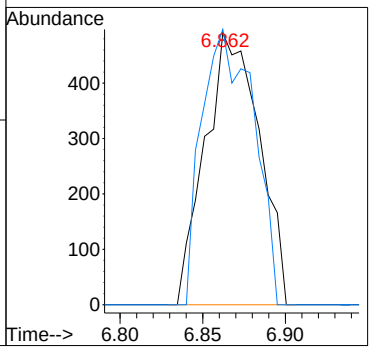


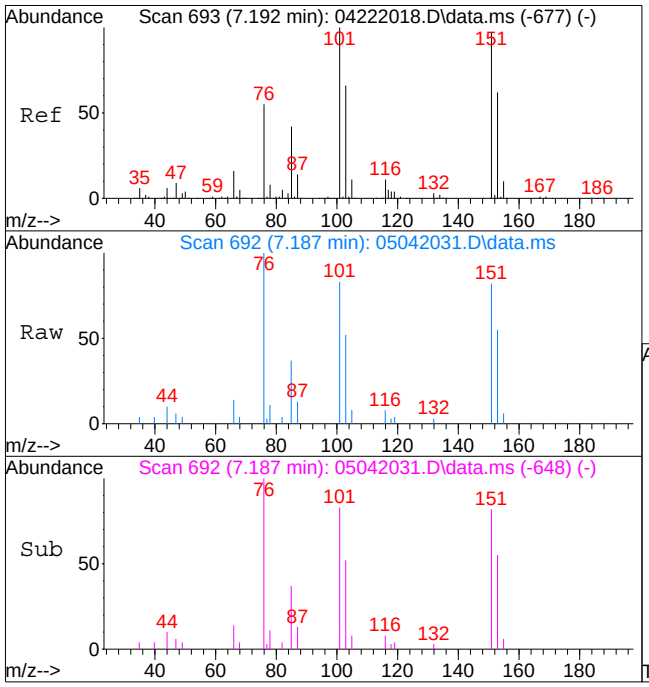


#19
Methylene Chloride
Concen: 0.12 ng
RT: 6.86 min Scan# 633
Delta R.T. -0.039 min
Lab File: 05042031.D
Acq: 4 May 2020 23:38

Tgt Ion: 84 Resp: 1118

Ion	Ratio	Lower	Upper
84	100		
49	97.2	73.0	123.0

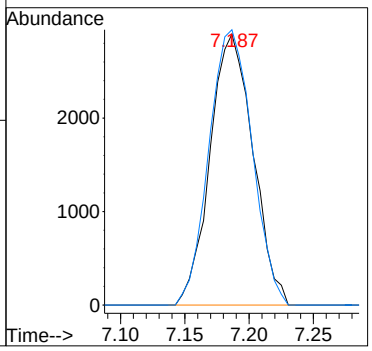


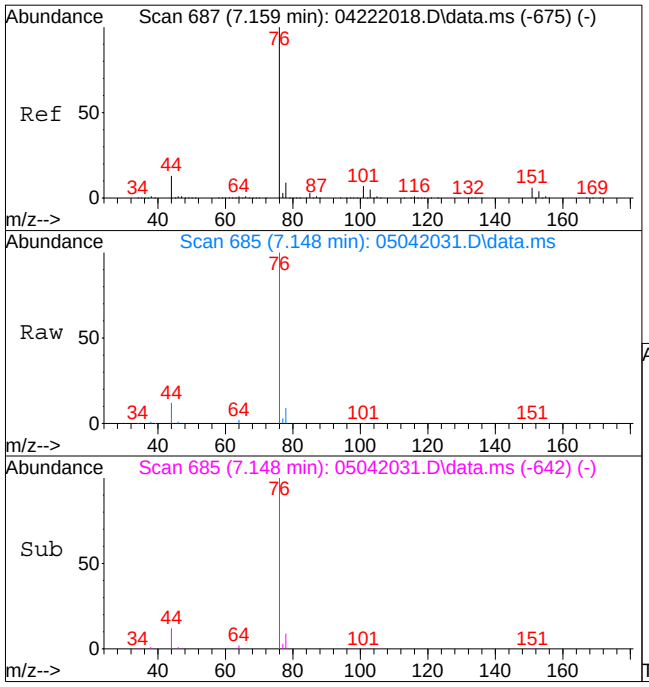


#21
Trichlorotrifluoroethane
Concen: 0.57 ng
RT: 7.19 min Scan# 692
Delta R.T. -0.006 min
Lab File: 05042031.D
Acq: 4 May 2020 23:38

Tgt Ion:151 Resp: 6733

Ion	Ratio	Lower	Upper
151	100		
101	102.3	82.9	122.9

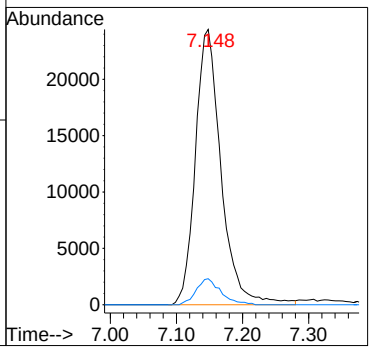


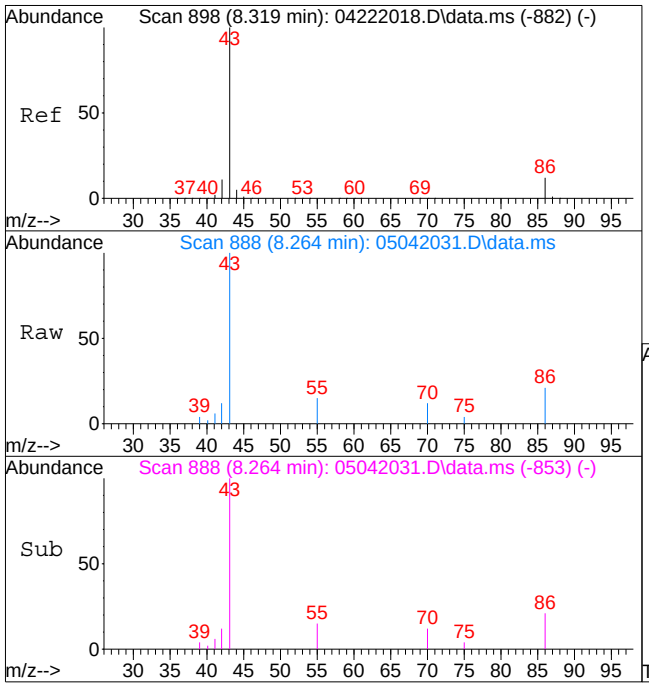


#22
Carbon Disulfide
Concen: 2.06 ng
RT: 7.15 min Scan# 685
Delta R.T. -0.011 min
Lab File: 05042031.D
Acq: 4 May 2020 23:38

Tgt Ion: 76 Resp: 65990

Ion	Ratio	Lower	Upper
76	100		
78	9.1	0.0	30.2

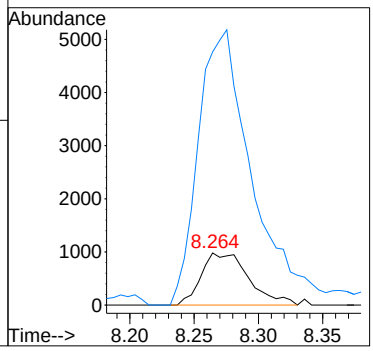


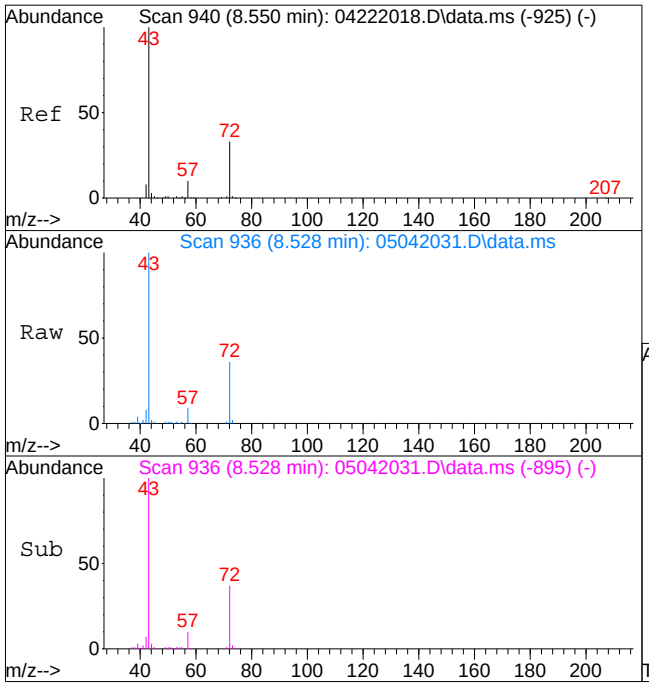


#26
Vinyl Acetate
Concen: 1.26 ng
RT: 8.26 min Scan# 888
Delta R.T. -0.055 min
Lab File: 05042031.D
Acq: 4 May 2020 23:38

Tgt Ion: 86 Resp: 2520

Ion	Ratio	Lower	Upper
86	100		
43	609.8	803.0	843.0#

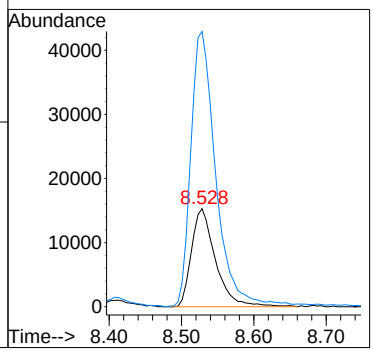


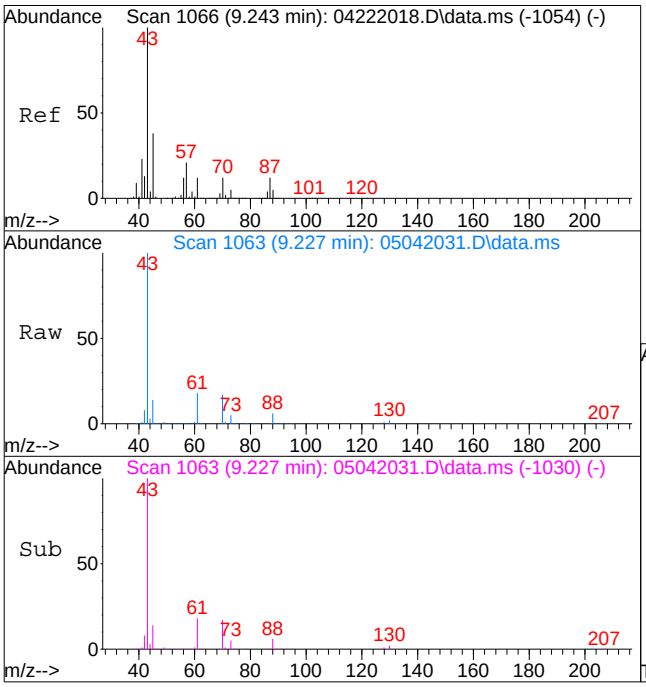


#27
2-Butanone (MEK)
Concen: 6.27 ng
RT: 8.53 min Scan# 936
Delta R.T. -0.022 min
Lab File: 05042031.D
Acq: 4 May 2020 23:38

Tgt Ion: 72 Resp: 35412

Ion	Ratio	Lower	Upper
72	100		
43	295.3	278.8	318.8

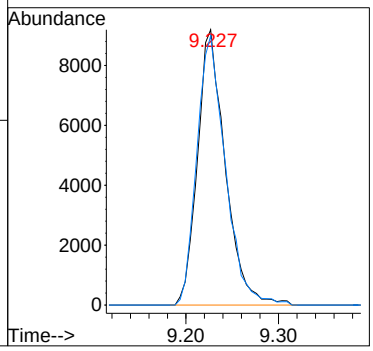


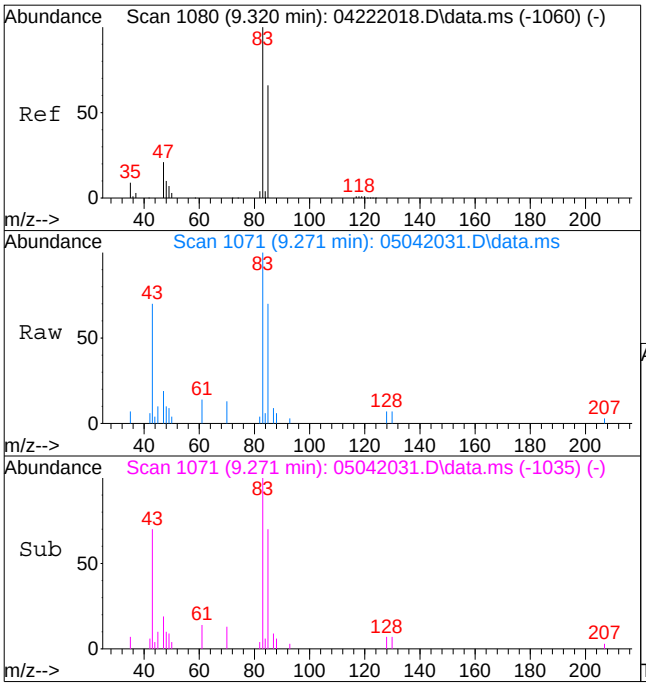


#30
Ethyl Acetate
Concen: 7.64 ng
RT: 9.23 min Scan# 1063
Delta R.T. -0.017 min
Lab File: 05042031.D
Acq: 4 May 2020 23:38

Tgt Ion: 61 Resp: 19185

Ion	Ratio	Lower	Upper
61	100		
70	100.4	80.6	120.6

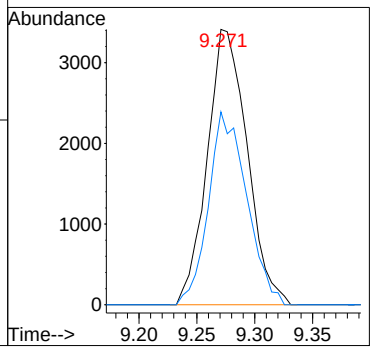


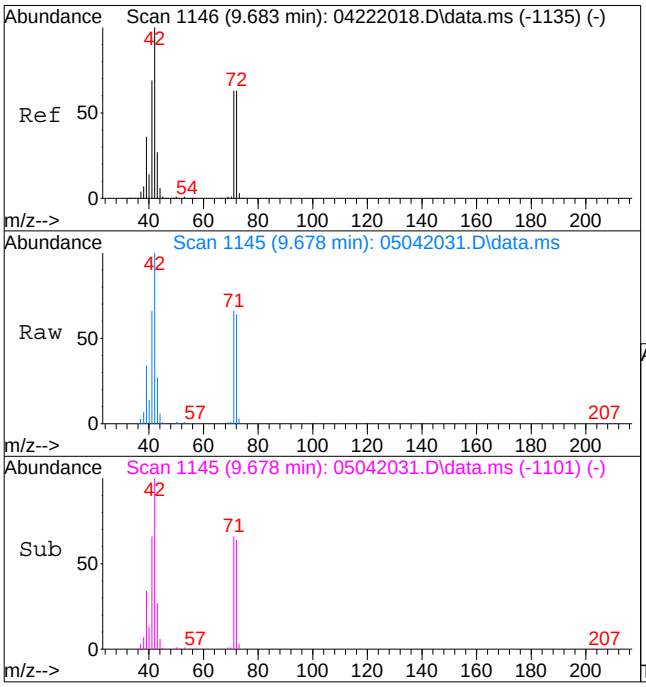


#32
Chloroform
Concen: 0.42 ng
RT: 9.27 min Scan# 1071
Delta R.T. -0.050 min
Lab File: 05042031.D
Acq: 4 May 2020 23:38

Tgt Ion: 83 Resp: 8212

Ion	Ratio	Lower	Upper
83	100		
85	66.9	45.8	85.8

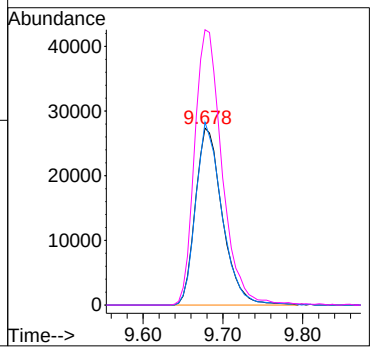


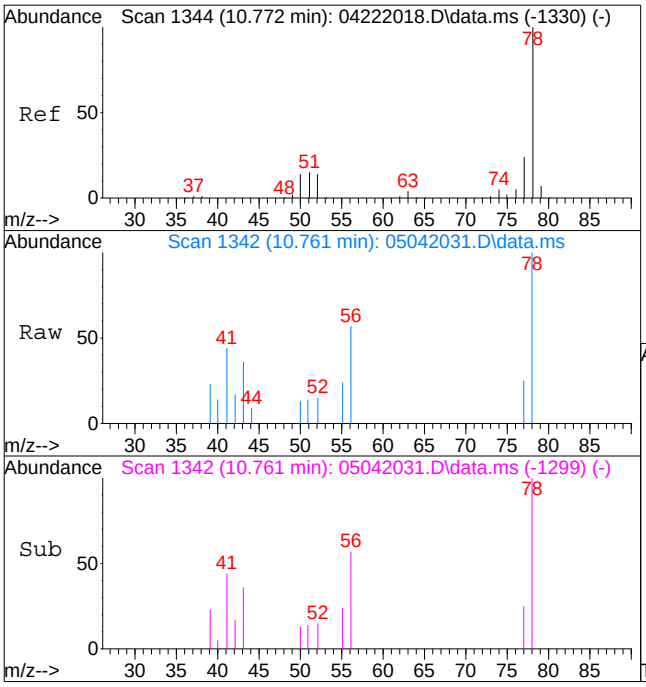


#34
Tetrahydrofuran (THF)
Concen: 11.27 ng
RT: 9.68 min Scan# 1145
Delta R.T. -0.006 min
Lab File: 05042031.D
Acq: 4 May 2020 23:38

Tgt Ion: 72 Resp: 64409

Ion	Ratio	Lower	Upper
72	100		
71	99.9	77.9	117.9
42	158.2	133.9	173.9

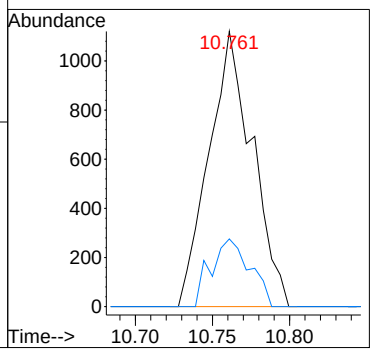


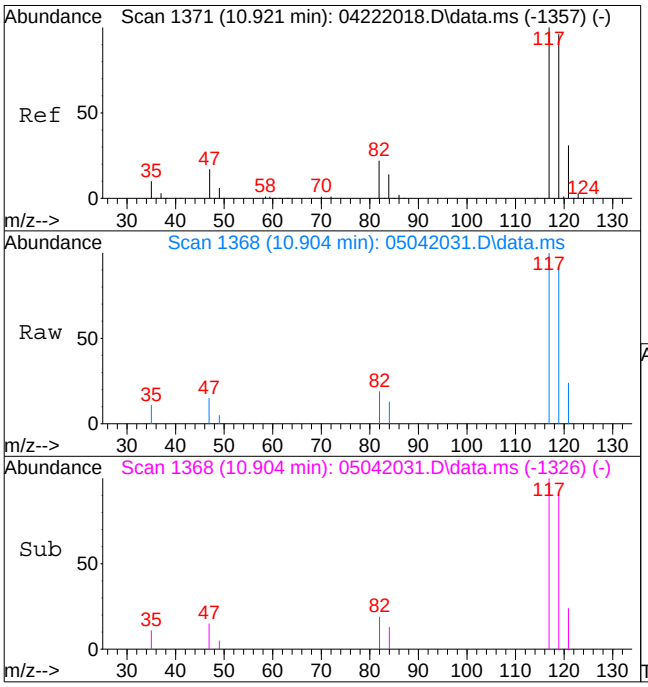


#41
Benzene
Concen: 0.06 ng
RT: 10.76 min Scan# 1342
Delta R.T. -0.011 min
Lab File: 05042031.D
Acq: 4 May 2020 23:38

Tgt Ion: 78 Resp: 2193

Ion	Ratio	Lower	Upper
78	100		
77	22.2	3.6	43.6

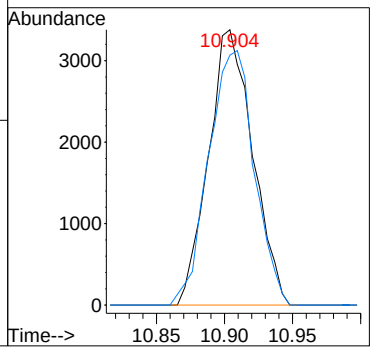


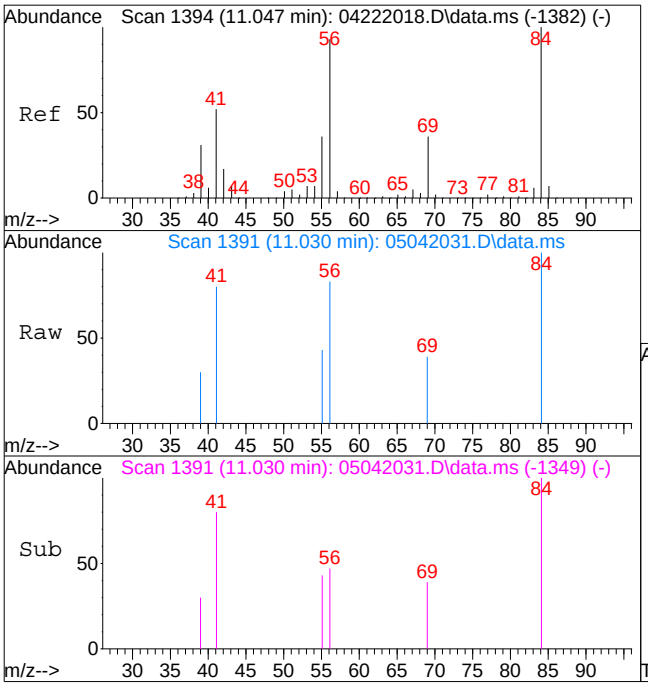


#42
Carbon Tetrachloride
Concen: 0.38 ng
RT: 10.90 min Scan# 1368
Delta R.T. -0.017 min
Lab File: 05042031.D
Acq: 4 May 2020 23:38

Tgt Ion:117 Resp: 7626

Ion	Ratio	Lower	Upper
117	100		
119	95.9	76.5	116.5

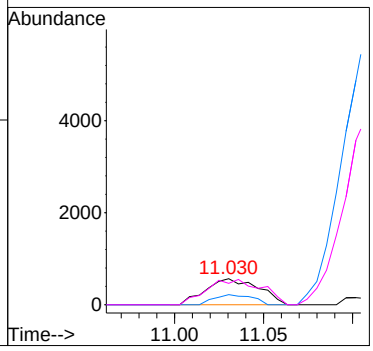


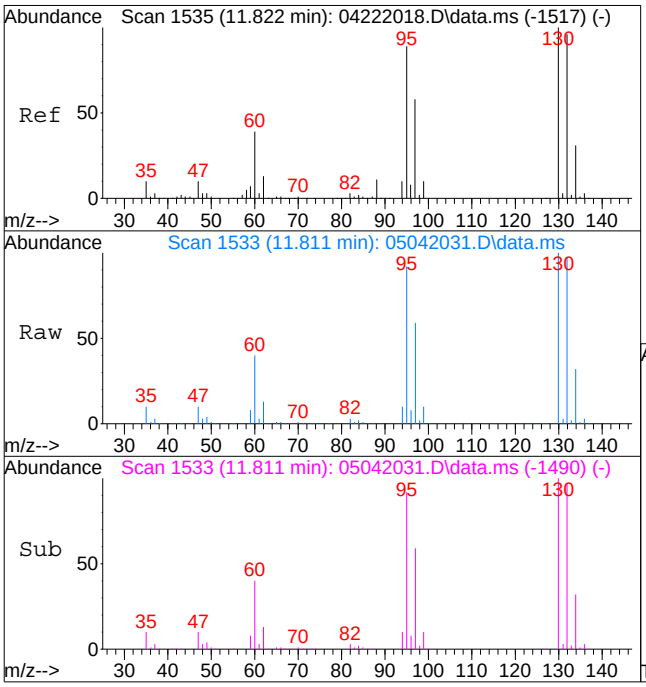


#43
Cyclohexane
Concen: 0.08 ng
RT: 11.03 min Scan# 1391
Delta R.T. -0.017 min
Lab File: 05042031.D
Acq: 4 May 2020 23:38

Tgt Ion: 84 Resp: 1175

Ion	Ratio	Lower	Upper
84	100		
69	27.9	15.8	55.8
56	101.0	72.0	112.0

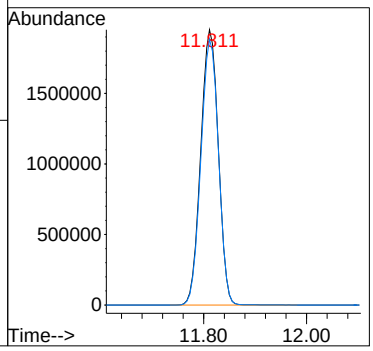


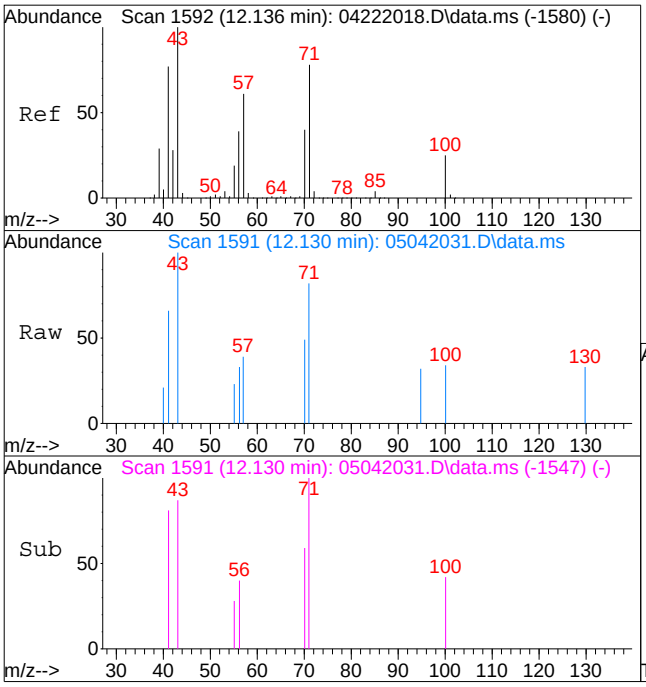


#47
Trichloroethene
Concen: 344.13 ng
RT: 11.81 min Scan# 1533
Delta R.T. -0.011 min
Lab File: 05042031.D
Acq: 4 May 2020 23:38

Tgt Ion:130 Resp: 4624799

Ion	Ratio	Lower	Upper
130	100		
132	96.4	76.4	116.4

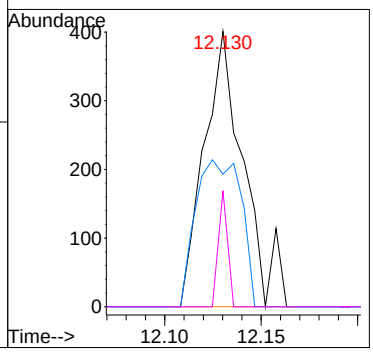


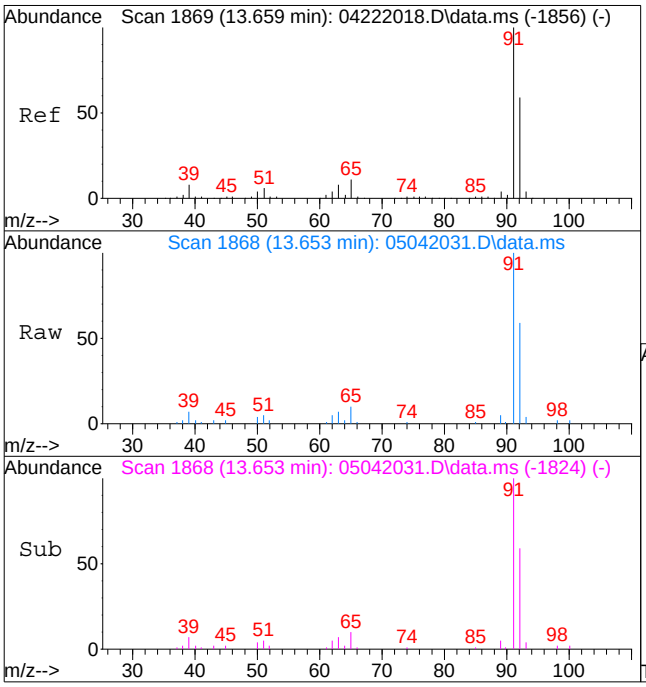


#51
n-Heptane
Concen: 0.06 ng
RT: 12.13 min Scan# 1591
Delta R.T. -0.006 min
Lab File: 05042031.D
Acq: 4 May 2020 23:38

Tgt Ion: 71 Resp: 570

Ion	Ratio	Lower	Upper
71	100		
57	61.4	57.4	97.4
100	0.0	12.0	52.0#

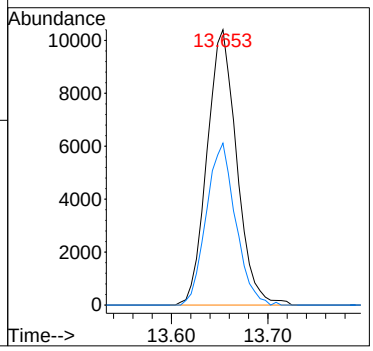


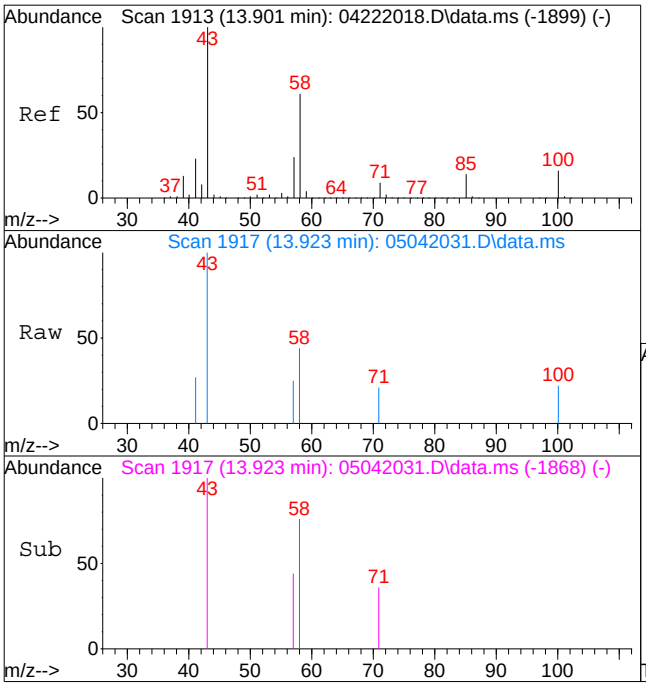


#58
Toluene
Concen: 0.51 ng
RT: 13.65 min Scan# 1868
Delta R.T. -0.006 min
Lab File: 05042031.D
Acq: 4 May 2020 23:38

Tgt Ion: 91 Resp: 22222

Ion	Ratio	Lower	Upper
91	100		
92	58.1	38.2	78.2

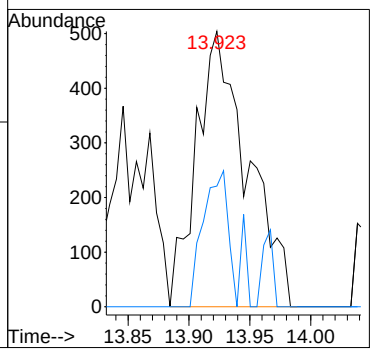


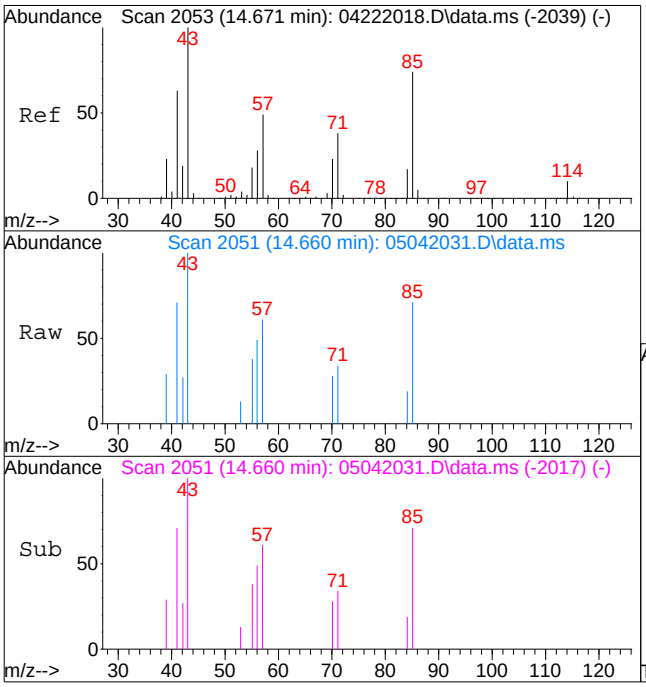


#59
2-Hexanone
Concen: 0.11 ng
RT: 13.92 min Scan# 1917
Delta R.T. 0.022 min
Lab File: 05042031.D
Acq: 4 May 2020 23:38

Tgt Ion: 43 Resp: 1485

Ion	Ratio	Lower	Upper
43	100		
58	23.8	41.1	81.1#

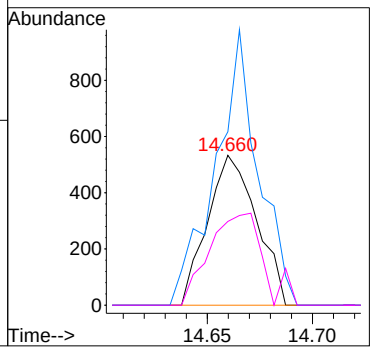


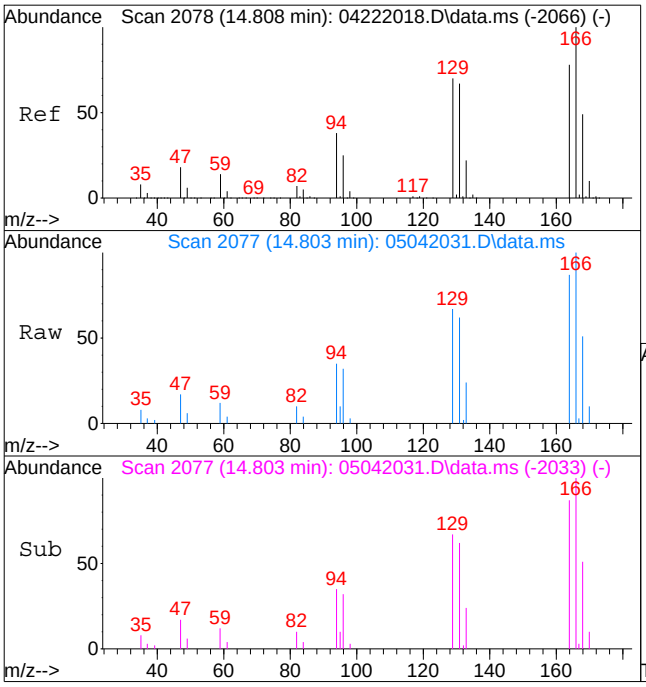


#63
n-Octane
Concen: 0.13 ng
RT: 14.66 min Scan# 2051
Delta R.T. -0.011 min
Lab File: 05042031.D
Acq: 4 May 2020 23:38

Tgt Ion: 57 Resp: 865

Ion	Ratio	Lower	Upper
57	100		
85	160.2	120.7	181.1
71	67.3	61.1	91.7

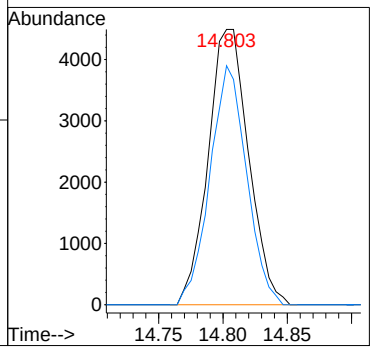


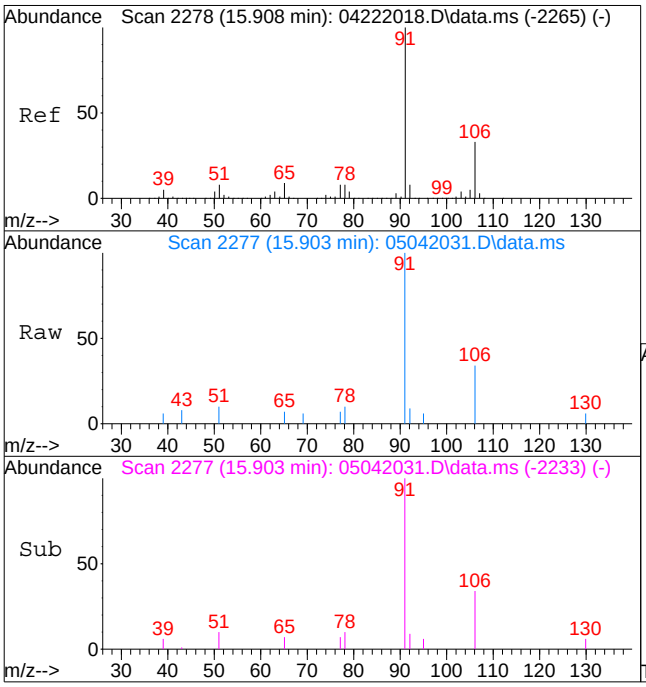


#64
Tetrachloroethene
Concen: 0.60 ng
RT: 14.80 min Scan# 2077
Delta R.T. -0.006 min
Lab File: 05042031.D
Acq: 4 May 2020 23:38

Tgt Ion:166 Resp: 9868

Ion	Ratio	Lower	Upper
166	100		
164	78.4	57.7	97.7

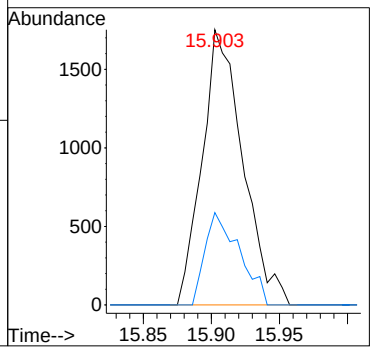


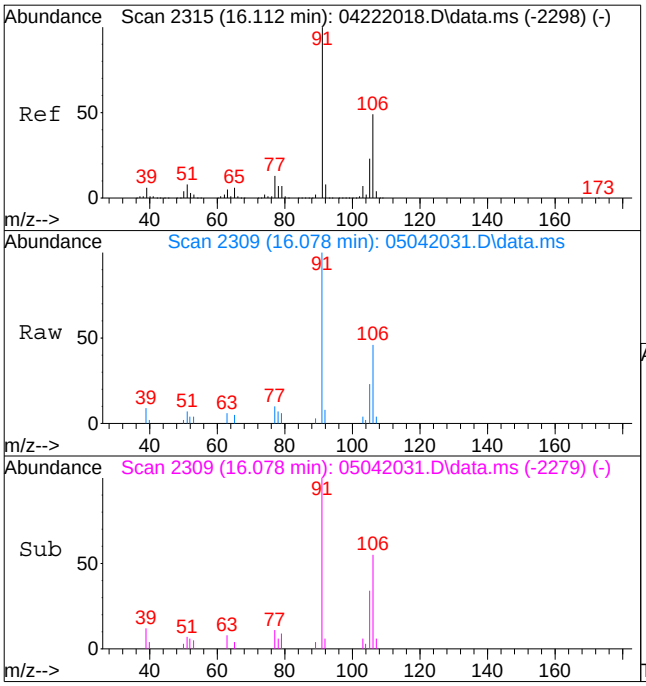


#66
Ethylbenzene
Concen: 0.07 ng
RT: 15.90 min Scan# 2277
Delta R.T. -0.006 min
Lab File: 05042031.D
Acq: 4 May 2020 23:38

Tgt Ion: 91 Resp: 3644

Ion	Ratio	Lower	Upper
91	100		
106	28.3	13.4	53.4

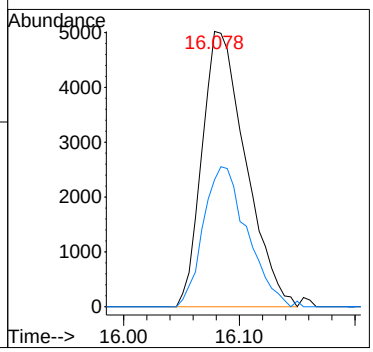


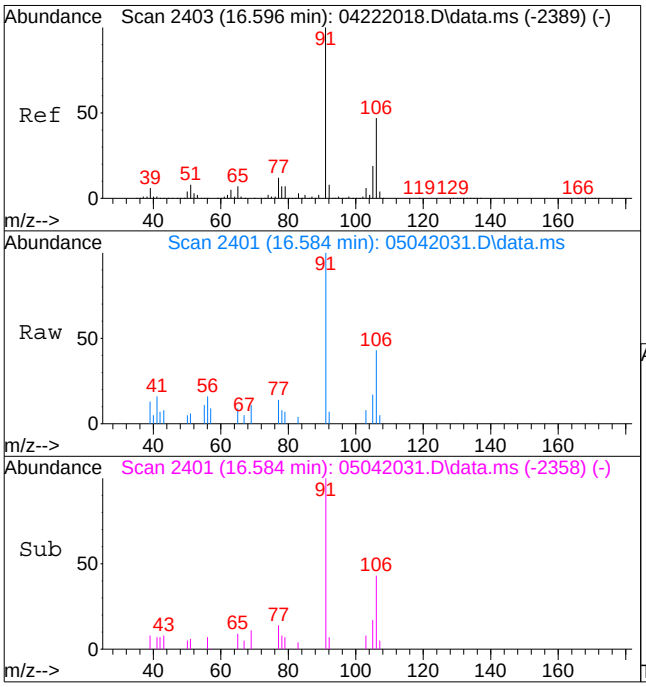


#67
m- & p-Xylenes
Concen: 0.31 ng
RT: 16.08 min Scan# 2309
Delta R.T. -0.033 min
Lab File: 05042031.D
Acq: 4 May 2020 23:38

Tgt Ion: 91 Resp: 13122

Ion	Ratio	Lower	Upper
91	100		
106	51.2	28.3	68.3

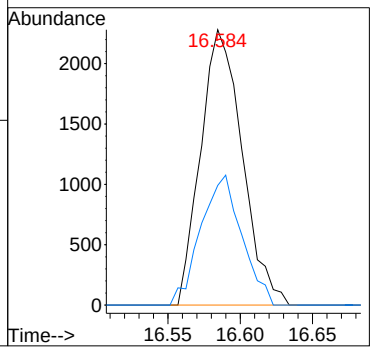


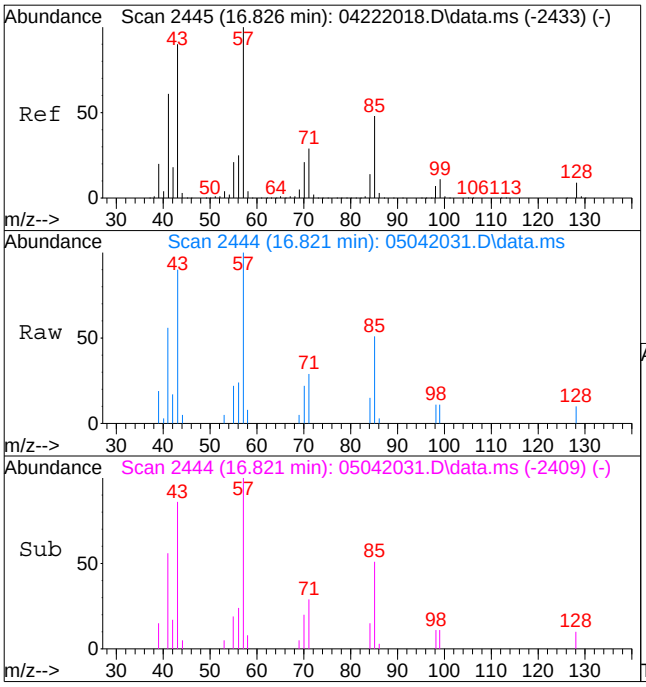


#70
o-Xylene
Concen: 0.11 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 05042031.D
Acq: 4 May 2020 23:38

Tgt Ion: 91 Resp: 4570

Ion	Ratio	Lower	Upper
91	100		
106	46.5	27.5	67.5

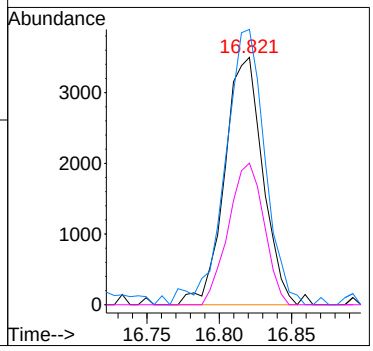


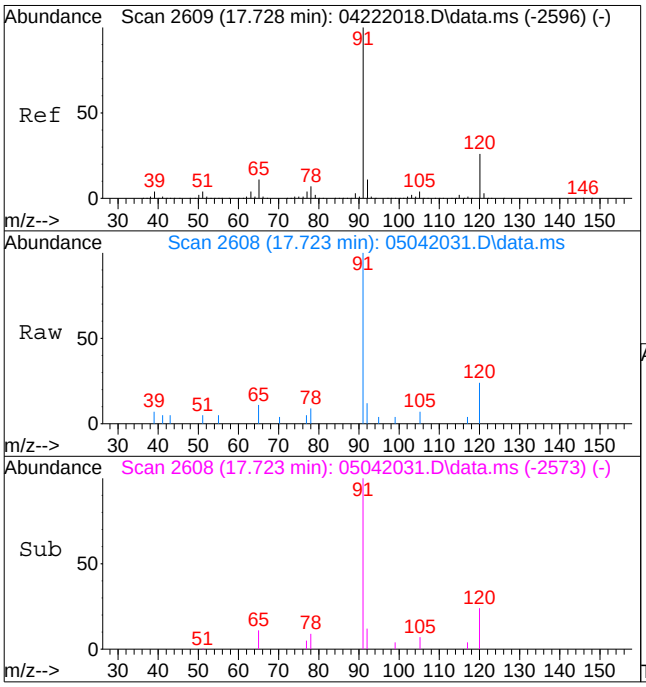


#71
n-Nonane
Concen: 0.47 ng
RT: 16.82 min Scan# 2444
Delta R.T. -0.006 min
Lab File: 05042031.D
Acq: 4 May 2020 23:38

Tgt Ion: 43 Resp: 6415

Ion	Ratio	Lower	Upper
43	100		
57	116.3	90.8	130.8
85	53.3	32.1	72.1

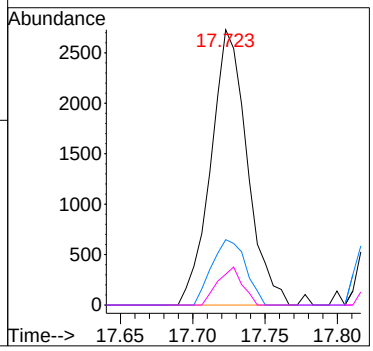


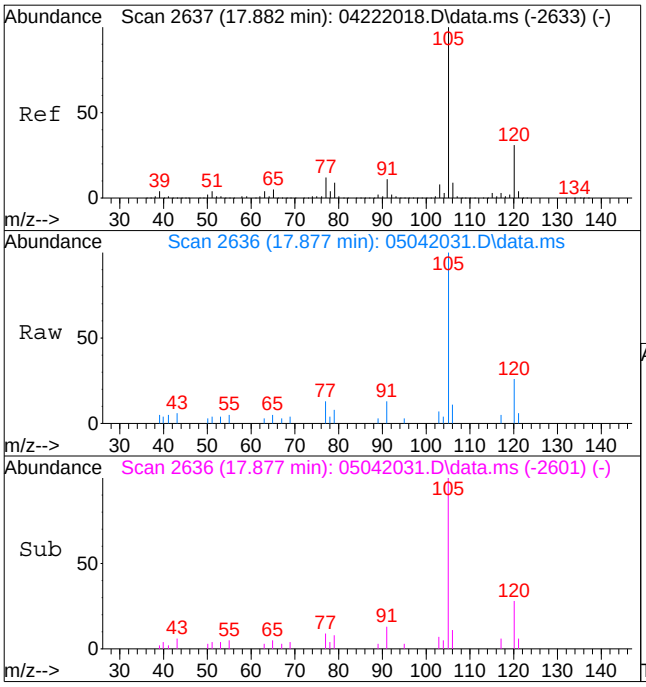


#76
n-Propylbenzene
Concen: 0.08 ng
RT: 17.72 min Scan# 2608
Delta R.T. -0.006 min
Lab File: 05042031.D
Acq: 4 May 2020 23:38

Tgt Ion: 91 Resp: 4782

Ion	Ratio	Lower	Upper
91	100		
120	22.2	6.1	46.1
65	9.3	0.0	30.7

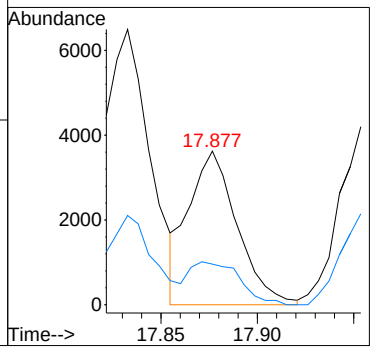


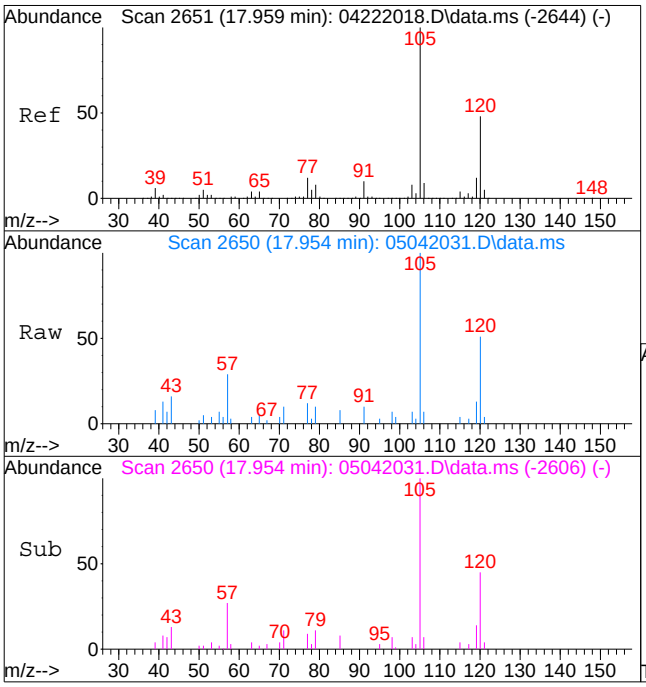


#78
4-Ethyltoluene
Concen: 0.12 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05042031.D
Acq: 4 May 2020 23:38

Tgt Ion:105 Resp: 6369

Ion	Ratio	Lower	Upper
105	100		
120	28.5	11.4	51.4

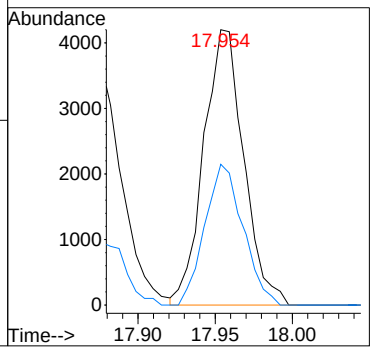


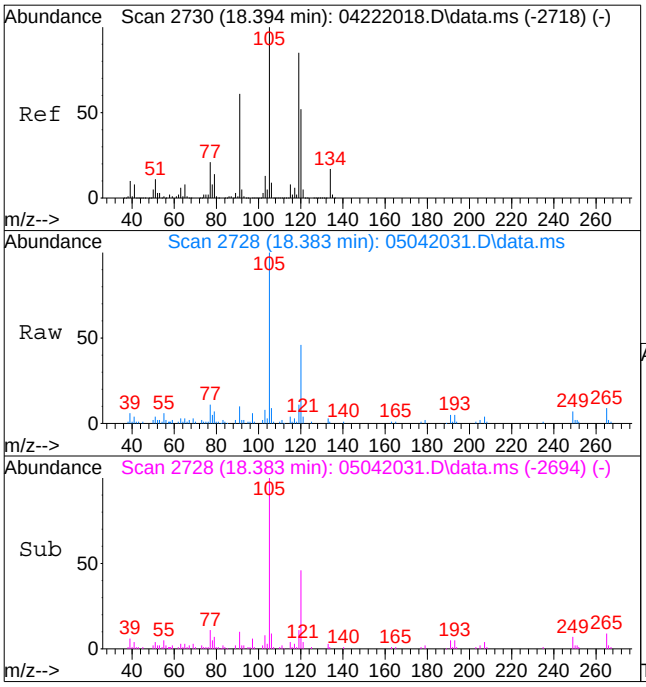


#79
1,3,5-Trimethylbenzene
Concen: 0.16 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 05042031.D
Acq: 4 May 2020 23:38

Tgt Ion:105 Resp: 7585

Ion	Ratio	Lower	Upper
105	100		
120	48.8	29.5	69.5

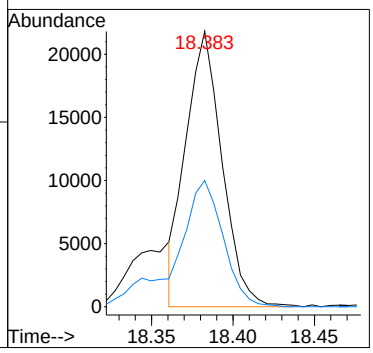


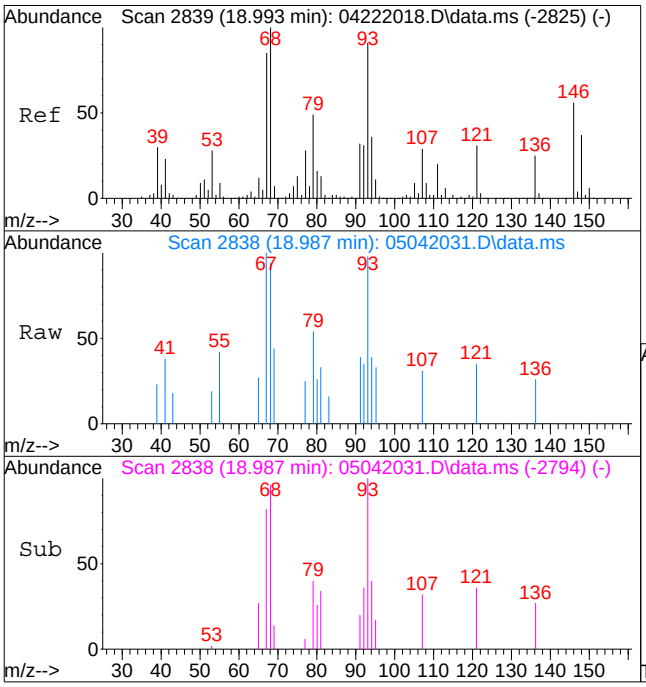


#82
1,2,4-Trimethylbenzene
Concen: 0.73 ng m
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 05042031.D
Acq: 4 May 2020 23:38

Tgt Ion:105 Resp: 33808

Ion	Ratio	Lower	Upper
105	100		
120	59.5	34.5	74.5

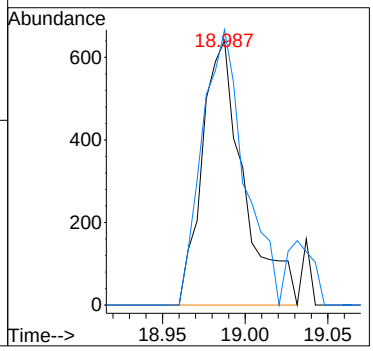


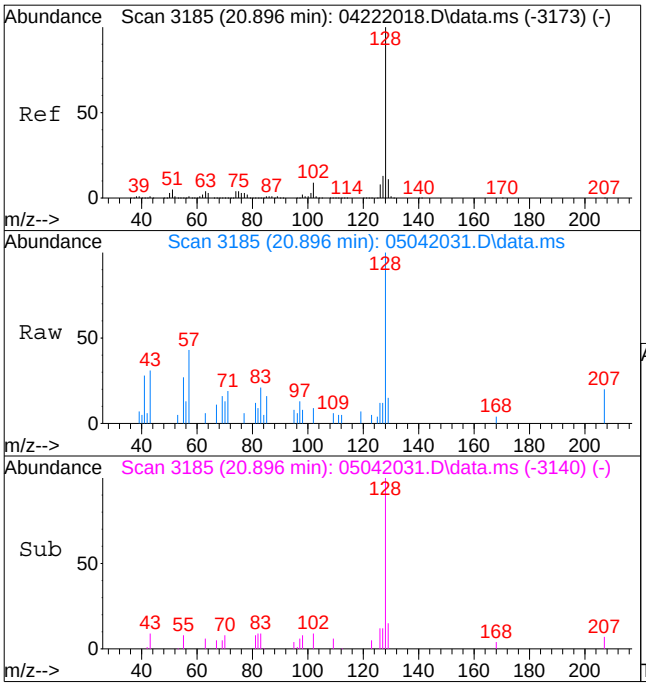


#91
d-Limonene
Concen: 0.09 ng
RT: 18.99 min Scan# 2838
Delta R.T. -0.006 min
Lab File: 05042031.D
Acq: 4 May 2020 23:38

Tgt Ion: 68 Resp: 1122

Ion	Ratio	Lower	Upper
68	100		
93	105.7	71.6	111.6

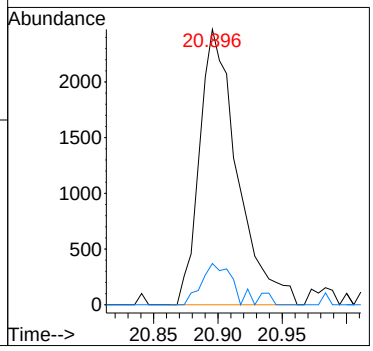




#95
Naphthalene
Concen: 0.08 ng
RT: 20.90 min Scan# 3185
Delta R.T. -0.000 min
Lab File: 05042031.D
Acq: 4 May 2020 23:38

Tgt Ion:128 Resp: 5074

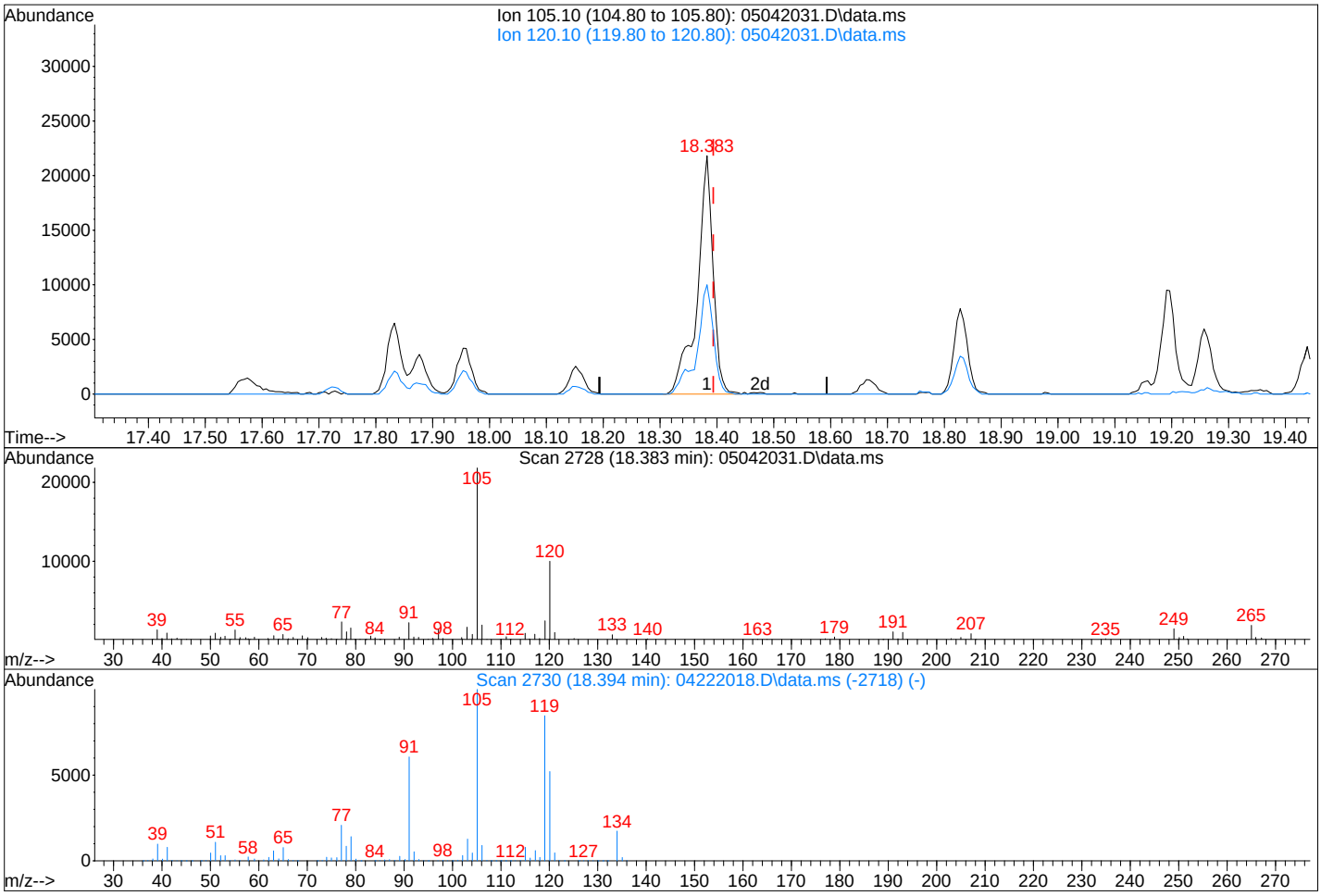
Ion	Ratio	Lower	Upper
128	100		
129	12.2	0.0	30.9



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_05\04\05042031.D Vial: 15
Acq On : 4 May 2020 23:38 Operator: SC
Sample : P2002106-015 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 05:34:11 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05042031.D\data.ms

(82) 1,2,4-Trimethylbenzene (T)

18.383min (-0.011) 0.91ng

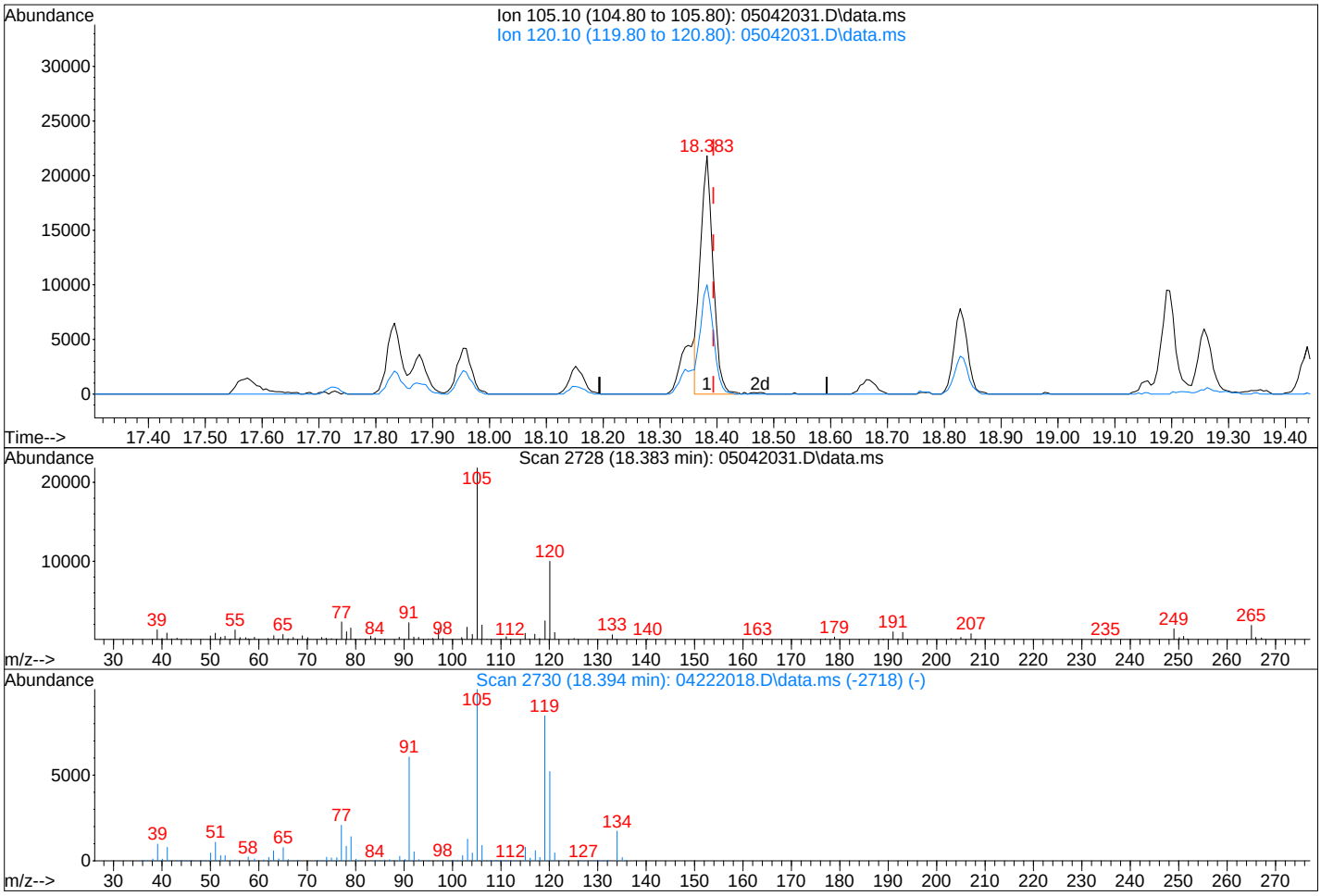
response 42440

Ion	Exp%	Act%
105.10	100	100
120.10	54.50	47.42
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_05\04\05042031.D Vial: 15
Acq On : 4 May 2020 23:38 Operator: SC
Sample : P2002106-015 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 05:34:11 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05042031.D\data.ms

(82) 1,2,4-Trimethylbenzene (T)

18.383min (-0.011) 0.73ng m

response 33808

Ion	Exp%	Act%
105.10	100	100
120.10	54.50	59.53
0.00	0.00	0.00
0.00	0.00	0.00

IPC

5/5/20 TD 5/7/20

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\05\05052008.D Vial: 15
Acq On : 5 May 2020 7:29 Operator: SC
Sample : P2002106-015dil (40mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 14:35:41 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/5/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	134056	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	567585	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	250770	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	205684	11.842	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.72%				
57) Toluene-d8 (SS2)	13.54	98	625952	12.928	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.44%				
73) Bromofluorobenzene (SS3)	17.05	174	242753	12.475	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.76%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.			
3) Dichlorodifluoromethan...	4.01	85	871	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.50	45	67	N.D.			
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	5.89	56	36	N.D.			
13) Acetone	5.89	58	2393	0.462	ng	#	83
14) Trichlorofluoromethane	6.04	101	462	N.D.			
15) 2-Propanol (Isopropanol)	6.23	45	85	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	7.20	151	446	N.D.			
22) Carbon Disulfide	7.18	76	5003	0.166	ng		82
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	8.56	72	2040	0.383	ng	#	75
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	9.24	61	1120	0.473	ng		93
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	9.28	83	592	N.D.			
34) Tetrahydrofuran (THF)	9.69	72	5291	0.982	ng		96
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	10.77	78	165	N.D.			
42) Carbon Tetrachloride	10.91	117	640	N.D.			
43) Cyclohexane	11.11	84	349	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	11.80	130	455772	35.568	ng		100
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\05\05052008.D Vial: 15
Acq On : 5 May 2020 7:29 Operator: SC
Sample : P2002106-015dil (40mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 14:35:41 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

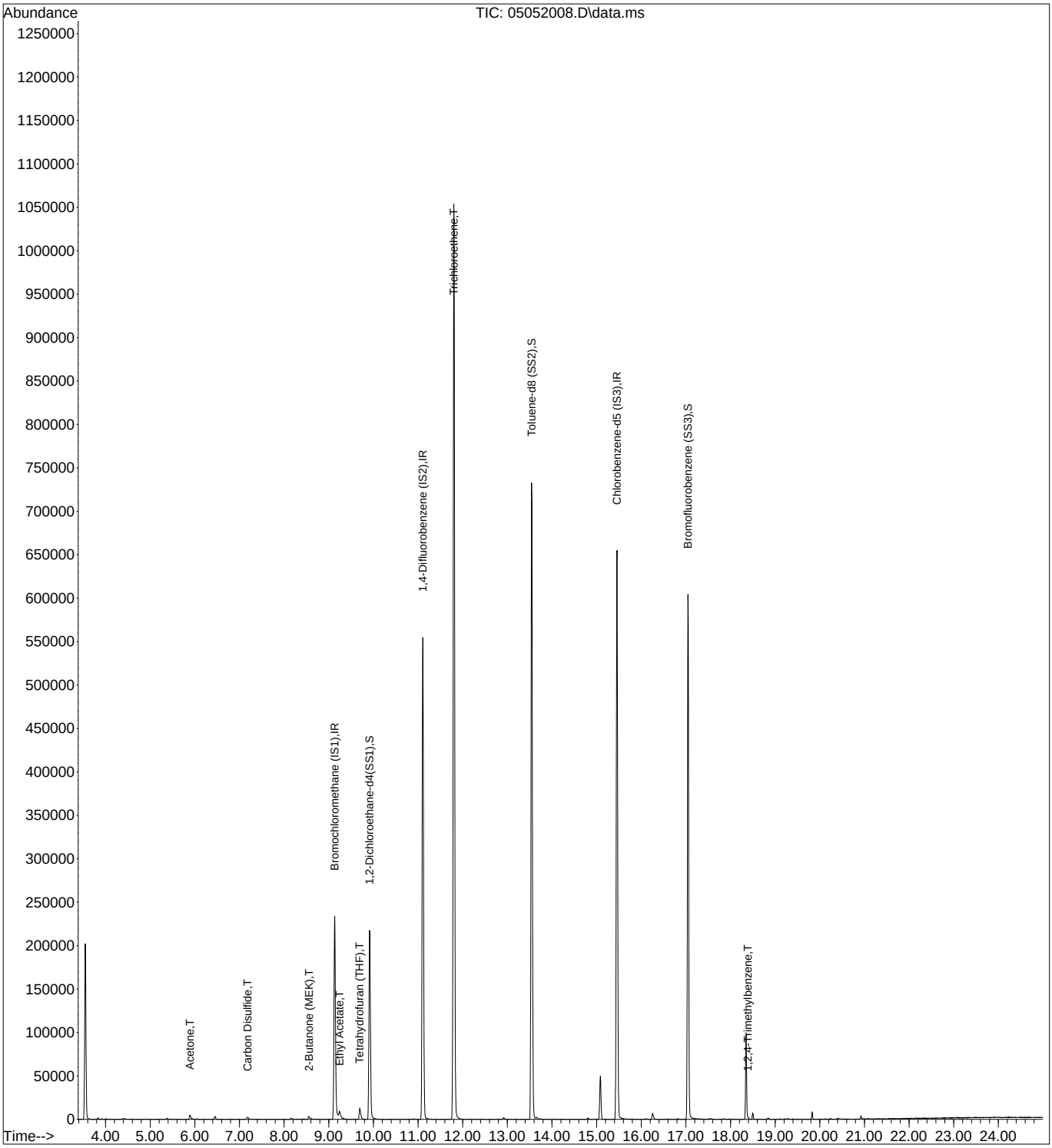
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.66	91	1980	N.D.	
59) 2-Hexanone	0.00	43	0	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.80	166	759	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.92	91	146	N.D.	
67) m- & p-Xylenes	16.10	91	1155	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.61	91	323	N.D.	
71) n-Nonane	16.82	43	388	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	17.21	105	199	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.74	91	328	N.D.	
77) 3-Ethyltoluene	17.84	105	1089	N.D.	
78) 4-Ethyltoluene	17.89	105	644	N.D.	
79) 1,3,5-Trimethylbenzene	17.97	105	678	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	18.17	105	254	N.D.	
82) 1,2,4-Trimethylbenzene	18.39	105	2596	0.060 ng	88
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.39	91	306	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	18.67	105	310	N.D.	
88) 4-Isopropyltoluene (p-...	18.84	119	556	N.D.	
89) 1,2,3-Trimethylbenzene	18.84	105	976	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.95	128	410	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	18.34	119	2032	N.D.	
100) n-Butylbenzene	19.28	91	500	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\05\05052008.D Vial: 15
Acq On : 5 May 2020 7:29 Operator: SC
Sample : P2002106-015dil (40mL) Inst : MS09
Misc : S34-04212006

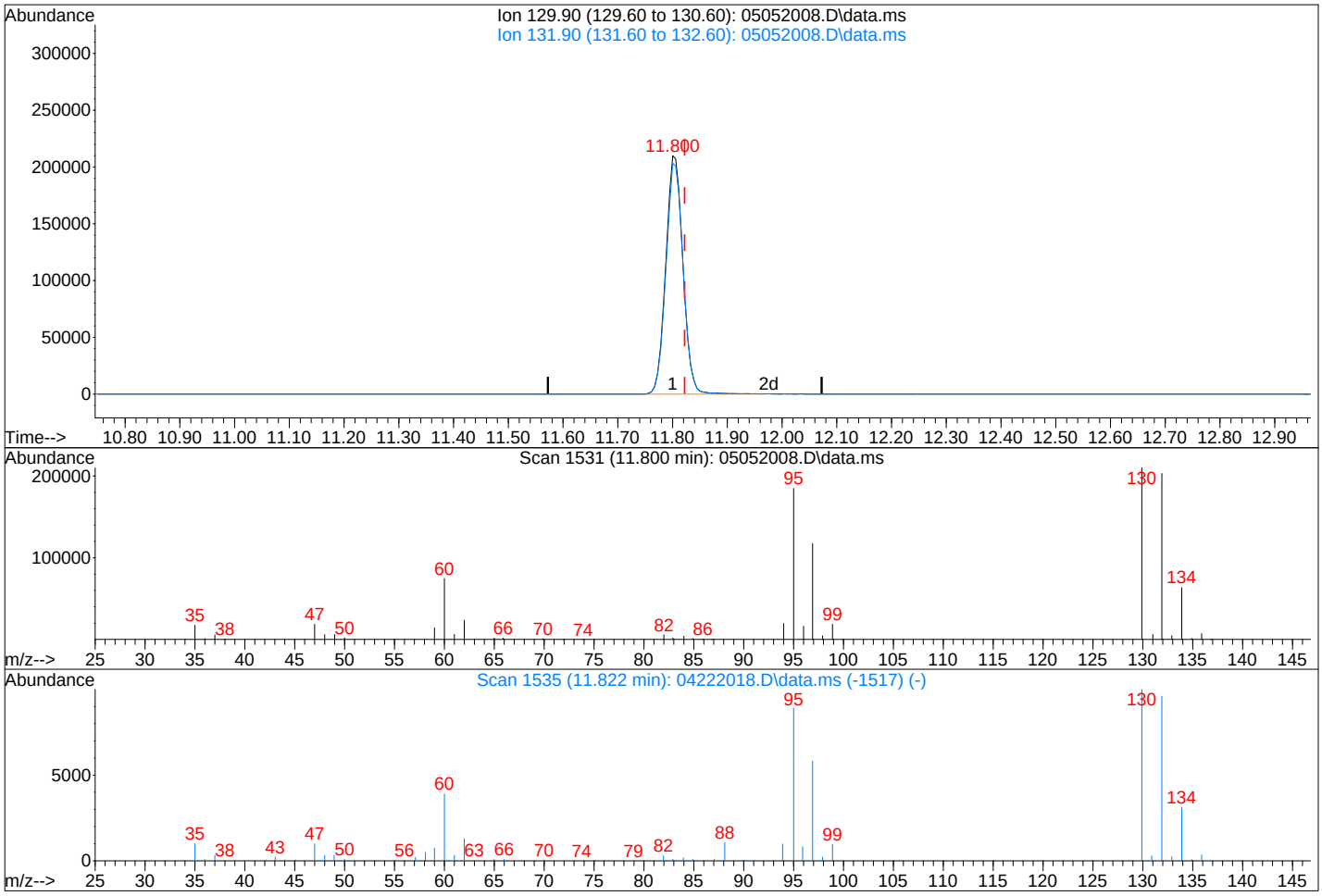
Quant Time: May 05 14:35:41 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_05\05\05052008.D Vial: 15
Acq On : 5 May 2020 7:29 Operator: SC
Sample : P2002106-015dil (40mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 08:51:07 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05052008.D\data.ms

(47) Trichloroethene (T)

11.800min (-0.022) 35.57ng

response 455772

Ion	Exp%	Act%
129.90	100	100
131.90	96.40	96.81
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042032.D Vial: 16
Acq On : 5 May 2020 00:12 Operator: SC
Sample : P2002106-016 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 14:42:15 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/5/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	140111	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	592352	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	265623	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.92	65	212624	11.713	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.68%				
57) Toluene-d8 (SS2)	13.54	98	654915	12.769	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.16%				
73) Bromofluorobenzene (SS3)	17.05	174	266433	12.926	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.44%				
Target Compounds							Qvalue
2) Propene	3.89	42	643	0.108	ng	#	52
3) Dichlorodifluoromethan...	3.99	85	6558	0.290	ng		99
4) Chloromethane	4.21	50	543	0.065	ng	#	41
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.36	45	6012m	1.334	ng		
11) Acetonitrile	5.60	41	56	N.D.			
12) Acrolein	5.72	56	94	N.D.			
13) Acetone	5.87	58	8932	1.650	ng	#	85
14) Trichlorofluoromethane	6.03	101	3575	0.159	ng		100
15) 2-Propanol (Isopropanol)	6.19	45	690	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	6.88	59	585	N.D.			
19) Methylene Chloride	6.85	84	406	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	7.18	151	3905	0.334	ng		99
22) Carbon Disulfide	7.15	76	51092	1.619	ng		98
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	8.54	72	3356	0.604	ng	#	79
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	9.23	57	376	N.D.			
32) Chloroform	9.28	83	8386	0.437	ng		96
34) Tetrahydrofuran (THF)	9.68	72	33669	5.979	ng		99
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.75	78	2229	0.058	ng		83
42) Carbon Tetrachloride	10.90	117	4069	0.204	ng		95
43) Cyclohexane	11.11	84	404	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	11.81	130	1627080	121.667	ng		100
48) 1,4-Dioxane	11.84	88	140	N.D.			
49) 2,2,4-Trimethylpentane...	11.86	57	1211	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042032.D Vial: 16
Acq On : 5 May 2020 00:12 Operator: SC
Sample : P2002106-016 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 14:42:15 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

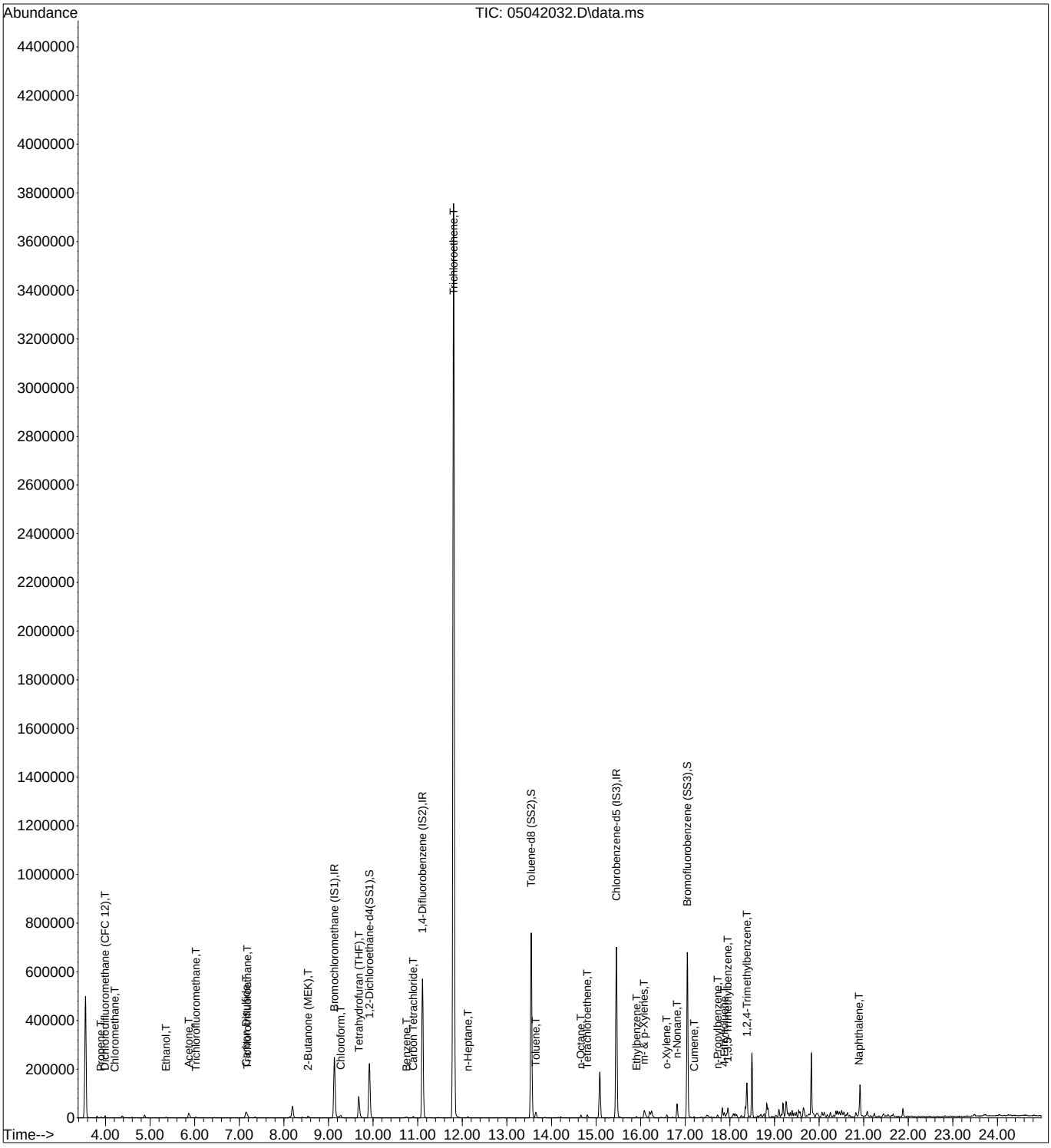
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.13	71	1079	0.120 ng	88
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.65	91	22395	0.520 ng	98
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.66	57	2347	0.342 ng	94
64) Tetrachloroethene	14.80	166	4844	0.299 ng	100
65) Chlorobenzene	15.54	112	298	N.D.	
66) Ethylbenzene	15.91	91	5988	0.119 ng	99
67) m- & p-Xylenes	16.08	91	29870	0.706 ng	99
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.59	104	156	N.D.	
70) o-Xylene	16.58	91	9619	0.231 ng	97
71) n-Nonane	16.82	43	17970	1.340 ng	99
72) 1,1,2,2-Tetrachloroethane	16.64	83	116	N.D.	
74) Cumene	17.20	105	2869	0.053 ng	91
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.73	91	11442	0.194 ng	96
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.88	105	15071	0.292 ng	100
79) 1,3,5-Trimethylbenzene	17.95	105	18595	0.390 ng	97
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	83337	1.809 ng	88
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.53	91	238	N.D.	
85) 1,3-Dichlorobenzene	18.61	146	164	N.D.	
86) 1,4-Dichlorobenzene	18.61	146	164	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	18.98	68	454	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.90	128	14535	0.245 ng	98
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042032.D Vial: 16
Acq On : 5 May 2020 00:12 Operator: SC
Sample : P2002106-016 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 14:42:15 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042032.D Vial: 16
Acq On : 5 May 2020 00:12 Operator: SC
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Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/5/20

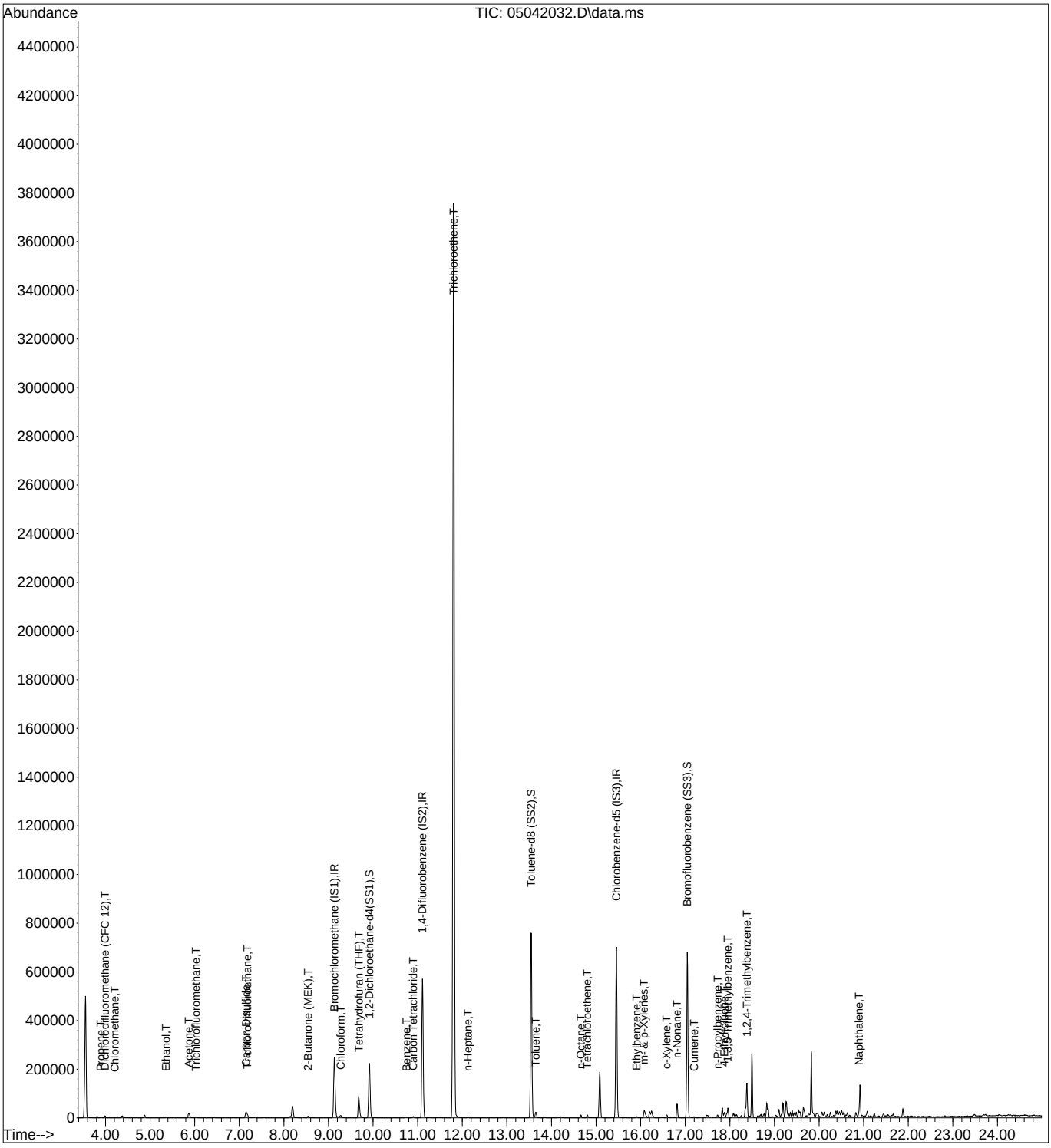
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	140111	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	592352	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	265623	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.92	65	212624	11.713	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.68%				
57) Toluene-d8 (SS2)	13.54	98	654915	12.769	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.16%				
73) Bromofluorobenzene (SS3)	17.05	174	266433	12.926	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.44%				
Target Compounds							Qvalue
2) Propene	3.89	42	643	0.108	ng	#	52
3) Dichlorodifluoromethan...	3.99	85	6558	0.290	ng		99
4) Chloromethane	4.21	50	543	0.065	ng	#	41
10) Ethanol	5.36	45	6012m	1.334	ng		
13) Acetone	5.87	58	8932	1.650	ng	#	85
14) Trichlorofluoromethane	6.03	101	3575	0.159	ng		100
21) Trichlorotrifluoroethane	7.18	151	3905	0.334	ng		99
22) Carbon Disulfide	7.15	76	51092	1.619	ng		98
27) 2-Butanone (MEK)	8.54	72	3356	0.604	ng	#	79
32) Chloroform	9.28	83	8386	0.437	ng		96
34) Tetrahydrofuran (THF)	9.68	72	33669	5.979	ng		99
41) Benzene	10.75	78	2229	0.058	ng		83
42) Carbon Tetrachloride	10.90	117	4069	0.204	ng		95
47) Trichloroethene	11.81	130	1627080	121.667	ng		100
51) n-Heptane	12.13	71	1079	0.120	ng		88
58) Toluene	13.65	91	22395	0.520	ng		98
63) n-Octane	14.66	57	2347	0.342	ng		94
64) Tetrachloroethene	14.80	166	4844	0.299	ng		100
66) Ethylbenzene	15.91	91	5988	0.119	ng		99
67) m- & p-Xylenes	16.08	91	29870	0.706	ng		99
70) o-Xylene	16.58	91	9619	0.231	ng		97
71) n-Nonane	16.82	43	17970	1.340	ng		99
74) Cumene	17.20	105	2869	0.053	ng		91
76) n-Propylbenzene	17.73	91	11442	0.194	ng		96
78) 4-Ethyltoluene	17.88	105	15071	0.292	ng		100
79) 1,3,5-Trimethylbenzene	17.95	105	18595	0.390	ng		97
82) 1,2,4-Trimethylbenzene	18.38	105	83337	1.809	ng		88
95) Naphthalene	20.90	128	14535	0.245	ng		98

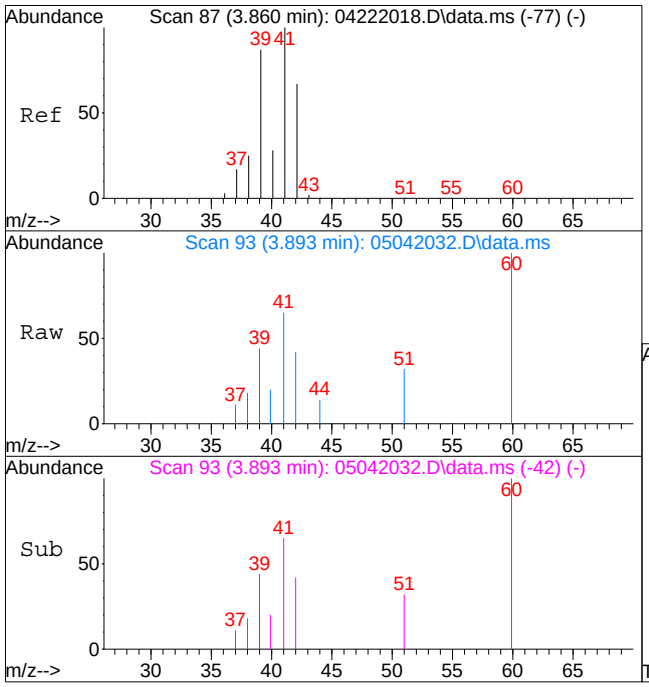
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042032.D Vial: 16
Acq On : 5 May 2020 00:12 Operator: SC
Sample : P2002106-016 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 14:42:15 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

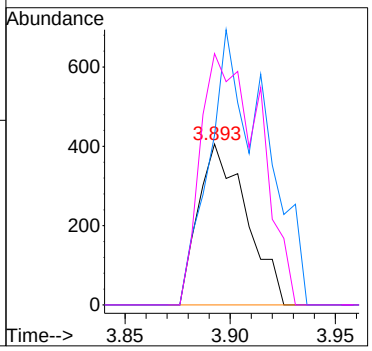


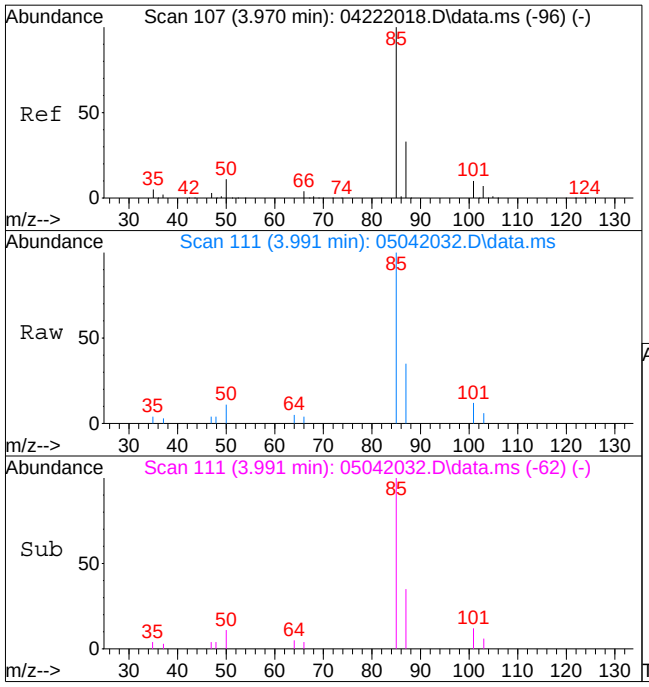


#2
Propene
Concen: 0.11 ng
RT: 3.89 min Scan# 93
Delta R.T. 0.033 min
Lab File: 05042032.D
Acq: 5 May 2020 00:12

Tgt Ion: 42 Resp: 643

Ion	Ratio	Lower	Upper
42	100		
39	199.1	106.4	146.4#
41	193.0	128.8	168.8#

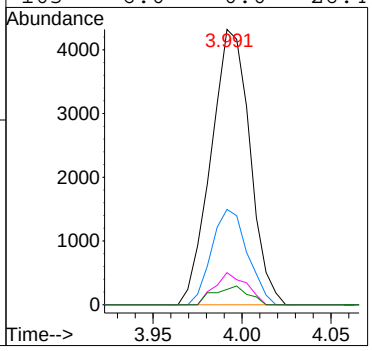


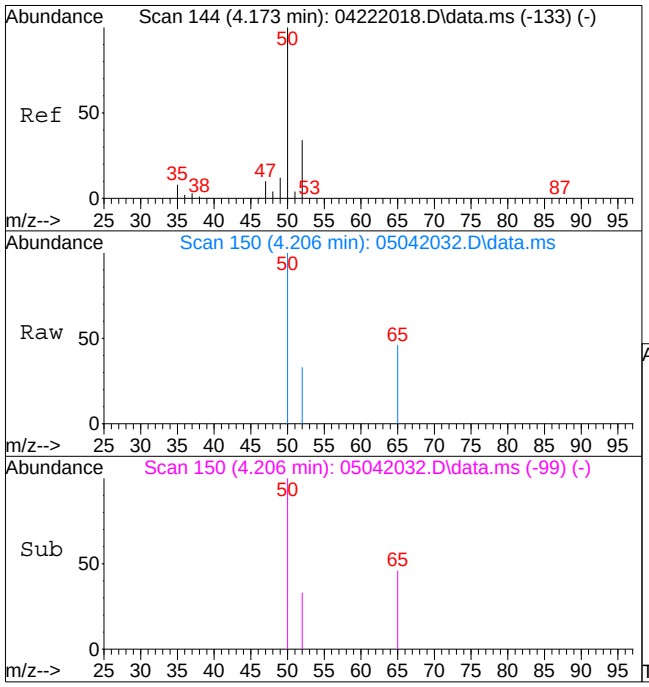


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.29 ng
RT: 3.99 min Scan# 111
Delta R.T. 0.022 min
Lab File: 05042032.D
Acq: 5 May 2020 00:12

Tgt Ion: 85 Resp: 6558

Ion	Ratio	Lower	Upper
85	100		
87	31.9	12.4	52.4
101	9.6	0.0	29.9
103	6.0	0.0	26.4

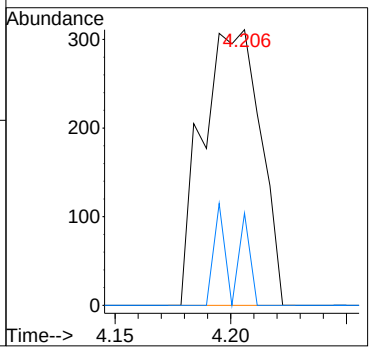


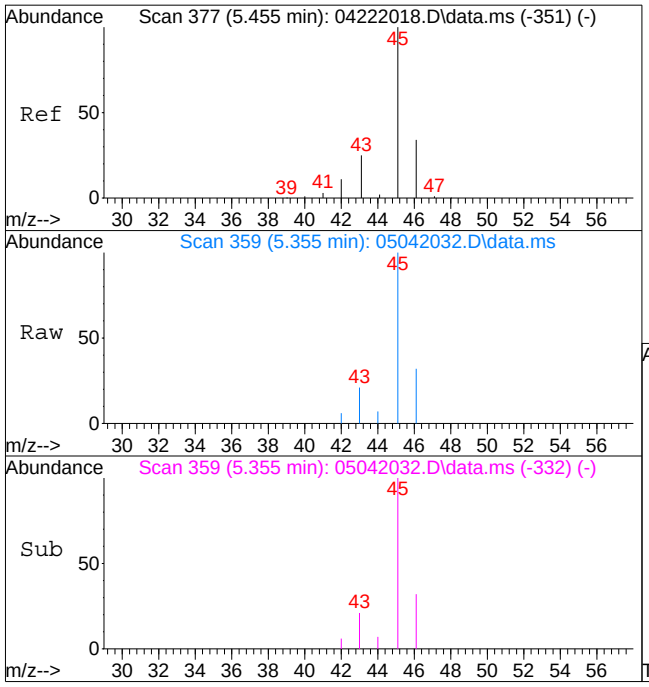


#4
Chloromethane
Concen: 0.07 ng
RT: 4.21 min Scan# 150
Delta R.T. 0.033 min
Lab File: 05042032.D
Acq: 5 May 2020 00:12

Tgt Ion: 50 Resp: 543

Ion	Ratio	Lower	Upper
50	100		
52	0.0	13.7	53.7#

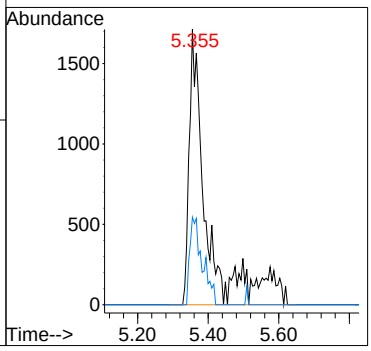


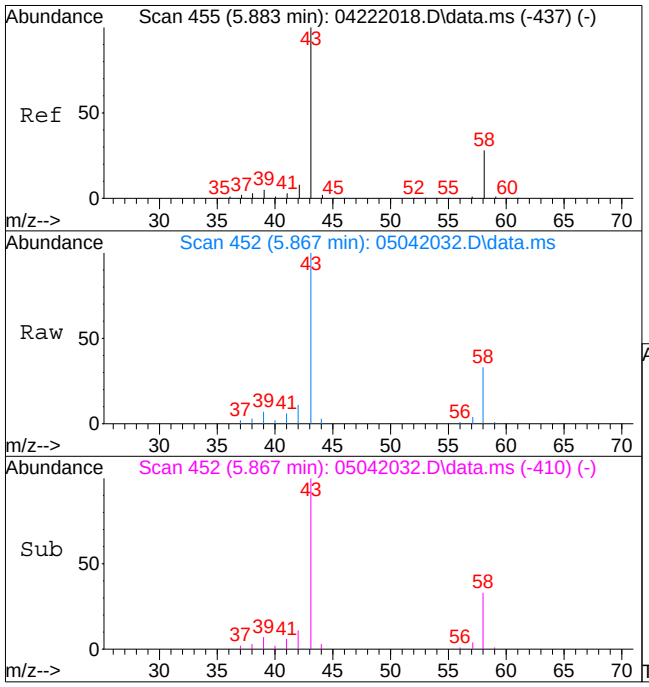


#10
Ethanol
Concen: 1.33 ng m
RT: 5.36 min Scan# 359
Delta R.T. -0.099 min
Lab File: 05042032.D
Acq: 5 May 2020 00:12

Tgt Ion: 45 Resp: 6012

Ion	Ratio	Lower	Upper
45	100		
46	0.6	14.0	54.0#

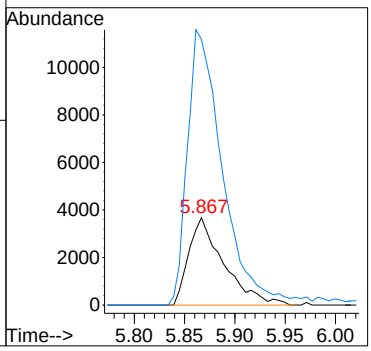


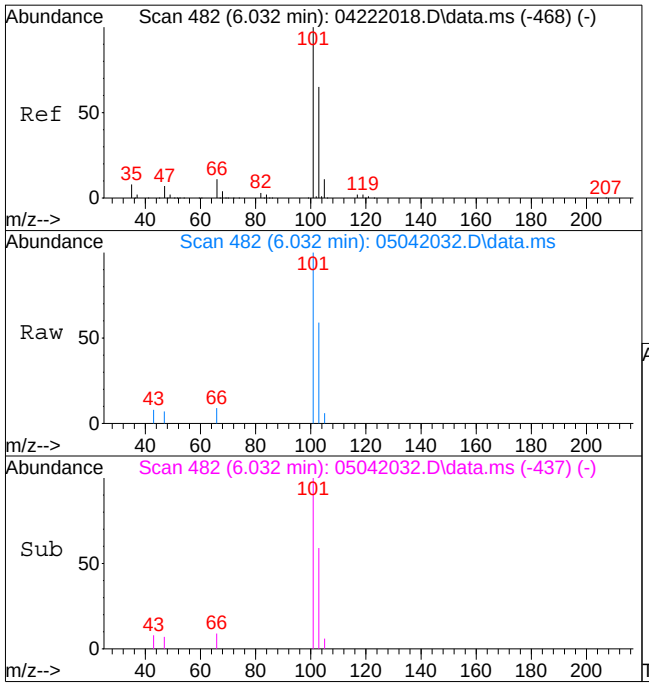


#13
Acetone
Concen: 1.65 ng
RT: 5.87 min Scan# 452
Delta R.T. -0.017 min
Lab File: 05042032.D
Acq: 5 May 2020 00:12

Tgt Ion: 58 Resp: 8932

Ion	Ratio	Lower	Upper
58	100		
43	316.5	319.3	379.3#

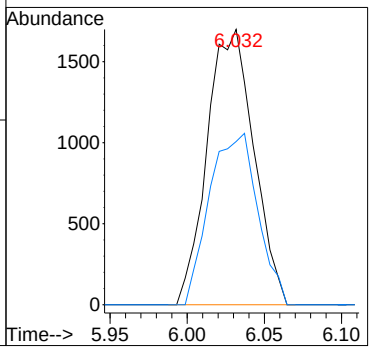


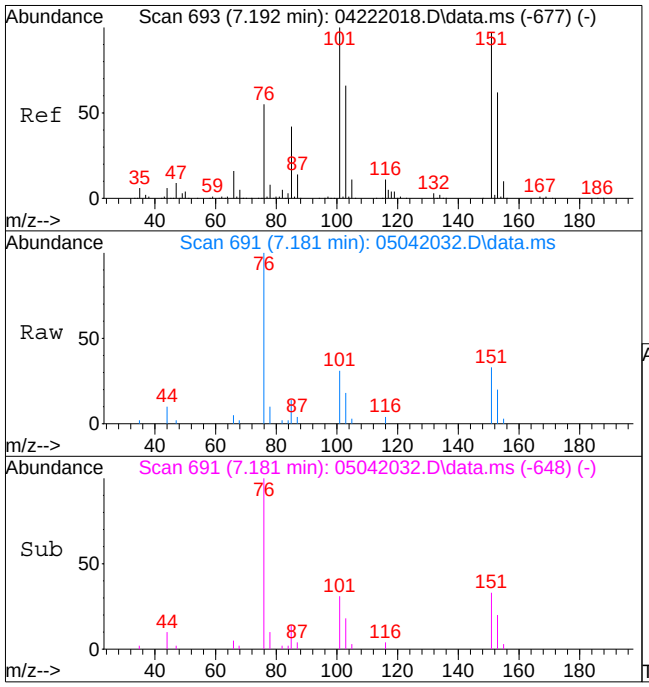


#14
Trichlorofluoromethane
Concen: 0.16 ng
RT: 6.03 min Scan# 482
Delta R.T. -0.000 min
Lab File: 05042032.D
Acq: 5 May 2020 00:12

Tgt Ion:101 Resp: 3575

Ion	Ratio	Lower	Upper
101	100		
103	64.3	44.7	84.7

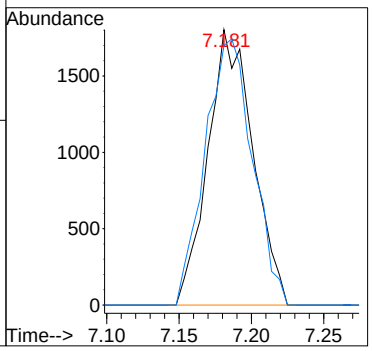


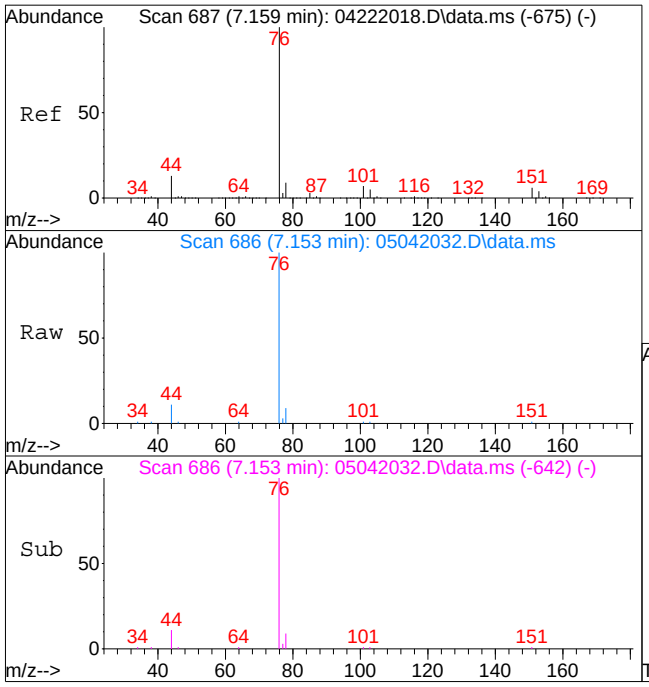


#21
Trichlorotrifluoroethane
Concen: 0.33 ng
RT: 7.18 min Scan# 691
Delta R.T. -0.011 min
Lab File: 05042032.D
Acq: 5 May 2020 00:12

Tgt Ion:151 Resp: 3905

Ion	Ratio	Lower	Upper
151	100		
101	101.8	82.9	122.9

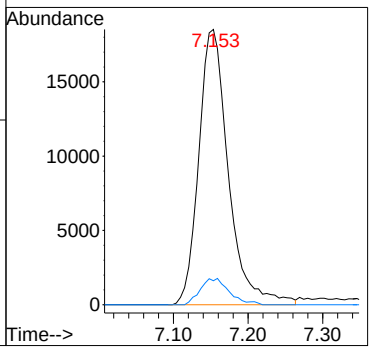


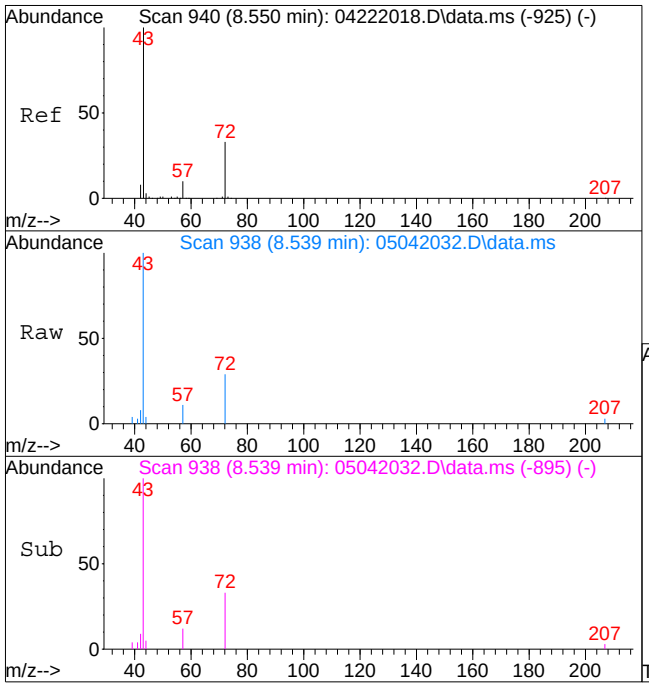


#22
Carbon Disulfide
Concen: 1.62 ng
RT: 7.15 min Scan# 686
Delta R.T. -0.006 min
Lab File: 05042032.D
Acq: 5 May 2020 00:12

Tgt Ion: 76 Resp: 51092

Ion	Ratio	Lower	Upper
76	100		
78	9.3	0.0	30.2

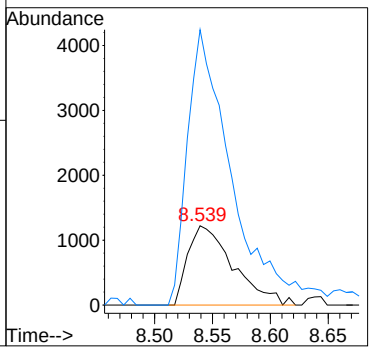


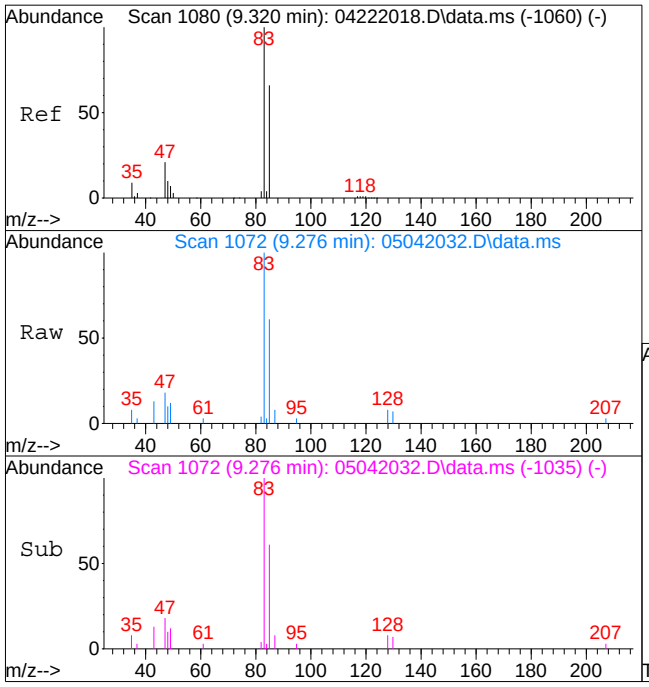


#27
2-Butanone (MEK)
Concen: 0.60 ng
RT: 8.54 min Scan# 938
Delta R.T. -0.011 min
Lab File: 05042032.D
Acq: 5 May 2020 00:12

Tgt Ion: 72 Resp: 3356

Ion	Ratio	Lower	Upper
72	100		
43	339.3	278.8	318.8#

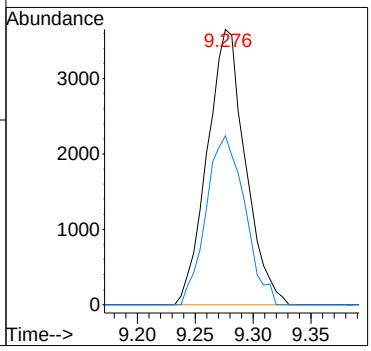


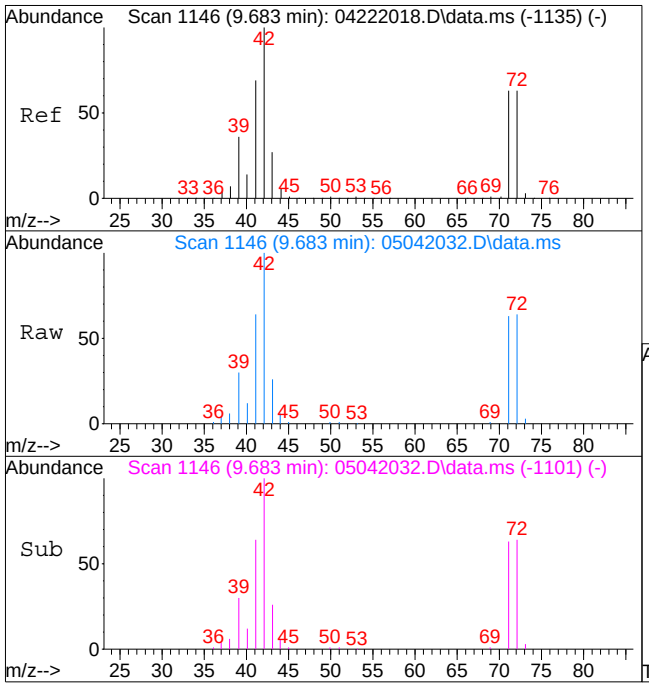


#32
Chloroform
Concen: 0.44 ng
RT: 9.28 min Scan# 1072
Delta R.T. -0.044 min
Lab File: 05042032.D
Acq: 5 May 2020 00:12

Tgt Ion: 83 Resp: 8386

Ion	Ratio	Lower	Upper
83	100		
85	62.3	45.8	85.8

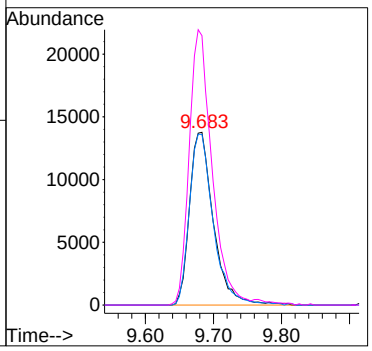


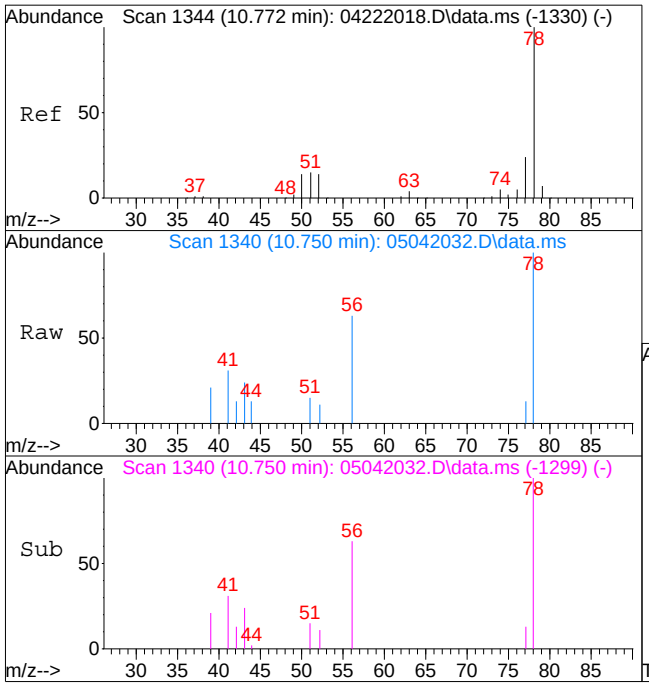


#34
Tetrahydrofuran (THF)
Concen: 5.98 ng
RT: 9.68 min Scan# 1146
Delta R.T. -0.000 min
Lab File: 05042032.D
Acq: 5 May 2020 00:12

Tgt Ion: 72 Resp: 33669

Ion	Ratio	Lower	Upper
72	100		
71	98.9	77.9	117.9
42	154.5	133.9	173.9

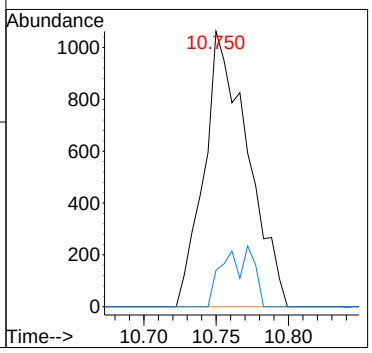


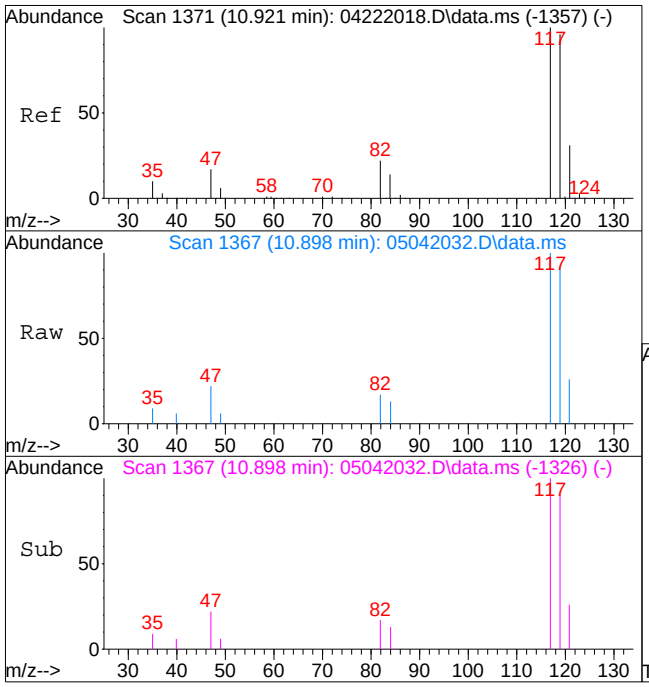


#41
Benzene
Concen: 0.06 ng
RT: 10.75 min Scan# 1340
Delta R.T. -0.022 min
Lab File: 05042032.D
Acq: 5 May 2020 00:12

Tgt Ion: 78 Resp: 2229

Ion	Ratio	Lower	Upper
78	100		
77	15.2	3.6	43.6

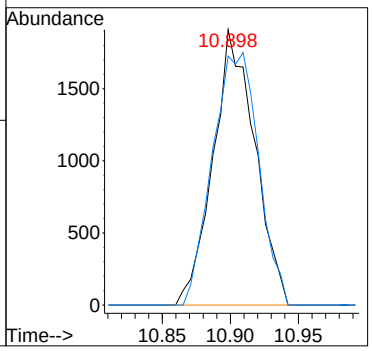


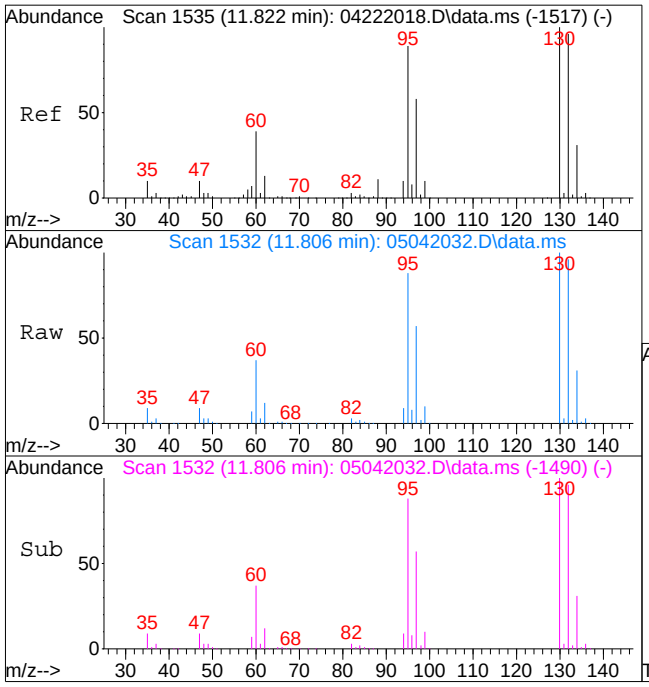


#42
Carbon Tetrachloride
Concen: 0.20 ng
RT: 10.90 min Scan# 1367
Delta R.T. -0.022 min
Lab File: 05042032.D
Acq: 5 May 2020 00:12

Tgt Ion:117 Resp: 4069

Ion	Ratio	Lower	Upper
117	100		
119	101.6	76.5	116.5

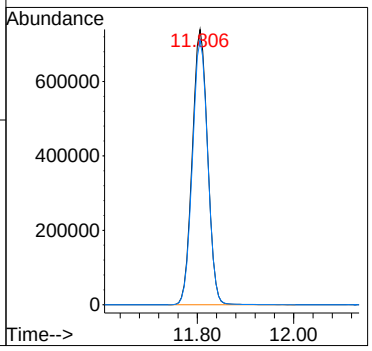


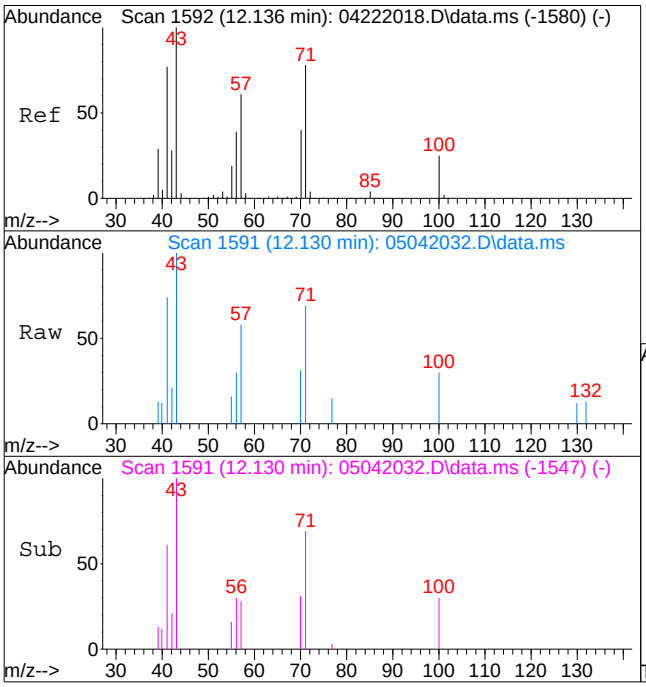


#47
Trichloroethene
Concen: 121.67 ng
RT: 11.81 min Scan# 1532
Delta R.T. -0.017 min
Lab File: 05042032.D
Acq: 5 May 2020 00:12

Tgt Ion:130 Resp: 1627080

Ion	Ratio	Lower	Upper
130	100		
132	96.3	76.4	116.4

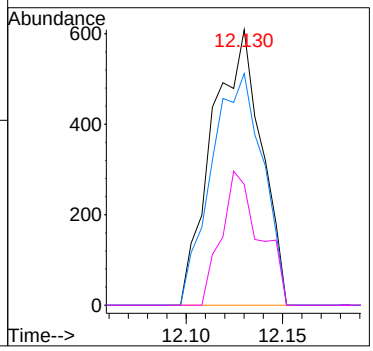


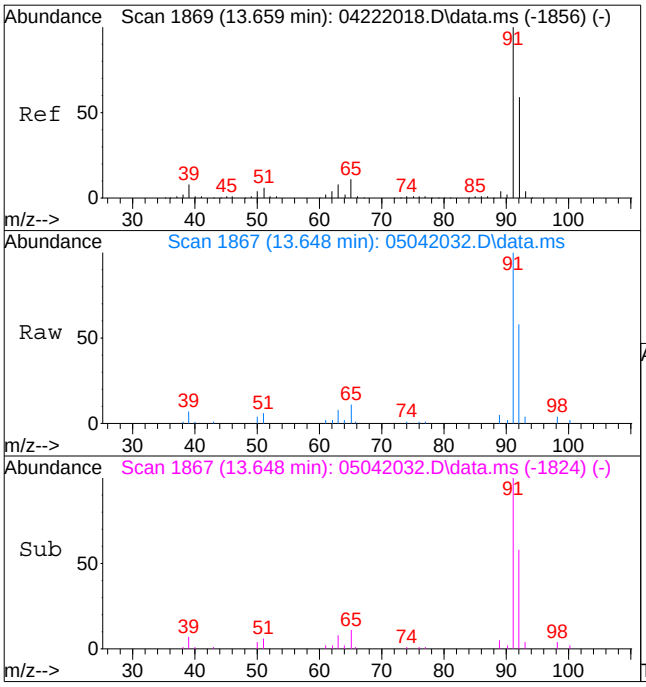


#51
n-Heptane
Concen: 0.12 ng
RT: 12.13 min Scan# 1591
Delta R.T. -0.006 min
Lab File: 05042032.D
Acq: 5 May 2020 00:12

Tgt Ion: 71 Resp: 1079

Ion	Ratio	Lower	Upper
71	100		
57	87.8	57.4	97.4
100	38.4	12.0	52.0

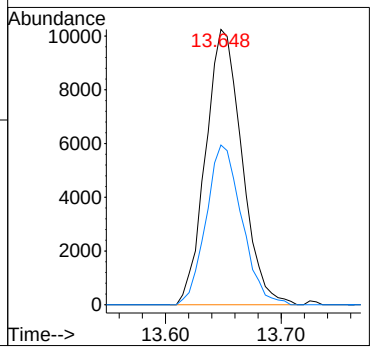


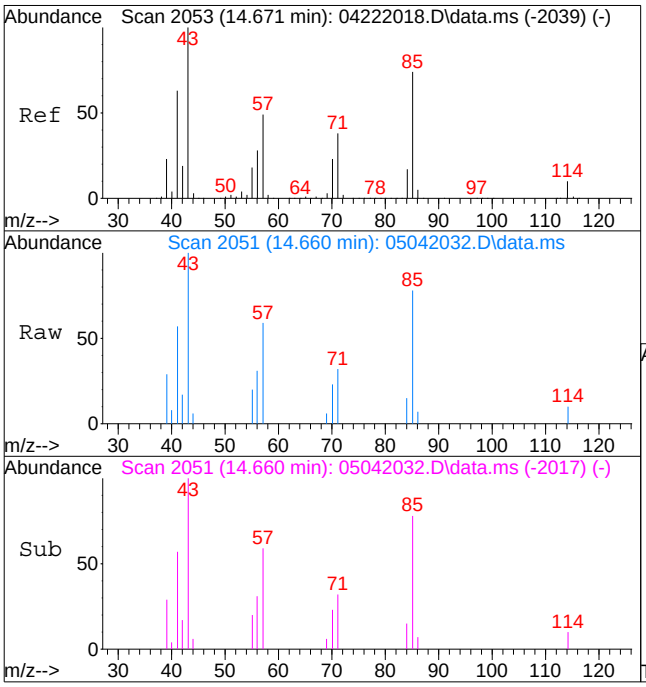


#58
Toluene
Concen: 0.52 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.011 min
Lab File: 05042032.D
Acq: 5 May 2020 00:12

Tgt Ion: 91 Resp: 22395

Ion	Ratio	Lower	Upper
91	100		
92	57.0	38.2	78.2

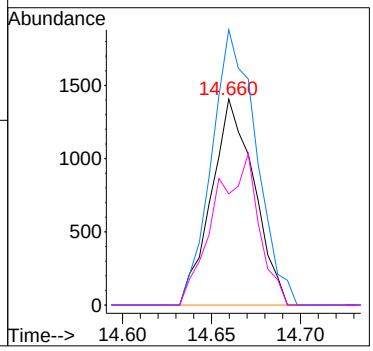


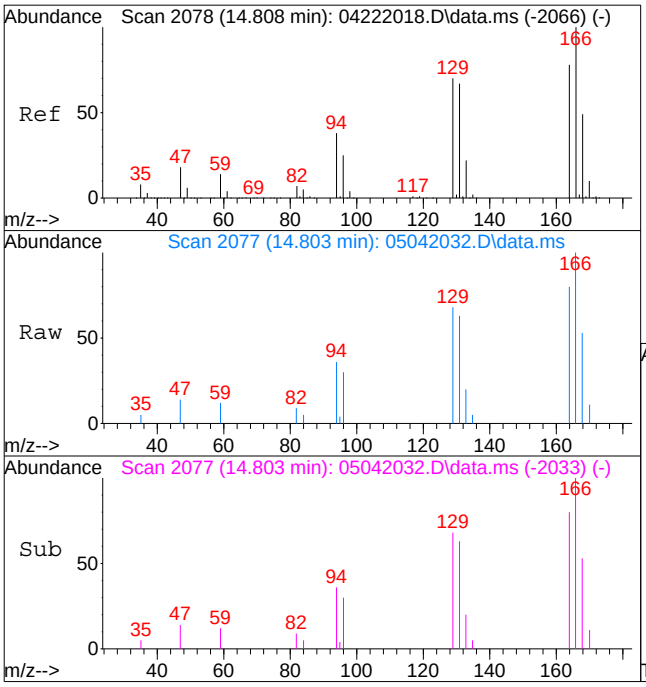


#63
n-Octane
Concen: 0.34 ng
RT: 14.66 min Scan# 2051
Delta R.T. -0.011 min
Lab File: 05042032.D
Acq: 5 May 2020 00:12

Tgt Ion: 57 Resp: 2347

Ion	Ratio	Lower	Upper
57	100		
85	139.3	120.7	181.1
71	76.1	61.1	91.7

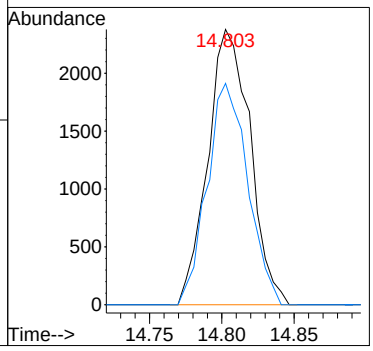


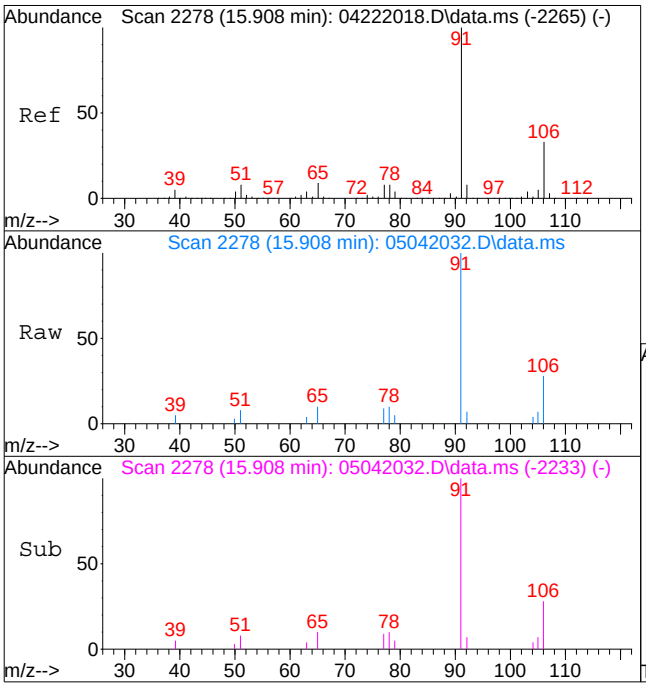


#64
Tetrachloroethene
Concen: 0.30 ng
RT: 14.80 min Scan# 2077
Delta R.T. -0.006 min
Lab File: 05042032.D
Acq: 5 May 2020 00:12

Tgt Ion:166 Resp: 4844

Ion	Ratio	Lower	Upper
166	100		
164	77.3	57.7	97.7

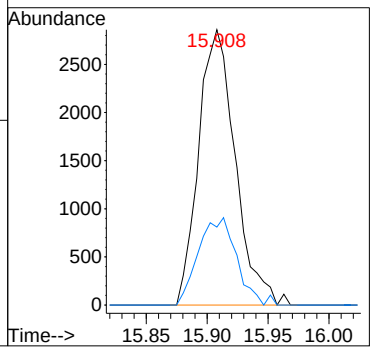


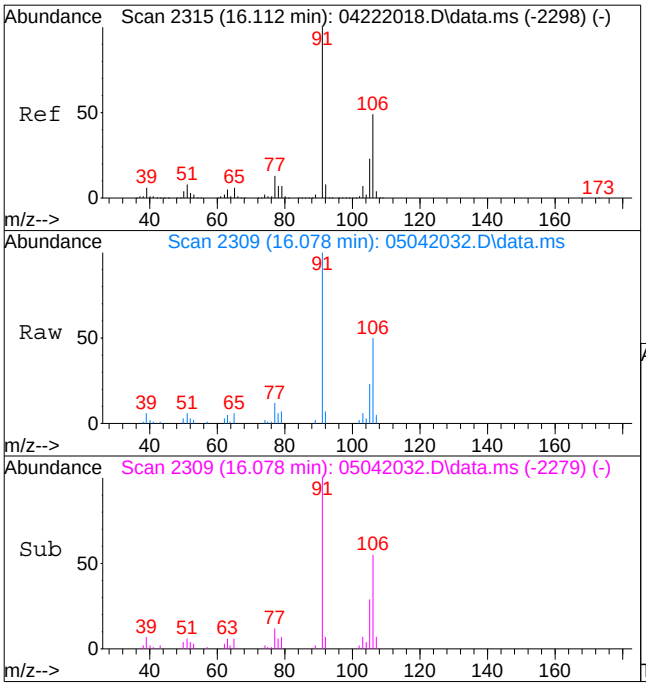


#66
Ethylbenzene
Concen: 0.12 ng
RT: 15.91 min Scan# 2278
Delta R.T. -0.000 min
Lab File: 05042032.D
Acq: 5 May 2020 00:12

Tgt Ion: 91 Resp: 5988

Ion	Ratio	Lower	Upper
91	100		
106	33.1	13.4	53.4

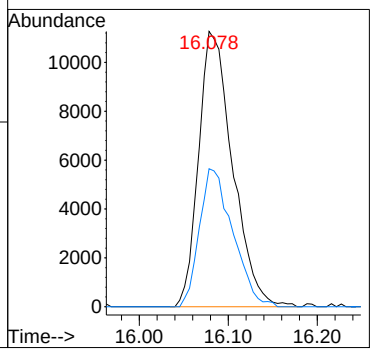


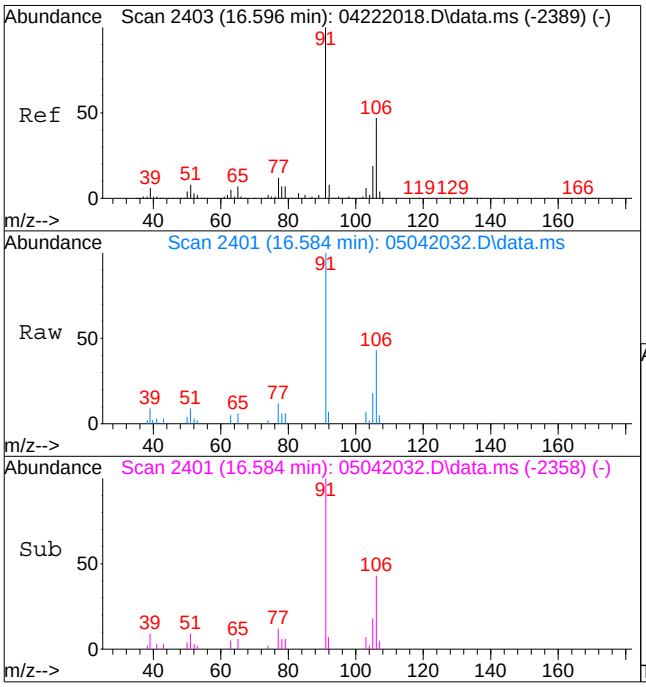


#67
m- & p-Xylenes
Concen: 0.71 ng
RT: 16.08 min Scan# 2309
Delta R.T. -0.033 min
Lab File: 05042032.D
Acq: 5 May 2020 00:12

Tgt Ion: 91 Resp: 29870

Ion	Ratio	Lower	Upper
91	100		
106	49.3	28.3	68.3

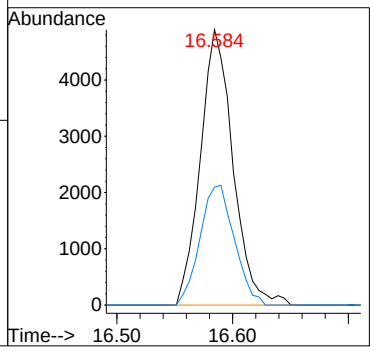


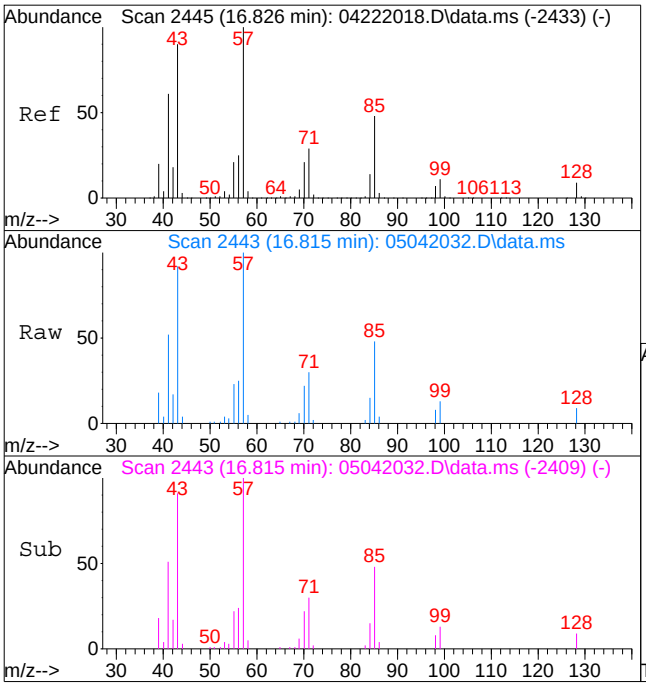


#70
o-Xylene
Concen: 0.23 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 05042032.D
Acq: 5 May 2020 00:12

Tgt Ion: 91 Resp: 9619

Ion	Ratio	Lower	Upper
91	100		
106	45.6	27.5	67.5

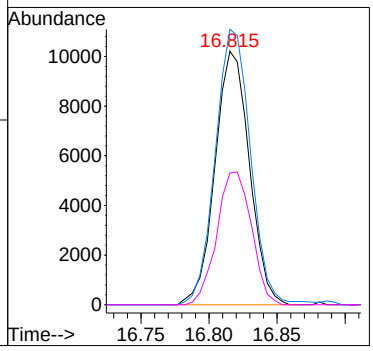


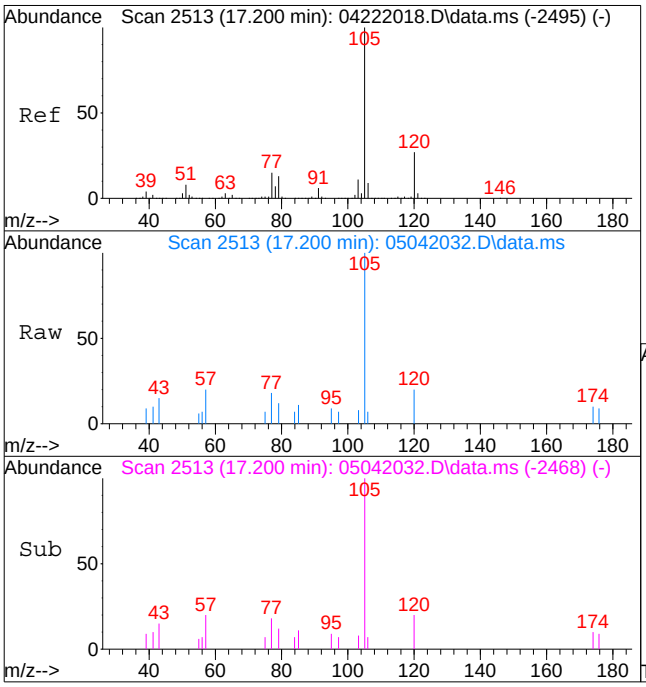


#71
n-Nonane
Concen: 1.34 ng
RT: 16.82 min Scan# 2443
Delta R.T. -0.011 min
Lab File: 05042032.D
Acq: 5 May 2020 00:12

Tgt Ion: 43 Resp: 17970

Ion	Ratio	Lower	Upper
43	100		
57	111.9	90.8	130.8
85	52.6	32.1	72.1

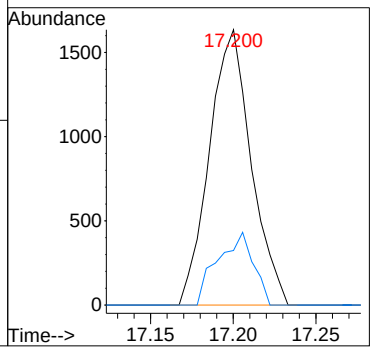


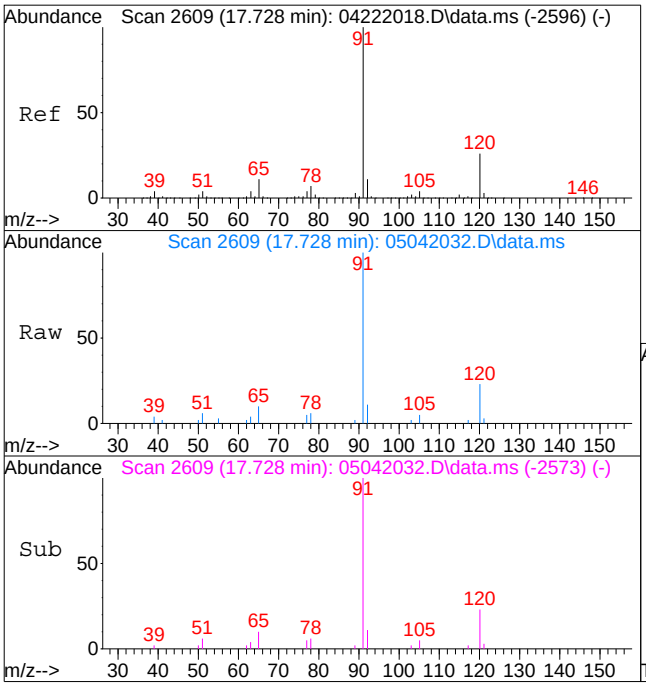


#74
Cumene
Concen: 0.05 ng
RT: 17.20 min Scan# 2513
Delta R.T. -0.000 min
Lab File: 05042032.D
Acq: 5 May 2020 00:12

Tgt Ion:105 Resp: 2869

Ion	Ratio	Lower	Upper
105	100		
120	22.5	7.3	47.3

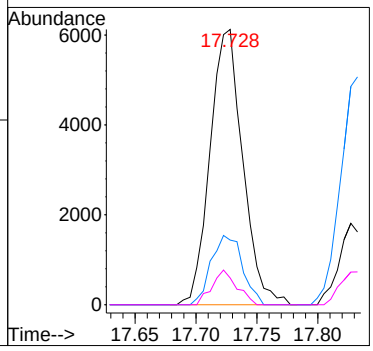


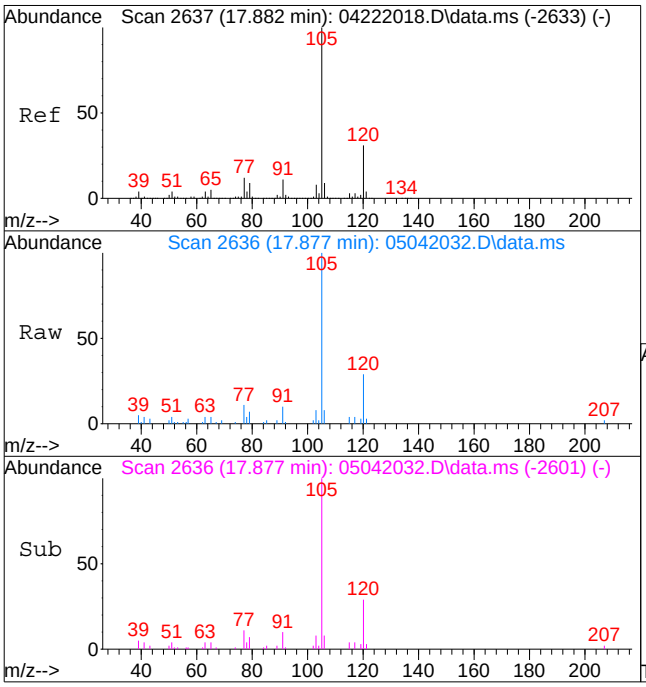


#76
n-Propylbenzene
Concen: 0.19 ng
RT: 17.73 min Scan# 2609
Delta R.T. -0.000 min
Lab File: 05042032.D
Acq: 5 May 2020 00:12

Tgt Ion: 91 Resp: 11442

Ion	Ratio	Lower	Upper
91	100		
120	24.1	6.1	46.1
65	9.5	0.0	30.7

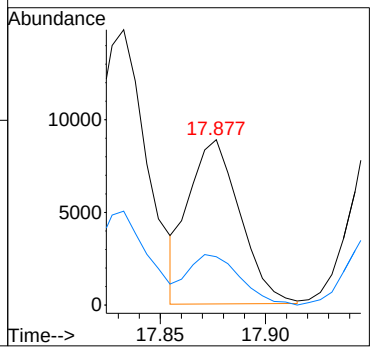


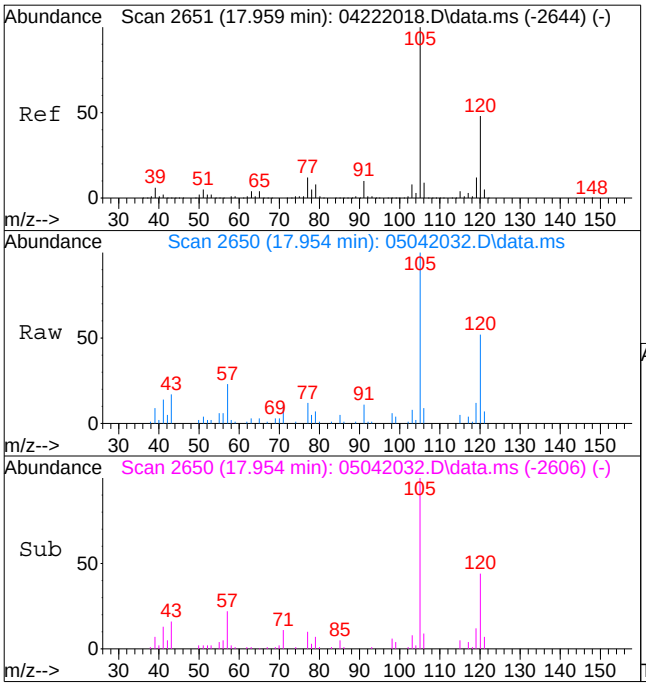


#78
4-Ethyltoluene
Concen: 0.29 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05042032.D
Acq: 5 May 2020 00:12

Tgt Ion:105 Resp: 15071

Ion	Ratio	Lower	Upper
105	100		
120	31.6	11.4	51.4

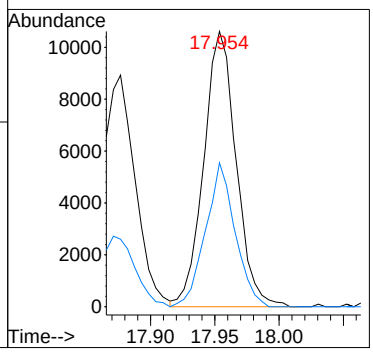


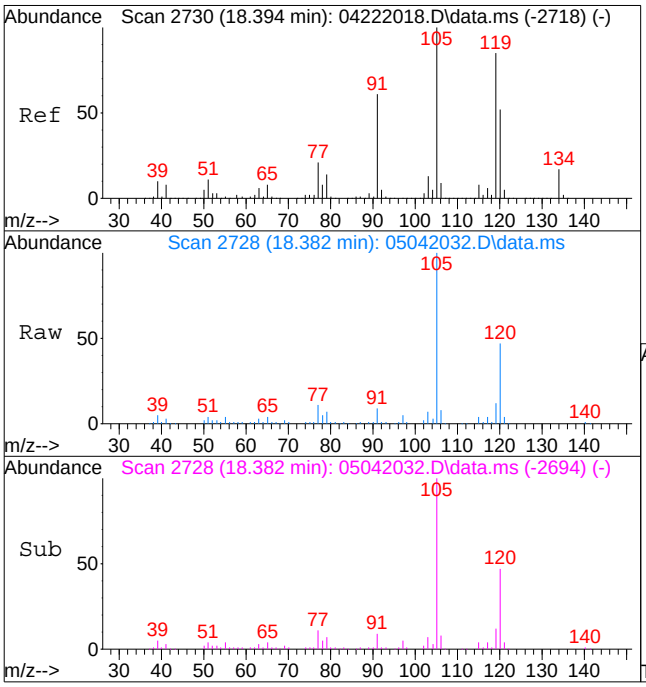


#79
1,3,5-Trimethylbenzene
Concen: 0.39 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 05042032.D
Acq: 5 May 2020 00:12

Tgt Ion:105 Resp: 18595

Ion	Ratio	Lower	Upper
105	100		
120	47.7	29.5	69.5

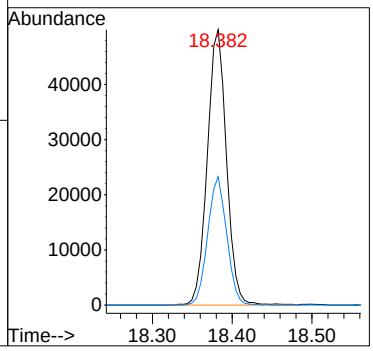


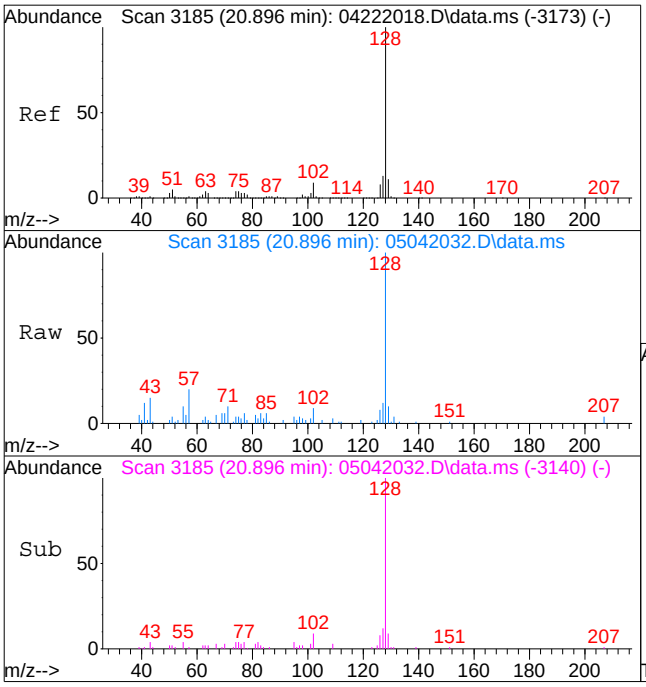


#82
1,2,4-Trimethylbenzene
Concen: 1.81 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 05042032.D
Acq: 5 May 2020 00:12

Tgt Ion:105 Resp: 83337

Ion	Ratio	Lower	Upper
105	100		
120	46.2	34.5	74.5

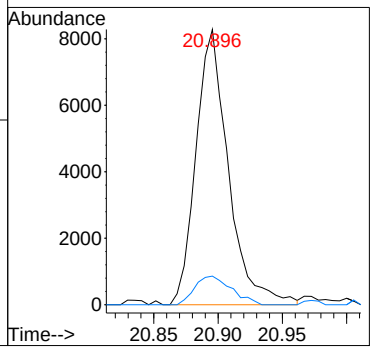




#95
Naphthalene
Concen: 0.24 ng
RT: 20.90 min Scan# 3185
Delta R.T. -0.000 min
Lab File: 05042032.D
Acq: 5 May 2020 00:12

Tgt Ion:128 Resp: 14535

Ion	Ratio	Lower	Upper
128	100		
129	11.8	0.0	30.9



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\05\05052009.D Vial: 16
Acq On : 5 May 2020 8:02 Operator: SC
Sample : P2002106-016dil (40mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 14:34:22 2020 5/5/20
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	131743	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	556283	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.45	82	243025	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	201925	11.830	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.64%				
57) Toluene-d8 (SS2)	13.54	98	610269	13.005	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.08%				
73) Bromofluorobenzene (SS3)	17.05	174	235900	12.509	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.08%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.			
3) Dichlorodifluoromethan...	4.01	85	544	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.47	45	39	N.D.			
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	5.91	58	792	0.156	ng	#	80
14) Trichlorofluoromethane	6.04	101	214	N.D.			
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	7.19	151	264	N.D.			
22) Carbon Disulfide	7.18	76	3632	0.122	ng		84
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	0.00	72	0	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	9.28	83	555	N.D.			
34) Tetrahydrofuran (THF)	9.71	72	2409	0.455	ng		99
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	0.00	78	0	N.D.			
42) Carbon Tetrachloride	10.91	117	148	N.D.			
43) Cyclohexane	11.10	84	270	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D. d			
47) Trichloroethene	11.80	130	137628	10.959	ng		100
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	11.81	100	131	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\05\05052009.D Vial: 16
Acq On : 5 May 2020 8:02 Operator: SC
Sample : P2002106-016dil (40mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 14:34:22 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

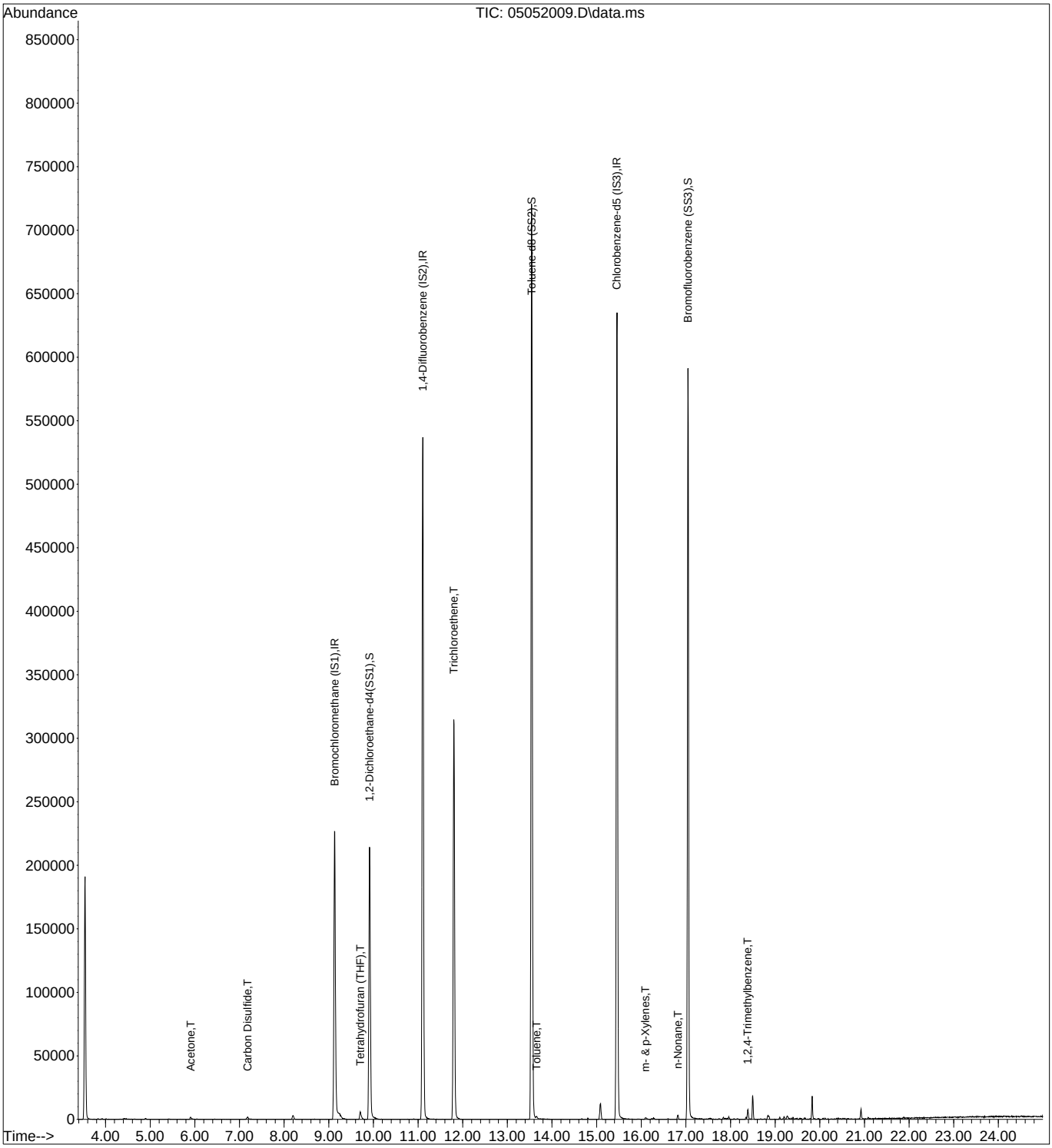
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.65	91	2040	0.052 ng	93
59) 2-Hexanone	0.00	43	0	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	14.67	43	156	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.80	166	219	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.92	91	476	N.D.	
67) m- & p-Xylenes	16.09	91	2062	0.053 ng	90
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.60	91	817	N.D.	
71) n-Nonane	16.82	43	1299	0.106 ng	90
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	17.20	105	260	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.74	91	951	N.D.	
77) 3-Ethyltoluene	17.84	105	1880	N.D.	
78) 4-Ethyltoluene	17.89	105	967	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	1521	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	18.15	105	769	N.D.	
82) 1,2,4-Trimethylbenzene	18.38	105	5574	0.132 ng	86
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.39	91	582	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	18.68	105	541	N.D.	
88) 4-Isopropyltoluene (p-...	18.84	119	1013	N.D.	
89) 1,2,3-Trimethylbenzene	18.83	105	1969	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.92	128	1679	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	18.38	119	715	N.D.	
100) n-Butylbenzene	19.28	91	1399	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\05\05052009.D Vial: 16
Acq On : 5 May 2020 8:02 Operator: SC
Sample : P2002106-016dil (40mL) Inst : MS09
Misc : S34-04212006

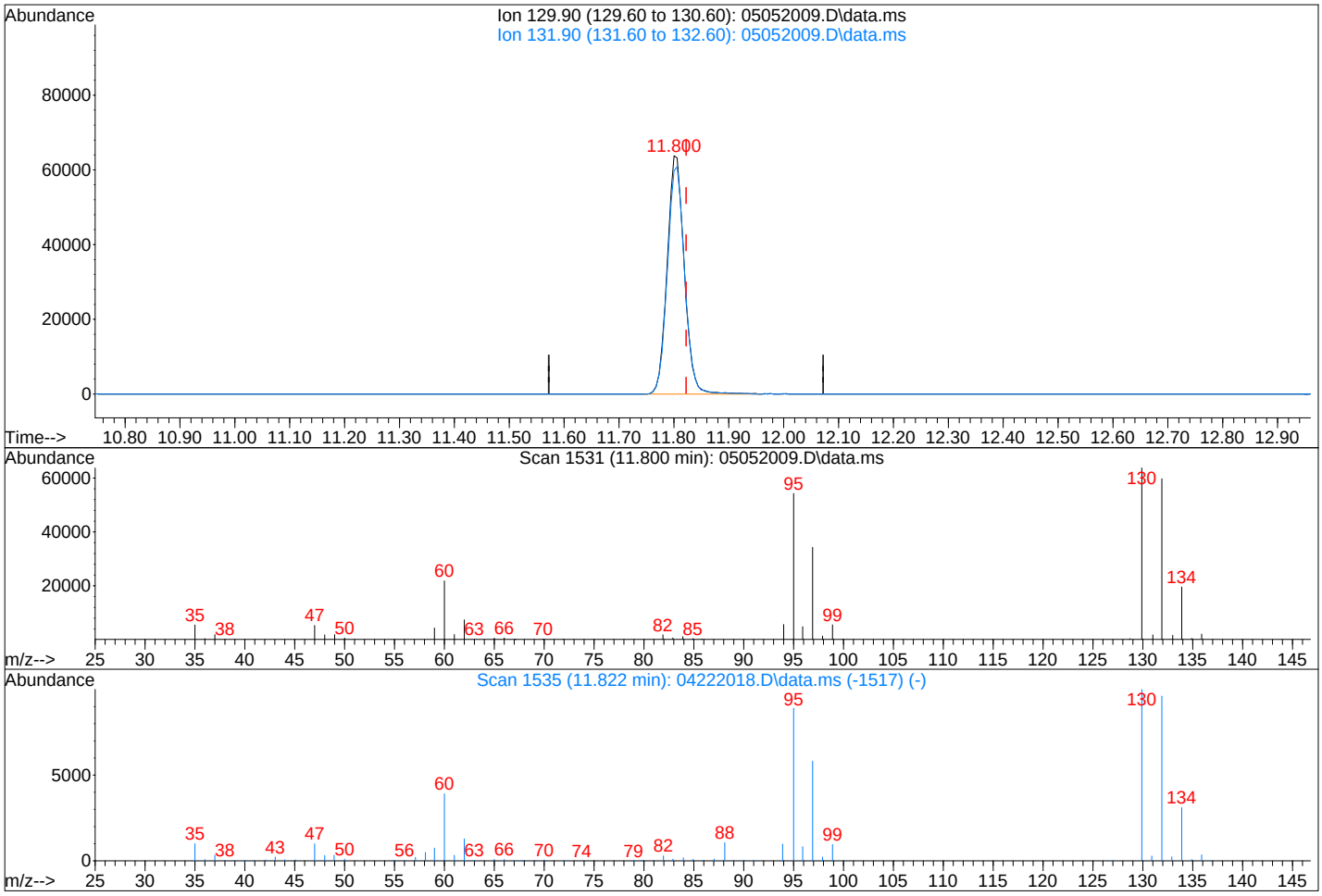
Quant Time: May 05 14:34:22 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_05\05\05052009.D Vial: 16
Acq On : 5 May 2020 8:02 Operator: SC
Sample : P2002106-016dil (40mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 08:51:10 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05052009.D\data.ms

(47) Trichloroethene (T)

11.800min (-0.022) 10.96ng

response 137628

Ion	Exp%	Act%
129.90	100	100
131.90	96.40	96.02
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\05\05052013.D Vial: 5
Acq On : 5 May 2020 10:30 Operator: TD
Sample : P2002106-017 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 13:57:23 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/5/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	142416	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	601914	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	266068	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.92	65	217886	11.808	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.48%				
57) Toluene-d8 (SS2)	13.54	98	659584	12.839	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.72%				
73) Bromofluorobenzene (SS3)	17.05	174	261493	12.665	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.36%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	3.99	85	5691	0.248	ng		98
4) Chloromethane	4.20	50	736	0.087	ng	#	41
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.36	45	6129	1.338	ng		79
11) Acetonitrile	5.60	41	460	N.D.			
12) Acrolein	5.73	56	273	0.065	ng		95
13) Acetone	5.87	58	8930	1.623	ng		95
14) Trichlorofluoromethane	6.04	101	3281	0.143	ng		92
15) 2-Propanol (Isopropanol)	6.21	45	511	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	6.88	59	664	N.D.			
19) Methylene Chloride	6.86	84	489	0.051	ng		89
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	7.19	151	3468	0.291	ng		98
22) Carbon Disulfide	7.15	76	76269	2.378	ng		97
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	8.54	72	3524	0.624	ng	#	86
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	9.22	57	545	N.D.			
32) Chloroform	9.28	83	7196	0.369	ng		99
34) Tetrahydrofuran (THF)	9.68	72	33358	5.828	ng		96
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.77	78	2812	0.072	ng		97
42) Carbon Tetrachloride	10.90	117	3564	0.176	ng		98
43) Cyclohexane	11.02	84	176	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.	d		
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	11.81	130	1379044	101.482	ng		100
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	11.86	57	1241	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\05\05052013.D Vial: 5
Acq On : 5 May 2020 10:30 Operator: TD
Sample : P2002106-017 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 13:57:23 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

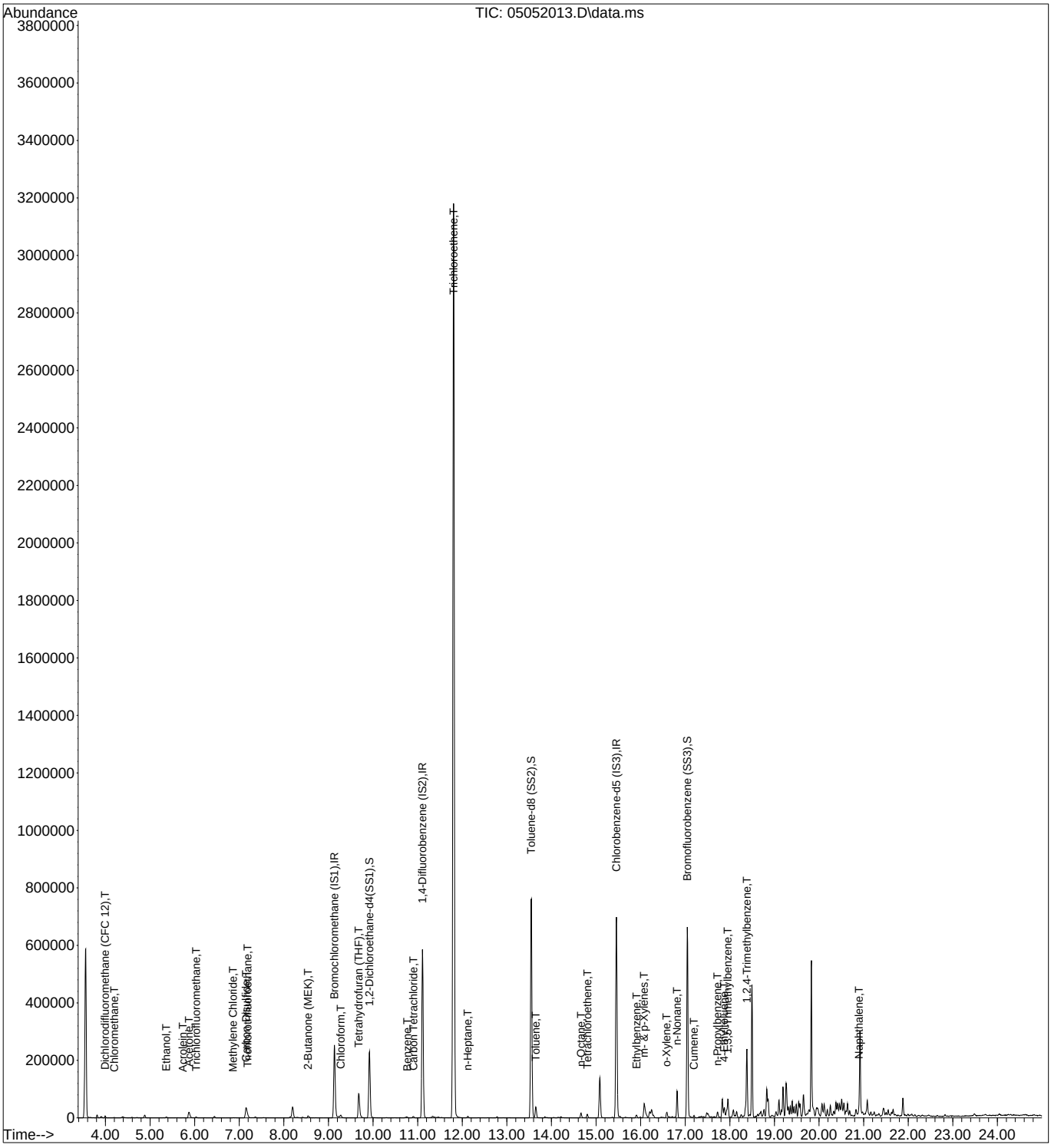
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.12	71	1750	0.192 ng	93
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.65	91	34518	0.800 ng	98
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	14.67	57	3357	0.489 ng	98
64) Tetrachloroethene	14.81	166	5169	0.318 ng	99
65) Chlorobenzene	15.53	112	489	N.D.	
66) Ethylbenzene	15.91	91	10582	0.211 ng	97
67) m- & p-Xylenes	16.08	91	46359	1.093 ng	98
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.58	104	305	N.D.	
70) o-Xylene	16.58	91	14919	0.358 ng	97
71) n-Nonane	16.82	43	28154	2.096 ng	97
72) 1,1,2,2-Tetrachloroethane	16.63	83	207	N.D.	
74) Cumene	17.19	105	3900	0.072 ng	98
75) alpha-Pinene	17.61	93	229	N.D.	
76) n-Propylbenzene	17.72	91	20753	0.351 ng	95
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.87	105	23846	0.462 ng	99
79) 1,3,5-Trimethylbenzene	17.95	105	28935	0.606 ng	100
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	139502	3.023 ng	91
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.51	91	328	N.D.	
85) 1,3-Dichlorobenzene	18.61	146	179	N.D.	
86) 1,4-Dichlorobenzene	18.61	146	179	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	18.98	68	632	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.90	128	19022	0.320 ng	93
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\05\05052013.D Vial: 5
Acq On : 5 May 2020 10:30 Operator: TD
Sample : P2002106-017 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 13:57:23 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



R9042220.M Tue May 05 13:59:54 2020 Page: 3

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\05\05052013.D Vial: 5
Acq On : 5 May 2020 10:30 Operator: TD
Sample : P2002106-017 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 13:57:23 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 5/5/20
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

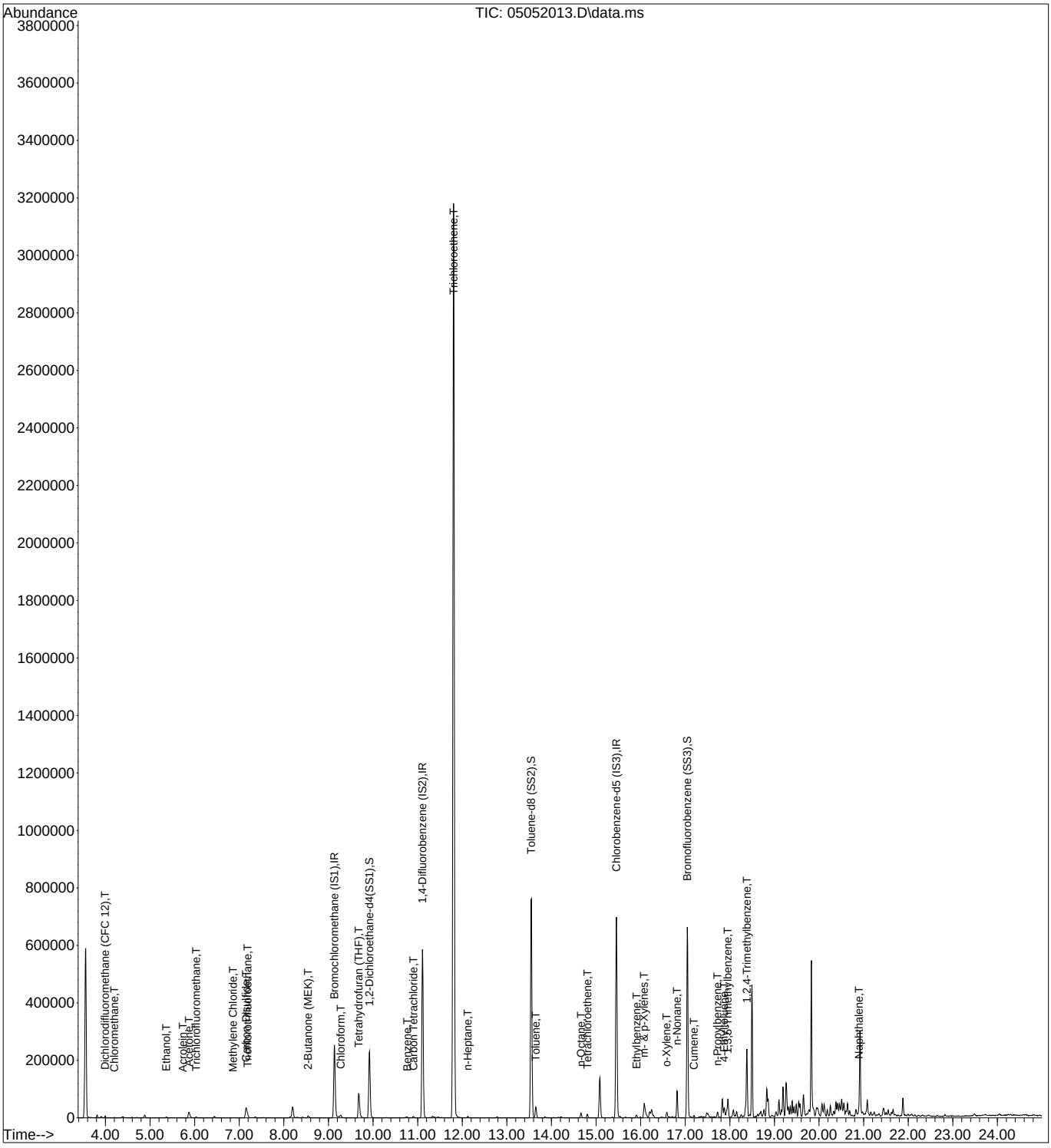
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	142416	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	601914	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	266068	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.92	65	217886	11.808	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.48%				
57) Toluene-d8 (SS2)	13.54	98	659584	12.839	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.72%				
73) Bromofluorobenzene (SS3)	17.05	174	261493	12.665	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.36%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.99	85	5691	0.248	ng		98
4) Chloromethane	4.20	50	736	0.087	ng	#	41
10) Ethanol	5.36	45	6129	1.338	ng		79
12) Acrolein	5.73	56	273	0.065	ng		95
13) Acetone	5.87	58	8930	1.623	ng		95
14) Trichlorofluoromethane	6.04	101	3281	0.143	ng		92
19) Methylene Chloride	6.86	84	489	0.051	ng		89
21) Trichlorotrifluoroethane	7.19	151	3468	0.291	ng		98
22) Carbon Disulfide	7.15	76	76269	2.378	ng		97
27) 2-Butanone (MEK)	8.54	72	3524	0.624	ng	#	86
32) Chloroform	9.28	83	7196	0.369	ng		99
34) Tetrahydrofuran (THF)	9.68	72	33358	5.828	ng		96
41) Benzene	10.77	78	2812	0.072	ng		97
42) Carbon Tetrachloride	10.90	117	3564	0.176	ng		98
47) Trichloroethene	11.81	130	1379044	101.482	ng		100
51) n-Heptane	12.12	71	1750	0.192	ng		93
58) Toluene	13.65	91	34518	0.800	ng		98
63) n-Octane	14.67	57	3357	0.489	ng		98
64) Tetrachloroethene	14.81	166	5169	0.318	ng		99
66) Ethylbenzene	15.91	91	10582	0.211	ng		97
67) m- & p-Xylenes	16.08	91	46359	1.093	ng		98
70) o-Xylene	16.58	91	14919	0.358	ng		97
71) n-Nonane	16.82	43	28154	2.096	ng		97
74) Cumene	17.19	105	3900	0.072	ng		98
76) n-Propylbenzene	17.72	91	20753	0.351	ng		95
78) 4-Ethyltoluene	17.87	105	23846	0.462	ng		99
79) 1,3,5-Trimethylbenzene	17.95	105	28935	0.606	ng		100
82) 1,2,4-Trimethylbenzene	18.38	105	139502	3.023	ng		91
95) Naphthalene	20.90	128	19022	0.320	ng		93

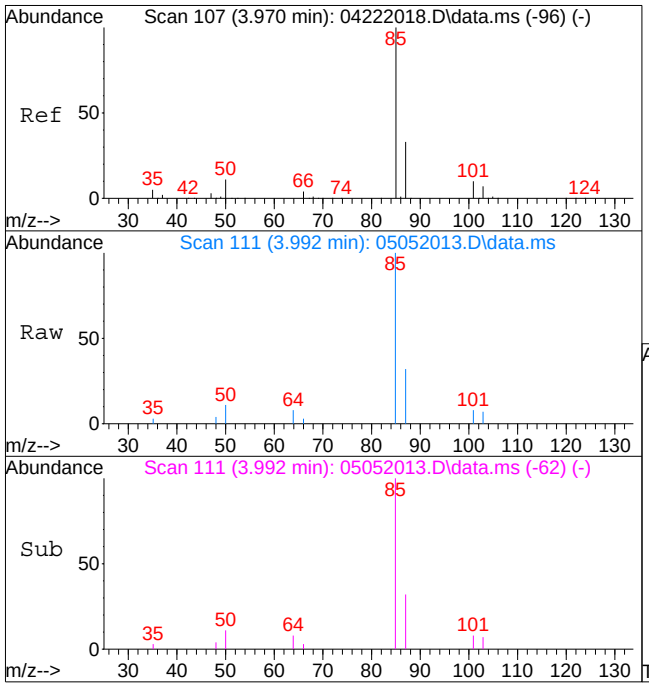
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\05\05052013.D Vial: 5
Acq On : 5 May 2020 10:30 Operator: TD
Sample : P2002106-017 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 13:57:23 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

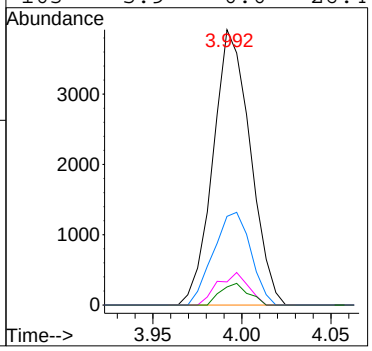


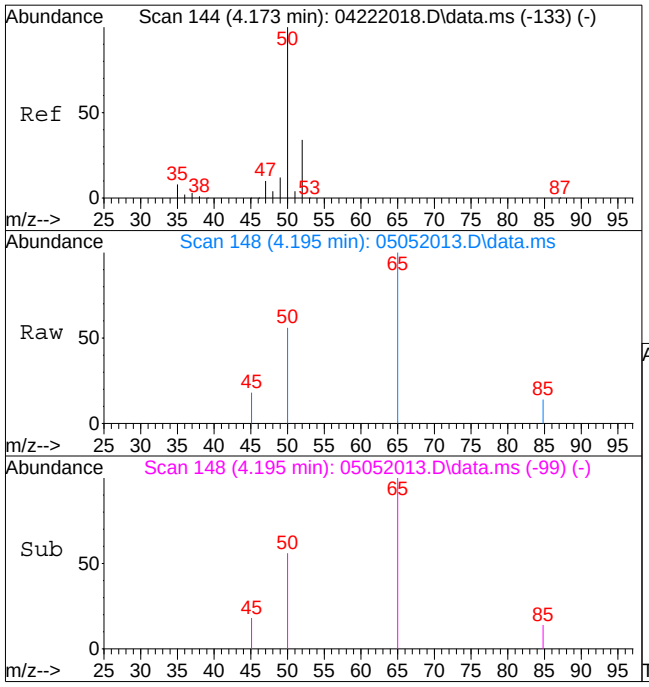


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.25 ng
RT: 3.99 min Scan# 111
Delta R.T. 0.022 min
Lab File: 05052013.D
Acq: 5 May 2020 10:30

Tgt Ion: 85 Resp: 5691

Ion	Ratio	Lower	Upper
85	100		
87	33.8	12.4	52.4
101	9.7	0.0	29.9
103	5.9	0.0	26.4

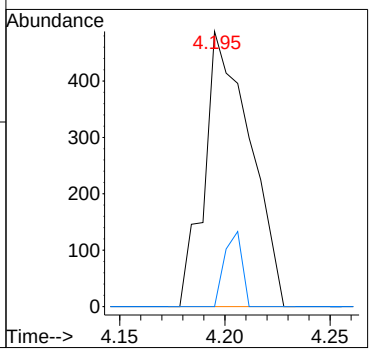


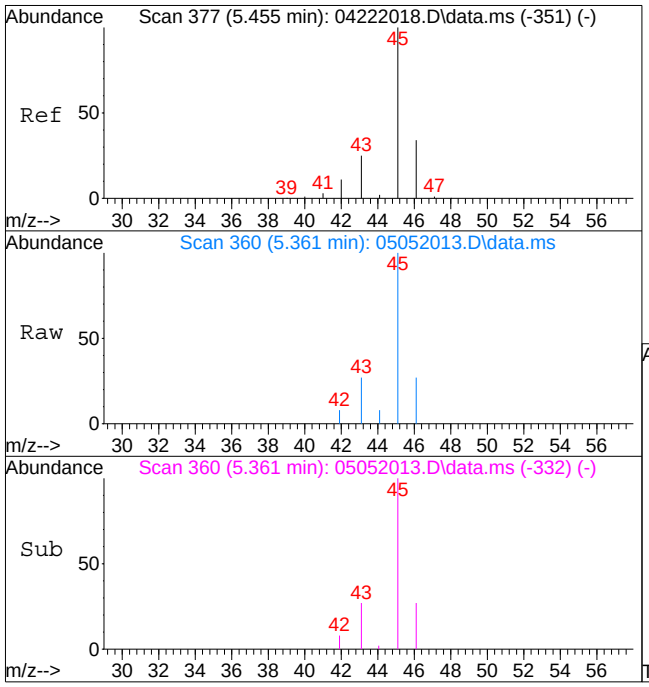


#4
Chloromethane
Concen: 0.09 ng
RT: 4.20 min Scan# 148
Delta R.T. 0.022 min
Lab File: 05052013.D
Acq: 5 May 2020 10:30

Tgt Ion: 50 Resp: 736

Ion	Ratio	Lower	Upper
50	100		
52	0.0	13.7	53.7#

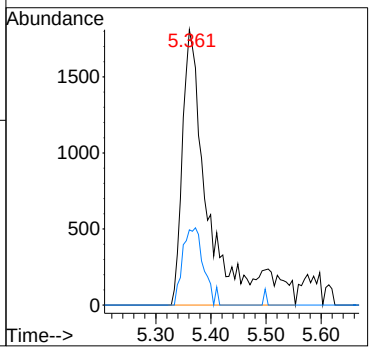


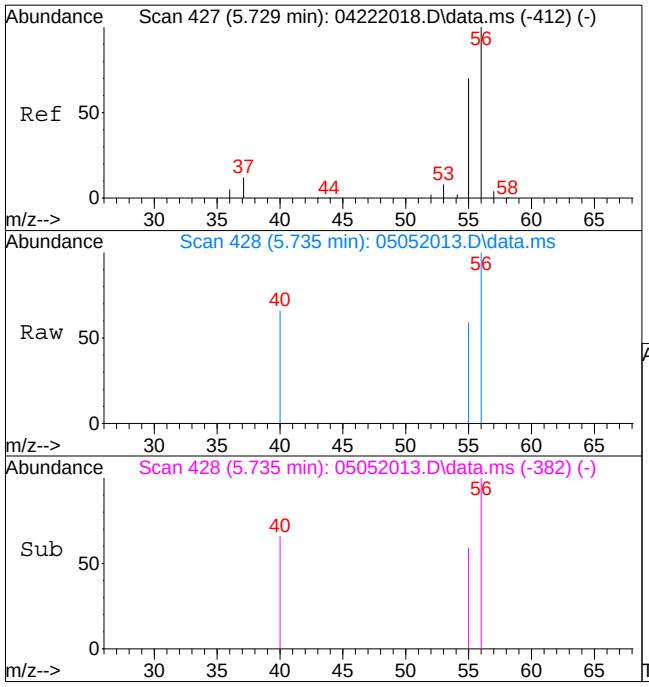


#10
Ethanol
Concen: 1.34 ng
RT: 5.36 min Scan# 360
Delta R.T. -0.094 min
Lab File: 05052013.D
Acq: 5 May 2020 10:30

Tgt Ion: 45 Resp: 6129

Ion	Ratio	Lower	Upper
45	100		
46	21.8	14.0	54.0

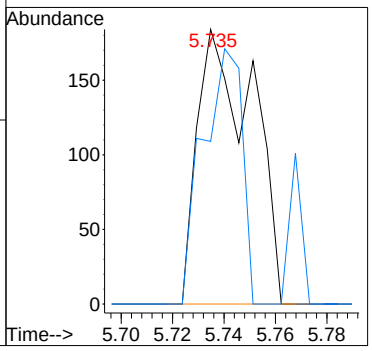


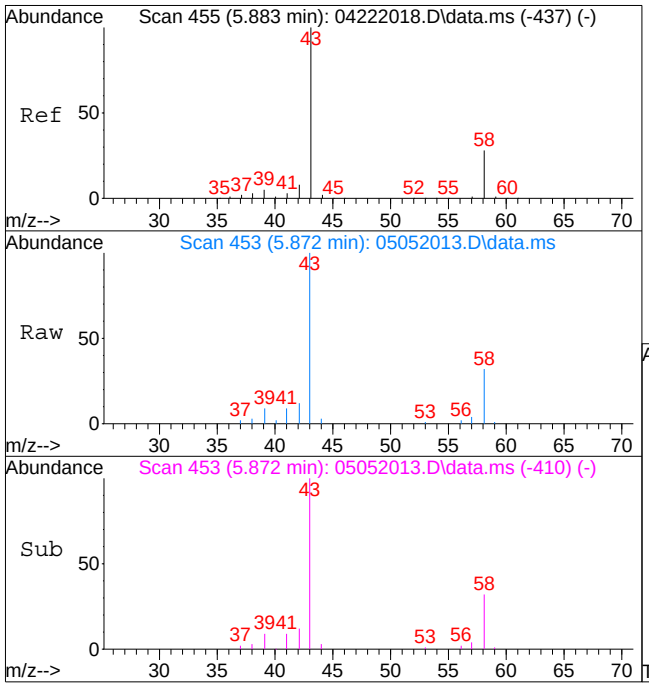


#12
Acrolein
Concen: 0.07 ng
RT: 5.73 min Scan# 428
Delta R.T. 0.005 min
Lab File: 05052013.D
Acq: 5 May 2020 10:30

Tgt Ion: 56 Resp: 273

Ion	Ratio	Lower	Upper
56	100		
55	66.3	50.4	90.4

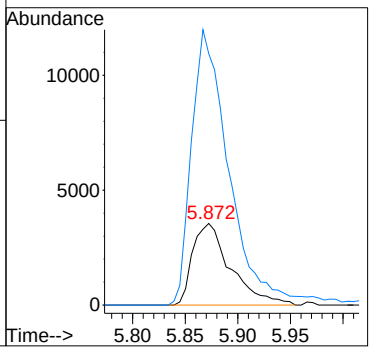


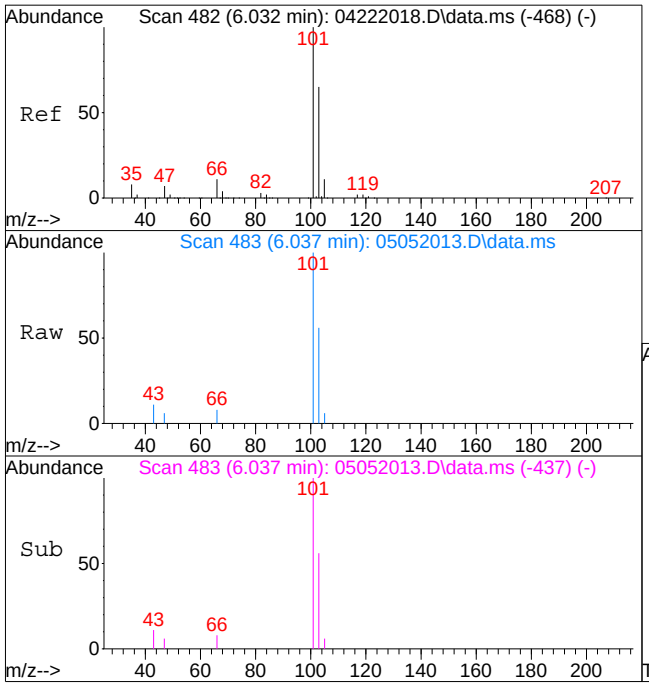


#13
Acetone
Concen: 1.62 ng
RT: 5.87 min Scan# 453
Delta R.T. -0.011 min
Lab File: 05052013.D
Acq: 5 May 2020 10:30

Tgt Ion: 58 Resp: 8930

Ion	Ratio	Lower	Upper
58	100		
43	337.8	319.3	379.3

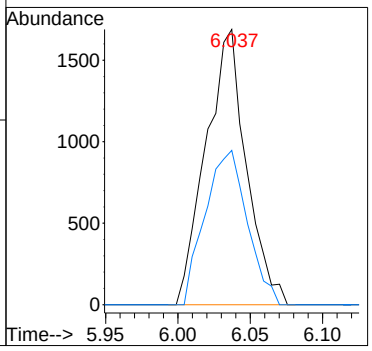


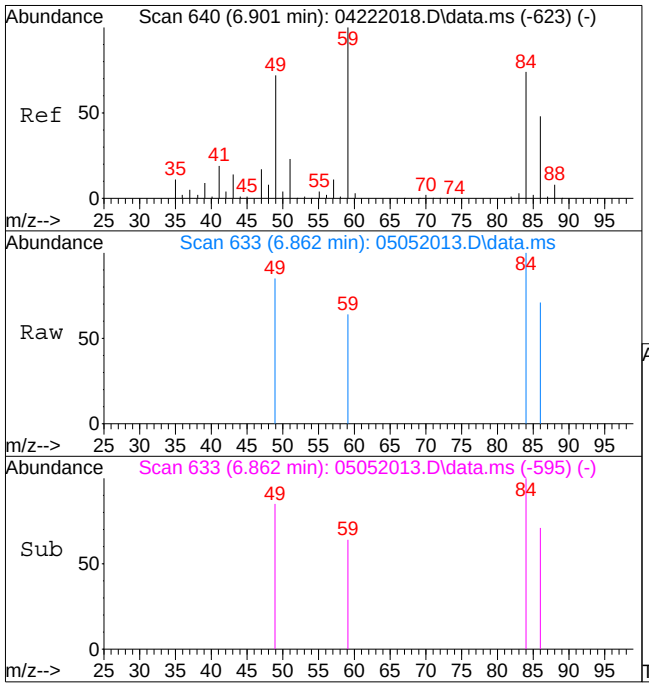


#14
Trichlorofluoromethane
Concen: 0.14 ng
RT: 6.04 min Scan# 483
Delta R.T. 0.005 min
Lab File: 05052013.D
Acq: 5 May 2020 10:30

Tgt Ion:101 Resp: 3281

Ion	Ratio	Lower	Upper
101	100		
103	58.5	44.7	84.7

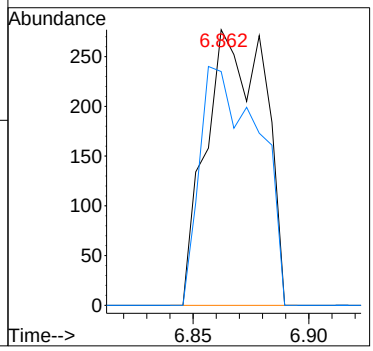


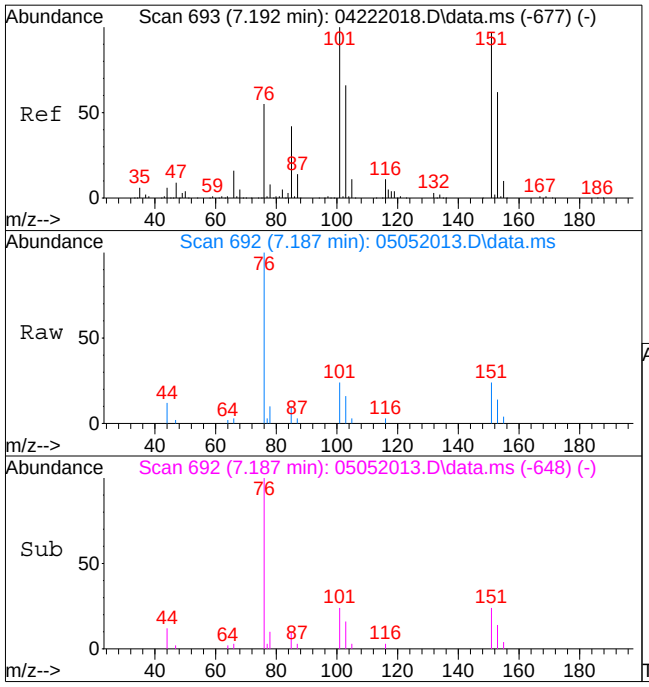


#19
Methylene Chloride
Concen: 0.05 ng
RT: 6.86 min Scan# 633
Delta R.T. -0.039 min
Lab File: 05052013.D
Acq: 5 May 2020 10:30

Tgt Ion: 84 Resp: 489

Ion	Ratio	Lower	Upper
84	100		
49	86.9	73.0	123.0

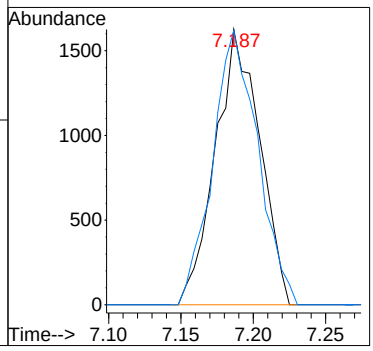


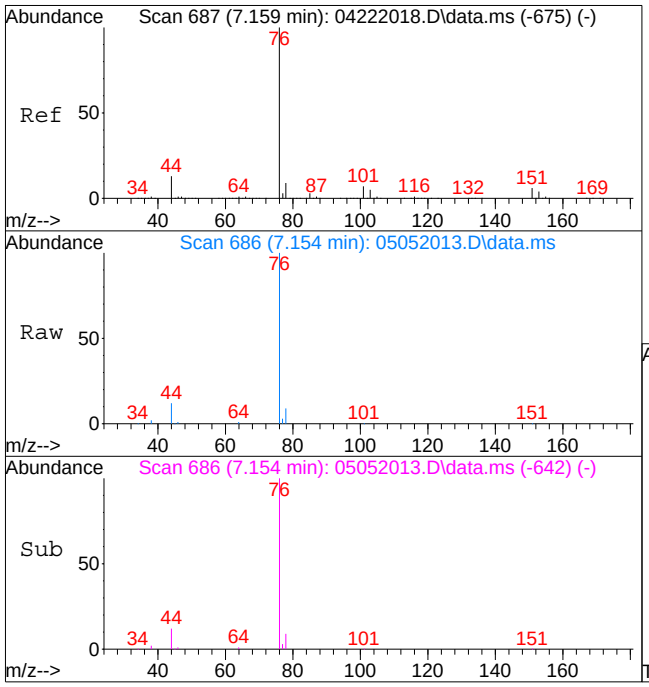


#21
Trichlorotrifluoroethane
Concen: 0.29 ng
RT: 7.19 min Scan# 692
Delta R.T. -0.006 min
Lab File: 05052013.D
Acq: 5 May 2020 10:30

Tgt Ion:151 Resp: 3468

Ion	Ratio	Lower	Upper
151	100		
101	101.4	82.9	122.9

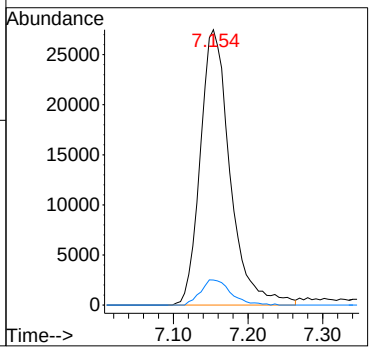


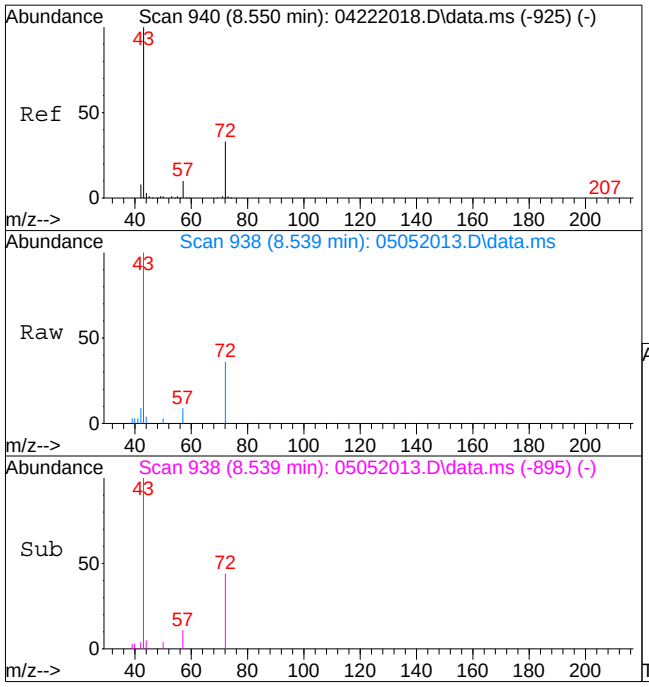


#22
Carbon Disulfide
Concen: 2.38 ng
RT: 7.15 min Scan# 686
Delta R.T. -0.006 min
Lab File: 05052013.D
Acq: 5 May 2020 10:30

Tgt Ion: 76 Resp: 76269

Ion	Ratio	Lower	Upper
76	100		
78	9.2	0.0	30.2

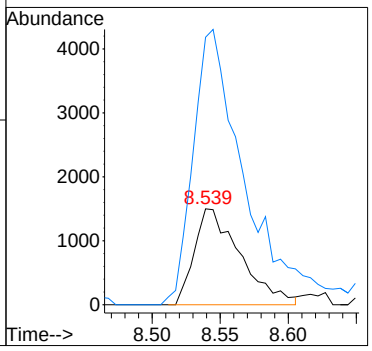


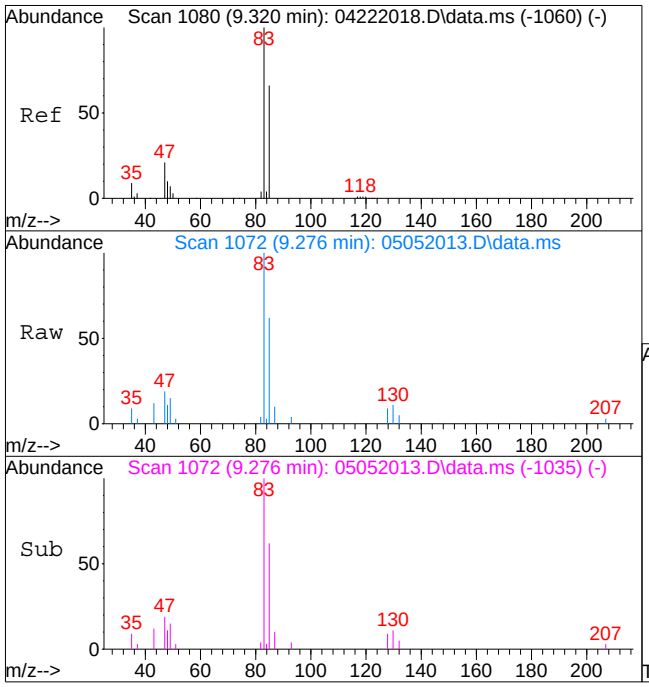


#27
2-Butanone (MEK)
Concen: 0.62 ng
RT: 8.54 min Scan# 938
Delta R.T. -0.011 min
Lab File: 05052013.D
Acq: 5 May 2020 10:30

Tgt Ion: 72 Resp: 3524

Ion	Ratio	Lower	Upper
72	100		
43	326.7	278.8	318.8#

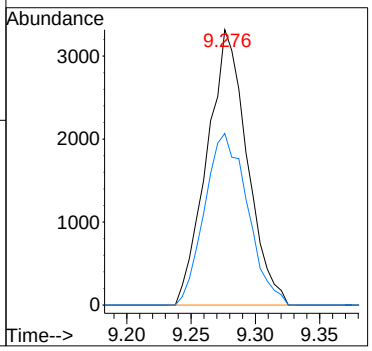


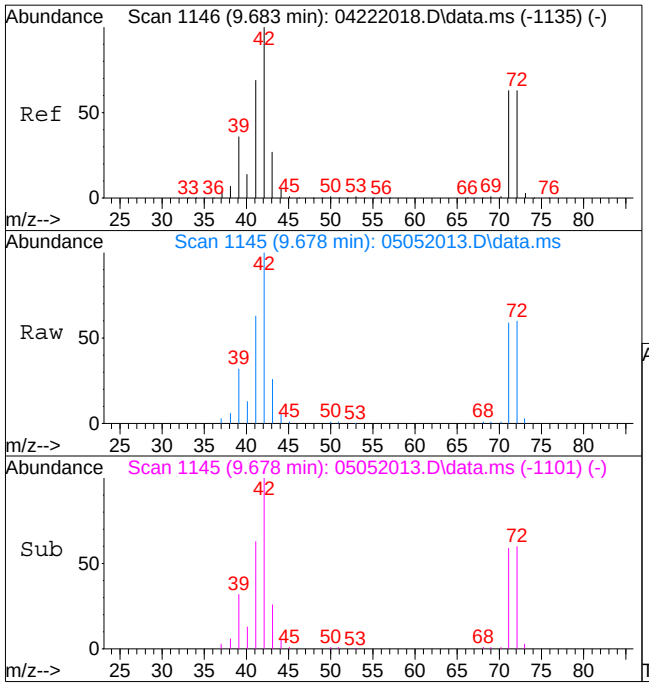


#32
Chloroform
Concen: 0.37 ng
RT: 9.28 min Scan# 1072
Delta R.T. -0.044 min
Lab File: 05052013.D
Acq: 5 May 2020 10:30

Tgt Ion: 83 Resp: 7196

Ion	Ratio	Lower	Upper
83	100		
85	66.8	45.8	85.8

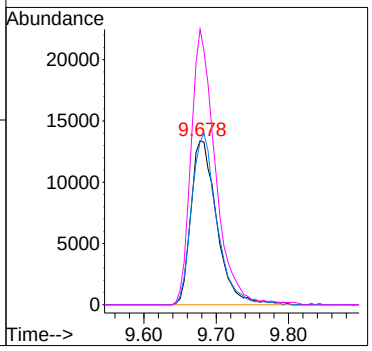


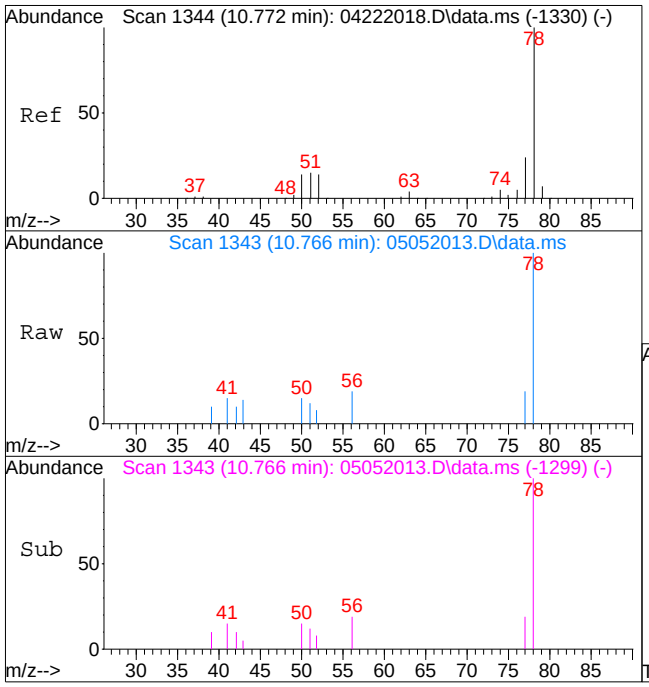


#34
Tetrahydrofuran (THF)
Concen: 5.83 ng
RT: 9.68 min Scan# 1145
Delta R.T. -0.006 min
Lab File: 05052013.D
Acq: 5 May 2020 10:30

Tgt Ion: 72 Resp: 33358

Ion	Ratio	Lower	Upper
72	100		
71	101.9	77.9	117.9
42	158.2	133.9	173.9

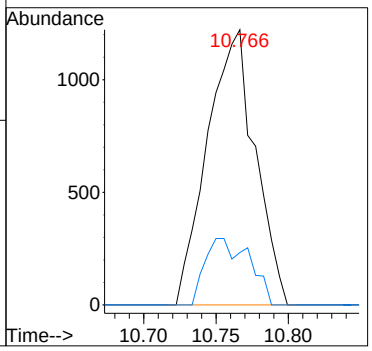


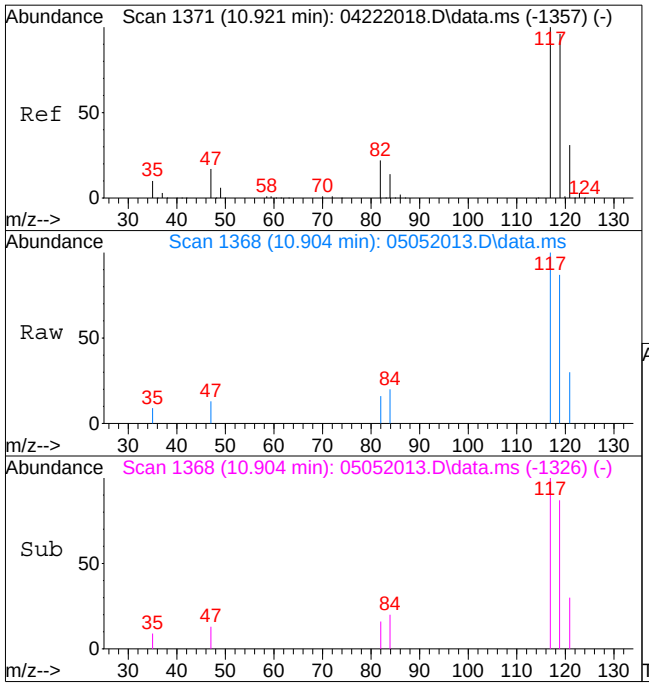


#41
Benzene
Concen: 0.07 ng
RT: 10.77 min Scan# 1343
Delta R.T. -0.006 min
Lab File: 05052013.D
Acq: 5 May 2020 10:30

Tgt Ion: 78 Resp: 2812

Ion	Ratio	Lower	Upper
78	100		
77	22.3	3.6	43.6

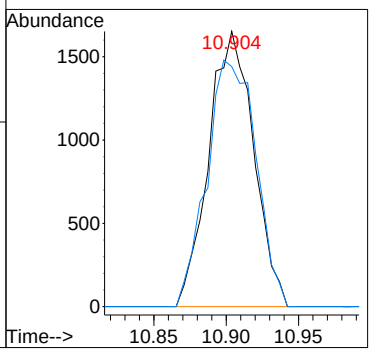


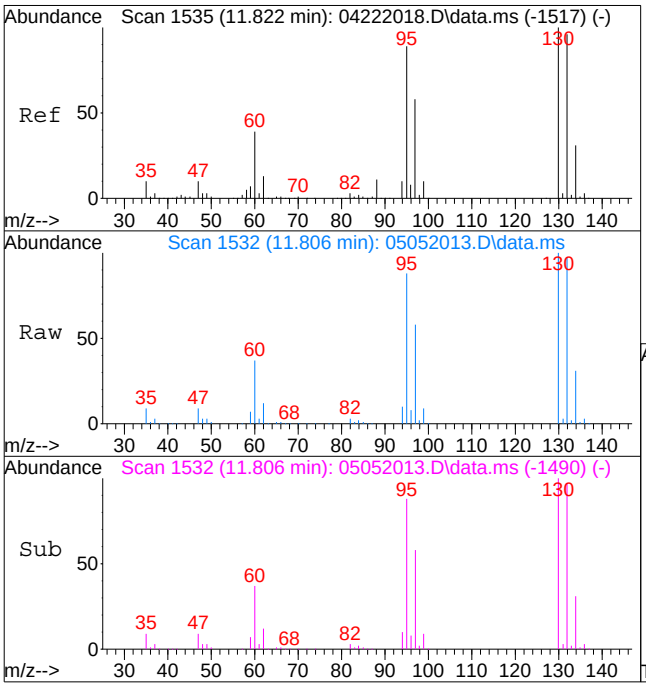


#42
Carbon Tetrachloride
Concen: 0.18 ng
RT: 10.90 min Scan# 1368
Delta R.T. -0.017 min
Lab File: 05052013.D
Acq: 5 May 2020 10:30

Tgt Ion:117 Resp: 3564

Ion	Ratio	Lower	Upper
117	100		
119	98.2	76.5	116.5

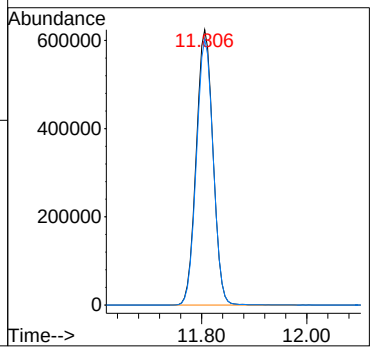


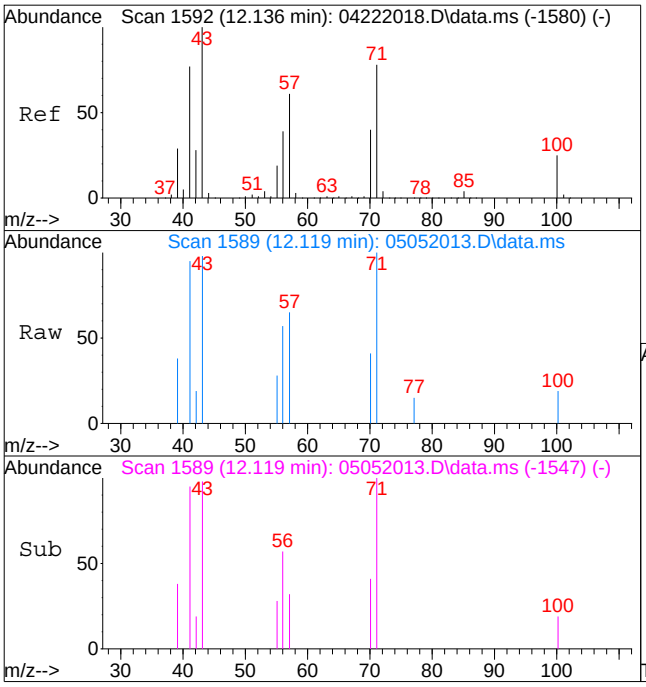


#47
Trichloroethene
Concen: 101.48 ng
RT: 11.81 min Scan# 1532
Delta R.T. -0.017 min
Lab File: 05052013.D
Acq: 5 May 2020 10:30

Tgt Ion:130 Resp: 1379044

Ion	Ratio	Lower	Upper
130	100		
132	96.6	76.4	116.4

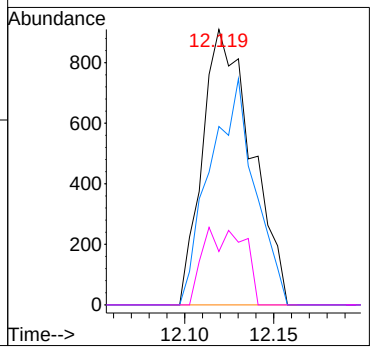


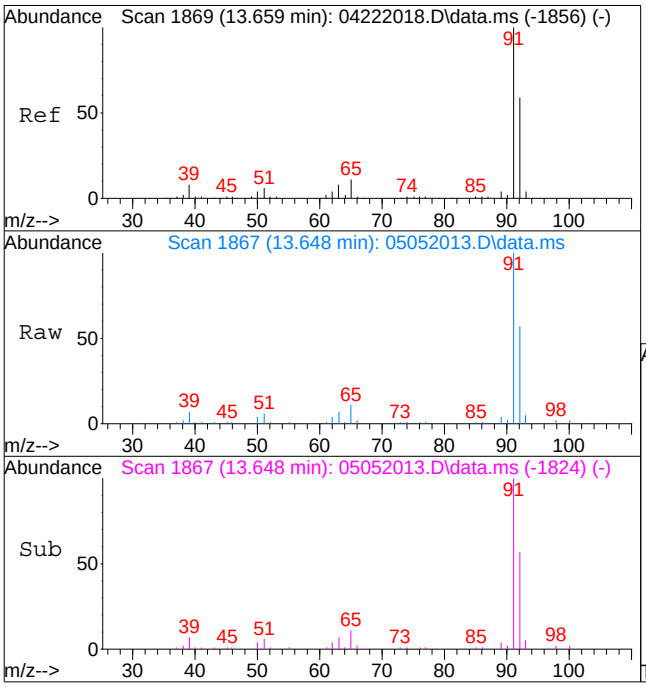


#51
n-Heptane
Concen: 0.19 ng
RT: 12.12 min Scan# 1589
Delta R.T. -0.017 min
Lab File: 05052013.D
Acq: 5 May 2020 10:30

Tgt Ion: 71 Resp: 1750

Ion	Ratio	Lower	Upper
71	100		
57	74.6	57.4	97.4
100	23.5	12.0	52.0

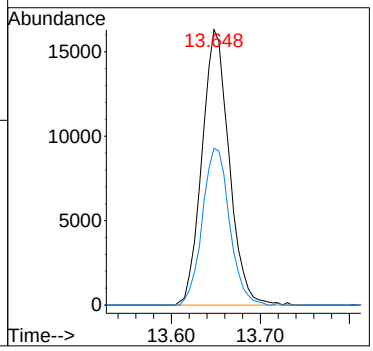


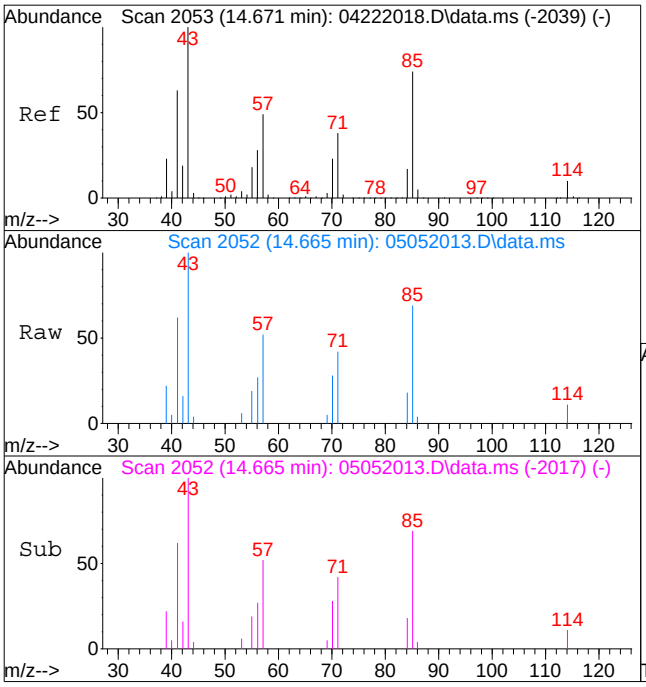


#58
Toluene
Concen: 0.80 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.011 min
Lab File: 05052013.D
Acq: 5 May 2020 10:30

Tgt Ion: 91 Resp: 34518

Ion	Ratio	Lower	Upper
91	100		
92	57.0	38.2	78.2

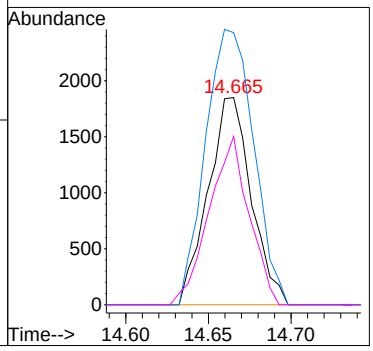


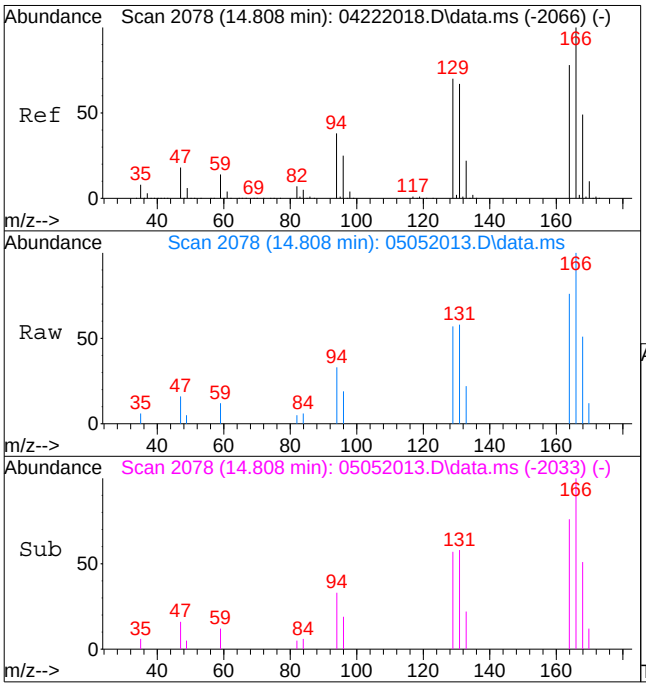


#63
n-Octane
Concen: 0.49 ng
RT: 14.67 min Scan# 2052
Delta R.T. -0.006 min
Lab File: 05052013.D
Acq: 5 May 2020 10:30

Tgt Ion: 57 Resp: 3357

Ion	Ratio	Lower	Upper
57	100		
85	148.6	120.7	181.1
71	75.1	61.1	91.7

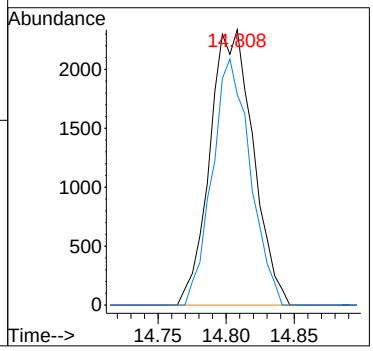


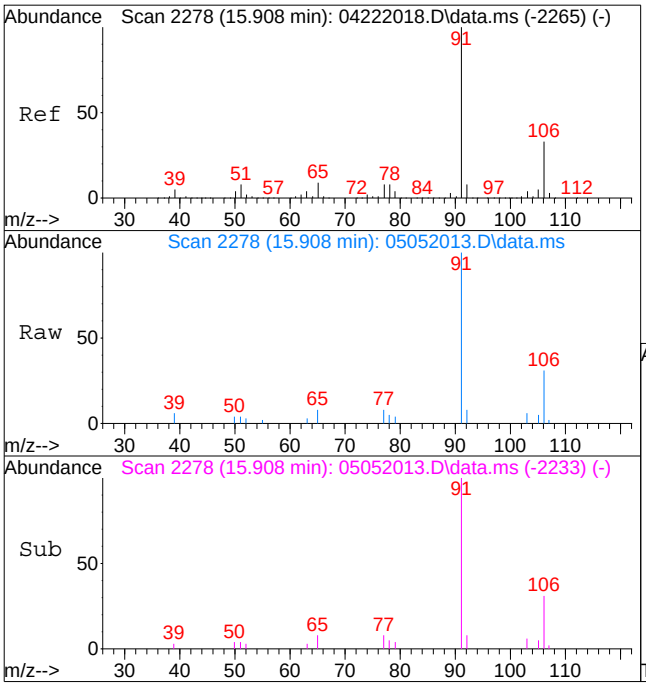


#64
Tetrachloroethene
Concen: 0.32 ng
RT: 14.81 min Scan# 2078
Delta R.T. -0.000 min
Lab File: 05052013.D
Acq: 5 May 2020 10:30

Tgt Ion:166 Resp: 5169

Ion	Ratio	Lower	Upper
166	100		
164	78.4	57.7	97.7

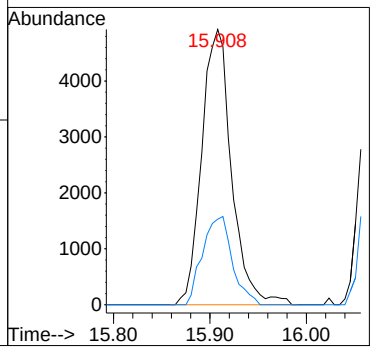


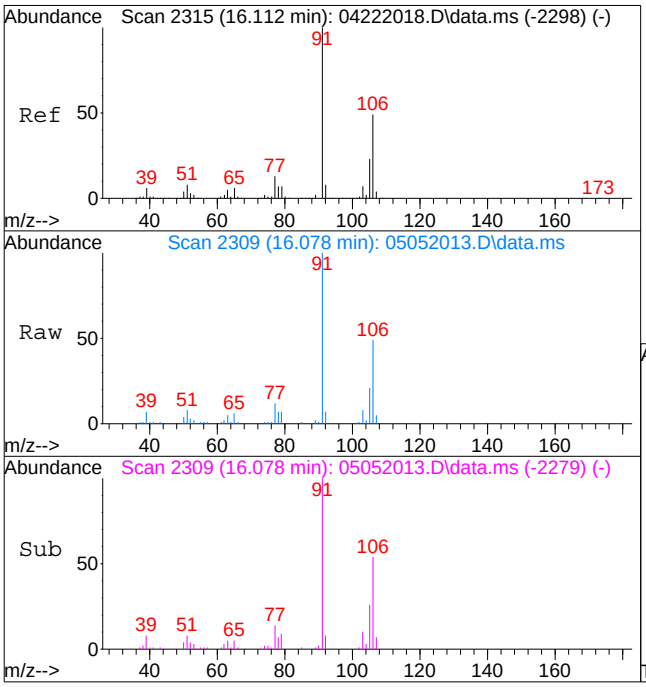


#66
Ethylbenzene
Concen: 0.21 ng
RT: 15.91 min Scan# 2278
Delta R.T. -0.000 min
Lab File: 05052013.D
Acq: 5 May 2020 10:30

Tgt Ion: 91 Resp: 10582

Ion	Ratio	Lower	Upper
91	100		
106	31.8	13.4	53.4

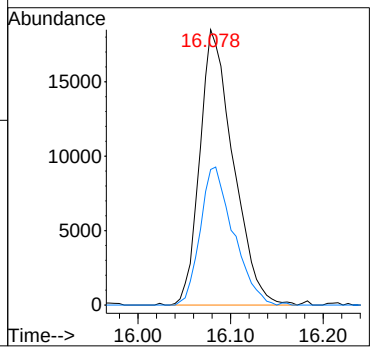


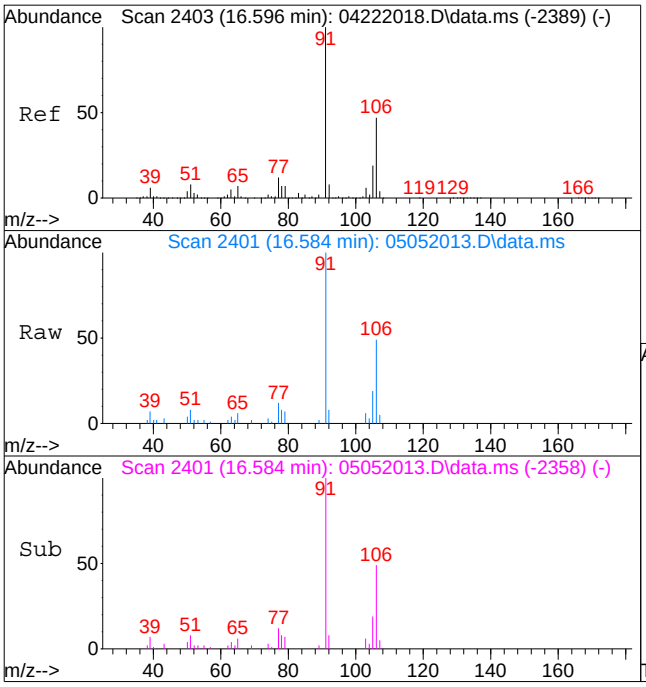


#67
m- & p-Xylenes
Concen: 1.09 ng
RT: 16.08 min Scan# 2309
Delta R.T. -0.033 min
Lab File: 05052013.D
Acq: 5 May 2020 10:30

Tgt Ion: 91 Resp: 46359

Ion	Ratio	Lower	Upper
91	100		
106	49.8	28.3	68.3

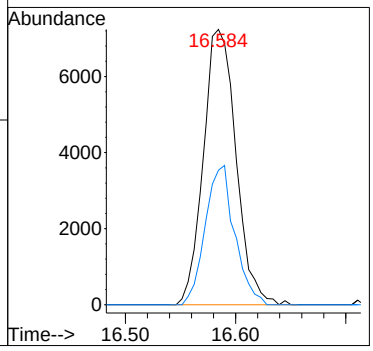


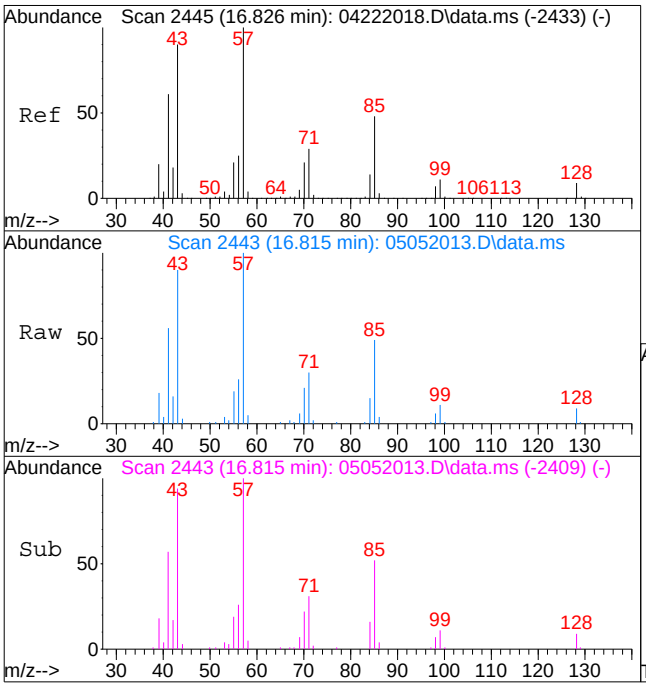


#70
o-Xylene
Concen: 0.36 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 05052013.D
Acq: 5 May 2020 10:30

Tgt Ion: 91 Resp: 14919

Ion	Ratio	Lower	Upper
91	100		
106	45.5	27.5	67.5

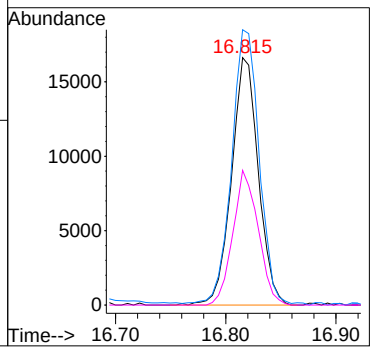


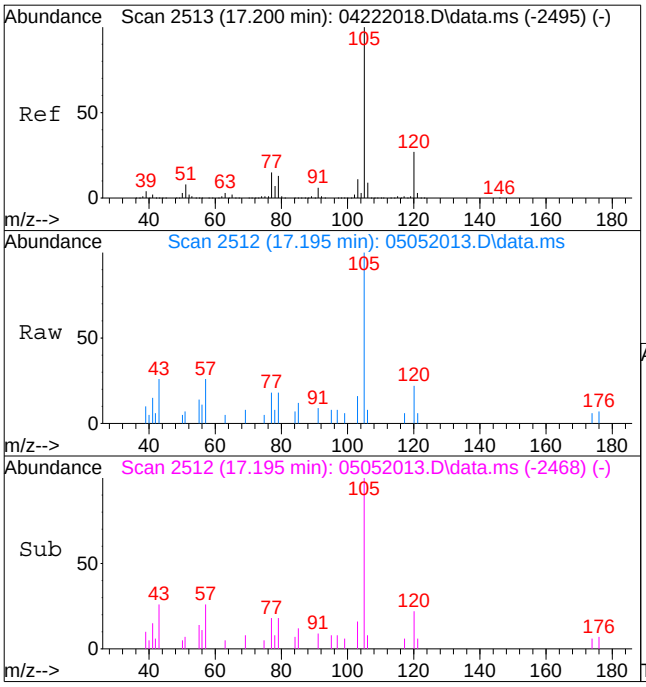


#71
n-Nonane
Concen: 2.10 ng
RT: 16.82 min Scan# 2443
Delta R.T. -0.011 min
Lab File: 05052013.D
Acq: 5 May 2020 10:30

Tgt Ion: 43 Resp: 28154

Ion	Ratio	Lower	Upper
43	100		
57	114.6	90.8	130.8
85	51.3	32.1	72.1

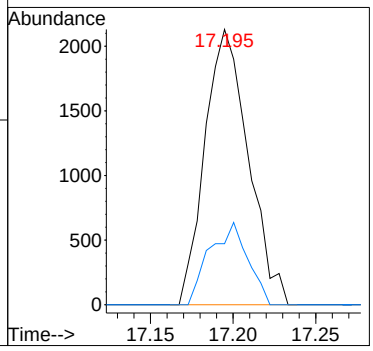


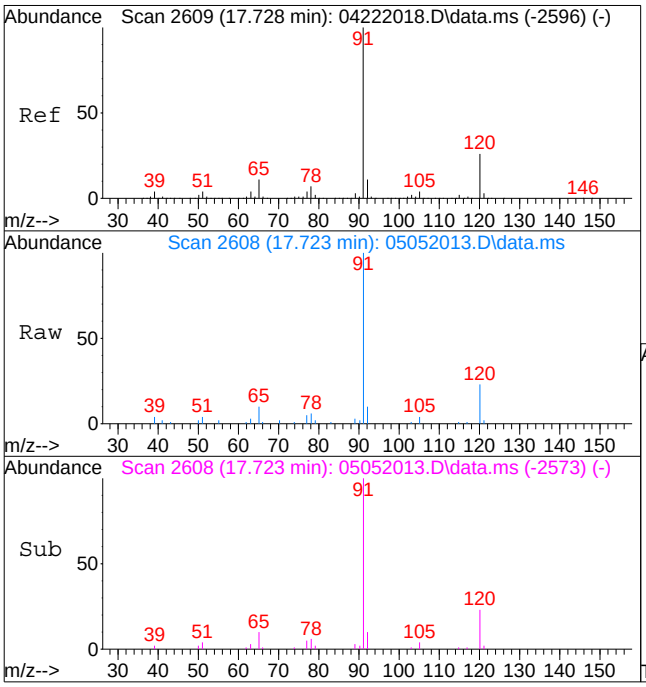


#74
Cumene
Concen: 0.07 ng
RT: 17.19 min Scan# 2512
Delta R.T. -0.006 min
Lab File: 05052013.D
Acq: 5 May 2020 10:30

Tgt Ion:105 Resp: 3900

Ion	Ratio	Lower	Upper
105	100		
120	26.1	7.3	47.3

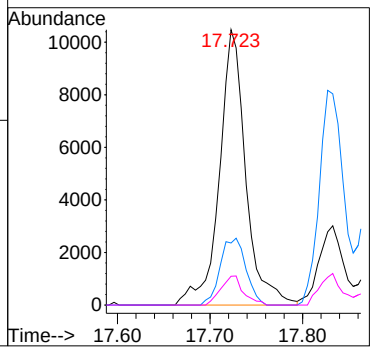


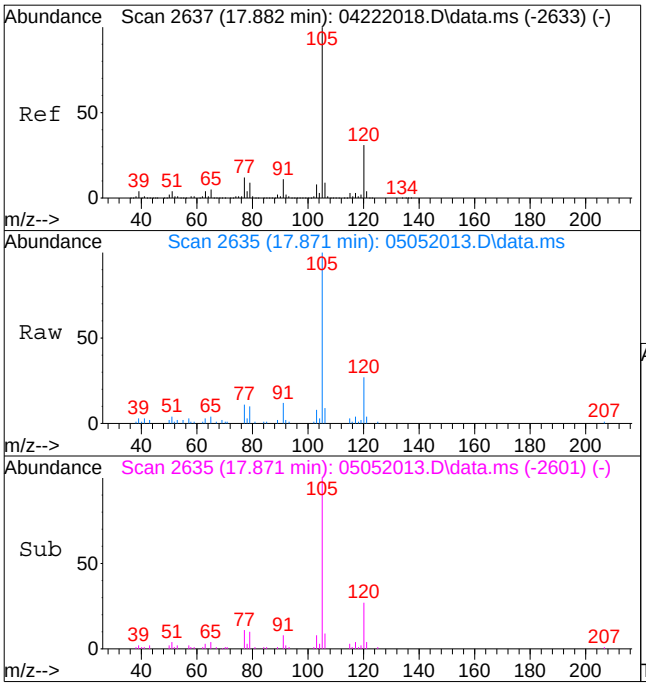


#76
n-Propylbenzene
Concen: 0.35 ng
RT: 17.72 min Scan# 2608
Delta R.T. -0.006 min
Lab File: 05052013.D
Acq: 5 May 2020 10:30

Tgt Ion: 91 Resp: 20753

Ion	Ratio	Lower	Upper
91	100		
120	23.7	6.1	46.1
65	9.0	0.0	30.7

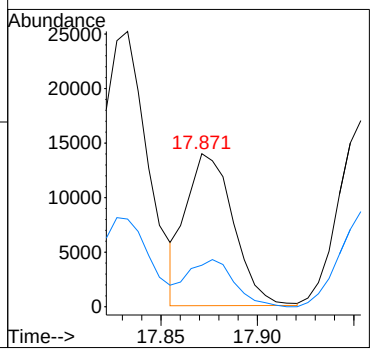


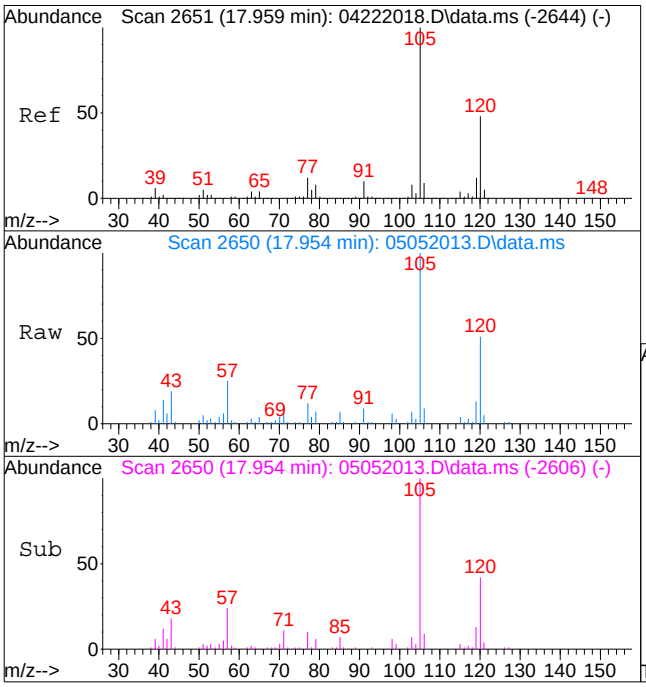


#78
4-Ethyltoluene
Concen: 0.46 ng
RT: 17.87 min Scan# 2635
Delta R.T. -0.011 min
Lab File: 05052013.D
Acq: 5 May 2020 10:30

Tgt Ion:105 Resp: 23846

Ion	Ratio	Lower	Upper
105	100		
120	30.9	11.4	51.4

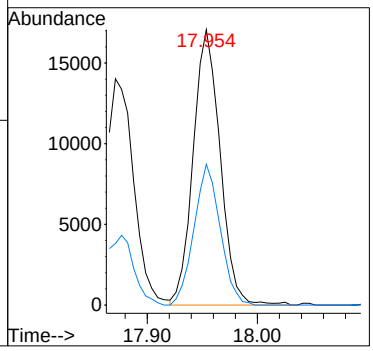


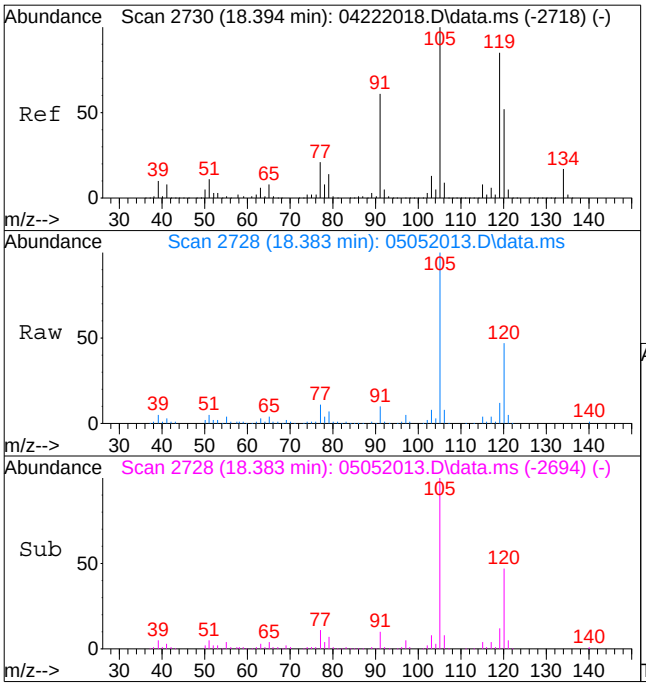


#79
1,3,5-Trimethylbenzene
Concen: 0.61 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 05052013.D
Acq: 5 May 2020 10:30

Tgt Ion:105 Resp: 28935

Ion	Ratio	Lower	Upper
105	100		
120	49.7	29.5	69.5

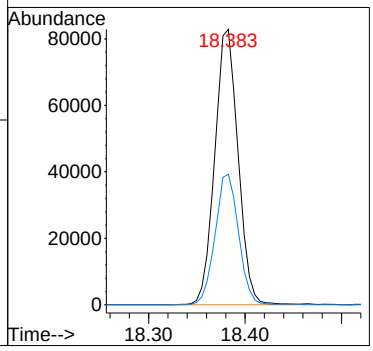


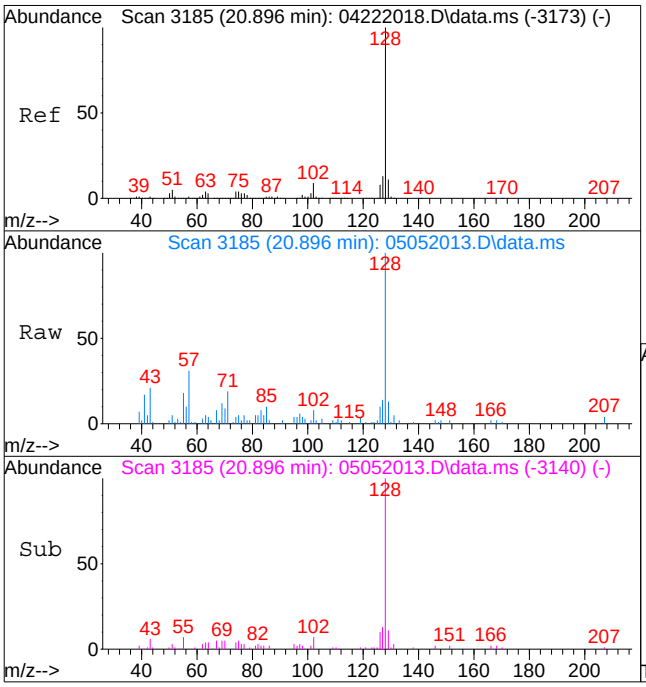


#82
1,2,4-Trimethylbenzene
Concen: 3.02 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 05052013.D
Acq: 5 May 2020 10:30

Tgt Ion:105 Resp: 139502

Ion	Ratio	Lower	Upper
105	100		
120	47.8	34.5	74.5

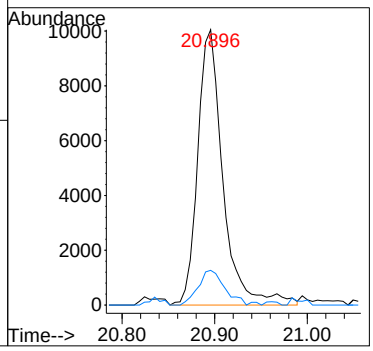




#95
Naphthalene
Concen: 0.32 ng
RT: 20.90 min Scan# 3185
Delta R.T. -0.000 min
Lab File: 05052013.D
Acq: 5 May 2020 10:30

Tgt Ion:128 Resp: 19022

Ion	Ratio	Lower	Upper
128	100		
129	13.5	0.0	30.9



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\05\05052014.D Vial: 6
Acq On : 5 May 2020 11:03 Operator: TD
Sample : P2002106-018 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 14:11:21 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/5/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.14	130	141911	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	11.11	114	595484	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	267899	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.92	65	213652	11.620	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.96%				
57) Toluene-d8 (SS2)	13.54	98	656729	12.696	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.60%				
73) Bromofluorobenzene (SS3)	17.05	174	259908	12.502	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.00%				
Target Compounds							Qvalue
2) Propene	3.90	42	1375	0.228	ng	#	49
3) Dichlorodifluoromethan...	3.99	85	3375	0.147	ng	#	95
4) Chloromethane	4.20	50	933	0.110	ng		83
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D. d			
10) Ethanol	5.36	45	10690	2.341	ng		83
11) Acetonitrile	5.59	41	929	0.086	ng	#	38
12) Acrolein	5.71	56	974	0.233	ng		98
13) Acetone	5.84	58	27782	5.069	ng		94
14) Trichlorofluoromethane	6.02	101	2590	0.114	ng		96
15) 2-Propanol (Isopropanol)	6.19	45	1777	0.102	ng		66
16) Acrylonitrile	6.43	53	33	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d			
19) Methylene Chloride	6.87	84	830	0.086	ng		77
20) 3-Chloro-1-propene (Al...	6.85	41	205	N.D.			
21) Trichlorotrifluoroethane	7.19	151	999	0.084	ng		90
22) Carbon Disulfide	7.15	76	39874	1.248	ng		96
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	8.21	63	296	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	8.26	86	1934	0.967	ng	#	67
27) 2-Butanone (MEK)	8.53	72	7602	1.350	ng		97
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	9.28	87	385	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	9.22	57	1027	0.084	ng	#	87
32) Chloroform	9.28	83	4324	0.222	ng		95
34) Tetrahydrofuran (THF)	9.67	72	54126	9.490	ng		97
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	10.13	62	256	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D. d			
41) Benzene	10.76	78	2438	0.063	ng		99
42) Carbon Tetrachloride	10.91	117	2580	0.129	ng		94
43) Cyclohexane	11.02	84	259	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D. d			
47) Trichloroethene	11.81	130	124378	9.252	ng		100
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d			
50) Methyl Methacrylate	12.13	100	128	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\05\05052014.D Vial: 6
Acq On : 5 May 2020 11:03 Operator: TD
Sample : P2002106-018 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 14:11:21 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

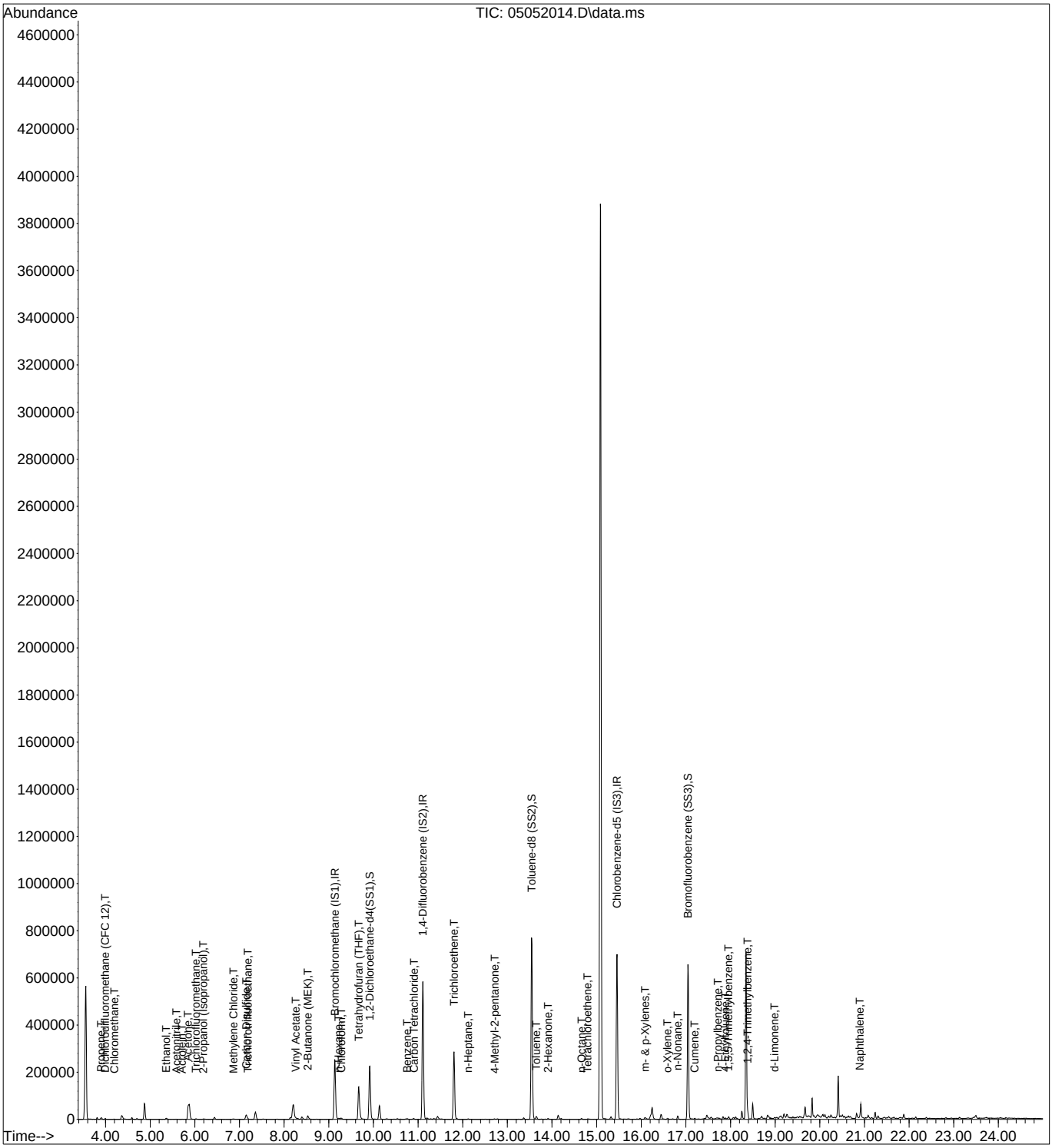
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	12.12	71	667	0.074 ng		93
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	12.72	58	754	0.111 ng	#	72
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	13.65	91	9455	0.218 ng		97
59) 2-Hexanone	13.91	43	3242	0.250 ng		93
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D. d		
63) n-Octane	14.67	57	760	0.110 ng		91
64) Tetrachloroethene	14.80	166	1074	0.066 ng		95
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	15.90	91	2282	N.D.		
67) m- & p-Xylenes	16.08	91	8286	0.194 ng		100
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.50	104	214	N.D.		
70) o-Xylene	16.59	91	2945	0.070 ng		97
71) n-Nonane	16.82	43	4551	0.336 ng		97
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	17.19	105	2773	0.051 ng		100
75) alpha-Pinene	17.60	93	278	N.D.		
76) n-Propylbenzene	17.72	91	3165m	0.053 ng		
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	17.88	105	3641	0.070 ng		99
79) 1,3,5-Trimethylbenzene	17.95	105	4628	0.096 ng		100
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	18.15	105	2471	N.D.		
82) 1,2,4-Trimethylbenzene	18.38	105	20672	0.445 ng		98
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	18.51	91	468	N.D.		
85) 1,3-Dichlorobenzene	18.61	146	186	N.D.		
86) 1,4-Dichlorobenzene	18.61	146	186	N.D.		
87) sec-Butylbenzene	18.67	105	1570	N.D.		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	18.99	68	807	0.061 ng	#	16
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	20.90	128	6841	0.114 ng		98
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\05\05052014.D Vial: 6
Acq On : 5 May 2020 11:03 Operator: TD
Sample : P2002106-018 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 14:11:21 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\05\05052014.D Vial: 6
Acq On : 5 May 2020 11:03 Operator: TD
Sample : P2002106-018 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 14:11:21 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/5/20

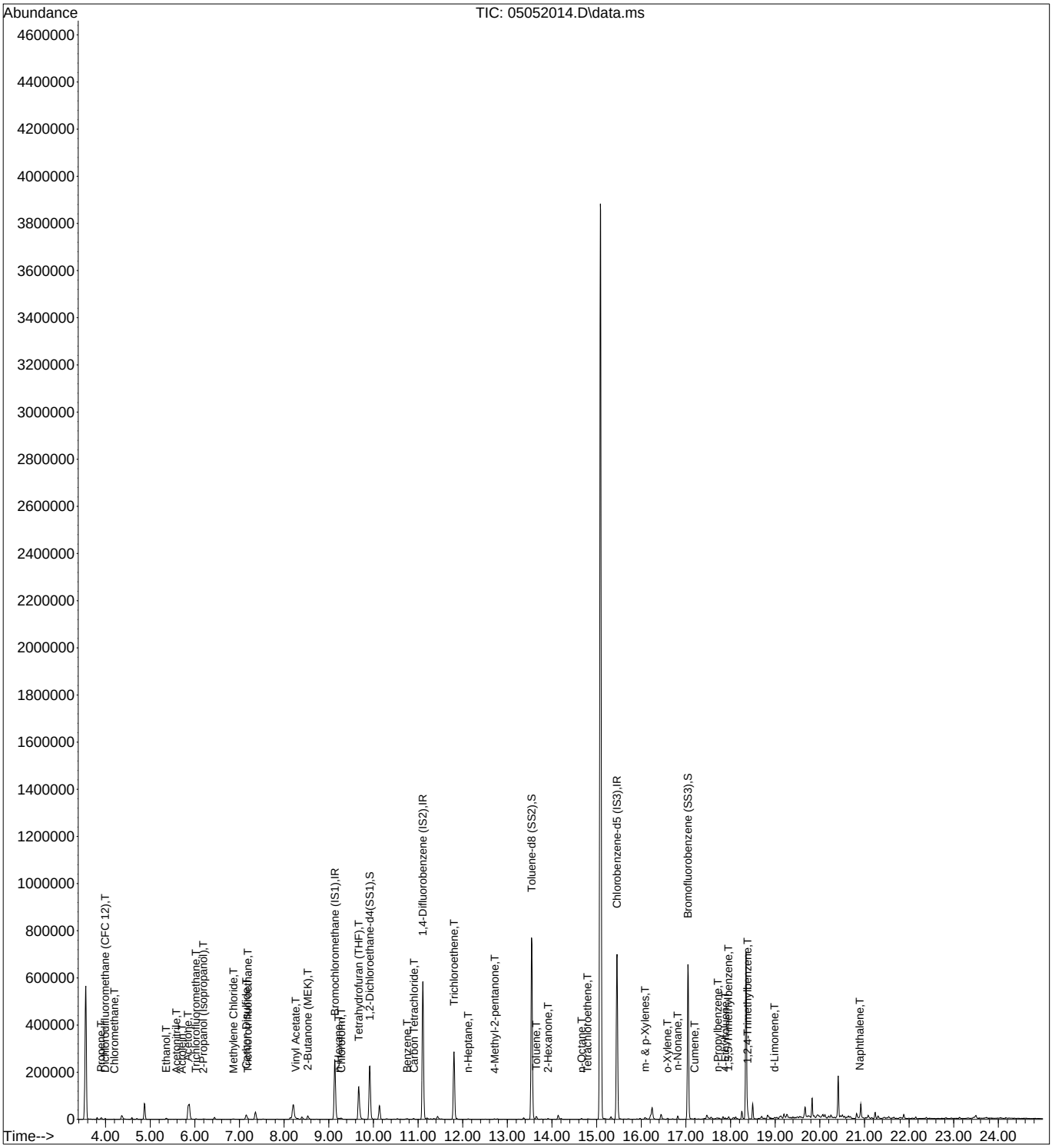
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.14	130	141911	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	11.11	114	595484	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	267899	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.92	65	213652	11.620	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.96%				
57) Toluene-d8 (SS2)	13.54	98	656729	12.696	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.60%				
73) Bromofluorobenzene (SS3)	17.05	174	259908	12.502	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.00%				
Target Compounds							Qvalue
2) Propene	3.90	42	1375	0.228	ng	#	49
3) Dichlorodifluoromethan...	3.99	85	3375	0.147	ng	#	95
4) Chloromethane	4.20	50	933	0.110	ng		83
10) Ethanol	5.36	45	10690	2.341	ng		83
11) Acetonitrile	5.59	41	929	0.086	ng	#	38
12) Acrolein	5.71	56	974	0.233	ng		98
13) Acetone	5.84	58	27782	5.069	ng		94
14) Trichlorofluoromethane	6.02	101	2590	0.114	ng		96
15) 2-Propanol (Isopropanol)	6.19	45	1777	0.102	ng		66
19) Methylene Chloride	6.87	84	830	0.086	ng		77
21) Trichlorotrifluoroethane	7.19	151	999	0.084	ng		90
22) Carbon Disulfide	7.15	76	39874	1.248	ng		96
26) Vinyl Acetate	8.26	86	1934	0.967	ng	#	67
27) 2-Butanone (MEK)	8.53	72	7602	1.350	ng		97
31) n-Hexane	9.22	57	1027	0.084	ng	#	87
32) Chloroform	9.28	83	4324	0.222	ng		95
34) Tetrahydrofuran (THF)	9.67	72	54126	9.490	ng		97
41) Benzene	10.76	78	2438	0.063	ng		99
42) Carbon Tetrachloride	10.91	117	2580	0.129	ng		94
47) Trichloroethene	11.81	130	124378	9.252	ng		100
51) n-Heptane	12.12	71	667	0.074	ng		93
53) 4-Methyl-2-pentanone	12.72	58	754	0.111	ng	#	72
58) Toluene	13.65	91	9455	0.218	ng		97
59) 2-Hexanone	13.91	43	3242	0.250	ng		93
63) n-Octane	14.67	57	760	0.110	ng		91
64) Tetrachloroethene	14.80	166	1074	0.066	ng		95
67) m- & p-Xylenes	16.08	91	8286	0.194	ng		100
70) o-Xylene	16.59	91	2945	0.070	ng		97
71) n-Nonane	16.82	43	4551	0.336	ng		97
74) Cumene	17.19	105	2773	0.051	ng		100
76) n-Propylbenzene	17.72	91	3165m	0.053	ng		
78) 4-Ethyltoluene	17.88	105	3641	0.070	ng		99
79) 1,3,5-Trimethylbenzene	17.95	105	4628	0.096	ng		100
82) 1,2,4-Trimethylbenzene	18.38	105	20672	0.445	ng		98
91) d-Limonene	18.99	68	807	0.061	ng	#	16
95) Naphthalene	20.90	128	6841	0.114	ng		98

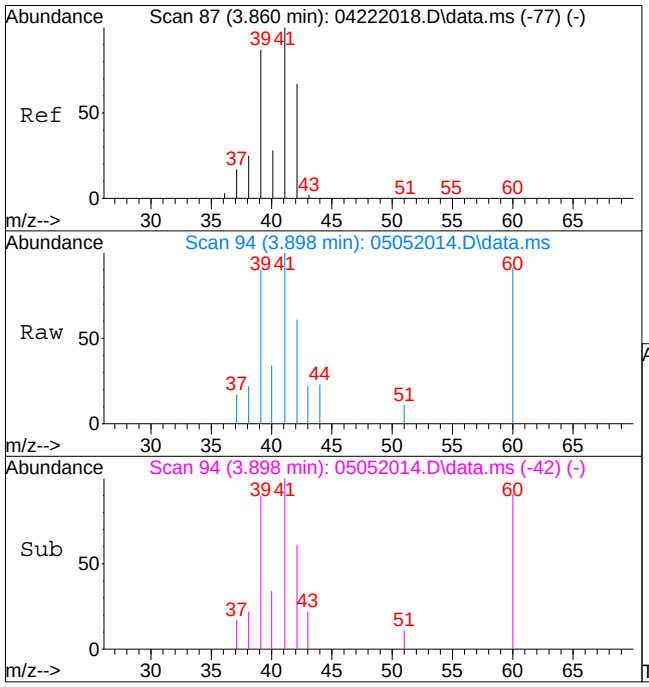
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\05\05052014.D Vial: 6
Acq On : 5 May 2020 11:03 Operator: TD
Sample : P2002106-018 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 14:11:21 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

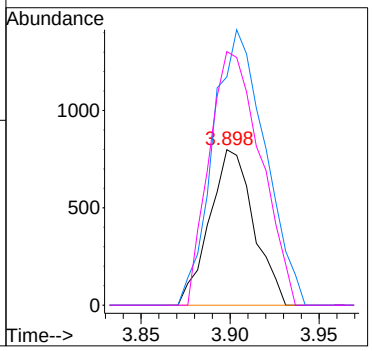


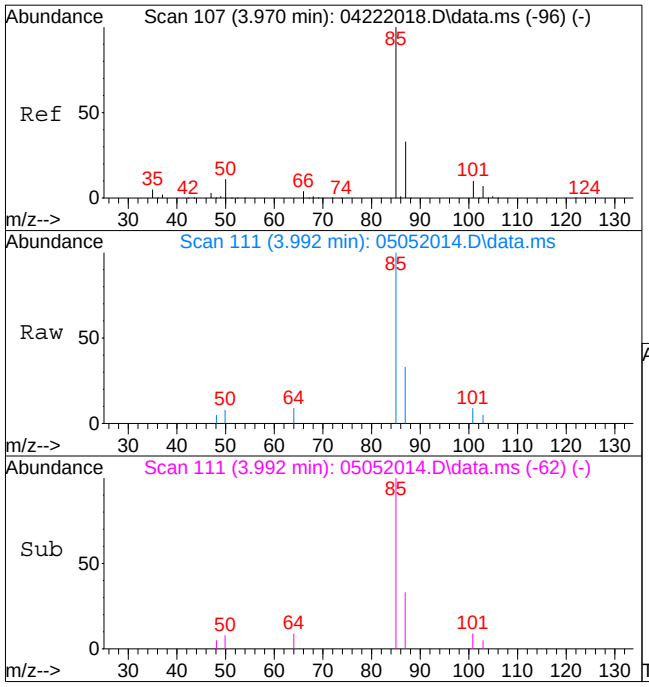


#2
Propene
Concen: 0.23 ng
RT: 3.90 min Scan# 94
Delta R.T. 0.038 min
Lab File: 05052014.D
Acq: 5 May 2020 11:03

Tgt Ion: 42 Resp: 1375

Ion	Ratio	Lower	Upper
42	100		
39	209.7	106.4	146.4#
41	190.8	128.8	168.8#

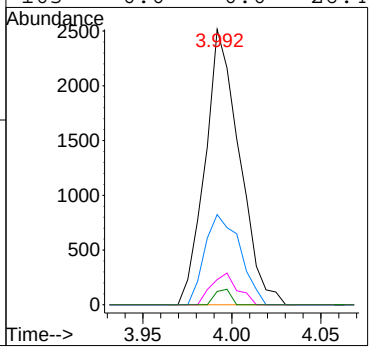


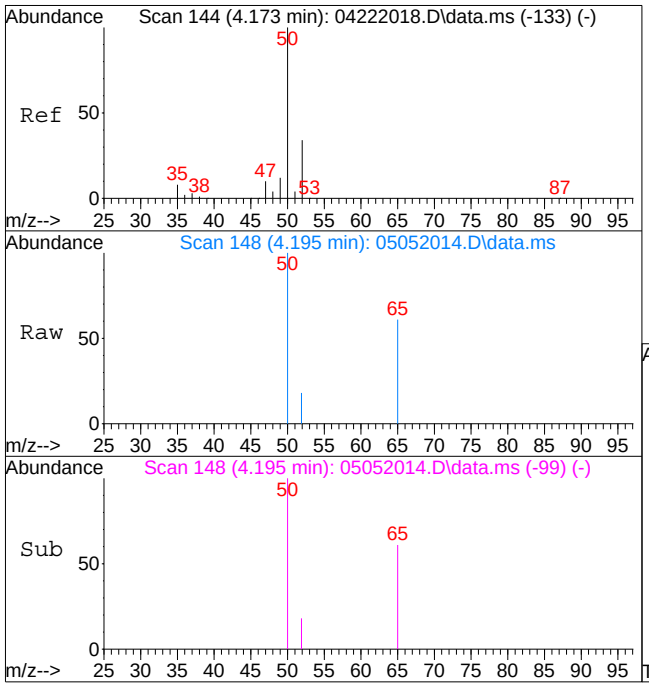


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.15 ng
RT: 3.99 min Scan# 111
Delta R.T. 0.022 min
Lab File: 05052014.D
Acq: 5 May 2020 11:03

Tgt Ion: 85 Resp: 3375

Ion	Ratio	Lower	Upper
85	100		
87	33.7	12.4	52.4
101	8.8	0.0	29.9
103	0.0	0.0	26.4

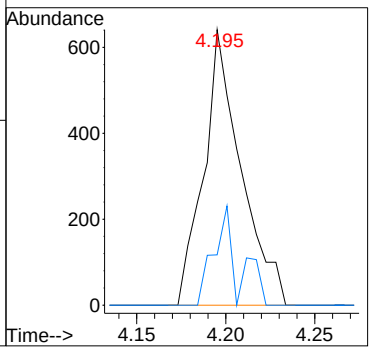


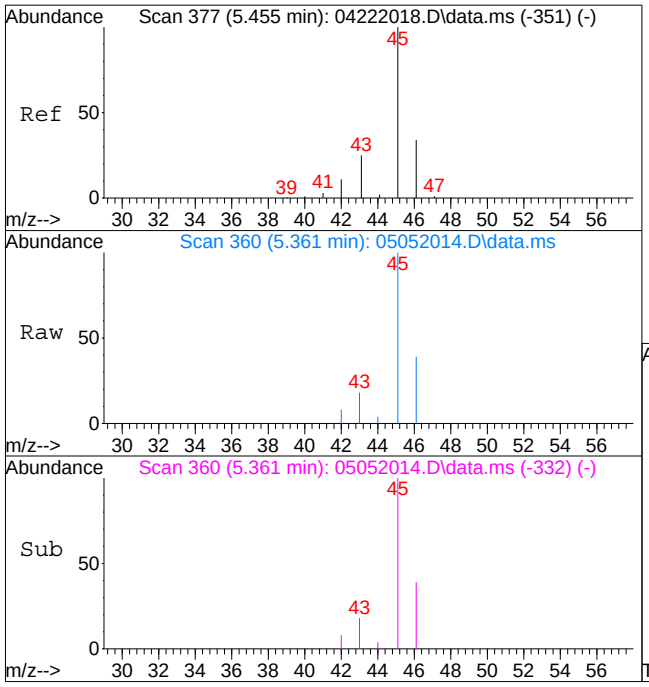


#4
Chloromethane
Concen: 0.11 ng
RT: 4.20 min Scan# 148
Delta R.T. 0.022 min
Lab File: 05052014.D
Acq: 5 May 2020 11:03

Tgt Ion: 50 Resp: 933

Ion	Ratio	Lower	Upper
50	100		
52	24.0	13.7	53.7

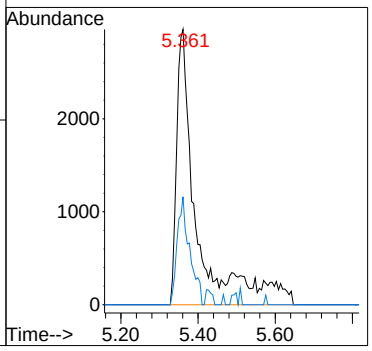


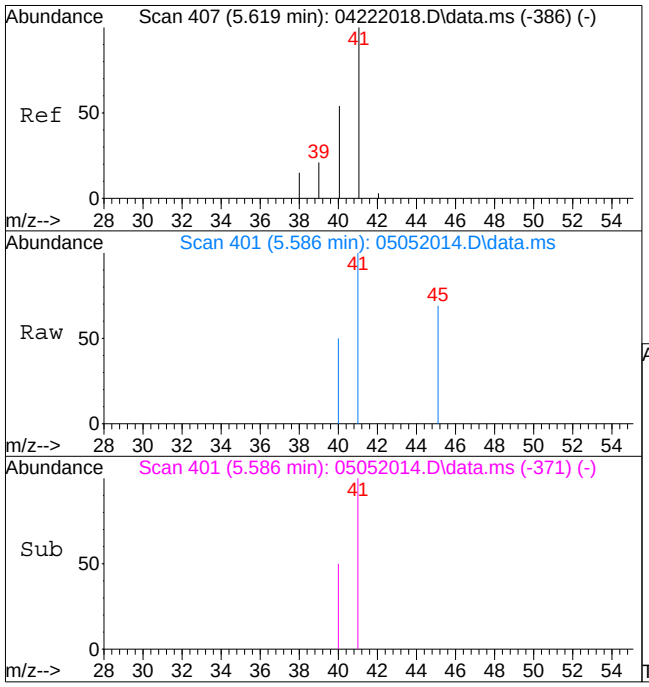


#10
Ethanol
Concen: 2.34 ng
RT: 5.36 min Scan# 360
Delta R.T. -0.094 min
Lab File: 05052014.D
Acq: 5 May 2020 11:03

Tgt Ion: 45 Resp: 10690

Ion	Ratio	Lower	Upper
45	100		
46	24.2	14.0	54.0

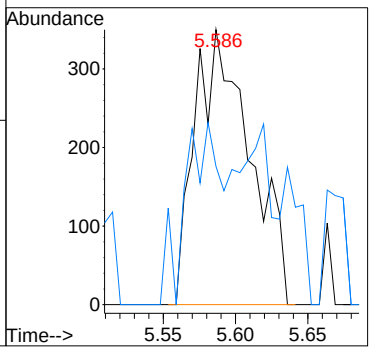


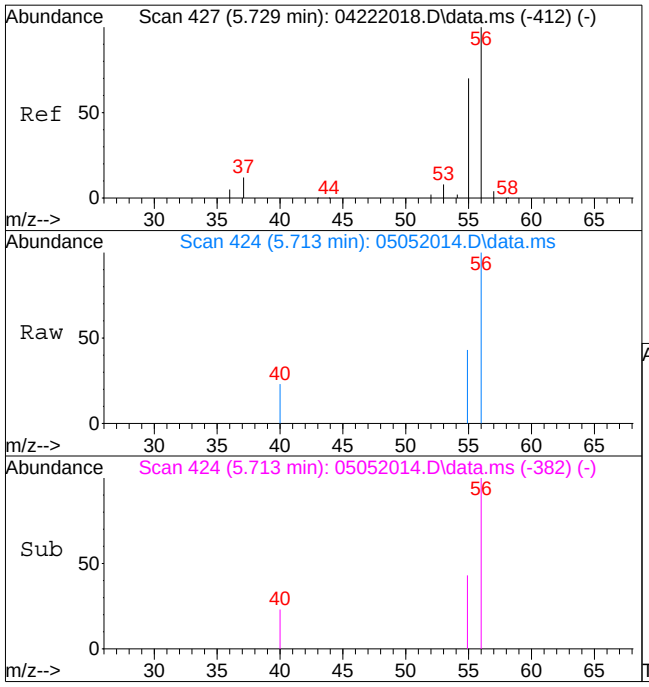


#11
Acetonitrile
Concen: 0.09 ng
RT: 5.59 min Scan# 401
Delta R.T. -0.033 min
Lab File: 05052014.D
Acq: 5 May 2020 11:03

Tgt Ion: 41 Resp: 929

Ion	Ratio	Lower	Upper
41	100		
40	99.6	34.8	74.8#

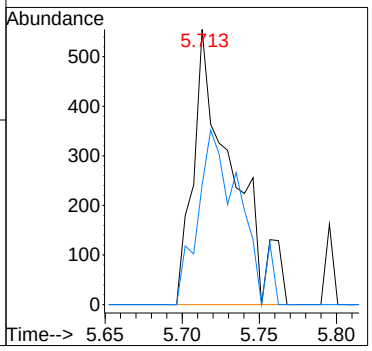


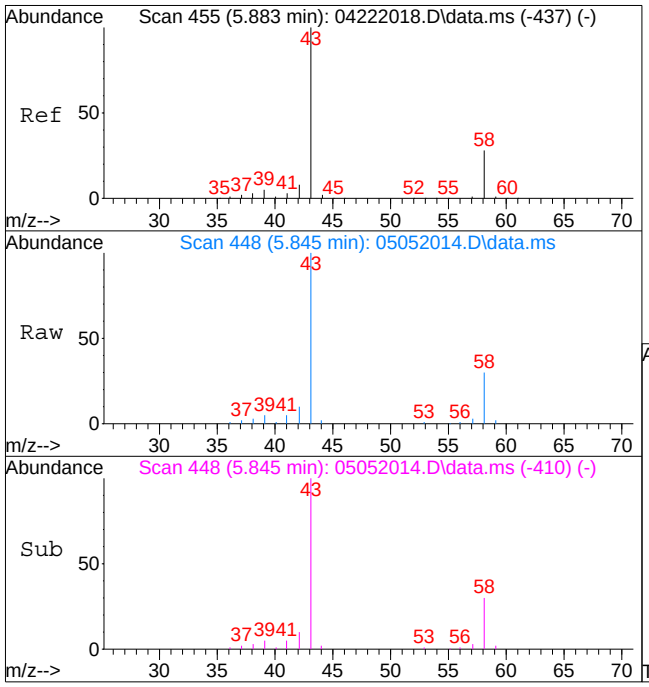


#12
Acrolein
Concen: 0.23 ng
RT: 5.71 min Scan# 424
Delta R.T. -0.017 min
Lab File: 05052014.D
Acq: 5 May 2020 11:03

Tgt Ion: 56 Resp: 974

Ion	Ratio	Lower	Upper
56	100		
55	68.7	50.4	90.4

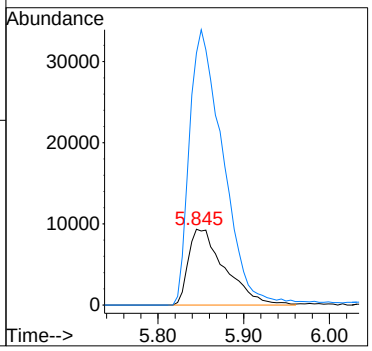


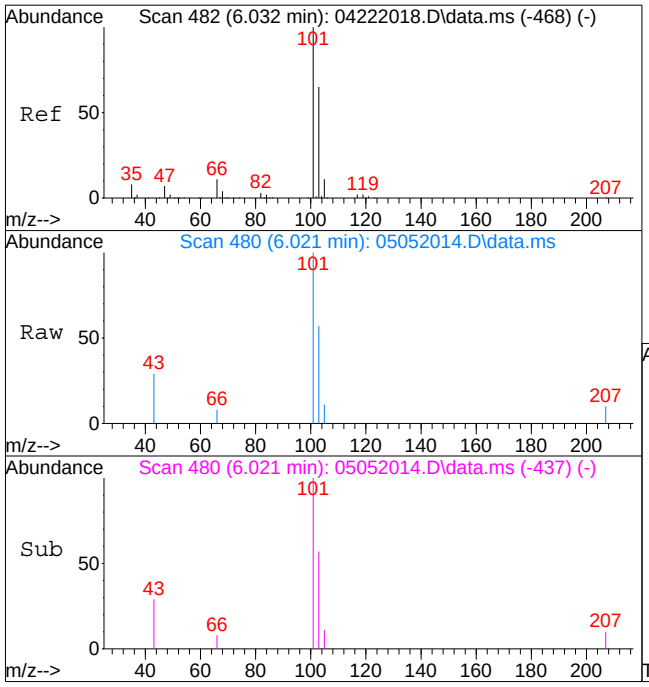


#13
Acetone
Concen: 5.07 ng
RT: 5.84 min Scan# 448
Delta R.T. -0.039 min
Lab File: 05052014.D
Acq: 5 May 2020 11:03

Tgt Ion: 58 Resp: 27782

Ion	Ratio	Lower	Upper
58	100		
43	336.4	319.3	379.3

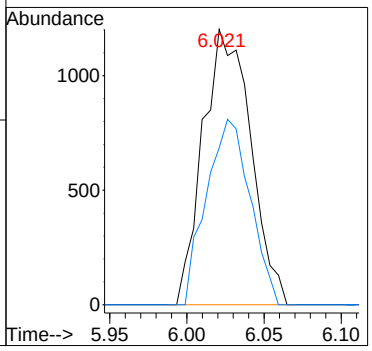


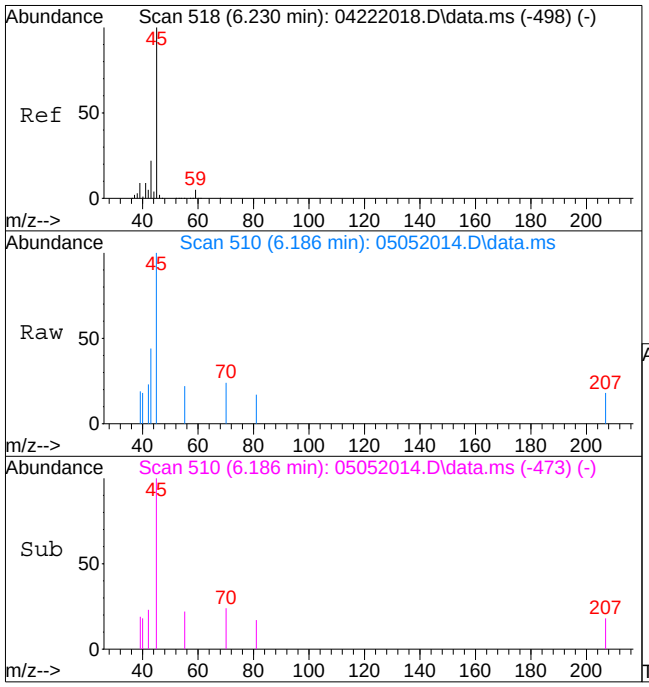


#14
Trichlorofluoromethane
Concen: 0.11 ng
RT: 6.02 min Scan# 480
Delta R.T. -0.011 min
Lab File: 05052014.D
Acq: 5 May 2020 11:03

Tgt Ion:101 Resp: 2590

Ion	Ratio	Lower	Upper
101	100		
103	61.7	44.7	84.7

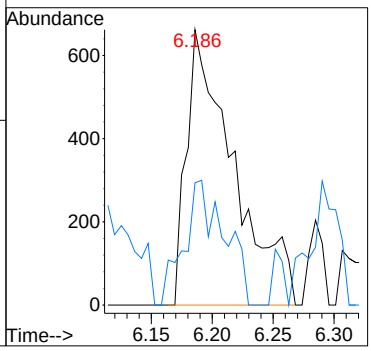


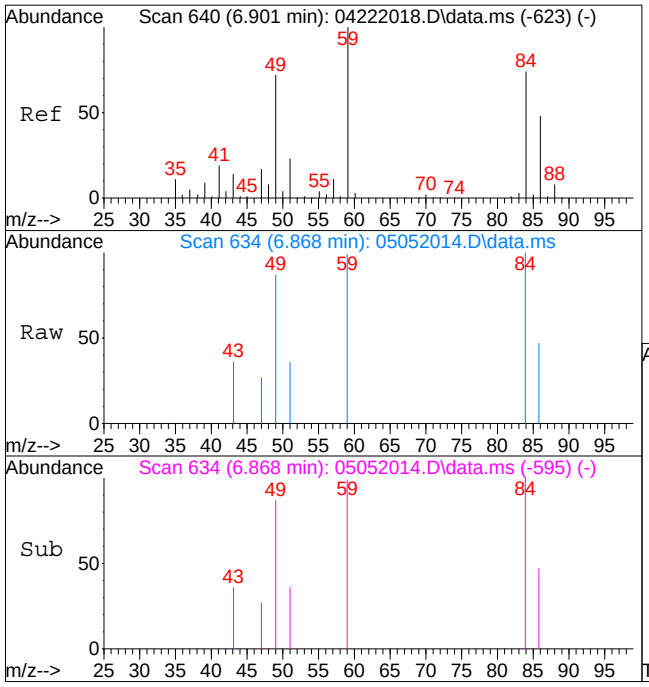


#15
2-Propanol (Isopropanol)
Concen: 0.10 ng
RT: 6.19 min Scan# 510
Delta R.T. -0.044 min
Lab File: 05052014.D
Acq: 5 May 2020 11:03

Tgt Ion: 45 Resp: 1777

Ion	Ratio	Lower	Upper
45	100		
43	38.8	2.6	42.6

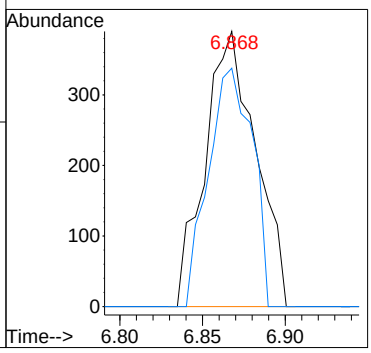


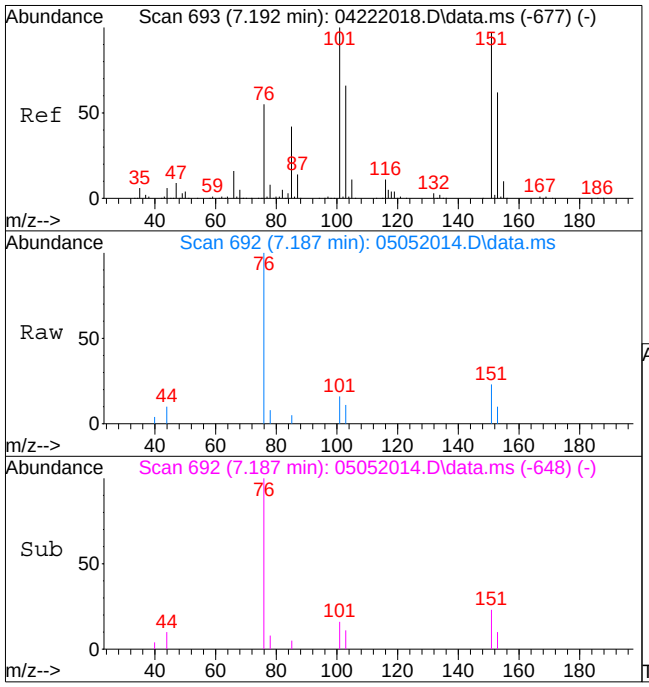


#19
Methylene Chloride
Concen: 0.09 ng
RT: 6.87 min Scan# 634
Delta R.T. -0.033 min
Lab File: 05052014.D
Acq: 5 May 2020 11:03

Tgt Ion: 84 Resp: 830

Ion	Ratio	Lower	Upper
84	100		
49	75.4	73.0	123.0

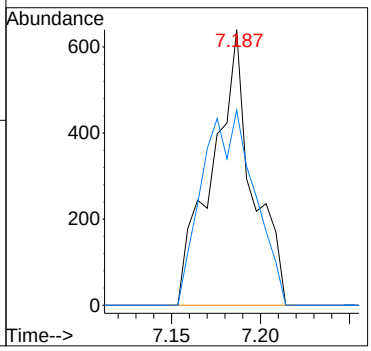


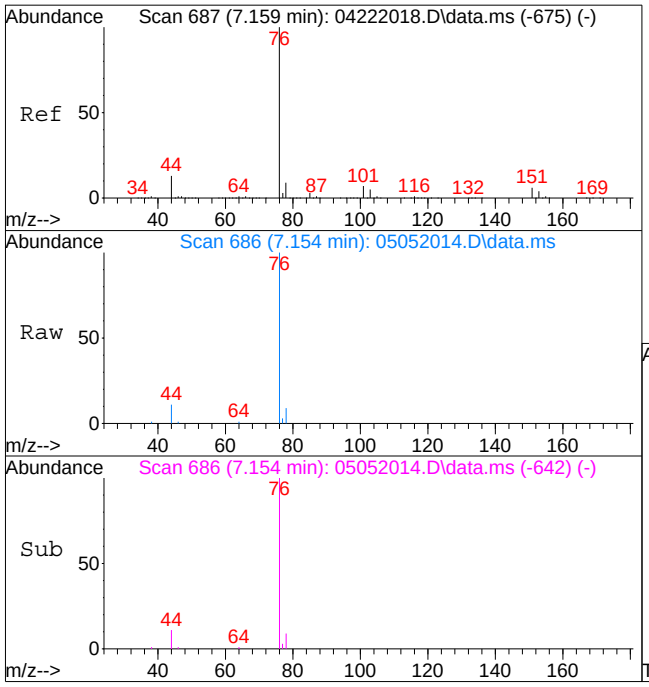


#21
Trichlorotrifluoroethane
Concen: 0.08 ng
RT: 7.19 min Scan# 692
Delta R.T. -0.006 min
Lab File: 05052014.D
Acq: 5 May 2020 11:03

Tgt Ion:151 Resp: 999

Ion	Ratio	Lower	Upper
151	100		
101	92.3	82.9	122.9

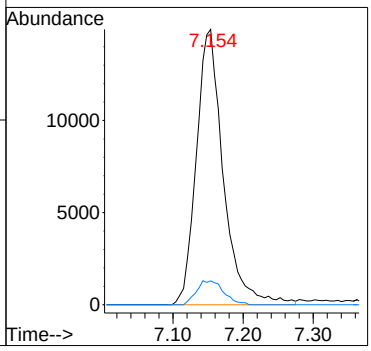


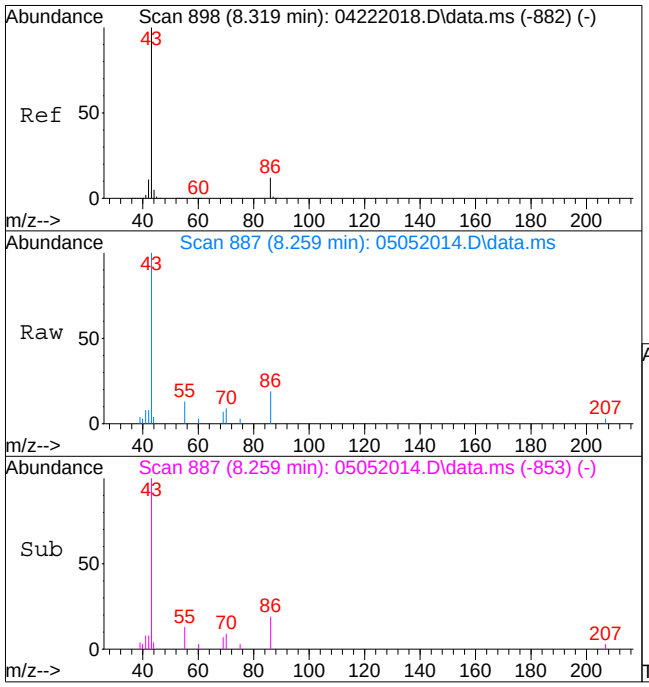


#22
Carbon Disulfide
Concen: 1.25 ng
RT: 7.15 min Scan# 686
Delta R.T. -0.006 min
Lab File: 05052014.D
Acq: 5 May 2020 11:03

Tgt Ion: 76 Resp: 39874

Ion	Ratio	Lower	Upper
76	100		
78	8.8	0.0	30.2

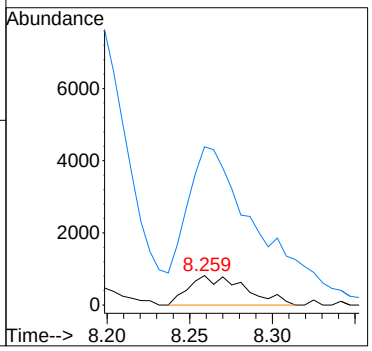


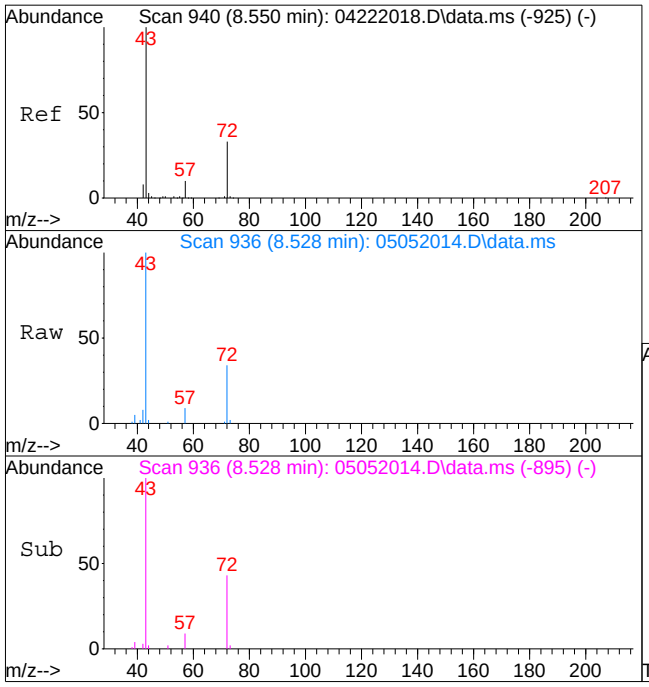


#26
Vinyl Acetate
Concen: 0.97 ng
RT: 8.26 min Scan# 887
Delta R.T. -0.061 min
Lab File: 05052014.D
Acq: 5 May 2020 11:03

Tgt Ion: 86 Resp: 1934

Ion	Ratio	Lower	Upper
86	100		
43	694.0	803.0	843.0#

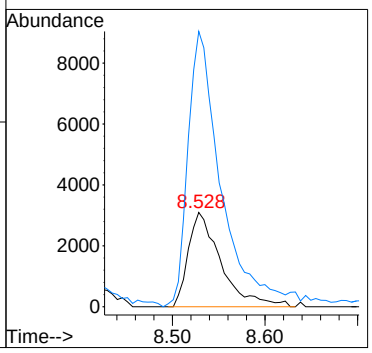


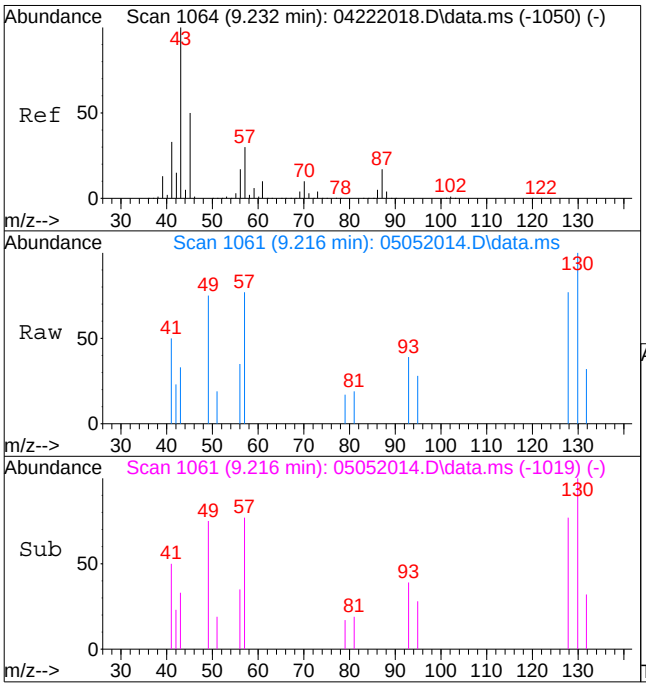


#27
2-Butanone (MEK)
Concen: 1.35 ng
RT: 8.53 min Scan# 936
Delta R.T. -0.022 min
Lab File: 05052014.D
Acq: 5 May 2020 11:03

Tgt Ion: 72 Resp: 7602

Ion	Ratio	Lower	Upper
72	100		
43	304.4	278.8	318.8

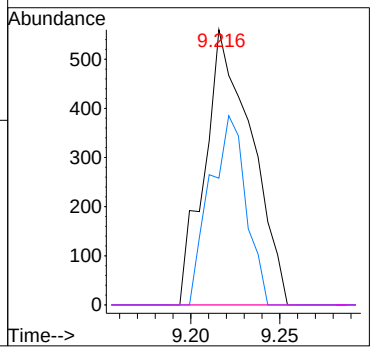


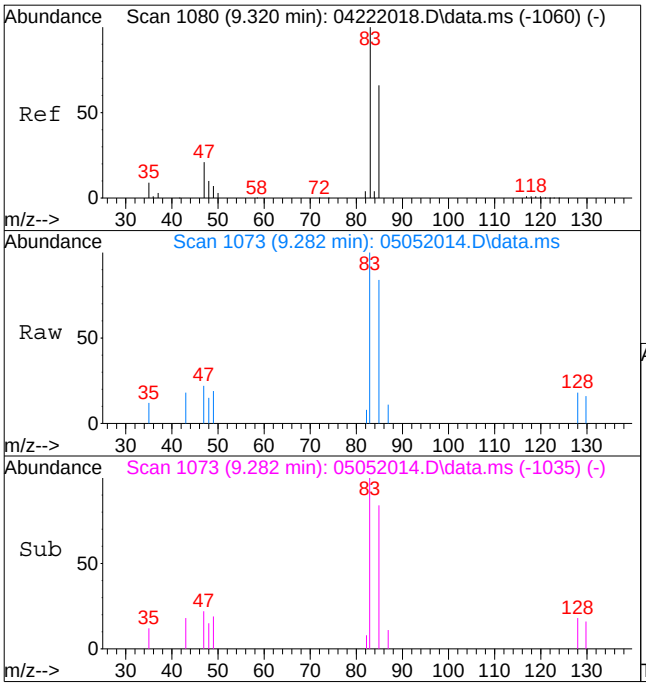


#31
n-Hexane
Concen: 0.08 ng
RT: 9.22 min Scan# 1061
Delta R.T. -0.017 min
Lab File: 05052014.D
Acq: 5 May 2020 11:03

Tgt Ion: 57 Resp: 1027

Ion	Ratio	Lower	Upper
57	100		
56	52.9	44.0	66.0
86	0.0	15.0	22.4#

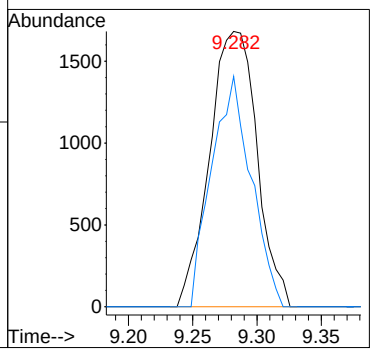


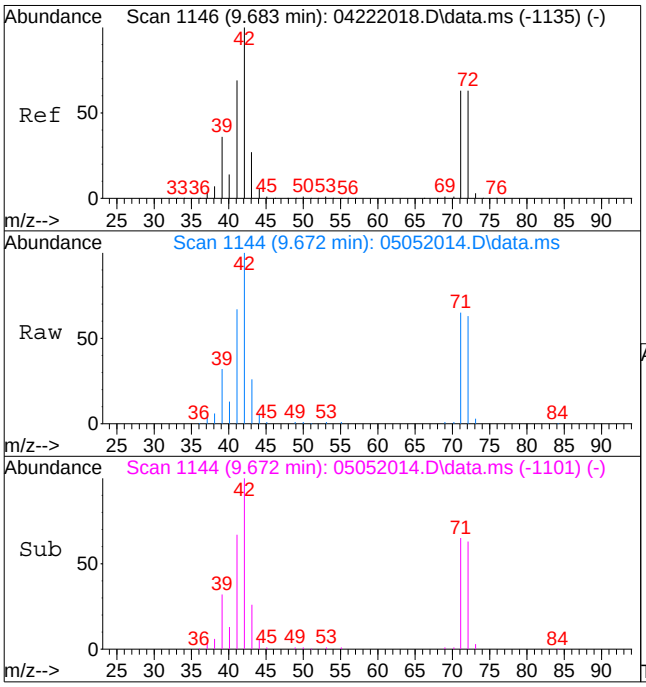


#32
Chloroform
Concen: 0.22 ng
RT: 9.28 min Scan# 1073
Delta R.T. -0.039 min
Lab File: 05052014.D
Acq: 5 May 2020 11:03

Tgt Ion: 83 Resp: 4324

Ion	Ratio	Lower	Upper
83	100		
85	69.8	45.8	85.8

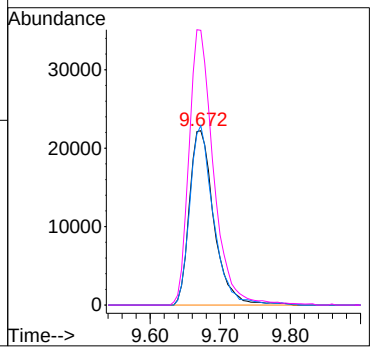


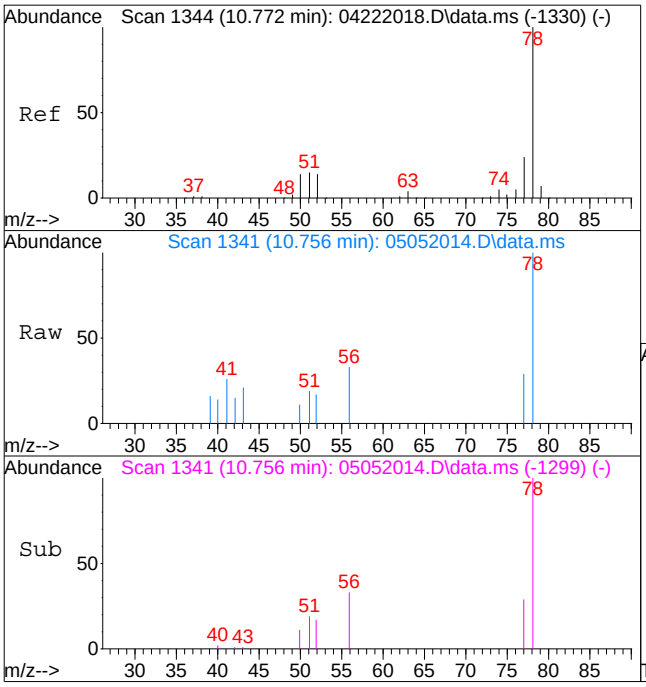


#34
Tetrahydrofuran (THF)
Concen: 9.49 ng
RT: 9.67 min Scan# 1144
Delta R.T. -0.011 min
Lab File: 05052014.D
Acq: 5 May 2020 11:03

Tgt Ion: 72 Resp: 54126

Ion	Ratio	Lower	Upper
72	100		
71	99.5	77.9	117.9
42	158.0	133.9	173.9

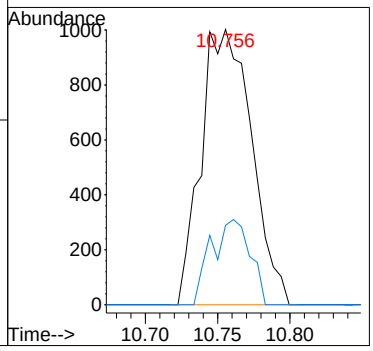


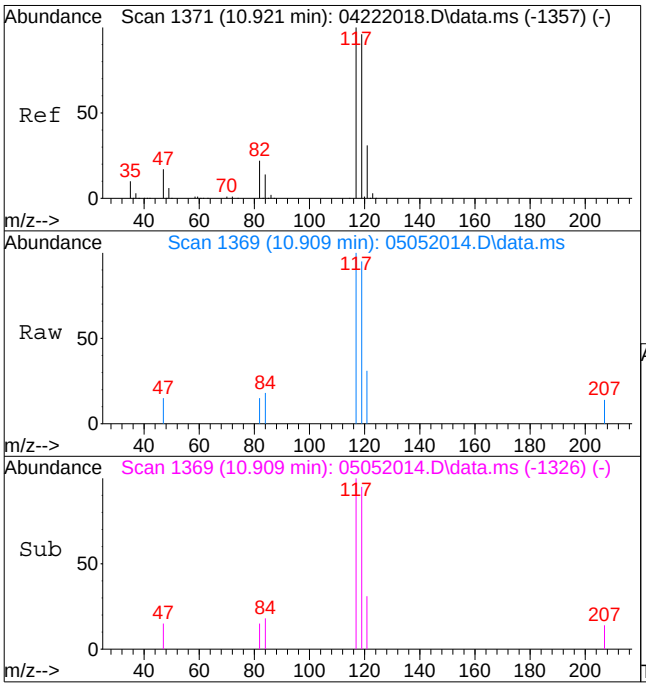


#41
Benzene
Concen: 0.06 ng
RT: 10.76 min Scan# 1341
Delta R.T. -0.017 min
Lab File: 05052014.D
Acq: 5 May 2020 11:03

Tgt Ion: 78 Resp: 2438

Ion	Ratio	Lower	Upper
78	100		
77	23.9	3.6	43.6

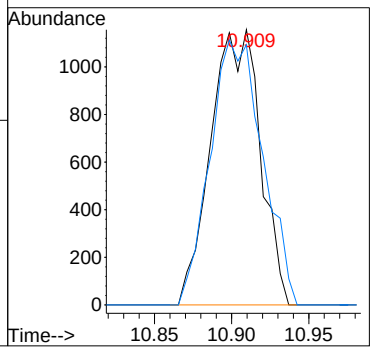


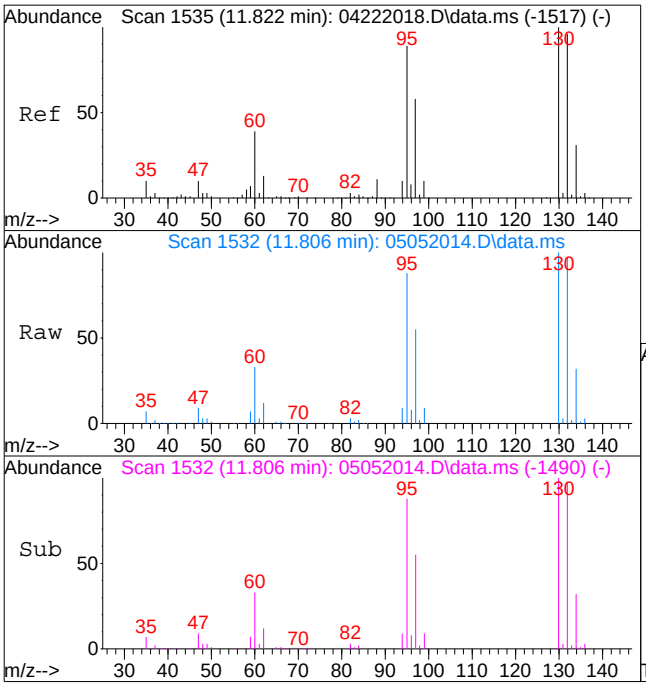


#42
Carbon Tetrachloride
Concen: 0.13 ng
RT: 10.91 min Scan# 1369
Delta R.T. -0.011 min
Lab File: 05052014.D
Acq: 5 May 2020 11:03

Tgt Ion:117 Resp: 2580

Ion	Ratio	Lower	Upper
117	100		
119	102.2	76.5	116.5

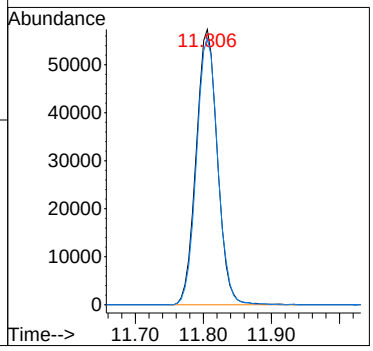


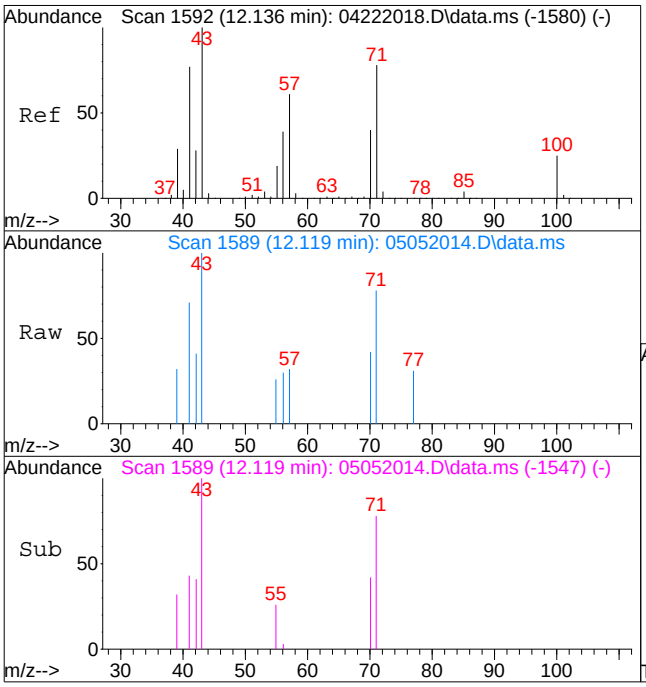


#47
Trichloroethene
Concen: 9.25 ng
RT: 11.81 min Scan# 1532
Delta R.T. -0.017 min
Lab File: 05052014.D
Acq: 5 May 2020 11:03

Tgt Ion:130 Resp: 124378

Ion	Ratio	Lower	Upper
130	100		
132	96.9	76.4	116.4

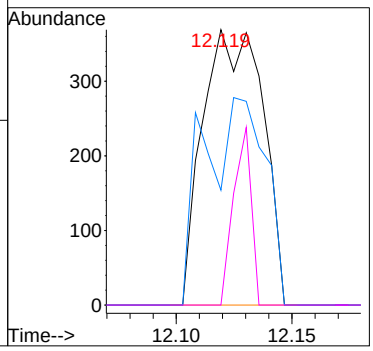


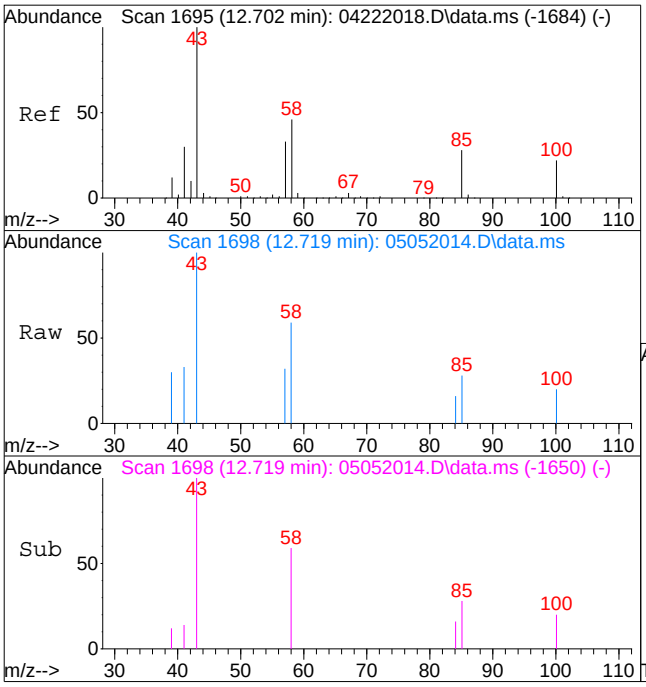


#51
n-Heptane
Concen: 0.07 ng
RT: 12.12 min Scan# 1589
Delta R.T. -0.017 min
Lab File: 05052014.D
Acq: 5 May 2020 11:03

Tgt Ion: 71 Resp: 667

Ion	Ratio	Lower	Upper
71	100		
57	77.4	57.4	97.4
100	19.2	12.0	52.0

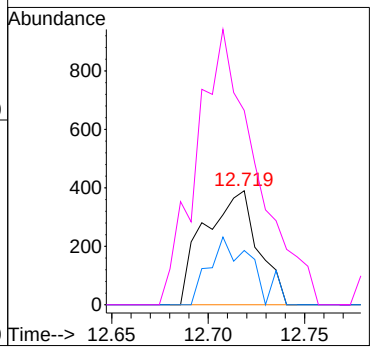


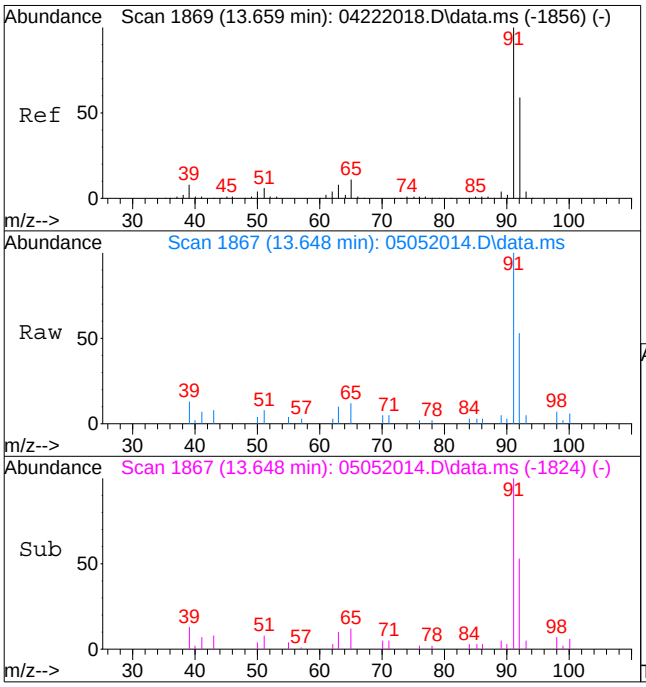


#53
4-Methyl-2-pentanone
Concen: 0.11 ng
RT: 12.72 min Scan# 1698
Delta R.T. 0.016 min
Lab File: 05052014.D
Acq: 5 May 2020 11:03

Tgt Ion: 58 Resp: 754

Ion	Ratio	Lower	Upper
58	100		
85	47.7	52.2	78.2#
43	268.4	176.2	264.4#

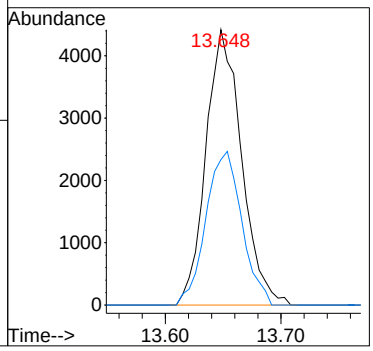


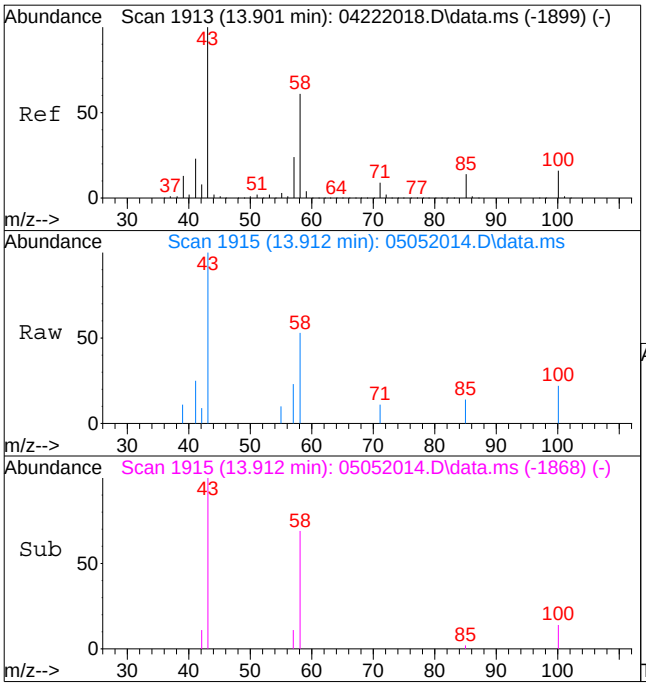


#58
Toluene
Concen: 0.22 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.011 min
Lab File: 05052014.D
Acq: 5 May 2020 11:03

Tgt Ion: 91 Resp: 9455

Ion	Ratio	Lower	Upper
91	100		
92	56.2	38.2	78.2

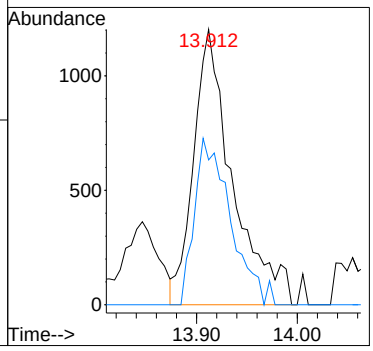


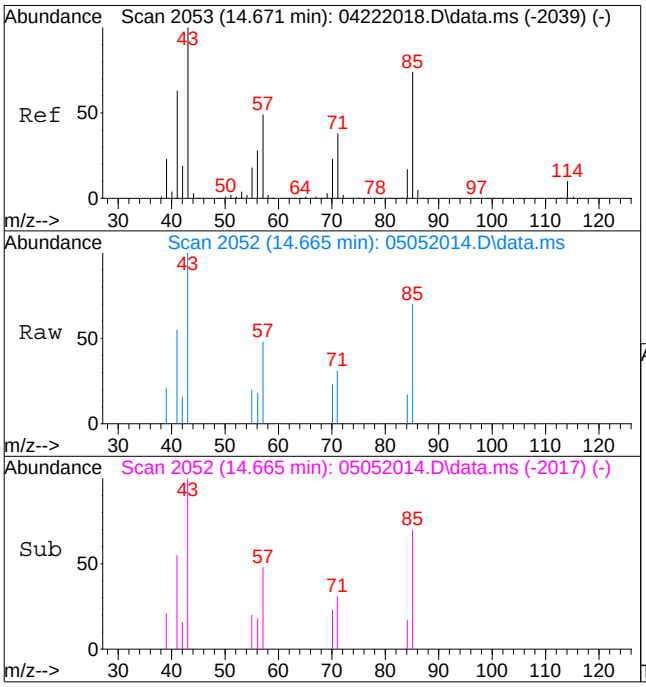


#59
2-Hexanone
Concen: 0.25 ng
RT: 13.91 min Scan# 1915
Delta R.T. 0.011 min
Lab File: 05052014.D
Acq: 5 May 2020 11:03

Tgt Ion: 43 Resp: 3242

Ion	Ratio	Lower	Upper
43	100		
58	55.6	41.1	81.1

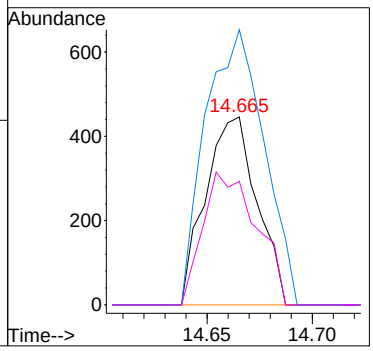


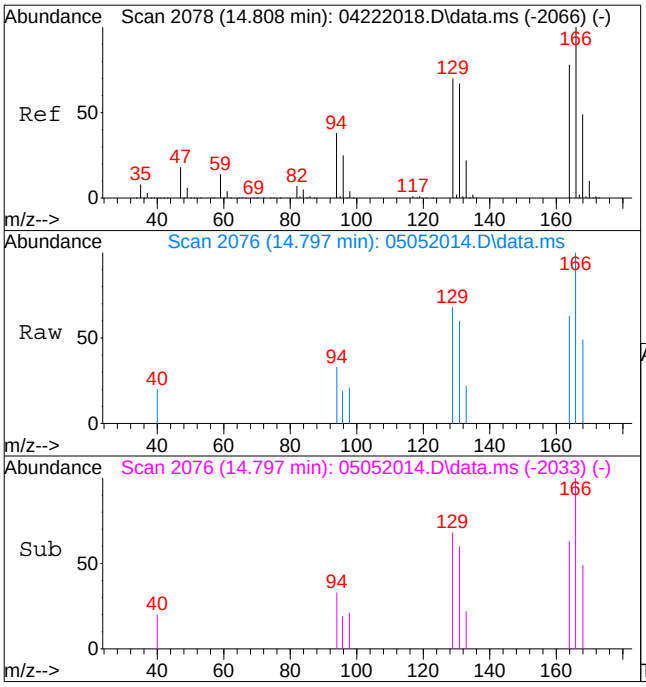


#63
n-Octane
Concen: 0.11 ng
RT: 14.67 min Scan# 2052
Delta R.T. -0.006 min
Lab File: 05052014.D
Acq: 5 May 2020 11:03

Tgt Ion: 57 Resp: 760

Ion	Ratio	Lower	Upper
57	100		
85	166.2	120.7	181.1
71	73.8	61.1	91.7

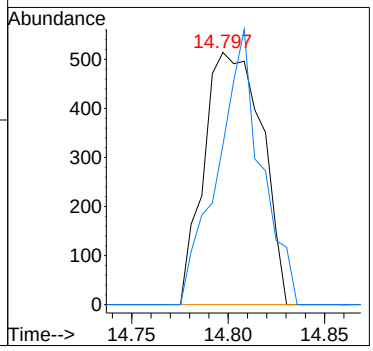


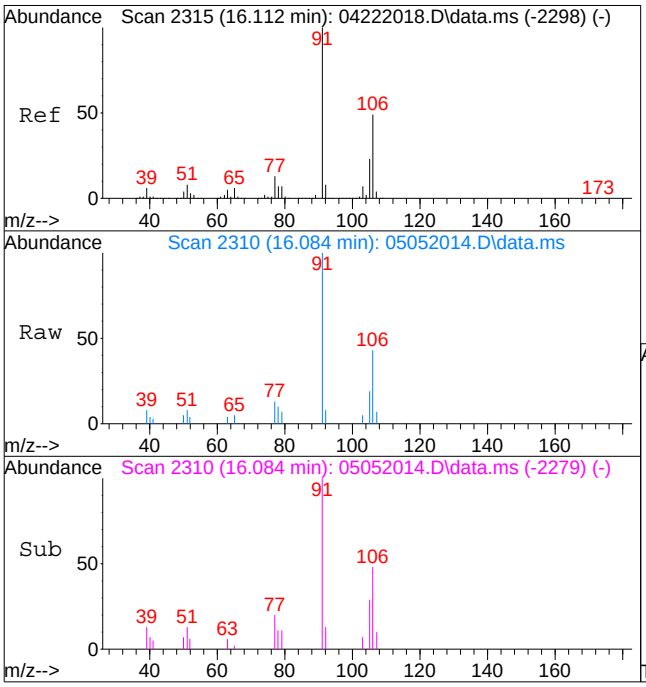


#64
Tetrachloroethene
Concen: 0.07 ng
RT: 14.80 min Scan# 2076
Delta R.T. -0.011 min
Lab File: 05052014.D
Acq: 5 May 2020 11:03

Tgt Ion:166 Resp: 1074

Ion	Ratio	Lower	Upper
166	100		
164	81.7	57.7	97.7

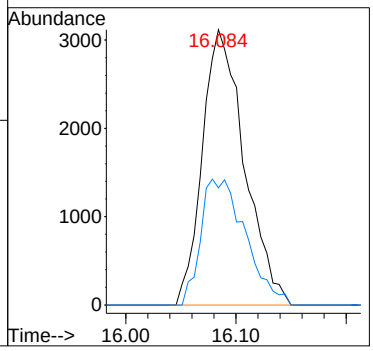


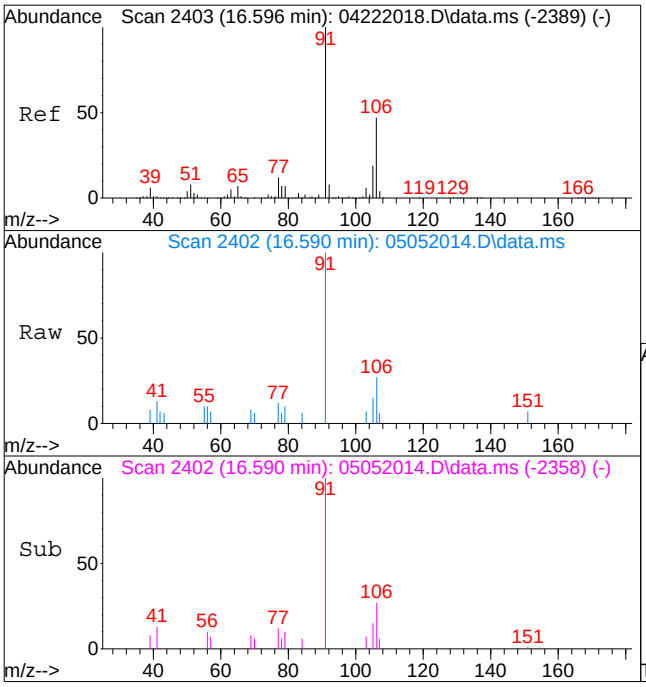


#67
m- & p-Xylenes
Concen: 0.19 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.028 min
Lab File: 05052014.D
Acq: 5 May 2020 11:03

Tgt Ion: 91 Resp: 8286

Ion	Ratio	Lower	Upper
91	100		
106	48.3	28.3	68.3

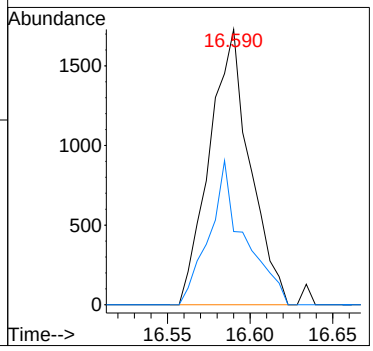


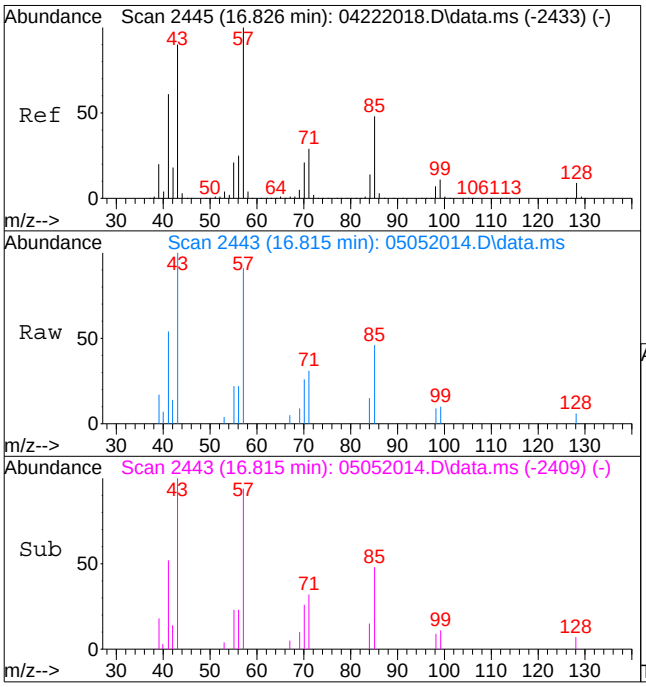


#70
o-Xylene
Concen: 0.07 ng
RT: 16.59 min Scan# 2402
Delta R.T. -0.006 min
Lab File: 05052014.D
Acq: 5 May 2020 11:03

Tgt Ion: 91 Resp: 2945

Ion	Ratio	Lower	Upper
91	100		
106	45.5	27.5	67.5

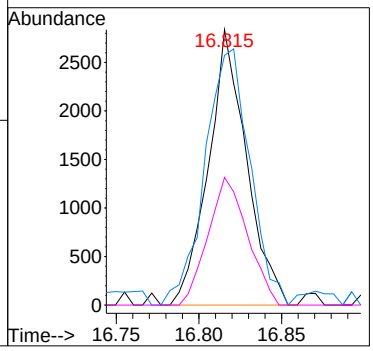


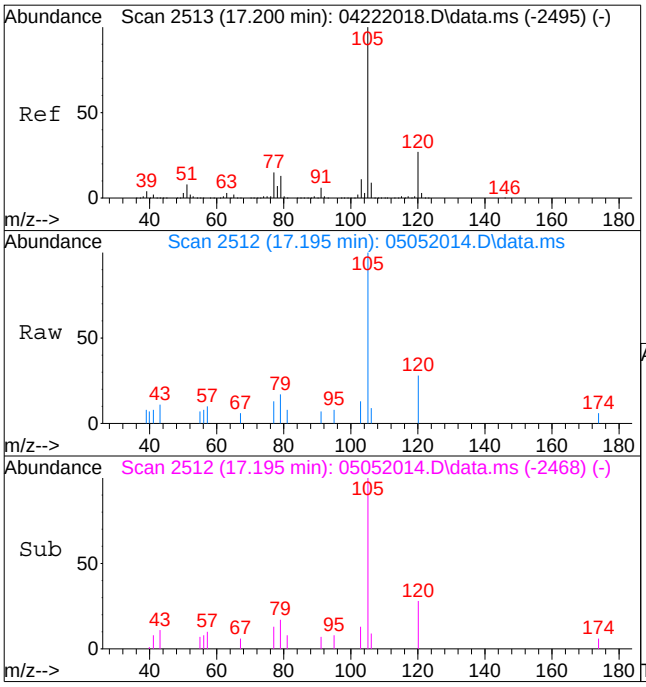


#71
n-Nonane
Concen: 0.34 ng
RT: 16.82 min Scan# 2443
Delta R.T. -0.011 min
Lab File: 05052014.D
Acq: 5 May 2020 11:03

Tgt Ion: 43 Resp: 4551

Ion	Ratio	Lower	Upper
43	100		
57	109.6	90.8	130.8
85	47.9	32.1	72.1

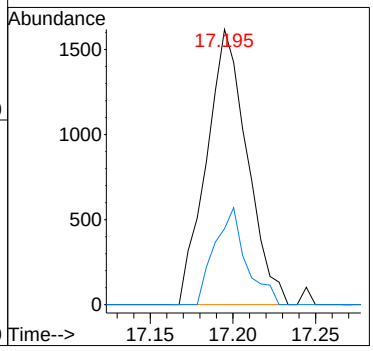


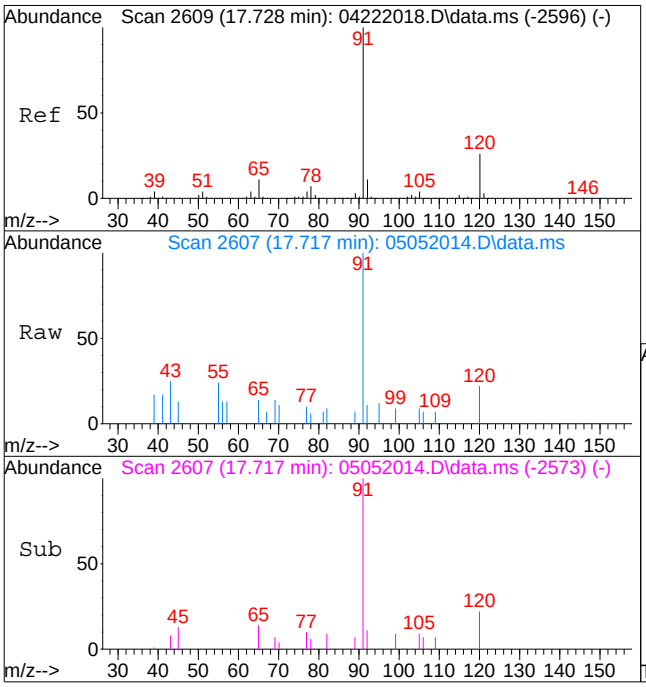


#74
Cumene
Concen: 0.05 ng
RT: 17.19 min Scan# 2512
Delta R.T. -0.006 min
Lab File: 05052014.D
Acq: 5 May 2020 11:03

Tgt Ion:105 Resp: 2773

Ion	Ratio	Lower	Upper
105	100		
120	27.2	7.3	47.3

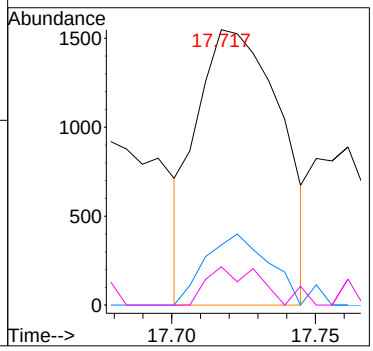


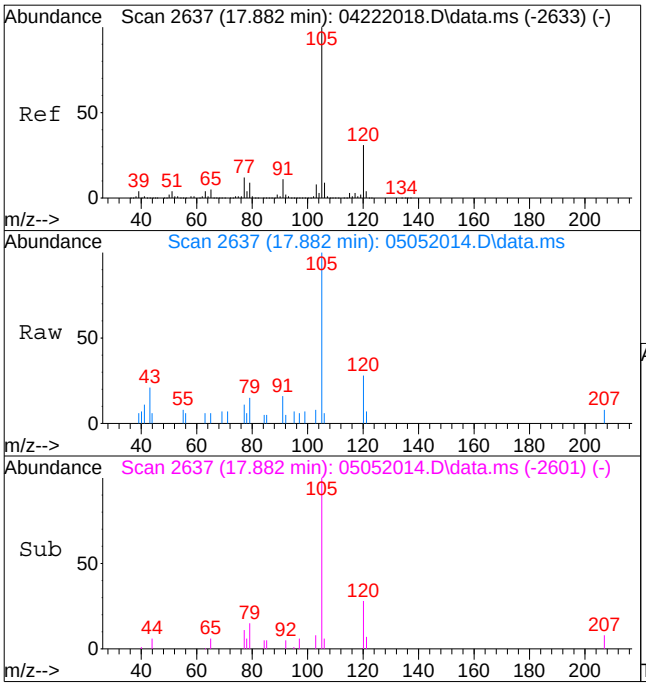


#76
n-Propylbenzene
Concen: 0.05 ng m
RT: 17.72 min Scan# 2607
Delta R.T. -0.011 min
Lab File: 05052014.D
Acq: 5 May 2020 11:03

Tgt Ion: 91 Resp: 3165

Ion	Ratio	Lower	Upper
91	100		
120	20.5	6.1	46.1
65	9.4	0.0	30.7

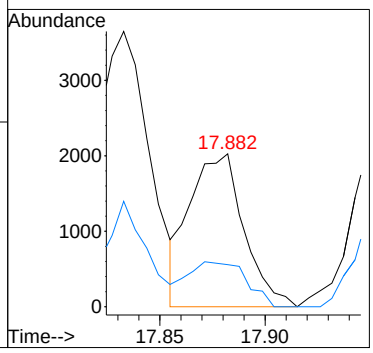


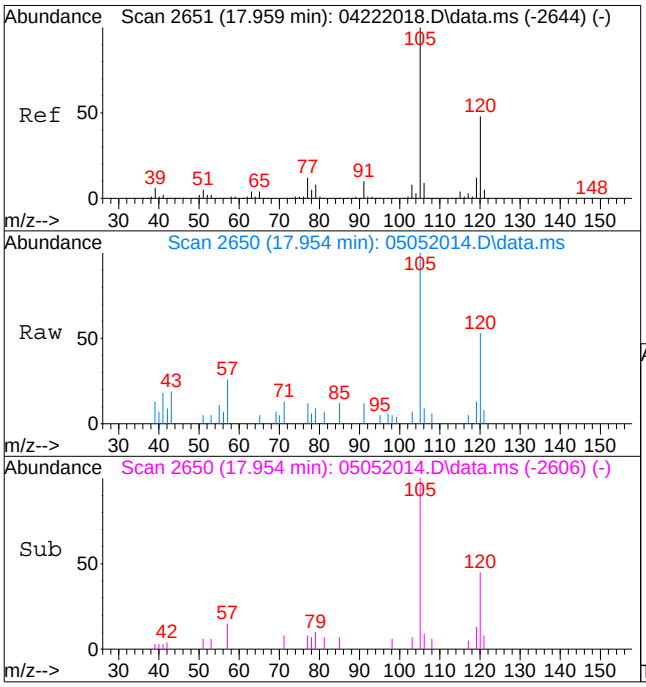


#78
4-Ethyltoluene
Concen: 0.07 ng
RT: 17.88 min Scan# 2637
Delta R.T. -0.000 min
Lab File: 05052014.D
Acq: 5 May 2020 11:03

Tgt Ion:105 Resp: 3641

Ion	Ratio	Lower	Upper
105	100		
120	32.1	11.4	51.4

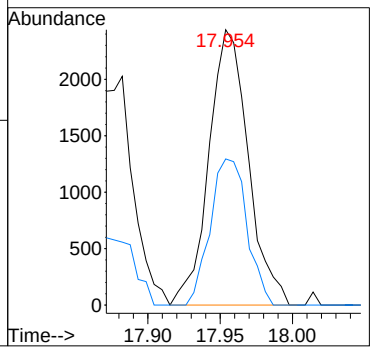


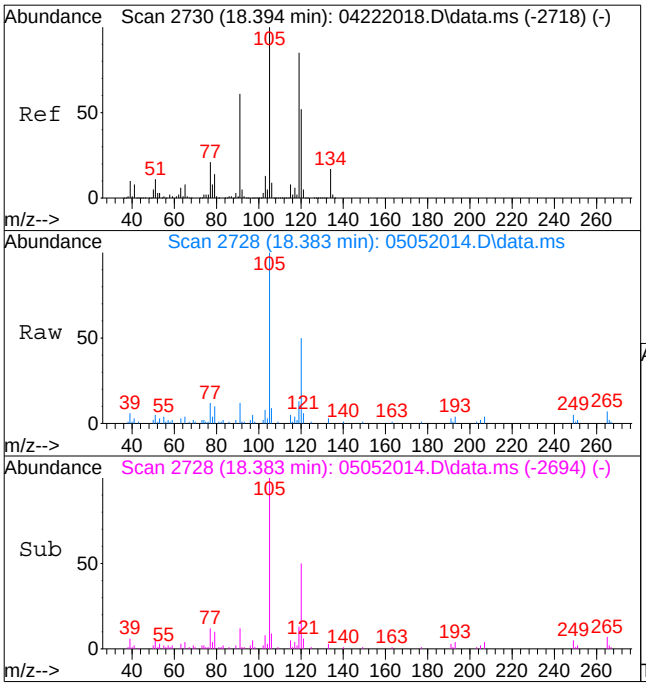


#79
1,3,5-Trimethylbenzene
Concen: 0.10 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 05052014.D
Acq: 5 May 2020 11:03

Tgt Ion:105 Resp: 4628

Ion	Ratio	Lower	Upper
105	100		
120	49.4	29.5	69.5

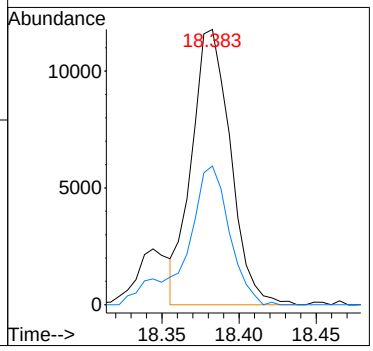


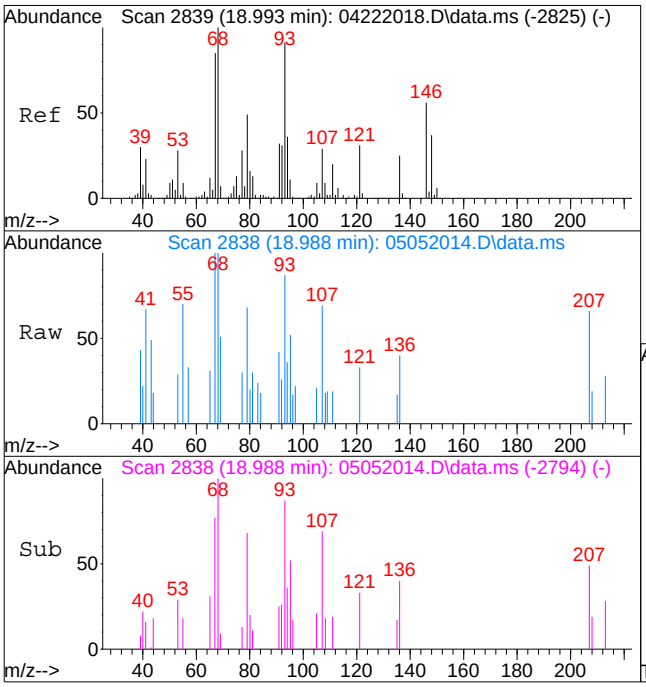


#82
1,2,4-Trimethylbenzene
Concen: 0.44 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 05052014.D
Acq: 5 May 2020 11:03

Tgt Ion:105 Resp: 20672

Ion	Ratio	Lower	Upper
105	100		
120	56.1	34.5	74.5

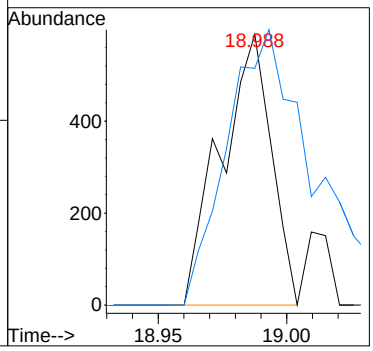


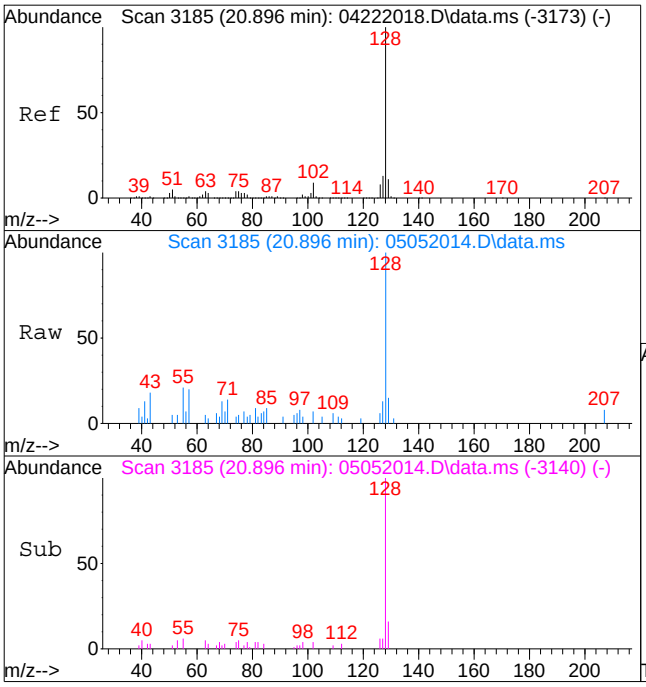


#91
d-Limonene
Concen: 0.06 ng
RT: 18.99 min Scan# 2838
Delta R.T. -0.006 min
Lab File: 05052014.D
Acq: 5 May 2020 11:03

Tgt Ion: 68 Resp: 807

Ion	Ratio	Lower	Upper
68	100		
93	171.4	71.6	111.6#

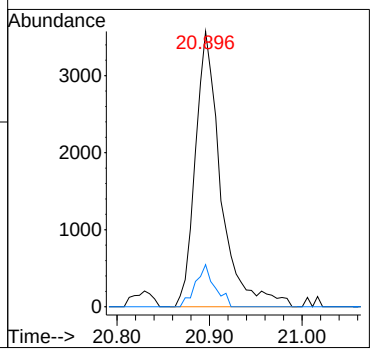




#95
Naphthalene
Concen: 0.11 ng
RT: 20.90 min Scan# 3185
Delta R.T. -0.000 min
Lab File: 05052014.D
Acq: 5 May 2020 11:03

Tgt Ion:128 Resp: 6841

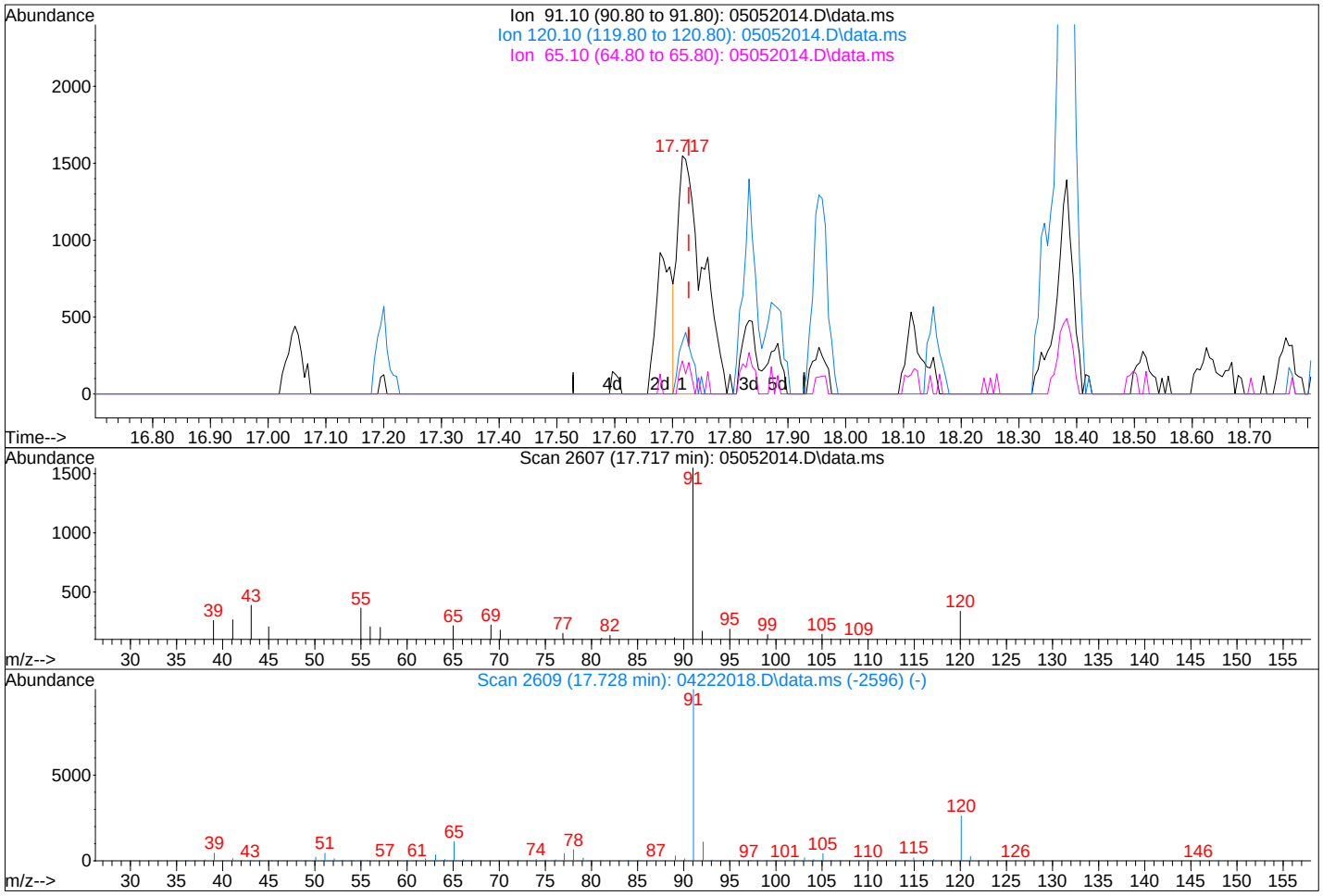
Ion	Ratio	Lower	Upper
128	100		
129	11.5	0.0	30.9



Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_05\05\05052014.D Vial: 6
Acq On : 5 May 2020 11:03 Operator: TD
Sample : P2002106-018 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 12:06:26 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05052014.D\data.ms

(76) n-Propylbenzene (T)

17.717min (-0.011) 0.08ng

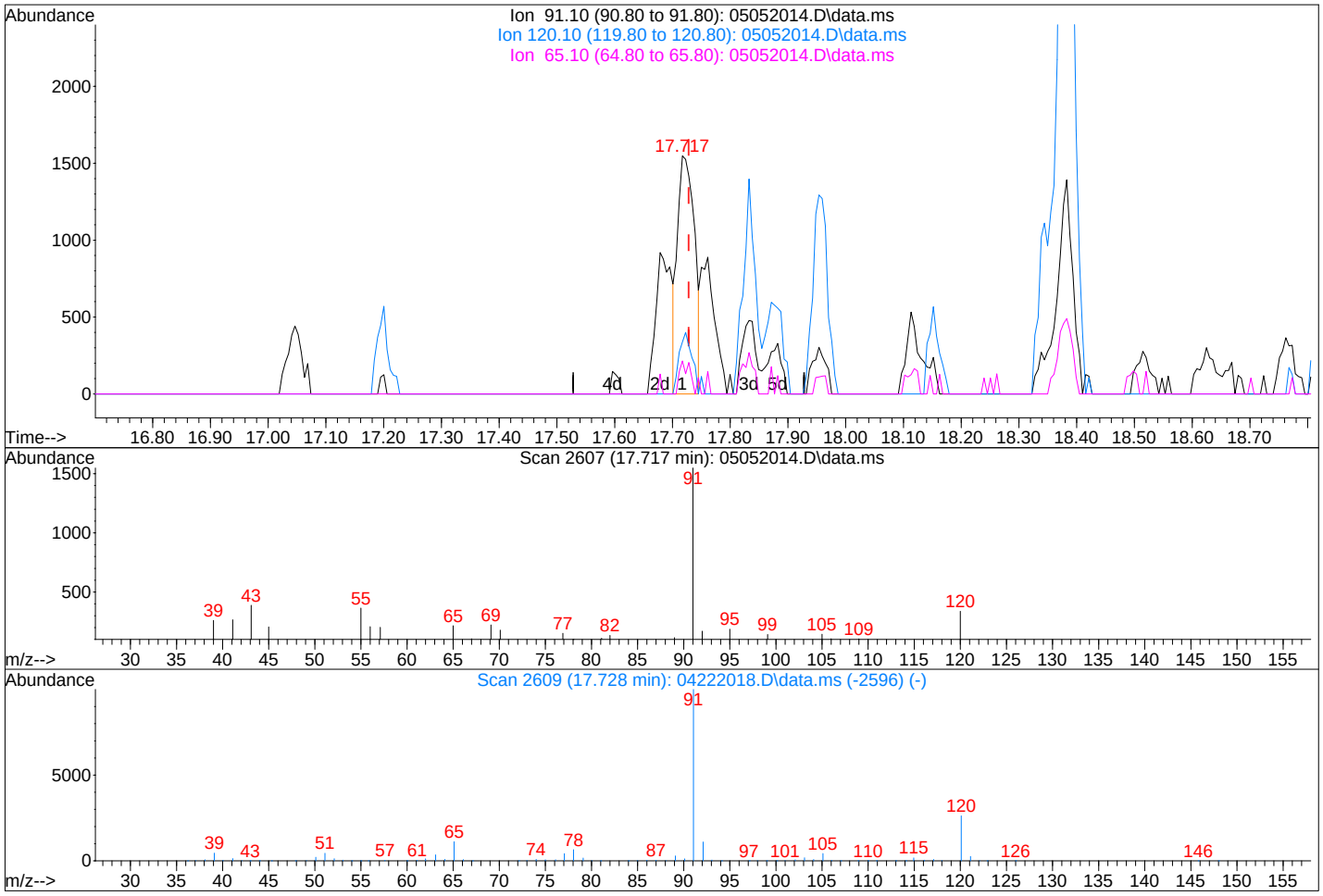
response 4678

Ion	Exp%	Act%
91.10	100	100
120.10	26.10	13.89
65.10	10.70	6.37
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\Data\2020_05\05\05052014.D Vial: 6
Acq On : 5 May 2020 11:03 Operator: TD
Sample : P2002106-018 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 12:06:26 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05052014.D\data.ms

(76) n-Propylbenzene (T)

17.717min (-0.011) 0.05ng m

response 3165

Ion	Exp%	Act%
91.10	100	100
120.10	26.10	20.54
65.10	10.70	9.42
0.00	0.00	0.00

IPC

5/5/20

TD 5/7/20

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\05\05052015.D Vial: 7
Acq On : 5 May 2020 11:36 Operator: TD
Sample : P2002106-019 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 14:29:15 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/5/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	141599	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	597971	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	265541	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	213994	11.664	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.28%				
57) Toluene-d8 (SS2)	13.54	98	659685	12.866	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.96%				
73) Bromofluorobenzene (SS3)	17.05	174	261085	12.670	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.36%				
Target Compounds							Qvalue
2) Propene	3.89	42	1356	0.225	ng	#	71
3) Dichlorodifluoromethan...	3.99	85	11869	0.519	ng		99
4) Chloromethane	4.20	50	315	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	259	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.36	45	23377	5.132	ng		87
11) Acetonitrile	5.60	41	903	0.084	ng	#	1
12) Acrolein	5.71	56	1784	0.429	ng		96
13) Acetone	5.86	58	22234	4.065	ng	#	70
14) Trichlorofluoromethane	6.03	101	6560	0.289	ng		97
15) 2-Propanol (Isopropanol)	6.17	45	5273	0.304	ng		93
16) Acrylonitrile	6.43	53	358	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	6.86	84	1006	0.105	ng		91
20) 3-Chloro-1-propene (Al...	6.87	41	120	N.D.			
21) Trichlorotrifluoroethane	7.19	151	2495	0.211	ng		99
22) Carbon Disulfide	7.15	76	13492	0.423	ng		95
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	8.27	86	2376	1.190	ng	#	54
27) 2-Butanone (MEK)	8.53	72	3536	0.629	ng	#	85
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	9.27	87	186	N.D.			
30) Ethyl Acetate	9.22	61	6854	2.742	ng		98
31) n-Hexane	9.22	57	1668	0.137	ng		96
32) Chloroform	9.28	83	2734	0.141	ng		95
34) Tetrahydrofuran (THF)	9.70	72	2585	0.454	ng		96
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.76	78	6383	0.164	ng		96
42) Carbon Tetrachloride	10.89	117	1808	0.090	ng		94
43) Cyclohexane	11.04	84	3221	0.211	ng		92
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	11.69	83	138	N.D.			
47) Trichloroethene	11.81	130	620958	45.997	ng		100
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\05\05052015.D Vial: 7
Acq On : 5 May 2020 11:36 Operator: TD
Sample : P2002106-019 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 14:29:15 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	12.11	71	3283	0.362 ng	97
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	12.71	58	316	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	13.65	91	70822	1.645 ng	99
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	14.55	43	165	N.D.	
63) n-Octane	14.66	57	3992	0.583 ng	99
64) Tetrachloroethene	14.81	166	2134	0.132 ng	100
65) Chlorobenzene	15.54	112	1415	N.D.	
66) Ethylbenzene	15.90	91	16293	0.325 ng	99
67) m- & p-Xylenes	16.08	91	62522	1.478 ng	97
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.48	104	657	N.D.	
70) o-Xylene	16.58	91	23003	0.554 ng	100
71) n-Nonane	16.82	43	25448	1.898 ng	100
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	17.19	105	4756	0.088 ng	97
75) alpha-Pinene	17.60	93	306	N.D.	
76) n-Propylbenzene	17.72	91	18954	0.321 ng	98
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	17.87	105	22123	0.429 ng	97
79) 1,3,5-Trimethylbenzene	17.95	105	30797	0.647 ng	99
80) alpha-Methylstyrene	18.12	118	1009	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	18.38	105	139927	3.039 ng	89
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	18.50	91	120	N.D.	
85) 1,3-Dichlorobenzene	18.54	146	123	N.D.	
86) 1,4-Dichlorobenzene	18.62	146	195	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	18.99	68	1006	0.077 ng	92
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	20.89	128	13737	0.232 ng	94
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

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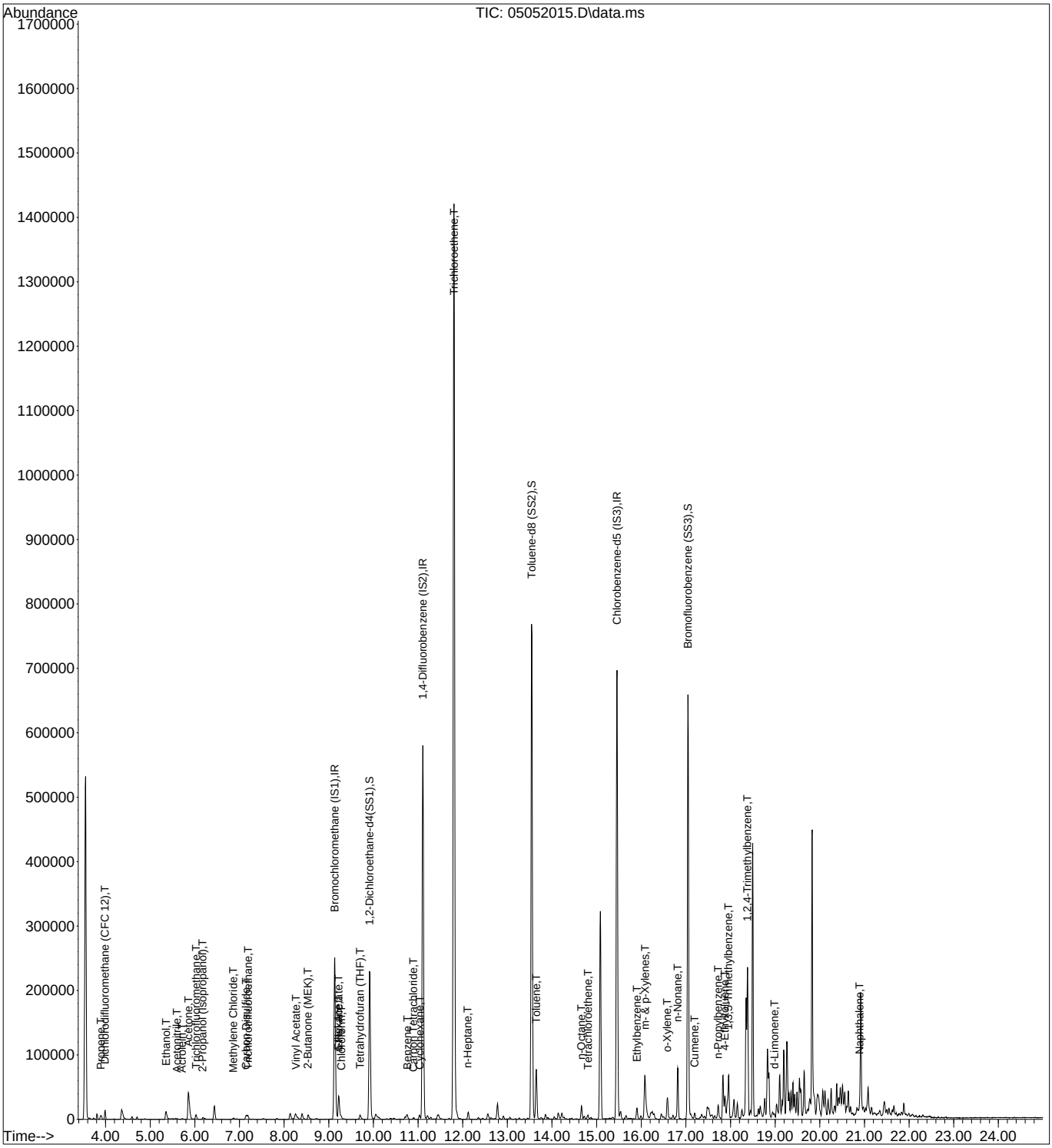
Data File : I:\MS09\Data\2020_05\05\05052015.D Vial: 7
Acq On : 5 May 2020 11:36 Operator: TD
Sample : P2002106-019 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 14:29:15 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

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QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/5/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	141599	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	597971	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	265541	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	213994	11.664	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.28%				
57) Toluene-d8 (SS2)	13.54	98	659685	12.866	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.96%				
73) Bromofluorobenzene (SS3)	17.05	174	261085	12.670	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.36%				
Target Compounds							Qvalue
2) Propene	3.89	42	1356	0.225	ng	#	71
3) Dichlorodifluoromethan...	3.99	85	11869	0.519	ng		99
10) Ethanol	5.36	45	23377	5.132	ng		87
11) Acetonitrile	5.60	41	903	0.084	ng	#	1
12) Acrolein	5.71	56	1784	0.429	ng		96
13) Acetone	5.86	58	22234	4.065	ng	#	70
14) Trichlorofluoromethane	6.03	101	6560	0.289	ng		97
15) 2-Propanol (Isopropanol)	6.17	45	5273	0.304	ng		93
19) Methylene Chloride	6.86	84	1006	0.105	ng		91
21) Trichlorotrifluoroethane	7.19	151	2495	0.211	ng		99
22) Carbon Disulfide	7.15	76	13492	0.423	ng		95
26) Vinyl Acetate	8.27	86	2376	1.190	ng	#	54
27) 2-Butanone (MEK)	8.53	72	3536	0.629	ng	#	85
30) Ethyl Acetate	9.22	61	6854	2.742	ng		98
31) n-Hexane	9.22	57	1668	0.137	ng		96
32) Chloroform	9.28	83	2734	0.141	ng		95
34) Tetrahydrofuran (THF)	9.70	72	2585	0.454	ng		96
41) Benzene	10.76	78	6383	0.164	ng		96
42) Carbon Tetrachloride	10.89	117	1808	0.090	ng		94
43) Cyclohexane	11.04	84	3221	0.211	ng		92
47) Trichloroethene	11.81	130	620958	45.997	ng		100
51) n-Heptane	12.11	71	3283	0.362	ng		97
58) Toluene	13.65	91	70822	1.645	ng		99
63) n-Octane	14.66	57	3992	0.583	ng		99
64) Tetrachloroethene	14.81	166	2134	0.132	ng		100
66) Ethylbenzene	15.90	91	16293	0.325	ng		99
67) m- & p-Xylenes	16.08	91	62522	1.478	ng		97
70) o-Xylene	16.58	91	23003	0.554	ng		100
71) n-Nonane	16.82	43	25448	1.898	ng		100
74) Cumene	17.19	105	4756	0.088	ng		97
76) n-Propylbenzene	17.72	91	18954	0.321	ng		98
78) 4-Ethyltoluene	17.87	105	22123	0.429	ng		97
79) 1,3,5-Trimethylbenzene	17.95	105	30797	0.647	ng		99
82) 1,2,4-Trimethylbenzene	18.38	105	139927	3.039	ng		89
91) d-Limonene	18.99	68	1006	0.077	ng		92
95) Naphthalene	20.89	128	13737	0.232	ng		94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

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Sample : P2002106-019 (400mL) Inst : MS09
Misc : S34-04212006

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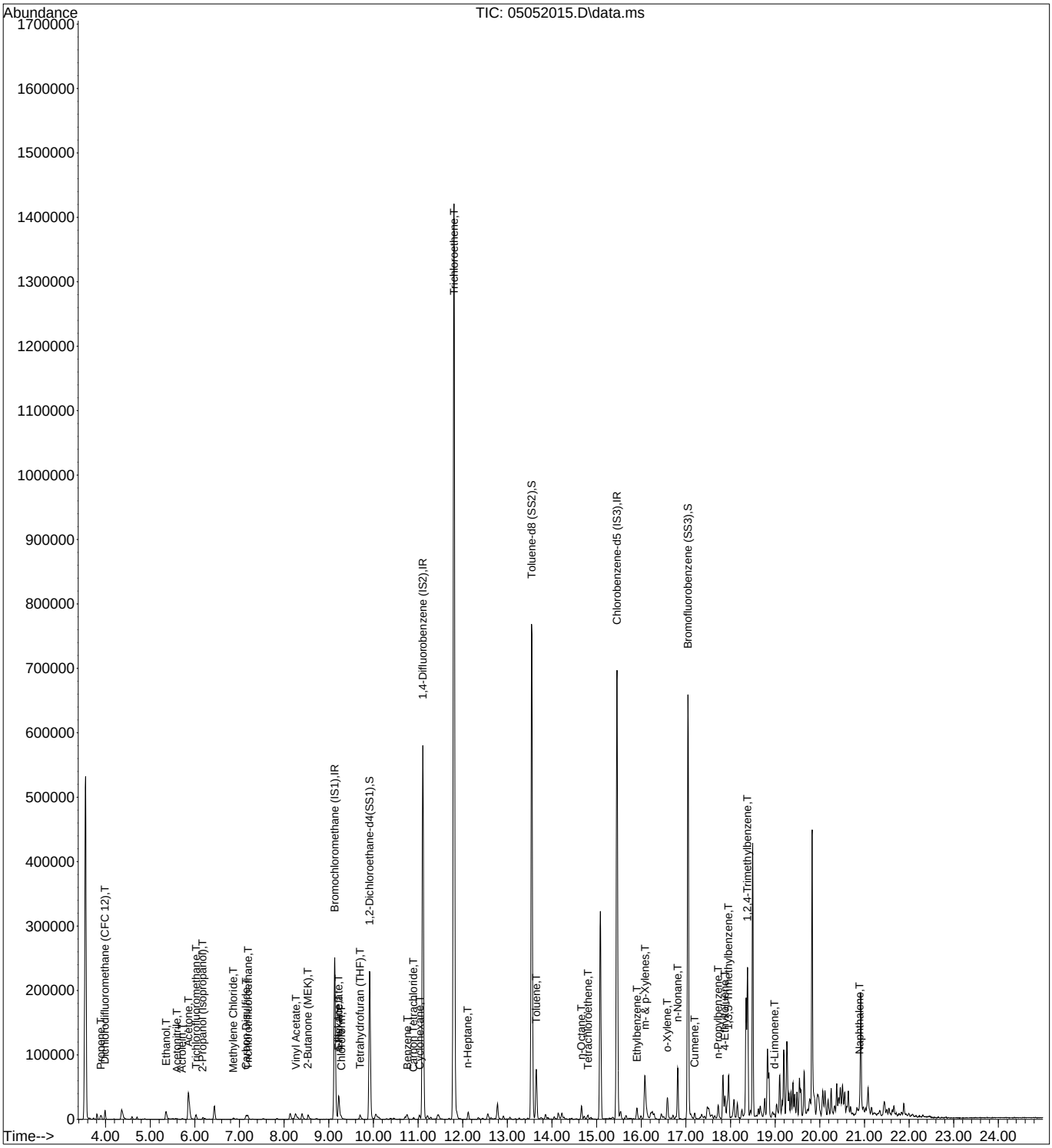
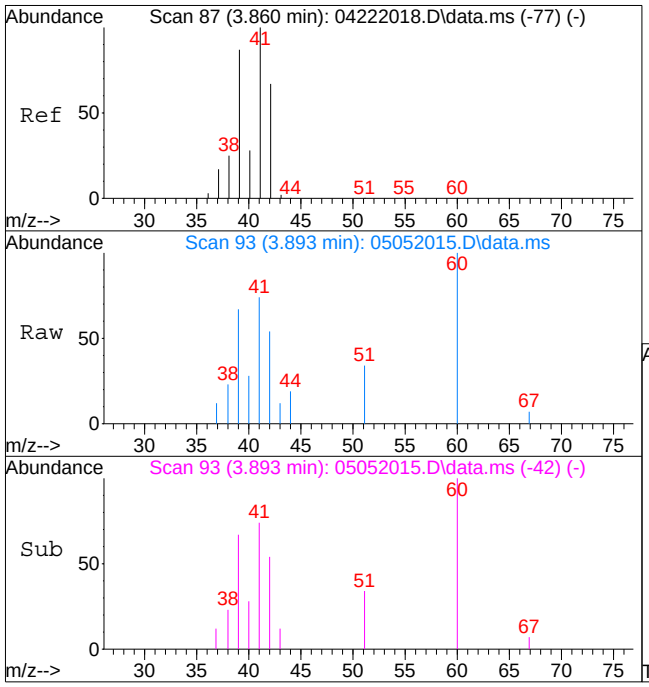
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

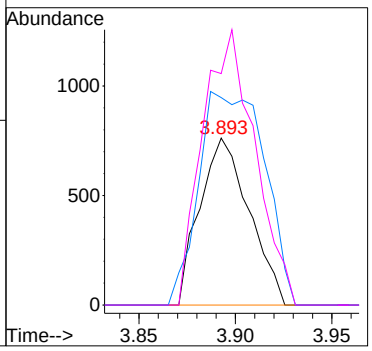


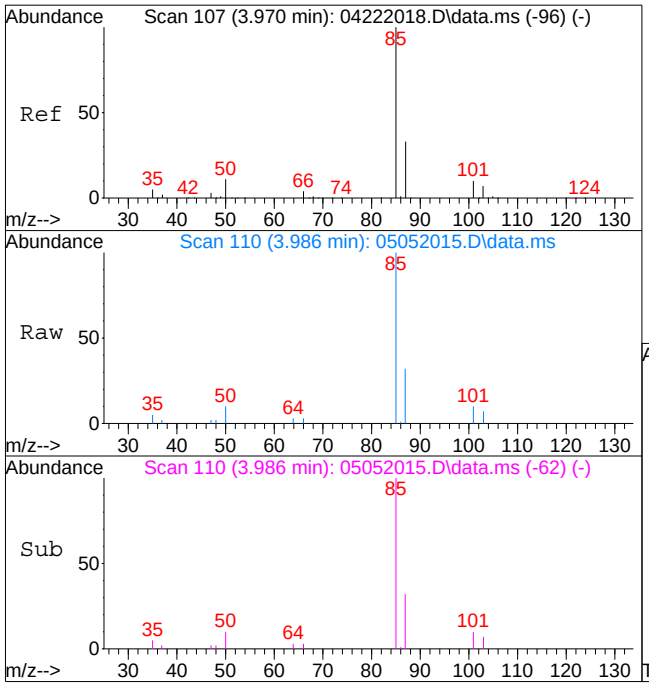


#2
Propene
Concen: 0.23 ng
RT: 3.89 min Scan# 93
Delta R.T. 0.033 min
Lab File: 05052015.D
Acq: 5 May 2020 11:36

Tgt Ion: 42 Resp: 1356

Ion	Ratio	Lower	Upper
42	100		
39	170.6	106.4	146.4#
41	175.3	128.8	168.8#

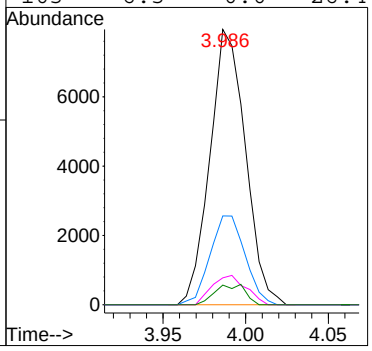


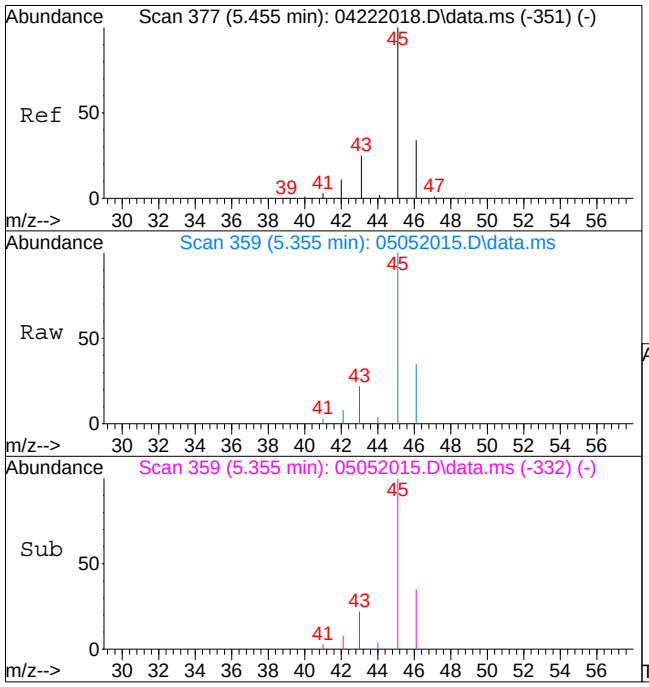


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.52 ng
RT: 3.99 min Scan# 110
Delta R.T. 0.016 min
Lab File: 05052015.D
Acq: 5 May 2020 11:36

Tgt Ion: 85 Resp: 11869

Ion	Ratio	Lower	Upper
85	100		
87	31.9	12.4	52.4
101	10.2	0.0	29.9
103	6.3	0.0	26.4

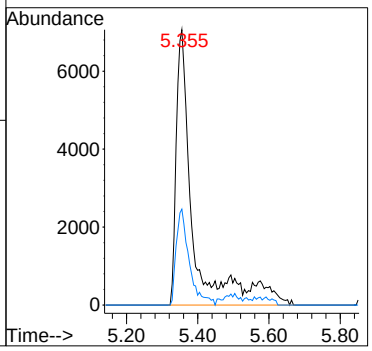


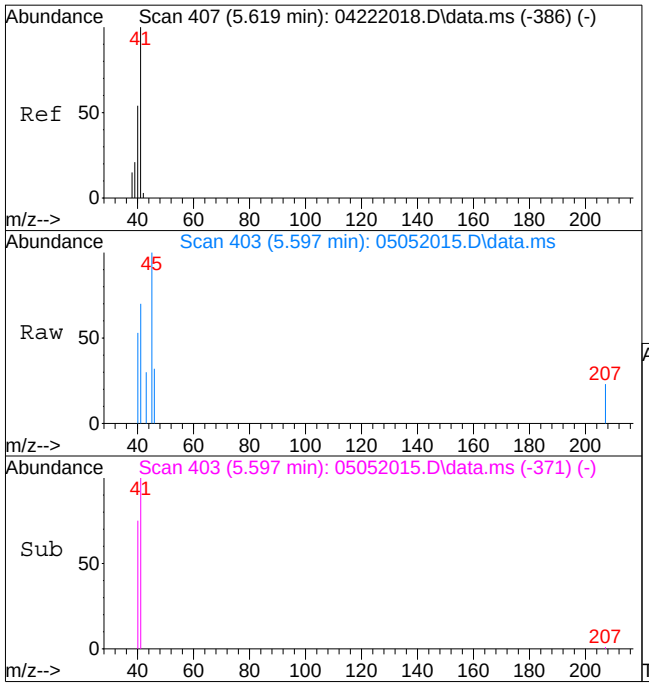


#10
Ethanol
Concen: 5.13 ng
RT: 5.36 min Scan# 359
Delta R.T. -0.099 min
Lab File: 05052015.D
Acq: 5 May 2020 11:36

Tgt Ion: 45 Resp: 23377

Ion	Ratio	Lower	Upper
45	100		
46	26.8	14.0	54.0

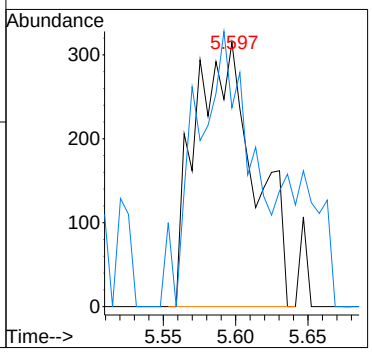


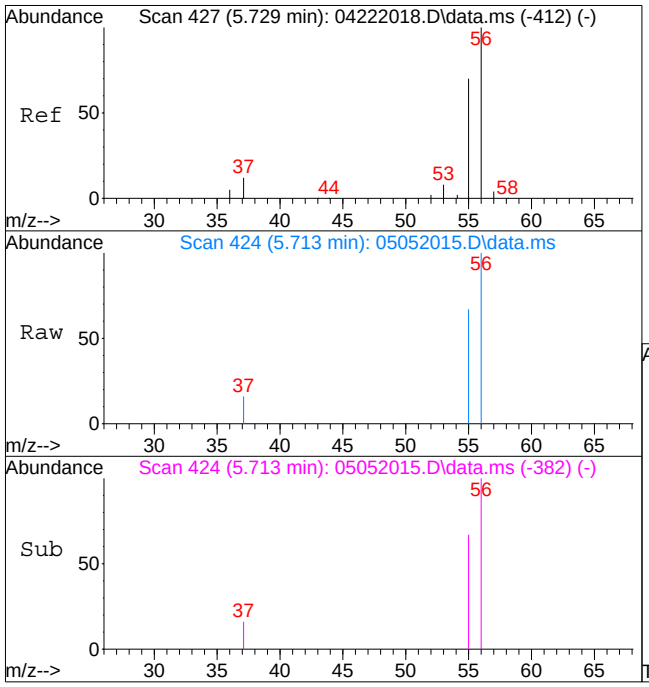


#11
Acetonitrile
Concen: 0.08 ng
RT: 5.60 min Scan# 403
Delta R.T. -0.022 min
Lab File: 05052015.D
Acq: 5 May 2020 11:36

Tgt Ion: 41 Resp: 903

Ion	Ratio	Lower	Upper
41	100		
40	129.3	34.8	74.8#

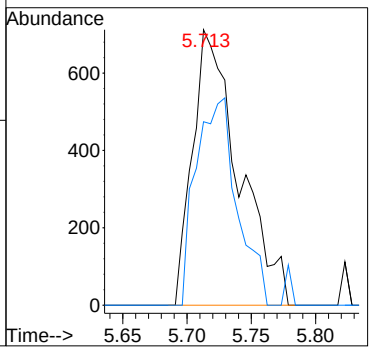


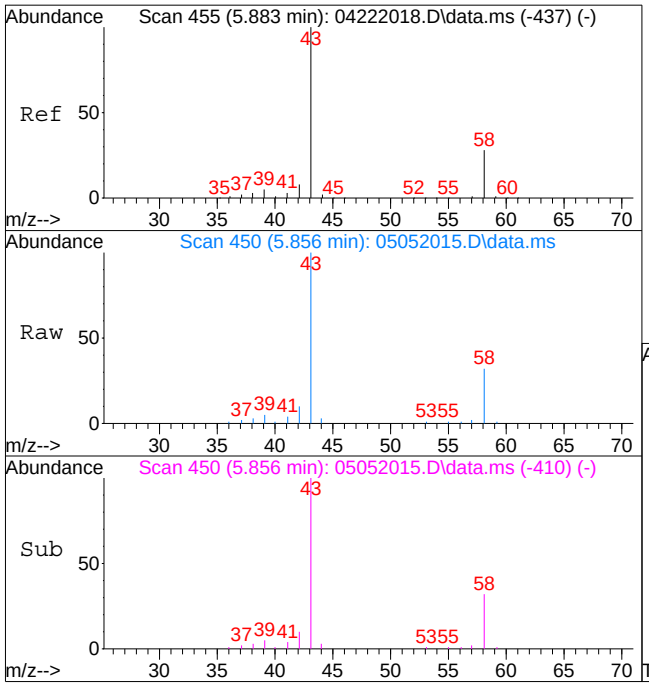


#12
Acrolein
Concen: 0.43 ng
RT: 5.71 min Scan# 424
Delta R.T. -0.017 min
Lab File: 05052015.D
Acq: 5 May 2020 11:36

Tgt Ion: 56 Resp: 1784

Ion	Ratio	Lower	Upper
56	100		
55	66.7	50.4	90.4

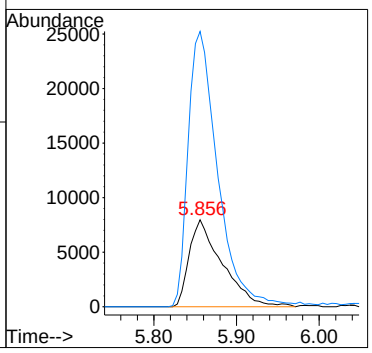


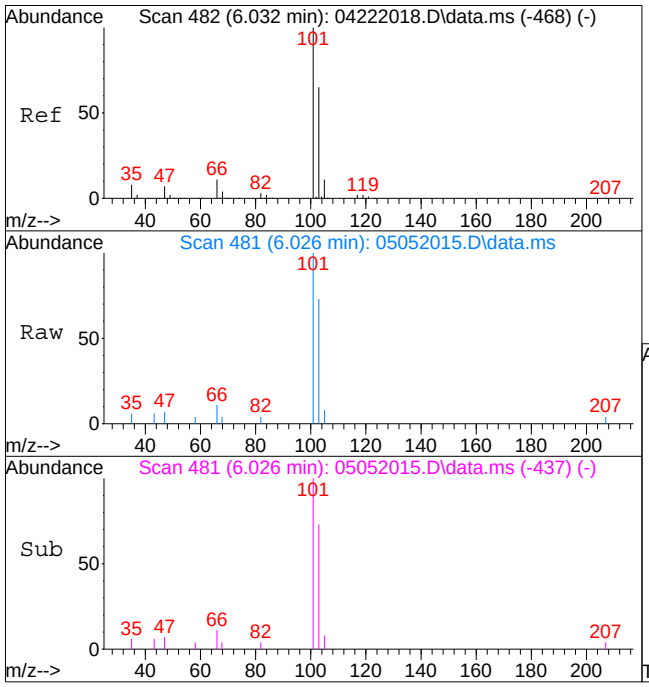


#13
Acetone
Concen: 4.07 ng
RT: 5.86 min Scan# 450
Delta R.T. -0.028 min
Lab File: 05052015.D
Acq: 5 May 2020 11:36

Tgt Ion: 58 Resp: 22234

Ion	Ratio	Lower	Upper
58	100		
43	284.7	319.3	379.3#

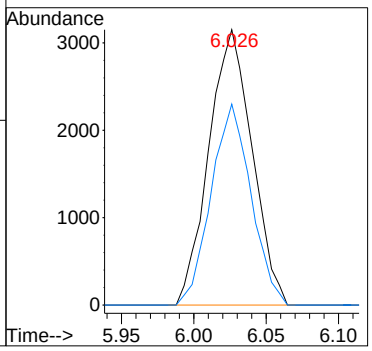


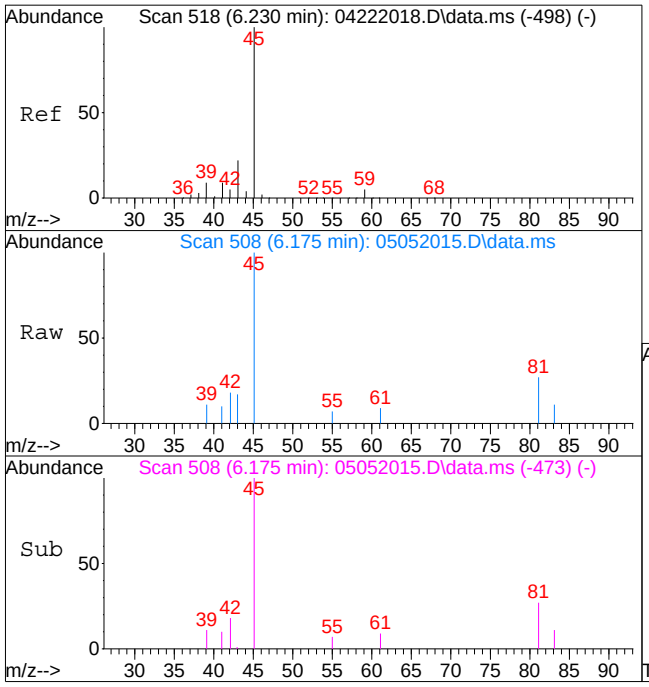


#14
Trichlorofluoromethane
Concen: 0.29 ng
RT: 6.03 min Scan# 481
Delta R.T. -0.006 min
Lab File: 05052015.D
Acq: 5 May 2020 11:36

Tgt Ion:101 Resp: 6560

Ion	Ratio	Lower	Upper
101	100		
103	67.2	44.7	84.7

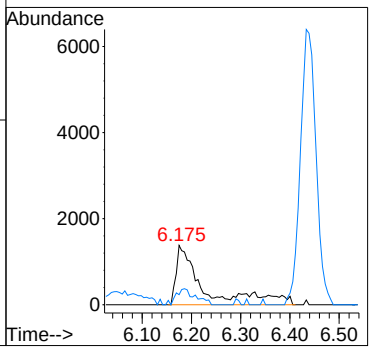


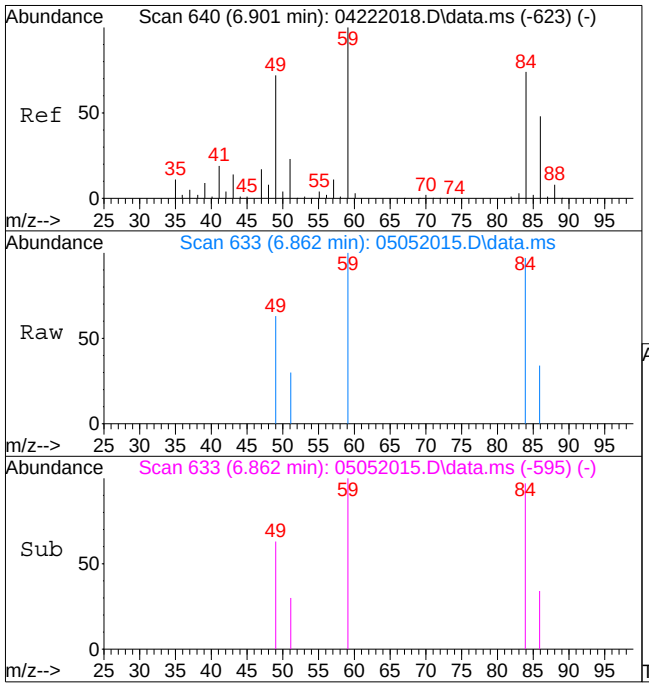


#15
2-Propanol (Isopropanol)
Concen: 0.30 ng
RT: 6.17 min Scan# 508
Delta R.T. -0.055 min
Lab File: 05052015.D
Acq: 5 May 2020 11:36

Tgt Ion: 45 Resp: 5273

Ion	Ratio	Lower	Upper
45	100		
43	19.1	2.6	42.6

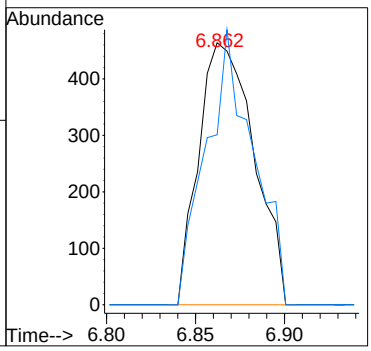


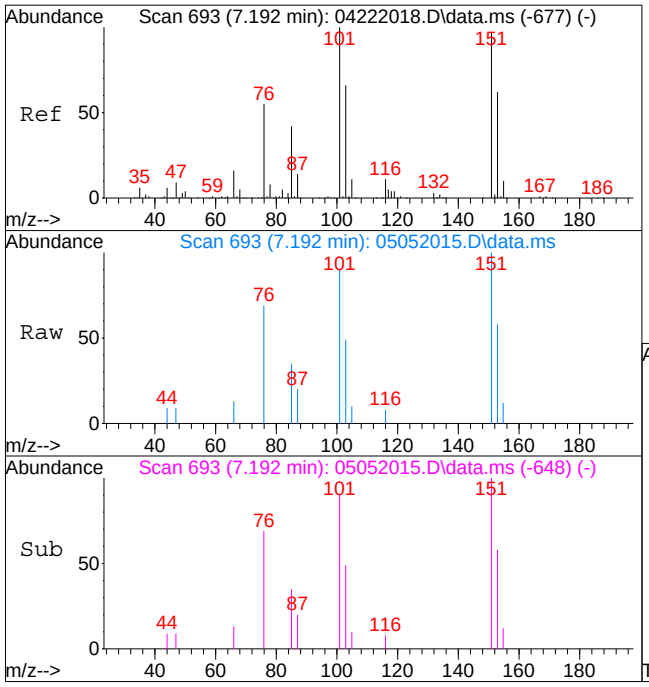


#19
Methylene Chloride
Concen: 0.10 ng
RT: 6.86 min Scan# 633
Delta R.T. -0.039 min
Lab File: 05052015.D
Acq: 5 May 2020 11:36

Tgt Ion: 84 Resp: 1006

Ion	Ratio	Lower	Upper
84	100		
49	89.1	73.0	123.0

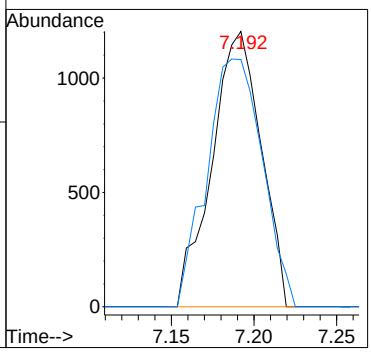


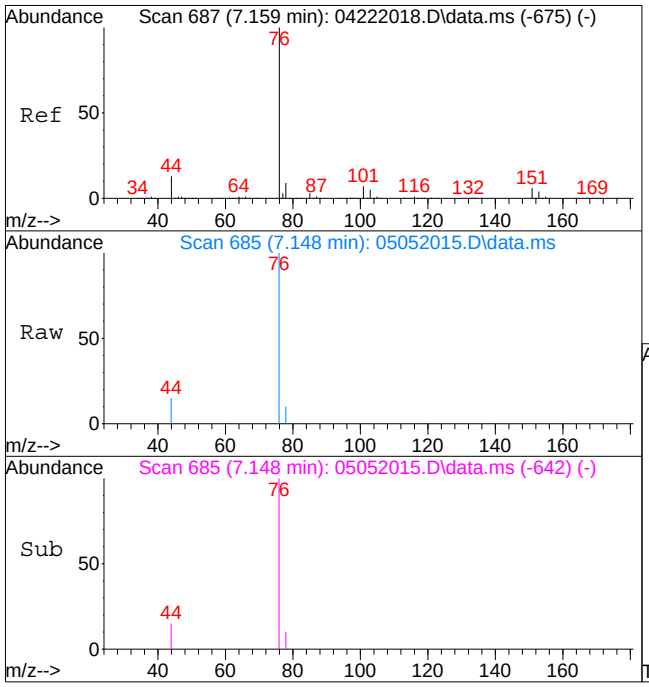


#21
Trichlorotrifluoroethane
Concen: 0.21 ng
RT: 7.19 min Scan# 693
Delta R.T. -0.000 min
Lab File: 05052015.D
Acq: 5 May 2020 11:36

Tgt Ion:151 Resp: 2495

Ion	Ratio	Lower	Upper
151	100		
101	101.7	82.9	122.9

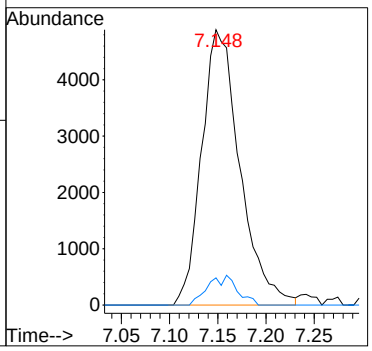


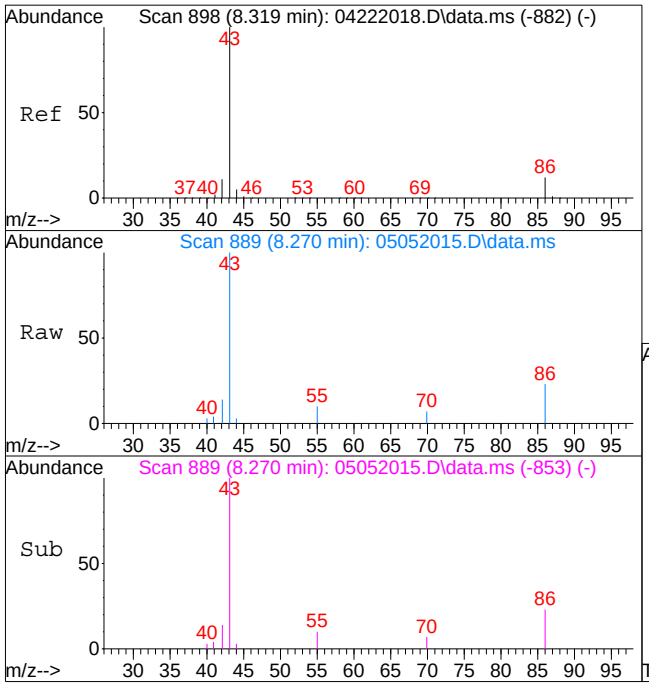


#22
Carbon Disulfide
Concen: 0.42 ng
RT: 7.15 min Scan# 685
Delta R.T. -0.011 min
Lab File: 05052015.D
Acq: 5 May 2020 11:36

Tgt Ion: 76 Resp: 13492

Ion	Ratio	Lower	Upper
76	100		
78	8.3	0.0	30.2

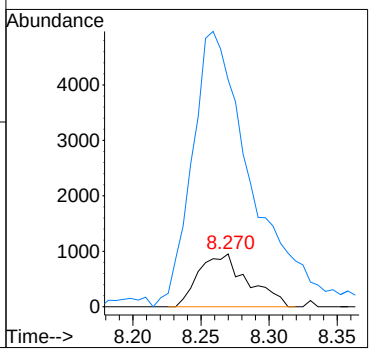


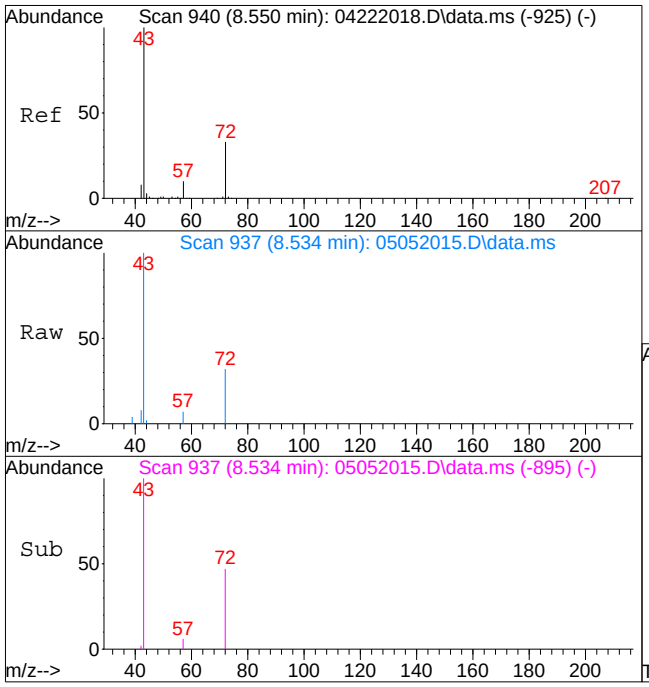


#26
Vinyl Acetate
Concen: 1.19 ng
RT: 8.27 min Scan# 889
Delta R.T. -0.050 min
Lab File: 05052015.D
Acq: 5 May 2020 11:36

Tgt Ion: 86 Resp: 2376

Ion	Ratio	Lower	Upper
86	100		
43	644.9	803.0	843.0#

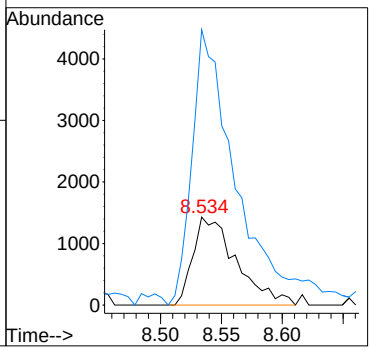


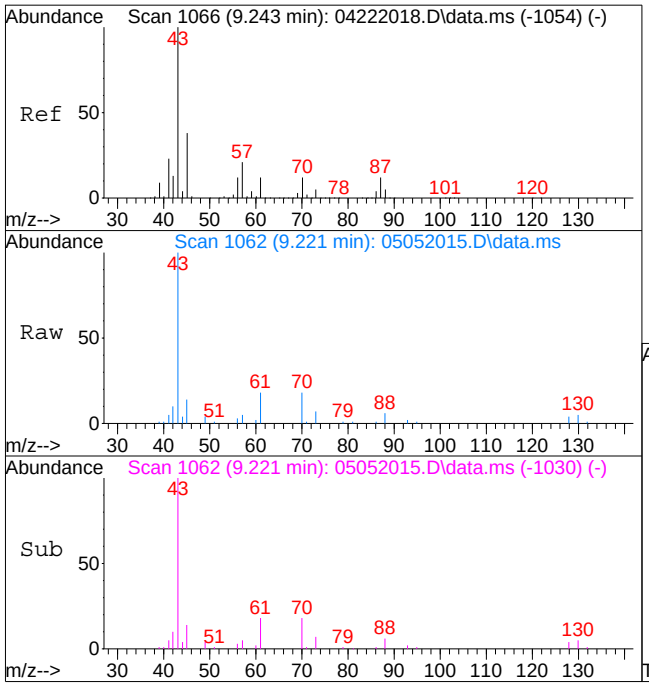


#27
2-Butanone (MEK)
Concen: 0.63 ng
RT: 8.53 min Scan# 937
Delta R.T. -0.017 min
Lab File: 05052015.D
Acq: 5 May 2020 11:36

Tgt Ion: 72 Resp: 3536

Ion	Ratio	Lower	Upper
72	100		
43	327.2	278.8	318.8#

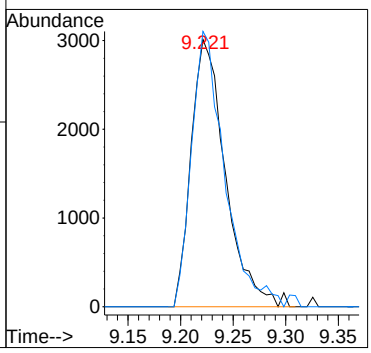


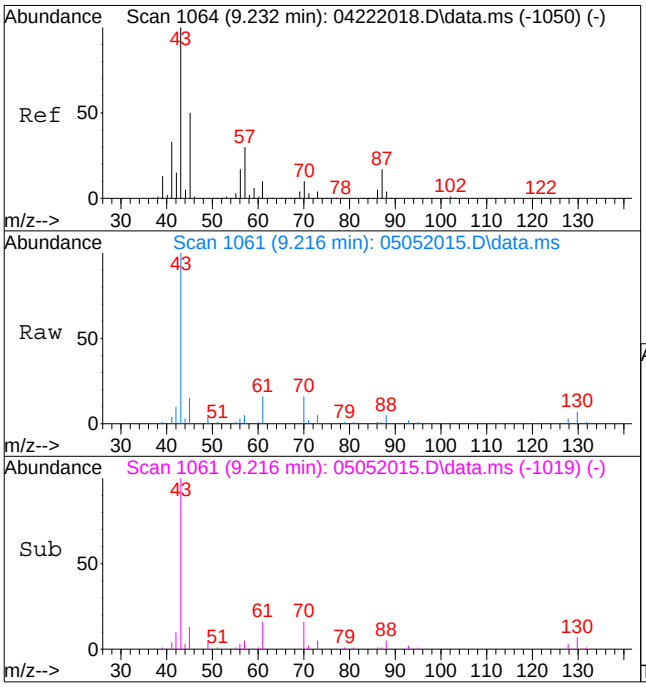


#30
Ethyl Acetate
Concen: 2.74 ng
RT: 9.22 min Scan# 1062
Delta R.T. -0.022 min
Lab File: 05052015.D
Acq: 5 May 2020 11:36

Tgt Ion: 61 Resp: 6854

Ion	Ratio	Lower	Upper
61	100		
70	99.0	80.6	120.6

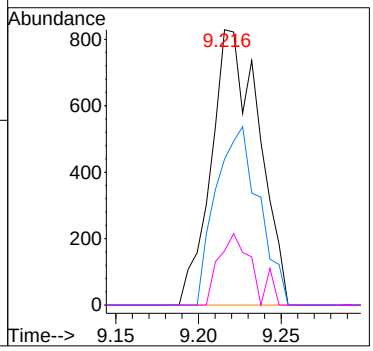


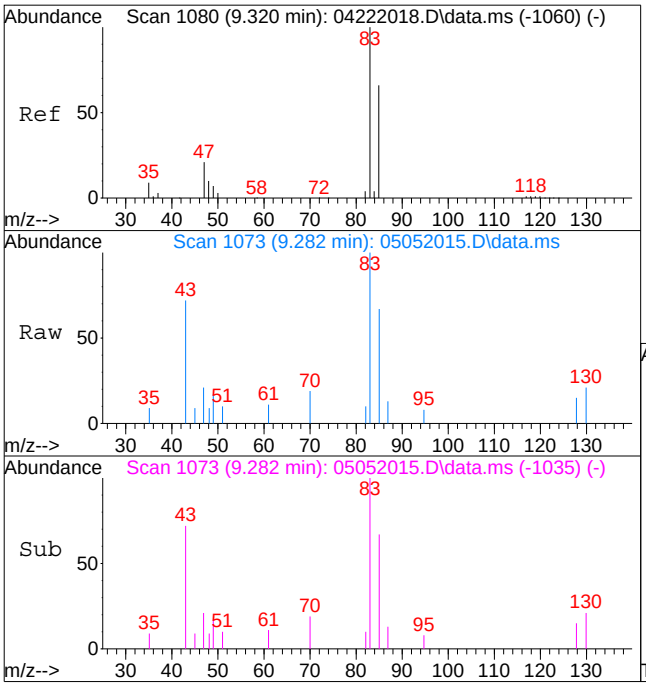


#31
n-Hexane
Concen: 0.14 ng
RT: 9.22 min Scan# 1061
Delta R.T. -0.017 min
Lab File: 05052015.D
Acq: 5 May 2020 11:36

Tgt Ion: 57 Resp: 1668

Ion	Ratio	Lower	Upper
57	100		
56	58.4	44.0	66.0
86	18.2	15.0	22.4

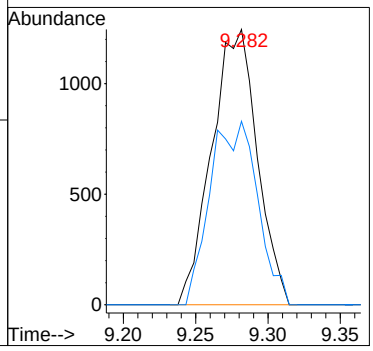


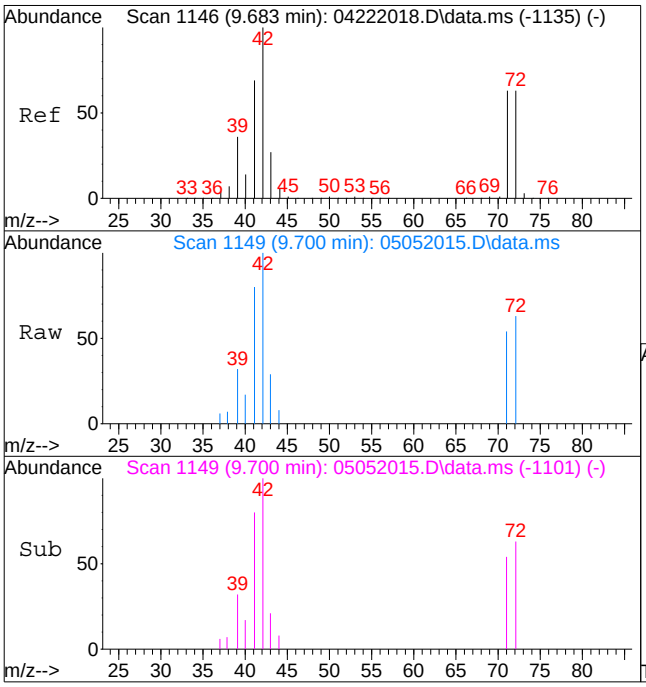


#32
Chloroform
Concen: 0.14 ng
RT: 9.28 min Scan# 1073
Delta R.T. -0.039 min
Lab File: 05052015.D
Acq: 5 May 2020 11:36

Tgt Ion: 83 Resp: 2734

Ion	Ratio	Lower	Upper
83	100		
85	69.5	45.8	85.8

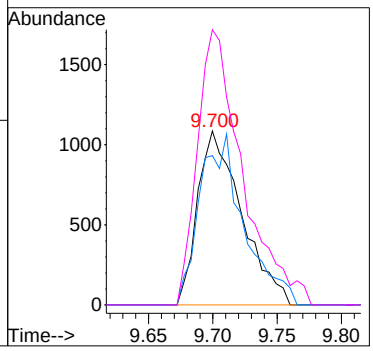


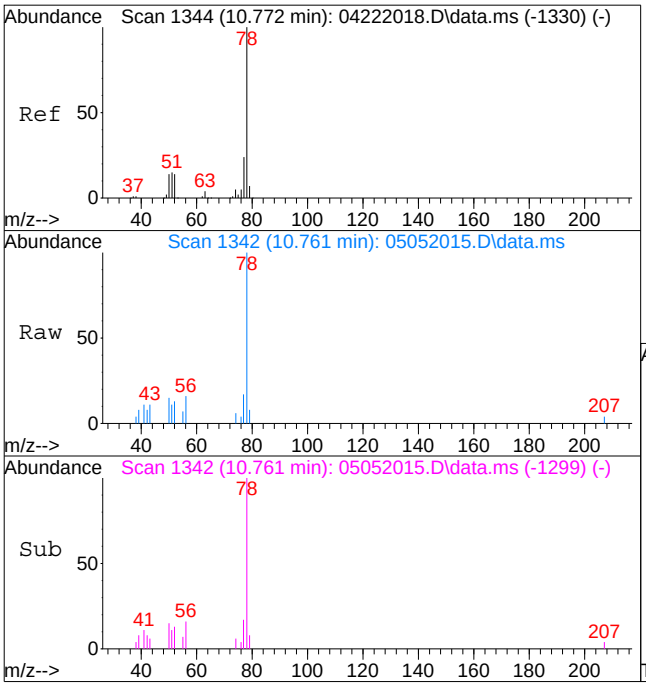


#34
Tetrahydrofuran (THF)
Concen: 0.45 ng
RT: 9.70 min Scan# 1149
Delta R.T. 0.016 min
Lab File: 05052015.D
Acq: 5 May 2020 11:36

Tgt Ion: 72 Resp: 2585

Ion	Ratio	Lower	Upper
72	100		
71	97.8	77.9	117.9
42	162.6	133.9	173.9

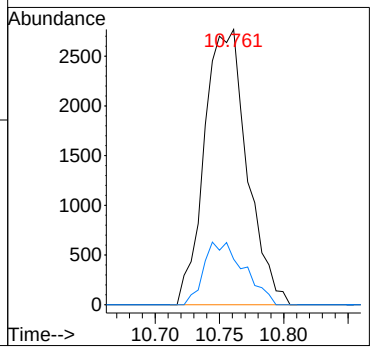


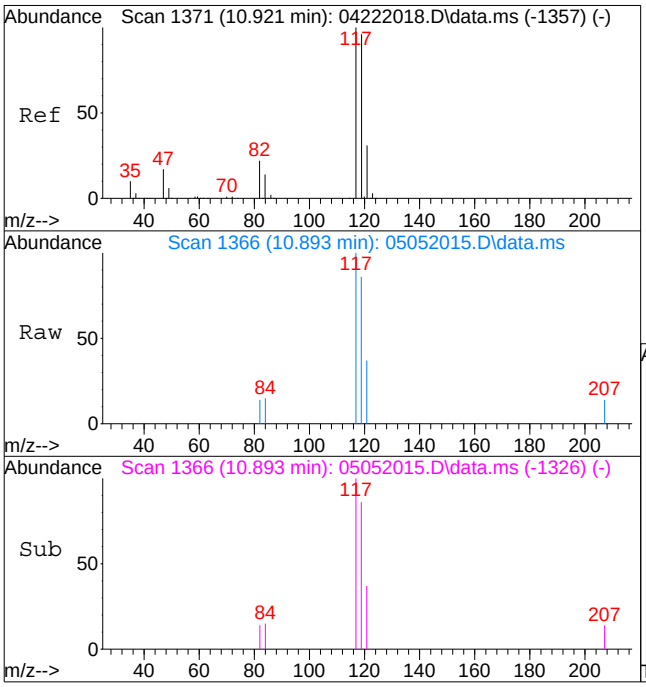


#41
Benzene
Concen: 0.16 ng
RT: 10.76 min Scan# 1342
Delta R.T. -0.011 min
Lab File: 05052015.D
Acq: 5 May 2020 11:36

Tgt Ion: 78 Resp: 6383

Ion	Ratio	Lower	Upper
78	100		
77	21.5	3.6	43.6

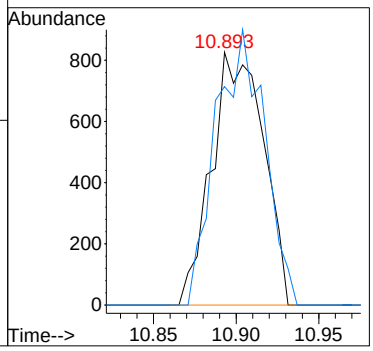


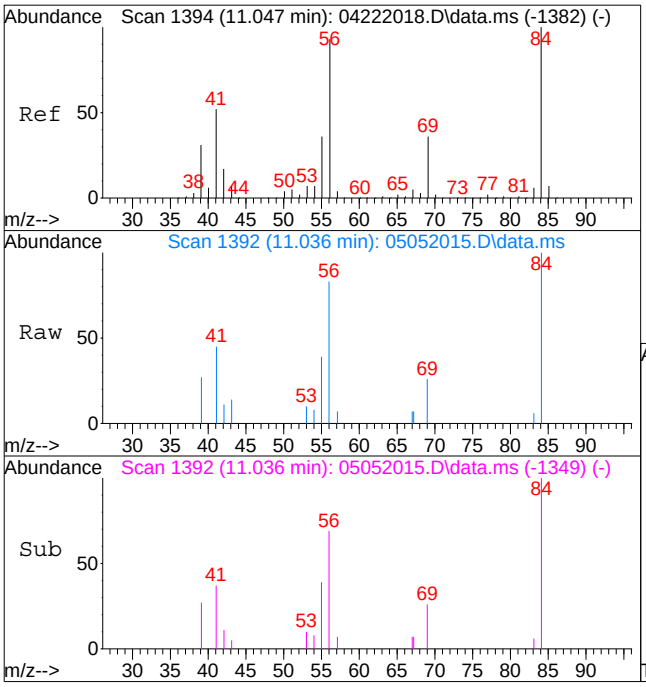


#42
Carbon Tetrachloride
Concen: 0.09 ng
RT: 10.89 min Scan# 1366
Delta R.T. -0.028 min
Lab File: 05052015.D
Acq: 5 May 2020 11:36

Tgt Ion:117 Resp: 1808

Ion	Ratio	Lower	Upper
117	100		
119	102.3	76.5	116.5

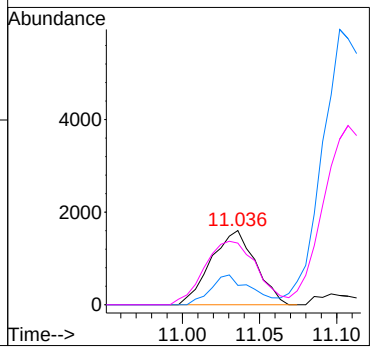


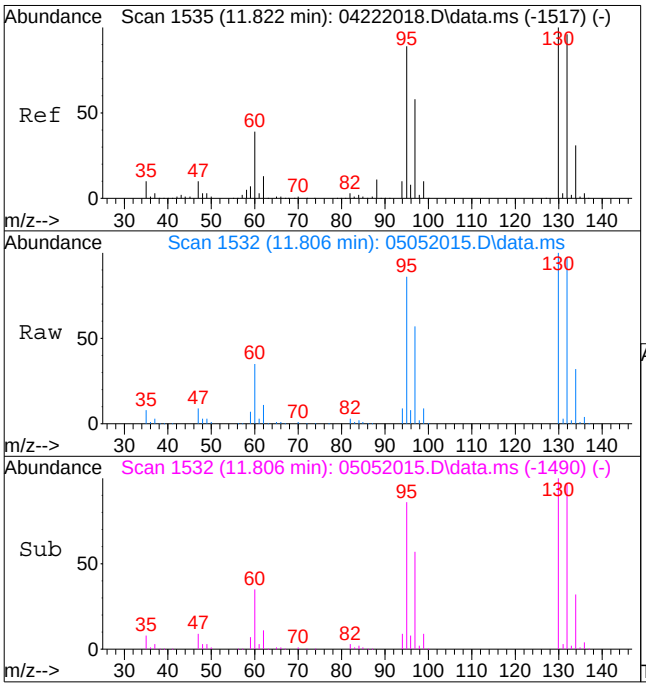


#43
Cyclohexane
Concen: 0.21 ng
RT: 11.04 min Scan# 1392
Delta R.T. -0.011 min
Lab File: 05052015.D
Acq: 5 May 2020 11:36

Tgt Ion: 84 Resp: 3221

Ion	Ratio	Lower	Upper
84	100		
69	37.0	15.8	55.8
56	101.9	72.0	112.0

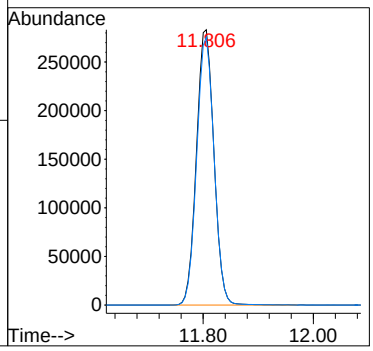


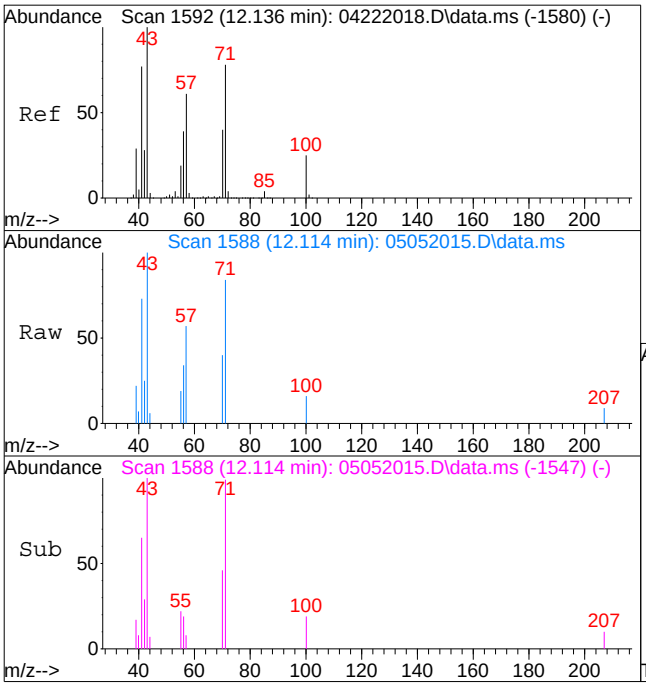


#47
Trichloroethene
Concen: 46.00 ng
RT: 11.81 min Scan# 1532
Delta R.T. -0.017 min
Lab File: 05052015.D
Acq: 5 May 2020 11:36

Tgt Ion:130 Resp: 620958

Ion	Ratio	Lower	Upper
130	100		
132	96.9	76.4	116.4

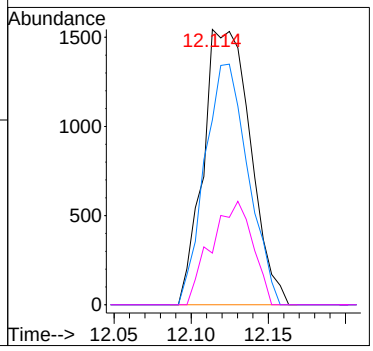


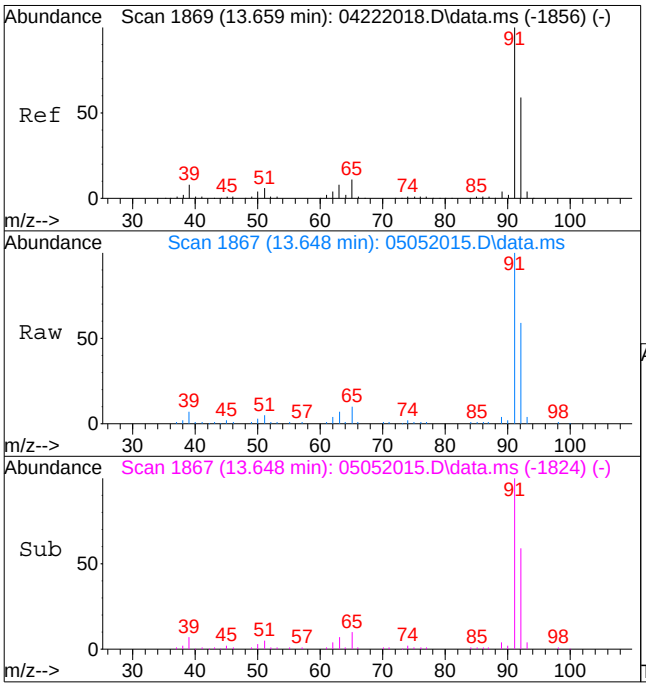


#51
n-Heptane
Concen: 0.36 ng
RT: 12.11 min Scan# 1588
Delta R.T. -0.022 min
Lab File: 05052015.D
Acq: 5 May 2020 11:36

Tgt Ion: 71 Resp: 3283

Ion	Ratio	Lower	Upper
71	100		
57	80.2	57.4	97.4
100	32.9	12.0	52.0

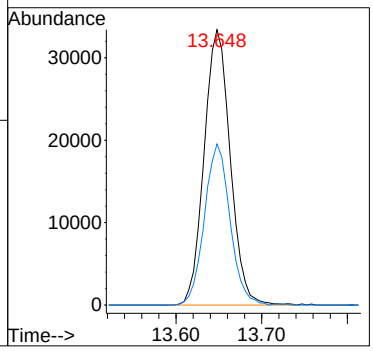


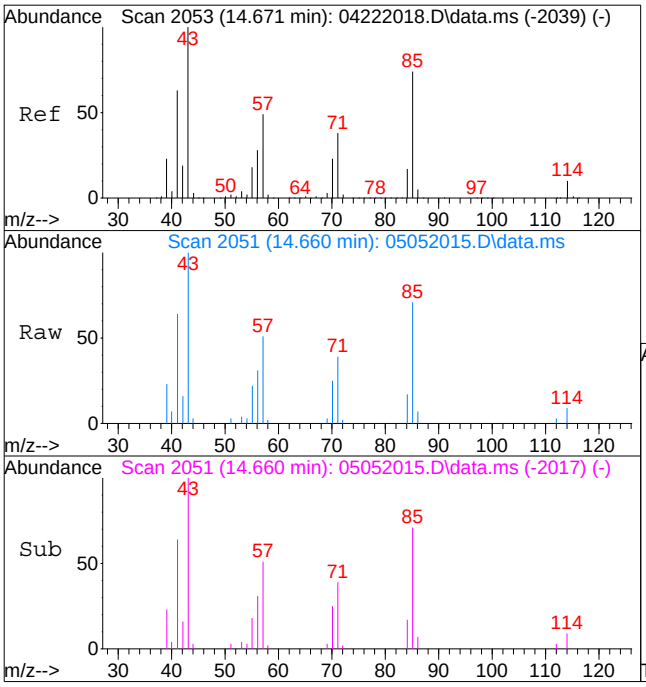


#58
Toluene
Concen: 1.65 ng
RT: 13.65 min Scan# 1867
Delta R.T. -0.011 min
Lab File: 05052015.D
Acq: 5 May 2020 11:36

Tgt Ion: 91 Resp: 70822

Ion	Ratio	Lower	Upper
91	100		
92	57.3	38.2	78.2

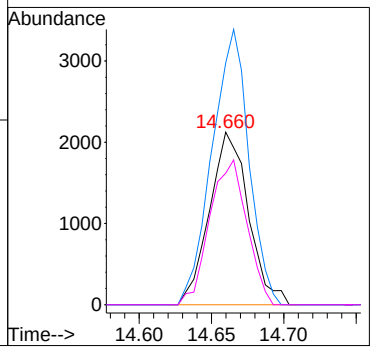


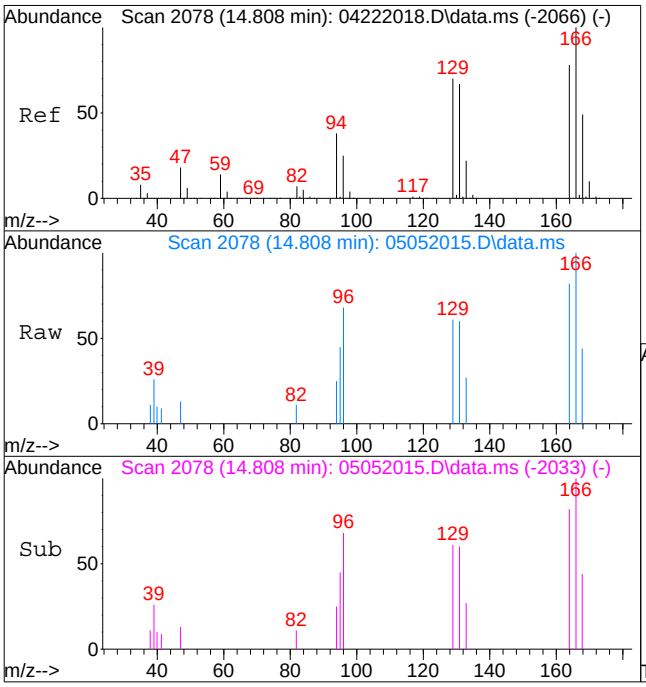


#63
n-Octane
Concen: 0.58 ng
RT: 14.66 min Scan# 2051
Delta R.T. -0.011 min
Lab File: 05052015.D
Acq: 5 May 2020 11:36

Tgt Ion: 57 Resp: 3992

Ion	Ratio	Lower	Upper
57	100		
85	150.8	120.7	181.1
71	79.9	61.1	91.7

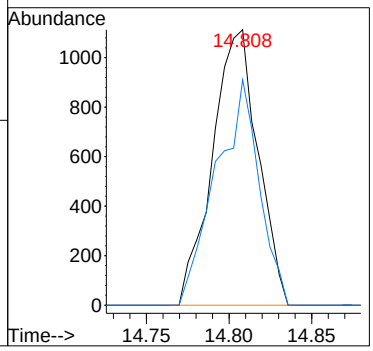


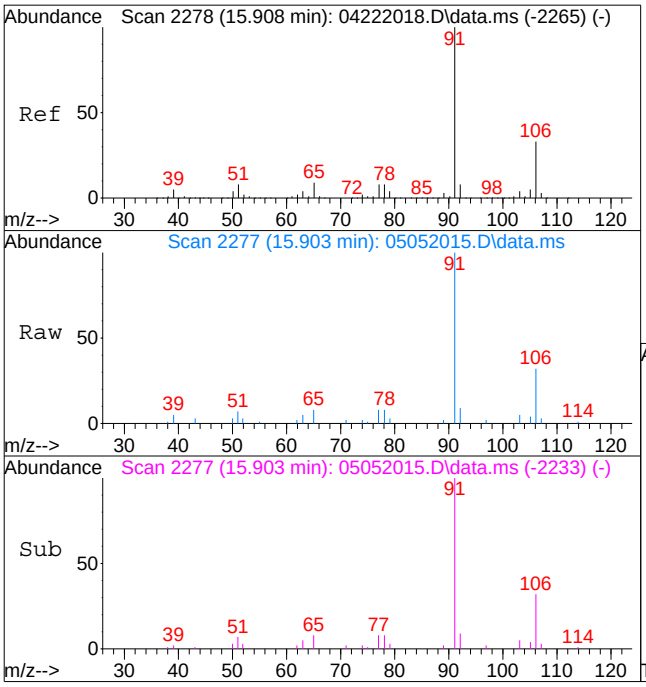


#64
Tetrachloroethene
Concen: 0.13 ng
RT: 14.81 min Scan# 2078
Delta R.T. -0.000 min
Lab File: 05052015.D
Acq: 5 May 2020 11:36

Tgt Ion:166 Resp: 2134

Ion	Ratio	Lower	Upper
166	100		
164	77.4	57.7	97.7

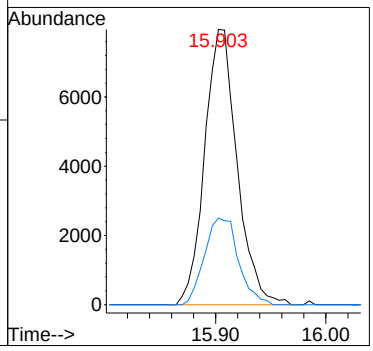


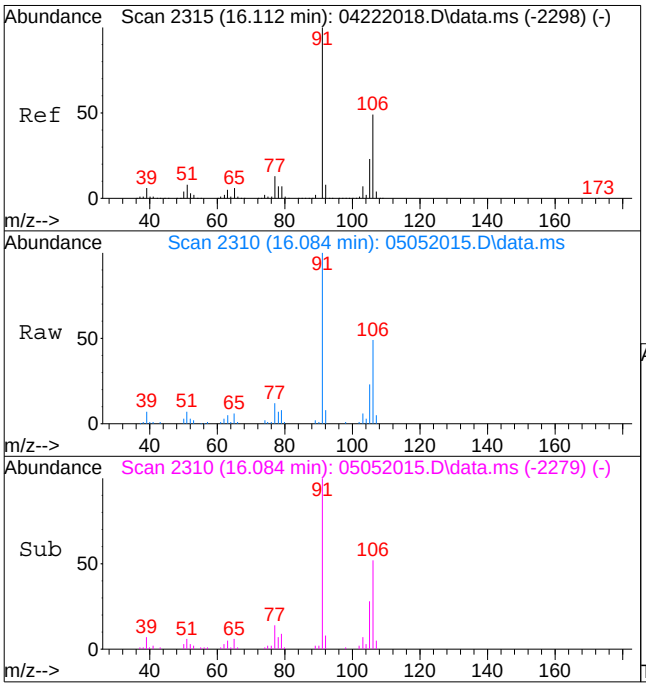


#66
Ethylbenzene
Concen: 0.32 ng
RT: 15.90 min Scan# 2277
Delta R.T. -0.006 min
Lab File: 05052015.D
Acq: 5 May 2020 11:36

Tgt Ion: 91 Resp: 16293

Ion	Ratio	Lower	Upper
91	100		
106	32.9	13.4	53.4

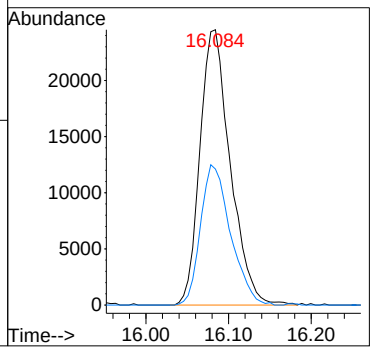


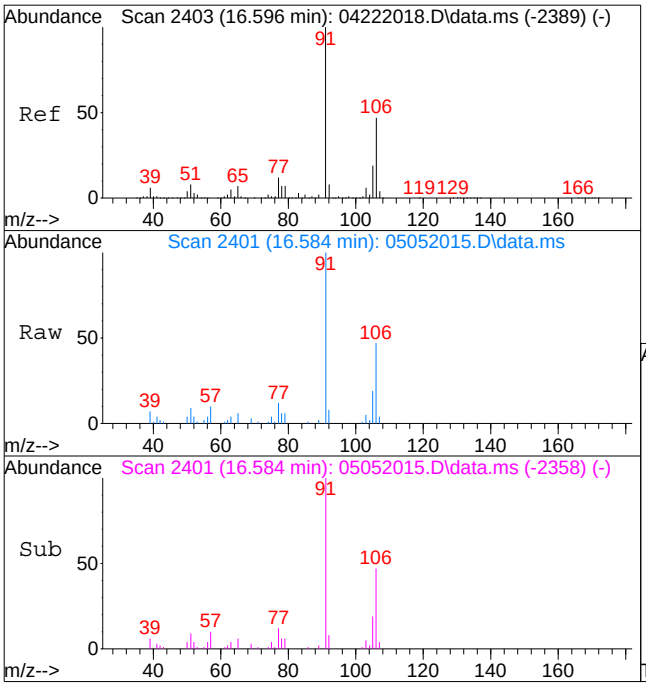


#67
m- & p-Xylenes
Concen: 1.48 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.028 min
Lab File: 05052015.D
Acq: 5 May 2020 11:36

Tgt Ion: 91 Resp: 62522

Ion	Ratio	Lower	Upper
91	100		
106	50.3	28.3	68.3

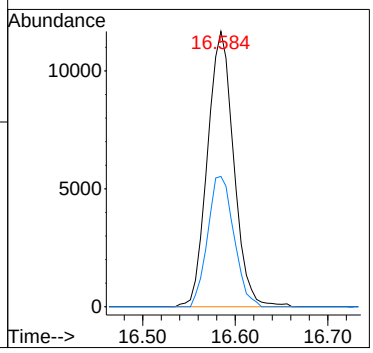


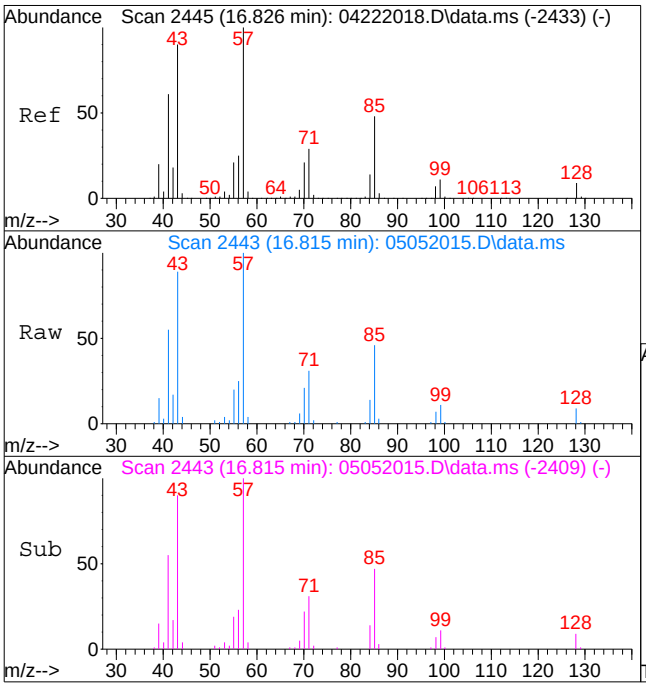


#70
o-Xylene
Concen: 0.55 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 05052015.D
Acq: 5 May 2020 11:36

Tgt Ion: 91 Resp: 23003

Ion	Ratio	Lower	Upper
91	100		
106	47.3	27.5	67.5

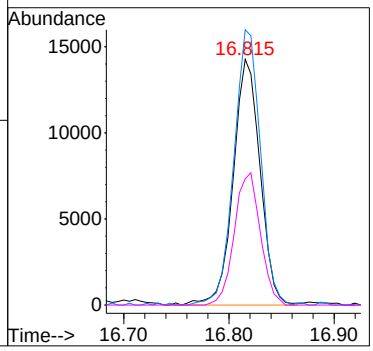


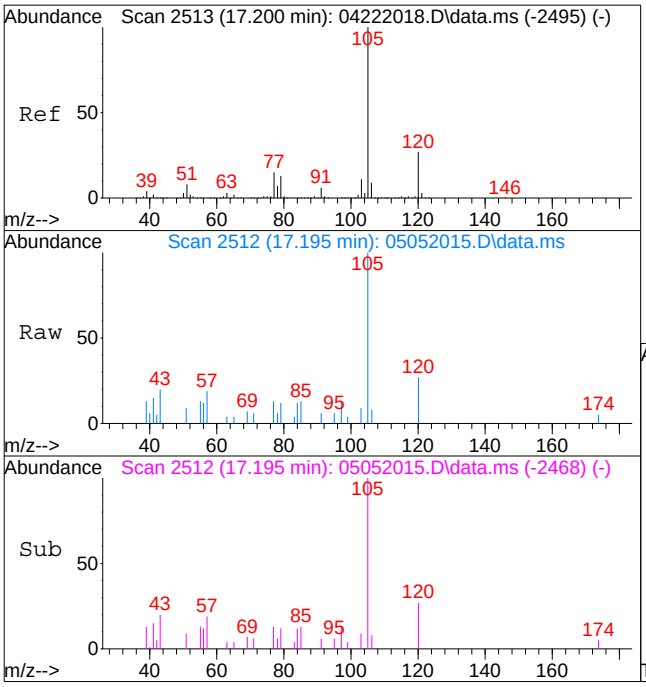


#71
n-Nonane
Concen: 1.90 ng
RT: 16.82 min Scan# 2443
Delta R.T. -0.011 min
Lab File: 05052015.D
Acq: 5 May 2020 11:36

Tgt Ion: 43 Resp: 25448

Ion	Ratio	Lower	Upper
43	100		
57	110.6	90.8	130.8
85	52.1	32.1	72.1

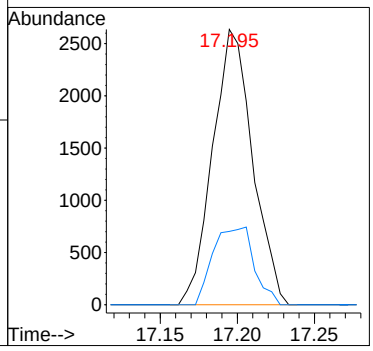


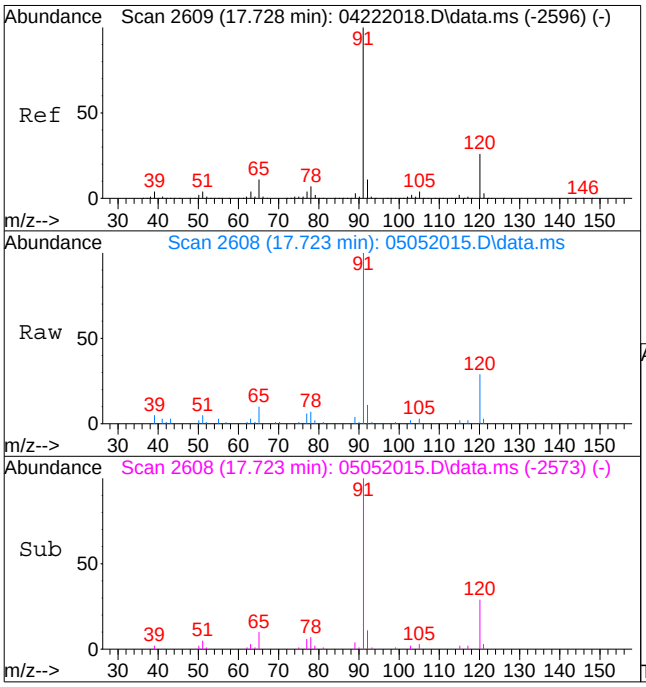


#74
Cumene
Concen: 0.09 ng
RT: 17.19 min Scan# 2512
Delta R.T. -0.006 min
Lab File: 05052015.D
Acq: 5 May 2020 11:36

Tgt Ion:105 Resp: 4756

Ion	Ratio	Lower	Upper
105	100		
120	28.9	7.3	47.3

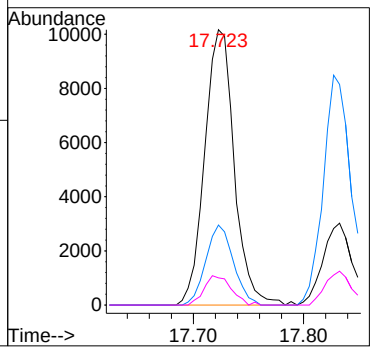


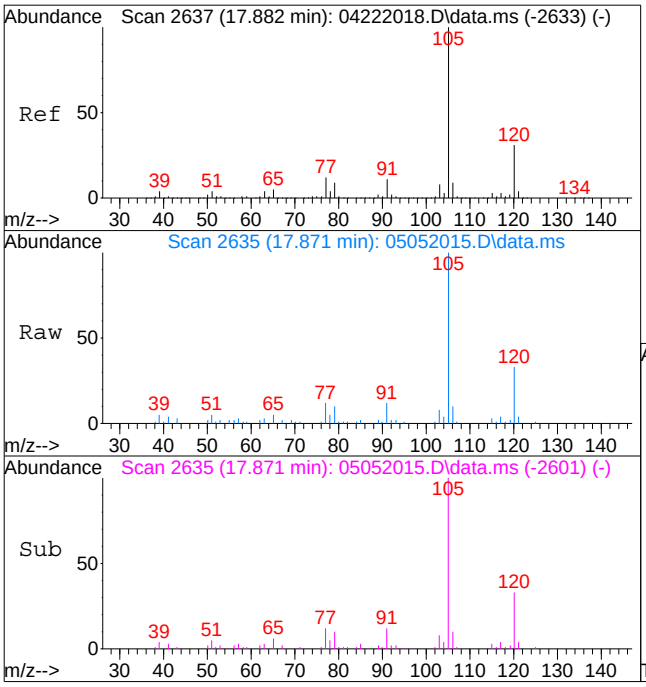


#76
n-Propylbenzene
Concen: 0.32 ng
RT: 17.72 min Scan# 2608
Delta R.T. -0.006 min
Lab File: 05052015.D
Acq: 5 May 2020 11:36

Tgt Ion: 91 Resp: 18954

Ion	Ratio	Lower	Upper
91	100		
120	27.0	6.1	46.1
65	9.8	0.0	30.7

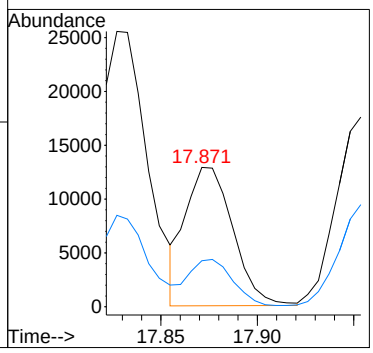


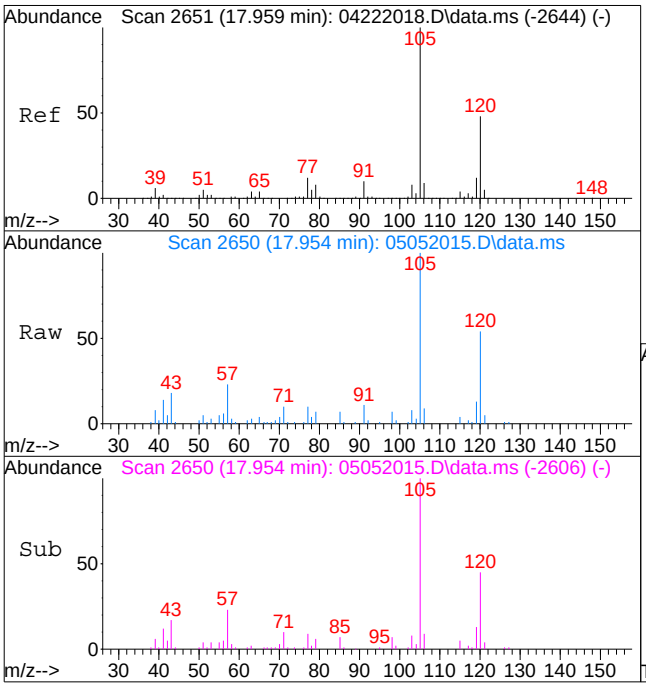


#78
4-Ethyltoluene
Concen: 0.43 ng
RT: 17.87 min Scan# 2635
Delta R.T. -0.011 min
Lab File: 05052015.D
Acq: 5 May 2020 11:36

Tgt Ion:105 Resp: 22123

Ion	Ratio	Lower	Upper
105	100		
120	33.3	11.4	51.4

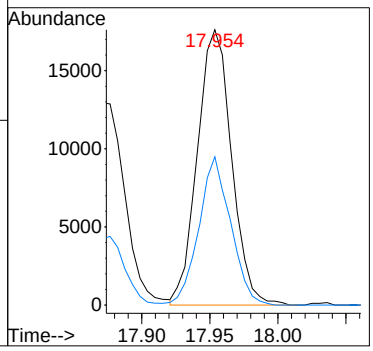


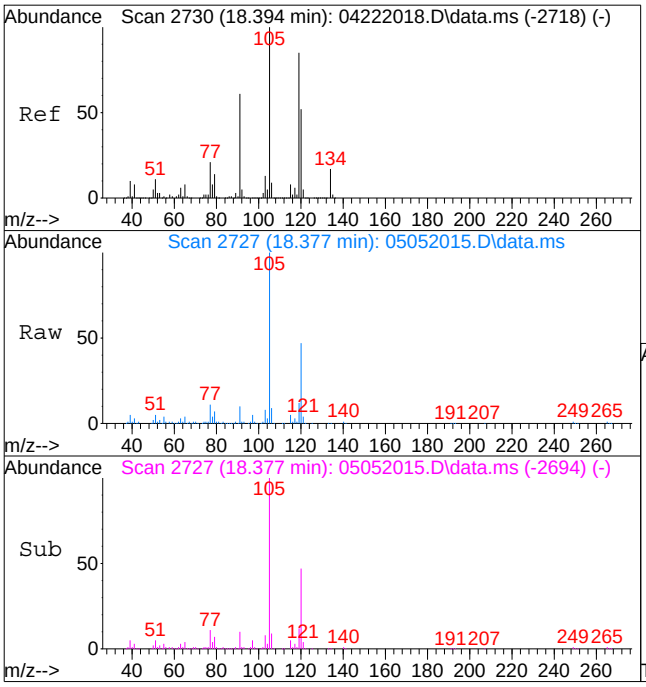


#79
1,3,5-Trimethylbenzene
Concen: 0.65 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 05052015.D
Acq: 5 May 2020 11:36

Tgt Ion:105 Resp: 30797

Ion	Ratio	Lower	Upper
105	100		
120	50.0	29.5	69.5

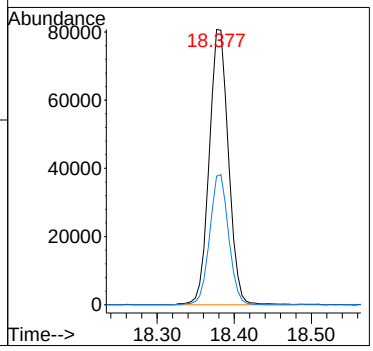


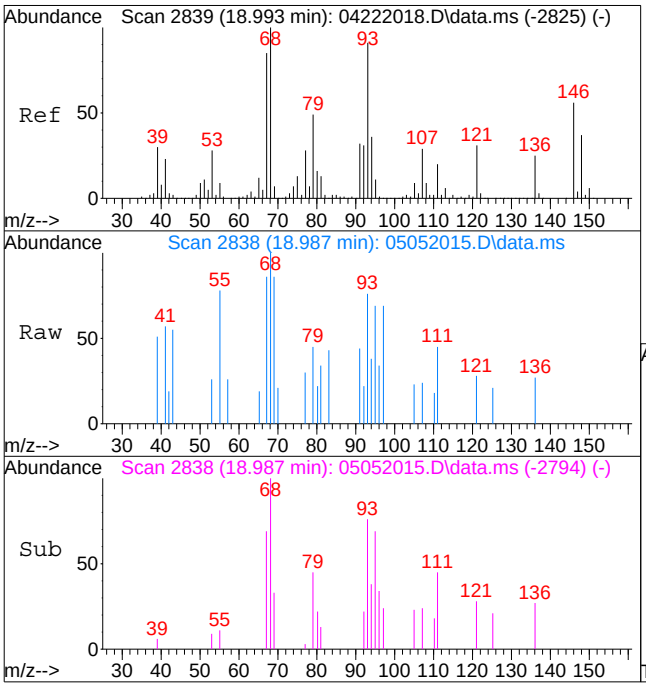


#82
1,2,4-Trimethylbenzene
Concen: 3.04 ng
RT: 18.38 min Scan# 2727
Delta R.T. -0.017 min
Lab File: 05052015.D
Acq: 5 May 2020 11:36

Tgt Ion:105 Resp: 139927

Ion	Ratio	Lower	Upper
105	100		
120	46.4	34.5	74.5

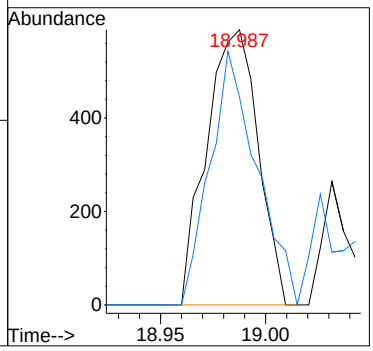


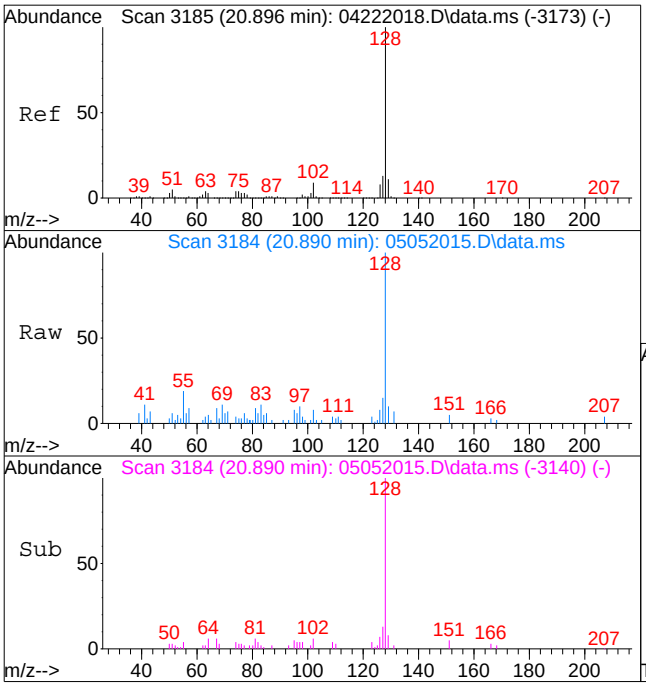


#91
d-Limonene
Concen: 0.08 ng
RT: 18.99 min Scan# 2838
Delta R.T. -0.006 min
Lab File: 05052015.D
Acq: 5 May 2020 11:36

Tgt Ion: 68 Resp: 1006

Ion	Ratio	Lower	Upper
68	100		
93	83.8	71.6	111.6

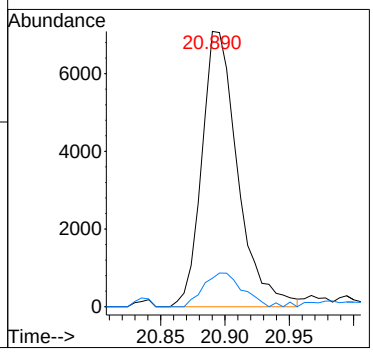




#95
Naphthalene
Concen: 0.23 ng
RT: 20.89 min Scan# 3184
Delta R.T. -0.006 min
Lab File: 05052015.D
Acq: 5 May 2020 11:36

Tgt Ion:128 Resp: 13737

Ion	Ratio	Lower	Upper
128	100		
129	13.2	0.0	30.9



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\05\05052016.D Vial: 8
Acq On : 5 May 2020 12:10 Operator: TD
Sample : P2002106-020 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 14:31:47 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/5/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	140304	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	592227	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.45	82	261813	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	213217	11.729	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.84%				
57) Toluene-d8 (SS2)	13.54	98	649424	12.847	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.80%				
73) Bromofluorobenzene (SS3)	17.05	174	259197	12.758	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.08%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	4.00	85	11306	0.499	ng		98
4) Chloromethane	0.00	50	0	N.D.	d		
5) 1,2-Dichloro-1,1,2,2-t...	4.37	135	193	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	5.39	45	1091	0.242	ng		72
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	5.88	58	2849	0.526	ng	#	70
14) Trichlorofluoromethane	6.04	101	5527	0.245	ng		97
15) 2-Propanol (Isopropanol)	6.21	45	428	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	7.19	151	1252	0.107	ng		90
22) Carbon Disulfide	7.18	76	4392	0.139	ng		86
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	0.00	72	0	N.D.	d		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	9.27	87	259	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	9.27	83	3338	0.174	ng		88
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	10.76	78	1269	N.D.			
42) Carbon Tetrachloride	10.90	117	1046	0.052	ng		98
43) Cyclohexane	11.10	84	412	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	11.76	83	406	N.D.			
47) Trichloroethene	11.81	130	668	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	11.88	57	166	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\05\05052016.D Vial: 8
Acq On : 5 May 2020 12:10 Operator: TD
Sample : P2002106-020 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 14:31:47 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

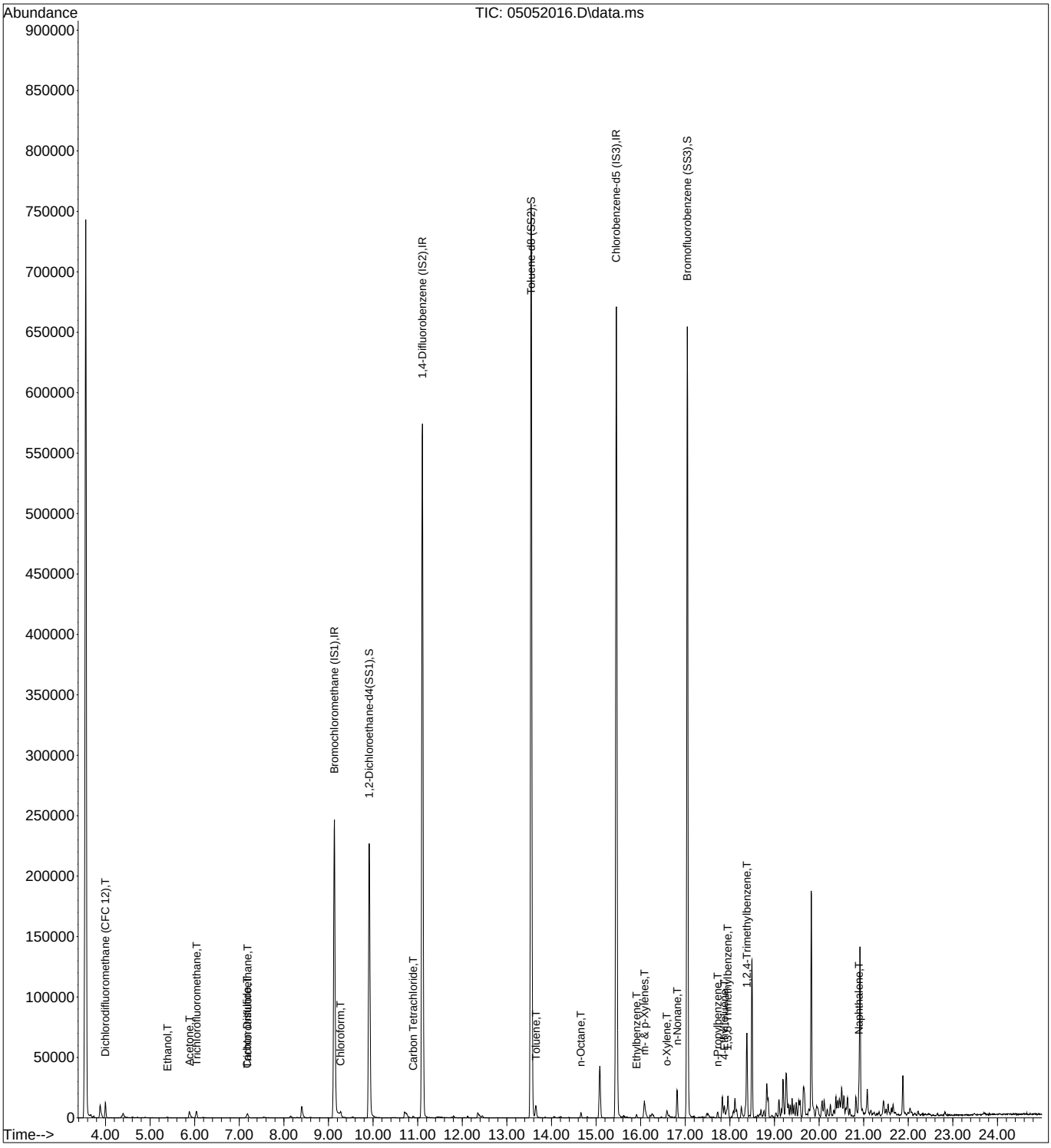
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	12.13	71	359	N.D.			
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.			
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.			
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.			
58) Toluene	13.65	91	9782	0.230	ng		99
59) 2-Hexanone	13.85	43	260	N.D.			
60) Dibromochloromethane	0.00	129	0	N.D.			
61) 1,2-Dibromoethane	0.00	107	0	N.D.			
62) n-Butyl Acetate	0.00	43	0	N.D.	d		
63) n-Octane	14.66	57	910	0.135	ng	#	82
64) Tetrachloroethene	14.81	166	425	N.D.			
65) Chlorobenzene	0.00	112	0	N.D.			
66) Ethylbenzene	15.91	91	2841	0.057	ng		96
67) m- & p-Xylenes	16.08	91	13689	0.328	ng		98
68) Bromoform	0.00	173	0	N.D.			
69) Styrene	0.00	104	0	N.D.			
70) o-Xylene	16.58	91	4245	0.104	ng		95
71) n-Nonane	16.82	43	7227	0.547	ng		95
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.			
74) Cumene	17.21	105	949	N.D.			
75) alpha-Pinene	0.00	93	0	N.D.			
76) n-Propylbenzene	17.73	91	5072	0.087	ng		96
77) 3-Ethyltoluene	0.00	105	0	N.D.	d		
78) 4-Ethyltoluene	17.88	105	7423	0.146	ng		99
79) 1,3,5-Trimethylbenzene	17.95	105	9064	0.193	ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D.	d		
81) 2-Ethyltoluene	0.00	105	0	N.D.	d		
82) 1,2,4-Trimethylbenzene	18.38	105	42815	0.943	ng		90
83) n-Decane	0.00	57	0	N.D.	d		
84) Benzyl Chloride	18.62	91	730	N.D.			
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.			
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.			
87) sec-Butylbenzene	18.67	105	2444	N.D.			
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.	d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.			
91) d-Limonene	18.99	68	121	N.D.			
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.			
93) n-Undecane	0.00	57	0	N.D.	d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.			
95) Naphthalene	20.90	128	20004	0.342	ng		99
96) n-Dodecane	0.00	57	0	N.D.	d		
97) Hexachlorobutadiene	0.00	225	0	N.D.			
98) Cyclohexanone	0.00	55	0	N.D.	d		
99) tert-Butylbenzene	0.00	119	0	N.D.	d		
100) n-Butylbenzene	0.00	91	0	N.D.	d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\05\05052016.D Vial: 8
Acq On : 5 May 2020 12:10 Operator: TD
Sample : P2002106-020 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 14:31:47 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\05\05052016.D Vial: 8
Acq On : 5 May 2020 12:10 Operator: TD
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QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/5/20

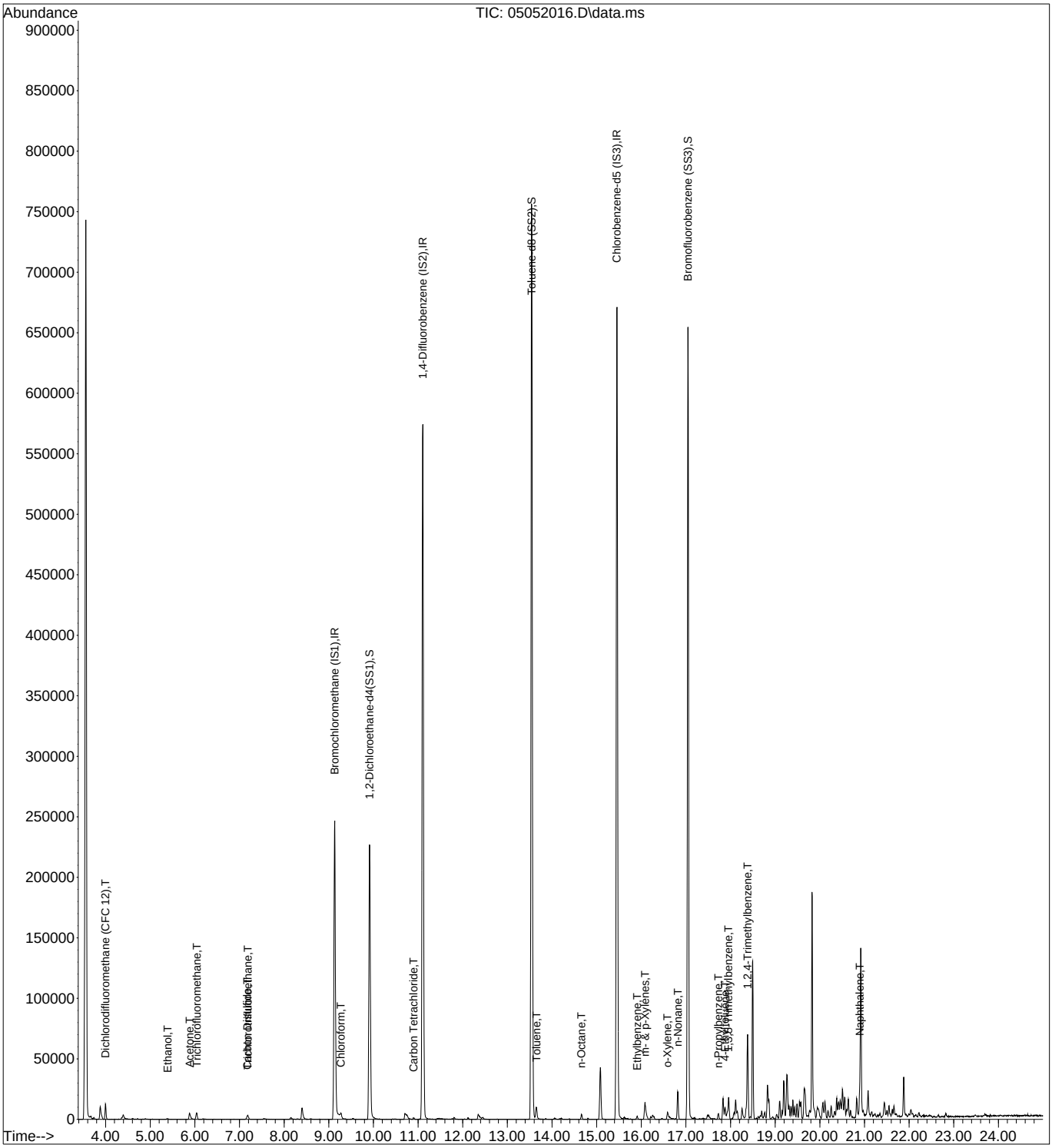
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	140304	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	592227	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.45	82	261813	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	213217	11.729	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.84%				
57) Toluene-d8 (SS2)	13.54	98	649424	12.847	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.80%				
73) Bromofluorobenzene (SS3)	17.05	174	259197	12.758	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.08%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.00	85	11306	0.499	ng		98
10) Ethanol	5.39	45	1091	0.242	ng		72
13) Acetone	5.88	58	2849	0.526	ng	#	70
14) Trichlorofluoromethane	6.04	101	5527	0.245	ng		97
21) Trichlorotrifluoroethane	7.19	151	1252	0.107	ng		90
22) Carbon Disulfide	7.18	76	4392	0.139	ng		86
32) Chloroform	9.27	83	3338	0.174	ng		88
42) Carbon Tetrachloride	10.90	117	1046	0.052	ng		98
58) Toluene	13.65	91	9782	0.230	ng		99
63) n-Octane	14.66	57	910	0.135	ng	#	82
66) Ethylbenzene	15.91	91	2841	0.057	ng		96
67) m- & p-Xylenes	16.08	91	13689	0.328	ng		98
70) o-Xylene	16.58	91	4245	0.104	ng		95
71) n-Nonane	16.82	43	7227	0.547	ng		95
76) n-Propylbenzene	17.73	91	5072	0.087	ng		96
78) 4-Ethyltoluene	17.88	105	7423	0.146	ng		99
79) 1,3,5-Trimethylbenzene	17.95	105	9064	0.193	ng		99
82) 1,2,4-Trimethylbenzene	18.38	105	42815	0.943	ng		90
95) Naphthalene	20.90	128	20004	0.342	ng		99

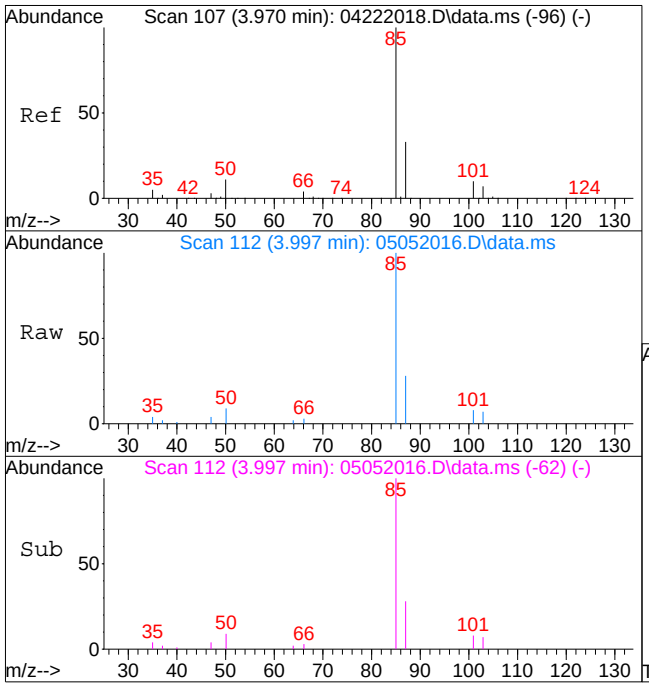
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\05\05052016.D Vial: 8
Acq On : 5 May 2020 12:10 Operator: TD
Sample : P2002106-020 (400mL) Inst : MS09
Misc : S34-04212006

Quant Time: May 05 14:31:47 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

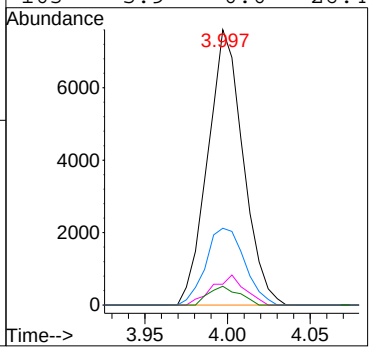


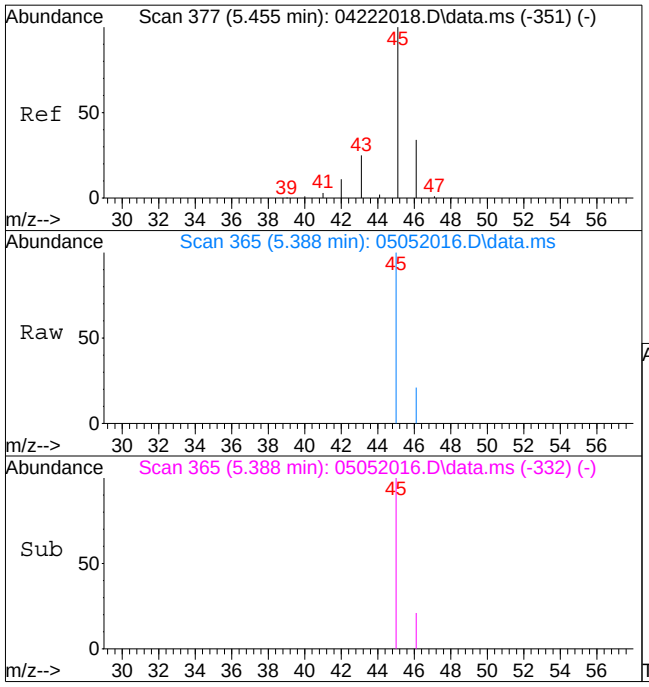


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.50 ng
RT: 4.00 min Scan# 112
Delta R.T. 0.027 min
Lab File: 05052016.D
Acq: 5 May 2020 12:10

Tgt Ion: 85 Resp: 11306

Ion	Ratio	Lower	Upper
85	100		
87	30.7	12.4	52.4
101	9.9	0.0	29.9
103	5.9	0.0	26.4

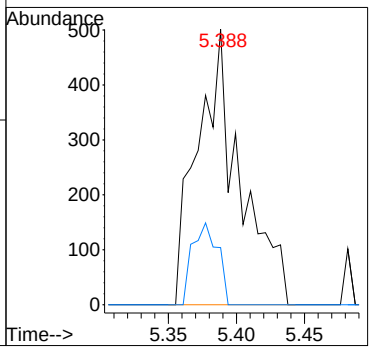


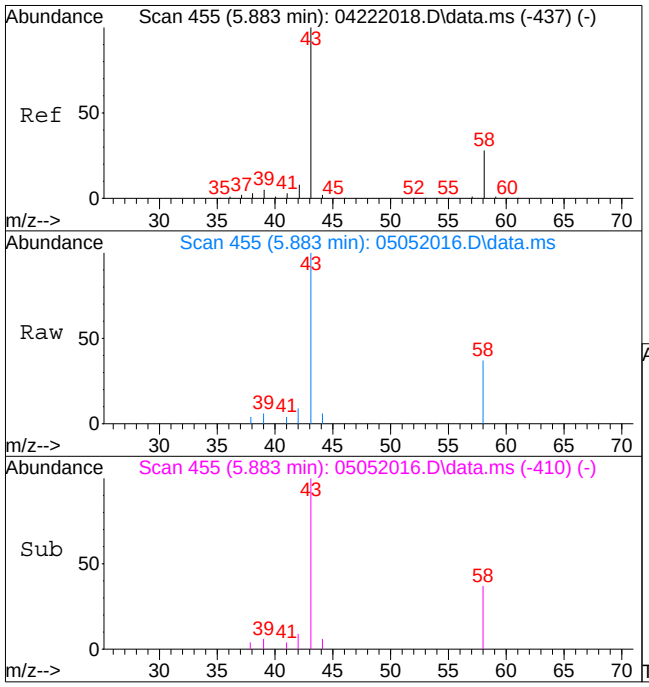


#10
Ethanol
Concen: 0.24 ng
RT: 5.39 min Scan# 365
Delta R.T. -0.066 min
Lab File: 05052016.D
Acq: 5 May 2020 12:10

Tgt Ion: 45 Resp: 1091

Ion	Ratio	Lower	Upper
45	100		
46	17.7	14.0	54.0

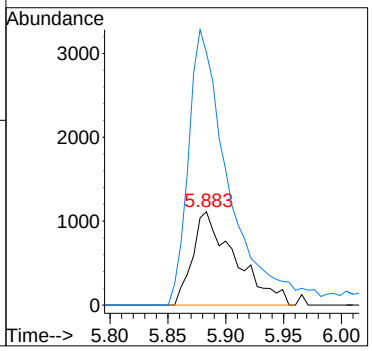


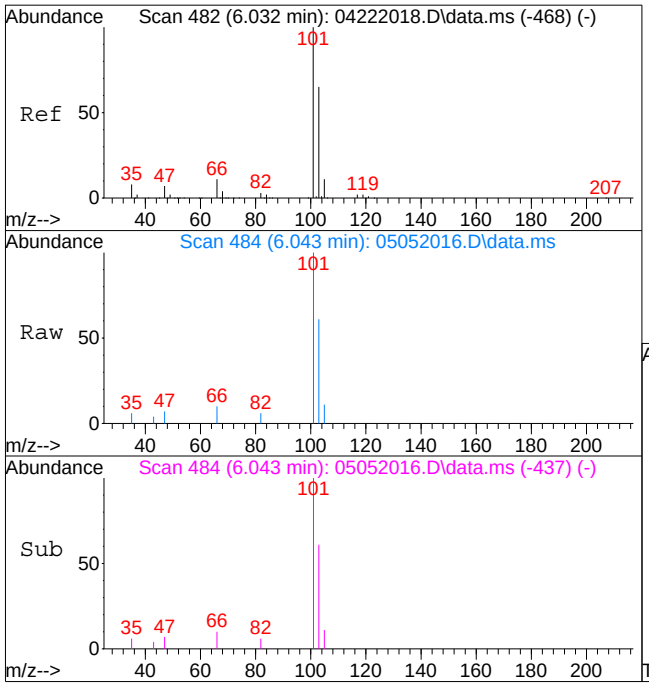


#13
Acetone
Concen: 0.53 ng
RT: 5.88 min Scan# 455
Delta R.T. -0.000 min
Lab File: 05052016.D
Acq: 5 May 2020 12:10

Tgt Ion: 58 Resp: 2849

Ion	Ratio	Lower	Upper
58	100		
43	283.4	319.3	379.3#

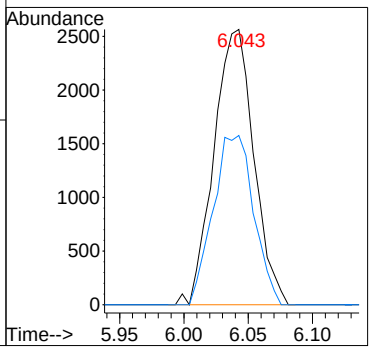


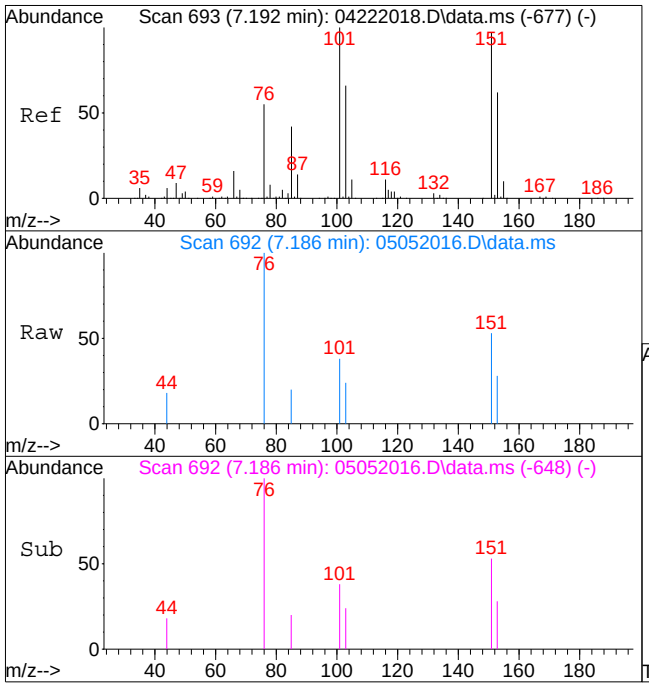


#14
Trichlorofluoromethane
Concen: 0.25 ng
RT: 6.04 min Scan# 484
Delta R.T. 0.011 min
Lab File: 05052016.D
Acq: 5 May 2020 12:10

Tgt Ion:101 Resp: 5527

Ion	Ratio	Lower	Upper
101	100		
103	62.7	44.7	84.7

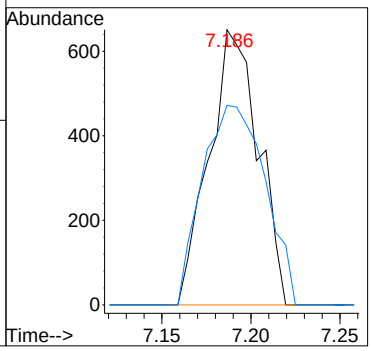


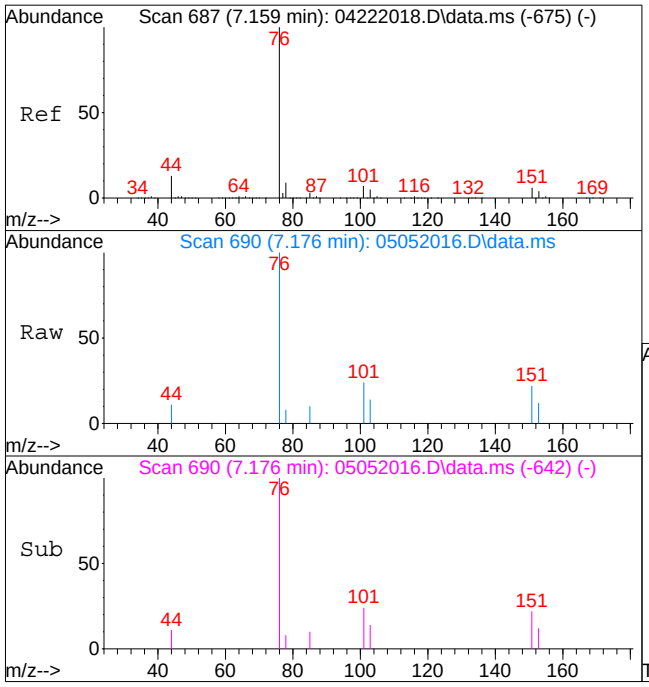


#21
Trichlorotrifluoroethane
Concen: 0.11 ng
RT: 7.19 min Scan# 692
Delta R.T. -0.006 min
Lab File: 05052016.D
Acq: 5 May 2020 12:10

Tgt Ion:151 Resp: 1252

Ion	Ratio	Lower	Upper
151	100		
101	92.7	82.9	122.9

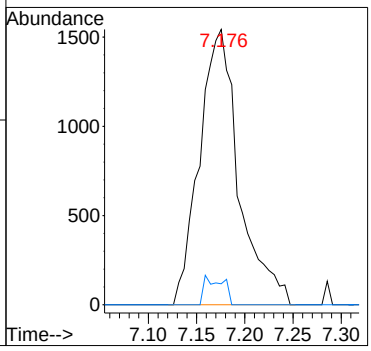


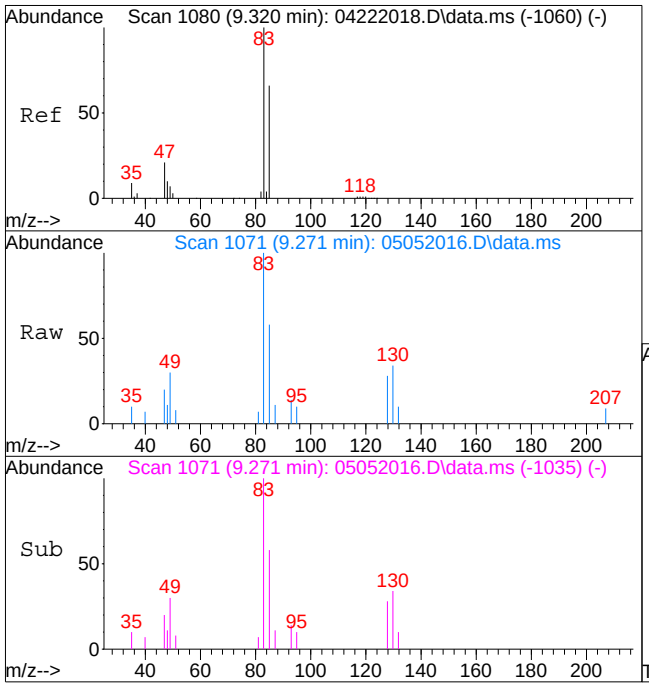


#22
Carbon Disulfide
Concen: 0.14 ng
RT: 7.18 min Scan# 690
Delta R.T. 0.016 min
Lab File: 05052016.D
Acq: 5 May 2020 12:10

Tgt Ion: 76 Resp: 4392

Ion	Ratio	Lower	Upper
76	100		
78	5.0	0.0	30.2

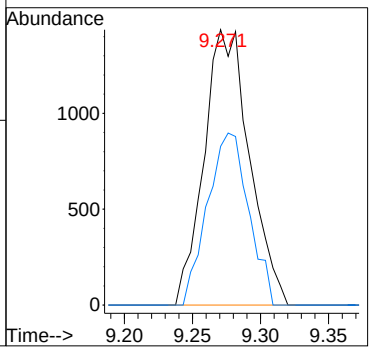


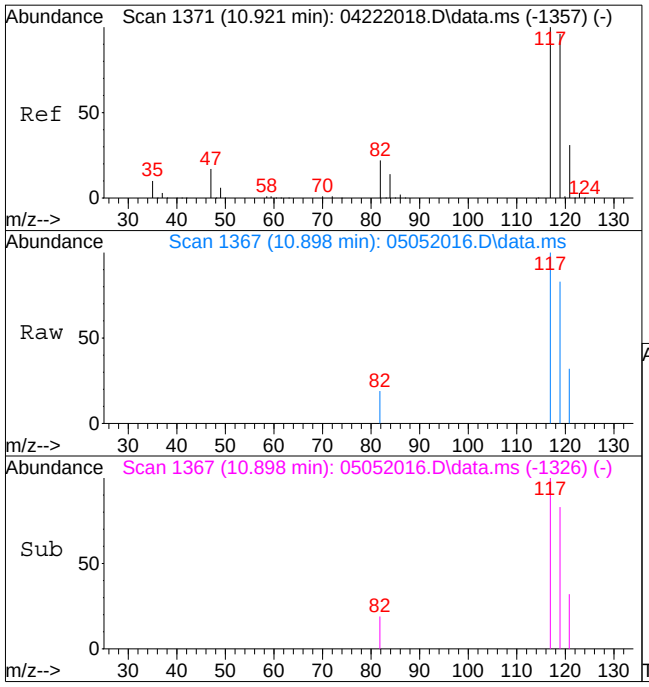


#32
Chloroform
Concen: 0.17 ng
RT: 9.27 min Scan# 1071
Delta R.T. -0.050 min
Lab File: 05052016.D
Acq: 5 May 2020 12:10

Tgt Ion: 83 Resp: 3338

Ion	Ratio	Lower	Upper
83	100		
85	56.6	45.8	85.8

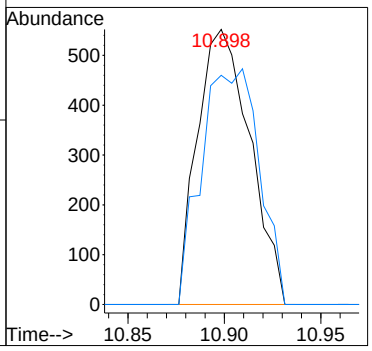


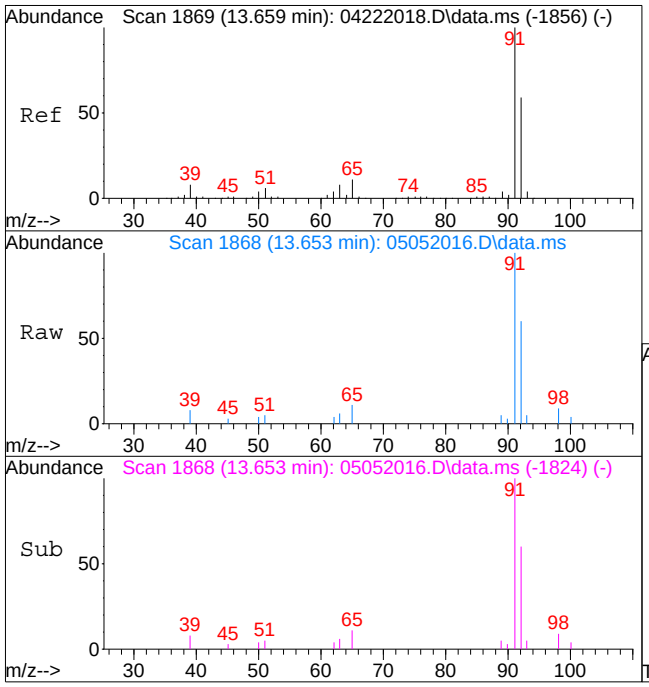


#42
Carbon Tetrachloride
Concen: 0.05 ng
RT: 10.90 min Scan# 1367
Delta R.T. -0.022 min
Lab File: 05052016.D
Acq: 5 May 2020 12:10

Tgt Ion:117 Resp: 1046

Ion	Ratio	Lower	Upper
117	100		
119	94.5	76.5	116.5

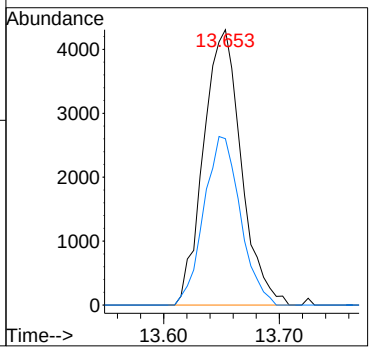


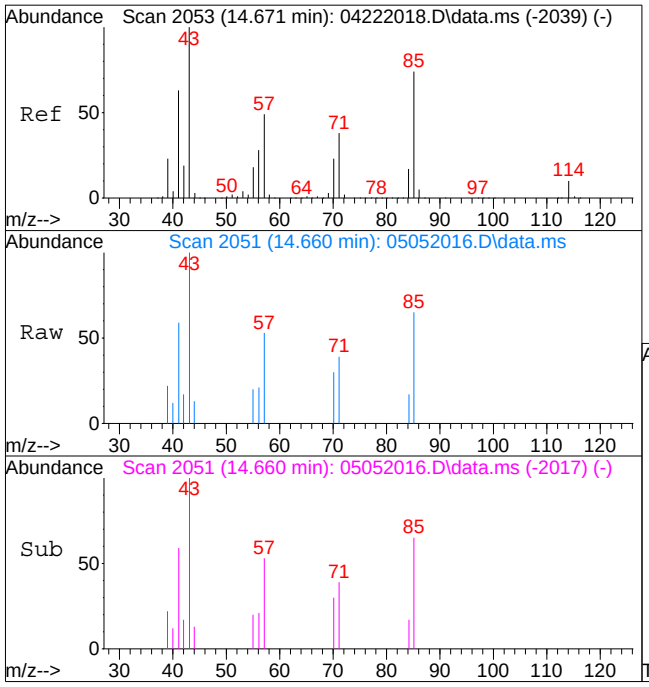


#58
Toluene
Concen: 0.23 ng
RT: 13.65 min Scan# 1868
Delta R.T. -0.006 min
Lab File: 05052016.D
Acq: 5 May 2020 12:10

Tgt Ion: 91 Resp: 9782

Ion	Ratio	Lower	Upper
91	100		
92	59.1	38.2	78.2

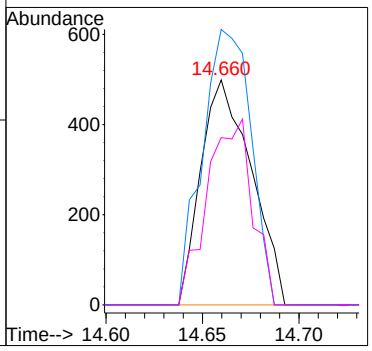


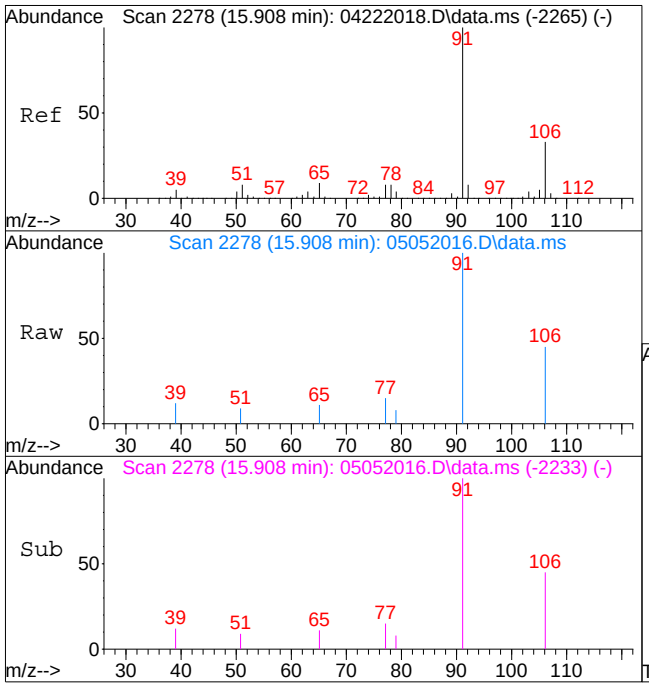


#63
n-Octane
Concen: 0.13 ng
RT: 14.66 min Scan# 2051
Delta R.T. -0.011 min
Lab File: 05052016.D
Acq: 5 May 2020 12:10

Tgt Ion: 57 Resp: 910

Ion	Ratio	Lower	Upper
57	100		
85	117.6	120.7	181.1#
71	74.0	61.1	91.7

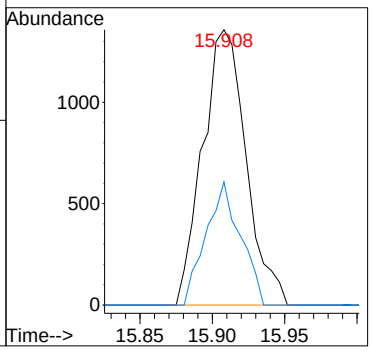


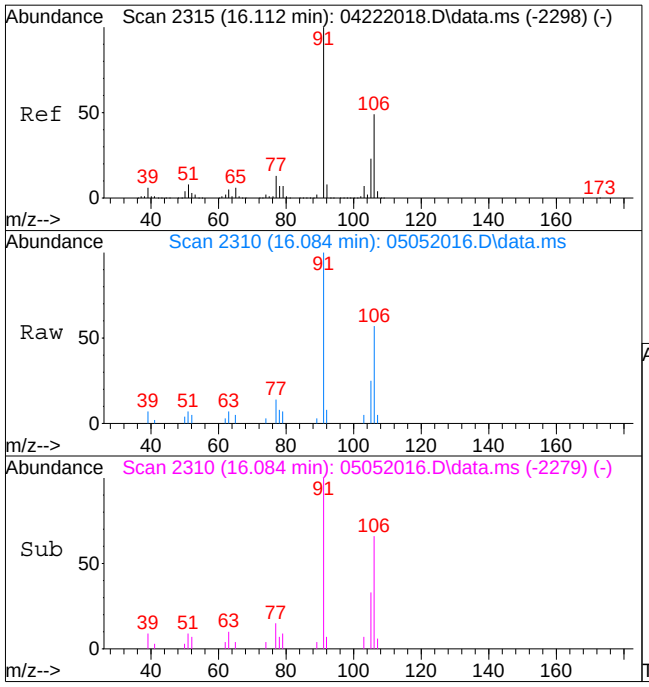


#66
Ethylbenzene
Concen: 0.06 ng
RT: 15.91 min Scan# 2278
Delta R.T. -0.000 min
Lab File: 05052016.D
Acq: 5 May 2020 12:10

Tgt Ion: 91 Resp: 2841

Ion	Ratio	Lower	Upper
91	100		
106	35.7	13.4	53.4

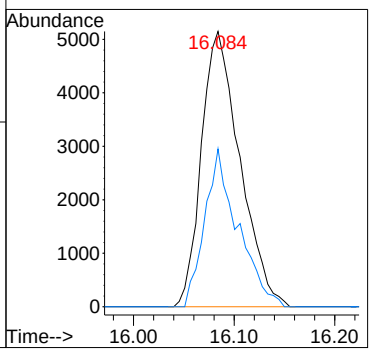


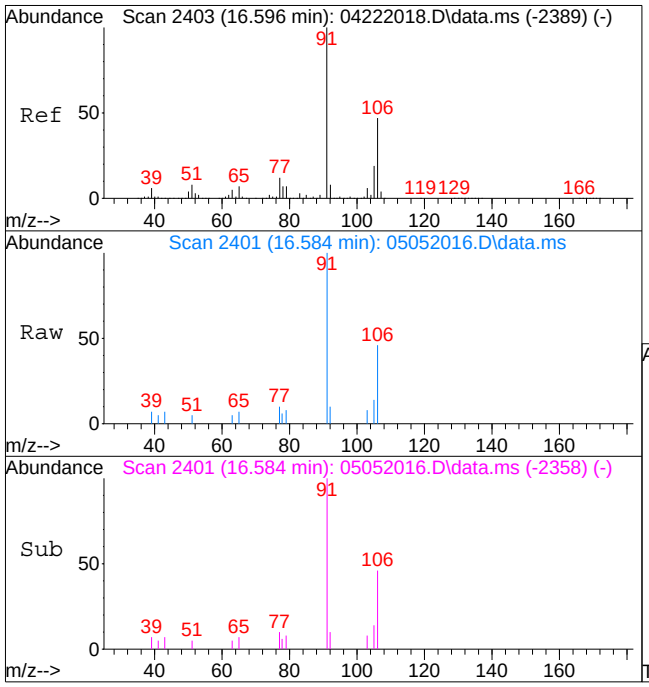


#67
m- & p-Xylenes
Concen: 0.33 ng
RT: 16.08 min Scan# 2310
Delta R.T. -0.028 min
Lab File: 05052016.D
Acq: 5 May 2020 12:10

Tgt Ion: 91 Resp: 13689

Ion	Ratio	Lower	Upper
91	100		
106	49.3	28.3	68.3

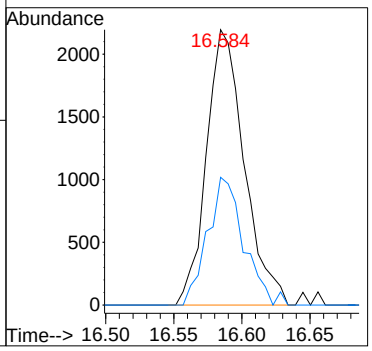


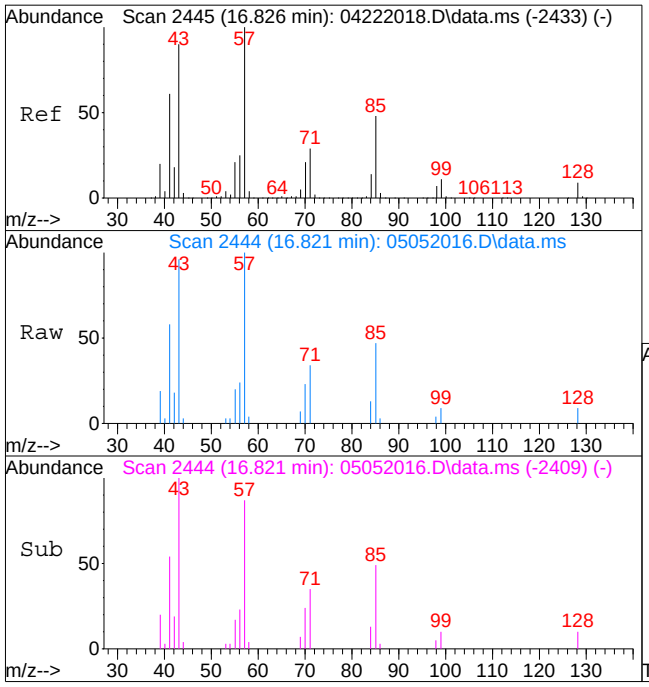


#70
o-Xylene
Concen: 0.10 ng
RT: 16.58 min Scan# 2401
Delta R.T. -0.011 min
Lab File: 05052016.D
Acq: 5 May 2020 12:10

Tgt Ion: 91 Resp: 4245

Ion	Ratio	Lower	Upper
91	100		
106	44.4	27.5	67.5

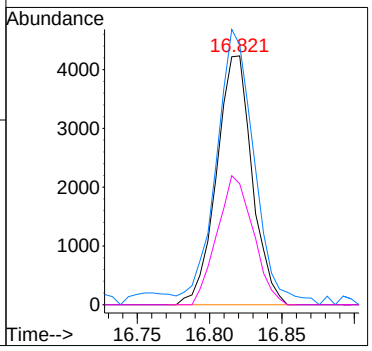


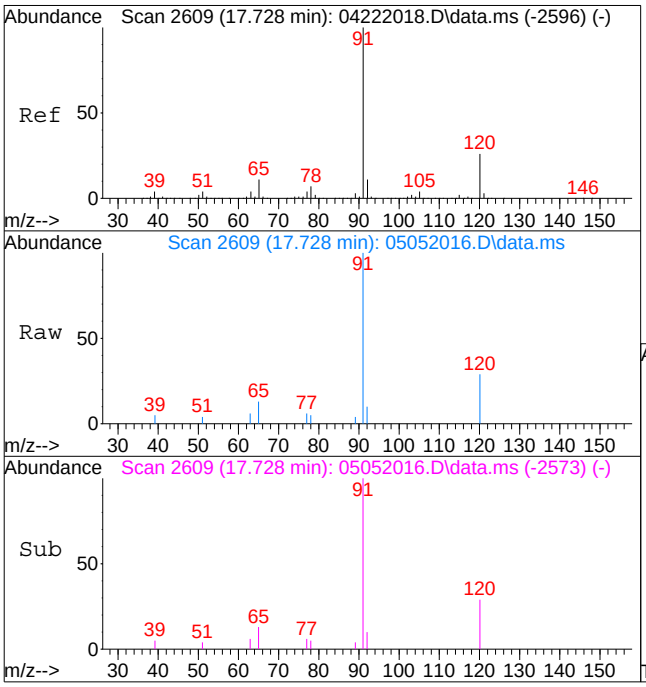


#71
n-Nonane
Concen: 0.55 ng
RT: 16.82 min Scan# 2444
Delta R.T. -0.006 min
Lab File: 05052016.D
Acq: 5 May 2020 12:10

Tgt Ion: 43 Resp: 7227

Ion	Ratio	Lower	Upper
43	100		
57	118.4	90.8	130.8
85	52.7	32.1	72.1

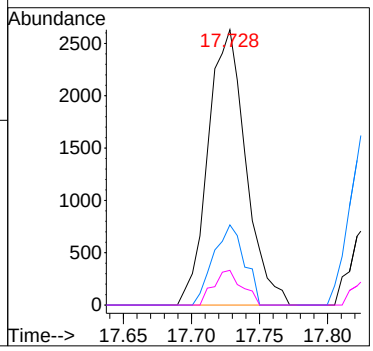


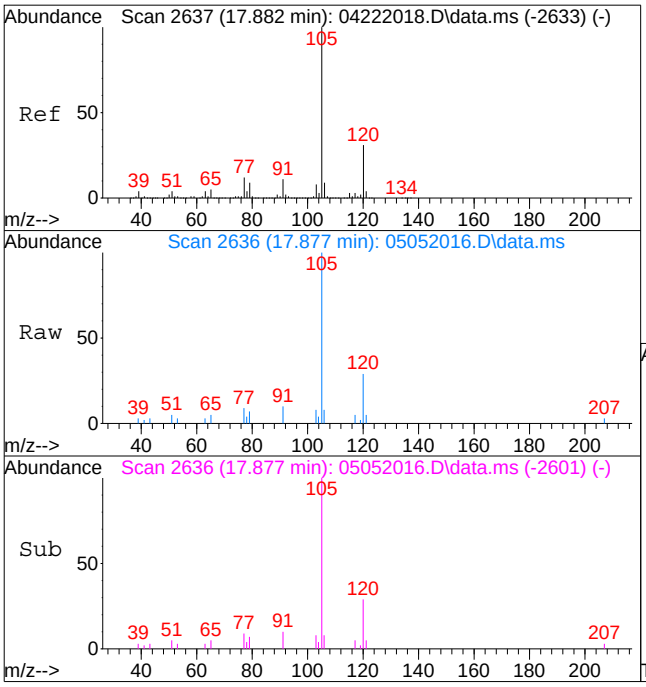


#76
n-Propylbenzene
Concen: 0.09 ng
RT: 17.73 min Scan# 2609
Delta R.T. -0.000 min
Lab File: 05052016.D
Acq: 5 May 2020 12:10

Tgt Ion: 91 Resp: 5072

Ion	Ratio	Lower	Upper
91	100		
120	24.0	6.1	46.1
65	9.5	0.0	30.7

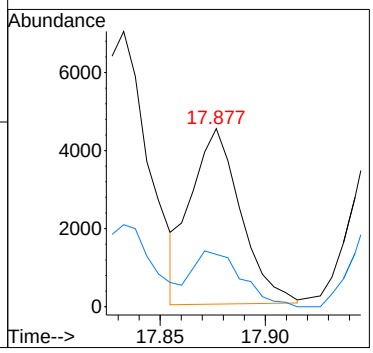


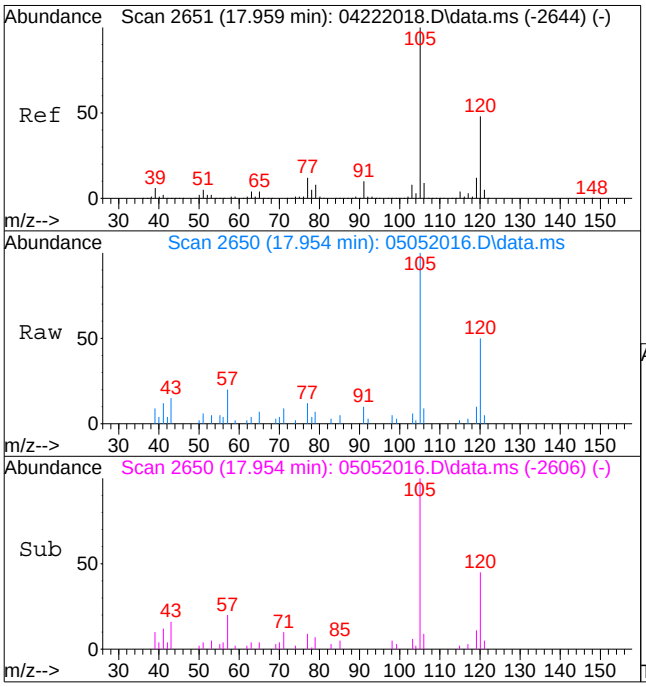


#78
4-Ethyltoluene
Concen: 0.15 ng
RT: 17.88 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05052016.D
Acq: 5 May 2020 12:10

Tgt Ion:105 Resp: 7423

Ion	Ratio	Lower	Upper
105	100		
120	30.6	11.4	51.4

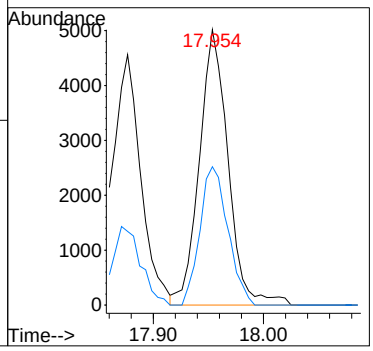


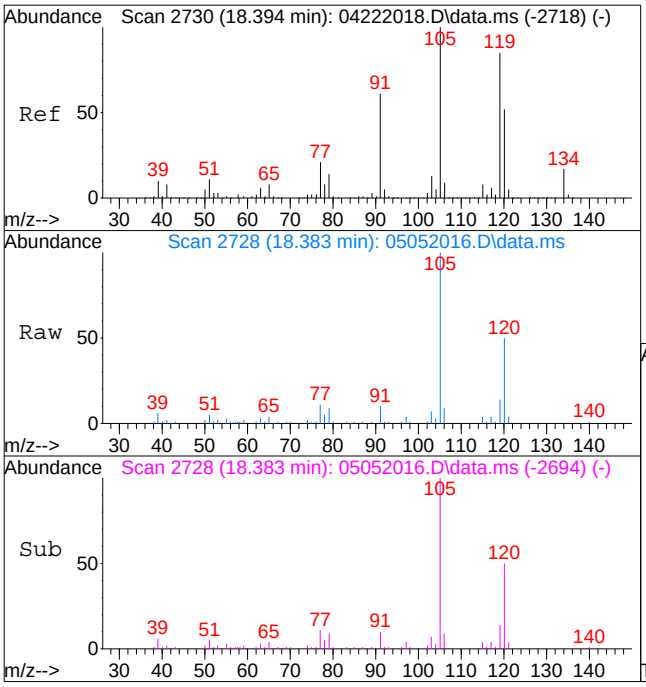


#79
1,3,5-Trimethylbenzene
Concen: 0.19 ng
RT: 17.95 min Scan# 2650
Delta R.T. -0.006 min
Lab File: 05052016.D
Acq: 5 May 2020 12:10

Tgt Ion:105 Resp: 9064

Ion	Ratio	Lower	Upper
105	100		
120	49.1	29.5	69.5

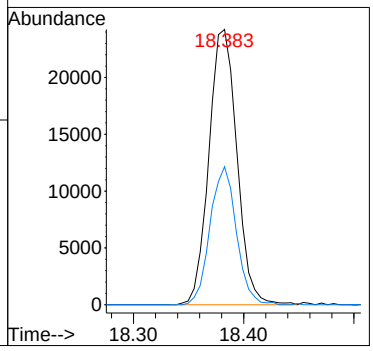


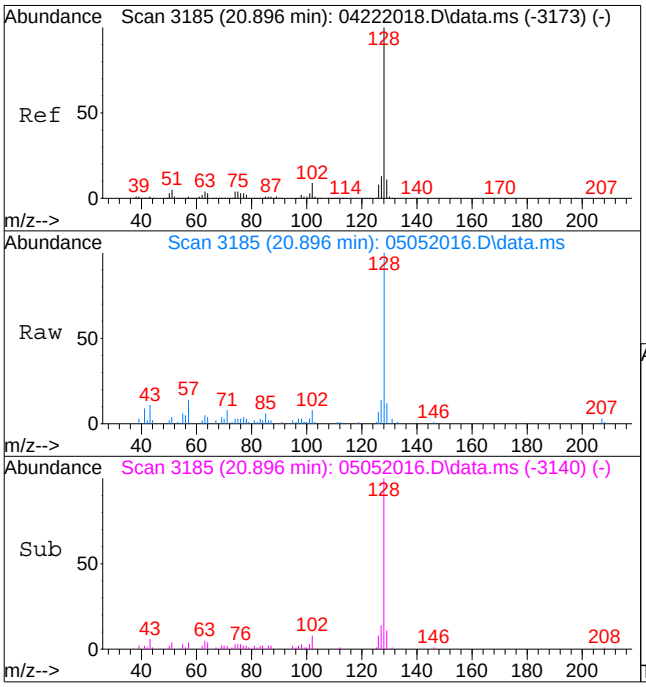


#82
1,2,4-Trimethylbenzene
Concen: 0.94 ng
RT: 18.38 min Scan# 2728
Delta R.T. -0.011 min
Lab File: 05052016.D
Acq: 5 May 2020 12:10

Tgt Ion:105 Resp: 42815

Ion	Ratio	Lower	Upper
105	100		
120	47.1	34.5	74.5

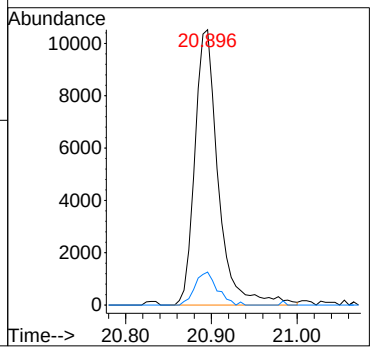




#95
Naphthalene
Concen: 0.34 ng
RT: 20.90 min Scan# 3185
Delta R.T. -0.000 min
Lab File: 05052016.D
Acq: 5 May 2020 12:10

Tgt Ion:128 Resp: 20004

Ion	Ratio	Lower	Upper
128	100		
129	11.4	0.0	30.9



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042004.D Vial: 2
Acq On : 4 May 2020 7:20 Operator: TD
Sample : MB R9050420_1000mL Inst : MS09
Misc : S34-04212006

TD 5/4/20

Quant Time: May 04 08:03:07 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	137755	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	578970	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	248450	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	206341	11.561	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.48%			
57) Toluene-d8 (SS2)	13.54	98	623414	12.995	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.00%			
73) Bromofluorobenzene (SS3)	17.05	174	241266	12.514	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.08%			
Target Compounds						Qvalue
2) Propene	3.91	42	110	N.D.		
3) Dichlorodifluoromethan...	0.00	85	0	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.44	45	122	N.D.		
11) Acetonitrile	5.62	41	98	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) Acetone	5.90	58	846	0.159	ng	98
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	0.00	84	0	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	0.00	76	0	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	0.00	72	0	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.		
41) Benzene	0.00	78	0	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	11.09	84	453	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	11.87	57	404	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042004.D Vial: 2
Acq On : 4 May 2020 7:20 Operator: TD
Sample : MB R9050420_1000mL Inst : MS09
Misc : S34-04212006

Quant Time: May 04 08:03:07 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

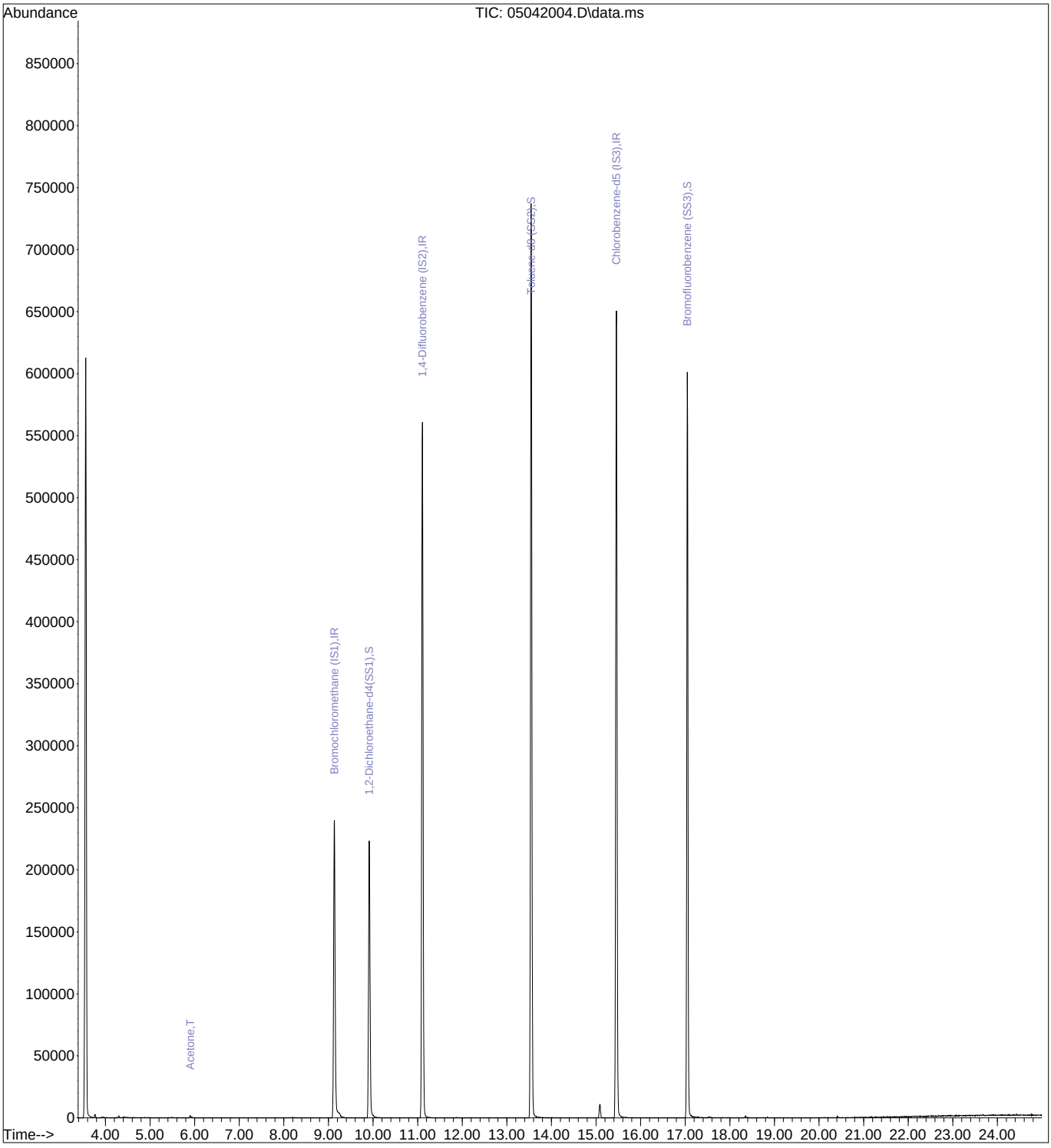
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	13.66	91	419	N.D.		
59) 2-Hexanone	0.00	43	0	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	0.00	91	0	N.D.		
67) m- & p-Xylenes	16.11	91	131	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	0.00	91	0	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	17.21	105	322	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	17.72	91	118	N.D.		
77) 3-Ethyltoluene	17.84	105	526	N.D.		
78) 4-Ethyltoluene	17.89	105	463	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	504	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	18.16	105	373	N.D.		
82) 1,2,4-Trimethylbenzene	18.40	105	292	N.D.		
83) n-Decane	0.00	57	0	N.D.		
84) Benzyl Chloride	18.38	91	122	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	18.67	105	323	N.D.		
88) 4-Isopropyltoluene (p-...	18.84	119	486	N.D.		
89) 1,2,3-Trimethylbenzene	18.84	105	168	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.80	180	192	N.D.		
95) Naphthalene	20.94	128	602	N.D.		
96) n-Dodecane	0.00	57	0	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.38	119	325	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042004.D Vial: 2
Acq On : 4 May 2020 7:20 Operator: TD
Sample : MB R9050420_1000mL Inst : MS09
Misc : S34-04212006

Quant Time: May 04 08:03:07 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\05\05052004.D Vial: 2
Acq On : 5 May 2020 5:14 Operator: SC TD 5/5/20
Sample : MB R9050520_1000mL Inst : MS09
Misc : S34-04212006

Quant Time: May 05 06:20:01 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	134033	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	11.10	114	563209	12.500	ng	-0.03
56) Chlorobenzene-d5 (IS3)	15.45	82	246913	12.500	ng	-0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.91	65	202809	11.679	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.44%			
57) Toluene-d8 (SS2)	13.54	98	613931	12.877	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.04%			
73) Bromofluorobenzene (SS3)	17.05	174	240569	12.556	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.48%			
Target Compounds						Qvalue
2) Propene	0.00	42	0	N.D.		
3) Dichlorodifluoromethan...	0.00	85	0	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	5.45	45	69	N.D.		
11) Acetonitrile	5.62	41	149	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) Acetone	5.89	58	1063	0.205	ng	98
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	0.00	84	0	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	0.00	76	0	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	0.00	72	0	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.		
41) Benzene	10.75	78	114	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	11.11	84	372	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	11.81	130	703	0.055	ng	85
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	11.87	57	383	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\05\05052004.D Vial: 2
Acq On : 5 May 2020 5:14 Operator: SC
Sample : MB R9050520_1000mL Inst : MS09
Misc : S34-04212006

Quant Time: May 05 06:20:01 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

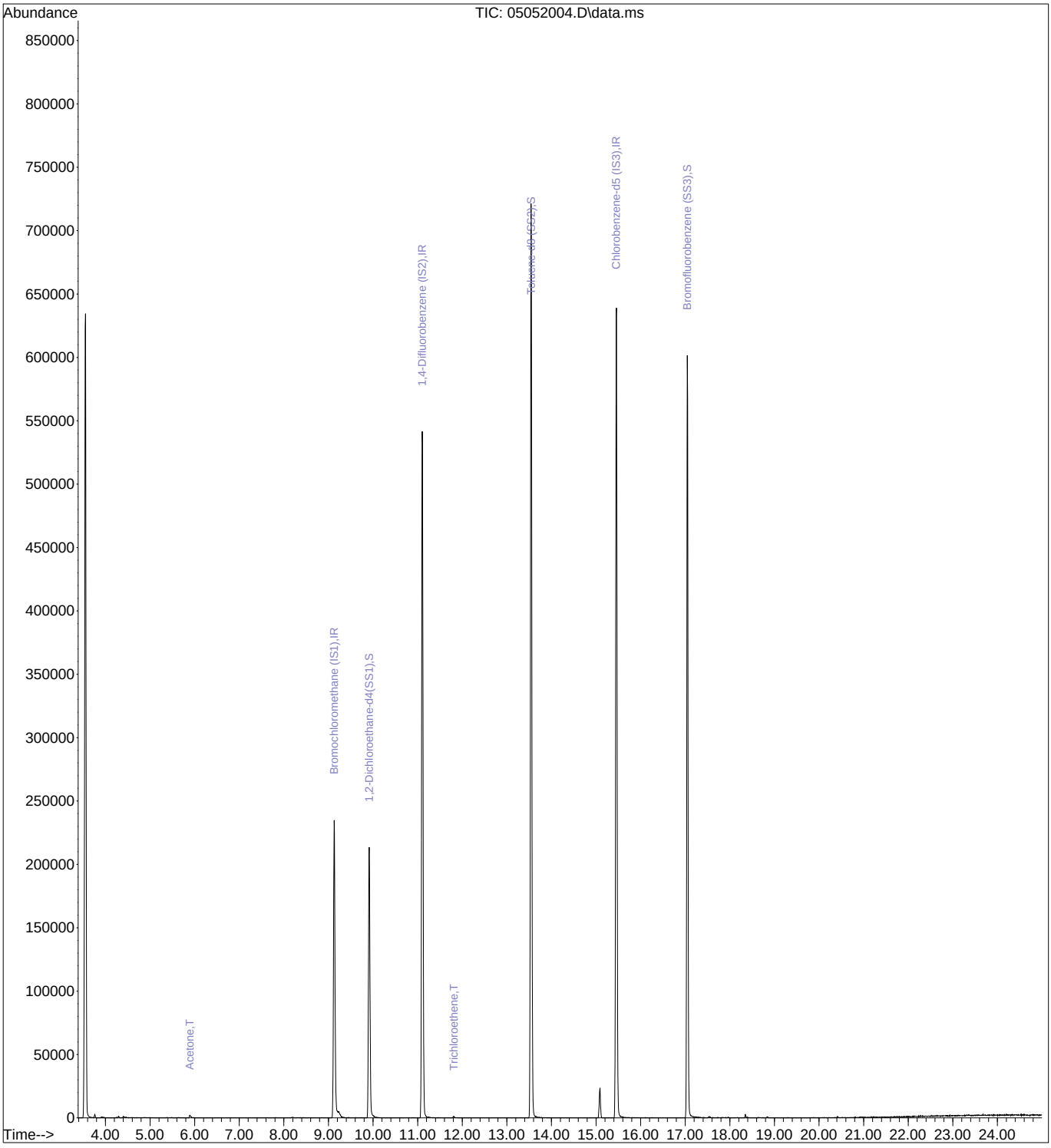
Internal Standards	R.T.	QIon	Response	Conc Units Dev(Min)
51) n-Heptane	0.00	71	0	N.D.
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.
58) Toluene	13.65	91	303	N.D.
59) 2-Hexanone	0.00	43	0	N.D.
60) Dibromochloromethane	0.00	129	0	N.D.
61) 1,2-Dibromoethane	0.00	107	0	N.D.
62) n-Butyl Acetate	0.00	43	0	N.D.
63) n-Octane	0.00	57	0	N.D.
64) Tetrachloroethene	0.00	166	0	N.D.
65) Chlorobenzene	0.00	112	0	N.D.
66) Ethylbenzene	0.00	91	0	N.D.
67) m- & p-Xylenes	0.00	91	0	N.D.
68) Bromoform	0.00	173	0	N.D.
69) Styrene	0.00	104	0	N.D.
70) o-Xylene	0.00	91	0	N.D.
71) n-Nonane	0.00	43	0	N.D.
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.
74) Cumene	17.20	105	126	N.D.
75) alpha-Pinene	0.00	93	0	N.D.
76) n-Propylbenzene	17.75	91	282	N.D.
77) 3-Ethyltoluene	17.84	105	615	N.D.
78) 4-Ethyltoluene	17.84	105	615	N.D.
79) 1,3,5-Trimethylbenzene	17.96	105	596	N.D.
80) alpha-Methylstyrene	0.00	118	0	N.D.
81) 2-Ethyltoluene	18.17	105	427	N.D.
82) 1,2,4-Trimethylbenzene	18.41	105	377	N.D.
83) n-Decane	0.00	57	0	N.D.
84) Benzyl Chloride	18.39	91	246	N.D.
85) 1,3-Dichlorobenzene	18.64	146	158	N.D.
86) 1,4-Dichlorobenzene	18.64	146	158	N.D.
87) sec-Butylbenzene	18.67	105	412	N.D.
88) 4-Isopropyltoluene (p-...	18.84	119	735	N.D.
89) 1,2,3-Trimethylbenzene	18.84	105	354	N.D.
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.
91) d-Limonene	0.00	68	0	N.D.
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.
93) n-Undecane	0.00	57	0	N.D.
94) 1,2,4-Trichlorobenzene	20.80	180	293	N.D.
95) Naphthalene	20.93	128	1222	N.D.
96) n-Dodecane	0.00	57	0	N.D.
97) Hexachlorobutadiene	0.00	225	0	N.D.
98) Cyclohexanone	0.00	55	0	N.D.
99) tert-Butylbenzene	18.38	119	406	N.D.
100) n-Butylbenzene	19.28	91	102	N.D.

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\05\05052004.D Vial: 2
Acq On : 5 May 2020 5:14 Operator: SC
Sample : MB R9050520_1000mL Inst : MS09
Misc : S34-04212006

Quant Time: May 05 06:20:01 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042005.D Vial: 2
Acq On : 4 May 2020 7:53 Operator: TD
Sample : LCS R9050420_25ng Inst : MS09
Misc : S34-04212006/S34-04272008 (5/26)

TD 5/4/20

Quant Time: May 04 08:25:55 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	146490	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	11.12	114	613259	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	263913	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.94	65	223010	11.750	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.00%				
57) Toluene-d8 (SS2)	13.55	98	662292	12.997	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.00%				
73) Bromofluorobenzene (SS3)	17.05	174	257910	12.593	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.72%				
Target Compounds							Qvalue
2) Propene	3.85	42	167261	26.882	ng		98
3) Dichlorodifluoromethan...	3.97	85	574494	24.303	ng		100
4) Chloromethane	4.17	50	231958	26.594	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	306945	24.020	ng		100
6) Vinyl Chloride	4.45	62	303637	26.545	ng		100
7) 1,3-Butadiene	4.63	54	215373	29.481	ng		99
8) Bromomethane	4.94	94	232789	25.897	ng		99
9) Chloroethane	5.15	64	146408	25.303	ng		99
10) Ethanol	5.41	45	603505	128.056	ng		100
11) Acetonitrile	5.59	41	279502	25.054	ng		100
12) Acrolein	5.71	56	120237	27.919	ng		99
13) Acetone	5.86	58	716470	126.627	ng		93
14) Trichlorofluoromethane	6.03	101	569305	24.205	ng		99
15) 2-Propanol (Isopropanol)	6.20	45	916546	50.993	ng		99
16) Acrylonitrile	6.39	53	254899	28.398	ng		99
17) 1,1-Dichloroethene	6.72	96	271912	26.297	ng		96
18) 2-Methyl-2-Propanol (t...	6.85	59	1218302	74.181	ng		98
19) Methylene Chloride	6.89	84	258180	26.018	ng		97
20) 3-Chloro-1-propene (Al...	7.01	41	269537	23.409	ng		99
21) Trichlorotrifluoroethane	7.19	151	309996	25.326	ng		100
22) Carbon Disulfide	7.15	76	888089	26.917	ng		99
23) trans-1,2-Dichloroethene	7.90	61	357634	27.404	ng		98
24) 1,1-Dichloroethane	8.12	63	402669	24.694	ng		100
25) Methyl tert-Butyl Ether	8.18	73	807576	38.437	ng		99
26) Vinyl Acetate	8.30	86	289167	140.033	ng		96
27) 2-Butanone (MEK)	8.53	72	164823	28.354	ng		96
28) cis-1,2-Dichloroethene	8.99	61	340784	25.836	ng		99
29) Diisopropyl Ether	9.22	87	221910	26.357	ng	#	91
30) Ethyl Acetate	9.23	61	147796	57.143	ng		99
31) n-Hexane	9.23	57	338742	26.982	ng		99
32) Chloroform	9.30	83	507277	25.256	ng		99
34) Tetrahydrofuran (THF)	9.68	72	162763	27.644	ng		99
35) Ethyl tert-Butyl Ether	9.77	87	326270	36.250	ng		98
36) 1,2-Dichloroethane	10.04	62	418879	25.353	ng		99
38) 1,1,1-Trichloroethane	10.30	97	533349	25.295	ng		100
39) Isopropyl Acetate	10.67	61	262094	52.097	ng	#	94
40) 1-Butanol	10.69	56	391074	57.860	ng		99
41) Benzene	10.76	78	1009938	25.263	ng		100
42) Carbon Tetrachloride	10.91	117	501406	24.258	ng		100
43) Cyclohexane	11.04	84	810596	51.756	ng		99
44) tert-Amyl Methyl Ether	11.35	73	715501	34.085	ng		99
45) 1,2-Dichloropropane	11.58	63	218394	26.685	ng		99
46) Bromodichloromethane	11.76	83	415558	25.263	ng		100
47) Trichloroethene	11.82	130	364161	26.302	ng		100
48) 1,4-Dioxane	11.78	88	228806	28.465	ng		100
49) 2,2,4-Trimethylpentane...	11.87	57	874947	26.201	ng		98
50) Methyl Methacrylate	12.00	100	244469	57.080	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042005.D Vial: 2
Acq On : 4 May 2020 7:53 Operator: TD
Sample : LCS R9050420_25ng Inst : MS09
Misc : S34-04212006/S34-04272008 (5/26)

Quant Time: May 04 08:25:55 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

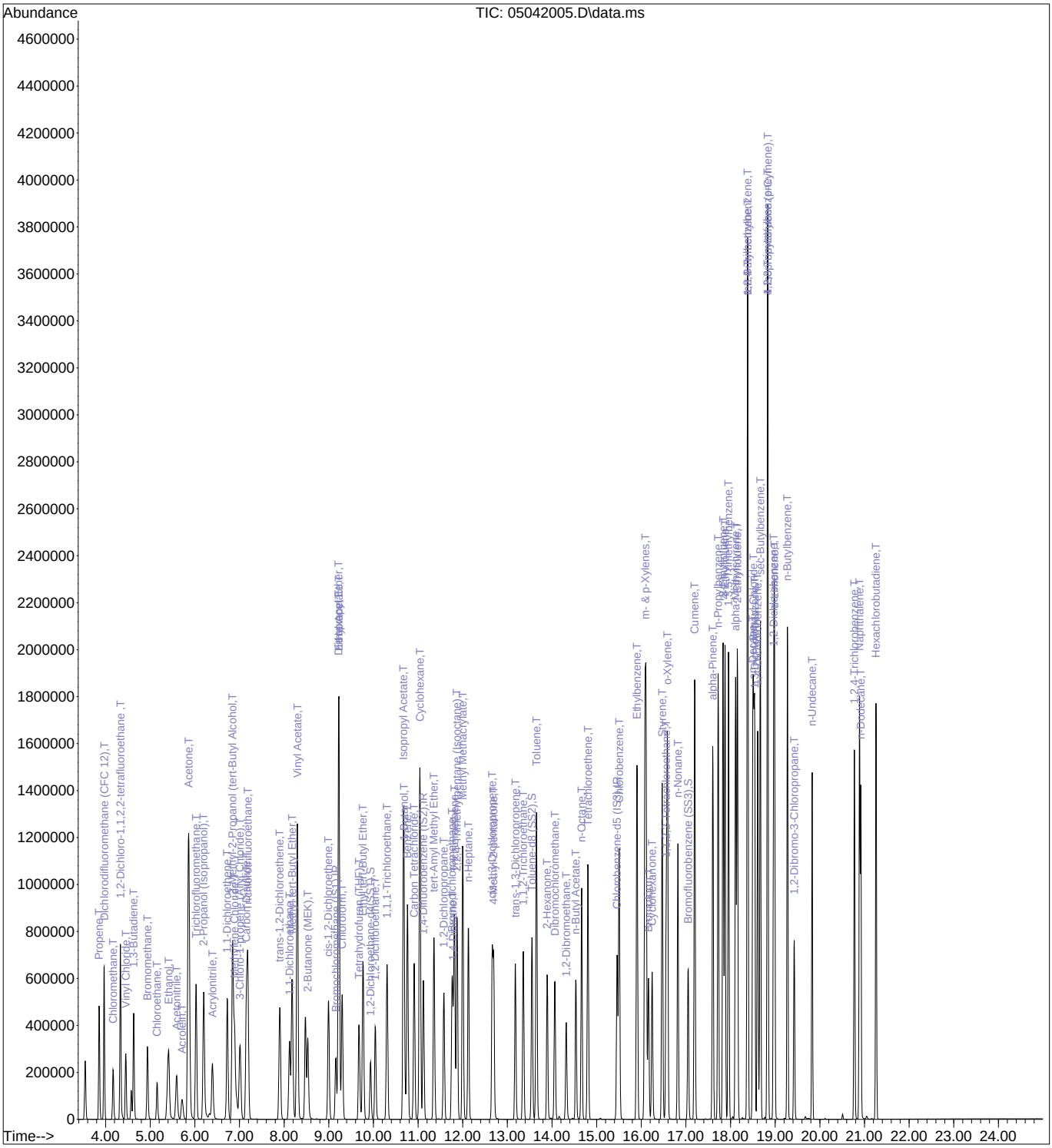
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.13	71	249919	26.906	ng	100
52) cis-1,3-Dichloropropene	12.66	75	474606	28.017	ng	100
53) 4-Methyl-2-pentanone	12.69	58	198121	28.319	ng	97
54) trans-1,3-Dichloropropene	13.18	75	449193	27.696	ng	100
55) 1,1,2-Trichloroethane	13.36	97	286078	26.180	ng	100
58) Toluene	13.65	91	1185382	27.707	ng	99
59) 2-Hexanone	13.89	43	416825	32.674	ng	97
60) Dibromochloromethane	14.07	129	417880	28.748	ng	100
61) 1,2-Dibromoethane	14.32	107	348332	29.213	ng	99
62) n-Butyl Acetate	14.53	43	449128	31.507	ng	99
63) n-Octane	14.67	57	189832	27.874	ng	100
64) Tetrachloroethene	14.81	166	426372	26.458	ng	100
65) Chlorobenzene	15.51	112	868409	27.725	ng	100
66) Ethylbenzene	15.90	91	1382344	27.730	ng	100
67) m- & p-Xylenes	16.09	91	2286678	54.372	ng	99
68) Bromoform	16.16	173	380731	29.580	ng	99
69) Styrene	16.47	104	900692	29.429	ng	99
70) o-Xylene	16.58	91	1126514	27.275	ng	100
71) n-Nonane	16.82	43	362863	27.235	ng	99
72) 1,1,2,2-Tetrachloroethane	16.56	83	444746	28.426	ng	100
74) Cumene	17.19	105	1470850	27.303	ng	100
75) alpha-Pinene	17.60	93	720567	29.372	ng	99
76) n-Propylbenzene	17.72	91	1638143	27.912	ng	99
77) 3-Ethyltoluene	17.83	105	1503918	28.593	ng	99
78) 4-Ethyltoluene	17.88	105	1378935	26.923	ng	100
79) 1,3,5-Trimethylbenzene	17.95	105	1274195	26.922	ng	99
80) alpha-Methylstyrene	18.11	118	690188	29.148	ng	99
81) 2-Ethyltoluene	18.15	105	1434860	27.416	ng	99
82) 1,2,4-Trimethylbenzene	18.38	105	1250439	27.322	ng	99
83) n-Decane	18.50	57	458269	28.421	ng	99
84) Benzyl Chloride	18.51	91	1023453	29.647	ng	100
85) 1,3-Dichlorobenzene	18.54	146	794299	28.788	ng	100
86) 1,4-Dichlorobenzene	18.61	146	811334	28.833	ng	99
87) sec-Butylbenzene	18.67	105	1590063	27.127	ng	99
88) 4-Isopropyltoluene (p-...	18.83	119	1531305	26.892	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	1222137	26.681	ng	99
90) 1,2-Dichlorobenzene	18.97	146	759251	28.325	ng	100
91) d-Limonene	18.99	68	354219	27.396	ng	99
92) 1,2-Dibromo-3-Chloropr...	19.43	157	275633	27.121	ng	96
93) n-Undecane	19.83	57	465421	27.354	ng	100
94) 1,2,4-Trichlorobenzene	20.77	180	571453	28.888	ng	100
95) Naphthalene	20.89	128	1541829	26.153	ng	100
96) n-Dodecane	20.92	57	392611	25.767	ng	100
97) Hexachlorobutadiene	21.26	225	395852	24.589	ng	100
98) Cyclohexanone	16.24	55	282297	27.074	ng	98
99) tert-Butylbenzene	18.38	119	1226932	26.695	ng	100
100) n-Butylbenzene	19.27	91	1203739	27.975	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042005.D Vial: 2
Acq On : 4 May 2020 7:53 Operator: TD
Sample : LCS R9050420_25ng Inst : MS09
Misc : S34-04212006/S34-04272008 (5/26)

Quant Time: May 04 08:25:55 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042006.D Vial: 2
Acq On : 4 May 2020 8:27 Operator: TD
Sample : LCSD R9050420_25ng Inst : MS09 TD 5/4/20
Misc : S34-04212006/S34-04272008 (5/26)

Quant Time: May 04 11:26:18 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	151128	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.12	114	628119	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	273829	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.94	65	228555	11.673	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.36%				
57) Toluene-d8 (SS2)	13.55	98	684965	12.955	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.68%				
73) Bromofluorobenzene (SS3)	17.05	174	268505	12.636	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.12%				
Target Compounds							Qvalue
2) Propene	3.85	42	175547	27.348	ng		99
3) Dichlorodifluoromethan...	3.96	85	599837	24.596	ng		100
4) Chloromethane	4.17	50	246460	27.389	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	323410	24.531	ng		100
6) Vinyl Chloride	4.45	62	319357	27.063	ng		99
7) 1,3-Butadiene	4.62	54	229389	30.435	ng		99
8) Bromomethane	4.94	94	259646	27.999	ng		99
9) Chloroethane	5.15	64	165130	27.662	ng		100
10) Ethanol	5.41	45	630863	129.753	ng		100
11) Acetonitrile	5.59	41	289708	25.172	ng		100
12) Acrolein	5.71	56	122596	27.593	ng		100
13) Acetone	5.86	58	736197	126.121	ng		93
14) Trichlorofluoromethane	6.03	101	577376	23.795	ng		99
15) 2-Propanol (Isopropanol)	6.20	45	957492	51.637	ng		99
16) Acrylonitrile	6.39	53	262182	28.313	ng		99
17) 1,1-Dichloroethene	6.72	96	277658	26.029	ng		97
18) 2-Methyl-2-Propanol (t...	6.85	59	1253095	73.958	ng		98
19) Methylene Chloride	6.88	84	264833	25.869	ng		97
20) 3-Chloro-1-propene (Al...	7.01	41	275954	23.231	ng		99
21) Trichlorotrifluoroethane	7.19	151	315989	25.023	ng		100
22) Carbon Disulfide	7.15	76	911577	26.781	ng		99
23) trans-1,2-Dichloroethene	7.90	61	364859	27.100	ng		97
24) 1,1-Dichloroethane	8.12	63	416051	24.731	ng		100
25) Methyl tert-Butyl Ether	8.18	73	827576	38.180	ng		99
26) Vinyl Acetate	8.30	86	298141	139.948	ng		98
27) 2-Butanone (MEK)	8.53	72	168984	28.178	ng		97
28) cis-1,2-Dichloroethene	8.99	61	348084	25.579	ng		98
29) Diisopropyl Ether	9.22	87	228887	26.351	ng	#	91
30) Ethyl Acetate	9.23	61	152413	57.120	ng		99
31) n-Hexane	9.23	57	347466	26.827	ng		100
32) Chloroform	9.30	83	516744	24.937	ng		99
34) Tetrahydrofuran (THF)	9.68	72	166915	27.479	ng		99
35) Ethyl tert-Butyl Ether	9.77	87	331641	35.716	ng		100
36) 1,2-Dichloroethane	10.04	62	424109	24.882	ng		99
38) 1,1,1-Trichloroethane	10.30	97	542394	25.115	ng		99
39) Isopropyl Acetate	10.67	61	267751	51.962	ng		95
40) 1-Butanol	10.69	56	410896	59.354	ng		97
41) Benzene	10.76	78	1037865	25.347	ng		100
42) Carbon Tetrachloride	10.91	117	507924	23.992	ng		100
43) Cyclohexane	11.04	84	831224	51.818	ng		99
44) tert-Amyl Methyl Ether	11.35	73	734651	34.170	ng		99
45) 1,2-Dichloropropane	11.57	63	222614	26.557	ng		100
46) Bromodichloromethane	11.76	83	425011	25.226	ng		99
47) Trichloroethene	11.81	130	367507	25.916	ng		99
48) 1,4-Dioxane	11.78	88	234527	28.487	ng		100
49) 2,2,4-Trimethylpentane...	11.87	57	897212	26.232	ng		98
50) Methyl Methacrylate	12.00	100	248493	56.647	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042006.D Vial: 2
Acq On : 4 May 2020 8:27 Operator: TD
Sample : LCSD R9050420_25ng Inst : MS09
Misc : S34-04212006/S34-04272008 (5/26)

Quant Time: May 04 11:26:18 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

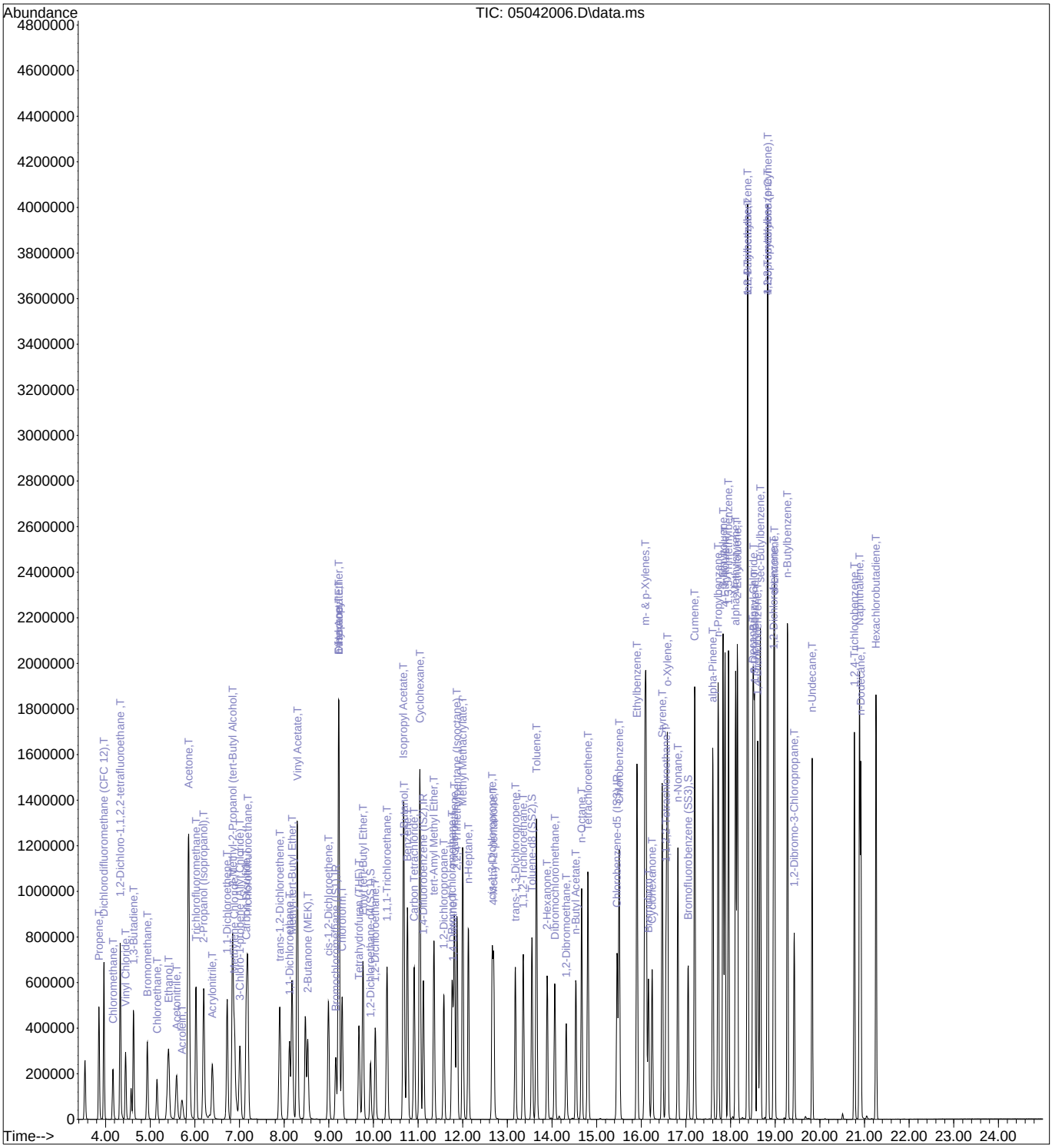
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.13	71	257157	27.030	ng	100
52) cis-1,3-Dichloropropene	12.66	75	485053	27.956	ng	100
53) 4-Methyl-2-pentanone	12.69	58	205186	28.635	ng	96
54) trans-1,3-Dichloropropene	13.18	75	457287	27.528	ng	99
55) 1,1,2-Trichloroethane	13.36	97	293205	26.197	ng	100
58) Toluene	13.65	91	1214727	27.365	ng	100
59) 2-Hexanone	13.89	43	429996	32.485	ng	98
60) Dibromochloromethane	14.07	129	425835	28.234	ng	99
61) 1,2-Dibromoethane	14.32	107	356041	28.778	ng	100
62) n-Butyl Acetate	14.53	43	463717	31.352	ng	99
63) n-Octane	14.67	57	191980	27.168	ng	99
64) Tetrachloroethene	14.81	166	435134	26.024	ng	100
65) Chlorobenzene	15.51	112	882950	27.169	ng	100
66) Ethylbenzene	15.90	91	1408337	27.228	ng	100
67) m- & p-Xylenes	16.09	91	2330731	53.413	ng	99
68) Bromoform	16.16	173	385980	28.901	ng	99
69) Styrene	16.47	104	925929	29.158	ng	99
70) o-Xylene	16.58	91	1147817	26.784	ng	99
71) n-Nonane	16.82	43	369596	26.736	ng	98
72) 1,1,2,2-Tetrachloroethane	16.56	83	455351	28.050	ng	100
74) Cumene	17.19	105	1496048	26.765	ng	99
75) alpha-Pinene	17.60	93	742533	29.172	ng	98
76) n-Propylbenzene	17.72	91	1676045	27.524	ng	99
77) 3-Ethyltoluene	17.83	105	1546490	28.338	ng	100
78) 4-Ethyltoluene	17.88	105	1428227	26.876	ng	100
79) 1,3,5-Trimethylbenzene	17.95	105	1314855	26.775	ng	99
80) alpha-Methylstyrene	18.11	118	713226	29.031	ng	99
81) 2-Ethyltoluene	18.15	105	1485566	27.357	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	1297052	27.314	ng	100
83) n-Decane	18.50	57	479367	28.653	ng	99
84) Benzyl Chloride	18.51	91	1086860	30.344	ng	99
85) 1,3-Dichlorobenzene	18.54	146	824289	28.793	ng	100
86) 1,4-Dichlorobenzene	18.61	146	836989	28.668	ng	99
87) sec-Butylbenzene	18.67	105	1634541	26.876	ng	99
88) 4-Isopropyltoluene (p-...	18.83	119	1576199	26.678	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	1264629	26.609	ng	99
90) 1,2-Dichlorobenzene	18.97	146	785159	28.231	ng	99
91) d-Limonene	18.99	68	370370	27.608	ng	100
92) 1,2-Dibromo-3-Chloropr...	19.43	157	293709	27.853	ng	96
93) n-Undecane	19.83	57	496406	28.119	ng	100
94) 1,2,4-Trichlorobenzene	20.77	180	617350	30.078	ng	100
95) Naphthalene	20.89	128	1698329	27.764	ng	100
96) n-Dodecane	20.92	57	436466	27.608	ng	99
97) Hexachlorobutadiene	21.26	225	418416	25.050	ng	100
98) Cyclohexanone	16.24	55	294789	27.249	ng	98
99) tert-Butylbenzene	18.38	119	1260371	26.429	ng	100
100) n-Butylbenzene	19.27	91	1261566	28.257	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042006.D Vial: 2
Acq On : 4 May 2020 8:27 Operator: TD
Sample : LCSD R9050420_25ng Inst : MS09
Misc : S34-04212006/S34-04272008 (5/26)

Quant Time: May 04 11:26:18 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\05\05052005.D Vial: 2
Acq On : 5 May 2020 5:48 Operator: SC
Sample : LCS R9050520_25ng Inst : MS09
Misc : S34-04212006/S34-04272008 (5/26)

TD 5/5/20

Quant Time: May 05 06:20:38 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	143087	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.12	114	598082	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	260967	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.94	65	217557	11.735	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.92%				
57) Toluene-d8 (SS2)	13.55	98	647203	12.844	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.72%				
73) Bromofluorobenzene (SS3)	17.05	174	259008	12.790	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.32%				
Target Compounds							Qvalue
2) Propene	3.85	42	165283	27.196	ng		99
3) Dichlorodifluoromethan...	3.96	85	572895	24.812	ng		100
4) Chloromethane	4.17	50	227894	26.749	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	303726	24.333	ng		99
6) Vinyl Chloride	4.45	62	299743	26.828	ng		99
7) 1,3-Butadiene	4.63	54	210319	29.473	ng		98
8) Bromomethane	4.94	94	227561	25.918	ng		99
9) Chloroethane	5.15	64	141282	24.997	ng		98
10) Ethanol	5.41	45	583596	126.777	ng		99
11) Acetonitrile	5.59	41	269085	24.694	ng		100
12) Acrolein	5.71	56	114292	27.169	ng		100
13) Acetone	5.86	58	689761	124.806	ng		94
14) Trichlorofluoromethane	6.03	101	561105	24.424	ng		99
15) 2-Propanol (Isopropanol)	6.20	45	884248	50.366	ng		99
16) Acrylonitrile	6.39	53	245760	28.031	ng		99
17) 1,1-Dichloroethene	6.72	96	266934	26.430	ng		95
18) 2-Methyl-2-Propanol (t...	6.85	59	1178384	73.457	ng		98
19) Methylene Chloride	6.89	84	251143	25.910	ng		97
20) 3-Chloro-1-propene (Al...	7.01	41	256662	22.821	ng		97
21) Trichlorotrifluoroethane	7.19	151	303683	25.400	ng		100
22) Carbon Disulfide	7.15	76	863675	26.799	ng		100
23) trans-1,2-Dichloroethene	7.90	61	347564	27.266	ng		98
24) 1,1-Dichloroethane	8.12	63	395258	24.816	ng		100
25) Methyl tert-Butyl Ether	8.18	73	783382	38.172	ng		100
26) Vinyl Acetate	8.30	86	282448	140.032	ng		95
27) 2-Butanone (MEK)	8.53	72	161205	28.391	ng		95
28) cis-1,2-Dichloroethene	8.99	61	333799	25.908	ng		98
29) Diisopropyl Ether	9.22	87	215317	26.182	ng	#	91
30) Ethyl Acetate	9.23	61	143343	56.740	ng		99
31) n-Hexane	9.23	57	328076	26.754	ng		100
32) Chloroform	9.30	83	496115	25.287	ng		100
34) Tetrahydrofuran (THF)	9.68	72	156642	27.237	ng		99
35) Ethyl tert-Butyl Ether	9.77	87	319753	36.370	ng		98
36) 1,2-Dichloroethane	10.04	62	409795	25.393	ng		100
38) 1,1,1-Trichloroethane	10.30	97	526912	25.623	ng		99
39) Isopropyl Acetate	10.67	61	253305	51.628	ng	#	93
40) 1-Butanol	10.69	56	381295	57.844	ng		98
41) Benzene	10.76	78	990976	25.417	ng		100
42) Carbon Tetrachloride	10.91	117	494174	24.515	ng		100
43) Cyclohexane	11.04	84	790761	51.771	ng		100
44) tert-Amyl Methyl Ether	11.35	73	704862	34.431	ng		99
45) 1,2-Dichloropropane	11.58	63	210896	26.423	ng		100
46) Bromodichloromethane	11.76	83	407303	25.389	ng		99
47) Trichloroethene	11.81	130	354981	26.290	ng		99
48) 1,4-Dioxane	11.78	88	222724	28.412	ng		100
49) 2,2,4-Trimethylpentane...	11.87	57	854447	26.237	ng		98
50) Methyl Methacrylate	12.00	100	236413	56.600	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\05\05052005.D Vial: 2
Acq On : 5 May 2020 5:48 Operator: SC
Sample : LCS R9050520_25ng Inst : MS09
Misc : S34-04212006/S34-04272008 (5/26)

Quant Time: May 05 06:20:38 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

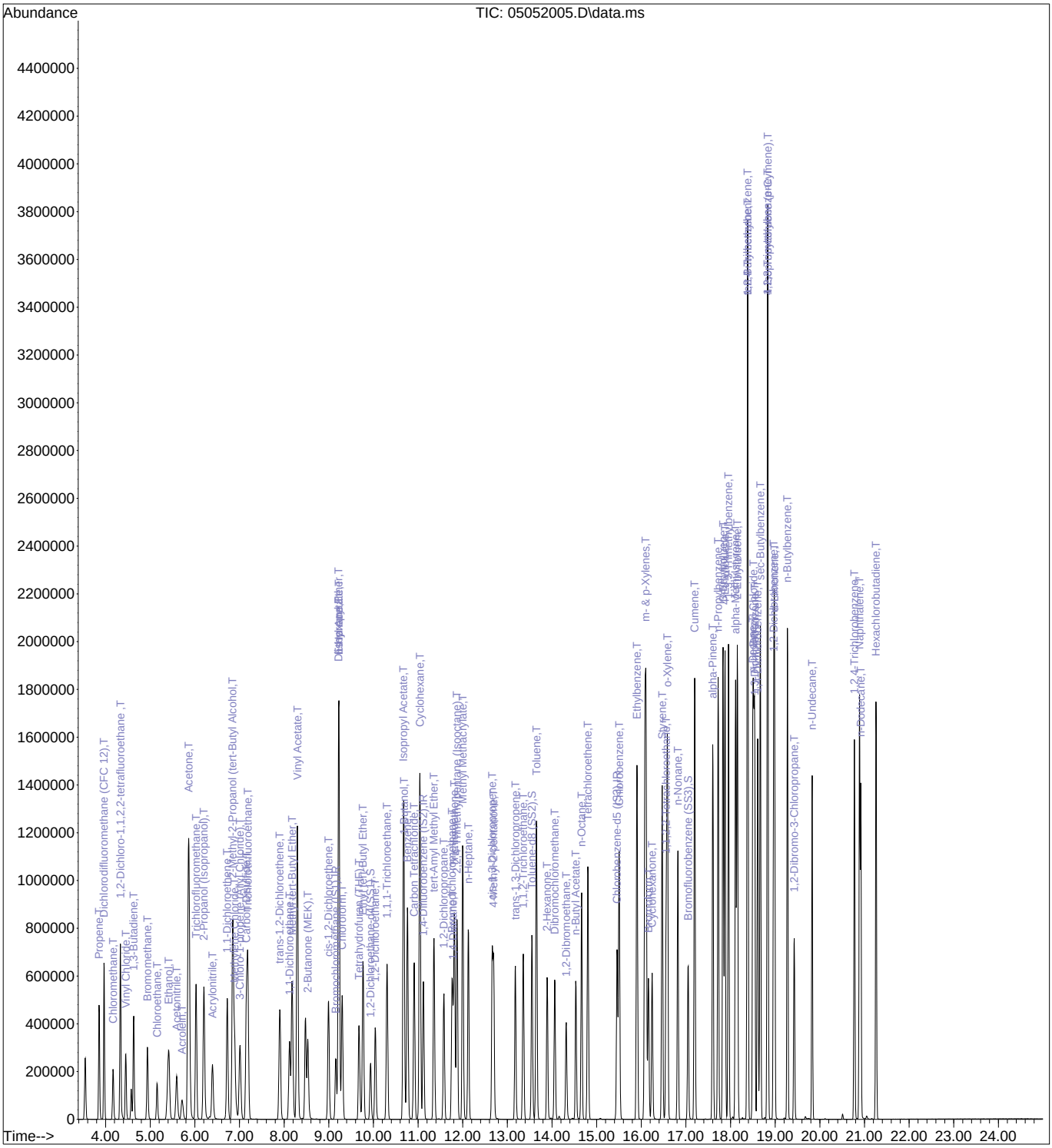
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	241265	26.634	ng	100
52) cis-1,3-Dichloropropene	12.66	75	464216	28.099	ng	100
53) 4-Methyl-2-pentanone	12.69	58	191350	28.045	ng	97
54) trans-1,3-Dichloropropene	13.18	75	439983	27.817	ng	99
55) 1,1,2-Trichloroethane	13.36	97	279608	26.237	ng	100
58) Toluene	13.65	91	1160464	27.431	ng	99
59) 2-Hexanone	13.89	43	402195	31.883	ng	98
60) Dibromochloromethane	14.06	129	410120	28.532	ng	100
61) 1,2-Dibromoethane	14.32	107	340297	28.861	ng	100
62) n-Butyl Acetate	14.53	43	432601	30.690	ng	99
63) n-Octane	14.67	57	182007	27.026	ng	98
64) Tetrachloroethene	14.80	166	418463	26.261	ng	100
65) Chlorobenzene	15.51	112	841823	27.180	ng	100
66) Ethylbenzene	15.90	91	1345321	27.292	ng	100
67) m- & p-Xylenes	16.10	91	2235556	53.757	ng	99
68) Bromoform	16.16	173	374433	29.419	ng	99
69) Styrene	16.47	104	880653	29.099	ng	99
70) o-Xylene	16.58	91	1100222	26.939	ng	100
71) n-Nonane	16.82	43	347298	26.361	ng	98
72) 1,1,2,2-Tetrachloroethane	16.56	83	432354	27.946	ng	100
74) Cumene	17.19	105	1437616	26.988	ng	99
75) alpha-Pinene	17.60	93	709398	29.244	ng	99
76) n-Propylbenzene	17.72	91	1600390	27.577	ng	99
77) 3-Ethyltoluene	17.83	105	1466922	28.205	ng	100
78) 4-Ethyltoluene	17.88	105	1343638	26.530	ng	100
79) 1,3,5-Trimethylbenzene	17.95	105	1246002	26.623	ng	100
80) alpha-Methylstyrene	18.11	118	670389	28.632	ng	99
81) 2-Ethyltoluene	18.15	105	1401677	27.085	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	1226397	27.099	ng	100
83) n-Decane	18.50	57	441540	27.693	ng	100
84) Benzyl Chloride	18.51	91	1000543	29.311	ng	99
85) 1,3-Dichlorobenzene	18.54	146	780523	28.608	ng	100
86) 1,4-Dichlorobenzene	18.61	146	793296	28.511	ng	100
87) sec-Butylbenzene	18.67	105	1551750	26.772	ng	99
88) 4-Isopropyltoluene (p-...	18.83	119	1500007	26.639	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	1194330	26.368	ng	99
90) 1,2-Dichlorobenzene	18.97	146	743931	28.067	ng	100
91) d-Limonene	18.99	68	342632	26.799	ng	99
92) 1,2-Dibromo-3-Chloropr...	19.43	157	274205	27.285	ng	96
93) n-Undecane	19.83	57	451767	26.851	ng	100
94) 1,2,4-Trichlorobenzene	20.77	180	575037	29.397	ng	100
95) Naphthalene	20.89	128	1548476	26.562	ng	100
96) n-Dodecane	20.92	57	385914	25.614	ng	100
97) Hexachlorobutadiene	21.26	225	395336	24.835	ng	100
98) Cyclohexanone	16.24	55	273739	26.550	ng	98
99) tert-Butylbenzene	18.38	119	1193897	26.269	ng	99
100) n-Butylbenzene	19.27	91	1177692	27.678	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\05\05052005.D Vial: 2
Acq On : 5 May 2020 5:48 Operator: SC
Sample : LCS R9050520_25ng Inst : MS09
Misc : S34-04212006/S34-04272008 (5/26)

Quant Time: May 05 06:20:38 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\05\05052006.D Vial: 2
Acq On : 5 May 2020 6:22 Operator: SC
Sample : LCSD R9050520_25ng Inst : MS09
Misc : S34-04212006/S34-04272008 (5/26)

TD 5/5/20

Quant Time: May 05 08:50:08 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	145177	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.12	114	604831	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	264217	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.94	65	221580	11.780	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.24%				
57) Toluene-d8 (SS2)	13.55	98	657685	12.892	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.12%				
73) Bromofluorobenzene (SS3)	17.05	174	258403	12.603	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.80%				
Target Compounds							Qvalue
2) Propene	3.85	42	169939	27.560	ng		99
3) Dichlorodifluoromethan...	3.96	85	581134	24.806	ng		100
4) Chloromethane	4.17	50	243625	28.184	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	316220	24.969	ng		100
6) Vinyl Chloride	4.45	62	311998	27.523	ng		100
7) 1,3-Butadiene	4.63	54	215258	29.731	ng		99
8) Bromomethane	4.94	94	235129	26.394	ng		99
9) Chloroethane	5.15	64	145916	25.446	ng		99
10) Ethanol	5.41	45	603590	129.233	ng		100
11) Acetonitrile	5.59	41	278769	25.214	ng		100
12) Acrolein	5.71	56	118736	27.819	ng		100
13) Acetone	5.86	58	706068	125.918	ng		93
14) Trichlorofluoromethane	6.03	101	564364	24.212	ng		99
15) 2-Propanol (Isopropanol)	6.20	45	902882	50.687	ng		99
16) Acrylonitrile	6.39	53	251573	28.281	ng		99
17) 1,1-Dichloroethene	6.72	96	269569	26.307	ng		95
18) 2-Methyl-2-Propanol (t...	6.85	59	1206024	74.098	ng		98
19) Methylene Chloride	6.88	84	255916	26.023	ng		96
20) 3-Chloro-1-propene (Al...	7.01	41	262674	23.019	ng		98
21) Trichlorotrifluoroethane	7.18	151	309411	25.507	ng		99
22) Carbon Disulfide	7.15	76	878811	26.876	ng		100
23) trans-1,2-Dichloroethene	7.90	61	352341	27.243	ng		97
24) 1,1-Dichloroethane	8.12	63	399130	24.698	ng		99
25) Methyl tert-Butyl Ether	8.18	73	797382	38.295	ng		99
26) Vinyl Acetate	8.30	86	287786	140.625	ng		95
27) 2-Butanone (MEK)	8.53	72	163341	28.353	ng		96
28) cis-1,2-Dichloroethene	8.99	61	337843	25.844	ng		99
29) Diisopropyl Ether	9.22	87	221097	26.498	ng	#	89
30) Ethyl Acetate	9.23	61	146282	57.069	ng		99
31) n-Hexane	9.23	57	335478	26.963	ng		99
32) Chloroform	9.30	83	500672	25.152	ng		100
34) Tetrahydrofuran (THF)	9.68	72	161608	27.696	ng		99
35) Ethyl tert-Butyl Ether	9.77	87	322307	36.133	ng		99
36) 1,2-Dichloroethane	10.04	62	409635	25.018	ng		100
38) 1,1,1-Trichloroethane	10.30	97	531190	25.543	ng		99
39) Isopropyl Acetate	10.67	61	259286	52.257	ng		94
40) 1-Butanol	10.69	56	393859	59.084	ng		97
41) Benzene	10.76	78	1000581	25.377	ng		100
42) Carbon Tetrachloride	10.92	117	494231	24.244	ng		100
43) Cyclohexane	11.04	84	801119	51.864	ng		100
44) tert-Amyl Methyl Ether	11.35	73	716329	34.600	ng		99
45) 1,2-Dichloropropane	11.58	63	213633	26.467	ng		100
46) Bromodichloromethane	11.76	83	409137	25.219	ng		100
47) Trichloroethene	11.81	130	359655	26.339	ng		100
48) 1,4-Dioxane	11.78	88	225147	28.400	ng		100
49) 2,2,4-Trimethylpentane...	11.87	57	866647	26.314	ng		98
50) Methyl Methacrylate	12.00	100	240394	56.910	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\05\05052006.D Vial: 2
Acq On : 5 May 2020 6:22 Operator: SC
Sample : LCSD R9050520_25ng Inst : MS09
Misc : S34-04212006/S34-04272008 (5/26)

Quant Time: May 05 08:50:08 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	248210	27.095	ng	99
52) cis-1,3-Dichloropropene	12.66	75	467300	27.970	ng	100
53) 4-Methyl-2-pentanone	12.69	58	193596	28.058	ng	98
54) trans-1,3-Dichloropropene	13.18	75	444596	27.795	ng	99
55) 1,1,2-Trichloroethane	13.36	97	282346	26.198	ng	100
58) Toluene	13.65	91	1173171	27.390	ng	100
59) 2-Hexanone	13.89	43	411680	32.233	ng	98
60) Dibromochloromethane	14.06	129	415471	28.549	ng	99
61) 1,2-Dibromoethane	14.32	107	344543	28.862	ng	100
62) n-Butyl Acetate	14.53	43	441661	30.947	ng	99
63) n-Octane	14.67	57	185580	27.218	ng	98
64) Tetrachloroethene	14.81	166	423847	26.271	ng	100
65) Chlorobenzene	15.51	112	853162	27.207	ng	100
66) Ethylbenzene	15.90	91	1364906	27.349	ng	100
67) m- & p-Xylenes	16.10	91	2270273	53.920	ng	99
68) Bromoform	16.16	173	375040	29.104	ng	99
69) Styrene	16.47	104	893118	29.148	ng	99
70) o-Xylene	16.58	91	1113167	26.921	ng	100
71) n-Nonane	16.82	43	356891	26.756	ng	99
72) 1,1,2,2-Tetrachloroethane	16.56	83	439532	28.060	ng	100
74) Cumene	17.19	105	1442148	26.740	ng	99
75) alpha-Pinene	17.60	93	718279	29.245	ng	99
76) n-Propylbenzene	17.72	91	1615835	27.500	ng	99
77) 3-Ethyltoluene	17.83	105	1492131	28.336	ng	100
78) 4-Ethyltoluene	17.88	105	1363317	26.587	ng	100
79) 1,3,5-Trimethylbenzene	17.95	105	1278780	26.987	ng	100
80) alpha-Methylstyrene	18.11	118	692779	29.224	ng	100
81) 2-Ethyltoluene	18.15	105	1437119	27.428	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	1264241	27.592	ng	100
83) n-Decane	18.50	57	459670	28.475	ng	100
84) Benzyl Chloride	18.51	91	1049607	30.370	ng	100
85) 1,3-Dichlorobenzene	18.54	146	795826	28.810	ng	100
86) 1,4-Dichlorobenzene	18.61	146	813924	28.892	ng	100
87) sec-Butylbenzene	18.67	105	1597544	27.223	ng	99
88) 4-Isopropyltoluene (p-...	18.83	119	1537661	26.972	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	1228708	26.793	ng	99
90) 1,2-Dichlorobenzene	18.97	146	767481	28.599	ng	100
91) d-Limonene	18.99	68	364114	28.129	ng	100
92) 1,2-Dibromo-3-Chloropr...	19.43	157	286505	28.159	ng	96
93) n-Undecane	19.83	57	471479	27.678	ng	99
94) 1,2,4-Trichlorobenzene	20.77	180	601539	30.373	ng	100
95) Naphthalene	20.89	128	1658215	28.095	ng	100
96) n-Dodecane	20.92	57	421821	27.652	ng	100
97) Hexachlorobutadiene	21.26	225	412348	25.585	ng	100
98) Cyclohexanone	16.24	55	281336	26.951	ng	98
99) tert-Butylbenzene	18.38	119	1228287	26.694	ng	99
100) n-Butylbenzene	19.27	91	1225228	28.441	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\05\05052006.D Vial: 2
Acq On : 5 May 2020 6:22 Operator: SC
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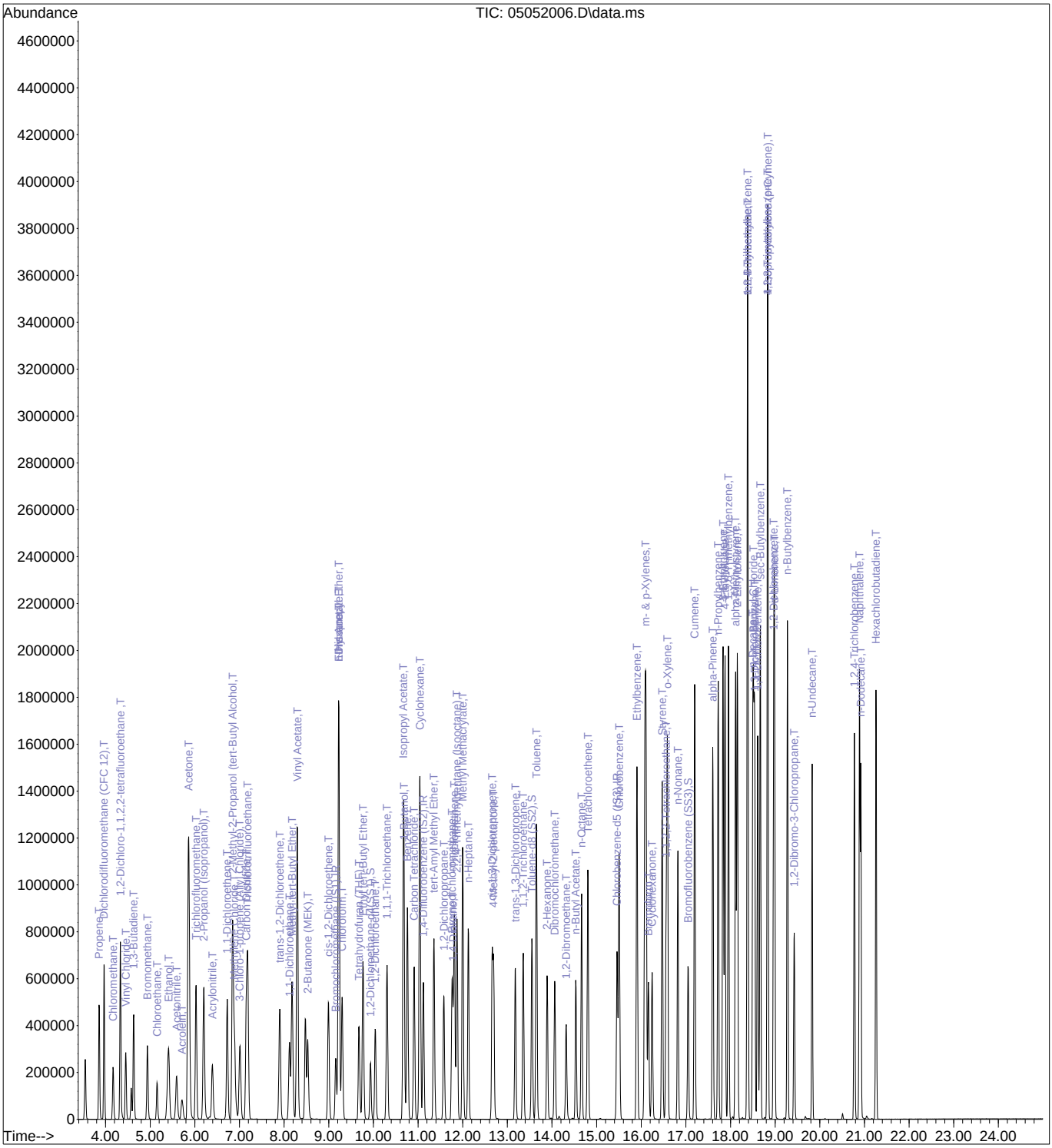
Misc : S34-04212006/S34-04272008 (5/26)

Quant Time: May 05 08:50:08 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Response Factor Report MS09

Method Path : I:\MS09\Methods\
Method File : R9042220.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Apr 23 14:12:50 2020
Response Via : Initial Calibration

4/23/20

Calibration Files
0.2 =04222023.D 0.5 =04222013.D 1.0 =04222014.D 5.0 =04222015.D 25 =04222016.D 50 =04222

		Compound	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------	ISTD	----------						
2)	T	Propene	0.558	0.530	0.468	0.498	0.500	0.537	0.625	0.531	9.61
3)	T	Dichlorodifluo...	2.167	2.392	2.121	1.989	1.939	1.797	1.715	2.017	11.45
4)	T	Chloromethane	0.859	0.912	0.802	0.679	0.788	0.662	0.508	0.744	18.49
5)	T	1,2-Dichloro-1...	1.205	1.262	1.169	1.046	1.051	0.980	0.919	1.090	11.47
6)	T	Vinyl Chloride	1.031	1.068	0.997	0.957	0.971	0.925	0.883	0.976	6.42
7)	T	1,3-Butadiene	0.625	0.663	0.609	0.614	0.661	0.601	0.590	0.623	4.56
8)	T	Bromomethane	0.810	0.873	0.801	0.727	0.749	0.718	0.691	0.767	8.32
9)	T	Chloroethane	0.532	0.560	0.535	0.457	0.474	0.455	0.442	0.494	9.62
10)	T	Ethanol	0.505	0.494	0.430	0.344	0.361	0.345	0.336	0.402	18.28
11)	T	Acetonitrile	1.105	1.061	0.977	0.888	0.896	0.875	0.862	0.952	10.27
12)	T	Acrolein	0.340	0.348	0.389	0.364	0.385	0.375	0.371	0.367	4.94
13)	T	Acetone	0.567	0.562	0.524	0.464	0.450	0.420	0.394	0.483	14.21
14)	T	Trichlorofluor...	2.131	2.315	2.163	1.969	1.940	1.812	1.719	2.007	10.41
15)	T	2-Propanol (Is...	1.808	1.766	1.670	1.473	1.616	1.364	1.039	1.534	17.48
16)	T	Acrylonitrile	0.611	0.776	0.763	0.793	0.826	0.803	0.790	0.766	9.28
17)	T	1,1-Dichloroet...	0.937	1.006	0.918	0.857	0.858	0.817	0.784	0.882	8.63
18)	T	2-Methyl-2-Pro...	1.310	1.502	1.376	1.338	1.411	1.428	1.445	1.401	4.69
19)	T	Methylene Chlo...	0.909	0.949	0.875	0.826	0.831	0.792	0.746	0.847	8.21
20)	T	3-Chloro-1-pro...	1.049	1.180	1.051	0.934	0.927	0.892	0.844	0.983	11.82
21)	T	Trichlorotrifl...	1.117	1.242	1.128	1.020	0.994	0.930	0.881	1.044	12.00
22)	T	Carbon Disulfide	2.907	3.151	2.883	2.739	2.804	2.672	2.552	2.815	6.83
23)	T	trans-1,2-Dich...	0.991	1.205	1.144	1.128	1.153	1.106	1.068	1.114	6.16
24)	T	1,1-Dichloroet...	1.476	1.555	1.490	1.341	1.353	1.284	1.239	1.391	8.42
25)	T	Methyl tert-Bu...	1.735	1.922	1.763	1.717	1.775	1.794	1.845	1.793	3.93
26)	T	Vinyl Acetate	0.143	0.183	0.179	0.186	0.192	0.180	0.170	0.176	9.11
27)	T	2-Butanone (MEK)	0.420	0.488	0.521	0.505	0.532	0.513	0.493	0.496	7.41
28)	T	cis-1,2-Dichlo...	1.106	1.268	1.184	1.109	1.113	1.068	1.030	1.126	6.97
29)	T	Diisopropyl Ether	0.905	0.842	0.744	0.679	0.660	0.616	0.584	0.718	16.53
30)	T	Ethyl Acetate	0.187	0.248	0.235	0.225	0.230	0.216	0.205	0.221	9.28
31)	T	n-Hexane	1.190	1.283	1.164	1.029	1.015	0.940	0.878	1.071	13.59
32)	T	Chloroform	1.823	1.972	1.802	1.671	1.658	1.564	1.508	1.714	9.41
33)	S	1,2-Dichloroet...	1.605	1.626	1.667	1.619	1.604	1.606	1.610	1.620	1.38
34)	T	Tetrahydrofura...	0.496	0.553	0.516	0.493	0.506	0.485	0.468	0.502	5.39
35)	T	Ethyl tert-But...	0.830	0.913	0.819	0.743	0.736	0.685	0.650	0.768	11.90
36)	T	1,2-Dichloroet...	1.392	1.582	1.491	1.397	1.395	1.328	1.283	1.410	7.08
37)	IR	1,4-Difluorobenzen...	----------	ISTD	----------						
38)	T	1,1,1-Trichlor...	0.423	0.509	0.440	0.425	0.424	0.402	0.387	0.430	9.06
39)	T	Isopropyl Acetate	0.101	0.119	0.107	0.102	0.102	0.096	0.092	0.103	8.43
40)	T	1-Butanol	0.116	0.121	0.118	0.138	0.164	0.156	0.151	0.138	14.38
41)	T	Benzene	0.888	0.924	0.845	0.799	0.789	0.744	0.714	0.815	9.27
42)	T	Carbon Tetrach...	0.416	0.487	0.432	0.421	0.420	0.394	0.378	0.421	8.15
43)	T	Cyclohexane	0.343	0.365	0.333	0.318	0.311	0.291	0.274	0.319	9.69
44)	T	tert-Amyl Meth...	0.443	0.499	0.459	0.420	0.421	0.390	0.362	0.428	10.51
45)	T	1,2-Dichloropr...	0.167	0.188	0.173	0.164	0.165	0.157	0.153	0.167	6.90
46)	T	Bromodichlorom...	0.347	0.383	0.344	0.328	0.331	0.311	0.302	0.335	7.98
47)	T	Trichloroethene	0.283	0.325	0.291	0.284	0.281	0.263	0.248	0.282	8.51
48)	T	1,4-Dioxane	0.143	0.177	0.168	0.161	0.175	0.165	0.157	0.164	7.12
49)	T	2,2,4-Trimethy...	0.771	0.780	0.691	0.663	0.650	0.617	0.593	0.681	10.61
50)	T	Methyl Methacr...	0.076	0.089	0.092	0.089	0.094	0.087	0.084	0.087	6.71
51)	T	n-Heptane	0.201	0.214	0.195	0.186	0.188	0.175	0.167	0.189	8.32
52)	T	cis-1,3-Dichlo...	0.300	0.376	0.346	0.350	0.365	0.346	0.334	0.345	7.05
53)	T	4-Methyl-2-pen...	0.110	0.154	0.140	0.149	0.155	0.147	0.143	0.143	10.90
54)	T	trans-1,3-Dich...	0.278	0.327	0.316	0.331	0.346	0.348	0.338	0.331	8.48
55)	T	1,1,2-Trichlor...	0.226	0.247	0.236	0.217	0.222	0.209	0.202	0.223	6.89

56)	IR	Chlorobenzene-d5 (...	----------ISTD----------								
57)	S	Toluene-d8 (SS2)	2.506	2.421	2.410	2.390	2.396	2.394	2.377	2.414	1.79
58)	T	Toluene	2.331	2.268	2.104	1.966	1.962	1.837	1.717	2.026	10.98
59)	T	2-Hexanone	0.404	0.541	0.577	0.636	0.724	0.691	0.657	0.604	17.94
60)	T	Dibromochlorom...	0.661	0.764	0.704	0.684	0.710	0.667	0.629	0.688	6.26
61)	T	1,2-Dibromoethane	0.574	0.600	0.559	0.563	0.586	0.549	0.523	0.565	4.50
62)	T	n-Butyl Acetate	0.561	0.644	0.653	0.670	0.763	0.733	0.703	0.675	9.83
63)	T	n-Octane	0.354	0.377	0.337	0.312	0.311	0.293	0.274	0.323	11.10
64)	T	Tetrachloroethene	0.909	0.871	0.796	0.733	0.730	0.676	0.628	0.763	13.32
65)	T	Chlorobenzene	1.613	1.741	1.521	1.444	1.448	1.352	1.265	1.484	10.76
66)	T	Ethylbenzene	2.577	2.658	2.418	2.342	2.324	2.174	2.035	2.361	9.17
67)	T	m- & p-Xylenes	2.268	2.282	2.049	1.963	1.930	1.790	1.662	1.992	11.55
68)	T	Bromoform	0.584	0.624	0.619	0.624	0.645	0.605	0.567	0.610	4.39
69)	T	Styrene	1.358	1.563	1.488	1.486	1.519	1.419	1.315	1.450	6.18
70)	T	o-Xylene	2.106	2.285	2.026	1.959	1.907	1.770	1.641	1.956	10.87
71)	T	n-Nonane	0.673	0.729	0.657	0.627	0.617	0.578	0.536	0.631	10.05
72)	T	1,1,2,2-Tetrac...	0.769	0.856	0.747	0.744	0.742	0.688	0.641	0.741	9.02
73)	S	Bromofluoroben...	0.930	0.971	0.976	0.993	0.983	0.975	0.962	0.970	2.08
74)	T	Cumene	2.871	2.932	2.616	2.546	2.496	2.289	2.111	2.552	11.51
75)	T	alpha-Pinene	1.252	1.324	1.198	1.185	1.168	1.060	0.946	1.162	10.73
76)	T	n-Propylbenzene	2.961	3.122	2.855	2.815	2.780	2.559	2.367	2.780	9.00
77)	T	3-Ethyltoluene	2.558	2.873	2.591	2.482	2.531	2.267	2.137	2.491	9.52
78)	T	4-Ethyltoluene	2.466	2.754	2.501	2.536	2.414	2.275	2.037	2.426	9.24
79)	T	1,3,5-Trimethy...	2.377	2.617	2.372	2.252	2.198	2.016	1.860	2.242	11.15
80)	T	alpha-Methylst...	0.989	1.229	1.174	1.172	1.192	1.093	1.001	1.122	8.51
81)	T	2-Ethyltoluene	2.638	2.896	2.603	2.500	2.438	2.229	2.048	2.479	11.22
82)	T	1,2,4-Trimethy...	2.216	2.548	2.314	2.223	2.149	1.949	1.775	2.168	11.51
83)	T	n-Decane	0.652	0.907	0.813	0.803	0.785	0.719	0.667	0.764	11.81
84)	T	Benzyl Chloride	1.268	1.648	1.581	1.714	1.881	1.738	1.616	1.635	11.59
85)	T	1,3-Dichlorobe...	1.192	1.516	1.386	1.357	1.351	1.228	1.118	1.307	10.34
86)	T	1,4-Dichlorobe...	1.228	1.514	1.411	1.363	1.389	1.262	1.162	1.333	9.10
87)	T	sec-Butylbenzene	2.940	3.223	2.948	2.821	2.732	2.490	2.279	2.776	11.28
88)	T	4-Isopropyltol...	2.823	3.202	2.913	2.789	2.661	2.365	2.126	2.697	13.23
89)	T	1,2,3-Trimethy...	2.115	2.642	2.298	2.248	2.160	1.952	1.772	2.170	12.67
90)	T	1,2-Dichlorobe...	1.246	1.426	1.364	1.323	1.301	1.170	1.056	1.270	9.83
91)	T	d-Limonene	0.615	0.689	0.625	0.625	0.624	0.573	0.534	0.612	7.90
92)	T	1,2-Dibromo-3-...	0.413	0.503	0.477	0.498	0.528	0.490	0.459	0.481	7.67
93)	T	n-Undecane		0.890	0.829	0.817	0.832	0.761	0.706	0.806	7.92
94)	T	1,2,4-Trichlor...	0.482	0.990	1.003	1.029	1.115	1.011	0.929	0.937	22.19
95)	T	Naphthalene		2.617	2.620	2.847	3.167	2.882	2.622	2.792	7.86
96)	T	n-Dodecane		0.706	0.699	0.715	0.802	0.730	0.677	0.722	6.00
97)	T	Hexachlorobuta...	0.809	0.879	0.811	0.766	0.759	0.688	0.626	0.762	11.00
98)	T	Cyclohexanone	0.446	0.503	0.482	0.487	0.538	0.511	0.490	0.494	5.71
99)	T	tert-Butylbenzene	2.425	2.553	2.321	2.232	2.109	1.895	1.702	2.177	13.74
100)	T	n-Butylbenzene	1.831	2.315	2.155	2.108	2.128	1.939	1.791	2.038	9.33

(#) = Out of Range

R9042220.M Thu Apr 23 14:19:49 2020

Primary Source Standards Concentrations (Working & Initial Calibration)

5/1/20

1ng/L Std. ID:
4ng/L Std. ID: S34-04162006
20ng/L Std. ID: S34-04222004
200ng/L Std. ID: S34-04202004

Dilution Factors:		5	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	20	200	200	200
	Source Std.	Primary Working Standards				Injection (L):	0.025	0.050	0.025	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m^3	200ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
Propene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Dichlorodifluoromethane	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Chloromethane	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Freon-114	1.05	210	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Vinyl Chloride	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3-Butadiene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Bromomethane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Chloroethane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Ethanol	5.21	1042	104.2	20.84	5.21		0.521	1.042	2.605	5.21	26.05	130.25	260.5	521
Acetonitrile	1.05	210	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Acrolein	1.03	206	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Acetone	5.33	1066	106.6	21.32	5.33		0.533	1.066	2.665	5.33	26.65	133.25	266.5	533
Trichlorofluoromethane	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Isopropanol	2.10	420	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
Acrylonitrile	1.05	210	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,1-Dichloroethene	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
tert-Butanol	2.16	432	43.2	8.64	2.16		0.216	0.432	1.080	2.16	10.80	54.00	108.0	216
Methylene Chloride	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Allyl Chloride	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Trichlorotrifluoroethane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Carbon Disulfide	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
trans-1,2-Dichloroethene	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1-Dichloroethane	1.09	218	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
Methyl tert-Butyl Ether	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Vinyl Acetate	5.35	1070	107.0	21.40	5.35		0.535	1.070	2.675	5.35	26.75	133.75	267.5	535
2-Butanone	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
cis-1,2-Dichloroethene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Diisopropyl Ether	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Ethyl Acetate	2.17	434	43.4	8.68	2.17		0.217	0.434	1.085	2.17	10.85	54.25	108.5	217
n-Hexane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Chloroform	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Tetrahydrofuran	1.09	218	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
Ethyl tert-Butyl Ether	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dichloroethane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1,1-Trichloroethane	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Isopropyl Acetate	2.11	422	42.2	8.44	2.11		0.211	0.422	1.055	2.11	10.55	52.75	105.5	211
1-Butanol	2.08	416	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
Benzene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Carbon Tetrachloride	1.05	210	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Cyclohexane	2.12	424	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
tert-Amyl Methyl Ether	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dichloropropane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Bromodichloromethane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Trichloroethene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,4-Dioxane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Isooctane	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Methyl Methacrylate	2.15	430	43.0	8.60	2.15		0.215	0.430	1.075	2.15	10.75	53.75	107.5	215
n-Heptane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108

Date Updated: 10/15/19
Version: 0

Q:\TO15 Std. Concentrations\MS09 Std. Conc\2020\R9042220\ICAL Conc. (Primary Source)

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID:
4ng/L Std. ID: S34-04162006
20ng/L Std. ID: S34-04222004
200ng/L Std. ID: S34-04202004

Dilution Factors:		5	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	20	200	200	200
	Source Std.	Primary Working Standards				Injection (L):	0.025	0.050	0.025	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m^3	200ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
cis-1,3-Dichloropropene	1.04	208	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
4-Methyl-2-pentanone	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
trans-1,3-Dichloropropene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1,2-Trichloroethane	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Toluene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
2-Hexanone	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Dibromochloromethane	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,2-Dibromoethane	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Butyl Acetate	1.09	218	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
n-Octane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Tetrachloroethene	1.04	208	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Chlorobenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Ethylbenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
m-&p-Xylene	2.14	428	42.8	8.56	2.14		0.214	0.428	1.070	2.14	10.70	53.50	107.0	214
Bromoform	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Styrene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
o-Xylene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Nonane	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,1,2,2-Tetrachloroethane	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Cumene	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
alpha-Pinene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Propylbenzene	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
3-Ethyltoluene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
4-Ethyltoluene	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3,5-Trimethylbenzene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
alpha-Methylstyrene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
2-Ethyltoluene	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2,4-Trimethylbenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Decane	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Benzyl Chloride	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3-Dichlorobenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,4-Dichlorobenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
sec-Butylbenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
p-Isopropyltoluene	1.09	218	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
1,2,3-Trimethylbenzene	1.09	218	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
1,2-Dichlorobenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
d-Limonene	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dibromo-3-chloropropane	1.05	210	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
n-Undecane	1.08	216	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2,4-Trichlorobenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Naphthalene	1.03	206	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
n-Dodecane	1.04	208	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Hexachloro-1,3-butadiene	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Methacrylonitrile	1.06	212	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Cyclohexanone	1.00	200	20.0	4.00	1.00		0.100	0.200	0.500	1.00	5.00	25.00	50.0	100
tert-Butylbenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Butylbenzene	1.07	214	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107

Calibration Status Report MS09

Method : I:\MS09\Methods\R9042220.M (RTE Integrator)
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration

5/4/20

#	ID	Conc	ISTD Conc	Path\File
2	0.2	13	13	I:\MS09\Data\2020_04\22\04222023.D
3	0.5	13	13	I:\MS09\Data\2020_04\22\04222013.D
4	1.0	13	13	I:\MS09\Data\2020_04\22\04222014.D
5	5.0	13	13	I:\MS09\Data\2020_04\22\04222015.D
6	25	13	13	I:\MS09\Data\2020_04\22\04222016.D
7	50	13	13	I:\MS09\Data\2020_04\22\04222017.D
8	100	13	13	I:\MS09\Data\2020_04\22\04222018.D

#	ID	Update Time	Quant Time	Acquisition Time
2	0.2	Apr 23 14:12 2020	Apr 23 14:10 2020	23 Apr 2020 13:44
3	0.5	Apr 23 11:55 2020	Apr 23 11:49 2020	22 Apr 2020 20:31
4	1.0	Apr 23 11:55 2020	Apr 23 11:49 2020	22 Apr 2020 21:05
5	5.0	Apr 23 11:55 2020	Apr 23 11:49 2020	22 Apr 2020 21:39
6	25	Apr 23 11:55 2020	Apr 23 11:49 2020	22 Apr 2020 22:12
7	50	Apr 23 11:56 2020	Apr 23 11:49 2020	22 Apr 2020 22:46
8	100	Apr 23 11:56 2020	Apr 23 11:49 2020	22 Apr 2020 23:19

R9042220.M Mon May 04 16:31:55 2020

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222023.D Vial: 4
Acq On : 23 Apr 2020 13:44 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04162006 (5/15)

Quant Time: Apr 23 14:10:30 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:56:23 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/23/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	134664	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	11.11	114	566655	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	15.46	82	249724	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	216176	12.364	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.88%				
57) Toluene-d8 (SS2)	13.54	98	625888	12.967	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.76%				
73) Bromofluorobenzene (SS3)	17.05	174	232144	11.970	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.76%				
Target Compounds							Qvalue
2) Propene	3.90	42	1275	0.203	ng		93
3) Dichlorodifluoromethan...	4.00	85	4950	0.195	ng		98
4) Chloromethane	4.20	50	1961	0.214	ng		89
5) 1,2-Dichloro-1,1,2,2-t...	4.36	135	2727	0.199	ng		97
6) Vinyl Chloride	4.48	62	2399	0.199	ng		90
7) 1,3-Butadiene	4.66	54	1428	0.196	ng		87
8) Bromomethane	4.95	94	1884	0.196	ng		94
9) Chloroethane	5.17	64	1239	0.209	ng		79
10) Ethanol	5.36	45	5666	1.175	ng		86
11) Acetonitrile	5.59	41	2501	0.223	ng	#	48
12) Acrolein	5.72	56	755	0.184	ng		87
13) Acetone	5.86	58	6508	1.062	ng		98
14) Trichlorofluoromethane	6.04	101	4867	0.192	ng		98
15) 2-Propanol (Isopropanol)	6.19	45	8179	0.436	ng		84
16) Acrylonitrile	6.41	53	1383	0.159	ng		90
17) 1,1-Dichloroethene	6.74	96	2180	0.201	ng		98
18) 2-Methyl-2-Propanol (t...	6.90	59	6097	0.358	ng		87
19) Methylene Chloride	6.87	84	2077	0.197	ng		100
20) 3-Chloro-1-propene (Al...	7.00	41	2442	0.201	ng		90
21) Trichlorotrifluoroethane	7.19	151	2599	0.200	ng		99
22) Carbon Disulfide	7.17	76	6702	0.194	ng		97
23) trans-1,2-Dichloroethene	7.90	61	2306	0.170	ng		96
24) 1,1-Dichloroethane	8.09	63	3466	0.203	ng		93
25) Methyl tert-Butyl Ether	8.21	73	4037	0.185	ng		100
26) Vinyl Acetate	8.29	86	1651	0.810	ng	#	78
27) 2-Butanone (MEK)	8.56	72	960	0.161	ng	#	35
28) cis-1,2-Dichloroethene	8.97	61	2527	0.181	ng		90
29) Diisopropyl Ether	9.23	87	2107	0.231	ng	#	58
30) Ethyl Acetate	9.23	61	872	0.343	ng		89
31) n-Hexane	9.22	57	2770	0.206	ng		99
32) Chloroform	9.28	83	4202	0.197	ng		95
34) Tetrahydrofuran (THF)	9.72	72	1164	0.187	ng		89
35) Ethyl tert-Butyl Ether	9.78	87	1932	0.203	ng		98
36) 1,2-Dichloroethane	10.02	62	3240	0.181	ng		98
38) 1,1,1-Trichloroethane	10.29	97	4101	0.178	ng		99
39) Isopropyl Acetate	10.68	61	1932	0.368	ng	#	92
40) 1-Butanol	10.73	56	2192	0.363	ng	#	74
41) Benzene	10.75	78	8534	0.199	ng		98
42) Carbon Tetrachloride	10.90	117	3964	0.179	ng		96
43) Cyclohexane	11.04	84	6587	0.389	ng		96
44) tert-Amyl Methyl Ether	11.37	73	4336	0.195	ng		96
45) 1,2-Dichloropropane	11.57	63	1635	0.190	ng		97
46) Bromodichloromethane	11.76	83	3400	0.197	ng		97
47) Trichloroethene	11.81	130	2747	0.188	ng		95
48) 1,4-Dioxane	11.81	88	1399	0.167	ng		82
49) 2,2,4-Trimethylpentane...	11.87	57	7481	0.209	ng		96
50) Methyl Methacrylate	12.02	100	1483	0.345	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222023.D Vial: 4
Acq On : 23 Apr 2020 13:44 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04162006 (5/15)

Quant Time: Apr 23 14:10:30 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:56:23 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

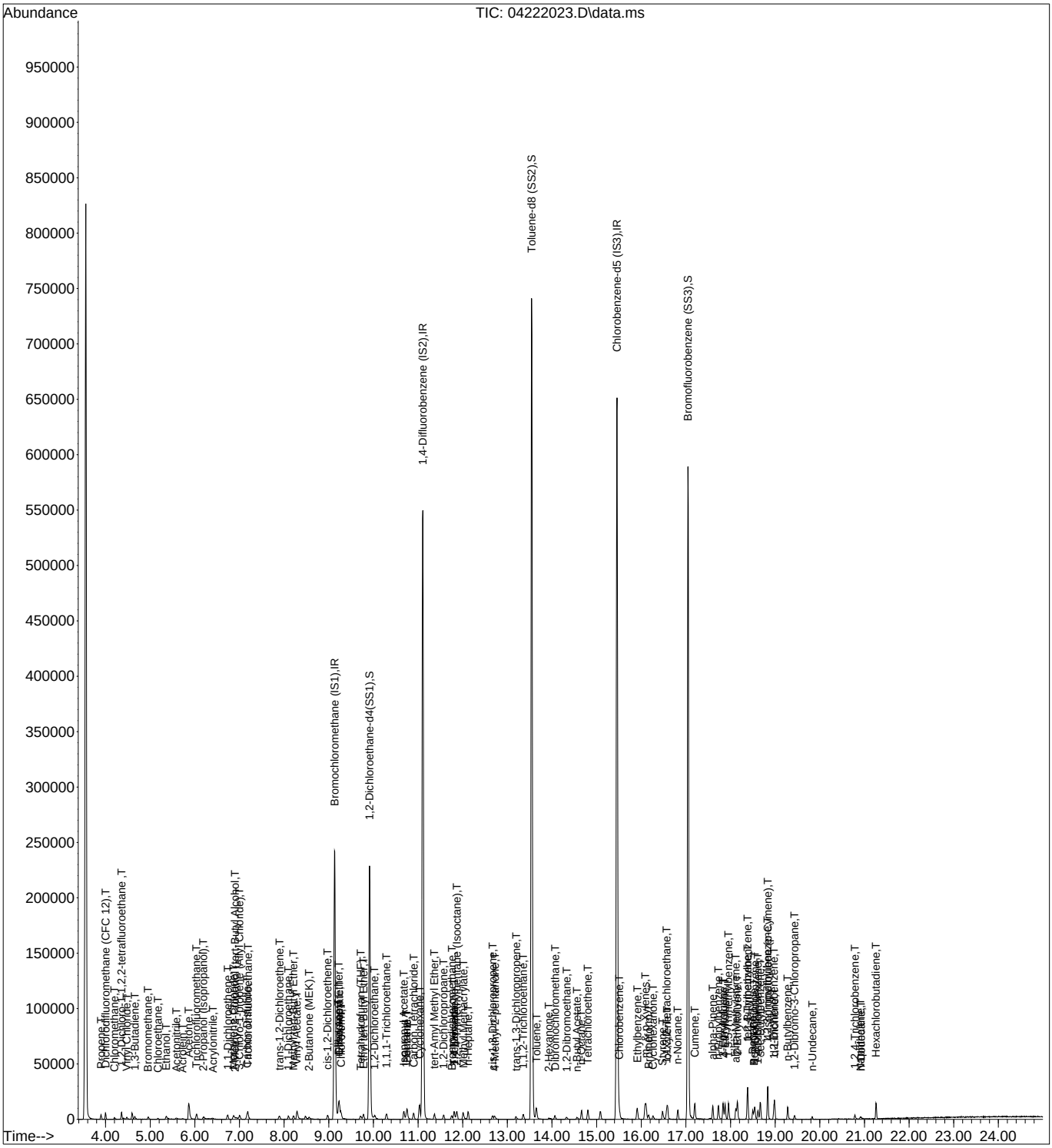
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	12.12	71	1964	0.198	ng		96
52) cis-1,3-Dichloropropene	12.67	75	2827	0.160	ng		99
53) 4-Methyl-2-pentanone	12.72	58	1053	0.152	ng	#	72
54) trans-1,3-Dichloropropene	13.20	75	2670	0.165	ng		80
55) 1,1,2-Trichloroethane	13.36	97	2197	0.190	ng		97
58) Toluene	13.65	91	9967	0.212	ng		99
59) 2-Hexanone	13.93	43	1727	0.135	ng	#	68
60) Dibromochloromethane	14.07	129	2828	0.179	ng		92
61) 1,2-Dibromoethane	14.33	107	2452	0.193	ng		96
62) n-Butyl Acetate	14.56	43	2442	0.166	ng		86
63) n-Octane	14.66	57	1529	0.203	ng		90
64) Tetrachloroethene	14.80	166	3778	0.213	ng		97
65) Chlorobenzene	15.51	112	6898	0.200	ng		99
66) Ethylbenzene	15.91	91	11017	0.202	ng		97
67) m- & p-Xylenes	16.09	91	19390	0.421	ng		93
68) Bromoform	16.17	173	2495	0.177	ng		91
69) Styrene	16.47	104	5750	0.172	ng		96
70) o-Xylene	16.58	91	9004	0.198	ng		97
71) n-Nonane	16.82	43	2878	0.196	ng		90
72) 1,1,2,2-Tetrachloroethane	16.57	83	3286	0.191	ng		94
74) Cumene	17.20	105	12390	0.210	ng		95
75) alpha-Pinene	17.60	93	5352	0.199	ng		97
76) n-Propylbenzene	17.73	91	12776	0.198	ng		98
77) 3-Ethyltoluene	17.83	105	10834	0.186	ng		98
78) 4-Ethyltoluene	17.88	105	10641	0.189	ng		98
79) 1,3,5-Trimethylbenzene	17.95	105	10069	0.190	ng		98
80) alpha-Methylstyrene	18.12	118	4228	0.161	ng		89
81) 2-Ethyltoluene	18.15	105	11382	0.193	ng		100
82) 1,2,4-Trimethylbenzene	18.38	105	9473	0.181	ng		96
83) n-Decane	18.50	57	2789	0.150	ng		91
84) Benzyl Chloride	18.53	91	5471	0.145	ng		92
85) 1,3-Dichlorobenzene	18.55	146	5096	0.162	ng		95
86) 1,4-Dichlorobenzene	18.61	146	5249	0.159	ng		100
87) sec-Butylbenzene	18.67	105	12570	0.192	ng		95
88) 4-Isopropyltoluene (p-...	18.83	119	12296	0.193	ng		99
89) 1,2,3-Trimethylbenzene	18.83	105	9210	0.177	ng		99
90) 1,2-Dichlorobenzene	18.97	146	5329	0.173	ng		98
91) d-Limonene	18.99	68	2655	0.186	ng		99
92) 1,2-Dibromo-3-Chloropr...	19.43	157	1734	0.159	ng		98
93) n-Undecane	19.83	57	1056	0.056	ng		92
94) 1,2,4-Trichlorobenzene	20.79	180	2062	0.088	ng		95
95) Naphthalene	20.91	128	3989	0.063	ng		85
96) n-Dodecane	20.92	57	109	0.007	ng	#	30
97) Hexachlorobutadiene	21.26	225	3425	0.185	ng		99
98) Cyclohexanone	16.27	55	1783	0.159	ng		96
99) tert-Butylbenzene	18.38	119	10369	0.201	ng		100
100) n-Butylbenzene	19.28	91	7829	0.161	ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222023.D Vial: 4
Acq On : 23 Apr 2020 13:44 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04162006 (5/15)

Quant Time: Apr 23 14:10:30 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:56:23 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222013.D Vial: 5
Acq On : 22 Apr 2020 20:31 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04222004 (5/21)

Quant Time: Apr 23 11:49:48 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/23/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	129332	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	11.11	114	538679	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	247239	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.91	65	210239	14.368	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.96%				
57) Toluene-d8 (SS2)	13.54	98	598520	12.172	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.36%				
73) Bromofluorobenzene (SS3)	17.05	174	240179	14.681	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 117.44%				
Target Compounds							Qvalue
2) Propene	3.88	42	2906	0.367	ng		97
3) Dichlorodifluoromethan...	3.98	85	13115	0.711	ng		98
4) Chloromethane	4.18	50	5003	0.450	ng		96
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	6856	0.796	ng		98
6) Vinyl Chloride	4.46	62	5965	0.623	ng		99
7) 1,3-Butadiene	4.64	54	3634	0.545	ng		98
8) Bromomethane	4.94	94	4880	0.578	ng		94
9) Chloroethane	5.16	64	3130	0.499	ng		95
10) Ethanol	5.34	45	13315	2.149	ng		88
11) Acetonitrile	5.56	41	5762	0.408	ng		86
12) Acrolein	5.71	56	1856	0.349	ng		98
13) Acetone	5.84	58	15493	2.436	ng		95
14) Trichlorofluoromethane	6.03	101	12695	0.760	ng		96
15) 2-Propanol (Isopropanol)	6.16	45	19185	0.951	ng		92
16) Acrylonitrile	6.37	53	4213	0.381	ng		99
17) 1,1-Dichloroethene	6.73	96	5620	0.596	ng		99
18) 2-Methyl-2-Propanol (t...	6.84	59	16787	0.786	ng		94
19) Methylene Chloride	6.86	84	5202	0.535	ng		97
20) 3-Chloro-1-propene (Al...	6.99	41	6592	0.536	ng		84
21) Trichlorotrifluoroethane	7.18	151	6939	0.745	ng		98
22) Carbon Disulfide	7.15	76	17442	0.517	ng		96
23) trans-1,2-Dichloroethene	7.88	61	6733	0.553	ng		96
24) 1,1-Dichloroethane	8.09	63	8771	0.548	ng		100
25) Methyl tert-Butyl Ether	8.19	73	10739	0.387	ng		99
26) Vinyl Acetate	8.28	86	5073	2.387	ng	#	92
27) 2-Butanone (MEK)	8.53	72	2674	0.428	ng	#	86
28) cis-1,2-Dichloroethene	8.97	61	6954	0.568	ng		98
29) Diisopropyl Ether	9.23	87	4705	0.607	ng	#	85
30) Ethyl Acetate	9.23	61	2784	0.974	ng		99
31) n-Hexane	9.22	57	7168	0.518	ng		96
32) Chloroform	9.27	83	10918	0.662	ng		97
34) Tetrahydrofuran (THF)	9.70	72	3120	0.517	ng		98
35) Ethyl tert-Butyl Ether	9.77	87	5103	0.453	ng		95
36) 1,2-Dichloroethane	10.02	62	8840	0.711	ng		98
38) 1,1,1-Trichloroethane	10.29	97	11727	0.804	ng		98
39) Isopropyl Acetate	10.67	61	5394	1.071	ng	#	86
40) 1-Butanol	10.72	56	5423	0.664	ng	#	56
41) Benzene	10.75	78	21115	0.550	ng		99
42) Carbon Tetrachloride	10.90	117	11021	0.806	ng		97
43) Cyclohexane	11.03	84	16672	1.144	ng		95
44) tert-Amyl Methyl Ether	11.36	73	11616	0.460	ng		98
45) 1,2-Dichloropropane	11.57	63	4380	0.512	ng		97
46) Bromodichloromethane	11.75	83	8920	0.705	ng		98
47) Trichloroethene	11.81	130	7497	0.678	ng		94
48) 1,4-Dioxane	11.81	88	4120	0.550	ng		88
49) 2,2,4-Trimethylpentane...	11.87	57	17992	0.499	ng		99
50) Methyl Methacrylate	12.00	100	4141	1.101	ng		94

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222013.D Vial: 5
Acq On : 22 Apr 2020 20:31 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04222004 (5/21)

Quant Time: Apr 23 11:49:48 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

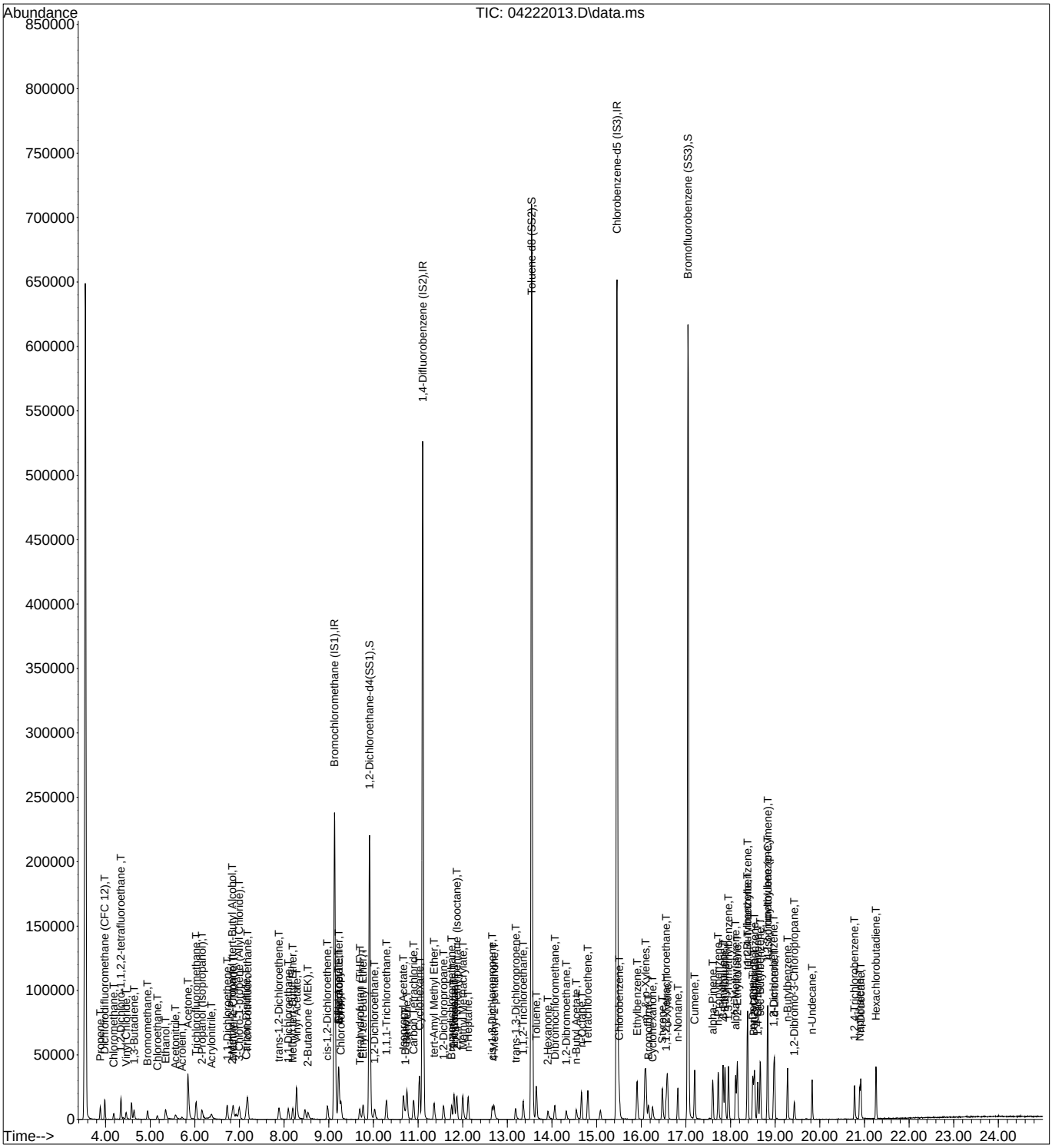
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	4984	0.544	ng	96
52) cis-1,3-Dichloropropene	12.66	75	8429	0.591	ng	94
53) 4-Methyl-2-pentanone	12.71	58	3522	0.465	ng	96
54) trans-1,3-Dichloropropene	13.19	75	7467	0.559	ng	96
55) 1,1,2-Trichloroethane	13.36	97	5686	0.605	ng	100
58) Toluene	13.65	91	23995	0.575	ng	98
59) 2-Hexanone	13.91	43	5723	0.346	ng	98
60) Dibromochloromethane	14.07	129	8081	0.694	ng	100
61) 1,2-Dibromoethane	14.32	107	6351	0.602	ng	95
62) n-Butyl Acetate	14.54	43	6937	0.393	ng	95
63) n-Octane	14.67	57	4029	0.535	ng	97
64) Tetrachloroethene	14.80	166	8957	0.690	ng	99
65) Chlorobenzene	15.51	112	18426	0.633	ng	99
66) Ethylbenzene	15.91	91	28127	0.628	ng	99
67) m- & p-Xylenes	16.10	91	48290	1.346	ng	99
68) Bromoform	16.16	173	6603	0.687	ng	94
69) Styrene	16.47	104	16387	0.630	ng	98
70) o-Xylene	16.58	91	24176	0.674	ng	98
71) n-Nonane	16.82	43	7718	0.498	ng	97
72) 1,1,2,2-Tetrachloroethane	16.56	83	9061	0.560	ng	100
74) Cumene	17.19	105	31313	0.669	ng	97
75) alpha-Pinene	17.60	93	14014	0.595	ng	100
76) n-Propylbenzene	17.72	91	33340	0.624	ng	100
77) 3-Ethyltoluene	17.83	105	30114	0.672	ng	99
78) 4-Ethyltoluene	17.87	105	29410	0.685	ng	99
79) 1,3,5-Trimethylbenzene	17.95	105	27430	0.695	ng	99
80) alpha-Methylstyrene	18.11	118	13008	0.673	ng	86
81) 2-Ethyltoluene	18.15	105	30928	0.691	ng	98
82) 1,2,4-Trimethylbenzene	18.38	105	26963	0.735	ng	98
83) n-Decane	18.50	57	9598	0.538	ng	98
84) Benzyl Chloride	18.52	91	17607	0.614	ng	97
85) 1,3-Dichlorobenzene	18.54	146	16047	0.758	ng	97
86) 1,4-Dichlorobenzene	18.61	146	16026	0.741	ng	98
87) sec-Butylbenzene	18.66	105	34100	0.661	ng	99
88) 4-Isopropyltoluene (p-...	18.83	119	34516	0.756	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	28477	0.761	ng	98
90) 1,2-Dichlorobenzene	18.97	146	15092	0.716	ng	98
91) d-Limonene	18.99	68	7364	0.578	ng	96
92) 1,2-Dibromo-3-Chloropr...	19.43	157	5228	0.623	ng	98
93) n-Undecane	19.83	57	9503	0.501	ng	99
94) 1,2,4-Trichlorobenzene	20.77	180	10478	0.645	ng	97
95) Naphthalene	20.90	128	26653	0.528	ng	97
96) n-Dodecane	20.92	57	7261	0.387	ng	95
97) Hexachlorobutadiene	21.26	225	9210	0.818	ng	98
98) Cyclohexanone	16.25	55	4973	0.423	ng	99
99) tert-Butylbenzene	18.38	119	27019	0.714	ng	98
100) n-Butylbenzene	19.28	91	24494	0.666	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222013.D Vial: 5
Acq On : 22 Apr 2020 20:31 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04222004 (5/21)

Quant Time: Apr 23 11:49:48 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222014.D Vial: 5
Acq On : 22 Apr 2020 21:05 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04222004 (5/21)

Quant Time: Apr 23 11:49:50 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/23/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.13	130	126276	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.11	114	536769	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	247388	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.92	65	210491	14.733	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 117.84%				
57) Toluene-d8 (SS2)	13.55	98	596176	12.117	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.96%				
73) Bromofluorobenzene (SS3)	17.05	174	241378	14.745	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 118.00%				
Target Compounds							Qvalue
2) Propene	3.88	42	5015	0.648	ng		91
3) Dichlorodifluoromethan...	3.99	85	22709	1.260	ng		99
4) Chloromethane	4.18	50	8593	0.792	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.35	135	12398	1.475	ng		98
6) Vinyl Chloride	4.46	62	10882	1.165	ng		100
7) 1,3-Butadiene	4.63	54	6520	1.001	ng		96
8) Bromomethane	4.94	94	8741	1.061	ng		98
9) Chloroethane	5.16	64	5840	0.953	ng		94
10) Ethanol	5.35	45	22628	3.740	ng		90
11) Acetonitrile	5.57	41	10365	0.751	ng		83
12) Acrolein	5.71	56	4051	0.781	ng		91
13) Acetone	5.84	58	28197	4.541	ng		93
14) Trichlorofluoromethane	6.03	101	23166	1.420	ng		100
15) 2-Propanol (Isopropanol)	6.16	45	35435	1.798	ng		95
16) Acrylonitrile	6.37	53	8090	0.750	ng		99
17) 1,1-Dichloroethene	6.72	96	10014	1.088	ng		100
18) 2-Methyl-2-Propanol (t...	6.82	59	30034	1.440	ng		98
19) Methylene Chloride	6.86	84	9369	0.987	ng		99
20) 3-Chloro-1-propene (Al...	7.00	41	11468	0.954	ng		94
21) Trichlorotrifluoroethane	7.19	151	12306	1.353	ng		99
22) Carbon Disulfide	7.15	76	31163	0.946	ng		99
23) trans-1,2-Dichloroethene	7.88	61	12484	1.051	ng		100
24) 1,1-Dichloroethane	8.09	63	16412	1.050	ng		100
25) Methyl tert-Butyl Ether	8.19	73	19238	0.710	ng		98
26) Vinyl Acetate	8.28	86	9679	4.664	ng	#	95
27) 2-Butanone (MEK)	8.53	72	5583	0.916	ng		90
28) cis-1,2-Dichloroethene	8.98	61	12681	1.060	ng		97
29) Diisopropyl Ether	9.22	87	8113	1.073	ng	#	95
30) Ethyl Acetate	9.22	61	5156	1.848	ng		95
31) n-Hexane	9.22	57	12702	0.939	ng		98
32) Chloroform	9.28	83	19474	1.210	ng		100
34) Tetrahydrofuran (THF)	9.69	72	5685	0.965	ng		94
35) Ethyl tert-Butyl Ether	9.77	87	8937	0.812	ng		99
36) 1,2-Dichloroethane	10.03	62	16265	1.340	ng		99
38) 1,1,1-Trichloroethane	10.29	97	20230	1.392	ng		99
39) Isopropyl Acetate	10.67	61	9686	1.930	ng	#	93
40) 1-Butanol	10.71	56	10515	1.291	ng	#	76
41) Benzene	10.76	78	38449	1.005	ng		99
42) Carbon Tetrachloride	10.90	117	19465	1.428	ng		98
43) Cyclohexane	11.03	84	30305	2.087	ng		99
44) tert-Amyl Methyl Ether	11.36	73	21307	0.847	ng		97
45) 1,2-Dichloropropane	11.57	63	8021	0.940	ng		99
46) Bromodichloromethane	11.76	83	15975	1.266	ng		99
47) Trichloroethene	11.81	130	13388	1.215	ng		98
48) 1,4-Dioxane	11.79	88	7806	1.046	ng		84
49) 2,2,4-Trimethylpentane...	11.87	57	31730	0.883	ng		99
50) Methyl Methacrylate	12.00	100	8462	2.259	ng		96

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222014.D Vial: 5
Acq On : 22 Apr 2020 21:05 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04222004 (5/21)

Quant Time: Apr 23 11:49:50 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

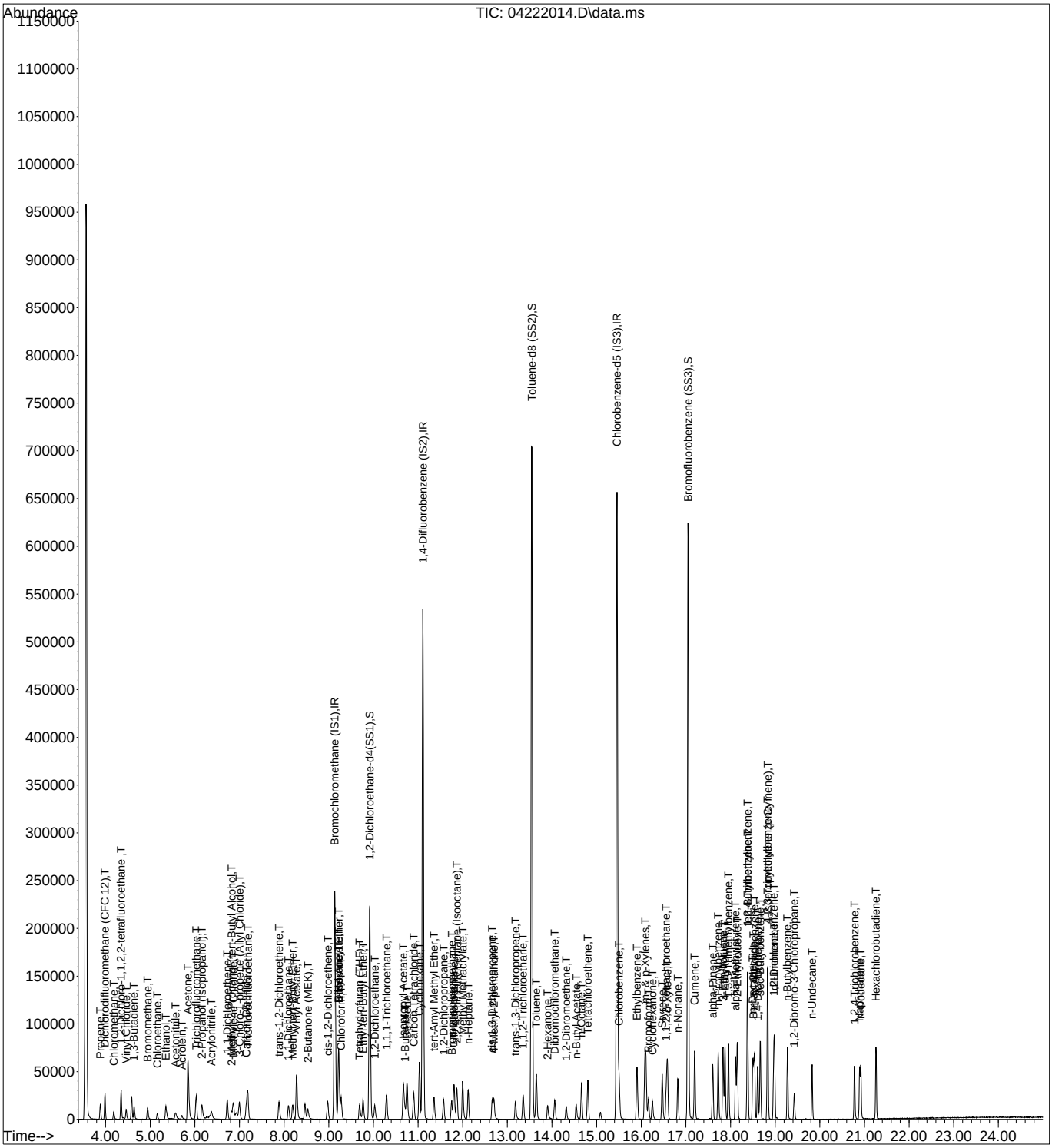
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	9029	0.989	ng	98
52) cis-1,3-Dichloropropene	12.66	75	15472	1.088	ng	98
53) 4-Methyl-2-pentanone	12.70	58	6392	0.848	ng	93
54) trans-1,3-Dichloropropene	13.18	75	14379	1.080	ng	99
55) 1,1,2-Trichloroethane	13.35	97	10838	1.158	ng	96
58) Toluene	13.65	91	44562	1.067	ng	100
59) 2-Hexanone	13.90	43	12222	0.739	ng	100
60) Dibromochloromethane	14.06	129	14909	1.280	ng	99
61) 1,2-Dibromoethane	14.32	107	11842	1.121	ng	99
62) n-Butyl Acetate	14.54	43	14091	0.798	ng	96
63) n-Octane	14.66	57	7199	0.956	ng	97
64) Tetrachloroethene	14.80	166	16393	1.263	ng	98
65) Chlorobenzene	15.50	112	32219	1.107	ng	99
66) Ethylbenzene	15.90	91	51213	1.142	ng	98
67) m- & p-Xylenes	16.09	91	86782	2.418	ng	99
68) Bromoform	16.16	173	13117	1.363	ng	100
69) Styrene	16.47	104	31213	1.199	ng	99
70) o-Xylene	16.58	91	42905	1.196	ng	100
71) n-Nonane	16.82	43	13906	0.898	ng	100
72) 1,1,2,2-Tetrachloroethane	16.56	83	15812	0.977	ng	98
74) Cumene	17.19	105	55907	1.195	ng	100
75) alpha-Pinene	17.60	93	25373	1.076	ng	100
76) n-Propylbenzene	17.72	91	61029	1.142	ng	100
77) 3-Ethyltoluene	17.83	105	54359	1.212	ng	97
78) 4-Ethyltoluene	17.88	105	53458	1.244	ng	98
79) 1,3,5-Trimethylbenzene	17.95	105	49762	1.260	ng	99
80) alpha-Methylstyrene	18.11	118	24852	1.285	ng	90
81) 2-Ethyltoluene	18.15	105	55645	1.242	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	48997	1.335	ng	100
83) n-Decane	18.50	57	17215	0.964	ng	97
84) Benzyl Chloride	18.51	91	33788	1.177	ng	100
85) 1,3-Dichlorobenzene	18.54	146	29341	1.385	ng	100
86) 1,4-Dichlorobenzene	18.61	146	29880	1.380	ng	99
87) sec-Butylbenzene	18.66	105	62433	1.210	ng	99
88) 4-Isopropyltoluene (p-...	18.83	119	62845	1.375	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	49569	1.324	ng	98
90) 1,2-Dichlorobenzene	18.97	146	28891	1.371	ng	99
91) d-Limonene	18.98	68	13364	1.049	ng	99
92) 1,2-Dibromo-3-Chloropr...	19.43	157	9913	1.180	ng	99
93) n-Undecane	19.83	57	17723	0.933	ng	99
94) 1,2,4-Trichlorobenzene	20.78	180	21234	1.305	ng	99
95) Naphthalene	20.89	128	53400	1.057	ng	100
96) n-Dodecane	20.92	57	14385	0.767	ng	98
97) Hexachlorobutadiene	21.26	225	17024	1.511	ng	100
98) Cyclohexanone	16.25	55	9545	0.812	ng	99
99) tert-Butylbenzene	18.38	119	49158	1.298	ng	100
100) n-Butylbenzene	19.27	91	45630	1.241	ng	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222014.D Vial: 5
Acq On : 22 Apr 2020 21:05 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04222004 (5/21)

Quant Time: Apr 23 11:49:50 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222015.D Vial: 5
Acq On : 22 Apr 2020 21:39 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04222004 (5/21)

Quant Time: Apr 23 11:49:52 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/23/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.14	130	127032	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	11.11	114	522643	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	242847	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.92	65	205612	14.306	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.48%			
57) Toluene-d8 (SS2)	13.55	98	580496	12.019	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.16%			
73) Bromofluorobenzene (SS3)	17.05	174	241052	15.001	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 120.00%			
Target Compounds						Qvalue
2) Propene	3.86	42	26825	3.448	ng	98
3) Dichlorodifluoromethan...	3.97	85	107121	5.909	ng	99
4) Chloromethane	4.16	50	36557	3.351	ng	99
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	55821	6.601	ng	98
6) Vinyl Chloride	4.45	62	52544	5.590	ng	99
7) 1,3-Butadiene	4.62	54	33096	5.050	ng	99
8) Bromomethane	4.93	94	39874	4.812	ng	100
9) Chloroethane	5.15	64	25067	4.065	ng	98
10) Ethanol	5.36	45	91042	14.958	ng	100
11) Acetonitrile	5.56	41	47363	3.413	ng	97
12) Acrolein	5.70	56	19034	3.648	ng	98
13) Acetone	5.83	58	125622	20.108	ng	100
14) Trichlorofluoromethane	6.02	101	106048	6.461	ng	99
15) 2-Propanol (Isopropanol)	6.16	45	157161	7.928	ng	97
16) Acrylonitrile	6.37	53	42320	3.900	ng	99
17) 1,1-Dichloroethene	6.72	96	47038	5.081	ng	98
18) 2-Methyl-2-Propanol (t...	6.81	59	146832	6.998	ng	99
19) Methylene Chloride	6.86	84	44481	4.659	ng	99
20) 3-Chloro-1-propene (Al...	6.99	41	51245	4.239	ng	98
21) Trichlorotrifluoroethane	7.18	151	55953	6.116	ng	100
22) Carbon Disulfide	7.14	76	148912	4.494	ng	99
23) trans-1,2-Dichloroethene	7.89	61	61901	5.180	ng	100
24) 1,1-Dichloroethane	8.10	63	74292	4.725	ng	99
25) Methyl tert-Butyl Ether	8.18	73	94198	3.454	ng	100
26) Vinyl Acetate	8.28	86	50438	24.161	ng	96
27) 2-Butanone (MEK)	8.52	72	27190	4.434	ng	99
28) cis-1,2-Dichloroethene	8.98	61	59734	4.964	ng	99
29) Diisopropyl Ether	9.22	87	37252	4.896	ng	98
30) Ethyl Acetate	9.22	61	24814	8.841	ng	93
31) n-Hexane	9.22	57	56462	4.151	ng	98
32) Chloroform	9.28	83	90848	5.611	ng	100
34) Tetrahydrofuran (THF)	9.68	72	27288	4.605	ng	99
35) Ethyl tert-Butyl Ether	9.76	87	40755	3.683	ng	99
36) 1,2-Dichloroethane	10.03	62	76687	6.280	ng	99
38) 1,1,1-Trichloroethane	10.29	97	94993	6.714	ng	100
39) Isopropyl Acetate	10.67	61	45123	9.235	ng	97
40) 1-Butanol	10.68	56	60020	7.571	ng	95
41) Benzene	10.75	78	177125	4.756	ng	100
42) Carbon Tetrachloride	10.90	117	92497	6.968	ng	100
43) Cyclohexane	11.03	84	141066	9.979	ng	99
44) tert-Amyl Methyl Ether	11.35	73	94835	3.871	ng	99
45) 1,2-Dichloropropane	11.57	63	37103	4.466	ng	99
46) Bromodichloromethane	11.75	83	74064	6.030	ng	98
47) Trichloroethene	11.81	130	63453	5.913	ng	100
48) 1,4-Dioxane	11.78	88	36438	5.016	ng	97
49) 2,2,4-Trimethylpentane...	11.87	57	148256	4.239	ng	100
50) Methyl Methacrylate	11.99	100	40050	10.980	ng	97

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222015.D Vial: 5
Acq On : 22 Apr 2020 21:39 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04222004 (5/21)

Quant Time: Apr 23 11:49:52 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

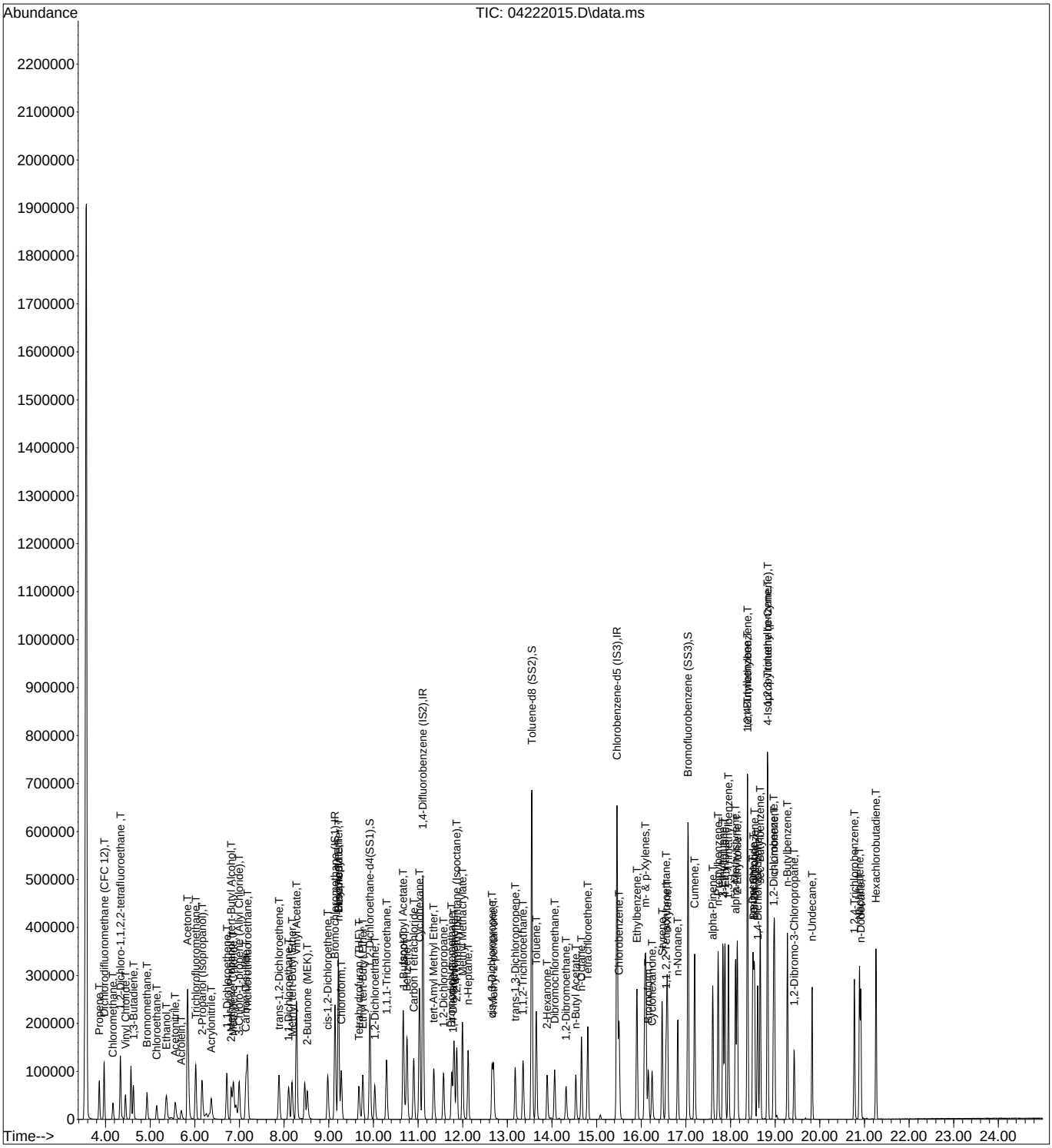
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	41995	4.724	ng	99
52) cis-1,3-Dichloropropene	12.66	75	76063	5.494	ng	100
53) 4-Methyl-2-pentanone	12.69	58	32970	4.490	ng	99
54) trans-1,3-Dichloropropene	13.18	75	75652	5.838	ng	97
55) 1,1,2-Trichloroethane	13.35	97	48516	5.325	ng	99
58) Toluene	13.65	91	204359	4.986	ng	99
59) 2-Hexanone	13.89	43	66070	4.071	ng	99
60) Dibromochloromethane	14.06	129	71135	6.219	ng	99
61) 1,2-Dibromoethane	14.31	107	58489	5.640	ng	98
62) n-Butyl Acetate	14.53	43	70906	4.093	ng	99
63) n-Octane	14.66	57	32746	4.428	ng	99
64) Tetrachloroethene	14.80	166	74010	5.808	ng	100
65) Chlorobenzene	15.50	112	150097	5.253	ng	100
66) Ethylbenzene	15.90	91	243383	5.529	ng	99
67) m- & p-Xylenes	16.10	91	408114	11.584	ng	100
68) Bromoform	16.16	173	64880	6.870	ng	100
69) Styrene	16.47	104	152968	5.987	ng	99
70) o-Xylene	16.58	91	203581	5.782	ng	99
71) n-Nonane	16.82	43	65193	4.287	ng	99
72) 1,1,2,2-Tetrachloroethane	16.56	83	77299	4.863	ng	100
74) Cumene	17.19	105	267150	5.815	ng	100
75) alpha-Pinene	17.60	93	123139	5.321	ng	99
76) n-Propylbenzene	17.72	91	295275	5.628	ng	100
77) 3-Ethyltoluene	17.83	105	255544	5.803	ng	97
78) 4-Ethyltoluene	17.88	105	266013	6.306	ng	97
79) 1,3,5-Trimethylbenzene	17.95	105	231920	5.981	ng	100
80) alpha-Methylstyrene	18.11	118	121821	6.418	ng	97
81) 2-Ethyltoluene	18.15	105	262291	5.963	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	231050	6.412	ng	100
83) n-Decane	18.50	57	83453	4.761	ng	100
84) Benzyl Chloride	18.51	91	179796	6.381	ng	99
85) 1,3-Dichlorobenzene	18.54	146	141029	6.780	ng	99
86) 1,4-Dichlorobenzene	18.61	146	141651	6.666	ng	100
87) sec-Butylbenzene	18.66	105	293214	5.788	ng	100
88) 4-Isopropyltoluene (p-...	18.83	119	295331	6.582	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	238024	6.474	ng	99
90) 1,2-Dichlorobenzene	18.97	146	137496	6.645	ng	99
91) d-Limonene	18.98	68	65560	5.240	ng	99
92) 1,2-Dibromo-3-Chloropr...	19.43	157	50779	6.158	ng	99
93) n-Undecane	19.83	57	85715	4.597	ng	99
94) 1,2,4-Trichlorobenzene	20.77	180	106907	6.695	ng	99
95) Naphthalene	20.89	128	284865	5.744	ng	100
96) n-Dodecane	20.92	57	72247	3.924	ng	99
97) Hexachlorobutadiene	21.26	225	78877	7.130	ng	100
98) Cyclohexanone	16.24	55	47265	4.094	ng	99
99) tert-Butylbenzene	18.38	119	231949	6.238	ng	99
100) n-Butylbenzene	19.27	91	219078	6.067	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222015.D Vial: 5
Acq On : 22 Apr 2020 21:39 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04222004 (5/21)

Quant Time: Apr 23 11:49:52 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222016.D Vial: 2
Acq On : 22 Apr 2020 22:12 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 23 11:49:54 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/23/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	139959	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	11.12	114	576914	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	15.46	82	270547	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.94	65	224495	14.177	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.44%			
57) Toluene-d8 (SS2)	13.55	98	648304	12.049	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.40%			
73) Bromofluorobenzene (SS3)	17.05	174	266005	14.858	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 118.88%			
Target Compounds						Qvalue
2) Propene	3.86	42	148349	17.306	ng	100
3) Dichlorodifluoromethan...	3.97	85	575420	28.811	ng	100
4) Chloromethane	4.17	50	233786	19.451	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	309011	33.168	ng	100
6) Vinyl Chloride	4.45	62	293615	28.354	ng	100
7) 1,3-Butadiene	4.63	54	196130	27.165	ng	100
8) Bromomethane	4.94	94	226533	24.815	ng	100
9) Chloroethane	5.16	64	143289	21.088	ng	100
10) Ethanol	5.40	45	526687	78.538	ng	100
11) Acetonitrile	5.59	41	263390	17.229	ng	100
12) Acrolein	5.71	56	110967	19.303	ng	100
13) Acetone	5.86	58	670690	97.441	ng	100
14) Trichlorofluoromethane	6.03	101	575484	31.821	ng	100
15) 2-Propanol (Isopropanol)	6.20	45	949734	43.486	ng	100
16) Acrylonitrile	6.39	53	242821	20.311	ng	100
17) 1,1-Dichloroethene	6.72	96	259353	25.426	ng	100
18) 2-Methyl-2-Propanol (t...	6.84	59	852826	36.894	ng	100
19) Methylene Chloride	6.88	84	246568	23.439	ng	100
20) 3-Chloro-1-propene (Al...	7.01	41	280359	21.047	ng	100
21) Trichlorotrifluoroethane	7.19	151	300508	29.813	ng	100
22) Carbon Disulfide	7.15	76	839811	23.003	ng	100
23) trans-1,2-Dichloroethene	7.90	61	348501	26.469	ng	100
24) 1,1-Dichloroethane	8.12	63	412914	23.836	ng	100
25) Methyl tert-Butyl Ether	8.18	73	536453	17.852	ng	100
26) Vinyl Acetate	8.30	86	288061	125.244	ng	100
27) 2-Butanone (MEK)	8.53	72	157863	23.366	ng	100
28) cis-1,2-Dichloroethene	8.99	61	330184	24.905	ng	100
29) Diisopropyl Ether	9.22	87	199384	23.785	ng	100
30) Ethyl Acetate	9.23	61	139703	45.176	ng	100
31) n-Hexane	9.23	57	306748	20.468	ng	100
32) Chloroform	9.30	83	496525	27.834	ng	100
34) Tetrahydrofuran (THF)	9.68	72	154237	23.625	ng	100
35) Ethyl tert-Butyl Ether	9.77	87	222400	18.241	ng	100
36) 1,2-Dichloroethane	10.04	62	421595	31.337	ng	100
38) 1,1,1-Trichloroethane	10.30	97	523386	33.514	ng	100
39) Isopropyl Acetate	10.67	61	247371	45.864	ng	100
40) 1-Butanol	10.69	56	393624	44.979	ng	100
41) Benzene	10.76	78	965159	23.478	ng	100
42) Carbon Tetrachloride	10.92	117	509202	34.750	ng	100
43) Cyclohexane	11.04	84	760478	48.737	ng	100
44) tert-Amyl Methyl Ether	11.35	73	525196	19.420	ng	100
45) 1,2-Dichloropropane	11.57	63	205952	22.460	ng	100
46) Bromodichloromethane	11.76	83	412304	30.413	ng	100
47) Trichloroethene	11.81	130	346686	29.267	ng	100
48) 1,4-Dioxane	11.78	88	218205	27.210	ng	100
49) 2,2,4-Trimethylpentane...	11.87	57	802639	20.790	ng	100
50) Methyl Methacrylate	12.00	100	232380	57.715	ng	100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222016.D Vial: 2
Acq On : 22 Apr 2020 22:12 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 23 11:49:54 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

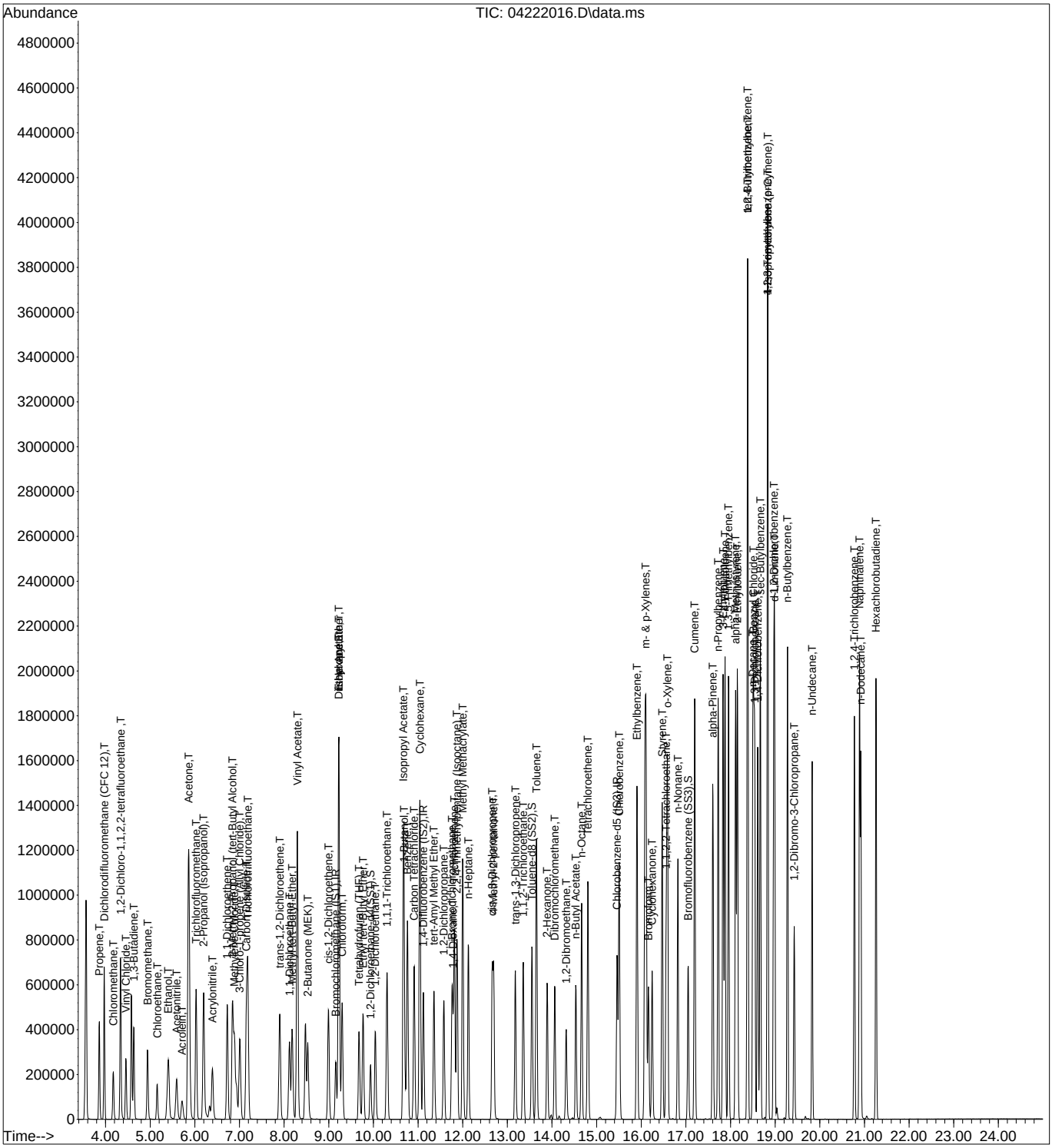
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	233894	23.835	ng	100
52) cis-1,3-Dichloropropene	12.66	75	437947	28.658	ng	100
53) 4-Methyl-2-pentanone	12.69	58	190105	23.453	ng	100
54) trans-1,3-Dichloropropene	13.18	75	447102	31.257	ng	100
55) 1,1,2-Trichloroethane	13.36	97	274331	27.275	ng	100
58) Toluene	13.65	91	1135814	24.873	ng	100
59) 2-Hexanone	13.89	43	418957	23.174	ng	100
60) Dibromochloromethane	14.06	129	411137	32.265	ng	100
61) 1,2-Dibromoethane	14.32	107	339459	29.385	ng	100
62) n-Butyl Acetate	14.53	43	449879	23.309	ng	100
63) n-Octane	14.67	57	181686	22.051	ng	100
64) Tetrachloroethene	14.80	166	410786	28.938	ng	100
65) Chlorobenzene	15.51	112	838490	26.340	ng	100
66) Ethylbenzene	15.90	91	1345406	27.437	ng	100
67) m- & p-Xylenes	16.10	91	2234588	56.932	ng	100
68) Bromoform	16.16	173	373311	35.482	ng	100
69) Styrene	16.47	104	871452	30.616	ng	100
70) o-Xylene	16.58	91	1104137	28.150	ng	100
71) n-Nonane	16.82	43	357159	21.080	ng	100
72) 1,1,2,2-Tetrachloroethane	16.56	83	429814	24.273	ng	100
74) Cumene	17.19	105	1458637	28.499	ng	100
75) alpha-Pinene	17.60	93	676336	26.231	ng	100
76) n-Propylbenzene	17.72	91	1624715	27.795	ng	100
77) 3-Ethyltoluene	17.83	105	1451425	29.587	ng	100
78) 4-Ethyltoluene	17.88	105	1410591	30.017	ng	100
79) 1,3,5-Trimethylbenzene	17.95	105	1260494	29.178	ng	100
80) alpha-Methylstyrene	18.11	118	690235	32.639	ng	100
81) 2-Ethyltoluene	18.15	105	1424607	29.071	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	1244204	30.995	ng	100
83) n-Decane	18.50	57	454506	23.277	ng	100
84) Benzyl Chloride	18.51	91	1099043	35.014	ng	100
85) 1,3-Dichlorobenzene	18.54	146	781993	33.746	ng	100
86) 1,4-Dichlorobenzene	18.61	146	804142	33.965	ng	100
87) sec-Butylbenzene	18.67	105	1581990	28.029	ng	100
88) 4-Isopropyltoluene (p-...	18.83	119	1569378	31.394	ng	100
89) 1,2,3-Trimethylbenzene	18.83	105	1273990	31.104	ng	100
90) 1,2-Dichlorobenzene	18.97	146	753213	32.673	ng	100
91) d-Limonene	18.99	68	364906	26.181	ng	100
92) 1,2-Dibromo-3-Chloropr...	19.43	157	300160	32.674	ng	100
93) n-Undecane	19.83	57	486425	23.417	ng	100
94) 1,2,4-Trichlorobenzene	20.77	180	645472	36.284	ng	100
95) Naphthalene	20.89	128	1764943	31.942	ng	100
96) n-Dodecane	20.92	57	451510	22.010	ng	100
97) Hexachlorobutadiene	21.26	225	435056	35.299	ng	100
98) Cyclohexanone	16.24	55	290938	22.618	ng	100
99) tert-Butylbenzene	18.38	119	1221323	29.482	ng	100
100) n-Butylbenzene	19.27	91	1232000	30.627	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222016.D Vial: 2
Acq On : 22 Apr 2020 22:12 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 23 11:49:54 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222017.D Vial: 2
Acq On : 22 Apr 2020 22:46 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 23 11:49:56 2020 4/23/20
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.17	130	145152	12.500	ng	0.01
37) 1,4-Difluorobenzene (IS2)	11.12	114	598248	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	15.46	82	279965	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.94	65	233121	14.195	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.60%			
57) Toluene-d8 (SS2)	13.55	98	670205	12.037	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.32%			
73) Bromofluorobenzene (SS3)	17.05	174	273089	14.741	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 117.92%			
Target Compounds						Qvalue
2) Propene	3.86	42	330392	37.165	ng	98
3) Dichlorodifluoromethan...	3.97	85	1105663	53.380	ng	100
4) Chloromethane	4.17	50	407411	32.683	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	597211	61.810	ng	99
6) Vinyl Chloride	4.46	62	580007	54.007	ng	100
7) 1,3-Butadiene	4.63	54	370058	49.421	ng	99
8) Bromomethane	4.94	94	450081	47.539	ng	99
9) Chloroethane	5.16	64	285429	40.505	ng	100
10) Ethanol	5.43	45	1044298	150.152	ng	100
11) Acetonitrile	5.60	41	533240	33.633	ng	100
12) Acrolein	5.72	56	224287	37.620	ng	99
13) Acetone	5.87	58	1299615	182.060	ng	98
14) Trichlorofluoromethane	6.03	101	1115252	59.460	ng	99
15) 2-Propanol (Isopropanol)	6.21	45	1663213	73.429	ng	100
16) Acrylonitrile	6.41	53	489337	39.466	ng	99
17) 1,1-Dichloroethene	6.73	96	512268	48.425	ng	100
18) 2-Methyl-2-Propanol (t...	6.86	59	1790353	74.681	ng	99
19) Methylene Chloride	6.90	84	487136	44.650	ng	100
20) 3-Chloro-1-propene (Al...	7.02	41	559510	40.501	ng	100
21) Trichlorotrifluoroethane	7.19	151	583089	55.778	ng	99
22) Carbon Disulfide	7.16	76	1660071	43.844	ng	100
23) trans-1,2-Dichloroethene	7.91	61	693359	50.778	ng	100
24) 1,1-Dichloroethane	8.13	63	812821	45.242	ng	99
25) Methyl tert-Butyl Ether	8.18	73	1124703	36.088	ng	100
26) Vinyl Acetate	8.30	86	558650	234.201	ng	98
27) 2-Butanone (MEK)	8.54	72	315514	45.030	ng	99
28) cis-1,2-Dichloroethene	9.00	61	657246	47.801	ng	99
29) Diisopropyl Ether	9.23	87	386021	44.402	ng	100
30) Ethyl Acetate	9.23	61	271619	84.692	ng	99
31) n-Hexane	9.23	57	589143	37.904	ng	100
32) Chloroform	9.31	83	971469	52.510	ng	100
34) Tetrahydrofuran (THF)	9.68	72	307036	45.347	ng	99
35) Ethyl tert-Butyl Ether	9.77	87	429471	33.965	ng	99
36) 1,2-Dichloroethane	10.05	62	832849	59.690	ng	100
38) 1,1,1-Trichloroethane	10.31	97	1028523	63.512	ng	100
39) Isopropyl Acetate	10.68	61	483997	86.535	ng	100
40) 1-Butanol	10.70	56	776710	85.589	ng	100
41) Benzene	10.77	78	1887102	44.267	ng	99
42) Carbon Tetrachloride	10.91	117	990936	65.214	ng	100
43) Cyclohexane	11.05	84	1474213	91.109	ng	100
44) tert-Amyl Methyl Ether	11.36	73	1007186	35.914	ng	100
45) 1,2-Dichloropropane	11.58	63	406679	42.768	ng	99
46) Bromodichloromethane	11.77	83	804293	57.212	ng	100
47) Trichloroethene	11.82	130	674075	54.877	ng	100
48) 1,4-Dioxane	11.79	88	426867	51.332	ng	99
49) 2,2,4-Trimethylpentane...	11.88	57	1579497	39.452	ng	99
50) Methyl Methacrylate	12.00	100	449956	107.769	ng	99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222017.D Vial: 2
Acq On : 22 Apr 2020 22:46 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 23 11:49:56 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

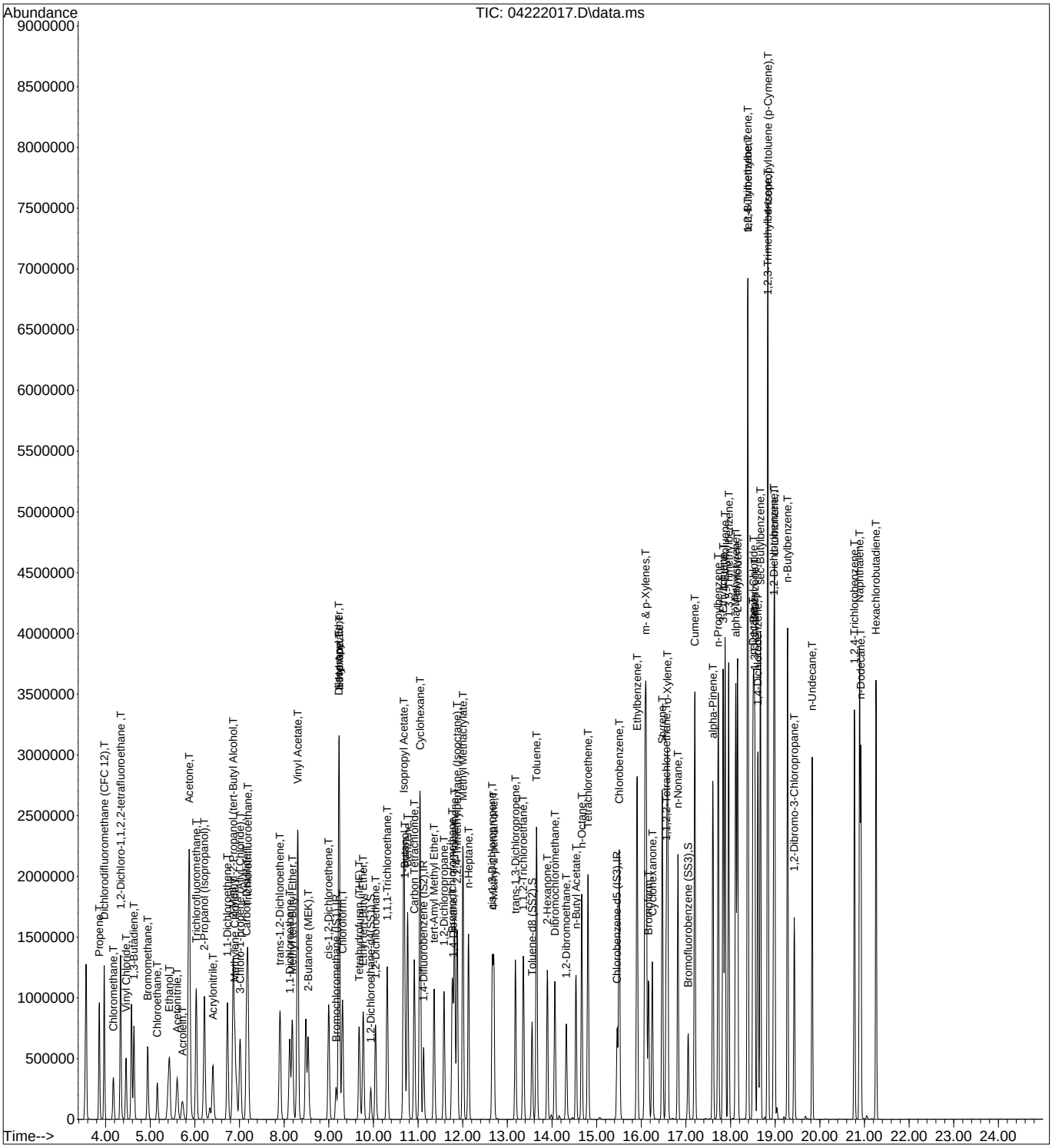
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.13	71	453213	44.537	ng	99
52) cis-1,3-Dichloropropene	12.66	75	860297	54.289	ng	100
53) 4-Methyl-2-pentanone	12.70	58	372186	44.279	ng	99
54) trans-1,3-Dichloropropene	13.18	75	882932	59.524	ng	99
55) 1,1,2-Trichloroethane	13.36	97	535895	51.381	ng	100
58) Toluene	13.65	91	2200796	46.574	ng	100
59) 2-Hexanone	13.90	43	828054	44.262	ng	100
60) Dibromochloromethane	14.07	129	799199	60.609	ng	100
61) 1,2-Dibromoethane	14.32	107	657662	55.014	ng	100
62) n-Butyl Acetate	14.54	43	895005	44.812	ng	99
63) n-Octane	14.67	57	353789	41.494	ng	100
64) Tetrachloroethene	14.81	166	787530	53.612	ng	100
65) Chlorobenzene	15.51	112	1619494	49.163	ng	100
66) Ethylbenzene	15.91	91	2605564	51.348	ng	99
67) m- & p-Xylenes	16.10	91	4289093	105.600	ng	100
68) Bromoform	16.16	173	724639	66.557	ng	99
69) Styrene	16.47	104	1684196	57.179	ng	100
70) o-Xylene	16.59	91	2120519	52.245	ng	99
71) n-Nonane	16.82	43	692402	39.492	ng	100
72) 1,1,2,2-Tetrachloroethane	16.56	83	824924	45.020	ng	100
74) Cumene	17.20	105	2768290	52.267	ng	100
75) alpha-Pinene	17.61	93	1270363	47.612	ng	100
76) n-Propylbenzene	17.72	91	3094989	51.167	ng	100
77) 3-Ethyltoluene	17.83	105	2691483	53.020	ng	100
78) 4-Ethyltoluene	17.88	105	2750937	56.570	ng	100
79) 1,3,5-Trimethylbenzene	17.96	105	2393266	53.535	ng	99
80) alpha-Methylstyrene	18.12	118	1310045	59.864	ng	99
81) 2-Ethyltoluene	18.16	105	2695906	53.164	ng	100
82) 1,2,4-Trimethylbenzene	18.39	105	2335635	56.228	ng	99
83) n-Decane	18.50	57	861713	42.646	ng	100
84) Benzyl Chloride	18.52	91	2102138	64.718	ng	100
85) 1,3-Dichlorobenzene	18.54	146	1471826	61.378	ng	100
86) 1,4-Dichlorobenzene	18.61	146	1512394	61.732	ng	99
87) sec-Butylbenzene	18.67	105	2983928	51.090	ng	100
88) 4-Isopropyltoluene (p-...	18.84	119	2886890	55.807	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	2382967	56.223	ng	99
90) 1,2-Dichlorobenzene	18.97	146	1402445	58.789	ng	99
91) d-Limonene	18.99	68	693005	48.049	ng	100
92) 1,2-Dibromo-3-Chloropr...	19.43	157	576367	60.630	ng	99
93) n-Undecane	19.83	57	920386	42.817	ng	100
94) 1,2,4-Trichlorobenzene	20.77	180	1211612	65.818	ng	99
95) Naphthalene	20.89	128	3323979	58.135	ng	100
96) n-Dodecane	20.92	57	850719	40.075	ng	100
97) Hexachlorobutadiene	21.26	225	816834	64.046	ng	100
98) Cyclohexanone	16.25	55	572657	43.022	ng	99
99) tert-Butylbenzene	18.39	119	2270698	52.970	ng	100
100) n-Butylbenzene	19.28	91	2323808	55.826	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222017.D Vial: 2
Acq On : 22 Apr 2020 22:46 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 23 11:49:56 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222018.D Vial: 2
Acq On : 22 Apr 2020 23:19 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 23 11:49:58 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/23/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	9.17	130	148278	12.500	ng	0.02
37) 1,4-Difluorobenzene (IS2)	11.13	114	604904	12.500	ng	0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	288609	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	9.95	65	238771	14.233	ng	0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.84%			
57) Toluene-d8 (SS2)	13.55	98	686115	11.953	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.60%			
73) Bromofluorobenzene (SS3)	17.05	174	277637	14.538	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 116.32%			
Target Compounds						Qvalue
2) Propene	3.86	42	785958	86.546	ng	98
3) Dichlorodifluoromethan...	3.97	85	2156956	101.939	ng	100
4) Chloromethane	4.17	50	638588	50.149	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	1145081	116.014	ng	99
6) Vinyl Chloride	4.46	62	1130766	103.071	ng	100
7) 1,3-Butadiene	4.64	54	742038	97.009	ng	98
8) Bromomethane	4.94	94	885568	91.565	ng	99
9) Chloroethane	5.16	64	566662	78.719	ng	99
10) Ethanol	5.45	45	2076910	292.329	ng	100
11) Acetonitrile	5.62	41	1073293	66.269	ng	100
12) Acrolein	5.73	56	453266	74.424	ng	99
13) Acetone	5.88	58	2491481	341.667	ng	96
14) Trichlorofluoromethane	6.03	101	2161200	112.797	ng	99
15) 2-Propanol (Isopropanol)	6.23	45	2589369	111.908	ng	100
16) Acrylonitrile	6.42	53	983771	77.671	ng	99
17) 1,1-Dichloroethene	6.74	96	1003826	92.891	ng	100
18) 2-Methyl-2-Propanol (t...	6.88	59	3702880	151.202	ng	99
19) Methylene Chloride	6.90	84	937914	84.155	ng	100
20) 3-Chloro-1-propene (Al...	7.02	41	1080840	76.590	ng	99
21) Trichlorotrifluoroethane	7.19	151	1128627	105.687	ng	99
22) Carbon Disulfide	7.16	76	3238906	83.740	ng	100
23) trans-1,2-Dichloroethene	7.91	61	1368694	98.122	ng	99
24) 1,1-Dichloroethane	8.13	63	1602393	87.310	ng	99
25) Methyl tert-Butyl Ether	8.19	73	2363460	74.237	ng	99
26) Vinyl Acetate	8.32	86	1079473	443.004	ng	97
27) 2-Butanone (MEK)	8.55	72	620311	86.665	ng	99
28) cis-1,2-Dichloroethene	9.00	61	1295452	92.230	ng	99
29) Diisopropyl Ether	9.23	87	747987	84.224	ng	99
30) Ethyl Acetate	9.24	61	526581	160.729	ng	100
31) n-Hexane	9.23	57	1125241	70.869	ng	100
32) Chloroform	9.32	83	1914415	101.297	ng	99
34) Tetrahydrofuran (THF)	9.68	72	605437	87.534	ng	99
35) Ethyl tert-Butyl Ether	9.78	87	833016	64.491	ng	100
36) 1,2-Dichloroethane	10.05	62	1643759	115.324	ng	100
38) 1,1,1-Trichloroethane	10.31	97	2001463	122.231	ng	100
39) Isopropyl Acetate	10.68	61	934426	165.230	ng	99
40) 1-Butanol	10.72	56	1523226	166.005	ng	100
41) Benzene	10.77	78	3664850	85.023	ng	99
42) Carbon Tetrachloride	10.92	117	1920120	124.974	ng	100
43) Cyclohexane	11.05	84	2813954	171.994	ng	99
44) tert-Amyl Methyl Ether	11.36	73	1894309	66.804	ng	99
45) 1,2-Dichloropropane	11.59	63	797643	82.960	ng	100
46) Bromodichloromethane	11.77	83	1577887	111.004	ng	100
47) Trichloroethene	11.82	130	1284130	103.391	ng	100
48) 1,4-Dioxane	11.79	88	820475	97.578	ng	97
49) 2,2,4-Trimethylpentane...	11.88	57	3069164	75.817	ng	98
50) Methyl Methacrylate	12.01	100	871200	206.364	ng	99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222018.D Vial: 2
Acq On : 22 Apr 2020 23:19 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 23 11:49:58 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

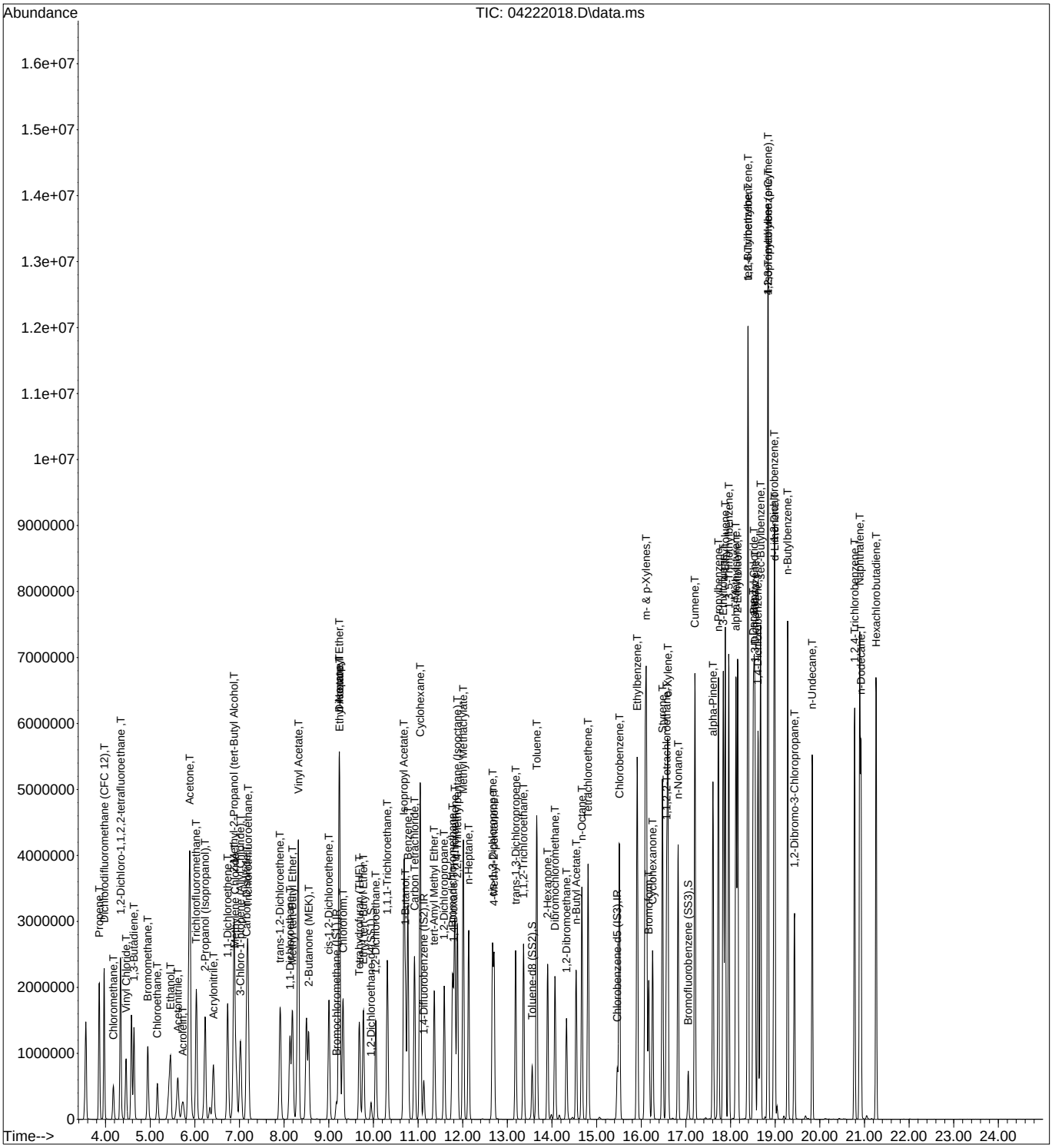
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.14	71	871756	84.724	ng	99
52) cis-1,3-Dichloropropene	12.67	75	1681640	104.951	ng	100
53) 4-Methyl-2-pentanone	12.70	58	733775	86.338	ng	99
54) trans-1,3-Dichloropropene	13.19	75	1735907	115.742	ng	100
55) 1,1,2-Trichloroethane	13.36	97	1044877	99.080	ng	100
58) Toluene	13.66	91	4241230	87.067	ng	100
59) 2-Hexanone	13.90	43	1624051	84.210	ng	100
60) Dibromochloromethane	14.07	129	1553333	114.272	ng	100
61) 1,2-Dibromoethane	14.32	107	1290897	104.751	ng	100
62) n-Butyl Acetate	14.54	43	1769562	85.947	ng	100
63) n-Octane	14.67	57	683435	77.756	ng	99
64) Tetrachloroethene	14.81	166	1507018	99.518	ng	100
65) Chlorobenzene	15.51	112	3124408	92.006	ng	100
66) Ethylbenzene	15.91	91	5026395	96.088	ng	99
67) m- & p-Xylenes	16.11	91	8213758	196.171	ng	99
68) Bromoform	16.17	173	1400185	124.753	ng	99
69) Styrene	16.47	104	3217941	105.977	ng	98
70) o-Xylene	16.60	91	4055077	96.915	ng	99
71) n-Nonane	16.83	43	1324701	73.294	ng	100
72) 1,1,2,2-Tetrachloroethane	16.57	83	1584301	83.872	ng	100
74) Cumene	17.20	105	5263540	96.402	ng	100
75) alpha-Pinene	17.61	93	2337427	84.981	ng	99
76) n-Propylbenzene	17.73	91	5902660	94.661	ng	100
77) 3-Ethyltoluene	17.84	105	5229819	99.937	ng	100
78) 4-Ethyltoluene	17.88	105	5078609	101.309	ng	100
79) 1,3,5-Trimethylbenzene	17.96	105	4552050	98.775	ng	99
80) alpha-Methylstyrene	18.12	118	2473575	109.648	ng	99
81) 2-Ethyltoluene	18.16	105	5107465	97.704	ng	99
82) 1,2,4-Trimethylbenzene	18.39	105	4385377	102.411	ng	98
83) n-Decane	18.51	57	1646824	79.061	ng	100
84) Benzyl Chloride	18.53	91	4029132	120.328	ng	99
85) 1,3-Dichlorobenzene	18.55	146	2762488	111.751	ng	100
86) 1,4-Dichlorobenzene	18.61	146	2871235	113.686	ng	99
87) sec-Butylbenzene	18.67	105	5630899	93.523	ng	99
88) 4-Isopropyltoluene (p-...	18.84	119	5350008	100.325	ng	99
89) 1,2,3-Trimethylbenzene	18.84	105	4460508	102.087	ng	99
90) 1,2-Dichlorobenzene	18.98	146	2608515	106.072	ng	99
91) d-Limonene	18.99	68	1332709	89.635	ng	99
92) 1,2-Dibromo-3-Chloropr...	19.43	157	1113665	113.641	ng	98
93) n-Undecane	19.83	57	1760518	79.448	ng	100
94) 1,2,4-Trichlorobenzene	20.78	180	2294871	120.930	ng	100
95) Naphthalene	20.90	128	6235400	105.787	ng	99
96) n-Dodecane	20.92	57	1626329	74.317	ng	100
97) Hexachlorobutadiene	21.26	225	1532118	116.531	ng	100
98) Cyclohexanone	16.25	55	1131243	82.442	ng	99
99) tert-Butylbenzene	18.39	119	4205655	95.169	ng	100
100) n-Butylbenzene	19.28	91	4424060	103.098	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222018.D Vial: 2
Acq On : 22 Apr 2020 23:19 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: Apr 23 11:49:58 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 11:49:10 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222025.D Vial: 2
Acq On : 23 Apr 2020 14:51 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S34-04212006/S34-04102008 (5/9)

Quant Time: Apr 23 15:16:38 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:40:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/23/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	138305	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	11.12	114	577705	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	257902	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.94	65	219688	12.260	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.08%				
57) Toluene-d8 (SS2)	13.55	98	636981	12.792	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.32%				
73) Bromofluorobenzene (SS3)	17.05	174	245958	12.290	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.32%				
Target Compounds							Qvalue
2) Propene	3.86	42	154699	26.335	ng		98
3) Dichlorodifluoromethan...	3.97	85	589140	26.397	ng		100
4) Chloromethane	4.17	50	237620	28.855	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.34	135	308509	25.571	ng		100
6) Vinyl Chloride	4.45	62	303367	28.091	ng		100
7) 1,3-Butadiene	4.63	54	212030	30.741	ng		99
8) Bromomethane	4.94	94	224805	26.489	ng		99
9) Chloroethane	5.16	64	148572	27.196	ng		99
10) Ethanol	5.41	45	551345	123.912	ng		99
11) Acetonitrile	5.59	41	281664	26.742	ng		99
12) Acrolein	5.72	56	115673	28.448	ng		100
13) Acetone	5.86	58	716495	134.126	ng		100
14) Trichlorofluoromethane	6.03	101	587112	26.439	ng		99
15) 2-Propanol (Isopropanol)	6.20	45	991945	58.454	ng		100
16) Acrylonitrile	6.39	53	257853	30.427	ng		99
17) 1,1-Dichloroethene	6.73	96	273599	28.027	ng		100
18) 2-Methyl-2-Propanol (t...	6.85	59	878560	56.660	ng		100
19) Methylene Chloride	6.89	84	259159	27.662	ng		99
20) 3-Chloro-1-propene (Al...	7.01	41	288466	26.536	ng		99
21) Trichlorotrifluoroethane	7.19	151	309497	26.781	ng		99
22) Carbon Disulfide	7.15	76	893442	28.681	ng		99
23) trans-1,2-Dichloroethene	7.90	61	369099	29.956	ng		99
24) 1,1-Dichloroethane	8.12	63	417588	27.124	ng		100
25) Methyl tert-Butyl Ether	8.18	73	561667	28.315	ng		100
26) Vinyl Acetate	8.30	86	288845	148.155	ng	#	95
27) 2-Butanone (MEK)	8.53	72	164286	29.934	ng		97
28) cis-1,2-Dichloroethene	8.99	61	351423	28.219	ng		100
29) Diisopropyl Ether	9.22	87	210546	26.487	ng		96
30) Ethyl Acetate	9.23	61	149636	61.279	ng		96
31) n-Hexane	9.23	57	331607	27.976	ng		100
32) Chloroform	9.30	83	520394	27.442	ng		100
34) Tetrahydrofuran (THF)	9.68	72	161914	29.128	ng		98
35) Ethyl tert-Butyl Ether	9.77	87	231641	27.259	ng		98
36) 1,2-Dichloroethane	10.04	62	437532	28.049	ng		100
38) 1,1,1-Trichloroethane	10.30	97	551673	27.774	ng		100
39) Isopropyl Acetate	10.67	61	263481	55.596	ng		95
40) 1-Butanol	10.68	56	321068	50.426	ng		89
41) Benzene	10.76	78	1014361	26.935	ng		100
42) Carbon Tetrachloride	10.91	117	514147	26.405	ng		99
43) Cyclohexane	11.04	84	804221	54.510	ng		98
44) tert-Amyl Methyl Ether	11.35	73	547671	27.696	ng		99
45) 1,2-Dichloropropane	11.58	63	220258	28.569	ng		99
46) Bromodichloromethane	11.76	83	426060	27.495	ng		99
47) Trichloroethene	11.82	130	357343	27.398	ng		99
48) 1,4-Dioxane	11.78	88	226346	29.892	ng		99
49) 2,2,4-Trimethylpentane...	11.87	57	871344	27.699	ng		100
50) Methyl Methacrylate	12.00	100	242680	60.149	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222025.D Vial: 2
Acq On : 23 Apr 2020 14:51 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S34-04212006/S34-04102008 (5/9)

Quant Time: Apr 23 15:16:38 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:40:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

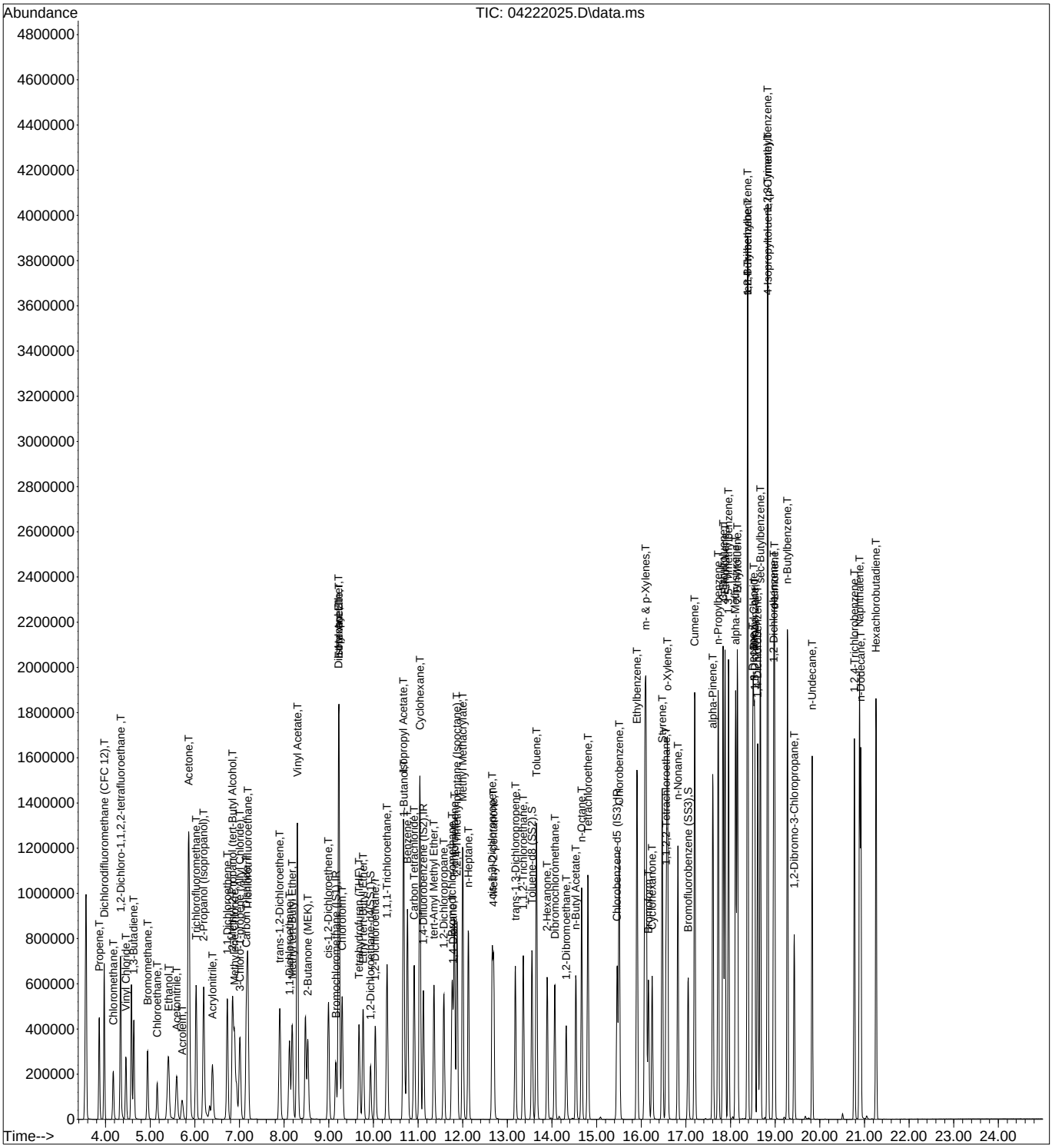
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.13	71	247582	28.295	ng	99
52) cis-1,3-Dichloropropene	12.66	75	483185	30.278	ng	100
53) 4-Methyl-2-pentanone	12.69	58	198322	30.093	ng	99
54) trans-1,3-Dichloropropene	13.18	75	459905	30.102	ng	100
55) 1,1,2-Trichloroethane	13.36	97	287117	27.892	ng	100
58) Toluene	13.65	91	1194763	28.577	ng	100
59) 2-Hexanone	13.89	43	432500	34.692	ng	100
60) Dibromochloromethane	14.07	129	421019	29.639	ng	100
61) 1,2-Dibromoethane	14.32	107	348360	29.896	ng	100
62) n-Butyl Acetate	14.53	43	481394	34.557	ng	99
63) n-Octane	14.67	57	193866	29.129	ng	99
64) Tetrachloroethene	14.81	166	424518	26.957	ng	100
65) Chlorobenzene	15.51	112	868669	28.380	ng	100
66) Ethylbenzene	15.90	91	1404245	28.826	ng	99
67) m- & p-Xylenes	16.10	91	2337527	56.877	ng	100
68) Bromoform	16.16	173	380352	30.239	ng	100
69) Styrene	16.47	104	903435	30.206	ng	100
70) o-Xylene	16.58	91	1145984	28.393	ng	99
71) n-Nonane	16.82	43	376132	28.889	ng	100
72) 1,1,2,2-Tetrachloroethane	16.56	83	446288	29.189	ng	100
74) Cumene	17.19	105	1491842	28.338	ng	100
75) alpha-Pinene	17.60	93	697167	29.081	ng	100
76) n-Propylbenzene	17.72	91	1664929	29.030	ng	100
77) 3-Ethyltoluene	17.83	105	1514987	29.475	ng	100
78) 4-Ethyltoluene	17.88	105	1406441	28.100	ng	100
79) 1,3,5-Trimethylbenzene	17.95	105	1297760	28.058	ng	100
80) alpha-Methylstyrene	18.11	118	687537	29.713	ng	99
81) 2-Ethyltoluene	18.15	105	1460305	28.553	ng	99
82) 1,2,4-Trimethylbenzene	18.38	105	1280190	28.624	ng	99
83) n-Decane	18.50	57	468311	29.721	ng	100
84) Benzyl Chloride	18.52	91	1071774	31.770	ng	100
85) 1,3-Dichlorobenzene	18.54	146	794118	29.452	ng	100
86) 1,4-Dichlorobenzene	18.61	146	815611	29.661	ng	99
87) sec-Butylbenzene	18.67	105	1616035	28.213	ng	100
88) 4-Isopropyltoluene (p-...	18.83	119	1571253	28.236	ng	100
89) 1,2,3-Trimethylbenzene	18.83	105	1253558	28.004	ng	100
90) 1,2-Dichlorobenzene	18.97	146	762623	29.114	ng	100
91) d-Limonene	18.99	68	360217	28.509	ng	99
92) 1,2-Dibromo-3-Chloropr...	19.43	157	285122	28.709	ng	100
93) n-Undecane	19.83	57	497789	29.938	ng	99
94) 1,2,4-Trichlorobenzene	20.77	180	604458	31.268	ng	100
95) Naphthalene	20.89	128	1670947	29.004	ng	100
96) n-Dodecane	20.92	57	456255	30.642	ng	99
97) Hexachlorobutadiene	21.26	225	423905	26.946	ng	99
98) Cyclohexanone	16.24	55	281643	27.641	ng	100
99) tert-Butylbenzene	18.38	119	1232641	27.444	ng	100
100) n-Butylbenzene	19.27	91	1251920	29.772	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_04\22\04222025.D Vial: 2
Acq On : 23 Apr 2020 14:51 Operator: SC
Sample : 25ng TO-15 ICV STD Inst : MS09
Misc : S34-04212006/S34-04102008 (5/9)

Quant Time: Apr 23 15:16:38 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:40:22 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **04222025.D** Acq. Method File: **TO15.M** *4/23/20*
Data File Path: **I:\MS09\Data\2020_04\22** Sample Name: **25ng TO-15 ICV STD**
Operator: **SC** Misc Info: **S34-04212006/S34-04102008 (**
Date Acquired: **4/23/2020 14:51** Instrument Name: **MS09**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
2)	**Propene**	**3.86**	**26.3**	26.25	100	**51**	**133**	*	*
3)	**Dichlorodifluoromethane (CFC 1**	**3.97**	**26.4**	**26.25**	101	**64**	**115**	*	*
4)	**Chloromethane**	**4.17**	**28.9**	**26.50**	109	**49**	**127**	*	*
5)	**1,2-Dichloro-1,1,2,2-tetrafluoroetl**	**4.34**	**25.6**	**25.75**	99	**65**	**114**	*	*
6)	**Vinyl Chloride**	**4.45**	**28.1**	**26.50**	106	**61**	**129**	*	*
7)	**1,3-Butadiene**	**4.63**	**30.7**	**26.50**	116	**54**	**140**	*	*
8)	**Bromomethane**	**4.94**	**26.5**	**26.50**	100	**68**	**120**	*	*
9)	**Chloroethane**	**5.16**	**27.2**	**26.75**	102	**63**	**123**	*	*
10)	**Ethanol**	**5.41**	**124**	**132.50**	94	**49**	**134**	*	*
11)	**Acetonitrile**	**5.59**	**26.7**	**26.75**	100	**50**	**137**	*	*
12)	**Acrolein**	**5.72**	**28.4**	**25.75**	110	**62**	**128**	*	*
13)	**Acetone**	**5.86**	**134**	**133.50**	100	**56**	**125**	*	*
14)	**Trichlorofluoromethane**	**6.03**	**26.4**	**26.50**	100	**64**	**115**	*	*
15)	**2-Propanol (Isopropanol)**	**6.20**	**58.5**	**52.75**	111	**57**	**133**	*	*
16)	**Acrylonitrile**	**6.39**	**30.4**	**26.50**	115	**64**	**136**	*	*
17)	**1,1-Dichloroethene**	**6.73**	**28.0**	**26.75**	105	**68**	**115**	*	*
18)	2-Methyl-2-Propanol (tert-Butyl Alc	6.85	56.7	53.75	105	56	132	*	*
19)	**Methylene Chloride**	**6.89**	**27.7**	**26.25**	106	**68**	**114**	*	*
20)	**3-Chloro-1-propene (Allyl Chloric**	**7.01**	**26.5**	**26.75**	99	**55**	**139**	*	*
21)	**Trichlorotrifluoroethane**	**7.19**	**26.8**	**27.00**	99	**65**	**115**	*	*
22)	**Carbon Disulfide**	**7.15**	**28.7**	**26.50**	108	**68**	**113**	*	*
23)	**trans-1,2-Dichloroethene**	**7.90**	**30.0**	**26.75**	112	**65**	**122**	*	*
24)	**1,1-Dichloroethane**	**8.12**	**27.1**	**26.50**	102	**63**	**118**	*	*
25)	**Methyl tert-Butyl Ether**	**8.18**	**28.3**	**26.75**	106	**57**	**131**	*	*
26)	**Vinyl Acetate**	**8.30**	**148**	**133.25**	111	**71**	**128**	*	*
27)	**2-Butanone (MEK)**	**8.53**	**29.9**	**26.50**	113	**67**	**123**	*	*
28)	**cis-1,2-Dichloroethene**	**8.99**	**28.2**	**26.50**	106	**64**	**120**	*	*
29)	Diisopropyl Ether	9.22	26.5	27.00	98	62	121	*	*
30)	**Ethyl Acetate**	**9.23**	**61.3**	**54.00**	114	**64**	**131**	*	*
31)	**n-Hexane**	**9.23**	**28.0**	**27.00**	104	**58**	**125**	*	*
32)	**Chloroform**	**9.30**	**27.4**	**26.75**	102	**65**	**114**	*	*
34)	**Tetrahydrofuran (THF)**	**9.68**	**29.1**	**27.50**	106	**65**	**115**	*	*
35)	Ethyl tert-Butyl Ether	9.77	27.3	26.75	102	61	130	*	*
36)	**1,2-Dichloroethane**	**10.04**	**28.0**	**26.75**	105	**59**	**120**	*	*
38)	**1,1,1-Trichloroethane**	**10.30**	**27.8**	**26.75**	104	**66**	**115**	*	*
39)	Isopropyl Acetate	10.67	55.6	52.50	106	65	129	*	*
40)	1-Butanol	10.68	50.4	53.25	95	58	140	*	*
41)	**Benzene**	**10.76**	**26.9**	**26.25**	102	**66**	**109**	*	*
42)	**Carbon Tetrachloride**	**10.91**	**26.4**	**26.00**	102	**66**	**119**	*	*
43)	**Cyclohexane**	**11.04**	**54.5**	**52.75**	103	**67**	**117**	*	*
44)	tert-Amyl Methyl Ether	11.35	27.7	**26.75**	104	62	133	*	*
45)	**1,2-Dichloropropane**	**11.58**	**28.6**	**26.75**	107	**66**	**119**	*	*
46)	**Bromodichloromethane**	**11.76**	**27.5**	**27.25**	101	**71**	**119**	*	*
47)	**Trichloroethene**	**11.82**	**27.4**	**27.00**	101	**70**	**114**	*	*
48)	**1,4-Dioxane**	**11.78**	**29.9**	**27.00**	111	**71**	**117**	*	*
49)	2,2,4-Trimethylpentane (Isooctane)	11.87	27.7	26.75	104	61	122	*	*

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **04222025.D** **TO15.M**
Data File Path: **I:\MS09\Data\2020_04\22** Sample Name: **25ng TO-15 ICV STD**
Operator: **SC** Misc Info: **S34-04212006/S34-04102008 (**
Date Acquired: **4/23/2020 14:51** Instrument Name: **MS09**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
50)	**Methyl Methacrylate**	**12.00**	**60.1**	**53.75**	112	**76**	**121**	*	*
51)	**n-Heptane**	**12.13**	**28.3**	**26.75**	106	**66**	**119**	*	*
52)	**cis-1,3-Dichloropropene**	**12.66**	**30.3**	**26.75**	113	**72**	**125**	*	*
53)	**4-Methyl-2-pentanone**	**12.69**	**30.1**	**26.50**	114	**68**	**130**	*	*
54)	**trans-1,3-Dichloropropene**	**13.18**	**30.1**	**26.50**	114	**71**	**132**	*	*
55)	**1,1,2-Trichloroethane**	**13.36**	**27.9**	**26.75**	104	**70**	**117**	*	*
58)	**Toluene**	**13.65**	**28.6**	**26.50**	108	**67**	**113**	*	*
59)	**2-Hexanone**	**13.89**	**34.7**	**27.00**	129	**62**	**135**	*	*
60)	**Dibromochloromethane**	**14.07**	**29.6**	**26.75**	111	**73**	**126**	*	*
61)	**1,2-Dibromoethane**	**14.32**	**29.9**	**26.75**	112	**71**	**122**	*	*
62)	**n-Butyl Acetate**	**14.53**	**34.6**	**27.25**	127	**65**	**134**	*	*
63)	**n-Octane**	**14.67**	**29.1**	**27.00**	108	**63**	**120**	*	*
64)	**Tetrachloroethene**	**14.81**	**27.0**	**26.00**	104	**64**	**120**	*	*
65)	**Chlorobenzene**	**15.51**	**28.4**	**26.75**	106	**65**	**116**	*	*
66)	**Ethylbenzene**	**15.90**	**28.8**	**26.50**	109	**65**	**117**	*	*
67)	**m- & p-Xylenes**	**16.10**	**56.9**	**53.25**	107	**64**	**121**	*	*
68)	**Bromoform**	**16.16**	**30.2**	**26.75**	113	**72**	**130**	*	*
69)	**Styrene**	**16.47**	**30.2**	**26.50**	114	**72**	**126**	*	*
70)	**o-Xylene**	**16.58**	**28.4**	**26.75**	106	**64**	**120**	*	*
71)	**n-Nonane**	**16.82**	**28.9**	**26.75**	108	**56**	**132**	*	*
72)	**1,1,2,2-Tetrachloroethane**	**16.56**	**29.2**	**26.75**	109	**66**	**122**	*	*
74)	**Cumene**	**17.19**	**28.3**	**26.75**	106	**64**	**121**	*	*
75)	**alpha-Pinene**	**17.60**	**29.1**	**26.50**	110	**62**	**136**	*	*
76)	**n-Propylbenzene**	**17.72**	**29.0**	**26.75**	108	**65**	**123**	*	*
77)	3-Ethyltoluene	17.83	29.5	26.75	110	62	123	*	*
78)	**4-Ethyltoluene**	**17.88**	**28.1**	**26.25**	**107**	**71**	**126**	*	*
79)	**1,3,5-Trimethylbenzene**	**17.95**	**28.1**	**26.50**	**106**	**65**	**120**	*	*
80)	alpha-Methylstyrene	18.11	29.7	26.50	**112**	70	132	*	*
81)	2-Ethyltoluene	18.15	28.6	26.75	**107**	66	121	*	*
82)	**1,2,4-Trimethylbenzene**	**18.38**	**28.6**	**26.50**	**108**	**63**	**129**	*	*
83)	n-Decane	18.50	29.7	26.75	**111**	61	131	*	*
84)	**Benzyl Chloride**	**18.52**	**31.8**	**26.75**	**119**	**66**	**138**	*	*
85)	**1,3-Dichlorobenzene**	**18.54**	**29.5**	**26.75**	**110**	**65**	**127**	*	*
86)	**1,4-Dichlorobenzene**	**18.61**	**29.7**	**26.75**	**111**	**66**	**125**	*	*
87)	sec-Butylbenzene	18.67	28.2	26.50	**106**	68	123	*	*
88)	4-Isopropyltoluene (p-Cymene)	18.83	28.2	27.25	**103**	61	129	*	*
89)	1,2,3-Trimethylbenzene	18.83	28.0	27.00	**104**	60	134	*	*
90)	**1,2-Dichlorobenzene**	**18.97**	**29.1**	**26.75**	**109**	**67**	**128**	*	*
91)	**d-Limonene**	**18.99**	**28.5**	**26.50**	**108**	**65**	**136**	*	*
92)	**1,2-Dibromo-3-Chloropropane**	**19.43**	**28.7**	**26.75**	**107**	**73**	**133**	*	*
93)	n-Undecane	19.83	29.9	27.00	**111**	64	131	*	*
94)	**1,2,4-Trichlorobenzene**	**20.77**	**31.3**	**27.00**	**116**	**62**	**140**	*	*
95)	**Naphthalene**	**20.89**	**29.0**	**26.50**	**109**	**57**	**149**	*	*
96)	n-Dodecane	20.92	30.6	26.50	**115**	41	181	*	*
97)	**Hexachlorobutadiene**	**21.26**	**26.9**	**26.75**	**101**	57	129	*	*
98)	Cyclohexanone	16.24	27.6	25.25	109	61	131	*	*
99)	tert-Butylbenzene	18.38	27.4	26.50	103	62	130	*	*
100)	n-Butylbenzene	19.27	29.8	26.75	111	67	124	*	*

Bold = 75 Compound List

Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2020_05\04\05042002.D Vial: 2
Acq On : 4 May 2020 6:13 Operator: TD
Sample : CCV R9050420_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

TD 5/4/20

Quant Time: May 04 07:25:27 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	108	-0.02
2	T	Propene	0.531	0.510	4.0	111	0.00
3	T	Dichlorodifluoromethane (CF	2.017	1.635	18.9	91	0.00
4	T	Chloromethane	0.744	0.637	14.4	88	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.090	0.910	16.5	94	-0.01
6	T	Vinyl Chloride	0.976	0.879	9.9	98	-0.01
7	T	1,3-Butadiene	0.623	0.613	1.6	101	-0.01
8	T	Bromomethane	0.767	0.696	9.3	101	-0.01
9	T	Chloroethane	0.494	0.422	14.6	96	-0.01
10	T	Ethanol	0.402	0.351	12.7	105	-0.06
11	T	Acetonitrile	0.952	0.806	15.3	97	-0.04
12	T	Acrolein	0.367	0.352	4.1	99	-0.02
13	T	Acetone	0.483	0.410	15.1	99	-0.03
14	T	Trichlorofluoromethane	2.007	1.630	18.8	91	-0.01
15	T	2-Propanol (Isopropanol)	1.534	1.235	19.5	83	-0.04
16	T	Acrylonitrile	0.766	0.727	5.1	95	-0.03
17	T	1,1-Dichloroethene	0.882	0.763	13.5	96	-0.02
18	T	2-Methyl-2-Propanol (tert-B	1.401	1.720	-22.8	132	-0.04
19	T	Methylene Chloride	0.847	0.736	13.1	96	-0.02
20	T	3-Chloro-1-propene (Allyl C	0.983	0.780	20.7	91	-0.02
21	T	Trichlorotrifluoroethane	1.044	0.866	17.0	94	-0.01
22	T	Carbon Disulfide	2.815	2.523	10.4	98	-0.01
23	T	trans-1,2-Dichloroethene	1.114	0.993	10.9	93	-0.01
24	T	1,1-Dichloroethane	1.391	1.155	17.0	93	-0.02
25	T	Methyl tert-Butyl Ether	1.793	2.268	-26.5	138	-0.02
26	T	Vinyl Acetate	0.176	0.165	6.2	93	-0.03
27	T	2-Butanone (MEK)	0.496	0.471	5.0	96	-0.03
28	T	cis-1,2-Dichloroethene	1.126	0.961	14.7	94	-0.01
29	T	Diisopropyl Ether	0.718	0.623	13.2	102	-0.01
30	T	Ethyl Acetate	0.221	0.204	7.7	96	-0.02
31	T	n-Hexane	1.071	0.946	11.7	101	-0.01
32	T	Chloroform	1.714	1.413	17.6	92	-0.03
33	S	1,2-Dichloroethane-d4(SS1)	1.620	1.507	7.0	102	-0.02
34	T	Tetrahydrofuran (THF)	0.502	0.447	11.0	96	-0.01
35	T	Ethyl tert-Butyl Ether	0.768	0.908	-18.2	134	-0.01
36	T	1,2-Dichloroethane	1.410	1.168	17.2	91	-0.01
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	110	-0.01
38	T	1,1,1-Trichloroethane	0.430	0.353	17.9	91	-0.01
39	T	Isopropyl Acetate	0.103	0.090	12.6	97	-0.02
40	T	1-Butanol	0.138	0.137	0.7	92	-0.03
41	T	Benzene	0.815	0.698	14.4	97	-0.01
42	T	Carbon Tetrachloride	0.421	0.346	17.8	90	-0.01
43	T	Cyclohexane	0.319	0.276	13.5	97	-0.01
44	T	tert-Amyl Methyl Ether	0.428	0.480	-12.1	125	0.00
45	T	1,2-Dichloropropane	0.167	0.145	13.2	97	-0.01
46	T	Bromodichloromethane	0.335	0.279	16.7	92	-0.02
47	T	Trichloroethene	0.282	0.245	13.1	96	-0.01
48	T	1,4-Dioxane	0.164	0.152	7.3	95	-0.02
49	T	2,2,4-Trimethylpentane (Iso	0.681	0.597	12.3	101	-0.01
50	T	Methyl Methacrylate	0.087	0.082	5.7	96	-0.02
51	T	n-Heptane	0.189	0.167	11.6	97	-0.01
52	T	cis-1,3-Dichloropropene	0.345	0.312	9.6	94	-0.01
53	T	4-Methyl-2-pentanone	0.143	0.133	7.0	94	-0.01
54	T	trans-1,3-Dichloropropene	0.331	0.305	7.9	92	-0.01
55	T	1,1,2-Trichloroethane	0.223	0.192	13.9	95	0.00

Evaluate Continuing Calibration Report

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Acq On : 4 May 2020 6:13 Operator: TD
Sample : CCV R9050420_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: May 04 07:25:27 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	101	0.00
57	S	Toluene-d8 (SS2)	2.414	2.515	-4.2	107	0.00
58	T	Toluene	2.026	1.834	9.5	95	0.00
59	T	2-Hexanone	0.604	0.647	-7.1	91	-0.01
60	T	Dibromochloromethane	0.688	0.650	5.5	93	0.00
61	T	1,2-Dibromoethane	0.565	0.539	4.6	93	0.00
62	T	n-Butyl Acetate	0.675	0.685	-1.5	91	0.00
63	T	n-Octane	0.323	0.290	10.2	95	0.00
64	T	Tetrachloroethene	0.763	0.683	10.5	95	0.00
65	T	Chlorobenzene	1.484	1.343	9.5	94	0.00
66	T	Ethylbenzene	2.361	2.151	8.9	94	0.00
67	T	m- & p-Xylenes	1.992	1.740	12.7	92	-0.02
68	T	Bromoform	0.610	0.589	3.4	93	0.00
69	T	Styrene	1.450	1.397	3.7	93	0.00
70	T	o-Xylene	1.956	1.751	10.5	93	-0.01
71	T	n-Nonane	0.631	0.564	10.6	93	0.00
72	T	1,1,2,2-Tetrachloroethane	0.741	0.685	7.6	94	-0.01
73	S	Bromofluorobenzene (SS3)	0.970	0.976	-0.6	101	0.00
74	T	Cumene	2.552	2.284	10.5	93	0.00
75	T	alpha-Pinene	1.162	1.138	2.1	99	0.00
76	T	n-Propylbenzene	2.780	2.564	7.8	94	0.00
77	T	3-Ethyltoluene	2.491	2.323	6.7	93	0.00
78	T	4-Ethyltoluene	2.426	2.203	9.2	93	0.00
79	T	1,3,5-Trimethylbenzene	2.242	2.007	10.5	93	0.00
80	T	alpha-Methylstyrene	1.122	1.058	5.7	90	0.00
81	T	2-Ethyltoluene	2.479	2.220	10.4	92	0.00
82	T	1,2,4-Trimethylbenzene	2.168	1.974	8.9	93	-0.01
83	T	n-Decane	0.764	0.725	5.1	94	-0.01
84	T	Benzyl Chloride	1.635	1.659	-1.5	90	-0.01
85	T	1,3-Dichlorobenzene	1.307	1.242	5.0	93	0.00
86	T	1,4-Dichlorobenzene	1.333	1.265	5.1	92	0.00
87	T	sec-Butylbenzene	2.776	2.509	9.6	93	0.00
88	T	4-Isopropyltoluene (p-Cymen	2.697	2.424	10.1	92	0.00
89	T	1,2,3-Trimethylbenzene	2.170	1.974	9.0	93	-0.01
90	T	1,2-Dichlorobenzene	1.270	1.195	5.9	93	-0.01
91	T	d-Limonene	0.612	0.561	8.3	91	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.481	0.472	1.9	91	0.00
93	T	n-Undecane	0.806	0.754	6.5	92	0.00
94	T	1,2,4-Trichlorobenzene	0.937	1.001	-6.8	91	0.00
95	T	Naphthalene	2.792	2.822	-1.1	90	0.00
96	T	n-Dodecane	0.722	0.730	-1.1	92	0.00
97	T	Hexachlorobutadiene	0.762	0.685	10.1	92	0.00
98	T	Cyclohexanone	0.494	0.472	4.5	89	-0.01
99	T	tert-Butylbenzene	2.177	1.935	11.1	93	0.00
100	T	n-Butylbenzene	2.038	1.930	5.3	92	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

TD 5/4/20

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Sample : CCV R9050420_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: May 04 07:25:27 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	151662	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.12	114	633057	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	274601	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.93	65	228575	11.632	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.04%				
57) Toluene-d8 (SS2)	13.55	98	690629	13.026	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.24%				
73) Bromofluorobenzene (SS3)	17.05	174	268039	12.579	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.64%				
Target Compounds							Qvalue
2) Propene	3.85	42	163939	25.450	ng		99
3) Dichlorodifluoromethan...	3.96	85	525658	21.479	ng		100
4) Chloromethane	4.17	50	204747	22.673	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	289818	21.906	ng		100
6) Vinyl Chloride	4.45	62	287951	24.316	ng		100
7) 1,3-Butadiene	4.62	54	197170	26.068	ng		98
8) Bromomethane	4.93	94	227848	24.483	ng		99
9) Chloroethane	5.15	64	138179	23.066	ng		99
10) Ethanol	5.40	45	554922	113.732	ng		99
11) Acetonitrile	5.58	41	256641	22.220	ng		99
12) Acrolein	5.71	56	110019	24.675	ng		99
13) Acetone	5.85	58	662101	113.028	ng		92
14) Trichlorofluoromethane	6.02	101	524144	21.525	ng		100
15) 2-Propanol (Isopropanol)	6.19	45	786939	42.289	ng		99
16) Acrylonitrile	6.38	53	231527	24.914	ng		99
17) 1,1-Dichloroethene	6.72	96	250036	23.357	ng		96
18) 2-Methyl-2-Propanol (t...	6.83	59	1126883	66.275	ng		98
19) Methylene Chloride	6.88	84	236694	23.039	ng		97
20) 3-Chloro-1-propene (Al...	7.01	41	255647	21.446	ng		99
21) Trichlorotrifluoroethane	7.18	151	283599	22.379	ng		100
22) Carbon Disulfide	7.15	76	818931	23.974	ng		99
23) trans-1,2-Dichloroethene	7.90	61	325192	24.068	ng		98
24) 1,1-Dichloroethane	8.12	63	381992	22.627	ng		100
25) Methyl tert-Butyl Ether	8.17	73	742925	34.154	ng		99
26) Vinyl Acetate	8.29	86	268230	125.465	ng		97
27) 2-Butanone (MEK)	8.52	72	151550	25.182	ng		98
28) cis-1,2-Dichloroethene	8.99	61	309139	22.637	ng		98
29) Diisopropyl Ether	9.22	87	204119	23.417	ng	#	90
30) Ethyl Acetate	9.22	61	134385	50.186	ng		100
31) n-Hexane	9.22	57	309933	23.845	ng		99
32) Chloroform	9.29	83	458673	22.057	ng		100
34) Tetrahydrofuran (THF)	9.67	72	147823	24.251	ng		99
35) Ethyl tert-Butyl Ether	9.77	87	297601	31.937	ng		100
36) 1,2-Dichloroethane	10.04	62	382575	22.366	ng		99
38) 1,1,1-Trichloroethane	10.30	97	478748	21.995	ng		99
39) Isopropyl Acetate	10.67	61	239507	46.119	ng		94
40) 1-Butanol	10.68	56	361405	51.798	ng		98
41) Benzene	10.76	78	937226	22.711	ng		100
42) Carbon Tetrachloride	10.91	117	460308	21.573	ng		100
43) Cyclohexane	11.04	84	739692	45.752	ng		99
44) tert-Amyl Methyl Ether	11.35	73	656480	30.296	ng		99
45) 1,2-Dichloropropane	11.57	63	198938	23.547	ng		100
46) Bromodichloromethane	11.76	83	380978	22.436	ng		100
47) Trichloroethene	11.81	130	332246	23.247	ng		100
48) 1,4-Dioxane	11.78	88	207708	25.032	ng		100
49) 2,2,4-Trimethylpentane...	11.87	57	808705	23.460	ng		97
50) Methyl Methacrylate	12.00	100	223090	50.459	ng		99

Quantitation Report (QT Reviewed)

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Acq On : 4 May 2020 6:13 Operator: TD
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QLast Update : Thu Apr 23 14:12:50 2020
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DataAcq Meth:TO15.M

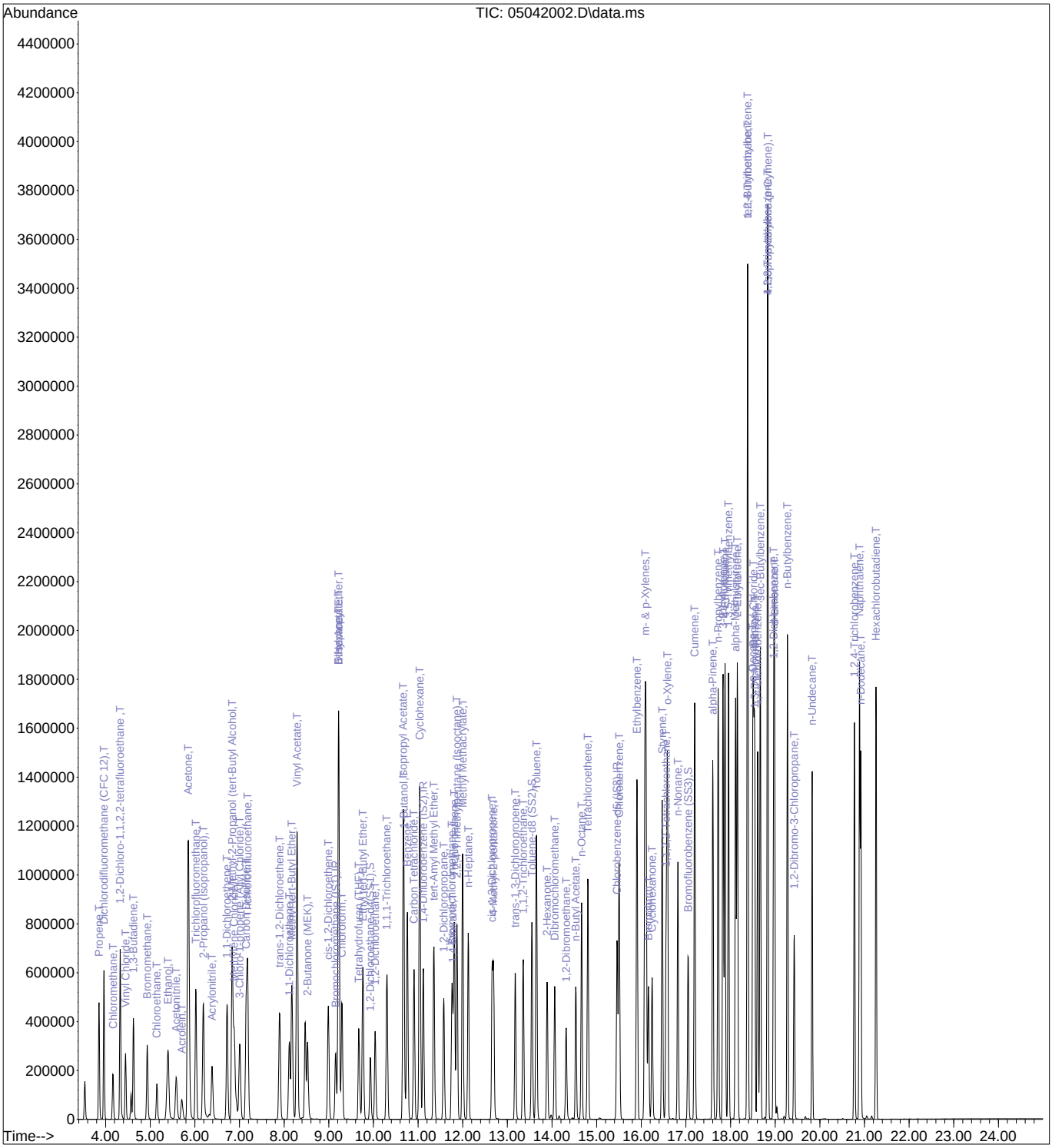
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	227797	23.758	ng	100
52) cis-1,3-Dichloropropene	12.66	75	410721	23.487	ng	100
53) 4-Methyl-2-pentanone	12.69	58	179058	24.794	ng	98
54) trans-1,3-Dichloropropene	13.17	75	409780	24.476	ng	100
55) 1,1,2-Trichloroethane	13.36	97	260213	23.068	ng	100
58) Toluene	13.65	91	1077813	24.212	ng	99
59) 2-Hexanone	13.89	43	380257	28.647	ng	98
60) Dibromochloromethane	14.06	129	381851	25.247	ng	99
61) 1,2-Dibromoethane	14.32	107	316783	25.533	ng	100
62) n-Butyl Acetate	14.53	43	410250	27.659	ng	99
63) n-Octane	14.67	57	171732	24.235	ng	99
64) Tetrachloroethene	14.80	166	389889	23.253	ng	100
65) Chlorobenzene	15.51	112	789124	24.213	ng	100
66) Ethylbenzene	15.90	91	1263741	24.364	ng	100
67) m- & p-Xylenes	16.09	91	2045310	46.740	ng	98
68) Bromoform	16.16	173	346118	25.844	ng	100
69) Styrene	16.47	104	813163	25.535	ng	99
70) o-Xylene	16.58	91	1028768	23.939	ng	100
71) n-Nonane	16.82	43	331645	23.923	ng	99
72) 1,1,2,2-Tetrachloroethane	16.56	83	402758	24.740	ng	99
74) Cumene	17.19	105	1354891	24.172	ng	100
75) alpha-Pinene	17.60	93	668551	26.191	ng	99
76) n-Propylbenzene	17.72	91	1520680	24.902	ng	100
77) 3-Ethyltoluene	17.83	105	1352303	24.710	ng	99
78) 4-Ethyltoluene	17.88	105	1306740	24.520	ng	100
79) 1,3,5-Trimethylbenzene	17.95	105	1168530	23.728	ng	100
80) alpha-Methylstyrene	18.11	118	621527	25.227	ng	99
81) 2-Ethyltoluene	18.15	105	1316940	24.184	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	1160214	24.364	ng	100
83) n-Decane	18.50	57	426165	25.401	ng	100
84) Benzyl Chloride	18.51	91	984266	27.402	ng	100
85) 1,3-Dichlorobenzene	18.54	146	730092	25.431	ng	100
86) 1,4-Dichlorobenzene	18.61	146	743132	25.382	ng	99
87) sec-Butylbenzene	18.67	105	1474477	24.176	ng	100
88) 4-Isopropyltoluene (p-...	18.83	119	1451080	24.491	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	1181763	24.795	ng	100
90) 1,2-Dichlorobenzene	18.97	146	702185	25.177	ng	100
91) d-Limonene	18.99	68	332994	24.752	ng	100
92) 1,2-Dibromo-3-Chloropr...	19.43	157	271953	25.718	ng	97
93) n-Undecane	19.83	57	447148	25.257	ng	100
94) 1,2,4-Trichlorobenzene	20.77	180	588452	28.589	ng	100
95) Naphthalene	20.89	128	1596224	26.022	ng	100
96) n-Dodecane	20.92	57	417183	26.314	ng	100
97) Hexachlorobutadiene	21.26	225	398521	23.792	ng	99
98) Cyclohexanone	16.24	55	259351	23.906	ng	99
99) tert-Butylbenzene	18.38	119	1137167	23.779	ng	99
100) n-Butylbenzene	19.27	91	1133882	25.325	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042002.D Vial: 2
Acq On : 4 May 2020 6:13 Operator: TD
Sample : CCV R9050420_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: May 04 07:25:27 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2020_05\04\05042037.D Vial: 2
Acq On : 5 May 2020 3:00 Operator: SC
Sample : CCV END R9050420_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: May 05 05:34:23 2020 5/5/20
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	107	-0.02
2	T	Propene	0.531	0.510	4.0	109	0.00
3	T	Dichlorodifluoromethane (CF	2.017	1.597	20.8	88	0.00
4	T	Chloromethane	0.744	0.630	15.3	86	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.090	0.880	19.3	90	0.00
6	T	Vinyl Chloride	0.976	0.838	14.1	92	0.00
7	T	1,3-Butadiene	0.623	0.574	7.9	93	0.00
8	T	Bromomethane	0.767	0.658	14.2	94	0.00
9	T	Chloroethane	0.494	0.399	19.2	90	0.00
10	T	Ethanol	0.402	0.331	17.7	98	-0.05
11	T	Acetonitrile	0.952	0.737	22.6	88	-0.03
12	T	Acrolein	0.367	0.331	9.8	92	-0.02
13	T	Acetone	0.483	0.383	20.7	91	-0.03
14	T	Trichlorofluoromethane	2.007	1.569	21.8	87	0.00
15	T	2-Propanol (Isopropanol)	1.534	1.135	26.0	75	-0.03
16	T	Acrylonitrile	0.766	0.681	11.1	88	-0.03
17	T	1,1-Dichloroethene	0.882	0.720	18.4	90	-0.01
18	T	2-Methyl-2-Propanol (tert-B	1.401	1.628	-16.2	124	-0.04
19	T	Methylene Chloride	0.847	0.705	16.8	91	-0.01
20	T	3-Chloro-1-propene (Allyl C	0.983	0.732	25.5	85	-0.01
21	T	Trichlorotrifluoroethane	1.044	0.832	20.3	90	0.00
22	T	Carbon Disulfide	2.815	2.398	14.8	92	0.00
23	T	trans-1,2-Dichloroethene	1.114	0.947	15.0	88	0.00
24	T	1,1-Dichloroethane	1.391	1.102	20.8	87	-0.01
25	T	Methyl tert-Butyl Ether	1.793	2.154	-20.1	130	-0.01
26	T	Vinyl Acetate	0.176	0.158	10.2	88	-0.03
27	T	2-Butanone (MEK)	0.496	0.447	9.9	90	-0.02
28	T	cis-1,2-Dichloroethene	1.126	0.913	18.9	88	-0.01
29	T	Diisopropyl Ether	0.718	0.591	17.7	96	-0.01
30	T	Ethyl Acetate	0.221	0.193	12.7	90	-0.02
31	T	n-Hexane	1.071	0.897	16.2	95	0.00
32	T	Chloroform	1.714	1.356	20.9	88	-0.02
33	S	1,2-Dichloroethane-d4(SS1)	1.620	1.514	6.5	101	-0.02
34	T	Tetrahydrofuran (THF)	0.502	0.422	15.9	89	-0.01
35	T	Ethyl tert-Butyl Ether	0.768	0.871	-13.4	127	-0.01
36	T	1,2-Dichloroethane	1.410	1.118	20.7	86	-0.01
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	108	-0.01
38	T	1,1,1-Trichloroethane	0.430	0.342	20.5	87	0.00
39	T	Isopropyl Acetate	0.103	0.085	17.5	90	-0.02
40	T	1-Butanol	0.138	0.132	4.3	87	-0.03
41	T	Benzene	0.815	0.665	18.4	91	-0.01
42	T	Carbon Tetrachloride	0.421	0.337	20.0	87	-0.01
43	T	Cyclohexane	0.319	0.264	17.2	92	0.00
44	T	tert-Amyl Methyl Ether	0.428	0.461	-7.7	118	0.00
45	T	1,2-Dichloropropane	0.167	0.137	18.0	90	0.00
46	T	Bromodichloromethane	0.335	0.270	19.4	88	-0.01
47	T	Trichloroethene	0.282	0.236	16.3	91	-0.01
48	T	1,4-Dioxane	0.164	0.144	12.2	89	-0.01
49	T	2,2,4-Trimethylpentane (Iso	0.681	0.564	17.2	94	-0.01
50	T	Methyl Methacrylate	0.087	0.078	10.3	90	-0.02
51	T	n-Heptane	0.189	0.158	16.4	91	-0.01
52	T	cis-1,3-Dichloropropene	0.345	0.296	14.2	88	0.00
53	T	4-Methyl-2-pentanone	0.143	0.127	11.2	89	-0.01
54	T	trans-1,3-Dichloropropene	0.331	0.293	11.5	87	-0.01
55	T	1,1,2-Trichloroethane	0.223	0.184	17.5	90	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2020_05\04\05042037.D Vial: 2
Acq On : 5 May 2020 3:00 Operator: SC
Sample : CCV END R9050420_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: May 05 05:34:23 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	102	0.00
57	S	Toluene-d8 (SS2)	2.414	2.467	-2.2	105	0.00
58	T	Toluene	2.026	1.729	14.7	90	0.00
59	T	2-Hexanone	0.604	0.602	0.3	85	-0.01
60	T	Dibromochloromethane	0.688	0.614	10.8	88	0.00
61	T	1,2-Dibromoethane	0.565	0.511	9.6	89	0.00
62	T	n-Butyl Acetate	0.675	0.631	6.5	84	0.00
63	T	n-Octane	0.323	0.270	16.4	89	0.00
64	T	Tetrachloroethene	0.763	0.647	15.2	90	0.00
65	T	Chlorobenzene	1.484	1.278	13.9	90	0.00
66	T	Ethylbenzene	2.361	2.025	14.2	89	0.00
67	T	m- & p-Xylenes	1.992	1.680	15.7	89	-0.02
68	T	Bromoform	0.610	0.560	8.2	89	0.00
69	T	Styrene	1.450	1.326	8.6	89	0.00
70	T	o-Xylene	1.956	1.657	15.3	89	-0.01
71	T	n-Nonane	0.631	0.524	17.0	87	0.00
72	T	1,1,2,2-Tetrachloroethane	0.741	0.647	12.7	89	-0.01
73	S	Bromofluorobenzene (SS3)	0.970	1.004	-3.5	104	0.00
74	T	Cumene	2.552	2.162	15.3	88	0.00
75	T	alpha-Pinene	1.162	1.080	7.1	94	0.00
76	T	n-Propylbenzene	2.780	2.404	13.5	88	0.00
77	T	3-Ethyltoluene	2.491	2.224	10.7	90	0.00
78	T	4-Ethyltoluene	2.426	2.083	14.1	88	0.00
79	T	1,3,5-Trimethylbenzene	2.242	1.917	14.5	89	0.00
80	T	alpha-Methylstyrene	1.122	1.017	9.4	87	0.00
81	T	2-Ethyltoluene	2.479	2.123	14.4	89	0.00
82	T	1,2,4-Trimethylbenzene	2.168	1.890	12.8	90	-0.01
83	T	n-Decane	0.764	0.696	8.9	90	-0.01
84	T	Benzyl Chloride	1.635	1.594	2.5	86	-0.01
85	T	1,3-Dichlorobenzene	1.307	1.198	8.3	90	0.00
86	T	1,4-Dichlorobenzene	1.333	1.217	8.7	89	0.00
87	T	sec-Butylbenzene	2.776	2.415	13.0	90	0.00
88	T	4-Isopropyltoluene (p-Cymen	2.697	2.339	13.3	90	0.00
89	T	1,2,3-Trimethylbenzene	2.170	1.893	12.8	89	-0.01
90	T	1,2-Dichlorobenzene	1.270	1.149	9.5	90	-0.01
91	T	d-Limonene	0.612	0.534	12.7	87	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.481	0.458	4.8	88	0.00
93	T	n-Undecane	0.806	0.718	10.9	88	0.00
94	T	1,2,4-Trichlorobenzene	0.937	0.951	-1.5	87	0.00
95	T	Naphthalene	2.792	2.679	4.0	86	0.00
96	T	n-Dodecane	0.722	0.688	4.7	87	0.00
97	T	Hexachlorobutadiene	0.762	0.655	14.0	88	0.00
98	T	Cyclohexanone	0.494	0.444	10.1	84	-0.01
99	T	tert-Butylbenzene	2.177	1.870	14.1	90	0.00
100	T	n-Butylbenzene	2.038	1.844	9.5	88	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042037.D Vial: 2
Acq On : 5 May 2020 3:00 Operator: SC
Sample : CCV END R9050420_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: May 05 05:34:23 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 5/5/20
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	149943	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.12	114	625168	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	276029	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.93	65	226999	11.685	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.44%				
57) Toluene-d8 (SS2)	13.55	98	681020	12.778	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.24%				
73) Bromofluorobenzene (SS3)	17.05	174	277165	12.940	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.52%				
Target Compounds							Qvalue
2) Propene	3.85	42	162230	25.473	ng		99
3) Dichlorodifluoromethan...	3.97	85	507714	20.983	ng		100
4) Chloromethane	4.17	50	200111	22.414	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	277144	21.188	ng		100
6) Vinyl Chloride	4.45	62	271461	23.186	ng		99
7) 1,3-Butadiene	4.63	54	182552	24.412	ng		99
8) Bromomethane	4.94	94	213051	23.156	ng		99
9) Chloroethane	5.15	64	129081	21.794	ng		99
10) Ethanol	5.41	45	517112	107.198	ng		100
11) Acetonitrile	5.59	41	232070	20.323	ng		100
12) Acrolein	5.71	56	102116	23.165	ng		100
13) Acetone	5.86	58	612103	105.690	ng		94
14) Trichlorofluoromethane	6.03	101	498693	20.715	ng		100
15) 2-Propanol (Isopropanol)	6.20	45	714671	38.846	ng		99
16) Acrylonitrile	6.39	53	214442	23.340	ng		98
17) 1,1-Dichloroethene	6.72	96	233261	22.040	ng		95
18) 2-Methyl-2-Propanol (t...	6.84	59	1054628	62.736	ng		98
19) Methylene Chloride	6.89	84	224262	22.079	ng		96
20) 3-Chloro-1-propene (Al...	7.01	41	237007	20.110	ng		98
21) Trichlorotrifluoroethane	7.19	151	269492	21.510	ng		100
22) Carbon Disulfide	7.15	76	769345	22.781	ng		99
23) trans-1,2-Dichloroethene	7.90	61	306718	22.961	ng		98
24) 1,1-Dichloroethane	8.12	63	360070	21.573	ng		100
25) Methyl tert-Butyl Ether	8.18	73	697634	32.440	ng		100
26) Vinyl Acetate	8.29	86	252726	119.568	ng	#	94
27) 2-Butanone (MEK)	8.53	72	142017	23.868	ng		96
28) cis-1,2-Dichloroethene	8.99	61	290098	21.486	ng		98
29) Diisopropyl Ether	9.22	87	191369	22.206	ng	#	89
30) Ethyl Acetate	9.23	61	125886	47.551	ng		99
31) n-Hexane	9.23	57	290556	22.611	ng		99
32) Chloroform	9.30	83	435016	21.159	ng		100
34) Tetrahydrofuran (THF)	9.67	72	137977	22.895	ng		99
35) Ethyl tert-Butyl Ether	9.77	87	281953	30.604	ng		98
36) 1,2-Dichloroethane	10.04	62	362133	21.414	ng		99
38) 1,1,1-Trichloroethane	10.30	97	457460	21.282	ng		99
39) Isopropyl Acetate	10.67	61	223282	43.537	ng	#	94
40) 1-Butanol	10.68	56	342510	49.709	ng		97
41) Benzene	10.76	78	881845	21.638	ng		100
42) Carbon Tetrachloride	10.91	117	442776	21.013	ng		100
43) Cyclohexane	11.04	84	698576	43.754	ng		100
44) tert-Amyl Methyl Ether	11.35	73	622068	29.070	ng		99
45) 1,2-Dichloropropane	11.58	63	185095	22.185	ng		100
46) Bromodichloromethane	11.76	83	364510	21.737	ng		99
47) Trichloroethene	11.81	130	315221	22.334	ng		99
48) 1,4-Dioxane	11.78	88	194276	23.709	ng		99
49) 2,2,4-Trimethylpentane...	11.87	57	754175	22.154	ng		98
50) Methyl Methacrylate	12.00	100	209633	48.014	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042037.D Vial: 2
Acq On : 5 May 2020 3:00 Operator: SC
Sample : CCV END R9050420_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: May 05 05:34:23 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

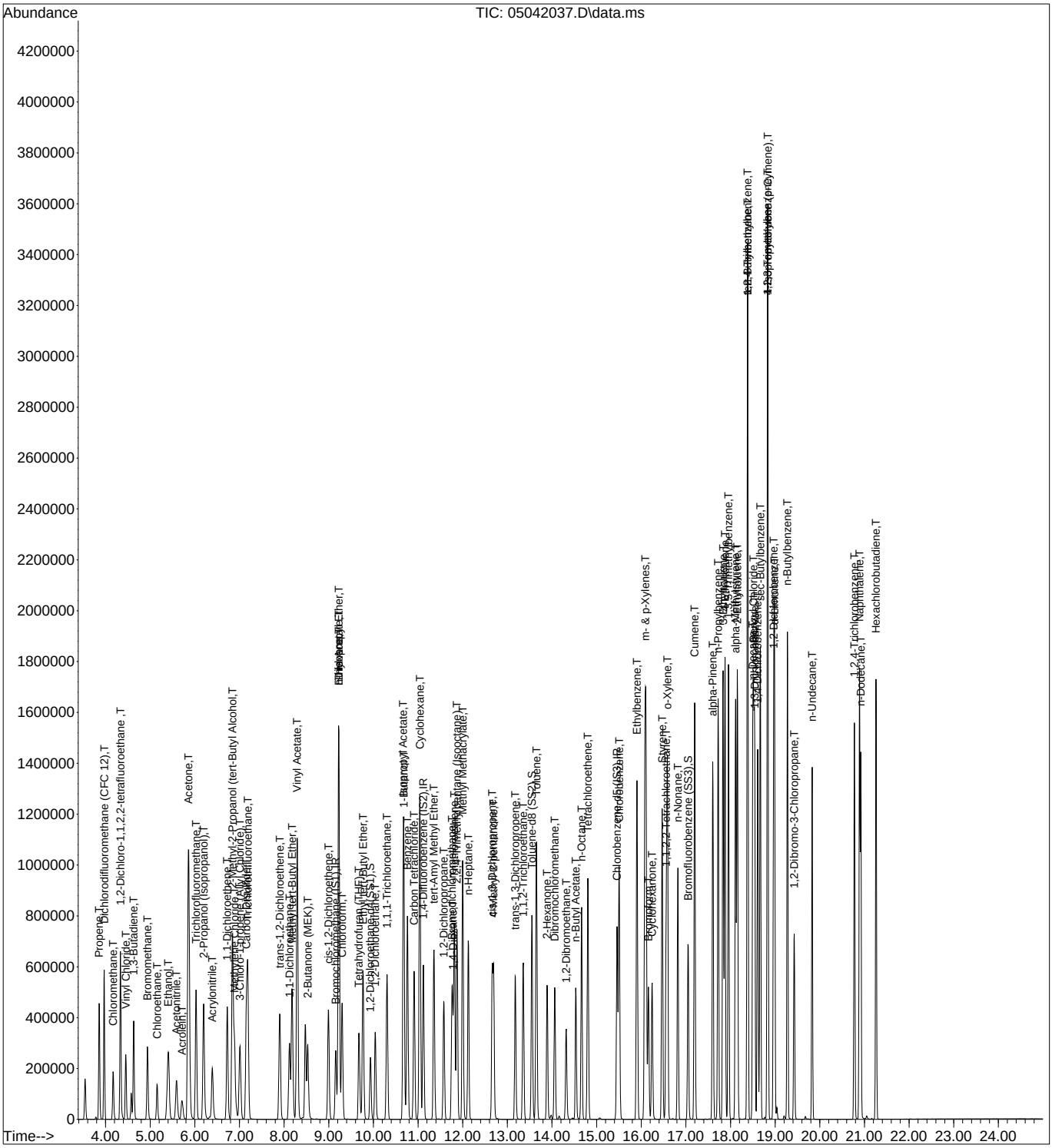
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	213003	22.495	ng	100
52) cis-1,3-Dichloropropene	12.66	75	384864	22.286	ng	100
53) 4-Methyl-2-pentanone	12.69	58	168307	23.599	ng	97
54) trans-1,3-Dichloropropene	13.18	75	387706	23.450	ng	99
55) 1,1,2-Trichloroethane	13.36	97	246613	22.138	ng	99
58) Toluene	13.65	91	1021217	22.822	ng	100
59) 2-Hexanone	13.89	43	355604	26.651	ng	98
60) Dibromochloromethane	14.06	129	362592	23.849	ng	100
61) 1,2-Dibromoethane	14.32	107	301644	24.187	ng	100
62) n-Butyl Acetate	14.53	43	379890	25.480	ng	98
63) n-Octane	14.67	57	161058	22.611	ng	99
64) Tetrachloroethene	14.80	166	371287	22.029	ng	100
65) Chlorobenzene	15.51	112	755174	23.052	ng	99
66) Ethylbenzene	15.90	91	1196028	22.939	ng	100
67) m- & p-Xylenes	16.10	91	1984806	45.123	ng	99
68) Bromoform	16.16	173	330974	24.585	ng	100
69) Styrene	16.47	104	776045	24.243	ng	99
70) o-Xylene	16.58	91	978656	22.655	ng	100
71) n-Nonane	16.82	43	309402	22.203	ng	98
72) 1,1,2,2-Tetrachloroethane	16.56	83	381930	23.339	ng	100
74) Cumene	17.19	105	1289291	22.882	ng	99
75) alpha-Pinene	17.60	93	637876	24.860	ng	99
76) n-Propylbenzene	17.72	91	1433441	23.352	ng	99
77) 3-Ethyltoluene	17.83	105	1301715	23.663	ng	99
78) 4-Ethyltoluene	17.88	105	1241743	23.180	ng	99
79) 1,3,5-Trimethylbenzene	17.95	105	1121957	22.664	ng	100
80) alpha-Methylstyrene	18.11	118	601001	24.268	ng	100
81) 2-Ethyltoluene	18.15	105	1265938	23.127	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	1116290	23.320	ng	99
83) n-Decane	18.50	57	411155	24.380	ng	100
84) Benzyl Chloride	18.51	91	950583	26.327	ng	99
85) 1,3-Dichlorobenzene	18.54	146	707409	24.513	ng	100
86) 1,4-Dichlorobenzene	18.61	146	718826	24.424	ng	99
87) sec-Butylbenzene	18.67	105	1426313	23.265	ng	99
88) 4-Isopropyltoluene (p-...	18.83	119	1407489	23.632	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	1139146	23.777	ng	99
90) 1,2-Dichlorobenzene	18.97	146	678666	24.208	ng	100
91) d-Limonene	18.99	68	318338	23.540	ng	100
92) 1,2-Dibromo-3-Chloropr...	19.43	157	265267	24.956	ng	96
93) n-Undecane	19.83	57	428147	24.059	ng	100
94) 1,2,4-Trichlorobenzene	20.77	180	561840	27.155	ng	100
95) Naphthalene	20.89	128	1523254	24.704	ng	100
96) n-Dodecane	20.92	57	395003	24.786	ng	99
97) Hexachlorobutadiene	21.26	225	383391	22.770	ng	100
98) Cyclohexanone	16.24	55	244983	22.464	ng	97
99) tert-Butylbenzene	18.38	119	1104570	22.978	ng	100
100) n-Butylbenzene	19.27	91	1089147	24.200	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\04\05042037.D Vial: 2
Acq On : 5 May 2020 3:00 Operator: SC
Sample : CCV END R9050420_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: May 05 05:34:23 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2020_05\05\05052002.D Vial: 2
Acq On : 5 May 2020 4:07 Operator: SC
Sample : CCV R9050520_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

TD 5/5/20

Quant Time: May 05 05:34:27 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	109	-0.02
2	T	Propene	0.531	0.532	-0.2	115	0.00
3	T	Dichlorodifluoromethane (CF	2.017	1.636	18.9	92	0.00
4	T	Chloromethane	0.744	0.663	10.9	91	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.090	0.895	17.9	92	0.00
6	T	Vinyl Chloride	0.976	0.855	12.4	96	-0.01
7	T	1,3-Butadiene	0.623	0.574	7.9	94	0.00
8	T	Bromomethane	0.767	0.676	11.9	98	0.00
9	T	Chloroethane	0.494	0.410	17.0	94	0.00
10	T	Ethanol	0.402	0.342	14.9	103	-0.05
11	T	Acetonitrile	0.952	0.770	19.1	93	-0.03
12	T	Acrolein	0.367	0.339	7.6	96	-0.02
13	T	Acetone	0.483	0.391	19.0	94	-0.02
14	T	Trichlorofluoromethane	2.007	1.585	21.0	89	0.00
15	T	2-Propanol (Isopropanol)	1.534	1.180	23.1	79	-0.03
16	T	Acrylonitrile	0.766	0.700	8.6	92	-0.03
17	T	1,1-Dichloroethene	0.882	0.737	16.4	93	-0.01
18	T	2-Methyl-2-Propanol (tert-B	1.401	1.664	-18.8	128	-0.04
19	T	Methylene Chloride	0.847	0.714	15.7	93	-0.02
20	T	3-Chloro-1-propene (Allyl C	0.983	0.744	24.3	87	-0.01
21	T	Trichlorotrifluoroethane	1.044	0.848	18.8	93	-0.01
22	T	Carbon Disulfide	2.815	2.442	13.3	95	0.00
23	T	trans-1,2-Dichloroethene	1.114	0.971	12.8	91	0.00
24	T	1,1-Dichloroethane	1.391	1.122	19.3	90	-0.01
25	T	Methyl tert-Butyl Ether	1.793	2.205	-23.0	135	-0.01
26	T	Vinyl Acetate	0.176	0.163	7.4	92	-0.03
27	T	2-Butanone (MEK)	0.496	0.454	8.5	93	-0.02
28	T	cis-1,2-Dichloroethene	1.126	0.927	17.7	90	-0.01
29	T	Diisopropyl Ether	0.718	0.603	16.0	99	-0.01
30	T	Ethyl Acetate	0.221	0.196	11.3	93	-0.02
31	T	n-Hexane	1.071	0.913	14.8	98	0.00
32	T	Chloroform	1.714	1.373	19.9	90	-0.02
33	S	1,2-Dichloroethane-d4(SS1)	1.620	1.515	6.5	103	-0.01
34	T	Tetrahydrofuran (THF)	0.502	0.433	13.7	93	-0.01
35	T	Ethyl tert-Butyl Ether	0.768	0.884	-15.1	130	-0.01
36	T	1,2-Dichloroethane	1.410	1.132	19.7	88	-0.01
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	109	-0.01
38	T	1,1,1-Trichloroethane	0.430	0.348	19.1	89	0.00
39	T	Isopropyl Acetate	0.103	0.087	15.5	94	-0.01
40	T	1-Butanol	0.138	0.135	2.2	90	-0.03
41	T	Benzene	0.815	0.681	16.4	94	-0.01
42	T	Carbon Tetrachloride	0.421	0.342	18.8	89	0.00
43	T	Cyclohexane	0.319	0.270	15.4	95	0.00
44	T	tert-Amyl Methyl Ether	0.428	0.475	-11.0	123	0.00
45	T	1,2-Dichloropropane	0.167	0.141	15.6	93	-0.01
46	T	Bromodichloromethane	0.335	0.275	17.9	90	-0.01
47	T	Trichloroethene	0.282	0.240	14.9	93	-0.01
48	T	1,4-Dioxane	0.164	0.149	9.1	93	-0.01
49	T	2,2,4-Trimethylpentane (Iso	0.681	0.578	15.1	97	-0.01
50	T	Methyl Methacrylate	0.087	0.080	8.0	93	-0.02
51	T	n-Heptane	0.189	0.163	13.8	94	-0.01
52	T	cis-1,3-Dichloropropene	0.345	0.303	12.2	91	0.00
53	T	4-Methyl-2-pentanone	0.143	0.132	7.7	93	-0.01
54	T	trans-1,3-Dichloropropene	0.331	0.300	9.4	89	0.00
55	T	1,1,2-Trichloroethane	0.223	0.189	15.2	93	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2020_05\05\05052002.D Vial: 2
Acq On : 5 May 2020 4:07 Operator: SC
Sample : CCV R9050520_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: May 05 05:34:27 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	102	0.00
57	S	Toluene-d8 (SS2)	2.414	2.480	-2.7	106	0.00
58	T	Toluene	2.026	1.770	12.6	92	0.00
59	T	2-Hexanone	0.604	0.625	-3.5	88	-0.01
60	T	Dibromochloromethane	0.688	0.628	8.7	90	0.00
61	T	1,2-Dibromoethane	0.565	0.525	7.1	92	0.00
62	T	n-Butyl Acetate	0.675	0.655	3.0	88	0.00
63	T	n-Octane	0.323	0.279	13.6	92	0.00
64	T	Tetrachloroethene	0.763	0.660	13.5	92	0.00
65	T	Chlorobenzene	1.484	1.301	12.3	92	0.00
66	T	Ethylbenzene	2.361	2.066	12.5	91	0.00
67	T	m- & p-Xylenes	1.992	1.712	14.1	91	-0.02
68	T	Bromoform	0.610	0.569	6.7	90	0.00
69	T	Styrene	1.450	1.346	7.2	91	0.00
70	T	o-Xylene	1.956	1.697	13.2	91	-0.01
71	T	n-Nonane	0.631	0.539	14.6	89	0.00
72	T	1,1,2,2-Tetrachloroethane	0.741	0.660	10.9	91	-0.01
73	S	Bromofluorobenzene (SS3)	0.970	0.995	-2.6	104	0.00
74	T	Cumene	2.552	2.203	13.7	90	0.00
75	T	alpha-Pinene	1.162	1.100	5.3	96	0.00
76	T	n-Propylbenzene	2.780	2.466	11.3	91	0.00
77	T	3-Ethyltoluene	2.491	2.240	10.1	91	0.00
78	T	4-Ethyltoluene	2.426	2.147	11.5	91	0.00
79	T	1,3,5-Trimethylbenzene	2.242	1.963	12.4	91	0.00
80	T	alpha-Methylstyrene	1.122	1.050	6.4	90	0.00
81	T	2-Ethyltoluene	2.479	2.193	11.5	92	0.00
82	T	1,2,4-Trimethylbenzene	2.168	1.956	9.8	93	-0.01
83	T	n-Decane	0.764	0.718	6.0	94	-0.01
84	T	Benzyl Chloride	1.635	1.622	0.8	88	-0.01
85	T	1,3-Dichlorobenzene	1.307	1.222	6.5	93	0.00
86	T	1,4-Dichlorobenzene	1.333	1.249	6.3	92	0.00
87	T	sec-Butylbenzene	2.776	2.481	10.6	93	0.00
88	T	4-Isopropyltoluene (p-Cymen	2.697	2.388	11.5	92	0.00
89	T	1,2,3-Trimethylbenzene	2.170	1.942	10.5	92	-0.01
90	T	1,2-Dichlorobenzene	1.270	1.185	6.7	93	-0.01
91	T	d-Limonene	0.612	0.560	8.5	92	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.481	0.471	2.1	91	0.00
93	T	n-Undecane	0.806	0.760	5.7	93	0.00
94	T	1,2,4-Trichlorobenzene	0.937	1.006	-7.4	92	0.00
95	T	Naphthalene	2.792	2.819	-1.0	91	0.00
96	T	n-Dodecane	0.722	0.741	-2.6	94	0.00
97	T	Hexachlorobutadiene	0.762	0.668	12.3	90	0.00
98	T	Cyclohexanone	0.494	0.456	7.7	87	-0.01
99	T	tert-Butylbenzene	2.177	1.927	11.5	93	0.00
100	T	n-Butylbenzene	2.038	1.909	6.3	92	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\05\05052002.D Vial: 2
Acq On : 5 May 2020 4:07 Operator: SC
Sample : CCV R9050520_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

TD 5/5/20

Quant Time: May 05 05:34:27 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	151918	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.12	114	628924	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	276891	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.94	65	230229	11.697	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.60%				
57) Toluene-d8 (SS2)	13.55	98	686720	12.845	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.72%				
73) Bromofluorobenzene (SS3)	17.05	174	275392	12.817	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.56%				
Target Compounds							Qvalue
2) Propene	3.85	42	171182	26.530	ng		98
3) Dichlorodifluoromethan...	3.96	85	526997	21.497	ng		100
4) Chloromethane	4.17	50	213684	23.623	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	285487	21.542	ng		100
6) Vinyl Chloride	4.45	62	280576	23.653	ng		100
7) 1,3-Butadiene	4.63	54	184766	24.387	ng		98
8) Bromomethane	4.94	94	221978	23.812	ng		98
9) Chloroethane	5.15	64	134419	22.401	ng		98
10) Ethanol	5.40	45	540744	110.640	ng		100
11) Acetonitrile	5.59	41	245596	21.228	ng		98
12) Acrolein	5.71	56	106158	23.769	ng		100
13) Acetone	5.86	58	633393	107.945	ng		94
14) Trichlorofluoromethane	6.03	101	510516	20.930	ng		99
15) 2-Propanol (Isopropanol)	6.20	45	753024	40.399	ng		98
16) Acrylonitrile	6.39	53	223439	24.003	ng		98
17) 1,1-Dichloroethene	6.72	96	241859	22.555	ng		96
18) 2-Methyl-2-Propanol (t...	6.84	59	1092021	64.116	ng		98
19) Methylene Chloride	6.88	84	229966	22.346	ng		97
20) 3-Chloro-1-propene (Al...	7.01	41	244046	20.438	ng		97
21) Trichlorotrifluoroethane	7.18	151	278360	21.929	ng		100
22) Carbon Disulfide	7.15	76	794015	23.205	ng		99
23) trans-1,2-Dichloroethene	7.90	61	318761	23.553	ng		98
24) 1,1-Dichloroethane	8.12	63	371720	21.981	ng		100
25) Methyl tert-Butyl Ether	8.18	73	723438	33.202	ng		100
26) Vinyl Acetate	8.29	86	264198	123.370	ng	#	93
27) 2-Butanone (MEK)	8.53	72	146214	24.254	ng		96
28) cis-1,2-Dichloroethene	8.99	61	298398	21.814	ng		97
29) Diisopropyl Ether	9.22	87	197967	22.673	ng	#	90
30) Ethyl Acetate	9.23	61	129393	48.241	ng		95
31) n-Hexane	9.23	57	299739	23.022	ng		99
32) Chloroform	9.30	83	446327	21.427	ng		100
34) Tetrahydrofuran (THF)	9.67	72	143340	23.476	ng		98
35) Ethyl tert-Butyl Ether	9.77	87	290024	31.071	ng		99
36) 1,2-Dichloroethane	10.04	62	371317	21.671	ng		99
38) 1,1,1-Trichloroethane	10.30	97	467987	21.642	ng		99
39) Isopropyl Acetate	10.67	61	232004	44.967	ng		94
40) 1-Butanol	10.68	56	353914	51.058	ng		98
41) Benzene	10.76	78	908242	22.153	ng		100
42) Carbon Tetrachloride	10.91	117	451880	21.317	ng		100
43) Cyclohexane	11.04	84	719489	44.795	ng		100
44) tert-Amyl Methyl Ether	11.35	73	644955	29.959	ng		99
45) 1,2-Dichloropropane	11.57	63	192021	22.878	ng		99
46) Bromodichloromethane	11.76	83	372975	22.109	ng		100
47) Trichloroethene	11.81	130	323253	22.766	ng		99
48) 1,4-Dioxane	11.78	88	202106	24.517	ng		100
49) 2,2,4-Trimethylpentane...	11.87	57	777685	22.708	ng		98
50) Methyl Methacrylate	12.00	100	215935	49.162	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\05\05052002.D Vial: 2
Acq On : 5 May 2020 4:07 Operator: SC
Sample : CCV R9050520_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: May 05 05:34:27 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

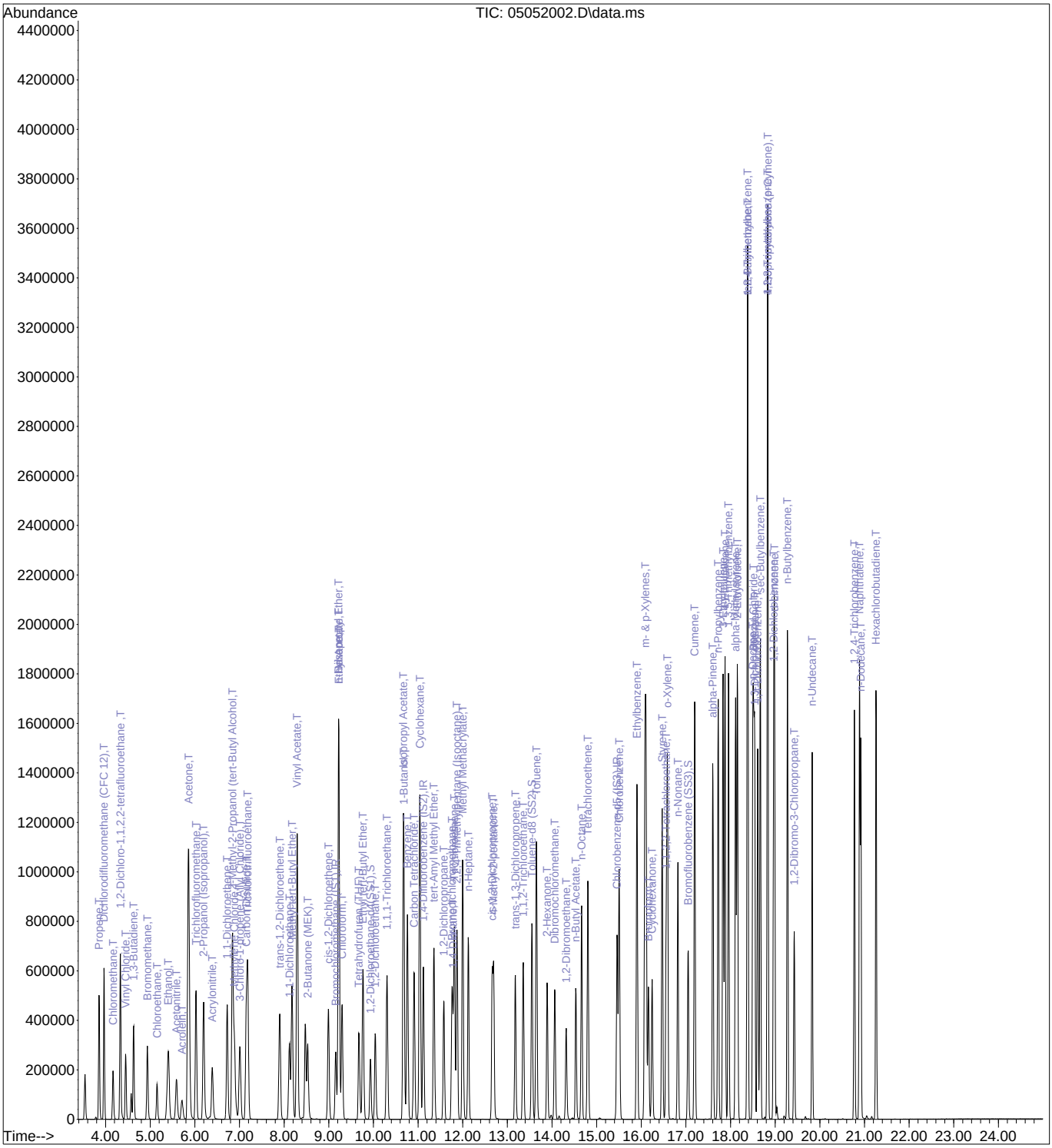
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	220985	23.199	ng	100
52) cis-1,3-Dichloropropene	12.66	75	396962	22.850	ng	100
53) 4-Methyl-2-pentanone	12.69	58	176098	24.544	ng	97
54) trans-1,3-Dichloropropene	13.18	75	399564	24.022	ng	100
55) 1,1,2-Trichloroethane	13.36	97	254459	22.706	ng	100
58) Toluene	13.65	91	1048927	23.368	ng	99
59) 2-Hexanone	13.89	43	370130	27.653	ng	98
60) Dibromochloromethane	14.06	129	371863	24.383	ng	100
61) 1,2-Dibromoethane	14.32	107	311082	24.866	ng	99
62) n-Butyl Acetate	14.53	43	395277	26.429	ng	98
63) n-Octane	14.67	57	166615	23.318	ng	99
64) Tetrachloroethene	14.80	166	379938	22.472	ng	100
65) Chlorobenzene	15.51	112	770899	23.458	ng	100
66) Ethylbenzene	15.90	91	1224309	23.409	ng	100
67) m- & p-Xylenes	16.09	91	2028796	45.979	ng	99
68) Bromoform	16.16	173	337012	24.956	ng	100
69) Styrene	16.47	104	790285	24.611	ng	99
70) o-Xylene	16.58	91	1005300	23.199	ng	100
71) n-Nonane	16.82	43	319212	22.836	ng	98
72) 1,1,2,2-Tetrachloroethane	16.56	83	391102	23.826	ng	100
74) Cumene	17.19	105	1317851	23.317	ng	99
75) alpha-Pinene	17.60	93	651802	25.324	ng	99
76) n-Propylbenzene	17.72	91	1474967	23.954	ng	99
77) 3-Ethyltoluene	17.83	105	1314761	23.825	ng	99
78) 4-Ethyltoluene	17.88	105	1283897	23.893	ng	100
79) 1,3,5-Trimethylbenzene	17.95	105	1152302	23.205	ng	99
80) alpha-Methylstyrene	18.11	118	622078	25.041	ng	99
81) 2-Ethyltoluene	18.15	105	1311400	23.883	ng	100
82) 1,2,4-Trimethylbenzene	18.38	105	1159231	24.142	ng	99
83) n-Decane	18.50	57	425521	25.153	ng	100
84) Benzyl Chloride	18.51	91	969933	26.780	ng	99
85) 1,3-Dichlorobenzene	18.54	146	724363	25.022	ng	99
86) 1,4-Dichlorobenzene	18.61	146	740171	25.071	ng	99
87) sec-Butylbenzene	18.67	105	1470021	23.904	ng	100
88) 4-Isopropyltoluene (p-...	18.83	119	1441332	24.125	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	1172058	24.388	ng	99
90) 1,2-Dichlorobenzene	18.97	146	702110	24.966	ng	100
91) d-Limonene	18.99	68	334890	24.687	ng	98
92) 1,2-Dibromo-3-Chloropr...	19.43	157	273631	25.662	ng	95
93) n-Undecane	19.83	57	454445	25.457	ng	100
94) 1,2,4-Trichlorobenzene	20.77	180	595867	28.710	ng	100
95) Naphthalene	20.89	128	1607699	25.992	ng	100
96) n-Dodecane	20.92	57	426632	26.688	ng	100
97) Hexachlorobutadiene	21.26	225	392288	23.226	ng	100
98) Cyclohexanone	16.24	55	252751	23.105	ng	98
99) tert-Butylbenzene	18.38	119	1141596	23.674	ng	100
100) n-Butylbenzene	19.27	91	1131326	25.059	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\05\05052002.D Vial: 2
Acq On : 5 May 2020 4:07 Operator: SC
Sample : CCV R9050520_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: May 05 05:34:27 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2020_05\05\05052030.D Vial: 2
Acq On : 5 May 2020 20:46 Operator: SC
Sample : CCV END R9050520_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: May 05 21:12:06 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/5/20

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	107	-0.02
2	T	Propene	0.531	0.511	3.8	109	-0.01
3	T	Dichlorodifluoromethane (CF	2.017	1.592	21.1	88	0.00
4	T	Chloromethane	0.744	0.649	12.8	88	-0.01
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.090	0.881	19.2	89	-0.01
6	T	Vinyl Chloride	0.976	0.833	14.7	91	-0.01
7	T	1,3-Butadiene	0.623	0.520	16.5	84	-0.01
8	T	Bromomethane	0.767	0.657	14.3	94	-0.01
9	T	Chloroethane	0.494	0.393	20.4	88	-0.01
10	T	Ethanol	0.402	0.326	18.9	96	-0.06
11	T	Acetonitrile	0.952	0.737	22.6	88	-0.04
12	T	Acrolein	0.367	0.323	12.0	89	-0.02
13	T	Acetone	0.483	0.371	23.2	88	-0.03
14	T	Trichlorofluoromethane	2.007	1.557	22.4	86	-0.01
15	T	2-Propanol (Isopropanol)	1.534	1.120	27.0	74	-0.04
16	T	Acrylonitrile	0.766	0.682	11.0	88	-0.03
17	T	1,1-Dichloroethene	0.882	0.713	19.2	89	-0.02
18	T	2-Methyl-2-Propanol (tert-B	1.401	1.642	-17.2	124	-0.04
19	T	Methylene Chloride	0.847	0.695	17.9	89	-0.02
20	T	3-Chloro-1-propene (Allyl C	0.983	0.723	26.4	83	-0.02
21	T	Trichlorotrifluoroethane	1.044	0.827	20.8	89	-0.01
22	T	Carbon Disulfide	2.815	2.378	15.5	90	-0.01
23	T	trans-1,2-Dichloroethene	1.114	0.943	15.4	87	-0.01
24	T	1,1-Dichloroethane	1.391	1.084	22.1	85	-0.02
25	T	Methyl tert-Butyl Ether	1.793	2.211	-23.3	133	-0.02
26	T	Vinyl Acetate	0.176	0.158	10.2	88	-0.03
27	T	2-Butanone (MEK)	0.496	0.441	11.1	88	-0.03
28	T	cis-1,2-Dichloroethene	1.126	0.903	19.8	87	-0.01
29	T	Diisopropyl Ether	0.718	0.595	17.1	96	-0.02
30	T	Ethyl Acetate	0.221	0.191	13.6	88	-0.02
31	T	n-Hexane	1.071	0.888	17.1	93	-0.01
32	T	Chloroform	1.714	1.350	21.2	87	-0.03
33	S	1,2-Dichloroethane-d4(SS1)	1.620	1.533	5.4	102	-0.02
34	T	Tetrahydrofuran (THF)	0.502	0.419	16.5	88	-0.01
35	T	Ethyl tert-Butyl Ether	0.768	0.877	-14.2	127	-0.02
36	T	1,2-Dichloroethane	1.410	1.111	21.2	85	-0.01
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	108	-0.01
38	T	1,1,1-Trichloroethane	0.430	0.341	20.7	87	0.00
39	T	Isopropyl Acetate	0.103	0.084	18.4	89	-0.02
40	T	1-Butanol	0.138	0.130	5.8	86	-0.03
41	T	Benzene	0.815	0.659	19.1	90	-0.01
42	T	Carbon Tetrachloride	0.421	0.335	20.4	86	-0.01
43	T	Cyclohexane	0.319	0.262	17.9	91	-0.01
44	T	tert-Amyl Methyl Ether	0.428	0.462	-7.9	118	0.00
45	T	1,2-Dichloropropane	0.167	0.136	18.6	89	-0.01
46	T	Bromodichloromethane	0.335	0.267	20.3	87	-0.02
47	T	Trichloroethene	0.282	0.233	17.4	89	-0.01
48	T	1,4-Dioxane	0.164	0.144	12.2	88	-0.02
49	T	2,2,4-Trimethylpentane (Iso	0.681	0.556	18.4	92	-0.01
50	T	Methyl Methacrylate	0.087	0.078	10.3	89	-0.02
51	T	n-Heptane	0.189	0.157	16.9	90	-0.01
52	T	cis-1,3-Dichloropropene	0.345	0.296	14.2	87	-0.01
53	T	4-Methyl-2-pentanone	0.143	0.125	12.6	87	-0.01
54	T	trans-1,3-Dichloropropene	0.331	0.291	12.1	86	-0.01
55	T	1,1,2-Trichloroethane	0.223	0.183	17.9	89	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS09\Data\2020_05\05\05052030.D Vial: 2
Acq On : 5 May 2020 20:46 Operator: SC
Sample : CCV END R9050520_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: May 05 21:12:06 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	105	0.00
57	S	Toluene-d8 (SS2)	2.414	2.437	-1.0	106	0.00
58	T	Toluene	2.026	1.669	17.6	89	0.00
59	T	2-Hexanone	0.604	0.579	4.1	84	-0.01
60	T	Dibromochloromethane	0.688	0.591	14.1	87	0.00
61	T	1,2-Dibromoethane	0.565	0.490	13.3	88	0.00
62	T	n-Butyl Acetate	0.675	0.610	9.6	84	0.00
63	T	n-Octane	0.323	0.263	18.6	88	0.00
64	T	Tetrachloroethene	0.763	0.624	18.2	90	0.00
65	T	Chlorobenzene	1.484	1.222	17.7	88	0.00
66	T	Ethylbenzene	2.361	1.942	17.7	87	0.00
67	T	m- & p-Xylenes	1.992	1.612	19.1	87	-0.02
68	T	Bromoform	0.610	0.538	11.8	87	0.00
69	T	Styrene	1.450	1.269	12.5	87	0.00
70	T	o-Xylene	1.956	1.589	18.8	87	-0.01
71	T	n-Nonane	0.631	0.504	20.1	85	0.00
72	T	1,1,2,2-Tetrachloroethane	0.741	0.619	16.5	87	-0.01
73	S	Bromofluorobenzene (SS3)	0.970	1.016	-4.7	108	0.00
74	T	Cumene	2.552	2.074	18.7	87	0.00
75	T	alpha-Pinene	1.162	1.029	11.4	92	0.00
76	T	n-Propylbenzene	2.780	2.336	16.0	88	0.00
77	T	3-Ethyltoluene	2.491	2.142	14.0	89	0.00
78	T	4-Ethyltoluene	2.426	2.011	17.1	87	0.00
79	T	1,3,5-Trimethylbenzene	2.242	1.871	16.5	89	0.00
80	T	alpha-Methylstyrene	1.122	0.982	12.5	86	0.00
81	T	2-Ethyltoluene	2.479	2.069	16.5	89	0.00
82	T	1,2,4-Trimethylbenzene	2.168	1.873	13.6	91	-0.01
83	T	n-Decane	0.764	0.696	8.9	93	-0.01
84	T	Benzyl Chloride	1.635	1.577	3.5	88	-0.01
85	T	1,3-Dichlorobenzene	1.307	1.180	9.7	91	-0.01
86	T	1,4-Dichlorobenzene	1.333	1.207	9.5	91	0.00
87	T	sec-Butylbenzene	2.776	2.389	13.9	91	0.00
88	T	4-Isopropyltoluene (p-Cymen	2.697	2.291	15.1	90	0.00
89	T	1,2,3-Trimethylbenzene	2.170	1.873	13.7	91	-0.01
90	T	1,2-Dichlorobenzene	1.270	1.136	10.6	91	-0.01
91	T	d-Limonene	0.612	0.514	16.0	86	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.481	0.457	5.0	91	0.00
93	T	n-Undecane	0.806	0.732	9.2	92	0.00
94	T	1,2,4-Trichlorobenzene	0.937	0.960	-2.5	90	0.00
95	T	Naphthalene	2.792	2.708	3.0	89	0.00
96	T	n-Dodecane	0.722	0.716	0.8	93	0.00
97	T	Hexachlorobutadiene	0.762	0.649	14.8	90	0.00
98	T	Cyclohexanone	0.494	0.426	13.8	83	-0.01
99	T	tert-Butylbenzene	2.177	1.838	15.6	91	0.00
100	T	n-Butylbenzene	2.038	1.845	9.5	91	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\05\05052030.D Vial: 2
Acq On : 5 May 2020 20:46 Operator: SC
Sample : CCV END R9050520_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

5/5/20

Quant Time: May 05 21:12:06 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	9.16	130	149238	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	11.12	114	621594	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	15.46	82	283174	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	9.93	65	228761	11.831	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.64%				
57) Toluene-d8 (SS2)	13.55	98	690122	12.622	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.96%				
73) Bromofluorobenzene (SS3)	17.05	174	287845	13.099	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.80%				
Target Compounds							Qvalue
2) Propene	3.85	42	161805	25.527	ng		99
3) Dichlorodifluoromethan...	3.96	85	503819	20.921	ng		100
4) Chloromethane	4.16	50	205439	23.120	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.33	135	276087	21.207	ng		100
6) Vinyl Chloride	4.45	62	268419	23.034	ng		99
7) 1,3-Butadiene	4.62	54	164482	22.100	ng		98
8) Bromomethane	4.93	94	211924	23.142	ng		99
9) Chloroethane	5.15	64	126704	21.494	ng		100
10) Ethanol	5.40	45	507440	105.690	ng		100
11) Acetonitrile	5.58	41	230873	20.314	ng		100
12) Acrolein	5.71	56	99281	22.628	ng		99
13) Acetone	5.85	58	589754	102.313	ng		94
14) Trichlorofluoromethane	6.02	101	492598	20.558	ng		99
15) 2-Propanol (Isopropanol)	6.19	45	702270	38.352	ng		100
16) Acrylonitrile	6.38	53	213808	23.381	ng		99
17) 1,1-Dichloroethene	6.72	96	229816	21.817	ng		97
18) 2-Methyl-2-Propanol (t...	6.83	59	1058651	63.273	ng		98
19) Methylene Chloride	6.88	84	220017	21.764	ng		96
20) 3-Chloro-1-propene (Al...	7.01	41	233123	19.874	ng		97
21) Trichlorotrifluoroethane	7.18	151	266729	21.390	ng		100
22) Carbon Disulfide	7.15	76	759562	22.597	ng		99
23) trans-1,2-Dichloroethene	7.90	61	304060	22.870	ng		98
24) 1,1-Dichloroethane	8.12	63	352668	21.229	ng		99
25) Methyl tert-Butyl Ether	8.17	73	712698	33.297	ng		100
26) Vinyl Acetate	8.29	86	252596	120.071	ng	#	92
27) 2-Butanone (MEK)	8.52	72	139449	23.547	ng		95
28) cis-1,2-Dichloroethene	8.99	61	285781	21.267	ng		98
29) Diisopropyl Ether	9.22	87	191705	22.350	ng	#	86
30) Ethyl Acetate	9.22	61	123453	46.853	ng		98
31) n-Hexane	9.22	57	286403	22.393	ng		100
32) Chloroform	9.29	83	431195	21.073	ng		100
34) Tetrahydrofuran (THF)	9.67	72	136434	22.746	ng		99
35) Ethyl tert-Butyl Ether	9.76	87	282654	30.825	ng		98
36) 1,2-Dichloroethane	10.04	62	358241	21.284	ng		99
38) 1,1,1-Trichloroethane	10.30	97	454004	21.243	ng		99
39) Isopropyl Acetate	10.67	61	219707	43.086	ng		94
40) 1-Butanol	10.68	56	336682	49.144	ng		98
41) Benzene	10.76	78	868726	21.439	ng		100
42) Carbon Tetrachloride	10.91	117	437651	20.890	ng		100
43) Cyclohexane	11.04	84	689529	43.436	ng		99
44) tert-Amyl Methyl Ether	11.35	73	620895	29.182	ng		99
45) 1,2-Dichloropropane	11.57	63	182322	21.979	ng		100
46) Bromodichloromethane	11.76	83	359103	21.538	ng		100
47) Trichloroethene	11.81	130	309614	22.063	ng		100
48) 1,4-Dioxane	11.78	88	193102	23.701	ng		100
49) 2,2,4-Trimethylpentane...	11.87	57	739407	21.845	ng		98
50) Methyl Methacrylate	12.00	100	207472	47.792	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\05\05052030.D Vial: 2
Acq On : 5 May 2020 20:46 Operator: SC
Sample : CCV END R9050520_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: May 05 21:12:06 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

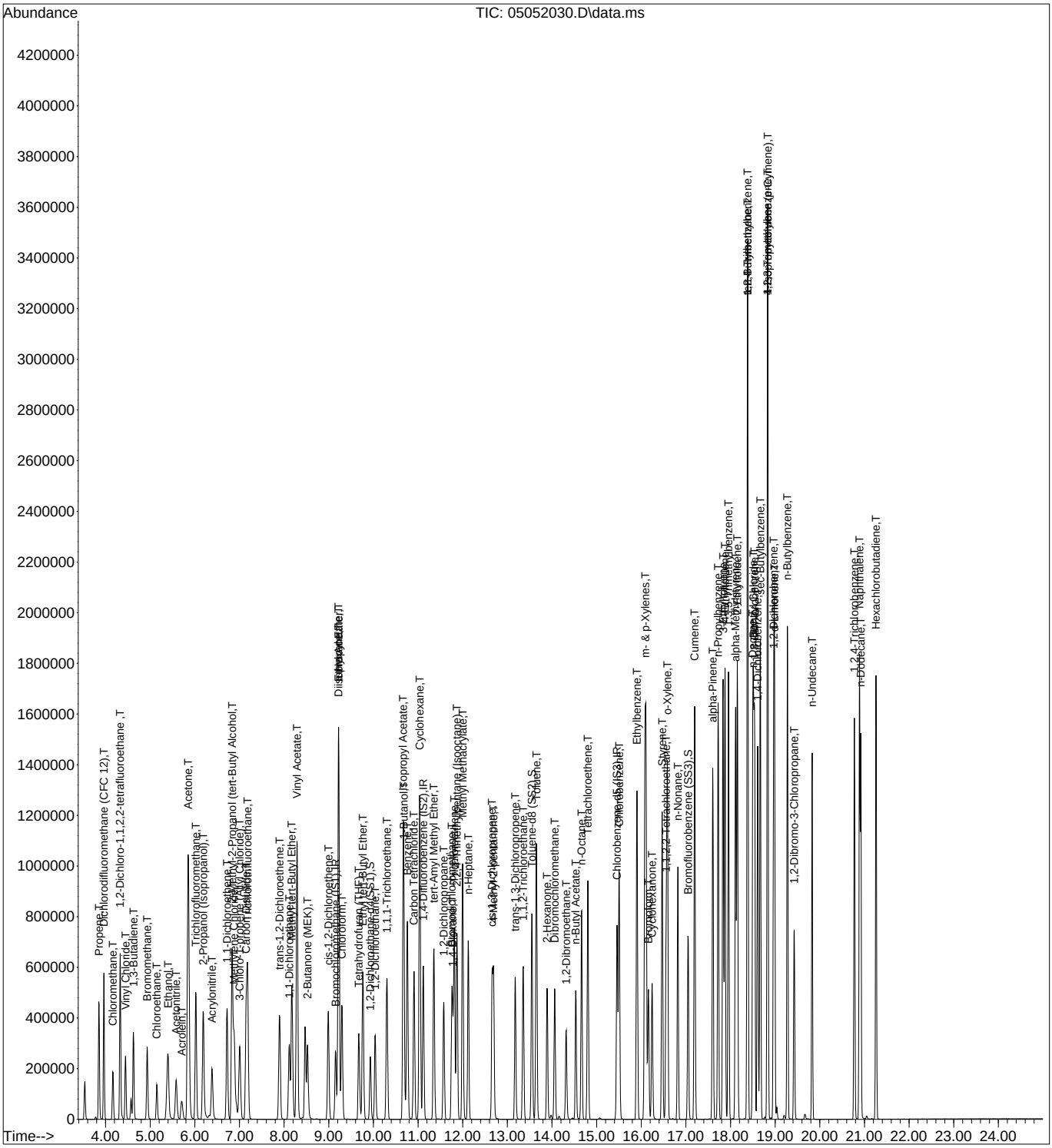
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	12.12	71	210710	22.381	ng	100
52) cis-1,3-Dichloropropene	12.66	75	383025	22.307	ng	100
53) 4-Methyl-2-pentanone	12.69	58	164921	23.258	ng	98
54) trans-1,3-Dichloropropene	13.18	75	383348	23.319	ng	99
55) 1,1,2-Trichloroethane	13.36	97	243711	22.003	ng	100
58) Toluene	13.65	91	1011638	22.038	ng	99
59) 2-Hexanone	13.89	43	351078	25.648	ng	98
60) Dibromochloromethane	14.06	129	358422	22.980	ng	100
61) 1,2-Dibromoethane	14.32	107	297160	23.226	ng	100
62) n-Butyl Acetate	14.53	43	376596	24.621	ng	98
63) n-Octane	14.67	57	160595	21.977	ng	99
64) Tetrachloroethene	14.80	166	367692	21.265	ng	100
65) Chlorobenzene	15.51	112	740595	22.036	ng	100
66) Ethylbenzene	15.90	91	1176633	21.998	ng	100
67) m- & p-Xylenes	16.10	91	1954054	43.303	ng	99
68) Bromoform	16.16	173	326042	23.608	ng	99
69) Styrene	16.47	104	761811	23.198	ng	99
70) o-Xylene	16.58	91	962861	21.727	ng	99
71) n-Nonane	16.82	43	305310	21.357	ng	99
72) 1,1,2,2-Tetrachloroethane	16.56	83	375004	22.338	ng	99
74) Cumene	17.19	105	1268442	21.944	ng	99
75) alpha-Pinene	17.60	93	623672	23.693	ng	99
76) n-Propylbenzene	17.72	91	1428919	22.691	ng	99
77) 3-Ethyltoluene	17.83	105	1286162	22.790	ng	100
78) 4-Ethyltoluene	17.88	105	1229993	22.382	ng	100
79) 1,3,5-Trimethylbenzene	17.95	105	1123121	22.116	ng	100
80) alpha-Methylstyrene	18.11	118	595042	23.421	ng	100
81) 2-Ethyltoluene	18.15	105	1265714	22.539	ng	99
82) 1,2,4-Trimethylbenzene	18.38	105	1135086	23.115	ng	100
83) n-Decane	18.50	57	421719	24.375	ng	99
84) Benzyl Chloride	18.51	91	964517	26.039	ng	99
85) 1,3-Dichlorobenzene	18.54	146	715240	24.159	ng	100
86) 1,4-Dichlorobenzene	18.61	146	731694	24.234	ng	100
87) sec-Butylbenzene	18.67	105	1447501	23.015	ng	99
88) 4-Isopropyltoluene (p-...	18.83	119	1414487	23.151	ng	99
89) 1,2,3-Trimethylbenzene	18.83	105	1156473	23.530	ng	99
90) 1,2-Dichlorobenzene	18.97	146	688637	23.943	ng	100
91) d-Limonene	18.99	68	314331	22.658	ng	100
92) 1,2-Dibromo-3-Chloropr...	19.43	157	271657	24.912	ng	97
93) n-Undecane	19.83	57	447745	24.525	ng	100
94) 1,2,4-Trichlorobenzene	20.77	180	581661	27.404	ng	100
95) Naphthalene	20.89	128	1579421	24.968	ng	100
96) n-Dodecane	20.92	57	421674	25.792	ng	100
97) Hexachlorobutadiene	21.26	225	389642	22.557	ng	100
98) Cyclohexanone	16.24	55	241092	21.550	ng	98
99) tert-Butylbenzene	18.38	119	1113963	22.588	ng	99
100) n-Butylbenzene	19.27	91	1117778	24.210	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\Data\2020_05\05\05052030.D Vial: 2
Acq On : 5 May 2020 20:46 Operator: SC
Sample : CCV END R9050520_25ng Inst : MS09
Misc : S34-04212006/S34-04202004 (5/19)

Quant Time: May 05 21:12:06 2020
Quant Method : I:\MS09\Methods\R9042220.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Thu Apr 23 14:12:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



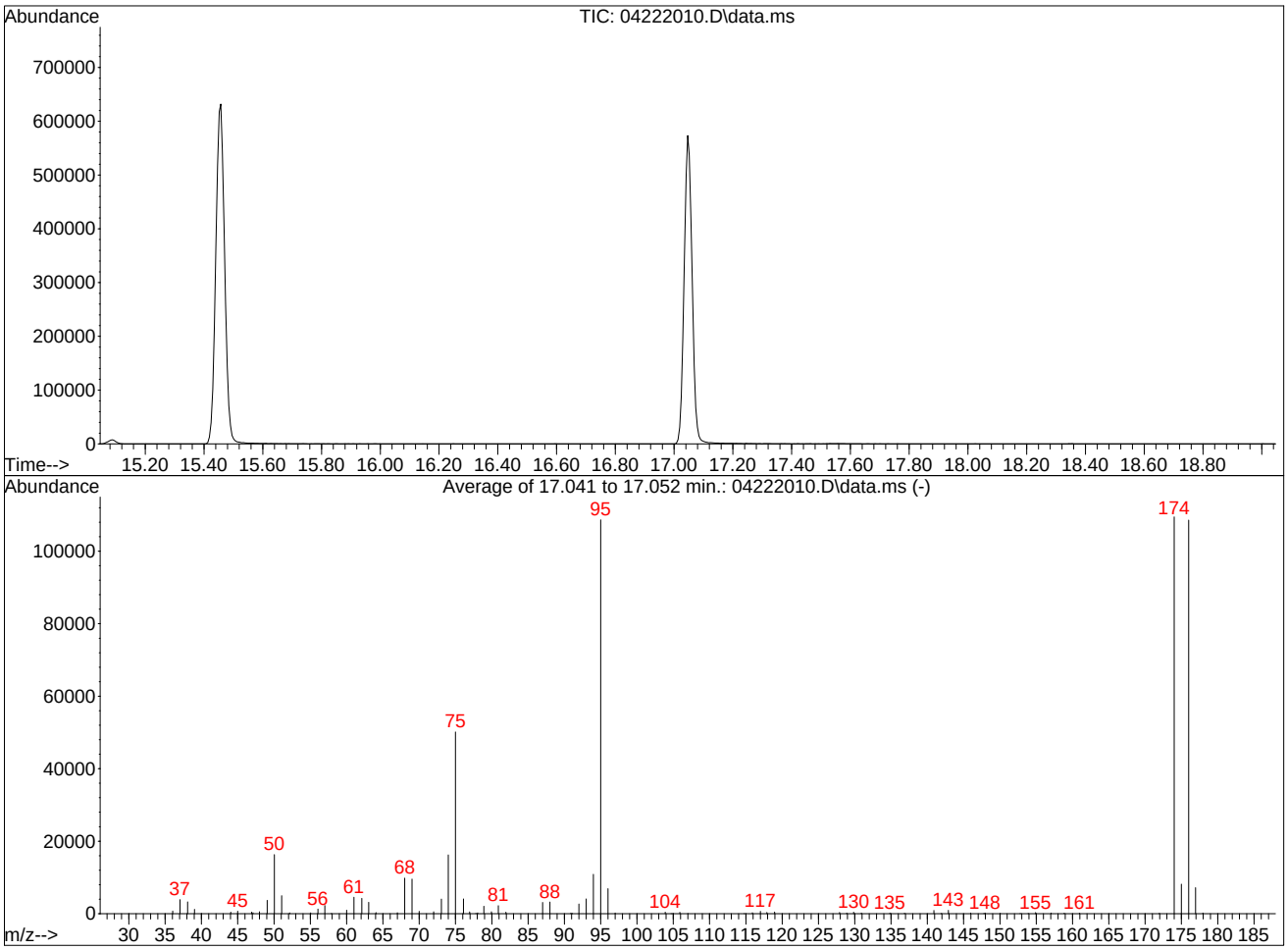
BFB

Data Path : I:\MS09\Data\2020_04\22\
Data File : 04222010.D
Acq On : 22 Apr 2020 18:51
Operator : SC
Sample : 12.5ng TO-15 BFB STD
Misc : S34-04212006
ALS Vial : 2 Sample Multiplier: 1

4/23/20

Integration File: LSCINT.P

Method : I:\MS09\Methods\R9042220.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Apr 23 11:56:23 2020



AutoFind: Scans 2484, 2485, 2486; Background Corrected with Scan 2476

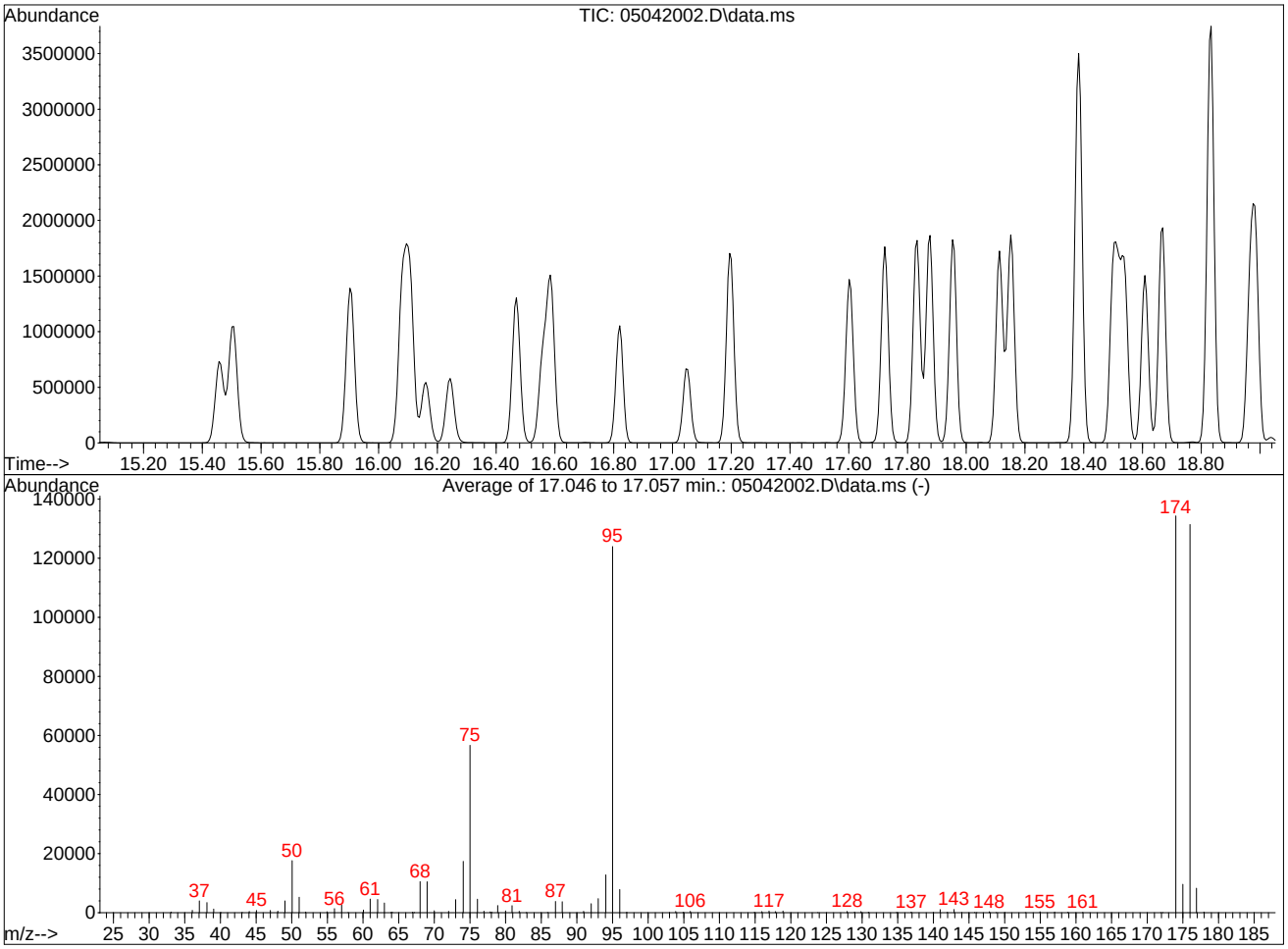
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	15.0	16304	PASS
75	95	30	66	46.1	50136	PASS
95	95	100	100	100.0	108672	PASS
96	95	5	9	6.4	6913	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	100.7	109467	PASS
175	174	4	9	7.4	8135	PASS
176	174	93	101	99.2	108563	PASS
177	176	5	9	6.6	7191	PASS

BFB

Data Path : I:\MS09\Data\2020_05\04\
Data File : 05042002.D
Acq On : 4 May 2020 6:13
Operator : TD
Sample : CCV R9050420_25ng
Misc : S34-04212006/S34-04202004 (5/19)
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS09\Methods\R9042220.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Apr 23 14:12:50 2020



AutoFind: Scans 2485, 2486, 2487; Background Corrected with Scan 2476

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	14.2	17638	PASS
75	95	30	66	45.7	56696	PASS
95	95	100	100	100.0	123976	PASS
96	95	5	9	6.3	7871	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	108.4	134347	PASS
175	174	4	9	7.2	9633	PASS
176	174	93	101	97.9	131461	PASS
177	176	5	9	6.3	8276	PASS

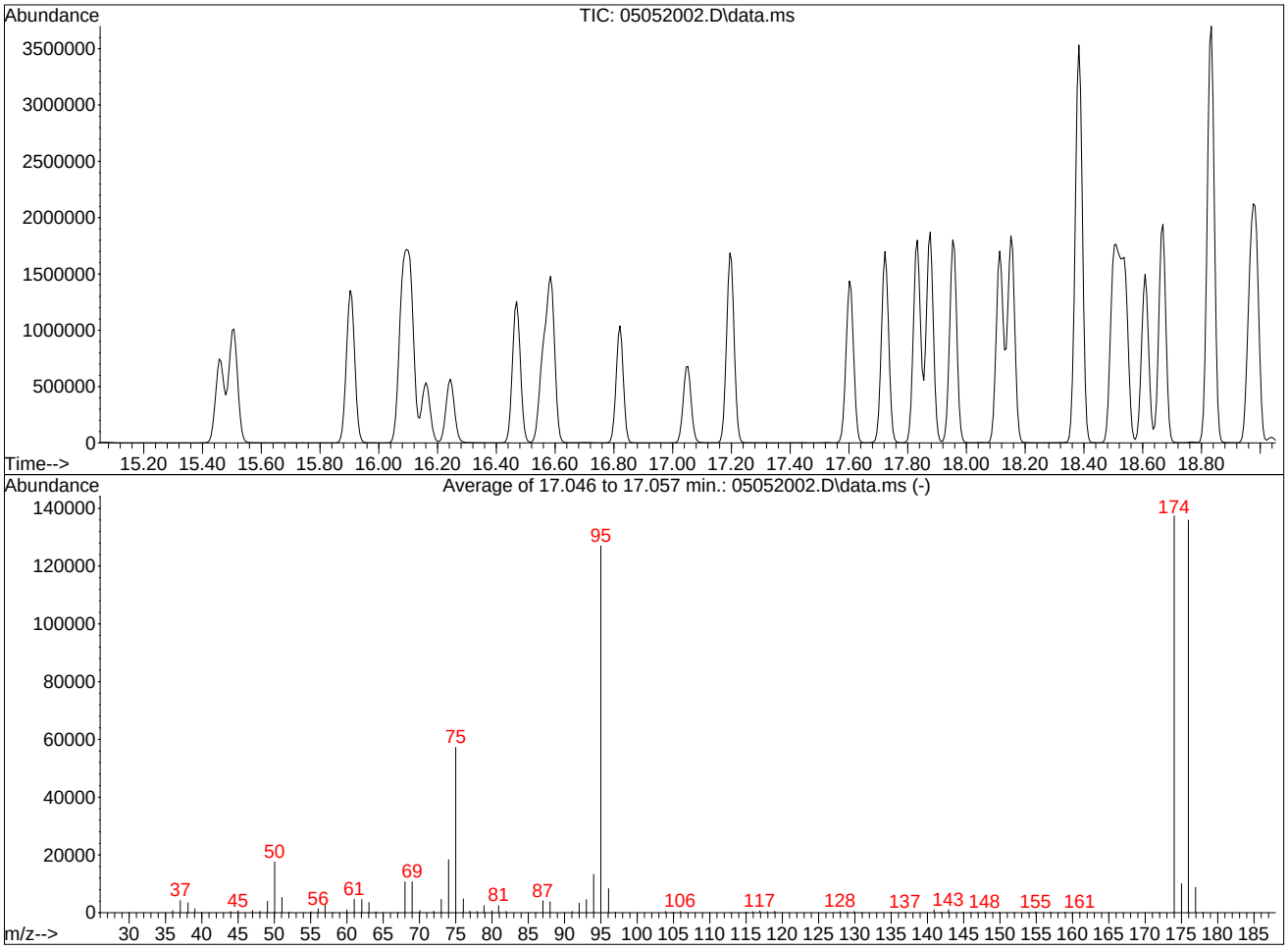
TD 5/4/20

BFB

Data Path : I:\MS09\Data\2020_05\05\
Data File : 05052002.D
Acq On : 5 May 2020 4:07
Operator : SC
Sample : CCV R9050520_25ng
Misc : S34-04212006/S34-04202004 (5/19)
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS09\Methods\R9042220.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Thu Apr 23 14:12:50 2020



AutoFind: Scans 2485, 2486, 2487; Background Corrected with Scan 2476

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	13.9	17601	PASS
75	95	30	66	45.1	57243	PASS
95	95	100	100	100.0	127019	PASS
96	95	5	9	6.6	8344	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	108.2	137405	PASS
175	174	4	9	7.3	10061	PASS
176	174	93	101	98.9	135944	PASS
177	176	5	9	6.4	8765	PASS

TD 5/5/20

Injection Log

Directory: I:\MS09\Data\2020_04\22\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	4/22/20 13:32	04222001.D	Blank (100mL)	S34-04212006	SC	2	
2	4/22/20 14:06	04222002.D	CCV R9042220_25ng	S34-04212006/S34-04202004 (5/19)	SC	2	
3	4/22/20 14:59	04222003.D	Blank (100mL)	S34-04212006	SC	2	
4	4/22/20 15:32	04222004.D	MB R9042220_1000mL	S34-04212006	SC	2	
5	4/22/20 16:05	04222005.D	LCS R9042220_25ng	S34-04212006/S34-03252004 (4/23)	SC	2	
6	4/22/20 16:38	04222006.D	LCSD R9042220_25ng	S34-04212006/S34-03252004 (4/23)	SC	2	
7	4/22/20 17:12	04222007.D	RL R9042220_ 0.5ng	S34-04212006/S34-04102009 (5/9)	SC	4	
8	4/22/20 17:45	04222008.D	Chamber QC_AC00323	S34-04212006	SC	16	
9	4/22/20 18:18	04222009.D	Blank (100mL)	S34-04212006	SC	2	
10	4/22/20 18:51	04222010.D	12.5ng TO-15 BFB STD	S34-04212006	SC	2	passed
11	4/22/20 19:25	04222011.D	0.1ng TO-15 ICAL STD	S34-04212006/S34-04072004 (5/6)	SC	4	not used
12	4/22/20 19:58	04222012.D	0.2ng TO-15 ICAL STD	S34-04212006/S34-04072004 (5/6)	SC	4	
13	4/22/20 20:31	04222013.D	0.5ng TO-15 ICAL STD	S34-04212006/S34-04222004 (5/21)	SC	5	
14	4/22/20 21:05	04222014.D	1.0ng TO-15 ICAL STD	S34-04212006/S34-04222004 (5/21)	SC	5	
15	4/22/20 21:39	04222015.D	5.0ng TO-15 ICAL STD	S34-04212006/S34-04222004 (5/21)	SC	5	
16	4/22/20 22:12	04222016.D	25ng TO-15 ICAL STD	S34-04212006/S34-04202004 (5/19)	SC	2	
17	4/22/20 22:46	04222017.D	50ng TO-15 ICAL STD	S34-04212006/S34-04202004 (5/19)	SC	2	
18	4/22/20 23:19	04222018.D	100ng TO-15 ICAL STD	S34-04212006/S34-04202004 (5/19)	SC	2	
19	4/22/20 23:53	04222019.D	Blank (100mL)	S34-04212006	SC	2	
20	4/23/20 0:27	04222020.D	25ng TO-15 ICV STD	S34-04212006/S34-04102008 (5/9)	SC	2	not used
21	4/23/20 1:01	04222021.D	25ng TO-15 ICV STD	S34-04212006/S34-04102008 (5/9)	SC	2	
22	4/23/20 13:11	04222022.D	Blank (100mL)	S34-04212006	SC	2	
23	4/23/20 13:44	04222023.D	0.2ng TO-15 ICAL STD	S34-04212006/S34-04162003 (5/15)	SC	4	
24	4/23/20 14:17	04222024.D	Blank (100mL)	S34-04212006	SC	2	
25	4/23/20 14:51	04222025.D	25ng TO-15 ICV STD	S34-04212006/S34-04102008 (5/9)	SC	2	passed

Injection Log

TD 5/5/20

Directory: I:\MS09\Data\2020_05\04\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	5/4/20 5:40	05042001.D	CCV C9050420_25ng	S34-04212006/S34-04272001 (5/26)	TD	2	not used
2	5/4/20 6:13	05042002.D	CCV R9050420_25ng	S34-04212006/S34-04202004 (5/19)	TD	2	passed
3	5/4/20 6:47	05042003.D	Blank (100mL)	S34-04212006	TD	2	
4	5/4/20 7:20	05042004.D	MB R9050420_1000mL	S34-04212006	TD	2	passed
5	5/4/20 7:53	05042005.D	LCS R9050420_25ng	S34-04212006/S34-04272008 (5/26)	TD	2	passed
6	5/4/20 8:27	05042006.D	LCSD R9050420_25ng	S34-04212006/S34-04272008 (5/26)	TD	2	passed
7	5/4/20 9:00	05042007.D	Blank (100mL)	S34-04212006	TD	2	
8	5/4/20 9:33	05042008.D	P2002359-001dil (40mL)	S34-04212006	TD	5	
9	5/4/20 10:06	05042009.D	P2002359-002dil (1.0mL)	S34-04212006	TD	1	
10	5/4/20 10:40	05042010.D	P2002359-008dil (5.0mL)	S34-04212006	TD	1	
11	5/4/20 11:37	05042011.D	P2002345-005 (1000mL)	S34-04212006	TD	4	
12	5/4/20 12:10	05042012.D	P2002345-006 (1000mL)	S34-04212006	TD	5	
13	5/4/20 12:44	05042013.D	P2002345-006dup (1000mL)	S34-04212006	TD	5	passed
14	5/4/20 13:40	05042014.D	P2002106-012 (1.0mL)	S34-04212006	SC	1	over diluted
15	5/4/20 14:17	05042015.D	P2002106-002 (40mL)	S34-04212006	SC	6	
16	5/4/20 14:51	05042016.D	P2002106-003 (40mL)	S34-04212006	SC	7	
17	5/4/20 15:24	05042017.D	P2002106-012 (15mL)	S34-04212006	SC	8	
18	5/4/20 16:10	05042018.D	P2002106-002Dil (4.0mL)	S34-04212006	SC	1	
19	5/4/20 16:43	05042019.D	P2002106-003Dil (4.0mL)	S34-04212006	SC	1	
20	5/4/20 17:29	05042020.D	P2002106-001 (20mL)	S34-04212006	SC	4	
21	5/4/20 18:02	05042021.D	P2002106-004 (400mL)	S34-04212006	SC	5	
22	5/4/20 18:36	05042022.D	P2002106-005 (400mL)	S34-04212006	SC	6	
23	5/4/20 19:09	05042023.D	P2002106-006 (400mL)	S34-04212006	SC	7	
24	5/4/20 19:42	05042024.D	P2002106-007 (400mL)	S34-04212006	SC	8	
25	5/4/20 20:16	05042025.D	P2002106-008 (400mL)	S34-04212006	SC	9	
26	5/4/20 20:49	05042026.D	P2002106-009 (400mL)	S34-04212006	SC	10	
27	5/4/20 21:23	05042027.D	P2002106-010 (400mL)	S34-04212006	SC	11	
28	5/4/20 21:57	05042028.D	P2002106-011 (400mL)	S34-04212006	SC	12	
29	5/4/20 22:31	05042029.D	P2002106-013 (400mL)	S34-04212006	SC	13	
30	5/4/20 23:04	05042030.D	P2002106-014 (400mL)	S34-04212006	SC	14	
31	5/4/20 23:38	05042031.D	P2002106-015 (400mL)	S34-04212006	SC	15	needs dilution
32	5/5/20 0:12	05042032.D	P2002106-016 (400mL)	S34-04212006	SC	16	needs dilution
33	5/5/20 0:46	05042033.D	P2002106-001Dil (15mL)	S34-04212006	SC	4	
34	5/5/20 1:19	05042034.D	P2002106-004Dil (40mL)	S34-04212006	SC	5	
35	5/5/20 1:53	05042035.D	P2002106-005Dil (40mL)	S34-04212006	SC	6	
36	5/5/20 2:26	05042036.D	Blank (100mL)	S34-04212006	SC	2	
37	5/5/20 3:00	05042037.D	CCV END R9050420_25ng	S34-04212006/S34-04202004 (5/19)	SC	2	passed

Injection Log

Directory: I:\MS09\Data\2020_05\05\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	5/5/20 3:34	05052001.D	CCV C9050520_25ng	S34-04212006/S34-04272001 (5/26)	SC	3	pass
2	5/5/20 4:07	05052002.D	CCV R9050520_25ng	S34-04212006/S34-04202004 (5/19)	SC	2	pass
3	5/5/20 4:41	05052003.D	Blank (100mL)	S34-04212006	SC	2	
4	5/5/20 5:14	05052004.D	MB R9050520_1000mL	S34-04212006	SC	2	pass
5	5/5/20 5:48	05052005.D	LCS R9050520_25ng	S34-04212006/S34-04272008 (5/26)	SC	2	pass
6	5/5/20 6:22	05052006.D	LCSD R9050520_25ng	S34-04212006/S34-04272008 (5/26)	SC	2	pass
7	5/5/20 6:55	05052007.D	Blank (100mL)	S34-04212006	SC	2	
8	5/5/20 7:29	05052008.D	P2002106-015dil (40mL)	S34-04212006	SC	15	
9	5/5/20 8:02	05052009.D	P2002106-016dil (40mL)	S34-04212006	SC	16	
10	5/5/20 8:49	05052010.D	P2002313-002 (0.2mL)	S34-04212006	TD	1	
11	5/5/20 9:23	05052011.D	P2002313-002 (1.0mL)	S34-04212006	TD	1	
12	5/5/20 9:56	05052012.D	P2002313-003 (400mL)	S34-04212006	TD	4	
13	5/5/20 10:30	05052013.D	P2002106-017 (400mL)	S34-04212006	TD	5	
14	5/5/20 11:03	05052014.D	P2002106-018 (400mL)	S34-04212006	TD	6	
15	5/5/20 11:36	05052015.D	P2002106-019 (400mL)	S34-04212006	TD	7	
16	5/5/20 12:10	05052016.D	P2002106-020 (400mL)	S34-04212006	TD	8	
17	5/5/20 12:47	05052017.D	P2002363-001 (6.0mL)	S34-04212006	TD	1	
18	5/5/20 13:42	05052018.D	P2002363-004 (0.6mL)	S34-04212006	SC	1	cf
19	5/5/20 14:15	05052019.D	P2002363-002 (400mL)	S34-04212006	SC	4	
20	5/5/20 14:48	05052020.D	P2002363-003 (400mL)	S34-04212006	SC	5	
21	5/5/20 15:22	05052021.D	P2002363-004 (6.0mL)	S34-04212006	SC	1	
22	5/5/20 16:01	05052022.D	P2002366-001 (400mL)	S34-04212006	SC	6	
23	5/5/20 16:35	05052023.D	P2002390-001 (400mL)	S34-04212006	SC	7	
24	5/5/20 17:08	05052024.D	P2002434-001 (100mL)	S34-04212006	SC	8	
25	5/5/20 17:41	05052025.D	P2002434-002 (100mL)	S34-04212006	SC	9	
26	5/5/20 18:15	05052026.D	P2002434-003 (100mL)	S34-04212006	SC	10	
27	5/5/20 18:48	05052027.D	P2002434-003dup (100mL)	S34-04212006	SC	10	pass
28	5/5/20 19:21	05052028.D	P2002434-001Dil (20mL)	S34-04212006	SC	8	
29	5/5/20 20:13	05052029.D	Blank (100mL)	S34-04212006	SC	2	
30	5/5/20 20:46	05052030.D	CCV END R9050520_25ng	S34-04212006/S34-04202004 (5/19)	SC	2	pass
							5/5/20

Injection Log

Directory: I:\MS09\Data\2020_05\05\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment

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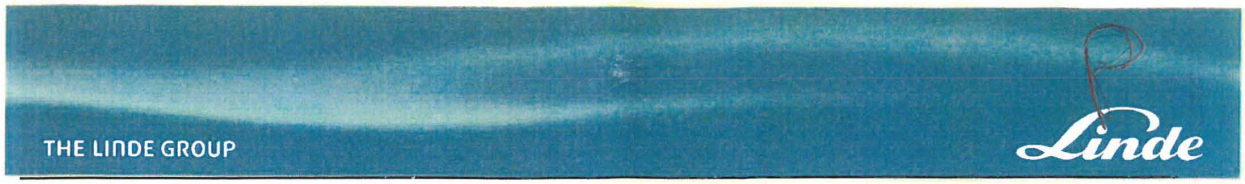
S31-1011901



SHIPPED TO: ALS Group USA Corp.
2655 Park Center Dr Ste A Dept 130
Simi Valley, CA 93065

PAGE: 1 of 4

Primary

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Propylene	115-07-1	1.00 mg/m3	1.06 mg/m3
Freon-12	75-71-8	1.00 mg/m3	1.06 mg/m3
Chloromethane	74-87-3	1.00 mg/m3	1.06 mg/m3
Freon-114	76-14-2	1.00 mg/m3	1.05 mg/m3
Vinyl Chloride	75-01-4	1.00 mg/m3	1.08 mg/m3
1,3-Butadiene	106-99-0	1.00 mg/m3	1.06 mg/m3
Bromomethane	74-83-9	1.00 mg/m3	1.08 mg/m3
Chloroethane	75-00-3	1.00 mg/m3	1.08 mg/m3
Ethanol	64-17-5	5.00 mg/m3	5.21 mg/m3
Acetonitrile	75-05-8	1.00 mg/m3	1.05 mg/m3
Acrolein	107-02-8	1.00 mg/m3	1.03 mg/m3
Acetone	67-64-1	5.00 mg/m3	5.33 mg/m3
Freon-11	75-69-4	1.00 mg/m3	1.06 mg/m3
Isopropyl Alcohol	67-63-0	2.00 mg/m3	2.10 mg/m3
Acrylonitrile	107-13-1	1.00 mg/m3	1.05 mg/m3
1,1-Dichloroethene	75-35-4	1.00 mg/m3	1.08 mg/m3
Carbon Disulfide	75-15-0	1.00 mg/m3	1.07 mg/m3
Methylene Chloride	75-09-2	1.00 mg/m3	1.06 mg/m3
Tert-Butanol	75-65-0	2.00 mg/m3	2.16 mg/m3
Allyl Chloride	107-05-1	1.00 mg/m3	1.08 mg/m3
Freon-113	76-13-1	1.00 mg/m3	1.08 mg/m3
Trans-1,2-Dichloroethene	156-60-5	1.00 mg/m3	1.08 mg/m3
1,1-Dichloroethane	75-34-3	1.00 mg/m3	1.09 mg/m3
Methyl Tert Butyl Ether	1634-04-4	1.00 mg/m3	1.08 mg/m3
Vinyl Acetate	108-05-4	5.00 mg/m3	5.35 mg/m3
Methacrylonitrile	126-98-7	1.00 mg/m3	1.06 mg/m3
Methyl Ethyl Ketone	78-93-3	1.00 mg/m3	1.06 mg/m3
Cis-1,2-Dichloroethene	156-59-2	1.00 mg/m3	1.06 mg/m3
Hexane	110-54-3	1.00 mg/m3	1.08 mg/m3
Di-isopropyl Ether	108-20-3	1.00 mg/m3	1.08 mg/m3

Linde Gas North America LLC

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PAGE: 2 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chloroform	67-66-3	1.00 mg/m3	1.07 mg/m3
Ethyl Acetate	141-78-6	2.00 mg/m3	2.17 mg/m3
Tetrahydrofuran	109-99-9	1.00 mg/m3	1.09 mg/m3
Ethyl Tert-Butyl Ether	637-92-3	1.00 mg/m3	1.08 mg/m3
1,2-Dichloroethane	107-06-2	1.00 mg/m3	1.08 mg/m3
1,1,1-Trichloroethane	71-55-6	1.00 mg/m3	1.07 mg/m3
Benzene	71-43-2	1.00 mg/m3	1.06 mg/m3
Isopropyl Acetate	108-21-4	2.00 mg/m3	2.11 mg/m3
1-Butanol	71-36-3	2.00 mg/m3	2.08 mg/m3
Carbon Tetrachloride	56-23-5	1.00 mg/m3	1.05 mg/m3
Cyclohexane	110-82-7	2.00 mg/m3	2.12 mg/m3
Tert Amyl Methyl Ether	994-05-8	1.00 mg/m3	1.08 mg/m3
1,2-Dichloropropane	78-87-5	1.00 mg/m3	1.08 mg/m3
Trichloroethylene	79-01-6	1.00 mg/m3	1.07 mg/m3
Bromodichloromethane	75-27-4	1.00 mg/m3	1.08 mg/m3
1,4-Dioxane	123-91-1	1.00 mg/m3	1.08 mg/m3
Isooctane	540-84-1	1.00 mg/m3	1.07 mg/m3
Methyl Methacrylate	80-62-6	2.00 mg/m3	2.15 mg/m3
Heptane	142-82-5	1.00 mg/m3	1.08 mg/m3
Cis-1,3-Dichloropropene	10061-01-5	1.00 mg/m3	1.04 mg/m3
Methyl Isobutyl Ketone	108-10-1	1.00 mg/m3	1.06 mg/m3
Trans-1,3-Dichloropropene	10061-02-6	1.00 mg/m3	1.06 mg/m3
1,1,2-Trichloroethane	79-00-5	1.00 mg/m3	1.07 mg/m3
Toluene	108-88-3	1.00 mg/m3	1.07 mg/m3
Methyl Butyl Ketone	591-78-6	1.00 mg/m3	1.07 mg/m3
Dibromochloromethane	124-48-1	1.00 mg/m3	1.07 mg/m3
1,2-Dibromoethane	106-93-4	1.00 mg/m3	1.07 mg/m3
n-Butyl Acetate	123-86-4	1.00 mg/m3	1.09 mg/m3
n-Octane	111-65-9	1.00 mg/m3	1.08 mg/m3
Tetrachloroethylene	127-18-4	1.00 mg/m3	1.04 mg/m3

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Simi Valley, CA 93065

PAGE: 3 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chlorobenzene	108-90-7	1.00 mg/m3	1.07 mg/m3
Ethylbenzene	100-41-4	1.00 mg/m3	1.07 mg/m3
p-xylene	106-42-3	1.00 mg/m3	1.07 mg/m3
m-xylene	108-38-3	1.00 mg/m3	1.07 mg/m3
Bromoform	75-25-2	1.00 mg/m3	1.07 mg/m3
Cyclohexanone	108-94-1	1.00 mg/m3	1.00 mg/m3
Styrene	100-42-5	1.00 mg/m3	1.06 mg/m3
o-xylene	95-47-6	1.00 mg/m3	1.07 mg/m3
1,1,2,2-Tetrachloroethane	79-34-5	1.00 mg/m3	1.07 mg/m3
Nonane	111-84-2	1.00 mg/m3	1.07 mg/m3
Isopropylbenzene	98-82-8	1.00 mg/m3	1.08 mg/m3
alpha-Pinene	80-56-8	1.00 mg/m3	1.07 mg/m3
n-Propylbenzene	103-65-1	1.00 mg/m3	1.08 mg/m3
3-Ethyltoluene	620-14-4	1.00 mg/m3	1.06 mg/m3
4-Ethyltoluene	622-96-8	1.00 mg/m3	1.08 mg/m3
2-Ethyltoluene	611-14-3	1.00 mg/m3	1.08 mg/m3
1,3,5-Trimethylbenzene	108-67-8	1.00 mg/m3	1.06 mg/m3
alpha-Methylstyrene	98-83-9	1.00 mg/m3	1.07 mg/m3
Tert-Butyl Benzene	98-06-6	1.00 mg/m3	1.07 mg/m3
1,2,4-Trimethylbenzene	95-63-6	1.00 mg/m3	1.07 mg/m3
1,3-Dichlorobenzene	541-73-1	1.00 mg/m3	1.07 mg/m3
Benzyl Chloride	100-44-7	1.00 mg/m3	1.08 mg/m3
n-Decane	124-18-5	1.00 mg/m3	1.07 mg/m3
1,4-Dichlorobenzene	106-46-7	1.00 mg/m3	1.07 mg/m3
Sec-Butyl Benzene	135-98-8	1.00 mg/m3	1.07 mg/m3
p-Isopropyltoluene	99-87-6	1.00 mg/m3	1.09 mg/m3
1,2,3-Trimethylbenzene	526-73-8	1.00 mg/m3	1.09 mg/m3
1,2-Dichlorobenzene	95-50-1	1.00 mg/m3	1.07 mg/m3

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ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
d-Limonene	5989-27-5	1.00 mg/m3	1.08 mg/m3
n-Butyl Benzene	104-51-8	1.00 mg/m3	1.07 mg/m3
1,2-Dibromo-3-Chloropropane	96-12-8	1.00 mg/m3	1.05 mg/m3
n-Undecane	1120-21-4	1.00 mg/m3	1.08 mg/m3
1,2,4-Trichlorobenzene	120-82-1	1.00 mg/m3	1.07 mg/m3
Naphthalene	91-20-3	1.00 mg/m3	1.03 mg/m3
n-Dodecane	112-40-3	1.00 mg/m3	1.04 mg/m3
Hexachloro-1,3-Butadiene	87-68-3	1.00 mg/m3	1.06 mg/m3
Nitrogen	7727-37-9	Balance	Balance

ANALYST: Lou Lorenzetti **DATE:** Sep-24-2019

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Secondary

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Propylene	115-07-1	1.00 mg/m3	1.05 mg/m3
Freon-12	75-71-8	1.00 mg/m3	1.05 mg/m3
Chloromethane	74-87-3	1.00 mg/m3	1.06 mg/m3
Freon-114	76-14-2	1.00 mg/m3	1.03 mg/m3
Vinyl Chloride	75-01-4	1.00 mg/m3	1.06 mg/m3
1,3-Butadiene	106-99-0	1.00 mg/m3	1.06 mg/m3
Bromomethane	74-83-9	1.00 mg/m3	1.06 mg/m3
Chloroethane	75-00-3	1.00 mg/m3	1.07 mg/m3
Ethanol	64-17-5	5.00 mg/m3	5.30 mg/m3
Acetonitrile	75-05-8	1.00 mg/m3	1.07 mg/m3
Acrolein	107-02-8	1.00 mg/m3	1.03 mg/m3
Acetone	67-64-1	5.00 mg/m3	5.34 mg/m3
Freon-11	75-69-4	1.00 mg/m3	1.06 mg/m3
Isopropyl Alcohol	67-63-0	2.00 mg/m3	2.11 mg/m3
Acrylonitrile	107-13-1	1.00 mg/m3	1.06 mg/m3
1,1-Dichloroethene	75-35-4	1.00 mg/m3	1.07 mg/m3
Carbon Disulfide	75-15-0	1.00 mg/m3	1.06 mg/m3
Methylene Chloride	75-09-2	1.00 mg/m3	1.05 mg/m3
Tert-Butanol	75-65-0	2.00 mg/m3	2.15 mg/m3
Allyl Chloride	107-05-1	1.00 mg/m3	1.07 mg/m3
Freon-113	76-13-1	1.00 mg/m3	1.08 mg/m3
Trans-1,2-Dichloroethene	156-60-5	1.00 mg/m3	1.07 mg/m3
1,1-Dichloroethane	75-34-3	1.00 mg/m3	1.06 mg/m3
Methyl Tert Butyl Ether	1634-04-4	1.00 mg/m3	1.07 mg/m3
Vinyl Acetate	108-05-4	5.00 mg/m3	5.33 mg/m3
Methacrylonitrile	126-98-7	1.00 mg/m3	1.06 mg/m3
Methyl Ethyl Ketone	78-93-3	1.00 mg/m3	1.06 mg/m3
Cis-1,2-Dichloroethene	156-59-2	1.00 mg/m3	1.06 mg/m3
Hexane	110-54-3	1.00 mg/m3	1.08 mg/m3
Di-isopropyl Ether	108-20-3	1.00 mg/m3	1.08 mg/m3

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ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chloroform	67-66-3	1.00 mg/m3	1.07 mg/m3
Ethyl Acetate	141-78-6	2.00 mg/m3	2.16 mg/m3
Tetrahydrofuran	109-99-9	1.00 mg/m3	1.10 mg/m3
Ethyl Tert-Butyl Ether	637-92-3	1.00 mg/m3	1.07 mg/m3
1,2-Dichloroethane	107-06-2	1.00 mg/m3	1.07 mg/m3
1,1,1-Trichloroethane	71-55-6	1.00 mg/m3	1.07 mg/m3
Benzene	71-43-2	1.00 mg/m3	1.05 mg/m3
Isopropyl Acetate	108-21-4	2.00 mg/m3	2.10 mg/m3
1-Butanol	71-36-3	2.00 mg/m3	2.13 mg/m3
Carbon Tetrachloride	56-23-5	1.00 mg/m3	1.04 mg/m3
Cyclohexane	110-82-7	2.00 mg/m3	2.11 mg/m3
Tert Amyl Methyl Ether	994-05-8	1.00 mg/m3	1.07 mg/m3
1,2-Dichloropropane	78-87-5	1.00 mg/m3	1.07 mg/m3
Trichloroethylene	79-01-6	1.00 mg/m3	1.08 mg/m3
Bromodichloromethane	75-27-4	1.00 mg/m3	1.09 mg/m3
1,4-Dioxane	123-91-1	1.00 mg/m3	1.08 mg/m3
Isooctane	540-84-1	1.00 mg/m3	1.07 mg/m3
Methyl Methacrylate	80-62-6	2.00 mg/m3	2.15 mg/m3
Heptane	142-82-5	1.00 mg/m3	1.07 mg/m3
Cis-1,3-Dichloropropene	10061-01-5	1.00 mg/m3	1.07 mg/m3
Methyl Isobutyl Ketone	108-10-1	1.00 mg/m3	1.06 mg/m3
Trans-1,3-Dichloropropene	10061-02-6	1.00 mg/m3	1.06 mg/m3
1,1,2-Trichloroethane	79-00-5	1.00 mg/m3	1.07 mg/m3
Toluene	108-88-3	1.00 mg/m3	1.06 mg/m3
Methyl Butyl Ketone	591-78-6	1.00 mg/m3	1.08 mg/m3
Dibromochloromethane	124-48-1	1.00 mg/m3	1.07 mg/m3
1,2-Dibromoethane	106-93-4	1.00 mg/m3	1.07 mg/m3
n-Butyl Acetate	123-86-4	1.00 mg/m3	1.09 mg/m3
n-Octane	111-65-9	1.00 mg/m3	1.08 mg/m3
Tetrachloroethylene	127-18-4	1.00 mg/m3	1.04 mg/m3

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PAGE: **3 of 4**

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chlorobenzene	108-90-7	1.00 mg/m3	1.07 mg/m3
Ethylbenzene	100-41-4	1.00 mg/m3	1.06 mg/m3
p-xylene	106-42-3	1.00 mg/m3	1.07 mg/m3
m-xylene	108-38-3	1.00 mg/m3	1.06 mg/m3
Bromoform	75-25-2	1.00 mg/m3	1.07 mg/m3
Cyclohexanone	108-94-1	1.00 mg/m3	1.01 mg/m3
Styrene	100-42-5	1.00 mg/m3	1.06 mg/m3
o-xylene	95-47-6	1.00 mg/m3	1.07 mg/m3
1,1,2,2-Tetrachloroethane	79-34-5	1.00 mg/m3	1.07 mg/m3
Nonane	111-84-2	1.00 mg/m3	1.07 mg/m3
Isopropylbenzene	98-82-8	1.00 mg/m3	1.07 mg/m3
alpha-Pinene	80-56-8	1.00 mg/m3	1.06 mg/m3
n-Propylbenzene	103-65-1	1.00 mg/m3	1.07 mg/m3
3-Ethyltoluene	620-14-4	1.00 mg/m3	1.07 mg/m3
4-Ethyltoluene	622-96-8	1.00 mg/m3	1.05 mg/m3
2-Ethyltoluene	611-14-3	1.00 mg/m3	1.07 mg/m3
1,3,5-Trimethylbenzene	108-67-8	1.00 mg/m3	1.06 mg/m3
alpha-Methylstyrene	98-83-9	1.00 mg/m3	1.06 mg/m3
Tert-Butyl Benzene	98-06-6	1.00 mg/m3	1.06 mg/m3
1,2,4-Trimethylbenzene	95-63-6	1.00 mg/m3	1.06 mg/m3
1,3-Dichlorobenzene	541-73-1	1.00 mg/m3	1.07 mg/m3
Benzyl Chloride	100-44-7	1.00 mg/m3	1.07 mg/m3
n-Decane	124-18-5	1.00 mg/m3	1.07 mg/m3
1,4-Dichlorobenzene	106-46-7	1.00 mg/m3	1.07 mg/m3
Sec-Butyl Benzene	135-98-8	1.00 mg/m3	1.06 mg/m3
p-Isopropyltoluene	99-87-6	1.00 mg/m3	1.09 mg/m3
1,2,3-Trimethylbenzene	526-73-8	1.00 mg/m3	1.08 mg/m3
1,2-Dichlorobenzene	95-50-1	1.00 mg/m3	1.07 mg/m3

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ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
d-Limonene	5989-27-5	1.00 mg/m3	1.06 mg/m3
n-Butyl Benzene	104-51-8	1.00 mg/m3	1.07 mg/m3
1,2-Dibromo-3-Chloropropane	96-12-8	1.00 mg/m3	1.07 mg/m3
n-Undecane	1120-21-4	1.00 mg/m3	1.08 mg/m3
1,2,4-Trichlorobenzene	120-82-1	1.00 mg/m3	1.08 mg/m3
Naphthalene	91-20-3	1.00 mg/m3	1.06 mg/m3
n-Dodecane	112-40-3	1.00 mg/m3	1.06 mg/m3
Hexachloro-1,3-Butadiene	87-68-3	1.00 mg/m3	1.07 mg/m3
Nitrogen	7727-37-9	Balance	Balance

ANALYST: _____
Lou Lorenzetti

DATE: Sep-24-2019

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1/6/20 VH

TO-15 MAPH STD				20ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of S31-11061903 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-01062006	20 ng/L	STD00164	1/6/20	**3/4/20**	LH

1/6/20 S31-01062007 TO-15 IS/SURR STD ~0.5 mg/m³

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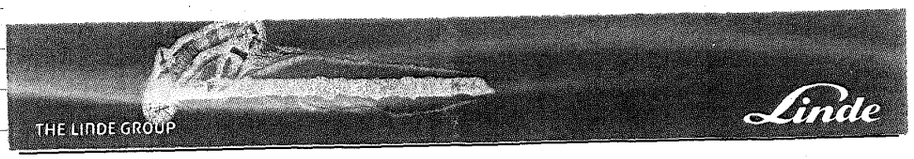

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S31-01062007 **ANALYSIS REPORT** IS/SURR STD.

Sales#:	117350975	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1502527	**Cylinder # :**	CC-430401
Report Date:	Dec-23-2019	**Cylinder Pressure:**	2000 psig
P.O.# :	SM003000	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24086333	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	4000 Liters
Expiration Date:	Dec-23-~~2020~~ 2021	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	10% Relative

VH 1/7/20

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Bromochloromethane	74-97-5	0.50 mg/m3	0.55 mg/m3
1,2-Dichloroethane-d4	17060-07-0	0.50 mg/m3	0.55 mg/m3
1,4-Difluorobenzene	540-36-3	0.50 mg/m3	0.55 mg/m3
Toluene-d8	2037-26-5	0.50 mg/m3	0.55 mg/m3
Chlorobenzene-d5	3114-55-4	0.50 mg/m3	0.55 mg/m3
4-Bromofluorobenzene	460-00-4	0.50 mg/m3	0.53 mg/m3
Nitrogen	7727-37-9	Balance	Balance

1/7/20 VH

EPA 325B STD	BTEX 1° Working Standard	200 µg/mL
S31-01072001	Expires:	1/21/2020
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 2000µg/mL BTEX stock standard S31-11271903 (expires 1/27/20).		

VH

EPA 325B STD	BTEX 2° Working Standard	200 µg/mL
S31-01072002	Expires:	1/21/2020
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 2000µg/mL BTEX stock standard S31-11271904 (expires 1/27/20).		

VH

S34-03192001	TO-15 IS & Surr. STD	500 ng/L
Filled 6L CAN STD00154 with	S31-01062007 to ~80 psig.	Exp. 5/19/20 TD

TD 3/23/20

S34-03202001	TO-15 SIM IS/SURR	40 ng/L
Filled can STD00226	to (-7.46) psig with S31-01062007 then pressurized to 75.4 psig	
with HZA Lot #70086833701		
	Exp: 6/18/2020	RVT
DF = 14.7+ 61.80= 12.5X		
14.7+ (-8.58)		

3/20/20 RVT

TO-17 STD S34-03202002	PAH 1° Working Standard	2 µg/ml 5/20/2020
Into 1mL mininert vial with 9900µL B&J P&T methanol, Lot #DL535, added 10µL 200µg/mL PAH 1° stock standard S31-01222001 (Exp. 7/21/20)		

MA

TO-17 STD S34-03232001	RAD VOC 1° Stock Standard	2000ng/µL 5/23/2020
Transferred stock standard S31-09061901B (exp. 3/13/27) into glass vial with mininert valve cap.		

3/23/20 CV

TO-17 STD S34-03232002	RAD VOC 1° Working Standard	200ng/µL 5/23/2020
Into 1mL mininert vial with 900uL B&J P&T methanol, Lot # DL535, added 100uL 2000ng/µL Stock Standard S34-03232001 (expires 3/13/20)		

CV

TO-15 ICV/LCS STD	200 ng/L
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111902** with HZA Lot # 70086915004 using 4700 diluter	

3/25/20

RVT

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34 ~~S31~~-03252001	200 ng/L	STD00033	3/25/20	4/23/20	RVT
RVT S34 ~~S31~~-03252002	200 ng/L	STD00182	3/25/20	4/23/20	RVT
4/3/20 S34 ~~S31~~-03252003	200 ng/L	STD00132	3/25/20	4/23/20	RVT
S34 ~~S31~~-03252004	200 ng/L	STD00139	3/25/20	4/23/20	RVT

S34-03262001	TO-15 IS & Surr. STD	500 ng/L
Filled 15L CAN STD00219 with	S31-10111901 to ~80 psig.	Exp. 6/26/20 WA

3/26/20 WA

3/27/20 RVT

TO-15 ICV/LCS STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111902** with HZA Lot # 70086915004 using 4700 diluter

TD 4/7/20

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04022001	200 ng/L	STD00173	4/2/20	**5/1/20**	TD

TO-17 STD **PAH 1° Stock Standard** **200 µg/ml**
S34-04022002 **10/2/2020**
Into 1mL mininert vial, directly transfered entire contents 200µg/mL PAH 1° stock standard S31-01181908D (expires 1/17/22).

TO-17 STD **PAH 2° Stock Standard** **100 µg/ml**
S34-04022003 **10/2/2020**
Into 1mL mininert vial, directly transfered entire contents of 100µg/mL PAH 1° stock standard S31-03221901B (expires 4/11/22).

TO-17 STD **PAH 1° Working Standard** **20 µg/mL**
S34-04022004 **10/2/2020**
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 200µg/mL PAH 1° stock standard S34-4022002 (Exp. 10/2/20)

TO-17 STD **PAH 1° Working Standard** **2 µg/ml**
S34-04022005 **10/2/2020**
Into 1mL mininert vial with 990µL B&J P&T methanol, Lot #DL535, added 10µL 200µg/mL PAH 1° stock standard S34-04022002 (Exp. 10/2/20)

TO-17 STD **PAH 2° Working Standard** **20 µg/ml**
S34-04022006 **10/2/2020**
Into 1mL mininert vial with 800µL B&J P&T methanol, Lot #DL535, added 200µL 100µg/mL PAH 2° stock standard S34-04022003 (Exp. 10/2/20)

EPA 325B STD **BTEX 1° Working Standard** **20 µg/mL**
MK **S34-04022007** **Expires: 4/22/2020**
Into 1mL mininert vial with 990µL B&J P&T methanol, Lot #DL535, added 10µL 2000µg/mL BTEX Stock standard S34-03312005 (expires 5/31/20).

4/7/20 RVT

TO-15 STD 1000 ng/L
S34-04072001
Filled Can: STD00056 w/S31-10111901 To ~ 10.23 PSIG
Expires: 9/24/20 RVT

TO-15 STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S34-04072001** using 4700 diluter HZA Lot #70086915004

TD 4/7/20

Standard ID	Standard conc.	CAN I.D.	Prep. Date	**Exp. Date**	Initial
S34-04072002	200 ng/L	STD00134	4/7/20	**5/6/20**	TD

12

		TO-15 STD		20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04072002**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
TD S34-04072003	20 ng/L	STD00007	4/7/20	**5/6/20**	TD

		TO-15 STD		4 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S34-04072003**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
TD S34-04072004	4 ng/L	STD00211	4/7/20	**5/6/20**	TD

RVT TO-15 ICV/LCS STD 1000ng/L
S34-04072005
Filled Can: STD00136 w/S31-10111902 To ~ 10.52 PSIG
Exp 9/24/20 RVT

		TO-15 ICV/LCS STD		200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S34-04072005** with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
TD S34-04072006	200 ng/L	STD00194	4/7/20	**5/6/20**	TD

S31-04072007 **TO-17 IS/Surr Neat Mix** **75,000** µg each compd.
34
@ 4/7/20 **Exp** **1/31/21**

CM

Compound	Std ID	d(µg/µl)	amt spiked (µl)	exp. date
Bromochloromethane	S31-11281802	1934.4	39	6/30/2021
1,4-Difluorobenzene	S31-11281803	1170.1	64	2/1/2021
Chlorobenzene-d5	S31-05131901	1157	65	5/31/2024
1,2-Dichloroethane-d4	S31-11281804	1307	57	11/28/2023
Toluene-d8	S29-04281602	943	80	4/28/2021
4-Bromofluorobenzene	S31-05131903	1593	47	1/31/2021
		total µl:	352	

neat compound density: **213.3 µg/µl**

RVT TO-15 ICV/LCS STD 1000ng/L
S34-04082001
Filled Can: STD00136 w/S31-10111902 To ~ 11.93 PSIG
Exp: 9/24/20
RVT

4/8/20 S34-~~03~~04082002 TO-17 IS/surr 50ng/ml
Spiked 23.5 µl S34-04072007 into can STDcc215 and
pressurized to 83.3 psig w/ HZA (Lot 7008600403).
Exp. 10/8/20

	TO-15 STD			200 ng/L	
4/10/20	Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111901**				
	using 4700 diluter	HZA Lot #70086915004			
RVT					
	Standard ID	Standard conc.	CAN I.D.	Prep. Date	**Exp. Date**	Initial
	S34-04102001	200 ng/L	STD00096	4/10/20	**5/9/20**	RVT
	S34-04102002	200 ng/L	STD00111	4/10/20	**5/9/20**	RVT
	S34-04102003	200 ng/L	STD00013	4/10/20	**5/9/20**	RVT
	S34-04102004	200 ng/L	STD00018	4/10/20	**5/9/20**	RVT

RVT S34-04102005 TO-15 STD 1000 ng/L
Pressurized Can: STD00056 w/S31-10111901 To. 16.6 psig
Exp. 9/24/20
RVT

	TO-15 STD			200 ng/L	
RVT	Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S34-04102005**				
	using 4700 diluter	HZA Lot #70086915004			
	Standard ID	Standard conc.	CAN I.D.	Prep. Date	**Exp. Date**	Initial
	S34-04102006	200 ng/L	STD00003	4/10/20	**5/9/20**	RVT

RVT S34-04102007 TO-15 STD 1000 ng/L
ICV/LCS
Pressurized Can: STD00136 w/S31-10111902 To ≈ 17 psig
Exp. 9/24/20
RVT

	TO-15 ICV/LCS STD			200 ng/L	
RVT	Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S34-04102007** with HZA Lot # 70086915004 using 4700 diluter				
	Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
	S34-04102008	200 ng/L	STD00158	4/10/20	**5/9/20**	RVT

	TO-15 STD			20 ng/L	
RVT	Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04102004**				
	using 4700 diluter	HZA Lot #70086915004			
	Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
	S34-04102009	20 ng/L	STD00145	4/10/20	**5/9/20**	RVT

4/15/20
RVT

TO-15 STD **4 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S34-04102010**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04152001	4 ng/L	STD00161	4/15/20	**5/14/20**	RVT

TO-15 Custom STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with
HZA Lot # 70086915004 using 4700 diluter

TD 4/16/20

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04162001	200 ng/L	STD00009	4/16/2020	**5/15/2020**	TD
S34-04162002	200 ng/L	STD00124	4/16/2020	**5/15/2020**	TD

4/16/20
RVT

TO-15 STD **4 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of **S34-04102003**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04162003	4 ng/L	STD00227	4/16/20	**5/15/20**	RVT

4/20/20
RVT

TO-15 STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111901**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04202001	200 ng/L	STD00128	4/20/20	**5/19/20**	RVT
S34-04202002	200 ng/L	STD00112	4/20/20	**5/19/20**	RVT
S34-04202003	200 ng/L	STD00105	4/20/20	**5/19/20**	RVT
S34-04202004	200 ng/L	STD00047	4/20/20	**5/19/20**	RVT

TO-15 Custom STD **20 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of S31-06251901 with
HZA Lot # 70086915004 using 4700 diluter

TD 4/21/20

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04212001	20 ng/L	STD00049	4/21/2020	**5/20/2020**	TD

TD 4/2/20

16

TO-15 Custom STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04212002	200 ng/L	STD00208	4/21/2020	**5/20/2020**	TD
S34-04212003	200 ng/L	STD00140	4/21/2020	**5/20/2020**	TD

TD

TO-15 Custom STD **20 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of S34-04212003 with HZA Lot # 70086915004 using 4700 diluter

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04212004	20 ng/L	STD00065	4/21/2020	**5/20/2020**	TD

TD

TO-15 Custom ICV/LCS **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251902 with HZA Lot #70086915004 using 4700 diluter

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-0421~~2006~~ 2007 NN 5-5-20	200 ng/L	STD00181	4/21/2020	**5/20/2020**	TD

TD

TO-15 Custom ICV/ LCS STD **20 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of S31-06251902 with HZA Lot #70086915004 using 4700 diluter

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04212005	20 ng/L	STD00080	4/21/2020	**5/20/2020**	TD

TD

4/21/20 S34-0421~~2006~~ 2007 NN 5-5-20 TO-15 IS/Surr 500 ng/L
Filled Can # STD00075 with S31-01062007 to psig 84
Exp 06/29/20

S34-04222001 **TO-15 IS & Surr. STD** **500 ng/L**

Filled 15L CAN STD00228 with S31-01062007 to ~80 psig. Exp. 7/22/20 TD

TD 4/22/20

4/22/20 RVT

4/22/20 RVT

S34-04222002 **TO-15 SIM IS/SURR** **40 ng/L**

Filled can STD00226 to (-6.74) psig with S31-01062007 then pressurized to 84.34 psig with HZA Lot #70086004903

Exp: 7/21/20 RVT

DF = 14.7+ 61.80= 12.5X
14.7+ (-8.58)

RVT

		TO-15 STD		20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04202002**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04222003	20 ng/L	STD00043	4/22/20	**5/21/20**	RVT

RVT

		TO-15 STD		20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04202003**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04222004	20 ng/L	STD00197	4/22/20	**5/21/20**	RVT

4/23/20 RVT

S34-04232001 TO-15 STD 1000 ng/L
Pressurized Can: ~~STD~~ 15C0109 w/ S31-10111901 To ~ 11.5 psig
RVT
Exp: 9/24/20

RVT

S34-04242001 TO-15 STD 1000 ng/L
Pressurized Can: STD00134 w/ S31-10111901 To ~ 11.01 psig
RVT
Exp 9/24/20

4/27/20 RVT

		TO-15 Custom STD		200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272001	200 ng/L	STD00153	4/27/2020	**5/26/2020**	RVT
S34-04272002	200 ng/L	STD00116	4/27/2020	**5/26/2020**	RVT
S34-04272003	200 ng/L	STD00157	4/27/2020	**5/26/2020**	RVT
S34-04272004	200 ng/L	STD00125	4/27/2020	**5/26/2020**	RVT

4/27/20
RVT

18
4/22/20
RVT
4/27/20
RVT

TO-15 Custom STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272005	200 ng/L	STD00024	4/27/2020	**5/26/2020**	RVT
S34-04272006	200 ng/L	STD00066	4/27/2020	**5/26/2020**	RVT

RVT

TO-15 ICV/LCS STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111902** with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272007	200 ng/L	STD00063	4/27/20	**5/26/20**	RVT
S34-04272008	200 ng/L	STD00072	4/27/20	**5/26/20**	RVT

RVT

TO-15 ICV/ LCS STD				20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04272007** with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272009	20 ng/L	STD00015	4/27/20	**5/26/20**	RVT

RVT

TO-15 STD				20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04202001** using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272010	20 ng/L	STD00026	4/27/20	**5/26/20**	RVT

LH
4/27/20

TO-15 STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-10111901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272011	200 ng/L	STD00028	4/27/2020	**5/26/2020**	LH

LH

TO-15 STD				20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of S34-04272011 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272012	20 ng/L	STD00061	4/27/2020	**5/26/2020**	LH

629 of 629

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LABORATORY REPORT

May 13, 2020

Pamela Moss
EA Engineering, Science, and Technology, Inc.
7995 E. Prentice Ave, Suite 206E
Greenwood Village, CO 80111

RE: Kirtland AFB Bulk Fuels Facility / 62735DM02

Dear Pamela:

Enclosed are the results of the samples submitted to our laboratory on April 20, 2020. For your reference, these analyses have been assigned our service request number P2002107.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

Kate Kaneko
May 13, 2020, 1:43 pm

Kate Kaneko
Project Manager

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

Client: EA Engineering, Science, and Technology, Inc. Service Request No: P2002107
Project: Kirtland AFB Bulk Fuels Facility / 62735DM02

CASE NARRATIVE

The samples were received intact under chain of custody on April 20, 2020 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

Manual integrations were performed on the following samples and analytes. Refer to the raw data for additional information.

Sample Identifications	Analytes
P2002107-003, 004, 016, 018, 019, 019dup, 027, 028, 029	acetone
P2002107-008	2-hexanone

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.1 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

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ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1776326
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-007
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272019-10
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: EA Engineering, Science, and Technology, Inc. Service Request: P2002107

Project ID: Kirtland AFB Bulk Fuels Facility / 62735DM02

Date Received: 4/20/2020

Time Received: 12:20

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	2nd Pi (psig)	2nd Pf (psig)	3rd Pi (psig)	3rd Pf (psig)	TO-15 - VOC Cans
SV137-050-202	P2002107-001	Air	4/14/2020	10:20	1SS00028	-2.96	7.69					X
SV137-150-202	P2002107-002	Air	4/14/2020	10:22	1SS00922	-2.25	6.07					X
SV137-250-202	P2002107-003	Air	4/14/2020	10:26	1SC00471	-2.86	5.99					X
SV137-350-202	P2002107-004	Air	4/14/2020	10:29	1SC00182	-3.45	6.06					X
SV137-450-202	P2002107-005	Air	4/14/2020	10:38	1SC00044	-2.45	7.05					X
SV139-025-202	P2002107-006	Air	4/14/2020	12:02	1SC00848	-3.10	6.09					X
SV139-050-202	P2002107-007	Air	4/14/2020	12:05	1SS00179	-3.41	7.08					X
SV139-050-602	P2002107-008	Air	4/14/2020	12:05	1SC00263	-3.19	6.11	0.10	7.75			X
SV139-150-202	P2002107-009	Air	4/14/2020	12:09	1SC00434	-3.60	6.12					X
SV139-250-202	P2002107-010	Air	4/14/2020	12:12	1SC00884	-3.05	5.32					X
SV139-350-202	P2002107-011	Air	4/14/2020	12:15	1SC00611	-2.43	6.50					X
SV139-450-202	P2002107-012	Air	4/14/2020	12:23	1SS00949	-2.15	6.39					X
SV140-025-202	P2002107-013	Air	4/14/2020	13:44	1SC00727	-2.18	8.41					X
SV140-050-202	P2002107-014	Air	4/14/2020	13:47	1SS00047	-4.27	7.77					X
SV140-150-202	P2002107-015	Air	4/14/2020	13:51	1SS00976	-3.20	6.58					X
SV140-250-202	P2002107-016	Air	4/14/2020	13:55	1SC00553	-3.78	5.71					X
SV140-350-202	P2002107-017	Air	4/14/2020	13:59	1SC00908	-2.08	5.54	-0.05	6.91			X
SV140-450-602	P2002107-018	Air	4/14/2020	14:10	1SC01027	-4.30	6.05					X
SV140-450-202	P2002107-019	Air	4/14/2020	14:10	1SC01347	-2.97	6.85					X
SVE12-410-202	P2002107-020	Air	4/15/2020	10:23	1SC00273	-3.37	5.76					X
SV07-050-202	P2002107-021	Air	4/15/2020	08:10	1SS00016	-4.03	6.70					X
SV07-100-202	P2002107-022	Air	4/15/2020	08:12	1SC01196	-2.31	5.58					X
SV07-150-202	P2002107-023	Air	4/15/2020	08:14	1SC00005	-2.16	5.84	-6.50	5.76			X
SV14-150-202	P2002107-024	Air	4/15/2020	09:42	1SC00332	-2.62	5.76	-2.10	5.72			X
SV14-250-202	P2002107-025	Air	4/15/2020	09:45	1SS00848	-2.06	5.56	-1.74	5.53			X
SV14-350-202	P2002107-026	Air	4/15/2020	09:48	1SC00601	-2.73	6.87	-1.57	5.92			X
SV14-450-202	P2002107-027	Air	4/15/2020	09:59	1SC00388	-4.05	6.14	-1.66	5.35			X
SV14-450-602	P2002107-028	Air	4/15/2020	09:59	1SC00191	-1.83	5.87	-0.11	6.03	0.03	5.67	X
SVTB-202-02	P2002107-029	Air	4/16/2020	08:00	1SC00358	-14.25	7.36	-1.56	5.73			X

Air - Chain of Custody Record & Analytical Service Request

Page 1 of 2

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COC #: COC-SV202-11

Requested Turnaround Time in Business Days
10 Day-Standard

ALS Project No: R2002107

Company Name & Address (Reporting Information)	EA Engineering, Science, and Technology, Inc., PBC 225 Schilling Circle Suite 400, Hunt Valley, MD (410) 584-7000
Project Manager / Project Chemist	Bernie Bockish (505) 234-1105 / Pam Moss (303) 590-9143
Email Address for Result Reporting	Tara Lamond: tlamond@eaest.com Amanda Smith: asmith@eaest.com Pam Moss: pmoss@eaest.com
Project Name	Kirtland AFB Bulk Fuels Facility
Project Number	62735DM02
P.O. # / Billing Information	17682
Sampler (Print & Sign)	Ryan Hartman

ALS Contact: Kate Kaneko
1 (805) 577-2089

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg	Sample Volume	Analysis Method: TO-15 Project Specific List	Comments e.g. Actual Preservative or specific instructions
SV137-050-202		4/14/2020	1020	1SS00028	NA	-26.0	-2.0	1L	X	None
SV137-150-202		4/14/2020	1022	1SS00922	AVG04682	-26.0	-2.0	1L	X	None
SV137-250-202		4/14/2020	1026	1SC00471	NA	-24.5	-1.5	1L	X	None
SV137-350-202		4/14/2020	1029	1SC00182	AVG051##	-26.0	-4.5	1L	X	None
SV137-450-202		4/14/2020	1038	1SC00044	AVG04680	-24.0	-1.0	1L	X	None
SV139-025-202		4/14/2020	1202	1SC00848	NA	-25.0	-2.0	1L	X	None
SV139-050-202		4/14/2020	1205	1SS00179	NA	-25.0	-2.5	1L	X	None
SV139-050-602		4/14/2020	1205	1SC00263	NA	-26.0	-4.0	1L	X	None
SV139-150-202		4/14/2020	1209	1SC00434	NA	-26.0	-4.0	1L	X	None
SV139-250-202		4/14/2020	1212	1SC00884	AVG04813	-26.0	-3.0	1L	X	None

FedEX Tracking Number: 1028 3396 7644

Associated with Trip blank: SVTB-202-02

Shipping information: Box number 5 of 6

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____
Tier II (Results + QC Summaries) ____
Tier III (Results + QC & Calibration Summaries) ____
Tier IV (Data Validation Package) X

EDD required: **Yes**
Type: ERPIMS / EQuIS

Chain of Custody Seal: (Circle)
INTACT BROKEN ABSENT

Project Requirements: QAPP

Relinquished by: (Signature)		Date: 4/16/20	Time: 1107	Received by: (Signature)	Date: 4-20-20	Time: 1120
Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)	Date:	Time:

Cooler / Blank Temperature NA °C

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

COC #: COC-SV202-11

Requested Turnaround Time in Business Days: 10 Day-Standard

ALS Project No: R2002107

Company Name & Address (Reporting Information): EA Engineering, Science, and Technology, Inc., PBC
225 Schilling Circle Suite 400, Hunt Valley, MD
(410) 584-7000

Project Name: Kirtland AFB Bulk Fuels Facilty

Project Number: 62735DM02

ALS Contact: Kate Kaneko
1 (805) 577-2089

Project Manager / Project Chemist: Bernie Bockish (505) 234-1105 / Pam Moss (303) 590-9143

P.O. # / Billing Information: 17682

Email Address for Result Reporting
Tara Lamond: tlamond@eaest.com
Amanda Smith: asmith@eaest.com
Pam Moss: pmoss@eaest.com

Sampler (Print & Sign): Ryan Wortman

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg	Sample Volume	Analysis Method: TO-15 Project Specific List	Comments e.g. Actual Preservative or specific instructions
SV139-350-202		4/14/2020	1215	1SC00611	AVG03563	-27.0	-2.0	1L	X	None
SV139-450-202		4/14/2020	1223	1SS00949	AVG05146	-25.0	-1.0	1L	X	None
SV140-025-202		4/14/2020	1344	1SC00727	NA	-25.0	0.0	1L	X	None
SV140-050-202		4/14/2020	1347	1SS00047	NA	-27.0	-5.0	1L	X	None
SV140-150-202		4/14/2020	1351	1SS00976	NA	-26.0	-3.0	1L	X	None
SV140-250-202		4/14/2020	1355	1SC00553	NA	-26.0	-5.0	1L	X	None
SV140-350-202		4/14/2020	1359	1SC00908	NA	-27.0	-2.0	1L	X	None
SV140-450-602		4/14/2020	1410	1SC01027	NA	-24.0	-4.0	1L	X	None
SV140-450-202		4/14/2020	1410	1SC01347	NA	-25.0	-2.0	1L	X	None
SVE12-410-202		4/15/2020	1023	1SC00273	NA	-25.0	-3.0	1L	X	None

FedEX Tracking Number: 1028 3396 7644

Associated with Trip blank: SVTB-202-02

Shipping information: Box number 5 of 6

Report Tier Levels - please select
Tier I - Results (Default if not specified) ____ Tier III (Results + QC & Calibration Summaries) ____
Tier II (Results + QC Summaries) ____ Tier IV (Data Validation Package) X

EDD required: Yes
Type: ERPIMS / EQuIS

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements: QAPP

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Ryan	4/16/20	1100		4-20-20	1120
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Cooler / Blank Temperature NA °C

Air - Chain of Custody Record & Analytical Service Request

Page 1 of 1

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

COC #: COC-SV202-12

Requested Turnaround Time in Business Days: 10 Day-Standard

ALS Project No: P2002107

Company Name & Address (Reporting Information): EA Engineering, Science, and Technology, Inc., PBC
225 Schilling Circle Suite 400, Hunt Valley, MD
(410) 584-7000

Project Name: Kirtland AFB Bulk Fuels Facilty

Project Number: 62735DM02

Project Manager / Project Chemist: Devon Jercinovic (505) 715-4248 / Pam Moss (303) 590-9143

P.O. # / Billing Information: 17682

Email Address for Result Reporting:
Tara Lamond: tlamond@eaest.com
Amanda Smith: asmith@eaest.com
Pam Moss: pmoss@eaest.com

Sampler (Print & Sign): Ryan Hartman

ALS Contact: Kate Kaneko
1 (805) 577-2089

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg	Sample Volume	Analysis Method: TO-15 Project Specific List	Comments e.g. Actual Preservative or specific instructions
SV07-050-202		4/15/2020	0810	1SS00016	NA	-24.0	-5.0	1L	X	None
SV07-100-202		4/15/2020	0812	1SC01196	NA	-24.0	-1.5	1L	X	None
SV07-150-202		4/15/2020	0814	1SC00005	NA	-25.0	0.0	1L	X	None
SV14-150-202		4/15/2020	0942	1SC00332	NA	-25.0	-2.0	1L	X	None
SV14-250-202		4/15/2020	0945	1SS00848	NA	-24.0	-0.5	1L	X	None
SV14-350-202		4/15/2020	0948	1SC00601	NA	-22.0	-2.5	1L	X	None
SV14-450-202		4/15/2020	0959	1SC00388	NA	-23.5	-2.0	1L	X	None
SV14-450-602		4/15/2020	0959	1SC00191	NA	-26.5	-1.5	1L	X	None
SVTB-202-02		4/16/2020	0800	1SC00358	NA	-25.0	-25.0	1L	X	None

FedEX Tracking Number: 1028 3396 5159

Associated with Trip blank: SVTB-202-02

Shipping information: Box number 6 of 6

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____ Tier III (Results + QC & Calibration Summaries) ____
Tier II (Results + QC Summaries) ____ Tier IV (Data Validation Package) X

EDD required: Yes
Type: ERPIMS / EQuIS

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements: QAPP

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
	4/16/20	1100		4-16-20	1120
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Cooler / Blank Temperature NA °C

ALS Environmental

Sample Acceptance Check Form

Client: EA Engineering, Science, and Technology, Inc. Work order: P2002107

Project: Kirtland AFB Bulk Fuels Facility / 62735DM02

Sample(s) received on: 04/20/20 Date opened: 04/20/20 by: ADAVID

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☒	☐	☐
	Location of seal(s)? _____ Sealing Lid?	☒	☐	☐
	Were signature and date included?	☒	☐	☐
	Were seals intact?	☒	☐	☐
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2002107-001.01	1.0 L Source Silonite Canister					
P2002107-002.01	1.0 L Source Silonite Canister					
P2002107-003.01	1.0 L Source Can					
P2002107-004.01	1.0 L Source Can					
P2002107-005.01	1.0 L Source Can					
P2002107-006.01	1.0 L Source Can					
P2002107-007.01	1.0 L Source Silonite Canister					
P2002107-008.01	1.0 L Source Can					
P2002107-009.01	1.0 L Source Can					
P2002107-010.01	1.0 L Source Can					
P2002107-011.01	1.0 L Source Can					
P2002107-012.01	1.0 L Source Silonite Canister					
P2002107-013.01	1.0 L Source Can					
P2002107-014.01	1.0 L Source Silonite Canister					
P2002107-015.01	1.0 L Source Silonite Canister					

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS Environmental

Sample Acceptance Check Form

Client: EA Engineering, Science, and Technology, Inc. Work order: P2002107

Project: Kirtland AFB Bulk Fuels Facility / 62735DM02

Sample(s) received on: 04/20/20 Date opened: 04/20/20 by: ADAVID

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2002107-016.01	1.0 L Source Can					
P2002107-017.01	1.0 L Source Can					
P2002107-018.01	1.0 L Source Can					
P2002107-019.01	1.0 L Source Can					
P2002107-020.01	1.0 L Source Can					
P2002107-021.01	1.0 L Source Silonite Canister					
P2002107-022.01	1.0 L Source Can					
P2002107-023.01	1.0 L Source Can					
P2002107-024.01	1.0 L Source Can					
P2002107-025.01	1.0 L Source Silonite Canister					
P2002107-026.01	1.0 L Source Can					
P2002107-027.01	1.0 L Source Can					
P2002107-028.01	1.0 L Source Can					
P2002107-029.01	1.0 L Source Can					

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV137-050-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-001

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00028

Initial Pressure (psig): -2.96 Final Pressure (psig): 7.69

Container Dilution Factor: 1.91

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.89	1.5	0.89	0.36	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.57**	0.51	0.31	0.084	
74-87-3	Chloromethane	0.74	1.2	0.74	0.20	**U**
75-01-4	Vinyl Chloride	0.32	1.0	0.32	0.11	**U**
106-99-0	1,3-Butadiene	0.69	1.1	0.69	0.19	**U**
75-00-3	Chloroethane	0.58	0.98	0.58	0.12	**U**
64-17-5	Ethanol	**2.9**	13	2.1	0.94	**J, B**
67-64-1	Acetone	**3.2**	11	5.4	2.4	**J**
75-69-4	Trichlorofluoromethane	**0.23**	0.45	0.27	0.069	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.2	4.1	1.2	0.43	**U**
75-09-2	Methylene Chloride	0.44	0.73	0.44	0.21	**U**
76-13-1	Trichlorotrifluoroethane	**0.067**	0.34	0.11	0.047	**J**
75-15-0	Carbon Disulfide	**0.96**	1.7	0.83	0.25	**J**
75-34-3	1,1-Dichloroethane	0.39	0.65	0.39	0.092	**U**
78-93-3	2-Butanone (MEK)	**0.28**	1.8	0.52	0.18	**J**
141-78-6	Ethyl Acetate	0.86	1.5	0.86	0.37	**U**
110-54-3	n-Hexane	0.43	0.73	0.43	0.15	**U**
67-66-3	Chloroform	**0.14**	0.53	0.17	0.069	**J**
109-99-9	Tetrahydrofuran (THF)	**0.92**	0.89	0.28	0.11	
107-06-2	1,2-Dichloroethane	0.20	0.64	0.20	0.070	**U**
71-43-2	Benzene	0.25	0.79	0.25	0.12	**U**
56-23-5	Carbon Tetrachloride	0.13	0.40	0.13	0.056	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV137-050-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-001

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00028

Initial Pressure (psig): -2.96 Final Pressure (psig): 7.69

Container Dilution Factor: 1.91

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.47	1.5	0.47	0.21	**U**
75-27-4	Bromodichloromethane	0.12	0.39	0.12	0.055	**U**
79-01-6	Trichloroethene	0.15	0.48	0.15	0.064	**U**
123-91-1	1,4-Dioxane	0.23	0.72	0.23	0.084	**U**
142-82-5	n-Heptane	0.37	0.63	0.37	0.099	**U**
108-10-1	4-Methyl-2-pentanone	0.20	0.62	0.20	0.085	**U**
108-88-3	Toluene	**0.26**	0.68	0.22	0.082	**J**
591-78-6	2-Hexanone	**0.080**	0.63	0.20	0.077	**J**
124-48-1	Dibromochloromethane	0.095	0.30	0.095	0.039	**U**
106-93-4	1,2-Dibromoethane	0.11	0.34	0.11	0.039	**U**
127-18-4	Tetrachloroethene	0.12	0.37	0.12	0.049	**U**
100-41-4	Ethylbenzene	0.19	0.59	0.19	0.082	**U**
179601-23-1	m,p-Xylenes	**0.18**	1.2	0.37	0.15	**J**
75-25-2	Bromoform	0.15	0.25	0.15	0.051	**U**
100-42-5	Styrene	0.36	0.59	0.36	0.096	**U**
95-47-6	o-Xylene	0.19	0.59	0.19	0.085	**U**
108-67-8	1,3,5-Trimethylbenzene	0.17	0.51	0.17	0.075	**U**
95-63-6	1,2,4-Trimethylbenzene	**0.29**	0.52	0.17	0.072	**J**
120-82-1	1,2,4-Trichlorobenzene	0.21	0.35	0.21	0.084	**U**
91-20-3	Naphthalene	0.28	0.47	0.28	0.12	**U**
1330-20-7	Xylenes, Total	**0.18**	1.2	0.37	0.15	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV137-150-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-002

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00922

Initial Pressure (psig): -2.25 Final Pressure (psig): 6.07

Container Dilution Factor: 1.67

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.78	1.3	0.78	0.32	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.73**	0.45	0.27	0.073	
74-87-3	Chloromethane	0.65	1.1	0.65	0.17	**U**
75-01-4	Vinyl Chloride	0.28	0.88	0.28	0.093	**U**
106-99-0	1,3-Butadiene	0.60	1.0	0.60	0.17	**U**
75-00-3	Chloroethane	0.51	0.85	0.51	0.10	**U**
64-17-5	Ethanol	**1.3**	12	1.8	0.82	**J, B**
67-64-1	Acetone	4.7	9.3	4.7	2.1	**U**
75-69-4	Trichlorofluoromethane	**0.23**	0.39	0.24	0.060	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.1	3.6	1.1	0.37	**U**
75-09-2	Methylene Chloride	0.38	0.64	0.38	0.18	**U**
76-13-1	Trichlorotrifluoroethane	**0.063**	0.29	0.093	0.041	**J**
75-15-0	Carbon Disulfide	0.72	1.5	0.72	0.21	**U**
75-34-3	1,1-Dichloroethane	0.34	0.57	0.34	0.080	**U**
78-93-3	2-Butanone (MEK)	**0.20**	1.6	0.45	0.16	**J**
141-78-6	Ethyl Acetate	**0.81**	1.3	0.75	0.32	**J**
110-54-3	n-Hexane	0.38	0.64	0.38	0.13	**U**
67-66-3	Chloroform	0.15	0.46	0.15	0.061	**U**
109-99-9	Tetrahydrofuran (THF)	**0.19**	0.78	0.24	0.095	**J**
107-06-2	1,2-Dichloroethane	0.18	0.56	0.18	0.061	**U**
71-43-2	Benzene	**0.12**	0.69	0.22	0.10	**J**
56-23-5	Carbon Tetrachloride	0.11	0.35	0.11	0.049	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV137-150-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-002

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00922

Initial Pressure (psig): -2.25 Final Pressure (psig): 6.07

Container Dilution Factor: 1.67

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.41	1.3	0.41	0.18	**U**
75-27-4	Bromodichloromethane	0.11	0.34	0.11	0.048	**U**
79-01-6	Trichloroethene	**0.13**	0.42	0.13	0.056	**J**
123-91-1	1,4-Dioxane	0.20	0.63	0.20	0.073	**U**
142-82-5	n-Heptane	**0.098**	0.55	0.33	0.087	**J**
108-10-1	4-Methyl-2-pentanone	0.17	0.54	0.17	0.074	**U**
108-88-3	Toluene	**0.43**	0.60	0.19	0.072	**J**
591-78-6	2-Hexanone	0.17	0.55	0.17	0.067	**U**
124-48-1	Dibromochloromethane	0.083	0.26	0.083	0.034	**U**
106-93-4	1,2-Dibromoethane	0.092	0.29	0.092	0.034	**U**
127-18-4	Tetrachloroethene	**0.051**	0.32	0.10	0.042	**J**
100-41-4	Ethylbenzene	**0.098**	0.52	0.16	0.072	**J**
179601-23-1	m,p-Xylenes	**0.49**	1.1	0.33	0.13	**J**
75-25-2	Bromoform	0.13	0.22	0.13	0.044	**U**
100-42-5	Styrene	0.31	0.52	0.31	0.084	**U**
95-47-6	o-Xylene	**0.15**	0.52	0.16	0.074	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.16**	0.45	0.14	0.065	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.84**	0.46	0.14	0.063	
120-82-1	1,2,4-Trichlorobenzene	0.18	0.30	0.18	0.073	**U**
91-20-3	Naphthalene	0.25	0.41	0.25	0.10	**U**
1330-20-7	Xylenes, Total	**0.64**	1.1	0.33	0.13	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV137-250-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-003

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00471

Initial Pressure (psig): -2.86 Final Pressure (psig): 5.99

Container Dilution Factor: 1.75

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.47**	1.3	0.81	0.33	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.78**	0.47	0.28	0.077	
74-87-3	Chloromethane	**0.24**	1.1	0.68	0.18	**J**
75-01-4	Vinyl Chloride	0.29	0.92	0.29	0.098	**U**
106-99-0	1,3-Butadiene	0.63	1.0	0.63	0.17	**U**
75-00-3	Chloroethane	0.53	0.90	0.53	0.11	**U**
64-17-5	Ethanol	**2.5**	12	1.9	0.86	**J, B**
67-64-1	Acetone	**6.9**	9.8	5.0	2.2	**J**
75-69-4	Trichlorofluoromethane	**0.23**	0.41	0.25	0.063	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.1	3.7	1.1	0.39	**U**
75-09-2	Methylene Chloride	0.40	0.67	0.40	0.19	**U**
76-13-1	Trichlorotrifluoroethane	**0.067**	0.31	0.097	0.043	**J**
75-15-0	Carbon Disulfide	**1.0**	1.5	0.76	0.22	**J**
75-34-3	1,1-Dichloroethane	0.36	0.59	0.36	0.084	**U**
78-93-3	2-Butanone (MEK)	**1.4**	1.6	0.47	0.16	**J**
141-78-6	Ethyl Acetate	0.79	1.3	0.79	0.34	**U**
110-54-3	n-Hexane	0.40	0.67	0.40	0.14	**U**
67-66-3	Chloroform	0.15	0.48	0.15	0.064	**U**
109-99-9	Tetrahydrofuran (THF)	**11**	0.82	0.25	0.099	
107-06-2	1,2-Dichloroethane	0.18	0.58	0.18	0.064	**U**
71-43-2	Benzene	**0.12**	0.73	0.23	0.11	**J**
56-23-5	Carbon Tetrachloride	0.12	0.37	0.12	0.051	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV137-250-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-003

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00471

Initial Pressure (psig): -2.86 Final Pressure (psig): 5.99

Container Dilution Factor: 1.75

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.43	1.4	0.43	0.19	**U**
75-27-4	Bromodichloromethane	0.11	0.35	0.11	0.050	**U**
79-01-6	Trichloroethene	**0.21**	0.44	0.14	0.059	**J**
123-91-1	1,4-Dioxane	**0.11**	0.66	0.21	0.077	**J**
142-82-5	n-Heptane	0.34	0.58	0.34	0.091	**U**
108-10-1	4-Methyl-2-pentanone	0.18	0.57	0.18	0.078	**U**
108-88-3	Toluene	**0.26**	0.63	0.20	0.075	**J**
591-78-6	2-Hexanone	**0.23**	0.58	0.18	0.071	**J**
124-48-1	Dibromochloromethane	0.087	0.28	0.087	0.036	**U**
106-93-4	1,2-Dibromoethane	0.097	0.31	0.097	0.035	**U**
127-18-4	Tetrachloroethene	**0.67**	0.34	0.11	0.045	
100-41-4	Ethylbenzene	0.17	0.54	0.17	0.076	**U**
179601-23-1	m,p-Xylenes	**0.25**	1.1	0.34	0.14	**J**
75-25-2	Bromoform	0.14	0.23	0.14	0.047	**U**
100-42-5	Styrene	0.33	0.54	0.33	0.088	**U**
95-47-6	o-Xylene	**0.11**	0.54	0.17	0.078	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.080**	0.47	0.15	0.069	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.34**	0.48	0.15	0.066	**J**
120-82-1	1,2,4-Trichlorobenzene	0.19	0.32	0.19	0.077	**U**
91-20-3	Naphthalene	0.26	0.43	0.26	0.11	**U**
1330-20-7	Xylenes, Total	**0.36**	1.1	0.34	0.14	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV137-350-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-004

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00182

Initial Pressure (psig): -3.45 Final Pressure (psig): 6.06

Container Dilution Factor: 1.85

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.57**	1.4	0.86	0.35	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.75**	0.50	0.30	0.081	
74-87-3	Chloromethane	**0.21**	1.2	0.72	0.19	**J**
75-01-4	Vinyl Chloride	0.31	0.98	0.31	0.10	**U**
106-99-0	1,3-Butadiene	0.67	1.1	0.67	0.18	**U**
75-00-3	Chloroethane	0.56	0.95	0.56	0.12	**U**
64-17-5	Ethanol	**3.4**	13	2.0	0.91	**J, B**
67-64-1	Acetone	**4.8**	10	5.3	2.3	**J**
75-69-4	Trichlorofluoromethane	**0.37**	0.44	0.26	0.067	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.2	4.0	1.2	0.41	**U**
75-09-2	Methylene Chloride	0.43	0.71	0.43	0.20	**U**
76-13-1	Trichlorotrifluoroethane	**0.067**	0.33	0.10	0.046	**J**
75-15-0	Carbon Disulfide	**0.67**	1.6	0.80	0.24	**J**
75-34-3	1,1-Dichloroethane	0.38	0.63	0.38	0.089	**U**
78-93-3	2-Butanone (MEK)	**0.94**	1.7	0.50	0.17	**J**
141-78-6	Ethyl Acetate	**1.5**	1.4	0.83	0.36	
110-54-3	n-Hexane	0.42	0.71	0.42	0.14	**U**
67-66-3	Chloroform	**0.19**	0.51	0.16	0.067	**J**
109-99-9	Tetrahydrofuran (THF)	**2.8**	0.86	0.27	0.11	
107-06-2	1,2-Dichloroethane	0.19	0.62	0.19	0.067	**U**
71-43-2	Benzene	**0.21**	0.77	0.25	0.11	**J**
56-23-5	Carbon Tetrachloride	**0.13**	0.39	0.13	0.054	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV137-350-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-004

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00182

Initial Pressure (psig): -3.45 Final Pressure (psig): 6.06

Container Dilution Factor: 1.85

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.46	1.5	0.46	0.20	**U**
75-27-4	Bromodichloromethane	0.12	0.37	0.12	0.053	**U**
79-01-6	Trichloroethene	**0.42**	0.46	0.15	0.062	**J**
123-91-1	1,4-Dioxane	0.22	0.69	0.22	0.081	**U**
142-82-5	n-Heptane	0.36	0.61	0.36	0.096	**U**
108-10-1	4-Methyl-2-pentanone	0.19	0.60	0.19	0.082	**U**
108-88-3	Toluene	**0.37**	0.66	0.21	0.080	**J**
591-78-6	2-Hexanone	**0.19**	0.61	0.19	0.075	**J**
124-48-1	Dibromochloromethane	0.092	0.29	0.092	0.038	**U**
106-93-4	1,2-Dibromoethane	0.10	0.33	0.10	0.037	**U**
127-18-4	Tetrachloroethene	**0.57**	0.35	0.12	0.047	
100-41-4	Ethylbenzene	0.18	0.58	0.18	0.080	**U**
179601-23-1	m,p-Xylenes	**0.20**	1.2	0.36	0.15	**J**
75-25-2	Bromoform	0.14	0.24	0.14	0.049	**U**
100-42-5	Styrene	0.35	0.58	0.35	0.093	**U**
95-47-6	o-Xylene	0.18	0.58	0.18	0.082	**U**
108-67-8	1,3,5-Trimethylbenzene	0.16	0.50	0.16	0.072	**U**
95-63-6	1,2,4-Trimethylbenzene	**0.30**	0.51	0.16	0.070	**J**
120-82-1	1,2,4-Trichlorobenzene	0.20	0.34	0.20	0.081	**U**
91-20-3	Naphthalene	0.27	0.46	0.27	0.11	**U**
1330-20-7	Xylenes, Total	**0.20**	1.2	0.36	0.15	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV137-450-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-005

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0030 Liter(s)
Test Notes:
Container ID: 1SC00044

Initial Pressure (psig): -2.45 Final Pressure (psig): 7.05

Container Dilution Factor: 1.78

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**110**	180	110	45	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	38	64	38	10	**U**
74-87-3	Chloromethane	92	150	92	25	**U**
75-01-4	Vinyl Chloride	39	130	39	13	**U**
106-99-0	1,3-Butadiene	86	140	86	24	**U**
75-00-3	Chloroethane	72	120	72	15	**U**
64-17-5	Ethanol	260	1,600	260	120	**U**
67-64-1	Acetone	670	1,300	670	300	**U**
75-69-4	Trichlorofluoromethane	34	56	34	8.6	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	**81**	510	150	53	**J**
75-09-2	Methylene Chloride	55	91	55	26	**U**
76-13-1	Trichlorotrifluoroethane	13	42	13	5.9	**U**
75-15-0	Carbon Disulfide	**32**	210	100	30	**J**
75-34-3	1,1-Dichloroethane	48	81	48	11	**U**
78-93-3	2-Butanone (MEK)	64	220	64	22	**U**
141-78-6	Ethyl Acetate	110	180	110	46	**U**
110-54-3	n-Hexane	**300**	91	54	19	
67-66-3	Chloroform	21	66	21	8.6	**U**
109-99-9	Tetrahydrofuran (THF)	**24**	110	34	13	**J**
107-06-2	1,2-Dichloroethane	**12**	79	25	8.7	**J**
71-43-2	Benzene	**3,400**	98	32	14	
56-23-5	Carbon Tetrachloride	16	50	16	7.0	**U**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV137-450-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-005

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0030 Liter(s)
Test Notes:
Container ID: 1SC00044

Initial Pressure (psig): -2.45 Final Pressure (psig): 7.05

Container Dilution Factor: 1.78

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**1,400**	190	59	26	
75-27-4	Bromodichloromethane	15	48	15	6.8	**U**
79-01-6	Trichloroethene	19	60	19	8.0	**U**
123-91-1	1,4-Dioxane	28	89	28	10	**U**
142-82-5	n-Heptane	**330**	78	46	12	
108-10-1	4-Methyl-2-pentanone	25	77	25	11	**U**
108-88-3	Toluene	**8,000**	85	27	10	
591-78-6	2-Hexanone	25	78	25	9.6	**U**
124-48-1	Dibromochloromethane	12	38	12	4.9	**U**
106-93-4	1,2-Dibromoethane	**59**	42	13	4.8	
127-18-4	Tetrachloroethene	15	46	15	6.0	**U**
100-41-4	Ethylbenzene	**670**	74	23	10	
179601-23-1	m,p-Xylenes	**16,000**	150	46	19	
75-25-2	Bromoform	18	31	18	6.3	**U**
100-42-5	Styrene	45	74	45	12	**U**
95-47-6	o-Xylene	**8,100**	74	23	11	
108-67-8	1,3,5-Trimethylbenzene	**780**	64	21	9.3	
95-63-6	1,2,4-Trimethylbenzene	**820**	65	21	8.9	
120-82-1	1,2,4-Trichlorobenzene	26	43	26	10	**U**
91-20-3	Naphthalene	35	59	35	15	**U**
1330-20-7	Xylenes, Total	**24,000**	150	46	19	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV139-025-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-006

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00848

Initial Pressure (psig): -3.10 Final Pressure (psig): 6.09

Container Dilution Factor: 1.79

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**1.2**	1.4	0.83	0.34	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.48**	0.48	0.29	0.079	
74-87-3	Chloromethane	**0.52**	1.1	0.69	0.19	**J**
75-01-4	Vinyl Chloride	0.30	0.95	0.30	0.10	**U**
106-99-0	1,3-Butadiene	0.65	1.1	0.65	0.18	**U**
75-00-3	Chloroethane	0.54	0.92	0.54	0.11	**U**
64-17-5	Ethanol	**16**	12	2.0	0.88	**B**
67-64-1	Acetone	**17**	10	5.1	2.3	
75-69-4	Trichlorofluoromethane	**0.39**	0.42	0.25	0.065	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.6**	3.8	1.1	0.40	**J**
75-09-2	Methylene Chloride	0.41	0.68	0.41	0.19	**U**
76-13-1	Trichlorotrifluoroethane	**2.7**	0.32	0.099	0.044	
75-15-0	Carbon Disulfide	**2.1**	1.6	0.78	0.23	
75-34-3	1,1-Dichloroethane	0.37	0.61	0.37	0.086	**U**
78-93-3	2-Butanone (MEK)	**1.9**	1.7	0.49	0.17	
141-78-6	Ethyl Acetate	**0.64**	1.4	0.81	0.35	**J**
110-54-3	n-Hexane	0.41	0.69	0.41	0.14	**U**
67-66-3	Chloroform	**0.37**	0.50	0.16	0.065	**J**
109-99-9	Tetrahydrofuran (THF)	**0.27**	0.83	0.26	0.10	**J**
107-06-2	1,2-Dichloroethane	0.19	0.60	0.19	0.065	**U**
71-43-2	Benzene	0.24	0.74	0.24	0.11	**U**
56-23-5	Carbon Tetrachloride	**1.6**	0.38	0.12	0.053	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV139-025-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-006

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00848

Initial Pressure (psig): -3.10 Final Pressure (psig): 6.09

Container Dilution Factor: 1.79

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.44	1.4	0.44	0.20	**U**
75-27-4	Bromodichloromethane	0.11	0.36	0.11	0.051	**U**
79-01-6	Trichloroethene	**0.090**	0.45	0.14	0.060	**J**
123-91-1	1,4-Dioxane	0.21	0.67	0.21	0.078	**U**
142-82-5	n-Heptane	0.35	0.59	0.35	0.093	**U**
108-10-1	4-Methyl-2-pentanone	0.19	0.58	0.19	0.080	**U**
108-88-3	Toluene	**0.47**	0.64	0.20	0.077	**J**
591-78-6	2-Hexanone	**0.24**	0.59	0.19	0.072	**J**
124-48-1	Dibromochloromethane	0.089	0.28	0.089	0.037	**U**
106-93-4	1,2-Dibromoethane	0.099	0.31	0.099	0.036	**U**
127-18-4	Tetrachloroethene	**0.14**	0.34	0.11	0.046	**J**
100-41-4	Ethylbenzene	**0.094**	0.56	0.18	0.077	**J**
179601-23-1	m,p-Xylenes	**1.3**	1.1	0.35	0.14	
75-25-2	Bromoform	0.14	0.23	0.14	0.048	**U**
100-42-5	Styrene	0.34	0.56	0.34	0.090	**U**
95-47-6	o-Xylene	**0.76**	0.56	0.18	0.079	
108-67-8	1,3,5-Trimethylbenzene	**0.33**	0.48	0.15	0.070	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.94**	0.49	0.15	0.067	
120-82-1	1,2,4-Trichlorobenzene	0.19	0.33	0.19	0.078	**U**
91-20-3	Naphthalene	**0.17**	0.44	0.26	0.11	**J**
1330-20-7	Xylenes, Total	**2.0**	1.1	0.35	0.14	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV139-050-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-007

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00179

Initial Pressure (psig): -3.41 Final Pressure (psig): 7.08

Container Dilution Factor: 1.93

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.53**	1.5	0.90	0.36	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.51**	0.52	0.31	0.085	**J**
74-87-3	Chloromethane	0.75	1.2	0.75	0.20	**U**
75-01-4	Vinyl Chloride	0.32	1.0	0.32	0.11	**U**
106-99-0	1,3-Butadiene	0.70	1.2	0.70	0.19	**U**
75-00-3	Chloroethane	0.59	0.99	0.59	0.12	**U**
64-17-5	Ethanol	**4.4**	13	2.1	0.95	**J, B**
67-64-1	Acetone	**34**	11	5.5	2.4	
75-69-4	Trichlorofluoromethane	**0.55**	0.46	0.27	0.070	
67-63-0	2-Propanol (Isopropyl Alcohol)	1.2	4.1	1.2	0.43	**U**
75-09-2	Methylene Chloride	0.44	0.74	0.44	0.21	**U**
76-13-1	Trichlorotrifluoroethane	**4.4**	0.34	0.11	0.048	
75-15-0	Carbon Disulfide	**13**	1.7	0.84	0.25	
75-34-3	1,1-Dichloroethane	0.39	0.66	0.39	0.093	**U**
78-93-3	2-Butanone (MEK)	**2.7**	1.8	0.52	0.18	
141-78-6	Ethyl Acetate	0.87	1.5	0.87	0.38	**U**
110-54-3	n-Hexane	0.44	0.74	0.44	0.15	**U**
67-66-3	Chloroform	**0.82**	0.53	0.17	0.070	
109-99-9	Tetrahydrofuran (THF)	**3.9**	0.90	0.28	0.11	
107-06-2	1,2-Dichloroethane	0.20	0.64	0.20	0.070	**U**
71-43-2	Benzene	**0.28**	0.80	0.26	0.12	**J**
56-23-5	Carbon Tetrachloride	**2.8**	0.41	0.13	0.057	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV139-050-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-007

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00179

Initial Pressure (psig): -3.41 Final Pressure (psig): 7.08

Container Dilution Factor: 1.93

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.48	1.5	0.48	0.21	**U**
75-27-4	Bromodichloromethane	0.12	0.39	0.12	0.055	**U**
79-01-6	Trichloroethene	0.15	0.49	0.15	0.065	**U**
123-91-1	1,4-Dioxane	**0.23**	0.72	0.23	0.084	**J**
142-82-5	n-Heptane	**0.13**	0.64	0.38	0.10	**J**
108-10-1	4-Methyl-2-pentanone	0.20	0.62	0.20	0.086	**U**
108-88-3	Toluene	**0.67**	0.69	0.22	0.083	**J**
591-78-6	2-Hexanone	**0.45**	0.64	0.20	0.078	**J**
124-48-1	Dibromochloromethane	0.096	0.31	0.096	0.040	**U**
106-93-4	1,2-Dibromoethane	0.11	0.34	0.11	0.039	**U**
127-18-4	Tetrachloroethene	**0.064**	0.37	0.12	0.049	**J**
100-41-4	Ethylbenzene	**0.14**	0.60	0.19	0.083	**J**
179601-23-1	m,p-Xylenes	**0.89**	1.2	0.38	0.16	**J**
75-25-2	Bromoform	0.15	0.25	0.15	0.051	**U**
100-42-5	Styrene	0.36	0.60	0.36	0.097	**U**
95-47-6	o-Xylene	**0.46**	0.60	0.19	0.086	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.20**	0.52	0.17	0.076	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.69**	0.53	0.17	0.073	
120-82-1	1,2,4-Trichlorobenzene	0.21	0.35	0.21	0.085	**U**
91-20-3	Naphthalene	**0.16**	0.48	0.29	0.12	**J**
1330-20-7	Xylenes, Total	**1.4**	1.2	0.38	0.16	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV139-050-602** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-008

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00263

Initial Pressure (psig): -3.19 Final Pressure (psig): 6.11
Initial Pressure 2 (psig): 0.10 Final Pressure 2 (psig): 7.75

Container Dilution Factor: 2.74

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.54**	2.1	1.3	0.52	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.49**	0.73	0.44	0.12	**J**
74-87-3	Chloromethane	1.1	1.8	1.1	0.29	**U**
75-01-4	Vinyl Chloride	0.46	1.4	0.46	0.15	**U**
106-99-0	1,3-Butadiene	0.99	1.6	0.99	0.27	**U**
75-00-3	Chloroethane	0.83	1.4	0.83	0.17	**U**
64-17-5	Ethanol	**8.6**	19	3.0	1.3	**J, B**
67-64-1	Acetone	**9.0**	15	7.8	3.5	**J**
75-69-4	Trichlorofluoromethane	**0.54**	0.65	0.39	0.099	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.8	5.9	1.8	0.61	**U**
75-09-2	Methylene Chloride	0.63	1.0	0.63	0.30	**U**
76-13-1	Trichlorotrifluoroethane	**4.2**	0.48	0.15	0.068	
75-15-0	Carbon Disulfide	**3.4**	2.4	1.2	0.35	
75-34-3	1,1-Dichloroethane	0.56	0.93	0.56	0.13	**U**
78-93-3	2-Butanone (MEK)	**1.3**	2.6	0.74	0.26	**J**
141-78-6	Ethyl Acetate	1.2	2.1	1.2	0.53	**U**
110-54-3	n-Hexane	0.62	1.0	0.62	0.21	**U**
67-66-3	Chloroform	**0.80**	0.76	0.24	0.10	
109-99-9	Tetrahydrofuran (THF)	**4.2**	1.3	0.40	0.16	
107-06-2	1,2-Dichloroethane	0.29	0.91	0.29	0.10	**U**
71-43-2	Benzene	0.36	1.1	0.36	0.17	**U**
56-23-5	Carbon Tetrachloride	**2.6**	0.58	0.19	0.081	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV139-050-602** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-008

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00263

Initial Pressure (psig): -3.19 Final Pressure (psig): 6.11
Initial Pressure 2 (psig): 0.10 Final Pressure 2 (psig): 7.75

Container Dilution Factor: 2.74

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.68	2.2	0.68	0.30	**U**
75-27-4	Bromodichloromethane	0.17	0.55	0.17	0.079	**U**
79-01-6	Trichloroethene	0.22	0.69	0.22	0.092	**U**
123-91-1	1,4-Dioxane	**0.18**	1.0	0.32	0.12	**J**
142-82-5	n-Heptane	**0.16**	0.90	0.54	0.14	**J**
108-10-1	4-Methyl-2-pentanone	0.28	0.89	0.28	0.12	**U**
108-88-3	Toluene	**1.0**	0.98	0.31	0.12	
591-78-6	2-Hexanone	**0.19**	0.90	0.28	0.11	**J**
124-48-1	Dibromochloromethane	0.14	0.43	0.14	0.056	**U**
106-93-4	1,2-Dibromoethane	0.15	0.48	0.15	0.055	**U**
127-18-4	Tetrachloroethene	**0.14**	0.53	0.17	0.070	**J**
100-41-4	Ethylbenzene	**0.23**	0.85	0.27	0.12	**J**
179601-23-1	m,p-Xylenes	**3.0**	1.7	0.54	0.22	
75-25-2	Bromoform	0.21	0.36	0.21	0.073	**U**
100-42-5	Styrene	0.52	0.85	0.52	0.14	**U**
95-47-6	o-Xylene	**1.6**	0.85	0.27	0.12	
108-67-8	1,3,5-Trimethylbenzene	**0.76**	0.74	0.24	0.11	
95-63-6	1,2,4-Trimethylbenzene	**2.4**	0.75	0.24	0.10	
120-82-1	1,2,4-Trichlorobenzene	0.30	0.50	0.30	0.12	**U**
91-20-3	Naphthalene	0.41	0.68	0.41	0.17	**U**
1330-20-7	Xylenes, Total	**4.6**	1.7	0.54	0.22	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV139-150-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-009

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00434

Initial Pressure (psig): -3.60 Final Pressure (psig): 6.12

Container Dilution Factor: 1.88

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.87	1.4	0.87	0.36	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.81**	0.50	0.30	0.083	
74-87-3	Chloromethane	**0.21**	1.2	0.73	0.20	**J**
75-01-4	Vinyl Chloride	0.31	0.99	0.31	0.10	**U**
106-99-0	1,3-Butadiene	0.68	1.1	0.68	0.19	**U**
75-00-3	Chloroethane	0.57	0.96	0.57	0.12	**U**
64-17-5	Ethanol	**2.7**	13	2.1	0.92	**J, B**
67-64-1	Acetone	5.3	10	5.3	2.4	**U**
75-69-4	Trichlorofluoromethane	**7.0**	0.44	0.27	0.068	
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.45**	4.0	1.2	0.42	**J**
75-09-2	Methylene Chloride	0.43	0.72	0.43	0.20	**U**
76-13-1	Trichlorotrifluoroethane	**53**	3.3	1.0	0.47	**D**
75-15-0	Carbon Disulfide	**27**	1.7	0.82	0.24	
75-34-3	1,1-Dichloroethane	0.38	0.64	0.38	0.091	**U**
78-93-3	2-Butanone (MEK)	**1.7**	1.8	0.51	0.18	**J**
141-78-6	Ethyl Acetate	**0.92**	1.4	0.85	0.37	**J**
110-54-3	n-Hexane	0.43	0.72	0.43	0.15	**U**
67-66-3	Chloroform	**39**	0.52	0.16	0.068	
109-99-9	Tetrahydrofuran (THF)	**9.2**	0.88	0.27	0.11	
107-06-2	1,2-Dichloroethane	0.20	0.63	0.20	0.069	**U**
71-43-2	Benzene	**0.17**	0.78	0.25	0.11	**J**
56-23-5	Carbon Tetrachloride	**35**	0.40	0.13	0.055	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV139-150-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-009

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00434

Initial Pressure (psig): -3.60 Final Pressure (psig): 6.12

Container Dilution Factor: 1.88

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**0.22**		1.5	0.46	0.20	**J**
75-27-4	Bromodichloromethane	**0.13**		0.38	0.12	0.054	**J**
79-01-6	Trichloroethene	**0.063**		0.47	0.15	0.063	**J**
123-91-1	1,4-Dioxane		0.22	0.70	0.22	0.082	**U**
142-82-5	n-Heptane		0.37	0.62	0.37	0.098	**U**
108-10-1	4-Methyl-2-pentanone		0.20	0.61	0.20	0.084	**U**
108-88-3	Toluene	**0.45**		0.67	0.21	0.081	**J**
591-78-6	2-Hexanone	**0.21**		0.62	0.20	0.076	**J**
124-48-1	Dibromochloromethane		0.094	0.30	0.094	0.039	**U**
106-93-4	1,2-Dibromoethane		0.10	0.33	0.10	0.038	**U**
127-18-4	Tetrachloroethene	**0.28**		0.36	0.12	0.048	**J**
100-41-4	Ethylbenzene	**0.081**		0.58	0.18	0.081	**J**
179601-23-1	m,p-Xylenes	**0.94**		1.2	0.37	0.15	**J**
75-25-2	Bromoform		0.15	0.25	0.15	0.050	**U**
100-42-5	Styrene		0.35	0.59	0.35	0.095	**U**
95-47-6	o-Xylene	**0.48**		0.58	0.18	0.083	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.23**		0.51	0.16	0.074	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.96**		0.52	0.16	0.071	
120-82-1	1,2,4-Trichlorobenzene		0.20	0.34	0.20	0.082	**U**
91-20-3	Naphthalene		0.28	0.47	0.28	0.12	**U**
1330-20-7	Xylenes, Total	**1.4**		1.2	0.37	0.15	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV139-250-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-010

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan/Wida Ang Date Analyzed: 5/5/20 & 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00884

Initial Pressure (psig): -3.05 Final Pressure (psig): 5.32

Container Dilution Factor: 1.72

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**3.7**	1.3	0.80	0.32	
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.88**	0.46	0.28	0.076	
74-87-3	Chloromethane	**0.32**	1.1	0.67	0.18	**J**
75-01-4	Vinyl Chloride	0.29	0.91	0.29	0.096	**U**
106-99-0	1,3-Butadiene	0.62	1.0	0.62	0.17	**U**
75-00-3	Chloroethane	**0.20**	0.88	0.52	0.11	**J**
64-17-5	Ethanol	**9.3**	12	1.9	0.84	**J, B**
67-64-1	Acetone	4.9	9.6	4.9	2.2	**U**
75-69-4	Trichlorofluoromethane	**11**	0.41	0.24	0.062	
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.3**	3.7	1.1	0.39	**J**
75-09-2	Methylene Chloride	0.40	0.66	0.40	0.19	**U**
76-13-1	Trichlorotrifluoroethane	**66**	3.0	0.95	0.43	**D**
75-15-0	Carbon Disulfide	**4.5**	1.5	0.75	0.22	
75-34-3	1,1-Dichloroethane	0.35	0.58	0.35	0.083	**U**
78-93-3	2-Butanone (MEK)	**1.7**	1.6	0.47	0.16	
141-78-6	Ethyl Acetate	**12**	1.3	0.78	0.33	
110-54-3	n-Hexane	**0.61**	0.66	0.39	0.13	**J**
67-66-3	Chloroform	**86**	0.48	0.15	0.063	
109-99-9	Tetrahydrofuran (THF)	**7.1**	0.80	0.25	0.098	
107-06-2	1,2-Dichloroethane	**0.24**	0.57	0.18	0.063	**J**
71-43-2	Benzene	**37**	0.71	0.23	0.10	
56-23-5	Carbon Tetrachloride	**37**	0.36	0.12	0.051	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV139-250-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-010

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan/Wida Ang Date Analyzed: 5/5/20 & 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00884

Initial Pressure (psig): -3.05 Final Pressure (psig): 5.32

Container Dilution Factor: 1.72

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**7.8**	1.4	0.42	0.19	
75-27-4	Bromodichloromethane	**0.28**	0.35	0.11	0.049	**J**
79-01-6	Trichloroethene	**1.4**	0.43	0.14	0.058	
123-91-1	1,4-Dioxane	0.20	0.64	0.20	0.075	**U**
142-82-5	n-Heptane	0.34	0.57	0.34	0.089	**U**
108-10-1	4-Methyl-2-pentanone	0.18	0.56	0.18	0.077	**U**
108-88-3	Toluene	**27**	0.62	0.19	0.074	
591-78-6	2-Hexanone	**0.17**	0.57	0.18	0.069	**J**
124-48-1	Dibromochloromethane	0.086	0.27	0.086	0.035	**U**
106-93-4	1,2-Dibromoethane	0.095	0.30	0.095	0.035	**U**
127-18-4	Tetrachloroethene	**0.45**	0.33	0.11	0.044	
100-41-4	Ethylbenzene	**0.26**	0.53	0.17	0.074	**J**
179601-23-1	m,p-Xylenes	**1.1**	1.1	0.34	0.14	
75-25-2	Bromoform	0.13	0.22	0.13	0.046	**U**
100-42-5	Styrene	0.32	0.54	0.32	0.087	**U**
95-47-6	o-Xylene	**0.66**	0.53	0.17	0.076	
108-67-8	1,3,5-Trimethylbenzene	**0.15**	0.46	0.15	0.067	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.45**	0.47	0.15	0.065	**J**
120-82-1	1,2,4-Trichlorobenzene	0.19	0.31	0.19	0.075	**U**
91-20-3	Naphthalene	0.25	0.43	0.25	0.11	**U**
1330-20-7	Xylenes, Total	**1.8**	1.1	0.34	0.14	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV139-350-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-011

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan/Wida Ang Date Analyzed: 5/5/20 & 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00611

Initial Pressure (psig): -2.43 Final Pressure (psig): 6.50

Container Dilution Factor: 1.73

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**1.0**	1.3	0.80	0.33	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.58**	0.46	0.28	0.076	
74-87-3	Chloromethane	0.67	1.1	0.67	0.18	**U**
75-01-4	Vinyl Chloride	0.29	0.91	0.29	0.096	**U**
106-99-0	1,3-Butadiene	0.63	1.0	0.63	0.17	**U**
75-00-3	Chloroethane	**0.15**	0.89	0.52	0.11	**J**
64-17-5	Ethanol	**1.9**	12	1.9	0.85	**J, B**
67-64-1	Acetone	4.9	9.7	4.9	2.2	**U**
75-69-4	Trichlorofluoromethane	**11**	0.41	0.25	0.062	
67-63-0	2-Propanol (Isopropyl Alcohol)	1.1	3.7	1.1	0.39	**U**
75-09-2	Methylene Chloride	0.40	0.66	0.40	0.19	**U**
76-13-1	Trichlorotrifluoroethane	**44**	3.0	0.96	0.43	**D**
75-15-0	Carbon Disulfide	**0.97**	1.5	0.75	0.22	**J**
75-34-3	1,1-Dichloroethane	0.35	0.59	0.35	0.083	**U**
78-93-3	2-Butanone (MEK)	**0.94**	1.6	0.47	0.16	**J**
141-78-6	Ethyl Acetate	0.78	1.3	0.78	0.34	**U**
110-54-3	n-Hexane	**0.22**	0.66	0.39	0.14	**J**
67-66-3	Chloroform	**99**	4.8	1.5	0.63	**D**
109-99-9	Tetrahydrofuran (THF)	**2.7**	0.81	0.25	0.098	
107-06-2	1,2-Dichloroethane	0.18	0.58	0.18	0.063	**U**
71-43-2	Benzene	**11**	0.72	0.23	0.10	
56-23-5	Carbon Tetrachloride	**21**	0.36	0.12	0.051	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV139-350-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-011

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan/Wida Ang Date Analyzed: 5/5/20 & 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00611

Initial Pressure (psig): -2.43 Final Pressure (psig): 6.50

Container Dilution Factor: 1.73

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**2.4**		1.4	0.43	0.19	
75-27-4	Bromodichloromethane	**1.8**		0.35	0.11	0.050	
79-01-6	Trichloroethene	**0.50**		0.43	0.14	0.058	
123-91-1	1,4-Dioxane		0.20	0.65	0.20	0.076	**U**
142-82-5	n-Heptane	**0.095**		0.57	0.34	0.090	**J**
108-10-1	4-Methyl-2-pentanone		0.18	0.56	0.18	0.077	**U**
108-88-3	Toluene	**7.1**		0.62	0.20	0.075	
591-78-6	2-Hexanone	**0.21**		0.57	0.18	0.070	**J**
124-48-1	Dibromochloromethane		0.086	0.27	0.086	0.036	**U**
106-93-4	1,2-Dibromoethane		0.096	0.30	0.096	0.035	**U**
127-18-4	Tetrachloroethene	**0.37**		0.33	0.11	0.044	
100-41-4	Ethylbenzene		0.17	0.54	0.17	0.075	**U**
179601-23-1	m,p-Xylenes	**0.59**		1.1	0.34	0.14	**J**
75-25-2	Bromoform		0.13	0.23	0.13	0.046	**U**
100-42-5	Styrene		0.33	0.54	0.33	0.087	**U**
95-47-6	o-Xylene	**0.37**		0.54	0.17	0.077	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.14**		0.47	0.15	0.068	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.40**		0.48	0.15	0.065	**J**
120-82-1	1,2,4-Trichlorobenzene		0.19	0.31	0.19	0.076	**U**
91-20-3	Naphthalene		0.26	0.43	0.26	0.11	**U**
1330-20-7	Xylenes, Total	**0.95**		1.1	0.34	0.14	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV139-450-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-012

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00949

Initial Pressure (psig): -2.15 Final Pressure (psig): 6.39

Container Dilution Factor: 1.68

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**3.2**	1.3	0.78	0.32	
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.30**	0.45	0.27	0.074	**J**
74-87-3	Chloromethane	**22**	1.1	0.65	0.17	
75-01-4	Vinyl Chloride	**2.6**	0.89	0.28	0.094	
106-99-0	1,3-Butadiene	**0.30**	1.0	0.61	0.17	**J**
75-00-3	Chloroethane	**3.2**	0.86	0.51	0.11	
64-17-5	Ethanol	**1.0**	12	1.9	0.83	**J, B**
67-64-1	Acetone	**2.2**	9.4	4.8	2.1	**J**
75-69-4	Trichlorofluoromethane	**1.3**	0.40	0.24	0.061	
67-63-0	2-Propanol (Isopropyl Alcohol)	1.1	3.6	1.1	0.38	**U**
75-09-2	Methylene Chloride	0.39	0.64	0.39	0.18	**U**
76-13-1	Trichlorotrifluoroethane	**10**	0.30	0.093	0.042	
75-15-0	Carbon Disulfide	**21**	1.5	0.73	0.22	
75-34-3	1,1-Dichloroethane	**0.17**	0.57	0.34	0.081	**J**
78-93-3	2-Butanone (MEK)	**0.37**	1.6	0.46	0.16	**J**
141-78-6	Ethyl Acetate	**0.40**	1.3	0.76	0.33	**J**
110-54-3	n-Hexane	**0.28**	0.64	0.38	0.13	**J**
67-66-3	Chloroform	**11**	0.46	0.15	0.061	
109-99-9	Tetrahydrofuran (THF)	**11**	0.78	0.24	0.095	
107-06-2	1,2-Dichloroethane	**1.0**	0.56	0.18	0.061	
71-43-2	Benzene	**0.69**	0.70	0.22	0.10	**J**
56-23-5	Carbon Tetrachloride	**19**	0.35	0.11	0.049	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV139-450-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-012

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00949

Initial Pressure (psig): -2.15 Final Pressure (psig): 6.39

Container Dilution Factor: 1.68

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.42	1.3	0.42	0.18	**U**
75-27-4	Bromodichloromethane	**0.60**	0.34	0.11	0.048	
79-01-6	Trichloroethene	**1.7**	0.42	0.13	0.056	
123-91-1	1,4-Dioxane	**0.17**	0.63	0.20	0.073	**J**
142-82-5	n-Heptane	**0.33**	0.55	0.33	0.087	**J**
108-10-1	4-Methyl-2-pentanone	**0.14**	0.54	0.17	0.075	**J**
108-88-3	Toluene	**1.2**	0.60	0.19	0.072	
591-78-6	2-Hexanone	0.17	0.55	0.17	0.068	**U**
124-48-1	Dibromochloromethane	**0.045**	0.27	0.084	0.035	**J**
106-93-4	1,2-Dibromoethane	0.093	0.30	0.093	0.034	**U**
127-18-4	Tetrachloroethene	**0.53**	0.32	0.11	0.043	
100-41-4	Ethylbenzene	**0.93**	0.52	0.16	0.073	
179601-23-1	m,p-Xylenes	**4.0**	1.1	0.33	0.14	
75-25-2	Bromoform	0.13	0.22	0.13	0.045	**U**
100-42-5	Styrene	0.32	0.52	0.32	0.085	**U**
95-47-6	o-Xylene	**1.2**	0.52	0.16	0.074	
108-67-8	1,3,5-Trimethylbenzene	**0.40**	0.45	0.15	0.066	**J**
95-63-6	1,2,4-Trimethylbenzene	**1.4**	0.46	0.15	0.063	
120-82-1	1,2,4-Trichlorobenzene	0.18	0.31	0.18	0.074	**U**
91-20-3	Naphthalene	**0.17**	0.42	0.25	0.10	**J**
1330-20-7	Xylenes, Total	**5.2**	1.1	0.33	0.14	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV140-025-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-013

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00727

Initial Pressure (psig): -2.18 Final Pressure (psig): 8.41

Container Dilution Factor: 1.85

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.80**	1.4	0.86	0.35	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.50**	0.50	0.30	0.081	
74-87-3	Chloromethane	**0.24**	1.2	0.72	0.19	**J**
75-01-4	Vinyl Chloride	0.31	0.98	0.31	0.10	**U**
106-99-0	1,3-Butadiene	0.67	1.1	0.67	0.18	**U**
75-00-3	Chloroethane	0.56	0.95	0.56	0.12	**U**
64-17-5	Ethanol	**8.3**	13	2.0	0.91	**J, B**
67-64-1	Acetone	**11**	10	5.3	2.3	
75-69-4	Trichlorofluoromethane	**0.21**	0.44	0.26	0.067	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.3**	4.0	1.2	0.41	**J**
75-09-2	Methylene Chloride	**0.42**	0.71	0.43	0.20	**J**
76-13-1	Trichlorotrifluoroethane	**0.083**	0.33	0.10	0.046	**J**
75-15-0	Carbon Disulfide	**2.1**	1.6	0.80	0.24	
75-34-3	1,1-Dichloroethane	0.38	0.63	0.38	0.089	**U**
78-93-3	2-Butanone (MEK)	**1.6**	1.7	0.50	0.17	**J**
141-78-6	Ethyl Acetate	**2.5**	1.4	0.83	0.36	
110-54-3	n-Hexane	**0.71**	0.71	0.42	0.14	
67-66-3	Chloroform	**0.40**	0.51	0.16	0.067	**J**
109-99-9	Tetrahydrofuran (THF)	**0.83**	0.86	0.27	0.11	**J**
107-06-2	1,2-Dichloroethane	0.19	0.62	0.19	0.067	**U**
71-43-2	Benzene	**0.18**	0.77	0.25	0.11	**J**
56-23-5	Carbon Tetrachloride	**0.53**	0.39	0.13	0.054	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV140-025-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-013

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00727

Initial Pressure (psig): -2.18 Final Pressure (psig): 8.41

Container Dilution Factor: 1.85

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**0.93**	1.5	0.46	0.20	**J**
75-27-4	Bromodichloromethane	0.12	0.37	0.12	0.053	**U**
79-01-6	Trichloroethene	0.15	0.46	0.15	0.062	**U**
123-91-1	1,4-Dioxane	0.22	0.69	0.22	0.081	**U**
142-82-5	n-Heptane	0.36	0.61	0.36	0.096	**U**
108-10-1	4-Methyl-2-pentanone	0.19	0.60	0.19	0.082	**U**
108-88-3	Toluene	**1.7**	0.66	0.21	0.080	
591-78-6	2-Hexanone	**0.23**	0.61	0.19	0.075	**J**
124-48-1	Dibromochloromethane	0.092	0.29	0.092	0.038	**U**
106-93-4	1,2-Dibromoethane	0.10	0.33	0.10	0.037	**U**
127-18-4	Tetrachloroethene	**0.086**	0.35	0.12	0.047	**J**
100-41-4	Ethylbenzene	**0.086**	0.58	0.18	0.080	**J**
179601-23-1	m,p-Xylenes	**0.36**	1.2	0.36	0.15	**J**
75-25-2	Bromoform	0.14	0.24	0.14	0.049	**U**
100-42-5	Styrene	0.35	0.58	0.35	0.093	**U**
95-47-6	o-Xylene	**0.12**	0.58	0.18	0.082	**J**
108-67-8	1,3,5-Trimethylbenzene	0.16	0.50	0.16	0.072	**U**
95-63-6	1,2,4-Trimethylbenzene	0.16	0.51	0.16	0.070	**U**
120-82-1	1,2,4-Trichlorobenzene	0.20	0.34	0.20	0.081	**U**
91-20-3	Naphthalene	0.27	0.46	0.27	0.11	**U**
1330-20-7	Xylenes, Total	**0.47**	1.2	0.36	0.15	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV140-050-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-014

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00047

Initial Pressure (psig): -4.27 Final Pressure (psig): 7.77

Container Dilution Factor: 2.15

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	1.0	1.7	1.0	0.41	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.48**	0.58	0.35	0.095	**J**
74-87-3	Chloromethane	0.83	1.4	0.83	0.22	**U**
75-01-4	Vinyl Chloride	0.36	1.1	0.36	0.12	**U**
106-99-0	1,3-Butadiene	0.78	1.3	0.78	0.21	**U**
75-00-3	Chloroethane	0.65	1.1	0.65	0.13	**U**
64-17-5	Ethanol	**2.2**	15	2.4	1.1	**J, B**
67-64-1	Acetone	**5.1**	12	6.1	2.7	**J**
75-69-4	Trichlorofluoromethane	**0.20**	0.51	0.31	0.078	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.4	4.6	1.4	0.48	**U**
75-09-2	Methylene Chloride	0.50	0.82	0.50	0.23	**U**
76-13-1	Trichlorotrifluoroethane	**0.065**	0.38	0.12	0.053	**J**
75-15-0	Carbon Disulfide	**0.81**	1.9	0.93	0.28	**J**
75-34-3	1,1-Dichloroethane	0.44	0.73	0.44	0.10	**U**
78-93-3	2-Butanone (MEK)	**0.84**	2.0	0.58	0.20	**J**
141-78-6	Ethyl Acetate	0.97	1.6	0.97	0.42	**U**
110-54-3	n-Hexane	0.49	0.82	0.49	0.17	**U**
67-66-3	Chloroform	**0.94**	0.59	0.19	0.078	
109-99-9	Tetrahydrofuran (THF)	**1.1**	1.0	0.31	0.12	
107-06-2	1,2-Dichloroethane	0.23	0.72	0.23	0.078	**U**
71-43-2	Benzene	0.29	0.89	0.29	0.13	**U**
56-23-5	Carbon Tetrachloride	**0.80**	0.45	0.15	0.063	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV140-050-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-014

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00047

Initial Pressure (psig): -4.27 Final Pressure (psig): 7.77

Container Dilution Factor: 2.15

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.53	1.7	0.53	0.23	**U**
75-27-4	Bromodichloromethane	0.14	0.43	0.14	0.062	**U**
79-01-6	Trichloroethene	0.17	0.54	0.17	0.072	**U**
123-91-1	1,4-Dioxane	0.25	0.81	0.25	0.094	**U**
142-82-5	n-Heptane	0.42	0.71	0.42	0.11	**U**
108-10-1	4-Methyl-2-pentanone	0.22	0.70	0.22	0.096	**U**
108-88-3	Toluene	**0.13**	0.77	0.24	0.093	**J**
591-78-6	2-Hexanone	0.22	0.71	0.22	0.087	**U**
124-48-1	Dibromochloromethane	0.11	0.34	0.11	0.044	**U**
106-93-4	1,2-Dibromoethane	0.12	0.38	0.12	0.043	**U**
127-18-4	Tetrachloroethene	**0.096**	0.41	0.13	0.055	**J**
100-41-4	Ethylbenzene	0.21	0.67	0.21	0.093	**U**
179601-23-1	m,p-Xylenes	0.42	1.4	0.42	0.17	**U**
75-25-2	Bromoform	0.17	0.28	0.17	0.057	**U**
100-42-5	Styrene	0.40	0.67	0.40	0.11	**U**
95-47-6	o-Xylene	0.21	0.67	0.21	0.095	**U**
108-67-8	1,3,5-Trimethylbenzene	0.19	0.58	0.19	0.084	**U**
95-63-6	1,2,4-Trimethylbenzene	0.19	0.59	0.19	0.081	**U**
120-82-1	1,2,4-Trichlorobenzene	0.23	0.39	0.23	0.094	**U**
91-20-3	Naphthalene	0.32	0.53	0.32	0.13	**U**
1330-20-7	Xylenes, Total	0.42	1.4	0.42	0.17	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV140-150-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-015

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00976

Initial Pressure (psig): -3.20 Final Pressure (psig): 6.58

Container Dilution Factor: 1.85

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.99**		1.4	0.86	0.35	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.49**		0.50	0.30	0.081	**J**
74-87-3	Chloromethane		0.72	1.2	0.72	0.19	**U**
75-01-4	Vinyl Chloride		0.31	0.98	0.31	0.10	**U**
106-99-0	1,3-Butadiene		0.67	1.1	0.67	0.18	**U**
75-00-3	Chloroethane		0.56	0.95	0.56	0.12	**U**
64-17-5	Ethanol	**2.3**		13	2.0	0.91	**J, B**
67-64-1	Acetone	**2.4**		10	5.3	2.3	**J**
75-69-4	Trichlorofluoromethane	**0.12**		0.44	0.26	0.067	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.48**		4.0	1.2	0.41	**J**
75-09-2	Methylene Chloride		0.43	0.71	0.43	0.20	**U**
76-13-1	Trichlorotrifluoroethane	**0.048**		0.33	0.10	0.046	**J**
75-15-0	Carbon Disulfide	**43**		1.6	0.80	0.24	
75-34-3	1,1-Dichloroethane		0.38	0.63	0.38	0.089	**U**
78-93-3	2-Butanone (MEK)	**1.2**		1.7	0.50	0.17	**J**
141-78-6	Ethyl Acetate		0.83	1.4	0.83	0.36	**U**
110-54-3	n-Hexane		0.42	0.71	0.42	0.14	**U**
67-66-3	Chloroform	**0.65**		0.51	0.16	0.067	
109-99-9	Tetrahydrofuran (THF)	**7.0**		0.86	0.27	0.11	
107-06-2	1,2-Dichloroethane		0.19	0.62	0.19	0.067	**U**
71-43-2	Benzene	**0.49**		0.77	0.25	0.11	**J**
56-23-5	Carbon Tetrachloride	**1.3**		0.39	0.13	0.054	

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV140-150-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-015

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00976

Initial Pressure (psig): -3.20 Final Pressure (psig): 6.58

Container Dilution Factor: 1.85

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.46	1.5	0.46	0.20	**U**
75-27-4	Bromodichloromethane	0.12	0.37	0.12	0.053	**U**
79-01-6	Trichloroethene	0.15	0.46	0.15	0.062	**U**
123-91-1	1,4-Dioxane	**11**	0.69	0.22	0.081	
142-82-5	n-Heptane	0.36	0.61	0.36	0.096	**U**
108-10-1	4-Methyl-2-pentanone	**0.085**	0.60	0.19	0.082	**J**
108-88-3	Toluene	**0.15**	0.66	0.21	0.080	**J**
591-78-6	2-Hexanone	**0.078**	0.61	0.19	0.075	**J**
124-48-1	Dibromochloromethane	0.092	0.29	0.092	0.038	**U**
106-93-4	1,2-Dibromoethane	0.10	0.33	0.10	0.037	**U**
127-18-4	Tetrachloroethene	**0.10**	0.35	0.12	0.047	**J**
100-41-4	Ethylbenzene	0.18	0.58	0.18	0.080	**U**
179601-23-1	m,p-Xylenes	0.36	1.2	0.36	0.15	**U**
75-25-2	Bromoform	0.14	0.24	0.14	0.049	**U**
100-42-5	Styrene	0.35	0.58	0.35	0.093	**U**
95-47-6	o-Xylene	0.18	0.58	0.18	0.082	**U**
108-67-8	1,3,5-Trimethylbenzene	0.16	0.50	0.16	0.072	**U**
95-63-6	1,2,4-Trimethylbenzene	0.16	0.51	0.16	0.070	**U**
120-82-1	1,2,4-Trichlorobenzene	0.20	0.34	0.20	0.081	**U**
91-20-3	Naphthalene	0.27	0.46	0.27	0.11	**U**
1330-20-7	Xylenes, Total	0.36	1.2	0.36	0.15	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV140-250-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-016

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00553

Initial Pressure (psig): -3.78 Final Pressure (psig): 5.71

Container Dilution Factor: 1.87

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**1.3**	1.4	0.87	0.35	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.6**	0.50	0.30	0.082	
74-87-3	Chloromethane	**0.42**	1.2	0.72	0.19	**J**
75-01-4	Vinyl Chloride	0.31	0.99	0.31	0.10	**U**
106-99-0	1,3-Butadiene	0.68	1.1	0.68	0.19	**U**
75-00-3	Chloroethane	0.57	0.96	0.57	0.12	**U**
64-17-5	Ethanol	**3.0**	13	2.1	0.92	**J, B**
67-64-1	Acetone	**19**	10	5.3	2.4	
75-69-4	Trichlorofluoromethane	**0.17**	0.44	0.27	0.067	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.95**	4.0	1.2	0.42	**J**
75-09-2	Methylene Chloride	0.43	0.71	0.43	0.20	**U**
76-13-1	Trichlorotrifluoroethane	0.10	0.33	0.10	0.046	**U**
75-15-0	Carbon Disulfide	**1.4**	1.7	0.81	0.24	**J**
75-34-3	1,1-Dichloroethane	0.38	0.64	0.38	0.090	**U**
78-93-3	2-Butanone (MEK)	**4.8**	1.7	0.51	0.17	
141-78-6	Ethyl Acetate	0.84	1.4	0.84	0.36	**U**
110-54-3	n-Hexane	0.42	0.72	0.42	0.15	**U**
67-66-3	Chloroform	**0.33**	0.52	0.16	0.068	**J**
109-99-9	Tetrahydrofuran (THF)	**7.3**	0.87	0.27	0.11	
107-06-2	1,2-Dichloroethane	0.20	0.62	0.20	0.068	**U**
71-43-2	Benzene	**0.17**	0.78	0.25	0.11	**J**
56-23-5	Carbon Tetrachloride	**0.49**	0.39	0.13	0.055	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV140-250-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-016

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00553

Initial Pressure (psig): -3.78 Final Pressure (psig): 5.71

Container Dilution Factor: 1.87

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.46	1.5	0.46	0.20	**U**
75-27-4	Bromodichloromethane	0.12	0.38	0.12	0.054	**U**
79-01-6	Trichloroethene	**9.8**	0.47	0.15	0.063	
123-91-1	1,4-Dioxane	0.22	0.70	0.22	0.082	**U**
142-82-5	n-Heptane	**0.13**	0.62	0.37	0.097	**J**
108-10-1	4-Methyl-2-pentanone	**0.19**	0.60	0.19	0.083	**J**
108-88-3	Toluene	**0.30**	0.67	0.21	0.081	**J**
591-78-6	2-Hexanone	**0.33**	0.62	0.19	0.075	**J**
124-48-1	Dibromochloromethane	0.093	0.30	0.093	0.038	**U**
106-93-4	1,2-Dibromoethane	0.10	0.33	0.10	0.038	**U**
127-18-4	Tetrachloroethene	0.12	0.36	0.12	0.048	**U**
100-41-4	Ethylbenzene	0.18	0.58	0.18	0.081	**U**
179601-23-1	m,p-Xylenes	0.37	1.2	0.37	0.15	**U**
75-25-2	Bromoform	0.14	0.24	0.14	0.050	**U**
100-42-5	Styrene	0.35	0.58	0.35	0.094	**U**
95-47-6	o-Xylene	0.18	0.58	0.18	0.083	**U**
108-67-8	1,3,5-Trimethylbenzene	0.16	0.50	0.16	0.073	**U**
95-63-6	1,2,4-Trimethylbenzene	0.16	0.51	0.16	0.070	**U**
120-82-1	1,2,4-Trichlorobenzene	0.20	0.34	0.20	0.082	**U**
91-20-3	Naphthalene	0.28	0.46	0.28	0.12	**U**
1330-20-7	Xylenes, Total	0.37	1.2	0.37	0.15	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV140-350-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-017

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.20 Liter(s)
Test Notes:
Container ID: 1SC00908

Initial Pressure (psig): -2.08 Final Pressure (psig): 5.54
Initial Pressure 2 (psig): -0.05 Final Pressure 2 (psig): 6.91

Container Dilution Factor: 2.37

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	2.2	3.7	2.2	0.90	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.5**	1.3	0.77	0.21	
74-87-3	Chloromethane	**0.66**	3.0	1.8	0.49	**J**
75-01-4	Vinyl Chloride	0.79	2.5	0.79	0.26	**U**
106-99-0	1,3-Butadiene	1.7	2.8	1.7	0.47	**U**
75-00-3	Chloroethane	1.4	2.4	1.4	0.30	**U**
64-17-5	Ethanol	**10**	33	5.2	2.3	**J, B**
67-64-1	Acetone	**12**	26	13	6.0	**J**
75-69-4	Trichlorofluoromethane	**0.25**	1.1	0.68	0.17	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	3.0	10	3.0	1.1	**U**
75-09-2	Methylene Chloride	1.1	1.8	1.1	0.51	**U**
76-13-1	Trichlorotrifluoroethane	0.26	0.84	0.26	0.12	**U**
75-15-0	Carbon Disulfide	**3.2**	4.2	2.1	0.61	**J**
75-34-3	1,1-Dichloroethane	0.97	1.6	0.97	0.23	**U**
78-93-3	2-Butanone (MEK)	**1.2**	4.4	1.3	0.44	**J**
141-78-6	Ethyl Acetate	2.1	3.6	2.1	0.92	**U**
110-54-3	n-Hexane	1.1	1.8	1.1	0.37	**U**
67-66-3	Chloroform	0.41	1.3	0.41	0.17	**U**
109-99-9	Tetrahydrofuran (THF)	**8.5**	2.2	0.68	0.27	
107-06-2	1,2-Dichloroethane	0.50	1.6	0.50	0.17	**U**
71-43-2	Benzene	**5.5**	2.0	0.63	0.29	
56-23-5	Carbon Tetrachloride	0.32	1.0	0.32	0.14	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV140-350-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-017

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.20 Liter(s)
Test Notes:
Container ID: 1SC00908

Initial Pressure (psig): -2.08 Final Pressure (psig): 5.54
Initial Pressure 2 (psig): -0.05 Final Pressure 2 (psig): 6.91

Container Dilution Factor: 2.37

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**4.8**	3.8	1.2	0.52	
75-27-4	Bromodichloromethane	0.30	0.96	0.30	0.14	**U**
79-01-6	Trichloroethene	0.37	1.2	0.37	0.16	**U**
123-91-1	1,4-Dioxane	0.56	1.8	0.56	0.21	**U**
142-82-5	n-Heptane	0.93	1.6	0.93	0.25	**U**
108-10-1	4-Methyl-2-pentanone	0.49	1.5	0.49	0.21	**U**
108-88-3	Toluene	**0.63**	1.7	0.53	0.20	**J**
591-78-6	2-Hexanone	0.49	1.6	0.49	0.19	**U**
124-48-1	Dibromochloromethane	0.24	0.75	0.24	0.097	**U**
106-93-4	1,2-Dibromoethane	0.26	0.83	0.26	0.096	**U**
127-18-4	Tetrachloroethene	**0.14**	0.91	0.30	0.12	**J**
100-41-4	Ethylbenzene	0.46	1.5	0.46	0.20	**U**
179601-23-1	m,p-Xylenes	0.93	3.0	0.93	0.38	**U**
75-25-2	Bromoform	0.37	0.62	0.37	0.13	**U**
100-42-5	Styrene	0.89	1.5	0.89	0.24	**U**
95-47-6	o-Xylene	0.46	1.5	0.46	0.21	**U**
108-67-8	1,3,5-Trimethylbenzene	0.41	1.3	0.41	0.19	**U**
95-63-6	1,2,4-Trimethylbenzene	0.41	1.3	0.41	0.18	**U**
120-82-1	1,2,4-Trichlorobenzene	0.51	0.86	0.51	0.21	**U**
91-20-3	Naphthalene	0.70	1.2	0.70	0.29	**U**
1330-20-7	Xylenes, Total	0.93	3.0	0.93	0.38	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV140-450-602** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-018

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.050 Liter(s)
Test Notes:
Container ID: 1SC01027

Initial Pressure (psig): -4.30 Final Pressure (psig): 6.05

Container Dilution Factor: 2.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	7.4	12	7.4	3.0	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.9**	4.3	2.6	0.70	**J**
74-87-3	Chloromethane	6.2	10	6.2	1.7	**U**
75-01-4	Vinyl Chloride	2.7	8.5	2.7	0.89	**U**
106-99-0	1,3-Butadiene	5.8	9.6	5.8	1.6	**U**
75-00-3	Chloroethane	4.9	8.2	4.9	1.0	**U**
64-17-5	Ethanol	18	110	18	7.9	**U**
67-64-1	Acetone	**90**	89	45	20	
75-69-4	Trichlorofluoromethane	2.3	3.8	2.3	0.58	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	10	34	10	3.6	**U**
75-09-2	Methylene Chloride	3.7	6.1	3.7	1.7	**U**
76-13-1	Trichlorotrifluoroethane	0.89	2.8	0.89	0.40	**U**
75-15-0	Carbon Disulfide	**2.5**	14	6.9	2.1	**J**
75-34-3	1,1-Dichloroethane	3.3	5.4	3.3	0.77	**U**
78-93-3	2-Butanone (MEK)	**110**	15	4.3	1.5	
141-78-6	Ethyl Acetate	7.2	12	7.2	3.1	**U**
110-54-3	n-Hexane	3.6	6.1	3.6	1.2	**U**
67-66-3	Chloroform	1.4	4.4	1.4	0.58	**U**
109-99-9	Tetrahydrofuran (THF)	**24**	7.5	2.3	0.91	
107-06-2	1,2-Dichloroethane	1.7	5.3	1.7	0.58	**U**
71-43-2	Benzene	**33**	6.6	2.1	0.96	
56-23-5	Carbon Tetrachloride	1.1	3.4	1.1	0.47	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV140-450-602** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-018

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.050 Liter(s)
Test Notes:
Container ID: 1SC01027

Initial Pressure (psig): -4.30 Final Pressure (psig): 6.05

Container Dilution Factor: 2.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**20**	13	4.0	1.7	
75-27-4	Bromodichloromethane	1.0	3.2	1.0	0.46	**U**
79-01-6	Trichloroethene	1.3	4.0	1.3	0.54	**U**
123-91-1	1,4-Dioxane	1.9	6.0	1.9	0.70	**U**
142-82-5	n-Heptane	3.1	5.3	3.1	0.83	**U**
108-10-1	4-Methyl-2-pentanone	1.7	5.2	1.7	0.71	**U**
108-88-3	Toluene	**5.2**	5.7	1.8	0.69	**J**
591-78-6	2-Hexanone	1.7	5.3	1.7	0.64	**U**
124-48-1	Dibromochloromethane	0.80	2.5	0.80	0.33	**U**
106-93-4	1,2-Dibromoethane	0.89	2.8	0.89	0.32	**U**
127-18-4	Tetrachloroethene	1.0	3.1	1.0	0.41	**U**
100-41-4	Ethylbenzene	1.6	5.0	1.6	0.69	**U**
179601-23-1	m,p-Xylenes	3.1	10	3.1	1.3	**U**
75-25-2	Bromoform	1.2	2.1	1.2	0.43	**U**
100-42-5	Styrene	3.0	5.0	3.0	0.81	**U**
95-47-6	o-Xylene	1.6	5.0	1.6	0.71	**U**
108-67-8	1,3,5-Trimethylbenzene	1.4	4.3	1.4	0.63	**U**
95-63-6	1,2,4-Trimethylbenzene	1.4	4.4	1.4	0.60	**U**
120-82-1	1,2,4-Trichlorobenzene	1.7	2.9	1.7	0.70	**U**
91-20-3	Naphthalene	2.4	4.0	2.4	0.99	**U**
1330-20-7	Xylenes, Total	3.1	10	3.1	1.3	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV140-450-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-019

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.050 Liter(s)
Test Notes:
Container ID: 1SC01347

Initial Pressure (psig): -2.97 Final Pressure (psig): 6.85

Container Dilution Factor: 1.84

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	6.8	11	6.8	2.8	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**3.3**	3.9	2.4	0.65	**J**
74-87-3	Chloromethane	**1.9**	9.4	5.7	1.5	**J**
75-01-4	Vinyl Chloride	2.4	7.8	2.4	0.82	**U**
106-99-0	1,3-Butadiene	5.3	8.8	5.3	1.5	**U**
75-00-3	Chloroethane	4.5	7.5	4.5	0.92	**U**
64-17-5	Ethanol	16	100	16	7.2	**U**
67-64-1	Acetone	**81**	82	42	19	**J**
75-69-4	Trichlorofluoromethane	2.1	3.5	2.1	0.53	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	9.4	31	9.4	3.3	**U**
75-09-2	Methylene Chloride	3.4	5.6	3.4	1.6	**U**
76-13-1	Trichlorotrifluoroethane	0.82	2.6	0.82	0.37	**U**
75-15-0	Carbon Disulfide	**2.7**	13	6.4	1.9	**J**
75-34-3	1,1-Dichloroethane	3.0	5.0	3.0	0.71	**U**
78-93-3	2-Butanone (MEK)	**92**	14	4.0	1.4	
141-78-6	Ethyl Acetate	6.6	11	6.6	2.9	**U**
110-54-3	n-Hexane	**1.5**	5.6	3.3	1.1	**J**
67-66-3	Chloroform	1.3	4.1	1.3	0.54	**U**
109-99-9	Tetrahydrofuran (THF)	**19**	6.9	2.1	0.84	
107-06-2	1,2-Dichloroethane	1.5	4.9	1.5	0.54	**U**
71-43-2	Benzene	**39**	6.1	2.0	0.89	
56-23-5	Carbon Tetrachloride	0.99	3.1	0.99	0.43	**U**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV140-450-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-019

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.050 Liter(s)
Test Notes:
Container ID: 1SC01347

Initial Pressure (psig): -2.97 Final Pressure (psig): 6.85

Container Dilution Factor: 1.84

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**23**	12	3.6	1.6	
75-27-4	Bromodichloromethane	0.93	3.0	0.93	0.42	**U**
79-01-6	Trichloroethene	1.2	3.7	1.2	0.49	**U**
123-91-1	1,4-Dioxane	1.7	5.5	1.7	0.64	**U**
142-82-5	n-Heptane	2.9	4.9	2.9	0.76	**U**
108-10-1	4-Methyl-2-pentanone	1.5	4.8	1.5	0.66	**U**
108-88-3	Toluene	**5.8**	5.3	1.7	0.63	
591-78-6	2-Hexanone	1.5	4.9	1.5	0.59	**U**
124-48-1	Dibromochloromethane	0.73	2.3	0.73	0.30	**U**
106-93-4	1,2-Dibromoethane	0.81	2.6	0.81	0.30	**U**
127-18-4	Tetrachloroethene	0.92	2.8	0.92	0.37	**U**
100-41-4	Ethylbenzene	1.4	4.6	1.4	0.64	**U**
179601-23-1	m,p-Xylenes	2.9	9.3	2.9	1.2	**U**
75-25-2	Bromoform	1.1	1.9	1.1	0.39	**U**
100-42-5	Styrene	2.8	4.6	2.8	0.74	**U**
95-47-6	o-Xylene	1.4	4.6	1.4	0.65	**U**
108-67-8	1,3,5-Trimethylbenzene	1.3	4.0	1.3	0.58	**U**
95-63-6	1,2,4-Trimethylbenzene	1.3	4.0	1.3	0.55	**U**
120-82-1	1,2,4-Trichlorobenzene	1.6	2.7	1.6	0.64	**U**
91-20-3	Naphthalene	2.2	3.7	2.2	0.91	**U**
1330-20-7	Xylenes, Total	2.9	9.3	2.9	1.2	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVE12-410-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-020

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00273

Initial Pressure (psig): -3.37 Final Pressure (psig): 5.76

Container Dilution Factor: 1.81

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.84	1.4	0.84	0.34	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**14**	0.49	0.29	0.080	
74-87-3	Chloromethane	0.70	1.2	0.70	0.19	**U**
75-01-4	Vinyl Chloride	0.30	0.96	0.30	0.10	**U**
106-99-0	1,3-Butadiene	0.65	1.1	0.65	0.18	**U**
75-00-3	Chloroethane	0.55	0.93	0.55	0.11	**U**
64-17-5	Ethanol	**3.2**	12	2.0	0.89	**J, B**
67-64-1	Acetone	**6.7**	10	5.1	2.3	**J**
75-69-4	Trichlorofluoromethane	**2.9**	0.43	0.26	0.065	
67-63-0	2-Propanol (Isopropyl Alcohol)	1.2	3.9	1.2	0.41	**U**
75-09-2	Methylene Chloride	0.42	0.69	0.42	0.20	**U**
76-13-1	Trichlorotrifluoroethane	**8.2**	0.32	0.10	0.045	
75-15-0	Carbon Disulfide	**3.7**	1.6	0.78	0.23	
75-34-3	1,1-Dichloroethane	0.37	0.62	0.37	0.087	**U**
78-93-3	2-Butanone (MEK)	**3.5**	1.7	0.49	0.17	
141-78-6	Ethyl Acetate	0.82	1.4	0.82	0.35	**U**
110-54-3	n-Hexane	**0.34**	0.69	0.41	0.14	**J**
67-66-3	Chloroform	**0.13**	0.50	0.16	0.066	**J**
109-99-9	Tetrahydrofuran (THF)	**3.5**	0.84	0.26	0.10	
107-06-2	1,2-Dichloroethane	0.19	0.60	0.19	0.066	**U**
71-43-2	Benzene	0.24	0.75	0.24	0.11	**U**
56-23-5	Carbon Tetrachloride	**4.5**	0.38	0.12	0.053	

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVE12-410-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-020

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00273

Initial Pressure (psig): -3.37 Final Pressure (psig): 5.76

Container Dilution Factor: 1.81

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.45	1.4	0.45	0.20	**U**
75-27-4	Bromodichloromethane	0.11	0.36	0.11	0.052	**U**
79-01-6	Trichloroethene	**3.9**	0.45	0.14	0.061	
123-91-1	1,4-Dioxane	0.21	0.68	0.21	0.079	**U**
142-82-5	n-Heptane	**0.62**	0.60	0.35	0.094	
108-10-1	4-Methyl-2-pentanone	0.19	0.59	0.19	0.081	**U**
108-88-3	Toluene	**0.27**	0.65	0.20	0.078	**J**
591-78-6	2-Hexanone	**0.15**	0.60	0.19	0.073	**J**
124-48-1	Dibromochloromethane	0.090	0.29	0.090	0.037	**U**
106-93-4	1,2-Dibromoethane	0.10	0.32	0.10	0.037	**U**
127-18-4	Tetrachloroethene	**1.5**	0.35	0.11	0.046	
100-41-4	Ethylbenzene	0.18	0.56	0.18	0.078	**U**
179601-23-1	m,p-Xylenes	**0.23**	1.1	0.35	0.15	**J**
75-25-2	Bromoform	0.14	0.24	0.14	0.048	**U**
100-42-5	Styrene	0.34	0.56	0.34	0.091	**U**
95-47-6	o-Xylene	0.18	0.56	0.18	0.080	**U**
108-67-8	1,3,5-Trimethylbenzene	**0.081**	0.49	0.16	0.071	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.41**	0.50	0.16	0.068	**J**
120-82-1	1,2,4-Trichlorobenzene	0.20	0.33	0.20	0.079	**U**
91-20-3	Naphthalene	0.27	0.45	0.27	0.11	**U**
1330-20-7	Xylenes, Total	**0.23**	1.1	0.35	0.15	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV07-050-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-021

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00020 Liter(s)
Test Notes:
Container ID: 1SS00016

Initial Pressure (psig): -4.03 Final Pressure (psig): 6.70

Container Dilution Factor: 2.01

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**2,700**	3,100	1,900	760	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	650	1,100	650	180	**U**
74-87-3	Chloromethane	1,600	2,600	1,600	420	**U**
75-01-4	Vinyl Chloride	670	2,100	670	220	**U**
106-99-0	1,3-Butadiene	1,500	2,400	1,500	400	**U**
75-00-3	Chloroethane	1,200	2,100	1,200	250	**U**
64-17-5	Ethanol	4,400	28,000	4,400	2,000	**U**
67-64-1	Acetone	11,000	22,000	11,000	5,100	**U**
75-69-4	Trichlorofluoromethane	570	950	570	140	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	2,600	8,600	2,600	900	**U**
75-09-2	Methylene Chloride	930	1,500	930	430	**U**
76-13-1	Trichlorotrifluoroethane	220	710	220	100	**U**
75-15-0	Carbon Disulfide	1,700	3,600	1,700	520	**U**
75-34-3	1,1-Dichloroethane	820	1,400	820	190	**U**
78-93-3	2-Butanone (MEK)	1,100	3,700	1,100	370	**U**
141-78-6	Ethyl Acetate	1,800	3,100	1,800	780	**U**
110-54-3	n-Hexane	**160,000**	1,500	910	310	
67-66-3	Chloroform	350	1,100	350	150	**U**
109-99-9	Tetrahydrofuran (THF)	580	1,900	580	230	**U**
107-06-2	1,2-Dichloroethane	420	1,300	420	150	**U**
71-43-2	Benzene	**2,400**	1,700	540	240	
56-23-5	Carbon Tetrachloride	270	850	270	120	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV07-050-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-021

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00020 Liter(s)
Test Notes:
Container ID: 1SS00016

Initial Pressure (psig): -4.03 Final Pressure (psig): 6.70

Container Dilution Factor: 2.01

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**140,000**	3,200	990	440	
75-27-4	Bromodichloromethane	260	810	260	120	**U**
79-01-6	Trichloroethene	320	1,000	320	130	**U**
123-91-1	1,4-Dioxane	470	1,500	470	180	**U**
142-82-5	n-Heptane	**98,000**	1,300	790	210	
108-10-1	4-Methyl-2-pentanone	**270**	1,300	420	180	**J**
108-88-3	Toluene	**870**	1,400	450	170	**J**
591-78-6	2-Hexanone	420	1,300	420	160	**U**
124-48-1	Dibromochloromethane	200	640	200	83	**U**
106-93-4	1,2-Dibromoethane	220	710	220	81	**U**
127-18-4	Tetrachloroethene	250	770	250	100	**U**
100-41-4	Ethylbenzene	390	1,200	390	170	**U**
179601-23-1	m,p-Xylenes	790	2,500	790	320	**U**
75-25-2	Bromoform	310	530	310	110	**U**
100-42-5	Styrene	760	1,300	760	200	**U**
95-47-6	o-Xylene	390	1,200	390	180	**U**
108-67-8	1,3,5-Trimethylbenzene	350	1,100	350	160	**U**
95-63-6	1,2,4-Trimethylbenzene	350	1,100	350	150	**U**
120-82-1	1,2,4-Trichlorobenzene	430	730	430	180	**U**
91-20-3	Naphthalene	590	1,000	590	250	**U**
1330-20-7	Xylenes, Total	790	2,500	790	320	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV07-100-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-022

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00040 Liter(s)
Test Notes:
Container ID: 1SC01196

Initial Pressure (psig): -2.31 Final Pressure (psig): 5.58

Container Dilution Factor: 1.64

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	760	1,300	760	310	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	270	440	270	72	**U**
74-87-3	Chloromethane	640	1,100	640	170	**U**
75-01-4	Vinyl Chloride	270	870	270	91	**U**
106-99-0	1,3-Butadiene	590	980	590	160	**U**
75-00-3	Chloroethane	500	840	500	100	**U**
64-17-5	Ethanol	1,800	11,000	1,800	810	**U**
67-64-1	Acetone	4,700	9,200	4,700	2,100	**U**
75-69-4	Trichlorofluoromethane	230	390	230	59	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	1,100	3,500	1,100	370	**U**
75-09-2	Methylene Chloride	380	630	380	180	**U**
76-13-1	Trichlorotrifluoroethane	91	290	91	41	**U**
75-15-0	Carbon Disulfide	710	1,400	710	210	**U**
75-34-3	1,1-Dichloroethane	330	560	330	79	**U**
78-93-3	2-Butanone (MEK)	450	1,500	450	150	**U**
141-78-6	Ethyl Acetate	740	1,300	740	320	**U**
110-54-3	n-Hexane	**5,600**	630	370	130	
67-66-3	Chloroform	140	450	140	60	**U**
109-99-9	Tetrahydrofuran (THF)	240	760	240	93	**U**
107-06-2	1,2-Dichloroethane	170	550	170	60	**U**
71-43-2	Benzene	**550**	680	220	99	**J**
56-23-5	Carbon Tetrachloride	110	350	110	48	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV07-100-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-022

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00040 Liter(s)
Test Notes:
Container ID: 1SC01196

Initial Pressure (psig): -2.31 Final Pressure (psig): 5.58

Container Dilution Factor: 1.64

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**31,000**	1,300	410	180	
75-27-4	Bromodichloromethane	100	330	100	47	**U**
79-01-6	Trichloroethene	130	410	130	55	**U**
123-91-1	1,4-Dioxane	190	610	190	72	**U**
142-82-5	n-Heptane	**260**	540	320	85	**J**
108-10-1	4-Methyl-2-pentanone	170	530	170	73	**U**
108-88-3	Toluene	**240**	590	190	71	**J**
591-78-6	2-Hexanone	170	540	170	66	**U**
124-48-1	Dibromochloromethane	82	260	82	34	**U**
106-93-4	1,2-Dibromoethane	91	290	91	33	**U**
127-18-4	Tetrachloroethene	100	310	100	42	**U**
100-41-4	Ethylbenzene	160	510	160	71	**U**
179601-23-1	m,p-Xylenes	320	1,000	320	130	**U**
75-25-2	Bromoform	130	210	130	44	**U**
100-42-5	Styrene	310	510	310	83	**U**
95-47-6	o-Xylene	160	510	160	73	**U**
108-67-8	1,3,5-Trimethylbenzene	140	440	140	64	**U**
95-63-6	1,2,4-Trimethylbenzene	140	450	140	62	**U**
120-82-1	1,2,4-Trichlorobenzene	180	300	180	72	**U**
91-20-3	Naphthalene	240	410	240	100	**U**
1330-20-7	Xylenes, Total	320	1,000	320	130	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV07-150-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-023

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00005

Initial Pressure (psig): -2.16 Final Pressure (psig): 5.84
Initial Pressure 2 (psig): -6.50 Final Pressure 2 (psig): 5.76

Container Dilution Factor: 4.09

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**2.1**		3.2	1.9	0.77	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.72**		1.1	0.66	0.18	**J**
74-87-3	Chloromethane		1.6	2.6	1.6	0.43	**U**
75-01-4	Vinyl Chloride		0.68	2.2	0.68	0.23	**U**
106-99-0	1,3-Butadiene		1.5	2.5	1.5	0.41	**U**
75-00-3	Chloroethane		1.2	2.1	1.2	0.26	**U**
64-17-5	Ethanol	**17**		28	4.5	2.0	**J, B**
67-64-1	Acetone	**10**		23	12	5.2	**J**
75-69-4	Trichlorofluoromethane	**0.68**		0.96	0.58	0.15	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**4.1**		8.7	2.6	0.92	**J**
75-09-2	Methylene Chloride		0.94	1.6	0.94	0.44	**U**
76-13-1	Trichlorotrifluoroethane	**2.2**		0.72	0.23	0.10	
75-15-0	Carbon Disulfide		1.8	3.6	1.8	0.53	**U**
75-34-3	1,1-Dichloroethane		0.83	1.4	0.83	0.20	**U**
78-93-3	2-Butanone (MEK)	**1.2**		3.8	1.1	0.38	**J**
141-78-6	Ethyl Acetate	**3.5**		3.1	1.8	0.79	
110-54-3	n-Hexane	**2.9**		1.6	0.93	0.32	
67-66-3	Chloroform		0.36	1.1	0.36	0.15	**U**
109-99-9	Tetrahydrofuran (THF)	**0.26**		1.9	0.59	0.23	**J**
107-06-2	1,2-Dichloroethane		0.43	1.4	0.43	0.15	**U**
71-43-2	Benzene	**0.46**		1.7	0.54	0.25	**J**
56-23-5	Carbon Tetrachloride	**0.77**		0.86	0.28	0.12	**J**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV07-150-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-023

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00005

Initial Pressure (psig): -2.16 Final Pressure (psig): 5.84
Initial Pressure 2 (psig): -6.50 Final Pressure 2 (psig): 5.76

Container Dilution Factor: 4.09

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**5.5**	3.3	1.0	0.45	
75-27-4	Bromodichloromethane	0.26	0.82	0.26	0.12	**U**
79-01-6	Trichloroethene	0.32	1.0	0.32	0.14	**U**
123-91-1	1,4-Dioxane	0.48	1.5	0.48	0.18	**U**
142-82-5	n-Heptane	**3.7**	1.3	0.80	0.21	
108-10-1	4-Methyl-2-pentanone	**0.34**	1.3	0.42	0.18	**J**
108-88-3	Toluene	**1.0**	1.5	0.46	0.18	**J**
591-78-6	2-Hexanone	0.42	1.3	0.42	0.16	**U**
124-48-1	Dibromochloromethane	0.20	0.65	0.20	0.084	**U**
106-93-4	1,2-Dibromoethane	0.23	0.72	0.23	0.083	**U**
127-18-4	Tetrachloroethene	**0.14**	0.78	0.26	0.10	**J**
100-41-4	Ethylbenzene	0.40	1.3	0.40	0.18	**U**
179601-23-1	m,p-Xylenes	0.80	2.6	0.80	0.33	**U**
75-25-2	Bromoform	0.32	0.53	0.32	0.11	**U**
100-42-5	Styrene	0.77	1.3	0.77	0.21	**U**
95-47-6	o-Xylene	0.40	1.3	0.40	0.18	**U**
108-67-8	1,3,5-Trimethylbenzene	0.35	1.1	0.35	0.16	**U**
95-63-6	1,2,4-Trimethylbenzene	0.35	1.1	0.35	0.15	**U**
120-82-1	1,2,4-Trichlorobenzene	0.44	0.74	0.44	0.18	**U**
91-20-3	Naphthalene	0.60	1.0	0.60	0.25	**U**
1330-20-7	Xylenes, Total	0.80	2.6	0.80	0.33	**U**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV14-150-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-024

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00332

Initial Pressure (psig): -2.62 Final Pressure (psig): 5.76
Initial Pressure 2 (psig): -2.10 Final Pressure 2 (psig): 5.72

Container Dilution Factor: 2.74

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**1.1**	2.1	1.3	0.52	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**9.0**	0.73	0.44	0.12	
74-87-3	Chloromethane	**1.2**	1.8	1.1	0.29	**J**
75-01-4	Vinyl Chloride	0.46	1.4	0.46	0.15	**U**
106-99-0	1,3-Butadiene	0.99	1.6	0.99	0.27	**U**
75-00-3	Chloroethane	0.83	1.4	0.83	0.17	**U**
64-17-5	Ethanol	**6.7**	19	3.0	1.3	**J, B**
67-64-1	Acetone	**15**	15	7.8	3.5	**J**
75-69-4	Trichlorofluoromethane	**1.4**	0.65	0.39	0.099	
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.4**	5.9	1.8	0.61	**J**
75-09-2	Methylene Chloride	0.63	1.0	0.63	0.30	**U**
76-13-1	Trichlorotrifluoroethane	**21**	0.48	0.15	0.068	
75-15-0	Carbon Disulfide	**0.97**	2.4	1.2	0.35	**J**
75-34-3	1,1-Dichloroethane	0.56	0.93	0.56	0.13	**U**
78-93-3	2-Butanone (MEK)	**2.2**	2.6	0.74	0.26	**J**
141-78-6	Ethyl Acetate	**1.3**	2.1	1.2	0.53	**J**
110-54-3	n-Hexane	**0.52**	1.0	0.62	0.21	**J**
67-66-3	Chloroform	**1.5**	0.76	0.24	0.10	
109-99-9	Tetrahydrofuran (THF)	**140**	1.3	0.40	0.16	
107-06-2	1,2-Dichloroethane	0.29	0.91	0.29	0.10	**U**
71-43-2	Benzene	**0.47**	1.1	0.36	0.17	**J**
56-23-5	Carbon Tetrachloride	**47**	0.58	0.19	0.081	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV14-150-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-024

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00332

Initial Pressure (psig): -2.62 Final Pressure (psig): 5.76
Initial Pressure 2 (psig): -2.10 Final Pressure 2 (psig): 5.72

Container Dilution Factor: 2.74

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**1.1**	2.2	0.68	0.30	**J**
75-27-4	Bromodichloromethane	0.17	0.55	0.17	0.079	**U**
79-01-6	Trichloroethene	**87**	0.69	0.22	0.092	
123-91-1	1,4-Dioxane	0.32	1.0	0.32	0.12	**U**
142-82-5	n-Heptane	**0.91**	0.90	0.54	0.14	
108-10-1	4-Methyl-2-pentanone	0.28	0.89	0.28	0.12	**U**
108-88-3	Toluene	**0.84**	0.98	0.31	0.12	**J**
591-78-6	2-Hexanone	**0.28**	0.90	0.28	0.11	**J**
124-48-1	Dibromochloromethane	0.14	0.43	0.14	0.056	**U**
106-93-4	1,2-Dibromoethane	0.15	0.48	0.15	0.055	**U**
127-18-4	Tetrachloroethene	**18**	0.53	0.17	0.070	
100-41-4	Ethylbenzene	0.27	0.85	0.27	0.12	**U**
179601-23-1	m,p-Xylenes	**0.32**	1.7	0.54	0.22	**J**
75-25-2	Bromoform	0.21	0.36	0.21	0.073	**U**
100-42-5	Styrene	0.52	0.85	0.52	0.14	**U**
95-47-6	o-Xylene	**0.13**	0.85	0.27	0.12	**J**
108-67-8	1,3,5-Trimethylbenzene	0.24	0.74	0.24	0.11	**U**
95-63-6	1,2,4-Trimethylbenzene	**0.28**	0.75	0.24	0.10	**J**
120-82-1	1,2,4-Trichlorobenzene	0.30	0.50	0.30	0.12	**U**
91-20-3	Naphthalene	0.41	0.68	0.41	0.17	**U**
1330-20-7	Xylenes, Total	**0.45**	1.7	0.54	0.22	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV14-250-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-025

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00848

Initial Pressure (psig): -2.06 Final Pressure (psig): 5.56
Initial Pressure 2 (psig): -1.74 Final Pressure 2 (psig): 5.53

Container Dilution Factor: 2.50

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	1.2	1.9	1.2	0.47	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**11**	0.67	0.40	0.11	
74-87-3	Chloromethane	**0.78**	1.6	0.97	0.26	**J**
75-01-4	Vinyl Chloride	**0.18**	1.3	0.42	0.14	**J**
106-99-0	1,3-Butadiene	0.90	1.5	0.90	0.25	**U**
75-00-3	Chloroethane	0.76	1.3	0.76	0.16	**U**
64-17-5	Ethanol	**2.0**	17	2.8	1.2	**J, B**
67-64-1	Acetone	**14**	14	7.1	3.2	**J**
75-69-4	Trichlorofluoromethane	**1.7**	0.59	0.36	0.090	
67-63-0	2-Propanol (Isopropyl Alcohol)	1.6	5.3	1.6	0.56	**U**
75-09-2	Methylene Chloride	0.58	0.95	0.58	0.27	**U**
76-13-1	Trichlorotrifluoroethane	**20**	0.44	0.14	0.062	
75-15-0	Carbon Disulfide	**0.96**	2.2	1.1	0.32	**J**
75-34-3	1,1-Dichloroethane	0.51	0.85	0.51	0.12	**U**
78-93-3	2-Butanone (MEK)	**3.0**	2.3	0.68	0.23	
141-78-6	Ethyl Acetate	1.1	1.9	1.1	0.49	**U**
110-54-3	n-Hexane	**2.1**	0.96	0.57	0.20	
67-66-3	Chloroform	**1.6**	0.69	0.22	0.091	
109-99-9	Tetrahydrofuran (THF)	**90**	1.2	0.36	0.14	
107-06-2	1,2-Dichloroethane	0.26	0.83	0.26	0.091	**U**
71-43-2	Benzene	**0.50**	1.0	0.33	0.15	**J**
56-23-5	Carbon Tetrachloride	**51**	0.53	0.17	0.074	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV14-250-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-025

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00848

Initial Pressure (psig): -2.06 Final Pressure (psig): 5.56
Initial Pressure 2 (psig): -1.74 Final Pressure 2 (psig): 5.53

Container Dilution Factor: 2.50

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**1.6**	2.0	0.62	0.27	**J**
75-27-4	Bromodichloromethane	0.16	0.50	0.16	0.072	**U**
79-01-6	Trichloroethene	**100**	0.63	0.20	0.084	
123-91-1	1,4-Dioxane	0.29	0.94	0.29	0.11	**U**
142-82-5	n-Heptane	**4.7**	0.82	0.49	0.13	
108-10-1	4-Methyl-2-pentanone	0.26	0.81	0.26	0.11	**U**
108-88-3	Toluene	**1.6**	0.90	0.28	0.11	
591-78-6	2-Hexanone	0.26	0.82	0.26	0.10	**U**
124-48-1	Dibromochloromethane	0.12	0.40	0.12	0.051	**U**
106-93-4	1,2-Dibromoethane	0.14	0.44	0.14	0.050	**U**
127-18-4	Tetrachloroethene	**17**	0.48	0.16	0.064	
100-41-4	Ethylbenzene	**0.12**	0.78	0.24	0.11	**J**
179601-23-1	m,p-Xylenes	**1.0**	1.6	0.49	0.20	**J**
75-25-2	Bromoform	0.19	0.33	0.19	0.067	**U**
100-42-5	Styrene	0.47	0.78	0.47	0.13	**U**
95-47-6	o-Xylene	**0.30**	0.78	0.24	0.11	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.26**	0.67	0.22	0.098	**J**
95-63-6	1,2,4-Trimethylbenzene	**1.1**	0.69	0.22	0.094	
120-82-1	1,2,4-Trichlorobenzene	0.27	0.45	0.27	0.11	**U**
91-20-3	Naphthalene	0.37	0.62	0.37	0.16	**U**
1330-20-7	Xylenes, Total	**1.3**	1.6	0.49	0.20	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV14-350-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-026

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00601

Initial Pressure (psig): -2.73 Final Pressure (psig): 6.87
Initial Pressure 2 (psig): -1.57 Final Pressure 2 (psig): 5.92

Container Dilution Factor: 2.83

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**39**	2.2	1.3	0.53	
75-71-8	Dichlorodifluoromethane (CFC 12)	**150**	0.76	0.46	0.12	
74-87-3	Chloromethane	**1.8**	1.8	1.1	0.29	
75-01-4	Vinyl Chloride	**0.53**	1.5	0.47	0.16	**J**
106-99-0	1,3-Butadiene	1.0	1.7	1.0	0.28	**U**
75-00-3	Chloroethane	0.86	1.4	0.86	0.18	**U**
64-17-5	Ethanol	**23**	20	3.1	1.4	**B**
67-64-1	Acetone	**420**	16	8.0	3.6	
75-69-4	Trichlorofluoromethane	**9.3**	0.67	0.40	0.10	
67-63-0	2-Propanol (Isopropyl Alcohol)	**150**	6.0	1.8	0.63	
75-09-2	Methylene Chloride	**1.0**	1.1	0.65	0.31	**J**
76-13-1	Trichlorotrifluoroethane	**4.8**	0.50	0.16	0.070	
75-15-0	Carbon Disulfide	**1.9**	2.5	1.2	0.36	**J**
75-34-3	1,1-Dichloroethane	**0.28**	0.96	0.58	0.14	**J**
78-93-3	2-Butanone (MEK)	**200**	2.6	0.77	0.26	
141-78-6	Ethyl Acetate	**49**	2.2	1.3	0.55	
110-54-3	n-Hexane	**2.8**	1.1	0.64	0.22	
67-66-3	Chloroform	**0.47**	0.78	0.25	0.10	**J**
109-99-9	Tetrahydrofuran (THF)	**150**	1.3	0.41	0.16	
107-06-2	1,2-Dichloroethane	0.30	0.94	0.30	0.10	**U**
71-43-2	Benzene	**2.6**	1.2	0.38	0.17	
56-23-5	Carbon Tetrachloride	**7.5**	0.60	0.19	0.083	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV14-350-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-026

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00601

Initial Pressure (psig): -2.73 Final Pressure (psig): 6.87
Initial Pressure 2 (psig): -1.57 Final Pressure 2 (psig): 5.92

Container Dilution Factor: 2.83

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**3.5**		2.3	0.70	0.31	
75-27-4	Bromodichloromethane		0.18	0.57	0.18	0.081	**U**
79-01-6	Trichloroethene	**33**		0.71	0.22	0.095	
123-91-1	1,4-Dioxane		0.33	1.1	0.33	0.12	**U**
142-82-5	n-Heptane	**0.80**		0.93	0.55	0.15	**J**
108-10-1	4-Methyl-2-pentanone	**0.38**		0.92	0.29	0.13	**J**
108-88-3	Toluene	**10**		1.0	0.32	0.12	
591-78-6	2-Hexanone	**1.0**		0.93	0.29	0.11	
124-48-1	Dibromochloromethane		0.14	0.45	0.14	0.058	**U**
106-93-4	1,2-Dibromoethane	**0.16**		0.50	0.16	0.057	**J**
127-18-4	Tetrachloroethene	**5.6**		0.54	0.18	0.072	
100-41-4	Ethylbenzene	**0.33**		0.88	0.28	0.12	**J**
179601-23-1	m,p-Xylenes	**1.0**		1.8	0.55	0.23	**J**
75-25-2	Bromoform		0.22	0.37	0.22	0.075	**U**
100-42-5	Styrene	**0.25**		0.88	0.53	0.14	**J**
95-47-6	o-Xylene	**0.39**		0.88	0.28	0.13	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.13**		0.76	0.24	0.11	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.43**		0.78	0.24	0.11	**J**
120-82-1	1,2,4-Trichlorobenzene		0.31	0.51	0.31	0.12	**U**
91-20-3	Naphthalene		0.42	0.70	0.42	0.18	**U**
1330-20-7	Xylenes, Total	**1.4**		1.8	0.55	0.23	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV14-450-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-027

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00388

Initial Pressure (psig): -4.05 Final Pressure (psig): 6.14
Initial Pressure 2 (psig): -1.66 Final Pressure 2 (psig): 5.35

Container Dilution Factor: 3.01

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**9.3**	2.3	1.4	0.57	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.8**	0.81	0.49	0.13	
74-87-3	Chloromethane	**13**	1.9	1.2	0.31	
75-01-4	Vinyl Chloride	**110**	1.6	0.50	0.17	
106-99-0	1,3-Butadiene	1.1	1.8	1.1	0.30	**U**
75-00-3	Chloroethane	**2.8**	1.5	0.91	0.19	
64-17-5	Ethanol	**11**	21	3.3	1.5	**J, B**
67-64-1	Acetone	**33**	17	8.6	3.8	
75-69-4	Trichlorofluoromethane	**0.20**	0.71	0.43	0.11	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**2.7**	6.4	1.9	0.67	**J**
75-09-2	Methylene Chloride	0.69	1.1	0.69	0.33	**U**
76-13-1	Trichlorotrifluoroethane	**0.18**	0.53	0.17	0.075	**J**
75-15-0	Carbon Disulfide	**16**	2.7	1.3	0.39	
75-34-3	1,1-Dichloroethane	0.61	1.0	0.61	0.15	**U**
78-93-3	2-Butanone (MEK)	**10**	2.8	0.82	0.28	
141-78-6	Ethyl Acetate	**0.63**	2.3	1.4	0.58	**J**
110-54-3	n-Hexane	**4.7**	1.2	0.68	0.23	
67-66-3	Chloroform	**0.15**	0.83	0.26	0.11	**J**
109-99-9	Tetrahydrofuran (THF)	**23**	1.4	0.43	0.17	
107-06-2	1,2-Dichloroethane	**0.35**	1.0	0.32	0.11	**J**
71-43-2	Benzene	**6.8**	1.2	0.40	0.18	
56-23-5	Carbon Tetrachloride	**0.70**	0.63	0.20	0.089	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV14-450-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-027

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00388

Initial Pressure (psig): -4.05 Final Pressure (psig): 6.14
Initial Pressure 2 (psig): -1.66 Final Pressure 2 (psig): 5.35

Container Dilution Factor: 3.01

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**7.8**	2.4	0.74	0.33	
75-27-4	Bromodichloromethane	0.19	0.61	0.19	0.087	**U**
79-01-6	Trichloroethene	**8.0**	0.76	0.24	0.10	
123-91-1	1,4-Dioxane	**0.58**	1.1	0.36	0.13	**J**
142-82-5	n-Heptane	**2.5**	0.99	0.59	0.16	
108-10-1	4-Methyl-2-pentanone	0.31	0.97	0.31	0.13	**U**
108-88-3	Toluene	**24**	1.1	0.34	0.13	
591-78-6	2-Hexanone	**0.42**	0.99	0.31	0.12	**J**
124-48-1	Dibromochloromethane	0.15	0.48	0.15	0.062	**U**
106-93-4	1,2-Dibromoethane	0.17	0.53	0.17	0.061	**U**
127-18-4	Tetrachloroethene	**1.7**	0.58	0.19	0.077	
100-41-4	Ethylbenzene	**1.0**	0.94	0.29	0.13	
179601-23-1	m,p-Xylenes	**1.6**	1.9	0.59	0.24	**J**
75-25-2	Bromoform	0.23	0.39	0.23	0.080	**U**
100-42-5	Styrene	0.57	0.94	0.57	0.15	**U**
95-47-6	o-Xylene	**0.36**	0.94	0.29	0.13	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.22**	0.81	0.26	0.12	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.81**	0.83	0.26	0.11	**J**
120-82-1	1,2,4-Trichlorobenzene	0.32	0.55	0.32	0.13	**U**
91-20-3	Naphthalene	0.45	0.75	0.45	0.19	**U**
1330-20-7	Xylenes, Total	**2.0**	1.9	0.59	0.24	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV14-450-602** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-028

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00191

Initial Pressure (psig): -1.83 Final Pressure (psig): 5.87
Initial Pressure 2 (psig): -0.11 Final Pressure 2 (psig): 6.03
Initial Pressure 3 (psig): 0.03 Final Pressure 3 (psig): 5.67

Container Dilution Factor: 3.14

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**7.7**	2.4	1.5	0.59	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.2**	0.84	0.51	0.14	
74-87-3	Chloromethane	**8.2**	2.0	1.2	0.33	
75-01-4	Vinyl Chloride	**100**	1.7	0.52	0.18	
106-99-0	1,3-Butadiene	1.1	1.9	1.1	0.31	**U**
75-00-3	Chloroethane	**2.5**	1.6	0.95	0.20	
64-17-5	Ethanol	3.5	22	3.5	1.5	**U**
67-64-1	Acetone	**7.8**	18	8.9	4.0	**J**
75-69-4	Trichlorofluoromethane	**0.16**	0.74	0.45	0.11	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	2.0	6.7	2.0	0.70	**U**
75-09-2	Methylene Chloride	0.72	1.2	0.72	0.34	**U**
76-13-1	Trichlorotrifluoroethane	**0.099**	0.55	0.17	0.078	**J**
75-15-0	Carbon Disulfide	**36**	2.8	1.4	0.40	
75-34-3	1,1-Dichloroethane	0.64	1.1	0.64	0.15	**U**
78-93-3	2-Butanone (MEK)	**3.2**	2.9	0.85	0.29	
141-78-6	Ethyl Acetate	1.4	2.4	1.4	0.61	**U**
110-54-3	n-Hexane	**7.1**	1.2	0.71	0.25	
67-66-3	Chloroform	0.27	0.87	0.27	0.11	**U**
109-99-9	Tetrahydrofuran (THF)	**20**	1.5	0.45	0.18	
107-06-2	1,2-Dichloroethane	**0.32**	1.0	0.33	0.11	**J**
71-43-2	Benzene	**5.9**	1.3	0.42	0.19	
56-23-5	Carbon Tetrachloride	**0.44**	0.66	0.21	0.092	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV14-450-602** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-028

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00191

Initial Pressure (psig): -1.83 Final Pressure (psig): 5.87
Initial Pressure 2 (psig): -0.11 Final Pressure 2 (psig): 6.03
Initial Pressure 3 (psig): 0.03 Final Pressure 3 (psig): 5.67

Container Dilution Factor: 3.14

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**6.7**	2.5	0.78	0.34	
75-27-4	Bromodichloromethane	0.20	0.63	0.20	0.090	**U**
79-01-6	Trichloroethene	**5.5**	0.79	0.25	0.11	
123-91-1	1,4-Dioxane	0.37	1.2	0.37	0.14	**U**
142-82-5	n-Heptane	**4.0**	1.0	0.61	0.16	
108-10-1	4-Methyl-2-pentanone	**0.33**	1.0	0.33	0.14	**J**
108-88-3	Toluene	**21**	1.1	0.35	0.14	
591-78-6	2-Hexanone	**1.0**	1.0	0.33	0.13	**J**
124-48-1	Dibromochloromethane	0.16	0.50	0.16	0.065	**U**
106-93-4	1,2-Dibromoethane	0.17	0.55	0.17	0.063	**U**
127-18-4	Tetrachloroethene	**1.4**	0.60	0.20	0.080	
100-41-4	Ethylbenzene	**0.94**	0.98	0.31	0.14	**J**
179601-23-1	m,p-Xylenes	**2.2**	2.0	0.61	0.25	
75-25-2	Bromoform	0.24	0.41	0.24	0.084	**U**
100-42-5	Styrene	0.59	0.98	0.59	0.16	**U**
95-47-6	o-Xylene	**0.47**	0.98	0.31	0.14	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.43**	0.85	0.27	0.12	**J**
95-63-6	1,2,4-Trimethylbenzene	**2.0**	0.86	0.27	0.12	
120-82-1	1,2,4-Trichlorobenzene	0.34	0.57	0.34	0.14	**U**
91-20-3	Naphthalene	0.46	0.78	0.46	0.19	**U**
1330-20-7	Xylenes, Total	**2.7**	2.0	0.61	0.25	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVTB-202-02** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-029

Test Code: EPA TO-15 Date Collected: 4/16/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00358

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.26**	0.77	0.47	0.19	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.16	0.27	0.16	0.044	**U**
74-87-3	Chloromethane	0.39	0.64	0.39	0.10	**U**
75-01-4	Vinyl Chloride	0.17	0.53	0.17	0.056	**U**
106-99-0	1,3-Butadiene	0.36	0.60	0.36	0.099	**U**
75-00-3	Chloroethane	0.30	0.51	0.30	0.063	**U**
64-17-5	Ethanol	**2.7**	6.9	1.1	0.49	**J, B**
67-64-1	Acetone	**1.7**	5.6	2.8	1.3	**J**
75-69-4	Trichlorofluoromethane	0.14	0.24	0.14	0.036	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.77**	2.1	0.64	0.22	**J**
75-09-2	Methylene Chloride	0.23	0.38	0.23	0.11	**U**
76-13-1	Trichlorotrifluoroethane	0.055	0.18	0.055	0.025	**U**
75-15-0	Carbon Disulfide	0.43	0.88	0.43	0.13	**U**
75-34-3	1,1-Dichloroethane	0.20	0.34	0.20	0.048	**U**
78-93-3	2-Butanone (MEK)	**0.21**	0.93	0.27	0.093	**J**
141-78-6	Ethyl Acetate	**0.30**	0.76	0.45	0.19	**J**
110-54-3	n-Hexane	0.23	0.38	0.23	0.078	**U**
67-66-3	Chloroform	0.087	0.28	0.087	0.036	**U**
109-99-9	Tetrahydrofuran (THF)	0.14	0.47	0.14	0.057	**U**
107-06-2	1,2-Dichloroethane	0.11	0.33	0.11	0.036	**U**
71-43-2	Benzene	0.13	0.41	0.13	0.060	**U**
56-23-5	Carbon Tetrachloride	0.068	0.21	0.068	0.029	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVTB-202-02** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-029

Test Code: EPA TO-15 Date Collected: 4/16/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00358

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.25	0.80	0.25	0.11	**U**
75-27-4	Bromodichloromethane	0.063	0.20	0.063	0.029	**U**
79-01-6	Trichloroethene	**0.057**	0.25	0.079	0.034	**J**
123-91-1	1,4-Dioxane	0.12	0.37	0.12	0.044	**U**
142-82-5	n-Heptane	0.20	0.33	0.20	0.052	**U**
108-10-1	4-Methyl-2-pentanone	0.10	0.32	0.10	0.045	**U**
108-88-3	Toluene	**0.087**	0.36	0.11	0.043	**J**
591-78-6	2-Hexanone	**0.049**	0.33	0.10	0.040	**J**
124-48-1	Dibromochloromethane	0.050	0.16	0.050	0.021	**U**
106-93-4	1,2-Dibromoethane	0.055	0.18	0.055	0.020	**U**
127-18-4	Tetrachloroethene	0.063	0.19	0.063	0.025	**U**
100-41-4	Ethylbenzene	0.098	0.31	0.098	0.043	**U**
179601-23-1	m,p-Xylenes	0.20	0.63	0.20	0.081	**U**
75-25-2	Bromoform	0.077	0.13	0.077	0.027	**U**
100-42-5	Styrene	0.19	0.31	0.19	0.051	**U**
95-47-6	o-Xylene	0.098	0.31	0.098	0.044	**U**
108-67-8	1,3,5-Trimethylbenzene	0.086	0.27	0.086	0.039	**U**
95-63-6	1,2,4-Trimethylbenzene	0.086	0.27	0.086	0.038	**U**
120-82-1	1,2,4-Trichlorobenzene	0.11	0.18	0.11	0.044	**U**
91-20-3	Naphthalene	0.15	0.25	0.15	0.062	**U**
1330-20-7	Xylenes, Total	0.20	0.63	0.20	0.081	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200505-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.19	0.31	0.19	0.076	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.065	0.11	0.065	0.018	**U**
74-87-3	Chloromethane	0.16	0.26	0.16	0.042	**U**
75-01-4	Vinyl Chloride	0.067	0.21	0.067	0.022	**U**
106-99-0	1,3-Butadiene	0.14	0.24	0.14	0.040	**U**
75-00-3	Chloroethane	0.12	0.20	0.12	0.025	**U**
64-17-5	Ethanol	**0.22**	2.8	0.44	0.20	**J**
67-64-1	Acetone	1.1	2.2	1.1	0.51	**U**
75-69-4	Trichlorofluoromethane	0.057	0.094	0.057	0.014	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.26	0.85	0.26	0.090	**U**
75-09-2	Methylene Chloride	0.092	0.15	0.092	0.043	**U**
76-13-1	Trichlorotrifluoroethane	0.022	0.070	0.022	0.0099	**U**
75-15-0	Carbon Disulfide	0.17	0.35	0.17	0.051	**U**
75-34-3	1,1-Dichloroethane	0.082	0.14	0.082	0.019	**U**
78-93-3	2-Butanone (MEK)	0.11	0.37	0.11	0.037	**U**
141-78-6	Ethyl Acetate	0.18	0.31	0.18	0.078	**U**
110-54-3	n-Hexane	0.091	0.15	0.091	0.031	**U**
67-66-3	Chloroform	0.035	0.11	0.035	0.015	**U**
109-99-9	Tetrahydrofuran (THF)	0.058	0.19	0.058	0.023	**U**
107-06-2	1,2-Dichloroethane	0.042	0.13	0.042	0.015	**U**
71-43-2	Benzene	0.053	0.17	0.053	0.024	**U**
56-23-5	Carbon Tetrachloride	0.027	0.084	0.027	0.012	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200505-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.099	0.32	0.099	0.044	**U**
75-27-4	Bromodichloromethane	0.025	0.081	0.025	0.011	**U**
79-01-6	Trichloroethene	0.032	0.10	0.032	0.013	**U**
123-91-1	1,4-Dioxane	0.047	0.15	0.047	0.017	**U**
142-82-5	n-Heptane	0.078	0.13	0.078	0.021	**U**
108-10-1	4-Methyl-2-pentanone	0.041	0.13	0.041	0.018	**U**
108-88-3	Toluene	0.045	0.14	0.045	0.017	**U**
591-78-6	2-Hexanone	0.042	0.13	0.042	0.016	**U**
124-48-1	Dibromochloromethane	0.020	0.063	0.020	0.0082	**U**
106-93-4	1,2-Dibromoethane	0.022	0.070	0.022	0.0081	**U**
127-18-4	Tetrachloroethene	0.025	0.077	0.025	0.010	**U**
100-41-4	Ethylbenzene	0.039	0.12	0.039	0.017	**U**
179601-23-1	m,p-Xylenes	0.078	0.25	0.078	0.032	**U**
75-25-2	Bromoform	0.031	0.052	0.031	0.011	**U**
100-42-5	Styrene	0.075	0.12	0.075	0.020	**U**
95-47-6	o-Xylene	0.039	0.12	0.039	0.018	**U**
108-67-8	1,3,5-Trimethylbenzene	0.035	0.11	0.035	0.016	**U**
95-63-6	1,2,4-Trimethylbenzene	0.035	0.11	0.035	0.015	**U**
120-82-1	1,2,4-Trichlorobenzene	0.043	0.073	0.043	0.018	**U**
91-20-3	Naphthalene	0.059	0.099	0.059	0.025	**U**
1330-20-7	Xylenes, Total	0.078	0.25	0.078	0.032	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200508-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.19	0.31	0.19	0.076	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.065	0.11	0.065	0.018	**U**
74-87-3	Chloromethane	0.16	0.26	0.16	0.042	**U**
75-01-4	Vinyl Chloride	0.067	0.21	0.067	0.022	**U**
106-99-0	1,3-Butadiene	0.14	0.24	0.14	0.040	**U**
75-00-3	Chloroethane	0.12	0.20	0.12	0.025	**U**
64-17-5	Ethanol	**0.25**	2.8	0.44	0.20	**J**
67-64-1	Acetone	1.1	2.2	1.1	0.51	**U**
75-69-4	Trichlorofluoromethane	0.057	0.094	0.057	0.014	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.26	0.85	0.26	0.090	**U**
75-09-2	Methylene Chloride	0.092	0.15	0.092	0.043	**U**
76-13-1	Trichlorotrifluoroethane	0.022	0.070	0.022	0.0099	**U**
75-15-0	Carbon Disulfide	0.17	0.35	0.17	0.051	**U**
75-34-3	1,1-Dichloroethane	0.082	0.14	0.082	0.019	**U**
78-93-3	2-Butanone (MEK)	0.11	0.37	0.11	0.037	**U**
141-78-6	Ethyl Acetate	0.18	0.31	0.18	0.078	**U**
110-54-3	n-Hexane	0.091	0.15	0.091	0.031	**U**
67-66-3	Chloroform	0.035	0.11	0.035	0.015	**U**
109-99-9	Tetrahydrofuran (THF)	0.058	0.19	0.058	0.023	**U**
107-06-2	1,2-Dichloroethane	0.042	0.13	0.042	0.015	**U**
71-43-2	Benzene	0.053	0.17	0.053	0.024	**U**
56-23-5	Carbon Tetrachloride	0.027	0.084	0.027	0.012	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200508-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.099	0.32	0.099	0.044	**U**
75-27-4	Bromodichloromethane	0.025	0.081	0.025	0.011	**U**
79-01-6	Trichloroethene	0.032	0.10	0.032	0.013	**U**
123-91-1	1,4-Dioxane	0.047	0.15	0.047	0.017	**U**
142-82-5	n-Heptane	0.078	0.13	0.078	0.021	**U**
108-10-1	4-Methyl-2-pentanone	0.041	0.13	0.041	0.018	**U**
108-88-3	Toluene	0.045	0.14	0.045	0.017	**U**
591-78-6	2-Hexanone	0.042	0.13	0.042	0.016	**U**
124-48-1	Dibromochloromethane	0.020	0.063	0.020	0.0082	**U**
106-93-4	1,2-Dibromoethane	0.022	0.070	0.022	0.0081	**U**
127-18-4	Tetrachloroethene	0.025	0.077	0.025	0.010	**U**
100-41-4	Ethylbenzene	0.039	0.12	0.039	0.017	**U**
179601-23-1	m,p-Xylenes	0.078	0.25	0.078	0.032	**U**
75-25-2	Bromoform	0.031	0.052	0.031	0.011	**U**
100-42-5	Styrene	0.075	0.12	0.075	0.020	**U**
95-47-6	o-Xylene	0.039	0.12	0.039	0.018	**U**
108-67-8	1,3,5-Trimethylbenzene	0.035	0.11	0.035	0.016	**U**
95-63-6	1,2,4-Trimethylbenzene	0.035	0.11	0.035	0.015	**U**
120-82-1	1,2,4-Trichlorobenzene	0.043	0.073	0.043	0.018	**U**
91-20-3	Naphthalene	0.059	0.099	0.059	0.025	**U**
1330-20-7	Xylenes, Total	0.078	0.25	0.078	0.032	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Project ID: P2002107

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date(s) Collected: 4/14/20
Analyst: Lusine Hakobyan/Topacio De Leon/Wida Ang Date(s) Received: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister(s) / 1.0 L Summa Canister(s) Date(s) Analyzed: 5/5 - 5/8/20
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P200505-MB	**97**	**101**	**100**	70-130	
Method Blank	P200508-MB	**94**	**99**	**103**	70-130	
Lab Control Sample	P200505-LCS	**92**	**100**	**109**	70-130	
Lab Control Sample	P200508-LCS	**92**	**98**	**110**	70-130	
Duplicate Lab Control Sample	P200505-DLCS	**92**	**102**	**109**	70-130	
Duplicate Lab Control Sample	P200508-DLCS	**93**	**98**	**109**	70-130	
SV137-050-202	P2002107-001	**96**	**100**	**99**	70-130	
SV137-150-202	P2002107-002	**96**	**101**	**100**	70-130	
SV137-250-202	P2002107-003	**97**	**100**	**100**	70-130	
SV137-350-202	P2002107-004	**97**	**100**	**100**	70-130	
SV137-450-202	P2002107-005	**97**	**98**	**108**	70-130	
SV137-450-202	P2002107-005DUP	**96**	**96**	**106**	70-130	
SV139-025-202	P2002107-006	**97**	**99**	**105**	70-130	
SV139-050-202	P2002107-007	**97**	**99**	**99**	70-130	
SV139-050-602	P2002107-008	**97**	**100**	**100**	70-130	
SV139-150-202	P2002107-009	**97**	**98**	**101**	70-130	
SV139-250-202	P2002107-010	**97**	**100**	**98**	70-130	
SV139-350-202	P2002107-011	**97**	**99**	**97**	70-130	
SV139-450-202	P2002107-012	**95**	**99**	**99**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Project ID: P2002107

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date(s) Collected: 4/14/20
Analyst: Lusine Hakobyan/Topacio De Leon/Wida Ang Date(s) Received: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister(s) / 1.0 L Summa Canister(s) Date(s) Analyzed: 5/5 - 5/8/20
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
SV140-025-202	P2002107-013	**97**	**97**	**100**	70-130	
SV140-050-202	P2002107-014	**97**	**97**	**100**	70-130	
SV140-150-202	P2002107-015	**97**	**97**	**107**	70-130	
SV140-250-202	P2002107-016	**95**	**97**	**107**	70-130	
SV140-350-202	P2002107-017	**98**	**102**	**98**	70-130	
SV140-450-602	P2002107-018	**97**	**102**	**103**	70-130	
SV140-450-202	P2002107-019	**96**	**103**	**103**	70-130	
SV140-450-202	P2002107-019DUP	**96**	**104**	**101**	70-130	
SVE12-410-202	P2002107-020	**95**	**97**	**104**	70-130	
SV07-050-202	P2002107-021	**97**	**102**	**104**	70-130	
SV07-100-202	P2002107-022	**97**	**104**	**101**	70-130	
SV07-150-202	P2002107-023	**96**	**99**	**101**	70-130	
SV14-150-202	P2002107-024	**97**	**100**	**101**	70-130	
SV14-250-202	P2002107-025	**98**	**100**	**104**	70-130	
SV14-350-202	P2002107-026	**96**	**101**	**105**	70-130	
SV14-450-202	P2002107-027	**94**	**100**	**104**	70-130	
SV14-450-602	P2002107-028	**96**	**101**	**104**	70-130	
SVTB-202-02	P2002107-029	**96**	**100**	**102**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200505-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	122	117	116	**96**	**95**	57-136	1	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	42.5	38.7	38.9	**91**	**92**	59-128	1	25	
74-87-3	Chloromethane	103	88.3	89.4	**86**	**87**	59-132	1	25	
75-01-4	Vinyl Chloride	83.0	74.5	73.2	**90**	**88**	64-127	2	25	
106-99-0	1,3-Butadiene	95.9	85.8	86.3	**89**	**90**	66-134	1	25	
75-00-3	Chloroethane	81.1	71.2	72.8	**88**	**90**	63-127	2	25	
64-17-5	Ethanol	563	491	500	**87**	**89**	59-125	2	25	
67-64-1	Acetone	450	411	415	**91**	**92**	58-128	1	25	
75-69-4	Trichlorofluoromethane	37.7	34.2	34.1	**91**	**90**	62-126	1	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	172	159	162	**92**	**94**	52-125	2	25	
75-09-2	Methylene Chloride	60.5	54.8	54.7	**91**	**90**	62-115	1	25	
76-13-1	Trichlorotrifluoroethane	28.2	27.3	27.3	**97**	**97**	66-126	0	25	
75-15-0	Carbon Disulfide	68.1	62.2	62.0	**91**	**91**	57-134	0	25	
75-34-3	1,1-Dichloroethane	52.4	47.1	46.6	**90**	**89**	68-126	1	25	
78-93-3	2-Butanone (MEK)	71.9	65.6	65.6	**91**	**91**	67-130	0	25	
141-78-6	Ethyl Acetate	120	121	120	**101**	**100**	65-128	1	25	
110-54-3	n-Hexane	61.3	58.7	58.5	**96**	**95**	63-120	1	25	
67-66-3	Chloroform	43.8	40.4	40.1	**92**	**92**	68-123	0	25	
109-99-9	Tetrahydrofuran (THF)	74.6	65.8	65.9	**88**	**88**	64-123	0	25	
107-06-2	1,2-Dichloroethane	52.9	46.8	46.4	**88**	**88**	65-128	0	25	
71-43-2	Benzene	65.8	61.3	61.5	**93**	**93**	69-119	0	25	
56-23-5	Carbon Tetrachloride	33.1	32.0	32.3	**97**	**98**	68-132	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200505-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	123	121	121	**98**	**98**	70-117	0	25	
75-27-4	Bromodichloromethane	32.6	31.0	31.3	**95**	**96**	72-128	1	25	
79-01-6	Trichloroethene	40.2	39.0	38.9	**97**	**97**	71-123	0	25	
123-91-1	1,4-Dioxane	60.0	58.3	58.5	**97**	**98**	71-122	1	25	
142-82-5	n-Heptane	52.2	48.7	48.8	**93**	**93**	69-123	0	25	
108-10-1	4-Methyl-2-pentanone	51.8	51.1	51.5	**99**	**99**	67-130	0	25	
108-88-3	Toluene	56.3	55.6	55.9	**99**	**99**	66-119	0	25	
591-78-6	2-Hexanone	52.7	54.4	55.1	**103**	**105**	62-128	2	25	
124-48-1	Dibromochloromethane	25.1	26.9	26.9	**107**	**107**	70-130	0	25	
106-93-4	1,2-Dibromoethane	27.9	28.7	28.7	**103**	**103**	74-122	0	25	
127-18-4	Tetrachloroethene	30.7	32.4	32.5	**106**	**106**	66-124	0	25	
100-41-4	Ethylbenzene	48.8	51.0	51.0	**105**	**105**	70-124	0	25	
179601-23-1	m,p-Xylenes	98.1	104	104	**106**	**106**	61-134	0	25	
75-25-2	Bromoform	20.7	22.5	22.6	**109**	**109**	66-139	0	25	
100-42-5	Styrene	49.8	54.8	55.1	**110**	**111**	73-127	0.9	25	
95-47-6	o-Xylene	49.3	50.9	51.0	**103**	**103**	67-125	0	25	
108-67-8	1,3,5-Trimethylbenzene	43.1	46.9	46.9	**109**	**109**	67-130	0	25	
95-63-6	1,2,4-Trimethylbenzene	43.1	52.1	52.0	**121**	**121**	66-132	0	25	
120-82-1	1,2,4-Trichlorobenzene	29.1	33.7	33.8	**116**	**116**	55-142	0	25	
91-20-3	Naphthalene	40.5	50.6	50.7	**125**	**125**	57-138	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200508-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	122	120	119	**98**	**98**	57-136	0	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	42.5	37.9	38.0	**89**	**89**	59-128	0	25	
74-87-3	Chloromethane	103	89.1	89.7	**87**	**87**	59-132	0	25	
75-01-4	Vinyl Chloride	83.0	73.7	72.5	**89**	**87**	64-127	2	25	
106-99-0	1,3-Butadiene	95.9	86.9	86.8	**91**	**91**	66-134	0	25	
75-00-3	Chloroethane	81.1	70.8	71.5	**87**	**88**	63-127	1	25	
64-17-5	Ethanol	563	496	504	**88**	**90**	59-125	2	25	
67-64-1	Acetone	450	410	417	**91**	**93**	58-128	2	25	
75-69-4	Trichlorofluoromethane	37.7	33.3	33.3	**88**	**88**	62-126	0	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	172	160	161	**93**	**94**	52-125	1	25	
75-09-2	Methylene Chloride	60.5	53.1	53.7	**88**	**89**	62-115	1	25	
76-13-1	Trichlorotrifluoroethane	28.2	26.3	26.5	**93**	**94**	66-126	1	25	
75-15-0	Carbon Disulfide	68.1	60.4	61.2	**89**	**90**	57-134	1	25	
75-34-3	1,1-Dichloroethane	52.4	46.1	46.3	**88**	**88**	68-126	0	25	
78-93-3	2-Butanone (MEK)	71.9	64.3	65.0	**89**	**90**	67-130	1	25	
141-78-6	Ethyl Acetate	120	119	121	**99**	**101**	65-128	2	25	
110-54-3	n-Hexane	61.3	57.7	58.1	**94**	**95**	63-120	1	25	
67-66-3	Chloroform	43.8	39.3	39.4	**90**	**90**	68-123	0	25	
109-99-9	Tetrahydrofuran (THF)	74.6	64.8	65.0	**87**	**87**	64-123	0	25	
107-06-2	1,2-Dichloroethane	52.9	45.3	45.7	**86**	**86**	65-128	0	25	
71-43-2	Benzene	65.8	60.9	59.8	**93**	**91**	69-119	2	25	
56-23-5	Carbon Tetrachloride	33.1	31.4	31.1	**95**	**94**	68-132	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200508-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	123	119	118	**97**	**96**	70-117	1	25	
75-27-4	Bromodichloromethane	32.6	30.6	30.3	**94**	**93**	72-128	1	25	
79-01-6	Trichloroethene	40.2	38.0	37.8	**95**	**94**	71-123	1	25	
123-91-1	1,4-Dioxane	60.0	57.9	57.4	**97**	**96**	71-122	1	25	
142-82-5	n-Heptane	52.2	48.4	47.8	**93**	**92**	69-123	1	25	
108-10-1	4-Methyl-2-pentanone	51.8	51.2	51.0	**99**	**98**	67-130	1	25	
108-88-3	Toluene	56.3	53.0	53.0	**94**	**94**	66-119	0	25	
591-78-6	2-Hexanone	52.7	52.7	53.1	**100**	**101**	62-128	1	25	
124-48-1	Dibromochloromethane	25.1	25.1	25.1	**100**	**100**	70-130	0	25	
106-93-4	1,2-Dibromoethane	27.9	27.1	26.9	**97**	**96**	74-122	1	25	
127-18-4	Tetrachloroethene	30.7	30.5	30.4	**99**	**99**	66-124	0	25	
100-41-4	Ethylbenzene	48.8	48.2	48.2	**99**	**99**	70-124	0	25	
179601-23-1	m,p-Xylenes	98.1	97.8	98.1	**100**	**100**	61-134	0	25	
75-25-2	Bromoform	20.7	20.7	20.6	**100**	**100**	66-139	0	25	
100-42-5	Styrene	49.8	51.5	51.4	**103**	**103**	73-127	0	25	
95-47-6	o-Xylene	49.3	48.1	47.8	**98**	**97**	67-125	1	25	
108-67-8	1,3,5-Trimethylbenzene	43.1	44.0	44.0	**102**	**102**	67-130	0	25	
95-63-6	1,2,4-Trimethylbenzene	43.1	49.2	48.6	**114**	**113**	66-132	0.9	25	
120-82-1	1,2,4-Trichlorobenzene	29.1	31.9	31.5	**110**	**108**	55-142	2	25	
91-20-3	Naphthalene	40.5	47.7	47.3	**118**	**117**	57-138	0.9	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV137-450-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-005DUP

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0030 Liter(s)
Test Notes:
Container ID: 1SC00044

Initial Pressure (psig): -2.45 Final Pressure (psig): 7.05

Container Dilution Factor: 1.78

Compound	Sample Result ppbV	Duplicate Sample Result ppbV	Average ppbV	% RPD	RPD Limit	Data Qualifier
Propene	110	110	110	**0**	25	**J**
Dichlorodifluoromethane (CFC 12)	ND	ND	-	-	25	
Chloromethane	ND	ND	-	-	25	
Vinyl Chloride	ND	ND	-	-	25	
1,3-Butadiene	ND	ND	-	-	25	
Chloroethane	ND	ND	-	-	25	
Ethanol	ND	ND	-	-	25	
Acetone	ND	ND	-	-	25	
Trichlorofluoromethane	ND	ND	-	-	25	
2-Propanol (Isopropyl Alcohol)	81	75	78	**8**	25	**J**
Methylene Chloride	ND	ND	-	-	25	
Trichlorotrifluoroethane	ND	ND	-	-	25	
Carbon Disulfide	32	31	31.5	**3**	25	**J**
1,1-Dichloroethane	ND	ND	-	-	25	
2-Butanone (MEK)	ND	ND	-	-	25	
Ethyl Acetate	ND	ND	-	-	25	
n-Hexane	300	290	295	**3**	25	
Chloroform	ND	ND	-	-	25	
Tetrahydrofuran (THF)	24	21	22.5	**13**	25	**J**
1,2-Dichloroethane	12	11	11.5	**9**	25	**J**
Benzene	3,400	3,400	3400	**0**	25	
Carbon Tetrachloride	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV137-450-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-005DUP

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0030 Liter(s)
Test Notes:
Container ID: 1SC00044

Initial Pressure (psig): -2.45 Final Pressure (psig): 7.05

Container Dilution Factor: 1.78

Compound	Sample Result ppbV	Duplicate Sample Result ppbV	Average ppbV	% RPD	RPD Limit	Data Qualifier
Cyclohexane	1,400	1,400	1400	**0**	25	
Bromodichloromethane	ND	ND	-	-	25	
Trichloroethene	ND	ND	-	-	25	
1,4-Dioxane	ND	ND	-	-	25	
n-Heptane	330	320	325	**3**	25	
4-Methyl-2-pentanone	ND	ND	-	-	25	
Toluene	8,000	7,900	7950	**1**	25	
2-Hexanone	ND	ND	-	-	25	
Dibromochloromethane	ND	ND	-	-	25	
1,2-Dibromoethane	59	61	60	**3**	25	
Tetrachloroethene	ND	ND	-	-	25	
Ethylbenzene	670	680	675	**1**	25	
m,p-Xylenes	16,000	16,000	16000	**0**	25	
Bromoform	ND	ND	-	-	25	
Styrene	ND	ND	-	-	25	
o-Xylene	8,100	8,300	8200	**2**	25	
1,3,5-Trimethylbenzene	780	810	795	**4**	25	
1,2,4-Trimethylbenzene	820	870	845	**6**	25	
1,2,4-Trichlorobenzene	ND	ND	-	-	25	
Naphthalene	ND	ND	-	-	25	
Xylenes, Total	24,000	24,000	24000	**0**	25	

ND = Compound was analyzed for, but not detected.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV140-450-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-019DUP

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.050 Liter(s)
Test Notes:
Container ID: 1SC01347

Initial Pressure (psig): -2.97 Final Pressure (psig): 6.85

Container Dilution Factor: 1.84

Compound	Sample Result ppbV	Duplicate Sample Result ppbV	Average ppbV	% RPD	RPD Limit	Data Qualifier
Propene	ND	ND	-	-	25	
Dichlorodifluoromethane (CFC 12)	3.3	3.2	3.25	**3**	25	**J**
Chloromethane	1.9	1.9	1.9	**0**	25	**J**
Vinyl Chloride	ND	ND	-	-	25	
1,3-Butadiene	ND	ND	-	-	25	
Chloroethane	ND	ND	-	-	25	
Ethanol	ND	ND	-	-	25	
Acetone	81	81	81	**0**	25	**J**
Trichlorofluoromethane	ND	ND	-	-	25	
2-Propanol (Isopropyl Alcohol)	ND	ND	-	-	25	
Methylene Chloride	ND	ND	-	-	25	
Trichlorotrifluoroethane	ND	ND	-	-	25	
Carbon Disulfide	2.7	2.7	2.7	**0**	25	**J**
1,1-Dichloroethane	ND	ND	-	-	25	
2-Butanone (MEK)	92	90	91	**2**	25	
Ethyl Acetate	ND	ND	-	-	25	
n-Hexane	1.5	1.4	1.45	**7**	25	**J**
Chloroform	ND	ND	-	-	25	
Tetrahydrofuran (THF)	19	19	19	**0**	25	
1,2-Dichloroethane	ND	ND	-	-	25	
Benzene	39	38	38.5	**3**	25	
Carbon Tetrachloride	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV140-450-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-019DUP

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.050 Liter(s)
Test Notes:
Container ID: 1SC01347

Initial Pressure (psig): -2.97 Final Pressure (psig): 6.85

Container Dilution Factor: 1.84

Compound	Sample Result ppbV	Duplicate Sample Result ppbV	Average ppbV	% RPD	RPD Limit	Data Qualifier
Cyclohexane	23	23	23	**0**	25	
Bromodichloromethane	ND	ND	-	-	25	
Trichloroethene	ND	ND	-	-	25	
1,4-Dioxane	ND	ND	-	-	25	
n-Heptane	ND	ND	-	-	25	
4-Methyl-2-pentanone	ND	ND	-	-	25	
Toluene	5.8	5.8	5.8	**0**	25	
2-Hexanone	ND	ND	-	-	25	
Dibromochloromethane	ND	ND	-	-	25	
1,2-Dibromoethane	ND	ND	-	-	25	
Tetrachloroethene	ND	ND	-	-	25	
Ethylbenzene	ND	ND	-	-	25	
m,p-Xylenes	ND	ND	-	-	25	
Bromoform	ND	ND	-	-	25	
Styrene	ND	ND	-	-	25	
o-Xylene	ND	ND	-	-	25	
1,3,5-Trimethylbenzene	ND	ND	-	-	25	
1,2,4-Trimethylbenzene	ND	ND	-	-	25	
1,2,4-Trichlorobenzene	ND	ND	-	-	25	
Naphthalene	ND	ND	-	-	25	
Xylenes, Total	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV137-050-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-001

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00028

Initial Pressure (psig): -2.96 Final Pressure (psig): 7.69

Container Dilution Factor: 1.91

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	1.5	2.5	1.5	0.62	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.8**	2.5	1.5	0.42	
74-87-3	Chloromethane	1.5	2.5	1.5	0.41	**U**
75-01-4	Vinyl Chloride	0.81	2.6	0.81	0.27	**U**
106-99-0	1,3-Butadiene	1.5	2.5	1.5	0.42	**U**
75-00-3	Chloroethane	1.5	2.6	1.5	0.32	**U**
64-17-5	Ethanol	**5.5**	25	4.0	1.8	**J, B**
67-64-1	Acetone	**7.5**	25	13	5.7	**J**
75-69-4	Trichlorofluoromethane	**1.3**	2.5	1.5	0.39	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	3.0	10	3.0	1.1	**U**
75-09-2	Methylene Chloride	1.5	2.5	1.5	0.72	**U**
76-13-1	Trichlorotrifluoroethane	**0.52**	2.6	0.81	0.36	**J**
75-15-0	Carbon Disulfide	**3.0**	5.3	2.6	0.76	**J**
75-34-3	1,1-Dichloroethane	1.6	2.6	1.6	0.37	**U**
78-93-3	2-Butanone (MEK)	**0.83**	5.3	1.5	0.53	**J**
141-78-6	Ethyl Acetate	3.1	5.3	3.1	1.3	**U**
110-54-3	n-Hexane	1.5	2.6	1.5	0.53	**U**
67-66-3	Chloroform	**0.66**	2.6	0.81	0.34	**J**
109-99-9	Tetrahydrofuran (THF)	**2.7**	2.6	0.81	0.32	
107-06-2	1,2-Dichloroethane	0.81	2.6	0.81	0.28	**U**
71-43-2	Benzene	0.81	2.5	0.81	0.37	**U**
56-23-5	Carbon Tetrachloride	0.81	2.5	0.81	0.35	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV137-050-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-001

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00028

Initial Pressure (psig): -2.96 Final Pressure (psig): 7.69

Container Dilution Factor: 1.91

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.6	5.3	1.6	0.72	**U**
75-27-4	Bromodichloromethane	0.81	2.6	0.81	0.37	**U**
79-01-6	Trichloroethene	0.81	2.6	0.81	0.34	**U**
123-91-1	1,4-Dioxane	0.81	2.6	0.81	0.30	**U**
142-82-5	n-Heptane	1.5	2.6	1.5	0.41	**U**
108-10-1	4-Methyl-2-pentanone	0.81	2.5	0.81	0.35	**U**
108-88-3	Toluene	**0.97**	2.6	0.81	0.31	**J**
591-78-6	2-Hexanone	**0.33**	2.6	0.81	0.32	**J**
124-48-1	Dibromochloromethane	0.81	2.6	0.81	0.33	**U**
106-93-4	1,2-Dibromoethane	0.81	2.6	0.81	0.30	**U**
127-18-4	Tetrachloroethene	0.81	2.5	0.81	0.33	**U**
100-41-4	Ethylbenzene	0.81	2.6	0.81	0.36	**U**
179601-23-1	m,p-Xylenes	**0.77**	5.3	1.6	0.67	**J**
75-25-2	Bromoform	1.5	2.6	1.5	0.53	**U**
100-42-5	Styrene	1.5	2.5	1.5	0.41	**U**
95-47-6	o-Xylene	0.81	2.6	0.81	0.37	**U**
108-67-8	1,3,5-Trimethylbenzene	0.81	2.5	0.81	0.37	**U**
95-63-6	1,2,4-Trimethylbenzene	**1.4**	2.6	0.81	0.35	**J**
120-82-1	1,2,4-Trichlorobenzene	1.5	2.6	1.5	0.62	**U**
91-20-3	Naphthalene	1.5	2.5	1.5	0.62	**U**
1330-20-7	Xylenes, Total	**0.77**	5.3	1.6	0.67	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV137-150-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-002

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00922

Initial Pressure (psig): -2.25 Final Pressure (psig): 6.07

Container Dilution Factor: 1.67

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	1.3	2.2	1.3	0.54	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**3.6**	2.2	1.3	0.36	
74-87-3	Chloromethane	1.3	2.2	1.3	0.36	**U**
75-01-4	Vinyl Chloride	0.71	2.3	0.71	0.24	**U**
106-99-0	1,3-Butadiene	1.3	2.2	1.3	0.37	**U**
75-00-3	Chloroethane	1.3	2.3	1.3	0.28	**U**
64-17-5	Ethanol	**2.5**	22	3.5	1.5	**J, B**
67-64-1	Acetone	11	22	11	5.0	**U**
75-69-4	Trichlorofluoromethane	**1.3**	2.2	1.3	0.34	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	2.6	8.8	2.6	0.92	**U**
75-09-2	Methylene Chloride	1.3	2.2	1.3	0.63	**U**
76-13-1	Trichlorotrifluoroethane	**0.48**	2.3	0.71	0.32	**J**
75-15-0	Carbon Disulfide	2.3	4.6	2.3	0.67	**U**
75-34-3	1,1-Dichloroethane	1.4	2.3	1.4	0.33	**U**
78-93-3	2-Butanone (MEK)	**0.60**	4.6	1.3	0.46	**J**
141-78-6	Ethyl Acetate	**2.9**	4.6	2.7	1.2	**J**
110-54-3	n-Hexane	1.3	2.3	1.3	0.46	**U**
67-66-3	Chloroform	0.71	2.3	0.71	0.30	**U**
109-99-9	Tetrahydrofuran (THF)	**0.55**	2.3	0.71	0.28	**J**
107-06-2	1,2-Dichloroethane	0.71	2.3	0.71	0.25	**U**
71-43-2	Benzene	**0.40**	2.2	0.71	0.32	**J**
56-23-5	Carbon Tetrachloride	0.71	2.2	0.71	0.31	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV137-150-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-002

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00922

Initial Pressure (psig): -2.25 Final Pressure (psig): 6.07

Container Dilution Factor: 1.67

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.4	4.6	1.4	0.63	**U**
75-27-4	Bromodichloromethane	0.71	2.3	0.71	0.32	**U**
79-01-6	Trichloroethene	**0.69**	2.3	0.71	0.30	**J**
123-91-1	1,4-Dioxane	0.71	2.3	0.71	0.26	**U**
142-82-5	n-Heptane	**0.40**	2.3	1.3	0.35	**J**
108-10-1	4-Methyl-2-pentanone	0.71	2.2	0.71	0.30	**U**
108-88-3	Toluene	**1.6**	2.3	0.71	0.27	**J**
591-78-6	2-Hexanone	0.71	2.3	0.71	0.28	**U**
124-48-1	Dibromochloromethane	0.71	2.3	0.71	0.29	**U**
106-93-4	1,2-Dibromoethane	0.71	2.3	0.71	0.26	**U**
127-18-4	Tetrachloroethene	**0.35**	2.2	0.71	0.29	**J**
100-41-4	Ethylbenzene	**0.43**	2.3	0.71	0.31	**J**
179601-23-1	m,p-Xylenes	**2.1**	4.6	1.4	0.58	**J**
75-25-2	Bromoform	1.3	2.3	1.3	0.46	**U**
100-42-5	Styrene	1.3	2.2	1.3	0.36	**U**
95-47-6	o-Xylene	**0.66**	2.3	0.71	0.32	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.78**	2.2	0.71	0.32	**J**
95-63-6	1,2,4-Trimethylbenzene	**4.1**	2.3	0.71	0.31	
120-82-1	1,2,4-Trichlorobenzene	1.3	2.3	1.3	0.54	**U**
91-20-3	Naphthalene	1.3	2.2	1.3	0.54	**U**
1330-20-7	Xylenes, Total	**2.8**	4.6	1.4	0.58	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV137-250-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-003

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00471

Initial Pressure (psig): -2.86 Final Pressure (psig): 5.99

Container Dilution Factor: 1.75

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**0.81**	2.3	1.4	0.57	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**3.8**	2.3	1.4	0.38	
74-87-3	Chloromethane	**0.50**	2.3	1.4	0.38	**J**
75-01-4	Vinyl Chloride	0.74	2.4	0.74	0.25	**U**
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.39	**U**
75-00-3	Chloroethane	1.4	2.4	1.4	0.29	**U**
64-17-5	Ethanol	**4.8**	23	3.6	1.6	**J, B**
67-64-1	Acetone	**16**	23	12	5.3	**J**
75-69-4	Trichlorofluoromethane	**1.3**	2.3	1.4	0.35	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	2.8	9.2	2.8	0.96	**U**
75-09-2	Methylene Chloride	1.4	2.3	1.4	0.66	**U**
76-13-1	Trichlorotrifluoroethane	**0.52**	2.4	0.74	0.33	**J**
75-15-0	Carbon Disulfide	**3.2**	4.8	2.4	0.70	**J**
75-34-3	1,1-Dichloroethane	1.4	2.4	1.4	0.34	**U**
78-93-3	2-Butanone (MEK)	**4.2**	4.8	1.4	0.48	**J**
141-78-6	Ethyl Acetate	2.8	4.8	2.8	1.2	**U**
110-54-3	n-Hexane	1.4	2.4	1.4	0.48	**U**
67-66-3	Chloroform	0.74	2.4	0.74	0.31	**U**
109-99-9	Tetrahydrofuran (THF)	**32**	2.4	0.74	0.29	
107-06-2	1,2-Dichloroethane	0.74	2.4	0.74	0.26	**U**
71-43-2	Benzene	**0.37**	2.3	0.74	0.34	**J**
56-23-5	Carbon Tetrachloride	0.74	2.3	0.74	0.32	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV137-250-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-003

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00471

Initial Pressure (psig): -2.86 Final Pressure (psig): 5.99

Container Dilution Factor: 1.75

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.5	4.8	1.5	0.66	**U**
75-27-4	Bromodichloromethane	0.74	2.4	0.74	0.34	**U**
79-01-6	Trichloroethene	**1.1**	2.4	0.74	0.32	**J**
123-91-1	1,4-Dioxane	**0.39**	2.4	0.74	0.28	**J**
142-82-5	n-Heptane	1.4	2.4	1.4	0.37	**U**
108-10-1	4-Methyl-2-pentanone	0.74	2.3	0.74	0.32	**U**
108-88-3	Toluene	**0.99**	2.4	0.74	0.28	**J**
591-78-6	2-Hexanone	**0.93**	2.4	0.74	0.29	**J**
124-48-1	Dibromochloromethane	0.74	2.4	0.74	0.31	**U**
106-93-4	1,2-Dibromoethane	0.74	2.4	0.74	0.27	**U**
127-18-4	Tetrachloroethene	**4.6**	2.3	0.74	0.30	
100-41-4	Ethylbenzene	0.74	2.4	0.74	0.33	**U**
179601-23-1	m,p-Xylenes	**1.1**	4.8	1.5	0.61	**J**
75-25-2	Bromoform	1.4	2.4	1.4	0.48	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.38	**U**
95-47-6	o-Xylene	**0.49**	2.4	0.74	0.34	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.39**	2.3	0.74	0.34	**J**
95-63-6	1,2,4-Trimethylbenzene	**1.7**	2.4	0.74	0.32	**J**
120-82-1	1,2,4-Trichlorobenzene	1.4	2.4	1.4	0.57	**U**
91-20-3	Naphthalene	1.4	2.3	1.4	0.57	**U**
1330-20-7	Xylenes, Total	**1.6**	4.8	1.5	0.61	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV137-350-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-004

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00182

Initial Pressure (psig): -3.45 Final Pressure (psig): 6.06

Container Dilution Factor: 1.85

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**0.98**	2.5	1.5	0.60	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**3.7**	2.5	1.5	0.40	
74-87-3	Chloromethane	**0.43**	2.5	1.5	0.40	**J**
75-01-4	Vinyl Chloride	0.79	2.5	0.79	0.26	**U**
106-99-0	1,3-Butadiene	1.5	2.5	1.5	0.41	**U**
75-00-3	Chloroethane	1.5	2.5	1.5	0.31	**U**
64-17-5	Ethanol	**6.4**	24	3.8	1.7	**J, B**
67-64-1	Acetone	**11**	25	12	5.6	**J**
75-69-4	Trichlorofluoromethane	**2.1**	2.5	1.5	0.37	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	2.9	9.7	2.9	1.0	**U**
75-09-2	Methylene Chloride	1.5	2.5	1.5	0.69	**U**
76-13-1	Trichlorotrifluoroethane	**0.51**	2.5	0.79	0.35	**J**
75-15-0	Carbon Disulfide	**2.1**	5.1	2.5	0.74	**J**
75-34-3	1,1-Dichloroethane	1.5	2.5	1.5	0.36	**U**
78-93-3	2-Butanone (MEK)	**2.8**	5.1	1.5	0.51	**J**
141-78-6	Ethyl Acetate	**5.4**	5.1	3.0	1.3	
110-54-3	n-Hexane	1.5	2.5	1.5	0.51	**U**
67-66-3	Chloroform	**0.92**	2.5	0.79	0.33	**J**
109-99-9	Tetrahydrofuran (THF)	**8.2**	2.5	0.79	0.31	
107-06-2	1,2-Dichloroethane	0.79	2.5	0.79	0.27	**U**
71-43-2	Benzene	**0.67**	2.5	0.79	0.36	**J**
56-23-5	Carbon Tetrachloride	**0.80**	2.5	0.79	0.34	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV137-350-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-004

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00182

Initial Pressure (psig): -3.45 Final Pressure (psig): 6.06

Container Dilution Factor: 1.85

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.6	5.1	1.6	0.69	**U**
75-27-4	Bromodichloromethane	0.79	2.5	0.79	0.36	**U**
79-01-6	Trichloroethene	**2.3**	2.5	0.79	0.33	**J**
123-91-1	1,4-Dioxane	0.79	2.5	0.79	0.29	**U**
142-82-5	n-Heptane	1.5	2.5	1.5	0.39	**U**
108-10-1	4-Methyl-2-pentanone	0.79	2.5	0.79	0.34	**U**
108-88-3	Toluene	**1.4**	2.5	0.79	0.30	**J**
591-78-6	2-Hexanone	**0.80**	2.5	0.79	0.31	**J**
124-48-1	Dibromochloromethane	0.79	2.5	0.79	0.32	**U**
106-93-4	1,2-Dibromoethane	0.79	2.5	0.79	0.29	**U**
127-18-4	Tetrachloroethene	**3.9**	2.4	0.79	0.32	
100-41-4	Ethylbenzene	0.79	2.5	0.79	0.35	**U**
179601-23-1	m,p-Xylenes	**0.85**	5.1	1.6	0.65	**J**
75-25-2	Bromoform	1.5	2.5	1.5	0.51	**U**
100-42-5	Styrene	1.5	2.5	1.5	0.40	**U**
95-47-6	o-Xylene	0.79	2.5	0.79	0.36	**U**
108-67-8	1,3,5-Trimethylbenzene	0.79	2.5	0.79	0.36	**U**
95-63-6	1,2,4-Trimethylbenzene	**1.5**	2.5	0.79	0.34	**J**
120-82-1	1,2,4-Trichlorobenzene	1.5	2.5	1.5	0.60	**U**
91-20-3	Naphthalene	1.4	2.4	1.4	0.60	**U**
1330-20-7	Xylenes, Total	**0.85**	5.1	1.6	0.65	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV137-450-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-005

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0030 Liter(s)
Test Notes:
Container ID: 1SC00044

Initial Pressure (psig): -2.45 Final Pressure (psig): 7.05

Container Dilution Factor: 1.78

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**200**	310	190	77	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	190	310	190	52	**U**
74-87-3	Chloromethane	190	310	190	51	**U**
75-01-4	Vinyl Chloride	100	320	100	34	**U**
106-99-0	1,3-Butadiene	190	310	190	52	**U**
75-00-3	Chloroethane	190	320	190	39	**U**
64-17-5	Ethanol	490	3,100	490	220	**U**
67-64-1	Acetone	1,600	3,100	1,600	710	**U**
75-69-4	Trichlorofluoromethane	190	310	190	48	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	**200**	1,200	370	130	**J**
75-09-2	Methylene Chloride	190	310	190	89	**U**
76-13-1	Trichlorotrifluoroethane	100	320	100	45	**U**
75-15-0	Carbon Disulfide	**98**	650	320	95	**J**
75-34-3	1,1-Dichloroethane	200	330	200	46	**U**
78-93-3	2-Butanone (MEK)	190	650	190	65	**U**
141-78-6	Ethyl Acetate	390	650	390	170	**U**
110-54-3	n-Hexane	**1,000**	320	190	65	
67-66-3	Chloroform	100	320	100	42	**U**
109-99-9	Tetrahydrofuran (THF)	**72**	330	100	40	**J**
107-06-2	1,2-Dichloroethane	**49**	320	100	35	**J**
71-43-2	Benzene	**11,000**	310	100	46	
56-23-5	Carbon Tetrachloride	100	310	100	44	**U**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV137-450-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-005

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0030 Liter(s)
Test Notes:
Container ID: 1SC00044

Initial Pressure (psig): -2.45 Final Pressure (psig): 7.05

Container Dilution Factor: 1.78

CAS #	Compound	Result µg/m³		LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**4,800**		650	200	89	
75-27-4	Bromodichloromethane		100	320	100	46	**U**
79-01-6	Trichloroethene		100	320	100	43	**U**
123-91-1	1,4-Dioxane		100	320	100	37	**U**
142-82-5	n-Heptane	**1,400**		320	190	50	
108-10-1	4-Methyl-2-pentanone		100	310	100	43	**U**
108-88-3	Toluene	**30,000**		320	100	39	
591-78-6	2-Hexanone		100	320	100	39	**U**
124-48-1	Dibromochloromethane		100	320	100	42	**U**
106-93-4	1,2-Dibromoethane	**460**		320	100	37	
127-18-4	Tetrachloroethene		100	310	100	41	**U**
100-41-4	Ethylbenzene	**2,900**		320	100	45	
179601-23-1	m,p-Xylenes	**69,000**		650	200	83	
75-25-2	Bromoform		190	320	190	65	**U**
100-42-5	Styrene		190	310	190	51	**U**
95-47-6	o-Xylene	**35,000**		320	100	46	
108-67-8	1,3,5-Trimethylbenzene	**3,800**		310	100	46	
95-63-6	1,2,4-Trimethylbenzene	**4,000**		320	100	44	
120-82-1	1,2,4-Trichlorobenzene		190	320	190	77	**U**
91-20-3	Naphthalene		180	310	180	77	**U**
1330-20-7	Xylenes, Total	**100,000**		650	200	83	

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV139-025-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-006

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00848

Initial Pressure (psig): -3.10 Final Pressure (psig): 6.09

Container Dilution Factor: 1.79

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**2.1**	2.4	1.4	0.58	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.4**	2.4	1.4	0.39	
74-87-3	Chloromethane	**1.1**	2.4	1.4	0.38	**J**
75-01-4	Vinyl Chloride	0.76	2.4	0.76	0.26	**U**
106-99-0	1,3-Butadiene	1.4	2.4	1.4	0.39	**U**
75-00-3	Chloroethane	1.4	2.4	1.4	0.30	**U**
64-17-5	Ethanol	**30**	23	3.7	1.7	**B**
67-64-1	Acetone	**40**	24	12	5.4	
75-69-4	Trichlorofluoromethane	**2.2**	2.4	1.4	0.36	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**3.9**	9.4	2.8	0.98	**J**
75-09-2	Methylene Chloride	1.4	2.4	1.4	0.67	**U**
76-13-1	Trichlorotrifluoroethane	**20**	2.4	0.76	0.34	
75-15-0	Carbon Disulfide	**6.6**	4.9	2.4	0.72	
75-34-3	1,1-Dichloroethane	1.5	2.5	1.5	0.35	**U**
78-93-3	2-Butanone (MEK)	**5.5**	4.9	1.4	0.49	
141-78-6	Ethyl Acetate	**2.3**	4.9	2.9	1.3	**J**
110-54-3	n-Hexane	1.4	2.4	1.4	0.49	**U**
67-66-3	Chloroform	**1.8**	2.4	0.76	0.32	**J**
109-99-9	Tetrahydrofuran (THF)	**0.80**	2.5	0.76	0.30	**J**
107-06-2	1,2-Dichloroethane	0.76	2.4	0.76	0.26	**U**
71-43-2	Benzene	0.76	2.4	0.76	0.34	**U**
56-23-5	Carbon Tetrachloride	**9.8**	2.4	0.76	0.33	

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV139-025-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-006

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00848

Initial Pressure (psig): -3.10 Final Pressure (psig): 6.09

Container Dilution Factor: 1.79

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.5	4.9	1.5	0.67	**U**
75-27-4	Bromodichloromethane	0.76	2.4	0.76	0.34	**U**
79-01-6	Trichloroethene	**0.48**	2.4	0.76	0.32	**J**
123-91-1	1,4-Dioxane	0.76	2.4	0.76	0.28	**U**
142-82-5	n-Heptane	1.4	2.4	1.4	0.38	**U**
108-10-1	4-Methyl-2-pentanone	0.76	2.4	0.76	0.33	**U**
108-88-3	Toluene	**1.8**	2.4	0.76	0.29	**J**
591-78-6	2-Hexanone	**0.97**	2.4	0.76	0.30	**J**
124-48-1	Dibromochloromethane	0.76	2.4	0.76	0.31	**U**
106-93-4	1,2-Dibromoethane	0.76	2.4	0.76	0.28	**U**
127-18-4	Tetrachloroethene	**0.92**	2.3	0.76	0.31	**J**
100-41-4	Ethylbenzene	**0.41**	2.4	0.76	0.34	**J**
179601-23-1	m,p-Xylenes	**5.5**	4.9	1.5	0.63	
75-25-2	Bromoform	1.4	2.4	1.4	0.49	**U**
100-42-5	Styrene	1.4	2.4	1.4	0.38	**U**
95-47-6	o-Xylene	**3.3**	2.4	0.76	0.34	
108-67-8	1,3,5-Trimethylbenzene	**1.6**	2.4	0.76	0.34	**J**
95-63-6	1,2,4-Trimethylbenzene	**4.6**	2.4	0.76	0.33	
120-82-1	1,2,4-Trichlorobenzene	1.4	2.4	1.4	0.58	**U**
91-20-3	Naphthalene	**0.89**	2.3	1.4	0.58	**J**
1330-20-7	Xylenes, Total	**8.8**	4.9	1.5	0.63	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV139-050-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-007

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00179

Initial Pressure (psig): -3.41 Final Pressure (psig): 7.08

Container Dilution Factor: 1.93

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**0.91**	2.6	1.5	0.63	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.5**	2.6	1.5	0.42	**J**
74-87-3	Chloromethane	1.5	2.6	1.5	0.41	**U**
75-01-4	Vinyl Chloride	0.82	2.6	0.82	0.28	**U**
106-99-0	1,3-Butadiene	1.5	2.6	1.5	0.42	**U**
75-00-3	Chloroethane	1.5	2.6	1.5	0.32	**U**
64-17-5	Ethanol	**8.3**	25	4.0	1.8	**J, B**
67-64-1	Acetone	**80**	26	13	5.8	
75-69-4	Trichlorofluoromethane	**3.1**	2.6	1.5	0.39	
67-63-0	2-Propanol (Isopropyl Alcohol)	3.0	10	3.0	1.1	**U**
75-09-2	Methylene Chloride	1.5	2.6	1.5	0.72	**U**
76-13-1	Trichlorotrifluoroethane	**34**	2.6	0.82	0.37	
75-15-0	Carbon Disulfide	**42**	5.3	2.6	0.77	
75-34-3	1,1-Dichloroethane	1.6	2.7	1.6	0.38	**U**
78-93-3	2-Butanone (MEK)	**8.0**	5.3	1.5	0.53	
141-78-6	Ethyl Acetate	3.1	5.3	3.1	1.4	**U**
110-54-3	n-Hexane	1.5	2.6	1.5	0.53	**U**
67-66-3	Chloroform	**4.0**	2.6	0.82	0.34	
109-99-9	Tetrahydrofuran (THF)	**11**	2.7	0.82	0.32	
107-06-2	1,2-Dichloroethane	0.82	2.6	0.82	0.28	**U**
71-43-2	Benzene	**0.90**	2.6	0.82	0.37	**J**
56-23-5	Carbon Tetrachloride	**18**	2.6	0.82	0.36	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV139-050-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-007

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00179

Initial Pressure (psig): -3.41 Final Pressure (psig): 7.08

Container Dilution Factor: 1.93

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.6	5.3	1.6	0.72	**U**
75-27-4	Bromodichloromethane	0.82	2.6	0.82	0.37	**U**
79-01-6	Trichloroethene	0.82	2.6	0.82	0.35	**U**
123-91-1	1,4-Dioxane	**0.84**	2.6	0.82	0.30	**J**
142-82-5	n-Heptane	**0.52**	2.6	1.5	0.41	**J**
108-10-1	4-Methyl-2-pentanone	0.82	2.6	0.82	0.35	**U**
108-88-3	Toluene	**2.5**	2.6	0.82	0.31	**J**
591-78-6	2-Hexanone	**1.8**	2.6	0.82	0.32	**J**
124-48-1	Dibromochloromethane	0.82	2.6	0.82	0.34	**U**
106-93-4	1,2-Dibromoethane	0.82	2.6	0.82	0.30	**U**
127-18-4	Tetrachloroethene	**0.43**	2.5	0.82	0.33	**J**
100-41-4	Ethylbenzene	**0.59**	2.6	0.82	0.36	**J**
179601-23-1	m,p-Xylenes	**3.9**	5.3	1.6	0.68	**J**
75-25-2	Bromoform	1.5	2.6	1.5	0.53	**U**
100-42-5	Styrene	1.5	2.6	1.5	0.41	**U**
95-47-6	o-Xylene	**2.0**	2.6	0.82	0.37	**J**
108-67-8	1,3,5-Trimethylbenzene	**1.0**	2.6	0.82	0.37	**J**
95-63-6	1,2,4-Trimethylbenzene	**3.4**	2.6	0.82	0.36	
120-82-1	1,2,4-Trichlorobenzene	1.5	2.6	1.5	0.63	**U**
91-20-3	Naphthalene	**0.86**	2.5	1.5	0.63	**J**
1330-20-7	Xylenes, Total	**5.9**	5.3	1.6	0.68	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV139-050-602** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-008

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00263

Initial Pressure (psig): -3.19 Final Pressure (psig): 6.11
Initial Pressure 2 (psig): 0.10 Final Pressure 2 (psig): 7.75

Container Dilution Factor: 2.74

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**0.92**	3.6	2.2	0.89	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.4**	3.6	2.2	0.60	**J**
74-87-3	Chloromethane	2.2	3.6	2.2	0.59	**U**
75-01-4	Vinyl Chloride	1.2	3.7	1.2	0.39	**U**
106-99-0	1,3-Butadiene	2.2	3.6	2.2	0.60	**U**
75-00-3	Chloroethane	2.2	3.7	2.2	0.45	**U**
64-17-5	Ethanol	**16**	36	5.7	2.5	**J, B**
67-64-1	Acetone	**21**	36	18	8.2	**J**
75-69-4	Trichlorofluoromethane	**3.0**	3.6	2.2	0.55	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	4.3	14	4.3	1.5	**U**
75-09-2	Methylene Chloride	2.2	3.6	2.2	1.0	**U**
76-13-1	Trichlorotrifluoroethane	**32**	3.7	1.2	0.52	
75-15-0	Carbon Disulfide	**11**	7.5	3.7	1.1	
75-34-3	1,1-Dichloroethane	2.3	3.8	2.3	0.53	**U**
78-93-3	2-Butanone (MEK)	**3.8**	7.5	2.2	0.75	**J**
141-78-6	Ethyl Acetate	4.5	7.5	4.5	1.9	**U**
110-54-3	n-Hexane	2.2	3.7	2.2	0.75	**U**
67-66-3	Chloroform	**3.9**	3.7	1.2	0.49	
109-99-9	Tetrahydrofuran (THF)	**12**	3.8	1.2	0.46	
107-06-2	1,2-Dichloroethane	1.2	3.7	1.2	0.40	**U**
71-43-2	Benzene	1.2	3.6	1.2	0.53	**U**
56-23-5	Carbon Tetrachloride	**17**	3.6	1.2	0.51	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV139-050-602** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-008

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00263

Initial Pressure (psig): -3.19 Final Pressure (psig): 6.11
Initial Pressure 2 (psig): 0.10 Final Pressure 2 (psig): 7.75

Container Dilution Factor: 2.74

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	2.3	7.5	2.3	1.0	**U**
75-27-4	Bromodichloromethane	1.2	3.7	1.2	0.53	**U**
79-01-6	Trichloroethene	1.2	3.7	1.2	0.49	**U**
123-91-1	1,4-Dioxane	**0.66**	3.7	1.2	0.43	**J**
142-82-5	n-Heptane	**0.65**	3.7	2.2	0.58	**J**
108-10-1	4-Methyl-2-pentanone	1.2	3.6	1.2	0.50	**U**
108-88-3	Toluene	**3.8**	3.7	1.2	0.45	
591-78-6	2-Hexanone	**0.77**	3.7	1.2	0.45	**J**
124-48-1	Dibromochloromethane	1.2	3.7	1.2	0.48	**U**
106-93-4	1,2-Dibromoethane	1.2	3.7	1.2	0.42	**U**
127-18-4	Tetrachloroethene	**0.92**	3.6	1.2	0.47	**J**
100-41-4	Ethylbenzene	**0.99**	3.7	1.2	0.51	**J**
179601-23-1	m,p-Xylenes	**13**	7.5	2.3	0.96	
75-25-2	Bromoform	2.2	3.7	2.2	0.75	**U**
100-42-5	Styrene	2.2	3.6	2.2	0.59	**U**
95-47-6	o-Xylene	**6.8**	3.7	1.2	0.53	
108-67-8	1,3,5-Trimethylbenzene	**3.7**	3.6	1.2	0.53	
95-63-6	1,2,4-Trimethylbenzene	**12**	3.7	1.2	0.51	
120-82-1	1,2,4-Trichlorobenzene	2.2	3.7	2.2	0.89	**U**
91-20-3	Naphthalene	2.1	3.6	2.1	0.89	**U**
1330-20-7	Xylenes, Total	**20**	7.5	2.3	0.96	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV139-150-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-009

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00434

Initial Pressure (psig): -3.60 Final Pressure (psig): 6.12

Container Dilution Factor: 1.88

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	1.5	2.5	1.5	0.61	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**4.0**	2.5	1.5	0.41	
74-87-3	Chloromethane	**0.43**	2.5	1.5	0.40	**J**
75-01-4	Vinyl Chloride	0.80	2.5	0.80	0.27	**U**
106-99-0	1,3-Butadiene	1.5	2.5	1.5	0.41	**U**
75-00-3	Chloroethane	1.5	2.5	1.5	0.31	**U**
64-17-5	Ethanol	**5.2**	24	3.9	1.7	**J, B**
67-64-1	Acetone	13	25	13	5.6	**U**
75-69-4	Trichlorofluoromethane	**39**	2.5	1.5	0.38	
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.1**	9.9	3.0	1.0	**J**
75-09-2	Methylene Chloride	1.5	2.5	1.5	0.71	**U**
76-13-1	Trichlorotrifluoroethane	**410**	25	8.0	3.6	**D**
75-15-0	Carbon Disulfide	**83**	5.2	2.5	0.75	
75-34-3	1,1-Dichloroethane	1.6	2.6	1.6	0.37	**U**
78-93-3	2-Butanone (MEK)	**5.1**	5.2	1.5	0.52	**J**
141-78-6	Ethyl Acetate	**3.3**	5.2	3.1	1.3	**J**
110-54-3	n-Hexane	1.5	2.5	1.5	0.52	**U**
67-66-3	Chloroform	**190**	2.5	0.80	0.33	
109-99-9	Tetrahydrofuran (THF)	**27**	2.6	0.80	0.31	
107-06-2	1,2-Dichloroethane	0.80	2.5	0.80	0.28	**U**
71-43-2	Benzene	**0.53**	2.5	0.80	0.36	**J**
56-23-5	Carbon Tetrachloride	**220**	2.5	0.80	0.35	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV139-150-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-009

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00434

Initial Pressure (psig): -3.60 Final Pressure (psig): 6.12

Container Dilution Factor: 1.88

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**0.76**	5.2	1.6	0.71	**J**
75-27-4	Bromodichloromethane	**0.88**	2.5	0.80	0.36	**J**
79-01-6	Trichloroethene	**0.34**	2.5	0.80	0.34	**J**
123-91-1	1,4-Dioxane	0.80	2.5	0.80	0.30	**U**
142-82-5	n-Heptane	1.5	2.5	1.5	0.40	**U**
108-10-1	4-Methyl-2-pentanone	0.80	2.5	0.80	0.34	**U**
108-88-3	Toluene	**1.7**	2.5	0.80	0.31	**J**
591-78-6	2-Hexanone	**0.86**	2.5	0.80	0.31	**J**
124-48-1	Dibromochloromethane	0.80	2.5	0.80	0.33	**U**
106-93-4	1,2-Dibromoethane	0.80	2.5	0.80	0.29	**U**
127-18-4	Tetrachloroethene	**1.9**	2.4	0.80	0.32	**J**
100-41-4	Ethylbenzene	**0.35**	2.5	0.80	0.35	**J**
179601-23-1	m,p-Xylenes	**4.1**	5.2	1.6	0.66	**J**
75-25-2	Bromoform	1.5	2.5	1.5	0.52	**U**
100-42-5	Styrene	1.5	2.5	1.5	0.40	**U**
95-47-6	o-Xylene	**2.1**	2.5	0.80	0.36	**J**
108-67-8	1,3,5-Trimethylbenzene	**1.2**	2.5	0.80	0.36	**J**
95-63-6	1,2,4-Trimethylbenzene	**4.7**	2.5	0.80	0.35	
120-82-1	1,2,4-Trichlorobenzene	1.5	2.5	1.5	0.61	**U**
91-20-3	Naphthalene	1.5	2.4	1.5	0.61	**U**
1330-20-7	Xylenes, Total	**6.1**	5.2	1.6	0.66	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV139-250-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-010

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan/Wida Ang Date Analyzed: 5/5/20 & 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00884

Initial Pressure (psig): -3.05 Final Pressure (psig): 5.32

Container Dilution Factor: 1.72

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**6.4**	2.3	1.4	0.56	
75-71-8	Dichlorodifluoromethane (CFC 12)	**4.3**	2.3	1.4	0.37	
74-87-3	Chloromethane	**0.67**	2.3	1.4	0.37	**J**
75-01-4	Vinyl Chloride	0.73	2.3	0.73	0.25	**U**
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.38	**U**
75-00-3	Chloroethane	**0.53**	2.3	1.4	0.28	**J**
64-17-5	Ethanol	**18**	22	3.6	1.6	**J, B**
67-64-1	Acetone	12	23	12	5.2	**U**
75-69-4	Trichlorofluoromethane	**64**	2.3	1.4	0.35	
67-63-0	2-Propanol (Isopropyl Alcohol)	**3.1**	9.0	2.7	0.95	**J**
75-09-2	Methylene Chloride	1.4	2.3	1.4	0.65	**U**
76-13-1	Trichlorotrifluoroethane	**510**	23	7.3	3.3	**D**
75-15-0	Carbon Disulfide	**14**	4.7	2.3	0.69	
75-34-3	1,1-Dichloroethane	1.4	2.4	1.4	0.34	**U**
78-93-3	2-Butanone (MEK)	**5.1**	4.7	1.4	0.47	
141-78-6	Ethyl Acetate	**44**	4.7	2.8	1.2	
110-54-3	n-Hexane	**2.1**	2.3	1.4	0.47	**J**
67-66-3	Chloroform	**420**	2.3	0.73	0.31	
109-99-9	Tetrahydrofuran (THF)	**21**	2.4	0.73	0.29	
107-06-2	1,2-Dichloroethane	**0.99**	2.3	0.73	0.25	**J**
71-43-2	Benzene	**120**	2.3	0.73	0.33	
56-23-5	Carbon Tetrachloride	**230**	2.3	0.73	0.32	

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV139-250-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-010

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan/Wida Ang Date Analyzed: 5/5/20 & 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00884

Initial Pressure (psig): -3.05 Final Pressure (psig): 5.32

Container Dilution Factor: 1.72

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**27**	4.7	1.5	0.65	
75-27-4	Bromodichloromethane	**1.9**	2.3	0.73	0.33	**J**
79-01-6	Trichloroethene	**7.5**	2.3	0.73	0.31	
123-91-1	1,4-Dioxane	0.73	2.3	0.73	0.27	**U**
142-82-5	n-Heptane	1.4	2.3	1.4	0.37	**U**
108-10-1	4-Methyl-2-pentanone	0.73	2.3	0.73	0.31	**U**
108-88-3	Toluene	**100**	2.3	0.73	0.28	
591-78-6	2-Hexanone	**0.70**	2.3	0.73	0.28	**J**
124-48-1	Dibromochloromethane	0.73	2.3	0.73	0.30	**U**
106-93-4	1,2-Dibromoethane	0.73	2.3	0.73	0.27	**U**
127-18-4	Tetrachloroethene	**3.0**	2.2	0.73	0.30	
100-41-4	Ethylbenzene	**1.1**	2.3	0.73	0.32	**J**
179601-23-1	m,p-Xylenes	**5.0**	4.7	1.5	0.60	
75-25-2	Bromoform	1.4	2.3	1.4	0.47	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.37	**U**
95-47-6	o-Xylene	**2.9**	2.3	0.73	0.33	
108-67-8	1,3,5-Trimethylbenzene	**0.76**	2.3	0.73	0.33	**J**
95-63-6	1,2,4-Trimethylbenzene	**2.2**	2.3	0.73	0.32	**J**
120-82-1	1,2,4-Trichlorobenzene	1.4	2.3	1.4	0.56	**U**
91-20-3	Naphthalene	1.3	2.2	1.3	0.56	**U**
1330-20-7	Xylenes, Total	**7.9**	4.7	1.5	0.60	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV139-350-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-011

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan/Wida Ang Date Analyzed: 5/5/20 & 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00611

Initial Pressure (psig): -2.43 Final Pressure (psig): 6.50

Container Dilution Factor: 1.73

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.8**	2.3	1.4	0.56	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.9**	2.3	1.4	0.38	
74-87-3	Chloromethane	1.4	2.3	1.4	0.37	**U**
75-01-4	Vinyl Chloride	0.74	2.3	0.74	0.25	**U**
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.38	**U**
75-00-3	Chloroethane	**0.40**	2.3	1.4	0.29	**J**
64-17-5	Ethanol	**3.5**	22	3.6	1.6	**J, B**
67-64-1	Acetone	12	23	12	5.2	**U**
75-69-4	Trichlorofluoromethane	**61**	2.3	1.4	0.35	
67-63-0	2-Propanol (Isopropyl Alcohol)	2.7	9.1	2.7	0.95	**U**
75-09-2	Methylene Chloride	1.4	2.3	1.4	0.65	**U**
76-13-1	Trichlorotrifluoroethane	**330**	23	7.4	3.3	**D**
75-15-0	Carbon Disulfide	**3.0**	4.8	2.3	0.69	**J**
75-34-3	1,1-Dichloroethane	1.4	2.4	1.4	0.34	**U**
78-93-3	2-Butanone (MEK)	**2.8**	4.8	1.4	0.48	**J**
141-78-6	Ethyl Acetate	2.8	4.8	2.8	1.2	**U**
110-54-3	n-Hexane	**0.78**	2.3	1.4	0.48	**J**
67-66-3	Chloroform	**480**	23	7.4	3.1	**D**
109-99-9	Tetrahydrofuran (THF)	**7.8**	2.4	0.74	0.29	
107-06-2	1,2-Dichloroethane	0.74	2.3	0.74	0.26	**U**
71-43-2	Benzene	**34**	2.3	0.74	0.33	
56-23-5	Carbon Tetrachloride	**130**	2.3	0.74	0.32	

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV139-350-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-011

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan/Wida Ang Date Analyzed: 5/5/20 & 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00611

Initial Pressure (psig): -2.43 Final Pressure (psig): 6.50

Container Dilution Factor: 1.73

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**8.2**	4.8	1.5	0.65	
75-27-4	Bromodichloromethane	**12**	2.3	0.74	0.33	
79-01-6	Trichloroethene	**2.7**	2.3	0.74	0.31	
123-91-1	1,4-Dioxane	0.74	2.3	0.74	0.27	**U**
142-82-5	n-Heptane	**0.39**	2.3	1.4	0.37	**J**
108-10-1	4-Methyl-2-pentanone	0.74	2.3	0.74	0.32	**U**
108-88-3	Toluene	**27**	2.3	0.74	0.28	
591-78-6	2-Hexanone	**0.85**	2.3	0.74	0.29	**J**
124-48-1	Dibromochloromethane	0.74	2.3	0.74	0.30	**U**
106-93-4	1,2-Dibromoethane	0.74	2.3	0.74	0.27	**U**
127-18-4	Tetrachloroethene	**2.5**	2.2	0.74	0.30	
100-41-4	Ethylbenzene	0.74	2.3	0.74	0.32	**U**
179601-23-1	m,p-Xylenes	**2.6**	4.8	1.5	0.61	**J**
75-25-2	Bromoform	1.4	2.3	1.4	0.48	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.37	**U**
95-47-6	o-Xylene	**1.6**	2.3	0.74	0.33	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.70**	2.3	0.74	0.33	**J**
95-63-6	1,2,4-Trimethylbenzene	**1.9**	2.3	0.74	0.32	**J**
120-82-1	1,2,4-Trichlorobenzene	1.4	2.3	1.4	0.56	**U**
91-20-3	Naphthalene	1.3	2.2	1.3	0.56	**U**
1330-20-7	Xylenes, Total	**4.1**	4.8	1.5	0.61	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV139-450-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-012

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00949

Initial Pressure (psig): -2.15 Final Pressure (psig): 6.39

Container Dilution Factor: 1.68

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**5.4**	2.2	1.3	0.55	
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.5**	2.2	1.3	0.37	**J**
74-87-3	Chloromethane	**46**	2.2	1.3	0.36	
75-01-4	Vinyl Chloride	**6.6**	2.3	0.71	0.24	
106-99-0	1,3-Butadiene	**0.66**	2.2	1.3	0.37	**J**
75-00-3	Chloroethane	**8.3**	2.3	1.3	0.28	
64-17-5	Ethanol	**1.9**	22	3.5	1.6	**J, B**
67-64-1	Acetone	**5.2**	22	11	5.0	**J**
75-69-4	Trichlorofluoromethane	**7.5**	2.2	1.3	0.34	
67-63-0	2-Propanol (Isopropyl Alcohol)	2.6	8.8	2.6	0.92	**U**
75-09-2	Methylene Chloride	1.3	2.2	1.3	0.63	**U**
76-13-1	Trichlorotrifluoroethane	**80**	2.3	0.71	0.32	
75-15-0	Carbon Disulfide	**66**	4.6	2.3	0.67	
75-34-3	1,1-Dichloroethane	**0.67**	2.3	1.4	0.33	**J**
78-93-3	2-Butanone (MEK)	**1.1**	4.6	1.3	0.46	**J**
141-78-6	Ethyl Acetate	**1.4**	4.6	2.7	1.2	**J**
110-54-3	n-Hexane	**0.97**	2.3	1.3	0.46	**J**
67-66-3	Chloroform	**52**	2.3	0.71	0.30	
109-99-9	Tetrahydrofuran (THF)	**33**	2.3	0.71	0.28	
107-06-2	1,2-Dichloroethane	**4.1**	2.3	0.71	0.25	
71-43-2	Benzene	**2.2**	2.2	0.71	0.32	**J**
56-23-5	Carbon Tetrachloride	**120**	2.2	0.71	0.31	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV139-450-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-012

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00949

Initial Pressure (psig): -2.15 Final Pressure (psig): 6.39

Container Dilution Factor: 1.68

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.4	4.6	1.4	0.63	**U**
75-27-4	Bromodichloromethane	**4.0**	2.3	0.71	0.32	
79-01-6	Trichloroethene	**9.3**	2.3	0.71	0.30	
123-91-1	1,4-Dioxane	**0.61**	2.3	0.71	0.26	**J**
142-82-5	n-Heptane	**1.3**	2.3	1.3	0.36	**J**
108-10-1	4-Methyl-2-pentanone	**0.55**	2.2	0.71	0.31	**J**
108-88-3	Toluene	**4.6**	2.3	0.71	0.27	
591-78-6	2-Hexanone	0.71	2.3	0.71	0.28	**U**
124-48-1	Dibromochloromethane	**0.38**	2.3	0.71	0.29	**J**
106-93-4	1,2-Dibromoethane	0.71	2.3	0.71	0.26	**U**
127-18-4	Tetrachloroethene	**3.6**	2.2	0.71	0.29	
100-41-4	Ethylbenzene	**4.0**	2.3	0.71	0.32	
179601-23-1	m,p-Xylenes	**18**	4.6	1.4	0.59	
75-25-2	Bromoform	1.3	2.3	1.3	0.46	**U**
100-42-5	Styrene	1.3	2.2	1.3	0.36	**U**
95-47-6	o-Xylene	**5.0**	2.3	0.71	0.32	
108-67-8	1,3,5-Trimethylbenzene	**2.0**	2.2	0.71	0.32	**J**
95-63-6	1,2,4-Trimethylbenzene	**6.9**	2.3	0.71	0.31	
120-82-1	1,2,4-Trichlorobenzene	1.3	2.3	1.3	0.55	**U**
91-20-3	Naphthalene	**0.87**	2.2	1.3	0.55	**J**
1330-20-7	Xylenes, Total	**23**	4.6	1.4	0.59	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV140-025-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-013

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00727

Initial Pressure (psig): -2.18 Final Pressure (psig): 8.41

Container Dilution Factor: 1.85

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.4**	2.5	1.5	0.60	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.5**	2.5	1.5	0.40	
74-87-3	Chloromethane	**0.49**	2.5	1.5	0.40	**J**
75-01-4	Vinyl Chloride	0.79	2.5	0.79	0.26	**U**
106-99-0	1,3-Butadiene	1.5	2.5	1.5	0.41	**U**
75-00-3	Chloroethane	1.5	2.5	1.5	0.31	**U**
64-17-5	Ethanol	**16**	24	3.8	1.7	**J, B**
67-64-1	Acetone	**26**	25	12	5.6	
75-69-4	Trichlorofluoromethane	**1.2**	2.5	1.5	0.37	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**3.3**	9.7	2.9	1.0	**J**
75-09-2	Methylene Chloride	**1.4**	2.5	1.5	0.69	**J**
76-13-1	Trichlorotrifluoroethane	**0.63**	2.5	0.79	0.35	**J**
75-15-0	Carbon Disulfide	**6.7**	5.1	2.5	0.74	
75-34-3	1,1-Dichloroethane	1.5	2.5	1.5	0.36	**U**
78-93-3	2-Butanone (MEK)	**4.8**	5.1	1.5	0.51	**J**
141-78-6	Ethyl Acetate	**9.1**	5.1	3.0	1.3	
110-54-3	n-Hexane	**2.5**	2.5	1.5	0.51	
67-66-3	Chloroform	**2.0**	2.5	0.79	0.33	**J**
109-99-9	Tetrahydrofuran (THF)	**2.5**	2.5	0.79	0.31	**J**
107-06-2	1,2-Dichloroethane	0.79	2.5	0.79	0.27	**U**
71-43-2	Benzene	**0.59**	2.5	0.79	0.36	**J**
56-23-5	Carbon Tetrachloride	**3.3**	2.5	0.79	0.34	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV140-025-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-013

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00727

Initial Pressure (psig): -2.18 Final Pressure (psig): 8.41

Container Dilution Factor: 1.85

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**3.2**	5.1	1.6	0.69	**J**
75-27-4	Bromodichloromethane	0.79	2.5	0.79	0.36	**U**
79-01-6	Trichloroethene	0.79	2.5	0.79	0.33	**U**
123-91-1	1,4-Dioxane	0.79	2.5	0.79	0.29	**U**
142-82-5	n-Heptane	1.5	2.5	1.5	0.39	**U**
108-10-1	4-Methyl-2-pentanone	0.79	2.5	0.79	0.34	**U**
108-88-3	Toluene	**6.4**	2.5	0.79	0.30	
591-78-6	2-Hexanone	**0.93**	2.5	0.79	0.31	**J**
124-48-1	Dibromochloromethane	0.79	2.5	0.79	0.32	**U**
106-93-4	1,2-Dibromoethane	0.79	2.5	0.79	0.29	**U**
127-18-4	Tetrachloroethene	**0.58**	2.4	0.79	0.32	**J**
100-41-4	Ethylbenzene	**0.37**	2.5	0.79	0.35	**J**
179601-23-1	m,p-Xylenes	**1.5**	5.1	1.6	0.65	**J**
75-25-2	Bromoform	1.5	2.5	1.5	0.51	**U**
100-42-5	Styrene	1.5	2.5	1.5	0.40	**U**
95-47-6	o-Xylene	**0.51**	2.5	0.79	0.36	**J**
108-67-8	1,3,5-Trimethylbenzene	0.79	2.5	0.79	0.36	**U**
95-63-6	1,2,4-Trimethylbenzene	0.79	2.5	0.79	0.34	**U**
120-82-1	1,2,4-Trichlorobenzene	1.5	2.5	1.5	0.60	**U**
91-20-3	Naphthalene	1.4	2.4	1.4	0.60	**U**
1330-20-7	Xylenes, Total	**2.1**	5.1	1.6	0.65	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV140-050-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-014

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00047

Initial Pressure (psig): -4.27 Final Pressure (psig): 7.77

Container Dilution Factor: 2.15

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	1.7	2.8	1.7	0.70	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.4**	2.8	1.7	0.47	**J**
74-87-3	Chloromethane	1.7	2.8	1.7	0.46	**U**
75-01-4	Vinyl Chloride	0.91	2.9	0.91	0.31	**U**
106-99-0	1,3-Butadiene	1.7	2.8	1.7	0.47	**U**
75-00-3	Chloroethane	1.7	2.9	1.7	0.35	**U**
64-17-5	Ethanol	**4.1**	28	4.5	2.0	**J, B**
67-64-1	Acetone	**12**	28	15	6.5	**J**
75-69-4	Trichlorofluoromethane	**1.1**	2.8	1.7	0.44	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	3.4	11	3.4	1.2	**U**
75-09-2	Methylene Chloride	1.7	2.8	1.7	0.81	**U**
76-13-1	Trichlorotrifluoroethane	**0.49**	2.9	0.91	0.41	**J**
75-15-0	Carbon Disulfide	**2.5**	5.9	2.9	0.86	**J**
75-34-3	1,1-Dichloroethane	1.8	3.0	1.8	0.42	**U**
78-93-3	2-Butanone (MEK)	**2.5**	5.9	1.7	0.59	**J**
141-78-6	Ethyl Acetate	3.5	5.9	3.5	1.5	**U**
110-54-3	n-Hexane	1.7	2.9	1.7	0.59	**U**
67-66-3	Chloroform	**4.6**	2.9	0.91	0.38	
109-99-9	Tetrahydrofuran (THF)	**3.2**	3.0	0.91	0.36	
107-06-2	1,2-Dichloroethane	0.91	2.9	0.91	0.32	**U**
71-43-2	Benzene	0.91	2.8	0.91	0.41	**U**
56-23-5	Carbon Tetrachloride	**5.0**	2.8	0.91	0.40	

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV140-050-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-014

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00047

Initial Pressure (psig): -4.27 Final Pressure (psig): 7.77

Container Dilution Factor: 2.15

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.8	5.9	1.8	0.81	**U**
75-27-4	Bromodichloromethane	0.91	2.9	0.91	0.41	**U**
79-01-6	Trichloroethene	0.91	2.9	0.91	0.39	**U**
123-91-1	1,4-Dioxane	0.91	2.9	0.91	0.34	**U**
142-82-5	n-Heptane	1.7	2.9	1.7	0.46	**U**
108-10-1	4-Methyl-2-pentanone	0.91	2.8	0.91	0.39	**U**
108-88-3	Toluene	**0.50**	2.9	0.91	0.35	**J**
591-78-6	2-Hexanone	0.91	2.9	0.91	0.35	**U**
124-48-1	Dibromochloromethane	0.91	2.9	0.91	0.38	**U**
106-93-4	1,2-Dibromoethane	0.91	2.9	0.91	0.33	**U**
127-18-4	Tetrachloroethene	**0.65**	2.8	0.91	0.37	**J**
100-41-4	Ethylbenzene	0.91	2.9	0.91	0.40	**U**
179601-23-1	m,p-Xylenes	1.8	5.9	1.8	0.75	**U**
75-25-2	Bromoform	1.7	2.9	1.7	0.59	**U**
100-42-5	Styrene	1.7	2.8	1.7	0.46	**U**
95-47-6	o-Xylene	0.91	2.9	0.91	0.41	**U**
108-67-8	1,3,5-Trimethylbenzene	0.91	2.8	0.91	0.41	**U**
95-63-6	1,2,4-Trimethylbenzene	0.91	2.9	0.91	0.40	**U**
120-82-1	1,2,4-Trichlorobenzene	1.7	2.9	1.7	0.70	**U**
91-20-3	Naphthalene	1.7	2.8	1.7	0.70	**U**
1330-20-7	Xylenes, Total	1.8	5.9	1.8	0.75	**U**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV140-150-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-015

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00976

Initial Pressure (psig): -3.20 Final Pressure (psig): 6.58

Container Dilution Factor: 1.85

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.7**	2.5	1.5	0.60	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.4**	2.5	1.5	0.40	**J**
74-87-3	Chloromethane	1.5	2.5	1.5	0.40	**U**
75-01-4	Vinyl Chloride	0.79	2.5	0.79	0.26	**U**
106-99-0	1,3-Butadiene	1.5	2.5	1.5	0.41	**U**
75-00-3	Chloroethane	1.5	2.5	1.5	0.31	**U**
64-17-5	Ethanol	**4.3**	24	3.8	1.7	**J, B**
67-64-1	Acetone	**5.8**	25	12	5.6	**J**
75-69-4	Trichlorofluoromethane	**0.67**	2.5	1.5	0.37	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.2**	9.7	2.9	1.0	**J**
75-09-2	Methylene Chloride	1.5	2.5	1.5	0.69	**U**
76-13-1	Trichlorotrifluoroethane	**0.37**	2.5	0.79	0.35	**J**
75-15-0	Carbon Disulfide	**130**	5.1	2.5	0.74	
75-34-3	1,1-Dichloroethane	1.5	2.5	1.5	0.36	**U**
78-93-3	2-Butanone (MEK)	**3.5**	5.1	1.5	0.51	**J**
141-78-6	Ethyl Acetate	3.0	5.1	3.0	1.3	**U**
110-54-3	n-Hexane	1.5	2.5	1.5	0.51	**U**
67-66-3	Chloroform	**3.2**	2.5	0.79	0.33	
109-99-9	Tetrahydrofuran (THF)	**21**	2.5	0.79	0.31	
107-06-2	1,2-Dichloroethane	0.79	2.5	0.79	0.27	**U**
71-43-2	Benzene	**1.6**	2.5	0.79	0.36	**J**
56-23-5	Carbon Tetrachloride	**8.1**	2.5	0.79	0.34	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV140-150-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-015

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00976

Initial Pressure (psig): -3.20 Final Pressure (psig): 6.58

Container Dilution Factor: 1.85

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.6	5.1	1.6	0.69	**U**
75-27-4	Bromodichloromethane	0.79	2.5	0.79	0.36	**U**
79-01-6	Trichloroethene	0.79	2.5	0.79	0.33	**U**
123-91-1	1,4-Dioxane	**40**	2.5	0.79	0.29	
142-82-5	n-Heptane	1.5	2.5	1.5	0.39	**U**
108-10-1	4-Methyl-2-pentanone	**0.35**	2.5	0.79	0.34	**J**
108-88-3	Toluene	**0.57**	2.5	0.79	0.30	**J**
591-78-6	2-Hexanone	**0.32**	2.5	0.79	0.31	**J**
124-48-1	Dibromochloromethane	0.79	2.5	0.79	0.32	**U**
106-93-4	1,2-Dibromoethane	0.79	2.5	0.79	0.29	**U**
127-18-4	Tetrachloroethene	**0.69**	2.4	0.79	0.32	**J**
100-41-4	Ethylbenzene	0.79	2.5	0.79	0.35	**U**
179601-23-1	m,p-Xylenes	1.6	5.1	1.6	0.65	**U**
75-25-2	Bromoform	1.5	2.5	1.5	0.51	**U**
100-42-5	Styrene	1.5	2.5	1.5	0.40	**U**
95-47-6	o-Xylene	0.79	2.5	0.79	0.36	**U**
108-67-8	1,3,5-Trimethylbenzene	0.79	2.5	0.79	0.36	**U**
95-63-6	1,2,4-Trimethylbenzene	0.79	2.5	0.79	0.34	**U**
120-82-1	1,2,4-Trichlorobenzene	1.5	2.5	1.5	0.60	**U**
91-20-3	Naphthalene	1.4	2.4	1.4	0.60	**U**
1330-20-7	Xylenes, Total	1.6	5.1	1.6	0.65	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV140-250-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-016

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00553

Initial Pressure (psig): -3.78 Final Pressure (psig): 5.71

Container Dilution Factor: 1.87

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**2.2**	2.5	1.5	0.61	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**7.8**	2.5	1.5	0.41	
74-87-3	Chloromethane	**0.86**	2.5	1.5	0.40	**J**
75-01-4	Vinyl Chloride	0.79	2.5	0.79	0.27	**U**
106-99-0	1,3-Butadiene	1.5	2.5	1.5	0.41	**U**
75-00-3	Chloroethane	1.5	2.5	1.5	0.31	**U**
64-17-5	Ethanol	**5.7**	24	3.9	1.7	**J, B**
67-64-1	Acetone	**45**	25	13	5.6	
75-69-4	Trichlorofluoromethane	**0.96**	2.5	1.5	0.38	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**2.3**	9.8	2.9	1.0	**J**
75-09-2	Methylene Chloride	1.5	2.5	1.5	0.70	**U**
76-13-1	Trichlorotrifluoroethane	0.79	2.5	0.79	0.36	**U**
75-15-0	Carbon Disulfide	**4.3**	5.1	2.5	0.75	**J**
75-34-3	1,1-Dichloroethane	1.5	2.6	1.5	0.36	**U**
78-93-3	2-Butanone (MEK)	**14**	5.1	1.5	0.51	
141-78-6	Ethyl Acetate	3.0	5.1	3.0	1.3	**U**
110-54-3	n-Hexane	1.5	2.5	1.5	0.51	**U**
67-66-3	Chloroform	**1.6**	2.5	0.79	0.33	**J**
109-99-9	Tetrahydrofuran (THF)	**21**	2.6	0.79	0.31	
107-06-2	1,2-Dichloroethane	0.79	2.5	0.79	0.28	**U**
71-43-2	Benzene	**0.53**	2.5	0.79	0.36	**J**
56-23-5	Carbon Tetrachloride	**3.1**	2.5	0.79	0.35	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV140-250-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-016

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00553

Initial Pressure (psig): -3.78 Final Pressure (psig): 5.71

Container Dilution Factor: 1.87

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.6	5.1	1.6	0.70	**U**
75-27-4	Bromodichloromethane	0.79	2.5	0.79	0.36	**U**
79-01-6	Trichloroethene	**53**	2.5	0.79	0.34	
123-91-1	1,4-Dioxane	0.79	2.5	0.79	0.29	**U**
142-82-5	n-Heptane	**0.55**	2.5	1.5	0.40	**J**
108-10-1	4-Methyl-2-pentanone	**0.79**	2.5	0.79	0.34	**J**
108-88-3	Toluene	**1.1**	2.5	0.79	0.30	**J**
591-78-6	2-Hexanone	**1.4**	2.5	0.79	0.31	**J**
124-48-1	Dibromochloromethane	0.79	2.5	0.79	0.33	**U**
106-93-4	1,2-Dibromoethane	0.79	2.5	0.79	0.29	**U**
127-18-4	Tetrachloroethene	0.79	2.4	0.79	0.32	**U**
100-41-4	Ethylbenzene	0.79	2.5	0.79	0.35	**U**
179601-23-1	m,p-Xylenes	1.6	5.1	1.6	0.65	**U**
75-25-2	Bromoform	1.5	2.5	1.5	0.51	**U**
100-42-5	Styrene	1.5	2.5	1.5	0.40	**U**
95-47-6	o-Xylene	0.79	2.5	0.79	0.36	**U**
108-67-8	1,3,5-Trimethylbenzene	0.79	2.5	0.79	0.36	**U**
95-63-6	1,2,4-Trimethylbenzene	0.79	2.5	0.79	0.35	**U**
120-82-1	1,2,4-Trichlorobenzene	1.5	2.5	1.5	0.61	**U**
91-20-3	Naphthalene	1.4	2.4	1.4	0.61	**U**
1330-20-7	Xylenes, Total	1.6	5.1	1.6	0.65	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV140-350-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-017

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.20 Liter(s)
Test Notes:
Container ID: 1SC00908

Initial Pressure (psig): -2.08 Final Pressure (psig): 5.54
Initial Pressure 2 (psig): -0.05 Final Pressure 2 (psig): 6.91

Container Dilution Factor: 2.37

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	3.8	6.3	3.8	1.5	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**12**	6.3	3.8	1.0	
74-87-3	Chloromethane	**1.4**	6.3	3.8	1.0	**J**
75-01-4	Vinyl Chloride	2.0	6.4	2.0	0.68	**U**
106-99-0	1,3-Butadiene	3.8	6.3	3.8	1.0	**U**
75-00-3	Chloroethane	3.8	6.4	3.8	0.78	**U**
64-17-5	Ethanol	**19**	62	9.8	4.4	**J, B**
67-64-1	Acetone	**29**	63	32	14	**J**
75-69-4	Trichlorofluoromethane	**1.4**	6.3	3.8	0.96	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	7.5	25	7.5	2.6	**U**
75-09-2	Methylene Chloride	3.8	6.3	3.8	1.8	**U**
76-13-1	Trichlorotrifluoroethane	2.0	6.4	2.0	0.90	**U**
75-15-0	Carbon Disulfide	**10**	13	6.4	1.9	**J**
75-34-3	1,1-Dichloroethane	3.9	6.5	3.9	0.92	**U**
78-93-3	2-Butanone (MEK)	**3.4**	13	3.8	1.3	**J**
141-78-6	Ethyl Acetate	7.7	13	7.7	3.3	**U**
110-54-3	n-Hexane	3.8	6.4	3.8	1.3	**U**
67-66-3	Chloroform	2.0	6.4	2.0	0.84	**U**
109-99-9	Tetrahydrofuran (THF)	**25**	6.5	2.0	0.79	
107-06-2	1,2-Dichloroethane	2.0	6.4	2.0	0.70	**U**
71-43-2	Benzene	**18**	6.3	2.0	0.91	
56-23-5	Carbon Tetrachloride	2.0	6.3	2.0	0.88	**U**

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B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV140-350-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-017

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.20 Liter(s)
Test Notes:
Container ID: 1SC00908

Initial Pressure (psig): -2.08 Final Pressure (psig): 5.54
Initial Pressure 2 (psig): -0.05 Final Pressure 2 (psig): 6.91

Container Dilution Factor: 2.37

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**17**	13	4.0	1.8	
75-27-4	Bromodichloromethane	2.0	6.4	2.0	0.91	**U**
79-01-6	Trichloroethene	2.0	6.4	2.0	0.85	**U**
123-91-1	1,4-Dioxane	2.0	6.4	2.0	0.75	**U**
142-82-5	n-Heptane	3.8	6.4	3.8	1.0	**U**
108-10-1	4-Methyl-2-pentanone	2.0	6.3	2.0	0.87	**U**
108-88-3	Toluene	**2.4**	6.4	2.0	0.77	**J**
591-78-6	2-Hexanone	2.0	6.4	2.0	0.78	**U**
124-48-1	Dibromochloromethane	2.0	6.4	2.0	0.83	**U**
106-93-4	1,2-Dibromoethane	2.0	6.4	2.0	0.73	**U**
127-18-4	Tetrachloroethene	**0.97**	6.2	2.0	0.82	**J**
100-41-4	Ethylbenzene	2.0	6.4	2.0	0.89	**U**
179601-23-1	m,p-Xylenes	4.0	13	4.0	1.7	**U**
75-25-2	Bromoform	3.8	6.4	3.8	1.3	**U**
100-42-5	Styrene	3.8	6.3	3.8	1.0	**U**
95-47-6	o-Xylene	2.0	6.4	2.0	0.91	**U**
108-67-8	1,3,5-Trimethylbenzene	2.0	6.3	2.0	0.91	**U**
95-63-6	1,2,4-Trimethylbenzene	2.0	6.4	2.0	0.88	**U**
120-82-1	1,2,4-Trichlorobenzene	3.8	6.4	3.8	1.5	**U**
91-20-3	Naphthalene	3.7	6.2	3.7	1.5	**U**
1330-20-7	Xylenes, Total	4.0	13	4.0	1.7	**U**

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV140-450-602** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-018

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.050 Liter(s)
Test Notes:
Container ID: 1SC01027

Initial Pressure (psig): -4.30 Final Pressure (psig): 6.05

Container Dilution Factor: 2.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	13	21	13	5.2	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**14**	21	13	3.5	**J**
74-87-3	Chloromethane	13	21	13	3.4	**U**
75-01-4	Vinyl Chloride	6.8	22	6.8	2.3	**U**
106-99-0	1,3-Butadiene	13	21	13	3.5	**U**
75-00-3	Chloroethane	13	22	13	2.6	**U**
64-17-5	Ethanol	33	210	33	15	**U**
67-64-1	Acetone	**210**	210	110	48	
75-69-4	Trichlorofluoromethane	13	21	13	3.2	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	25	84	25	8.8	**U**
75-09-2	Methylene Chloride	13	21	13	6.0	**U**
76-13-1	Trichlorotrifluoroethane	6.8	22	6.8	3.0	**U**
75-15-0	Carbon Disulfide	**7.9**	44	22	6.4	**J**
75-34-3	1,1-Dichloroethane	13	22	13	3.1	**U**
78-93-3	2-Butanone (MEK)	**340**	44	13	4.4	
141-78-6	Ethyl Acetate	26	44	26	11	**U**
110-54-3	n-Hexane	13	22	13	4.4	**U**
67-66-3	Chloroform	6.8	22	6.8	2.8	**U**
109-99-9	Tetrahydrofuran (THF)	**72**	22	6.8	2.7	
107-06-2	1,2-Dichloroethane	6.8	22	6.8	2.4	**U**
71-43-2	Benzene	**100**	21	6.8	3.1	
56-23-5	Carbon Tetrachloride	6.8	21	6.8	3.0	**U**

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV140-450-602** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-018

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.050 Liter(s)
Test Notes:
Container ID: 1SC01027

Initial Pressure (psig): -4.30 Final Pressure (psig): 6.05

Container Dilution Factor: 2.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**68**	44	14	6.0	
75-27-4	Bromodichloromethane	6.8	22	6.8	3.1	**U**
79-01-6	Trichloroethene	6.8	22	6.8	2.9	**U**
123-91-1	1,4-Dioxane	6.8	22	6.8	2.5	**U**
142-82-5	n-Heptane	13	22	13	3.4	**U**
108-10-1	4-Methyl-2-pentanone	6.8	21	6.8	2.9	**U**
108-88-3	Toluene	**19**	22	6.8	2.6	**J**
591-78-6	2-Hexanone	6.8	22	6.8	2.6	**U**
124-48-1	Dibromochloromethane	6.8	22	6.8	2.8	**U**
106-93-4	1,2-Dibromoethane	6.8	22	6.8	2.5	**U**
127-18-4	Tetrachloroethene	6.8	21	6.8	2.8	**U**
100-41-4	Ethylbenzene	6.8	22	6.8	3.0	**U**
179601-23-1	m,p-Xylenes	14	44	14	5.6	**U**
75-25-2	Bromoform	13	22	13	4.4	**U**
100-42-5	Styrene	13	21	13	3.4	**U**
95-47-6	o-Xylene	6.8	22	6.8	3.1	**U**
108-67-8	1,3,5-Trimethylbenzene	6.8	21	6.8	3.1	**U**
95-63-6	1,2,4-Trimethylbenzene	6.8	22	6.8	3.0	**U**
120-82-1	1,2,4-Trichlorobenzene	13	22	13	5.2	**U**
91-20-3	Naphthalene	12	21	12	5.2	**U**
1330-20-7	Xylenes, Total	14	44	14	5.6	**U**

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV140-450-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-019

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.050 Liter(s)
Test Notes:
Container ID: 1SC01347

Initial Pressure (psig): -2.97 Final Pressure (psig): 6.85

Container Dilution Factor: 1.84

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	12	20	12	4.8	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**16**	20	12	3.2	**J**
74-87-3	Chloromethane	**3.9**	20	12	3.2	**J**
75-01-4	Vinyl Chloride	6.3	20	6.3	2.1	**U**
106-99-0	1,3-Butadiene	12	20	12	3.2	**U**
75-00-3	Chloroethane	12	20	12	2.4	**U**
64-17-5	Ethanol	31	190	31	14	**U**
67-64-1	Acetone	**190**	200	99	44	**J**
75-69-4	Trichlorofluoromethane	12	20	12	3.0	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	23	77	23	8.1	**U**
75-09-2	Methylene Chloride	12	20	12	5.5	**U**
76-13-1	Trichlorotrifluoroethane	6.3	20	6.3	2.8	**U**
75-15-0	Carbon Disulfide	**8.5**	40	20	5.9	**J**
75-34-3	1,1-Dichloroethane	12	20	12	2.9	**U**
78-93-3	2-Butanone (MEK)	**270**	40	12	4.0	
141-78-6	Ethyl Acetate	24	40	24	10	**U**
110-54-3	n-Hexane	**5.2**	20	12	4.0	**J**
67-66-3	Chloroform	6.3	20	6.3	2.6	**U**
109-99-9	Tetrahydrofuran (THF)	**57**	20	6.3	2.5	
107-06-2	1,2-Dichloroethane	6.3	20	6.3	2.2	**U**
71-43-2	Benzene	**120**	20	6.3	2.8	
56-23-5	Carbon Tetrachloride	6.3	20	6.3	2.7	**U**

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV140-450-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-019

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.050 Liter(s)
Test Notes:
Container ID: 1SC01347

Initial Pressure (psig): -2.97 Final Pressure (psig): 6.85

Container Dilution Factor: 1.84

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**79**	40	13	5.5	
75-27-4	Bromodichloromethane	6.3	20	6.3	2.8	**U**
79-01-6	Trichloroethene	6.3	20	6.3	2.6	**U**
123-91-1	1,4-Dioxane	6.3	20	6.3	2.3	**U**
142-82-5	n-Heptane	12	20	12	3.1	**U**
108-10-1	4-Methyl-2-pentanone	6.3	20	6.3	2.7	**U**
108-88-3	Toluene	**22**	20	6.3	2.4	
591-78-6	2-Hexanone	6.3	20	6.3	2.4	**U**
124-48-1	Dibromochloromethane	6.3	20	6.3	2.6	**U**
106-93-4	1,2-Dibromoethane	6.3	20	6.3	2.3	**U**
127-18-4	Tetrachloroethene	6.3	19	6.3	2.5	**U**
100-41-4	Ethylbenzene	6.3	20	6.3	2.8	**U**
179601-23-1	m,p-Xylenes	13	40	13	5.2	**U**
75-25-2	Bromoform	12	20	12	4.0	**U**
100-42-5	Styrene	12	20	12	3.2	**U**
95-47-6	o-Xylene	6.3	20	6.3	2.8	**U**
108-67-8	1,3,5-Trimethylbenzene	6.3	20	6.3	2.8	**U**
95-63-6	1,2,4-Trimethylbenzene	6.3	20	6.3	2.7	**U**
120-82-1	1,2,4-Trichlorobenzene	12	20	12	4.8	**U**
91-20-3	Naphthalene	11	19	11	4.8	**U**
1330-20-7	Xylenes, Total	13	40	13	5.2	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVE12-410-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-020

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00273

Initial Pressure (psig): -3.37 Final Pressure (psig): 5.76

Container Dilution Factor: 1.81

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	1.4	2.4	1.4	0.59	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**68**	2.4	1.4	0.39	
74-87-3	Chloromethane	1.4	2.4	1.4	0.39	**U**
75-01-4	Vinyl Chloride	0.77	2.4	0.77	0.26	**U**
106-99-0	1,3-Butadiene	1.4	2.4	1.4	0.40	**U**
75-00-3	Chloroethane	1.4	2.4	1.4	0.30	**U**
64-17-5	Ethanol	**6.1**	24	3.8	1.7	**J, B**
67-64-1	Acetone	**16**	24	12	5.4	**J**
75-69-4	Trichlorofluoromethane	**16**	2.4	1.4	0.37	
67-63-0	2-Propanol (Isopropyl Alcohol)	2.9	9.5	2.9	1.0	**U**
75-09-2	Methylene Chloride	1.4	2.4	1.4	0.68	**U**
76-13-1	Trichlorotrifluoroethane	**63**	2.4	0.77	0.34	
75-15-0	Carbon Disulfide	**12**	5.0	2.4	0.72	
75-34-3	1,1-Dichloroethane	1.5	2.5	1.5	0.35	**U**
78-93-3	2-Butanone (MEK)	**10**	5.0	1.4	0.50	
141-78-6	Ethyl Acetate	2.9	5.0	2.9	1.3	**U**
110-54-3	n-Hexane	**1.2**	2.4	1.4	0.50	**J**
67-66-3	Chloroform	**0.62**	2.4	0.77	0.32	**J**
109-99-9	Tetrahydrofuran (THF)	**10**	2.5	0.77	0.30	
107-06-2	1,2-Dichloroethane	0.77	2.4	0.77	0.27	**U**
71-43-2	Benzene	0.77	2.4	0.77	0.35	**U**
56-23-5	Carbon Tetrachloride	**29**	2.4	0.77	0.33	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVE12-410-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-020

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00273

Initial Pressure (psig): -3.37 Final Pressure (psig): 5.76

Container Dilution Factor: 1.81

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.5	5.0	1.5	0.68	**U**
75-27-4	Bromodichloromethane	0.77	2.4	0.77	0.35	**U**
79-01-6	Trichloroethene	**21**	2.4	0.77	0.33	
123-91-1	1,4-Dioxane	0.77	2.4	0.77	0.29	**U**
142-82-5	n-Heptane	**2.5**	2.4	1.4	0.38	
108-10-1	4-Methyl-2-pentanone	0.77	2.4	0.77	0.33	**U**
108-88-3	Toluene	**1.0**	2.4	0.77	0.29	**J**
591-78-6	2-Hexanone	**0.63**	2.4	0.77	0.30	**J**
124-48-1	Dibromochloromethane	0.77	2.4	0.77	0.32	**U**
106-93-4	1,2-Dibromoethane	0.77	2.4	0.77	0.28	**U**
127-18-4	Tetrachloroethene	**9.9**	2.4	0.77	0.31	
100-41-4	Ethylbenzene	0.77	2.4	0.77	0.34	**U**
179601-23-1	m,p-Xylenes	**1.0**	5.0	1.5	0.63	**J**
75-25-2	Bromoform	1.4	2.4	1.4	0.50	**U**
100-42-5	Styrene	1.4	2.4	1.4	0.39	**U**
95-47-6	o-Xylene	0.77	2.4	0.77	0.35	**U**
108-67-8	1,3,5-Trimethylbenzene	**0.40**	2.4	0.77	0.35	**J**
95-63-6	1,2,4-Trimethylbenzene	**2.0**	2.4	0.77	0.33	**J**
120-82-1	1,2,4-Trichlorobenzene	1.4	2.4	1.4	0.59	**U**
91-20-3	Naphthalene	1.4	2.4	1.4	0.59	**U**
1330-20-7	Xylenes, Total	**1.0**	5.0	1.5	0.63	**J**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV07-050-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-021

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00020 Liter(s)
Test Notes:
Container ID: 1SS00016

Initial Pressure (psig): -4.03 Final Pressure (psig): 6.70

Container Dilution Factor: 2.01

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**4,600**	5,300	3,200	1,300	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	3,200	5,300	3,200	870	**U**
74-87-3	Chloromethane	3,200	5,300	3,200	860	**U**
75-01-4	Vinyl Chloride	1,700	5,400	1,700	570	**U**
106-99-0	1,3-Butadiene	3,200	5,300	3,200	880	**U**
75-00-3	Chloroethane	3,200	5,400	3,200	660	**U**
64-17-5	Ethanol	8,300	52,000	8,300	3,700	**U**
67-64-1	Acetone	27,000	53,000	27,000	12,000	**U**
75-69-4	Trichlorofluoromethane	3,200	5,300	3,200	810	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	6,300	21,000	6,300	2,200	**U**
75-09-2	Methylene Chloride	3,200	5,300	3,200	1,500	**U**
76-13-1	Trichlorotrifluoroethane	1,700	5,400	1,700	760	**U**
75-15-0	Carbon Disulfide	5,400	11,000	5,400	1,600	**U**
75-34-3	1,1-Dichloroethane	3,300	5,500	3,300	780	**U**
78-93-3	2-Butanone (MEK)	3,200	11,000	3,200	1,100	**U**
141-78-6	Ethyl Acetate	6,500	11,000	6,500	2,800	**U**
110-54-3	n-Hexane	**560,000**	5,400	3,200	1,100	
67-66-3	Chloroform	1,700	5,400	1,700	710	**U**
109-99-9	Tetrahydrofuran (THF)	1,700	5,500	1,700	670	**U**
107-06-2	1,2-Dichloroethane	1,700	5,400	1,700	590	**U**
71-43-2	Benzene	**7,800**	5,300	1,700	770	
56-23-5	Carbon Tetrachloride	1,700	5,300	1,700	740	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV07-050-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-021

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00020 Liter(s)
Test Notes:
Container ID: 1SS00016

Initial Pressure (psig): -4.03 Final Pressure (psig): 6.70

Container Dilution Factor: 2.01

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**480,000**	11,000	3,400	1,500	
75-27-4	Bromodichloromethane	1,700	5,400	1,700	770	**U**
79-01-6	Trichloroethene	1,700	5,400	1,700	720	**U**
123-91-1	1,4-Dioxane	1,700	5,400	1,700	630	**U**
142-82-5	n-Heptane	**400,000**	5,400	3,200	850	
108-10-1	4-Methyl-2-pentanone	**1,100**	5,300	1,700	730	**J**
108-88-3	Toluene	**3,300**	5,400	1,700	650	**J**
591-78-6	2-Hexanone	1,700	5,400	1,700	660	**U**
124-48-1	Dibromochloromethane	1,700	5,400	1,700	700	**U**
106-93-4	1,2-Dibromoethane	1,700	5,400	1,700	620	**U**
127-18-4	Tetrachloroethene	1,700	5,200	1,700	690	**U**
100-41-4	Ethylbenzene	1,700	5,400	1,700	750	**U**
179601-23-1	m,p-Xylenes	3,400	11,000	3,400	1,400	**U**
75-25-2	Bromoform	3,200	5,400	3,200	1,100	**U**
100-42-5	Styrene	3,200	5,300	3,200	860	**U**
95-47-6	o-Xylene	1,700	5,400	1,700	770	**U**
108-67-8	1,3,5-Trimethylbenzene	1,700	5,300	1,700	770	**U**
95-63-6	1,2,4-Trimethylbenzene	1,700	5,400	1,700	740	**U**
120-82-1	1,2,4-Trichlorobenzene	3,200	5,400	3,200	1,300	**U**
91-20-3	Naphthalene	3,100	5,200	3,100	1,300	**U**
1330-20-7	Xylenes, Total	3,400	11,000	3,400	1,400	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV07-100-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-022

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00040 Liter(s)
Test Notes:
Container ID: 1SC01196

Initial Pressure (psig): -2.31 Final Pressure (psig): 5.58

Container Dilution Factor: 1.64

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	1,300	2,200	1,300	530	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	1,300	2,200	1,300	360	**U**
74-87-3	Chloromethane	1,300	2,200	1,300	350	**U**
75-01-4	Vinyl Chloride	700	2,200	700	230	**U**
106-99-0	1,3-Butadiene	1,300	2,200	1,300	360	**U**
75-00-3	Chloroethane	1,300	2,200	1,300	270	**U**
64-17-5	Ethanol	3,400	21,000	3,400	1,500	**U**
67-64-1	Acetone	11,000	22,000	11,000	4,900	**U**
75-69-4	Trichlorofluoromethane	1,300	2,200	1,300	330	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	2,600	8,600	2,600	900	**U**
75-09-2	Methylene Chloride	1,300	2,200	1,300	620	**U**
76-13-1	Trichlorotrifluoroethane	700	2,200	700	310	**U**
75-15-0	Carbon Disulfide	2,200	4,500	2,200	660	**U**
75-34-3	1,1-Dichloroethane	1,400	2,300	1,400	320	**U**
78-93-3	2-Butanone (MEK)	1,300	4,500	1,300	450	**U**
141-78-6	Ethyl Acetate	2,700	4,500	2,700	1,100	**U**
110-54-3	n-Hexane	**20,000**	2,200	1,300	450	
67-66-3	Chloroform	700	2,200	700	290	**U**
109-99-9	Tetrahydrofuran (THF)	700	2,300	700	270	**U**
107-06-2	1,2-Dichloroethane	700	2,200	700	240	**U**
71-43-2	Benzene	**1,700**	2,200	700	320	**J**
56-23-5	Carbon Tetrachloride	700	2,200	700	300	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV07-100-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-022

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00040 Liter(s)
Test Notes:
Container ID: 1SC01196

Initial Pressure (psig): -2.31 Final Pressure (psig): 5.58

Container Dilution Factor: 1.64

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**110,000**	4,500	1,400	620	
75-27-4	Bromodichloromethane	700	2,200	700	320	**U**
79-01-6	Trichloroethene	700	2,200	700	300	**U**
123-91-1	1,4-Dioxane	700	2,200	700	260	**U**
142-82-5	n-Heptane	**1,100**	2,200	1,300	350	**J**
108-10-1	4-Methyl-2-pentanone	700	2,200	700	300	**U**
108-88-3	Toluene	**900**	2,200	700	270	**J**
591-78-6	2-Hexanone	700	2,200	700	270	**U**
124-48-1	Dibromochloromethane	700	2,200	700	290	**U**
106-93-4	1,2-Dibromoethane	700	2,200	700	250	**U**
127-18-4	Tetrachloroethene	700	2,100	700	280	**U**
100-41-4	Ethylbenzene	700	2,200	700	310	**U**
179601-23-1	m,p-Xylenes	1,400	4,500	1,400	570	**U**
75-25-2	Bromoform	1,300	2,200	1,300	450	**U**
100-42-5	Styrene	1,300	2,200	1,300	350	**U**
95-47-6	o-Xylene	700	2,200	700	320	**U**
108-67-8	1,3,5-Trimethylbenzene	700	2,200	700	320	**U**
95-63-6	1,2,4-Trimethylbenzene	700	2,200	700	300	**U**
120-82-1	1,2,4-Trichlorobenzene	1,300	2,200	1,300	530	**U**
91-20-3	Naphthalene	1,300	2,100	1,300	530	**U**
1330-20-7	Xylenes, Total	1,400	4,500	1,400	570	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV07-150-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-023

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00005

Initial Pressure (psig): -2.16 Final Pressure (psig): 5.84
Initial Pressure 2 (psig): -6.50 Final Pressure 2 (psig): 5.76

Container Dilution Factor: 4.09

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**3.6**	5.4	3.3	1.3	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**3.5**	5.4	3.3	0.89	**J**
74-87-3	Chloromethane	3.3	5.4	3.3	0.88	**U**
75-01-4	Vinyl Chloride	1.7	5.5	1.7	0.58	**U**
106-99-0	1,3-Butadiene	3.3	5.4	3.3	0.90	**U**
75-00-3	Chloroethane	3.3	5.5	3.3	0.67	**U**
64-17-5	Ethanol	**31**	53	8.5	3.8	**J, B**
67-64-1	Acetone	**24**	54	28	12	**J**
75-69-4	Trichlorofluoromethane	**3.8**	5.4	3.3	0.83	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**10**	21	6.4	2.2	**J**
75-09-2	Methylene Chloride	3.3	5.4	3.3	1.5	**U**
76-13-1	Trichlorotrifluoroethane	**17**	5.5	1.7	0.78	
75-15-0	Carbon Disulfide	5.5	11	5.5	1.6	**U**
75-34-3	1,1-Dichloroethane	3.4	5.6	3.4	0.80	**U**
78-93-3	2-Butanone (MEK)	**3.6**	11	3.3	1.1	**J**
141-78-6	Ethyl Acetate	**12**	11	6.6	2.9	
110-54-3	n-Hexane	**10**	5.5	3.3	1.1	
67-66-3	Chloroform	1.7	5.5	1.7	0.73	**U**
109-99-9	Tetrahydrofuran (THF)	**0.77**	5.6	1.7	0.69	**J**
107-06-2	1,2-Dichloroethane	1.7	5.5	1.7	0.60	**U**
71-43-2	Benzene	**1.5**	5.4	1.7	0.79	**J**
56-23-5	Carbon Tetrachloride	**4.9**	5.4	1.7	0.76	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV07-150-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-023

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00005

Initial Pressure (psig): -2.16 Final Pressure (psig): 5.84
Initial Pressure 2 (psig): -6.50 Final Pressure 2 (psig): 5.76

Container Dilution Factor: 4.09

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**19**	11	3.5	1.5	
75-27-4	Bromodichloromethane	1.7	5.5	1.7	0.79	**U**
79-01-6	Trichloroethene	1.7	5.5	1.7	0.74	**U**
123-91-1	1,4-Dioxane	1.7	5.5	1.7	0.64	**U**
142-82-5	n-Heptane	**15**	5.5	3.3	0.87	
108-10-1	4-Methyl-2-pentanone	**1.4**	5.4	1.7	0.75	**J**
108-88-3	Toluene	**3.9**	5.5	1.7	0.66	**J**
591-78-6	2-Hexanone	1.7	5.5	1.7	0.67	**U**
124-48-1	Dibromochloromethane	1.7	5.5	1.7	0.72	**U**
106-93-4	1,2-Dibromoethane	1.7	5.5	1.7	0.63	**U**
127-18-4	Tetrachloroethene	**0.92**	5.3	1.7	0.71	**J**
100-41-4	Ethylbenzene	1.7	5.5	1.7	0.77	**U**
179601-23-1	m,p-Xylenes	3.5	11	3.5	1.4	**U**
75-25-2	Bromoform	3.3	5.5	3.3	1.1	**U**
100-42-5	Styrene	3.3	5.4	3.3	0.88	**U**
95-47-6	o-Xylene	1.7	5.5	1.7	0.79	**U**
108-67-8	1,3,5-Trimethylbenzene	1.7	5.4	1.7	0.79	**U**
95-63-6	1,2,4-Trimethylbenzene	1.7	5.5	1.7	0.76	**U**
120-82-1	1,2,4-Trichlorobenzene	3.3	5.5	3.3	1.3	**U**
91-20-3	Naphthalene	3.2	5.3	3.2	1.3	**U**
1330-20-7	Xylenes, Total	3.5	11	3.5	1.4	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV14-150-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-024

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00332

Initial Pressure (psig): -2.62 Final Pressure (psig): 5.76
Initial Pressure 2 (psig): -2.10 Final Pressure 2 (psig): 5.72

Container Dilution Factor: 2.74

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.9**	3.6	2.2	0.89	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**44**	3.6	2.2	0.60	
74-87-3	Chloromethane	**2.4**	3.6	2.2	0.59	**J**
75-01-4	Vinyl Chloride	1.2	3.7	1.2	0.39	**U**
106-99-0	1,3-Butadiene	2.2	3.6	2.2	0.60	**U**
75-00-3	Chloroethane	2.2	3.7	2.2	0.45	**U**
64-17-5	Ethanol	**13**	36	5.7	2.5	**J, B**
67-64-1	Acetone	**35**	36	18	8.2	**J**
75-69-4	Trichlorofluoromethane	**8.0**	3.6	2.2	0.55	
67-63-0	2-Propanol (Isopropyl Alcohol)	**3.4**	14	4.3	1.5	**J**
75-09-2	Methylene Chloride	2.2	3.6	2.2	1.0	**U**
76-13-1	Trichlorotrifluoroethane	**160**	3.7	1.2	0.52	
75-15-0	Carbon Disulfide	**3.0**	7.5	3.7	1.1	**J**
75-34-3	1,1-Dichloroethane	2.3	3.8	2.3	0.53	**U**
78-93-3	2-Butanone (MEK)	**6.4**	7.5	2.2	0.75	**J**
141-78-6	Ethyl Acetate	**4.6**	7.5	4.5	1.9	**J**
110-54-3	n-Hexane	**1.8**	3.7	2.2	0.75	**J**
67-66-3	Chloroform	**7.5**	3.7	1.2	0.49	
109-99-9	Tetrahydrofuran (THF)	**410**	3.8	1.2	0.46	
107-06-2	1,2-Dichloroethane	1.2	3.7	1.2	0.40	**U**
71-43-2	Benzene	**1.5**	3.6	1.2	0.53	**J**
56-23-5	Carbon Tetrachloride	**290**	3.6	1.2	0.51	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV14-150-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-024

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00332

Initial Pressure (psig): -2.62 Final Pressure (psig): 5.76
Initial Pressure 2 (psig): -2.10 Final Pressure 2 (psig): 5.72

Container Dilution Factor: 2.74

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**3.7**	7.5	2.3	1.0	**J**
75-27-4	Bromodichloromethane	1.2	3.7	1.2	0.53	**U**
79-01-6	Trichloroethene	**470**	3.7	1.2	0.49	
123-91-1	1,4-Dioxane	1.2	3.7	1.2	0.43	**U**
142-82-5	n-Heptane	**3.7**	3.7	2.2	0.58	
108-10-1	4-Methyl-2-pentanone	1.2	3.6	1.2	0.50	**U**
108-88-3	Toluene	**3.2**	3.7	1.2	0.45	**J**
591-78-6	2-Hexanone	**1.2**	3.7	1.2	0.45	**J**
124-48-1	Dibromochloromethane	1.2	3.7	1.2	0.48	**U**
106-93-4	1,2-Dibromoethane	1.2	3.7	1.2	0.42	**U**
127-18-4	Tetrachloroethene	**120**	3.6	1.2	0.47	
100-41-4	Ethylbenzene	1.2	3.7	1.2	0.51	**U**
179601-23-1	m,p-Xylenes	**1.4**	7.5	2.3	0.96	**J**
75-25-2	Bromoform	2.2	3.7	2.2	0.75	**U**
100-42-5	Styrene	2.2	3.6	2.2	0.59	**U**
95-47-6	o-Xylene	**0.57**	3.7	1.2	0.53	**J**
108-67-8	1,3,5-Trimethylbenzene	1.2	3.6	1.2	0.53	**U**
95-63-6	1,2,4-Trimethylbenzene	**1.4**	3.7	1.2	0.51	**J**
120-82-1	1,2,4-Trichlorobenzene	2.2	3.7	2.2	0.89	**U**
91-20-3	Naphthalene	2.1	3.6	2.1	0.89	**U**
1330-20-7	Xylenes, Total	**2.0**	7.5	2.3	0.96	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV14-250-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-025

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00848

Initial Pressure (psig): -2.06 Final Pressure (psig): 5.56
Initial Pressure 2 (psig): -1.74 Final Pressure 2 (psig): 5.53

Container Dilution Factor: 2.50

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	2.0	3.3	2.0	0.81	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**55**	3.3	2.0	0.54	
74-87-3	Chloromethane	**1.6**	3.3	2.0	0.54	**J**
75-01-4	Vinyl Chloride	**0.46**	3.4	1.1	0.36	**J**
106-99-0	1,3-Butadiene	2.0	3.3	2.0	0.55	**U**
75-00-3	Chloroethane	2.0	3.4	2.0	0.41	**U**
64-17-5	Ethanol	**3.8**	33	5.2	2.3	**J, B**
67-64-1	Acetone	**33**	33	17	7.5	**J**
75-69-4	Trichlorofluoromethane	**9.3**	3.3	2.0	0.51	
67-63-0	2-Propanol (Isopropyl Alcohol)	3.9	13	3.9	1.4	**U**
75-09-2	Methylene Chloride	2.0	3.3	2.0	0.94	**U**
76-13-1	Trichlorotrifluoroethane	**150**	3.4	1.1	0.48	
75-15-0	Carbon Disulfide	**3.0**	6.9	3.4	1.0	**J**
75-34-3	1,1-Dichloroethane	2.1	3.4	2.1	0.49	**U**
78-93-3	2-Butanone (MEK)	**9.0**	6.9	2.0	0.69	
141-78-6	Ethyl Acetate	4.1	6.9	4.1	1.8	**U**
110-54-3	n-Hexane	**7.5**	3.4	2.0	0.69	
67-66-3	Chloroform	**8.0**	3.4	1.1	0.44	
109-99-9	Tetrahydrofuran (THF)	**260**	3.4	1.1	0.42	
107-06-2	1,2-Dichloroethane	1.1	3.4	1.1	0.37	**U**
71-43-2	Benzene	**1.6**	3.3	1.1	0.48	**J**
56-23-5	Carbon Tetrachloride	**320**	3.3	1.1	0.46	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV14-250-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-025

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00848

Initial Pressure (psig): -2.06 Final Pressure (psig): 5.56
Initial Pressure 2 (psig): -1.74 Final Pressure 2 (psig): 5.53

Container Dilution Factor: 2.50

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**5.4**	6.9	2.1	0.94	**J**
75-27-4	Bromodichloromethane	1.1	3.4	1.1	0.48	**U**
79-01-6	Trichloroethene	**540**	3.4	1.1	0.45	
123-91-1	1,4-Dioxane	1.1	3.4	1.1	0.39	**U**
142-82-5	n-Heptane	**19**	3.4	2.0	0.53	
108-10-1	4-Methyl-2-pentanone	1.1	3.3	1.1	0.46	**U**
108-88-3	Toluene	**5.9**	3.4	1.1	0.41	
591-78-6	2-Hexanone	1.1	3.4	1.1	0.41	**U**
124-48-1	Dibromochloromethane	1.1	3.4	1.1	0.44	**U**
106-93-4	1,2-Dibromoethane	1.1	3.4	1.1	0.39	**U**
127-18-4	Tetrachloroethene	**120**	3.3	1.1	0.43	
100-41-4	Ethylbenzene	**0.53**	3.4	1.1	0.47	**J**
179601-23-1	m,p-Xylenes	**4.4**	6.9	2.1	0.88	**J**
75-25-2	Bromoform	2.0	3.4	2.0	0.69	**U**
100-42-5	Styrene	2.0	3.3	2.0	0.54	**U**
95-47-6	o-Xylene	**1.3**	3.4	1.1	0.48	**J**
108-67-8	1,3,5-Trimethylbenzene	**1.3**	3.3	1.1	0.48	**J**
95-63-6	1,2,4-Trimethylbenzene	**5.6**	3.4	1.1	0.46	
120-82-1	1,2,4-Trichlorobenzene	2.0	3.4	2.0	0.81	**U**
91-20-3	Naphthalene	1.9	3.3	1.9	0.81	**U**
1330-20-7	Xylenes, Total	**5.7**	6.9	2.1	0.88	**J**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV14-350-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-026

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00601

Initial Pressure (psig): -2.73 Final Pressure (psig): 6.87
Initial Pressure 2 (psig): -1.57 Final Pressure 2 (psig): 5.92

Container Dilution Factor: 2.83

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**67**	3.7	2.3	0.92	
75-71-8	Dichlorodifluoromethane (CFC 12)	**720**	3.7	2.3	0.62	
74-87-3	Chloromethane	**3.8**	3.7	2.3	0.61	
75-01-4	Vinyl Chloride	**1.4**	3.8	1.2	0.40	**J**
106-99-0	1,3-Butadiene	2.3	3.7	2.3	0.62	**U**
75-00-3	Chloroethane	2.3	3.8	2.3	0.47	**U**
64-17-5	Ethanol	**43**	37	5.9	2.6	**B**
67-64-1	Acetone	**990**	37	19	8.5	
75-69-4	Trichlorofluoromethane	**52**	3.7	2.3	0.57	
67-63-0	2-Propanol (Isopropyl Alcohol)	**380**	15	4.5	1.6	
75-09-2	Methylene Chloride	**3.6**	3.7	2.3	1.1	**J**
76-13-1	Trichlorotrifluoroethane	**37**	3.8	1.2	0.54	
75-15-0	Carbon Disulfide	**6.0**	7.8	3.8	1.1	**J**
75-34-3	1,1-Dichloroethane	**1.1**	3.9	2.3	0.55	**J**
78-93-3	2-Butanone (MEK)	**580**	7.8	2.3	0.78	
141-78-6	Ethyl Acetate	**180**	7.8	4.6	2.0	
110-54-3	n-Hexane	**9.8**	3.8	2.3	0.78	
67-66-3	Chloroform	**2.3**	3.8	1.2	0.50	**J**
109-99-9	Tetrahydrofuran (THF)	**450**	3.9	1.2	0.47	
107-06-2	1,2-Dichloroethane	1.2	3.8	1.2	0.42	**U**
71-43-2	Benzene	**8.2**	3.7	1.2	0.54	
56-23-5	Carbon Tetrachloride	**47**	3.7	1.2	0.52	

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV14-350-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-026

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00601

Initial Pressure (psig): -2.73 Final Pressure (psig): 6.87
Initial Pressure 2 (psig): -1.57 Final Pressure 2 (psig): 5.92

Container Dilution Factor: 2.83

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**12**	7.8	2.4	1.1	
75-27-4	Bromodichloromethane	1.2	3.8	1.2	0.54	**U**
79-01-6	Trichloroethene	**180**	3.8	1.2	0.51	
123-91-1	1,4-Dioxane	1.2	3.8	1.2	0.45	**U**
142-82-5	n-Heptane	**3.3**	3.8	2.3	0.60	**J**
108-10-1	4-Methyl-2-pentanone	**1.6**	3.7	1.2	0.52	**J**
108-88-3	Toluene	**39**	3.8	1.2	0.46	
591-78-6	2-Hexanone	**4.1**	3.8	1.2	0.47	
124-48-1	Dibromochloromethane	1.2	3.8	1.2	0.50	**U**
106-93-4	1,2-Dibromoethane	**1.2**	3.8	1.2	0.44	**J**
127-18-4	Tetrachloroethene	**38**	3.7	1.2	0.49	
100-41-4	Ethylbenzene	**1.4**	3.8	1.2	0.53	**J**
179601-23-1	m,p-Xylenes	**4.3**	7.8	2.4	0.99	**J**
75-25-2	Bromoform	2.3	3.8	2.3	0.78	**U**
100-42-5	Styrene	**1.1**	3.7	2.3	0.61	**J**
95-47-6	o-Xylene	**1.7**	3.8	1.2	0.54	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.64**	3.7	1.2	0.54	**J**
95-63-6	1,2,4-Trimethylbenzene	**2.1**	3.8	1.2	0.52	**J**
120-82-1	1,2,4-Trichlorobenzene	2.3	3.8	2.3	0.92	**U**
91-20-3	Naphthalene	2.2	3.7	2.2	0.92	**U**
1330-20-7	Xylenes, Total	**6.0**	7.8	2.4	0.99	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV14-450-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-027

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00388

Initial Pressure (psig): -4.05 Final Pressure (psig): 6.14
Initial Pressure 2 (psig): -1.66 Final Pressure 2 (psig): 5.35

Container Dilution Factor: 3.01

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**16**	4.0	2.4	0.98	
75-71-8	Dichlorodifluoromethane (CFC 12)	**14**	4.0	2.4	0.65	
74-87-3	Chloromethane	**27**	4.0	2.4	0.65	
75-01-4	Vinyl Chloride	**280**	4.1	1.3	0.43	
106-99-0	1,3-Butadiene	2.4	4.0	2.4	0.66	**U**
75-00-3	Chloroethane	**7.4**	4.1	2.4	0.50	
64-17-5	Ethanol	**21**	39	6.2	2.8	**J, B**
67-64-1	Acetone	**77**	40	20	9.0	
75-69-4	Trichlorofluoromethane	**1.1**	4.0	2.4	0.61	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**6.7**	16	4.7	1.7	**J**
75-09-2	Methylene Chloride	2.4	4.0	2.4	1.1	**U**
76-13-1	Trichlorotrifluoroethane	**1.4**	4.1	1.3	0.57	**J**
75-15-0	Carbon Disulfide	**50**	8.3	4.1	1.2	
75-34-3	1,1-Dichloroethane	2.5	4.1	2.5	0.59	**U**
78-93-3	2-Butanone (MEK)	**30**	8.3	2.4	0.83	
141-78-6	Ethyl Acetate	**2.3**	8.3	4.9	2.1	**J**
110-54-3	n-Hexane	**17**	4.1	2.4	0.83	
67-66-3	Chloroform	**0.74**	4.1	1.3	0.53	**J**
109-99-9	Tetrahydrofuran (THF)	**67**	4.1	1.3	0.50	
107-06-2	1,2-Dichloroethane	**1.4**	4.1	1.3	0.44	**J**
71-43-2	Benzene	**22**	4.0	1.3	0.58	
56-23-5	Carbon Tetrachloride	**4.4**	4.0	1.3	0.56	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV14-450-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-027

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00388

Initial Pressure (psig): -4.05 Final Pressure (psig): 6.14
Initial Pressure 2 (psig): -1.66 Final Pressure 2 (psig): 5.35

Container Dilution Factor: 3.01

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**27**	8.3	2.6	1.1	
75-27-4	Bromodichloromethane	1.3	4.1	1.3	0.58	**U**
79-01-6	Trichloroethene	**43**	4.1	1.3	0.54	
123-91-1	1,4-Dioxane	**2.1**	4.1	1.3	0.47	**J**
142-82-5	n-Heptane	**10**	4.1	2.4	0.64	
108-10-1	4-Methyl-2-pentanone	1.3	4.0	1.3	0.55	**U**
108-88-3	Toluene	**90**	4.1	1.3	0.49	
591-78-6	2-Hexanone	**1.7**	4.1	1.3	0.50	**J**
124-48-1	Dibromochloromethane	1.3	4.1	1.3	0.53	**U**
106-93-4	1,2-Dibromoethane	1.3	4.1	1.3	0.47	**U**
127-18-4	Tetrachloroethene	**11**	3.9	1.3	0.52	
100-41-4	Ethylbenzene	**4.5**	4.1	1.3	0.56	
179601-23-1	m,p-Xylenes	**7.0**	8.3	2.6	1.1	**J**
75-25-2	Bromoform	2.4	4.1	2.4	0.83	**U**
100-42-5	Styrene	2.4	4.0	2.4	0.65	**U**
95-47-6	o-Xylene	**1.6**	4.1	1.3	0.58	**J**
108-67-8	1,3,5-Trimethylbenzene	**1.1**	4.0	1.3	0.58	**J**
95-63-6	1,2,4-Trimethylbenzene	**4.0**	4.1	1.3	0.56	**J**
120-82-1	1,2,4-Trichlorobenzene	2.4	4.1	2.4	0.98	**U**
91-20-3	Naphthalene	2.3	3.9	2.3	0.98	**U**
1330-20-7	Xylenes, Total	**8.6**	8.3	2.6	1.1	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV14-450-602** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-028

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00191

Initial Pressure (psig): -1.83 Final Pressure (psig): 5.87
Initial Pressure 2 (psig): -0.11 Final Pressure 2 (psig): 6.03
Initial Pressure 3 (psig): 0.03 Final Pressure 3 (psig): 5.67

Container Dilution Factor: 3.14

CAS #	Compound	Result µg/m³		LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**13**		4.2	2.5	1.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	**11**		4.2	2.5	0.68	
74-87-3	Chloromethane	**17**		4.2	2.5	0.68	
75-01-4	Vinyl Chloride	**270**		4.2	1.3	0.45	
106-99-0	1,3-Butadiene		2.5	4.2	2.5	0.69	**U**
75-00-3	Chloroethane	**6.5**		4.2	2.5	0.52	
64-17-5	Ethanol		6.5	41	6.5	2.9	**U**
67-64-1	Acetone	**19**		42	21	9.4	**J**
75-69-4	Trichlorofluoromethane	**0.90**		4.2	2.5	0.64	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)		4.9	16	4.9	1.7	**U**
75-09-2	Methylene Chloride		2.5	4.2	2.5	1.2	**U**
76-13-1	Trichlorotrifluoroethane	**0.76**		4.2	1.3	0.60	**J**
75-15-0	Carbon Disulfide	**110**		8.6	4.2	1.3	
75-34-3	1,1-Dichloroethane		2.6	4.3	2.6	0.61	**U**
78-93-3	2-Butanone (MEK)	**9.5**		8.6	2.5	0.86	
141-78-6	Ethyl Acetate		5.1	8.6	5.1	2.2	**U**
110-54-3	n-Hexane	**25**		4.2	2.5	0.86	
67-66-3	Chloroform		1.3	4.2	1.3	0.56	**U**
109-99-9	Tetrahydrofuran (THF)	**59**		4.3	1.3	0.53	
107-06-2	1,2-Dichloroethane	**1.3**		4.2	1.3	0.46	**J**
71-43-2	Benzene	**19**		4.2	1.3	0.60	
56-23-5	Carbon Tetrachloride	**2.7**		4.2	1.3	0.58	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV14-450-602** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-028

Test Code: EPA TO-15 Date Collected: 4/15/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00191

Initial Pressure (psig): -1.83 Final Pressure (psig): 5.87
Initial Pressure 2 (psig): -0.11 Final Pressure 2 (psig): 6.03
Initial Pressure 3 (psig): 0.03 Final Pressure 3 (psig): 5.67

Container Dilution Factor: 3.14

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**23**	8.6	2.7	1.2	
75-27-4	Bromodichloromethane	1.3	4.2	1.3	0.60	**U**
79-01-6	Trichloroethene	**30**	4.2	1.3	0.57	
123-91-1	1,4-Dioxane	1.3	4.2	1.3	0.49	**U**
142-82-5	n-Heptane	**16**	4.2	2.5	0.67	
108-10-1	4-Methyl-2-pentanone	**1.4**	4.2	1.3	0.57	**J**
108-88-3	Toluene	**77**	4.2	1.3	0.51	
591-78-6	2-Hexanone	**4.2**	4.2	1.3	0.52	**J**
124-48-1	Dibromochloromethane	1.3	4.2	1.3	0.55	**U**
106-93-4	1,2-Dibromoethane	1.3	4.2	1.3	0.49	**U**
127-18-4	Tetrachloroethene	**9.4**	4.1	1.3	0.54	
100-41-4	Ethylbenzene	**4.1**	4.2	1.3	0.59	**J**
179601-23-1	m,p-Xylenes	**9.5**	8.6	2.7	1.1	
75-25-2	Bromoform	2.5	4.2	2.5	0.86	**U**
100-42-5	Styrene	2.5	4.2	2.5	0.68	**U**
95-47-6	o-Xylene	**2.0**	4.2	1.3	0.60	**J**
108-67-8	1,3,5-Trimethylbenzene	**2.1**	4.2	1.3	0.60	**J**
95-63-6	1,2,4-Trimethylbenzene	**9.8**	4.2	1.3	0.58	
120-82-1	1,2,4-Trichlorobenzene	2.5	4.2	2.5	1.0	**U**
91-20-3	Naphthalene	2.4	4.1	2.4	1.0	**U**
1330-20-7	Xylenes, Total	**12**	8.6	2.7	1.1	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVTB-202-02** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-029

Test Code: EPA TO-15 Date Collected: 4/16/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00358

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**0.45**	1.3	0.80	0.33	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.80	1.3	0.80	0.22	**U**
74-87-3	Chloromethane	0.80	1.3	0.80	0.22	**U**
75-01-4	Vinyl Chloride	0.43	1.4	0.43	0.14	**U**
106-99-0	1,3-Butadiene	0.80	1.3	0.80	0.22	**U**
75-00-3	Chloroethane	0.80	1.4	0.80	0.17	**U**
64-17-5	Ethanol	**5.2**	13	2.1	0.93	**J, B**
67-64-1	Acetone	**3.9**	13	6.8	3.0	**J**
75-69-4	Trichlorofluoromethane	0.80	1.3	0.80	0.20	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.9**	5.3	1.6	0.55	**J**
75-09-2	Methylene Chloride	0.80	1.3	0.80	0.38	**U**
76-13-1	Trichlorotrifluoroethane	0.43	1.4	0.43	0.19	**U**
75-15-0	Carbon Disulfide	1.4	2.8	1.4	0.40	**U**
75-34-3	1,1-Dichloroethane	0.83	1.4	0.83	0.20	**U**
78-93-3	2-Butanone (MEK)	**0.61**	2.8	0.80	0.28	**J**
141-78-6	Ethyl Acetate	**1.1**	2.8	1.6	0.70	**J**
110-54-3	n-Hexane	0.80	1.4	0.80	0.28	**U**
67-66-3	Chloroform	0.43	1.4	0.43	0.18	**U**
109-99-9	Tetrahydrofuran (THF)	0.43	1.4	0.43	0.17	**U**
107-06-2	1,2-Dichloroethane	0.43	1.4	0.43	0.15	**U**
71-43-2	Benzene	0.43	1.3	0.43	0.19	**U**
56-23-5	Carbon Tetrachloride	0.43	1.3	0.43	0.19	**U**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVTB-202-02** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-029

Test Code: EPA TO-15 Date Collected: 4/16/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00358

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	0.85	2.8	0.85	0.38	**U**
75-27-4	Bromodichloromethane	0.43	1.4	0.43	0.19	**U**
79-01-6	Trichloroethene	**0.31**	1.4	0.43	0.18	**J**
123-91-1	1,4-Dioxane	0.43	1.4	0.43	0.16	**U**
142-82-5	n-Heptane	0.80	1.4	0.80	0.21	**U**
108-10-1	4-Methyl-2-pentanone	0.43	1.3	0.43	0.18	**U**
108-88-3	Toluene	**0.33**	1.4	0.43	0.16	**J**
591-78-6	2-Hexanone	**0.20**	1.4	0.43	0.17	**J**
124-48-1	Dibromochloromethane	0.43	1.4	0.43	0.18	**U**
106-93-4	1,2-Dibromoethane	0.43	1.4	0.43	0.16	**U**
127-18-4	Tetrachloroethene	0.43	1.3	0.43	0.17	**U**
100-41-4	Ethylbenzene	0.43	1.4	0.43	0.19	**U**
179601-23-1	m,p-Xylenes	0.85	2.8	0.85	0.35	**U**
75-25-2	Bromoform	0.80	1.4	0.80	0.28	**U**
100-42-5	Styrene	0.80	1.3	0.80	0.22	**U**
95-47-6	o-Xylene	0.43	1.4	0.43	0.19	**U**
108-67-8	1,3,5-Trimethylbenzene	0.43	1.3	0.43	0.19	**U**
95-63-6	1,2,4-Trimethylbenzene	0.43	1.4	0.43	0.19	**U**
120-82-1	1,2,4-Trichlorobenzene	0.80	1.4	0.80	0.33	**U**
91-20-3	Naphthalene	0.78	1.3	0.78	0.33	**U**
1330-20-7	Xylenes, Total	0.85	2.8	0.85	0.35	**U**

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200505-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	0.32	0.53	0.32	0.13	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.32	0.53	0.32	0.087	**U**
74-87-3	Chloromethane	0.32	0.53	0.32	0.086	**U**
75-01-4	Vinyl Chloride	0.17	0.54	0.17	0.057	**U**
106-99-0	1,3-Butadiene	0.32	0.53	0.32	0.088	**U**
75-00-3	Chloroethane	0.32	0.54	0.32	0.066	**U**
64-17-5	Ethanol	**0.41**	5.2	0.83	0.37	**J**
67-64-1	Acetone	2.7	5.3	2.7	1.2	**U**
75-69-4	Trichlorofluoromethane	0.32	0.53	0.32	0.081	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.63	2.1	0.63	0.22	**U**
75-09-2	Methylene Chloride	0.32	0.53	0.32	0.15	**U**
76-13-1	Trichlorotrifluoroethane	0.17	0.54	0.17	0.076	**U**
75-15-0	Carbon Disulfide	0.54	1.1	0.54	0.16	**U**
75-34-3	1,1-Dichloroethane	0.33	0.55	0.33	0.078	**U**
78-93-3	2-Butanone (MEK)	0.32	1.1	0.32	0.11	**U**
141-78-6	Ethyl Acetate	0.65	1.1	0.65	0.28	**U**
110-54-3	n-Hexane	0.32	0.54	0.32	0.11	**U**
67-66-3	Chloroform	0.17	0.54	0.17	0.071	**U**
109-99-9	Tetrahydrofuran (THF)	0.17	0.55	0.17	0.067	**U**
107-06-2	1,2-Dichloroethane	0.17	0.54	0.17	0.059	**U**
71-43-2	Benzene	0.17	0.53	0.17	0.077	**U**
56-23-5	Carbon Tetrachloride	0.17	0.53	0.17	0.074	**U**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200505-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	0.34	1.1	0.34	0.15	U
75-27-4	Bromodichloromethane	0.17	0.54	0.17	0.077	U
79-01-6	Trichloroethene	0.17	0.54	0.17	0.072	U
123-91-1	1,4-Dioxane	0.17	0.54	0.17	0.063	U
142-82-5	n-Heptane	0.32	0.54	0.32	0.085	U
108-10-1	4-Methyl-2-pentanone	0.17	0.53	0.17	0.073	U
108-88-3	Toluene	0.17	0.54	0.17	0.065	U
591-78-6	2-Hexanone	0.17	0.54	0.17	0.066	U
124-48-1	Dibromochloromethane	0.17	0.54	0.17	0.070	U
106-93-4	1,2-Dibromoethane	0.17	0.54	0.17	0.062	U
127-18-4	Tetrachloroethene	0.17	0.52	0.17	0.069	U
100-41-4	Ethylbenzene	0.17	0.54	0.17	0.075	U
179601-23-1	m,p-Xylenes	0.34	1.1	0.34	0.14	U
75-25-2	Bromoform	0.32	0.54	0.32	0.11	U
100-42-5	Styrene	0.32	0.53	0.32	0.086	U
95-47-6	o-Xylene	0.17	0.54	0.17	0.077	U
108-67-8	1,3,5-Trimethylbenzene	0.17	0.53	0.17	0.077	U
95-63-6	1,2,4-Trimethylbenzene	0.17	0.54	0.17	0.074	U
120-82-1	1,2,4-Trichlorobenzene	0.32	0.54	0.32	0.13	U
91-20-3	Naphthalene	0.31	0.52	0.31	0.13	U
1330-20-7	Xylenes, Total	0.34	1.1	0.34	0.14	U

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200508-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	0.32	0.53	0.32	0.13	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.32	0.53	0.32	0.087	**U**
74-87-3	Chloromethane	0.32	0.53	0.32	0.086	**U**
75-01-4	Vinyl Chloride	0.17	0.54	0.17	0.057	**U**
106-99-0	1,3-Butadiene	0.32	0.53	0.32	0.088	**U**
75-00-3	Chloroethane	0.32	0.54	0.32	0.066	**U**
64-17-5	Ethanol	**0.47**	5.2	0.83	0.37	**J**
67-64-1	Acetone	2.7	5.3	2.7	1.2	**U**
75-69-4	Trichlorofluoromethane	0.32	0.53	0.32	0.081	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.63	2.1	0.63	0.22	**U**
75-09-2	Methylene Chloride	0.32	0.53	0.32	0.15	**U**
76-13-1	Trichlorotrifluoroethane	0.17	0.54	0.17	0.076	**U**
75-15-0	Carbon Disulfide	0.54	1.1	0.54	0.16	**U**
75-34-3	1,1-Dichloroethane	0.33	0.55	0.33	0.078	**U**
78-93-3	2-Butanone (MEK)	0.32	1.1	0.32	0.11	**U**
141-78-6	Ethyl Acetate	0.65	1.1	0.65	0.28	**U**
110-54-3	n-Hexane	0.32	0.54	0.32	0.11	**U**
67-66-3	Chloroform	0.17	0.54	0.17	0.071	**U**
109-99-9	Tetrahydrofuran (THF)	0.17	0.55	0.17	0.067	**U**
107-06-2	1,2-Dichloroethane	0.17	0.54	0.17	0.059	**U**
71-43-2	Benzene	0.17	0.53	0.17	0.077	**U**
56-23-5	Carbon Tetrachloride	0.17	0.53	0.17	0.074	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200508-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	0.34	1.1	0.34	0.15	U
75-27-4	Bromodichloromethane	0.17	0.54	0.17	0.077	U
79-01-6	Trichloroethene	0.17	0.54	0.17	0.072	U
123-91-1	1,4-Dioxane	0.17	0.54	0.17	0.063	U
142-82-5	n-Heptane	0.32	0.54	0.32	0.085	U
108-10-1	4-Methyl-2-pentanone	0.17	0.53	0.17	0.073	U
108-88-3	Toluene	0.17	0.54	0.17	0.065	U
591-78-6	2-Hexanone	0.17	0.54	0.17	0.066	U
124-48-1	Dibromochloromethane	0.17	0.54	0.17	0.070	U
106-93-4	1,2-Dibromoethane	0.17	0.54	0.17	0.062	U
127-18-4	Tetrachloroethene	0.17	0.52	0.17	0.069	U
100-41-4	Ethylbenzene	0.17	0.54	0.17	0.075	U
179601-23-1	m,p-Xylenes	0.34	1.1	0.34	0.14	U
75-25-2	Bromoform	0.32	0.54	0.32	0.11	U
100-42-5	Styrene	0.32	0.53	0.32	0.086	U
95-47-6	o-Xylene	0.17	0.54	0.17	0.077	U
108-67-8	1,3,5-Trimethylbenzene	0.17	0.53	0.17	0.077	U
95-63-6	1,2,4-Trimethylbenzene	0.17	0.54	0.17	0.074	U
120-82-1	1,2,4-Trichlorobenzene	0.32	0.54	0.32	0.13	U
91-20-3	Naphthalene	0.31	0.52	0.31	0.13	U
1330-20-7	Xylenes, Total	0.34	1.1	0.34	0.14	U

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Project ID: P2002107

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date(s) Collected: 4/14/20
Analyst: Lusine Hakobyan/Topacio De Leon/Wida Ang Date(s) Received: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister(s) / 1.0 L Summa Canister(s) Date(s) Analyzed: 5/5 - 5/8/20
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P200505-MB	**97**	**101**	**101**	70-130	
Method Blank	P200508-MB	**95**	**99**	**103**	70-130	
Lab Control Sample	P200505-LCS	**92**	**100**	**109**	70-130	
Lab Control Sample	P200508-LCS	**91**	**98**	**110**	70-130	
Duplicate Lab Control Sample	P200505-DLCS	**92**	**101**	**109**	70-130	
Duplicate Lab Control Sample	P200508-DLCS	**93**	**98**	**109**	70-130	
SV137-050-202	P2002107-001	**96**	**100**	**99**	70-130	
SV137-150-202	P2002107-002	**96**	**101**	**100**	70-130	
SV137-250-202	P2002107-003	**97**	**100**	**100**	70-130	
SV137-350-202	P2002107-004	**98**	**100**	**100**	70-130	
SV137-450-202	P2002107-005	**97**	**98**	**108**	70-130	
SV137-450-202	P2002107-005DUP	**96**	**96**	**106**	70-130	
SV139-025-202	P2002107-006	**97**	**99**	**105**	70-130	
SV139-050-202	P2002107-007	**97**	**99**	**99**	70-130	
SV139-050-602	P2002107-008	**97**	**100**	**100**	70-130	
SV139-150-202	P2002107-009	**96**	**99**	**101**	70-130	
SV139-250-202	P2002107-010	**98**	**100**	**98**	70-130	
SV139-350-202	P2002107-011	**97**	**99**	**97**	70-130	
SV139-450-202	P2002107-012	**95**	**99**	**99**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Project ID: P2002107

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date(s) Collected: 4/14/20
Analyst: Lusine Hakobyan/Topacio De Leon/Wida Ang Date(s) Received: 4/20/20
Sampling Media: 1.0 L Silonite Summa Canister(s) / 1.0 L Summa Canister(s) Date(s) Analyzed: 5/5 - 5/8/20
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
SV140-025-202	P2002107-013	**97**	**97**	**100**	70-130	
SV140-050-202	P2002107-014	**97**	**97**	**100**	70-130	
SV140-150-202	P2002107-015	**98**	**97**	**107**	70-130	
SV140-250-202	P2002107-016	**95**	**97**	**107**	70-130	
SV140-350-202	P2002107-017	**98**	**102**	**98**	70-130	
SV140-450-602	P2002107-018	**97**	**103**	**103**	70-130	
SV140-450-202	P2002107-019	**96**	**103**	**103**	70-130	
SV140-450-202	P2002107-019DUP	**96**	**104**	**101**	70-130	
SVE12-410-202	P2002107-020	**95**	**97**	**105**	70-130	
SV07-050-202	P2002107-021	**97**	**102**	**105**	70-130	
SV07-100-202	P2002107-022	**97**	**104**	**101**	70-130	
SV07-150-202	P2002107-023	**96**	**99**	**101**	70-130	
SV14-150-202	P2002107-024	**97**	**100**	**101**	70-130	
SV14-250-202	P2002107-025	**99**	**100**	**104**	70-130	
SV14-350-202	P2002107-026	**96**	**101**	**105**	70-130	
SV14-450-202	P2002107-027	**95**	**100**	**104**	70-130	
SV14-450-602	P2002107-028	**96**	**100**	**104**	70-130	
SVTB-202-02	P2002107-029	**96**	**100**	**102**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200505-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	210	201	200	**96**	**95**	57-136	1	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	191	192	**91**	**91**	59-128	0	25	
74-87-3	Chloromethane	212	182	185	**86**	**87**	59-132	1	25	
75-01-4	Vinyl Chloride	212	190	187	**90**	**88**	64-127	2	25	
106-99-0	1,3-Butadiene	212	190	191	**90**	**90**	66-134	0	25	
75-00-3	Chloroethane	214	188	192	**88**	**90**	63-127	2	25	
64-17-5	Ethanol	1,060	924	942	**87**	**89**	59-125	2	25	
67-64-1	Acetone	1,070	976	986	**91**	**92**	58-128	1	25	
75-69-4	Trichlorofluoromethane	212	192	192	**91**	**91**	62-126	0	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	422	392	397	**93**	**94**	52-125	1	25	
75-09-2	Methylene Chloride	210	190	190	**90**	**90**	62-115	0	25	
76-13-1	Trichlorotrifluoroethane	216	210	209	**97**	**97**	66-126	0	25	
75-15-0	Carbon Disulfide	212	194	193	**92**	**91**	57-134	1	25	
75-34-3	1,1-Dichloroethane	212	191	189	**90**	**89**	68-126	1	25	
78-93-3	2-Butanone (MEK)	212	193	193	**91**	**91**	67-130	0	25	
141-78-6	Ethyl Acetate	432	436	433	**101**	**100**	65-128	1	25	
110-54-3	n-Hexane	216	207	206	**96**	**95**	63-120	1	25	
67-66-3	Chloroform	214	197	196	**92**	**92**	68-123	0	25	
109-99-9	Tetrahydrofuran (THF)	220	194	194	**88**	**88**	64-123	0	25	
107-06-2	1,2-Dichloroethane	214	190	188	**89**	**88**	65-128	1	25	
71-43-2	Benzene	210	196	196	**93**	**93**	69-119	0	25	
56-23-5	Carbon Tetrachloride	208	201	203	**97**	**98**	68-132	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200505-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	422	415	415	**98**	**98**	70-117	0	25	
75-27-4	Bromodichloromethane	218	208	210	**95**	**96**	72-128	1	25	
79-01-6	Trichloroethene	216	209	209	**97**	**97**	71-123	0	25	
123-91-1	1,4-Dioxane	216	210	211	**97**	**98**	71-122	1	25	
142-82-5	n-Heptane	214	199	200	**93**	**93**	69-123	0	25	
108-10-1	4-Methyl-2-pentanone	212	209	211	**99**	**100**	67-130	1	25	
108-88-3	Toluene	212	210	211	**99**	**100**	66-119	1	25	
591-78-6	2-Hexanone	216	223	226	**103**	**105**	62-128	2	25	
124-48-1	Dibromochloromethane	214	229	229	**107**	**107**	70-130	0	25	
106-93-4	1,2-Dibromoethane	214	220	220	**103**	**103**	74-122	0	25	
127-18-4	Tetrachloroethene	208	220	220	**106**	**106**	66-124	0	25	
100-41-4	Ethylbenzene	212	222	222	**105**	**105**	70-124	0	25	
179601-23-1	m,p-Xylenes	426	450	452	**106**	**106**	61-134	0	25	
75-25-2	Bromoform	214	232	233	**108**	**109**	66-139	0.9	25	
100-42-5	Styrene	212	233	235	**110**	**111**	73-127	0.9	25	
95-47-6	o-Xylene	214	221	221	**103**	**103**	67-125	0	25	
108-67-8	1,3,5-Trimethylbenzene	212	230	230	**108**	**108**	67-130	0	25	
95-63-6	1,2,4-Trimethylbenzene	212	256	256	**121**	**121**	66-132	0	25	
120-82-1	1,2,4-Trichlorobenzene	216	250	250	**116**	**116**	55-142	0	25	
91-20-3	Naphthalene	212	265	265	**125**	**125**	57-138	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200508-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	210	206	205	**98**	**98**	57-136	0	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	187	188	**89**	**90**	59-128	1	25	
74-87-3	Chloromethane	212	184	185	**87**	**87**	59-132	0	25	
75-01-4	Vinyl Chloride	212	188	185	**89**	**87**	64-127	2	25	
106-99-0	1,3-Butadiene	212	192	192	**91**	**91**	66-134	0	25	
75-00-3	Chloroethane	214	187	189	**87**	**88**	63-127	1	25	
64-17-5	Ethanol	1,060	934	949	**88**	**90**	59-125	2	25	
67-64-1	Acetone	1,070	974	989	**91**	**92**	58-128	1	25	
75-69-4	Trichlorofluoromethane	212	187	187	**88**	**88**	62-126	0	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	422	393	396	**93**	**94**	52-125	1	25	
75-09-2	Methylene Chloride	210	185	186	**88**	**89**	62-115	1	25	
76-13-1	Trichlorotrifluoroethane	216	201	203	**93**	**94**	66-126	1	25	
75-15-0	Carbon Disulfide	212	188	190	**89**	**90**	57-134	1	25	
75-34-3	1,1-Dichloroethane	212	186	187	**88**	**88**	68-126	0	25	
78-93-3	2-Butanone (MEK)	212	189	192	**89**	**91**	67-130	2	25	
141-78-6	Ethyl Acetate	432	429	436	**99**	**101**	65-128	2	25	
110-54-3	n-Hexane	216	203	205	**94**	**95**	63-120	1	25	
67-66-3	Chloroform	214	192	192	**90**	**90**	68-123	0	25	
109-99-9	Tetrahydrofuran (THF)	220	191	192	**87**	**87**	64-123	0	25	
107-06-2	1,2-Dichloroethane	214	183	185	**86**	**86**	65-128	0	25	
71-43-2	Benzene	210	194	191	**92**	**91**	69-119	1	25	
56-23-5	Carbon Tetrachloride	208	197	196	**95**	**94**	68-132	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200508-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	422	409	407	**97**	**96**	70-117	1	25	
75-27-4	Bromodichloromethane	218	205	203	**94**	**93**	72-128	1	25	
79-01-6	Trichloroethene	216	204	203	**94**	**94**	71-123	0	25	
123-91-1	1,4-Dioxane	216	208	207	**96**	**96**	71-122	0	25	
142-82-5	n-Heptane	214	198	196	**93**	**92**	69-123	1	25	
108-10-1	4-Methyl-2-pentanone	212	210	209	**99**	**99**	67-130	0	25	
108-88-3	Toluene	212	200	199	**94**	**94**	66-119	0	25	
591-78-6	2-Hexanone	216	216	218	**100**	**101**	62-128	1	25	
124-48-1	Dibromochloromethane	214	214	214	**100**	**100**	70-130	0	25	
106-93-4	1,2-Dibromoethane	214	208	207	**97**	**97**	74-122	0	25	
127-18-4	Tetrachloroethene	208	207	206	**100**	**99**	66-124	1	25	
100-41-4	Ethylbenzene	212	209	209	**99**	**99**	70-124	0	25	
179601-23-1	m,p-Xylenes	426	425	426	**100**	**100**	61-134	0	25	
75-25-2	Bromoform	214	214	213	**100**	**100**	66-139	0	25	
100-42-5	Styrene	212	219	219	**103**	**103**	73-127	0	25	
95-47-6	o-Xylene	214	209	208	**98**	**97**	67-125	1	25	
108-67-8	1,3,5-Trimethylbenzene	212	216	216	**102**	**102**	67-130	0	25	
95-63-6	1,2,4-Trimethylbenzene	212	242	239	**114**	**113**	66-132	0.9	25	
120-82-1	1,2,4-Trichlorobenzene	216	237	234	**110**	**108**	55-142	2	25	
91-20-3	Naphthalene	212	250	248	**118**	**117**	57-138	0.9	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV137-450-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-005DUP

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0030 Liter(s)
Test Notes:
Container ID: 1SC00044

Initial Pressure (psig): -2.45 Final Pressure (psig): 7.05

Container Dilution Factor: 1.78

Compound	Sample Result µg/m³	Duplicate Sample Result µg/m³	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Propene	200	190	195	**5**	25	**J**
Dichlorodifluoromethane (CFC 12)	ND	ND	-	-	25	
Chloromethane	ND	ND	-	-	25	
Vinyl Chloride	ND	ND	-	-	25	
1,3-Butadiene	ND	ND	-	-	25	
Chloroethane	ND	ND	-	-	25	
Ethanol	ND	ND	-	-	25	
Acetone	ND	ND	-	-	25	
Trichlorofluoromethane	ND	ND	-	-	25	
2-Propanol (Isopropyl Alcohol)	200	180	190	**11**	25	**J**
Methylene Chloride	ND	ND	-	-	25	
Trichlorotrifluoroethane	ND	ND	-	-	25	
Carbon Disulfide	98	97	97.5	**1**	25	**J**
1,1-Dichloroethane	ND	ND	-	-	25	
2-Butanone (MEK)	ND	ND	-	-	25	
Ethyl Acetate	ND	ND	-	-	25	
n-Hexane	1,000	1,000	1000	**0**	25	
Chloroform	ND	ND	-	-	25	
Tetrahydrofuran (THF)	72	62	67	**15**	25	**J**
1,2-Dichloroethane	49	46	47.5	**6**	25	**J**
Benzene	11,000	11,000	11000	**0**	25	
Carbon Tetrachloride	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV137-450-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-005DUP

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Wida Ang Date Analyzed: 5/5/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0030 Liter(s)
Test Notes:
Container ID: 1SC00044

Initial Pressure (psig): -2.45 Final Pressure (psig): 7.05

Container Dilution Factor: 1.78

Compound	Sample Result µg/m³	Duplicate Sample Result µg/m³	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Cyclohexane	4,800	4,900	4850	**2**	25	
Bromodichloromethane	ND	ND	-	-	25	
Trichloroethene	ND	ND	-	-	25	
1,4-Dioxane	ND	ND	-	-	25	
n-Heptane	1,400	1,300	1350	**7**	25	
4-Methyl-2-pentanone	ND	ND	-	-	25	
Toluene	30,000	30,000	30000	**0**	25	
2-Hexanone	ND	ND	-	-	25	
Dibromochloromethane	ND	ND	-	-	25	
1,2-Dibromoethane	460	470	465	**2**	25	
Tetrachloroethene	ND	ND	-	-	25	
Ethylbenzene	2,900	3,000	2950	**3**	25	
m,p-Xylenes	69,000	70,000	69500	**1**	25	
Bromoform	ND	ND	-	-	25	
Styrene	ND	ND	-	-	25	
o-Xylene	35,000	36,000	35500	**3**	25	
1,3,5-Trimethylbenzene	3,800	4,000	3900	**5**	25	
1,2,4-Trimethylbenzene	4,000	4,300	4150	**7**	25	
1,2,4-Trichlorobenzene	ND	ND	-	-	25	
Naphthalene	ND	ND	-	-	25	
Xylenes, Total	100,000	110,000	105000	**10**	25	

ND = Compound was analyzed for, but not detected.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV140-450-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-019DUP

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.050 Liter(s)
Test Notes:
Container ID: 1SC01347

Initial Pressure (psig): -2.97 Final Pressure (psig): 6.85

Container Dilution Factor: 1.84

Compound	Sample Result µg/m³	Duplicate Sample Result µg/m³	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Propene	ND	ND	-	-	25	
Dichlorodifluoromethane (CFC 12)	16	16	16	**0**	25	**J**
Chloromethane	3.9	4.0	3.95	**3**	25	**J**
Vinyl Chloride	ND	ND	-	-	25	
1,3-Butadiene	ND	ND	-	-	25	
Chloroethane	ND	ND	-	-	25	
Ethanol	ND	ND	-	-	25	
Acetone	190	190	190	**0**	25	**J**
Trichlorofluoromethane	ND	ND	-	-	25	
2-Propanol (Isopropyl Alcohol)	ND	ND	-	-	25	
Methylene Chloride	ND	ND	-	-	25	
Trichlorotrifluoroethane	ND	ND	-	-	25	
Carbon Disulfide	8.5	8.3	8.4	**2**	25	**J**
1,1-Dichloroethane	ND	ND	-	-	25	
2-Butanone (MEK)	270	270	270	**0**	25	
Ethyl Acetate	ND	ND	-	-	25	
n-Hexane	5.2	4.9	5.05	**6**	25	**J**
Chloroform	ND	ND	-	-	25	
Tetrahydrofuran (THF)	57	56	56.5	**2**	25	
1,2-Dichloroethane	ND	ND	-	-	25	
Benzene	120	120	120	**0**	25	
Carbon Tetrachloride	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV140-450-202** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002107-019DUP

Test Code: EPA TO-15 Date Collected: 4/14/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/20/20
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.050 Liter(s)
Test Notes:
Container ID: 1SC01347

Initial Pressure (psig): -2.97 Final Pressure (psig): 6.85

Container Dilution Factor: 1.84

Compound	Sample Result µg/m³	Duplicate Sample Result µg/m³	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Cyclohexane	79	78	78.5	**1**	25	
Bromodichloromethane	ND	ND	-	-	25	
Trichloroethene	ND	ND	-	-	25	
1,4-Dioxane	ND	ND	-	-	25	
n-Heptane	ND	ND	-	-	25	
4-Methyl-2-pentanone	ND	ND	-	-	25	
Toluene	22	22	22	**0**	25	
2-Hexanone	ND	ND	-	-	25	
Dibromochloromethane	ND	ND	-	-	25	
1,2-Dibromoethane	ND	ND	-	-	25	
Tetrachloroethene	ND	ND	-	-	25	
Ethylbenzene	ND	ND	-	-	25	
m,p-Xylenes	ND	ND	-	-	25	
Bromoform	ND	ND	-	-	25	
Styrene	ND	ND	-	-	25	
o-Xylene	ND	ND	-	-	25	
1,3,5-Trimethylbenzene	ND	ND	-	-	25	
1,2,4-Trimethylbenzene	ND	ND	-	-	25	
1,2,4-Trichlorobenzene	ND	ND	-	-	25	
Naphthalene	ND	ND	-	-	25	
Xylenes, Total	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Lab File ID: 05052002.D
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister(s) Time Analyzed: 03:43
Test Notes:

		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	24 Hour Standard	289532	11.15	1217379	13.28	564088	17.59
	Upper Limit	405345	11.48	1704331	13.61	789723	17.92
	Lower Limit	173719	10.82	730427	12.95	338453	17.26
	Client Sample ID						
01	Method Blank	258335	11.13	1123652	13.26	524091	17.58
02	Lab Control Sample	280171	11.15	1195033	13.28	544800	17.59
03	Duplicate Lab Control Sample	287594	11.16	1213206	13.28	552360	17.58
04	SV137-050-202	259908	11.13	1119939	13.26	523541	17.58
05	SV137-150-202	260741	11.13	1128526	13.26	524920	17.58
06	SV137-250-202	255950	11.14	1108118	13.27	524261	17.58
07	SV137-350-202	260003	11.13	1137104	13.26	534695	17.58
08	SV139-025-202	256688	11.14	1116767	13.27	523921	17.58
09	SV137-450-202	271372	11.13	1177132	13.26	569360	17.58
10	SV137-450-202 (Lab Duplicate)	277774	11.13	1193339	13.27	578887	17.58
11	SV07-050-202	272488	11.13	1195746	13.26	563967	17.58
12	SV07-100-202	268926	11.13	1188257	13.26	563597	17.58
13	SV140-350-202	271191	11.14	1193001	13.27	553267	17.58
14	SV139-050-202	254693	11.14	1099064	13.27	524713	17.58
15	SV139-050-602	257328	11.14	1111075	13.26	522387	17.58
16	SV139-150-202	260410	11.14	1118196	13.27	528791	17.58
17	SV139-150-202 (Dilution)	292819	11.14	1259636	13.27	590383	17.58
18	SV139-250-202	253240	11.14	1110692	13.27	525716	17.58
19	SV139-350-202	251211	11.14	1082291	13.27	513591	17.58
20	SV139-450-202	261574	11.14	1105536	13.27	528469	17.58

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Lab File ID: 05052002.D
Analyst: Topacio De Leon Date Analyzed: 5/5/20
Sampling Media: 1.0 L Silonite Summa Canister(s) Time Analyzed: 03:43
Test Notes:

		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	24 Hour Standard	289532	11.15	1217379	13.28	564088	17.59
	Upper Limit	405345	11.48	1704331	13.61	789723	17.92
	Lower Limit	173719	10.82	730427	12.95	338453	17.26
	Client Sample ID						
21	SV140-025-202	257344	11.13	1092226	13.26	544217	17.58
22	SV140-050-202	256896	11.13	1101281	13.26	548505	17.58
23	SV140-150-202	255301	11.14	1113811	13.27	547384	17.58
24	SV140-250-202	261453	11.14	1119174	13.27	553377	17.58
25	SVE12-410-202	264106	11.14	1116626	13.27	552372	17.58
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							

IS1 (BCM) = Bromochloromethane
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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: **EA Engineering, Science, and Technology, Inc.** ALS Project ID: P2002107
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Lab File ID: 05082001.D
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister(s) Time Analyzed: 00:57
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	276091		11.15	1158097		13.28		550769		17.58	
	Upper Limit	386527		11.48	1621336		13.61		771077		17.91	
	Lower Limit	165655		10.82	694858		12.95		330461		17.25	
	Client Sample ID											
01	Method Blank	250380		11.12	1068912		13.26		513861		17.58	
02	Lab Control Sample	270292		11.15	1136932		13.28		539874		17.58	
03	Duplicate Lab Control Sample	275598		11.15	1176711		13.28		553249		17.58	
04	SV139-250-202 (Dilution)	290611		11.13	1254907		13.26		592936		17.58	
05	SV139-350-202 (Dilution)	285248		11.13	1231686		13.26		582930		17.58	
06	SV140-450-602	288167		11.14	1264432		13.27		596470		17.58	
07	SV140-450-202	289199		11.14	1258959		13.27		598387		17.58	
08	SV140-450-202 (Lab Duplicate)	287869		11.14	1259800		13.27		593476		17.58	
09	SV07-150-202	255306		11.13	1102723		13.26		522747		17.58	
10	SV14-150-202	252274		11.14	1091862		13.27		508146		17.58	
11	SV14-250-202	247627		11.14	1097252		13.27		510746		17.58	
12	SV14-350-202	258708		11.15	1119854		13.28		518455		17.58	
13	SV14-450-202	255973		11.14	1093392		13.27		512073		17.58	
14	SV14-450-602	260776		11.13	1126357		13.26		525182		17.58	
15	SVTB-202-02	254677		11.13	1093342		13.26		508256		17.58	
16												
17												
18												
19												
20												

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052008.D Vial: 8
Acq On : 5 May 2020 7:08 Operator: TD
Sample : P2002107-001 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 20:51:05 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/6/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	259908	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1119939	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	523541	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	420840	11.948	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.60%				
57) Toluene-d8 (SS2)	15.72	98	1112585	12.538	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.32%				
73) Bromofluorobenzene (SS3)	18.97	174	395144	12.375	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.04%				
Target Compounds							Qvalue
2) Propene	4.12	42	1871	0.062	ng		97
3) Dichlorodifluoromethan...	4.28	85	34609	0.588	ng		99
4) Chloromethane	4.54	50	1256	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	599	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	5.66	94	240	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.32	45	27020	1.162	ng		91
11) Acetonitrile	6.59	41	10602	0.200	ng		96
12) Acrolein	6.79	56	2676	0.146	ng		99
13) Acetone	7.01	58	36511	1.571	ng		95
14) Trichlorofluoromethane	7.24	101	13943	0.268	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	6093	0.087	ng		89
16) Acrylonitrile	7.74	53	2061	0.054	ng		99
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.43	59	2324	N.D.			
19) Methylene Chloride	8.42	84	671	N.D.			
20) 3-Chloro-1-propene (Al...	8.44	41	177	N.D.			
21) Trichlorotrifluoroethane	8.85	151	2663	0.108	ng		100
22) Carbon Disulfide	8.68	76	67929	0.627	ng		100
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.47	72	3442	0.174	ng	#	89
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.31	87	737	N.D.			
30) Ethyl Acetate	11.29	61	1778	0.156	ng		90
31) n-Hexane	11.26	57	915	N.D.			
32) Chloroform	11.31	83	7205	0.139	ng		98
34) Tetrahydrofuran (THF)	11.74	72	10984	0.568	ng		99
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.86	78	7322	0.061	ng		100
42) Carbon Tetrachloride	13.03	117	1830	N.D.			
43) Cyclohexane	13.17	84	1275	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	13.91	83	964	N.D.			
47) Trichloroethene	13.96	130	1589	0.051	ng		98
48) 1,4-Dioxane	13.97	88	1248	0.052	ng		99
49) 2,2,4-Trimethylpentane...	14.04	57	837	N.D.			
50) Methyl Methacrylate	14.30	100	105	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052008.D Vial: 8
Acq On : 5 May 2020 7:08 Operator: TD
Sample : P2002107-001 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 20:51:05 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

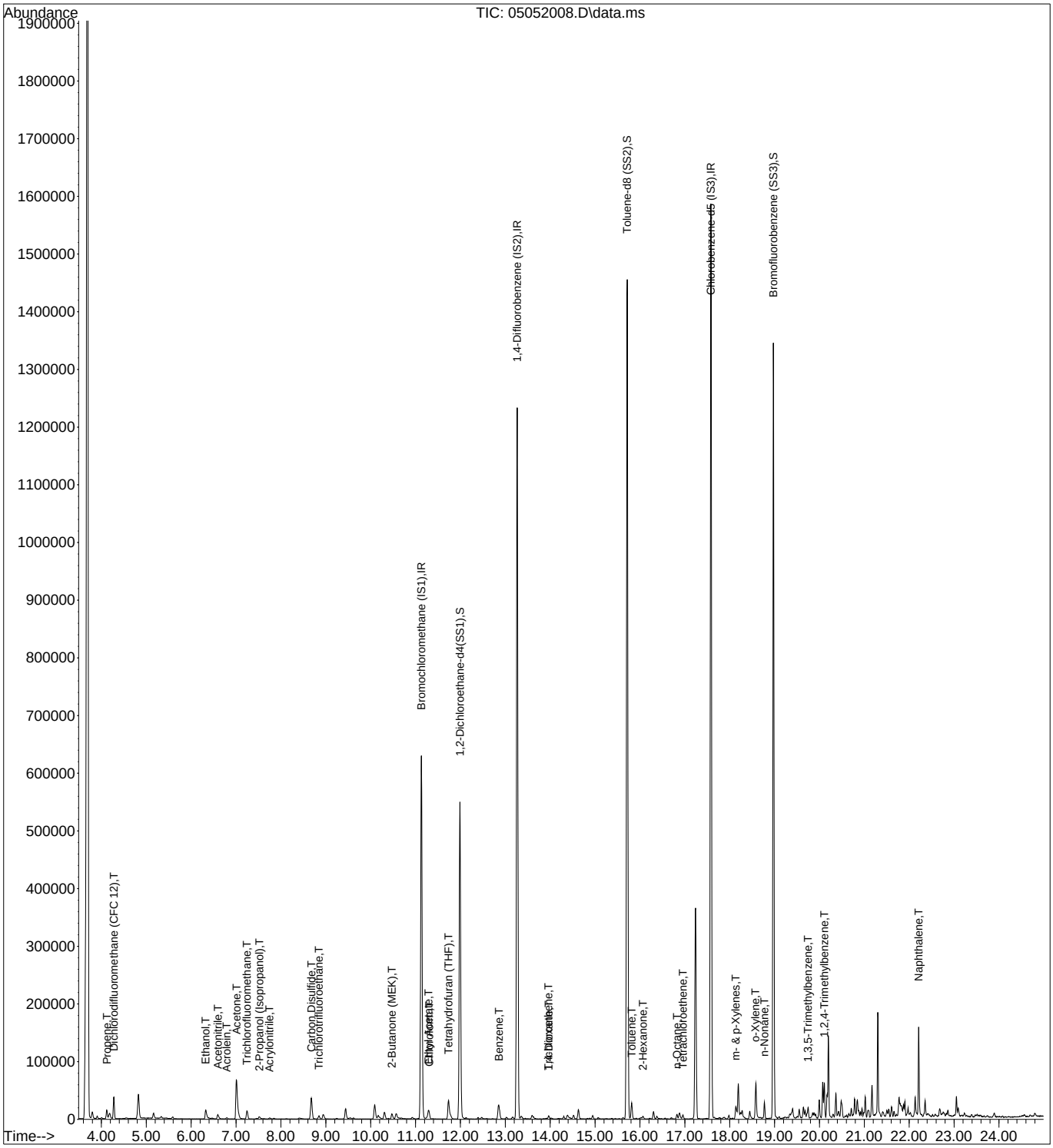
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	975	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.89	58	384	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.82	91	23241	0.203 ng	99
59) 2-Hexanone	16.07	43	4339	0.069 ng	80
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	16.48	107	446	N.D.	
62) n-Butyl Acetate	16.71	43	1869	N.D.	
63) n-Octane	16.83	57	1340	0.057 ng	95
64) Tetrachloroethene	16.96	166	1923	0.060 ng	93
65) Chlorobenzene	17.62	112	471	N.D.	
66) Ethylbenzene	17.98	91	5673	N.D.	
67) m- & p-Xylenes	18.14	91	16347	0.162 ng	100
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	1346	N.D.	
70) o-Xylene	18.58	91	6550	0.064 ng	91
71) n-Nonane	18.77	43	11114	0.204 ng	89
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.10	105	1881	N.D.	
75) alpha-Pinene	19.45	93	271	N.D.	
76) n-Propylbenzene	19.55	91	6734	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.68	105	5350	N.D.	
79) 1,3,5-Trimethylbenzene	19.74	105	7825	0.076 ng	89
80) alpha-Methylstyrene	19.88	118	2169	N.D.	
81) 2-Ethyltoluene	19.92	105	5001	N.D.	
82) 1,2,4-Trimethylbenzene	20.11	105	31059	0.301 ng	88
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.22	91	2007	N.D.	
85) 1,3-Dichlorobenzene	20.24	146	1081	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	1778	N.D.	
87) sec-Butylbenzene	20.35	105	2855	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	4879	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	20.61	146	797	N.D.	
91) d-Limonene	20.62	68	875	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.11	180	1436	N.D.	
95) Naphthalene	22.21	128	15271	0.121 ng	100
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.10	119	4252	N.D.	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052008.D Vial: 8
Acq On : 5 May 2020 7:08 Operator: TD
Sample : P2002107-001 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 20:51:05 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052008.D Vial: 8
Acq On : 5 May 2020 7:08 Operator: TD
Sample : P2002107-001 (400mL) Inst : GCMS-16
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Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/6/20

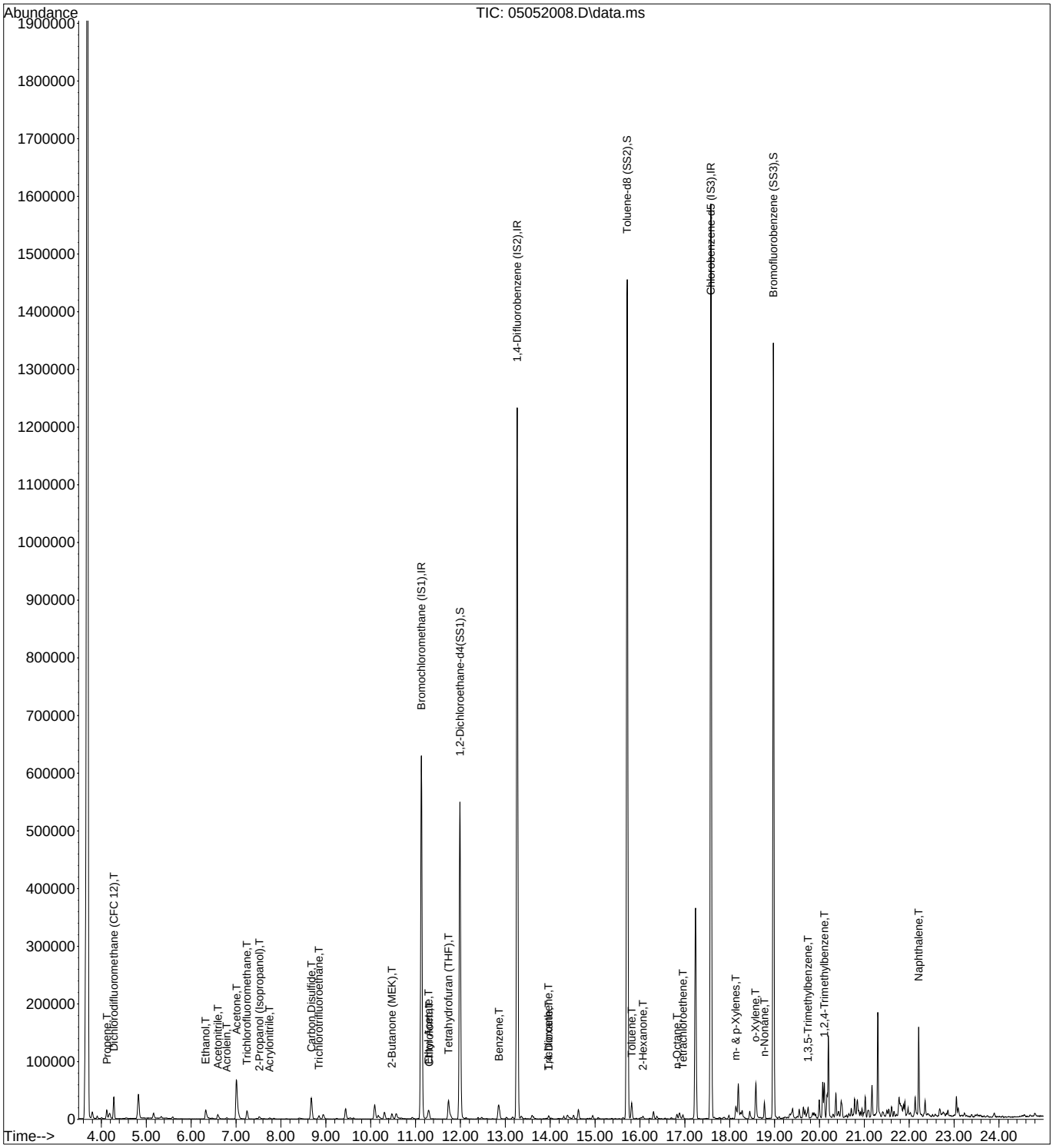
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	259908	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1119939	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	523541	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	420840	11.948	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.60%				
57) Toluene-d8 (SS2)	15.72	98	1112585	12.538	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.32%				
73) Bromofluorobenzene (SS3)	18.97	174	395144	12.375	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.04%				
Target Compounds							Qvalue
2) Propene	4.12	42	1871	0.062	ng		97
3) Dichlorodifluoromethan...	4.28	85	34609	0.588	ng		99
10) Ethanol	6.32	45	27020	1.162	ng		91
11) Acetonitrile	6.59	41	10602	0.200	ng		96
12) Acrolein	6.79	56	2676	0.146	ng		99
13) Acetone	7.01	58	36511	1.571	ng		95
14) Trichlorofluoromethane	7.24	101	13943	0.268	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	6093	0.087	ng		89
16) Acrylonitrile	7.74	53	2061	0.054	ng		99
21) Trichlorotrifluoroethane	8.85	151	2663	0.108	ng		100
22) Carbon Disulfide	8.68	76	67929	0.627	ng		100
27) 2-Butanone (MEK)	10.47	72	3442	0.174	ng	#	89
30) Ethyl Acetate	11.29	61	1778	0.156	ng		90
32) Chloroform	11.31	83	7205	0.139	ng		98
34) Tetrahydrofuran (THF)	11.74	72	10984	0.568	ng		99
41) Benzene	12.86	78	7322	0.061	ng		100
47) Trichloroethene	13.96	130	1589	0.051	ng		98
48) 1,4-Dioxane	13.97	88	1248	0.052	ng		99
58) Toluene	15.82	91	23241	0.203	ng		99
59) 2-Hexanone	16.07	43	4339	0.069	ng		80
63) n-Octane	16.83	57	1340	0.057	ng		95
64) Tetrachloroethene	16.96	166	1923	0.060	ng		93
67) m- & p-Xylenes	18.14	91	16347	0.162	ng		100
70) o-Xylene	18.58	91	6550	0.064	ng		91
71) n-Nonane	18.77	43	11114	0.204	ng		89
79) 1,3,5-Trimethylbenzene	19.74	105	7825	0.076	ng		89
82) 1,2,4-Trimethylbenzene	20.11	105	31059	0.301	ng		88
95) Naphthalene	22.21	128	15271	0.121	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

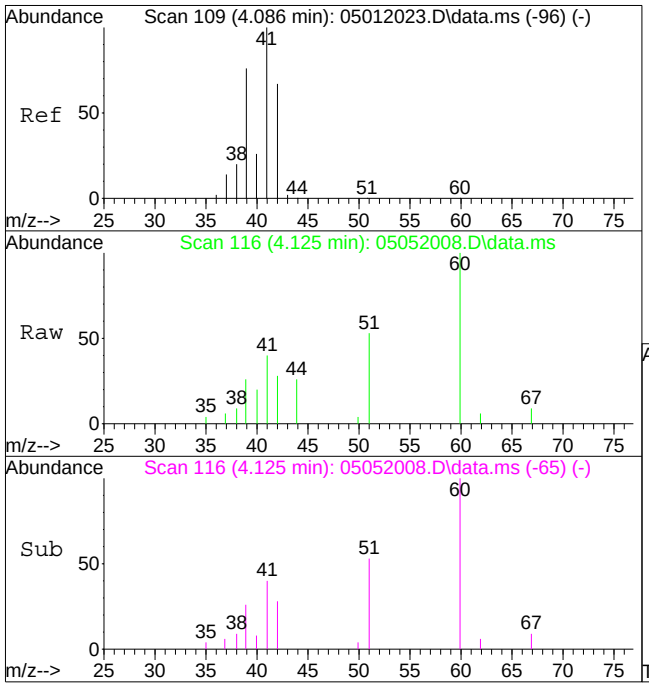
Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052008.D Vial: 8
Acq On : 5 May 2020 7:08 Operator: TD
Sample : P2002107-001 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 20:51:05 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



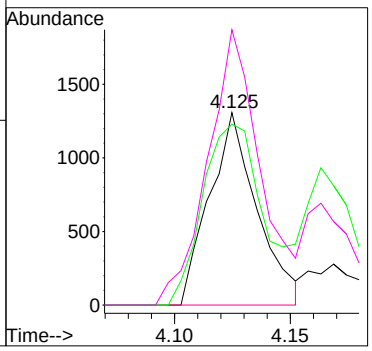
R16050120.M Wed May 06 20:51:14 2020

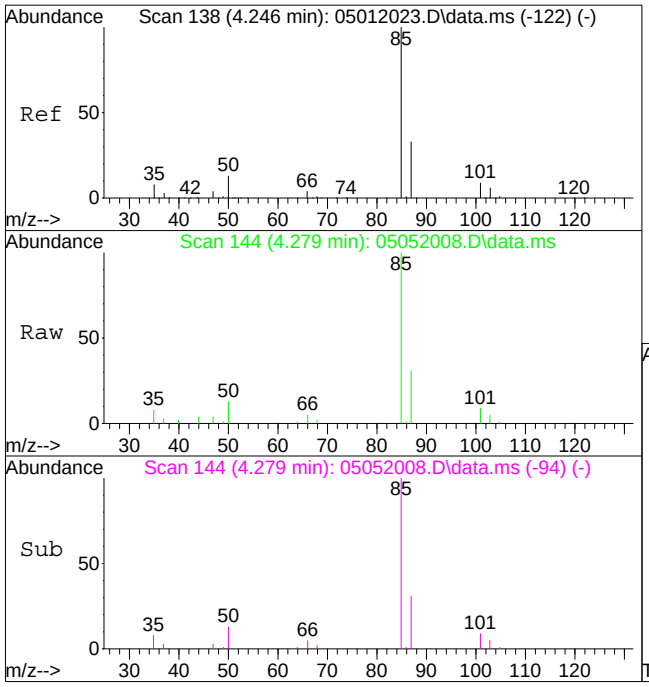


#2
Propene
Concen: 0.06 ng
RT: 4.12 min Scan# 116
Delta R.T. 0.033 min
Lab File: 05052008.D
Acq: 5 May 2020 7:08

Tgt Ion: 42 Resp: 1871

Ion	Ratio	Lower	Upper
42	100		
39	116.5	96.1	136.1
41	157.6	131.9	171.9

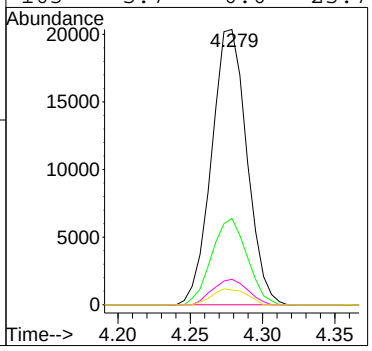


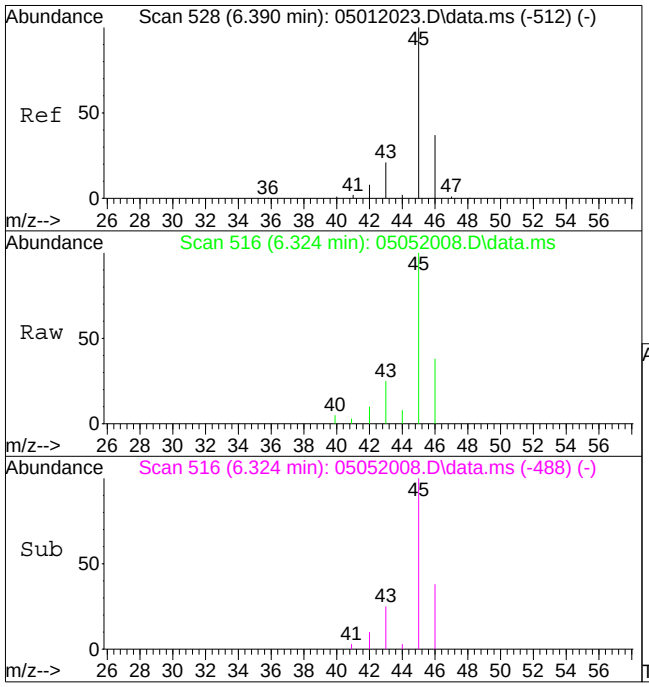


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.59 ng
RT: 4.28 min Scan# 144
Delta R.T. 0.027 min
Lab File: 05052008.D
Acq: 5 May 2020 7:08

Tgt Ion: 85 Resp: 34609

Ion	Ratio	Lower	Upper
85	100		
87	31.4	12.4	52.4
101	9.1	0.0	28.8
103	5.7	0.0	25.7

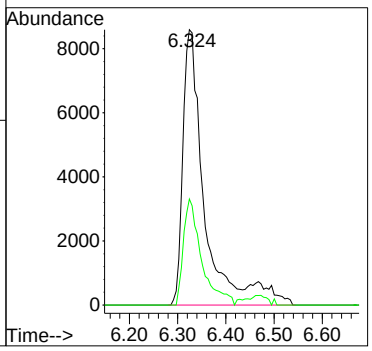


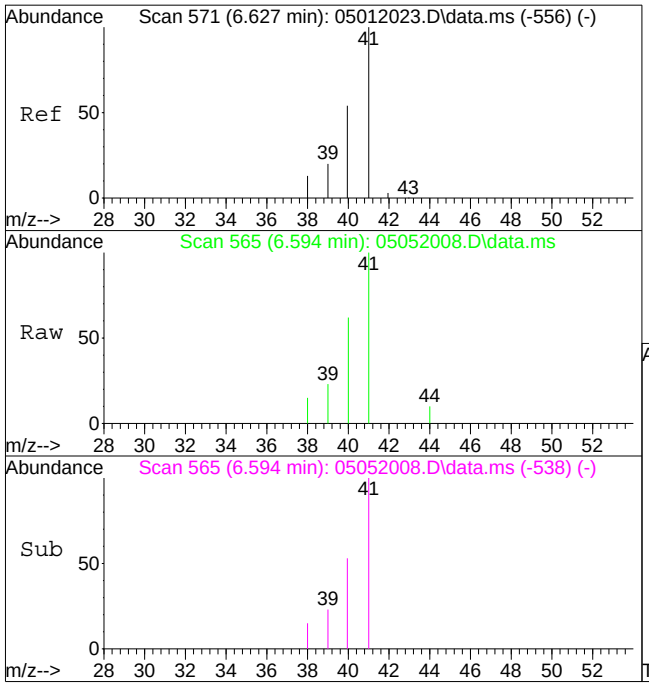


#10
Ethanol
Concen: 1.16 ng
RT: 6.32 min Scan# 516
Delta R.T. -0.094 min
Lab File: 05052008.D
Acq: 5 May 2020 7:08

Tgt Ion: 45 Resp: 27020

Ion	Ratio	Lower	Upper
45	100		
46	31.9	17.2	57.2

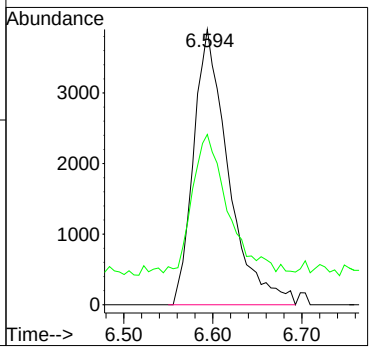


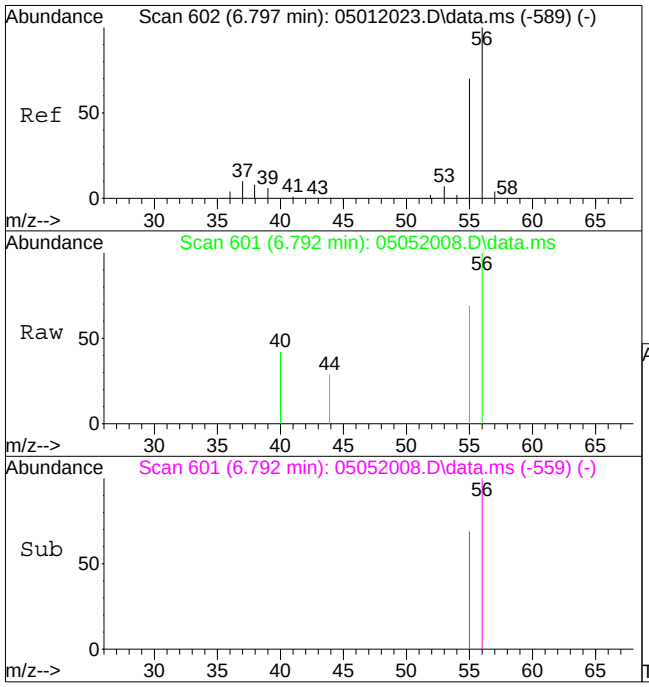


#11
Acetonitrile
Concen: 0.20 ng
RT: 6.59 min Scan# 565
Delta R.T. -0.050 min
Lab File: 05052008.D
Acq: 5 May 2020 7:08

Tgt Ion: 41 Resp: 10602

Ion	Ratio	Lower	Upper
41	100		
40	56.7	33.6	73.6

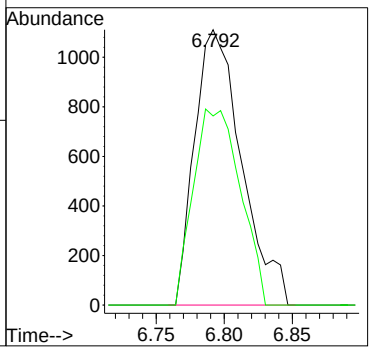


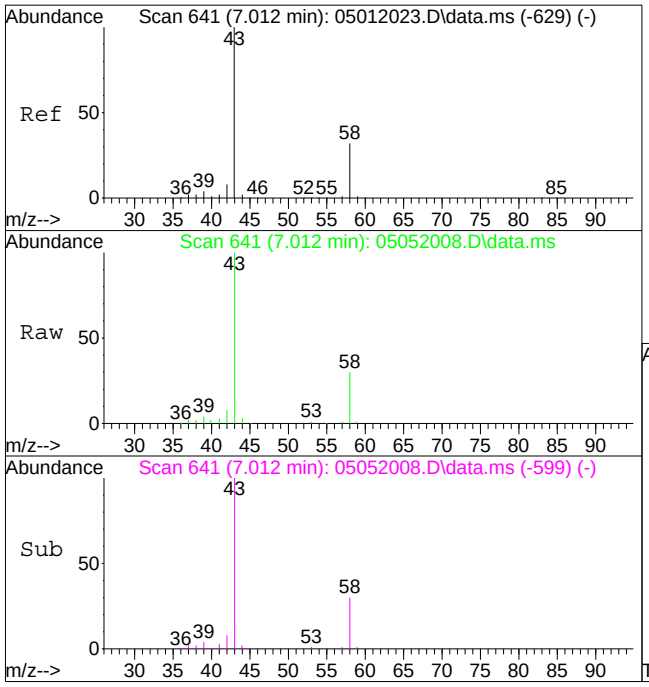


#12
Acrolein
Concen: 0.15 ng
RT: 6.79 min Scan# 601
Delta R.T. -0.017 min
Lab File: 05052008.D
Acq: 5 May 2020 7:08

Tgt Ion: 56 Resp: 2676

Ion	Ratio	Lower	Upper
56	100		
55	71.1	50.2	90.2

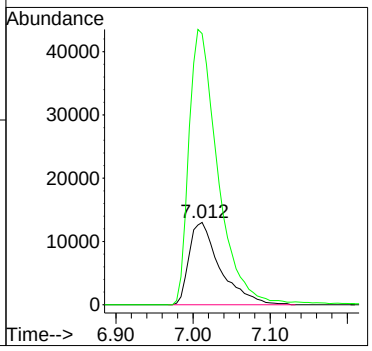


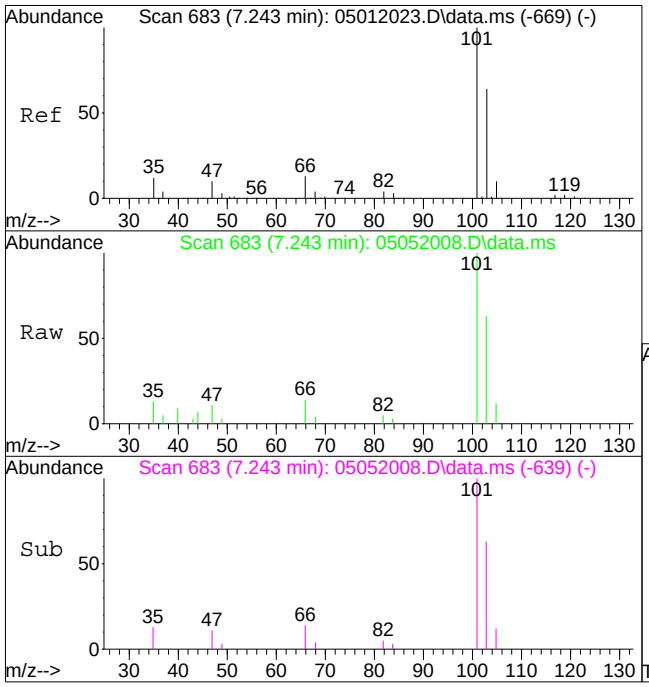


#13
Acetone
Concen: 1.57 ng
RT: 7.01 min Scan# 641
Delta R.T. -0.017 min
Lab File: 05052008.D
Acq: 5 May 2020 7:08

Tgt Ion: 58 Resp: 36511

Ion	Ratio	Lower	Upper
58	100		
43	314.1	294.4	354.4

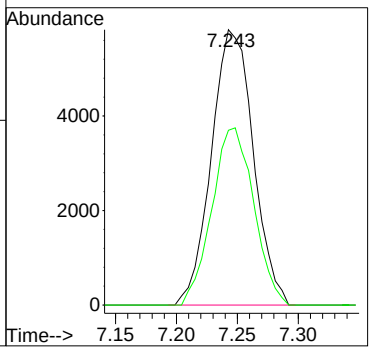


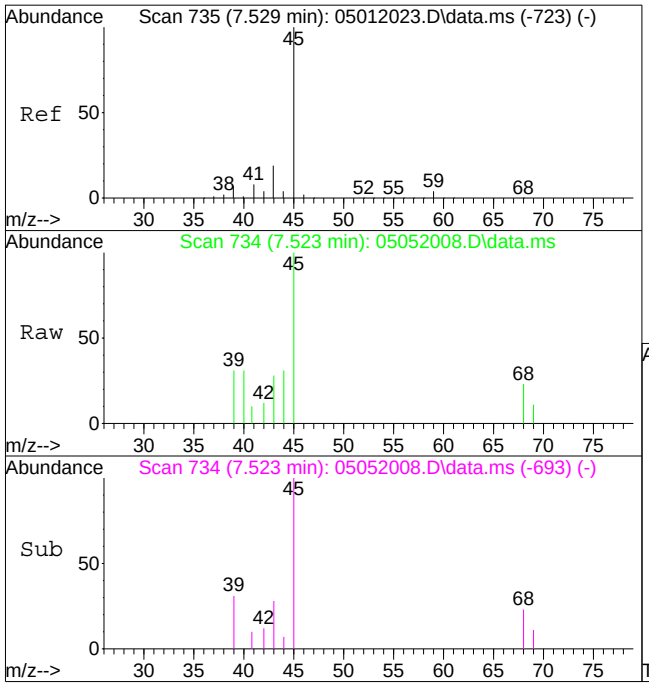


#14
Trichlorofluoromethane
Concen: 0.27 ng
RT: 7.24 min Scan# 683
Delta R.T. -0.006 min
Lab File: 05052008.D
Acq: 5 May 2020 7:08

Tgt Ion:101 Resp: 13943

Ion	Ratio	Lower	Upper
101	100		
103	64.2	44.4	84.4

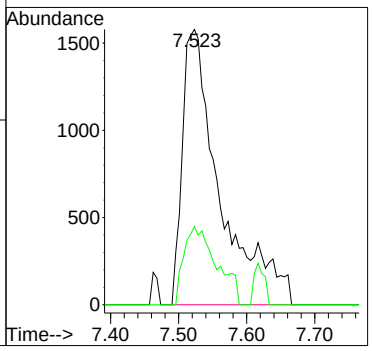


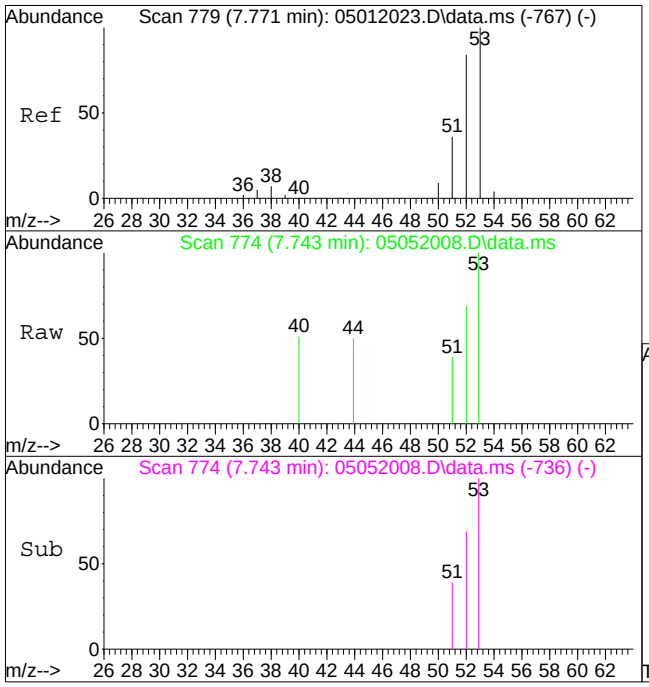


#15
2-Propanol (Isopropanol)
Concen: 0.09 ng
RT: 7.52 min Scan# 734
Delta R.T. -0.022 min
Lab File: 05052008.D
Acq: 5 May 2020 7:08

Tgt Ion: 45 Resp: 6093

Ion	Ratio	Lower	Upper
45	100		
43	24.6	0.0	39.5

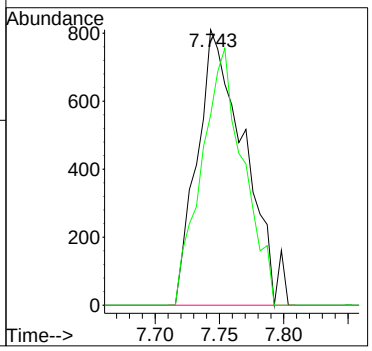


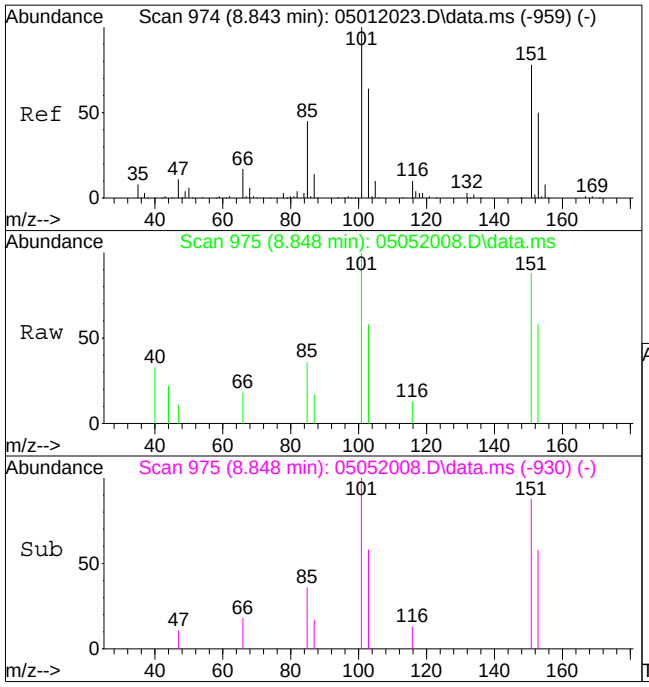


#16
Acrylonitrile
Concen: 0.05 ng
RT: 7.74 min Scan# 774
Delta R.T. -0.039 min
Lab File: 05052008.D
Acq: 5 May 2020 7:08

Tgt Ion: 53 Resp: 2061

Ion	Ratio	Lower	Upper
53	100		
52	82.9	63.7	103.7

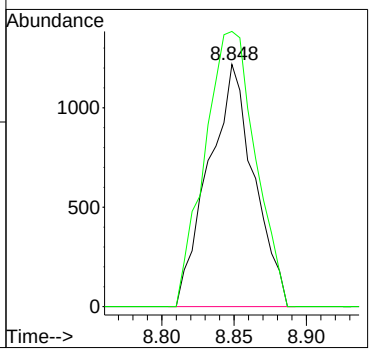


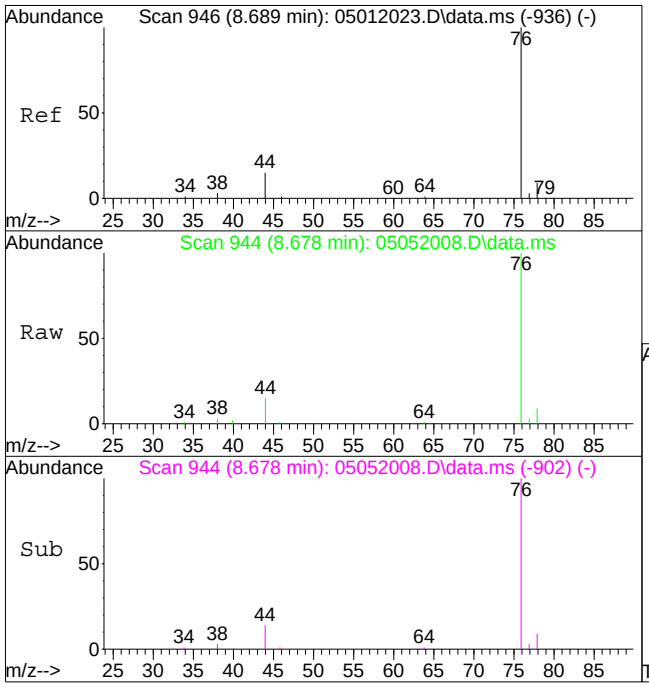


#21
Trichlorotrifluoroethane
Concen: 0.11 ng
RT: 8.85 min Scan# 975
Delta R.T. -0.000 min
Lab File: 05052008.D
Acq: 5 May 2020 7:08

Tgt Ion:151 Resp: 2663

Ion	Ratio	Lower	Upper
151	100		
101	126.9	107.3	147.3

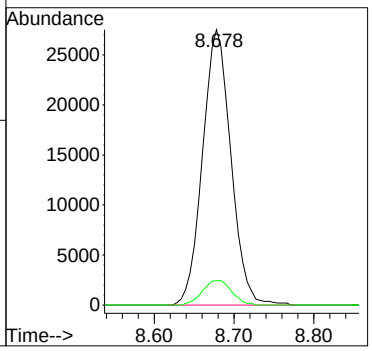


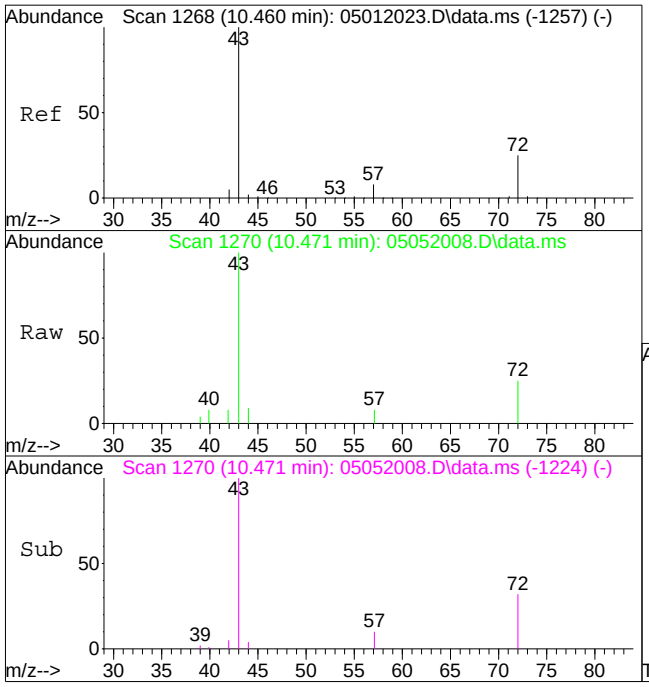


#22
Carbon Disulfide
Concen: 0.63 ng
RT: 8.68 min Scan# 944
Delta R.T. -0.017 min
Lab File: 05052008.D
Acq: 5 May 2020 7:08

Tgt Ion: 76 Resp: 67929

Ion	Ratio	Lower	Upper
76	100		
78	9.2	0.0	29.2

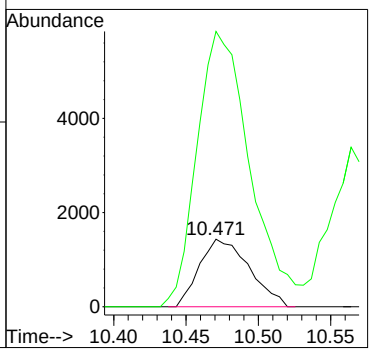


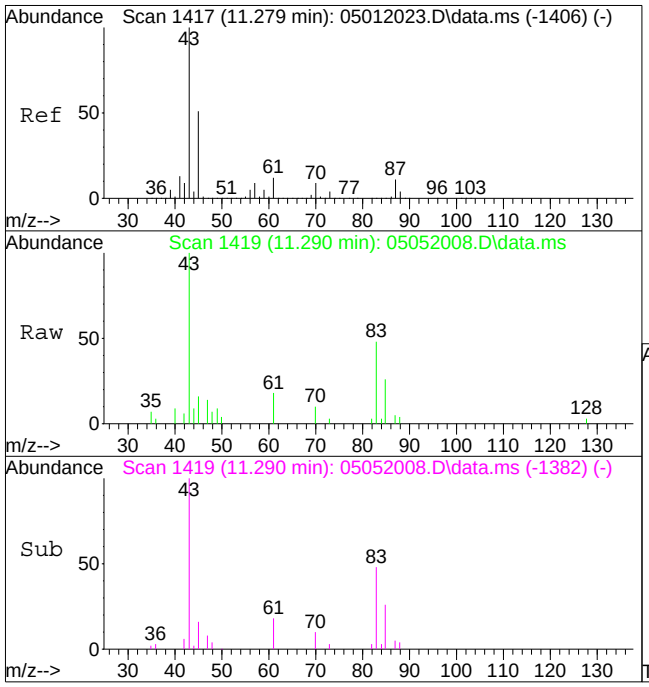


#27
2-Butanone (MEK)
Concen: 0.17 ng
RT: 10.47 min Scan# 1270
Delta R.T. 0.005 min
Lab File: 05052008.D
Acq: 5 May 2020 7:08

Tgt Ion: 72 Resp: 3442

Ion	Ratio	Lower	Upper
72	100		
43	436.1	389.7	429.7#

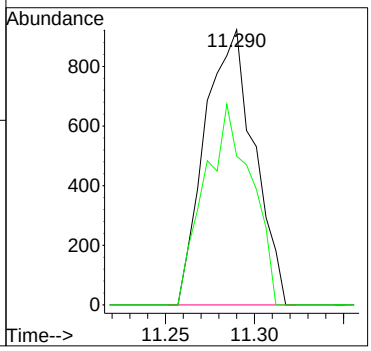


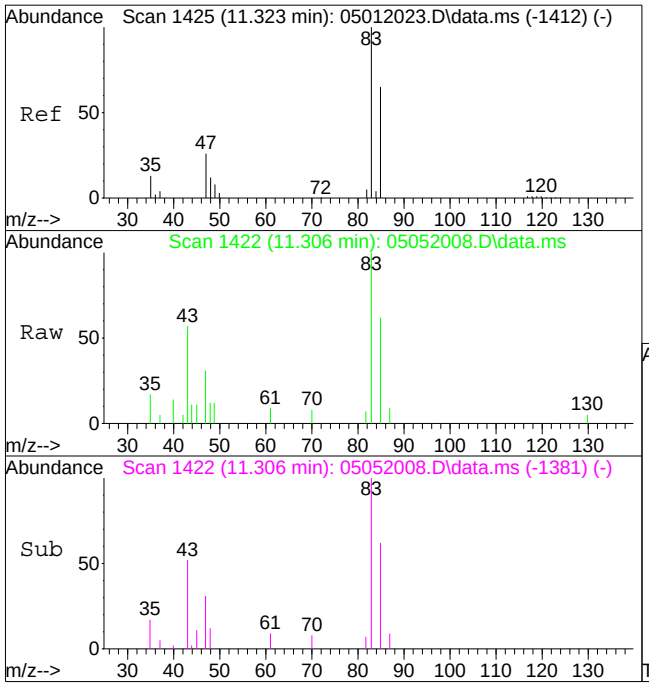


#30
Ethyl Acetate
Concen: 0.16 ng
RT: 11.29 min Scan# 1419
Delta R.T. 0.005 min
Lab File: 05052008.D
Acq: 5 May 2020 7:08

Tgt Ion: 61 Resp: 1778

Ion	Ratio	Lower	Upper
61	100		
70	69.2	57.9	97.9

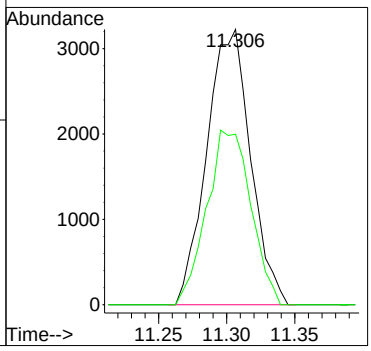


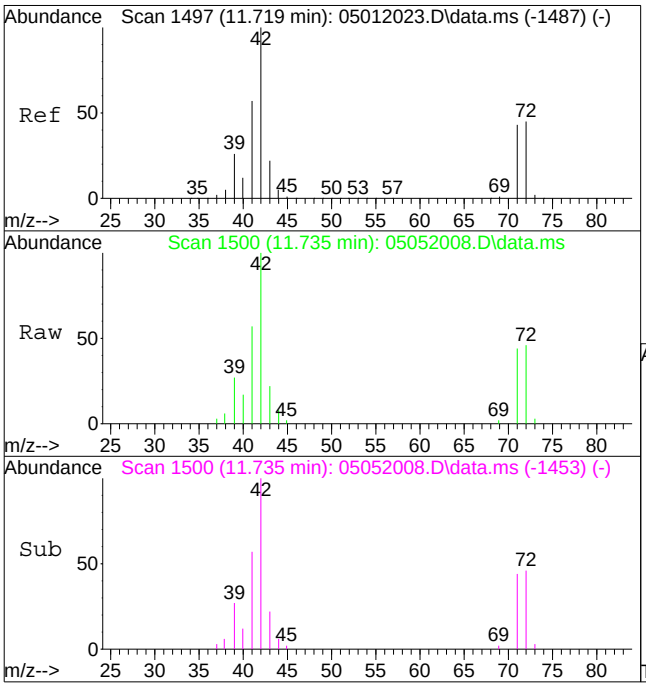


#32
Chloroform
Concen: 0.14 ng
RT: 11.31 min Scan# 1422
Delta R.T. -0.022 min
Lab File: 05052008.D
Acq: 5 May 2020 7:08

Tgt Ion: 83 Resp: 7205

Ion	Ratio	Lower	Upper
83	100		
85	63.9	45.5	85.5

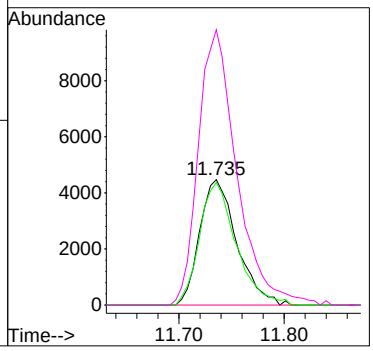


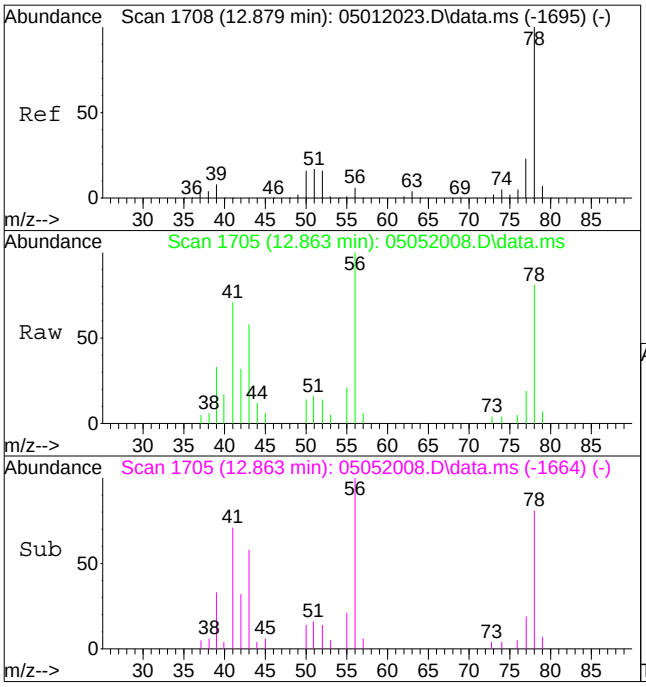


#34
Tetrahydrofuran (THF)
Concen: 0.57 ng
RT: 11.74 min Scan# 1500
Delta R.T. 0.011 min
Lab File: 05052008.D
Acq: 5 May 2020 7:08

Tgt Ion: 72 Resp: 10984

Ion	Ratio	Lower	Upper
72	100		
71	96.4	77.0	117.0
42	227.7	204.6	244.6

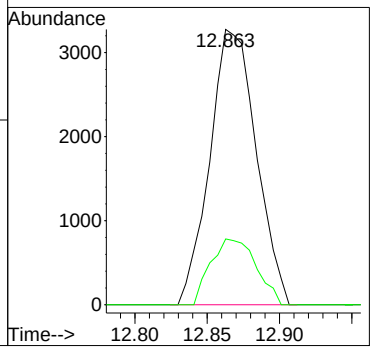


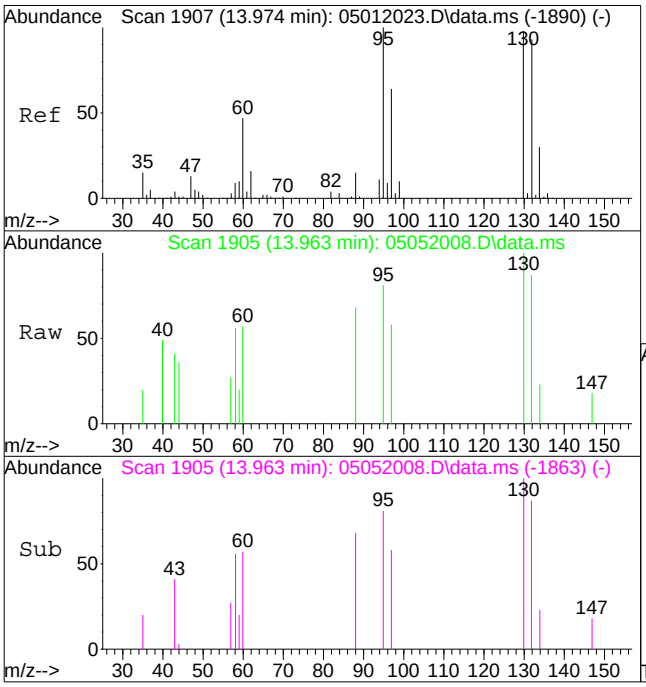


#41
Benzene
Concen: 0.06 ng
RT: 12.86 min Scan# 1705
Delta R.T. -0.022 min
Lab File: 05052008.D
Acq: 5 May 2020 7:08

Tgt Ion: 78 Resp: 7322

Ion	Ratio	Lower	Upper
78	100		
77	23.4	3.4	43.4

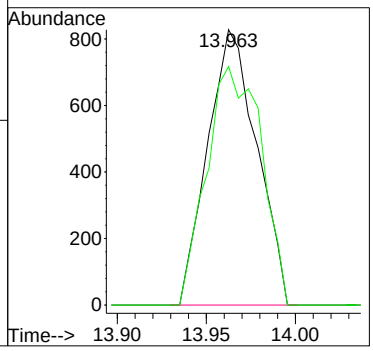


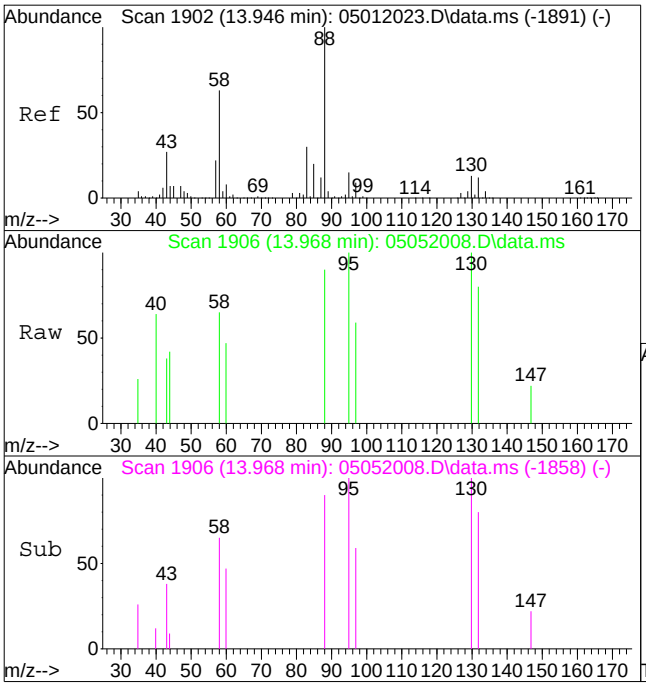


#47
Trichloroethene
Concen: 0.05 ng
RT: 13.96 min Scan# 1905
Delta R.T. -0.017 min
Lab File: 05052008.D
Acq: 5 May 2020 7:08

Tgt Ion:130 Resp: 1589

Ion	Ratio	Lower	Upper
130	100		
132	96.4	74.9	114.9

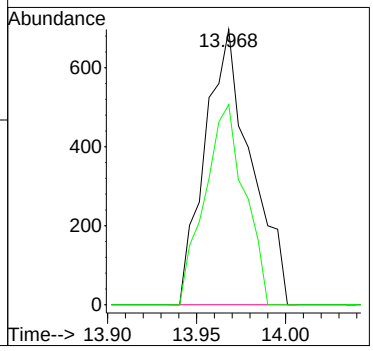


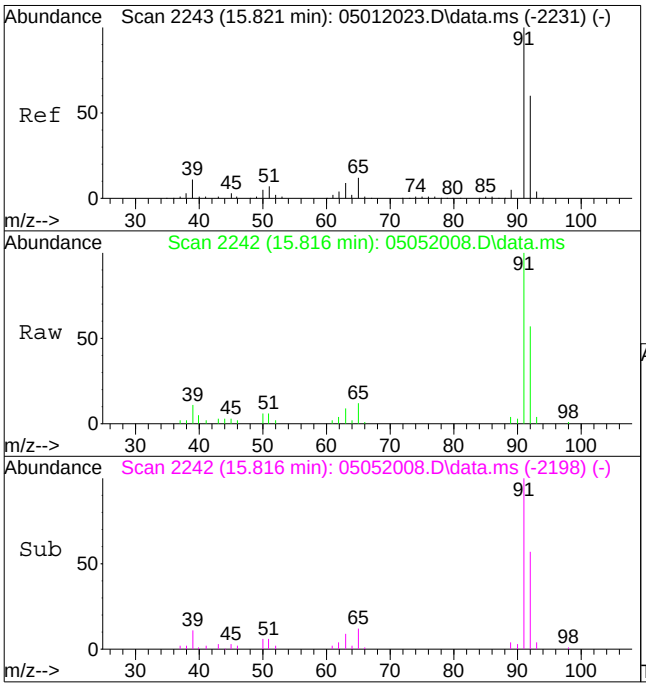


#48
1,4-Dioxane
Concen: 0.05 ng
RT: 13.97 min Scan# 1906
Delta R.T. 0.016 min
Lab File: 05052008.D
Acq: 5 May 2020 7:08

Tgt Ion: 88 Resp: 1248

Ion	Ratio	Lower	Upper
88	100		
58	63.4	42.8	82.8

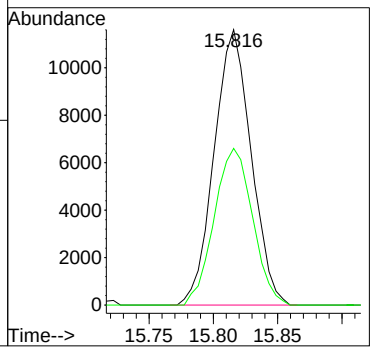


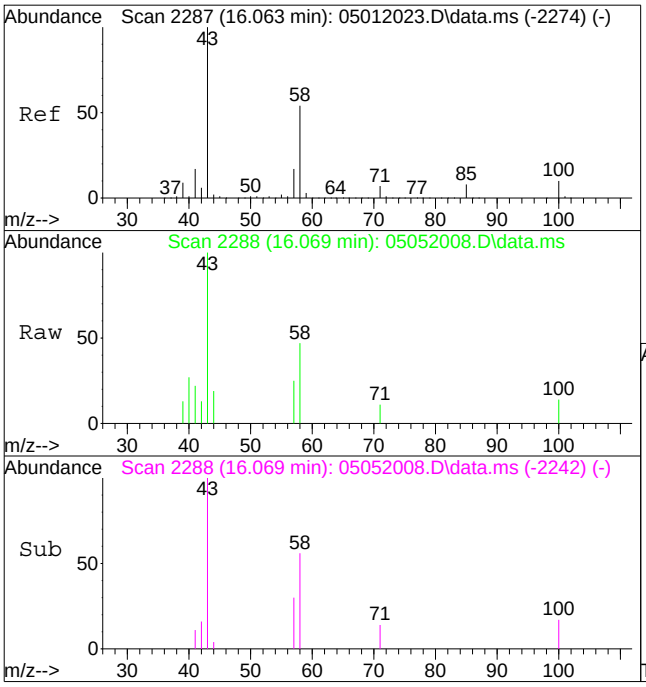


#58
Toluene
Concen: 0.20 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05052008.D
Acq: 5 May 2020 7:08

Tgt Ion: 91 Resp: 23241

Ion	Ratio	Lower	Upper
91	100		
92	58.8	39.4	79.4

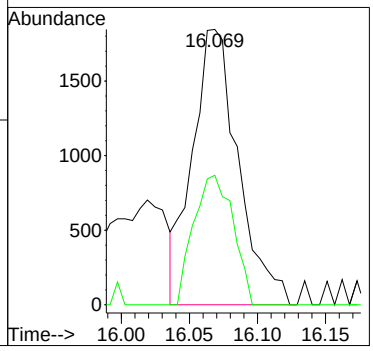


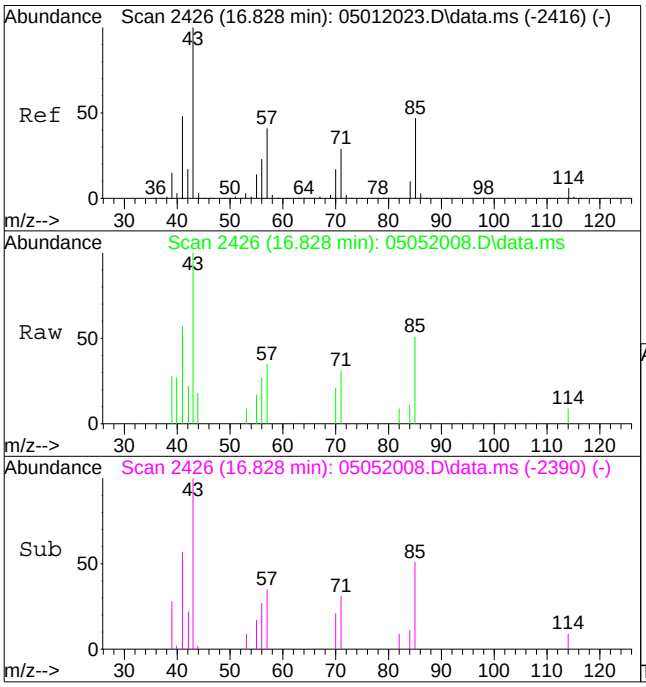


#59
2-Hexanone
Concen: 0.07 ng
RT: 16.07 min Scan# 2288
Delta R.T. 0.005 min
Lab File: 05052008.D
Acq: 5 May 2020 7:08

Tgt Ion: 43 Resp: 4339

Ion	Ratio	Lower	Upper
43	100		
58	40.3	34.5	74.5

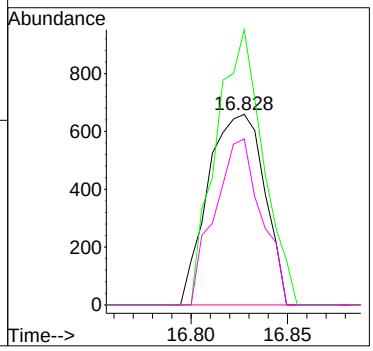


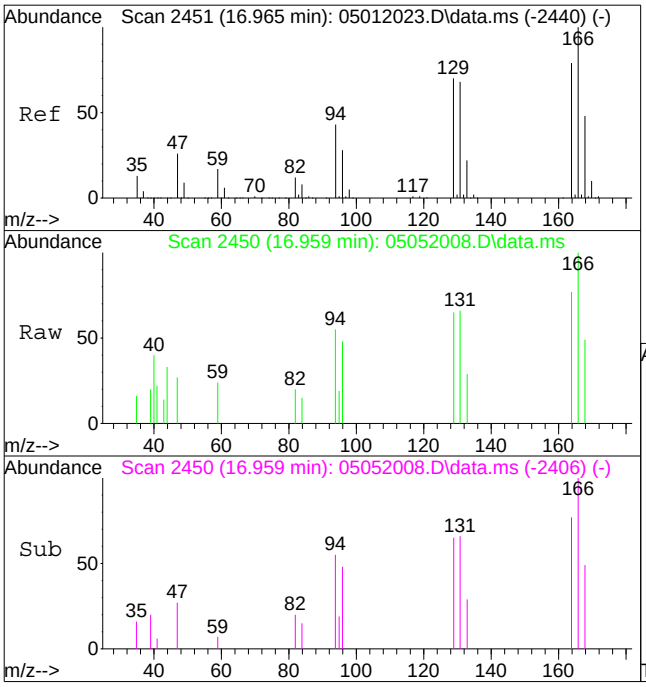


#63
n-Octane
Concen: 0.06 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05052008.D
Acq: 5 May 2020 7:08

Tgt Ion: 57 Resp: 1340

Ion	Ratio	Lower	Upper
57	100		
85	120.3	91.0	136.4
71	72.0	56.2	84.2

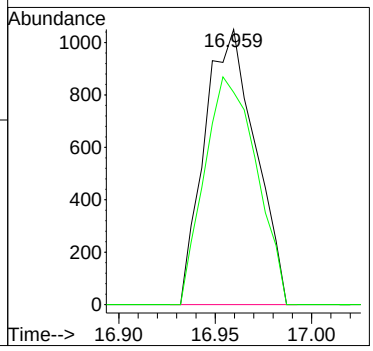


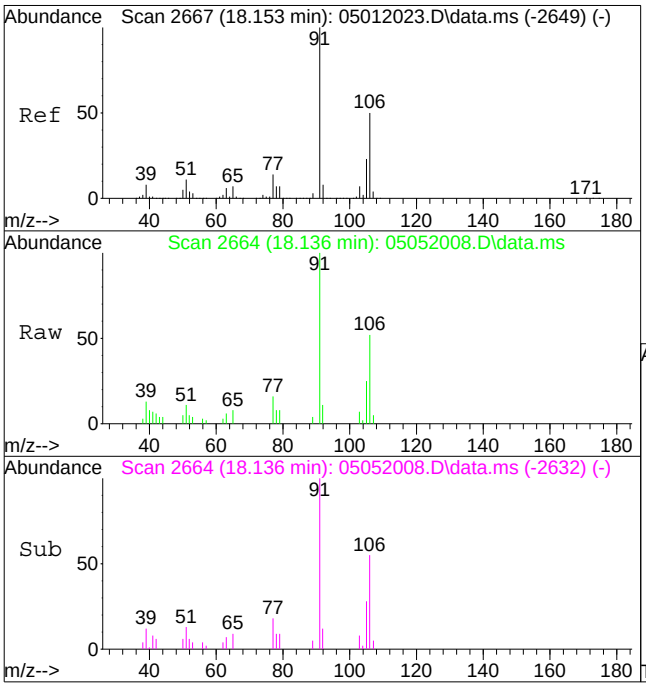


#64
Tetrachloroethene
Concen: 0.06 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05052008.D
Acq: 5 May 2020 7:08

Tgt Ion:166 Resp: 1923

Ion	Ratio	Lower	Upper
166	100		
164	84.8	58.4	98.4

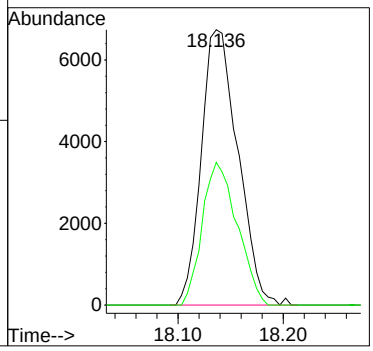


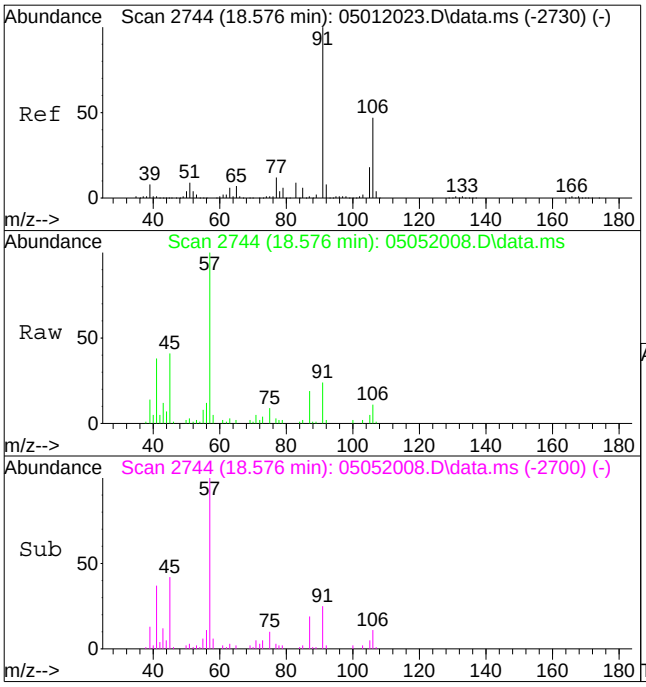


#67
m- & p-Xylenes
Concen: 0.16 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05052008.D
Acq: 5 May 2020 7:08

Tgt Ion: 91 Resp: 16347

Ion	Ratio	Lower	Upper
91	100		
106	49.4	29.7	69.7

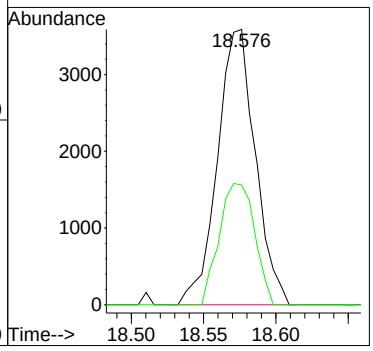


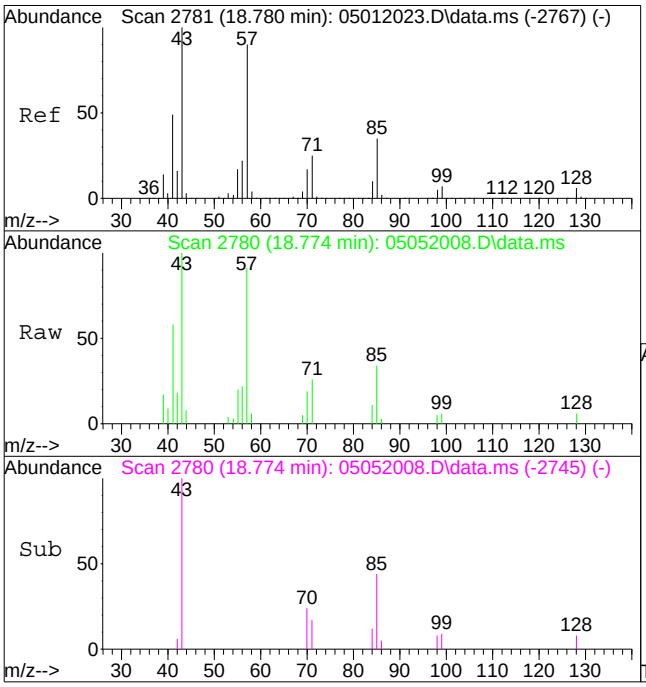


#70
o-Xylene
Concen: 0.06 ng
RT: 18.58 min Scan# 2744
Delta R.T. -0.006 min
Lab File: 05052008.D
Acq: 5 May 2020 7:08

Tgt Ion: 91 Resp: 6550

Ion	Ratio	Lower	Upper
91	100		
106	41.1	27.5	67.5

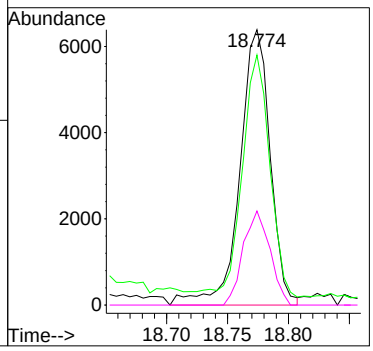


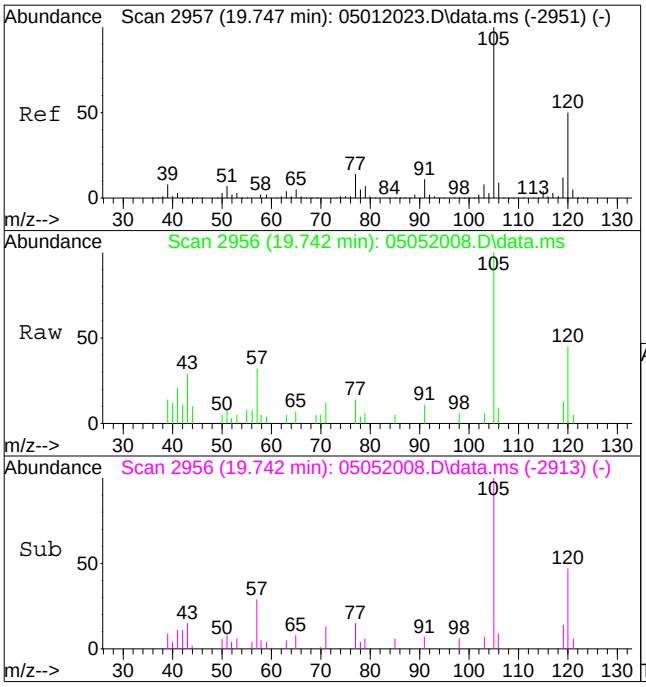


#71
n-Nonane
Concen: 0.20 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05052008.D
Acq: 5 May 2020 7:08

Tgt Ion: 43 Resp: 11114

Ion	Ratio	Lower	Upper
43	100		
57	77.6	69.0	109.0
85	30.0	14.6	54.6

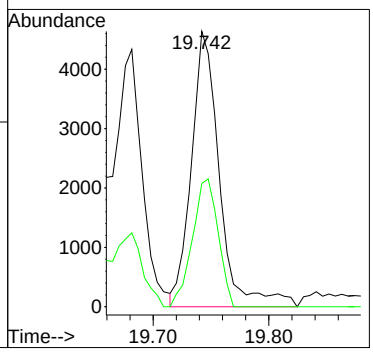


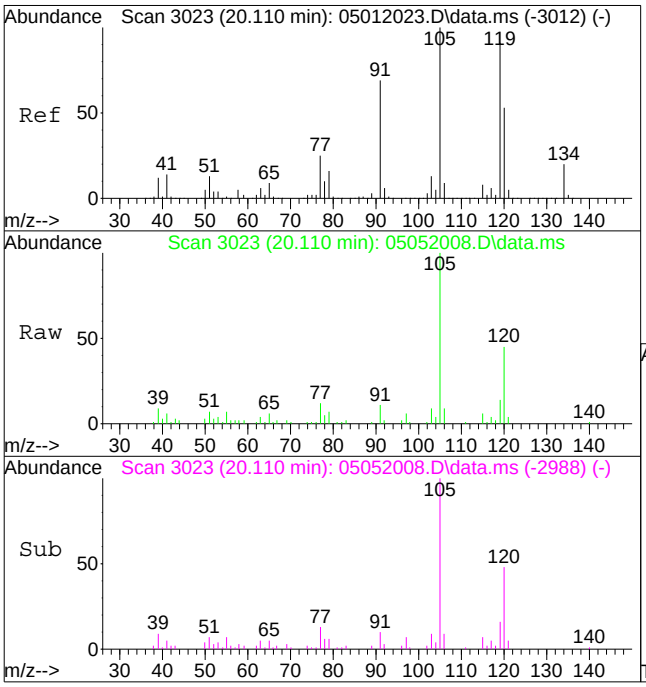


#79
1,3,5-Trimethylbenzene
Concen: 0.08 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05052008.D
Acq: 5 May 2020 7:08

Tgt Ion:105 Resp: 7825

Ion	Ratio	Lower	Upper
105	100		
120	42.5	29.9	69.9

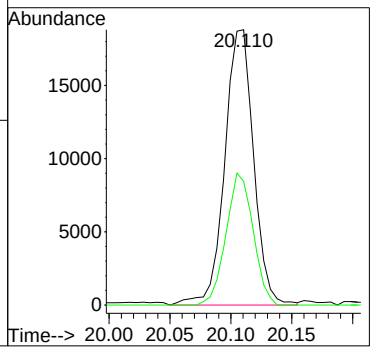


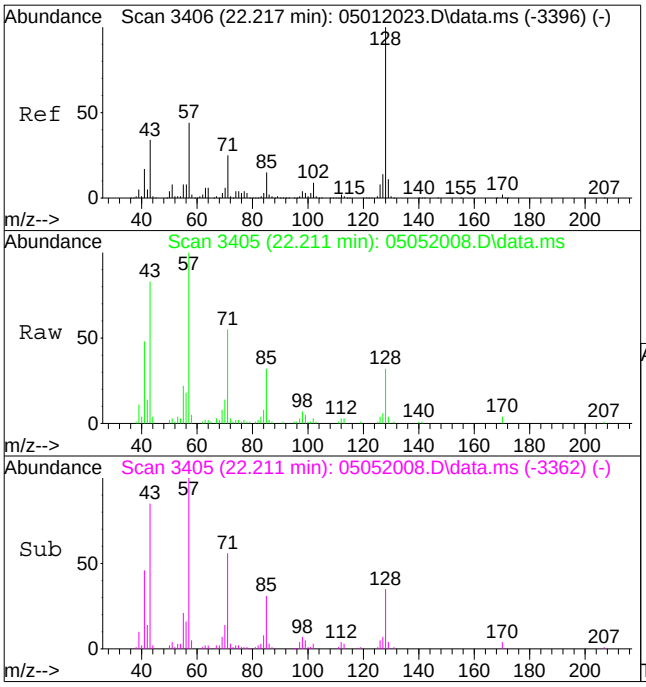


#82
1,2,4-Trimethylbenzene
Concen: 0.30 ng
RT: 20.11 min Scan# 3023
Delta R.T. -0.006 min
Lab File: 05052008.D
Acq: 5 May 2020 7:08

Tgt Ion:105 Resp: 31059

Ion	Ratio	Lower	Upper
105	100		
120	44.8	33.6	73.6

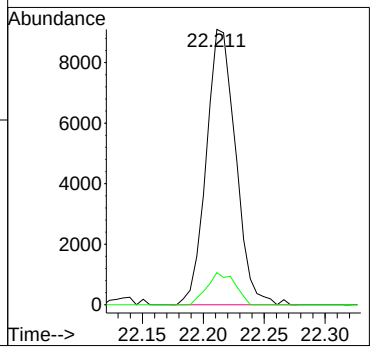




#95
Naphthalene
Concen: 0.12 ng
RT: 22.21 min Scan# 3405
Delta R.T. -0.011 min
Lab File: 05052008.D
Acq: 5 May 2020 7:08

Tgt Ion:128 Resp: 15271

Ion	Ratio	Lower	Upper
128	100		
129	11.1	0.0	31.0



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052009.D Vial: 9
Acq On : 5 May 2020 7:42 Operator: TD
Sample : P2002107-002 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 20:52:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/6/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	260741	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1128526	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	524920	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	425684	12.047	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.40%				
57) Toluene-d8 (SS2)	15.72	98	1123589	12.628	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.04%				
73) Bromofluorobenzene (SS3)	18.97	174	398402	12.444	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.52%				
Target Compounds							Qvalue
2) Propene	4.12	42	1764	0.058	ng		98
3) Dichlorodifluoromethan...	4.28	85	51119	0.865	ng		100
4) Chloromethane	4.55	50	1051	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	521	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.33	45	13781	0.591	ng		92
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	6.79	56	1659	0.090	ng		95
13) Acetone	7.01	58	19539	0.838	ng		97
14) Trichlorofluoromethane	7.25	101	16289	0.312	ng		99
15) 2-Propanol (Isopropanol)	7.52	45	3095	N.D.			
16) Acrylonitrile	7.75	53	681	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.45	59	800	N.D.			
19) Methylene Chloride	8.41	84	285	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	8.85	151	2843	0.115	ng		93
22) Carbon Disulfide	8.68	76	8244	0.076	ng		96
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.47	72	2868	0.144	ng		94
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	11.28	61	8027	0.700	ng		91
31) n-Hexane	11.25	57	1128	N.D.			
32) Chloroform	11.30	83	1720	N.D.			
34) Tetrahydrofuran (THF)	11.75	72	2548	0.131	ng	#	84
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.00	62	140	N.D.			
38) 1,1,1-Trichloroethane	12.38	97	119	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	11442	0.095	ng		98
42) Carbon Tetrachloride	13.03	117	1085	N.D.			
43) Cyclohexane	13.15	84	340	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	13.53	63	188	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	13.97	130	5182	0.166	ng		99
48) 1,4-Dioxane	13.97	88	554	N.D.			
49) 2,2,4-Trimethylpentane...	14.04	57	1438	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052009.D Vial: 9
Acq On : 5 May 2020 7:42 Operator: TD
Sample : P2002107-002 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 20:52:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.30	71	2711	0.096 ng	98
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.88	58	416	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.82	91	44340	0.387 ng	99
59) 2-Hexanone	16.07	43	3294	0.052 ng	75
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.70	43	1610	N.D.	
63) n-Octane	16.82	57	5823	0.245 ng	98
64) Tetrachloroethene	16.96	166	2684	0.083 ng	98
65) Chlorobenzene	17.63	112	384	N.D.	
66) Ethylbenzene	17.98	91	13046	0.102 ng	99
67) m- & p-Xylenes	18.14	91	51221	0.505 ng	100
68) Bromoform	18.21	173	902	N.D.	
69) Styrene	18.47	104	1257	N.D.	
70) o-Xylene	18.57	91	16417	0.159 ng	99
71) n-Nonane	18.77	43	49408	0.904 ng	97
72) 1,1,2,2-Tetrachloroethane	18.63	83	735	N.D.	
74) Cumene	19.10	105	4099	N.D.	
75) alpha-Pinene	19.46	93	406	N.D.	
76) n-Propylbenzene	19.55	91	21309	0.142 ng	96
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.68	105	23517	0.198 ng	93
79) 1,3,5-Trimethylbenzene	19.74	105	19241	0.187 ng	99
80) alpha-Methylstyrene	19.88	118	2190	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.10	105	102257	0.987 ng	90
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.22	91	1727	N.D.	
85) 1,3-Dichlorobenzene	20.24	146	559	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	951	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	20.61	146	406	N.D.	
91) d-Limonene	20.61	68	659	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.12	180	846	N.D.	
95) Naphthalene	22.22	128	16178	0.128 ng	97
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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Misc : S31-02112001

Quant Time: May 06 20:52:10 2020
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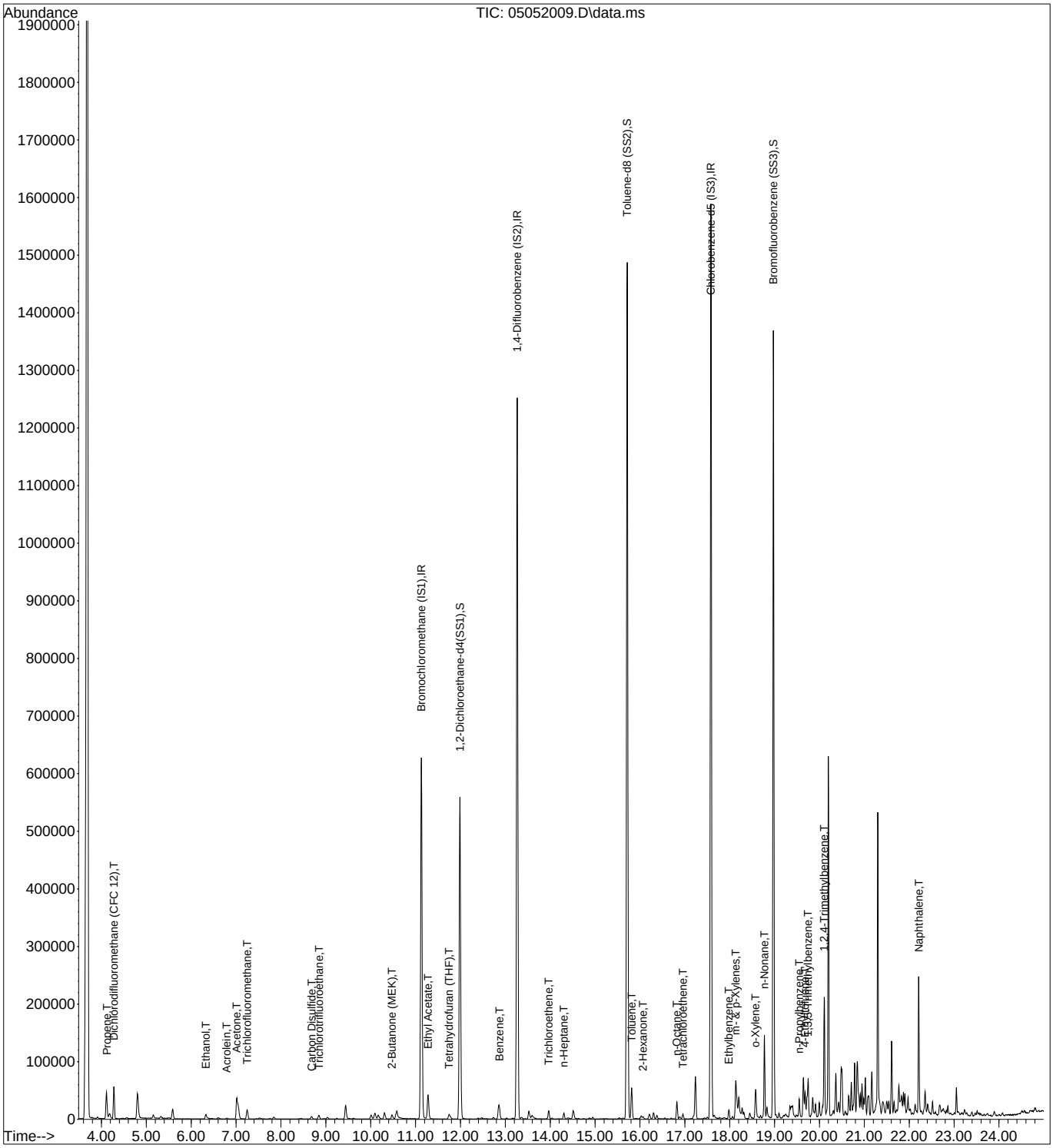
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



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Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/6/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	260741	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1128526	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	524920	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	425684	12.047	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.40%				
57) Toluene-d8 (SS2)	15.72	98	1123589	12.628	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.04%				
73) Bromofluorobenzene (SS3)	18.97	174	398402	12.444	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.52%				
Target Compounds							Qvalue
2) Propene	4.12	42	1764	0.058	ng		98
3) Dichlorodifluoromethan...	4.28	85	51119	0.865	ng		100
10) Ethanol	6.33	45	13781	0.591	ng		92
12) Acrolein	6.79	56	1659	0.090	ng		95
13) Acetone	7.01	58	19539	0.838	ng		97
14) Trichlorofluoromethane	7.25	101	16289	0.312	ng		99
21) Trichlorotrifluoroethane	8.85	151	2843	0.115	ng		93
22) Carbon Disulfide	8.68	76	8244	0.076	ng		96
27) 2-Butanone (MEK)	10.47	72	2868	0.144	ng		94
30) Ethyl Acetate	11.28	61	8027	0.700	ng		91
34) Tetrahydrofuran (THF)	11.75	72	2548	0.131	ng	#	84
41) Benzene	12.87	78	11442	0.095	ng		98
47) Trichloroethene	13.97	130	5182	0.166	ng		99
51) n-Heptane	14.30	71	2711	0.096	ng		98
58) Toluene	15.82	91	44340	0.387	ng		99
59) 2-Hexanone	16.07	43	3294	0.052	ng		75
63) n-Octane	16.82	57	5823	0.245	ng		98
64) Tetrachloroethene	16.96	166	2684	0.083	ng		98
66) Ethylbenzene	17.98	91	13046	0.102	ng		99
67) m- & p-Xylenes	18.14	91	51221	0.505	ng		100
70) o-Xylene	18.57	91	16417	0.159	ng		99
71) n-Nonane	18.77	43	49408	0.904	ng		97
76) n-Propylbenzene	19.55	91	21309	0.142	ng		96
78) 4-Ethyltoluene	19.68	105	23517	0.198	ng		93
79) 1,3,5-Trimethylbenzene	19.74	105	19241	0.187	ng		99
82) 1,2,4-Trimethylbenzene	20.10	105	102257	0.987	ng		90
95) Naphthalene	22.22	128	16178	0.128	ng		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

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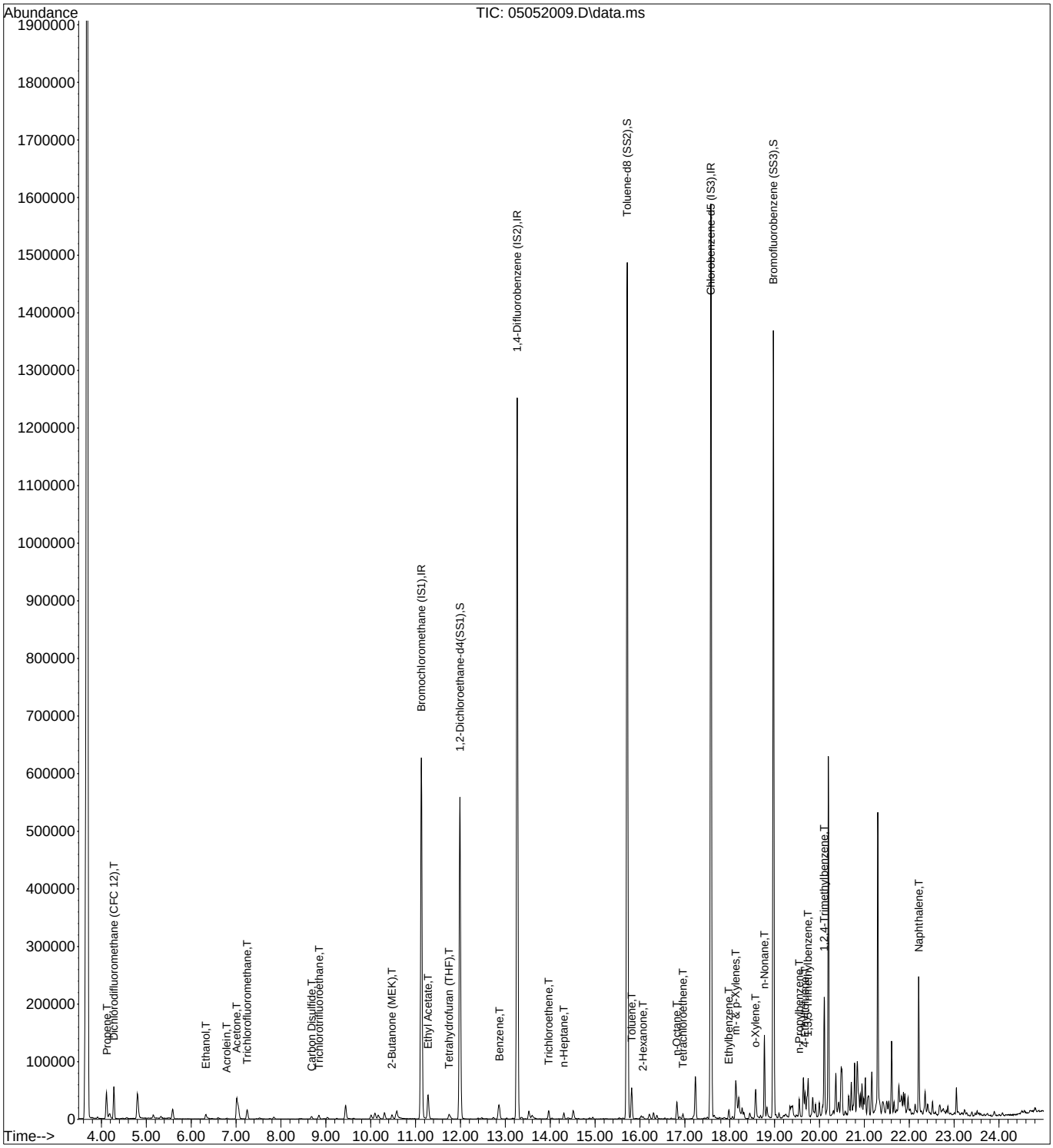
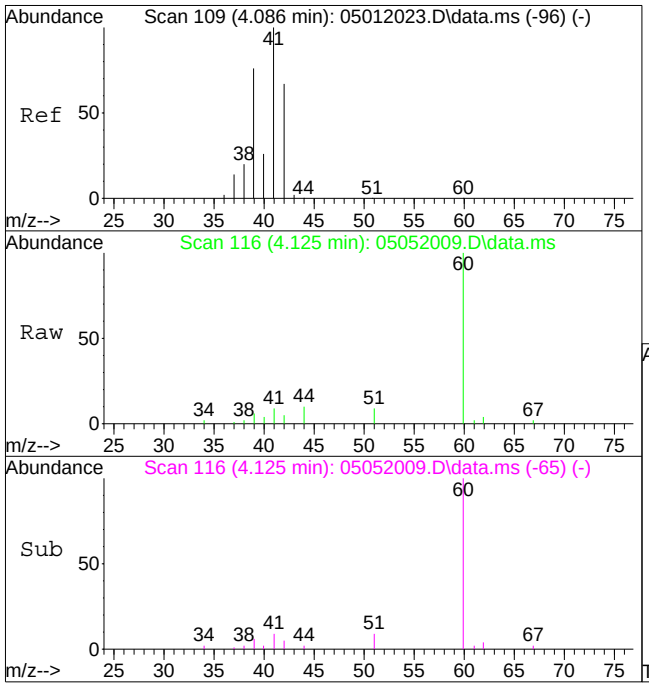
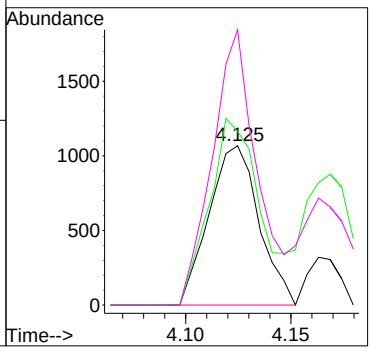


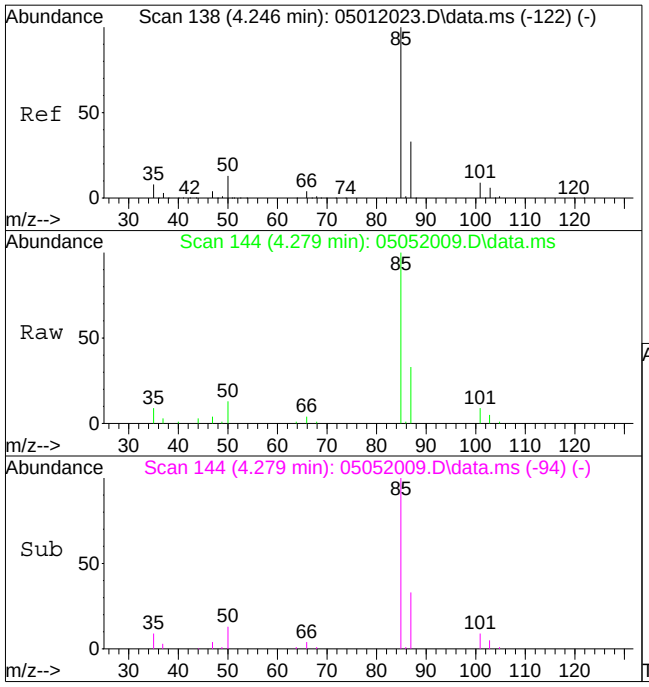


#2
Propene
Concen: 0.06 ng
RT: 4.12 min Scan# 116
Delta R.T. 0.033 min
Lab File: 05052009.D
Acq: 5 May 2020 7:42

Tgt Ion: 42 Resp: 1764

Ion	Ratio	Lower	Upper
42	100		
39	118.8	96.1	136.1
41	153.9	131.9	171.9

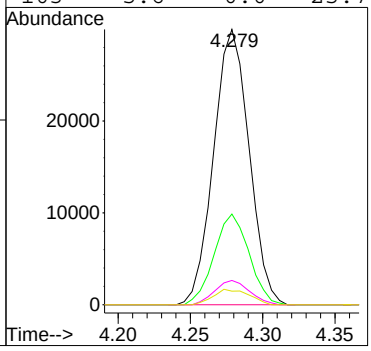


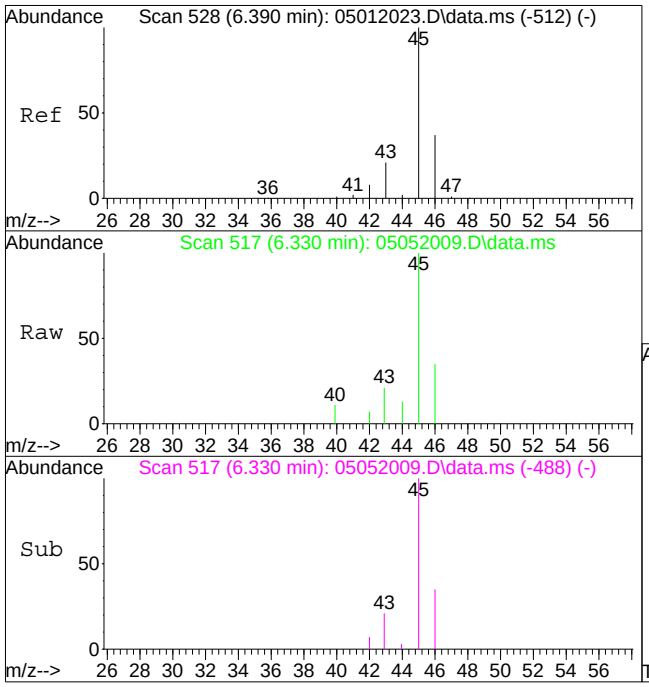


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.87 ng
RT: 4.28 min Scan# 144
Delta R.T. 0.027 min
Lab File: 05052009.D
Acq: 5 May 2020 7:42

Tgt Ion: 85 Resp: 51119

Ion	Ratio	Lower	Upper
85	100		
87	32.4	12.4	52.4
101	8.6	0.0	28.8
103	5.6	0.0	25.7

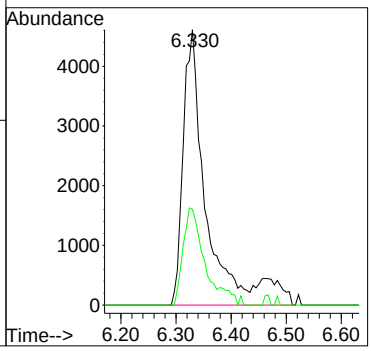


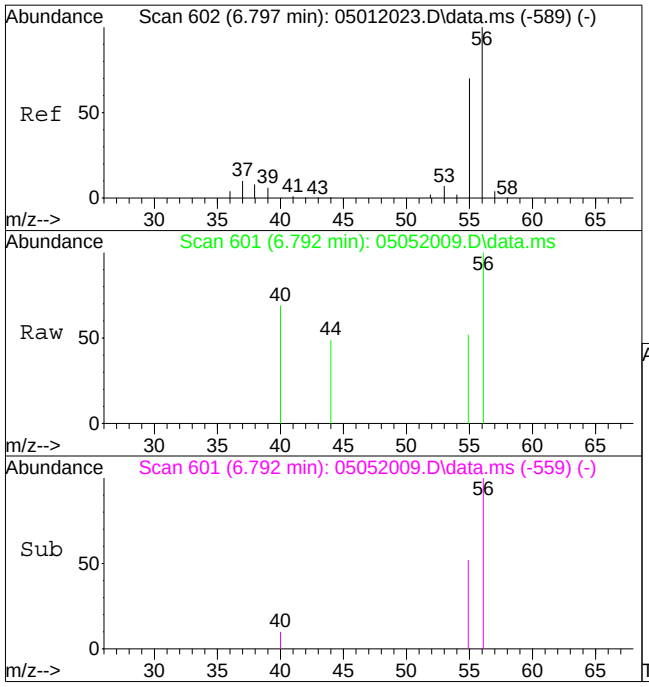


#10
Ethanol
Concen: 0.59 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.088 min
Lab File: 05052009.D
Acq: 5 May 2020 7:42

Tgt Ion: 45 Resp: 13781

Ion	Ratio	Lower	Upper
45	100		
46	32.7	17.2	57.2

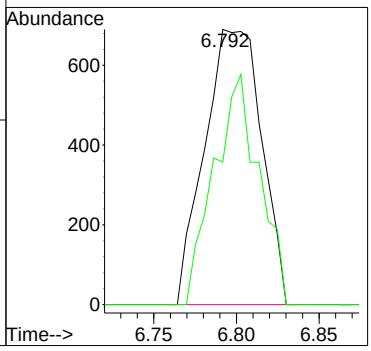


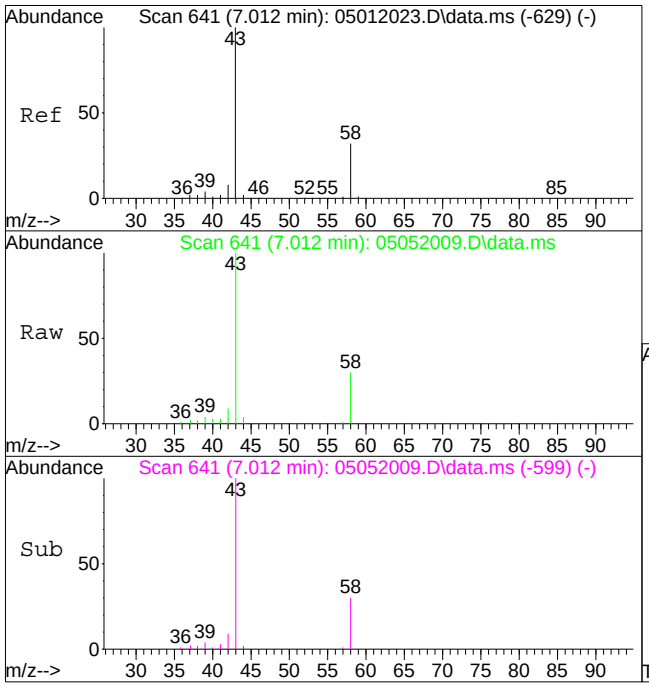


#12
Acrolein
Concen: 0.09 ng
RT: 6.79 min Scan# 601
Delta R.T. -0.017 min
Lab File: 05052009.D
Acq: 5 May 2020 7:42

Tgt Ion: 56 Resp: 1659

Ion	Ratio	Lower	Upper
56	100		
55	65.8	50.2	90.2

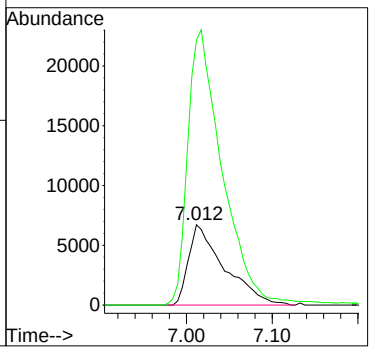


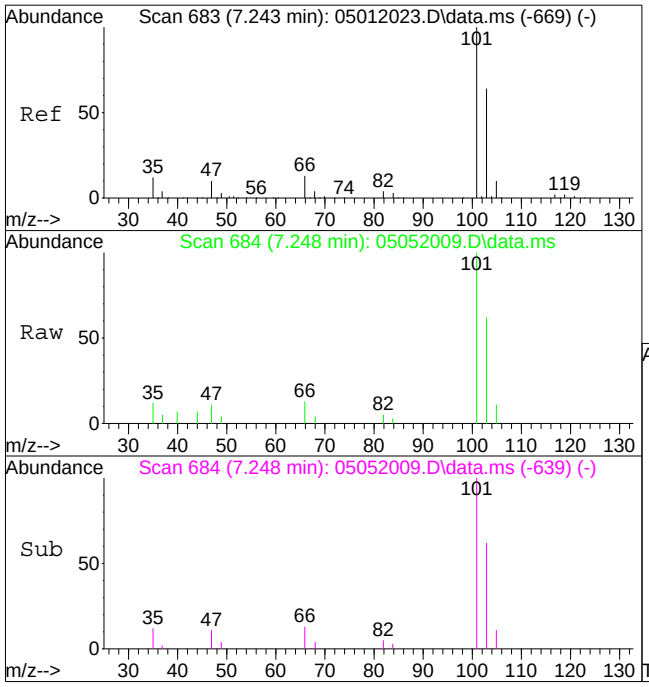


#13
Acetone
Concen: 0.84 ng
RT: 7.01 min Scan# 641
Delta R.T. -0.017 min
Lab File: 05052009.D
Acq: 5 May 2020 7:42

Tgt Ion: 58 Resp: 19539

Ion	Ratio	Lower	Upper
58	100		
43	330.9	294.4	354.4

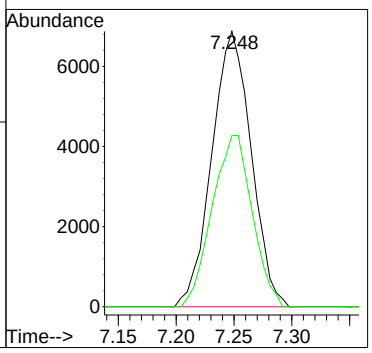


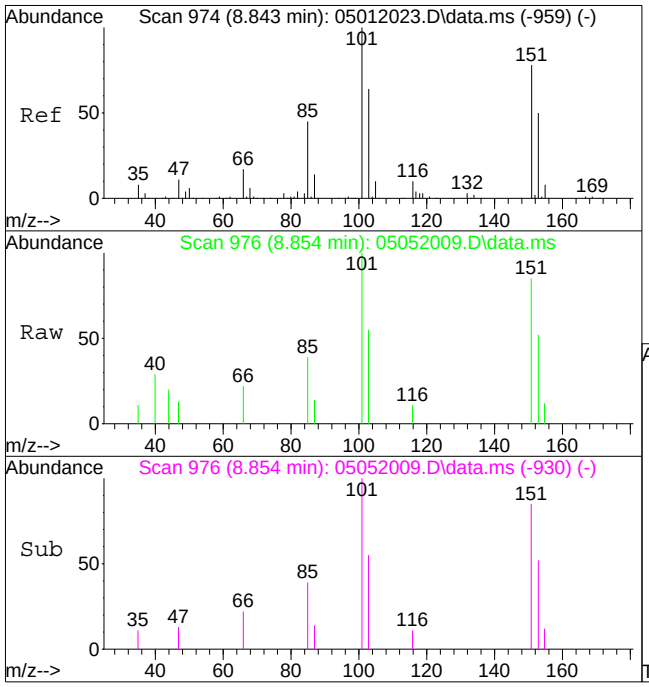


#14
Trichlorofluoromethane
Concen: 0.31 ng
RT: 7.25 min Scan# 684
Delta R.T. -0.000 min
Lab File: 05052009.D
Acq: 5 May 2020 7:42

Tgt Ion:101 Resp: 16289

Ion	Ratio	Lower	Upper
101	100		
103	63.3	44.4	84.4

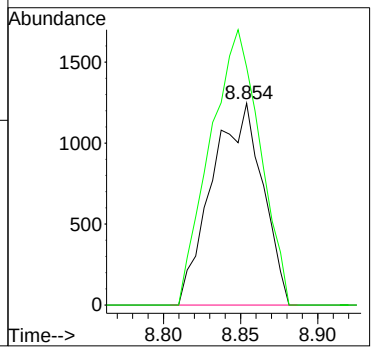


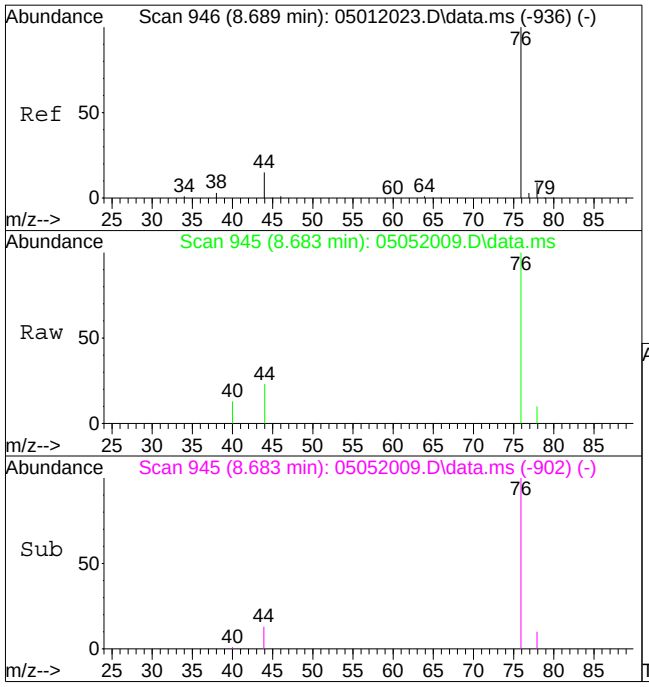


#21
Trichlorotrifluoroethane
Concen: 0.12 ng
RT: 8.85 min Scan# 976
Delta R.T. 0.005 min
Lab File: 05052009.D
Acq: 5 May 2020 7:42

Tgt Ion:151 Resp: 2843

Ion	Ratio	Lower	Upper
151	100		
101	134.9	107.3	147.3

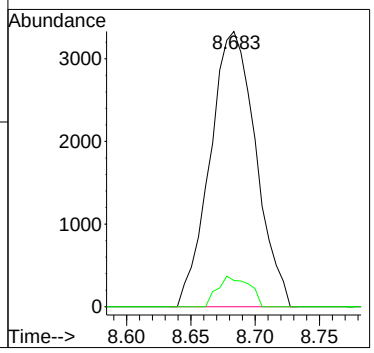


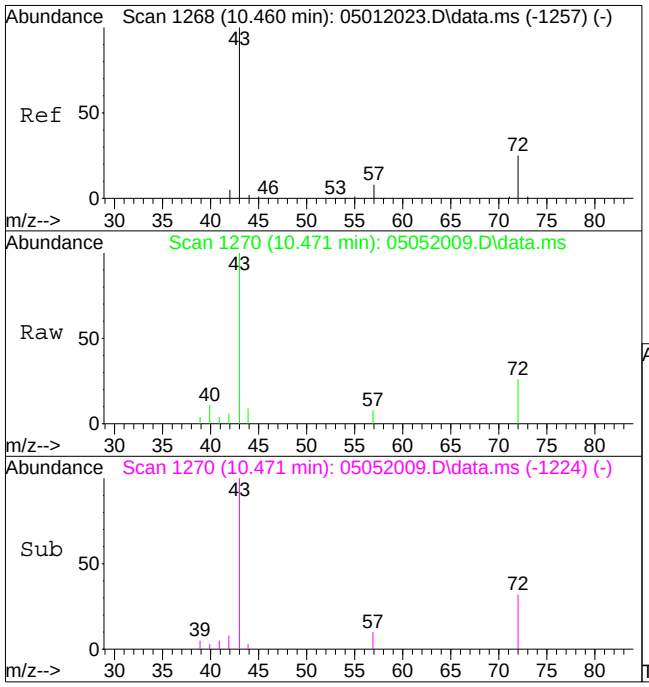


#22
Carbon Disulfide
Concen: 0.08 ng
RT: 8.68 min Scan# 945
Delta R.T. -0.011 min
Lab File: 05052009.D
Acq: 5 May 2020 7:42

Tgt Ion: 76 Resp: 8244

Ion	Ratio	Lower	Upper
76	100		
78	7.6	0.0	29.2

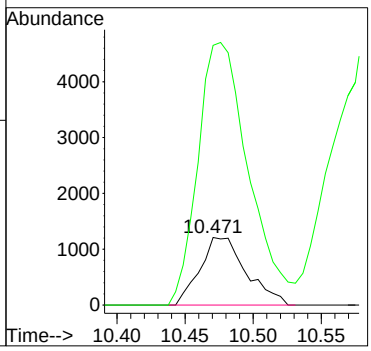


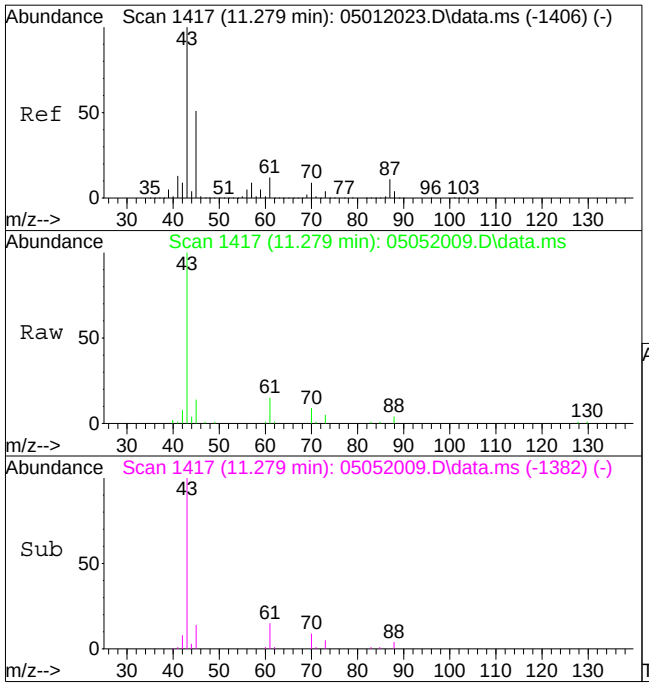


#27
2-Butanone (MEK)
Concen: 0.14 ng
RT: 10.47 min Scan# 1270
Delta R.T. 0.005 min
Lab File: 05052009.D
Acq: 5 May 2020 7:42

Tgt Ion: 72 Resp: 2868

Ion	Ratio	Lower	Upper
72	100		
43	424.6	389.7	429.7

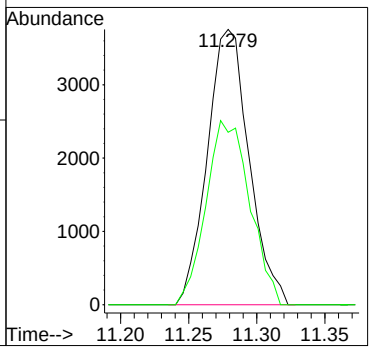


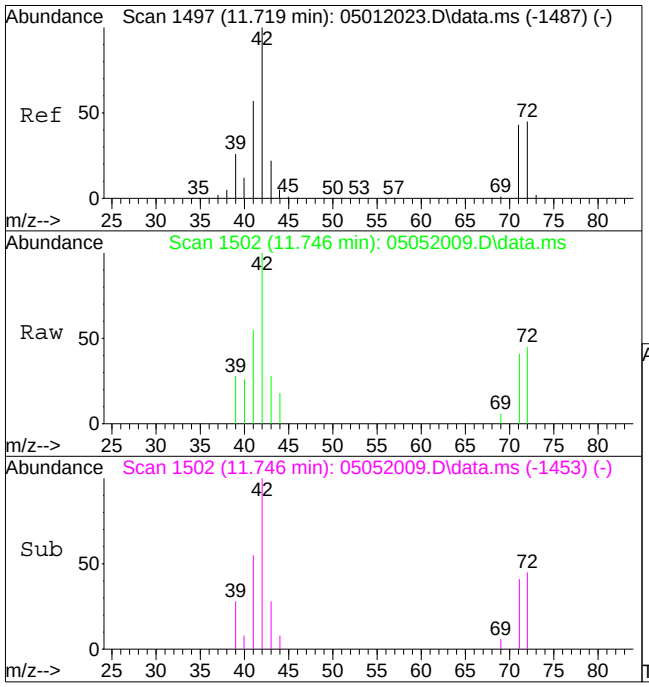


#30
Ethyl Acetate
Concen: 0.70 ng
RT: 11.28 min Scan# 1417
Delta R.T. -0.006 min
Lab File: 05052009.D
Acq: 5 May 2020 7:42

Tgt Ion: 61 Resp: 8027

Ion	Ratio	Lower	Upper
61	100		
70	69.8	57.9	97.9

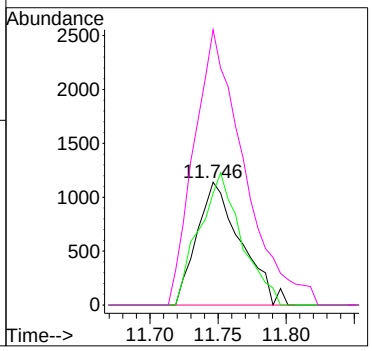


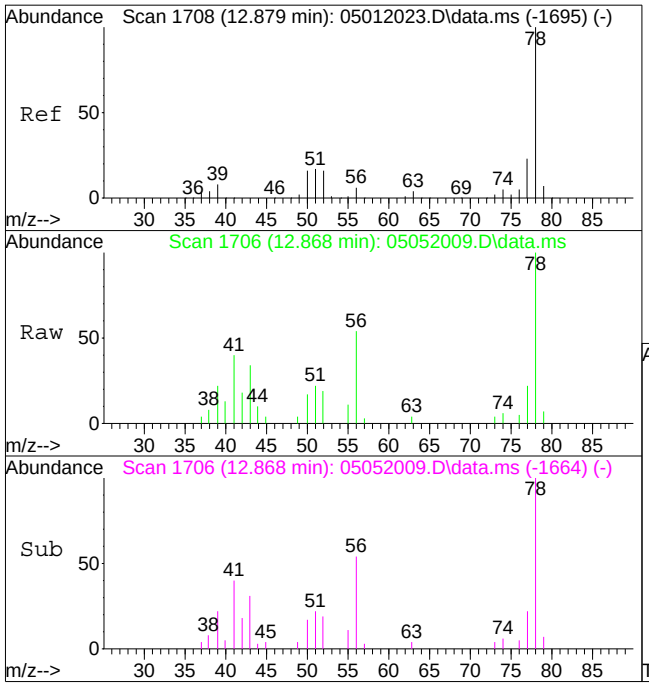


#34
Tetrahydrofuran (THF)
Concen: 0.13 ng
RT: 11.75 min Scan# 1502
Delta R.T. 0.022 min
Lab File: 05052009.D
Acq: 5 May 2020 7:42

Tgt Ion: 72 Resp: 2548

Ion	Ratio	Lower	Upper
72	100		
71	104.0	77.0	117.0
42	256.0	204.6	244.6#

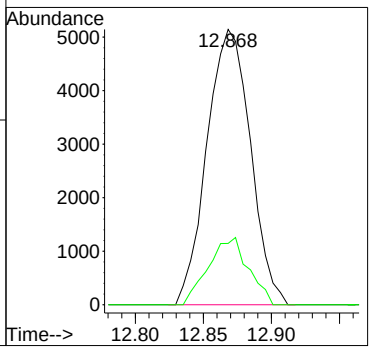


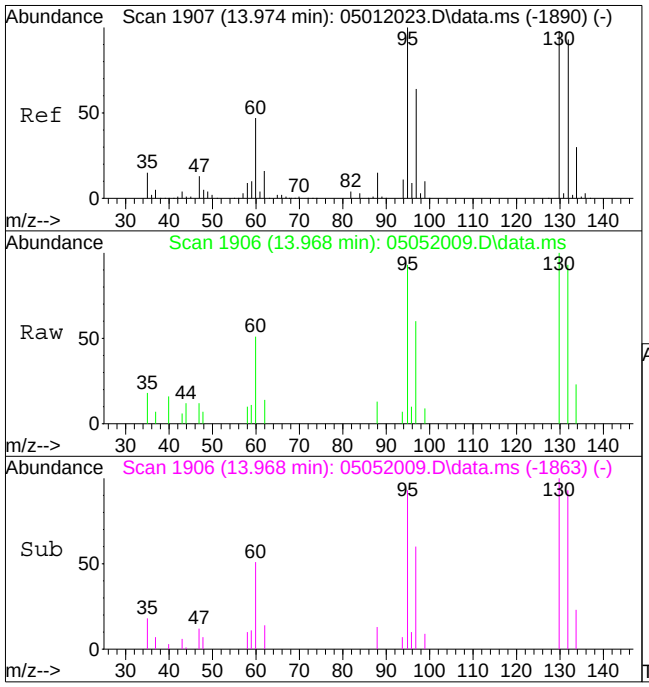


#41
Benzene
Concen: 0.09 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05052009.D
Acq: 5 May 2020 7:42

Tgt Ion: 78 Resp: 11442

Ion	Ratio	Lower	Upper
78	100		
77	22.4	3.4	43.4

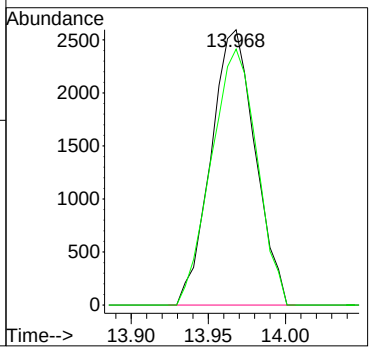


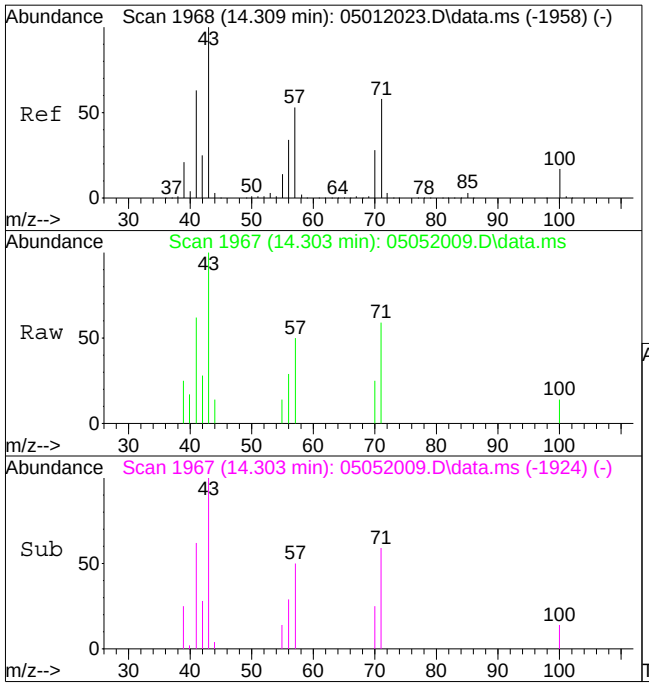


#47
Trichloroethene
Concen: 0.17 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05052009.D
Acq: 5 May 2020 7:42

Tgt Ion:130 Resp: 5182

Ion	Ratio	Lower	Upper
130	100		
132	95.7	74.9	114.9

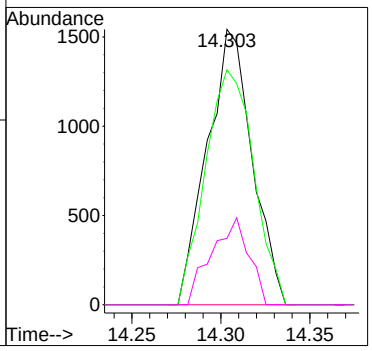


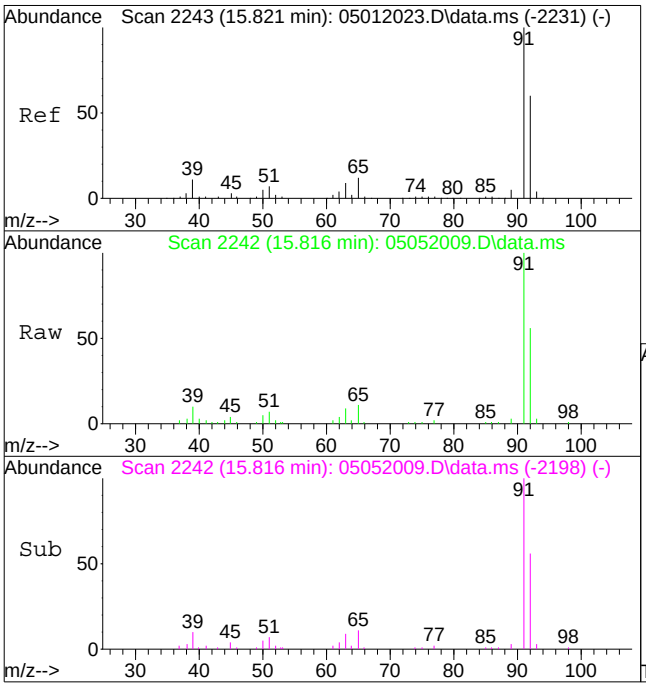


#51
n-Heptane
Concen: 0.10 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05052009.D
Acq: 5 May 2020 7:42

Tgt Ion: 71 Resp: 2711

Ion	Ratio	Lower	Upper
71	100		
57	91.7	71.0	111.0
100	26.3	8.4	48.4

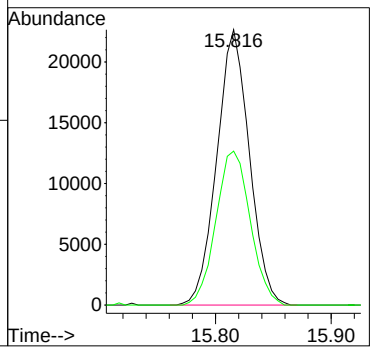


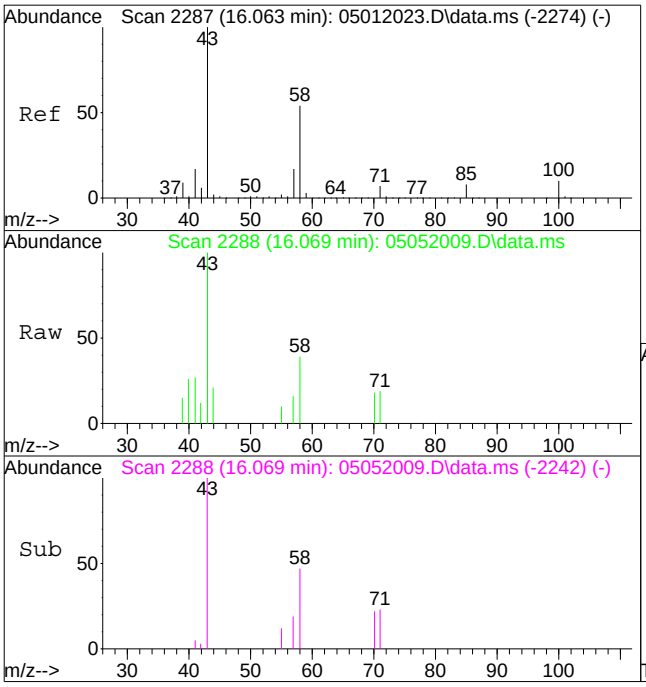


#58
Toluene
Concen: 0.39 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05052009.D
Acq: 5 May 2020 7:42

Tgt Ion: 91 Resp: 44340

Ion	Ratio	Lower	Upper
91	100		
92	58.9	39.4	79.4

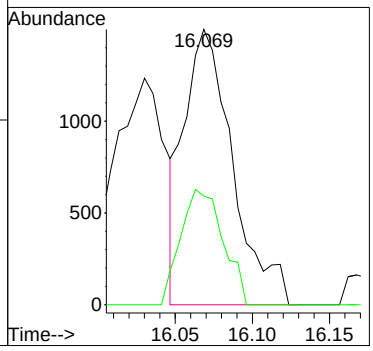


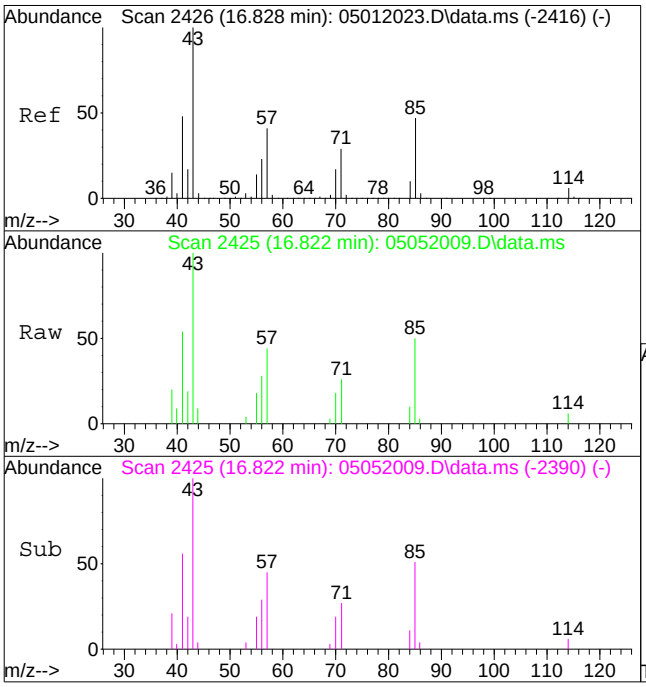


#59
2-Hexanone
Concen: 0.05 ng
RT: 16.07 min Scan# 2288
Delta R.T. 0.005 min
Lab File: 05052009.D
Acq: 5 May 2020 7:42

Tgt Ion: 43 Resp: 3294

Ion	Ratio	Lower	Upper
43	100		
58	36.6	34.5	74.5

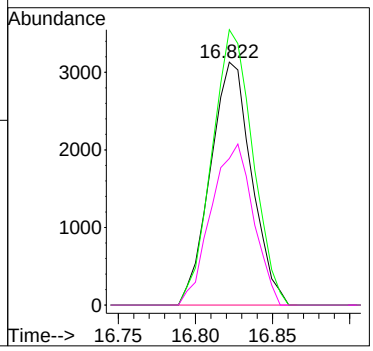


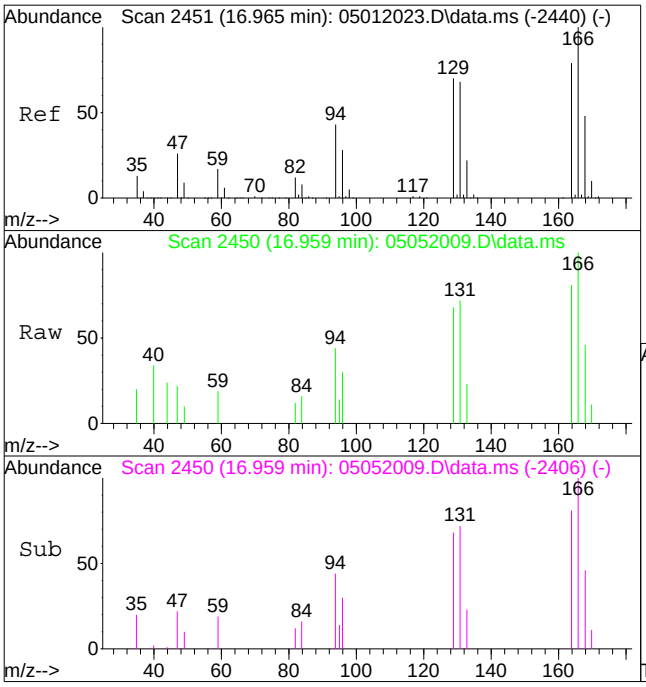


#63
n-Octane
Concen: 0.25 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05052009.D
Acq: 5 May 2020 7:42

Tgt Ion: 57 Resp: 5823

Ion	Ratio	Lower	Upper
57	100		
85	112.0	91.0	136.4
71	67.6	56.2	84.2

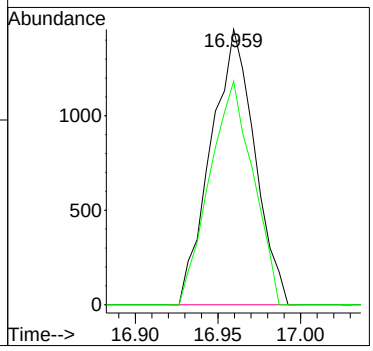


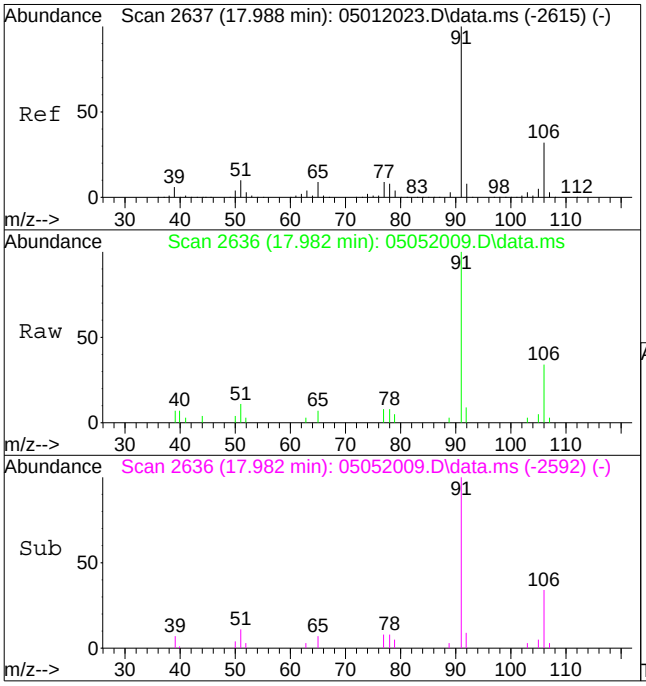


#64
Tetrachloroethene
Concen: 0.08 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05052009.D
Acq: 5 May 2020 7:42

Tgt Ion:166 Resp: 2684

Ion	Ratio	Lower	Upper
166	100		
164	80.6	58.4	98.4

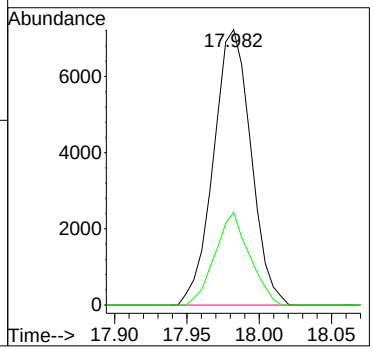


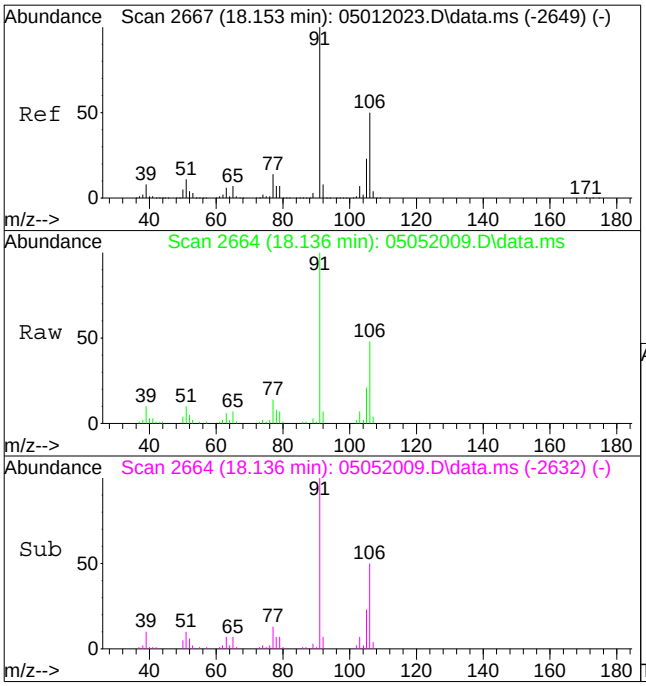


#66
Ethylbenzene
Concen: 0.10 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05052009.D
Acq: 5 May 2020 7:42

Tgt Ion: 91 Resp: 13046

Ion	Ratio	Lower	Upper
91	100		
106	30.9	11.6	51.6

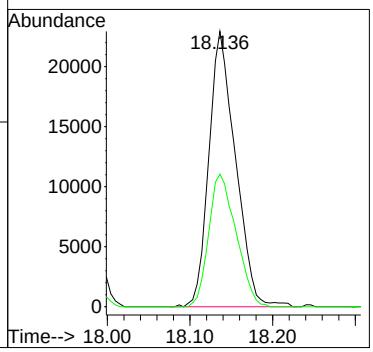


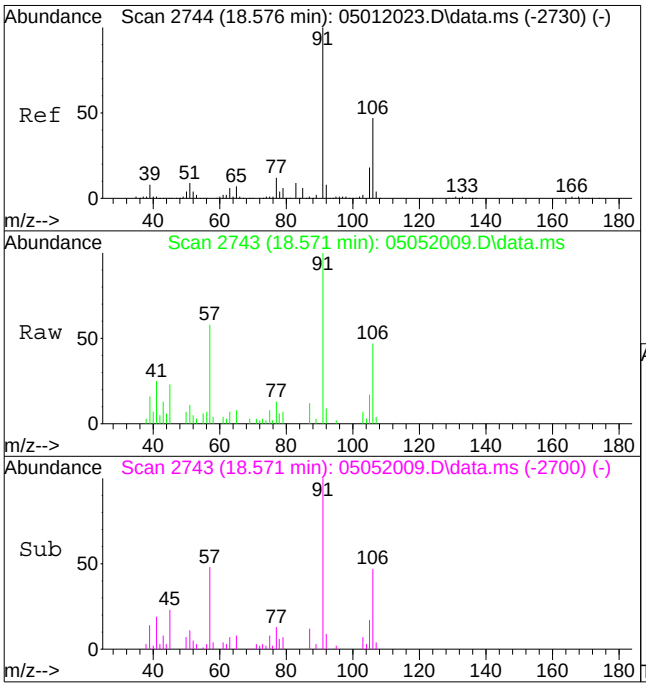


#67
m- & p-Xylenes
Concen: 0.50 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05052009.D
Acq: 5 May 2020 7:42

Tgt Ion: 91 Resp: 51221

Ion	Ratio	Lower	Upper
91	100		
106	49.6	29.7	69.7

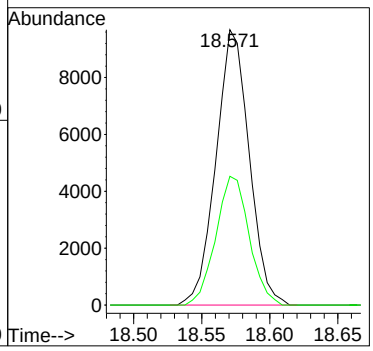


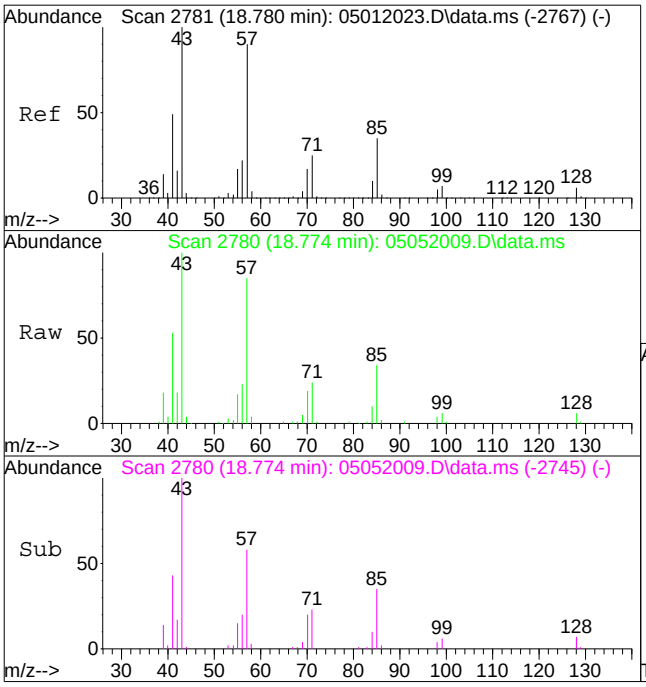


#70
o-Xylene
Concen: 0.16 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05052009.D
Acq: 5 May 2020 7:42

Tgt Ion: 91 Resp: 16417

Ion	Ratio	Lower	Upper
91	100		
106	46.9	27.5	67.5

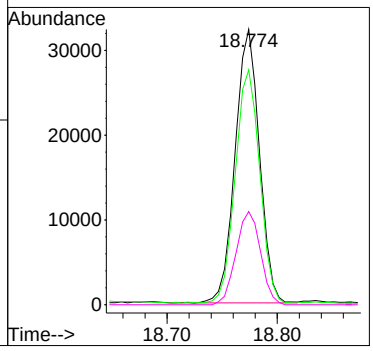


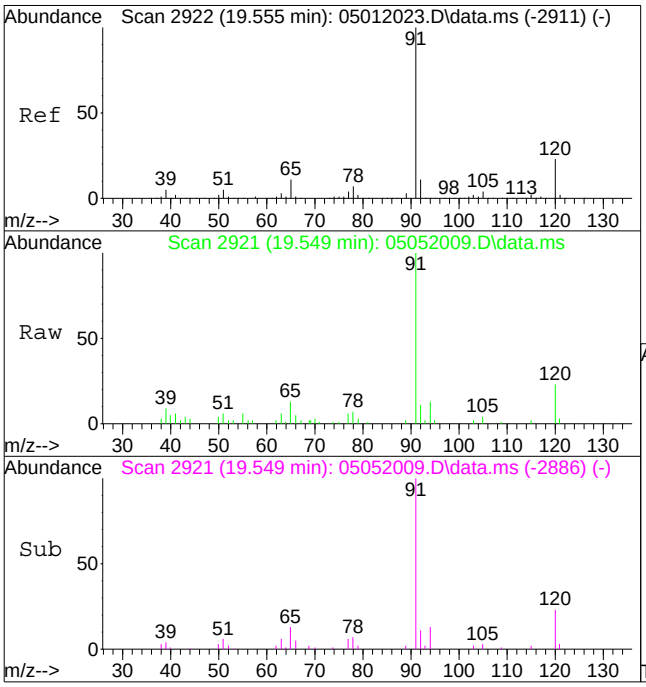


#71
n-Nonane
Concen: 0.90 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05052009.D
Acq: 5 May 2020 7:42

Tgt Ion: 43 Resp: 49408

Ion	Ratio	Lower	Upper
43	100		
57	85.7	69.0	109.0
85	34.3	14.6	54.6

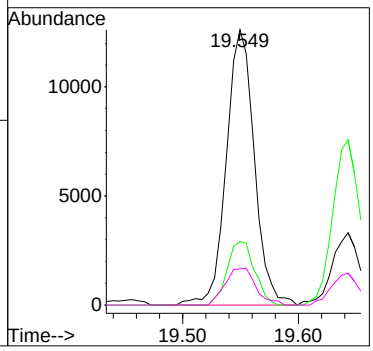


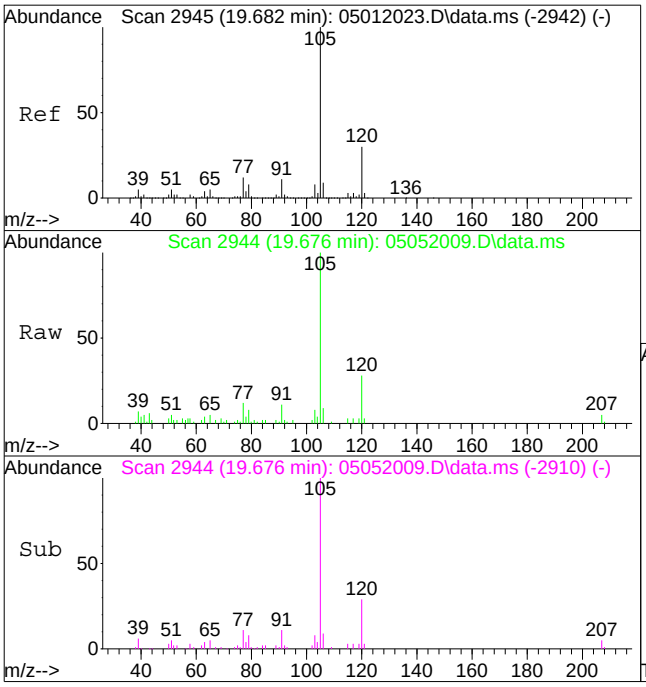


#76
n-Propylbenzene
Concen: 0.14 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05052009.D
Acq: 5 May 2020 7:42

Tgt Ion: 91 Resp: 21309

Ion	Ratio	Lower	Upper
91	100		
120	22.6	3.1	43.1
65	14.6	0.0	30.9

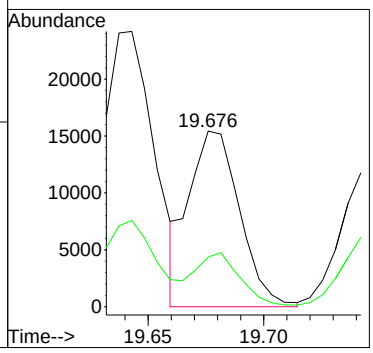


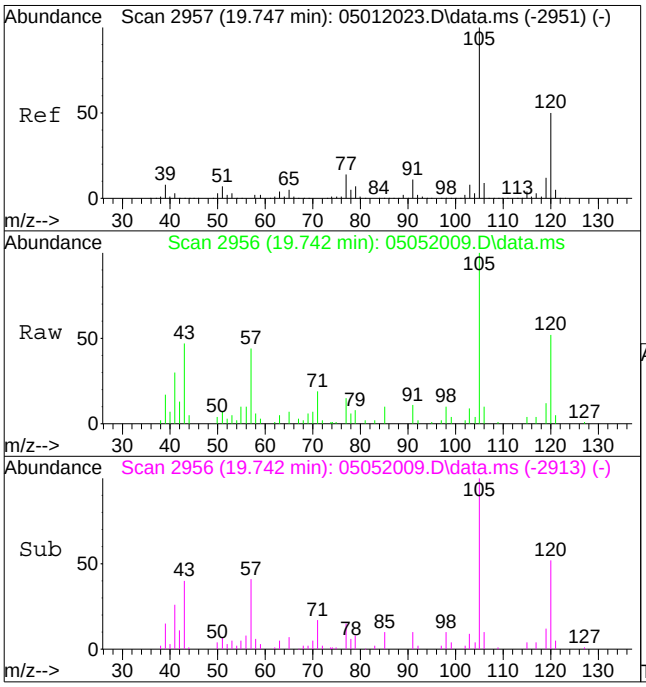


#78
4-Ethyltoluene
Concen: 0.20 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05052009.D
Acq: 5 May 2020 7:42

Tgt Ion:105 Resp: 23517

Ion	Ratio	Lower	Upper
105	100		
120	26.5	10.4	50.4

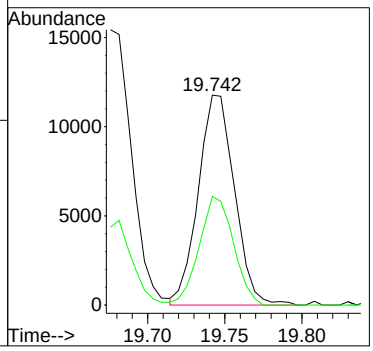


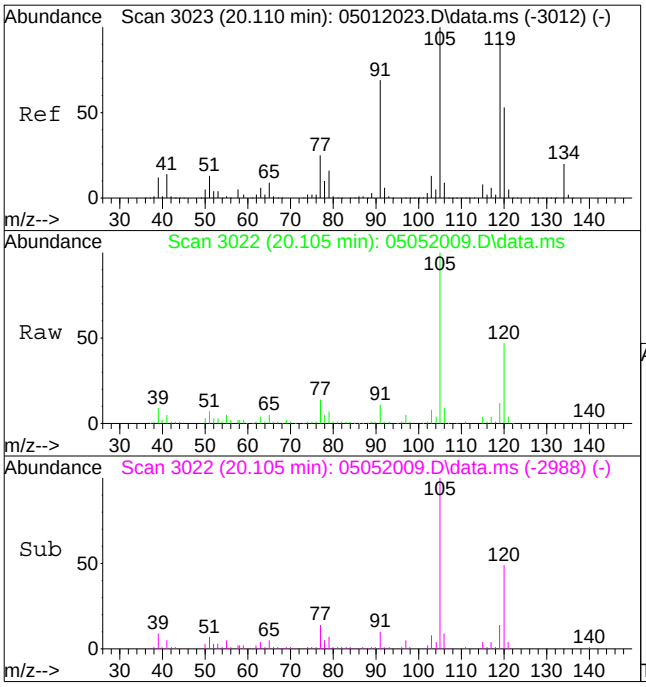


#79
1,3,5-Trimethylbenzene
Concen: 0.19 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05052009.D
Acq: 5 May 2020 7:42

Tgt Ion:105 Resp: 19241

Ion	Ratio	Lower	Upper
105	100		
120	49.2	29.9	69.9

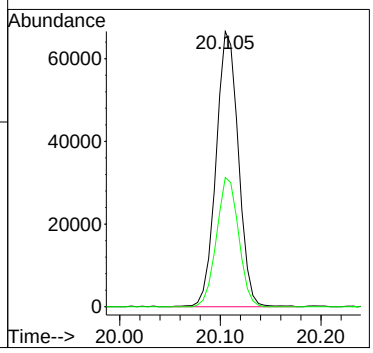


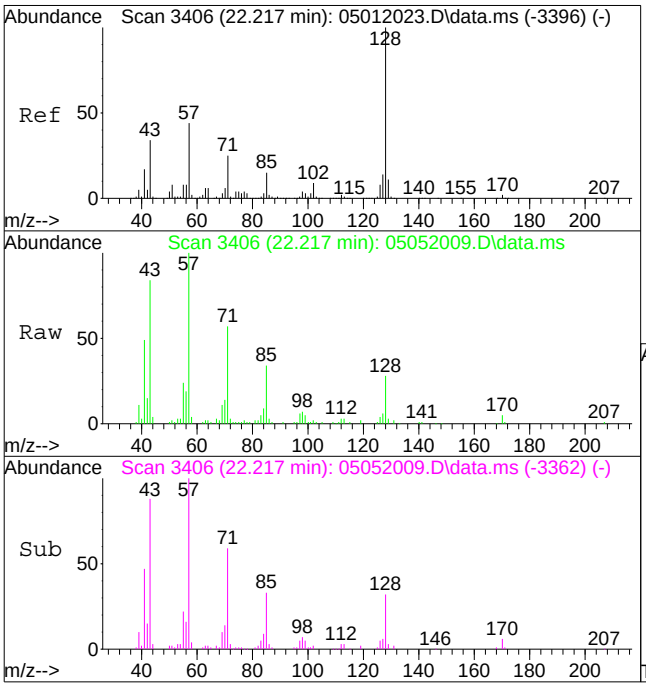


#82
1,2,4-Trimethylbenzene
Concen: 0.99 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05052009.D
Acq: 5 May 2020 7:42

Tgt Ion:105 Resp: 102257

Ion	Ratio	Lower	Upper
105	100		
120	46.5	33.6	73.6

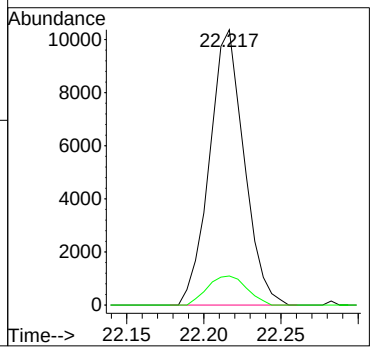




#95
Naphthalene
Concen: 0.13 ng
RT: 22.22 min Scan# 3406
Delta R.T. -0.006 min
Lab File: 05052009.D
Acq: 5 May 2020 7:42

Tgt Ion:128 Resp: 16178

Ion	Ratio	Lower	Upper
128	100		
129	12.0	0.0	31.0



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052010.D Vial: 10
Acq On : 5 May 2020 8:16 Operator: TD
Sample : P2002107-003 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 20:53:28 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/6/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	255950	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1108118	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	524261	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	422317	12.175	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.44%				
57) Toluene-d8 (SS2)	15.72	98	1106177	12.448	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.60%				
73) Bromofluorobenzene (SS3)	18.98	174	400163	12.515	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.16%				
Target Compounds							Qvalue
2) Propene	4.12	42	5458	0.184	ng		98
3) Dichlorodifluoromethan...	4.28	85	50885	0.878	ng		99
4) Chloromethane	4.55	50	5236	0.115	ng		95
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	430	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.22	54	176	N.D.			
8) Bromomethane	5.65	94	787	N.D.			
9) Chloroethane	5.98	64	363	N.D.			
10) Ethanol	6.33	45	24969	1.091	ng		99
11) Acetonitrile	6.60	41	3484	0.067	ng		80
12) Acrolein	6.78	56	10635	0.588	ng		99
13) Acetone	6.99	58	86228m	3.767	ng		
14) Trichlorofluoromethane	7.25	101	15294	0.298	ng		99
15) 2-Propanol (Isopropanol)	7.53	45	13893	0.201	ng		94
16) Acrylonitrile	7.75	53	441	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.44	59	2923	N.D.			
19) Methylene Chloride	8.41	84	521	N.D.			
20) 3-Chloro-1-propene (Al...	8.42	41	582	N.D.			
21) Trichlorotrifluoroethane	8.85	151	2862	0.118	ng		97
22) Carbon Disulfide	8.68	76	77662	0.728	ng		100
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.09	73	1745	N.D.			
26) Vinyl Acetate	10.17	86	9848	1.381	ng	#	14
27) 2-Butanone (MEK)	10.46	72	18631	0.954	ng		93
28) cis-1,2-Dichloroethene	10.95	61	328	N.D.			
29) Diisopropyl Ether	11.30	87	192	N.D.			
30) Ethyl Acetate	11.28	61	1803	0.160	ng		80
31) n-Hexane	11.22	57	2311	N.D.			
32) Chloroform	11.31	83	2943	0.058	ng		98
34) Tetrahydrofuran (THF)	11.71	72	139887	7.347	ng		99
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	112	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D. d			
41) Benzene	12.87	78	9957	0.084	ng		97
42) Carbon Tetrachloride	13.03	117	1219	N.D.			
43) Cyclohexane	13.15	84	698	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	13.52	63	910	N.D.			
46) Bromodichloromethane	13.92	83	575	N.D.			
47) Trichloroethene	13.97	130	7767	0.253	ng		98
48) 1,4-Dioxane	13.97	88	2101	0.088	ng		91
49) 2,2,4-Trimethylpentane...	14.03	57	1601	N.D.			
50) Methyl Methacrylate	14.30	100	113	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052010.D Vial: 10
Acq On : 5 May 2020 8:16 Operator: TD
Sample : P2002107-003 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 20:53:28 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

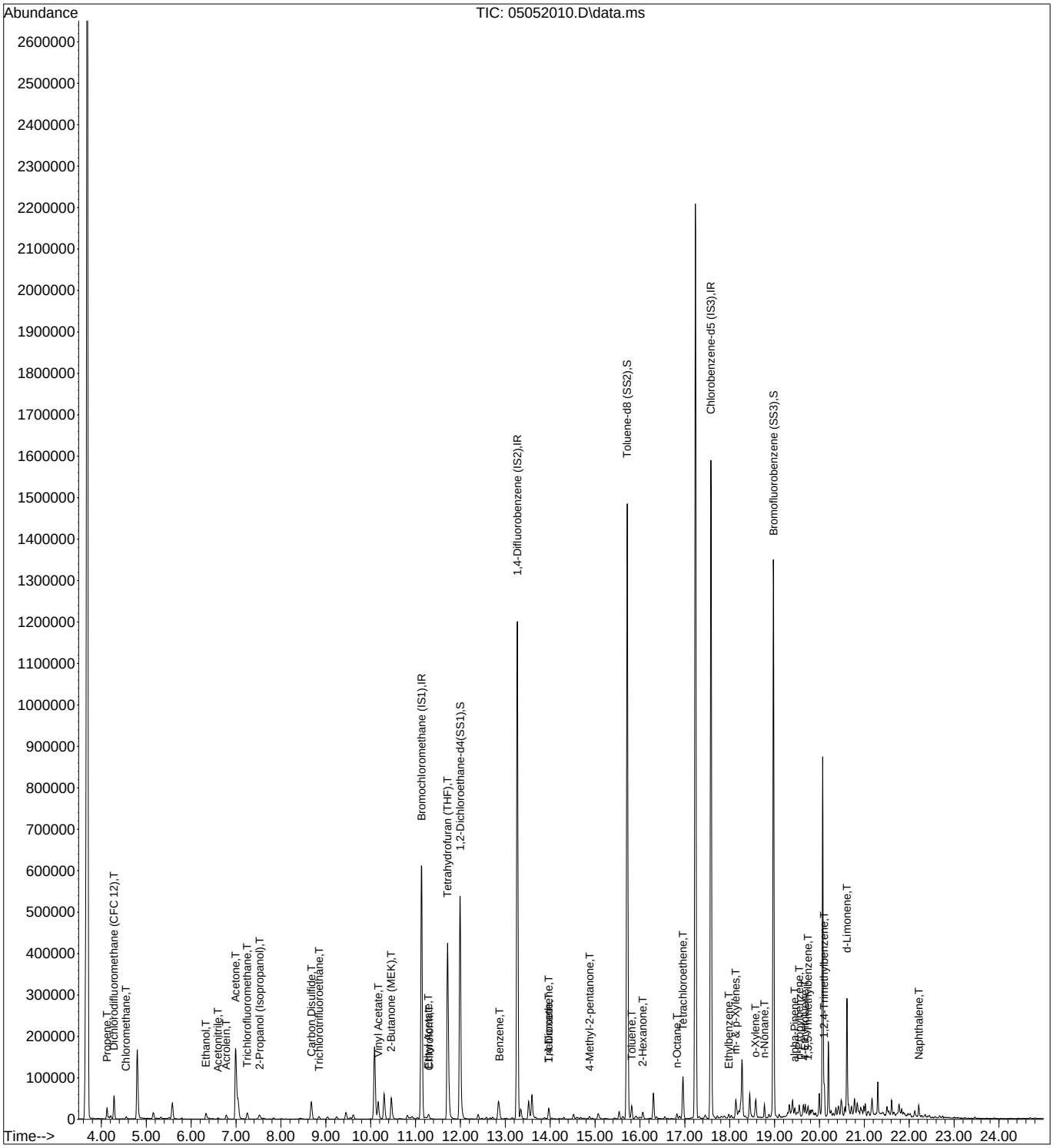
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.31	71	848	N.D.			
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
53) 4-Methyl-2-pentanone	14.88	58	1443	0.054	ng	#	7
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.			
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.			
58) Toluene	15.82	91	26052	0.227	ng		100
59) 2-Hexanone	16.06	43	13369	0.213	ng		96
60) Dibromochloromethane	0.00	129	0	N.D.			
61) 1,2-Dibromoethane	0.00	107	0	N.D.			
62) n-Butyl Acetate	16.69	43	1252	N.D.			
63) n-Octane	16.83	57	1802	0.076	ng		94
64) Tetrachloroethene	16.96	166	33669	1.041	ng		99
65) Chlorobenzene	17.62	112	235	N.D.			
66) Ethylbenzene	17.98	91	7334	0.057	ng		96
67) m- & p-Xylenes	18.14	91	25371	0.250	ng		99
68) Bromoform	0.00	173	0	N.D.			
69) Styrene	18.47	104	3657	N.D.			
70) o-Xylene	18.57	91	11547	0.112	ng		99
71) n-Nonane	18.77	43	11701	0.214	ng		95
72) 1,1,2,2-Tetrachloroethane	18.58	83	1059	N.D.			
74) Cumene	19.10	105	2202	N.D.			
75) alpha-Pinene	19.45	93	7986	0.119	ng		91
76) n-Propylbenzene	19.55	91	8107	0.054	ng	#	61
77) 3-Ethyltoluene	0.00	105	0	N.D.	d		
78) 4-Ethyltoluene	19.68	105	7180	0.061	ng		93
79) 1,3,5-Trimethylbenzene	19.74	105	9218	0.090	ng		97
80) alpha-Methylstyrene	19.88	118	1362	N.D.			
81) 2-Ethyltoluene	19.91	105	5581	N.D.			
82) 1,2,4-Trimethylbenzene	20.10	105	39731	0.384	ng		91
83) n-Decane	0.00	57	0	N.D.	d		
84) Benzyl Chloride	20.22	91	2298	N.D.			
85) 1,3-Dichlorobenzene	20.24	146	486	N.D.			
86) 1,4-Dichlorobenzene	20.30	146	823	N.D.			
87) sec-Butylbenzene	20.35	105	2403	N.D.			
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.	d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d		
90) 1,2-Dichlorobenzene	20.60	146	318	N.D.			
91) d-Limonene	20.61	68	63312	1.549	ng		98
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.			
93) n-Undecane	0.00	57	0	N.D.	d		
94) 1,2,4-Trichlorobenzene	22.12	180	576	N.D.			
95) Naphthalene	22.22	128	7828	0.062	ng		99
96) n-Dodecane	0.00	57	0	N.D.	d		
97) Hexachlorobutadiene	0.00	225	0	N.D.			
98) Cyclohexanone	0.00	55	0	N.D.	d		
99) tert-Butylbenzene	20.11	119	4172	N.D.			
100) n-Butylbenzene	0.00	91	0	N.D.	d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052010.D Vial: 10
Acq On : 5 May 2020 8:16 Operator: TD
Sample : P2002107-003 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 20:53:28 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



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Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/6/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	255950	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1108118	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	524261	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	422317	12.175	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.44%				
57) Toluene-d8 (SS2)	15.72	98	1106177	12.448	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.60%				
73) Bromofluorobenzene (SS3)	18.98	174	400163	12.515	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.16%				
Target Compounds							Qvalue
2) Propene	4.12	42	5458	0.184	ng		98
3) Dichlorodifluoromethan...	4.28	85	50885	0.878	ng		99
4) Chloromethane	4.55	50	5236	0.115	ng		95
10) Ethanol	6.33	45	24969	1.091	ng		99
11) Acetonitrile	6.60	41	3484	0.067	ng		80
12) Acrolein	6.78	56	10635	0.588	ng		99
13) Acetone	6.99	58	86228m	3.767	ng		
14) Trichlorofluoromethane	7.25	101	15294	0.298	ng		99
15) 2-Propanol (Isopropanol)	7.53	45	13893	0.201	ng		94
21) Trichlorotrifluoroethane	8.85	151	2862	0.118	ng		97
22) Carbon Disulfide	8.68	76	77662	0.728	ng		100
26) Vinyl Acetate	10.17	86	9848	1.381	ng	#	14
27) 2-Butanone (MEK)	10.46	72	18631	0.954	ng		93
30) Ethyl Acetate	11.28	61	1803	0.160	ng		80
32) Chloroform	11.31	83	2943	0.058	ng		98
34) Tetrahydrofuran (THF)	11.71	72	139887	7.347	ng		99
41) Benzene	12.87	78	9957	0.084	ng		97
47) Trichloroethene	13.97	130	7767	0.253	ng		98
48) 1,4-Dioxane	13.97	88	2101	0.088	ng		91
53) 4-Methyl-2-pentanone	14.88	58	1443	0.054	ng	#	7
58) Toluene	15.82	91	26052	0.227	ng		100
59) 2-Hexanone	16.06	43	13369	0.213	ng		96
63) n-Octane	16.83	57	1802	0.076	ng		94
64) Tetrachloroethene	16.96	166	33669	1.041	ng		99
66) Ethylbenzene	17.98	91	7334	0.057	ng		96
67) m- & p-Xylenes	18.14	91	25371	0.250	ng		99
70) o-Xylene	18.57	91	11547	0.112	ng		99
71) n-Nonane	18.77	43	11701	0.214	ng		95
75) alpha-Pinene	19.45	93	7986	0.119	ng		91
76) n-Propylbenzene	19.55	91	8107	0.054	ng	#	61
78) 4-Ethyltoluene	19.68	105	7180	0.061	ng		93
79) 1,3,5-Trimethylbenzene	19.74	105	9218	0.090	ng		97
82) 1,2,4-Trimethylbenzene	20.10	105	39731	0.384	ng		91
91) d-Limonene	20.61	68	63312	1.549	ng		98
95) Naphthalene	22.22	128	7828	0.062	ng		99

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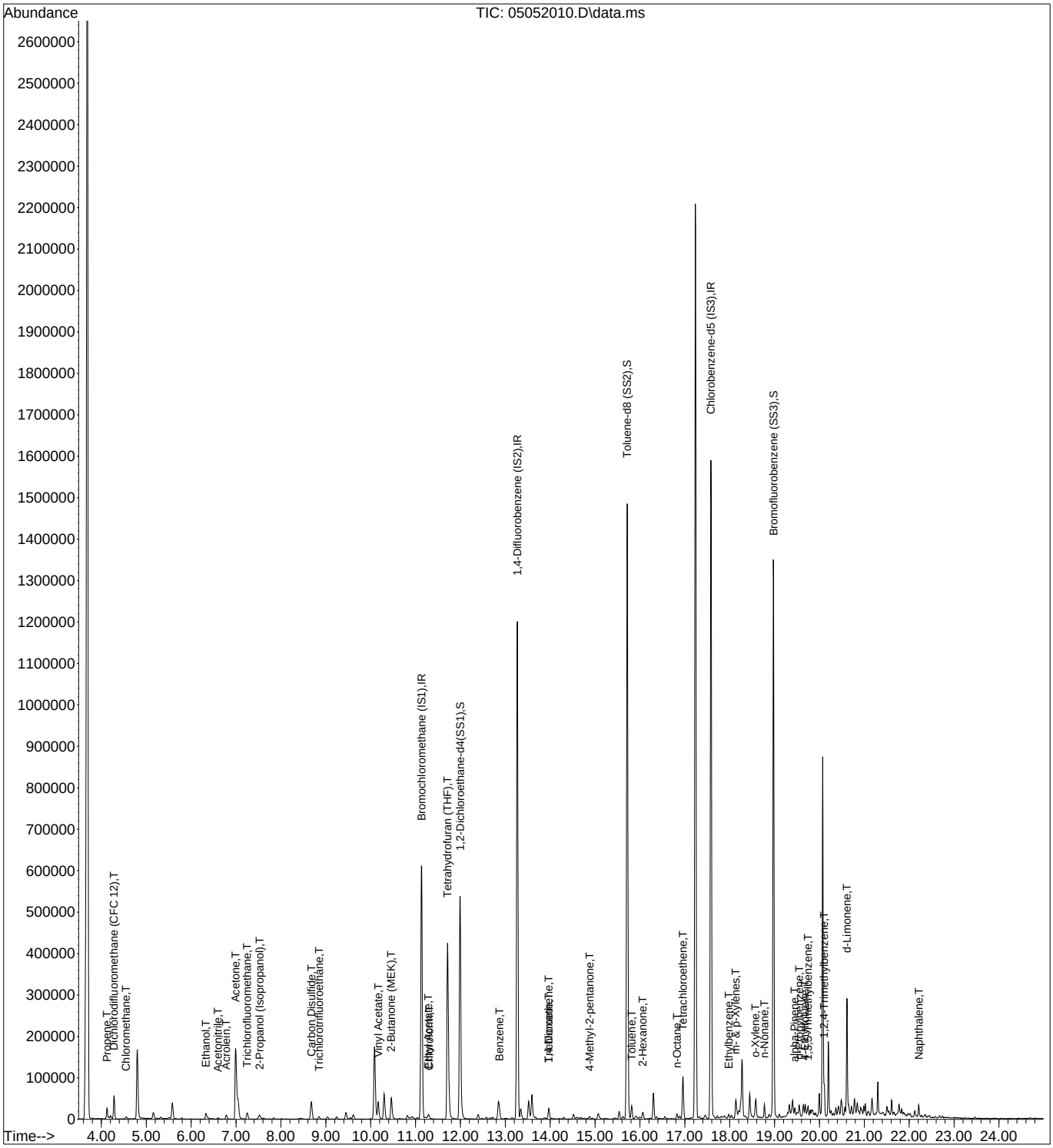
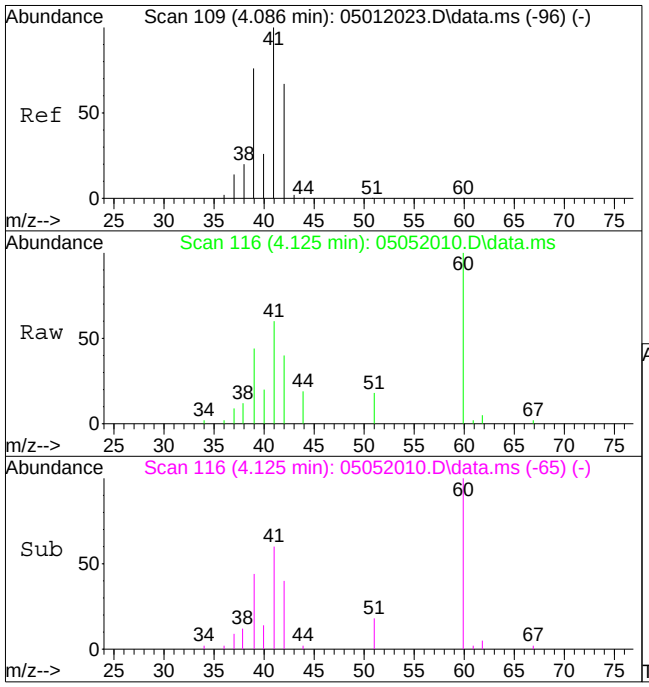
DataAcq Meth:TO15.M

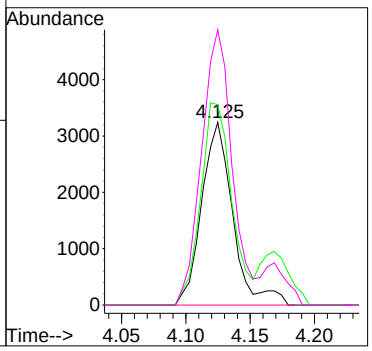


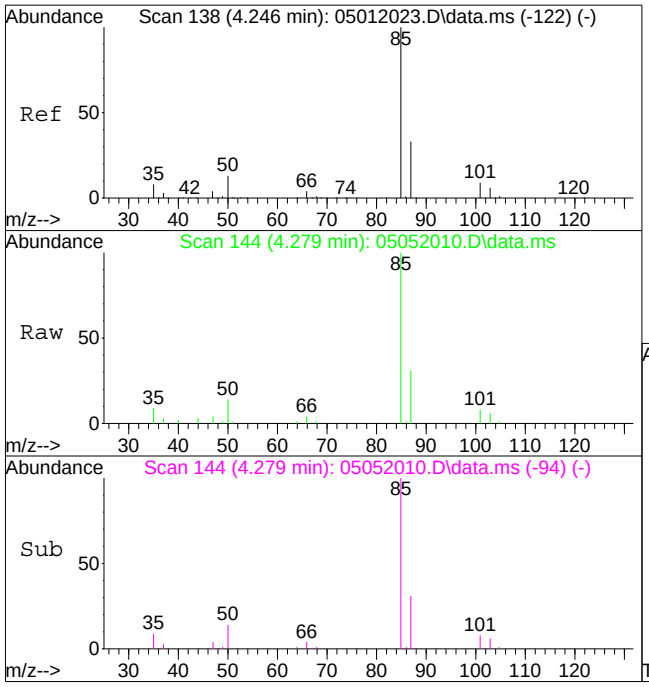


#2
Propene
Concen: 0.18 ng
RT: 4.12 min Scan# 116
Delta R.T. 0.033 min
Lab File: 05052010.D
Acq: 5 May 2020 8:16

Tgt Ion: 42 Resp: 5458

Ion	Ratio	Lower	Upper
42	100		
39	111.7	96.1	136.1
41	150.3	131.9	171.9

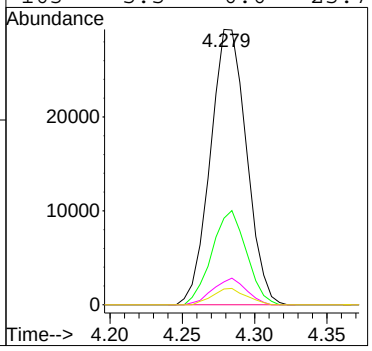


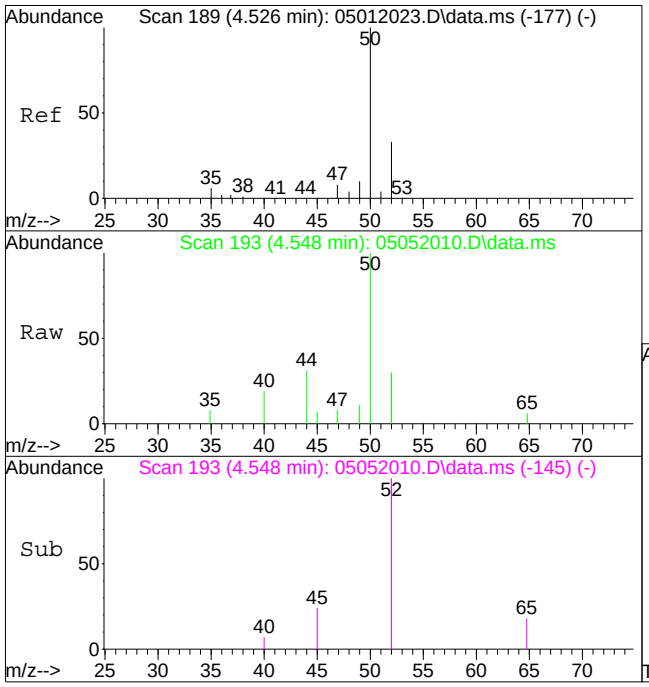


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.88 ng
RT: 4.28 min Scan# 144
Delta R.T. 0.027 min
Lab File: 05052010.D
Acq: 5 May 2020 8:16

Tgt Ion: 85 Resp: 50885

Ion	Ratio	Lower	Upper
85	100		
87	32.7	12.4	52.4
101	8.9	0.0	28.8
103	5.5	0.0	25.7

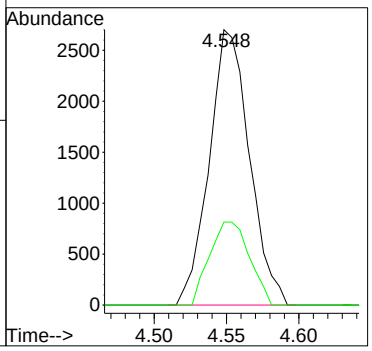


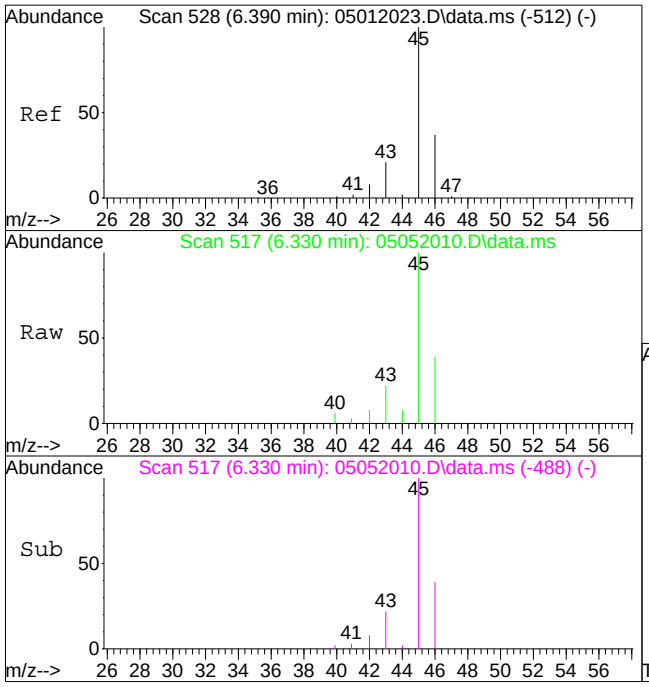


#4
Chloromethane
Concen: 0.12 ng
RT: 4.55 min Scan# 193
Delta R.T. 0.016 min
Lab File: 05052010.D
Acq: 5 May 2020 8:16

Tgt Ion: 50 Resp: 5236

Ion	Ratio	Lower	Upper
50	100		
52	29.9	12.5	52.5

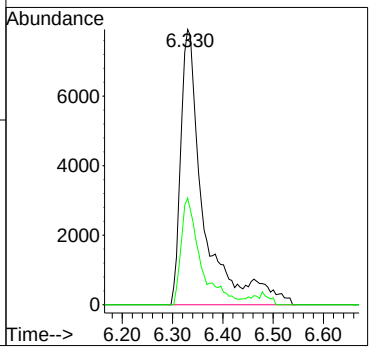


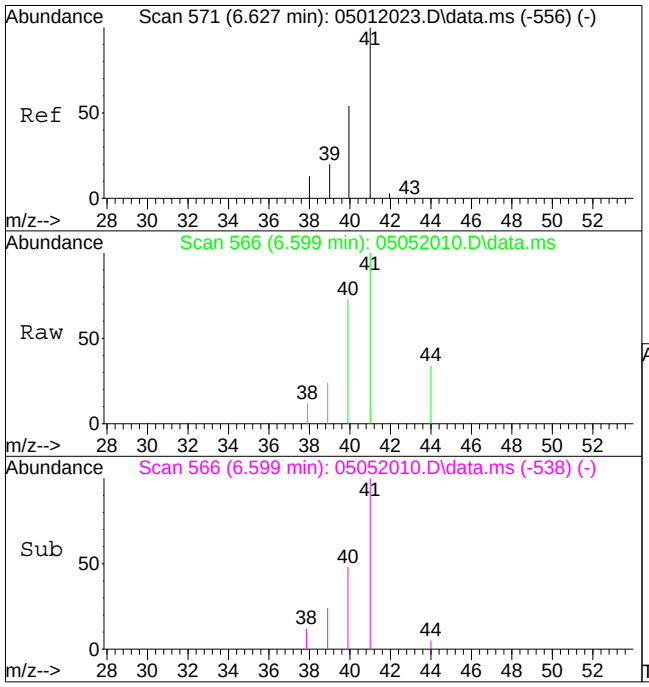


#10
Ethanol
Concen: 1.09 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.088 min
Lab File: 05052010.D
Acq: 5 May 2020 8:16

Tgt Ion: 45 Resp: 24969

Ion	Ratio	Lower	Upper
45	100		
46	36.6	17.2	57.2

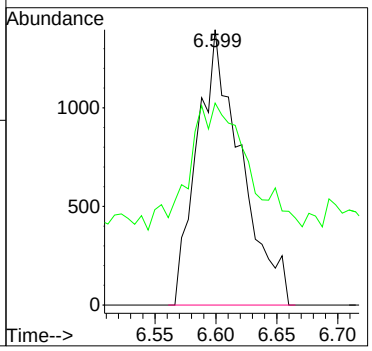


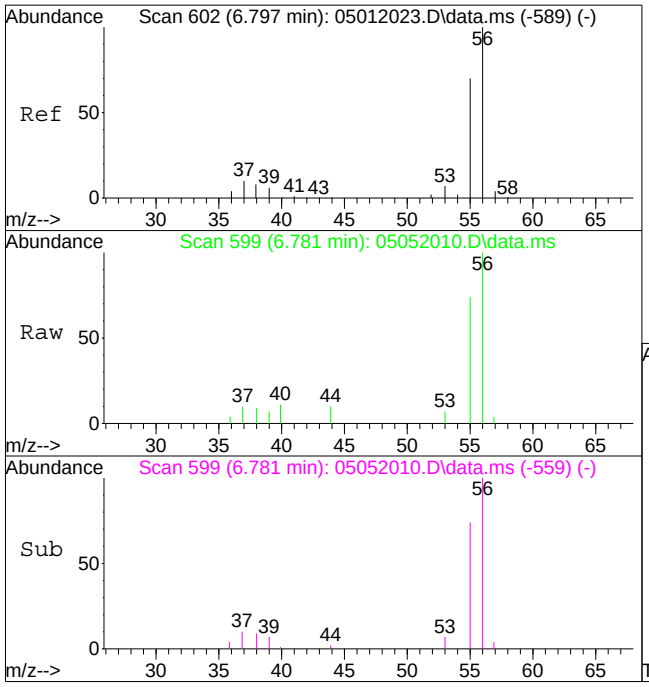


#11
Acetonitrile
Concen: 0.07 ng
RT: 6.60 min Scan# 566
Delta R.T. -0.044 min
Lab File: 05052010.D
Acq: 5 May 2020 8:16

Tgt Ion: 41 Resp: 3484

Ion	Ratio	Lower	Upper
41	100		
40	68.1	33.6	73.6

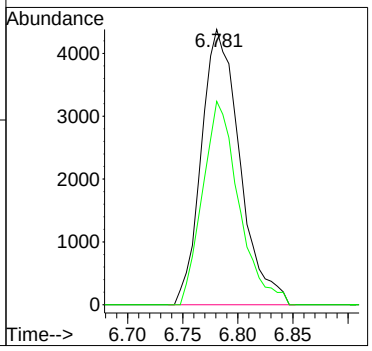


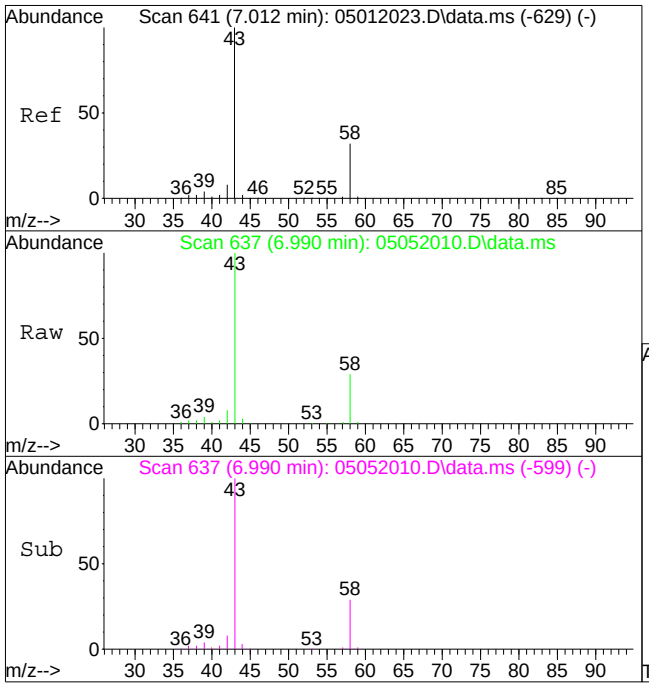


#12
Acrolein
Concen: 0.59 ng
RT: 6.78 min Scan# 599
Delta R.T. -0.028 min
Lab File: 05052010.D
Acq: 5 May 2020 8:16

Tgt Ion: 56 Resp: 10635

Ion	Ratio	Lower	Upper
56	100		
55	69.7	50.2	90.2

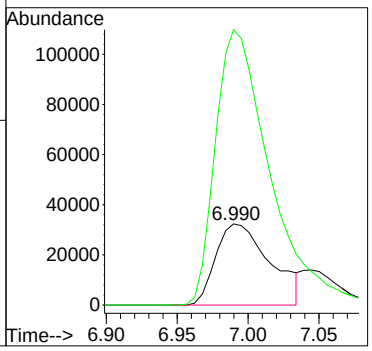


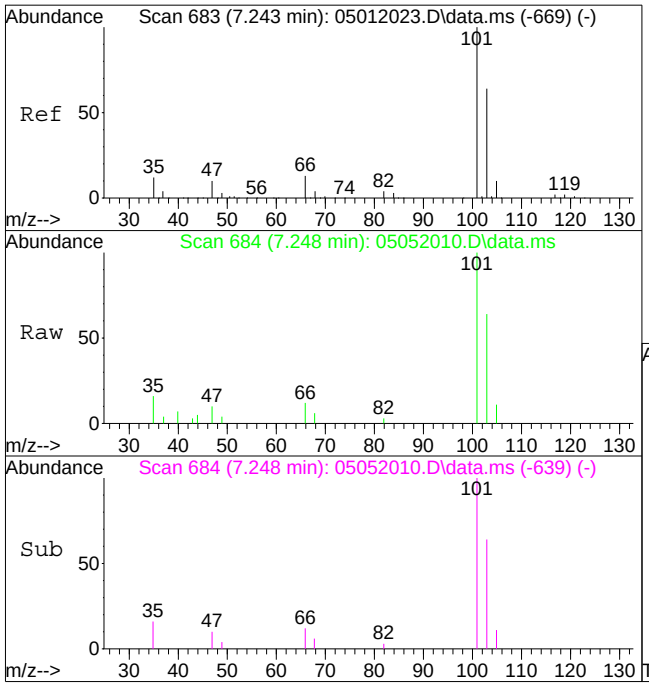


#13
Acetone
Concen: 3.77 ng m
RT: 6.99 min Scan# 637
Delta R.T. -0.039 min
Lab File: 05052010.D
Acq: 5 May 2020 8:16

Tgt Ion: 58 Resp: 86228

Ion	Ratio	Lower	Upper
58	100		
43	346.9	294.4	354.4

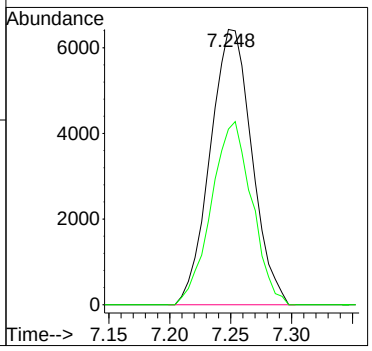


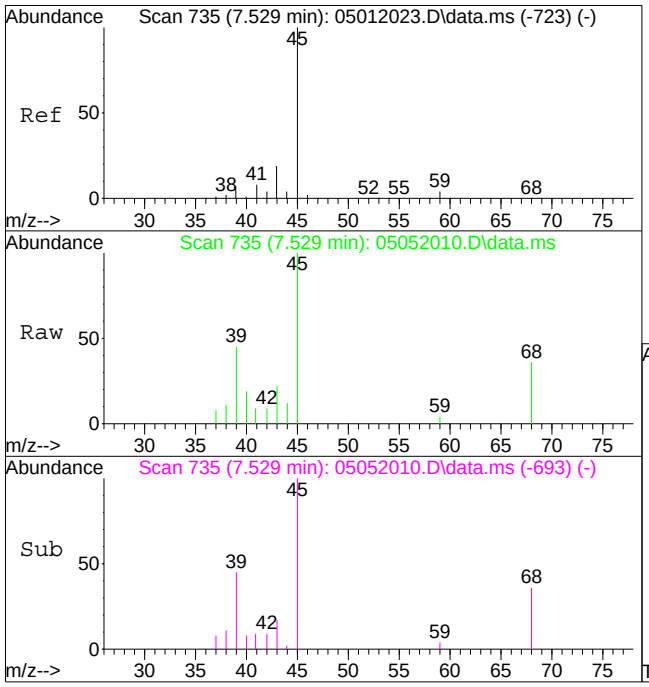


#14
Trichlorofluoromethane
Concen: 0.30 ng
RT: 7.25 min Scan# 684
Delta R.T. -0.000 min
Lab File: 05052010.D
Acq: 5 May 2020 8:16

Tgt Ion:101 Resp: 15294

Ion	Ratio	Lower	Upper
101	100		
103	64.8	44.4	84.4

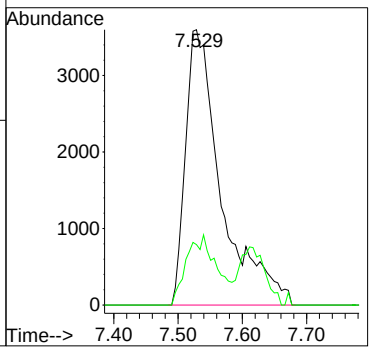


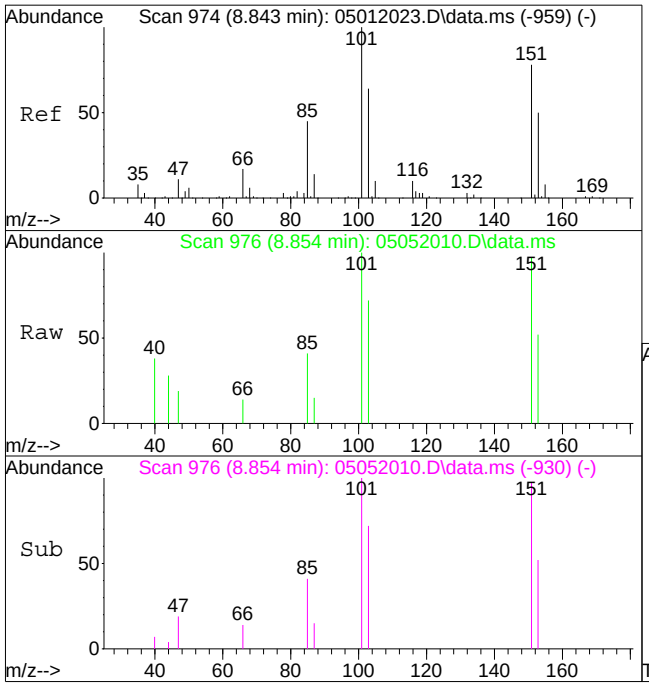


#15
2-Propanol (Isopropanol)
Concen: 0.20 ng
RT: 7.53 min Scan# 735
Delta R.T. -0.017 min
Lab File: 05052010.D
Acq: 5 May 2020 8:16

Tgt Ion: 45 Resp: 13893

Ion	Ratio	Lower	Upper
45	100		
43	22.3	0.0	39.5

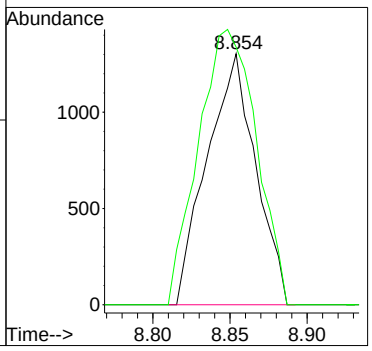


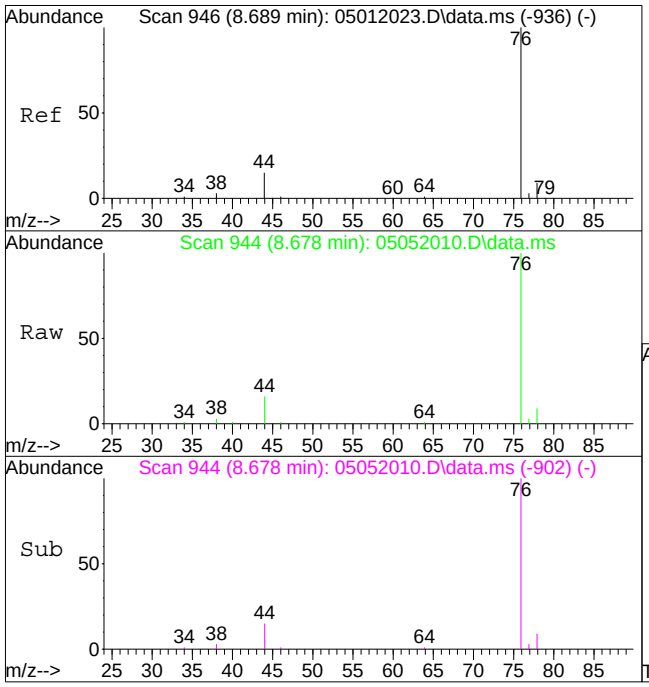


#21
Trichlorotrifluoroethane
Concen: 0.12 ng
RT: 8.85 min Scan# 976
Delta R.T. 0.005 min
Lab File: 05052010.D
Acq: 5 May 2020 8:16

Tgt Ion:151 Resp: 2862

Ion	Ratio	Lower	Upper
151	100		
101	130.8	107.3	147.3

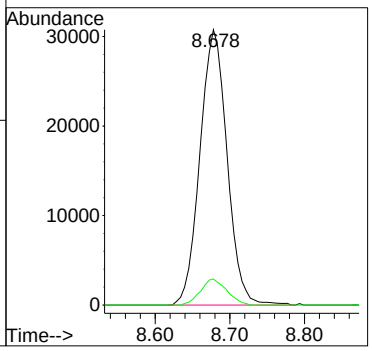


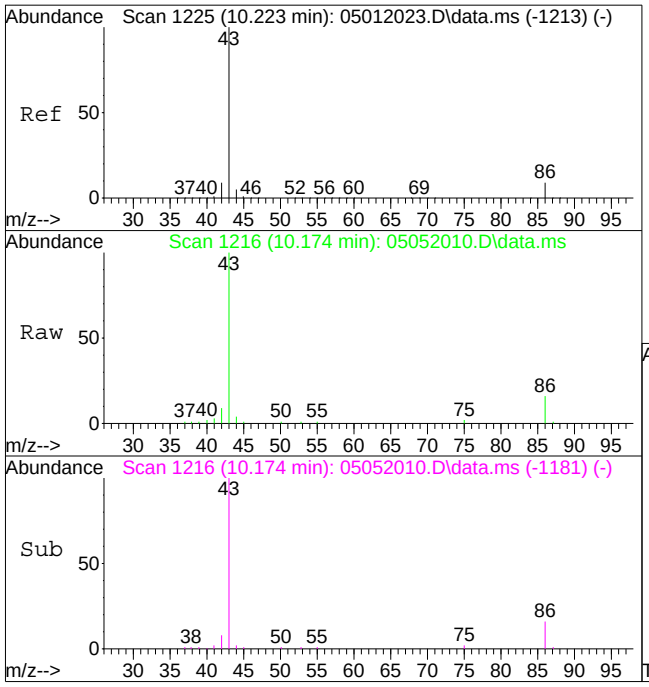


#22
Carbon Disulfide
Concen: 0.73 ng
RT: 8.68 min Scan# 944
Delta R.T. -0.017 min
Lab File: 05052010.D
Acq: 5 May 2020 8:16

Tgt Ion: 76 Resp: 77662

Ion	Ratio	Lower	Upper
76	100		
78	9.2	0.0	29.2

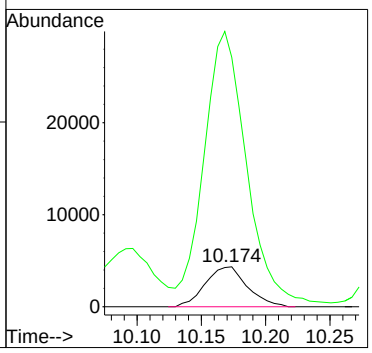


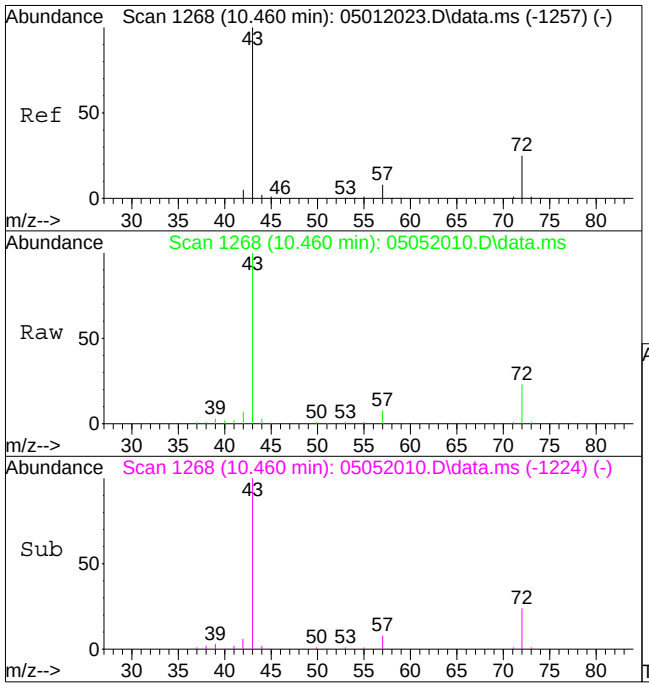


#26
Vinyl Acetate
Concen: 1.38 ng
RT: 10.17 min Scan# 1216
Delta R.T. -0.055 min
Lab File: 05052010.D
Acq: 5 May 2020 8:16

Tgt Ion: 86 Resp: 9848

Ion	Ratio	Lower	Upper
86	100		
43	705.2	1103.0	1143.0#

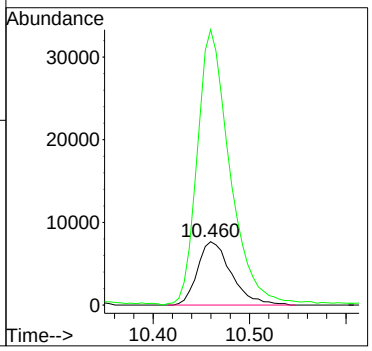


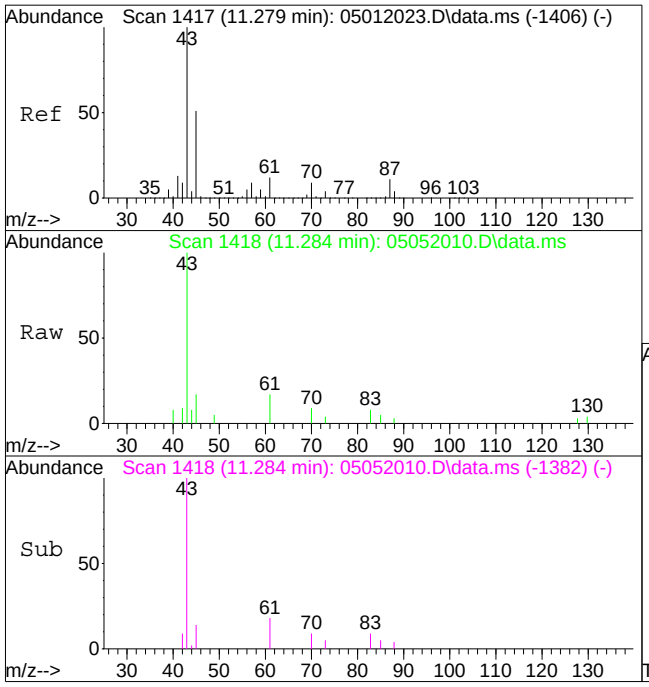


#27
2-Butanone (MEK)
Concen: 0.95 ng
RT: 10.46 min Scan# 1268
Delta R.T. -0.006 min
Lab File: 05052010.D
Acq: 5 May 2020 8:16

Tgt Ion: 72 Resp: 18631

Ion	Ratio	Lower	Upper
72	100		
43	425.5	389.7	429.7

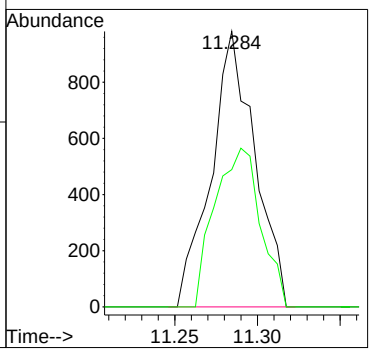


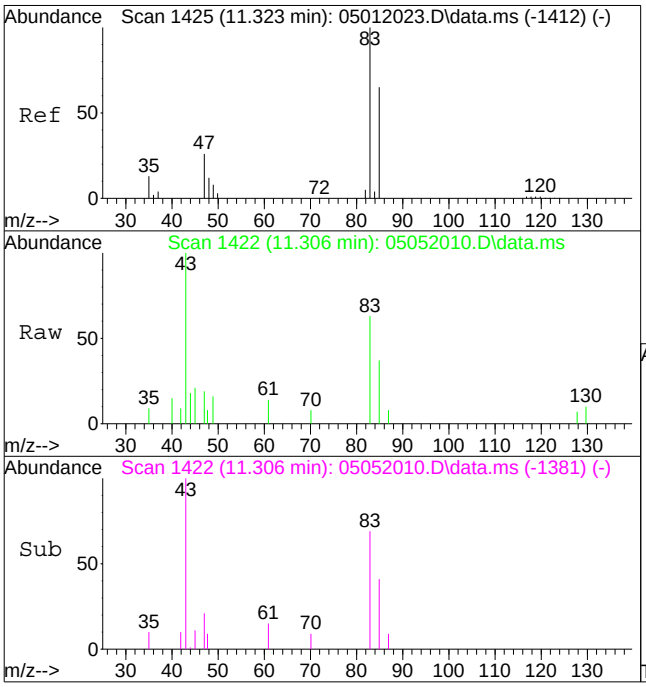


#30
Ethyl Acetate
Concen: 0.16 ng
RT: 11.28 min Scan# 1418
Delta R.T. -0.000 min
Lab File: 05052010.D
Acq: 5 May 2020 8:16

Tgt Ion: 61 Resp: 1803

Ion	Ratio	Lower	Upper
61	100		
70	60.5	57.9	97.9

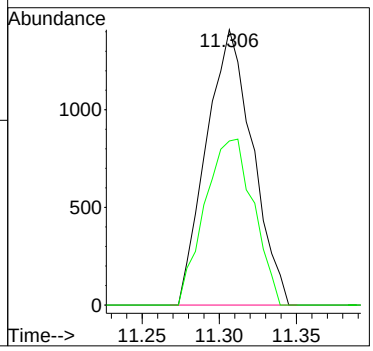


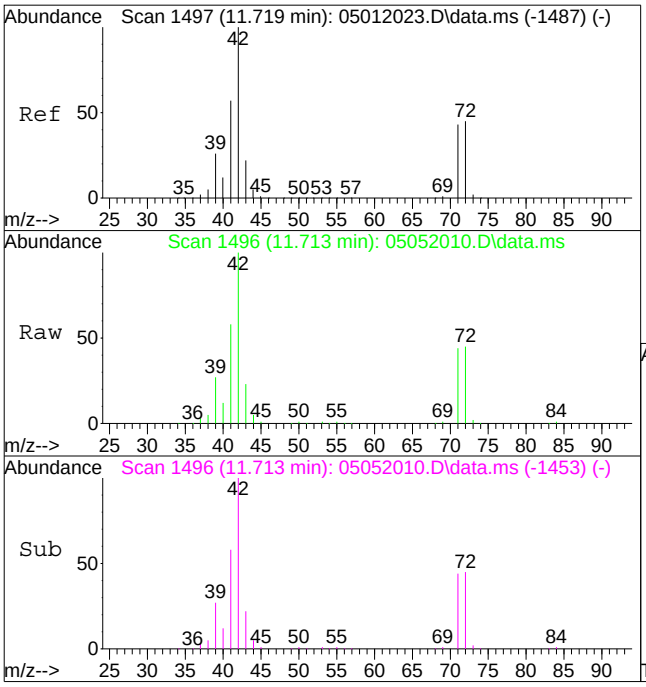


#32
Chloroform
Concen: 0.06 ng
RT: 11.31 min Scan# 1422
Delta R.T. -0.022 min
Lab File: 05052010.D
Acq: 5 May 2020 8:16

Tgt Ion: 83 Resp: 2943

Ion	Ratio	Lower	Upper
83	100		
85	63.5	45.5	85.5

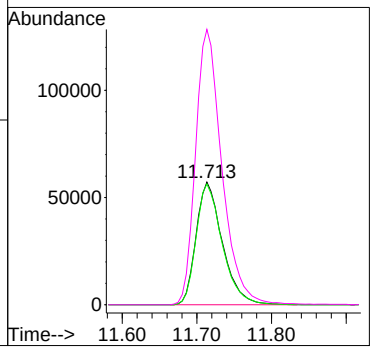


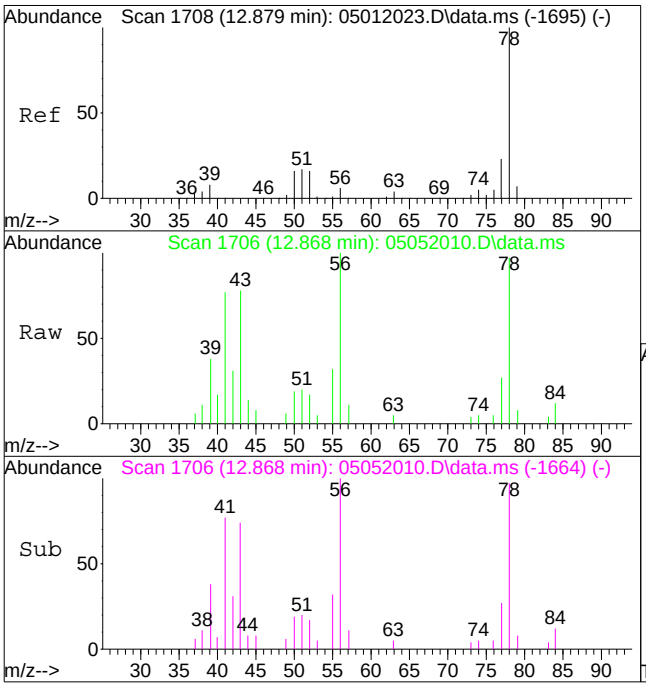


#34
Tetrahydrofuran (THF)
Concen: 7.35 ng
RT: 11.71 min Scan# 1496
Delta R.T. -0.011 min
Lab File: 05052010.D
Acq: 5 May 2020 8:16

Tgt Ion: 72 Resp: 139887

Ion	Ratio	Lower	Upper
72	100		
71	97.9	77.0	117.0
42	225.5	204.6	244.6

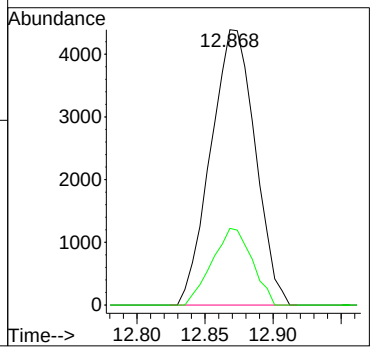


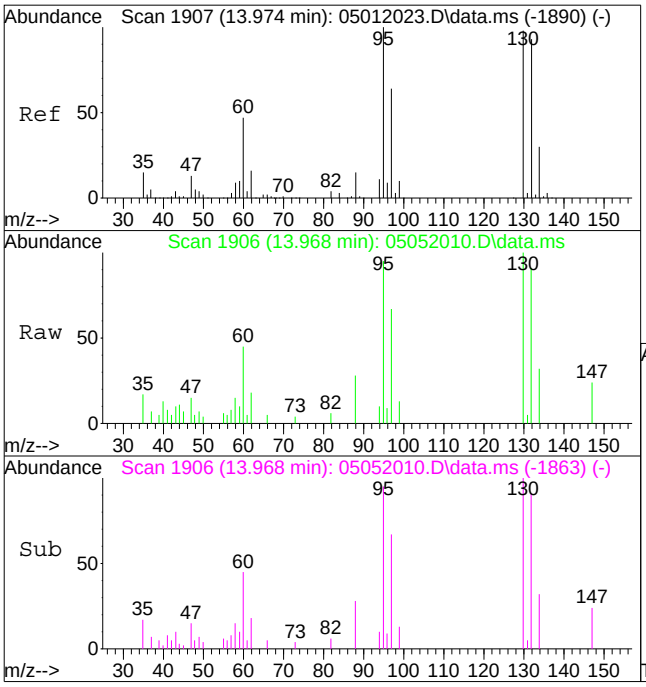


#41
Benzene
Concen: 0.08 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05052010.D
Acq: 5 May 2020 8:16

Tgt Ion: 78 Resp: 9957

Ion	Ratio	Lower	Upper
78	100		
77	25.0	3.4	43.4

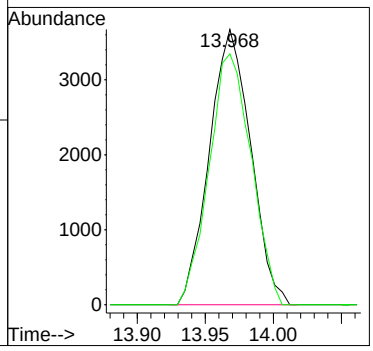


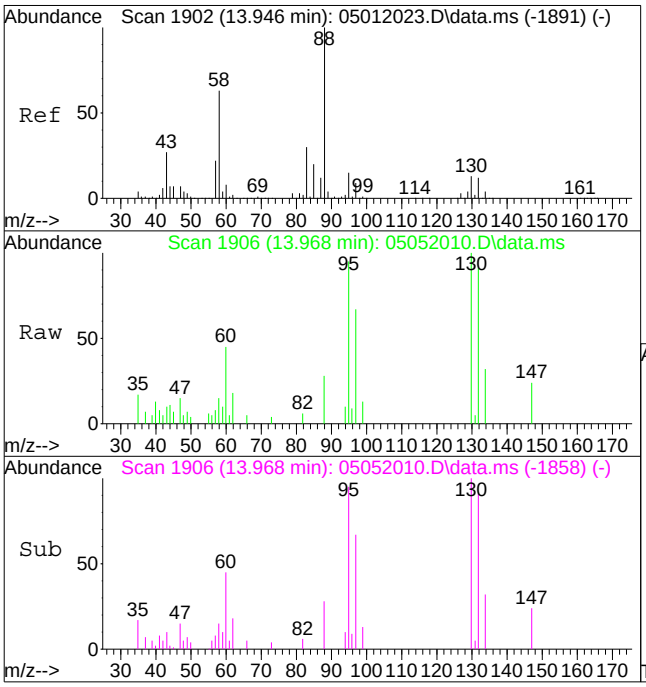


#47
Trichloroethene
Concen: 0.25 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05052010.D
Acq: 5 May 2020 8:16

Tgt Ion:130 Resp: 7767

Ion	Ratio	Lower	Upper
130	100		
132	92.8	74.9	114.9

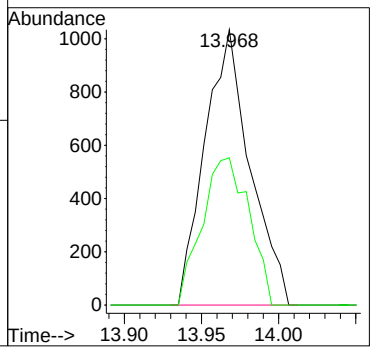


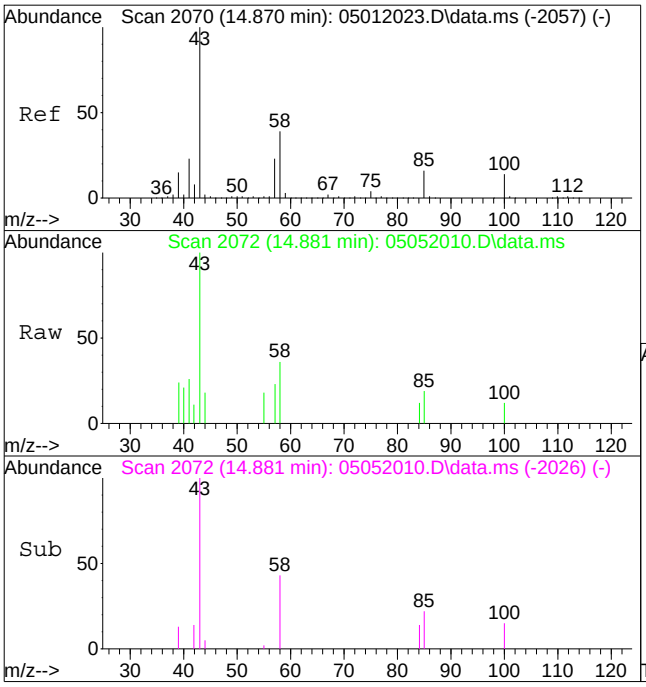


#48
1,4-Dioxane
Concen: 0.09 ng
RT: 13.97 min Scan# 1906
Delta R.T. 0.016 min
Lab File: 05052010.D
Acq: 5 May 2020 8:16

Tgt Ion: 88 Resp: 2101

Ion	Ratio	Lower	Upper
88	100		
58	55.6	42.8	82.8

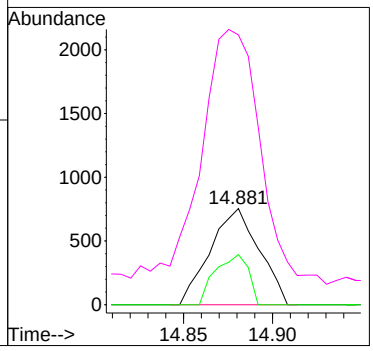


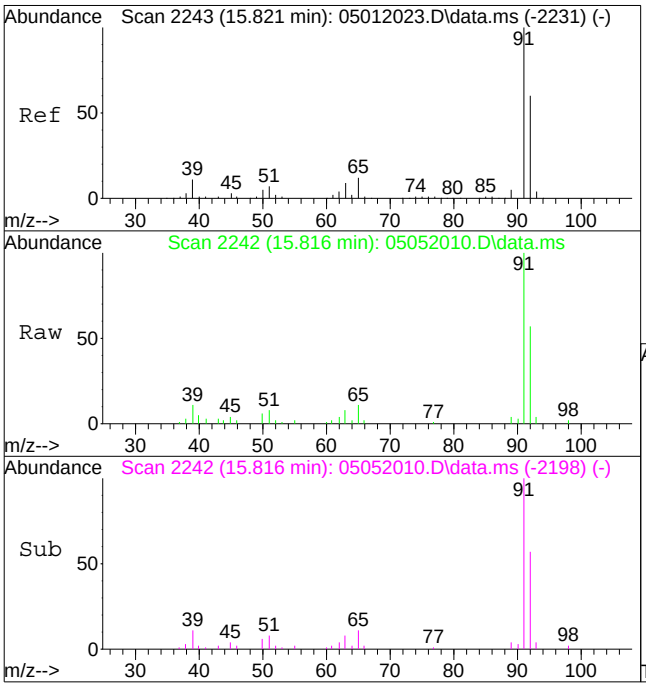


#53
4-Methyl-2-pentanone
Concen: 0.05 ng
RT: 14.88 min Scan# 2072
Delta R.T. 0.005 min
Lab File: 05052010.D
Acq: 5 May 2020 8:16

Tgt Ion: 58 Resp: 1443

Ion	Ratio	Lower	Upper
58	100		
85	35.1	35.4	53.2#
43	442.8	203.3	304.9#

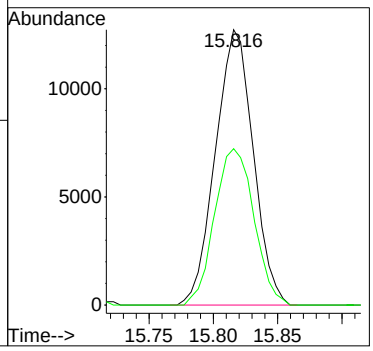


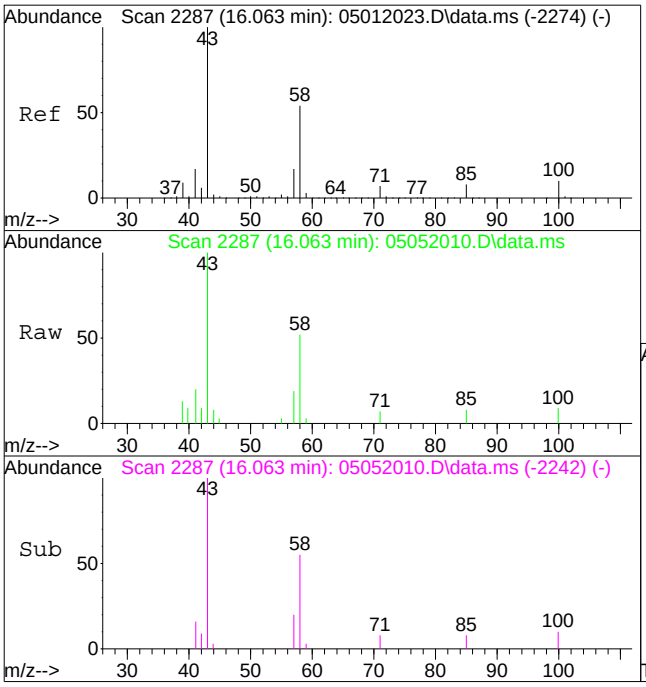


#58
Toluene
Concen: 0.23 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05052010.D
Acq: 5 May 2020 8:16

Tgt Ion: 91 Resp: 26052

Ion	Ratio	Lower	Upper
91	100		
92	59.0	39.4	79.4

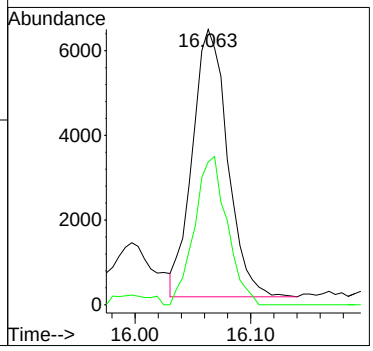


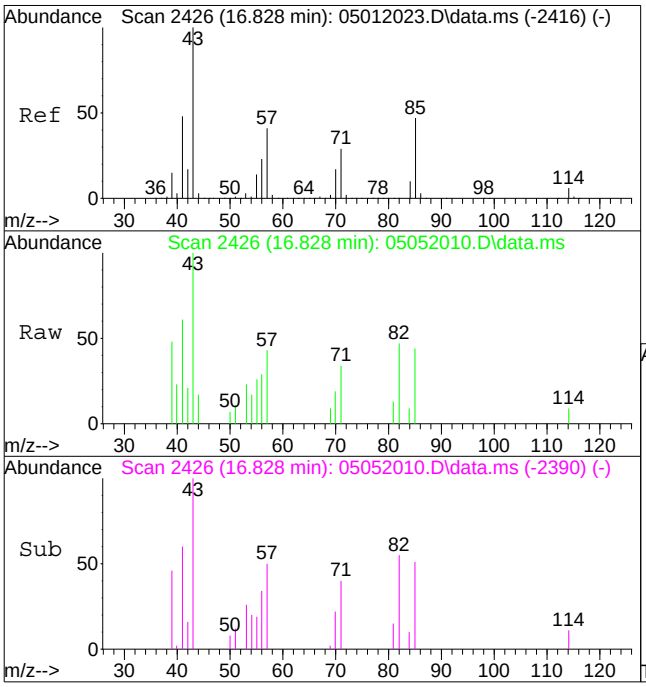


#59
2-Hexanone
Concen: 0.21 ng
RT: 16.06 min Scan# 2287
Delta R.T. -0.000 min
Lab File: 05052010.D
Acq: 5 May 2020 8:16

Tgt Ion: 43 Resp: 13369

Ion	Ratio	Lower	Upper
43	100		
58	51.3	34.5	74.5

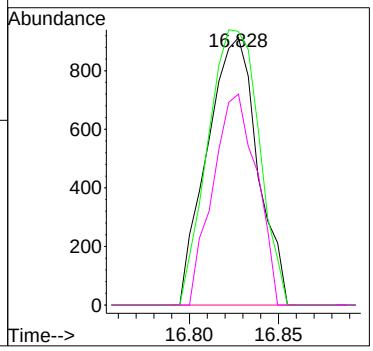


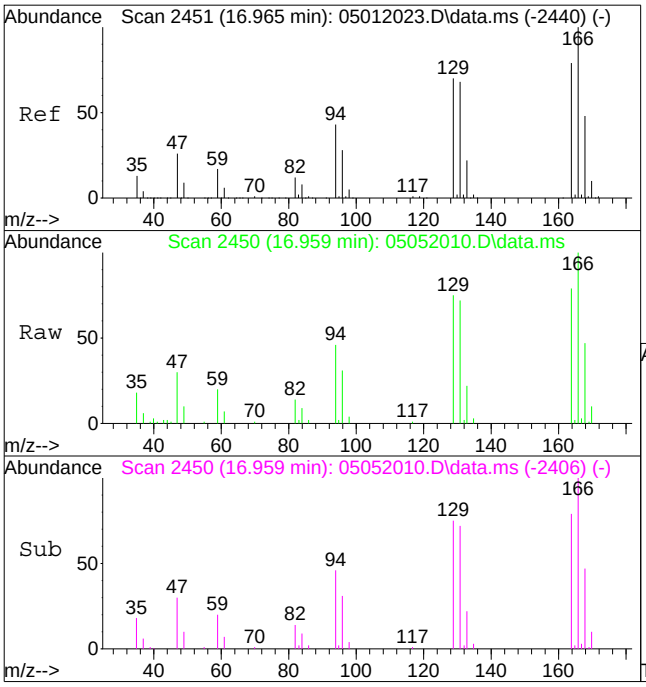


#63
n-Octane
Concen: 0.08 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05052010.D
Acq: 5 May 2020 8:16

Tgt Ion: 57 Resp: 1802

Ion	Ratio	Lower	Upper
57	100		
85	104.7	91.0	136.4
71	68.4	56.2	84.2

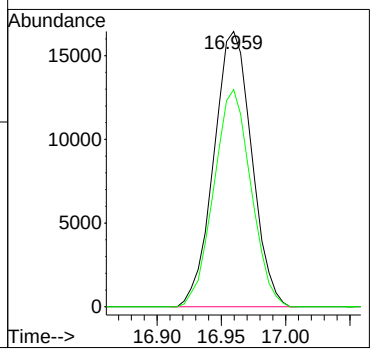


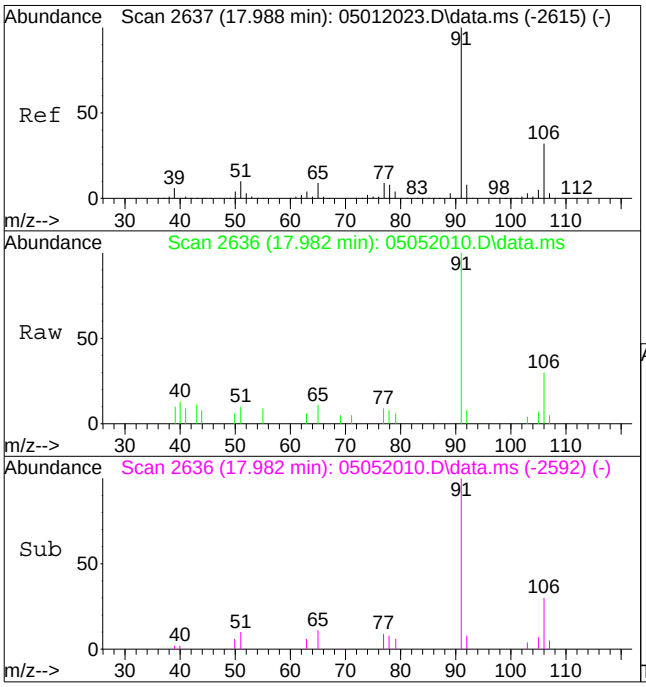


#64
Tetrachloroethene
Concen: 1.04 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05052010.D
Acq: 5 May 2020 8:16

Tgt Ion:166 Resp: 33669

Ion	Ratio	Lower	Upper
166	100		
164	77.5	58.4	98.4

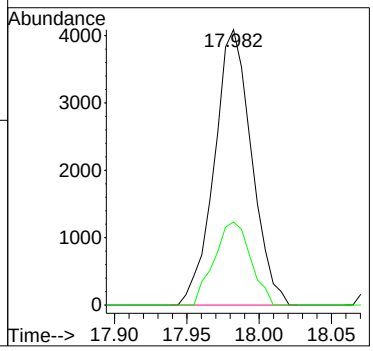


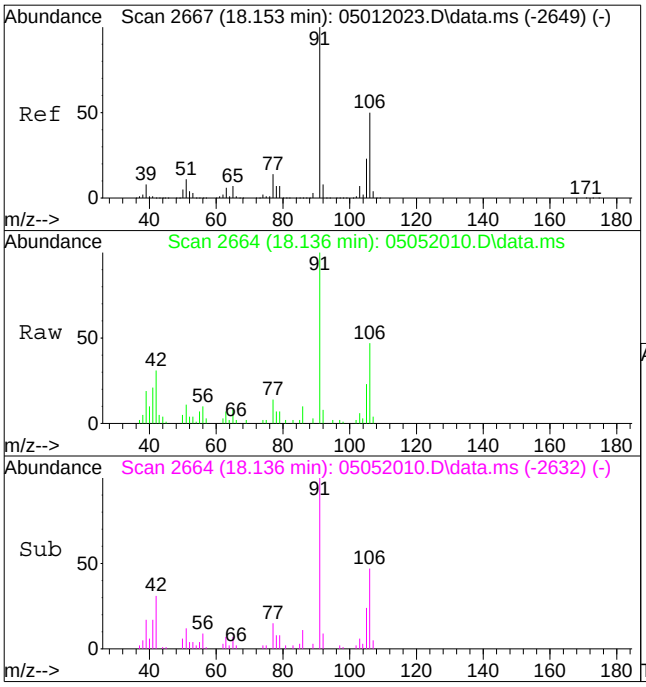


#66
Ethylbenzene
Concen: 0.06 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05052010.D
Acq: 5 May 2020 8:16

Tgt Ion: 91 Resp: 7334

Ion	Ratio	Lower	Upper
91	100		
106	29.5	11.6	51.6

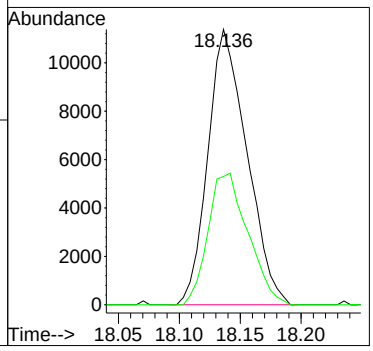


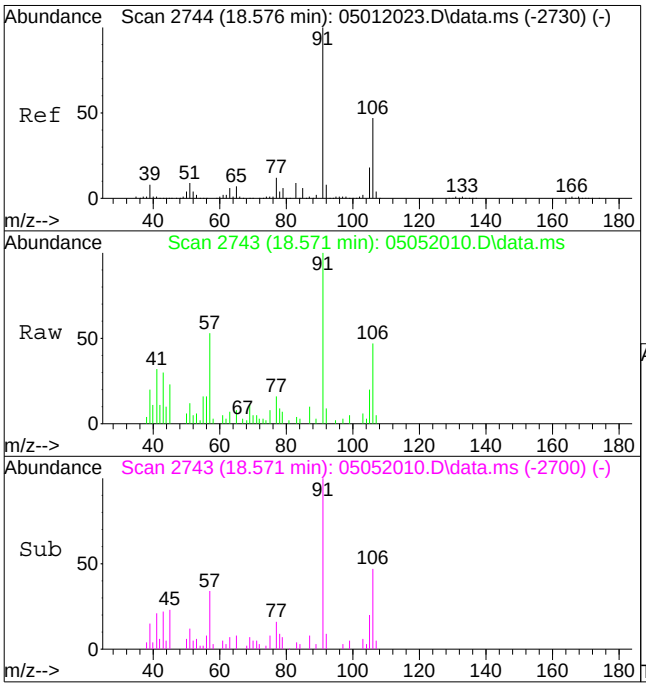


#67
m- & p-Xylenes
Concen: 0.25 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05052010.D
Acq: 5 May 2020 8:16

Tgt Ion: 91 Resp: 25371

Ion	Ratio	Lower	Upper
91	100		
106	48.8	29.7	69.7

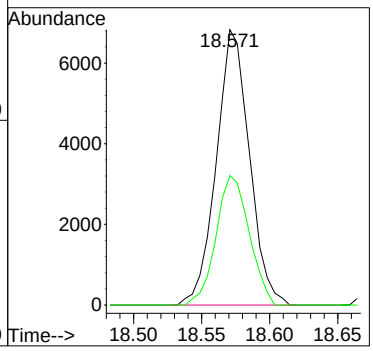


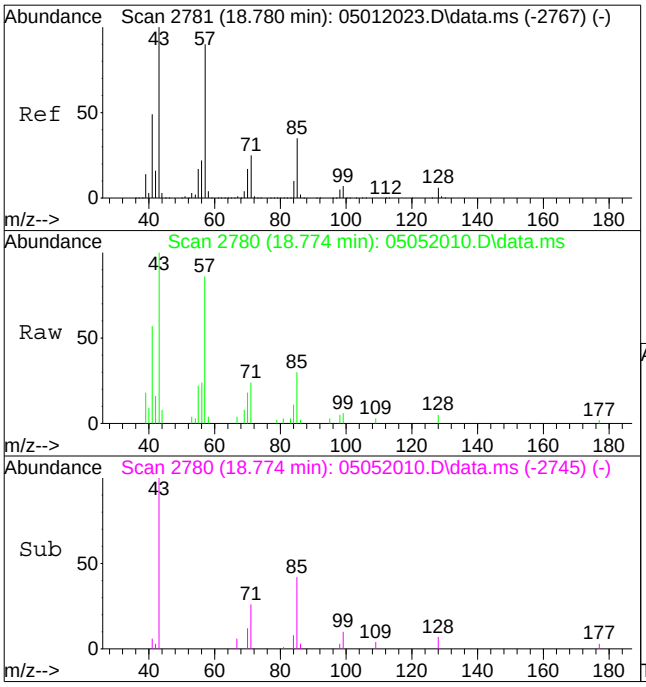


#70
o-Xylene
Concen: 0.11 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05052010.D
Acq: 5 May 2020 8:16

Tgt Ion: 91 Resp: 11547

Ion	Ratio	Lower	Upper
91	100		
106	47.0	27.5	67.5

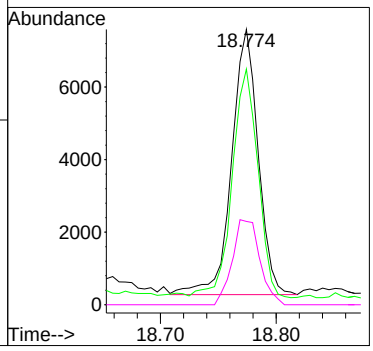


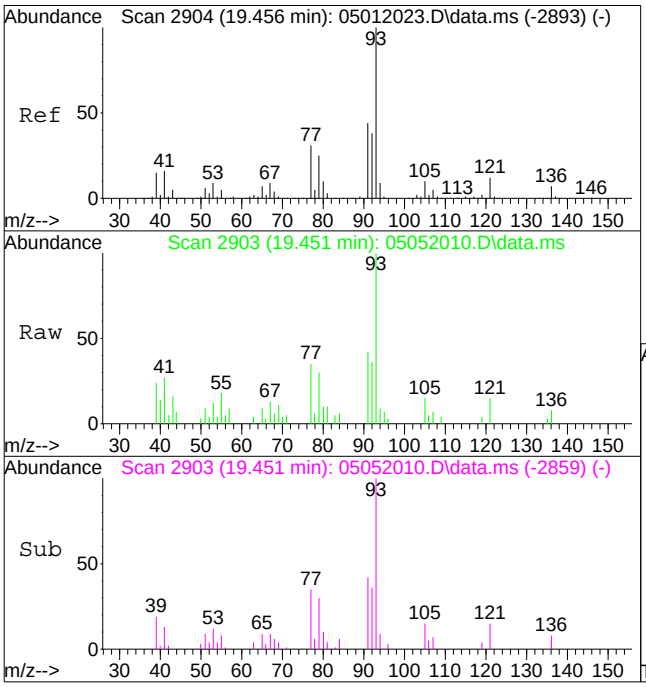


#71
n-Nonane
Concen: 0.21 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05052010.D
Acq: 5 May 2020 8:16

Tgt Ion: 43 Resp: 11701

Ion	Ratio	Lower	Upper
43	100		
57	83.7	69.0	109.0
85	33.1	14.6	54.6

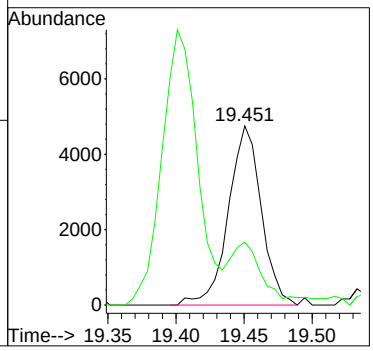


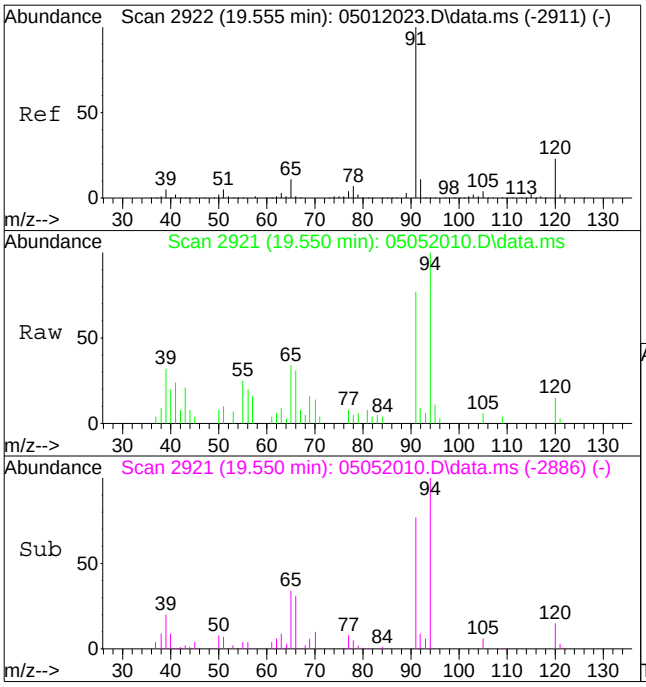


#75
alpha-Pinene
Concen: 0.12 ng
RT: 19.45 min Scan# 2903
Delta R.T. -0.006 min
Lab File: 05052010.D
Acq: 5 May 2020 8:16

Tgt Ion: 93 Resp: 7986

Ion	Ratio	Lower	Upper
93	100		
77	36.4	11.2	51.2

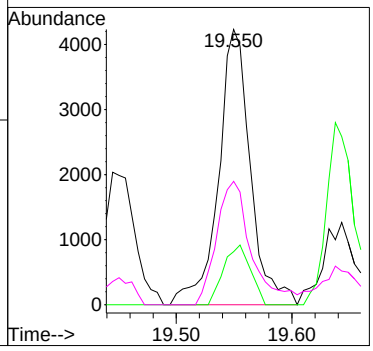


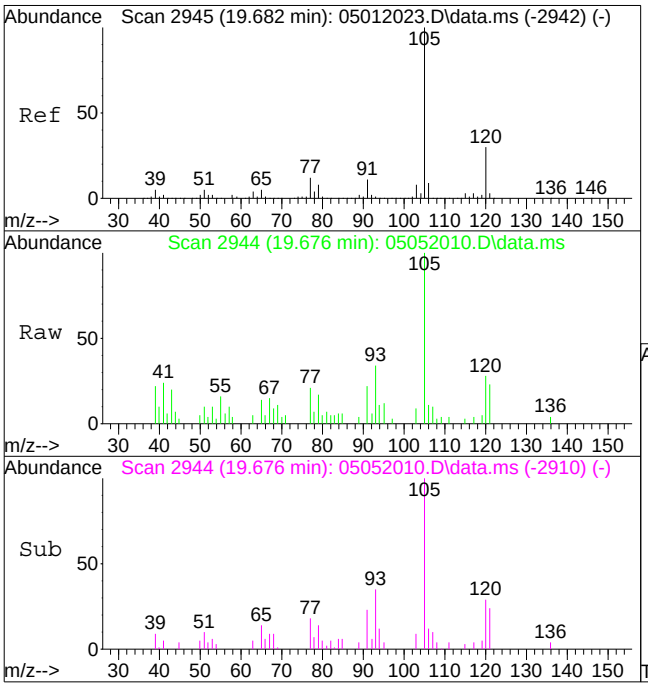


#76
n-Propylbenzene
Concen: 0.05 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05052010.D
Acq: 5 May 2020 8:16

Tgt Ion: 91 Resp: 8107

Ion	Ratio	Lower	Upper
91	100		
120	18.3	3.1	43.1
65	49.1	0.0	30.9#

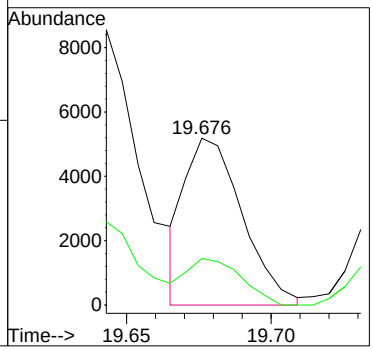


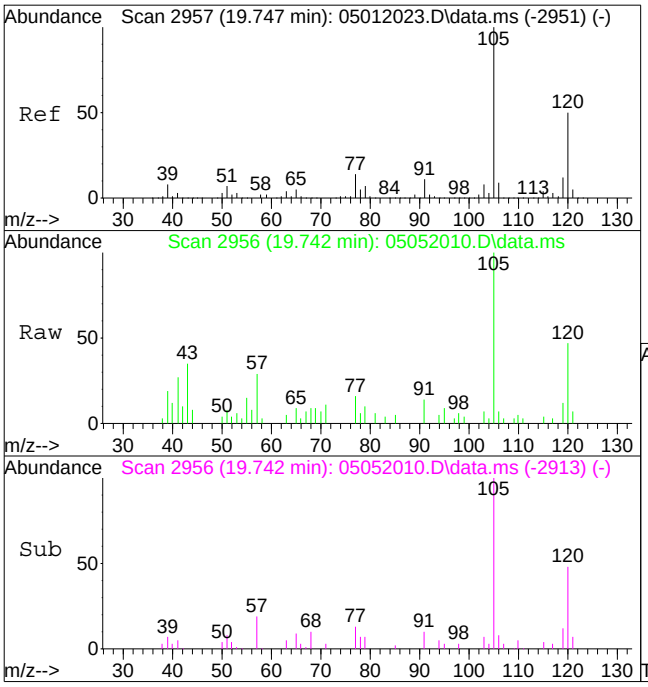


#78
4-Ethyltoluene
Concen: 0.06 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05052010.D
Acq: 5 May 2020 8:16

Tgt Ion:105 Resp: 7180

Ion	Ratio	Lower	Upper
105	100		
120	26.8	10.4	50.4

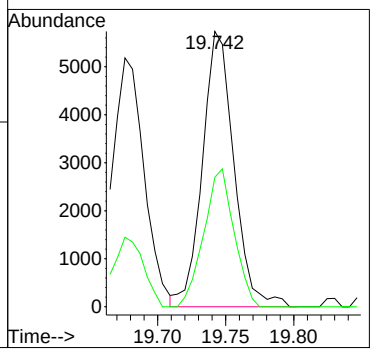


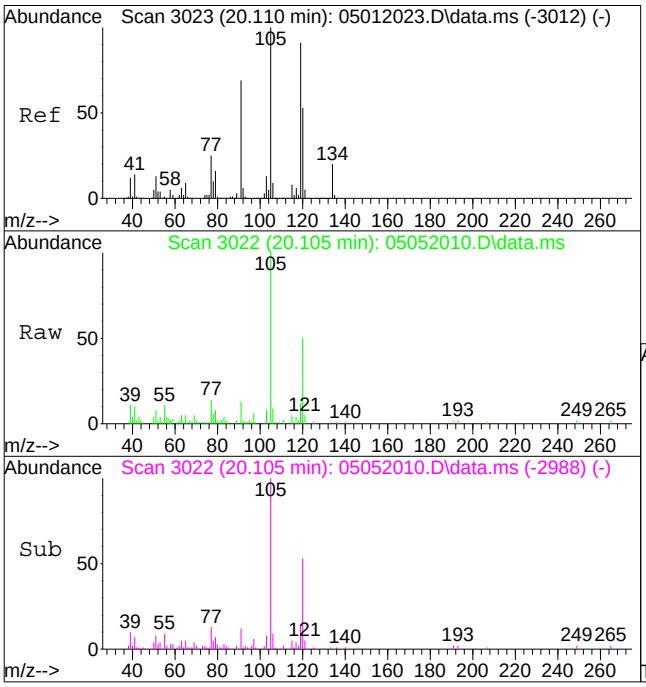


#79
1,3,5-Trimethylbenzene
Concen: 0.09 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05052010.D
Acq: 5 May 2020 8:16

Tgt Ion:105 Resp: 9218

Ion	Ratio	Lower	Upper
105	100		
120	47.9	29.9	69.9

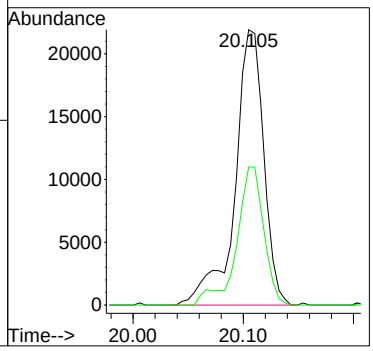


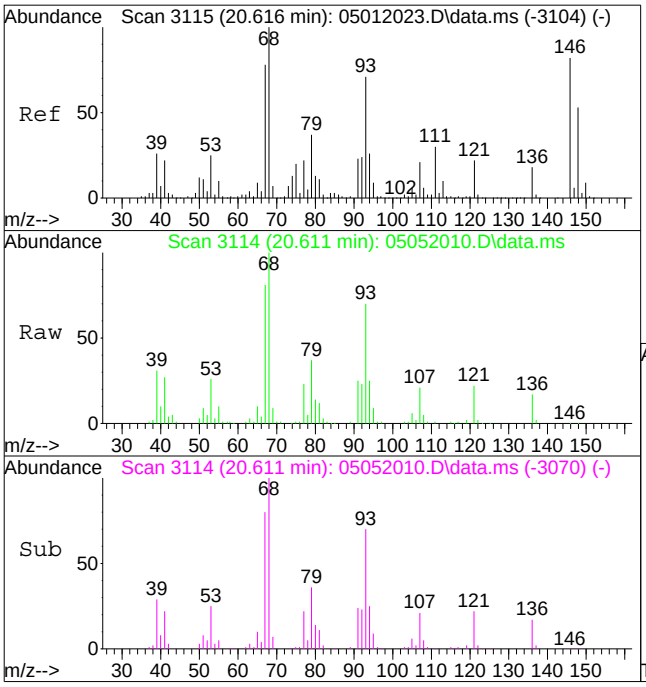


#82
1,2,4-Trimethylbenzene
Concen: 0.38 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05052010.D
Acq: 5 May 2020 8:16

Tgt Ion:105 Resp: 39731

Ion	Ratio	Lower	Upper
105	100		
120	47.4	33.6	73.6

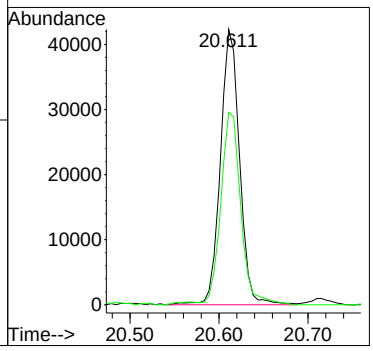


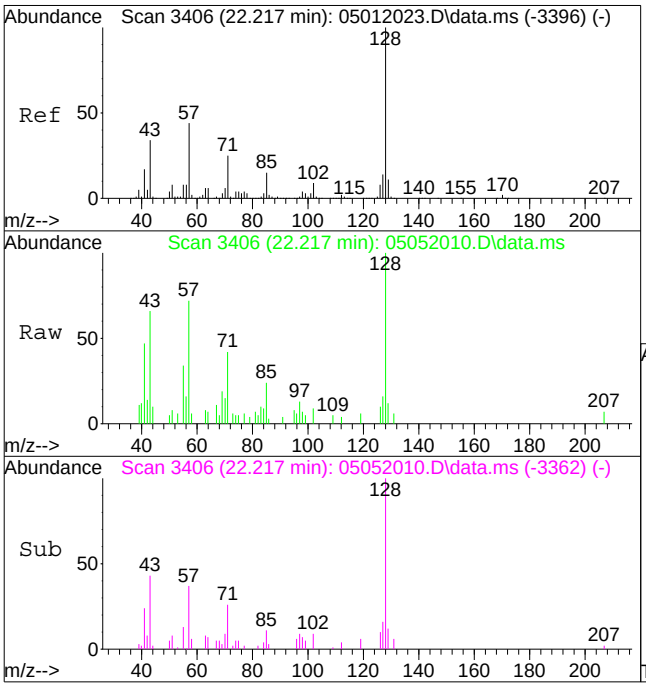


#91
d-Limonene
Concen: 1.55 ng
RT: 20.61 min Scan# 3114
Delta R.T. -0.006 min
Lab File: 05052010.D
Acq: 5 May 2020 8:16

Tgt Ion: 68 Resp: 63312

Ion	Ratio	Lower	Upper
68	100		
93	72.7	51.1	91.1

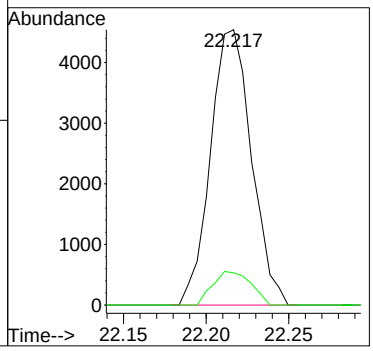




#95
Naphthalene
Concen: 0.06 ng
RT: 22.22 min Scan# 3406
Delta R.T. -0.005 min
Lab File: 05052010.D
Acq: 5 May 2020 8:16

Tgt Ion:128 Resp: 7828

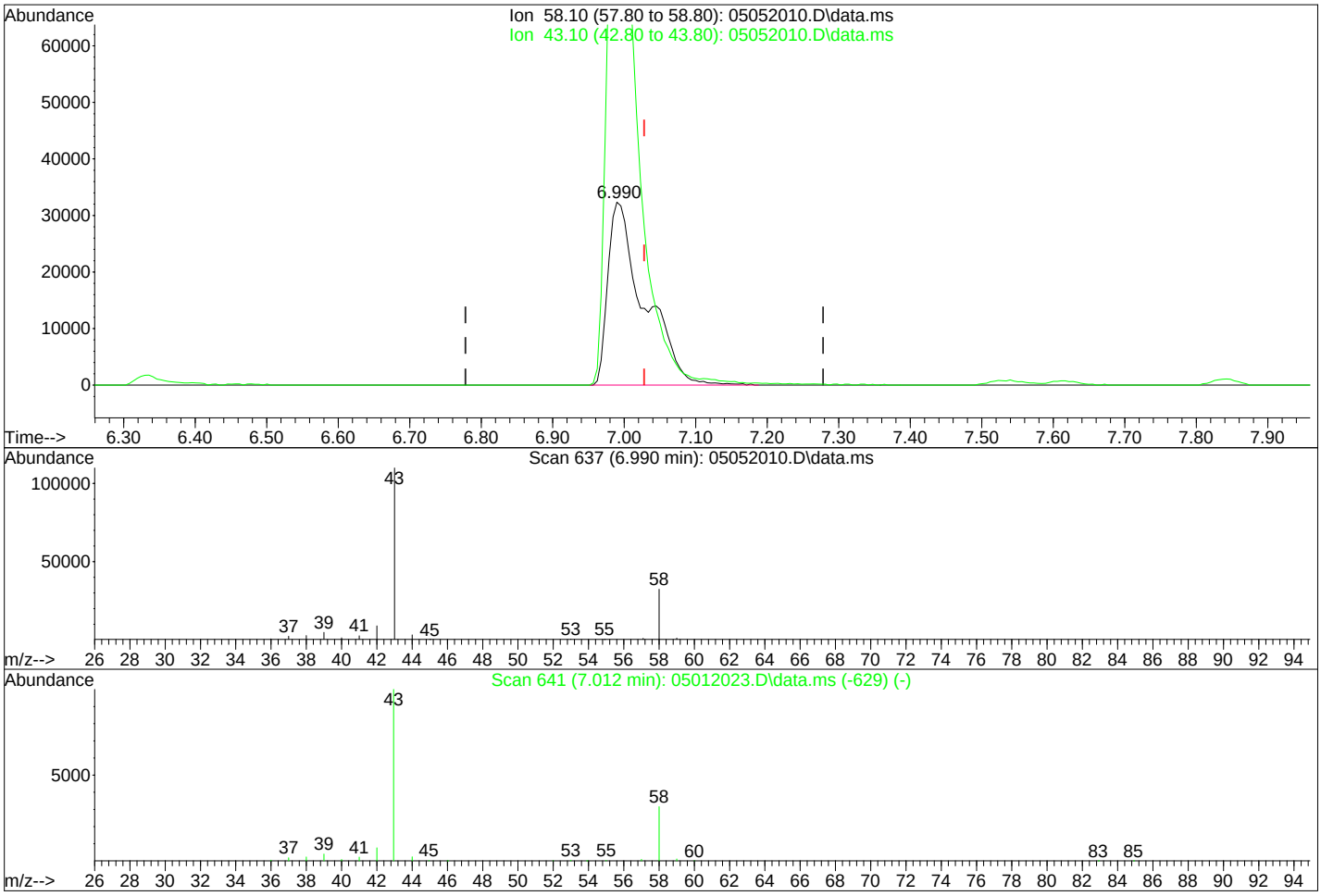
Ion	Ratio	Lower	Upper
128	100		
129	11.4	0.0	31.0



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\05\05052010.D Vial: 10
Acq On : 5 May 2020 8:16 Operator: TD
Sample : P2002107-003 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 05 11:23:33 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05052010.D\data.ms

(13) Acetone (T)

6.990min (-0.039) 4.98ng

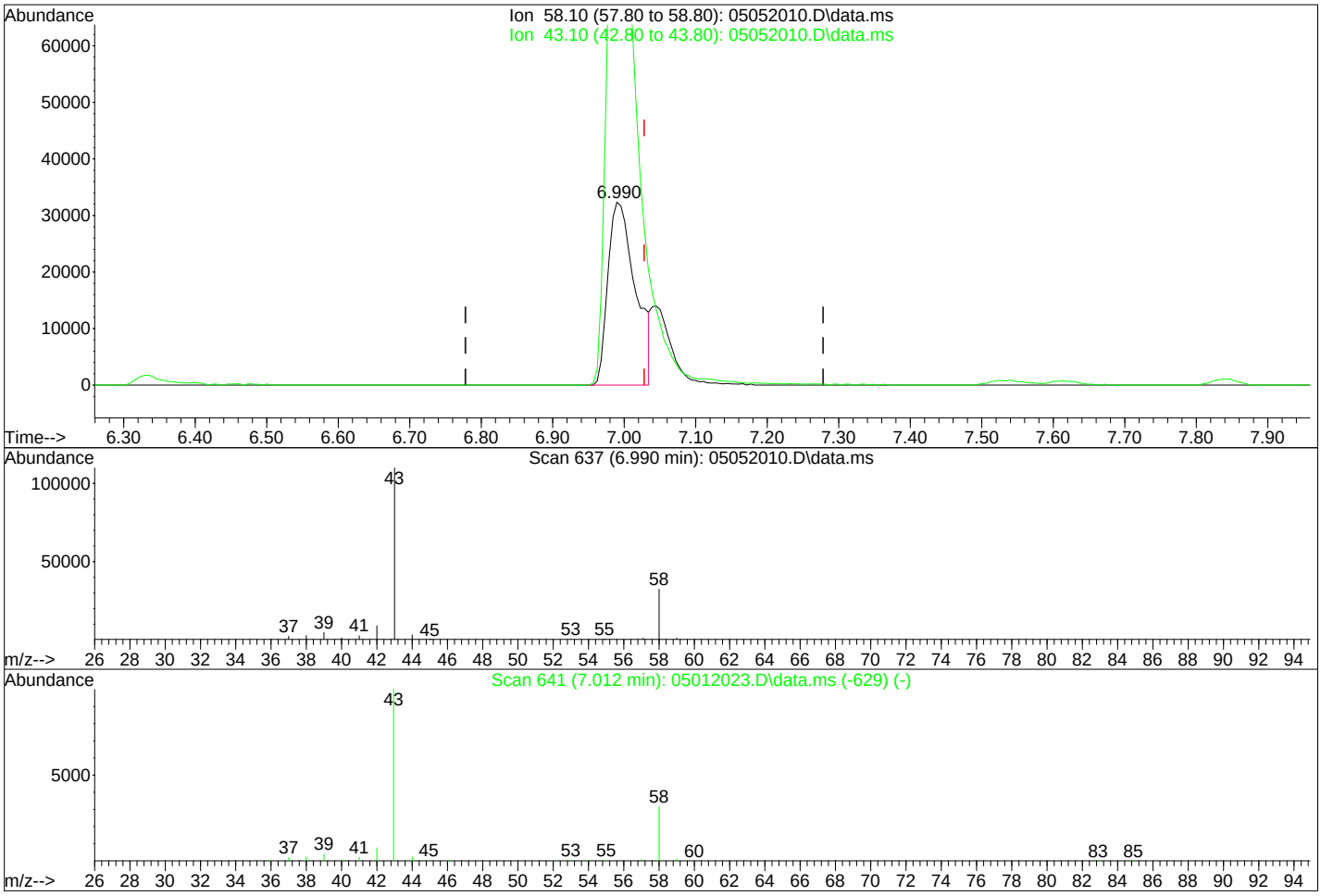
response 114015

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	262.35#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\05\05052010.D Vial: 10
Acq On : 5 May 2020 8:16 Operator: TD
Sample : P2002107-003 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 05 11:23:33 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05052010.D\data.ms

(13) Acetone (T)

6.990min (-0.039) 3.77ng m

response 86228

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	346.89
0.00	0.00	0.00
0.00	0.00	0.00

IPC

LH 5/6/20

5/12/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052011.D Vial: 11
Acq On : 5 May 2020 8:50 Operator: TD
Sample : P2002107-004 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 20:54:53 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/6/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	260003	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1137104	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	534695	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	430329	12.213	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.68%				
57) Toluene-d8 (SS2)	15.72	98	1136448	12.539	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.32%				
73) Bromofluorobenzene (SS3)	18.98	174	405927	12.448	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.60%				
Target Compounds							Qvalue
2) Propene	4.12	42	6372	0.212	ng		99
3) Dichlorodifluoromethan...	4.28	85	47320	0.803	ng		99
4) Chloromethane	4.55	50	4318	0.094	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	332	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.23	54	545	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.98	64	706	N.D.			
10) Ethanol	6.33	45	31937	1.373	ng		99
11) Acetonitrile	6.60	41	2534	N.D.			
12) Acrolein	6.79	56	5907	0.322	ng		99
13) Acetone	7.00	58	57050m	2.453	ng		
14) Trichlorofluoromethane	7.25	101	23633	0.454	ng		100
15) 2-Propanol (Isopropanol)	7.53	45	8800	0.125	ng		68
16) Acrylonitrile	7.75	53	414	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.44	59	2633	N.D.			
19) Methylene Chloride	8.41	84	1020	N.D.			
20) 3-Chloro-1-propene (Al...	8.51	41	253	N.D.			
21) Trichlorotrifluoroethane	8.85	151	2739	0.111	ng		93
22) Carbon Disulfide	8.68	76	48993	0.452	ng		100
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.09	73	315	N.D.			
26) Vinyl Acetate	10.17	86	5344	0.738	ng	#	26
27) 2-Butanone (MEK)	10.47	72	11932	0.602	ng		99
28) cis-1,2-Dichloroethene	10.95	61	4668	0.115	ng		95
29) Diisopropyl Ether	11.30	87	1351	N.D.			
30) Ethyl Acetate	11.28	61	13317	1.165	ng		94
31) n-Hexane	11.26	57	1913	N.D.			
32) Chloroform	11.30	83	10237	0.198	ng		99
34) Tetrahydrofuran (THF)	11.72	72	34156	1.766	ng		99
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	11.99	62	120	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D. d			
41) Benzene	12.87	78	17536	0.144	ng		97
42) Carbon Tetrachloride	13.03	117	7226	0.174	ng		100
43) Cyclohexane	13.17	84	1971	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D. d			
46) Bromodichloromethane	13.91	83	1389	N.D.			
47) Trichloroethene	13.97	130	15361	0.487	ng		97
48) 1,4-Dioxane	13.96	88	841	N.D.			
49) 2,2,4-Trimethylpentane...	14.05	57	2297	N.D.			
50) Methyl Methacrylate	14.31	100	298	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052011.D Vial: 11
Acq On : 5 May 2020 8:50 Operator: TD
Sample : P2002107-004 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 20:54:53 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

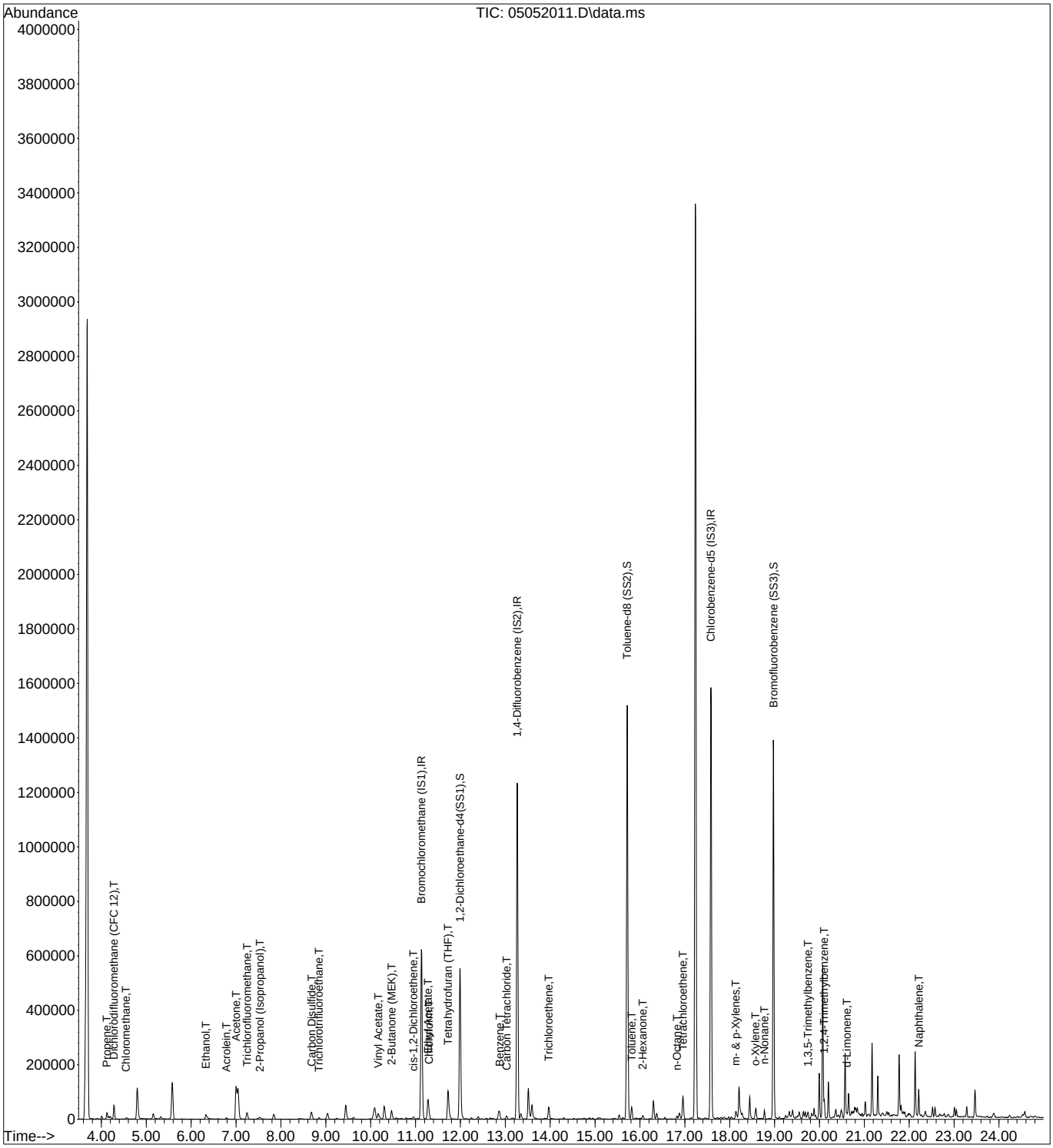
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.30	71	1224	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.88	58	1027	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.82	91	35041	0.300 ng	99
59) 2-Hexanone	16.06	43	11011	0.172 ng	93
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.70	43	1998	N.D.	
63) n-Octane	16.83	57	1746	0.072 ng	98
64) Tetrachloroethene	16.96	166	27636	0.838 ng	99
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	17.98	91	5743	N.D.	
67) m- & p-Xylenes	18.14	91	18988	0.184 ng	99
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	1407	N.D.	
70) o-Xylene	18.57	91	6953	0.066 ng	93
71) n-Nonane	18.77	43	10835	0.195 ng	99
72) 1,1,2,2-Tetrachloroethane	18.58	83	898	N.D.	
74) Cumene	19.10	105	2129	N.D.	
75) alpha-Pinene	19.45	93	939	N.D.	
76) n-Propylbenzene	19.55	91	7293	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.68	105	6021	N.D.	
79) 1,3,5-Trimethylbenzene	19.74	105	7465	0.071 ng	100
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	19.91	105	4522	N.D.	
82) 1,2,4-Trimethylbenzene	20.10	105	33407	0.317 ng	92
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.22	91	1050	N.D.	
85) 1,3-Dichlorobenzene	20.24	146	326	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	941	N.D.	
87) sec-Butylbenzene	20.35	105	1937	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	4277	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	20.60	146	234	N.D.	
91) d-Limonene	20.61	68	4514	0.108 ng	89
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.11	180	532	N.D.	
95) Naphthalene	22.22	128	10204	0.079 ng	99
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.11	119	3604	N.D.	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052011.D Vial: 11
Acq On : 5 May 2020 8:50 Operator: TD
Sample : P2002107-004 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 20:54:53 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052011.D Vial: 11
Acq On : 5 May 2020 8:50 Operator: TD
Sample : P2002107-004 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 20:54:53 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/6/20

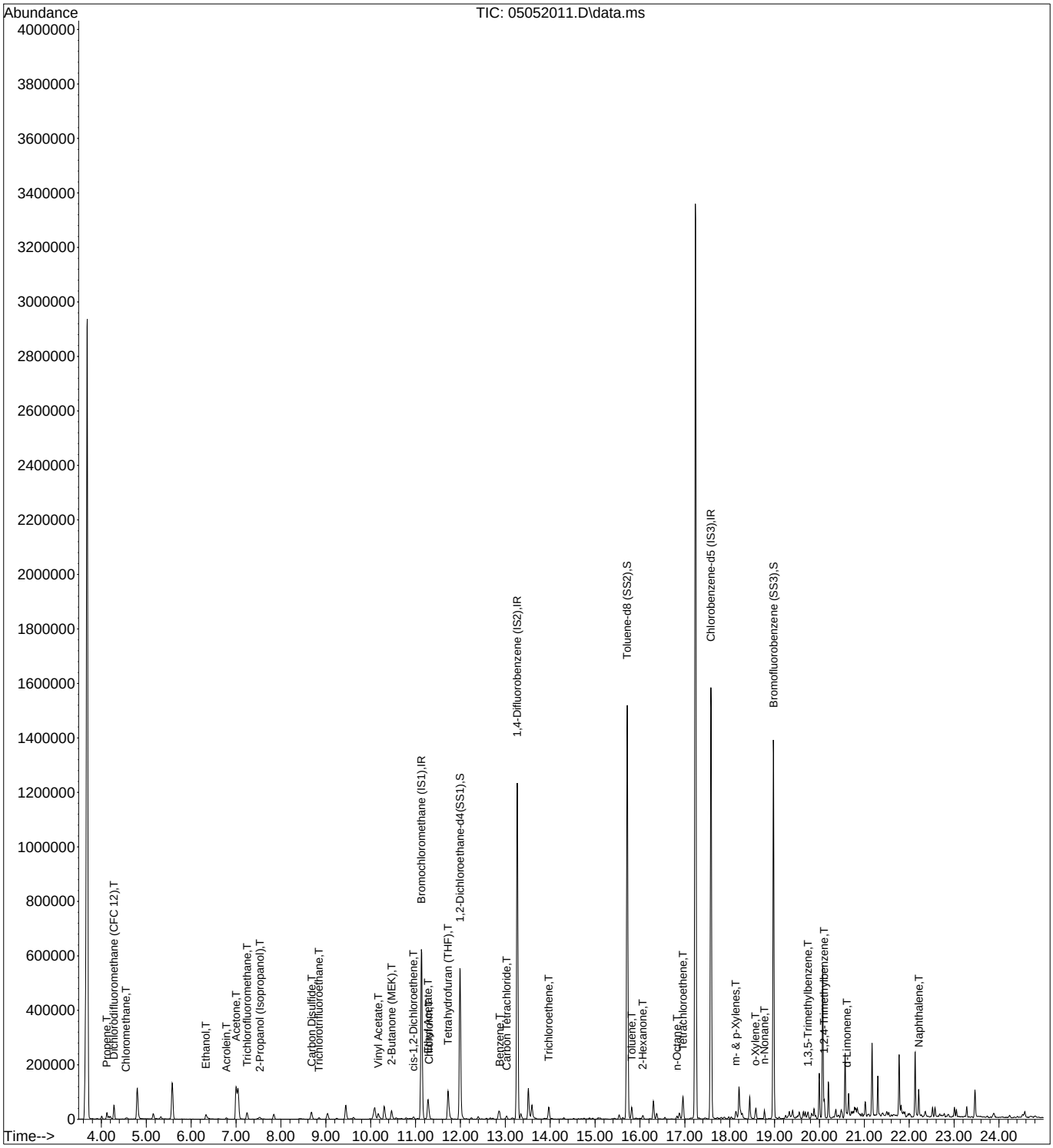
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	260003	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1137104	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	534695	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	430329	12.213	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.68%				
57) Toluene-d8 (SS2)	15.72	98	1136448	12.539	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.32%				
73) Bromofluorobenzene (SS3)	18.98	174	405927	12.448	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.60%				
Target Compounds							Qvalue
2) Propene	4.12	42	6372	0.212	ng		99
3) Dichlorodifluoromethan...	4.28	85	47320	0.803	ng		99
4) Chloromethane	4.55	50	4318	0.094	ng		99
10) Ethanol	6.33	45	31937	1.373	ng		99
12) Acrolein	6.79	56	5907	0.322	ng		99
13) Acetone	7.00	58	57050m	2.453	ng		
14) Trichlorofluoromethane	7.25	101	23633	0.454	ng		100
15) 2-Propanol (Isopropanol)	7.53	45	8800	0.125	ng		68
21) Trichlorotrifluoroethane	8.85	151	2739	0.111	ng		93
22) Carbon Disulfide	8.68	76	48993	0.452	ng		100
26) Vinyl Acetate	10.17	86	5344	0.738	ng	#	26
27) 2-Butanone (MEK)	10.47	72	11932	0.602	ng		99
28) cis-1,2-Dichloroethene	10.95	61	4668	0.115	ng		95
30) Ethyl Acetate	11.28	61	13317	1.165	ng		94
32) Chloroform	11.30	83	10237	0.198	ng		99
34) Tetrahydrofuran (THF)	11.72	72	34156	1.766	ng		99
41) Benzene	12.87	78	17536	0.144	ng		97
42) Carbon Tetrachloride	13.03	117	7226	0.174	ng		100
47) Trichloroethene	13.97	130	15361	0.487	ng		97
58) Toluene	15.82	91	35041	0.300	ng		99
59) 2-Hexanone	16.06	43	11011	0.172	ng		93
63) n-Octane	16.83	57	1746	0.072	ng		98
64) Tetrachloroethene	16.96	166	27636	0.838	ng		99
67) m- & p-Xylenes	18.14	91	18988	0.184	ng		99
70) o-Xylene	18.57	91	6953	0.066	ng		93
71) n-Nonane	18.77	43	10835	0.195	ng		99
79) 1,3,5-Trimethylbenzene	19.74	105	7465	0.071	ng		100
82) 1,2,4-Trimethylbenzene	20.10	105	33407	0.317	ng		92
91) d-Limonene	20.61	68	4514	0.108	ng		89
95) Naphthalene	22.22	128	10204	0.079	ng		99

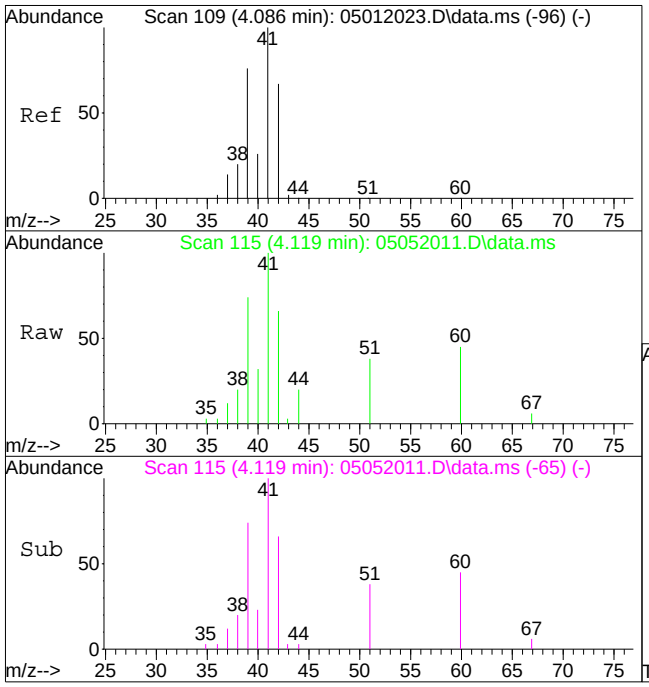
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052011.D Vial: 11
Acq On : 5 May 2020 8:50 Operator: TD
Sample : P2002107-004 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 20:54:53 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

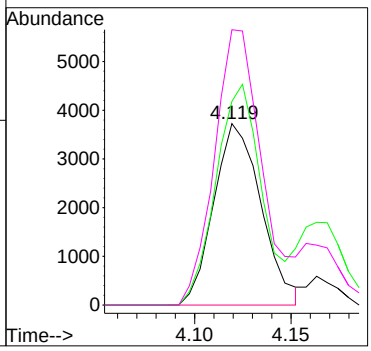


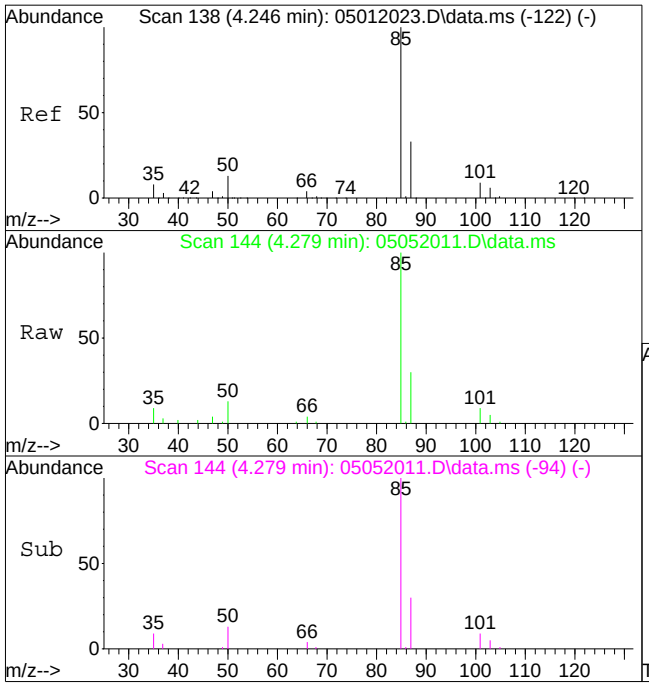


#2
Propene
Concen: 0.21 ng
RT: 4.12 min Scan# 115
Delta R.T. 0.027 min
Lab File: 05052011.D
Acq: 5 May 2020 8:50

Tgt Ion: 42 Resp: 6372

Ion	Ratio	Lower	Upper
42	100		
39	117.0	96.1	136.1
41	153.0	131.9	171.9

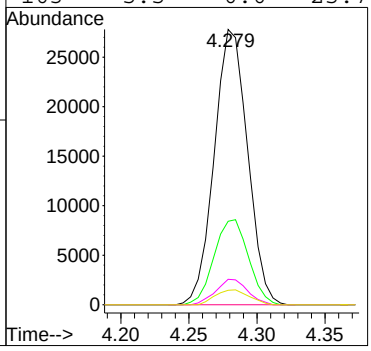


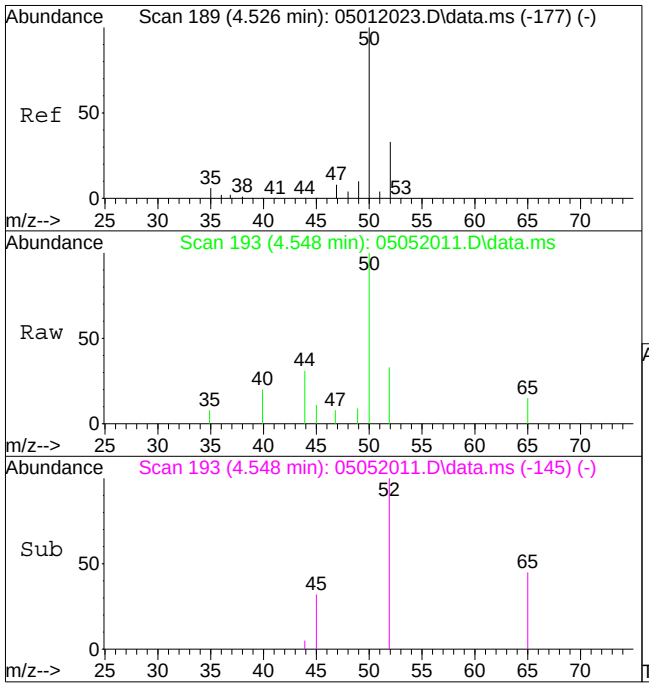


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.80 ng
RT: 4.28 min Scan# 144
Delta R.T. 0.027 min
Lab File: 05052011.D
Acq: 5 May 2020 8:50

Tgt Ion: 85 Resp: 47320

Ion	Ratio	Lower	Upper
85	100		
87	31.8	12.4	52.4
101	8.8	0.0	28.8
103	5.5	0.0	25.7

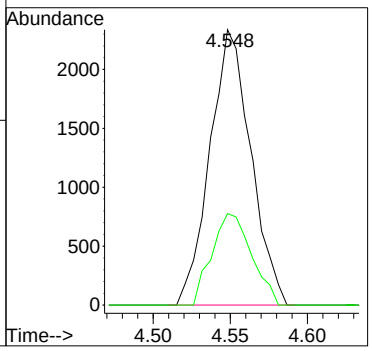


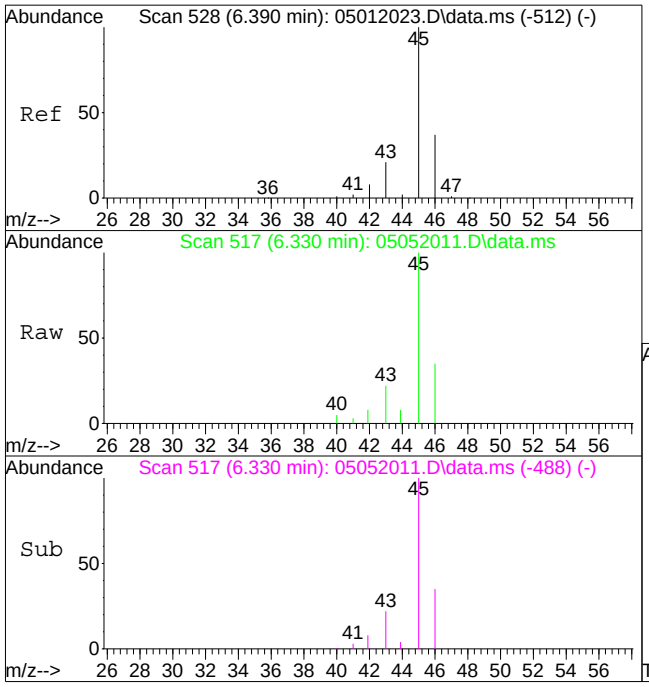


#4
Chloromethane
Concen: 0.09 ng
RT: 4.55 min Scan# 193
Delta R.T. 0.016 min
Lab File: 05052011.D
Acq: 5 May 2020 8:50

Tgt Ion: 50 Resp: 4318

Ion	Ratio	Lower	Upper
50	100		
52	32.2	12.5	52.5

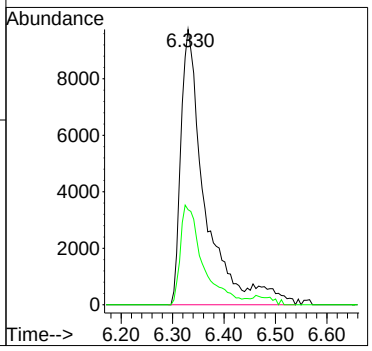


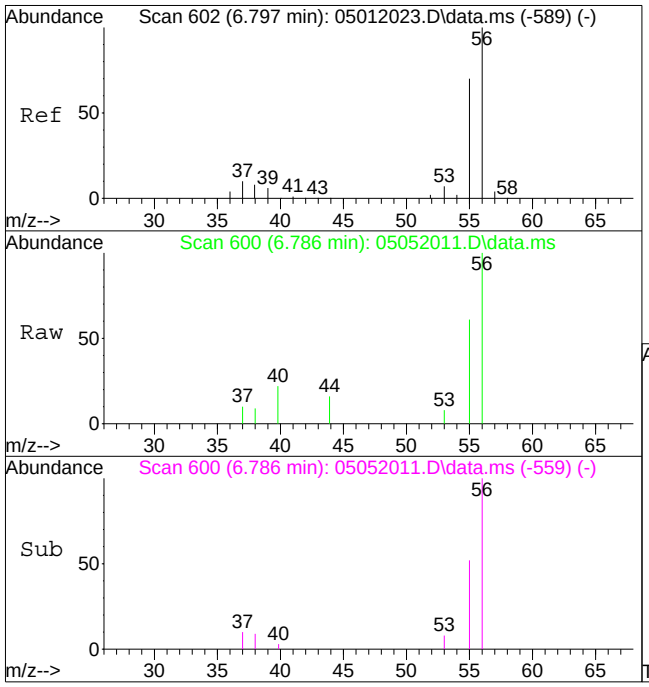


#10
Ethanol
Concen: 1.37 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.088 min
Lab File: 05052011.D
Acq: 5 May 2020 8:50

Tgt Ion: 45 Resp: 31937

Ion	Ratio	Lower	Upper
45	100		
46	36.6	17.2	57.2

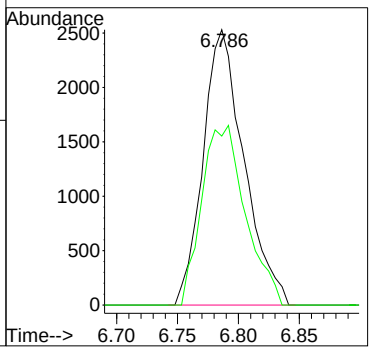


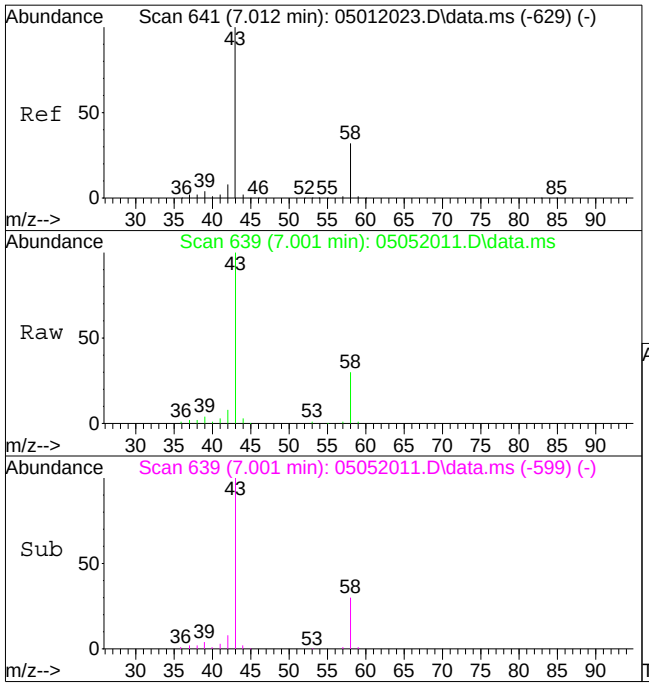


#12
Acrolein
Concen: 0.32 ng
RT: 6.79 min Scan# 600
Delta R.T. -0.022 min
Lab File: 05052011.D
Acq: 5 May 2020 8:50

Tgt Ion: 56 Resp: 5907

Ion	Ratio	Lower	Upper
56	100		
55	69.5	50.2	90.2

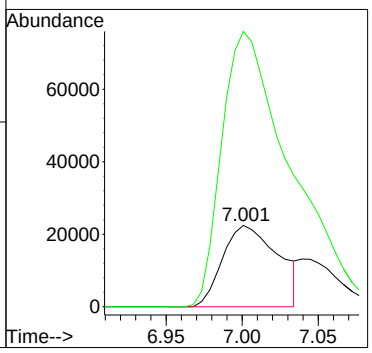


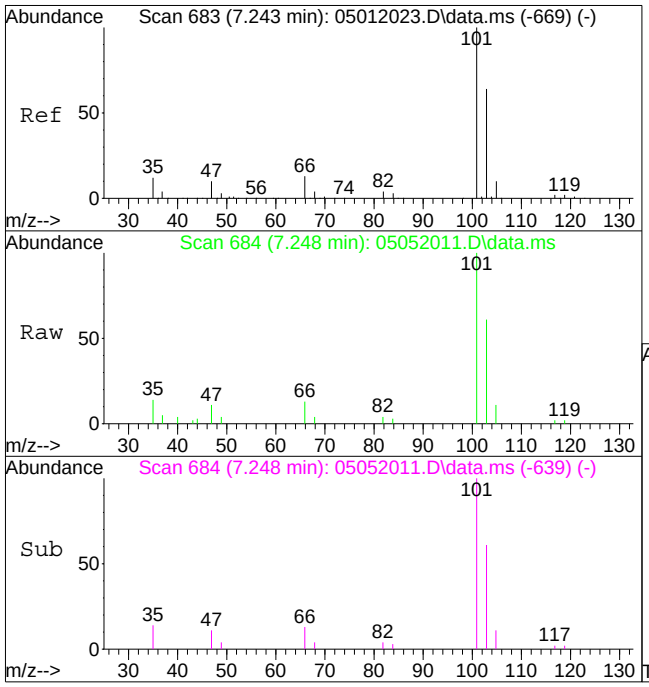


#13
Acetone
Concen: 2.45 ng m
RT: 7.00 min Scan# 639
Delta R.T. -0.028 min
Lab File: 05052011.D
Acq: 5 May 2020 8:50

Tgt Ion: 58 Resp: 57050

Ion	Ratio	Lower	Upper
58	100		
43	429.9	294.4	354.4#

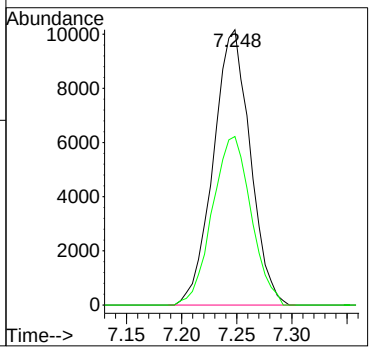


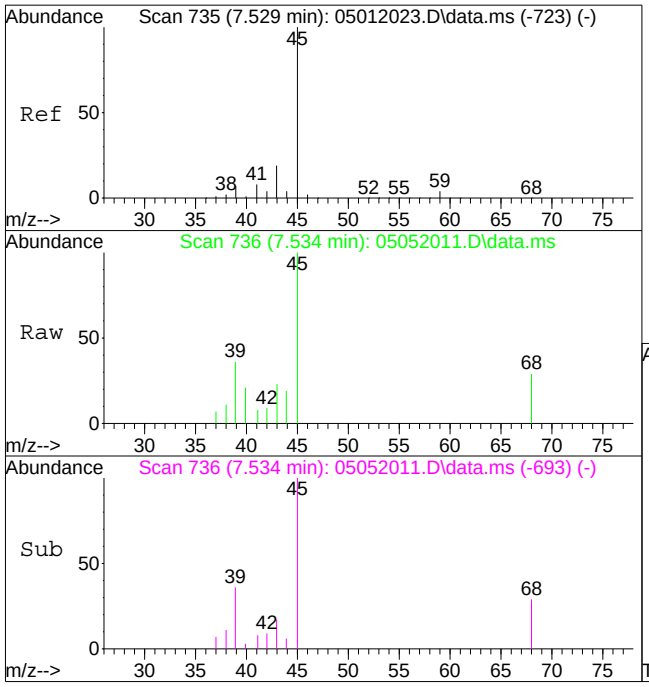


#14
Trichlorofluoromethane
Concen: 0.45 ng
RT: 7.25 min Scan# 684
Delta R.T. -0.000 min
Lab File: 05052011.D
Acq: 5 May 2020 8:50

Tgt Ion:101 Resp: 23633

Ion	Ratio	Lower	Upper
101	100		
103	64.4	44.4	84.4

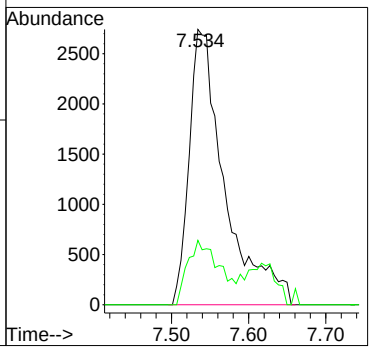


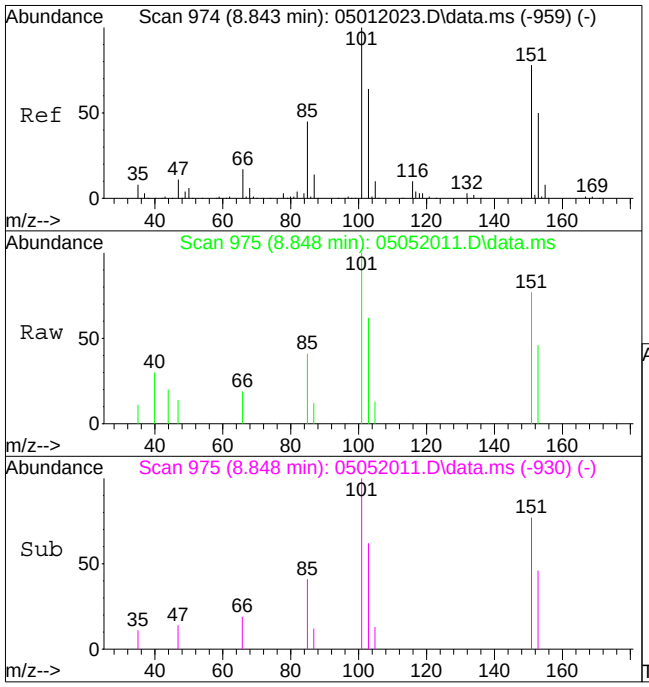


#15
2-Propanol (Isopropanol)
Concen: 0.13 ng
RT: 7.53 min Scan# 736
Delta R.T. -0.011 min
Lab File: 05052011.D
Acq: 5 May 2020 8:50

Tgt Ion: 45 Resp: 8800

Ion	Ratio	Lower	Upper
45	100		
43	34.1	0.0	39.5

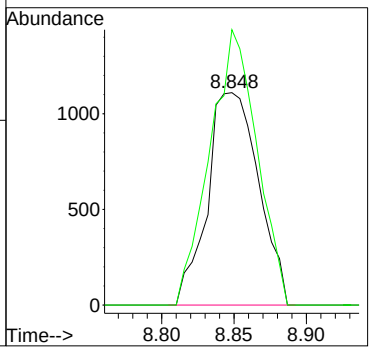


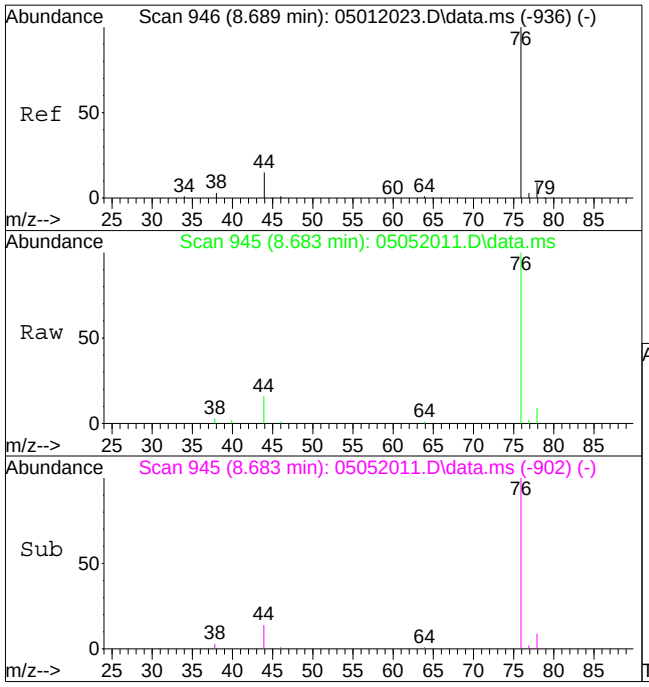


#21
Trichlorotrifluoroethane
Concen: 0.11 ng
RT: 8.85 min Scan# 975
Delta R.T. -0.000 min
Lab File: 05052011.D
Acq: 5 May 2020 8:50

Tgt Ion:151 Resp: 2739

Ion	Ratio	Lower	Upper
151	100		
101	119.3	107.3	147.3

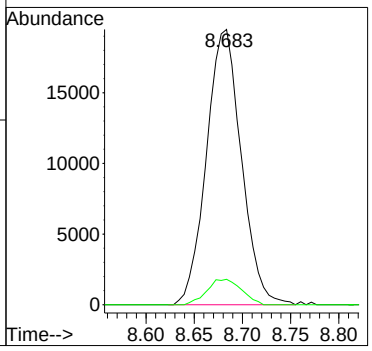


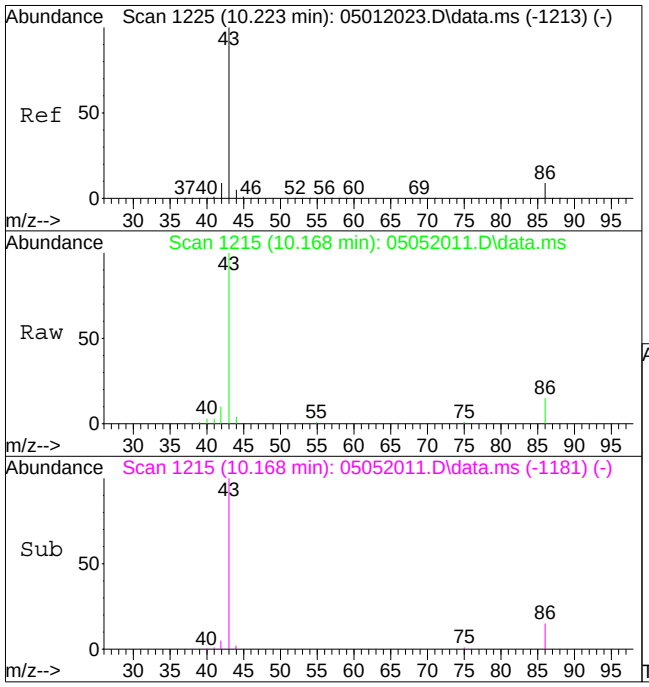


#22
Carbon Disulfide
Concen: 0.45 ng
RT: 8.68 min Scan# 945
Delta R.T. -0.011 min
Lab File: 05052011.D
Acq: 5 May 2020 8:50

Tgt Ion: 76 Resp: 48993

Ion	Ratio	Lower	Upper
76	100		
78	9.2	0.0	29.2

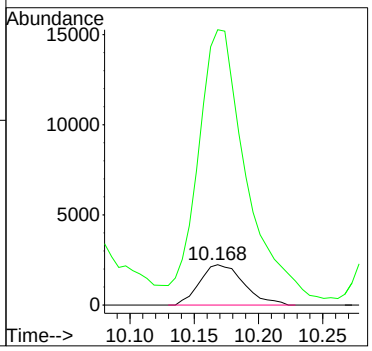


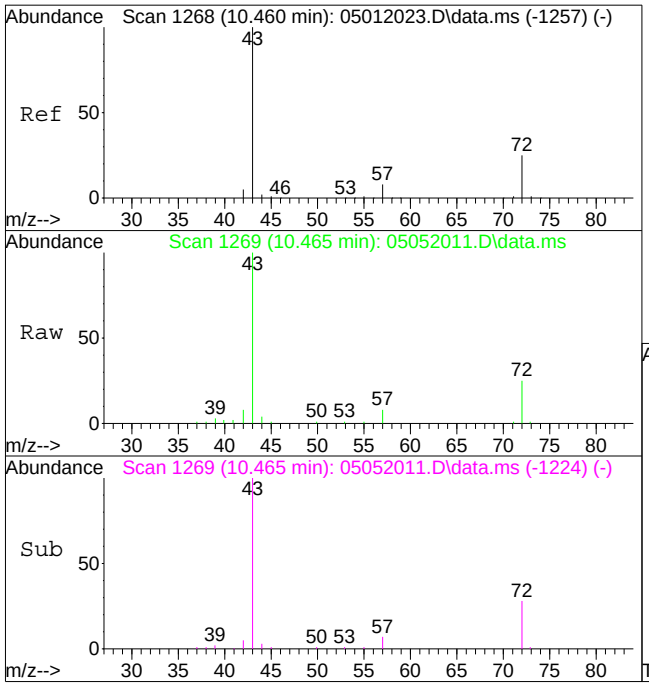


#26
Vinyl Acetate
Concen: 0.74 ng
RT: 10.17 min Scan# 1215
Delta R.T. -0.061 min
Lab File: 05052011.D
Acq: 5 May 2020 8:50

Tgt Ion: 86 Resp: 5344

Ion	Ratio	Lower	Upper
86	100		
43	764.8	1103.0	1143.0#

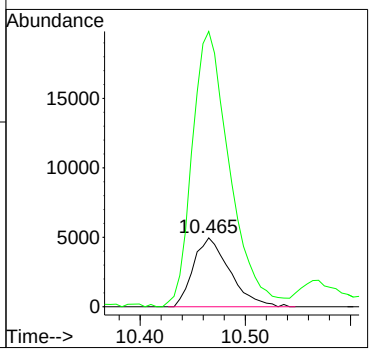


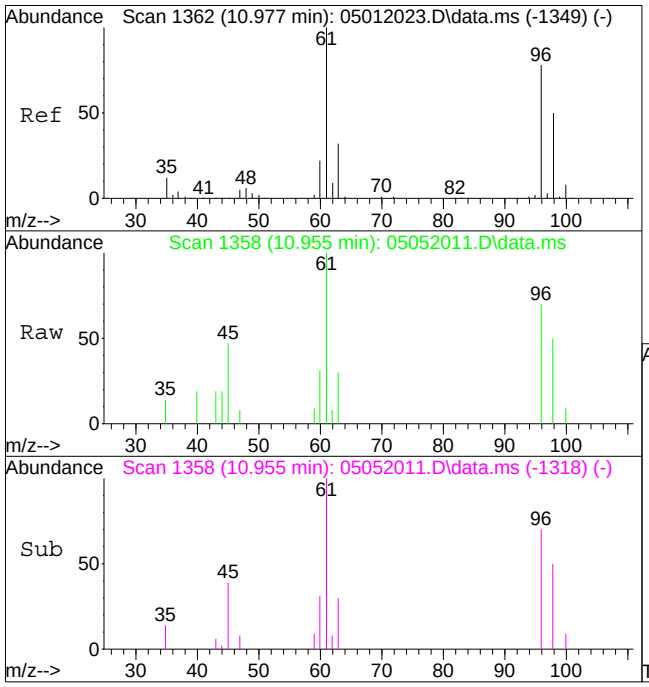


#27
2-Butanone (MEK)
Concen: 0.60 ng
RT: 10.47 min Scan# 1269
Delta R.T. -0.000 min
Lab File: 05052011.D
Acq: 5 May 2020 8:50

Tgt Ion: 72 Resp: 11932

Ion	Ratio	Lower	Upper
72	100		
43	412.2	389.7	429.7

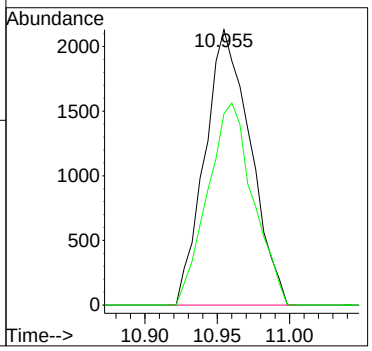


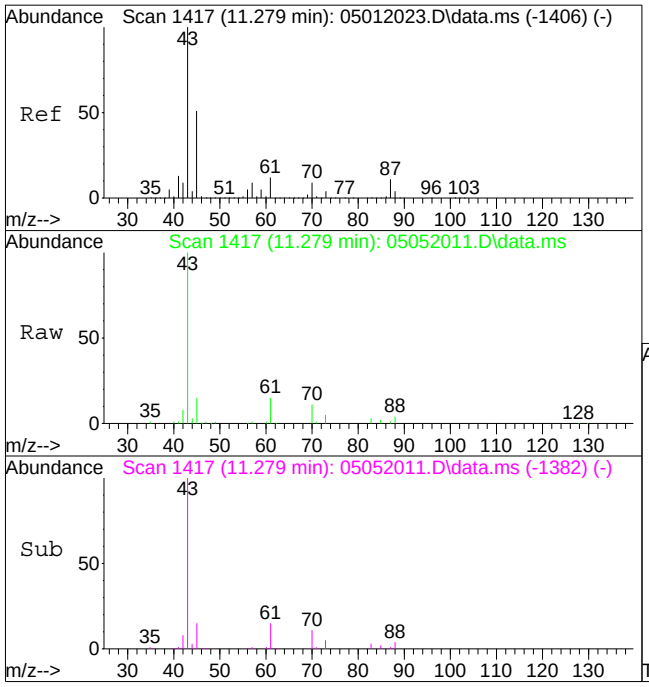


#28
cis-1,2-Dichloroethene
Concen: 0.11 ng
RT: 10.95 min Scan# 1358
Delta R.T. -0.027 min
Lab File: 05052011.D
Acq: 5 May 2020 8:50

Tgt Ion: 61 Resp: 4668

Ion	Ratio	Lower	Upper
61	100		
96	73.3	57.6	97.6

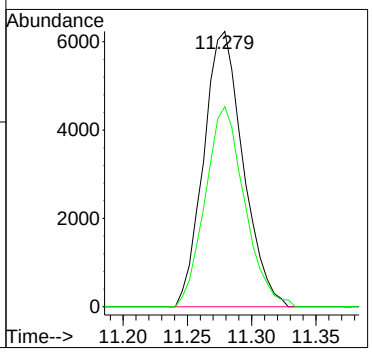


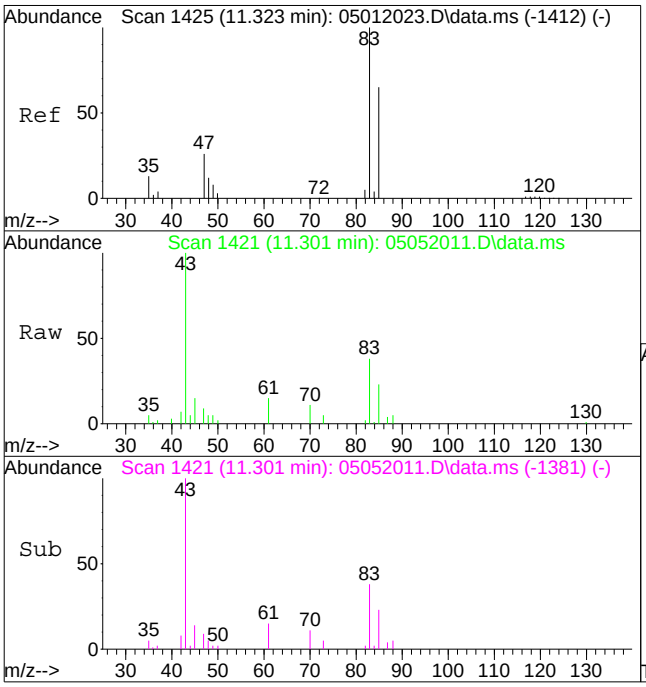


#30
Ethyl Acetate
Concen: 1.16 ng
RT: 11.28 min Scan# 1417
Delta R.T. -0.006 min
Lab File: 05052011.D
Acq: 5 May 2020 8:50

Tgt Ion: 61 Resp: 13317

Ion	Ratio	Lower	Upper
61	100		
70	72.3	57.9	97.9

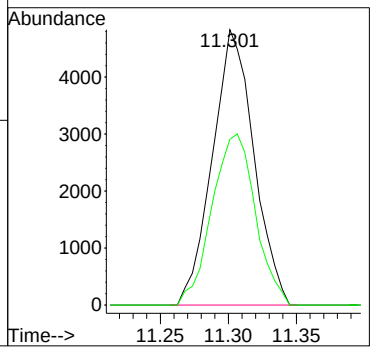


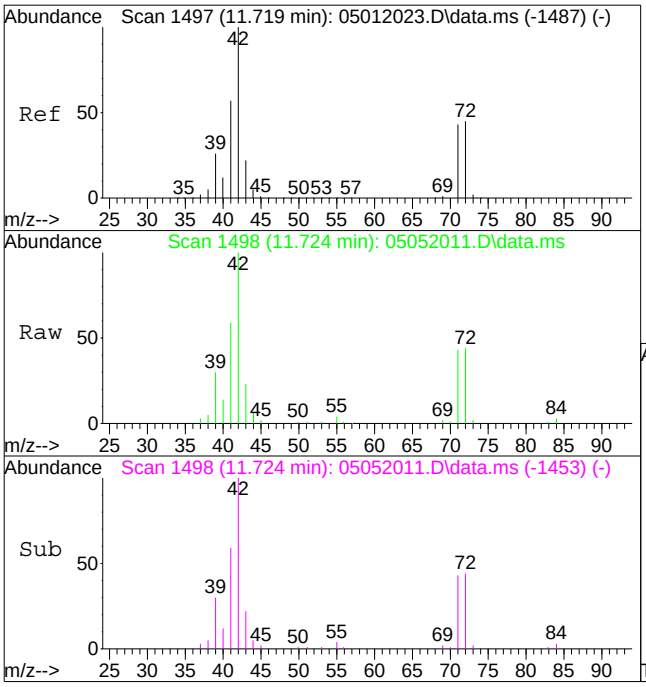


#32
Chloroform
Concen: 0.20 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.028 min
Lab File: 05052011.D
Acq: 5 May 2020 8:50

Tgt Ion: 83 Resp: 10237

Ion	Ratio	Lower	Upper
83	100		
85	64.9	45.5	85.5

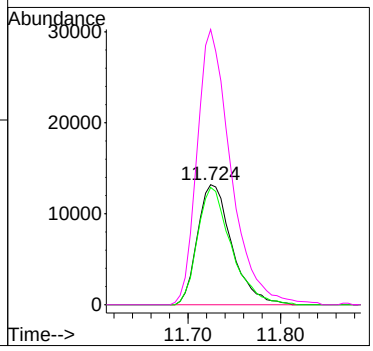


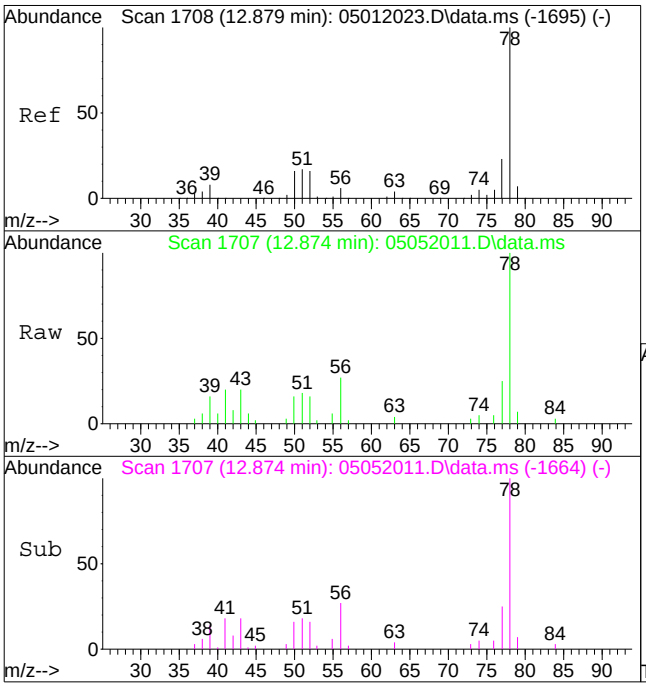


#34
Tetrahydrofuran (THF)
Concen: 1.77 ng
RT: 11.72 min Scan# 1498
Delta R.T. -0.000 min
Lab File: 05052011.D
Acq: 5 May 2020 8:50

Tgt Ion: 72 Resp: 34156

Ion	Ratio	Lower	Upper
72	100		
71	96.0	77.0	117.0
42	226.3	204.6	244.6

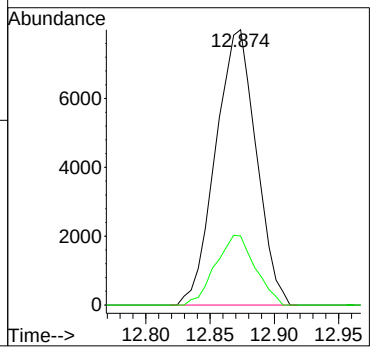


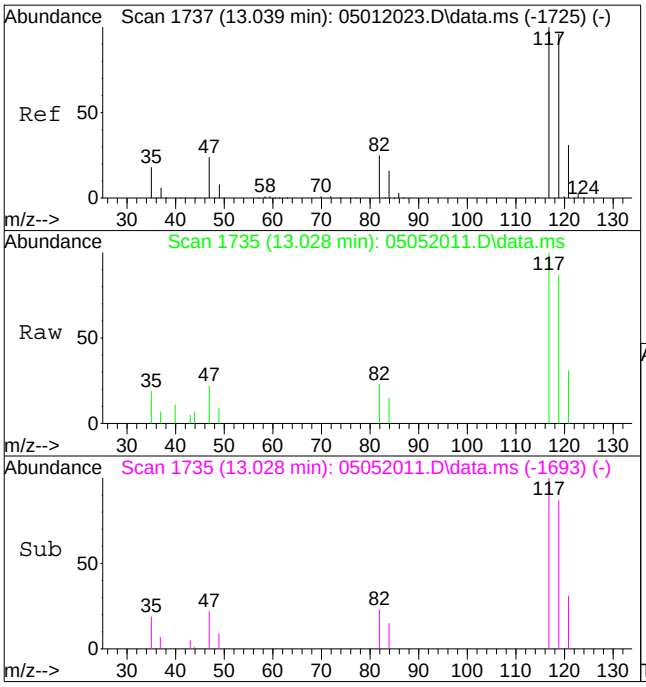


#41
Benzene
Concen: 0.14 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05052011.D
Acq: 5 May 2020 8:50

Tgt Ion: 78 Resp: 17536

Ion	Ratio	Lower	Upper
78	100		
77	24.8	3.4	43.4

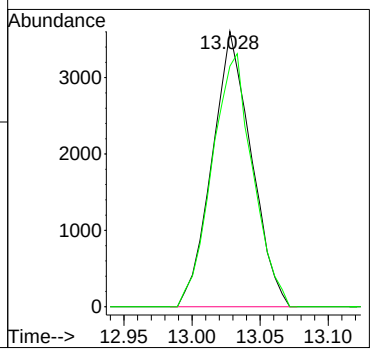


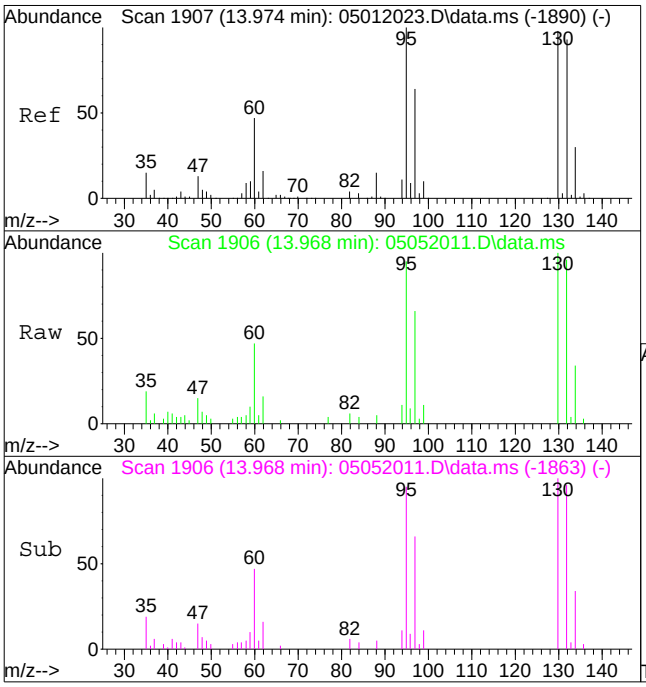


#42
Carbon Tetrachloride
Concen: 0.17 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05052011.D
Acq: 5 May 2020 8:50

Tgt Ion:117 Resp: 7226

Ion	Ratio	Lower	Upper
117	100		
119	95.8	76.2	116.2

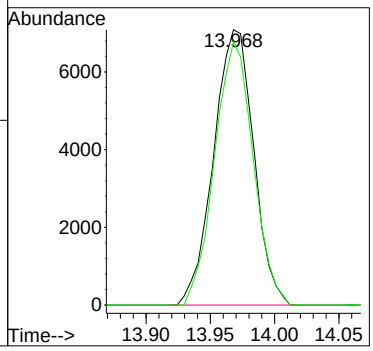


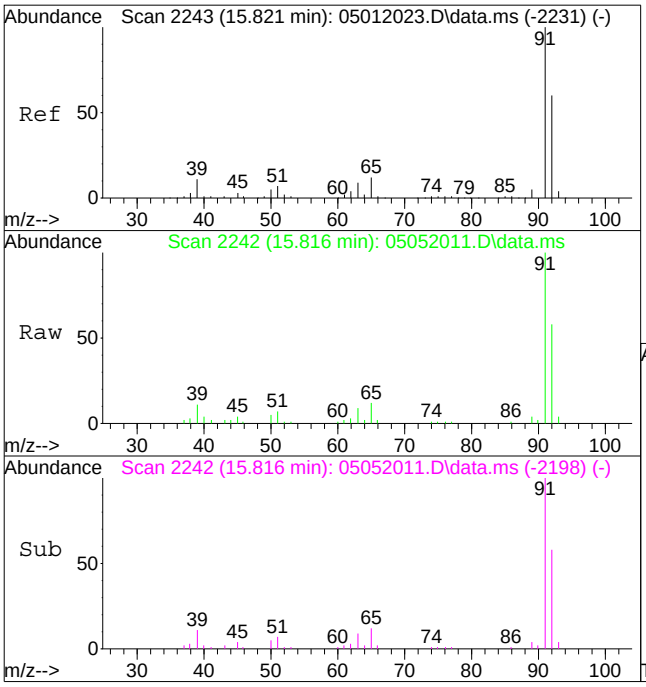


#47
Trichloroethene
Concen: 0.49 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05052011.D
Acq: 5 May 2020 8:50

Tgt Ion:130 Resp: 15361

Ion	Ratio	Lower	Upper
130	100		
132	92.3	74.9	114.9

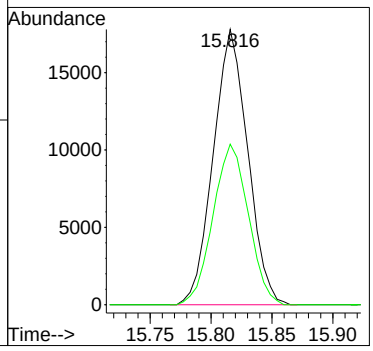


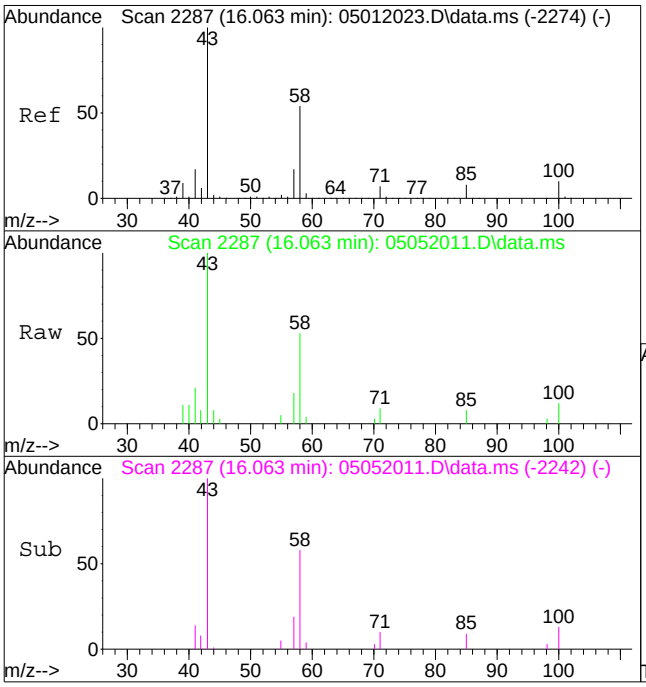


#58
Toluene
Concen: 0.30 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05052011.D
Acq: 5 May 2020 8:50

Tgt Ion: 91 Resp: 35041

Ion	Ratio	Lower	Upper
91	100		
92	59.8	39.4	79.4

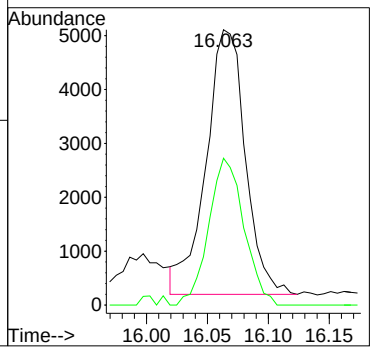


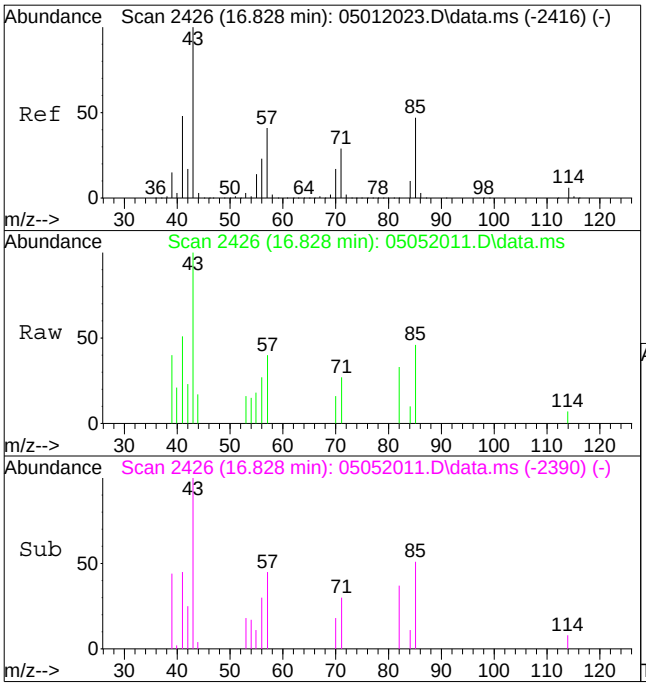


#59
2-Hexanone
Concen: 0.17 ng
RT: 16.06 min Scan# 2287
Delta R.T. -0.000 min
Lab File: 05052011.D
Acq: 5 May 2020 8:50

Tgt Ion: 43 Resp: 11011

Ion	Ratio	Lower	Upper
43	100		
58	49.7	34.5	74.5

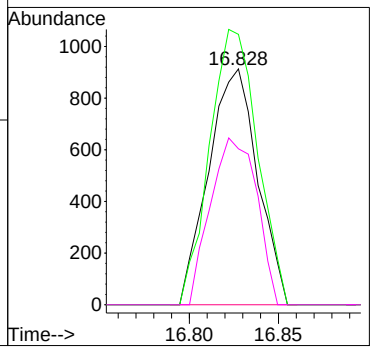


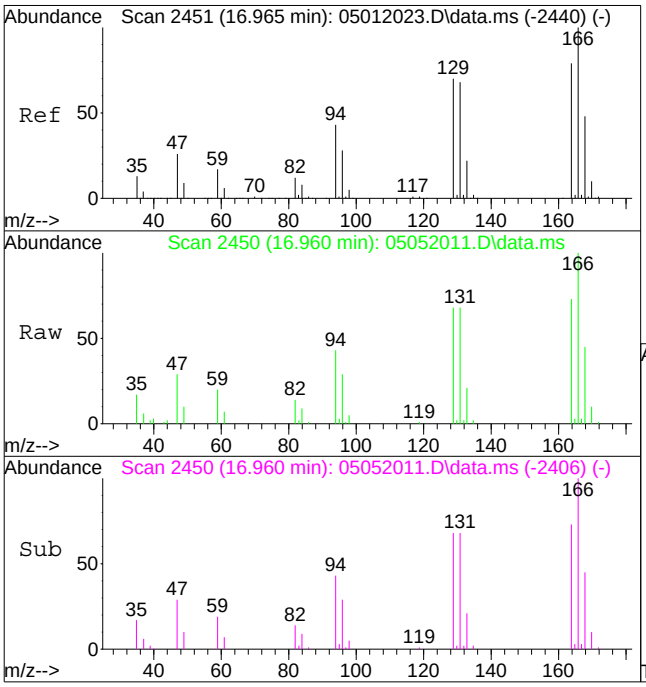


#63
n-Octane
Concen: 0.07 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05052011.D
Acq: 5 May 2020 8:50

Tgt Ion: 57 Resp: 1746

Ion	Ratio	Lower	Upper
57	100		
85	114.2	91.0	136.4
71	66.7	56.2	84.2

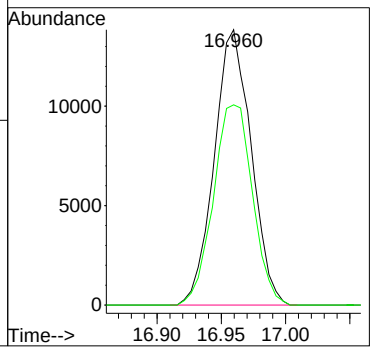


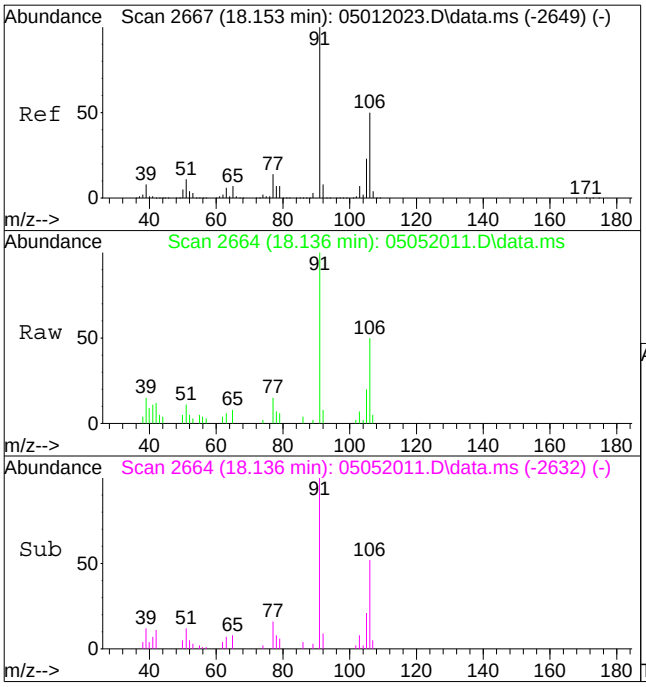


#64
Tetrachloroethene
Concen: 0.84 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05052011.D
Acq: 5 May 2020 8:50

Tgt Ion:166 Resp: 27636

Ion	Ratio	Lower	Upper
166	100		
164	77.1	58.4	98.4

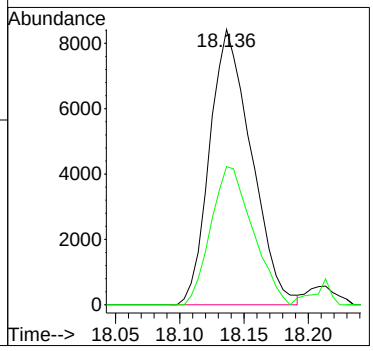


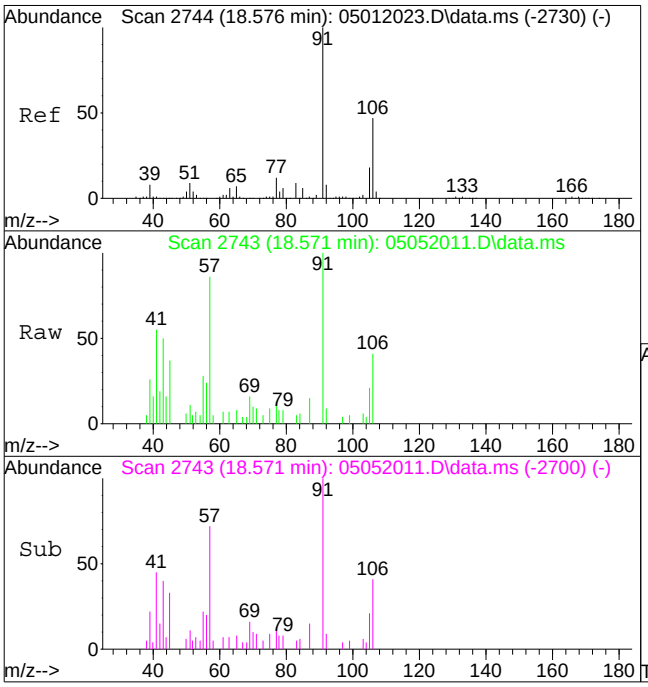


#67
m- & p-Xylenes
Concen: 0.18 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05052011.D
Acq: 5 May 2020 8:50

Tgt Ion: 91 Resp: 18988

Ion	Ratio	Lower	Upper
91	100		
106	50.2	29.7	69.7

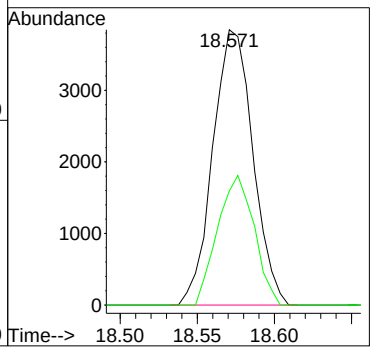


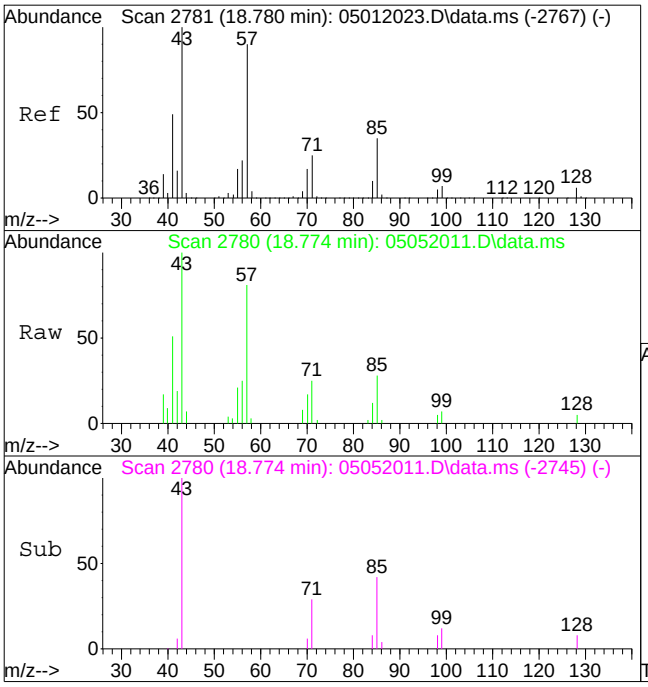


#70
o-Xylene
Concen: 0.07 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05052011.D
Acq: 5 May 2020 8:50

Tgt Ion: 91 Resp: 6953

Ion	Ratio	Lower	Upper
91	100		
106	42.9	27.5	67.5

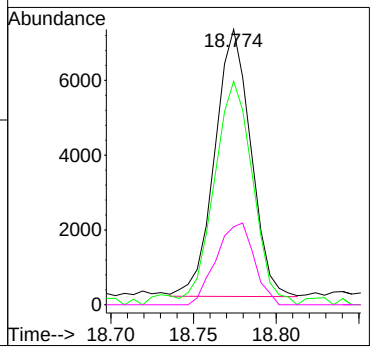


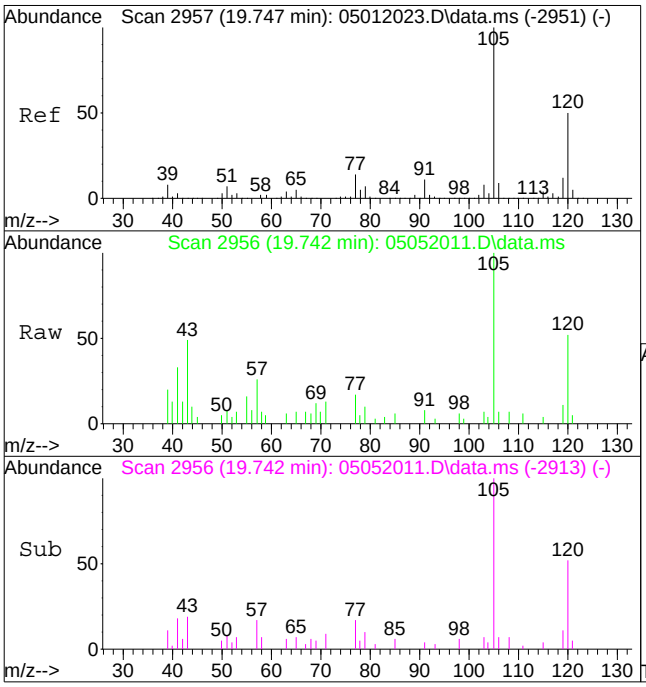


#71
n-Nonane
Concen: 0.19 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05052011.D
Acq: 5 May 2020 8:50

Tgt Ion: 43 Resp: 10835

Ion	Ratio	Lower	Upper
43	100		
57	89.2	69.0	109.0
85	32.1	14.6	54.6

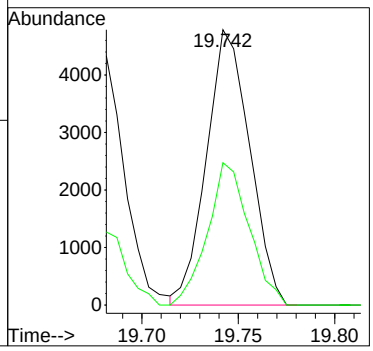


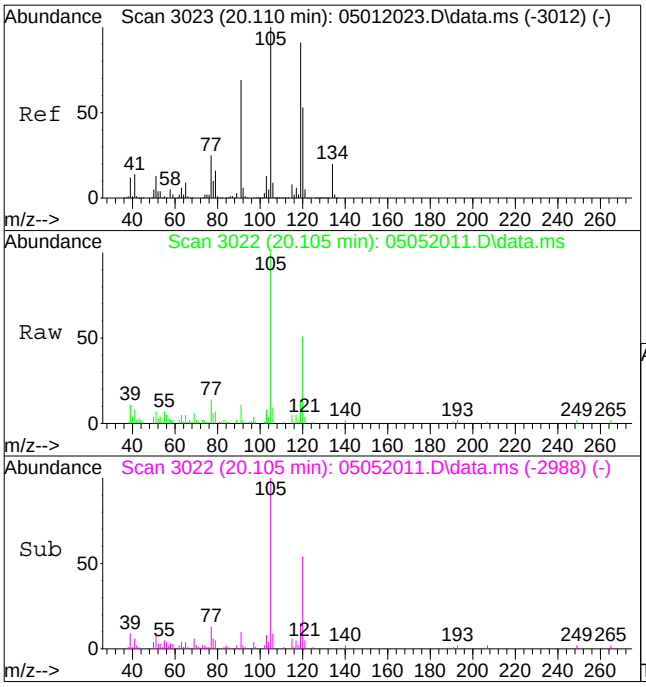


#79
1,3,5-Trimethylbenzene
Concen: 0.07 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05052011.D
Acq: 5 May 2020 8:50

Tgt Ion:105 Resp: 7465

Ion	Ratio	Lower	Upper
105	100		
120	49.7	29.9	69.9

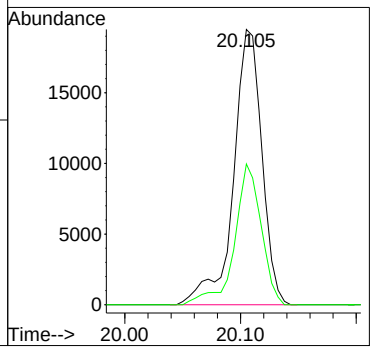


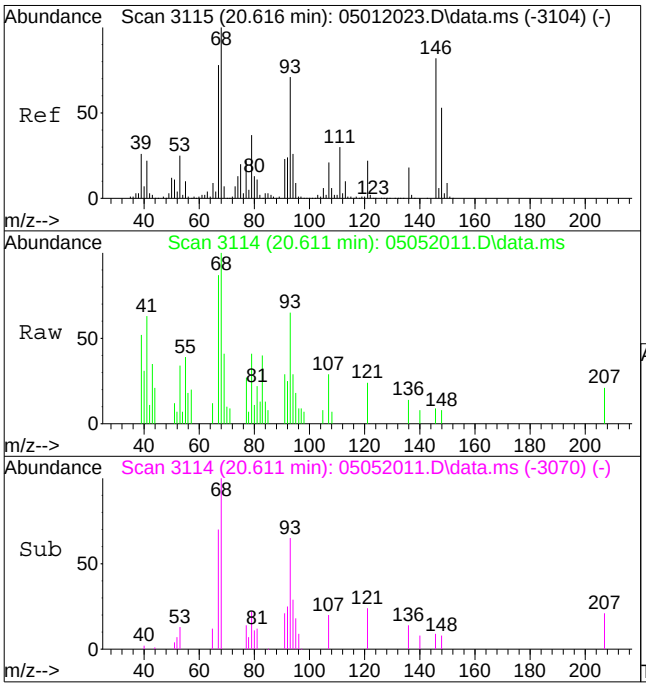


#82
1,2,4-Trimethylbenzene
Concen: 0.32 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05052011.D
Acq: 5 May 2020 8:50

Tgt Ion:105 Resp: 33407

Ion	Ratio	Lower	Upper
105	100		
120	47.7	33.6	73.6

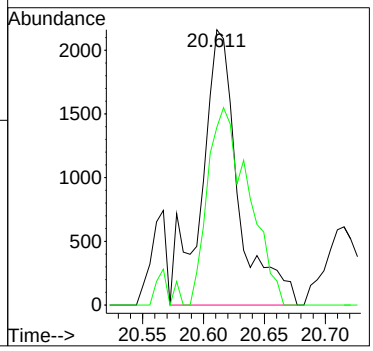


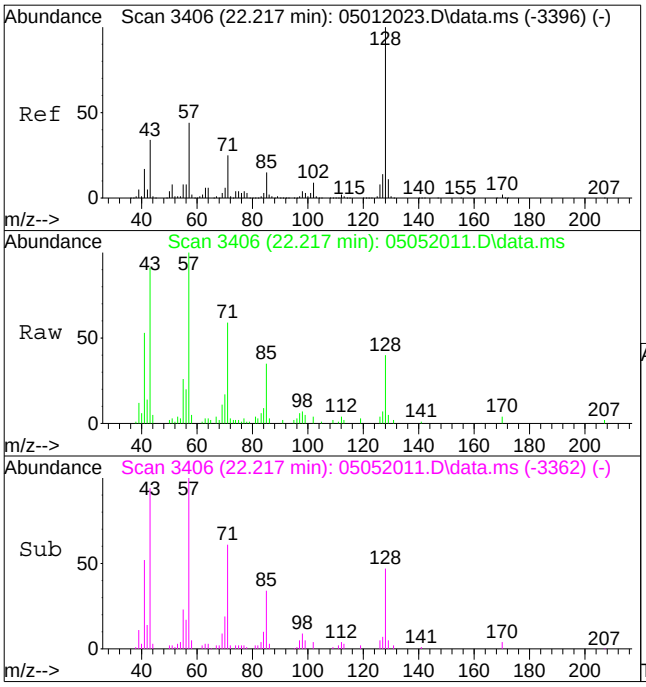


#91
d-Limonene
Concen: 0.11 ng
RT: 20.61 min Scan# 3114
Delta R.T. -0.005 min
Lab File: 05052011.D
Acq: 5 May 2020 8:50

Tgt Ion: 68 Resp: 4514

Ion	Ratio	Lower	Upper
68	100		
93	80.4	51.1	91.1

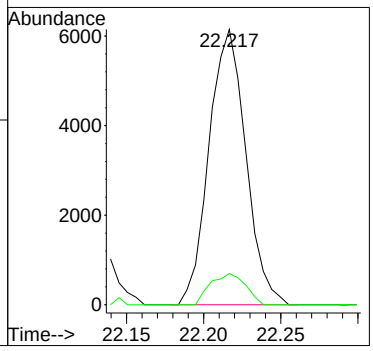




#95
Naphthalene
Concen: 0.08 ng
RT: 22.22 min Scan# 3406
Delta R.T. -0.005 min
Lab File: 05052011.D
Acq: 5 May 2020 8:50

Tgt Ion:128 Resp: 10204

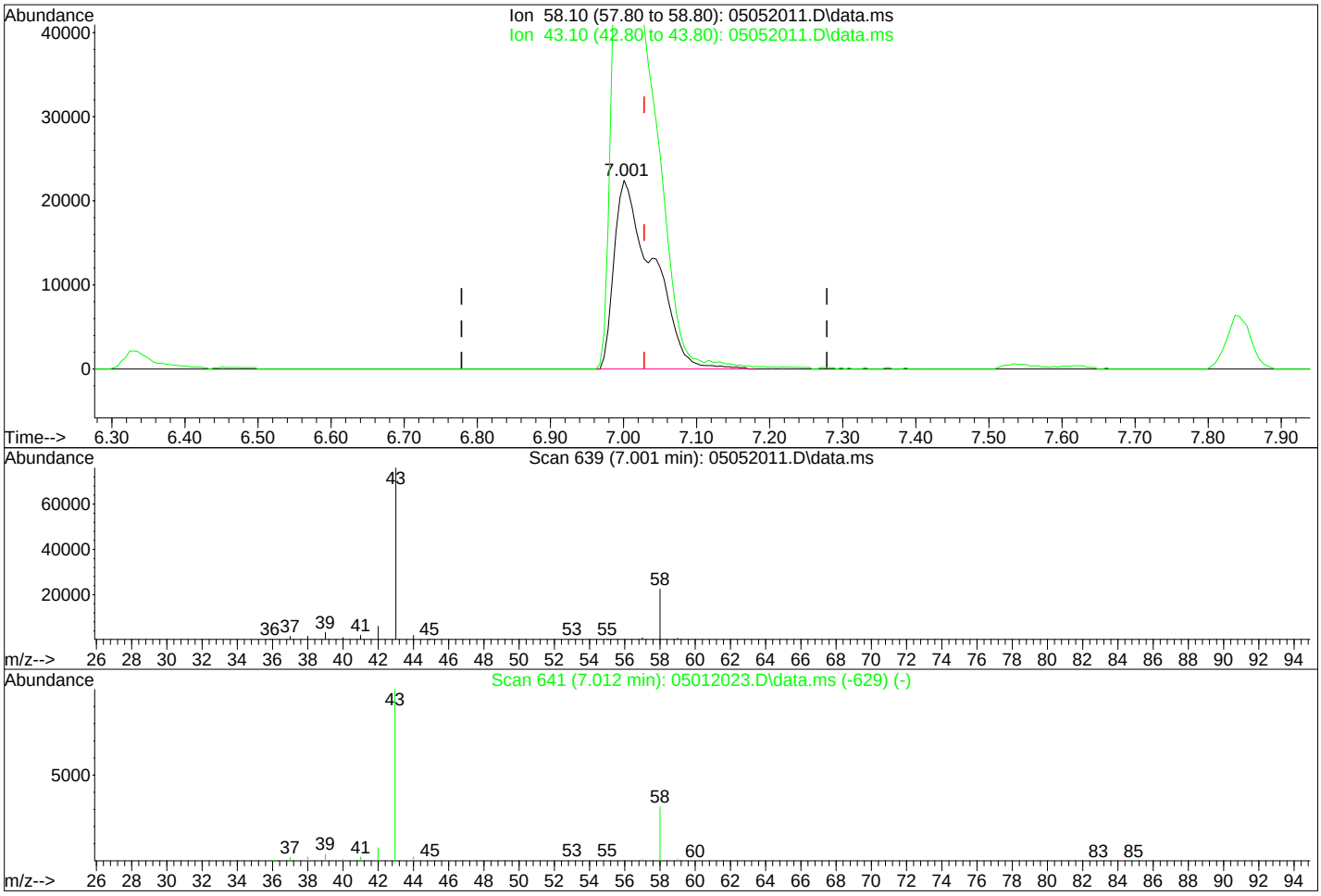
Ion	Ratio	Lower	Upper
128	100		
129	10.8	0.0	31.0



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\05\05052011.D Vial: 11
Acq On : 5 May 2020 8:50 Operator: TD
Sample : P2002107-004 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 05 11:23:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05052011.D\data.ms

(13) Acetone (T)

7.001min (-0.028) 3.57ng

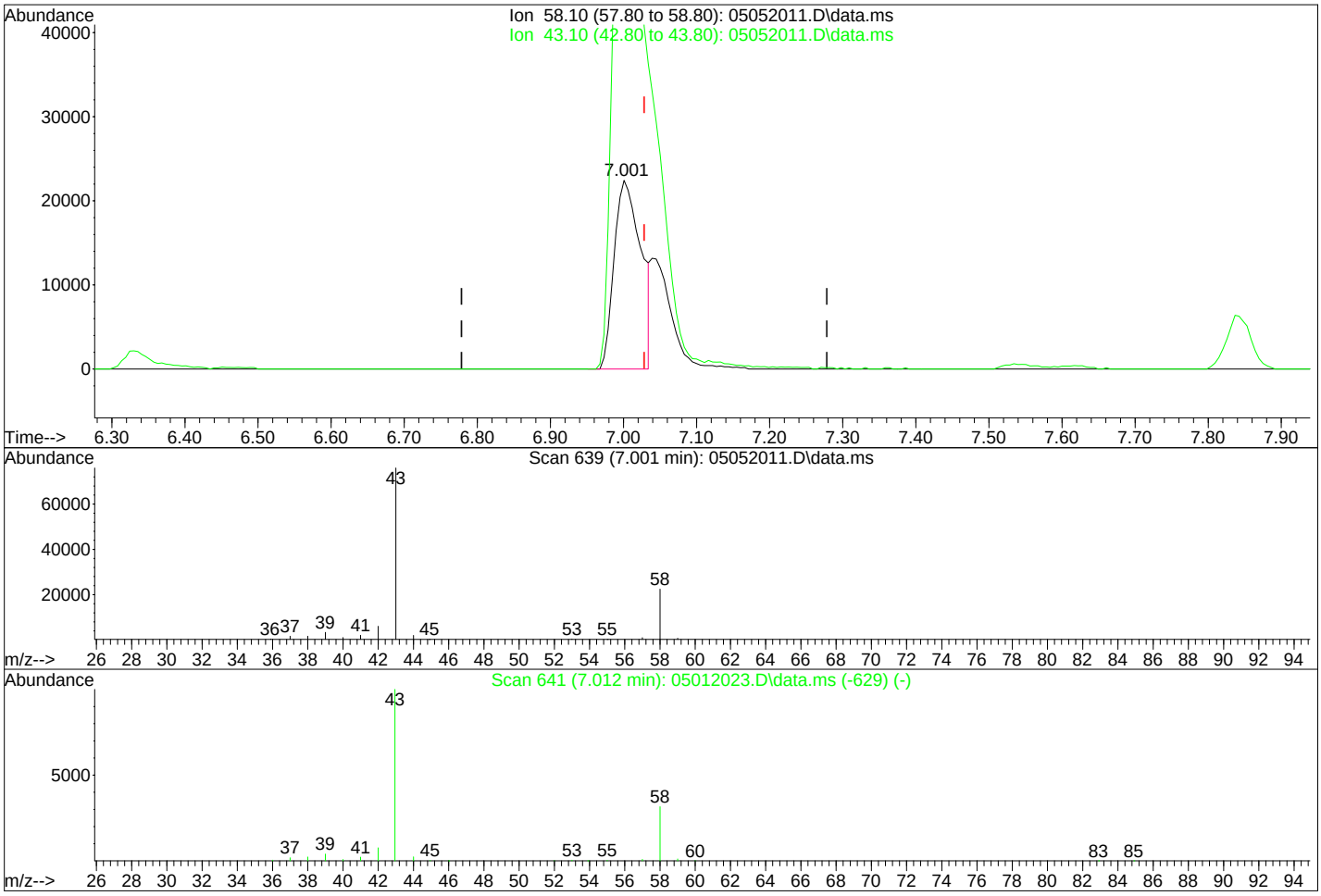
response 82969

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	295.59
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\05\05052011.D Vial: 11
Acq On : 5 May 2020 8:50 Operator: TD
Sample : P2002107-004 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 05 11:23:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05052011.D\data.ms

(13) Acetone (T)

7.001min (-0.028) 2.45ng m

response 57050

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	429.89#
0.00	0.00	0.00
0.00	0.00	0.00

IPC

LH 5/6/20

WA 5/12/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052013.D Vial: 1
Acq On : 5 May 2020 10:05 Operator: WA
Sample : P2002107-005 (3.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 20:57:46 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/6/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	271372	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1177132	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	569360	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	443800	12.067	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.56%				
57) Toluene-d8 (SS2)	15.72	98	1177209	12.198	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.60%				
73) Bromofluorobenzene (SS3)	18.98	174	468181	13.483	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.84%				
Target Compounds							Qvalue
2) Propene	4.12	42	10448	0.332	ng		92
3) Dichlorodifluoromethan...	4.28	85	702	N.D.			
4) Chloromethane	4.55	50	3343	0.069	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	4.96	62	364	N.D.			
7) 1,3-Butadiene	5.16	54	1104	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.33	45	7995	0.329	ng		86
11) Acetonitrile	6.63	41	51	N.D.			
12) Acrolein	6.79	56	784	N.D.			
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	7.50	45	24572	0.334	ng		92
16) Acrylonitrile	7.69	53	1053	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.41	84	341	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.68	76	18746	0.166	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	9.99	63	649	N.D.			
25) Methyl tert-Butyl Ether	10.07	73	298	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.48	72	2094	0.101	ng	#	75
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.26	87	746	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	11.26	57	90886	1.756	ng		100
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	11.75	72	2439	0.121	ng	#	84
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	3516	0.082	ng		92
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	12.87	56	1122	N.D.			
41) Benzene	12.87	78	2306575	18.272	ng		100
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	13.17	84	383034	8.143	ng		99
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	13.63	63	558	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	13.96	130	133	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.11	100	623	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052013.D Vial: 1
Acq On : 5 May 2020 10:05 Operator: WA
Sample : P2002107-005 (3.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 20:57:46 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

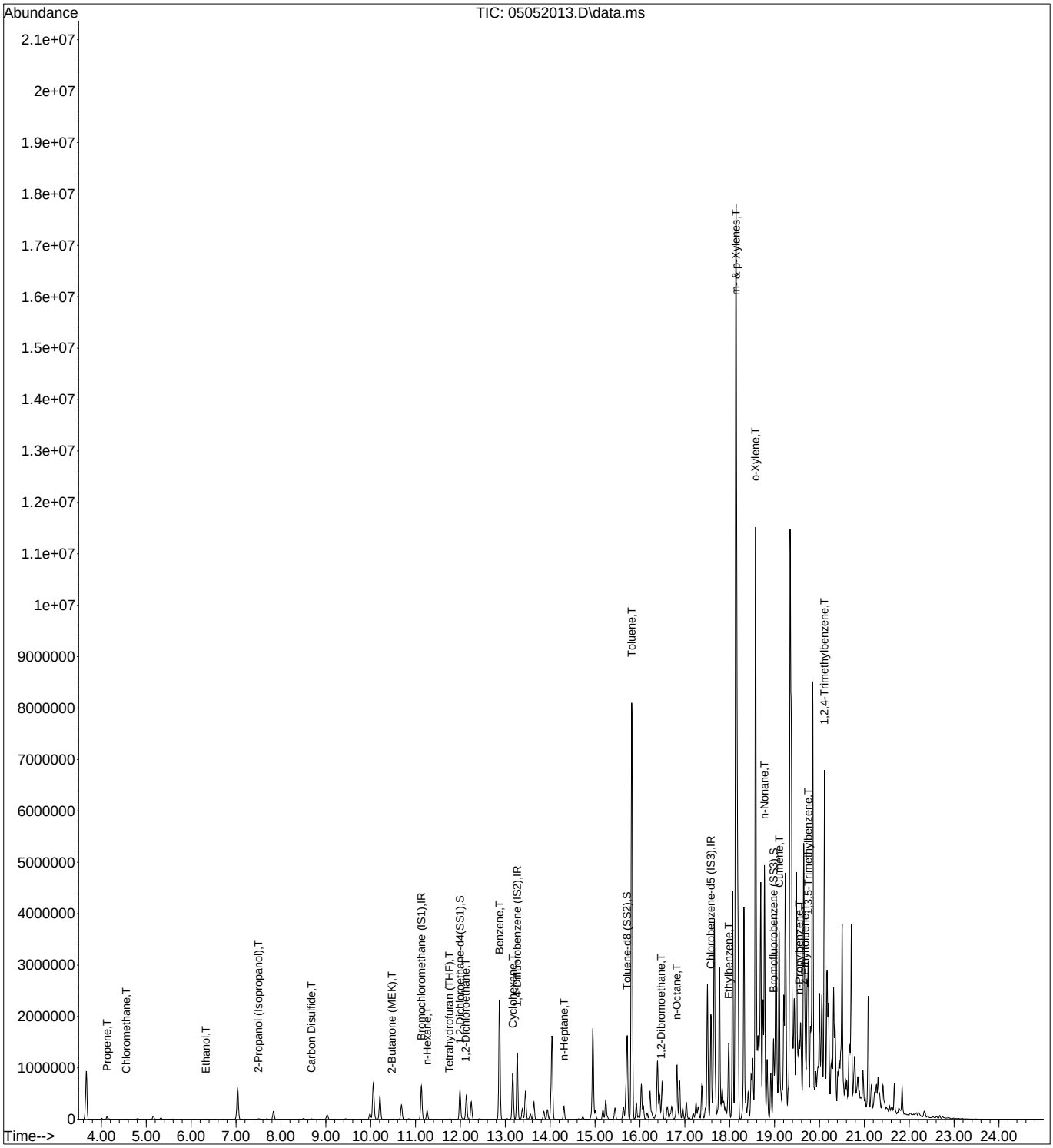
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	67850	2.298 ng	99
52) cis-1,3-Dichloropropene	14.95	75	348	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	15.14	75	290	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	15.82	91	6319712	50.802 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	16.48	107	26373	0.770 ng	98
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	16.82	57	205998	7.999 ng	99
64) Tetrachloroethene	16.96	166	120	N.D.	
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	17.98	91	679788	4.901 ng	100
67) m- & p-Xylenes	18.14	91	12856967	116.835 ng	99
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.48	104	2386	N.D.	
70) o-Xylene	18.58	91	6603288	59.106 ng	99
71) n-Nonane	18.77	43	1546199	26.085 ng	99
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	19.10	105	563990	4.114 ng	100
75) alpha-Pinene	19.44	93	1059	N.D.	
76) n-Propylbenzene	19.55	91	487583	2.994 ng	97
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.68	105	160298	1.245 ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	718601	6.427 ng	99
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.11	105	763064	6.790 ng	92
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	0.00	91	0	N.D. d	
85) 1,3-Dichlorobenzene	20.24	146	383	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	486	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	20.60	146	270	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.11	180	815	N.D.	
95) Naphthalene	22.22	128	4349	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052013.D Vial: 1
Acq On : 5 May 2020 10:05 Operator: WA
Sample : P2002107-005 (3.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 20:57:46 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052013.D Vial: 1
Acq On : 5 May 2020 10:05 Operator: WA
Sample : P2002107-005 (3.0mL) Inst : GCMS-16
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Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/6/20

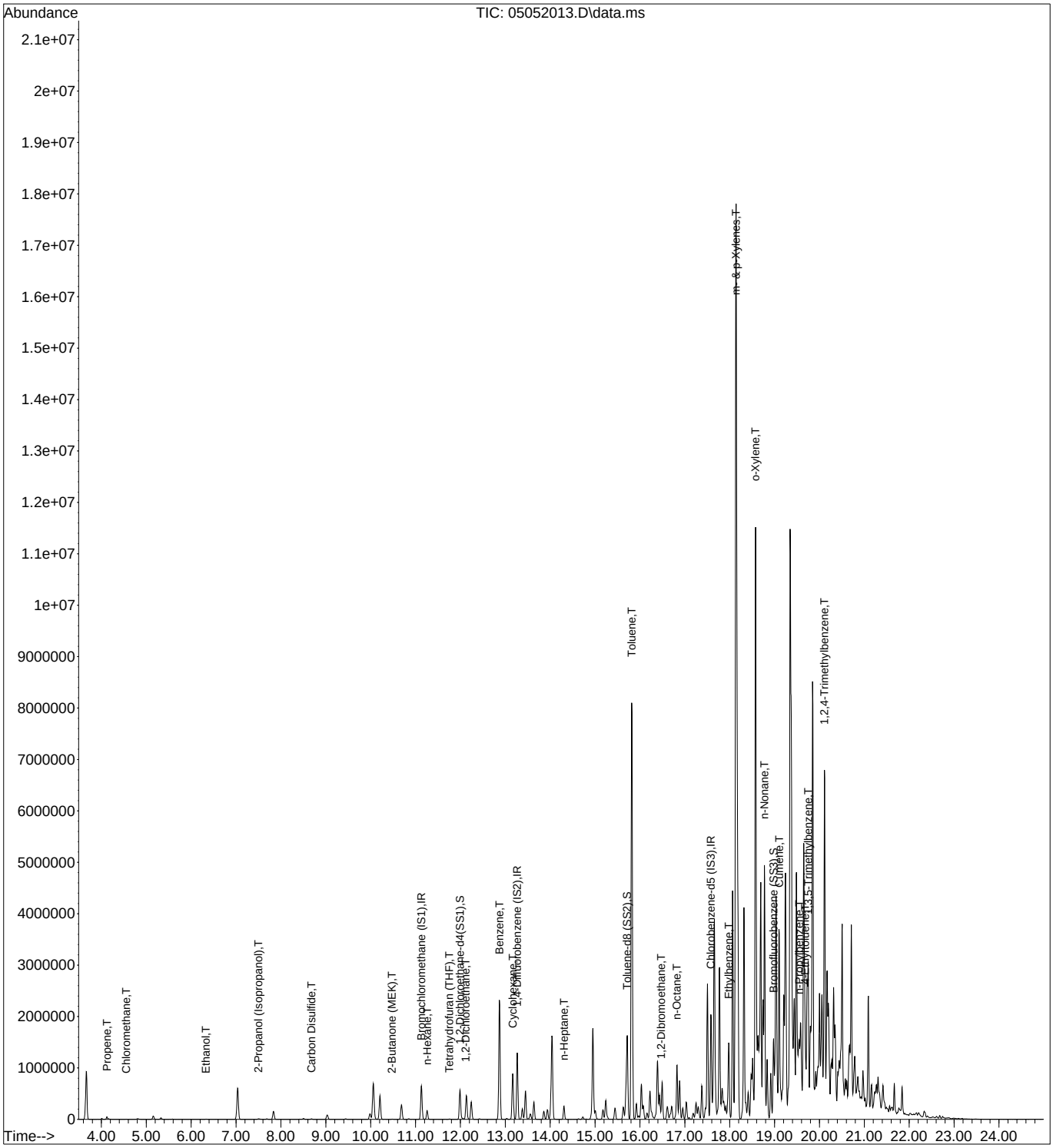
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	271372	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1177132	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	569360	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	443800	12.067	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.56%				
57) Toluene-d8 (SS2)	15.72	98	1177209	12.198	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.60%				
73) Bromofluorobenzene (SS3)	18.98	174	468181	13.483	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.84%				
Target Compounds							Qvalue
2) Propene	4.12	42	10448	0.332	ng		92
4) Chloromethane	4.55	50	3343	0.069	ng		98
10) Ethanol	6.33	45	7995	0.329	ng		86
15) 2-Propanol (Isopropanol)	7.50	45	24572	0.334	ng		92
22) Carbon Disulfide	8.68	76	18746	0.166	ng		99
27) 2-Butanone (MEK)	10.48	72	2094	0.101	ng	#	75
31) n-Hexane	11.26	57	90886	1.756	ng		100
34) Tetrahydrofuran (THF)	11.75	72	2439	0.121	ng	#	84
36) 1,2-Dichloroethane	12.11	62	3516	0.082	ng		92
41) Benzene	12.87	78	2306575	18.272	ng		100
43) Cyclohexane	13.17	84	383034	8.143	ng		99
51) n-Heptane	14.31	71	67850	2.298	ng		99
58) Toluene	15.82	91	6319712	50.802	ng		100
61) 1,2-Dibromoethane	16.48	107	26373	0.770	ng		98
63) n-Octane	16.82	57	205998	7.999	ng		99
66) Ethylbenzene	17.98	91	679788	4.901	ng		100
67) m- & p-Xylenes	18.14	91	12856967	116.835	ng		99
70) o-Xylene	18.58	91	6603288	59.106	ng		99
71) n-Nonane	18.77	43	1546199	26.085	ng		99
74) Cumene	19.10	105	563990	4.114	ng		100
76) n-Propylbenzene	19.55	91	487583	2.994	ng		97
78) 4-Ethyltoluene	19.68	105	160298	1.245	ng		100
79) 1,3,5-Trimethylbenzene	19.75	105	718601	6.427	ng		99
82) 1,2,4-Trimethylbenzene	20.11	105	763064	6.790	ng		92

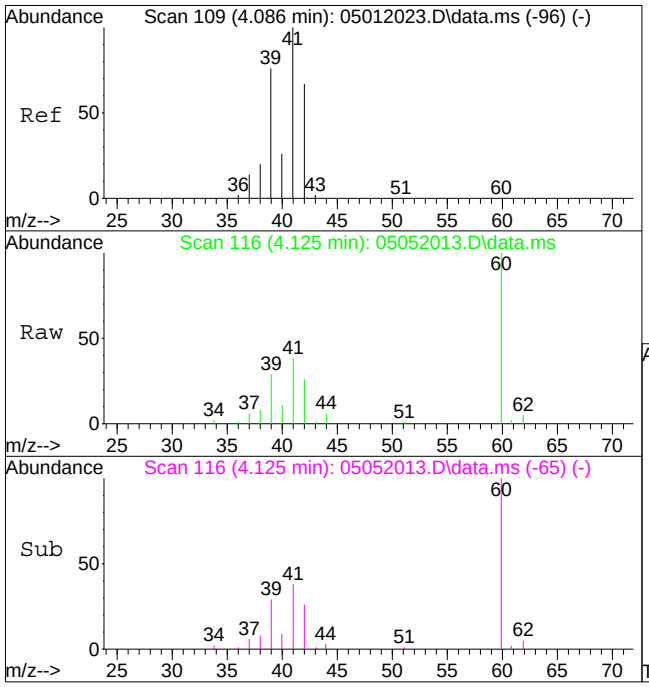
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052013.D Vial: 1
Acq On : 5 May 2020 10:05 Operator: WA
Sample : P2002107-005 (3.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 20:57:46 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

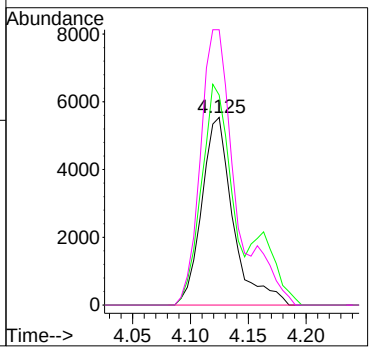


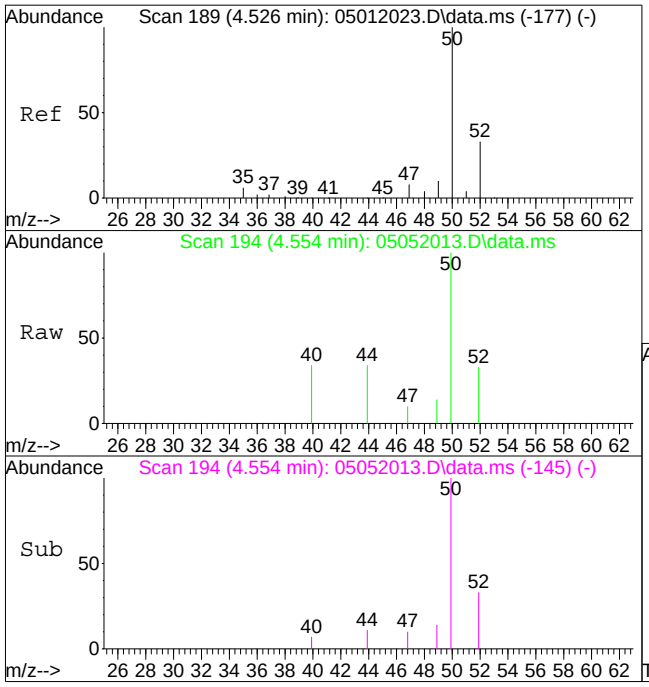


#2
Propene
Concen: 0.33 ng
RT: 4.12 min Scan# 116
Delta R.T. 0.033 min
Lab File: 05052013.D
Acq: 5 May 2020 10:05

Tgt Ion: 42 Resp: 10448

Ion	Ratio	Lower	Upper
42	100		
39	110.3	96.1	136.1
41	165.3	131.9	171.9

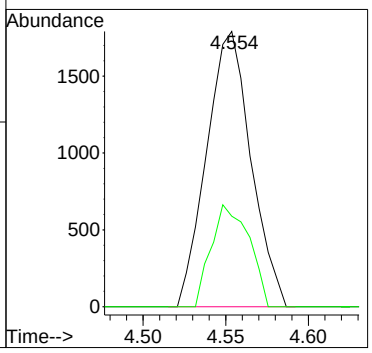


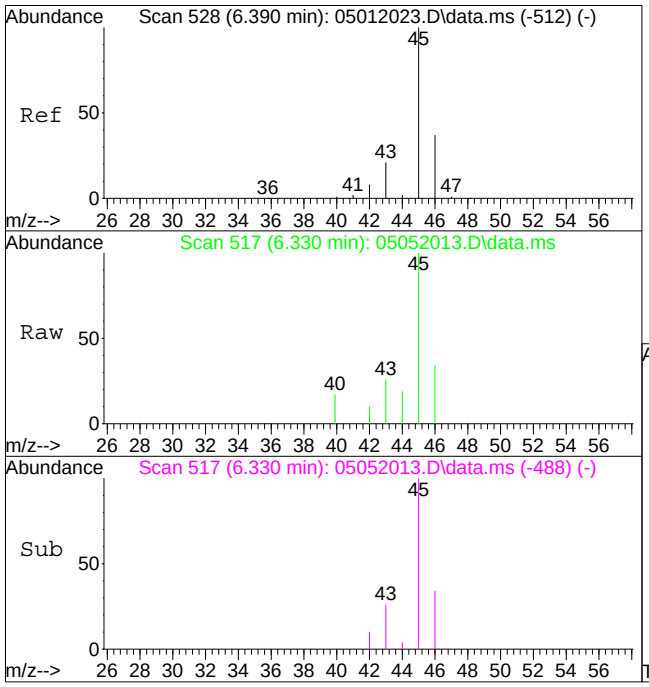


#4
Chloromethane
Concen: 0.07 ng
RT: 4.55 min Scan# 194
Delta R.T. 0.022 min
Lab File: 05052013.D
Acq: 5 May 2020 10:05

Tgt Ion: 50 Resp: 3343

Ion	Ratio	Lower	Upper
50	100		
52	31.6	12.5	52.5

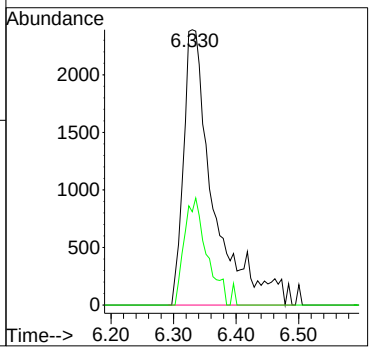


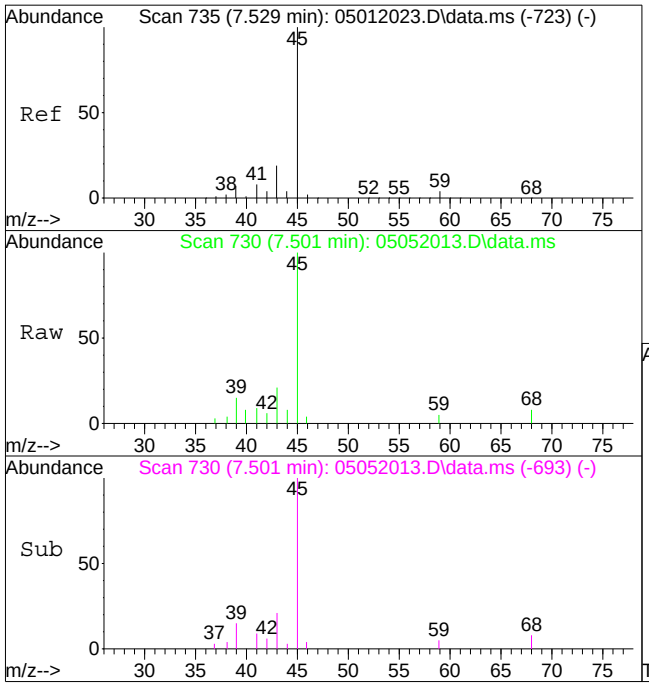


#10
Ethanol
Concen: 0.33 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.088 min
Lab File: 05052013.D
Acq: 5 May 2020 10:05

Tgt Ion: 45 Resp: 7995

Ion	Ratio	Lower	Upper
45	100		
46	28.8	17.2	57.2

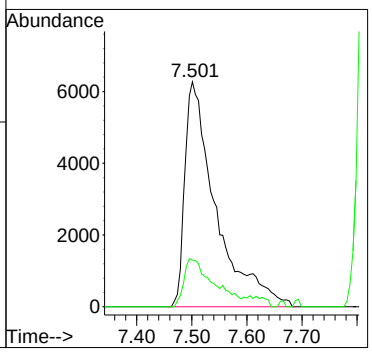


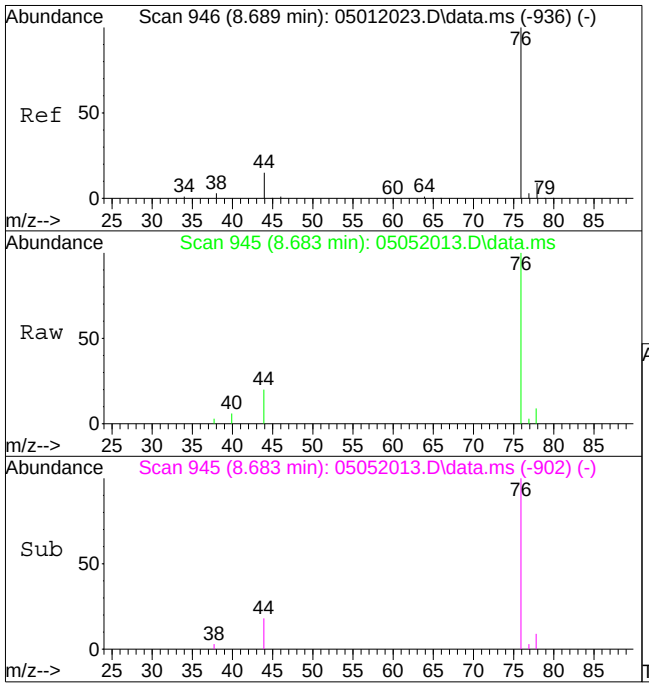


#15
2-Propanol (Isopropanol)
Concen: 0.33 ng
RT: 7.50 min Scan# 730
Delta R.T. -0.044 min
Lab File: 05052013.D
Acq: 5 May 2020 10:05

Tgt Ion: 45 Resp: 24572

Ion	Ratio	Lower	Upper
45	100		
43	23.2	0.0	39.5

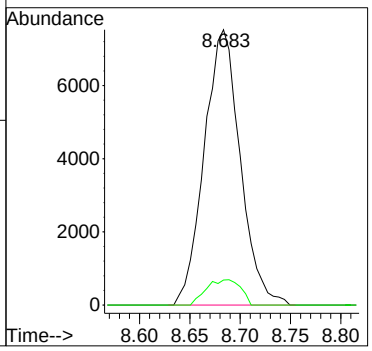


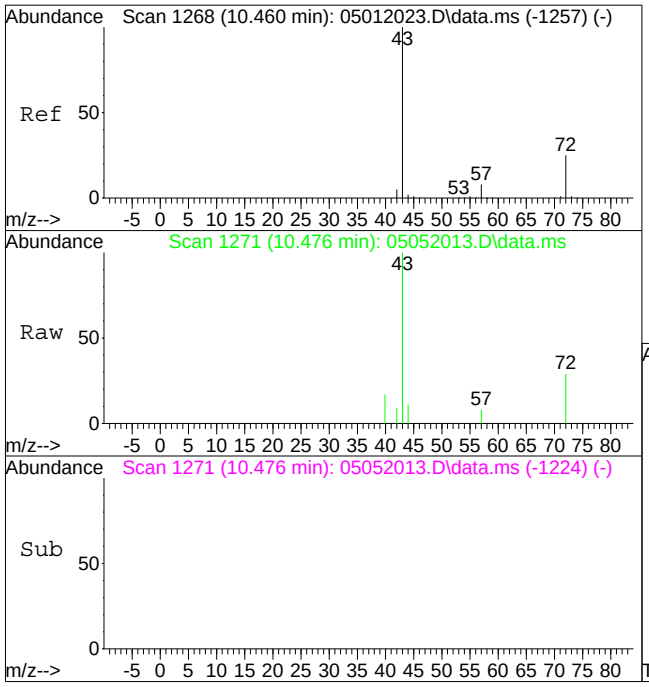


#22
Carbon Disulfide
Concen: 0.17 ng
RT: 8.68 min Scan# 945
Delta R.T. -0.011 min
Lab File: 05052013.D
Acq: 5 May 2020 10:05

Tgt Ion: 76 Resp: 18746

Ion	Ratio	Lower	Upper
76	100		
78	8.7	0.0	29.2

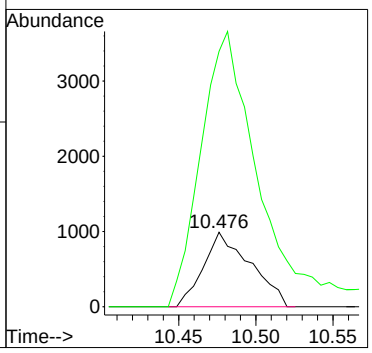


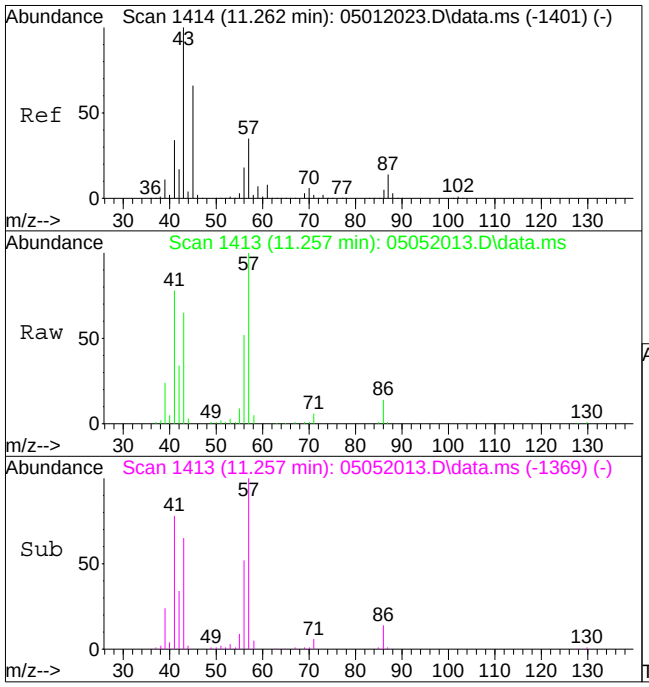


#27
2-Butanone (MEK)
Concen: 0.10 ng
RT: 10.48 min Scan# 1271
Delta R.T. 0.011 min
Lab File: 05052013.D
Acq: 5 May 2020 10:05

Tgt Ion: 72 Resp: 2094

Ion	Ratio	Lower	Upper
72	100		
43	470.3	389.7	429.7#

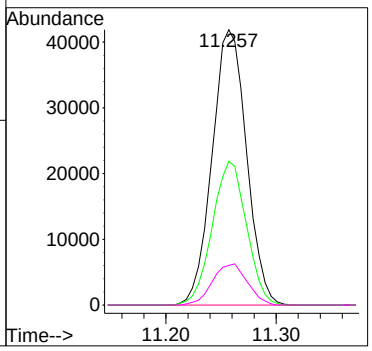


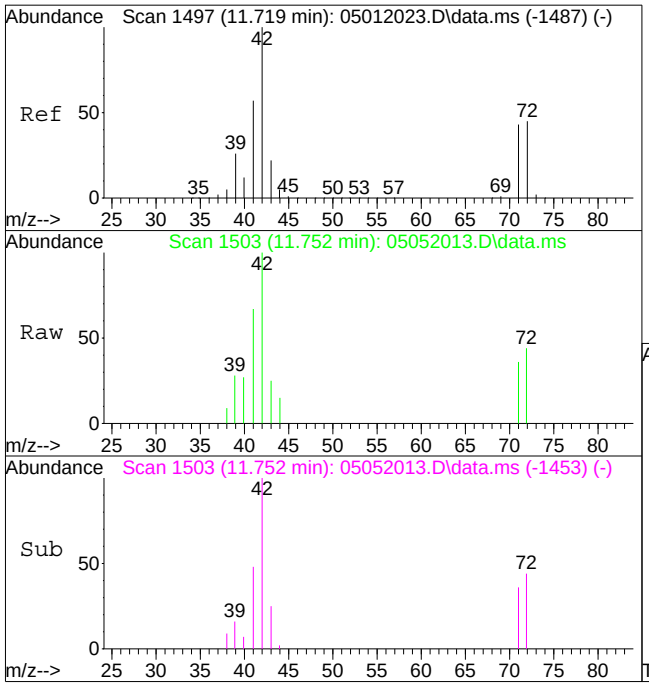


#31
n-Hexane
Concen: 1.76 ng
RT: 11.26 min Scan# 1413
Delta R.T. -0.006 min
Lab File: 05052013.D
Acq: 5 May 2020 10:05

Tgt Ion: 57 Resp: 90886

Ion	Ratio	Lower	Upper
57	100		
56	51.8	41.4	62.0
86	15.1	12.4	18.6

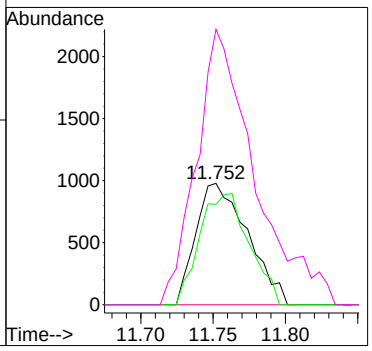


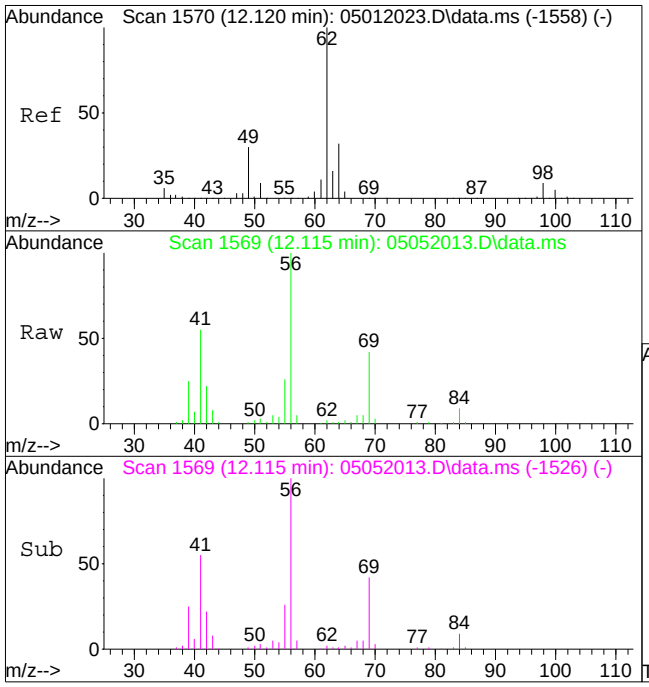


#34
Tetrahydrofuran (THF)
Concen: 0.12 ng
RT: 11.75 min Scan# 1503
Delta R.T. 0.027 min
Lab File: 05052013.D
Acq: 5 May 2020 10:05

Tgt Ion: 72 Resp: 2439

Ion	Ratio	Lower	Upper
72	100		
71	87.5	77.0	117.0
42	255.0	204.6	244.6#

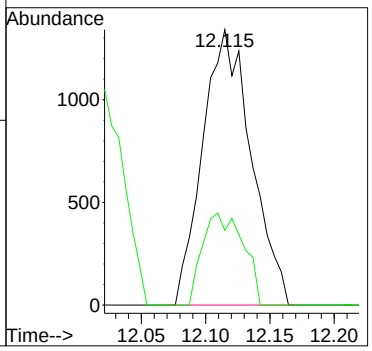


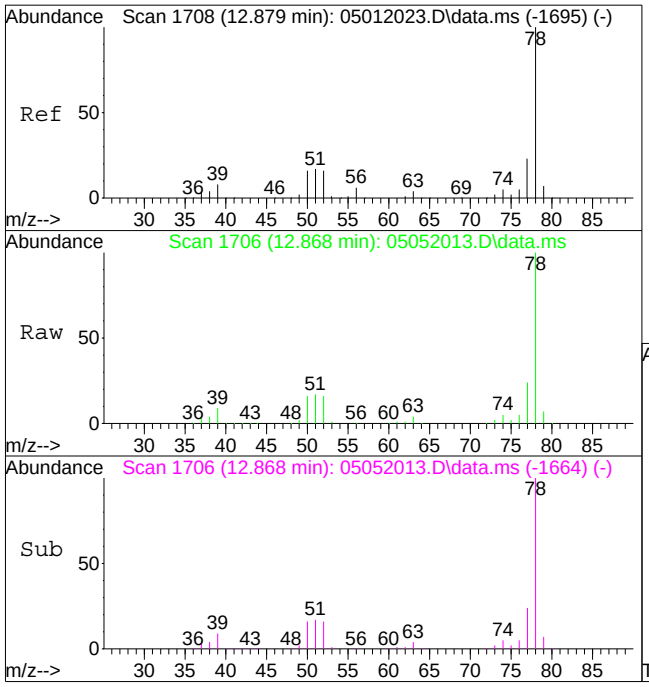


#36
1,2-Dichloroethane
Concen: 0.08 ng
RT: 12.11 min Scan# 1569
Delta R.T. -0.011 min
Lab File: 05052013.D
Acq: 5 May 2020 10:05

Tgt Ion: 62 Resp: 3516

Ion	Ratio	Lower	Upper
62	100		
64	28.1	12.4	52.4

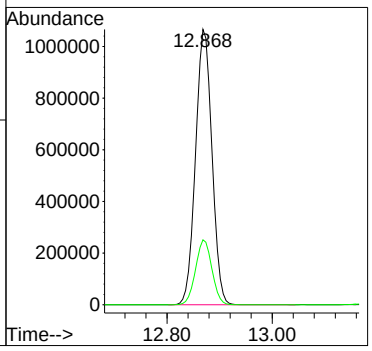


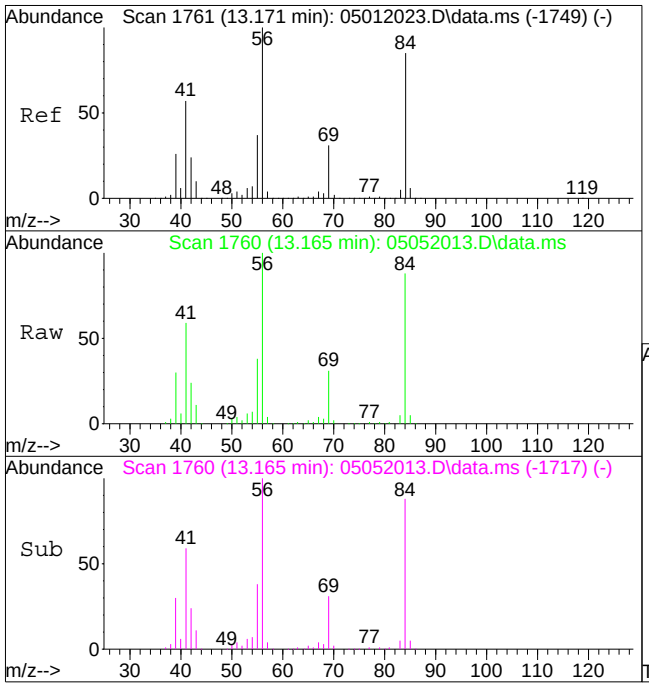


#41
Benzene
Concen: 18.27 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05052013.D
Acq: 5 May 2020 10:05

Tgt Ion: 78 Resp: 2306575

Ion	Ratio	Lower	Upper
78	100		
77	23.4	3.4	43.4

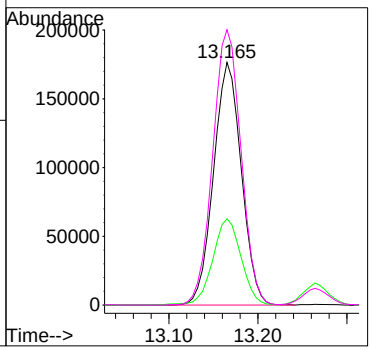


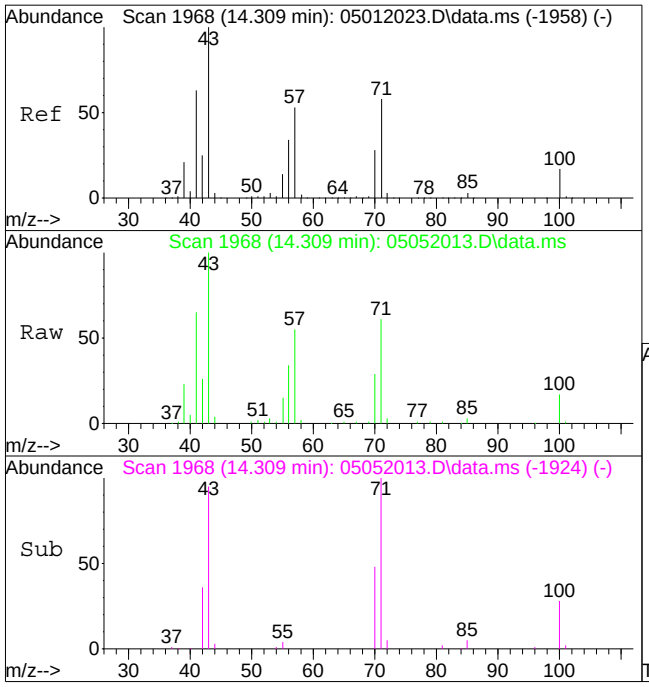


#43
Cyclohexane
Concen: 8.14 ng
RT: 13.17 min Scan# 1760
Delta R.T. -0.011 min
Lab File: 05052013.D
Acq: 5 May 2020 10:05

Tgt Ion: 84 Resp: 383034

Ion	Ratio	Lower	Upper
84	100		
69	36.4	16.5	56.5
56	115.6	97.4	137.4

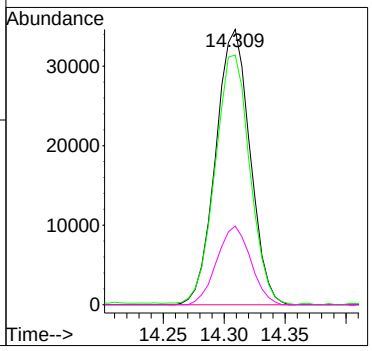


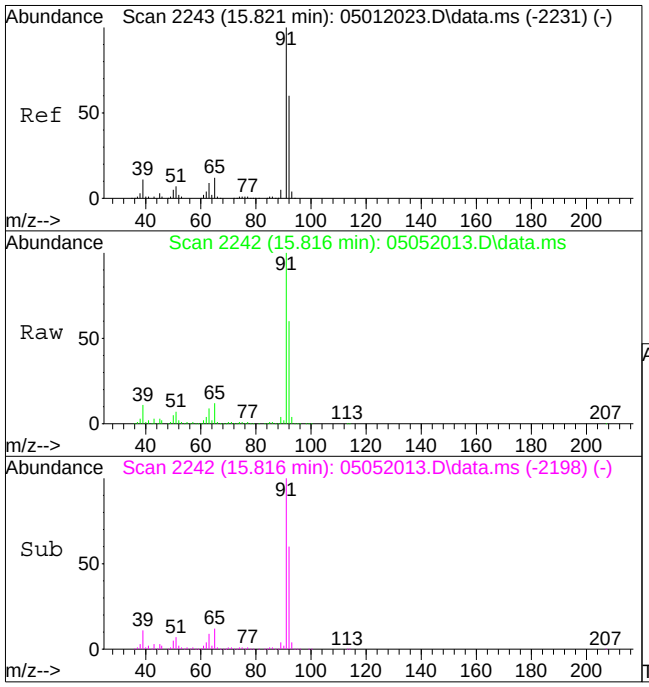


#51
n-Heptane
Concen: 2.30 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05052013.D
Acq: 5 May 2020 10:05

Tgt Ion: 71 Resp: 67850

Ion	Ratio	Lower	Upper
71	100		
57	92.1	71.0	111.0
100	28.1	8.4	48.4

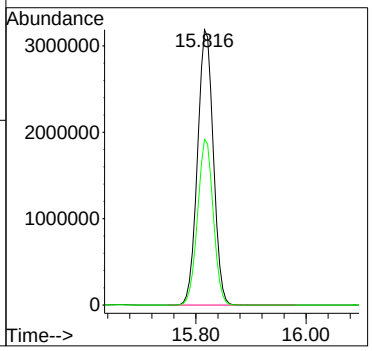


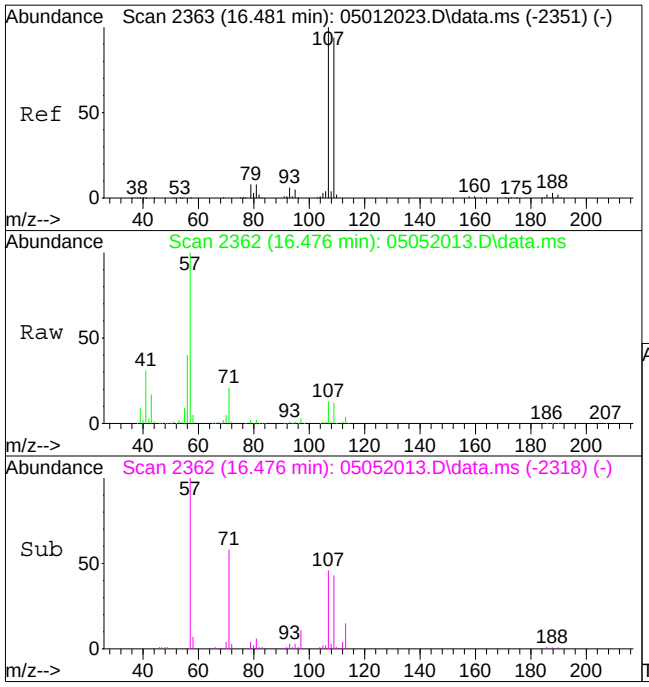


#58
Toluene
Concen: 50.80 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05052013.D
Acq: 5 May 2020 10:05

Tgt Ion: 91 Resp: 6319712

Ion	Ratio	Lower	Upper
91	100		
92	59.7	39.4	79.4

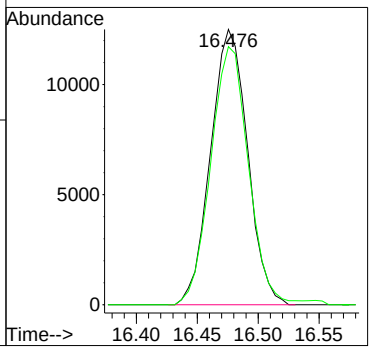


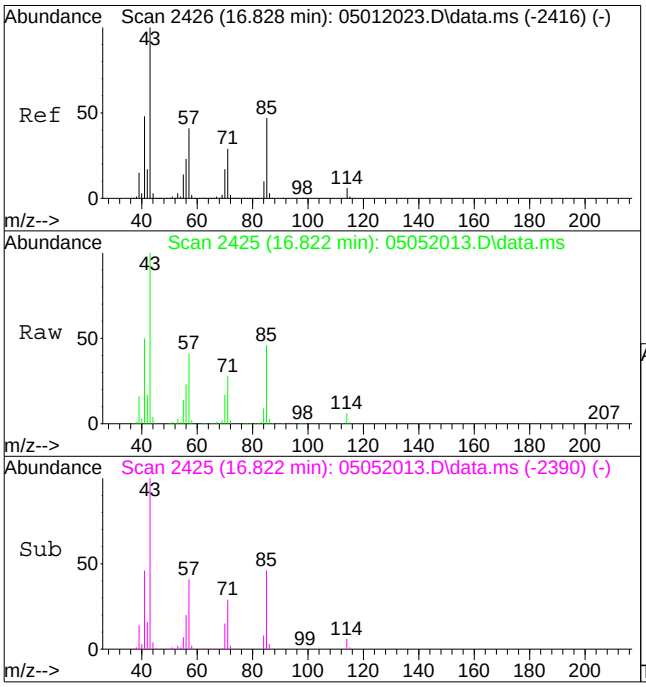


#61
1,2-Dibromoethane
Concen: 0.77 ng
RT: 16.48 min Scan# 2362
Delta R.T. -0.006 min
Lab File: 05052013.D
Acq: 5 May 2020 10:05

Tgt Ion:107 Resp: 26373

Ion	Ratio	Lower	Upper
107	100		
109	96.2	74.5	114.5

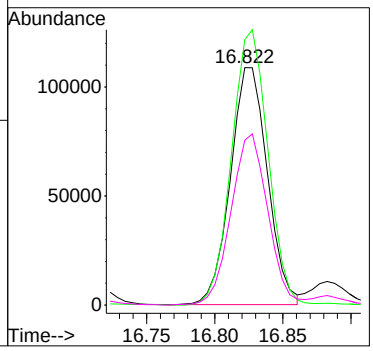


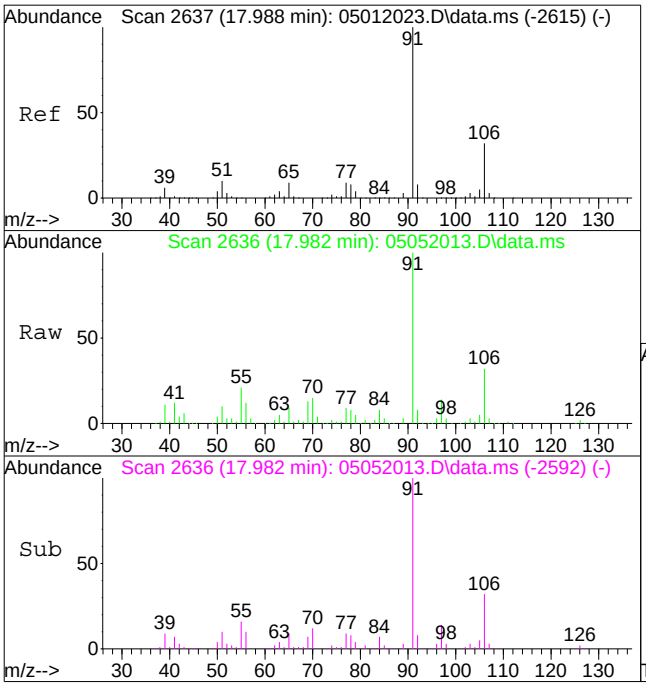


#63
n-Octane
Concen: 8.00 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05052013.D
Acq: 5 May 2020 10:05

Tgt Ion: 57 Resp: 205998

Ion	Ratio	Lower	Upper
57	100		
85	114.3	91.0	136.4
71	71.6	56.2	84.2

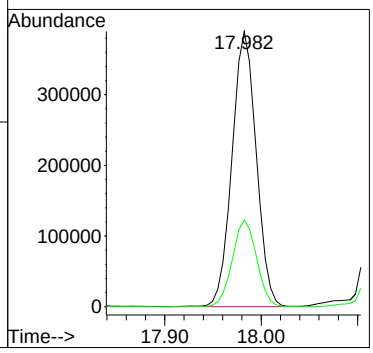


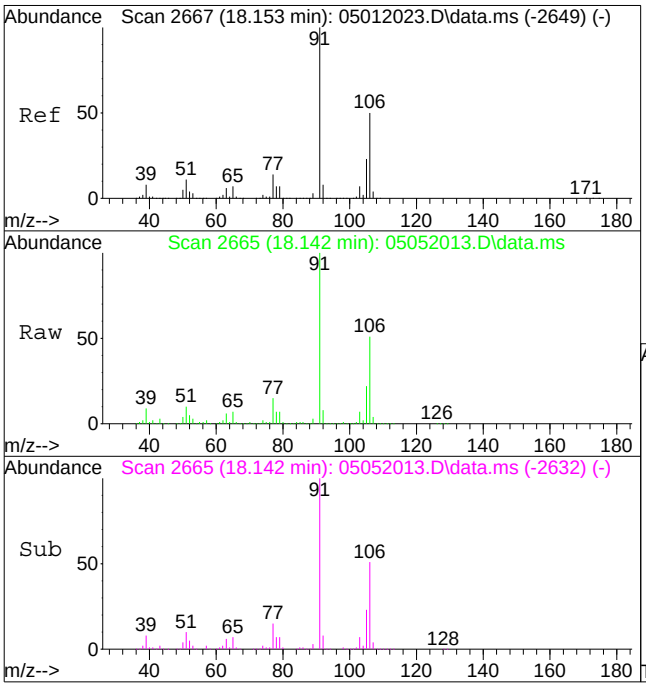


#66
Ethylbenzene
Concen: 4.90 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05052013.D
Acq: 5 May 2020 10:05

Tgt Ion: 91 Resp: 679788

Ion	Ratio	Lower	Upper
91	100		
106	31.6	11.6	51.6

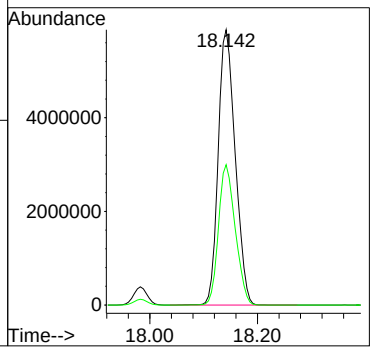


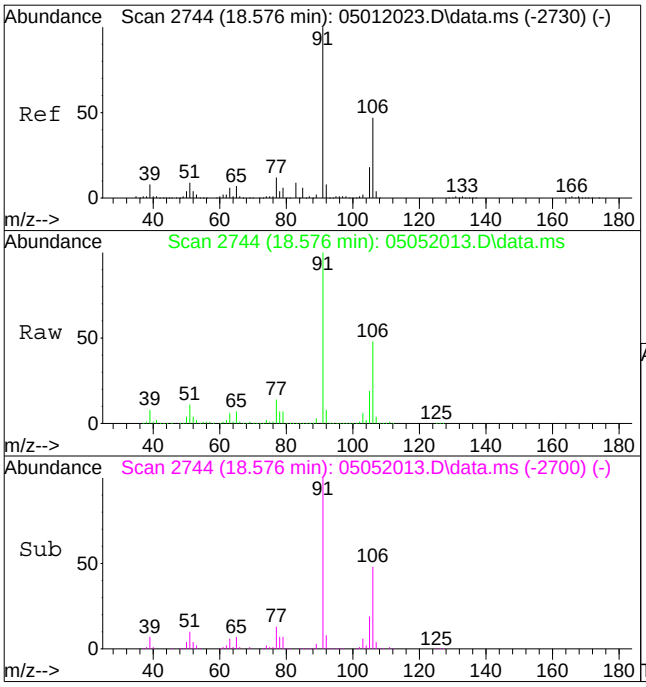


#67
m- & p-Xylenes
Concen: 116.83 ng
RT: 18.14 min Scan# 2665
Delta R.T. -0.017 min
Lab File: 05052013.D
Acq: 5 May 2020 10:05

Tgt Ion: 91 Resp:12856967

Ion	Ratio	Lower	Upper
91	100		
106	50.4	29.7	69.7

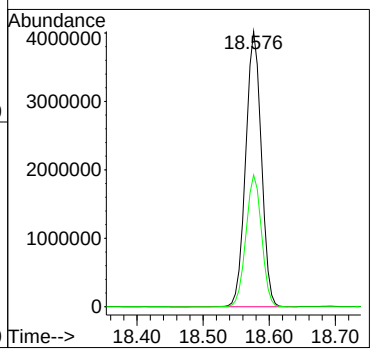


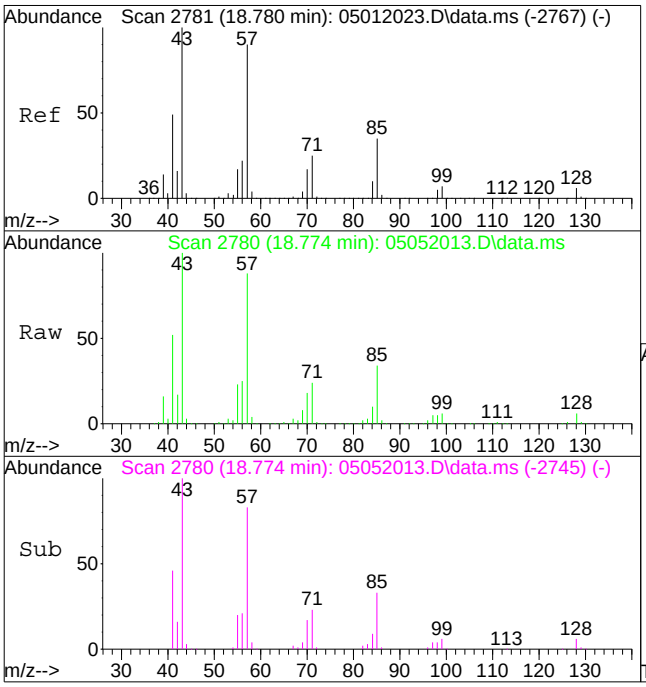


#70
o-Xylene
Concen: 59.11 ng
RT: 18.58 min Scan# 2744
Delta R.T. -0.006 min
Lab File: 05052013.D
Acq: 5 May 2020 10:05

Tgt Ion: 91 Resp: 6603288

Ion	Ratio	Lower	Upper
91	100		
106	47.9	27.5	67.5

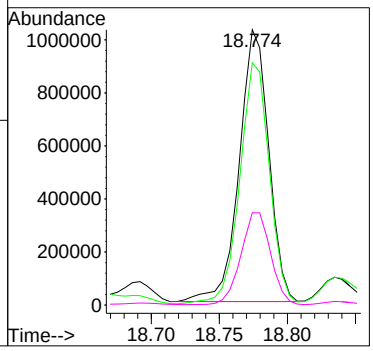


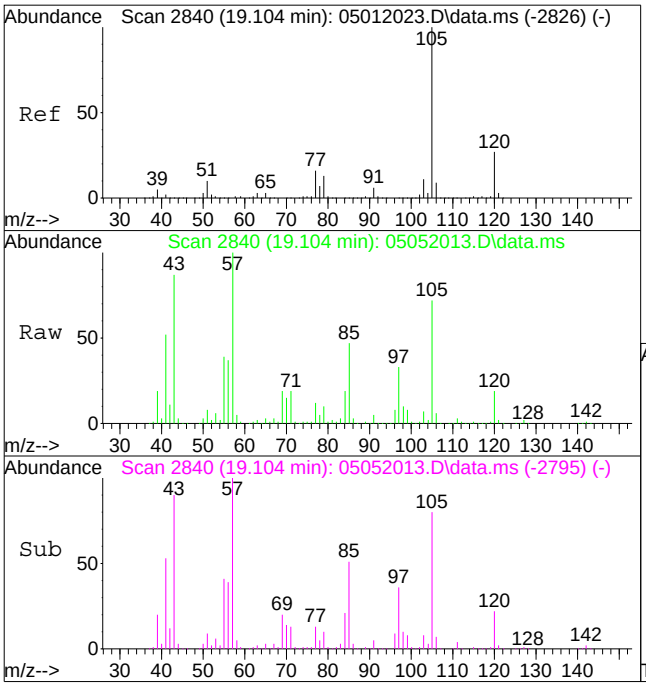


#71
n-Nonane
Concen: 26.09 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05052013.D
Acq: 5 May 2020 10:05

Tgt Ion: 43 Resp: 1546199

Ion	Ratio	Lower	Upper
43	100		
57	88.7	69.0	109.0
85	34.0	14.6	54.6

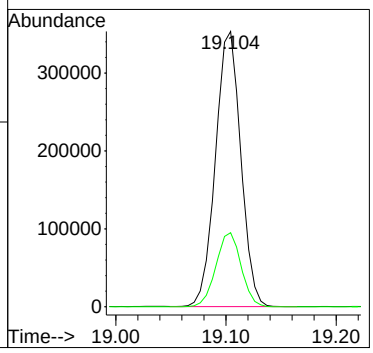


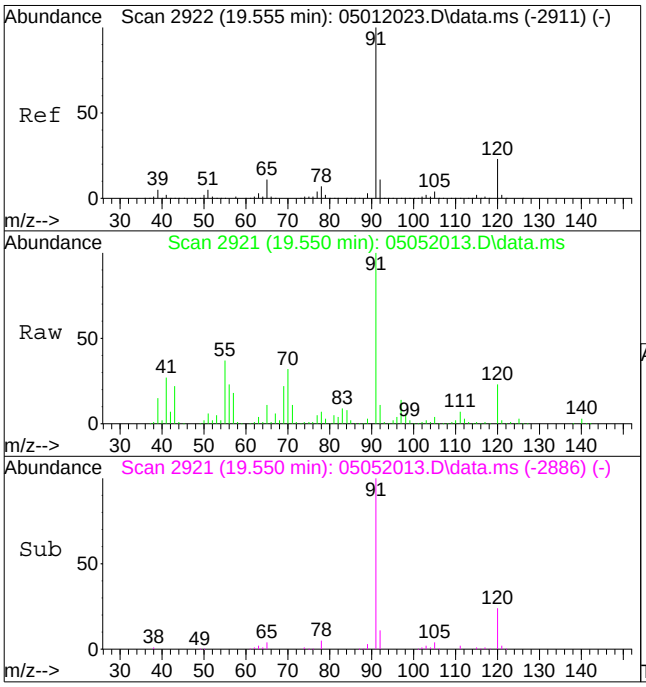


#74
Cumene
Concen: 4.11 ng
RT: 19.10 min Scan# 2840
Delta R.T. -0.000 min
Lab File: 05052013.D
Acq: 5 May 2020 10:05

Tgt Ion:105 Resp: 563990

Ion	Ratio	Lower	Upper
105	100		
120	26.8	6.8	46.8

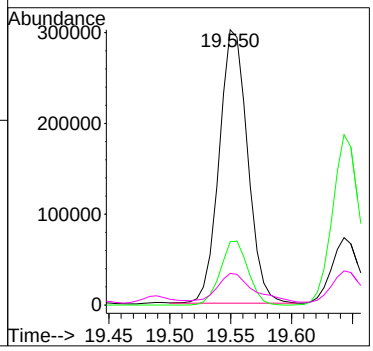


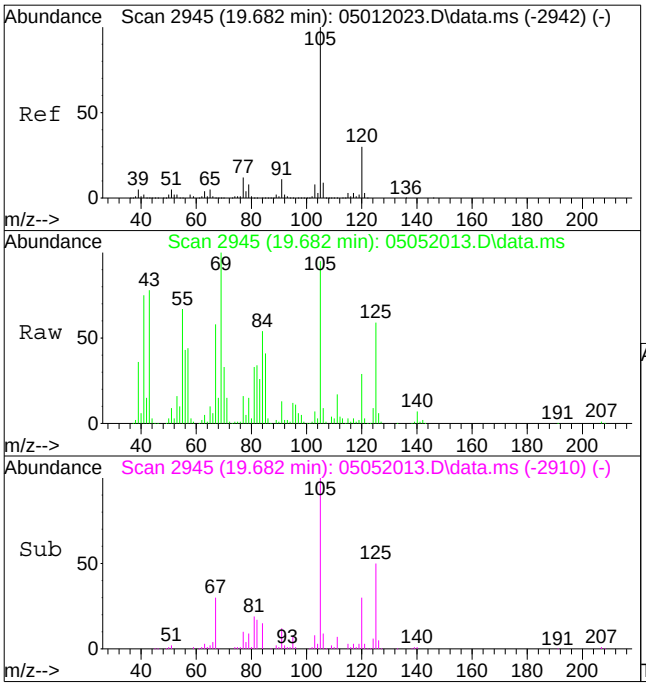


#76
n-Propylbenzene
Concen: 2.99 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05052013.D
Acq: 5 May 2020 10:05

Tgt Ion: 91 Resp: 487583

Ion	Ratio	Lower	Upper
91	100		
120	22.8	3.1	43.1
65	14.2	0.0	30.9

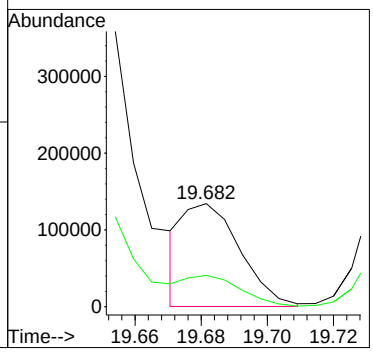


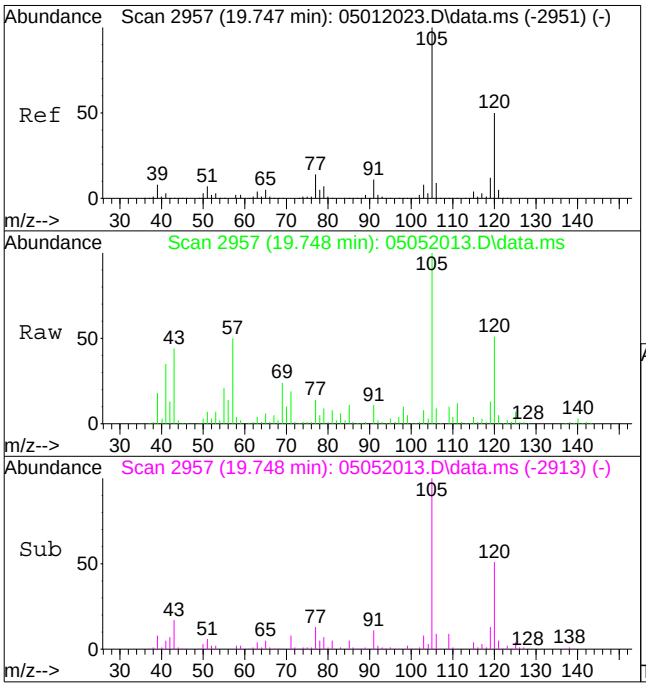


#78
4-Ethyltoluene
Concen: 1.24 ng
RT: 19.68 min Scan# 2945
Delta R.T. -0.006 min
Lab File: 05052013.D
Acq: 5 May 2020 10:05

Tgt Ion:105 Resp: 160298

Ion	Ratio	Lower	Upper
105	100		
120	30.6	10.4	50.4

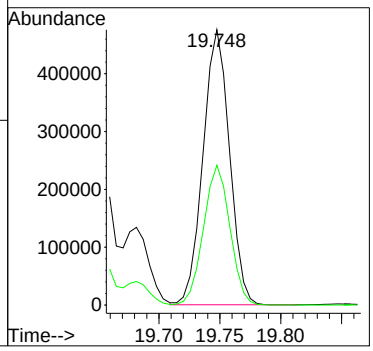


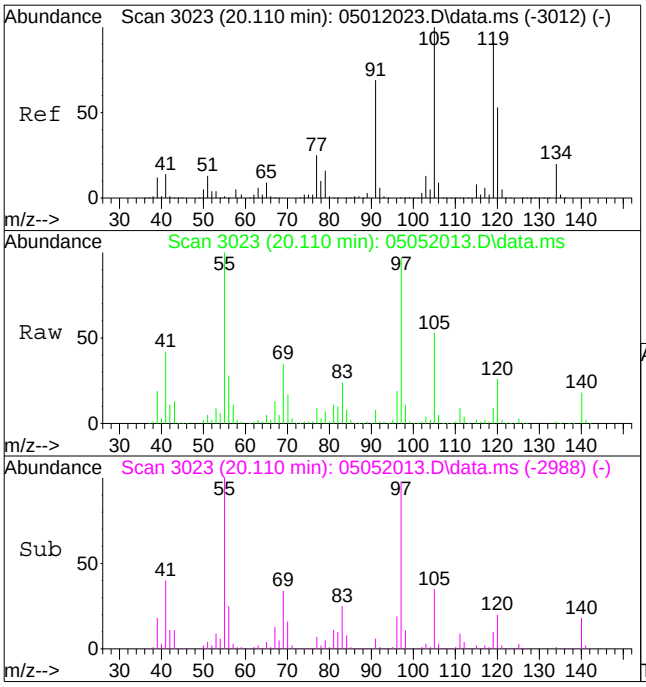


#79
1,3,5-Trimethylbenzene
Concen: 6.43 ng
RT: 19.75 min Scan# 2957
Delta R.T. -0.006 min
Lab File: 05052013.D
Acq: 5 May 2020 10:05

Tgt Ion:105 Resp: 718601

Ion	Ratio	Lower	Upper
105	100		
120	50.7	29.9	69.9

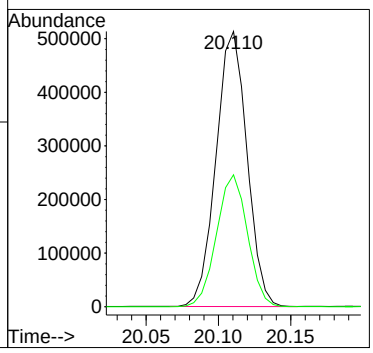




#82
1,2,4-Trimethylbenzene
Concen: 6.79 ng
RT: 20.11 min Scan# 3023
Delta R.T. -0.006 min
Lab File: 05052013.D
Acq: 5 May 2020 10:05

Tgt Ion:105 Resp: 763064

Ion	Ratio	Lower	Upper
105	100		
120	48.0	33.6	73.6



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052012.D Vial: 12
Acq On : 5 May 2020 9:24 Operator: TD
Sample : P2002107-006 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 20:55:59 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/6/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	256688	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1116767	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	523921	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	421353	12.112	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.88%				
57) Toluene-d8 (SS2)	15.72	98	1102554	12.416	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.36%				
73) Bromofluorobenzene (SS3)	18.98	174	419569	13.131	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.04%				
Target Compounds							Qvalue
2) Propene	4.11	42	13659	0.459	ng		99
3) Dichlorodifluoromethan...	4.28	85	31115	0.535	ng		99
4) Chloromethane	4.54	50	10948	0.240	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	702	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.22	54	347	N.D.			
8) Bromomethane	5.65	94	719	N.D.			
9) Chloroethane	5.98	64	703	N.D.			
10) Ethanol	6.34	45	151605	6.604	ng		99
11) Acetonitrile	6.60	41	8819	0.168	ng		97
12) Acrolein	6.79	56	11791	0.650	ng		98
13) Acetone	7.00	58	206288	8.985	ng		87
14) Trichlorofluoromethane	7.24	101	25398	0.494	ng		99
15) 2-Propanol (Isopropanol)	7.51	45	60099	0.865	ng		89
16) Acrylonitrile	7.75	53	482	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.41	84	2423	0.081	ng		94
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	8.84	151	110322	4.547	ng		98
22) Carbon Disulfide	8.68	76	157261	1.471	ng		100
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.10	73	705	N.D.			
26) Vinyl Acetate	10.17	86	17039	2.383	ng	#	10
27) 2-Butanone (MEK)	10.46	72	24097	1.231	ng		98
28) cis-1,2-Dichloroethene	10.97	61	284	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.28	61	5830	0.516	ng		93
31) n-Hexane	11.26	57	4299	0.088	ng	#	87
32) Chloroform	11.31	83	20565	0.402	ng		99
34) Tetrahydrofuran (THF)	11.75	72	3422	0.179	ng	#	56
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	7067	0.059	ng		94
42) Carbon Tetrachloride	13.03	117	88773	2.179	ng		99
43) Cyclohexane	13.17	84	4190	0.094	ng		93
44) tert-Amyl Methyl Ether	13.57	73	814	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	13.91	83	1431	N.D.			
47) Trichloroethene	13.96	130	3349	0.108	ng		97
48) 1,4-Dioxane	13.96	88	1051	N.D.			
49) 2,2,4-Trimethylpentane...	14.03	57	2093	N.D.			
50) Methyl Methacrylate	14.31	100	174	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052012.D Vial: 12
Acq On : 5 May 2020 9:24 Operator: TD
Sample : P2002107-006 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 20:55:59 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

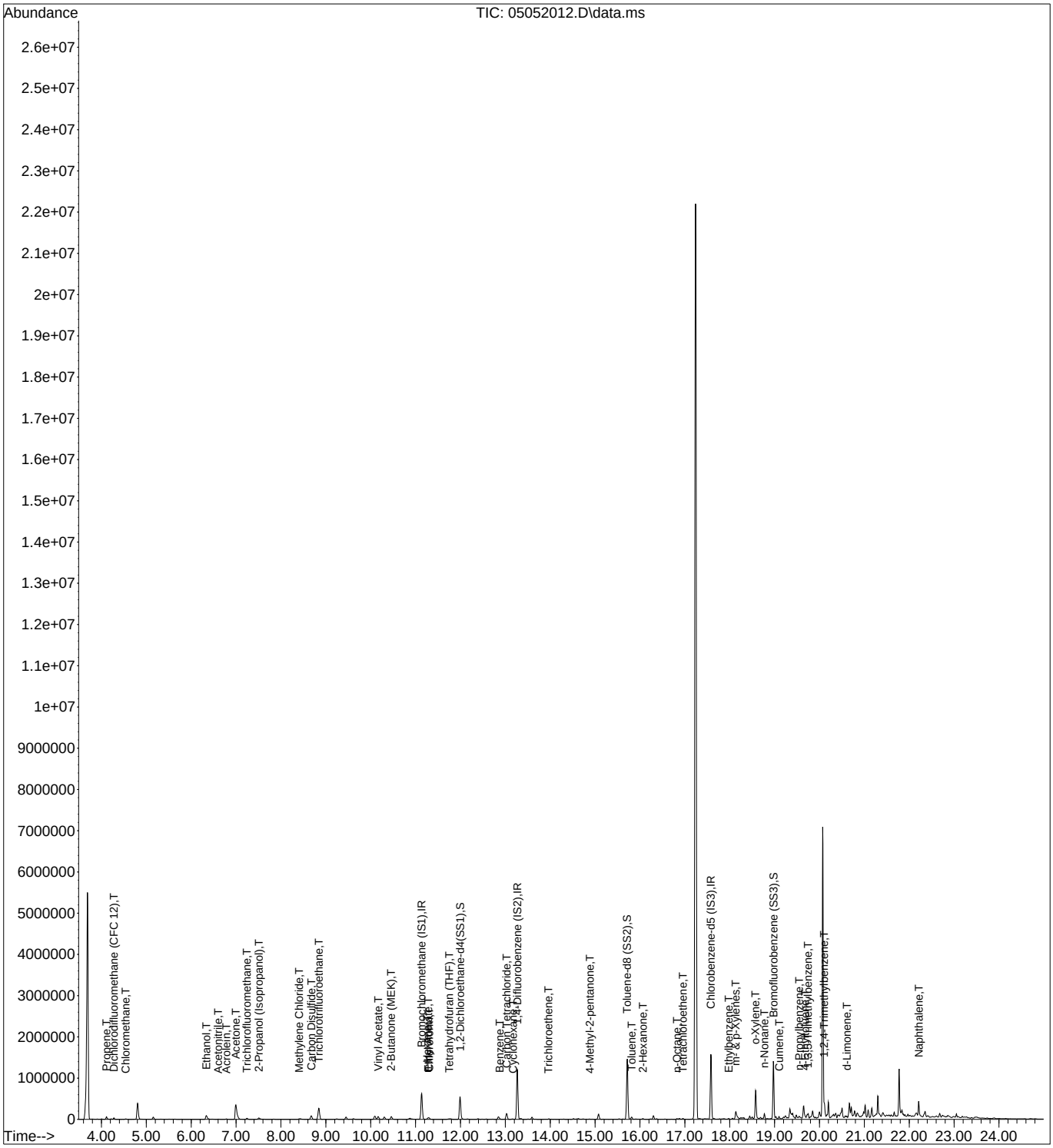
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.30	71	1256	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.89	58	1893	0.071 ng	#	48
54) trans-1,3-Dichloropropene	15.36	75	108	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.82	91	45279	0.396 ng		99
59) 2-Hexanone	16.06	43	13587	0.217 ng		92
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.70	43	1877	N.D.		
63) n-Octane	16.83	57	3024	0.128 ng		92
64) Tetrachloroethene	16.96	166	6623	0.205 ng		98
65) Chlorobenzene	17.66	112	1634	N.D.		
66) Ethylbenzene	17.98	91	11597	0.091 ng		99
67) m- & p-Xylenes	18.14	91	125212	1.237 ng		99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	1494	N.D.		
70) o-Xylene	18.58	91	76068	0.740 ng		100
71) n-Nonane	18.77	43	44611	0.818 ng		98
72) 1,1,2,2-Tetrachloroethane	18.58	83	1201	N.D.		
74) Cumene	19.10	105	10168	0.081 ng		96
75) alpha-Pinene	19.45	93	740	N.D.		
76) n-Propylbenzene	19.55	91	23385	0.156 ng		90
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.68	105	16563	0.140 ng		99
79) 1,3,5-Trimethylbenzene	19.74	105	37392	0.363 ng		100
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	20.10	105	106986	1.035 ng		91
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.22	91	1764	N.D.		
85) 1,3-Dichlorobenzene	20.24	146	517	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	979	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D. d		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	20.60	146	407	N.D.		
91) d-Limonene	20.61	68	2217	0.054 ng		89
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.11	180	664	N.D.		
95) Naphthalene	22.22	128	24926	0.198 ng		97
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052012.D Vial: 12
Acq On : 5 May 2020 9:24 Operator: TD
Sample : P2002107-006 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 20:55:59 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052012.D Vial: 12
Acq On : 5 May 2020 9:24 Operator: TD
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Quant Time: May 06 20:55:59 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/6/20

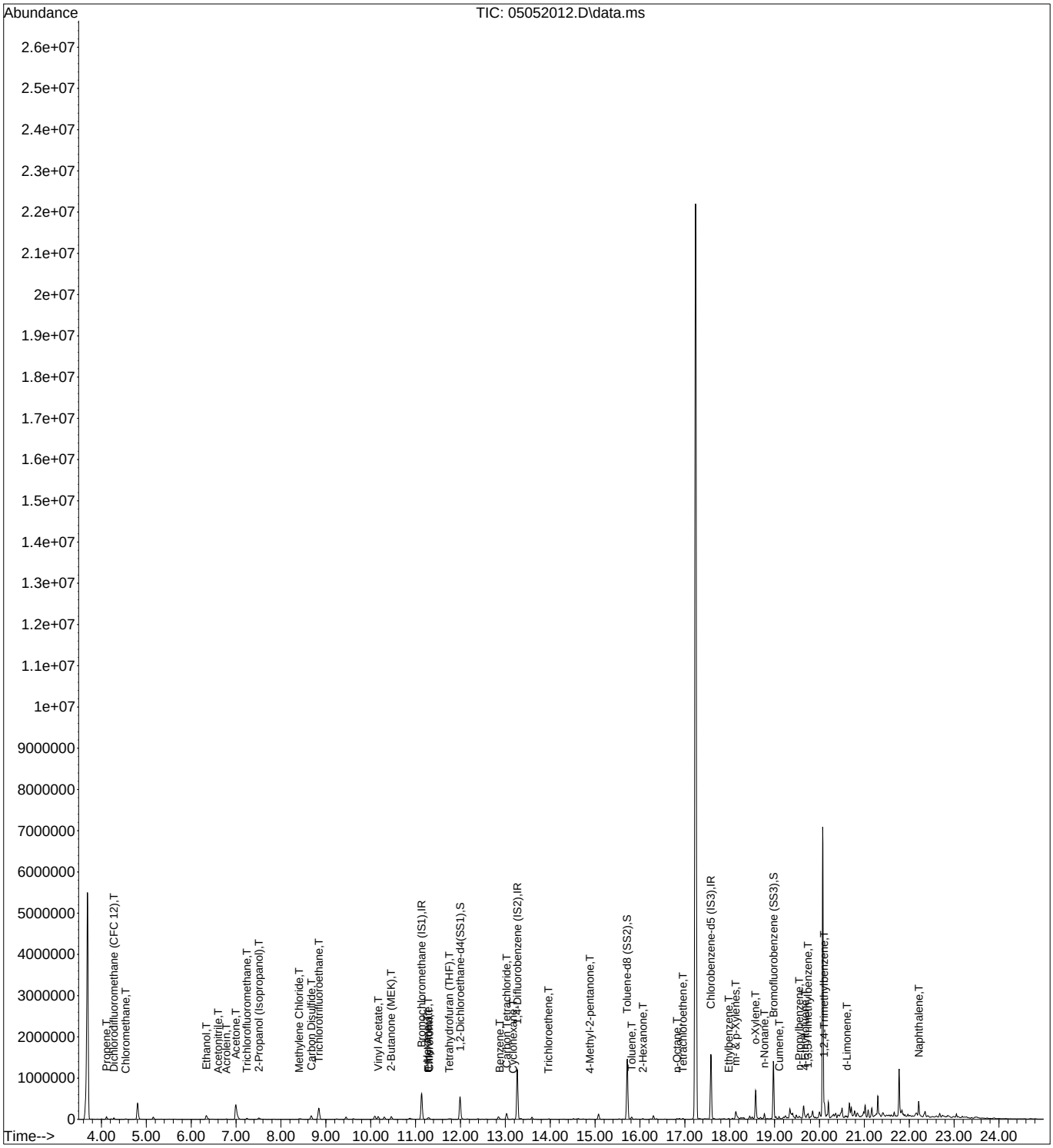
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	256688	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1116767	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	523921	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	421353	12.112	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.88%				
57) Toluene-d8 (SS2)	15.72	98	1102554	12.416	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.36%				
73) Bromofluorobenzene (SS3)	18.98	174	419569	13.131	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.04%				
Target Compounds							Qvalue
2) Propene	4.11	42	13659	0.459	ng		99
3) Dichlorodifluoromethan...	4.28	85	31115	0.535	ng		99
4) Chloromethane	4.54	50	10948	0.240	ng		99
10) Ethanol	6.34	45	151605	6.604	ng		99
11) Acetonitrile	6.60	41	8819	0.168	ng		97
12) Acrolein	6.79	56	11791	0.650	ng		98
13) Acetone	7.00	58	206288	8.985	ng		87
14) Trichlorofluoromethane	7.24	101	25398	0.494	ng		99
15) 2-Propanol (Isopropanol)	7.51	45	60099	0.865	ng		89
19) Methylene Chloride	8.41	84	2423	0.081	ng		94
21) Trichlorotrifluoroethane	8.84	151	110322	4.547	ng		98
22) Carbon Disulfide	8.68	76	157261	1.471	ng		100
26) Vinyl Acetate	10.17	86	17039	2.383	ng	#	10
27) 2-Butanone (MEK)	10.46	72	24097	1.231	ng		98
30) Ethyl Acetate	11.28	61	5830	0.516	ng		93
31) n-Hexane	11.26	57	4299	0.088	ng	#	87
32) Chloroform	11.31	83	20565	0.402	ng		99
34) Tetrahydrofuran (THF)	11.75	72	3422	0.179	ng	#	56
41) Benzene	12.87	78	7067	0.059	ng		94
42) Carbon Tetrachloride	13.03	117	88773	2.179	ng		99
43) Cyclohexane	13.17	84	4190	0.094	ng		93
47) Trichloroethene	13.96	130	3349	0.108	ng		97
53) 4-Methyl-2-pentanone	14.89	58	1893	0.071	ng	#	48
58) Toluene	15.82	91	45279	0.396	ng		99
59) 2-Hexanone	16.06	43	13587	0.217	ng		92
63) n-Octane	16.83	57	3024	0.128	ng		92
64) Tetrachloroethene	16.96	166	6623	0.205	ng		98
66) Ethylbenzene	17.98	91	11597	0.091	ng		99
67) m- & p-Xylenes	18.14	91	125212	1.237	ng		99
70) o-Xylene	18.58	91	76068	0.740	ng		100
71) n-Nonane	18.77	43	44611	0.818	ng		98
74) Cumene	19.10	105	10168	0.081	ng		96
76) n-Propylbenzene	19.55	91	23385	0.156	ng		90
78) 4-Ethyltoluene	19.68	105	16563	0.140	ng		99
79) 1,3,5-Trimethylbenzene	19.74	105	37392	0.363	ng		100
82) 1,2,4-Trimethylbenzene	20.10	105	106986	1.035	ng		91
91) d-Limonene	20.61	68	2217	0.054	ng		89
95) Naphthalene	22.22	128	24926	0.198	ng		97

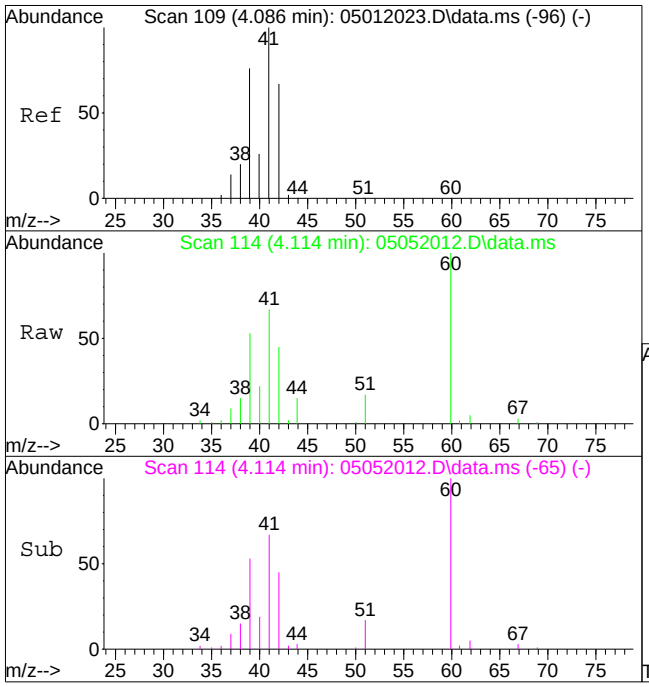
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052012.D Vial: 12
Acq On : 5 May 2020 9:24 Operator: TD
Sample : P2002107-006 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 20:55:59 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

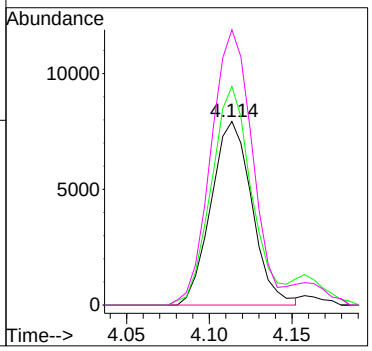


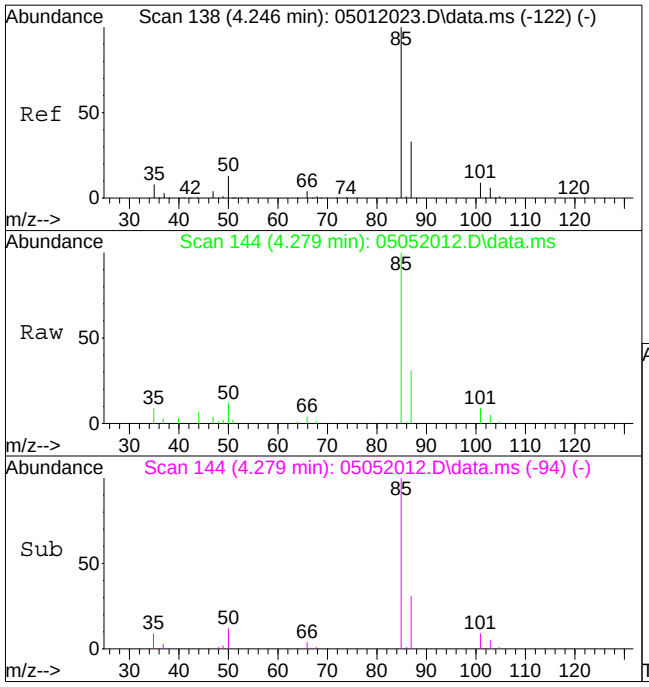


#2
Propene
Concen: 0.46 ng
RT: 4.11 min Scan# 114
Delta R.T. 0.022 min
Lab File: 05052012.D
Acq: 5 May 2020 9:24

Tgt Ion: 42 Resp: 13659

Ion	Ratio	Lower	Upper
42	100		
39	118.5	96.1	136.1
41	152.0	131.9	171.9

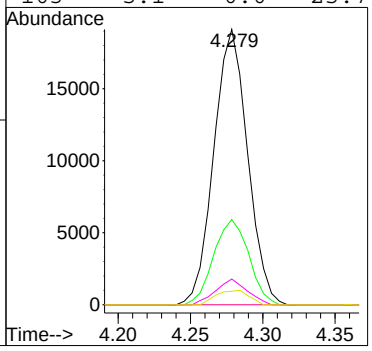


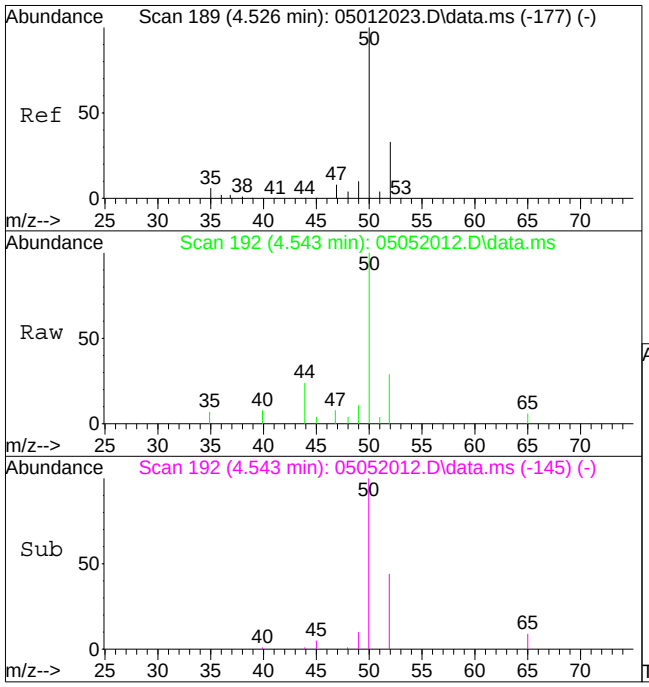


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.54 ng
RT: 4.28 min Scan# 144
Delta R.T. 0.027 min
Lab File: 05052012.D
Acq: 5 May 2020 9:24

Tgt Ion: 85 Resp: 31115

Ion	Ratio	Lower	Upper
85	100		
87	32.1	12.4	52.4
101	8.7	0.0	28.8
103	5.1	0.0	25.7

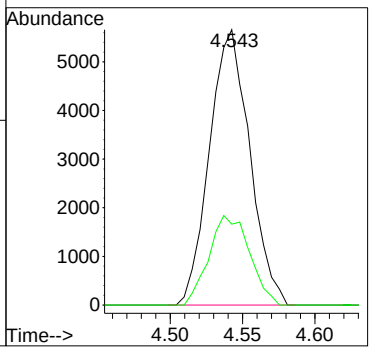


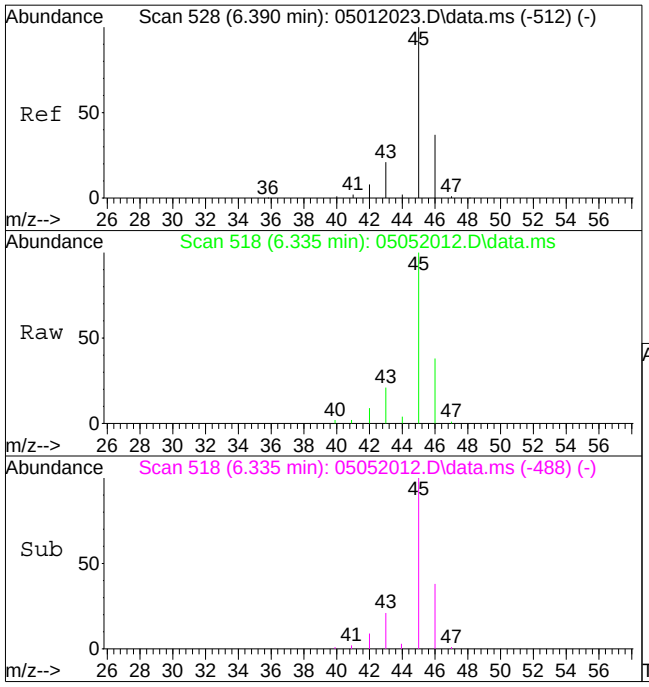


#4
Chloromethane
Concen: 0.24 ng
RT: 4.54 min Scan# 192
Delta R.T. 0.011 min
Lab File: 05052012.D
Acq: 5 May 2020 9:24

Tgt Ion: 50 Resp: 10948

Ion	Ratio	Lower	Upper
50	100		
52	32.8	12.5	52.5

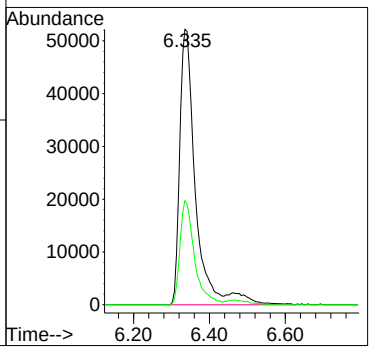


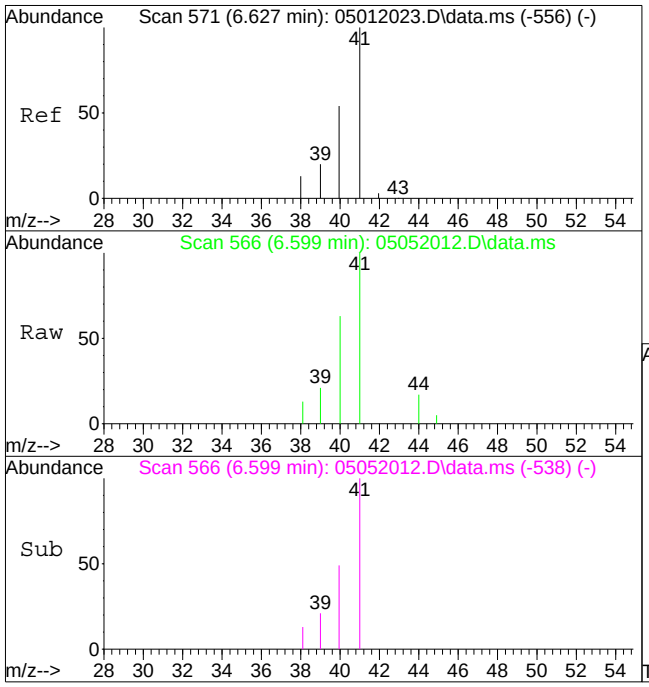


#10
Ethanol
Concen: 6.60 ng
RT: 6.34 min Scan# 518
Delta R.T. -0.083 min
Lab File: 05052012.D
Acq: 5 May 2020 9:24

Tgt Ion: 45 Resp: 151605

Ion	Ratio	Lower	Upper
45	100		
46	36.8	17.2	57.2

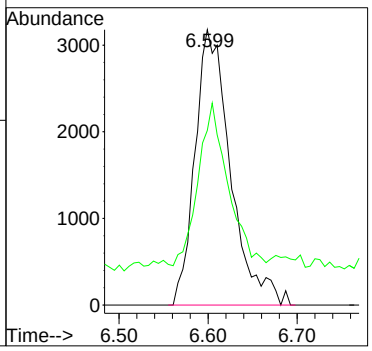


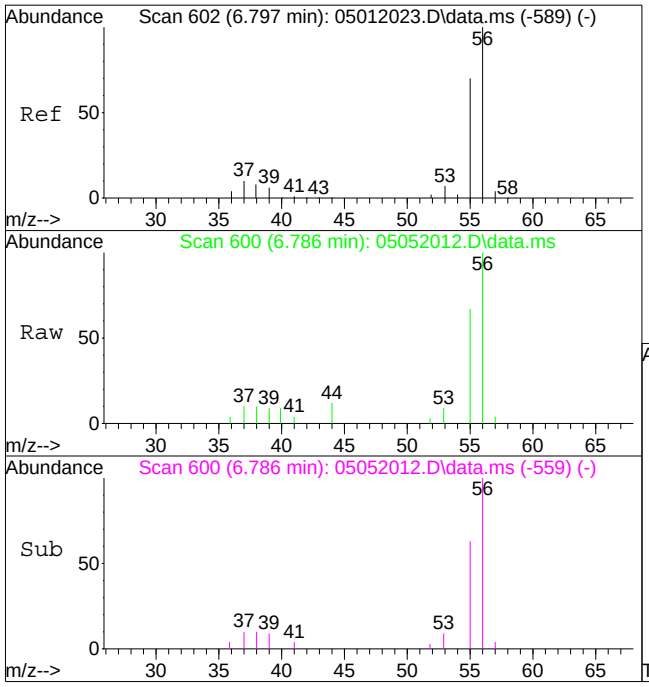


#11
Acetonitrile
Concen: 0.17 ng
RT: 6.60 min Scan# 566
Delta R.T. -0.044 min
Lab File: 05052012.D
Acq: 5 May 2020 9:24

Tgt Ion: 41 Resp: 8819

Ion	Ratio	Lower	Upper
41	100		
40	55.7	33.6	73.6

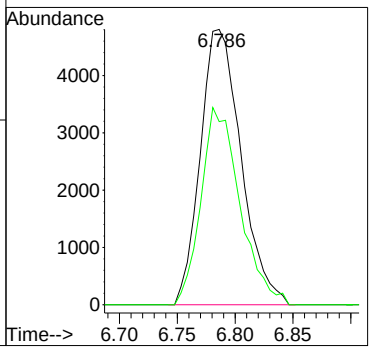


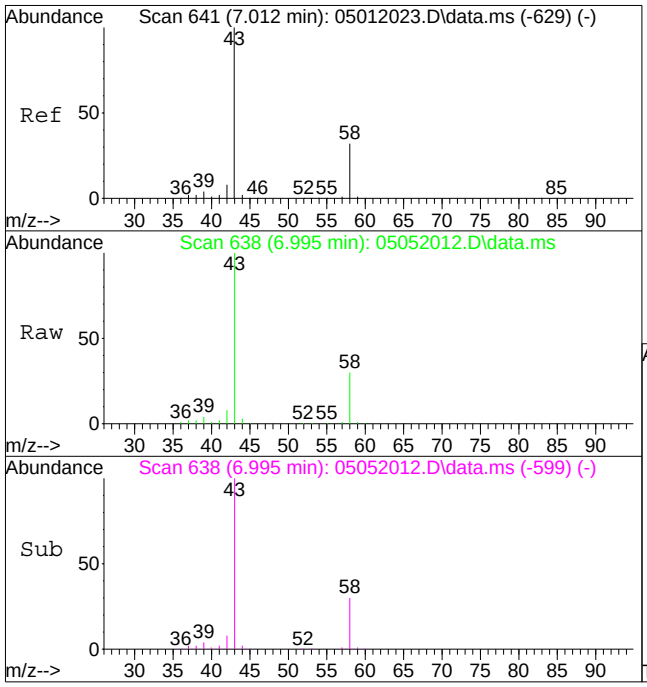


#12
Acrolein
Concen: 0.65 ng
RT: 6.79 min Scan# 600
Delta R.T. -0.022 min
Lab File: 05052012.D
Acq: 5 May 2020 9:24

Tgt Ion: 56 Resp: 11791

Ion	Ratio	Lower	Upper
56	100		
55	68.2	50.2	90.2

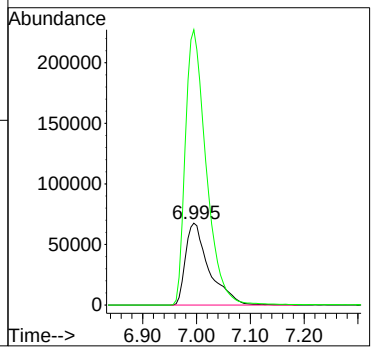


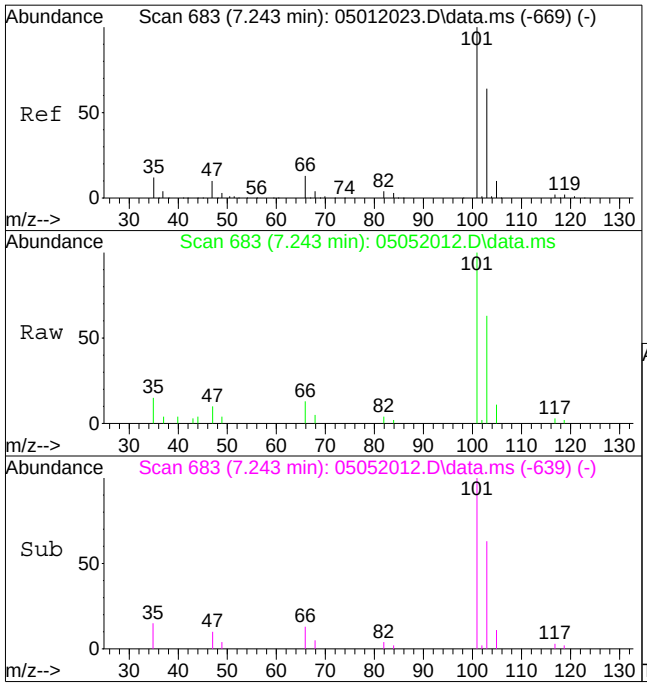


#13
Acetone
Concen: 8.99 ng
RT: 7.00 min Scan# 638
Delta R.T. -0.033 min
Lab File: 05052012.D
Acq: 5 May 2020 9:24

Tgt Ion: 58 Resp: 206288

Ion	Ratio	Lower	Upper
58	100		
43	298.6	294.4	354.4

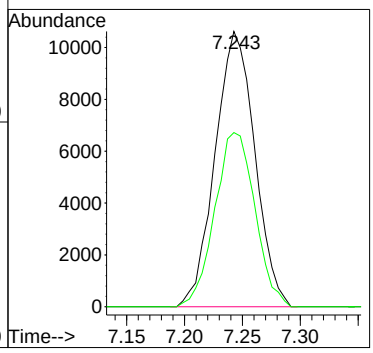


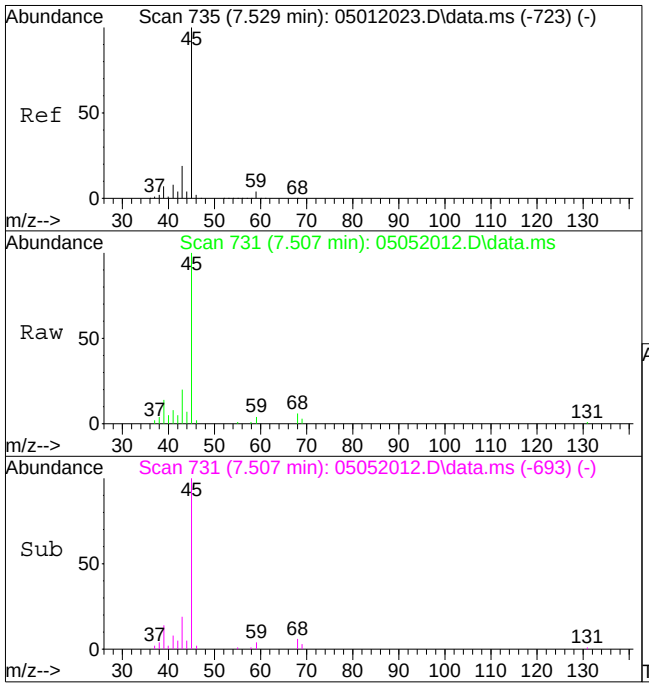


#14
Trichlorofluoromethane
Concen: 0.49 ng
RT: 7.24 min Scan# 683
Delta R.T. -0.006 min
Lab File: 05052012.D
Acq: 5 May 2020 9:24

Tgt Ion:101 Resp: 25398

Ion	Ratio	Lower	Upper
101	100		
103	63.9	44.4	84.4

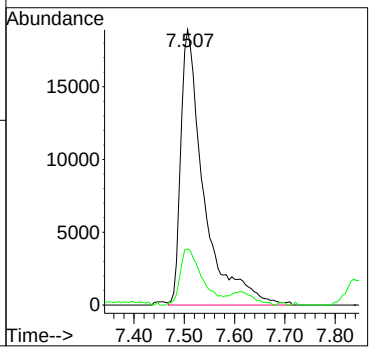


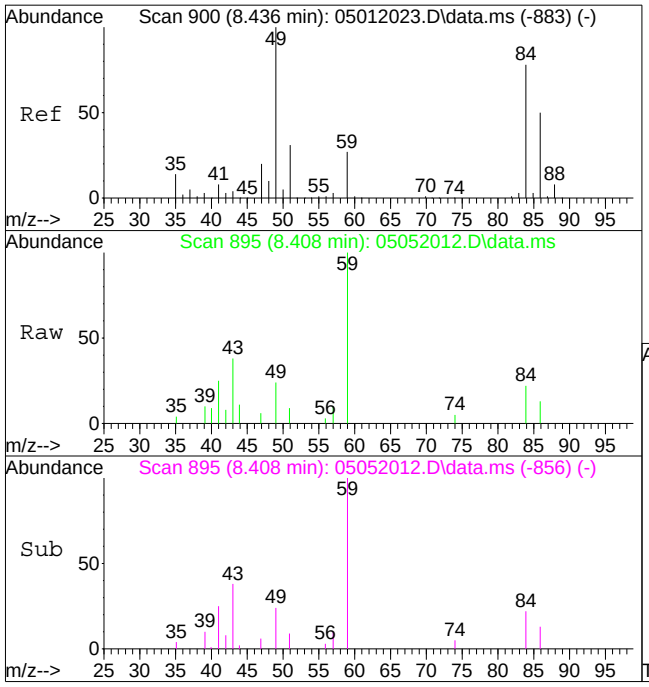


#15
2-Propanol (Isopropanol)
Concen: 0.86 ng
RT: 7.51 min Scan# 731
Delta R.T. -0.039 min
Lab File: 05052012.D
Acq: 5 May 2020 9:24

Tgt Ion: 45 Resp: 60099

Ion	Ratio	Lower	Upper
45	100		
43	24.7	0.0	39.5

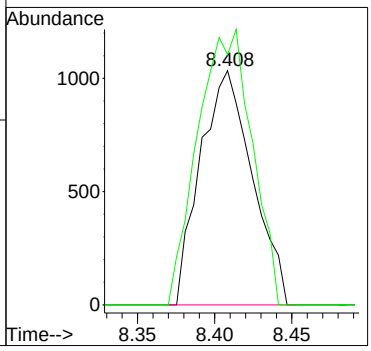


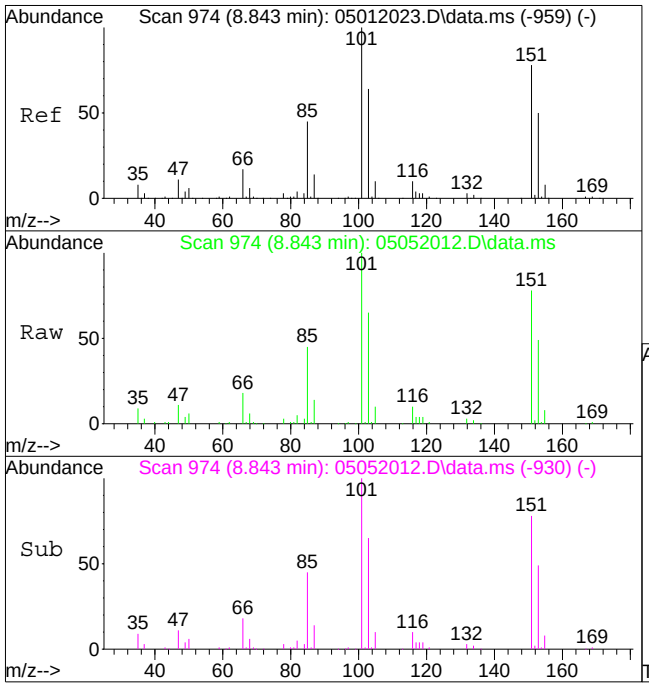


#19
Methylene Chloride
Concen: 0.08 ng
RT: 8.41 min Scan# 895
Delta R.T. -0.033 min
Lab File: 05052012.D
Acq: 5 May 2020 9:24

Tgt Ion: 84 Resp: 2423

Ion	Ratio	Lower	Upper
84	100		
49	122.9	104.8	154.8

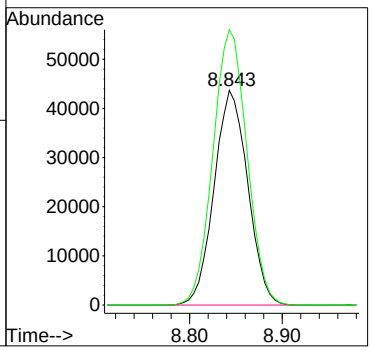


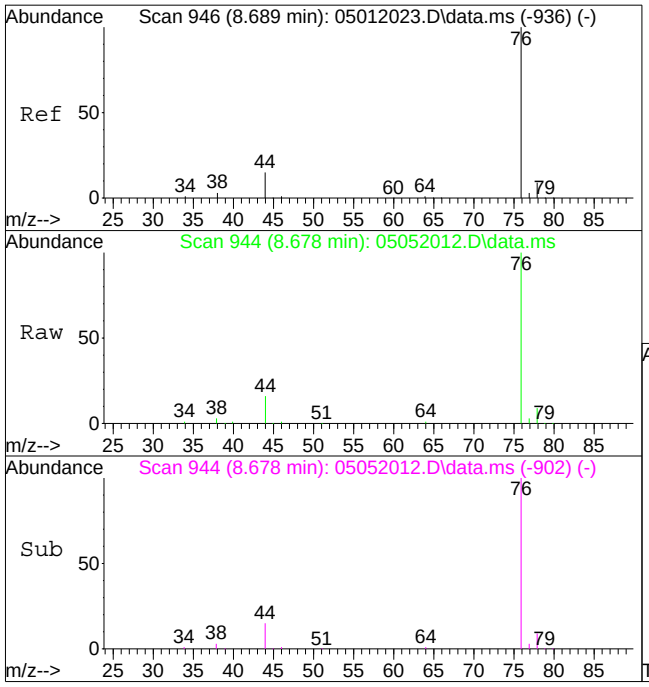


#21
Trichlorotrifluoroethane
Concen: 4.55 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05052012.D
Acq: 5 May 2020 9:24

Tgt Ion:151 Resp: 110322

Ion	Ratio	Lower	Upper
151	100		
101	129.7	107.3	147.3

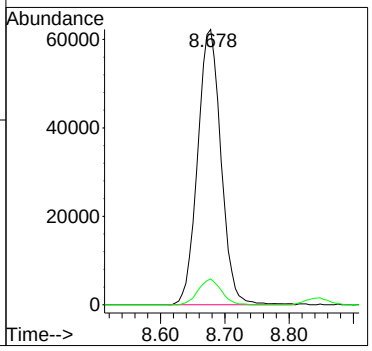


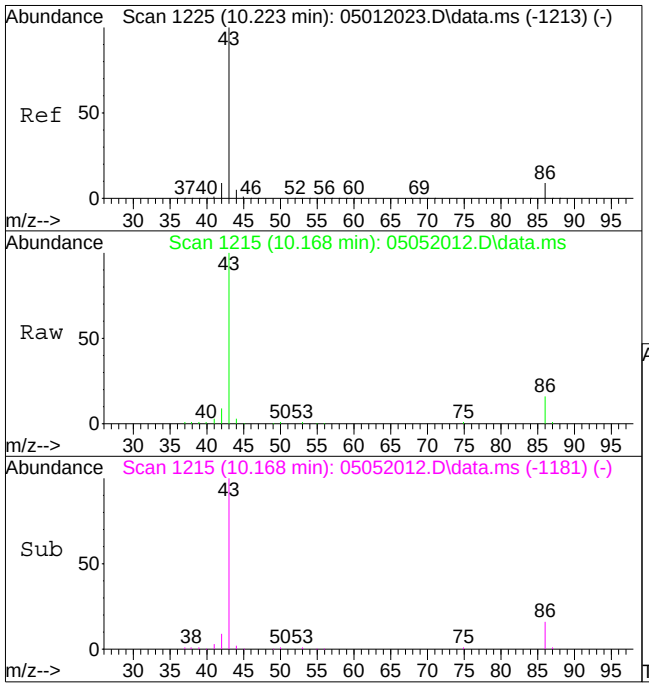


#22
Carbon Disulfide
Concen: 1.47 ng
RT: 8.68 min Scan# 944
Delta R.T. -0.017 min
Lab File: 05052012.D
Acq: 5 May 2020 9:24

Tgt Ion: 76 Resp: 157261

Ion	Ratio	Lower	Upper
76	100		
78	9.2	0.0	29.2

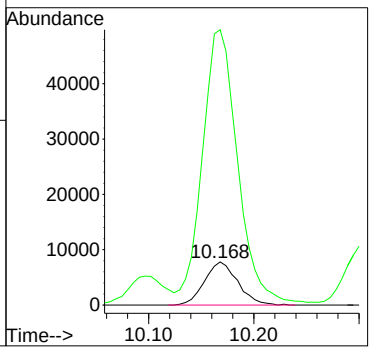


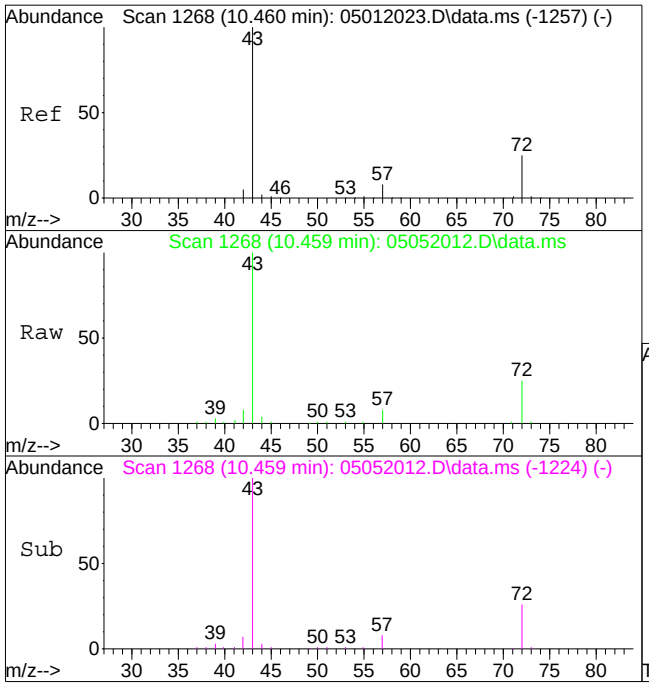


#26
Vinyl Acetate
Concen: 2.38 ng
RT: 10.17 min Scan# 1215
Delta R.T. -0.061 min
Lab File: 05052012.D
Acq: 5 May 2020 9:24

Tgt Ion: 86 Resp: 17039

Ion	Ratio	Lower	Upper
86	100		
43	685.1	1103.0	1143.0#

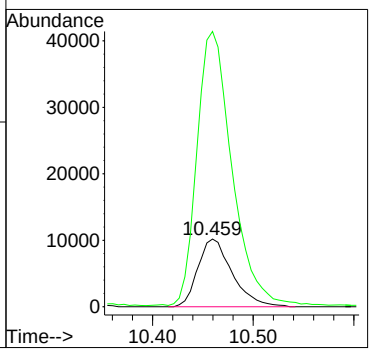


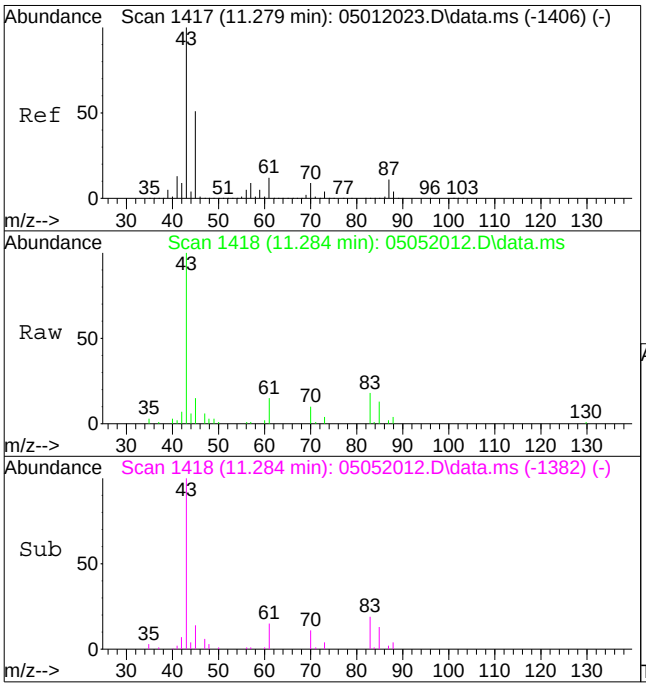


#27
2-Butanone (MEK)
Concen: 1.23 ng
RT: 10.46 min Scan# 1268
Delta R.T. -0.006 min
Lab File: 05052012.D
Acq: 5 May 2020 9:24

Tgt Ion: 72 Resp: 24097

Ion	Ratio	Lower	Upper
72	100		
43	414.7	389.7	429.7

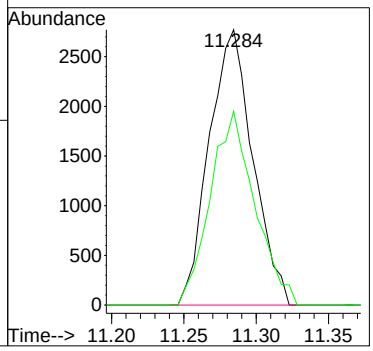


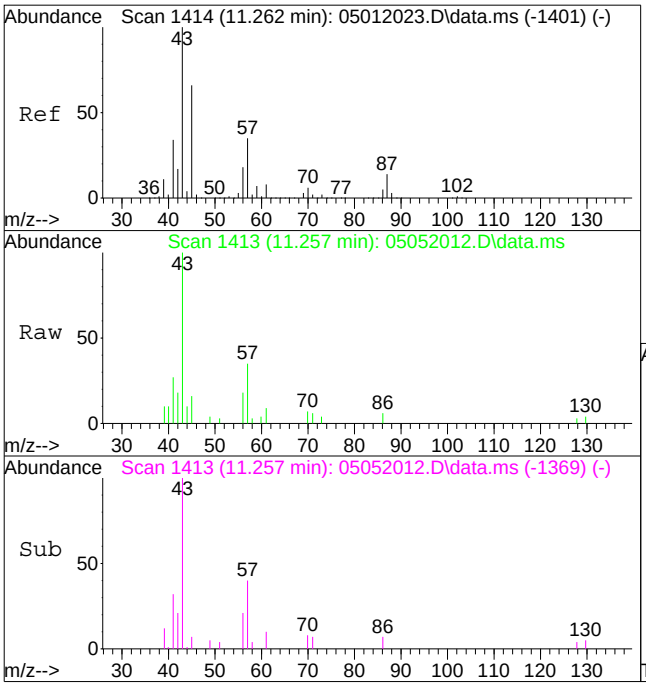


#30
Ethyl Acetate
Concen: 0.52 ng
RT: 11.28 min Scan# 1418
Delta R.T. -0.000 min
Lab File: 05052012.D
Acq: 5 May 2020 9:24

Tgt Ion: 61 Resp: 5830

Ion	Ratio	Lower	Upper
61	100		
70	71.6	57.9	97.9

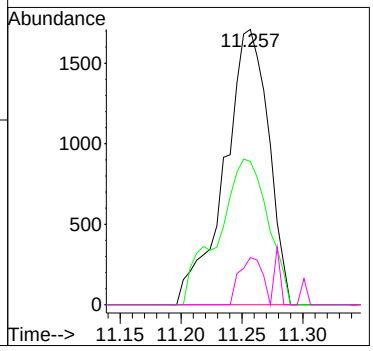


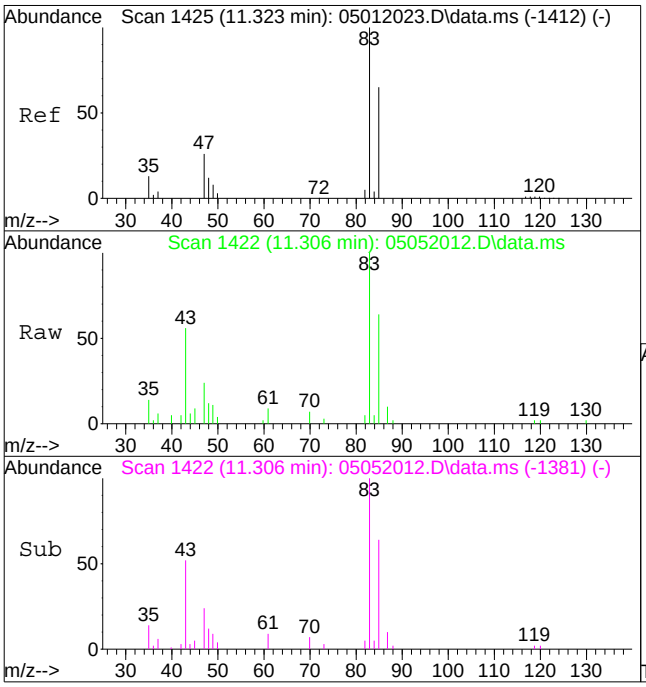


#31
n-Hexane
Concen: 0.09 ng
RT: 11.26 min Scan# 1413
Delta R.T. -0.006 min
Lab File: 05052012.D
Acq: 5 May 2020 9:24

Tgt Ion: 57 Resp: 4299

Ion	Ratio	Lower	Upper
57	100		
56	60.1	41.4	62.0
86	9.0	12.4	18.6#

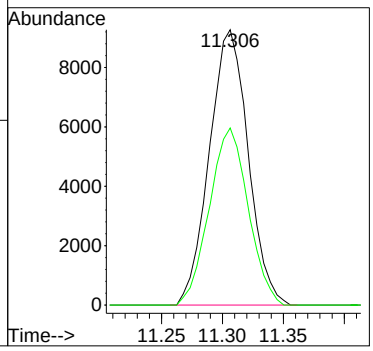


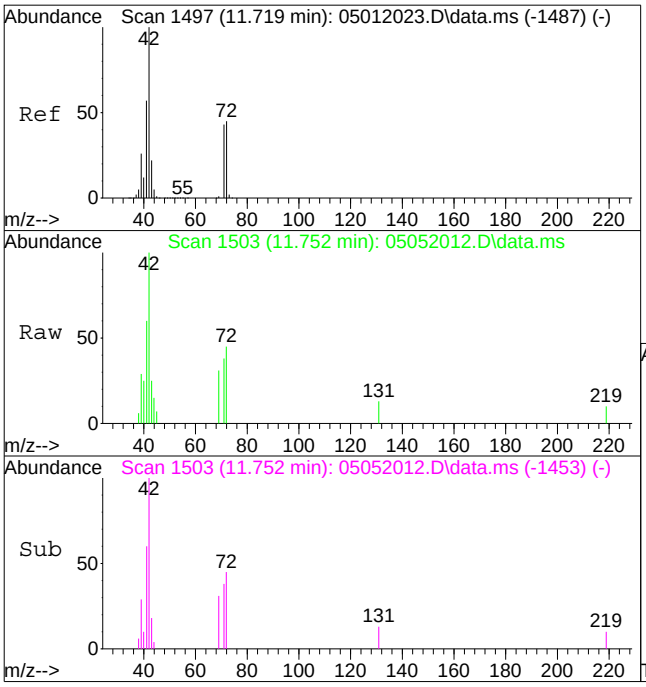


#32
Chloroform
Concen: 0.40 ng
RT: 11.31 min Scan# 1422
Delta R.T. -0.022 min
Lab File: 05052012.D
Acq: 5 May 2020 9:24

Tgt Ion: 83 Resp: 20565

Ion	Ratio	Lower	Upper
83	100		
85	64.4	45.5	85.5

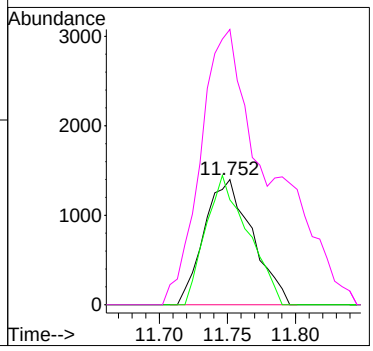


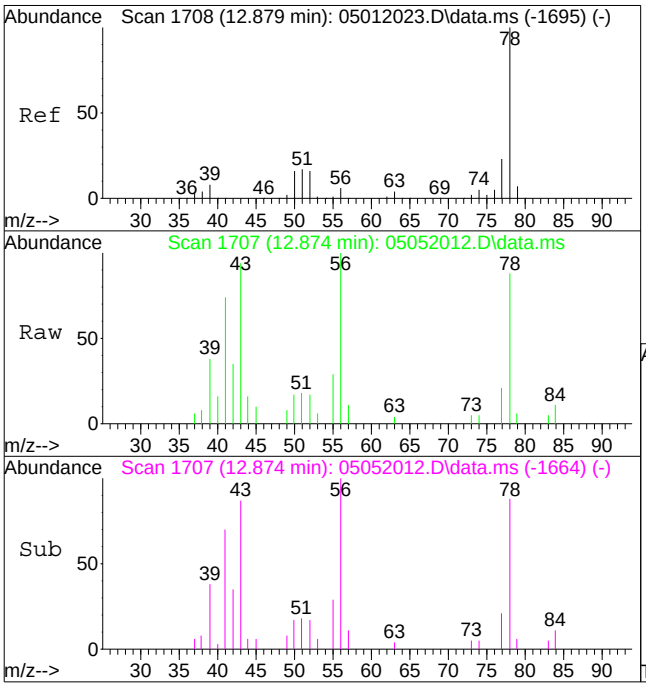


#34
Tetrahydrofuran (THF)
Concen: 0.18 ng
RT: 11.75 min Scan# 1503
Delta R.T. 0.027 min
Lab File: 05052012.D
Acq: 5 May 2020 9:24

Tgt Ion: 72 Resp: 3422

Ion	Ratio	Lower	Upper
72	100		
71	90.8	77.0	117.0
42	322.4	204.6	244.6#

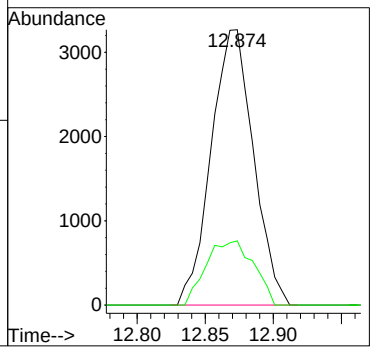


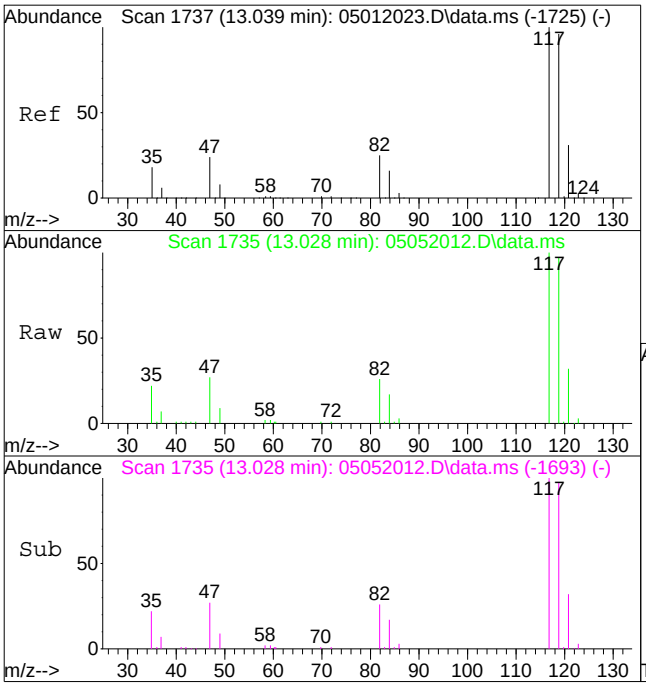


#41
Benzene
Concen: 0.06 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05052012.D
Acq: 5 May 2020 9:24

Tgt Ion: 78 Resp: 7067

Ion	Ratio	Lower	Upper
78	100		
77	26.2	3.4	43.4

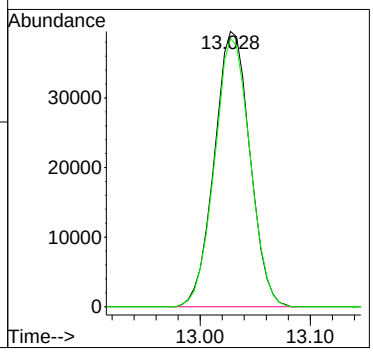


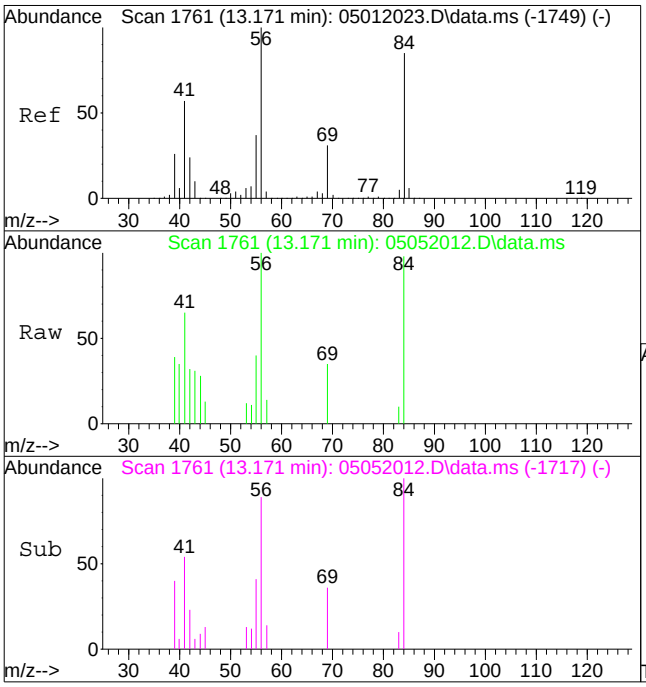


#42
Carbon Tetrachloride
Concen: 2.18 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05052012.D
Acq: 5 May 2020 9:24

Tgt Ion:117 Resp: 88773

Ion	Ratio	Lower	Upper
117	100		
119	97.2	76.2	116.2

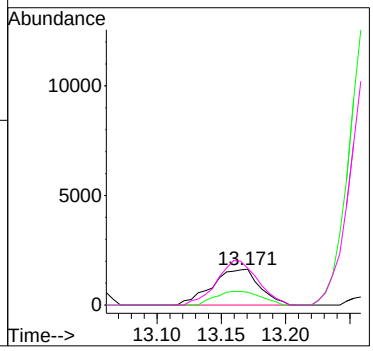


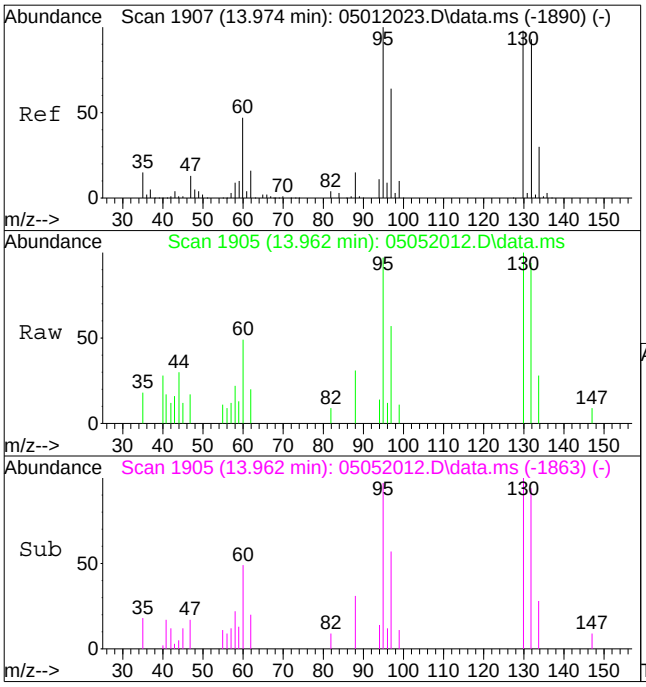


#43
Cyclohexane
Concen: 0.09 ng
RT: 13.17 min Scan# 1761
Delta R.T. -0.006 min
Lab File: 05052012.D
Acq: 5 May 2020 9:24

Tgt Ion: 84 Resp: 4190

Ion	Ratio	Lower	Upper
84	100		
69	36.4	16.5	56.5
56	107.4	97.4	137.4

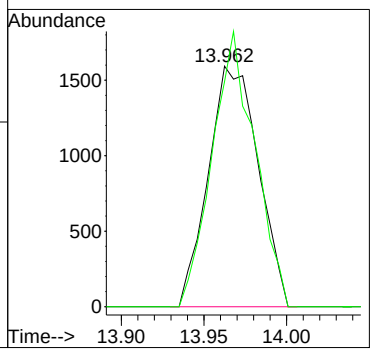


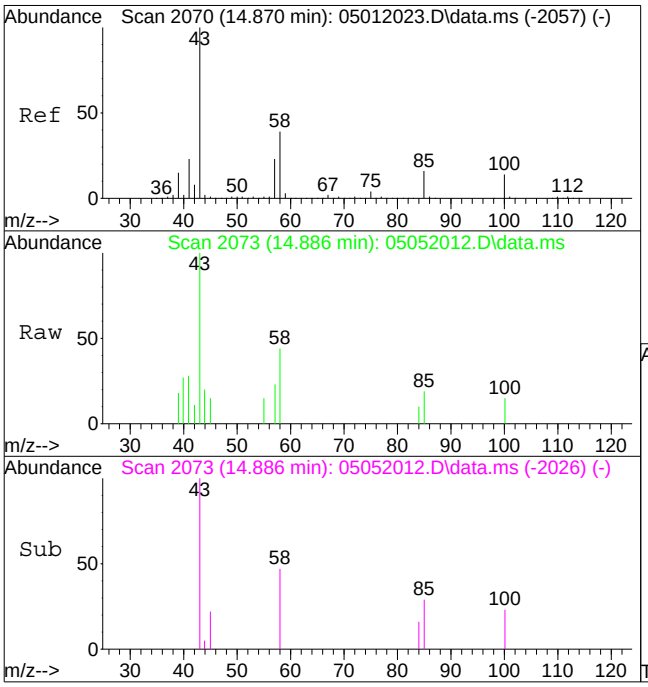


#47
Trichloroethene
Concen: 0.11 ng
RT: 13.96 min Scan# 1905
Delta R.T. -0.017 min
Lab File: 05052012.D
Acq: 5 May 2020 9:24

Tgt Ion:130 Resp: 3349

Ion	Ratio	Lower	Upper
130	100		
132	98.0	74.9	114.9

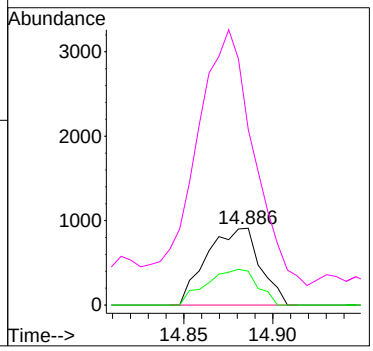


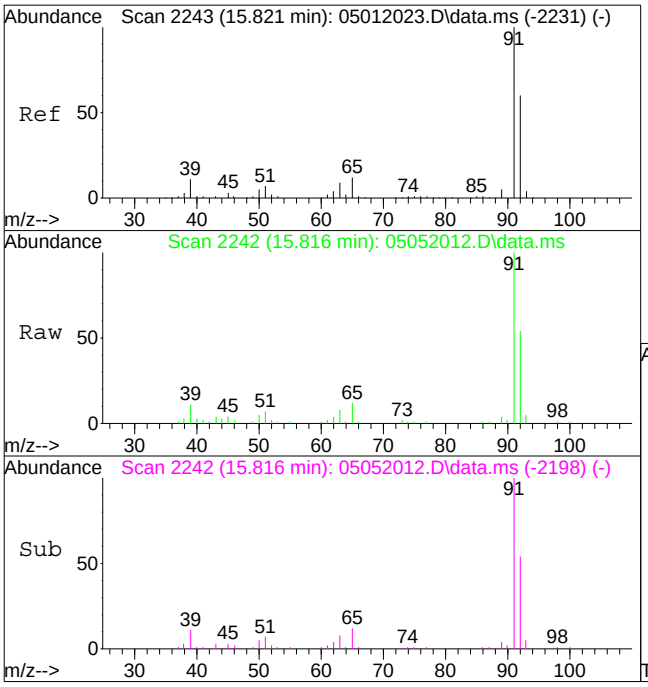


#53
4-Methyl-2-pentanone
Concen: 0.07 ng
RT: 14.89 min Scan# 2073
Delta R.T. 0.011 min
Lab File: 05052012.D
Acq: 5 May 2020 9:24

Tgt Ion: 58 Resp: 1893

Ion	Ratio	Lower	Upper
58	100		
85	44.5	35.4	53.2
43	360.6	203.3	304.9#

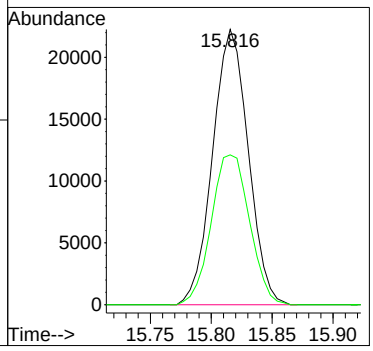


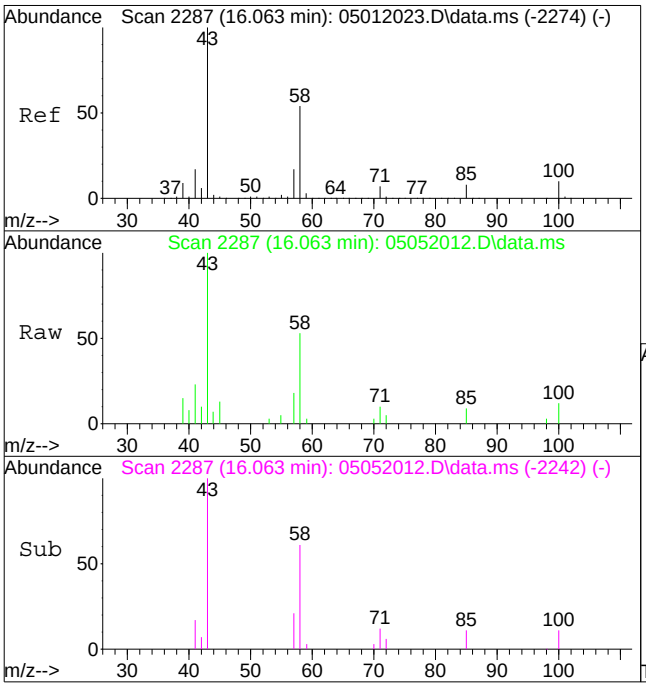


#58
Toluene
Concen: 0.40 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05052012.D
Acq: 5 May 2020 9:24

Tgt Ion: 91 Resp: 45279

Ion	Ratio	Lower	Upper
91	100		
92	58.4	39.4	79.4

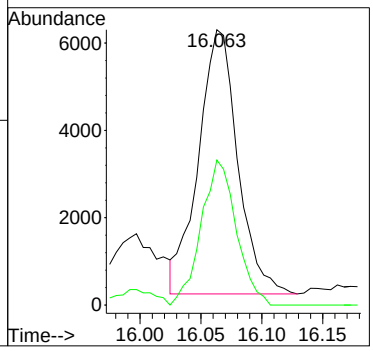


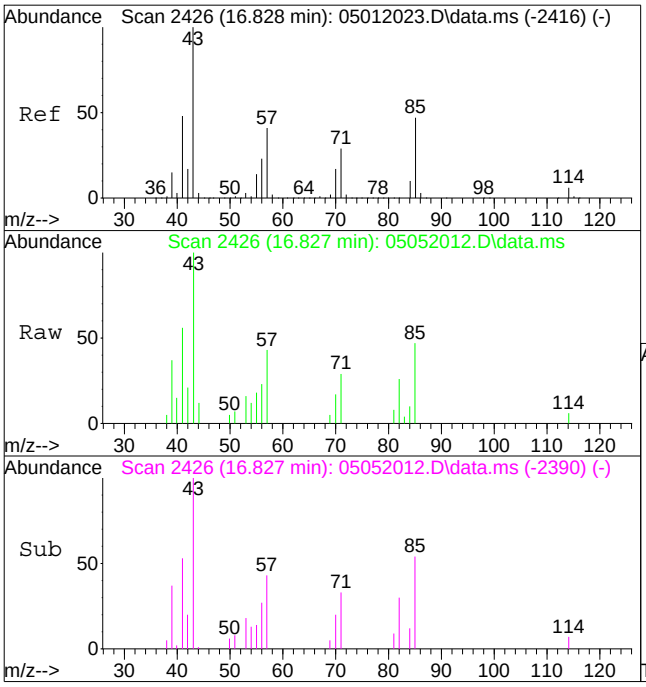


#59
2-Hexanone
Concen: 0.22 ng
RT: 16.06 min Scan# 2287
Delta R.T. -0.000 min
Lab File: 05052012.D
Acq: 5 May 2020 9:24

Tgt Ion: 43 Resp: 13587

Ion	Ratio	Lower	Upper
43	100		
58	48.9	34.5	74.5

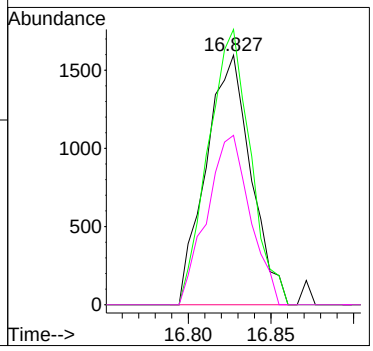


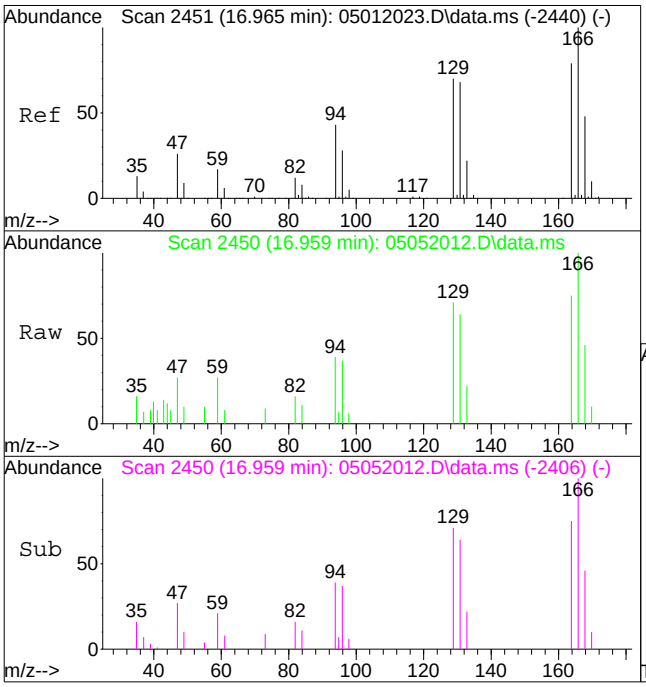


#63
n-Octane
Concen: 0.13 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05052012.D
Acq: 5 May 2020 9:24

Tgt Ion: 57 Resp: 3024

Ion	Ratio	Lower	Upper
57	100		
85	103.3	91.0	136.4
71	65.2	56.2	84.2

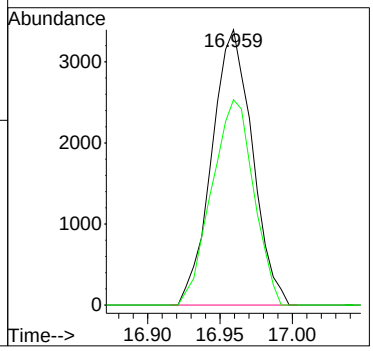


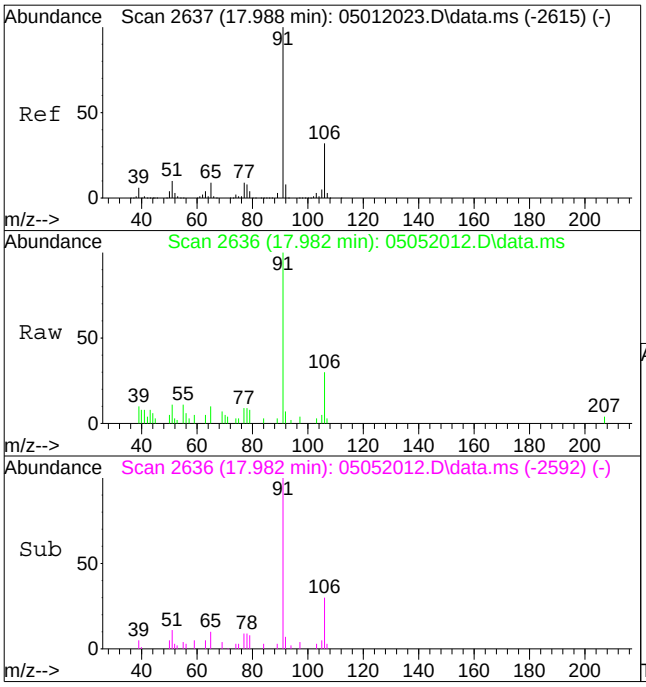


#64
Tetrachloroethene
Concen: 0.20 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05052012.D
Acq: 5 May 2020 9:24

Tgt Ion:166 Resp: 6623

Ion	Ratio	Lower	Upper
166	100		
164	77.0	58.4	98.4

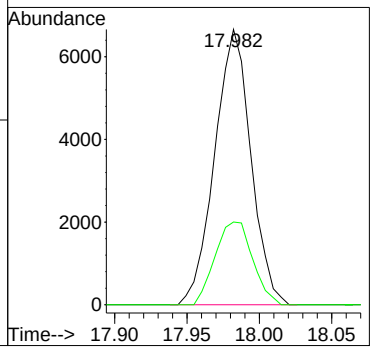


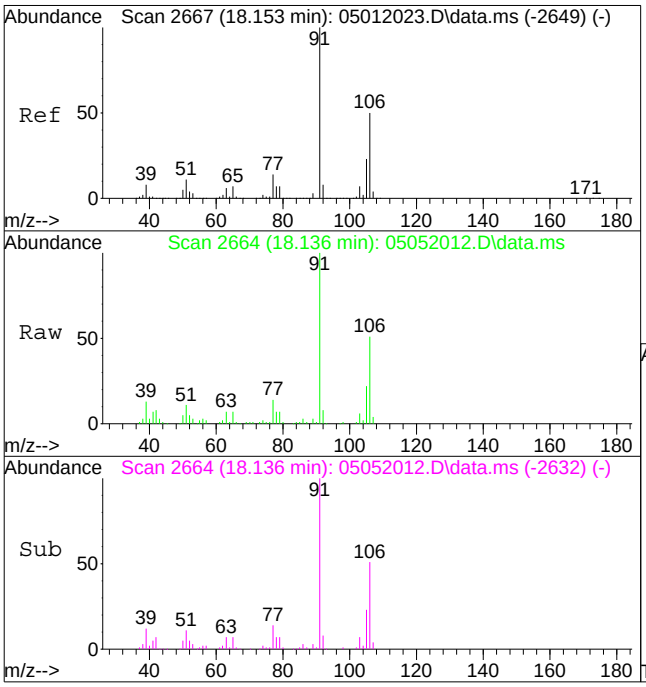


#66
Ethylbenzene
Concen: 0.09 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05052012.D
Acq: 5 May 2020 9:24

Tgt Ion: 91 Resp: 11597

Ion	Ratio	Lower	Upper
91	100		
106	31.1	11.6	51.6

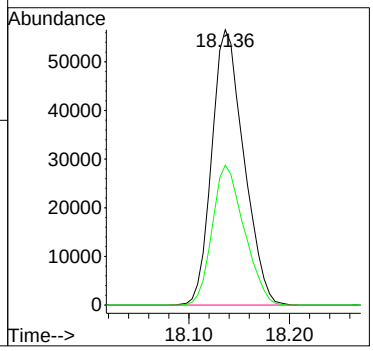


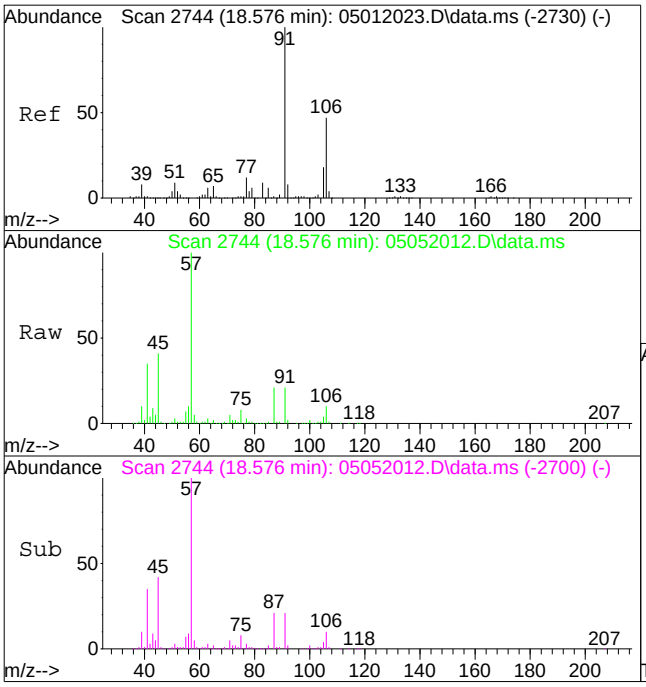


#67
m- & p-Xylenes
Concen: 1.24 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05052012.D
Acq: 5 May 2020 9:24

Tgt Ion: 91 Resp: 125212

Ion	Ratio	Lower	Upper
91	100		
106	50.6	29.7	69.7

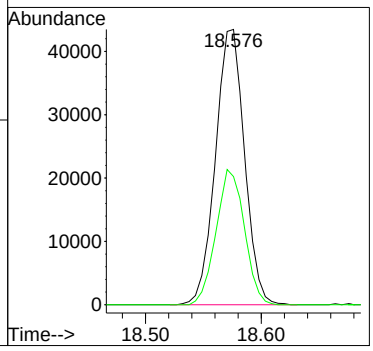


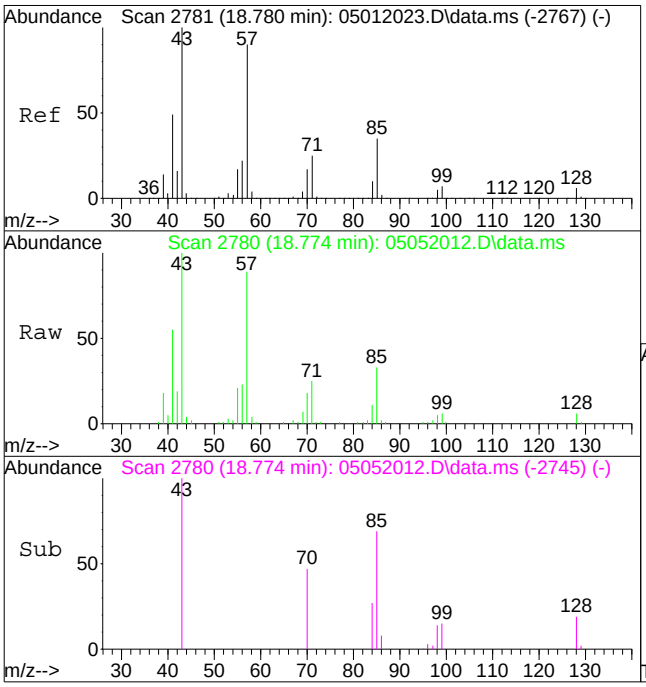


#70
o-Xylene
Concen: 0.74 ng
RT: 18.58 min Scan# 2744
Delta R.T. -0.006 min
Lab File: 05052012.D
Acq: 5 May 2020 9:24

Tgt Ion: 91 Resp: 76068

Ion	Ratio	Lower	Upper
91	100		
106	47.8	27.5	67.5

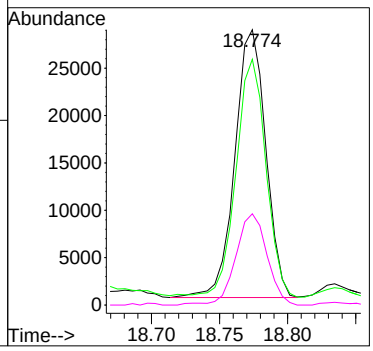


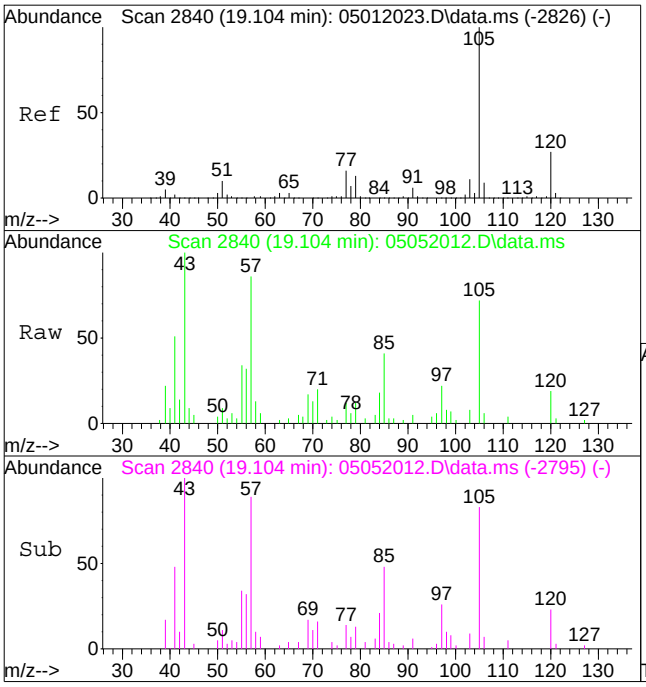


#71
n-Nonane
Concen: 0.82 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05052012.D
Acq: 5 May 2020 9:24

Tgt Ion: 43 Resp: 44611

Ion	Ratio	Lower	Upper
43	100		
57	86.1	69.0	109.0
85	34.4	14.6	54.6

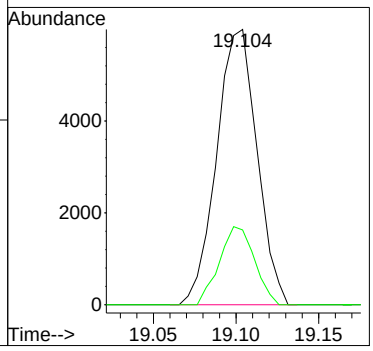


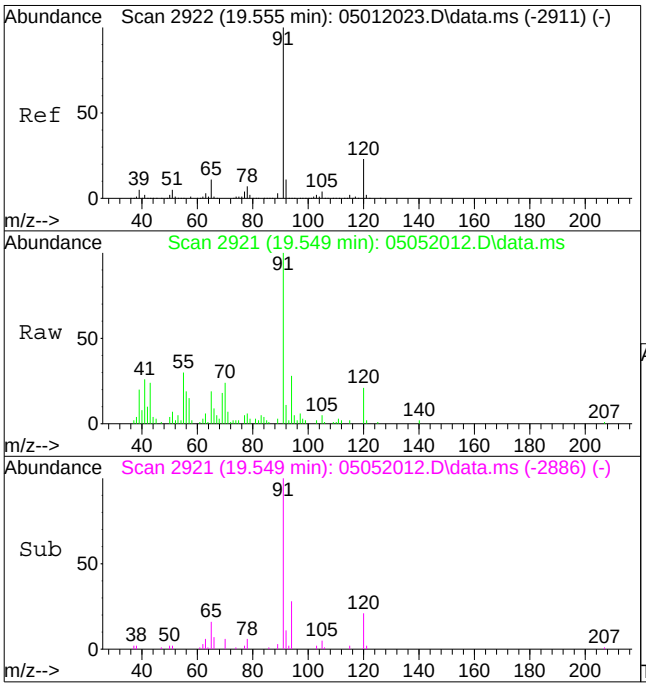


#74
Cumene
Concen: 0.08 ng
RT: 19.10 min Scan# 2840
Delta R.T. -0.000 min
Lab File: 05052012.D
Acq: 5 May 2020 9:24

Tgt Ion:105 Resp: 10168

Ion	Ratio	Lower	Upper
105	100		
120	24.7	6.8	46.8

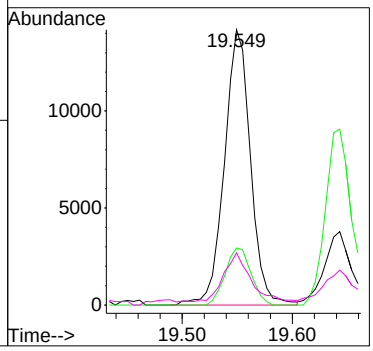


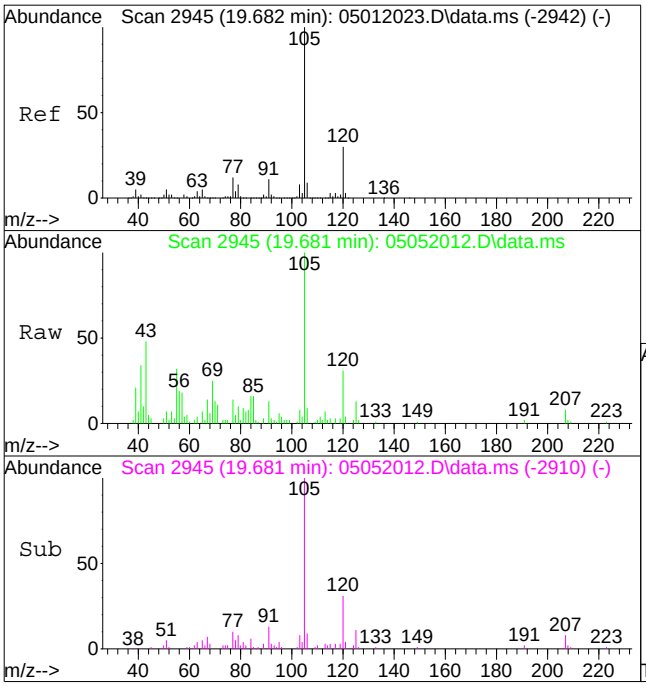


#76
n-Propylbenzene
Concen: 0.16 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05052012.D
Acq: 5 May 2020 9:24

Tgt Ion: 91 Resp: 23385

Ion	Ratio	Lower	Upper
91	100		
120	20.5	3.1	43.1
65	18.0	0.0	30.9

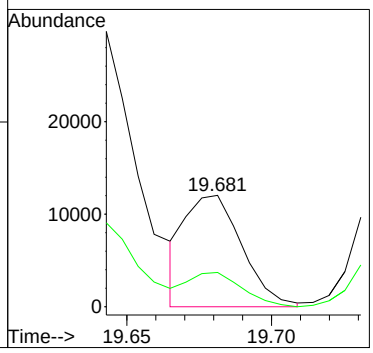


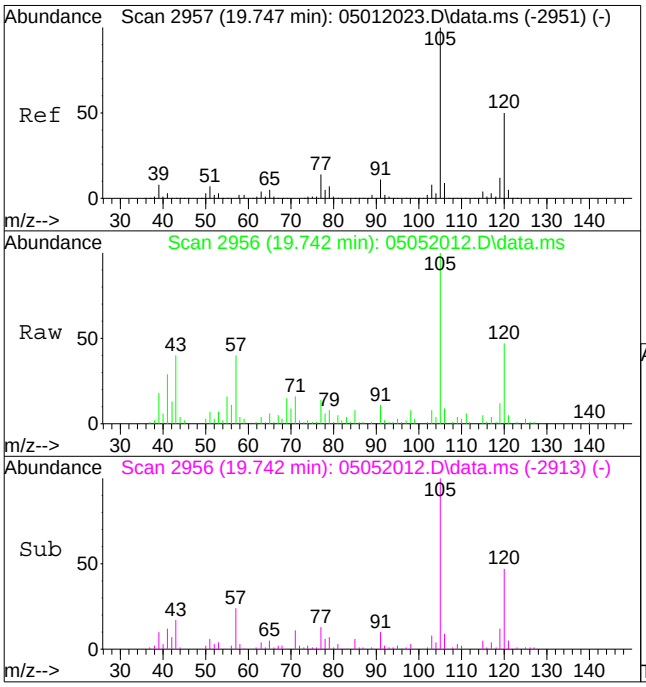


#78
4-Ethyltoluene
Concen: 0.14 ng
RT: 19.68 min Scan# 2945
Delta R.T. -0.006 min
Lab File: 05052012.D
Acq: 5 May 2020 9:24

Tgt Ion:105 Resp: 16563

Ion	Ratio	Lower	Upper
105	100		
120	29.8	10.4	50.4

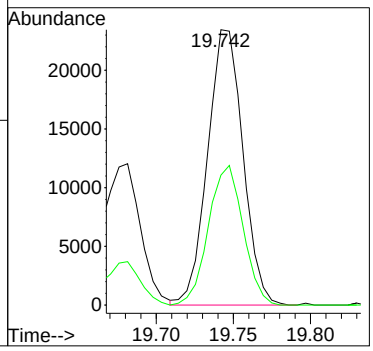


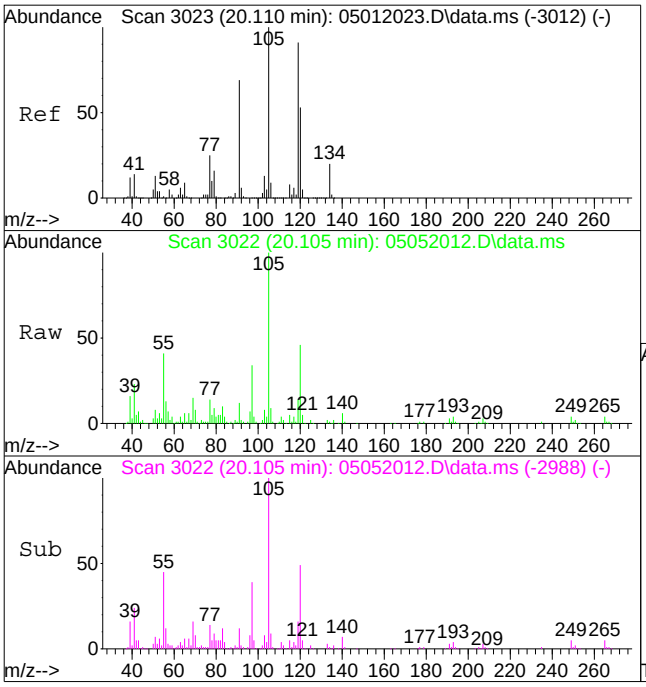


#79
1,3,5-Trimethylbenzene
Concen: 0.36 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05052012.D
Acq: 5 May 2020 9:24

Tgt Ion:105 Resp: 37392

Ion	Ratio	Lower	Upper
105	100		
120	49.6	29.9	69.9

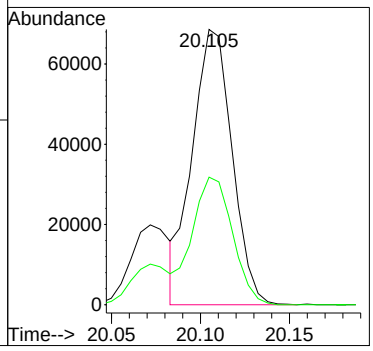


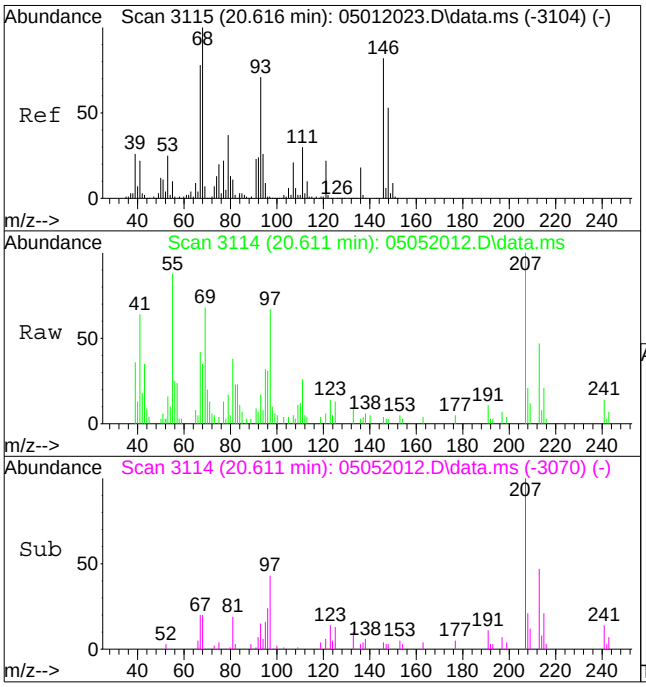


#82
1,2,4-Trimethylbenzene
Concen: 1.03 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05052012.D
Acq: 5 May 2020 9:24

Tgt Ion:105 Resp: 106986

Ion	Ratio	Lower	Upper
105	100		
120	47.2	33.6	73.6

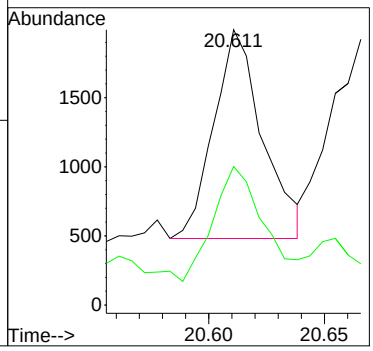


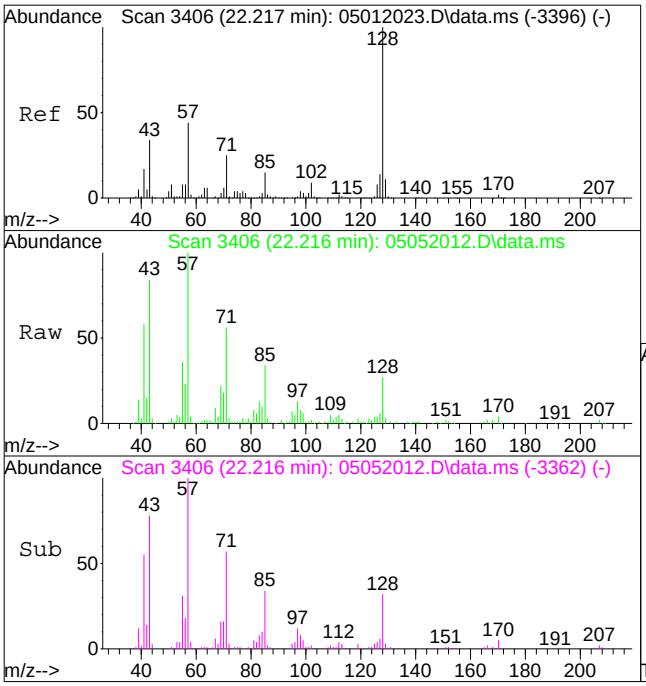


#91
d-Limonene
Concen: 0.05 ng
RT: 20.61 min Scan# 3114
Delta R.T. -0.006 min
Lab File: 05052012.D
Acq: 5 May 2020 9:24

Tgt Ion: 68 Resp: 2217

Ion	Ratio	Lower	Upper
68	100		
93	61.9	51.1	91.1

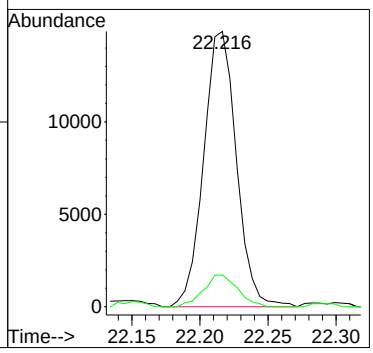




#95
Naphthalene
Concen: 0.20 ng
RT: 22.22 min Scan# 3406
Delta R.T. -0.006 min
Lab File: 05052012.D
Acq: 5 May 2020 9:24

Tgt Ion:128 Resp: 24926

Ion	Ratio	Lower	Upper
128	100		
129	12.0	0.0	31.0



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052021.D Vial: 4
Acq On : 5 May 2020 16:12 Operator: WA
Sample : P2002107-007 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 21:08:40 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/6/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	254693	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1099064	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	524713	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	419638	12.158	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.28%				
57) Toluene-d8 (SS2)	15.72	98	1100473	12.373	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.96%				
73) Bromofluorobenzene (SS3)	18.98	174	395943	12.372	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.96%				
Target Compounds							Qvalue
2) Propene	4.11	42	5570	0.189	ng		96
3) Dichlorodifluoromethan...	4.27	85	29905	0.518	ng		100
4) Chloromethane	4.54	50	1563	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	585	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.15	54	117	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.33	45	39137	1.718	ng		99
11) Acetonitrile	6.60	41	4078	0.078	ng		97
12) Acrolein	6.79	56	4313	0.240	ng		97
13) Acetone	6.98	58	377825	16.586	ng		96
14) Trichlorofluoromethane	7.24	101	32777	0.643	ng		99
15) 2-Propanol (Isopropanol)	7.53	45	12330	0.179	ng		59
16) Acrylonitrile	7.77	53	281	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.41	84	529	N.D.			
20) 3-Chloro-1-propene (Al...	8.42	41	1635	N.D.			
21) Trichlorotrifluoroethane	8.84	151	167548	6.960	ng		97
22) Carbon Disulfide	8.68	76	915238	8.626	ng		100
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.09	73	336	N.D.			
26) Vinyl Acetate	10.17	86	4528	0.638	ng	#	25
27) 2-Butanone (MEK)	10.45	72	32205	1.658	ng		97
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.28	61	1222	0.109	ng	#	75
31) n-Hexane	11.25	57	4044	0.083	ng	#	96
32) Chloroform	11.31	83	42006	0.829	ng		100
34) Tetrahydrofuran (THF)	11.72	72	45072	2.379	ng		97
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	21902	0.186	ng		98
42) Carbon Tetrachloride	13.03	117	147950	3.690	ng		99
43) Cyclohexane	13.17	84	2817	0.064	ng		91
44) tert-Amyl Methyl Ether	13.56	73	459	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	13.92	83	2052	0.052	ng		92
47) Trichloroethene	13.97	130	506	N.D.			
48) 1,4-Dioxane	13.96	88	4149	0.175	ng		94
49) 2,2,4-Trimethylpentane...	14.03	57	5160	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052021.D Vial: 4
Acq On : 5 May 2020 16:12 Operator: WA
Sample : P2002107-007 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 21:08:40 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

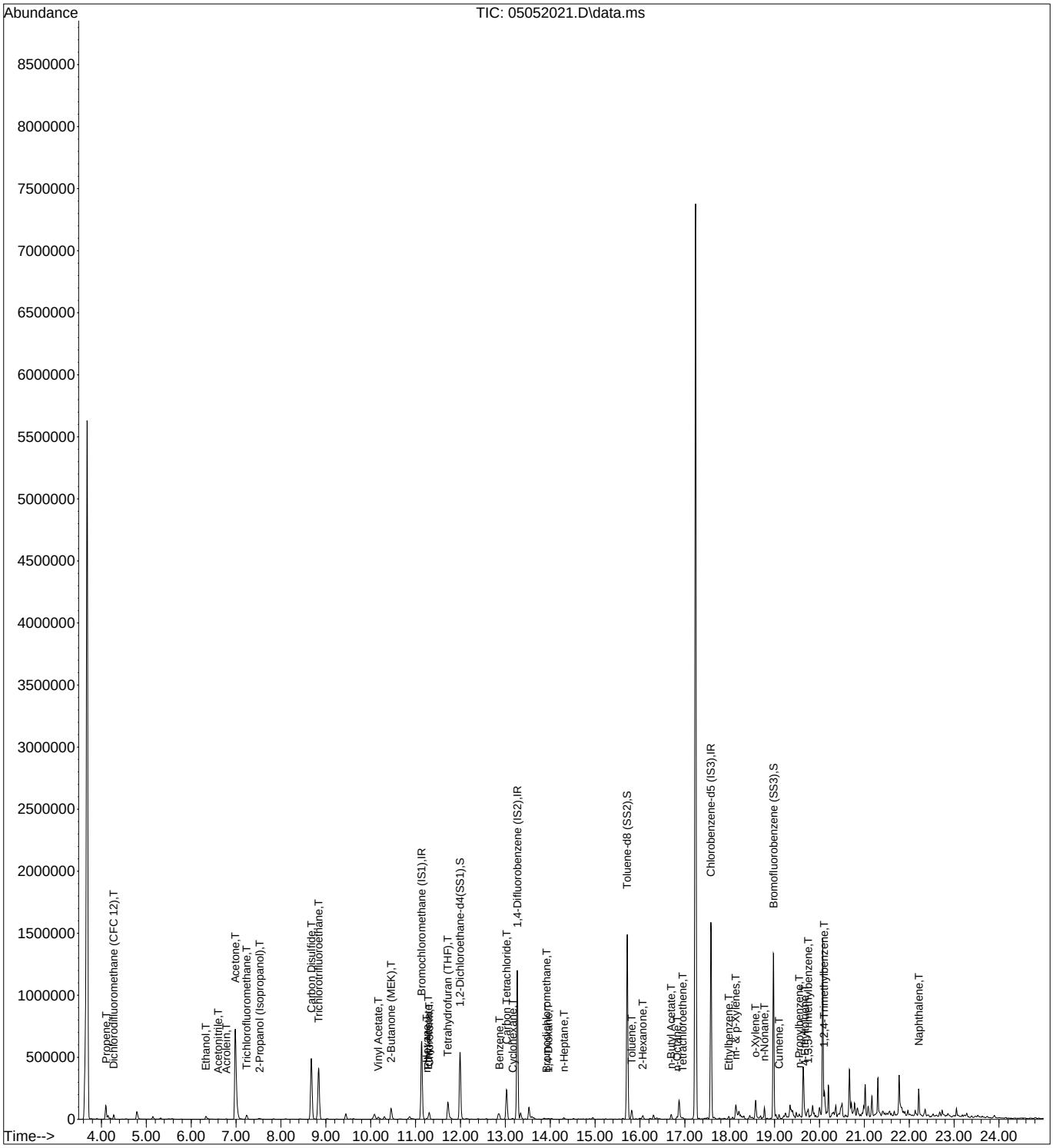
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	2977	0.108 ng	90
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.88	58	1260	N.D.	
54) trans-1,3-Dichloropropene	15.36	75	121	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.82	91	59654	0.520 ng	99
59) 2-Hexanone	16.06	43	23832	0.379 ng	90
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.70	43	34079	0.502 ng	99
63) n-Octane	16.83	57	3483	0.147 ng	93
64) Tetrachloroethene	16.95	166	2915	0.090 ng	97
65) Chlorobenzene	17.65	112	1317	N.D.	
66) Ethylbenzene	17.98	91	15593	0.122 ng	100
67) m- & p-Xylenes	18.14	91	81578	0.804 ng	99
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.48	104	1041	N.D.	
70) o-Xylene	18.57	91	43004	0.418 ng	99
71) n-Nonane	18.77	43	31773	0.582 ng	99
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	19.10	105	6460	0.051 ng	100
75) alpha-Pinene	19.55	93	173	N.D.	
76) n-Propylbenzene	19.55	91	17679	0.118 ng	86
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.68	105	11922	0.100 ng	98
79) 1,3,5-Trimethylbenzene	19.75	105	21279	0.207 ng	100
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.10	105	72275	0.698 ng	91
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	0.00	91	0	N.D. d	
85) 1,3-Dichlorobenzene	20.24	146	320	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	668	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	20.59	146	108	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.11	180	334	N.D.	
95) Naphthalene	22.22	128	22463	0.178 ng	99
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052021.D Vial: 4
Acq On : 5 May 2020 16:12 Operator: WA
Sample : P2002107-007 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 21:08:40 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

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Acq On : 5 May 2020 16:12 Operator: WA
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Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/6/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	254693	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1099064	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	524713	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	419638	12.158	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.28%				
57) Toluene-d8 (SS2)	15.72	98	1100473	12.373	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.96%				
73) Bromofluorobenzene (SS3)	18.98	174	395943	12.372	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.96%				
Target Compounds							Qvalue
2) Propene	4.11	42	5570	0.189	ng		96
3) Dichlorodifluoromethan...	4.27	85	29905	0.518	ng		100
10) Ethanol	6.33	45	39137	1.718	ng		99
11) Acetonitrile	6.60	41	4078	0.078	ng		97
12) Acrolein	6.79	56	4313	0.240	ng		97
13) Acetone	6.98	58	377825	16.586	ng		96
14) Trichlorofluoromethane	7.24	101	32777	0.643	ng		99
15) 2-Propanol (Isopropanol)	7.53	45	12330	0.179	ng		59
21) Trichlorotrifluoroethane	8.84	151	167548	6.960	ng		97
22) Carbon Disulfide	8.68	76	915238	8.626	ng		100
26) Vinyl Acetate	10.17	86	4528	0.638	ng	#	25
27) 2-Butanone (MEK)	10.45	72	32205	1.658	ng		97
30) Ethyl Acetate	11.28	61	1222	0.109	ng	#	75
31) n-Hexane	11.25	57	4044	0.083	ng	#	96
32) Chloroform	11.31	83	42006	0.829	ng		100
34) Tetrahydrofuran (THF)	11.72	72	45072	2.379	ng		97
41) Benzene	12.87	78	21902	0.186	ng		98
42) Carbon Tetrachloride	13.03	117	147950	3.690	ng		99
43) Cyclohexane	13.17	84	2817	0.064	ng		91
46) Bromodichloromethane	13.92	83	2052	0.052	ng		92
48) 1,4-Dioxane	13.96	88	4149	0.175	ng		94
51) n-Heptane	14.31	71	2977	0.108	ng		90
58) Toluene	15.82	91	59654	0.520	ng		99
59) 2-Hexanone	16.06	43	23832	0.379	ng		90
62) n-Butyl Acetate	16.70	43	34079	0.502	ng		99
63) n-Octane	16.83	57	3483	0.147	ng		93
64) Tetrachloroethene	16.95	166	2915	0.090	ng		97
66) Ethylbenzene	17.98	91	15593	0.122	ng		100
67) m- & p-Xylenes	18.14	91	81578	0.804	ng		99
70) o-Xylene	18.57	91	43004	0.418	ng		99
71) n-Nonane	18.77	43	31773	0.582	ng		99
74) Cumene	19.10	105	6460	0.051	ng		100
76) n-Propylbenzene	19.55	91	17679	0.118	ng		86
78) 4-Ethyltoluene	19.68	105	11922	0.100	ng		98
79) 1,3,5-Trimethylbenzene	19.75	105	21279	0.207	ng		100
82) 1,2,4-Trimethylbenzene	20.10	105	72275	0.698	ng		91
95) Naphthalene	22.22	128	22463	0.178	ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

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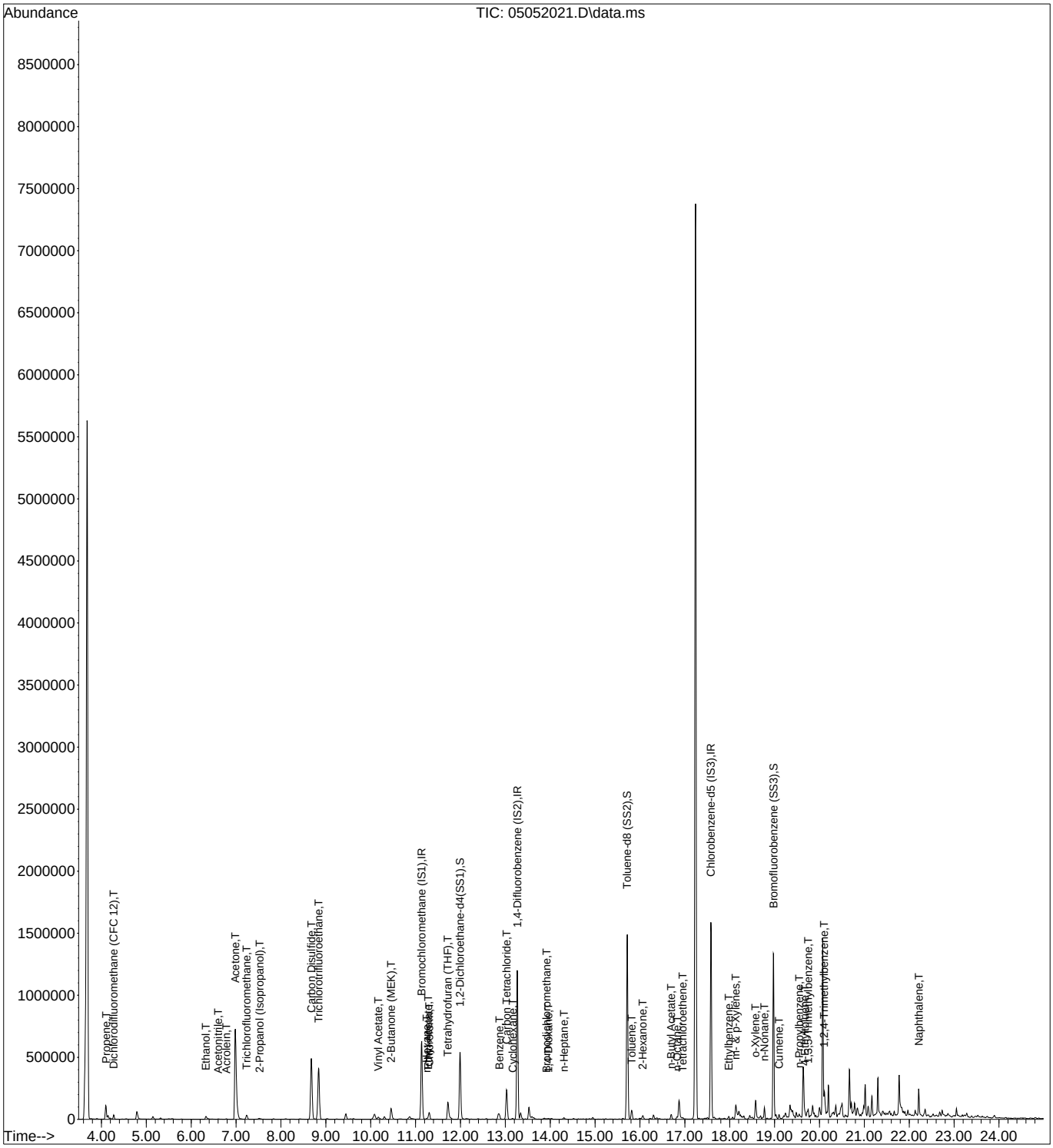
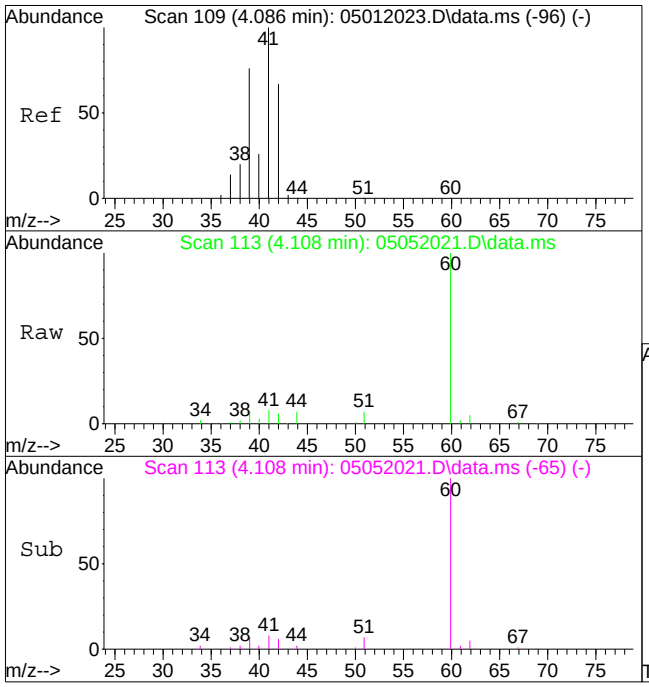
DataAcq Meth:TO15.M

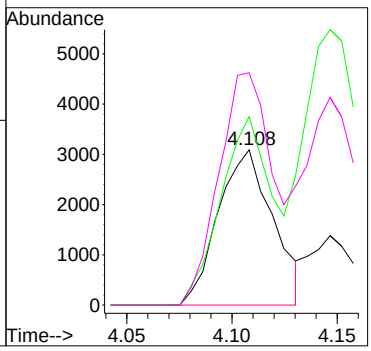


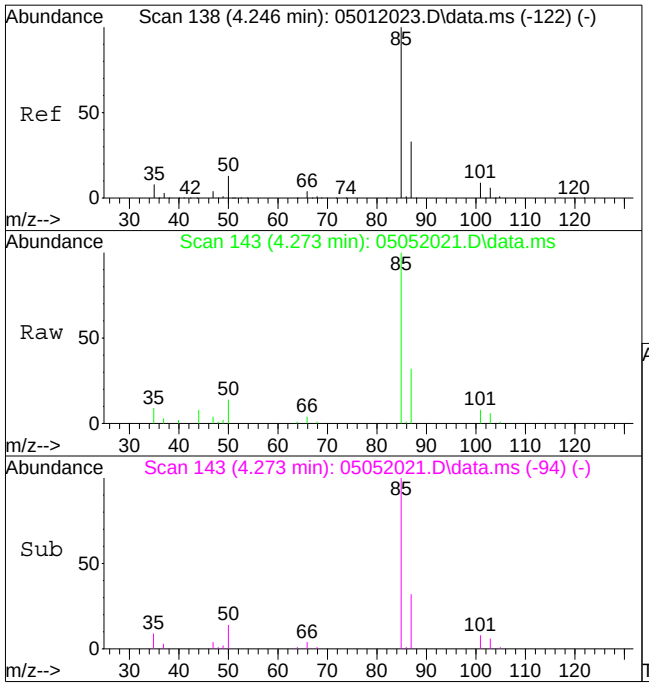


#2
Propene
Concen: 0.19 ng
RT: 4.11 min Scan# 113
Delta R.T. 0.016 min
Lab File: 05052021.D
Acq: 5 May 2020 16:12

Tgt Ion: 42 Resp: 5570

Ion	Ratio	Lower	Upper
42	100		
39	114.1	96.1	136.1
41	145.6	131.9	171.9

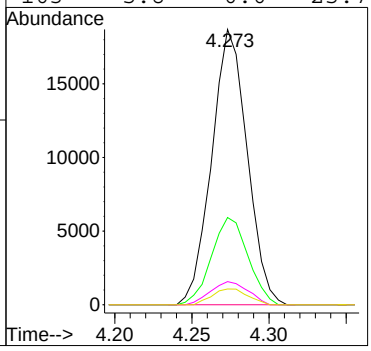


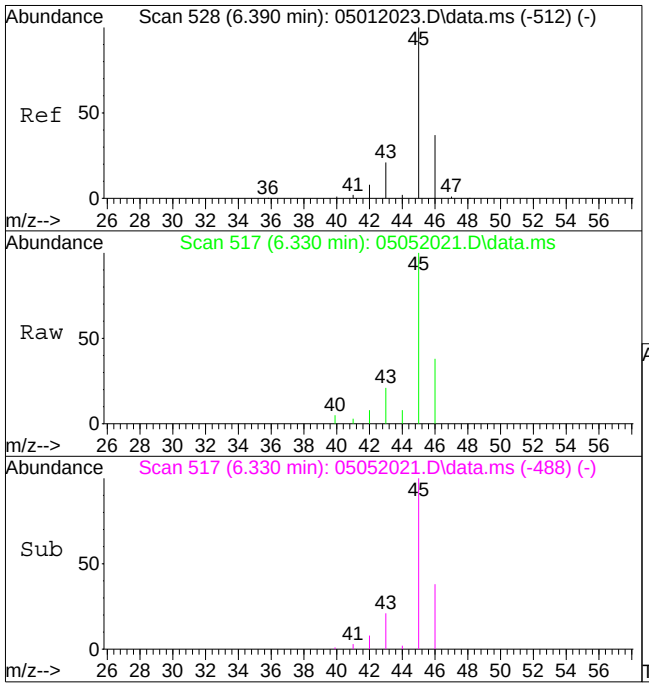


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.52 ng
RT: 4.27 min Scan# 143
Delta R.T. 0.022 min
Lab File: 05052021.D
Acq: 5 May 2020 16:12

Tgt Ion: 85 Resp: 29905

Ion	Ratio	Lower	Upper
85	100		
87	32.6	12.4	52.4
101	8.8	0.0	28.8
103	5.8	0.0	25.7

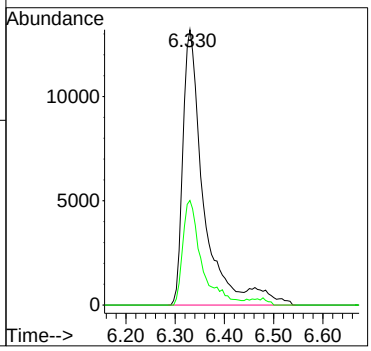


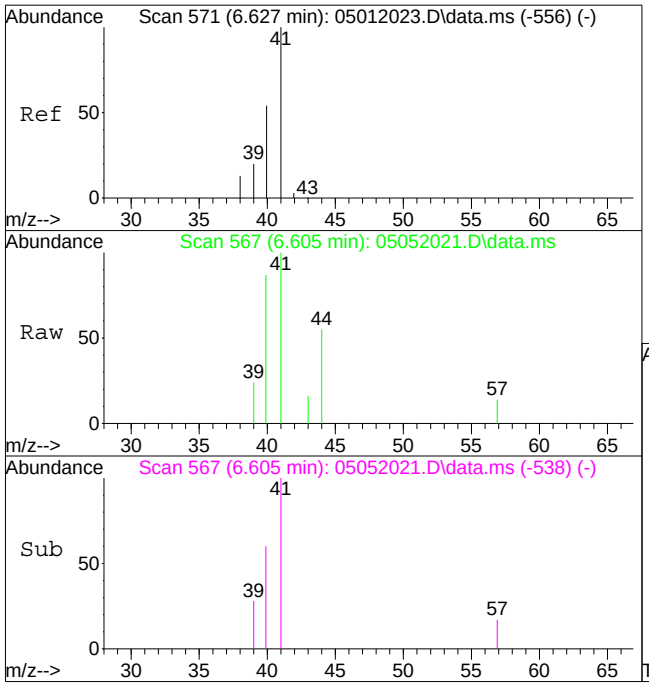


#10
Ethanol
Concen: 1.72 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.088 min
Lab File: 05052021.D
Acq: 5 May 2020 16:12

Tgt Ion: 45 Resp: 39137

Ion	Ratio	Lower	Upper
45	100		
46	36.6	17.2	57.2

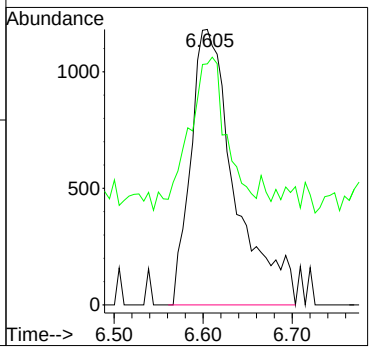


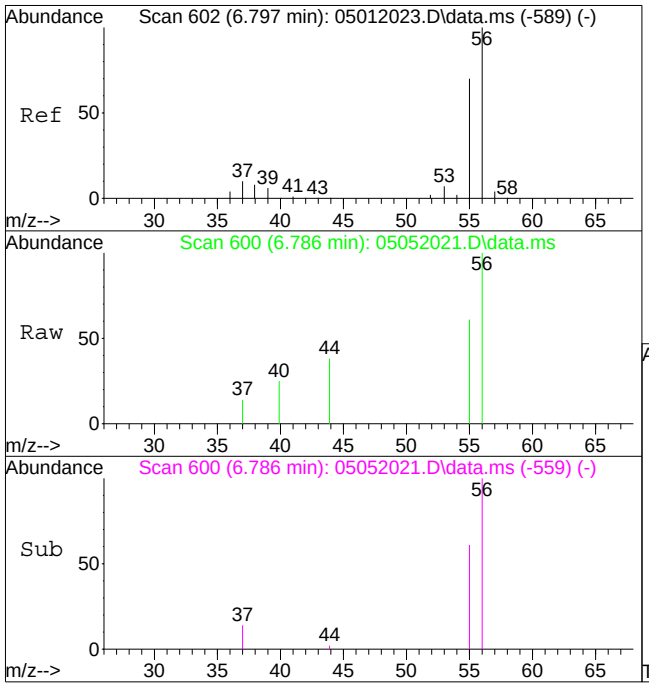


#11
Acetonitrile
Concen: 0.08 ng
RT: 6.60 min Scan# 567
Delta R.T. -0.039 min
Lab File: 05052021.D
Acq: 5 May 2020 16:12

Tgt Ion: 41 Resp: 4078

Ion	Ratio	Lower	Upper
41	100		
40	51.4	33.6	73.6

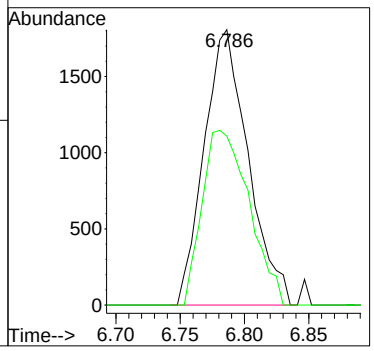


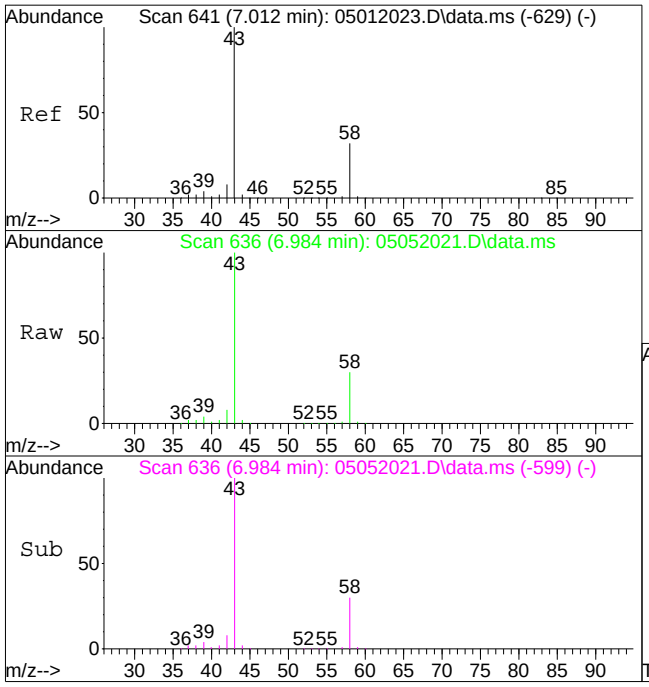


#12
Acrolein
Concen: 0.24 ng
RT: 6.79 min Scan# 600
Delta R.T. -0.022 min
Lab File: 05052021.D
Acq: 5 May 2020 16:12

Tgt Ion: 56 Resp: 4313

Ion	Ratio	Lower	Upper
56	100		
55	67.6	50.2	90.2

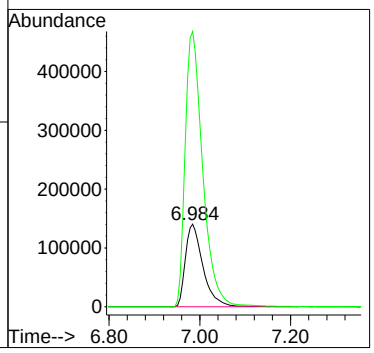


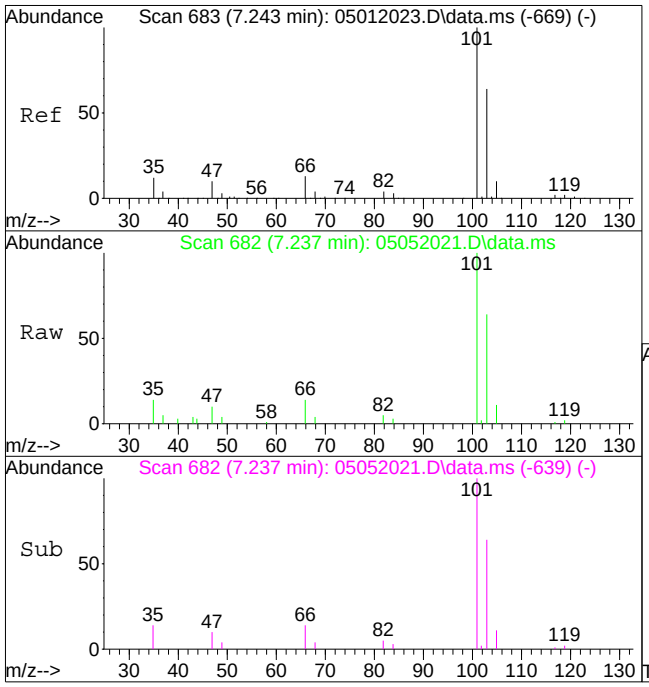


#13
Acetone
Concen: 16.59 ng
RT: 6.98 min Scan# 636
Delta R.T. -0.044 min
Lab File: 05052021.D
Acq: 5 May 2020 16:12

Tgt Ion: 58 Resp: 377825

Ion	Ratio	Lower	Upper
58	100		
43	333.3	294.4	354.4

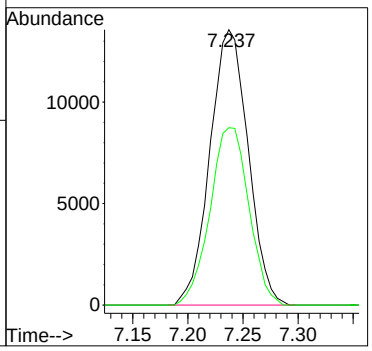


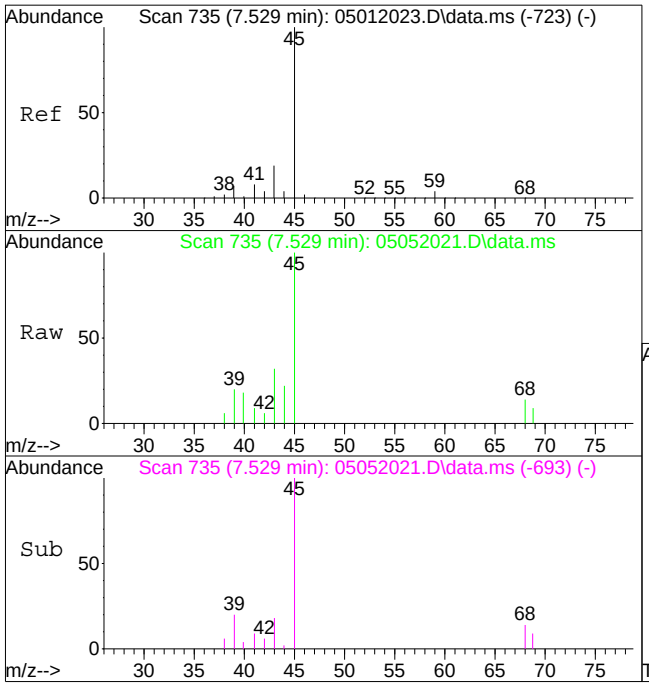


#14
Trichlorofluoromethane
Concen: 0.64 ng
RT: 7.24 min Scan# 682
Delta R.T. -0.011 min
Lab File: 05052021.D
Acq: 5 May 2020 16:12

Tgt Ion:101 Resp: 32777

Ion	Ratio	Lower	Upper
101	100		
103	65.4	44.4	84.4

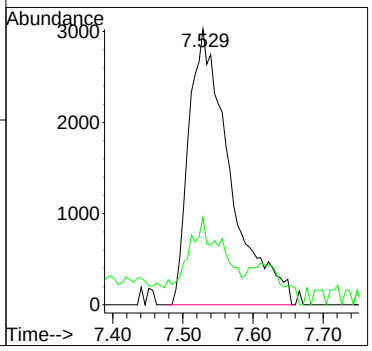


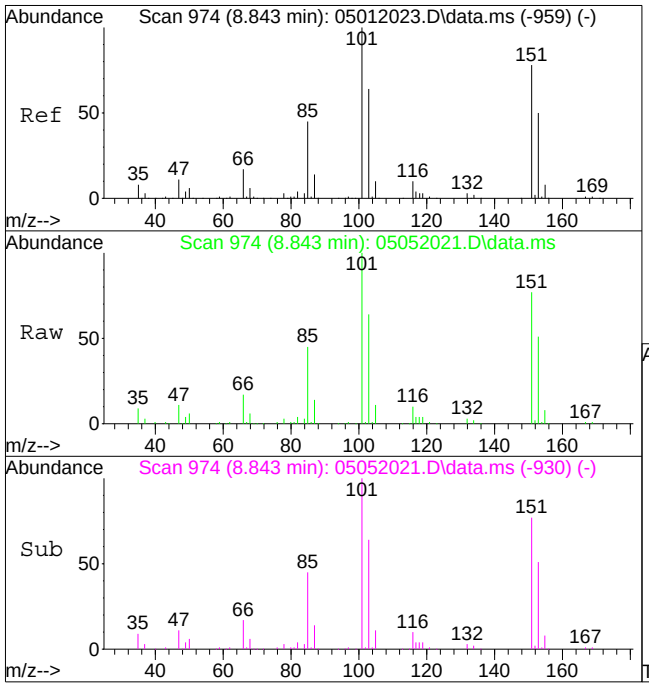


#15
2-Propanol (Isopropanol)
Concen: 0.18 ng
RT: 7.53 min Scan# 735
Delta R.T. -0.017 min
Lab File: 05052021.D
Acq: 5 May 2020 16:12

Tgt Ion: 45 Resp: 12330

Ion	Ratio	Lower	Upper
45	100		
43	38.3	0.0	39.5

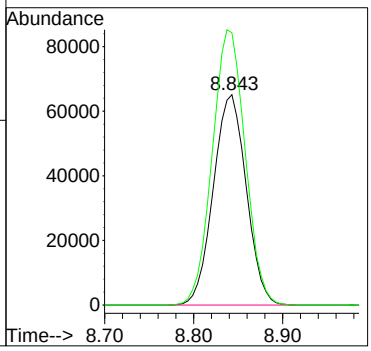


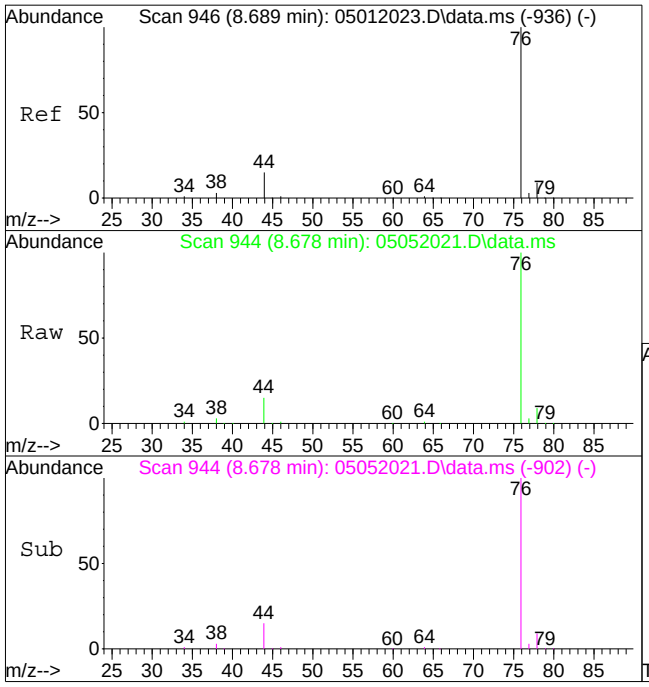


#21
Trichlorotrifluoroethane
Concen: 6.96 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05052021.D
Acq: 5 May 2020 16:12

Tgt Ion:151 Resp: 167548

Ion	Ratio	Lower	Upper
151	100		
101	130.6	107.3	147.3

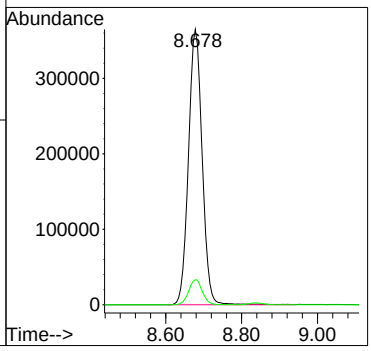


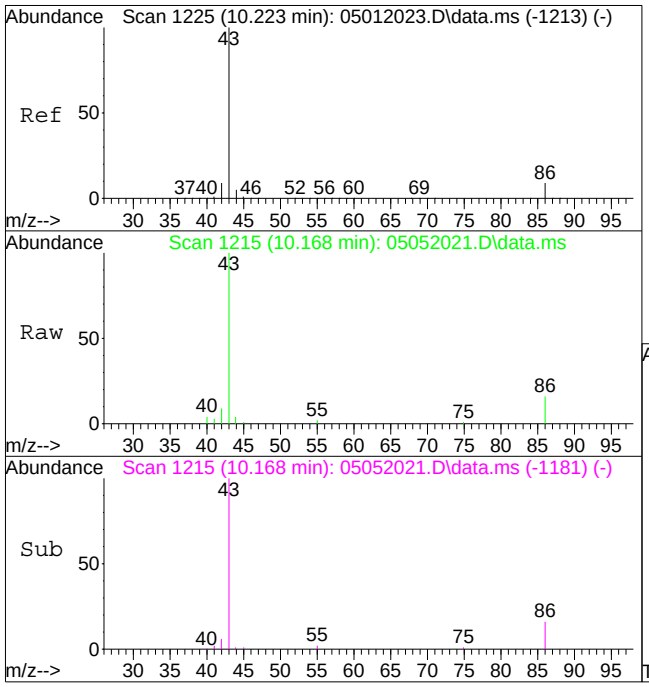


#22
Carbon Disulfide
Concen: 8.63 ng
RT: 8.68 min Scan# 944
Delta R.T. -0.017 min
Lab File: 05052021.D
Acq: 5 May 2020 16:12

Tgt Ion: 76 Resp: 915238

Ion	Ratio	Lower	Upper
76	100		
78	9.1	0.0	29.2

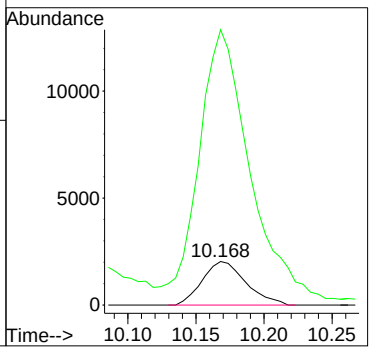


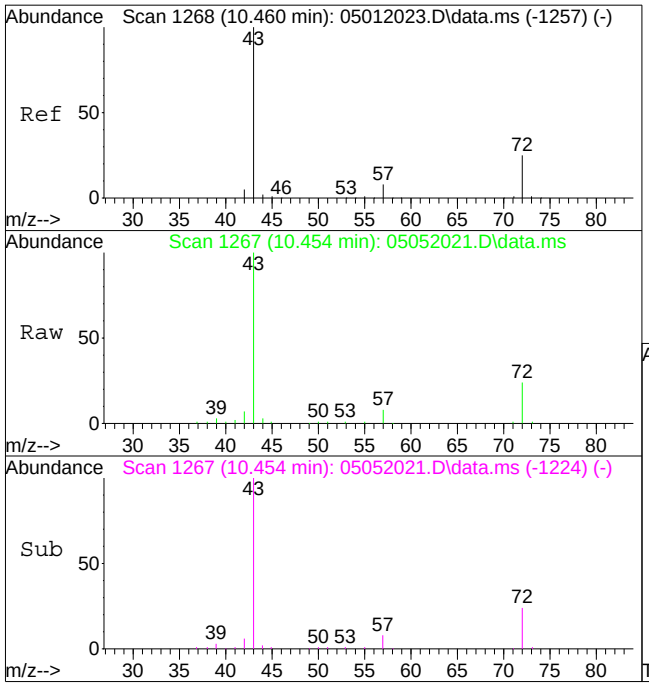


#26
Vinyl Acetate
Concen: 0.64 ng
RT: 10.17 min Scan# 1215
Delta R.T. -0.061 min
Lab File: 05052021.D
Acq: 5 May 2020 16:12

Tgt Ion: 86 Resp: 4528

Ion	Ratio	Lower	Upper
86	100		
43	758.1	1103.0	1143.0#

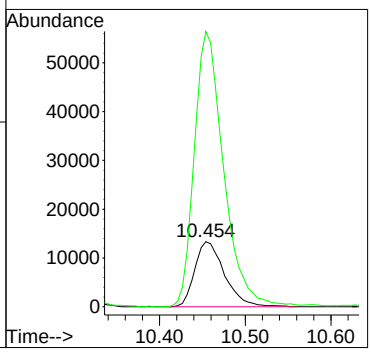


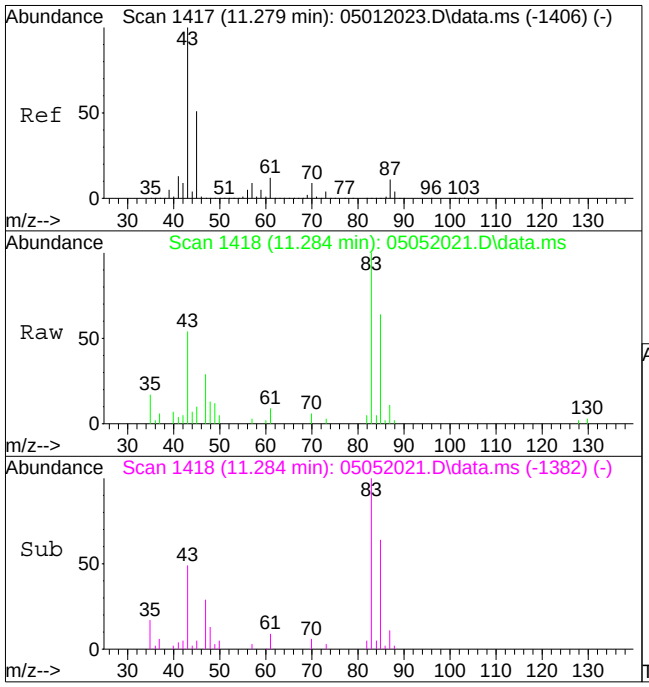


#27
2-Butanone (MEK)
Concen: 1.66 ng
RT: 10.45 min Scan# 1267
Delta R.T. -0.011 min
Lab File: 05052021.D
Acq: 5 May 2020 16:12

Tgt Ion: 72 Resp: 32205

Ion	Ratio	Lower	Upper
72	100		
43	417.8	389.7	429.7

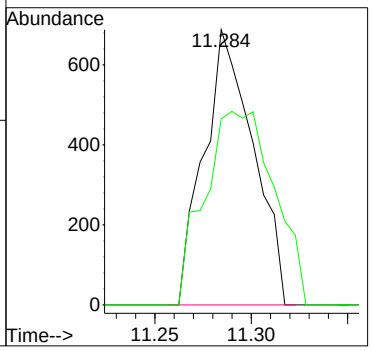


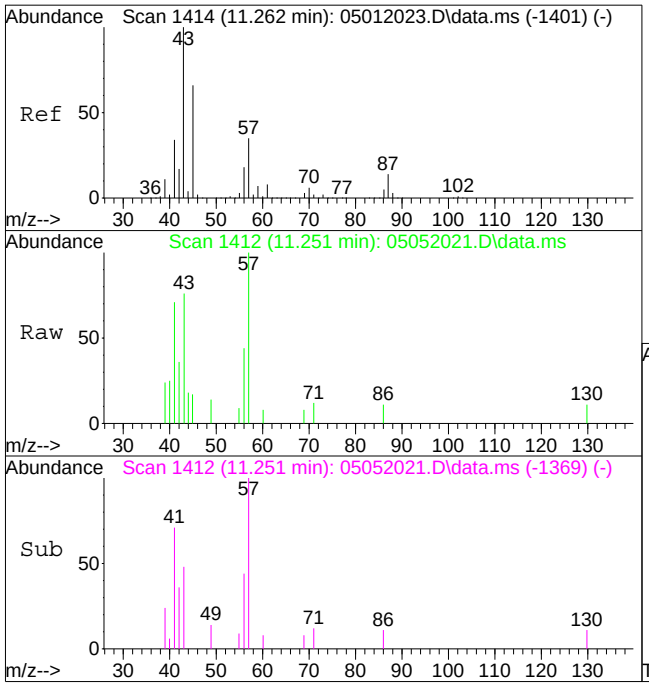


#30
Ethyl Acetate
Concen: 0.11 ng
RT: 11.28 min Scan# 1418
Delta R.T. -0.000 min
Lab File: 05052021.D
Acq: 5 May 2020 16:12

Tgt Ion: 61 Resp: 1222

Ion	Ratio	Lower	Upper
61	100		
70	99.6	57.9	97.9#

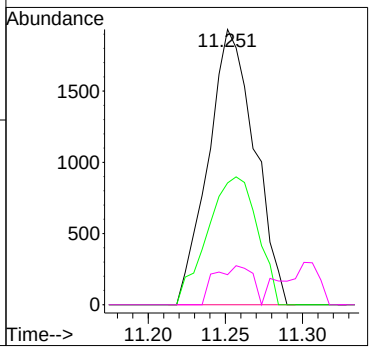


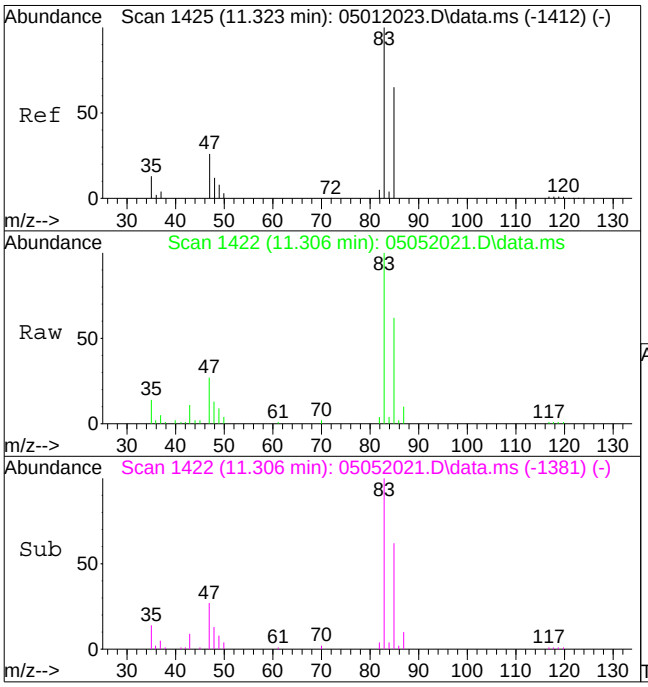


#31
n-Hexane
Concen: 0.08 ng
RT: 11.25 min Scan# 1412
Delta R.T. -0.011 min
Lab File: 05052021.D
Acq: 5 May 2020 16:12

Tgt Ion: 57 Resp: 4044

Ion	Ratio	Lower	Upper
57	100		
56	49.9	41.4	62.0
86	11.4	12.4	18.6#

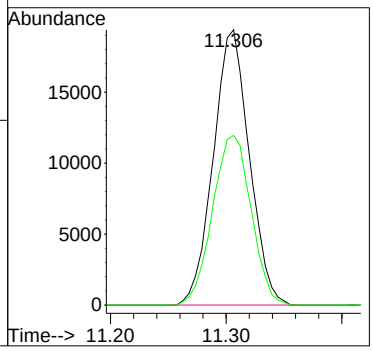


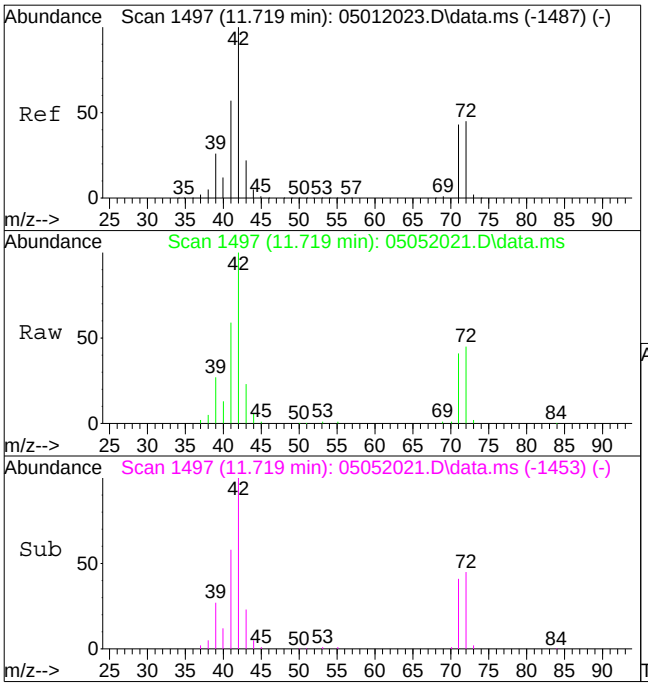


#32
Chloroform
Concen: 0.83 ng
RT: 11.31 min Scan# 1422
Delta R.T. -0.022 min
Lab File: 05052021.D
Acq: 5 May 2020 16:12

Tgt Ion: 83 Resp: 42006

Ion	Ratio	Lower	Upper
83	100		
85	65.8	45.5	85.5

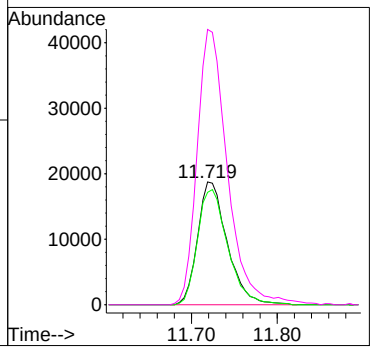


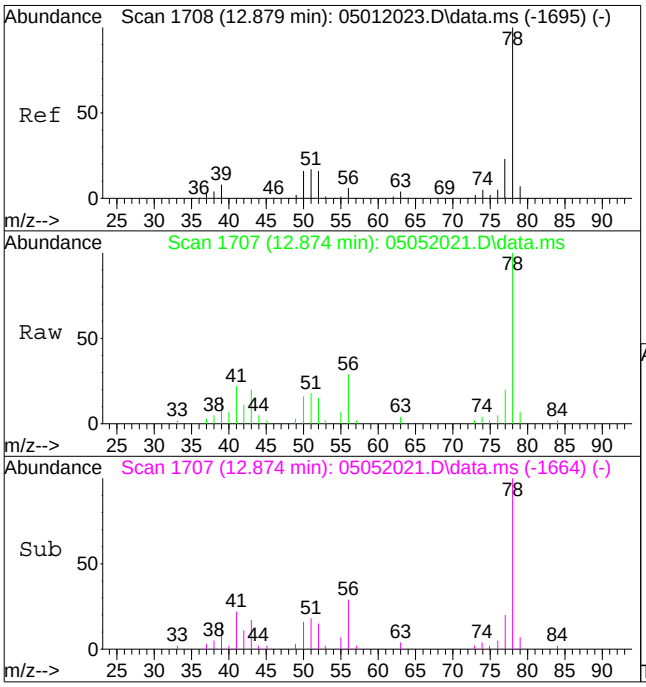


#34
Tetrahydrofuran (THF)
Concen: 2.38 ng
RT: 11.72 min Scan# 1497
Delta R.T. -0.006 min
Lab File: 05052021.D
Acq: 5 May 2020 16:12

Tgt Ion: 72 Resp: 45072

Ion	Ratio	Lower	Upper
72	100		
71	95.8	77.0	117.0
42	230.0	204.6	244.6

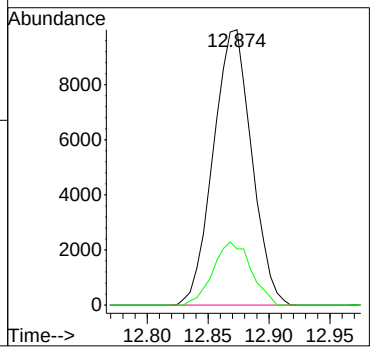


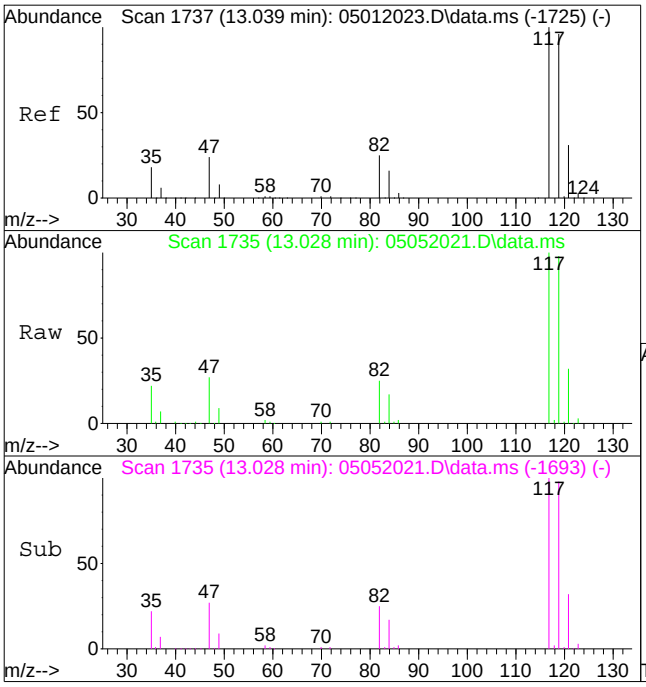


#41
Benzene
Concen: 0.19 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05052021.D
Acq: 5 May 2020 16:12

Tgt Ion: 78 Resp: 21902

Ion	Ratio	Lower	Upper
78	100		
77	22.6	3.4	43.4

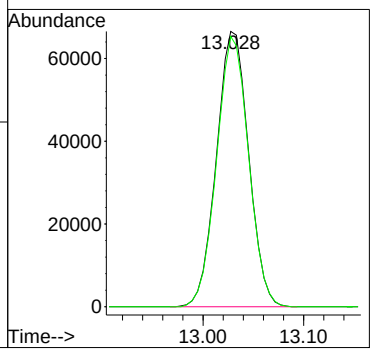


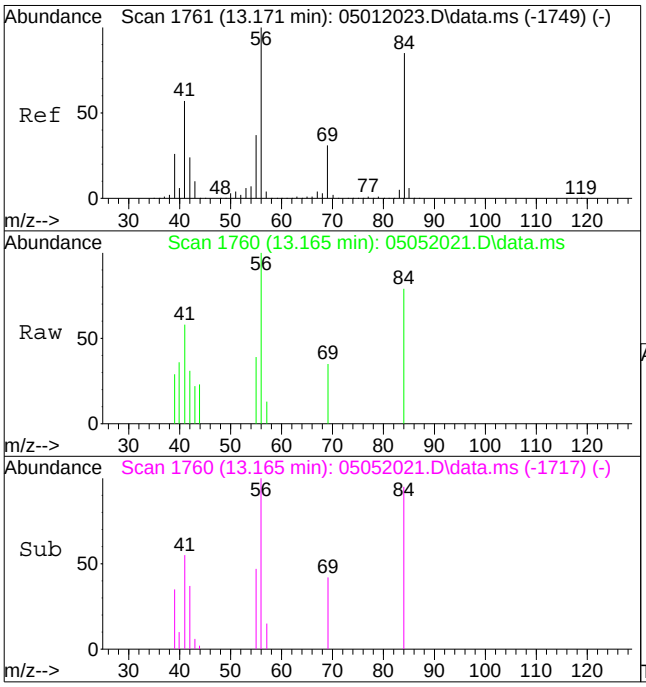


#42
Carbon Tetrachloride
Concen: 3.69 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05052021.D
Acq: 5 May 2020 16:12

Tgt Ion:117 Resp: 147950

Ion	Ratio	Lower	Upper
117	100		
119	97.3	76.2	116.2

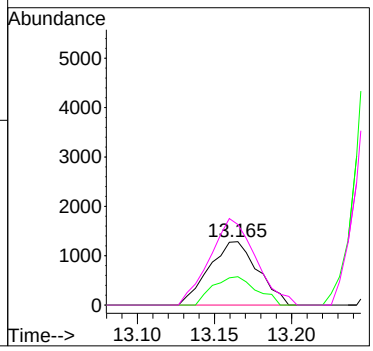


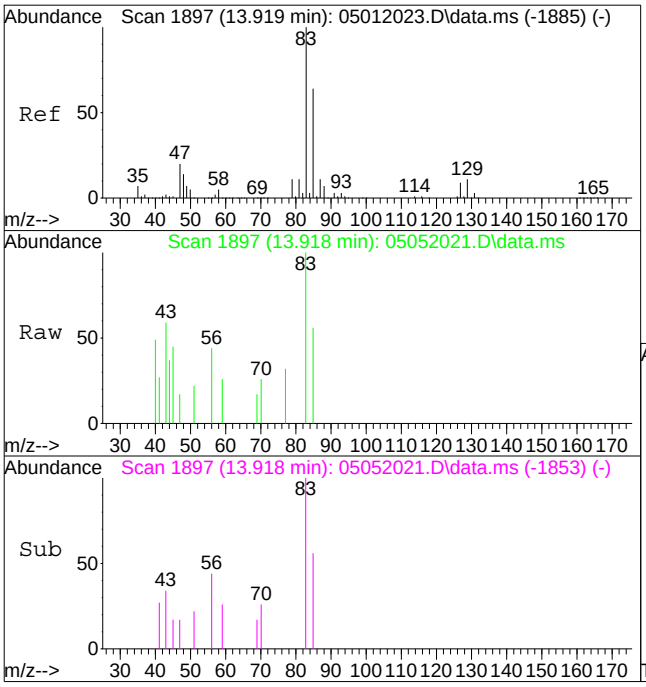


#43
Cyclohexane
Concen: 0.06 ng
RT: 13.17 min Scan# 1760
Delta R.T. -0.011 min
Lab File: 05052021.D
Acq: 5 May 2020 16:12

Tgt Ion: 84 Resp: 2817

Ion	Ratio	Lower	Upper
84	100		
69	40.0	16.5	56.5
56	128.7	97.4	137.4

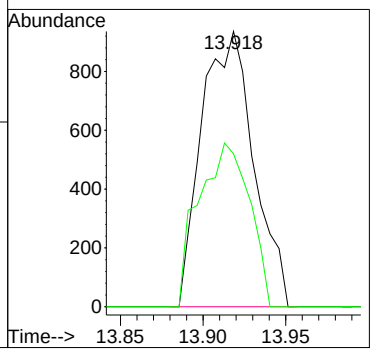


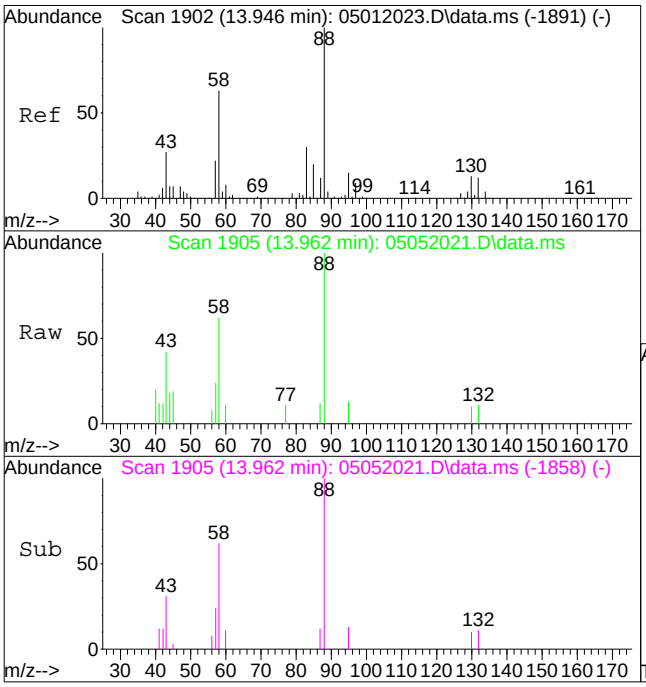


#46
Bromodichloromethane
Concen: 0.05 ng
RT: 13.92 min Scan# 1897
Delta R.T. -0.006 min
Lab File: 05052021.D
Acq: 5 May 2020 16:12

Tgt Ion: 83 Resp: 2052

Ion	Ratio	Lower	Upper
83	100		
85	57.9	44.4	84.4

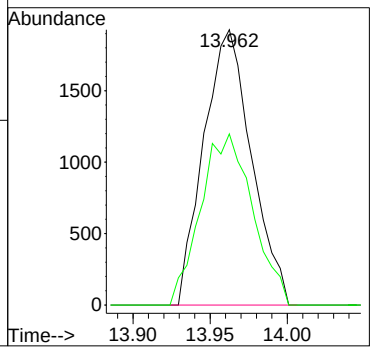


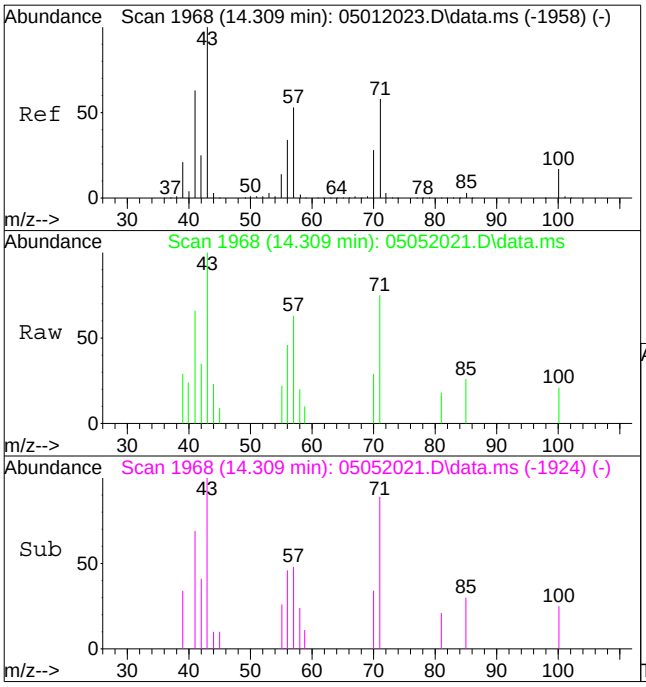


#48
1,4-Dioxane
Concen: 0.17 ng
RT: 13.96 min Scan# 1905
Delta R.T. 0.011 min
Lab File: 05052021.D
Acq: 5 May 2020 16:12

Tgt Ion: 88 Resp: 4149

Ion	Ratio	Lower	Upper
88	100		
58	67.4	42.8	82.8

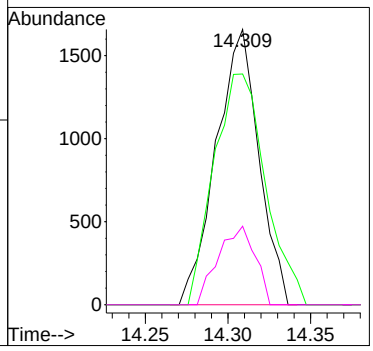


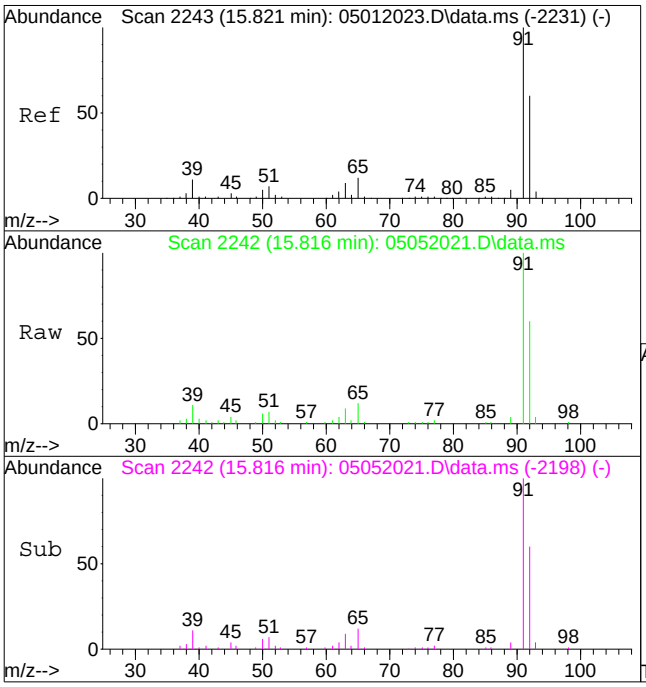


#51
n-Heptane
Concen: 0.11 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05052021.D
Acq: 5 May 2020 16:12

Tgt Ion: 71 Resp: 2977

Ion	Ratio	Lower	Upper
71	100		
57	101.1	71.0	111.0
100	24.7	8.4	48.4

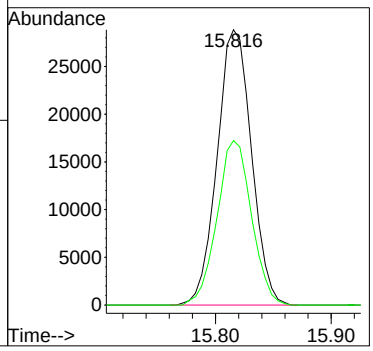


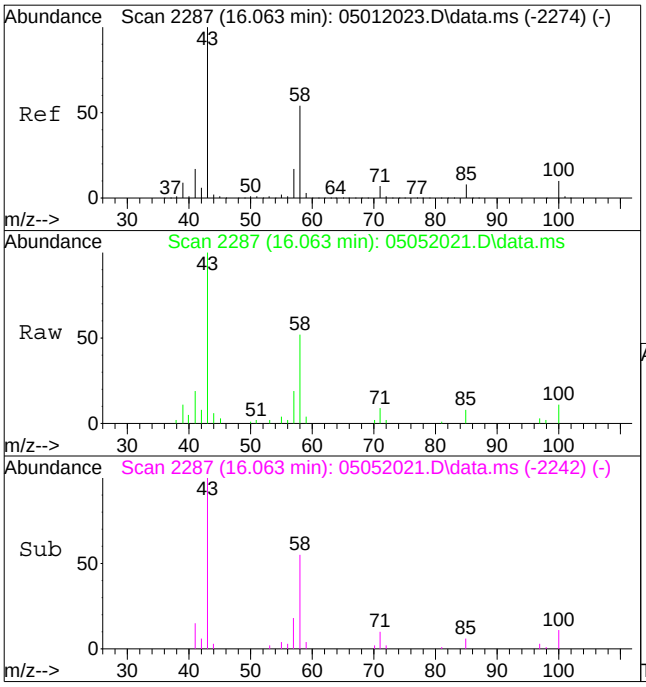


#58
Toluene
Concen: 0.52 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05052021.D
Acq: 5 May 2020 16:12

Tgt Ion: 91 Resp: 59654

Ion	Ratio	Lower	Upper
91	100		
92	59.9	39.4	79.4

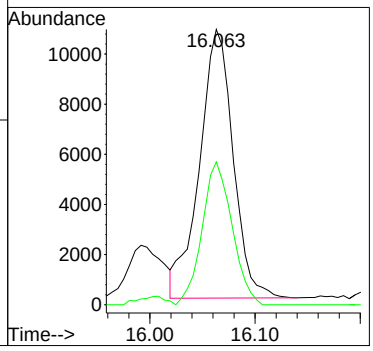


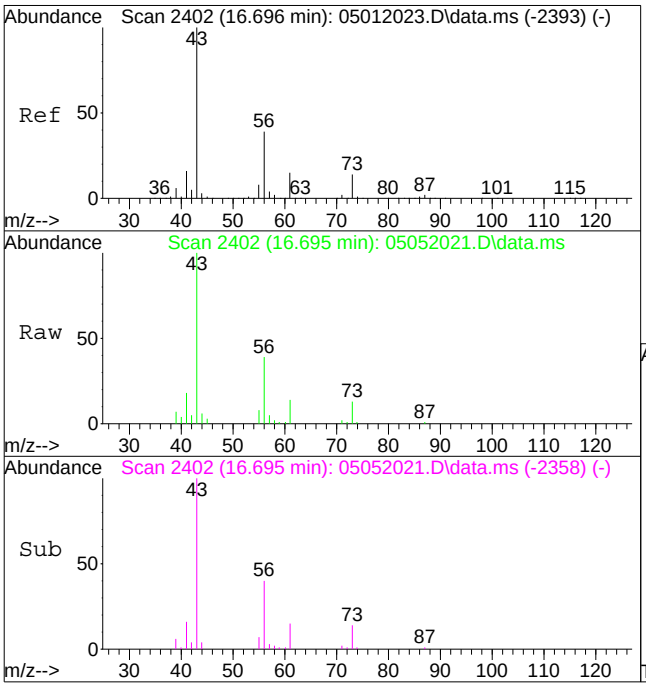


#59
2-Hexanone
Concen: 0.38 ng
RT: 16.06 min Scan# 2287
Delta R.T. -0.000 min
Lab File: 05052021.D
Acq: 5 May 2020 16:12

Tgt Ion: 43 Resp: 23832

Ion	Ratio	Lower	Upper
43	100		
58	47.2	34.5	74.5

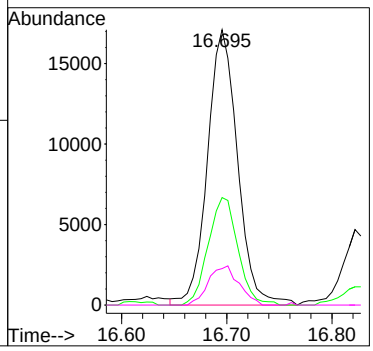


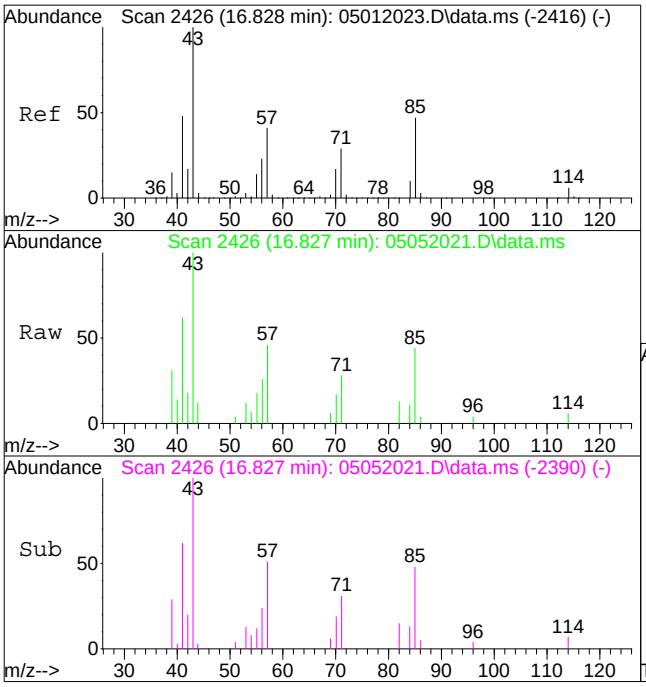


#62
n-Butyl Acetate
Concen: 0.50 ng
RT: 16.70 min Scan# 2402
Delta R.T. -0.006 min
Lab File: 05052021.D
Acq: 5 May 2020 16:12

Tgt Ion: 43 Resp: 34079

Ion	Ratio	Lower	Upper
43	100		
56	38.4	19.2	59.2
73	14.4	0.0	34.4

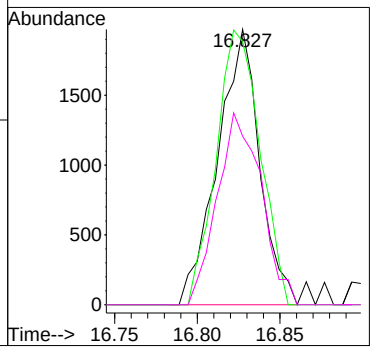


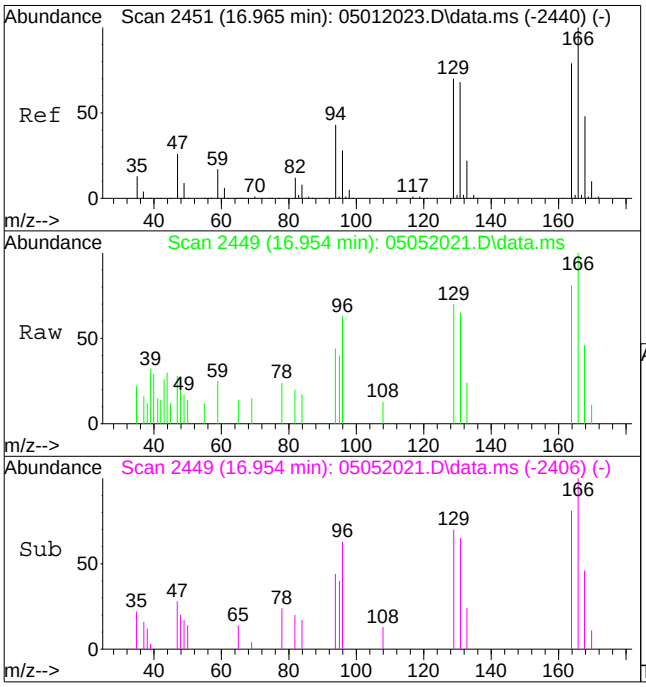


#63
n-Octane
Concen: 0.15 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05052021.D
Acq: 5 May 2020 16:12

Tgt Ion: 57 Resp: 3483

Ion	Ratio	Lower	Upper
57	100		
85	104.2	91.0	136.4
71	73.0	56.2	84.2

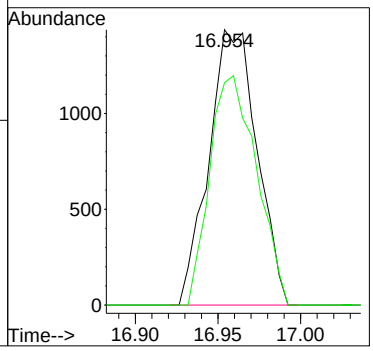


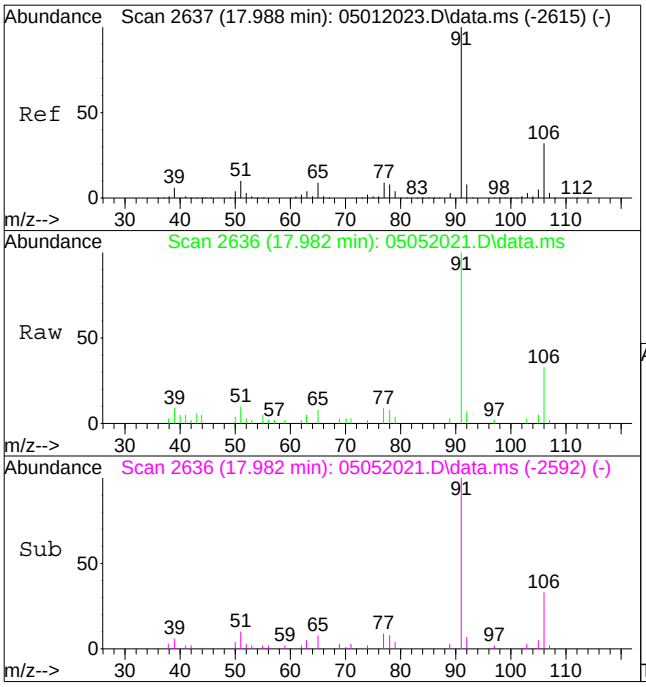


#64
Tetrachloroethene
Concen: 0.09 ng
RT: 16.95 min Scan# 2449
Delta R.T. -0.011 min
Lab File: 05052021.D
Acq: 5 May 2020 16:12

Tgt Ion:166 Resp: 2915

Ion	Ratio	Lower	Upper
166	100		
164	80.9	58.4	98.4

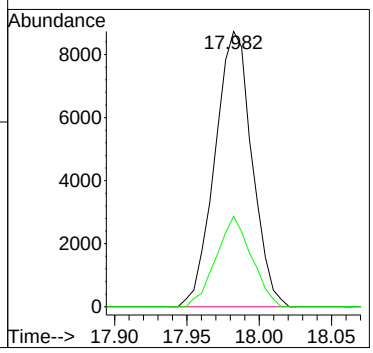


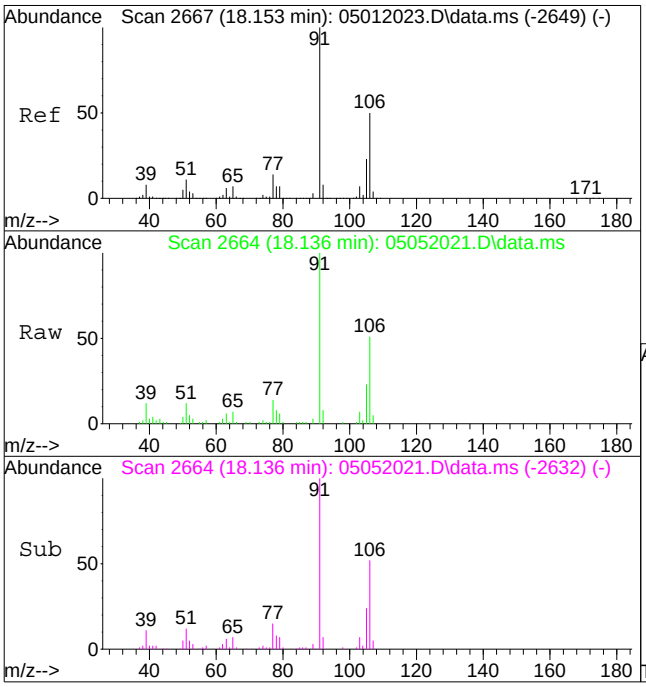


#66
Ethylbenzene
Concen: 0.12 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05052021.D
Acq: 5 May 2020 16:12

Tgt Ion: 91 Resp: 15593

Ion	Ratio	Lower	Upper
91	100		
106	31.3	11.6	51.6

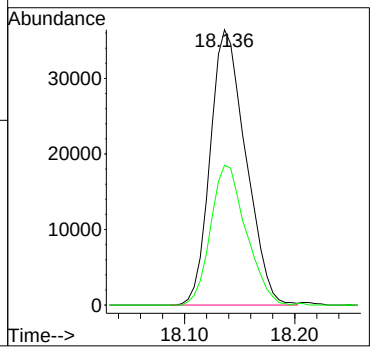


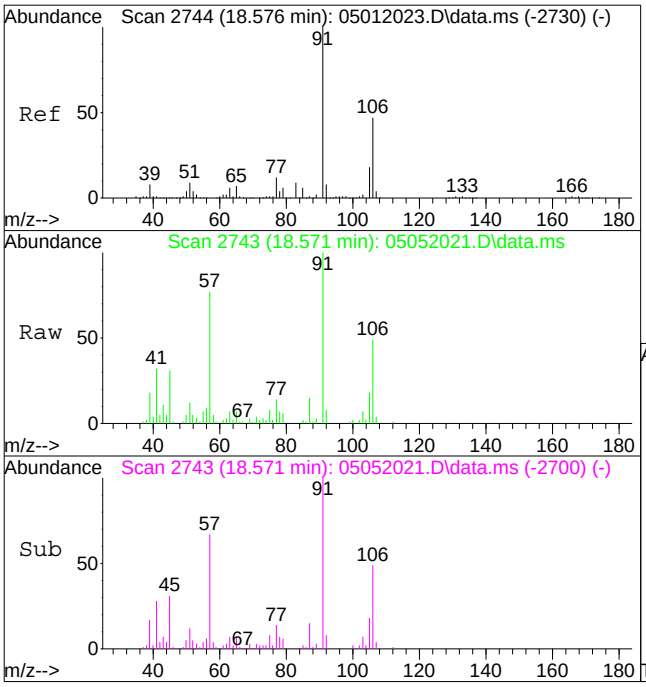


#67
m- & p-Xylenes
Concen: 0.80 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05052021.D
Acq: 5 May 2020 16:12

Tgt Ion: 91 Resp: 81578

Ion	Ratio	Lower	Upper
91	100		
106	50.6	29.7	69.7

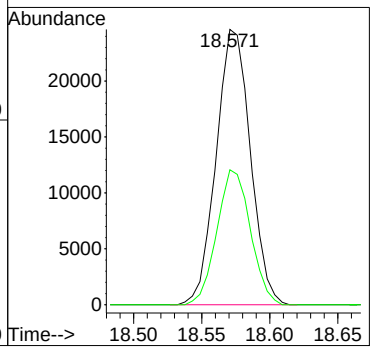


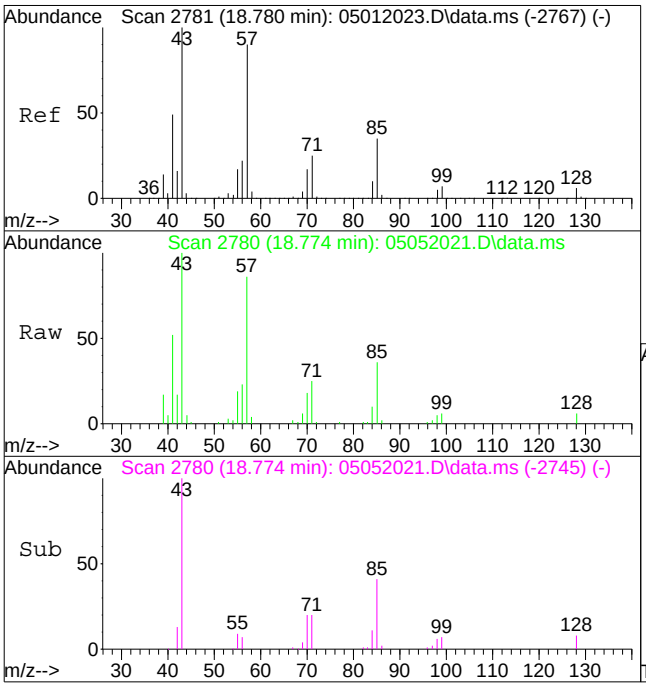


#70
o-Xylene
Concen: 0.42 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05052021.D
Acq: 5 May 2020 16:12

Tgt Ion: 91 Resp: 43004

Ion	Ratio	Lower	Upper
91	100		
106	48.0	27.5	67.5

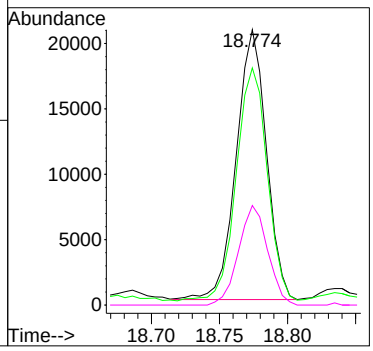


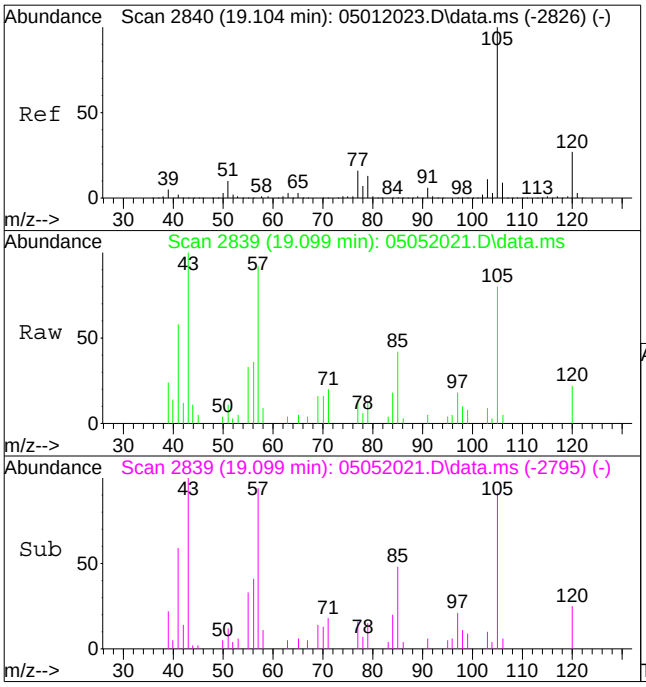


#71
n-Nonane
Concen: 0.58 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05052021.D
Acq: 5 May 2020 16:12

Tgt Ion: 43 Resp: 31773

Ion	Ratio	Lower	Upper
43	100		
57	89.2	69.0	109.0
85	35.6	14.6	54.6

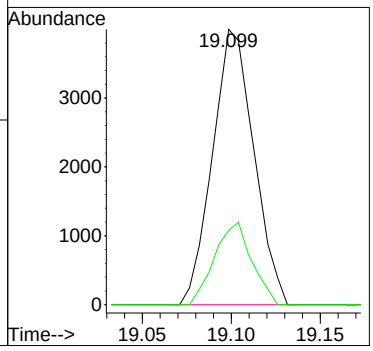


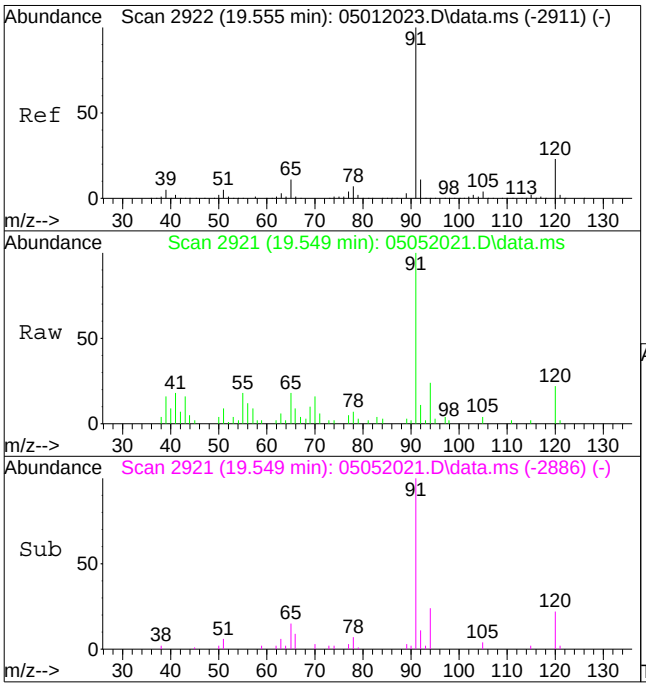


#74
Cumene
Concen: 0.05 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05052021.D
Acq: 5 May 2020 16:12

Tgt Ion:105 Resp: 6460

Ion	Ratio	Lower	Upper
105	100		
120	26.9	6.8	46.8

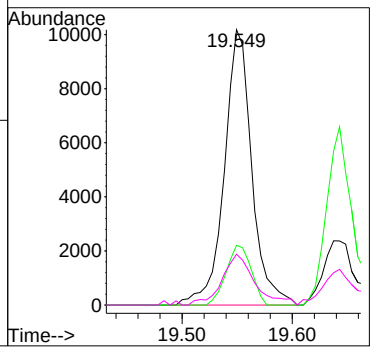


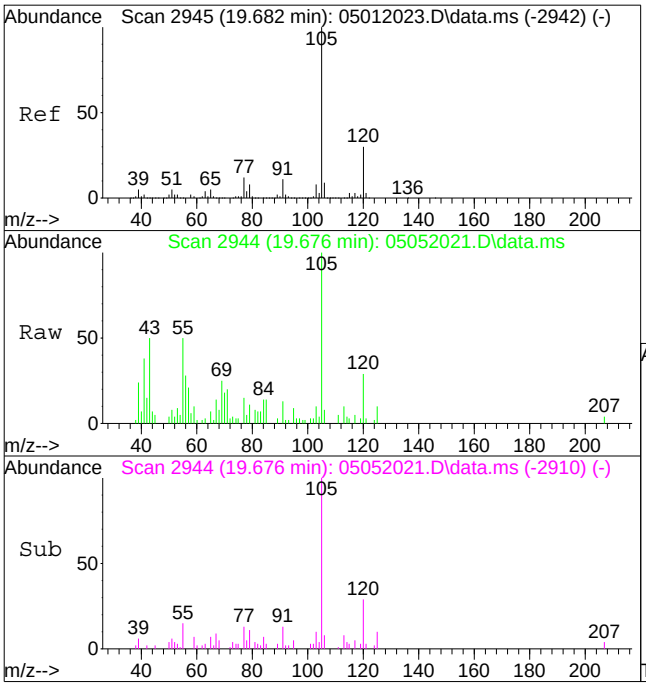


#76
n-Propylbenzene
Concen: 0.12 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05052021.D
Acq: 5 May 2020 16:12

Tgt Ion: 91 Resp: 17679

Ion	Ratio	Lower	Upper
91	100		
120	19.8	3.1	43.1
65	21.8	0.0	30.9

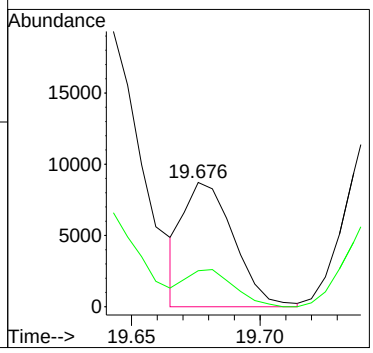


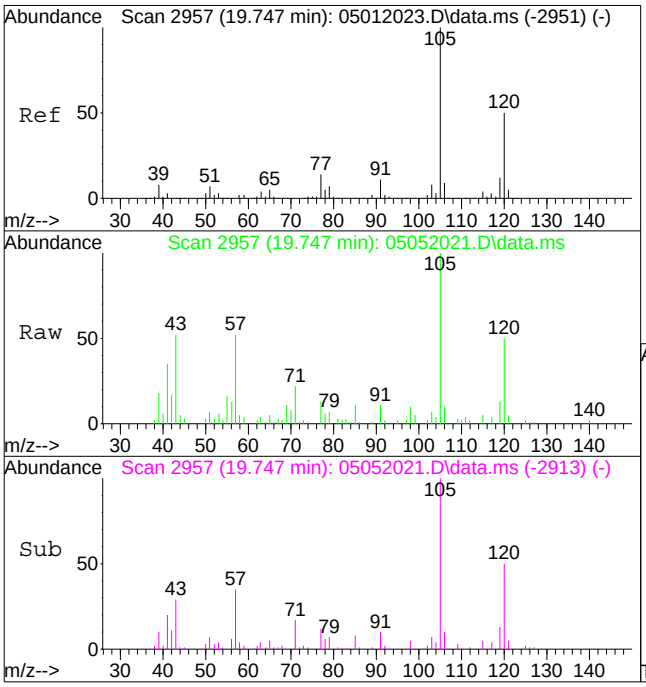


#78
4-Ethyltoluene
Concen: 0.10 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05052021.D
Acq: 5 May 2020 16:12

Tgt Ion:105 Resp: 11922

Ion	Ratio	Lower	Upper
105	100		
120	29.3	10.4	50.4

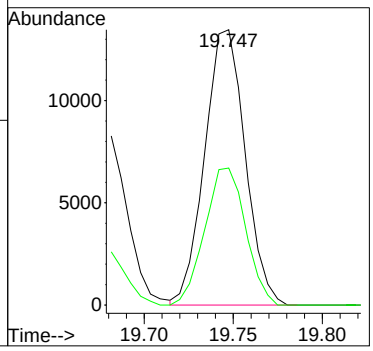


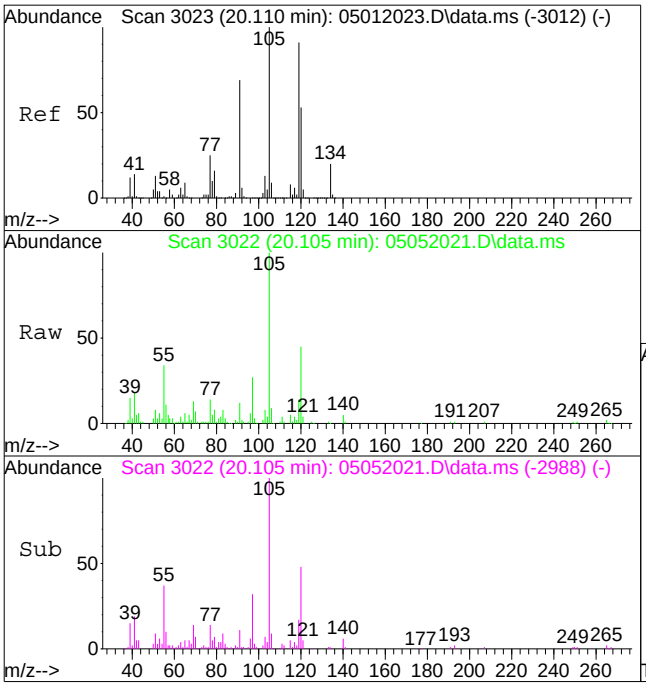


#79
1,3,5-Trimethylbenzene
Concen: 0.21 ng
RT: 19.75 min Scan# 2957
Delta R.T. -0.006 min
Lab File: 05052021.D
Acq: 5 May 2020 16:12

Tgt Ion:105 Resp: 21279

Ion	Ratio	Lower	Upper
105	100		
120	50.2	29.9	69.9

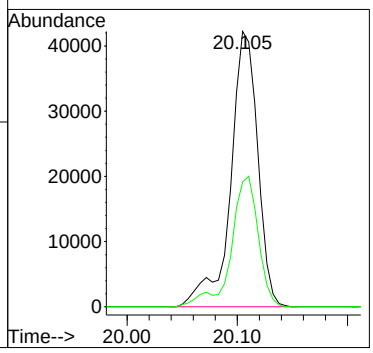


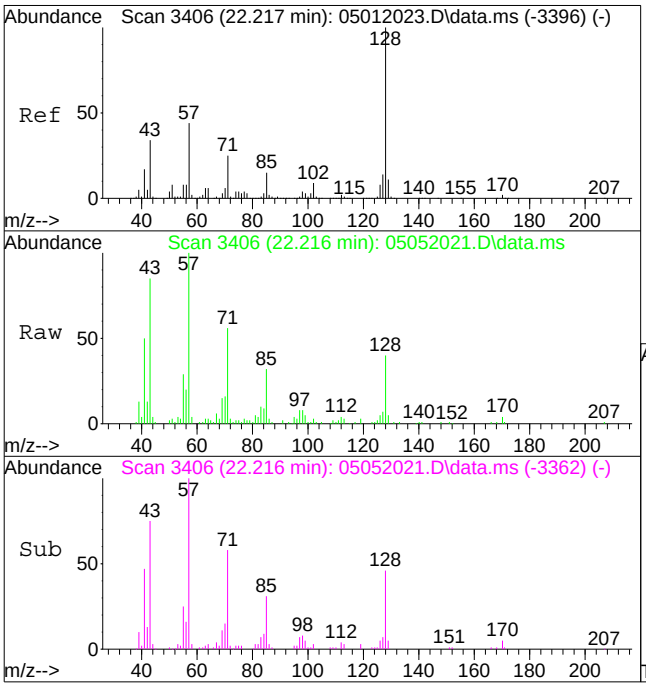


#82
1,2,4-Trimethylbenzene
Concen: 0.70 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05052021.D
Acq: 5 May 2020 16:12

Tgt Ion:105 Resp: 72275

Ion	Ratio	Lower	Upper
105	100		
120	47.3	33.6	73.6

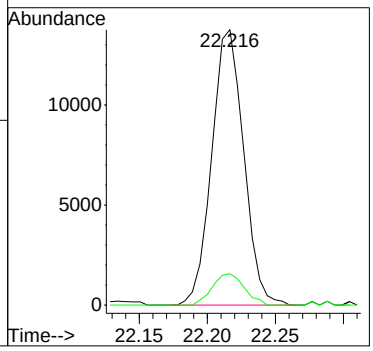




#95
Naphthalene
Concen: 0.18 ng
RT: 22.22 min Scan# 3406
Delta R.T. -0.006 min
Lab File: 05052021.D
Acq: 5 May 2020 16:12

Tgt Ion:128 Resp: 22463

Ion	Ratio	Lower	Upper
128	100		
129	11.3	0.0	31.0



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052022.D Vial: 5
Acq On : 5 May 2020 16:46 Operator: WA
Sample : P2002107-008 (400mL) pf2 Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 21:10:04 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/6/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	257328	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1111075	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	522387	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	422341	12.111	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.88%				
57) Toluene-d8 (SS2)	15.72	98	1107073	12.503	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.00%				
73) Bromofluorobenzene (SS3)	18.97	174	399937	12.553	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.40%				
Target Compounds							Qvalue
2) Propene	4.12	42	4031	0.135	ng		92
3) Dichlorodifluoromethan...	4.28	85	20562	0.353	ng		99
4) Chloromethane	4.55	50	3816	0.084	ng		92
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	363	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.16	54	115	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.98	64	181	N.D.			
10) Ethanol	6.33	45	54722	2.378	ng		100
11) Acetonitrile	6.60	41	3470	0.066	ng		75
12) Acrolein	6.79	56	5742	0.316	ng		98
13) Acetone	7.00	58	72055	3.131	ng	#	83
14) Trichlorofluoromethane	7.25	101	22634	0.439	ng		99
15) 2-Propanol (Isopropanol)	7.53	45	9592	0.138	ng		82
16) Acrylonitrile	7.76	53	403	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	1508	0.050	ng		99
20) 3-Chloro-1-propene (Al...	8.50	41	324	N.D.			
21) Trichlorotrifluoroethane	8.84	151	113233	4.655	ng		96
22) Carbon Disulfide	8.68	76	165363	1.542	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.09	73	357	N.D.			
26) Vinyl Acetate	10.17	86	6159	0.859	ng	#	19
27) 2-Butanone (MEK)	10.47	72	10856	0.553	ng		96
28) cis-1,2-Dichloroethene	10.88	61	362	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.28	61	1960	0.173	ng		92
31) n-Hexane	11.26	57	1441	N.D.			
32) Chloroform	11.31	83	29261	0.571	ng		98
34) Tetrahydrofuran (THF)	11.72	72	34748	1.815	ng		96
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	7255	0.061	ng		99
42) Carbon Tetrachloride	13.03	117	98402	2.428	ng		100
43) Cyclohexane	13.17	84	679	N.D.			
44) tert-Amyl Methyl Ether	13.57	73	2013	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	13.91	83	1432	N.D.			
47) Trichloroethene	13.97	130	1207	N.D.			
48) 1,4-Dioxane	13.96	88	2292	0.096	ng		100
49) 2,2,4-Trimethylpentane...	14.04	57	4567	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052022.D Vial: 5
Acq On : 5 May 2020 16:46 Operator: WA
Sample : P2002107-008 (400mL) pf2 Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 21:10:04 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

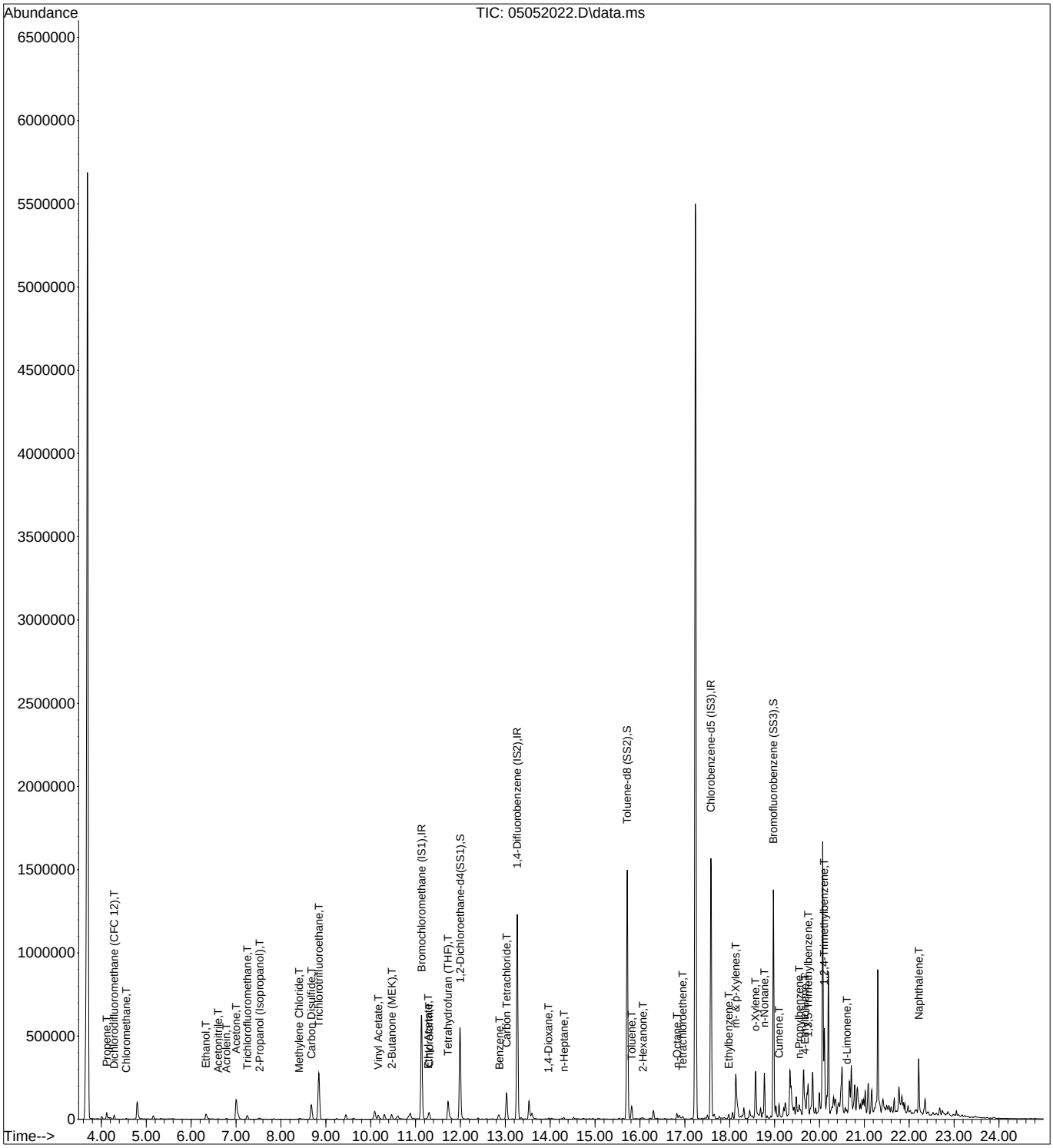
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	2645	0.095 ng	99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.88	58	794	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.82	91	63729	0.558 ng	100
59) 2-Hexanone	16.07	43	7058m	0.113 ng	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.71	43	1058	N.D.	
63) n-Octane	16.83	57	6729	0.285 ng	95
64) Tetrachloroethene	16.95	166	4344	0.135 ng	98
65) Chlorobenzene	17.66	112	1996	N.D.	
66) Ethylbenzene	17.98	91	18486	0.145 ng	98
67) m- & p-Xylenes	18.14	91	191492	1.897 ng	99
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	624	N.D.	
70) o-Xylene	18.57	91	101691	0.992 ng	100
71) n-Nonane	18.77	43	93709	1.723 ng	98
72) 1,1,2,2-Tetrachloroethane	18.50	83	1537	N.D.	
74) Cumene	19.10	105	14240	0.113 ng	100
75) alpha-Pinene	19.45	93	337	N.D.	
76) n-Propylbenzene	19.55	91	37473	0.251 ng	93
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.68	105	28363	0.240 ng	99
79) 1,3,5-Trimethylbenzene	19.75	105	55810	0.544 ng	100
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.10	105	177506	1.722 ng	91
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.20	91	422	N.D.	
85) 1,3-Dichlorobenzene	20.24	146	117	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	490	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.61	68	2118	0.052 ng	97
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.11	180	187	N.D.	
95) Naphthalene	22.22	128	9850	0.078 ng	94
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052022.D Vial: 5
Acq On : 5 May 2020 16:46 Operator: WA
Sample : P2002107-008 (400mL) pf2 Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 21:10:04 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052022.D Vial: 5
Acq On : 5 May 2020 16:46 Operator: WA
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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/6/20

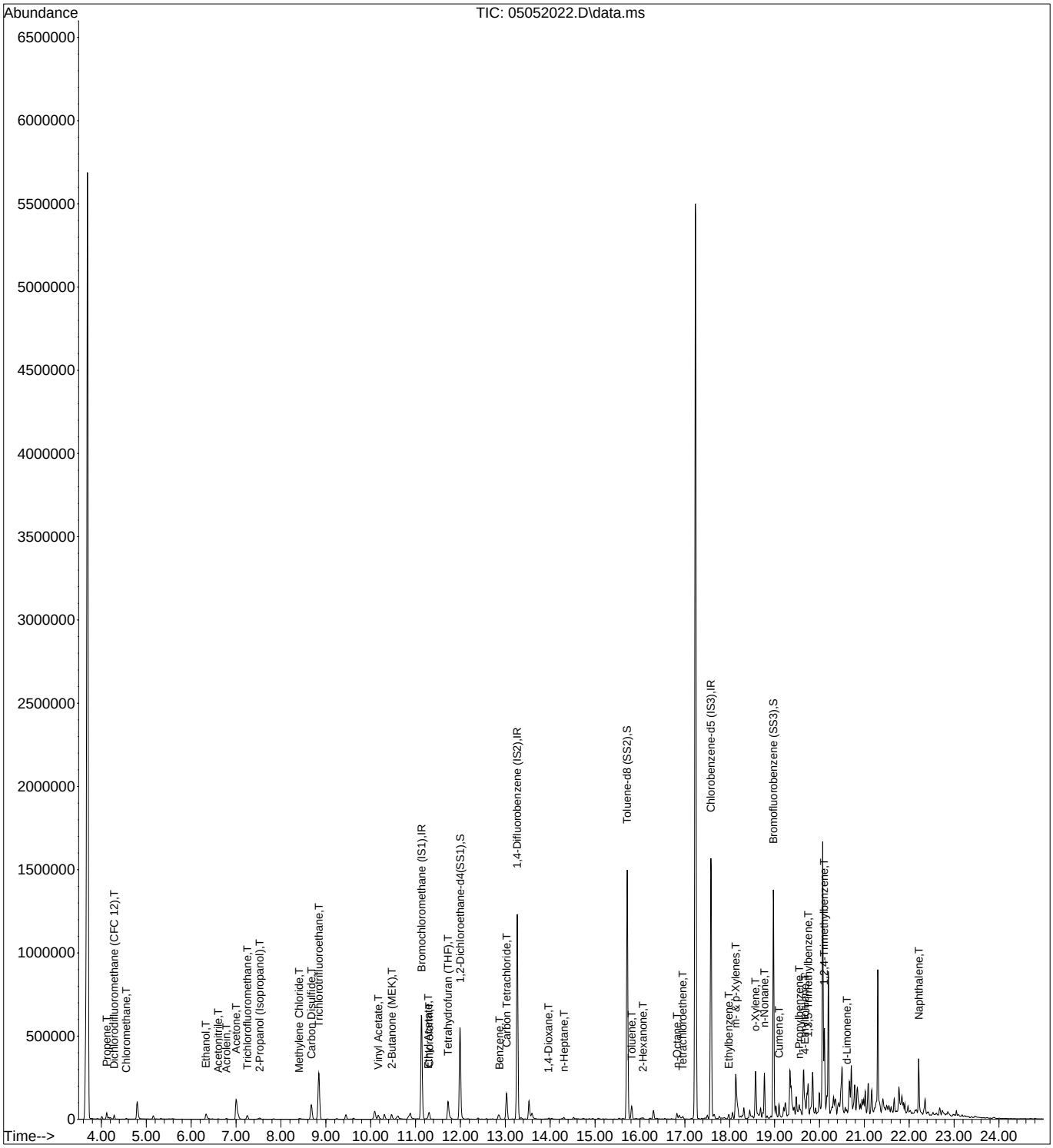
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	257328	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1111075	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	522387	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	422341	12.111	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.88%				
57) Toluene-d8 (SS2)	15.72	98	1107073	12.503	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.00%				
73) Bromofluorobenzene (SS3)	18.97	174	399937	12.553	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.40%				
Target Compounds							Qvalue
2) Propene	4.12	42	4031	0.135	ng		92
3) Dichlorodifluoromethan...	4.28	85	20562	0.353	ng		99
4) Chloromethane	4.55	50	3816	0.084	ng		92
10) Ethanol	6.33	45	54722	2.378	ng		100
11) Acetonitrile	6.60	41	3470	0.066	ng		75
12) Acrolein	6.79	56	5742	0.316	ng		98
13) Acetone	7.00	58	72055	3.131	ng	#	83
14) Trichlorofluoromethane	7.25	101	22634	0.439	ng		99
15) 2-Propanol (Isopropanol)	7.53	45	9592	0.138	ng		82
19) Methylene Chloride	8.40	84	1508	0.050	ng		99
21) Trichlorotrifluoroethane	8.84	151	113233	4.655	ng		96
22) Carbon Disulfide	8.68	76	165363	1.542	ng		99
26) Vinyl Acetate	10.17	86	6159	0.859	ng	#	19
27) 2-Butanone (MEK)	10.47	72	10856	0.553	ng		96
30) Ethyl Acetate	11.28	61	1960	0.173	ng		92
32) Chloroform	11.31	83	29261	0.571	ng		98
34) Tetrahydrofuran (THF)	11.72	72	34748	1.815	ng		96
41) Benzene	12.87	78	7255	0.061	ng		99
42) Carbon Tetrachloride	13.03	117	98402	2.428	ng		100
48) 1,4-Dioxane	13.96	88	2292	0.096	ng		100
51) n-Heptane	14.31	71	2645	0.095	ng		99
58) Toluene	15.82	91	63729	0.558	ng		100
59) 2-Hexanone	16.07	43	7058m	0.113	ng		
63) n-Octane	16.83	57	6729	0.285	ng		95
64) Tetrachloroethene	16.95	166	4344	0.135	ng		98
66) Ethylbenzene	17.98	91	18486	0.145	ng		98
67) m- & p-Xylenes	18.14	91	191492	1.897	ng		99
70) o-Xylene	18.57	91	101691	0.992	ng		100
71) n-Nonane	18.77	43	93709	1.723	ng		98
74) Cumene	19.10	105	14240	0.113	ng		100
76) n-Propylbenzene	19.55	91	37473	0.251	ng		93
78) 4-Ethyltoluene	19.68	105	28363	0.240	ng		99
79) 1,3,5-Trimethylbenzene	19.75	105	55810	0.544	ng		100
82) 1,2,4-Trimethylbenzene	20.10	105	177506	1.722	ng		91
91) d-Limonene	20.61	68	2118	0.052	ng		97
95) Naphthalene	22.22	128	9850	0.078	ng		94

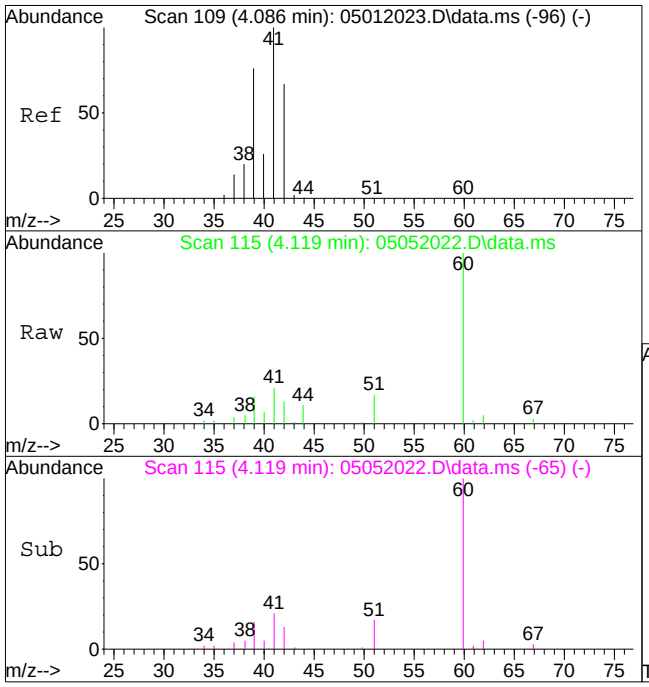
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052022.D Vial: 5
Acq On : 5 May 2020 16:46 Operator: WA
Sample : P2002107-008 (400mL) pf2 Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 21:10:04 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

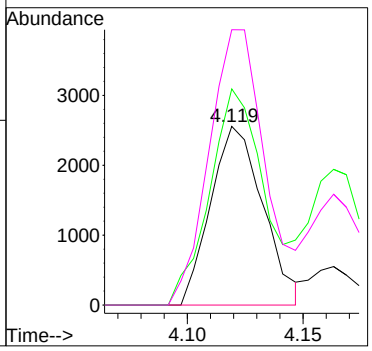


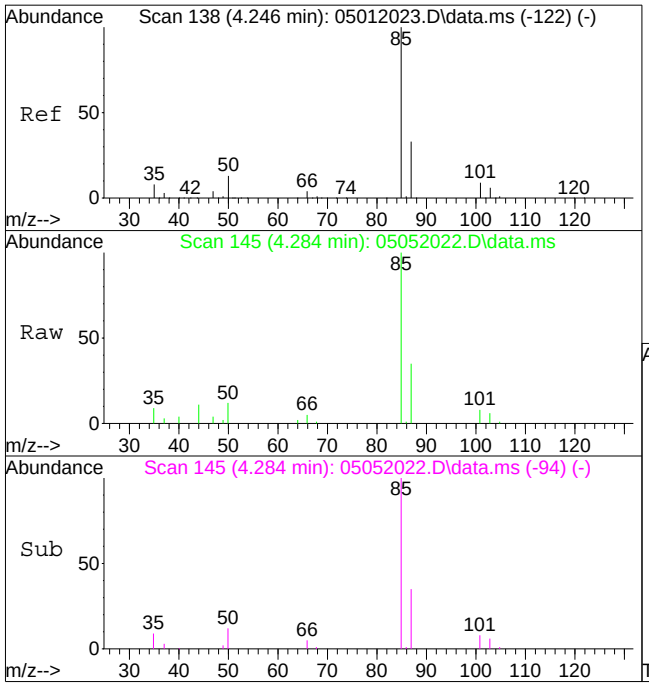


#2
Propene
Concen: 0.14 ng
RT: 4.12 min Scan# 115
Delta R.T. 0.027 min
Lab File: 05052022.D
Acq: 5 May 2020 16:46

Tgt Ion: 42 Resp: 4031

Ion	Ratio	Lower	Upper
42	100		
39	122.4	96.1	136.1
41	164.8	131.9	171.9

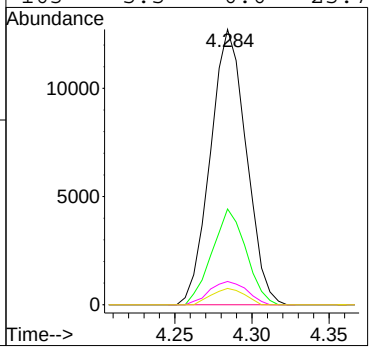


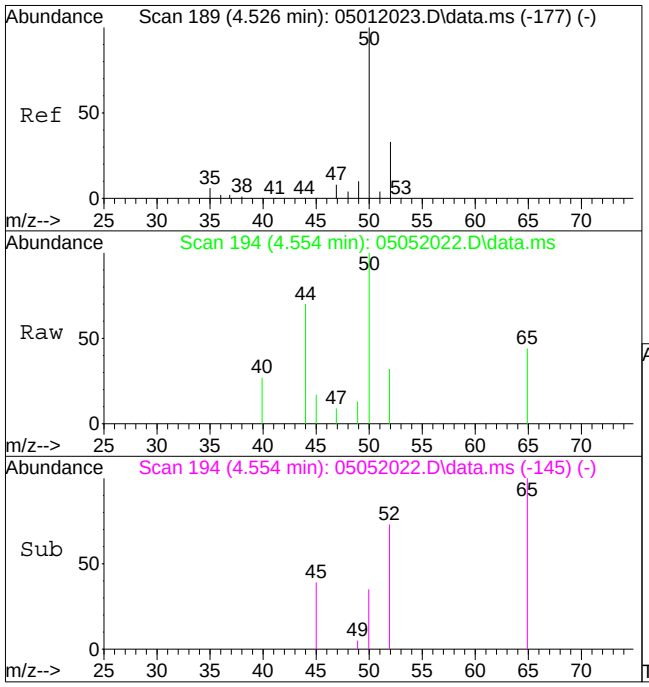


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.35 ng
RT: 4.28 min Scan# 145
Delta R.T. 0.033 min
Lab File: 05052022.D
Acq: 5 May 2020 16:46

Tgt Ion: 85 Resp: 20562

Ion	Ratio	Lower	Upper
85	100		
87	33.0	12.4	52.4
101	8.8	0.0	28.8
103	5.5	0.0	25.7

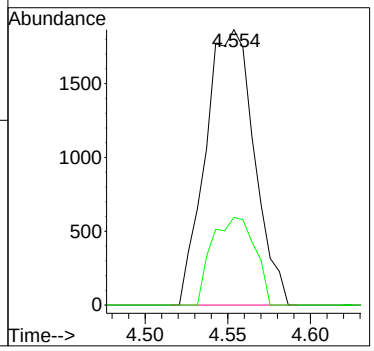


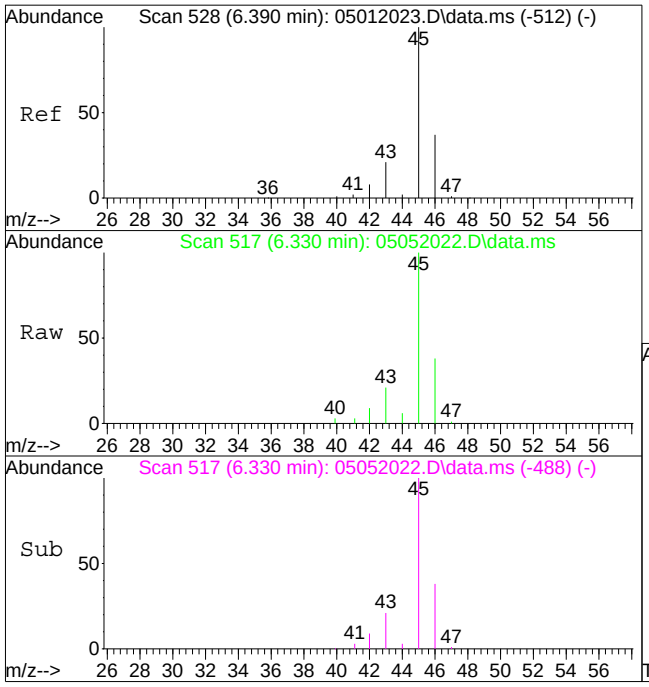


#4
Chloromethane
Concen: 0.08 ng
RT: 4.55 min Scan# 194
Delta R.T. 0.022 min
Lab File: 05052022.D
Acq: 5 May 2020 16:46

Tgt Ion: 50 Resp: 3816

Ion	Ratio	Lower	Upper
50	100		
52	28.1	12.5	52.5

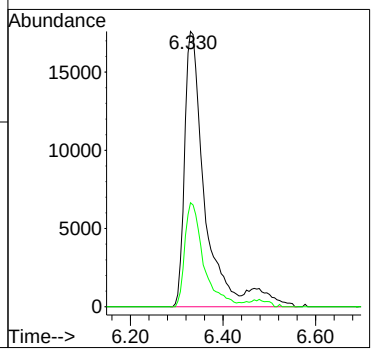


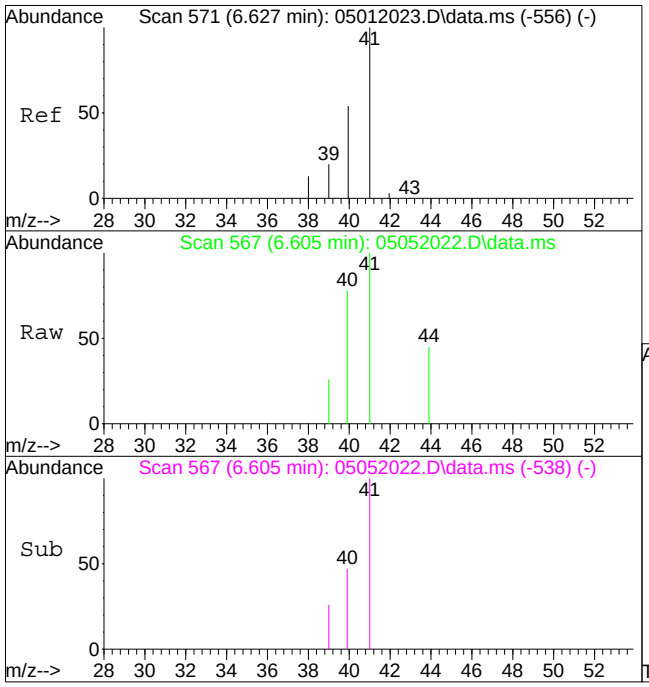


#10
Ethanol
Concen: 2.38 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.088 min
Lab File: 05052022.D
Acq: 5 May 2020 16:46

Tgt Ion: 45 Resp: 54722

Ion	Ratio	Lower	Upper
45	100		
46	37.0	17.2	57.2

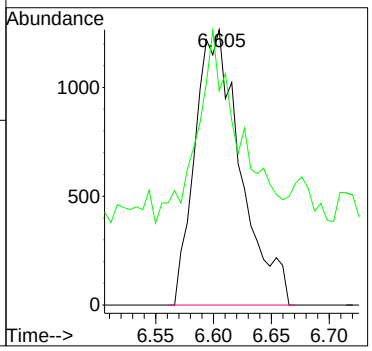


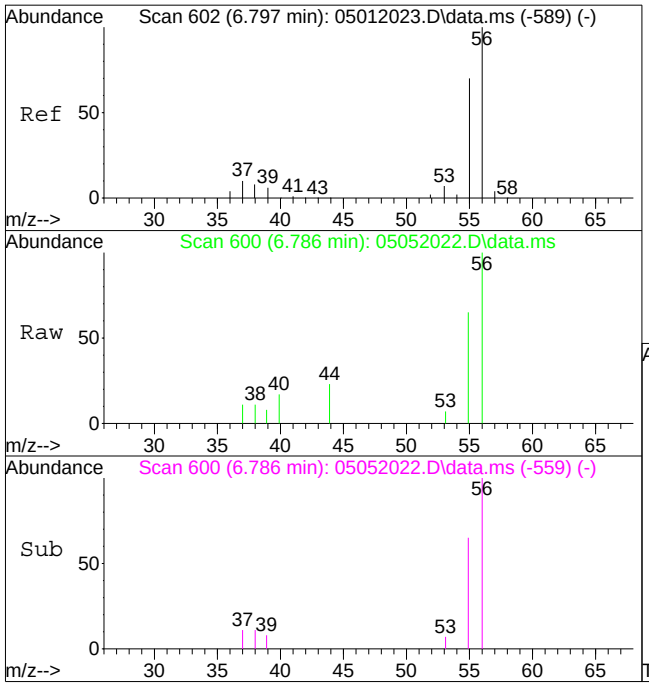


#11
Acetonitrile
Concen: 0.07 ng
RT: 6.60 min Scan# 567
Delta R.T. -0.039 min
Lab File: 05052022.D
Acq: 5 May 2020 16:46

Tgt Ion: 41 Resp: 3470

Ion	Ratio	Lower	Upper
41	100		
40	71.7	33.6	73.6

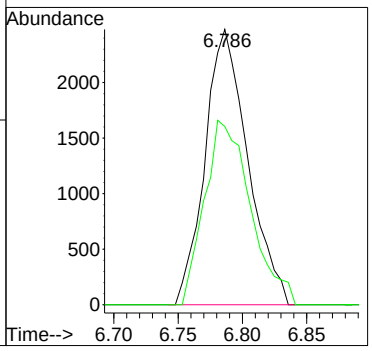


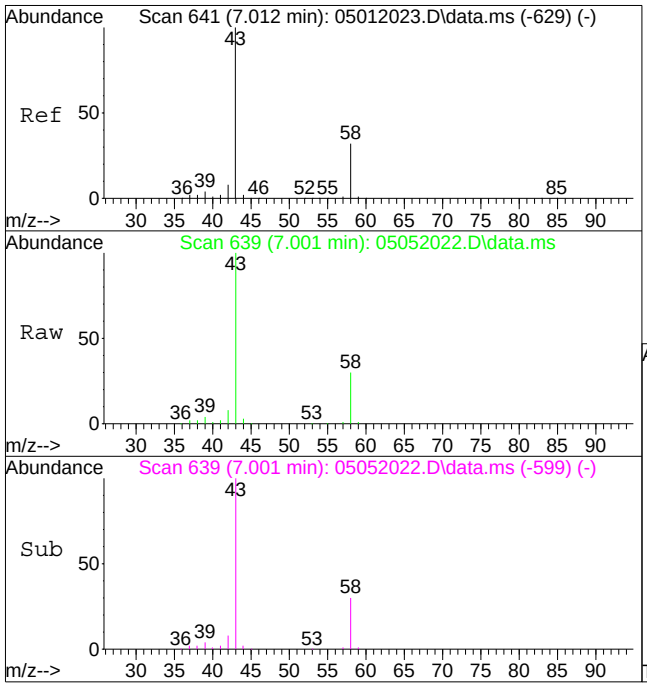


#12
Acrolein
Concen: 0.32 ng
RT: 6.79 min Scan# 600
Delta R.T. -0.022 min
Lab File: 05052022.D
Acq: 5 May 2020 16:46

Tgt Ion: 56 Resp: 5742

Ion	Ratio	Lower	Upper
56	100		
55	72.1	50.2	90.2

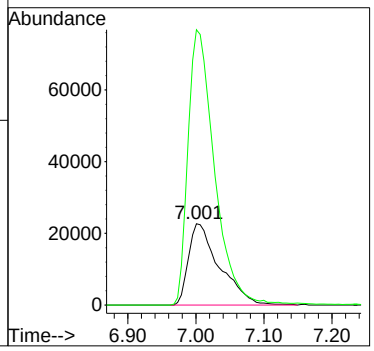


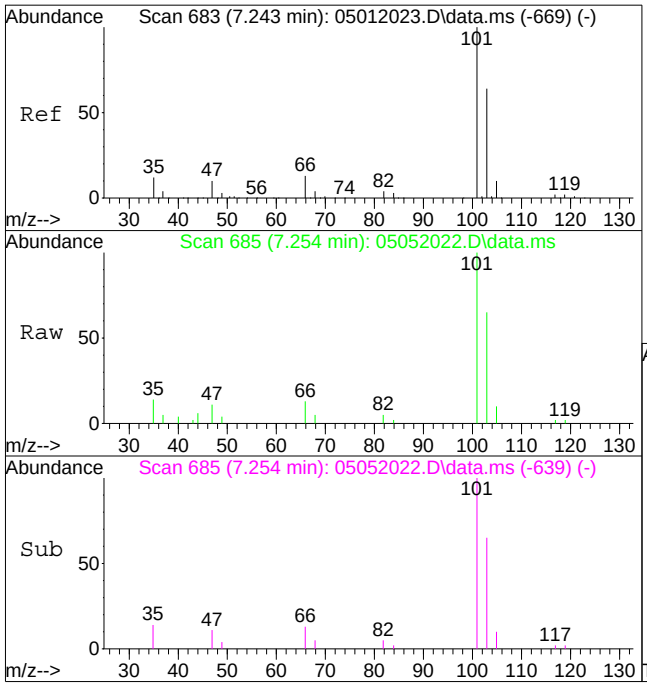


#13
Acetone
Concen: 3.13 ng
RT: 7.00 min Scan# 639
Delta R.T. -0.028 min
Lab File: 05052022.D
Acq: 5 May 2020 16:46

Tgt Ion: 58 Resp: 72055

Ion	Ratio	Lower	Upper
58	100		
43	290.1	294.4	354.4#

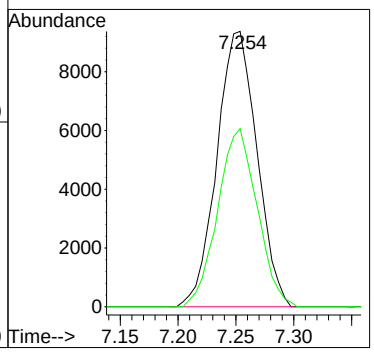


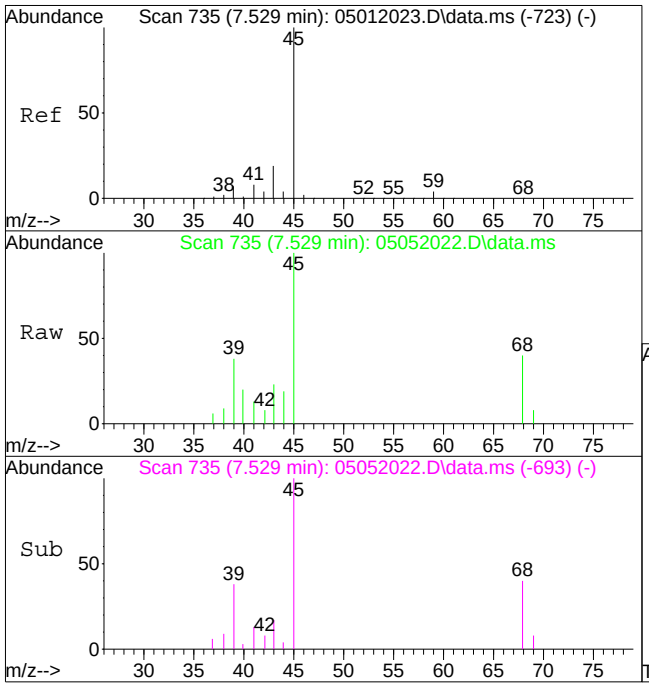


#14
Trichlorofluoromethane
Concen: 0.44 ng
RT: 7.25 min Scan# 685
Delta R.T. 0.005 min
Lab File: 05052022.D
Acq: 5 May 2020 16:46

Tgt Ion:101 Resp: 22634

Ion	Ratio	Lower	Upper
101	100		
103	63.6	44.4	84.4

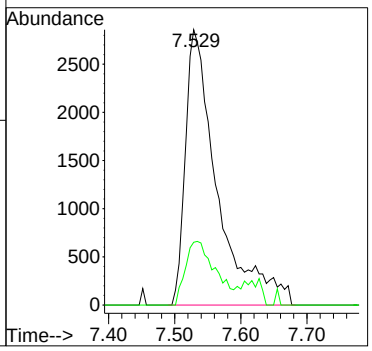


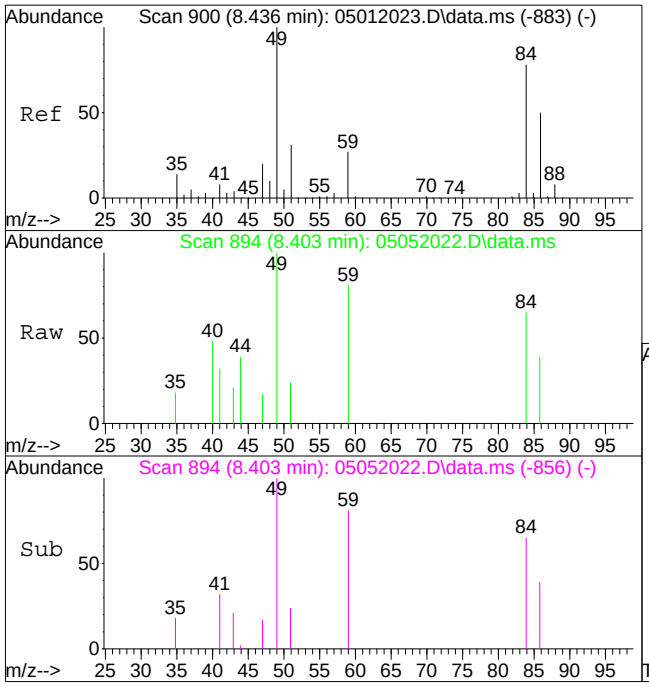


#15
2-Propanol (Isopropanol)
Concen: 0.14 ng
RT: 7.53 min Scan# 735
Delta R.T. -0.017 min
Lab File: 05052022.D
Acq: 5 May 2020 16:46

Tgt Ion: 45 Resp: 9592

Ion	Ratio	Lower	Upper
45	100		
43	27.6	0.0	39.5

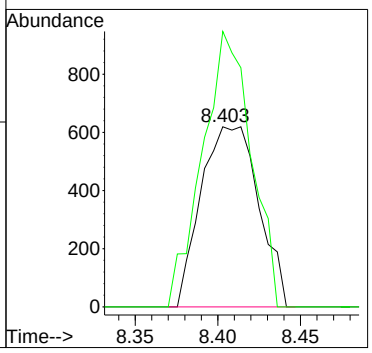


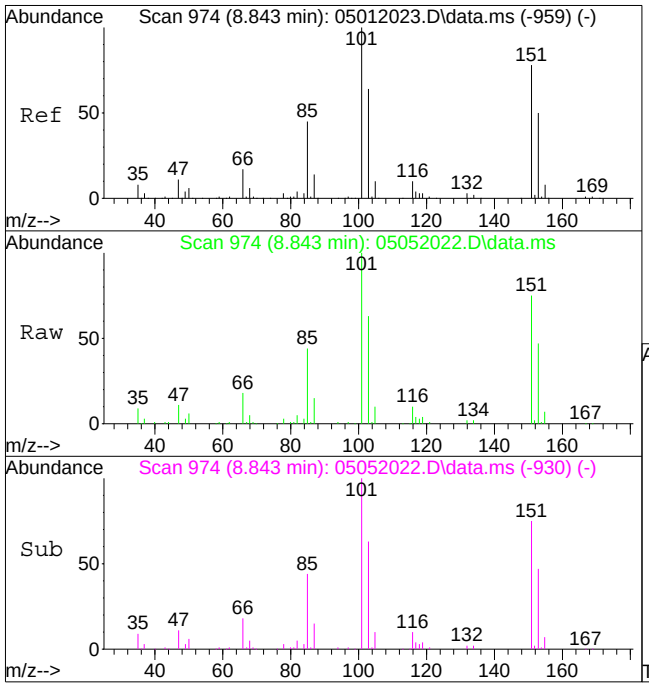


#19
Methylene Chloride
Concen: 0.05 ng
RT: 8.40 min Scan# 894
Delta R.T. -0.039 min
Lab File: 05052022.D
Acq: 5 May 2020 16:46

Tgt Ion: 84 Resp: 1508

Ion	Ratio	Lower	Upper
84	100		
49	128.8	104.8	154.8

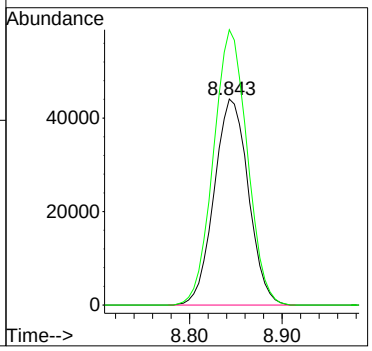


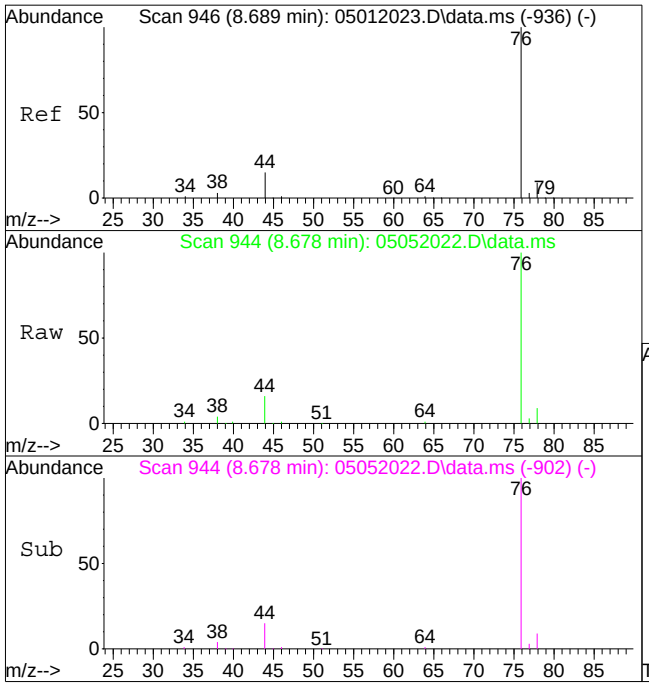


#21
Trichlorotrifluoroethane
Concen: 4.66 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05052022.D
Acq: 5 May 2020 16:46

Tgt Ion:151 Resp: 113233

Ion	Ratio	Lower	Upper
151	100		
101	131.7	107.3	147.3

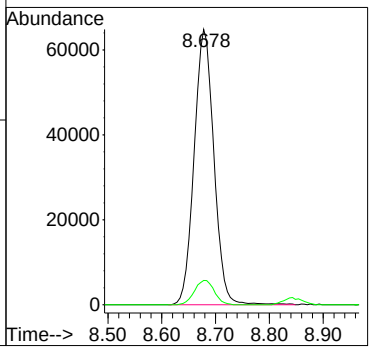


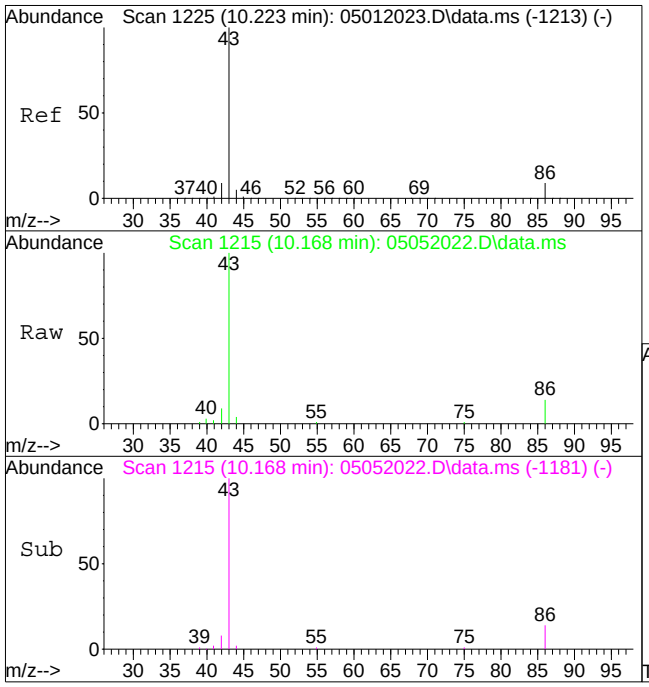


#22
Carbon Disulfide
Concen: 1.54 ng
RT: 8.68 min Scan# 944
Delta R.T. -0.017 min
Lab File: 05052022.D
Acq: 5 May 2020 16:46

Tgt Ion: 76 Resp: 165363

Ion	Ratio	Lower	Upper
76	100		
78	8.9	0.0	29.2

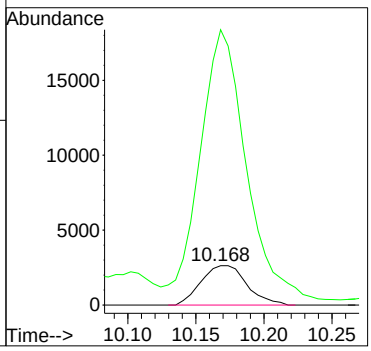


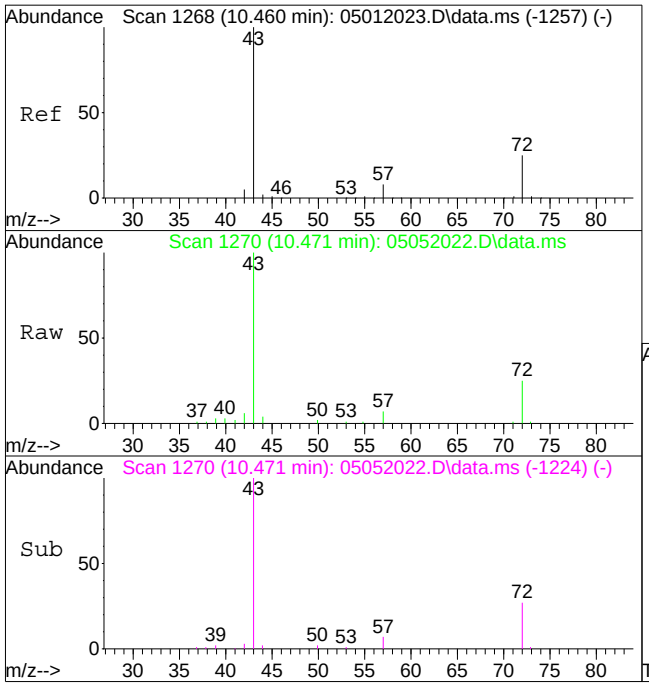


#26
Vinyl Acetate
Concen: 0.86 ng
RT: 10.17 min Scan# 1215
Delta R.T. -0.061 min
Lab File: 05052022.D
Acq: 5 May 2020 16:46

Tgt Ion: 86 Resp: 6159

Ion	Ratio	Lower	Upper
86	100		
43	729.1	1103.0	1143.0#

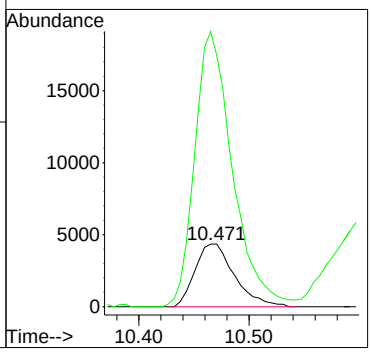


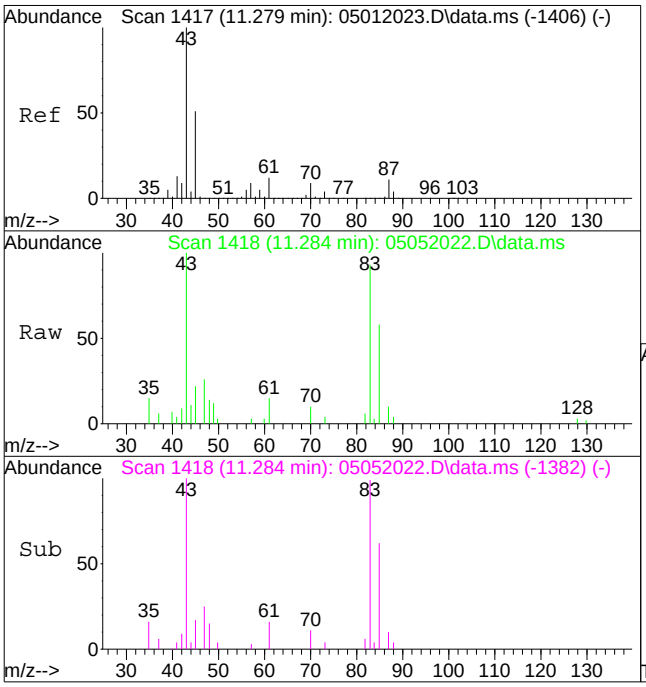


#27
2-Butanone (MEK)
Concen: 0.55 ng
RT: 10.47 min Scan# 1270
Delta R.T. 0.005 min
Lab File: 05052022.D
Acq: 5 May 2020 16:46

Tgt Ion: 72 Resp: 10856

Ion	Ratio	Lower	Upper
72	100		
43	419.8	389.7	429.7

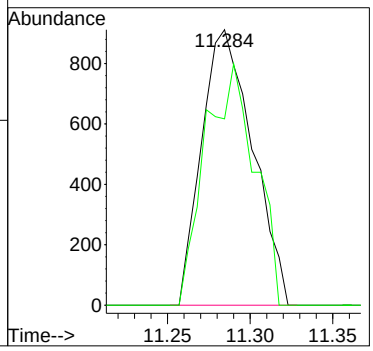


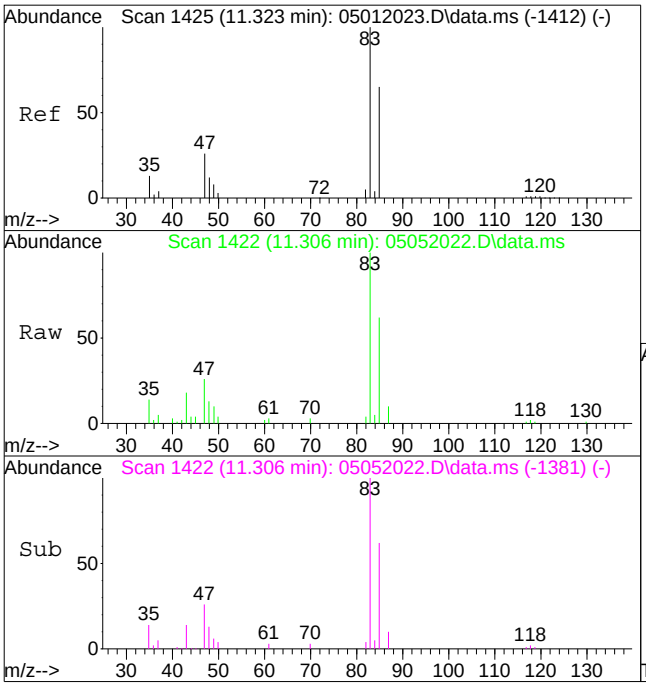


#30
Ethyl Acetate
Concen: 0.17 ng
RT: 11.28 min Scan# 1418
Delta R.T. -0.000 min
Lab File: 05052022.D
Acq: 5 May 2020 16:46

Tgt Ion: 61 Resp: 1960

Ion	Ratio	Lower	Upper
61	100		
70	85.2	57.9	97.9

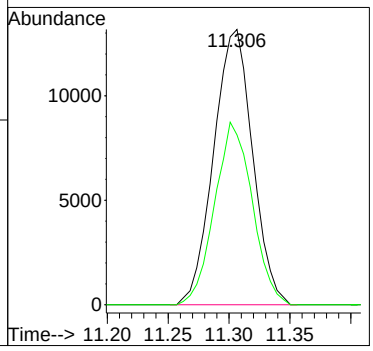


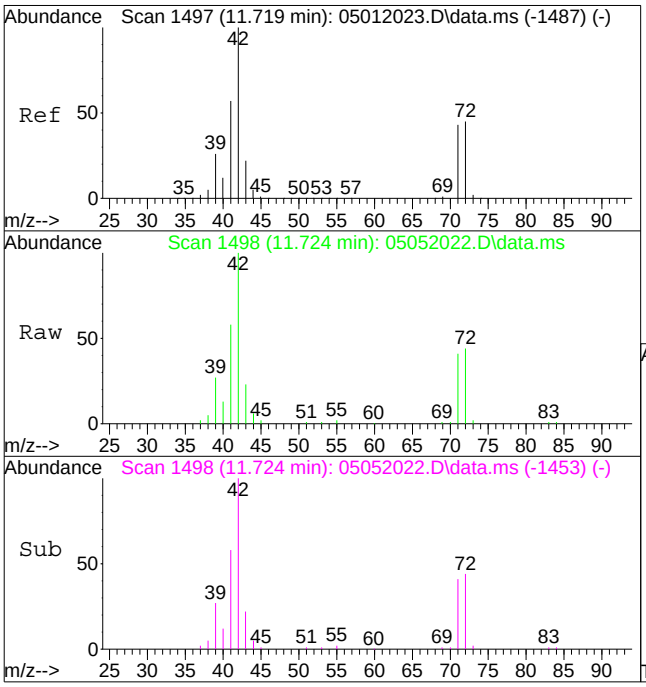


#32
Chloroform
Concen: 0.57 ng
RT: 11.31 min Scan# 1422
Delta R.T. -0.022 min
Lab File: 05052022.D
Acq: 5 May 2020 16:46

Tgt Ion: 83 Resp: 29261

Ion	Ratio	Lower	Upper
83	100		
85	64.0	45.5	85.5

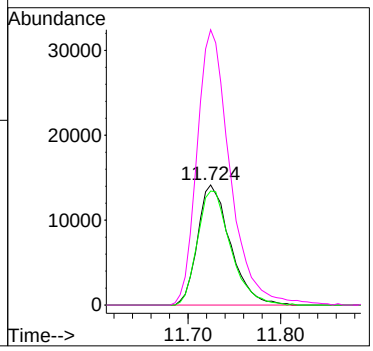


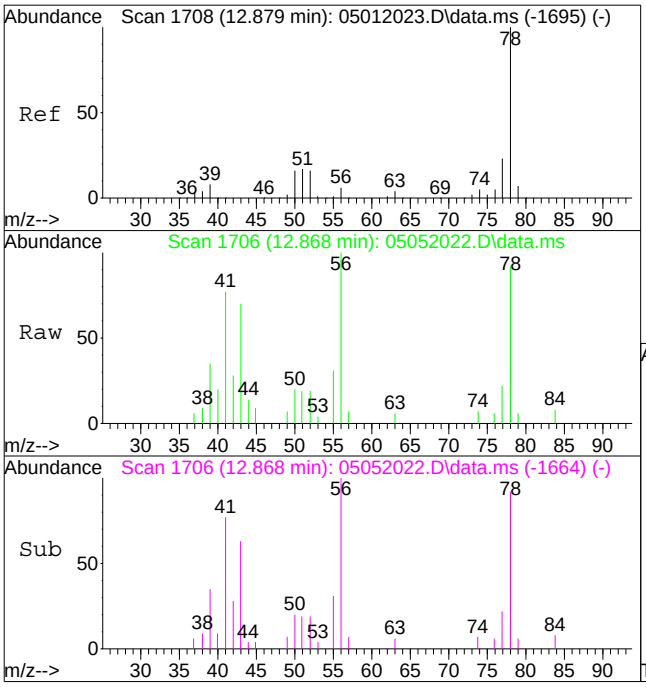


#34
Tetrahydrofuran (THF)
Concen: 1.82 ng
RT: 11.72 min Scan# 1498
Delta R.T. -0.000 min
Lab File: 05052022.D
Acq: 5 May 2020 16:46

Tgt Ion: 72 Resp: 34748

Ion	Ratio	Lower	Upper
72	100		
71	96.5	77.0	117.0
42	232.5	204.6	244.6

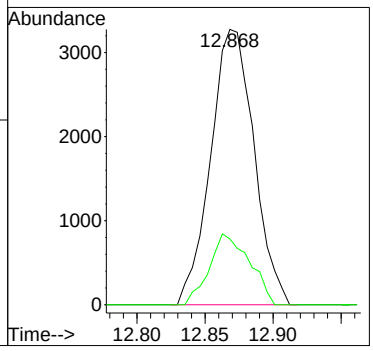


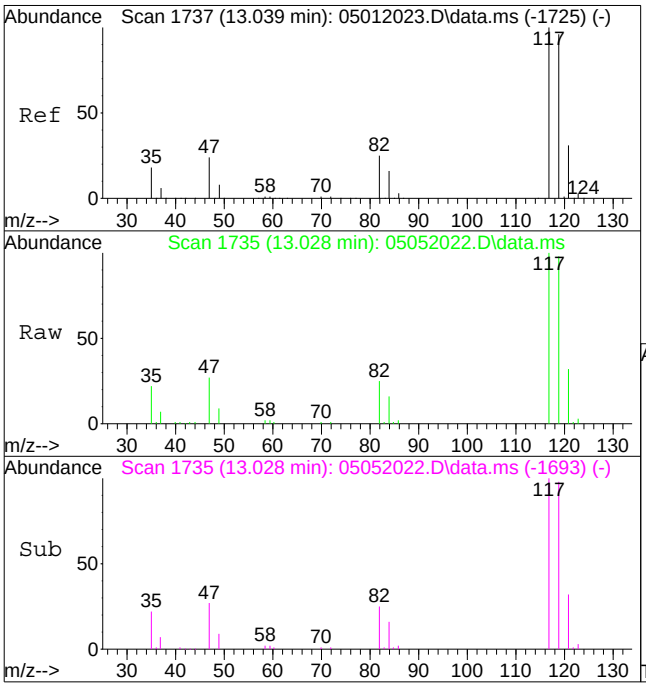


#41
Benzene
Concen: 0.06 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05052022.D
Acq: 5 May 2020 16:46

Tgt Ion: 78 Resp: 7255

Ion	Ratio	Lower	Upper
78	100		
77	23.9	3.4	43.4

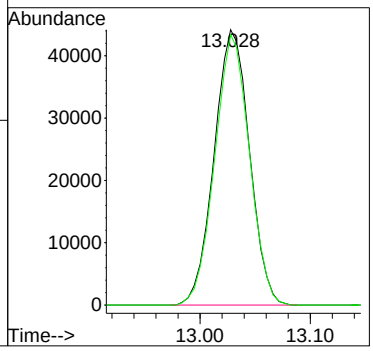


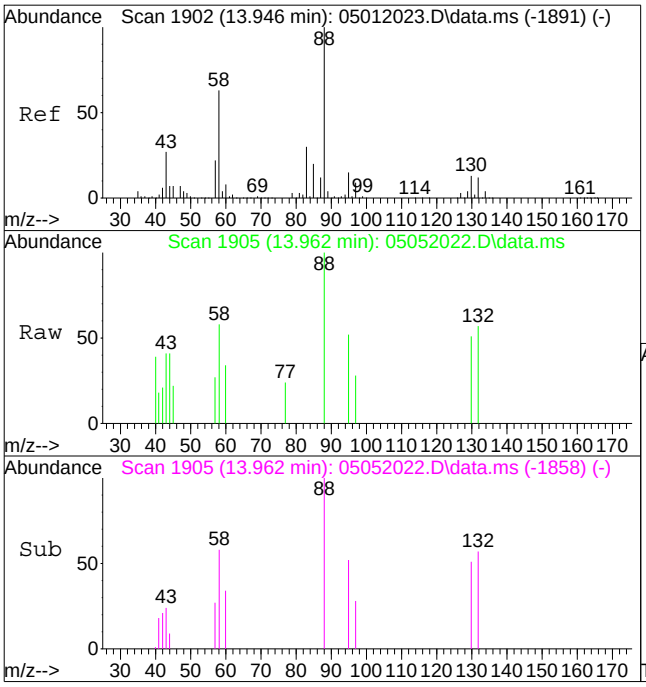


#42
Carbon Tetrachloride
Concen: 2.43 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05052022.D
Acq: 5 May 2020 16:46

Tgt Ion:117 Resp: 98402

Ion	Ratio	Lower	Upper
117	100		
119	96.2	76.2	116.2

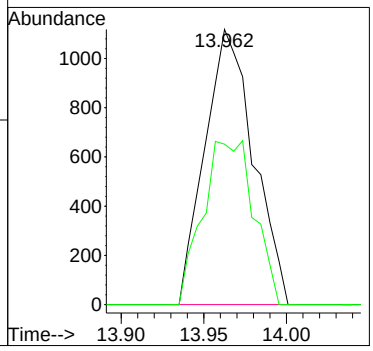


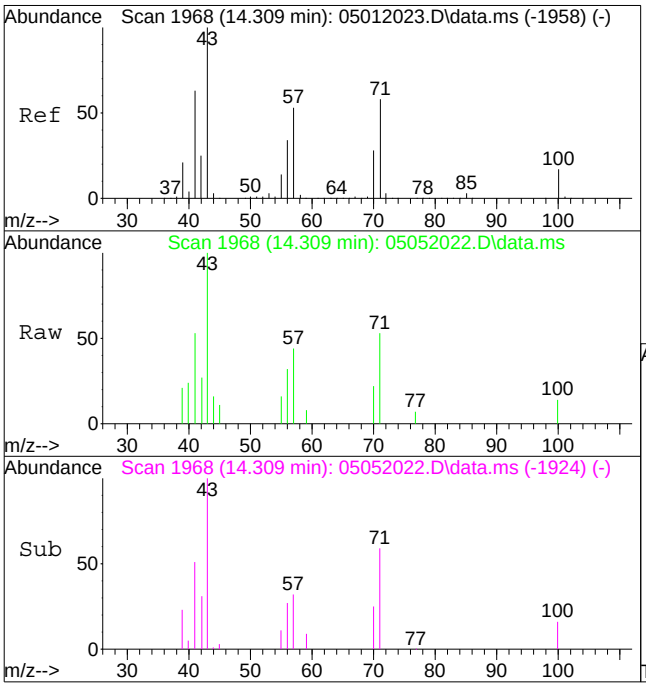


#48
1,4-Dioxane
Concen: 0.10 ng
RT: 13.96 min Scan# 1905
Delta R.T. 0.011 min
Lab File: 05052022.D
Acq: 5 May 2020 16:46

Tgt Ion: 88 Resp: 2292

Ion	Ratio	Lower	Upper
88	100		
58	62.5	42.8	82.8

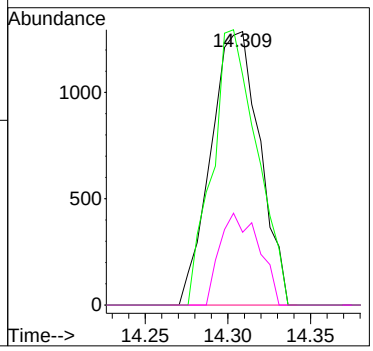


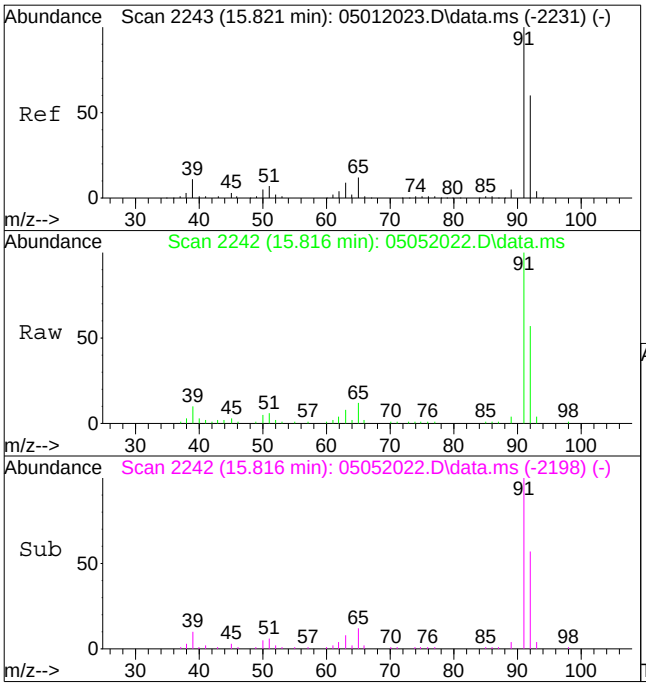


#51
n-Heptane
Concen: 0.09 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05052022.D
Acq: 5 May 2020 16:46

Tgt Ion: 71 Resp: 2645

Ion	Ratio	Lower	Upper
71	100		
57	91.8	71.0	111.0
100	26.9	8.4	48.4

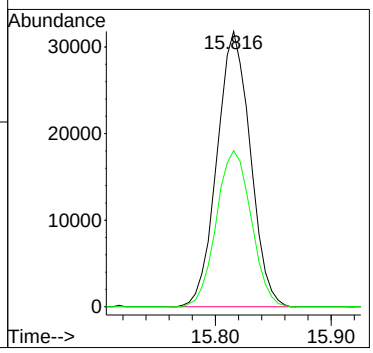


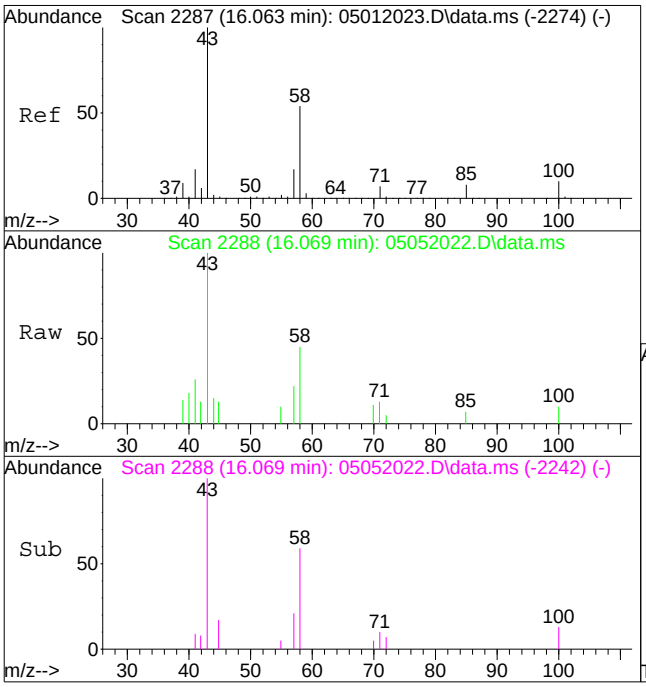


#58
Toluene
Concen: 0.56 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05052022.D
Acq: 5 May 2020 16:46

Tgt Ion: 91 Resp: 63729

Ion	Ratio	Lower	Upper
91	100		
92	59.2	39.4	79.4

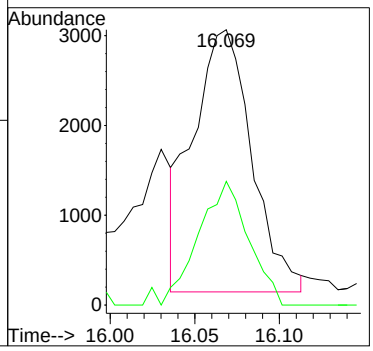


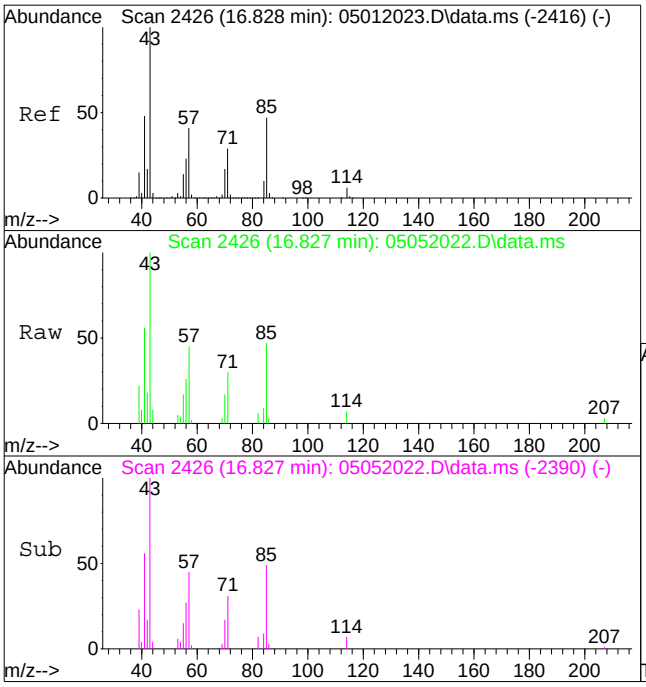


#59
2-Hexanone
Concen: 0.11 ng m
RT: 16.07 min Scan# 2288
Delta R.T. 0.005 min
Lab File: 05052022.D
Acq: 5 May 2020 16:46

Tgt Ion: 43 Resp: 7058

Ion	Ratio	Lower	Upper
43	100		
58	40.9	34.5	74.5

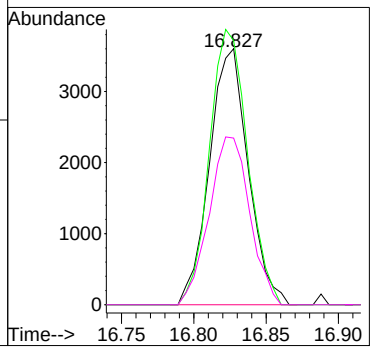


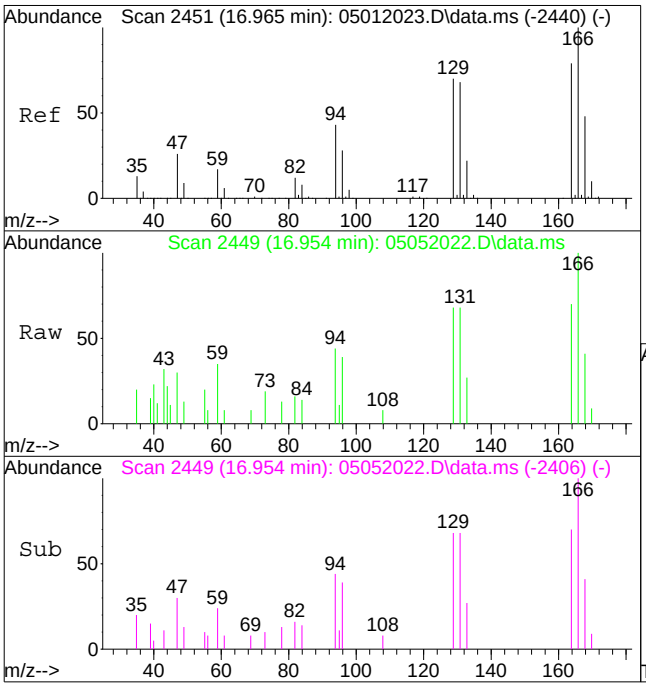


#63
n-Octane
Concen: 0.28 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05052022.D
Acq: 5 May 2020 16:46

Tgt Ion: 57 Resp: 6729

Ion	Ratio	Lower	Upper
57	100		
85	105.6	91.0	136.4
71	68.4	56.2	84.2

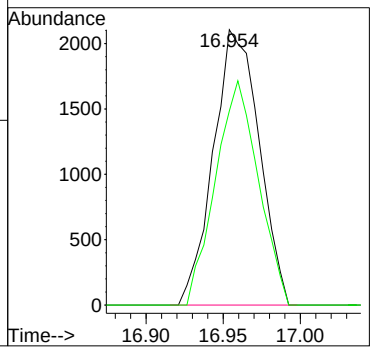


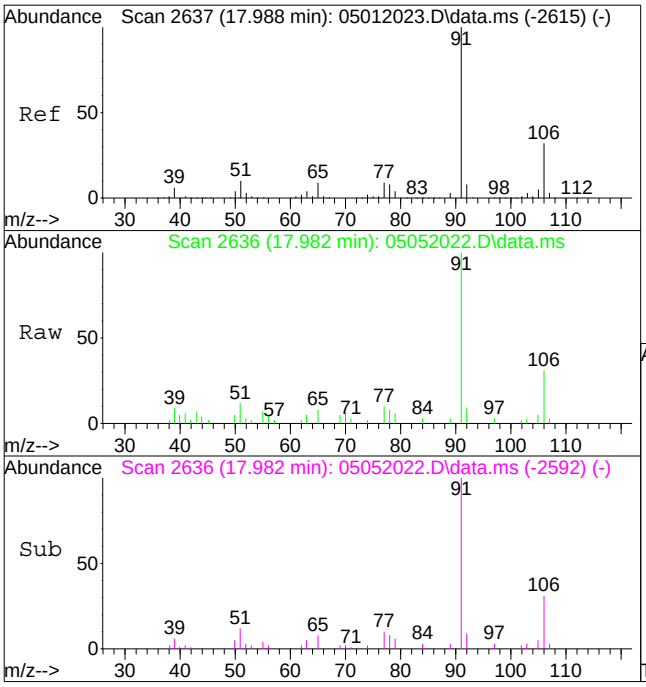


#64
Tetrachloroethene
Concen: 0.13 ng
RT: 16.95 min Scan# 2449
Delta R.T. -0.011 min
Lab File: 05052022.D
Acq: 5 May 2020 16:46

Tgt Ion:166 Resp: 4344

Ion	Ratio	Lower	Upper
166	100		
164	76.3	58.4	98.4

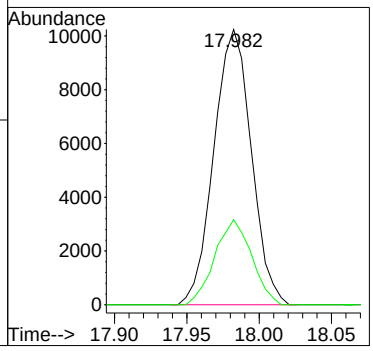


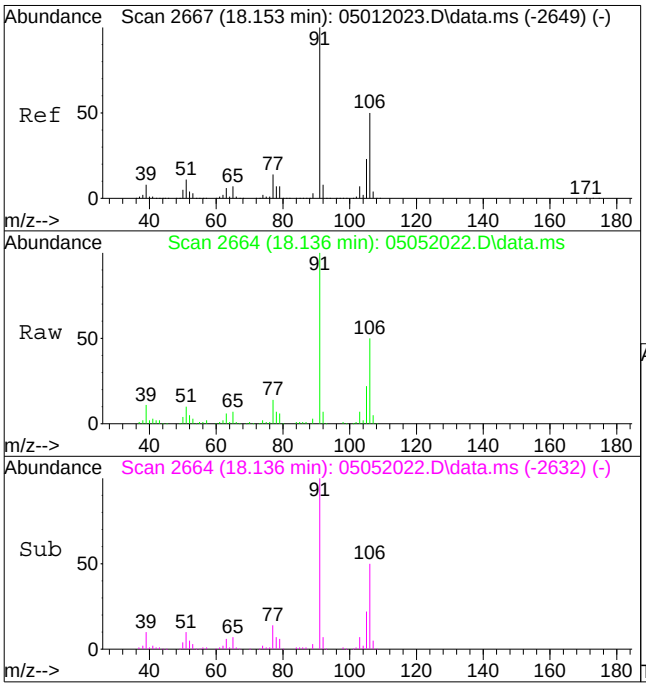


#66
Ethylbenzene
Concen: 0.15 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05052022.D
Acq: 5 May 2020 16:46

Tgt Ion: 91 Resp: 18486

Ion	Ratio	Lower	Upper
91	100		
106	30.3	11.6	51.6

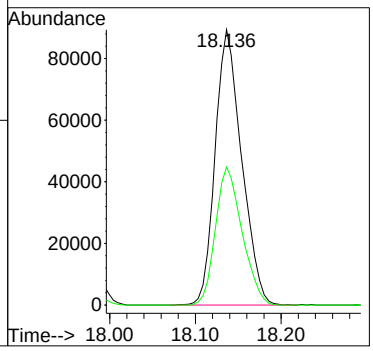


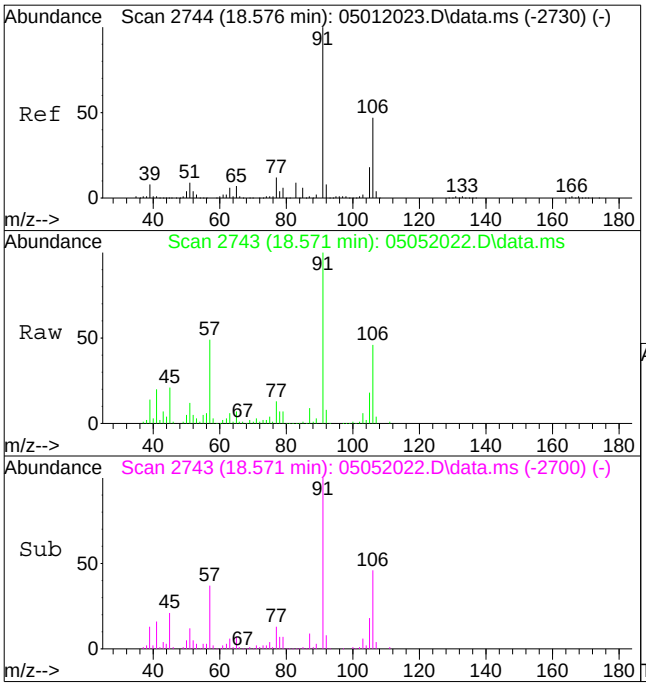


#67
m- & p-Xylenes
Concen: 1.90 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05052022.D
Acq: 5 May 2020 16:46

Tgt Ion: 91 Resp: 191492

Ion	Ratio	Lower	Upper
91	100		
106	50.2	29.7	69.7

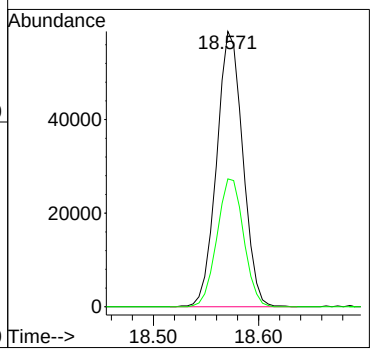


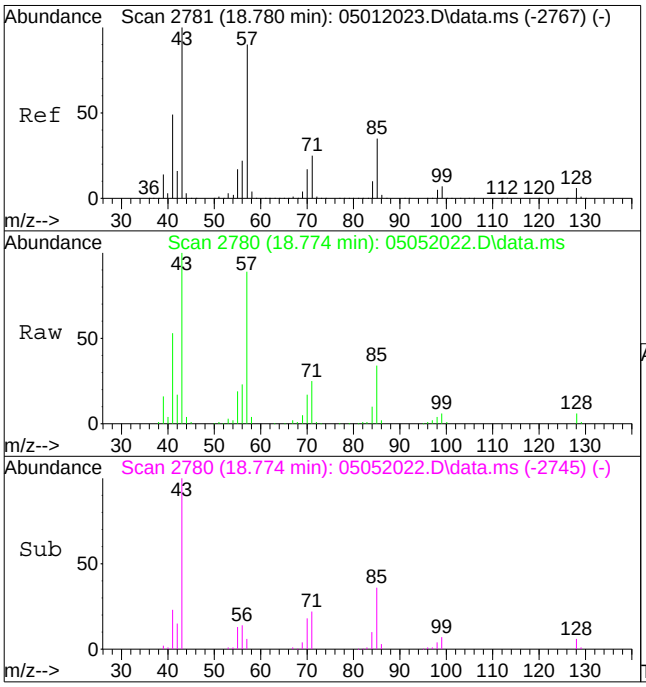


#70
o-Xylene
Concen: 0.99 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05052022.D
Acq: 5 May 2020 16:46

Tgt Ion: 91 Resp: 101691

Ion	Ratio	Lower	Upper
91	100		
106	47.5	27.5	67.5

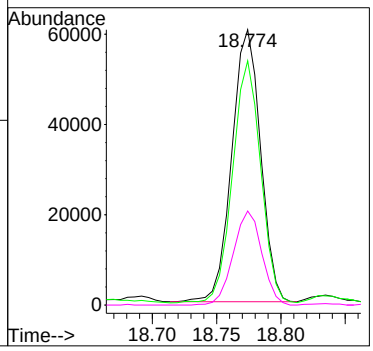


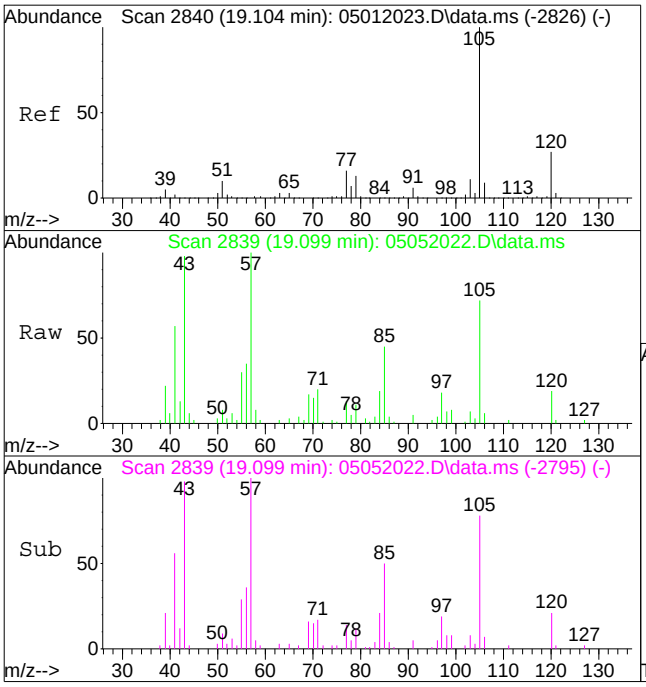


#71
n-Nonane
Concen: 1.72 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05052022.D
Acq: 5 May 2020 16:46

Tgt Ion: 43 Resp: 93709

Ion	Ratio	Lower	Upper
43	100		
57	87.1	69.0	109.0
85	34.3	14.6	54.6

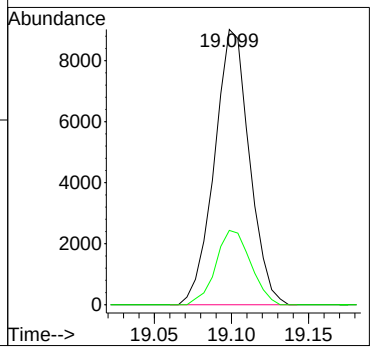


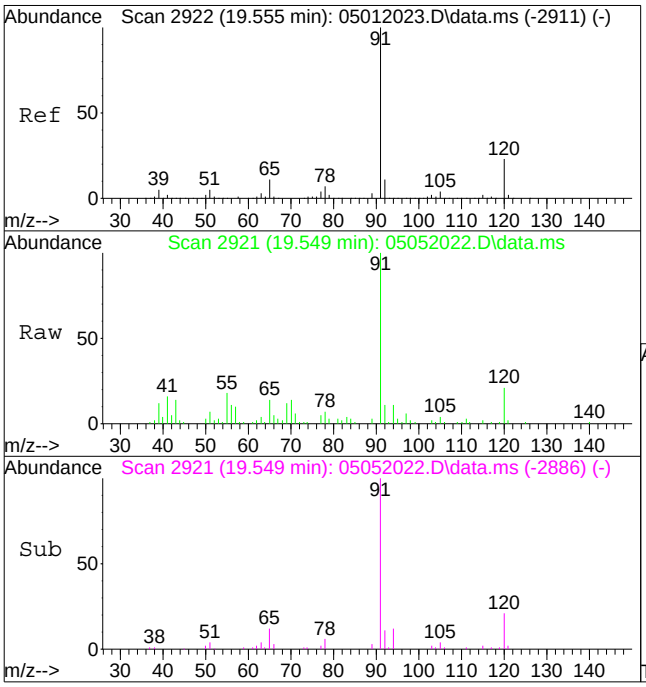


#74
Cumene
Concen: 0.11 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05052022.D
Acq: 5 May 2020 16:46

Tgt Ion:105 Resp: 14240

Ion	Ratio	Lower	Upper
105	100		
120	26.9	6.8	46.8

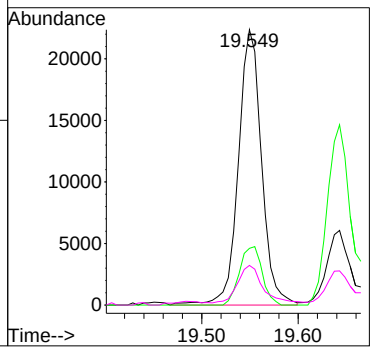


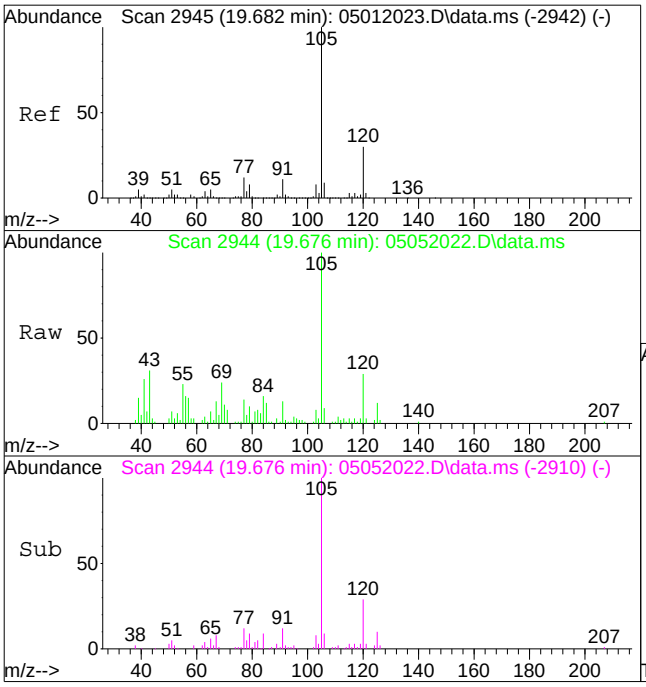


#76
n-Propylbenzene
Concen: 0.25 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05052022.D
Acq: 5 May 2020 16:46

Tgt Ion: 91 Resp: 37473

Ion	Ratio	Lower	Upper
91	100		
120	20.7	3.1	43.1
65	15.6	0.0	30.9

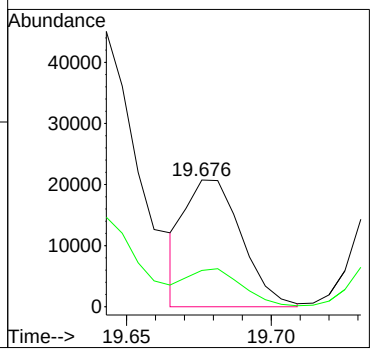


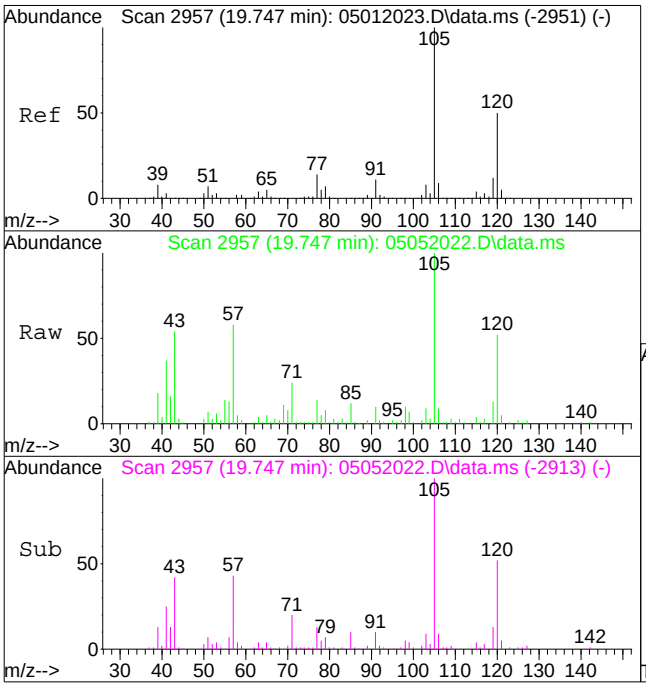


#78
4-Ethyltoluene
Concen: 0.24 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05052022.D
Acq: 5 May 2020 16:46

Tgt Ion:105 Resp: 28363

Ion	Ratio	Lower	Upper
105	100		
120	29.9	10.4	50.4

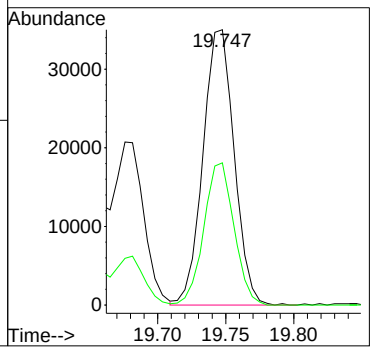


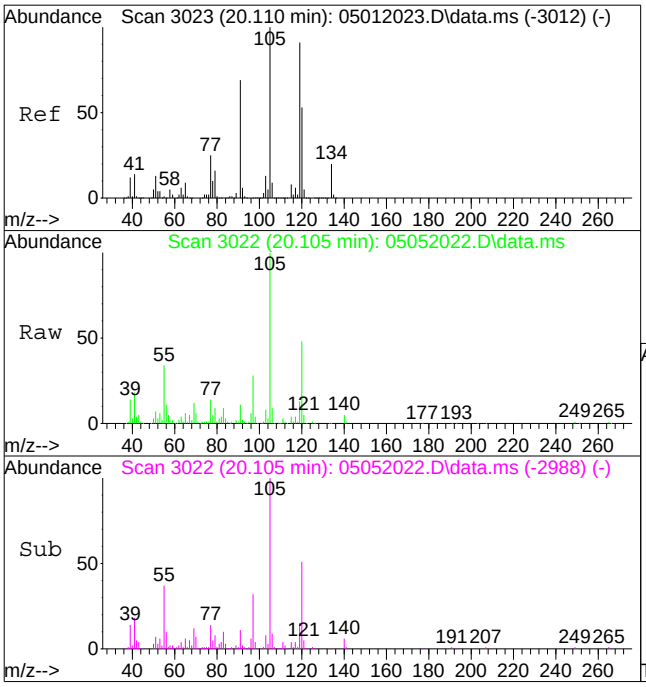


#79
1,3,5-Trimethylbenzene
Concen: 0.54 ng
RT: 19.75 min Scan# 2957
Delta R.T. -0.006 min
Lab File: 05052022.D
Acq: 5 May 2020 16:46

Tgt Ion:105 Resp: 55810

Ion	Ratio	Lower	Upper
105	100		
120	49.9	29.9	69.9

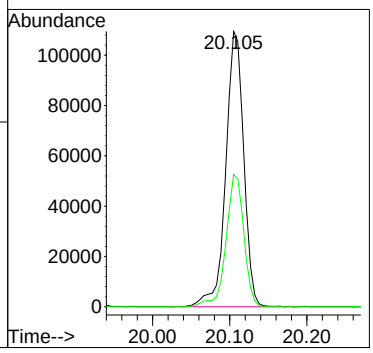


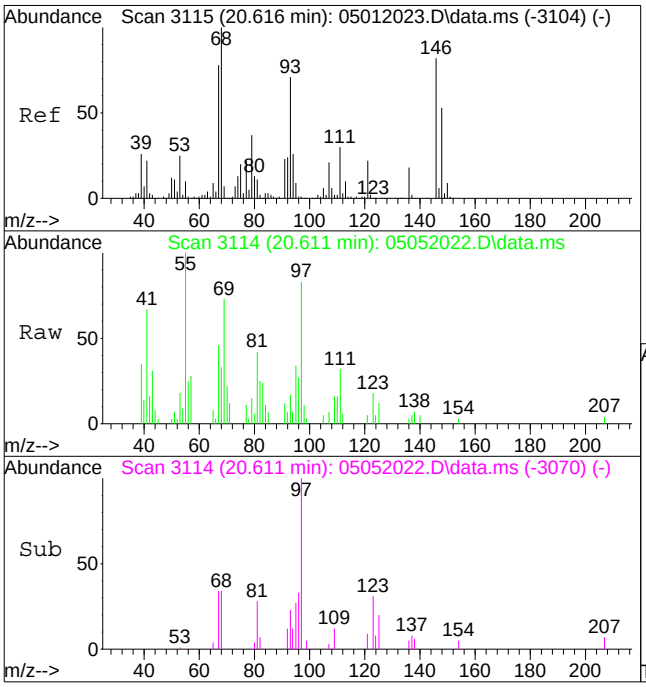


#82
1,2,4-Trimethylbenzene
Concen: 1.72 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05052022.D
Acq: 5 May 2020 16:46

Tgt Ion:105 Resp: 177506

Ion	Ratio	Lower	Upper
105	100		
120	47.5	33.6	73.6

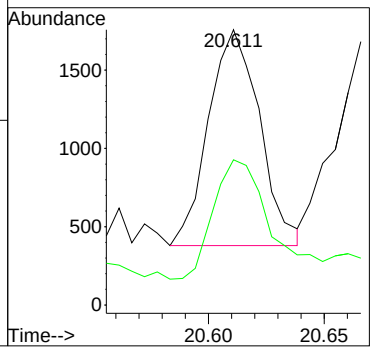


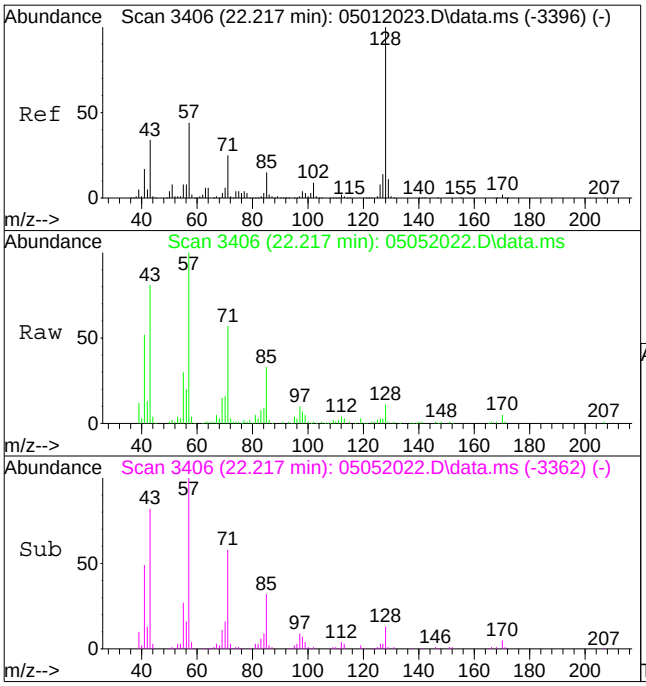


#91
d-Limonene
Concen: 0.05 ng
RT: 20.61 min Scan# 3114
Delta R.T. -0.006 min
Lab File: 05052022.D
Acq: 5 May 2020 16:46

Tgt Ion: 68 Resp: 2118

Ion	Ratio	Lower	Upper
68	100		
93	73.9	51.1	91.1

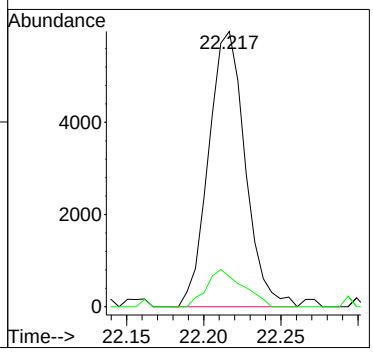




#95
Naphthalene
Concen: 0.08 ng
RT: 22.22 min Scan# 3406
Delta R.T. -0.005 min
Lab File: 05052022.D
Acq: 5 May 2020 16:46

Tgt Ion:128 Resp: 9850

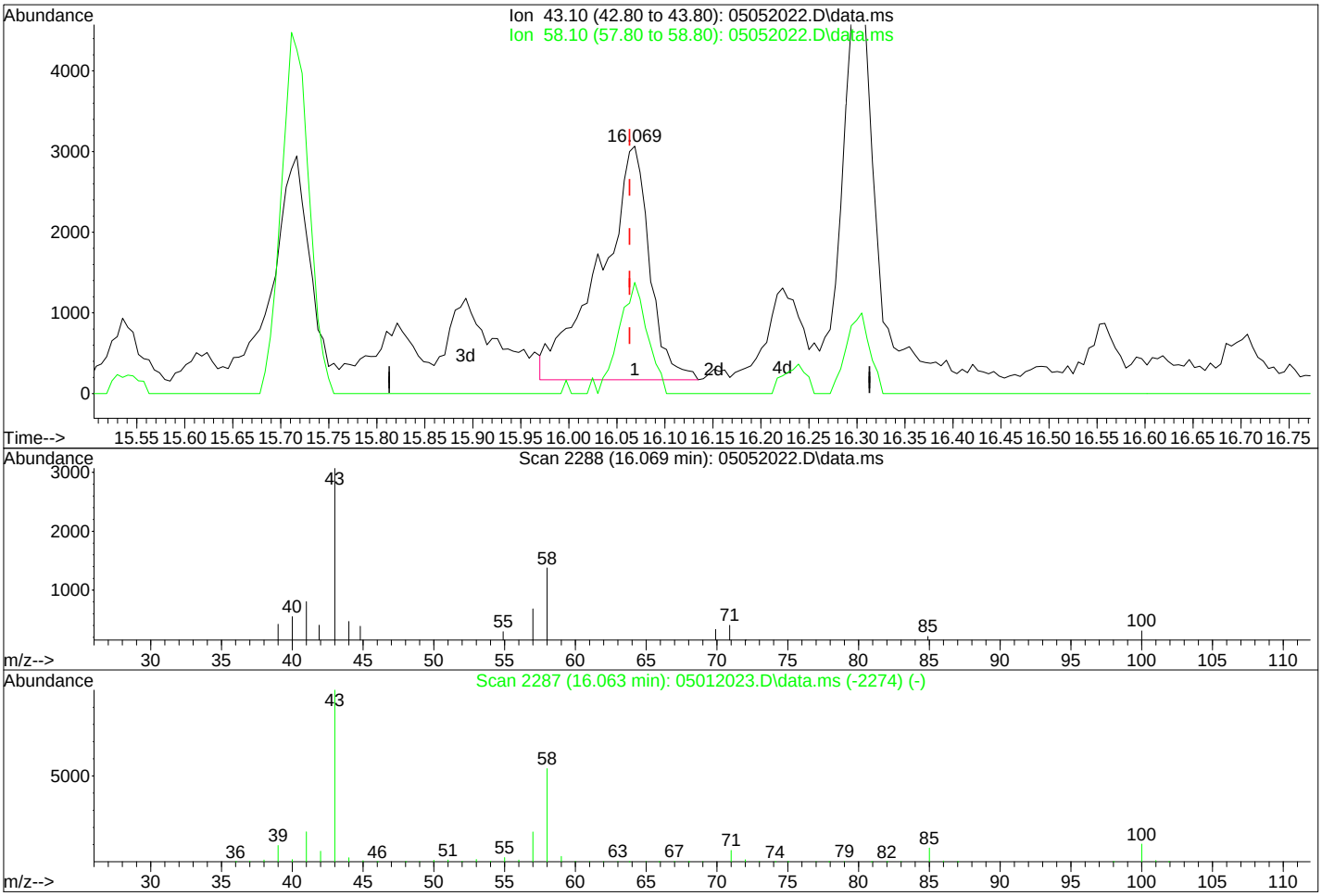
Ion	Ratio	Lower	Upper
128	100		
129	13.4	0.0	31.0



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\05\05052022.D Vial: 5
Acq On : 5 May 2020 16:46 Operator: WA
Sample : P2002107-008 (400mL) pf2 Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 03:56:36 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05052022.D\data.ms

(59) 2-Hexanone (T)

16.069min (+0.005) 0.17ng

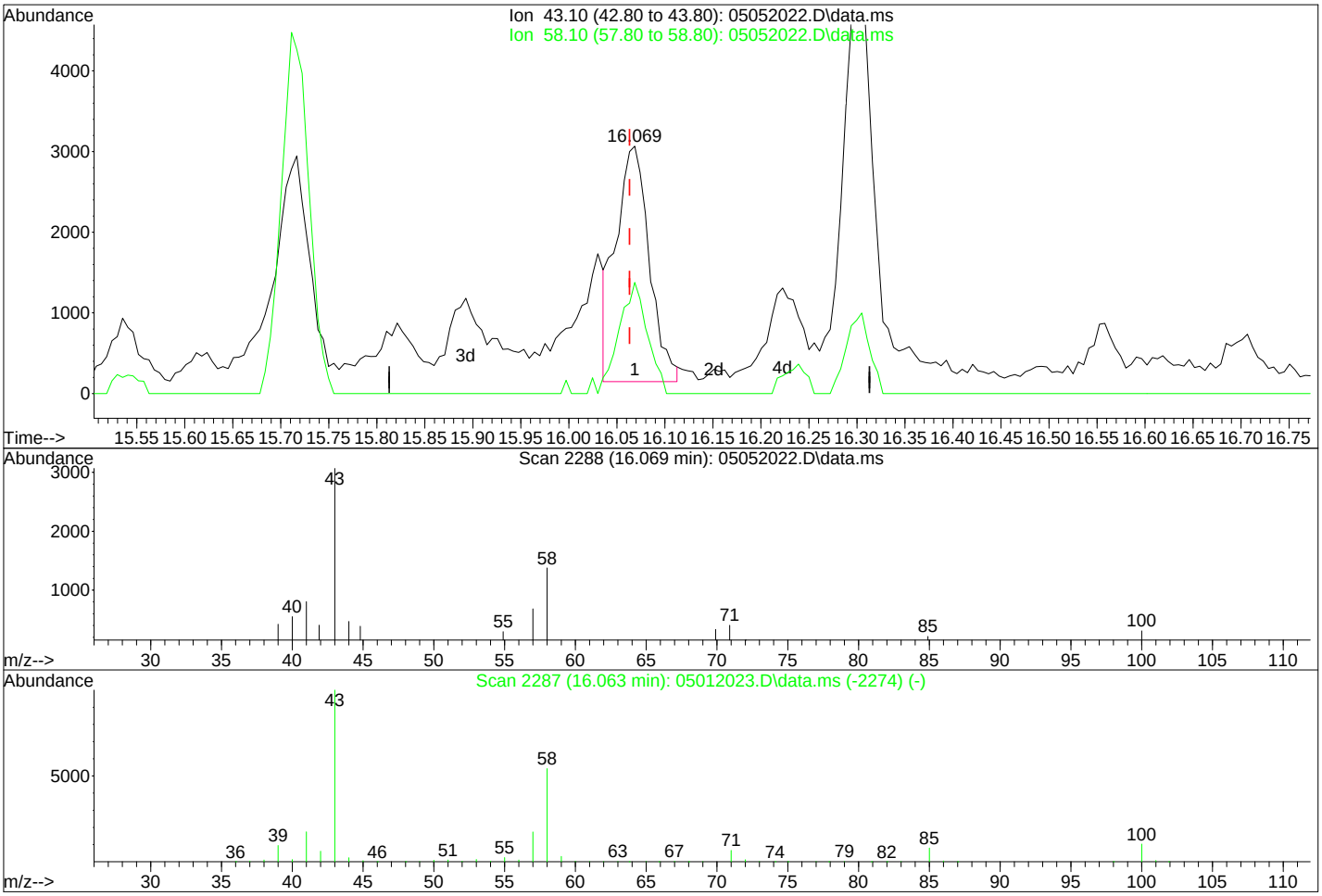
response 10369

Ion	Exp%	Act%
43.10	100	100
58.10	54.50	27.85#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\05\05052022.D Vial: 5
Acq On : 5 May 2020 16:46 Operator: WA
Sample : P2002107-008 (400mL) pf2 Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 03:56:36 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05052022.D\data.ms

(59) 2-Hexanone (T)

16.069min (+0.005) 0.11ng m

response 7058

Ion	Exp%	Act%
43.10	100	100
58.10	54.50	40.92
0.00	0.00	0.00
0.00	0.00	0.00

IPC

LH 5/6/20

WA 5/12/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052023.D Vial: 6
Acq On : 5 May 2020 17:20 Operator: WA
Sample : P2002107-009 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 07 16:25:45 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/7/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	260410	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1118196	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	528791	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	425670	12.062	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.48%				
57) Toluene-d8 (SS2)	15.72	98	1104145	12.319	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.56%				
73) Bromofluorobenzene (SS3)	18.98	174	407876	12.647	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.20%				
Target Compounds							Qvalue
2) Propene	4.11	42	3829	0.127	ng	#	49
3) Dichlorodifluoromethan...	4.26	85	50275	0.852	ng		99
4) Chloromethane	4.53	50	4230	0.092	ng		96
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	743	N.D.			
6) Vinyl Chloride	4.96	62	249	N.D.			
7) 1,3-Butadiene	5.16	54	171	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.98	64	833	N.D.			
10) Ethanol	6.34	45	25592	1.099	ng		95
11) Acetonitrile	6.62	41	5748	0.108	ng		94
12) Acrolein	6.80	56	4872	0.265	ng		99
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	7.24	101	434148	8.327	ng		100
15) 2-Propanol (Isopropanol)	7.53	45	16504	0.234	ng		81
16) Acrylonitrile	7.77	53	449	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.41	84	1259	N.D.			
20) 3-Chloro-1-propene (Al...	8.44	41	1415	N.D.			
21) Trichlorotrifluoroethane	8.85	151	3035900	123.338	ng		99
22) Carbon Disulfide	8.69	76	1911399	17.618	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.09	73	2082	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.47	72	21667	1.091	ng		98
28) cis-1,2-Dichloroethene	10.91	61	874	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.28	61	8101	0.707	ng	#	1
31) n-Hexane	11.26	57	4828	0.097	ng	#	1
32) Chloroform	11.30	83	2108183	40.670	ng		100
34) Tetrahydrofuran (THF)	11.72	72	111371	5.749	ng		99
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.12	62	359	N.D.			
38) 1,1,1-Trichloroethane	12.40	97	119	N.D.			
39) Isopropyl Acetate	13.04	61	942	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	13591	0.113	ng		98
42) Carbon Tetrachloride	13.03	117	1888776	46.307	ng		100
43) Cyclohexane	13.17	84	7196	0.161	ng		97
44) tert-Amyl Methyl Ether	13.57	73	2313	N.D.			
45) 1,2-Dichloropropane	13.53	63	417	N.D.			
46) Bromodichloromethane	13.91	83	7586	0.187	ng		96
47) Trichloroethene	13.97	130	2239	0.072	ng		95
48) 1,4-Dioxane	13.97	88	807	N.D.			
49) 2,2,4-Trimethylpentane...	14.04	57	2317	N.D.			
50) Methyl Methacrylate	14.30	100	359	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052023.D Vial: 6
Acq On : 5 May 2020 17:20 Operator: WA
Sample : P2002107-009 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 07 16:25:45 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

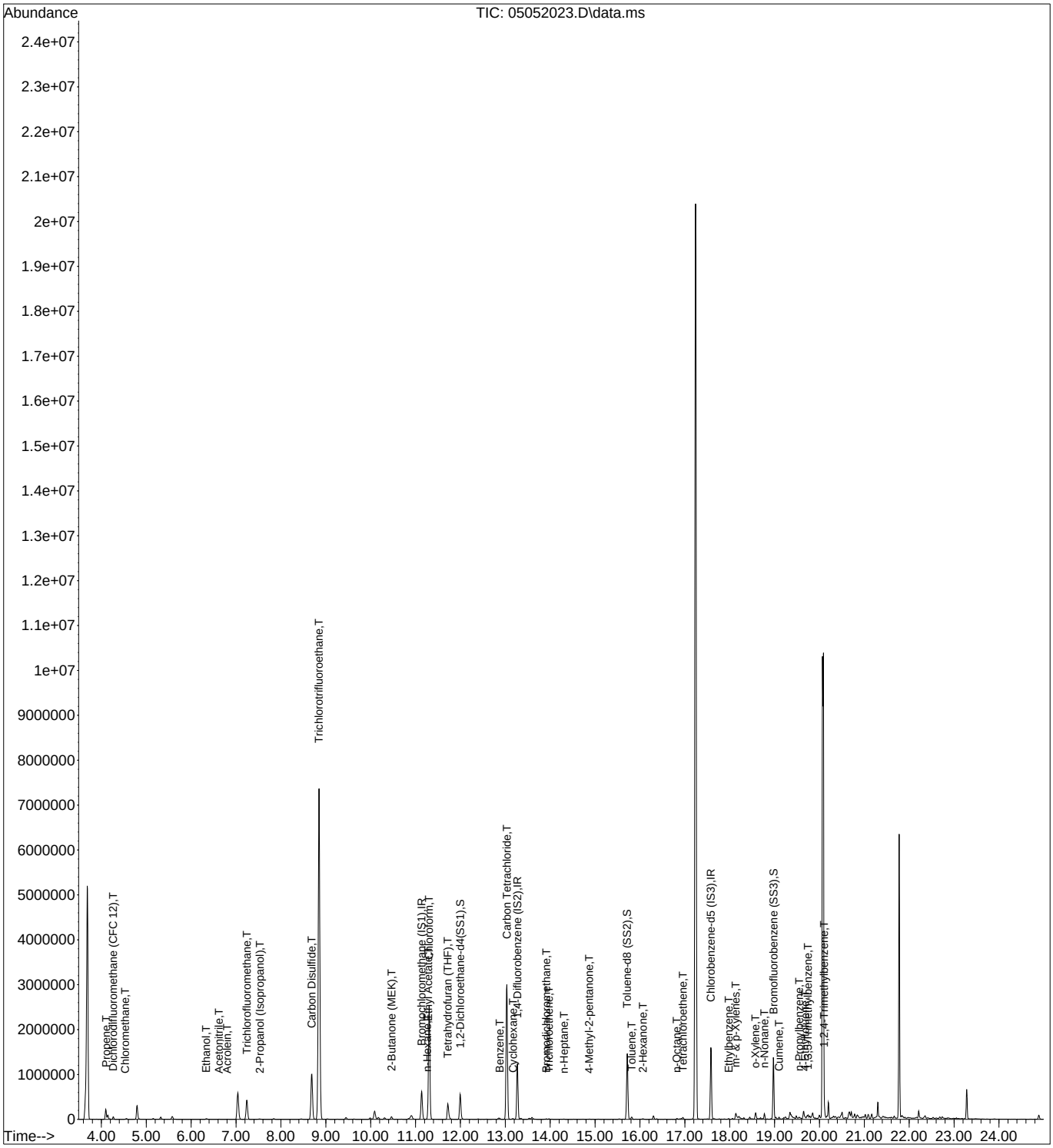
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.31	71	1747	0.062 ng		95
52) cis-1,3-Dichloropropene	14.83	75	170	N.D.		
53) 4-Methyl-2-pentanone	14.87	58	1407	0.053 ng	#	53
54) trans-1,3-Dichloropropene	15.35	75	581	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.82	91	41903	0.363 ng		100
59) 2-Hexanone	16.06	43	11529	0.182 ng		83
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	16.47	107	359	N.D.		
62) n-Butyl Acetate	16.70	43	1197	N.D.		
63) n-Octane	16.82	57	3579	0.150 ng		95
64) Tetrachloroethene	16.96	166	12975	0.398 ng		99
65) Chlorobenzene	17.62	112	639	N.D.		
66) Ethylbenzene	17.98	91	9671	0.075 ng		97
67) m- & p-Xylenes	18.14	91	88266	0.864 ng		100
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	736	N.D.		
70) o-Xylene	18.57	91	45766	0.441 ng		99
71) n-Nonane	18.77	43	43074	0.782 ng		99
72) 1,1,2,2-Tetrachloroethane	18.57	83	111	N.D.		
74) Cumene	19.10	105	7700	0.060 ng		97
75) alpha-Pinene	19.45	93	494	N.D.		
76) n-Propylbenzene	19.55	91	17189	0.114 ng		89
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.68	105	13932	0.116 ng		99
79) 1,3,5-Trimethylbenzene	19.74	105	25413	0.245 ng		98
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	20.10	105	104387	1.000 ng		91
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	0.00	91	0	N.D. d		
85) 1,3-Dichlorobenzene	20.24	146	550	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	966	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D. d		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	20.60	146	344	N.D.		
91) d-Limonene	20.61	68	800	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.11	180	545	N.D.		
95) Naphthalene	22.22	128	3752	N.D.		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052023.D Vial: 6
Acq On : 5 May 2020 17:20 Operator: WA
Sample : P2002107-009 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 07 16:25:45 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052023.D Vial: 6
Acq On : 5 May 2020 17:20 Operator: WA
Sample : P2002107-009 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 07 16:25:45 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/7/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

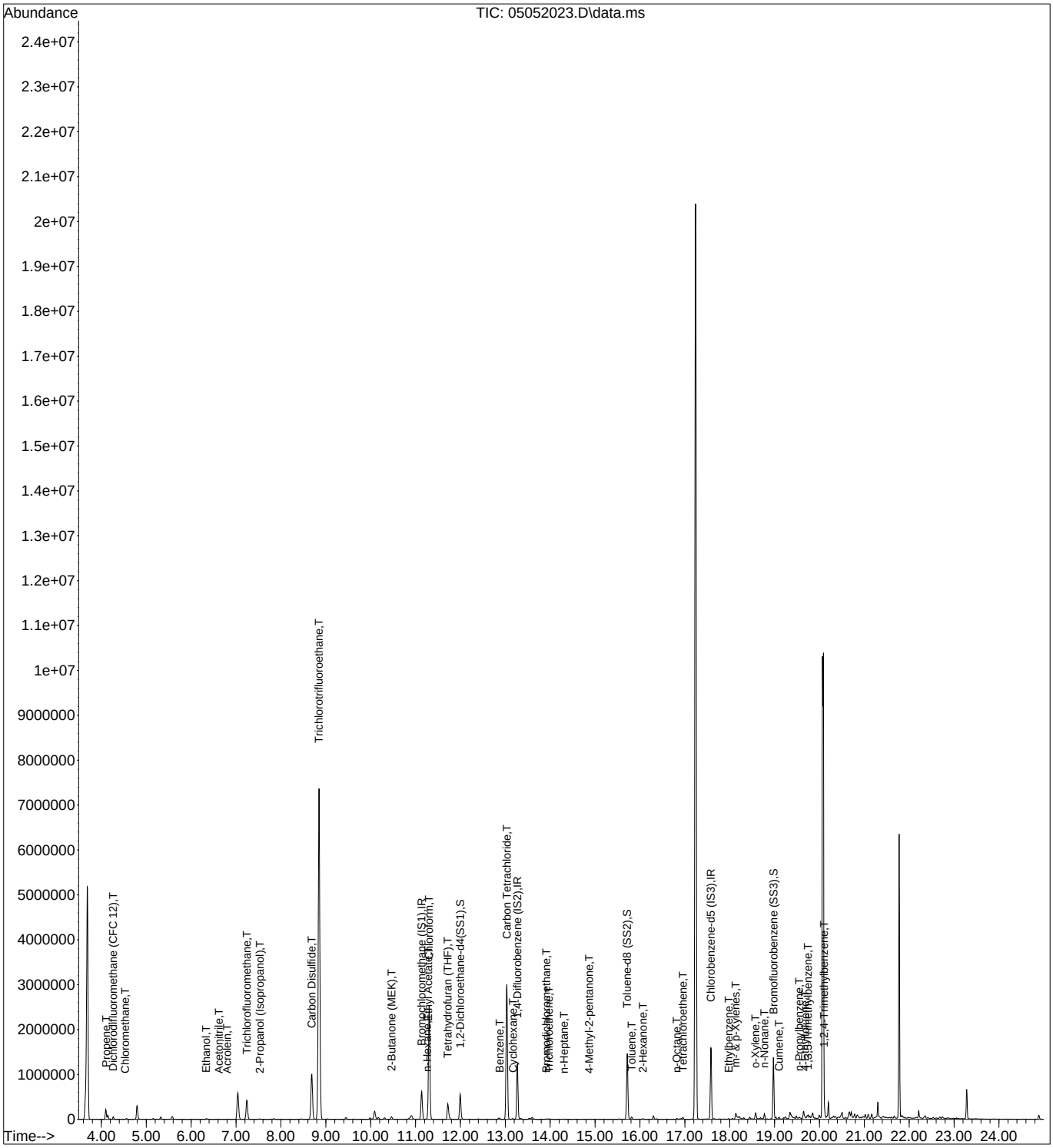
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	260410	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1118196	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	528791	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	425670	12.062	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.48%				
57) Toluene-d8 (SS2)	15.72	98	1104145	12.319	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.56%				
73) Bromofluorobenzene (SS3)	18.98	174	407876	12.647	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.20%				
Target Compounds							Qvalue
2) Propene	4.11	42	3829	0.127	ng	#	49
3) Dichlorodifluoromethan...	4.26	85	50275	0.852	ng		99
4) Chloromethane	4.53	50	4230	0.092	ng		96
10) Ethanol	6.34	45	25592	1.099	ng		95
11) Acetonitrile	6.62	41	5748	0.108	ng		94
12) Acrolein	6.80	56	4872	0.265	ng		99
14) Trichlorofluoromethane	7.24	101	434148	8.327	ng		100
15) 2-Propanol (Isopropanol)	7.53	45	16504	0.234	ng		81
21) Trichlorotrifluoroethane	8.85	151	3035900	123.338	ng		99
22) Carbon Disulfide	8.69	76	1911399	17.618	ng		99
27) 2-Butanone (MEK)	10.47	72	21667	1.091	ng		98
30) Ethyl Acetate	11.28	61	8101	0.707	ng	#	1
31) n-Hexane	11.26	57	4828	0.097	ng	#	1
32) Chloroform	11.30	83	2108183	40.670	ng		100
34) Tetrahydrofuran (THF)	11.72	72	111371	5.749	ng		99
41) Benzene	12.87	78	13591	0.113	ng		98
42) Carbon Tetrachloride	13.03	117	1888776	46.307	ng		100
43) Cyclohexane	13.17	84	7196	0.161	ng		97
46) Bromodichloromethane	13.91	83	7586	0.187	ng		96
47) Trichloroethene	13.97	130	2239	0.072	ng		95
51) n-Heptane	14.31	71	1747	0.062	ng		95
53) 4-Methyl-2-pentanone	14.87	58	1407	0.053	ng	#	53
58) Toluene	15.82	91	41903	0.363	ng		100
59) 2-Hexanone	16.06	43	11529	0.182	ng		83
63) n-Octane	16.82	57	3579	0.150	ng		95
64) Tetrachloroethene	16.96	166	12975	0.398	ng		99
66) Ethylbenzene	17.98	91	9671	0.075	ng		97
67) m- & p-Xylenes	18.14	91	88266	0.864	ng		100
70) o-Xylene	18.57	91	45766	0.441	ng		99
71) n-Nonane	18.77	43	43074	0.782	ng		99
74) Cumene	19.10	105	7700	0.060	ng		97
76) n-Propylbenzene	19.55	91	17189	0.114	ng		89
78) 4-Ethyltoluene	19.68	105	13932	0.116	ng		99
79) 1,3,5-Trimethylbenzene	19.74	105	25413	0.245	ng		98
82) 1,2,4-Trimethylbenzene	20.10	105	104387	1.000	ng		91

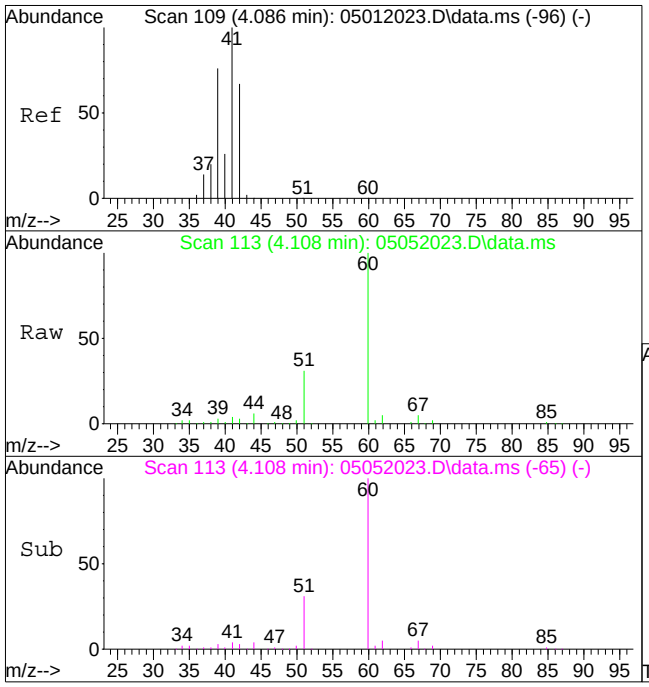
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052023.D Vial: 6
Acq On : 5 May 2020 17:20 Operator: WA
Sample : P2002107-009 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 07 16:25:45 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

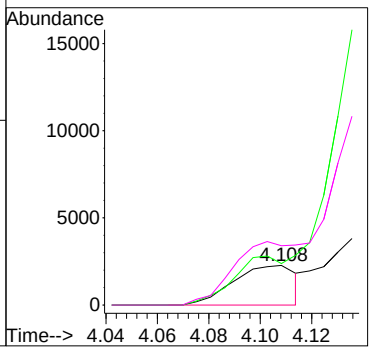


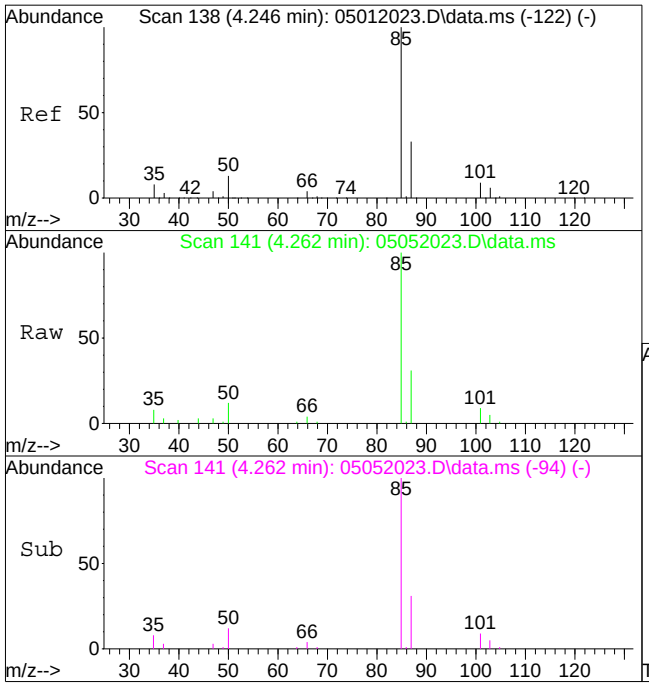


#2
Propene
Concen: 0.13 ng
RT: 4.11 min Scan# 113
Delta R.T. 0.016 min
Lab File: 05052023.D
Acq: 5 May 2020 17:20

Tgt Ion: 42 Resp: 3829

Ion	Ratio	Lower	Upper
42	100		
39	0.0	96.1	136.1#
41	162.5	131.9	171.9

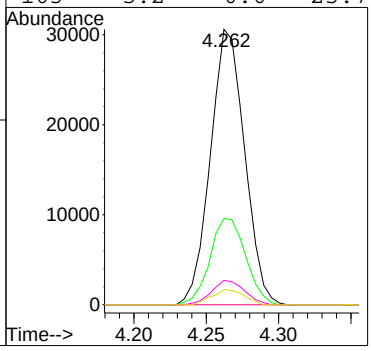


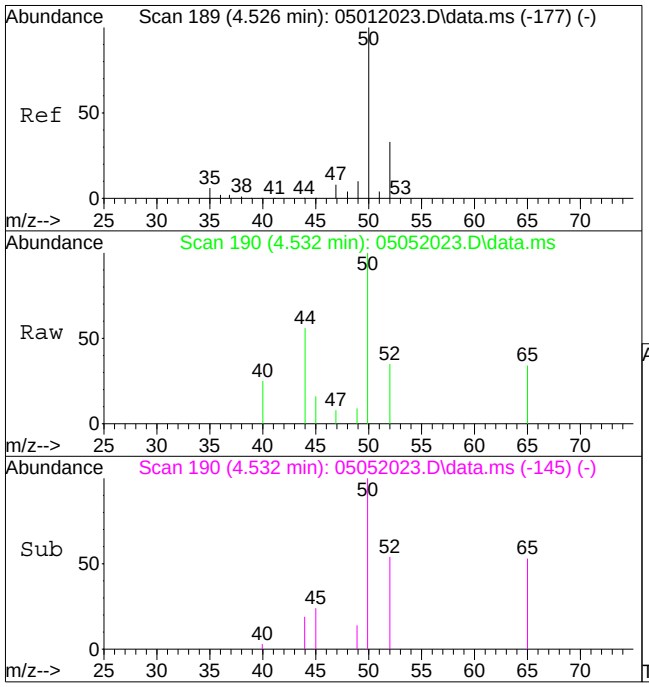


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.85 ng
RT: 4.26 min Scan# 141
Delta R.T. 0.011 min
Lab File: 05052023.D
Acq: 5 May 2020 17:20

Tgt Ion: 85 Resp: 50275

Ion	Ratio	Lower	Upper
85	100		
87	32.7	12.4	52.4
101	8.5	0.0	28.8
103	5.2	0.0	25.7

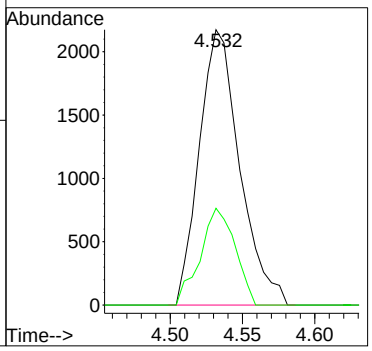


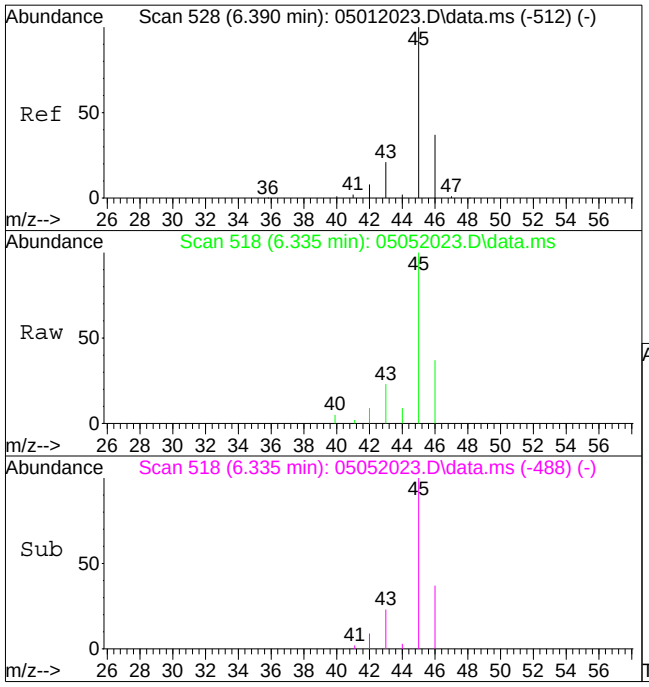


#4
Chloromethane
Concen: 0.09 ng
RT: 4.53 min Scan# 190
Delta R.T. -0.000 min
Lab File: 05052023.D
Acq: 5 May 2020 17:20

Tgt Ion: 50 Resp: 4230

Ion	Ratio	Lower	Upper
50	100		
52	30.2	12.5	52.5

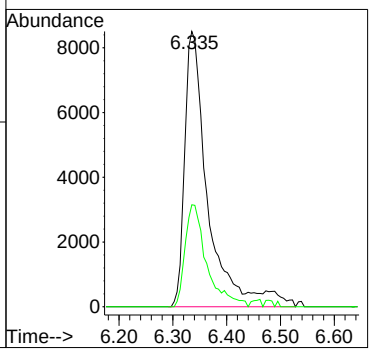


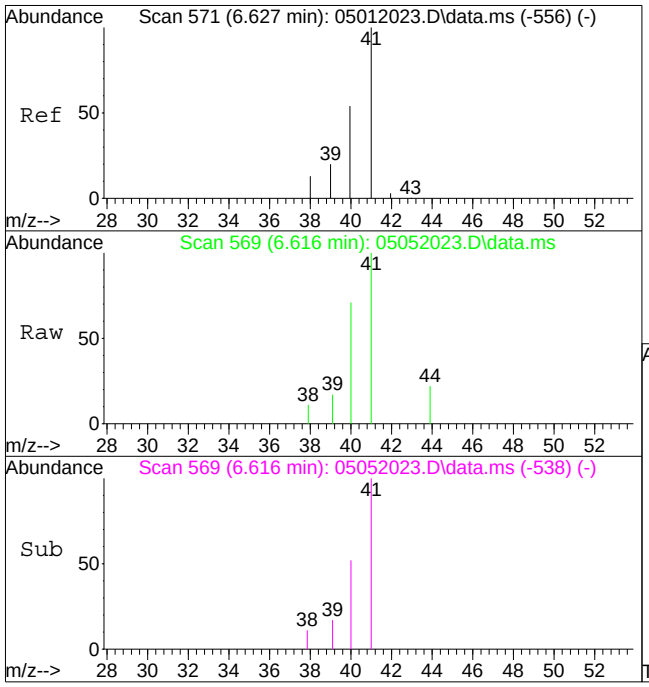


#10
Ethanol
Concen: 1.10 ng
RT: 6.34 min Scan# 518
Delta R.T. -0.083 min
Lab File: 05052023.D
Acq: 5 May 2020 17:20

Tgt Ion: 45 Resp: 25592

Ion	Ratio	Lower	Upper
45	100		
46	34.4	17.2	57.2

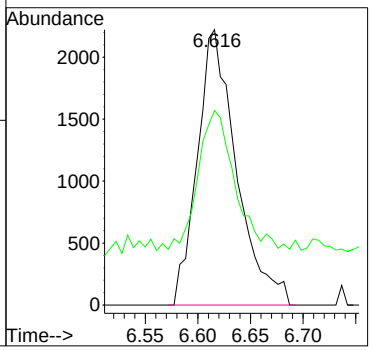


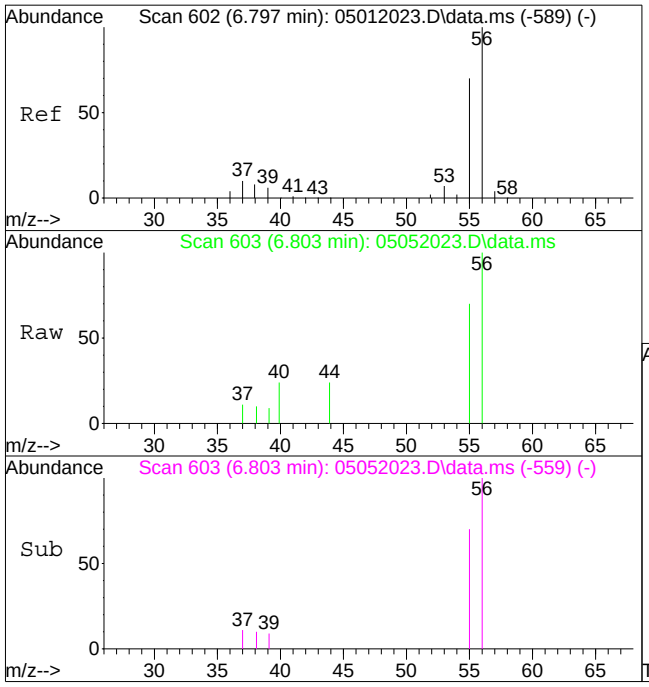


#11
Acetonitrile
Concen: 0.11 ng
RT: 6.62 min Scan# 569
Delta R.T. -0.028 min
Lab File: 05052023.D
Acq: 5 May 2020 17:20

Tgt Ion: 41 Resp: 5748

Ion	Ratio	Lower	Upper
41	100		
40	49.2	33.6	73.6

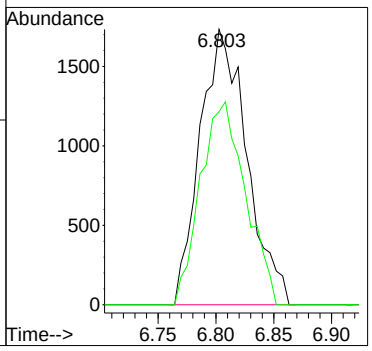


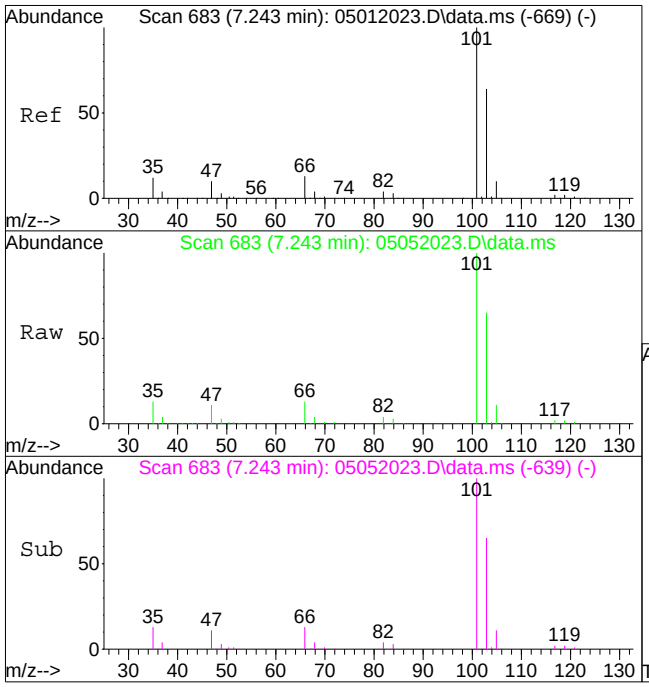


#12
Acrolein
Concen: 0.26 ng
RT: 6.80 min Scan# 603
Delta R.T. -0.006 min
Lab File: 05052023.D
Acq: 5 May 2020 17:20

Tgt Ion: 56 Resp: 4872

Ion	Ratio	Lower	Upper
56	100		
55	71.1	50.2	90.2

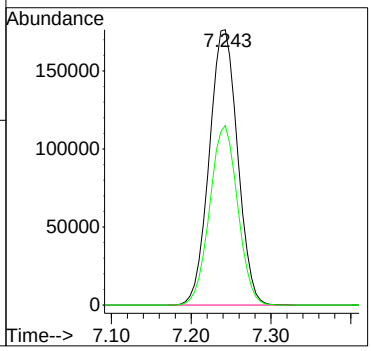


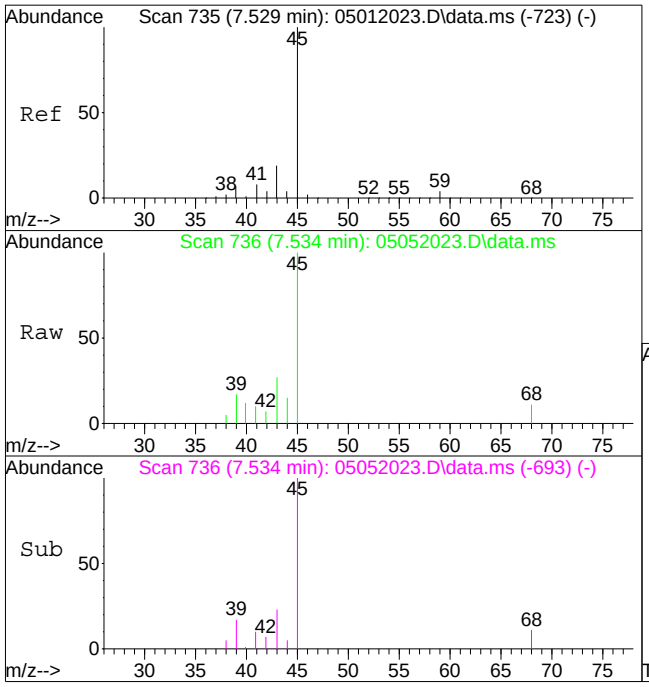


#14
Trichlorofluoromethane
Concen: 8.33 ng
RT: 7.24 min Scan# 683
Delta R.T. -0.006 min
Lab File: 05052023.D
Acq: 5 May 2020 17:20

Tgt Ion:101 Resp: 434148

Ion	Ratio	Lower	Upper
101	100		
103	64.4	44.4	84.4

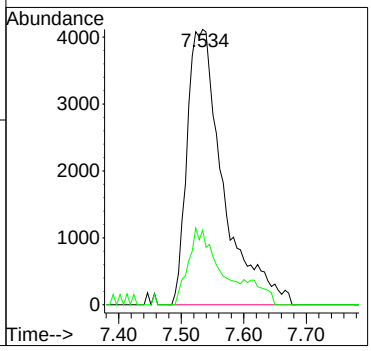


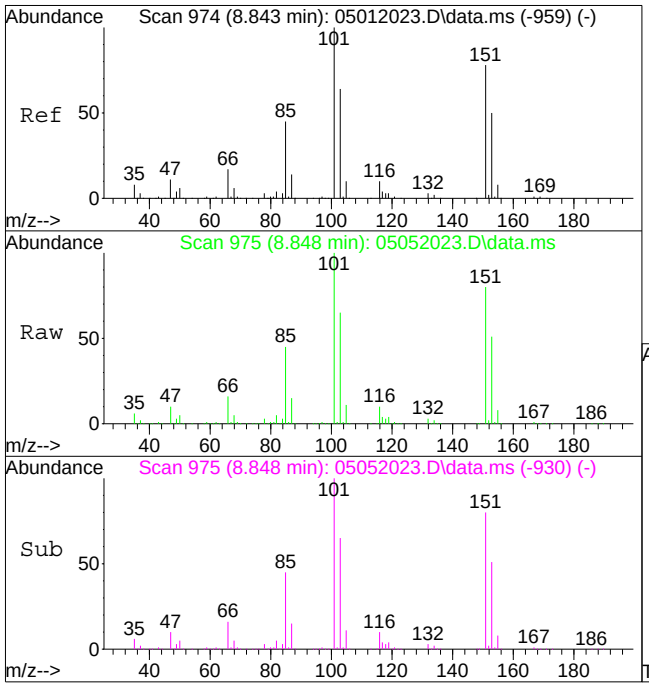


#15
2-Propanol (Isopropanol)
Concen: 0.23 ng
RT: 7.53 min Scan# 736
Delta R.T. -0.011 min
Lab File: 05052023.D
Acq: 5 May 2020 17:20

Tgt Ion: 45 Resp: 16504

Ion	Ratio	Lower	Upper
45	100		
43	28.2	0.0	39.5

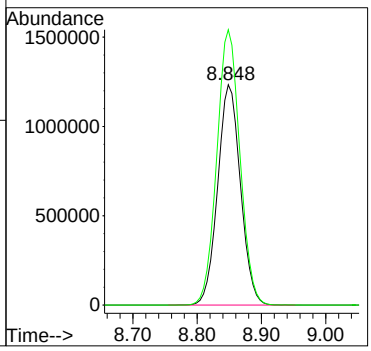


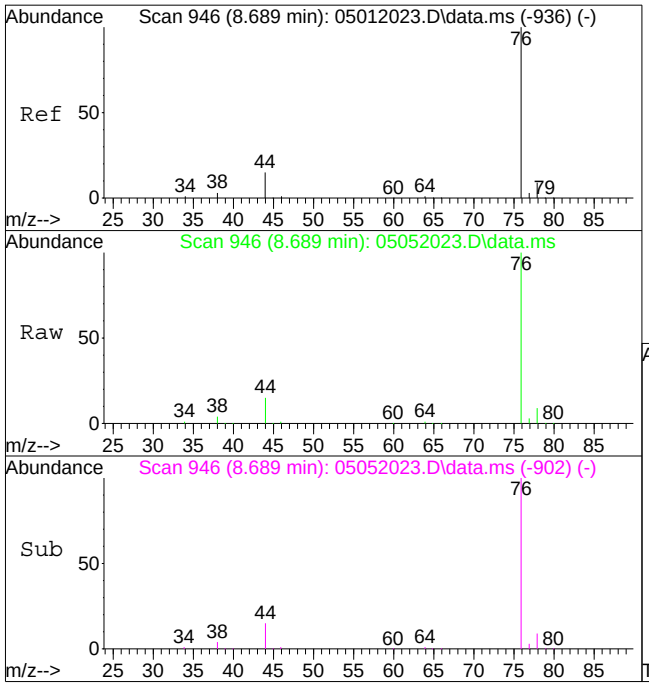


#21
Trichlorotrifluoroethane
Concen: 123.34 ng
RT: 8.85 min Scan# 975
Delta R.T. -0.000 min
Lab File: 05052023.D
Acq: 5 May 2020 17:20

Tgt Ion:151 Resp: 3035900

Ion	Ratio	Lower	Upper
151	100		
101	126.6	107.3	147.3

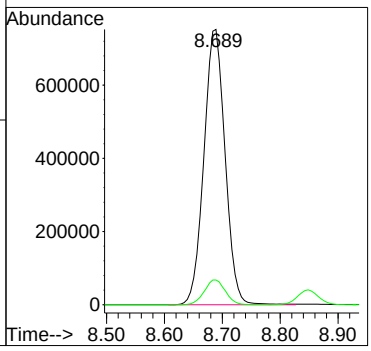


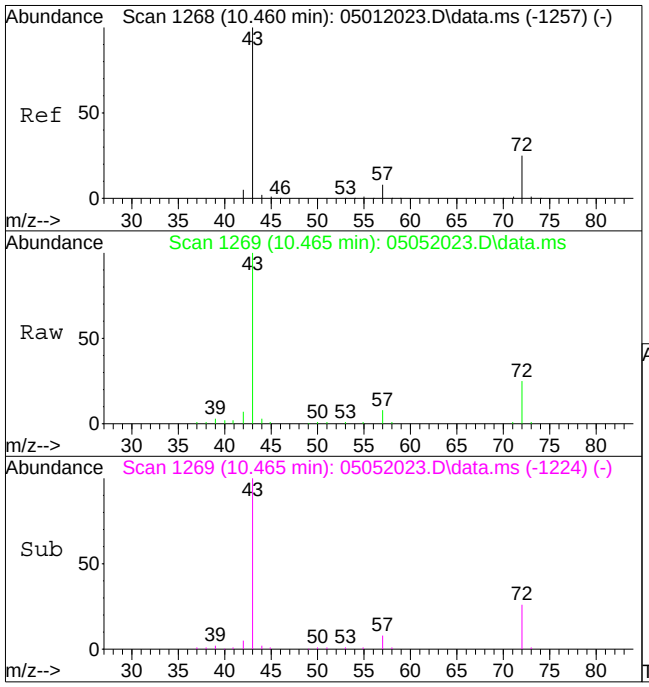


#22
Carbon Disulfide
Concen: 17.62 ng
RT: 8.69 min Scan# 946
Delta R.T. -0.006 min
Lab File: 05052023.D
Acq: 5 May 2020 17:20

Tgt Ion: 76 Resp: 1911399

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	29.2

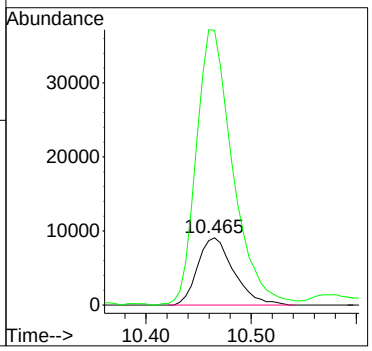


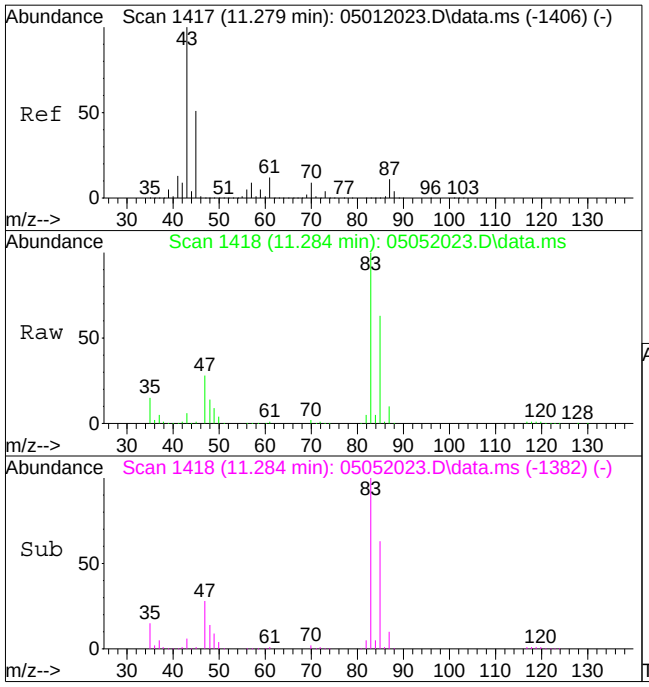


#27
2-Butanone (MEK)
Concen: 1.09 ng
RT: 10.47 min Scan# 1269
Delta R.T. -0.000 min
Lab File: 05052023.D
Acq: 5 May 2020 17:20

Tgt Ion: 72 Resp: 21667

Ion	Ratio	Lower	Upper
72	100		
43	414.6	389.7	429.7

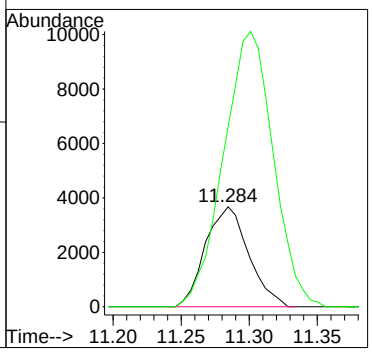


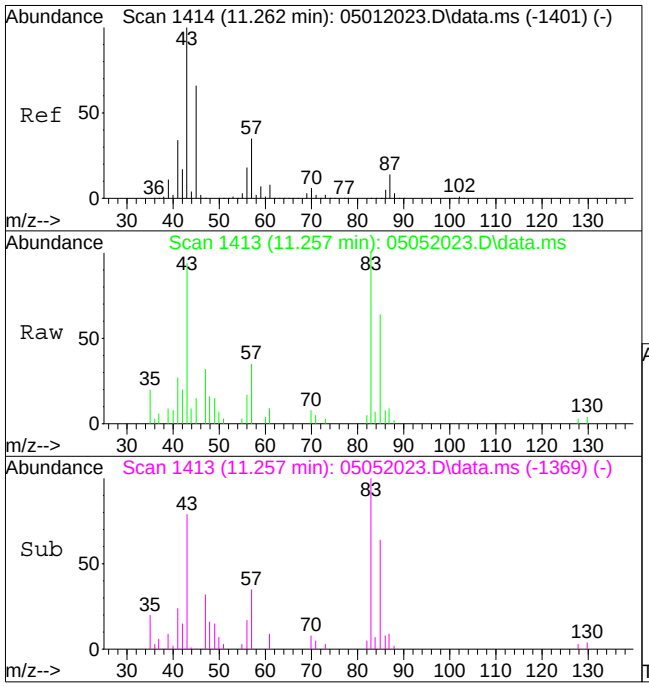


#30
Ethyl Acetate
Concen: 0.71 ng
RT: 11.28 min Scan# 1418
Delta R.T. -0.000 min
Lab File: 05052023.D
Acq: 5 May 2020 17:20

Tgt Ion: 61 Resp: 8101

Ion	Ratio	Lower	Upper
61	100		
70	316.9	57.9	97.9#

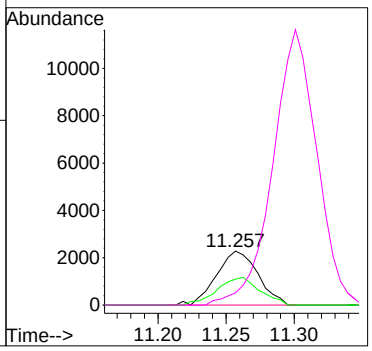


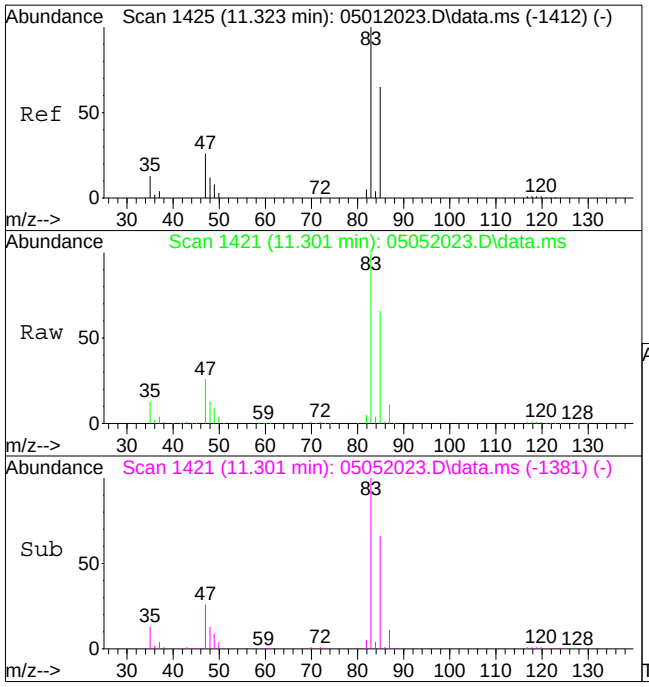


#31
n-Hexane
Concen: 0.10 ng
RT: 11.26 min Scan# 1413
Delta R.T. -0.006 min
Lab File: 05052023.D
Acq: 5 May 2020 17:20

Tgt Ion: 57 Resp: 4828

Ion	Ratio	Lower	Upper
57	100		
56	52.6	41.4	62.0
86	539.7	12.4	18.6#

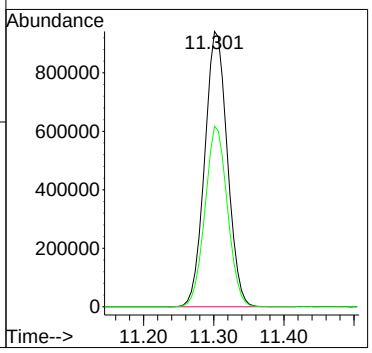


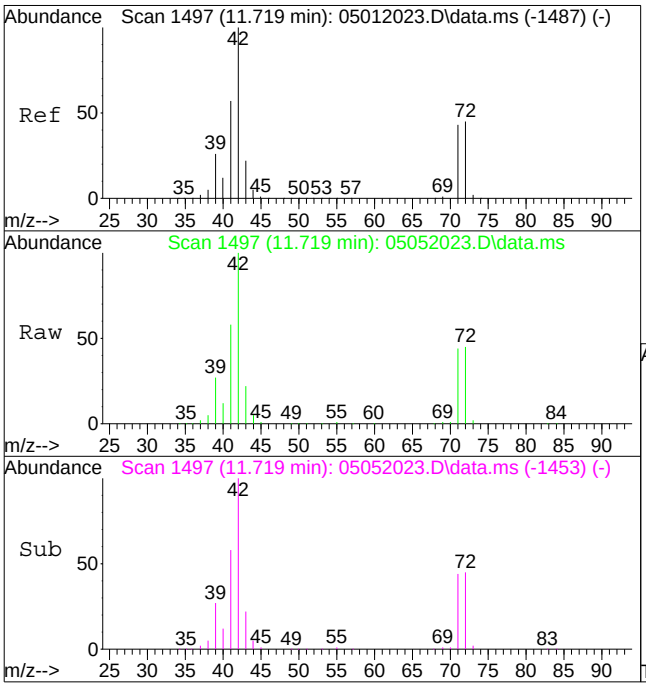


#32
Chloroform
Concen: 40.67 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.028 min
Lab File: 05052023.D
Acq: 5 May 2020 17:20

Tgt Ion: 83 Resp: 2108183

Ion	Ratio	Lower	Upper
83	100		
85	65.1	45.5	85.5

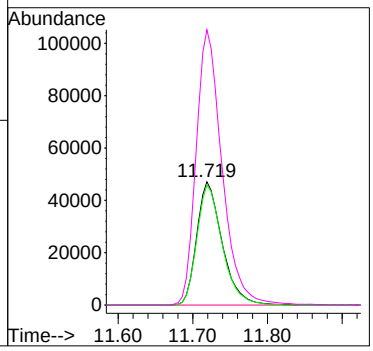


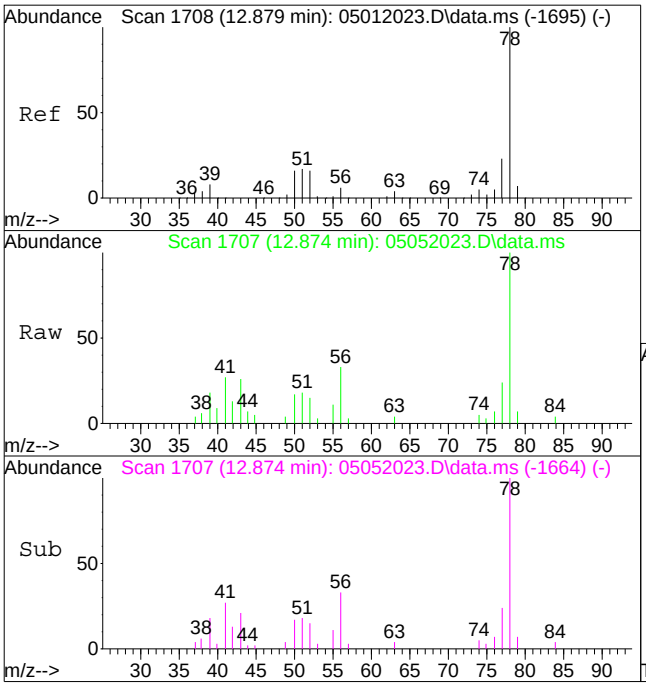


#34
Tetrahydrofuran (THF)
Concen: 5.75 ng
RT: 11.72 min Scan# 1497
Delta R.T. -0.006 min
Lab File: 05052023.D
Acq: 5 May 2020 17:20

Tgt Ion: 72 Resp: 111371

Ion	Ratio	Lower	Upper
72	100		
71	96.8	77.0	117.0
42	227.9	204.6	244.6

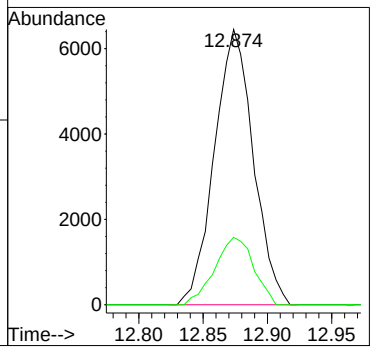


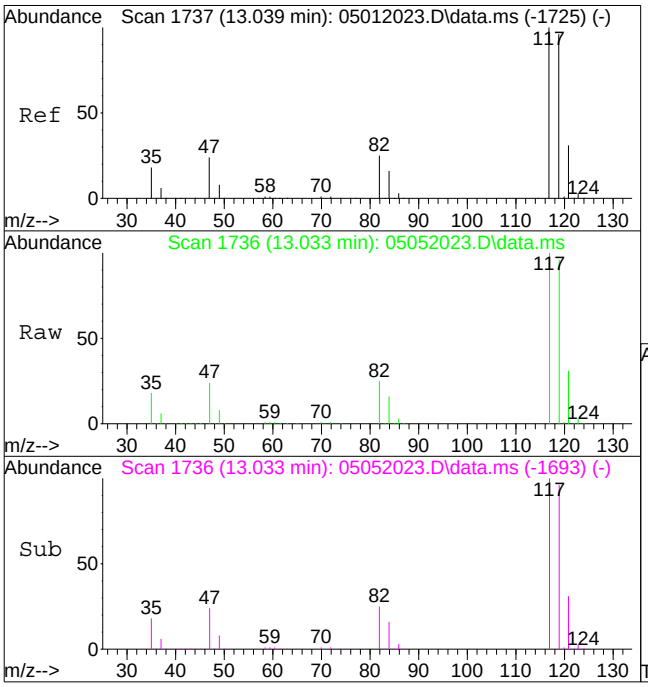


#41
Benzene
Concen: 0.11 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05052023.D
Acq: 5 May 2020 17:20

Tgt Ion: 78 Resp: 13591

Ion	Ratio	Lower	Upper
78	100		
77	24.3	3.4	43.4

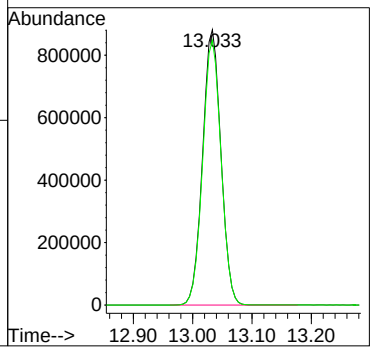


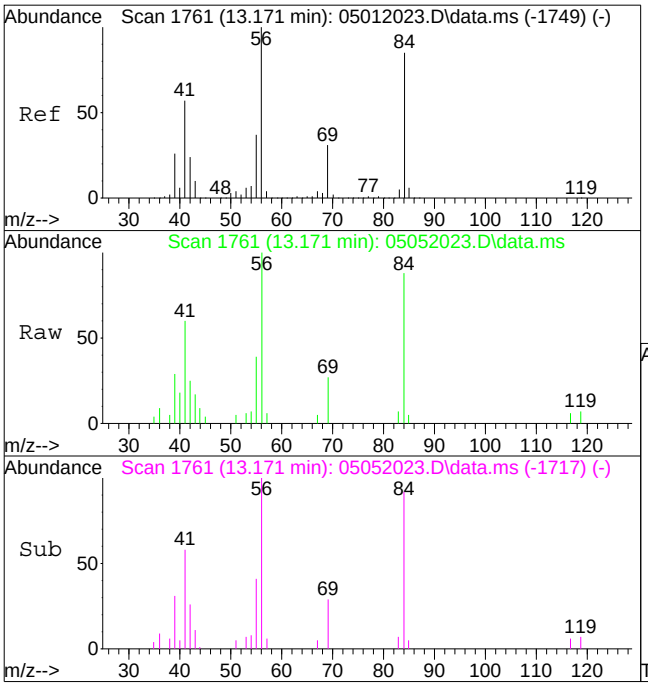


#42
Carbon Tetrachloride
Concen: 46.31 ng
RT: 13.03 min Scan# 1736
Delta R.T. -0.011 min
Lab File: 05052023.D
Acq: 5 May 2020 17:20

Tgt Ion:117 Resp: 1888776

Ion	Ratio	Lower	Upper
117	100		
119	96.6	76.2	116.2

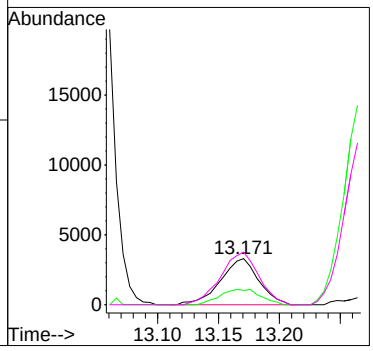


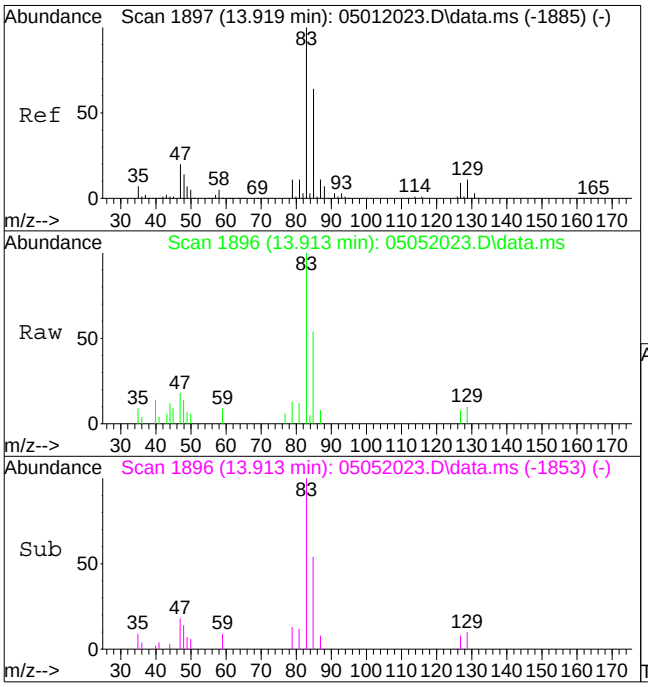


#43
Cyclohexane
Concen: 0.16 ng
RT: 13.17 min Scan# 1761
Delta R.T. -0.006 min
Lab File: 05052023.D
Acq: 5 May 2020 17:20

Tgt Ion: 84 Resp: 7196

Ion	Ratio	Lower	Upper
84	100		
69	35.4	16.5	56.5
56	113.9	97.4	137.4

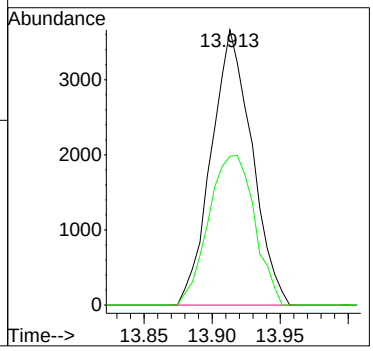


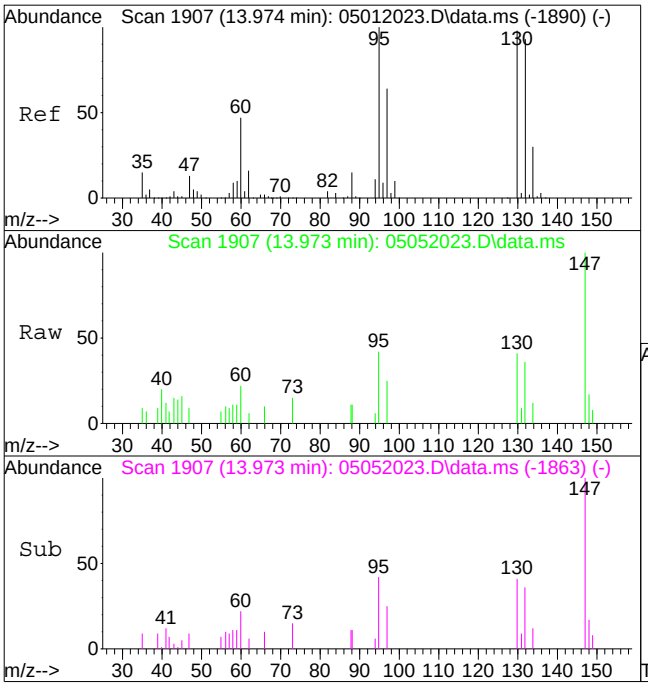


#46
Bromodichloromethane
Concen: 0.19 ng
RT: 13.91 min Scan# 1896
Delta R.T. -0.011 min
Lab File: 05052023.D
Acq: 5 May 2020 17:20

Tgt Ion: 83 Resp: 7586

Ion	Ratio	Lower	Upper
83	100		
85	61.5	44.4	84.4

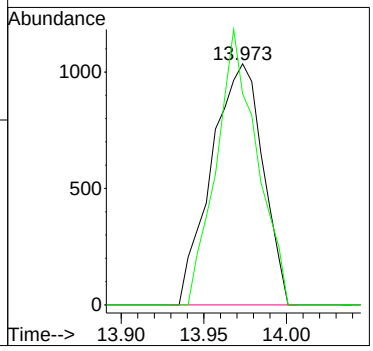


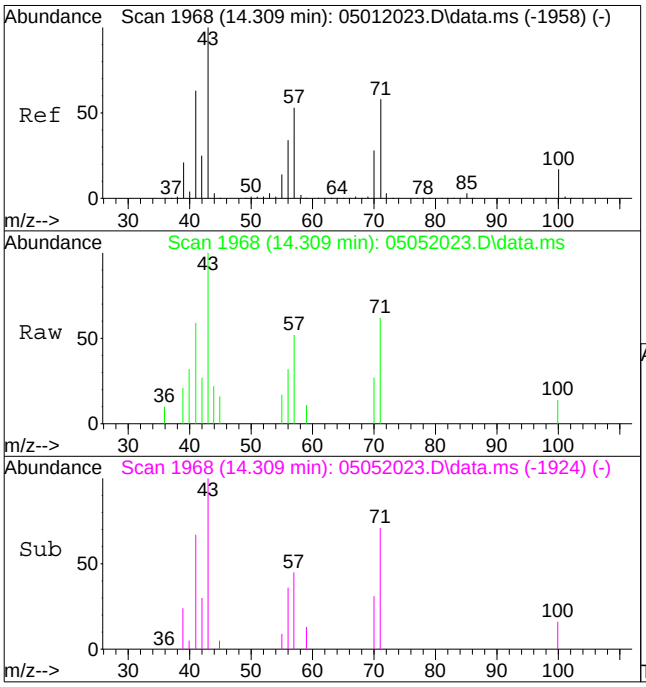


#47
Trichloroethene
Concen: 0.07 ng
RT: 13.97 min Scan# 1907
Delta R.T. -0.006 min
Lab File: 05052023.D
Acq: 5 May 2020 17:20

Tgt Ion:130 Resp: 2239

Ion	Ratio	Lower	Upper
130	100		
132	90.0	74.9	114.9

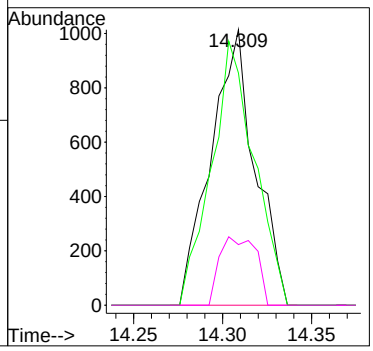


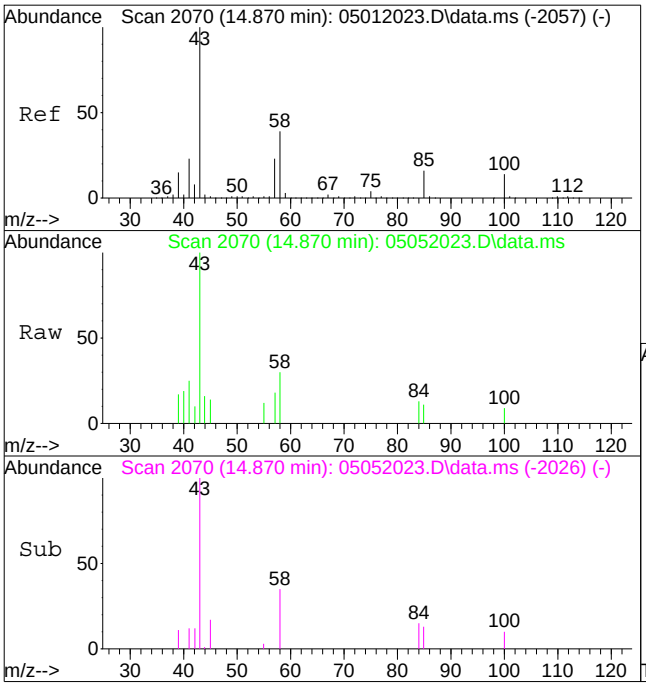


#51
n-Heptane
Concen: 0.06 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05052023.D
Acq: 5 May 2020 17:20

Tgt Ion: 71 Resp: 1747

Ion	Ratio	Lower	Upper
71	100		
57	93.0	71.0	111.0
100	20.5	8.4	48.4

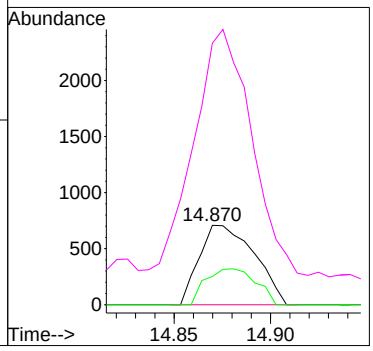


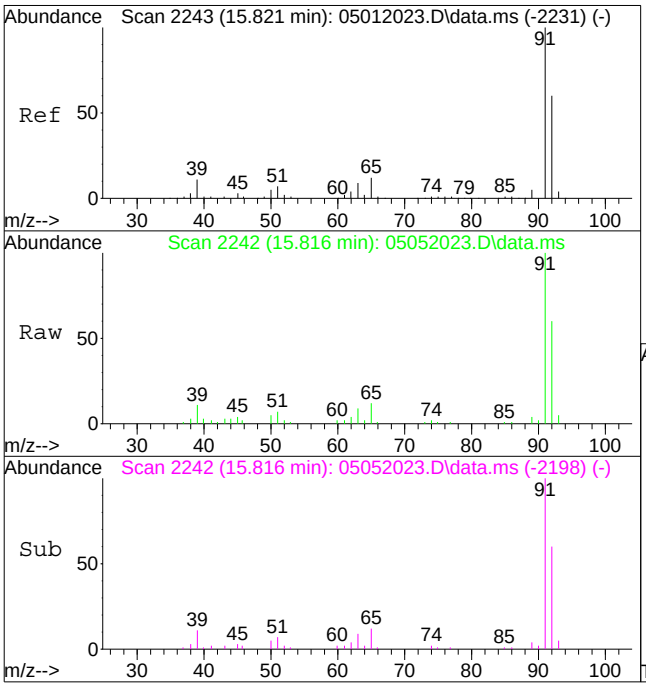


#53
4-Methyl-2-pentanone
Concen: 0.05 ng
RT: 14.87 min Scan# 2070
Delta R.T. -0.006 min
Lab File: 05052023.D
Acq: 5 May 2020 17:20

Tgt Ion: 58 Resp: 1407

Ion	Ratio	Lower	Upper
58	100		
85	41.1	35.4	53.2
43	349.8	203.3	304.9#

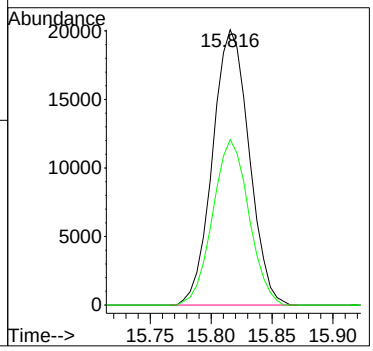


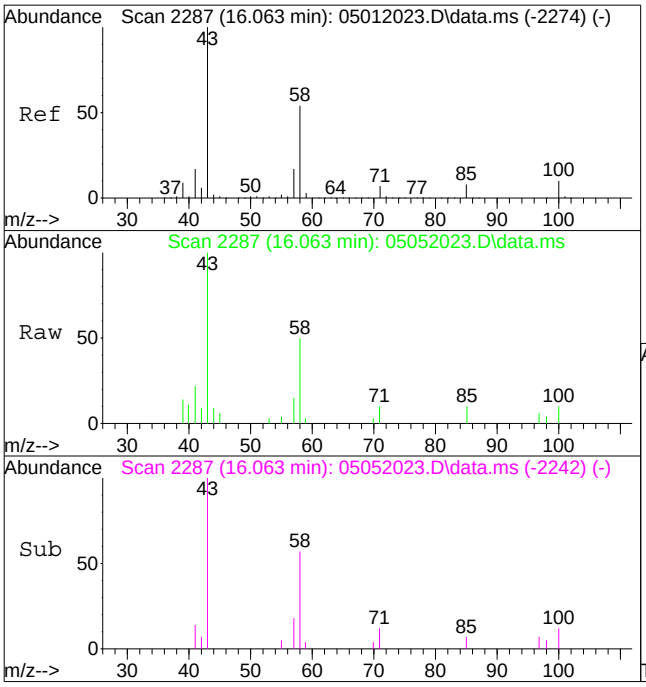


#58
Toluene
Concen: 0.36 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05052023.D
Acq: 5 May 2020 17:20

Tgt Ion: 91 Resp: 41903

Ion	Ratio	Lower	Upper
91	100		
92	59.3	39.4	79.4

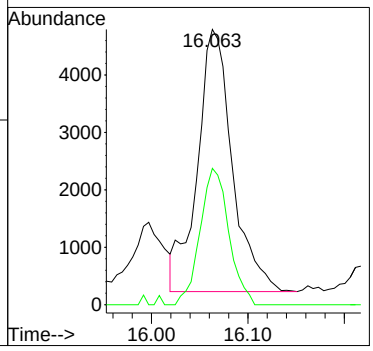


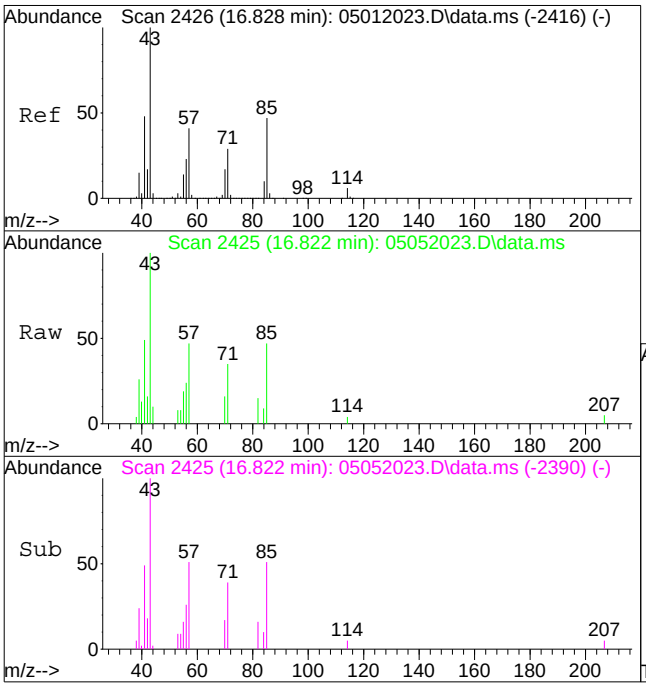


#59
2-Hexanone
Concen: 0.18 ng
RT: 16.06 min Scan# 2287
Delta R.T. -0.000 min
Lab File: 05052023.D
Acq: 5 May 2020 17:20

Tgt Ion: 43 Resp: 11529

Ion	Ratio	Lower	Upper
43	100		
58	42.6	34.5	74.5

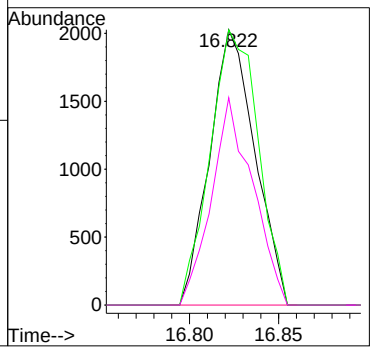


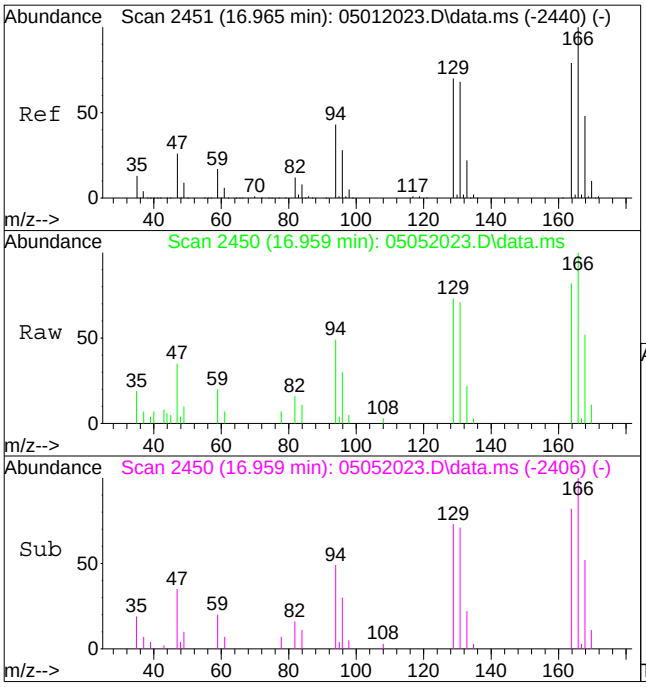


#63
n-Octane
Concen: 0.15 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05052023.D
Acq: 5 May 2020 17:20

Tgt Ion: 57 Resp: 3579

Ion	Ratio	Lower	Upper
57	100		
85	106.5	91.0	136.4
71	68.8	56.2	84.2

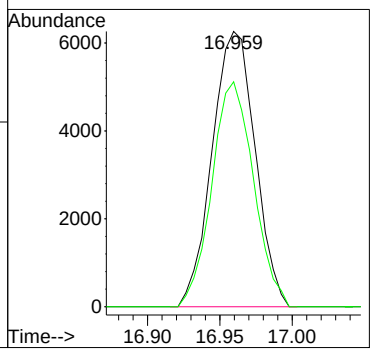


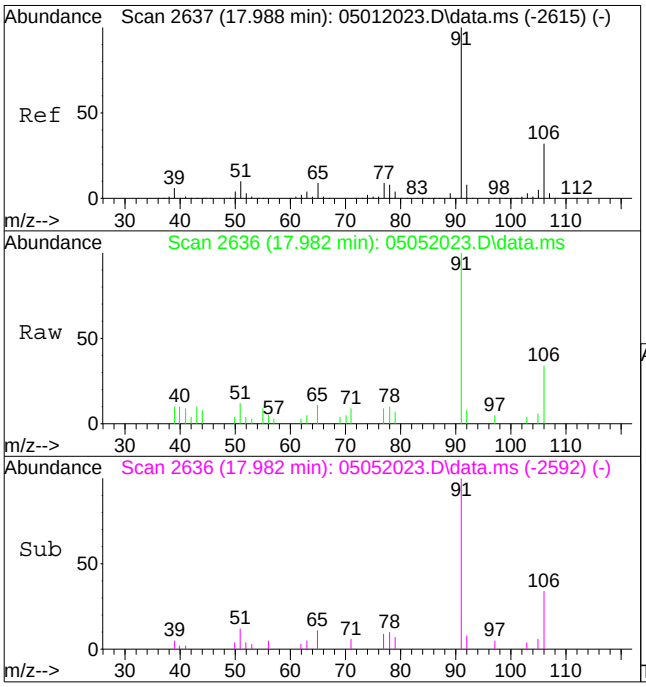


#64
Tetrachloroethene
Concen: 0.40 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05052023.D
Acq: 5 May 2020 17:20

Tgt Ion:166 Resp: 12975

Ion	Ratio	Lower	Upper
166	100		
164	79.0	58.4	98.4

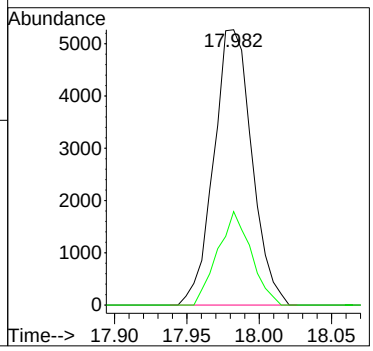


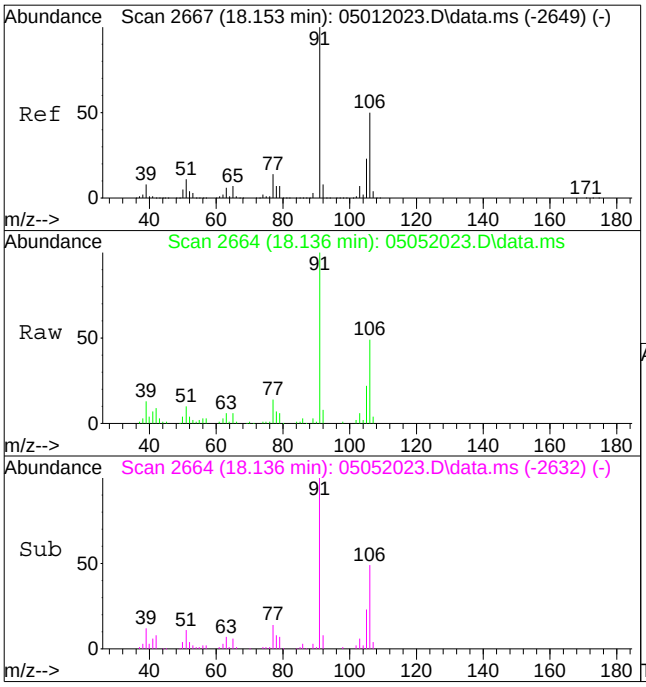


#66
Ethylbenzene
Concen: 0.08 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05052023.D
Acq: 5 May 2020 17:20

Tgt Ion: 91 Resp: 9671

Ion	Ratio	Lower	Upper
91	100		
106	29.9	11.6	51.6

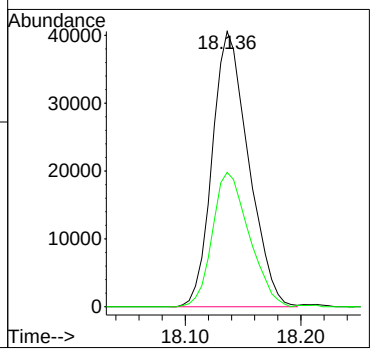


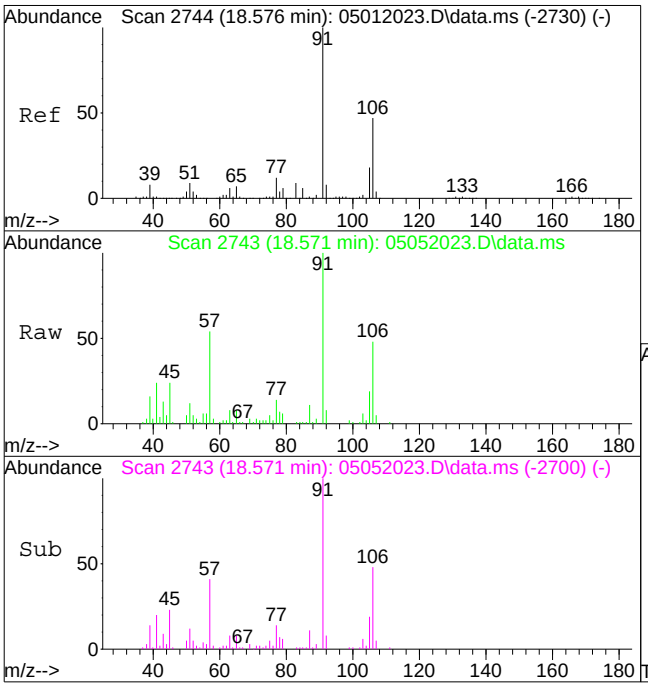


#67
m- & p-Xylenes
Concen: 0.86 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05052023.D
Acq: 5 May 2020 17:20

Tgt Ion: 91 Resp: 88266

Ion	Ratio	Lower	Upper
91	100		
106	49.4	29.7	69.7

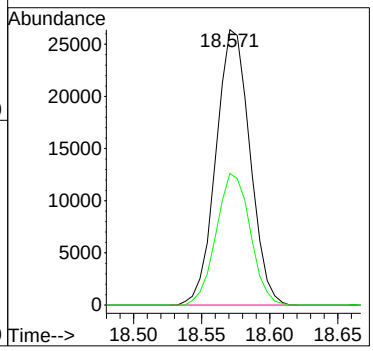


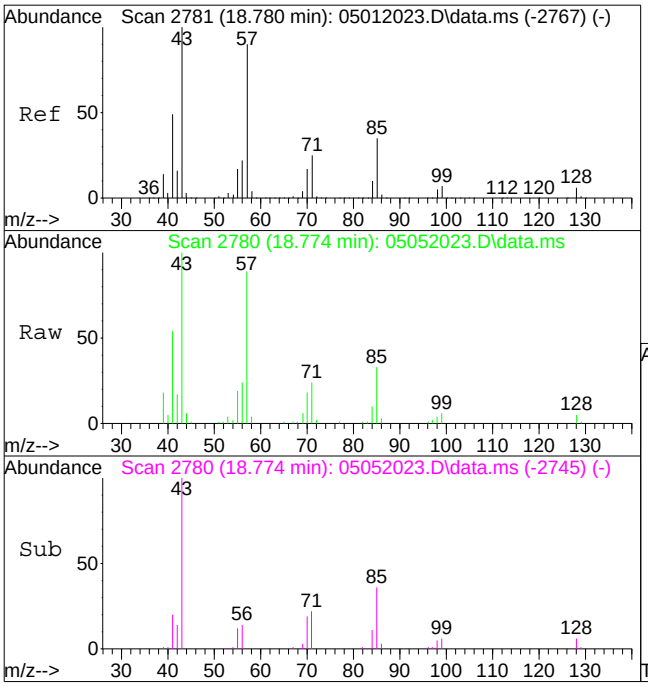


#70
o-Xylene
Concen: 0.44 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05052023.D
Acq: 5 May 2020 17:20

Tgt Ion: 91 Resp: 45766

Ion	Ratio	Lower	Upper
91	100		
106	47.9	27.5	67.5

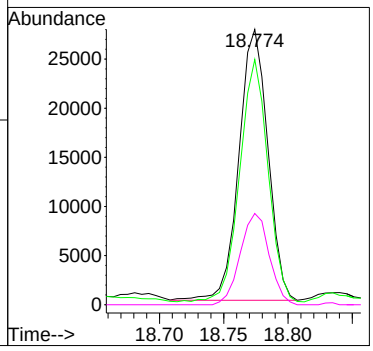


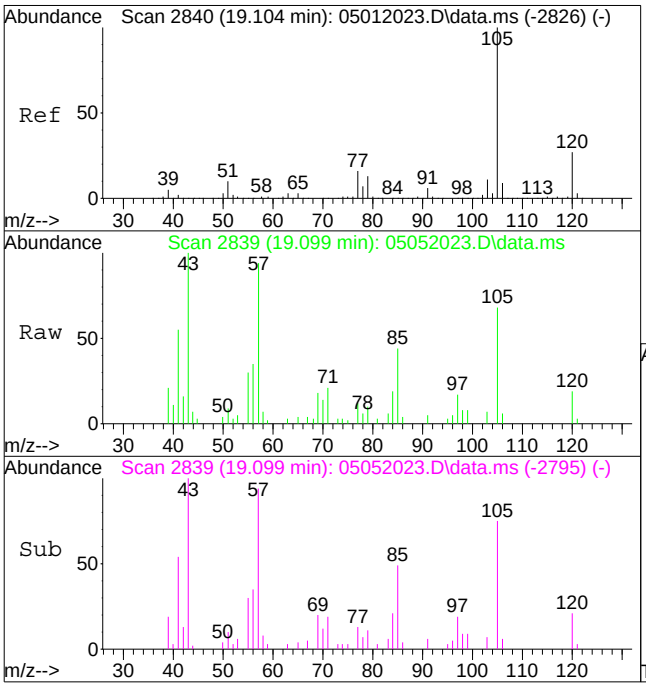


#71
n-Nonane
Concen: 0.78 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05052023.D
Acq: 5 May 2020 17:20

Tgt Ion: 43 Resp: 43074

Ion	Ratio	Lower	Upper
43	100		
57	87.7	69.0	109.0
85	33.7	14.6	54.6

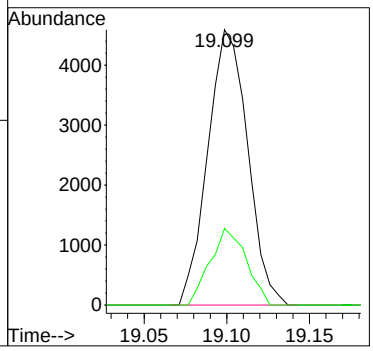


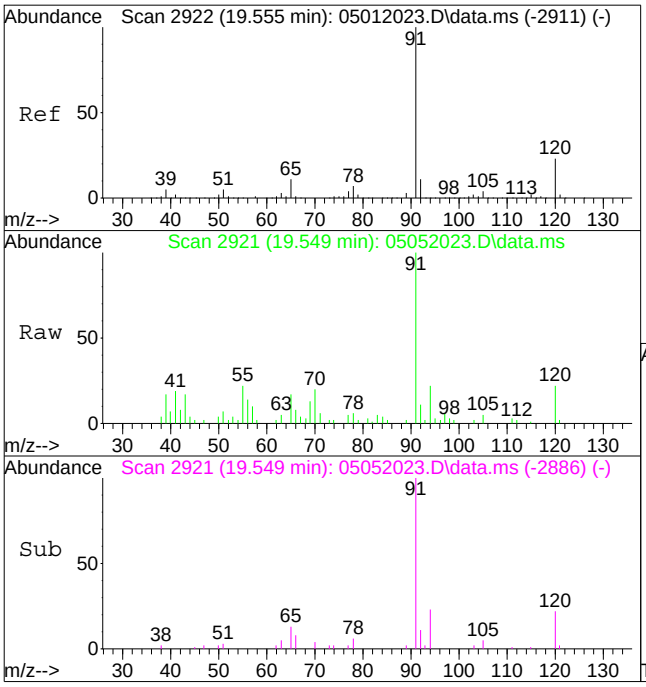


#74
Cumene
Concen: 0.06 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05052023.D
Acq: 5 May 2020 17:20

Tgt Ion:105 Resp: 7700

Ion	Ratio	Lower	Upper
105	100		
120	25.2	6.8	46.8

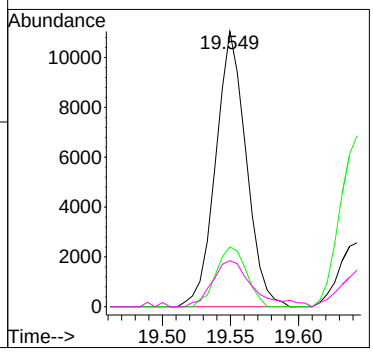


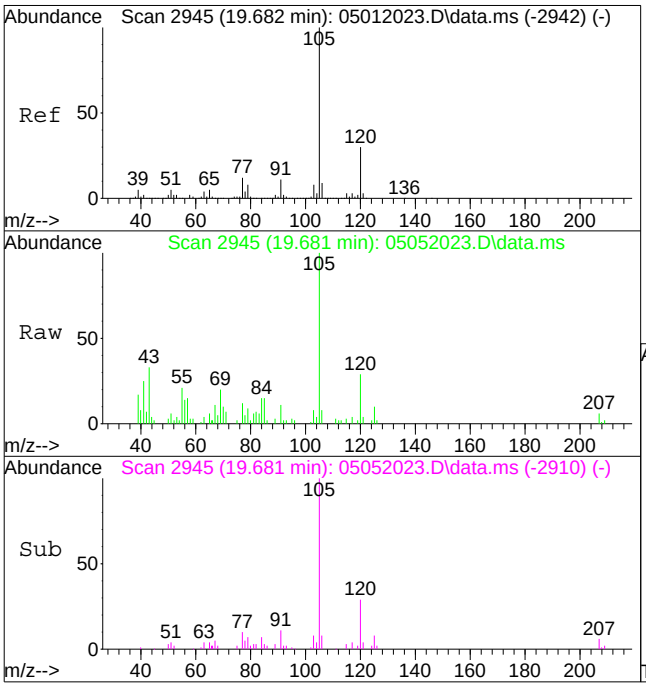


#76
n-Propylbenzene
Concen: 0.11 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05052023.D
Acq: 5 May 2020 17:20

Tgt Ion: 91 Resp: 17189

Ion	Ratio	Lower	Upper
91	100		
120	21.8	3.1	43.1
65	22.0	0.0	30.9

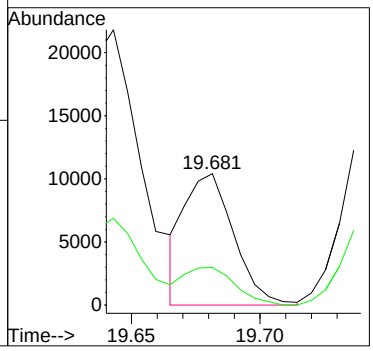


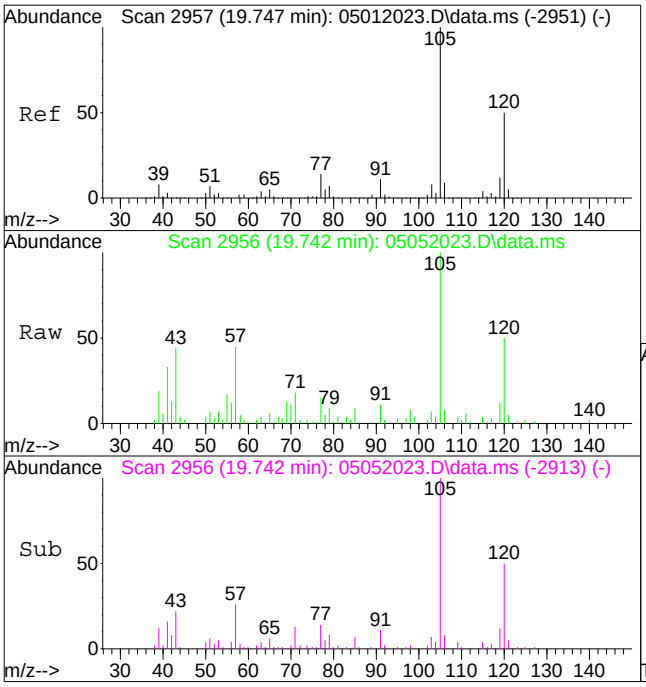


#78
4-Ethyltoluene
Concen: 0.12 ng
RT: 19.68 min Scan# 2945
Delta R.T. -0.006 min
Lab File: 05052023.D
Acq: 5 May 2020 17:20

Tgt Ion:105 Resp: 13932

Ion	Ratio	Lower	Upper
105	100		
120	30.0	10.4	50.4

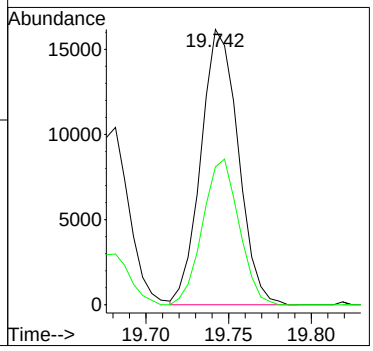


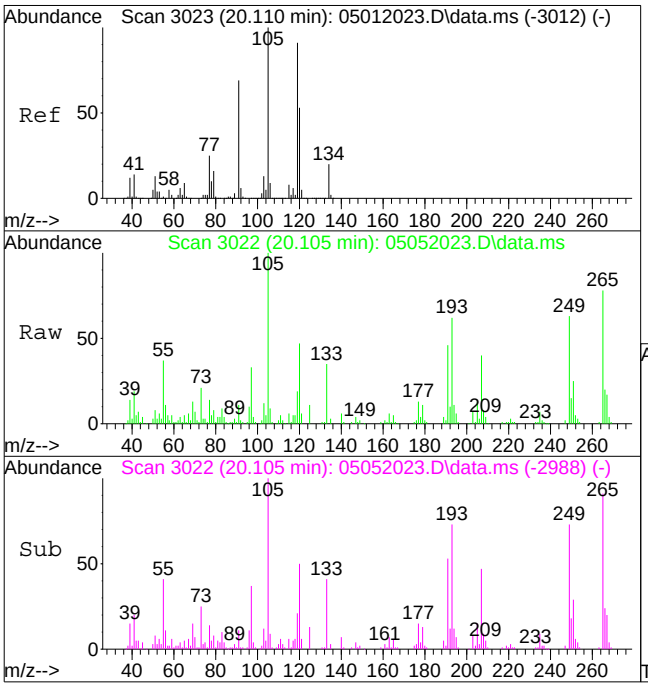


#79
1,3,5-Trimethylbenzene
Concen: 0.24 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05052023.D
Acq: 5 May 2020 17:20

Tgt Ion:105 Resp: 25413

Ion	Ratio	Lower	Upper
105	100		
120	51.3	29.9	69.9

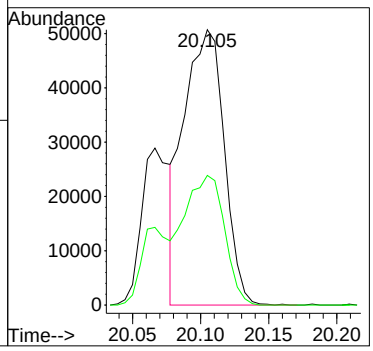




#82
1,2,4-Trimethylbenzene
Concen: 1.00 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05052023.D
Acq: 5 May 2020 17:20

Tgt Ion:105 Resp: 104387

Ion	Ratio	Lower	Upper
105	100		
120	47.3	33.6	73.6



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052024.D Vial: 6
Acq On : 5 May 2020 17:54 Operator: WA
Sample : P2002107-009dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 07 17:28:11 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/7/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	292819	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1259636	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	590383	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	481419	12.131	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.04%				
57) Toluene-d8 (SS2)	15.72	98	1256372	12.555	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.48%				
73) Bromofluorobenzene (SS3)	18.98	174	439214	12.198	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.60%				
Target Compounds							Qvalue
2) Propene	4.15	42	478	N.D.			
3) Dichlorodifluoromethan...	4.30	85	4706	0.071	ng		96
4) Chloromethane	4.56	50	548	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.41	45	117	N.D.			
11) Acetonitrile	6.63	41	668	N.D.			
12) Acrolein	6.82	56	452	N.D.			
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	7.25	101	40320	0.688	ng		100
15) 2-Propanol (Isopropanol)	7.54	45	2181	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.45	59	1116	N.D.			
19) Methylene Chloride	8.41	84	338	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	8.84	151	239410	8.650	ng		98
22) Carbon Disulfide	8.68	76	168676	1.383	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.49	72	1972	0.088	ng	#	91
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	11.25	57	286	N.D.			
32) Chloroform	11.30	83	182295	3.128	ng		99
34) Tetrahydrofuran (THF)	11.74	72	10306	0.473	ng		98
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	12.86	56	1330	N.D.			
41) Benzene	12.87	78	1567	N.D.			
42) Carbon Tetrachloride	13.03	117	153631	3.344	ng		98
43) Cyclohexane	13.17	84	526	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	13.92	83	572	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.04	57	432	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052024.D Vial: 6
Acq On : 5 May 2020 17:54 Operator: WA
Sample : P2002107-009dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 07 17:28:11 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

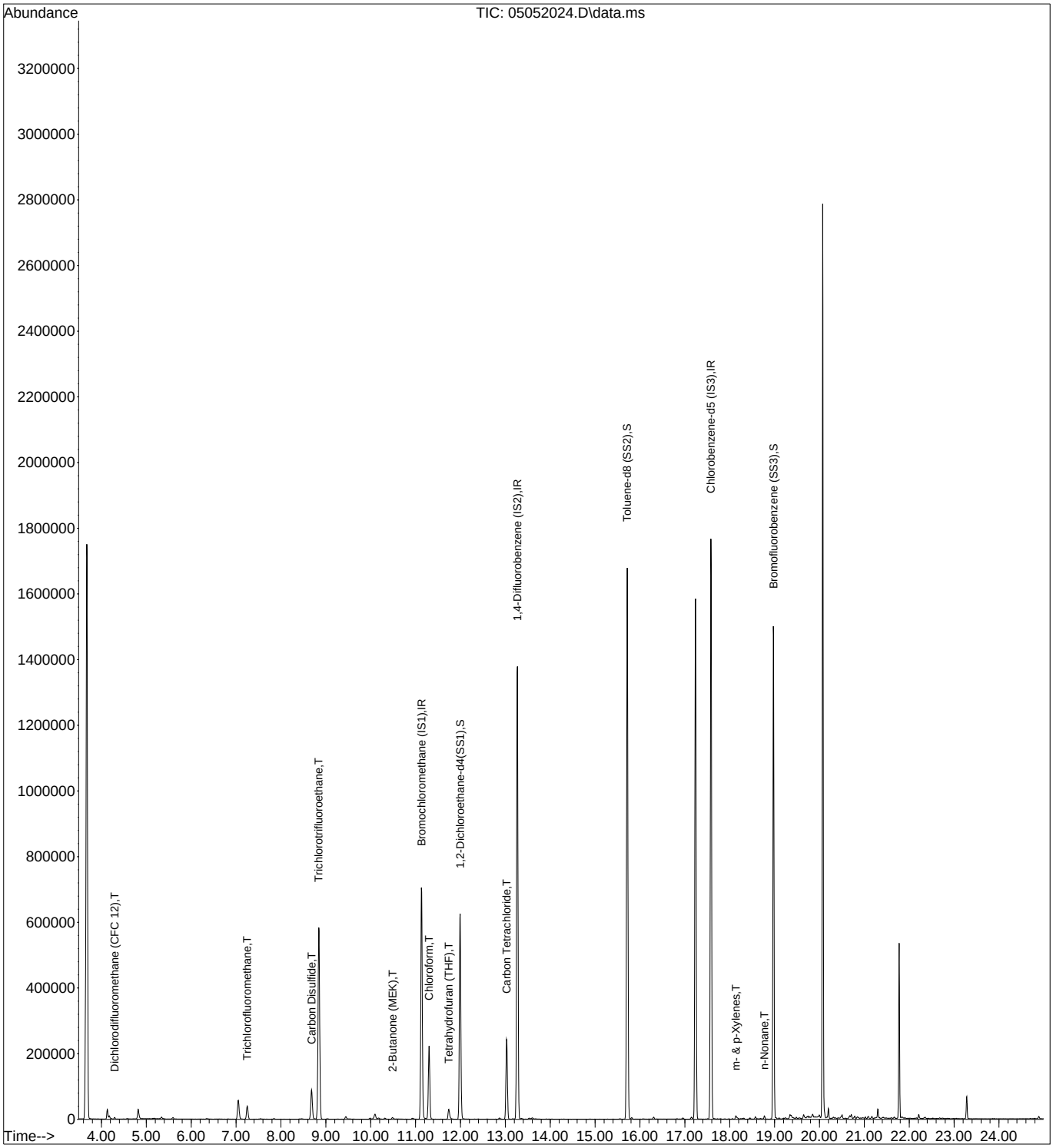
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.82	91	4318	N.D.	
59) 2-Hexanone	16.07	43	1039	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.82	43	904	N.D.	
63) n-Octane	16.83	57	191	N.D.	
64) Tetrachloroethene	16.96	166	1095	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	17.98	91	991	N.D.	
67) m- & p-Xylenes	18.14	91	7894	0.069 ng	100
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	18.57	91	4208	N.D.	
71) n-Nonane	18.77	43	4129	0.067 ng	88
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.10	105	745	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	19.55	91	1559	N.D.	
77) 3-Ethyltoluene	19.64	105	3357	N.D.	
78) 4-Ethyltoluene	19.68	105	1360	N.D.	
79) 1,3,5-Trimethylbenzene	19.75	105	2325	N.D.	
80) alpha-Methylstyrene	19.88	118	803	N.D.	
81) 2-Ethyltoluene	19.92	105	1330	N.D.	
82) 1,2,4-Trimethylbenzene	20.11	105	5566	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.31	91	526	N.D.	
85) 1,3-Dichlorobenzene	20.30	146	212	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	212	N.D.	
87) sec-Butylbenzene	20.35	105	1361	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	820	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	2218	N.D.	
90) 1,2-Dichlorobenzene	20.60	146	117	N.D.	
91) d-Limonene	20.71	68	479	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.11	180	143	N.D.	
95) Naphthalene	22.22	128	1431	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.28	55	1206	N.D.	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	20.85	91	2066	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052024.D Vial: 6
Acq On : 5 May 2020 17:54 Operator: WA
Sample : P2002107-009dil (40mL) Inst : GCMS-16
Misc : S31-02112001

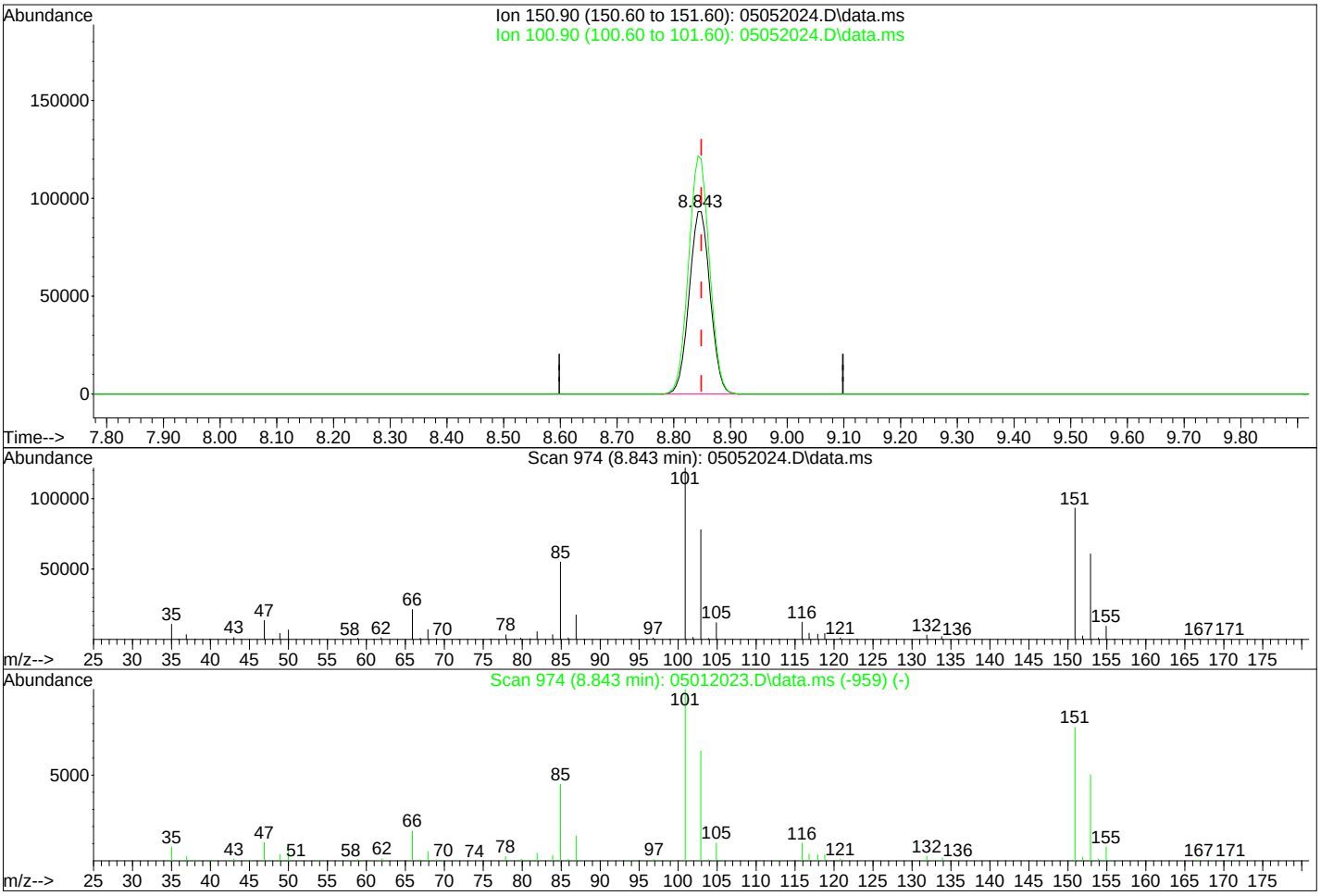
Quant Time: May 07 17:28:11 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\05\05052024.D Vial: 6
Acq On : 5 May 2020 17:54 Operator: WA
Sample : P2002107-009dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 03:56:40 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05052024.D\data.ms

(21) Trichlorotrifluoroethane (T)

8.843min (-0.006) 8.65ng

response 239410

Ion	Exp%	Act%
150.90	100	100
100.90	127.30	129.92
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052025.D Vial: 7
Acq On : 5 May 2020 18:28 Operator: WA
Sample : P2002107-010 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 07 17:33:46 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/7/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	253240	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.27	114	1110692	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	525716	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	418433	12.192	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.52%				
57) Toluene-d8 (SS2)	15.72	98	1113620	12.497	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.00%				
73) Bromofluorobenzene (SS3)	18.98	174	392627	12.245	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.00%				
Target Compounds							Qvalue
2) Propene	4.09	42	43873	1.496	ng		97
3) Dichlorodifluoromethan...	4.26	85	57766	1.007	ng		99
4) Chloromethane	4.53	50	6953	0.155	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	818	N.D.			
6) Vinyl Chloride	4.95	62	386	N.D.			
7) 1,3-Butadiene	5.22	54	490	N.D.			
8) Bromomethane	5.65	94	549	N.D.			
9) Chloroethane	5.98	64	2398	0.123	ng		89
10) Ethanol	6.34	45	92352	4.078	ng		99
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	6.79	56	10458	0.584	ng		99
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	7.25	101	756086	14.913	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	49077	0.716	ng		90
16) Acrylonitrile	7.71	53	499	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.41	84	1419	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	8.85	151	4877888	203.783	ng		100
22) Carbon Disulfide	8.69	76	341194	3.234	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	9.95	63	493	N.D.			
25) Methyl tert-Butyl Ether	10.09	73	1581	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.46	72	22909	1.186	ng		95
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.27	61	114733	10.301	ng	#	63
31) n-Hexane	11.26	57	23972	0.496	ng	#	1
32) Chloroform	11.31	83	4942726	98.053	ng		100
34) Tetrahydrofuran (THF)	11.72	72	91605	4.863	ng		99
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.12	62	9194	0.230	ng		97
38) 1,1,1-Trichloroethane	12.40	97	282	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	3248762	27.275	ng		100
42) Carbon Tetrachloride	13.03	117	2197331	54.235	ng		100
43) Cyclohexane	13.17	84	278572	6.276	ng		100
44) tert-Amyl Methyl Ether	13.56	73	146	N.D.			
45) 1,2-Dichloropropane	13.52	63	945	N.D.			
46) Bromodichloromethane	13.92	83	17575	0.437	ng		89
47) Trichloroethene	13.97	130	53534	1.739	ng		99
48) 1,4-Dioxane	13.97	88	1060	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.11	100	258	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052025.D Vial: 7
Acq On : 5 May 2020 18:28 Operator: WA
Sample : P2002107-010 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 07 17:33:46 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

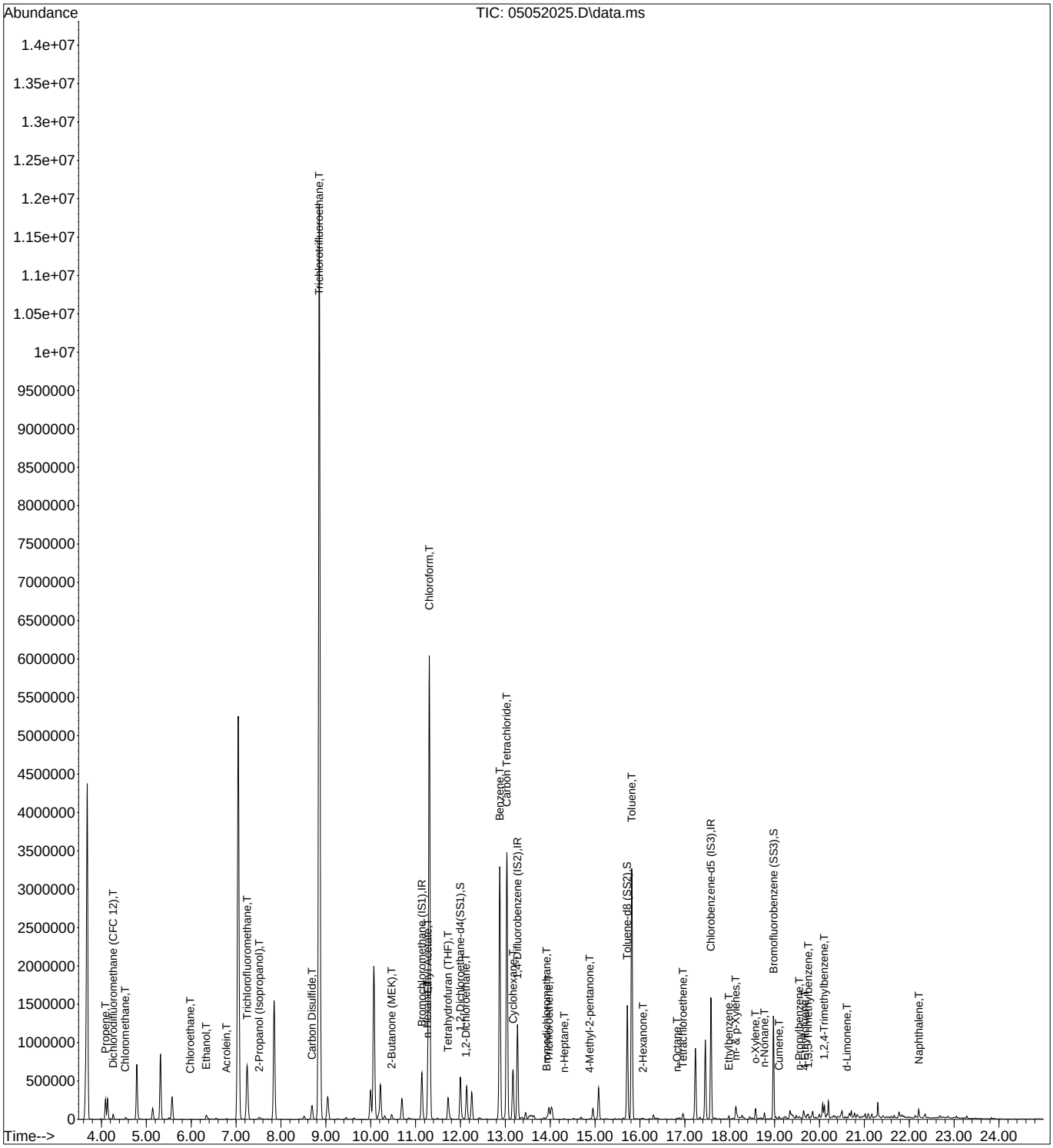
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.31	71	2261	0.081 ng		94
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.88	58	1613	0.061 ng	#	55
54) trans-1,3-Dichloropropene	15.14	75	174	N.D.		
55) 1,1,2-Trichloroethane	15.44	97	187	N.D.		
58) Toluene	15.82	91	2671434	23.258 ng		100
59) 2-Hexanone	16.07	43	10242	0.163 ng		87
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	16.47	107	391	N.D.		
62) n-Butyl Acetate	16.70	43	2522	N.D.		
63) n-Octane	16.83	57	2618	0.110 ng		93
64) Tetrachloroethene	16.96	166	22952	0.707 ng		100
65) Chlorobenzene	17.62	112	349	N.D.		
66) Ethylbenzene	17.98	91	33463	0.261 ng		98
67) m- & p-Xylenes	18.14	91	117386	1.155 ng		100
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	2727	N.D.		
70) o-Xylene	18.57	91	69240	0.671 ng		98
71) n-Nonane	18.77	43	28513	0.521 ng		95
72) 1,1,2,2-Tetrachloroethane	18.58	83	429	N.D.		
74) Cumene	19.10	105	6652	0.053 ng		97
75) alpha-Pinene	19.46	93	1076	N.D.		
76) n-Propylbenzene	19.55	91	12602	0.084 ng		83
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.68	105	9031	0.076 ng		97
79) 1,3,5-Trimethylbenzene	19.75	105	18183	0.176 ng		97
80) alpha-Methylstyrene	19.88	118	2720	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	20.10	105	53137	0.512 ng		91
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.17	91	2295	N.D.		
85) 1,3-Dichlorobenzene	20.30	146	465	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	465	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D. d		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	20.60	146	117	N.D.		
91) d-Limonene	20.61	68	2161	0.053 ng		77
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	22.22	128	10719	0.085 ng		98
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	20.07	119	4070	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052025.D Vial: 7
Acq On : 5 May 2020 18:28 Operator: WA
Sample : P2002107-010 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 07 17:33:46 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052025.D Vial: 7
Acq On : 5 May 2020 18:28 Operator: WA
Sample : P2002107-010 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 07 17:33:46 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/7/20

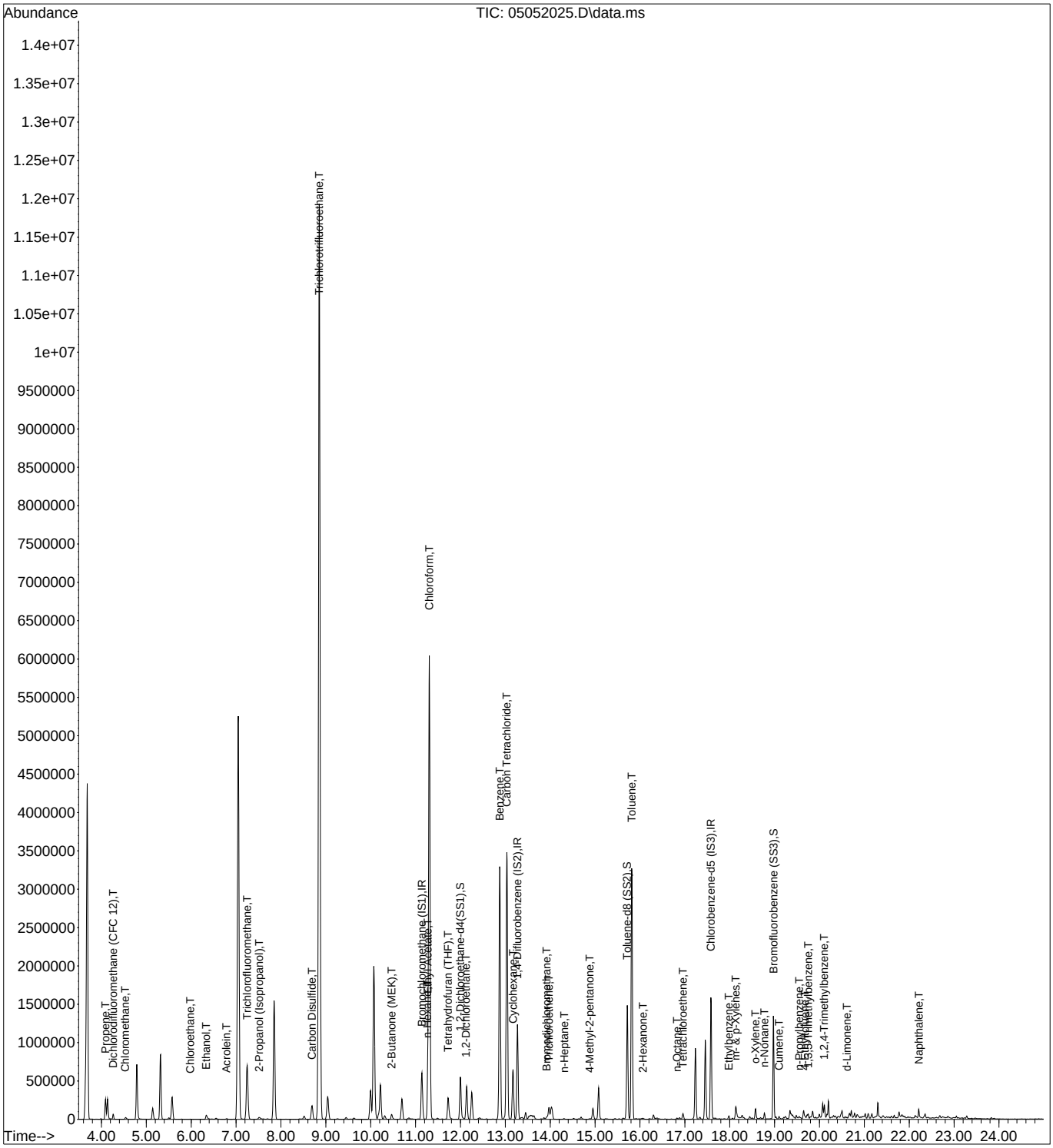
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	253240	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.27	114	1110692	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	525716	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	418433	12.192	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.52%				
57) Toluene-d8 (SS2)	15.72	98	1113620	12.497	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.00%				
73) Bromofluorobenzene (SS3)	18.98	174	392627	12.245	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.00%				
Target Compounds							Qvalue
2) Propene	4.09	42	43873	1.496	ng		97
3) Dichlorodifluoromethan...	4.26	85	57766	1.007	ng		99
4) Chloromethane	4.53	50	6953	0.155	ng		98
9) Chloroethane	5.98	64	2398	0.123	ng		89
10) Ethanol	6.34	45	92352	4.078	ng		99
12) Acrolein	6.79	56	10458	0.584	ng		99
14) Trichlorofluoromethane	7.25	101	756086	14.913	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	49077	0.716	ng		90
21) Trichlorotrifluoroethane	8.85	151	4877888	203.783	ng		100
22) Carbon Disulfide	8.69	76	341194	3.234	ng		99
27) 2-Butanone (MEK)	10.46	72	22909	1.186	ng		95
30) Ethyl Acetate	11.27	61	114733	10.301	ng	#	63
31) n-Hexane	11.26	57	23972	0.496	ng	#	1
32) Chloroform	11.31	83	4942726	98.053	ng		100
34) Tetrahydrofuran (THF)	11.72	72	91605	4.863	ng		99
36) 1,2-Dichloroethane	12.12	62	9194	0.230	ng		97
41) Benzene	12.87	78	3248762	27.275	ng		100
42) Carbon Tetrachloride	13.03	117	2197331	54.235	ng		100
43) Cyclohexane	13.17	84	278572	6.276	ng		100
46) Bromodichloromethane	13.92	83	17575	0.437	ng		89
47) Trichloroethene	13.97	130	53534	1.739	ng		99
51) n-Heptane	14.31	71	2261	0.081	ng		94
53) 4-Methyl-2-pentanone	14.88	58	1613	0.061	ng	#	55
58) Toluene	15.82	91	2671434	23.258	ng		100
59) 2-Hexanone	16.07	43	10242	0.163	ng		87
63) n-Octane	16.83	57	2618	0.110	ng		93
64) Tetrachloroethene	16.96	166	22952	0.707	ng		100
66) Ethylbenzene	17.98	91	33463	0.261	ng		98
67) m- & p-Xylenes	18.14	91	117386	1.155	ng		100
70) o-Xylene	18.57	91	69240	0.671	ng		98
71) n-Nonane	18.77	43	28513	0.521	ng		95
74) Cumene	19.10	105	6652	0.053	ng		97
76) n-Propylbenzene	19.55	91	12602	0.084	ng		83
78) 4-Ethyltoluene	19.68	105	9031	0.076	ng		97
79) 1,3,5-Trimethylbenzene	19.75	105	18183	0.176	ng		97
82) 1,2,4-Trimethylbenzene	20.10	105	53137	0.512	ng		91
91) d-Limonene	20.61	68	2161	0.053	ng		77
95) Naphthalene	22.22	128	10719	0.085	ng		98

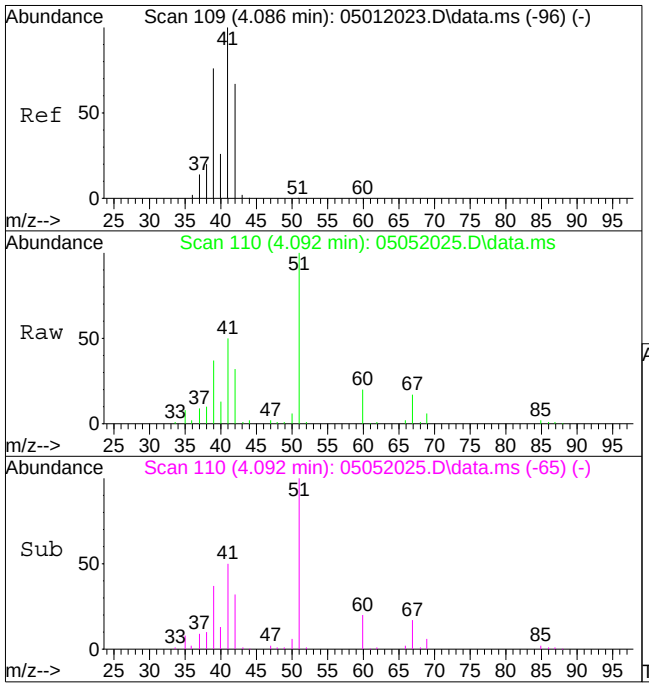
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052025.D Vial: 7
Acq On : 5 May 2020 18:28 Operator: WA
Sample : P2002107-010 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 07 17:33:46 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

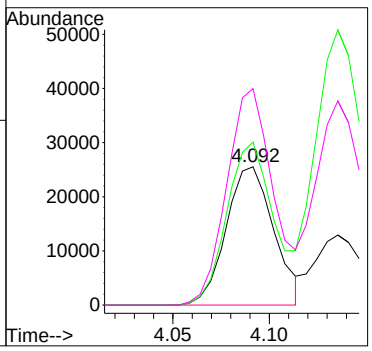


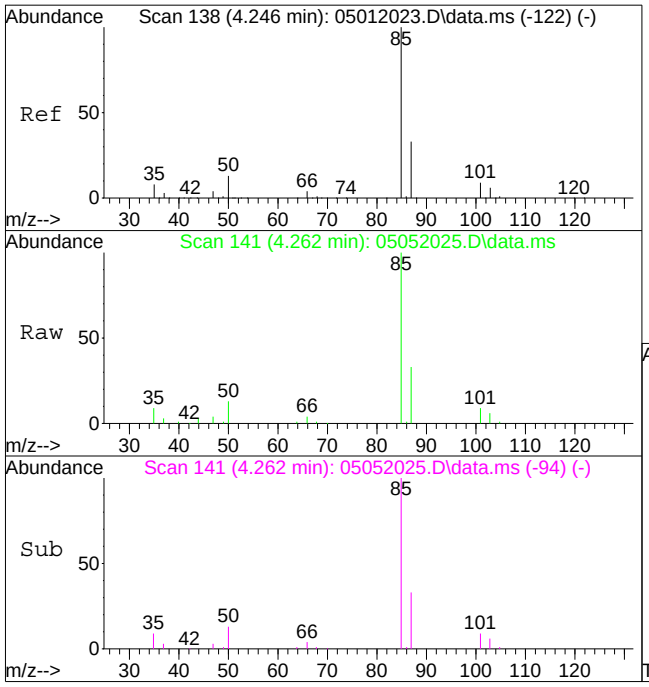


#2
Propene
Concen: 1.50 ng
RT: 4.09 min Scan# 110
Delta R.T. -0.000 min
Lab File: 05052025.D
Acq: 5 May 2020 18:28

Tgt Ion: 42 Resp: 43873

Ion	Ratio	Lower	Upper
42	100		
39	111.3	96.1	136.1
41	154.1	131.9	171.9

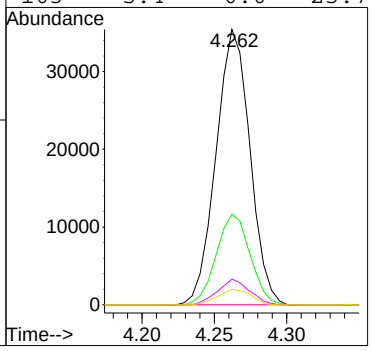


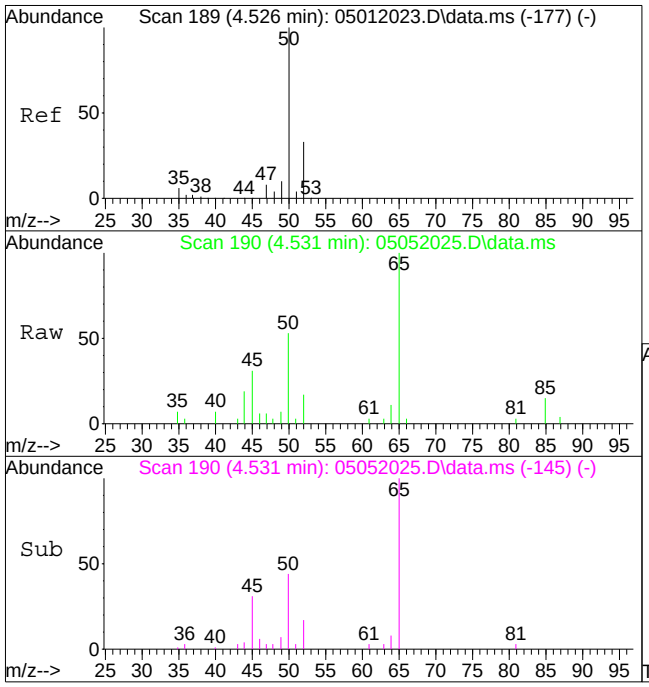


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.01 ng
RT: 4.26 min Scan# 141
Delta R.T. 0.011 min
Lab File: 05052025.D
Acq: 5 May 2020 18:28

Tgt Ion: 85 Resp: 57766

Ion	Ratio	Lower	Upper
85	100		
87	32.7	12.4	52.4
101	8.7	0.0	28.8
103	5.4	0.0	25.7

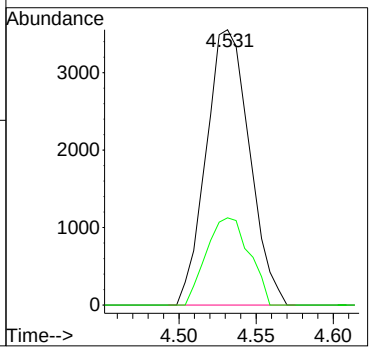


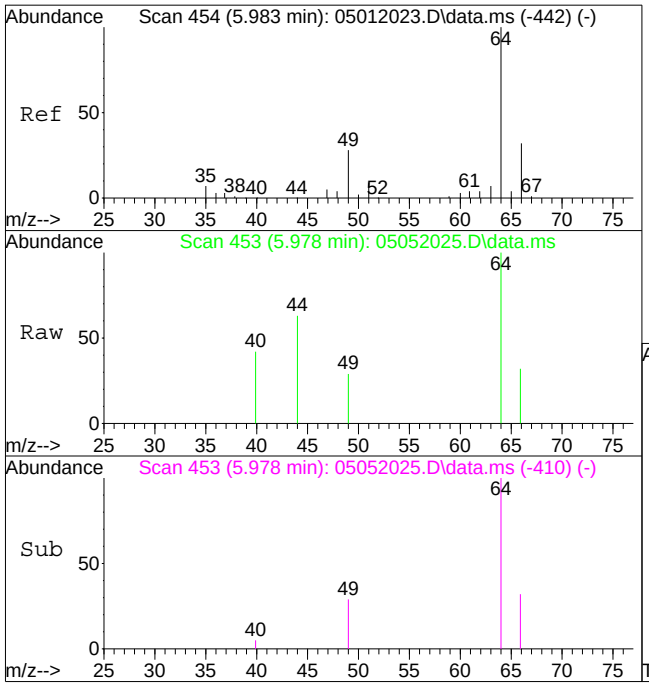


#4
Chloromethane
Concen: 0.15 ng
RT: 4.53 min Scan# 190
Delta R.T. -0.000 min
Lab File: 05052025.D
Acq: 5 May 2020 18:28

Tgt Ion: 50 Resp: 6953

Ion	Ratio	Lower	Upper
50	100		
52	31.4	12.5	52.5

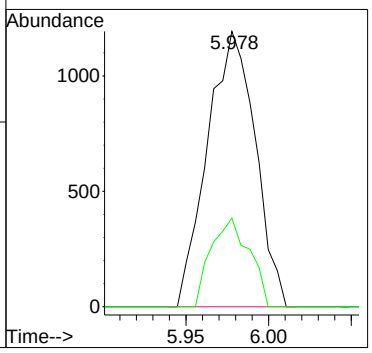


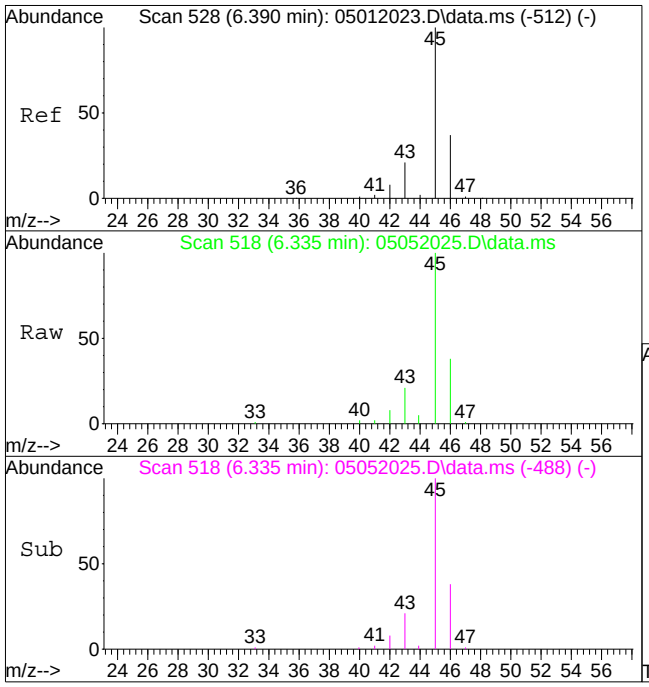


#9
Chloroethane
Concen: 0.12 ng
RT: 5.98 min Scan# 453
Delta R.T. -0.011 min
Lab File: 05052025.D
Acq: 5 May 2020 18:28

Tgt Ion: 64 Resp: 2398

Ion	Ratio	Lower	Upper
64	100		
66	25.7	12.1	52.1

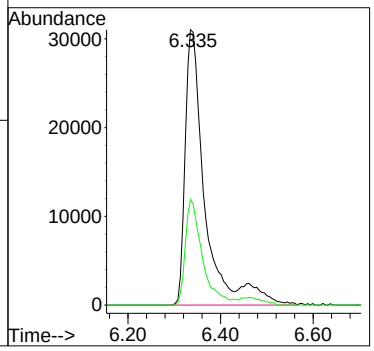


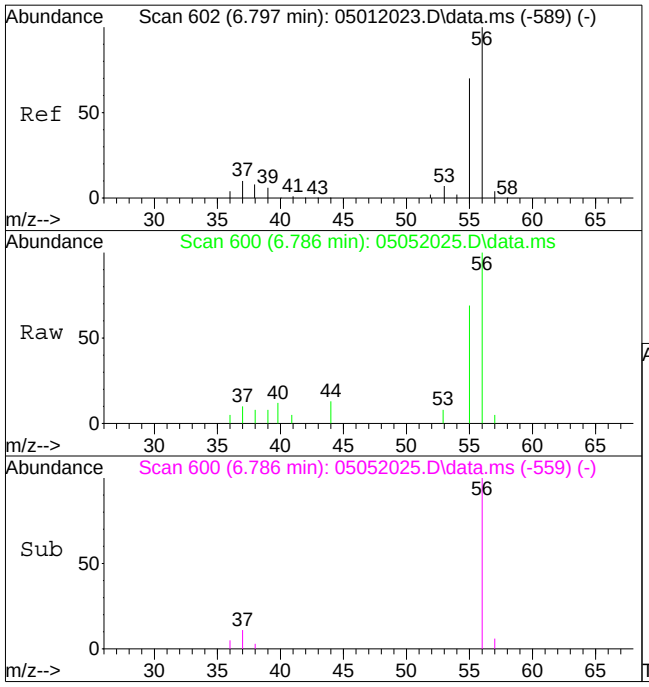


#10
Ethanol
Concen: 4.08 ng
RT: 6.34 min Scan# 518
Delta R.T. -0.083 min
Lab File: 05052025.D
Acq: 5 May 2020 18:28

Tgt Ion: 45 Resp: 92352

Ion	Ratio	Lower	Upper
45	100		
46	36.4	17.2	57.2

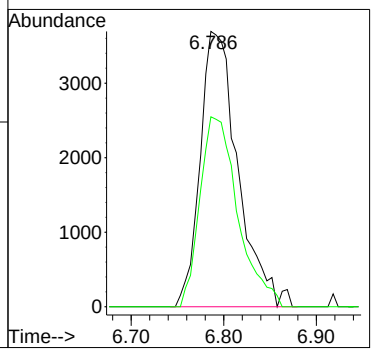


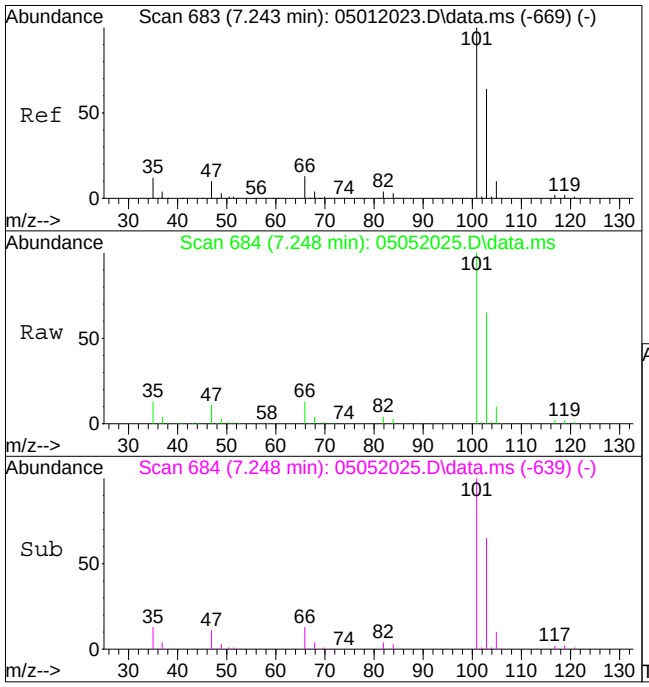


#12
Acrolein
Concen: 0.58 ng
RT: 6.79 min Scan# 600
Delta R.T. -0.022 min
Lab File: 05052025.D
Acq: 5 May 2020 18:28

Tgt Ion: 56 Resp: 10458

Ion	Ratio	Lower	Upper
56	100		
55	69.2	50.2	90.2

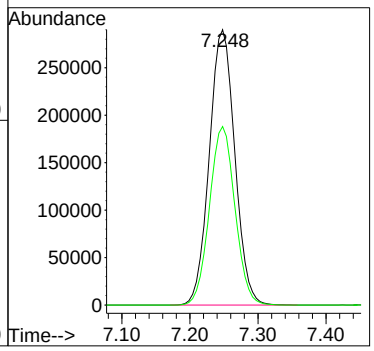


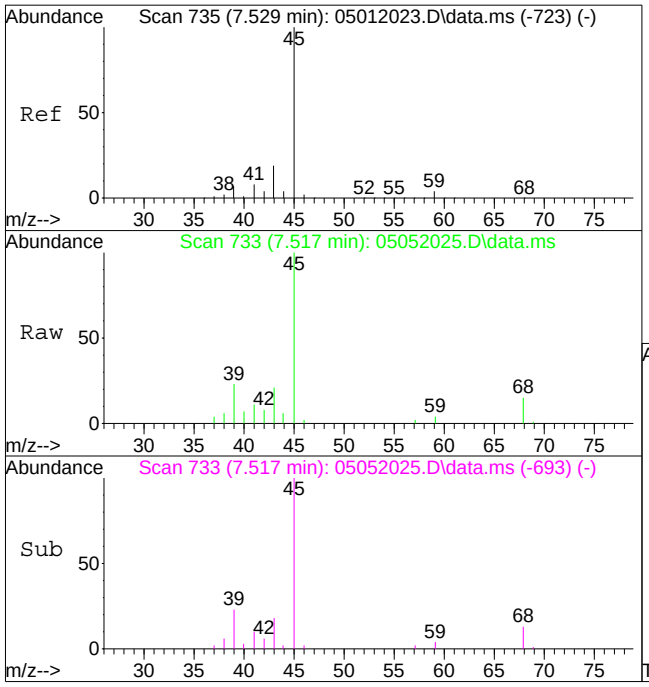


#14
Trichlorofluoromethane
Concen: 14.91 ng
RT: 7.25 min Scan# 684
Delta R.T. -0.000 min
Lab File: 05052025.D
Acq: 5 May 2020 18:28

Tgt Ion:101 Resp: 756086

Ion	Ratio	Lower	Upper
101	100		
103	64.7	44.4	84.4

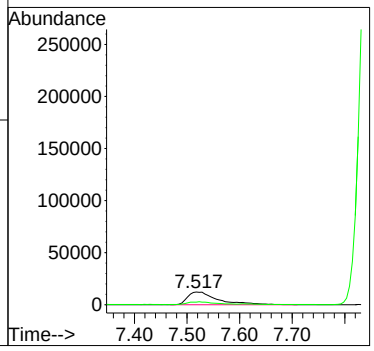


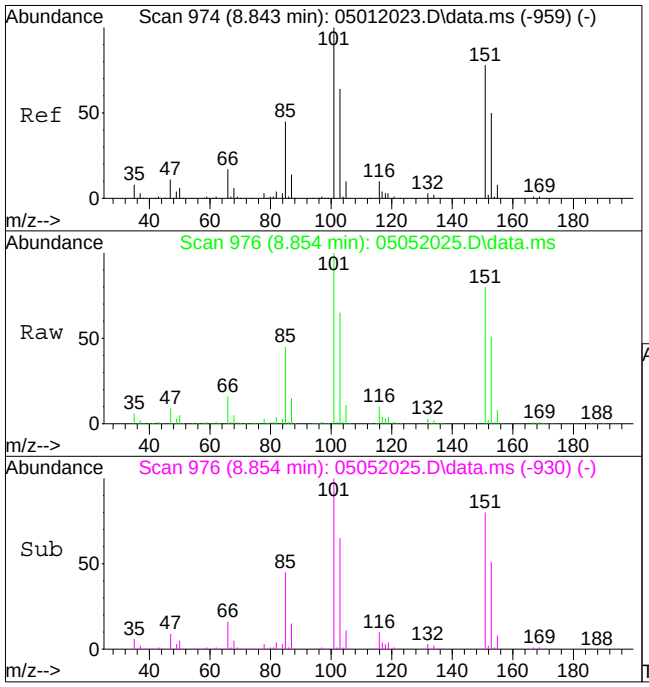


#15
2-Propanol (Isopropanol)
Concen: 0.72 ng
RT: 7.52 min Scan# 733
Delta R.T. -0.028 min
Lab File: 05052025.D
Acq: 5 May 2020 18:28

Tgt Ion: 45 Resp: 49077

Ion	Ratio	Lower	Upper
45	100		
43	23.9	0.0	39.5

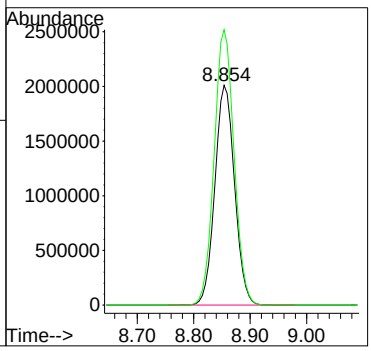


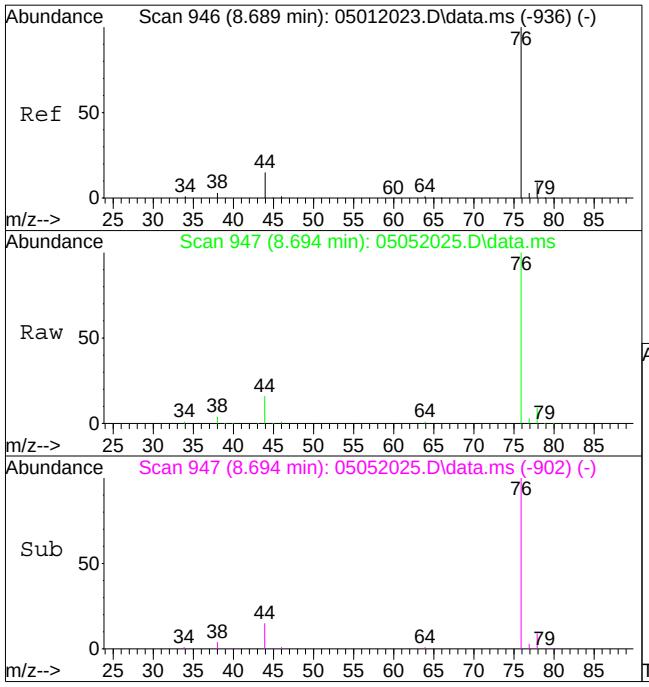


#21
Trichlorotrifluoroethane
Concen: 203.78 ng
RT: 8.85 min Scan# 976
Delta R.T. 0.005 min
Lab File: 05052025.D
Acq: 5 May 2020 18:28

Tgt Ion:151 Resp: 4877888

Ion	Ratio	Lower	Upper
151	100		
101	126.7	107.3	147.3

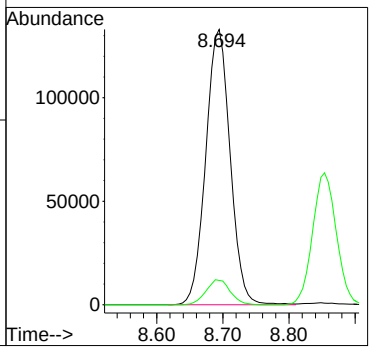


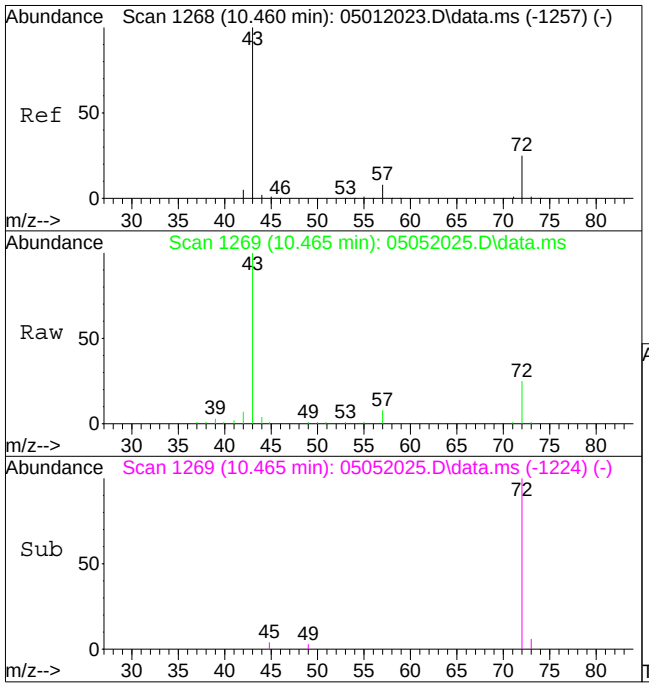


#22
Carbon Disulfide
Concen: 3.23 ng
RT: 8.69 min Scan# 947
Delta R.T. -0.000 min
Lab File: 05052025.D
Acq: 5 May 2020 18:28

Tgt Ion: 76 Resp: 341194

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	29.2

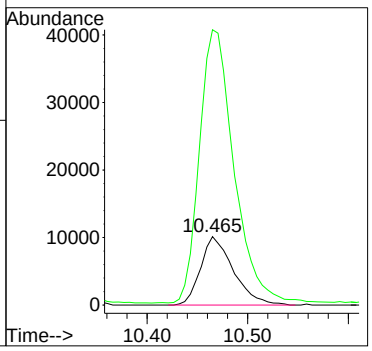


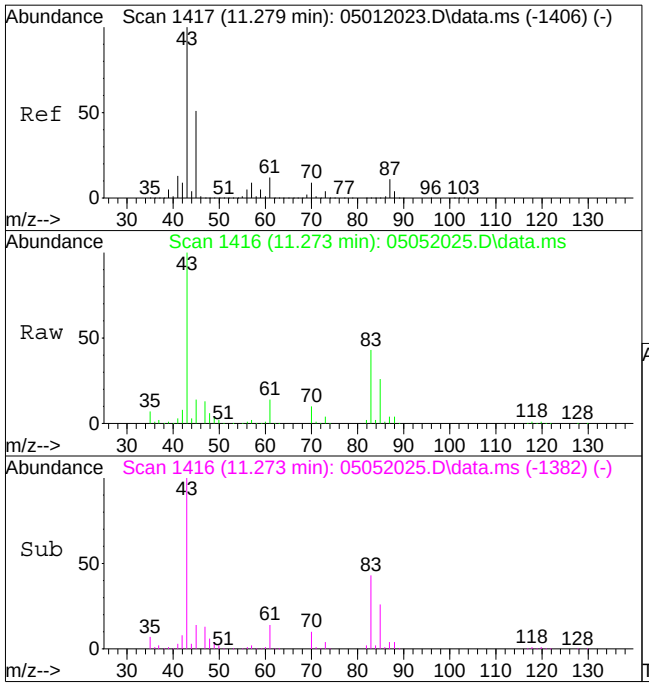


#27
2-Butanone (MEK)
Concen: 1.19 ng
RT: 10.46 min Scan# 1269
Delta R.T. -0.000 min
Lab File: 05052025.D
Acq: 5 May 2020 18:28

Tgt Ion: 72 Resp: 22909

Ion	Ratio	Lower	Upper
72	100		
43	421.7	389.7	429.7

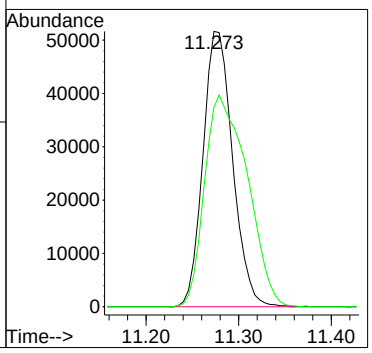


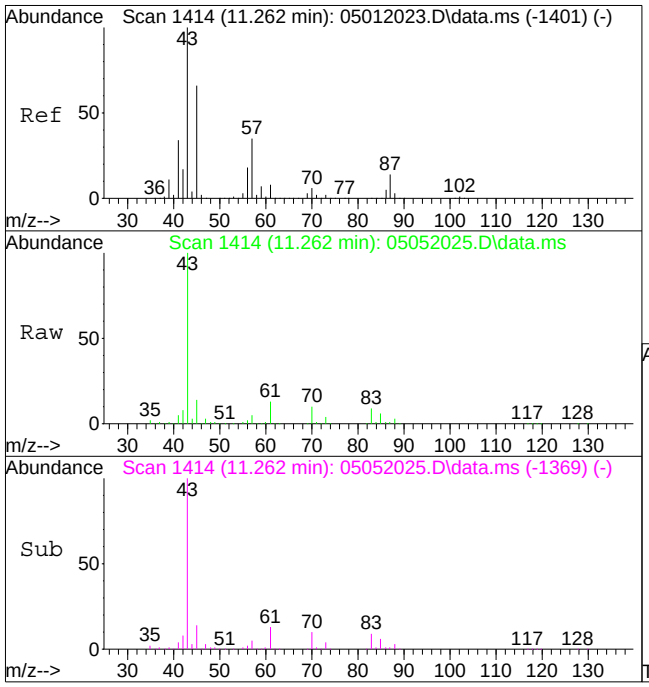


#30
Ethyl Acetate
Concen: 10.30 ng
RT: 11.27 min Scan# 1416
Delta R.T. -0.011 min
Lab File: 05052025.D
Acq: 5 May 2020 18:28

Tgt Ion: 61 Resp: 114733

Ion	Ratio	Lower	Upper
61	100		
70	110.4	57.9	97.9#

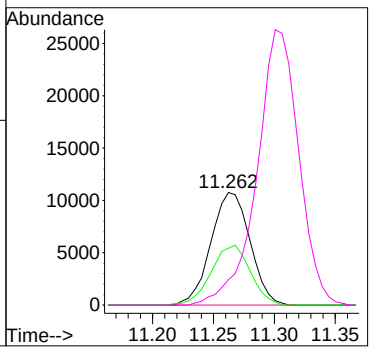


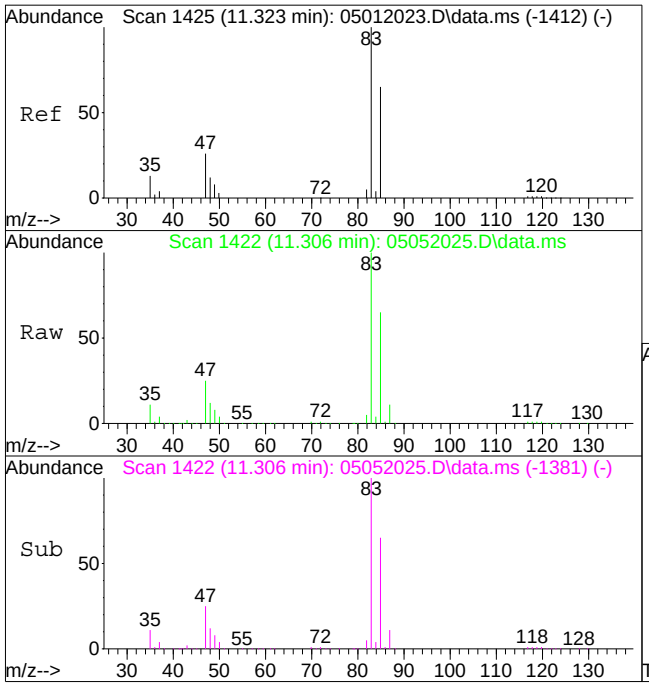


#31
n-Hexane
Concen: 0.50 ng
RT: 11.26 min Scan# 1414
Delta R.T. -0.000 min
Lab File: 05052025.D
Acq: 5 May 2020 18:28

Tgt Ion: 57 Resp: 23972

Ion	Ratio	Lower	Upper
57	100		
56	53.3	41.4	62.0
86	261.9	12.4	18.6#

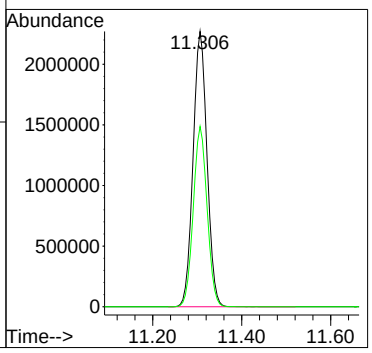


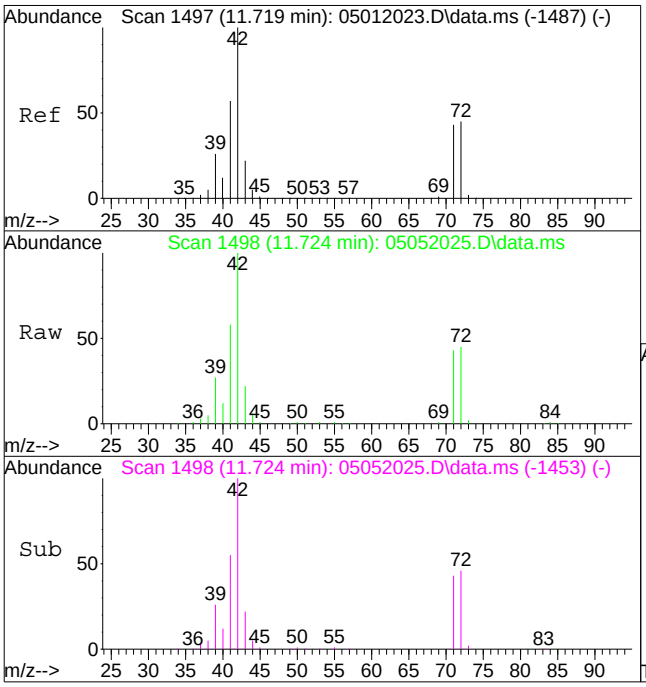


#32
Chloroform
Concen: 98.05 ng
RT: 11.31 min Scan# 1422
Delta R.T. -0.022 min
Lab File: 05052025.D
Acq: 5 May 2020 18:28

Tgt Ion: 83 Resp: 4942726

Ion	Ratio	Lower	Upper
83	100		
85	65.2	45.5	85.5

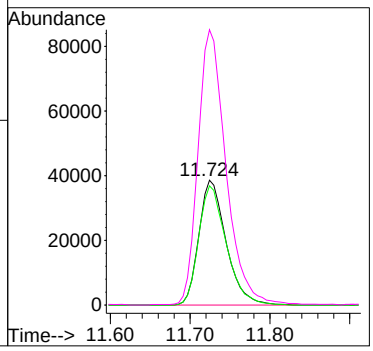


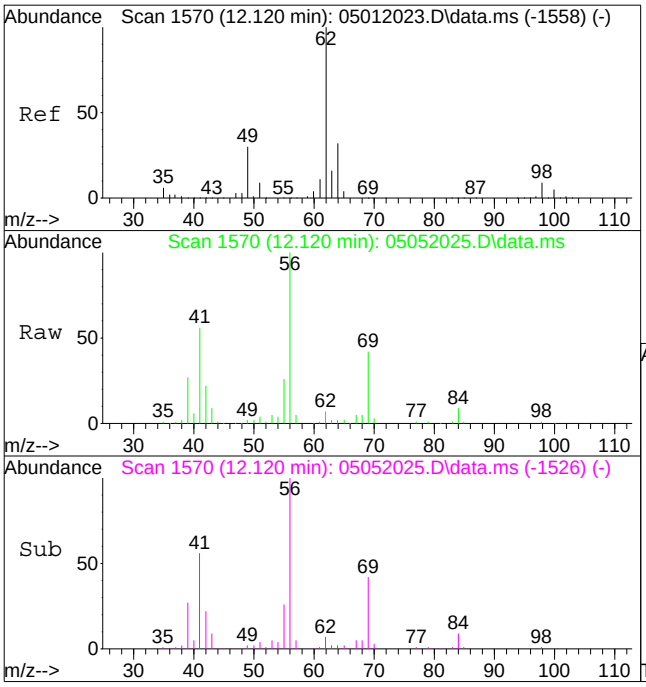


#34
Tetrahydrofuran (THF)
Concen: 4.86 ng
RT: 11.72 min Scan# 1498
Delta R.T. -0.000 min
Lab File: 05052025.D
Acq: 5 May 2020 18:28

Tgt Ion: 72 Resp: 91605

Ion	Ratio	Lower	Upper
72	100		
71	96.5	77.0	117.0
42	227.7	204.6	244.6

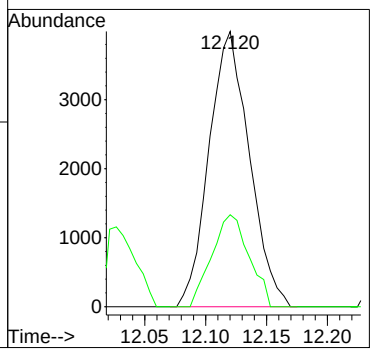


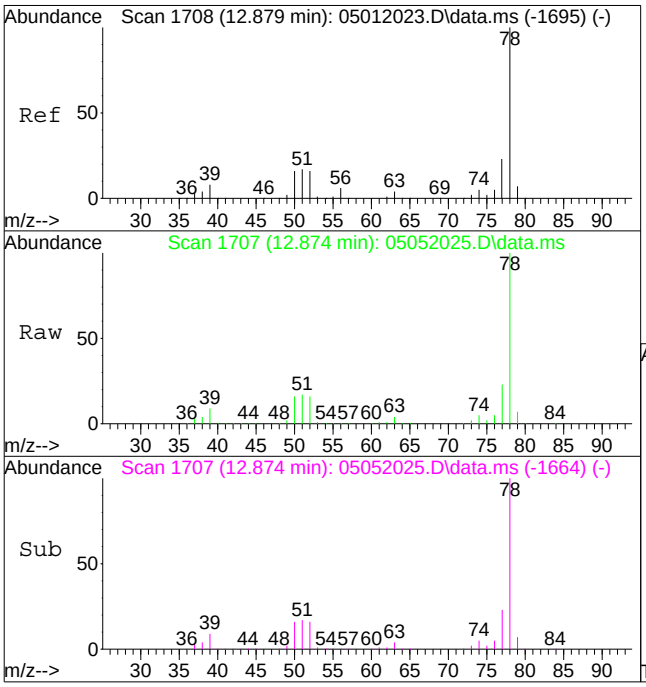


#36
1,2-Dichloroethane
Concen: 0.23 ng
RT: 12.12 min Scan# 1570
Delta R.T. -0.006 min
Lab File: 05052025.D
Acq: 5 May 2020 18:28

Tgt Ion: 62 Resp: 9194

Ion	Ratio	Lower	Upper
62	100		
64	30.7	12.4	52.4

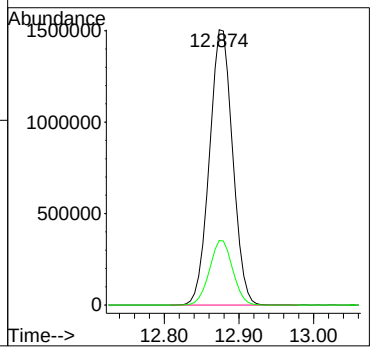


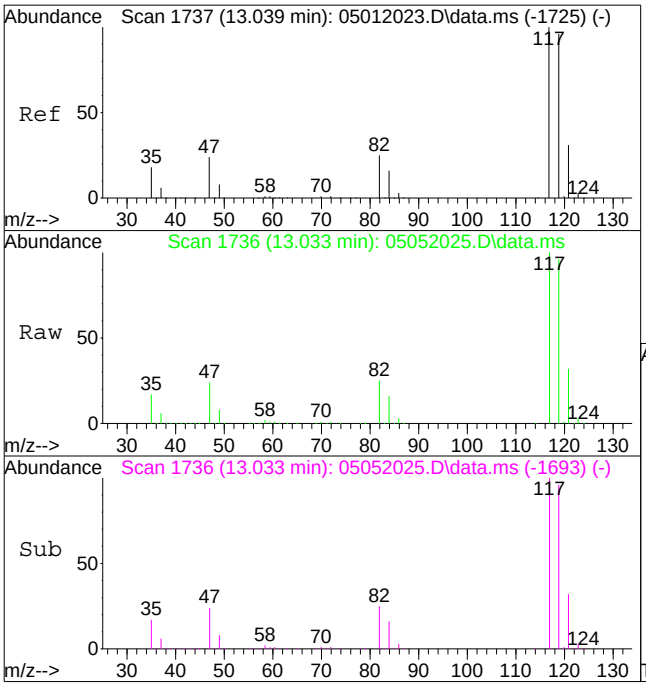


#41
Benzene
Concen: 27.28 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05052025.D
Acq: 5 May 2020 18:28

Tgt Ion: 78 Resp: 3248762

Ion	Ratio	Lower	Upper
78	100		
77	23.4	3.4	43.4

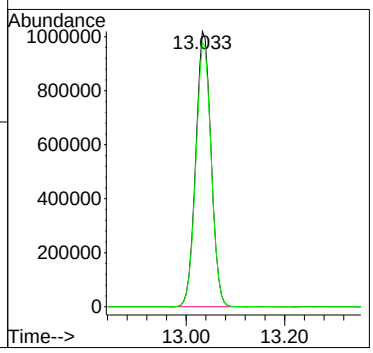


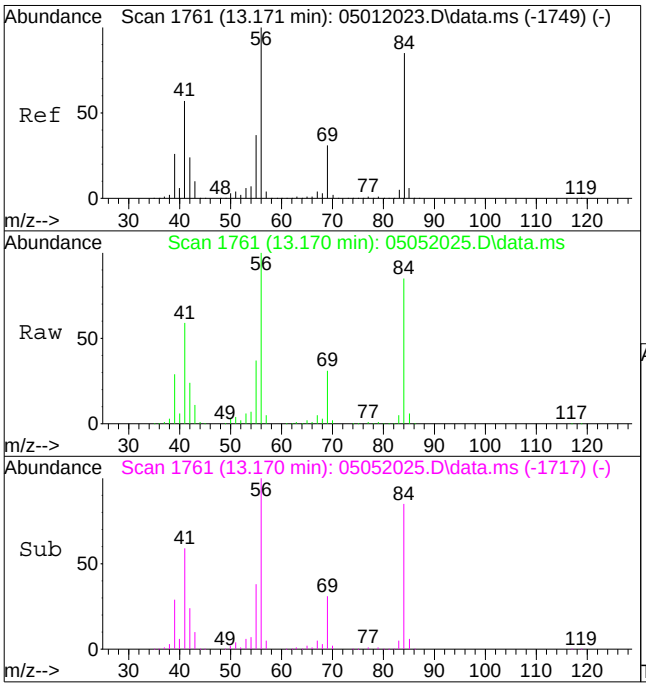


#42
Carbon Tetrachloride
Concen: 54.24 ng
RT: 13.03 min Scan# 1736
Delta R.T. -0.011 min
Lab File: 05052025.D
Acq: 5 May 2020 18:28

Tgt Ion:117 Resp: 2197331

Ion	Ratio	Lower	Upper
117	100		
119	96.6	76.2	116.2

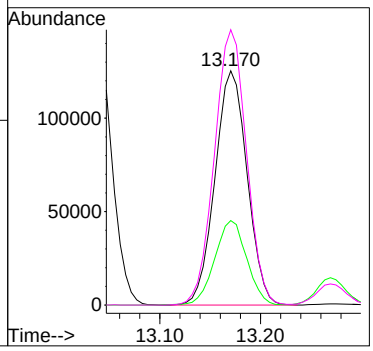


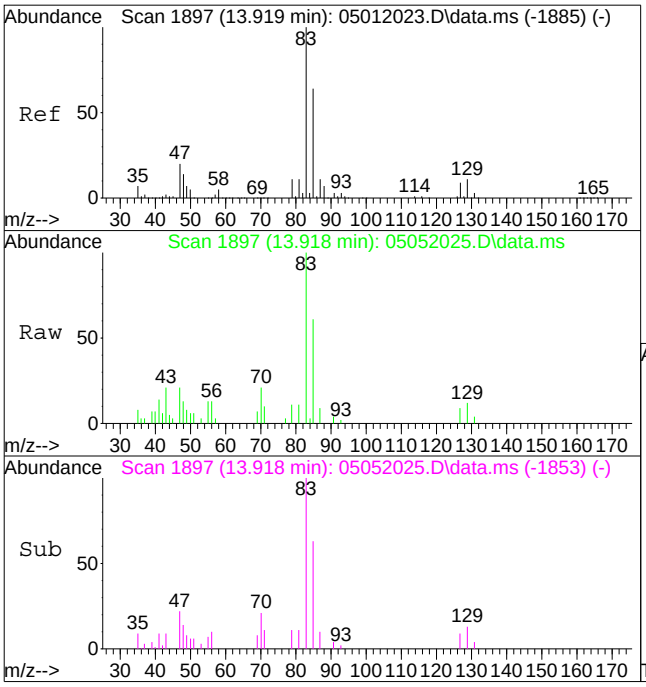


#43
Cyclohexane
Concen: 6.28 ng
RT: 13.17 min Scan# 1761
Delta R.T. -0.006 min
Lab File: 05052025.D
Acq: 5 May 2020 18:28

Tgt Ion: 84 Resp: 278572

Ion	Ratio	Lower	Upper
84	100		
69	36.0	16.5	56.5
56	117.2	97.4	137.4

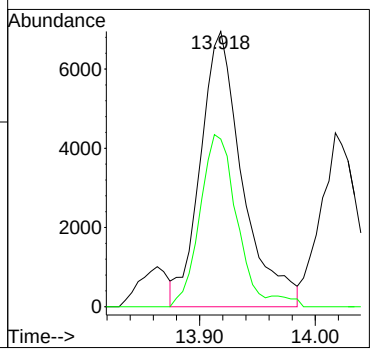


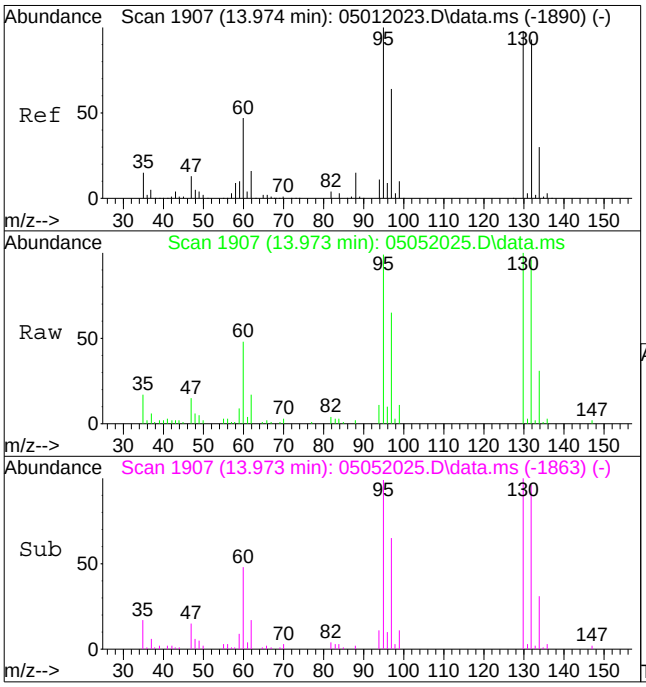


#46
Bromodichloromethane
Concen: 0.44 ng
RT: 13.92 min Scan# 1897
Delta R.T. -0.006 min
Lab File: 05052025.D
Acq: 5 May 2020 18:28

Tgt Ion: 83 Resp: 17575

Ion	Ratio	Lower	Upper
83	100		
85	55.9	44.4	84.4

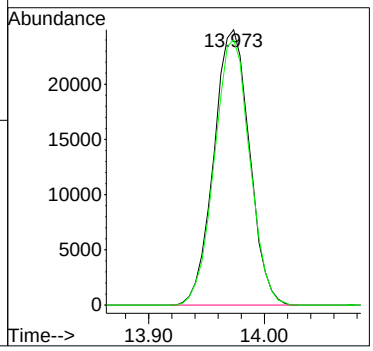


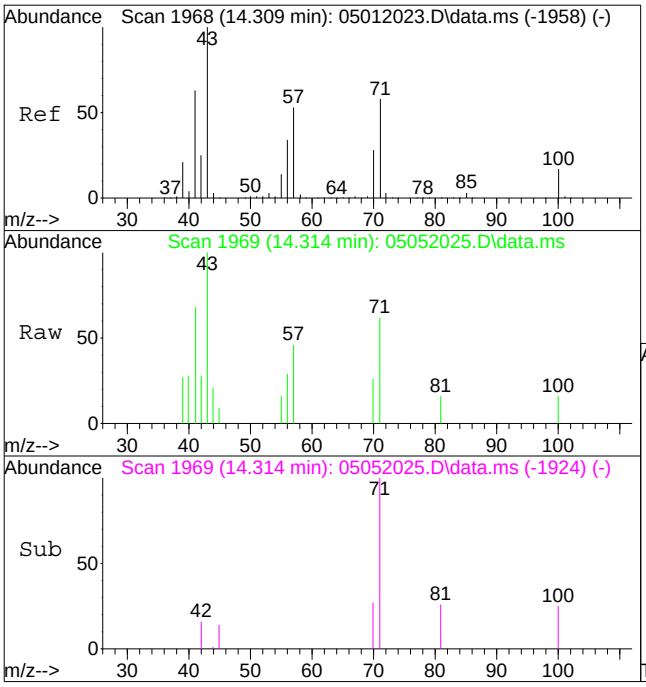


#47
Trichloroethene
Concen: 1.74 ng
RT: 13.97 min Scan# 1907
Delta R.T. -0.006 min
Lab File: 05052025.D
Acq: 5 May 2020 18:28

Tgt Ion:130 Resp: 53534

Ion	Ratio	Lower	Upper
130	100		
132	95.5	74.9	114.9

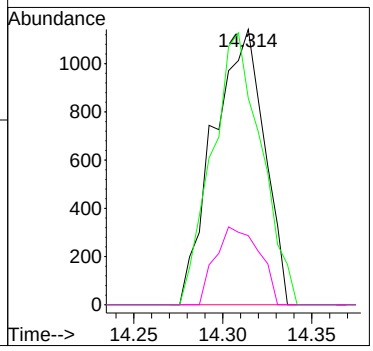


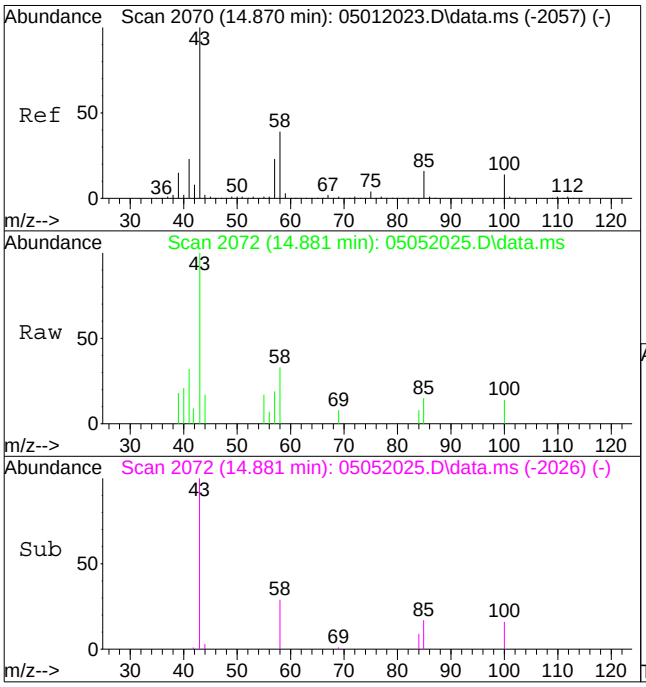


#51
n-Heptane
Concen: 0.08 ng
RT: 14.31 min Scan# 1969
Delta R.T. -0.000 min
Lab File: 05052025.D
Acq: 5 May 2020 18:28

Tgt Ion: 71 Resp: 2261

Ion	Ratio	Lower	Upper
71	100		
57	95.8	71.0	111.0
100	24.6	8.4	48.4

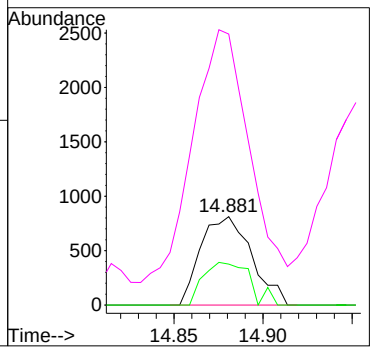


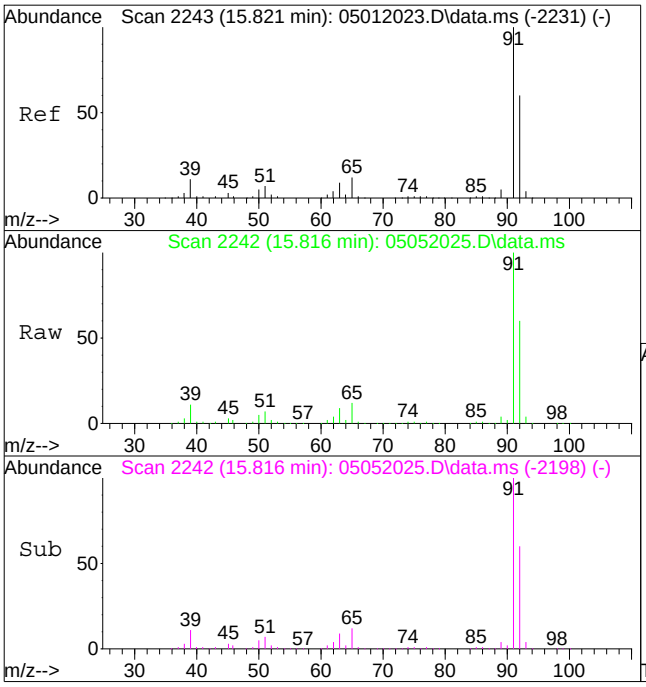


#53
4-Methyl-2-pentanone
Concen: 0.06 ng
RT: 14.88 min Scan# 2072
Delta R.T. 0.005 min
Lab File: 05052025.D
Acq: 5 May 2020 18:28

Tgt Ion: 58 Resp: 1613

Ion	Ratio	Lower	Upper
58	100		
85	44.2	35.4	53.2
43	348.2	203.3	304.9#

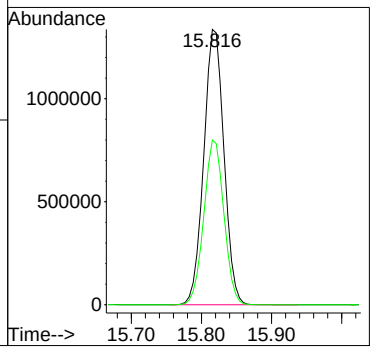


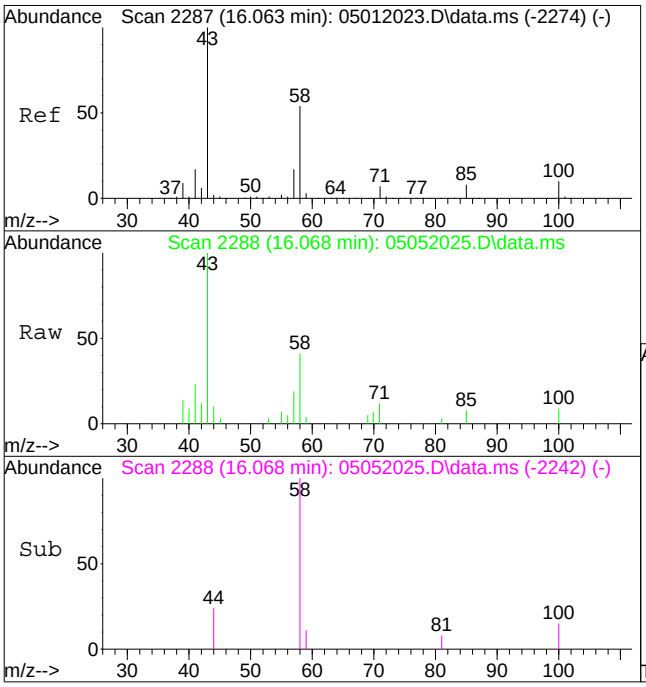


#58
Toluene
Concen: 23.26 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05052025.D
Acq: 5 May 2020 18:28

Tgt Ion: 91 Resp: 2671434

Ion	Ratio	Lower	Upper
91	100		
92	59.5	39.4	79.4

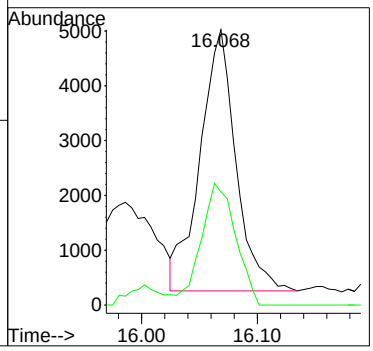


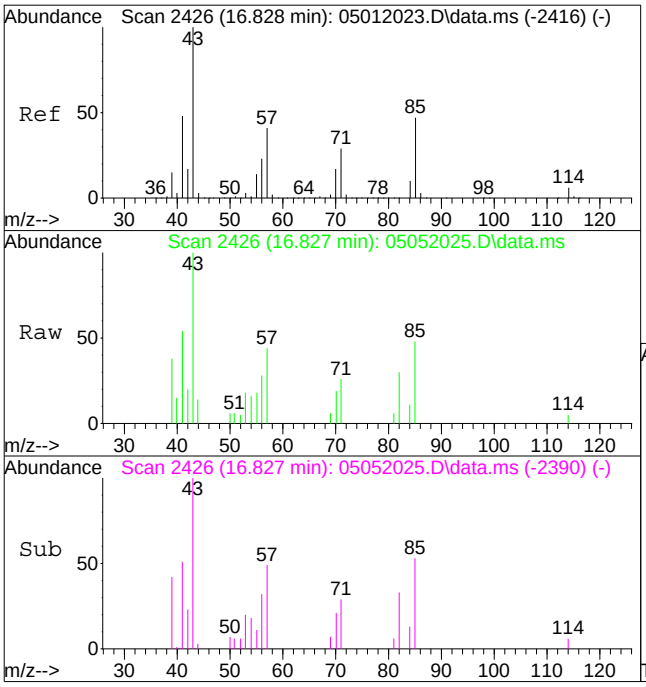


#59
2-Hexanone
Concen: 0.16 ng
RT: 16.07 min Scan# 2288
Delta R.T. 0.005 min
Lab File: 05052025.D
Acq: 5 May 2020 18:28

Tgt Ion: 43 Resp: 10242

Ion	Ratio	Lower	Upper
43	100		
58	44.8	34.5	74.5

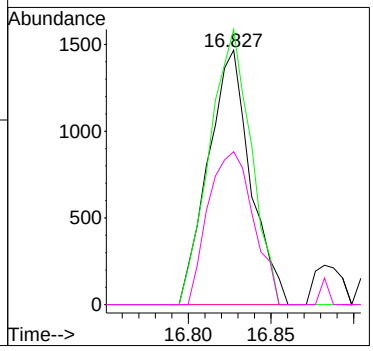


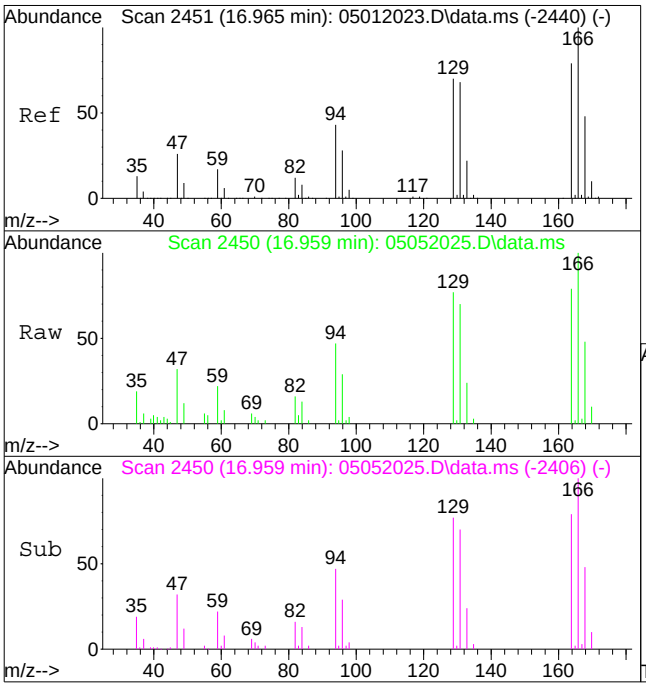


#63
n-Octane
Concen: 0.11 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05052025.D
Acq: 5 May 2020 18:28

Tgt Ion: 57 Resp: 2618

Ion	Ratio	Lower	Upper
57	100		
85	106.3	91.0	136.4
71	64.2	56.2	84.2

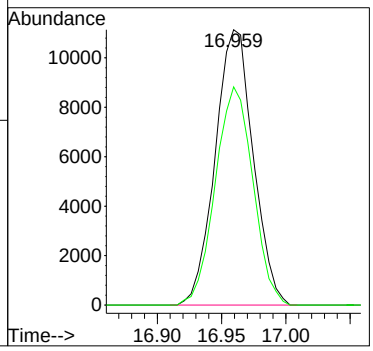


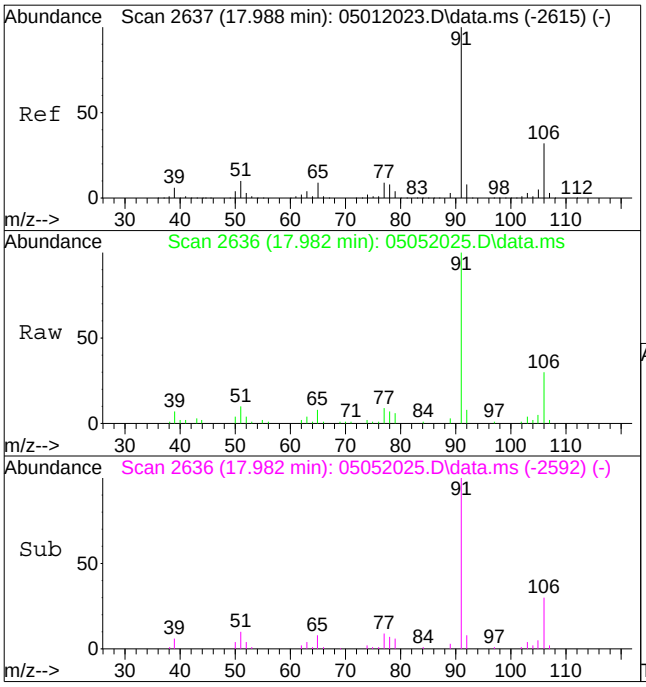


#64
Tetrachloroethene
Concen: 0.71 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05052025.D
Acq: 5 May 2020 18:28

Tgt Ion:166 Resp: 22952

Ion	Ratio	Lower	Upper
166	100		
164	78.2	58.4	98.4

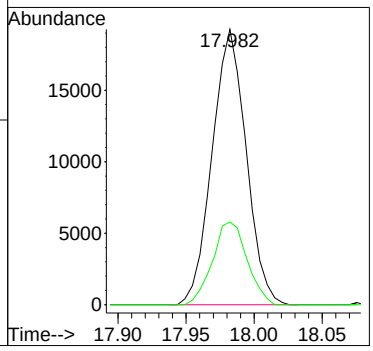


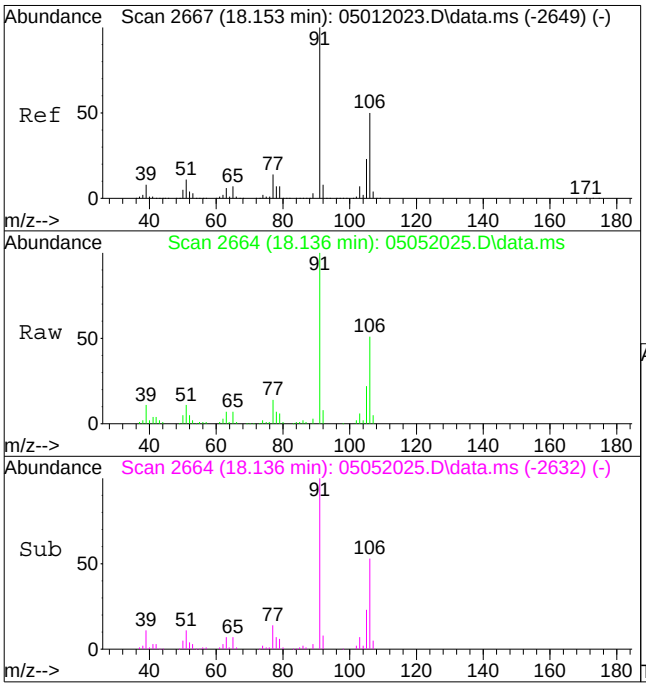


#66
Ethylbenzene
Concen: 0.26 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05052025.D
Acq: 5 May 2020 18:28

Tgt Ion: 91 Resp: 33463

Ion	Ratio	Lower	Upper
91	100		
106	30.5	11.6	51.6

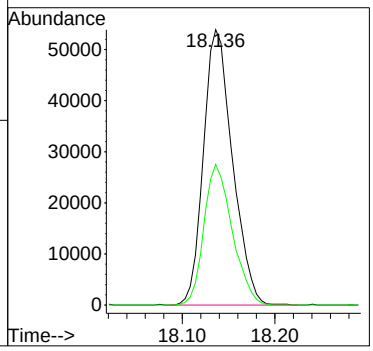


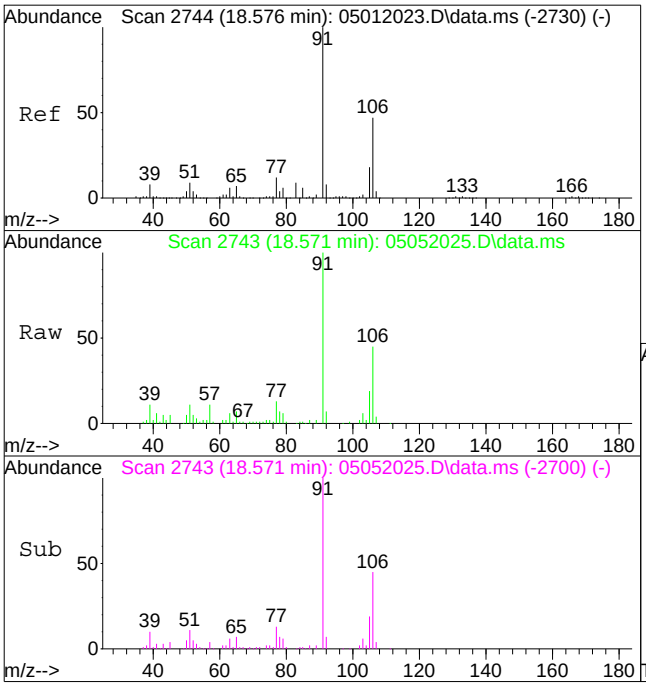


#67
m- & p-Xylenes
Concen: 1.16 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05052025.D
Acq: 5 May 2020 18:28

Tgt Ion: 91 Resp: 117386

Ion	Ratio	Lower	Upper
91	100		
106	49.7	29.7	69.7

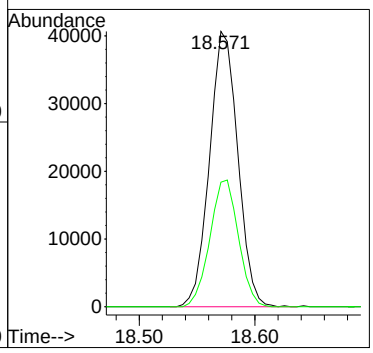


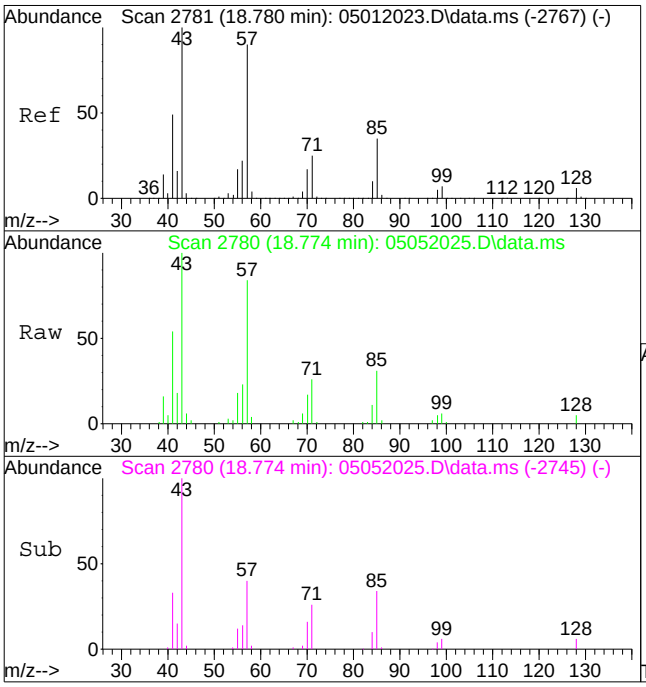


#70
o-Xylene
Concen: 0.67 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05052025.D
Acq: 5 May 2020 18:28

Tgt Ion: 91 Resp: 69240

Ion	Ratio	Lower	Upper
91	100		
106	46.4	27.5	67.5

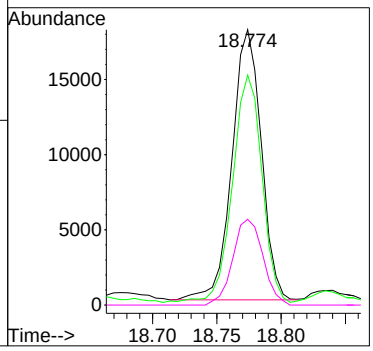


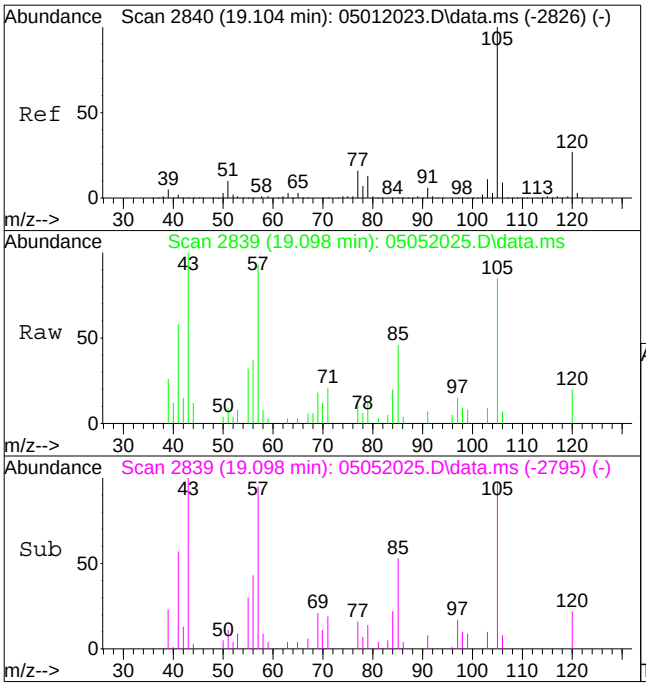


#71
n-Nonane
Concen: 0.52 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05052025.D
Acq: 5 May 2020 18:28

Tgt Ion: 43 Resp: 28513

Ion	Ratio	Lower	Upper
43	100		
57	84.3	69.0	109.0
85	32.6	14.6	54.6

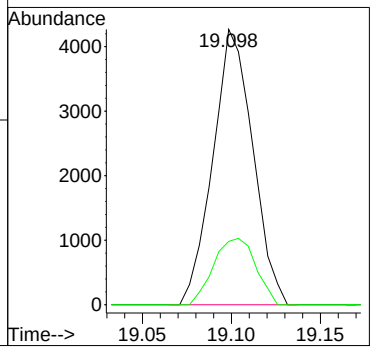


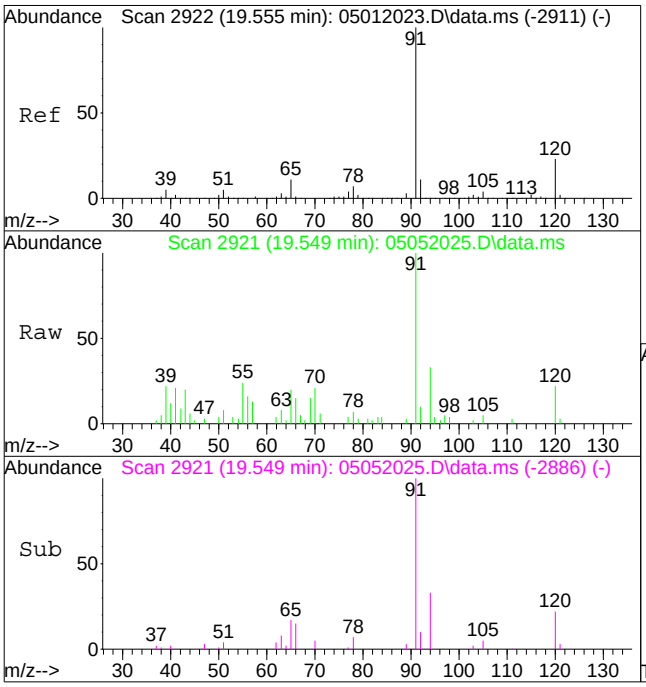


#74
Cumene
Concen: 0.05 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05052025.D
Acq: 5 May 2020 18:28

Tgt Ion:105 Resp: 6652

Ion	Ratio	Lower	Upper
105	100		
120	25.4	6.8	46.8

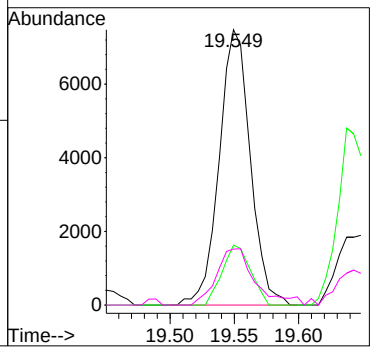


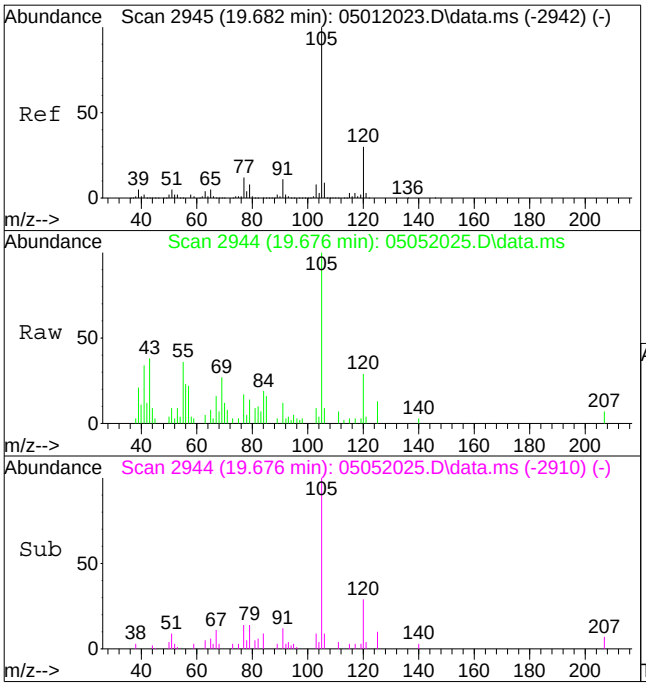


#76
n-Propylbenzene
Concen: 0.08 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05052025.D
Acq: 5 May 2020 18:28

Tgt Ion: 91 Resp: 12602

Ion	Ratio	Lower	Upper
91	100		
120	19.9	3.1	43.1
65	25.1	0.0	30.9

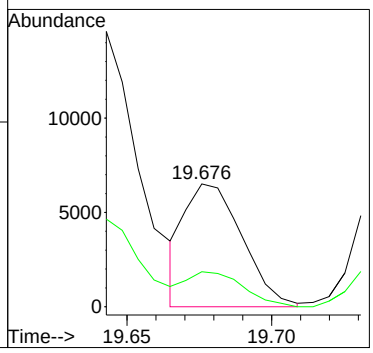


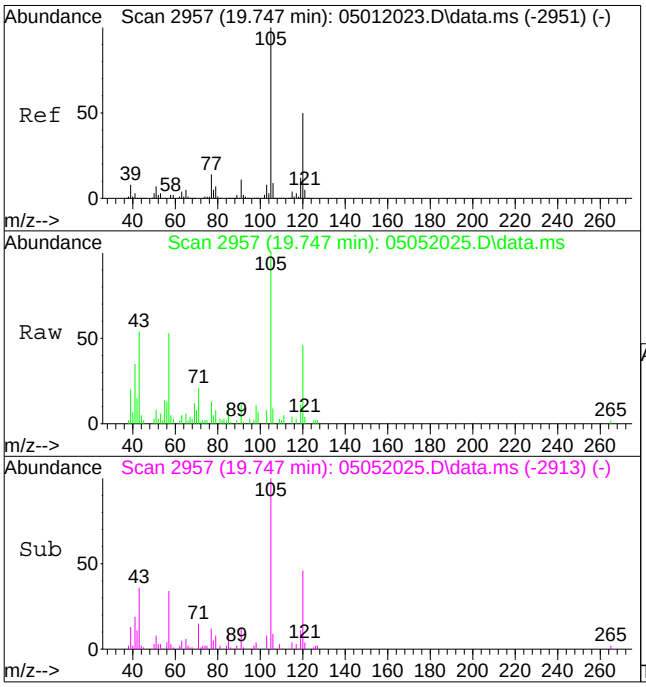


#78
4-Ethyltoluene
Concen: 0.08 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05052025.D
Acq: 5 May 2020 18:28

Tgt Ion:105 Resp: 9031

Ion	Ratio	Lower	Upper
105	100		
120	28.6	10.4	50.4

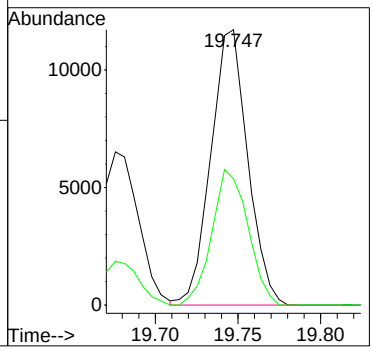


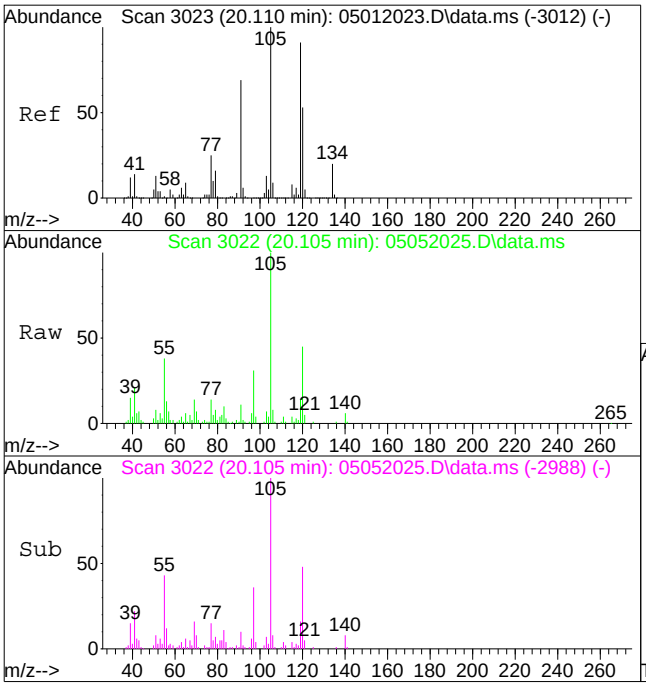


#79
1,3,5-Trimethylbenzene
Concen: 0.18 ng
RT: 19.75 min Scan# 2957
Delta R.T. -0.006 min
Lab File: 05052025.D
Acq: 5 May 2020 18:28

Tgt Ion:105 Resp: 18183

Ion	Ratio	Lower	Upper
105	100		
120	48.1	29.9	69.9

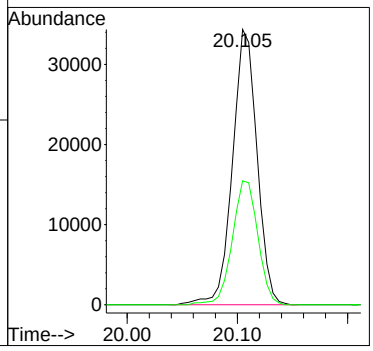


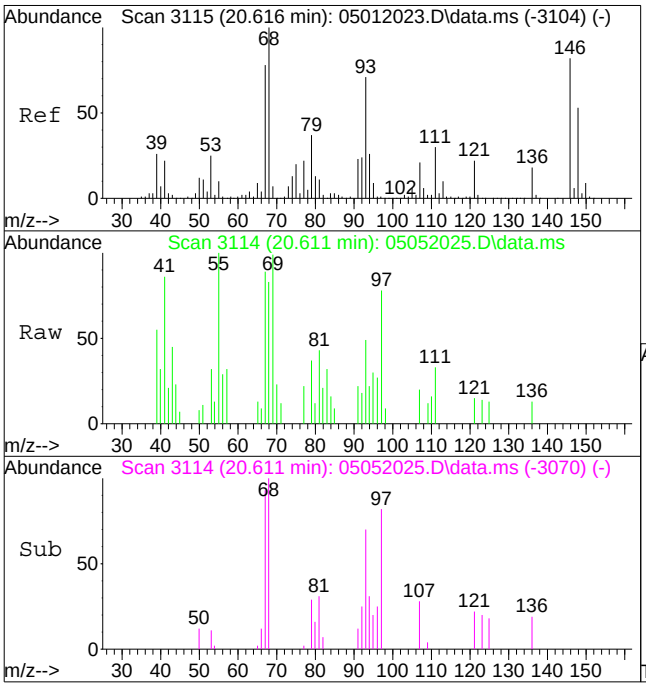


#82
1,2,4-Trimethylbenzene
Concen: 0.51 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05052025.D
Acq: 5 May 2020 18:28

Tgt Ion:105 Resp: 53137

Ion	Ratio	Lower	Upper
105	100		
120	46.9	33.6	73.6

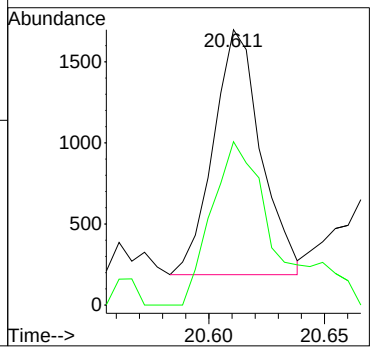


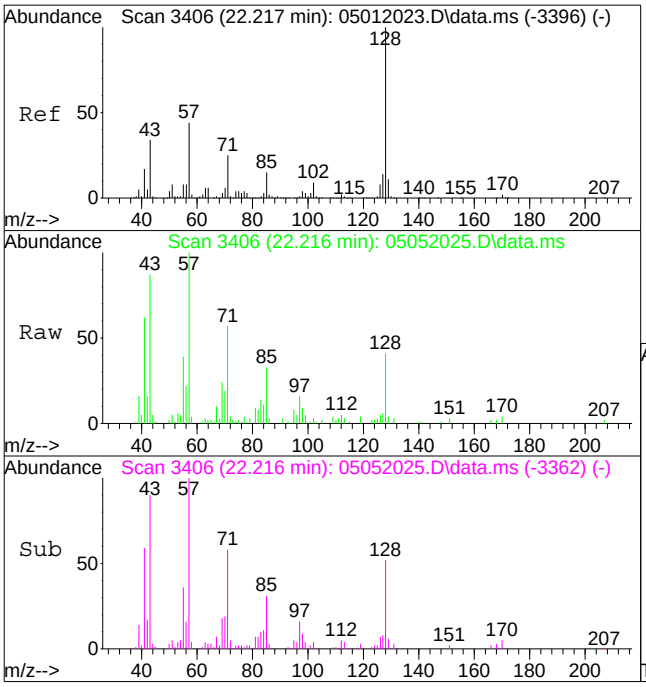


#91
d-Limonene
Concen: 0.05 ng
RT: 20.61 min Scan# 3114
Delta R.T. -0.006 min
Lab File: 05052025.D
Acq: 5 May 2020 18:28

Tgt Ion: 68 Resp: 2161

Ion	Ratio	Lower	Upper
68	100		
93	89.8	51.1	91.1

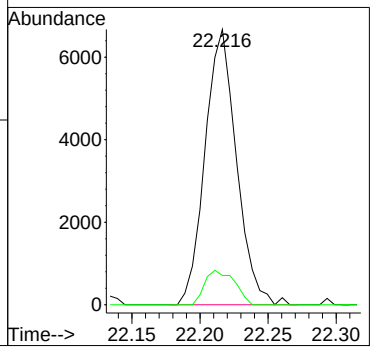




#95
Naphthalene
Concen: 0.08 ng
RT: 22.22 min Scan# 3406
Delta R.T. -0.006 min
Lab File: 05052025.D
Acq: 5 May 2020 18:28

Tgt Ion:128 Resp: 10719

Ion	Ratio	Lower	Upper
128	100		
129	11.8	0.0	31.0



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082007.D Vial: 1
Acq On : 8 May 2020 4:23 Operator: LH
Sample : P2002107-010dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 08 14:56:20 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/8/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	290611	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1254907	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	592936	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	471821	11.980	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.84%				
57) Toluene-d8 (SS2)	15.72	98	1237665	12.315	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.48%				
73) Bromofluorobenzene (SS3)	18.97	174	461657	12.766	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.16%				
Target Compounds							Qvalue
2) Propene	4.12	42	5408	0.161	ng	#	33
3) Dichlorodifluoromethan...	4.27	85	4854	0.074	ng		97
4) Chloromethane	4.55	50	850	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.32	45	15307	0.589	ng		91
11) Acetonitrile	6.60	41	3933	0.066	ng		91
12) Acrolein	6.80	56	1291	0.063	ng		99
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	7.23	101	61735	1.061	ng		99
15) 2-Propanol (Isopropanol)	7.51	45	9166	0.117	ng		90
16) Acrylonitrile	7.76	53	971	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.44	59	1627	N.D.			
19) Methylene Chloride	8.40	84	367	N.D.			
20) 3-Chloro-1-propene (Al...	8.51	41	1060	N.D.			
21) Trichlorotrifluoroethane	8.84	151	325212	11.839	ng		99
22) Carbon Disulfide	8.68	76	28514	0.236	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.48	72	2051	0.093	ng	#	78
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.28	61	8405	0.658	ng	#	67
31) n-Hexane	11.25	57	2000	N.D.			
32) Chloroform	11.30	83	356628	6.165	ng		99
34) Tetrahydrofuran (THF)	11.74	72	7318	0.338	ng		95
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	852	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	250784	1.864	ng		100
42) Carbon Tetrachloride	13.03	117	158099	3.454	ng		99
43) Cyclohexane	13.17	84	22780	0.454	ng		99
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	13.91	83	1395	N.D.			
47) Trichloroethene	13.96	130	9123	0.262	ng		100
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082007.D Vial: 1
Acq On : 8 May 2020 4:23 Operator: LH
Sample : P2002107-010dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 08 14:56:20 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

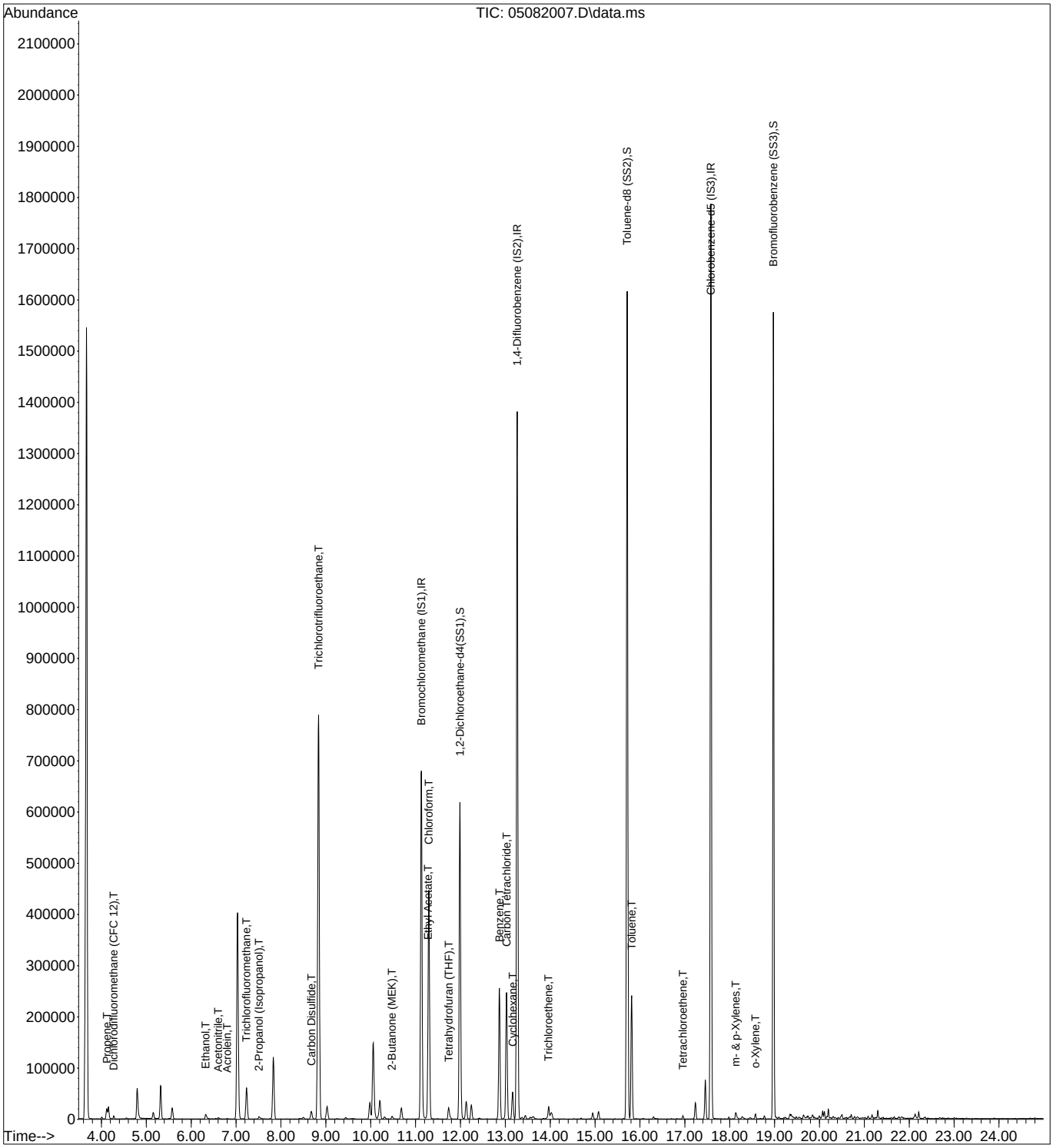
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.82	91	202576	1.564 ng	100
59) 2-Hexanone	16.07	43	1611	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	16.47	107	103	N.D.	
62) n-Butyl Acetate	16.70	43	931	N.D.	
63) n-Octane	16.81	57	103	N.D.	
64) Tetrachloroethene	16.96	166	1987	0.054 ng	96
65) Chlorobenzene	17.62	112	404	N.D.	
66) Ethylbenzene	17.98	91	3670	N.D.	
67) m- & p-Xylenes	18.14	91	10422	0.091 ng	100
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	827	N.D.	
70) o-Xylene	18.57	91	6034	0.052 ng	100
71) n-Nonane	18.77	43	2279	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.09	105	622	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	19.54	91	1849	N.D.	
77) 3-Ethyltoluene	19.64	105	2224	N.D.	
78) 4-Ethyltoluene	19.68	105	1365	N.D.	
79) 1,3,5-Trimethylbenzene	19.75	105	1907	N.D.	
80) alpha-Methylstyrene	19.88	118	611	N.D.	
81) 2-Ethyltoluene	19.91	105	1784	N.D.	
82) 1,2,4-Trimethylbenzene	20.10	105	5576	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.22	91	1510	N.D.	
85) 1,3-Dichlorobenzene	20.24	146	822	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	1305	N.D.	
87) sec-Butylbenzene	20.35	105	1312	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	860	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	1843	N.D.	
90) 1,2-Dichlorobenzene	20.61	146	608	N.D.	
91) d-Limonene	20.61	68	162	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.11	180	989	N.D.	
95) Naphthalene	22.21	128	5859	N.D.	
96) n-Dodecane	22.21	57	1747	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.10	119	954	N.D.	
100) n-Butylbenzene	20.85	91	1548	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082007.D Vial: 1
Acq On : 8 May 2020 4:23 Operator: LH
Sample : P2002107-010dil (40mL) Inst : GCMS-16
Misc : S31-02112001

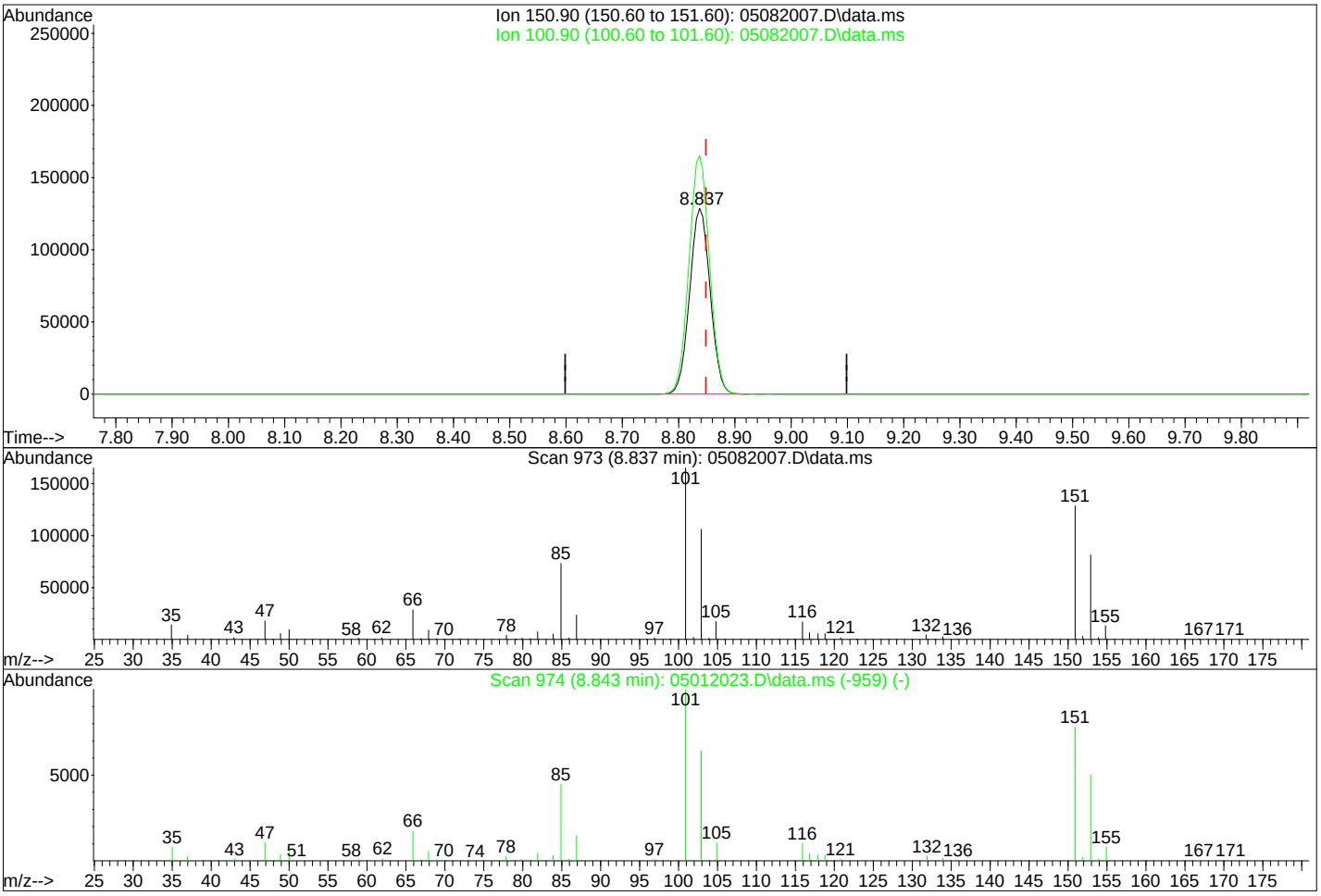
Quant Time: May 08 14:56:20 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\08\05082007.D Vial: 1
Acq On : 8 May 2020 4:23 Operator: LH
Sample : P2002107-010dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 08 14:52:46 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05082007.D\data.ms

(21) Trichlorotrifluoroethane (T)

8.837min (-0.011) 11.84ng

response 325212

Ion	Exp%	Act%
150.90	100	100
100.90	127.30	128.62
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052026.D Vial: 8
Acq On : 5 May 2020 19:02 Operator: WA
Sample : P2002107-011 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 07 17:35:18 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/7/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	251211	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.27	114	1082291	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	513591	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	410976	12.072	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.56%				
57) Toluene-d8 (SS2)	15.72	98	1078860	12.393	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.12%				
73) Bromofluorobenzene (SS3)	18.98	174	379465	12.114	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.88%				
Target Compounds							Qvalue
2) Propene	4.10	42	12110	0.416	ng		96
3) Dichlorodifluoromethan...	4.27	85	37673	0.662	ng		99
4) Chloromethane	4.54	50	3760	0.084	ng		91
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	446	N.D.			
6) Vinyl Chloride	4.96	62	379	N.D.			
7) 1,3-Butadiene	5.15	54	535	N.D.			
8) Bromomethane	5.65	94	107	N.D.			
9) Chloroethane	5.98	64	1791	0.093	ng		95
10) Ethanol	6.34	45	18137	0.807	ng		93
11) Acetonitrile	6.63	41	3781	0.074	ng		97
12) Acrolein	6.84	56	5007	0.282	ng		96
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	7.24	101	710349	14.124	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	8133	0.120	ng	#	1
16) Acrylonitrile	7.78	53	53	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	843	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	8.85	151	2724042	114.721	ng		99
22) Carbon Disulfide	8.69	76	72786	0.695	ng		100
23) trans-1,2-Dichloroethene	9.70	61	665	N.D.			
24) 1,1-Dichloroethane	9.94	63	576	N.D.			
25) Methyl tert-Butyl Ether	10.10	73	111	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.47	72	12299	0.642	ng		98
28) cis-1,2-Dichloroethene	10.97	61	4305	0.110	ng		95
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	11.26	57	8659	0.181	ng	#	1
32) Chloroform	11.30	83	8466564	169.315	ng		100
34) Tetrahydrofuran (THF)	11.74	72	33828	1.810	ng		95
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.12	62	586	N.D.			
38) 1,1,1-Trichloroethane	12.40	97	229	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	916884	7.900	ng		100
42) Carbon Tetrachloride	13.03	117	1188101	30.095	ng		100
43) Cyclohexane	13.17	84	81605	1.887	ng		99
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	13.91	83	106868	2.725	ng		99
47) Trichloroethene	13.97	130	18566	0.619	ng		99
48) 1,4-Dioxane	13.96	88	1018	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052026.D Vial: 8
Acq On : 5 May 2020 19:02 Operator: WA
Sample : P2002107-011 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 07 17:35:18 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

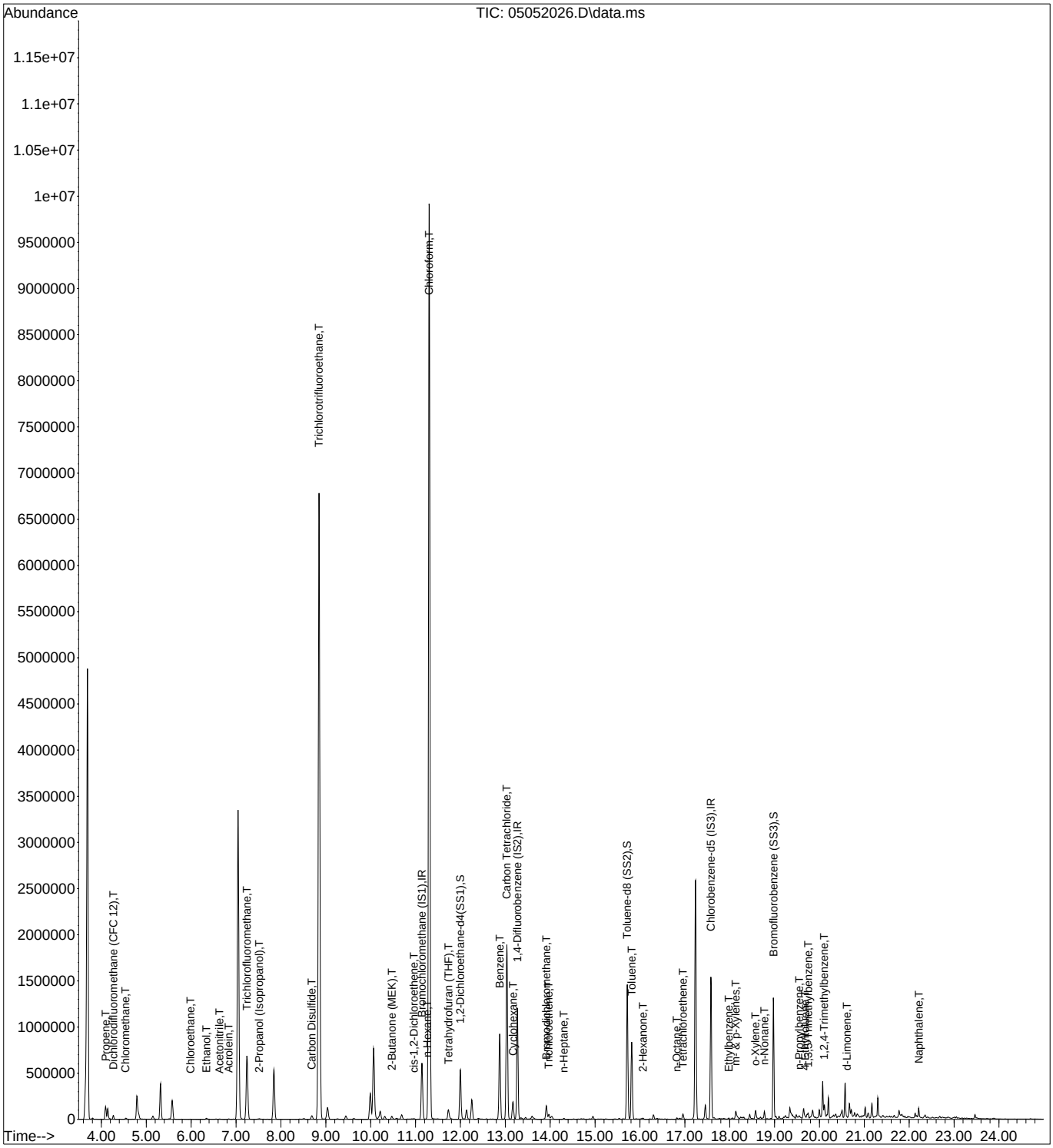
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.30	71	2437	0.090 ng	92
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.87	58	1141	N.D.	
54) trans-1,3-Dichloropropene	15.14	75	193	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.82	91	697226	6.213 ng	100
59) 2-Hexanone	16.07	43	12036	0.196 ng	80
60) Dibromochloromethane	16.22	129	534	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.63	43	380	N.D.	
63) n-Octane	16.82	57	2895	0.125 ng	96
64) Tetrachloroethene	16.96	166	18202	0.574 ng	100
65) Chlorobenzene	17.66	112	1376	N.D.	
66) Ethylbenzene	17.98	91	8639	0.069 ng	98
67) m- & p-Xylenes	18.14	91	58578	0.590 ng	100
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	347	N.D.	
70) o-Xylene	18.57	91	37013	0.367 ng	99
71) n-Nonane	18.77	43	30306	0.567 ng	95
72) 1,1,2,2-Tetrachloroethane	18.59	83	960	N.D.	
74) Cumene	19.10	105	4899	N.D.	
75) alpha-Pinene	19.45	93	249	N.D.	
76) n-Propylbenzene	19.55	91	12550	0.085 ng	88
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.68	105	7485	0.064 ng	99
79) 1,3,5-Trimethylbenzene	19.75	105	16218	0.161 ng	99
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.10	105	45549	0.449 ng	92
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.17	91	1051	N.D.	
85) 1,3-Dichlorobenzene	20.30	146	130	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	130	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	20.48	119	5280	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.61	68	2224	0.056 ng	91
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.11	180	111	N.D.	
95) Naphthalene	22.22	128	6890	0.056 ng	100
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052026.D Vial: 8
Acq On : 5 May 2020 19:02 Operator: WA
Sample : P2002107-011 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 07 17:35:18 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052026.D Vial: 8
Acq On : 5 May 2020 19:02 Operator: WA
Sample : P2002107-011 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 07 17:35:18 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/7/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

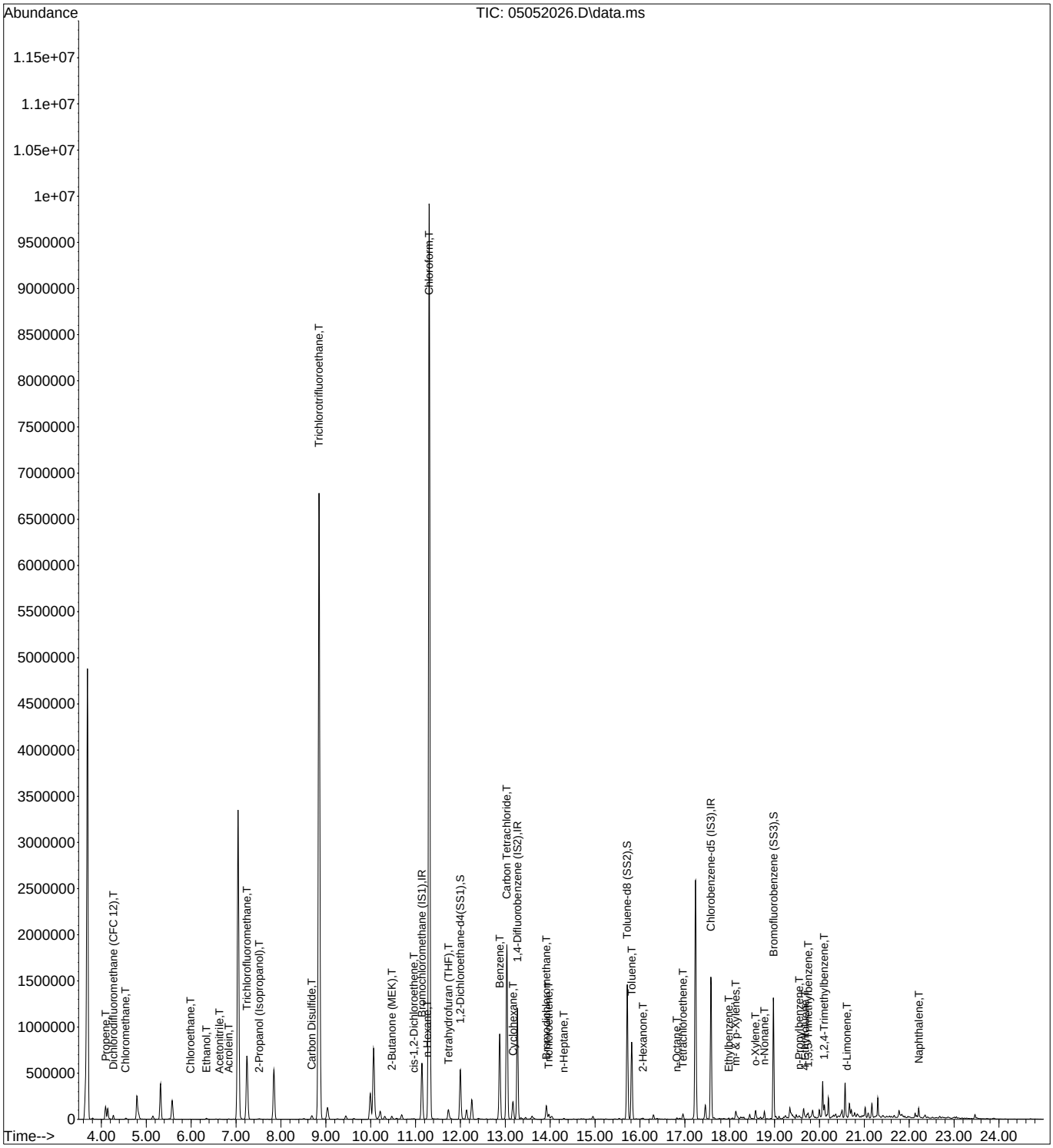
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	251211	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.27	114	1082291	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	513591	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	410976	12.072	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.56%				
57) Toluene-d8 (SS2)	15.72	98	1078860	12.393	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.12%				
73) Bromofluorobenzene (SS3)	18.98	174	379465	12.114	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.88%				
Target Compounds							Qvalue
2) Propene	4.10	42	12110	0.416	ng		96
3) Dichlorodifluoromethan...	4.27	85	37673	0.662	ng		99
4) Chloromethane	4.54	50	3760	0.084	ng		91
9) Chloroethane	5.98	64	1791	0.093	ng		95
10) Ethanol	6.34	45	18137	0.807	ng		93
11) Acetonitrile	6.63	41	3781	0.074	ng		97
12) Acrolein	6.84	56	5007	0.282	ng		96
14) Trichlorofluoromethane	7.24	101	710349	14.124	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	8133	0.120	ng	#	1
21) Trichlorotrifluoroethane	8.85	151	2724042	114.721	ng		99
22) Carbon Disulfide	8.69	76	72786	0.695	ng		100
27) 2-Butanone (MEK)	10.47	72	12299	0.642	ng		98
28) cis-1,2-Dichloroethene	10.97	61	4305	0.110	ng		95
31) n-Hexane	11.26	57	8659	0.181	ng	#	1
32) Chloroform	11.30	83	8466564	169.315	ng		100
34) Tetrahydrofuran (THF)	11.74	72	33828	1.810	ng		95
41) Benzene	12.87	78	916884	7.900	ng		100
42) Carbon Tetrachloride	13.03	117	1188101	30.095	ng		100
43) Cyclohexane	13.17	84	81605	1.887	ng		99
46) Bromodichloromethane	13.91	83	106868	2.725	ng		99
47) Trichloroethene	13.97	130	18566	0.619	ng		99
51) n-Heptane	14.30	71	2437	0.090	ng		92
58) Toluene	15.82	91	697226	6.213	ng		100
59) 2-Hexanone	16.07	43	12036	0.196	ng		80
63) n-Octane	16.82	57	2895	0.125	ng		96
64) Tetrachloroethene	16.96	166	18202	0.574	ng		100
66) Ethylbenzene	17.98	91	8639	0.069	ng		98
67) m- & p-Xylenes	18.14	91	58578	0.590	ng		100
70) o-Xylene	18.57	91	37013	0.367	ng		99
71) n-Nonane	18.77	43	30306	0.567	ng		95
76) n-Propylbenzene	19.55	91	12550	0.085	ng		88
78) 4-Ethyltoluene	19.68	105	7485	0.064	ng		99
79) 1,3,5-Trimethylbenzene	19.75	105	16218	0.161	ng		99
82) 1,2,4-Trimethylbenzene	20.10	105	45549	0.449	ng		92
91) d-Limonene	20.61	68	2224	0.056	ng		91
95) Naphthalene	22.22	128	6890	0.056	ng		100

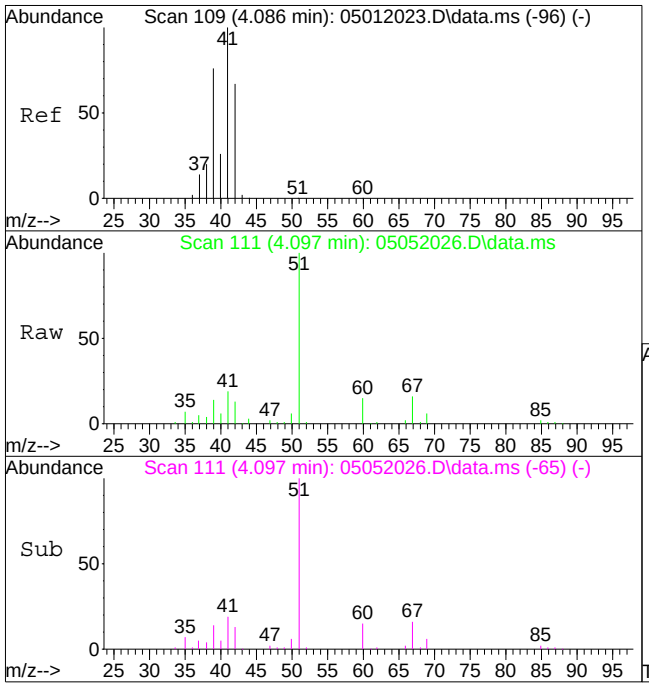
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052026.D Vial: 8
Acq On : 5 May 2020 19:02 Operator: WA
Sample : P2002107-011 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 07 17:35:18 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

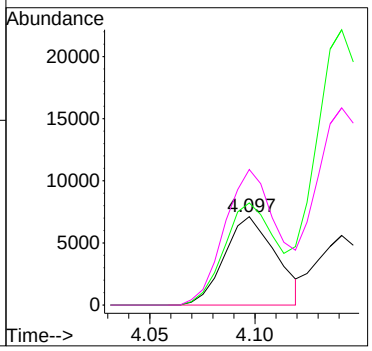


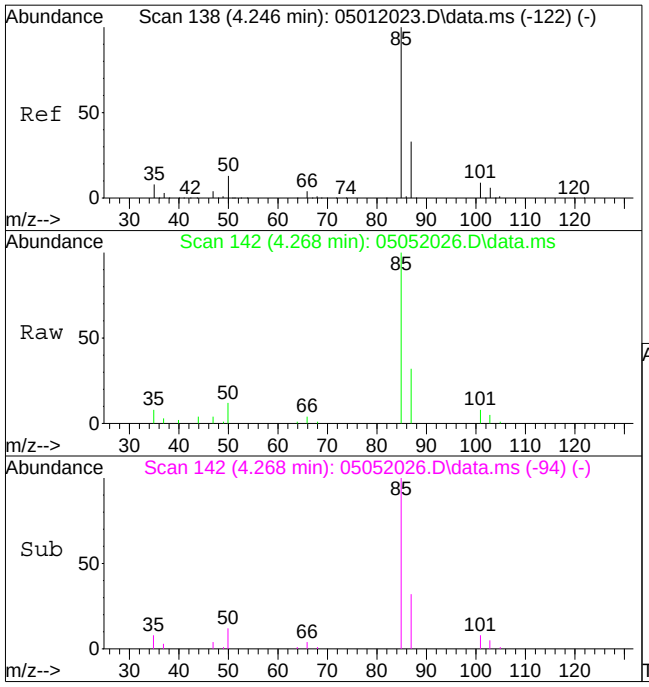


#2
Propene
Concen: 0.42 ng
RT: 4.10 min Scan# 111
Delta R.T. 0.005 min
Lab File: 05052026.D
Acq: 5 May 2020 19:02

Tgt Ion: 42 Resp: 12110

Ion	Ratio	Lower	Upper
42	100		
39	113.3	96.1	136.1
41	159.3	131.9	171.9

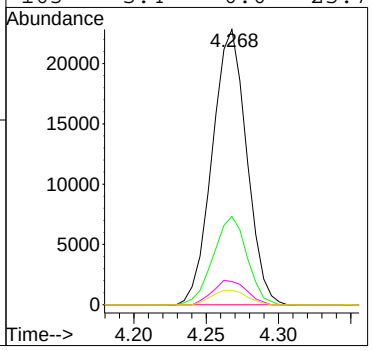


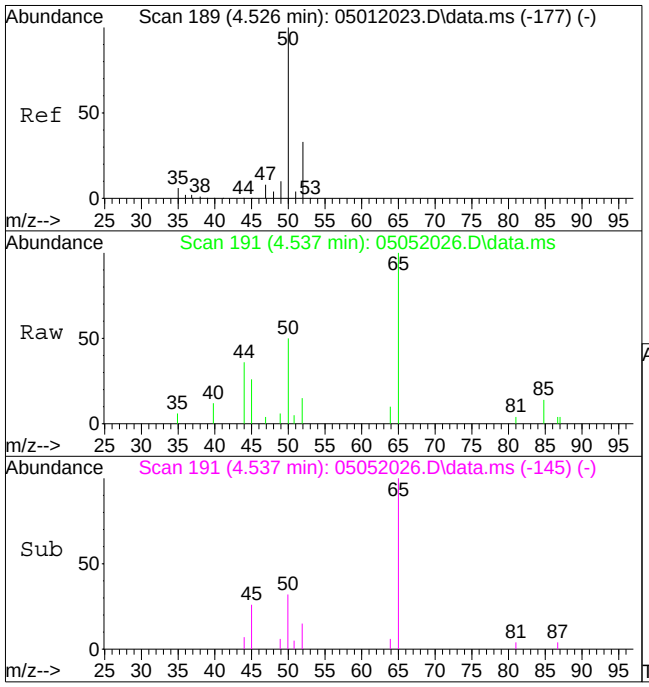


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.66 ng
RT: 4.27 min Scan# 142
Delta R.T. 0.016 min
Lab File: 05052026.D
Acq: 5 May 2020 19:02

Tgt Ion: 85 Resp: 37673

Ion	Ratio	Lower	Upper
85	100		
87	31.5	12.4	52.4
101	8.7	0.0	28.8
103	5.4	0.0	25.7

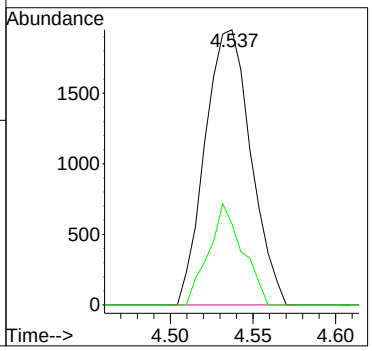


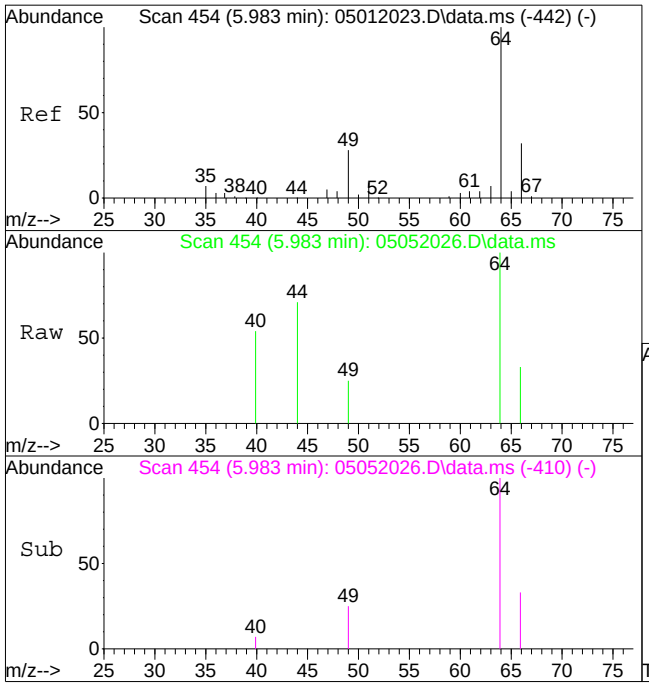


#4
Chloromethane
Concen: 0.08 ng
RT: 4.54 min Scan# 191
Delta R.T. 0.005 min
Lab File: 05052026.D
Acq: 5 May 2020 19:02

Tgt Ion: 50 Resp: 3760

Ion	Ratio	Lower	Upper
50	100		
52	27.2	12.5	52.5

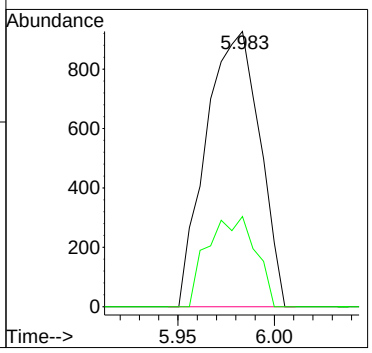


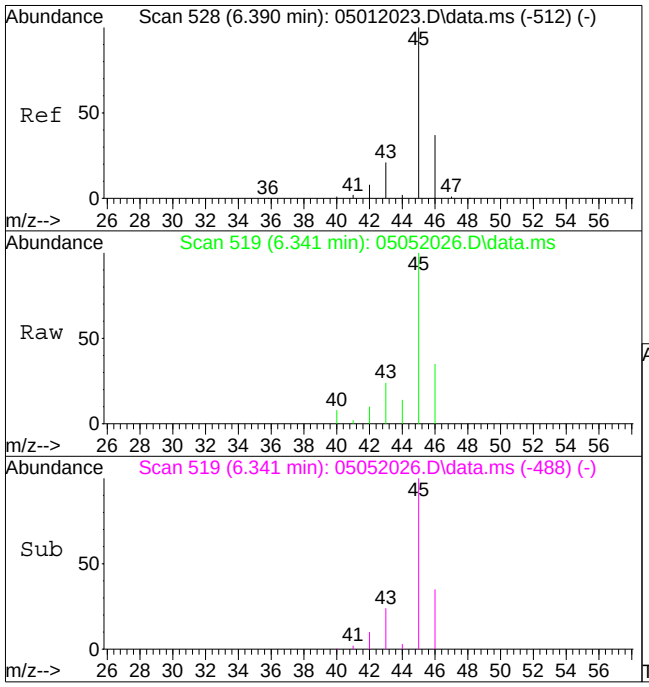


#9
Chloroethane
Concen: 0.09 ng
RT: 5.98 min Scan# 454
Delta R.T. -0.006 min
Lab File: 05052026.D
Acq: 5 May 2020 19:02

Tgt Ion: 64 Resp: 1791

Ion	Ratio	Lower	Upper
64	100		
66	29.4	12.1	52.1

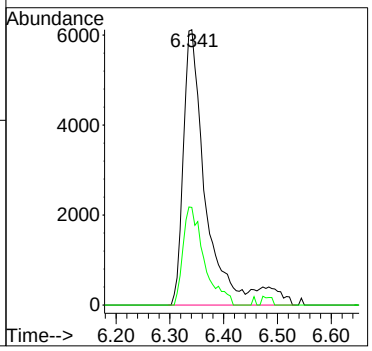


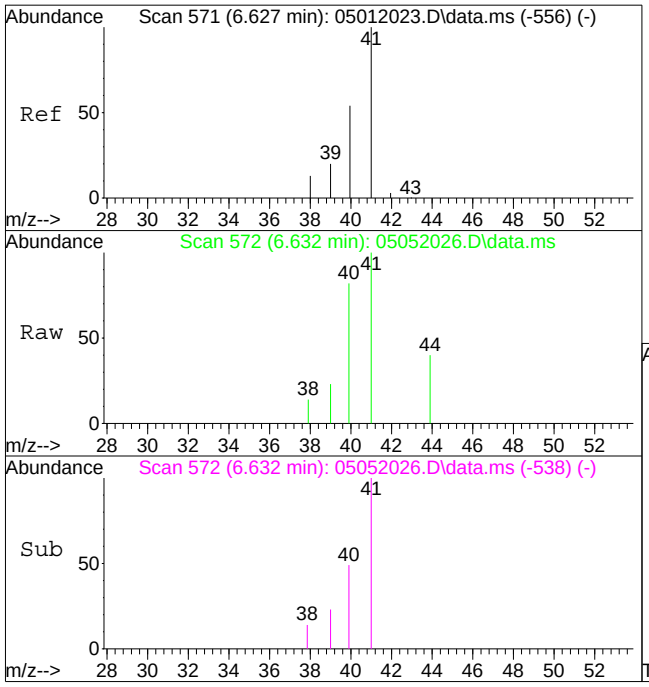


#10
Ethanol
Concen: 0.81 ng
RT: 6.34 min Scan# 519
Delta R.T. -0.077 min
Lab File: 05052026.D
Acq: 5 May 2020 19:02

Tgt Ion: 45 Resp: 18137

Ion	Ratio	Lower	Upper
45	100		
46	32.8	17.2	57.2

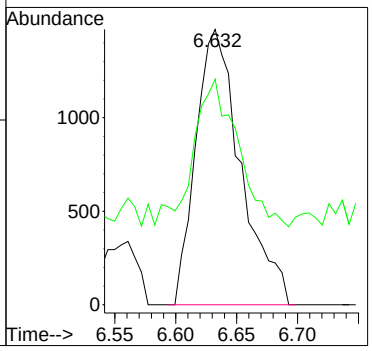


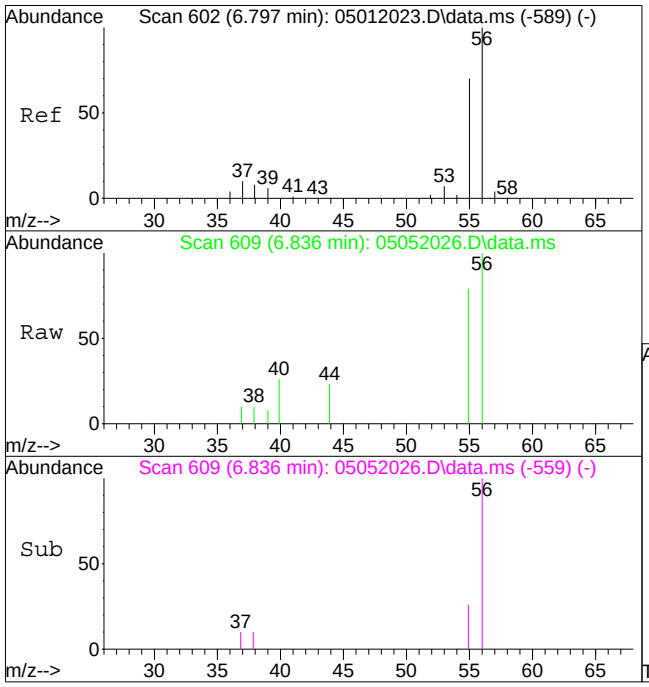


#11
Acetonitrile
Concen: 0.07 ng
RT: 6.63 min Scan# 572
Delta R.T. -0.011 min
Lab File: 05052026.D
Acq: 5 May 2020 19:02

Tgt Ion: 41 Resp: 3781

Ion	Ratio	Lower	Upper
41	100		
40	55.4	33.6	73.6

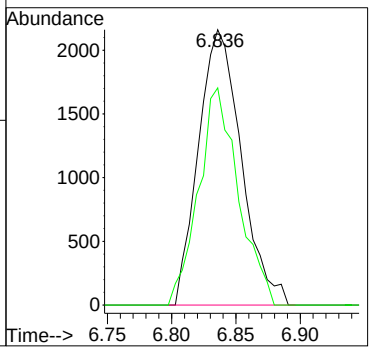


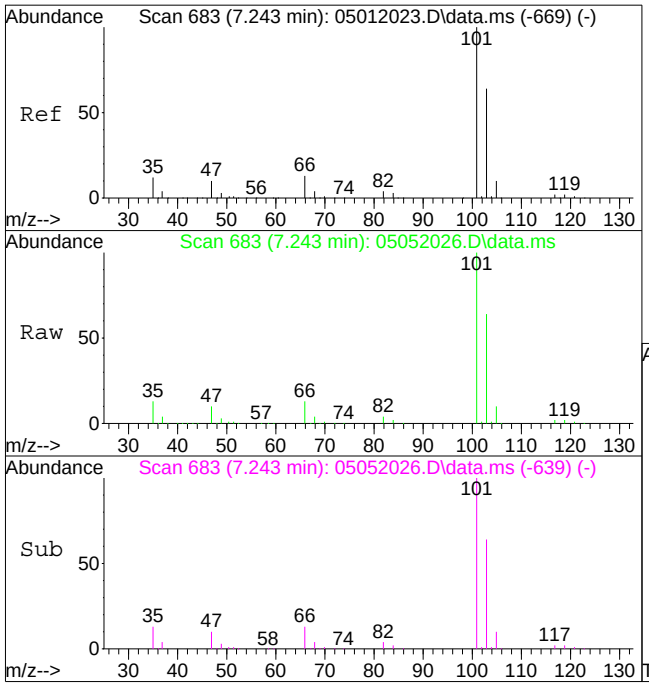


#12
Acrolein
Concen: 0.28 ng
RT: 6.84 min Scan# 609
Delta R.T. 0.027 min
Lab File: 05052026.D
Acq: 5 May 2020 19:02

Tgt Ion: 56 Resp: 5007

Ion	Ratio	Lower	Upper
56	100		
55	73.3	50.2	90.2

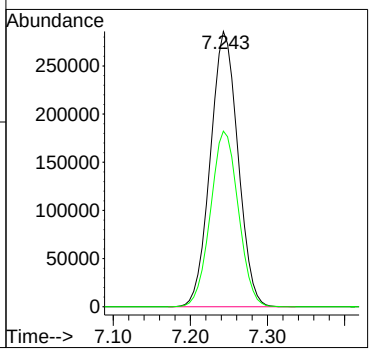


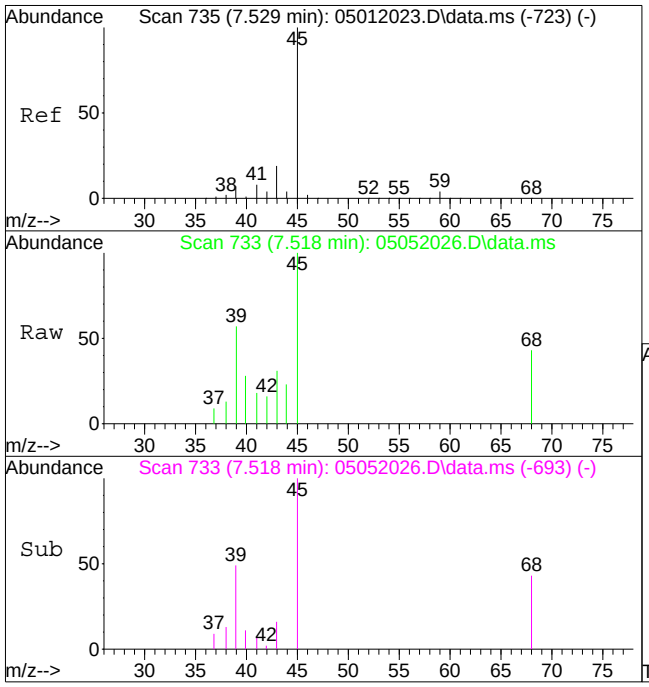


#14
Trichlorofluoromethane
Concen: 14.12 ng
RT: 7.24 min Scan# 683
Delta R.T. -0.006 min
Lab File: 05052026.D
Acq: 5 May 2020 19:02

Tgt Ion:101 Resp: 710349

Ion	Ratio	Lower	Upper
101	100		
103	64.5	44.4	84.4

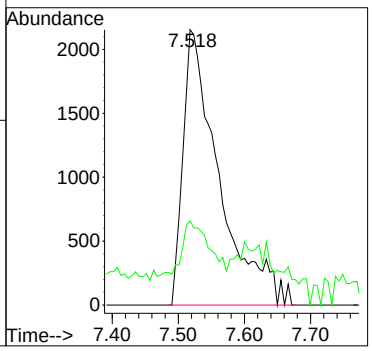


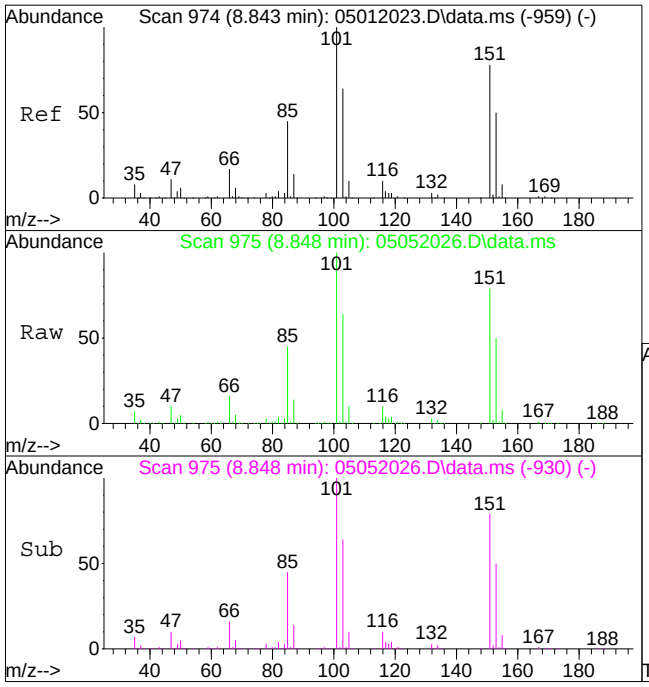


#15
2-Propanol (Isopropanol)
Concen: 0.12 ng
RT: 7.52 min Scan# 733
Delta R.T. -0.028 min
Lab File: 05052026.D
Acq: 5 May 2020 19:02

Tgt Ion: 45 Resp: 8133

Ion	Ratio	Lower	Upper
45	100		
43	98.2	0.0	39.5#

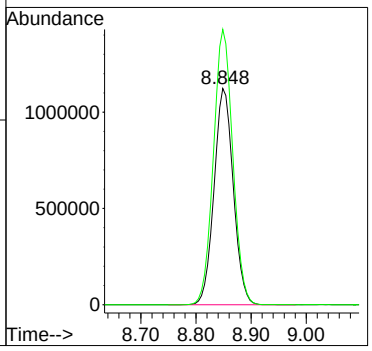


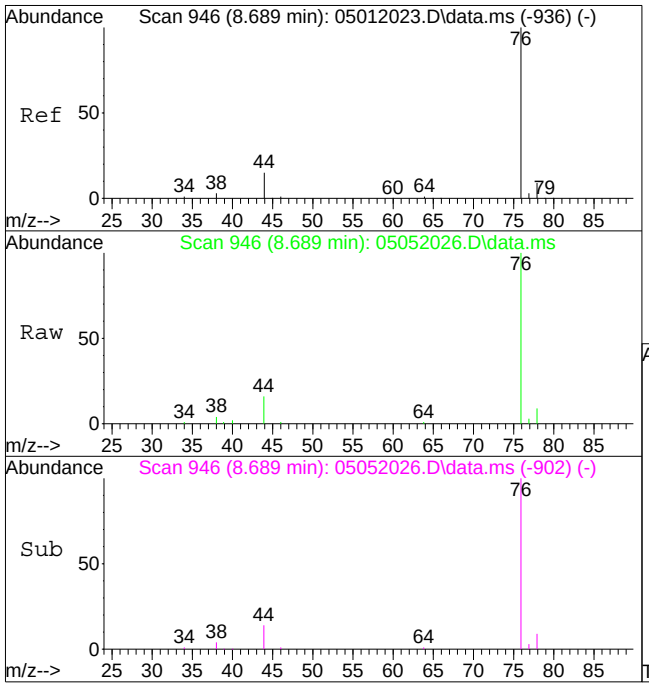


#21
Trichlorotrifluoroethane
Concen: 114.72 ng
RT: 8.85 min Scan# 975
Delta R.T. -0.000 min
Lab File: 05052026.D
Acq: 5 May 2020 19:02

Tgt Ion:151 Resp: 2724042

Ion	Ratio	Lower	Upper
151	100		
101	128.1	107.3	147.3

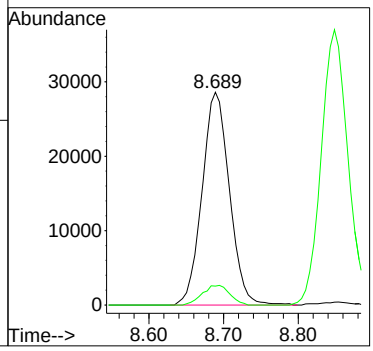


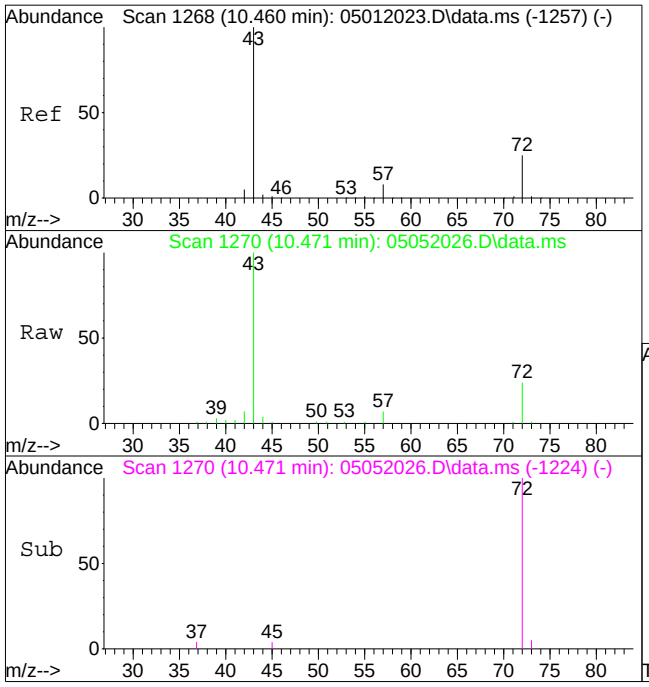


#22
Carbon Disulfide
Concen: 0.70 ng
RT: 8.69 min Scan# 946
Delta R.T. -0.006 min
Lab File: 05052026.D
Acq: 5 May 2020 19:02

Tgt Ion: 76 Resp: 72786

Ion	Ratio	Lower	Upper
76	100		
78	9.3	0.0	29.2

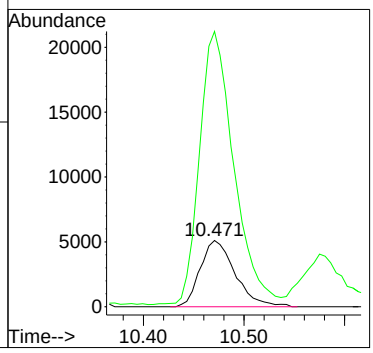


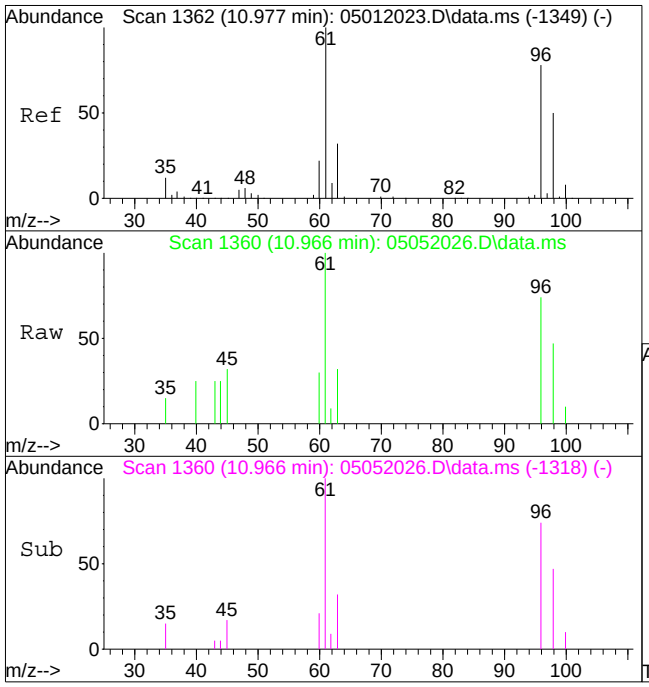


#27
2-Butanone (MEK)
Concen: 0.64 ng
RT: 10.47 min Scan# 1270
Delta R.T. 0.005 min
Lab File: 05052026.D
Acq: 5 May 2020 19:02

Tgt Ion: 72 Resp: 12299

Ion	Ratio	Lower	Upper
72	100		
43	404.9	389.7	429.7

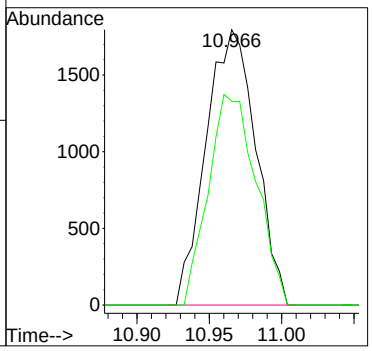


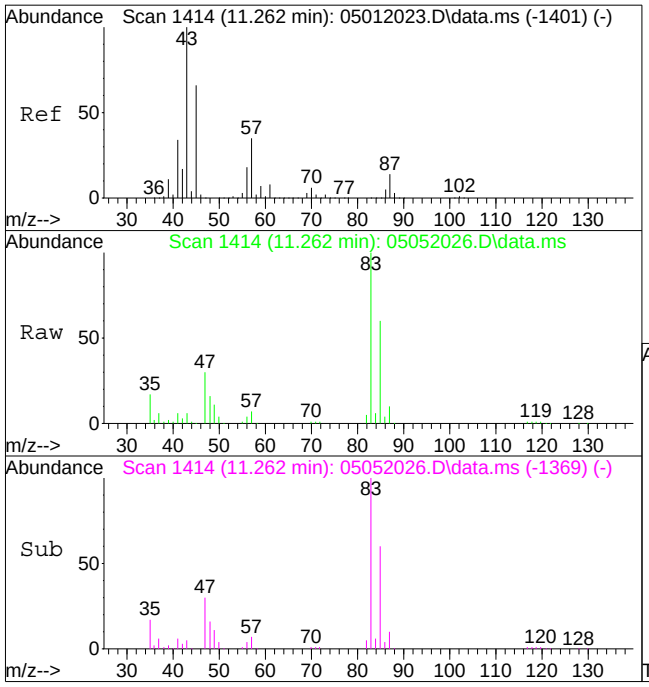


#28
cis-1,2-Dichloroethene
Concen: 0.11 ng
RT: 10.97 min Scan# 1360
Delta R.T. -0.017 min
Lab File: 05052026.D
Acq: 5 May 2020 19:02

Tgt Ion: 61 Resp: 4305

Ion	Ratio	Lower	Upper
61	100		
96	73.6	57.6	97.6

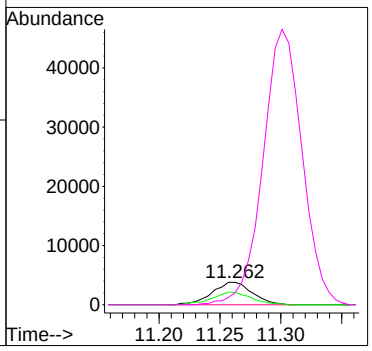


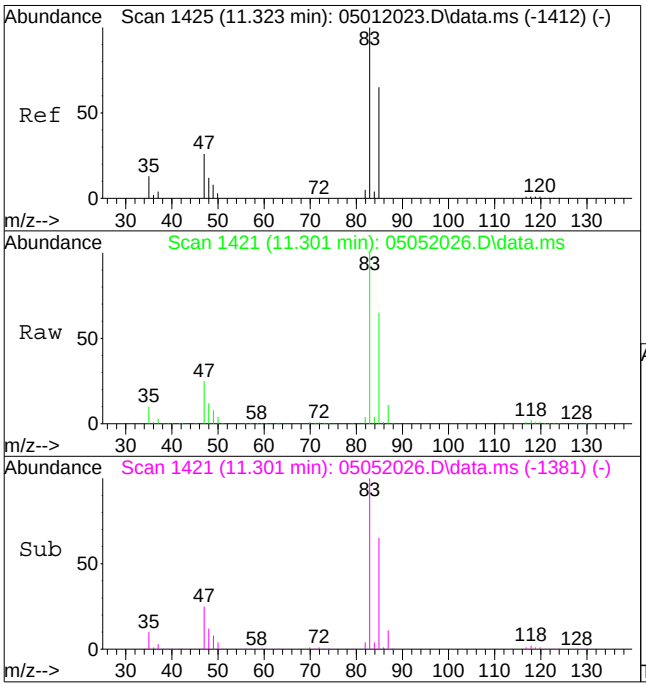


#31
n-Hexane
Concen: 0.18 ng
RT: 11.26 min Scan# 1414
Delta R.T. -0.000 min
Lab File: 05052026.D
Acq: 5 May 2020 19:02

Tgt Ion: 57 Resp: 8659

Ion	Ratio	Lower	Upper
57	100		
56	55.2	41.4	62.0
86	1199.1	12.4	18.6#

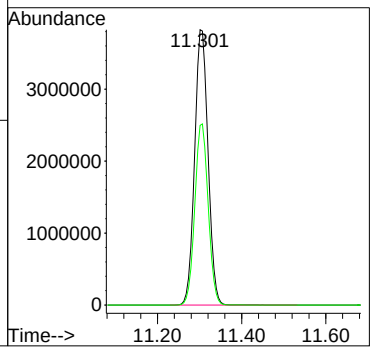


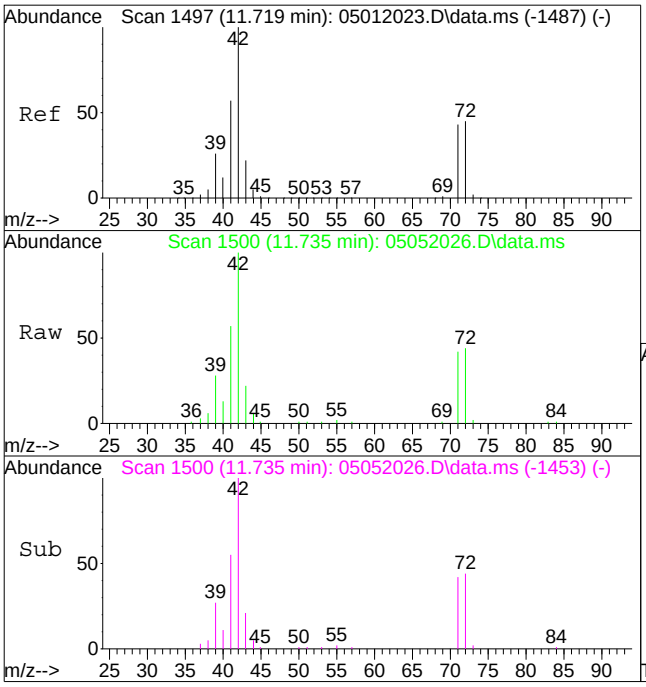


#32
Chloroform
Concen: 169.32 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.028 min
Lab File: 05052026.D
Acq: 5 May 2020 19:02

Tgt Ion: 83 Resp: 8466564

Ion	Ratio	Lower	Upper
83	100		
85	65.6	45.5	85.5

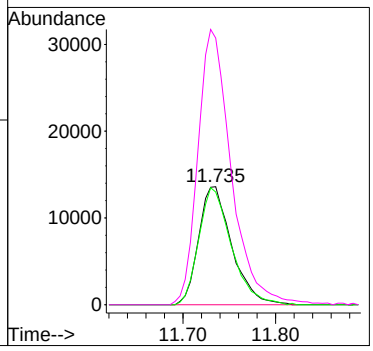


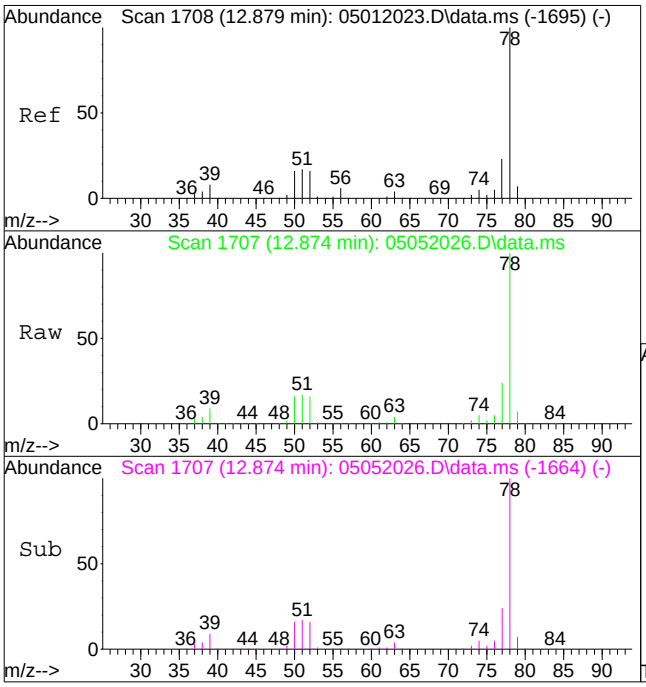


#34
Tetrahydrofuran (THF)
Concen: 1.81 ng
RT: 11.74 min Scan# 1500
Delta R.T. 0.011 min
Lab File: 05052026.D
Acq: 5 May 2020 19:02

Tgt Ion: 72 Resp: 33828

Ion	Ratio	Lower	Upper
72	100		
71	97.5	77.0	117.0
42	235.5	204.6	244.6

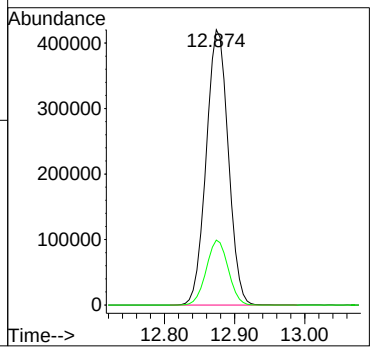


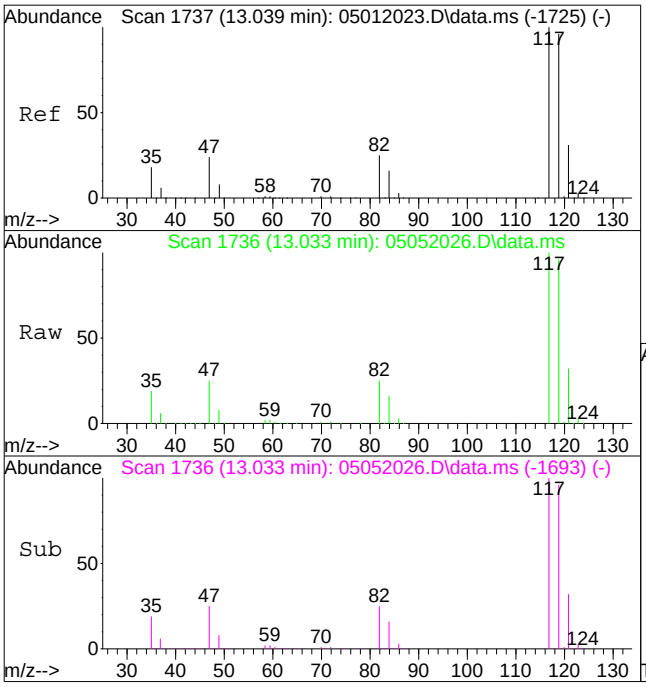


#41
Benzene
Concen: 7.90 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05052026.D
Acq: 5 May 2020 19:02

Tgt Ion: 78 Resp: 916884

Ion	Ratio	Lower	Upper
78	100		
77	23.4	3.4	43.4

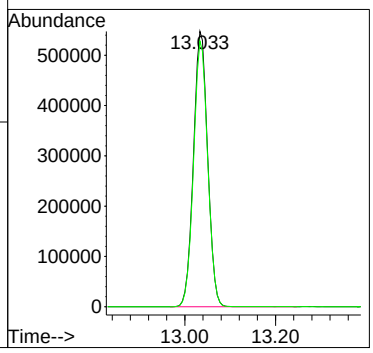


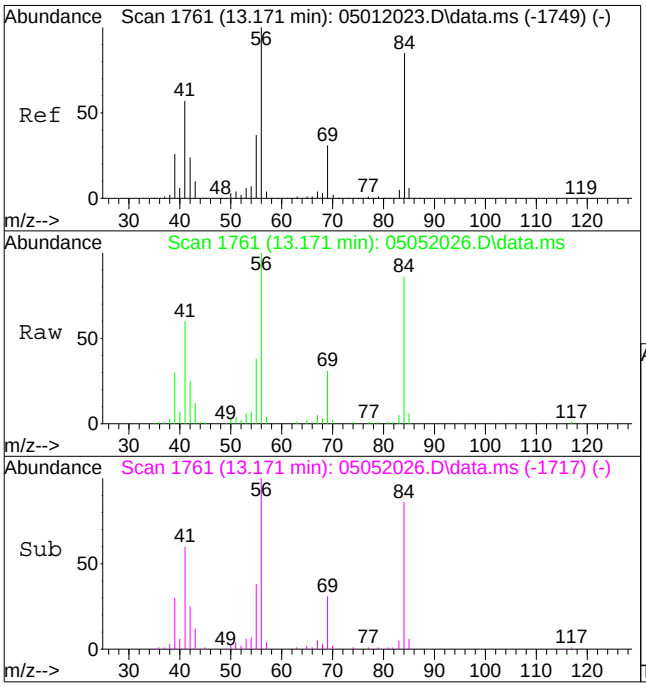


#42
Carbon Tetrachloride
Concen: 30.09 ng
RT: 13.03 min Scan# 1736
Delta R.T. -0.011 min
Lab File: 05052026.D
Acq: 5 May 2020 19:02

Tgt Ion:117 Resp: 1188101

Ion	Ratio	Lower	Upper
117	100		
119	96.3	76.2	116.2

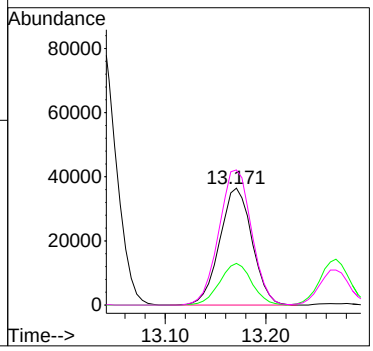


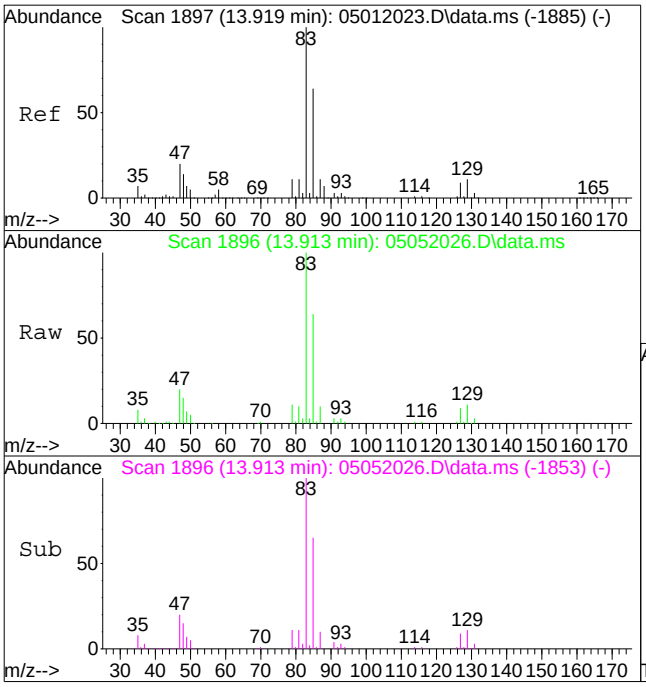


#43
Cyclohexane
Concen: 1.89 ng
RT: 13.17 min Scan# 1761
Delta R.T. -0.006 min
Lab File: 05052026.D
Acq: 5 May 2020 19:02

Tgt Ion: 84 Resp: 81605

Ion	Ratio	Lower	Upper
84	100		
69	35.5	16.5	56.5
56	116.8	97.4	137.4

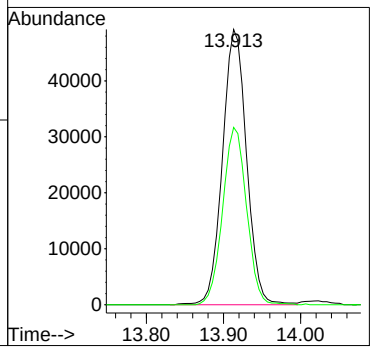


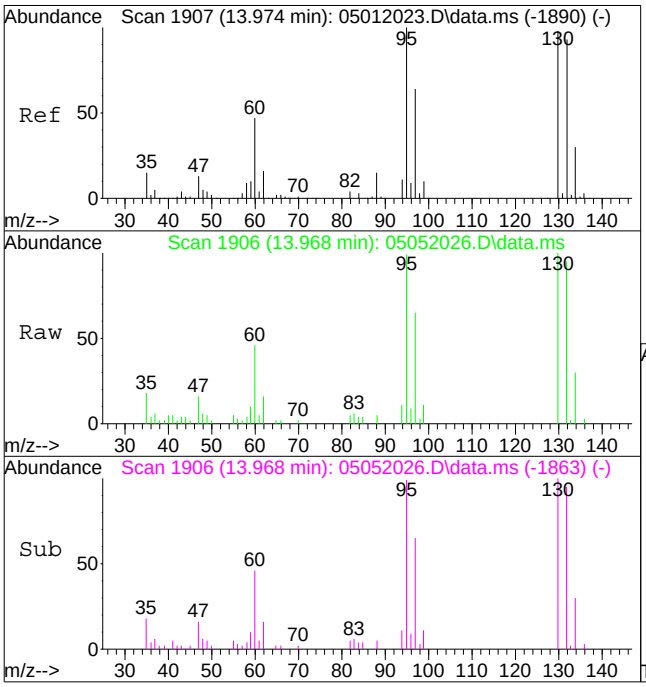


#46
Bromodichloromethane
Concen: 2.72 ng
RT: 13.91 min Scan# 1896
Delta R.T. -0.011 min
Lab File: 05052026.D
Acq: 5 May 2020 19:02

Tgt Ion: 83 Resp: 106868

Ion	Ratio	Lower	Upper
83	100		
85	63.9	44.4	84.4

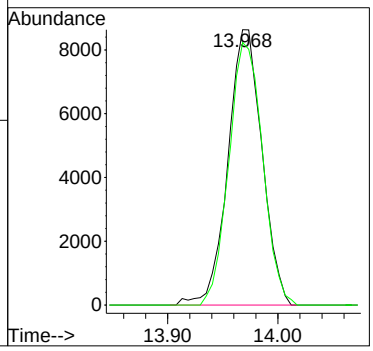


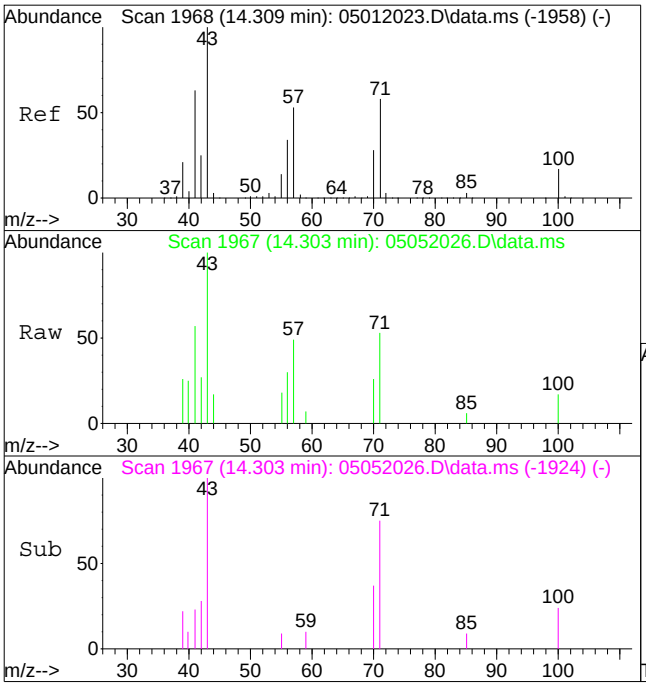


#47
Trichloroethene
Concen: 0.62 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05052026.D
Acq: 5 May 2020 19:02

Tgt Ion:130 Resp: 18566

Ion	Ratio	Lower	Upper
130	100		
132	94.3	74.9	114.9

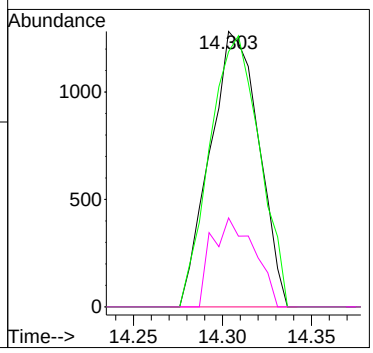


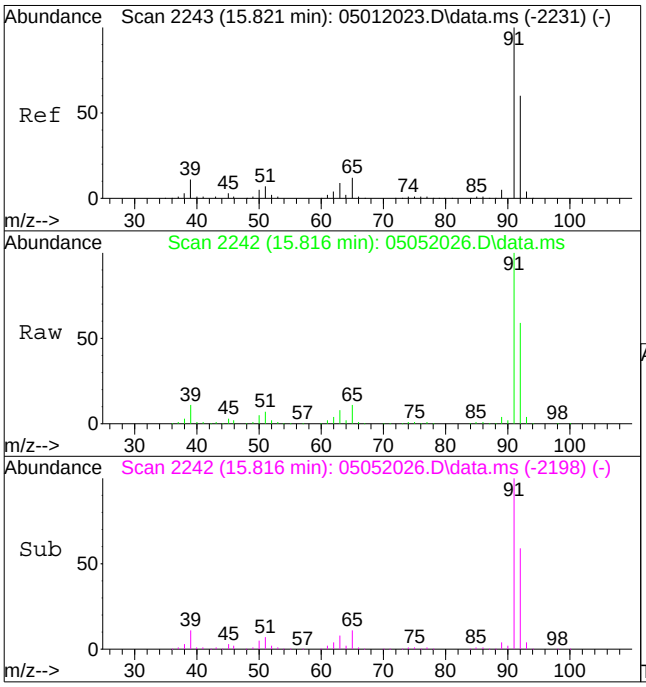


#51
n-Heptane
Concen: 0.09 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05052026.D
Acq: 5 May 2020 19:02

Tgt Ion: 71 Resp: 2437

Ion	Ratio	Lower	Upper
71	100		
57	100.7	71.0	111.0
100	28.2	8.4	48.4

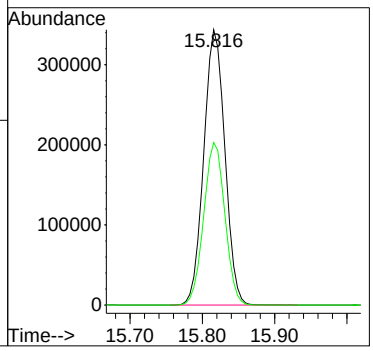


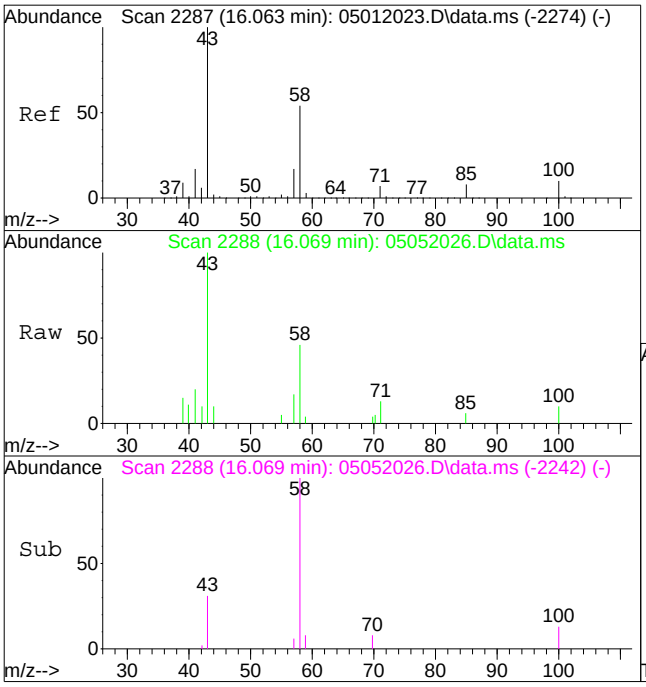


#58
Toluene
Concen: 6.21 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05052026.D
Acq: 5 May 2020 19:02

Tgt Ion: 91 Resp: 697226

Ion	Ratio	Lower	Upper
91	100		
92	59.2	39.4	79.4

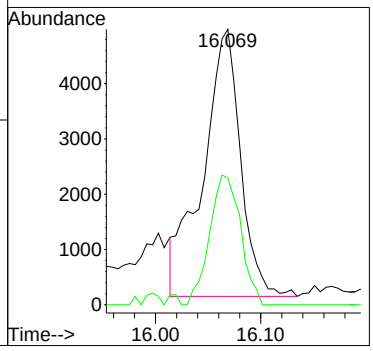


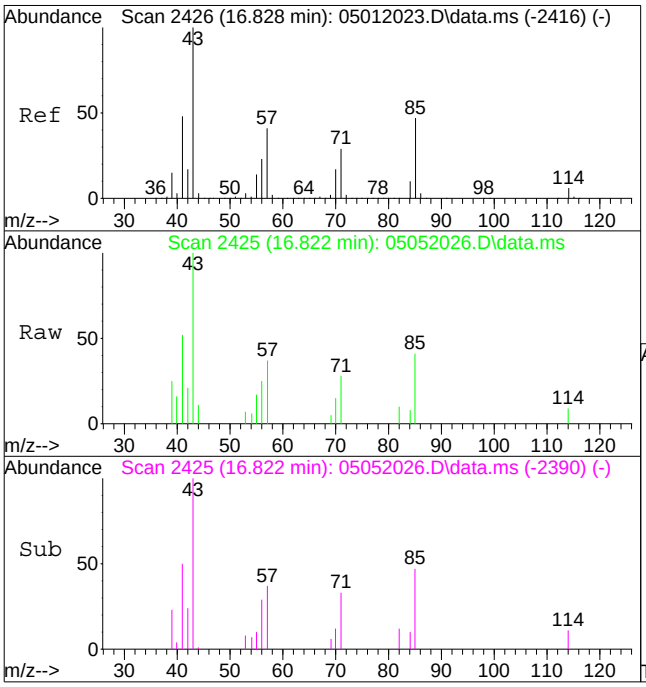


#59
2-Hexanone
Concen: 0.20 ng
RT: 16.07 min Scan# 2288
Delta R.T. 0.005 min
Lab File: 05052026.D
Acq: 5 May 2020 19:02

Tgt Ion: 43 Resp: 12036

Ion	Ratio	Lower	Upper
43	100		
58	40.0	34.5	74.5

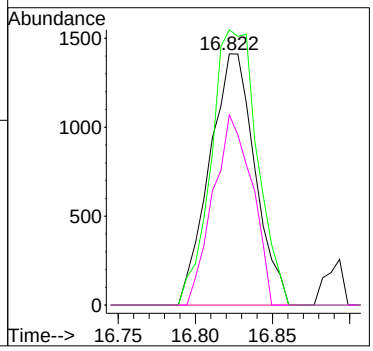


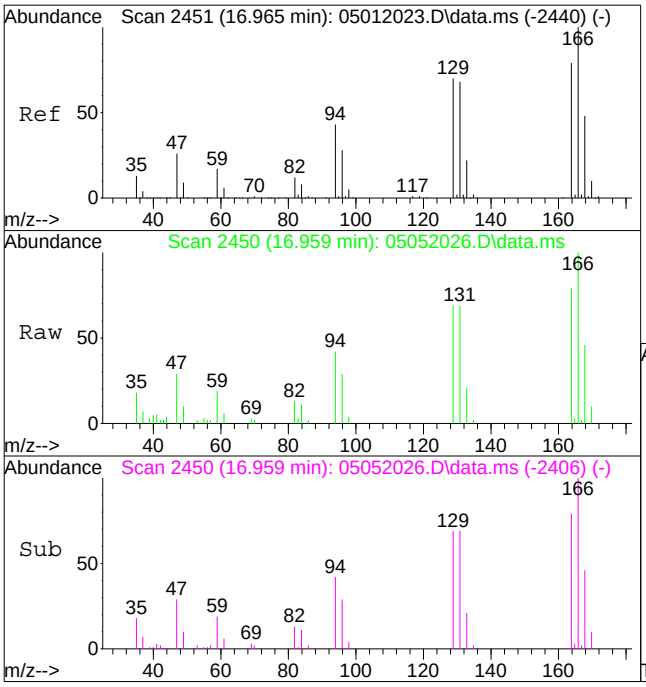


#63
n-Octane
Concen: 0.12 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05052026.D
Acq: 5 May 2020 19:02

Tgt Ion: 57 Resp: 2895

Ion	Ratio	Lower	Upper
57	100		
85	111.8	91.0	136.4
71	64.8	56.2	84.2

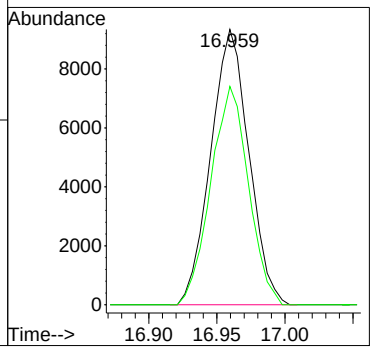


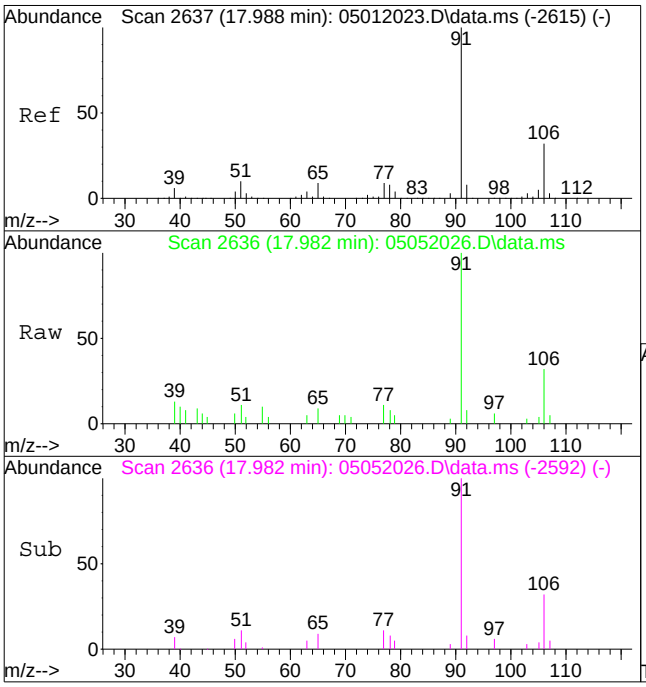


#64
Tetrachloroethene
Concen: 0.57 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05052026.D
Acq: 5 May 2020 19:02

Tgt Ion:166 Resp: 18202

Ion	Ratio	Lower	Upper
166	100		
164	78.3	58.4	98.4

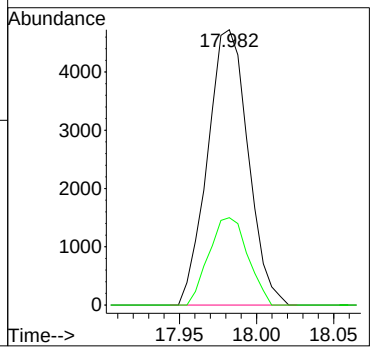


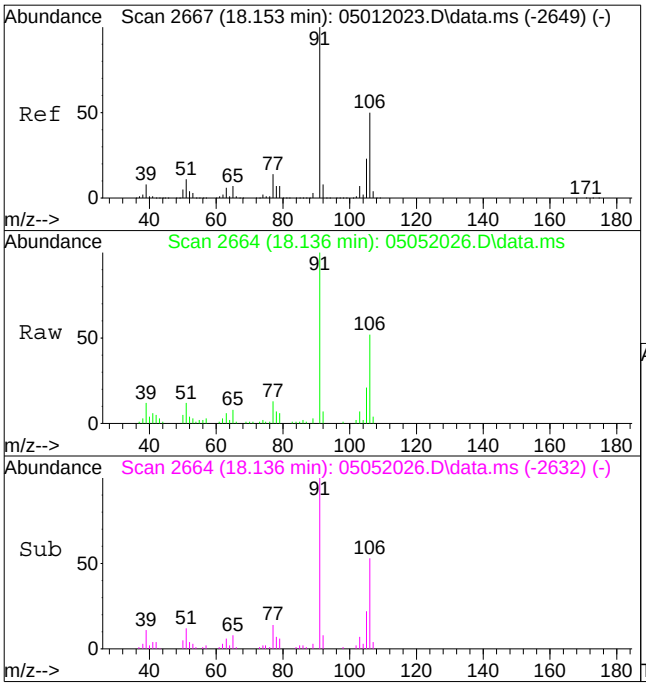


#66
Ethylbenzene
Concen: 0.07 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05052026.D
Acq: 5 May 2020 19:02

Tgt Ion: 91 Resp: 8639

Ion	Ratio	Lower	Upper
91	100		
106	30.4	11.6	51.6

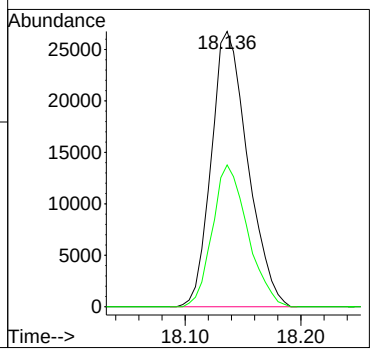


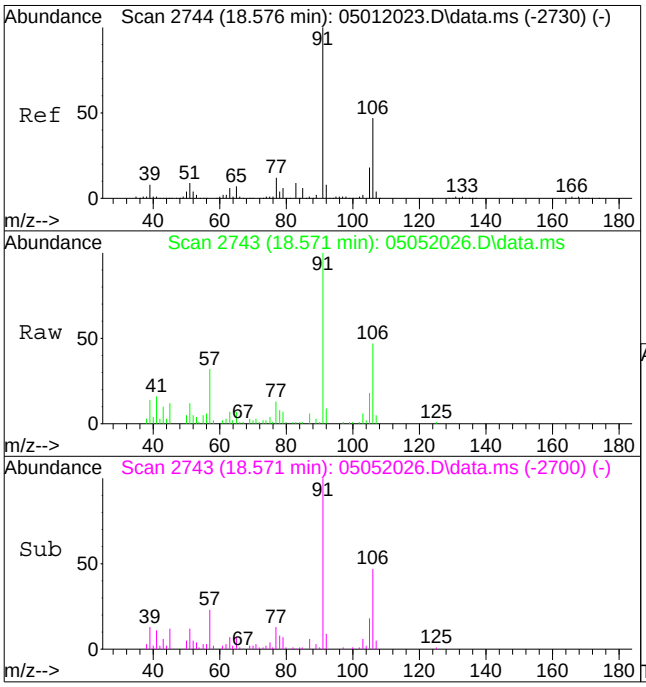


#67
m- & p-Xylenes
Concen: 0.59 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05052026.D
Acq: 5 May 2020 19:02

Tgt Ion: 91 Resp: 58578

Ion	Ratio	Lower	Upper
91	100		
106	49.9	29.7	69.7

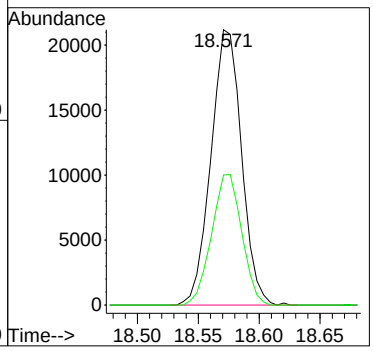


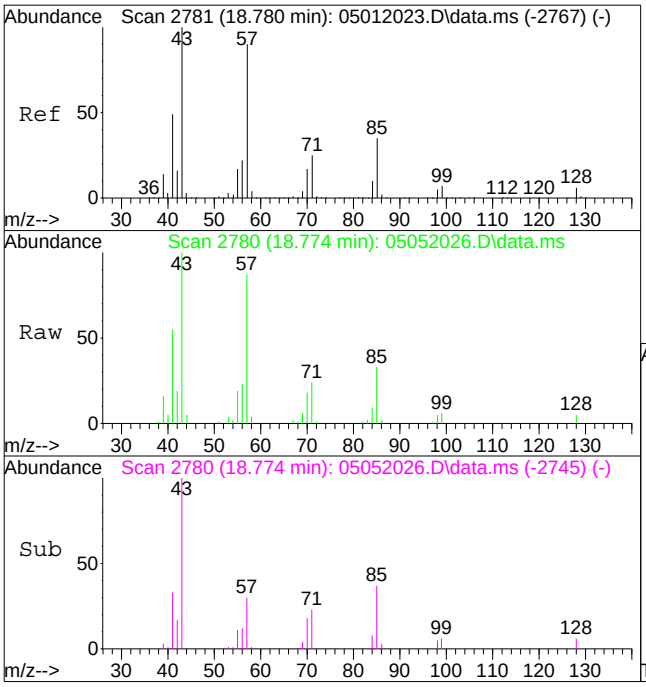


#70
o-Xylene
Concen: 0.37 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05052026.D
Acq: 5 May 2020 19:02

Tgt Ion: 91 Resp: 37013

Ion	Ratio	Lower	Upper
91	100		
106	46.6	27.5	67.5

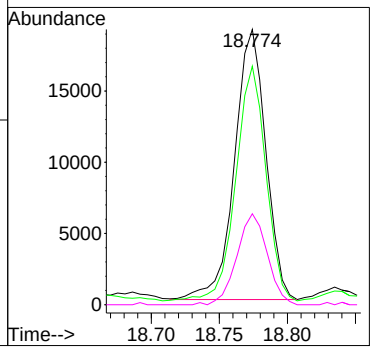


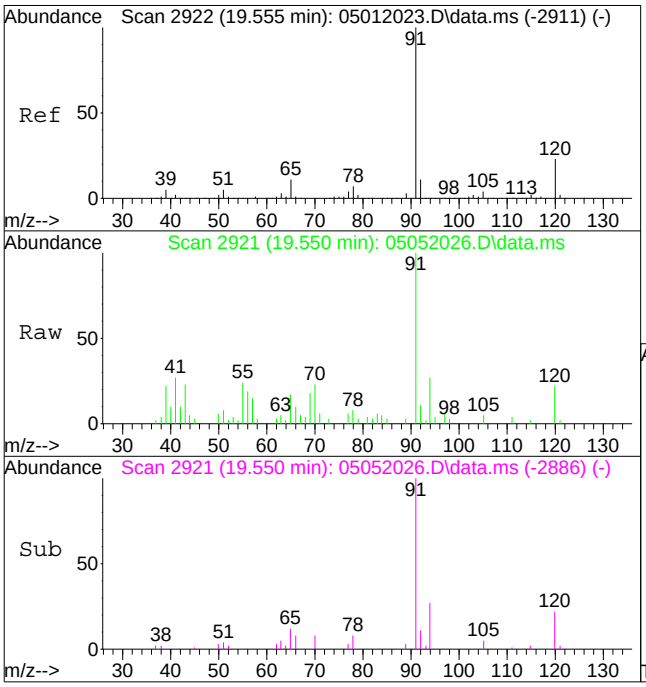


#71
n-Nonane
Concen: 0.57 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05052026.D
Acq: 5 May 2020 19:02

Tgt Ion: 43 Resp: 30306

Ion	Ratio	Lower	Upper
43	100		
57	83.5	69.0	109.0
85	32.7	14.6	54.6

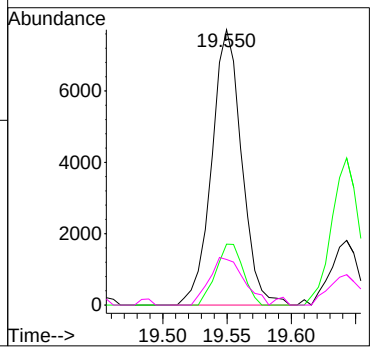


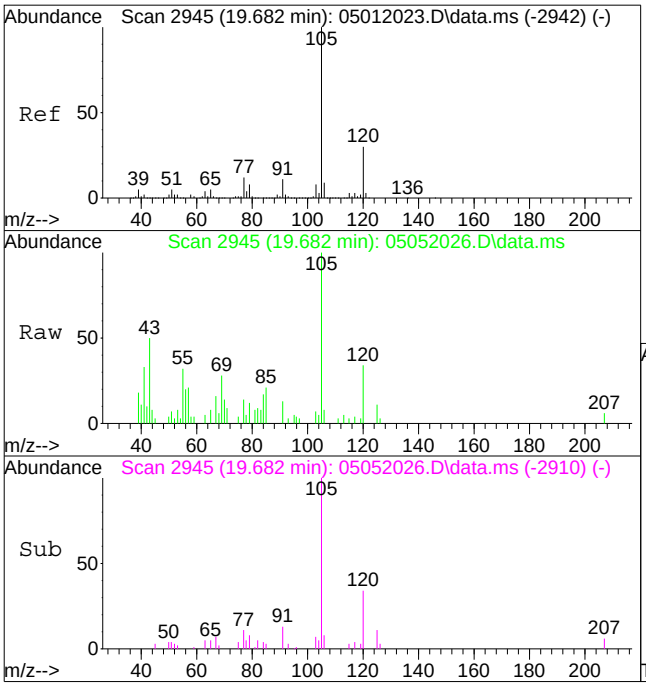


#76
n-Propylbenzene
Concen: 0.09 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05052026.D
Acq: 5 May 2020 19:02

Tgt Ion: 91 Resp: 12550

Ion	Ratio	Lower	Upper
91	100		
120	20.1	3.1	43.1
65	19.6	0.0	30.9

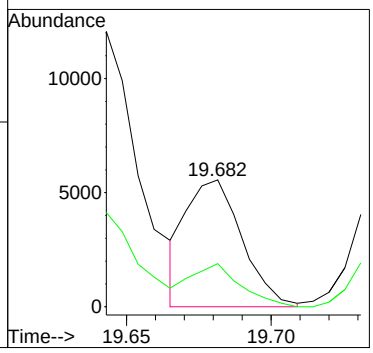


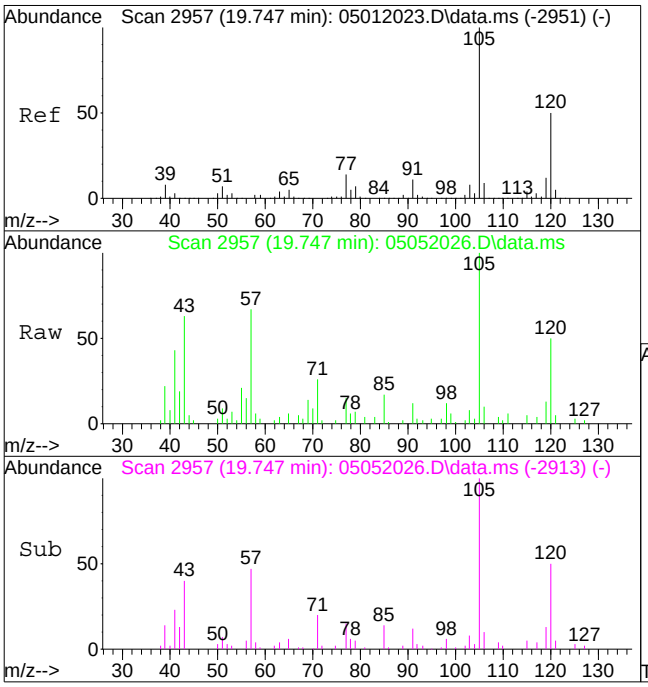


#78
4-Ethyltoluene
Concen: 0.06 ng
RT: 19.68 min Scan# 2945
Delta R.T. -0.006 min
Lab File: 05052026.D
Acq: 5 May 2020 19:02

Tgt Ion:105 Resp: 7485

Ion	Ratio	Lower	Upper
105	100		
120	31.1	10.4	50.4

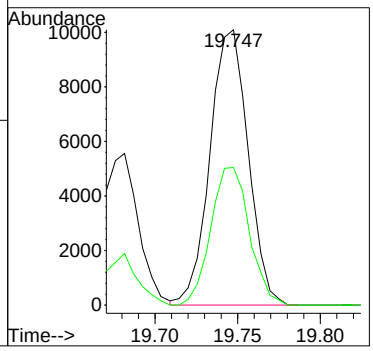


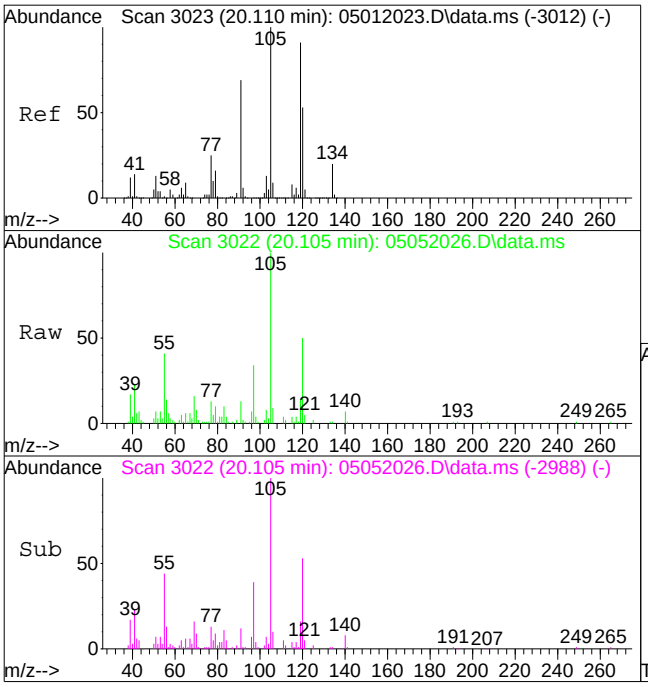


#79
1,3,5-Trimethylbenzene
Concen: 0.16 ng
RT: 19.75 min Scan# 2957
Delta R.T. -0.006 min
Lab File: 05052026.D
Acq: 5 May 2020 19:02

Tgt Ion:105 Resp: 16218

Ion	Ratio	Lower	Upper
105	100		
120	50.4	29.9	69.9

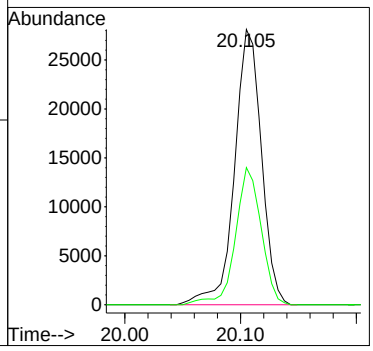


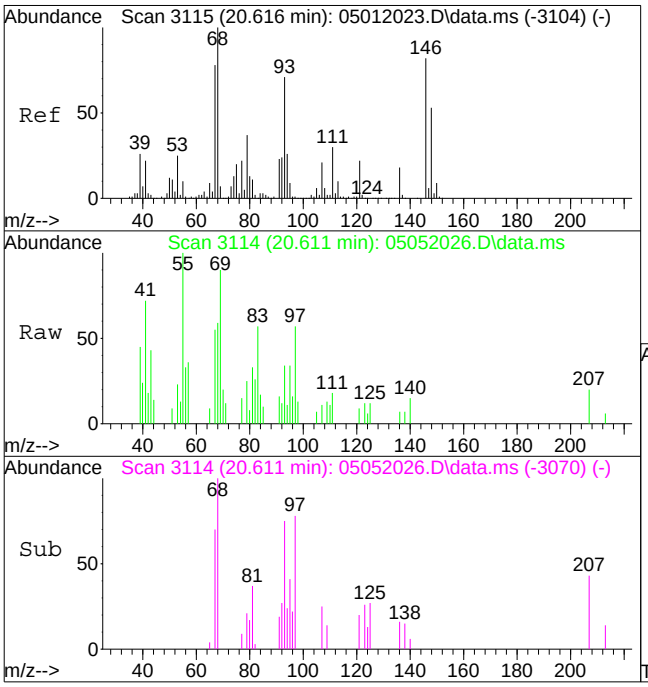


#82
1,2,4-Trimethylbenzene
Concen: 0.45 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05052026.D
Acq: 5 May 2020 19:02

Tgt Ion:105 Resp: 45549

Ion	Ratio	Lower	Upper
105	100		
120	47.7	33.6	73.6

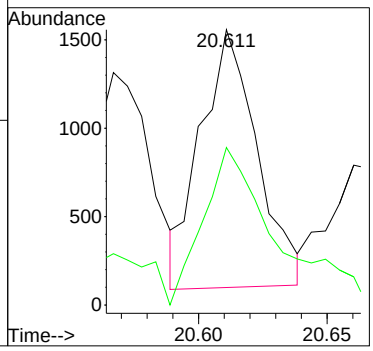


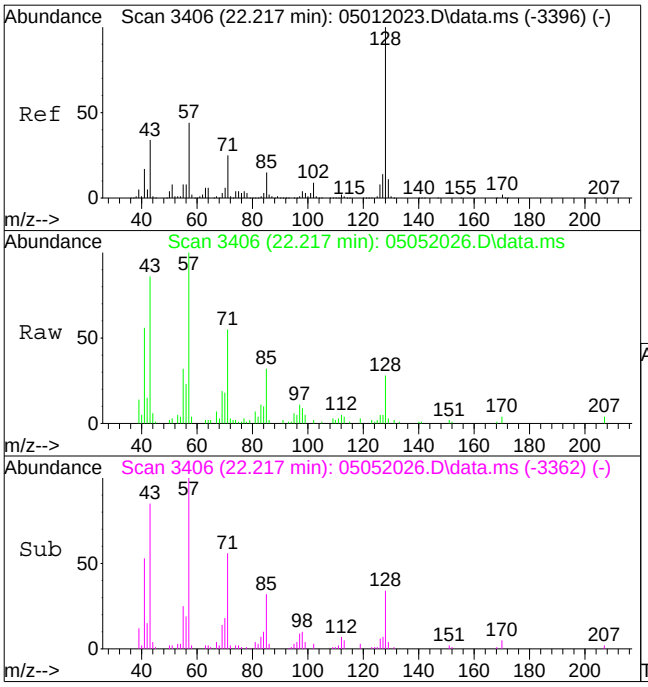


#91
d-Limonene
Concen: 0.06 ng
RT: 20.61 min Scan# 3114
Delta R.T. -0.006 min
Lab File: 05052026.D
Acq: 5 May 2020 19:02

Tgt Ion: 68 Resp: 2224

Ion	Ratio	Lower	Upper
68	100		
93	78.7	51.1	91.1

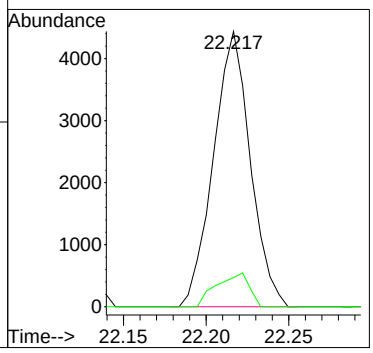




#95
Naphthalene
Concen: 0.06 ng
RT: 22.22 min Scan# 3406
Delta R.T. -0.005 min
Lab File: 05052026.D
Acq: 5 May 2020 19:02

Tgt Ion:128 Resp: 6890

Ion	Ratio	Lower	Upper
128	100		
129	10.8	0.0	31.0



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082008.D Vial: 3
Acq On : 8 May 2020 4:57 Operator: LH
Sample : P2002107-011dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 08 14:57:05 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration LH 5/8/20
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	285248	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1231686	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	582930	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	462025	11.952	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.60%				
57) Toluene-d8 (SS2)	15.72	98	1223409	12.382	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.04%				
73) Bromofluorobenzene (SS3)	18.97	174	450581	12.674	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.36%				
Target Compounds							Qvalue
2) Propene	4.14	42	1996	0.060	ng	#	24
3) Dichlorodifluoromethan...	4.28	85	3342	0.052	ng	#	95
4) Chloromethane	4.55	50	442	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.34	45	4249	0.167	ng		88
11) Acetonitrile	6.61	41	2089	N.D.			
12) Acrolein	6.81	56	411	N.D.			
13) Acetone	7.03	58	13477	0.528	ng	#	1
14) Trichlorofluoromethane	7.24	101	61084	1.070	ng		99
15) 2-Propanol (Isopropanol)	7.55	45	1661	N.D.			
16) Acrylonitrile	7.75	53	111	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.44	59	736	N.D.			
19) Methylene Chloride	8.40	84	167	N.D.			
20) 3-Chloro-1-propene (Al...	8.50	41	118	N.D.			
21) Trichlorotrifluoroethane	8.84	151	208080	7.717	ng		98
22) Carbon Disulfide	8.68	76	7198	0.061	ng		91
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	10.49	72	923	N.D.			
28) cis-1,2-Dichloroethene	10.96	61	306	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D. d			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	11.26	57	636	N.D.			
32) Chloroform	11.30	83	631812	11.127	ng		100
34) Tetrahydrofuran (THF)	11.75	72	2949	0.139	ng	#	83
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	12.86	61	388	N.D.			
40) 1-Butanol	0.00	56	0	N.D. d			
41) Benzene	12.87	78	79210	0.600	ng		100
42) Carbon Tetrachloride	13.03	117	93391	2.079	ng		100
43) Cyclohexane	13.16	84	7028	0.143	ng		97
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	13.91	83	8734	0.196	ng		98
47) Trichloroethene	13.96	130	1535	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.04	57	2549	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082008.D Vial: 3
Acq On : 8 May 2020 4:57 Operator: LH
Sample : P2002107-011dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 08 14:57:05 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

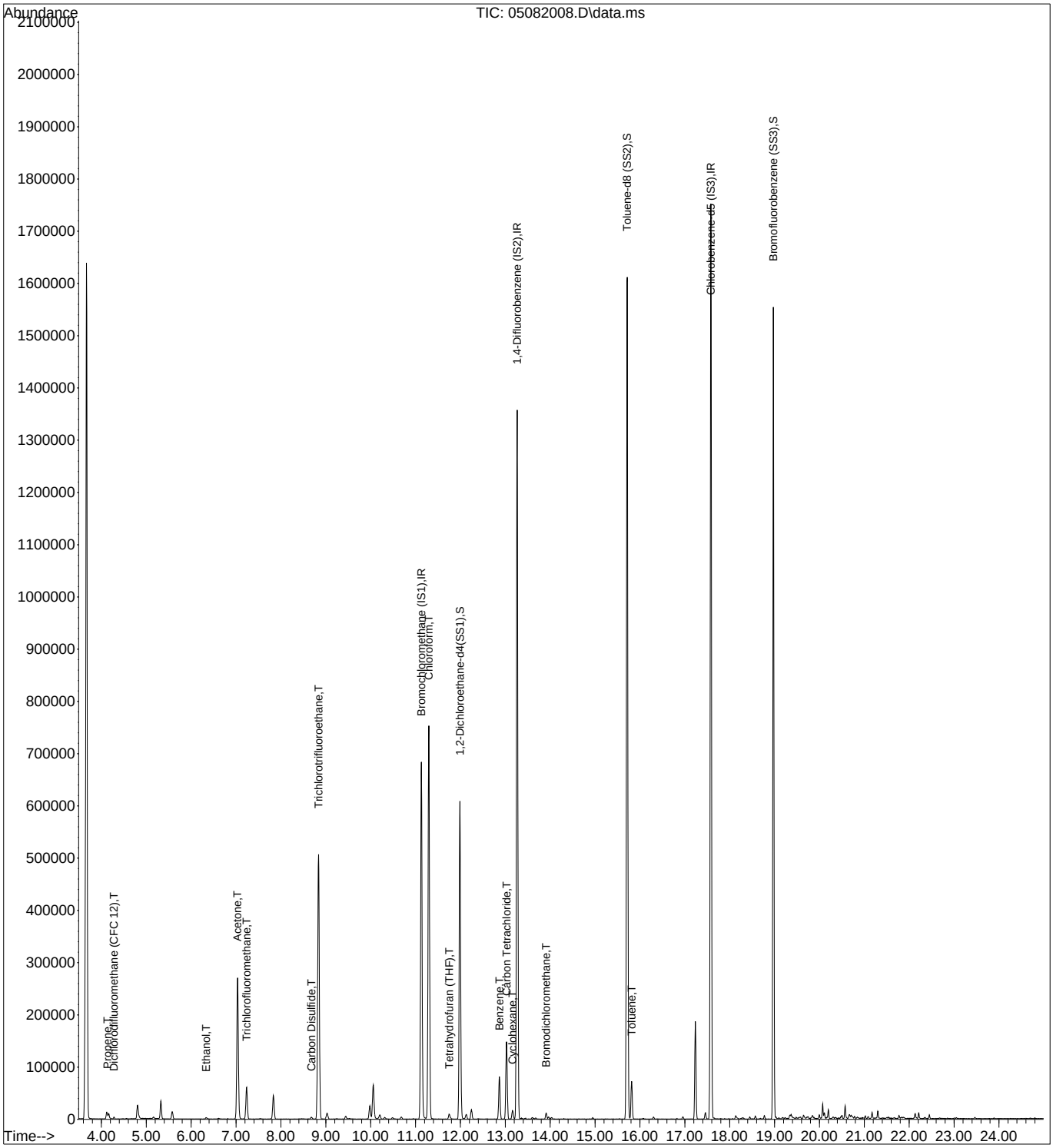
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.30	71	107	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.82	91	60913	0.478 ng	99
59) 2-Hexanone	16.07	43	1366	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.70	43	358	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	16.95	166	1587	N.D.	
65) Chlorobenzene	17.62	112	116	N.D.	
66) Ethylbenzene	17.98	91	1036	N.D.	
67) m- & p-Xylenes	18.14	91	5381	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	261	N.D.	
70) o-Xylene	18.57	91	3439	N.D.	
71) n-Nonane	18.77	43	2590	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.10	105	776	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	19.55	91	1727	N.D.	
77) 3-Ethyltoluene	19.64	105	2301	N.D.	
78) 4-Ethyltoluene	19.68	105	1168	N.D.	
79) 1,3,5-Trimethylbenzene	19.74	105	1802	N.D.	
80) alpha-Methylstyrene	19.88	118	769	N.D.	
81) 2-Ethyltoluene	19.91	105	1111	N.D.	
82) 1,2,4-Trimethylbenzene	20.11	105	4257	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.22	91	458	N.D.	
85) 1,3-Dichlorobenzene	20.24	146	503	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	775	N.D.	
87) sec-Butylbenzene	20.35	105	937	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	685	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	1428	N.D.	
90) 1,2-Dichlorobenzene	20.61	146	268	N.D.	
91) d-Limonene	20.61	68	213	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.11	180	610	N.D.	
95) Naphthalene	22.21	128	3935	N.D.	
96) n-Dodecane	22.21	57	2208	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.28	55	1235	N.D.	
99) tert-Butylbenzene	20.11	119	635	N.D.	
100) n-Butylbenzene	20.85	91	1370	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082008.D Vial: 3
Acq On : 8 May 2020 4:57 Operator: LH
Sample : P2002107-011dil (40mL) Inst : GCMS-16
Misc : S31-02112001

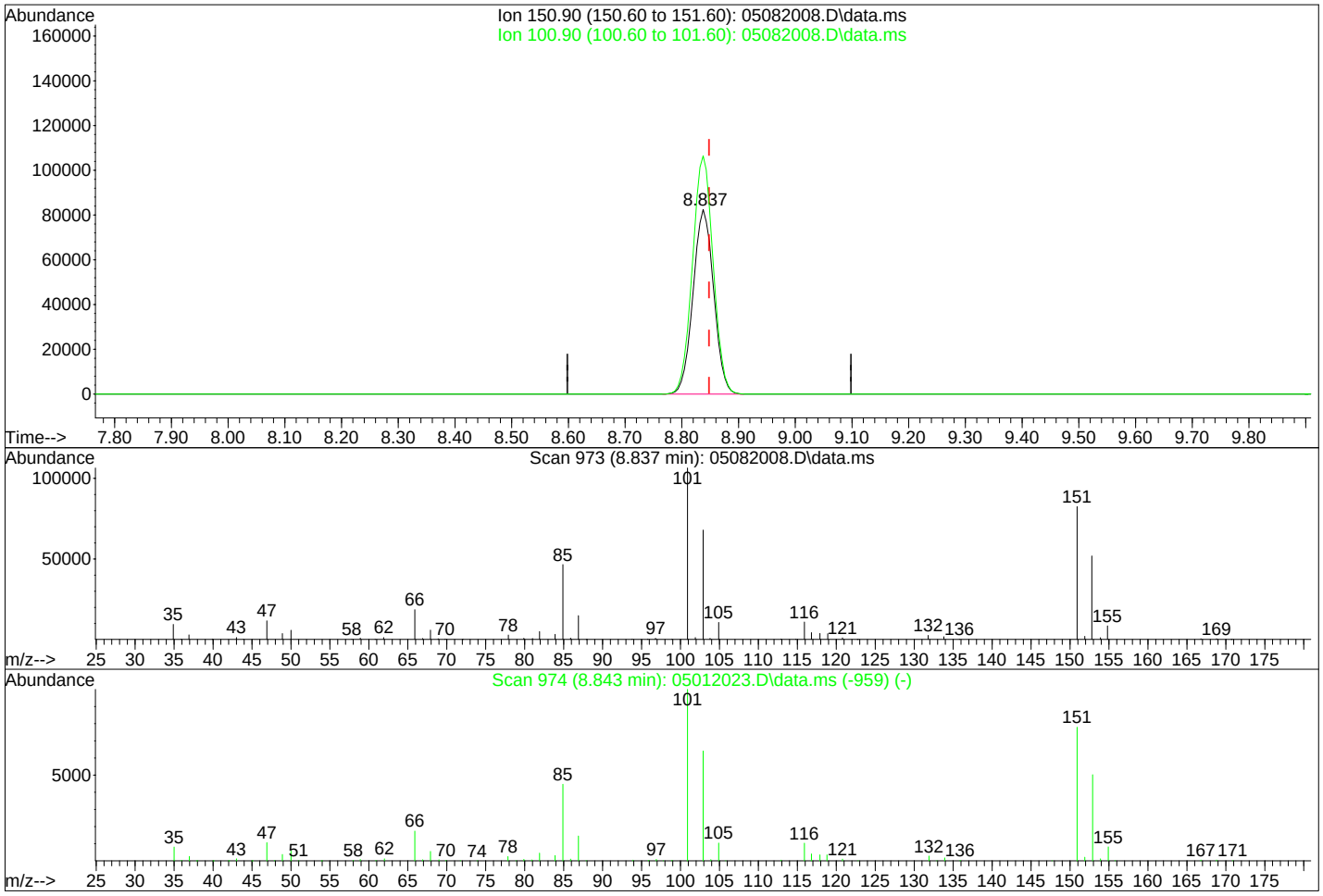
Quant Time: May 08 14:57:05 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\08\05082008.D Vial: 3
Acq On : 8 May 2020 4:57 Operator: LH
Sample : P2002107-011dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 08 14:52:47 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05082008.D\data.ms

(21) Trichlorotrifluoroethane (T)

8.837min (-0.011) 7.72ng

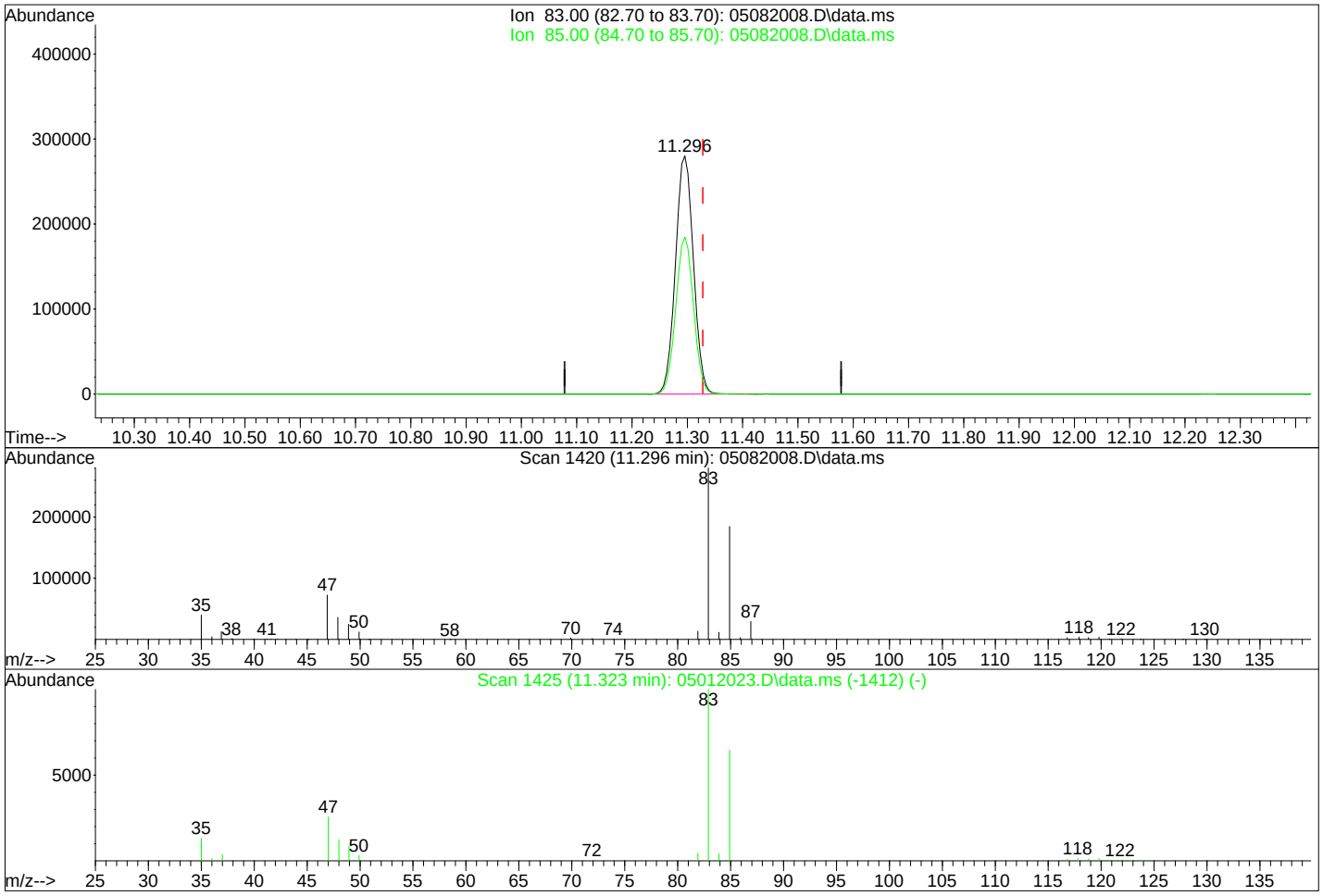
response 208080

Ion	Exp%	Act%
150.90	100	100
100.90	127.30	129.32
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\08\05082008.D Vial: 3
Acq On : 8 May 2020 4:57 Operator: LH
Sample : P2002107-011dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 08 14:52:47 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05082008.D\data.ms

(32) Chloroform (T)

11.296min (-0.033) 11.13ng

response 631812

Ion	Exp%	Act%
83.00	100	100
85.00	65.50	65.28
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052027.D Vial: 9
Acq On : 5 May 2020 19:36 Operator: WA
Sample : P2002107-012 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 07 17:37:07 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/7/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	261574	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.27	114	1105536	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	528469	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	421024	11.877	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.04%				
57) Toluene-d8 (SS2)	15.72	98	1113198	12.428	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.44%				
73) Bromofluorobenzene (SS3)	18.98	174	397548	12.334	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.64%				
Target Compounds							Qvalue
2) Propene	4.10	42	39190	1.294	ng		99
3) Dichlorodifluoromethan...	4.26	85	20619	0.348	ng		98
4) Chloromethane	4.53	50	505129	10.881	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	285	N.D.			
6) Vinyl Chloride	4.95	62	80375	1.579	ng		100
7) 1,3-Butadiene	5.22	54	6584	0.156	ng	#	38
8) Bromomethane	5.64	94	788	N.D.			
9) Chloroethane	5.98	64	39931	1.986	ng		98
10) Ethanol	6.34	45	10638	0.455	ng		88
11) Acetonitrile	6.61	41	3990	0.075	ng		79
12) Acrolein	6.81	56	1778	0.096	ng		96
13) Acetone	7.02	58	29126	1.245	ng	#	84
14) Trichlorofluoromethane	7.24	101	93370	1.783	ng		99
15) 2-Propanol (Isopropanol)	7.53	45	5143	0.073	ng	#	57
16) Acrylonitrile	7.77	53	651	N.D.			
17) 1,1-Dichloroethene	8.19	96	333	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d			
19) Methylene Chloride	8.41	84	4011	0.132	ng		97
20) 3-Chloro-1-propene (Al...	8.58	41	3280	0.079	ng		86
21) Trichlorotrifluoroethane	8.84	151	471592	19.074	ng		97
22) Carbon Disulfide	8.68	76	1706132	15.656	ng		99
23) trans-1,2-Dichloroethene	9.70	61	352	N.D.			
24) 1,1-Dichloroethane	9.95	63	7928	0.160	ng		97
25) Methyl tert-Butyl Ether	10.09	73	111	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	10.48	72	5234	0.262	ng	#	86
28) cis-1,2-Dichloroethene	10.95	61	828	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D. d			
30) Ethyl Acetate	11.28	61	3922	0.341	ng	#	1
31) n-Hexane	11.26	57	11586	0.232	ng	#	61
32) Chloroform	11.31	83	641117	12.313	ng		99
34) Tetrahydrofuran (THF)	11.72	72	151712	7.797	ng		98
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	40193	0.974	ng		99
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	12.88	61	248	N.D.			
40) 1-Butanol	0.00	56	0	N.D. d			
41) Benzene	12.87	78	62321	0.526	ng		99
42) Carbon Tetrachloride	13.03	117	1125283	27.904	ng		100
43) Cyclohexane	13.17	84	5410	0.122	ng		99
44) tert-Amyl Methyl Ether	13.53	73	110	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D. d			
46) Bromodichloromethane	13.91	83	38421	0.959	ng		99
47) Trichloroethene	13.97	130	67704	2.209	ng		99
48) 1,4-Dioxane	13.96	88	3486	0.146	ng		95
49) 2,2,4-Trimethylpentane...	14.04	57	2567	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D. d			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052027.D Vial: 9
Acq On : 5 May 2020 19:36 Operator: WA
Sample : P2002107-012 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 07 17:37:07 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

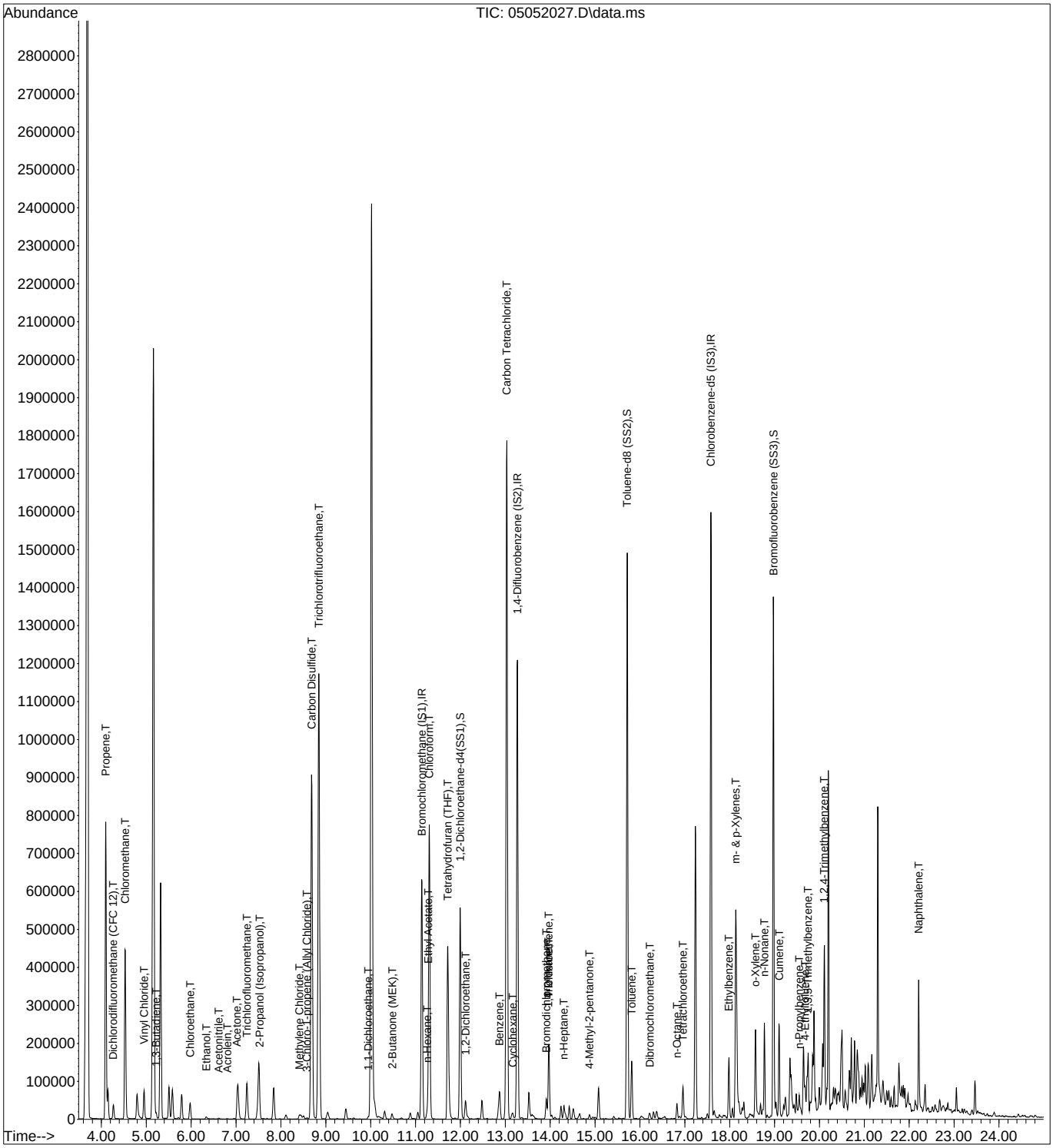
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.30	71	8795	0.317 ng	94
52) cis-1,3-Dichloropropene	14.84	75	102	N.D.	
53) 4-Methyl-2-pentanone	14.88	58	3490	0.132 ng	80
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	15.52	97	393	N.D.	
58) Toluene	15.82	91	125703	1.089 ng	100
59) 2-Hexanone	16.07	43	2729	N.D.	
60) Dibromochloromethane	16.22	129	2994	0.091 ng	98
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.70	43	1712	N.D.	
63) n-Octane	16.83	57	7789	0.326 ng	96
64) Tetrachloroethene	16.96	166	27740	0.851 ng	99
65) Chlorobenzene	17.62	112	313	N.D.	
66) Ethylbenzene	17.98	91	123539	0.960 ng	99
67) m- & p-Xylenes	18.14	91	427594	4.186 ng	100
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	1305	N.D.	
70) o-Xylene	18.57	91	123436	1.190 ng	99
71) n-Nonane	18.77	43	87489	1.590 ng	96
72) 1,1,2,2-Tetrachloroethane	18.55	83	281	N.D.	
74) Cumene	19.10	105	145800	1.146 ng	99
75) alpha-Pinene	19.46	93	1049	N.D.	
76) n-Propylbenzene	19.55	91	32802	0.217 ng	95
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.68	105	29372	0.246 ng	98
79) 1,3,5-Trimethylbenzene	19.74	105	48220	0.465 ng	100
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.10	105	172206	1.651 ng	91
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.17	91	514	N.D.	
85) 1,3-Dichlorobenzene	20.30	146	416	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	416	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.61	68	1730	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.21	128	26329	0.207 ng	97
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052027.D Vial: 9
Acq On : 5 May 2020 19:36 Operator: WA
Sample : P2002107-012 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 07 17:37:07 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052027.D Vial: 9
Acq On : 5 May 2020 19:36 Operator: WA
Sample : P2002107-012 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 07 17:37:07 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/7/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	261574	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.27	114	1105536	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	528469	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	421024	11.877	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.04%				
57) Toluene-d8 (SS2)	15.72	98	1113198	12.428	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.44%				
73) Bromofluorobenzene (SS3)	18.98	174	397548	12.334	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.64%				
Target Compounds							Qvalue
2) Propene	4.10	42	39190	1.294	ng		99
3) Dichlorodifluoromethan...	4.26	85	20619	0.348	ng		98
4) Chloromethane	4.53	50	505129	10.881	ng		100
6) Vinyl Chloride	4.95	62	80375	1.579	ng		100
7) 1,3-Butadiene	5.22	54	6584	0.156	ng	#	38
9) Chloroethane	5.98	64	39931	1.986	ng		98
10) Ethanol	6.34	45	10638	0.455	ng		88
11) Acetonitrile	6.61	41	3990	0.075	ng		79
12) Acrolein	6.81	56	1778	0.096	ng		96
13) Acetone	7.02	58	29126	1.245	ng	#	84
14) Trichlorofluoromethane	7.24	101	93370	1.783	ng		99
15) 2-Propanol (Isopropanol)	7.53	45	5143	0.073	ng	#	57
19) Methylene Chloride	8.41	84	4011	0.132	ng		97
20) 3-Chloro-1-propene (Al...	8.58	41	3280	0.079	ng		86
21) Trichlorotrifluoroethane	8.84	151	471592	19.074	ng		97
22) Carbon Disulfide	8.68	76	1706132	15.656	ng		99
24) 1,1-Dichloroethane	9.95	63	7928	0.160	ng		97
27) 2-Butanone (MEK)	10.48	72	5234	0.262	ng	#	86
30) Ethyl Acetate	11.28	61	3922	0.341	ng	#	1
31) n-Hexane	11.26	57	11586	0.232	ng	#	61
32) Chloroform	11.31	83	641117	12.313	ng		99
34) Tetrahydrofuran (THF)	11.72	72	151712	7.797	ng		98
36) 1,2-Dichloroethane	12.11	62	40193	0.974	ng		99
41) Benzene	12.87	78	62321	0.526	ng		99
42) Carbon Tetrachloride	13.03	117	1125283	27.904	ng		100
43) Cyclohexane	13.17	84	5410	0.122	ng		99
46) Bromodichloromethane	13.91	83	38421	0.959	ng		99
47) Trichloroethene	13.97	130	67704	2.209	ng		99
48) 1,4-Dioxane	13.96	88	3486	0.146	ng		95
51) n-Heptane	14.30	71	8795	0.317	ng		94
53) 4-Methyl-2-pentanone	14.88	58	3490	0.132	ng		80
58) Toluene	15.82	91	125703	1.089	ng		100
60) Dibromochloromethane	16.22	129	2994	0.091	ng		98
63) n-Octane	16.83	57	7789	0.326	ng		96
64) Tetrachloroethene	16.96	166	27740	0.851	ng		99
66) Ethylbenzene	17.98	91	123539	0.960	ng		99
67) m- & p-Xylenes	18.14	91	427594	4.186	ng		100
70) o-Xylene	18.57	91	123436	1.190	ng		99
71) n-Nonane	18.77	43	87489	1.590	ng		96
74) Cumene	19.10	105	145800	1.146	ng		99
76) n-Propylbenzene	19.55	91	32802	0.217	ng		95
78) 4-Ethyltoluene	19.68	105	29372	0.246	ng		98
79) 1,3,5-Trimethylbenzene	19.74	105	48220	0.465	ng		100
82) 1,2,4-Trimethylbenzene	20.10	105	172206	1.651	ng		91
95) Naphthalene	22.21	128	26329	0.207	ng		97

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052027.D Vial: 9
Acq On : 5 May 2020 19:36 Operator: WA
Sample : P2002107-012 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 07 17:37:07 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

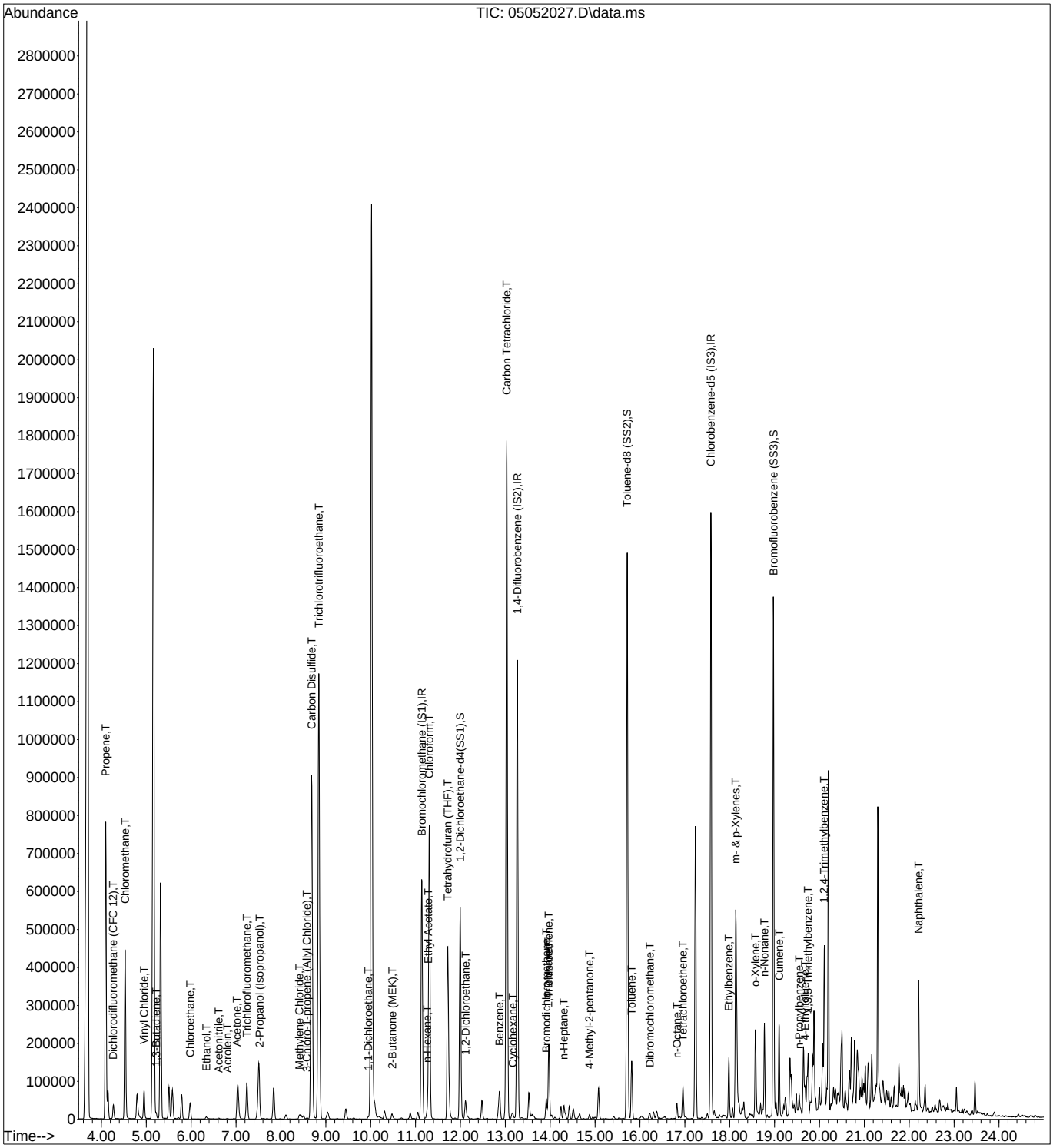
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)

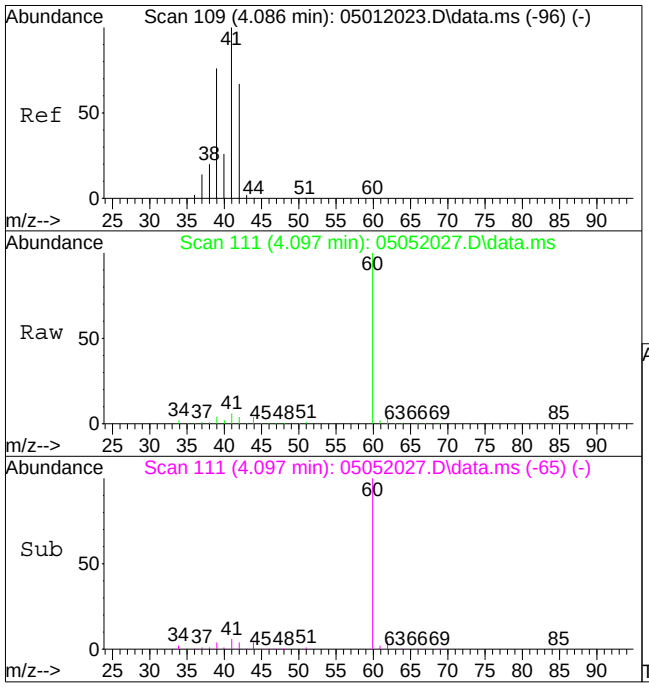
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052027.D Vial: 9
Acq On : 5 May 2020 19:36 Operator: WA
Sample : P2002107-012 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 07 17:37:07 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

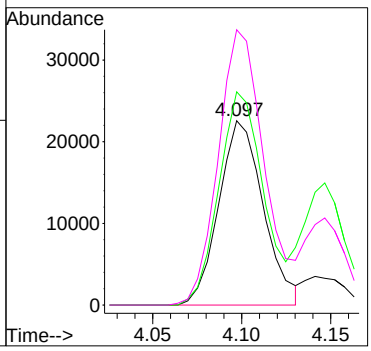


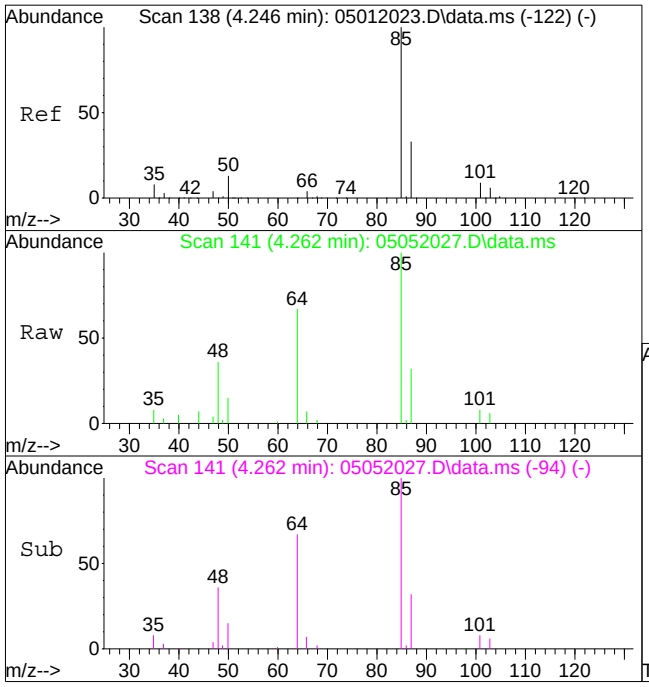


#2
Propene
Concen: 1.29 ng
RT: 4.10 min Scan# 111
Delta R.T. 0.005 min
Lab File: 05052027.D
Acq: 5 May 2020 19:36

Tgt Ion: 42 Resp: 39190

Ion	Ratio	Lower	Upper
42	100		
39	115.9	96.1	136.1
41	154.7	131.9	171.9

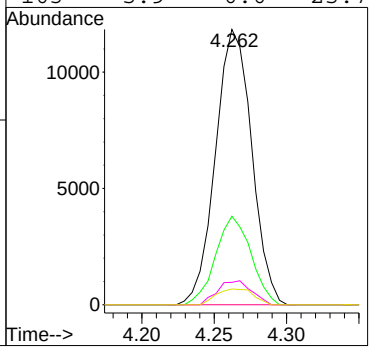


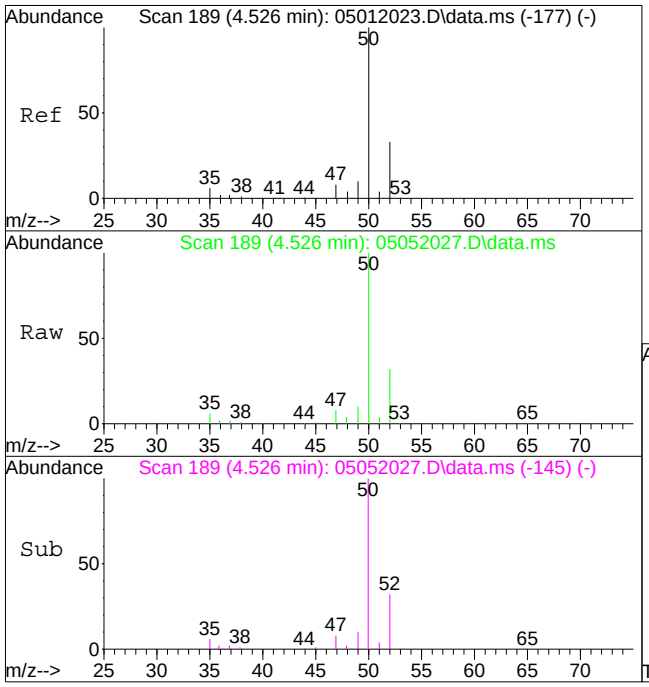


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.35 ng
RT: 4.26 min Scan# 141
Delta R.T. 0.011 min
Lab File: 05052027.D
Acq: 5 May 2020 19:36

Tgt Ion: 85 Resp: 20619

Ion	Ratio	Lower	Upper
85	100		
87	31.4	12.4	52.4
101	8.2	0.0	28.8
103	5.9	0.0	25.7

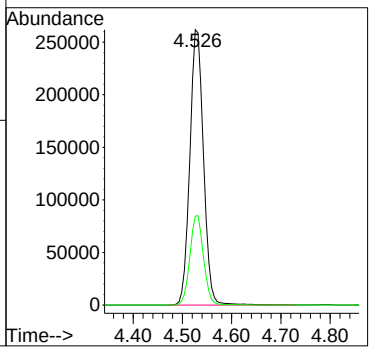


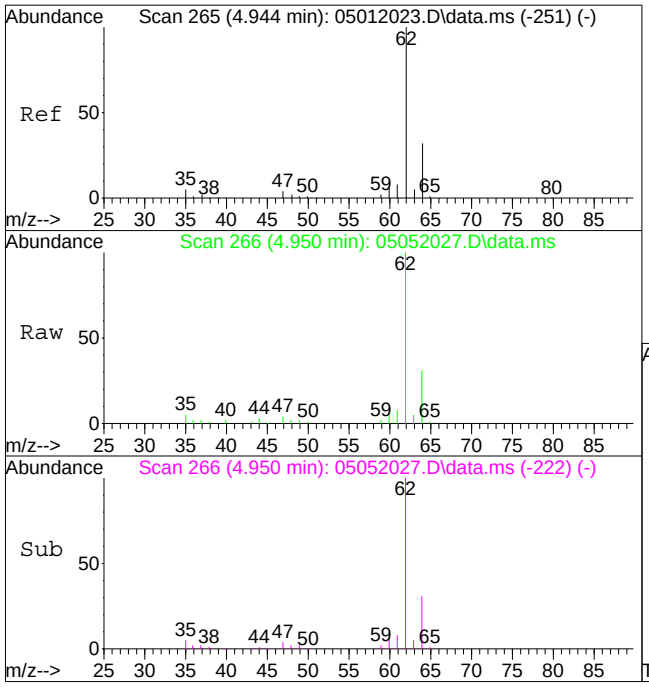


#4
Chloromethane
Concen: 10.88 ng
RT: 4.53 min Scan# 189
Delta R.T. -0.006 min
Lab File: 05052027.D
Acq: 5 May 2020 19:36

Tgt Ion: 50 Resp: 505129

Ion	Ratio	Lower	Upper
50	100		
52	32.4	12.5	52.5

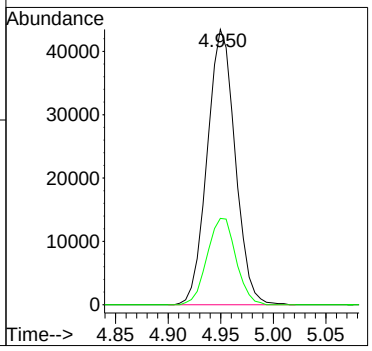


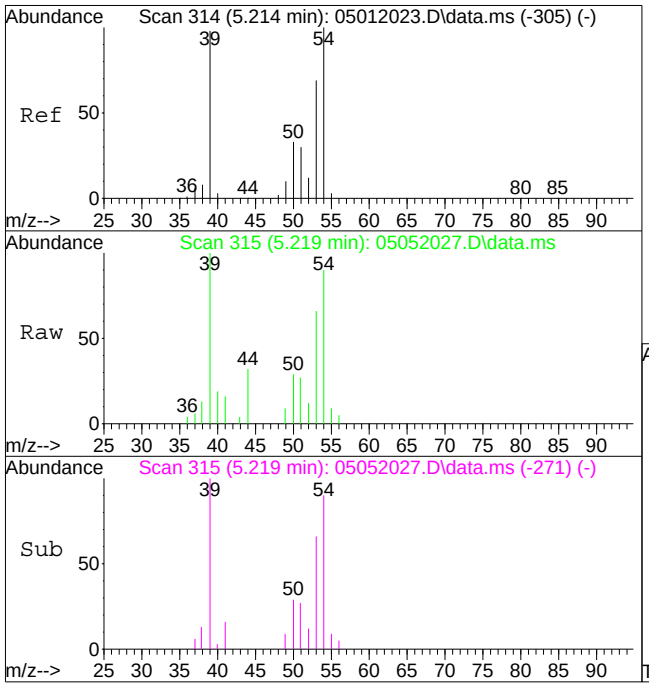


#6
Vinyl Chloride
Concen: 1.58 ng
RT: 4.95 min Scan# 266
Delta R.T. -0.006 min
Lab File: 05052027.D
Acq: 5 May 2020 19:36

Tgt Ion: 62 Resp: 80375

Ion	Ratio	Lower	Upper
62	100		
64	32.3	12.1	52.1

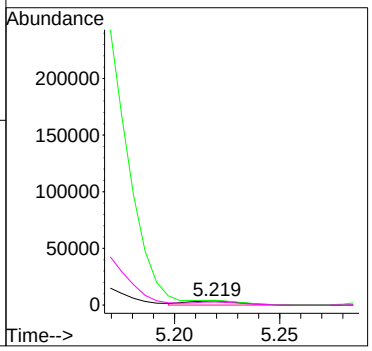


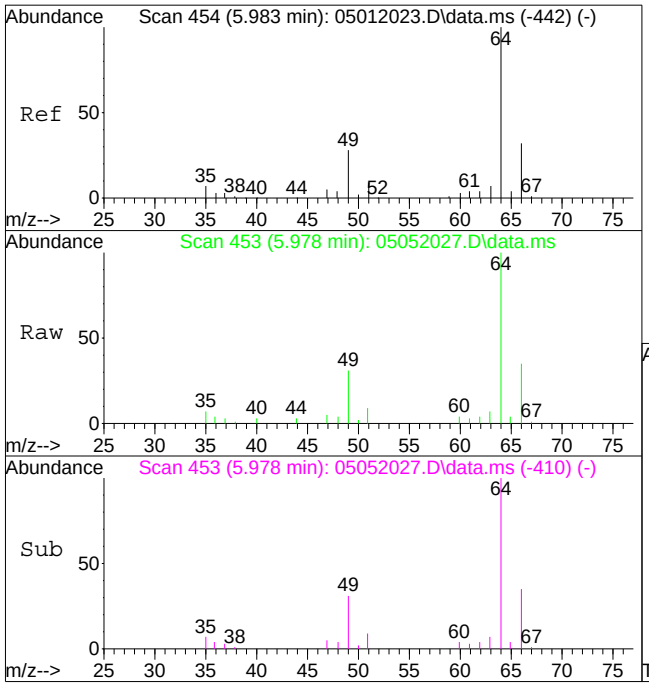


#7
1,3-Butadiene
Concen: 0.16 ng
RT: 5.22 min Scan# 315
Delta R.T. -0.006 min
Lab File: 05052027.D
Acq: 5 May 2020 19:36

Tgt Ion: 54 Resp: 6584

Ion	Ratio	Lower	Upper
54	100		
39	0.0	80.6	120.6#
53	64.9	49.4	89.4

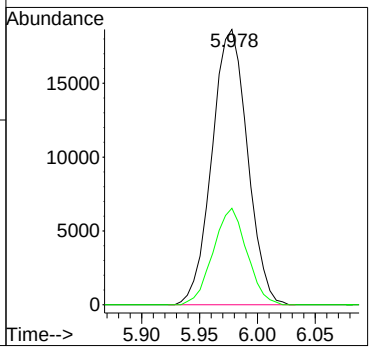


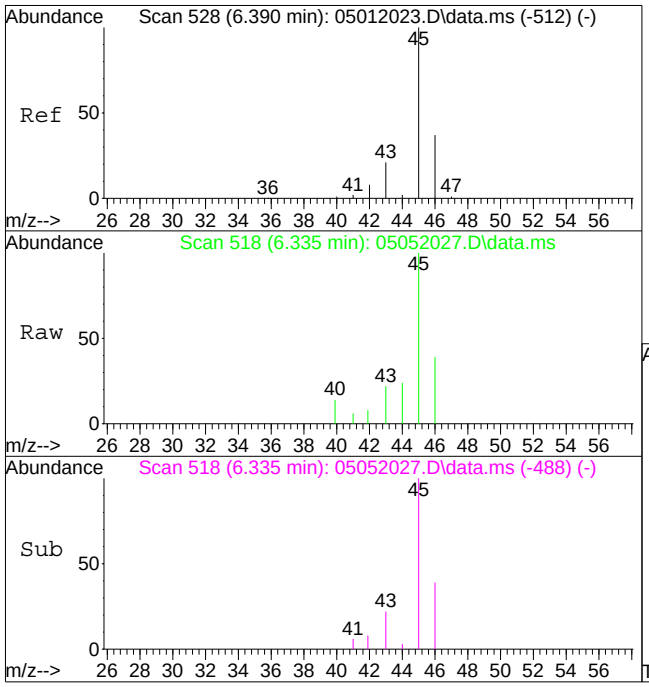


#9
Chloroethane
Concen: 1.99 ng
RT: 5.98 min Scan# 453
Delta R.T. -0.011 min
Lab File: 05052027.D
Acq: 5 May 2020 19:36

Tgt Ion: 64 Resp: 39931

Ion	Ratio	Lower	Upper
64	100		
66	33.3	12.1	52.1

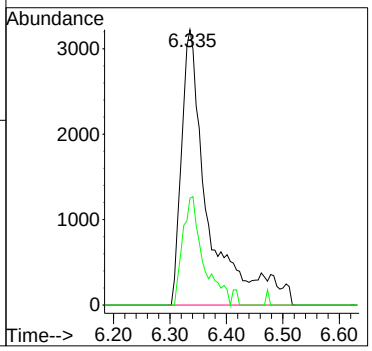


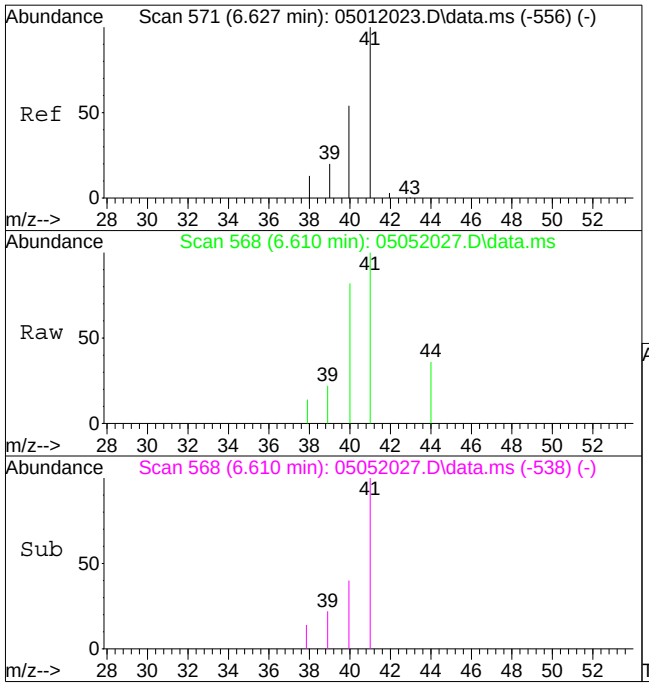


#10
Ethanol
Concen: 0.45 ng
RT: 6.34 min Scan# 518
Delta R.T. -0.083 min
Lab File: 05052027.D
Acq: 5 May 2020 19:36

Tgt Ion: 45 Resp: 10638

Ion	Ratio	Lower	Upper
45	100		
46	30.2	17.2	57.2

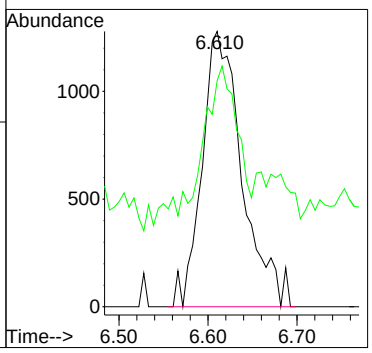


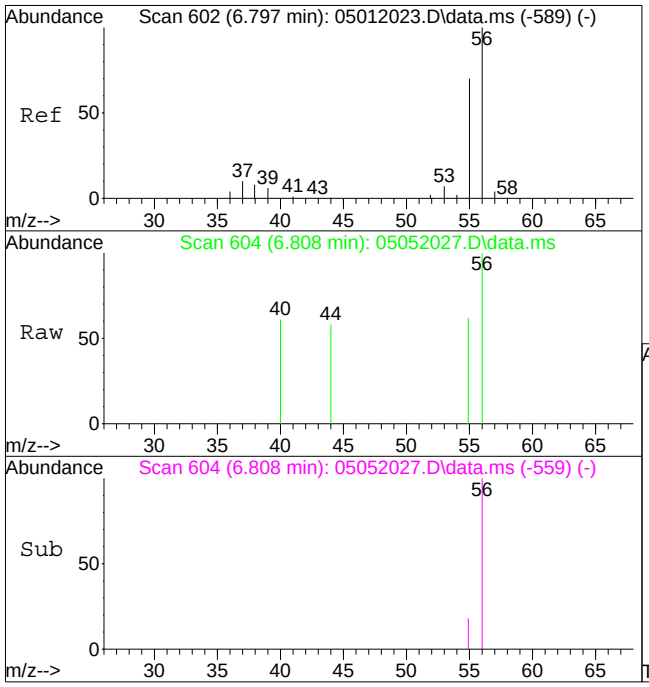


#11
Acetonitrile
Concen: 0.07 ng
RT: 6.61 min Scan# 568
Delta R.T. -0.033 min
Lab File: 05052027.D
Acq: 5 May 2020 19:36

Tgt Ion: 41 Resp: 3990

Ion	Ratio	Lower	Upper
41	100		
40	68.6	33.6	73.6

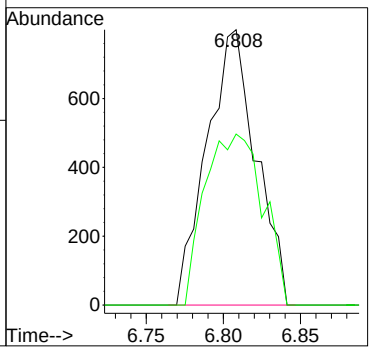


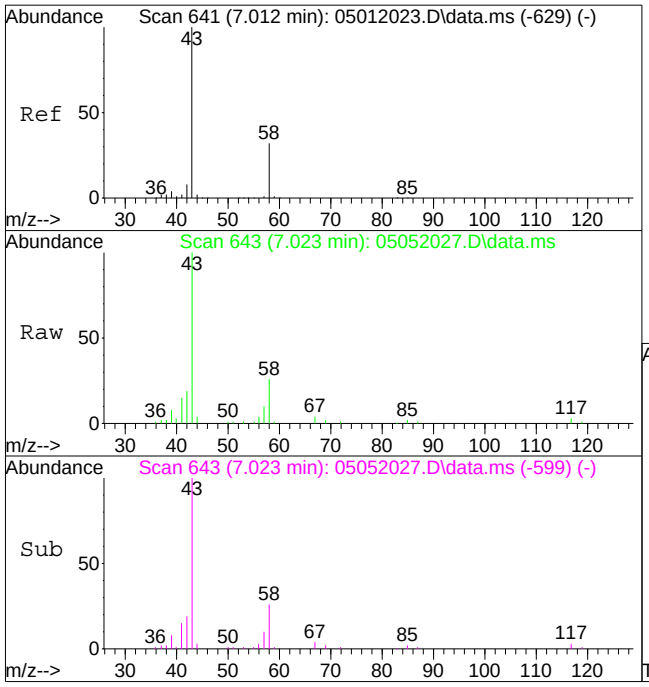


#12
Acrolein
Concen: 0.10 ng
RT: 6.81 min Scan# 604
Delta R.T. -0.000 min
Lab File: 05052027.D
Acq: 5 May 2020 19:36

Tgt Ion: 56 Resp: 1778

Ion	Ratio	Lower	Upper
56	100		
55	73.5	50.2	90.2

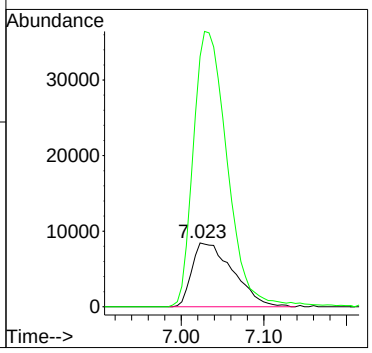


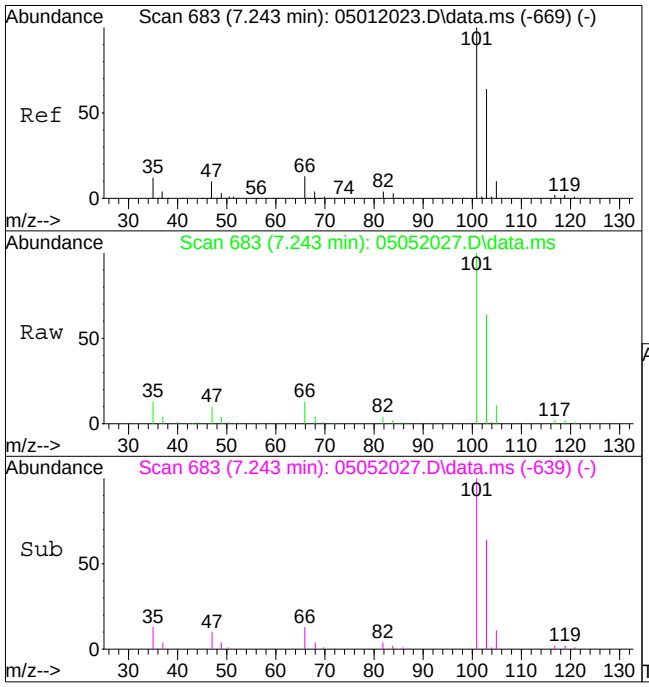


#13
Acetone
Concen: 1.24 ng
RT: 7.02 min Scan# 643
Delta R.T. -0.006 min
Lab File: 05052027.D
Acq: 5 May 2020 19:36

Tgt Ion: 58 Resp: 29126

Ion	Ratio	Lower	Upper
58	100		
43	358.0	294.4	354.4#

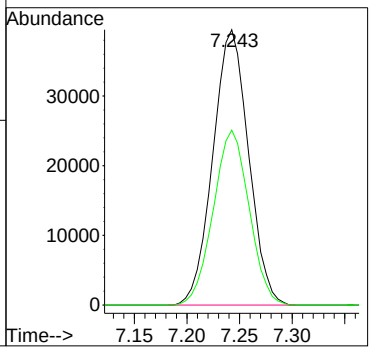


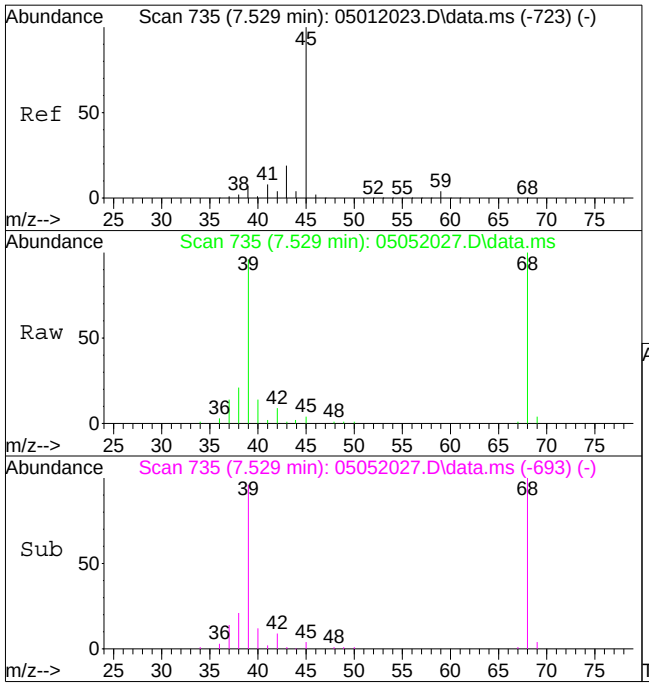


#14
Trichlorofluoromethane
Concen: 1.78 ng
RT: 7.24 min Scan# 683
Delta R.T. -0.006 min
Lab File: 05052027.D
Acq: 5 May 2020 19:36

Tgt Ion:101 Resp: 93370

Ion	Ratio	Lower	Upper
101	100		
103	63.7	44.4	84.4

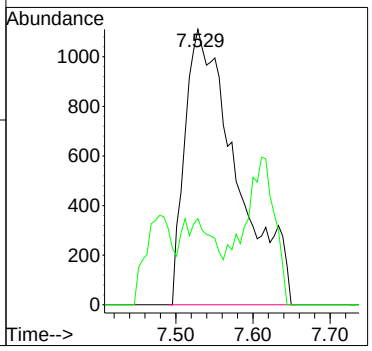


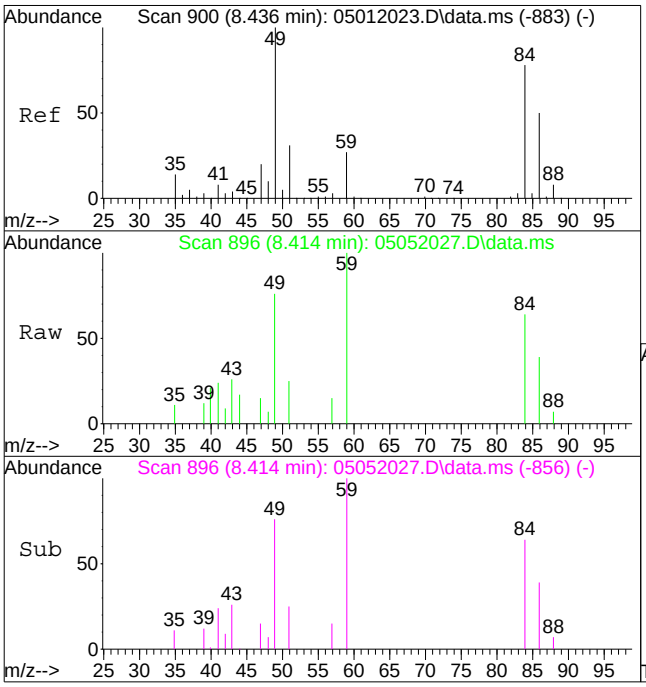


#15
2-Propanol (Isopropanol)
Concen: 0.07 ng
RT: 7.53 min Scan# 735
Delta R.T. -0.017 min
Lab File: 05052027.D
Acq: 5 May 2020 19:36

Tgt Ion: 45 Resp: 5143

Ion	Ratio	Lower	Upper
45	100		
43	0.0	0.0	39.5

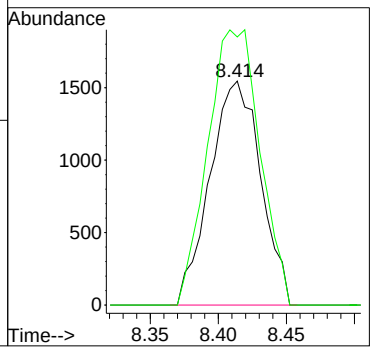


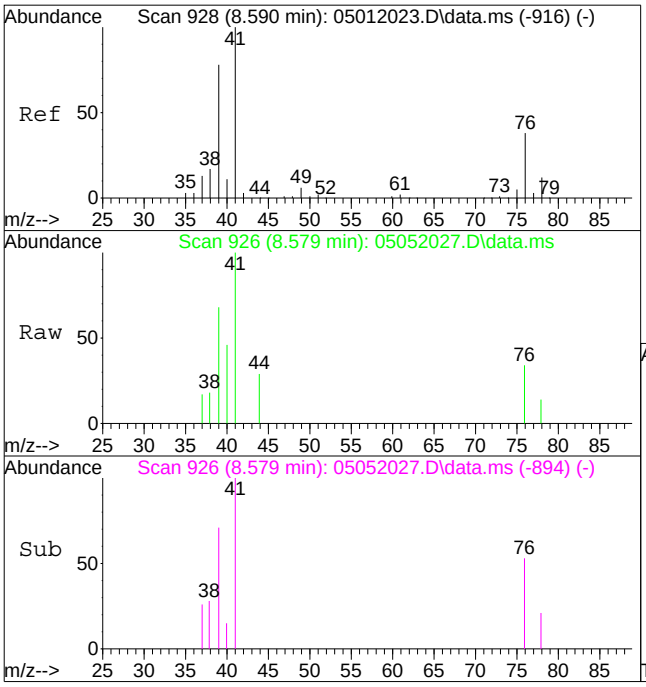


#19
Methylene Chloride
Concen: 0.13 ng
RT: 8.41 min Scan# 896
Delta R.T. -0.028 min
Lab File: 05052027.D
Acq: 5 May 2020 19:36

Tgt Ion: 84 Resp: 4011

Ion	Ratio	Lower	Upper
84	100		
49	126.6	104.8	154.8

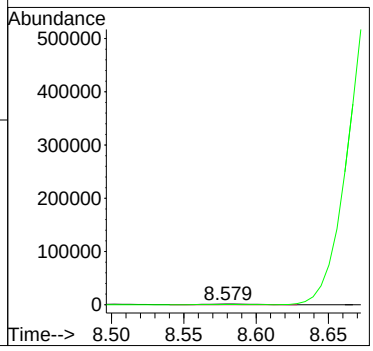


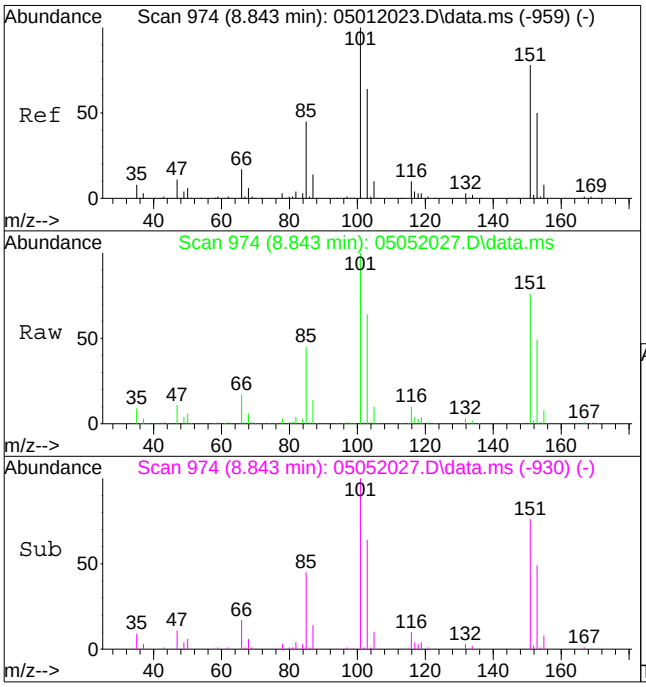


#20
3-Chloro-1-propene (Allyl Chloride)
Concen: 0.08 ng
RT: 8.58 min Scan# 926
Delta R.T. -0.022 min
Lab File: 05052027.D
Acq: 5 May 2020 19:36

Tgt Ion: 41 Resp: 3280

Ion	Ratio	Lower	Upper
41	100		
76	29.6	17.8	57.8

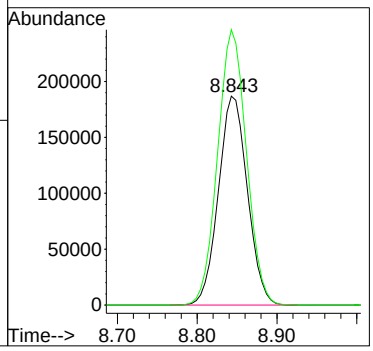


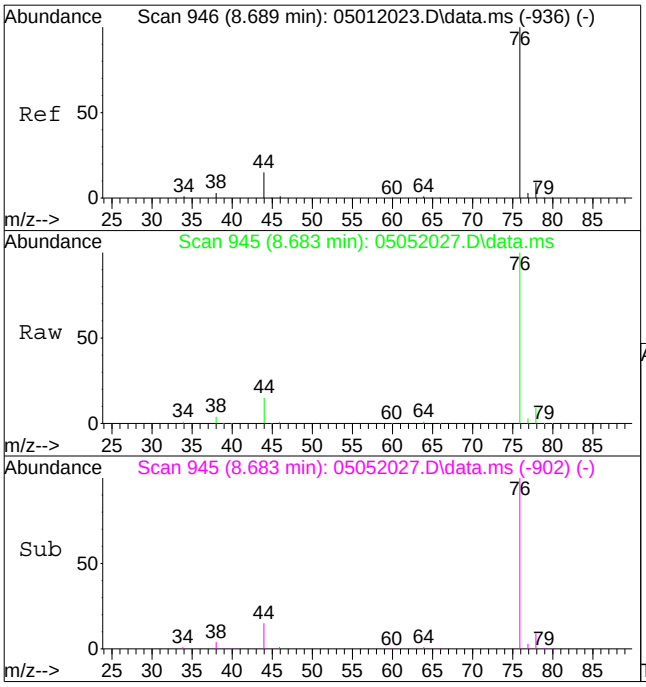


#21
Trichlorotrifluoroethane
Concen: 19.07 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05052027.D
Acq: 5 May 2020 19:36

Tgt Ion:151 Resp: 471592

Ion	Ratio	Lower	Upper
151	100		
101	131.2	107.3	147.3

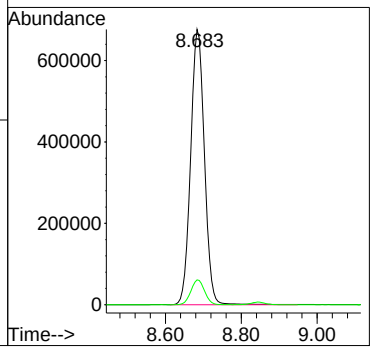


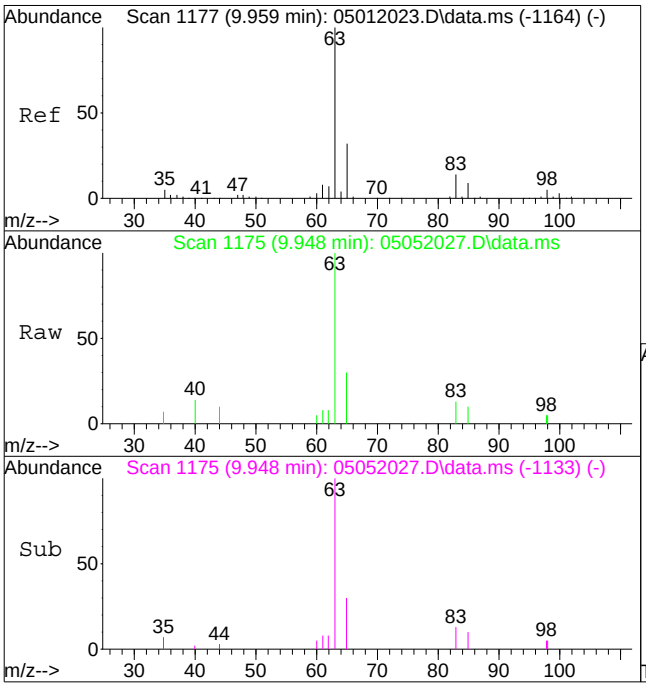


#22
Carbon Disulfide
Concen: 15.66 ng
RT: 8.68 min Scan# 945
Delta R.T. -0.011 min
Lab File: 05052027.D
Acq: 5 May 2020 19:36

Tgt Ion: 76 Resp: 1706132

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	29.2

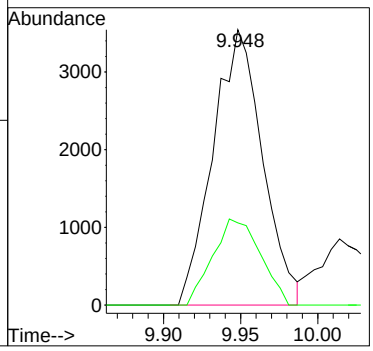


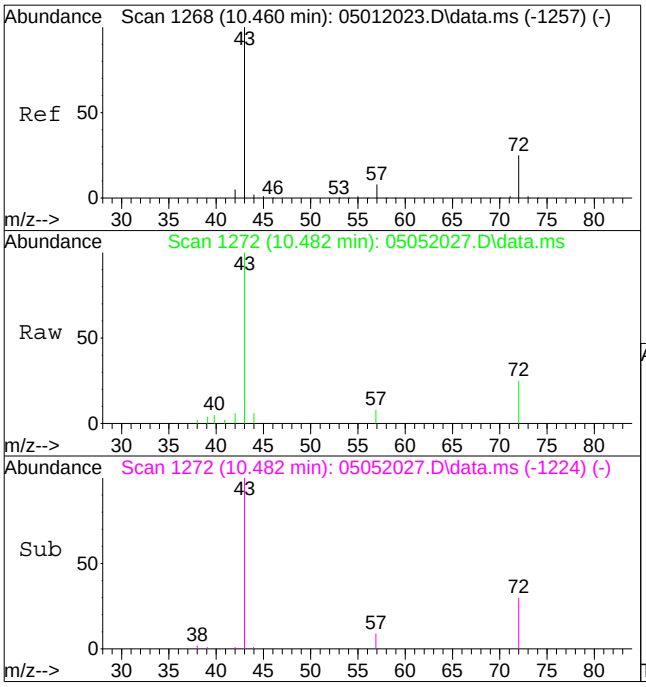


#24
1,1-Dichloroethane
Concen: 0.16 ng
RT: 9.95 min Scan# 1175
Delta R.T. -0.017 min
Lab File: 05052027.D
Acq: 5 May 2020 19:36

Tgt Ion: 63 Resp: 7928

Ion	Ratio	Lower	Upper
63	100		
65	30.1	11.8	51.8

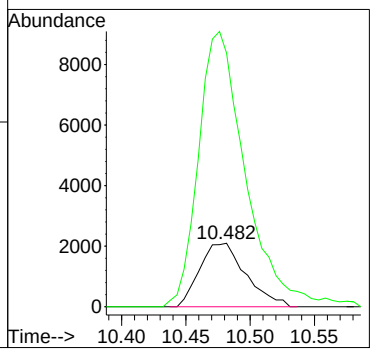


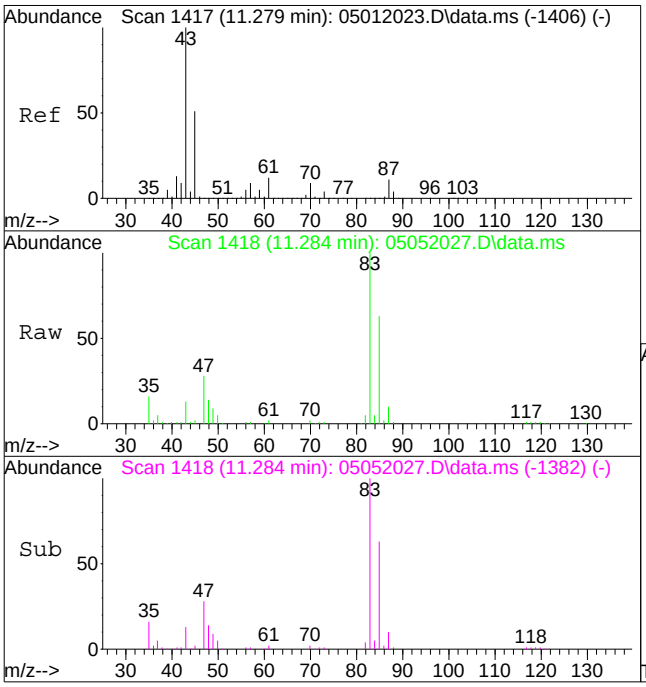


#27
2-Butanone (MEK)
Concen: 0.26 ng
RT: 10.48 min Scan# 1272
Delta R.T. 0.016 min
Lab File: 05052027.D
Acq: 5 May 2020 19:36

Tgt Ion: 72 Resp: 5234

Ion	Ratio	Lower	Upper
72	100		
43	443.6	389.7	429.7#

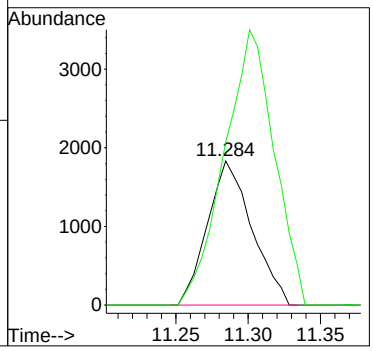


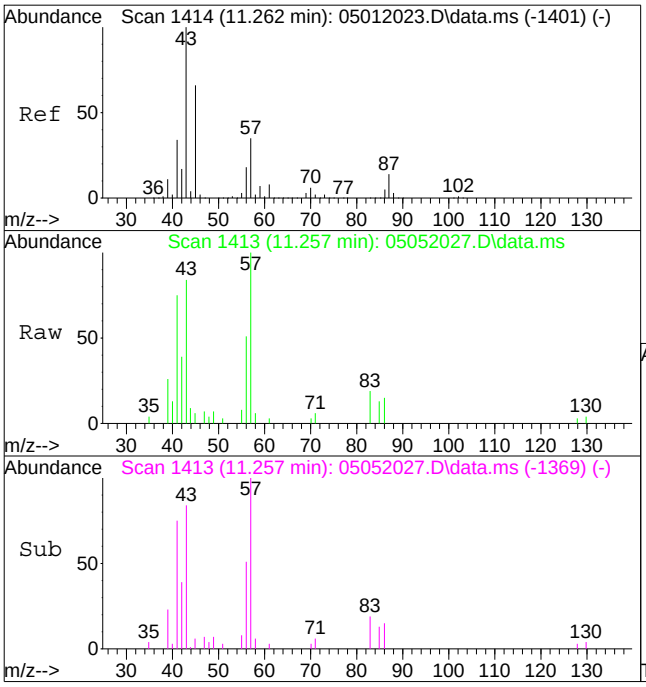


#30
Ethyl Acetate
Concen: 0.34 ng
RT: 11.28 min Scan# 1418
Delta R.T. -0.000 min
Lab File: 05052027.D
Acq: 5 May 2020 19:36

Tgt Ion: 61 Resp: 3922

Ion	Ratio	Lower	Upper
61	100		
70	214.3	57.9	97.9#

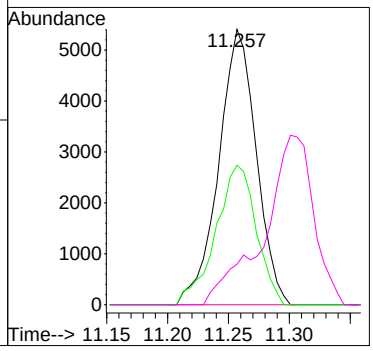


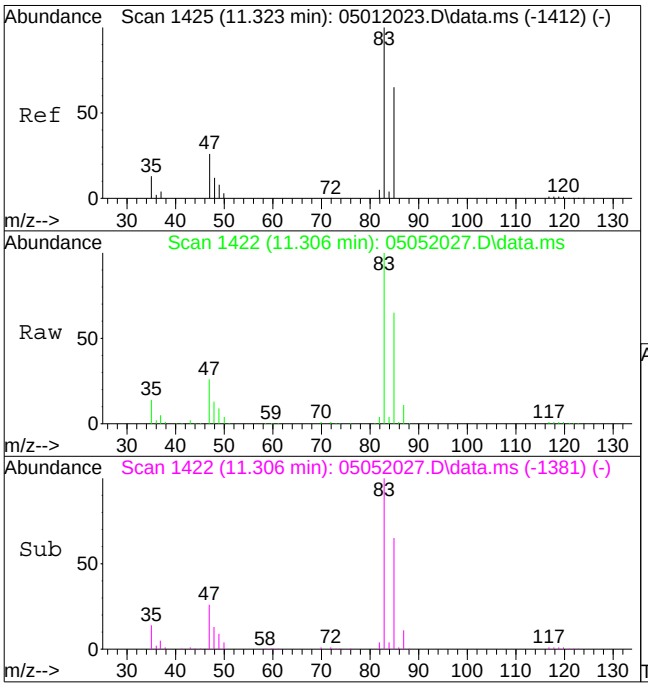


#31
n-Hexane
Concen: 0.23 ng
RT: 11.26 min Scan# 1413
Delta R.T. -0.006 min
Lab File: 05052027.D
Acq: 5 May 2020 19:36

Tgt Ion: 57 Resp: 11586

Ion	Ratio	Lower	Upper
57	100		
56	54.6	41.4	62.0
86	80.5	12.4	18.6#

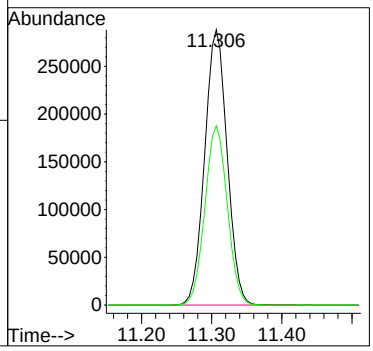


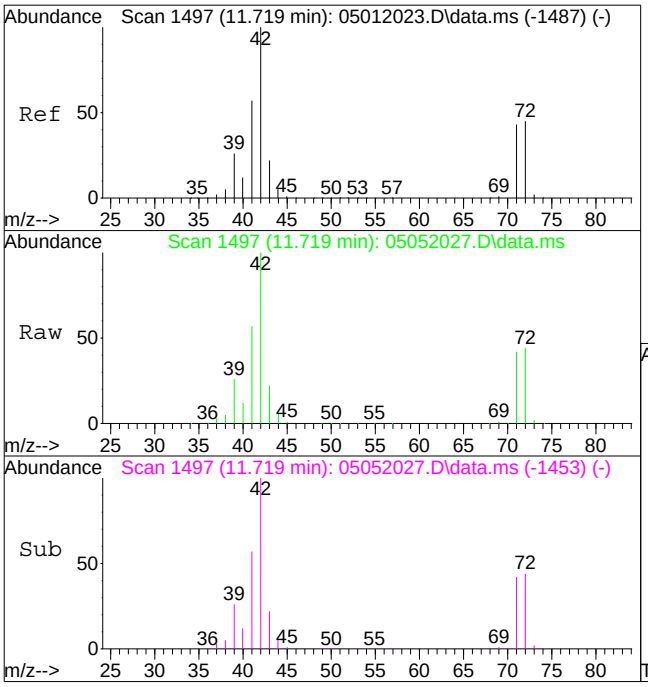


#32
Chloroform
Concen: 12.31 ng
RT: 11.31 min Scan# 1422
Delta R.T. -0.022 min
Lab File: 05052027.D
Acq: 5 May 2020 19:36

Tgt Ion: 83 Resp: 641117

Ion	Ratio	Lower	Upper
83	100		
85	65.0	45.5	85.5

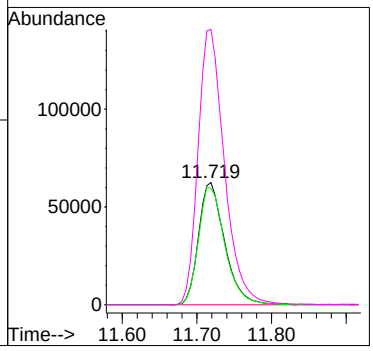


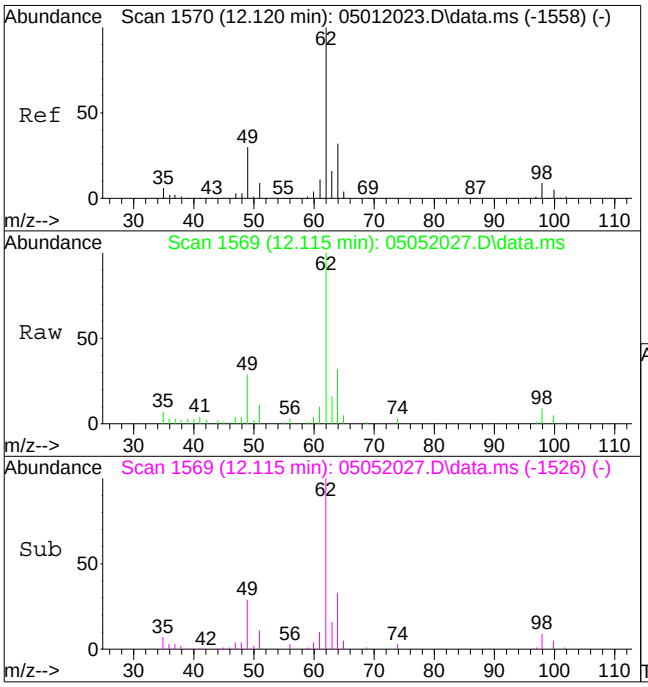


#34
Tetrahydrofuran (THF)
Concen: 7.80 ng
RT: 11.72 min Scan# 1497
Delta R.T. -0.006 min
Lab File: 05052027.D
Acq: 5 May 2020 19:36

Tgt Ion: 72 Resp: 151712

Ion	Ratio	Lower	Upper
72	100		
71	97.4	77.0	117.0
42	228.4	204.6	244.6

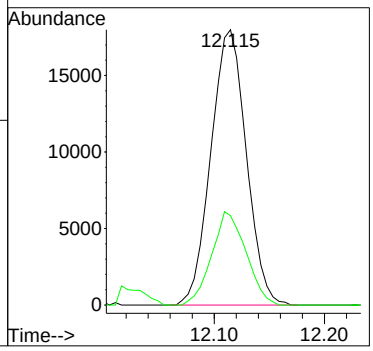


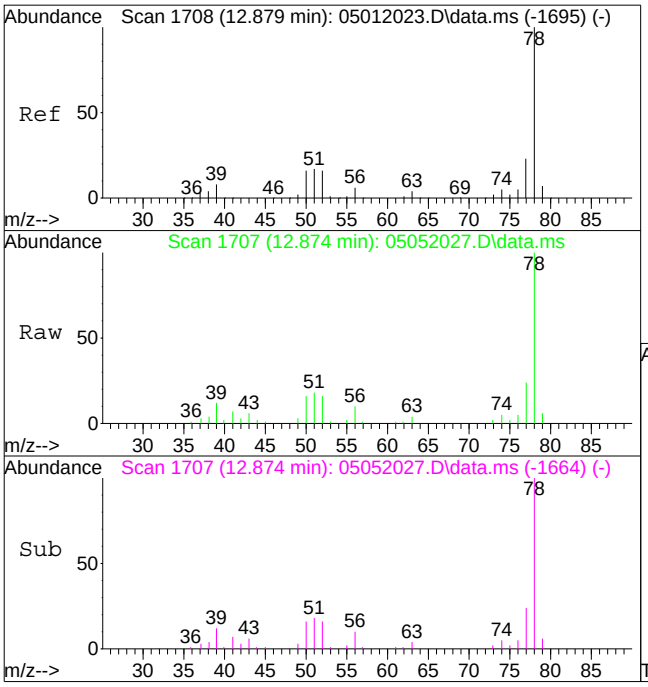


#36
1,2-Dichloroethane
Concen: 0.97 ng
RT: 12.11 min Scan# 1569
Delta R.T. -0.011 min
Lab File: 05052027.D
Acq: 5 May 2020 19:36

Tgt Ion: 62 Resp: 40193

Ion	Ratio	Lower	Upper
62	100		
64	32.8	12.4	52.4

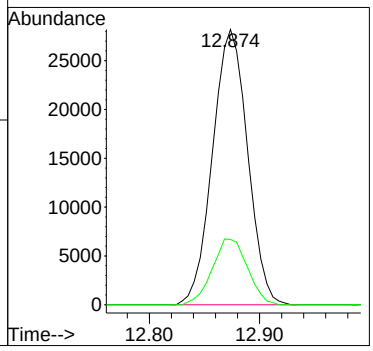


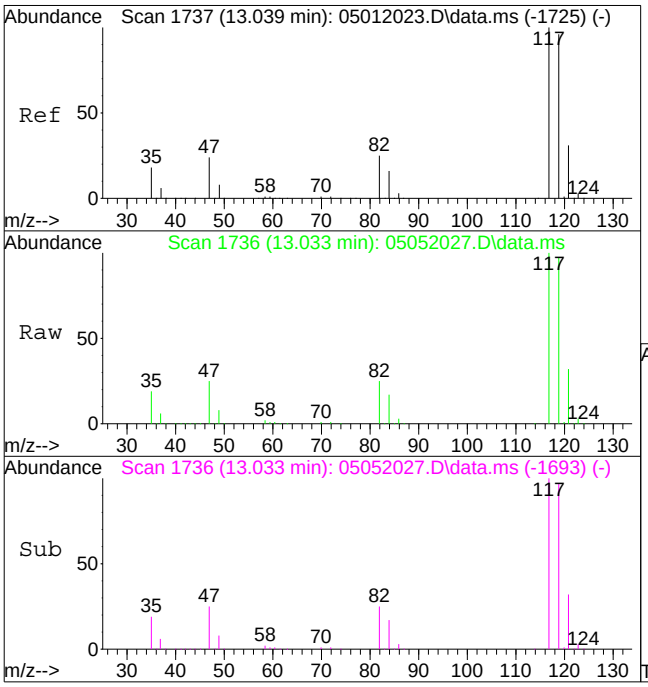


#41
Benzene
Concen: 0.53 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05052027.D
Acq: 5 May 2020 19:36

Tgt Ion: 78 Resp: 62321

Ion	Ratio	Lower	Upper
78	100		
77	24.0	3.4	43.4

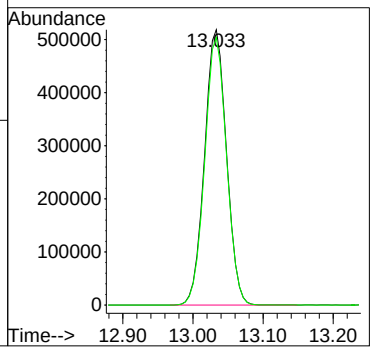


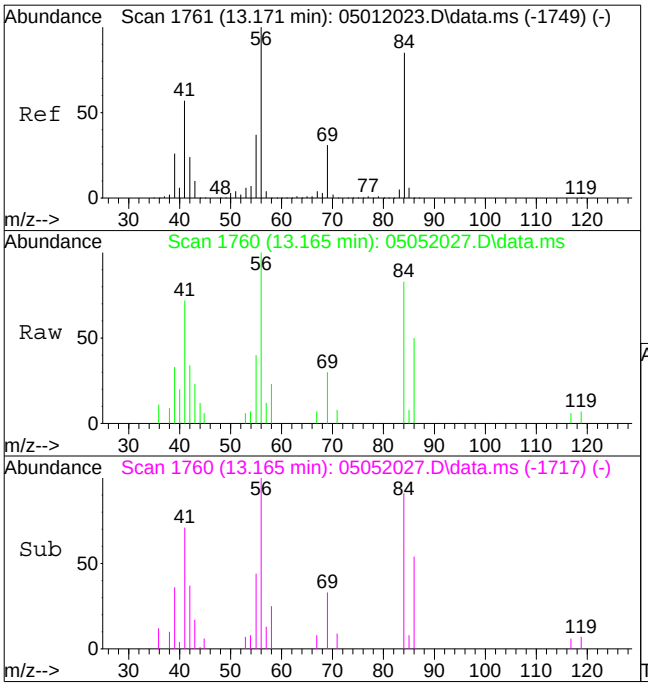


#42
Carbon Tetrachloride
Concen: 27.90 ng
RT: 13.03 min Scan# 1736
Delta R.T. -0.011 min
Lab File: 05052027.D
Acq: 5 May 2020 19:36

Tgt Ion:117 Resp: 1125283

Ion	Ratio	Lower	Upper
117	100		
119	96.6	76.2	116.2

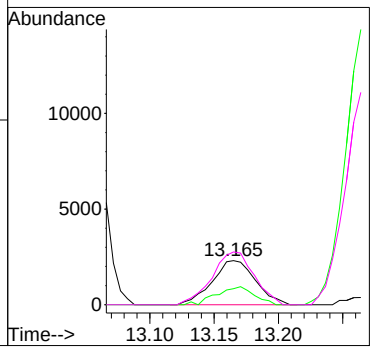


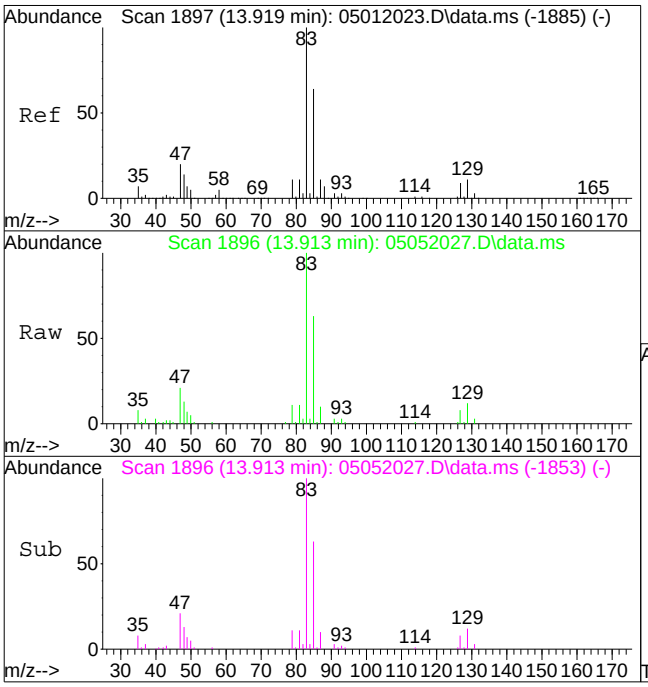


#43
Cyclohexane
Concen: 0.12 ng
RT: 13.17 min Scan# 1760
Delta R.T. -0.011 min
Lab File: 05052027.D
Acq: 5 May 2020 19:36

Tgt Ion: 84 Resp: 5410

Ion	Ratio	Lower	Upper
84	100		
69	35.4	16.5	56.5
56	116.1	97.4	137.4

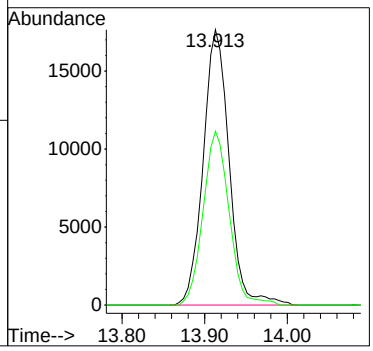


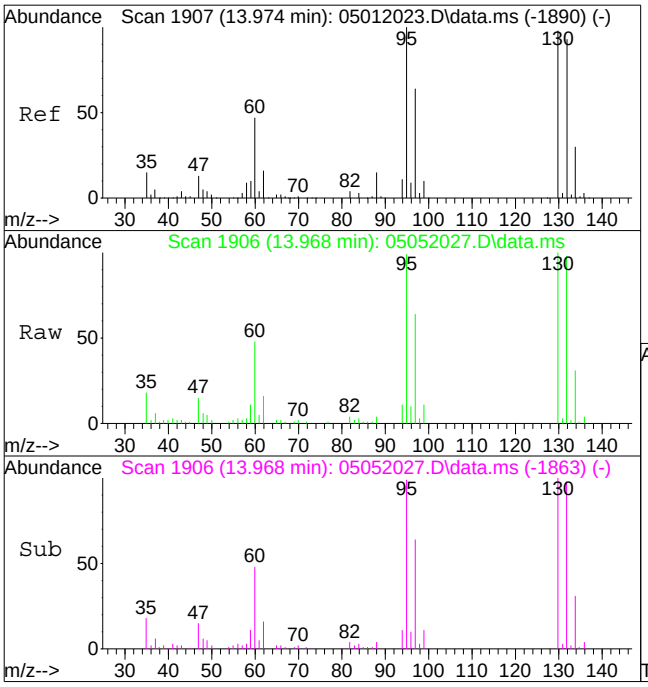


#46
Bromodichloromethane
Concen: 0.96 ng
RT: 13.91 min Scan# 1896
Delta R.T. -0.011 min
Lab File: 05052027.D
Acq: 5 May 2020 19:36

Tgt Ion: 83 Resp: 38421

Ion	Ratio	Lower	Upper
83	100		
85	63.2	44.4	84.4

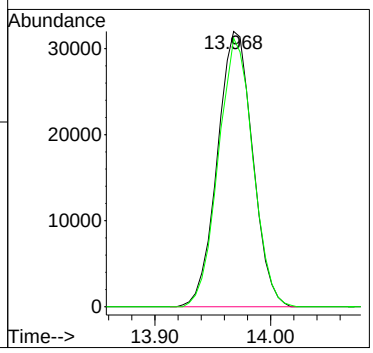


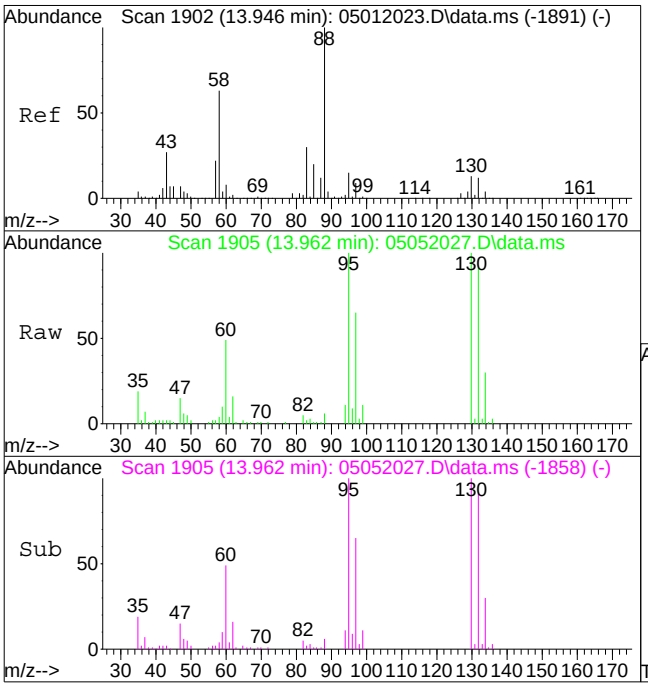


#47
Trichloroethene
Concen: 2.21 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05052027.D
Acq: 5 May 2020 19:36

Tgt Ion:130 Resp: 67704

Ion	Ratio	Lower	Upper
130	100		
132	95.6	74.9	114.9

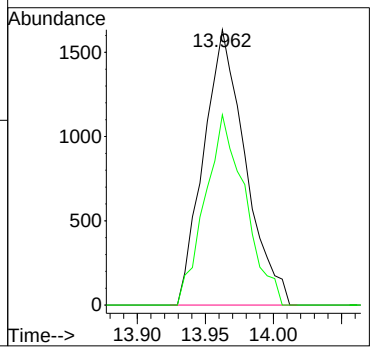


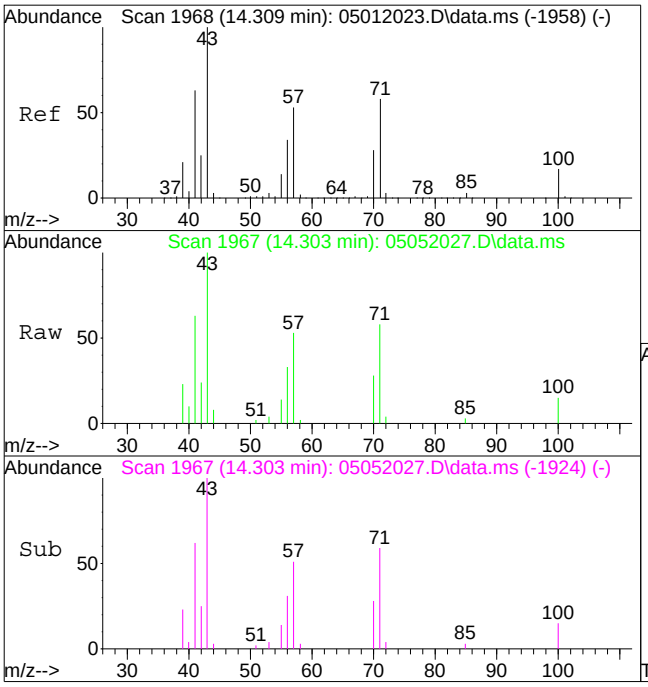


#48
1,4-Dioxane
Concen: 0.15 ng
RT: 13.96 min Scan# 1905
Delta R.T. 0.011 min
Lab File: 05052027.D
Acq: 5 May 2020 19:36

Tgt Ion: 88 Resp: 3486

Ion	Ratio	Lower	Upper
88	100		
58	66.4	42.8	82.8

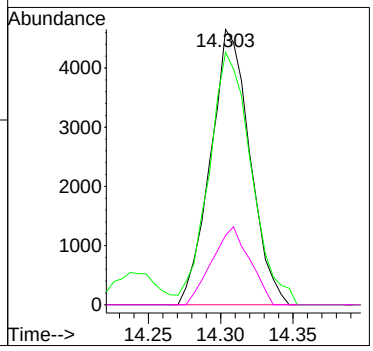


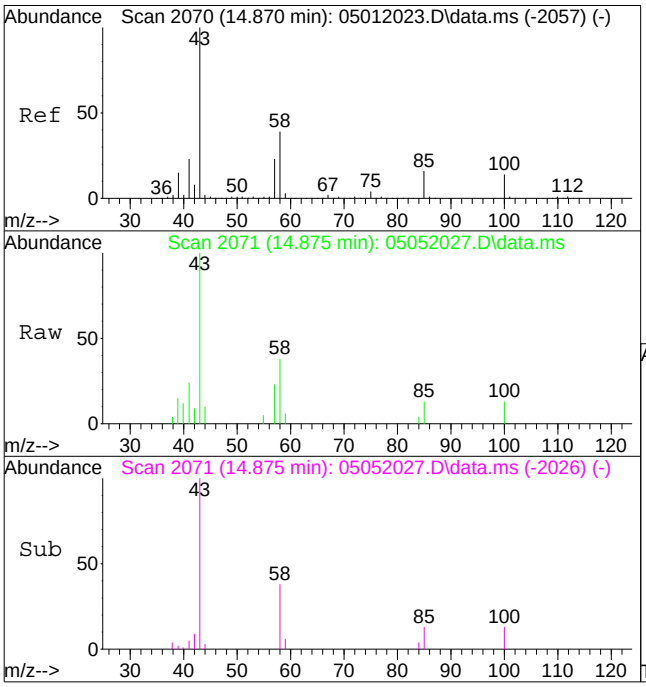


#51
n-Heptane
Concen: 0.32 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05052027.D
Acq: 5 May 2020 19:36

Tgt Ion: 71 Resp: 8795

Ion	Ratio	Lower	Upper
71	100		
57	98.4	71.0	111.0
100	27.1	8.4	48.4

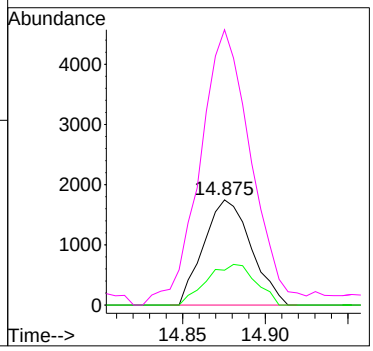


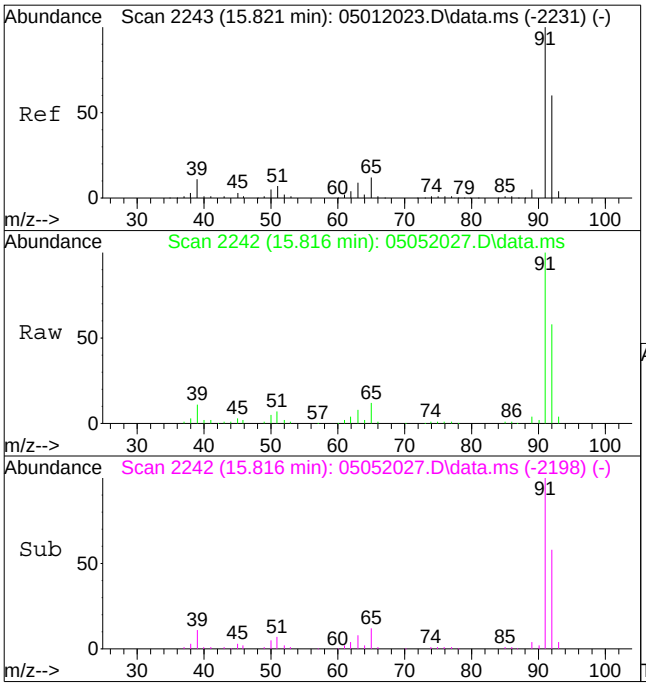


#53
4-Methyl-2-pentanone
Concen: 0.13 ng
RT: 14.88 min Scan# 2071
Delta R.T. -0.000 min
Lab File: 05052027.D
Acq: 5 May 2020 19:36

Tgt Ion: 58 Resp: 3490

Ion	Ratio	Lower	Upper
58	100		
85	40.3	35.4	53.2
43	293.4	203.3	304.9

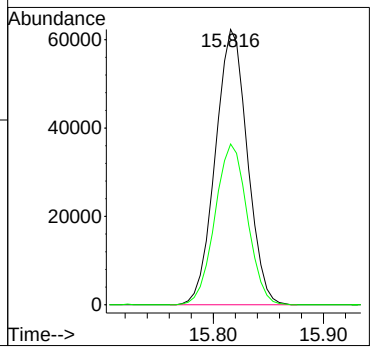


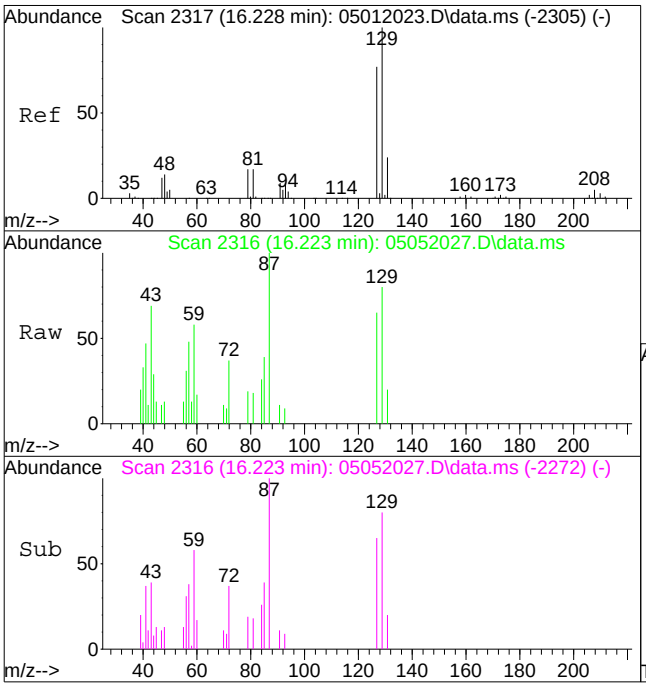


#58
Toluene
Concen: 1.09 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05052027.D
Acq: 5 May 2020 19:36

Tgt Ion: 91 Resp: 125703

Ion	Ratio	Lower	Upper
91	100		
92	59.1	39.4	79.4

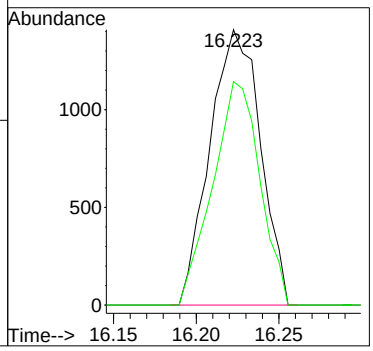


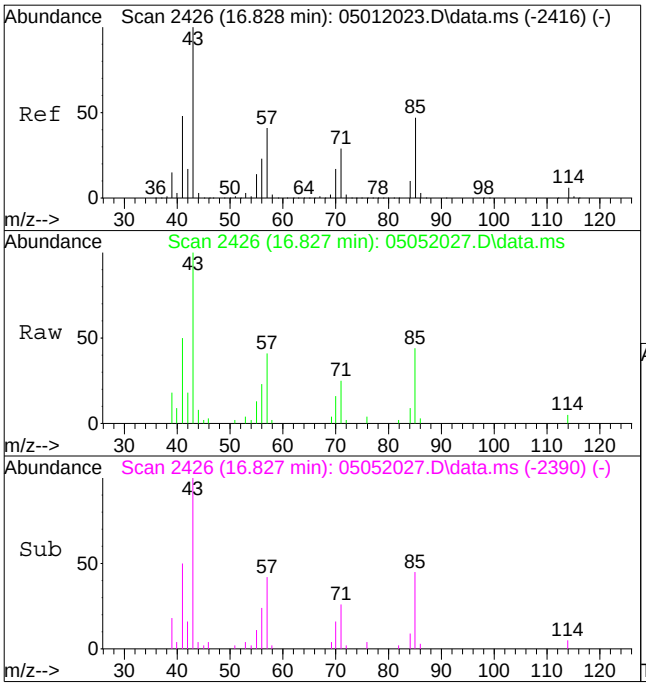


#60
Dibromochloromethane
Concen: 0.09 ng
RT: 16.22 min Scan# 2316
Delta R.T. -0.006 min
Lab File: 05052027.D
Acq: 5 May 2020 19:36

Tgt Ion:129 Resp: 2994

Ion	Ratio	Lower	Upper
129	100		
127	75.8	57.3	97.3

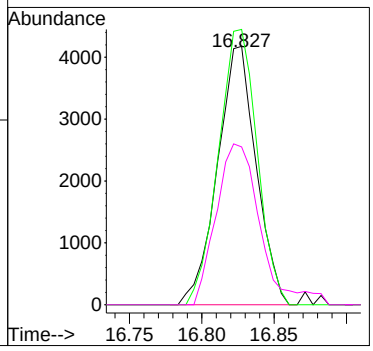


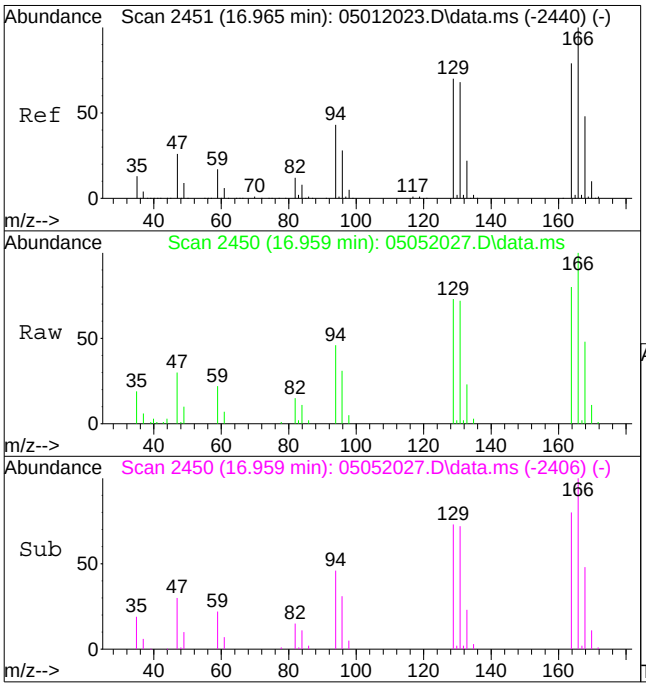


#63
n-Octane
Concen: 0.33 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05052027.D
Acq: 5 May 2020 19:36

Tgt Ion: 57 Resp: 7789

Ion	Ratio	Lower	Upper
57	100		
85	106.5	91.0	136.4
71	70.7	56.2	84.2

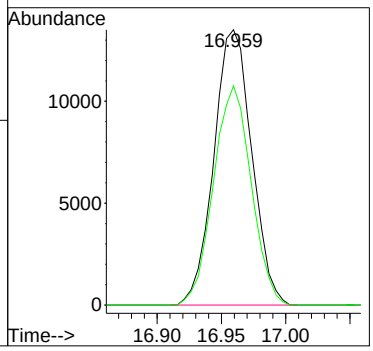


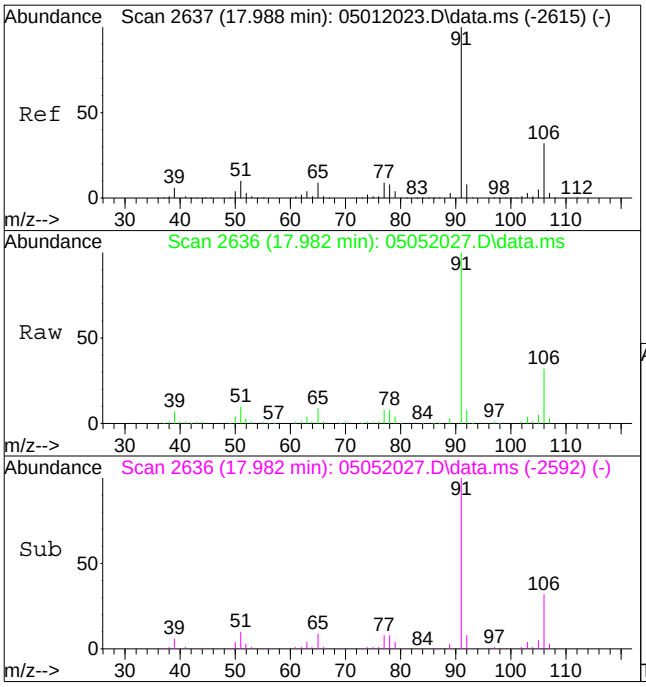


#64
Tetrachloroethene
Concen: 0.85 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05052027.D
Acq: 5 May 2020 19:36

Tgt Ion:166 Resp: 27740

Ion	Ratio	Lower	Upper
166	100		
164	79.1	58.4	98.4

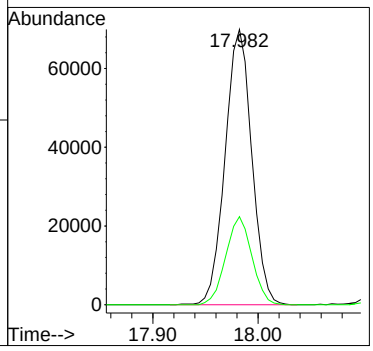


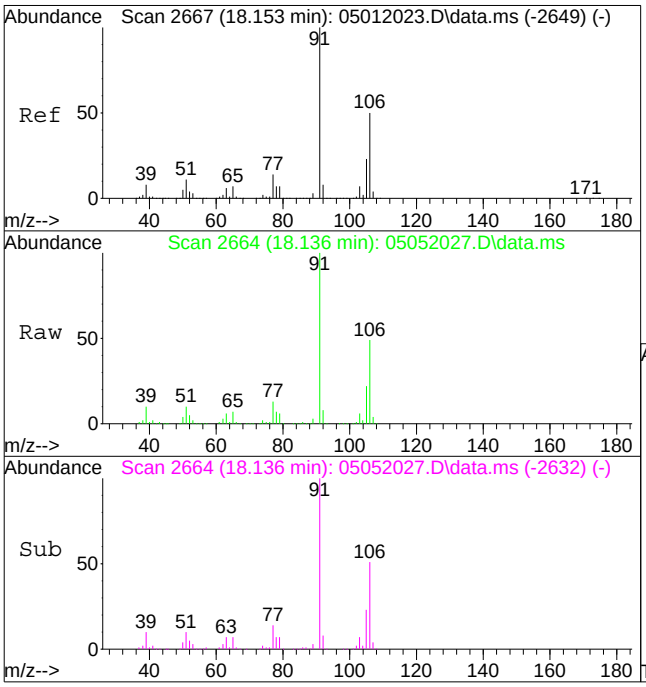


#66
Ethylbenzene
Concen: 0.96 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05052027.D
Acq: 5 May 2020 19:36

Tgt Ion: 91 Resp: 123539

Ion	Ratio	Lower	Upper
91	100		
106	31.3	11.6	51.6

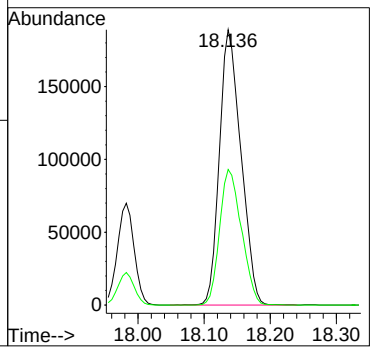


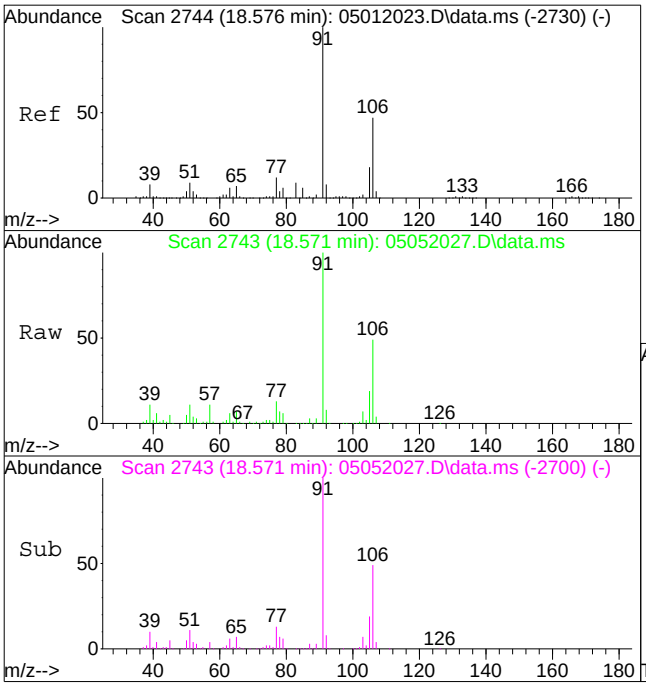


#67
m- & p-Xylenes
Concen: 4.19 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05052027.D
Acq: 5 May 2020 19:36

Tgt Ion: 91 Resp: 427594

Ion	Ratio	Lower	Upper
91	100		
106	50.0	29.7	69.7

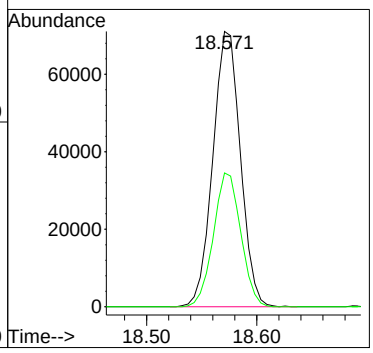


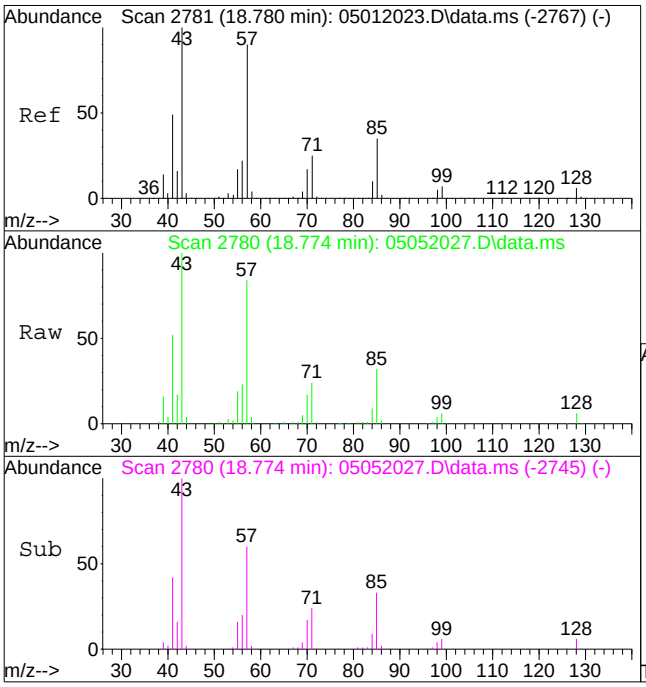


#70
o-Xylene
Concen: 1.19 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05052027.D
Acq: 5 May 2020 19:36

Tgt Ion: 91 Resp: 123436

Ion	Ratio	Lower	Upper
91	100		
106	48.2	27.5	67.5

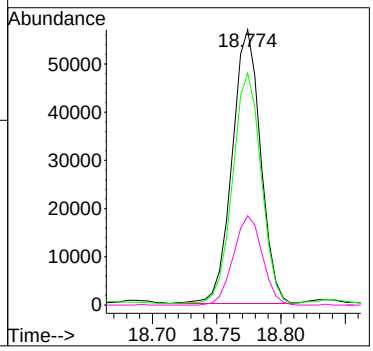


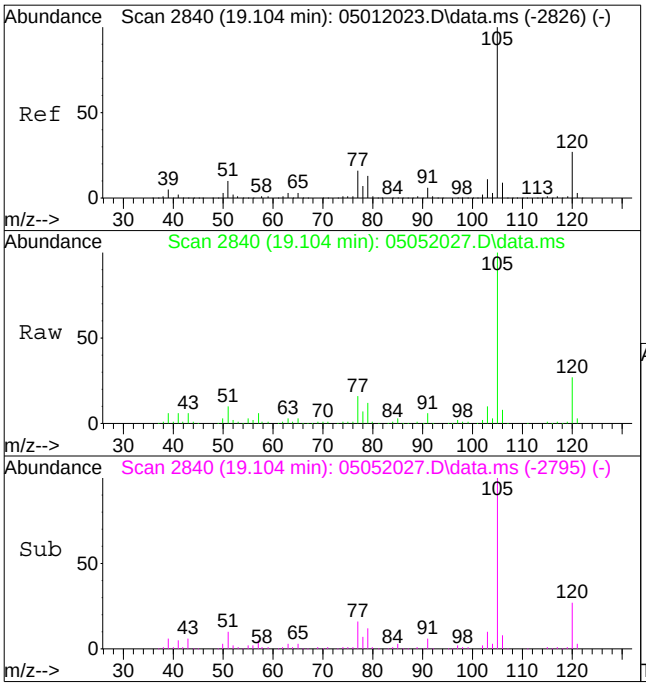


#71
n-Nonane
Concen: 1.59 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05052027.D
Acq: 5 May 2020 19:36

Tgt Ion: 43 Resp: 87489

Ion	Ratio	Lower	Upper
43	100		
57	84.5	69.0	109.0
85	33.1	14.6	54.6

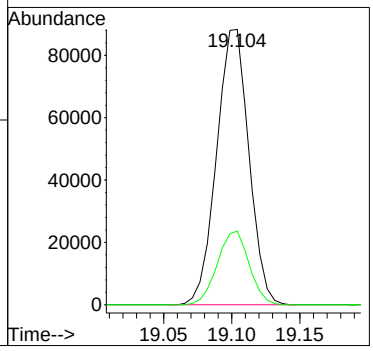


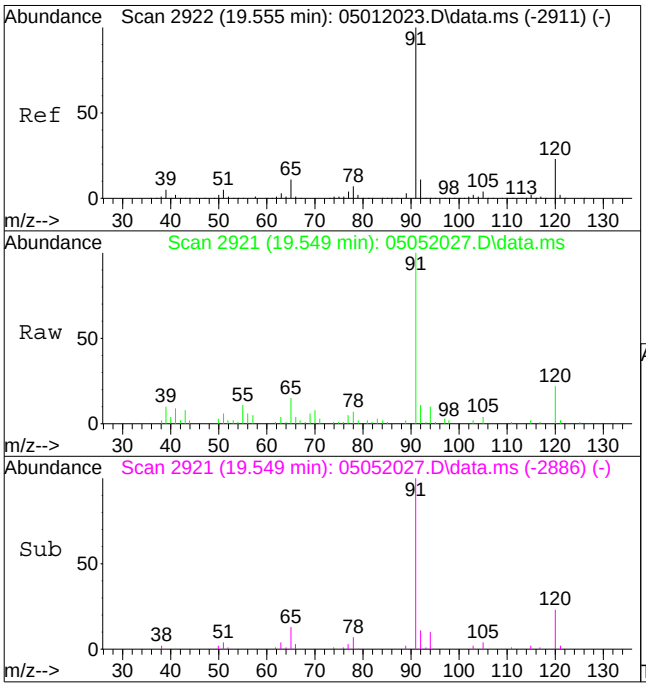


#74
Cumene
Concen: 1.15 ng
RT: 19.10 min Scan# 2840
Delta R.T. -0.000 min
Lab File: 05052027.D
Acq: 5 May 2020 19:36

Tgt Ion:105 Resp: 145800

Ion	Ratio	Lower	Upper
105	100		
120	26.2	6.8	46.8

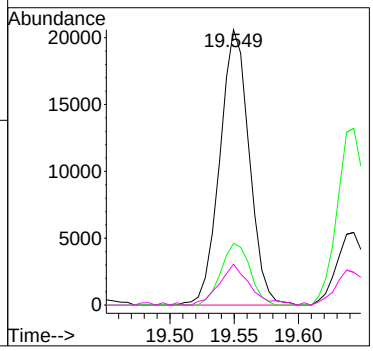


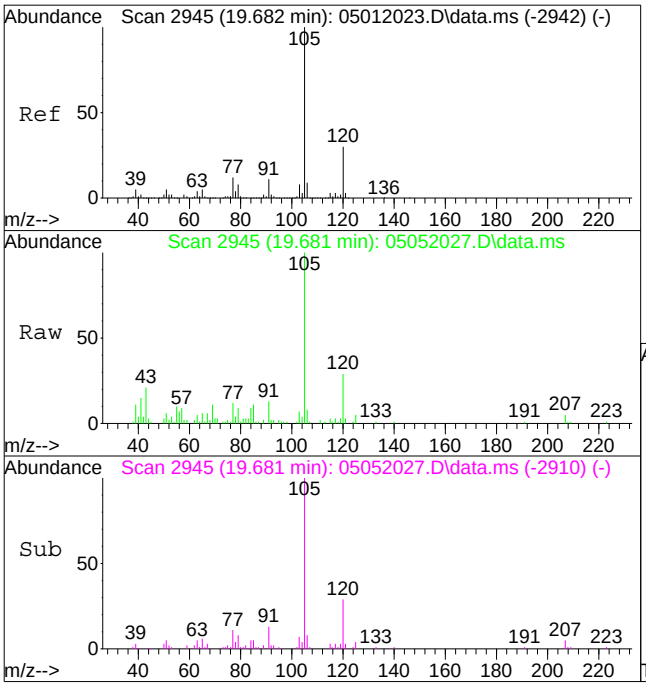


#76
n-Propylbenzene
Concen: 0.22 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05052027.D
Acq: 5 May 2020 19:36

Tgt Ion: 91 Resp: 32802

Ion	Ratio	Lower	Upper
91	100		
120	22.1	3.1	43.1
65	15.5	0.0	30.9

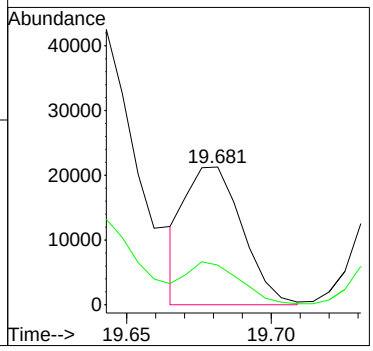


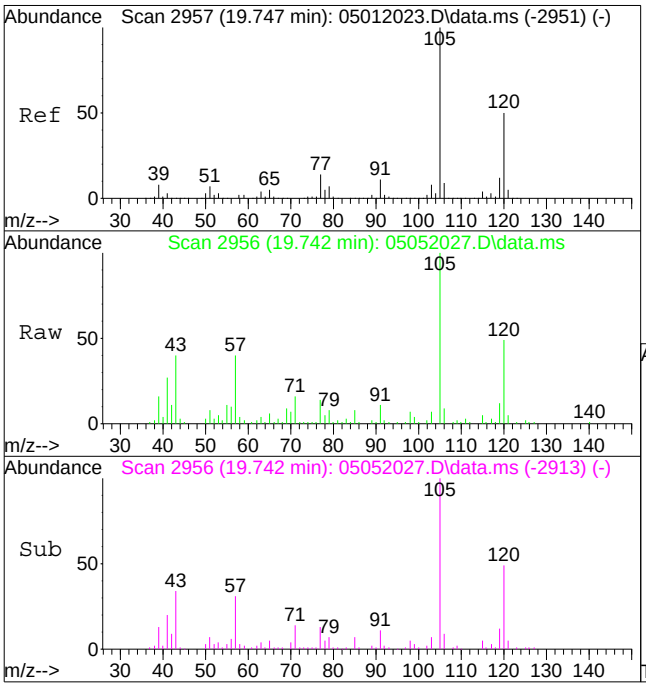


#78
4-Ethyltoluene
Concen: 0.25 ng
RT: 19.68 min Scan# 2945
Delta R.T. -0.006 min
Lab File: 05052027.D
Acq: 5 May 2020 19:36

Tgt Ion:105 Resp: 29372

Ion	Ratio	Lower	Upper
105	100		
120	29.6	10.4	50.4

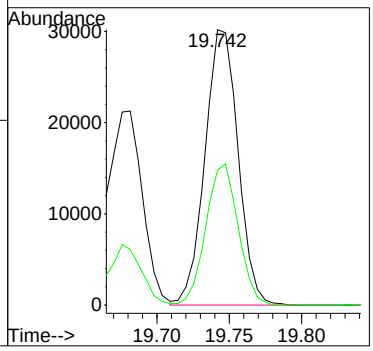


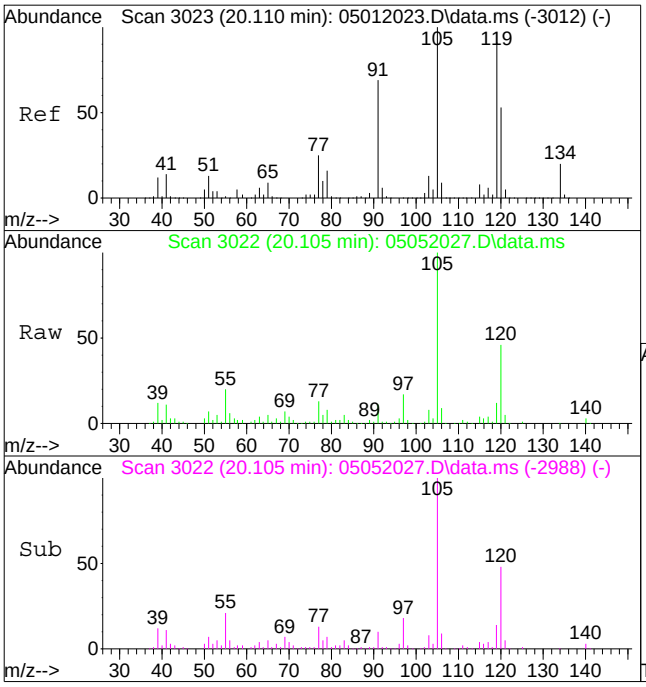


#79
1,3,5-Trimethylbenzene
Concen: 0.46 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05052027.D
Acq: 5 May 2020 19:36

Tgt Ion:105 Resp: 48220

Ion	Ratio	Lower	Upper
105	100		
120	49.9	29.9	69.9

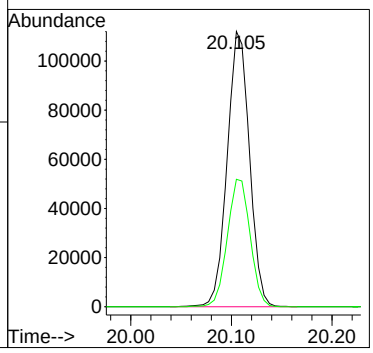


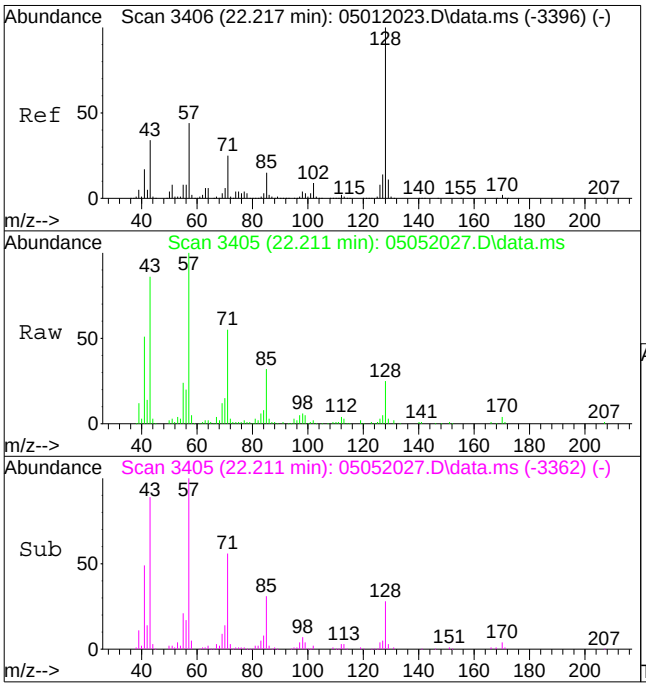


#82
1,2,4-Trimethylbenzene
Concen: 1.65 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05052027.D
Acq: 5 May 2020 19:36

Tgt Ion:105 Resp: 172206

Ion	Ratio	Lower	Upper
105	100		
120	47.4	33.6	73.6

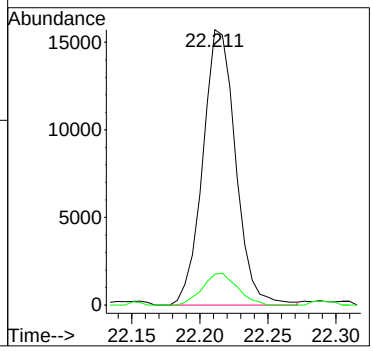




#95
Naphthalene
Concen: 0.21 ng
RT: 22.21 min Scan# 3405
Delta R.T. -0.011 min
Lab File: 05052027.D
Acq: 5 May 2020 19:36

Tgt Ion:128 Resp: 26329

Ion	Ratio	Lower	Upper
128	100		
129	12.2	0.0	31.0



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052028.D Vial: 10
Acq On : 5 May 2020 20:10 Operator: WA
Sample : P2002107-013 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 07 17:38:23 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/7/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	257344	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1092226	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	544217	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	421327	12.081	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.64%				
57) Toluene-d8 (SS2)	15.72	98	1116115	12.100	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.80%				
73) Bromofluorobenzene (SS3)	18.98	174	413656	12.463	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.68%				
Target Compounds							Qvalue
2) Propene	4.11	42	8852	0.297	ng		98
3) Dichlorodifluoromethan...	4.27	85	30933	0.531	ng		99
4) Chloromethane	4.54	50	4784	0.105	ng		93
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	726	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.22	54	249	N.D.			
8) Bromomethane	5.65	94	266	N.D.			
9) Chloroethane	5.98	64	537	N.D.			
10) Ethanol	6.33	45	77568	3.370	ng		99
11) Acetonitrile	6.59	41	6294	0.120	ng		91
12) Acrolein	6.78	56	8254	0.454	ng		98
13) Acetone	6.99	58	129838	5.641	ng		93
14) Trichlorofluoromethane	7.24	101	13078	0.254	ng		100
15) 2-Propanol (Isopropanol)	7.51	45	49674	0.713	ng		91
16) Acrylonitrile	7.83	53	738	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	9325	0.312	ng		100
20) 3-Chloro-1-propene (Al...	8.51	41	726	N.D.			
21) Trichlorotrifluoroethane	8.85	151	3343	0.137	ng		95
22) Carbon Disulfide	8.67	76	155031	1.446	ng		100
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.09	73	1206	N.D.			
26) Vinyl Acetate	10.17	86	9858	1.375	ng	#	37
27) 2-Butanone (MEK)	10.46	72	20174	1.028	ng		95
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.27	61	22241	1.965	ng		94
31) n-Hexane	11.26	57	26610	0.542	ng		98
32) Chloroform	11.30	83	21698	0.424	ng		100
34) Tetrahydrofuran (THF)	11.73	72	10148	0.530	ng		93
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	14865	0.127	ng		100
42) Carbon Tetrachloride	13.03	117	28438	0.714	ng		98
43) Cyclohexane	13.17	84	30248	0.693	ng		99
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	13.91	83	814	N.D.			
47) Trichloroethene	13.97	130	935	N.D.			
48) 1,4-Dioxane	13.96	88	1379	0.058	ng		96
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.30	100	577	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052028.D Vial: 10
Acq On : 5 May 2020 20:10 Operator: WA
Sample : P2002107-013 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 07 17:38:23 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

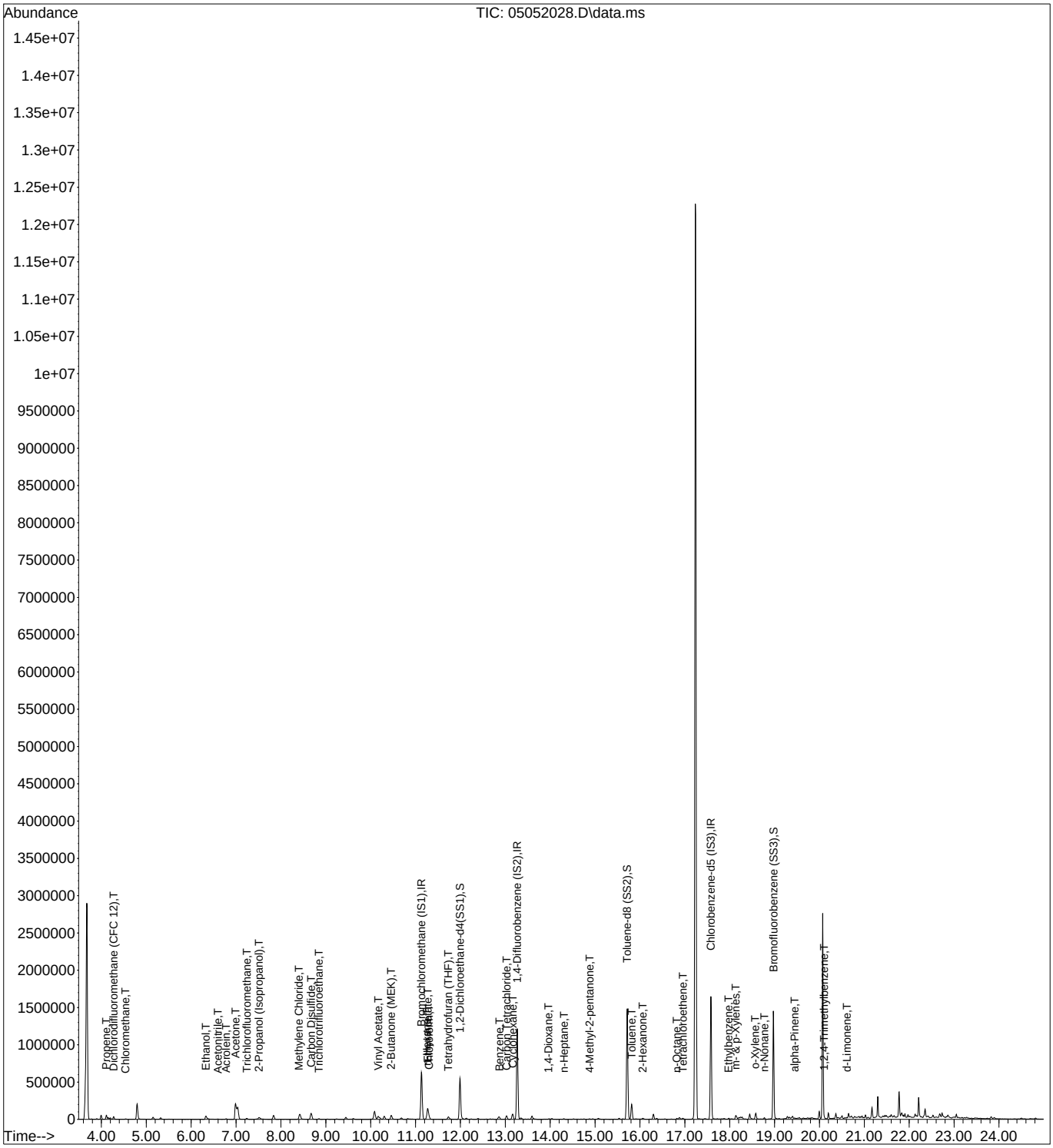
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.31	71	2079	0.076 ng		98
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.88	58	1574	0.060 ng	#	29
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.82	91	165789	1.394 ng		99
59) 2-Hexanone	16.06	43	13107	0.201 ng		81
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.70	43	3269	N.D.		
63) n-Octane	16.82	57	1997	0.081 ng	#	82
64) Tetrachloroethene	16.96	166	4218	0.126 ng		96
65) Chlorobenzene	17.63	112	240	N.D.		
66) Ethylbenzene	17.98	91	10724	0.081 ng		96
67) m- & p-Xylenes	18.14	91	35088	0.334 ng		100
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	2515	N.D.		
70) o-Xylene	18.57	91	11792	0.110 ng		97
71) n-Nonane	18.77	43	7542	0.133 ng		94
72) 1,1,2,2-Tetrachloroethane	18.59	83	520	N.D.		
74) Cumene	19.10	105	1473	N.D.		
75) alpha-Pinene	19.45	93	5549	0.079 ng		89
76) n-Propylbenzene	19.55	91	3984	N.D.		
77) 3-Ethyltoluene	19.64	105	4610	N.D.		
78) 4-Ethyltoluene	19.68	105	1940	N.D.		
79) 1,3,5-Trimethylbenzene	19.75	105	3262	N.D.		
80) alpha-Methylstyrene	19.88	118	1706	N.D.		
81) 2-Ethyltoluene	19.92	105	2123	N.D.		
82) 1,2,4-Trimethylbenzene	20.10	105	7611	0.071 ng		94
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.22	91	768	N.D.		
85) 1,3-Dichlorobenzene	20.30	146	537	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	537	N.D.		
87) sec-Butylbenzene	20.35	105	2482	N.D.		
88) 4-Isopropyltoluene (p-...	20.48	119	2705	N.D.		
89) 1,2,3-Trimethylbenzene	20.48	105	3904	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.61	68	3561	0.084 ng		91
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.11	180	112	N.D.		
95) Naphthalene	22.22	128	4308	N.D.		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	22.73	225	128	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052028.D Vial: 10
Acq On : 5 May 2020 20:10 Operator: WA
Sample : P2002107-013 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 07 17:38:23 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052028.D Vial: 10
Acq On : 5 May 2020 20:10 Operator: WA
Sample : P2002107-013 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 07 17:38:23 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/7/20

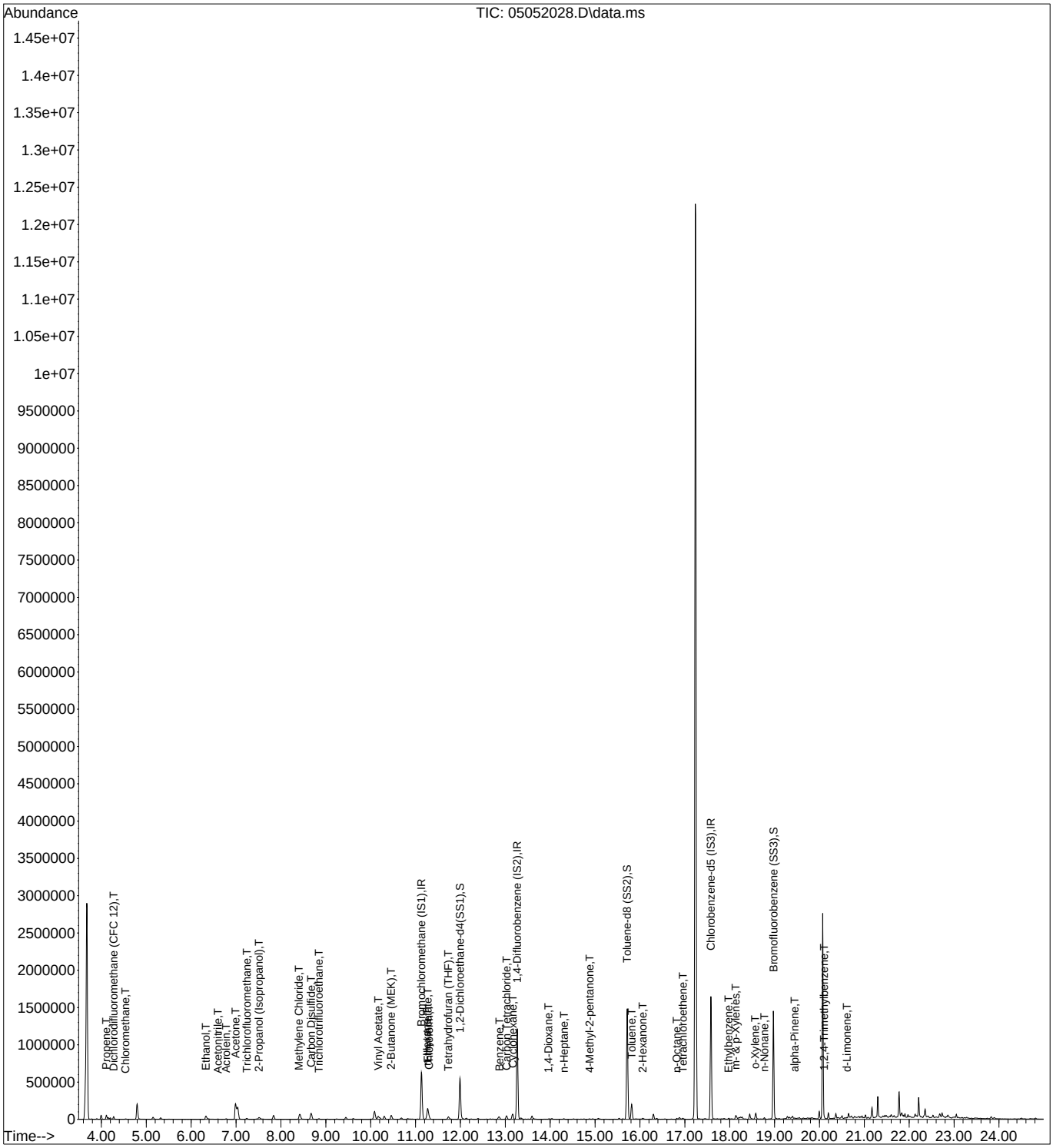
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	257344	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1092226	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	544217	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	421327	12.081	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.64%				
57) Toluene-d8 (SS2)	15.72	98	1116115	12.100	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.80%				
73) Bromofluorobenzene (SS3)	18.98	174	413656	12.463	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.68%				
Target Compounds							Qvalue
2) Propene	4.11	42	8852	0.297	ng		98
3) Dichlorodifluoromethan...	4.27	85	30933	0.531	ng		99
4) Chloromethane	4.54	50	4784	0.105	ng		93
10) Ethanol	6.33	45	77568	3.370	ng		99
11) Acetonitrile	6.59	41	6294	0.120	ng		91
12) Acrolein	6.78	56	8254	0.454	ng		98
13) Acetone	6.99	58	129838	5.641	ng		93
14) Trichlorofluoromethane	7.24	101	13078	0.254	ng		100
15) 2-Propanol (Isopropanol)	7.51	45	49674	0.713	ng		91
19) Methylene Chloride	8.40	84	9325	0.312	ng		100
21) Trichlorotrifluoroethane	8.85	151	3343	0.137	ng		95
22) Carbon Disulfide	8.67	76	155031	1.446	ng		100
26) Vinyl Acetate	10.17	86	9858	1.375	ng	#	37
27) 2-Butanone (MEK)	10.46	72	20174	1.028	ng		95
30) Ethyl Acetate	11.27	61	22241	1.965	ng		94
31) n-Hexane	11.26	57	26610	0.542	ng		98
32) Chloroform	11.30	83	21698	0.424	ng		100
34) Tetrahydrofuran (THF)	11.73	72	10148	0.530	ng		93
41) Benzene	12.87	78	14865	0.127	ng		100
42) Carbon Tetrachloride	13.03	117	28438	0.714	ng		98
43) Cyclohexane	13.17	84	30248	0.693	ng		99
48) 1,4-Dioxane	13.96	88	1379	0.058	ng		96
51) n-Heptane	14.31	71	2079	0.076	ng		98
53) 4-Methyl-2-pentanone	14.88	58	1574	0.060	ng	#	29
58) Toluene	15.82	91	165789	1.394	ng		99
59) 2-Hexanone	16.06	43	13107	0.201	ng		81
63) n-Octane	16.82	57	1997	0.081	ng	#	82
64) Tetrachloroethene	16.96	166	4218	0.126	ng		96
66) Ethylbenzene	17.98	91	10724	0.081	ng		96
67) m- & p-Xylenes	18.14	91	35088	0.334	ng		100
70) o-Xylene	18.57	91	11792	0.110	ng		97
71) n-Nonane	18.77	43	7542	0.133	ng		94
75) alpha-Pinene	19.45	93	5549	0.079	ng		89
82) 1,2,4-Trimethylbenzene	20.10	105	7611	0.071	ng		94
91) d-Limonene	20.61	68	3561	0.084	ng		91

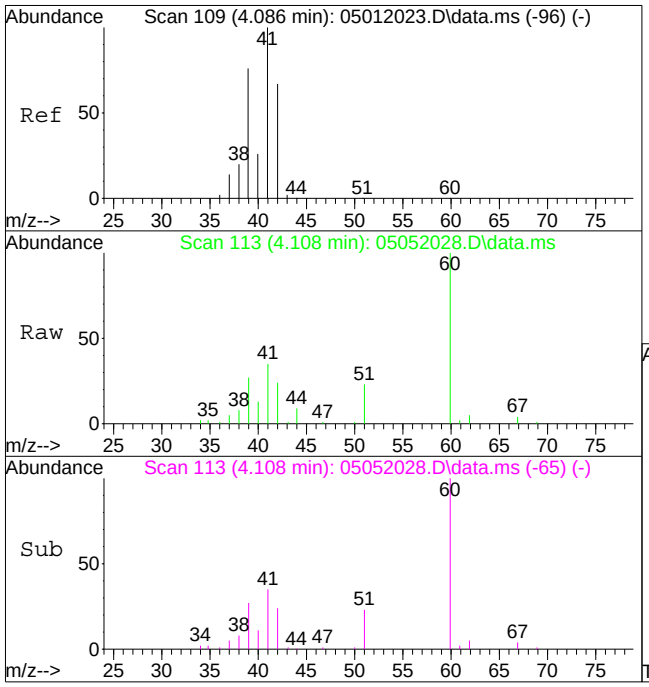
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052028.D Vial: 10
Acq On : 5 May 2020 20:10 Operator: WA
Sample : P2002107-013 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 07 17:38:23 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

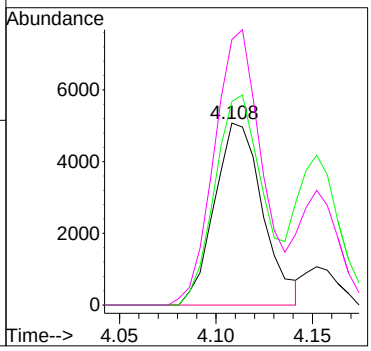


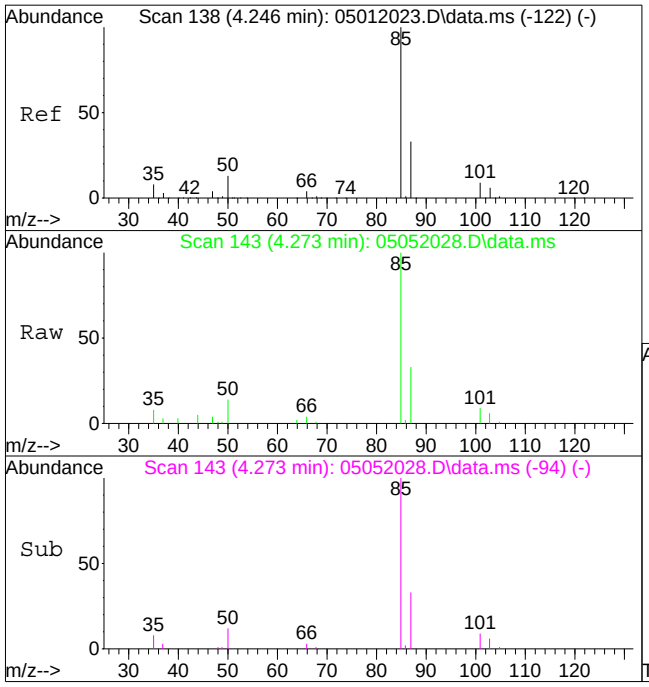


#2
Propene
Concen: 0.30 ng
RT: 4.11 min Scan# 113
Delta R.T. 0.016 min
Lab File: 05052028.D
Acq: 5 May 2020 20:10

Tgt Ion: 42 Resp: 8852

Ion	Ratio	Lower	Upper
42	100		
39	116.7	96.1	136.1
41	147.6	131.9	171.9

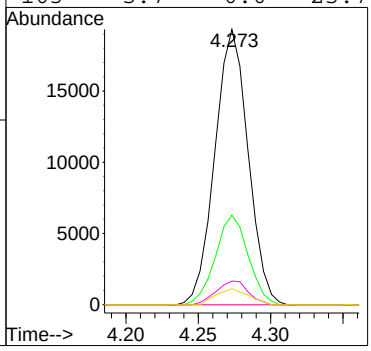


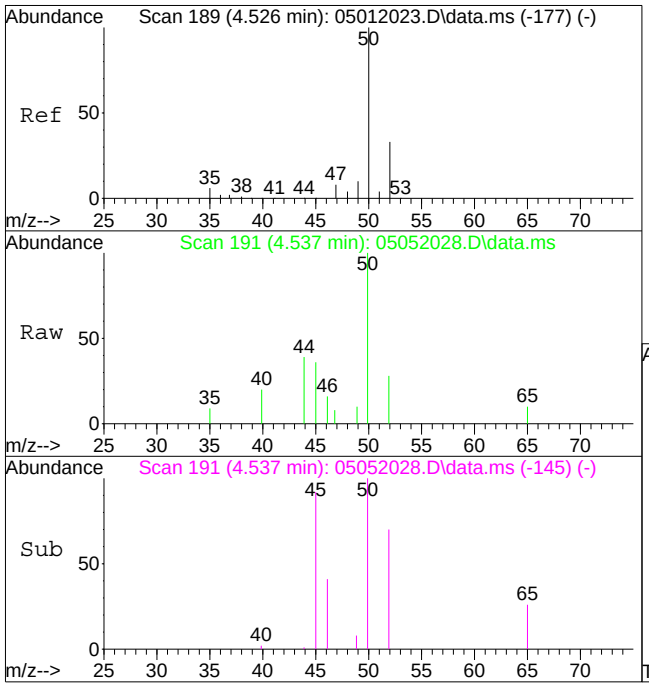


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.53 ng
RT: 4.27 min Scan# 143
Delta R.T. 0.022 min
Lab File: 05052028.D
Acq: 5 May 2020 20:10

Tgt Ion: 85 Resp: 30933

Ion	Ratio	Lower	Upper
85	100		
87	32.0	12.4	52.4
101	8.4	0.0	28.8
103	5.7	0.0	25.7

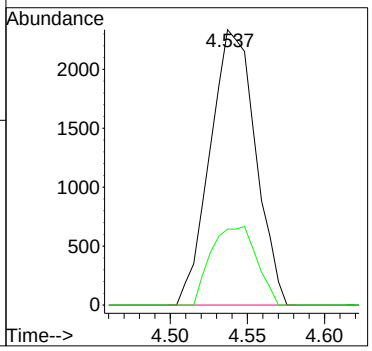


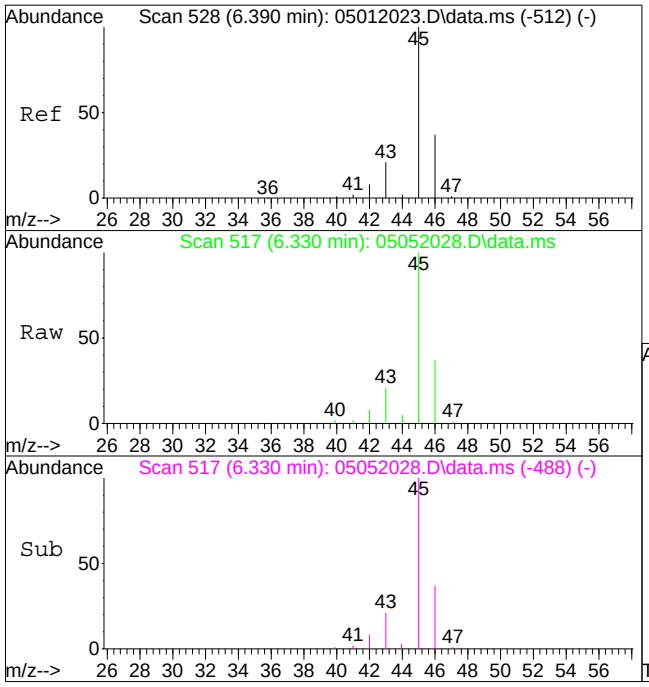


#4
Chloromethane
Concen: 0.10 ng
RT: 4.54 min Scan# 191
Delta R.T. 0.005 min
Lab File: 05052028.D
Acq: 5 May 2020 20:10

Tgt Ion: 50 Resp: 4784

Ion	Ratio	Lower	Upper
50	100		
52	28.6	12.5	52.5

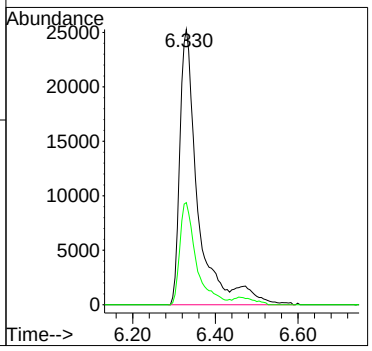


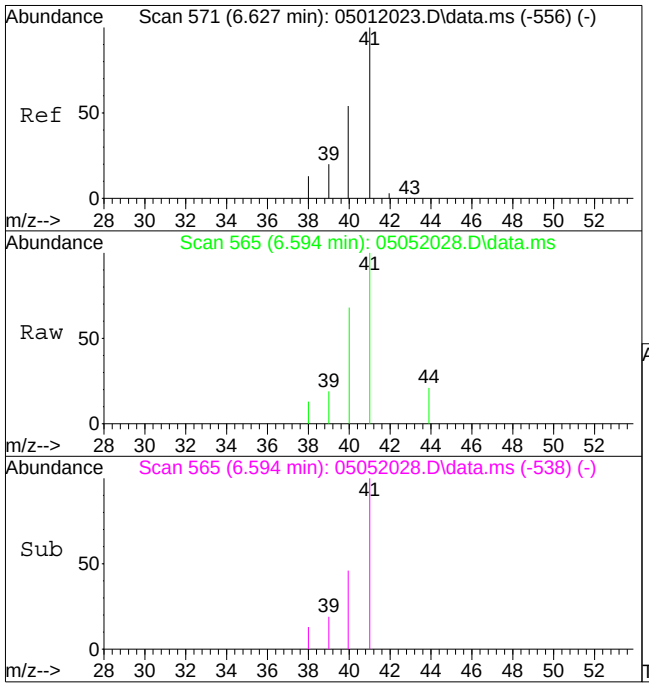


#10
Ethanol
Concen: 3.37 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.088 min
Lab File: 05052028.D
Acq: 5 May 2020 20:10

Tgt Ion: 45 Resp: 77568

Ion	Ratio	Lower	Upper
45	100		
46	36.8	17.2	57.2

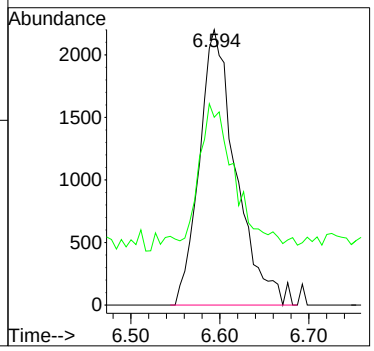


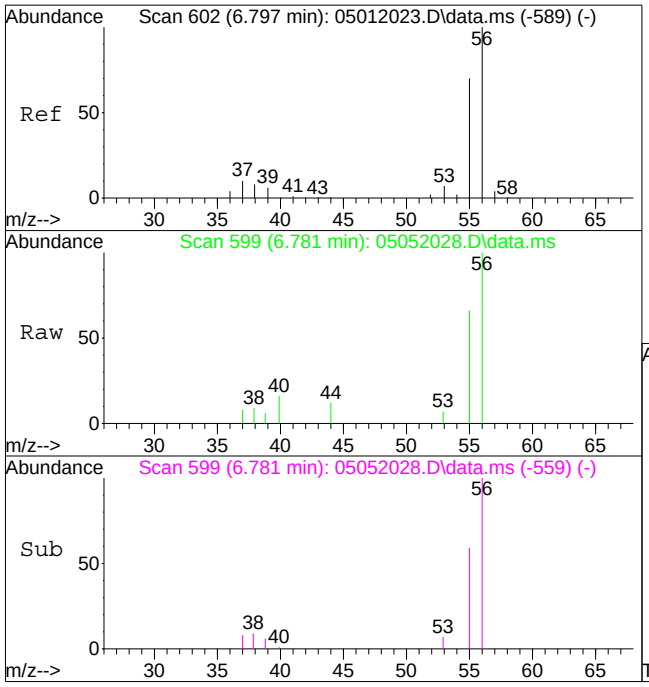


#11
Acetonitrile
Concen: 0.12 ng
RT: 6.59 min Scan# 565
Delta R.T. -0.050 min
Lab File: 05052028.D
Acq: 5 May 2020 20:10

Tgt Ion: 41 Resp: 6294

Ion	Ratio	Lower	Upper
41	100		
40	60.0	33.6	73.6

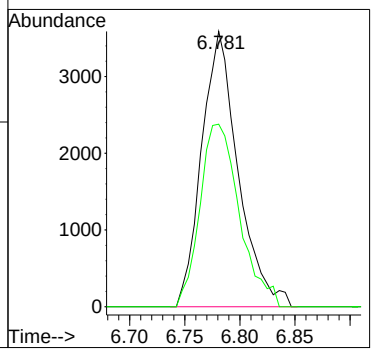


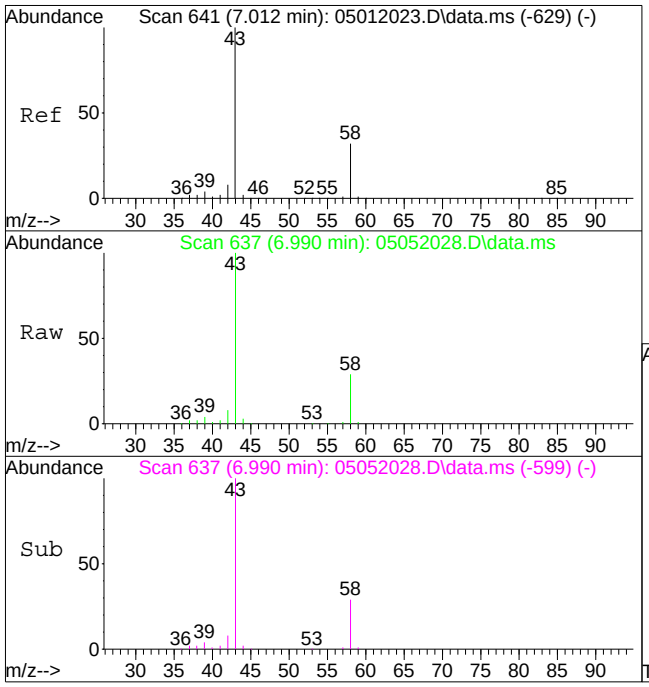


#12
Acrolein
Concen: 0.45 ng
RT: 6.78 min Scan# 599
Delta R.T. -0.028 min
Lab File: 05052028.D
Acq: 5 May 2020 20:10

Tgt Ion: 56 Resp: 8254

Ion	Ratio	Lower	Upper
56	100		
55	71.6	50.2	90.2

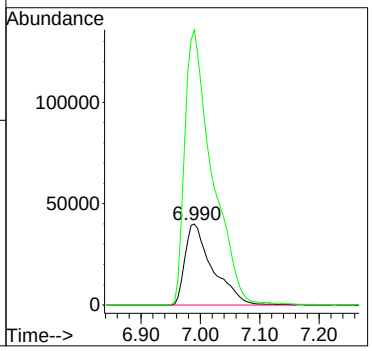


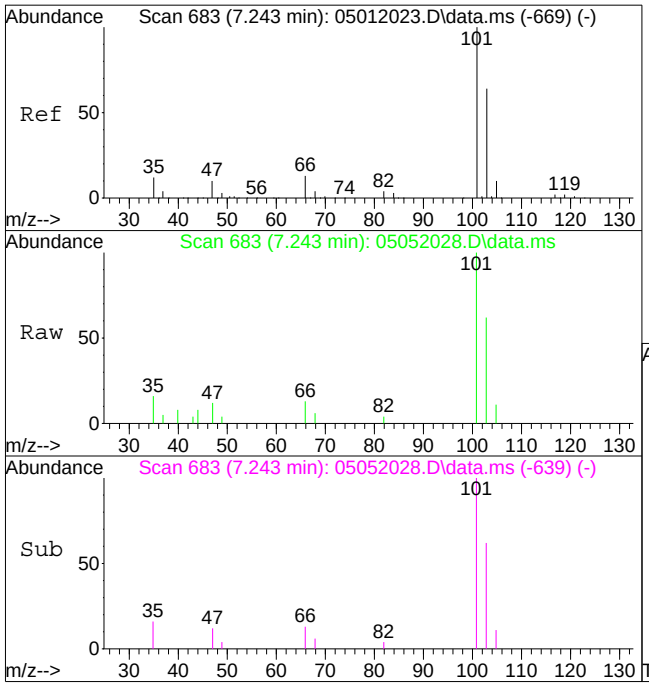


#13
Acetone
Concen: 5.64 ng
RT: 6.99 min Scan# 637
Delta R.T. -0.039 min
Lab File: 05052028.D
Acq: 5 May 2020 20:10

Tgt Ion: 58 Resp: 129838

Ion	Ratio	Lower	Upper
58	100		
43	338.0	294.4	354.4

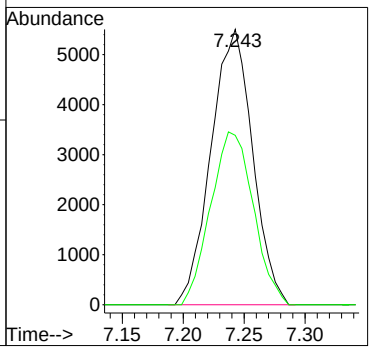


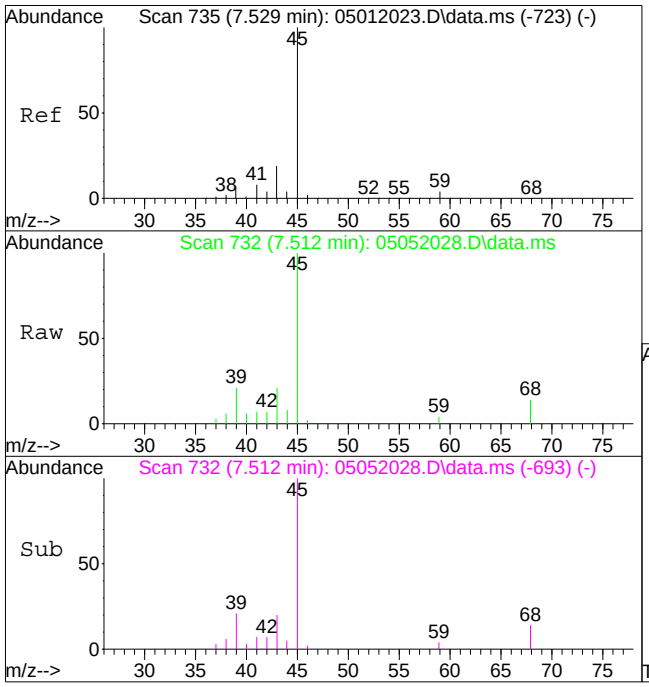


#14
Trichlorofluoromethane
Concen: 0.25 ng
RT: 7.24 min Scan# 683
Delta R.T. -0.006 min
Lab File: 05052028.D
Acq: 5 May 2020 20:10

Tgt Ion:101 Resp: 13078

Ion	Ratio	Lower	Upper
101	100		
103	64.4	44.4	84.4

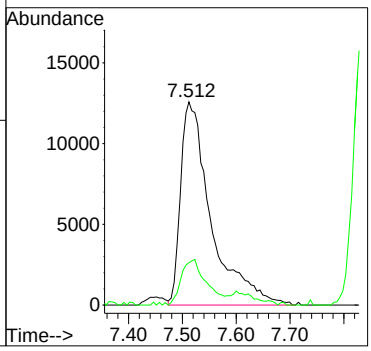


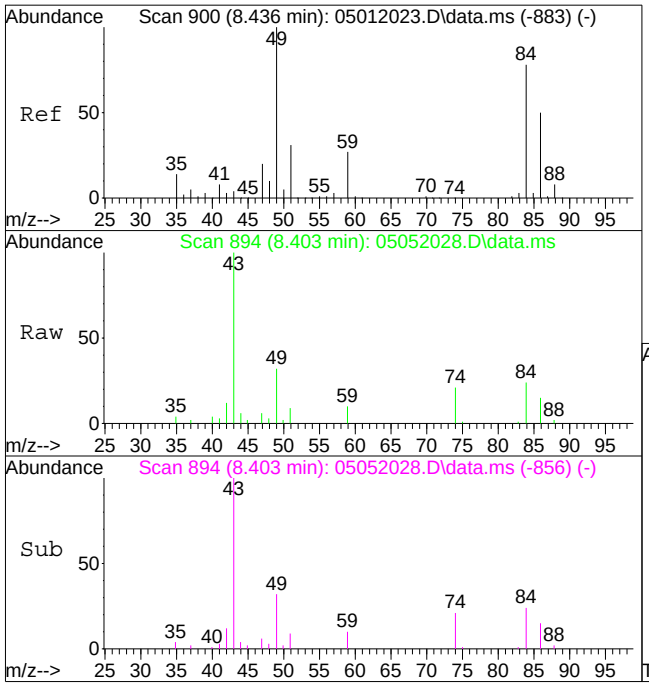


#15
2-Propanol (Isopropanol)
Concen: 0.71 ng
RT: 7.51 min Scan# 732
Delta R.T. -0.033 min
Lab File: 05052028.D
Acq: 5 May 2020 20:10

Tgt Ion: 45 Resp: 49674

Ion	Ratio	Lower	Upper
45	100		
43	23.8	0.0	39.5

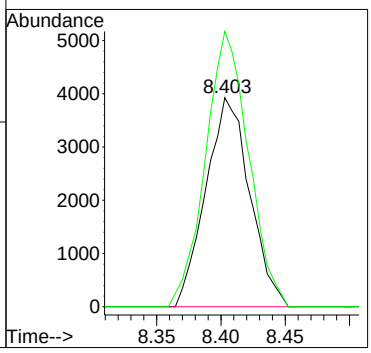


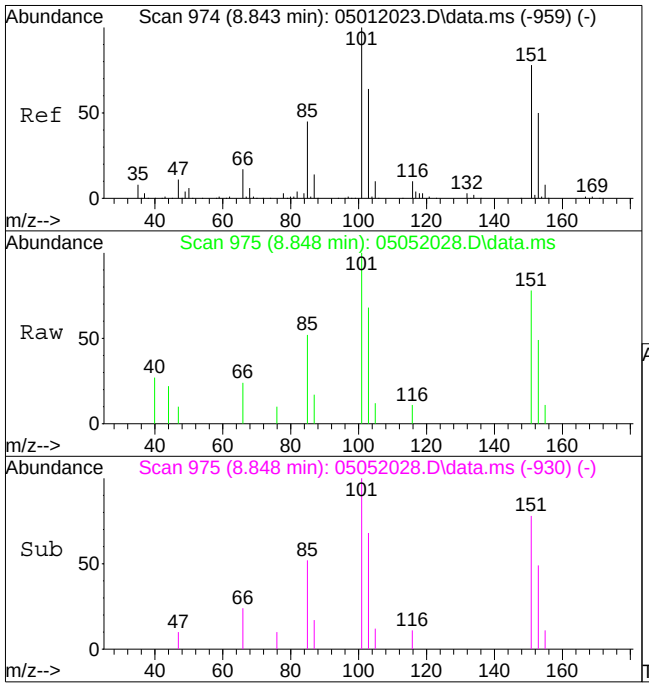


#19
Methylene Chloride
Concen: 0.31 ng
RT: 8.40 min Scan# 894
Delta R.T. -0.039 min
Lab File: 05052028.D
Acq: 5 May 2020 20:10

Tgt Ion: 84 Resp: 9325

Ion	Ratio	Lower	Upper
84	100		
49	129.4	104.8	154.8

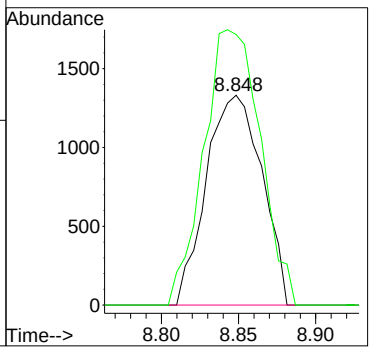


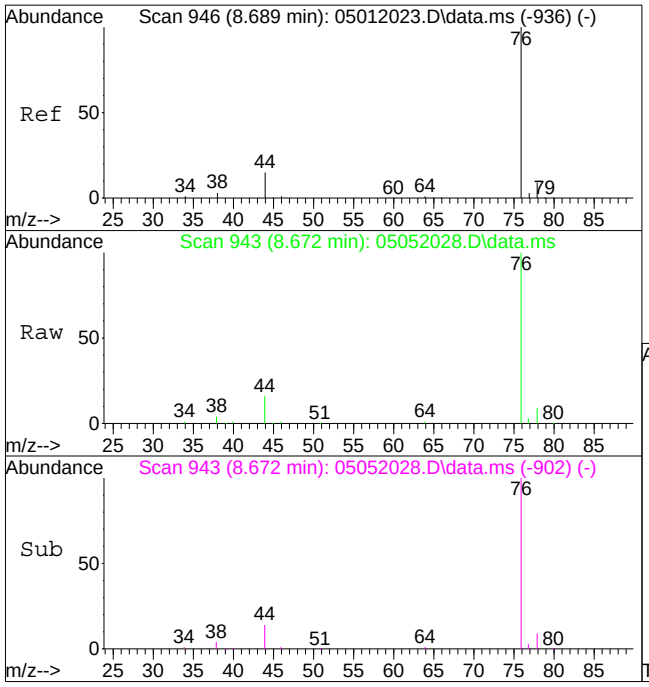


#21
Trichlorotrifluoroethane
Concen: 0.14 ng
RT: 8.85 min Scan# 975
Delta R.T. -0.000 min
Lab File: 05052028.D
Acq: 5 May 2020 20:10

Tgt Ion:151 Resp: 3343

Ion	Ratio	Lower	Upper
151	100		
101	133.5	107.3	147.3

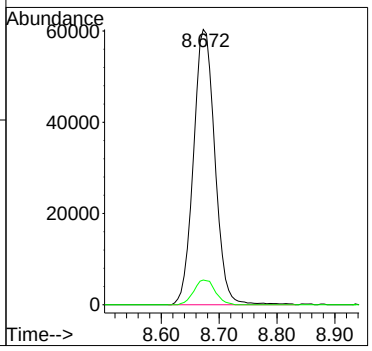


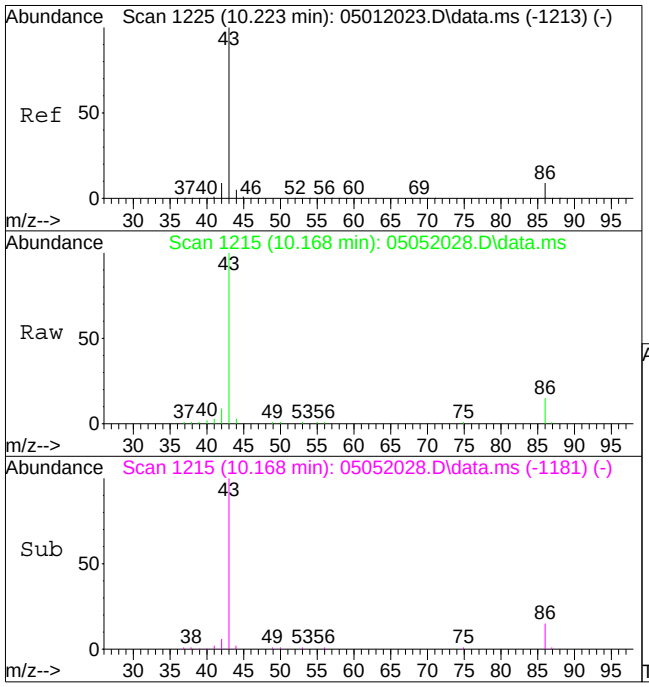


#22
Carbon Disulfide
Concen: 1.45 ng
RT: 8.67 min Scan# 943
Delta R.T. -0.022 min
Lab File: 05052028.D
Acq: 5 May 2020 20:10

Tgt Ion: 76 Resp: 155031

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	29.2

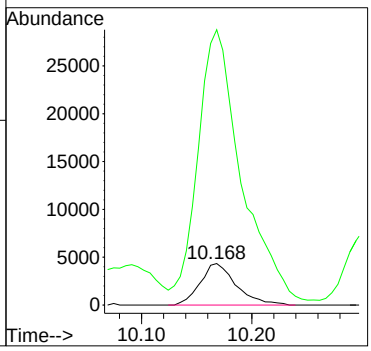


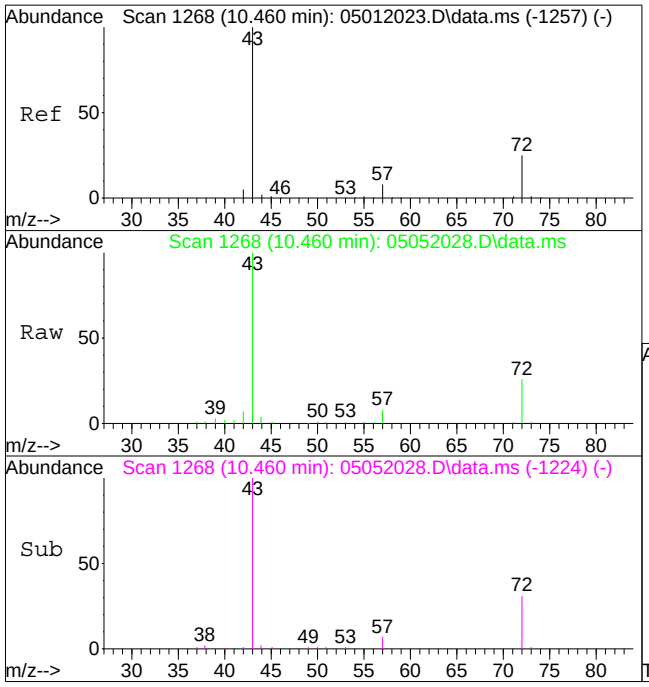


#26
Vinyl Acetate
Concen: 1.38 ng
RT: 10.17 min Scan# 1215
Delta R.T. -0.061 min
Lab File: 05052028.D
Acq: 5 May 2020 20:10

Tgt Ion: 86 Resp: 9858

Ion	Ratio	Lower	Upper
86	100		
43	819.6	1103.0	1143.0#

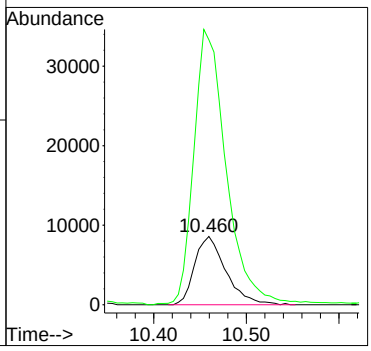


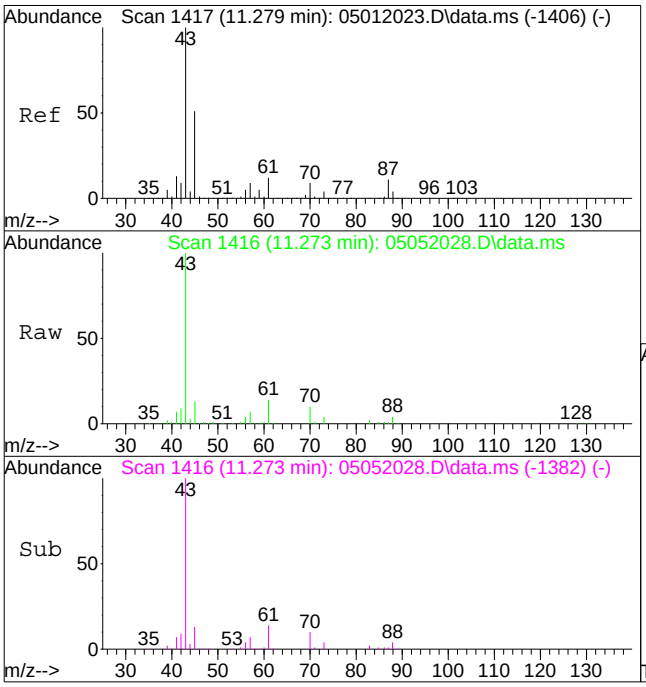


#27
2-Butanone (MEK)
Concen: 1.03 ng
RT: 10.46 min Scan# 1268
Delta R.T. -0.006 min
Lab File: 05052028.D
Acq: 5 May 2020 20:10

Tgt Ion: 72 Resp: 20174

Ion	Ratio	Lower	Upper
72	100		
43	421.5	389.7	429.7

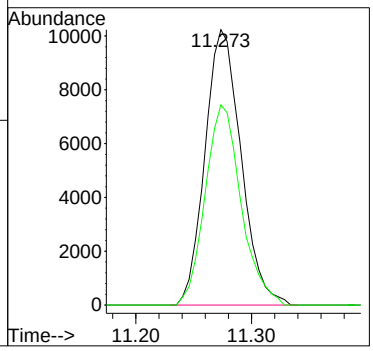


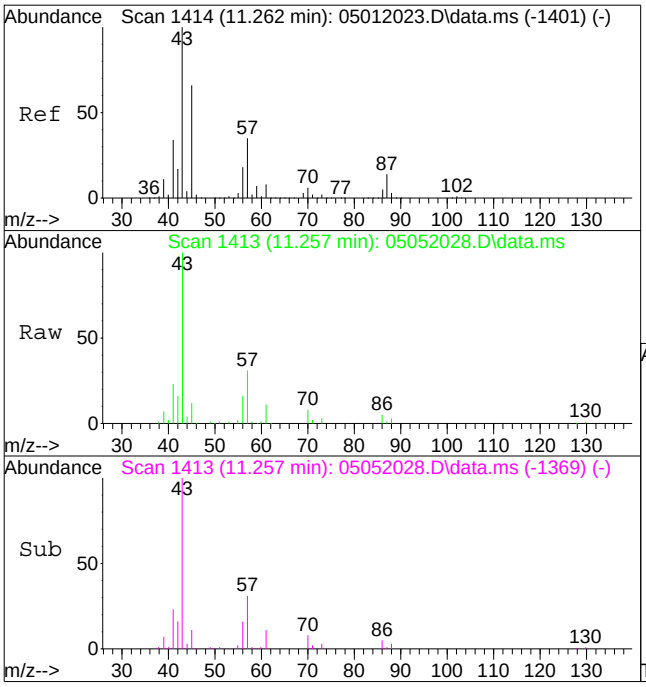


#30
Ethyl Acetate
Concen: 1.97 ng
RT: 11.27 min Scan# 1416
Delta R.T. -0.011 min
Lab File: 05052028.D
Acq: 5 May 2020 20:10

Tgt Ion: 61 Resp: 22241

Ion	Ratio	Lower	Upper
61	100		
70	72.3	57.9	97.9

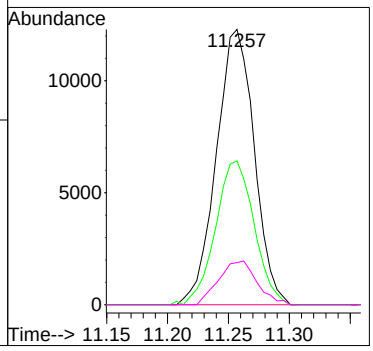


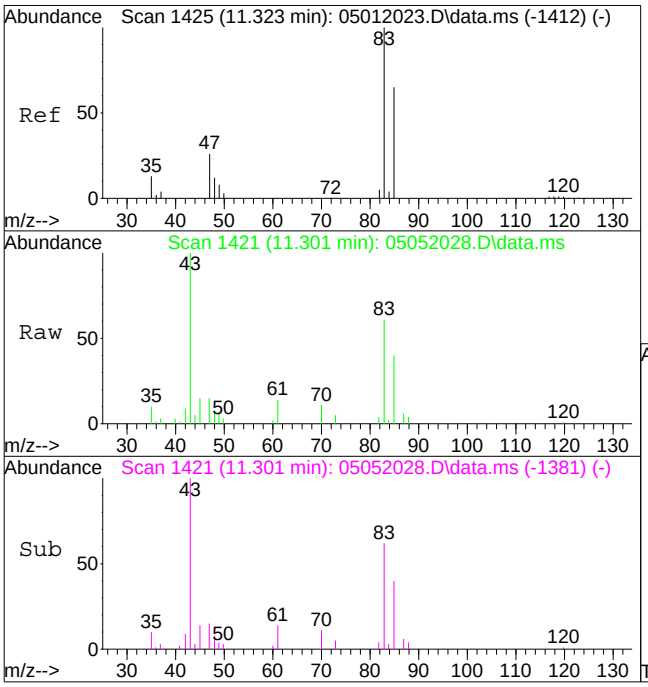


#31
n-Hexane
Concen: 0.54 ng
RT: 11.26 min Scan# 1413
Delta R.T. -0.006 min
Lab File: 05052028.D
Acq: 5 May 2020 20:10

Tgt Ion: 57 Resp: 26610

Ion	Ratio	Lower	Upper
57	100		
56	53.1	41.4	62.0
86	16.0	12.4	18.6

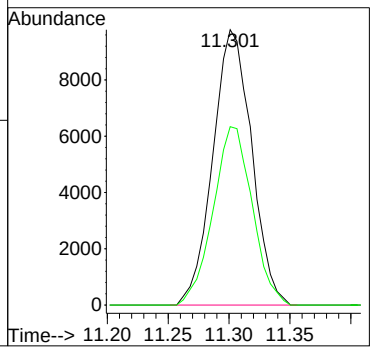


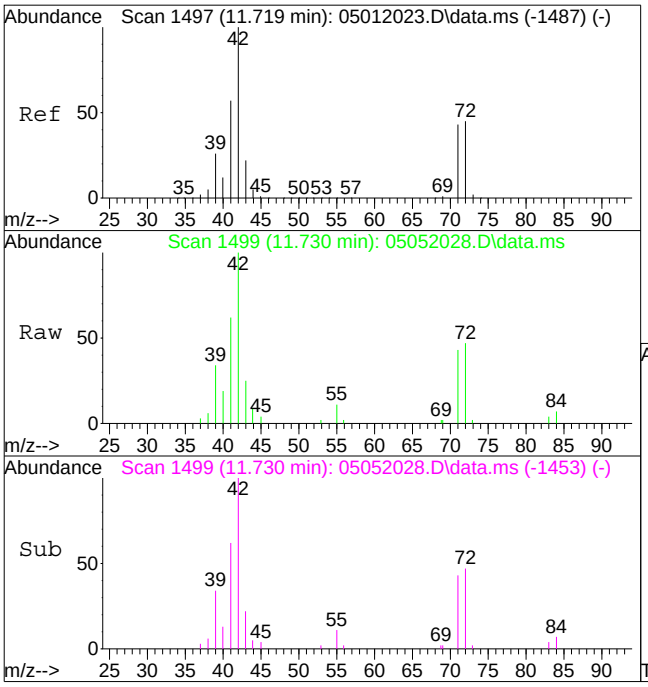


#32
Chloroform
Concen: 0.42 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.028 min
Lab File: 05052028.D
Acq: 5 May 2020 20:10

Tgt Ion: 83 Resp: 21698

Ion	Ratio	Lower	Upper
83	100		
85	65.1	45.5	85.5

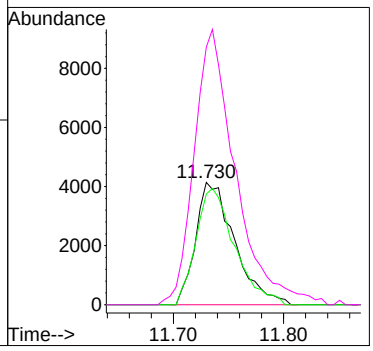


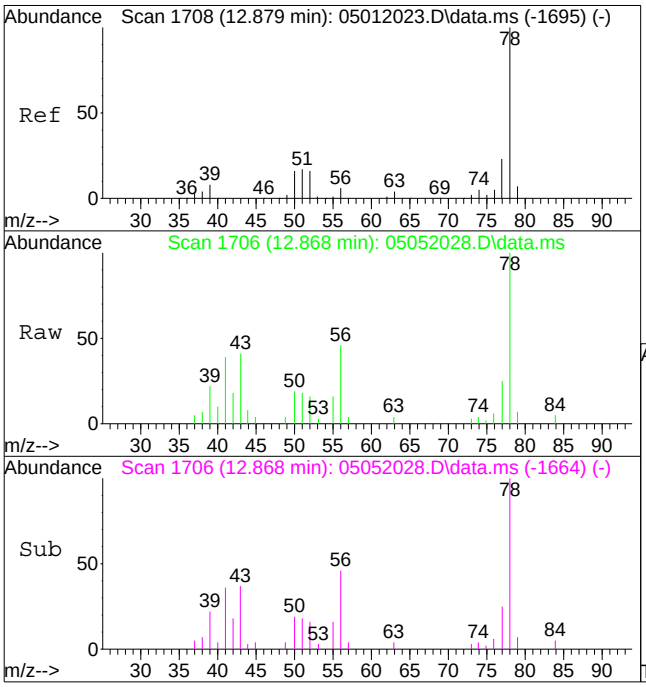


#34
Tetrahydrofuran (THF)
Concen: 0.53 ng
RT: 11.73 min Scan# 1499
Delta R.T. 0.005 min
Lab File: 05052028.D
Acq: 5 May 2020 20:10

Tgt Ion: 72 Resp: 10148

Ion	Ratio	Lower	Upper
72	100		
71	94.6	77.0	117.0
42	239.4	204.6	244.6

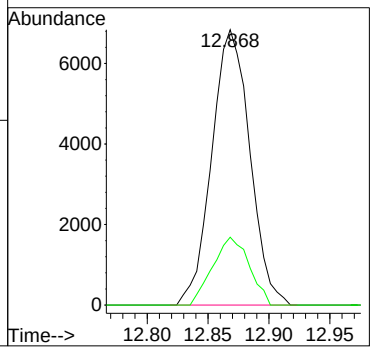


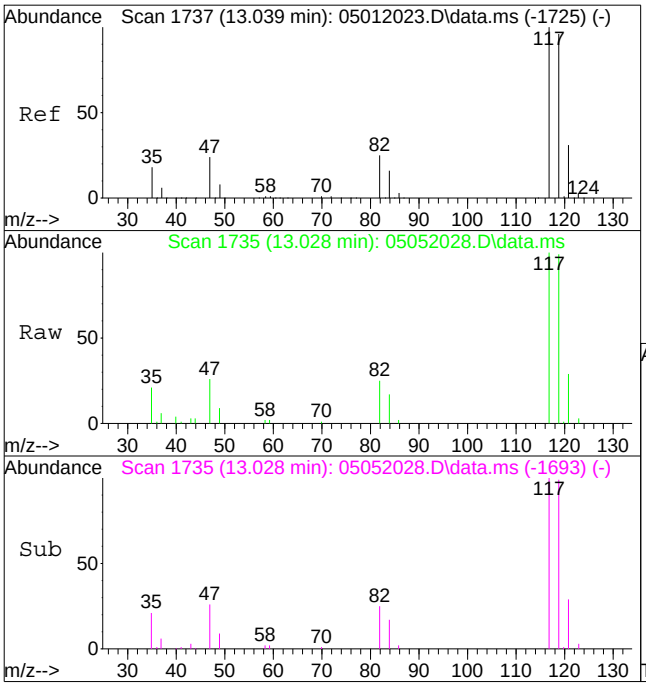


#41
Benzene
Concen: 0.13 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05052028.D
Acq: 5 May 2020 20:10

Tgt Ion: 78 Resp: 14865

Ion	Ratio	Lower	Upper
78	100		
77	23.6	3.4	43.4

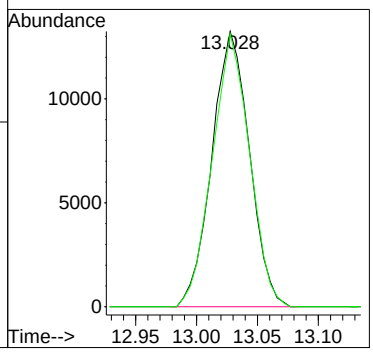


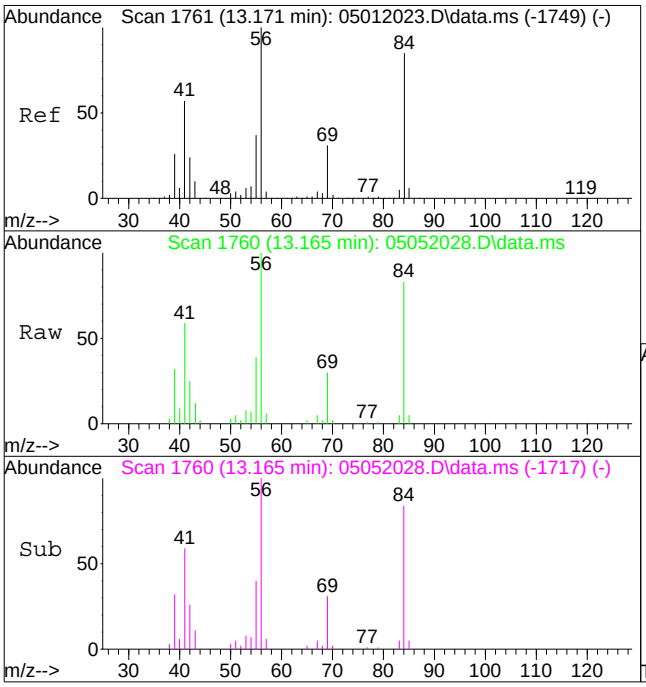


#42
Carbon Tetrachloride
Concen: 0.71 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05052028.D
Acq: 5 May 2020 20:10

Tgt Ion:117 Resp: 28438

Ion	Ratio	Lower	Upper
117	100		
119	97.8	76.2	116.2

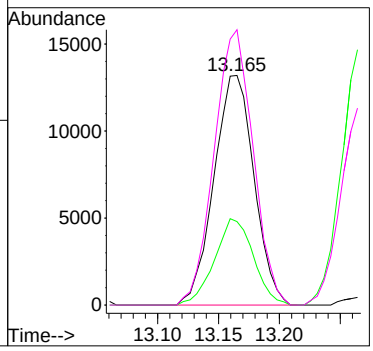


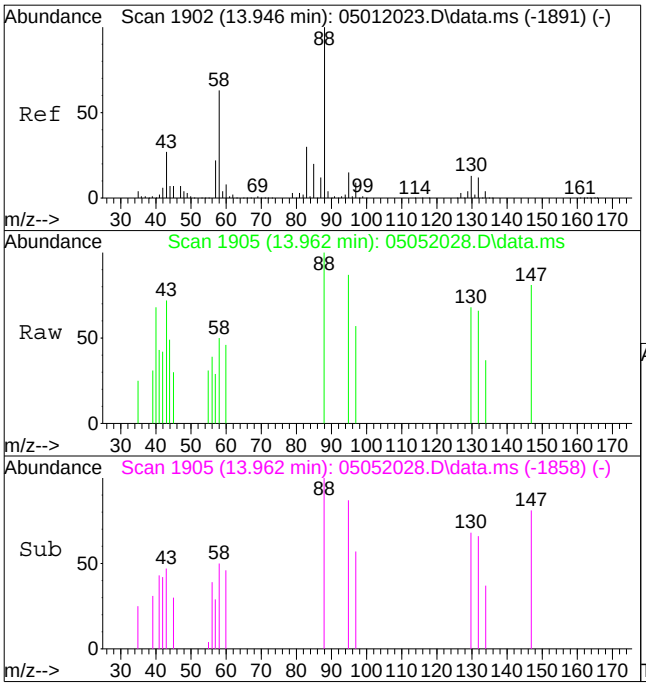


#43
Cyclohexane
Concen: 0.69 ng
RT: 13.17 min Scan# 1760
Delta R.T. -0.011 min
Lab File: 05052028.D
Acq: 5 May 2020 20:10

Tgt Ion: 84 Resp: 30248

Ion	Ratio	Lower	Upper
84	100		
69	36.3	16.5	56.5
56	116.5	97.4	137.4

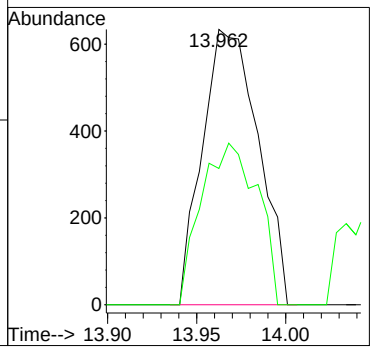


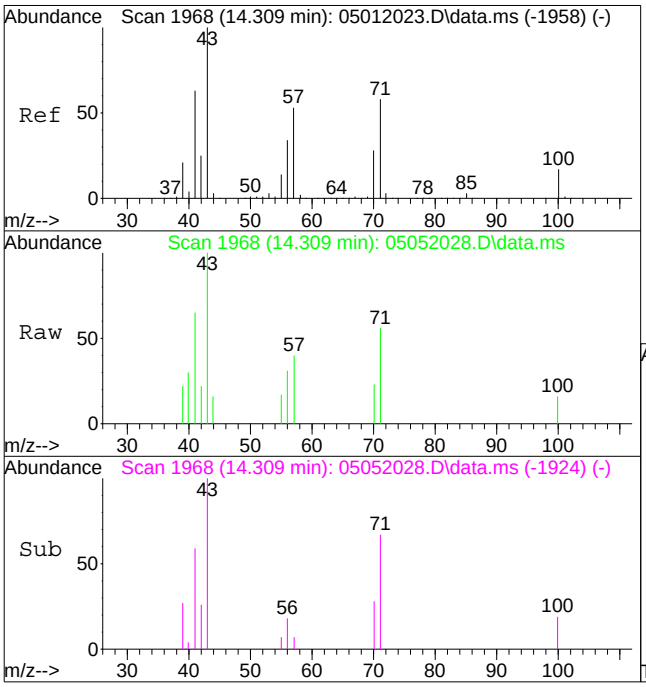


#48
1,4-Dioxane
Concen: 0.06 ng
RT: 13.96 min Scan# 1905
Delta R.T. 0.011 min
Lab File: 05052028.D
Acq: 5 May 2020 20:10

Tgt Ion: 88 Resp: 1379

Ion	Ratio	Lower	Upper
88	100		
58	59.4	42.8	82.8

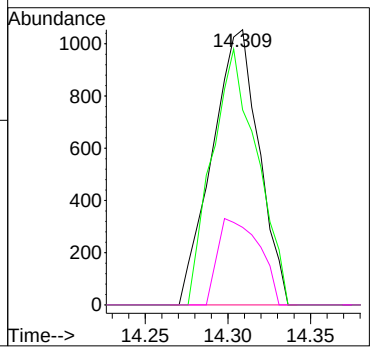


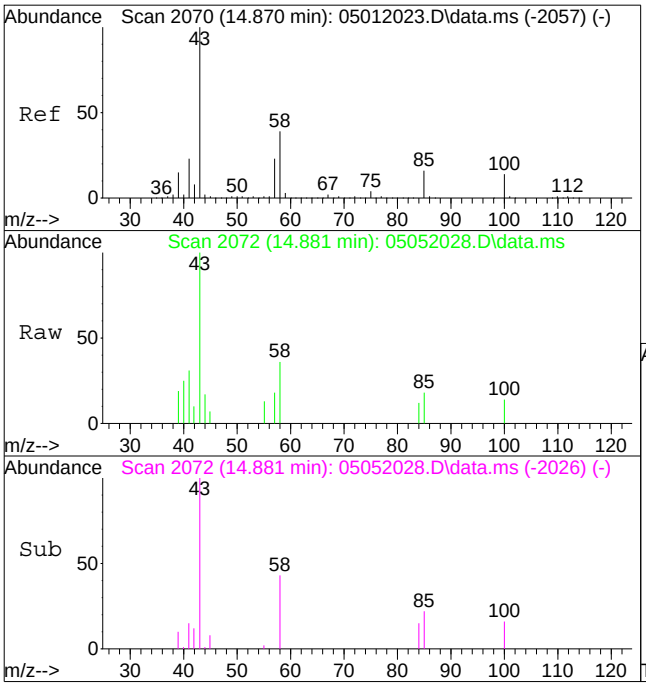


#51
n-Heptane
Concen: 0.08 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05052028.D
Acq: 5 May 2020 20:10

Tgt Ion: 71 Resp: 2079

Ion	Ratio	Lower	Upper
71	100		
57	89.2	71.0	111.0
100	27.8	8.4	48.4

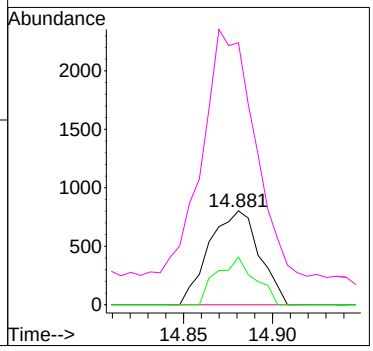


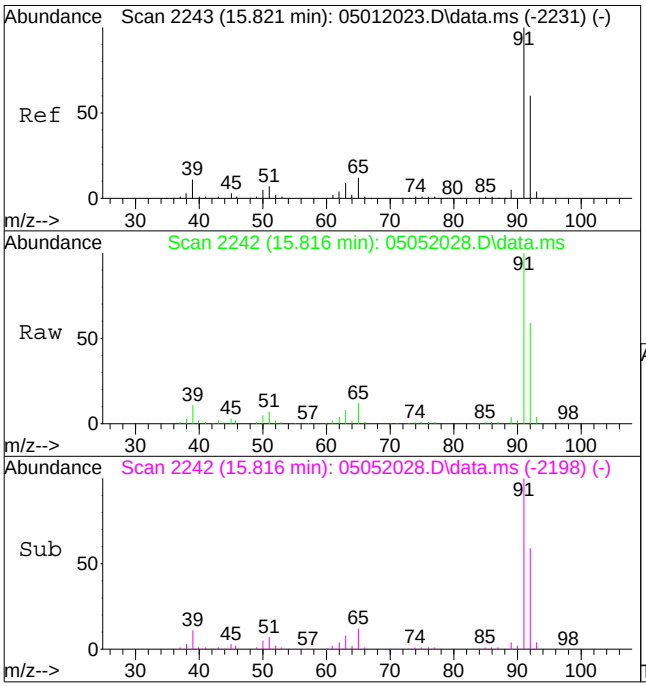


#53
4-Methyl-2-pentanone
Concen: 0.06 ng
RT: 14.88 min Scan# 2072
Delta R.T. 0.005 min
Lab File: 05052028.D
Acq: 5 May 2020 20:10

Tgt Ion: 58 Resp: 1574

Ion	Ratio	Lower	Upper
58	100		
85	38.6	35.4	53.2
43	398.4	203.3	304.9#

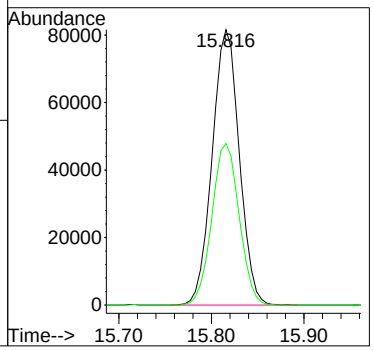


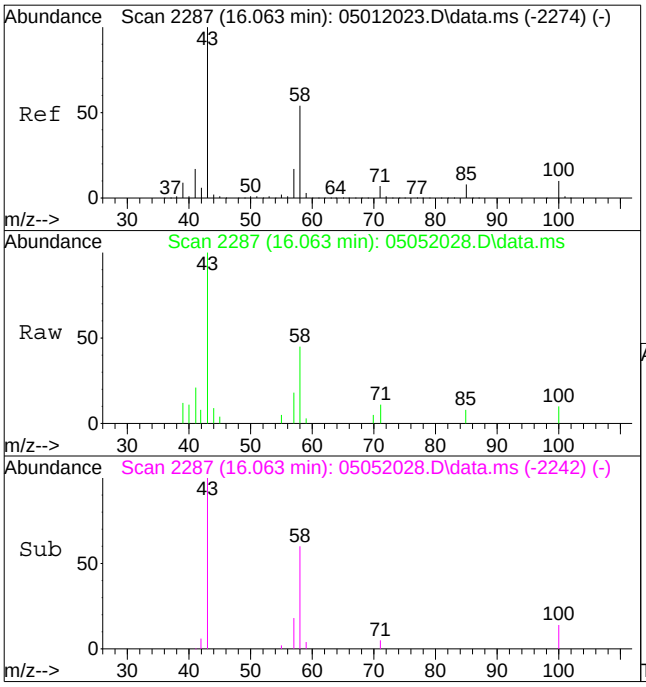


#58
Toluene
Concen: 1.39 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05052028.D
Acq: 5 May 2020 20:10

Tgt Ion: 91 Resp: 165789

Ion	Ratio	Lower	Upper
91	100		
92	59.0	39.4	79.4

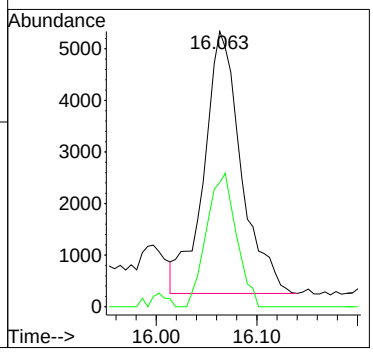


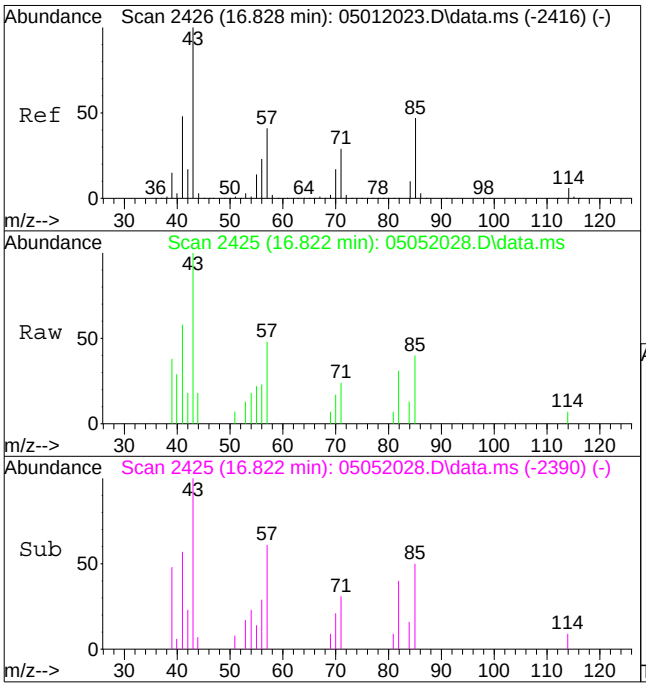


#59
2-Hexanone
Concen: 0.20 ng
RT: 16.06 min Scan# 2287
Delta R.T. -0.000 min
Lab File: 05052028.D
Acq: 5 May 2020 20:10

Tgt Ion: 43 Resp: 13107

Ion	Ratio	Lower	Upper
43	100		
58	40.6	34.5	74.5

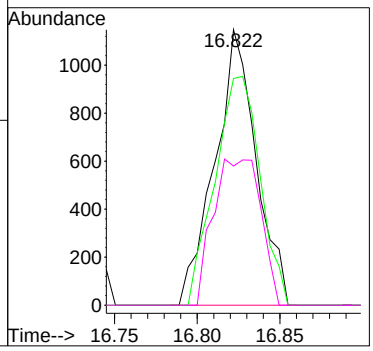


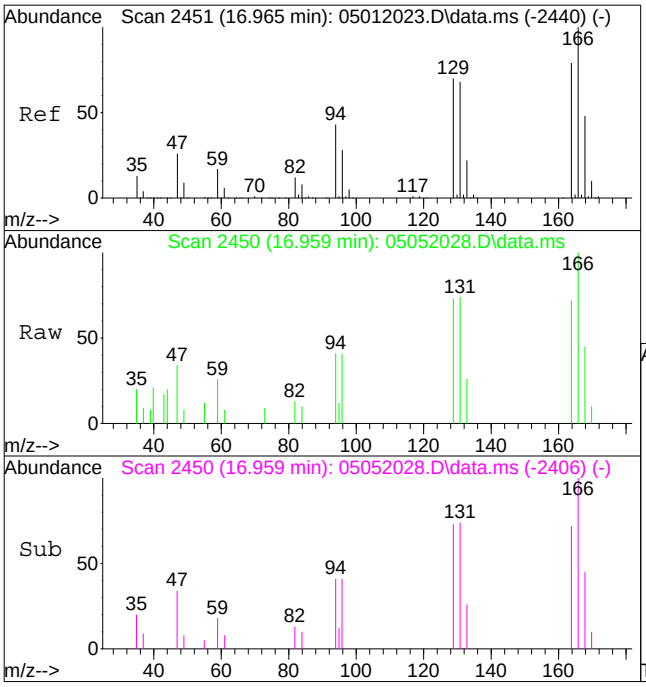


#63
n-Octane
Concen: 0.08 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05052028.D
Acq: 5 May 2020 20:10

Tgt Ion: 57 Resp: 1997

Ion	Ratio	Lower	Upper
57	100		
85	90.6	91.0	136.4#
71	60.9	56.2	84.2

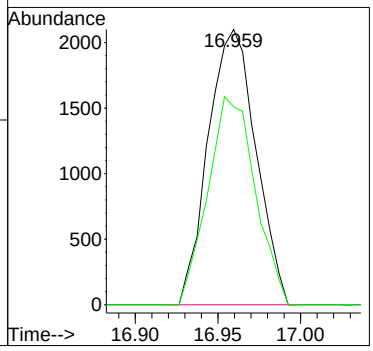


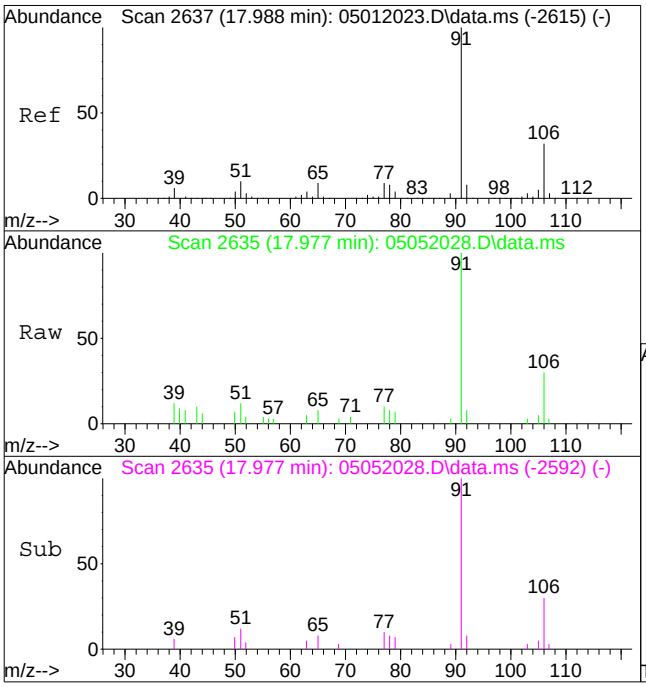


#64
Tetrachloroethene
Concen: 0.13 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05052028.D
Acq: 5 May 2020 20:10

Tgt Ion:166 Resp: 4218

Ion	Ratio	Lower	Upper
166	100		
164	74.8	58.4	98.4

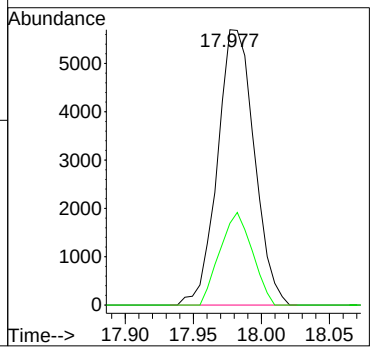


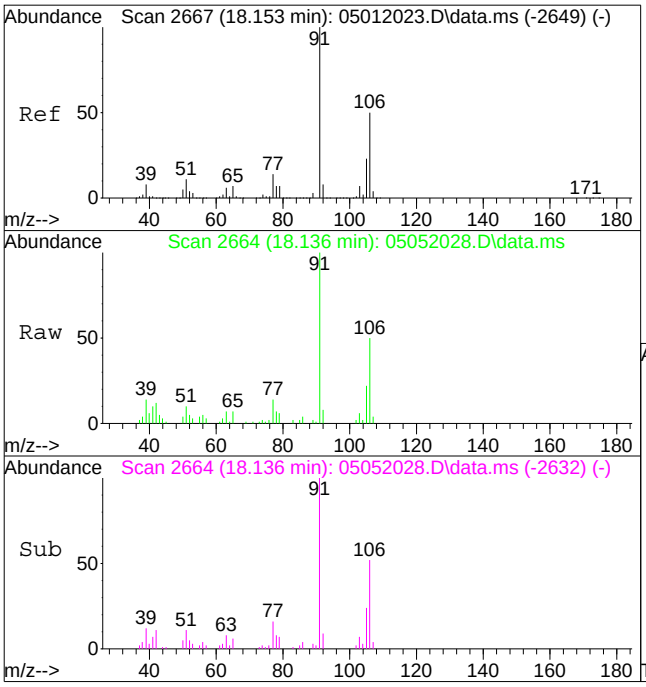


#66
Ethylbenzene
Concen: 0.08 ng
RT: 17.98 min Scan# 2635
Delta R.T. -0.011 min
Lab File: 05052028.D
Acq: 5 May 2020 20:10

Tgt Ion: 91 Resp: 10724

Ion	Ratio	Lower	Upper
91	100		
106	29.6	11.6	51.6

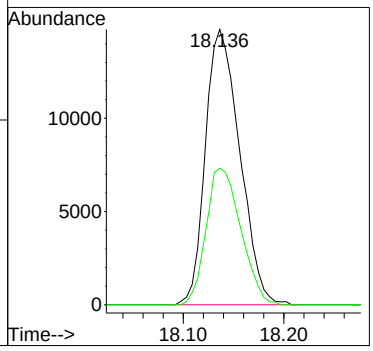


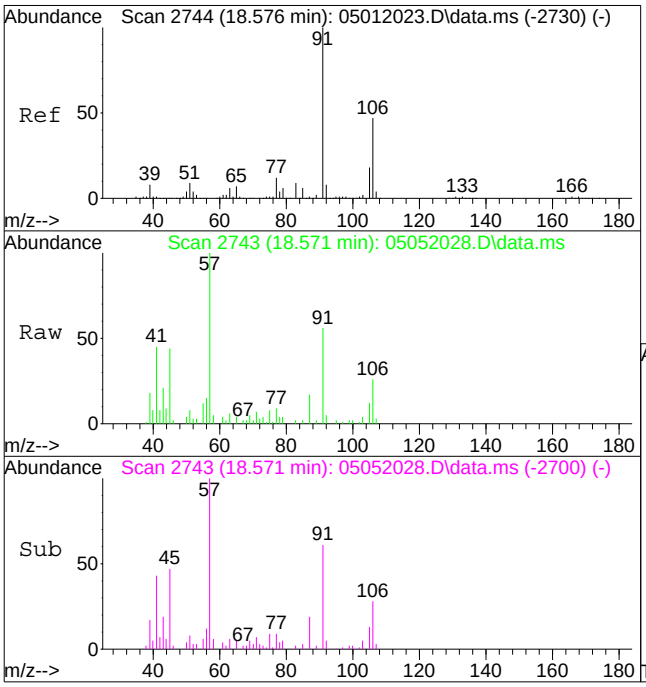


#67
m- & p-Xylenes
Concen: 0.33 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05052028.D
Acq: 5 May 2020 20:10

Tgt Ion: 91 Resp: 35088

Ion	Ratio	Lower	Upper
91	100		
106	50.0	29.7	69.7

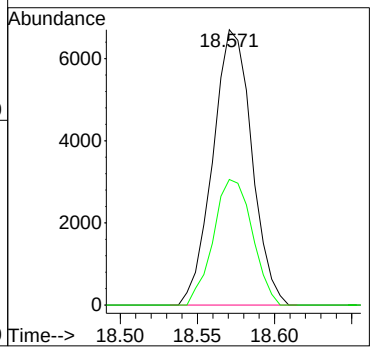


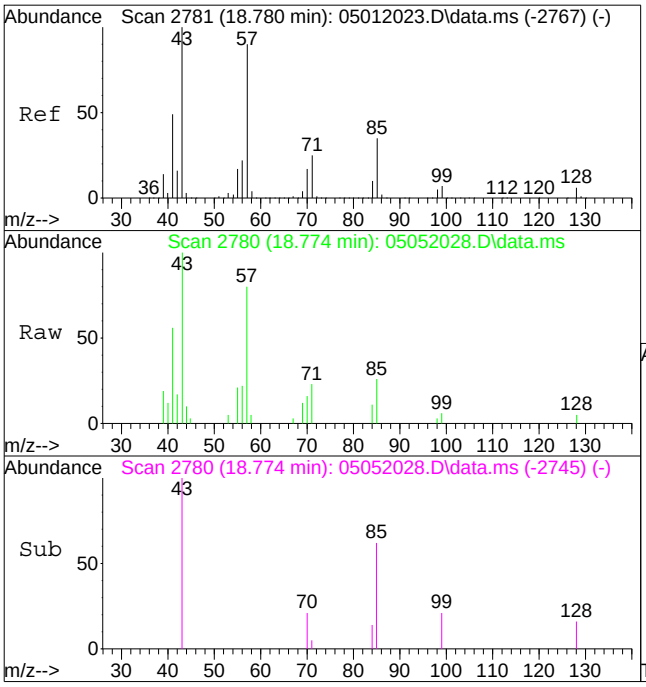


#70
o-Xylene
Concen: 0.11 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05052028.D
Acq: 5 May 2020 20:10

Tgt Ion: 91 Resp: 11792

Ion	Ratio	Lower	Upper
91	100		
106	45.5	27.5	67.5

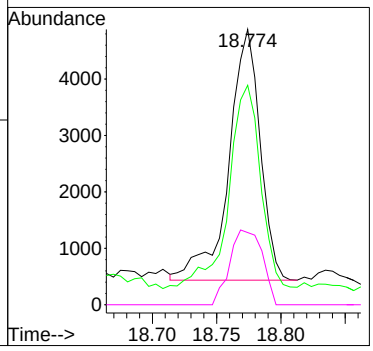


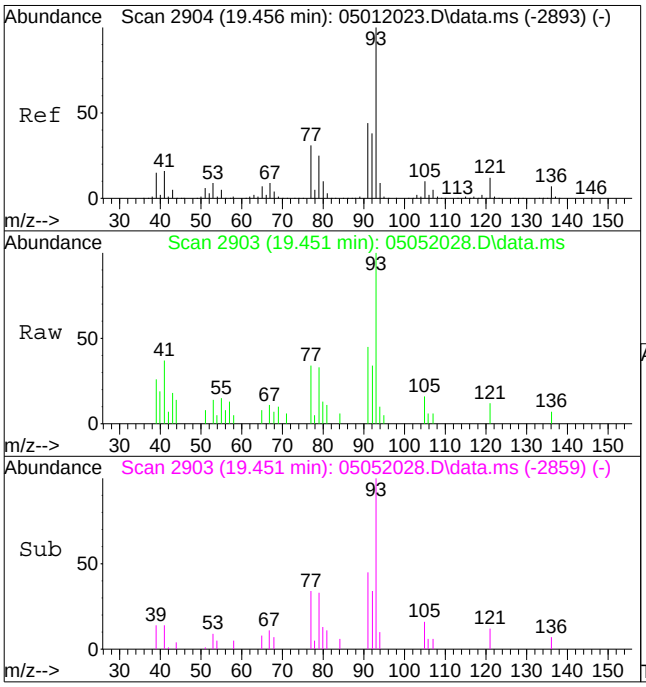


#71
n-Nonane
Concen: 0.13 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05052028.D
Acq: 5 May 2020 20:10

Tgt Ion: 43 Resp: 7542

Ion	Ratio	Lower	Upper
43	100		
57	83.6	69.0	109.0
85	30.8	14.6	54.6

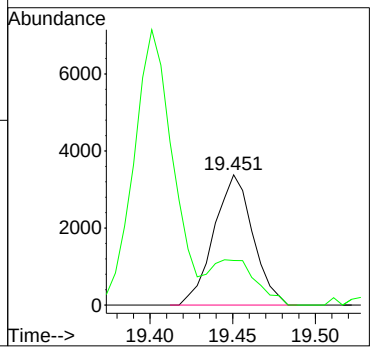


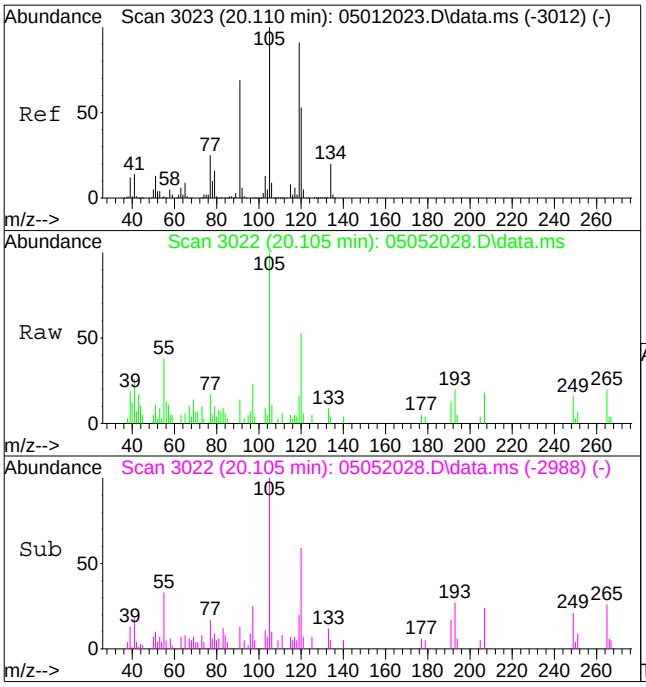


#75
alpha-Pinene
Concen: 0.08 ng
RT: 19.45 min Scan# 2903
Delta R.T. -0.006 min
Lab File: 05052028.D
Acq: 5 May 2020 20:10

Tgt Ion: 93 Resp: 5549

Ion	Ratio	Lower	Upper
93	100		
77	37.4	11.2	51.2

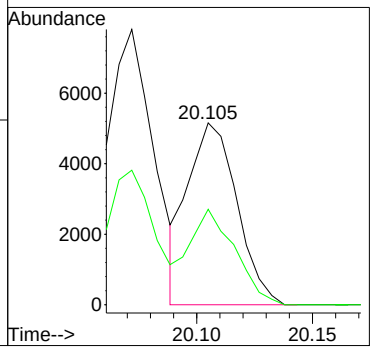


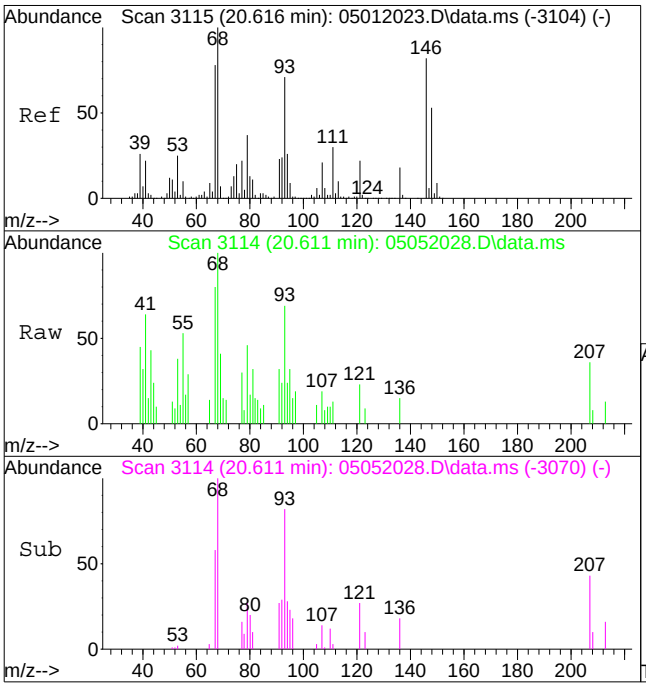


#82
1,2,4-Trimethylbenzene
Concen: 0.07 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05052028.D
Acq: 5 May 2020 20:10

Tgt Ion:105 Resp: 7611

Ion	Ratio	Lower	Upper
105	100		
120	49.3	33.6	73.6

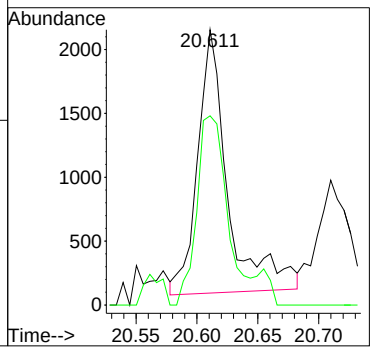




#91
d-Limonene
Concen: 0.08 ng
RT: 20.61 min Scan# 3114
Delta R.T. -0.006 min
Lab File: 05052028.D
Acq: 5 May 2020 20:10

Tgt Ion: 68 Resp: 3561

Ion	Ratio	Lower	Upper
68	100		
93	78.7	51.1	91.1



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052029.D Vial: 11
Acq On : 5 May 2020 20:45 Operator: WA
Sample : P2002107-014 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 07 17:48:30 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/7/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	256896	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1101281	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	548505	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	423442	12.163	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.28%				
57) Toluene-d8 (SS2)	15.72	98	1126885	12.121	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.96%				
73) Bromofluorobenzene (SS3)	18.98	174	416181	12.441	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.52%				
Target Compounds							Qvalue
2) Propene	4.12	42	2759	0.093	ng		96
3) Dichlorodifluoromethan...	4.28	85	25722	0.442	ng		99
4) Chloromethane	4.55	50	2650	0.058	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	647	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.33	45	17420	0.758	ng		89
11) Acetonitrile	6.60	41	3457	0.066	ng		80
12) Acrolein	6.79	56	2972	0.164	ng		97
13) Acetone	7.00	58	52259	2.274	ng		93
14) Trichlorofluoromethane	7.25	101	10619	0.206	ng		99
15) 2-Propanol (Isopropanol)	7.52	45	10626	0.153	ng		72
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d			
19) Methylene Chloride	8.40	84	657	N.D.			
20) 3-Chloro-1-propene (Al...	8.41	41	701	N.D.			
21) Trichlorotrifluoroethane	8.85	151	2245	0.092	ng		97
22) Carbon Disulfide	8.68	76	50228	0.469	ng		100
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	10.17	86	10195	1.424	ng	#	14
27) 2-Butanone (MEK)	10.47	72	8996	0.459	ng	#	91
28) cis-1,2-Dichloroethene	10.97	61	677	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D. d			
30) Ethyl Acetate	11.29	61	823	0.073	ng	#	52
31) n-Hexane	11.26	57	677	N.D.			
32) Chloroform	11.30	83	43652	0.854	ng		98
34) Tetrahydrofuran (THF)	11.74	72	11485	0.601	ng		94
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D. d			
41) Benzene	12.87	78	5636	N.D.			
42) Carbon Tetrachloride	13.03	117	37391	0.931	ng		100
43) Cyclohexane	13.26	84	750	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	13.53	63	586	N.D.			
46) Bromodichloromethane	13.91	83	1733	N.D.			
47) Trichloroethene	13.96	130	505	N.D.			
48) 1,4-Dioxane	13.97	88	1417	0.060	ng		99
49) 2,2,4-Trimethylpentane...	14.04	57	1342	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052029.D Vial: 11
Acq On : 5 May 2020 20:45 Operator: WA
Sample : P2002107-014 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 07 17:48:30 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

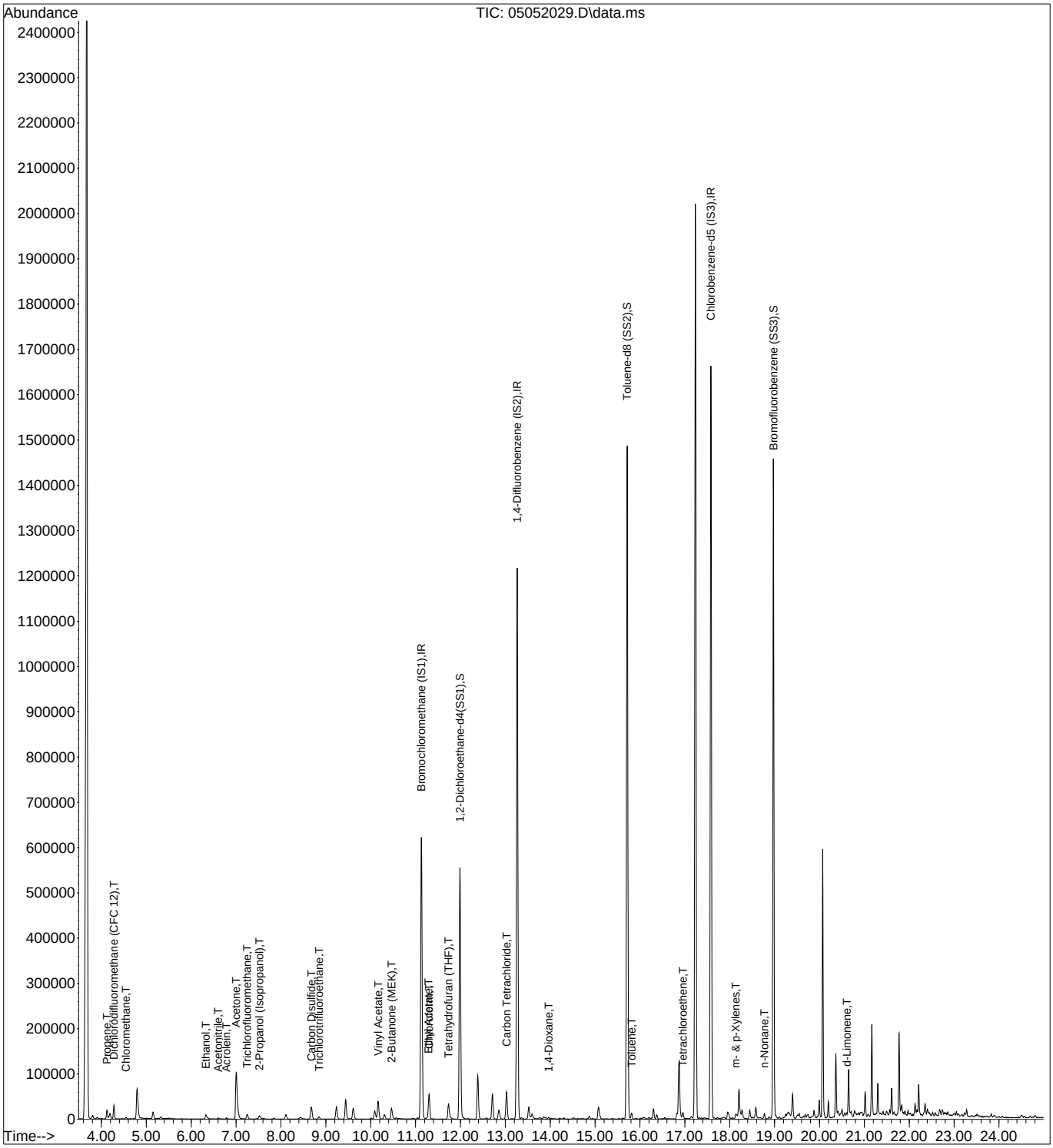
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	542	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.88	58	976	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.82	91	11195	0.093 ng	100
59) 2-Hexanone	16.07	43	1182	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.68	43	414	N.D.	
63) n-Octane	16.83	57	1011	N.D.	
64) Tetrachloroethene	16.96	166	4107	0.121 ng	98
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	17.98	91	2347	N.D.	
67) m- & p-Xylenes	18.14	91	6457	0.061 ng	98
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	1018	N.D.	
70) o-Xylene	18.57	91	2608	N.D.	
71) n-Nonane	18.77	43	5615	0.098 ng	82
72) 1,1,2,2-Tetrachloroethane	18.59	83	254	N.D.	
74) Cumene	19.10	105	688	N.D.	
75) alpha-Pinene	19.52	93	386	N.D.	
76) n-Propylbenzene	19.55	91	1812	N.D.	
77) 3-Ethyltoluene	19.64	105	1892	N.D.	
78) 4-Ethyltoluene	19.68	105	1074	N.D.	
79) 1,3,5-Trimethylbenzene	19.75	105	1272	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	19.91	105	956	N.D.	
82) 1,2,4-Trimethylbenzene	20.11	105	3048	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.22	91	857	N.D.	
85) 1,3-Dichlorobenzene	20.24	146	193	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	349	N.D.	
87) sec-Butylbenzene	20.35	105	1129	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	1962	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	1693	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.61	68	2579	0.060 ng	95
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.21	128	2377	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	20.85	91	2448	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052029.D Vial: 11
Acq On : 5 May 2020 20:45 Operator: WA
Sample : P2002107-014 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 07 17:48:30 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052029.D Vial: 11
Acq On : 5 May 2020 20:45 Operator: WA
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Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/7/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	256896	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1101281	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	548505	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	423442	12.163	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.28%				
57) Toluene-d8 (SS2)	15.72	98	1126885	12.121	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.96%				
73) Bromofluorobenzene (SS3)	18.98	174	416181	12.441	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.52%				
Target Compounds							Qvalue
2) Propene	4.12	42	2759	0.093	ng		96
3) Dichlorodifluoromethan...	4.28	85	25722	0.442	ng		99
4) Chloromethane	4.55	50	2650	0.058	ng		99
10) Ethanol	6.33	45	17420	0.758	ng		89
11) Acetonitrile	6.60	41	3457	0.066	ng		80
12) Acrolein	6.79	56	2972	0.164	ng		97
13) Acetone	7.00	58	52259	2.274	ng		93
14) Trichlorofluoromethane	7.25	101	10619	0.206	ng		99
15) 2-Propanol (Isopropanol)	7.52	45	10626	0.153	ng		72
21) Trichlorotrifluoroethane	8.85	151	2245	0.092	ng		97
22) Carbon Disulfide	8.68	76	50228	0.469	ng		100
26) Vinyl Acetate	10.17	86	10195	1.424	ng	#	14
27) 2-Butanone (MEK)	10.47	72	8996	0.459	ng	#	91
30) Ethyl Acetate	11.29	61	823	0.073	ng	#	52
32) Chloroform	11.30	83	43652	0.854	ng		98
34) Tetrahydrofuran (THF)	11.74	72	11485	0.601	ng		94
42) Carbon Tetrachloride	13.03	117	37391	0.931	ng		100
48) 1,4-Dioxane	13.97	88	1417	0.060	ng		99
58) Toluene	15.82	91	11195	0.093	ng		100
64) Tetrachloroethene	16.96	166	4107	0.121	ng		98
67) m- & p-Xylenes	18.14	91	6457	0.061	ng		98
71) n-Nonane	18.77	43	5615	0.098	ng		82
91) d-Limonene	20.61	68	2579	0.060	ng		95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052029.D Vial: 11
Acq On : 5 May 2020 20:45 Operator: WA
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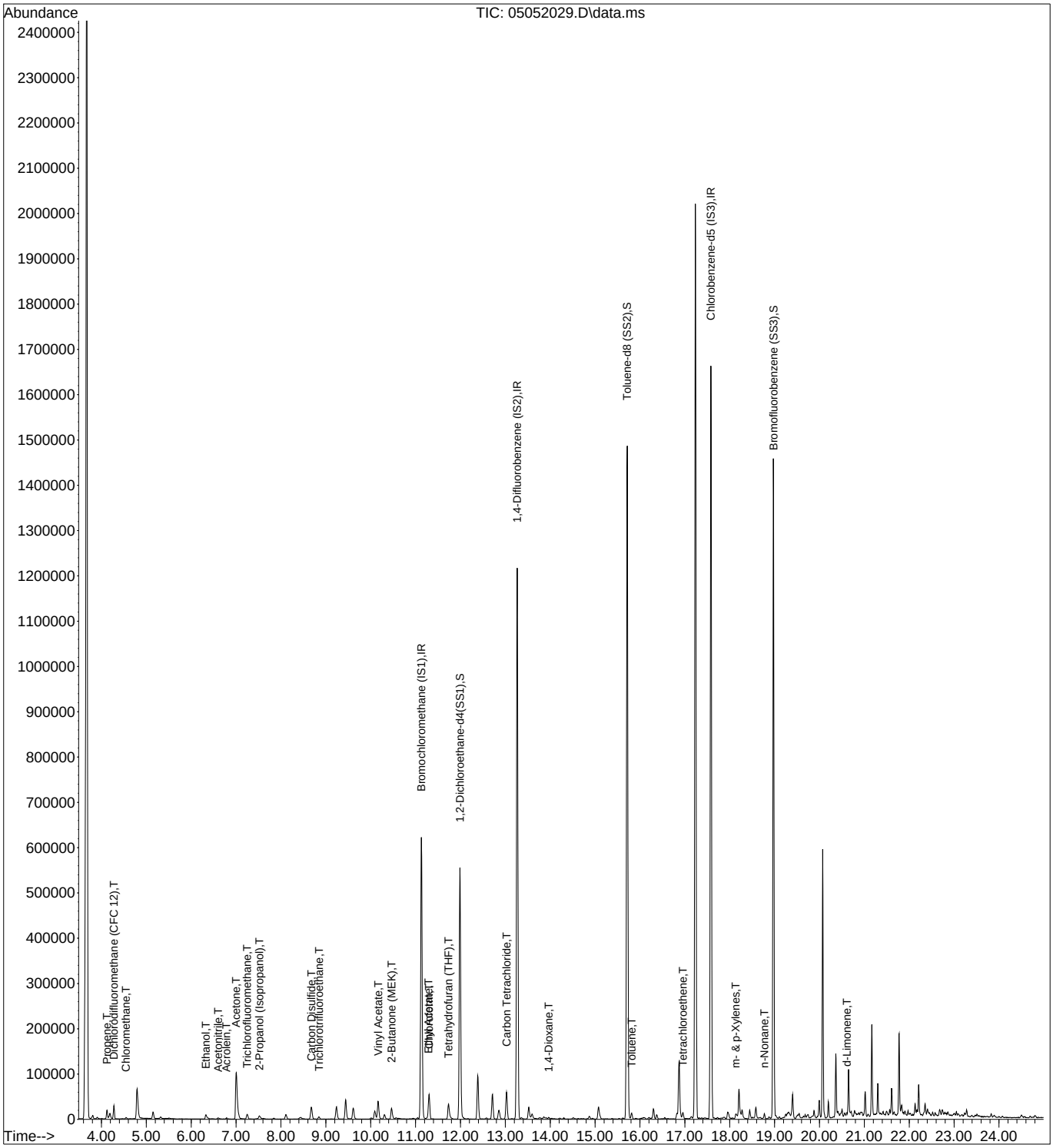
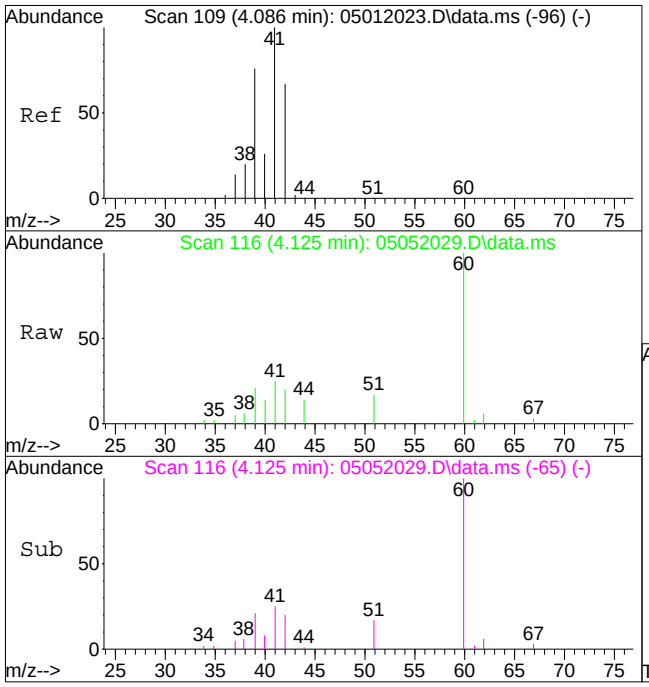
Response via : Initial Calibration
DataAcq Meth:TO15.M

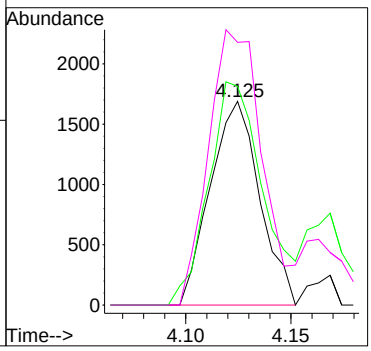


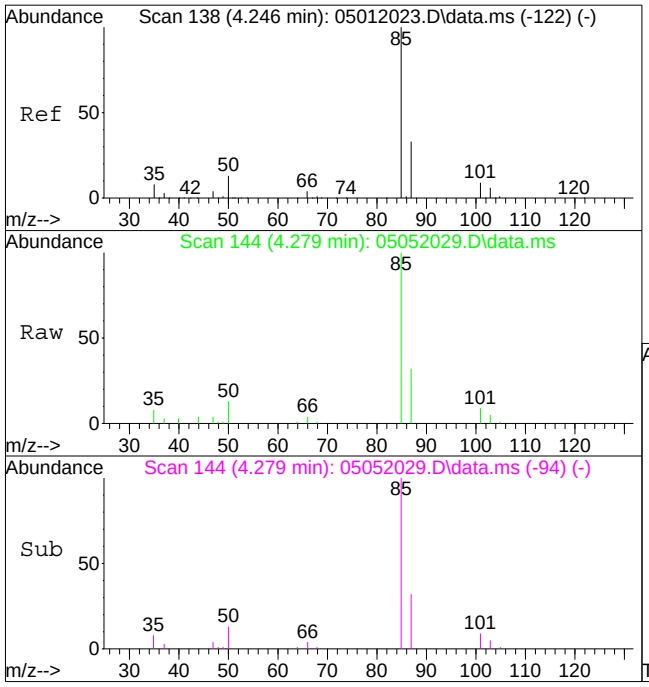


#2
Propene
Concen: 0.09 ng
RT: 4.12 min Scan# 116
Delta R.T. 0.033 min
Lab File: 05052029.D
Acq: 5 May 2020 20:45

Tgt Ion: 42 Resp: 2759

Ion	Ratio	Lower	Upper
42	100		
39	120.9	96.1	136.1
41	148.2	131.9	171.9

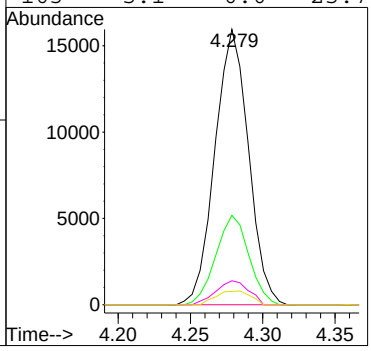


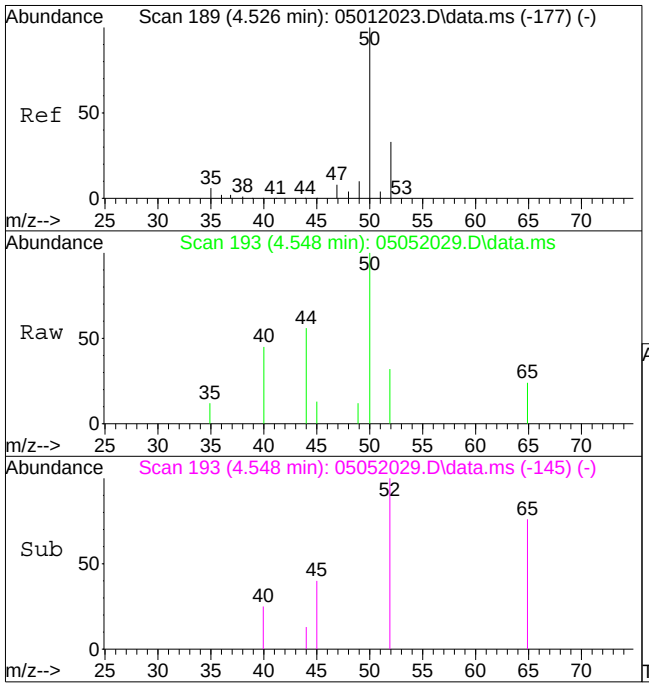


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.44 ng
RT: 4.28 min Scan# 144
Delta R.T. 0.027 min
Lab File: 05052029.D
Acq: 5 May 2020 20:45

Tgt Ion: 85 Resp: 25722

Ion	Ratio	Lower	Upper
85	100		
87	31.9	12.4	52.4
101	8.5	0.0	28.8
103	5.1	0.0	25.7

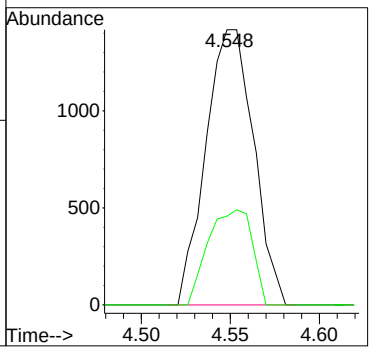


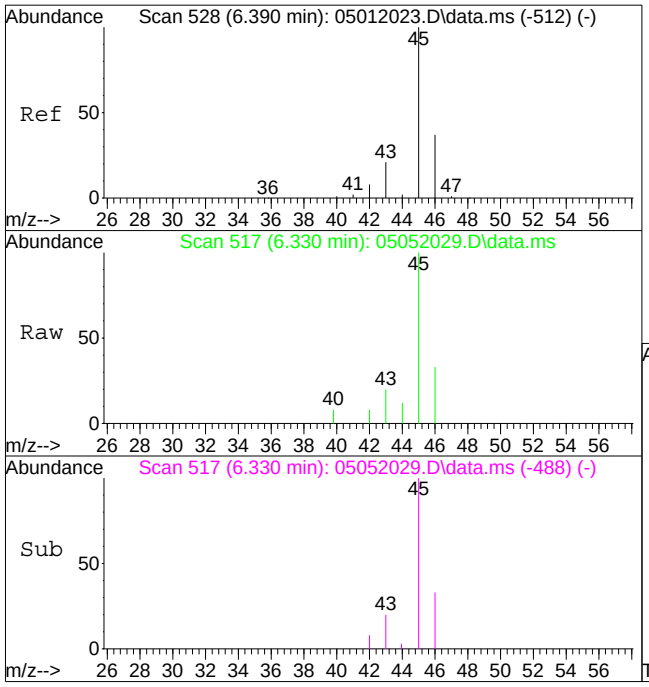


#4
Chloromethane
Concen: 0.06 ng
RT: 4.55 min Scan# 193
Delta R.T. 0.016 min
Lab File: 05052029.D
Acq: 5 May 2020 20:45

Tgt Ion: 50 Resp: 2650

Ion	Ratio	Lower	Upper
50	100		
52	31.9	12.5	52.5

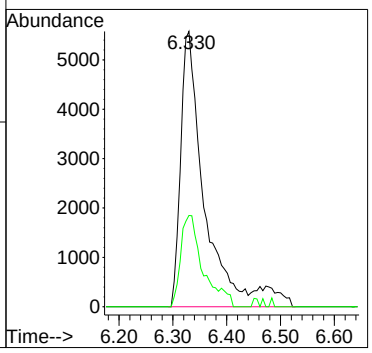


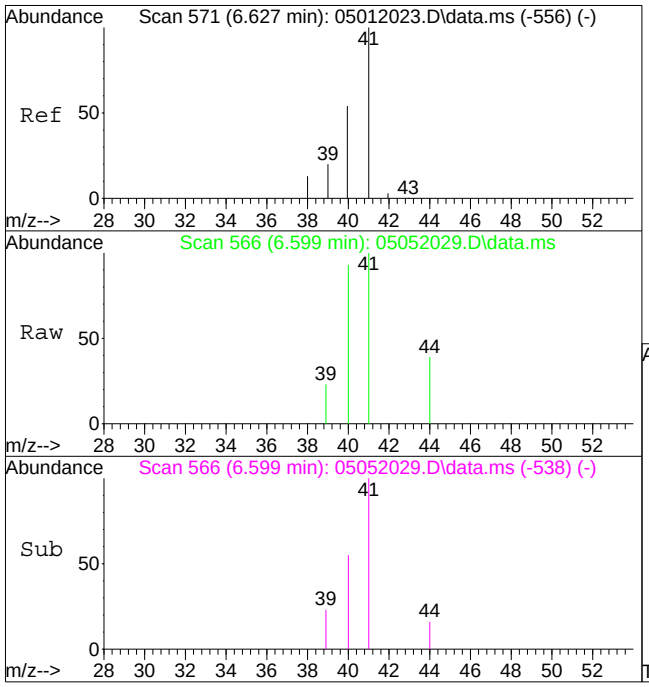


#10
Ethanol
Concen: 0.76 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.088 min
Lab File: 05052029.D
Acq: 5 May 2020 20:45

Tgt Ion: 45 Resp: 17420

Ion	Ratio	Lower	Upper
45	100		
46	30.5	17.2	57.2

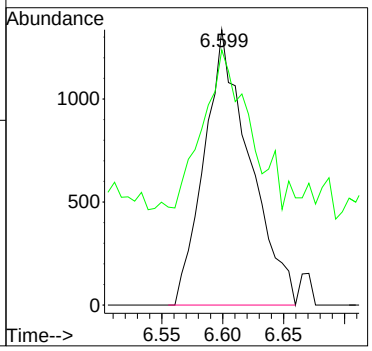


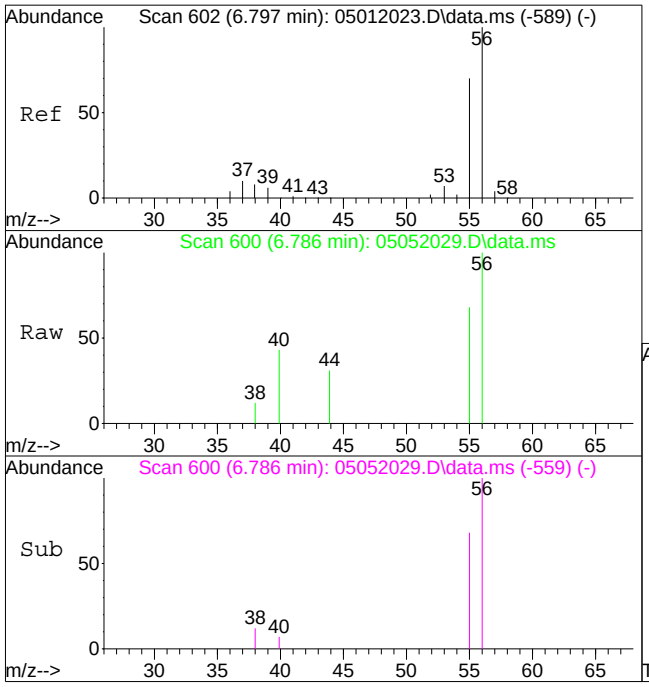


#11
Acetonitrile
Concen: 0.07 ng
RT: 6.60 min Scan# 566
Delta R.T. -0.044 min
Lab File: 05052029.D
Acq: 5 May 2020 20:45

Tgt Ion: 41 Resp: 3457

Ion	Ratio	Lower	Upper
41	100		
40	67.8	33.6	73.6

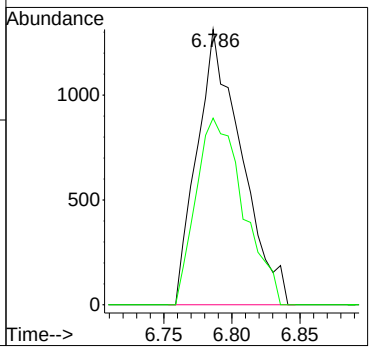


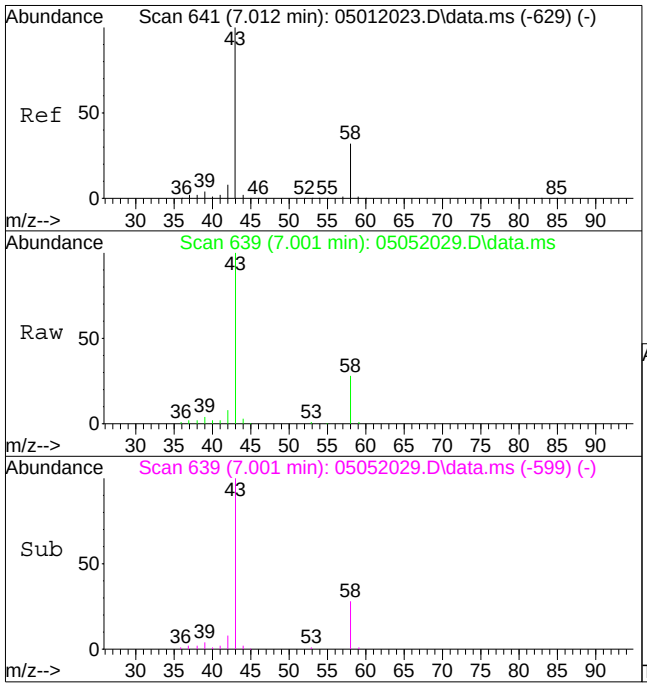


#12
Acrolein
Concen: 0.16 ng
RT: 6.79 min Scan# 600
Delta R.T. -0.022 min
Lab File: 05052029.D
Acq: 5 May 2020 20:45

Tgt Ion: 56 Resp: 2972

Ion	Ratio	Lower	Upper
56	100		
55	72.7	50.2	90.2

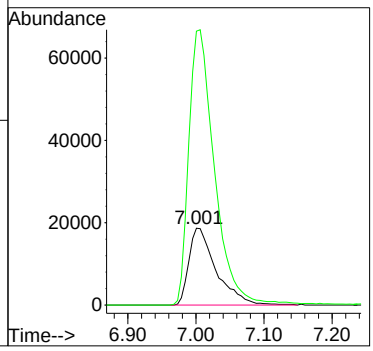


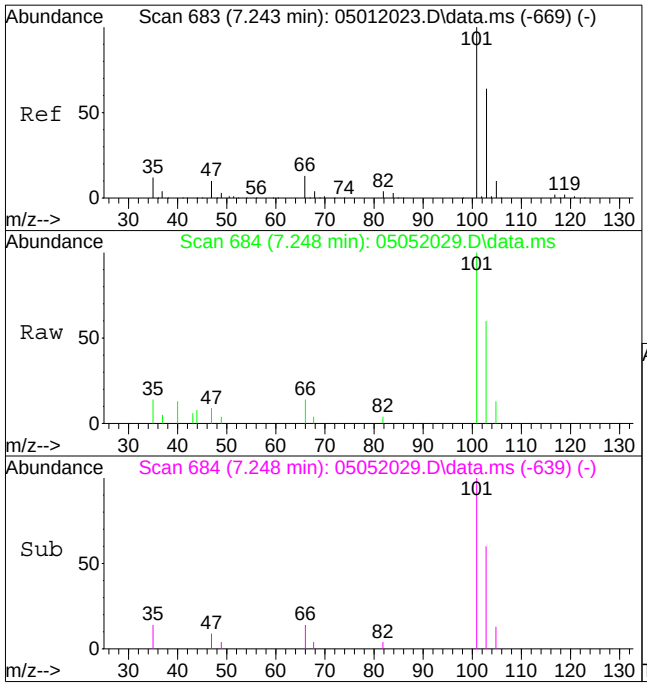


#13
Acetone
Concen: 2.27 ng
RT: 7.00 min Scan# 639
Delta R.T. -0.028 min
Lab File: 05052029.D
Acq: 5 May 2020 20:45

Tgt Ion: 58 Resp: 52259

Ion	Ratio	Lower	Upper
58	100		
43	338.6	294.4	354.4

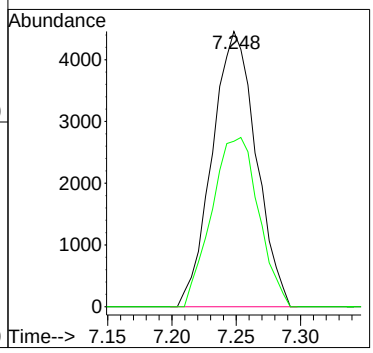


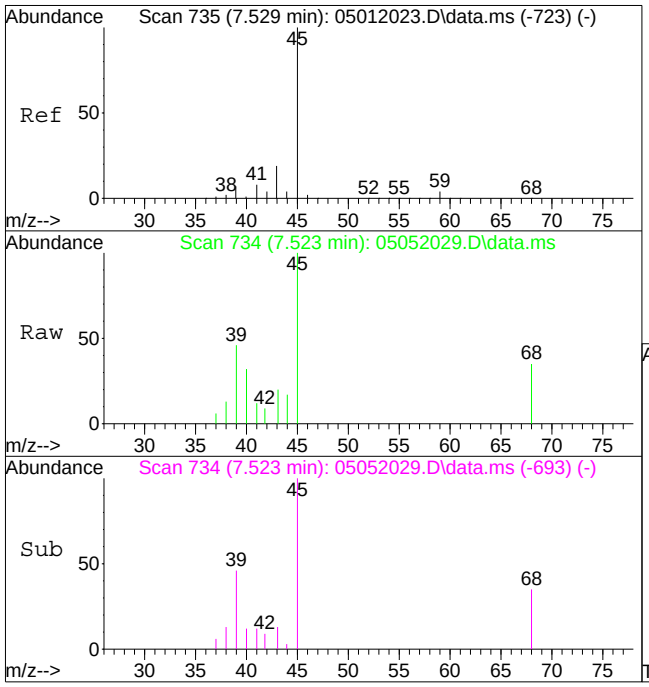


#14
Trichlorofluoromethane
Concen: 0.21 ng
RT: 7.25 min Scan# 684
Delta R.T. -0.000 min
Lab File: 05052029.D
Acq: 5 May 2020 20:45

Tgt Ion:101 Resp: 10619

Ion	Ratio	Lower	Upper
101	100		
103	65.4	44.4	84.4

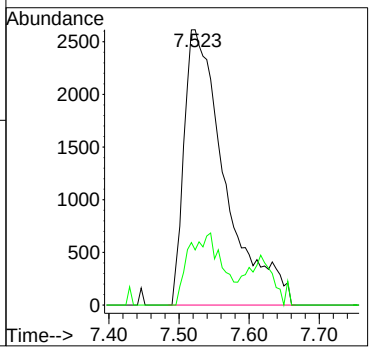


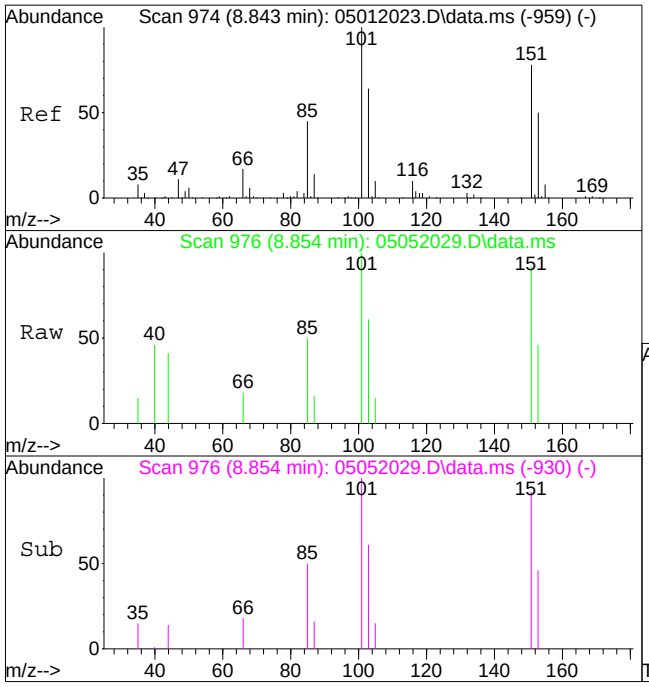


#15
2-Propanol (Isopropanol)
Concen: 0.15 ng
RT: 7.52 min Scan# 734
Delta R.T. -0.022 min
Lab File: 05052029.D
Acq: 5 May 2020 20:45

Tgt Ion: 45 Resp: 10626

Ion	Ratio	Lower	Upper
45	100		
43	32.4	0.0	39.5

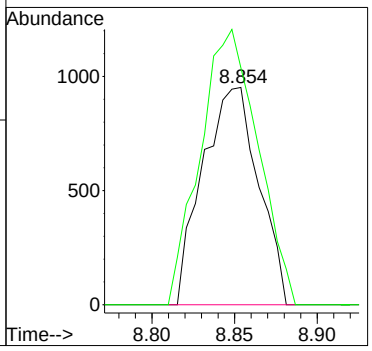


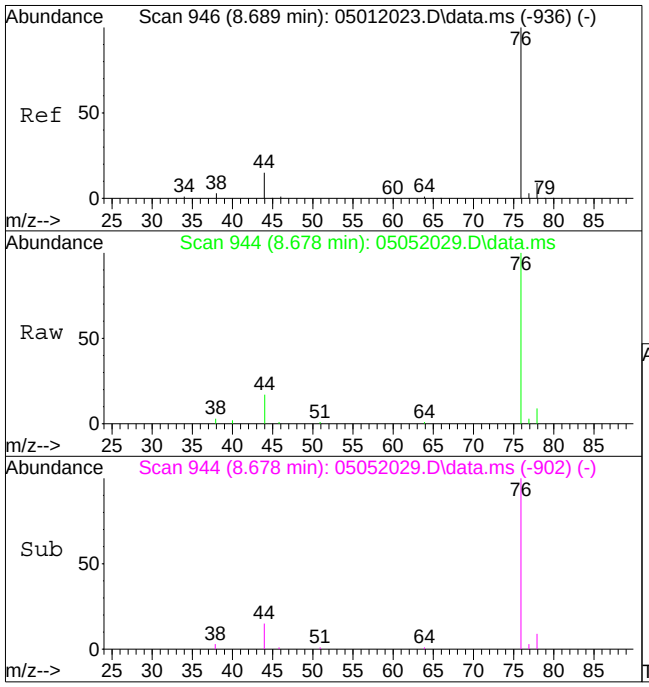


#21
Trichlorotrifluoroethane
Concen: 0.09 ng
RT: 8.85 min Scan# 976
Delta R.T. 0.005 min
Lab File: 05052029.D
Acq: 5 May 2020 20:45

Tgt Ion:151 Resp: 2245

Ion	Ratio	Lower	Upper
151	100		
101	130.5	107.3	147.3

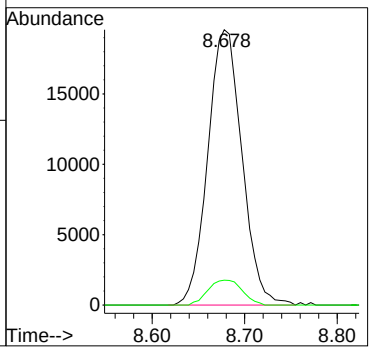


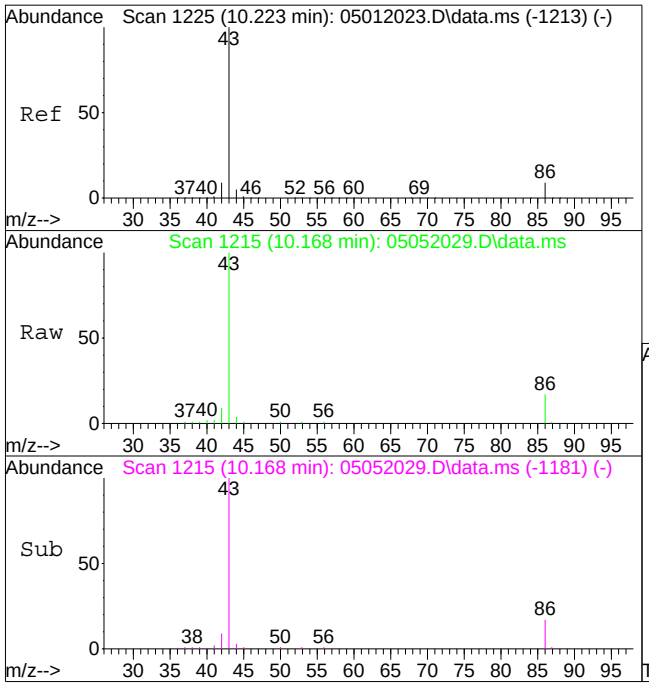


#22
Carbon Disulfide
Concen: 0.47 ng
RT: 8.68 min Scan# 944
Delta R.T. -0.017 min
Lab File: 05052029.D
Acq: 5 May 2020 20:45

Tgt Ion: 76 Resp: 50228

Ion	Ratio	Lower	Upper
76	100		
78	9.1	0.0	29.2

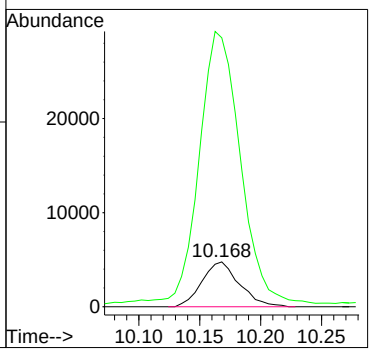


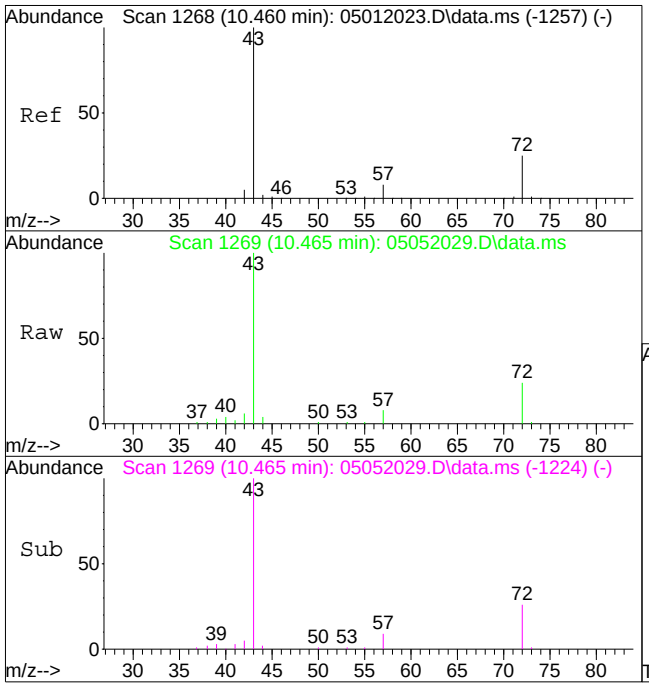


#26
Vinyl Acetate
Concen: 1.42 ng
RT: 10.17 min Scan# 1215
Delta R.T. -0.061 min
Lab File: 05052029.D
Acq: 5 May 2020 20:45

Tgt Ion: 86 Resp: 10195

Ion	Ratio	Lower	Upper
86	100		
43	707.8	1103.0	1143.0#

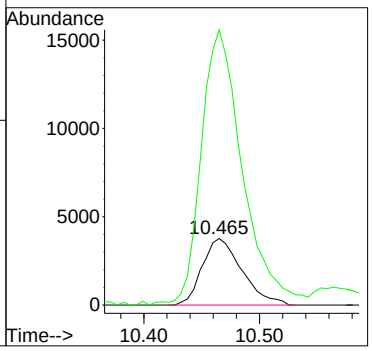


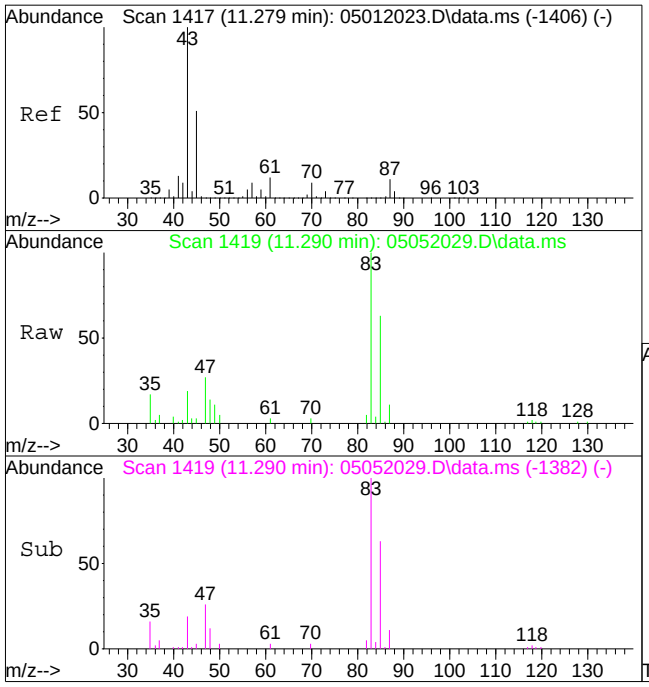


#27
2-Butanone (MEK)
Concen: 0.46 ng
RT: 10.47 min Scan# 1269
Delta R.T. -0.000 min
Lab File: 05052029.D
Acq: 5 May 2020 20:45

Tgt Ion: 72 Resp: 8996

Ion	Ratio	Lower	Upper
72	100		
43	430.4	389.7	429.7#

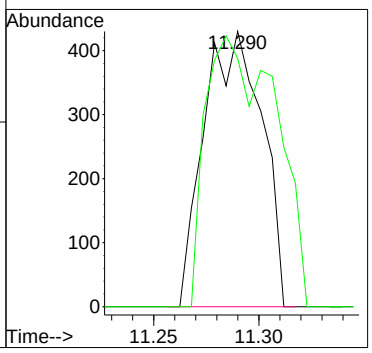


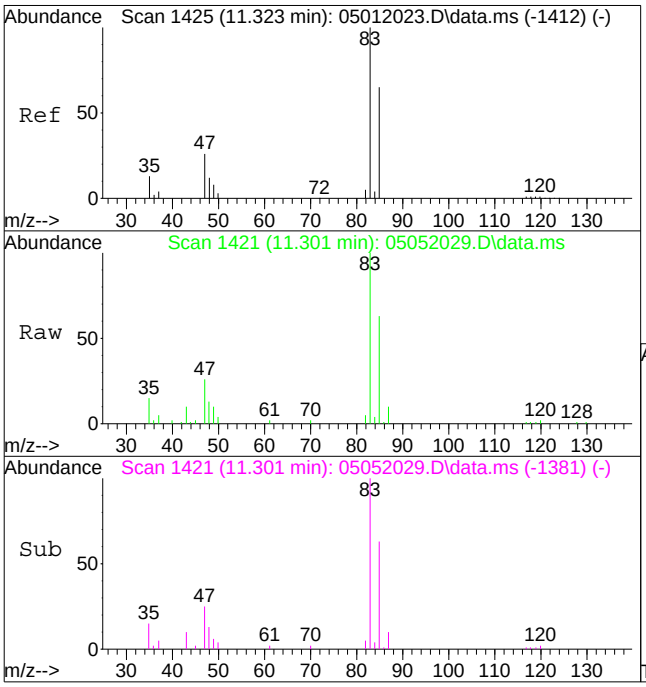


#30
Ethyl Acetate
Concen: 0.07 ng
RT: 11.29 min Scan# 1419
Delta R.T. 0.005 min
Lab File: 05052029.D
Acq: 5 May 2020 20:45

Tgt Ion: 61 Resp: 823

Ion	Ratio	Lower	Upper
61	100		
70	119.4	57.9	97.9#

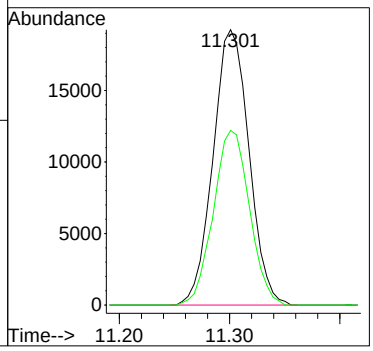


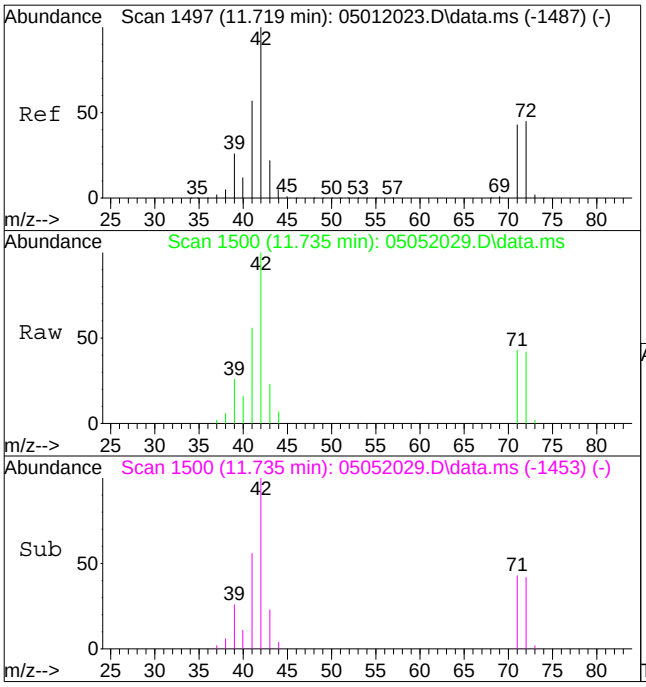


#32
Chloroform
Concen: 0.85 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.028 min
Lab File: 05052029.D
Acq: 5 May 2020 20:45

Tgt Ion: 83 Resp: 43652

Ion	Ratio	Lower	Upper
83	100		
85	63.6	45.5	85.5

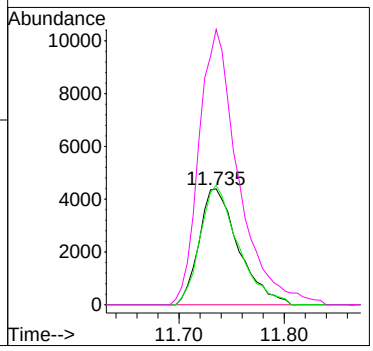


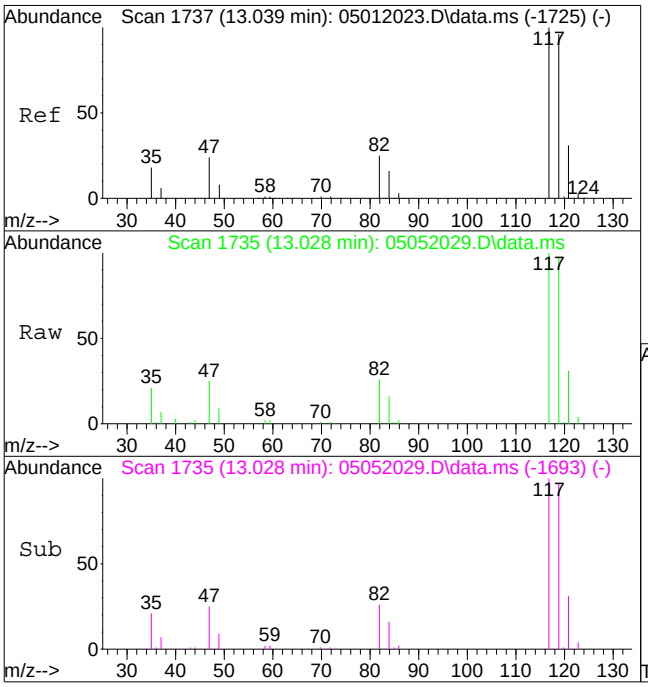


#34
Tetrahydrofuran (THF)
Concen: 0.60 ng
RT: 11.74 min Scan# 1500
Delta R.T. 0.011 min
Lab File: 05052029.D
Acq: 5 May 2020 20:45

Tgt Ion: 72 Resp: 11485

Ion	Ratio	Lower	Upper
72	100		
71	99.4	77.0	117.0
42	236.9	204.6	244.6

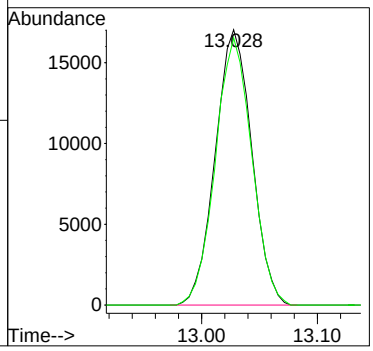


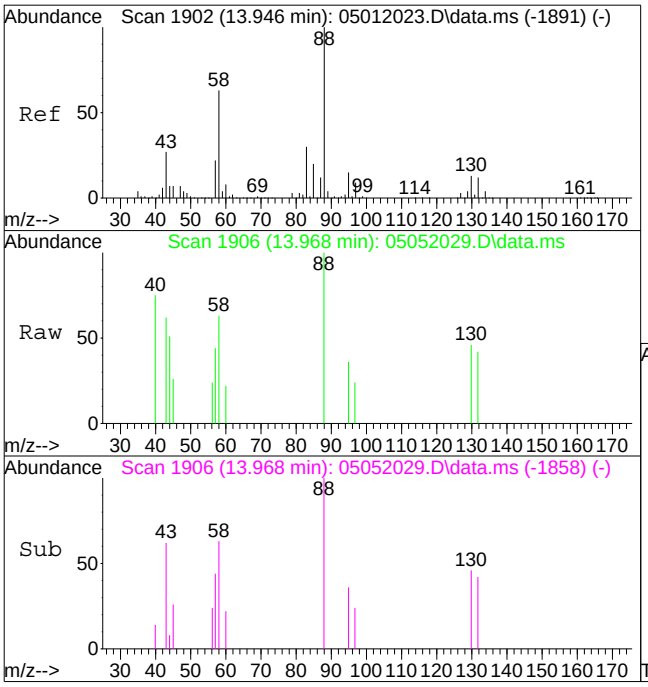


#42
Carbon Tetrachloride
Concen: 0.93 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05052029.D
Acq: 5 May 2020 20:45

Tgt Ion:117 Resp: 37391

Ion	Ratio	Lower	Upper
117	100		
119	96.7	76.2	116.2

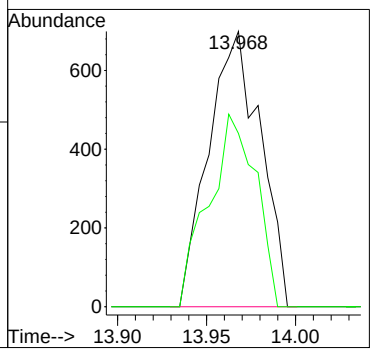


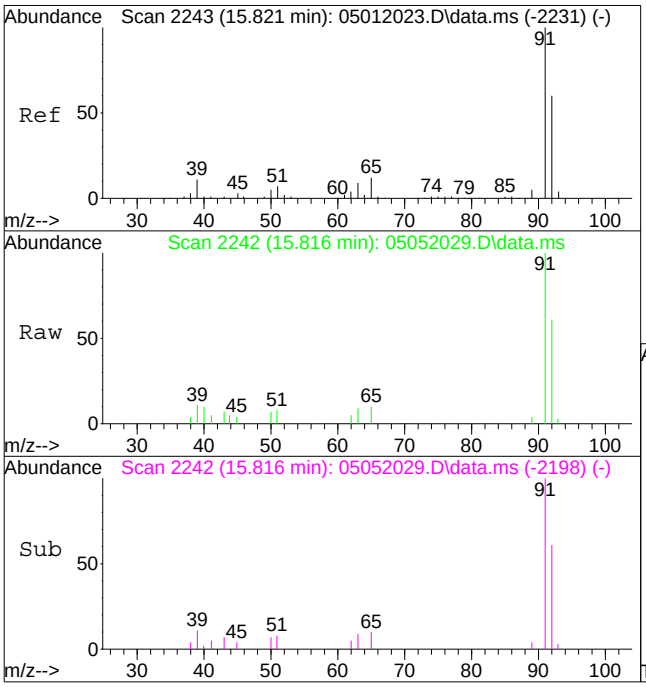


#48
1,4-Dioxane
Concen: 0.06 ng
RT: 13.97 min Scan# 1906
Delta R.T. 0.016 min
Lab File: 05052029.D
Acq: 5 May 2020 20:45

Tgt Ion: 88 Resp: 1417

Ion	Ratio	Lower	Upper
88	100		
58	63.8	42.8	82.8

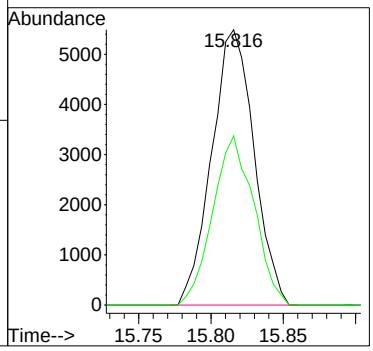


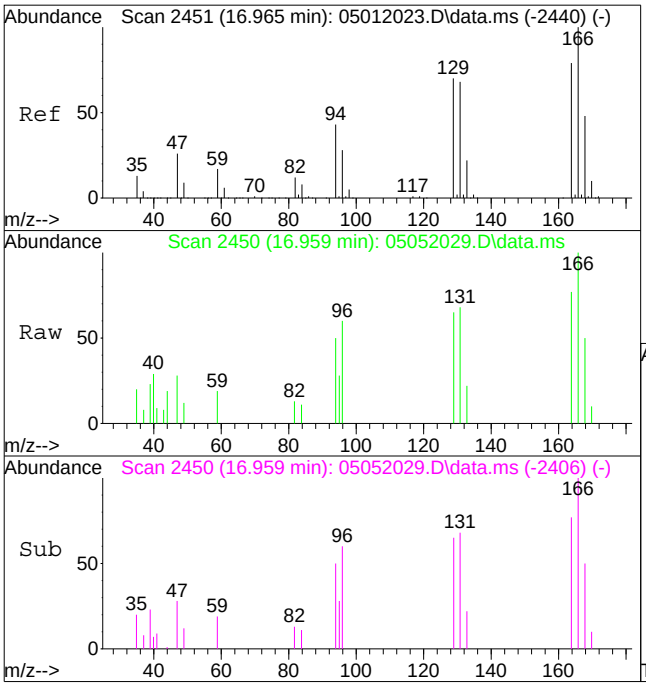


#58
Toluene
Concen: 0.09 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05052029.D
Acq: 5 May 2020 20:45

Tgt Ion: 91 Resp: 11195

Ion	Ratio	Lower	Upper
91	100		
92	59.6	39.4	79.4

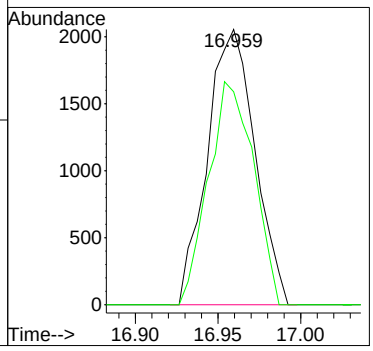


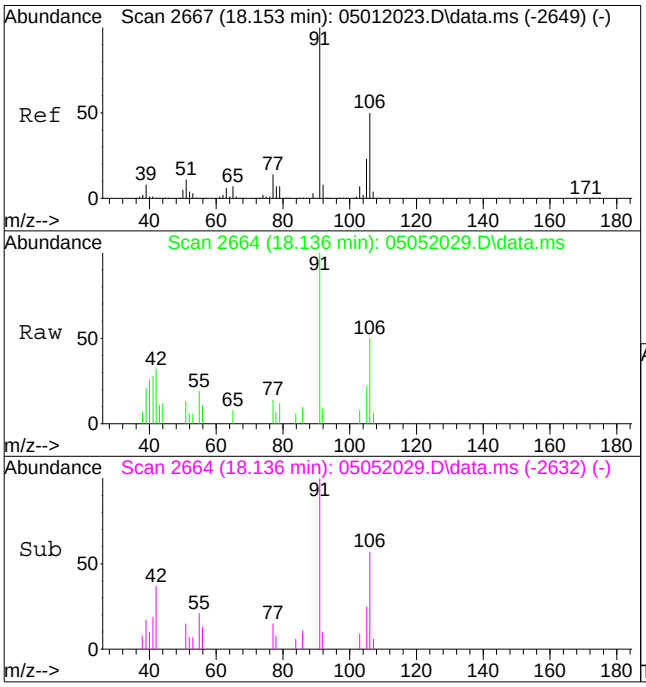


#64
Tetrachloroethene
Concen: 0.12 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05052029.D
Acq: 5 May 2020 20:45

Tgt Ion:166 Resp: 4107

Ion	Ratio	Lower	Upper
166	100		
164	76.8	58.4	98.4

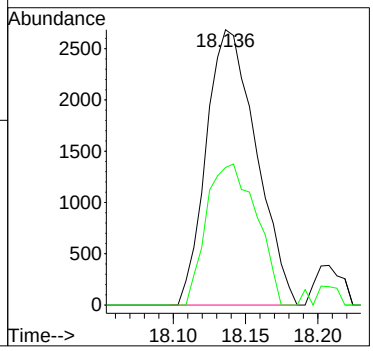


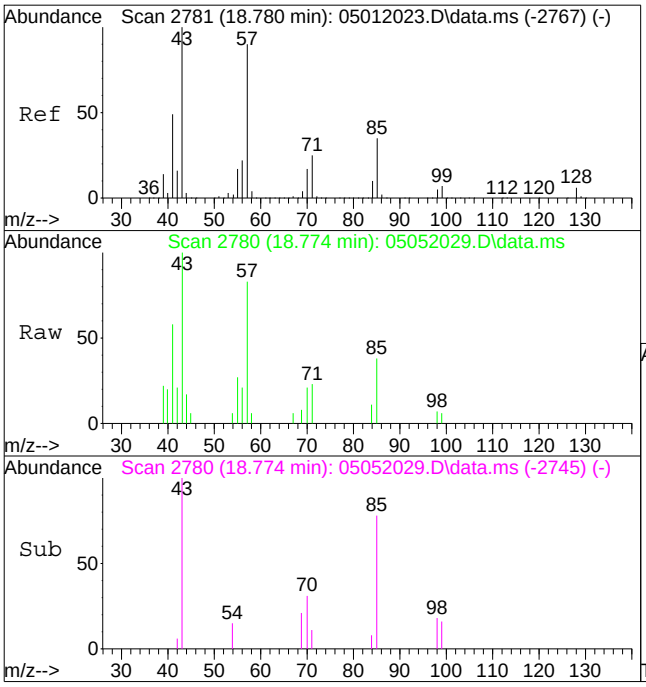


#67
m- & p-Xylenes
Concen: 0.06 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05052029.D
Acq: 5 May 2020 20:45

Tgt Ion: 91 Resp: 6457

Ion	Ratio	Lower	Upper
91	100		
106	51.3	29.7	69.7

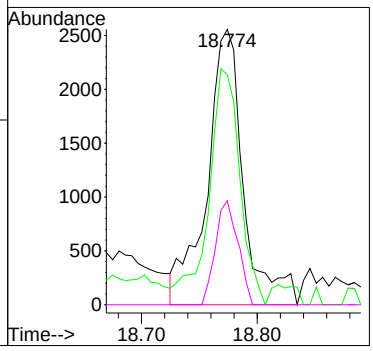


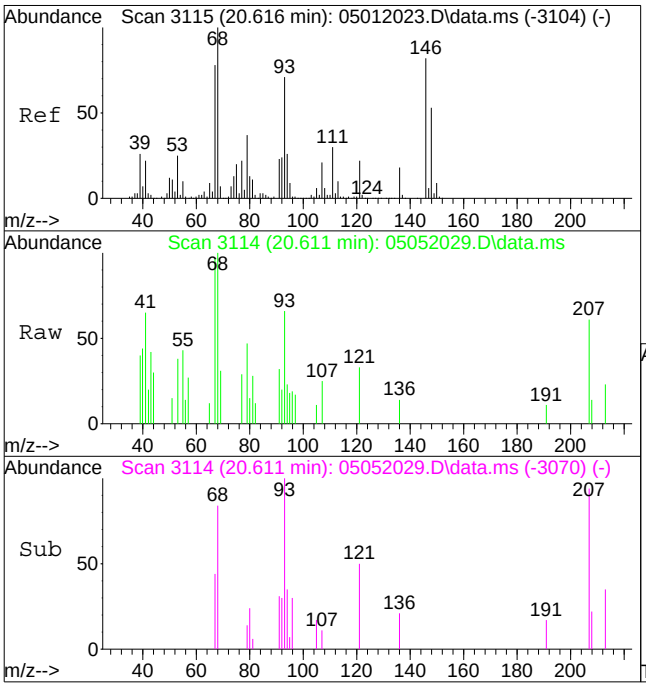


#71
n-Nonane
Concen: 0.10 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05052029.D
Acq: 5 May 2020 20:45

Tgt Ion: 43 Resp: 5615

Ion	Ratio	Lower	Upper
43	100		
57	73.0	69.0	109.0
85	23.3	14.6	54.6

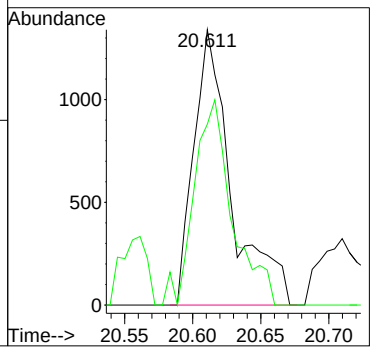




#91
d-Limonene
Concen: 0.06 ng
RT: 20.61 min Scan# 3114
Delta R.T. -0.006 min
Lab File: 05052029.D
Acq: 5 May 2020 20:45

Tgt Ion: 68 Resp: 2579

Ion	Ratio	Lower	Upper
68	100		
93	75.0	51.1	91.1



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052030.D Vial: 12
Acq On : 5 May 2020 21:19 Operator: WA
Sample : P2002107-015 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 07 17:49:42 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/7/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	255301	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.27	114	1113811	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	547384	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	423263	12.233	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.84%				
57) Toluene-d8 (SS2)	15.72	98	1125425	12.130	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.04%				
73) Bromofluorobenzene (SS3)	18.98	174	445561	13.346	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.80%				
Target Compounds							Qvalue
2) Propene	4.11	42	10878	0.368	ng		93
3) Dichlorodifluoromethan...	4.28	85	30380	0.525	ng		99
4) Chloromethane	4.55	50	3160	0.070	ng		96
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	455	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.22	54	2460	0.060	ng		90
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.35	45	21274	0.932	ng		97
11) Acetonitrile	6.60	41	6950	0.133	ng		88
12) Acrolein	6.79	56	14378	0.797	ng		98
13) Acetone	7.00	58	28414	1.244	ng	#	13
14) Trichlorofluoromethane	7.24	101	7430	0.145	ng		98
15) 2-Propanol (Isopropanol)	7.51	45	17605	0.255	ng		93
16) Acrylonitrile	7.77	53	1939	0.052	ng		86
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.42	84	267	N.D.			
20) 3-Chloro-1-propene (Al...	8.51	41	243	N.D.			
21) Trichlorotrifluoroethane	8.84	151	1912	0.079	ng		97
22) Carbon Disulfide	8.69	76	3082591	28.983	ng		100
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.09	73	382	N.D.			
26) Vinyl Acetate	10.17	86	4115	0.579	ng	#	29
27) 2-Butanone (MEK)	10.47	72	14644	0.752	ng		98
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.29	61	845	0.075	ng	#	66
31) n-Hexane	11.26	57	1060	N.D.			
32) Chloroform	11.31	83	34764	0.684	ng		99
34) Tetrahydrofuran (THF)	11.72	72	84651	4.457	ng		98
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	11.99	62	149	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	12.87	61	108	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	40375	0.338	ng		100
42) Carbon Tetrachloride	13.03	117	71590	1.762	ng		99
43) Cyclohexane	13.15	84	182	N.D.			
44) tert-Amyl Methyl Ether	13.57	73	598	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	13.91	83	503	N.D.			
47) Trichloroethene	13.97	130	1756	0.057	ng		95
48) 1,4-Dioxane	13.94	88	205841	8.557	ng		100
49) 2,2,4-Trimethylpentane...	14.06	57	9467	0.081	ng	#	1
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052030.D Vial: 12
Acq On : 5 May 2020 21:19 Operator: WA
Sample : P2002107-015 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 07 17:49:42 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

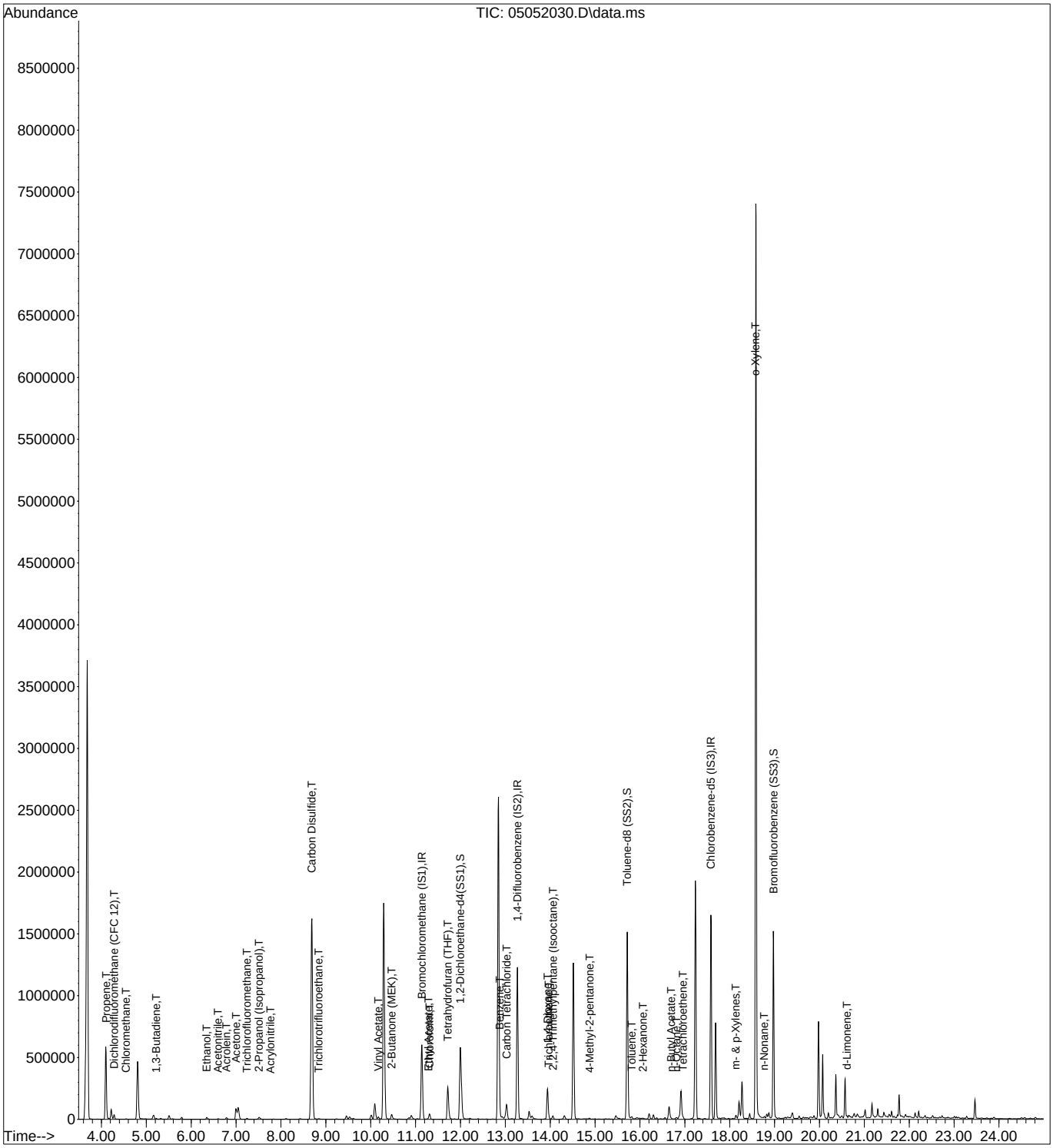
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.30	71	1050	N.D.			
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
53) 4-Methyl-2-pentanone	14.88	58	1988	0.075	ng	#	87
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.			
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.			
58) Toluene	15.82	91	14788	0.124	ng		98
59) 2-Hexanone	16.07	43	4516	0.069	ng		99
60) Dibromochloromethane	0.00	129	0	N.D.			
61) 1,2-Dibromoethane	0.00	107	0	N.D.			
62) n-Butyl Acetate	16.70	43	6052	0.085	ng		88
63) n-Octane	16.82	57	1795	0.072	ng	#	77
64) Tetrachloroethene	16.96	166	5019	0.149	ng		98
65) Chlorobenzene	0.00	112	0	N.D.			
66) Ethylbenzene	17.98	91	2783	N.D.			
67) m- & p-Xylenes	18.14	91	7814	0.074	ng		99
68) Bromoform	0.00	173	0	N.D.			
69) Styrene	18.47	104	1120	N.D.			
70) o-Xylene	18.58	91	5441	0.051	ng		86
71) n-Nonane	18.77	43	4962	0.087	ng		85
72) 1,1,2,2-Tetrachloroethane	18.59	83	809	N.D.			
74) Cumene	19.10	105	1209	N.D.			
75) alpha-Pinene	19.45	93	964	N.D.			
76) n-Propylbenzene	19.55	91	2165	N.D.			
77) 3-Ethyltoluene	19.64	105	2414	N.D.			
78) 4-Ethyltoluene	19.68	105	1178	N.D.			
79) 1,3,5-Trimethylbenzene	19.75	105	1452	N.D.			
80) alpha-Methylstyrene	19.88	118	2099	N.D.			
81) 2-Ethyltoluene	19.91	105	1072	N.D.			
82) 1,2,4-Trimethylbenzene	20.10	105	4187	N.D.			
83) n-Decane	0.00	57	0	N.D.	d		
84) Benzyl Chloride	20.31	91	446	N.D.			
85) 1,3-Dichlorobenzene	20.24	146	123	N.D.			
86) 1,4-Dichlorobenzene	20.30	146	212	N.D.			
87) sec-Butylbenzene	20.35	105	1296	N.D.			
88) 4-Isopropyltoluene (p-...	20.48	119	2462	N.D.			
89) 1,2,3-Trimethylbenzene	20.48	105	2176	N.D.			
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.			
91) d-Limonene	20.61	68	3627	0.085	ng		87
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.			
93) n-Undecane	0.00	57	0	N.D.	d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.			
95) Naphthalene	22.21	128	4189	N.D.			
96) n-Dodecane	0.00	57	0	N.D.	d		
97) Hexachlorobutadiene	0.00	225	0	N.D.			
98) Cyclohexanone	0.00	55	0	N.D.	d		
99) tert-Butylbenzene	0.00	119	0	N.D.	d		
100) n-Butylbenzene	20.85	91	4244	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052030.D Vial: 12
Acq On : 5 May 2020 21:19 Operator: WA
Sample : P2002107-015 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 07 17:49:42 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052030.D Vial: 12
Acq On : 5 May 2020 21:19 Operator: WA
Sample : P2002107-015 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 07 17:49:42 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/7/20

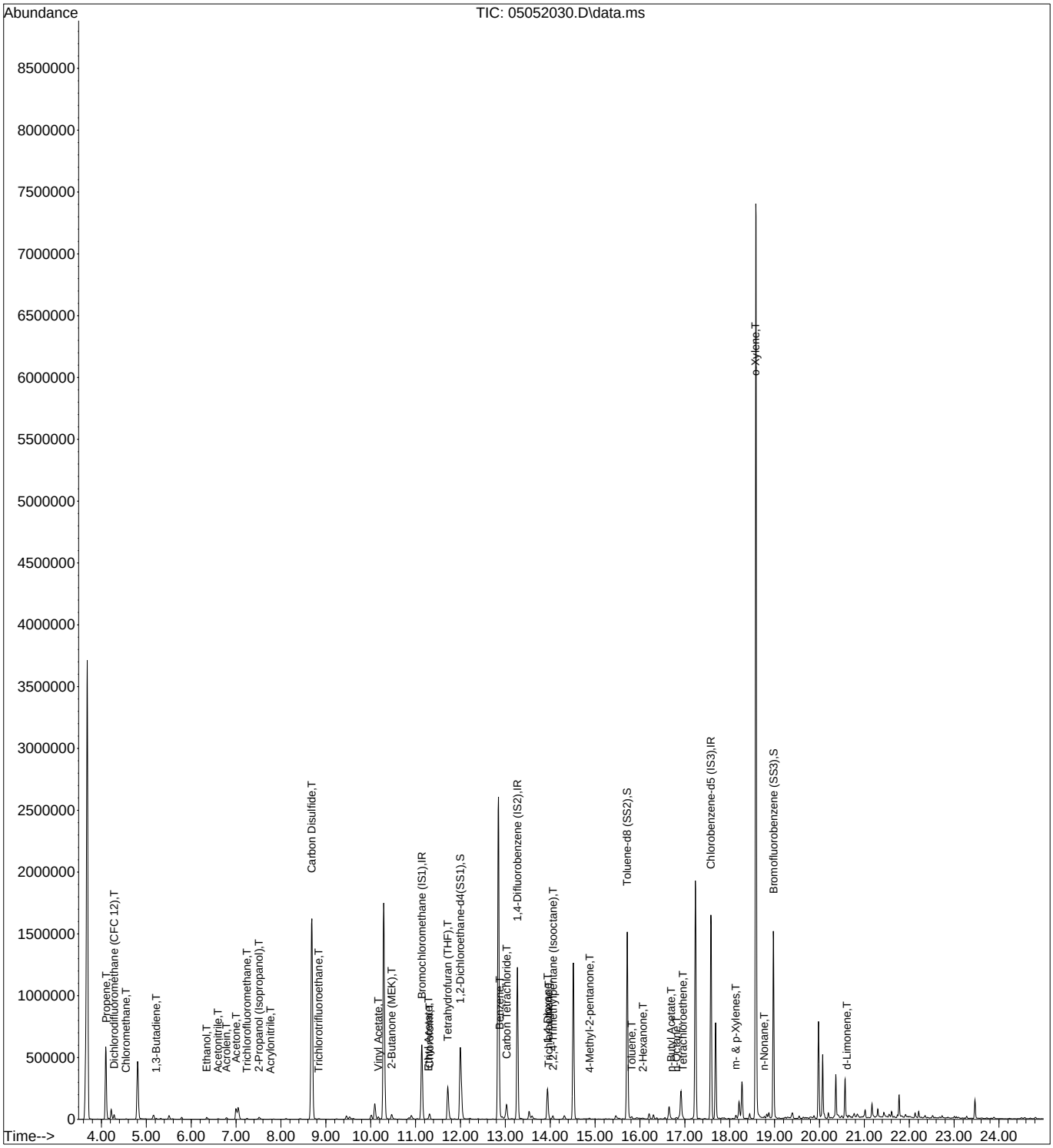
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	255301	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.27	114	1113811	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	547384	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	423263	12.233	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.84%				
57) Toluene-d8 (SS2)	15.72	98	1125425	12.130	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.04%				
73) Bromofluorobenzene (SS3)	18.98	174	445561	13.346	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.80%				
Target Compounds							Qvalue
2) Propene	4.11	42	10878	0.368	ng		93
3) Dichlorodifluoromethan...	4.28	85	30380	0.525	ng		99
4) Chloromethane	4.55	50	3160	0.070	ng		96
7) 1,3-Butadiene	5.22	54	2460	0.060	ng		90
10) Ethanol	6.35	45	21274	0.932	ng		97
11) Acetonitrile	6.60	41	6950	0.133	ng		88
12) Acrolein	6.79	56	14378	0.797	ng		98
13) Acetone	7.00	58	28414	1.244	ng	#	13
14) Trichlorofluoromethane	7.24	101	7430	0.145	ng		98
15) 2-Propanol (Isopropanol)	7.51	45	17605	0.255	ng		93
16) Acrylonitrile	7.77	53	1939	0.052	ng		86
21) Trichlorotrifluoroethane	8.84	151	1912	0.079	ng		97
22) Carbon Disulfide	8.69	76	3082591	28.983	ng		100
26) Vinyl Acetate	10.17	86	4115	0.579	ng	#	29
27) 2-Butanone (MEK)	10.47	72	14644	0.752	ng		98
30) Ethyl Acetate	11.29	61	845	0.075	ng	#	66
32) Chloroform	11.31	83	34764	0.684	ng		99
34) Tetrahydrofuran (THF)	11.72	72	84651	4.457	ng		98
41) Benzene	12.87	78	40375	0.338	ng		100
42) Carbon Tetrachloride	13.03	117	71590	1.762	ng		99
47) Trichloroethene	13.97	130	1756	0.057	ng		95
48) 1,4-Dioxane	13.94	88	205841	8.557	ng		100
49) 2,2,4-Trimethylpentane...	14.06	57	9467	0.081	ng	#	1
53) 4-Methyl-2-pentanone	14.88	58	1988	0.075	ng	#	87
58) Toluene	15.82	91	14788	0.124	ng		98
59) 2-Hexanone	16.07	43	4516	0.069	ng		99
62) n-Butyl Acetate	16.70	43	6052	0.085	ng		88
63) n-Octane	16.82	57	1795	0.072	ng	#	77
64) Tetrachloroethene	16.96	166	5019	0.149	ng		98
67) m- & p-Xylenes	18.14	91	7814	0.074	ng		99
70) o-Xylene	18.58	91	5441	0.051	ng		86
71) n-Nonane	18.77	43	4962	0.087	ng		85
91) d-Limonene	20.61	68	3627	0.085	ng		87

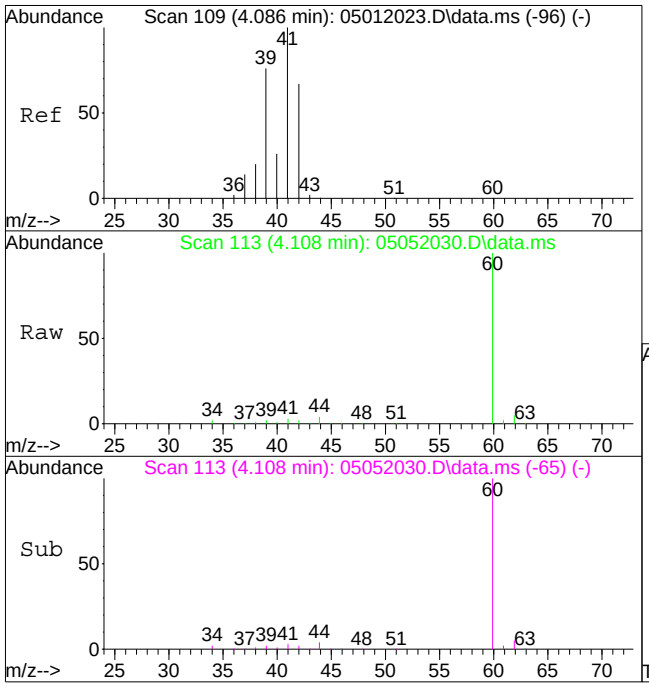
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052030.D Vial: 12
Acq On : 5 May 2020 21:19 Operator: WA
Sample : P2002107-015 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 07 17:49:42 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

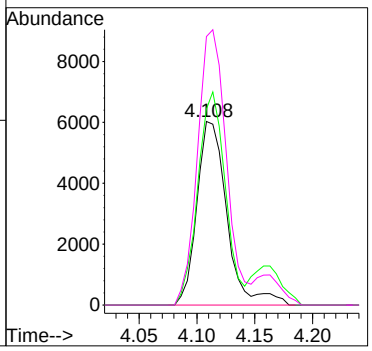


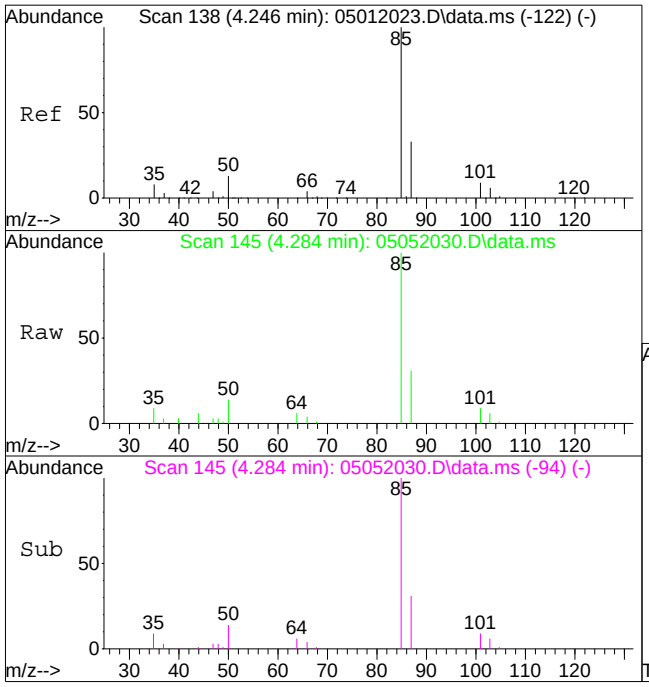


#2
Propene
Concen: 0.37 ng
RT: 4.11 min Scan# 113
Delta R.T. 0.016 min
Lab File: 05052030.D
Acq: 5 May 2020 21:19

Tgt Ion: 42 Resp: 10878

Ion	Ratio	Lower	Upper
42	100		
39	107.1	96.1	136.1
41	144.7	131.9	171.9

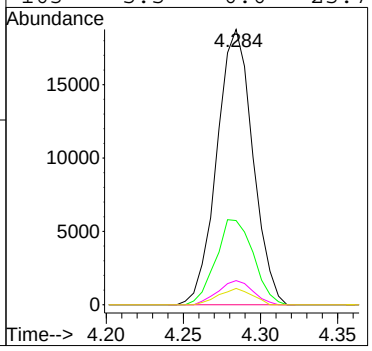


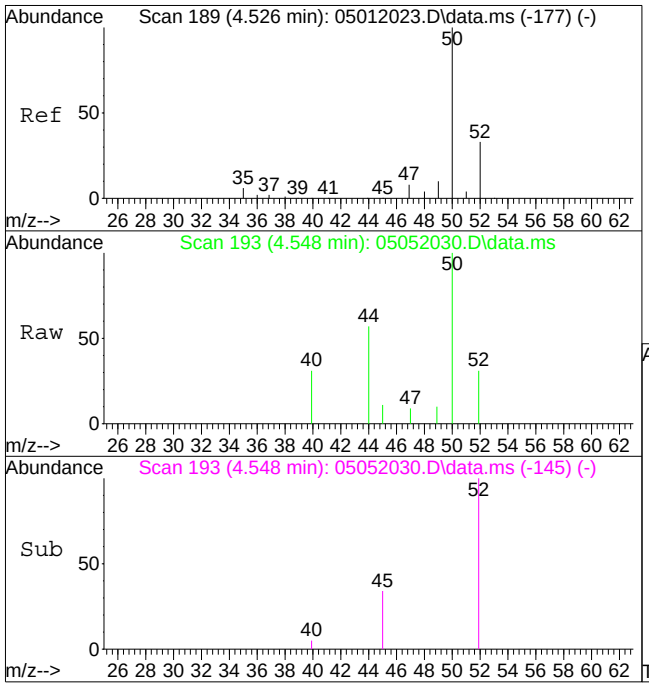


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.53 ng
RT: 4.28 min Scan# 145
Delta R.T. 0.033 min
Lab File: 05052030.D
Acq: 5 May 2020 21:19

Tgt Ion: 85 Resp: 30380

Ion	Ratio	Lower	Upper
85	100		
87	32.2	12.4	52.4
101	8.5	0.0	28.8
103	5.5	0.0	25.7

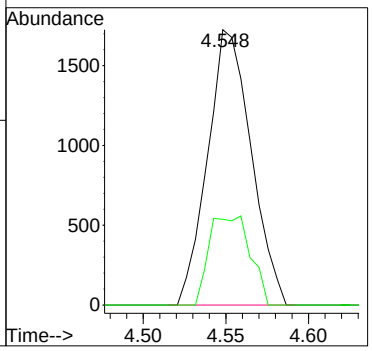


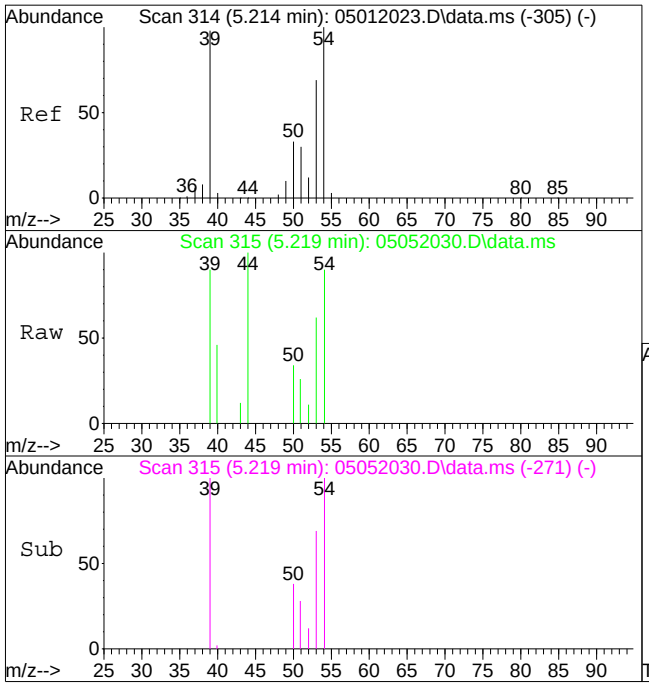


#4
Chloromethane
Concen: 0.07 ng
RT: 4.55 min Scan# 193
Delta R.T. 0.016 min
Lab File: 05052030.D
Acq: 5 May 2020 21:19

Tgt Ion: 50 Resp: 3160

Ion	Ratio	Lower	Upper
50	100		
52	30.5	12.5	52.5

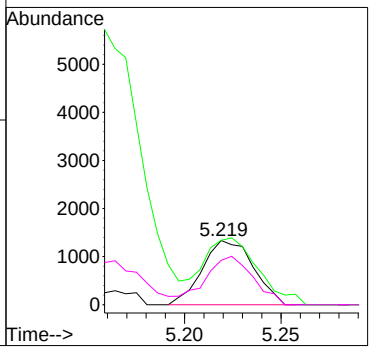


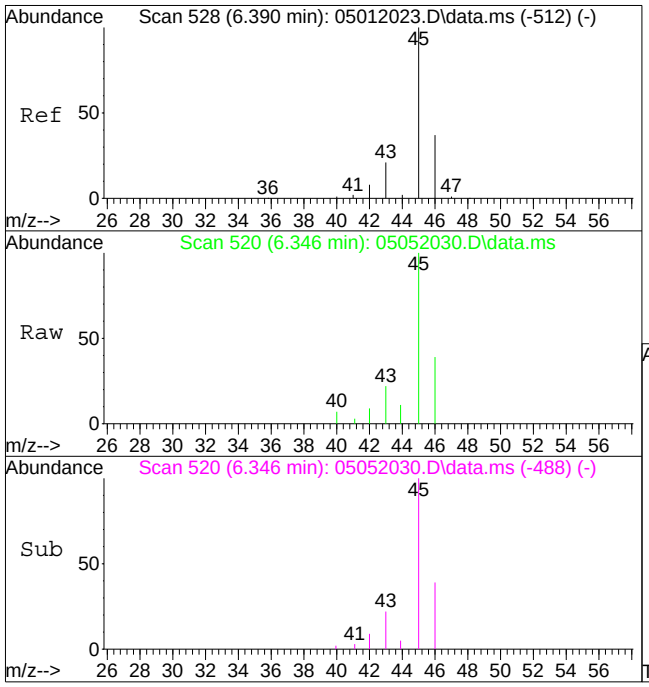


#7
1,3-Butadiene
Concen: 0.06 ng
RT: 5.22 min Scan# 315
Delta R.T. -0.006 min
Lab File: 05052030.D
Acq: 5 May 2020 21:19

Tgt Ion: 54 Resp: 2460

Ion	Ratio	Lower	Upper
54	100		
39	115.0	80.6	120.6
53	71.7	49.4	89.4

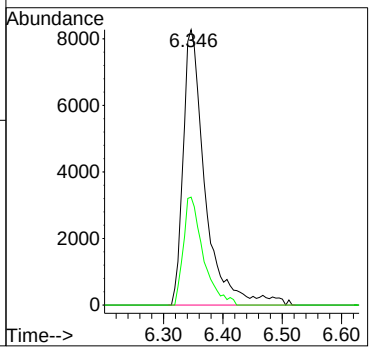


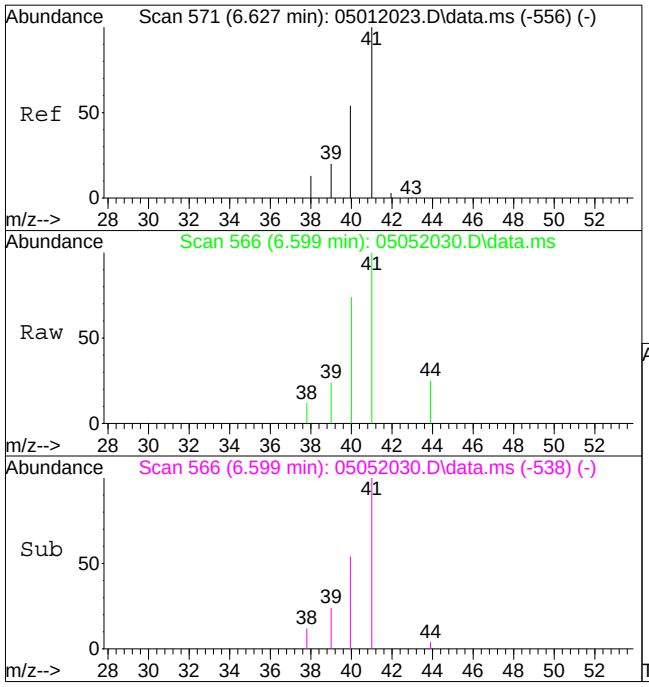


#10
Ethanol
Concen: 0.93 ng
RT: 6.35 min Scan# 520
Delta R.T. -0.072 min
Lab File: 05052030.D
Acq: 5 May 2020 21:19

Tgt Ion: 45 Resp: 21274

Ion	Ratio	Lower	Upper
45	100		
46	35.4	17.2	57.2

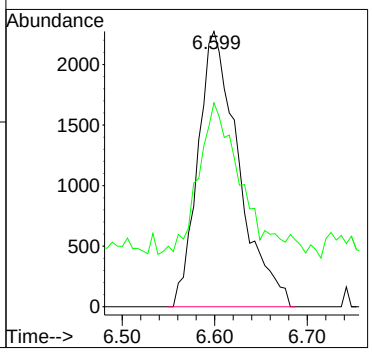


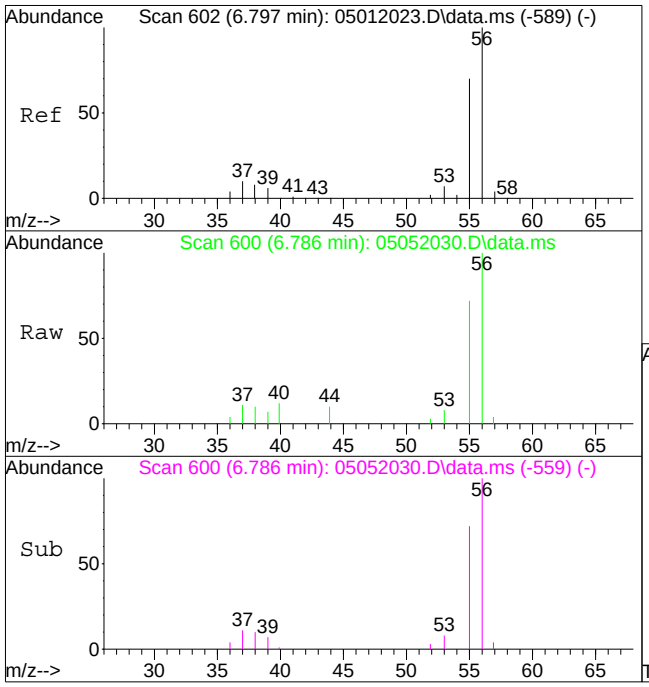


#11
Acetonitrile
Concen: 0.13 ng
RT: 6.60 min Scan# 566
Delta R.T. -0.044 min
Lab File: 05052030.D
Acq: 5 May 2020 21:19

Tgt Ion: 41 Resp: 6950

Ion	Ratio	Lower	Upper
41	100		
40	62.3	33.6	73.6

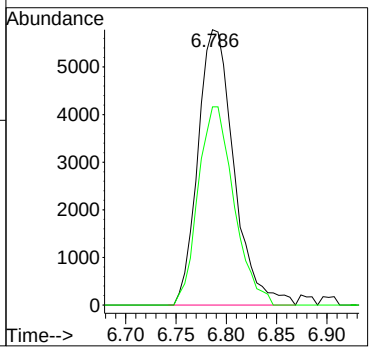


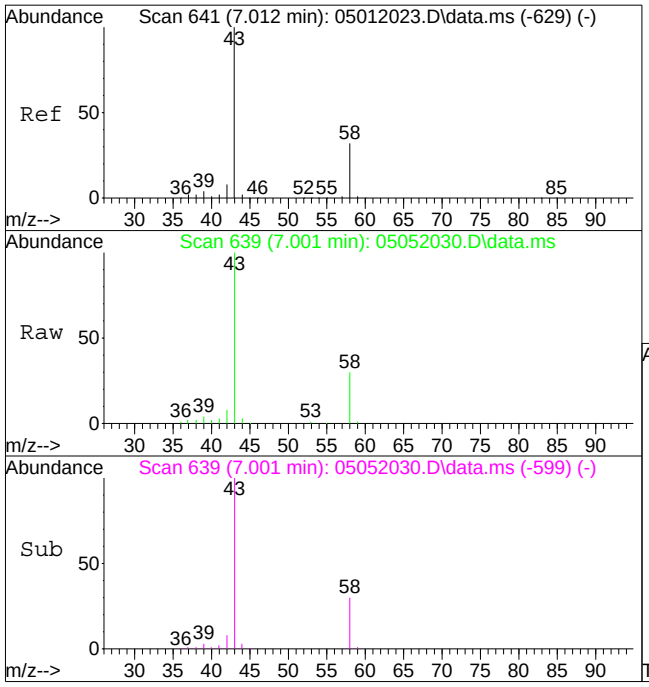


#12
Acrolein
Concen: 0.80 ng
RT: 6.79 min Scan# 600
Delta R.T. -0.022 min
Lab File: 05052030.D
Acq: 5 May 2020 21:19

Tgt Ion: 56 Resp: 14378

Ion	Ratio	Lower	Upper
56	100		
55	71.5	50.2	90.2

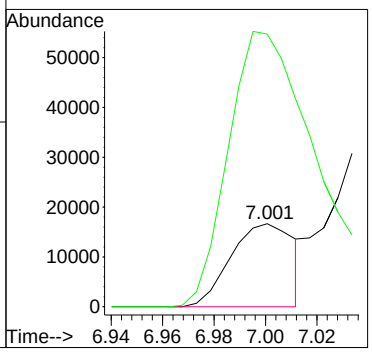


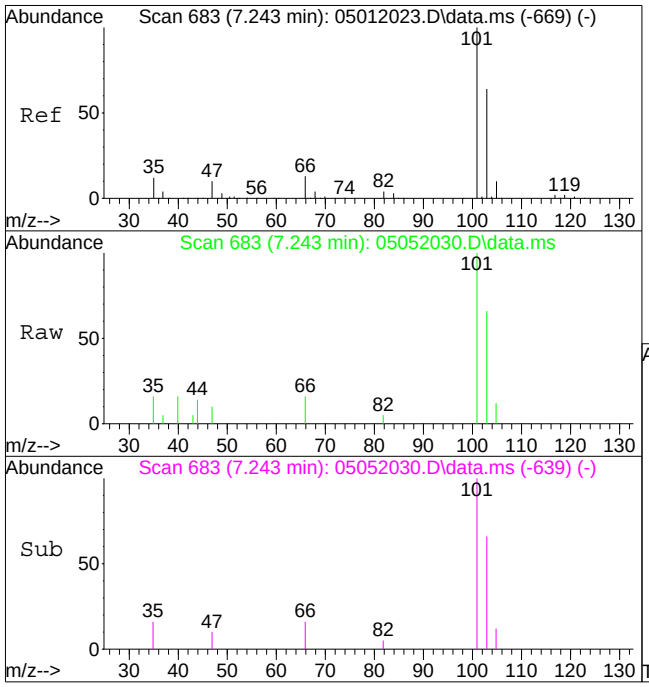


#13
Acetone
Concen: 1.24 ng
RT: 7.00 min Scan# 639
Delta R.T. -0.028 min
Lab File: 05052030.D
Acq: 5 May 2020 21:19

Tgt Ion: 58 Resp: 28414

Ion	Ratio	Lower	Upper
58	100		
43	503.9	294.4	354.4#

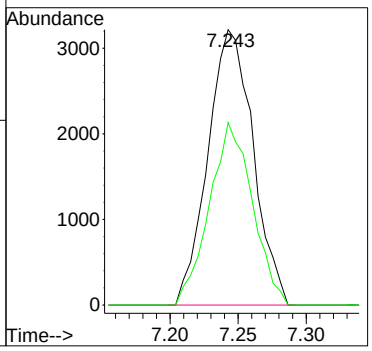


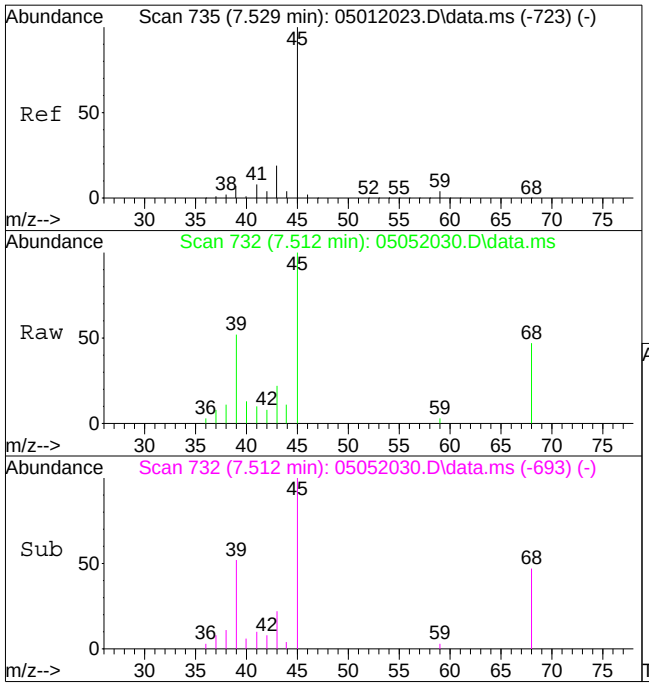


#14
Trichlorofluoromethane
Concen: 0.15 ng
RT: 7.24 min Scan# 683
Delta R.T. -0.006 min
Lab File: 05052030.D
Acq: 5 May 2020 21:19

Tgt Ion:101 Resp: 7430

Ion	Ratio	Lower	Upper
101	100		
103	63.0	44.4	84.4

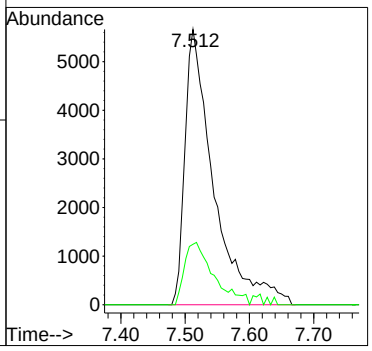


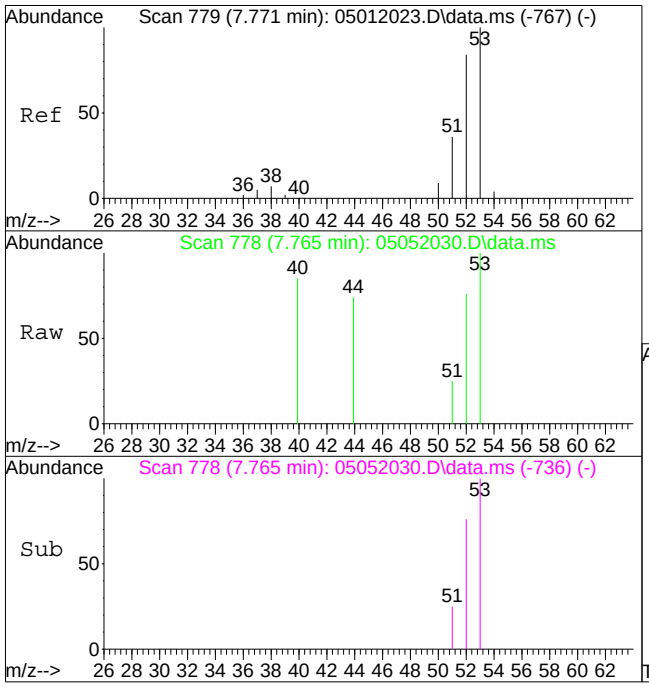


#15
2-Propanol (Isopropanol)
Concen: 0.25 ng
RT: 7.51 min Scan# 732
Delta R.T. -0.033 min
Lab File: 05052030.D
Acq: 5 May 2020 21:19

Tgt Ion: 45 Resp: 17605

Ion	Ratio	Lower	Upper
45	100		
43	22.9	0.0	39.5

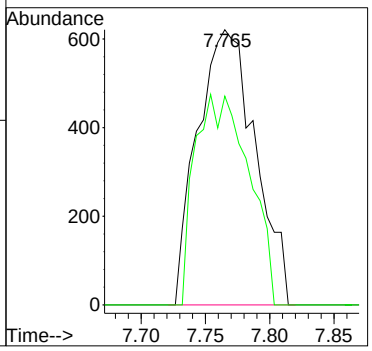


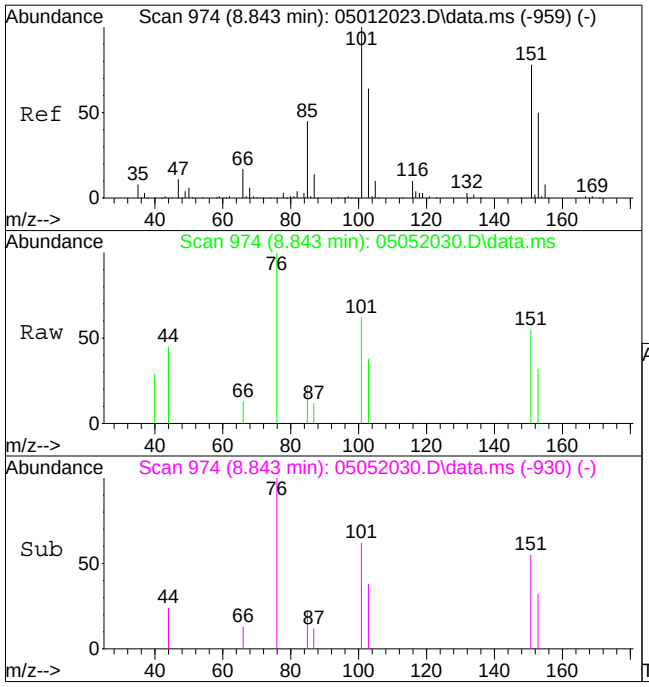


#16
Acrylonitrile
Concen: 0.05 ng
RT: 7.77 min Scan# 778
Delta R.T. -0.017 min
Lab File: 05052030.D
Acq: 5 May 2020 21:19

Tgt Ion: 53 Resp: 1939

Ion	Ratio	Lower	Upper
53	100		
52	71.4	63.7	103.7

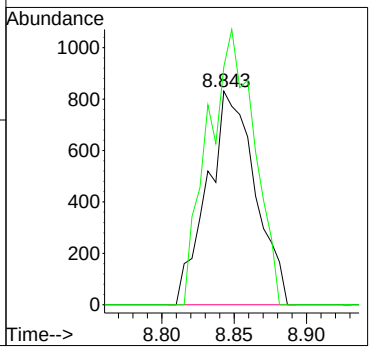


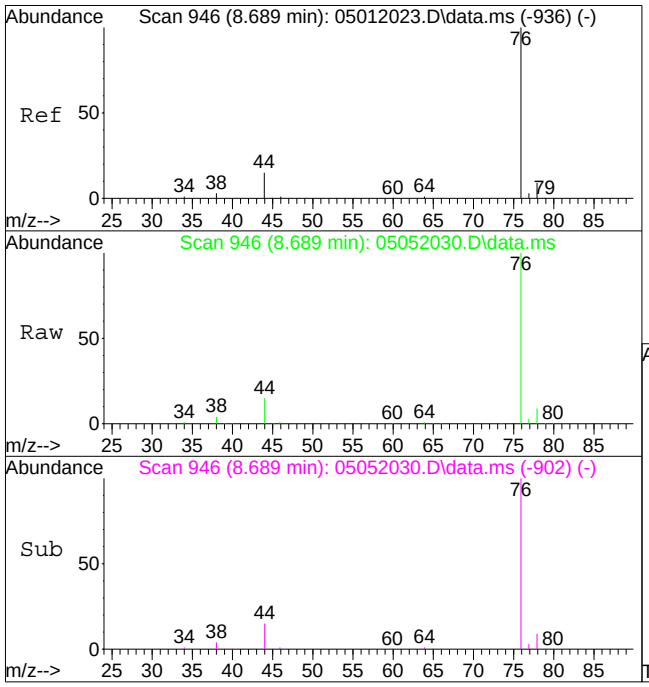


#21
Trichlorotrifluoroethane
Concen: 0.08 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05052030.D
Acq: 5 May 2020 21:19

Tgt Ion:151 Resp: 1912

Ion	Ratio	Lower	Upper
151	100		
101	123.7	107.3	147.3

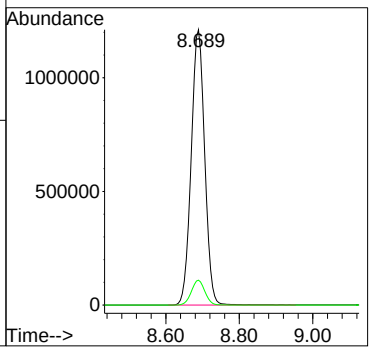


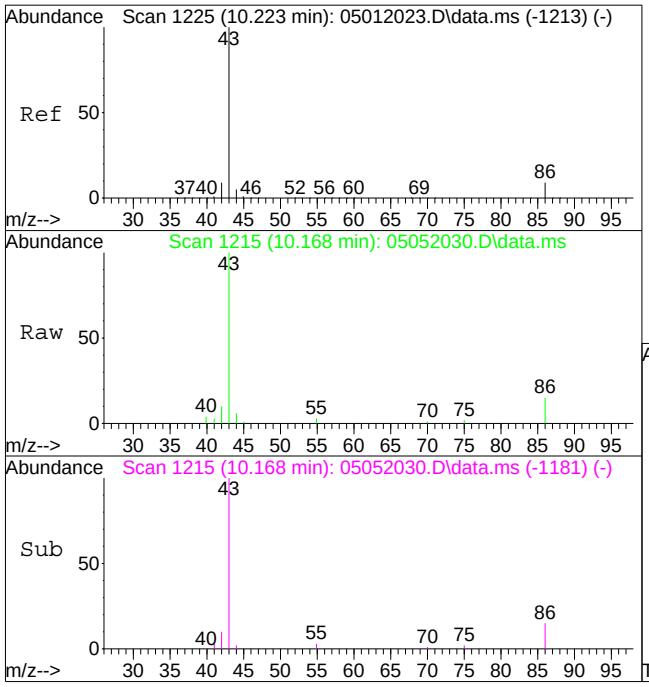


#22
Carbon Disulfide
Concen: 28.98 ng
RT: 8.69 min Scan# 946
Delta R.T. -0.006 min
Lab File: 05052030.D
Acq: 5 May 2020 21:19

Tgt Ion: 76 Resp: 3082591

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	29.2

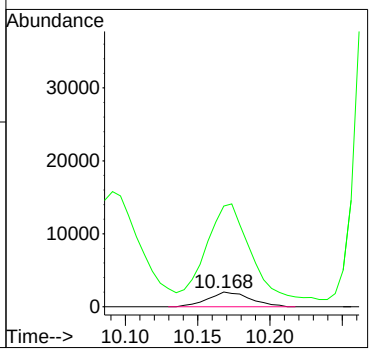


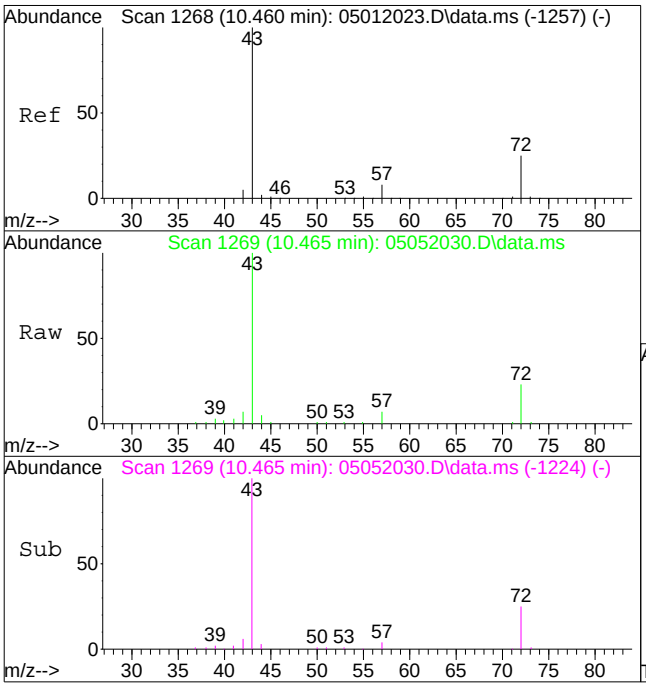


#26
Vinyl Acetate
Concen: 0.58 ng
RT: 10.17 min Scan# 1215
Delta R.T. -0.061 min
Lab File: 05052030.D
Acq: 5 May 2020 21:19

Tgt Ion: 86 Resp: 4115

Ion	Ratio	Lower	Upper
86	100		
43	779.6	1103.0	1143.0#

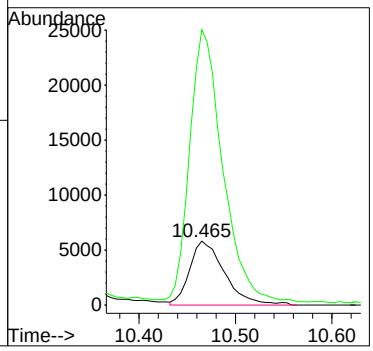


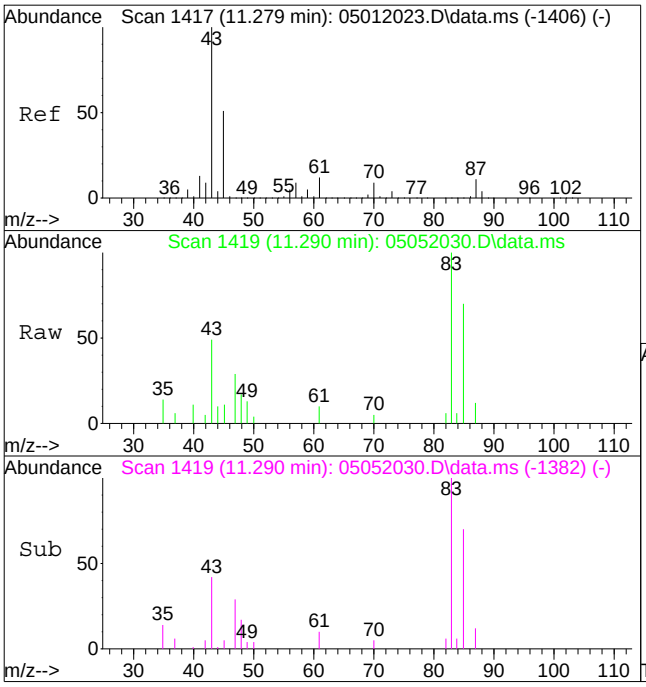


#27
2-Butanone (MEK)
Concen: 0.75 ng
RT: 10.47 min Scan# 1269
Delta R.T. -0.000 min
Lab File: 05052030.D
Acq: 5 May 2020 21:19

Tgt Ion: 72 Resp: 14644

Ion	Ratio	Lower	Upper
72	100		
43	405.7	389.7	429.7

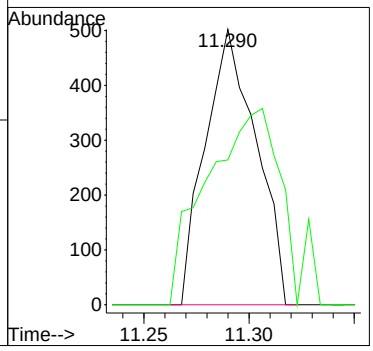


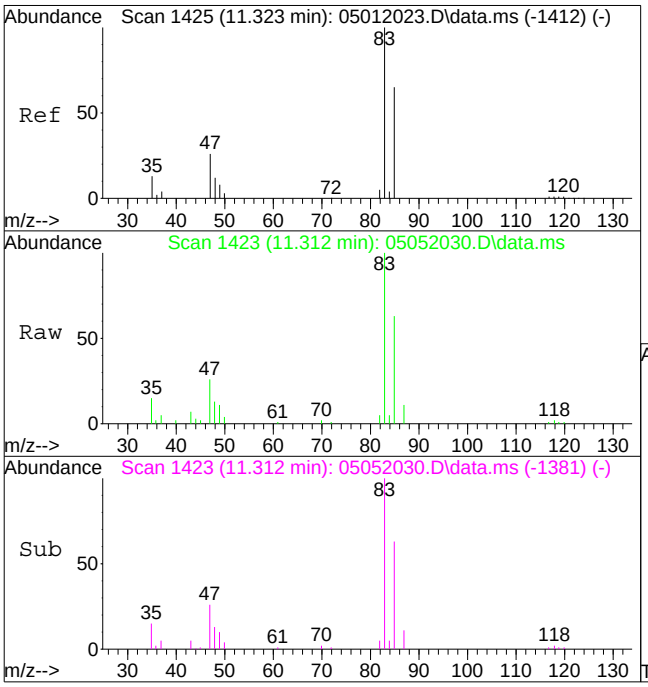


#30
Ethyl Acetate
Concen: 0.08 ng
RT: 11.29 min Scan# 1419
Delta R.T. 0.005 min
Lab File: 05052030.D
Acq: 5 May 2020 21:19

Tgt Ion: 61 Resp: 845

Ion	Ratio	Lower	Upper
61	100		
70	107.5	57.9	97.9#

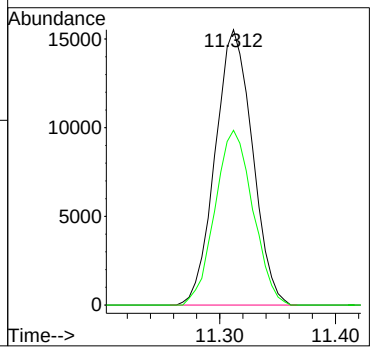


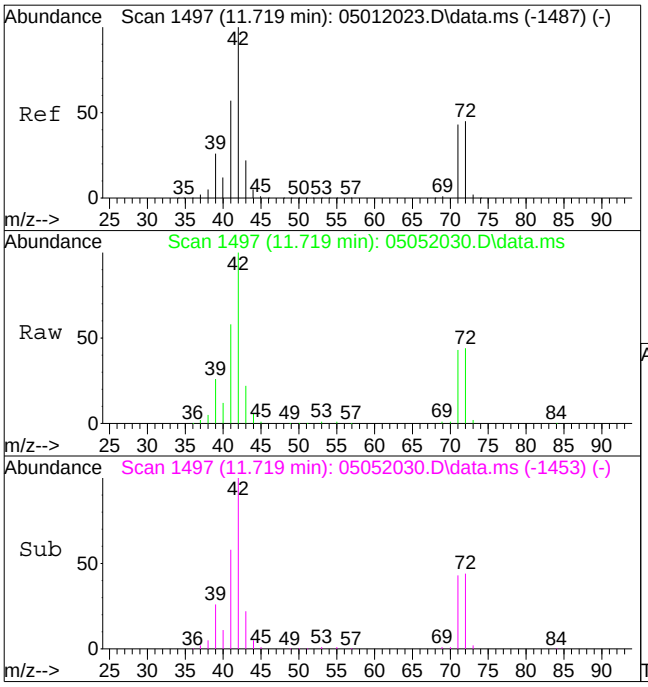


#32
Chloroform
Concen: 0.68 ng
RT: 11.31 min Scan# 1423
Delta R.T. -0.017 min
Lab File: 05052030.D
Acq: 5 May 2020 21:19

Tgt Ion: 83 Resp: 34764

Ion	Ratio	Lower	Upper
83	100		
85	64.5	45.5	85.5

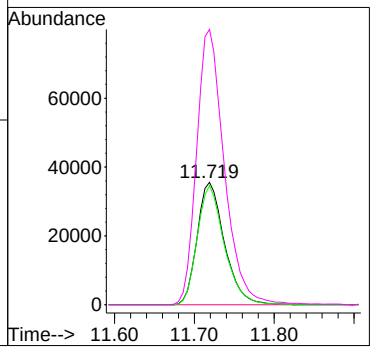


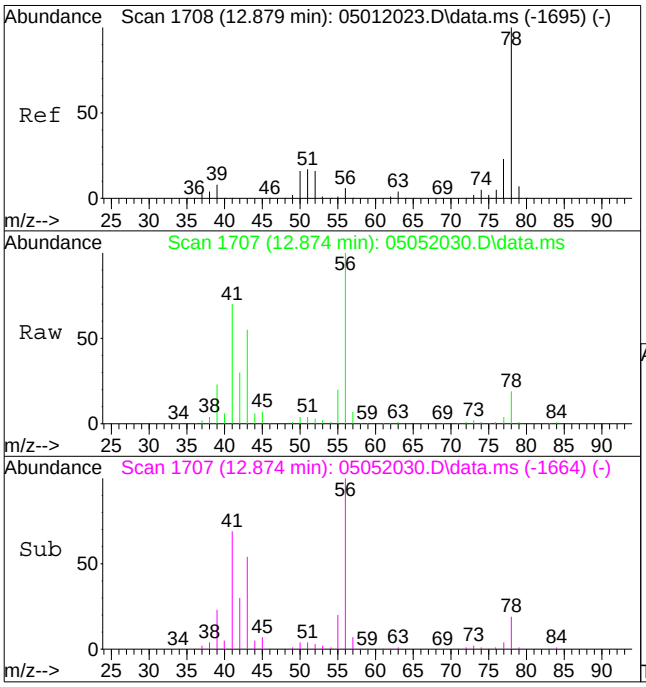


#34
Tetrahydrofuran (THF)
Concen: 4.46 ng
RT: 11.72 min Scan# 1497
Delta R.T. -0.006 min
Lab File: 05052030.D
Acq: 5 May 2020 21:19

Tgt Ion: 72 Resp: 84651

Ion	Ratio	Lower	Upper
72	100		
71	96.3	77.0	117.0
42	228.7	204.6	244.6

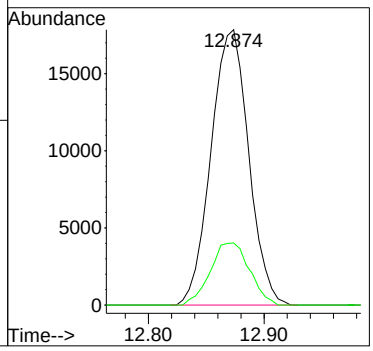


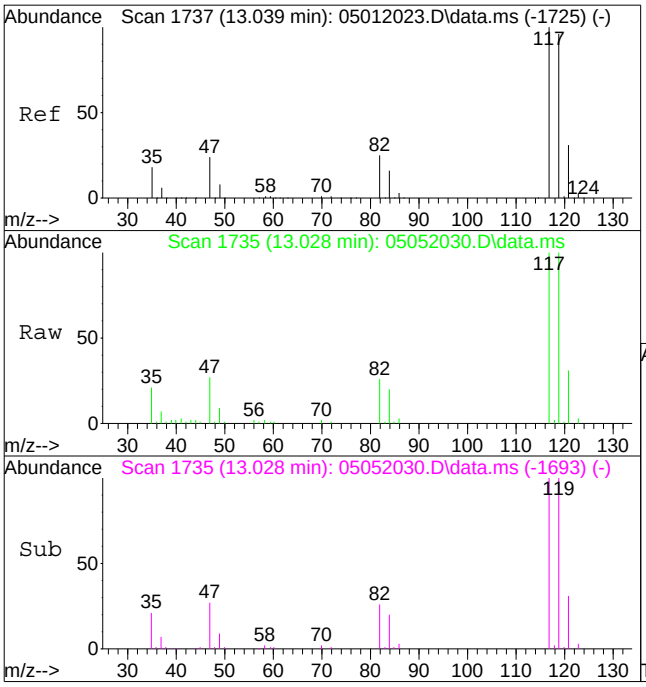


#41
Benzene
Concen: 0.34 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05052030.D
Acq: 5 May 2020 21:19

Tgt Ion: 78 Resp: 40375

Ion	Ratio	Lower	Upper
78	100		
77	23.5	3.4	43.4

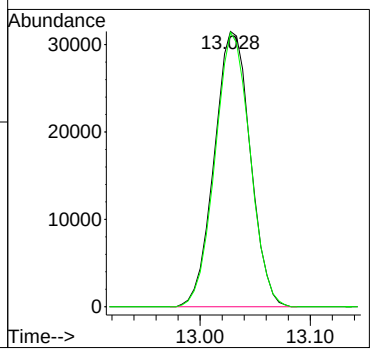


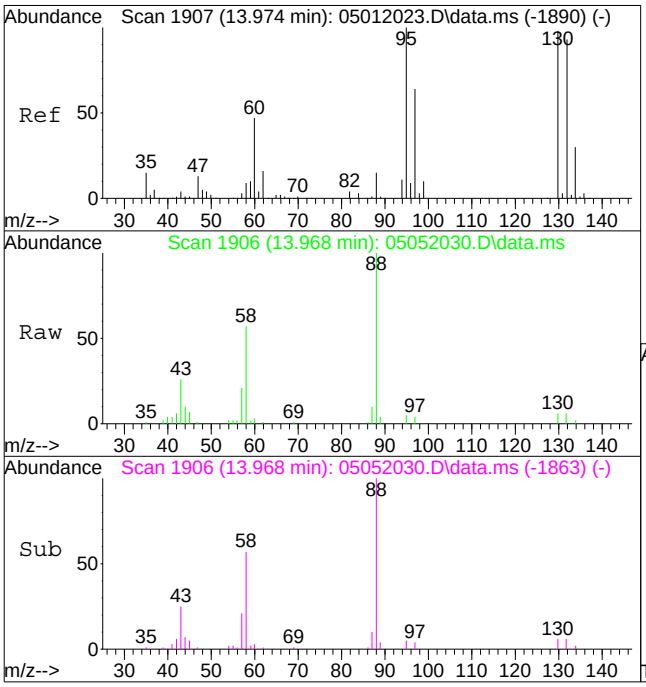


#42
Carbon Tetrachloride
Concen: 1.76 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05052030.D
Acq: 5 May 2020 21:19

Tgt Ion:117 Resp: 71590

Ion	Ratio	Lower	Upper
117	100		
119	96.8	76.2	116.2

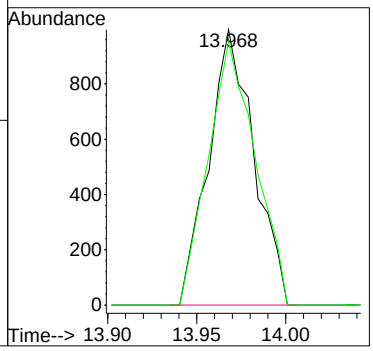


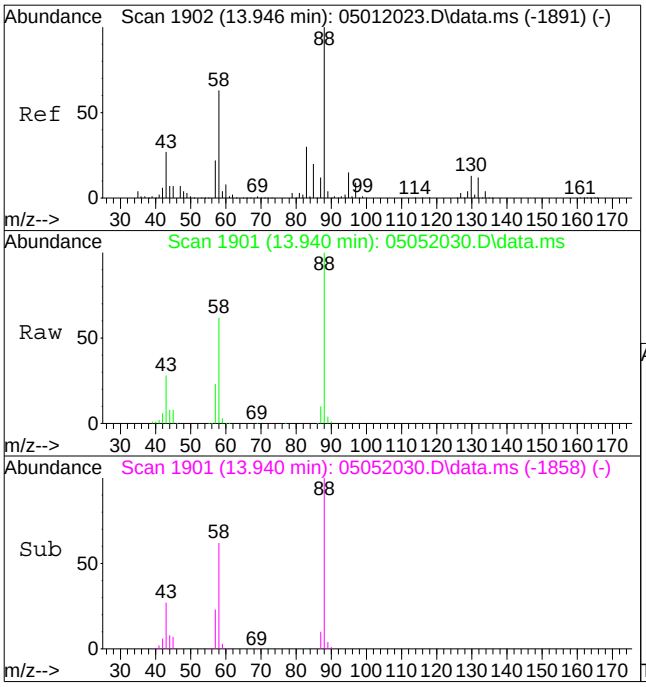


#47
Trichloroethene
Concen: 0.06 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05052030.D
Acq: 5 May 2020 21:19

Tgt Ion:130 Resp: 1756

Ion	Ratio	Lower	Upper
130	100		
132	99.9	74.9	114.9

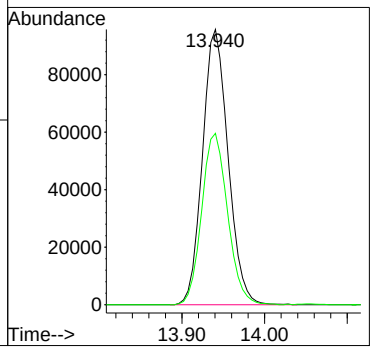


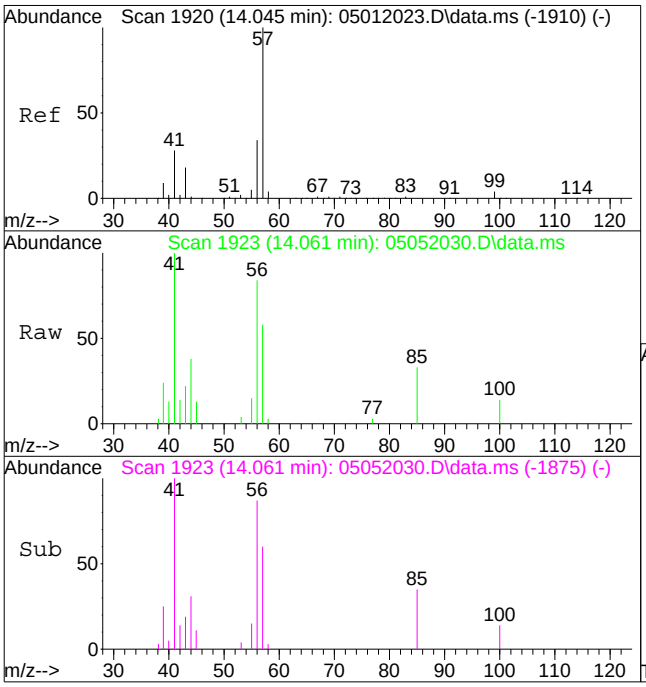


#48
1,4-Dioxane
Concen: 8.56 ng
RT: 13.94 min Scan# 1901
Delta R.T. -0.011 min
Lab File: 05052030.D
Acq: 5 May 2020 21:19

Tgt Ion: 88 Resp: 205841

Ion	Ratio	Lower	Upper
88	100		
58	63.0	42.8	82.8

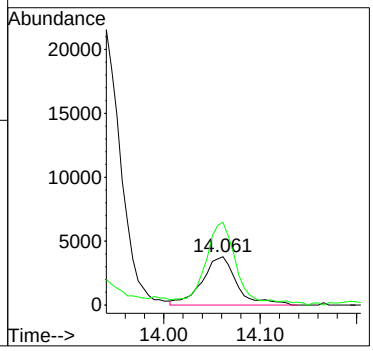


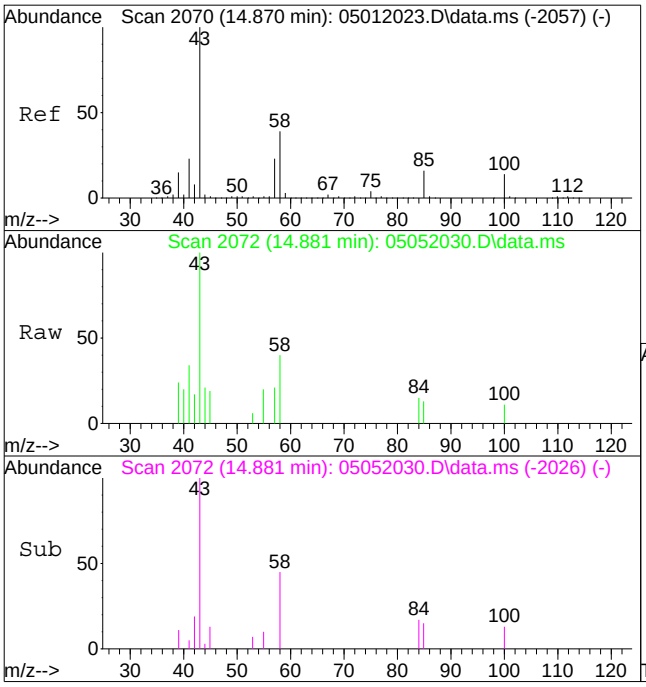


#49
2,2,4-Trimethylpentane (Isooctane)
Concen: 0.08 ng
RT: 14.06 min Scan# 1923
Delta R.T. 0.016 min
Lab File: 05052030.D
Acq: 5 May 2020 21:19

Tgt Ion: 57 Resp: 9467

Ion	Ratio	Lower	Upper
57	100		
41	154.9	8.2	48.2#

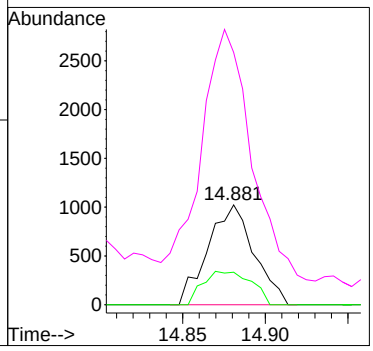


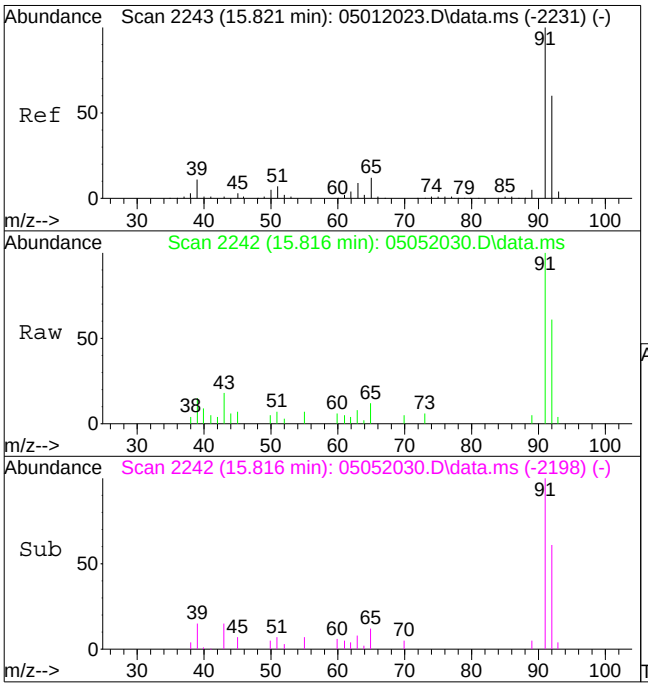


#53
4-Methyl-2-pentanone
Concen: 0.07 ng
RT: 14.88 min Scan# 2072
Delta R.T. 0.005 min
Lab File: 05052030.D
Acq: 5 May 2020 21:19

Tgt Ion: 58 Resp: 1988

Ion	Ratio	Lower	Upper
58	100		
85	34.9	35.4	53.2#
43	276.1	203.3	304.9

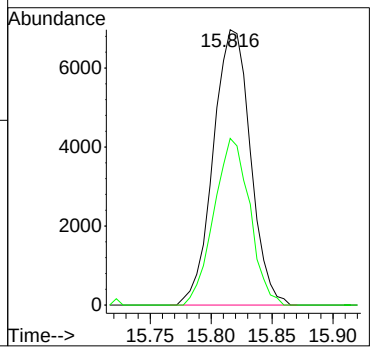


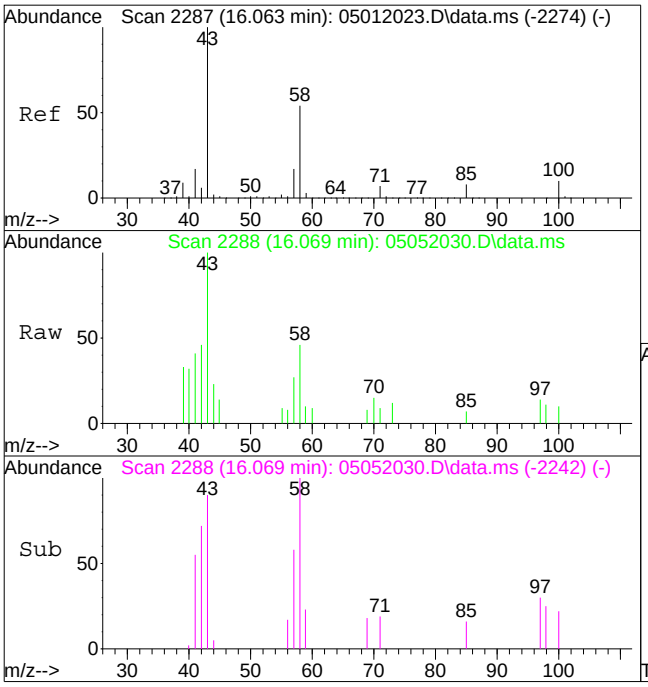


#58
Toluene
Concen: 0.12 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05052030.D
Acq: 5 May 2020 21:19

Tgt Ion: 91 Resp: 14788

Ion	Ratio	Lower	Upper
91	100		
92	58.2	39.4	79.4

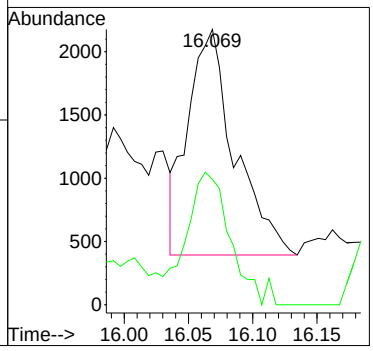


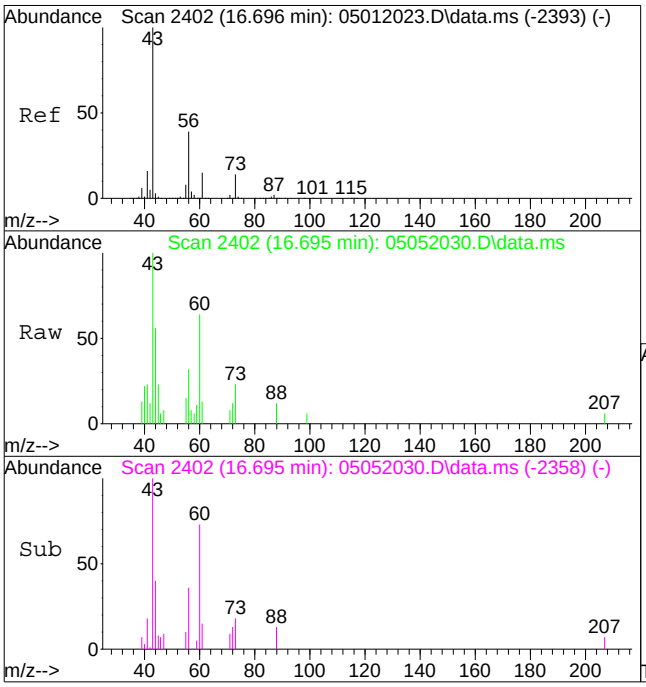


#59
2-Hexanone
Concen: 0.07 ng
RT: 16.07 min Scan# 2288
Delta R.T. 0.005 min
Lab File: 05052030.D
Acq: 5 May 2020 21:19

Tgt Ion: 43 Resp: 4516

Ion	Ratio	Lower	Upper
43	100		
58	55.2	34.5	74.5

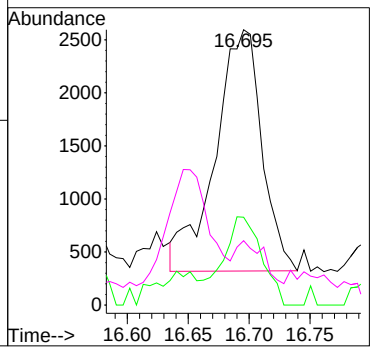


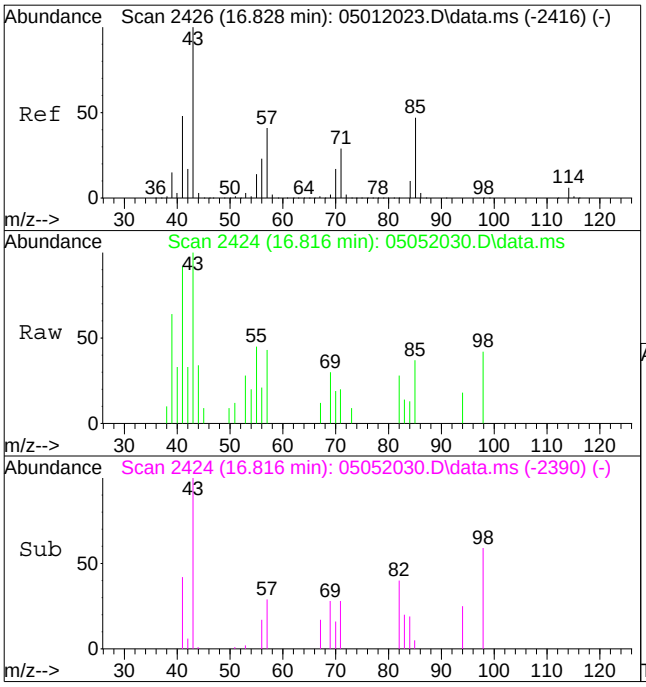


#62
n-Butyl Acetate
Concen: 0.09 ng
RT: 16.70 min Scan# 2402
Delta R.T. -0.006 min
Lab File: 05052030.D
Acq: 5 May 2020 21:19

Tgt Ion: 43 Resp: 6052

Ion	Ratio	Lower	Upper
43	100		
56	29.9	19.2	59.2
73	15.9	0.0	34.4

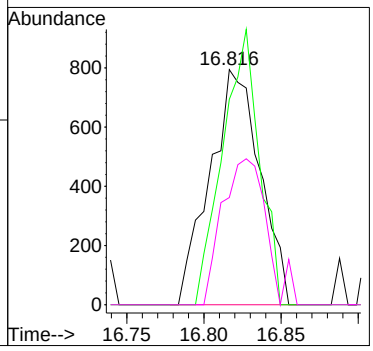


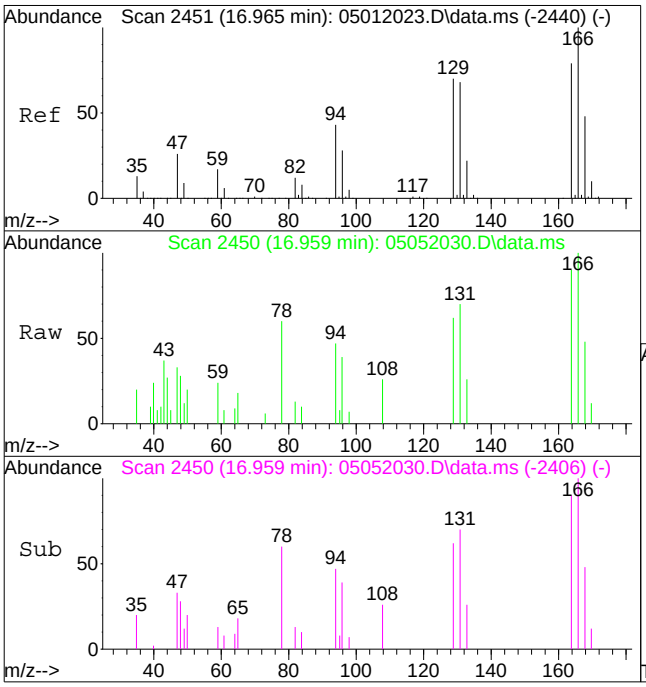


#63
n-Octane
Concen: 0.07 ng
RT: 16.82 min Scan# 2424
Delta R.T. -0.011 min
Lab File: 05052030.D
Acq: 5 May 2020 21:19

Tgt Ion: 57 Resp: 1795

Ion	Ratio	Lower	Upper
57	100		
85	85.8	91.0	136.4#
71	54.7	56.2	84.2#

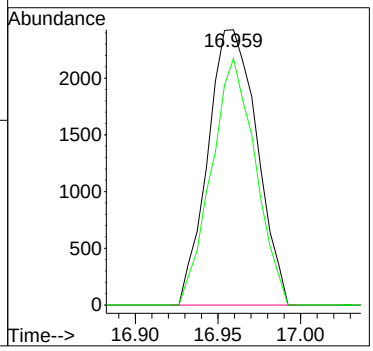


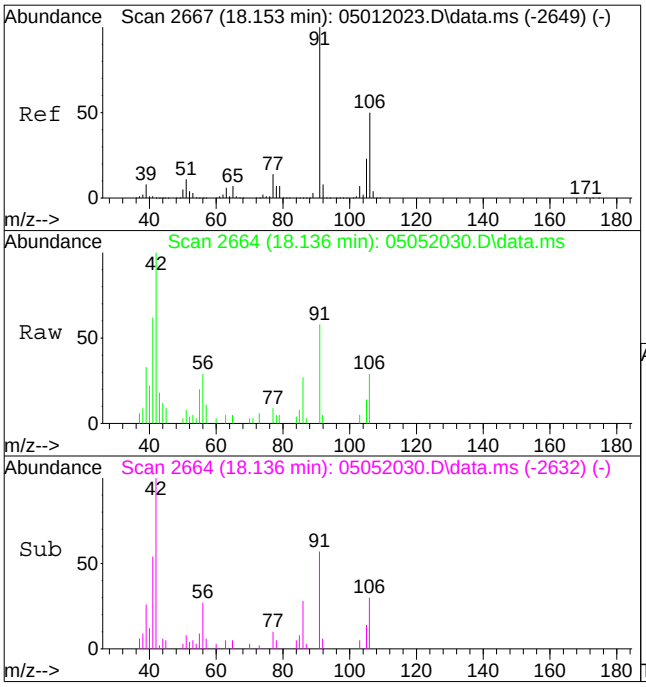


#64
Tetrachloroethene
Concen: 0.15 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05052030.D
Acq: 5 May 2020 21:19

Tgt Ion:166 Resp: 5019

Ion	Ratio	Lower	Upper
166	100		
164	80.2	58.4	98.4

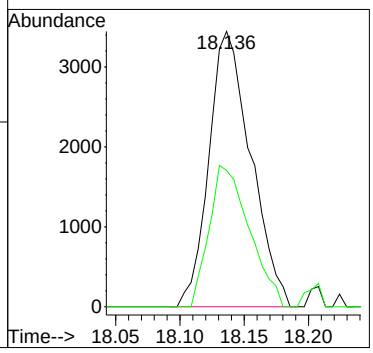


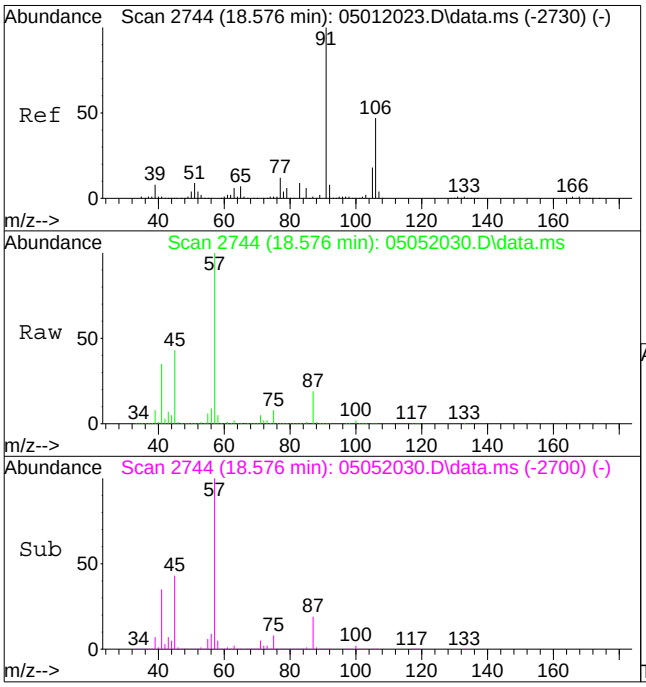


#67
m- & p-Xylenes
Concen: 0.07 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05052030.D
Acq: 5 May 2020 21:19

Tgt Ion: 91 Resp: 7814

Ion	Ratio	Lower	Upper
91	100		
106	49.0	29.7	69.7

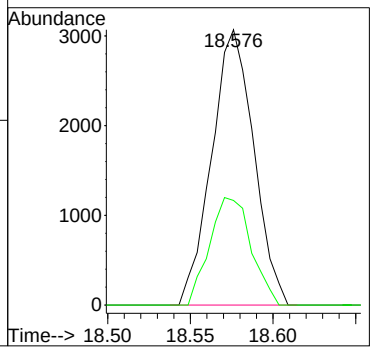


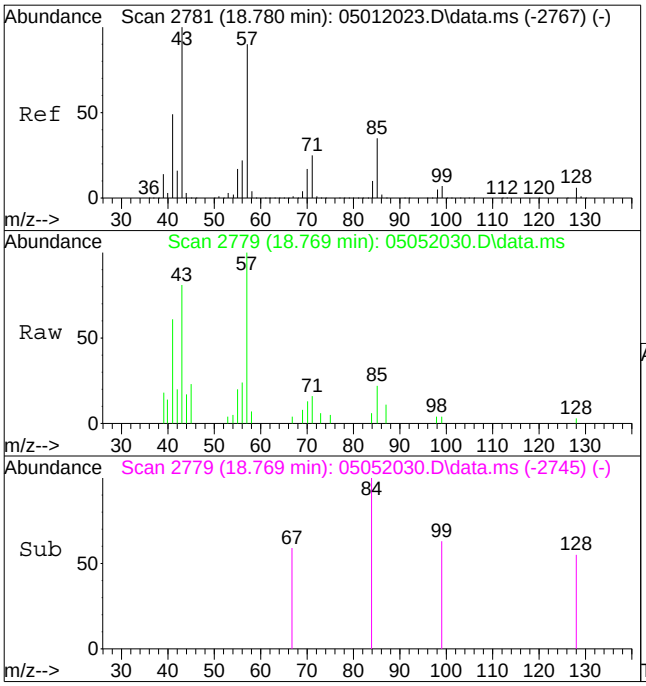


#70
o-Xylene
Concen: 0.05 ng
RT: 18.58 min Scan# 2744
Delta R.T. -0.006 min
Lab File: 05052030.D
Acq: 5 May 2020 21:19

Tgt Ion: 91 Resp: 5441

Ion	Ratio	Lower	Upper
91	100		
106	38.4	27.5	67.5

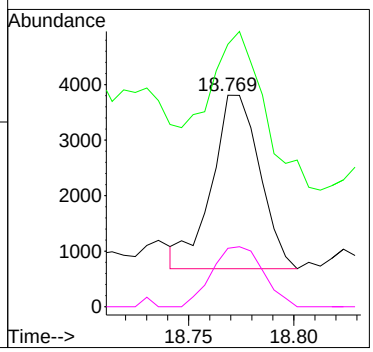


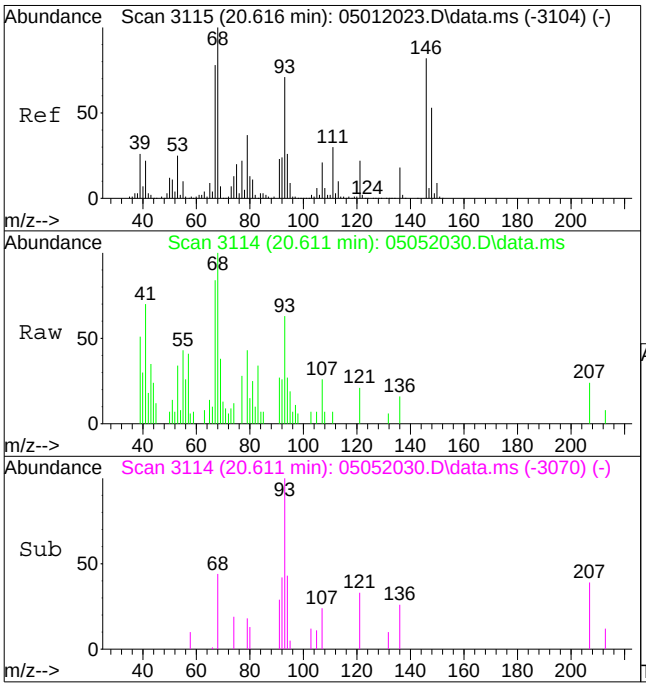


#71
n-Nonane
Concen: 0.09 ng
RT: 18.77 min Scan# 2779
Delta R.T. -0.011 min
Lab File: 05052030.D
Acq: 5 May 2020 21:19

Tgt Ion: 43 Resp: 4962

Ion	Ratio	Lower	Upper
43	100		
57	107.4	69.0	109.0
85	37.2	14.6	54.6

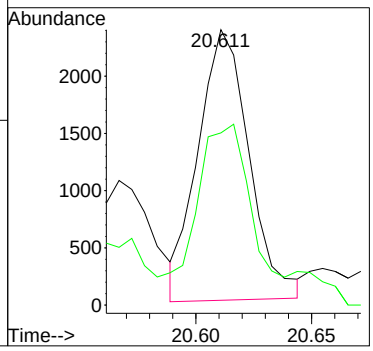




#91
d-Limonene
Concen: 0.09 ng
RT: 20.61 min Scan# 3114
Delta R.T. -0.006 min
Lab File: 05052030.D
Acq: 5 May 2020 21:19

Tgt Ion: 68 Resp: 3627

Ion	Ratio	Lower	Upper
68	100		
93	82.1	51.1	91.1



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052031.D Vial: 13
Acq On : 5 May 2020 21:53 Operator: WA
Sample : P2002107-016 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 07 17:51:09 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/7/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	261453	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1119174	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	553377	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	422313	11.919	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.36%				
57) Toluene-d8 (SS2)	15.72	98	1137899	12.132	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.04%				
73) Bromofluorobenzene (SS3)	18.98	174	452341	13.403	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.20%				
Target Compounds							Qvalue
2) Propene	4.12	42	14093	0.465	ng		93
3) Dichlorodifluoromethan...	4.27	85	98226	1.658	ng		99
4) Chloromethane	4.54	50	8566	0.185	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	2301	0.065	ng		92
6) Vinyl Chloride	4.97	62	115	N.D.			
7) 1,3-Butadiene	5.23	54	629	N.D.			
8) Bromomethane	5.65	94	427	N.D.			
9) Chloroethane	5.98	64	998	N.D.			
10) Ethanol	6.33	45	28540	1.221	ng		99
11) Acetonitrile	6.60	41	15111	0.283	ng		95
12) Acrolein	6.78	56	21687	1.174	ng		99
13) Acetone	6.99	58	226688m	9.694	ng		
14) Trichlorofluoromethane	7.24	101	10743	0.205	ng		97
15) 2-Propanol (Isopropanol)	7.53	45	35403	0.500	ng		71
16) Acrylonitrile	7.77	53	691	N.D.			
17) 1,1-Dichloroethene	8.20	96	110	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.41	84	602	N.D.			
20) 3-Chloro-1-propene (Al...	8.58	41	101	N.D.			
21) Trichlorotrifluoroethane	8.85	151	1662	0.067	ng		97
22) Carbon Disulfide	8.68	76	99551	0.914	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	10.10	63	164	N.D.			
25) Methyl tert-Butyl Ether	10.09	73	1619	N.D.			
26) Vinyl Acetate	10.17	86	42917	5.892	ng	#	11
27) 2-Butanone (MEK)	10.45	72	59818	3.000	ng		98
28) cis-1,2-Dichloroethene	10.93	61	350	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.28	61	2134	0.186	ng		88
31) n-Hexane	11.25	57	3628	0.073	ng	#	82
32) Chloroform	11.31	83	18169	0.349	ng		100
34) Tetrahydrofuran (THF)	11.72	72	89273	4.590	ng		97
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.25	62	355	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	13683	0.114	ng		97
42) Carbon Tetrachloride	13.03	117	26992	0.661	ng		98
43) Cyclohexane	13.15	84	1616	N.D.			
44) tert-Amyl Methyl Ether	13.57	73	2847	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	13.97	130	350073	11.284	ng		99
48) 1,4-Dioxane	0.00	88	0	N.D.	d		
49) 2,2,4-Trimethylpentane...	14.03	57	3302	N.D.			
50) Methyl Methacrylate	14.11	100	456	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052031.D Vial: 13
Acq On : 5 May 2020 21:53 Operator: WA
Sample : P2002107-016 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 07 17:51:09 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

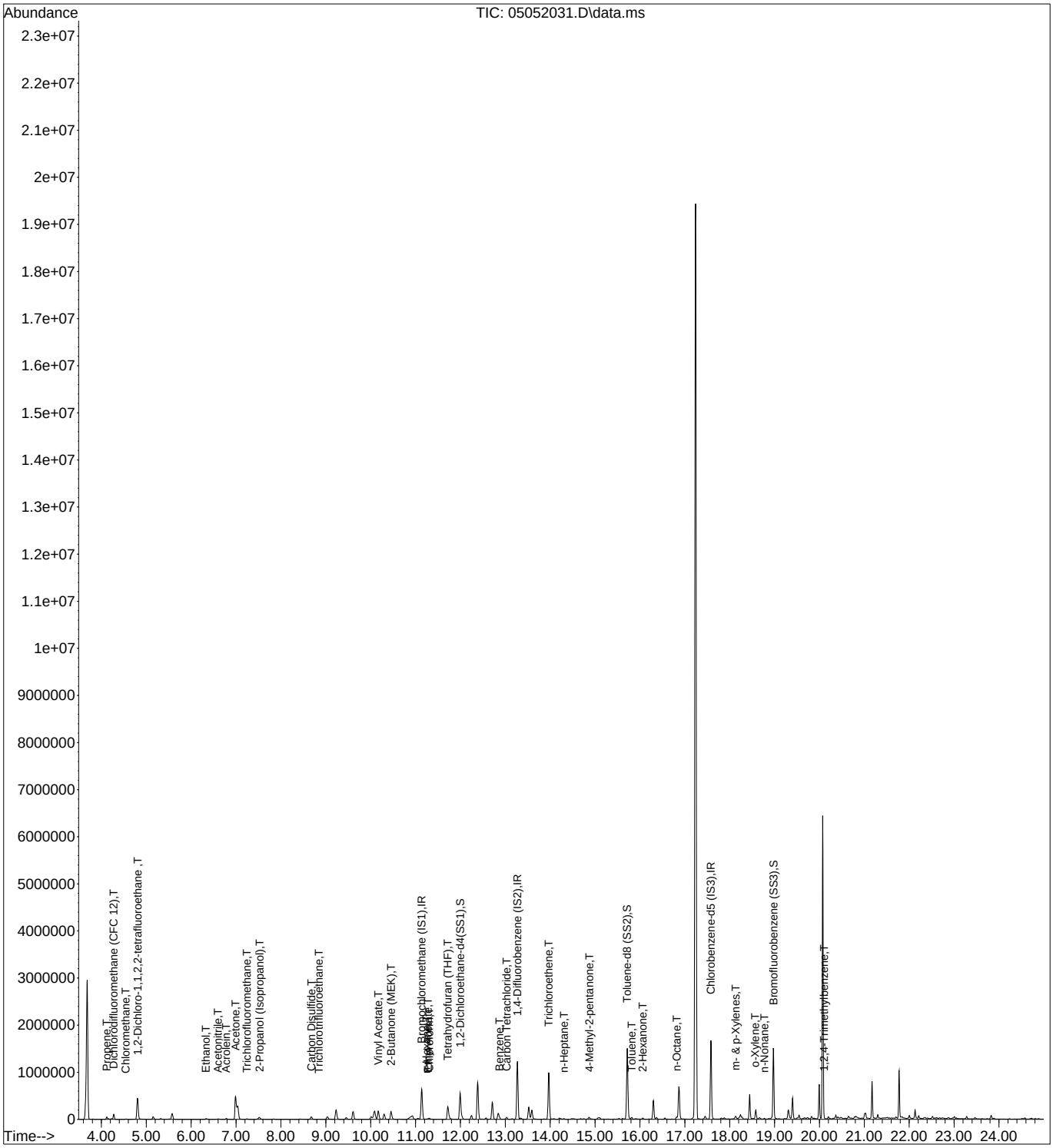
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.31	71	3319	0.118 ng		88
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.88	58	4548	0.170 ng	#	49
54) trans-1,3-Dichloropropene	15.30	75	693	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.82	91	28825	0.238 ng		99
59) 2-Hexanone	16.06	43	19323	0.292 ng		99
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.71	43	2485	N.D.		
63) n-Octane	16.82	57	4311	0.172 ng	#	73
64) Tetrachloroethene	16.96	166	1413	N.D.		
65) Chlorobenzene	17.58	112	260	N.D.		
66) Ethylbenzene	17.98	91	4426	N.D.		
67) m- & p-Xylenes	18.14	91	12478	0.117 ng		99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	1328	N.D.		
70) o-Xylene	18.57	91	5530	0.051 ng		98
71) n-Nonane	18.77	43	8103	0.141 ng		92
72) 1,1,2,2-Tetrachloroethane	18.59	83	1918	N.D.		
74) Cumene	19.10	105	1883	N.D.		
75) alpha-Pinene	19.45	93	342	N.D.		
76) n-Propylbenzene	19.54	91	7204	N.D.		
77) 3-Ethyltoluene	19.64	105	4489	N.D.		
78) 4-Ethyltoluene	19.68	105	2103	N.D.		
79) 1,3,5-Trimethylbenzene	19.75	105	4819	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	19.92	105	2460	N.D.		
82) 1,2,4-Trimethylbenzene	20.10	105	7685	0.070 ng		92
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.23	91	3528	N.D.		
85) 1,3-Dichlorobenzene	20.24	146	180	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	330	N.D.		
87) sec-Butylbenzene	20.35	105	2504	N.D.		
88) 4-Isopropyltoluene (p-...	20.48	119	6172	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.61	68	1450	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.11	180	106	N.D.		
95) Naphthalene	22.22	128	5921	N.D.		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052031.D Vial: 13
Acq On : 5 May 2020 21:53 Operator: WA
Sample : P2002107-016 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 07 17:51:09 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052031.D Vial: 13
Acq On : 5 May 2020 21:53 Operator: WA
Sample : P2002107-016 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 07 17:51:09 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration LH 5/7/20
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	261453	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1119174	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	553377	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	422313	11.919	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.36%				
57) Toluene-d8 (SS2)	15.72	98	1137899	12.132	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.04%				
73) Bromofluorobenzene (SS3)	18.98	174	452341	13.403	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.20%				
Target Compounds							Qvalue
2) Propene	4.12	42	14093	0.465	ng		93
3) Dichlorodifluoromethan...	4.27	85	98226	1.658	ng		99
4) Chloromethane	4.54	50	8566	0.185	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	2301	0.065	ng		92
10) Ethanol	6.33	45	28540	1.221	ng		99
11) Acetonitrile	6.60	41	15111	0.283	ng		95
12) Acrolein	6.78	56	21687	1.174	ng		99
13) Acetone	6.99	58	226688m	9.694	ng		
14) Trichlorofluoromethane	7.24	101	10743	0.205	ng		97
15) 2-Propanol (Isopropanol)	7.53	45	35403	0.500	ng		71
21) Trichlorotrifluoroethane	8.85	151	1662	0.067	ng		97
22) Carbon Disulfide	8.68	76	99551	0.914	ng		99
26) Vinyl Acetate	10.17	86	42917	5.892	ng	#	11
27) 2-Butanone (MEK)	10.45	72	59818	3.000	ng		98
30) Ethyl Acetate	11.28	61	2134	0.186	ng		88
31) n-Hexane	11.25	57	3628	0.073	ng	#	82
32) Chloroform	11.31	83	18169	0.349	ng		100
34) Tetrahydrofuran (THF)	11.72	72	89273	4.590	ng		97
41) Benzene	12.87	78	13683	0.114	ng		97
42) Carbon Tetrachloride	13.03	117	26992	0.661	ng		98
47) Trichloroethene	13.97	130	350073	11.284	ng		99
51) n-Heptane	14.31	71	3319	0.118	ng		88
53) 4-Methyl-2-pentanone	14.88	58	4548	0.170	ng	#	49
58) Toluene	15.82	91	28825	0.238	ng		99
59) 2-Hexanone	16.06	43	19323	0.292	ng		99
63) n-Octane	16.82	57	4311	0.172	ng	#	73
67) m- & p-Xylenes	18.14	91	12478	0.117	ng		99
70) o-Xylene	18.57	91	5530	0.051	ng		98
71) n-Nonane	18.77	43	8103	0.141	ng		92
82) 1,2,4-Trimethylbenzene	20.10	105	7685	0.070	ng		92

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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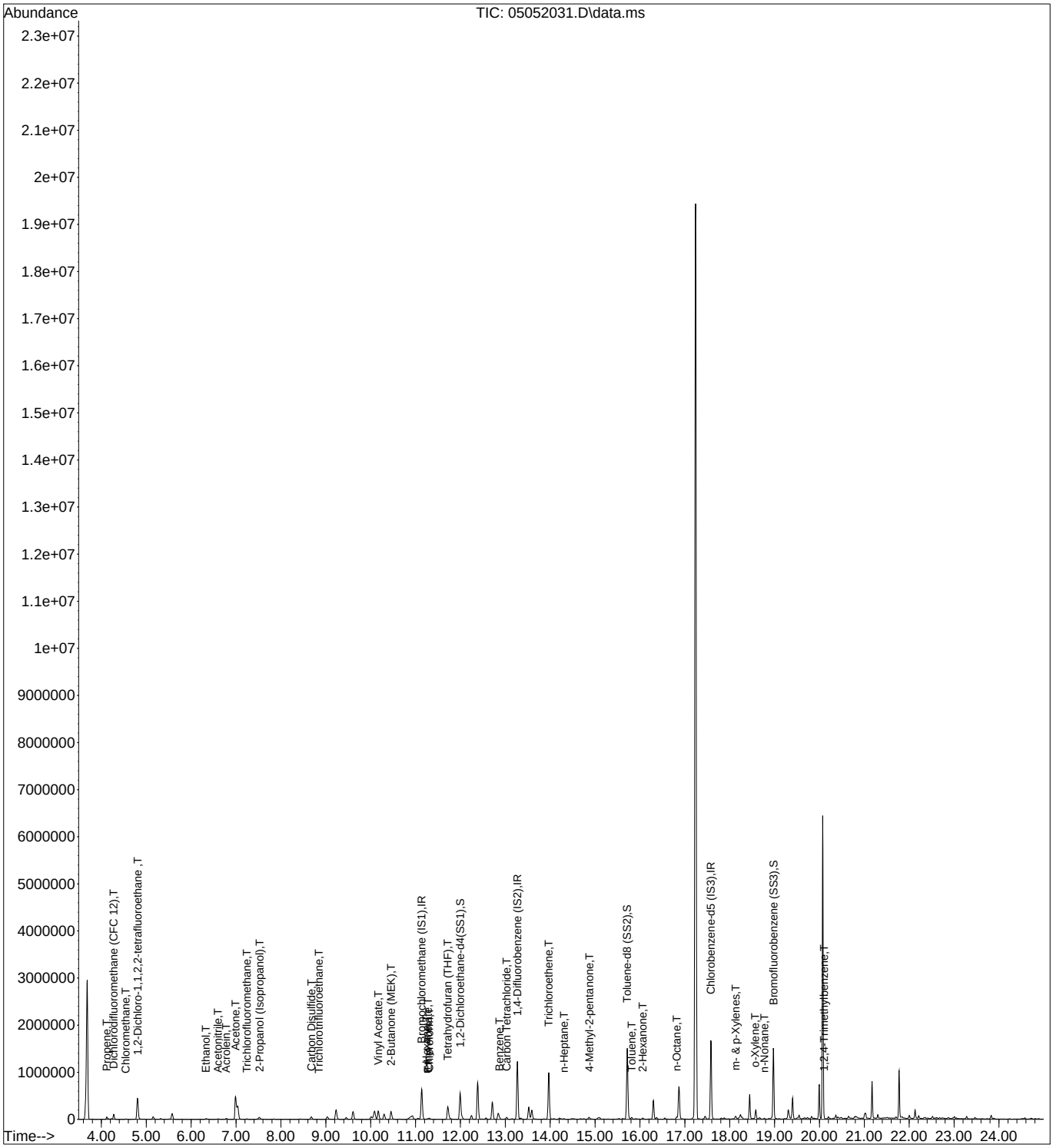
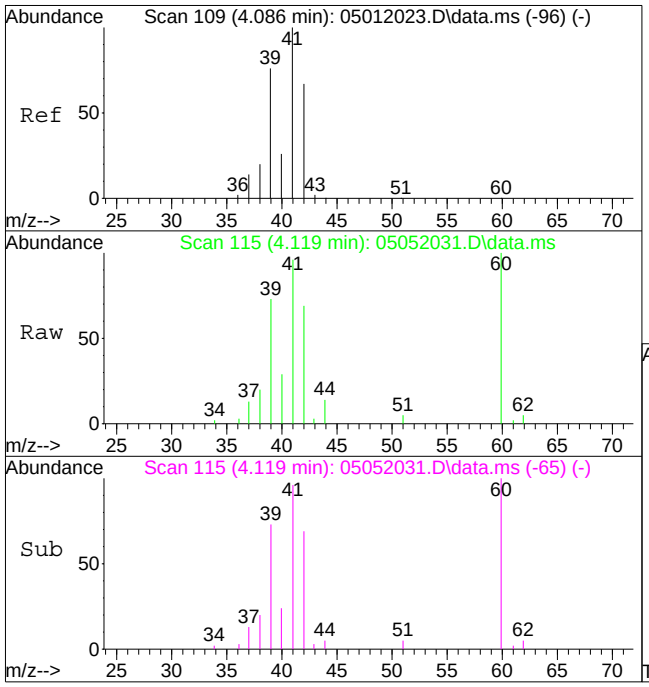
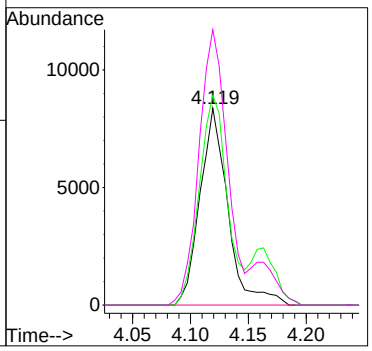


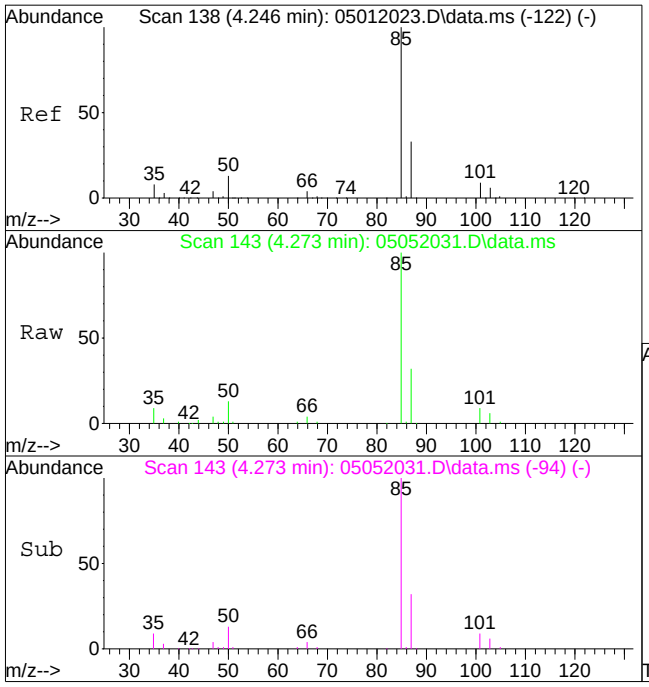


#2
Propene
Concen: 0.47 ng
RT: 4.12 min Scan# 115
Delta R.T. 0.027 min
Lab File: 05052031.D
Acq: 5 May 2020 21:53

Tgt Ion: 42 Resp: 14093

Ion	Ratio	Lower	Upper
42	100		
39	107.2	96.1	136.1
41	144.0	131.9	171.9

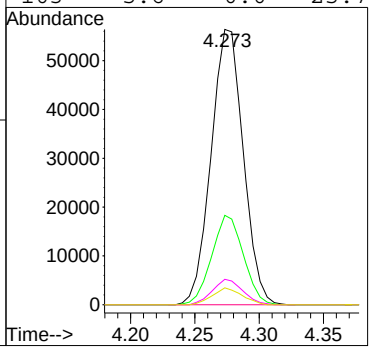


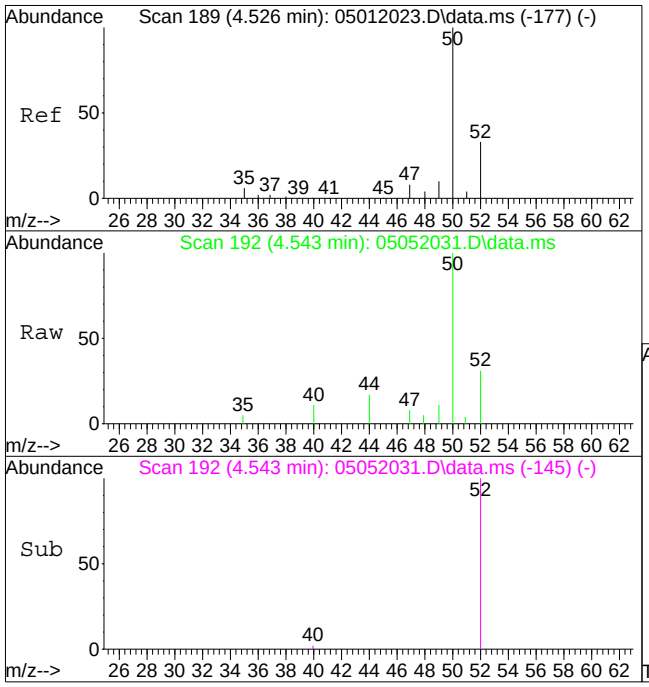


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.66 ng
RT: 4.27 min Scan# 143
Delta R.T. 0.022 min
Lab File: 05052031.D
Acq: 5 May 2020 21:53

Tgt Ion: 85 Resp: 98226

Ion	Ratio	Lower	Upper
85	100		
87	31.9	12.4	52.4
101	8.7	0.0	28.8
103	5.6	0.0	25.7

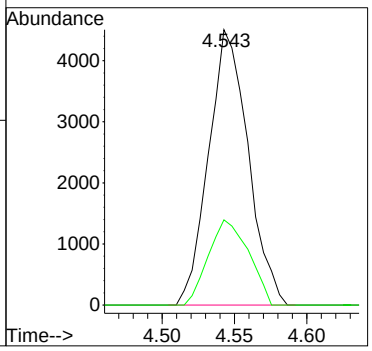


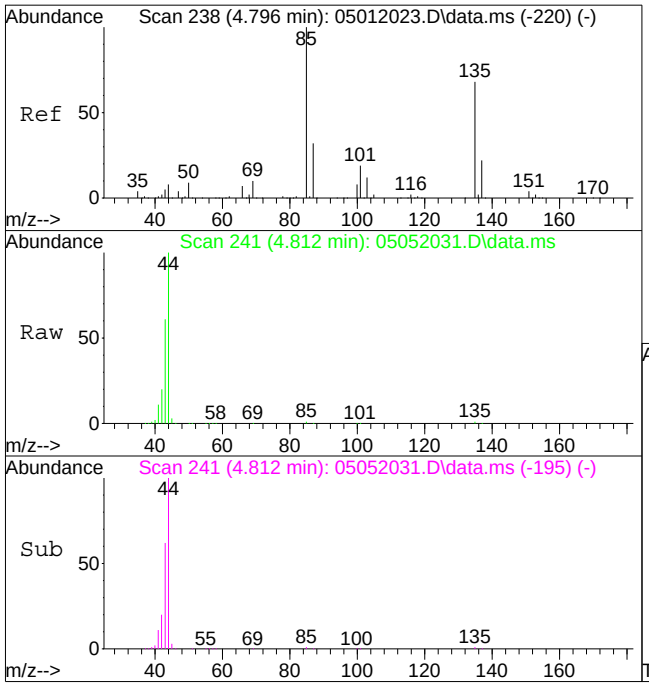


#4
Chloromethane
Concen: 0.18 ng
RT: 4.54 min Scan# 192
Delta R.T. 0.011 min
Lab File: 05052031.D
Acq: 5 May 2020 21:53

Tgt Ion: 50 Resp: 8566

Ion	Ratio	Lower	Upper
50	100		
52	31.5	12.5	52.5

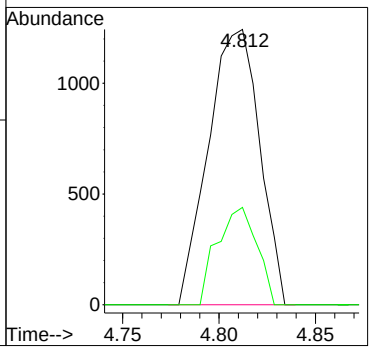


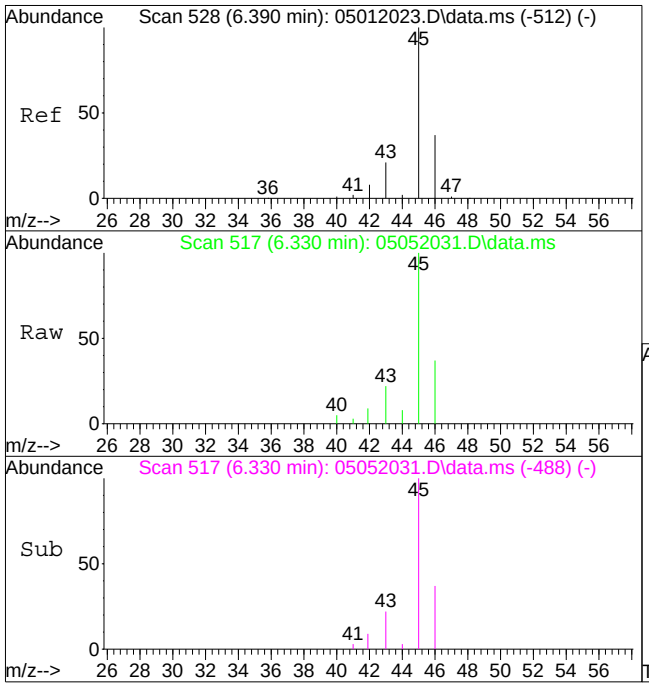


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 0.07 ng
RT: 4.81 min Scan# 241
Delta R.T. 0.005 min
Lab File: 05052031.D
Acq: 5 May 2020 21:53

Tgt Ion:135 Resp: 2301

Ion	Ratio	Lower	Upper
135	100		
137	27.5	12.1	52.1

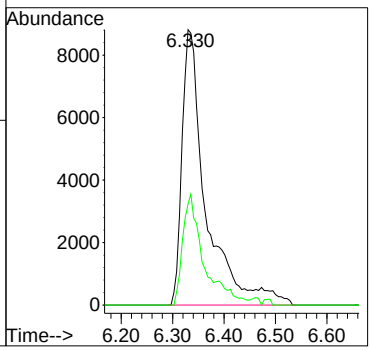


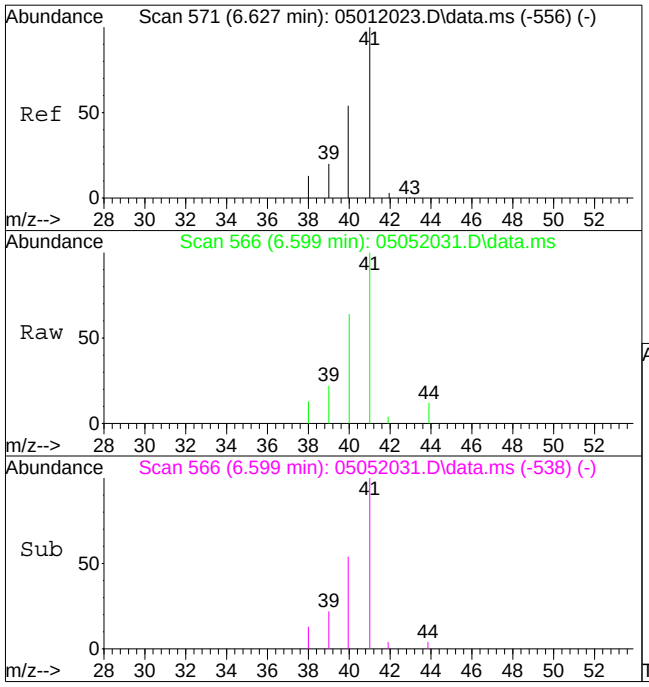


#10
Ethanol
Concen: 1.22 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.088 min
Lab File: 05052031.D
Acq: 5 May 2020 21:53

Tgt Ion: 45 Resp: 28540

Ion	Ratio	Lower	Upper
45	100		
46	36.3	17.2	57.2

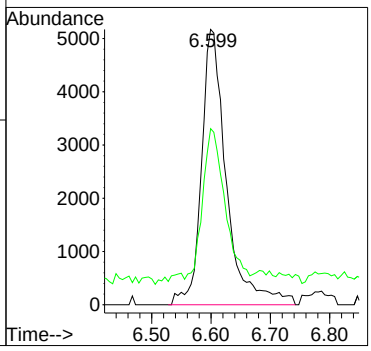


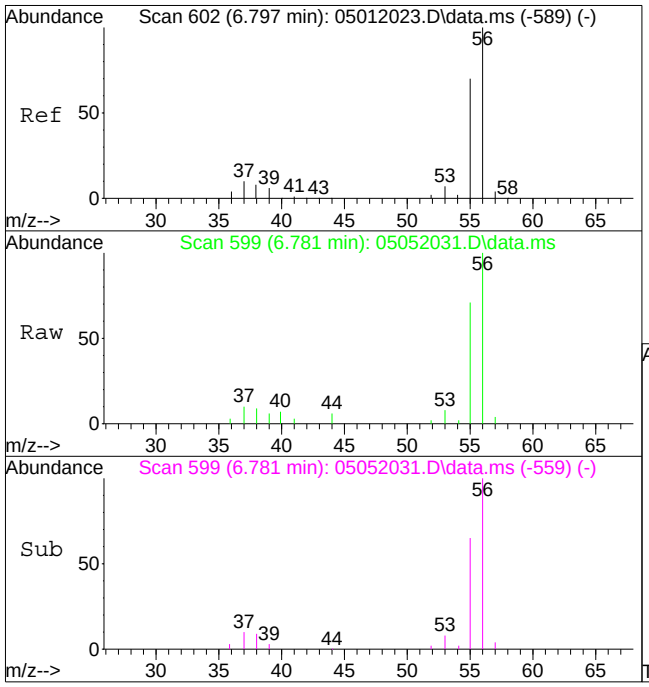


#11
Acetonitrile
Concen: 0.28 ng
RT: 6.60 min Scan# 566
Delta R.T. -0.044 min
Lab File: 05052031.D
Acq: 5 May 2020 21:53

Tgt Ion: 41 Resp: 15111

Ion	Ratio	Lower	Upper
41	100		
40	57.0	33.6	73.6

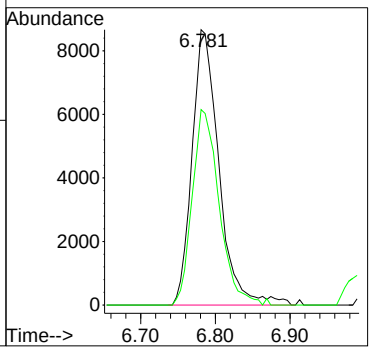


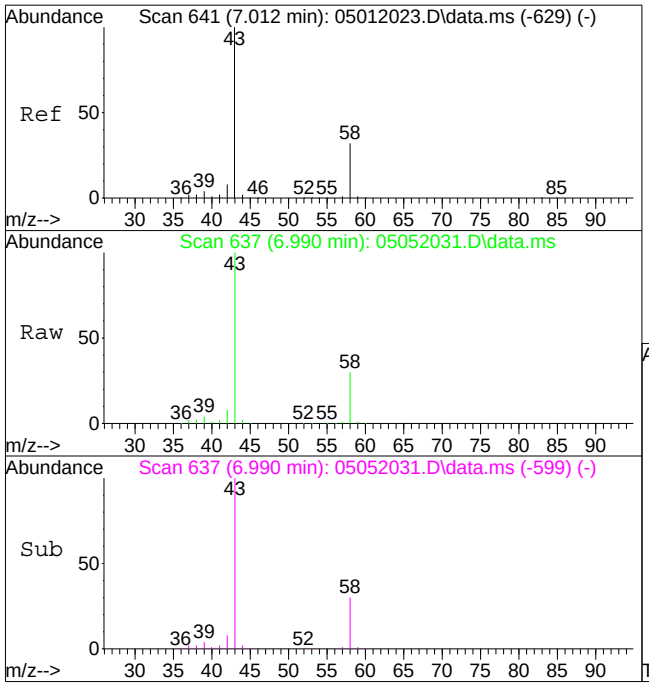


#12
Acrolein
Concen: 1.17 ng
RT: 6.78 min Scan# 599
Delta R.T. -0.028 min
Lab File: 05052031.D
Acq: 5 May 2020 21:53

Tgt Ion: 56 Resp: 21687

Ion	Ratio	Lower	Upper
56	100		
55	70.9	50.2	90.2

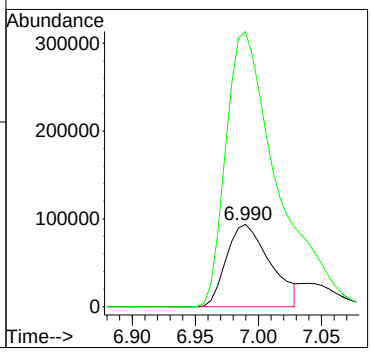


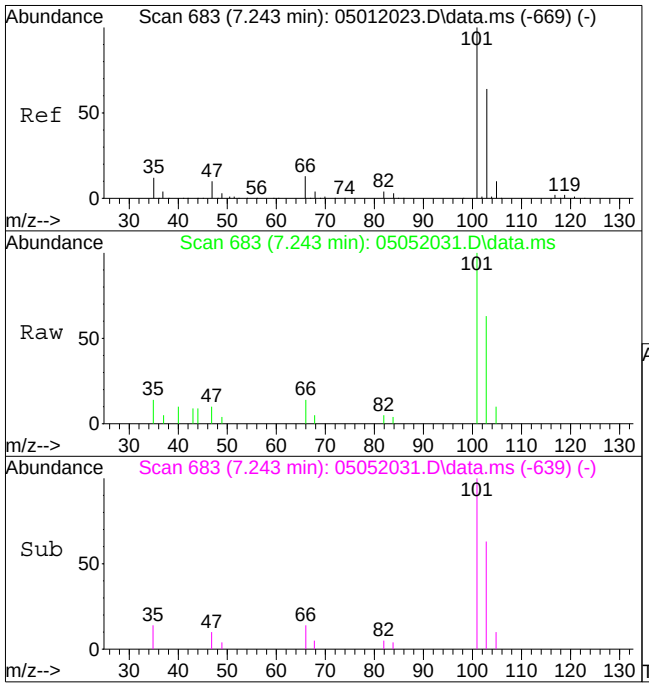


#13
Acetone
Concen: 9.69 ng m
RT: 6.99 min Scan# 637
Delta R.T. -0.039 min
Lab File: 05052031.D
Acq: 5 May 2020 21:53

Tgt Ion: 58 Resp: 226688

Ion	Ratio	Lower	Upper
58	100		
43	398.7	294.4	354.4#

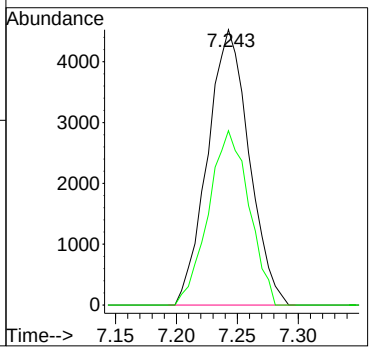


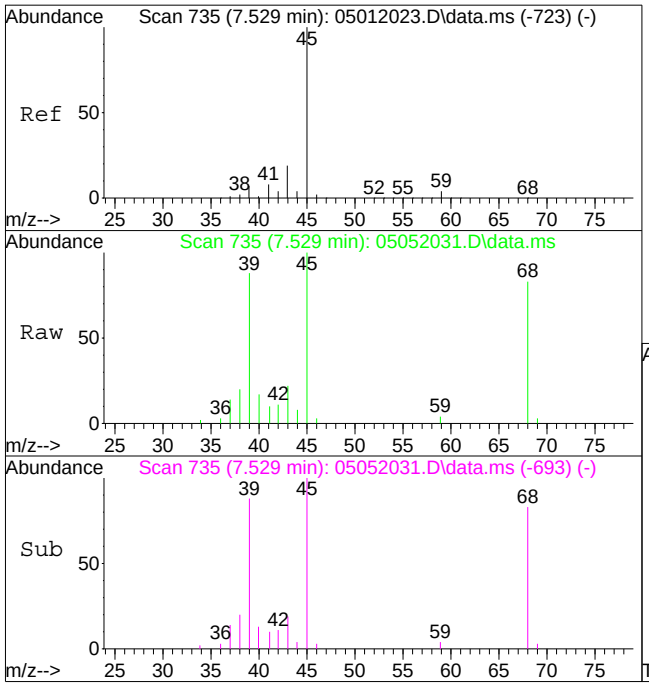


#14
Trichlorofluoromethane
Concen: 0.21 ng
RT: 7.24 min Scan# 683
Delta R.T. -0.006 min
Lab File: 05052031.D
Acq: 5 May 2020 21:53

Tgt Ion:101 Resp: 10743

Ion	Ratio	Lower	Upper
101	100		
103	61.8	44.4	84.4

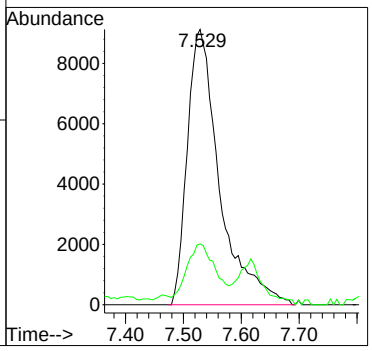


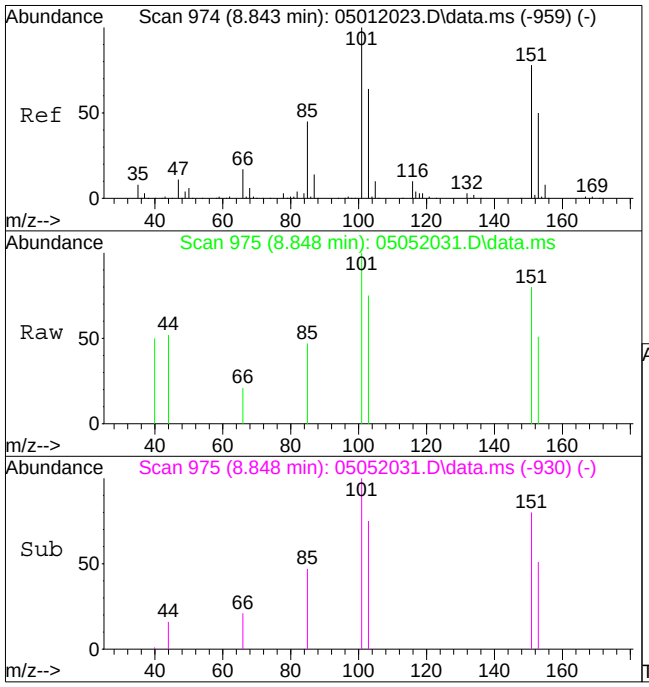


#15
2-Propanol (Isopropanol)
Concen: 0.50 ng
RT: 7.53 min Scan# 735
Delta R.T. -0.017 min
Lab File: 05052031.D
Acq: 5 May 2020 21:53

Tgt Ion: 45 Resp: 35403

Ion	Ratio	Lower	Upper
45	100		
43	32.6	0.0	39.5

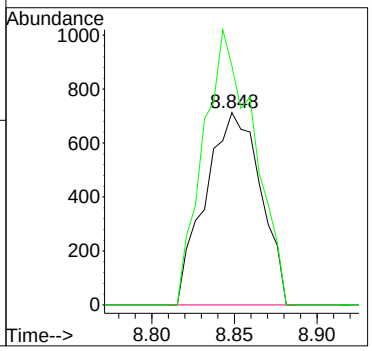


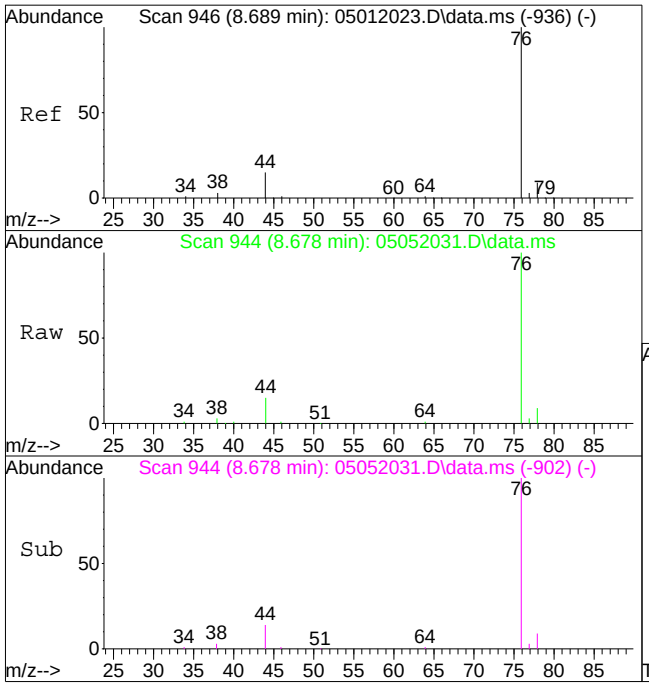


#21
Trichlorotrifluoroethane
Concen: 0.07 ng
RT: 8.85 min Scan# 975
Delta R.T. -0.000 min
Lab File: 05052031.D
Acq: 5 May 2020 21:53

Tgt Ion:151 Resp: 1662

Ion	Ratio	Lower	Upper
151	100		
101	130.3	107.3	147.3

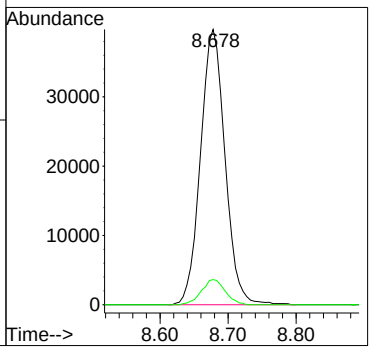


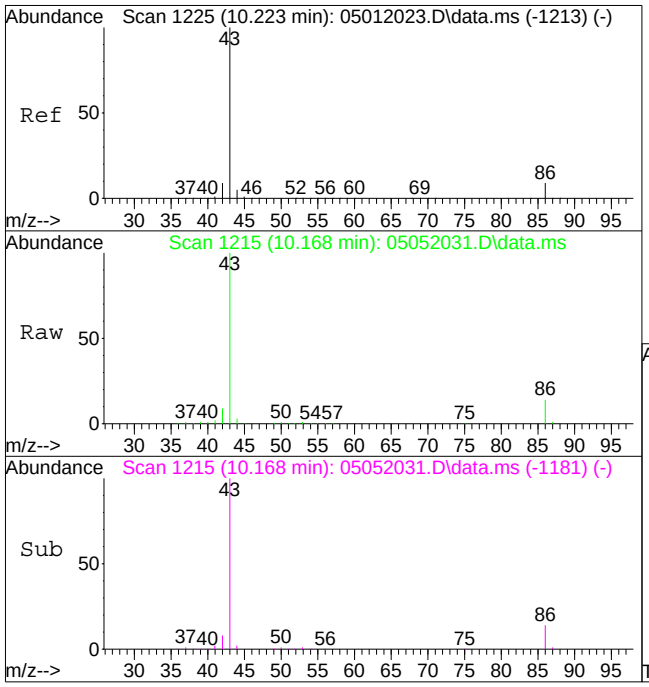


#22
Carbon Disulfide
Concen: 0.91 ng
RT: 8.68 min Scan# 944
Delta R.T. -0.017 min
Lab File: 05052031.D
Acq: 5 May 2020 21:53

Tgt Ion: 76 Resp: 99551

Ion	Ratio	Lower	Upper
76	100		
78	8.9	0.0	29.2

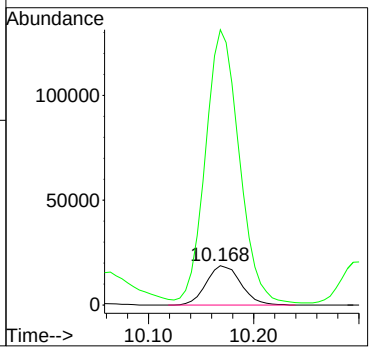


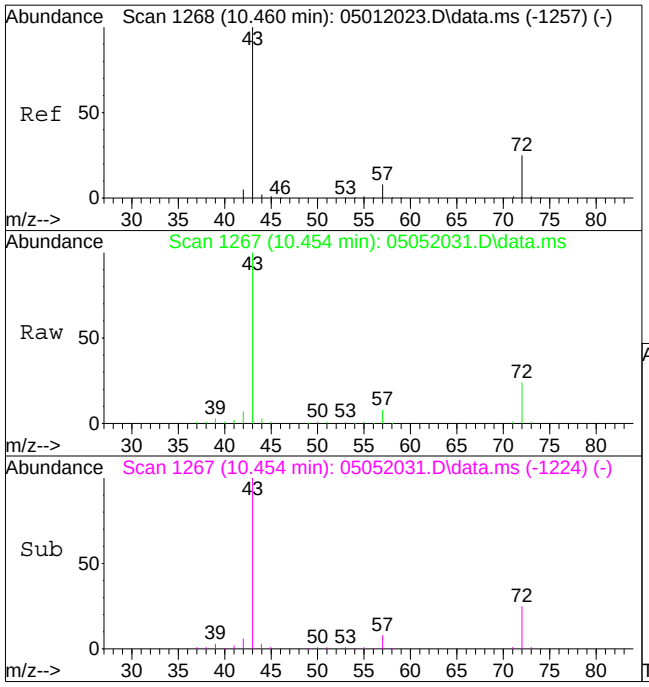


#26
Vinyl Acetate
Concen: 5.89 ng
RT: 10.17 min Scan# 1215
Delta R.T. -0.061 min
Lab File: 05052031.D
Acq: 5 May 2020 21:53

Tgt Ion: 86 Resp: 42917

Ion	Ratio	Lower	Upper
86	100		
43	691.5	1103.0	1143.0#

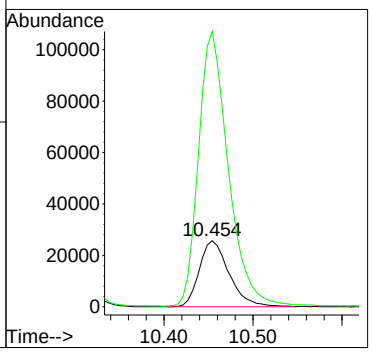


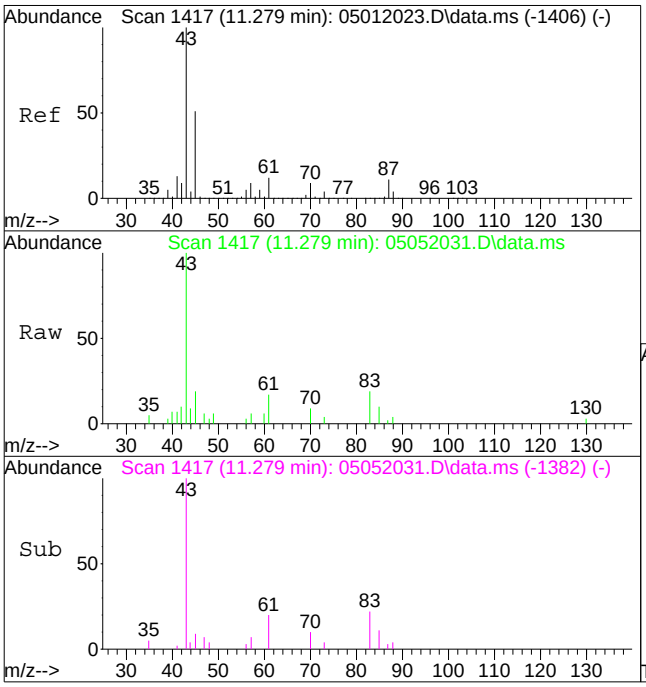


#27
2-Butanone (MEK)
Concen: 3.00 ng
RT: 10.45 min Scan# 1267
Delta R.T. -0.011 min
Lab File: 05052031.D
Acq: 5 May 2020 21:53

Tgt Ion: 72 Resp: 59818

Ion	Ratio	Lower	Upper
72	100		
43	415.5	389.7	429.7

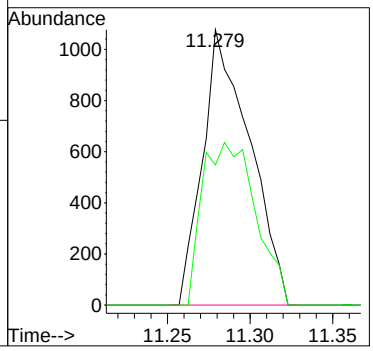


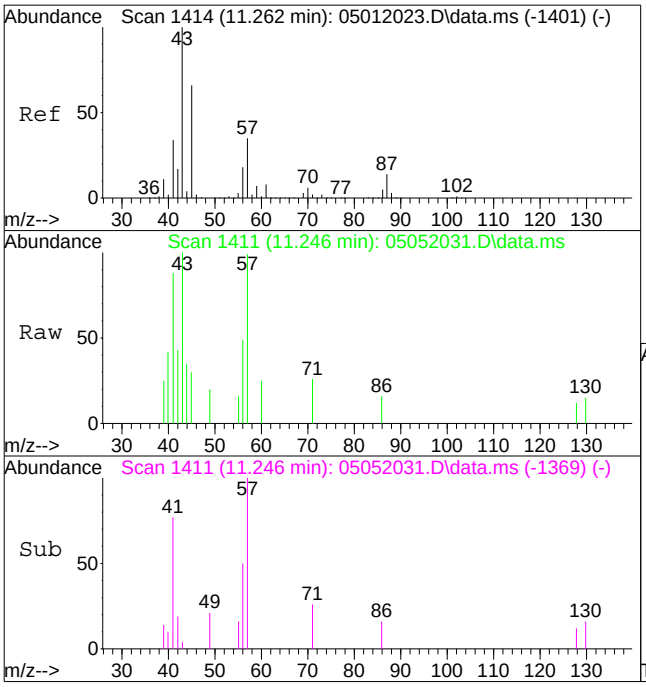


#30
Ethyl Acetate
Concen: 0.19 ng
RT: 11.28 min Scan# 1417
Delta R.T. -0.006 min
Lab File: 05052031.D
Acq: 5 May 2020 21:53

Tgt Ion: 61 Resp: 2134

Ion	Ratio	Lower	Upper
61	100		
70	67.2	57.9	97.9

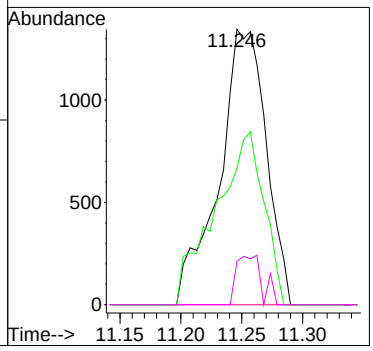


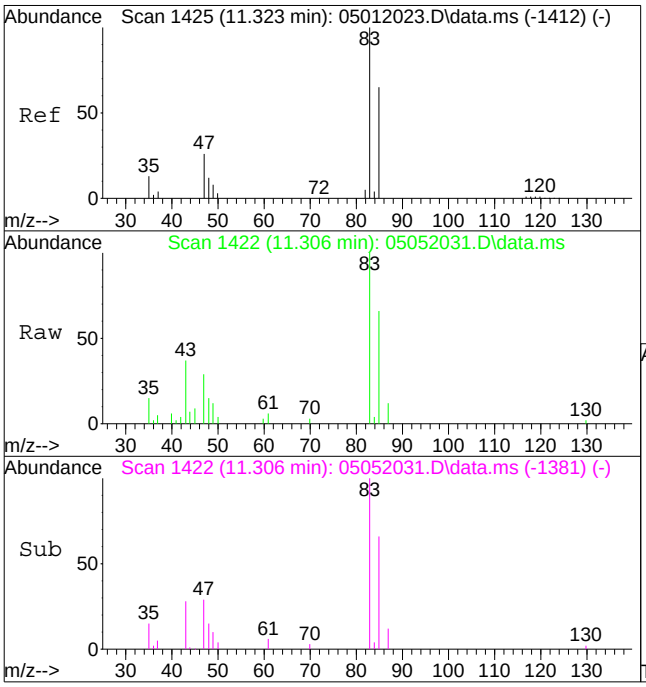


#31
n-Hexane
Concen: 0.07 ng
RT: 11.25 min Scan# 1411
Delta R.T. -0.017 min
Lab File: 05052031.D
Acq: 5 May 2020 21:53

Tgt Ion: 57 Resp: 3628

Ion	Ratio	Lower	Upper
57	100		
56	64.9	41.4	62.0#
86	9.7	12.4	18.6#

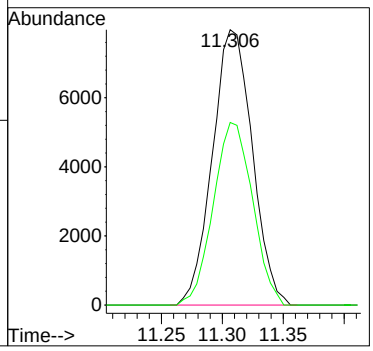


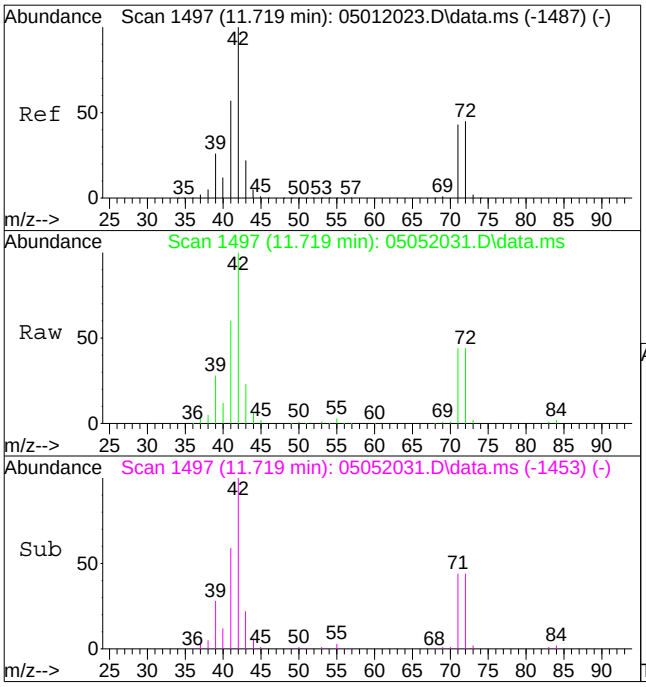


#32
Chloroform
Concen: 0.35 ng
RT: 11.31 min Scan# 1422
Delta R.T. -0.022 min
Lab File: 05052031.D
Acq: 5 May 2020 21:53

Tgt Ion: 83 Resp: 18169

Ion	Ratio	Lower	Upper
83	100		
85	65.1	45.5	85.5

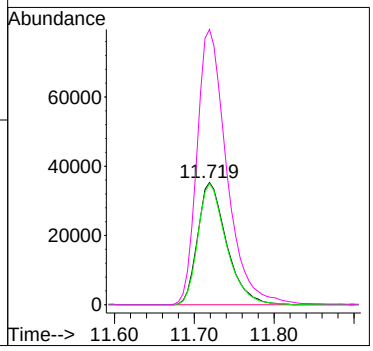


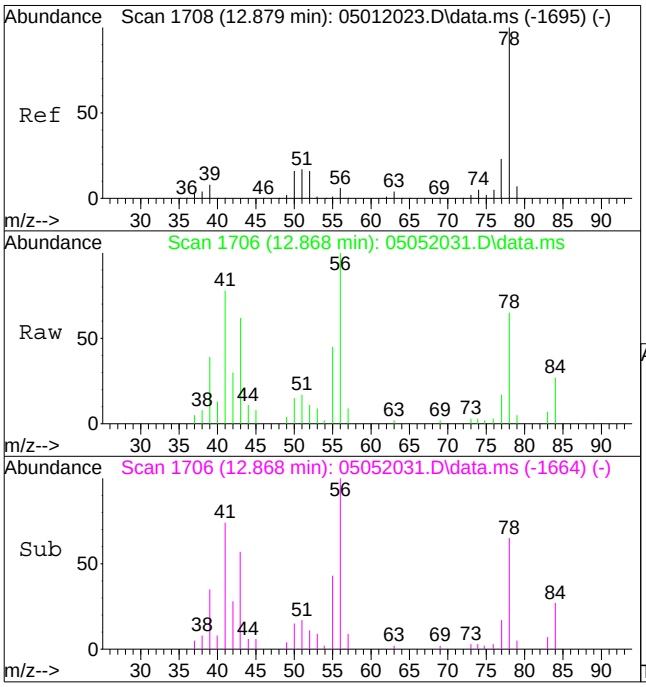


#34
Tetrahydrofuran (THF)
Concen: 4.59 ng
RT: 11.72 min Scan# 1497
Delta R.T. -0.006 min
Lab File: 05052031.D
Acq: 5 May 2020 21:53

Tgt Ion: 72 Resp: 89273

Ion	Ratio	Lower	Upper
72	100		
71	97.4	77.0	117.0
42	232.1	204.6	244.6

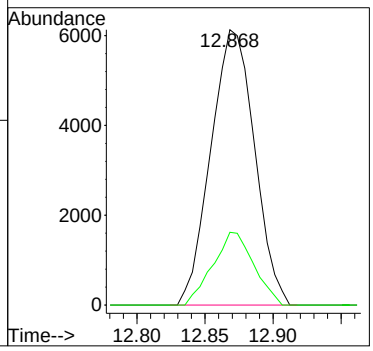


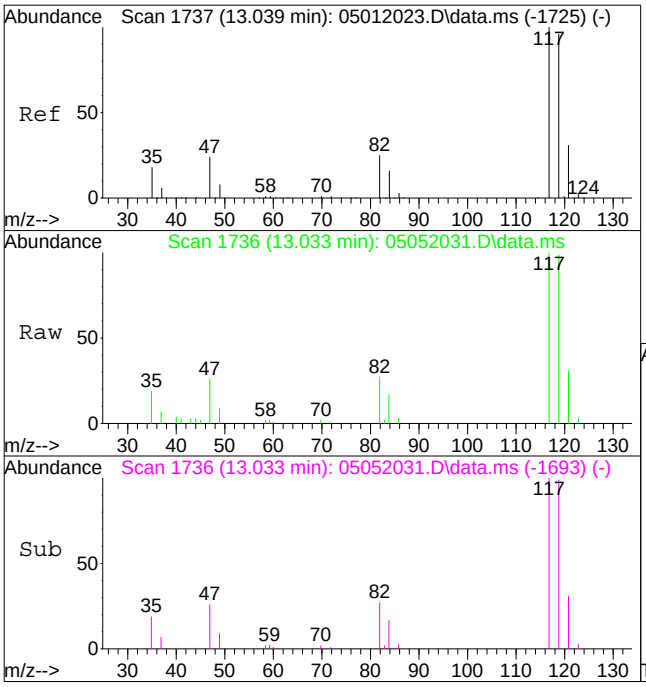


#41
Benzene
Concen: 0.11 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05052031.D
Acq: 5 May 2020 21:53

Tgt Ion: 78 Resp: 13683

Ion	Ratio	Lower	Upper
78	100		
77	24.8	3.4	43.4

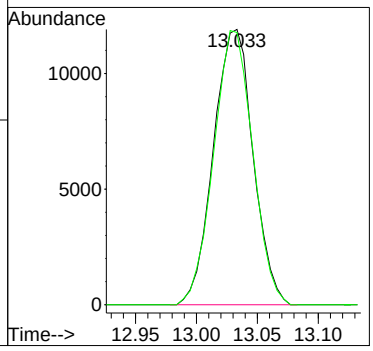


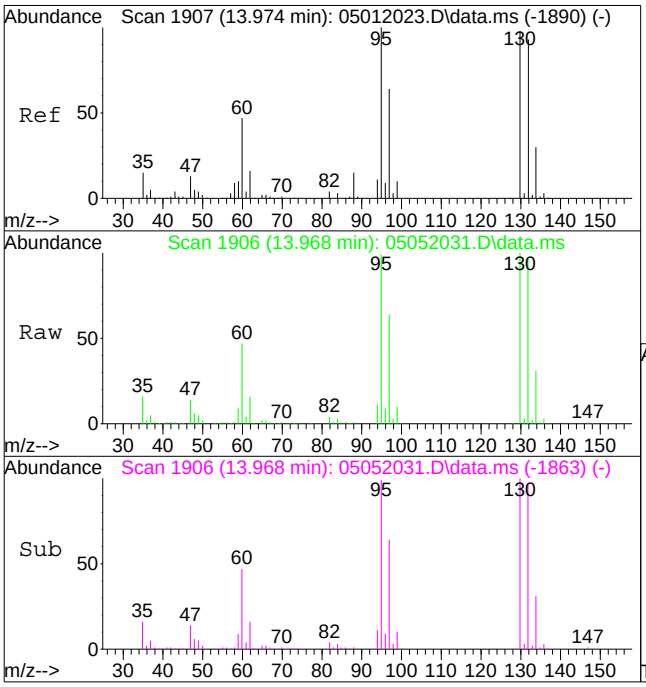


#42
Carbon Tetrachloride
Concen: 0.66 ng
RT: 13.03 min Scan# 1736
Delta R.T. -0.011 min
Lab File: 05052031.D
Acq: 5 May 2020 21:53

Tgt Ion:117 Resp: 26992

Ion	Ratio	Lower	Upper
117	100		
119	97.9	76.2	116.2

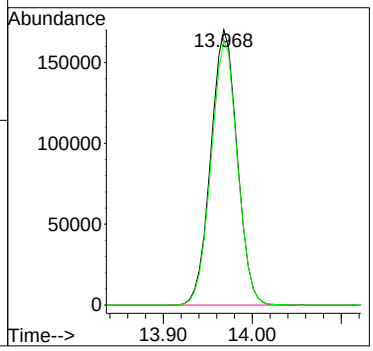


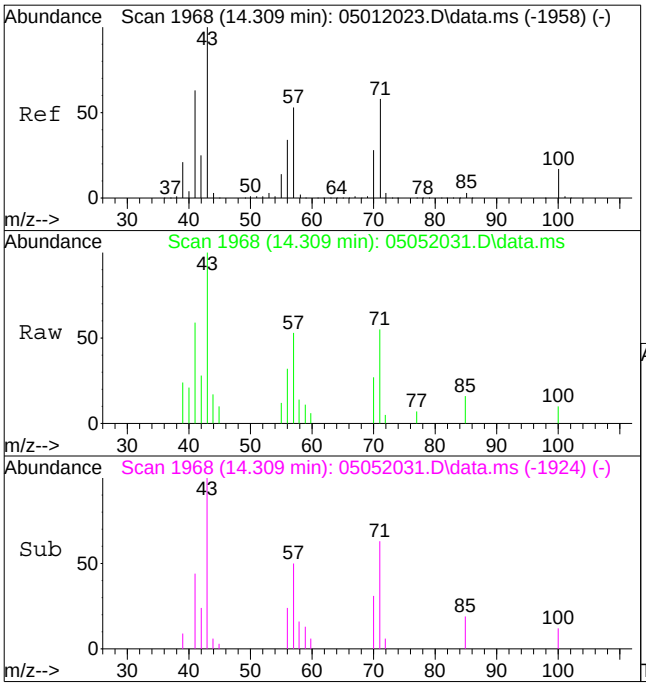


#47
Trichloroethene
Concen: 11.28 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05052031.D
Acq: 5 May 2020 21:53

Tgt Ion:130 Resp: 350073

Ion	Ratio	Lower	Upper
130	100		
132	95.8	74.9	114.9

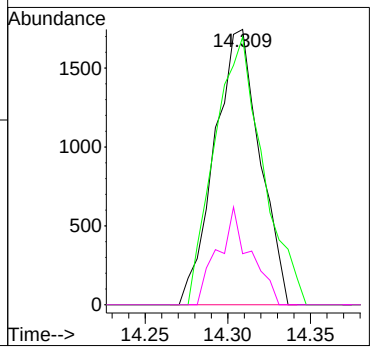


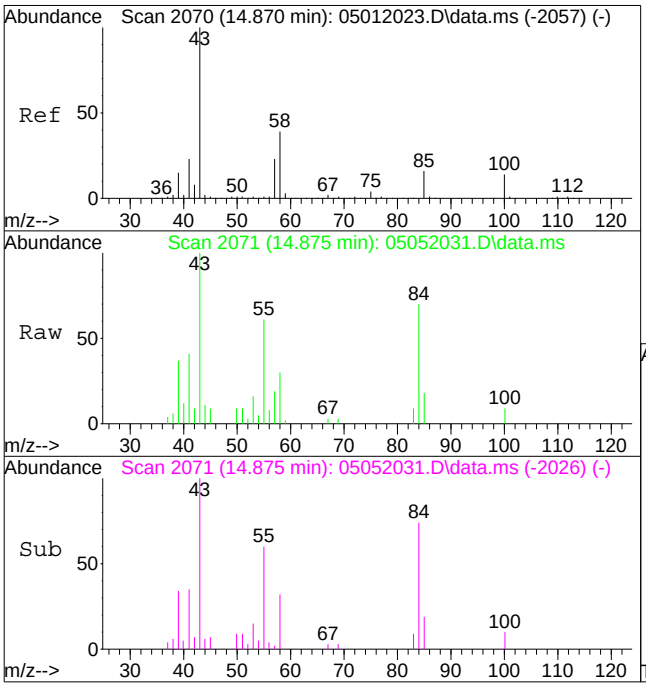


#51
n-Heptane
Concen: 0.12 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05052031.D
Acq: 5 May 2020 21:53

Tgt Ion: 71 Resp: 3319

Ion	Ratio	Lower	Upper
71	100		
57	104.1	71.0	111.0
100	25.4	8.4	48.4

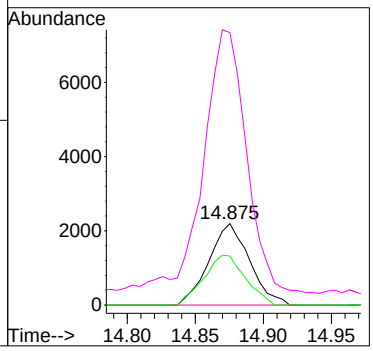


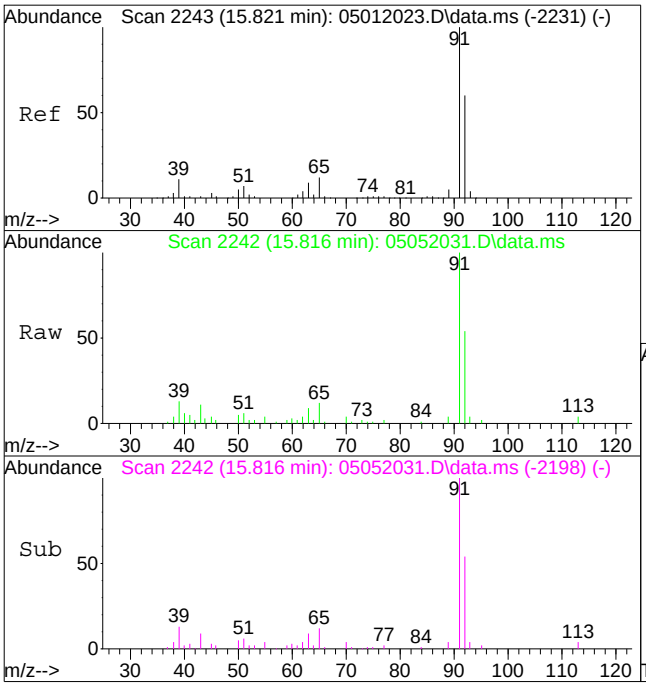


#53
4-Methyl-2-pentanone
Concen: 0.17 ng
RT: 14.88 min Scan# 2071
Delta R.T. -0.000 min
Lab File: 05052031.D
Acq: 5 May 2020 21:53

Tgt Ion: 58 Resp: 4548

Ion	Ratio	Lower	Upper
58	100		
85	62.6	35.4	53.2#
43	350.1	203.3	304.9#

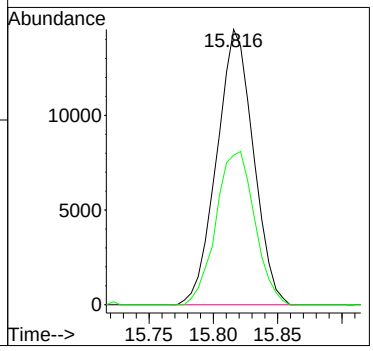


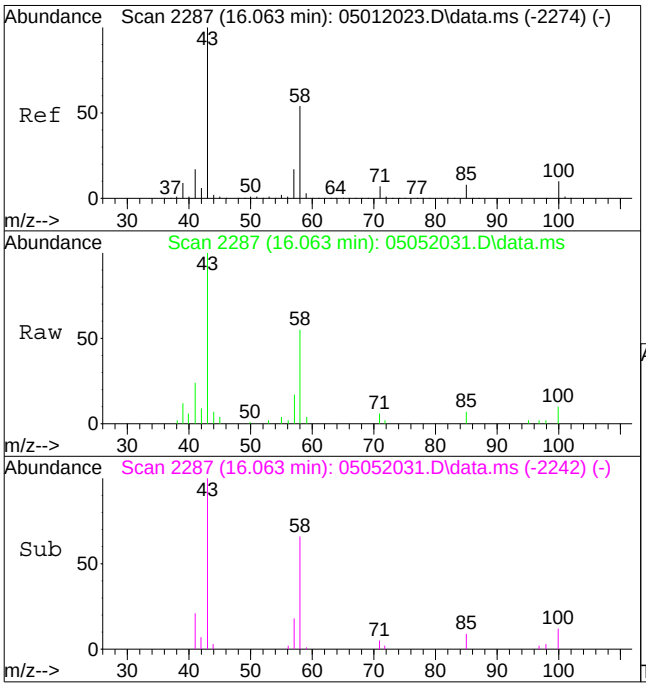


#58
Toluene
Concen: 0.24 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05052031.D
Acq: 5 May 2020 21:53

Tgt Ion: 91 Resp: 28825

Ion	Ratio	Lower	Upper
91	100		
92	58.7	39.4	79.4

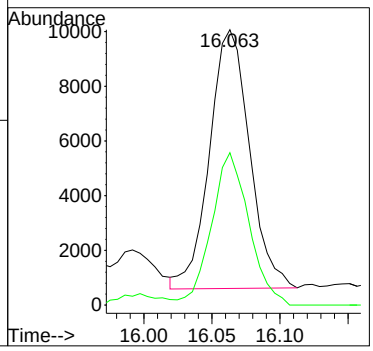


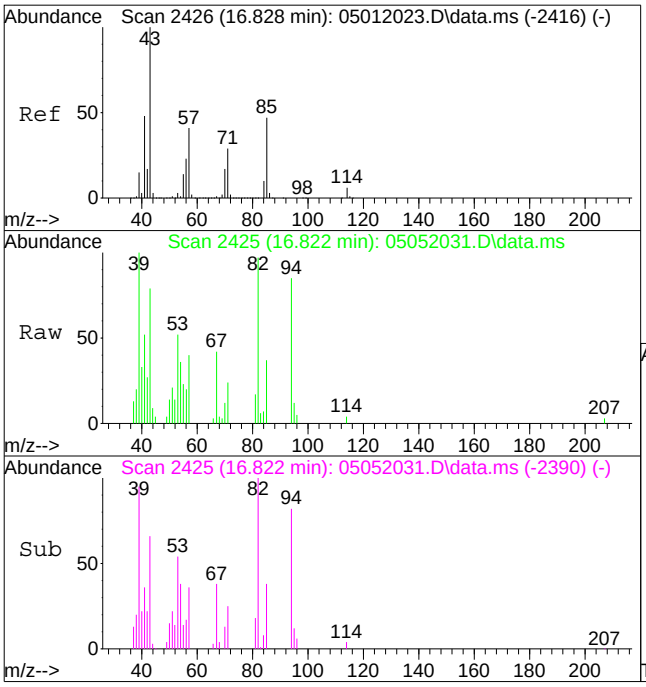


#59
2-Hexanone
Concen: 0.29 ng
RT: 16.06 min Scan# 2287
Delta R.T. -0.000 min
Lab File: 05052031.D
Acq: 5 May 2020 21:53

Tgt Ion: 43 Resp: 19323

Ion	Ratio	Lower	Upper
43	100		
58	55.0	34.5	74.5

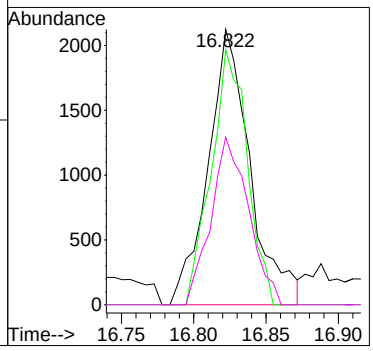


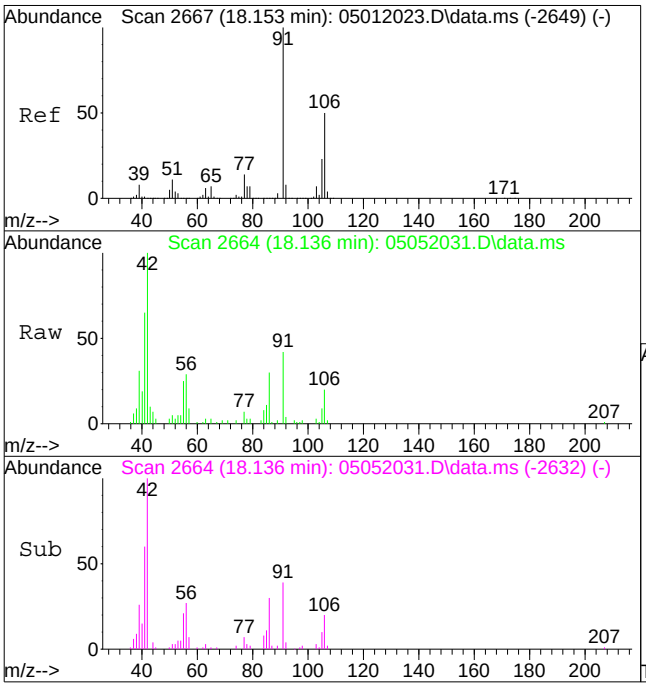


#63
n-Octane
Concen: 0.17 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05052031.D
Acq: 5 May 2020 21:53

Tgt Ion: 57 Resp: 4311

Ion	Ratio	Lower	Upper
57	100		
85	79.2	91.0	136.4#
71	54.4	56.2	84.2#

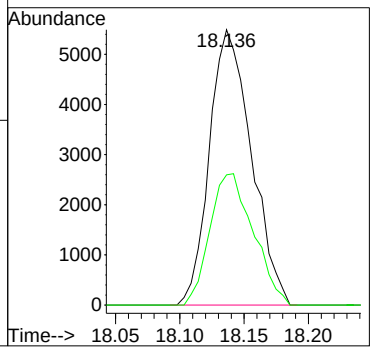


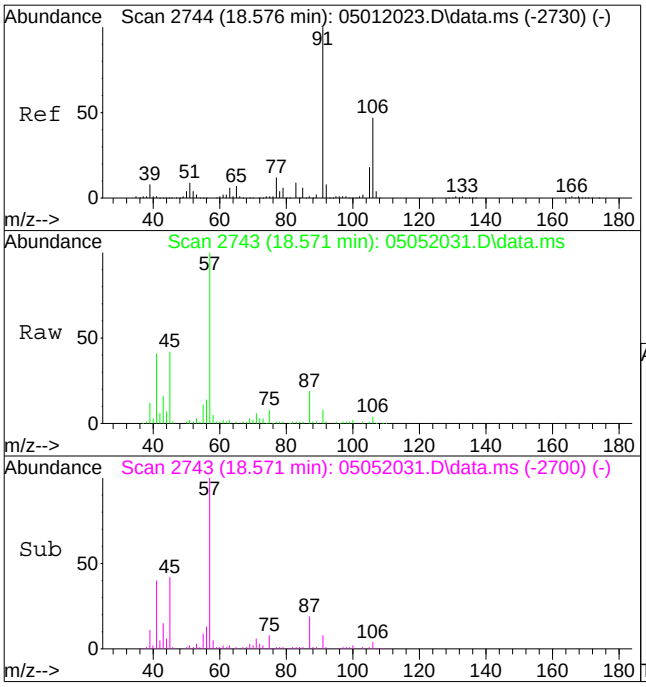


#67
m- & p-Xylenes
Concen: 0.12 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05052031.D
Acq: 5 May 2020 21:53

Tgt Ion: 91 Resp: 12478

Ion	Ratio	Lower	Upper
91	100		
106	49.2	29.7	69.7

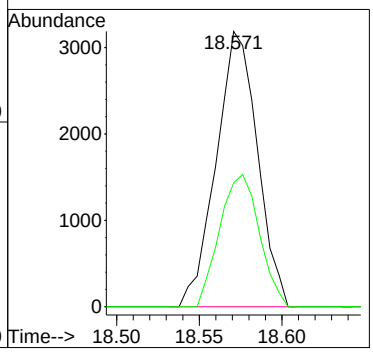


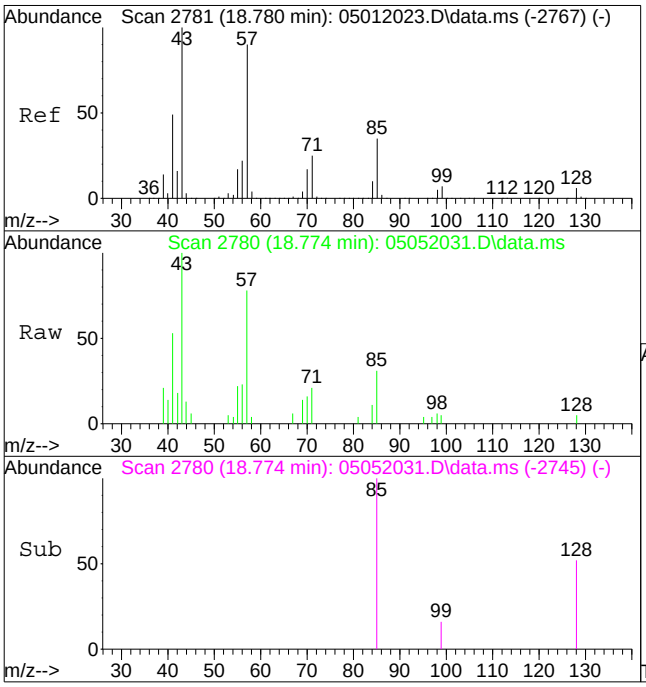


#70
o-Xylene
Concen: 0.05 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05052031.D
Acq: 5 May 2020 21:53

Tgt Ion: 91 Resp: 5530

Ion	Ratio	Lower	Upper
91	100		
106	46.2	27.5	67.5

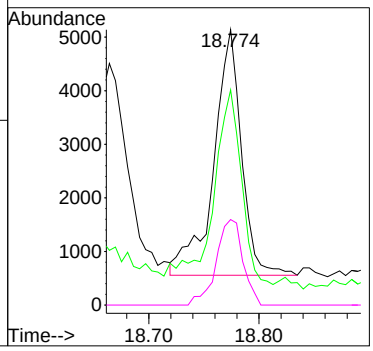


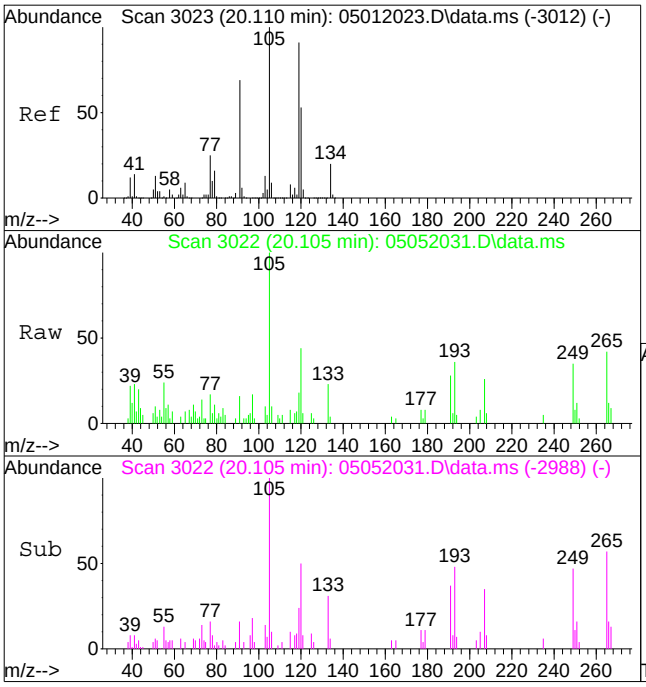


#71
n-Nonane
Concen: 0.14 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05052031.D
Acq: 5 May 2020 21:53

Tgt Ion: 43 Resp: 8103

Ion	Ratio	Lower	Upper
43	100		
57	79.9	69.0	109.0
85	33.2	14.6	54.6

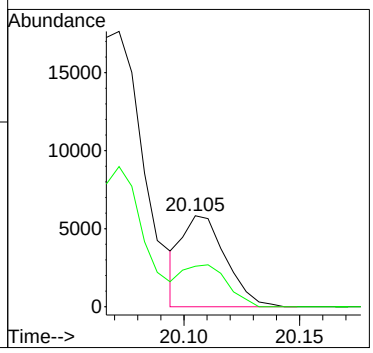




#82
1,2,4-Trimethylbenzene
Concen: 0.07 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05052031.D
Acq: 5 May 2020 21:53

Tgt Ion:105 Resp: 7685

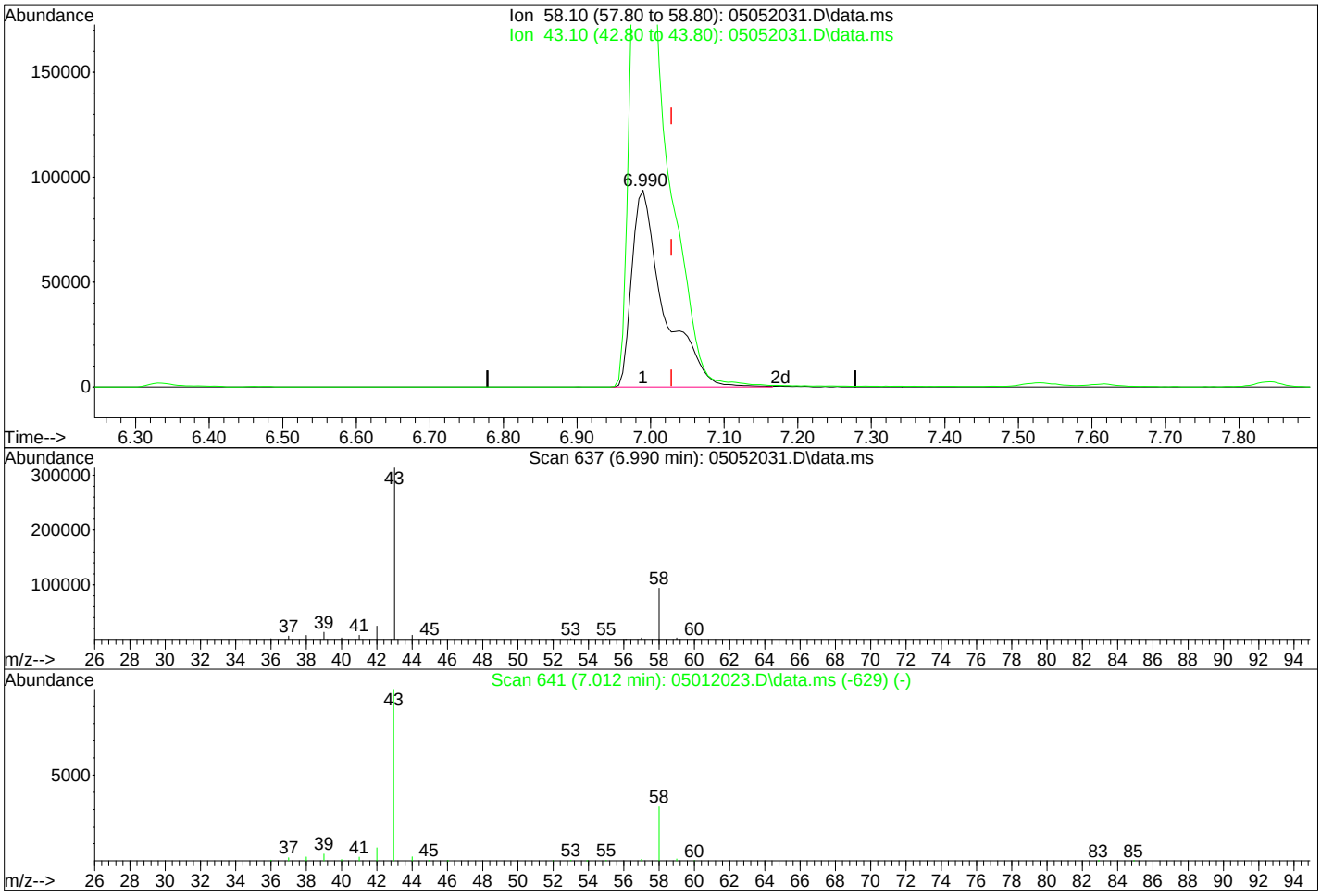
Ion	Ratio	Lower	Upper
105	100		
120	48.0	33.6	73.6



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\05\05052031.D Vial: 13
Acq On : 5 May 2020 21:53 Operator: WA
Sample : P2002107-016 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 03:56:54 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05052031.D\data.ms

(13) Acetone (T)

6.990min (-0.039) 12.23ng

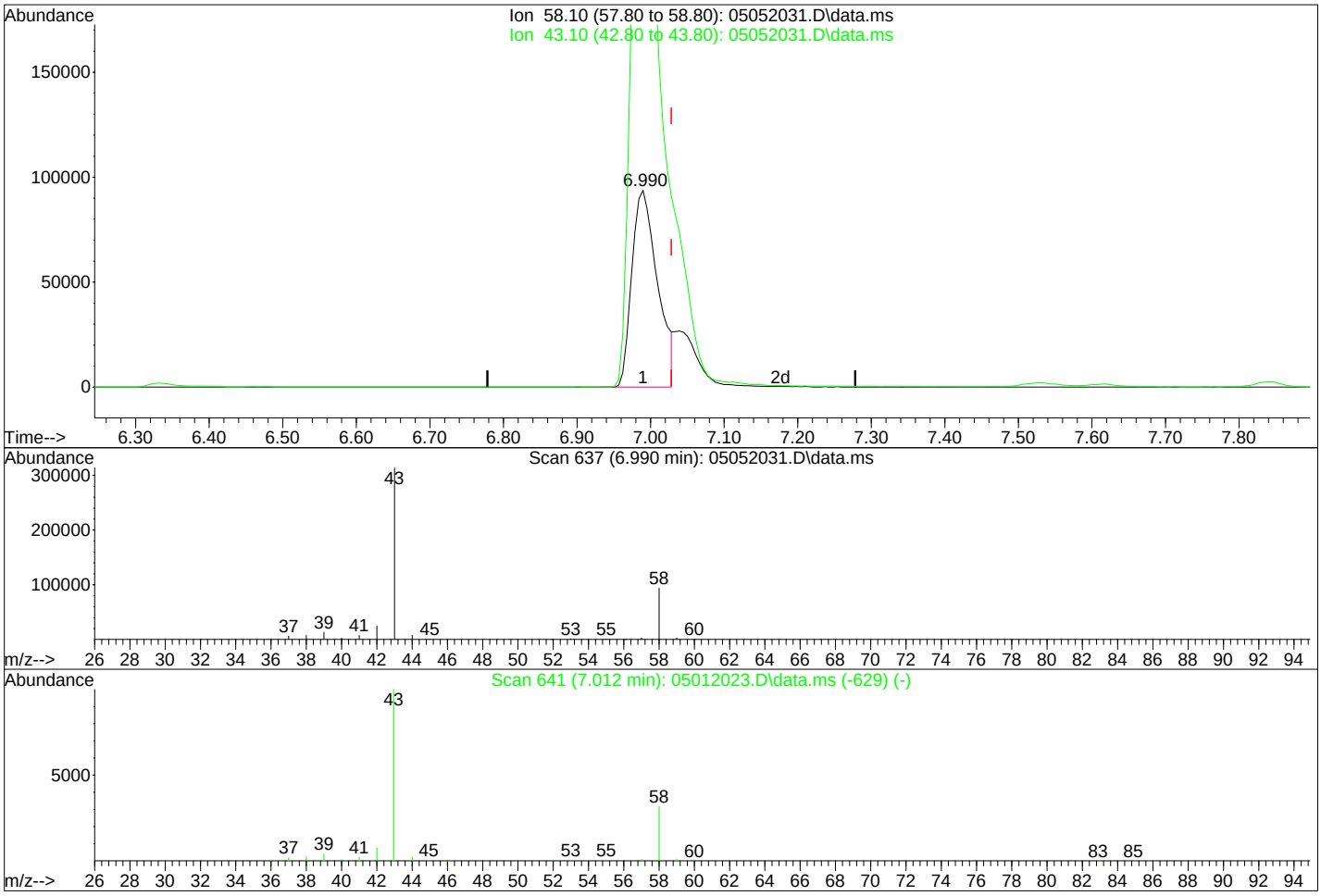
response 285968

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	316.03
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\05\05052031.D Vial: 13
Acq On : 5 May 2020 21:53 Operator: WA
Sample : P2002107-016 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 03:56:54 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05052031.D\data.ms

(13) Acetone (T)

6.990min (-0.039) 9.69ng m

response 226688

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	398.67#
0.00	0.00	0.00
0.00	0.00	0.00

IPC

LH 5/7/20

WDA 5/12/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052020.D Vial: 14
Acq On : 5 May 2020 15:37 Operator: WA
Sample : P2002107-017 (200mL) Pf2 Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 21:07:33 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/6/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	271191	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1193001	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	553267	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	452197	12.304	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.40%				
57) Toluene-d8 (SS2)	15.72	98	1191859	12.709	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.68%				
73) Bromofluorobenzene (SS3)	18.98	174	411385	12.192	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.52%				
Target Compounds							Qvalue
2) Propene	4.11	42	3602	0.115	ng		98
3) Dichlorodifluoromethan...	4.27	85	63860	1.039	ng		100
4) Chloromethane	4.54	50	5521	0.115	ng		96
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	906	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.32	45	39208	1.617	ng		99
11) Acetonitrile	6.58	41	3177	0.057	ng	#	50
12) Acrolein	6.78	56	3143	0.164	ng		97
13) Acetone	6.98	58	58439	2.409	ng		90
14) Trichlorofluoromethane	7.25	101	6538	0.120	ng		96
15) 2-Propanol (Isopropanol)	7.51	45	12053	0.164	ng		85
16) Acrylonitrile	0.00	53	0	N.D. d			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d			
19) Methylene Chloride	8.41	84	2507	0.080	ng		100
20) 3-Chloro-1-propene (Al...	8.59	41	159	N.D.			
21) Trichlorotrifluoroethane	8.85	151	513	N.D.			
22) Carbon Disulfide	8.70	76	96408	0.853	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	10.01	63	112	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D. d			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	10.47	72	5936	0.287	ng	#	87
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	11.29	61	2381	0.200	ng		90
31) n-Hexane	11.27	57	2461	N.D.			
32) Chloroform	11.31	83	109	N.D.			
34) Tetrahydrofuran (THF)	11.73	72	42629	2.113	ng		99
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.24	62	1193	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D. d			
40) 1-Butanol	0.00	56	0	N.D. d			
41) Benzene	12.87	78	190494	1.489	ng		99
42) Carbon Tetrachloride	13.03	117	540	N.D.			
43) Cyclohexane	13.17	84	66942	1.404	ng		99
44) tert-Amyl Methyl Ether	13.44	73	218	N.D.			
45) 1,2-Dichloropropane	13.52	63	910	N.D.			
46) Bromodichloromethane	13.94	83	1083	N.D.			
47) Trichloroethene	13.97	130	404	N.D.			
48) 1,4-Dioxane	13.98	88	102	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d			
50) Methyl Methacrylate	0.00	100	0	N.D. d			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052020.D Vial: 14
Acq On : 5 May 2020 15:37 Operator: WA
Sample : P2002107-017 (200mL) Pf2 Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 21:07:33 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	634	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.88	58	659	N.D.	
54) trans-1,3-Dichloropropene	15.13	75	1043	N.D.	
55) 1,1,2-Trichloroethane	15.45	97	566	N.D.	
58) Toluene	15.82	91	24269	0.201 ng	99
59) 2-Hexanone	16.07	43	2932	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.70	43	5559	0.078 ng	91
63) n-Octane	16.83	57	590	N.D.	
64) Tetrachloroethene	16.96	166	2800	0.082 ng	100
65) Chlorobenzene	17.66	112	677	N.D.	
66) Ethylbenzene	17.98	91	2010	N.D.	
67) m- & p-Xylenes	18.14	91	5854	0.055 ng	98
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.48	104	119	N.D.	
70) o-Xylene	18.57	91	2071	N.D.	
71) n-Nonane	18.77	43	1845	N.D.	
72) 1,1,2,2-Tetrachloroethane	18.50	83	349	N.D.	
74) Cumene	19.10	105	558	N.D.	
75) alpha-Pinene	19.45	93	945	N.D.	
76) n-Propylbenzene	19.55	91	787	N.D.	
77) 3-Ethyltoluene	19.64	105	1332	N.D.	
78) 4-Ethyltoluene	19.68	105	575	N.D.	
79) 1,3,5-Trimethylbenzene	19.74	105	678	N.D.	
80) alpha-Methylstyrene	19.88	118	160	N.D.	
81) 2-Ethyltoluene	19.91	105	424	N.D.	
82) 1,2,4-Trimethylbenzene	20.11	105	998	N.D.	
83) n-Decane	20.20	57	954	N.D.	
84) Benzyl Chloride	20.10	91	114	N.D.	
85) 1,3-Dichlorobenzene	20.07	146	121	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	20.34	105	428	N.D.	
88) 4-Isopropyltoluene (p-...	20.49	119	860	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	355	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.62	68	665	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.30	57	1009	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.22	128	529	N.D.	
96) n-Dodecane	22.13	57	336	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	20.86	91	132	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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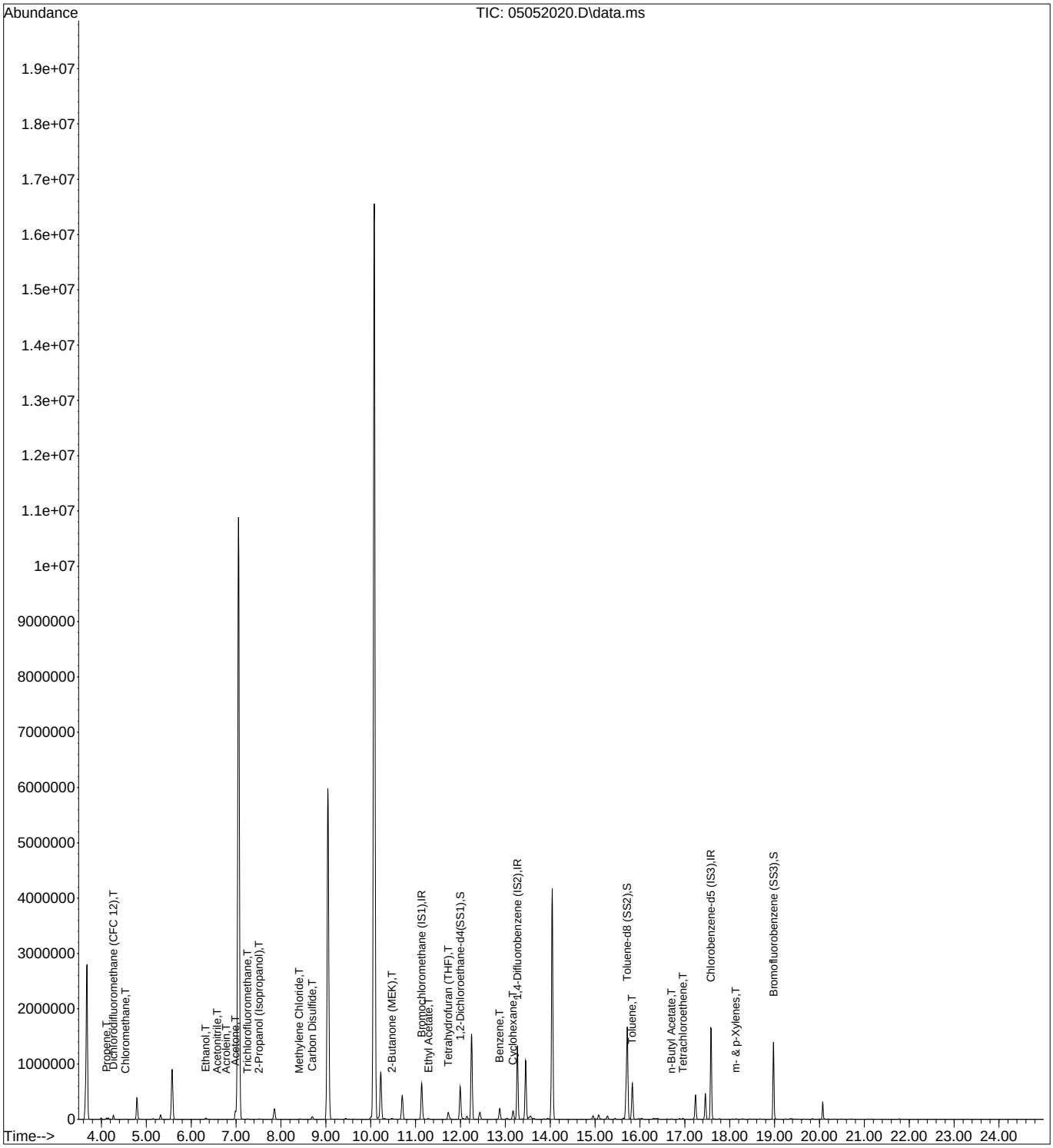
Acq On : 5 May 2020 15:37 Operator: WA
Sample : P2002107-017 (200mL) Pf2 Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 21:07:33 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



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Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/6/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	271191	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1193001	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	553267	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	452197	12.304	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.40%				
57) Toluene-d8 (SS2)	15.72	98	1191859	12.709	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.68%				
73) Bromofluorobenzene (SS3)	18.98	174	411385	12.192	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.52%				
Target Compounds							Qvalue
2) Propene	4.11	42	3602	0.115	ng		98
3) Dichlorodifluoromethan...	4.27	85	63860	1.039	ng		100
4) Chloromethane	4.54	50	5521	0.115	ng		96
10) Ethanol	6.32	45	39208	1.617	ng		99
11) Acetonitrile	6.58	41	3177	0.057	ng	#	50
12) Acrolein	6.78	56	3143	0.164	ng		97
13) Acetone	6.98	58	58439	2.409	ng		90
14) Trichlorofluoromethane	7.25	101	6538	0.120	ng		96
15) 2-Propanol (Isopropanol)	7.51	45	12053	0.164	ng		85
19) Methylene Chloride	8.41	84	2507	0.080	ng		100
22) Carbon Disulfide	8.70	76	96408	0.853	ng		99
27) 2-Butanone (MEK)	10.47	72	5936	0.287	ng	#	87
30) Ethyl Acetate	11.29	61	2381	0.200	ng		90
34) Tetrahydrofuran (THF)	11.73	72	42629	2.113	ng		99
41) Benzene	12.87	78	190494	1.489	ng		99
43) Cyclohexane	13.17	84	66942	1.404	ng		99
58) Toluene	15.82	91	24269	0.201	ng		99
62) n-Butyl Acetate	16.70	43	5559	0.078	ng		91
64) Tetrachloroethene	16.96	166	2800	0.082	ng		100
67) m- & p-Xylenes	18.14	91	5854	0.055	ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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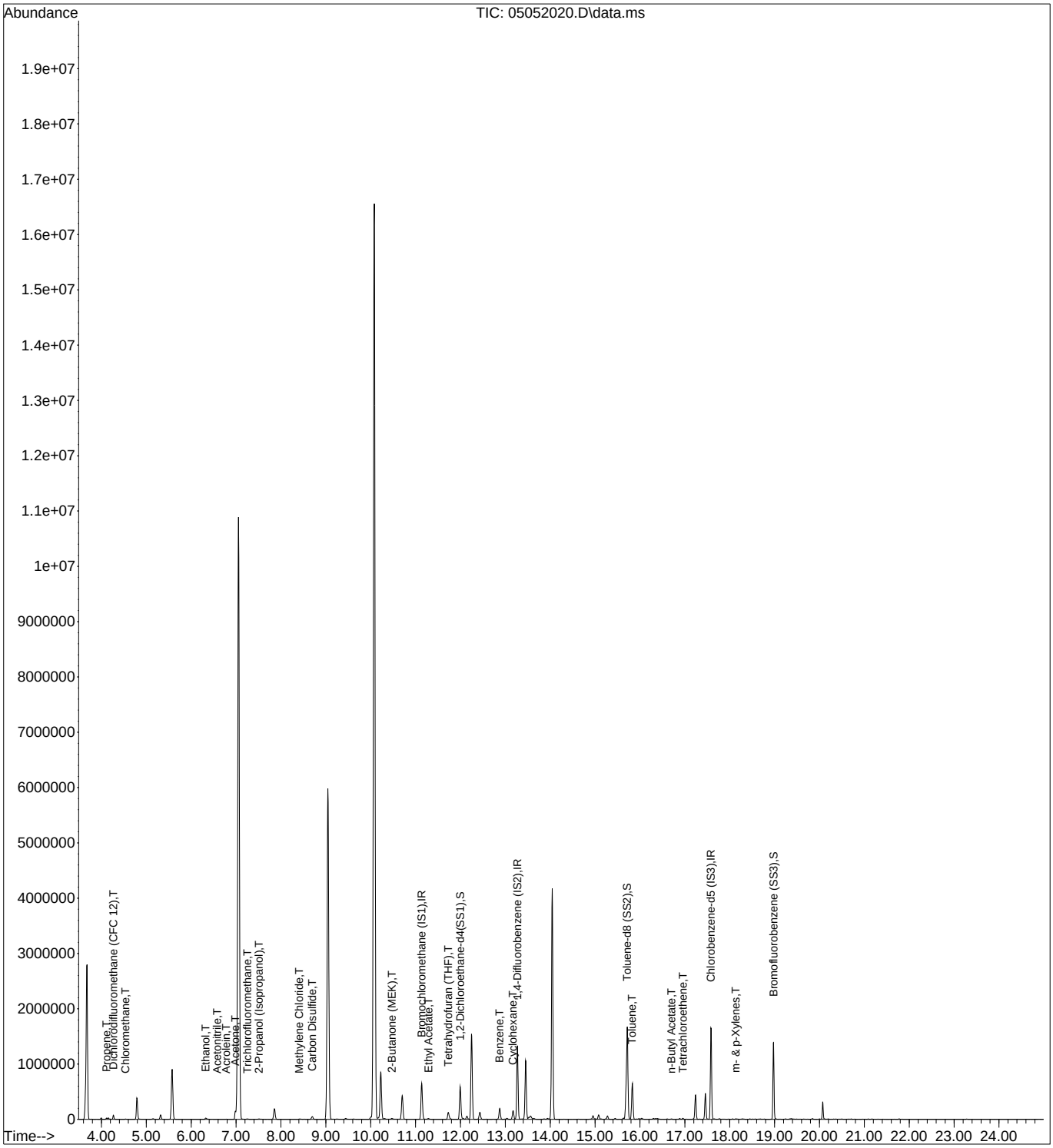
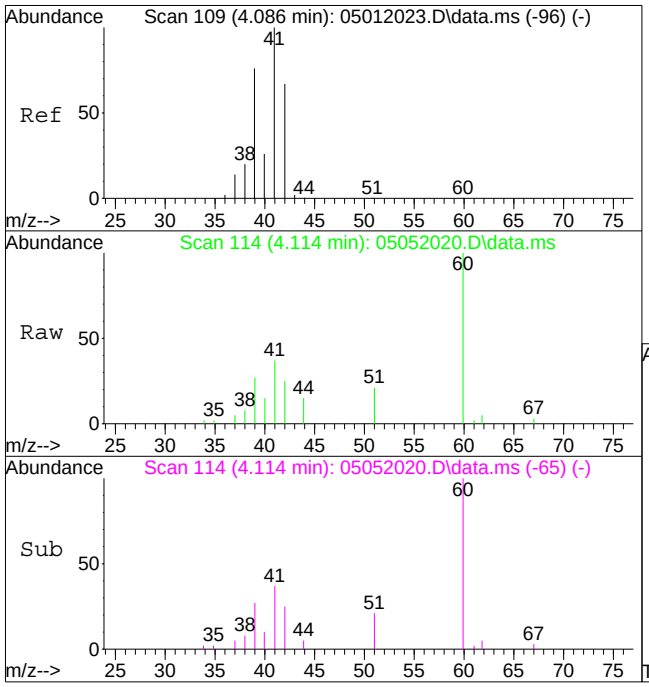
Sample : P2002107-017 (200mL) Pf2 Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 21:07:33 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

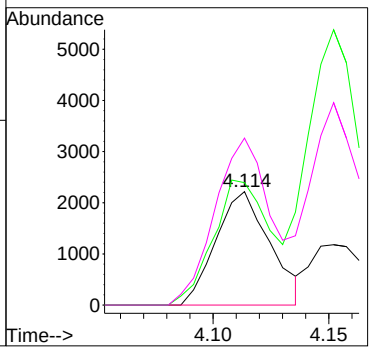


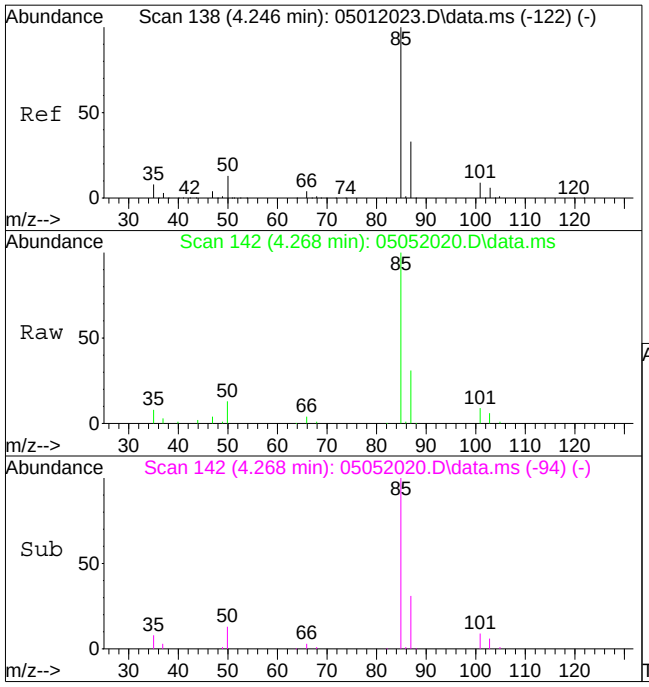


#2
Propene
Concen: 0.11 ng
RT: 4.11 min Scan# 114
Delta R.T. 0.022 min
Lab File: 05052020.D
Acq: 5 May 2020 15:37

Tgt Ion: 42 Resp: 3602

Ion	Ratio	Lower	Upper
42	100		
39	115.6	96.1	136.1
41	147.2	131.9	171.9

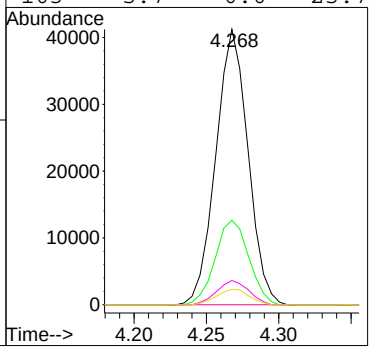


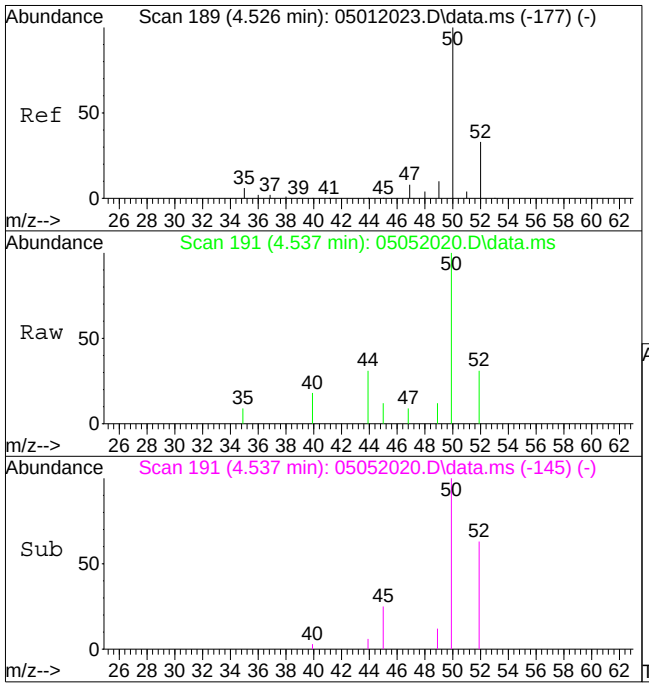


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.04 ng
RT: 4.27 min Scan# 142
Delta R.T. 0.016 min
Lab File: 05052020.D
Acq: 5 May 2020 15:37

Tgt Ion: 85 Resp: 63860

Ion	Ratio	Lower	Upper
85	100		
87	32.1	12.4	52.4
101	8.7	0.0	28.8
103	5.7	0.0	25.7

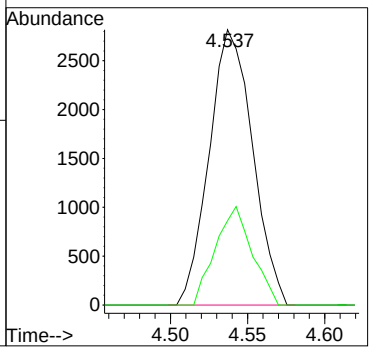


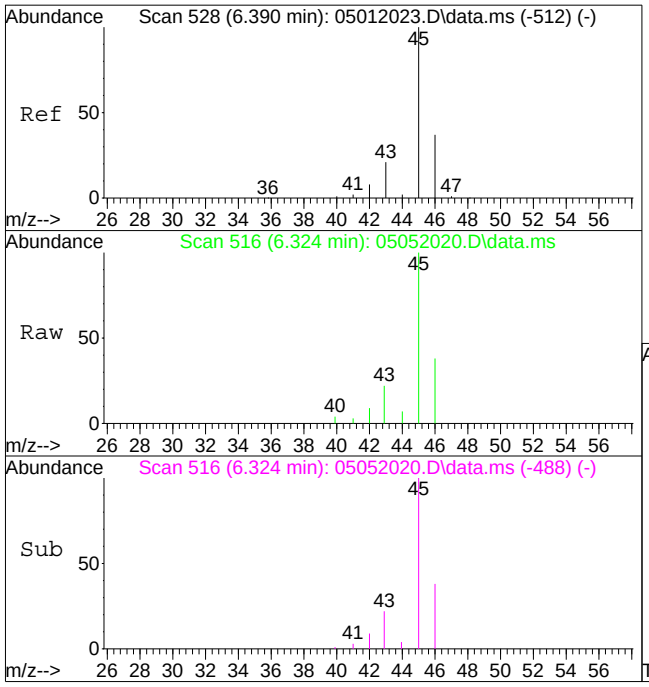


#4
Chloromethane
Concen: 0.11 ng
RT: 4.54 min Scan# 191
Delta R.T. 0.005 min
Lab File: 05052020.D
Acq: 5 May 2020 15:37

Tgt Ion: 50 Resp: 5521

Ion	Ratio	Lower	Upper
50	100		
52	30.3	12.5	52.5

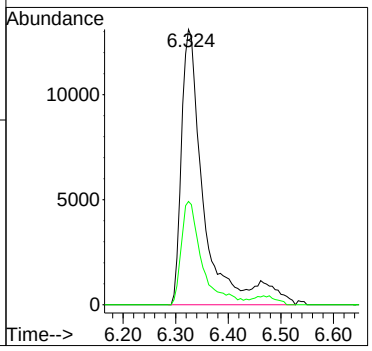


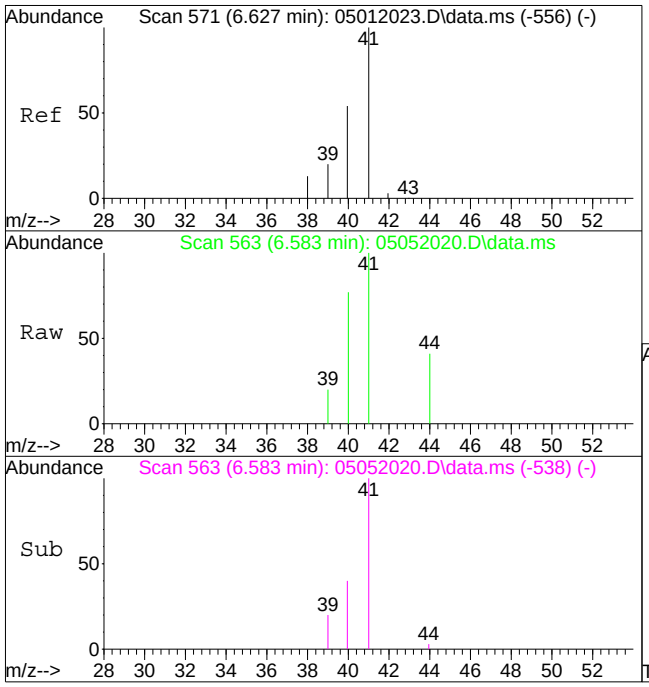


#10
Ethanol
Concen: 1.62 ng
RT: 6.32 min Scan# 516
Delta R.T. -0.094 min
Lab File: 05052020.D
Acq: 5 May 2020 15:37

Tgt Ion: 45 Resp: 39208

Ion	Ratio	Lower	Upper
45	100		
46	37.6	17.2	57.2

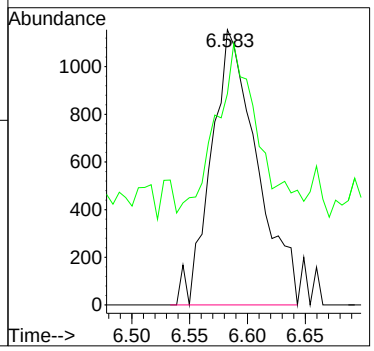


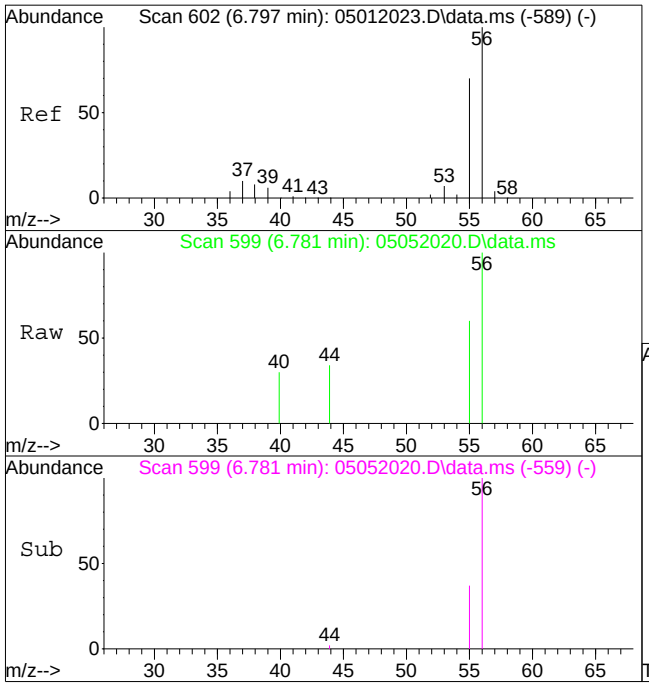


#11
Acetonitrile
Concen: 0.06 ng
RT: 6.58 min Scan# 563
Delta R.T. -0.061 min
Lab File: 05052020.D
Acq: 5 May 2020 15:37

Tgt Ion: 41 Resp: 3177

Ion	Ratio	Lower	Upper
41	100		
40	89.3	33.6	73.6#

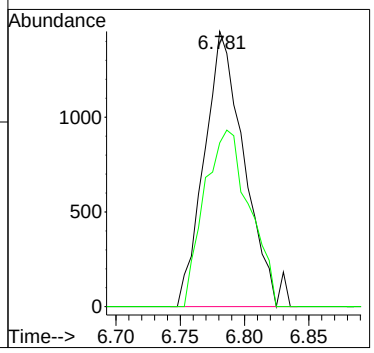


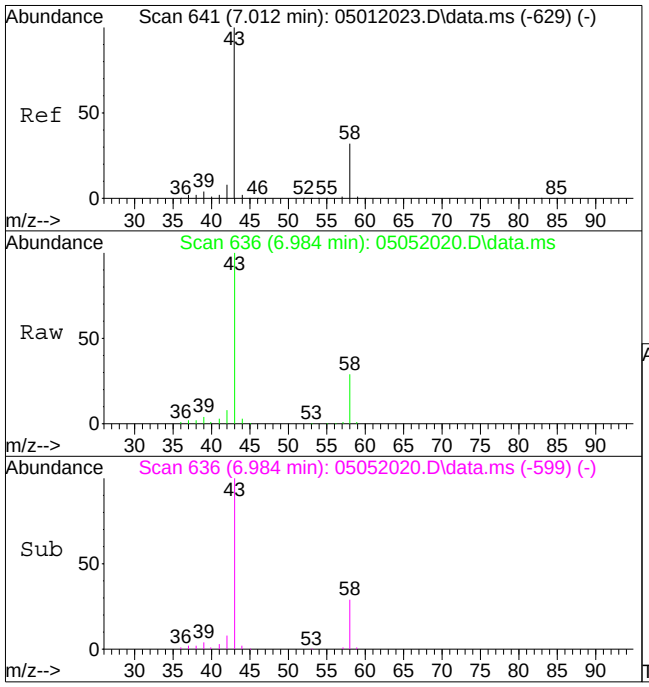


#12
Acrolein
Concen: 0.16 ng
RT: 6.78 min Scan# 599
Delta R.T. -0.028 min
Lab File: 05052020.D
Acq: 5 May 2020 15:37

Tgt Ion: 56 Resp: 3143

Ion	Ratio	Lower	Upper
56	100		
55	72.7	50.2	90.2

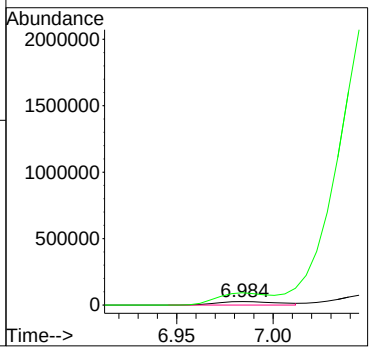


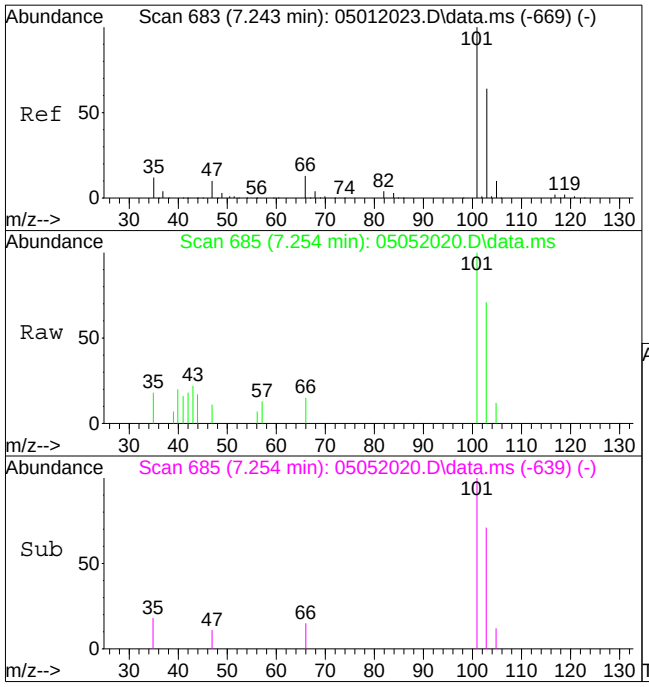


#13
Acetone
Concen: 2.41 ng
RT: 6.98 min Scan# 636
Delta R.T. -0.044 min
Lab File: 05052020.D
Acq: 5 May 2020 15:37

Tgt Ion: 58 Resp: 58439

Ion	Ratio	Lower	Upper
58	100		
43	303.6	294.4	354.4

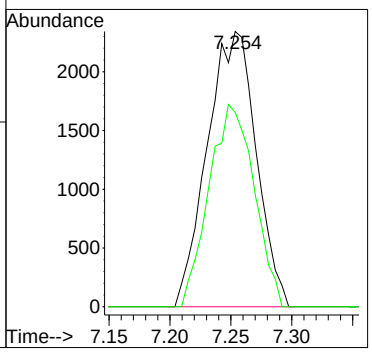


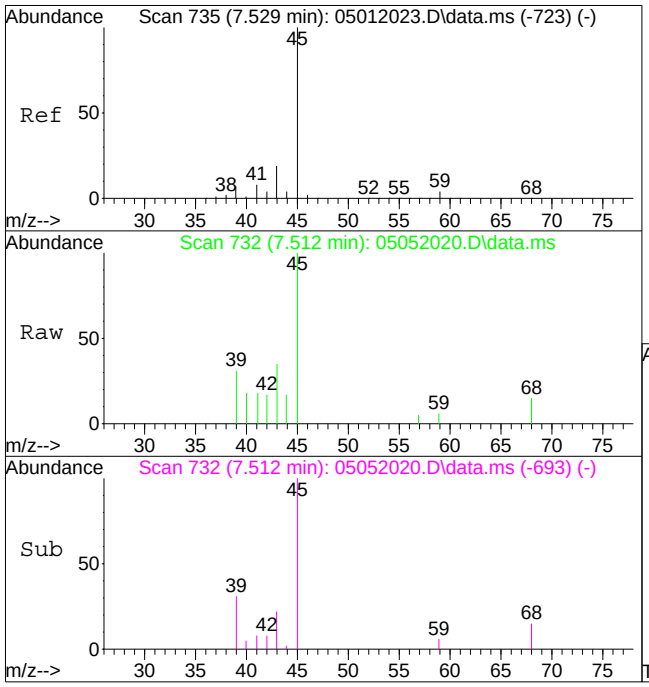


#14
Trichlorofluoromethane
Concen: 0.12 ng
RT: 7.25 min Scan# 685
Delta R.T. 0.005 min
Lab File: 05052020.D
Acq: 5 May 2020 15:37

Tgt Ion:101 Resp: 6538

Ion	Ratio	Lower	Upper
101	100		
103	67.8	44.4	84.4

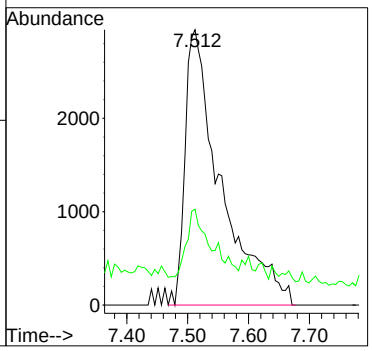


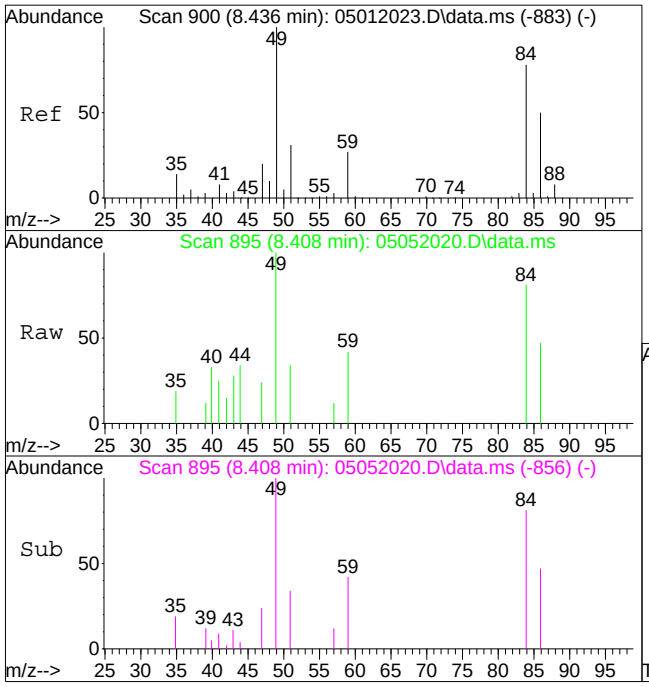


#15
2-Propanol (Isopropanol)
Concen: 0.16 ng
RT: 7.51 min Scan# 732
Delta R.T. -0.033 min
Lab File: 05052020.D
Acq: 5 May 2020 15:37

Tgt Ion: 45 Resp: 12053

Ion	Ratio	Lower	Upper
45	100		
43	26.5	0.0	39.5

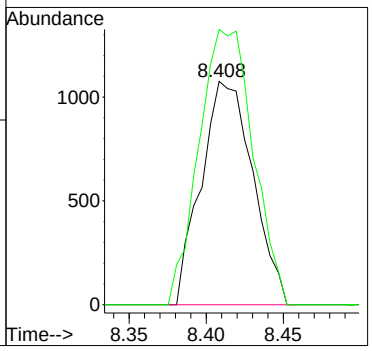


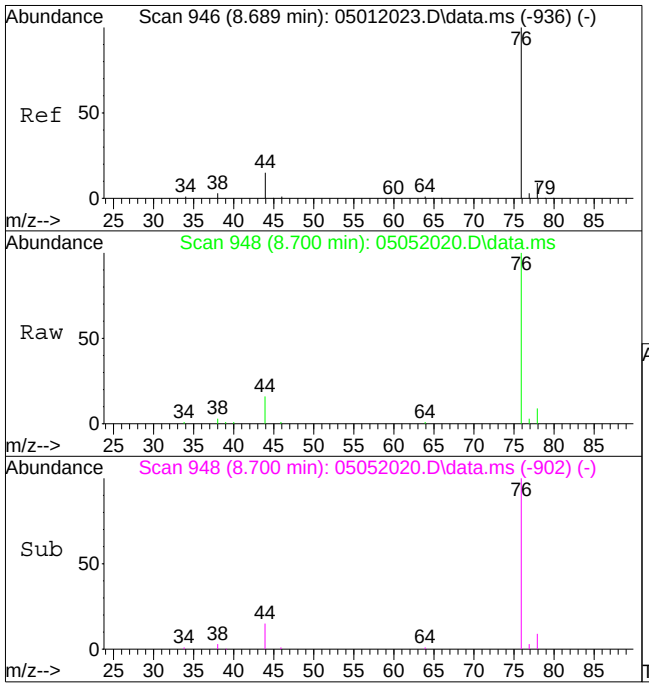


#19
Methylene Chloride
Concen: 0.08 ng
RT: 8.41 min Scan# 895
Delta R.T. -0.033 min
Lab File: 05052020.D
Acq: 5 May 2020 15:37

Tgt Ion: 84 Resp: 2507

Ion	Ratio	Lower	Upper
84	100		
49	129.7	104.8	154.8

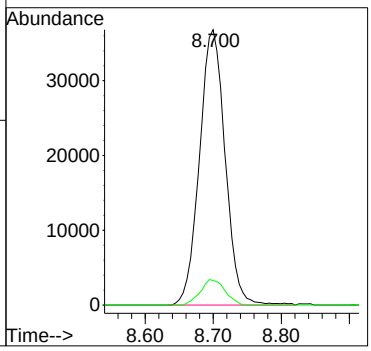


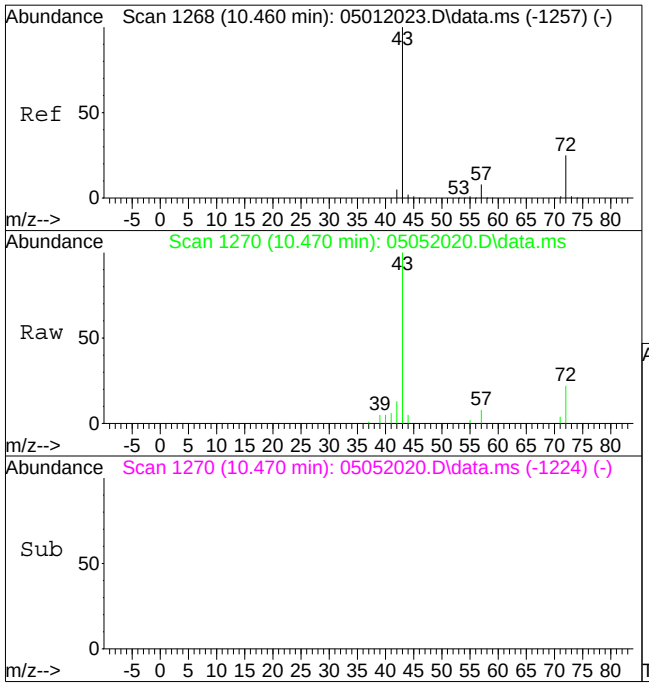


#22
Carbon Disulfide
Concen: 0.85 ng
RT: 8.70 min Scan# 948
Delta R.T. 0.005 min
Lab File: 05052020.D
Acq: 5 May 2020 15:37

Tgt Ion: 76 Resp: 96408

Ion	Ratio	Lower	Upper
76	100		
78	8.8	0.0	29.2

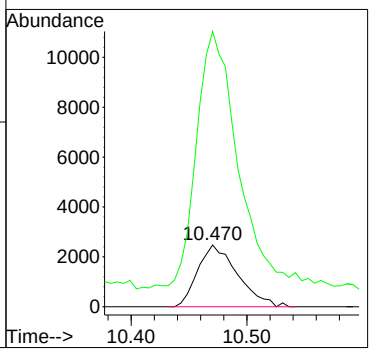


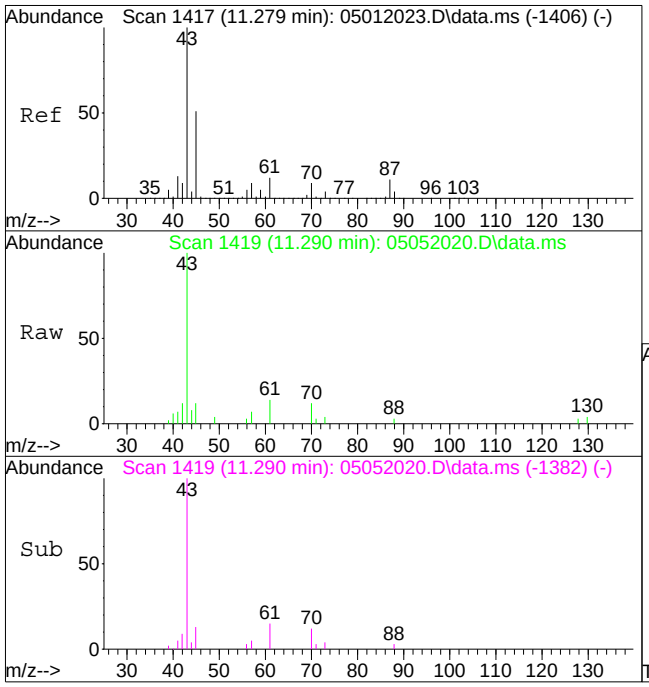


#27
2-Butanone (MEK)
Concen: 0.29 ng
RT: 10.47 min Scan# 1270
Delta R.T. 0.005 min
Lab File: 05052020.D
Acq: 5 May 2020 15:37

Tgt Ion: 72 Resp: 5936

Ion	Ratio	Lower	Upper
72	100		
43	442.0	389.7	429.7#

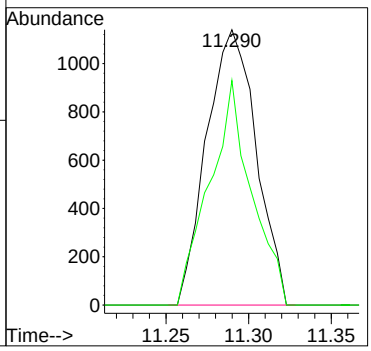


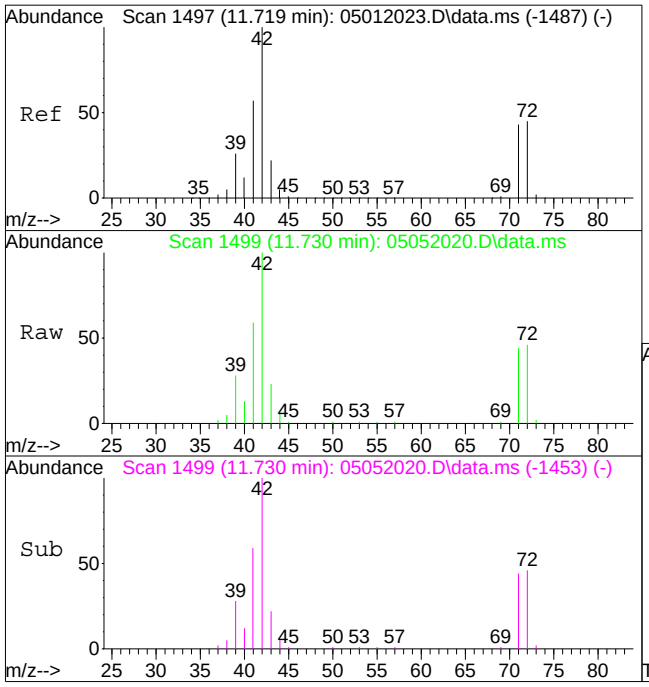


#30
Ethyl Acetate
Concen: 0.20 ng
RT: 11.29 min Scan# 1419
Delta R.T. 0.005 min
Lab File: 05052020.D
Acq: 5 May 2020 15:37

Tgt Ion: 61 Resp: 2381

Ion	Ratio	Lower	Upper
61	100		
70	69.0	57.9	97.9

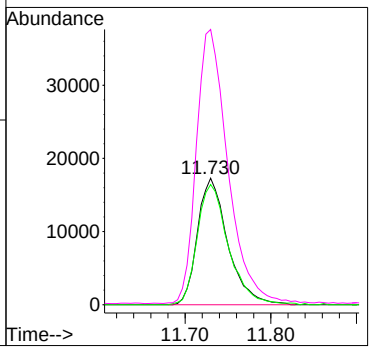


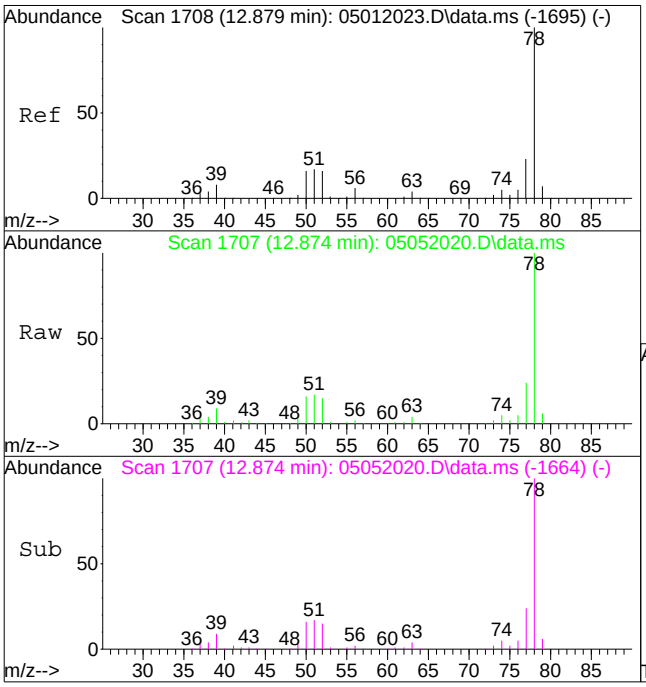


#34
Tetrahydrofuran (THF)
Concen: 2.11 ng
RT: 11.73 min Scan# 1499
Delta R.T. 0.005 min
Lab File: 05052020.D
Acq: 5 May 2020 15:37

Tgt Ion: 72 Resp: 42629

Ion	Ratio	Lower	Upper
72	100		
71	97.9	77.0	117.0
42	225.2	204.6	244.6

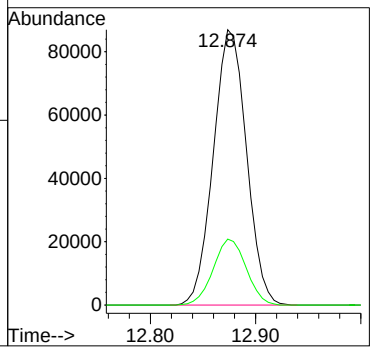


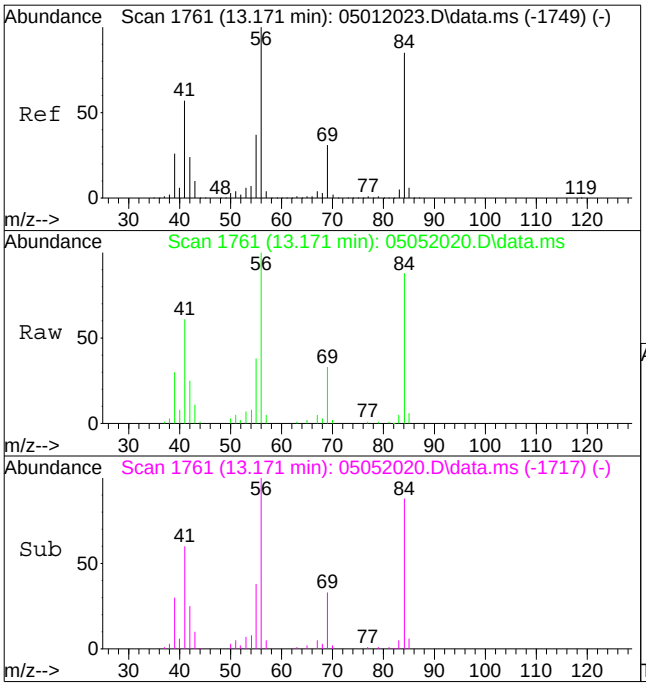


#41
Benzene
Concen: 1.49 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05052020.D
Acq: 5 May 2020 15:37

Tgt Ion: 78 Resp: 190494

Ion	Ratio	Lower	Upper
78	100		
77	23.8	3.4	43.4

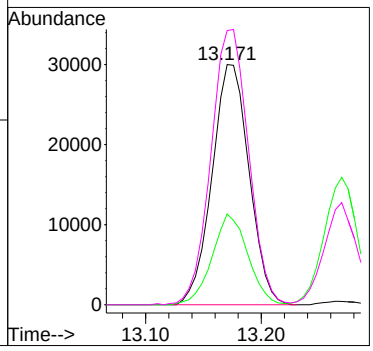


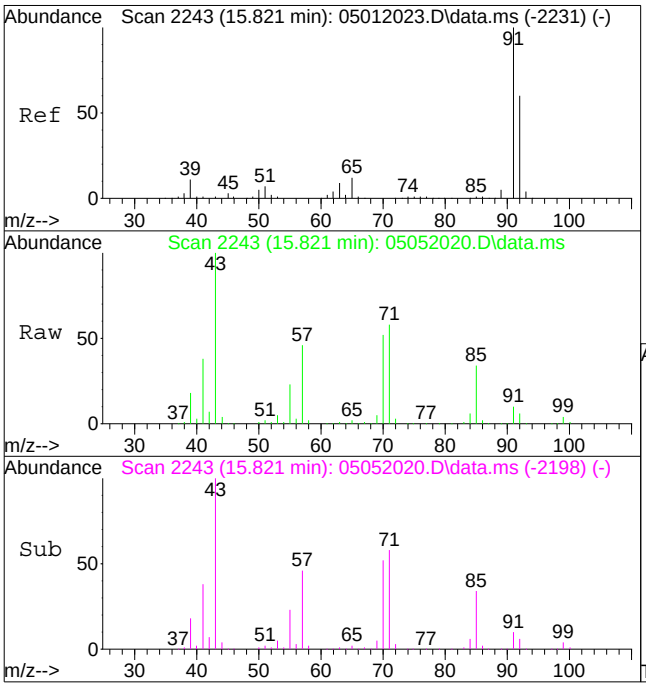


#43
Cyclohexane
Concen: 1.40 ng
RT: 13.17 min Scan# 1761
Delta R.T. -0.006 min
Lab File: 05052020.D
Acq: 5 May 2020 15:37

Tgt Ion: 84 Resp: 66942

Ion	Ratio	Lower	Upper
84	100		
69	36.4	16.5	56.5
56	116.7	97.4	137.4

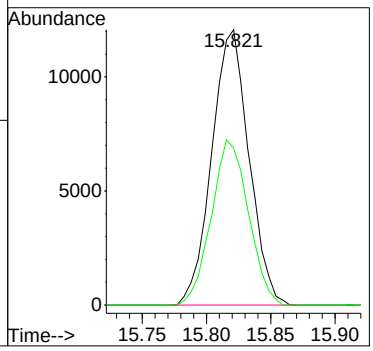


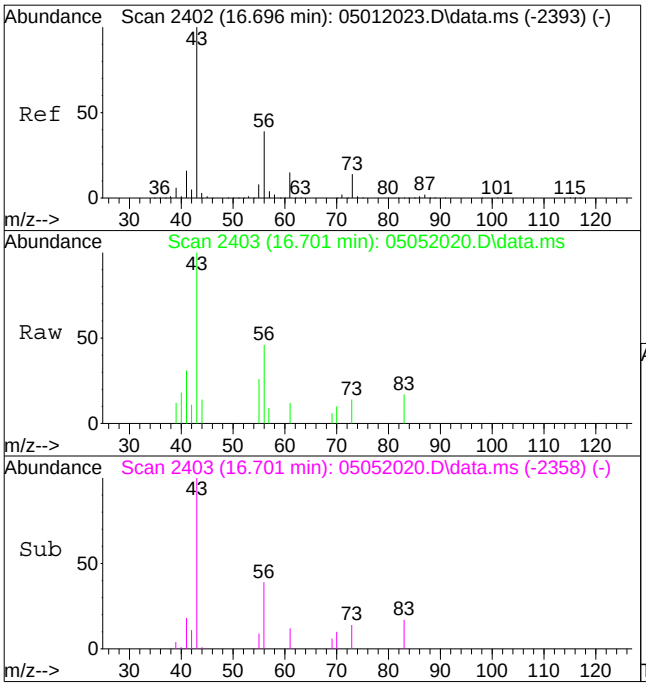


#58
Toluene
Concen: 0.20 ng
RT: 15.82 min Scan# 2243
Delta R.T. -0.000 min
Lab File: 05052020.D
Acq: 5 May 2020 15:37

Tgt Ion: 91 Resp: 24269

Ion	Ratio	Lower	Upper
91	100		
92	59.8	39.4	79.4

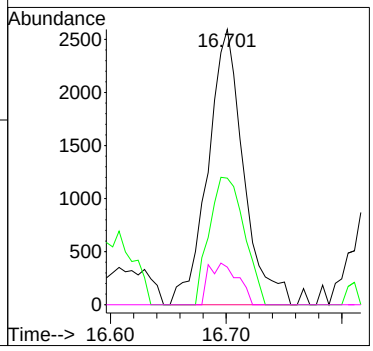


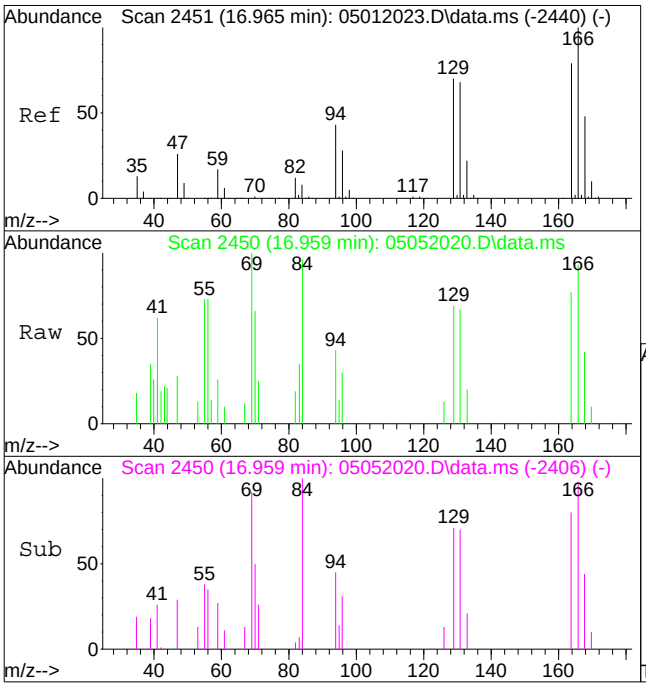


#62
n-Butyl Acetate
Concen: 0.08 ng
RT: 16.70 min Scan# 2403
Delta R.T. -0.000 min
Lab File: 05052020.D
Acq: 5 May 2020 15:37

Tgt Ion: 43 Resp: 5559

Ion	Ratio	Lower	Upper
43	100		
56	45.4	19.2	59.2
73	12.4	0.0	34.4

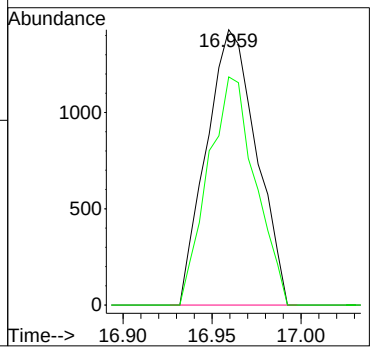


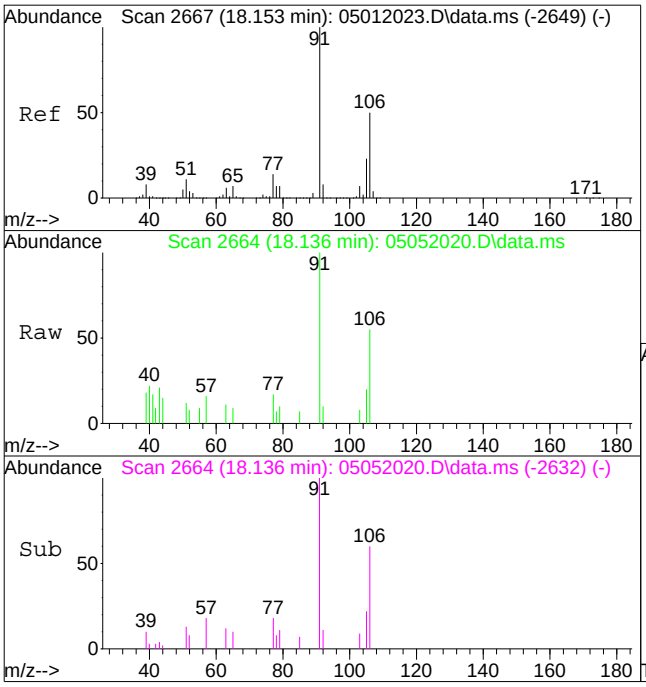


#64
Tetrachloroethene
Concen: 0.08 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05052020.D
Acq: 5 May 2020 15:37

Tgt Ion:166 Resp: 2800

Ion	Ratio	Lower	Upper
166	100		
164	78.1	58.4	98.4

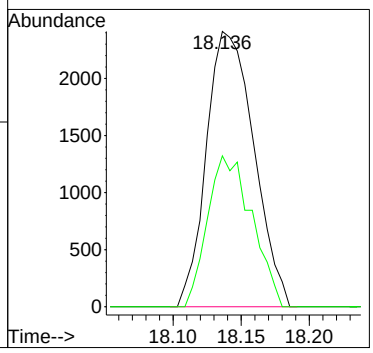




#67
m- & p-Xylenes
Concen: 0.05 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05052020.D
Acq: 5 May 2020 15:37

Tgt Ion: 91 Resp: 5854

Ion	Ratio	Lower	Upper
91	100		
106	51.0	29.7	69.7



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082009.D Vial: 4
Acq On : 8 May 2020 5:31 Operator: LH
Sample : P2002107-018 (50mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 08 15:00:18 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/8/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	288167	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1264432	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	596470	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	472794	12.106	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.88%				
57) Toluene-d8 (SS2)	15.72	98	1296663	12.825	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.64%				
73) Bromofluorobenzene (SS3)	18.97	174	470188	12.925	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.36%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	4.27	85	23022	0.353	ng		99
4) Chloromethane	4.55	50	4339	0.085	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	169	N.D.			
6) Vinyl Chloride	4.96	62	407	N.D.			
7) 1,3-Butadiene	5.17	54	122	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.44	45	215	N.D.			
11) Acetonitrile	6.59	41	2317	N.D.			
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	6.98	58	137447m	5.333	ng		
14) Trichlorofluoromethane	7.25	101	2318	N.D.			
15) 2-Propanol (Isopropanol)	7.50	45	16374	0.210	ng		73
16) Acrylonitrile	7.75	53	269	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.42	59	3485	N.D.			
19) Methylene Chloride	8.41	84	188	N.D.			
20) 3-Chloro-1-propene (Al...	8.51	41	702	N.D.			
21) Trichlorotrifluoroethane	8.85	151	170	N.D.			
22) Carbon Disulfide	8.69	76	23829	0.198	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.	d		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	d		
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.44	72	184262	8.383	ng		100
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	11.29	61	1001	0.079	ng		97
31) n-Hexane	11.27	57	5843	0.106	ng	#	96
32) Chloroform	11.31	83	762	N.D.			
34) Tetrahydrofuran (THF)	11.72	72	38383	1.790	ng		98
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	486	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	352639	2.601	ng		100
42) Carbon Tetrachloride	13.03	117	263	N.D.			
43) Cyclohexane	13.17	84	85500	1.692	ng		99
44) tert-Amyl Methyl Ether	13.45	73	751	N.D.			
45) 1,2-Dichloropropane	13.57	63	923	N.D.			
46) Bromodichloromethane	13.95	83	910	N.D.			
47) Trichloroethene	13.96	130	717	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082009.D Vial: 4
Acq On : 8 May 2020 5:31 Operator: LH
Sample : P2002107-018 (50mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 08 15:00:18 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

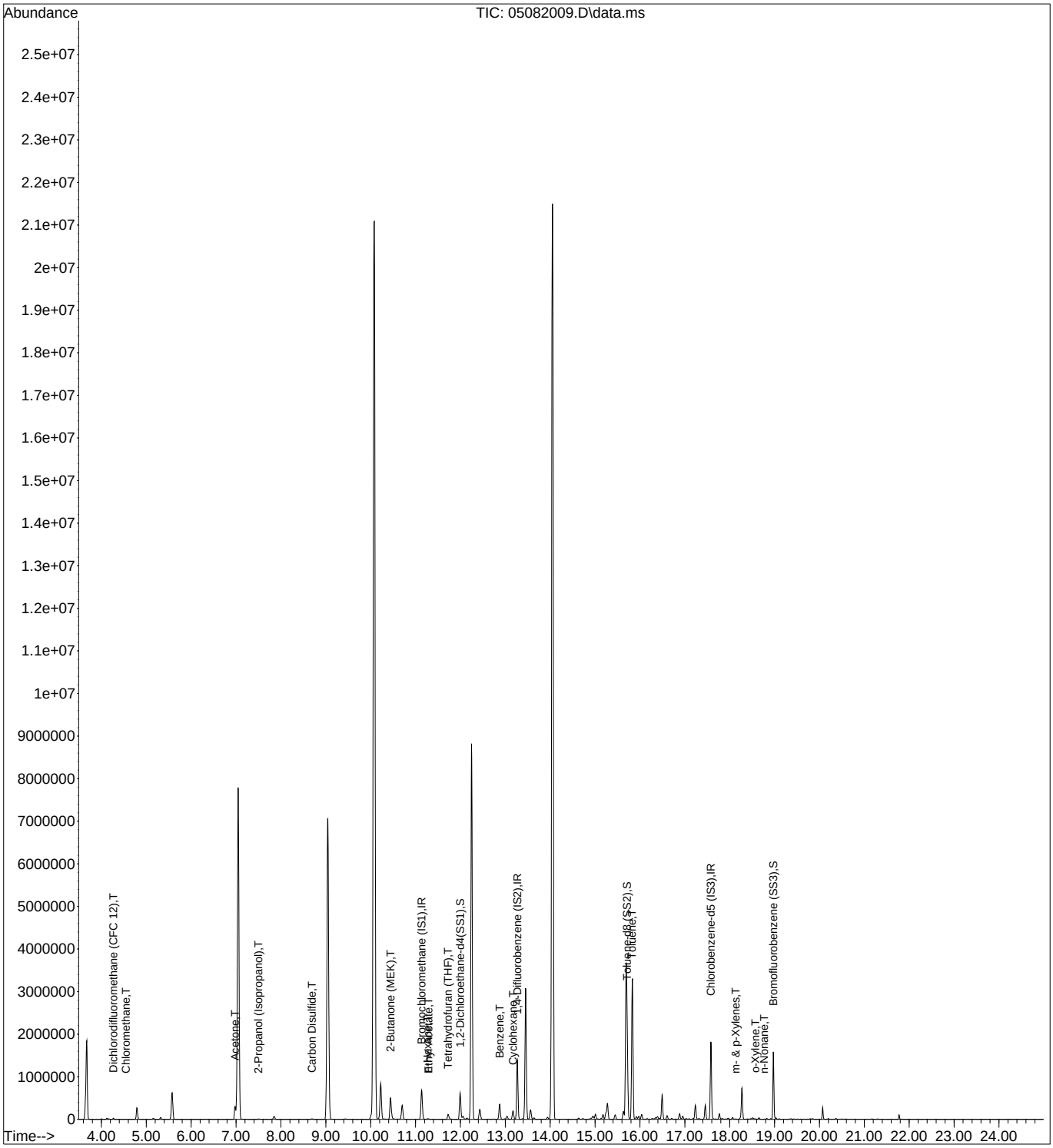
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.31	71	858	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D. d		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d		
58) Toluene	15.82	91	63498	0.487 ng		100
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.70	43	1616	N.D.		
63) n-Octane	16.83	57	1006	N.D.		
64) Tetrachloroethene	16.97	166	1523	N.D.		
65) Chlorobenzene	17.62	112	908	N.D.		
66) Ethylbenzene	17.98	91	3777	N.D.		
67) m- & p-Xylenes	18.14	91	6756	0.059 ng		98
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	447	N.D.		
70) o-Xylene	18.57	91	6057	0.052 ng		98
71) n-Nonane	18.77	43	3715	0.060 ng	#	71
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d		
74) Cumene	19.10	105	3921	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	19.55	91	1123	N.D.		
77) 3-Ethyltoluene	19.64	105	1171	N.D.		
78) 4-Ethyltoluene	19.68	105	725	N.D.		
79) 1,3,5-Trimethylbenzene	19.75	105	1131	N.D.		
80) alpha-Methylstyrene	19.87	118	1640	N.D.		
81) 2-Ethyltoluene	19.91	105	732	N.D.		
82) 1,2,4-Trimethylbenzene	20.11	105	1311	N.D.		
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.22	91	454	N.D.		
85) 1,3-Dichlorobenzene	20.24	146	417	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	766	N.D.		
87) sec-Butylbenzene	20.35	105	369	N.D.		
88) 4-Isopropyltoluene (p-...	20.48	119	353	N.D.		
89) 1,2,3-Trimethylbenzene	20.48	105	515	N.D.		
90) 1,2-Dichlorobenzene	20.60	146	306	N.D.		
91) d-Limonene	20.61	68	405	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.30	57	2658	N.D.		
94) 1,2,4-Trichlorobenzene	22.11	180	578	N.D.		
95) Naphthalene	22.21	128	3062	N.D.		
96) n-Dodecane	22.21	57	1139	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	20.07	119	5563	N.D.		
100) n-Butylbenzene	20.85	91	598	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082009.D Vial: 4
Acq On : 8 May 2020 5:31 Operator: LH
Sample : P2002107-018 (50mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 08 15:00:18 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082009.D Vial: 4
Acq On : 8 May 2020 5:31 Operator: LH
Sample : P2002107-018 (50mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 08 15:00:18 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/8/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

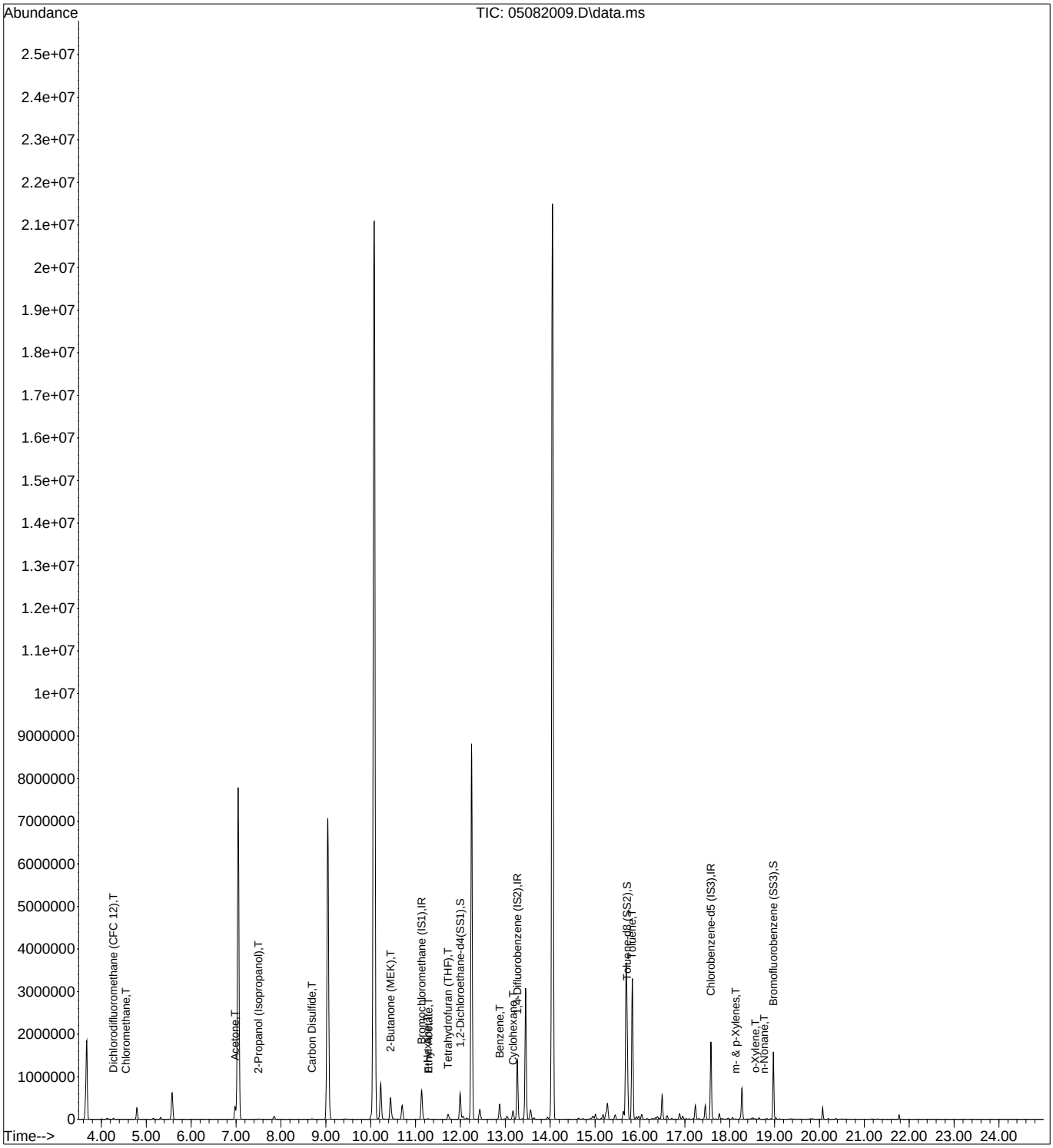
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	288167	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1264432	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	596470	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	472794	12.106	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.88%				
57) Toluene-d8 (SS2)	15.72	98	1296663	12.825	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.64%				
73) Bromofluorobenzene (SS3)	18.97	174	470188	12.925	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.36%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.27	85	23022	0.353	ng		99
4) Chloromethane	4.55	50	4339	0.085	ng		100
13) Acetone	6.98	58	137447m	5.333	ng		
15) 2-Propanol (Isopropanol)	7.50	45	16374	0.210	ng		73
22) Carbon Disulfide	8.69	76	23829	0.198	ng		99
27) 2-Butanone (MEK)	10.44	72	184262	8.383	ng		100
30) Ethyl Acetate	11.29	61	1001	0.079	ng		97
31) n-Hexane	11.27	57	5843	0.106	ng	#	96
34) Tetrahydrofuran (THF)	11.72	72	38383	1.790	ng		98
41) Benzene	12.87	78	352639	2.601	ng		100
43) Cyclohexane	13.17	84	85500	1.692	ng		99
58) Toluene	15.82	91	63498	0.487	ng		100
67) m- & p-Xylenes	18.14	91	6756	0.059	ng		98
70) o-Xylene	18.57	91	6057	0.052	ng		98
71) n-Nonane	18.77	43	3715	0.060	ng	#	71

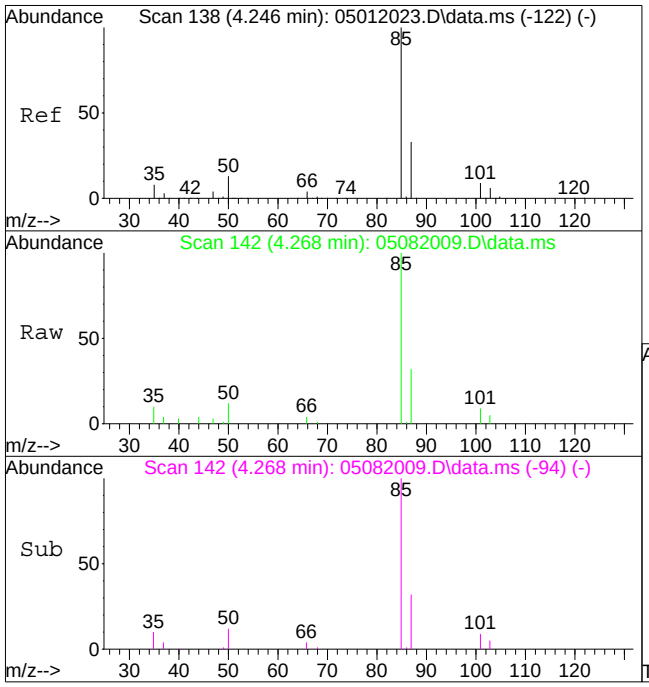
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082009.D Vial: 4
Acq On : 8 May 2020 5:31 Operator: LH
Sample : P2002107-018 (50mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 08 15:00:18 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

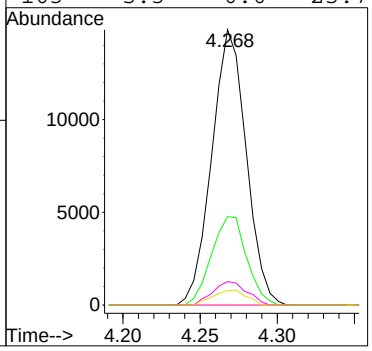


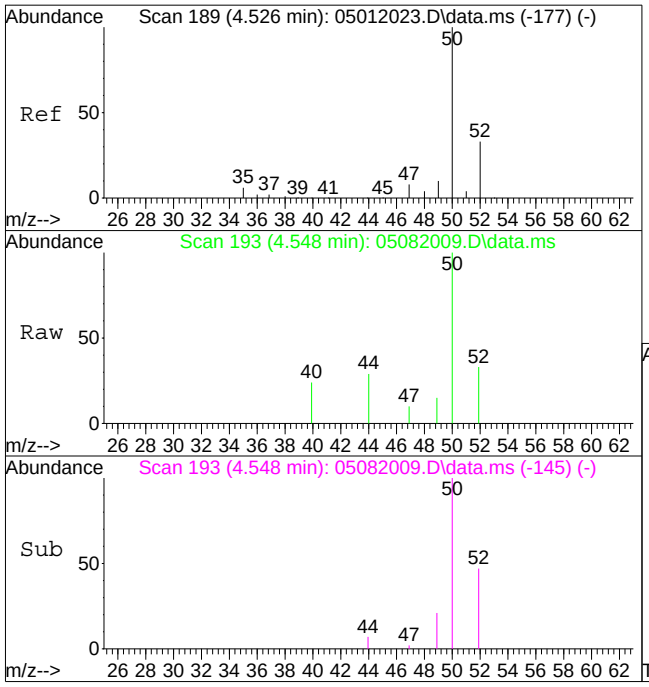


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.35 ng
RT: 4.27 min Scan# 142
Delta R.T. 0.017 min
Lab File: 05082009.D
Acq: 8 May 2020 5:31

Tgt Ion: 85 Resp: 23022

Ion	Ratio	Lower	Upper
85	100		
87	32.7	12.4	52.4
101	8.4	0.0	28.8
103	5.3	0.0	25.7

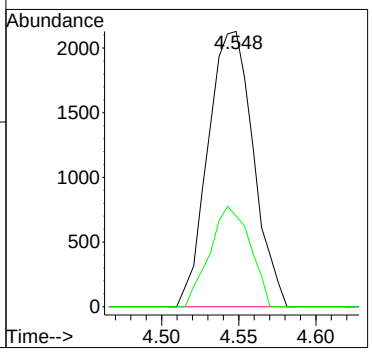


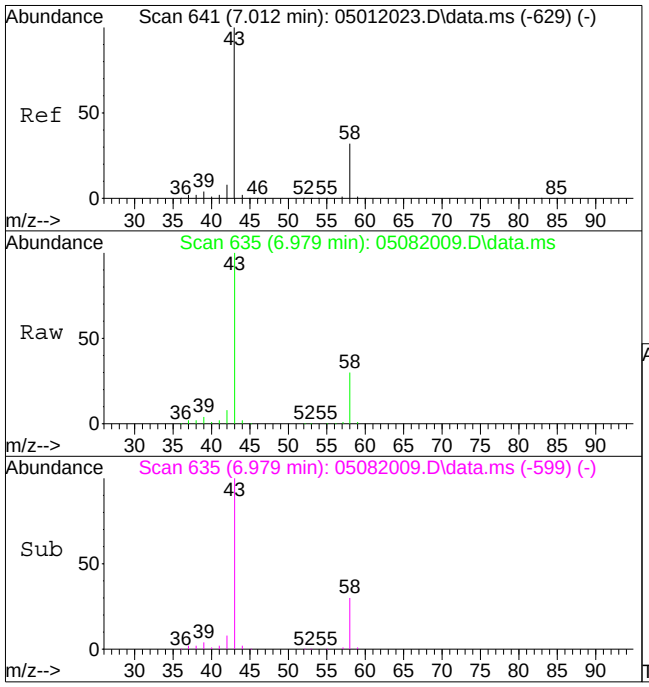


#4
Chloromethane
Concen: 0.08 ng
RT: 4.55 min Scan# 193
Delta R.T. 0.017 min
Lab File: 05082009.D
Acq: 8 May 2020 5:31

Tgt Ion: 50 Resp: 4339

Ion	Ratio	Lower	Upper
50	100		
52	32.5	12.5	52.5

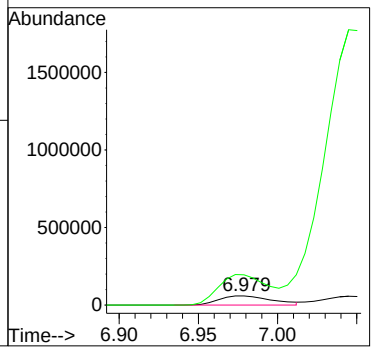


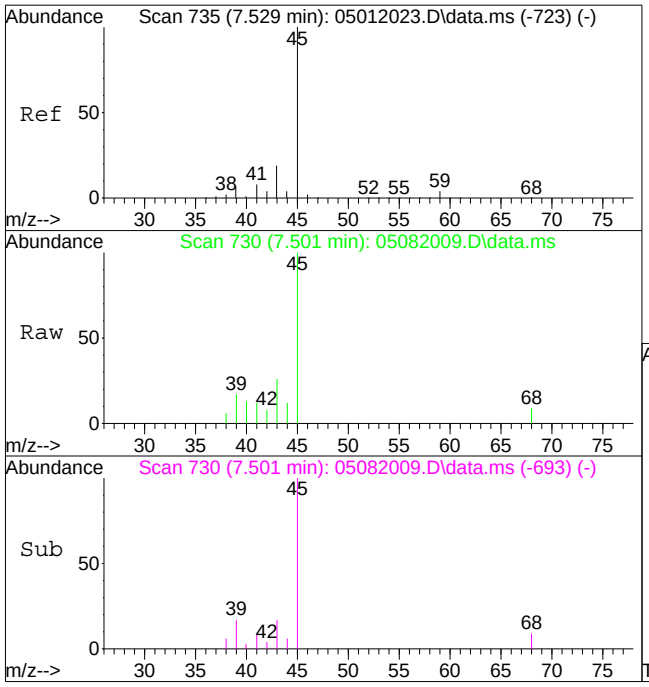


#13
Acetone
Concen: 5.33 ng m
RT: 6.98 min Scan# 635
Delta R.T. -0.049 min
Lab File: 05082009.D
Acq: 8 May 2020 5:31

Tgt Ion: 58 Resp: 137447

Ion	Ratio	Lower	Upper
58	100		
43	3209.6	294.4	354.4#

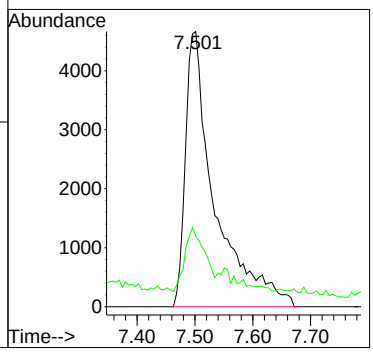


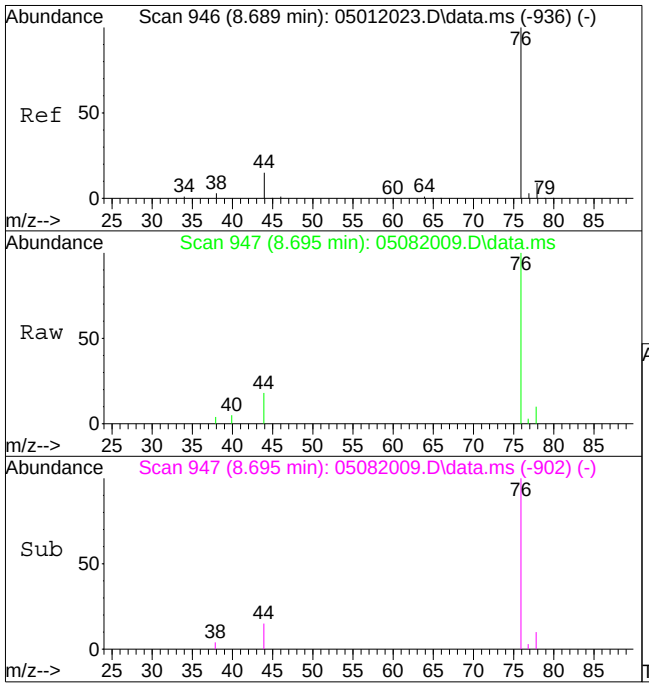


#15
2-Propanol (Isopropanol)
Concen: 0.21 ng
RT: 7.50 min Scan# 730
Delta R.T. -0.044 min
Lab File: 05082009.D
Acq: 8 May 2020 5:31

Tgt Ion: 45 Resp: 16374

Ion	Ratio	Lower	Upper
45	100		
43	31.8	0.0	39.5

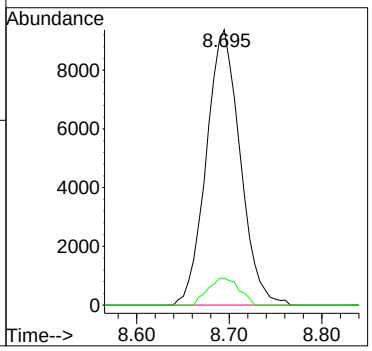


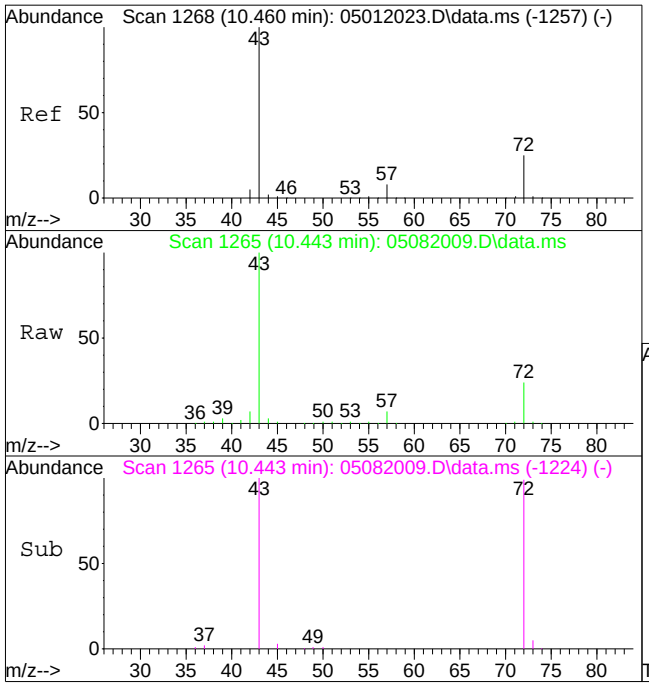


#22
Carbon Disulfide
Concen: 0.20 ng
RT: 8.69 min Scan# 947
Delta R.T. 0.000 min
Lab File: 05082009.D
Acq: 8 May 2020 5:31

Tgt Ion: 76 Resp: 23829

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	29.2

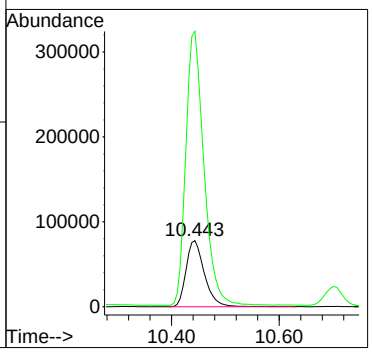


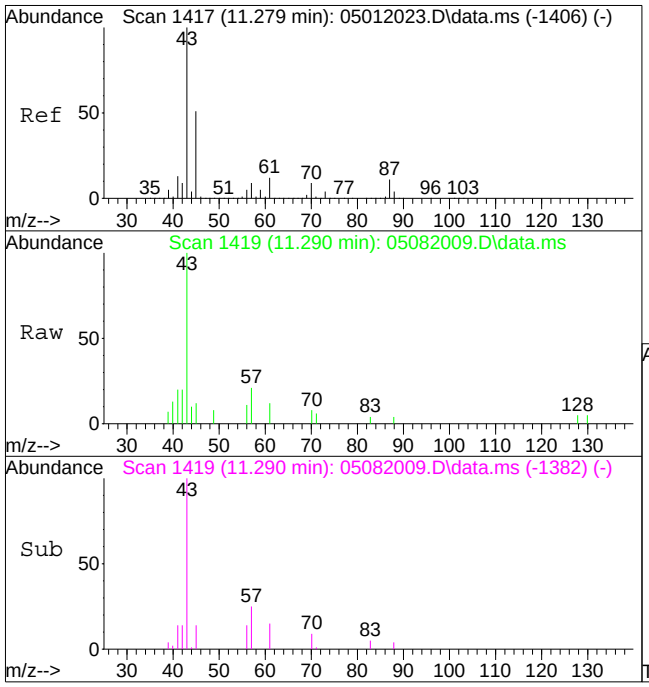


#27
2-Butanone (MEK)
Concen: 8.38 ng
RT: 10.44 min Scan# 1265
Delta R.T. -0.022 min
Lab File: 05082009.D
Acq: 8 May 2020 5:31

Tgt Ion: 72 Resp: 184262

Ion	Ratio	Lower	Upper
72	100		
43	409.4	389.7	429.7

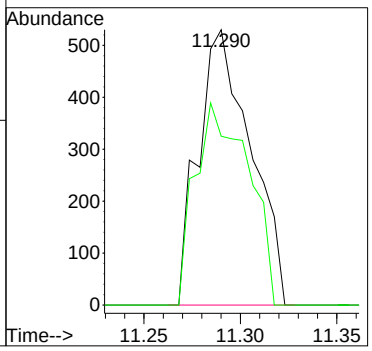


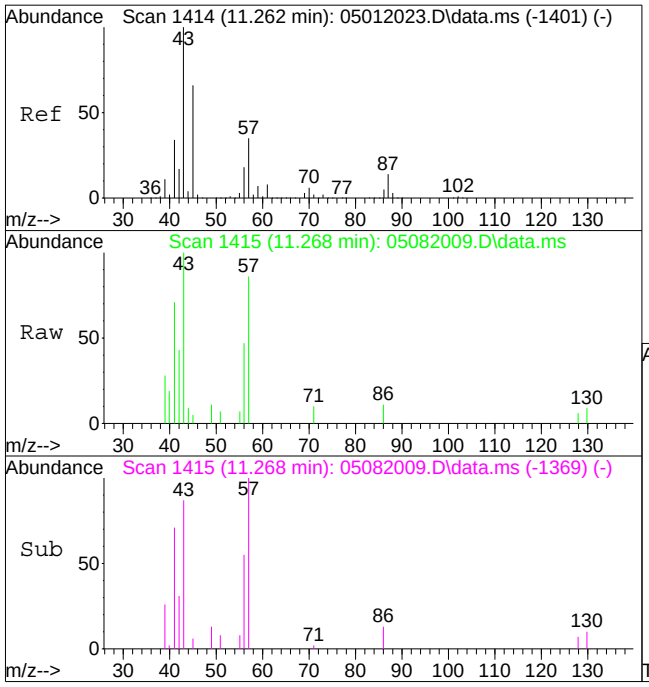


#30
Ethyl Acetate
Concen: 0.08 ng
RT: 11.29 min Scan# 1419
Delta R.T. 0.006 min
Lab File: 05082009.D
Acq: 8 May 2020 5:31

Tgt Ion: 61 Resp: 1001

Ion	Ratio	Lower	Upper
61	100		
70	75.0	57.9	97.9

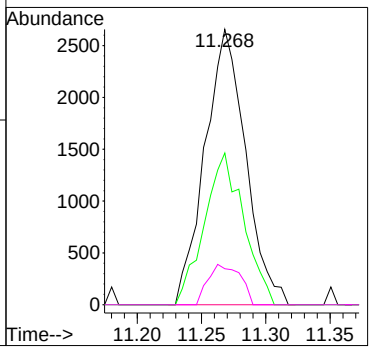


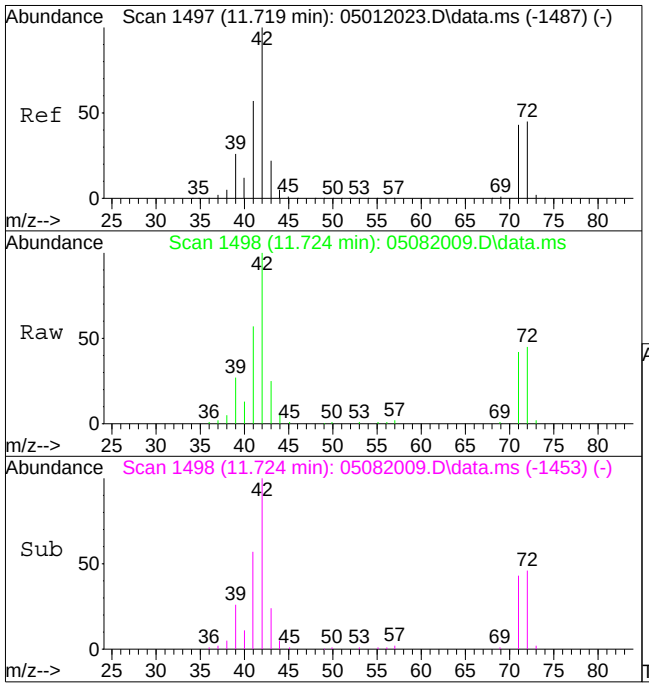


#31
n-Hexane
Concen: 0.11 ng
RT: 11.27 min Scan# 1415
Delta R.T. 0.006 min
Lab File: 05082009.D
Acq: 8 May 2020 5:31

Tgt Ion: 57 Resp: 5843

Ion	Ratio	Lower	Upper
57	100		
56	53.2	41.4	62.0
86	11.5	12.4	18.6#

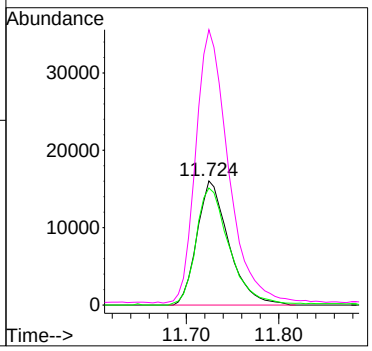


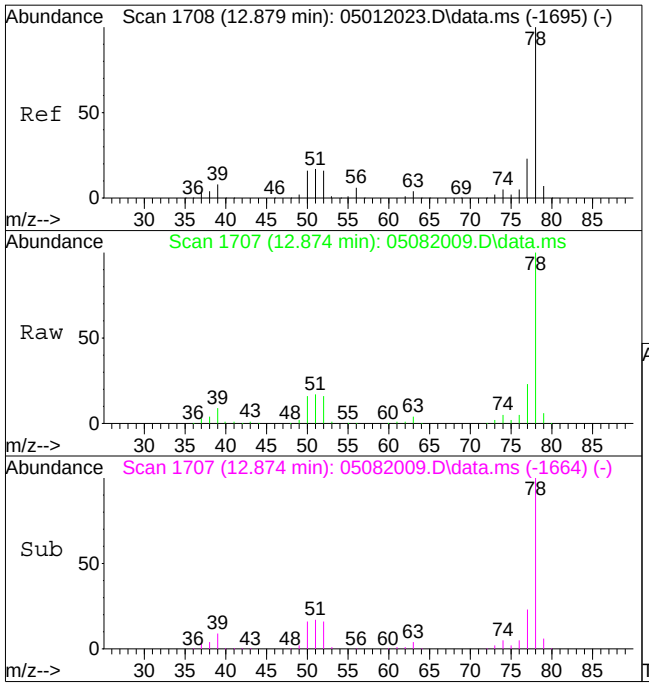


#34
Tetrahydrofuran (THF)
Concen: 1.79 ng
RT: 11.72 min Scan# 1498
Delta R.T. 0.000 min
Lab File: 05082009.D
Acq: 8 May 2020 5:31

Tgt Ion: 72 Resp: 38383

Ion	Ratio	Lower	Upper
72	100		
71	100.9	77.0	117.0
42	226.5	204.6	244.6

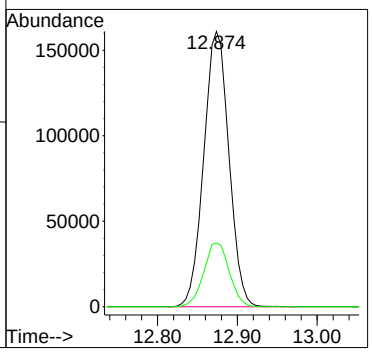


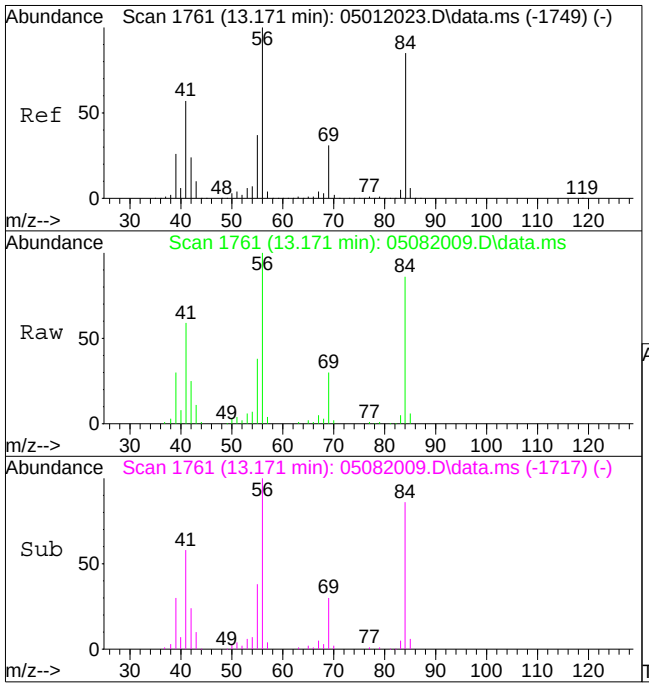


#41
Benzene
Concen: 2.60 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05082009.D
Acq: 8 May 2020 5:31

Tgt Ion: 78 Resp: 352639

Ion	Ratio	Lower	Upper
78	100		
77	23.5	3.4	43.4

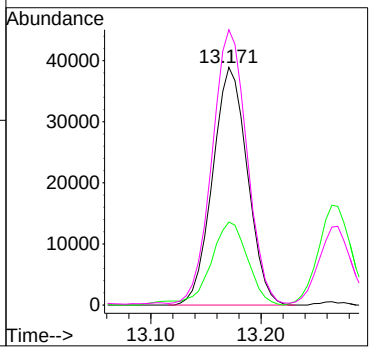


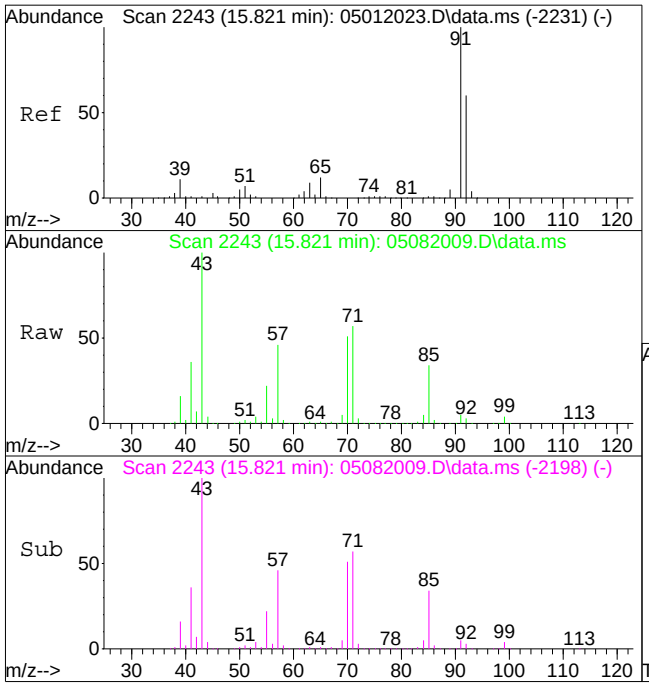


#43
Cyclohexane
Concen: 1.69 ng
RT: 13.17 min Scan# 1761
Delta R.T. -0.005 min
Lab File: 05082009.D
Acq: 8 May 2020 5:31

Tgt Ion: 84 Resp: 85500

Ion	Ratio	Lower	Upper
84	100		
69	37.4	16.5	56.5
56	116.8	97.4	137.4

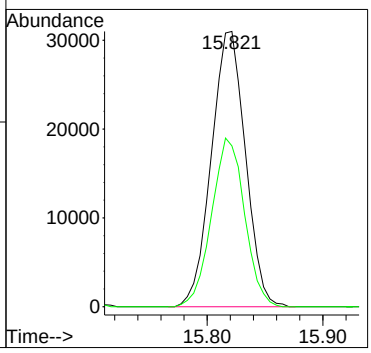


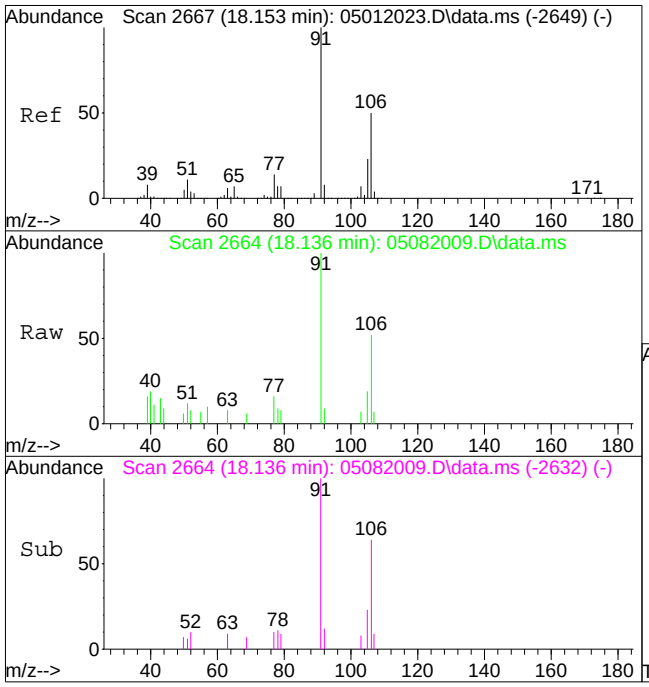


#58
Toluene
Concen: 0.49 ng
RT: 15.82 min Scan# 2243
Delta R.T. 0.000 min
Lab File: 05082009.D
Acq: 8 May 2020 5:31

Tgt Ion: 91 Resp: 63498

Ion	Ratio	Lower	Upper
91	100		
92	59.3	39.4	79.4

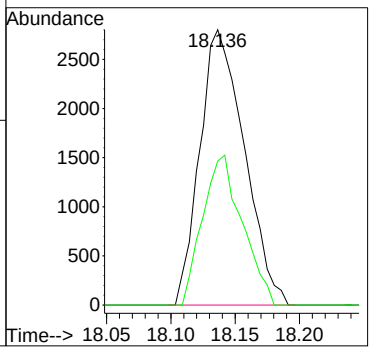


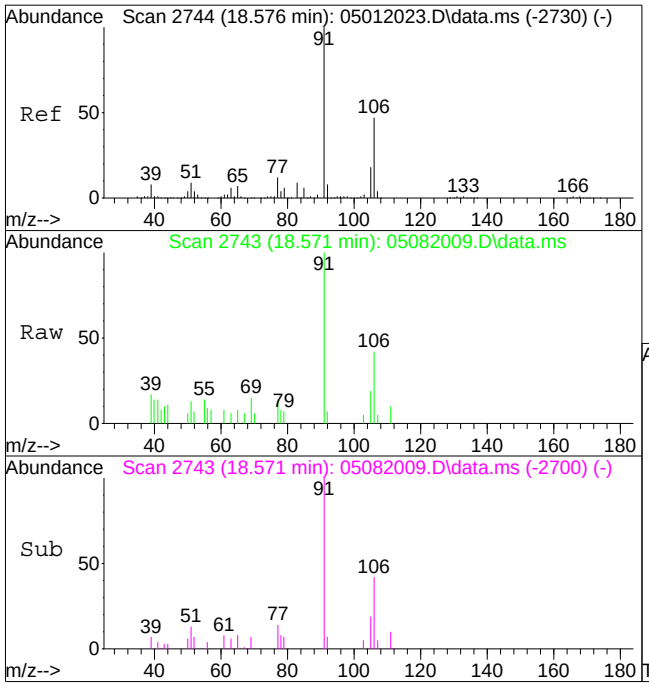


#67
m- & p-Xylenes
Concen: 0.06 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05082009.D
Acq: 8 May 2020 5:31

Tgt Ion: 91 Resp: 6756

Ion	Ratio	Lower	Upper
91	100		
106	48.4	29.7	69.7

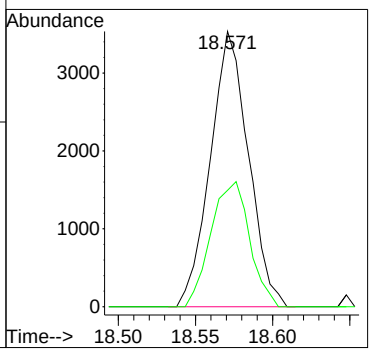


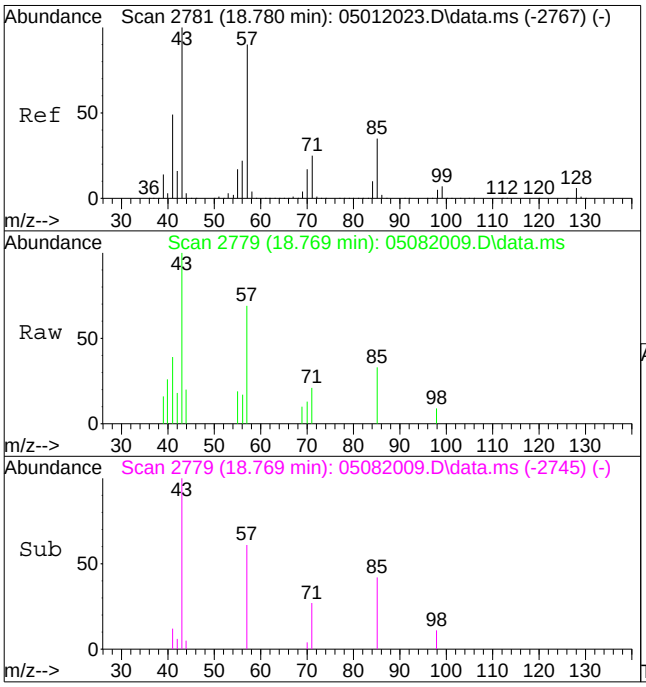


#70
o-Xylene
Concen: 0.05 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05082009.D
Acq: 8 May 2020 5:31

Tgt Ion: 91 Resp: 6057

Ion	Ratio	Lower	Upper
91	100		
106	46.1	27.5	67.5

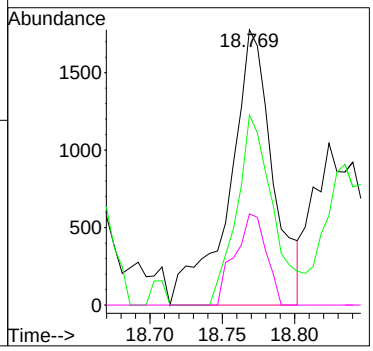




#71
n-Nonane
Concen: 0.06 ng
RT: 18.77 min Scan# 2779
Delta R.T. -0.011 min
Lab File: 05082009.D
Acq: 8 May 2020 5:31

Tgt Ion: 43 Resp: 3715

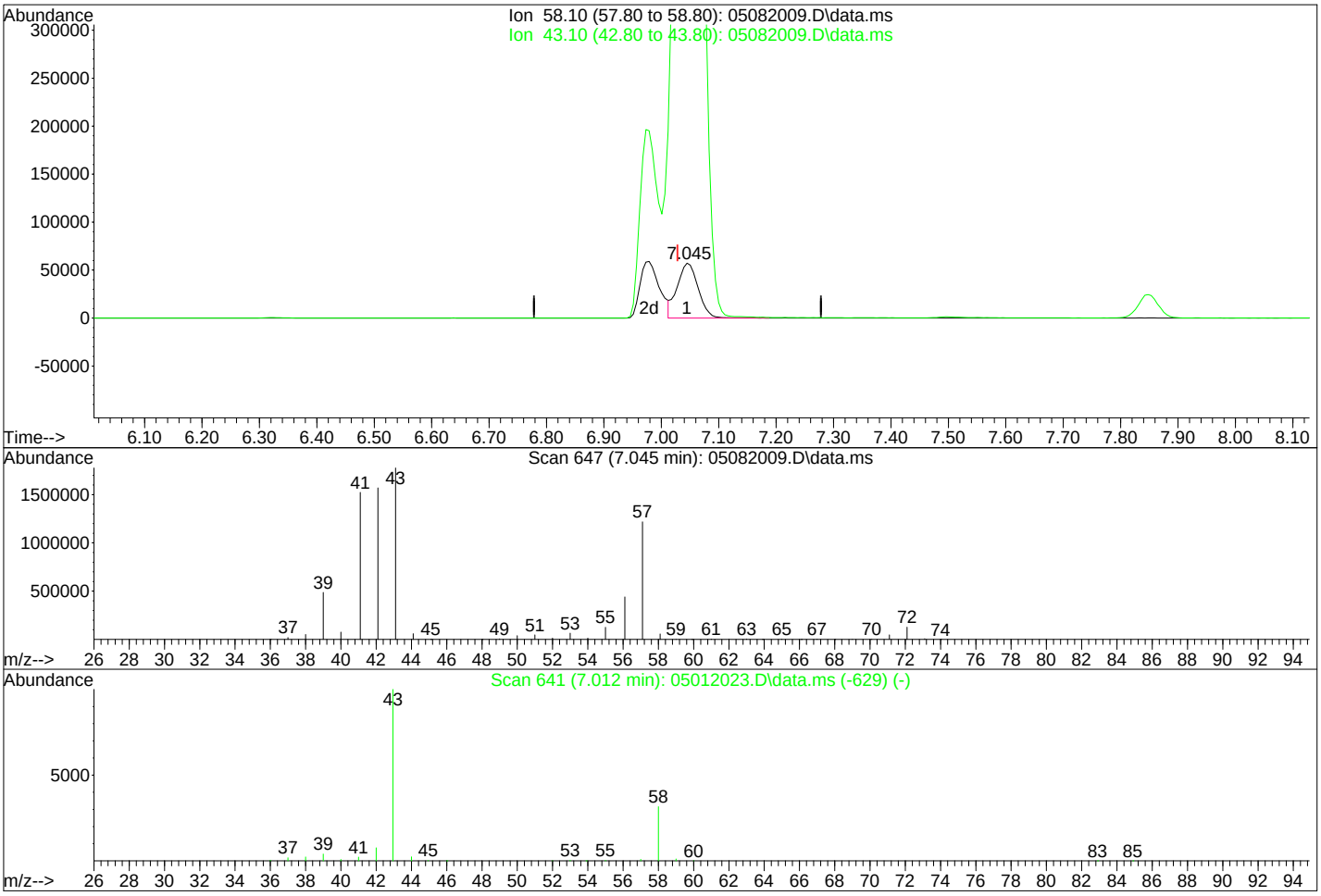
Ion	Ratio	Lower	Upper
43	100		
57	58.7	69.0	109.0#
85	23.8	14.6	54.6



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\08\05082009.D Vial: 4
Acq On : 8 May 2020 5:31 Operator: LH
Sample : P2002107-018 (50mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 08 14:52:49 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05082009.D\data.ms

(13) Acetone (T)

7.045min (+0.017) 5.61ng

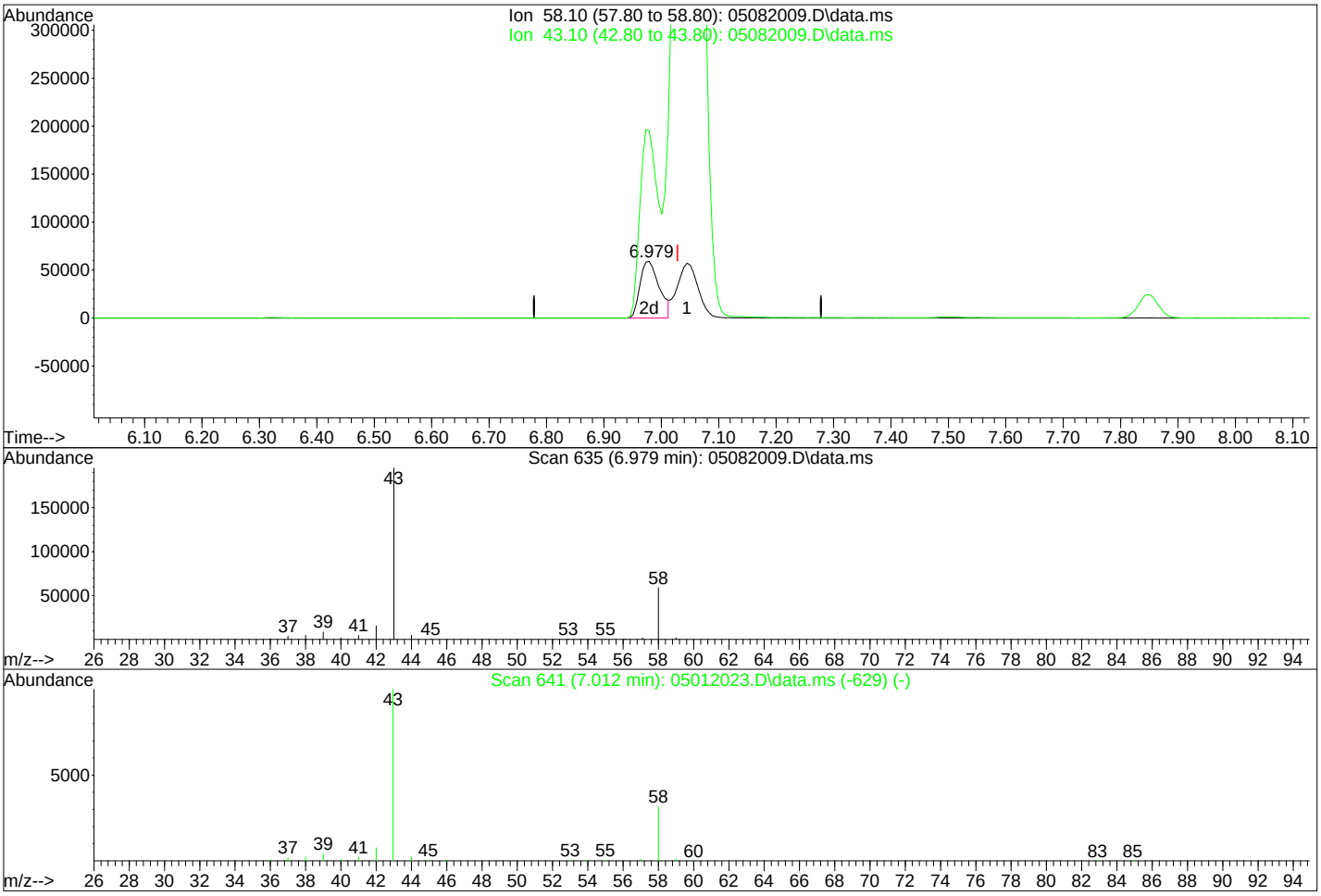
response 144524

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	3052.46#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\08\05082009.D Vial: 4
Acq On : 8 May 2020 5:31 Operator: LH
Sample : P2002107-018 (50mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 08 14:52:49 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05082009.D\data.ms

(13) Acetone (T)

6.979min (-0.049) 5.33ng m

response 137447

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	3209.63#
0.00	0.00	0.00
0.00	0.00	0.00

WP

LH 5/8/20

VOA 5/12/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082010.D Vial: 5
Acq On : 8 May 2020 6:06 Operator: LH
Sample : P2002107-019 (50mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 08 15:09:01 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/8/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	289199	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1258959	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	598387	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	472180	12.048	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.40%				
57) Toluene-d8 (SS2)	15.72	98	1312088	12.936	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.52%				
73) Bromofluorobenzene (SS3)	18.97	174	470993	12.906	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.28%				
Target Compounds							Qvalue
2) Propene	4.12	42	2417	0.072	ng		89
3) Dichlorodifluoromethan...	4.26	85	28726	0.438	ng		99
4) Chloromethane	4.54	50	5467	0.107	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	366	N.D.			
6) Vinyl Chloride	4.96	62	596	N.D.			
7) 1,3-Butadiene	5.15	54	429	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.98	64	269	N.D.			
10) Ethanol	6.43	45	52	N.D.			
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	6.97	58	135598m	5.242	ng		
14) Trichlorofluoromethane	7.25	101	3058	0.053	ng		99
15) 2-Propanol (Isopropanol)	7.51	45	4798	0.061	ng	#	1
16) Acrylonitrile	7.74	53	327	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.30	84	243	N.D.			
20) 3-Chloro-1-propene (Al...	8.59	41	189	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.69	76	27666	0.230	ng		100
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.	d		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	d		
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.44	72	161811	7.336	ng		98
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	11.27	57	7733	0.140	ng		95
32) Chloroform	11.32	83	342	N.D.			
34) Tetrahydrofuran (THF)	11.73	72	33271	1.546	ng		98
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	764	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	451835	3.347	ng		100
42) Carbon Tetrachloride	13.03	117	366	N.D.			
43) Cyclohexane	13.17	84	108483	2.156	ng		99
44) tert-Amyl Methyl Ether	13.45	73	957	N.D.			
45) 1,2-Dichloropropane	13.57	63	1249	N.D.			
46) Bromodichloromethane	13.95	83	1235	N.D.			
47) Trichloroethene	13.98	130	911	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082010.D Vial: 5
Acq On : 8 May 2020 6:06 Operator: LH
Sample : P2002107-019 (50mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 08 15:09:01 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

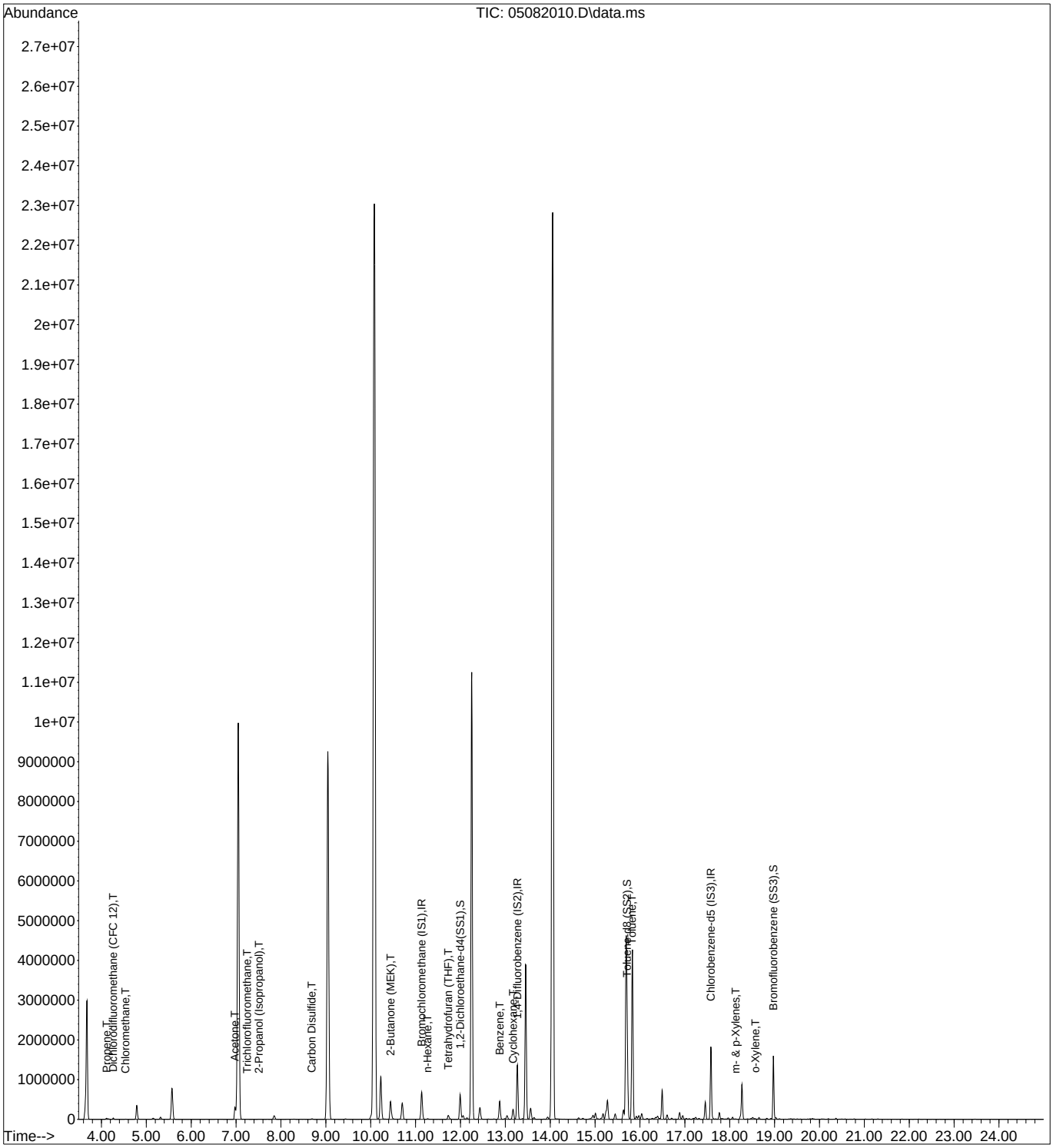
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	814	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D. d	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	15.82	91	77937	0.596 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.71	43	2264	N.D.	
63) n-Octane	16.83	57	231	N.D.	
64) Tetrachloroethene	16.96	166	1367	N.D.	
65) Chlorobenzene	17.62	112	1447	N.D.	
66) Ethylbenzene	17.98	91	4668	N.D.	
67) m- & p-Xylenes	18.14	91	7359	0.064 ng	96
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.48	104	739	N.D.	
70) o-Xylene	18.57	91	7314	0.062 ng	98
71) n-Nonane	18.77	43	1775	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	19.10	105	4756	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	19.55	91	1111	N.D.	
77) 3-Ethyltoluene	19.64	105	980	N.D.	
78) 4-Ethyltoluene	19.68	105	761	N.D.	
79) 1,3,5-Trimethylbenzene	19.75	105	1217	N.D.	
80) alpha-Methylstyrene	19.88	118	3053	N.D.	
81) 2-Ethyltoluene	19.91	105	706	N.D.	
82) 1,2,4-Trimethylbenzene	20.10	105	1056	N.D.	
83) n-Decane	20.20	57	3096	N.D.	
84) Benzyl Chloride	20.22	91	288	N.D.	
85) 1,3-Dichlorobenzene	20.24	146	460	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	554	N.D.	
87) sec-Butylbenzene	20.35	105	210	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	229	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	584	N.D.	
90) 1,2-Dichlorobenzene	20.60	146	327	N.D.	
91) d-Limonene	20.61	68	170	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.30	57	2057	N.D.	
94) 1,2,4-Trichlorobenzene	22.11	180	422	N.D.	
95) Naphthalene	22.22	128	2686	N.D.	
96) n-Dodecane	22.21	57	1453	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.11	119	181	N.D.	
100) n-Butylbenzene	20.85	91	648	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082010.D Vial: 5
Acq On : 8 May 2020 6:06 Operator: LH
Sample : P2002107-019 (50mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 08 15:09:01 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082010.D Vial: 5
Acq On : 8 May 2020 6:06 Operator: LH
Sample : P2002107-019 (50mL) Inst : GCMS-16
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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/8/20

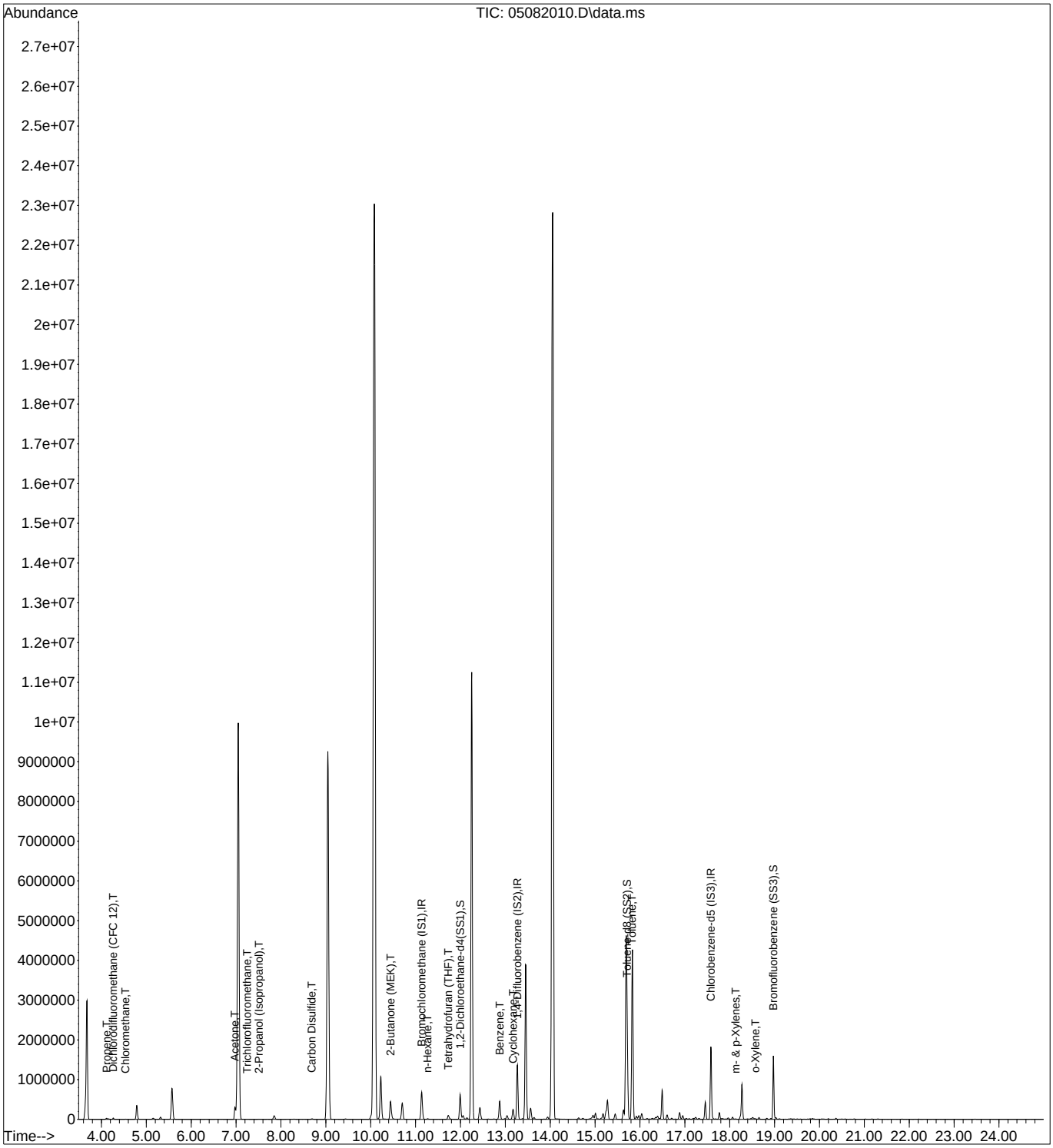
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	289199	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1258959	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	598387	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	472180	12.048	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.40%				
57) Toluene-d8 (SS2)	15.72	98	1312088	12.936	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.52%				
73) Bromofluorobenzene (SS3)	18.97	174	470993	12.906	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.28%				
Target Compounds							Qvalue
2) Propene	4.12	42	2417	0.072	ng		89
3) Dichlorodifluoromethan...	4.26	85	28726	0.438	ng		99
4) Chloromethane	4.54	50	5467	0.107	ng		99
13) Acetone	6.97	58	135598m	5.242	ng		
14) Trichlorofluoromethane	7.25	101	3058	0.053	ng		99
15) 2-Propanol (Isopropanol)	7.51	45	4798	0.061	ng	#	1
22) Carbon Disulfide	8.69	76	27666	0.230	ng		100
27) 2-Butanone (MEK)	10.44	72	161811	7.336	ng		98
31) n-Hexane	11.27	57	7733	0.140	ng		95
34) Tetrahydrofuran (THF)	11.73	72	33271	1.546	ng		98
41) Benzene	12.87	78	451835	3.347	ng		100
43) Cyclohexane	13.17	84	108483	2.156	ng		99
58) Toluene	15.82	91	77937	0.596	ng		100
67) m- & p-Xylenes	18.14	91	7359	0.064	ng		96
70) o-Xylene	18.57	91	7314	0.062	ng		98

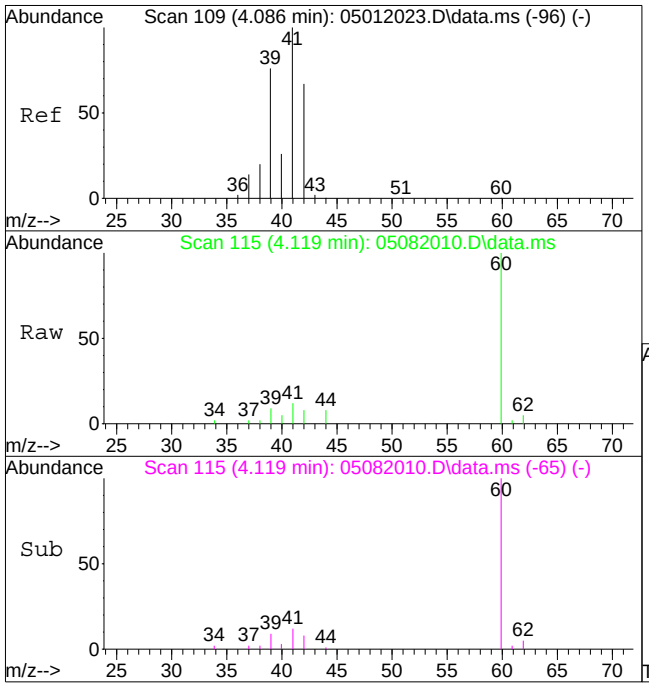
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082010.D Vial: 5
Acq On : 8 May 2020 6:06 Operator: LH
Sample : P2002107-019 (50mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 08 15:09:01 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

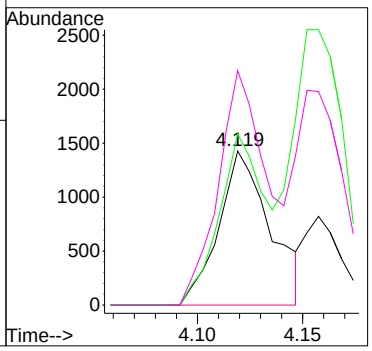


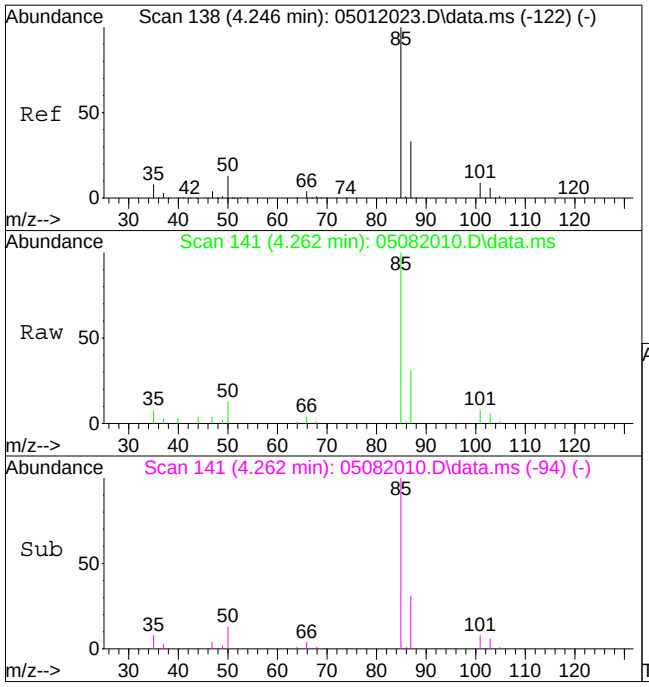


#2
Propene
Concen: 0.07 ng
RT: 4.12 min Scan# 115
Delta R.T. 0.027 min
Lab File: 05082010.D
Acq: 8 May 2020 6:06

Tgt Ion: 42 Resp: 2417

Ion	Ratio	Lower	Upper
42	100		
39	97.8	96.1	136.1
41	143.9	131.9	171.9

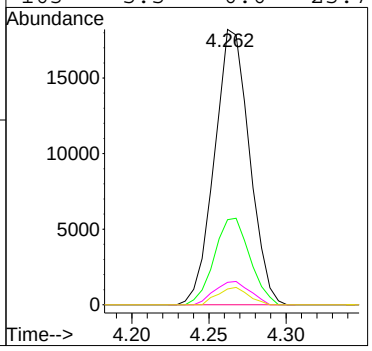


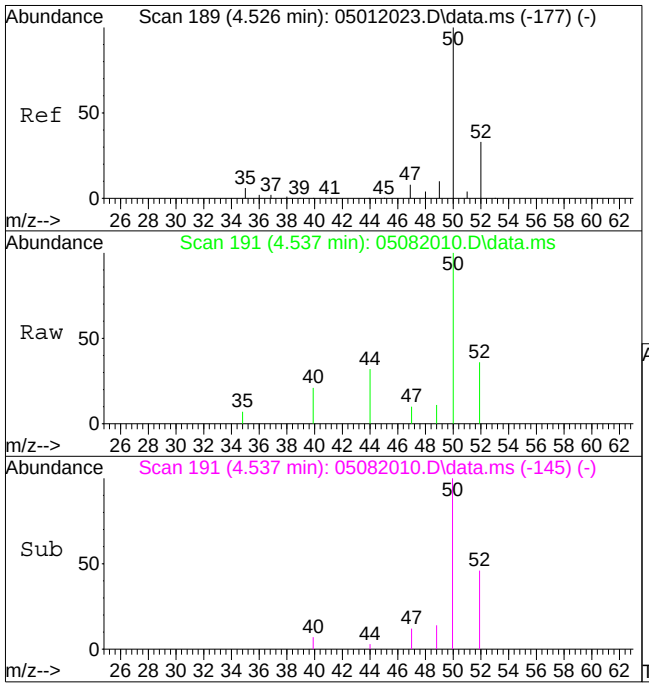


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.44 ng
RT: 4.26 min Scan# 141
Delta R.T. 0.011 min
Lab File: 05082010.D
Acq: 8 May 2020 6:06

Tgt Ion: 85 Resp: 28726

Ion	Ratio	Lower	Upper
85	100		
87	32.0	12.4	52.4
101	8.5	0.0	28.8
103	5.5	0.0	25.7

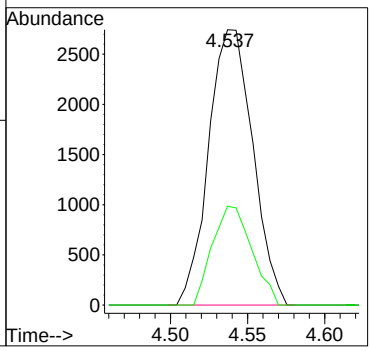


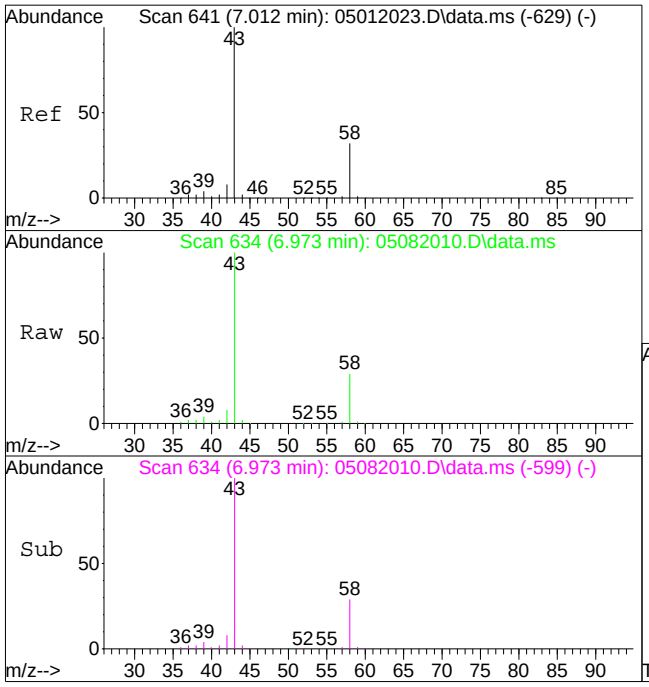


#4
Chloromethane
Concen: 0.11 ng
RT: 4.54 min Scan# 191
Delta R.T. 0.005 min
Lab File: 05082010.D
Acq: 8 May 2020 6:06

Tgt Ion: 50 Resp: 5467

Ion	Ratio	Lower	Upper
50	100		
52	32.0	12.5	52.5

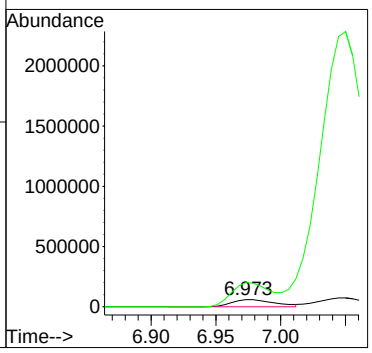


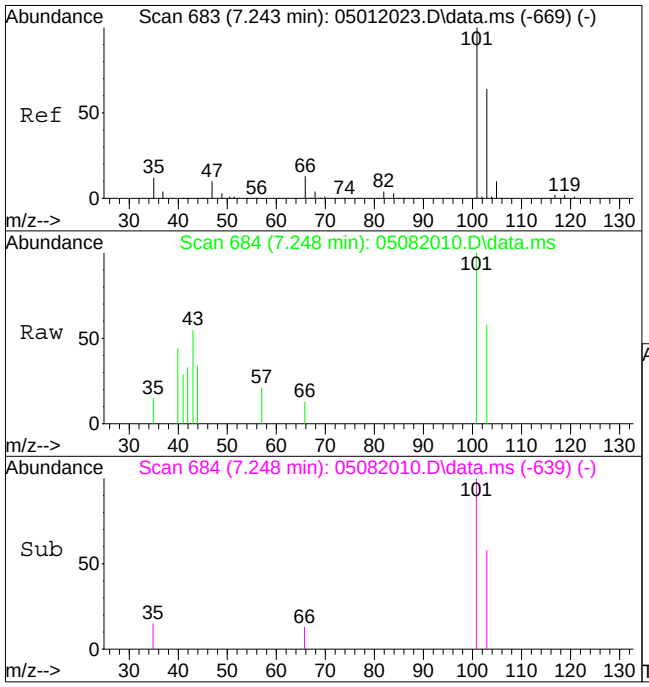


#13
Acetone
Concen: 5.24 ng m
RT: 6.97 min Scan# 634
Delta R.T. -0.055 min
Lab File: 05082010.D
Acq: 8 May 2020 6:06

Tgt Ion: 58 Resp: 135598

Ion	Ratio	Lower	Upper
58	100		
43	4243.9	294.4	354.4#

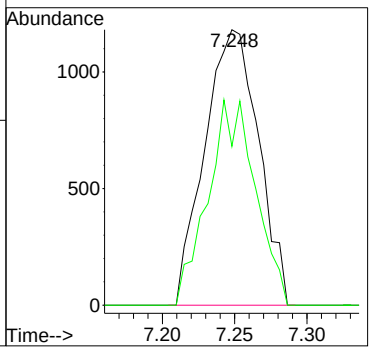


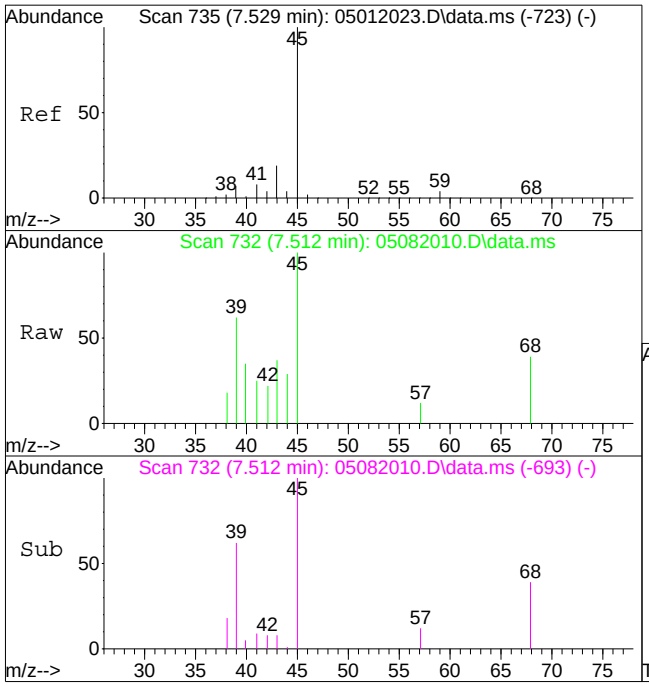


#14
Trichlorofluoromethane
Concen: 0.05 ng
RT: 7.25 min Scan# 684
Delta R.T. -0.000 min
Lab File: 05082010.D
Acq: 8 May 2020 6:06

Tgt Ion:101 Resp: 3058

Ion	Ratio	Lower	Upper
101	100		
103	65.5	44.4	84.4

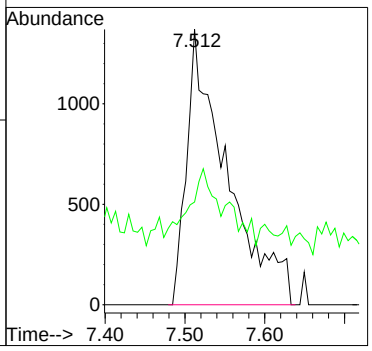


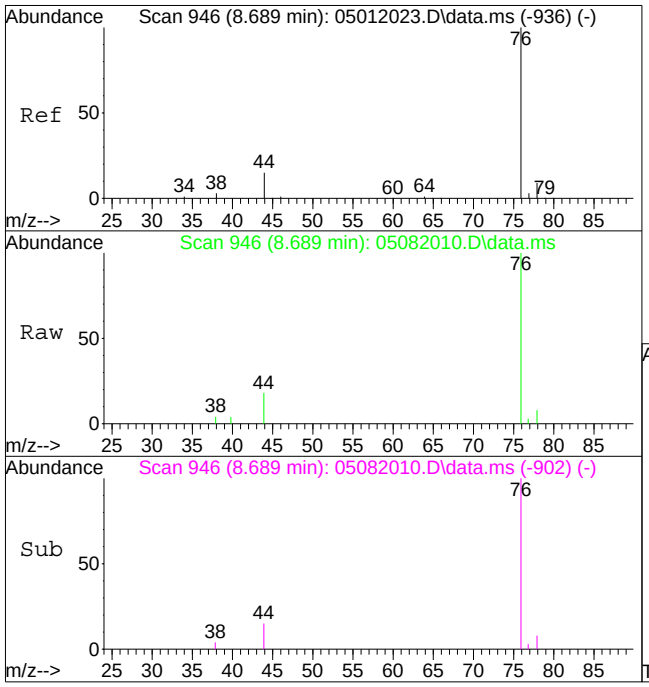


#15
2-Propanol (Isopropanol)
Concen: 0.06 ng
RT: 7.51 min Scan# 732
Delta R.T. -0.033 min
Lab File: 05082010.D
Acq: 8 May 2020 6:06

Tgt Ion: 45 Resp: 4798

Ion	Ratio	Lower	Upper
45	100		
43	74.9	0.0	39.5#

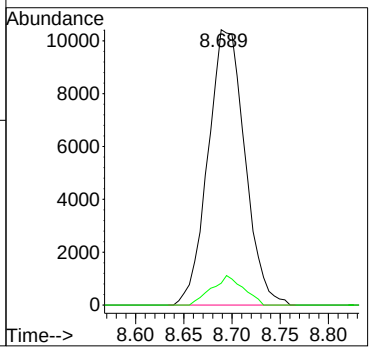


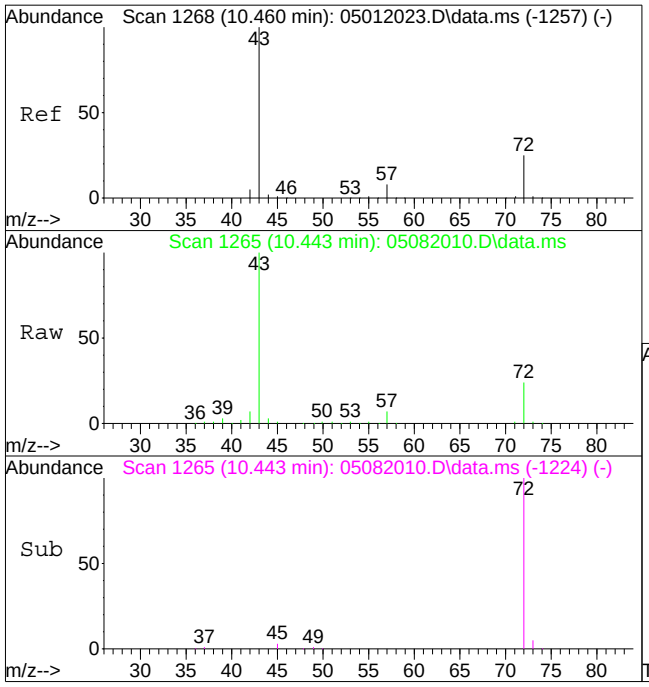


#22
Carbon Disulfide
Concen: 0.23 ng
RT: 8.69 min Scan# 946
Delta R.T. -0.006 min
Lab File: 05082010.D
Acq: 8 May 2020 6:06

Tgt Ion: 76 Resp: 27666

Ion	Ratio	Lower	Upper
76	100		
78	9.2	0.0	29.2

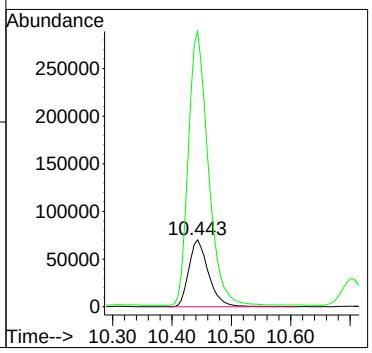


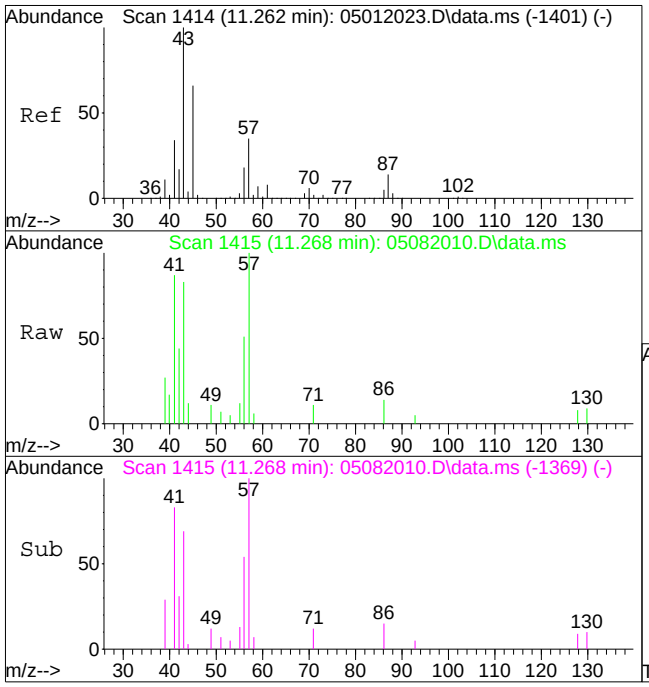


#27
2-Butanone (MEK)
Concen: 7.34 ng
RT: 10.44 min Scan# 1265
Delta R.T. -0.022 min
Lab File: 05082010.D
Acq: 8 May 2020 6:06

Tgt Ion: 72 Resp: 161811

Ion	Ratio	Lower	Upper
72	100		
43	414.6	389.7	429.7

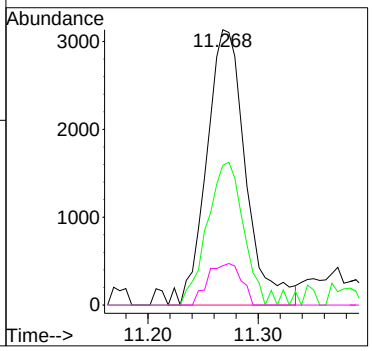


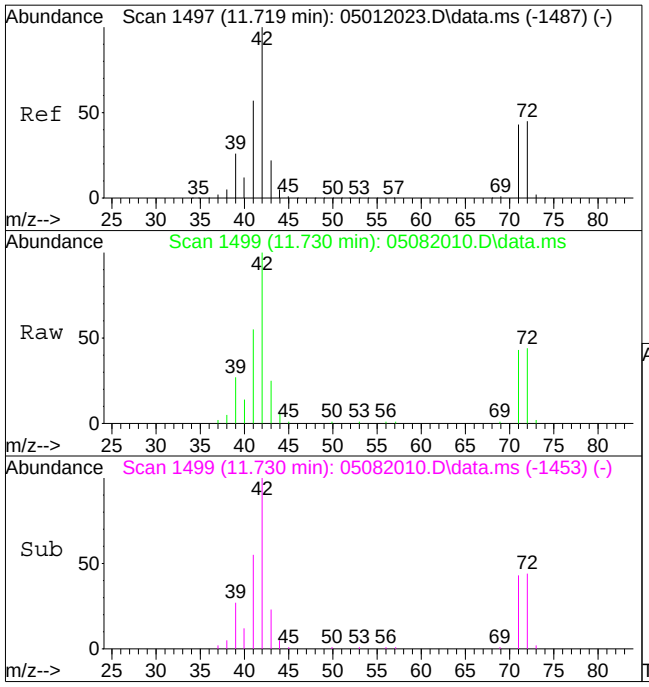


#31
n-Hexane
Concen: 0.14 ng
RT: 11.27 min Scan# 1415
Delta R.T. 0.005 min
Lab File: 05082010.D
Acq: 8 May 2020 6:06

Tgt Ion: 57 Resp: 7733

Ion	Ratio	Lower	Upper
57	100		
56	48.2	41.4	62.0
86	12.9	12.4	18.6

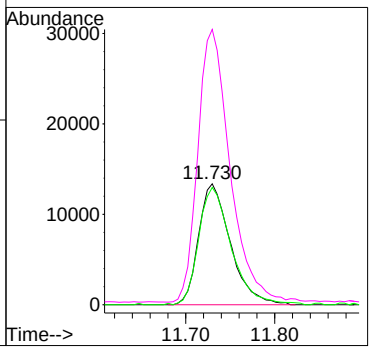


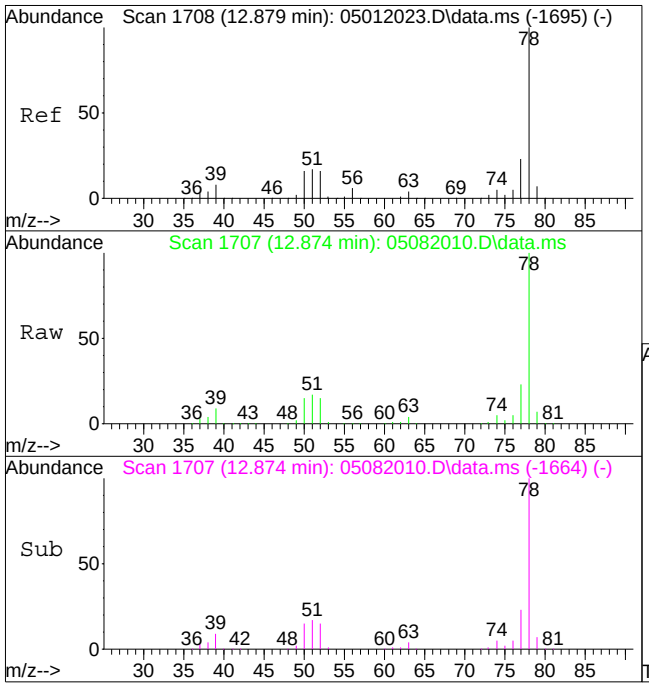


#34
Tetrahydrofuran (THF)
Concen: 1.55 ng
RT: 11.73 min Scan# 1499
Delta R.T. 0.005 min
Lab File: 05082010.D
Acq: 8 May 2020 6:06

Tgt Ion: 72 Resp: 33271

Ion	Ratio	Lower	Upper
72	100		
71	99.5	77.0	117.0
42	228.3	204.6	244.6

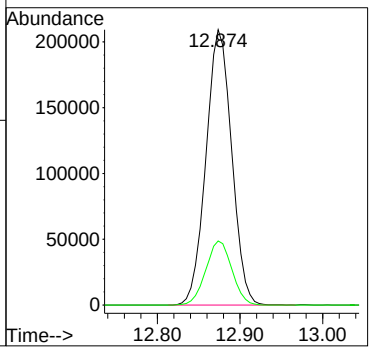


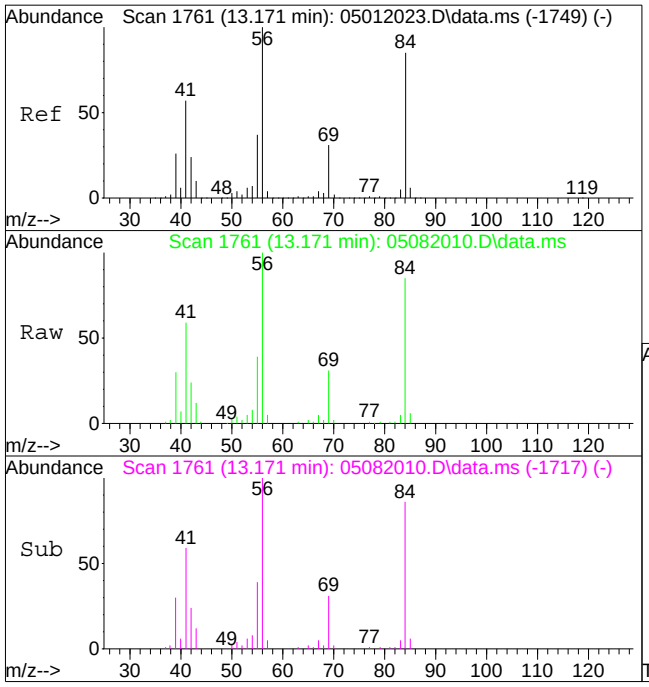


#41
Benzene
Concen: 3.35 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05082010.D
Acq: 8 May 2020 6:06

Tgt Ion: 78 Resp: 451835

Ion	Ratio	Lower	Upper
78	100		
77	23.6	3.4	43.4

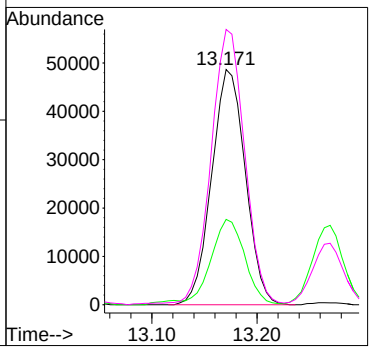


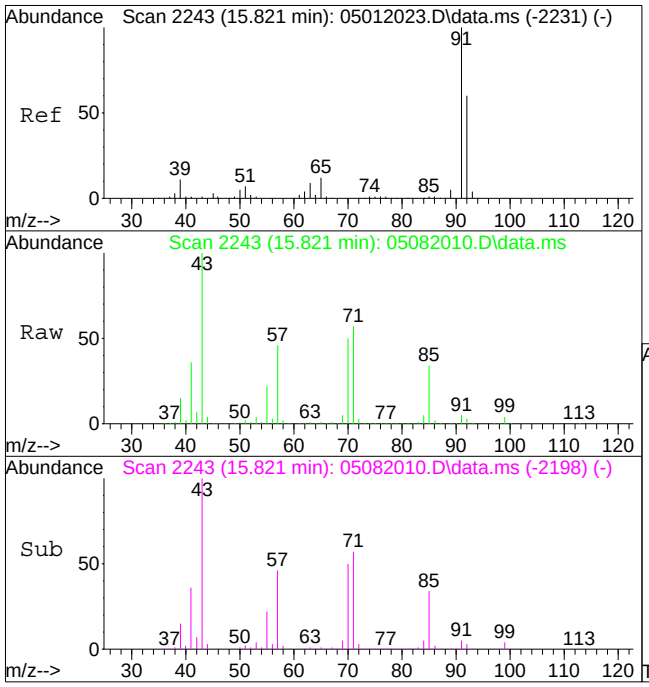


#43
Cyclohexane
Concen: 2.16 ng
RT: 13.17 min Scan# 1761
Delta R.T. -0.006 min
Lab File: 05082010.D
Acq: 8 May 2020 6:06

Tgt Ion: 84 Resp: 108483

Ion	Ratio	Lower	Upper
84	100		
69	37.6	16.5	56.5
56	117.9	97.4	137.4

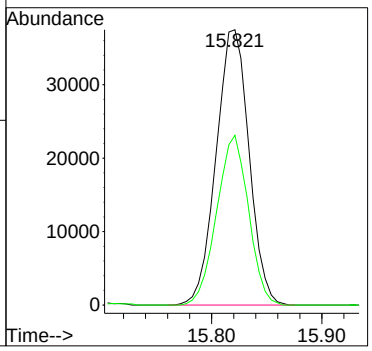


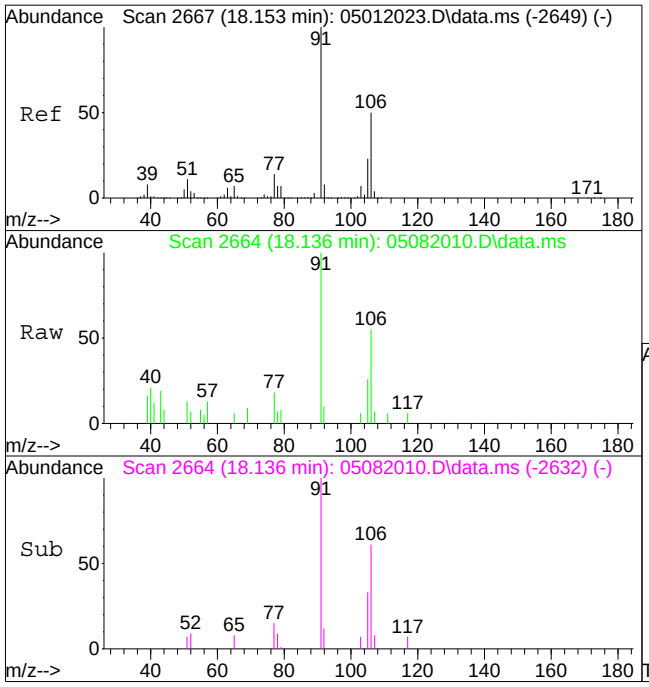


#58
Toluene
Concen: 0.60 ng
RT: 15.82 min Scan# 2243
Delta R.T. -0.000 min
Lab File: 05082010.D
Acq: 8 May 2020 6:06

Tgt Ion: 91 Resp: 77937

Ion	Ratio	Lower	Upper
91	100		
92	59.4	39.4	79.4

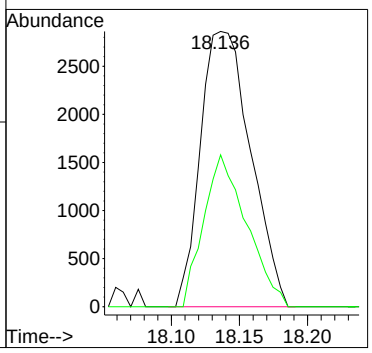


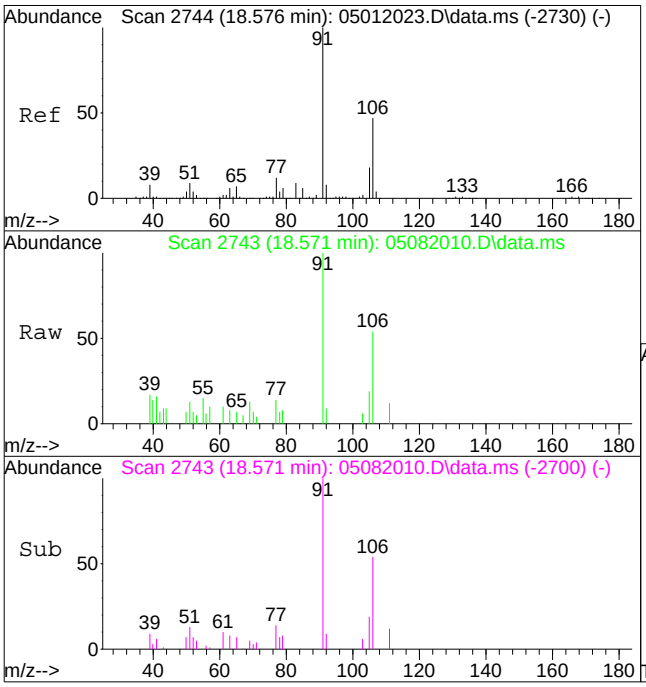


#67
m- & p-Xylenes
Concen: 0.06 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05082010.D
Acq: 8 May 2020 6:06

Tgt Ion: 91 Resp: 7359

Ion	Ratio	Lower	Upper
91	100		
106	47.1	29.7	69.7

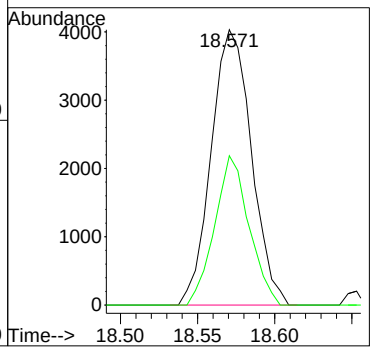




#70
o-Xylene
Concen: 0.06 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05082010.D
Acq: 8 May 2020 6:06

Tgt Ion: 91 Resp: 7314

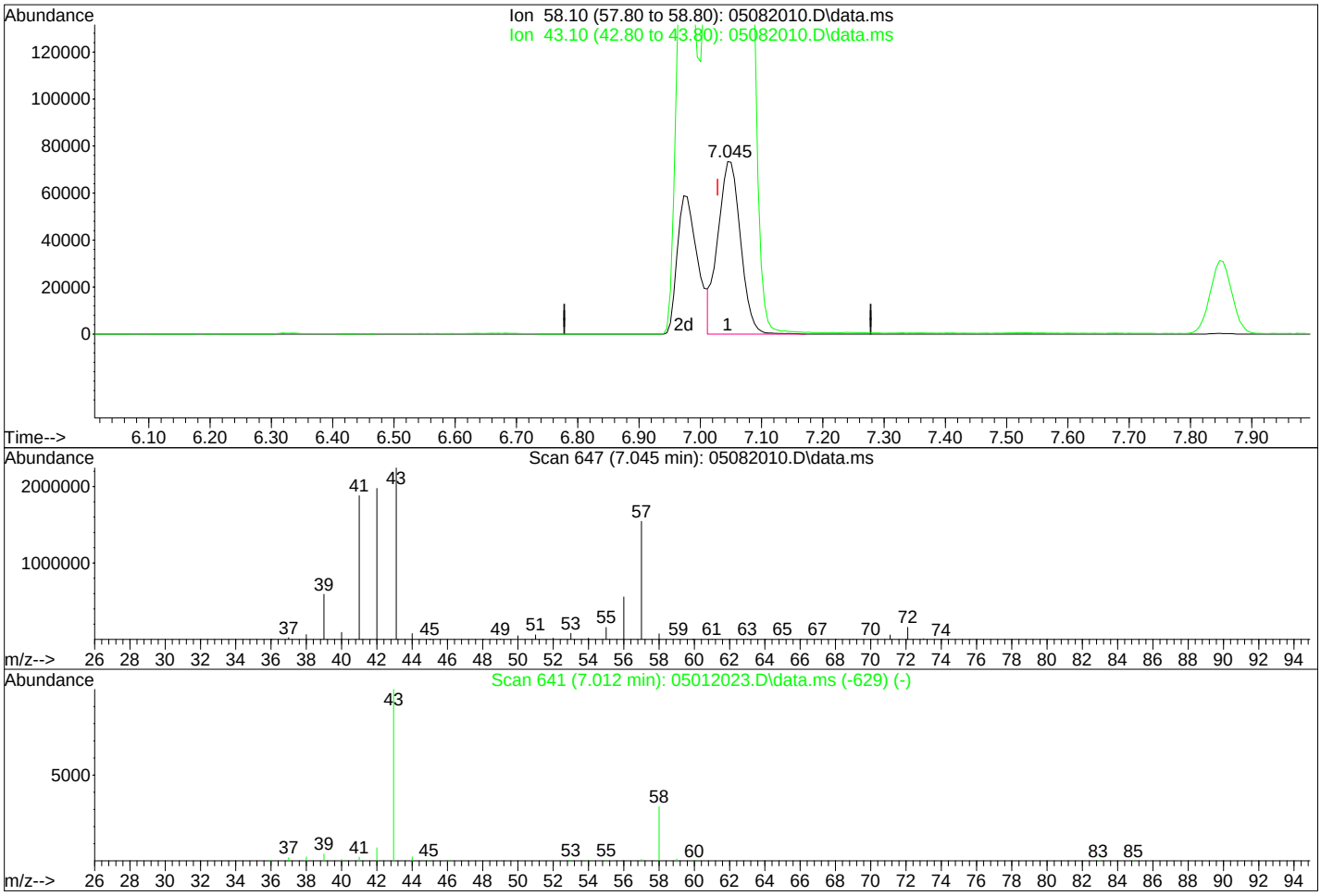
Ion	Ratio	Lower	Upper
91	100		
106	46.2	27.5	67.5



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\08\05082010.D Vial: 5
Acq On : 8 May 2020 6:06 Operator: LH
Sample : P2002107-019 (50mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 08 14:52:51 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05082010.D\data.ms

(13) Acetone (T)

7.045min (+0.016) 7.28ng

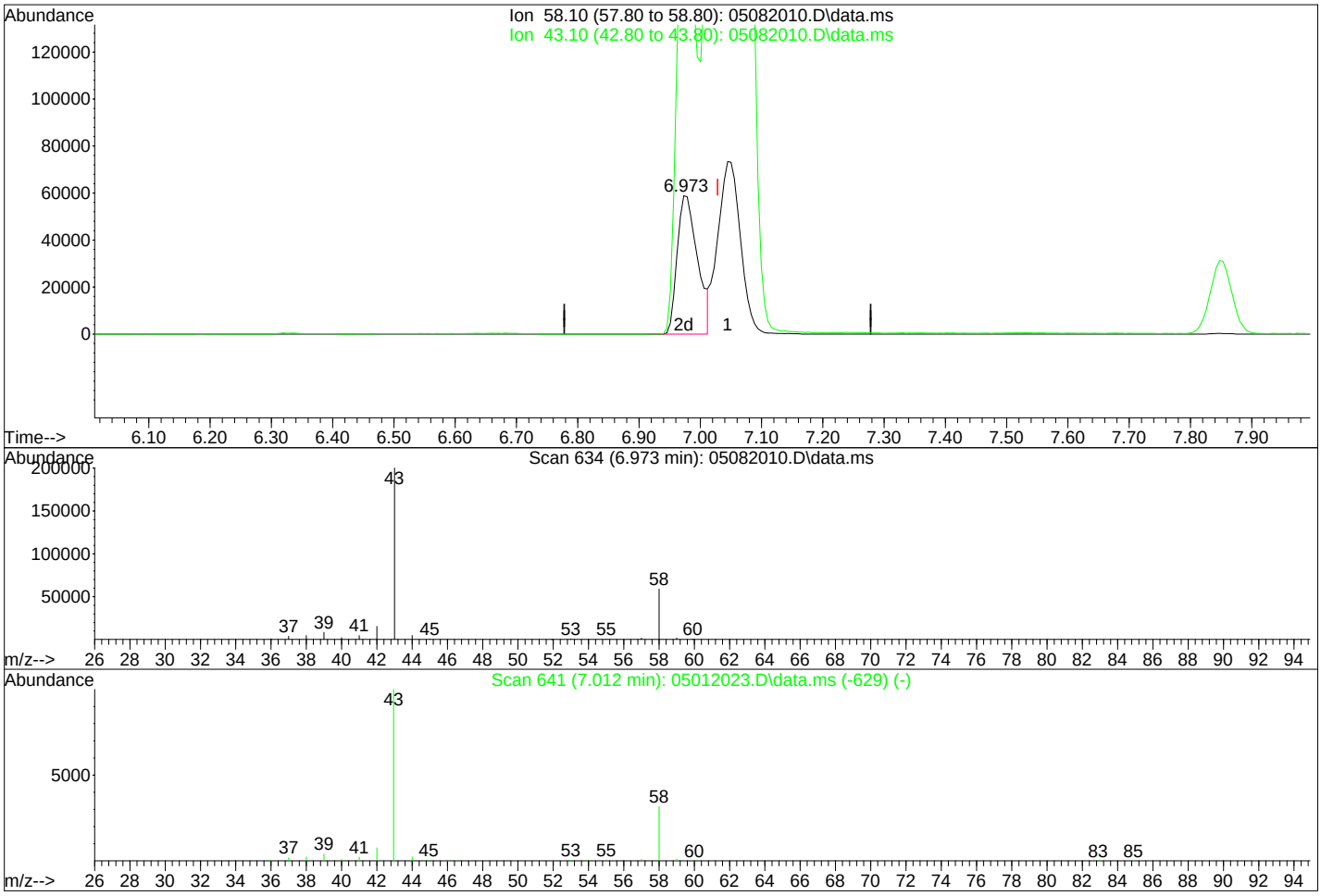
response 188341

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	3055.41#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\08\05082010.D Vial: 5
Acq On : 8 May 2020 6:06 Operator: LH
Sample : P2002107-019 (50mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 08 14:52:51 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05082010.D\data.ms

(13) Acetone (T)

6.973min (-0.055) 5.24ng m

response 135598

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	4243.86#
0.00	0.00	0.00
0.00	0.00	0.00

WP

LH 5/8/20

WA 5/12/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052032.D Vial: 15
Acq On : 5 May 2020 22:27 Operator: WA
Sample : P2002107-020 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 07 17:52:21 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/7/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	264106	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1116626	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	552372	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	425490	11.888	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.12%				
57) Toluene-d8 (SS2)	15.72	98	1131726	12.088	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.72%				
73) Bromofluorobenzene (SS3)	18.98	174	440156	13.065	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.56%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	4.26	85	898119	15.012	ng		100
4) Chloromethane	4.54	50	2361	0.050	ng		95
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	27319	0.764	ng		100
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.23	54	101	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.98	64	185	N.D.			
10) Ethanol	6.33	45	31747	1.344	ng		95
11) Acetonitrile	6.60	41	2838	0.053	ng	#	67
12) Acrolein	6.79	56	5474	0.293	ng		98
13) Acetone	7.00	58	83653	3.541	ng		89
14) Trichlorofluoromethane	7.24	101	187517	3.546	ng		99
15) 2-Propanol (Isopropanol)	7.53	45	9699	0.136	ng		80
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.45	59	2363	N.D.			
19) Methylene Chloride	8.40	84	476	N.D.			
20) 3-Chloro-1-propene (Al...	8.50	41	110	N.D.			
21) Trichlorotrifluoroethane	8.84	151	346257	13.870	ng		98
22) Carbon Disulfide	8.68	76	282448	2.567	ng		100
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	9.94	63	2988	0.060	ng		98
25) Methyl tert-Butyl Ether	10.09	73	2125	N.D.			
26) Vinyl Acetate	10.17	86	8512	1.157	ng	#	25
27) 2-Butanone (MEK)	10.45	72	45904	2.279	ng		98
28) cis-1,2-Dichloroethene	10.93	61	566	N.D.			
29) Diisopropyl Ether	11.30	87	728	N.D.			
30) Ethyl Acetate	11.29	61	1601	0.138	ng		93
31) n-Hexane	11.26	57	13355	0.265	ng		99
32) Chloroform	11.31	83	7217	0.137	ng		98
34) Tetrahydrofuran (THF)	11.72	72	45265	2.304	ng		98
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	12.39	97	752	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D. d			
41) Benzene	12.87	78	9095	0.076	ng		100
42) Carbon Tetrachloride	13.03	117	256926	6.308	ng		99
43) Cyclohexane	13.17	84	6441	0.144	ng		95
44) tert-Amyl Methyl Ether	0.00	73	0	N.D. d			
45) 1,2-Dichloropropane	0.00	63	0	N.D. d			
46) Bromodichloromethane	0.00	83	0	N.D. d			
47) Trichloroethene	13.97	130	143466	4.635	ng		98
48) 1,4-Dioxane	13.97	88	676	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d			
50) Methyl Methacrylate	0.00	100	0	N.D. d			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052032.D Vial: 15
Acq On : 5 May 2020 22:27 Operator: WA
Sample : P2002107-020 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 07 17:52:21 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

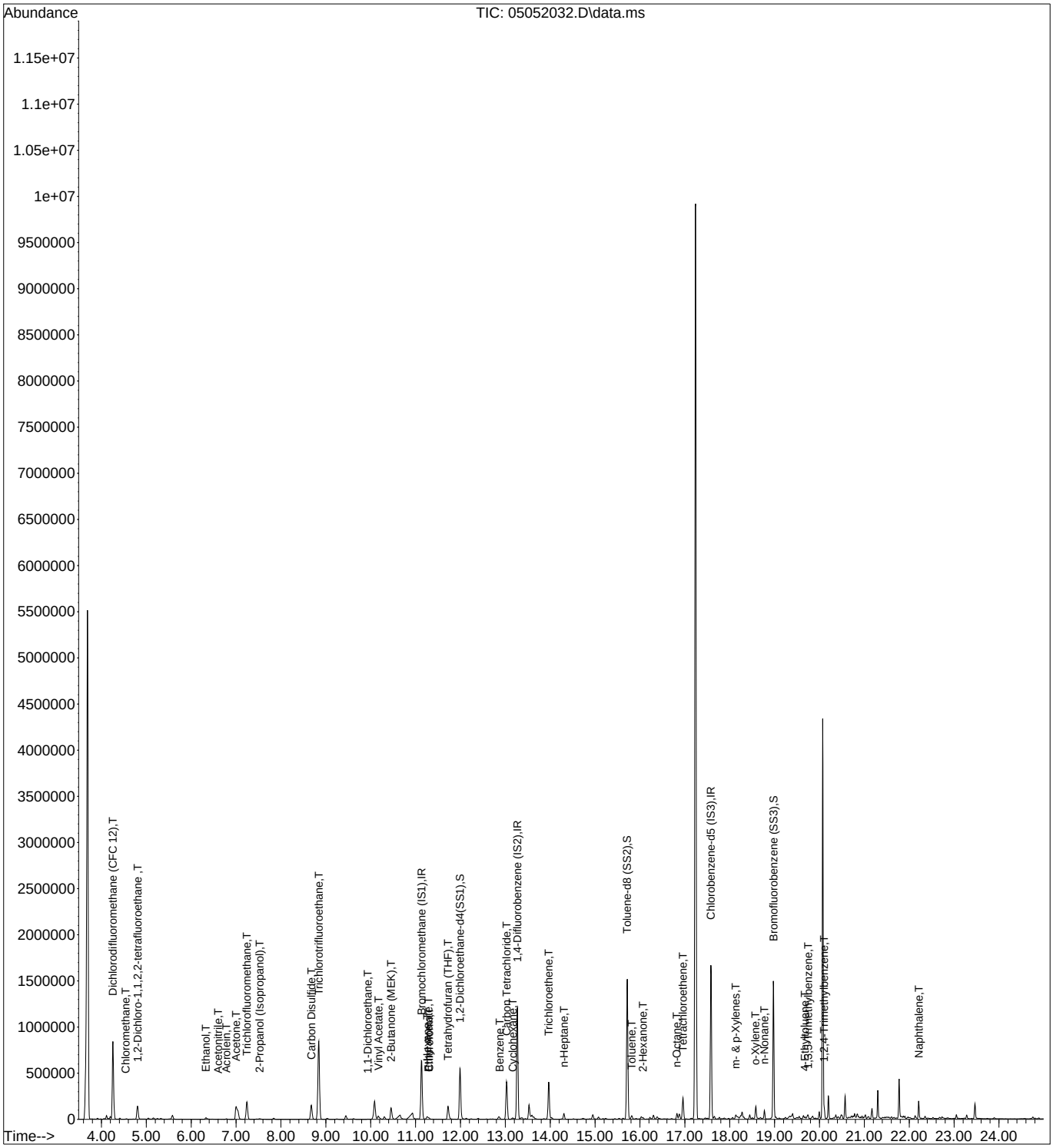
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	15718	0.561 ng	98
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.87	58	972	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.82	91	27542	0.228 ng	99
59) 2-Hexanone	16.07	43	9194	0.139 ng	81
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.70	43	1787	N.D.	
63) n-Octane	16.82	57	11294	0.452 ng	98
64) Tetrachloroethene	16.96	166	74580	2.188 ng	100
65) Chlorobenzene	17.66	112	2692	N.D.	
66) Ethylbenzene	17.98	91	4572	N.D.	
67) m- & p-Xylenes	18.14	91	23668	0.222 ng	99
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	851	N.D.	
70) o-Xylene	18.57	91	7379	0.068 ng	99
71) n-Nonane	18.77	43	33683	0.586 ng	96
72) 1,1,2,2-Tetrachloroethane	18.59	83	625	N.D.	
74) Cumene	19.10	105	1103	N.D.	
75) alpha-Pinene	19.44	93	105	N.D.	
76) n-Propylbenzene	19.55	91	7469	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.68	105	8832	0.071 ng	99
79) 1,3,5-Trimethylbenzene	19.75	105	9504	0.088 ng	99
80) alpha-Methylstyrene	19.88	118	1358	N.D.	
81) 2-Ethyltoluene	19.91	105	5030	N.D.	
82) 1,2,4-Trimethylbenzene	20.10	105	49061	0.450 ng	89
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.31	91	1226	N.D.	
85) 1,3-Dichlorobenzene	20.24	146	193	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	605	N.D.	
87) sec-Butylbenzene	20.35	105	2704	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	6020	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.61	68	1291	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.22	128	13430	0.101 ng	99
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052032.D Vial: 15
Acq On : 5 May 2020 22:27 Operator: WA
Sample : P2002107-020 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 07 17:52:21 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052032.D Vial: 15
Acq On : 5 May 2020 22:27 Operator: WA
Sample : P2002107-020 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 07 17:52:21 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/7/20

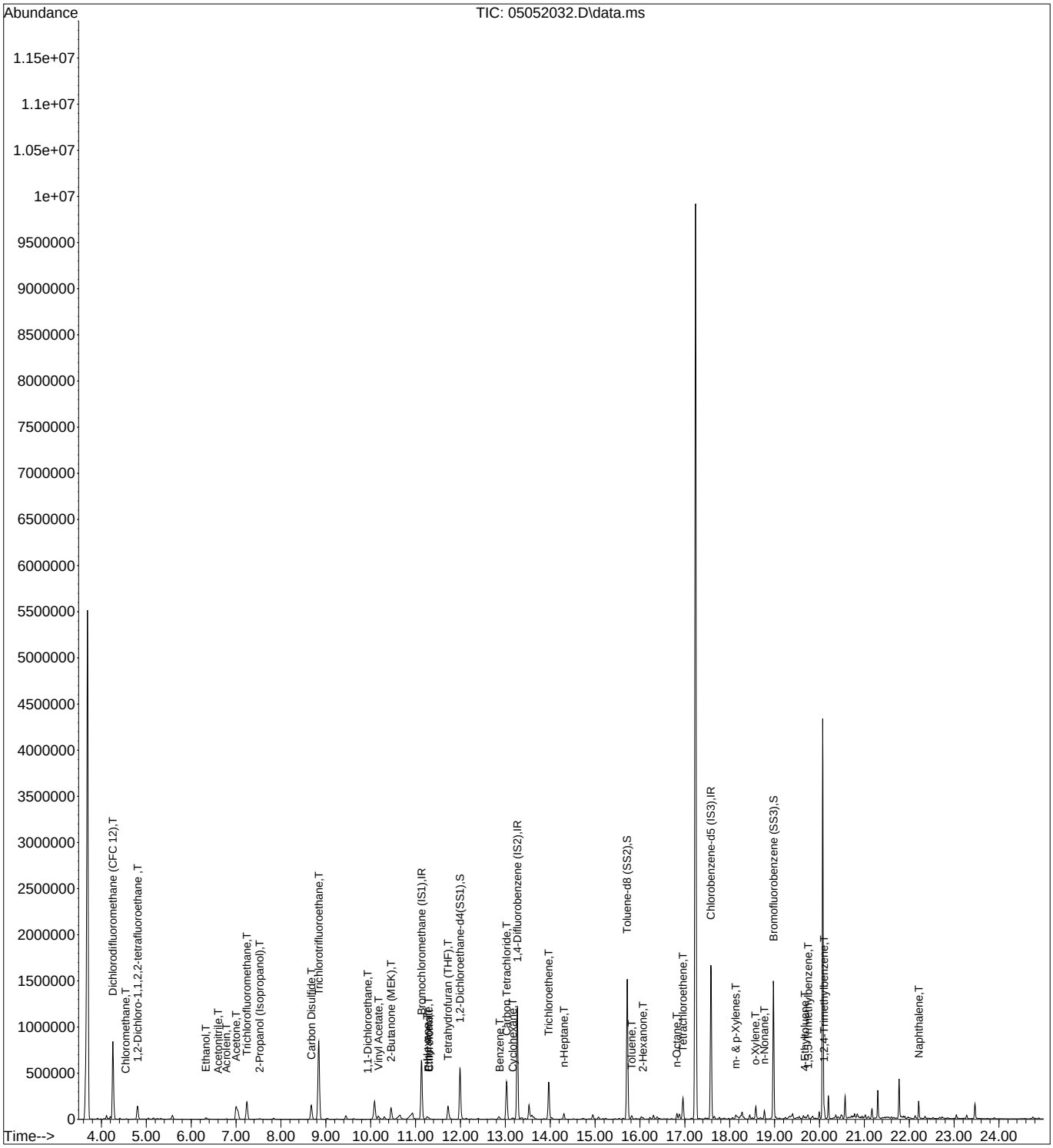
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	264106	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1116626	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	552372	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	425490	11.888	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.12%				
57) Toluene-d8 (SS2)	15.72	98	1131726	12.088	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.72%				
73) Bromofluorobenzene (SS3)	18.98	174	440156	13.065	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.56%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.26	85	898119	15.012	ng		100
4) Chloromethane	4.54	50	2361	0.050	ng		95
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	27319	0.764	ng		100
10) Ethanol	6.33	45	31747	1.344	ng		95
11) Acetonitrile	6.60	41	2838	0.053	ng	#	67
12) Acrolein	6.79	56	5474	0.293	ng		98
13) Acetone	7.00	58	83653	3.541	ng		89
14) Trichlorofluoromethane	7.24	101	187517	3.546	ng		99
15) 2-Propanol (Isopropanol)	7.53	45	9699	0.136	ng		80
21) Trichlorotrifluoroethane	8.84	151	346257	13.870	ng		98
22) Carbon Disulfide	8.68	76	282448	2.567	ng		100
24) 1,1-Dichloroethane	9.94	63	2988	0.060	ng		98
26) Vinyl Acetate	10.17	86	8512	1.157	ng	#	25
27) 2-Butanone (MEK)	10.45	72	45904	2.279	ng		98
30) Ethyl Acetate	11.29	61	1601	0.138	ng		93
31) n-Hexane	11.26	57	13355	0.265	ng		99
32) Chloroform	11.31	83	7217	0.137	ng		98
34) Tetrahydrofuran (THF)	11.72	72	45265	2.304	ng		98
41) Benzene	12.87	78	9095	0.076	ng		100
42) Carbon Tetrachloride	13.03	117	256926	6.308	ng		99
43) Cyclohexane	13.17	84	6441	0.144	ng		95
47) Trichloroethene	13.97	130	143466	4.635	ng		98
51) n-Heptane	14.31	71	15718	0.561	ng		98
58) Toluene	15.82	91	27542	0.228	ng		99
59) 2-Hexanone	16.07	43	9194	0.139	ng		81
63) n-Octane	16.82	57	11294	0.452	ng		98
64) Tetrachloroethene	16.96	166	74580	2.188	ng		100
67) m- & p-Xylenes	18.14	91	23668	0.222	ng		99
70) o-Xylene	18.57	91	7379	0.068	ng		99
71) n-Nonane	18.77	43	33683	0.586	ng		96
78) 4-Ethyltoluene	19.68	105	8832	0.071	ng		99
79) 1,3,5-Trimethylbenzene	19.75	105	9504	0.088	ng		99
82) 1,2,4-Trimethylbenzene	20.10	105	49061	0.450	ng		89
95) Naphthalene	22.22	128	13430	0.101	ng		99

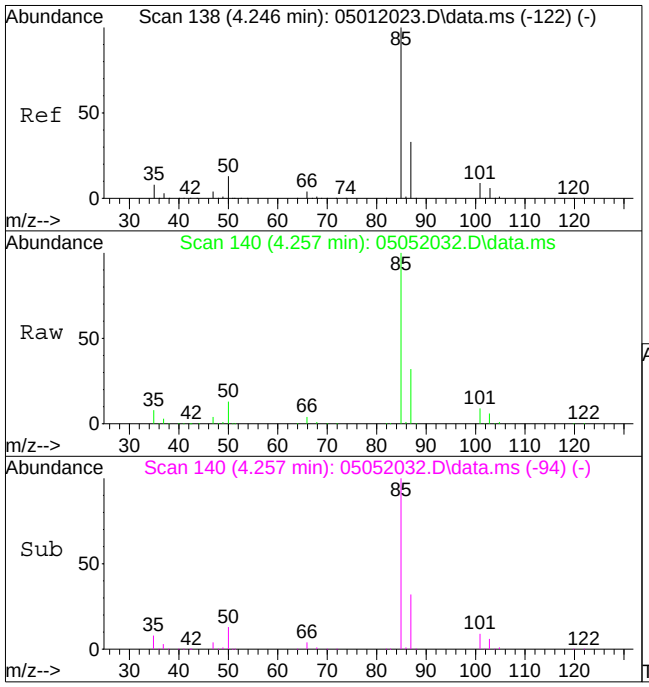
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052032.D Vial: 15
Acq On : 5 May 2020 22:27 Operator: WA
Sample : P2002107-020 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 07 17:52:21 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

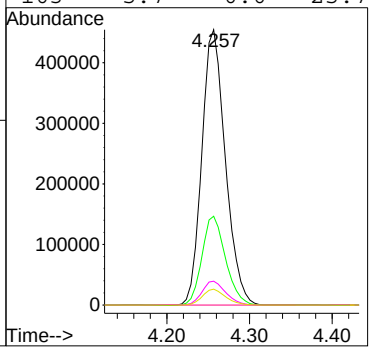


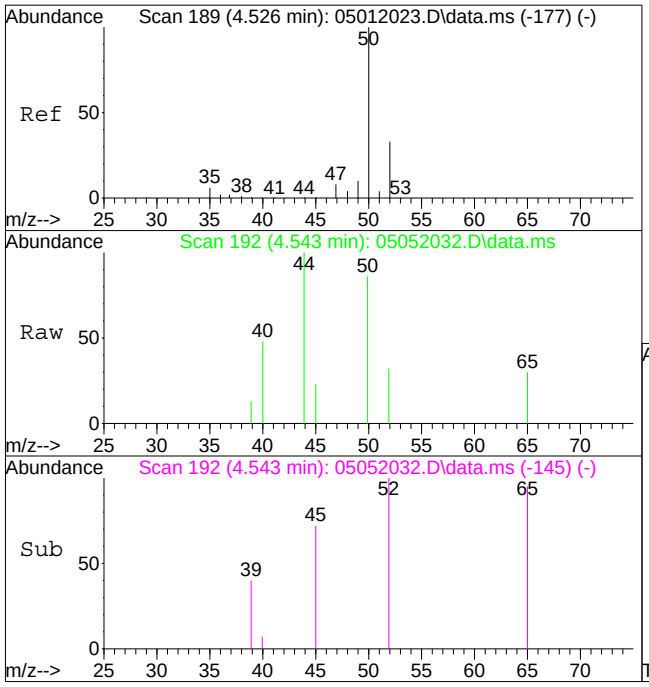


#3
Dichlorodifluoromethane (CFC 12)
Concen: 15.01 ng
RT: 4.26 min Scan# 140
Delta R.T. 0.005 min
Lab File: 05052032.D
Acq: 5 May 2020 22:27

Tgt Ion: 85 Resp: 898119

Ion	Ratio	Lower	Upper
85	100		
87	32.2	12.4	52.4
101	8.7	0.0	28.8
103	5.7	0.0	25.7

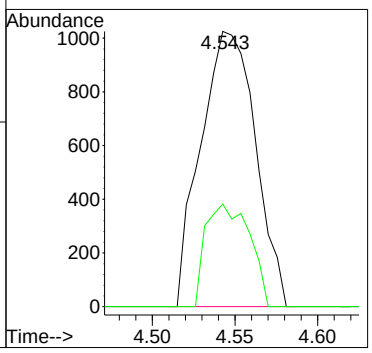


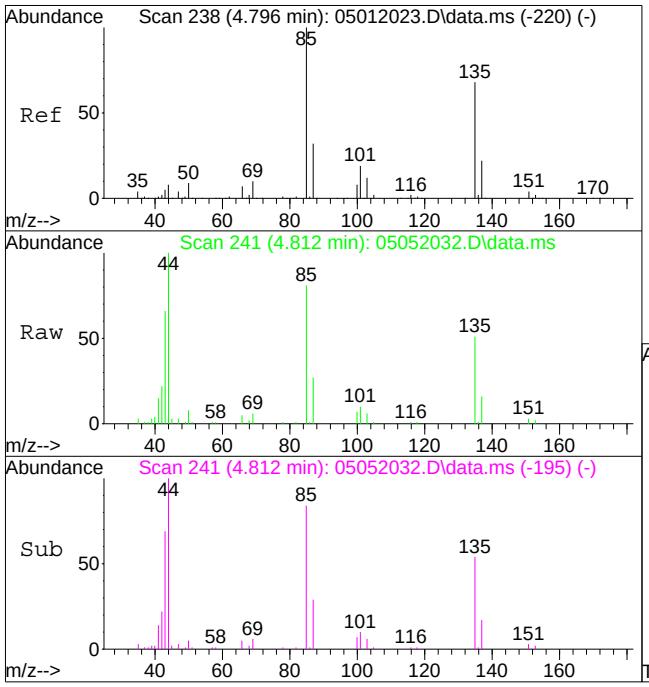


#4
Chloromethane
Concen: 0.05 ng
RT: 4.54 min Scan# 192
Delta R.T. 0.011 min
Lab File: 05052032.D
Acq: 5 May 2020 22:27

Tgt Ion: 50 Resp: 2361

Ion	Ratio	Lower	Upper
50	100		
52	29.9	12.5	52.5

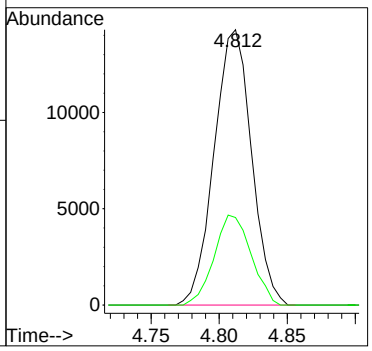


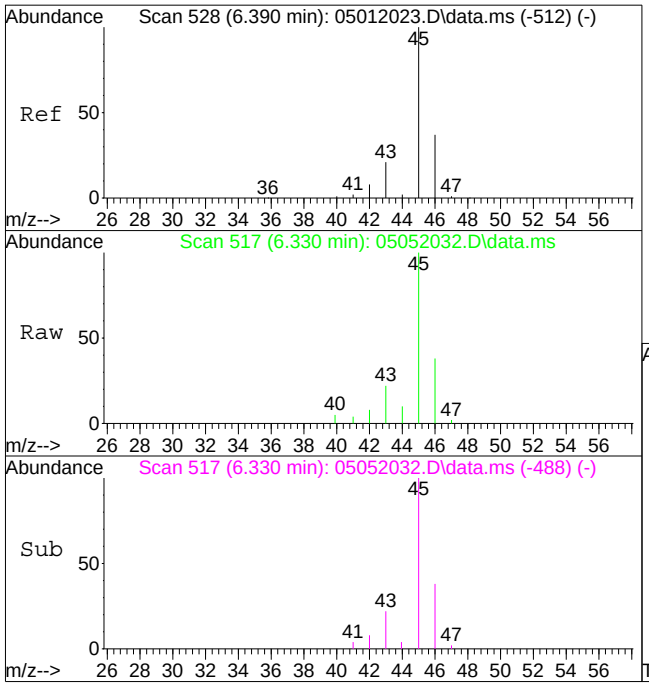


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 0.76 ng
RT: 4.81 min Scan# 241
Delta R.T. 0.005 min
Lab File: 05052032.D
Acq: 5 May 2020 22:27

Tgt Ion:135 Resp: 27319

Ion	Ratio	Lower	Upper
135	100		
137	32.2	12.1	52.1

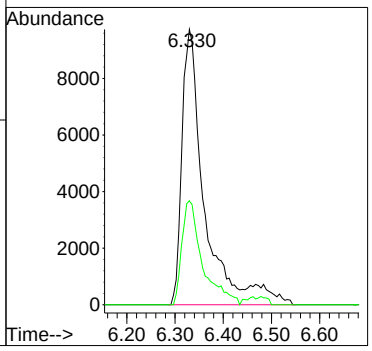


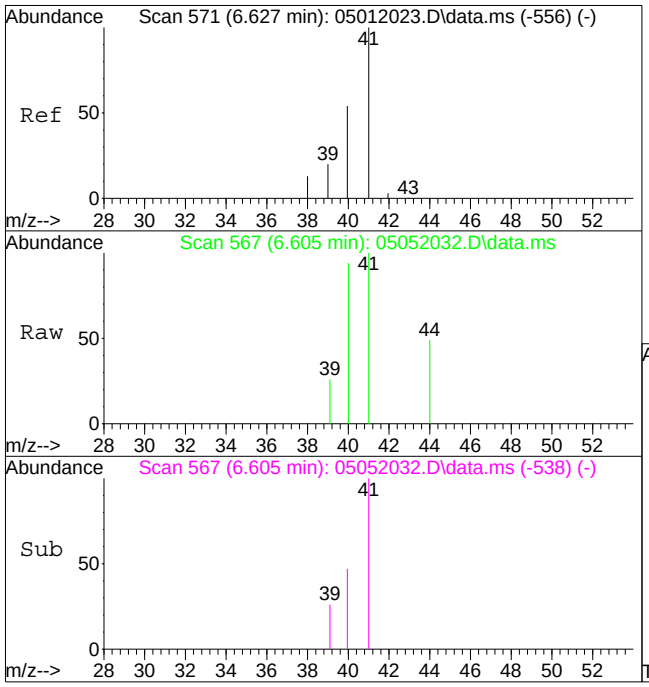


#10
Ethanol
Concen: 1.34 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.088 min
Lab File: 05052032.D
Acq: 5 May 2020 22:27

Tgt Ion: 45 Resp: 31747

Ion	Ratio	Lower	Upper
45	100		
46	34.2	17.2	57.2

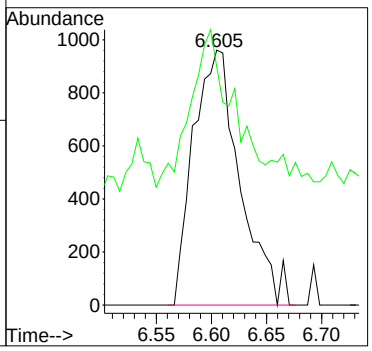


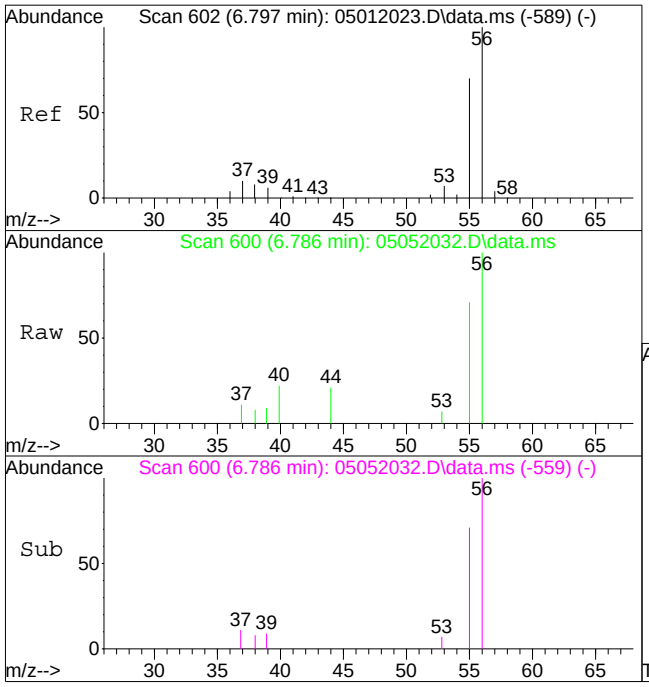


#11
Acetonitrile
Concen: 0.05 ng
RT: 6.60 min Scan# 567
Delta R.T. -0.039 min
Lab File: 05052032.D
Acq: 5 May 2020 22:27

Tgt Ion: 41 Resp: 2838

Ion	Ratio	Lower	Upper
41	100		
40	77.3	33.6	73.6#

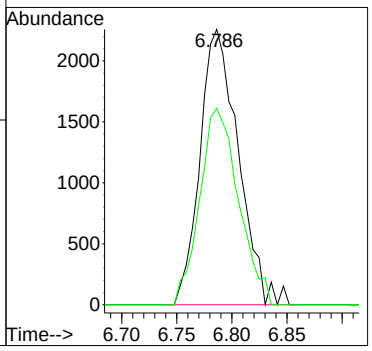


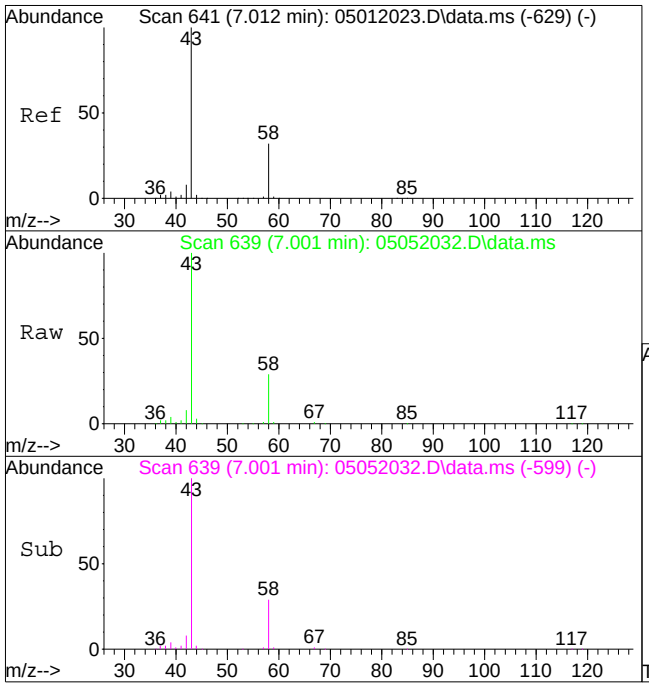


#12
Acrolein
Concen: 0.29 ng
RT: 6.79 min Scan# 600
Delta R.T. -0.022 min
Lab File: 05052032.D
Acq: 5 May 2020 22:27

Tgt Ion: 56 Resp: 5474

Ion	Ratio	Lower	Upper
56	100		
55	72.2	50.2	90.2

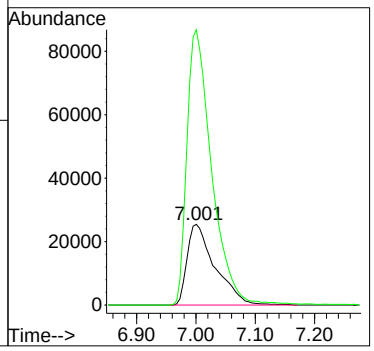


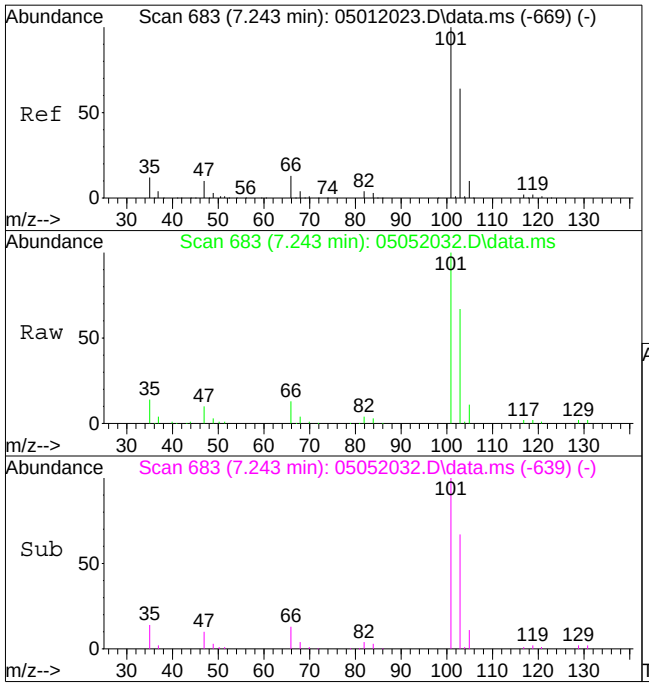


#13
Acetone
Concen: 3.54 ng
RT: 7.00 min Scan# 639
Delta R.T. -0.028 min
Lab File: 05052032.D
Acq: 5 May 2020 22:27

Tgt Ion: 58 Resp: 83653

Ion	Ratio	Lower	Upper
58	100		
43	301.5	294.4	354.4

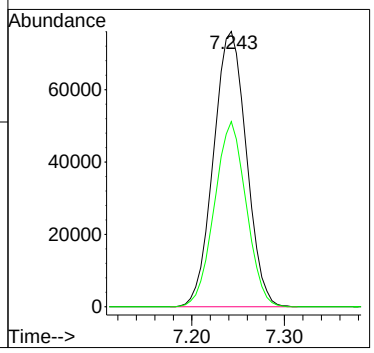


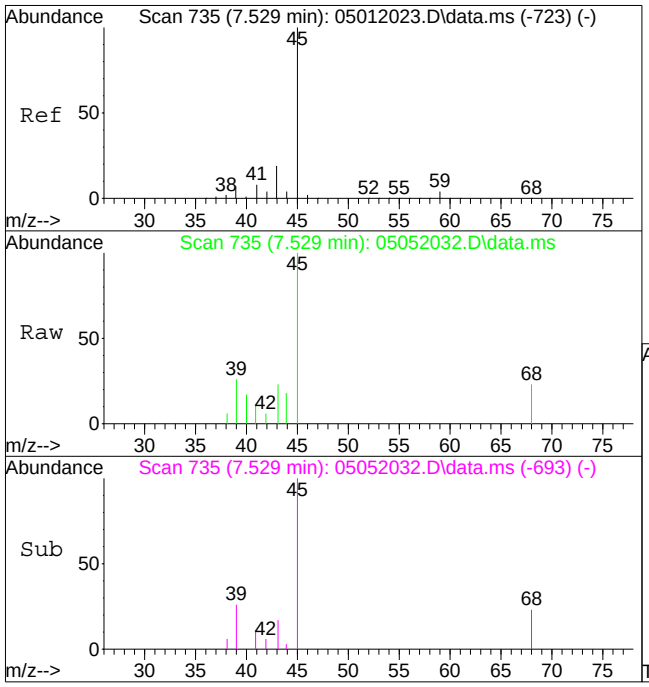


#14
Trichlorofluoromethane
Concen: 3.55 ng
RT: 7.24 min Scan# 683
Delta R.T. -0.006 min
Lab File: 05052032.D
Acq: 5 May 2020 22:27

Tgt Ion:101 Resp: 187517

Ion	Ratio	Lower	Upper
101	100		
103	65.0	44.4	84.4

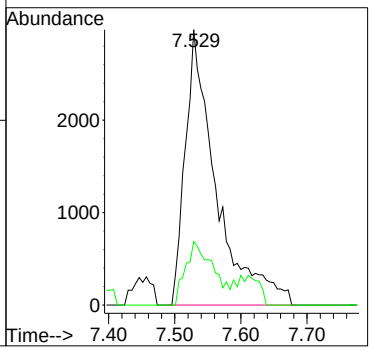


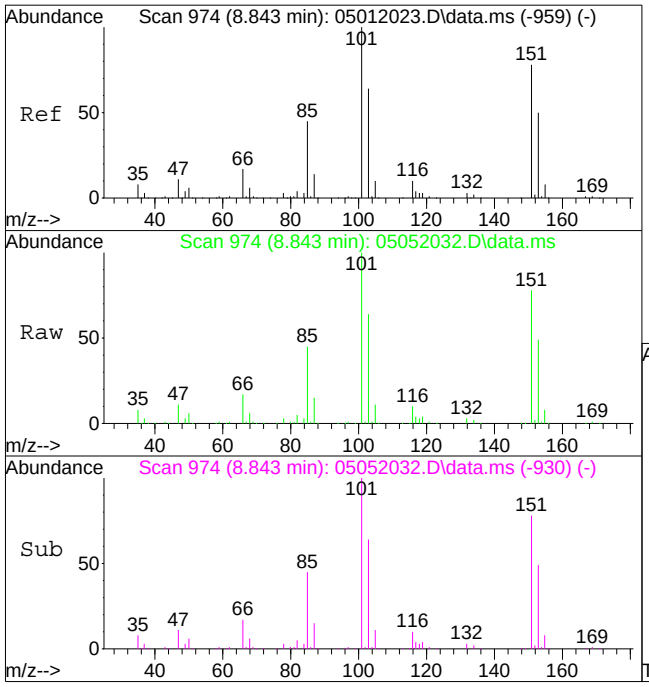


#15
2-Propanol (Isopropanol)
Concen: 0.14 ng
RT: 7.53 min Scan# 735
Delta R.T. -0.017 min
Lab File: 05052032.D
Acq: 5 May 2020 22:27

Tgt Ion: 45 Resp: 9699

Ion	Ratio	Lower	Upper
45	100		
43	28.8	0.0	39.5

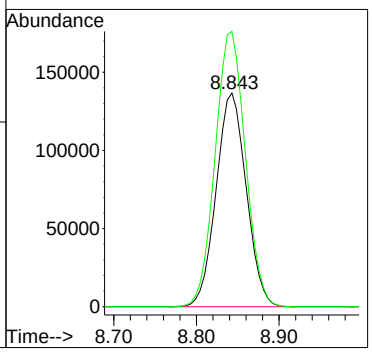


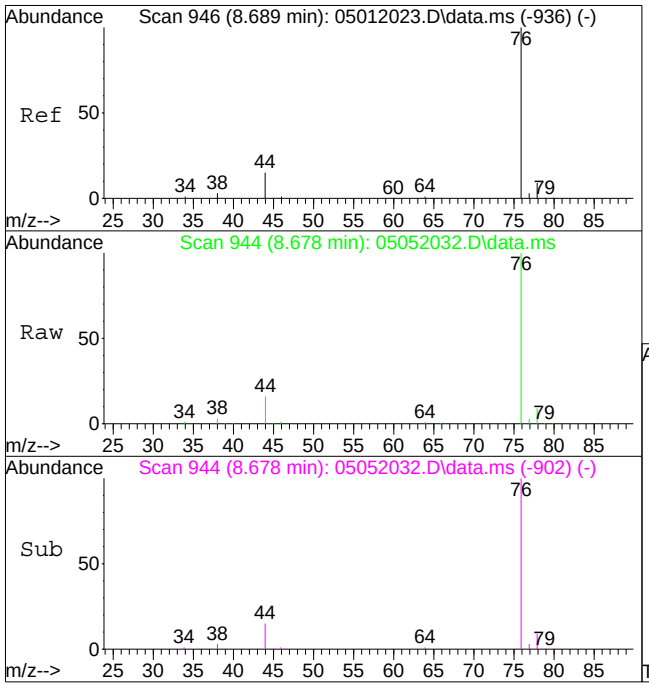


#21
Trichlorotrifluoroethane
Concen: 13.87 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05052032.D
Acq: 5 May 2020 22:27

Tgt Ion:151 Resp: 346257

Ion	Ratio	Lower	Upper
151	100		
101	129.3	107.3	147.3

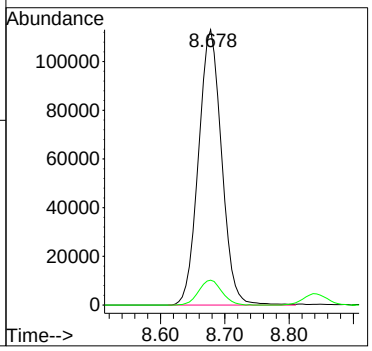


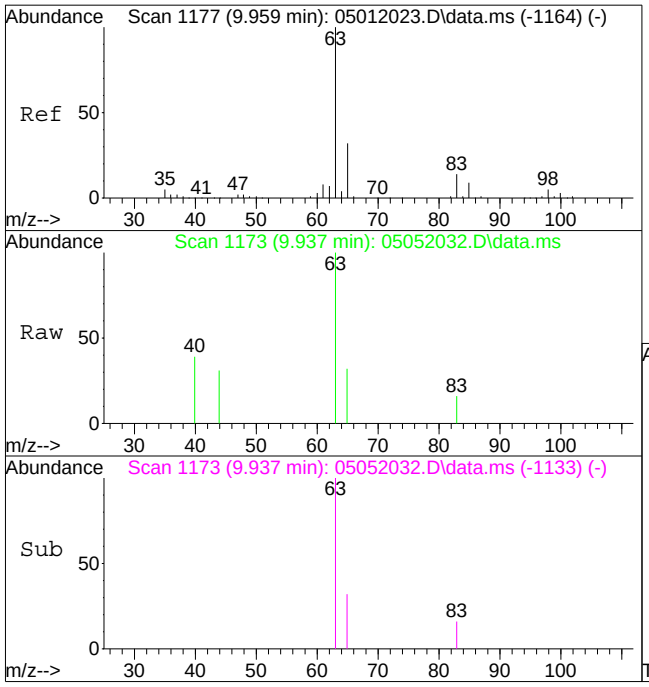


#22
Carbon Disulfide
Concen: 2.57 ng
RT: 8.68 min Scan# 944
Delta R.T. -0.017 min
Lab File: 05052032.D
Acq: 5 May 2020 22:27

Tgt Ion: 76 Resp: 282448

Ion	Ratio	Lower	Upper
76	100		
78	9.1	0.0	29.2

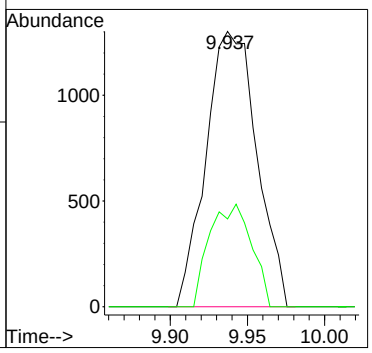


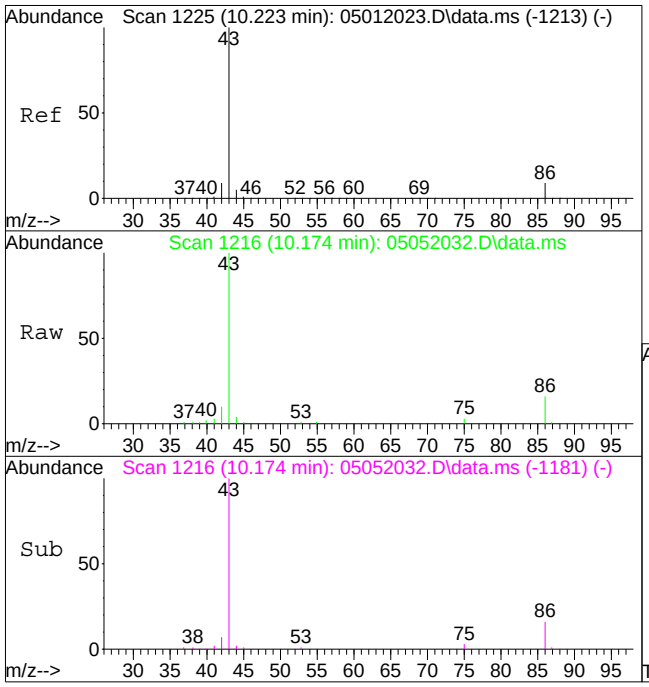


#24
1,1-Dichloroethane
Concen: 0.06 ng
RT: 9.94 min Scan# 1173
Delta R.T. -0.028 min
Lab File: 05052032.D
Acq: 5 May 2020 22:27

Tgt Ion: 63 Resp: 2988

Ion	Ratio	Lower	Upper
63	100		
65	30.8	11.8	51.8

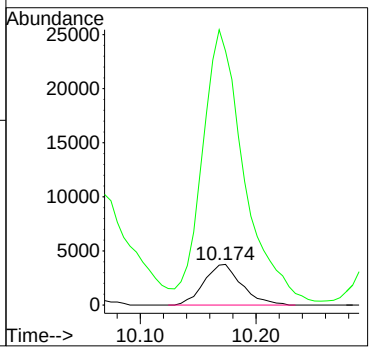


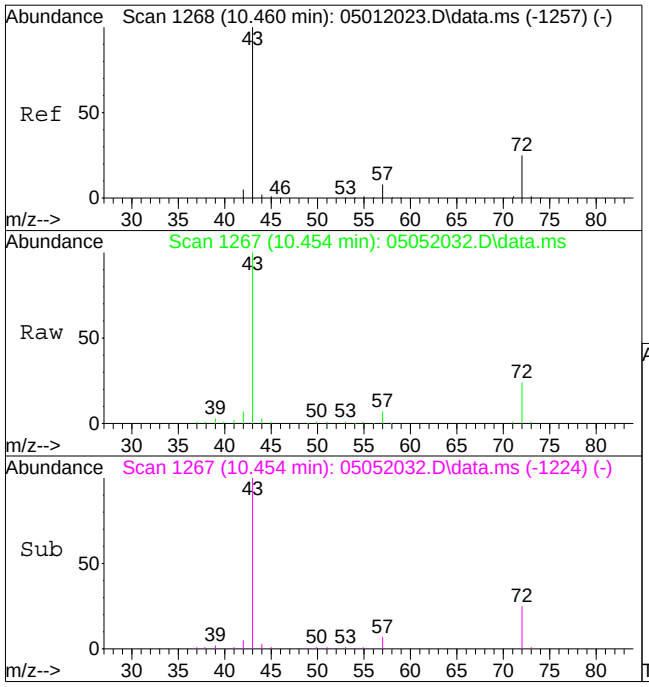


#26
Vinyl Acetate
Concen: 1.16 ng
RT: 10.17 min Scan# 1216
Delta R.T. -0.055 min
Lab File: 05052032.D
Acq: 5 May 2020 22:27

Tgt Ion: 86 Resp: 8512

Ion	Ratio	Lower	Upper
86	100		
43	761.7	1103.0	1143.0#

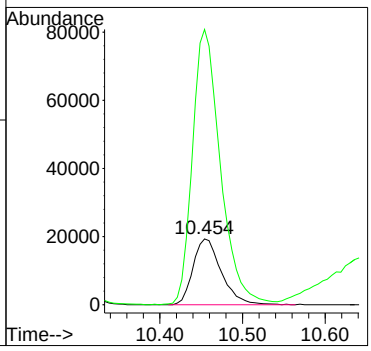


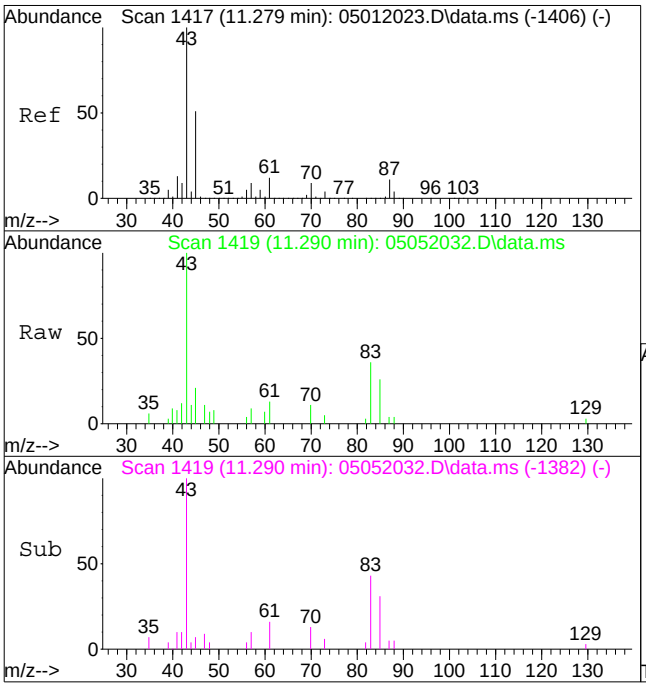


#27
2-Butanone (MEK)
Concen: 2.28 ng
RT: 10.45 min Scan# 1267
Delta R.T. -0.011 min
Lab File: 05052032.D
Acq: 5 May 2020 22:27

Tgt Ion: 72 Resp: 45904

Ion	Ratio	Lower	Upper
72	100		
43	414.8	389.7	429.7

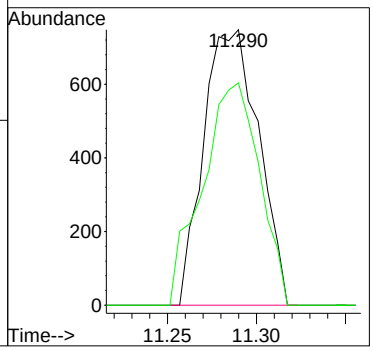


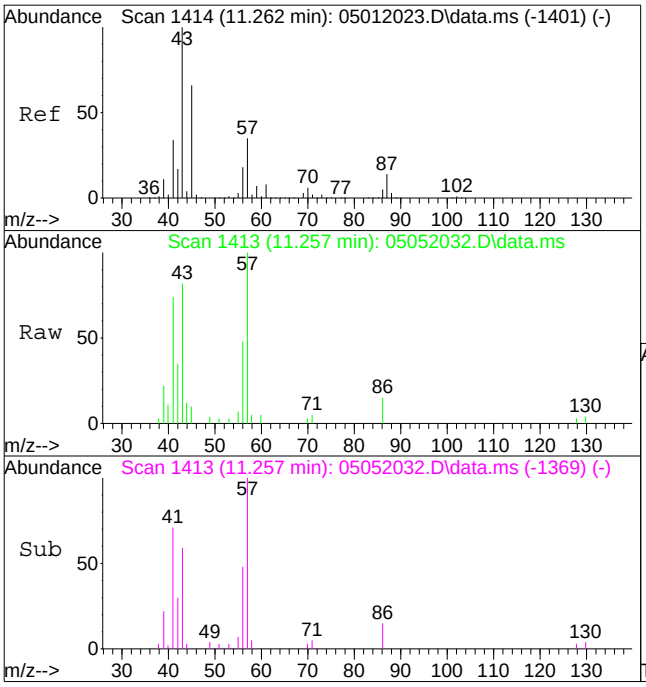


#30
Ethyl Acetate
Concen: 0.14 ng
RT: 11.29 min Scan# 1419
Delta R.T. 0.005 min
Lab File: 05052032.D
Acq: 5 May 2020 22:27

Tgt Ion: 61 Resp: 1601

Ion	Ratio	Lower	Upper
61	100		
70	84.2	57.9	97.9

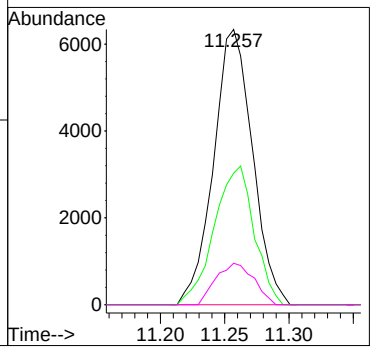


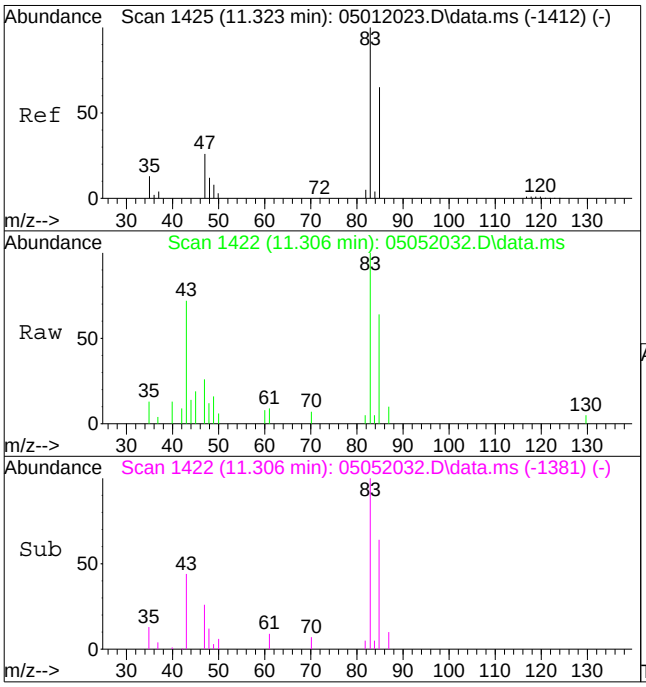


#31
n-Hexane
Concen: 0.27 ng
RT: 11.26 min Scan# 1413
Delta R.T. -0.006 min
Lab File: 05052032.D
Acq: 5 May 2020 22:27

Tgt Ion: 57 Resp: 13355

Ion	Ratio	Lower	Upper
57	100		
56	51.4	41.4	62.0
86	14.6	12.4	18.6

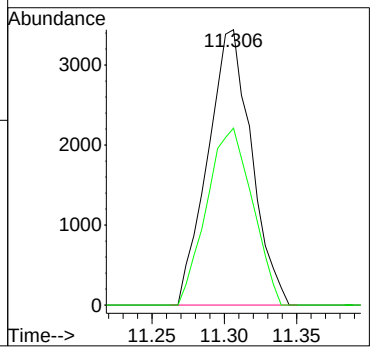


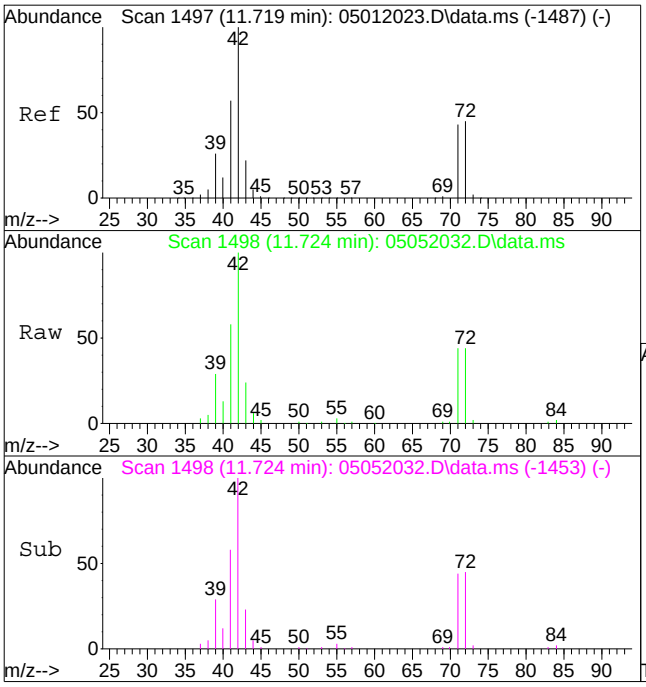


#32
Chloroform
Concen: 0.14 ng
RT: 11.31 min Scan# 1422
Delta R.T. -0.022 min
Lab File: 05052032.D
Acq: 5 May 2020 22:27

Tgt Ion: 83 Resp: 7217

Ion	Ratio	Lower	Upper
83	100		
85	67.2	45.5	85.5

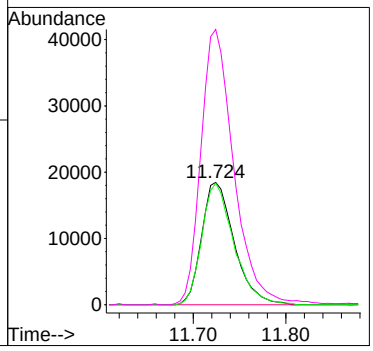


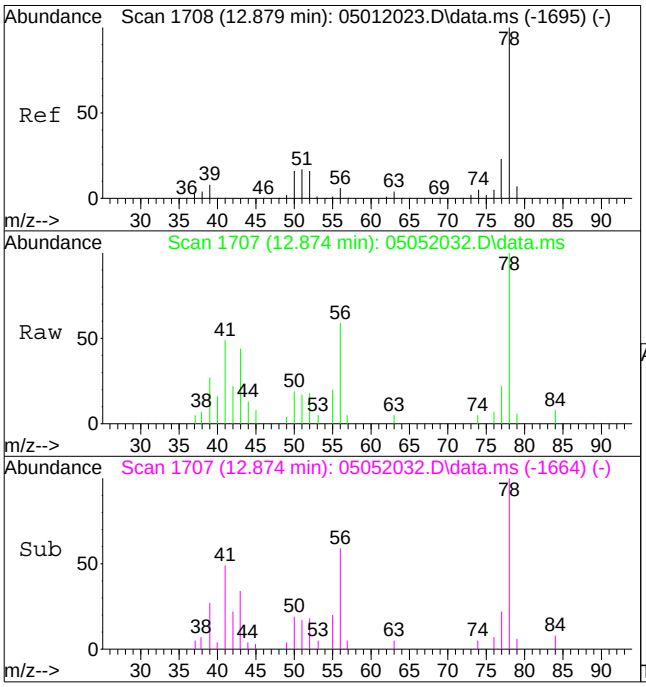


#34
Tetrahydrofuran (THF)
Concen: 2.30 ng
RT: 11.72 min Scan# 1498
Delta R.T. -0.000 min
Lab File: 05052032.D
Acq: 5 May 2020 22:27

Tgt Ion: 72 Resp: 45265

Ion	Ratio	Lower	Upper
72	100		
71	97.5	77.0	117.0
42	228.0	204.6	244.6

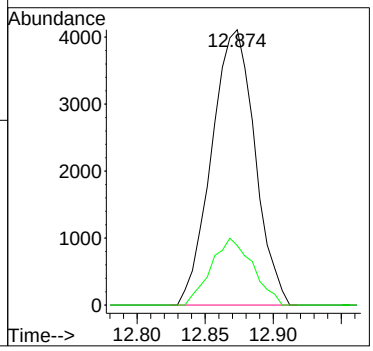


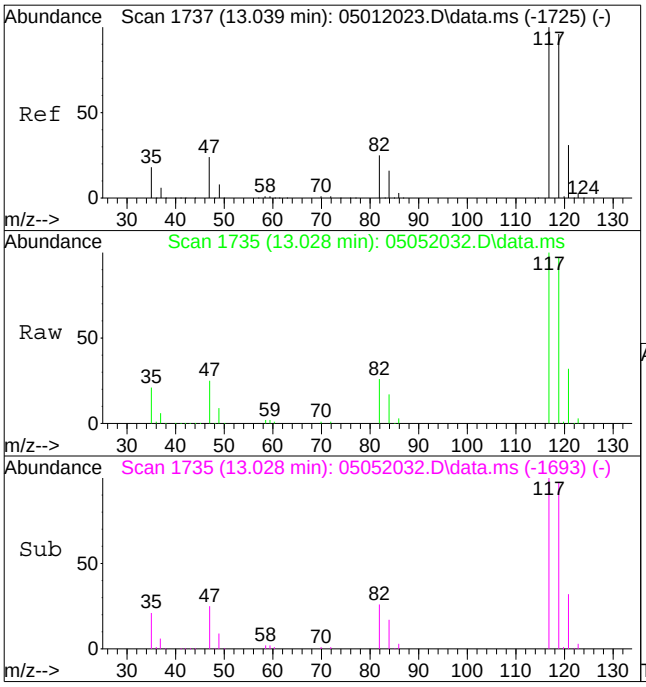


#41
Benzene
Concen: 0.08 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05052032.D
Acq: 5 May 2020 22:27

Tgt Ion: 78 Resp: 9095

Ion	Ratio	Lower	Upper
78	100		
77	23.3	3.4	43.4

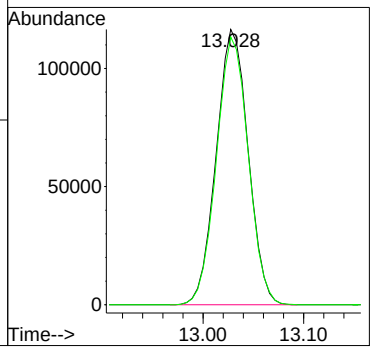


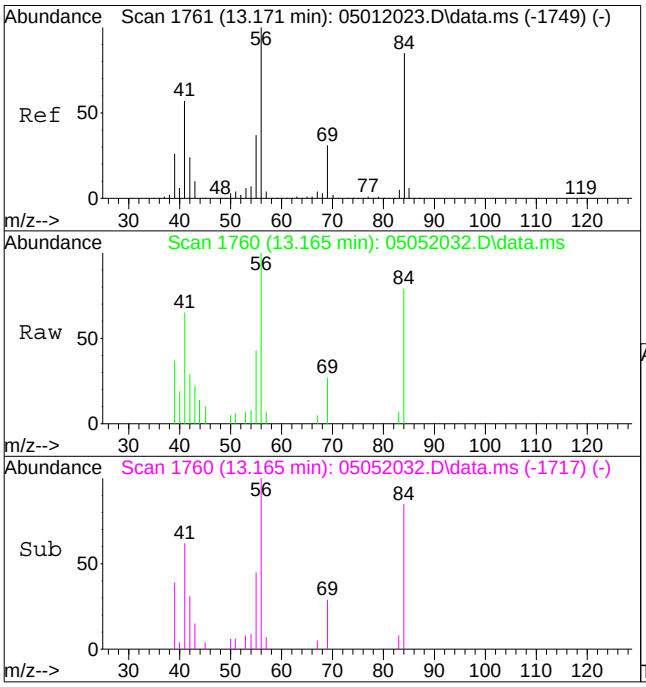


#42
Carbon Tetrachloride
Concen: 6.31 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05052032.D
Acq: 5 May 2020 22:27

Tgt Ion:117 Resp: 256926

Ion	Ratio	Lower	Upper
117	100		
119	96.8	76.2	116.2

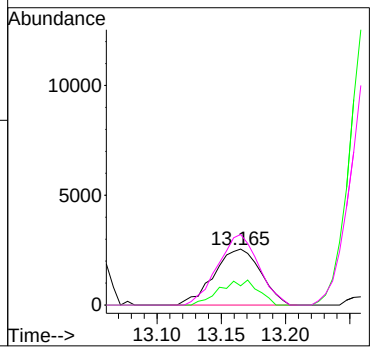


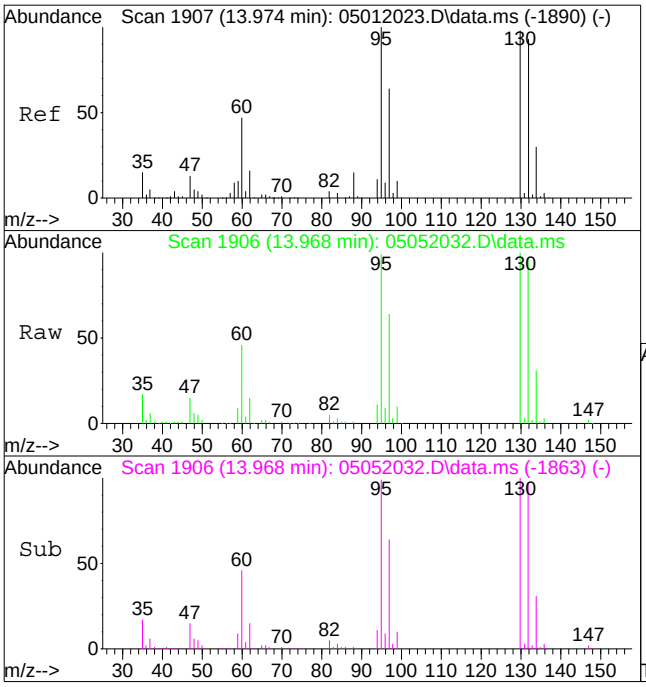


#43
Cyclohexane
Concen: 0.14 ng
RT: 13.17 min Scan# 1760
Delta R.T. -0.011 min
Lab File: 05052032.D
Acq: 5 May 2020 22:27

Tgt Ion: 84 Resp: 6441

Ion	Ratio	Lower	Upper
84	100		
69	36.5	16.5	56.5
56	110.2	97.4	137.4

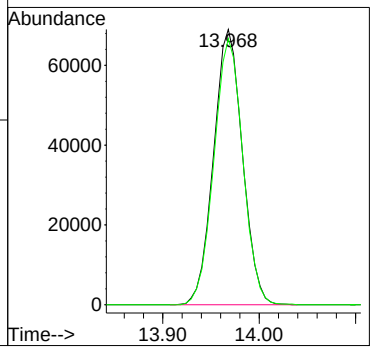


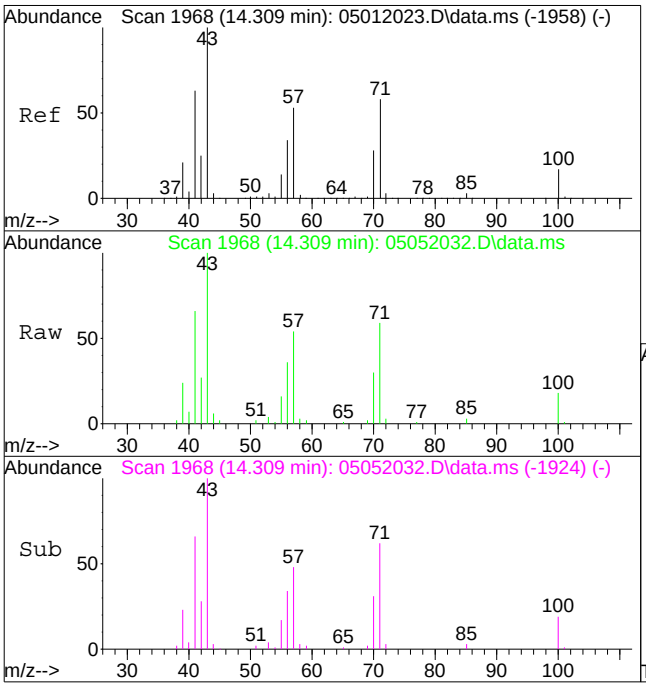


#47
Trichloroethene
Concen: 4.64 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05052032.D
Acq: 5 May 2020 22:27

Tgt Ion:130 Resp: 143466

Ion	Ratio	Lower	Upper
130	100		
132	96.7	74.9	114.9

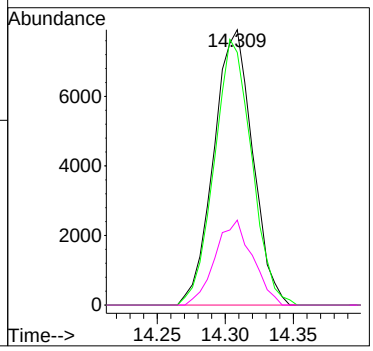


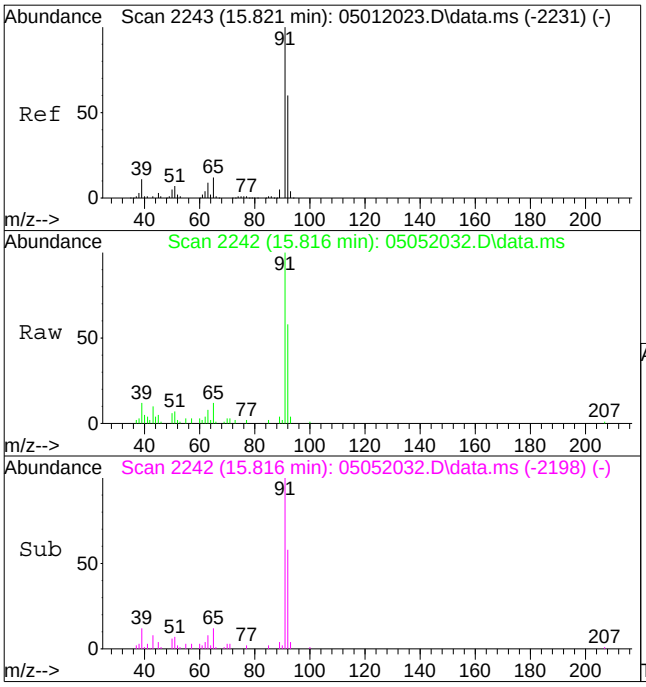


#51
n-Heptane
Concen: 0.56 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05052032.D
Acq: 5 May 2020 22:27

Tgt Ion: 71 Resp: 15718

Ion	Ratio	Lower	Upper
71	100		
57	92.8	71.0	111.0
100	29.6	8.4	48.4

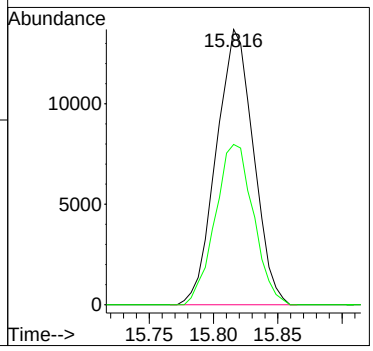


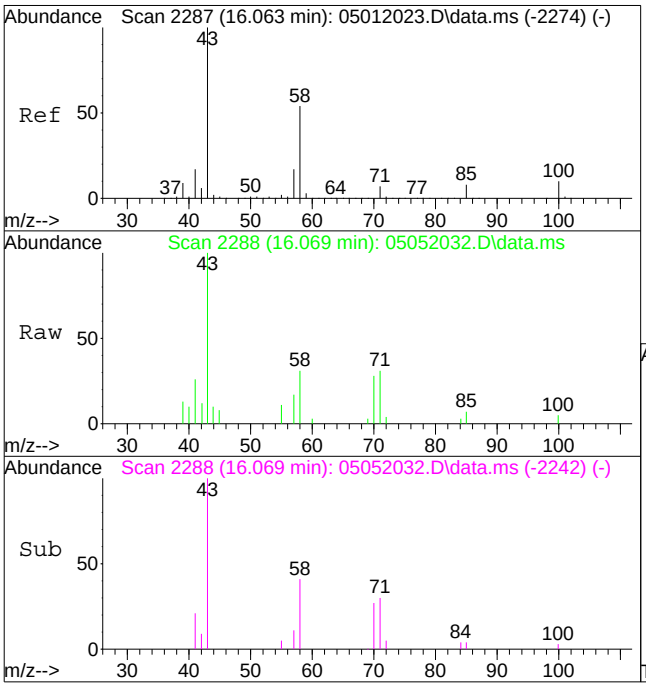


#58
Toluene
Concen: 0.23 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05052032.D
Acq: 5 May 2020 22:27

Tgt Ion: 91 Resp: 27542

Ion	Ratio	Lower	Upper
91	100		
92	59.9	39.4	79.4

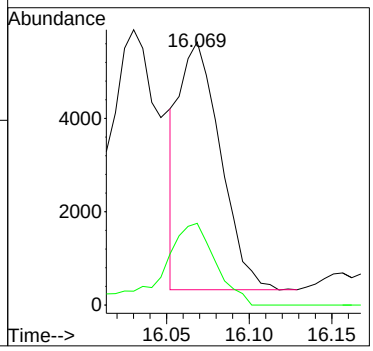


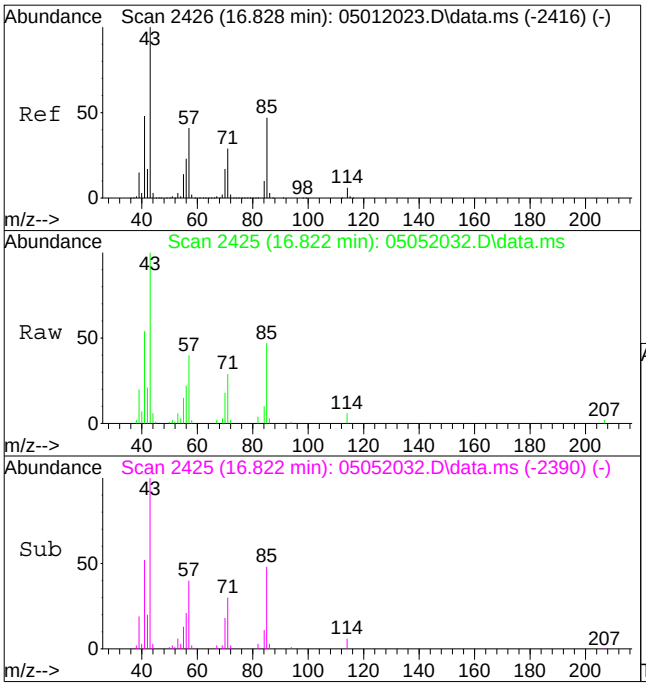


#59
2-Hexanone
Concen: 0.14 ng
RT: 16.07 min Scan# 2288
Delta R.T. 0.005 min
Lab File: 05052032.D
Acq: 5 May 2020 22:27

Tgt Ion: 43 Resp: 9194

Ion	Ratio	Lower	Upper
43	100		
58	40.8	34.5	74.5

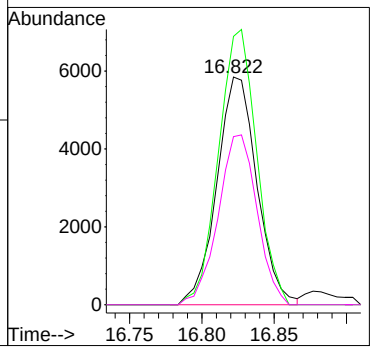


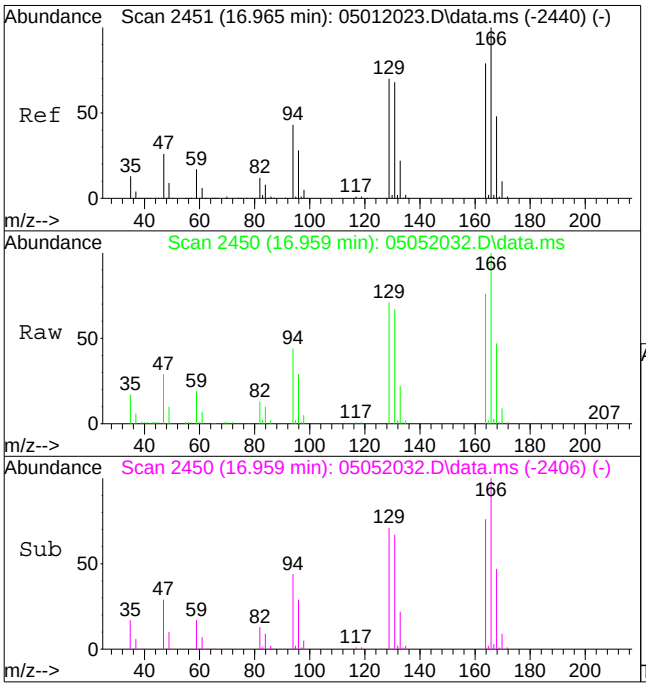


#63
n-Octane
Concen: 0.45 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05052032.D
Acq: 5 May 2020 22:27

Tgt Ion: 57 Resp: 11294

Ion	Ratio	Lower	Upper
57	100		
85	114.9	91.0	136.4
71	72.2	56.2	84.2

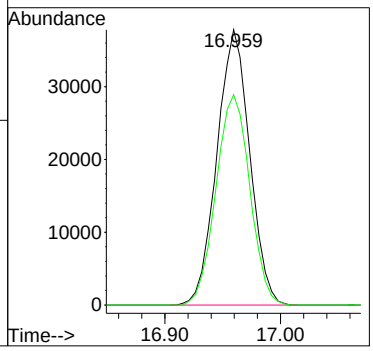


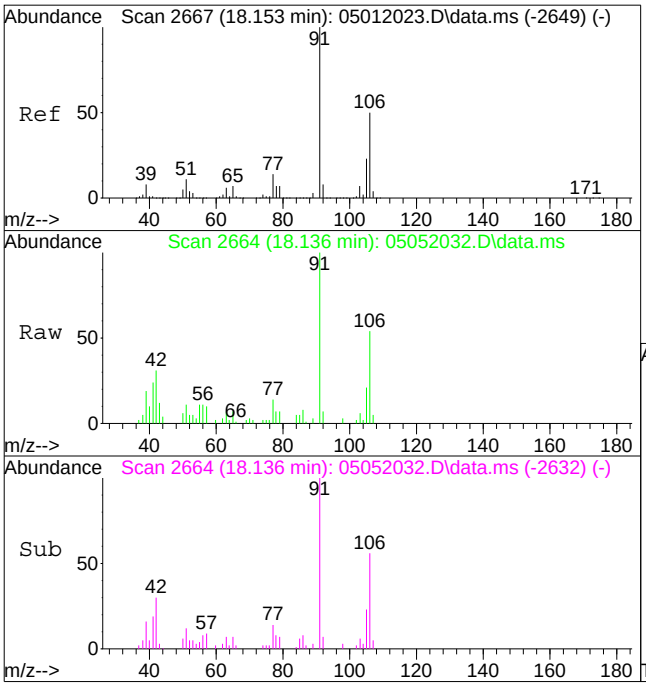


#64
Tetrachloroethene
Concen: 2.19 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05052032.D
Acq: 5 May 2020 22:27

Tgt Ion:166 Resp: 74580

Ion	Ratio	Lower	Upper
166	100		
164	78.8	58.4	98.4

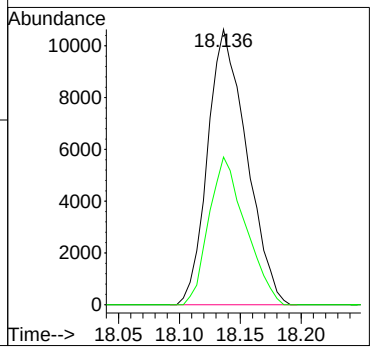


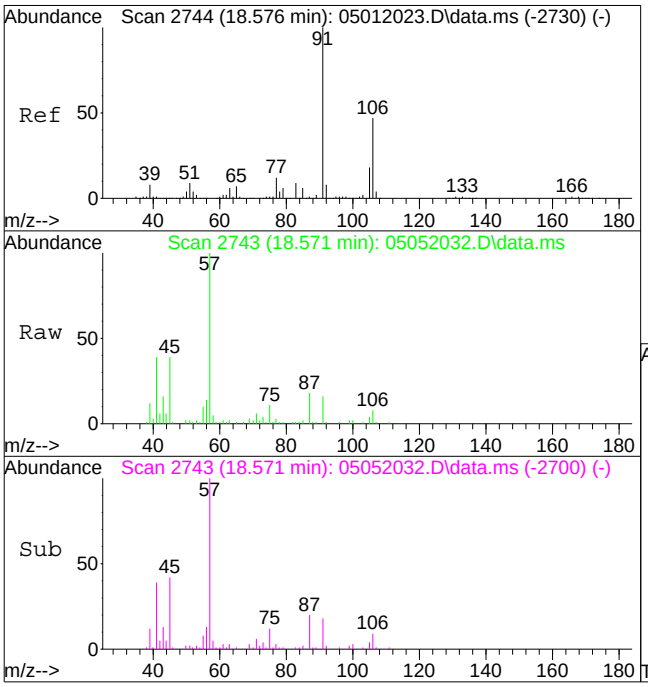


#67
m- & p-Xylenes
Concen: 0.22 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05052032.D
Acq: 5 May 2020 22:27

Tgt Ion: 91 Resp: 23668

Ion	Ratio	Lower	Upper
91	100		
106	50.5	29.7	69.7

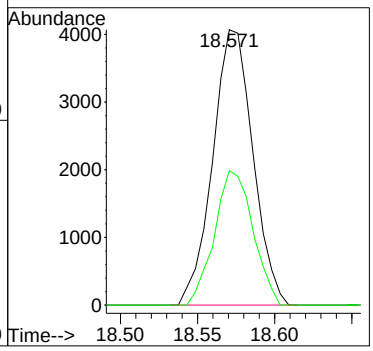


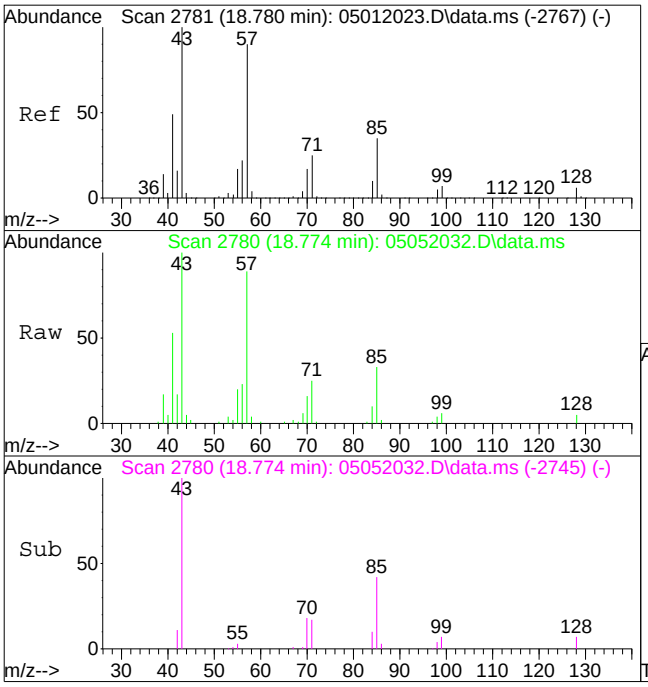


#70
o-Xylene
Concen: 0.07 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05052032.D
Acq: 5 May 2020 22:27

Tgt Ion: 91 Resp: 7379

Ion	Ratio	Lower	Upper
91	100		
106	46.6	27.5	67.5

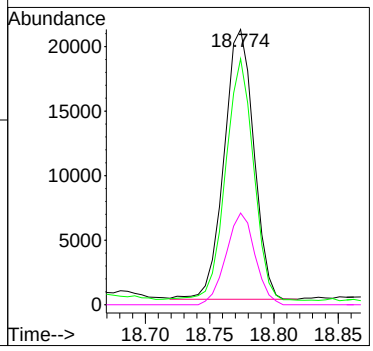


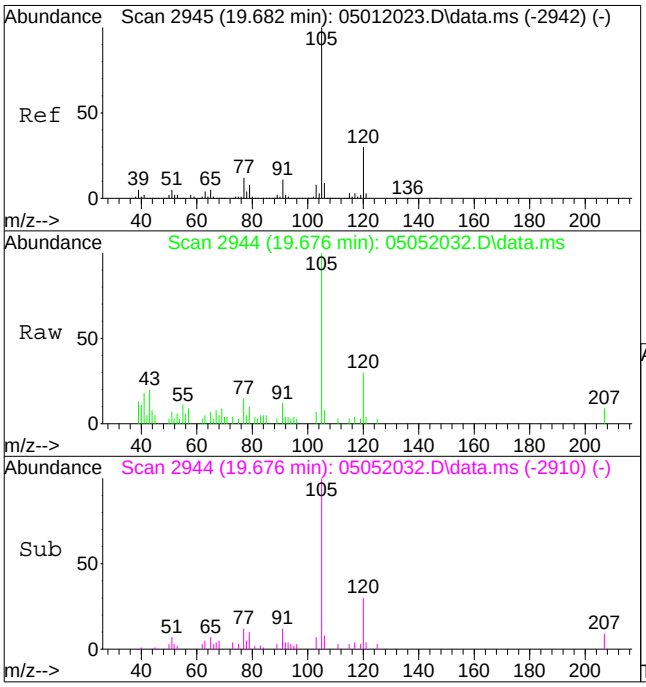


#71
n-Nonane
Concen: 0.59 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05052032.D
Acq: 5 May 2020 22:27

Tgt Ion: 43 Resp: 33683

Ion	Ratio	Lower	Upper
43	100		
57	85.0	69.0	109.0
85	33.0	14.6	54.6

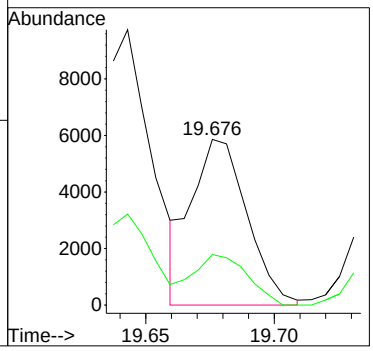


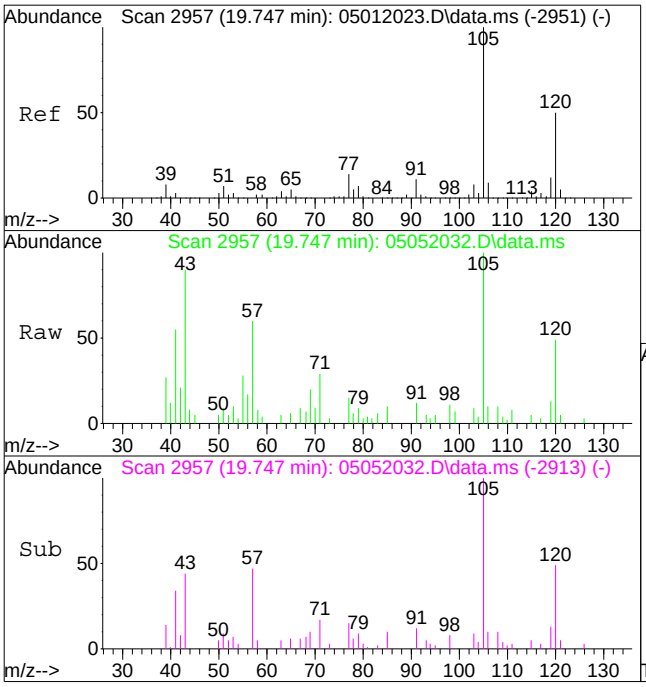


#78
4-Ethyltoluene
Concen: 0.07 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05052032.D
Acq: 5 May 2020 22:27

Tgt Ion:105 Resp: 8832

Ion	Ratio	Lower	Upper
105	100		
120	30.1	10.4	50.4

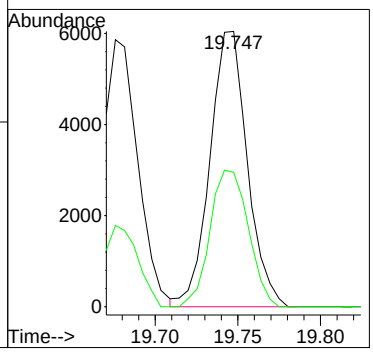


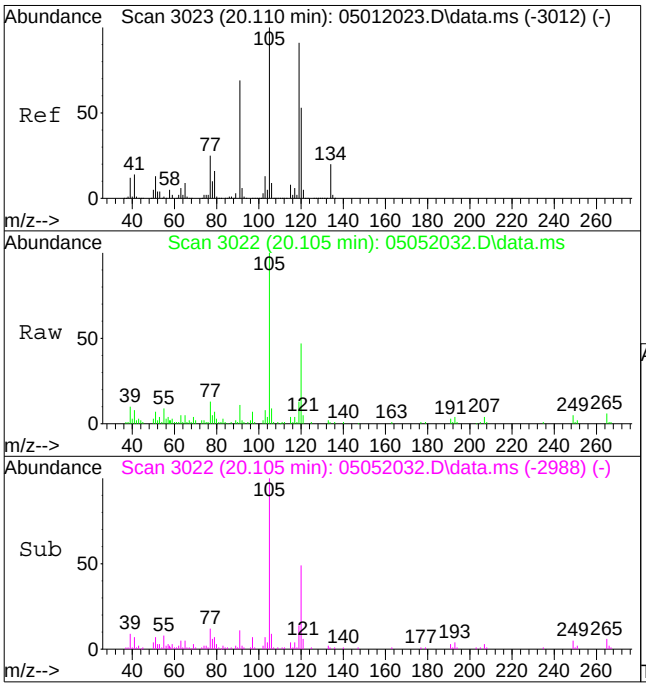


#79
1,3,5-Trimethylbenzene
Concen: 0.09 ng
RT: 19.75 min Scan# 2957
Delta R.T. -0.006 min
Lab File: 05052032.D
Acq: 5 May 2020 22:27

Tgt Ion:105 Resp: 9504

Ion	Ratio	Lower	Upper
105	100		
120	50.8	29.9	69.9

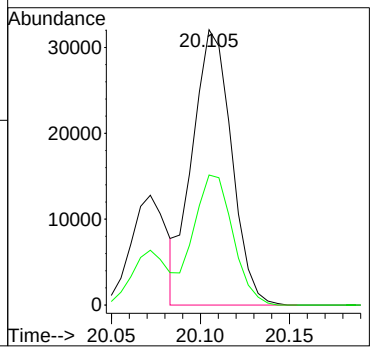


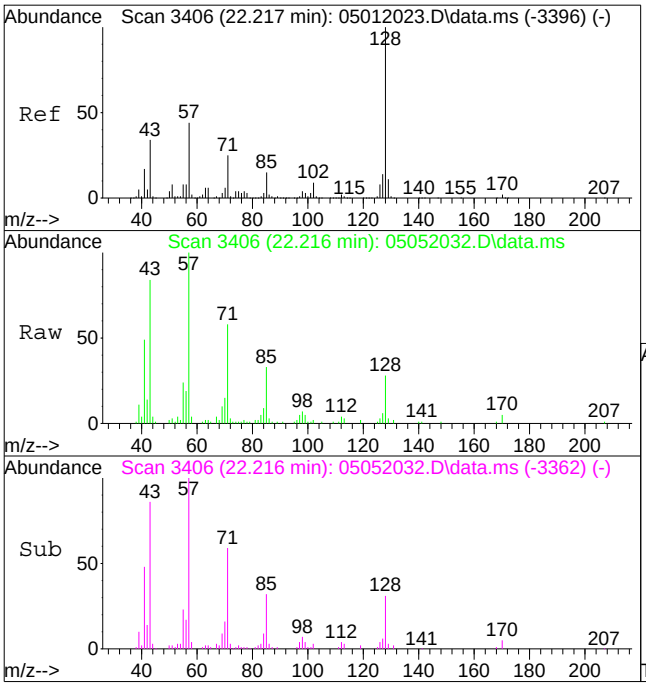


#82
1,2,4-Trimethylbenzene
Concen: 0.45 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05052032.D
Acq: 5 May 2020 22:27

Tgt Ion:105 Resp: 49061

Ion	Ratio	Lower	Upper
105	100		
120	45.8	33.6	73.6

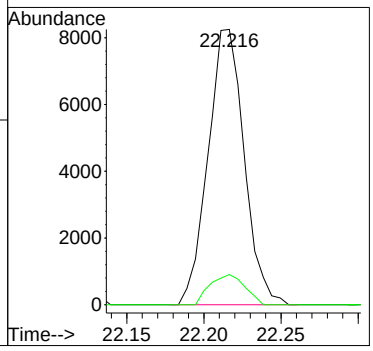




#95
Naphthalene
Concen: 0.10 ng
RT: 22.22 min Scan# 3406
Delta R.T. -0.006 min
Lab File: 05052032.D
Acq: 5 May 2020 22:27

Tgt Ion:128 Resp: 13430

Ion	Ratio	Lower	Upper
128	100		
129	10.6	0.0	31.0



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052015.D Vial: 1
Acq On : 5 May 2020 11:32 Operator: WA
Sample : P2002107-021 (0.2mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 21:00:23 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/6/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	272488	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1195746	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	563967	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	445996	12.077	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.64%				
57) Toluene-d8 (SS2)	15.72	98	1212962	12.689	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.52%				
73) Bromofluorobenzene (SS3)	18.98	174	449355	13.064	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.48%				
Target Compounds							Qvalue
2) Propene	4.12	42	14556	0.461	ng	#	86
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.16	54	1081	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.36	45	1426	0.059	ng	#	64
11) Acetonitrile	6.61	41	105	N.D.			
12) Acrolein	6.80	56	710	N.D.			
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	7.56	45	861	N.D.			
16) Acrylonitrile	7.70	53	350	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	8.40	84	107	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	8.85	151	804	N.D.			
22) Carbon Disulfide	8.69	76	1158	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.	d		
25) Methyl tert-Butyl Ether	10.07	73	1279	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.31	72	628	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	11.27	57	2909325	55.968	ng		100
32) Chloroform	11.31	83	550	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	12.87	61	532	N.D.			
40) 1-Butanol	12.81	56	256	N.D.			
41) Benzene	12.87	78	99077	0.773	ng		100
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	13.18	84	2280755	47.730	ng		99
44) tert-Amyl Methyl Ether	13.46	73	1839	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052015.D Vial: 1
Acq On : 5 May 2020 11:32 Operator: WA
Sample : P2002107-021 (0.2mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 21:00:23 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

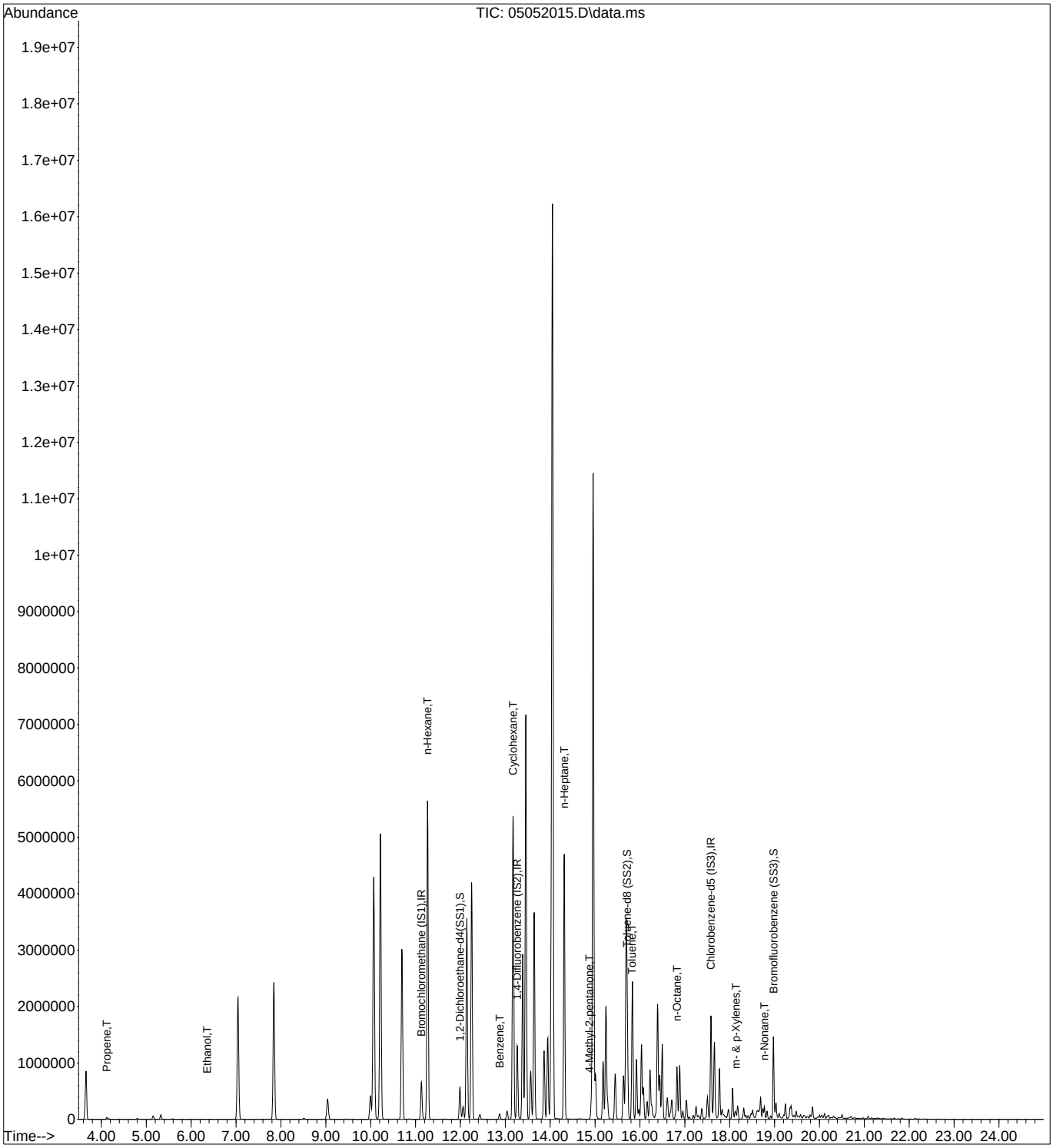
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	1198128	39.955 ng	100
52) cis-1,3-Dichloropropene	14.96	75	2435	N.D.	
53) 4-Methyl-2-pentanone	14.88	58	3136	0.110 ng	79
54) trans-1,3-Dichloropropene	15.14	75	114	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	15.82	91	40041	0.325 ng	99
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	16.83	57	181322	7.108 ng	99
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	17.98	91	5111	N.D.	
67) m- & p-Xylenes	18.14	91	10941	0.100 ng	98
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.48	104	166	N.D.	
70) o-Xylene	18.58	91	5519	N.D.	
71) n-Nonane	18.77	43	68574	1.168 ng	99
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	19.10	105	2400	N.D.	
75) alpha-Pinene	19.37	93	343	N.D.	
76) n-Propylbenzene	19.56	91	3457	N.D.	
77) 3-Ethyltoluene	19.64	105	2349	N.D.	
78) 4-Ethyltoluene	19.68	105	793	N.D.	
79) 1,3,5-Trimethylbenzene	19.75	105	1761	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	19.91	105	1509	N.D.	
82) 1,2,4-Trimethylbenzene	20.11	105	2469	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.17	91	497	N.D.	
85) 1,3-Dichlorobenzene	20.25	146	231	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	290	N.D.	
87) sec-Butylbenzene	20.35	105	2647	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	496	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	1290	N.D.	
90) 1,2-Dichlorobenzene	20.59	146	125	N.D.	
91) d-Limonene	20.61	68	655	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.30	57	1285	N.D.	
94) 1,2,4-Trichlorobenzene	22.11	180	205	N.D.	
95) Naphthalene	22.22	128	2033	N.D.	
96) n-Dodecane	22.21	57	1558	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.11	119	480	N.D.	
100) n-Butylbenzene	20.85	91	1493	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052015.D Vial: 1
Acq On : 5 May 2020 11:32 Operator: WA
Sample : P2002107-021 (0.2mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 21:00:23 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052015.D Vial: 1
Acq On : 5 May 2020 11:32 Operator: WA
Sample : P2002107-021 (0.2mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 21:00:23 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/6/20

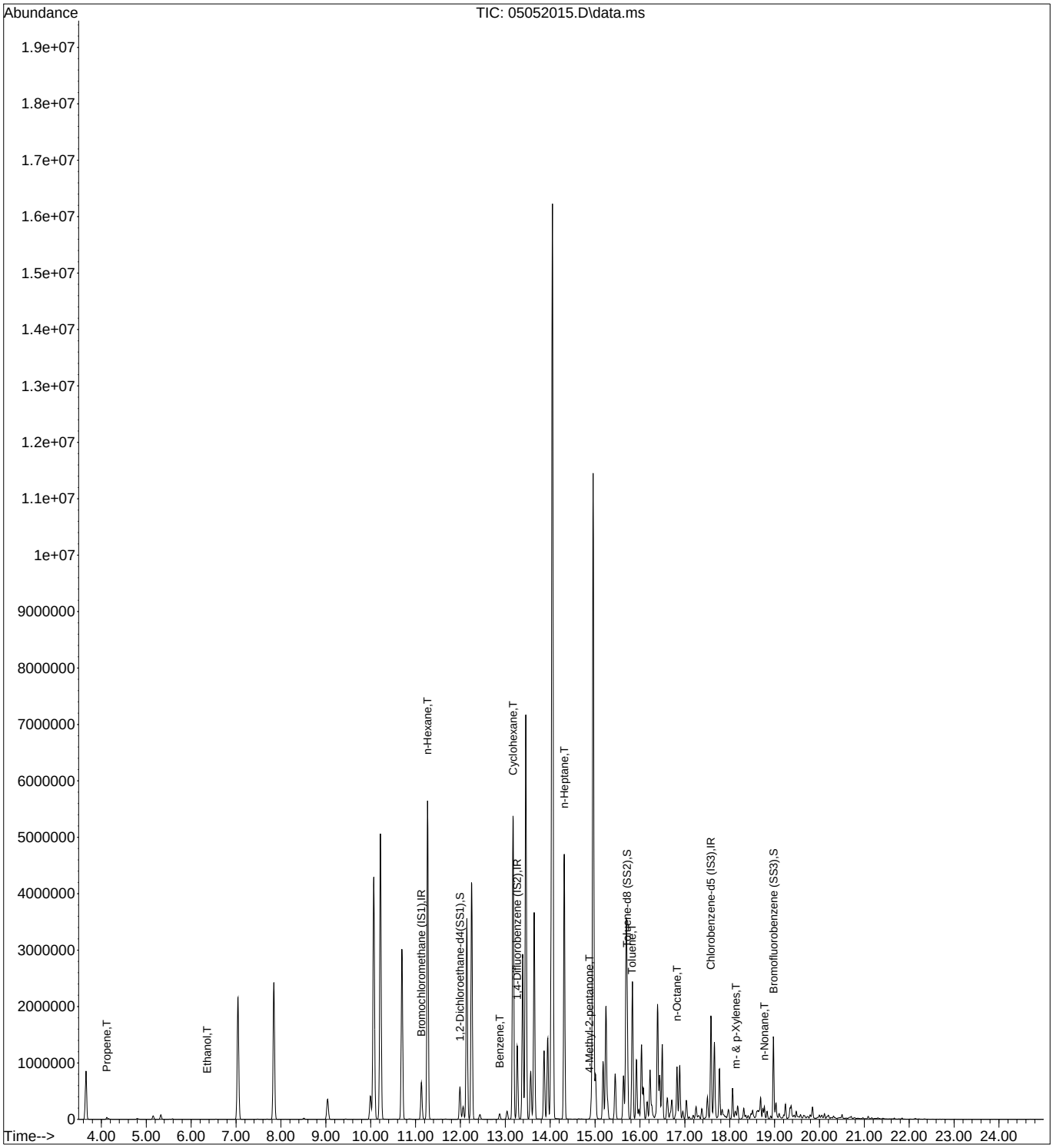
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	272488	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1195746	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	563967	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	445996	12.077	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.64%			
57) Toluene-d8 (SS2)	15.72	98	1212962	12.689	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.52%			
73) Bromofluorobenzene (SS3)	18.98	174	449355	13.064	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.48%			
Target Compounds						Qvalue
2) Propene	4.12	42	14556	0.461	ng	# 86
10) Ethanol	6.36	45	1426	0.059	ng	# 64
31) n-Hexane	11.27	57	2909325	55.968	ng	100
41) Benzene	12.87	78	99077	0.773	ng	100
43) Cyclohexane	13.18	84	2280755	47.730	ng	99
51) n-Heptane	14.31	71	1198128	39.955	ng	100
53) 4-Methyl-2-pentanone	14.88	58	3136	0.110	ng	79
58) Toluene	15.82	91	40041	0.325	ng	99
63) n-Octane	16.83	57	181322	7.108	ng	99
67) m- & p-Xylenes	18.14	91	10941	0.100	ng	98
71) n-Nonane	18.77	43	68574	1.168	ng	99

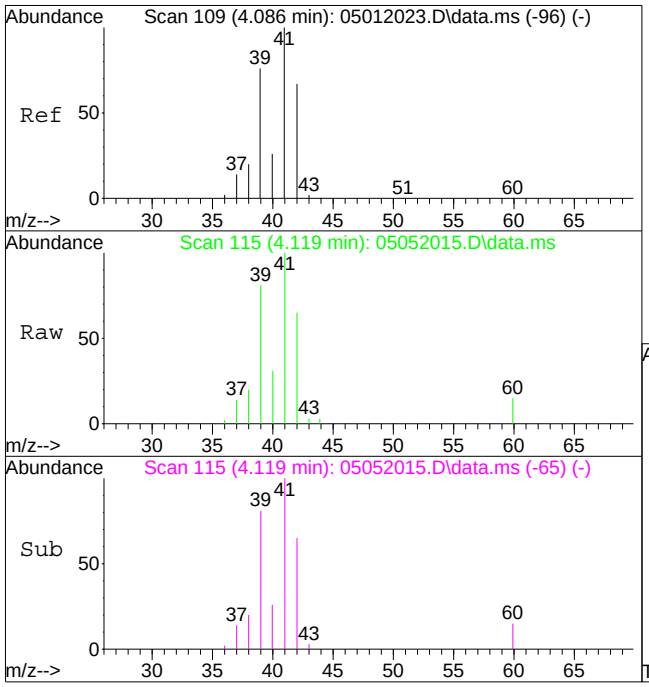
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052015.D Vial: 1
Acq On : 5 May 2020 11:32 Operator: WA
Sample : P2002107-021 (0.2mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 21:00:23 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

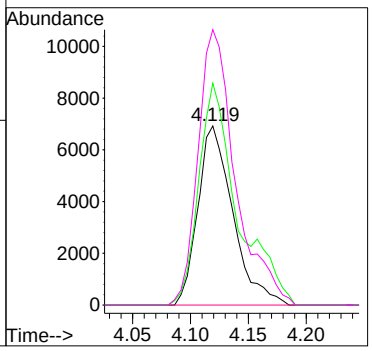


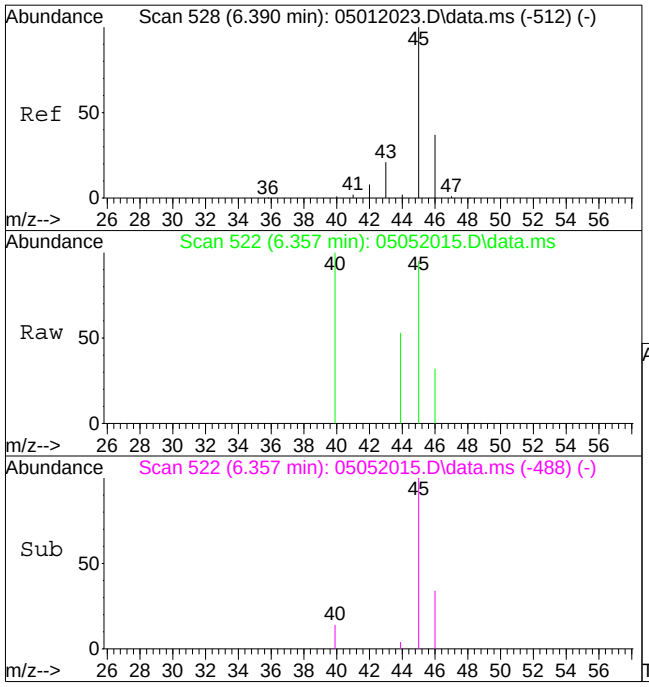


#2
Propene
Concen: 0.46 ng
RT: 4.12 min Scan# 115
Delta R.T. 0.027 min
Lab File: 05052015.D
Acq: 5 May 2020 11:32

Tgt Ion: 42 Resp: 14556

Ion	Ratio	Lower	Upper
42	100		
39	137.4	96.1	136.1#
41	164.6	131.9	171.9

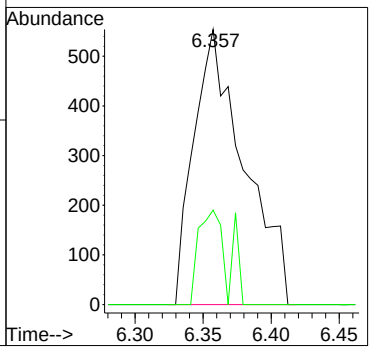


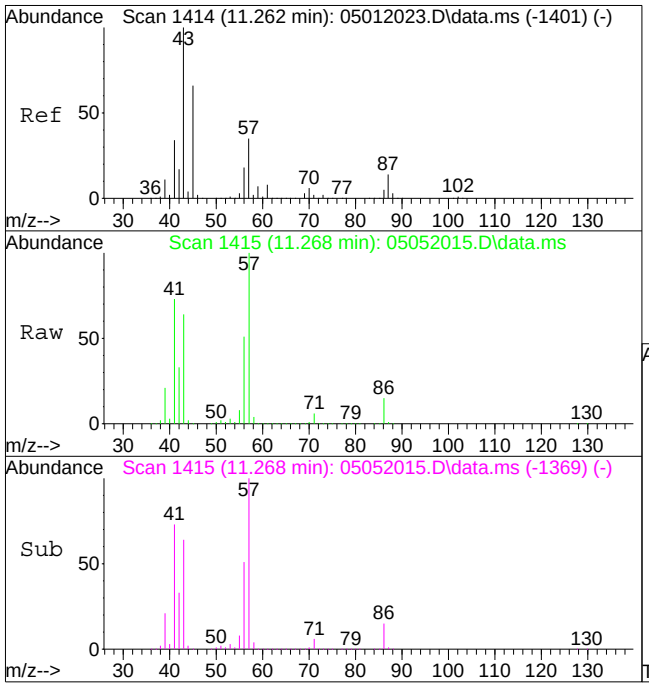


#10
Ethanol
Concen: 0.06 ng
RT: 6.36 min Scan# 522
Delta R.T. -0.061 min
Lab File: 05052015.D
Acq: 5 May 2020 11:32

Tgt Ion: 45 Resp: 1426

Ion	Ratio	Lower	Upper
45	100		
46	15.6	17.2	57.2#

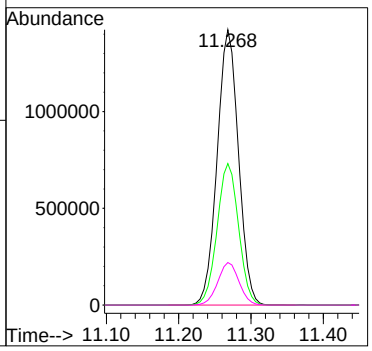


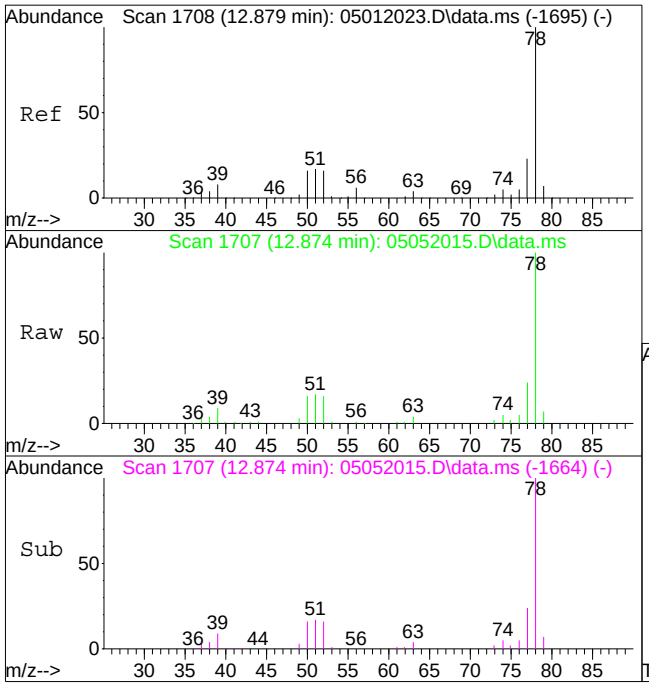


#31
n-Hexane
Concen: 55.97 ng
RT: 11.27 min Scan# 1415
Delta R.T. 0.005 min
Lab File: 05052015.D
Acq: 5 May 2020 11:32

Tgt Ion: 57 Resp: 2909325

Ion	Ratio	Lower	Upper
57	100		
56	51.8	41.4	62.0
86	15.4	12.4	18.6

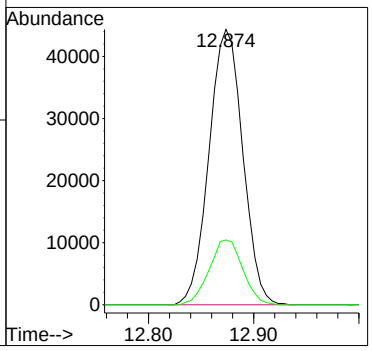


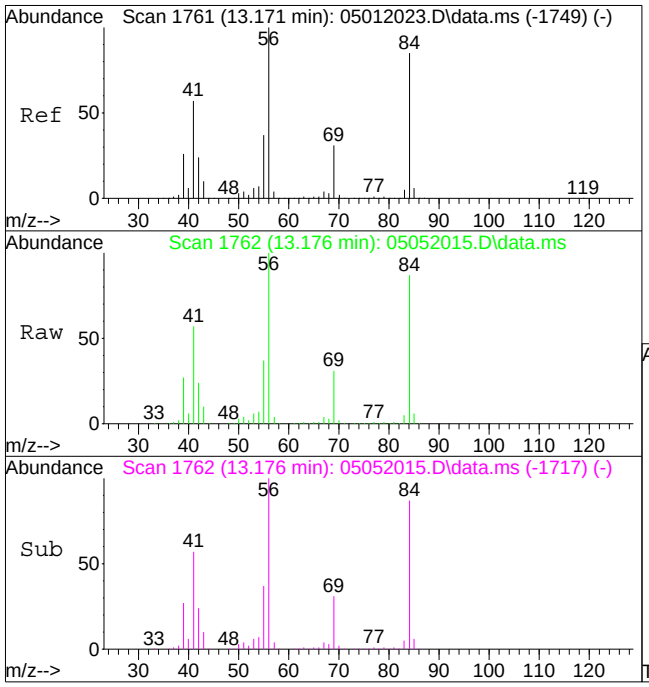


#41
Benzene
Concen: 0.77 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05052015.D
Acq: 5 May 2020 11:32

Tgt Ion: 78 Resp: 99077

Ion	Ratio	Lower	Upper
78	100		
77	23.4	3.4	43.4

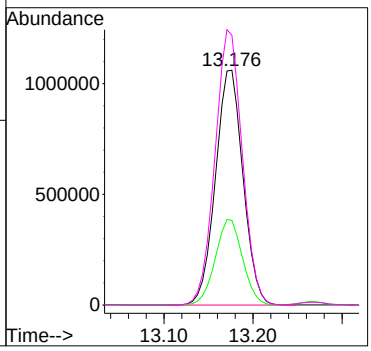


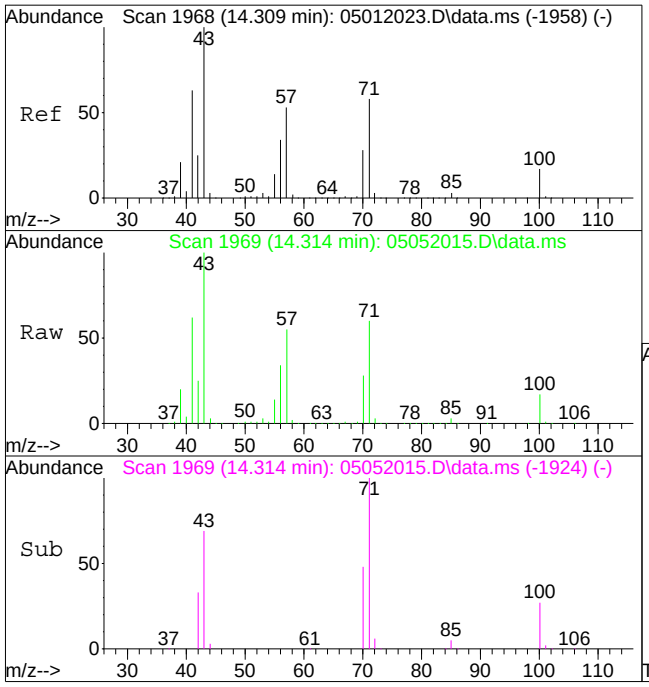


#43
Cyclohexane
Concen: 47.73 ng
RT: 13.18 min Scan# 1762
Delta R.T. -0.000 min
Lab File: 05052015.D
Acq: 5 May 2020 11:32

Tgt Ion: 84 Resp: 2280755

Ion	Ratio	Lower	Upper
84	100		
69	36.2	16.5	56.5
56	116.1	97.4	137.4

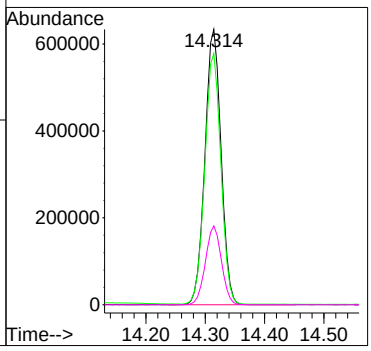


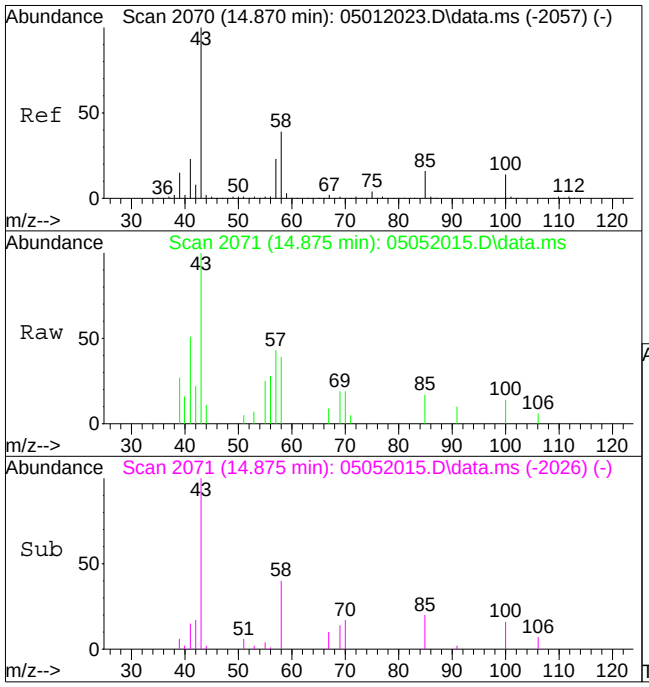


#51
n-Heptane
Concen: 39.96 ng
RT: 14.31 min Scan# 1969
Delta R.T. -0.000 min
Lab File: 05052015.D
Acq: 5 May 2020 11:32

Tgt Ion: 71 Resp: 1198128

Ion	Ratio	Lower	Upper
71	100		
57	90.9	71.0	111.0
100	28.4	8.4	48.4

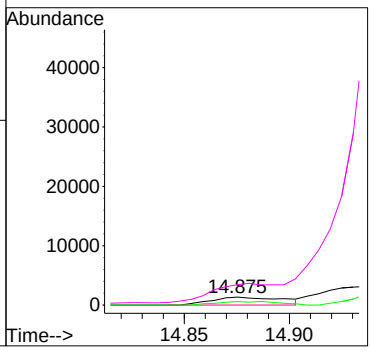


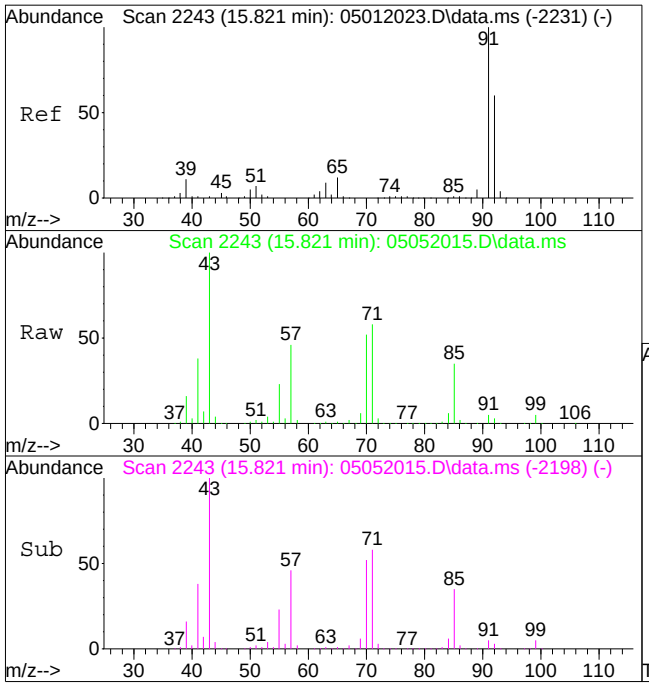


#53
4-Methyl-2-pentanone
Concen: 0.11 ng
RT: 14.88 min Scan# 2071
Delta R.T. -0.000 min
Lab File: 05052015.D
Acq: 5 May 2020 11:32

Tgt Ion: 58 Resp: 3136

Ion	Ratio	Lower	Upper
58	100		
85	38.6	35.4	53.2
43	212.7	203.3	304.9

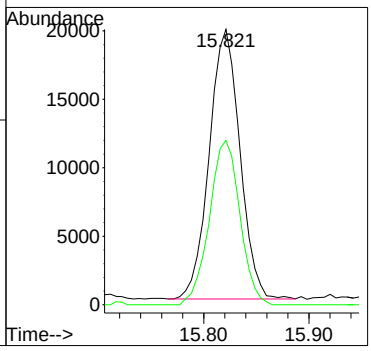


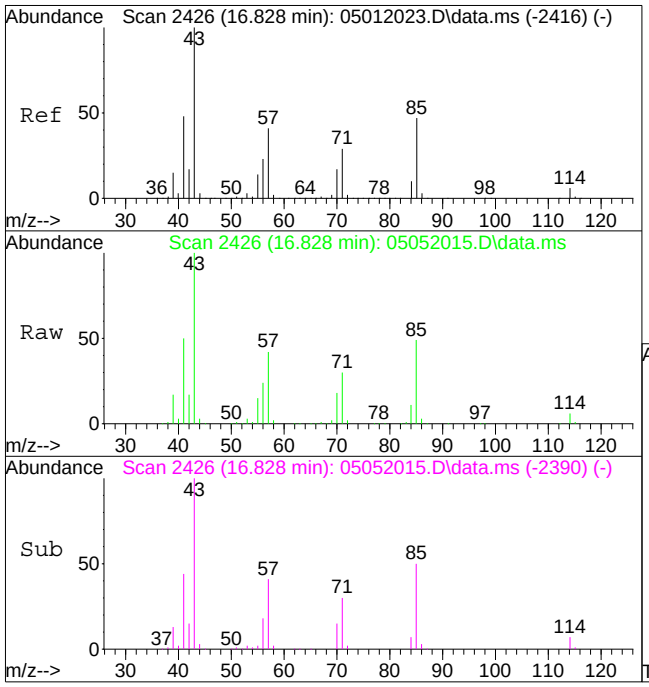


#58
Toluene
Concen: 0.32 ng
RT: 15.82 min Scan# 2243
Delta R.T. -0.000 min
Lab File: 05052015.D
Acq: 5 May 2020 11:32

Tgt Ion: 91 Resp: 40041

Ion	Ratio	Lower	Upper
91	100		
92	60.3	39.4	79.4

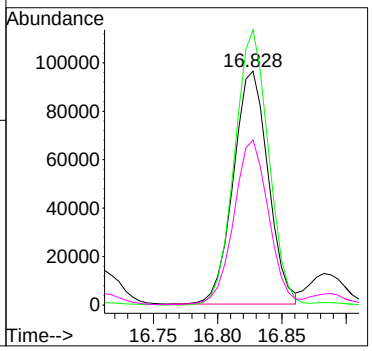


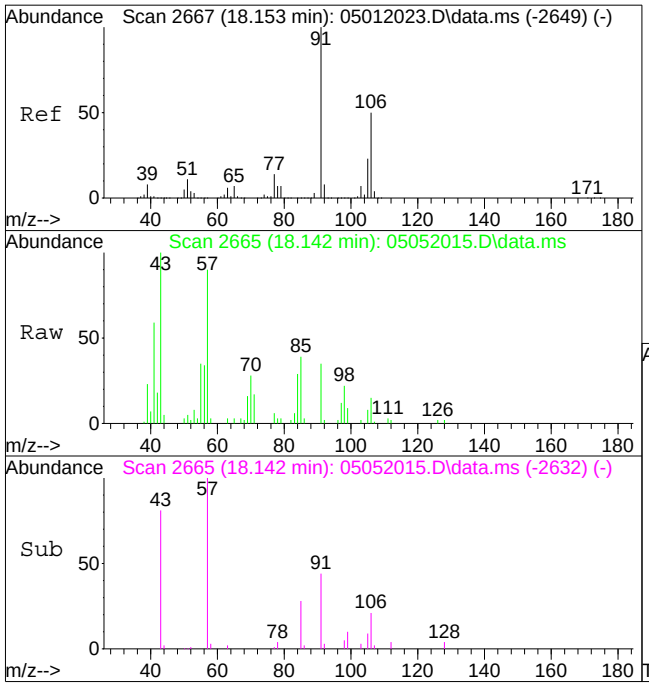


#63
n-Octane
Concen: 7.11 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05052015.D
Acq: 5 May 2020 11:32

Tgt Ion: 57 Resp: 181322

Ion	Ratio	Lower	Upper
57	100		
85	114.9	91.0	136.4
71	70.3	56.2	84.2

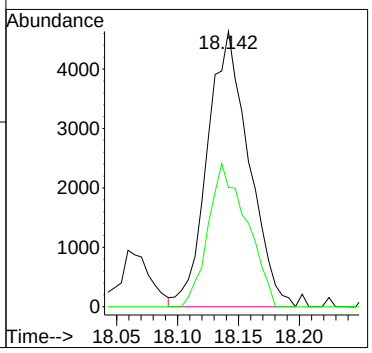


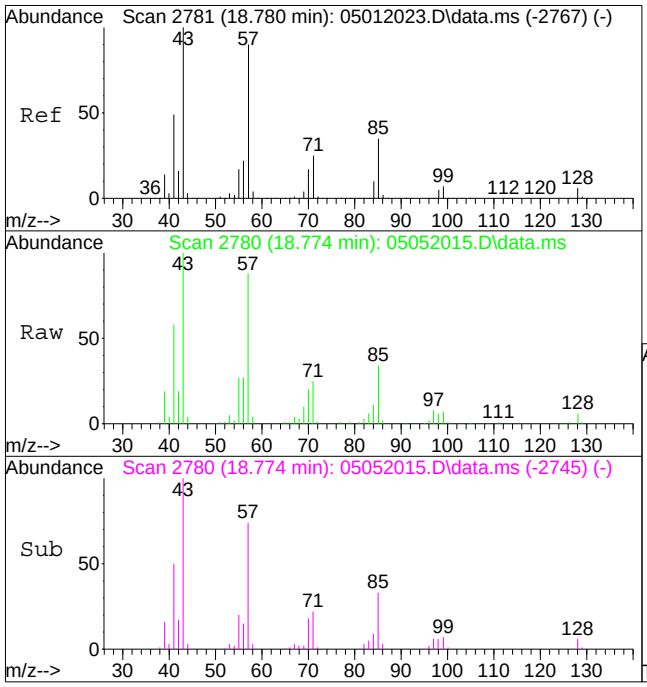


#67
m- & p-Xylenes
Concen: 0.10 ng
RT: 18.14 min Scan# 2665
Delta R.T. -0.017 min
Lab File: 05052015.D
Acq: 5 May 2020 11:32

Tgt Ion: 91 Resp: 10941

Ion	Ratio	Lower	Upper
91	100		
106	48.5	29.7	69.7

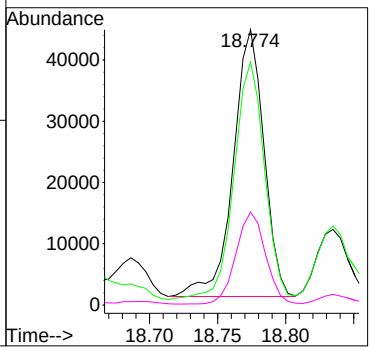




#71
n-Nonane
Concen: 1.17 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05052015.D
Acq: 5 May 2020 11:32

Tgt Ion: 43 Resp: 68574

Ion	Ratio	Lower	Upper
43	100		
57	88.6	69.0	109.0
85	33.0	14.6	54.6



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052016.D Vial: 1
Acq On : 5 May 2020 12:07 Operator: WA
Sample : P2002107-022 (0.4mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 21:01:26 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/6/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	268926	12.500 ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1188257	12.500 ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	563597	12.500 ng	0.00
System Monitoring Compounds					
33) 1,2-Dichloroethane-d4(...	11.99	65	441883	12.125 ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.96%		
57) Toluene-d8 (SS2)	15.72	98	1242495	13.006 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.08%		
73) Bromofluorobenzene (SS3)	18.98	174	433572	12.614 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.88%		
Target Compounds					Qvalue
2) Propene	0.00	42	0	N.D. d	
3) Dichlorodifluoromethan...	0.00	85	0	N.D.	
4) Chloromethane	0.00	50	0	N.D.	
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.	
6) Vinyl Chloride	0.00	62	0	N.D.	
7) 1,3-Butadiene	0.00	54	0	N.D.	
8) Bromomethane	0.00	94	0	N.D.	
9) Chloroethane	0.00	64	0	N.D.	
10) Ethanol	6.36	45	1265	0.053 ng	84
11) Acetonitrile	6.61	41	157	N.D.	
12) Acrolein	6.80	56	669	N.D.	
13) Acetone	0.00	58	0	N.D. d	
14) Trichlorofluoromethane	0.00	101	0	N.D.	
15) 2-Propanol (Isopropanol)	7.56	45	1198	N.D.	
16) Acrylonitrile	0.00	53	0	N.D. d	
17) 1,1-Dichloroethene	0.00	96	0	N.D.	
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	
19) Methylene Chloride	8.41	84	129	N.D.	
20) 3-Chloro-1-propene (Al...	8.62	41	100	N.D.	
21) Trichlorotrifluoroethane	0.00	151	0	N.D.	
22) Carbon Disulfide	8.69	76	1180	N.D.	
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.	
24) 1,1-Dichloroethane	9.99	63	629	N.D.	
25) Methyl tert-Butyl Ether	10.20	73	605	N.D.	
26) Vinyl Acetate	0.00	86	0	N.D. d	
27) 2-Butanone (MEK)	10.51	72	102	N.D.	
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.	
29) Diisopropyl Ether	0.00	87	0	N.D. d	
30) Ethyl Acetate	0.00	61	0	N.D.	
31) n-Hexane	11.26	57	246609	4.807 ng	100
32) Chloroform	0.00	83	0	N.D.	
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.	
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.	
36) 1,2-Dichloroethane	0.00	62	0	N.D. d	
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.	
39) Isopropyl Acetate	12.87	61	183	N.D.	
40) 1-Butanol	12.87	56	665	N.D.	
41) Benzene	12.87	78	54241	0.426 ng	100
42) Carbon Tetrachloride	0.00	117	0	N.D.	
43) Cyclohexane	13.17	84	1227489	25.850 ng	98
44) tert-Amyl Methyl Ether	13.46	73	1185	N.D.	
45) 1,2-Dichloropropane	0.00	63	0	N.D. d	
46) Bromodichloromethane	0.00	83	0	N.D. d	
47) Trichloroethene	0.00	130	0	N.D.	
48) 1,4-Dioxane	0.00	88	0	N.D.	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d	
50) Methyl Methacrylate	0.00	100	0	N.D. d	

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052016.D Vial: 1
Acq On : 5 May 2020 12:07 Operator: WA
Sample : P2002107-022 (0.4mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 21:01:26 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

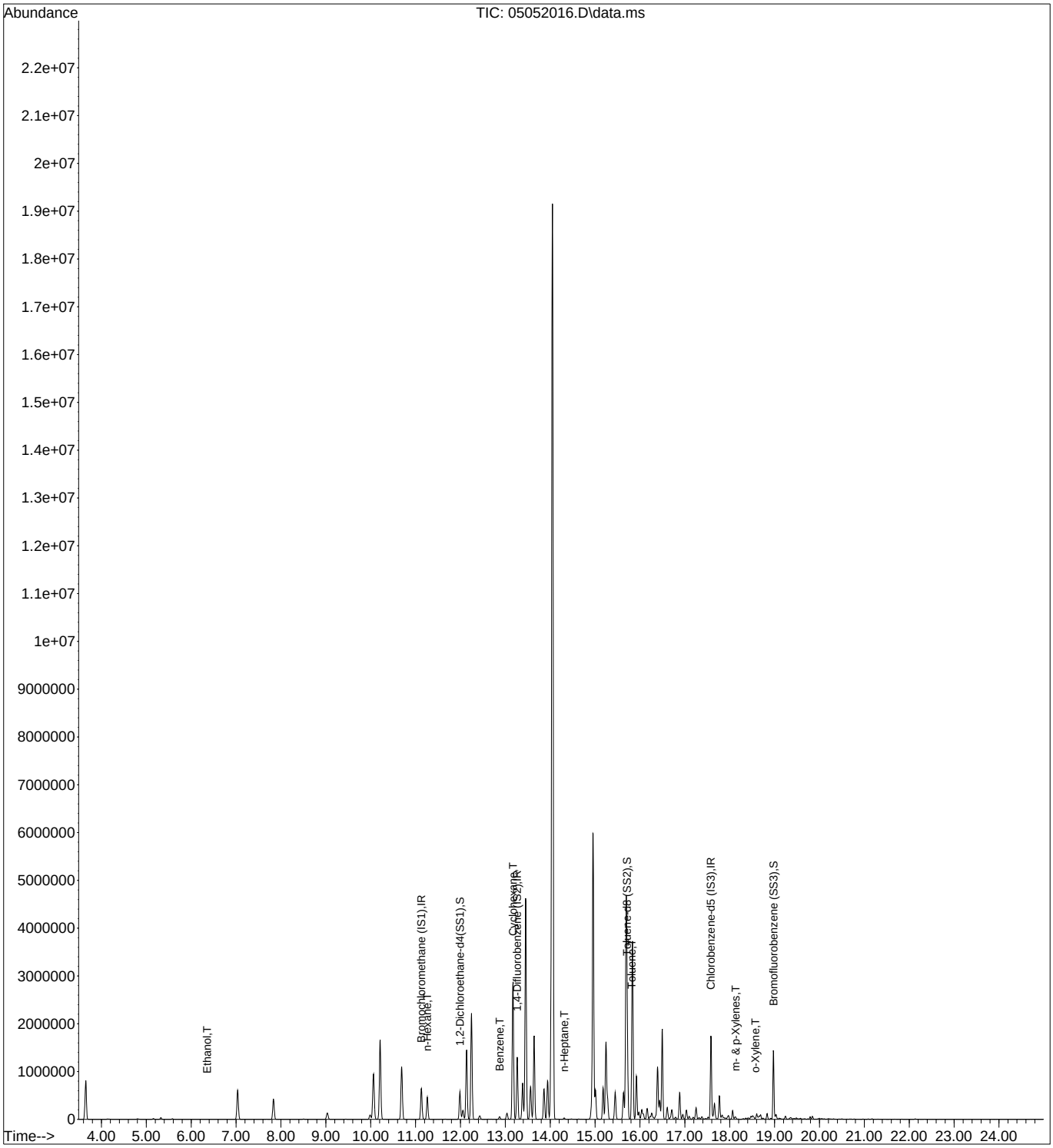
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	7663	0.257 ng	91
52) cis-1,3-Dichloropropene	14.95	75	1278	N.D.	
53) 4-Methyl-2-pentanone	14.89	58	1272	N.D.	
54) trans-1,3-Dichloropropene	15.14	75	350	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	15.82	91	27122	0.220 ng	96
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	0.00	57	0	N.D. d	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	17.98	91	1427	N.D.	
67) m- & p-Xylenes	18.14	91	7100	0.065 ng	93
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	114	N.D.	
70) o-Xylene	18.57	91	6402	0.058 ng	98
71) n-Nonane	18.76	43	1310	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	19.10	105	392	N.D.	
75) alpha-Pinene	19.25	93	205	N.D.	
76) n-Propylbenzene	19.55	91	768	N.D.	
77) 3-Ethyltoluene	19.64	105	763	N.D.	
78) 4-Ethyltoluene	19.68	105	397	N.D.	
79) 1,3,5-Trimethylbenzene	19.75	105	743	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	19.91	105	483	N.D.	
82) 1,2,4-Trimethylbenzene	20.11	105	769	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	20.30	146	130	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	130	N.D.	
87) sec-Butylbenzene	20.35	105	232	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	315	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	614	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.61	68	387	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.30	57	403	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.22	128	1594	N.D.	
96) n-Dodecane	22.21	57	226	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D.	
100) n-Butylbenzene	20.85	91	382	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052016.D Vial: 1
Acq On : 5 May 2020 12:07 Operator: WA
Sample : P2002107-022 (0.4mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 21:01:26 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052016.D Vial: 1
Acq On : 5 May 2020 12:07 Operator: WA
Sample : P2002107-022 (0.4mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 21:01:26 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/6/20

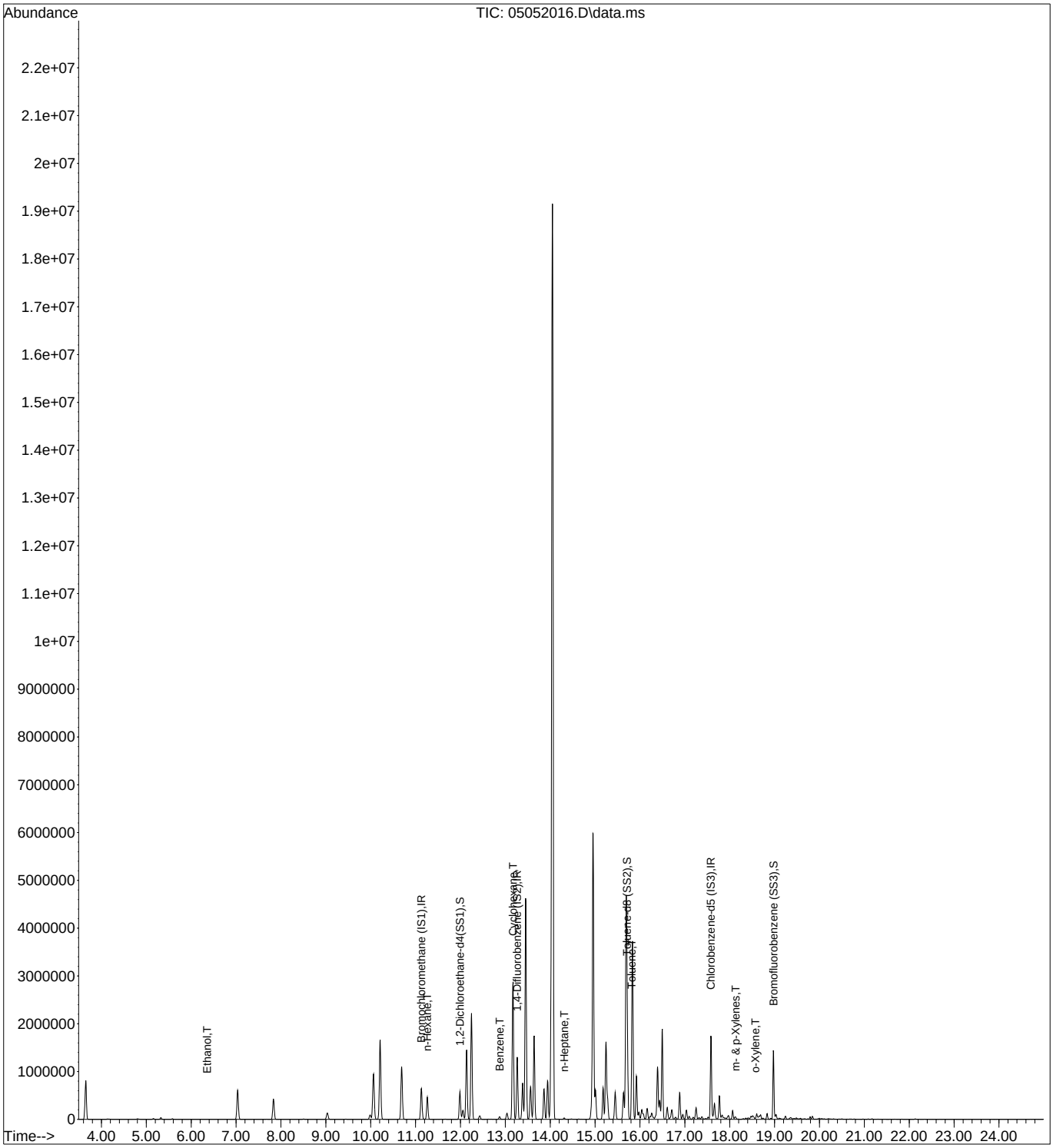
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	268926	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1188257	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	563597	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	441883	12.125	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.96%			
57) Toluene-d8 (SS2)	15.72	98	1242495	13.006	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.08%			
73) Bromofluorobenzene (SS3)	18.98	174	433572	12.614	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.88%			
Target Compounds						Qvalue
10) Ethanol	6.36	45	1265	0.053	ng	84
31) n-Hexane	11.26	57	246609	4.807	ng	100
41) Benzene	12.87	78	54241	0.426	ng	100
43) Cyclohexane	13.17	84	1227489	25.850	ng	98
51) n-Heptane	14.31	71	7663	0.257	ng	91
58) Toluene	15.82	91	27122	0.220	ng	96
67) m- & p-Xylenes	18.14	91	7100	0.065	ng	93
70) o-Xylene	18.57	91	6402	0.058	ng	98

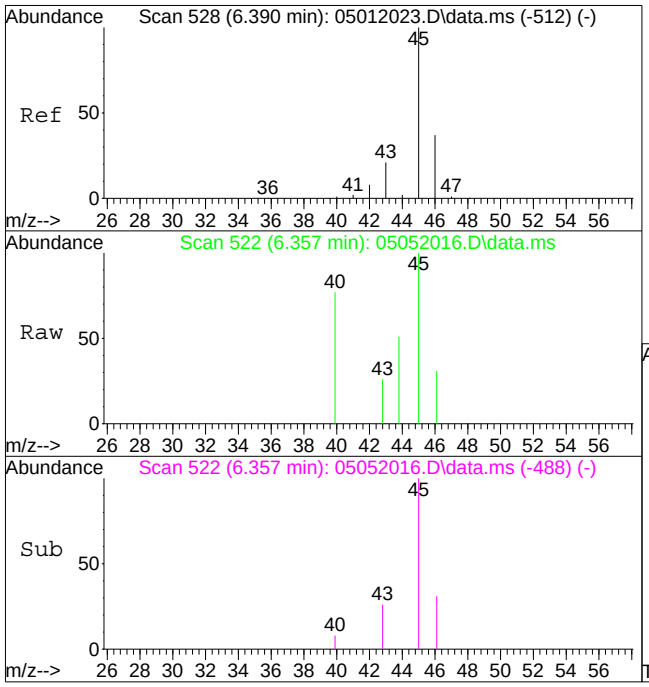
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052016.D Vial: 1
Acq On : 5 May 2020 12:07 Operator: WA
Sample : P2002107-022 (0.4mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 21:01:26 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

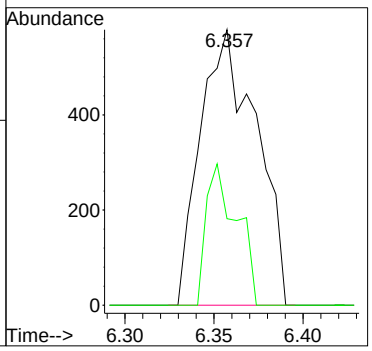


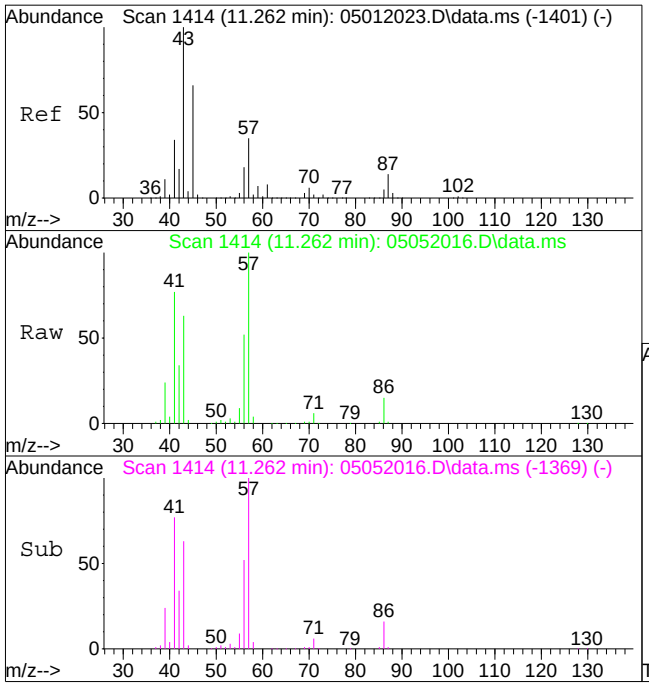


#10
Ethanol
Concen: 0.05 ng
RT: 6.36 min Scan# 522
Delta R.T. -0.061 min
Lab File: 05052016.D
Acq: 5 May 2020 12:07

Tgt Ion: 45 Resp: 1265

Ion	Ratio	Lower	Upper
45	100		
46	27.9	17.2	57.2

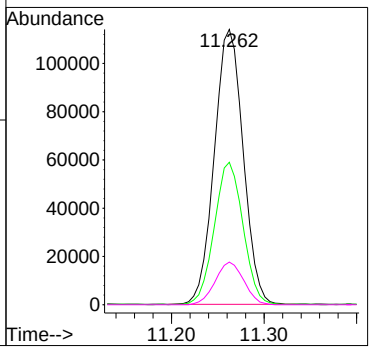


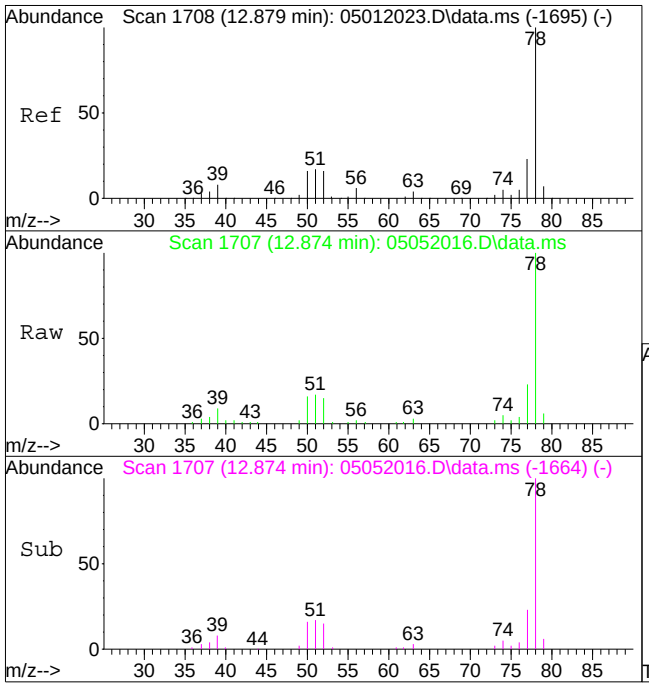


#31
n-Hexane
Concen: 4.81 ng
RT: 11.26 min Scan# 1414
Delta R.T. -0.000 min
Lab File: 05052016.D
Acq: 5 May 2020 12:07

Tgt Ion: 57 Resp: 246609

Ion	Ratio	Lower	Upper
57	100		
56	51.8	41.4	62.0
86	15.4	12.4	18.6

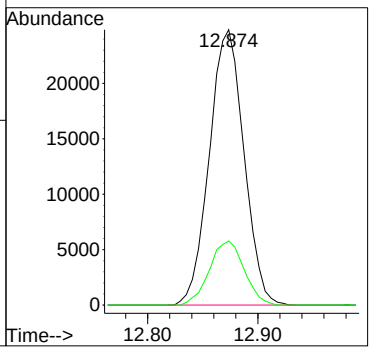


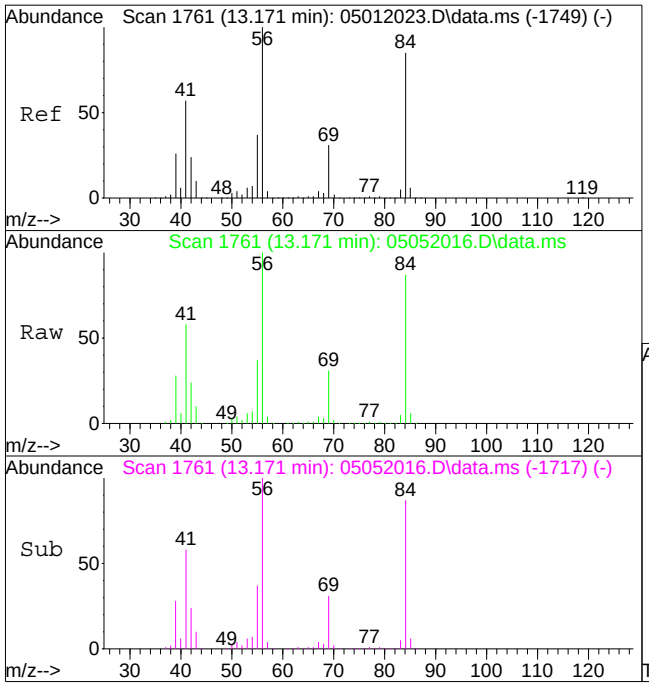


#41
Benzene
Concen: 0.43 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05052016.D
Acq: 5 May 2020 12:07

Tgt Ion: 78 Resp: 54241

Ion	Ratio	Lower	Upper
78	100		
77	23.4	3.4	43.4

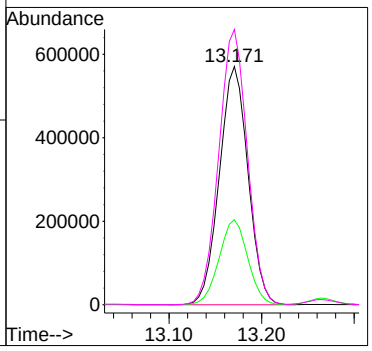


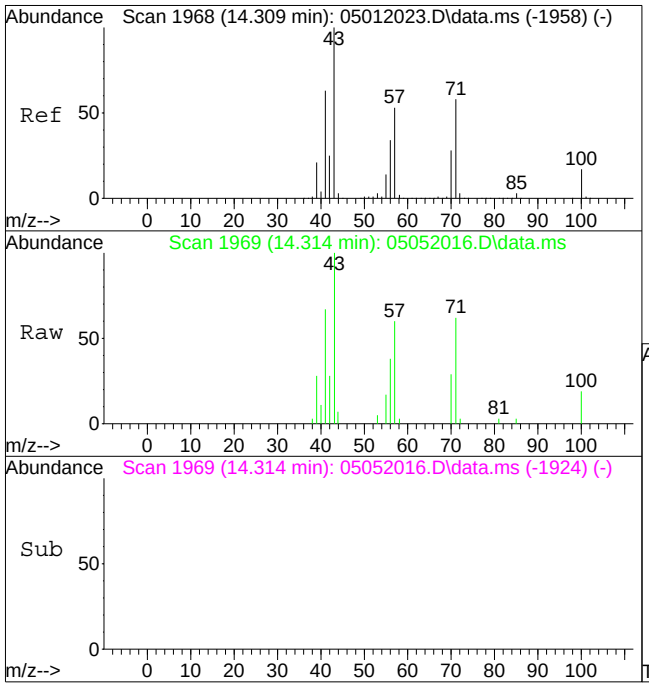


#43
Cyclohexane
Concen: 25.85 ng
RT: 13.17 min Scan# 1761
Delta R.T. -0.006 min
Lab File: 05052016.D
Acq: 5 May 2020 12:07

Tgt Ion: 84 Resp: 1227489

Ion	Ratio	Lower	Upper
84	100		
69	35.7	16.5	56.5
56	115.5	97.4	137.4

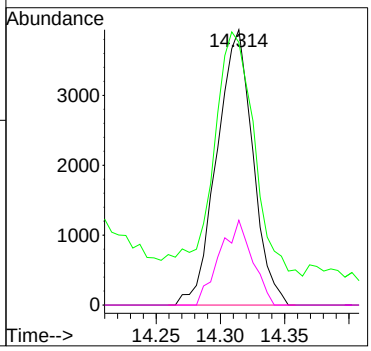


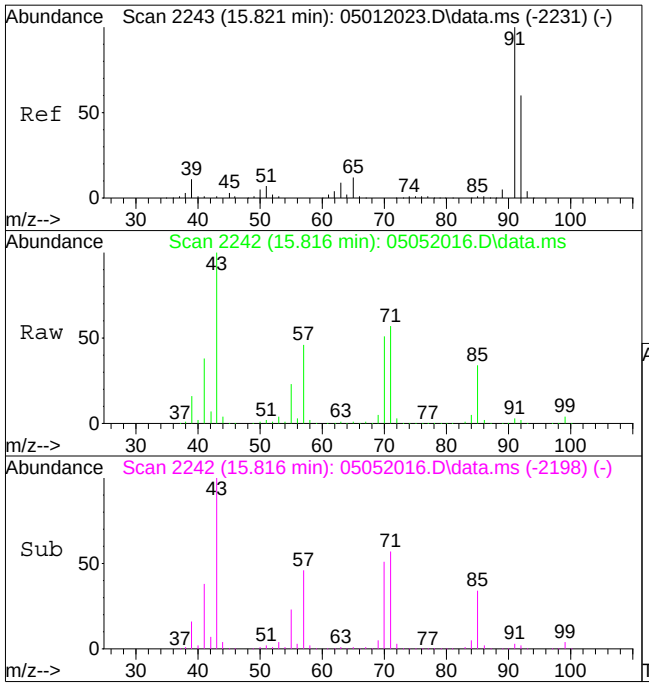


#51
n-Heptane
Concen: 0.26 ng
RT: 14.31 min Scan# 1969
Delta R.T. -0.000 min
Lab File: 05052016.D
Acq: 5 May 2020 12:07

Tgt Ion: 71 Resp: 7663

Ion	Ratio	Lower	Upper
71	100		
57	101.5	71.0	111.0
100	27.9	8.4	48.4

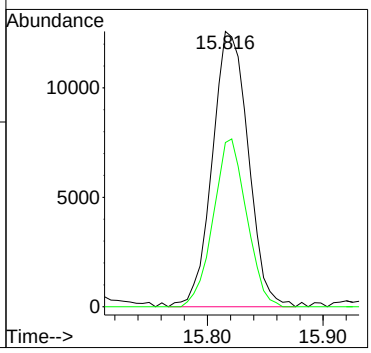


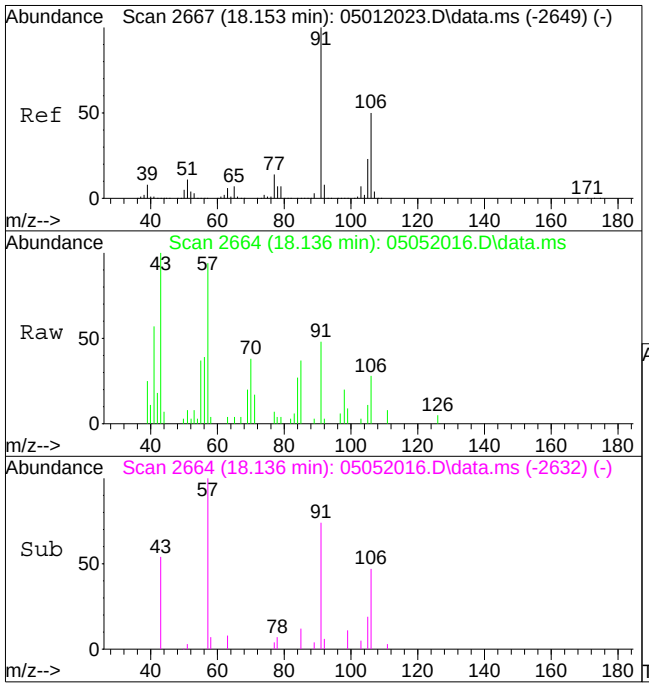


#58
Toluene
Concen: 0.22 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05052016.D
Acq: 5 May 2020 12:07

Tgt Ion: 91 Resp: 27122

Ion	Ratio	Lower	Upper
91	100		
92	56.6	39.4	79.4

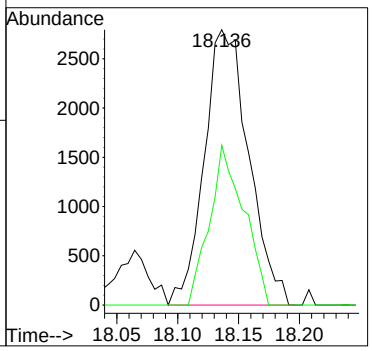


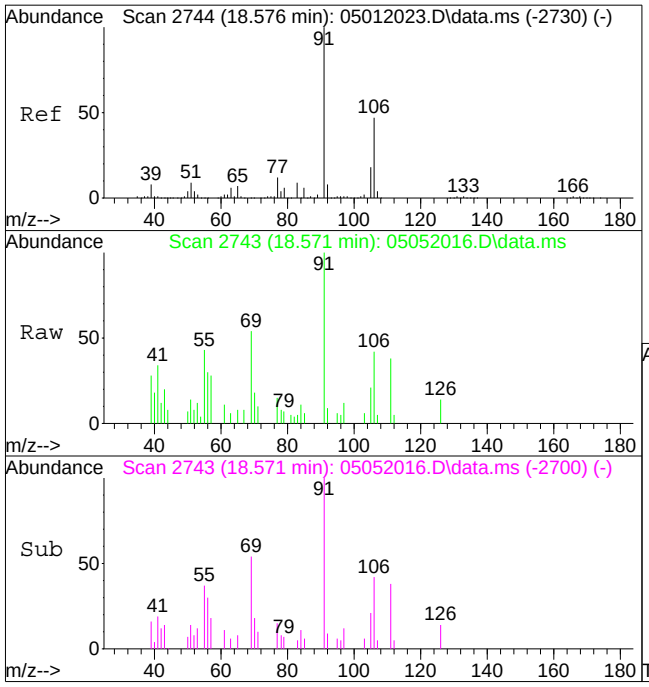


#67
m- & p-Xylenes
Concen: 0.07 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05052016.D
Acq: 5 May 2020 12:07

Tgt Ion: 91 Resp: 7100

Ion	Ratio	Lower	Upper
91	100		
106	44.9	29.7	69.7

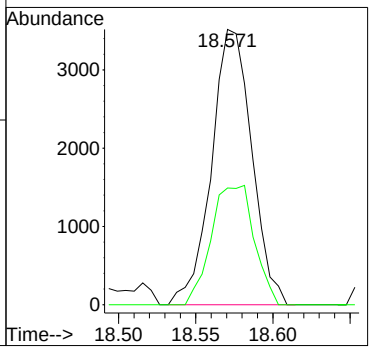




#70
o-Xylene
Concen: 0.06 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05052016.D
Acq: 5 May 2020 12:07

Tgt Ion: 91 Resp: 6402

Ion	Ratio	Lower	Upper
91	100		
106	45.9	27.5	67.5



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082012.D Vial: 6
Acq On : 8 May 2020 7:14 Operator: LH
Sample : P2002107-023 (400mL) Inst : GCMS-16
Misc : S31-02112001 pf2

Quant Time: May 08 15:11:25 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/8/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	255306	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1102723	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	522747	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	416928	12.050	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.40%				
57) Toluene-d8 (SS2)	15.72	98	1097348	12.385	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.04%				
73) Bromofluorobenzene (SS3)	18.97	174	402480	12.624	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.96%				
Target Compounds							Qvalue
2) Propene	4.11	42	10358	0.350	ng		97
3) Dichlorodifluoromethan...	4.27	85	20040	0.347	ng		99
4) Chloromethane	4.54	50	2472	0.055	ng		94
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	276	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.32	45	69749	3.055	ng		99
11) Acetonitrile	6.59	41	7709	0.148	ng		93
12) Acrolein	6.79	56	3658	0.203	ng		95
13) Acetone	7.00	58	54581	2.390	ng		87
14) Trichlorofluoromethane	7.24	101	19055	0.373	ng		100
15) 2-Propanol (Isopropanol)	7.49	45	68456	0.991	ng		88
16) Acrylonitrile	7.75	53	104	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	2509	0.085	ng		98
20) 3-Chloro-1-propene (Al...	8.42	41	1683	N.D.			
21) Trichlorotrifluoroethane	8.84	151	39817	1.650	ng		100
22) Carbon Disulfide	8.68	76	10261	0.096	ng		100
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.47	72	6918	0.355	ng	#	89
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.26	87	552	N.D.			
30) Ethyl Acetate	11.27	61	13656	1.216	ng		92
31) n-Hexane	11.26	57	48167	0.989	ng		99
32) Chloroform	11.30	83	1200	N.D.			
34) Tetrahydrofuran (THF)	11.76	72	1425	0.075	ng	#	63
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	108	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	17002	0.144	ng		99
42) Carbon Tetrachloride	13.03	117	19161	0.476	ng		99
43) Cyclohexane	13.17	84	80941	1.837	ng		99
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	13.63	63	121	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	13.97	88	566	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082012.D Vial: 6
Acq On : 8 May 2020 7:14 Operator: LH
Sample : P2002107-023 (400mL) Inst : GCMS-16
Misc : S31-02112001 pf2

Quant Time: May 08 15:11:25 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

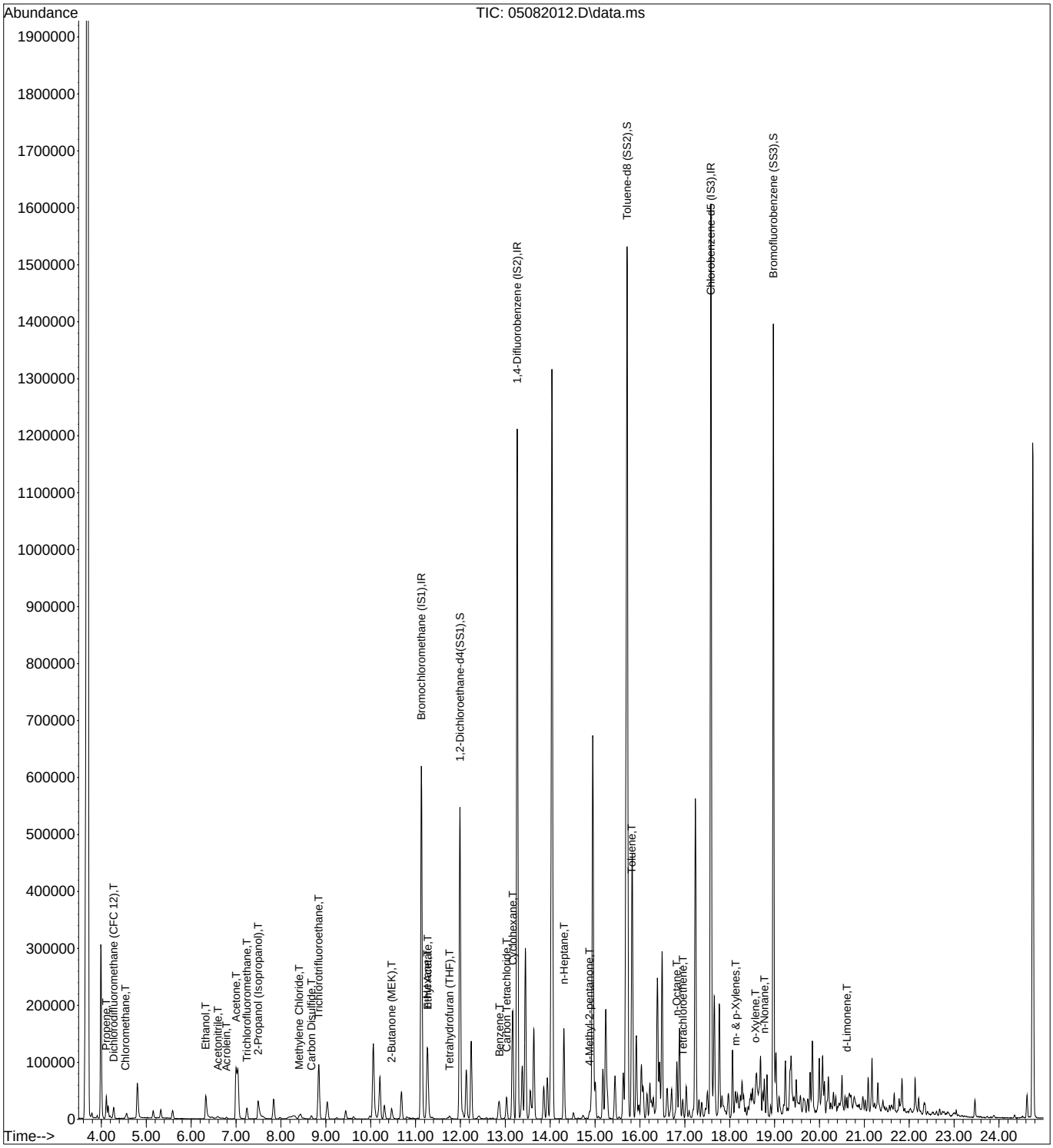
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	41201	1.490 ng	99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.88	58	3605	0.137 ng	90
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	15.82	91	43062	0.377 ng	99
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	16.82	57	19585	0.828 ng	97
64) Tetrachloroethene	16.96	166	2912	0.090 ng	93
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	17.98	91	4860	N.D.	
67) m- & p-Xylenes	18.13	91	12635	0.125 ng	98
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	1068	N.D.	
70) o-Xylene	18.57	91	7760	0.076 ng	96
71) n-Nonane	18.77	43	22614	0.416 ng	97
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	19.10	105	1036	N.D.	
75) alpha-Pinene	19.45	93	2916	N.D.	
76) n-Propylbenzene	19.54	91	3715	N.D.	
77) 3-Ethyltoluene	19.64	105	2716	N.D.	
78) 4-Ethyltoluene	19.68	105	1262	N.D.	
79) 1,3,5-Trimethylbenzene	19.74	105	2153	N.D.	
80) alpha-Methylstyrene	19.88	118	1838	N.D.	
81) 2-Ethyltoluene	19.91	105	1381	N.D.	
82) 1,2,4-Trimethylbenzene	20.10	105	4885	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.21	91	615	N.D.	
85) 1,3-Dichlorobenzene	20.24	146	117	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	680	N.D.	
87) sec-Butylbenzene	20.34	105	1249	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	2285	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	3556	N.D.	
90) 1,2-Dichlorobenzene	20.59	146	103	N.D.	
91) d-Limonene	20.61	68	3843	0.094 ng	90
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.11	180	237	N.D.	
95) Naphthalene	22.22	128	2947	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.11	119	571	N.D.	
100) n-Butylbenzene	20.84	91	2837	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082012.D Vial: 6
Acq On : 8 May 2020 7:14 Operator: LH
Sample : P2002107-023 (400mL) Inst : GCMS-16
Misc : S31-02112001 pf2

Quant Time: May 08 15:11:25 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082012.D Vial: 6
Acq On : 8 May 2020 7:14 Operator: LH
Sample : P2002107-023 (400mL) Inst : GCMS-16
Misc : S31-02112001 pf2

Quant Time: May 08 15:11:25 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/8/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

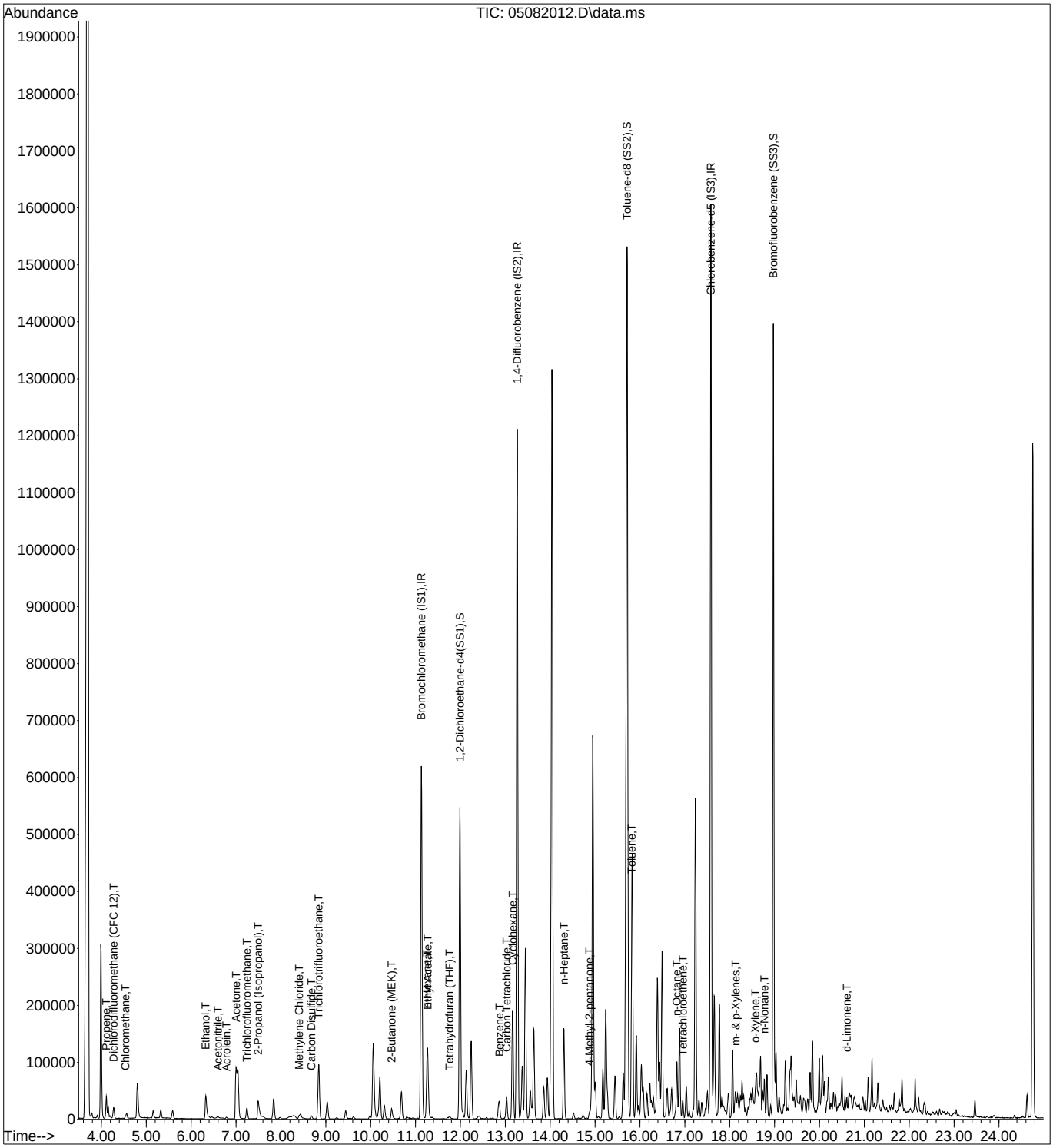
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	255306	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1102723	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	522747	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	416928	12.050	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.40%				
57) Toluene-d8 (SS2)	15.72	98	1097348	12.385	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.04%				
73) Bromofluorobenzene (SS3)	18.97	174	402480	12.624	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.96%				
Target Compounds							Qvalue
2) Propene	4.11	42	10358	0.350	ng		97
3) Dichlorodifluoromethan...	4.27	85	20040	0.347	ng		99
4) Chloromethane	4.54	50	2472	0.055	ng		94
10) Ethanol	6.32	45	69749	3.055	ng		99
11) Acetonitrile	6.59	41	7709	0.148	ng		93
12) Acrolein	6.79	56	3658	0.203	ng		95
13) Acetone	7.00	58	54581	2.390	ng		87
14) Trichlorofluoromethane	7.24	101	19055	0.373	ng		100
15) 2-Propanol (Isopropanol)	7.49	45	68456	0.991	ng		88
19) Methylene Chloride	8.40	84	2509	0.085	ng		98
21) Trichlorotrifluoroethane	8.84	151	39817	1.650	ng		100
22) Carbon Disulfide	8.68	76	10261	0.096	ng		100
27) 2-Butanone (MEK)	10.47	72	6918	0.355	ng	#	89
30) Ethyl Acetate	11.27	61	13656	1.216	ng		92
31) n-Hexane	11.26	57	48167	0.989	ng		99
34) Tetrahydrofuran (THF)	11.76	72	1425	0.075	ng	#	63
41) Benzene	12.87	78	17002	0.144	ng		99
42) Carbon Tetrachloride	13.03	117	19161	0.476	ng		99
43) Cyclohexane	13.17	84	80941	1.837	ng		99
51) n-Heptane	14.31	71	41201	1.490	ng		99
53) 4-Methyl-2-pentanone	14.88	58	3605	0.137	ng		90
58) Toluene	15.82	91	43062	0.377	ng		99
63) n-Octane	16.82	57	19585	0.828	ng		97
64) Tetrachloroethene	16.96	166	2912	0.090	ng		93
67) m- & p-Xylenes	18.13	91	12635	0.125	ng		98
70) o-Xylene	18.57	91	7760	0.076	ng		96
71) n-Nonane	18.77	43	22614	0.416	ng		97
91) d-Limonene	20.61	68	3843	0.094	ng		90

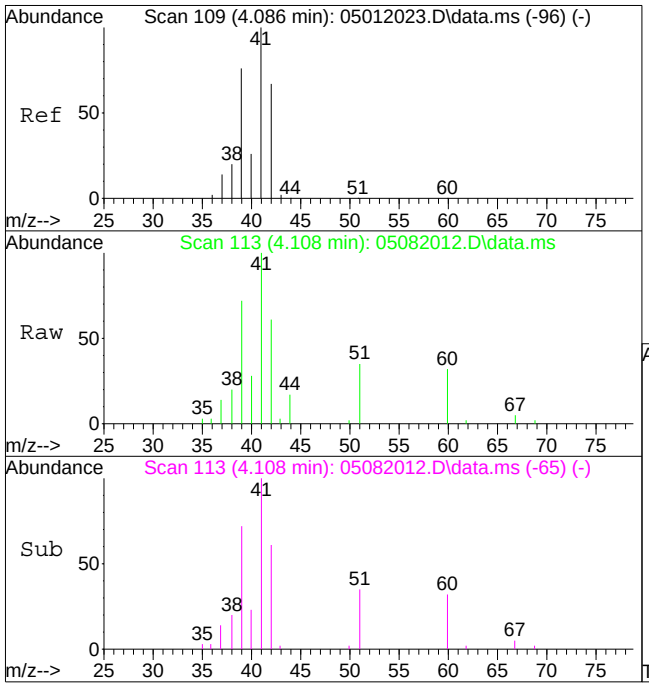
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082012.D Vial: 6
Acq On : 8 May 2020 7:14 Operator: LH
Sample : P2002107-023 (400mL) Inst : GCMS-16
Misc : S31-02112001 pf2

Quant Time: May 08 15:11:25 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

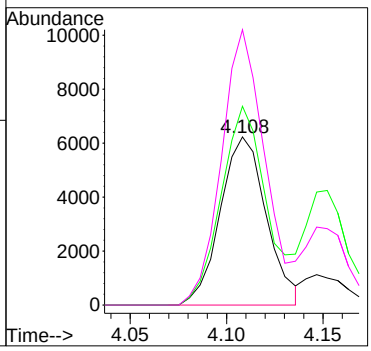


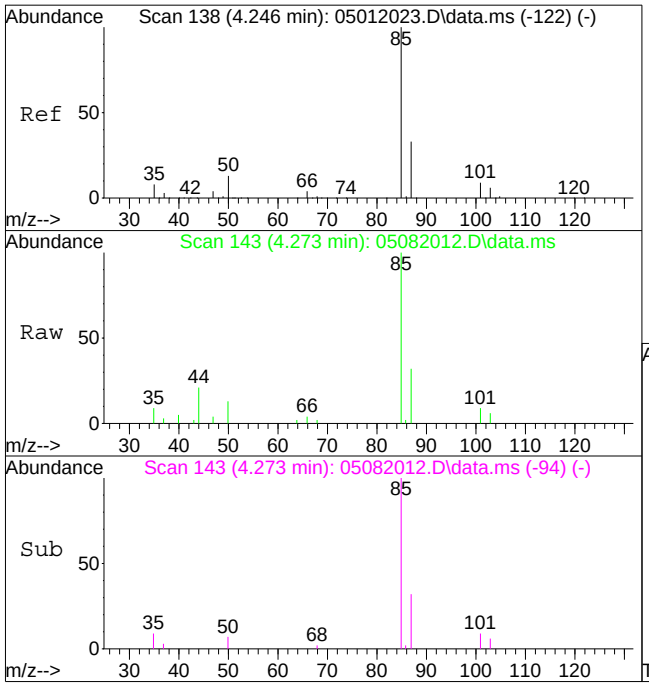


#2
Propene
Concen: 0.35 ng
RT: 4.11 min Scan# 113
Delta R.T. 0.016 min
Lab File: 05082012.D
Acq: 8 May 2020 7:14

Tgt Ion: 42 Resp: 10358

Ion	Ratio	Lower	Upper
42	100		
39	114.1	96.1	136.1
41	156.3	131.9	171.9

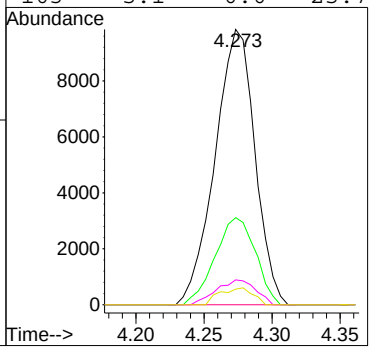


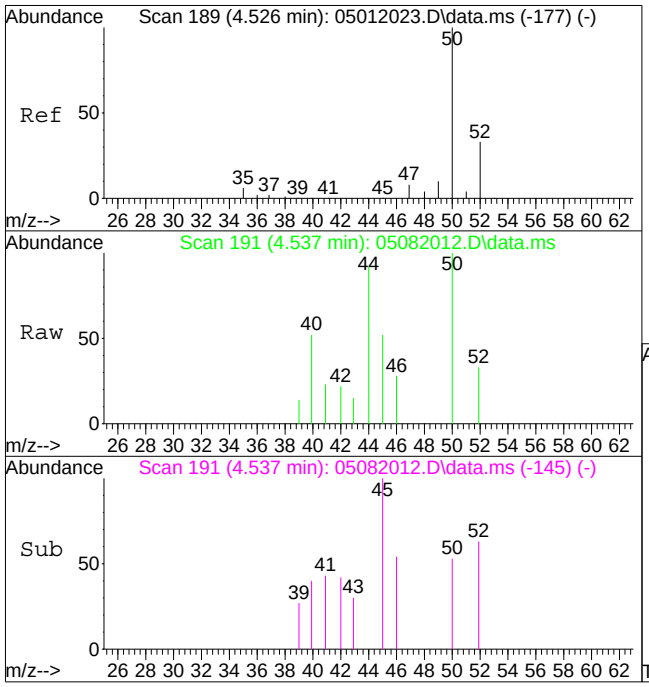


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.35 ng
RT: 4.27 min Scan# 143
Delta R.T. 0.022 min
Lab File: 05082012.D
Acq: 8 May 2020 7:14

Tgt Ion: 85 Resp: 20040

Ion	Ratio	Lower	Upper
85	100		
87	31.9	12.4	52.4
101	8.9	0.0	28.8
103	5.1	0.0	25.7

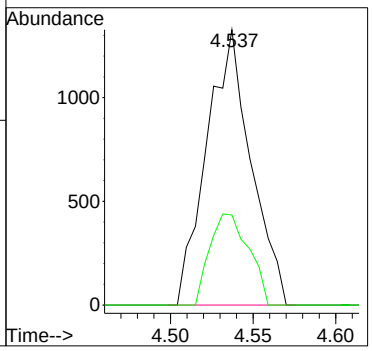


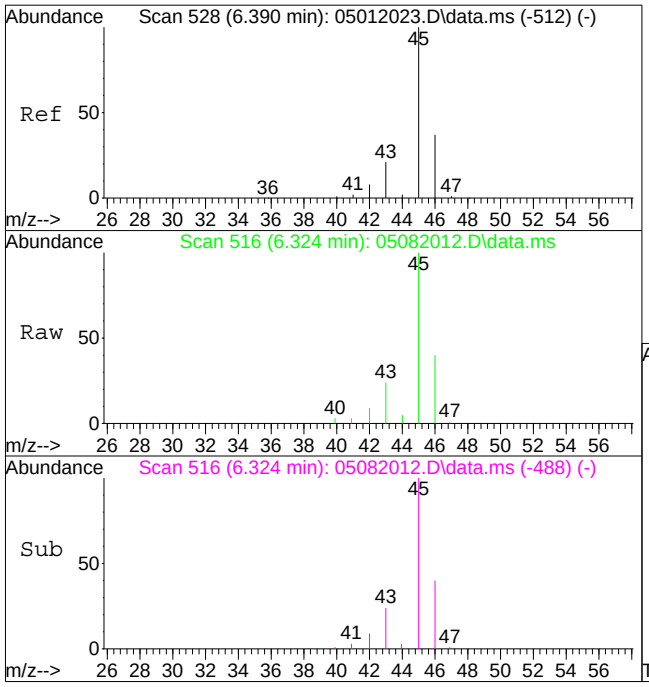


#4
Chloromethane
Concen: 0.05 ng
RT: 4.54 min Scan# 191
Delta R.T. 0.005 min
Lab File: 05082012.D
Acq: 8 May 2020 7:14

Tgt Ion: 50 Resp: 2472

Ion	Ratio	Lower	Upper
50	100		
52	29.0	12.5	52.5

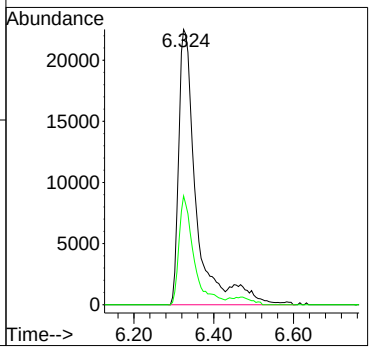


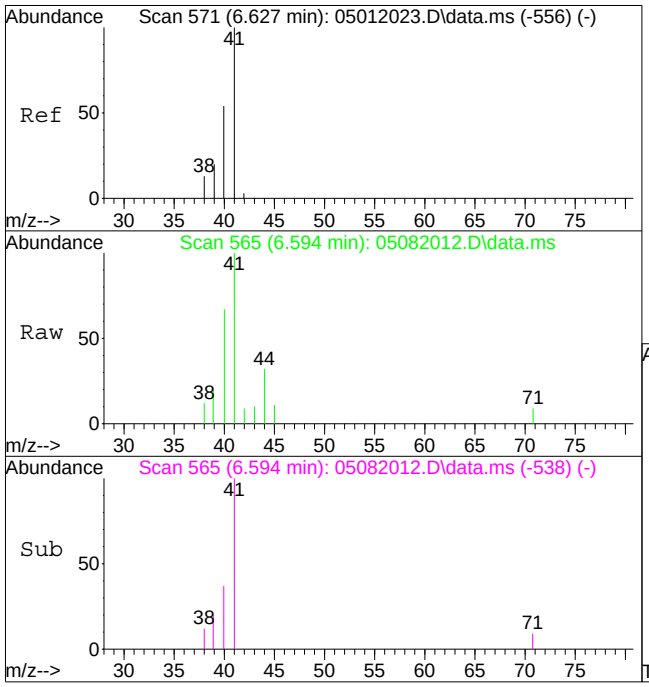


#10
Ethanol
Concen: 3.05 ng
RT: 6.32 min Scan# 516
Delta R.T. -0.094 min
Lab File: 05082012.D
Acq: 8 May 2020 7:14

Tgt Ion: 45 Resp: 69749

Ion	Ratio	Lower	Upper
45	100		
46	36.5	17.2	57.2

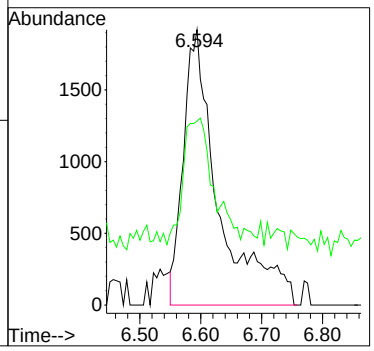


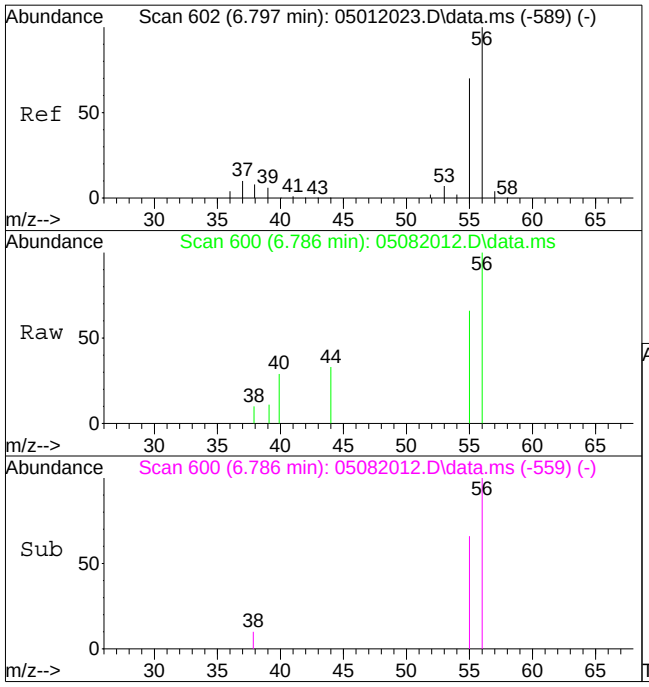


#11
Acetonitrile
Concen: 0.15 ng
RT: 6.59 min Scan# 565
Delta R.T. -0.050 min
Lab File: 05082012.D
Acq: 8 May 2020 7:14

Tgt Ion: 41 Resp: 7709

Ion	Ratio	Lower	Upper
41	100		
40	48.7	33.6	73.6

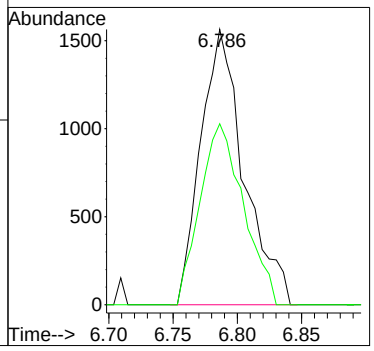


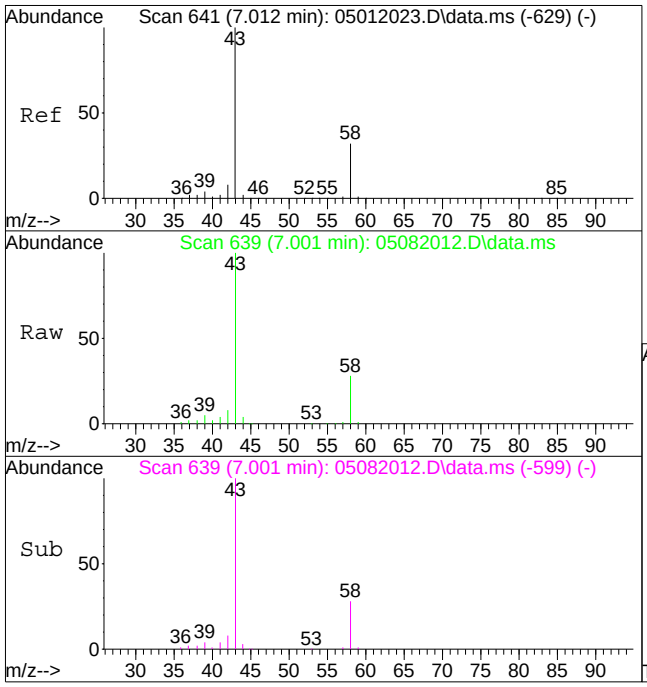


#12
Acrolein
Concen: 0.20 ng
RT: 6.79 min Scan# 600
Delta R.T. -0.022 min
Lab File: 05082012.D
Acq: 8 May 2020 7:14

Tgt Ion: 56 Resp: 3658

Ion	Ratio	Lower	Upper
56	100		
55	65.9	50.2	90.2

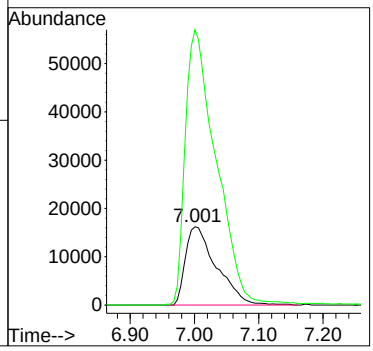


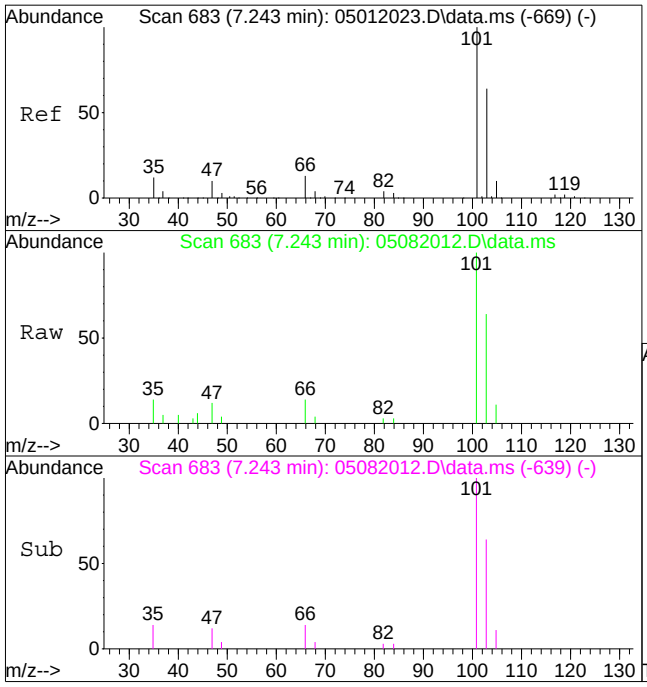


#13
Acetone
Concen: 2.39 ng
RT: 7.00 min Scan# 639
Delta R.T. -0.028 min
Lab File: 05082012.D
Acq: 8 May 2020 7:14

Tgt Ion: 58 Resp: 54581

Ion	Ratio	Lower	Upper
58	100		
43	350.8	294.4	354.4

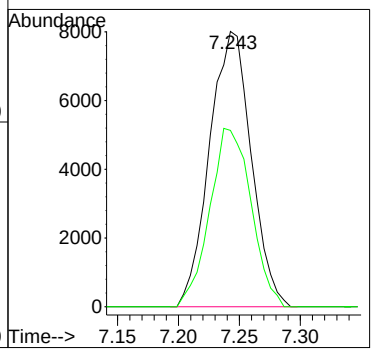


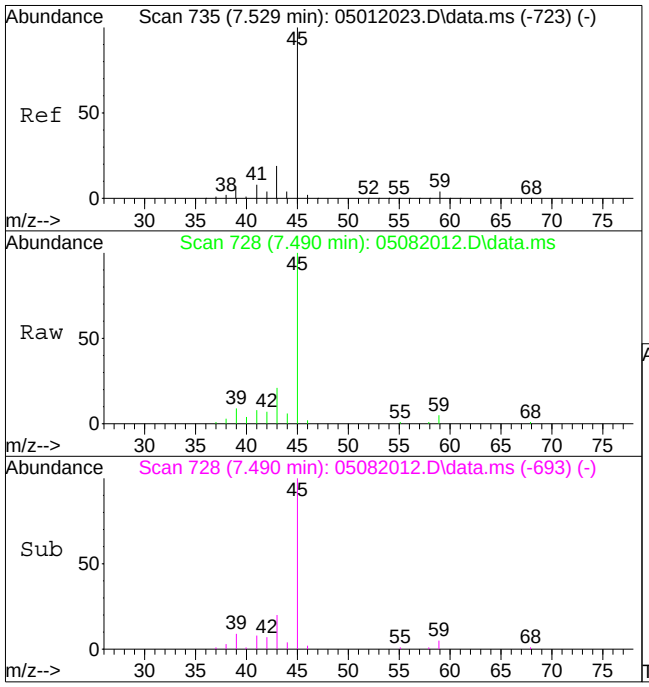


#14
Trichlorofluoromethane
Concen: 0.37 ng
RT: 7.24 min Scan# 683
Delta R.T. -0.006 min
Lab File: 05082012.D
Acq: 8 May 2020 7:14

Tgt Ion:101 Resp: 19055

Ion	Ratio	Lower	Upper
101	100		
103	64.2	44.4	84.4

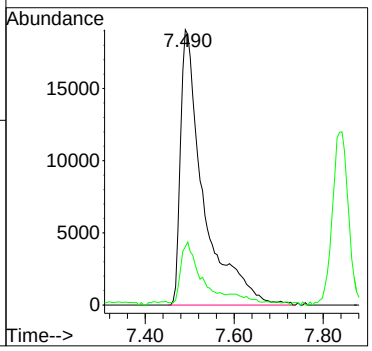


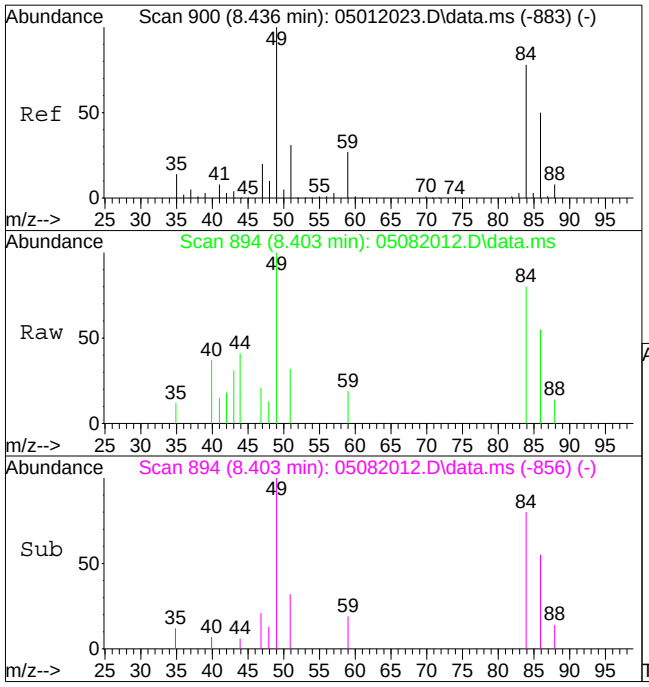


#15
2-Propanol (Isopropanol)
Concen: 0.99 ng
RT: 7.49 min Scan# 728
Delta R.T. -0.055 min
Lab File: 05082012.D
Acq: 8 May 2020 7:14

Tgt Ion: 45 Resp: 68456

Ion	Ratio	Lower	Upper
45	100		
43	24.8	0.0	39.5

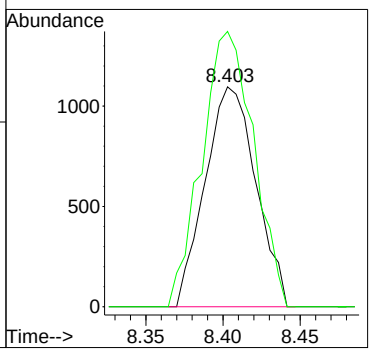


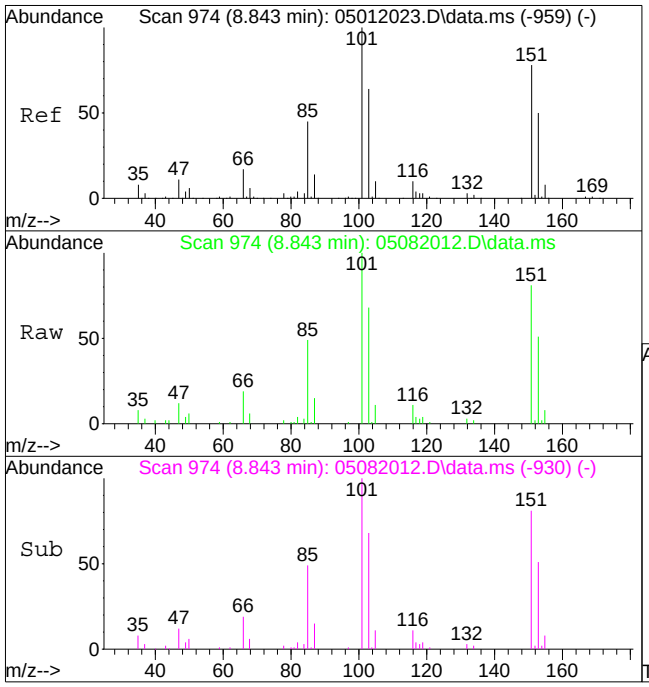


#19
Methylene Chloride
Concen: 0.08 ng
RT: 8.40 min Scan# 894
Delta R.T. -0.039 min
Lab File: 05082012.D
Acq: 8 May 2020 7:14

Tgt Ion: 84 Resp: 2509

Ion	Ratio	Lower	Upper
84	100		
49	127.7	104.8	154.8

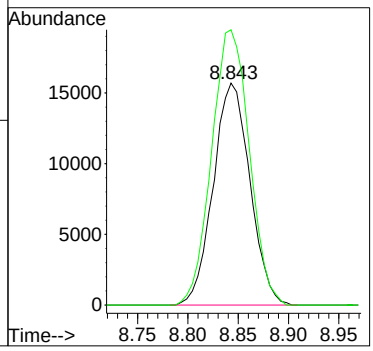


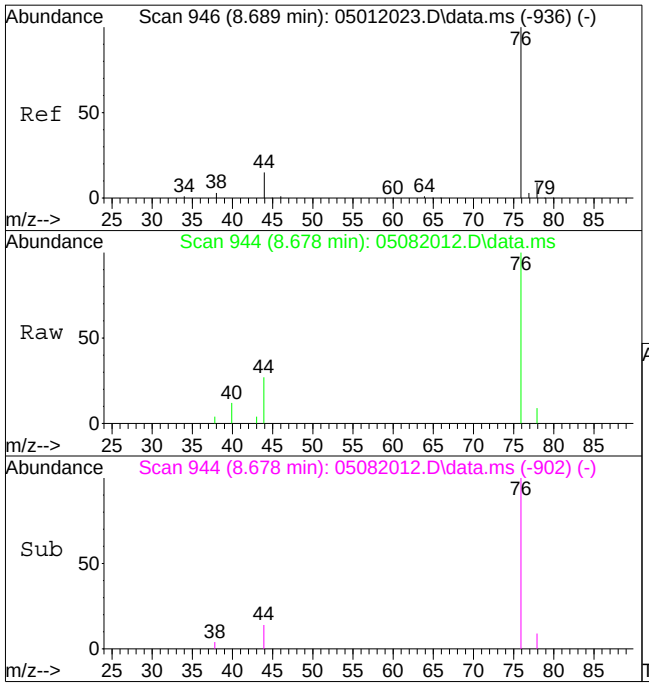


#21
Trichlorotrifluoroethane
Concen: 1.65 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05082012.D
Acq: 8 May 2020 7:14

Tgt Ion:151 Resp: 39817

Ion	Ratio	Lower	Upper
151	100		
101	127.5	107.3	147.3

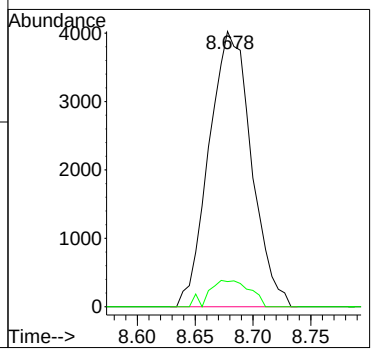


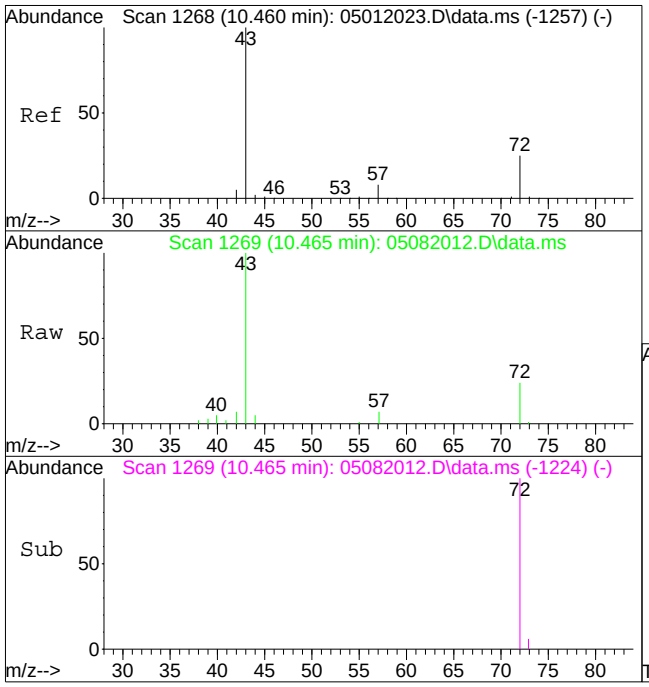


#22
Carbon Disulfide
Concen: 0.10 ng
RT: 8.68 min Scan# 944
Delta R.T. -0.017 min
Lab File: 05082012.D
Acq: 8 May 2020 7:14

Tgt Ion: 76 Resp: 10261

Ion	Ratio	Lower	Upper
76	100		
78	9.2	0.0	29.2

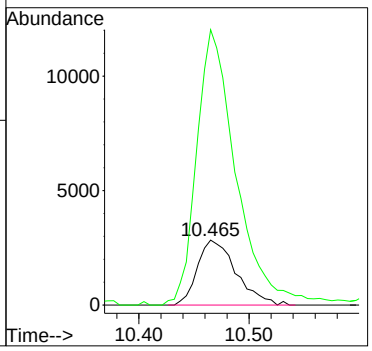


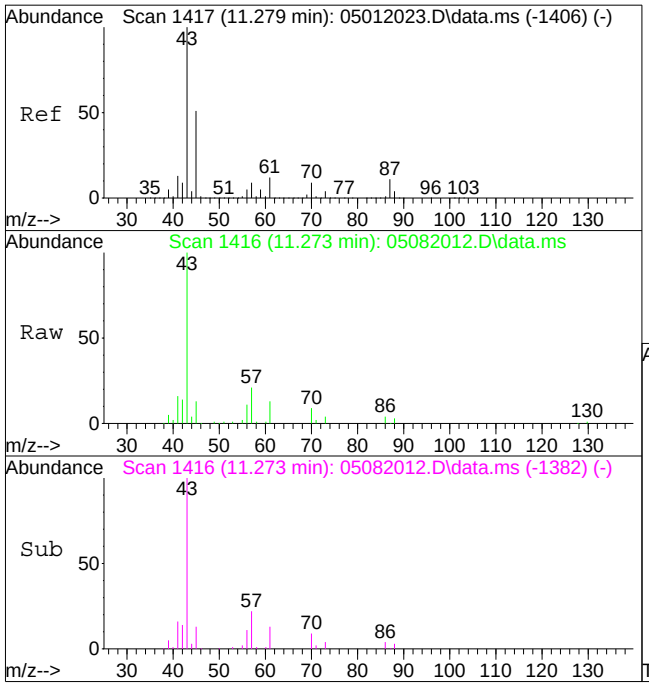


#27
2-Butanone (MEK)
Concen: 0.36 ng
RT: 10.47 min Scan# 1269
Delta R.T. -0.000 min
Lab File: 05082012.D
Acq: 8 May 2020 7:14

Tgt Ion: 72 Resp: 6918

Ion	Ratio	Lower	Upper
72	100		
43	436.3	389.7	429.7#

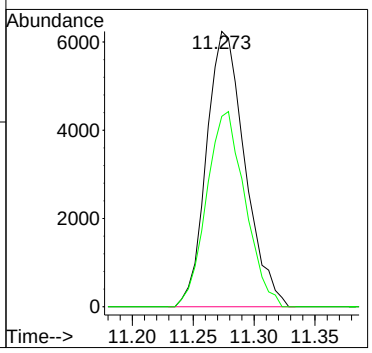


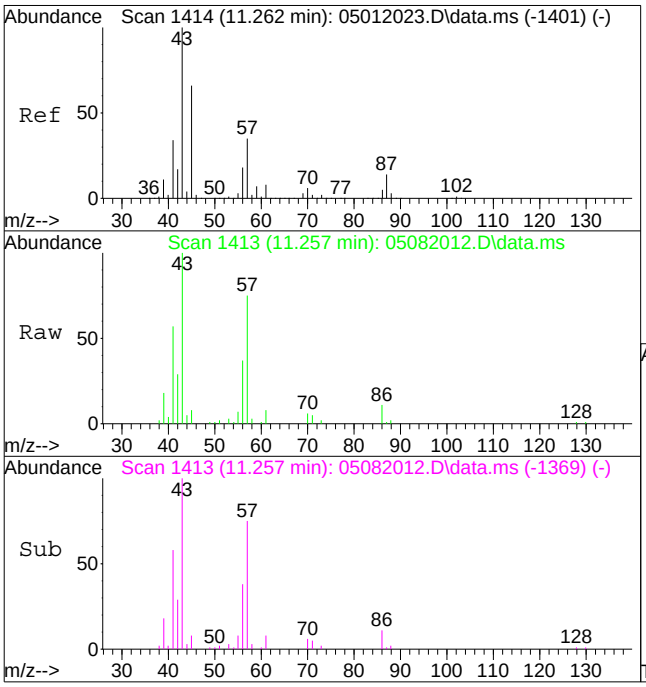


#30
Ethyl Acetate
Concen: 1.22 ng
RT: 11.27 min Scan# 1416
Delta R.T. -0.011 min
Lab File: 05082012.D
Acq: 8 May 2020 7:14

Tgt Ion: 61 Resp: 13656

Ion	Ratio	Lower	Upper
61	100		
70	71.2	57.9	97.9

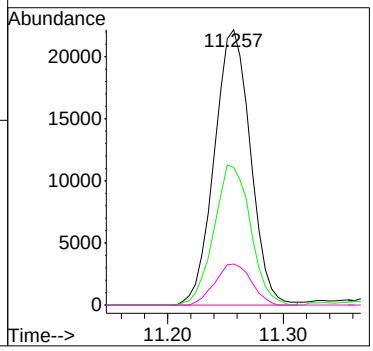


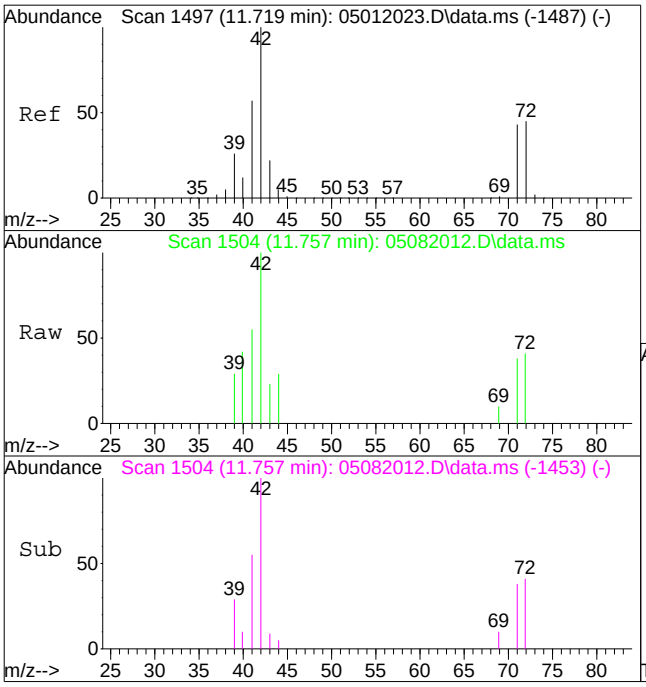


#31
n-Hexane
Concen: 0.99 ng
RT: 11.26 min Scan# 1413
Delta R.T. -0.006 min
Lab File: 05082012.D
Acq: 8 May 2020 7:14

Tgt Ion: 57 Resp: 48167

Ion	Ratio	Lower	Upper
57	100		
56	51.4	41.4	62.0
86	15.0	12.4	18.6

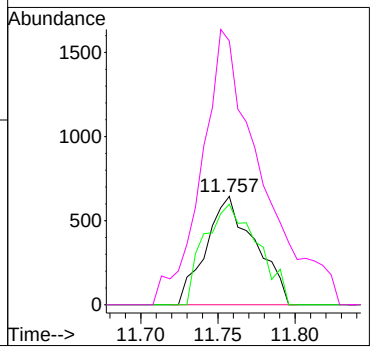


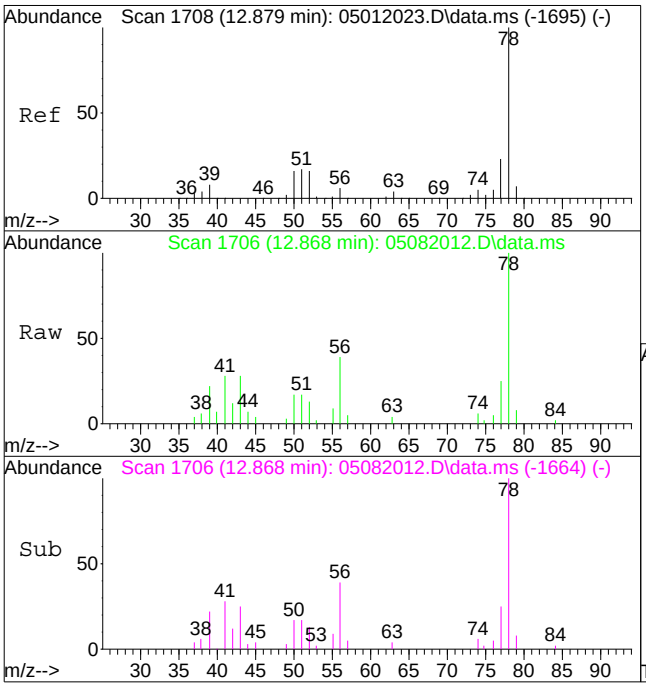


#34
Tetrahydrofuran (THF)
Concen: 0.08 ng
RT: 11.76 min Scan# 1504
Delta R.T. 0.033 min
Lab File: 05082012.D
Acq: 8 May 2020 7:14

Tgt Ion: 72 Resp: 1425

Ion	Ratio	Lower	Upper
72	100		
71	100.6	77.0	117.0
42	309.3	204.6	244.6#

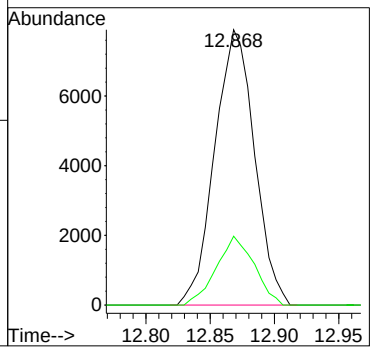


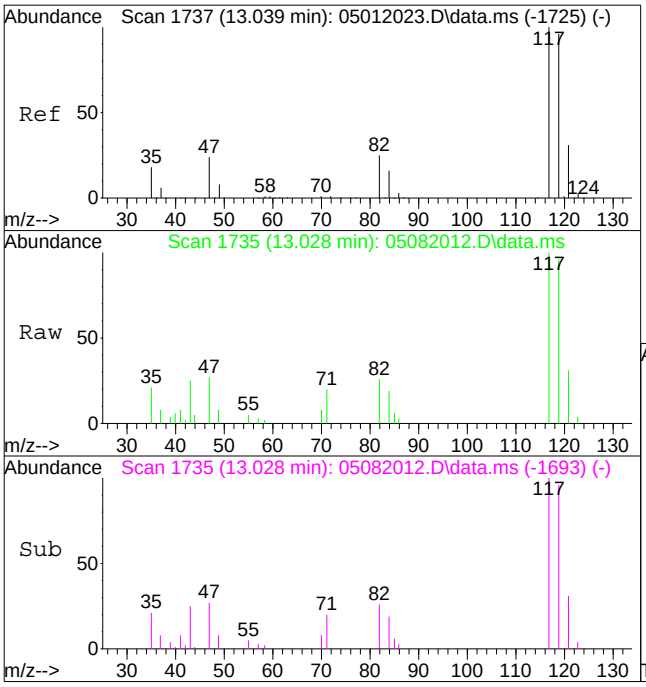


#41
Benzene
Concen: 0.14 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05082012.D
Acq: 8 May 2020 7:14

Tgt Ion: 78 Resp: 17002

Ion	Ratio	Lower	Upper
78	100		
77	23.8	3.4	43.4

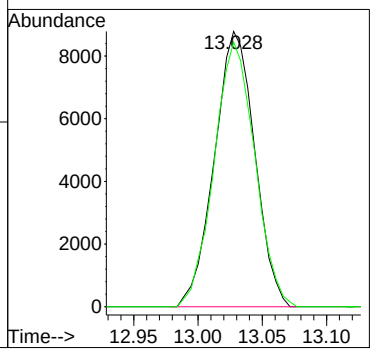


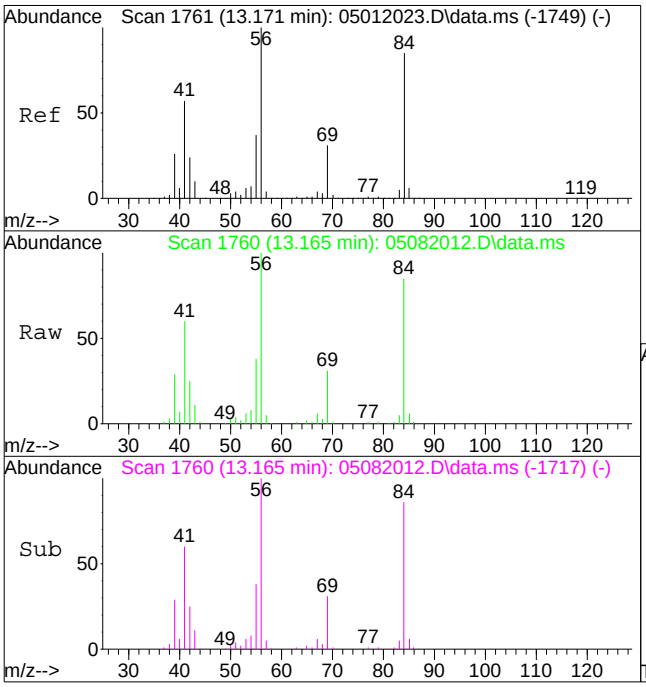


#42
Carbon Tetrachloride
Concen: 0.48 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05082012.D
Acq: 8 May 2020 7:14

Tgt Ion:117 Resp: 19161

Ion	Ratio	Lower	Upper
117	100		
119	97.1	76.2	116.2

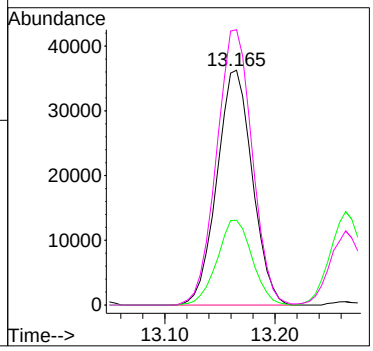


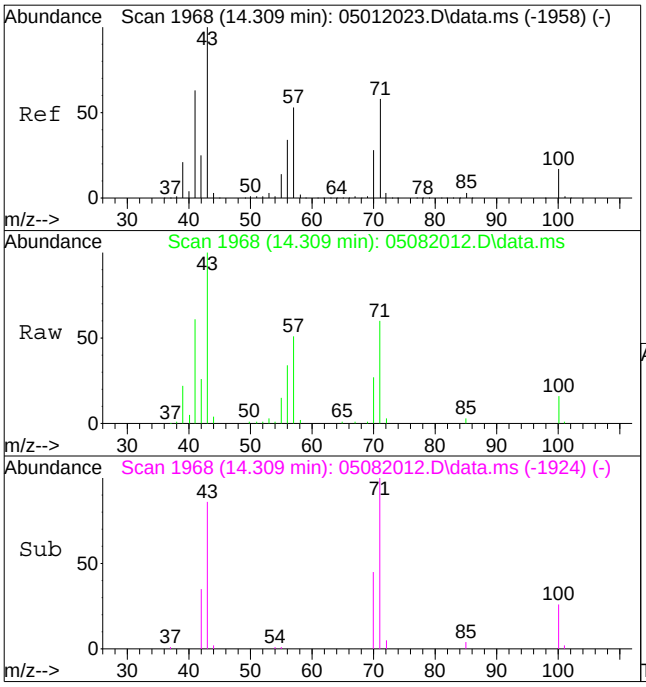


#43
Cyclohexane
Concen: 1.84 ng
RT: 13.17 min Scan# 1760
Delta R.T. -0.011 min
Lab File: 05082012.D
Acq: 8 May 2020 7:14

Tgt Ion: 84 Resp: 80941

Ion	Ratio	Lower	Upper
84	100		
69	36.0	16.5	56.5
56	118.3	97.4	137.4

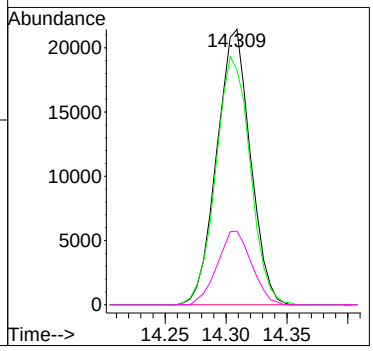


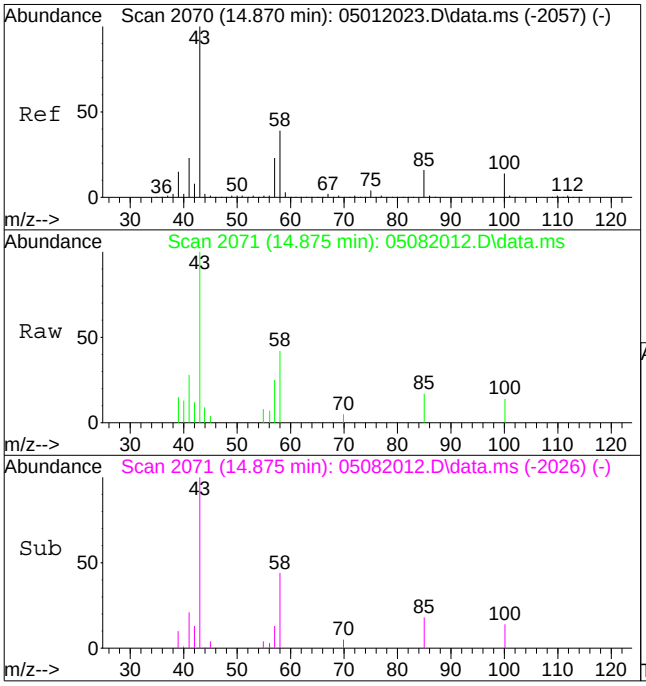


#51
n-Heptane
Concen: 1.49 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05082012.D
Acq: 8 May 2020 7:14

Tgt Ion: 71 Resp: 41201

Ion	Ratio	Lower	Upper
71	100		
57	92.2	71.0	111.0
100	27.2	8.4	48.4

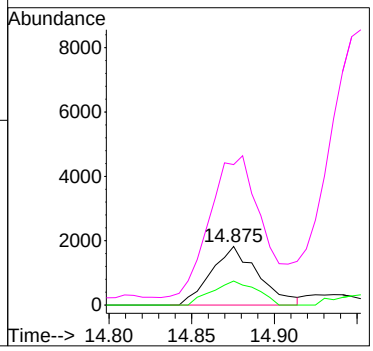


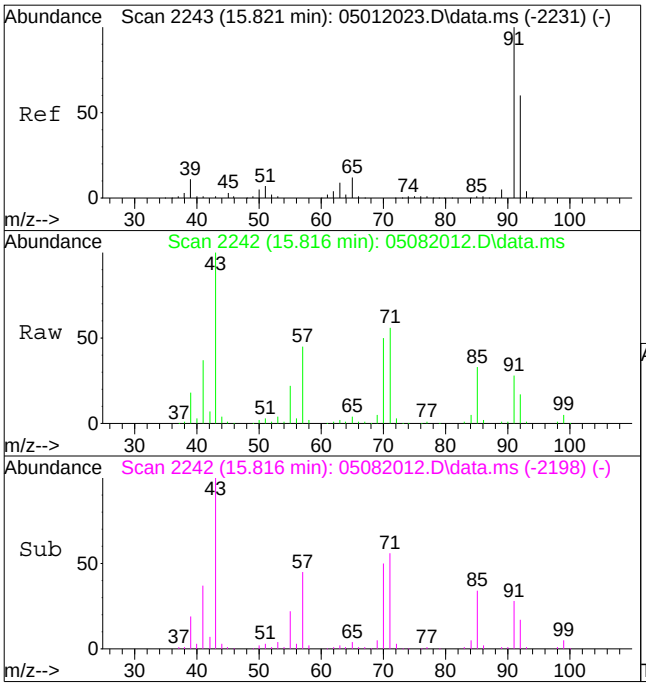


#53
4-Methyl-2-pentanone
Concen: 0.14 ng
RT: 14.88 min Scan# 2071
Delta R.T. -0.000 min
Lab File: 05082012.D
Acq: 8 May 2020 7:14

Tgt Ion: 58 Resp: 3605

Ion	Ratio	Lower	Upper
58	100		
85	38.9	35.4	53.2
43	273.2	203.3	304.9

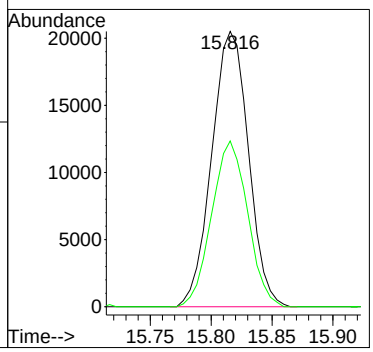


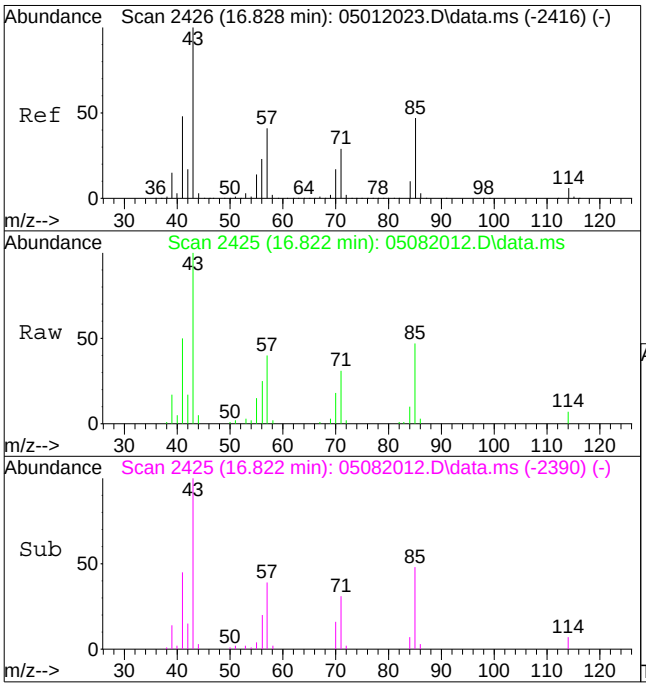


#58
Toluene
Concen: 0.38 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05082012.D
Acq: 8 May 2020 7:14

Tgt Ion: 91 Resp: 43062

Ion	Ratio	Lower	Upper
91	100		
92	58.9	39.4	79.4

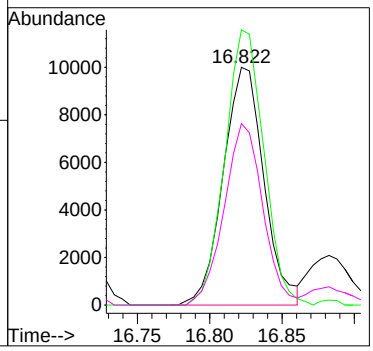


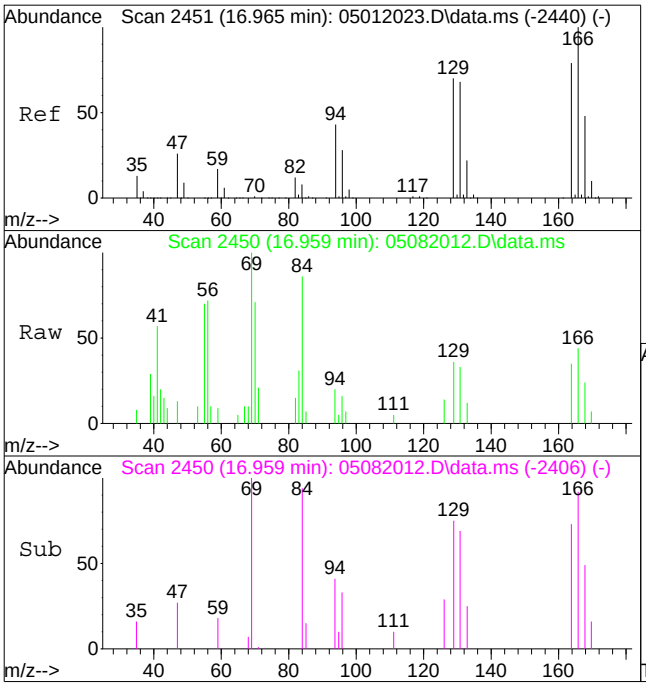


#63
n-Octane
Concen: 0.83 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05082012.D
Acq: 8 May 2020 7:14

Tgt Ion: 57 Resp: 19585

Ion	Ratio	Lower	Upper
57	100		
85	110.7	91.0	136.4
71	72.4	56.2	84.2

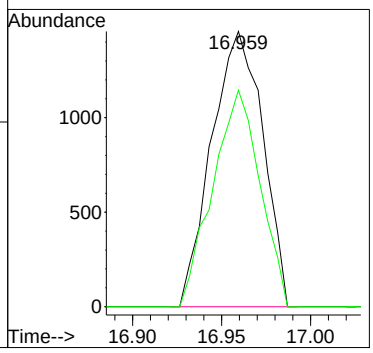


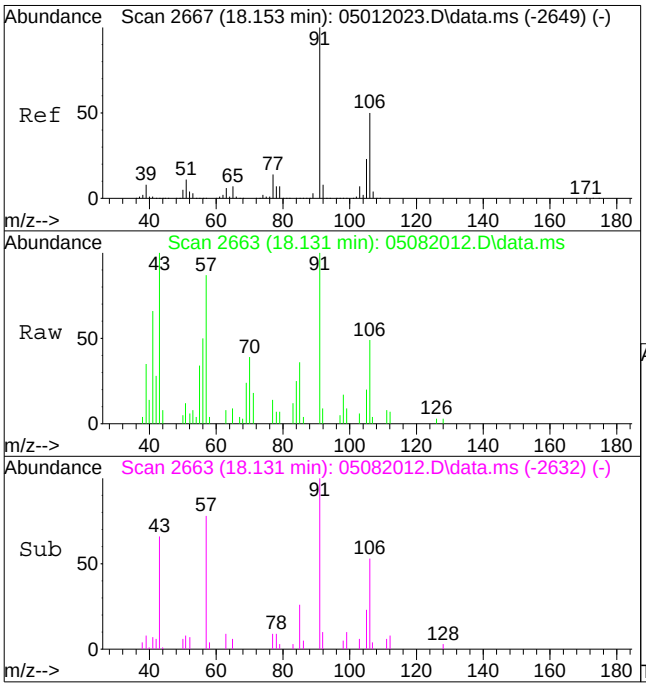


#64
Tetrachloroethene
Concen: 0.09 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05082012.D
Acq: 8 May 2020 7:14

Tgt Ion:166 Resp: 2912

Ion	Ratio	Lower	Upper
166	100		
164	72.6	58.4	98.4

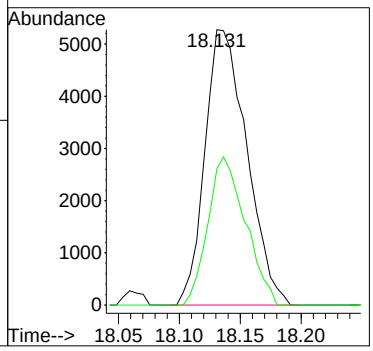


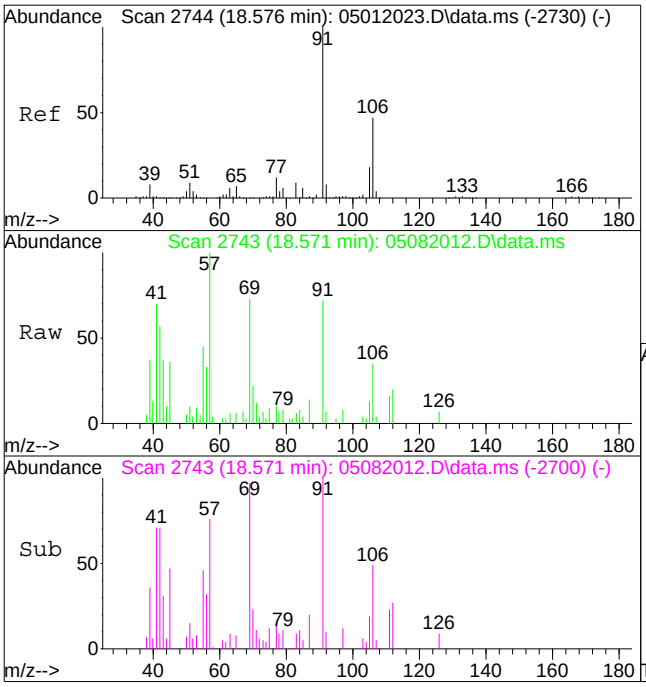


#67
m- & p-Xylenes
Concen: 0.13 ng
RT: 18.13 min Scan# 2663
Delta R.T. -0.028 min
Lab File: 05082012.D
Acq: 8 May 2020 7:14

Tgt Ion: 91 Resp: 12635

Ion	Ratio	Lower	Upper
91	100		
106	48.2	29.7	69.7

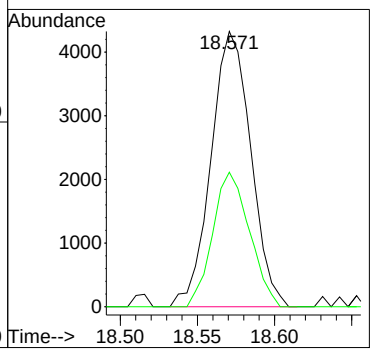


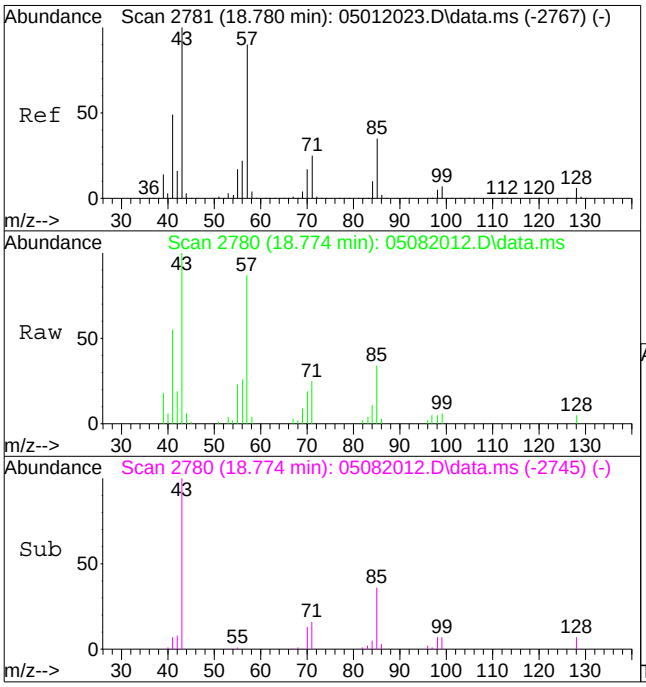


#70
o-Xylene
Concen: 0.08 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05082012.D
Acq: 8 May 2020 7:14

Tgt Ion: 91 Resp: 7760

Ion	Ratio	Lower	Upper
91	100		
106	45.1	27.5	67.5

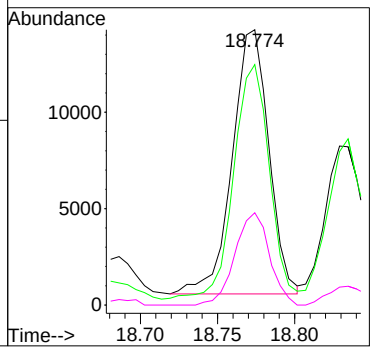


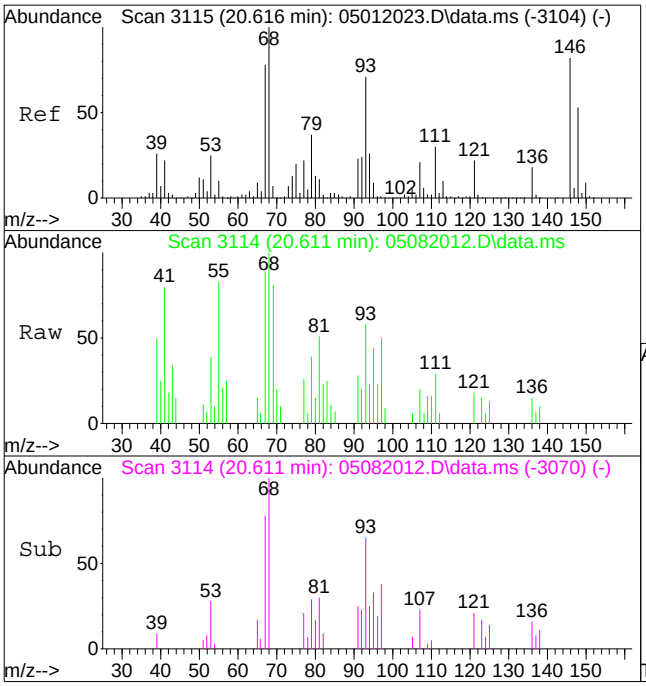


#71
n-Nonane
Concen: 0.42 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05082012.D
Acq: 8 May 2020 7:14

Tgt Ion: 43 Resp: 22614

Ion	Ratio	Lower	Upper
43	100		
57	86.3	69.0	109.0
85	32.9	14.6	54.6

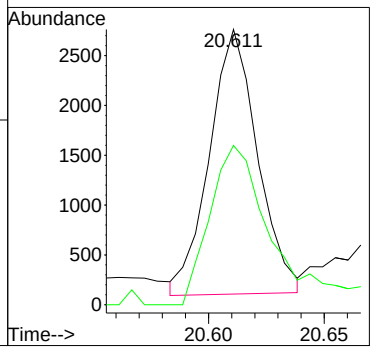




#91
d-Limonene
Concen: 0.09 ng
RT: 20.61 min Scan# 3114
Delta R.T. -0.006 min
Lab File: 05082012.D
Acq: 8 May 2020 7:14

Tgt Ion: 68 Resp: 3843

Ion	Ratio	Lower	Upper
68	100		
93	79.2	51.1	91.1



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082013.D Vial: 7
Acq On : 8 May 2020 7:47 Operator: LH
Sample : P2002107-024 (400mL) Inst : GCMS-16
Misc : S31-02112001 pf2

Quant Time: May 08 15:12:56 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/8/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	252274	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.27	114	1091862	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	508146	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	412467	12.064	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.48%				
57) Toluene-d8 (SS2)	15.72	98	1078254	12.519	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.16%				
73) Bromofluorobenzene (SS3)	18.97	174	390452	12.599	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.80%				
Target Compounds							Qvalue
2) Propene	4.10	42	7965	0.273	ng		99
3) Dichlorodifluoromethan...	4.25	85	370082	6.476	ng		100
4) Chloromethane	4.53	50	15910	0.355	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	6317	0.185	ng		99
6) Vinyl Chloride	4.97	62	1933	N.D.			
7) 1,3-Butadiene	5.22	54	262	N.D.			
8) Bromomethane	5.65	94	703	N.D.			
9) Chloroethane	5.97	64	762	N.D.			
10) Ethanol	6.34	45	41838	1.854	ng		100
11) Acetonitrile	6.58	41	39416	0.765	ng		96
12) Acrolein	6.79	56	9057	0.508	ng		98
13) Acetone	6.99	58	114761	5.086	ng		97
14) Trichlorofluoromethane	7.24	101	59060	1.169	ng		99
15) 2-Propanol (Isopropanol)	7.51	45	33971	0.497	ng		86
16) Acrylonitrile	7.75	53	785	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	1855	0.063	ng		100
20) 3-Chloro-1-propene (Al...	8.50	41	260	N.D.			
21) Trichlorotrifluoroethane	8.84	151	566086	23.740	ng		99
22) Carbon Disulfide	8.67	76	46402	0.442	ng		99
23) trans-1,2-Dichloroethene	9.70	61	789	N.D.			
24) 1,1-Dichloroethane	9.94	63	2740	0.057	ng		94
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	d		
26) Vinyl Acetate	10.18	86	6815	0.970	ng	#	33
27) 2-Butanone (MEK)	10.47	72	17862	0.928	ng	#	91
28) cis-1,2-Dichloroethene	10.97	61	1483	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.28	61	7450	0.671	ng		96
31) n-Hexane	11.26	57	12845	0.267	ng		98
32) Chloroform	11.31	83	55071	1.097	ng		99
34) Tetrahydrofuran (THF)	11.71	72	1132764	60.359	ng		98
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.12	62	370	N.D.			
38) 1,1,1-Trichloroethane	12.40	97	13942	0.317	ng		98
39) Isopropyl Acetate	13.03	61	900	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	25879	0.221	ng		98
42) Carbon Tetrachloride	13.03	117	1700539	42.697	ng		100
43) Cyclohexane	13.16	84	23653	0.542	ng		96
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	13.86	83	561	N.D.			
47) Trichloroethene	13.97	130	2071668	68.450	ng		99
48) 1,4-Dioxane	0.00	88	0	N.D.	d		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082013.D Vial: 7
Acq On : 8 May 2020 7:47 Operator: LH
Sample : P2002107-024 (400mL) Inst : GCMS-16
Misc : S31-02112001 pf2

Quant Time: May 08 15:12:56 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

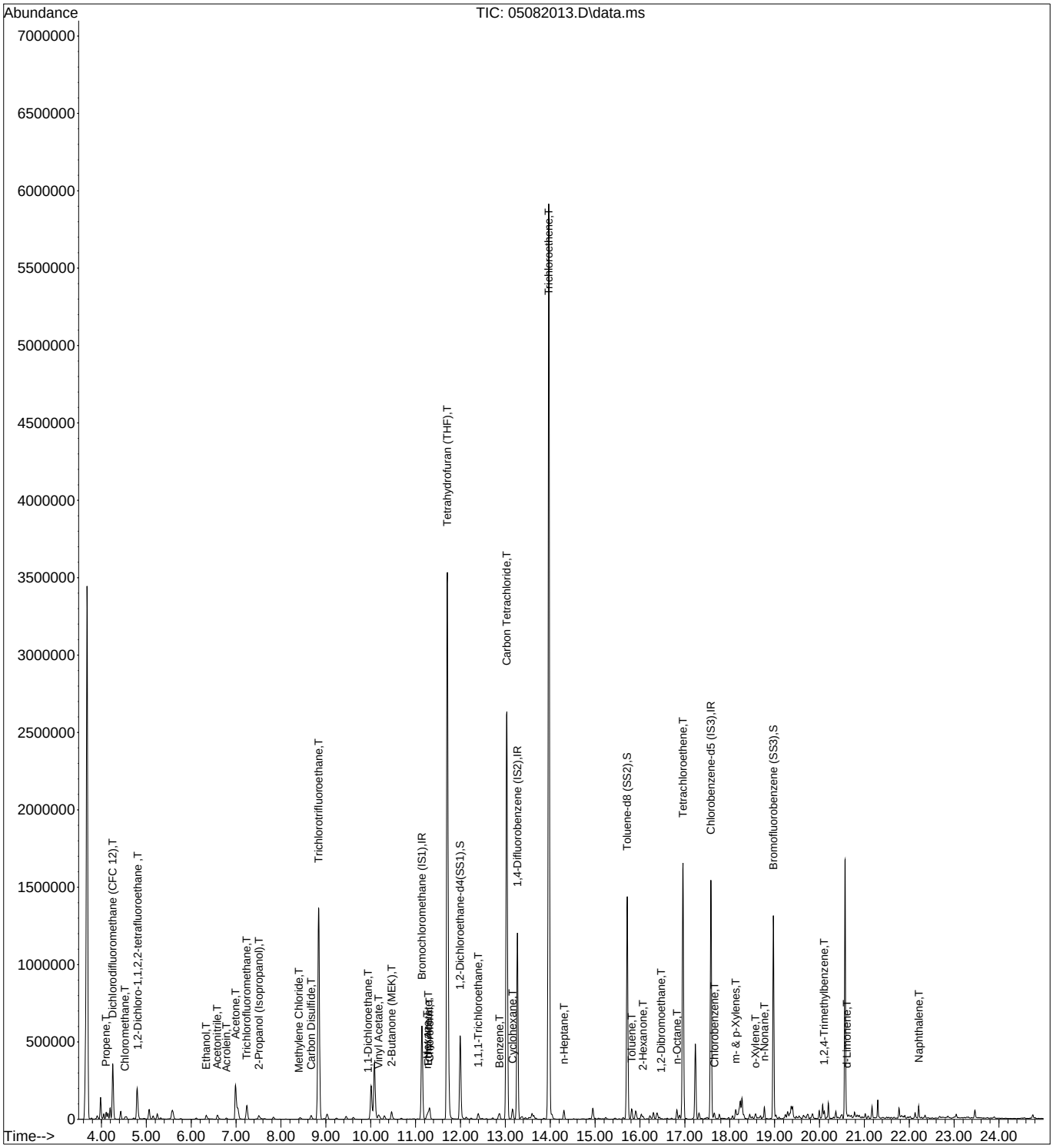
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.31	71	14964	0.546 ng		99
52) cis-1,3-Dichloropropene	14.84	75	120	N.D.		
53) 4-Methyl-2-pentanone	14.87	58	1214	N.D.		
54) trans-1,3-Dichloropropene	15.35	75	176	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.82	91	51536	0.464 ng		98
59) 2-Hexanone	16.07	43	10361	0.170 ng	#	71
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	16.48	107	1704	0.056 ng		98
62) n-Butyl Acetate	16.70	43	2184	N.D.		
63) n-Octane	16.83	57	11467	0.499 ng		94
64) Tetrachloroethene	16.96	166	543502	17.331 ng		100
65) Chlorobenzene	17.66	112	4275	0.056 ng	#	42
66) Ethylbenzene	17.98	91	4960	N.D.		
67) m- & p-Xylenes	18.14	91	20104	0.205 ng		98
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	2560	N.D.		
70) o-Xylene	18.57	91	8294	0.083 ng		98
71) n-Nonane	18.77	43	27521	0.520 ng		98
72) 1,1,2,2-Tetrachloroethane	18.56	83	282	N.D.		
74) Cumene	19.10	105	1703	N.D.		
75) alpha-Pinene	19.45	93	1709	N.D.		
76) n-Propylbenzene	19.55	91	3955	N.D.		
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.68	105	3484	N.D.		
79) 1,3,5-Trimethylbenzene	19.74	105	4797	N.D.		
80) alpha-Methylstyrene	19.88	118	1410	N.D.		
81) 2-Ethyltoluene	19.92	105	2863	N.D.		
82) 1,2,4-Trimethylbenzene	20.10	105	20012	0.200 ng		90
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.22	91	1123	N.D.		
85) 1,3-Dichlorobenzene	20.24	146	504	N.D.		
86) 1,4-Dichlorobenzene	20.31	146	859	N.D.		
87) sec-Butylbenzene	20.35	105	1162	N.D.		
88) 4-Isopropyltoluene (p-...	20.48	119	3333	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	20.60	146	347	N.D.		
91) d-Limonene	20.61	68	2540	0.064 ng	#	71
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.11	180	445	N.D.		
95) Naphthalene	22.22	128	7570	0.062 ng		98
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	20.10	119	2600	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082013.D Vial: 7
Acq On : 8 May 2020 7:47 Operator: LH
Sample : P2002107-024 (400mL) Inst : GCMS-16
Misc : S31-02112001 pf2

Quant Time: May 08 15:12:56 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082013.D Vial: 7
Acq On : 8 May 2020 7:47 Operator: LH
Sample : P2002107-024 (400mL) Inst : GCMS-16
Misc : S31-02112001 pf2

Quant Time: May 08 15:12:56 2020
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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/8/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	252274	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.27	114	1091862	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	508146	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	412467	12.064	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.48%				
57) Toluene-d8 (SS2)	15.72	98	1078254	12.519	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.16%				
73) Bromofluorobenzene (SS3)	18.97	174	390452	12.599	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.80%				
Target Compounds							Qvalue
2) Propene	4.10	42	7965	0.273	ng		99
3) Dichlorodifluoromethan...	4.25	85	370082	6.476	ng		100
4) Chloromethane	4.53	50	15910	0.355	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	6317	0.185	ng		99
10) Ethanol	6.34	45	41838	1.854	ng		100
11) Acetonitrile	6.58	41	39416	0.765	ng		96
12) Acrolein	6.79	56	9057	0.508	ng		98
13) Acetone	6.99	58	114761	5.086	ng		97
14) Trichlorofluoromethane	7.24	101	59060	1.169	ng		99
15) 2-Propanol (Isopropanol)	7.51	45	33971	0.497	ng		86
19) Methylene Chloride	8.40	84	1855	0.063	ng		100
21) Trichlorotrifluoroethane	8.84	151	566086	23.740	ng		99
22) Carbon Disulfide	8.67	76	46402	0.442	ng		99
24) 1,1-Dichloroethane	9.94	63	2740	0.057	ng		94
26) Vinyl Acetate	10.18	86	6815	0.970	ng	#	33
27) 2-Butanone (MEK)	10.47	72	17862	0.928	ng	#	91
30) Ethyl Acetate	11.28	61	7450	0.671	ng		96
31) n-Hexane	11.26	57	12845	0.267	ng		98
32) Chloroform	11.31	83	55071	1.097	ng		99
34) Tetrahydrofuran (THF)	11.71	72	1132764	60.359	ng		98
38) 1,1,1-Trichloroethane	12.40	97	13942	0.317	ng		98
41) Benzene	12.87	78	25879	0.221	ng		98
42) Carbon Tetrachloride	13.03	117	1700539	42.697	ng		100
43) Cyclohexane	13.16	84	23653	0.542	ng		96
47) Trichloroethene	13.97	130	2071668	68.450	ng		99
51) n-Heptane	14.31	71	14964	0.546	ng		99
58) Toluene	15.82	91	51536	0.464	ng		98
59) 2-Hexanone	16.07	43	10361	0.170	ng	#	71
61) 1,2-Dibromoethane	16.48	107	1704	0.056	ng		98
63) n-Octane	16.83	57	11467	0.499	ng		94
64) Tetrachloroethene	16.96	166	543502	17.331	ng		100
65) Chlorobenzene	17.66	112	4275	0.056	ng	#	42
67) m- & p-Xylenes	18.14	91	20104	0.205	ng		98
70) o-Xylene	18.57	91	8294	0.083	ng		98
71) n-Nonane	18.77	43	27521	0.520	ng		98
82) 1,2,4-Trimethylbenzene	20.10	105	20012	0.200	ng		90
91) d-Limonene	20.61	68	2540	0.064	ng	#	71
95) Naphthalene	22.22	128	7570	0.062	ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082013.D Vial: 7
Acq On : 8 May 2020 7:47 Operator: LH
Sample : P2002107-024 (400mL) Inst : GCMS-16
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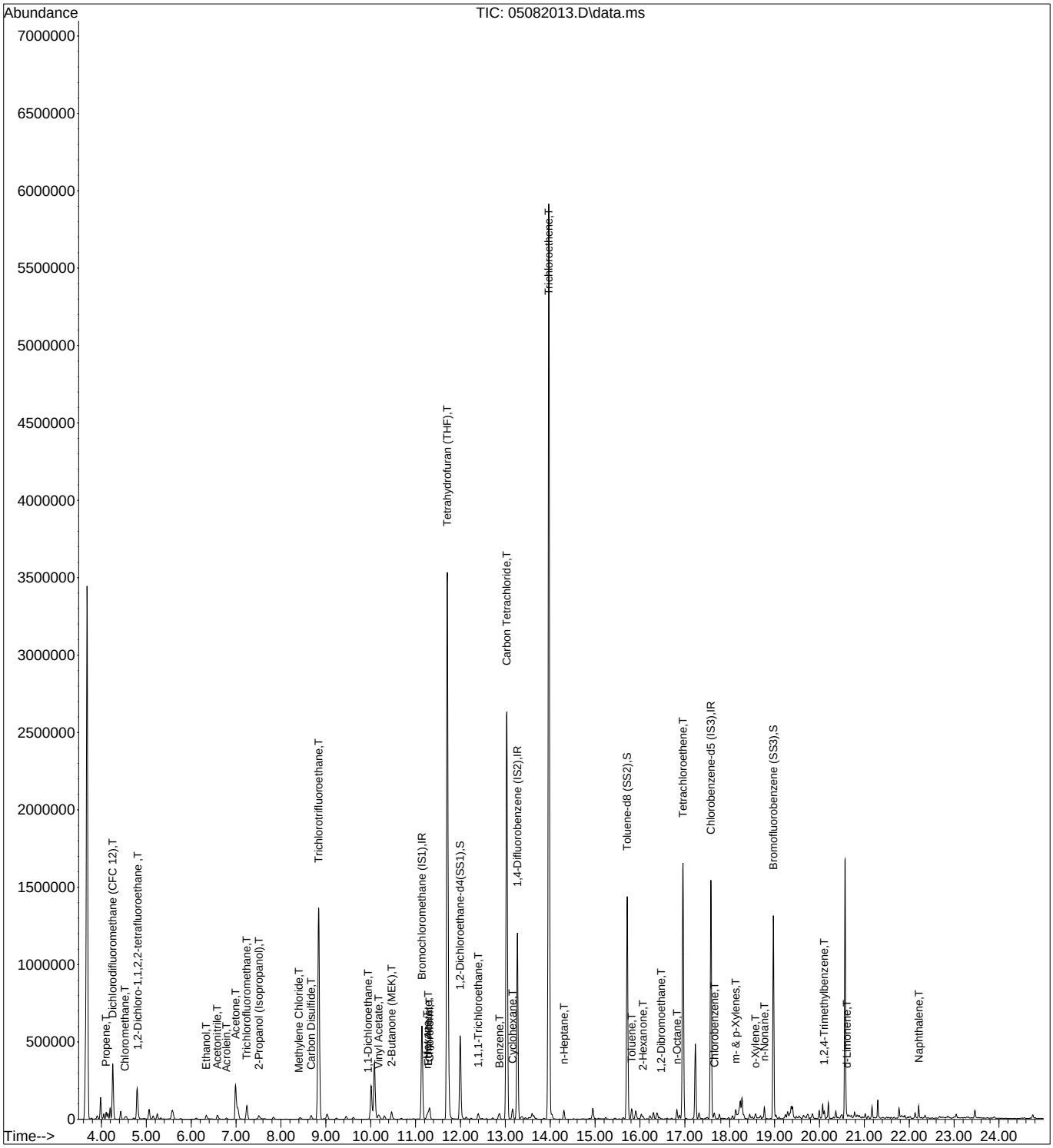
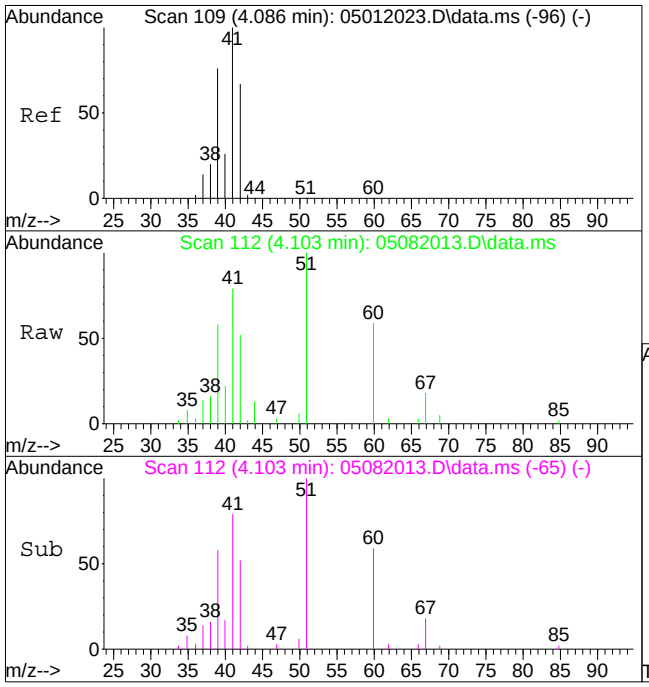
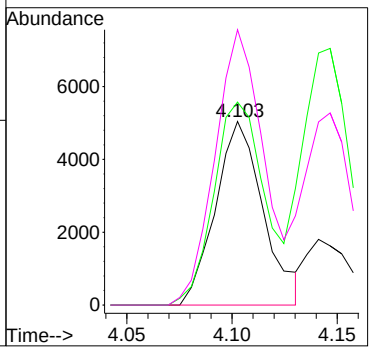


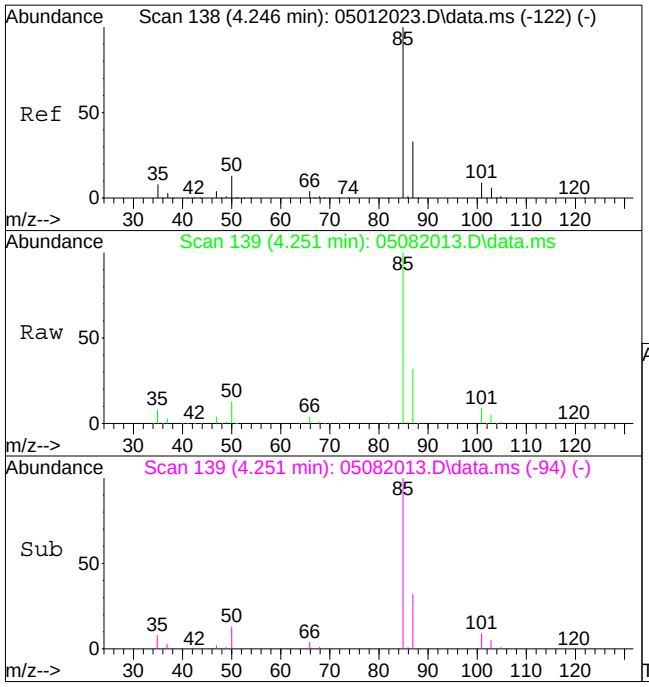


#2
Propene
Concen: 0.27 ng
RT: 4.10 min Scan# 112
Delta R.T. 0.011 min
Lab File: 05082013.D
Acq: 8 May 2020 7:47

Tgt Ion: 42 Resp: 7965

Ion	Ratio	Lower	Upper
42	100		
39	118.0	96.1	136.1
41	151.2	131.9	171.9

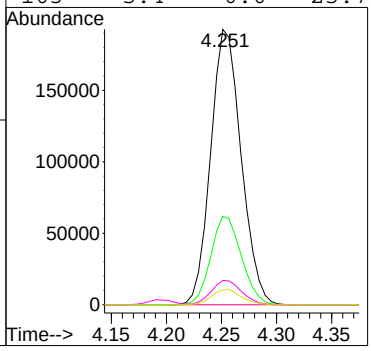


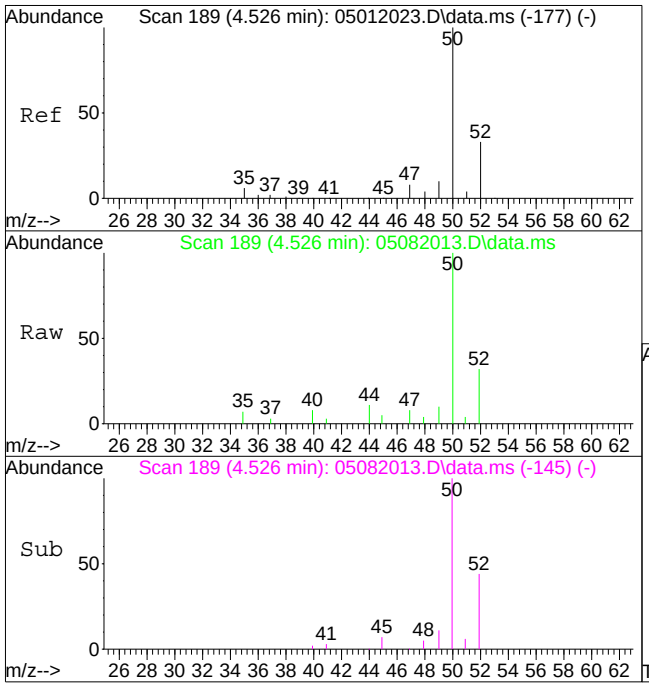


#3
Dichlorodifluoromethane (CFC 12)
Concen: 6.48 ng
RT: 4.25 min Scan# 139
Delta R.T. -0.000 min
Lab File: 05082013.D
Acq: 8 May 2020 7:47

Tgt Ion: 85 Resp: 370082

Ion	Ratio	Lower	Upper
85	100		
87	32.1	12.4	52.4
101	8.8	0.0	28.8
103	5.4	0.0	25.7

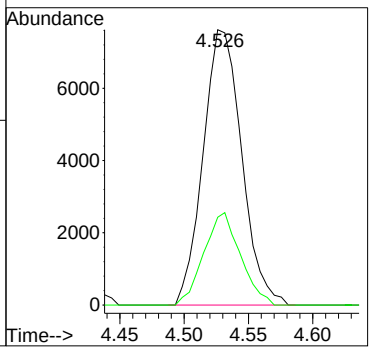


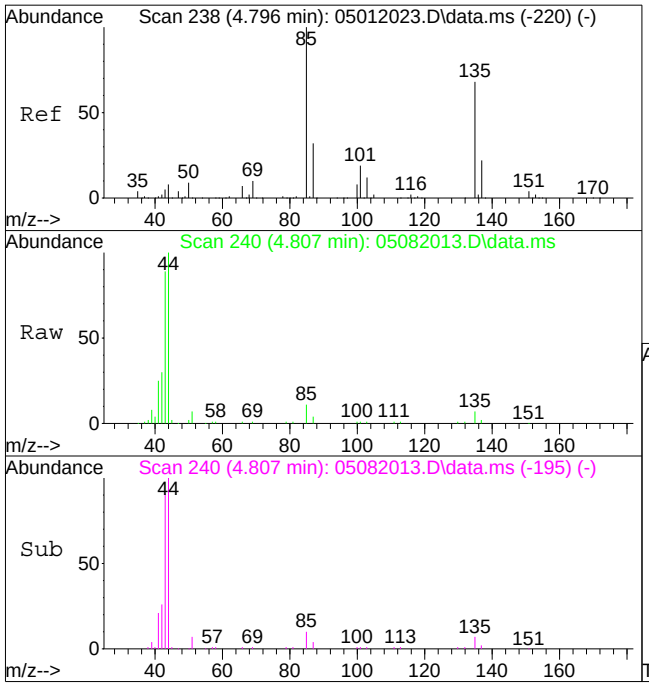


#4
Chloromethane
Concen: 0.36 ng
RT: 4.53 min Scan# 189
Delta R.T. -0.006 min
Lab File: 05082013.D
Acq: 8 May 2020 7:47

Tgt Ion: 50 Resp: 15910

Ion	Ratio	Lower	Upper
50	100		
52	31.8	12.5	52.5

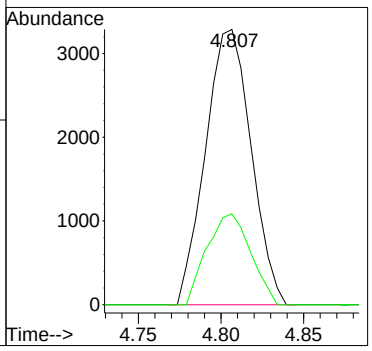


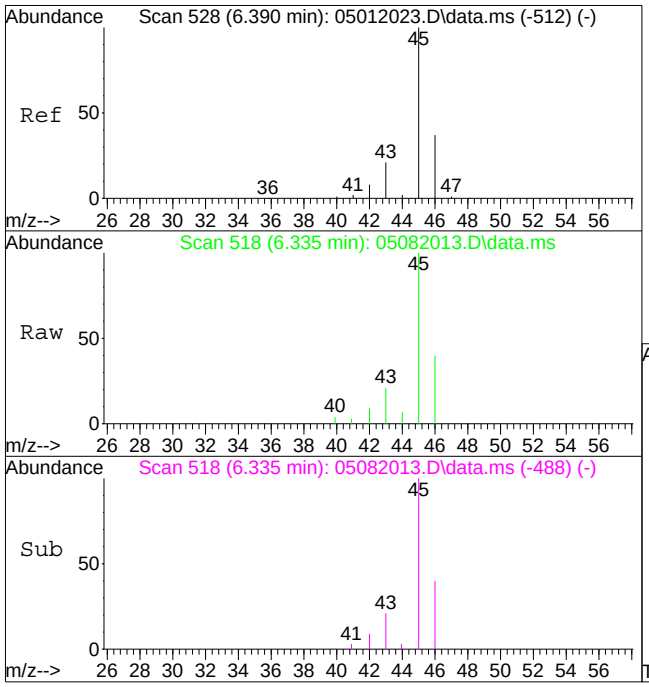


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 0.19 ng
RT: 4.81 min Scan# 240
Delta R.T. -0.000 min
Lab File: 05082013.D
Acq: 8 May 2020 7:47

Tgt Ion:135 Resp: 6317

Ion	Ratio	Lower	Upper
135	100		
137	31.6	12.1	52.1

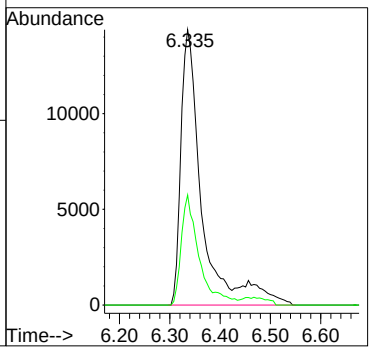


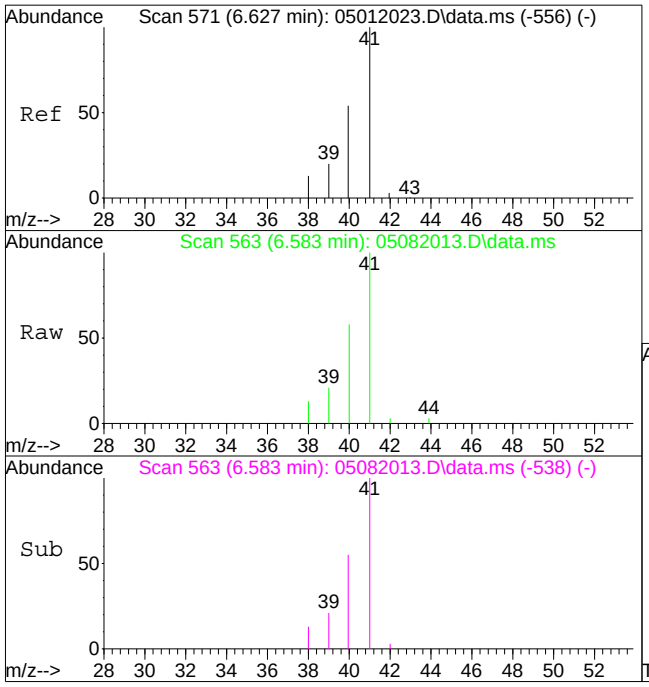


#10
Ethanol
Concen: 1.85 ng
RT: 6.34 min Scan# 518
Delta R.T. -0.083 min
Lab File: 05082013.D
Acq: 8 May 2020 7:47

Tgt Ion: 45 Resp: 41838

Ion	Ratio	Lower	Upper
45	100		
46	37.2	17.2	57.2

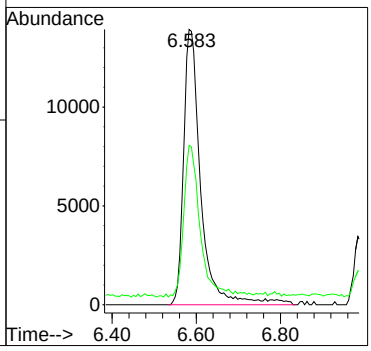


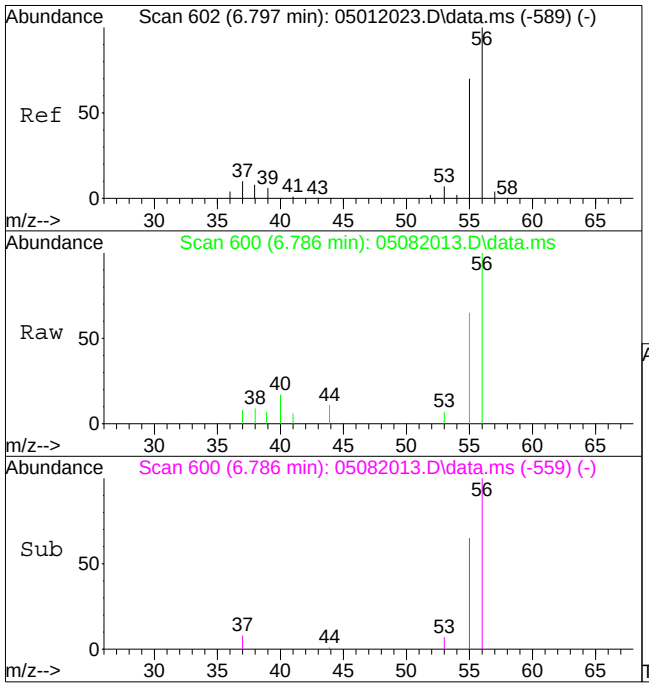


#11
Acetonitrile
Concen: 0.76 ng
RT: 6.58 min Scan# 563
Delta R.T. -0.061 min
Lab File: 05082013.D
Acq: 8 May 2020 7:47

Tgt Ion: 41 Resp: 39416

Ion	Ratio	Lower	Upper
41	100		
40	56.2	33.6	73.6

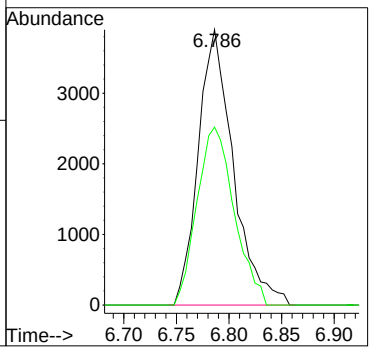


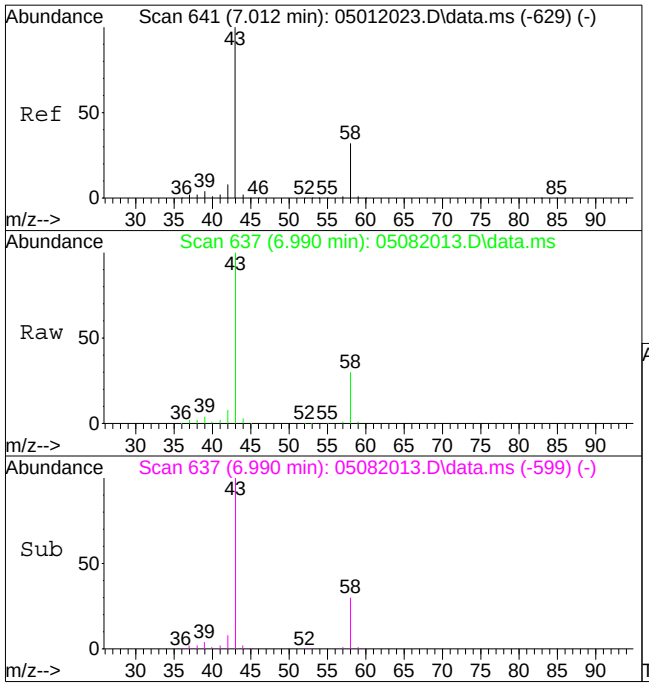


#12
Acrolein
Concen: 0.51 ng
RT: 6.79 min Scan# 600
Delta R.T. -0.022 min
Lab File: 05082013.D
Acq: 8 May 2020 7:47

Tgt Ion: 56 Resp: 9057

Ion	Ratio	Lower	Upper
56	100		
55	68.5	50.2	90.2

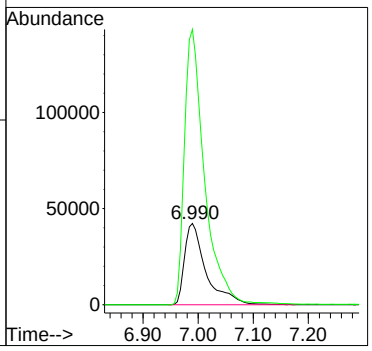


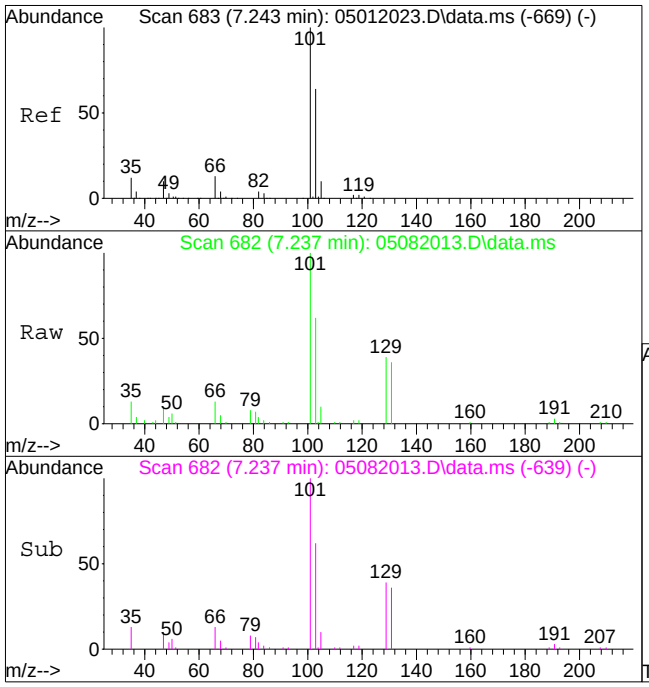


#13
Acetone
Concen: 5.09 ng
RT: 6.99 min Scan# 637
Delta R.T. -0.039 min
Lab File: 05082013.D
Acq: 8 May 2020 7:47

Tgt Ion: 58 Resp: 114761

Ion	Ratio	Lower	Upper
58	100		
43	318.6	294.4	354.4

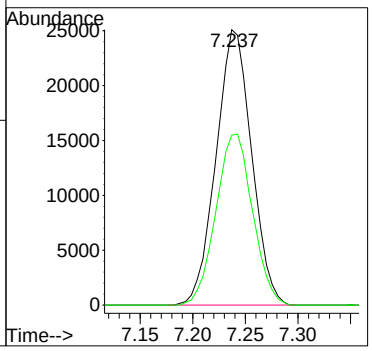


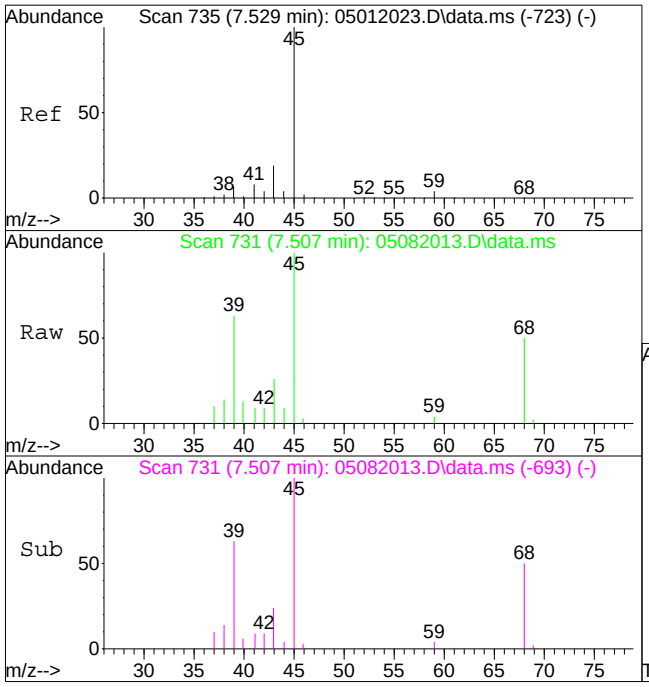


#14
Trichlorofluoromethane
Concen: 1.17 ng
RT: 7.24 min Scan# 682
Delta R.T. -0.011 min
Lab File: 05082013.D
Acq: 8 May 2020 7:47

Tgt Ion:101 Resp: 59060

Ion	Ratio	Lower	Upper
101	100		
103	63.9	44.4	84.4

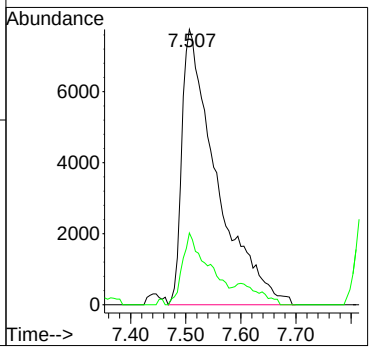


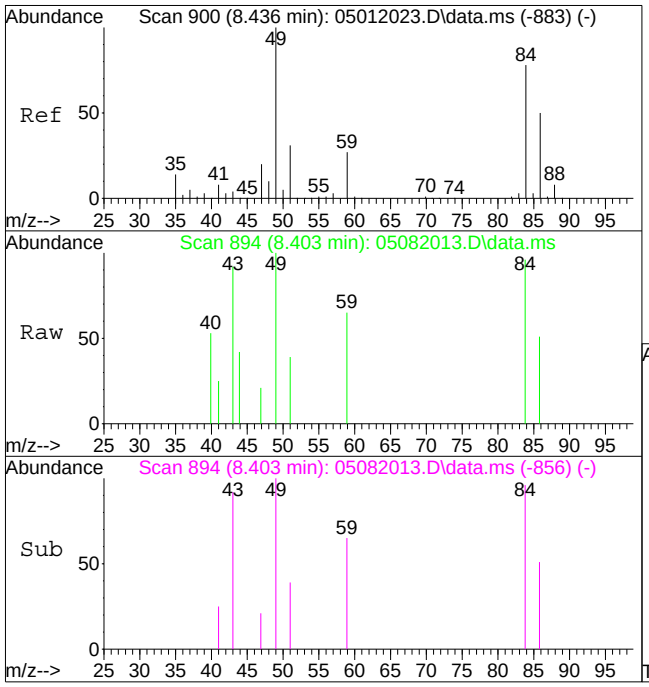


#15
2-Propanol (Isopropanol)
Concen: 0.50 ng
RT: 7.51 min Scan# 731
Delta R.T. -0.039 min
Lab File: 05082013.D
Acq: 8 May 2020 7:47

Tgt Ion: 45 Resp: 33971

Ion	Ratio	Lower	Upper
45	100		
43	25.8	0.0	39.5

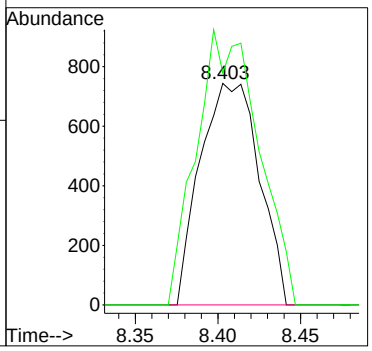


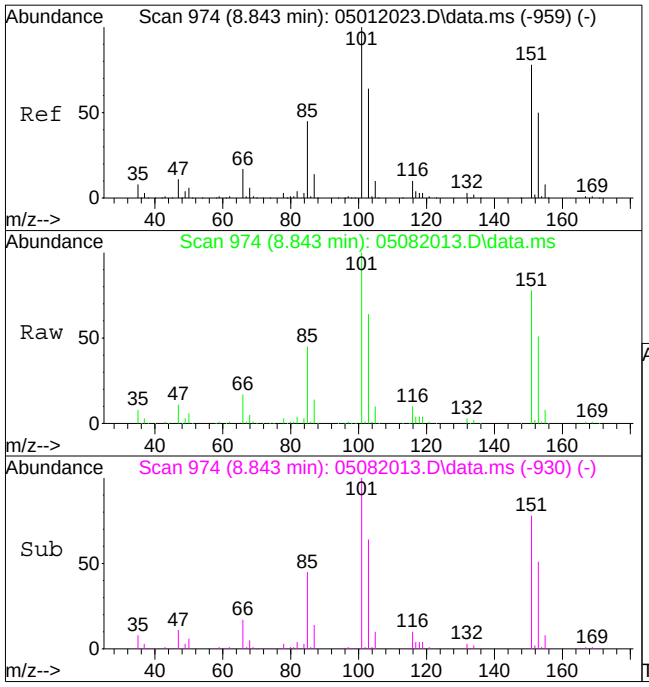


#19
Methylene Chloride
Concen: 0.06 ng
RT: 8.40 min Scan# 894
Delta R.T. -0.039 min
Lab File: 05082013.D
Acq: 8 May 2020 7:47

Tgt Ion: 84 Resp: 1855

Ion	Ratio	Lower	Upper
84	100		
49	130.2	104.8	154.8

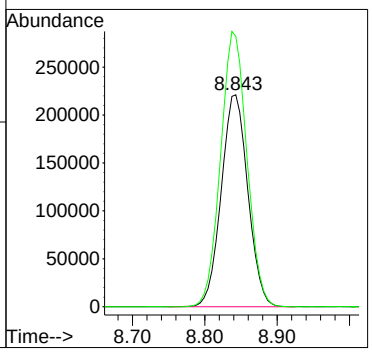


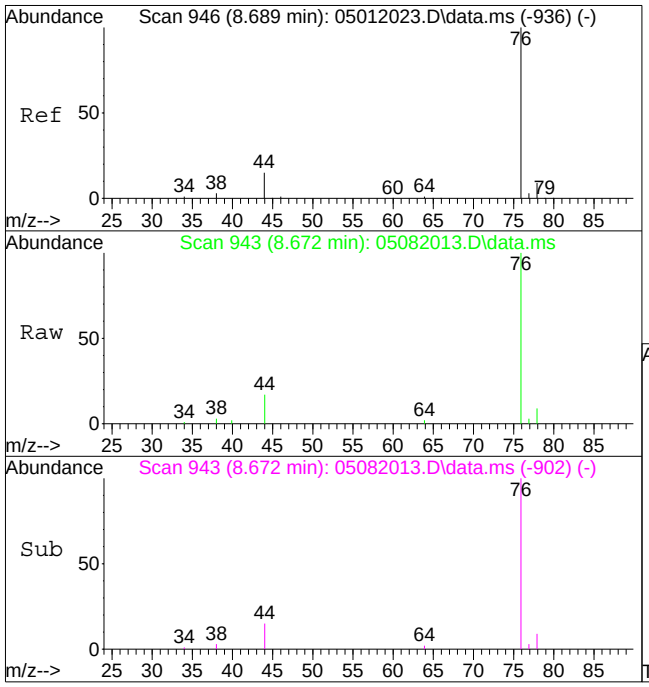


#21
Trichlorotrifluoroethane
Concen: 23.74 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05082013.D
Acq: 8 May 2020 7:47

Tgt Ion:151 Resp: 566086

Ion	Ratio	Lower	Upper
151	100		
101	128.6	107.3	147.3

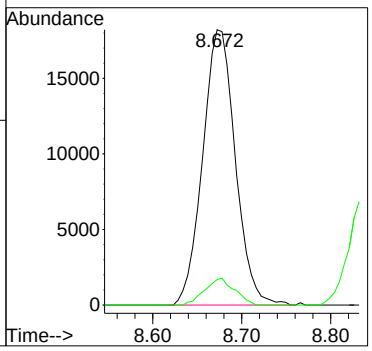


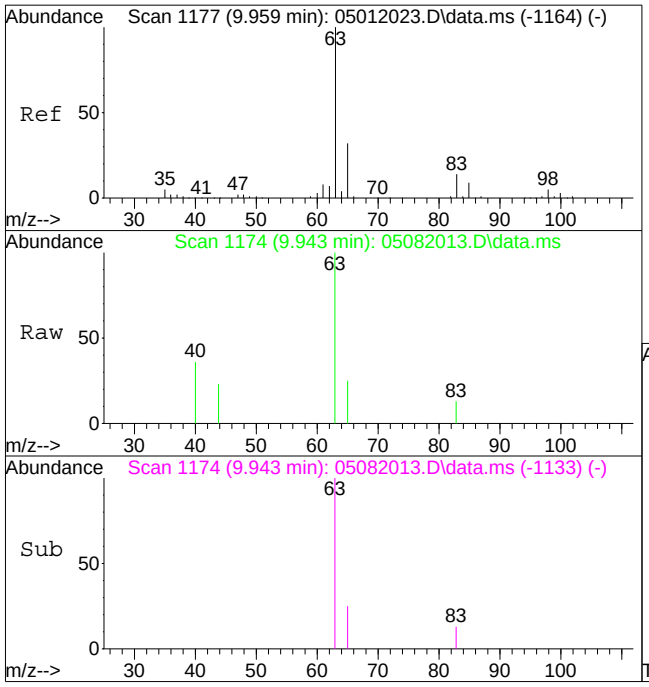


#22
Carbon Disulfide
Concen: 0.44 ng
RT: 8.67 min Scan# 943
Delta R.T. -0.022 min
Lab File: 05082013.D
Acq: 8 May 2020 7:47

Tgt Ion: 76 Resp: 46402

Ion	Ratio	Lower	Upper
76	100		
78	8.9	0.0	29.2

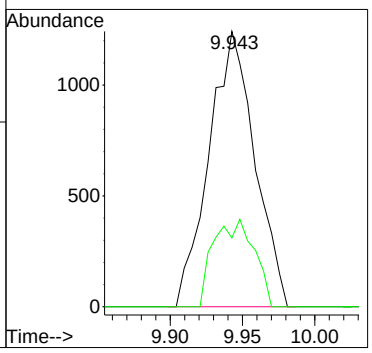


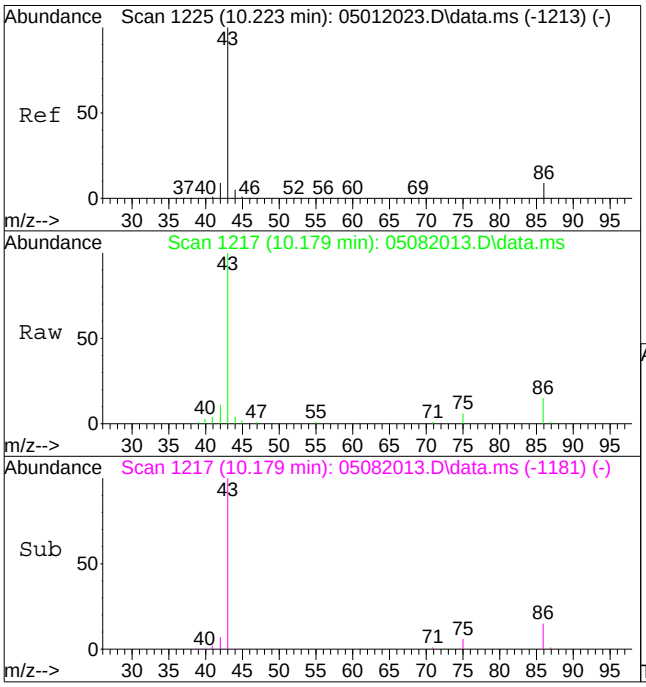


#24
1,1-Dichloroethane
Concen: 0.06 ng
RT: 9.94 min Scan# 1174
Delta R.T. -0.022 min
Lab File: 05082013.D
Acq: 8 May 2020 7:47

Tgt Ion: 63 Resp: 2740

Ion	Ratio	Lower	Upper
63	100		
65	28.2	11.8	51.8

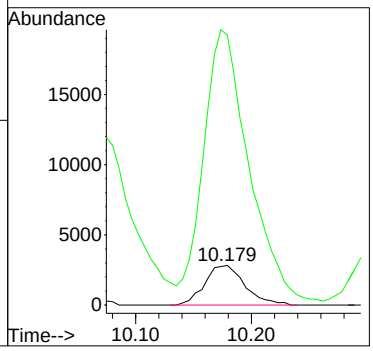


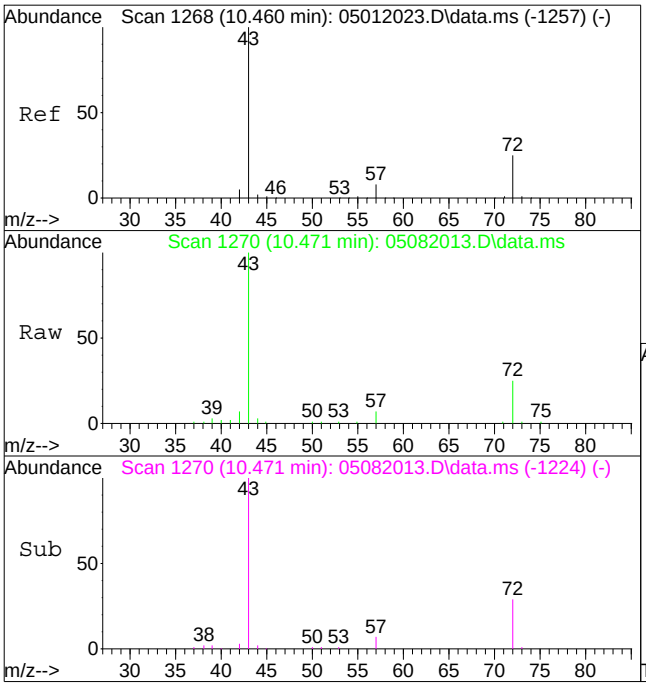


#26
Vinyl Acetate
Concen: 0.97 ng
RT: 10.18 min Scan# 1217
Delta R.T. -0.050 min
Lab File: 05082013.D
Acq: 8 May 2020 7:47

Tgt Ion: 86 Resp: 6815

Ion	Ratio	Lower	Upper
86	100		
43	796.7	1103.0	1143.0#

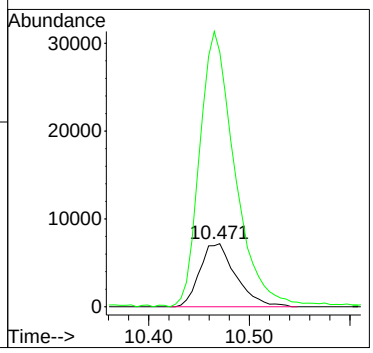


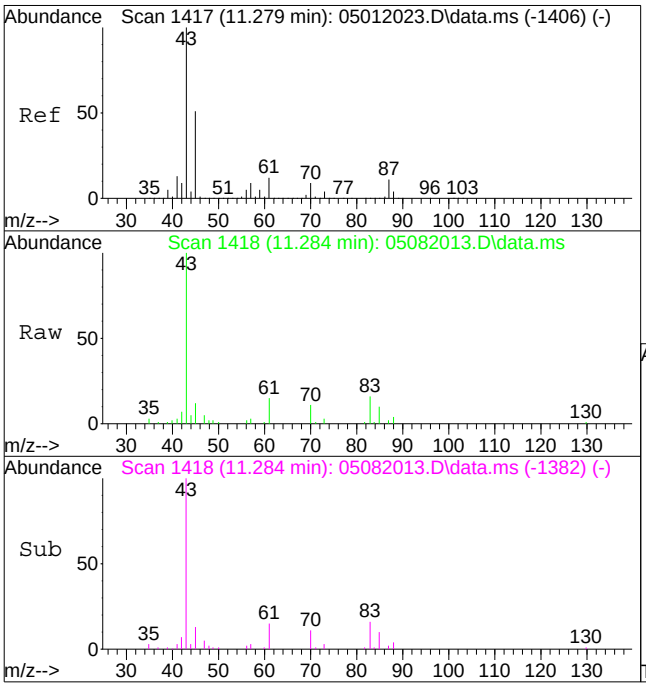


#27
2-Butanone (MEK)
Concen: 0.93 ng
RT: 10.47 min Scan# 1270
Delta R.T. 0.005 min
Lab File: 05082013.D
Acq: 8 May 2020 7:47

Tgt Ion: 72 Resp: 17862

Ion	Ratio	Lower	Upper
72	100		
43	431.7	389.7	429.7#

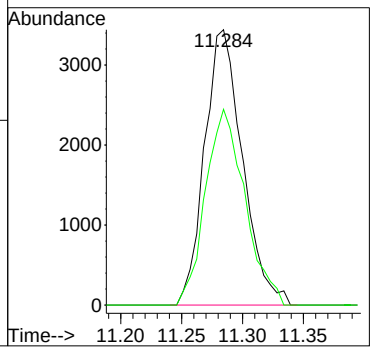


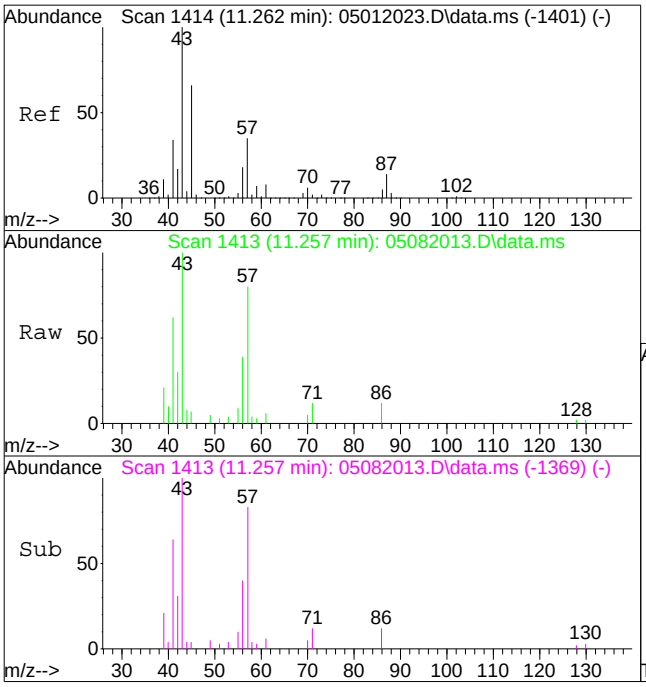


#30
Ethyl Acetate
Concen: 0.67 ng
RT: 11.28 min Scan# 1418
Delta R.T. -0.000 min
Lab File: 05082013.D
Acq: 8 May 2020 7:47

Tgt Ion: 61 Resp: 7450

Ion	Ratio	Lower	Upper
61	100		
70	74.0	57.9	97.9

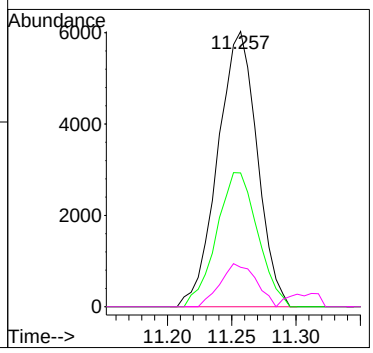


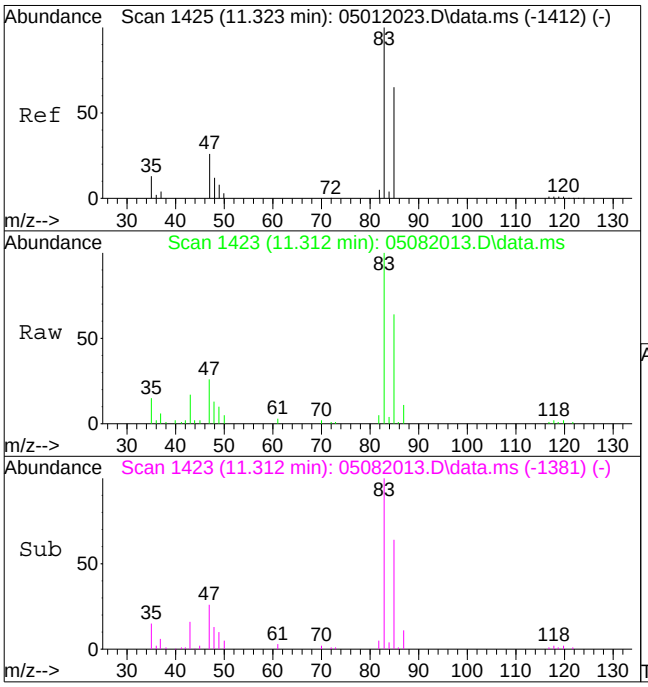


#31
n-Hexane
Concen: 0.27 ng
RT: 11.26 min Scan# 1413
Delta R.T. -0.006 min
Lab File: 05082013.D
Acq: 8 May 2020 7:47

Tgt Ion: 57 Resp: 12845

Ion	Ratio	Lower	Upper
57	100		
56	50.9	41.4	62.0
86	14.2	12.4	18.6

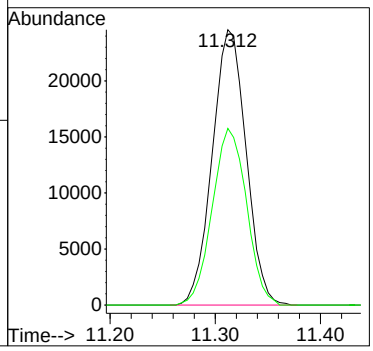


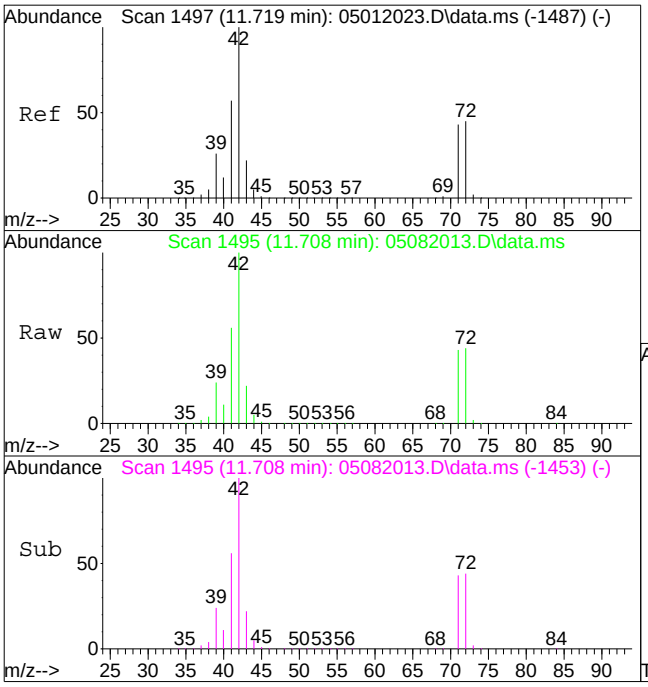


#32
Chloroform
Concen: 1.10 ng
RT: 11.31 min Scan# 1423
Delta R.T. -0.017 min
Lab File: 05082013.D
Acq: 8 May 2020 7:47

Tgt Ion: 83 Resp: 55071

Ion	Ratio	Lower	Upper
83	100		
85	64.9	45.5	85.5

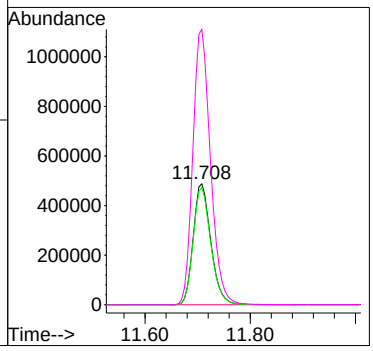


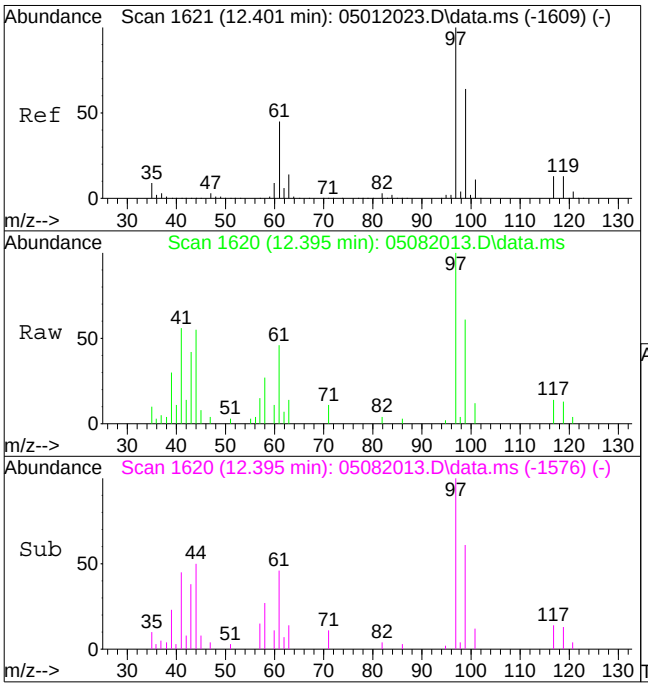


#34
Tetrahydrofuran (THF)
Concen: 60.36 ng
RT: 11.71 min Scan# 1495
Delta R.T. -0.017 min
Lab File: 05082013.D
Acq: 8 May 2020 7:47

Tgt Ion: 72 Resp: 1132764

Ion	Ratio	Lower	Upper
72	100		
71	96.6	77.0	117.0
42	228.8	204.6	244.6

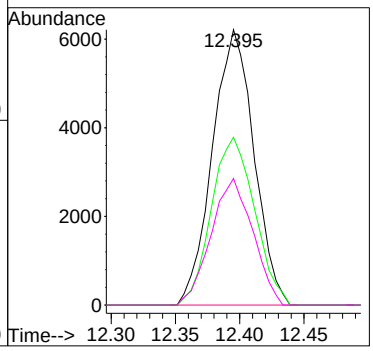


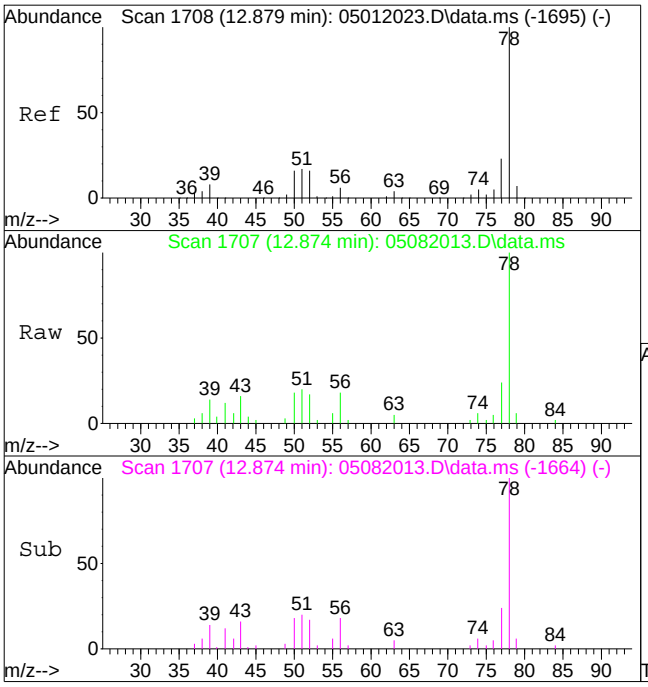


#38
1,1,1-Trichloroethane
Concen: 0.32 ng
RT: 12.40 min Scan# 1620
Delta R.T. -0.006 min
Lab File: 05082013.D
Acq: 8 May 2020 7:47

Tgt Ion: 97 Resp: 13942

Ion	Ratio	Lower	Upper
97	100		
99	63.6	44.5	84.5
61	46.3	24.7	64.7

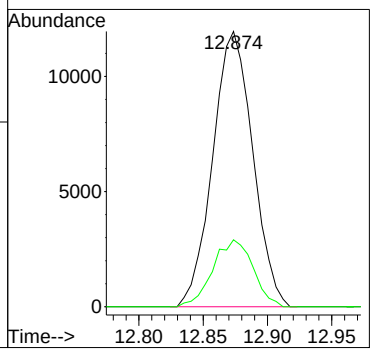


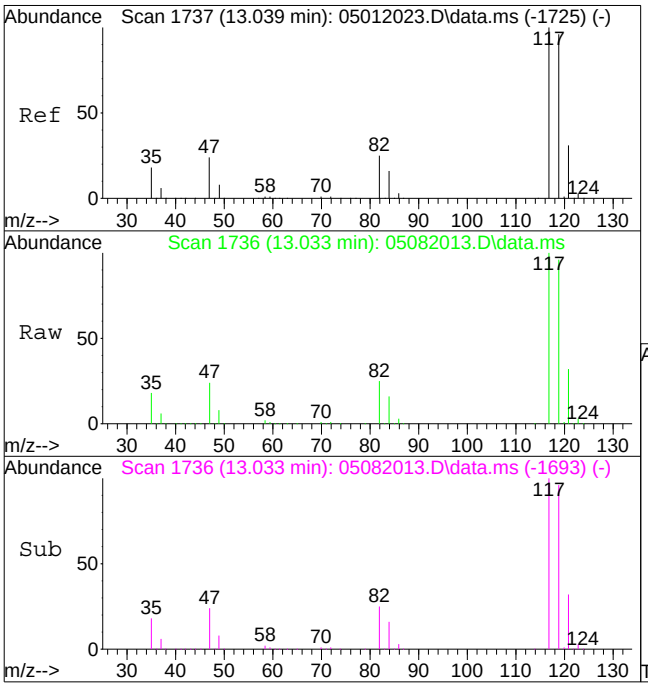


#41
Benzene
Concen: 0.22 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05082013.D
Acq: 8 May 2020 7:47

Tgt Ion: 78 Resp: 25879

Ion	Ratio	Lower	Upper
78	100		
77	24.4	3.4	43.4

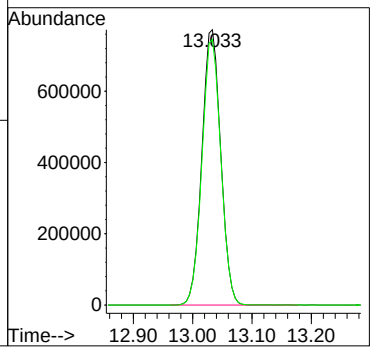


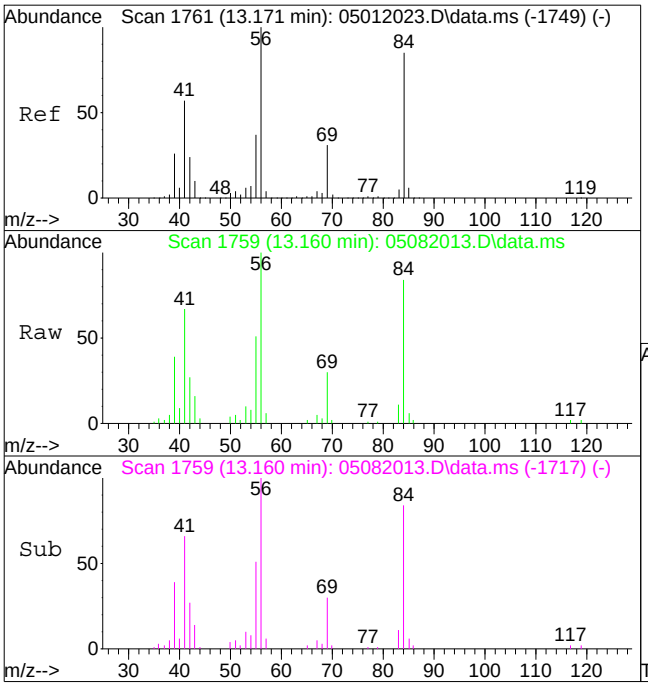


#42
Carbon Tetrachloride
Concen: 42.70 ng
RT: 13.03 min Scan# 1736
Delta R.T. -0.011 min
Lab File: 05082013.D
Acq: 8 May 2020 7:47

Tgt Ion:117 Resp: 1700539

Ion	Ratio	Lower	Upper
117	100		
119	96.4	76.2	116.2

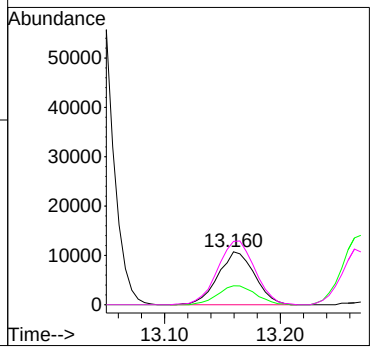


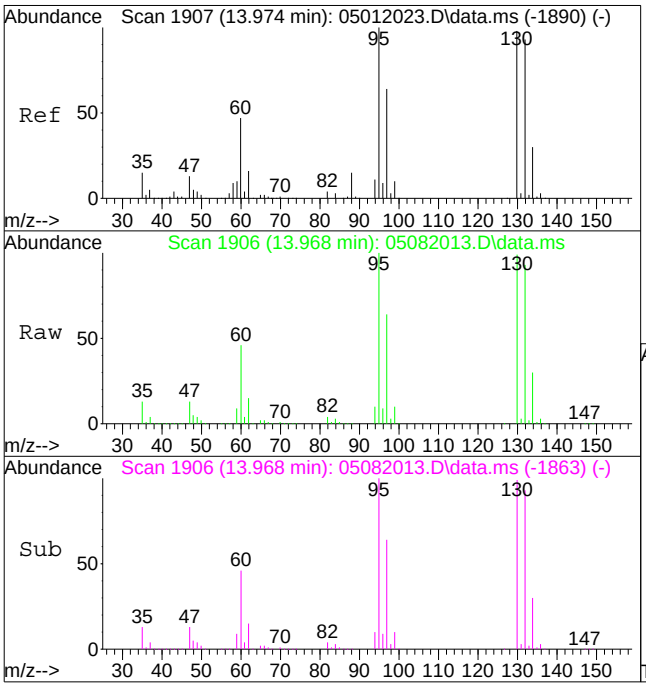


#43
Cyclohexane
Concen: 0.54 ng
RT: 13.16 min Scan# 1759
Delta R.T. -0.017 min
Lab File: 05082013.D
Acq: 8 May 2020 7:47

Tgt Ion: 84 Resp: 23653

Ion	Ratio	Lower	Upper
84	100		
69	37.0	16.5	56.5
56	123.0	97.4	137.4

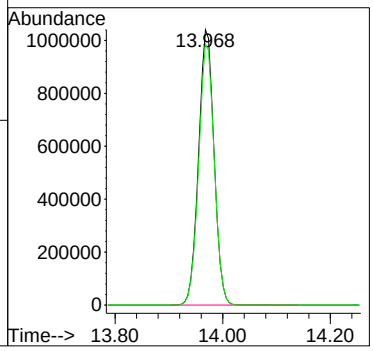


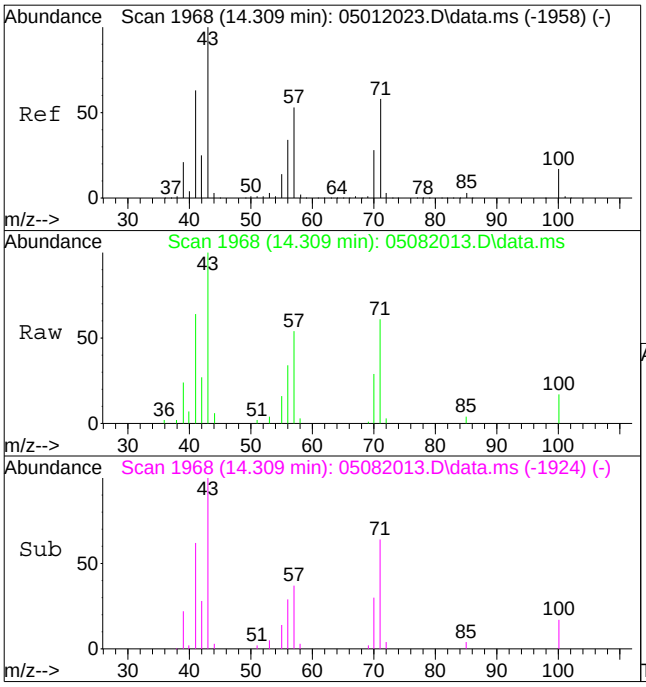


#47
Trichloroethene
Concen: 68.45 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05082013.D
Acq: 8 May 2020 7:47

Tgt Ion:130 Resp: 2071668

Ion	Ratio	Lower	Upper
130	100		
132	95.6	74.9	114.9

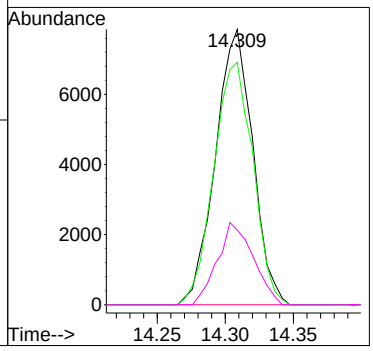


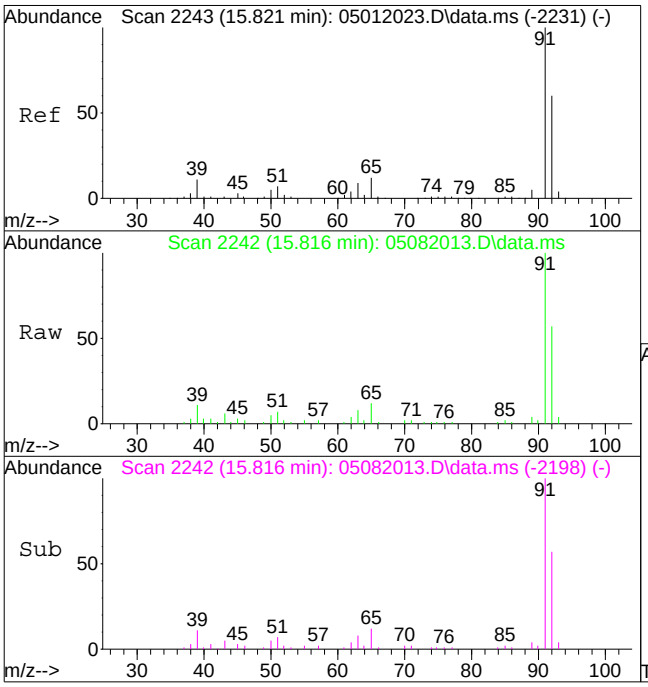


#51
n-Heptane
Concen: 0.55 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05082013.D
Acq: 8 May 2020 7:47

Tgt Ion: 71 Resp: 14964

Ion	Ratio	Lower	Upper
71	100		
57	92.4	71.0	111.0
100	28.7	8.4	48.4

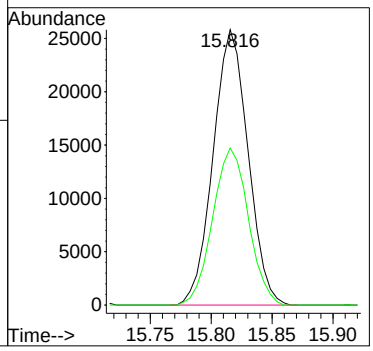


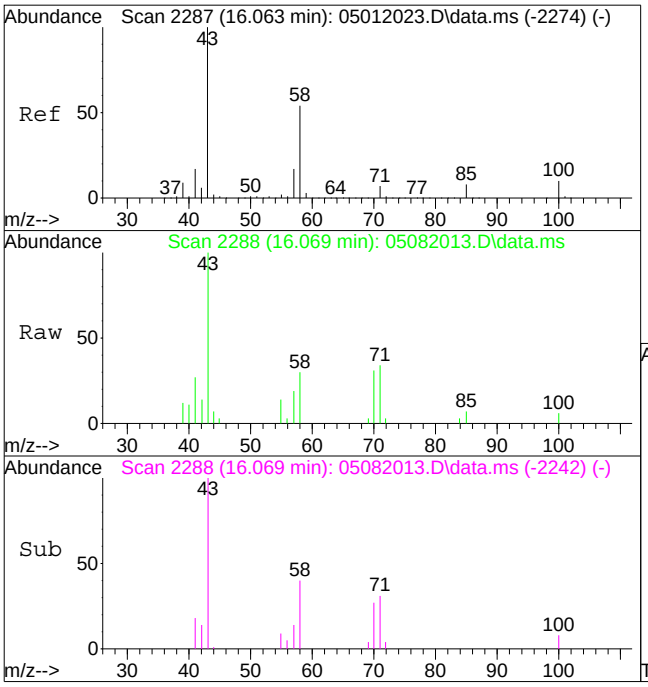


#58
Toluene
Concen: 0.46 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05082013.D
Acq: 8 May 2020 7:47

Tgt Ion: 91 Resp: 51536

Ion	Ratio	Lower	Upper
91	100		
92	58.2	39.4	79.4

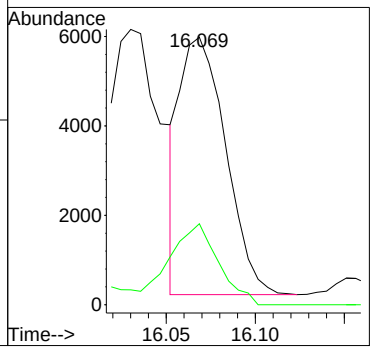


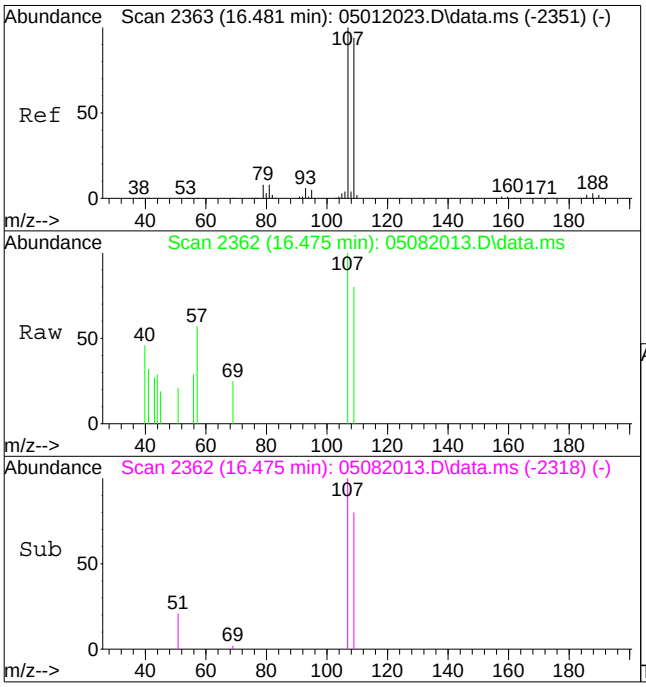


#59
2-Hexanone
Concen: 0.17 ng
RT: 16.07 min Scan# 2288
Delta R.T. 0.005 min
Lab File: 05082013.D
Acq: 8 May 2020 7:47

Tgt Ion: 43 Resp: 10361

Ion	Ratio	Lower	Upper
43	100		
58	33.5	34.5	74.5#

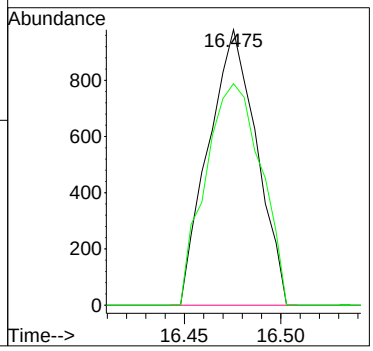


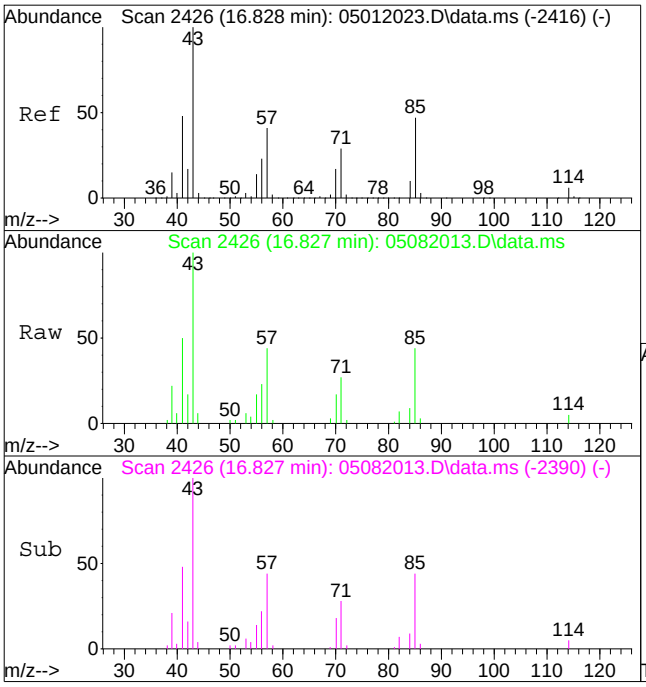


#61
1,2-Dibromoethane
Concen: 0.06 ng
RT: 16.48 min Scan# 2362
Delta R.T. -0.006 min
Lab File: 05082013.D
Acq: 8 May 2020 7:47

Tgt Ion:107 Resp: 1704

Ion	Ratio	Lower	Upper
107	100		
109	92.6	74.5	114.5

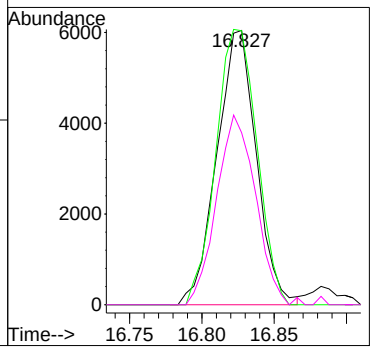


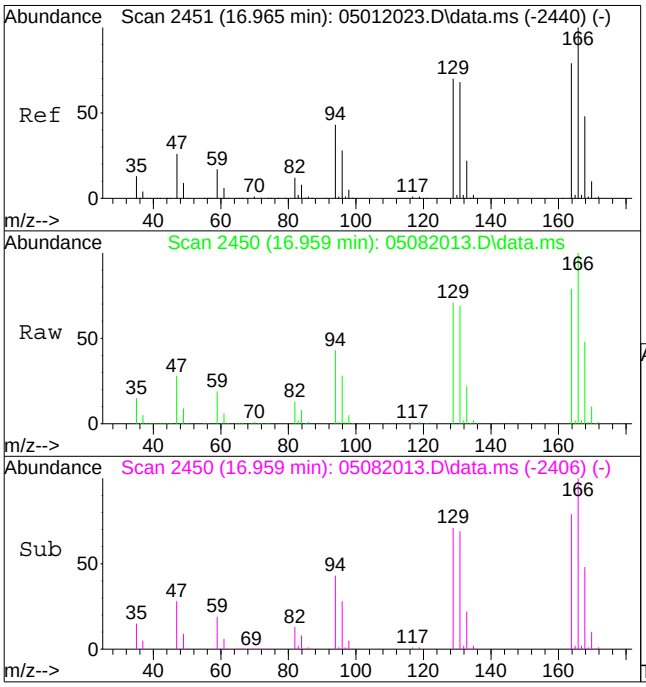


#63
n-Octane
Concen: 0.50 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05082013.D
Acq: 8 May 2020 7:47

Tgt Ion: 57 Resp: 11467

Ion	Ratio	Lower	Upper
57	100		
85	104.5	91.0	136.4
71	68.5	56.2	84.2

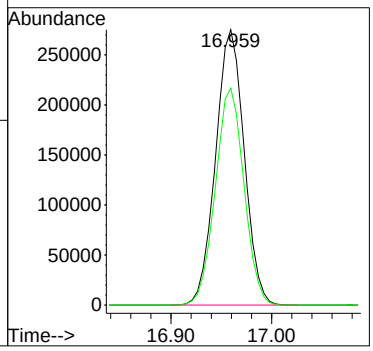


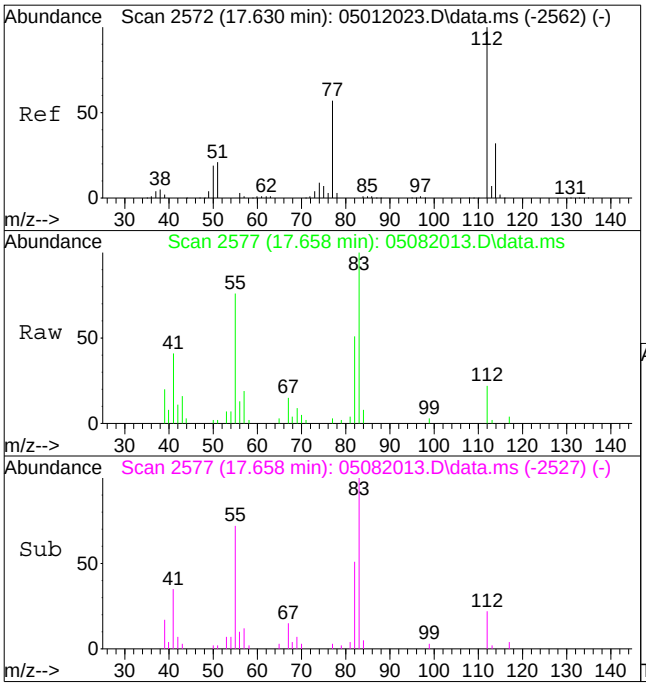


#64
Tetrachloroethene
Concen: 17.33 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05082013.D
Acq: 8 May 2020 7:47

Tgt Ion:166 Resp: 543502

Ion	Ratio	Lower	Upper
166	100		
164	78.8	58.4	98.4

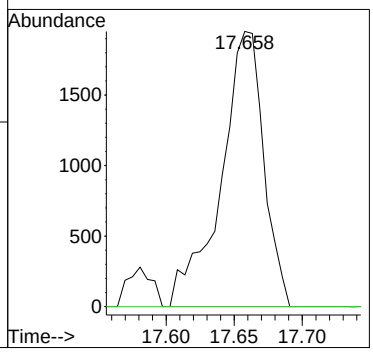


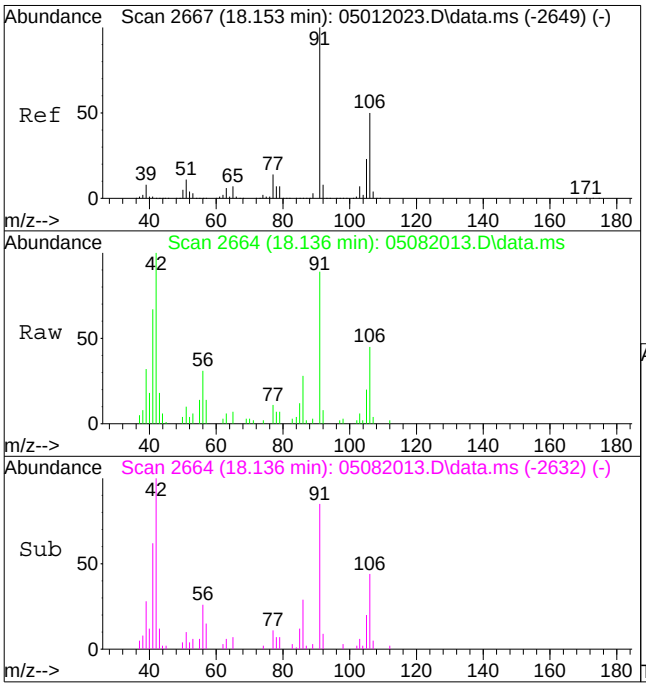


#65
Chlorobenzene
Concen: 0.06 ng
RT: 17.66 min Scan# 2577
Delta R.T. 0.027 min
Lab File: 05082013.D
Acq: 8 May 2020 7:47

Tgt Ion:112 Resp: 4275

Ion	Ratio	Lower	Upper
112	100		
114	0.0	12.3	52.3#

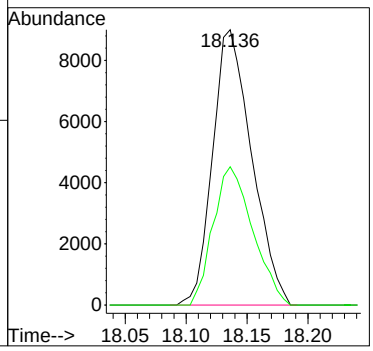


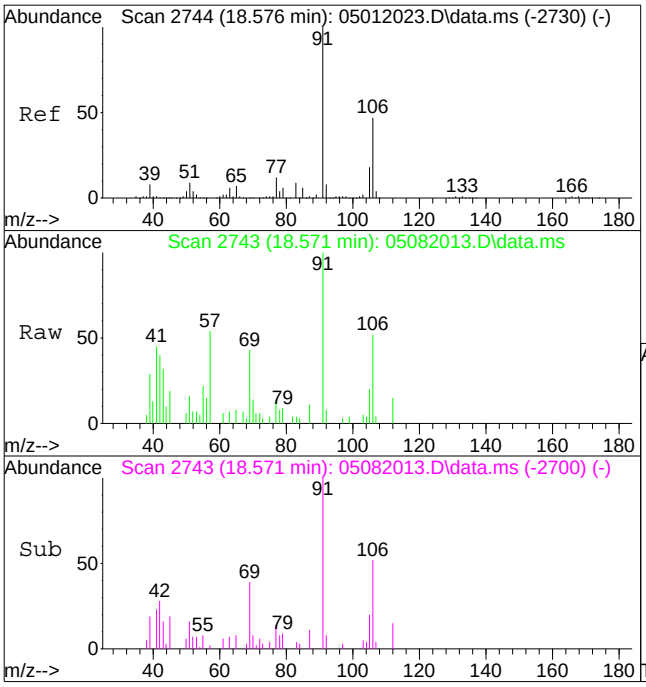


#67
m- & p-Xylenes
Concen: 0.20 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05082013.D
Acq: 8 May 2020 7:47

Tgt Ion: 91 Resp: 20104

Ion	Ratio	Lower	Upper
91	100		
106	50.8	29.7	69.7

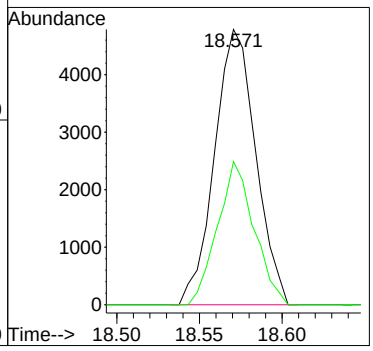


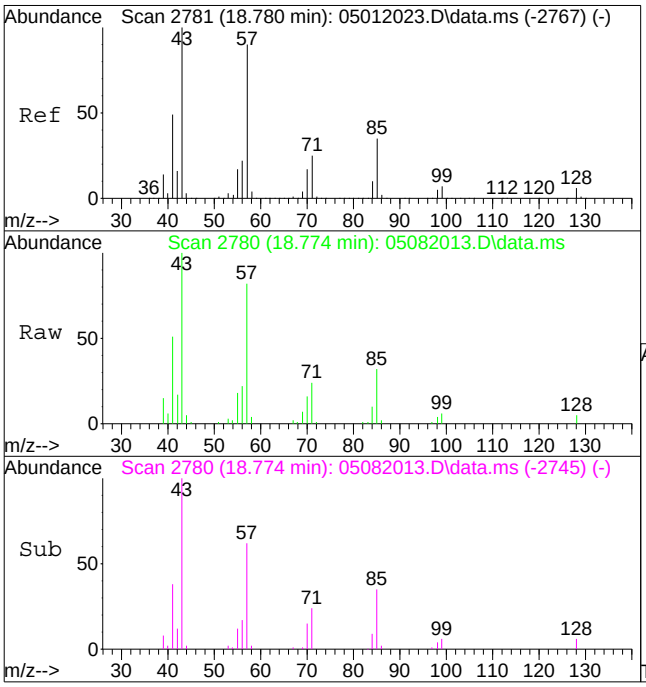


#70
o-Xylene
Concen: 0.08 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05082013.D
Acq: 8 May 2020 7:47

Tgt Ion: 91 Resp: 8294

Ion	Ratio	Lower	Upper
91	100		
106	46.2	27.5	67.5

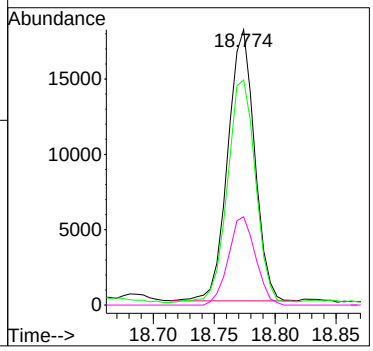


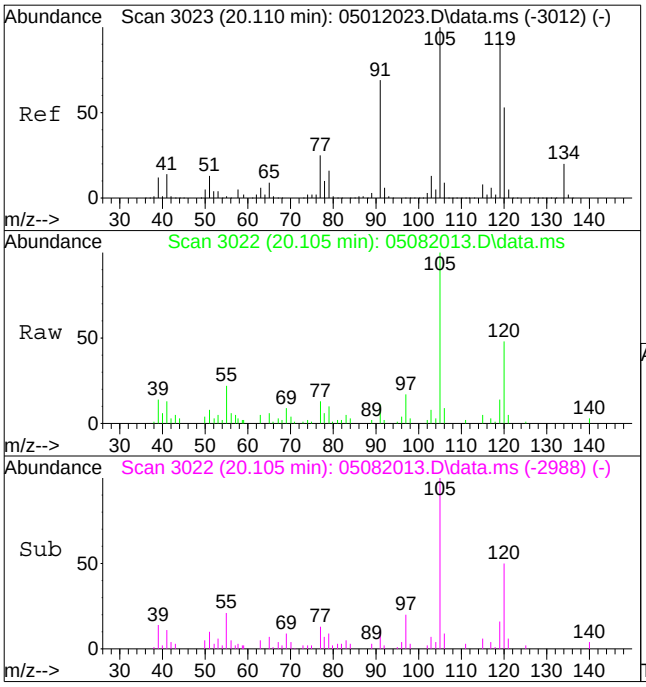


#71
n-Nonane
Concen: 0.52 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05082013.D
Acq: 8 May 2020 7:47

Tgt Ion: 43 Resp: 27521

Ion	Ratio	Lower	Upper
43	100		
57	87.1	69.0	109.0
85	32.9	14.6	54.6

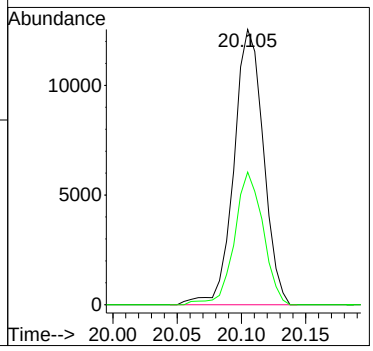


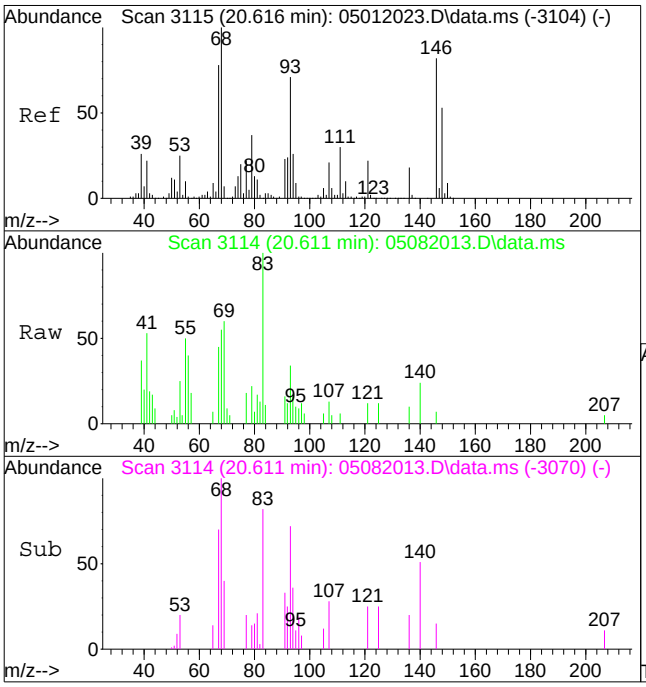


#82
1,2,4-Trimethylbenzene
Concen: 0.20 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05082013.D
Acq: 8 May 2020 7:47

Tgt Ion:105 Resp: 20012

Ion	Ratio	Lower	Upper
105	100		
120	46.7	33.6	73.6

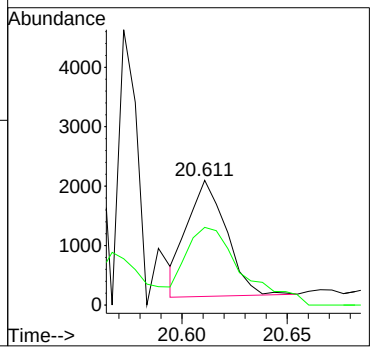


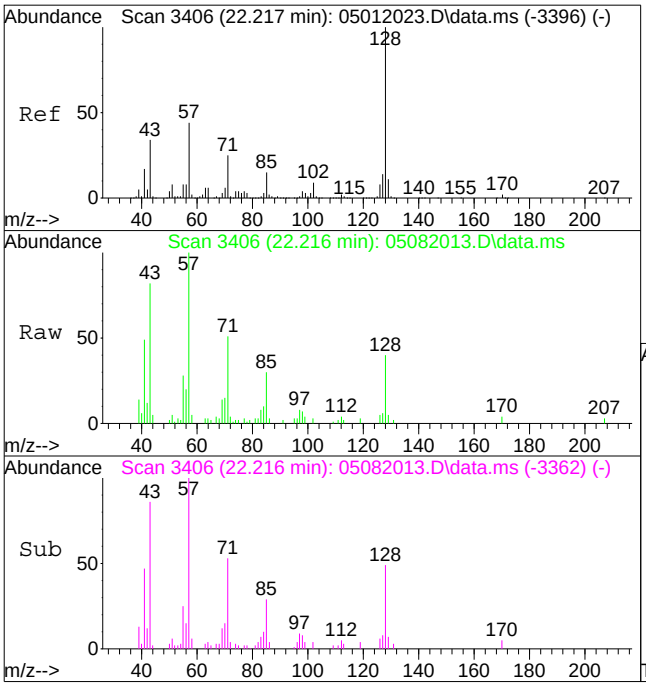


#91
d-Limonene
Concen: 0.06 ng
RT: 20.61 min Scan# 3114
Delta R.T. -0.006 min
Lab File: 05082013.D
Acq: 8 May 2020 7:47

Tgt Ion: 68 Resp: 2540

Ion	Ratio	Lower	Upper
68	100		
93	94.9	51.1	91.1#

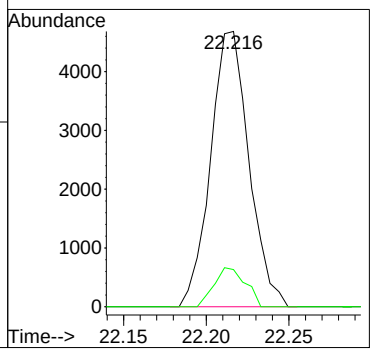




#95
Naphthalene
Concen: 0.06 ng
RT: 22.22 min Scan# 3406
Delta R.T. -0.006 min
Lab File: 05082013.D
Acq: 8 May 2020 7:47

Tgt Ion:128 Resp: 7570

Ion	Ratio	Lower	Upper
128	100		
129	11.6	0.0	31.0



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082015.D Vial: 8
Acq On : 8 May 2020 8:55 Operator: LH
Sample : P2002107-025 (400mL) Inst : GCMS-16
Misc : S31-02112001 pf2

Quant Time: May 08 15:15:35 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/8/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	247627	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1097252	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	510746	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	413390	12.318	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.56%				
57) Toluene-d8 (SS2)	15.72	98	1083269	12.513	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.08%				
73) Bromofluorobenzene (SS3)	18.97	174	403580	12.956	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.68%				
Target Compounds							Qvalue
2) Propene	4.10	42	3574	0.125	ng		98
3) Dichlorodifluoromethan...	4.25	85	495951	8.841	ng		99
4) Chloromethane	4.54	50	11232	0.256	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	10091	0.301	ng		99
6) Vinyl Chloride	4.96	62	3496	0.073	ng		98
7) 1,3-Butadiene	5.15	54	219	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.97	64	828	N.D.			
10) Ethanol	6.34	45	13365	0.604	ng		89
11) Acetonitrile	6.59	41	15169	0.300	ng		90
12) Acrolein	6.78	56	10602	0.606	ng		95
13) Acetone	6.99	58	115536	5.217	ng		92
14) Trichlorofluoromethane	7.24	101	73988	1.492	ng		99
15) 2-Propanol (Isopropanol)	7.52	45	6135	0.092	ng	#	55
16) Acrylonitrile	7.75	53	608	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	1535	0.053	ng		93
20) 3-Chloro-1-propene (Al...	8.43	41	1594	N.D.			
21) Trichlorotrifluoroethane	8.84	151	577749	24.684	ng		99
22) Carbon Disulfide	8.67	76	49165	0.477	ng		99
23) trans-1,2-Dichloroethene	9.69	61	788	N.D.			
24) 1,1-Dichloroethane	9.95	63	2347	N.D.			
25) Methyl tert-Butyl Ether	10.09	73	452	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.46	72	27132	1.437	ng	#	90
28) cis-1,2-Dichloroethene	10.96	61	898	N.D.			
29) Diisopropyl Ether	11.26	87	431	N.D.			
30) Ethyl Acetate	11.29	61	171	N.D.			
31) n-Hexane	11.26	57	56914	1.205	ng		98
32) Chloroform	11.31	83	62680	1.272	ng		100
34) Tetrahydrofuran (THF)	11.71	72	777716	42.218	ng		99
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.13	62	103	N.D.			
38) 1,1,1-Trichloroethane	12.40	97	16460	0.372	ng		99
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	30312	0.258	ng		99
42) Carbon Tetrachloride	13.03	117	2071887	51.765	ng		100
43) Cyclohexane	13.16	84	37999	0.867	ng		98
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	13.53	63	307	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	13.97	130	2627199	86.379	ng		100
48) 1,4-Dioxane	13.97	88	745	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082015.D Vial: 8
Acq On : 8 May 2020 8:55 Operator: LH
Sample : P2002107-025 (400mL) Inst : GCMS-16
Misc : S31-02112001 pf2

Quant Time: May 08 15:15:35 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

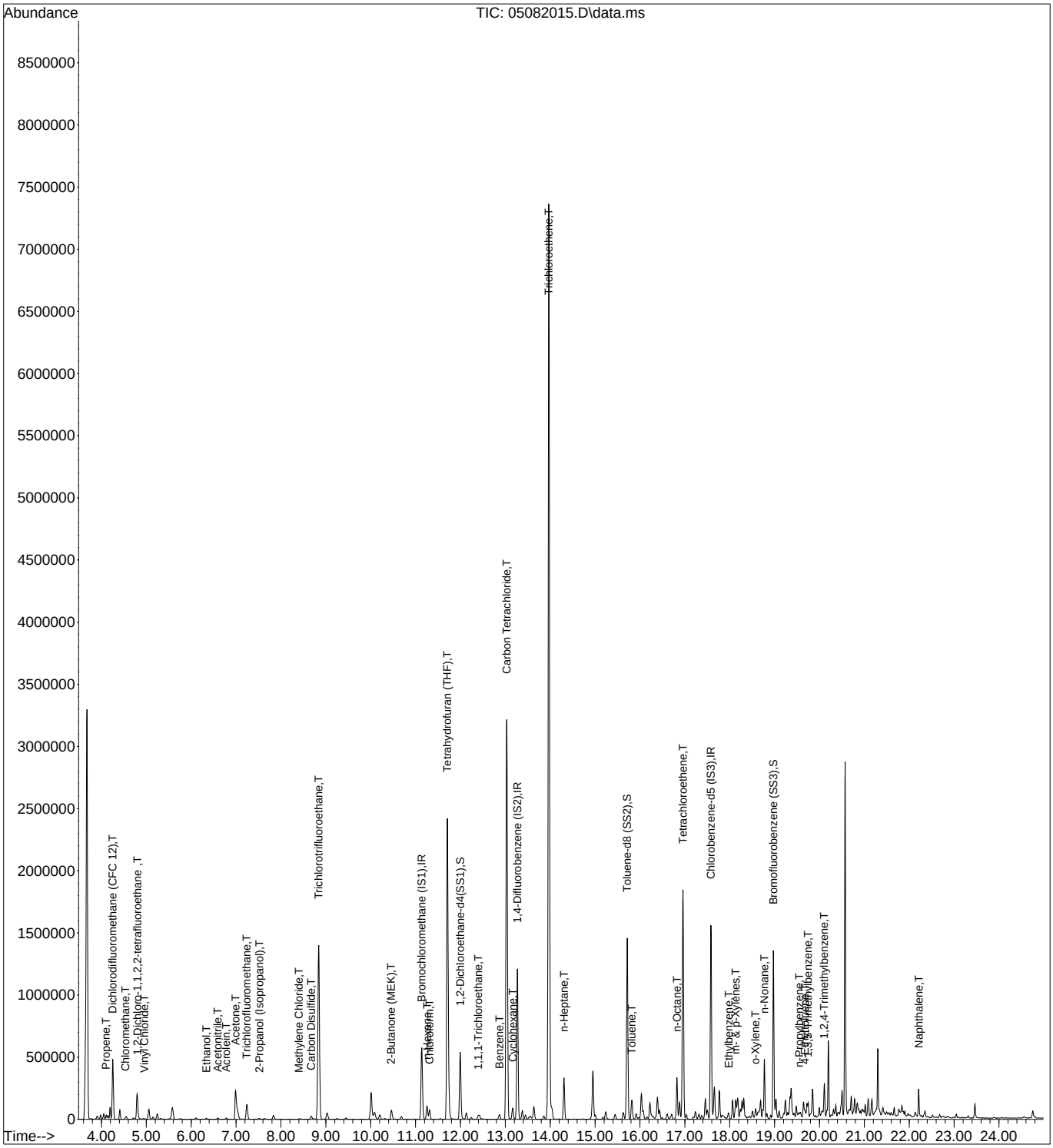
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	85630	3.112 ng	99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.88	58	533	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	15.44	97	1295	N.D.	
58) Toluene	15.82	91	105713	0.947 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.71	43	2363	N.D.	
63) n-Octane	16.83	57	65472	2.834 ng	98
64) Tetrachloroethene	16.96	166	590109	18.722 ng	100
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	17.98	91	10401	0.084 ng	98
67) m- & p-Xylenes	18.14	91	69318	0.702 ng	99
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.48	104	489	N.D.	
70) o-Xylene	18.57	91	20536	0.205 ng	100
71) n-Nonane	18.77	43	165627	3.115 ng	98
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	19.10	105	3317	N.D.	
75) alpha-Pinene	19.37	93	181	N.D.	
76) n-Propylbenzene	19.55	91	14775	0.101 ng	89
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.68	105	17540	0.152 ng	99
79) 1,3,5-Trimethylbenzene	19.74	105	20295	0.202 ng	98
80) alpha-Methylstyrene	19.88	118	1909	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.10	105	90699	0.900 ng	91
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.22	91	1242	N.D.	
85) 1,3-Dichlorobenzene	20.30	146	243	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	243	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.11	180	115	N.D.	
95) Naphthalene	22.22	128	15866	0.129 ng	99
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082015.D Vial: 8
Acq On : 8 May 2020 8:55 Operator: LH
Sample : P2002107-025 (400mL) Inst : GCMS-16
Misc : S31-02112001 pf2

Quant Time: May 08 15:15:35 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082015.D Vial: 8
Acq On : 8 May 2020 8:55 Operator: LH
Sample : P2002107-025 (400mL) Inst : GCMS-16
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Quant Time: May 08 15:15:35 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/8/20

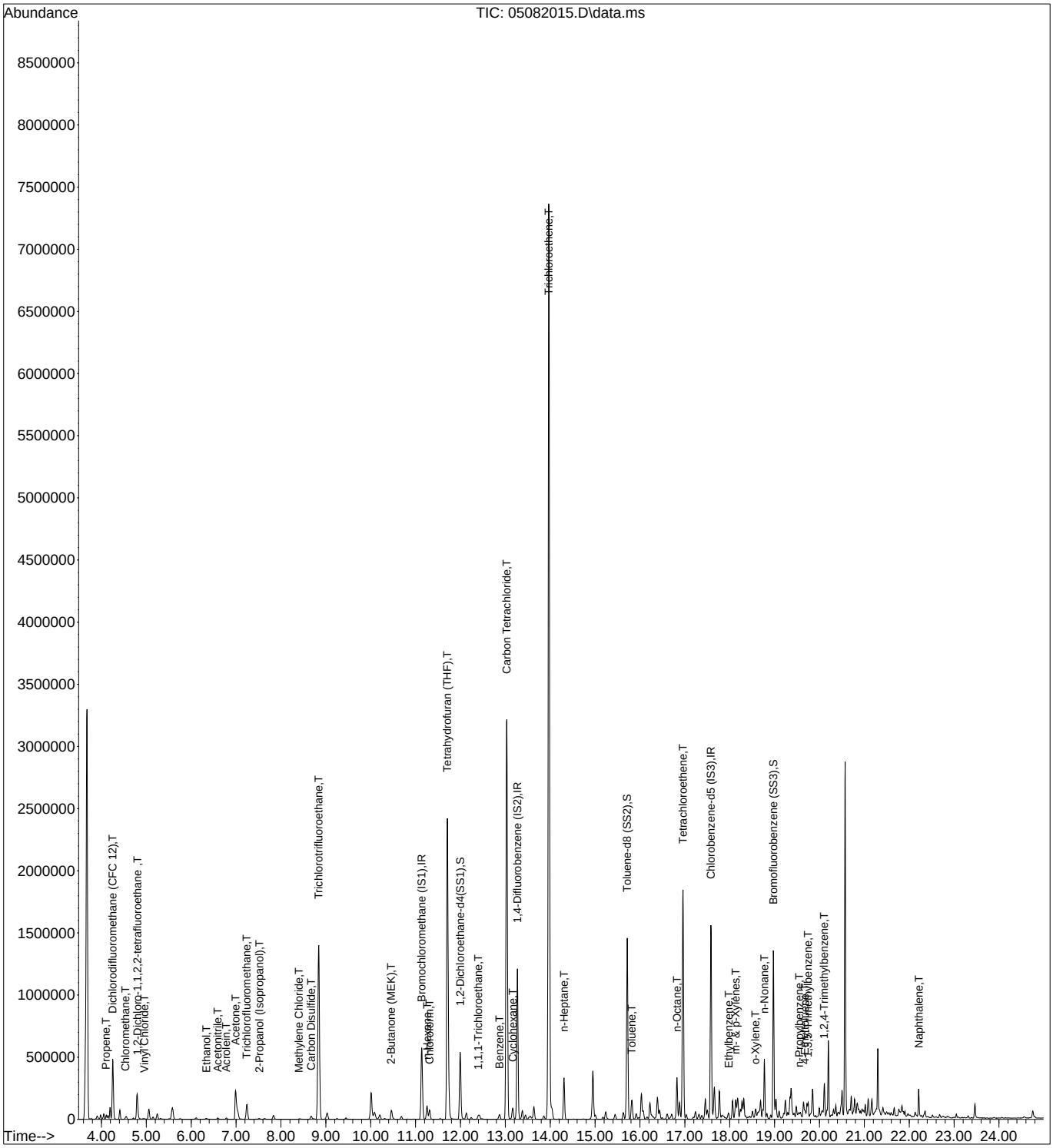
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	247627	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1097252	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	510746	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	413390	12.318	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.56%				
57) Toluene-d8 (SS2)	15.72	98	1083269	12.513	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.08%				
73) Bromofluorobenzene (SS3)	18.97	174	403580	12.956	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.68%				
Target Compounds							Qvalue
2) Propene	4.10	42	3574	0.125	ng		98
3) Dichlorodifluoromethan...	4.25	85	495951	8.841	ng		99
4) Chloromethane	4.54	50	11232	0.256	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	10091	0.301	ng		99
6) Vinyl Chloride	4.96	62	3496	0.073	ng		98
10) Ethanol	6.34	45	13365	0.604	ng		89
11) Acetonitrile	6.59	41	15169	0.300	ng		90
12) Acrolein	6.78	56	10602	0.606	ng		95
13) Acetone	6.99	58	115536	5.217	ng		92
14) Trichlorofluoromethane	7.24	101	73988	1.492	ng		99
15) 2-Propanol (Isopropanol)	7.52	45	6135	0.092	ng	#	55
19) Methylene Chloride	8.40	84	1535	0.053	ng		93
21) Trichlorotrifluoroethane	8.84	151	577749	24.684	ng		99
22) Carbon Disulfide	8.67	76	49165	0.477	ng		99
27) 2-Butanone (MEK)	10.46	72	27132	1.437	ng	#	90
31) n-Hexane	11.26	57	56914	1.205	ng		98
32) Chloroform	11.31	83	62680	1.272	ng		100
34) Tetrahydrofuran (THF)	11.71	72	777716	42.218	ng		99
38) 1,1,1-Trichloroethane	12.40	97	16460	0.372	ng		99
41) Benzene	12.87	78	30312	0.258	ng		99
42) Carbon Tetrachloride	13.03	117	2071887	51.765	ng		100
43) Cyclohexane	13.16	84	37999	0.867	ng		98
47) Trichloroethene	13.97	130	2627199	86.379	ng		100
51) n-Heptane	14.31	71	85630	3.112	ng		99
58) Toluene	15.82	91	105713	0.947	ng		100
63) n-Octane	16.83	57	65472	2.834	ng		98
64) Tetrachloroethene	16.96	166	590109	18.722	ng		100
66) Ethylbenzene	17.98	91	10401	0.084	ng		98
67) m- & p-Xylenes	18.14	91	69318	0.702	ng		99
70) o-Xylene	18.57	91	20536	0.205	ng		100
71) n-Nonane	18.77	43	165627	3.115	ng		98
76) n-Propylbenzene	19.55	91	14775	0.101	ng		89
78) 4-Ethyltoluene	19.68	105	17540	0.152	ng		99
79) 1,3,5-Trimethylbenzene	19.74	105	20295	0.202	ng		98
82) 1,2,4-Trimethylbenzene	20.10	105	90699	0.900	ng		91
95) Naphthalene	22.22	128	15866	0.129	ng		99

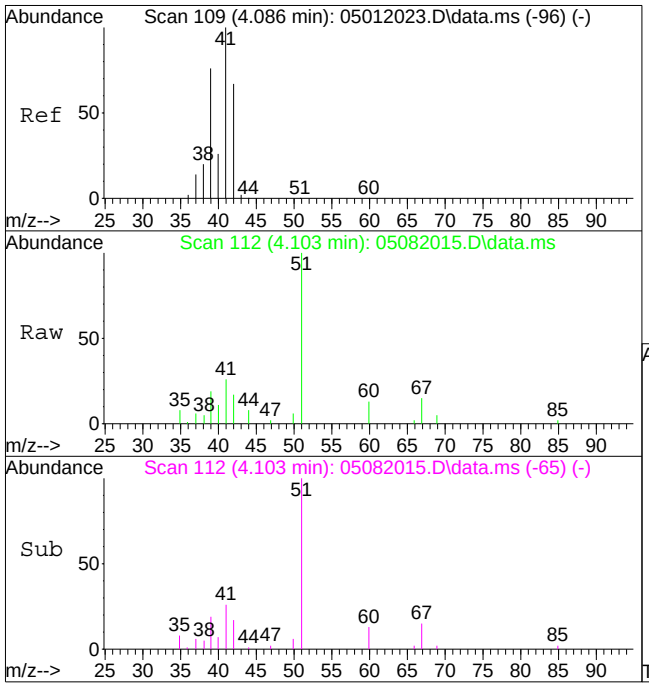
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082015.D Vial: 8
Acq On : 8 May 2020 8:55 Operator: LH
Sample : P2002107-025 (400mL) Inst : GCMS-16
Misc : S31-02112001 pf2

Quant Time: May 08 15:15:35 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

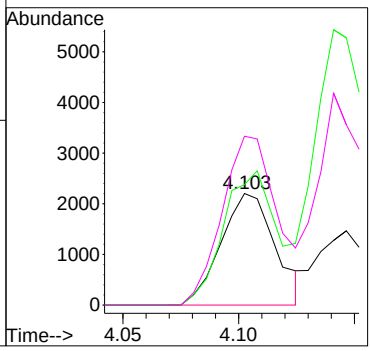


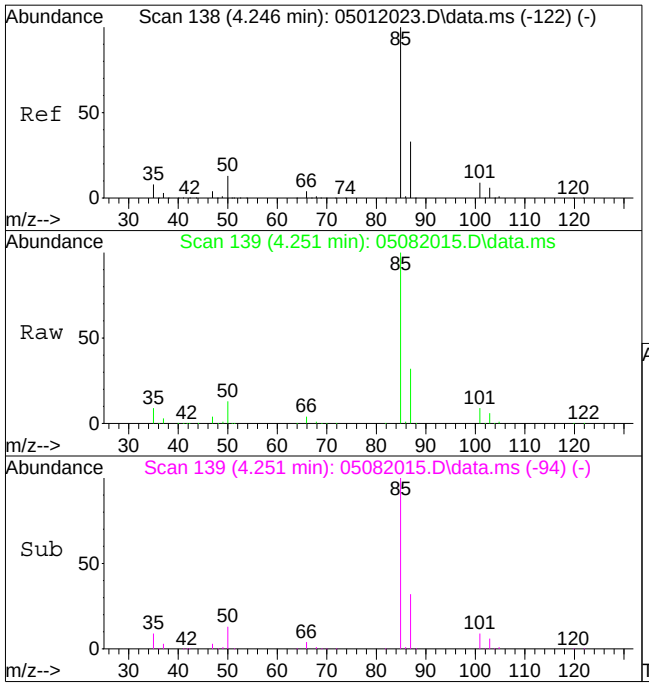


#2
Propene
Concen: 0.12 ng
RT: 4.10 min Scan# 112
Delta R.T. 0.011 min
Lab File: 05082015.D
Acq: 8 May 2020 8:55

Tgt Ion: 42 Resp: 3574

Ion	Ratio	Lower	Upper
42	100		
39	113.3	96.1	136.1
41	154.6	131.9	171.9

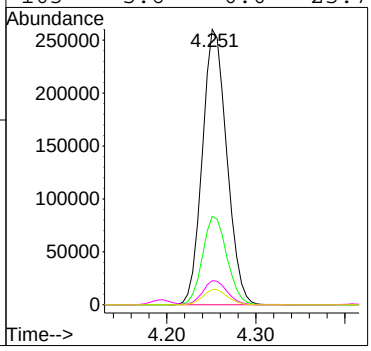


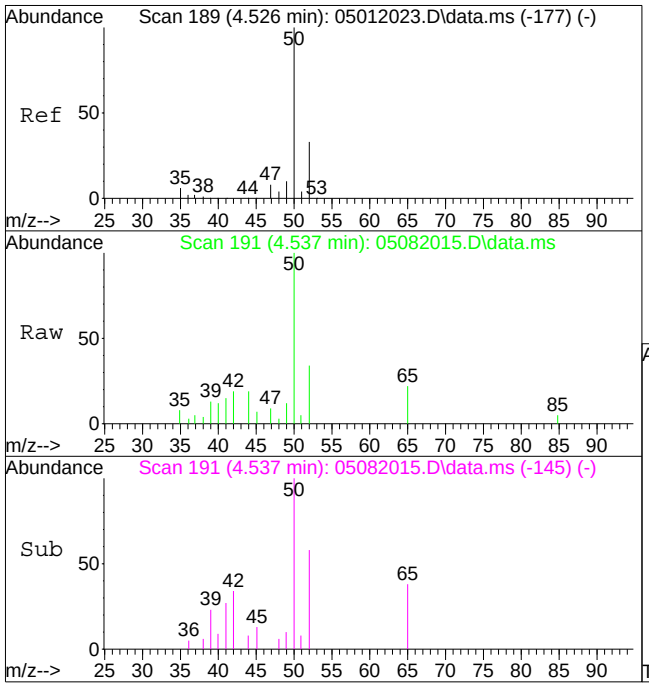


#3
Dichlorodifluoromethane (CFC 12)
Concen: 8.84 ng
RT: 4.25 min Scan# 139
Delta R.T. -0.000 min
Lab File: 05082015.D
Acq: 8 May 2020 8:55

Tgt Ion: 85 Resp: 495951

Ion	Ratio	Lower	Upper
85	100		
87	32.1	12.4	52.4
101	8.7	0.0	28.8
103	5.6	0.0	25.7

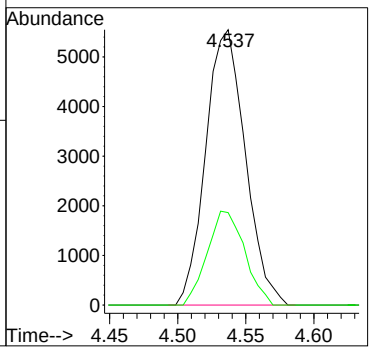


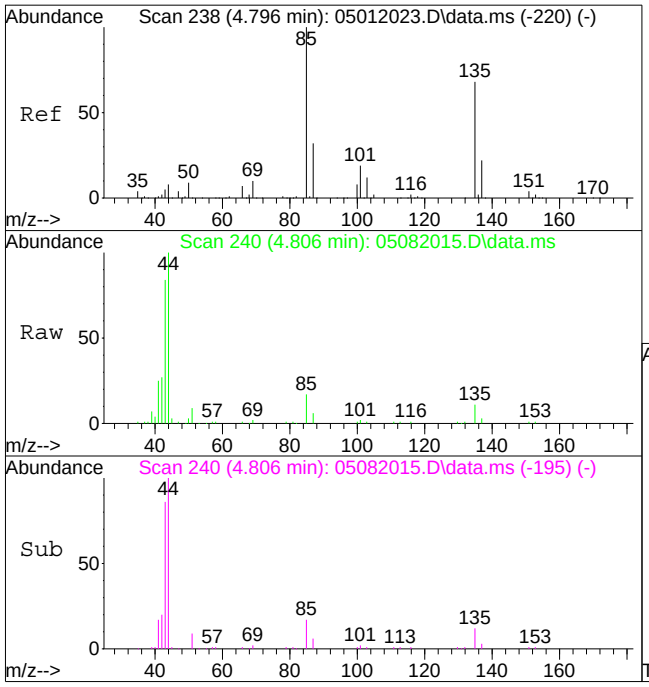


#4
Chloromethane
Concen: 0.26 ng
RT: 4.54 min Scan# 191
Delta R.T. 0.005 min
Lab File: 05082015.D
Acq: 8 May 2020 8:55

Tgt Ion: 50 Resp: 11232

Ion	Ratio	Lower	Upper
50	100		
52	32.2	12.5	52.5

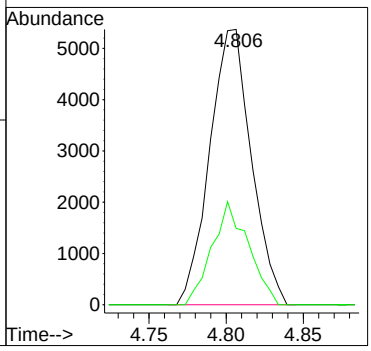


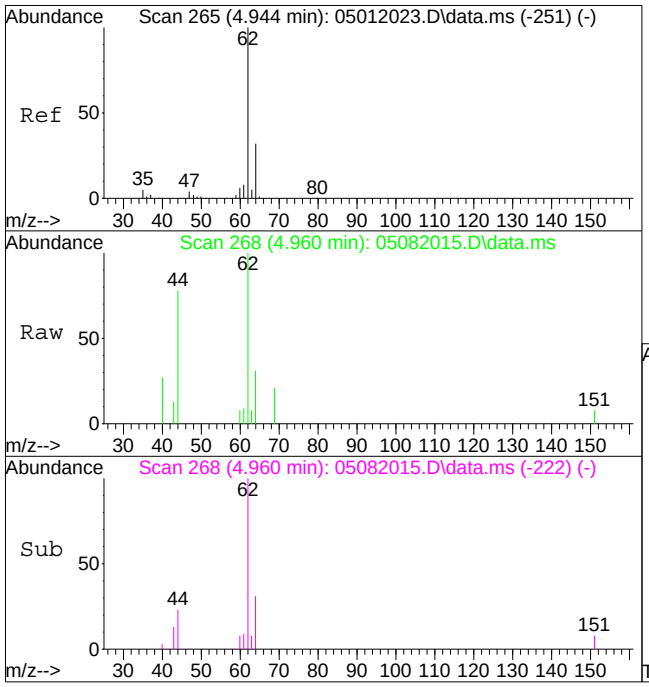


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 0.30 ng
RT: 4.81 min Scan# 240
Delta R.T. -0.000 min
Lab File: 05082015.D
Acq: 8 May 2020 8:55

Tgt Ion:135 Resp: 10091

Ion	Ratio	Lower	Upper
135	100		
137	32.7	12.1	52.1

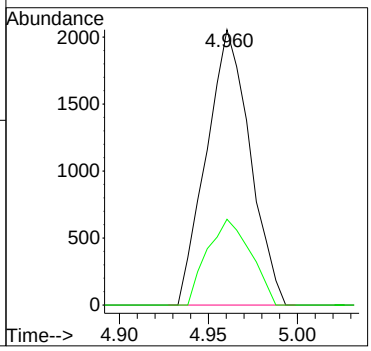


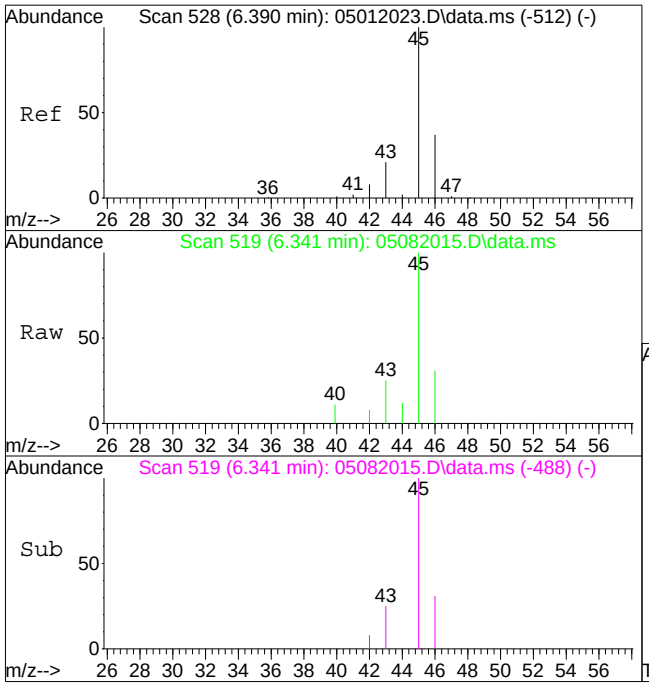


#6
Vinyl Chloride
Concen: 0.07 ng
RT: 4.96 min Scan# 268
Delta R.T. 0.005 min
Lab File: 05082015.D
Acq: 8 May 2020 8:55

Tgt Ion: 62 Resp: 3496

Ion	Ratio	Lower	Upper
62	100		
64	31.1	12.1	52.1

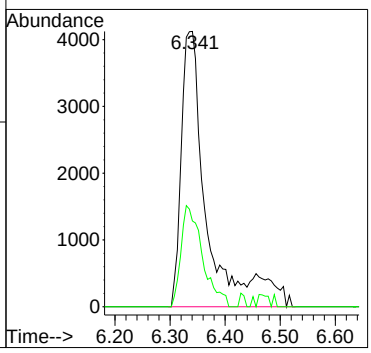


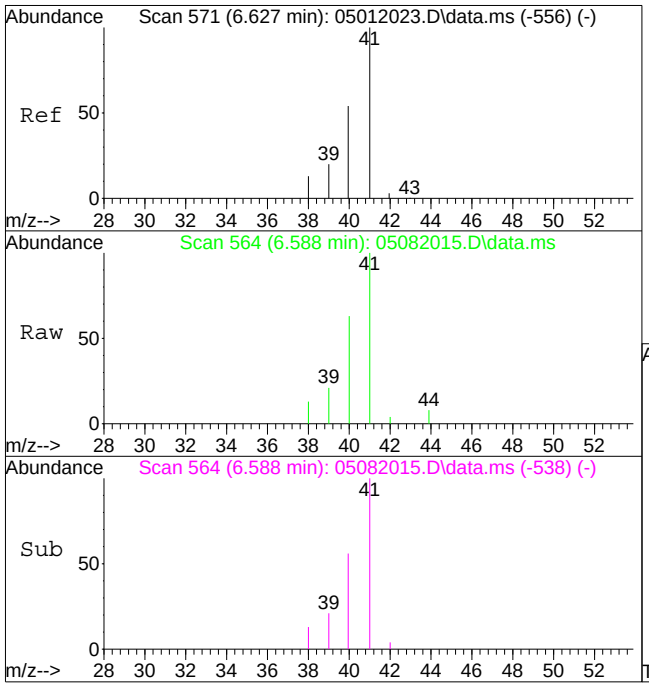


#10
Ethanol
Concen: 0.60 ng
RT: 6.34 min Scan# 519
Delta R.T. -0.077 min
Lab File: 05082015.D
Acq: 8 May 2020 8:55

Tgt Ion: 45 Resp: 13365

Ion	Ratio	Lower	Upper
45	100		
46	30.8	17.2	57.2

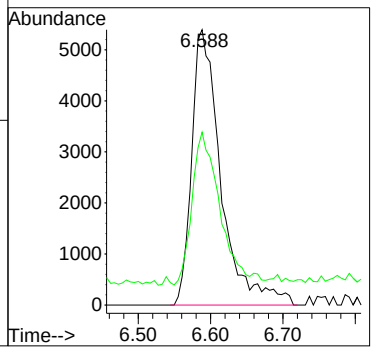


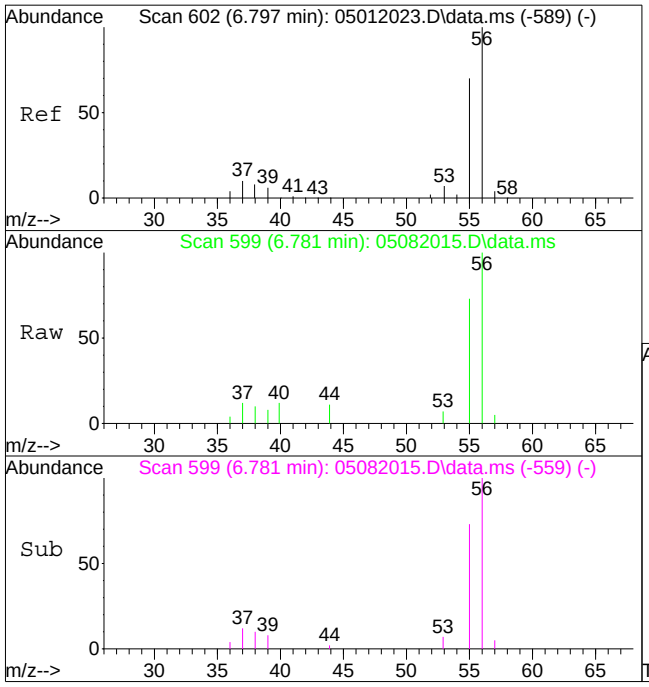


#11
Acetonitrile
Concen: 0.30 ng
RT: 6.59 min Scan# 564
Delta R.T. -0.055 min
Lab File: 05082015.D
Acq: 8 May 2020 8:55

Tgt Ion: 41 Resp: 15169

Ion	Ratio	Lower	Upper
41	100		
40	61.0	33.6	73.6

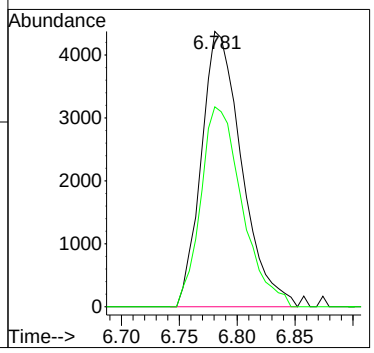


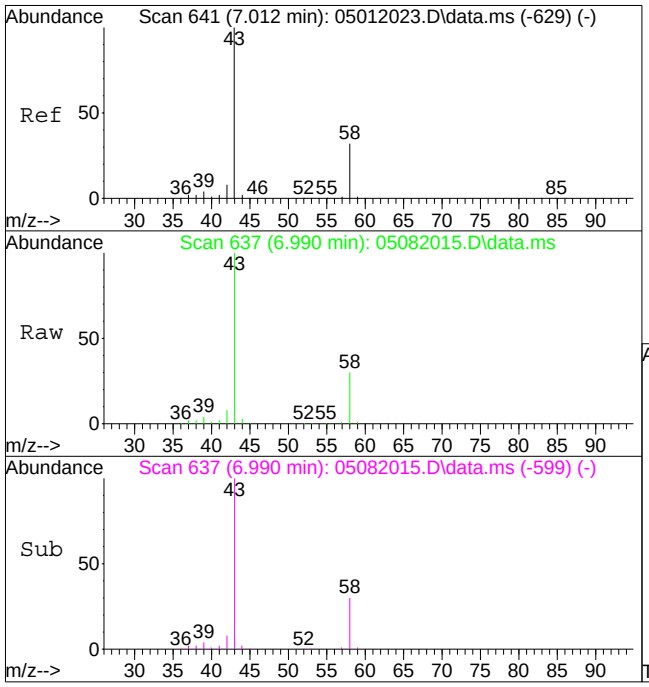


#12
Acrolein
Concen: 0.61 ng
RT: 6.78 min Scan# 599
Delta R.T. -0.028 min
Lab File: 05082015.D
Acq: 8 May 2020 8:55

Tgt Ion: 56 Resp: 10602

Ion	Ratio	Lower	Upper
56	100		
55	74.1	50.2	90.2

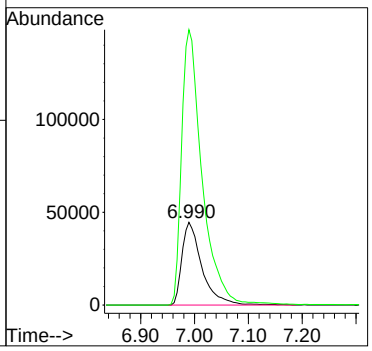


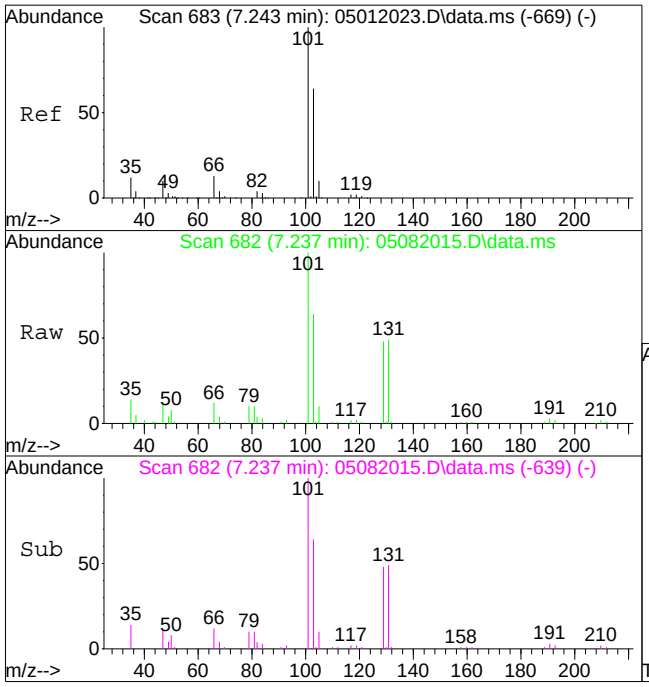


#13
Acetone
Concen: 5.22 ng
RT: 6.99 min Scan# 637
Delta R.T. -0.039 min
Lab File: 05082015.D
Acq: 8 May 2020 8:55

Tgt Ion: 58 Resp: 115536

Ion	Ratio	Lower	Upper
58	100		
43	341.0	294.4	354.4

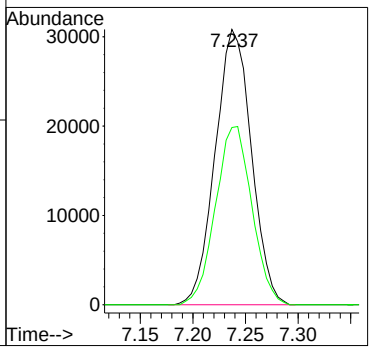


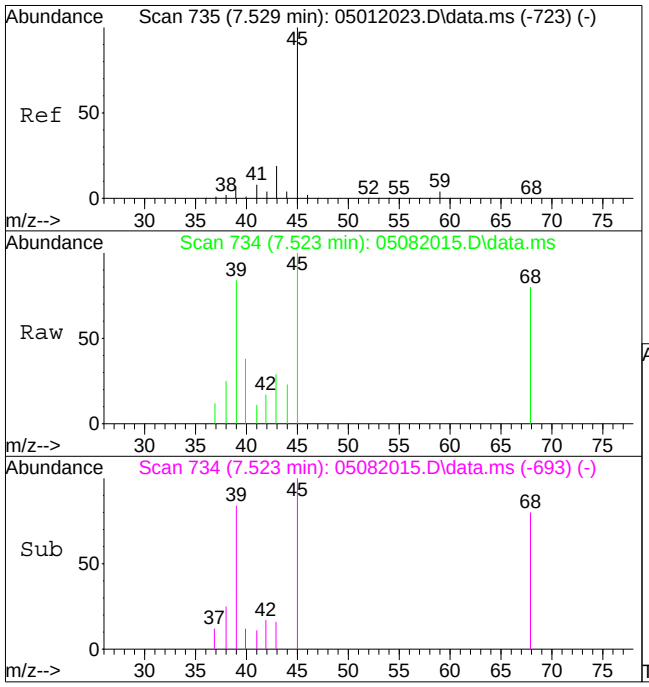


#14
Trichlorofluoromethane
Concen: 1.49 ng
RT: 7.24 min Scan# 682
Delta R.T. -0.011 min
Lab File: 05082015.D
Acq: 8 May 2020 8:55

Tgt Ion:101 Resp: 73988

Ion	Ratio	Lower	Upper
101	100		
103	65.0	44.4	84.4

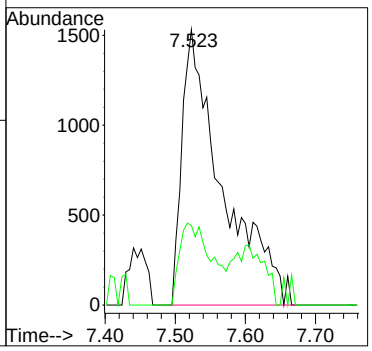


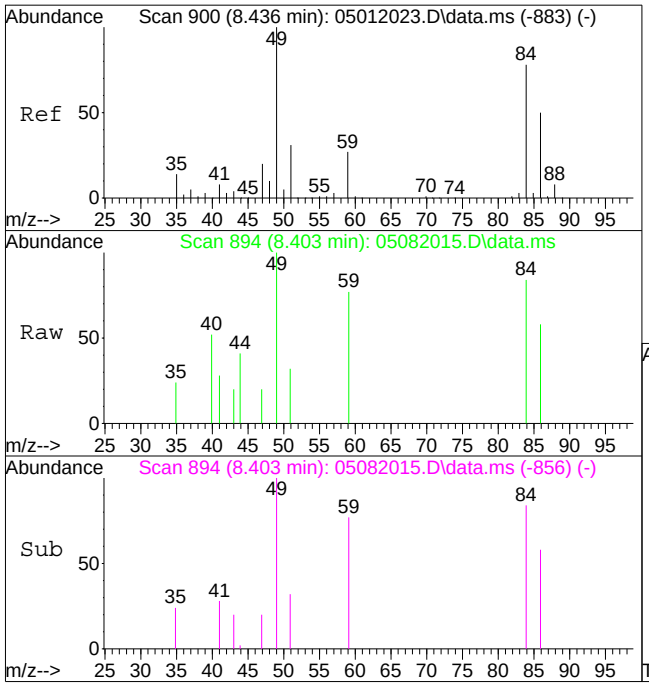


#15
2-Propanol (Isopropanol)
Concen: 0.09 ng
RT: 7.52 min Scan# 734
Delta R.T. -0.022 min
Lab File: 05082015.D
Acq: 8 May 2020 8:55

Tgt Ion: 45 Resp: 6135

Ion	Ratio	Lower	Upper
45	100		
43	40.0	0.0	39.5#

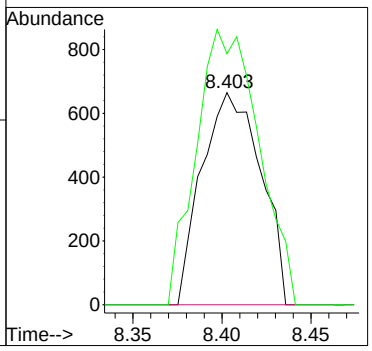


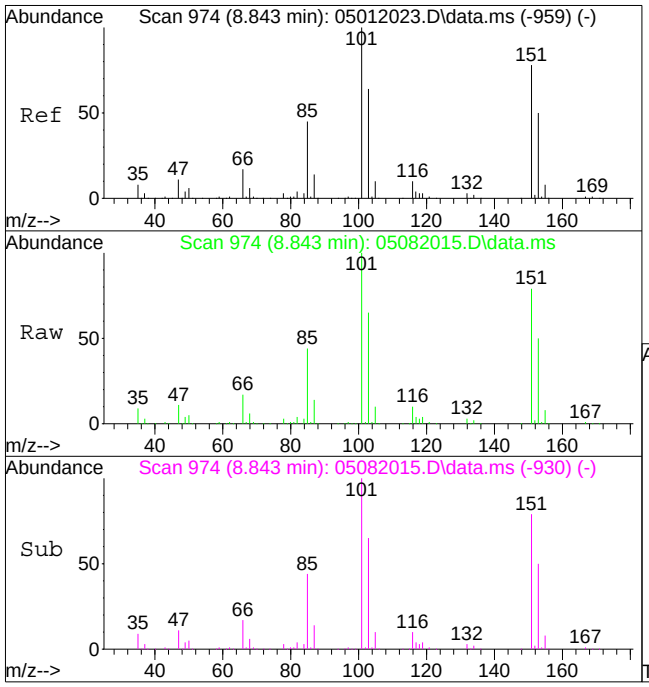


#19
Methylene Chloride
Concen: 0.05 ng
RT: 8.40 min Scan# 894
Delta R.T. -0.039 min
Lab File: 05082015.D
Acq: 8 May 2020 8:55

Tgt Ion: 84 Resp: 1535

Ion	Ratio	Lower	Upper
84	100		
49	137.9	104.8	154.8

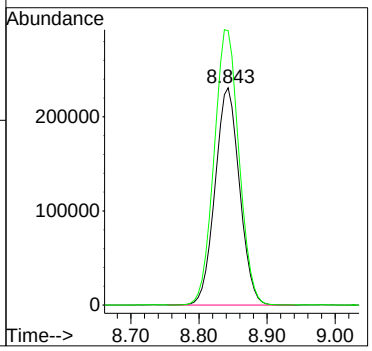


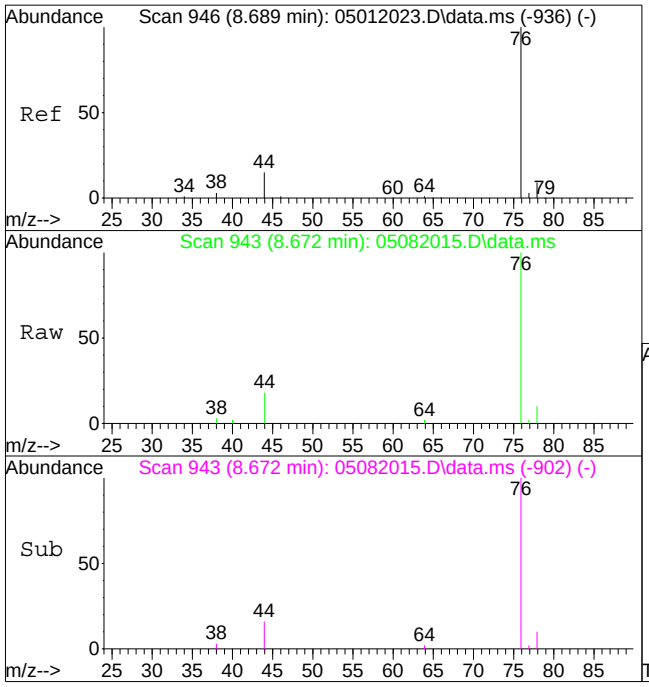


#21
Trichlorotrifluoroethane
Concen: 24.68 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05082015.D
Acq: 8 May 2020 8:55

Tgt Ion:151 Resp: 577749

Ion	Ratio	Lower	Upper
151	100		
101	128.9	107.3	147.3

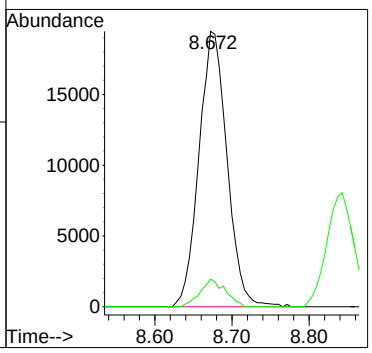


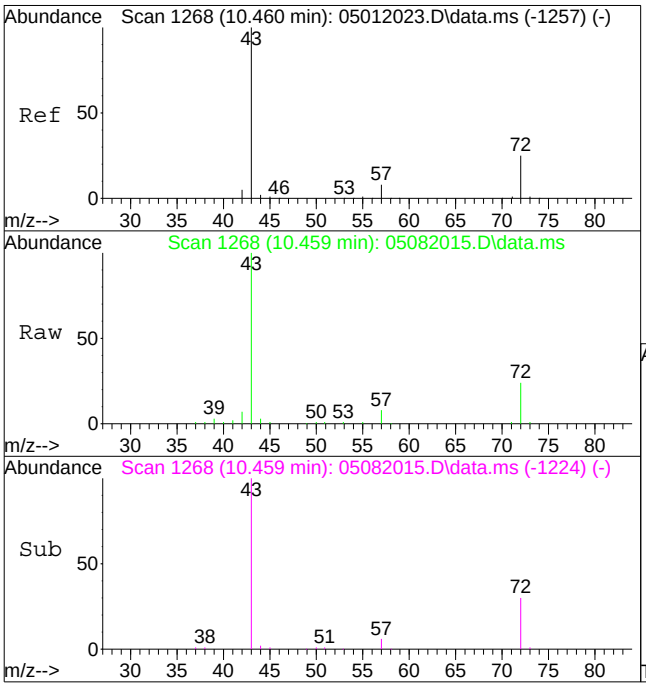


#22
Carbon Disulfide
Concen: 0.48 ng
RT: 8.67 min Scan# 943
Delta R.T. -0.022 min
Lab File: 05082015.D
Acq: 8 May 2020 8:55

Tgt Ion: 76 Resp: 49165

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	29.2

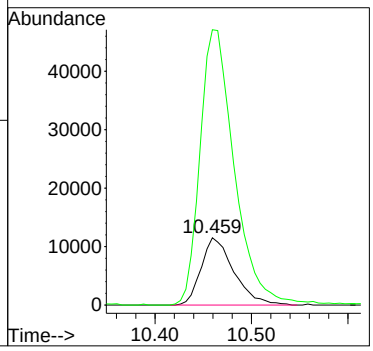


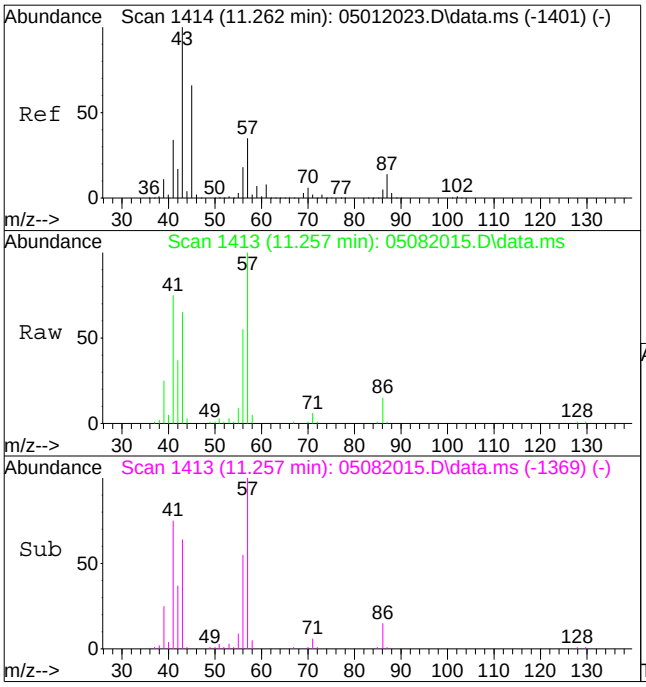


#27
2-Butanone (MEK)
Concen: 1.44 ng
RT: 10.46 min Scan# 1268
Delta R.T. -0.006 min
Lab File: 05082015.D
Acq: 8 May 2020 8:55

Tgt Ion: 72 Resp: 27132

Ion	Ratio	Lower	Upper
72	100		
43	434.2	389.7	429.7#

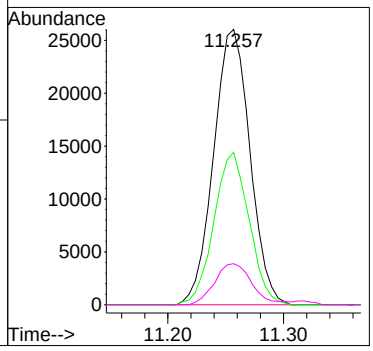


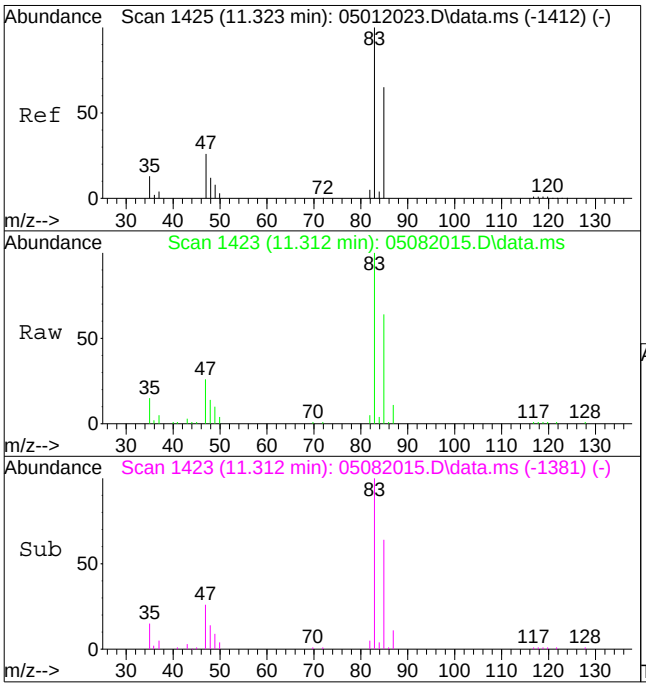


#31
n-Hexane
Concen: 1.20 ng
RT: 11.26 min Scan# 1413
Delta R.T. -0.006 min
Lab File: 05082015.D
Acq: 8 May 2020 8:55

Tgt Ion: 57 Resp: 56914

Ion	Ratio	Lower	Upper
57	100		
56	53.4	41.4	62.0
86	15.4	12.4	18.6

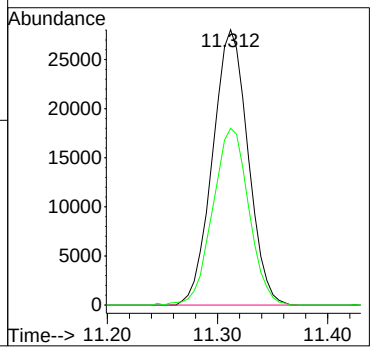


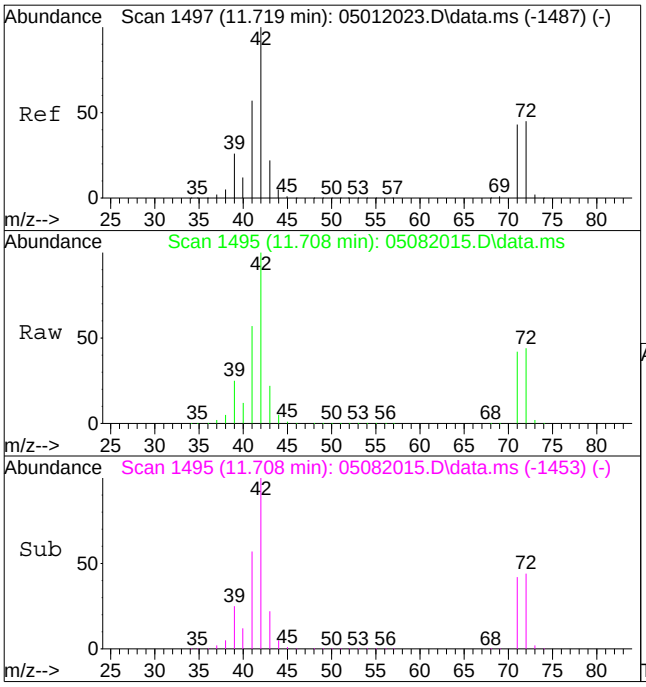


#32
Chloroform
Concen: 1.27 ng
RT: 11.31 min Scan# 1423
Delta R.T. -0.017 min
Lab File: 05082015.D
Acq: 8 May 2020 8:55

Tgt Ion: 83 Resp: 62680

Ion	Ratio	Lower	Upper
83	100		
85	65.3	45.5	85.5

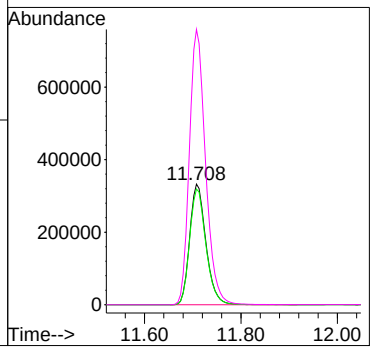


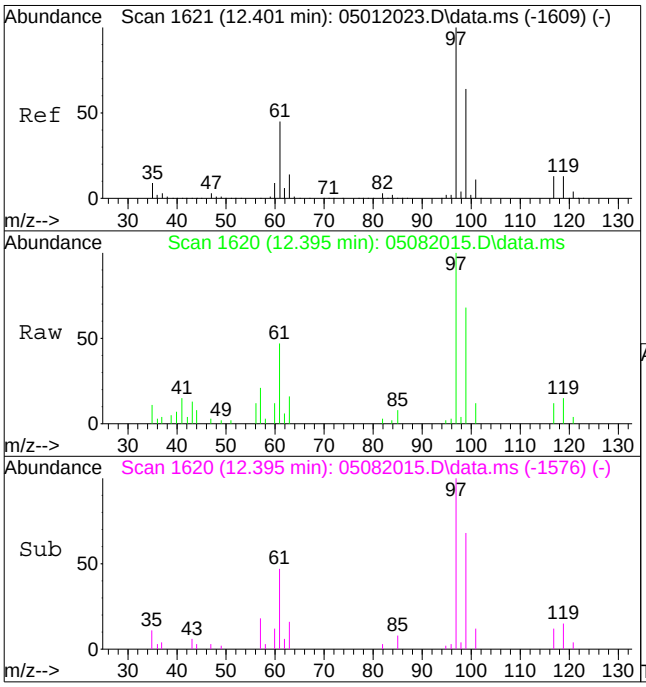


#34
Tetrahydrofuran (THF)
Concen: 42.22 ng
RT: 11.71 min Scan# 1495
Delta R.T. -0.017 min
Lab File: 05082015.D
Acq: 8 May 2020 8:55

Tgt Ion: 72 Resp: 777716

Ion	Ratio	Lower	Upper
72	100		
71	96.0	77.0	117.0
42	227.4	204.6	244.6

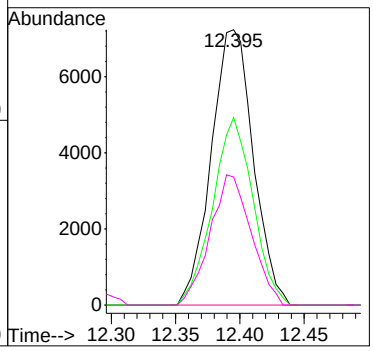


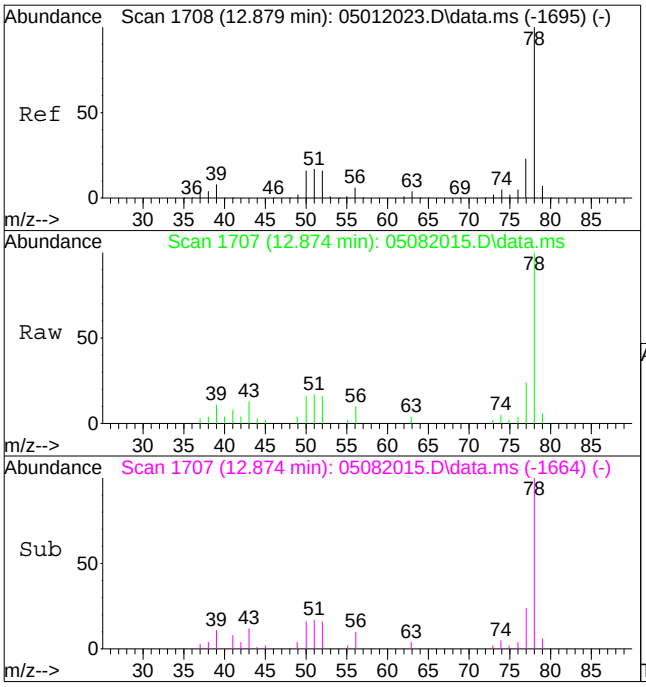


#38
1,1,1-Trichloroethane
Concen: 0.37 ng
RT: 12.40 min Scan# 1620
Delta R.T. -0.006 min
Lab File: 05082015.D
Acq: 8 May 2020 8:55

Tgt Ion: 97 Resp: 16460

Ion	Ratio	Lower	Upper
97	100		
99	65.3	44.5	84.5
61	46.1	24.7	64.7

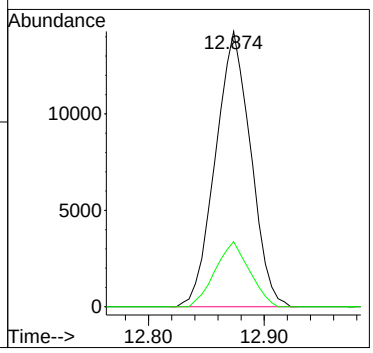


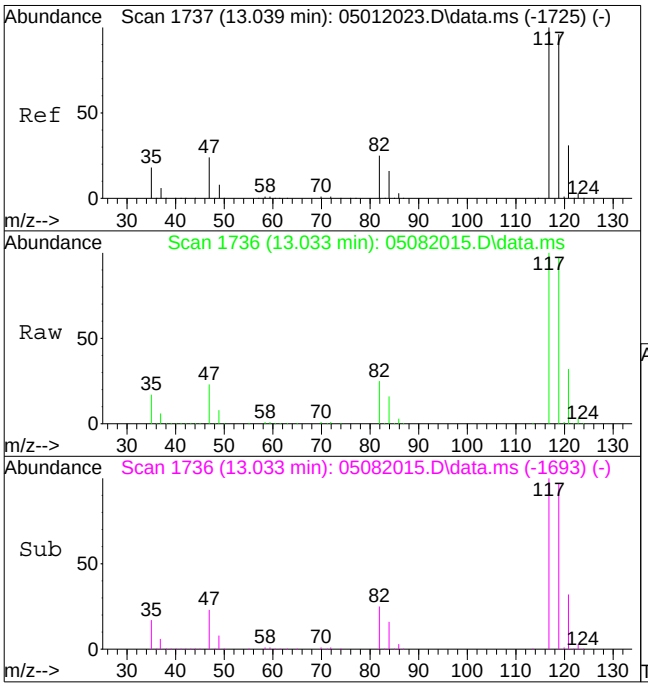


#41
Benzene
Concen: 0.26 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05082015.D
Acq: 8 May 2020 8:55

Tgt Ion: 78 Resp: 30312

Ion	Ratio	Lower	Upper
78	100		
77	23.0	3.4	43.4

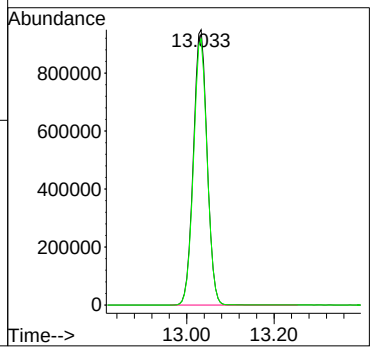


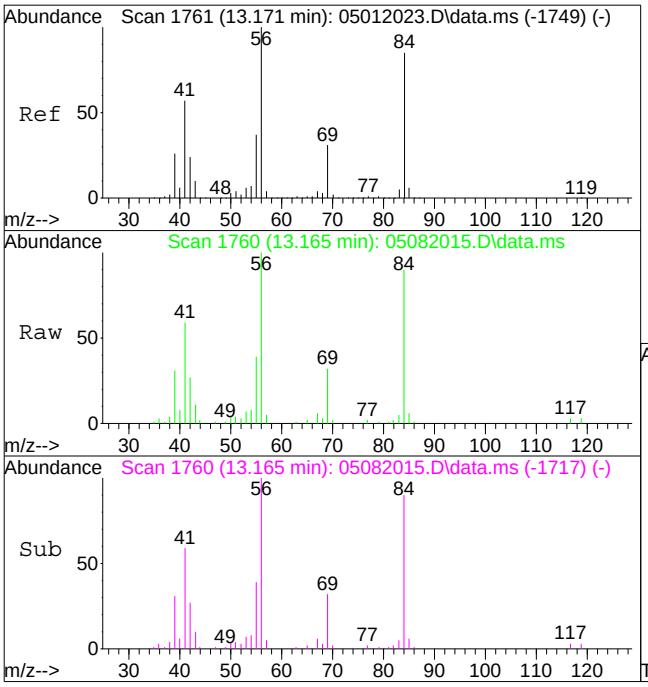


#42
Carbon Tetrachloride
Concen: 51.77 ng
RT: 13.03 min Scan# 1736
Delta R.T. -0.011 min
Lab File: 05082015.D
Acq: 8 May 2020 8:55

Tgt Ion:117 Resp: 2071887

Ion	Ratio	Lower	Upper
117	100		
119	96.1	76.2	116.2

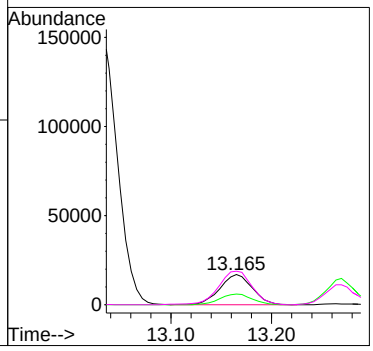


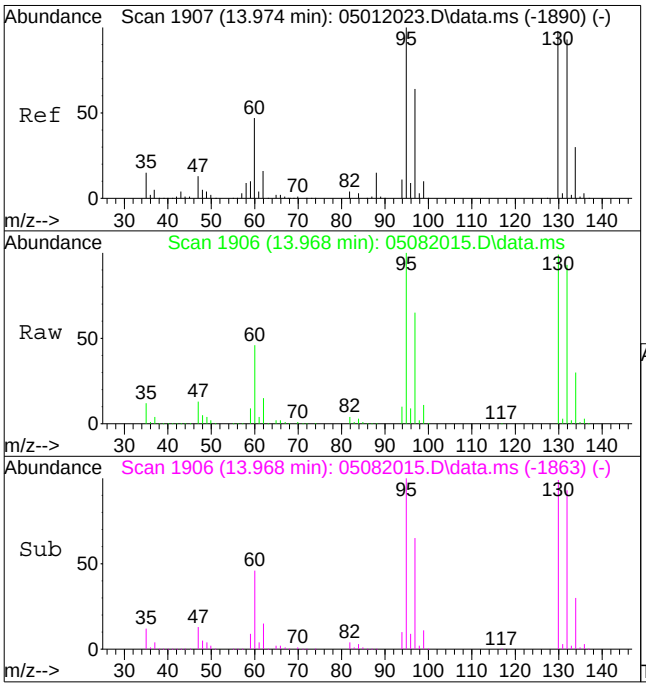


#43
Cyclohexane
Concen: 0.87 ng
RT: 13.16 min Scan# 1760
Delta R.T. -0.011 min
Lab File: 05082015.D
Acq: 8 May 2020 8:55

Tgt Ion: 84 Resp: 37999

Ion	Ratio	Lower	Upper
84	100		
69	35.4	16.5	56.5
56	115.2	97.4	137.4

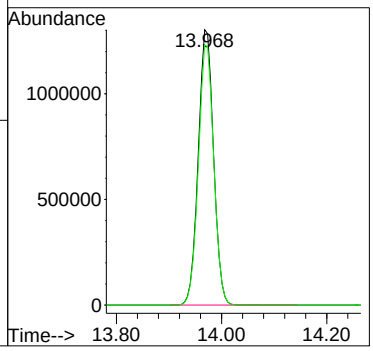


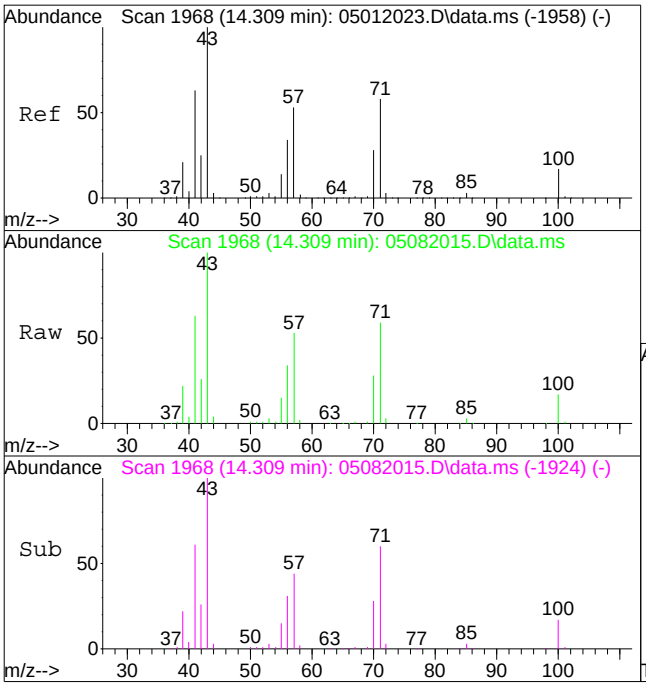


#47
Trichloroethene
Concen: 86.38 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05082015.D
Acq: 8 May 2020 8:55

Tgt Ion:130 Resp: 2627199

Ion	Ratio	Lower	Upper
130	100		
132	95.1	74.9	114.9

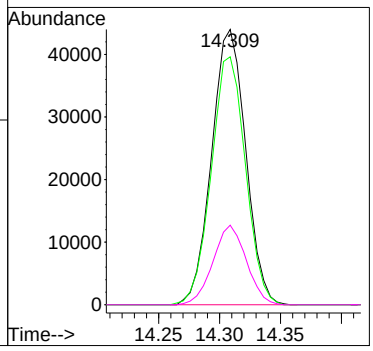


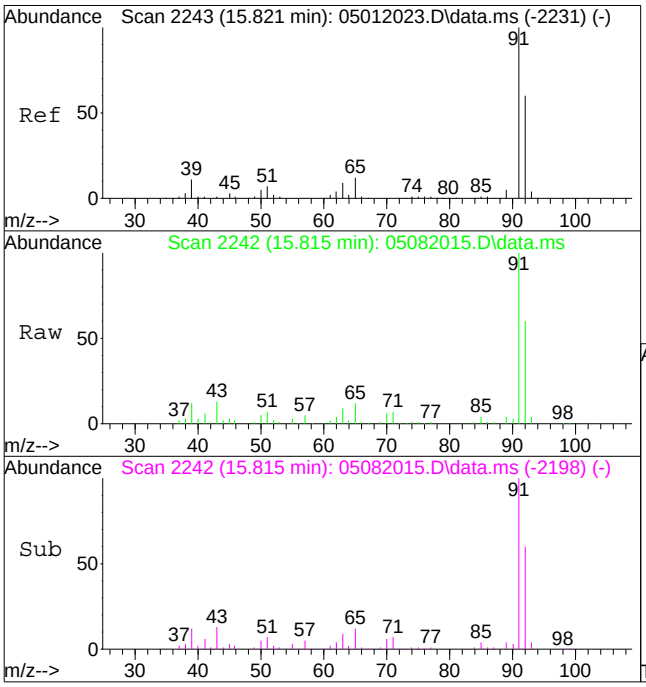


#51
n-Heptane
Concen: 3.11 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05082015.D
Acq: 8 May 2020 8:55

Tgt Ion: 71 Resp: 85630

Ion	Ratio	Lower	Upper
71	100		
57	90.5	71.0	111.0
100	28.2	8.4	48.4

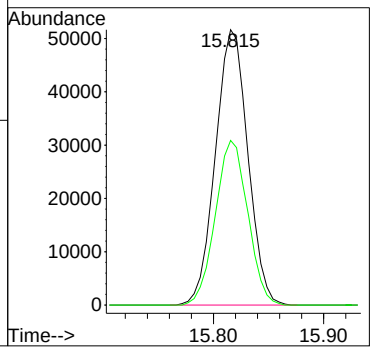


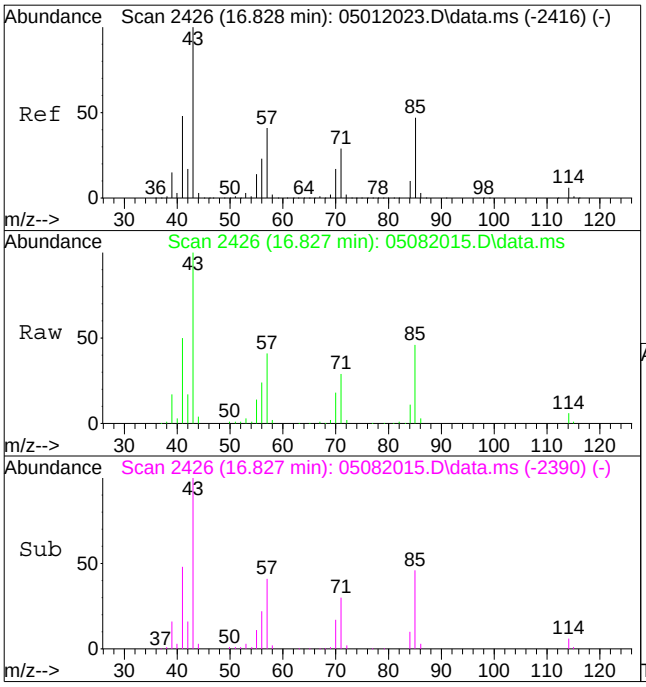


#58
Toluene
Concen: 0.95 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05082015.D
Acq: 8 May 2020 8:55

Tgt Ion: 91 Resp: 105713

Ion	Ratio	Lower	Upper
91	100		
92	59.6	39.4	79.4

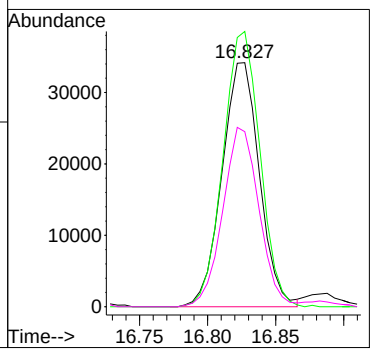


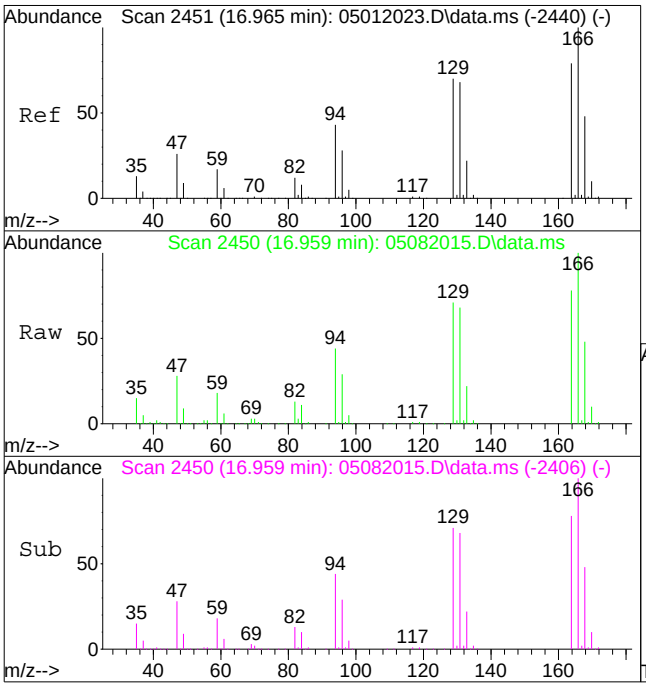


#63
n-Octane
Concen: 2.83 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05082015.D
Acq: 8 May 2020 8:55

Tgt Ion: 57 Resp: 65472

Ion	Ratio	Lower	Upper
57	100		
85	110.9	91.0	136.4
71	70.9	56.2	84.2

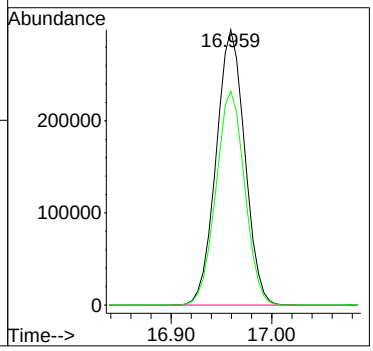


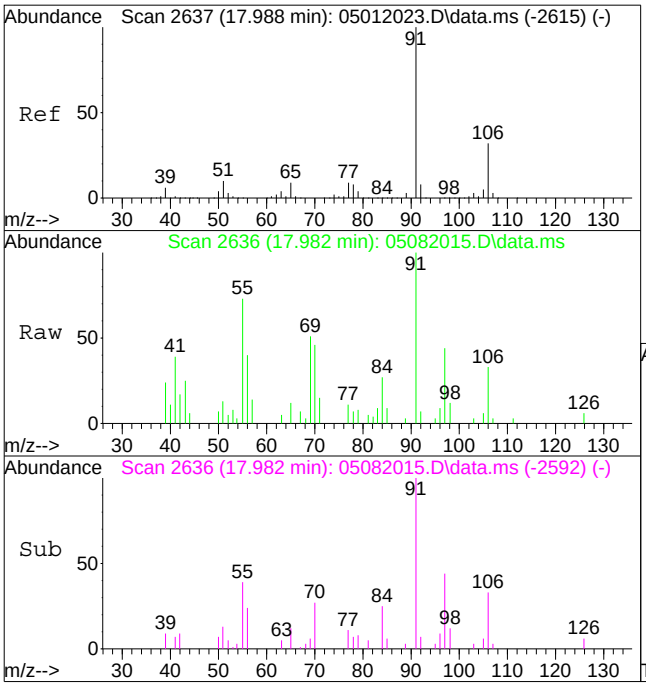


#64
Tetrachloroethene
Concen: 18.72 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05082015.D
Acq: 8 May 2020 8:55

Tgt Ion:166 Resp: 590109

Ion	Ratio	Lower	Upper
166	100		
164	78.2	58.4	98.4

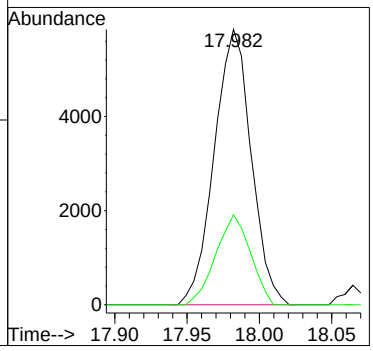


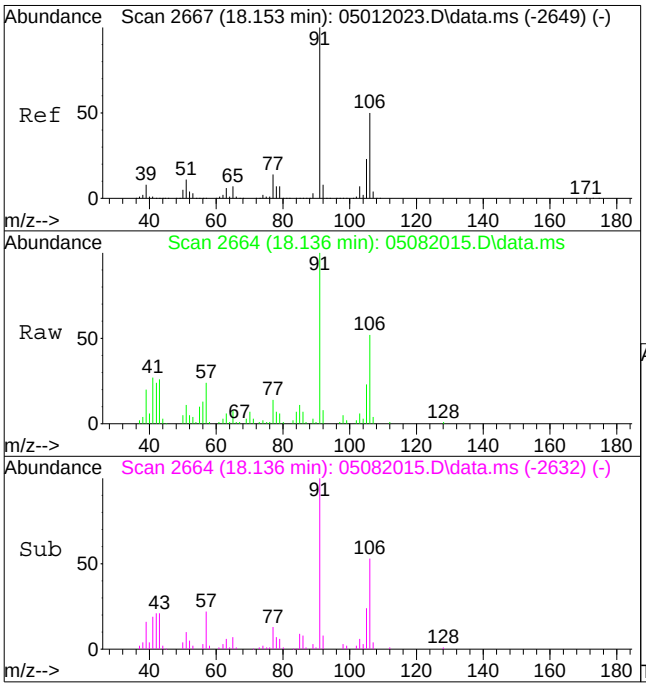


#66
Ethylbenzene
Concen: 0.08 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05082015.D
Acq: 8 May 2020 8:55

Tgt Ion: 91 Resp: 10401

Ion	Ratio	Lower	Upper
91	100		
106	30.6	11.6	51.6

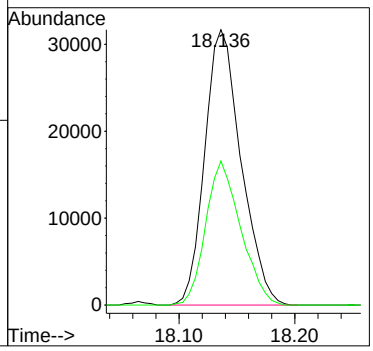


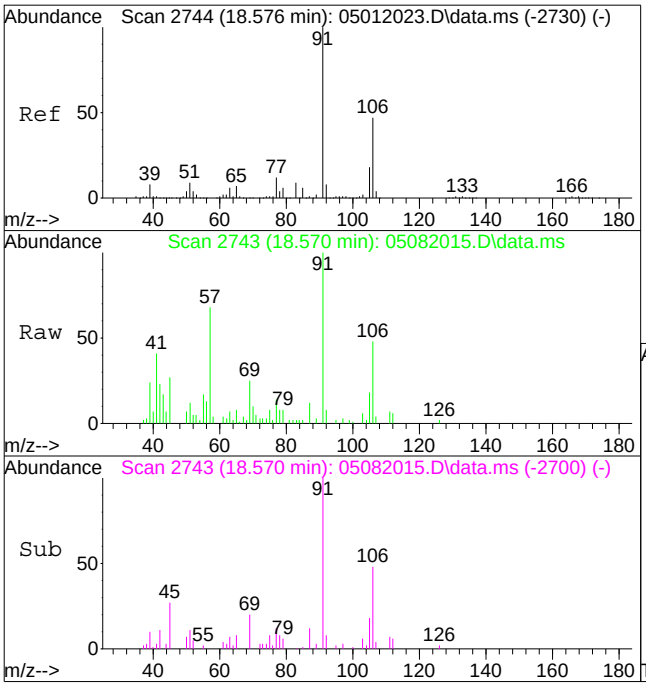


#67
m- & p-Xylenes
Concen: 0.70 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05082015.D
Acq: 8 May 2020 8:55

Tgt Ion: 91 Resp: 69318

Ion	Ratio	Lower	Upper
91	100		
106	50.3	29.7	69.7

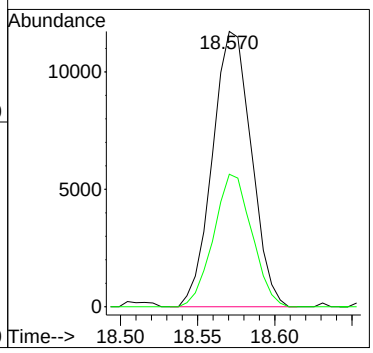


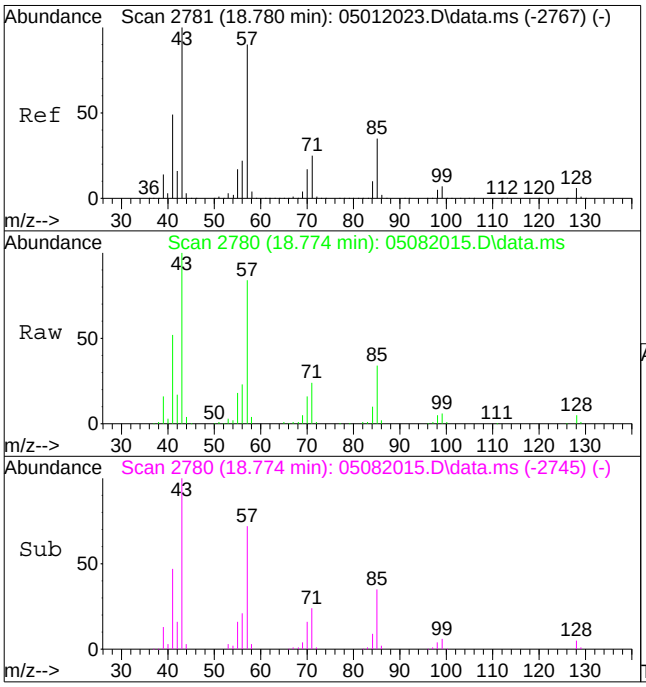


#70
o-Xylene
Concen: 0.20 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05082015.D
Acq: 8 May 2020 8:55

Tgt Ion: 91 Resp: 20536

Ion	Ratio	Lower	Upper
91	100		
106	47.3	27.5	67.5

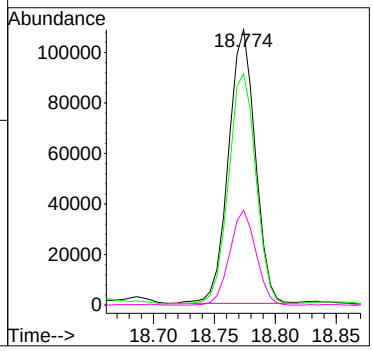


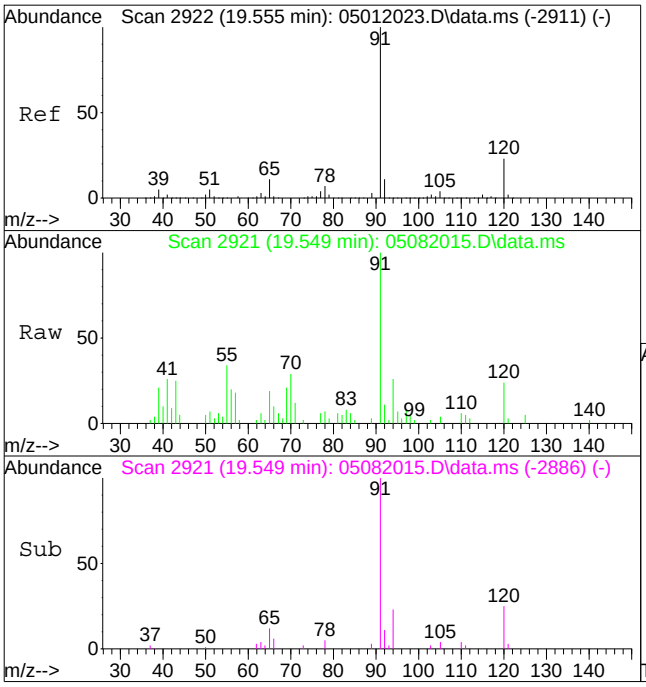


#71
n-Nonane
Concen: 3.11 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05082015.D
Acq: 8 May 2020 8:55

Tgt Ion: 43 Resp: 165627

Ion	Ratio	Lower	Upper
43	100		
57	86.3	69.0	109.0
85	34.0	14.6	54.6

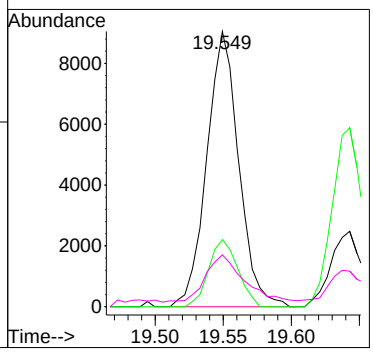


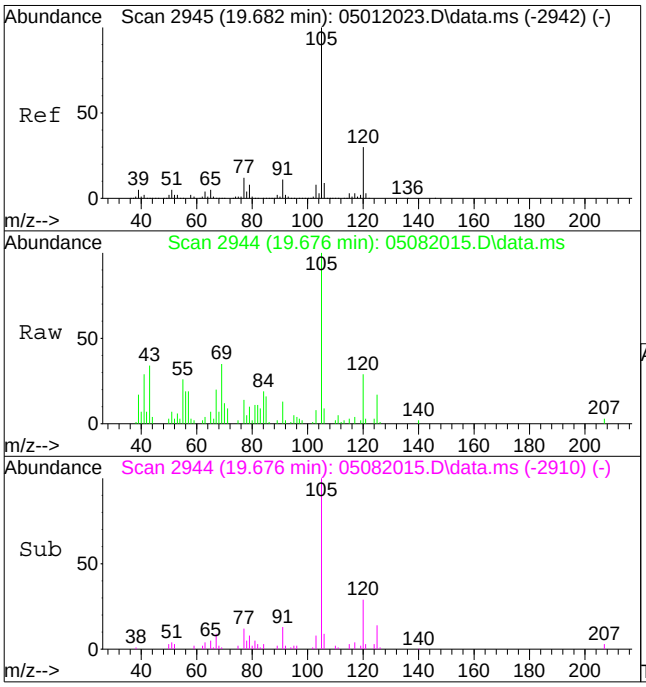


#76
n-Propylbenzene
Concen: 0.10 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05082015.D
Acq: 8 May 2020 8:55

Tgt Ion: 91 Resp: 14775

Ion	Ratio	Lower	Upper
91	100		
120	22.2	3.1	43.1
65	22.7	0.0	30.9

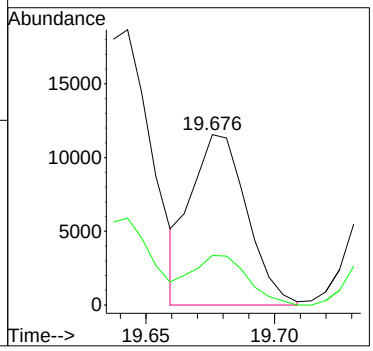


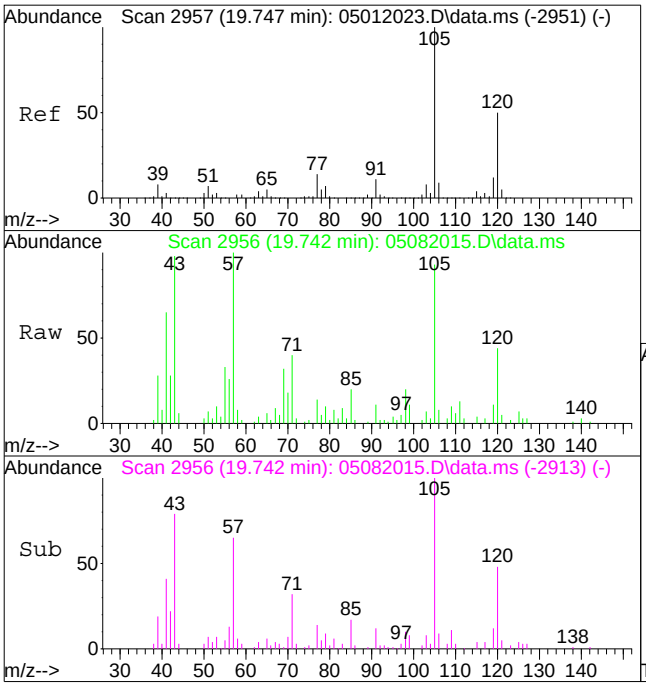


#78
4-Ethyltoluene
Concen: 0.15 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05082015.D
Acq: 8 May 2020 8:55

Tgt Ion:105 Resp: 17540

Ion	Ratio	Lower	Upper
105	100		
120	29.6	10.4	50.4

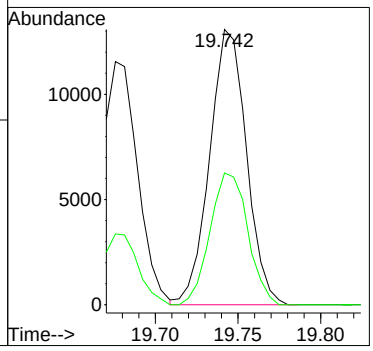


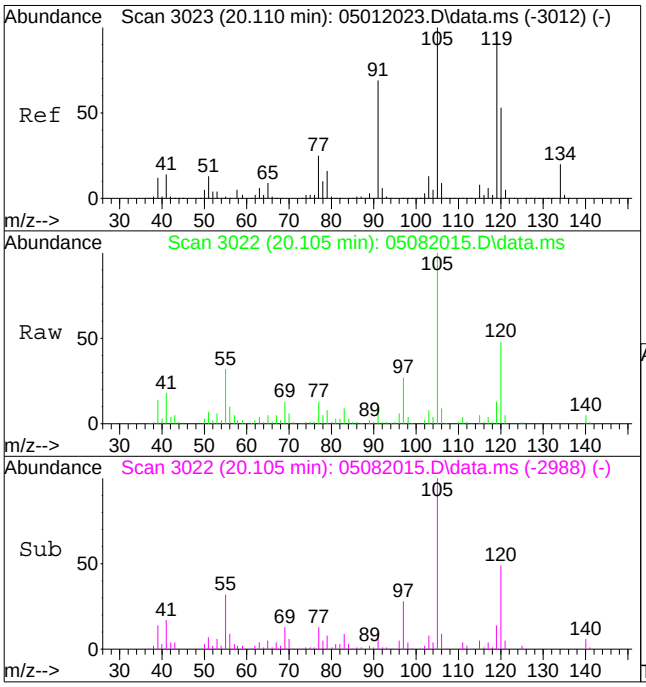


#79
1,3,5-Trimethylbenzene
Concen: 0.20 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05082015.D
Acq: 8 May 2020 8:55

Tgt Ion:105 Resp: 20295

Ion	Ratio	Lower	Upper
105	100		
120	48.9	29.9	69.9

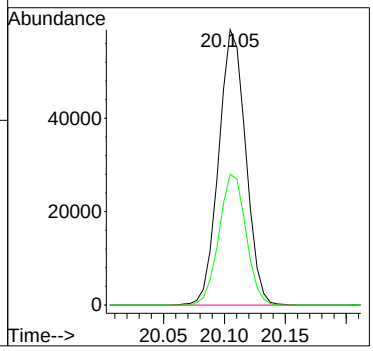


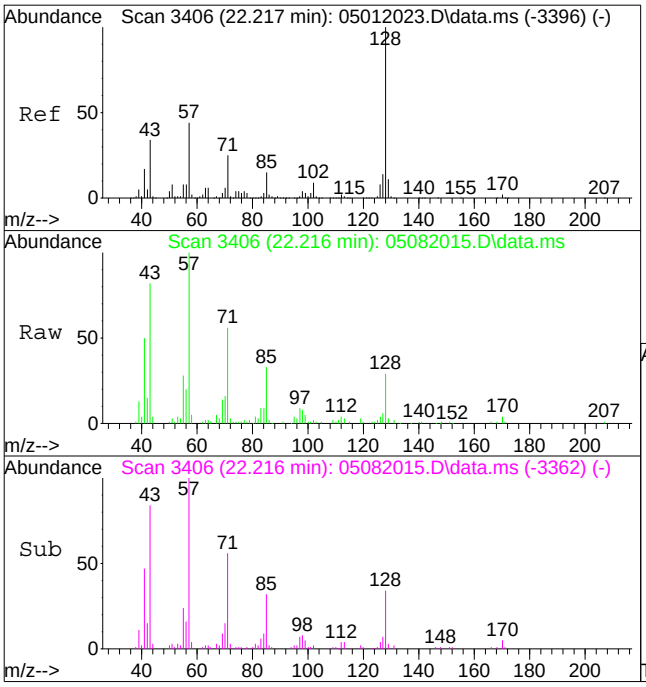


#82
1,2,4-Trimethylbenzene
Concen: 0.90 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05082015.D
Acq: 8 May 2020 8:55

Tgt Ion:105 Resp: 90699

Ion	Ratio	Lower	Upper
105	100		
120	47.5	33.6	73.6

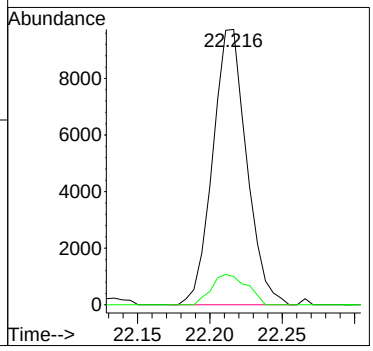




#95
Naphthalene
Concen: 0.13 ng
RT: 22.22 min Scan# 3406
Delta R.T. -0.006 min
Lab File: 05082015.D
Acq: 8 May 2020 8:55

Tgt Ion:128 Resp: 15866

Ion	Ratio	Lower	Upper
128	100		
129	11.4	0.0	31.0



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082017.D Vial: 9
Acq On : 8 May 2020 10:02 Operator: LH
Sample : P2002107-026 (400mL) Inst : GCMS-16
Misc : S31-02112001 pf2

Quant Time: May 08 15:17:04 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/8/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	258708	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.28	114	1119854	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.58	82	518455	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	421379	12.019	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.16%				
57) Toluene-d8 (SS2)	15.72	98	1108080	12.609	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.88%				
73) Bromofluorobenzene (SS3)	18.97	174	416537	13.173	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.36%				
Target Compounds							Qvalue
2) Propene	4.09	42	284990	9.511	ng		98
3) Dichlorodifluoromethan...	4.25	85	5981001	102.055	ng		99
4) Chloromethane	4.53	50	24461	0.533	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	154876	4.423	ng		100
6) Vinyl Chloride	4.95	62	9683	0.192	ng		100
7) 1,3-Butadiene	5.21	54	528	N.D.			
8) Bromomethane	5.65	94	666	N.D.			
9) Chloroethane	5.98	64	1193	0.060	ng		81
10) Ethanol	6.36	45	140076	6.054	ng		100
11) Acetonitrile	6.63	41	25552	0.483	ng		95
12) Acrolein	6.81	56	9843	0.538	ng		98
13) Acetone	7.01	58	3232871	139.718	ng		97
14) Trichlorofluoromethane	7.24	101	382190	7.379	ng		99
15) 2-Propanol (Isopropanol)	7.50	45	3758729	53.671	ng		100
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.45	84	15237	0.507	ng		100
20) 3-Chloro-1-propene (Al...	8.60	41	100	N.D.			
21) Trichlorotrifluoroethane	8.84	151	128331	5.248	ng		99
22) Carbon Disulfide	8.68	76	91525	0.849	ng		100
23) trans-1,2-Dichloroethene	9.71	61	856	N.D.			
24) 1,1-Dichloroethane	9.96	63	7917	0.161	ng		99
25) Methyl tert-Butyl Ether	10.09	73	1406	N.D.			
26) Vinyl Acetate	10.18	86	21548	2.990	ng	#	30
27) 2-Butanone (MEK)	10.45	72	1615898	81.889	ng		99
28) cis-1,2-Dichloroethene	10.98	61	17905	0.443	ng		99
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.27	61	283004	24.872	ng		92
31) n-Hexane	11.26	57	68577	1.390	ng		99
32) Chloroform	11.32	83	16850	0.327	ng		100
34) Tetrahydrofuran (THF)	11.71	72	1233437	64.089	ng		99
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.13	62	1381	N.D.			
38) 1,1,1-Trichloroethane	12.40	97	1355	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	138709	1.155	ng		100
42) Carbon Tetrachloride	13.04	117	273503	6.695	ng		99
43) Cyclohexane	13.17	84	77101	1.723	ng		98
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	13.74	63	121	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	13.97	130	781157	25.165	ng		99
48) 1,4-Dioxane	0.00	88	0	N.D.	d		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.18	100	726	0.061	ng	#	84

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082017.D Vial: 9
Acq On : 8 May 2020 10:02 Operator: LH
Sample : P2002107-026 (400mL) Inst : GCMS-16
Misc : S31-02112001 pf2

Quant Time: May 08 15:17:04 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

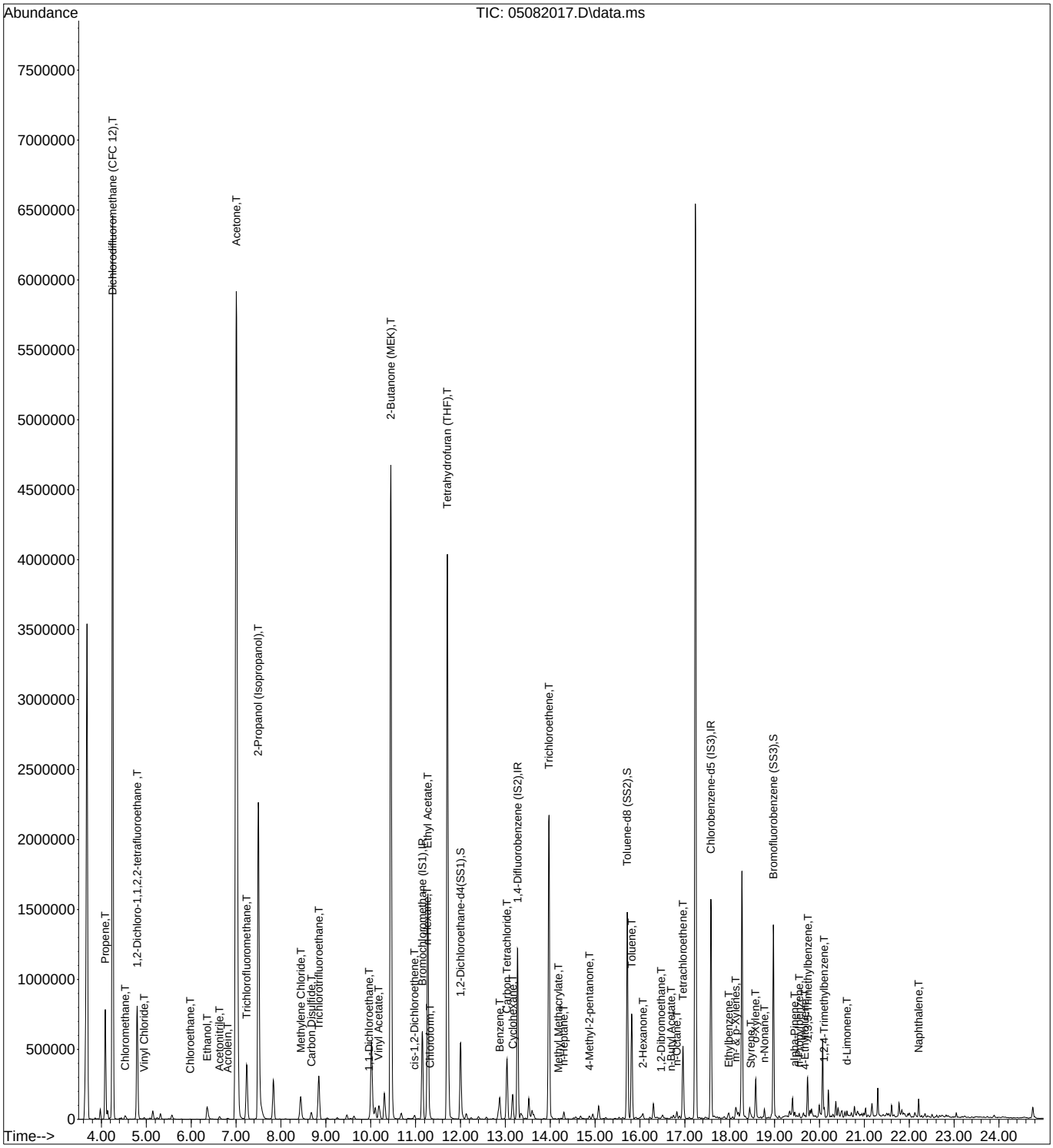
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.30	71	13024	0.464 ng		96
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.88	58	5932	0.222 ng		82
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.82	91	624145	5.510 ng		100
59) 2-Hexanone	16.06	43	35996	0.580 ng		80
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	16.48	107	5402	0.173 ng		98
62) n-Butyl Acetate	16.70	43	10990	0.164 ng		86
63) n-Octane	16.82	57	9181	0.391 ng		95
64) Tetrachloroethene	16.96	166	171374	5.356 ng		100
65) Chlorobenzene	17.66	112	1863	N.D.		
66) Ethylbenzene	17.98	91	25708	0.204 ng		99
67) m- & p-Xylenes	18.14	91	61339	0.612 ng		98
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	11305	0.150 ng		100
70) o-Xylene	18.57	91	24242	0.238 ng		99
71) n-Nonane	18.77	43	26433	0.490 ng		95
72) 1,1,2,2-Tetrachloroethane	18.58	83	821	N.D.		
74) Cumene	19.10	105	3891	N.D.		
75) alpha-Pinene	19.45	93	16541	0.248 ng		91
76) n-Propylbenzene	19.55	91	8066	0.054 ng	#	68
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.68	105	7985	0.068 ng		91
79) 1,3,5-Trimethylbenzene	19.74	105	9294	0.091 ng		98
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	19.91	105	5195	N.D.		
82) 1,2,4-Trimethylbenzene	20.10	105	30897	0.302 ng		91
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.23	91	1225	N.D.		
85) 1,3-Dichlorobenzene	20.24	146	231	N.D.		
86) 1,4-Dichlorobenzene	20.29	146	452	N.D.		
87) sec-Butylbenzene	20.35	105	2430	N.D.		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	20.61	146	181	N.D.		
91) d-Limonene	20.61	68	10577	0.262 ng		99
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.11	180	306	N.D.		
95) Naphthalene	22.21	128	7286	0.058 ng		96
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	20.10	119	3335	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082017.D Vial: 9
Acq On : 8 May 2020 10:02 Operator: LH
Sample : P2002107-026 (400mL) Inst : GCMS-16
Misc : S31-02112001 pf2

Quant Time: May 08 15:17:04 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082017.D Vial: 9
Acq On : 8 May 2020 10:02 Operator: LH
Sample : P2002107-026 (400mL) Inst : GCMS-16
Misc : S31-02112001 pf2

Quant Time: May 08 15:17:04 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/8/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	258708	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.28	114	1119854	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.58	82	518455	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	421379	12.019	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.16%				
57) Toluene-d8 (SS2)	15.72	98	1108080	12.609	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.88%				
73) Bromofluorobenzene (SS3)	18.97	174	416537	13.173	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.36%				
Target Compounds							Qvalue
2) Propene	4.09	42	284990	9.511	ng		98
3) Dichlorodifluoromethan...	4.25	85	5981001	102.055	ng		99
4) Chloromethane	4.53	50	24461	0.533	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	154876	4.423	ng		100
6) Vinyl Chloride	4.95	62	9683	0.192	ng		100
9) Chloroethane	5.98	64	1193	0.060	ng		81
10) Ethanol	6.36	45	140076	6.054	ng		100
11) Acetonitrile	6.63	41	25552	0.483	ng		95
12) Acrolein	6.81	56	9843	0.538	ng		98
13) Acetone	7.01	58	3232871	139.718	ng		97
14) Trichlorofluoromethane	7.24	101	382190	7.379	ng		99
15) 2-Propanol (Isopropanol)	7.50	45	3758729	53.671	ng		100
19) Methylene Chloride	8.45	84	15237	0.507	ng		100
21) Trichlorotrifluoroethane	8.84	151	128331	5.248	ng		99
22) Carbon Disulfide	8.68	76	91525	0.849	ng		100
24) 1,1-Dichloroethane	9.96	63	7917	0.161	ng		99
26) Vinyl Acetate	10.18	86	21548	2.990	ng	#	30
27) 2-Butanone (MEK)	10.45	72	1615898	81.889	ng		99
28) cis-1,2-Dichloroethene	10.98	61	17905	0.443	ng		99
30) Ethyl Acetate	11.27	61	283004	24.872	ng		92
31) n-Hexane	11.26	57	68577	1.390	ng		99
32) Chloroform	11.32	83	16850	0.327	ng		100
34) Tetrahydrofuran (THF)	11.71	72	1233437	64.089	ng		99
41) Benzene	12.87	78	138709	1.155	ng		100
42) Carbon Tetrachloride	13.04	117	273503	6.695	ng		99
43) Cyclohexane	13.17	84	77101	1.723	ng		98
47) Trichloroethene	13.97	130	781157	25.165	ng		99
50) Methyl Methacrylate	14.18	100	726	0.061	ng	#	84
51) n-Heptane	14.30	71	13024	0.464	ng		96
53) 4-Methyl-2-pentanone	14.88	58	5932	0.222	ng		82
58) Toluene	15.82	91	624145	5.510	ng		100
59) 2-Hexanone	16.06	43	35996	0.580	ng		80
61) 1,2-Dibromoethane	16.48	107	5402	0.173	ng		98
62) n-Butyl Acetate	16.70	43	10990	0.164	ng		86
63) n-Octane	16.82	57	9181	0.391	ng		95
64) Tetrachloroethene	16.96	166	171374	5.356	ng		100
66) Ethylbenzene	17.98	91	25708	0.204	ng		99
67) m- & p-Xylenes	18.14	91	61339	0.612	ng		98
69) Styrene	18.47	104	11305	0.150	ng		100
70) o-Xylene	18.57	91	24242	0.238	ng		99
71) n-Nonane	18.77	43	26433	0.490	ng		95
75) alpha-Pinene	19.45	93	16541	0.248	ng		91
76) n-Propylbenzene	19.55	91	8066	0.054	ng	#	68
78) 4-Ethyltoluene	19.68	105	7985	0.068	ng		91
79) 1,3,5-Trimethylbenzene	19.74	105	9294	0.091	ng		98
82) 1,2,4-Trimethylbenzene	20.10	105	30897	0.302	ng		91
91) d-Limonene	20.61	68	10577	0.262	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082017.D Vial: 9
Acq On : 8 May 2020 10:02 Operator: LH
Sample : P2002107-026 (400mL) Inst : GCMS-16
Misc : S31-02112001 pf2

Quant Time: May 08 15:17:04 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
95) Naphthalene	22.21	128	7286	0.058	ng	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082017.D Vial: 9
Acq On : 8 May 2020 10:02 Operator: LH
Sample : P2002107-026 (400mL) Inst : GCMS-16
Misc : S31-02112001 pf2

Quant Time: May 08 15:17:04 2020
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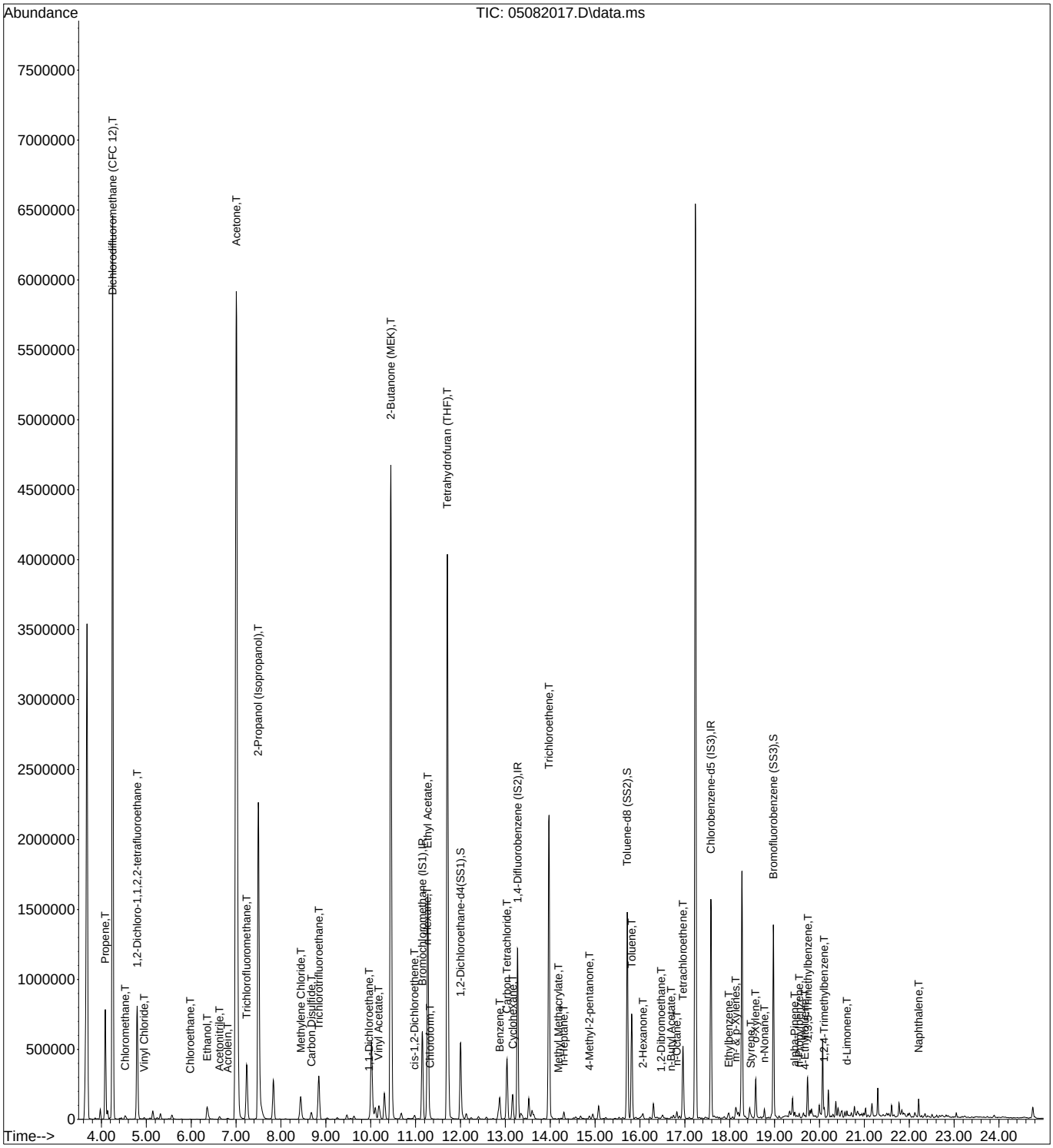
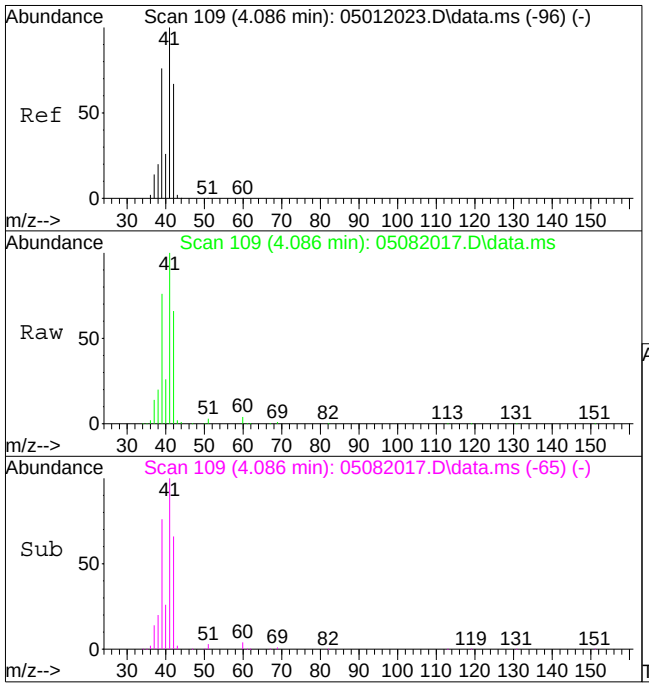
DataAcq Meth:TO15.M

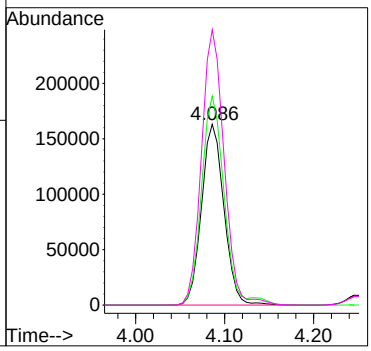


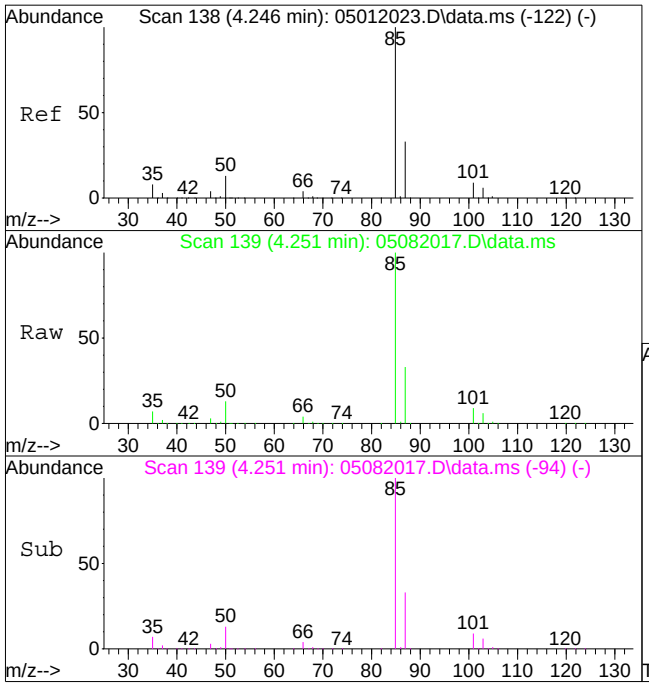


#2
Propene
Concen: 9.51 ng
RT: 4.09 min Scan# 109
Delta R.T. -0.006 min
Lab File: 05082017.D
Acq: 8 May 2020 10:02

Tgt Ion: 42 Resp: 284990

Ion	Ratio	Lower	Upper
42	100		
39	117.9	96.1	136.1
41	153.8	131.9	171.9

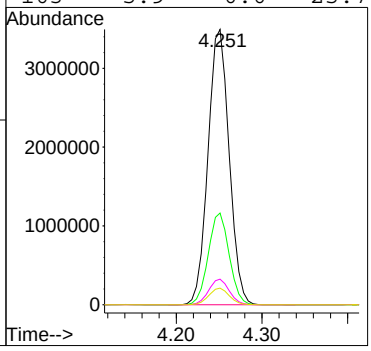


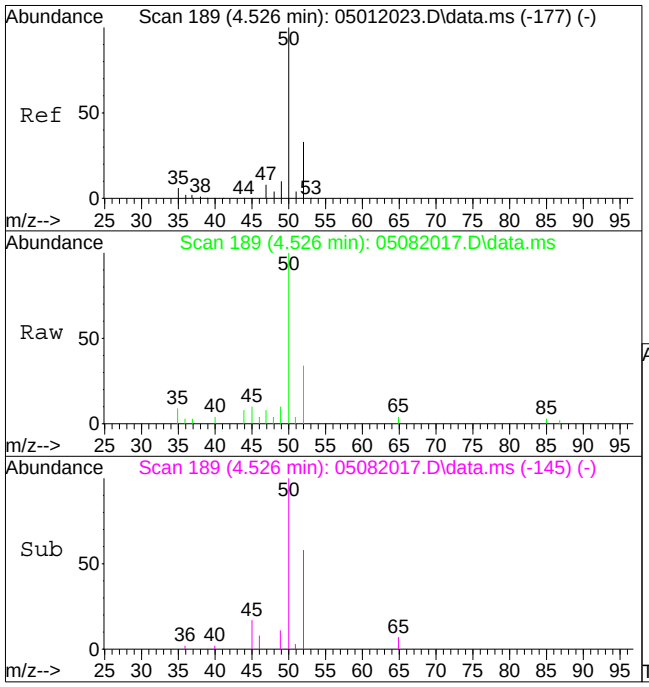


#3
Dichlorodifluoromethane (CFC 12)
Concen: 102.05 ng
RT: 4.25 min Scan# 139
Delta R.T. -0.000 min
Lab File: 05082017.D
Acq: 8 May 2020 10:02

Tgt Ion: 85 Resp: 5981001

Ion	Ratio	Lower	Upper
85	100		
87	32.9	12.4	52.4
101	9.1	0.0	28.8
103	5.9	0.0	25.7

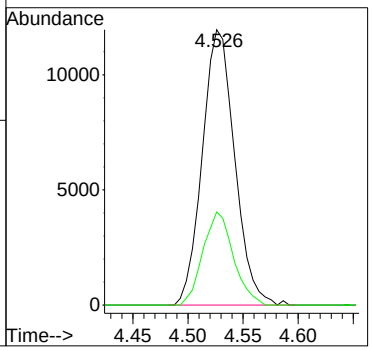


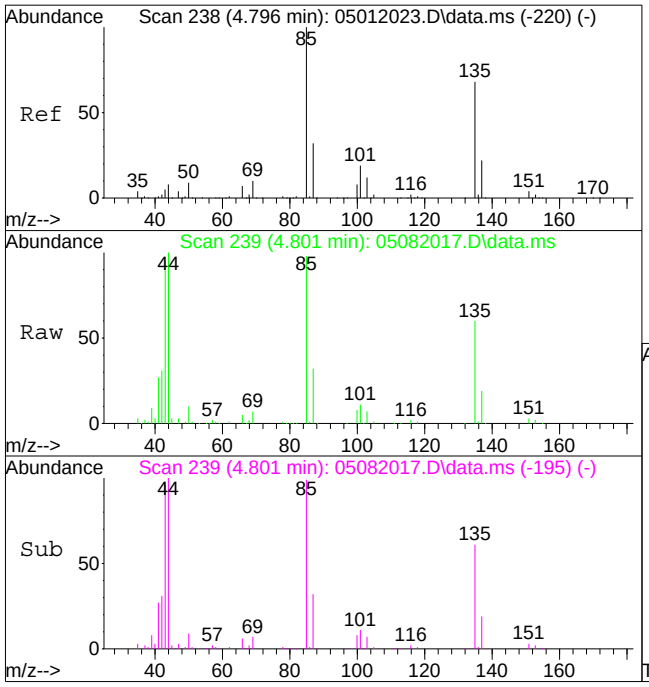


#4
Chloromethane
Concen: 0.53 ng
RT: 4.53 min Scan# 189
Delta R.T. -0.006 min
Lab File: 05082017.D
Acq: 8 May 2020 10:02

Tgt Ion: 50 Resp: 24461

Ion	Ratio	Lower	Upper
50	100		
52	31.7	12.5	52.5

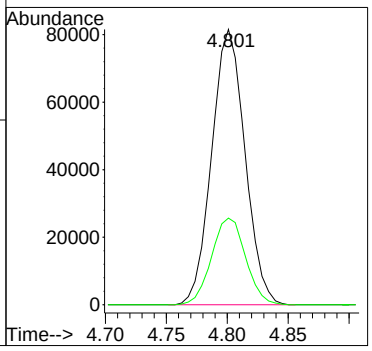


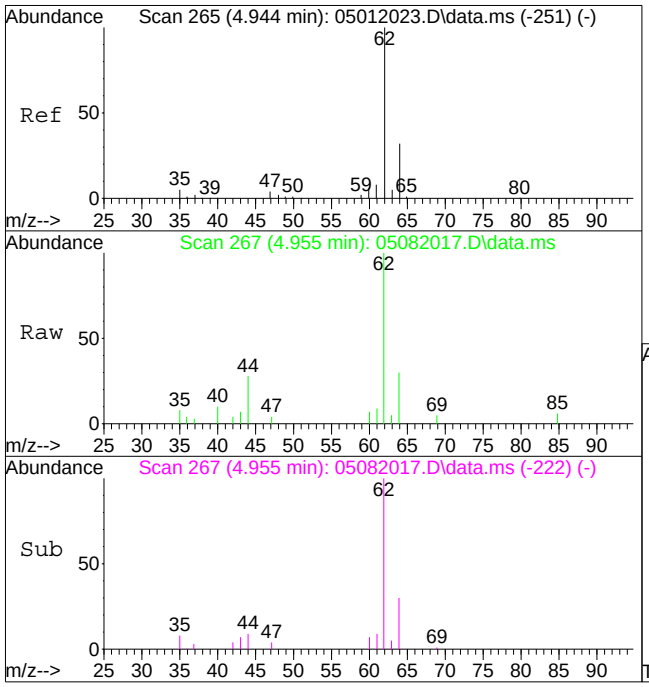


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 4.42 ng
RT: 4.80 min Scan# 239
Delta R.T. -0.006 min
Lab File: 05082017.D
Acq: 8 May 2020 10:02

Tgt Ion:135 Resp: 154876

Ion	Ratio	Lower	Upper
135	100		
137	32.2	12.1	52.1

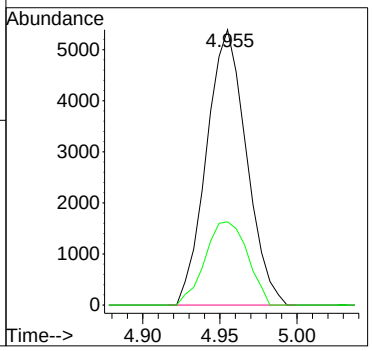


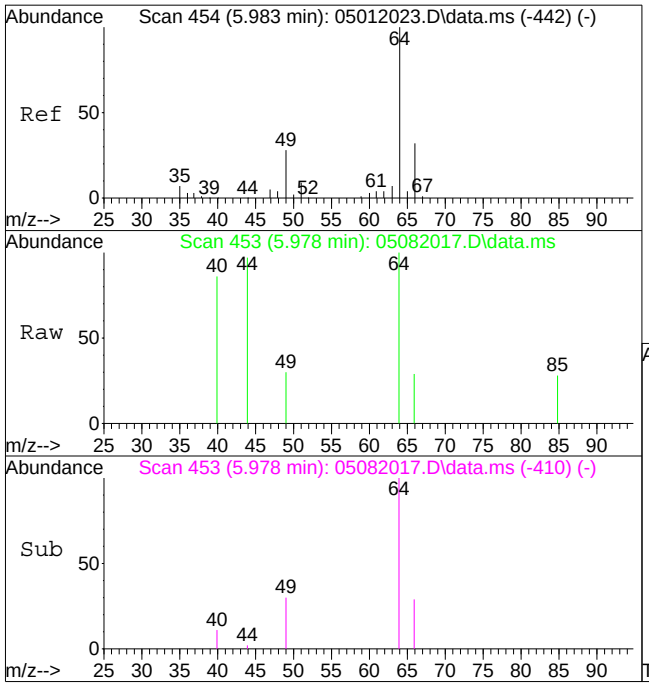


#6
Vinyl Chloride
Concen: 0.19 ng
RT: 4.95 min Scan# 267
Delta R.T. -0.000 min
Lab File: 05082017.D
Acq: 8 May 2020 10:02

Tgt Ion: 62 Resp: 9683

Ion	Ratio	Lower	Upper
62	100		
64	32.2	12.1	52.1

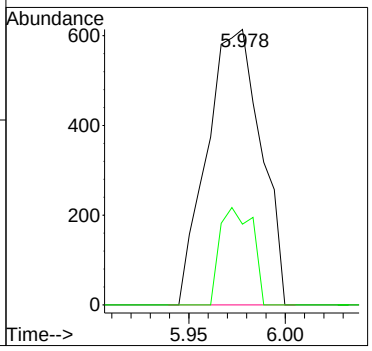


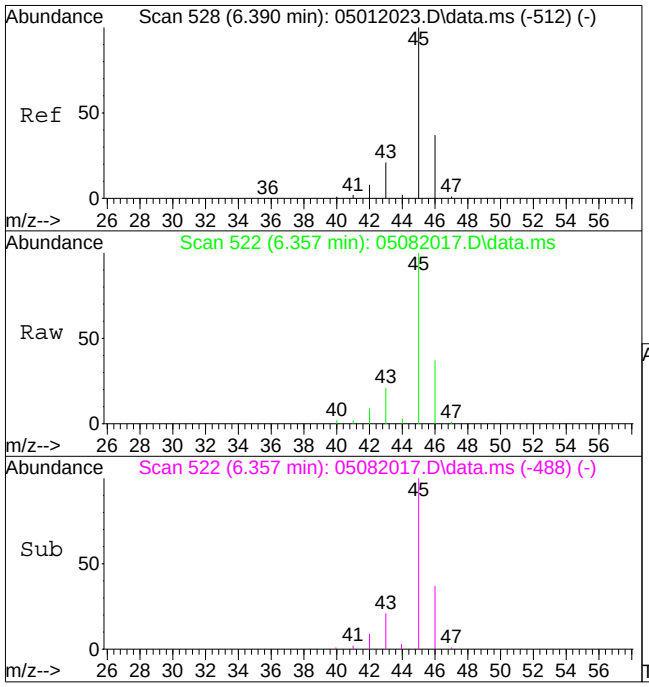


#9
Chloroethane
Concen: 0.06 ng
RT: 5.98 min Scan# 453
Delta R.T. -0.011 min
Lab File: 05082017.D
Acq: 8 May 2020 10:02

Tgt Ion: 64 Resp: 1193

Ion	Ratio	Lower	Upper
64	100		
66	21.4	12.1	52.1

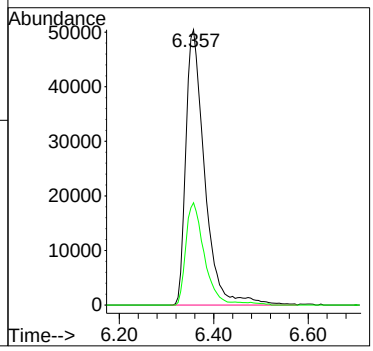


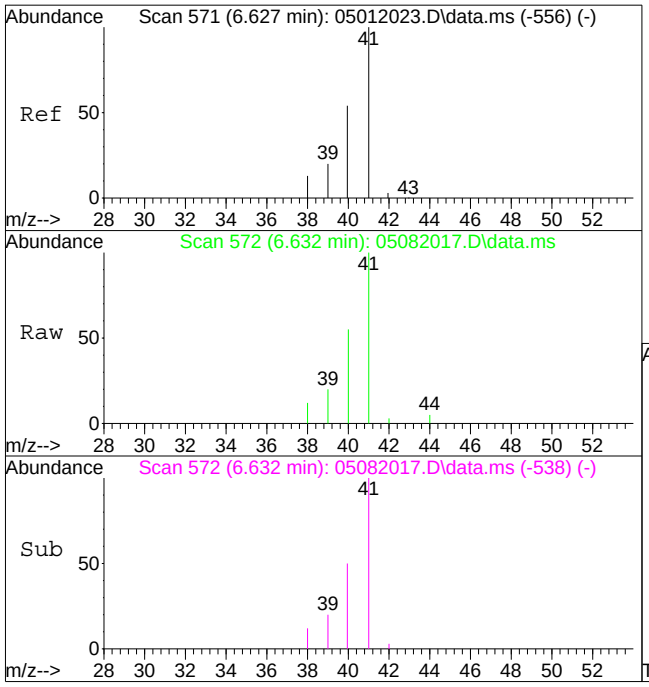


#10
Ethanol
Concen: 6.05 ng
RT: 6.36 min Scan# 522
Delta R.T. -0.061 min
Lab File: 05082017.D
Acq: 8 May 2020 10:02

Tgt Ion: 45 Resp: 140076

Ion	Ratio	Lower	Upper
45	100		
46	37.2	17.2	57.2

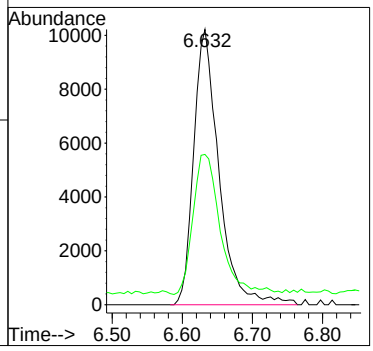


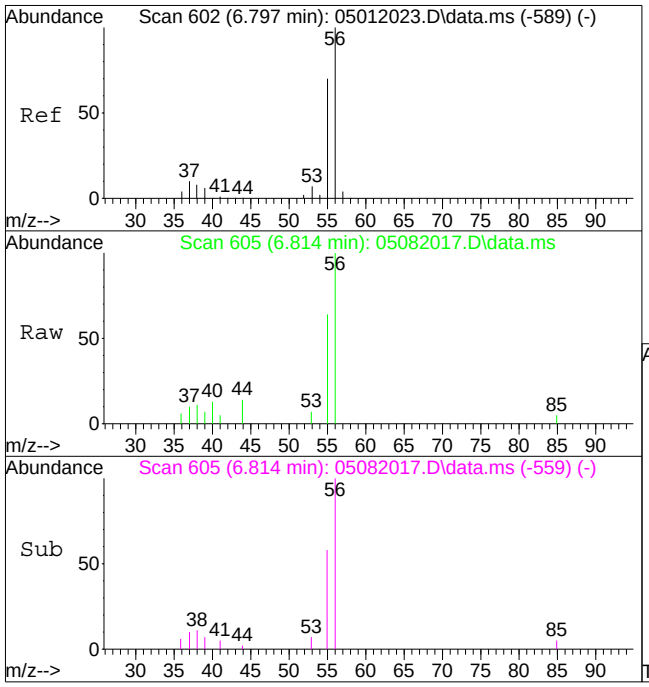


#11
Acetonitrile
Concen: 0.48 ng
RT: 6.63 min Scan# 572
Delta R.T. -0.011 min
Lab File: 05082017.D
Acq: 8 May 2020 10:02

Tgt Ion: 41 Resp: 25552

Ion	Ratio	Lower	Upper
41	100		
40	57.3	33.6	73.6

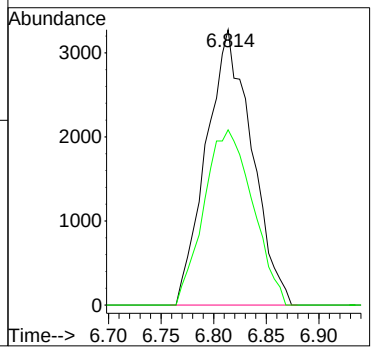


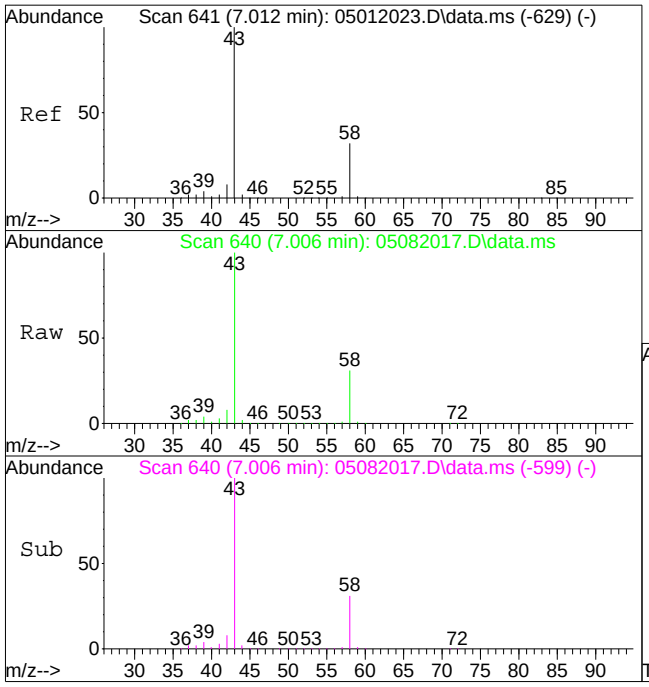


#12
Acrolein
Concen: 0.54 ng
RT: 6.81 min Scan# 605
Delta R.T. 0.005 min
Lab File: 05082017.D
Acq: 8 May 2020 10:02

Tgt Ion: 56 Resp: 9843

Ion	Ratio	Lower	Upper
56	100		
55	68.2	50.2	90.2

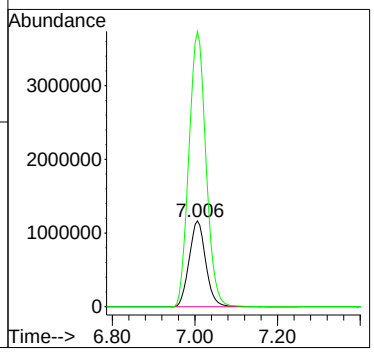


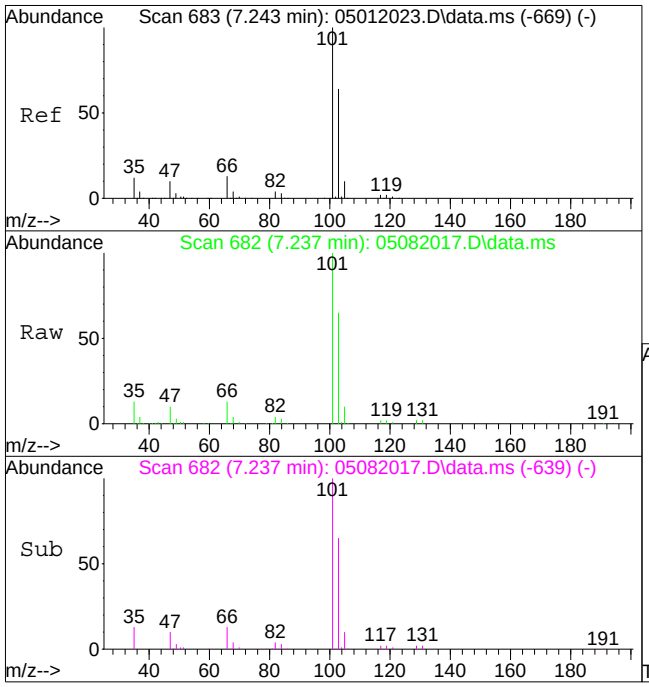


#13
Acetone
Concen: 139.72 ng
RT: 7.01 min Scan# 640
Delta R.T. -0.022 min
Lab File: 05082017.D
Acq: 8 May 2020 10:02

Tgt Ion: 58 Resp: 3232871

Ion	Ratio	Lower	Upper
58	100		
43	331.4	294.4	354.4

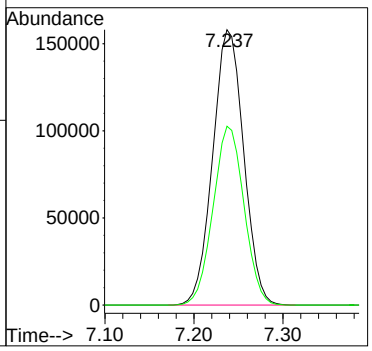


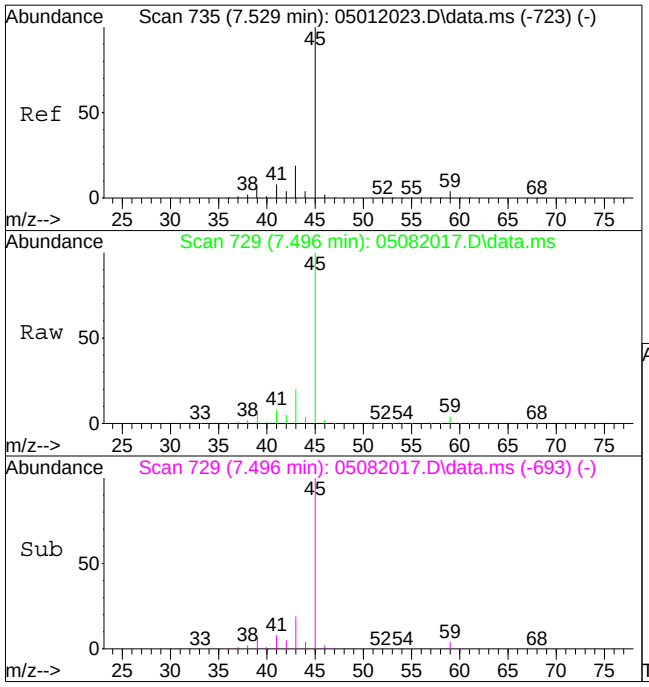


#14
Trichlorofluoromethane
Concen: 7.38 ng
RT: 7.24 min Scan# 682
Delta R.T. -0.011 min
Lab File: 05082017.D
Acq: 8 May 2020 10:02

Tgt Ion:101 Resp: 382190

Ion	Ratio	Lower	Upper
101	100		
103	64.8	44.4	84.4

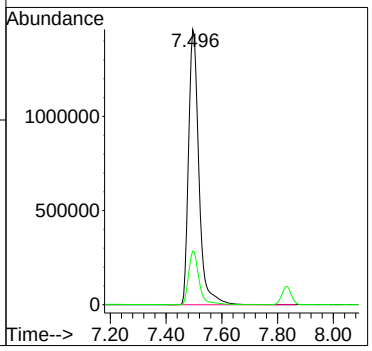


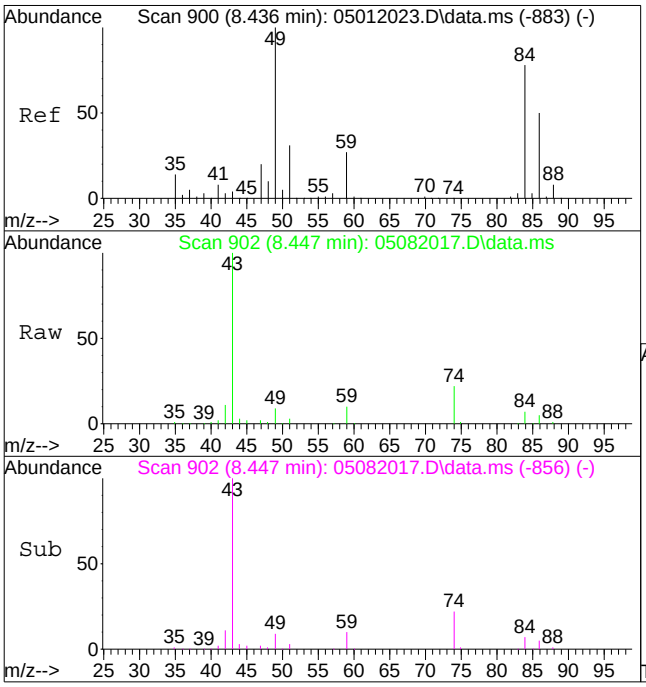


#15
2-Propanol (Isopropanol)
Concen: 53.67 ng
RT: 7.50 min Scan# 729
Delta R.T. -0.050 min
Lab File: 05082017.D
Acq: 8 May 2020 10:02

Tgt Ion: 45 Resp: 3758729

Ion	Ratio	Lower	Upper
45	100		
43	19.6	0.0	39.5

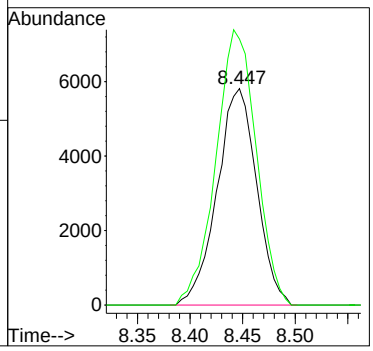


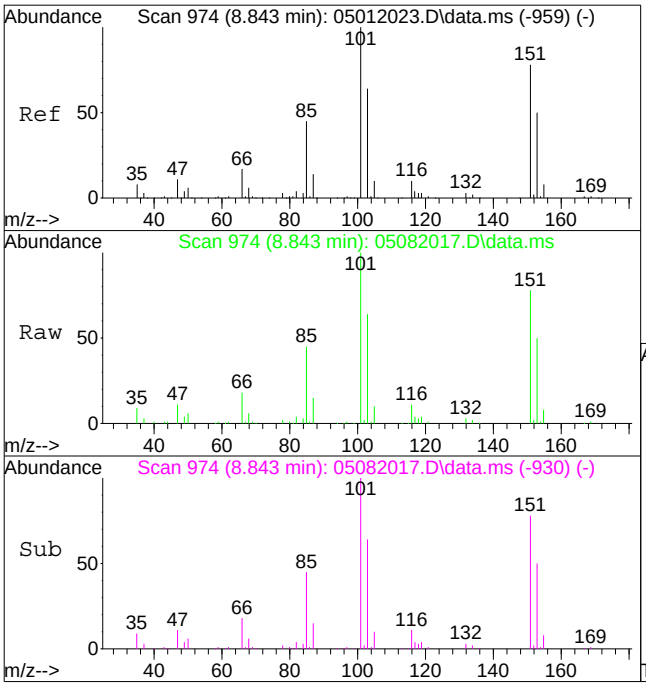


#19
Methylene Chloride
Concen: 0.51 ng
RT: 8.45 min Scan# 902
Delta R.T. 0.005 min
Lab File: 05082017.D
Acq: 8 May 2020 10:02

Tgt Ion: 84 Resp: 15237

Ion	Ratio	Lower	Upper
84	100		
49	129.3	104.8	154.8

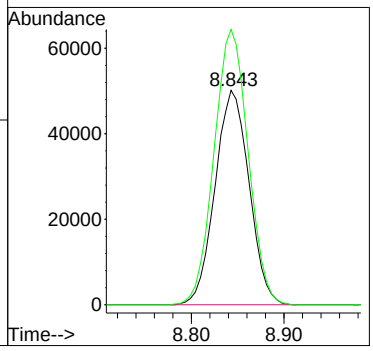


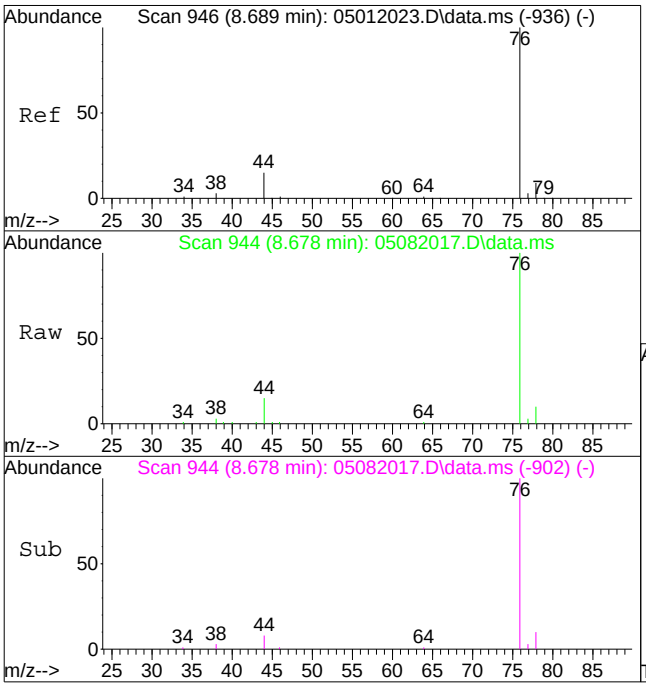


#21
Trichlorotrifluoroethane
Concen: 5.25 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05082017.D
Acq: 8 May 2020 10:02

Tgt Ion:151 Resp: 128331

Ion	Ratio	Lower	Upper
151	100		
101	128.4	107.3	147.3

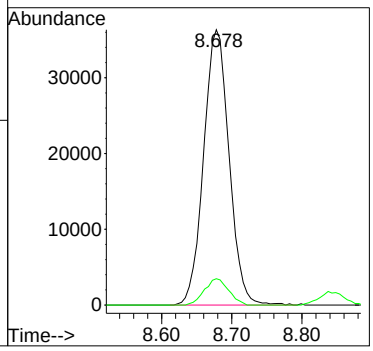


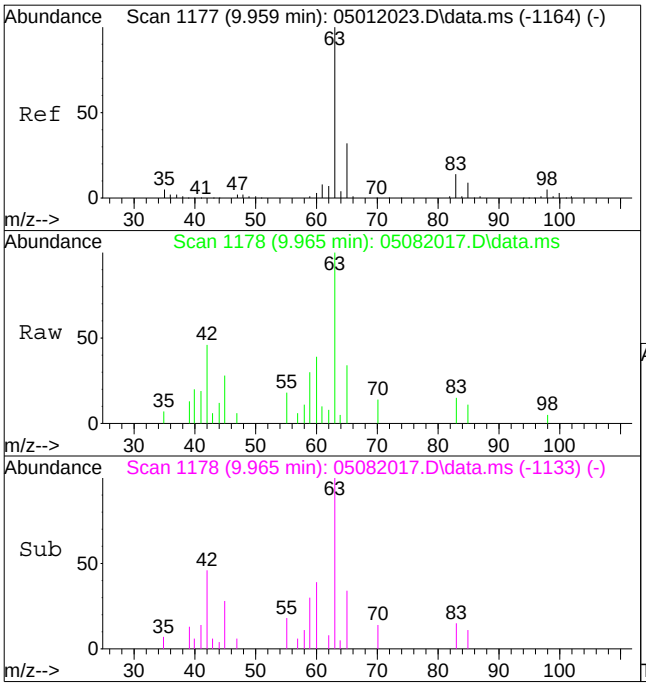


#22
Carbon Disulfide
Concen: 0.85 ng
RT: 8.68 min Scan# 944
Delta R.T. -0.017 min
Lab File: 05082017.D
Acq: 8 May 2020 10:02

Tgt Ion: 76 Resp: 91525

Ion	Ratio	Lower	Upper
76	100		
78	9.1	0.0	29.2

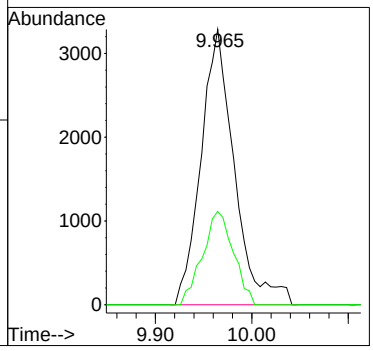


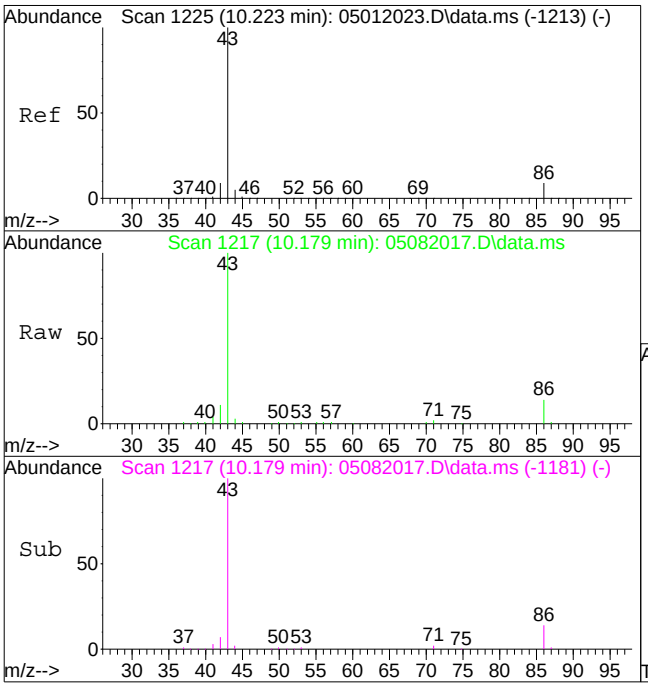


#24
1,1-Dichloroethane
Concen: 0.16 ng
RT: 9.96 min Scan# 1178
Delta R.T. -0.000 min
Lab File: 05082017.D
Acq: 8 May 2020 10:02

Tgt Ion: 63 Resp: 7917

Ion	Ratio	Lower	Upper
63	100		
65	31.4	11.8	51.8

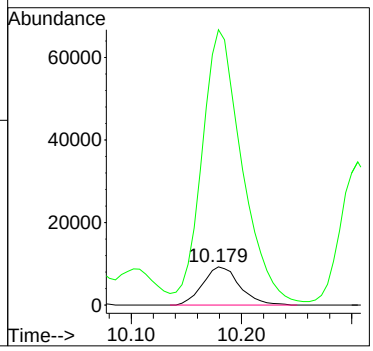


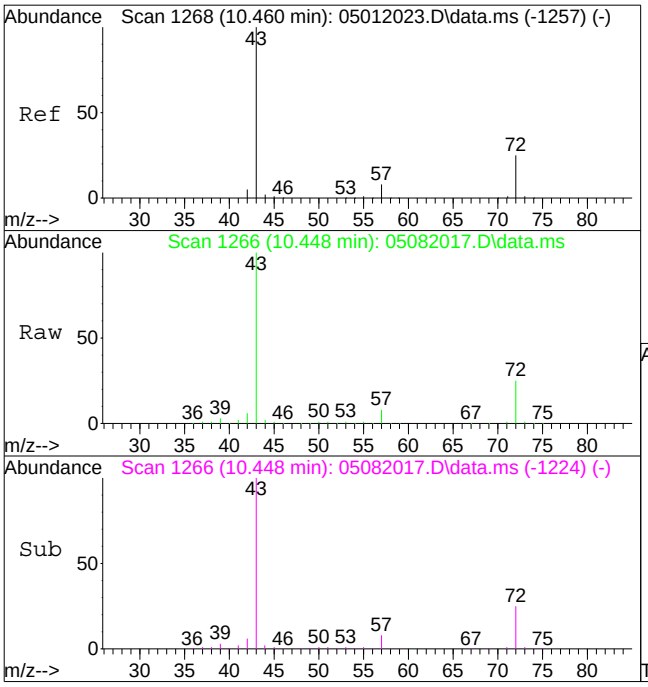


#26
Vinyl Acetate
Concen: 2.99 ng
RT: 10.18 min Scan# 1217
Delta R.T. -0.050 min
Lab File: 05082017.D
Acq: 8 May 2020 10:02

Tgt Ion: 86 Resp: 21548

Ion	Ratio	Lower	Upper
86	100		
43	783.4	1103.0	1143.0#

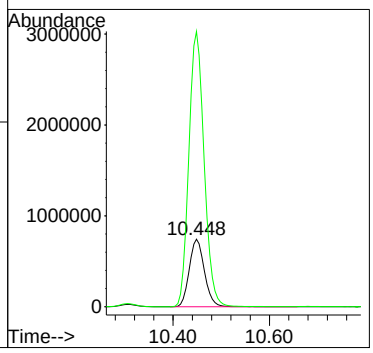


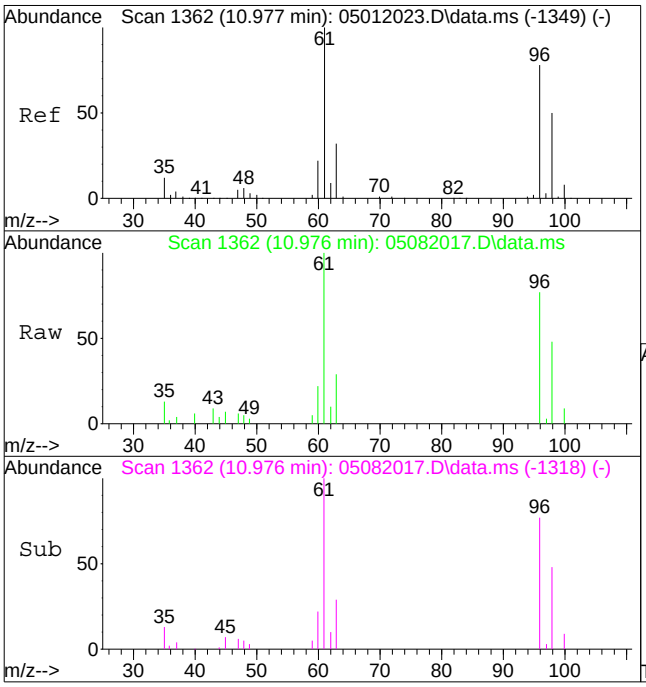


#27
2-Butanone (MEK)
Concen: 81.89 ng
RT: 10.45 min Scan# 1266
Delta R.T. -0.017 min
Lab File: 05082017.D
Acq: 8 May 2020 10:02

Tgt Ion: 72 Resp: 1615898

Ion	Ratio	Lower	Upper
72	100		
43	411.1	389.7	429.7

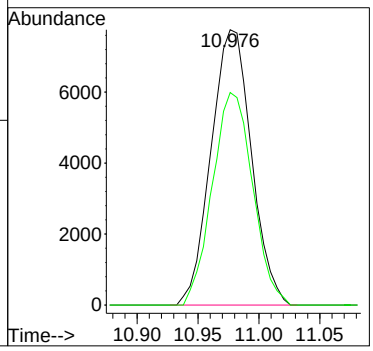


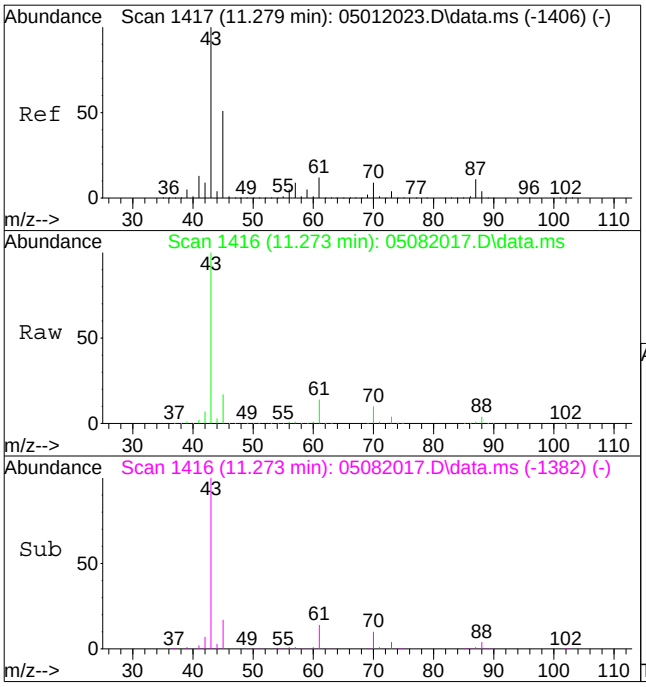


#28
cis-1,2-Dichloroethene
Concen: 0.44 ng
RT: 10.98 min Scan# 1362
Delta R.T. -0.006 min
Lab File: 05082017.D
Acq: 8 May 2020 10:02

Tgt Ion: 61 Resp: 17905

Ion	Ratio	Lower	Upper
61	100		
96	77.0	57.6	97.6

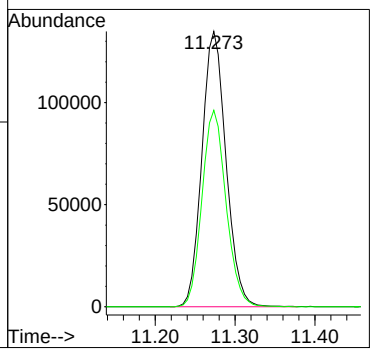


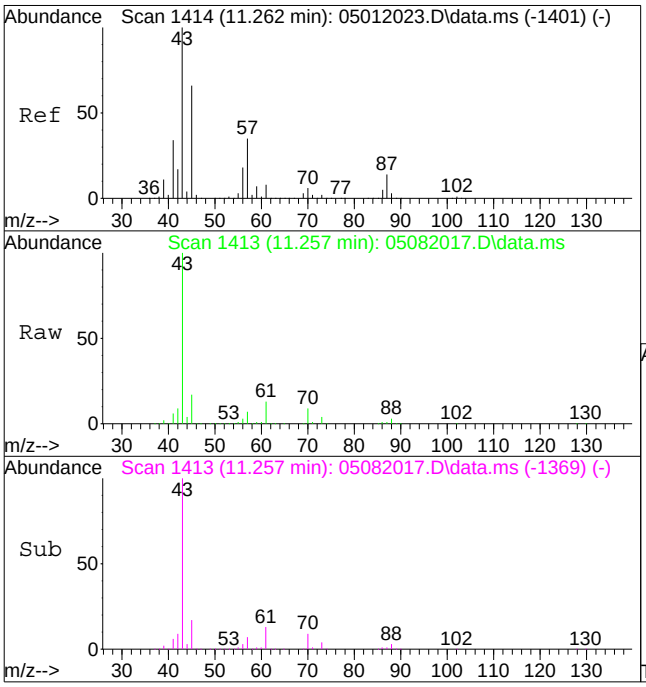


#30
Ethyl Acetate
Concen: 24.87 ng
RT: 11.27 min Scan# 1416
Delta R.T. -0.011 min
Lab File: 05082017.D
Acq: 8 May 2020 10:02

Tgt Ion: 61 Resp: 283004

Ion	Ratio	Lower	Upper
61	100		
70	71.2	57.9	97.9

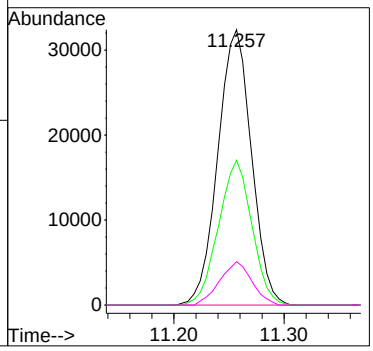


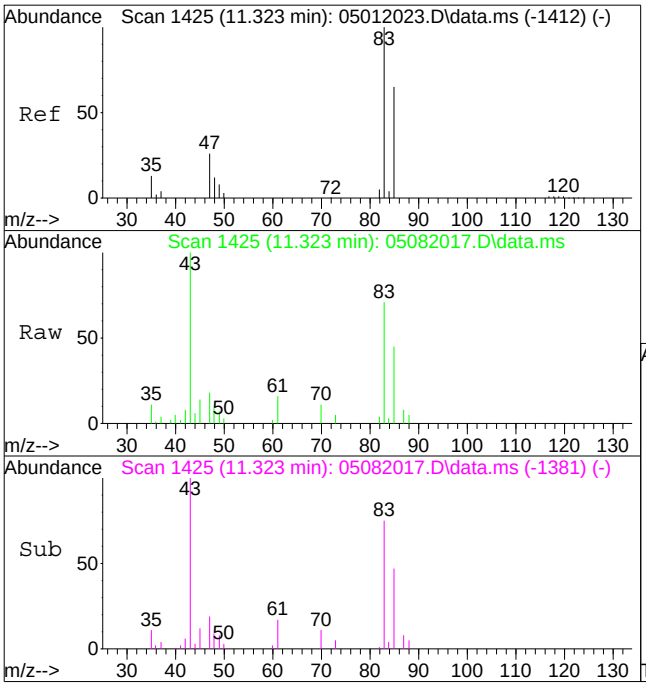


#31
n-Hexane
Concen: 1.39 ng
RT: 11.26 min Scan# 1413
Delta R.T. -0.006 min
Lab File: 05082017.D
Acq: 8 May 2020 10:02

Tgt Ion: 57 Resp: 68577

Ion	Ratio	Lower	Upper
57	100		
56	52.2	41.4	62.0
86	15.1	12.4	18.6

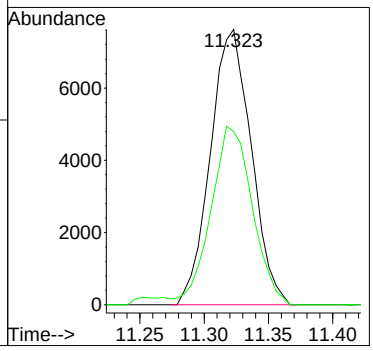


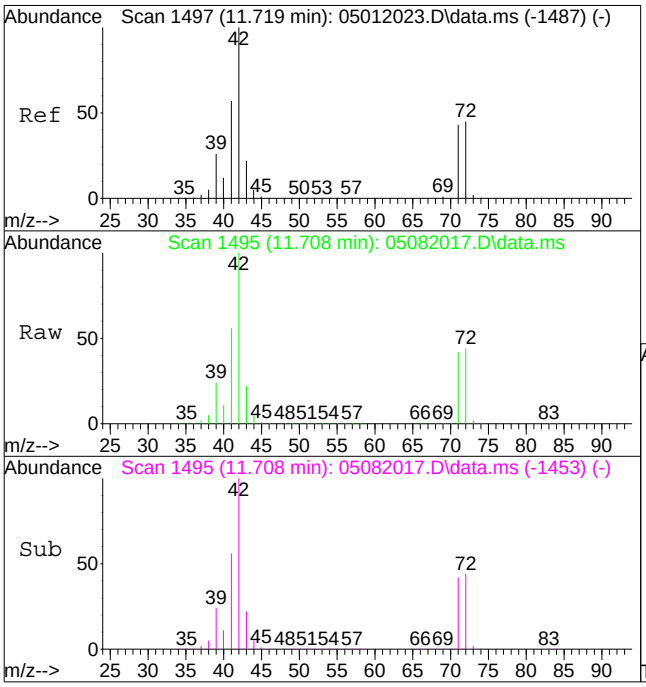


#32
Chloroform
Concen: 0.33 ng
RT: 11.32 min Scan# 1425
Delta R.T. -0.006 min
Lab File: 05082017.D
Acq: 8 May 2020 10:02

Tgt Ion: 83 Resp: 16850

Ion	Ratio	Lower	Upper
83	100		
85	65.6	45.5	85.5

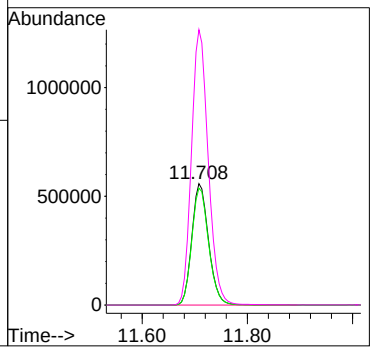


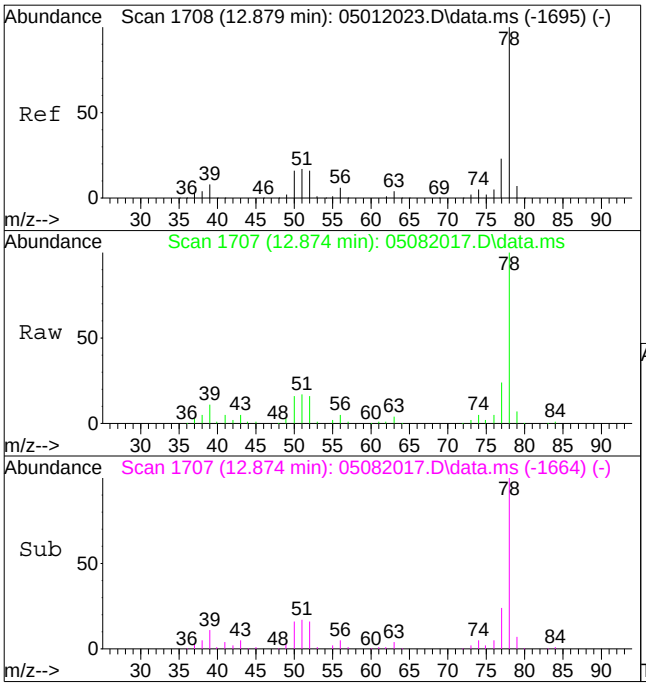


#34
Tetrahydrofuran (THF)
Concen: 64.09 ng
RT: 11.71 min Scan# 1495
Delta R.T. -0.017 min
Lab File: 05082017.D
Acq: 8 May 2020 10:02

Tgt Ion: 72 Resp: 1233437

Ion	Ratio	Lower	Upper
72	100		
71	96.9	77.0	117.0
42	227.7	204.6	244.6

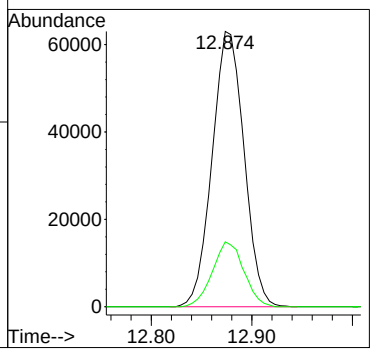


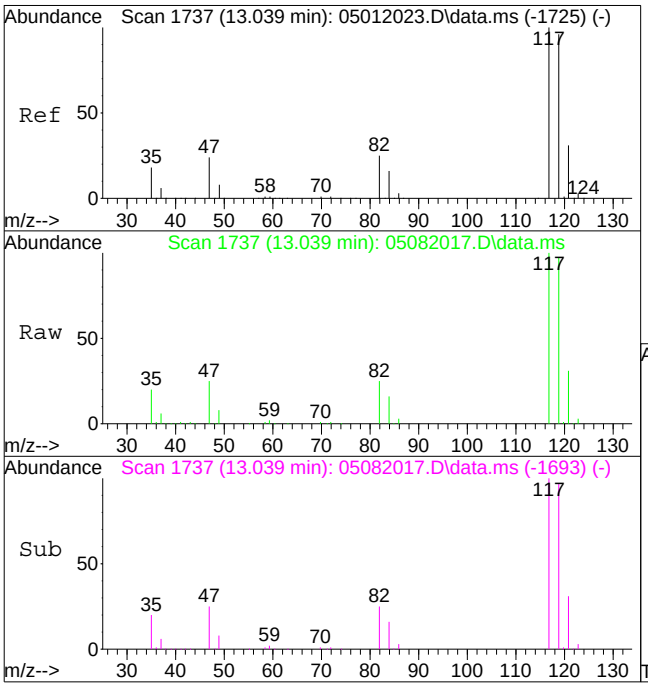


#41
Benzene
Concen: 1.16 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05082017.D
Acq: 8 May 2020 10:02

Tgt Ion: 78 Resp: 138709

Ion	Ratio	Lower	Upper
78	100		
77	23.2	3.4	43.4

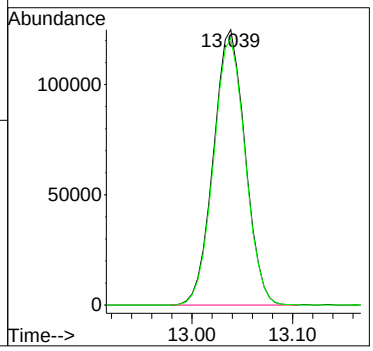


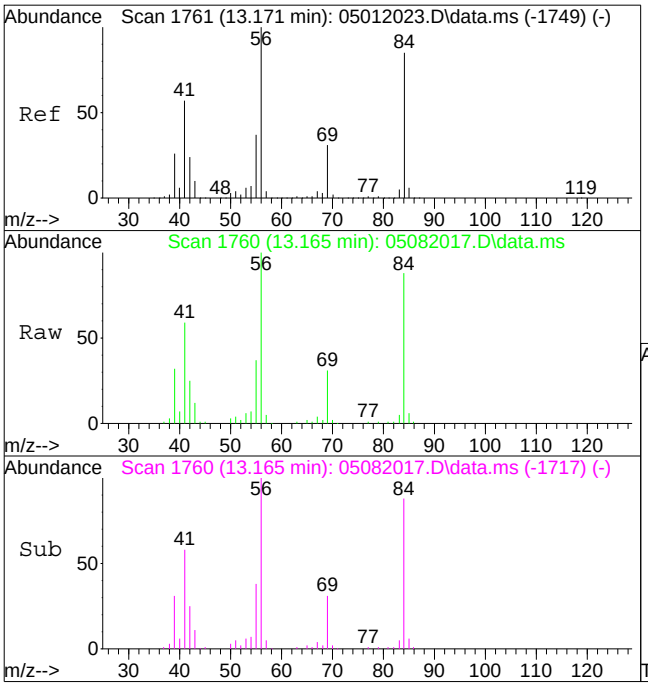


#42
Carbon Tetrachloride
Concen: 6.70 ng
RT: 13.04 min Scan# 1737
Delta R.T. -0.006 min
Lab File: 05082017.D
Acq: 8 May 2020 10:02

Tgt Ion:117 Resp: 273503

Ion	Ratio	Lower	Upper
117	100		
119	96.7	76.2	116.2

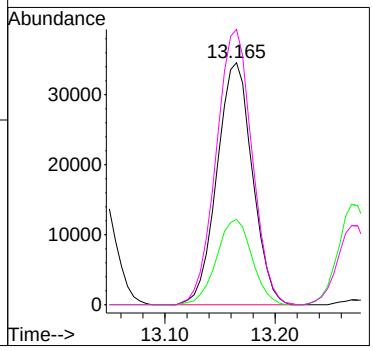


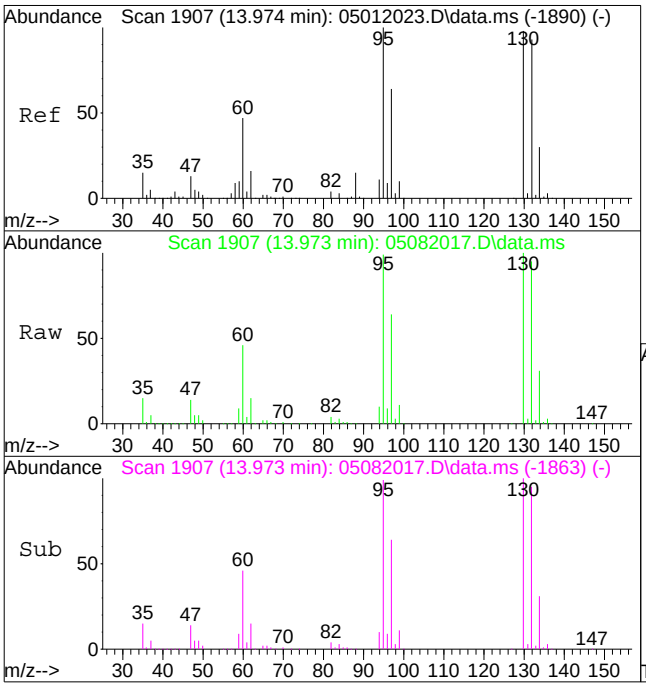


#43
Cyclohexane
Concen: 1.72 ng
RT: 13.17 min Scan# 1760
Delta R.T. -0.011 min
Lab File: 05082017.D
Acq: 8 May 2020 10:02

Tgt Ion: 84 Resp: 77101

Ion	Ratio	Lower	Upper
84	100		
69	35.6	16.5	56.5
56	115.4	97.4	137.4

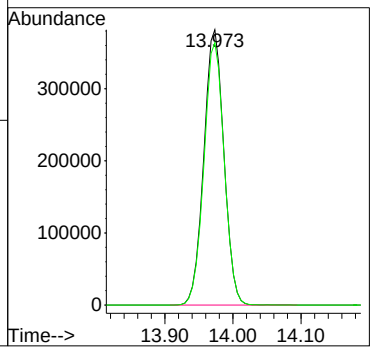


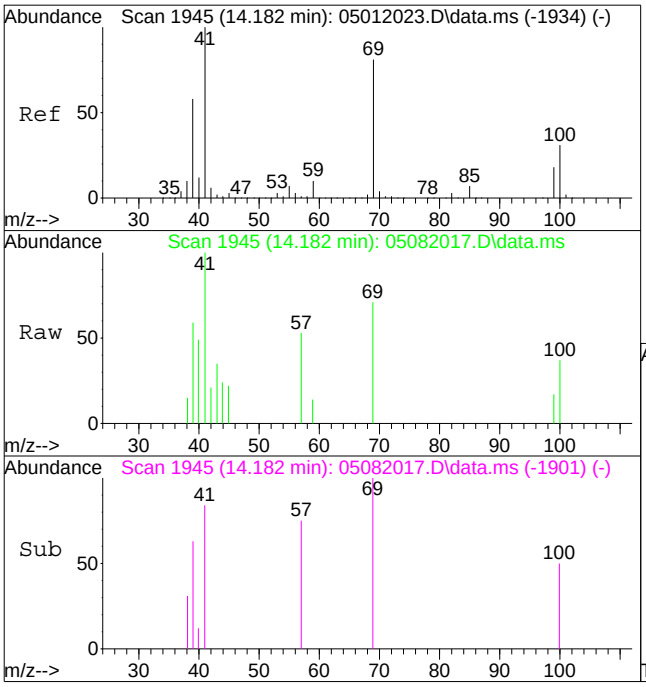


#47
Trichloroethene
Concen: 25.16 ng
RT: 13.97 min Scan# 1907
Delta R.T. -0.006 min
Lab File: 05082017.D
Acq: 8 May 2020 10:02

Tgt Ion:130 Resp: 781157

Ion	Ratio	Lower	Upper
130	100		
132	96.1	74.9	114.9

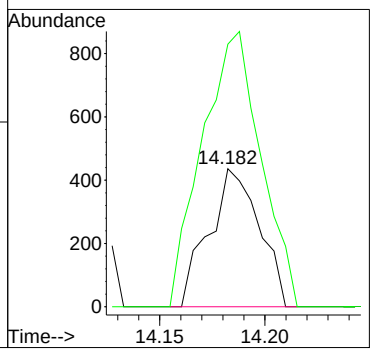


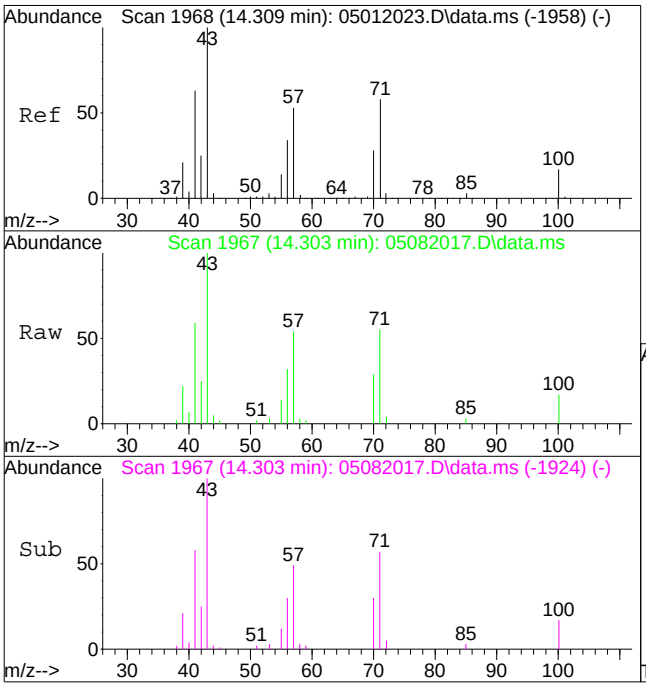


#50
Methyl Methacrylate
Concen: 0.06 ng
RT: 14.18 min Scan# 1945
Delta R.T. -0.006 min
Lab File: 05082017.D
Acq: 8 May 2020 10:02

Tgt Ion:100 Resp: 726

Ion	Ratio	Lower	Upper
100	100		
69	232.5	241.8	281.8#

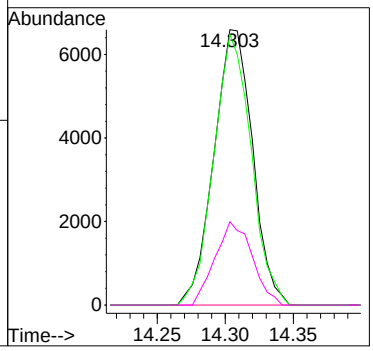


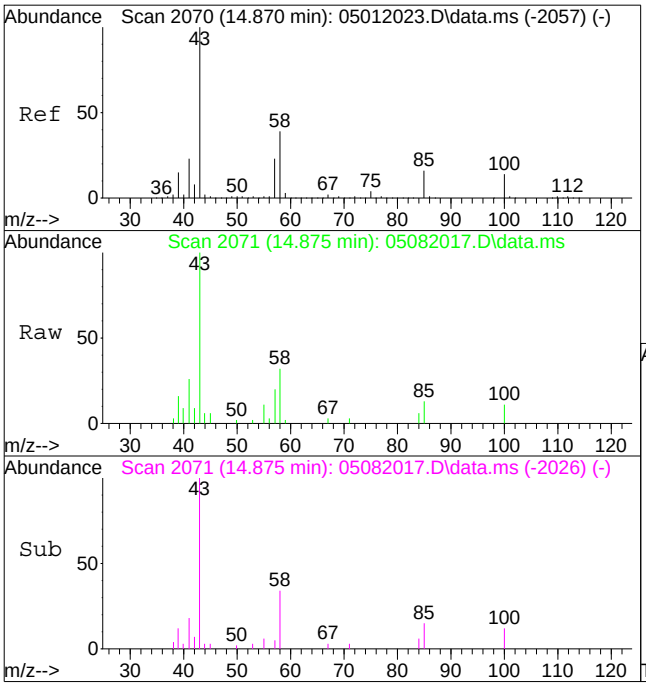


#51
n-Heptane
Concen: 0.46 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05082017.D
Acq: 8 May 2020 10:02

Tgt Ion: 71 Resp: 13024

Ion	Ratio	Lower	Upper
71	100		
57	95.2	71.0	111.0
100	29.0	8.4	48.4

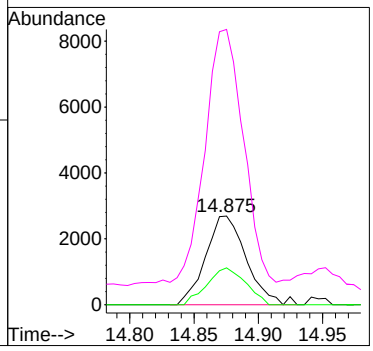


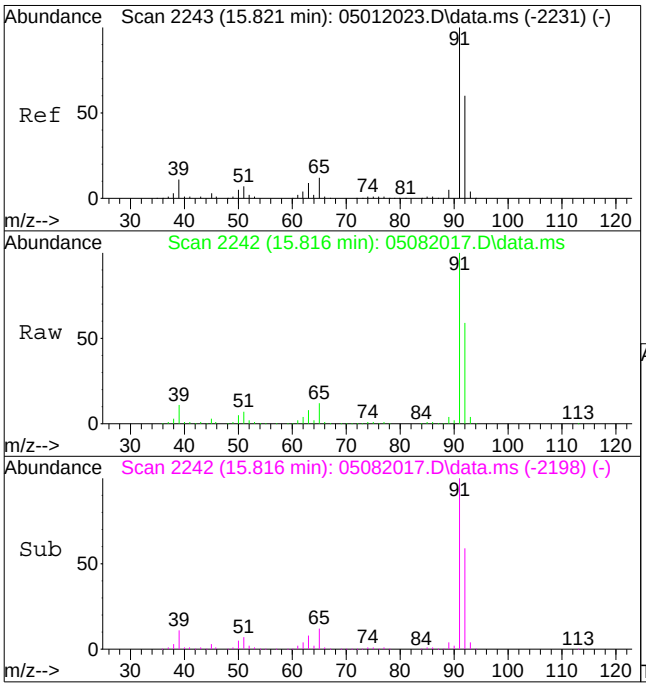


#53
4-Methyl-2-pentanone
Concen: 0.22 ng
RT: 14.88 min Scan# 2071
Delta R.T. -0.000 min
Lab File: 05082017.D
Acq: 8 May 2020 10:02

Tgt Ion: 58 Resp: 5932

Ion	Ratio	Lower	Upper
58	100		
85	39.4	35.4	53.2
43	288.1	203.3	304.9

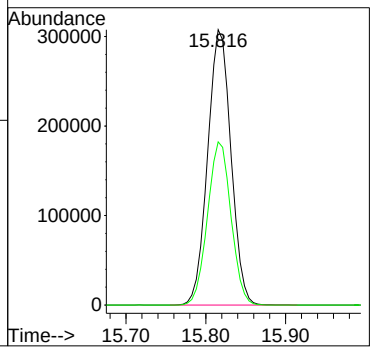


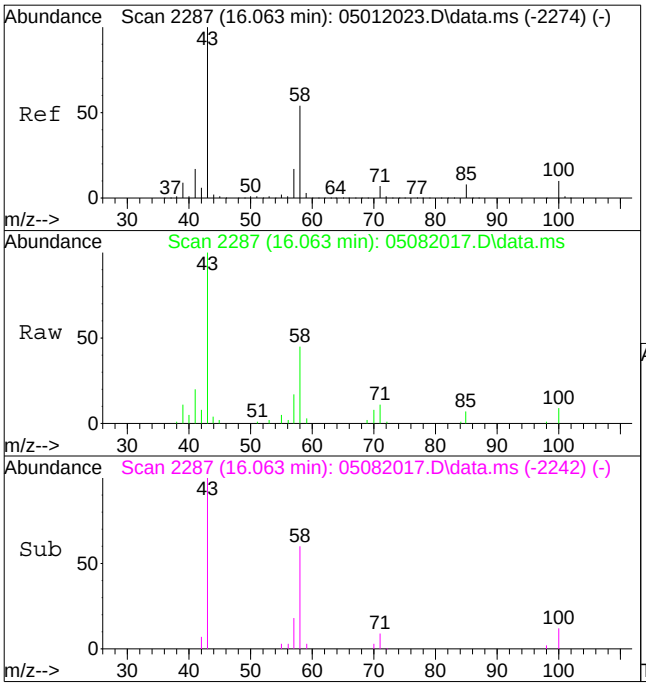


#58
Toluene
Concen: 5.51 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05082017.D
Acq: 8 May 2020 10:02

Tgt Ion: 91 Resp: 624145

Ion	Ratio	Lower	Upper
91	100		
92	59.5	39.4	79.4

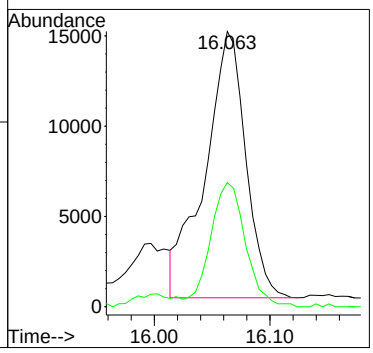


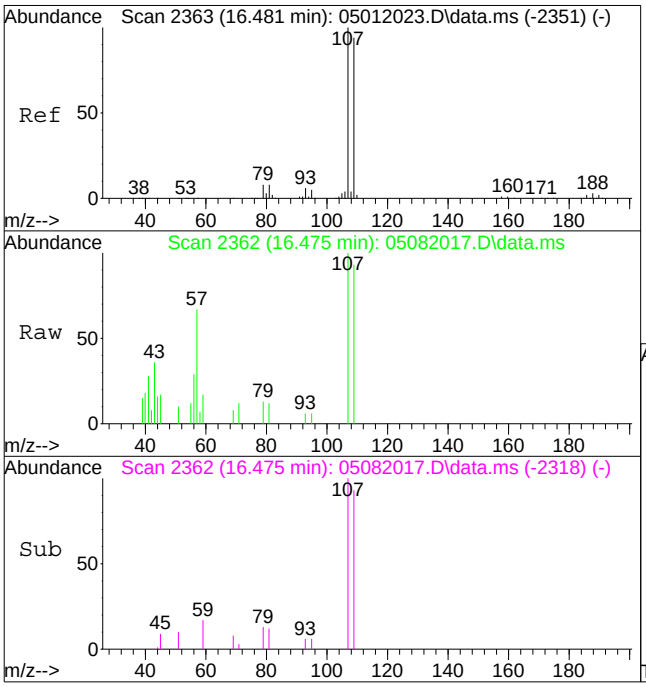


#59
2-Hexanone
Concen: 0.58 ng
RT: 16.06 min Scan# 2287
Delta R.T. -0.000 min
Lab File: 05082017.D
Acq: 8 May 2020 10:02

Tgt Ion: 43 Resp: 35996

Ion	Ratio	Lower	Upper
43	100		
58	40.1	34.5	74.5

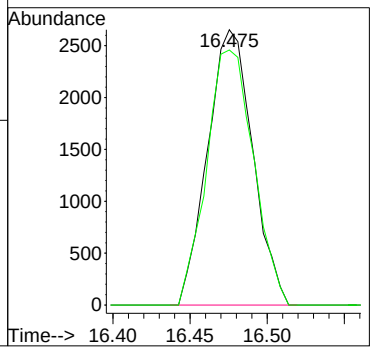


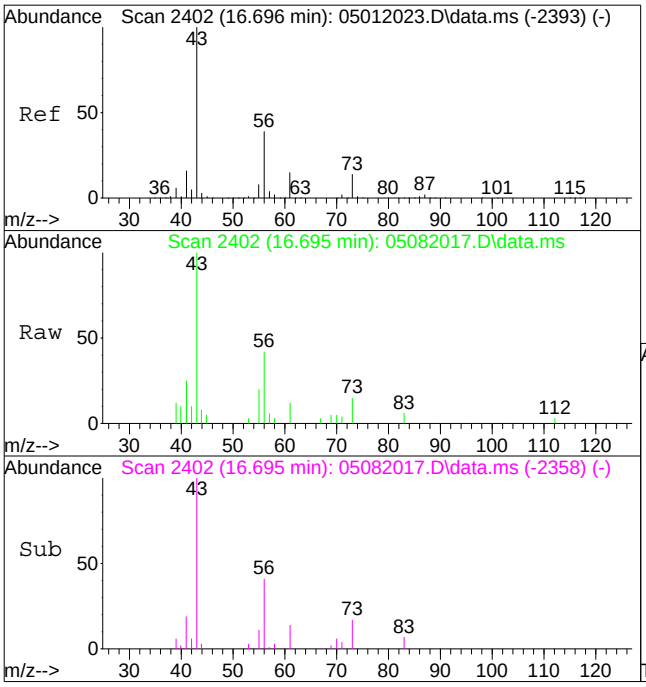


#61
1,2-Dibromoethane
Concen: 0.17 ng
RT: 16.48 min Scan# 2362
Delta R.T. -0.006 min
Lab File: 05082017.D
Acq: 8 May 2020 10:02

Tgt Ion:107 Resp: 5402

Ion	Ratio	Lower	Upper
107	100		
109	96.2	74.5	114.5

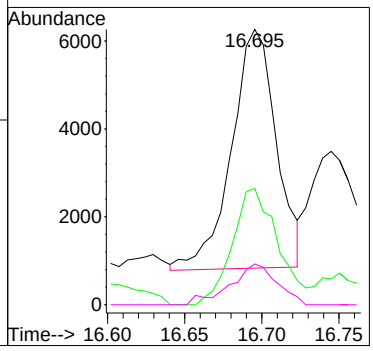


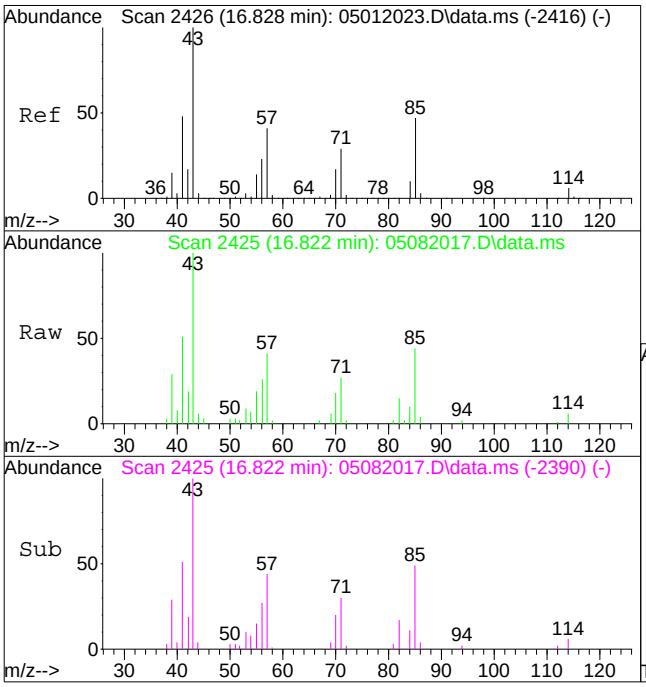


#62
n-Butyl Acetate
Concen: 0.16 ng
RT: 16.70 min Scan# 2402
Delta R.T. -0.006 min
Lab File: 05082017.D
Acq: 8 May 2020 10:02

Tgt Ion: 43 Resp: 10990

Ion	Ratio	Lower	Upper
43	100		
56	49.2	19.2	59.2
73	17.7	0.0	34.4

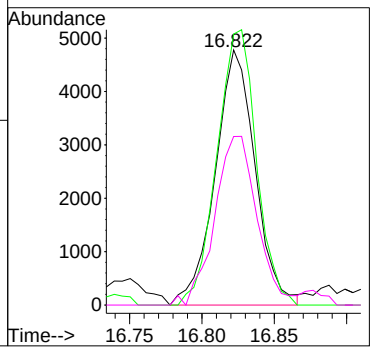


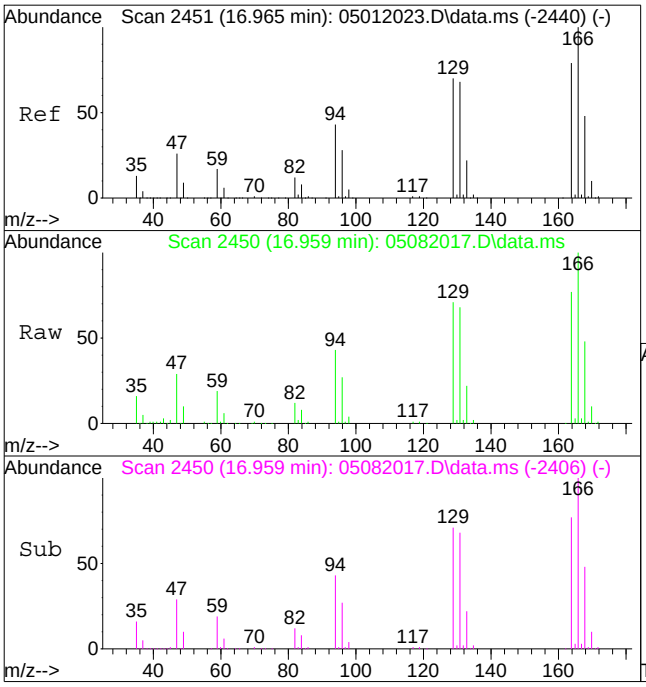


#63
n-Octane
Concen: 0.39 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05082017.D
Acq: 8 May 2020 10:02

Tgt Ion: 57 Resp: 9181

Ion	Ratio	Lower	Upper
57	100		
85	106.3	91.0	136.4
71	69.3	56.2	84.2

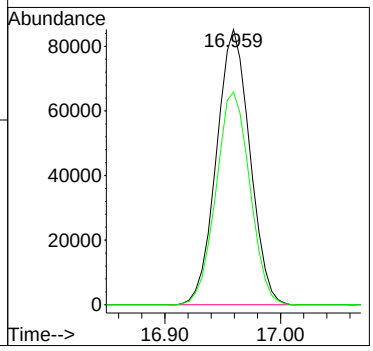


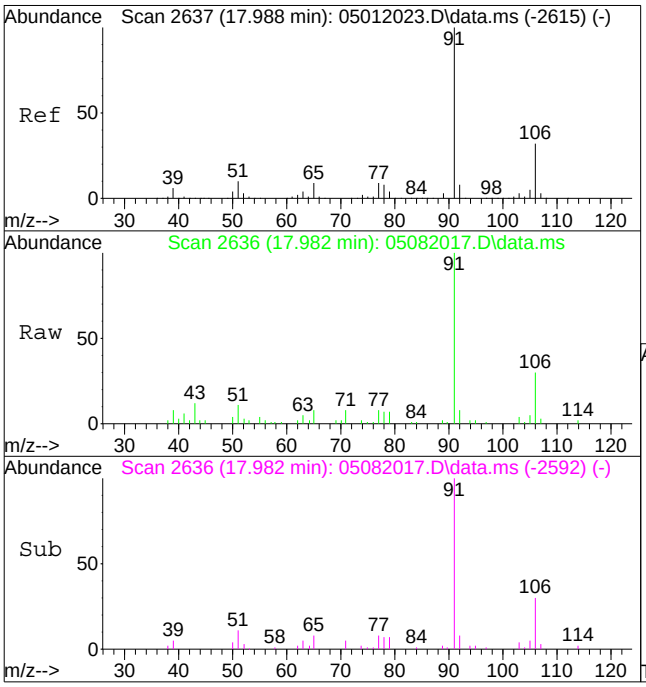


#64
Tetrachloroethene
Concen: 5.36 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05082017.D
Acq: 8 May 2020 10:02

Tgt Ion:166 Resp: 171374

Ion	Ratio	Lower	Upper
166	100		
164	78.3	58.4	98.4

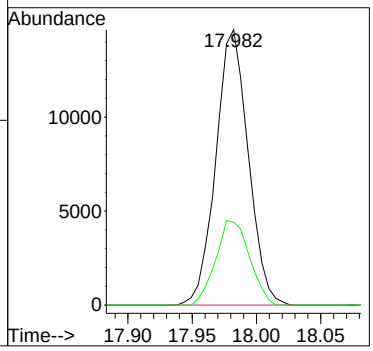


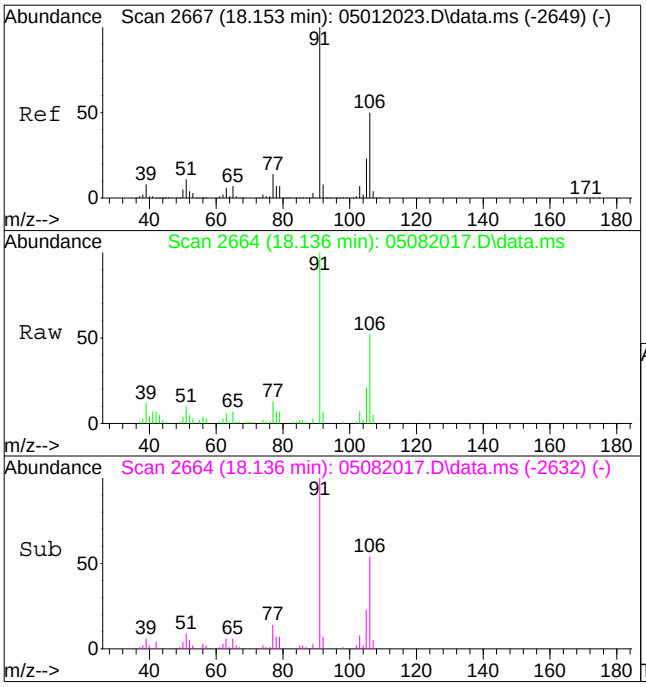


#66
Ethylbenzene
Concen: 0.20 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05082017.D
Acq: 8 May 2020 10:02

Tgt Ion: 91 Resp: 25708

Ion	Ratio	Lower	Upper
91	100		
106	31.9	11.6	51.6

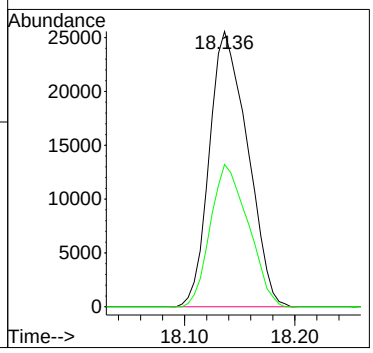


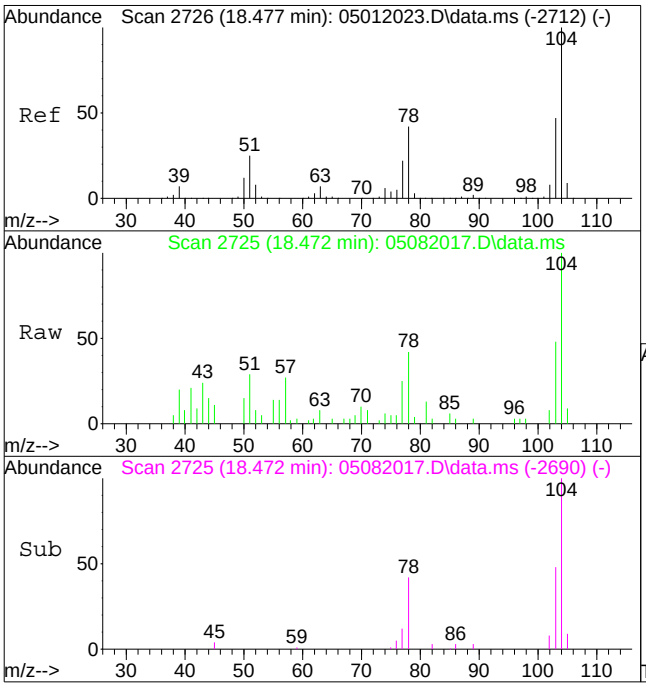


#67
m- & p-Xylenes
Concen: 0.61 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05082017.D
Acq: 8 May 2020 10:02

Tgt Ion: 91 Resp: 61339

Ion	Ratio	Lower	Upper
91	100		
106	51.4	29.7	69.7

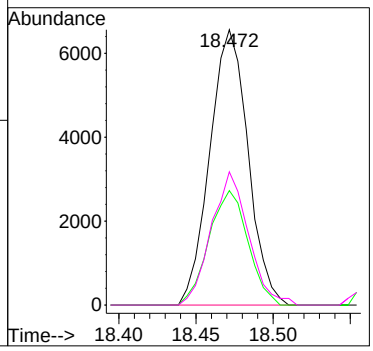


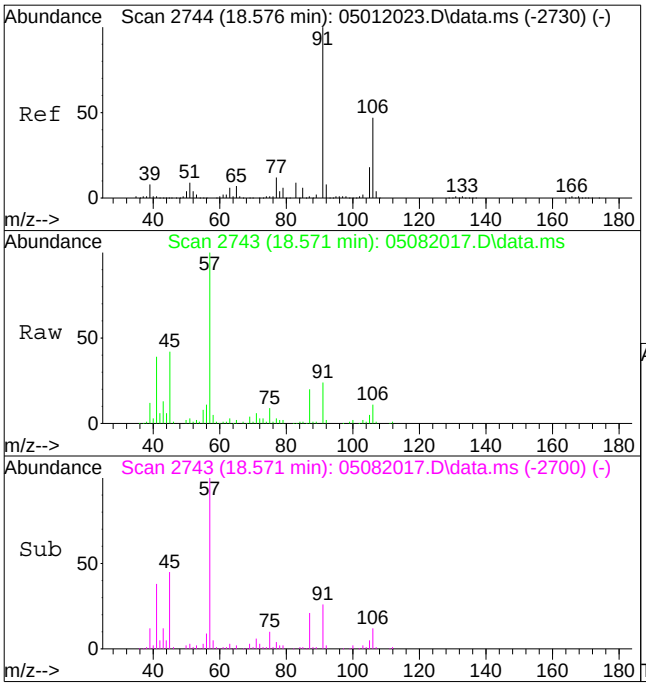


#69
Styrene
Concen: 0.15 ng
RT: 18.47 min Scan# 2725
Delta R.T. -0.006 min
Lab File: 05082017.D
Acq: 8 May 2020 10:02

Tgt Ion:104 Resp: 11305

Ion	Ratio	Lower	Upper
104	100		
78	42.4	22.5	62.5
103	47.2	27.0	67.0

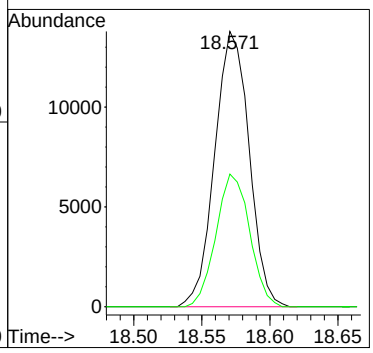


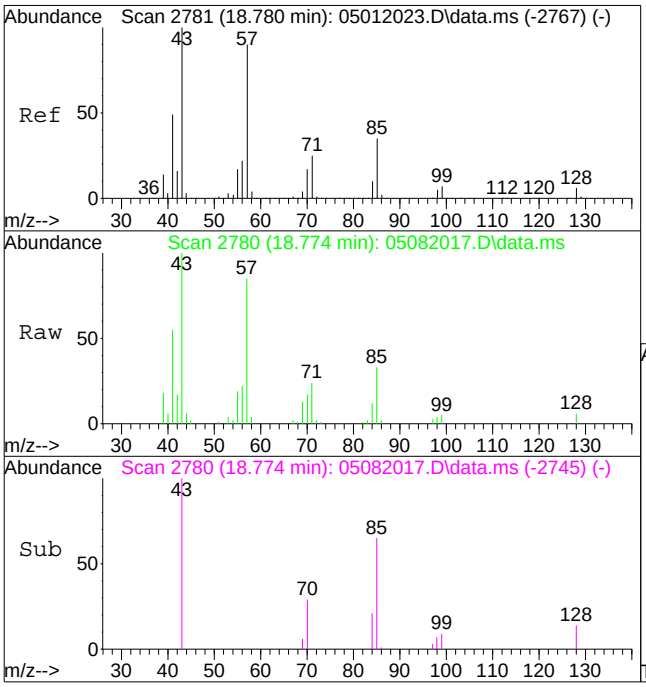


#70
o-Xylene
Concen: 0.24 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05082017.D
Acq: 8 May 2020 10:02

Tgt Ion: 91 Resp: 24242

Ion	Ratio	Lower	Upper
91	100		
106	47.1	27.5	67.5

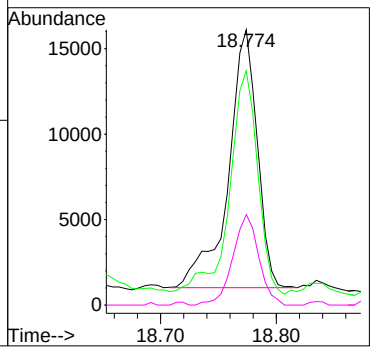


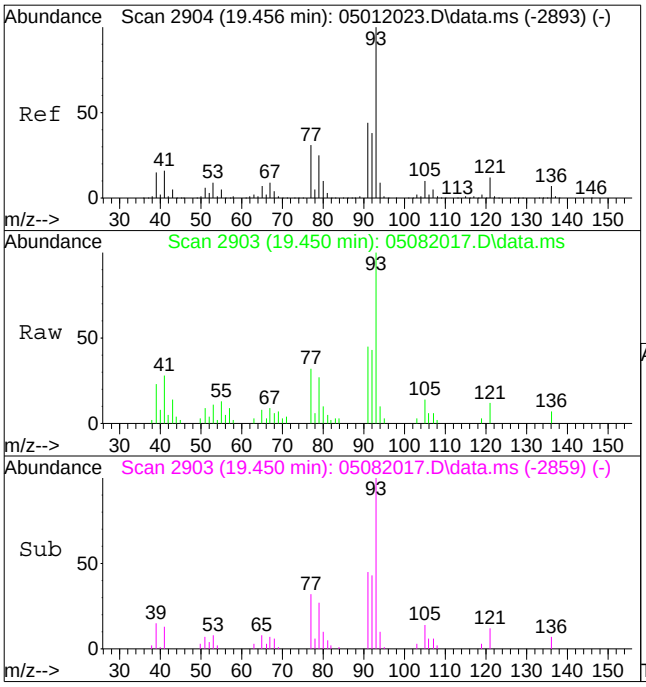


#71
n-Nonane
Concen: 0.49 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05082017.D
Acq: 8 May 2020 10:02

Tgt Ion: 43 Resp: 26433

Ion	Ratio	Lower	Upper
43	100		
57	84.5	69.0	109.0
85	31.3	14.6	54.6

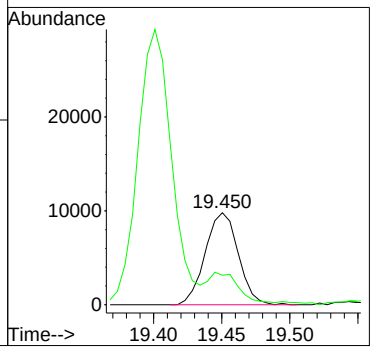


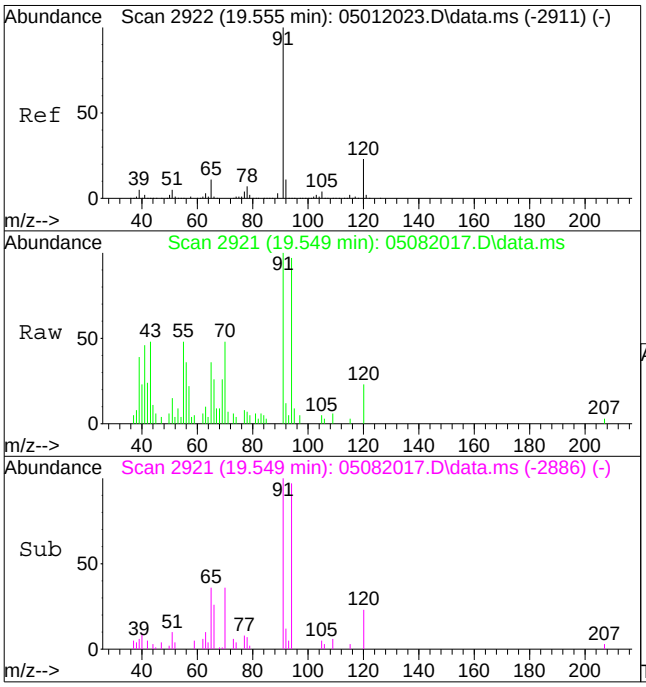


#75
alpha-Pinene
Concen: 0.25 ng
RT: 19.45 min Scan# 2903
Delta R.T. -0.006 min
Lab File: 05082017.D
Acq: 8 May 2020 10:02

Tgt Ion: 93 Resp: 16541

Ion	Ratio	Lower	Upper
93	100		
77	36.1	11.2	51.2

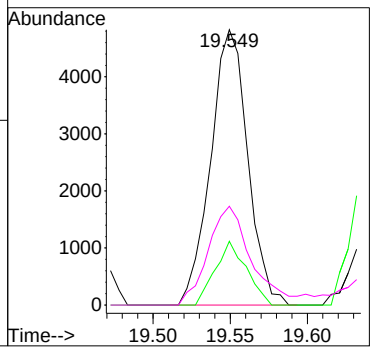


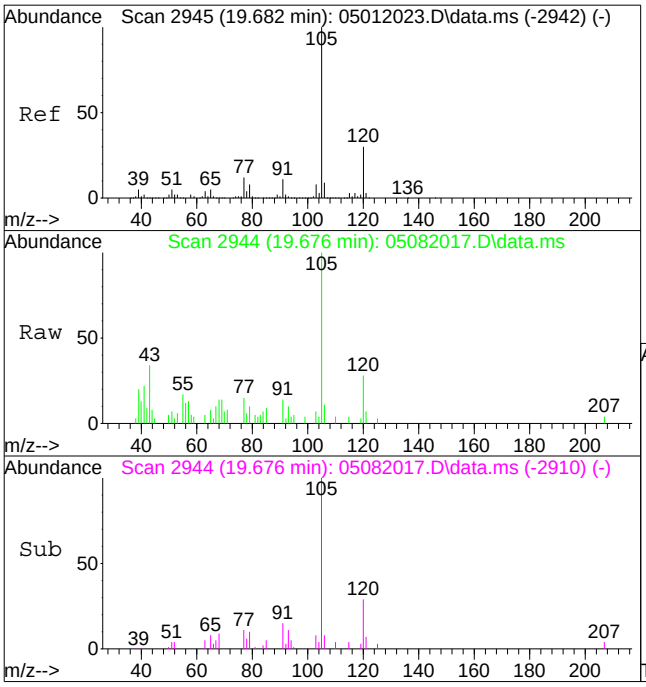


#76
n-Propylbenzene
Concen: 0.05 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05082017.D
Acq: 8 May 2020 10:02

Tgt Ion: 91 Resp: 8066

Ion	Ratio	Lower	Upper
91	100		
120	19.5	3.1	43.1
65	43.2	0.0	30.9#

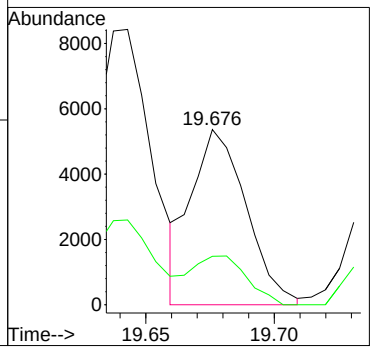


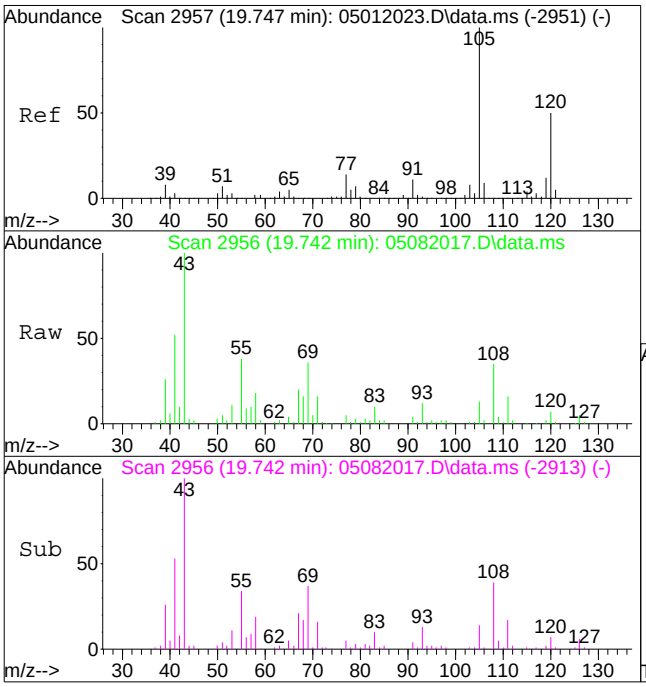


#78
4-Ethyltoluene
Concen: 0.07 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05082017.D
Acq: 8 May 2020 10:02

Tgt Ion:105 Resp: 7985

Ion	Ratio	Lower	Upper
105	100		
120	25.3	10.4	50.4

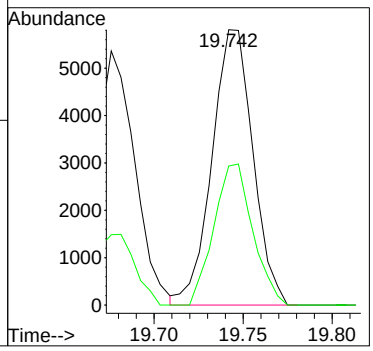


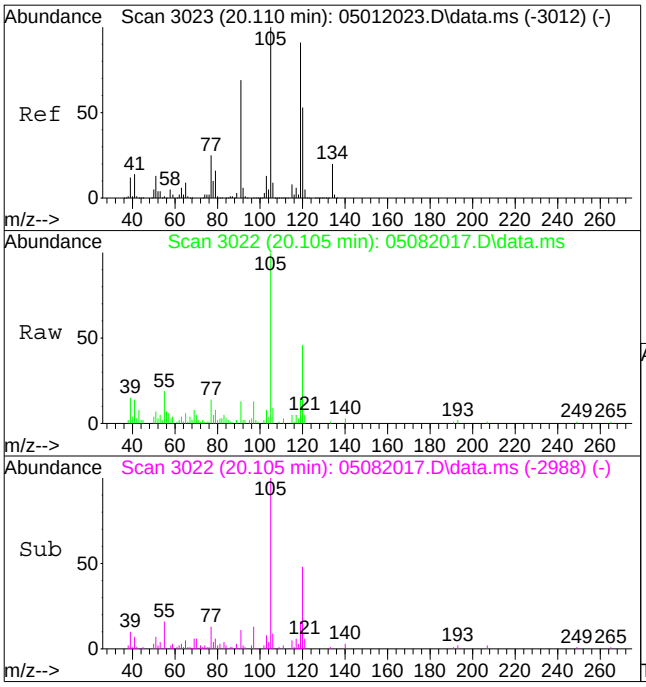


#79
1,3,5-Trimethylbenzene
Concen: 0.09 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05082017.D
Acq: 8 May 2020 10:02

Tgt Ion:105 Resp: 9294

Ion	Ratio	Lower	Upper
105	100		
120	48.6	29.9	69.9

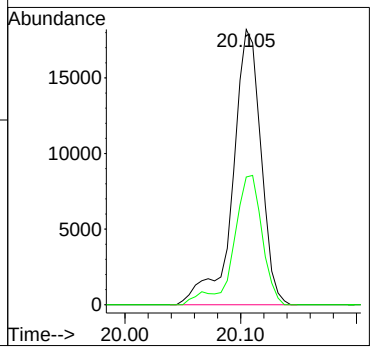


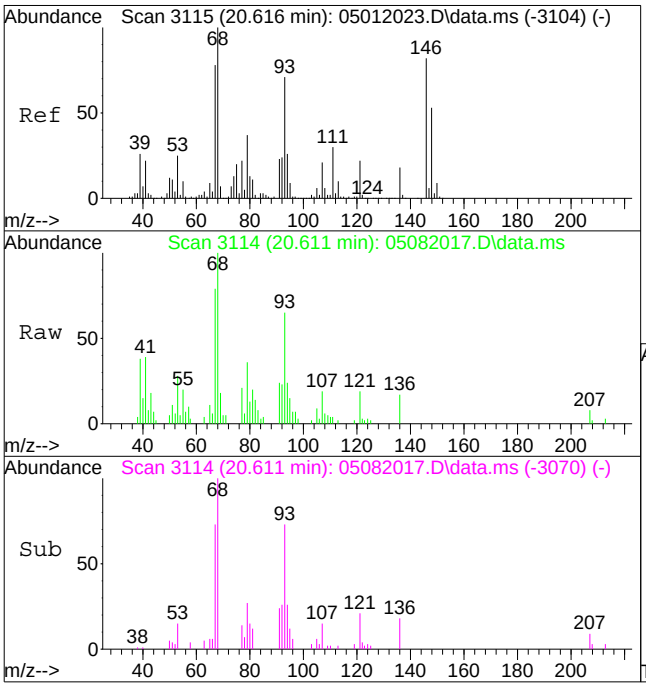


#82
1,2,4-Trimethylbenzene
Concen: 0.30 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05082017.D
Acq: 8 May 2020 10:02

Tgt Ion:105 Resp: 30897

Ion	Ratio	Lower	Upper
105	100		
120	47.5	33.6	73.6

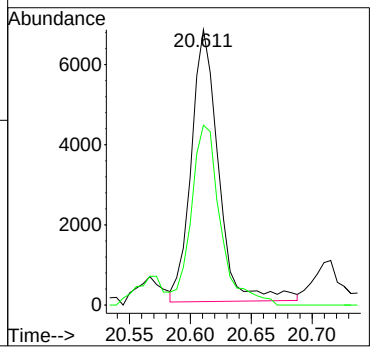


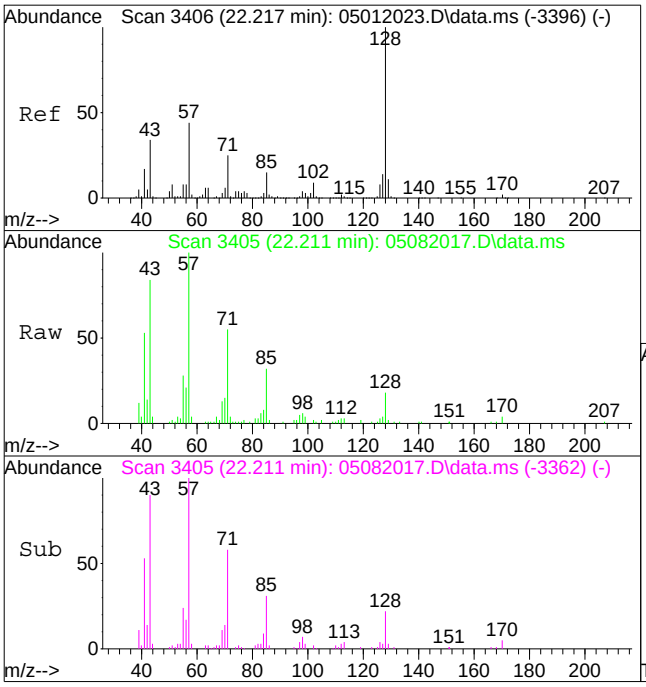


#91
d-Limonene
Concen: 0.26 ng
RT: 20.61 min Scan# 3114
Delta R.T. -0.006 min
Lab File: 05082017.D
Acq: 8 May 2020 10:02

Tgt Ion: 68 Resp: 10577

Ion	Ratio	Lower	Upper
68	100		
93	70.3	51.1	91.1

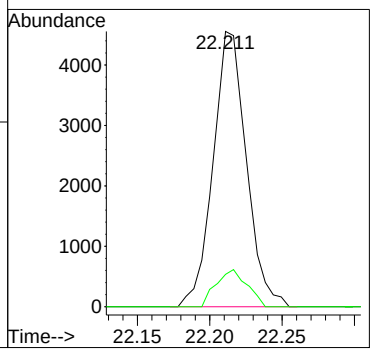




#95
Naphthalene
Concen: 0.06 ng
RT: 22.21 min Scan# 3405
Delta R.T. -0.011 min
Lab File: 05082017.D
Acq: 8 May 2020 10:02

Tgt Ion:128 Resp: 7286

Ion	Ratio	Lower	Upper
128	100		
129	12.5	0.0	31.0



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082019.D Vial: 10
Acq On : 8 May 2020 11:10 Operator: LH
Sample : P2002107-027 (400mL) Inst : GCMS-16
Misc : S31-02112001 pf2

Quant Time: May 08 15:20:06 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/8/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	255973	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1093392	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	512073	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	410741	11.840	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.72%			
57) Toluene-d8 (SS2)	15.72	98	1085075	12.501	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.00%			
73) Bromofluorobenzene (SS3)	18.97	174	406443	13.014	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.08%			
Target Compounds						Qvalue
2) Propene	4.10	42	62867	2.121	ng	99
3) Dichlorodifluoromethan...	4.26	85	106558	1.838	ng	100
4) Chloromethane	4.53	50	161101	3.546	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	2103	0.061	ng	94
6) Vinyl Chloride	4.95	62	1875415	37.648	ng	100
7) 1,3-Butadiene	5.22	54	1344	N.D.		
8) Bromomethane	5.65	94	1407	0.053	ng	93
9) Chloroethane	5.98	64	19278	0.980	ng	99
10) Ethanol	6.34	45	62416	2.727	ng	100
11) Acetonitrile	6.60	41	14206	0.272	ng	80
12) Acrolein	6.79	56	18516	1.024	ng	99
13) Acetone	6.99	58	235344m	10.280	ng	
14) Trichlorofluoromethane	7.25	101	7809	0.152	ng	97
15) 2-Propanol (Isopropanol)	7.51	45	61824	0.892	ng	85
16) Acrylonitrile	7.75	53	476	N.D.		
17) 1,1-Dichloroethene	8.20	96	178	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d		
19) Methylene Chloride	8.42	84	2840	0.095	ng	92
20) 3-Chloro-1-propene (Al...	8.58	41	1972	N.D.		
21) Trichlorotrifluoroethane	8.85	151	4411	0.182	ng	96
22) Carbon Disulfide	8.69	76	711136	6.669	ng	99
23) trans-1,2-Dichloroethene	9.62	61	539	N.D.		
24) 1,1-Dichloroethane	9.94	63	1599	N.D.		
25) Methyl tert-Butyl Ether	10.09	73	1226	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D. d		
27) 2-Butanone (MEK)	10.45	72	79007	4.047	ng	98
28) cis-1,2-Dichloroethene	10.97	61	2290m	0.057	ng	
29) Diisopropyl Ether	11.26	87	1053	N.D.		
30) Ethyl Acetate	11.29	61	3397	0.302	ng	93
31) n-Hexane	11.26	57	107521	2.202	ng	99
32) Chloroform	11.31	83	5052	0.099	ng	98
34) Tetrahydrofuran (THF)	11.72	72	169441	8.898	ng	98
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.11	62	7576	0.188	ng	96
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D. d		
40) 1-Butanol	0.00	56	0	N.D. d		
41) Benzene	12.87	78	338058	2.883	ng	100
42) Carbon Tetrachloride	13.03	117	23166	0.581	ng	98
43) Cyclohexane	13.17	84	156751	3.587	ng	100
44) tert-Amyl Methyl Ether	13.57	73	1593	N.D.		
45) 1,2-Dichloropropane	13.64	63	116	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D. d		
47) Trichloroethene	13.97	130	174026	5.742	ng	99
48) 1,4-Dioxane	13.96	88	6562	0.278	ng	89
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d		
50) Methyl Methacrylate	14.12	100	203	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082019.D Vial: 10
Acq On : 8 May 2020 11:10 Operator: LH
Sample : P2002107-027 (400mL) Inst : GCMS-16
Misc : S31-02112001 pf2

Quant Time: May 08 15:20:06 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

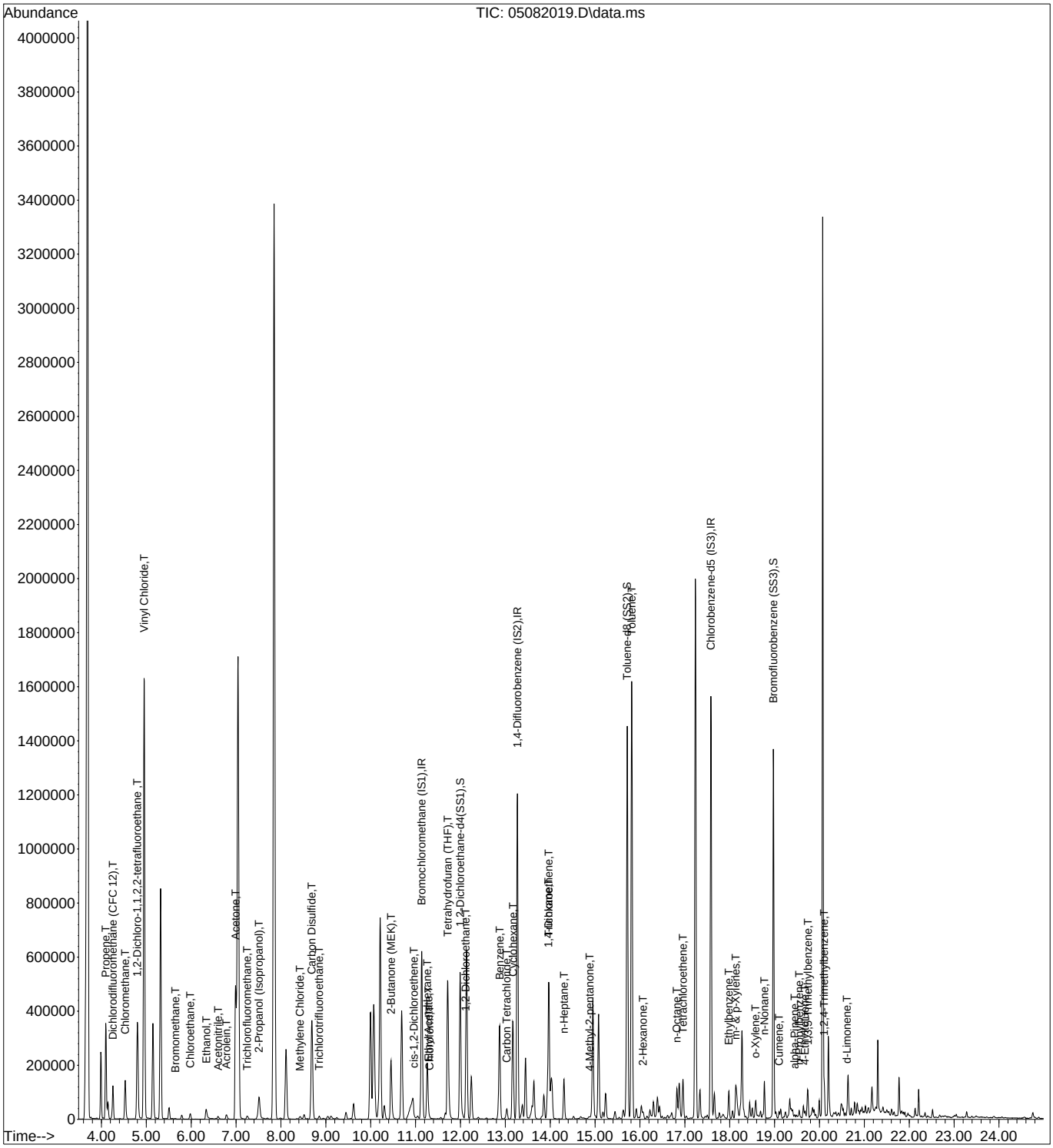
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.31	71	37839	1.380 ng		99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.88	58	1525	0.058 ng	#	64
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	15.45	97	1026	N.D.		
58) Toluene	15.82	91	1339635	11.974 ng		100
59) 2-Hexanone	16.07	43	13867	0.226 ng		78
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.70	43	2244	N.D.		
63) n-Octane	16.82	57	21719	0.938 ng		96
64) Tetrachloroethene	16.96	166	47501	1.503 ng		99
65) Chlorobenzene	0.00	112	0	N.D. d		
66) Ethylbenzene	17.98	91	74686	0.599 ng		98
67) m- & p-Xylenes	18.14	91	92618	0.936 ng		99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	1439	N.D.		
70) o-Xylene	18.57	91	20684	0.206 ng		100
71) n-Nonane	18.77	43	48115	0.903 ng		98
72) 1,1,2,2-Tetrachloroethane	18.59	83	568	N.D.		
74) Cumene	19.10	105	11255	0.091 ng		99
75) alpha-Pinene	19.45	93	3868	0.059 ng	#	1
76) n-Propylbenzene	19.55	91	14822	0.101 ng		90
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.68	105	12324	0.106 ng		93
79) 1,3,5-Trimethylbenzene	19.74	105	14560	0.145 ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	20.10	105	53335	0.528 ng		92
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.22	91	4469	N.D.		
85) 1,3-Dichlorobenzene	20.30	146	656	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	656	N.D.		
87) sec-Butylbenzene	20.35	105	3107	N.D.		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.61	68	5306	0.133 ng	#	1
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	22.21	128	4943	N.D.		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082019.D Vial: 10
Acq On : 8 May 2020 11:10 Operator: LH
Sample : P2002107-027 (400mL) Inst : GCMS-16
Misc : S31-02112001 pf2

Quant Time: May 08 15:20:06 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082019.D Vial: 10
Acq On : 8 May 2020 11:10 Operator: LH
Sample : P2002107-027 (400mL) Inst : GCMS-16
Misc : S31-02112001 pf2

Quant Time: May 08 15:20:06 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/8/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	255973	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1093392	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	512073	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	410741	11.840	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.72%				
57) Toluene-d8 (SS2)	15.72	98	1085075	12.501	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.00%				
73) Bromofluorobenzene (SS3)	18.97	174	406443	13.014	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.08%				
Target Compounds							Qvalue
2) Propene	4.10	42	62867	2.121	ng		99
3) Dichlorodifluoromethan...	4.26	85	106558	1.838	ng		100
4) Chloromethane	4.53	50	161101	3.546	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	2103	0.061	ng		94
6) Vinyl Chloride	4.95	62	1875415	37.648	ng		100
8) Bromomethane	5.65	94	1407	0.053	ng		93
9) Chloroethane	5.98	64	19278	0.980	ng		99
10) Ethanol	6.34	45	62416	2.727	ng		100
11) Acetonitrile	6.60	41	14206	0.272	ng		80
12) Acrolein	6.79	56	18516	1.024	ng		99
13) Acetone	6.99	58	235344m	10.280	ng		
14) Trichlorofluoromethane	7.25	101	7809	0.152	ng		97
15) 2-Propanol (Isopropanol)	7.51	45	61824	0.892	ng		85
19) Methylene Chloride	8.42	84	2840	0.095	ng		92
21) Trichlorotrifluoroethane	8.85	151	4411	0.182	ng		96
22) Carbon Disulfide	8.69	76	711136	6.669	ng		99
27) 2-Butanone (MEK)	10.45	72	79007	4.047	ng		98
28) cis-1,2-Dichloroethene	10.97	61	2290m	0.057	ng		
30) Ethyl Acetate	11.29	61	3397	0.302	ng		93
31) n-Hexane	11.26	57	107521	2.202	ng		99
32) Chloroform	11.31	83	5052	0.099	ng		98
34) Tetrahydrofuran (THF)	11.72	72	169441	8.898	ng		98
36) 1,2-Dichloroethane	12.11	62	7576	0.188	ng		96
41) Benzene	12.87	78	338058	2.883	ng		100
42) Carbon Tetrachloride	13.03	117	23166	0.581	ng		98
43) Cyclohexane	13.17	84	156751	3.587	ng		100
47) Trichloroethene	13.97	130	174026	5.742	ng		99
48) 1,4-Dioxane	13.96	88	6562	0.278	ng		89
51) n-Heptane	14.31	71	37839	1.380	ng		99
53) 4-Methyl-2-pentanone	14.88	58	1525	0.058	ng	#	64
58) Toluene	15.82	91	1339635	11.974	ng		100
59) 2-Hexanone	16.07	43	13867	0.226	ng		78
63) n-Octane	16.82	57	21719	0.938	ng		96
64) Tetrachloroethene	16.96	166	47501	1.503	ng		99
66) Ethylbenzene	17.98	91	74686	0.599	ng		98
67) m- & p-Xylenes	18.14	91	92618	0.936	ng		99
70) o-Xylene	18.57	91	20684	0.206	ng		100
71) n-Nonane	18.77	43	48115	0.903	ng		98
74) Cumene	19.10	105	11255	0.091	ng		99
75) alpha-Pinene	19.45	93	3868	0.059	ng	#	1
76) n-Propylbenzene	19.55	91	14822	0.101	ng		90
78) 4-Ethyltoluene	19.68	105	12324	0.106	ng		93
79) 1,3,5-Trimethylbenzene	19.74	105	14560	0.145	ng		99
82) 1,2,4-Trimethylbenzene	20.10	105	53335	0.528	ng		92
91) d-Limonene	20.61	68	5306	0.133	ng	#	1

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082019.D Vial: 10
Acq On : 8 May 2020 11:10 Operator: LH
Sample : P2002107-027 (400mL) Inst : GCMS-16
Misc : S31-02112001 pf2

Quant Time: May 08 15:20:06 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

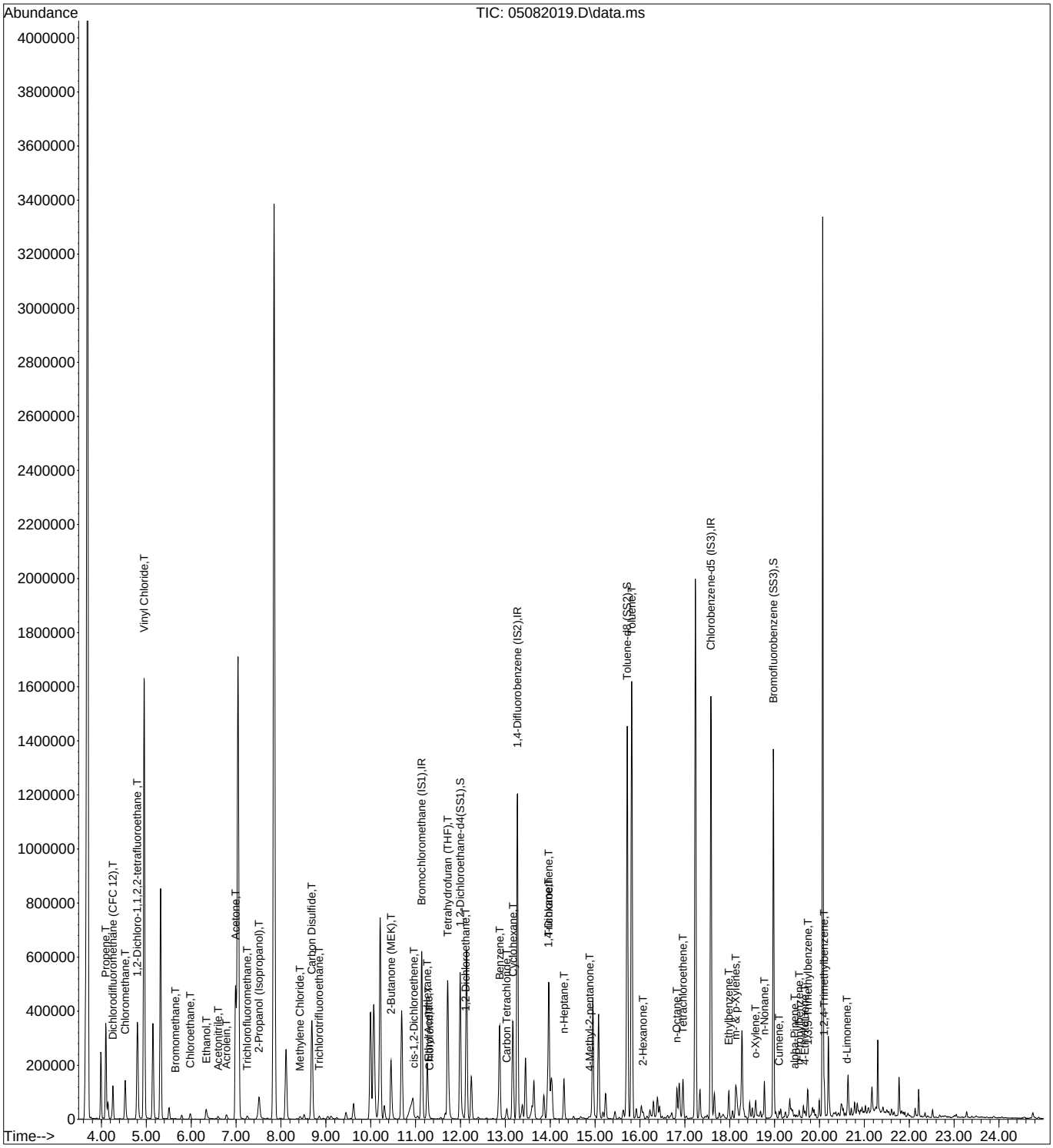
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)

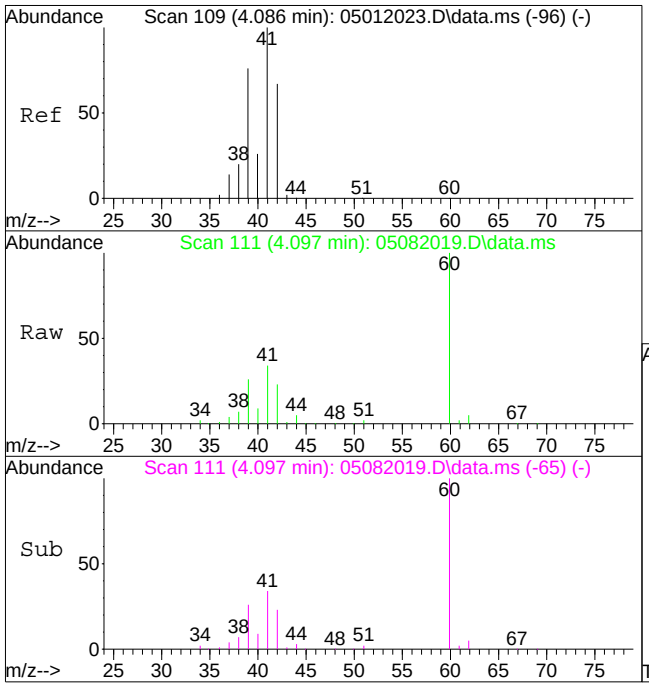
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082019.D Vial: 10
Acq On : 8 May 2020 11:10 Operator: LH
Sample : P2002107-027 (400mL) Inst : GCMS-16
Misc : S31-02112001 pf2

Quant Time: May 08 15:20:06 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

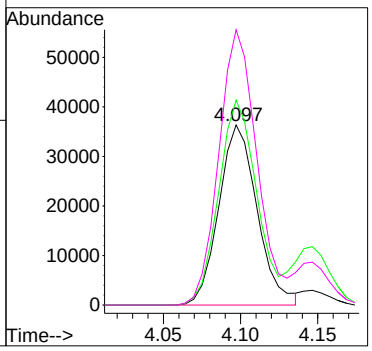


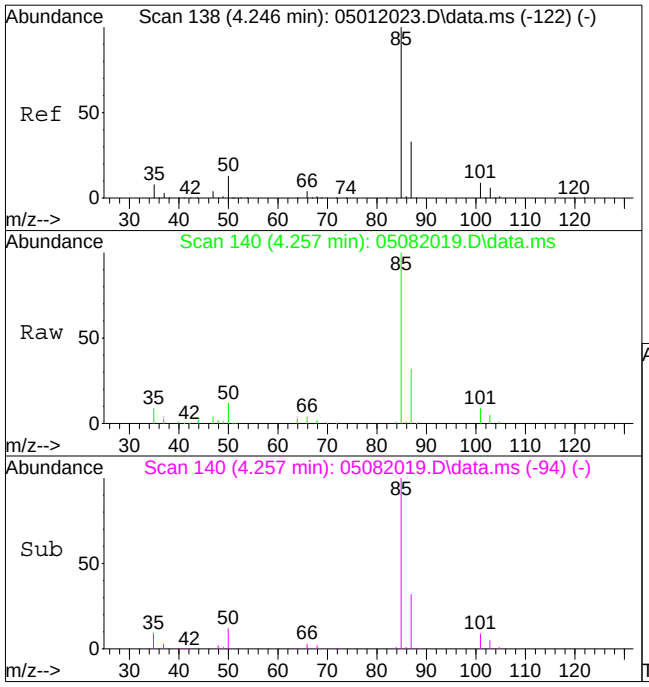


#2
Propene
Concen: 2.12 ng
RT: 4.10 min Scan# 111
Delta R.T. 0.005 min
Lab File: 05082019.D
Acq: 8 May 2020 11:10

Tgt Ion: 42 Resp: 62867

Ion	Ratio	Lower	Upper
42	100		
39	112.8	96.1	136.1
41	152.3	131.9	171.9

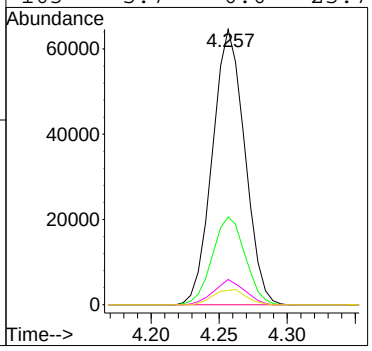


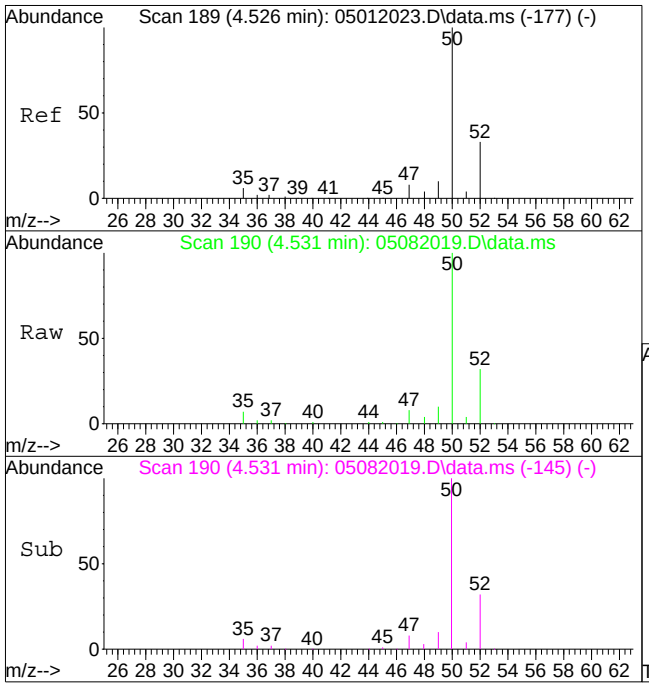


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.84 ng
RT: 4.26 min Scan# 140
Delta R.T. 0.005 min
Lab File: 05082019.D
Acq: 8 May 2020 11:10

Tgt Ion: 85 Resp: 106558

Ion	Ratio	Lower	Upper
85	100		
87	32.4	12.4	52.4
101	8.7	0.0	28.8
103	5.7	0.0	25.7

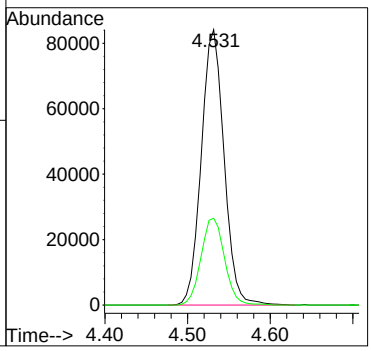


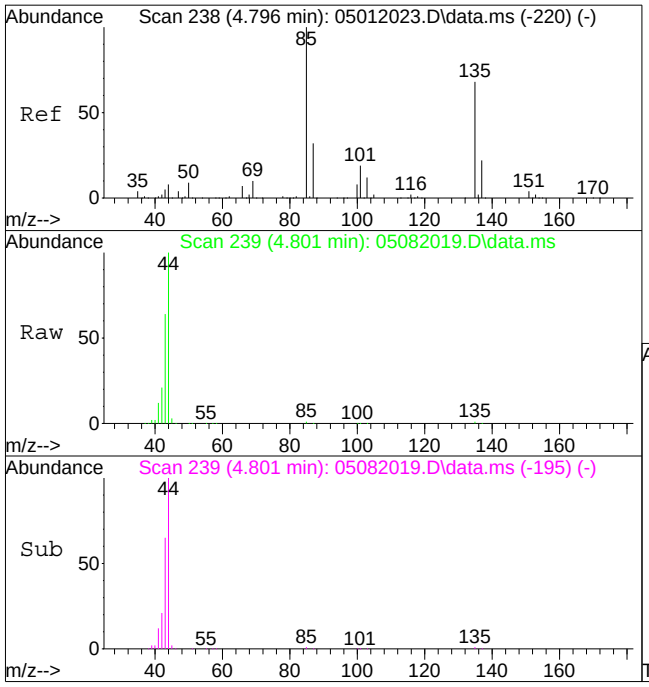


#4
Chloromethane
Concen: 3.55 ng
RT: 4.53 min Scan# 190
Delta R.T. -0.000 min
Lab File: 05082019.D
Acq: 8 May 2020 11:10

Tgt Ion: 50 Resp: 161101

Ion	Ratio	Lower	Upper
50	100		
52	32.5	12.5	52.5

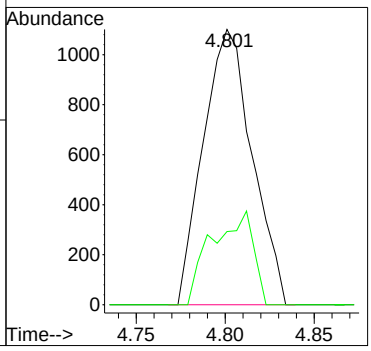


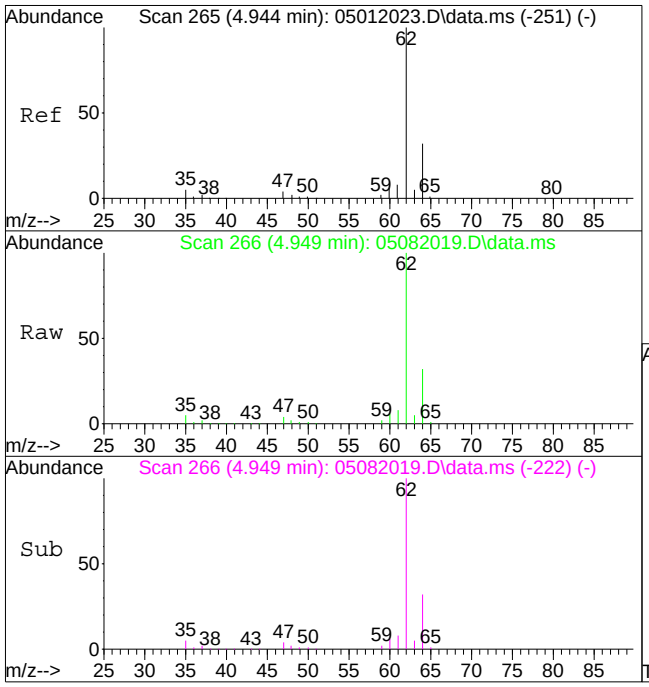


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 0.06 ng
RT: 4.80 min Scan# 239
Delta R.T. -0.006 min
Lab File: 05082019.D
Acq: 8 May 2020 11:10

Tgt Ion:135 Resp: 2103

Ion	Ratio	Lower	Upper
135	100		
137	28.9	12.1	52.1

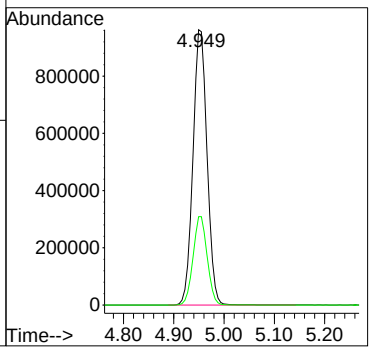


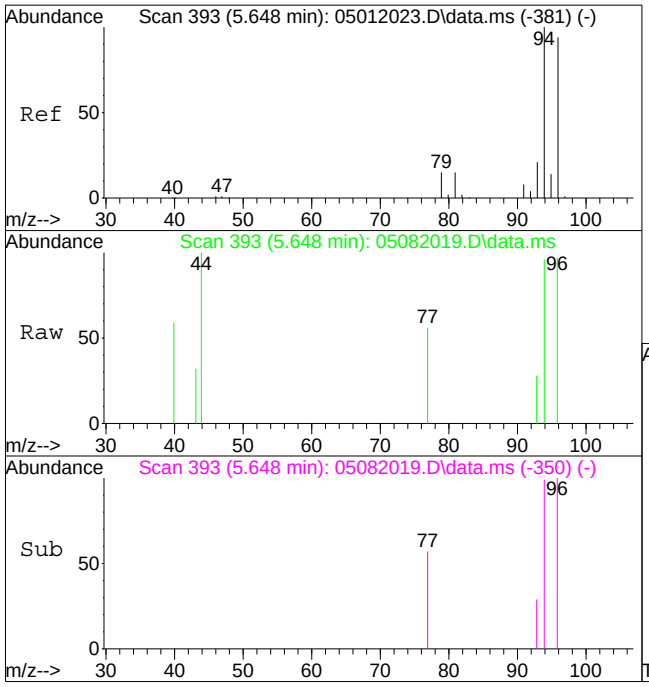


#6
Vinyl Chloride
Concen: 37.65 ng
RT: 4.95 min Scan# 266
Delta R.T. -0.006 min
Lab File: 05082019.D
Acq: 8 May 2020 11:10

Tgt Ion: 62 Resp: 1875415

Ion	Ratio	Lower	Upper
62	100		
64	32.1	12.1	52.1

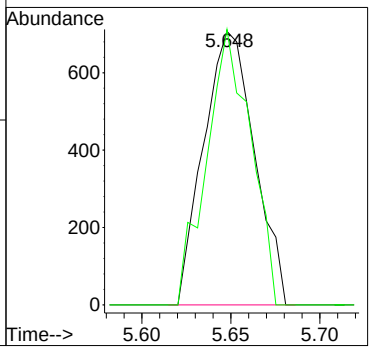


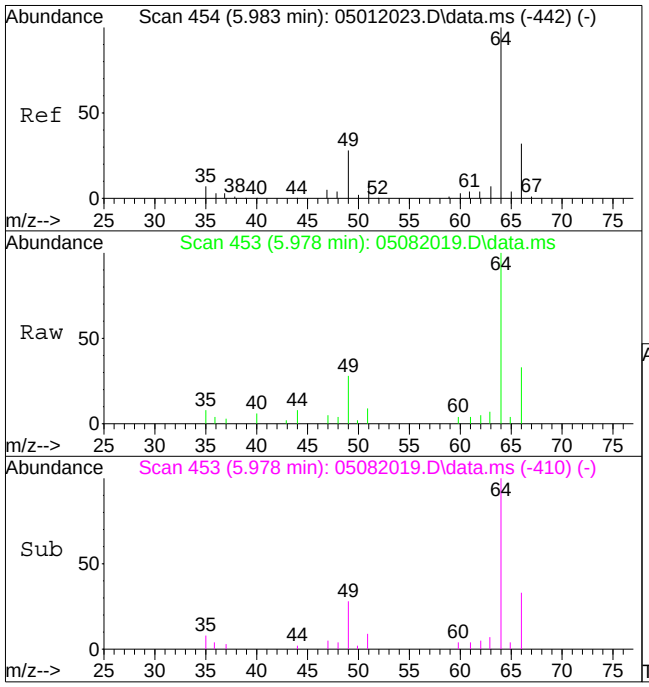


#8
Bromomethane
Concen: 0.05 ng
RT: 5.65 min Scan# 393
Delta R.T. -0.011 min
Lab File: 05082019.D
Acq: 8 May 2020 11:10

Tgt Ion: 94 Resp: 1407

Ion	Ratio	Lower	Upper
94	100		
96	87.3	73.7	113.7

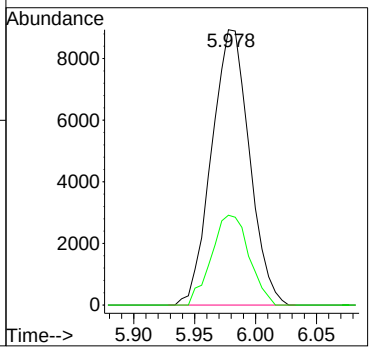


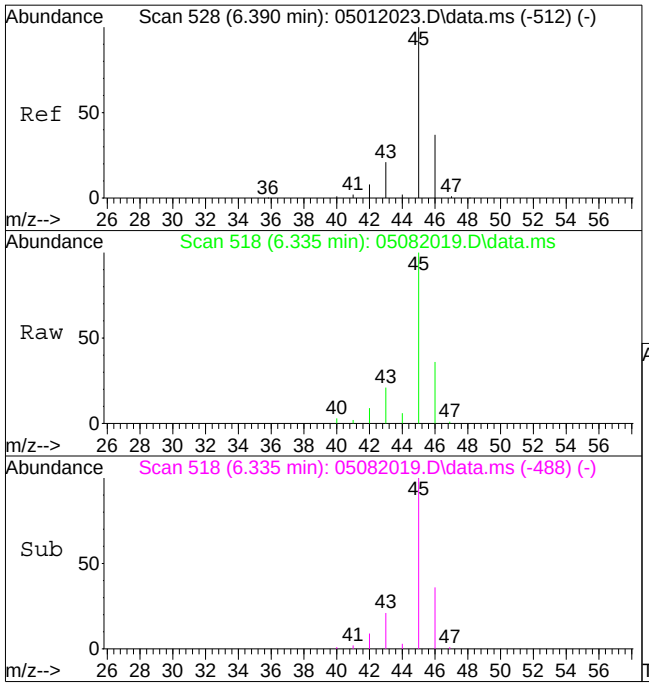


#9
Chloroethane
Concen: 0.98 ng
RT: 5.98 min Scan# 453
Delta R.T. -0.011 min
Lab File: 05082019.D
Acq: 8 May 2020 11:10

Tgt Ion: 64 Resp: 19278

Ion	Ratio	Lower	Upper
64	100		
66	32.4	12.1	52.1

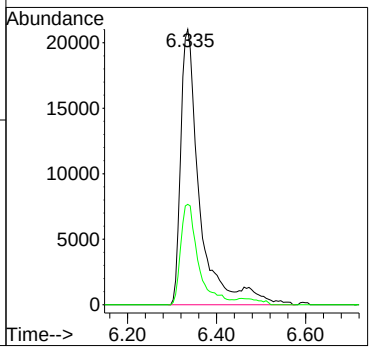


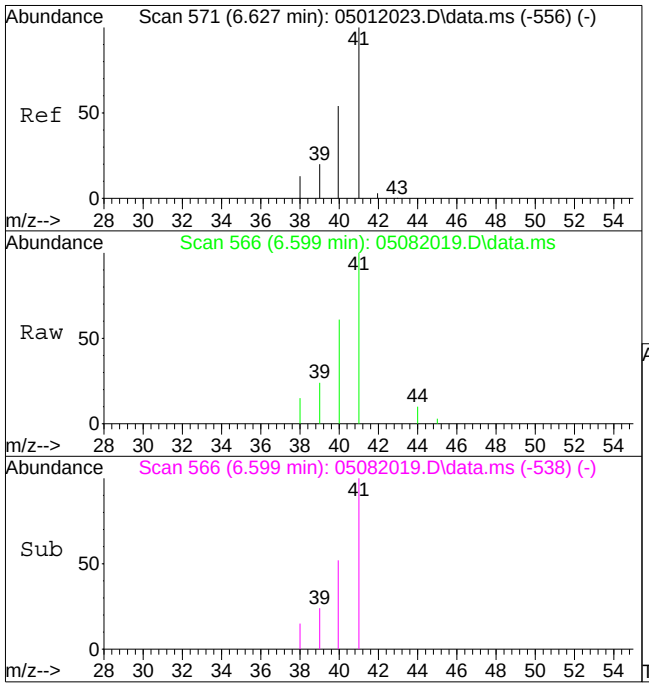


#10
Ethanol
Concen: 2.73 ng
RT: 6.34 min Scan# 518
Delta R.T. -0.083 min
Lab File: 05082019.D
Acq: 8 May 2020 11:10

Tgt Ion: 45 Resp: 62416

Ion	Ratio	Lower	Upper
45	100		
46	36.9	17.2	57.2

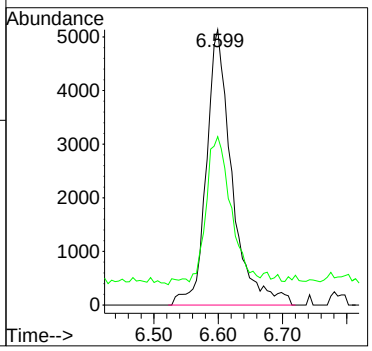


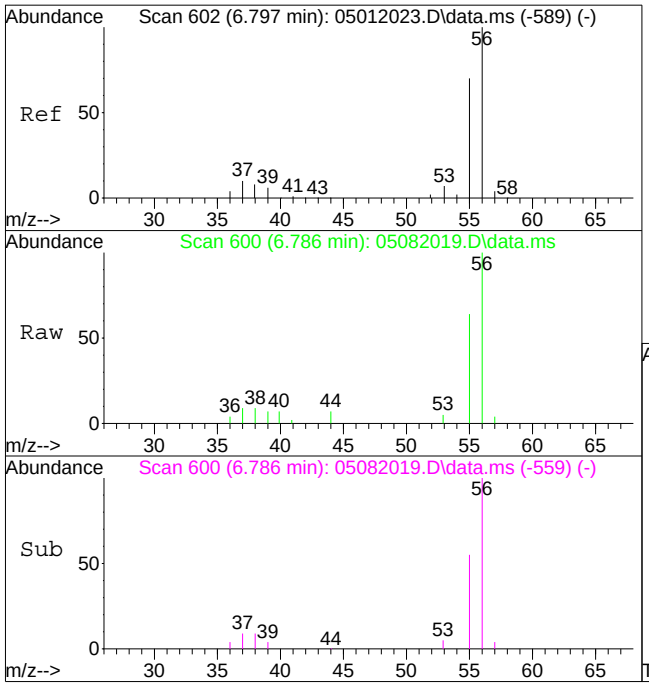


#11
Acetonitrile
Concen: 0.27 ng
RT: 6.60 min Scan# 566
Delta R.T. -0.044 min
Lab File: 05082019.D
Acq: 8 May 2020 11:10

Tgt Ion: 41 Resp: 14206

Ion	Ratio	Lower	Upper
41	100		
40	67.7	33.6	73.6

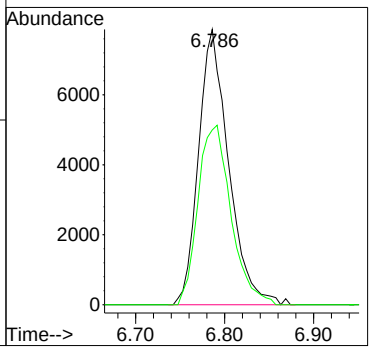


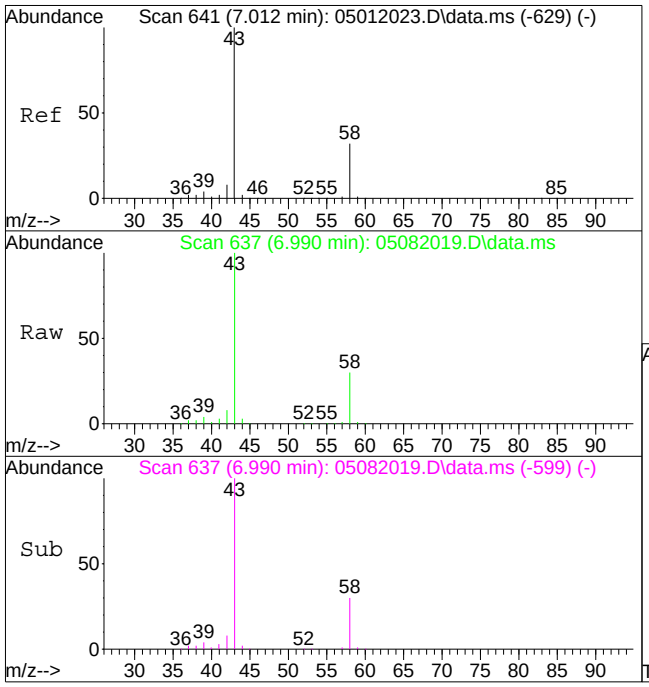


#12
Acrolein
Concen: 1.02 ng
RT: 6.79 min Scan# 600
Delta R.T. -0.022 min
Lab File: 05082019.D
Acq: 8 May 2020 11:10

Tgt Ion: 56 Resp: 18516

Ion	Ratio	Lower	Upper
56	100		
55	71.3	50.2	90.2

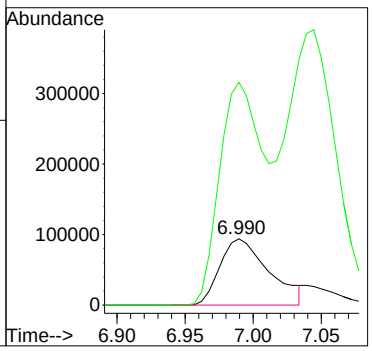


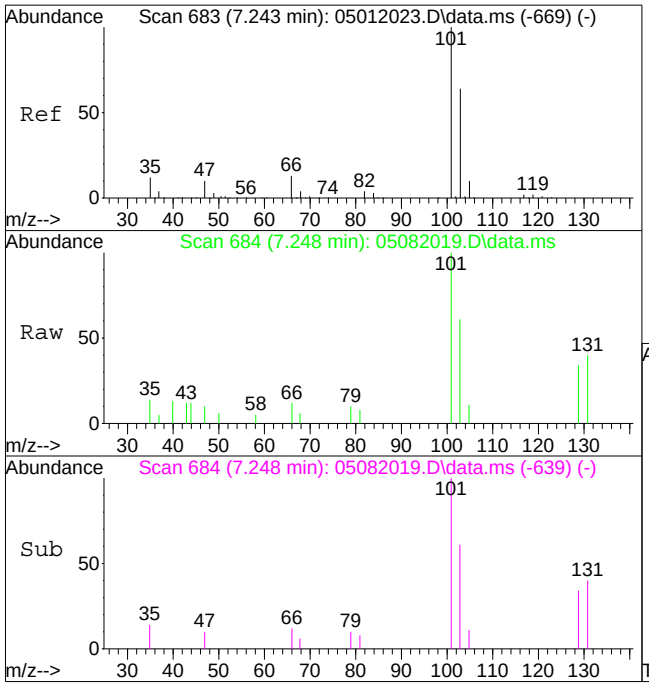


#13
Acetone
Concen: 10.28 ng m
RT: 6.99 min Scan# 637
Delta R.T. -0.039 min
Lab File: 05082019.D
Acq: 8 May 2020 11:10

Tgt Ion: 58 Resp: 235344

Ion	Ratio	Lower	Upper
58	100		
43	291.3	294.4	354.4#

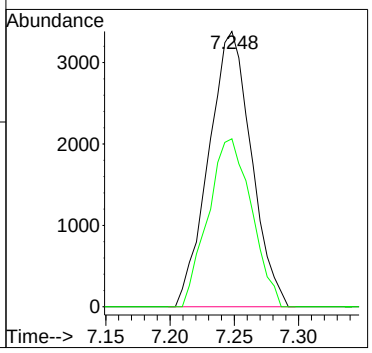


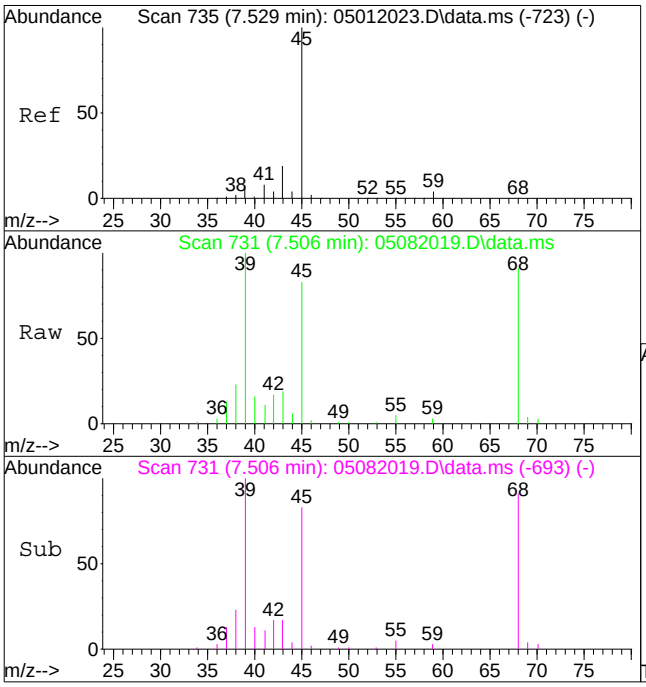


#14
Trichlorofluoromethane
Concen: 0.15 ng
RT: 7.25 min Scan# 684
Delta R.T. -0.000 min
Lab File: 05082019.D
Acq: 8 May 2020 11:10

Tgt Ion:101 Resp: 7809

Ion	Ratio	Lower	Upper
101	100		
103	62.0	44.4	84.4

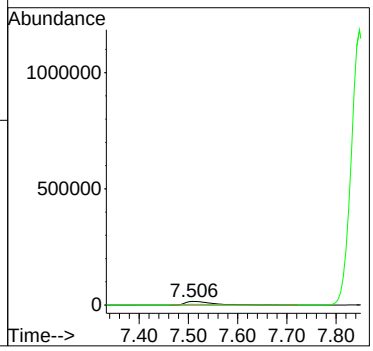


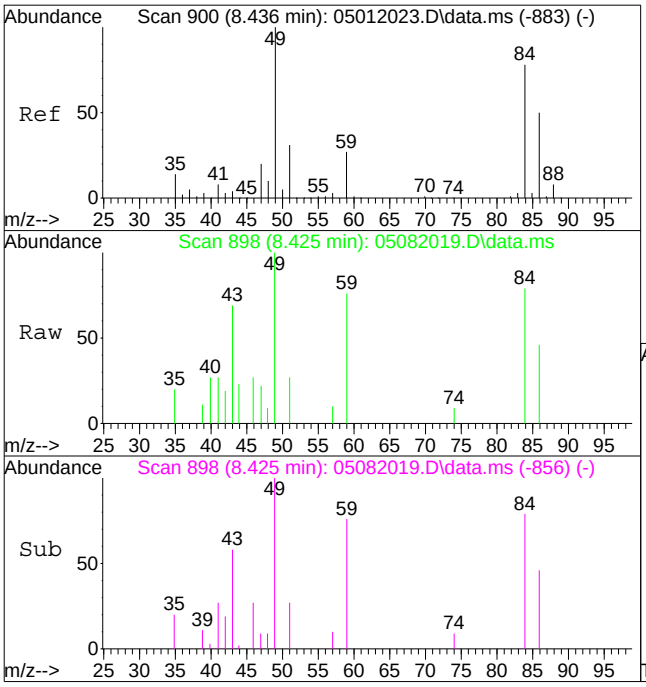


#15
2-Propanol (Isopropanol)
Concen: 0.89 ng
RT: 7.51 min Scan# 731
Delta R.T. -0.039 min
Lab File: 05082019.D
Acq: 8 May 2020 11:10

Tgt Ion: 45 Resp: 61824

Ion	Ratio	Lower	Upper
45	100		
43	26.3	0.0	39.5

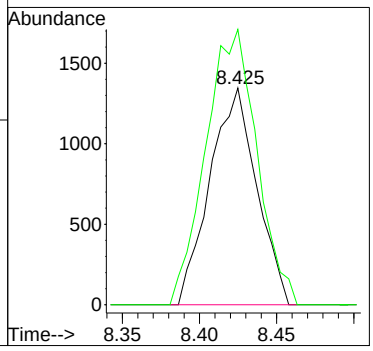


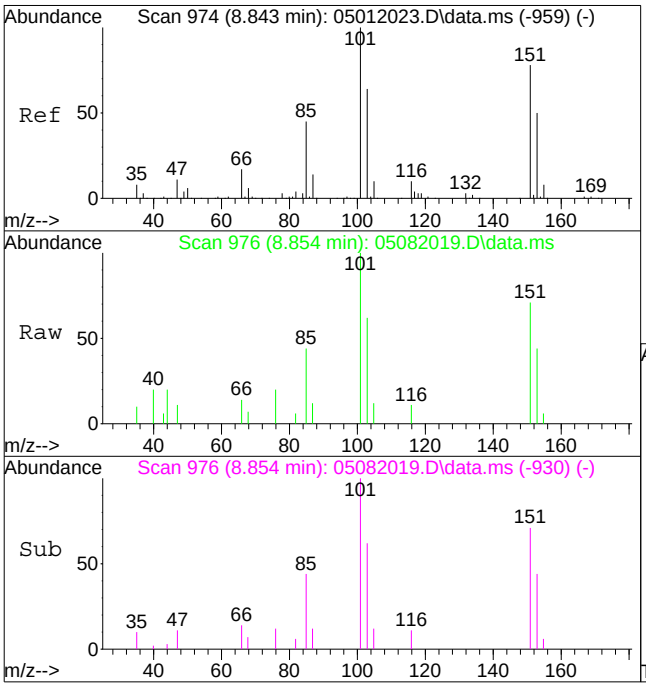


#19
Methylene Chloride
Concen: 0.10 ng
RT: 8.42 min Scan# 898
Delta R.T. -0.017 min
Lab File: 05082019.D
Acq: 8 May 2020 11:10

Tgt Ion: 84 Resp: 2840

Ion	Ratio	Lower	Upper
84	100		
49	139.0	104.8	154.8

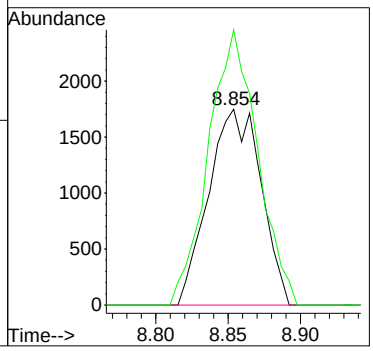


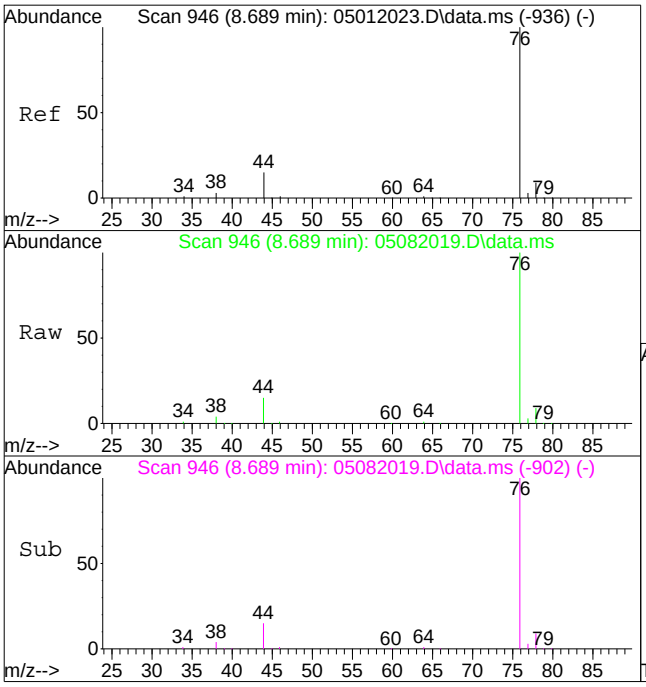


#21
Trichlorotrifluoroethane
Concen: 0.18 ng
RT: 8.85 min Scan# 976
Delta R.T. 0.005 min
Lab File: 05082019.D
Acq: 8 May 2020 11:10

Tgt Ion:151 Resp: 4411

Ion	Ratio	Lower	Upper
151	100		
101	131.5	107.3	147.3

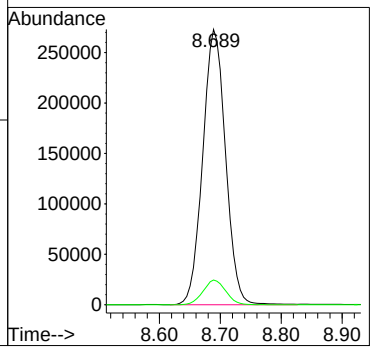


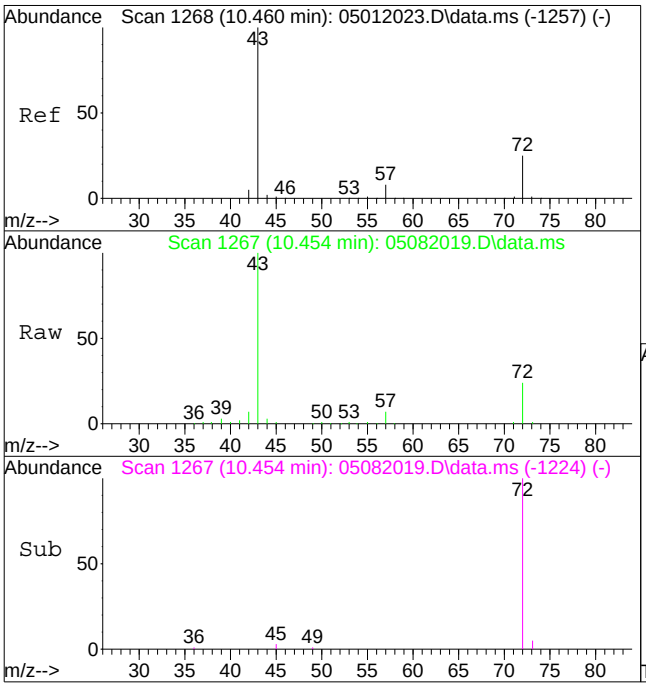


#22
Carbon Disulfide
Concen: 6.67 ng
RT: 8.69 min Scan# 946
Delta R.T. -0.006 min
Lab File: 05082019.D
Acq: 8 May 2020 11:10

Tgt Ion: 76 Resp: 711136

Ion	Ratio	Lower	Upper
76	100		
78	8.9	0.0	29.2

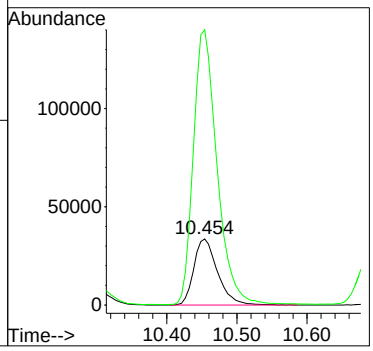


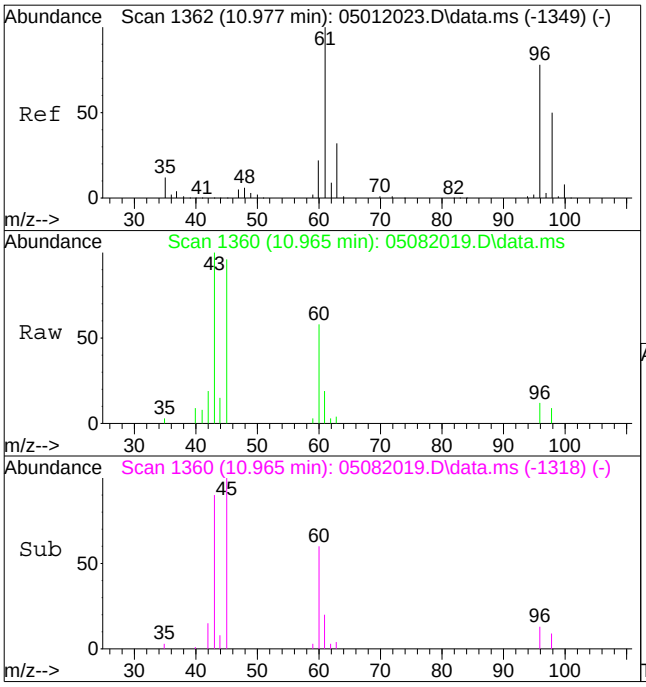


#27
2-Butanone (MEK)
Concen: 4.05 ng
RT: 10.45 min Scan# 1267
Delta R.T. -0.011 min
Lab File: 05082019.D
Acq: 8 May 2020 11:10

Tgt Ion: 72 Resp: 79007

Ion	Ratio	Lower	Upper
72	100		
43	415.3	389.7	429.7

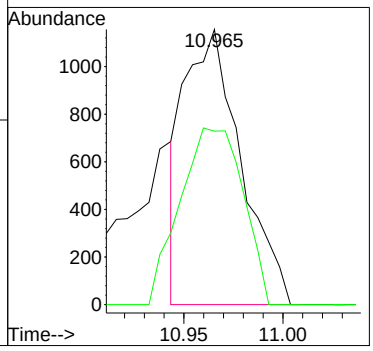


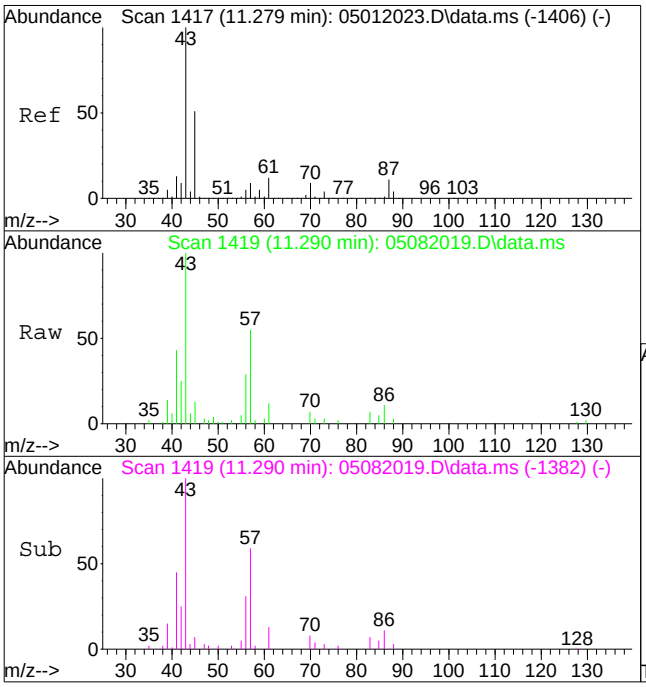


#28
cis-1,2-Dichloroethene
Concen: 0.06 ng m
RT: 10.97 min Scan# 1360
Delta R.T. -0.017 min
Lab File: 05082019.D
Acq: 8 May 2020 11:10

Tgt Ion: 61 Resp: 2290

Ion	Ratio	Lower	Upper
61	100		
96	72.1	57.6	97.6

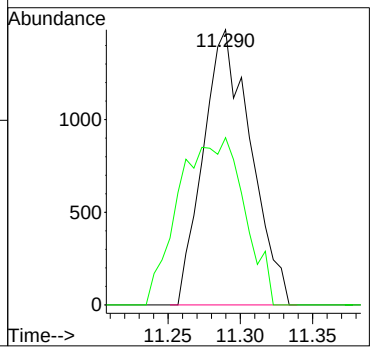


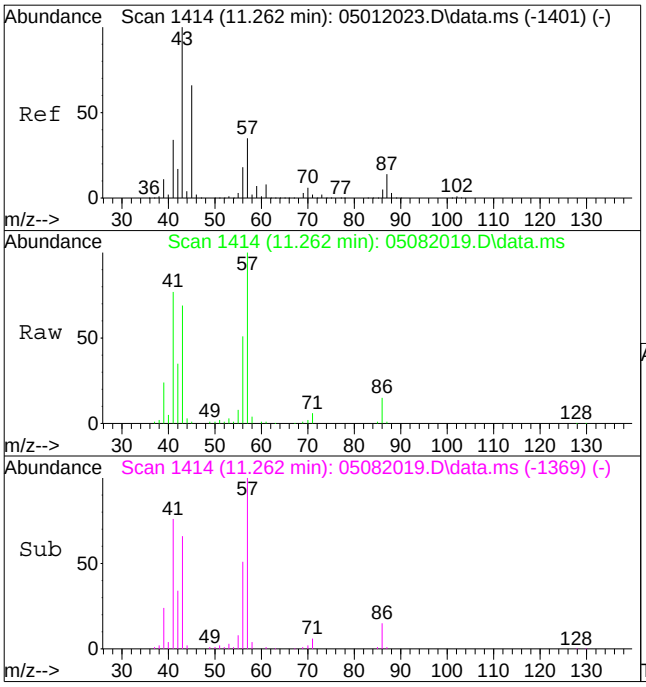


#30
Ethyl Acetate
Concen: 0.30 ng
RT: 11.29 min Scan# 1419
Delta R.T. 0.005 min
Lab File: 05082019.D
Acq: 8 May 2020 11:10

Tgt Ion: 61 Resp: 3397

Ion	Ratio	Lower	Upper
61	100		
70	83.6	57.9	97.9

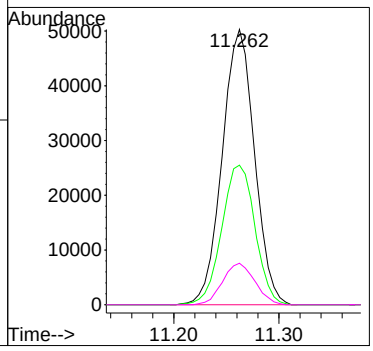


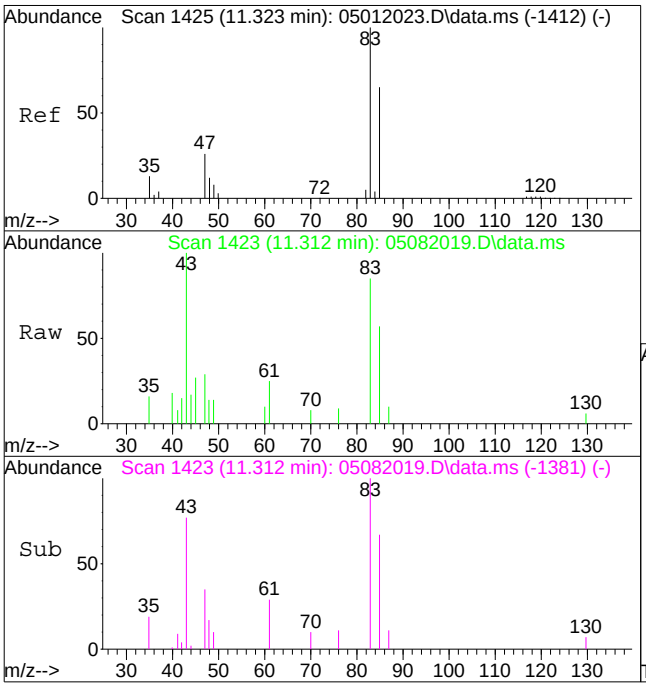


#31
n-Hexane
Concen: 2.20 ng
RT: 11.26 min Scan# 1414
Delta R.T. -0.000 min
Lab File: 05082019.D
Acq: 8 May 2020 11:10

Tgt Ion: 57 Resp: 107521

Ion	Ratio	Lower	Upper
57	100		
56	52.2	41.4	62.0
86	15.0	12.4	18.6

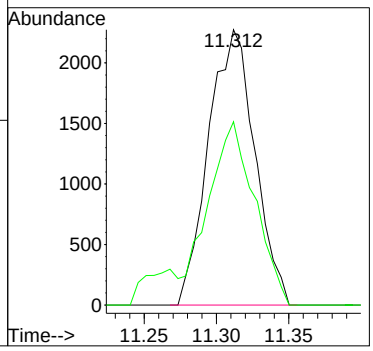


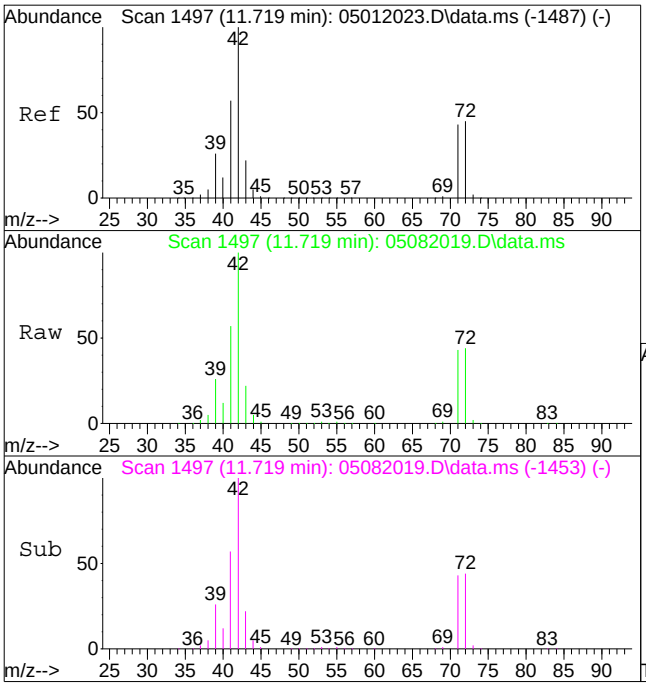


#32
Chloroform
Concen: 0.10 ng
RT: 11.31 min Scan# 1423
Delta R.T. -0.017 min
Lab File: 05082019.D
Acq: 8 May 2020 11:10

Tgt Ion: 83 Resp: 5052

Ion	Ratio	Lower	Upper
83	100		
85	67.4	45.5	85.5

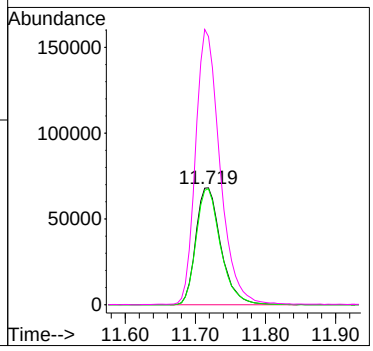


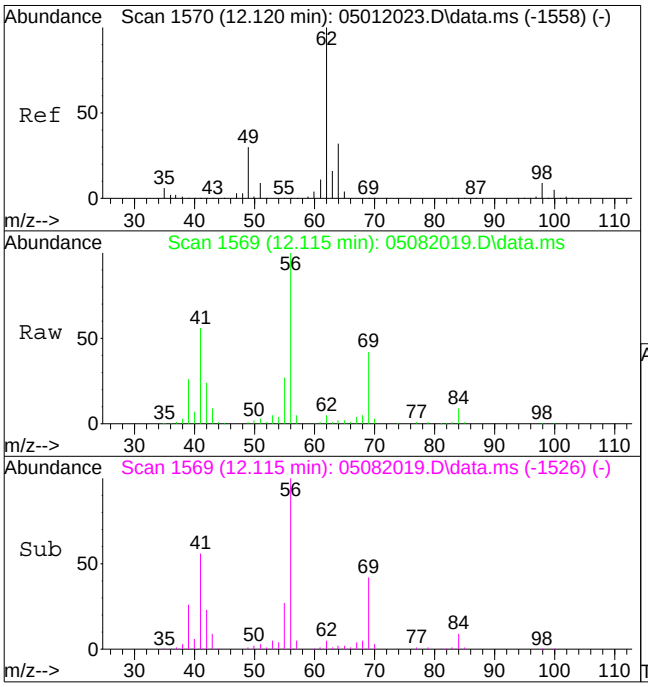


#34
Tetrahydrofuran (THF)
Concen: 8.90 ng
RT: 11.72 min Scan# 1497
Delta R.T. -0.006 min
Lab File: 05082019.D
Acq: 8 May 2020 11:10

Tgt Ion: 72 Resp: 169441

Ion	Ratio	Lower	Upper
72	100		
71	97.1	77.0	117.0
42	230.0	204.6	244.6

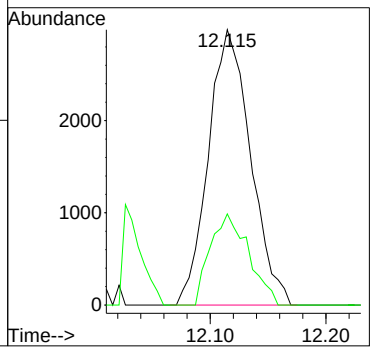


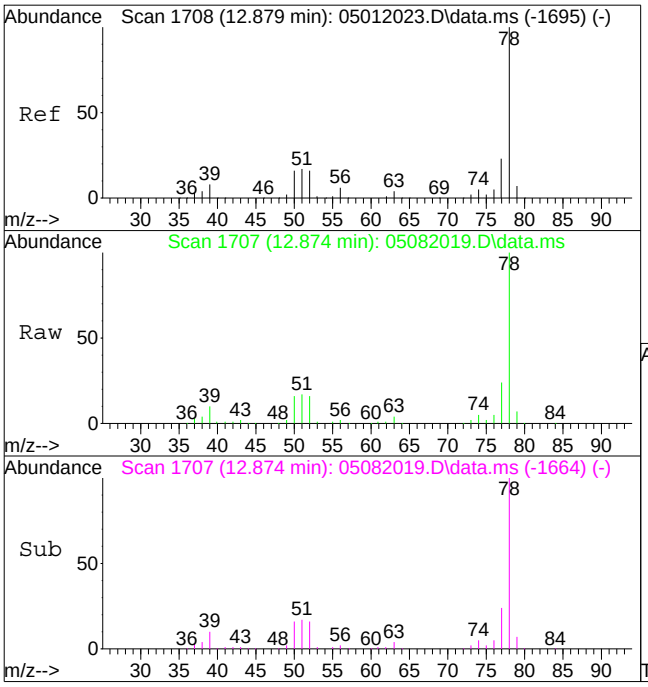


#36
1,2-Dichloroethane
Concen: 0.19 ng
RT: 12.11 min Scan# 1569
Delta R.T. -0.011 min
Lab File: 05082019.D
Acq: 8 May 2020 11:10

Tgt Ion: 62 Resp: 7576

Ion	Ratio	Lower	Upper
62	100		
64	30.1	12.4	52.4

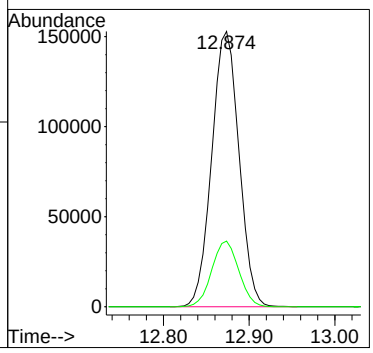


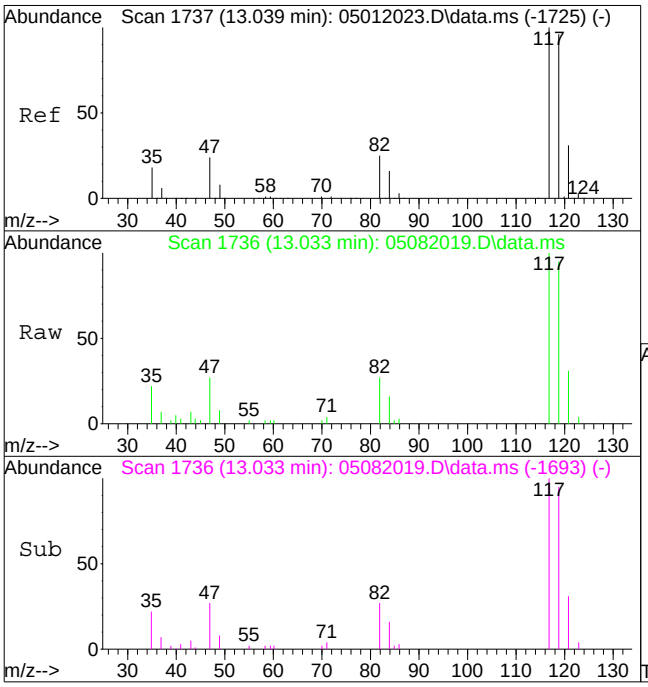


#41
Benzene
Concen: 2.88 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05082019.D
Acq: 8 May 2020 11:10

Tgt Ion: 78 Resp: 338058

Ion	Ratio	Lower	Upper
78	100		
77	23.6	3.4	43.4

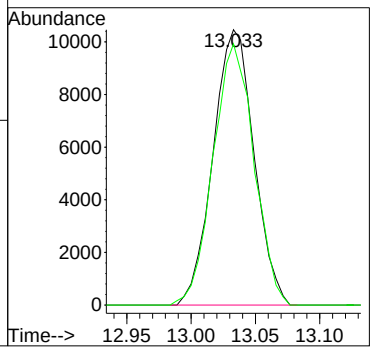


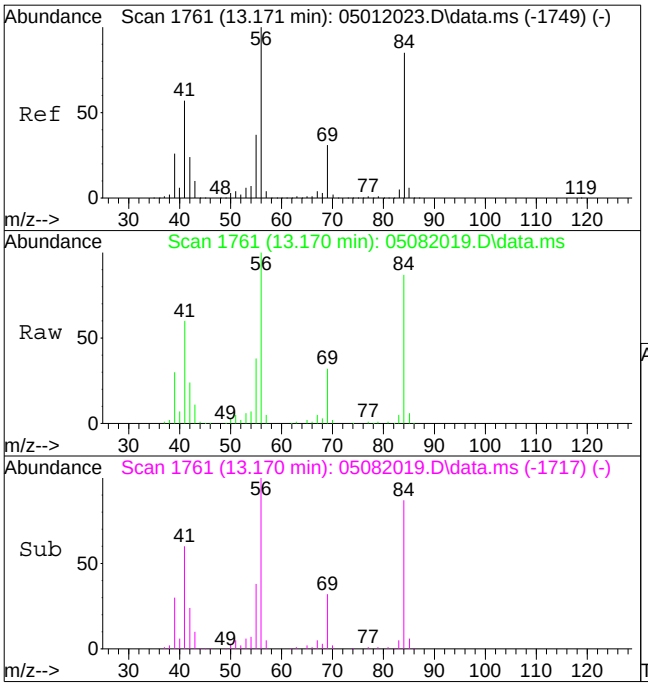


#42
Carbon Tetrachloride
Concen: 0.58 ng
RT: 13.03 min Scan# 1736
Delta R.T. -0.011 min
Lab File: 05082019.D
Acq: 8 May 2020 11:10

Tgt Ion:117 Resp: 23166

Ion	Ratio	Lower	Upper
117	100		
119	94.6	76.2	116.2

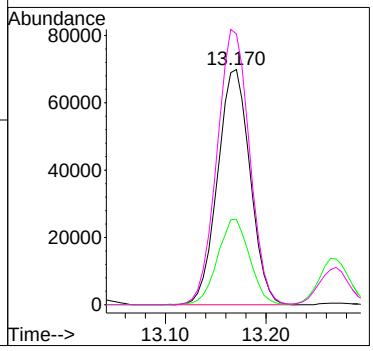


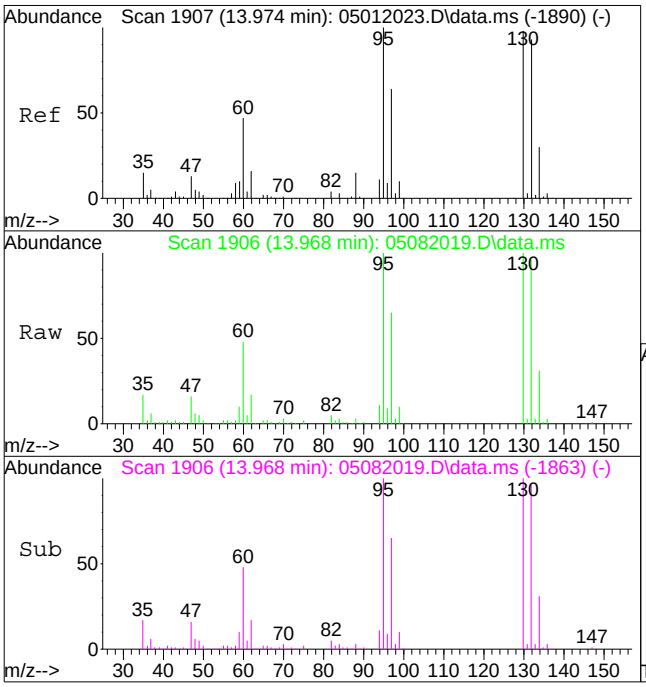


#43
Cyclohexane
Concen: 3.59 ng
RT: 13.17 min Scan# 1761
Delta R.T. -0.006 min
Lab File: 05082019.D
Acq: 8 May 2020 11:10

Tgt Ion: 84 Resp: 156751

Ion	Ratio	Lower	Upper
84	100		
69	36.0	16.5	56.5
56	117.6	97.4	137.4

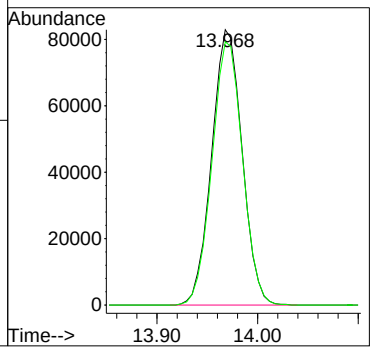


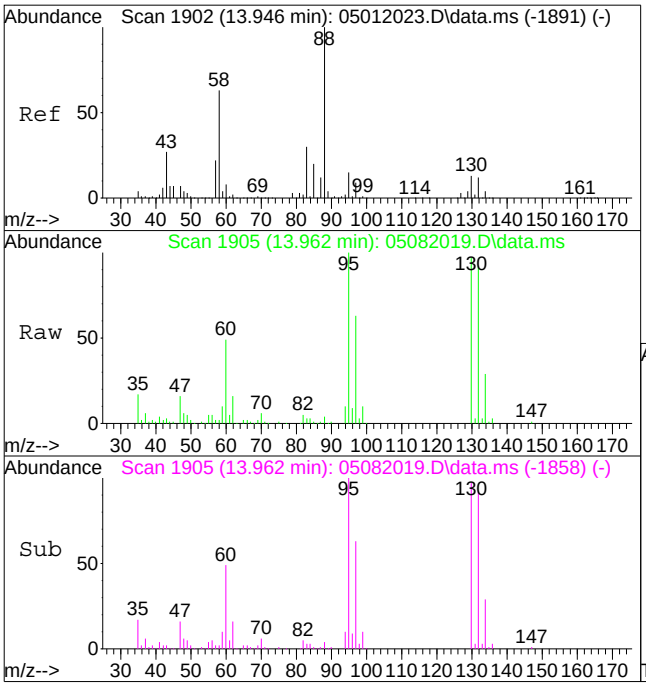


#47
Trichloroethene
Concen: 5.74 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05082019.D
Acq: 8 May 2020 11:10

Tgt Ion:130 Resp: 174026

Ion	Ratio	Lower	Upper
130	100		
132	96.1	74.9	114.9

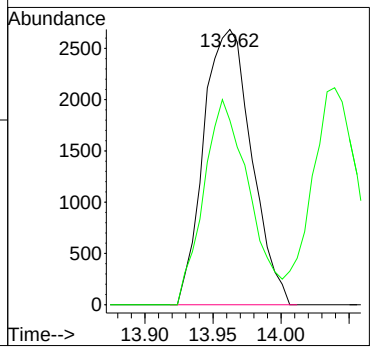


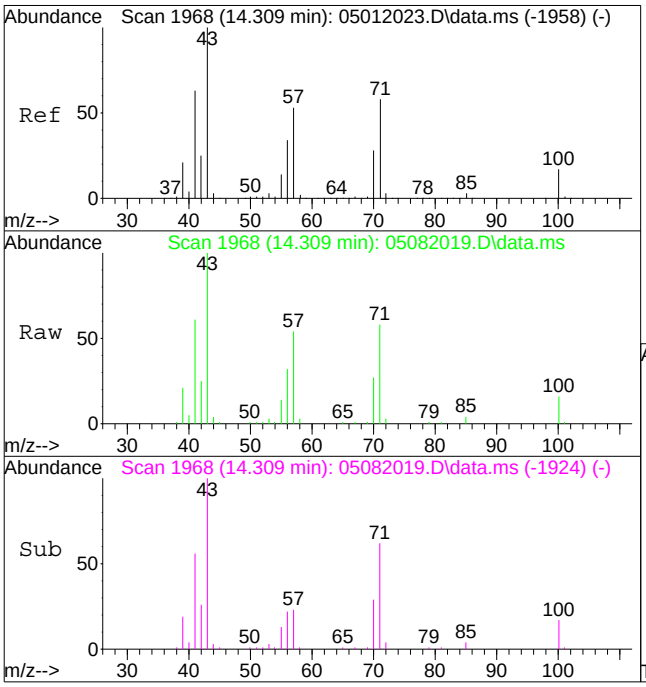


#48
1,4-Dioxane
Concen: 0.28 ng
RT: 13.96 min Scan# 1905
Delta R.T. 0.011 min
Lab File: 05082019.D
Acq: 8 May 2020 11:10

Tgt Ion: 88 Resp: 6562

Ion	Ratio	Lower	Upper
88	100		
58	71.2	42.8	82.8

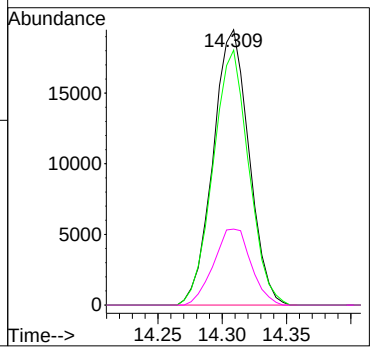


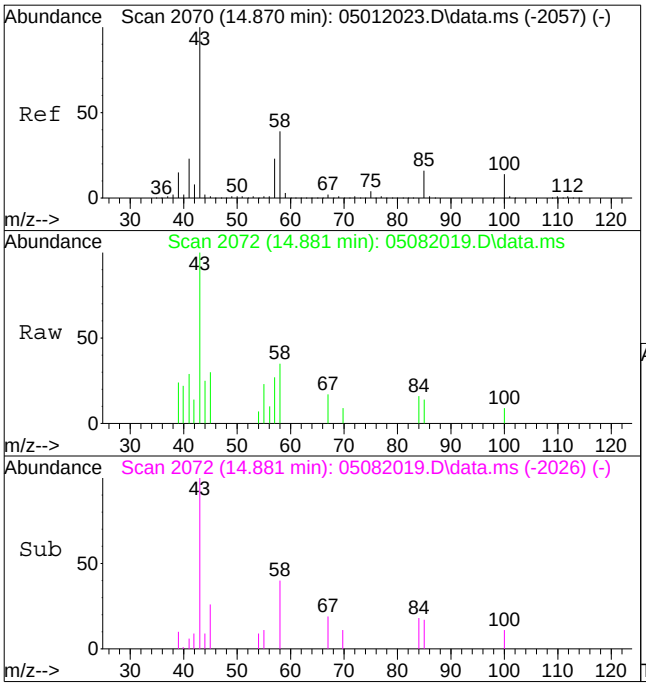


#51
n-Heptane
Concen: 1.38 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05082019.D
Acq: 8 May 2020 11:10

Tgt Ion: 71 Resp: 37839

Ion	Ratio	Lower	Upper
71	100		
57	92.0	71.0	111.0
100	28.7	8.4	48.4

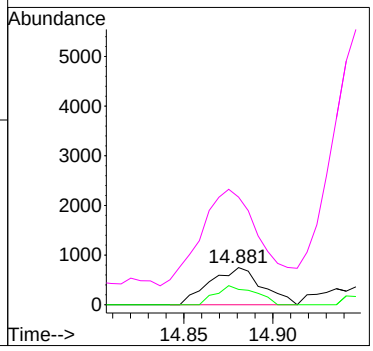


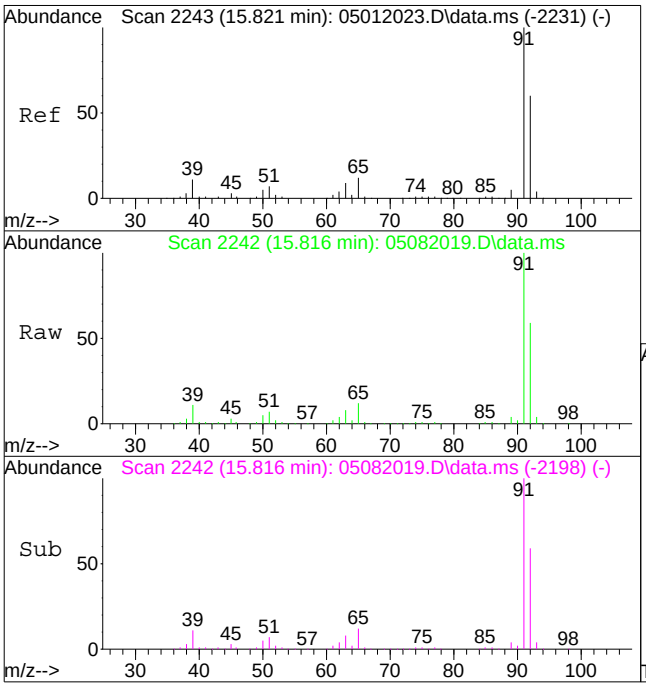


#53
4-Methyl-2-pentanone
Concen: 0.06 ng
RT: 14.88 min Scan# 2072
Delta R.T. 0.005 min
Lab File: 05082019.D
Acq: 8 May 2020 11:10

Tgt Ion: 58 Resp: 1525

Ion	Ratio	Lower	Upper
58	100		
85	38.7	35.4	53.2
43	326.9	203.3	304.9#

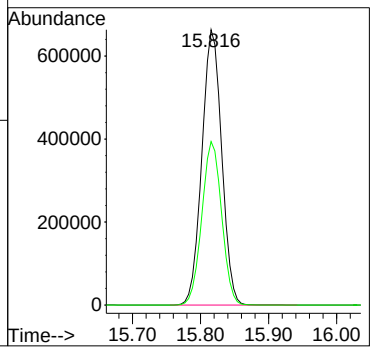


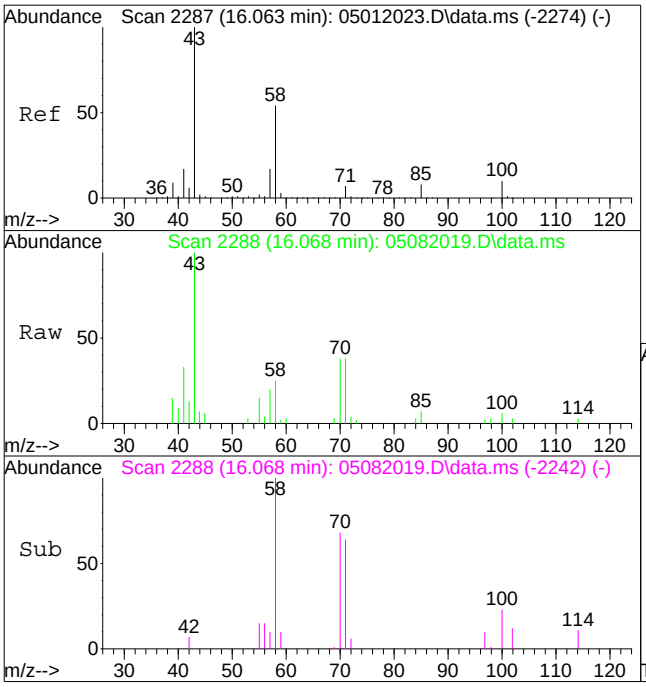


#58
Toluene
Concen: 11.97 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05082019.D
Acq: 8 May 2020 11:10

Tgt Ion: 91 Resp: 1339635

Ion	Ratio	Lower	Upper
91	100		
92	59.4	39.4	79.4

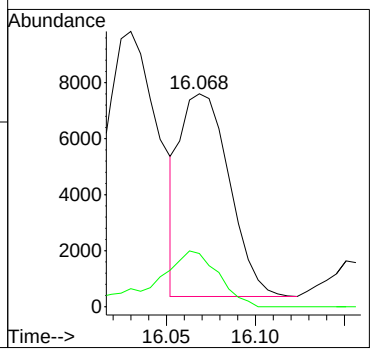


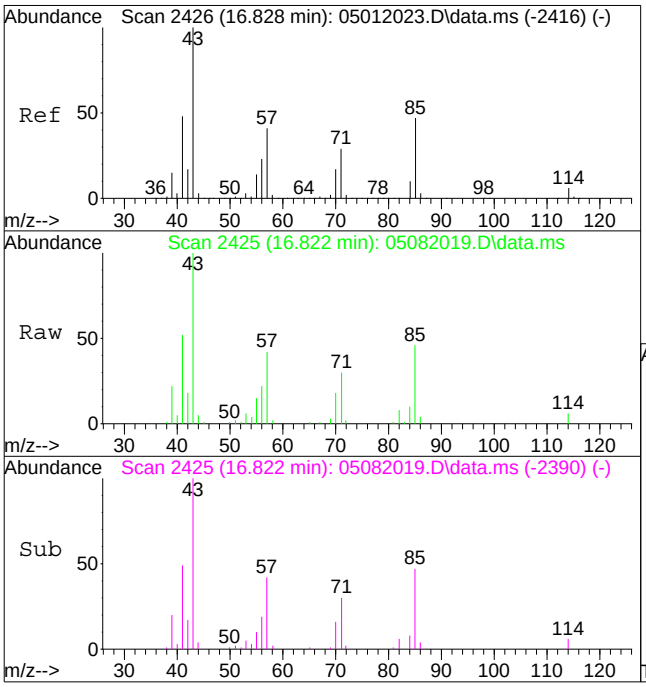


#59
2-Hexanone
Concen: 0.23 ng
RT: 16.07 min Scan# 2288
Delta R.T. 0.005 min
Lab File: 05082019.D
Acq: 8 May 2020 11:10

Tgt Ion: 43 Resp: 13867

Ion	Ratio	Lower	Upper
43	100		
58	38.5	34.5	74.5

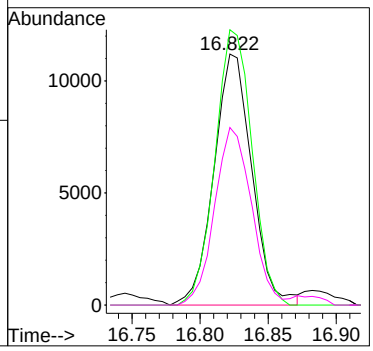


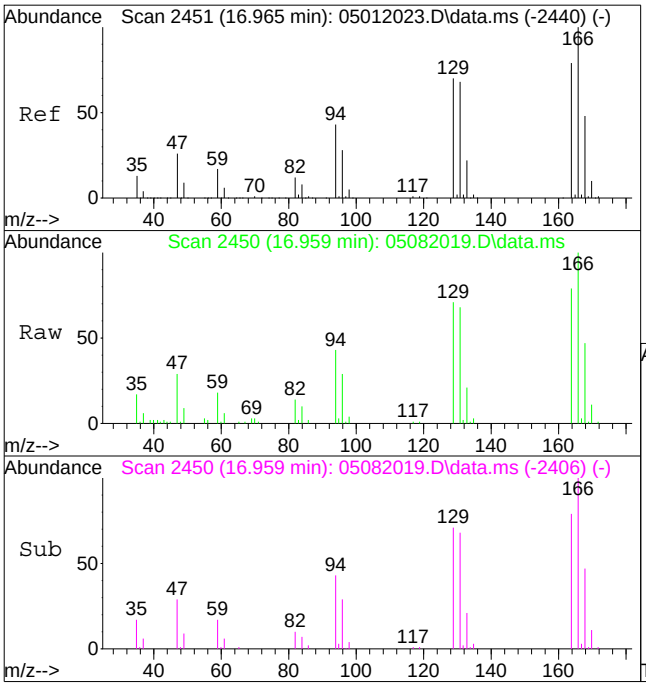


#63
n-Octane
Concen: 0.94 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05082019.D
Acq: 8 May 2020 11:10

Tgt Ion: 57 Resp: 21719

Ion	Ratio	Lower	Upper
57	100		
85	107.0	91.0	136.4
71	68.9	56.2	84.2

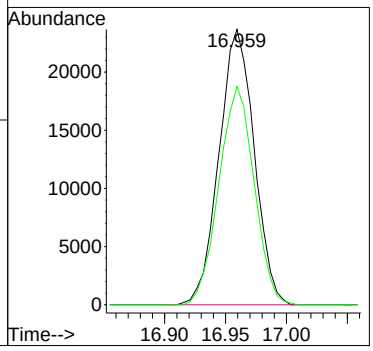


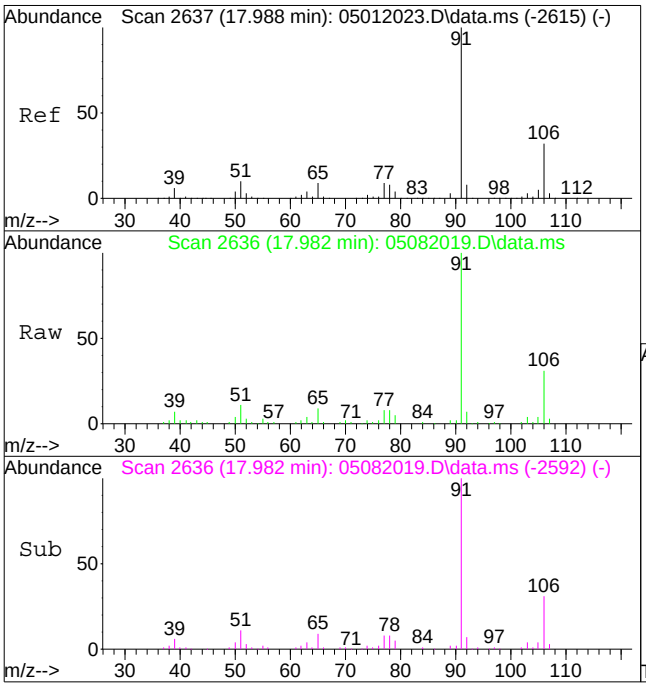


#64
Tetrachloroethene
Concen: 1.50 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05082019.D
Acq: 8 May 2020 11:10

Tgt Ion:166 Resp: 47501

Ion	Ratio	Lower	Upper
166	100		
164	79.4	58.4	98.4

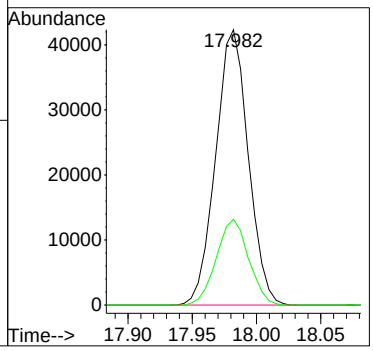


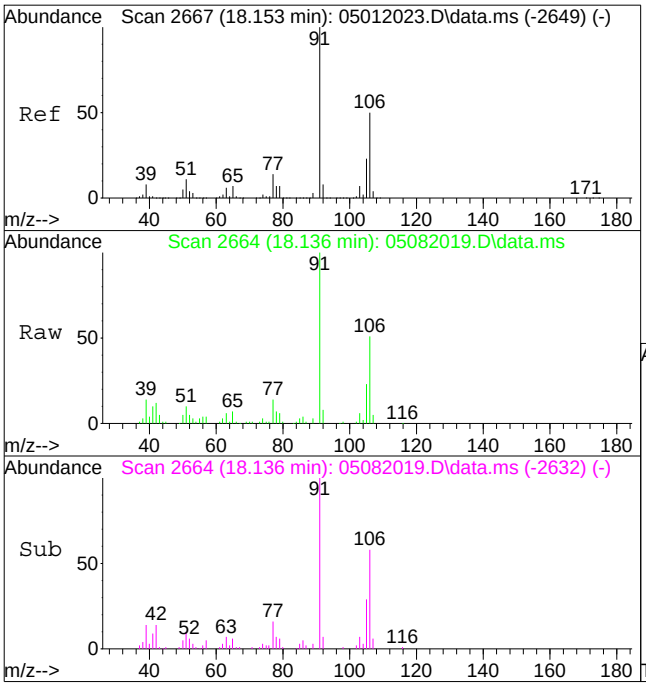


#66
Ethylbenzene
Concen: 0.60 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05082019.D
Acq: 8 May 2020 11:10

Tgt Ion: 91 Resp: 74686

Ion	Ratio	Lower	Upper
91	100		
106	30.7	11.6	51.6

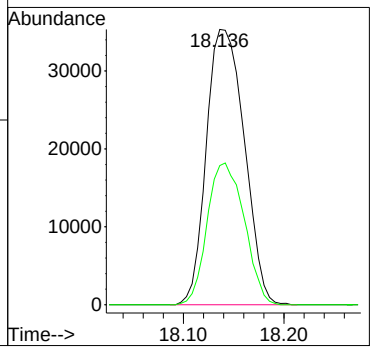


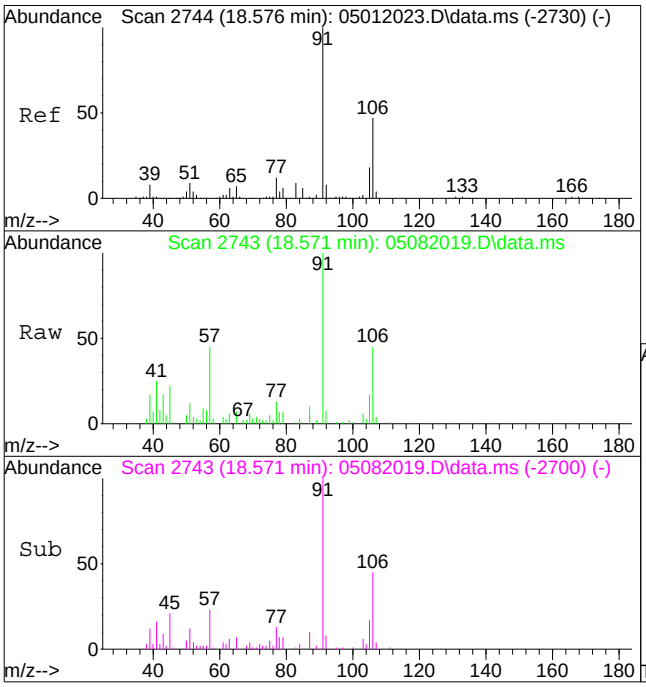


#67
m- & p-Xylenes
Concen: 0.94 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05082019.D
Acq: 8 May 2020 11:10

Tgt Ion: 91 Resp: 92618

Ion	Ratio	Lower	Upper
91	100		
106	50.2	29.7	69.7

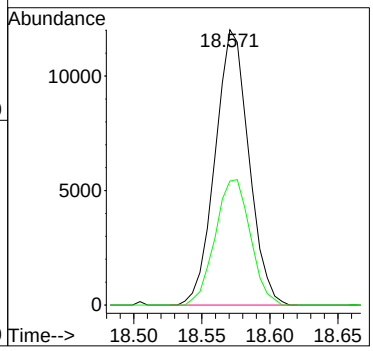


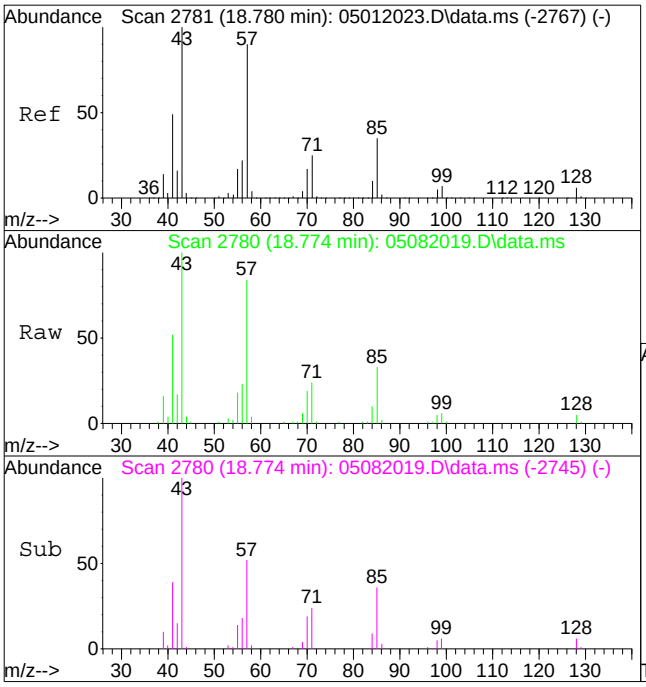


#70
o-Xylene
Concen: 0.21 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05082019.D
Acq: 8 May 2020 11:10

Tgt Ion: 91 Resp: 20684

Ion	Ratio	Lower	Upper
91	100		
106	47.5	27.5	67.5

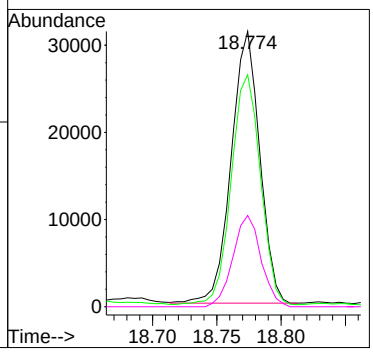


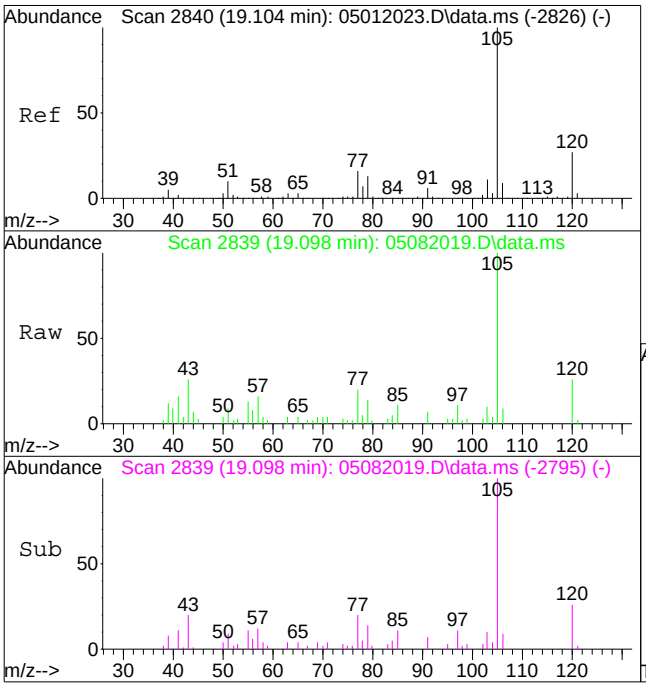


#71
n-Nonane
Concen: 0.90 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05082019.D
Acq: 8 May 2020 11:10

Tgt Ion: 43 Resp: 48115

Ion	Ratio	Lower	Upper
43	100		
57	87.0	69.0	109.0
85	33.0	14.6	54.6

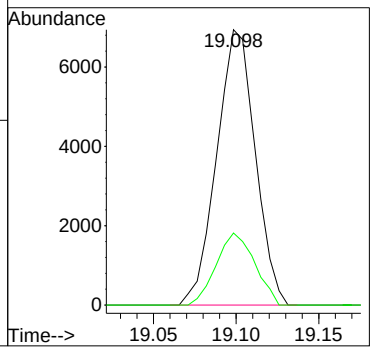


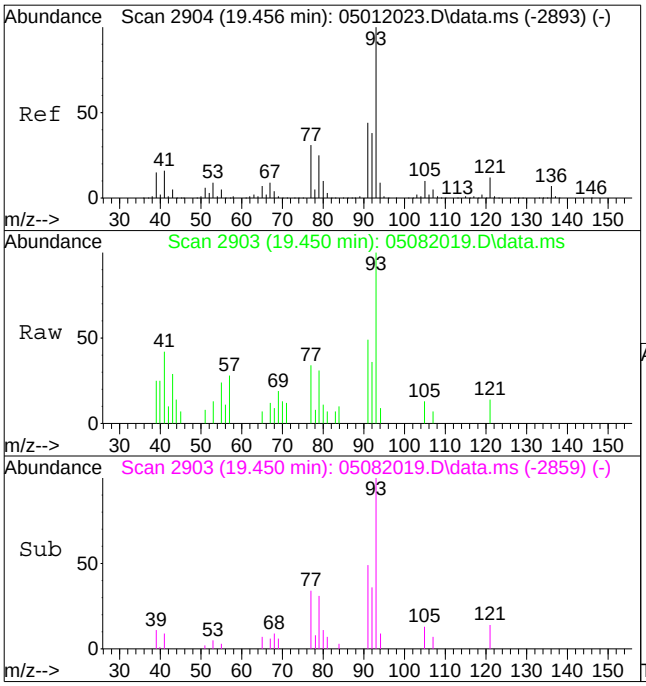


#74
Cumene
Concen: 0.09 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05082019.D
Acq: 8 May 2020 11:10

Tgt Ion:105 Resp: 11255

Ion	Ratio	Lower	Upper
105	100		
120	26.1	6.8	46.8

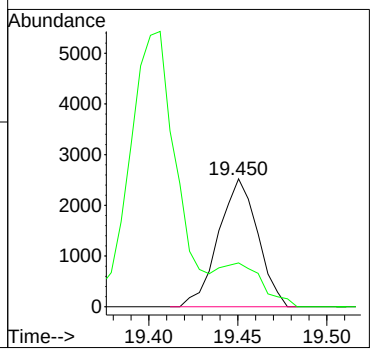


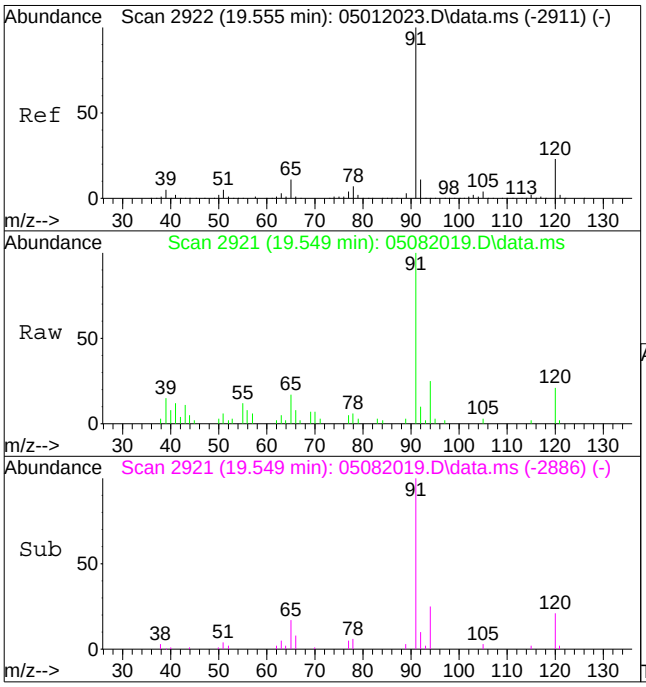


#75
alpha-Pinene
Concen: 0.06 ng
RT: 19.45 min Scan# 2903
Delta R.T. -0.006 min
Lab File: 05082019.D
Acq: 8 May 2020 11:10

Tgt Ion: 93 Resp: 3868

Ion	Ratio	Lower	Upper
93	100		
77	257.3	11.2	51.2#

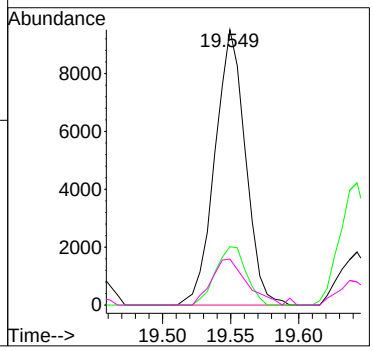


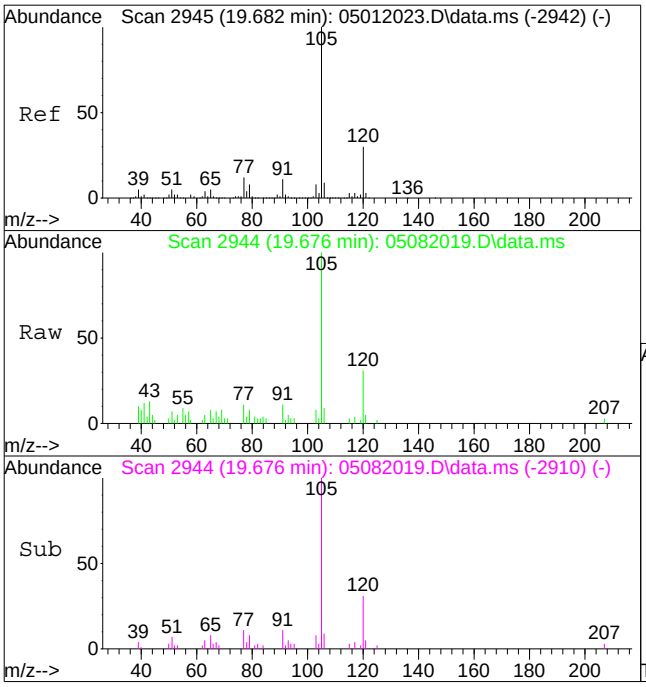


#76
n-Propylbenzene
Concen: 0.10 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05082019.D
Acq: 8 May 2020 11:10

Tgt Ion: 91 Resp: 14822

Ion	Ratio	Lower	Upper
91	100		
120	21.3	3.1	43.1
65	19.1	0.0	30.9

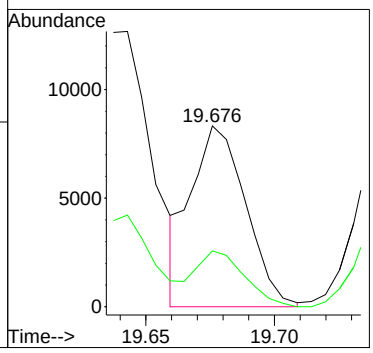


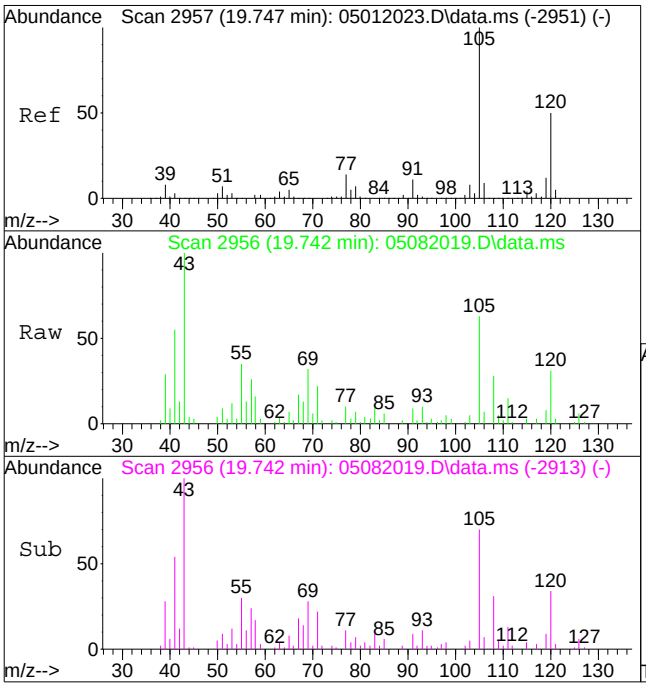


#78
4-Ethyltoluene
Concen: 0.11 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05082019.D
Acq: 8 May 2020 11:10

Tgt Ion:105 Resp: 12324

Ion	Ratio	Lower	Upper
105	100		
120	26.5	10.4	50.4

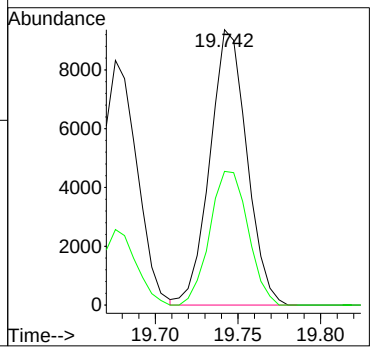


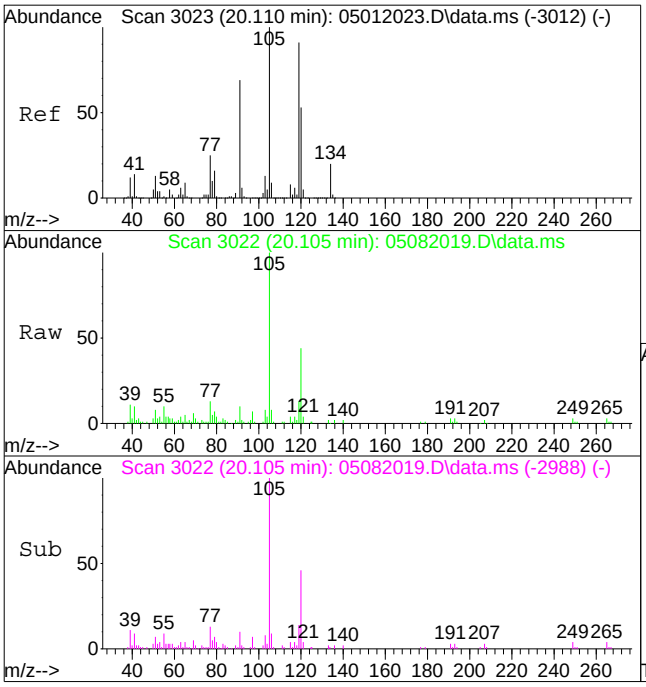


#79
1,3,5-Trimethylbenzene
Concen: 0.14 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05082019.D
Acq: 8 May 2020 11:10

Tgt Ion:105 Resp: 14560

Ion	Ratio	Lower	Upper
105	100		
120	50.3	29.9	69.9

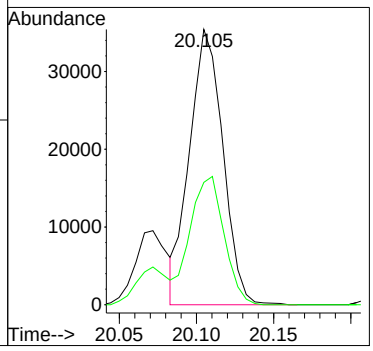


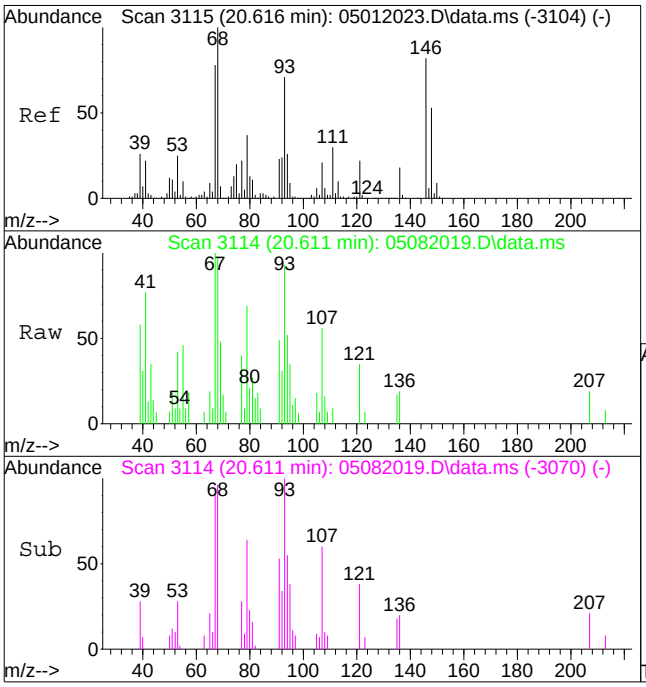


#82
1,2,4-Trimethylbenzene
Concen: 0.53 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05082019.D
Acq: 8 May 2020 11:10

Tgt Ion:105 Resp: 53335

Ion	Ratio	Lower	Upper
105	100		
120	47.6	33.6	73.6

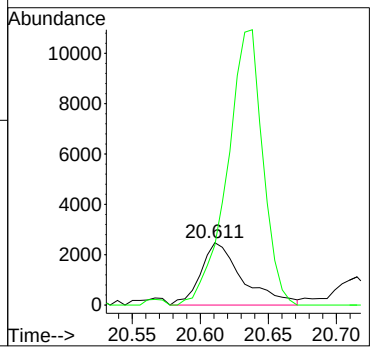




#91
d-Limonene
Concen: 0.13 ng
RT: 20.61 min Scan# 3114
Delta R.T. -0.006 min
Lab File: 05082019.D
Acq: 8 May 2020 11:10

Tgt Ion: 68 Resp: 5306

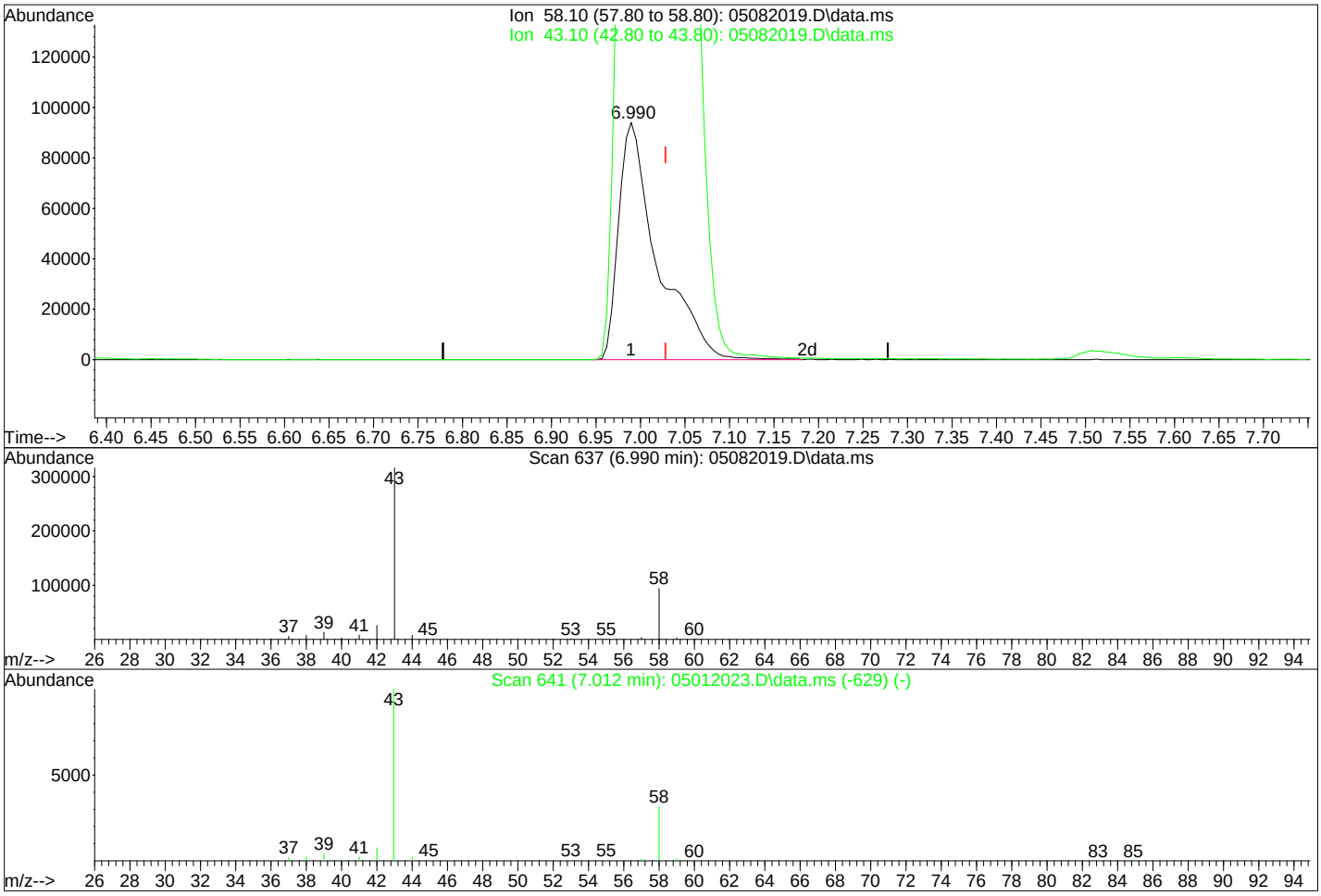
Ion	Ratio	Lower	Upper
68	100		
93	375.0	51.1	91.1#



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\08\05082019.D Vial: 10
Acq On : 8 May 2020 11:10 Operator: LH
Sample : P2002107-027 (400mL) Inst : GCMS-16
Misc : S31-02112001 pf2

Quant Time: May 08 14:53:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05082019.D\data.ms

(13) Acetone (T)

6.990min (-0.039) 12.47ng

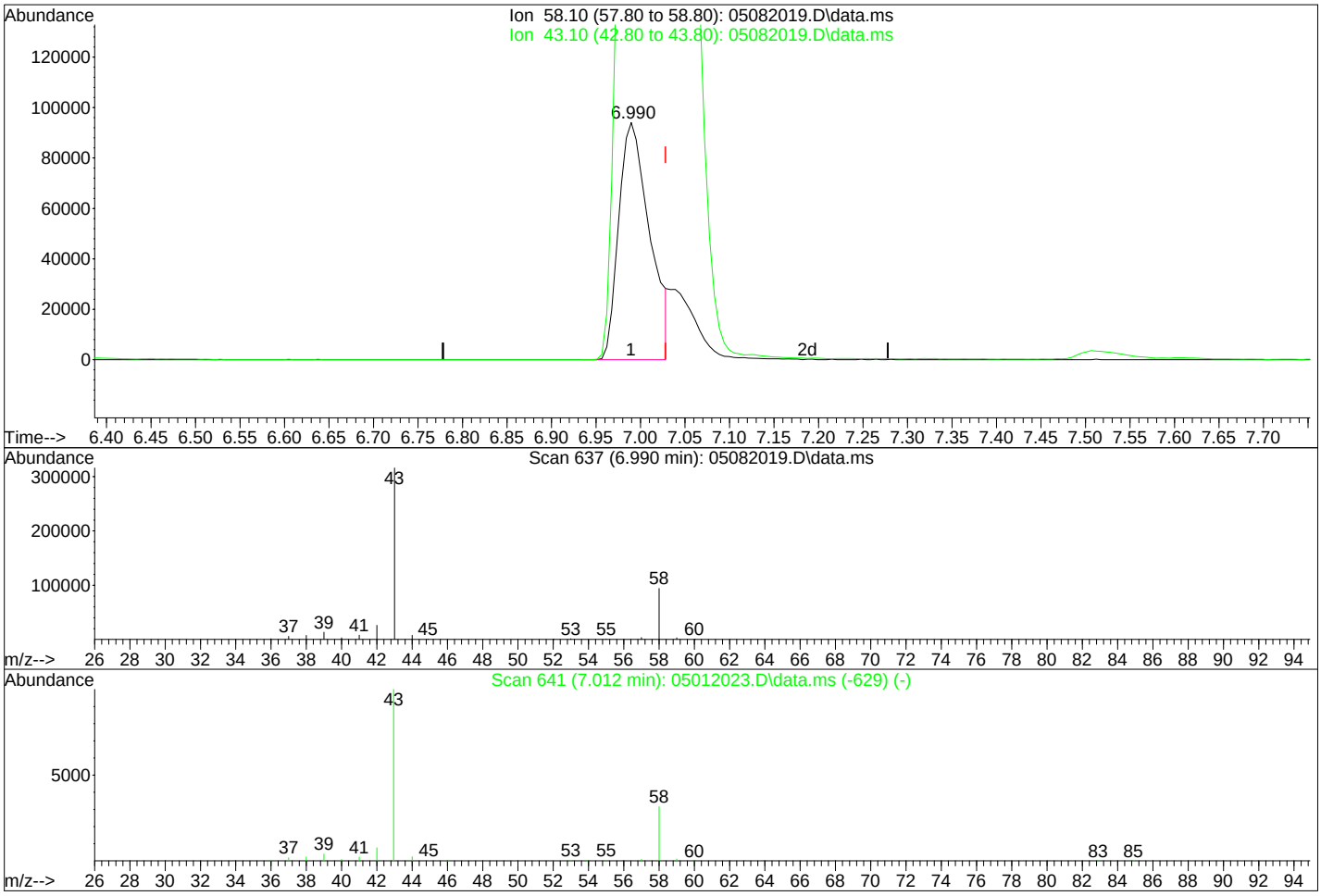
response 285575

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	240.09#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\08\05082019.D Vial: 10
Acq On : 8 May 2020 11:10 Operator: LH
Sample : P2002107-027 (400mL) Inst : GCMS-16
Misc : S31-02112001 pf2

Quant Time: May 08 14:53:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05082019.D\data.ms

(13) Acetone (T)

6.990min (-0.039) 10.28ng m

response 226159

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	303.17
0.00	0.00	0.00
0.00	0.00	0.00

IPC

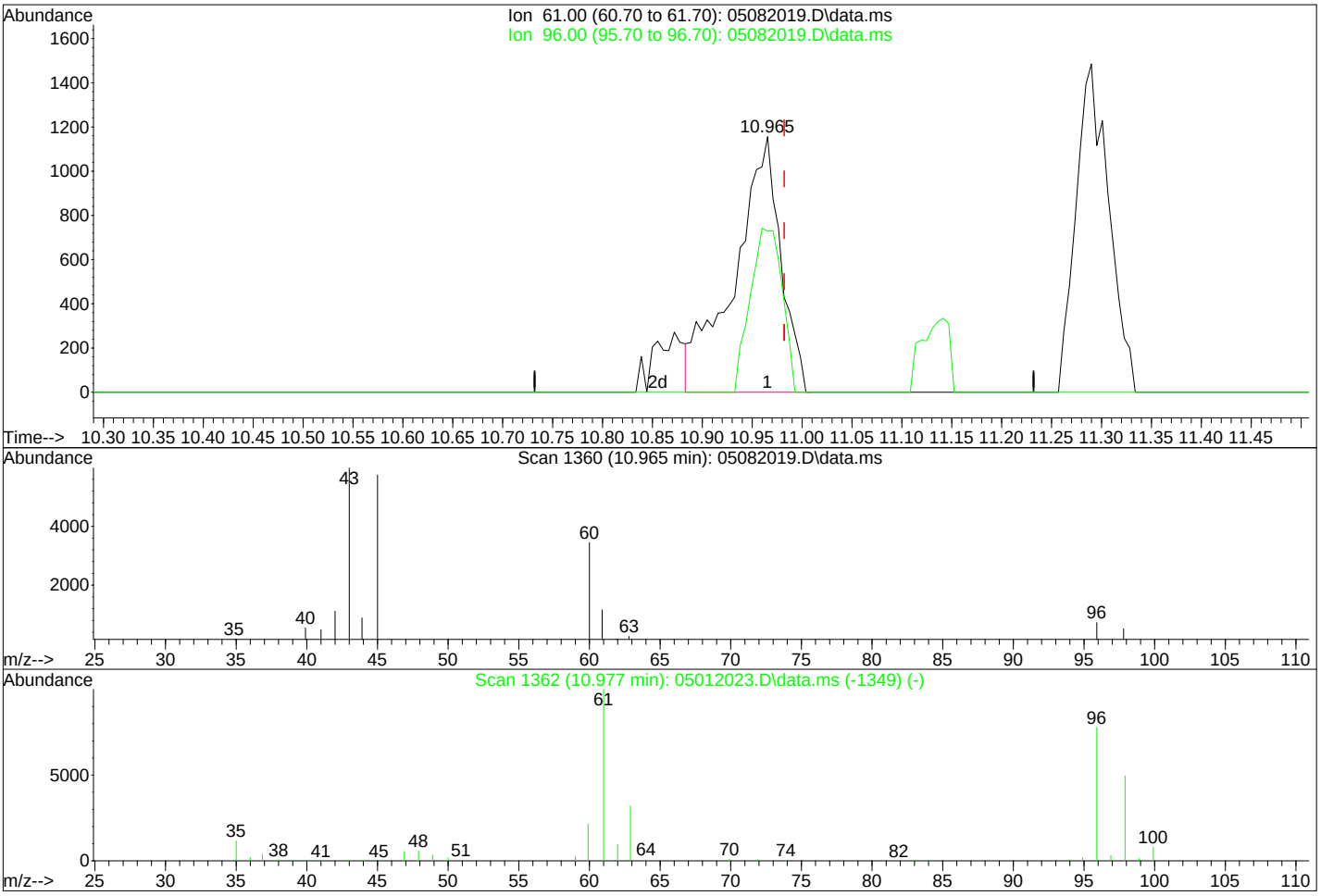
LH 5/8/20

5/12/20

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\08\05082019.D Vial: 10
Acq On : 8 May 2020 11:10 Operator: LH
Sample : P2002107-027 (400mL) Inst : GCMS-16
Misc : S31-02112001 pf2

Quant Time: May 08 14:53:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05082019.D\data.ms

(28) cis-1,2-Dichloroethene (T)

10.965min (-0.017) 0.09ng

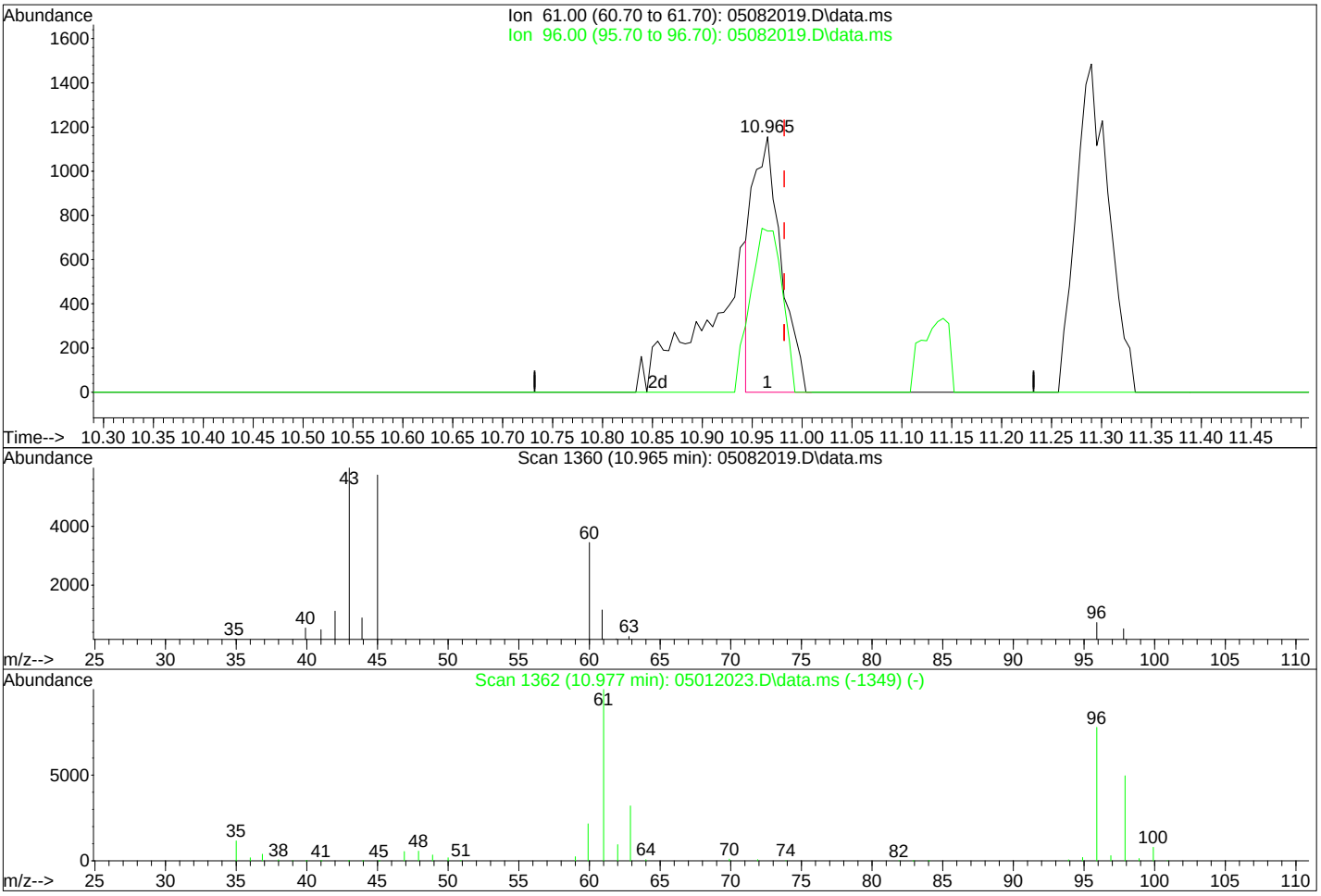
response 3718

Ion	Exp%	Act%
61.00	100	100
96.00	77.60	44.38#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\08\05082019.D Vial: 10
Acq On : 8 May 2020 11:10 Operator: LH
Sample : P2002107-027 (400mL) Inst : GCMS-16
Misc : S31-02112001 pf2

Quant Time: May 08 14:53:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05082019.D\data.ms

(28) cis-1,2-Dichloroethene (T)

10.965min (-0.017) 0.06ng m

response 2290

Ion	Exp%	Act%
61.00	100	100
96.00	77.60	72.05
0.00	0.00	0.00
0.00	0.00	0.00

IPC

LH 5/8/20

5/12/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082020.D Vial: 11
Acq On : 8 May 2020 11:44 Operator: LH
Sample : P2002107-028 (400mL) Inst : GCMS-16
Misc : S31-02112001 pf3 (0.03, 5.67)

Quant Time: May 08 15:21:55 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/8/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	260776	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1126357	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	525182	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	422768	11.963	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.68%				
57) Toluene-d8 (SS2)	15.72	98	1117522	12.554	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.40%				
73) Bromofluorobenzene (SS3)	18.97	174	415093	12.959	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.68%				
Target Compounds							Qvalue
2) Propene	4.09	42	50687	1.678	ng		99
3) Dichlorodifluoromethan...	4.25	85	82134	1.390	ng		100
4) Chloromethane	4.52	50	100185	2.165	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	1570	N.D.			
6) Vinyl Chloride	4.94	62	1716502	33.823	ng		100
7) 1,3-Butadiene	5.21	54	895	N.D.			
8) Bromomethane	5.64	94	427	N.D.			
9) Chloroethane	5.97	64	16548	0.825	ng		99
10) Ethanol	6.32	45	1971	0.085	ng		80
11) Acetonitrile	6.57	41	15529	0.291	ng		96
12) Acrolein	6.78	56	488	N.D.			
13) Acetone	6.99	58	55184m	2.366	ng		
14) Trichlorofluoromethane	7.24	101	5990	0.115	ng		99
15) 2-Propanol (Isopropanol)	7.52	45	8085	0.115	ng	#	36
16) Acrylonitrile	7.74	53	2810	0.074	ng		82
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	3049	0.101	ng		95
20) 3-Chloro-1-propene (Al...	8.57	41	690	N.D.			
21) Trichlorotrifluoroethane	8.85	151	2399	0.097	ng		91
22) Carbon Disulfide	8.68	76	1548072	14.249	ng		99
23) trans-1,2-Dichloroethene	9.60	61	419	N.D.			
24) 1,1-Dichloroethane	9.94	63	1518	N.D.			
25) Methyl tert-Butyl Ether	10.09	73	2338	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.45	72	23984	1.206	ng		92
28) cis-1,2-Dichloroethene	10.95	61	1712	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	11.26	57	159406	3.204	ng		100
32) Chloroform	11.30	83	3623	0.070	ng		98
34) Tetrahydrofuran (THF)	11.71	72	147013	7.578	ng		98
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	6703	0.163	ng		93
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	12.86	56	1346	N.D.			
41) Benzene	12.87	78	287883	2.383	ng		100
42) Carbon Tetrachloride	13.03	117	14329	0.349	ng		98
43) Cyclohexane	13.17	84	132423	2.942	ng		99
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	13.62	63	245	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	13.97	130	117588	3.766	ng		97
48) 1,4-Dioxane	13.97	88	538	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.12	100	123	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082020.D Vial: 11
Acq On : 8 May 2020 11:44 Operator: LH
Sample : P2002107-028 (400mL) Inst : GCMS-16
Misc : S31-02112001 pf3 (0.03, 5.67)

Quant Time: May 08 15:21:55 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

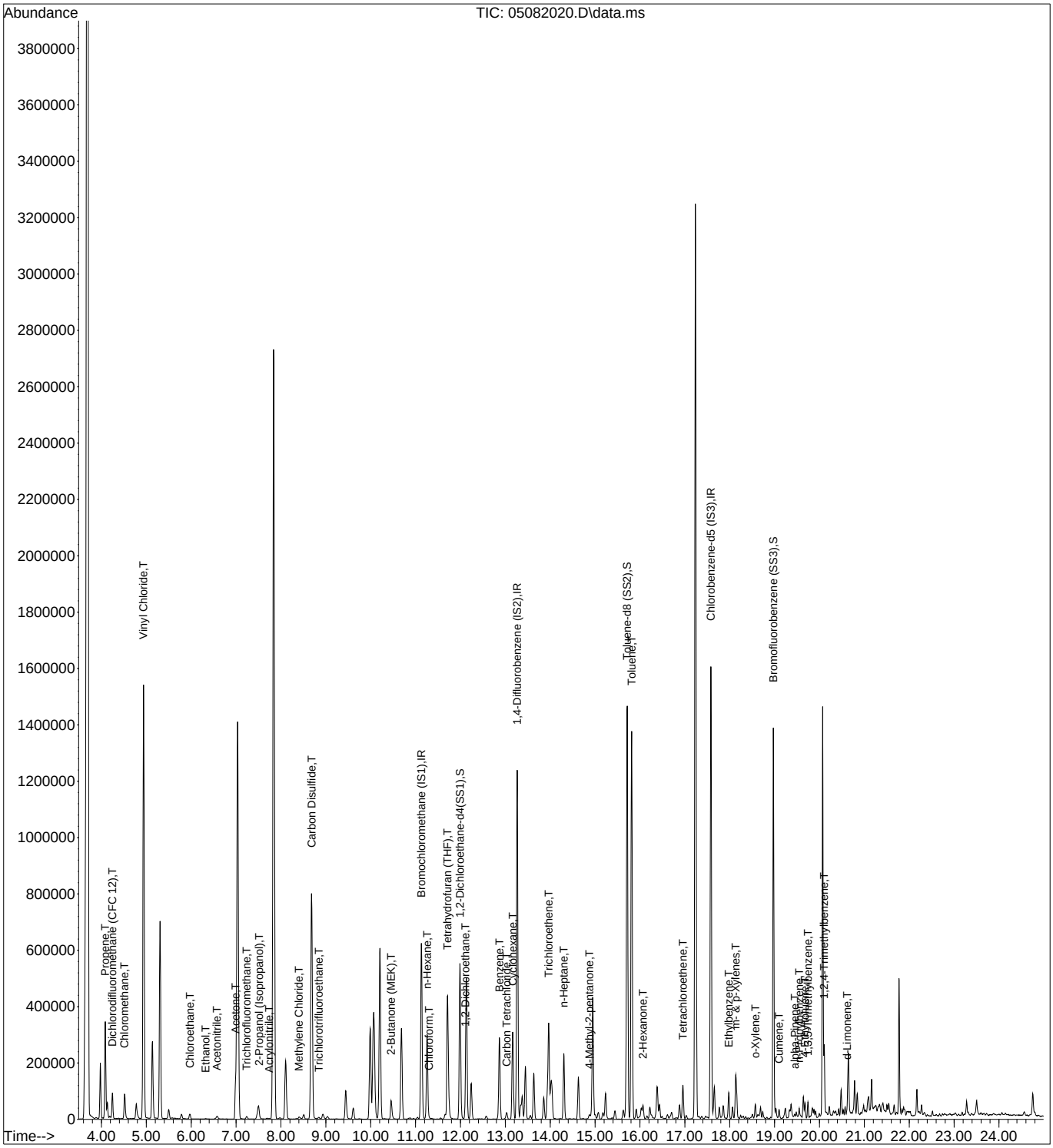
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.30	71	58545	2.073 ng		98
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.88	58	4653	0.173 ng		98
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	15.44	97	1185	N.D.		
58) Toluene	15.82	91	1132176	9.867 ng		100
59) 2-Hexanone	16.07	43	33623	0.535 ng		75
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D. d		
63) n-Octane	16.82	57	1030	N.D.		
64) Tetrachloroethene	16.96	166	38671	1.193 ng		99
65) Chlorobenzene	0.00	112	0	N.D. d		
66) Ethylbenzene	17.98	91	66276	0.518 ng		99
67) m- & p-Xylenes	18.14	91	122943	1.211 ng		99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	1225	N.D.		
70) o-Xylene	18.57	91	26643	0.259 ng		98
71) n-Nonane	18.74	43	1479	N.D.		
72) 1,1,2,2-Tetrachloroethane	18.55	83	106	N.D.		
74) Cumene	19.10	105	13917	0.110 ng		98
75) alpha-Pinene	19.45	93	4489	0.067 ng		94
76) n-Propylbenzene	19.55	91	22744	0.151 ng		95
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.68	105	23873	0.201 ng		99
79) 1,3,5-Trimethylbenzene	19.74	105	27560	0.267 ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	20.10	105	129754	1.252 ng		91
83) n-Decane	20.20	57	909	N.D.		
84) Benzyl Chloride	20.23	91	3539	N.D.		
85) 1,3-Dichlorobenzene	20.24	146	114	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	713	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D. d		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.62	68	3963	0.097 ng	#	1
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.31	57	2203	N.D.		
94) 1,2,4-Trichlorobenzene	22.11	180	118	N.D.		
95) Naphthalene	22.22	128	2539	N.D.		
96) n-Dodecane	22.23	57	808	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082020.D Vial: 11
Acq On : 8 May 2020 11:44 Operator: LH
Sample : P2002107-028 (400mL) Inst : GCMS-16
Misc : S31-02112001 pf3 (0.03, 5.67)

Quant Time: May 08 15:21:55 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

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Acq On : 8 May 2020 11:44 Operator: LH
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QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/8/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	260776	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1126357	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	525182	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	422768	11.963	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.68%				
57) Toluene-d8 (SS2)	15.72	98	1117522	12.554	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.40%				
73) Bromofluorobenzene (SS3)	18.97	174	415093	12.959	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.68%				
Target Compounds							Qvalue
2) Propene	4.09	42	50687	1.678	ng		99
3) Dichlorodifluoromethan...	4.25	85	82134	1.390	ng		100
4) Chloromethane	4.52	50	100185	2.165	ng		100
6) Vinyl Chloride	4.94	62	1716502	33.823	ng		100
9) Chloroethane	5.97	64	16548	0.825	ng		99
10) Ethanol	6.32	45	1971	0.085	ng		80
11) Acetonitrile	6.57	41	15529	0.291	ng		96
13) Acetone	6.99	58	55184m	2.366	ng		
14) Trichlorofluoromethane	7.24	101	5990	0.115	ng		99
15) 2-Propanol (Isopropanol)	7.52	45	8085	0.115	ng	#	36
16) Acrylonitrile	7.74	53	2810	0.074	ng		82
19) Methylene Chloride	8.40	84	3049	0.101	ng		95
21) Trichlorotrifluoroethane	8.85	151	2399	0.097	ng		91
22) Carbon Disulfide	8.68	76	1548072	14.249	ng		99
27) 2-Butanone (MEK)	10.45	72	23984	1.206	ng		92
31) n-Hexane	11.26	57	159406	3.204	ng		100
32) Chloroform	11.30	83	3623	0.070	ng		98
34) Tetrahydrofuran (THF)	11.71	72	147013	7.578	ng		98
36) 1,2-Dichloroethane	12.11	62	6703	0.163	ng		93
41) Benzene	12.87	78	287883	2.383	ng		100
42) Carbon Tetrachloride	13.03	117	14329	0.349	ng		98
43) Cyclohexane	13.17	84	132423	2.942	ng		99
47) Trichloroethene	13.97	130	117588	3.766	ng		97
51) n-Heptane	14.30	71	58545	2.073	ng		98
53) 4-Methyl-2-pentanone	14.88	58	4653	0.173	ng		98
58) Toluene	15.82	91	1132176	9.867	ng		100
59) 2-Hexanone	16.07	43	33623	0.535	ng		75
64) Tetrachloroethene	16.96	166	38671	1.193	ng		99
66) Ethylbenzene	17.98	91	66276	0.518	ng		99
67) m- & p-Xylenes	18.14	91	122943	1.211	ng		99
70) o-Xylene	18.57	91	26643	0.259	ng		98
74) Cumene	19.10	105	13917	0.110	ng		98
75) alpha-Pinene	19.45	93	4489	0.067	ng		94
76) n-Propylbenzene	19.55	91	22744	0.151	ng		95
78) 4-Ethyltoluene	19.68	105	23873	0.201	ng		99
79) 1,3,5-Trimethylbenzene	19.74	105	27560	0.267	ng		99
82) 1,2,4-Trimethylbenzene	20.10	105	129754	1.252	ng		91
91) d-Limonene	20.62	68	3963	0.097	ng	#	1

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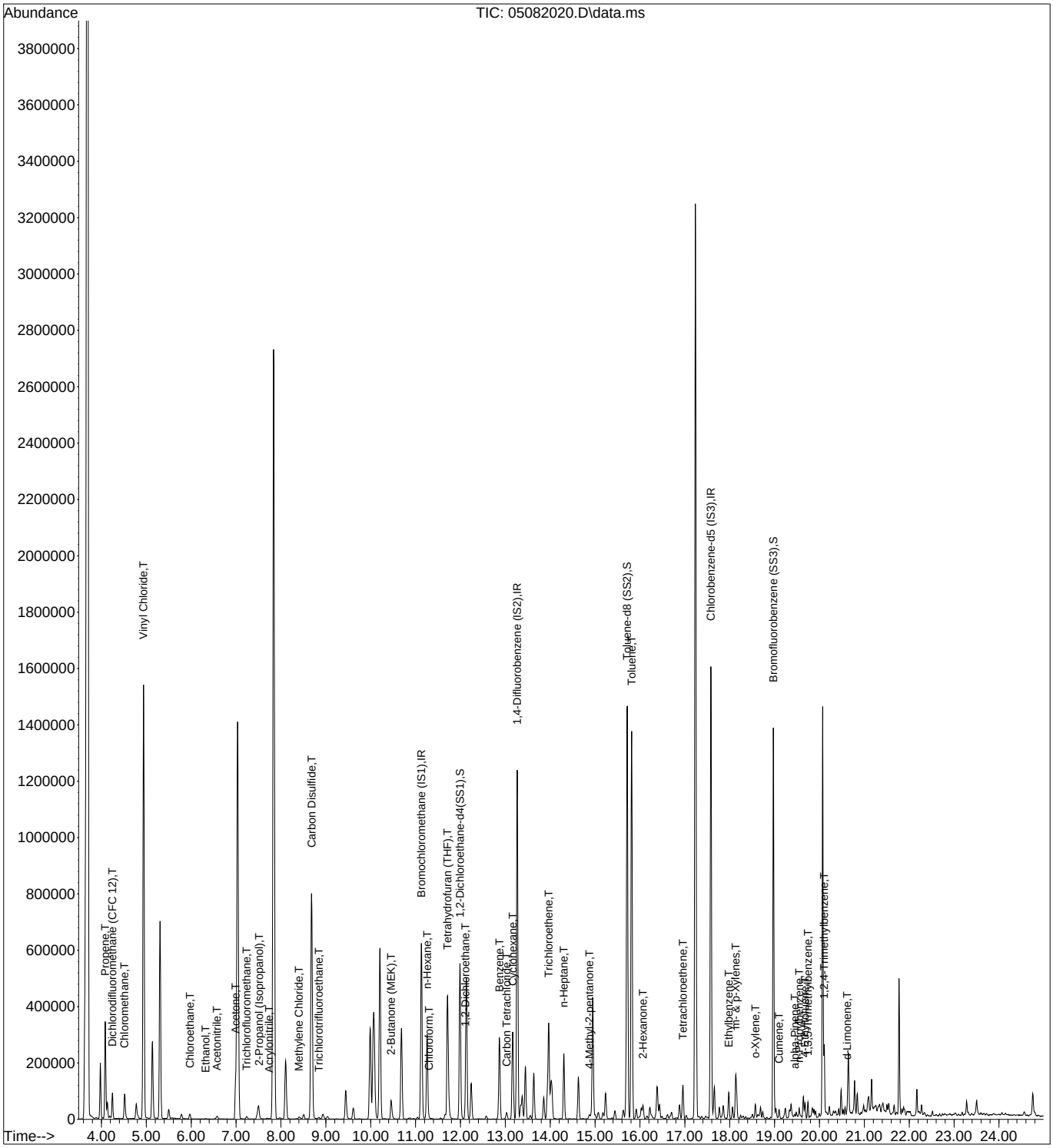
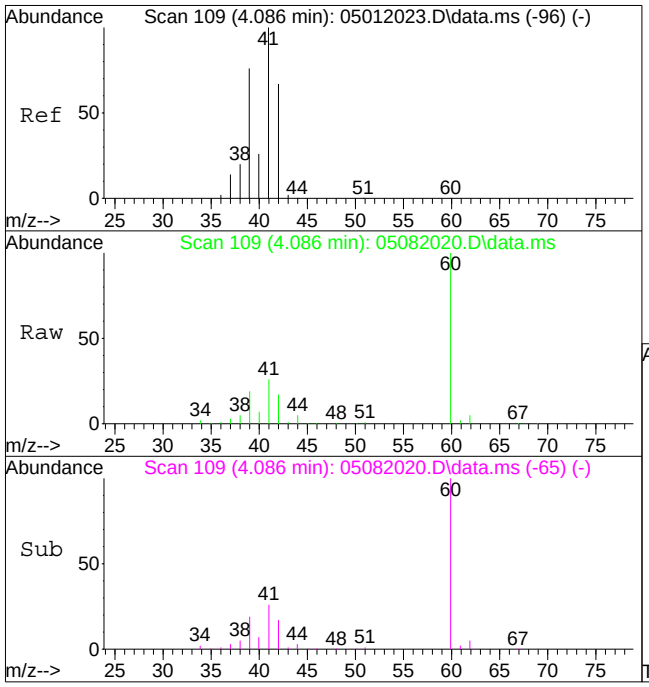
DataAcq Meth:TO15.M

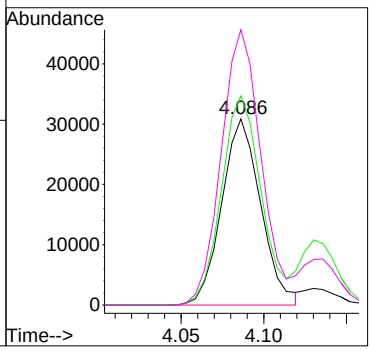


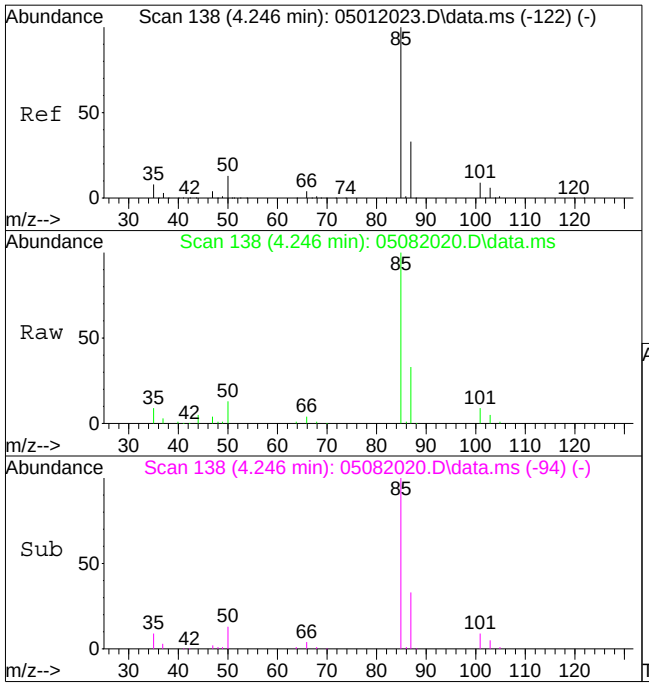


#2
Propene
Concen: 1.68 ng
RT: 4.09 min Scan# 109
Delta R.T. -0.006 min
Lab File: 05082020.D
Acq: 8 May 2020 11:44

Tgt Ion: 42 Resp: 50687

Ion	Ratio	Lower	Upper
42	100		
39	114.7	96.1	136.1
41	153.3	131.9	171.9

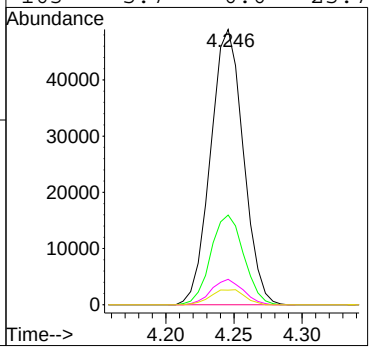


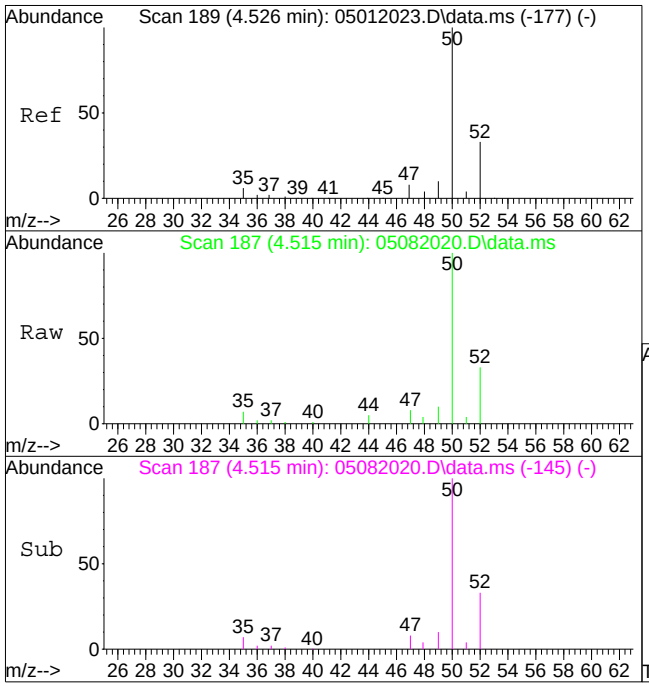


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.39 ng
RT: 4.25 min Scan# 138
Delta R.T. -0.006 min
Lab File: 05082020.D
Acq: 8 May 2020 11:44

Tgt Ion: 85 Resp: 82134

Ion	Ratio	Lower	Upper
85	100		
87	32.7	12.4	52.4
101	9.0	0.0	28.8
103	5.7	0.0	25.7

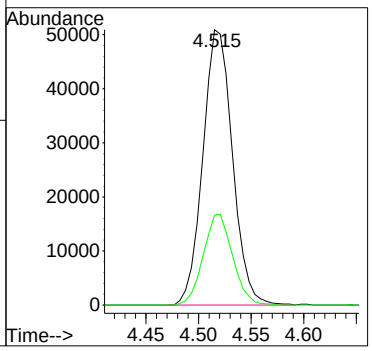


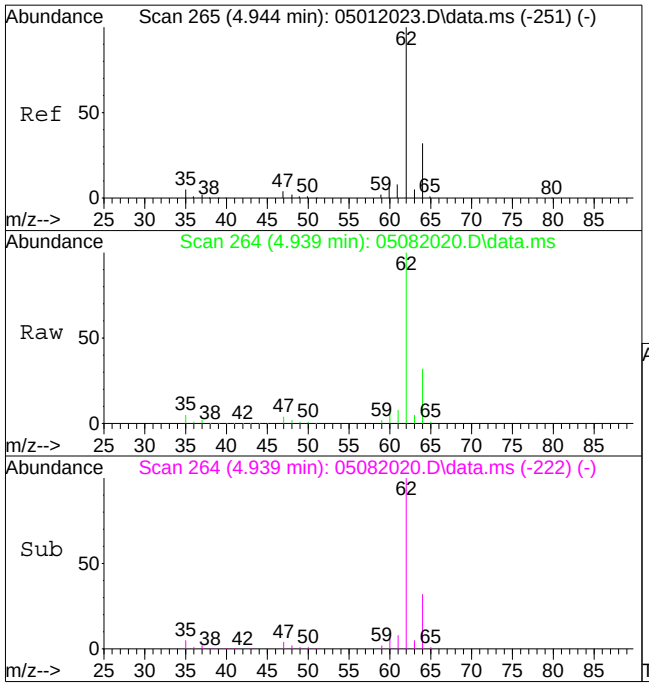


#4
Chloromethane
Concen: 2.16 ng
RT: 4.52 min Scan# 187
Delta R.T. -0.017 min
Lab File: 05082020.D
Acq: 8 May 2020 11:44

Tgt Ion: 50 Resp: 100185

Ion	Ratio	Lower	Upper
50	100		
52	32.5	12.5	52.5

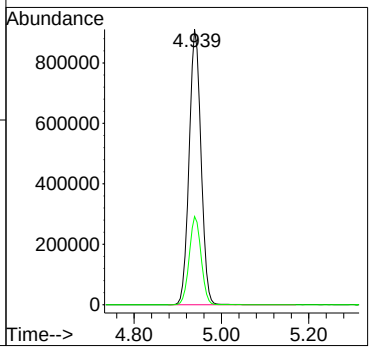


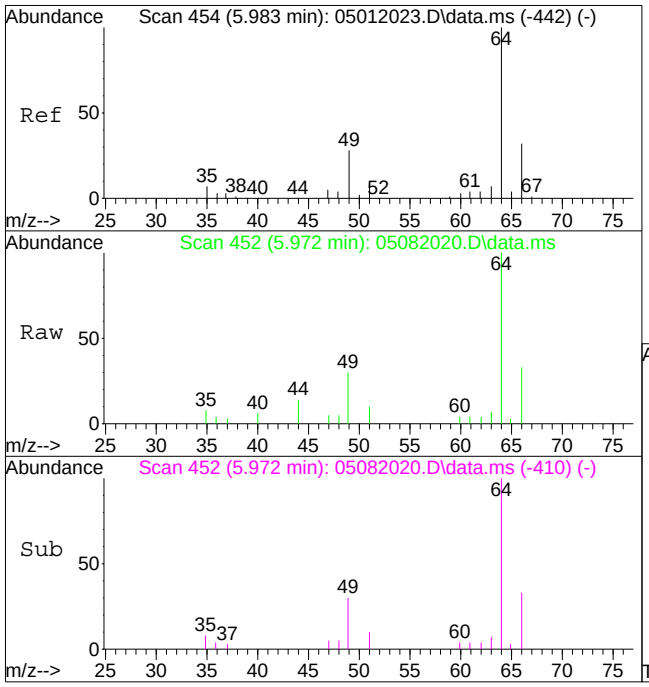


#6
Vinyl Chloride
Concen: 33.82 ng
RT: 4.94 min Scan# 264
Delta R.T. -0.017 min
Lab File: 05082020.D
Acq: 8 May 2020 11:44

Tgt Ion: 62 Resp: 1716502

Ion	Ratio	Lower	Upper
62	100		
64	32.1	12.1	52.1

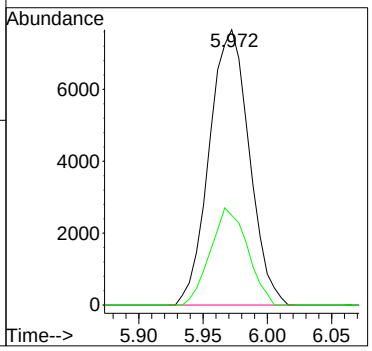


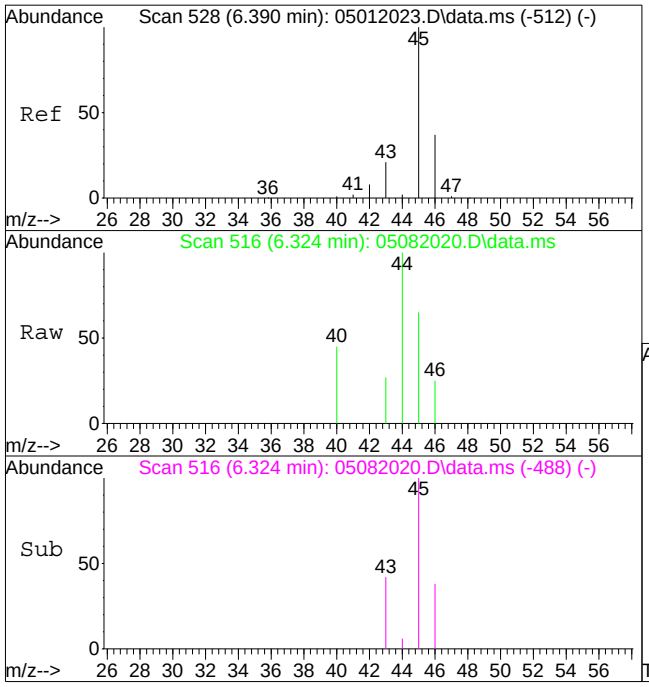


#9
Chloroethane
Concen: 0.83 ng
RT: 5.97 min Scan# 452
Delta R.T. -0.017 min
Lab File: 05082020.D
Acq: 8 May 2020 11:44

Tgt Ion: 64 Resp: 16548

Ion	Ratio	Lower	Upper
64	100		
66	32.7	12.1	52.1

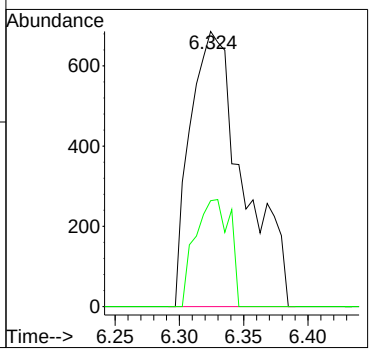


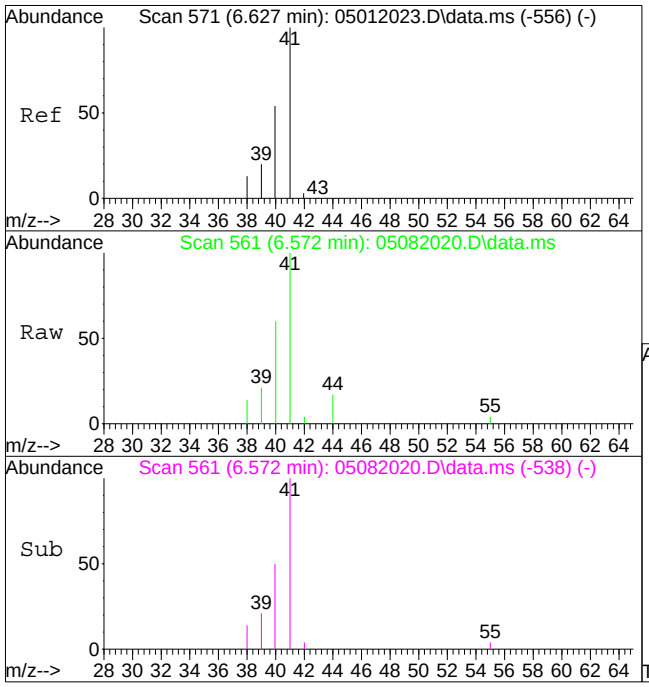


#10
Ethanol
Concen: 0.08 ng
RT: 6.32 min Scan# 516
Delta R.T. -0.094 min
Lab File: 05082020.D
Acq: 8 May 2020 11:44

Tgt Ion: 45 Resp: 1971

Ion	Ratio	Lower	Upper
45	100		
46	25.4	17.2	57.2

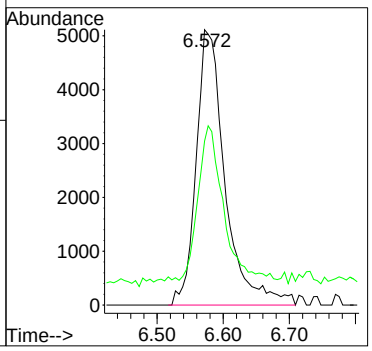


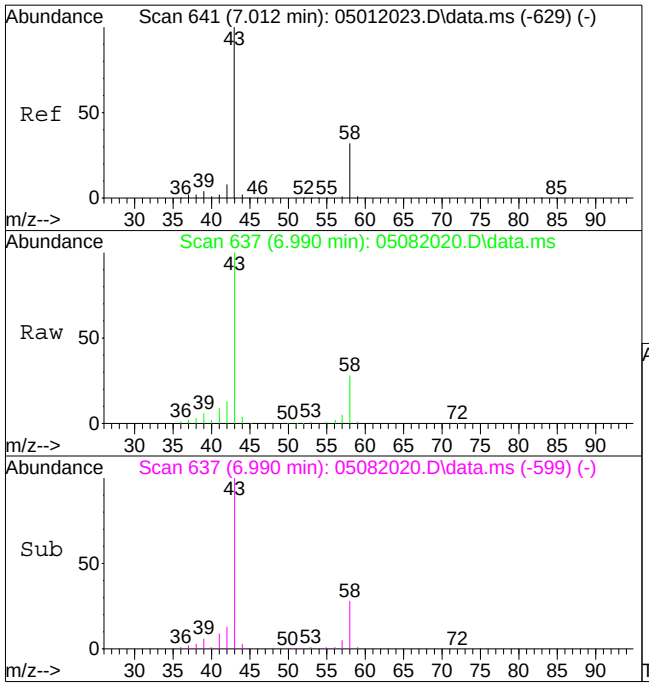


#11
Acetonitrile
Concen: 0.29 ng
RT: 6.57 min Scan# 561
Delta R.T. -0.072 min
Lab File: 05082020.D
Acq: 8 May 2020 11:44

Tgt Ion: 41 Resp: 15529

Ion	Ratio	Lower	Upper
41	100		
40	56.4	33.6	73.6

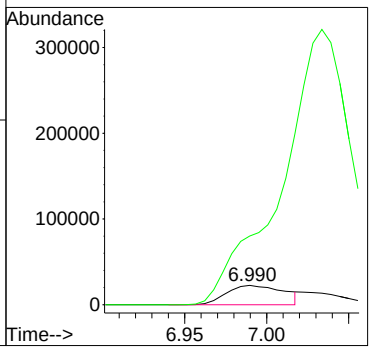


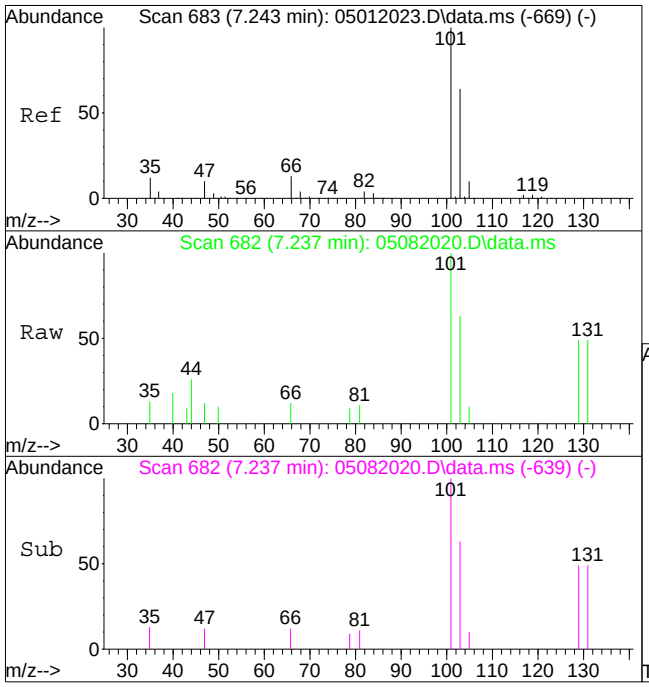


#13
Acetone
Concen: 2.37 ng m
RT: 6.99 min Scan# 637
Delta R.T. -0.039 min
Lab File: 05082020.D
Acq: 8 May 2020 11:44

Tgt Ion: 58 Resp: 55184

Ion	Ratio	Lower	Upper
58	100		
43	1714.9	294.4	354.4#

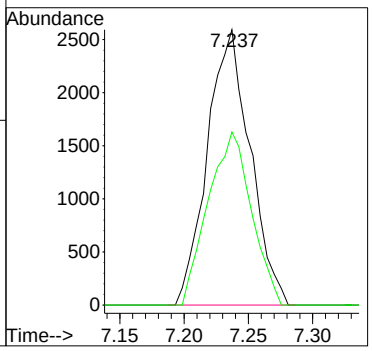


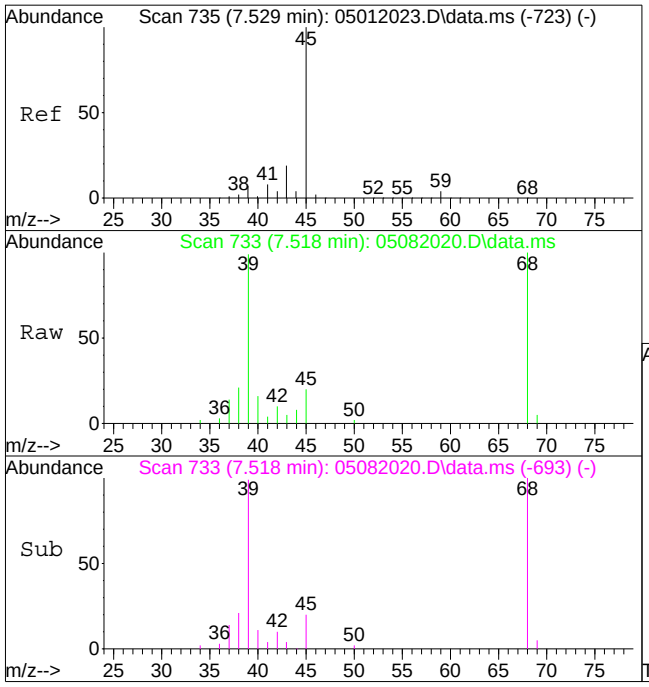


#14
Trichlorofluoromethane
Concen: 0.11 ng
RT: 7.24 min Scan# 682
Delta R.T. -0.011 min
Lab File: 05082020.D
Acq: 8 May 2020 11:44

Tgt Ion:101 Resp: 5990

Ion	Ratio	Lower	Upper
101	100		
103	63.5	44.4	84.4

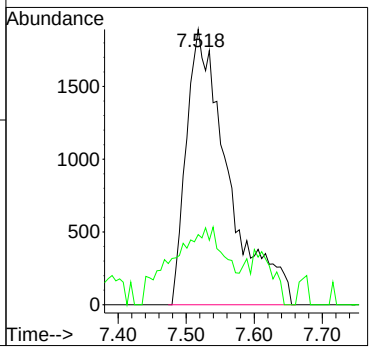


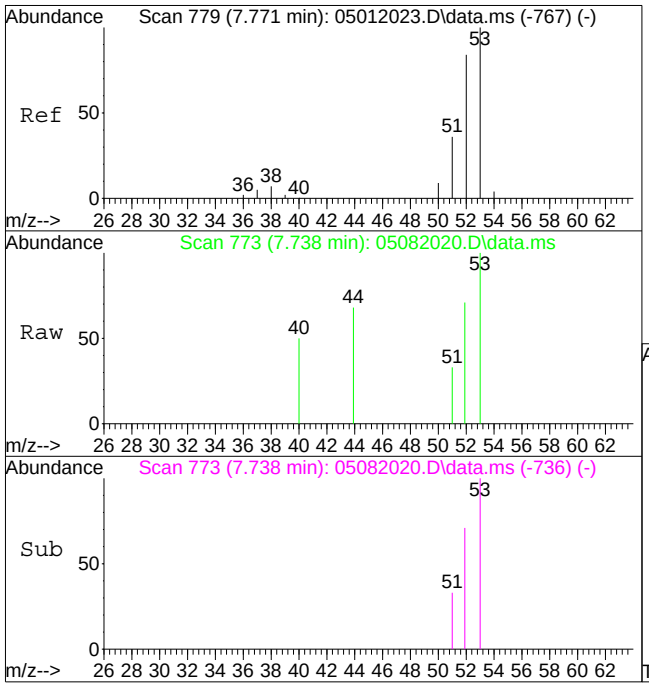


#15
2-Propanol (Isopropanol)
Concen: 0.11 ng
RT: 7.52 min Scan# 733
Delta R.T. -0.028 min
Lab File: 05082020.D
Acq: 8 May 2020 11:44

Tgt Ion: 45 Resp: 8085

Ion	Ratio	Lower	Upper
45	100		
43	48.4	0.0	39.5#

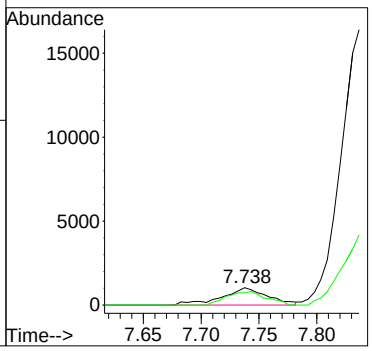


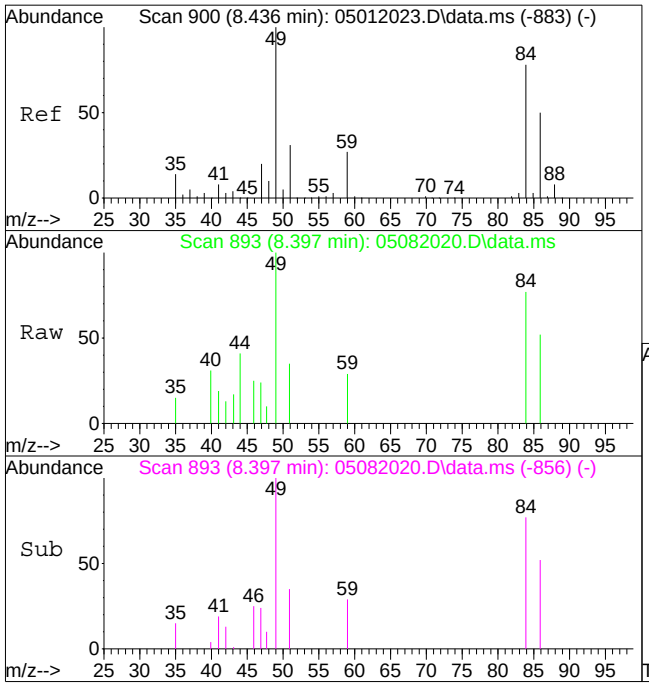


#16
Acrylonitrile
Concen: 0.07 ng
RT: 7.74 min Scan# 773
Delta R.T. -0.044 min
Lab File: 05082020.D
Acq: 8 May 2020 11:44

Tgt Ion: 53 Resp: 2810

Ion	Ratio	Lower	Upper
53	100		
52	67.7	63.7	103.7

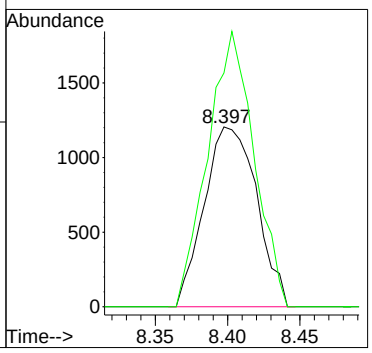


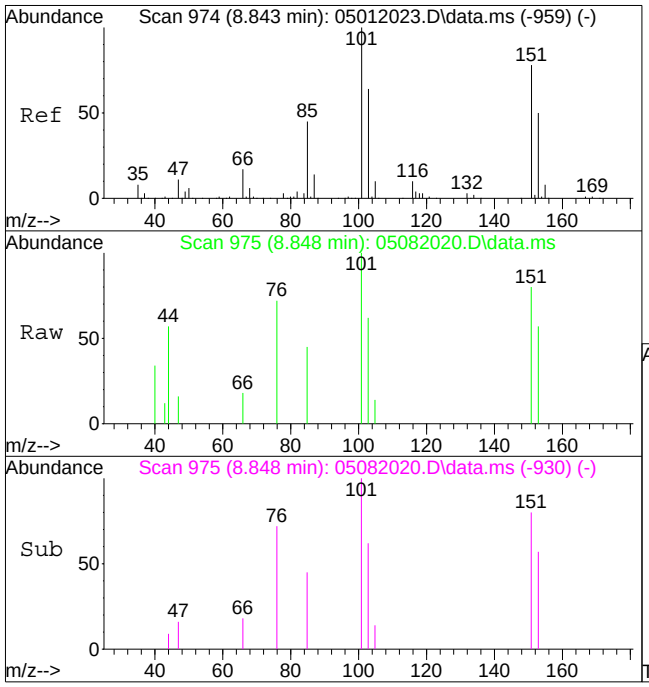


#19
Methylene Chloride
Concen: 0.10 ng
RT: 8.40 min Scan# 893
Delta R.T. -0.044 min
Lab File: 05082020.D
Acq: 8 May 2020 11:44

Tgt Ion: 84 Resp: 3049

Ion	Ratio	Lower	Upper
84	100		
49	135.2	104.8	154.8

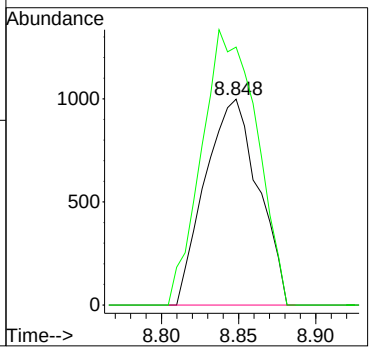


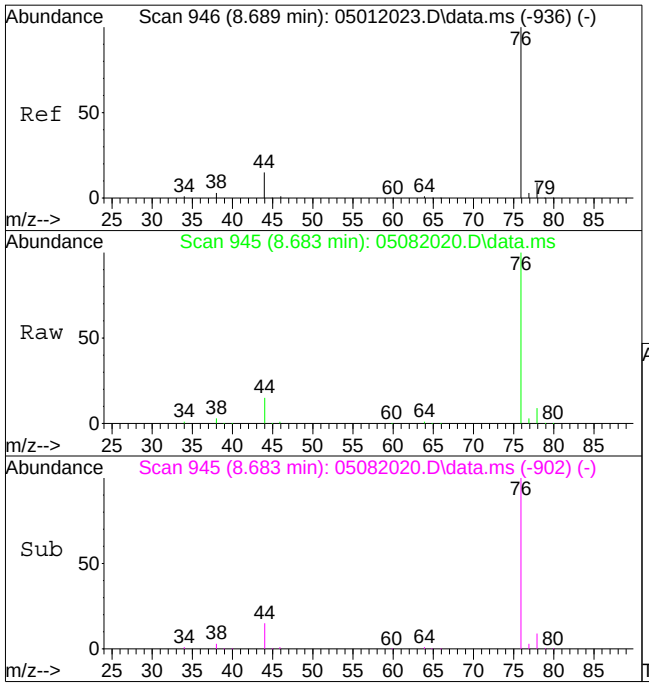


#21
Trichlorotrifluoroethane
Concen: 0.10 ng
RT: 8.85 min Scan# 975
Delta R.T. -0.000 min
Lab File: 05082020.D
Acq: 8 May 2020 11:44

Tgt Ion:151 Resp: 2399

Ion	Ratio	Lower	Upper
151	100		
101	138.2	107.3	147.3

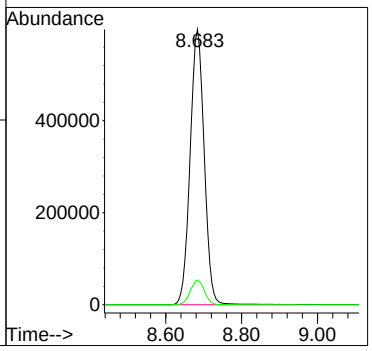


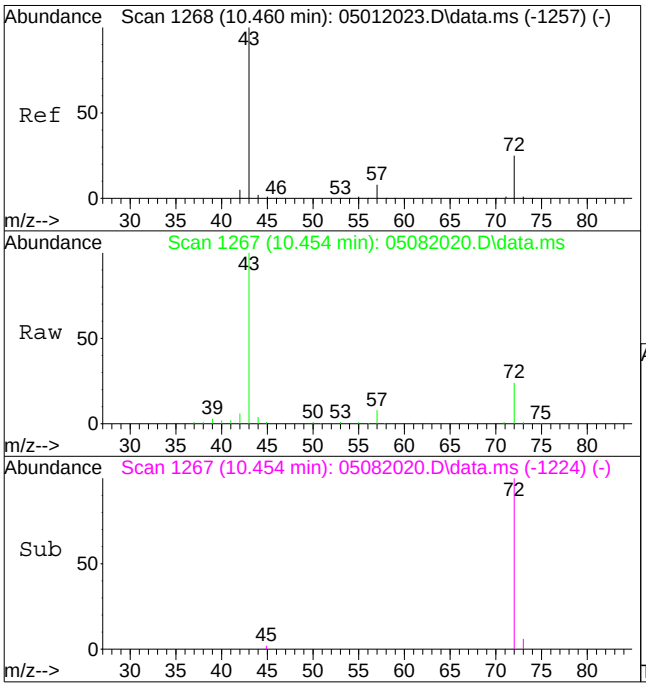


#22
Carbon Disulfide
Concen: 14.25 ng
RT: 8.68 min Scan# 945
Delta R.T. -0.011 min
Lab File: 05082020.D
Acq: 8 May 2020 11:44

Tgt Ion: 76 Resp: 1548072

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	29.2

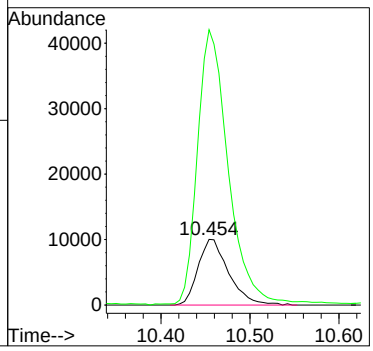


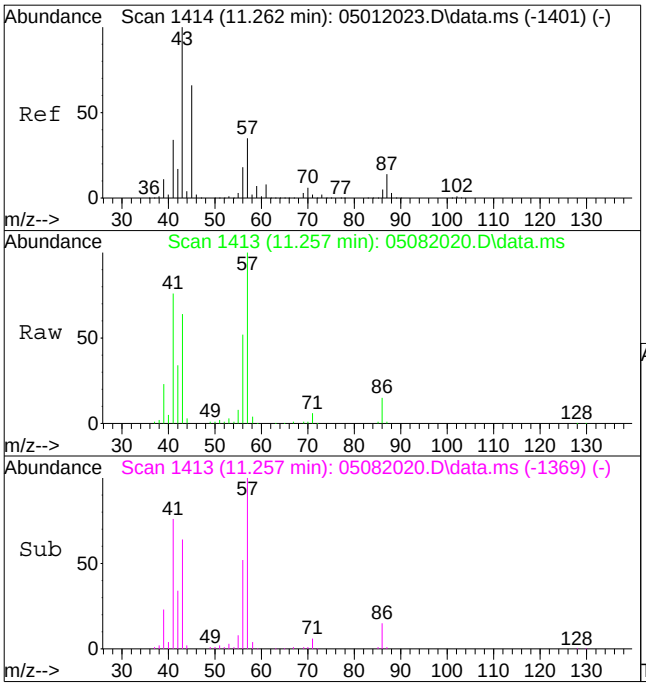


#27
2-Butanone (MEK)
Concen: 1.21 ng
RT: 10.45 min Scan# 1267
Delta R.T. -0.011 min
Lab File: 05082020.D
Acq: 8 May 2020 11:44

Tgt Ion: 72 Resp: 23984

Ion	Ratio	Lower	Upper
72	100		
43	427.9	389.7	429.7

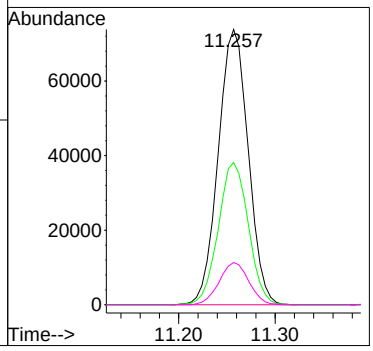


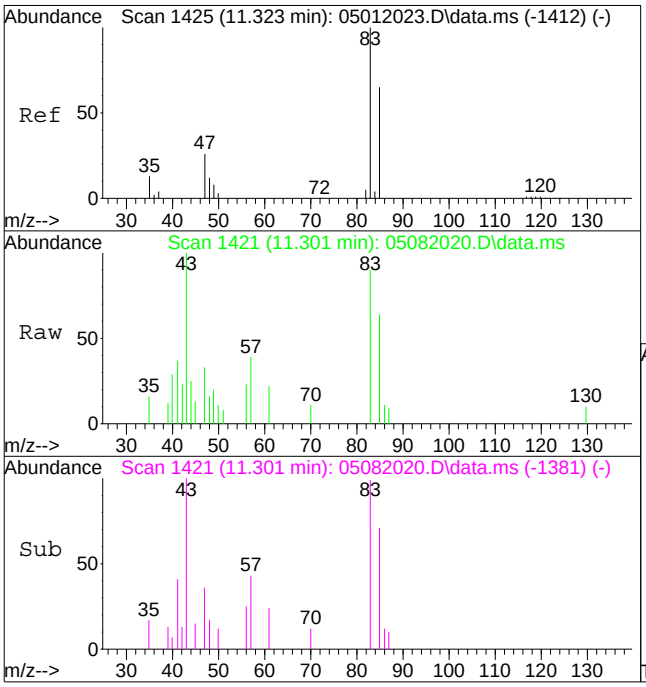


#31
n-Hexane
Concen: 3.20 ng
RT: 11.26 min Scan# 1413
Delta R.T. -0.006 min
Lab File: 05082020.D
Acq: 8 May 2020 11:44

Tgt Ion: 57 Resp: 159406

Ion	Ratio	Lower	Upper
57	100		
56	51.8	41.4	62.0
86	15.1	12.4	18.6

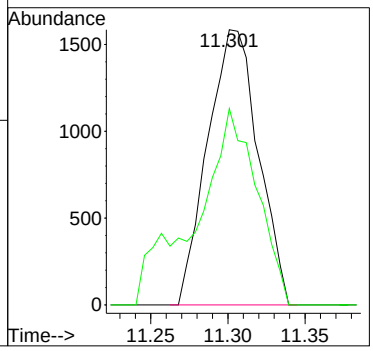


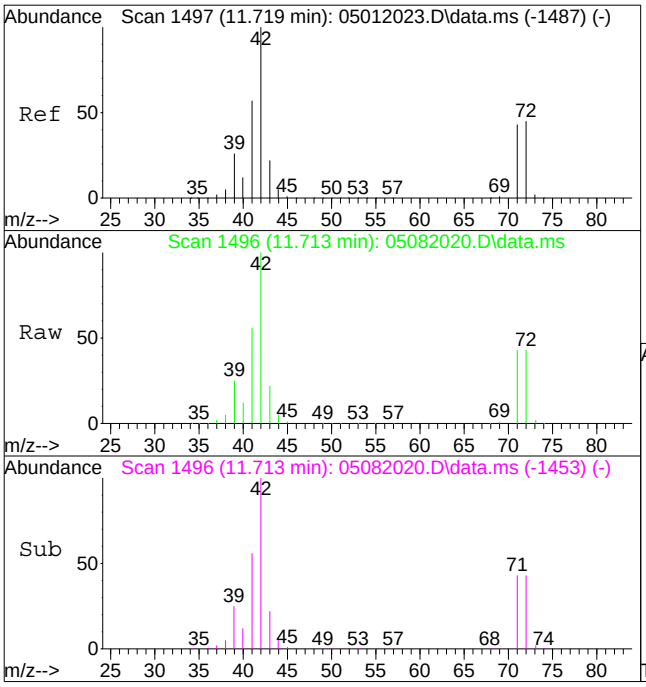


#32
Chloroform
Concen: 0.07 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.028 min
Lab File: 05082020.D
Acq: 8 May 2020 11:44

Tgt Ion: 83 Resp: 3623

Ion	Ratio	Lower	Upper
83	100		
85	67.2	45.5	85.5

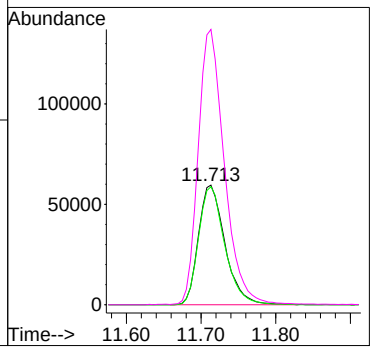


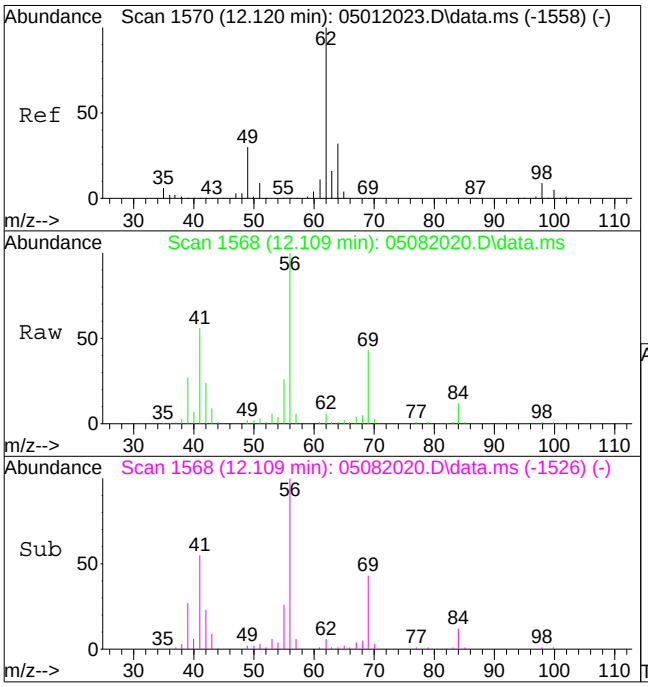


#34
Tetrahydrofuran (THF)
Concen: 7.58 ng
RT: 11.71 min Scan# 1496
Delta R.T. -0.011 min
Lab File: 05082020.D
Acq: 8 May 2020 11:44

Tgt Ion: 72 Resp: 147013

Ion	Ratio	Lower	Upper
72	100		
71	97.4	77.0	117.0
42	228.3	204.6	244.6

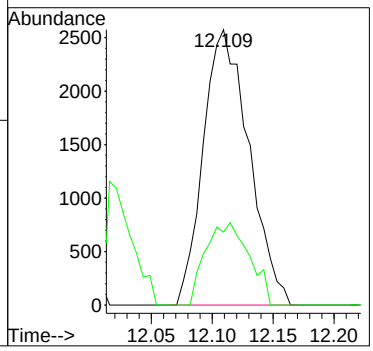


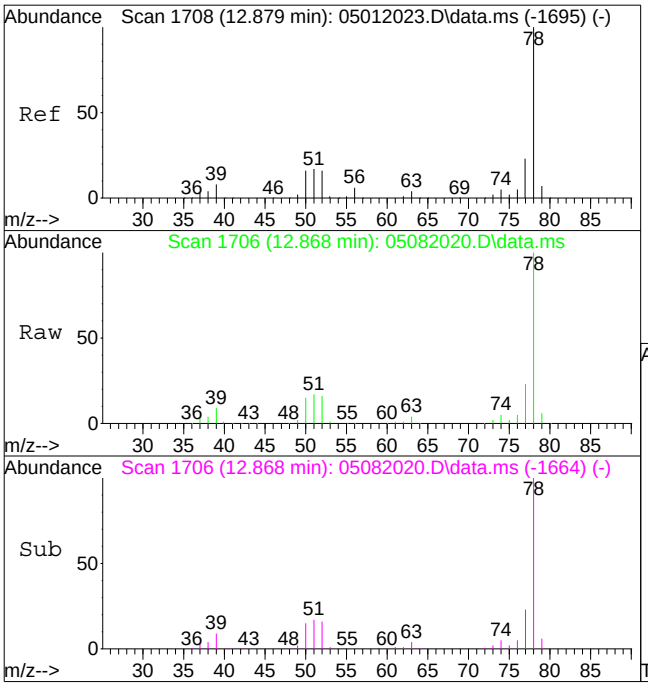


#36
1,2-Dichloroethane
Concen: 0.16 ng
RT: 12.11 min Scan# 1568
Delta R.T. -0.017 min
Lab File: 05082020.D
Acq: 8 May 2020 11:44

Tgt Ion: 62 Resp: 6703

Ion	Ratio	Lower	Upper
62	100		
64	28.6	12.4	52.4

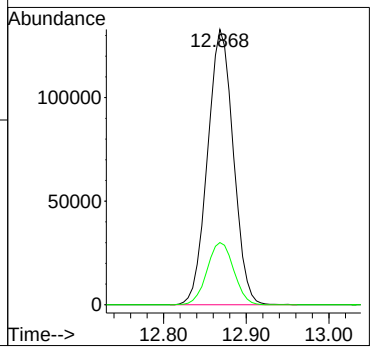


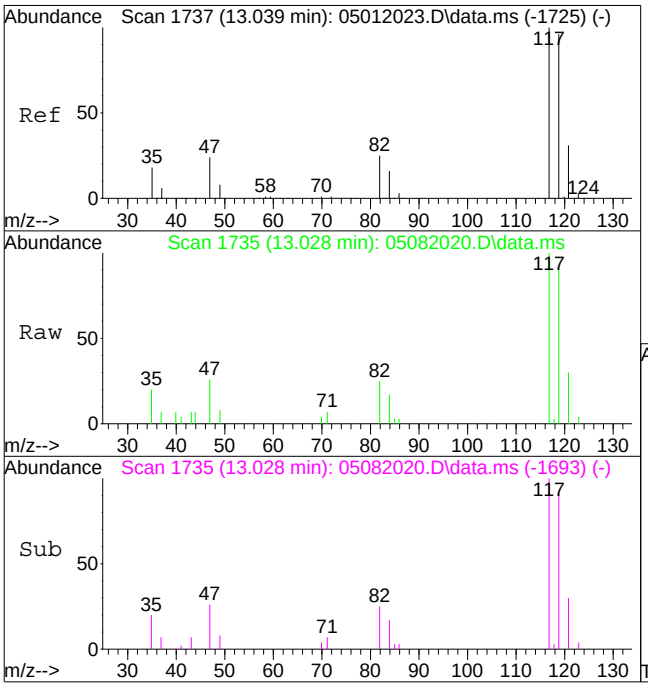


#41
Benzene
Concen: 2.38 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05082020.D
Acq: 8 May 2020 11:44

Tgt Ion: 78 Resp: 287883

Ion	Ratio	Lower	Upper
78	100		
77	23.3	3.4	43.4

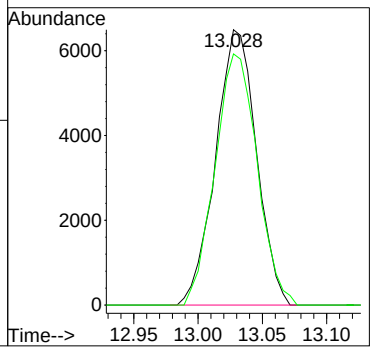


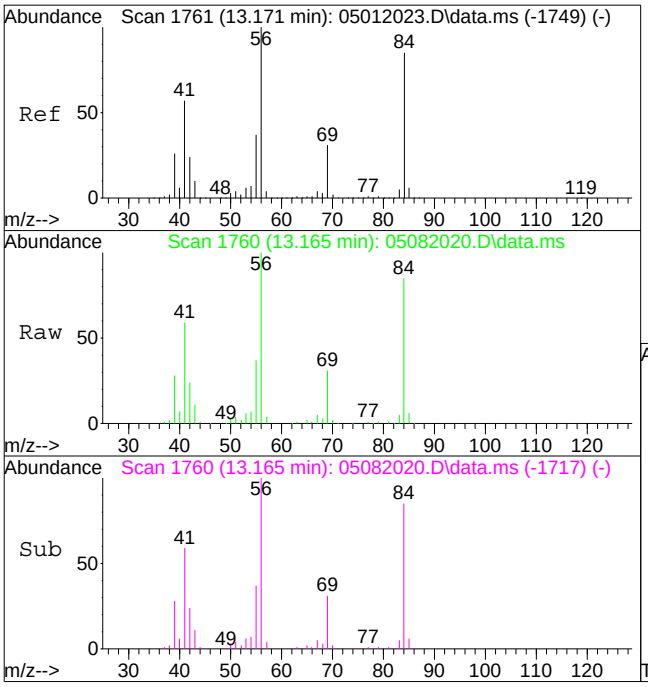


#42
Carbon Tetrachloride
Concen: 0.35 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05082020.D
Acq: 8 May 2020 11:44

Tgt Ion:117 Resp: 14329

Ion	Ratio	Lower	Upper
117	100		
119	94.3	76.2	116.2

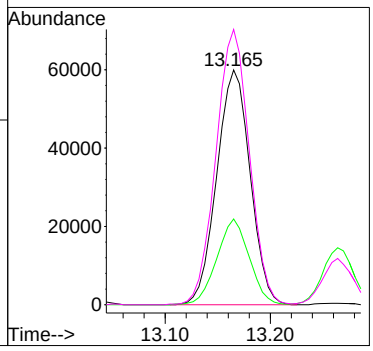


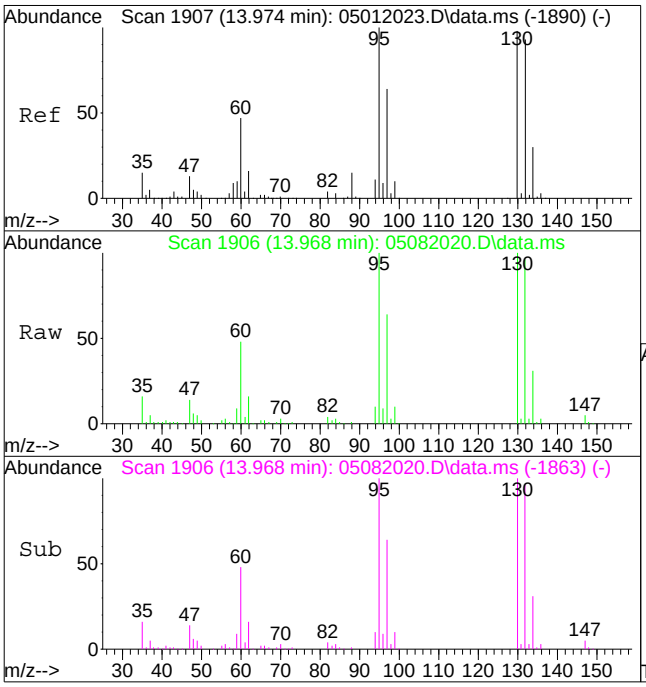


#43
Cyclohexane
Concen: 2.94 ng
RT: 13.17 min Scan# 1760
Delta R.T. -0.011 min
Lab File: 05082020.D
Acq: 8 May 2020 11:44

Tgt Ion: 84 Resp: 132423

Ion	Ratio	Lower	Upper
84	100		
69	35.4	16.5	56.5
56	117.2	97.4	137.4

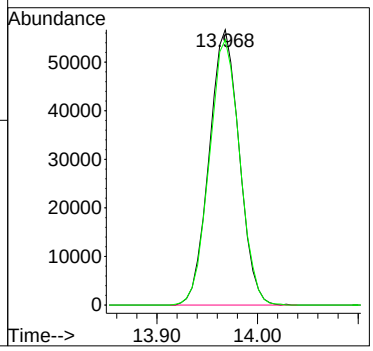


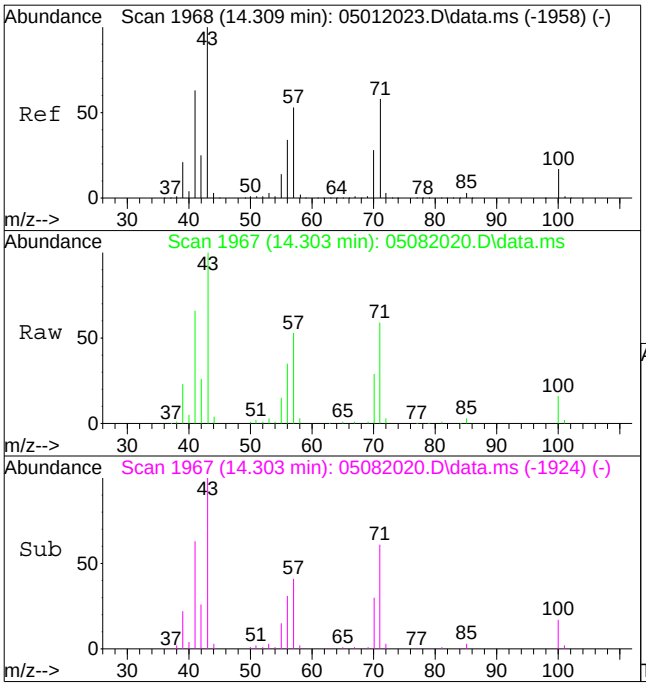


#47
Trichloroethene
Concen: 3.77 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05082020.D
Acq: 8 May 2020 11:44

Tgt Ion:130 Resp: 117588

Ion	Ratio	Lower	Upper
130	100		
132	97.6	74.9	114.9

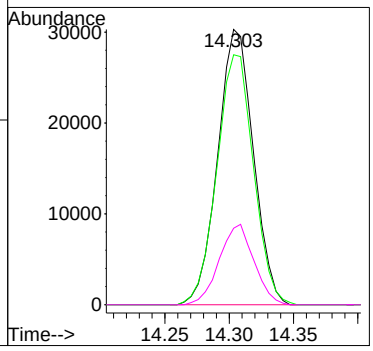


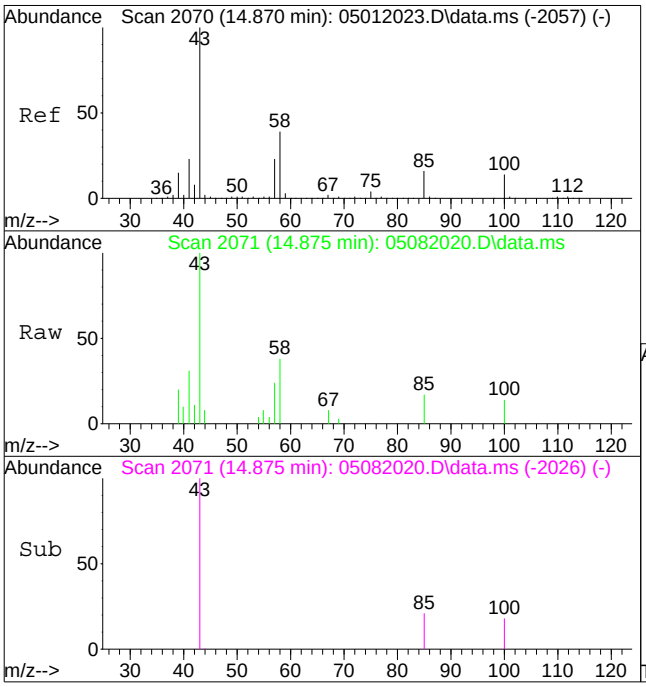


#51
n-Heptane
Concen: 2.07 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05082020.D
Acq: 8 May 2020 11:44

Tgt Ion: 71 Resp: 58545

Ion	Ratio	Lower	Upper
71	100		
57	93.3	71.0	111.0
100	28.3	8.4	48.4

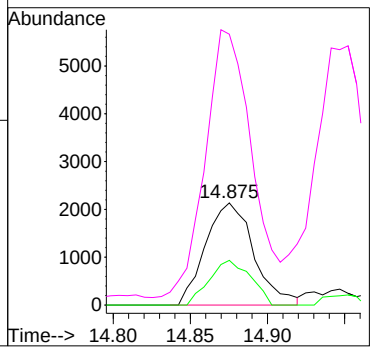


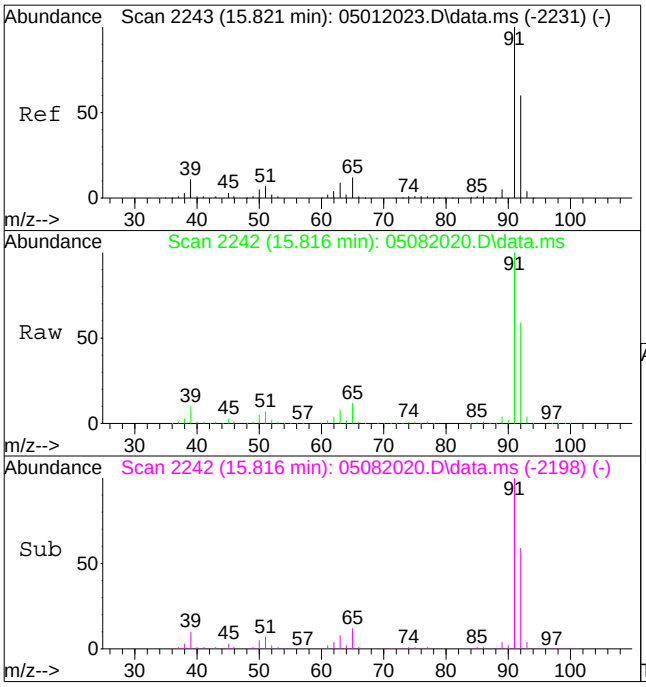


#53
4-Methyl-2-pentanone
Concen: 0.17 ng
RT: 14.88 min Scan# 2071
Delta R.T. -0.000 min
Lab File: 05082020.D
Acq: 8 May 2020 11:44

Tgt Ion: 58 Resp: 4653

Ion	Ratio	Lower	Upper
58	100		
85	37.4	35.4	53.2
43	256.0	203.3	304.9

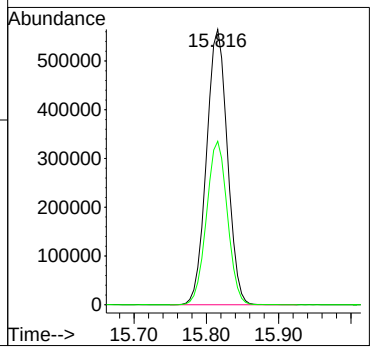


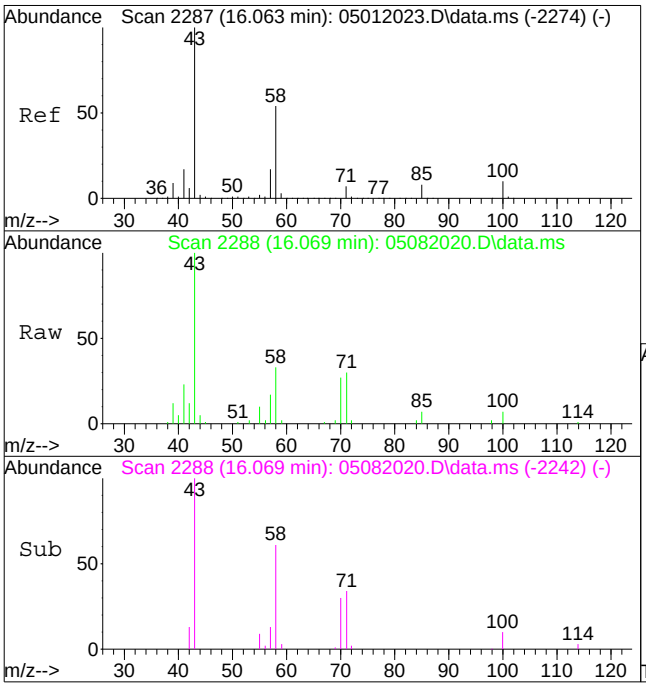


#58
Toluene
Concen: 9.87 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05082020.D
Acq: 8 May 2020 11:44

Tgt Ion: 91 Resp: 1132176

Ion	Ratio	Lower	Upper
91	100		
92	59.4	39.4	79.4

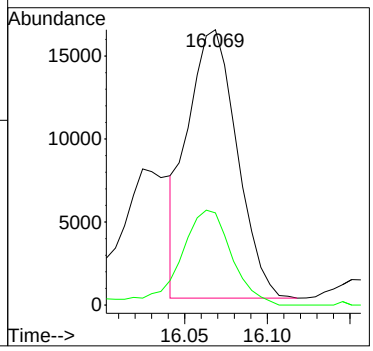


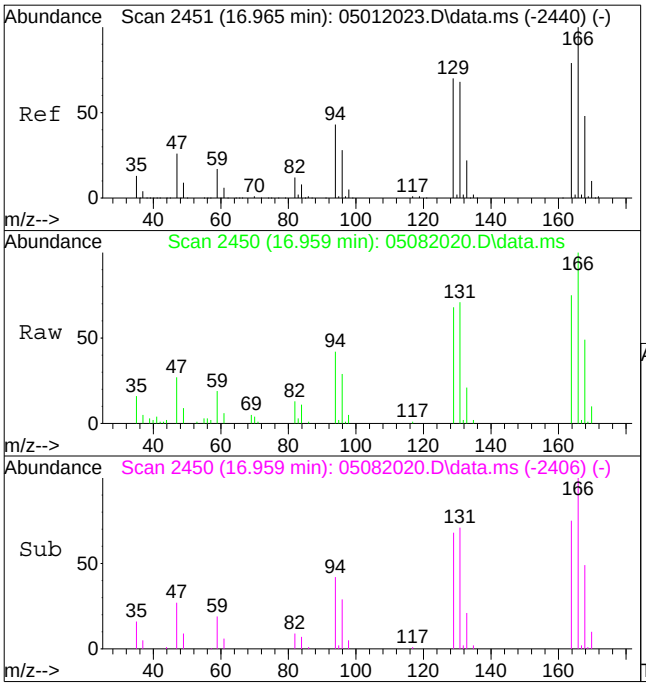


#59
2-Hexanone
Concen: 0.53 ng
RT: 16.07 min Scan# 2288
Delta R.T. 0.005 min
Lab File: 05082020.D
Acq: 8 May 2020 11:44

Tgt Ion: 43 Resp: 33623

Ion	Ratio	Lower	Upper
43	100		
58	36.4	34.5	74.5

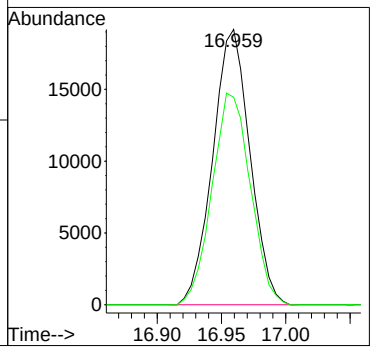


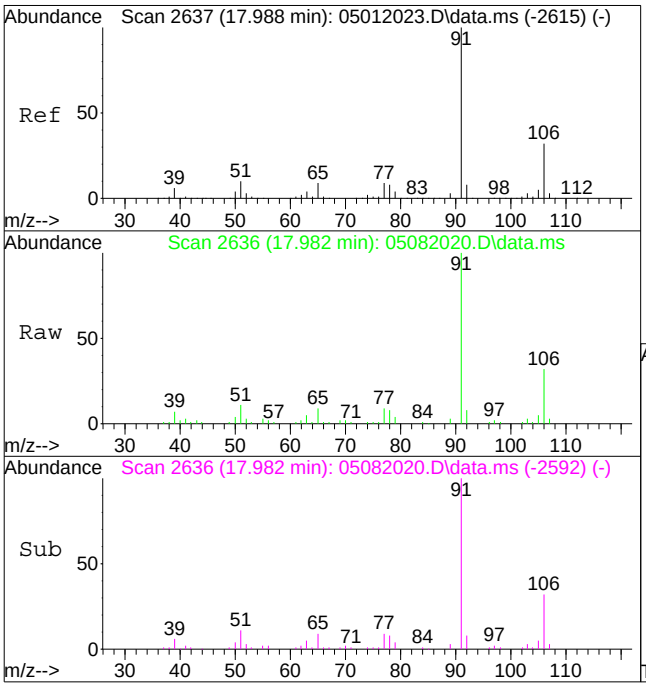


#64
Tetrachloroethene
Concen: 1.19 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05082020.D
Acq: 8 May 2020 11:44

Tgt Ion:166 Resp: 38671

Ion	Ratio	Lower	Upper
166	100		
164	78.9	58.4	98.4

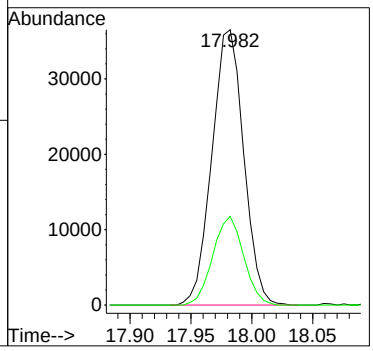


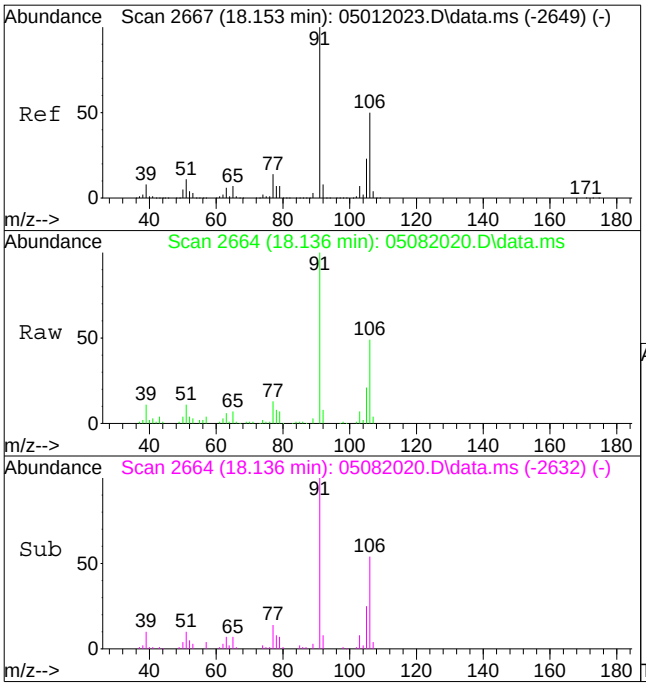


#66
Ethylbenzene
Concen: 0.52 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05082020.D
Acq: 8 May 2020 11:44

Tgt Ion: 91 Resp: 66276

Ion	Ratio	Lower	Upper
91	100		
106	31.2	11.6	51.6

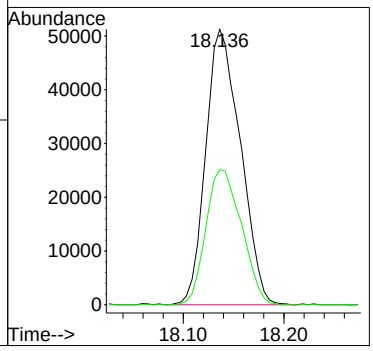


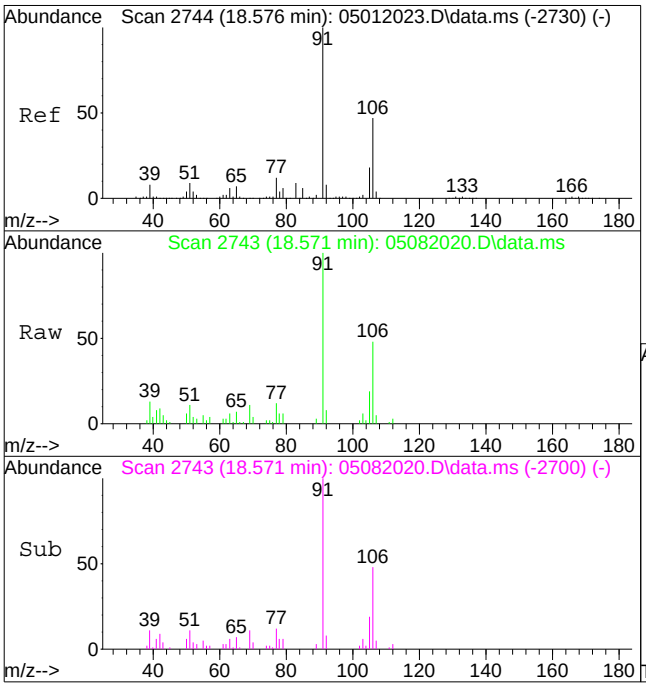


#67
m- & p-Xylenes
Concen: 1.21 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05082020.D
Acq: 8 May 2020 11:44

Tgt Ion: 91 Resp: 122943

Ion	Ratio	Lower	Upper
91	100		
106	50.3	29.7	69.7

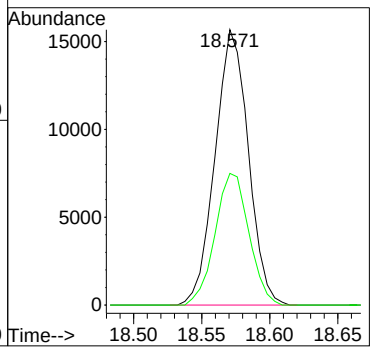


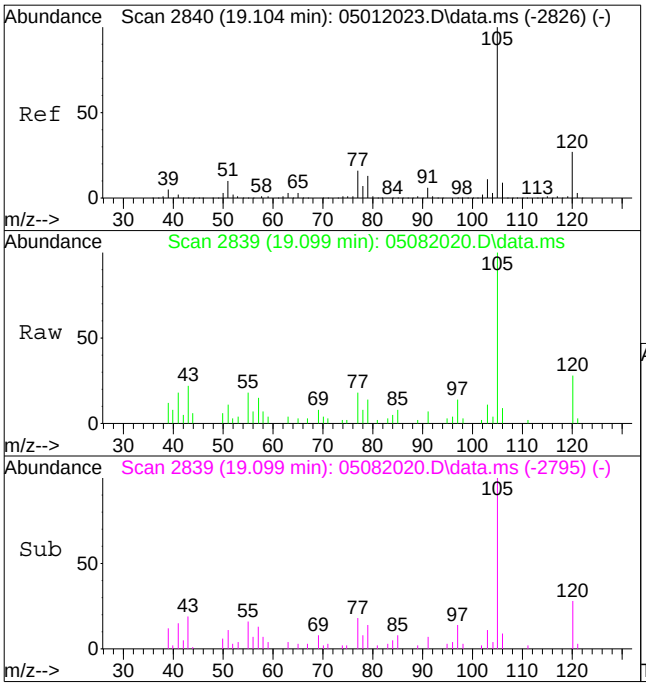


#70
o-Xylene
Concen: 0.26 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05082020.D
Acq: 8 May 2020 11:44

Tgt Ion: 91 Resp: 26643

Ion	Ratio	Lower	Upper
91	100		
106	48.7	27.5	67.5

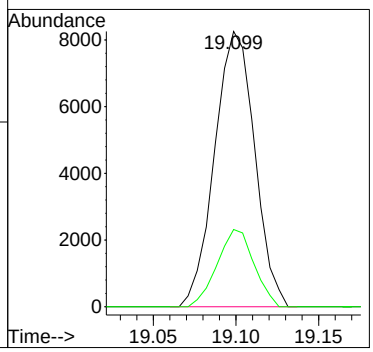


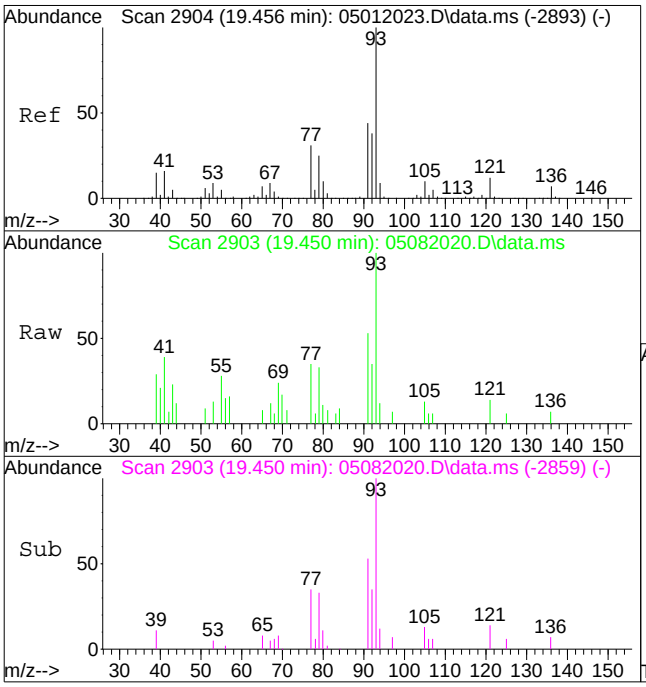


#74
Cumene
Concen: 0.11 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05082020.D
Acq: 8 May 2020 11:44

Tgt Ion:105 Resp: 13917

Ion	Ratio	Lower	Upper
105	100		
120	25.7	6.8	46.8

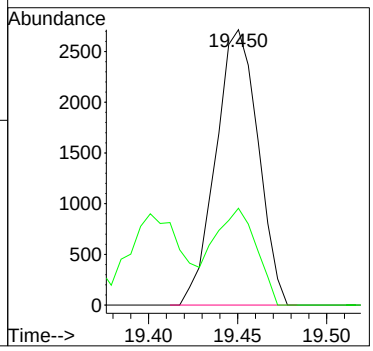


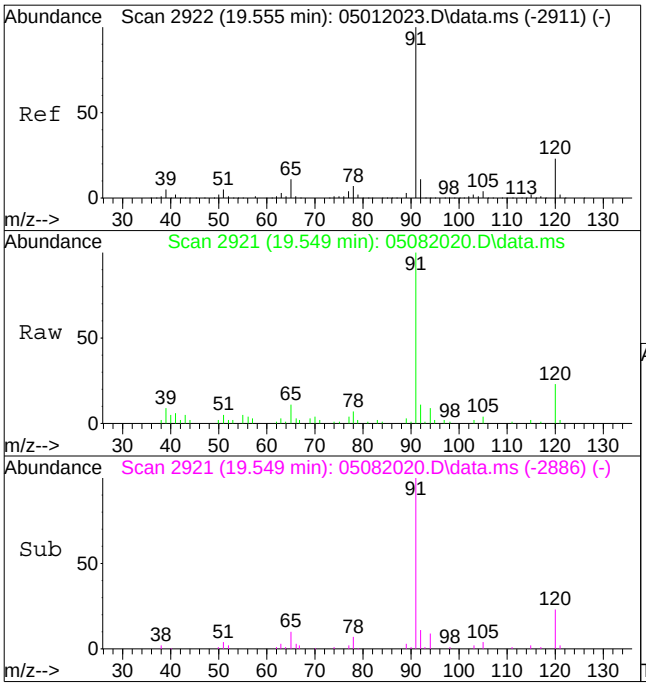


#75
alpha-Pinene
Concen: 0.07 ng
RT: 19.45 min Scan# 2903
Delta R.T. -0.006 min
Lab File: 05082020.D
Acq: 8 May 2020 11:44

Tgt Ion: 93 Resp: 4489

Ion	Ratio	Lower	Upper
93	100		
77	34.8	11.2	51.2

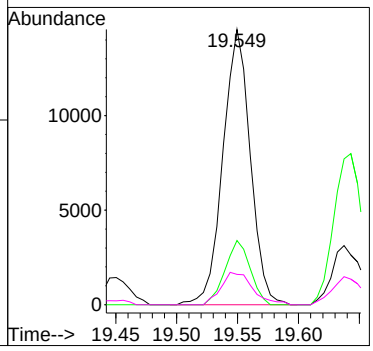


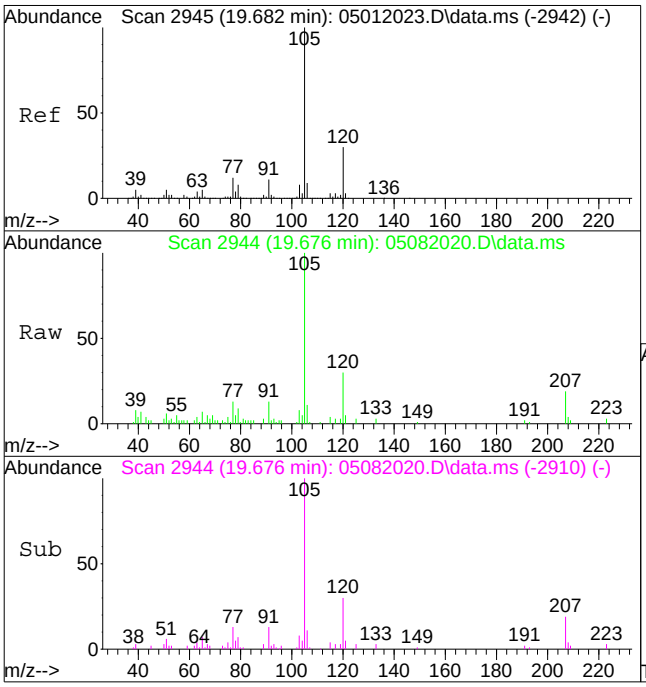


#76
n-Propylbenzene
Concen: 0.15 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05082020.D
Acq: 8 May 2020 11:44

Tgt Ion: 91 Resp: 22744

Ion	Ratio	Lower	Upper
91	100		
120	21.3	3.1	43.1
65	13.6	0.0	30.9

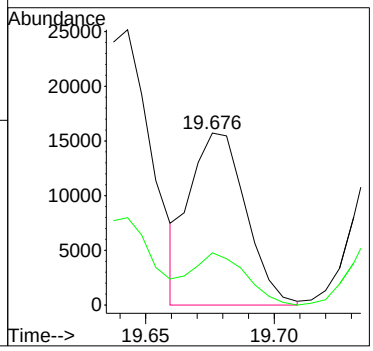


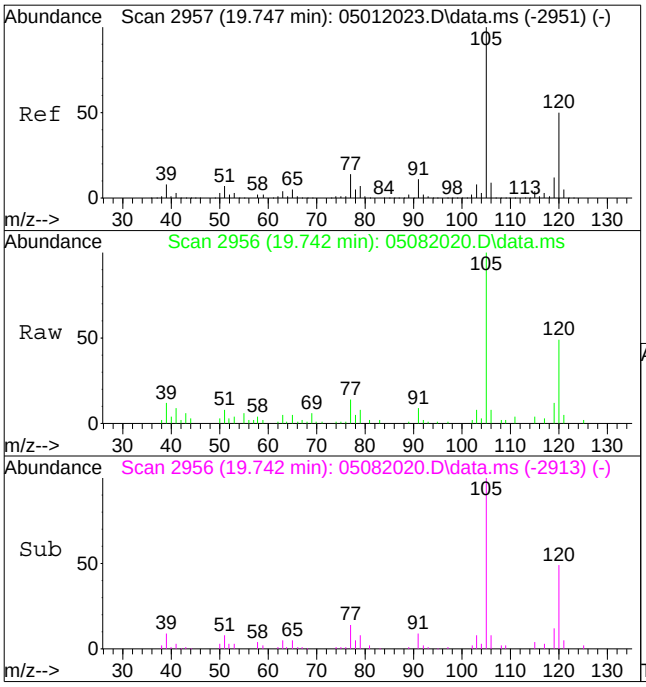


#78
4-Ethyltoluene
Concen: 0.20 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05082020.D
Acq: 8 May 2020 11:44

Tgt Ion:105 Resp: 23873

Ion	Ratio	Lower	Upper
105	100		
120	29.8	10.4	50.4

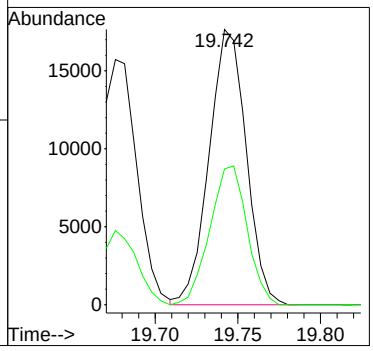


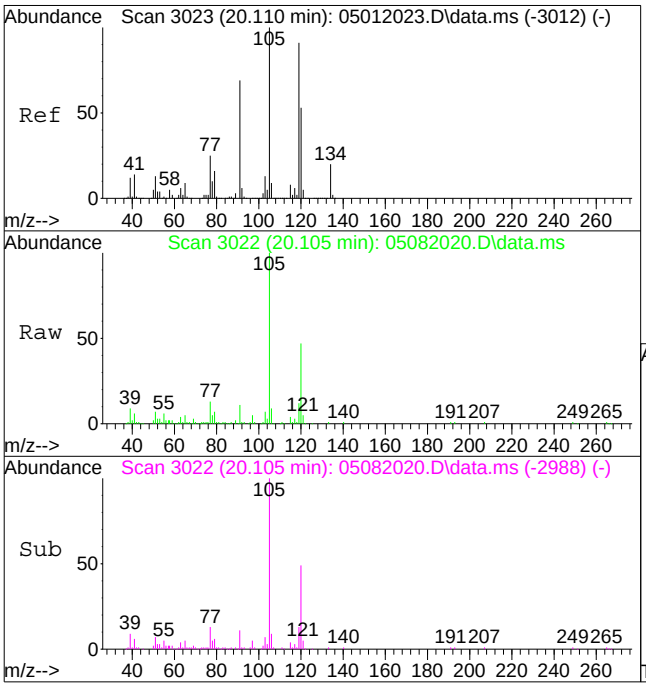


#79
1,3,5-Trimethylbenzene
Concen: 0.27 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05082020.D
Acq: 8 May 2020 11:44

Tgt Ion:105 Resp: 27560

Ion	Ratio	Lower	Upper
105	100		
120	50.5	29.9	69.9

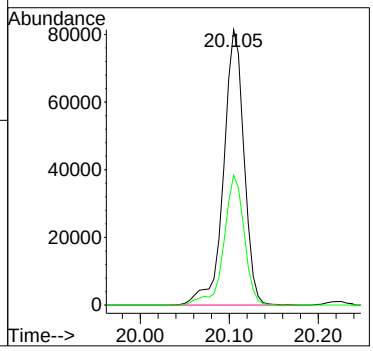


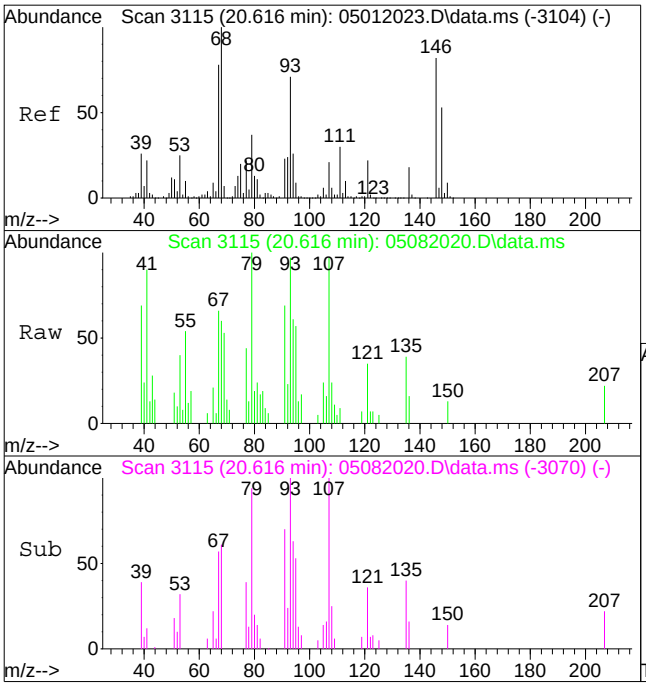


#82
1,2,4-Trimethylbenzene
Concen: 1.25 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05082020.D
Acq: 8 May 2020 11:44

Tgt Ion:105 Resp: 129754

Ion	Ratio	Lower	Upper
105	100		
120	46.9	33.6	73.6

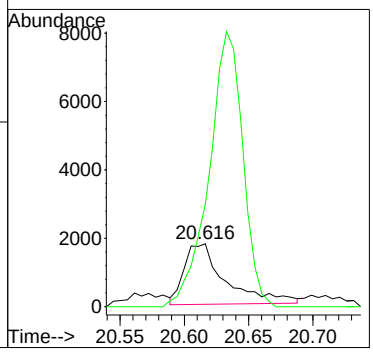




#91
d-Limonene
Concen: 0.10 ng
RT: 20.62 min Scan# 3115
Delta R.T. -0.000 min
Lab File: 05082020.D
Acq: 8 May 2020 11:44

Tgt Ion: 68 Resp: 3963

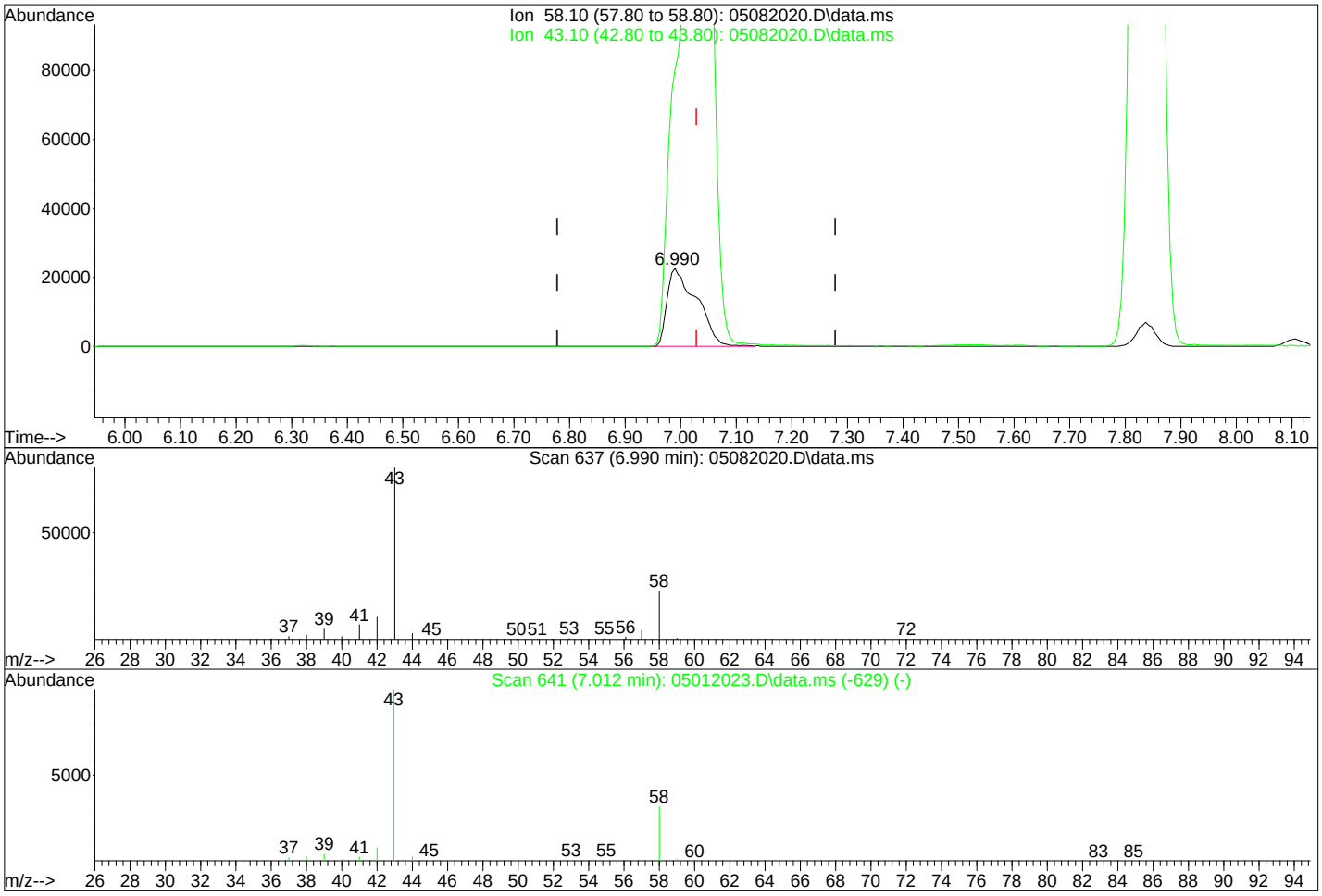
Ion	Ratio	Lower	Upper
68	100		
93	371.9	51.1	91.1#



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\08\05082020.D Vial: 11
Acq On : 8 May 2020 11:44 Operator: LH
Sample : P2002107-028 (400mL) Inst : GCMS-16
Misc : S31-02112001 pf3 (0.03, 5.67)

Quant Time: May 08 14:53:12 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05082020.D\data.ms

(13) Acetone (T)

6.990min (-0.039) 3.58ng

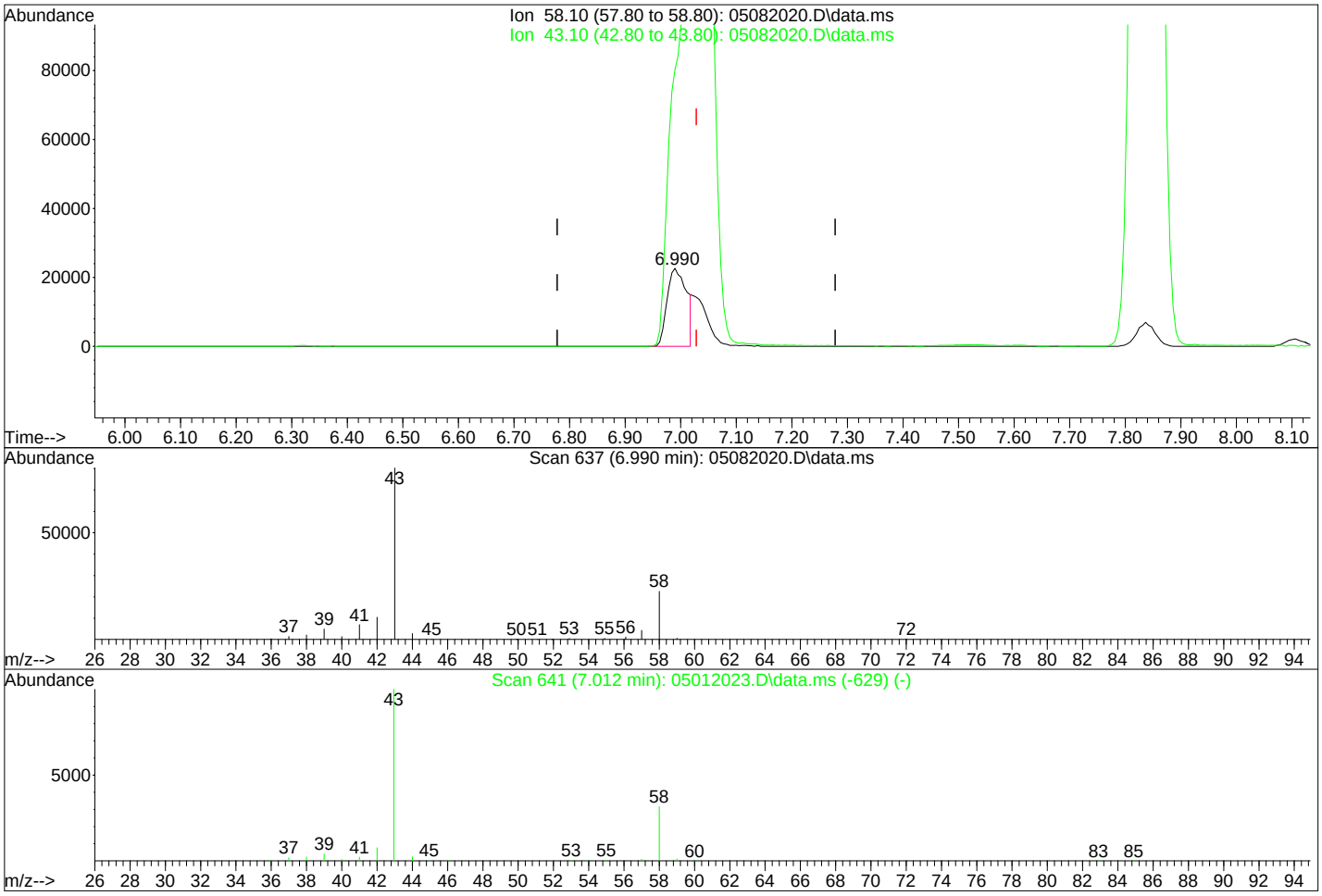
response 83494

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	1133.44#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\08\05082020.D Vial: 11
Acq On : 8 May 2020 11:44 Operator: LH
Sample : P2002107-028 (400mL) Inst : GCMS-16
Misc : S31-02112001 pf3 (0.03, 5.67)

Quant Time: May 08 14:53:12 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05082020.D\data.ms

(13) Acetone (T)

6.990min (-0.039) 2.37ng m

response 55184

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	1714.90#
0.00	0.00	0.00
0.00	0.00	0.00

IPC

LH 5/8/20

WA 5/12/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082021.D Vial: 12
Acq On : 8 May 2020 12:18 Operator: LH
Sample : P2002107-029 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 08 15:23:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/8/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	254677	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1093342	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	508256	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	413022	11.967	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.76%				
57) Toluene-d8 (SS2)	15.72	98	1077251	12.505	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.00%				
73) Bromofluorobenzene (SS3)	18.97	174	396047	12.776	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.24%				
Target Compounds							Qvalue
2) Propene	4.10	42	5248	0.178	ng		97
3) Dichlorodifluoromethan...	4.28	85	3026	0.052	ng	#	92
4) Chloromethane	4.53	50	1819	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	4.97	62	490	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.32	45	47049	2.066	ng		99
11) Acetonitrile	6.59	41	9502	0.183	ng		91
12) Acrolein	6.78	56	4696	0.261	ng		100
13) Acetone	7.00	58	35936m	1.578	ng		
14) Trichlorofluoromethane	7.25	101	1188	N.D.			
15) 2-Propanol (Isopropanol)	7.50	45	52234	0.758	ng		95
16) Acrylonitrile	7.97	53	791	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.46	59	855	N.D.			
19) Methylene Chloride	8.40	84	1417	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.68	76	5538	0.052	ng		95
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	10.08	63	256	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	d		
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.47	72	4711	0.243	ng	#	87
28) cis-1,2-Dichloroethene	10.95	61	188	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	11.28	61	4888	0.436	ng		95
31) n-Hexane	11.25	57	1754	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	11.76	72	718	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.86	78	2877	N.D.			
42) Carbon Tetrachloride	13.03	117	188	N.D.			
43) Cyclohexane	13.15	84	525	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	13.97	130	3713	0.123	ng		99
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.04	57	2348	N.D.			
50) Methyl Methacrylate	14.30	100	104	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082021.D Vial: 12
Acq On : 8 May 2020 12:18 Operator: LH
Sample : P2002107-029 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 08 15:23:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

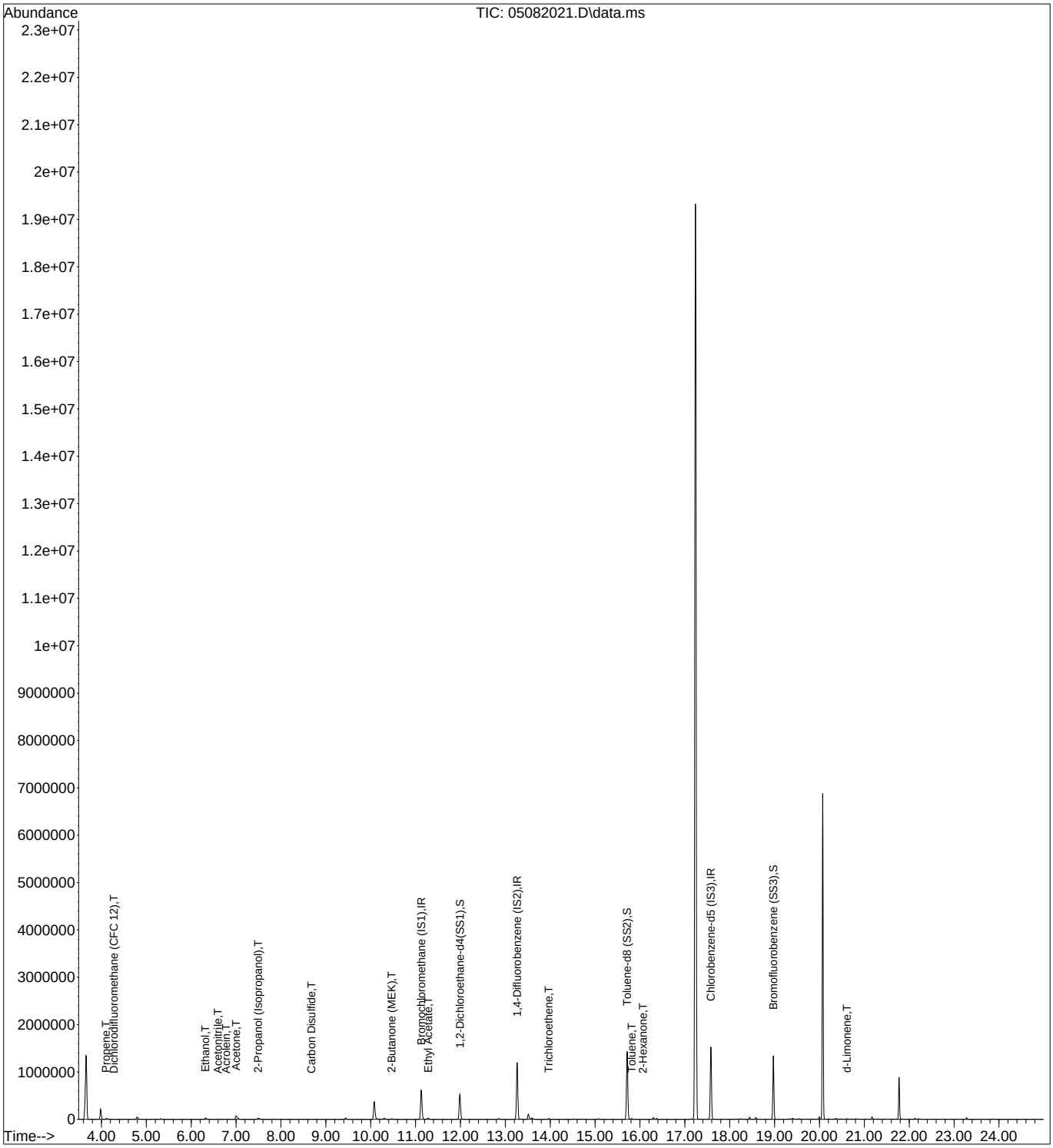
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.30	71	731	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.89	58	414	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.82	91	14601	0.131 ng	99
59) 2-Hexanone	16.07	43	4897	0.080 ng	74
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.70	43	1043	N.D.	
63) n-Octane	16.82	57	620	N.D.	
64) Tetrachloroethene	16.96	166	825	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	17.98	91	1624	N.D.	
67) m- & p-Xylenes	18.14	91	4124	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	479	N.D.	
70) o-Xylene	18.57	91	1367	N.D.	
71) n-Nonane	18.77	43	1856	N.D.	
72) 1,1,2,2-Tetrachloroethane	18.58	83	260	N.D.	
74) Cumene	19.09	105	169	N.D.	
75) alpha-Pinene	19.45	93	1746	N.D.	
76) n-Propylbenzene	19.54	91	1037	N.D.	
77) 3-Ethyltoluene	19.64	105	1106	N.D.	
78) 4-Ethyltoluene	19.68	105	781	N.D.	
79) 1,3,5-Trimethylbenzene	19.74	105	594	N.D.	
80) alpha-Methylstyrene	19.88	118	122	N.D.	
81) 2-Ethyltoluene	19.92	105	594	N.D.	
82) 1,2,4-Trimethylbenzene	0.00	105	0	N.D. d	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.21	91	298	N.D.	
85) 1,3-Dichlorobenzene	20.30	146	512	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	512	N.D.	
87) sec-Butylbenzene	20.36	105	233	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	1407	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	745	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.61	68	2401	0.061 ng	90
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.21	128	2039	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	20.85	91	1540	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082021.D Vial: 12
Acq On : 8 May 2020 12:18 Operator: LH
Sample : P2002107-029 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 08 15:23:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082021.D Vial: 12
Acq On : 8 May 2020 12:18 Operator: LH
Sample : P2002107-029 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 08 15:23:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/8/20

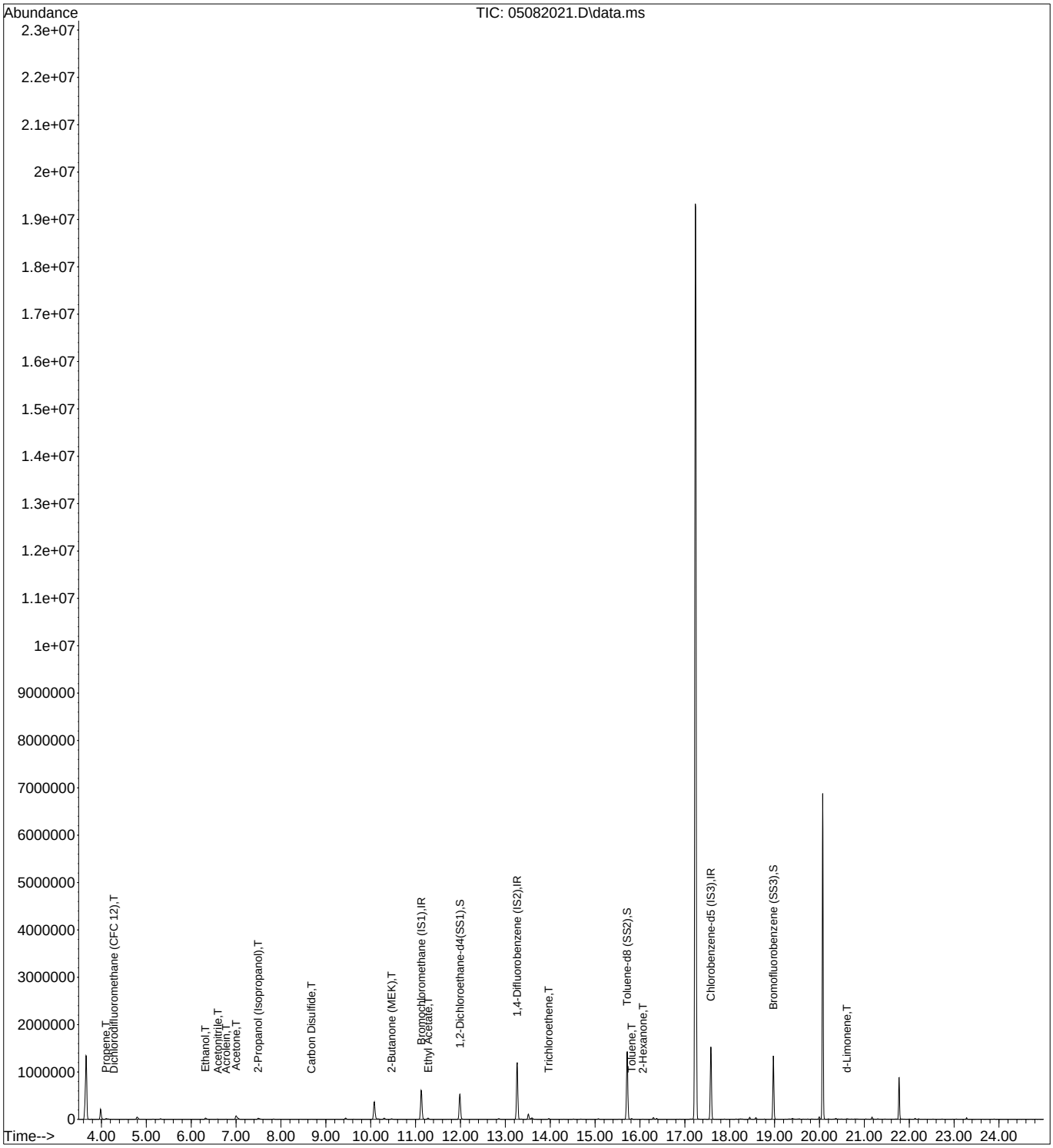
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	254677	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1093342	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	508256	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	413022	11.967	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.76%				
57) Toluene-d8 (SS2)	15.72	98	1077251	12.505	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.00%				
73) Bromofluorobenzene (SS3)	18.97	174	396047	12.776	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.24%				
Target Compounds							Qvalue
2) Propene	4.10	42	5248	0.178	ng		97
3) Dichlorodifluoromethan...	4.28	85	3026	0.052	ng	#	92
10) Ethanol	6.32	45	47049	2.066	ng		99
11) Acetonitrile	6.59	41	9502	0.183	ng		91
12) Acrolein	6.78	56	4696	0.261	ng		100
13) Acetone	7.00	58	35936m	1.578	ng		
15) 2-Propanol (Isopropanol)	7.50	45	52234	0.758	ng		95
22) Carbon Disulfide	8.68	76	5538	0.052	ng		95
27) 2-Butanone (MEK)	10.47	72	4711	0.243	ng	#	87
30) Ethyl Acetate	11.28	61	4888	0.436	ng		95
47) Trichloroethene	13.97	130	3713	0.123	ng		99
58) Toluene	15.82	91	14601	0.131	ng		99
59) 2-Hexanone	16.07	43	4897	0.080	ng		74
91) d-Limonene	20.61	68	2401	0.061	ng		90

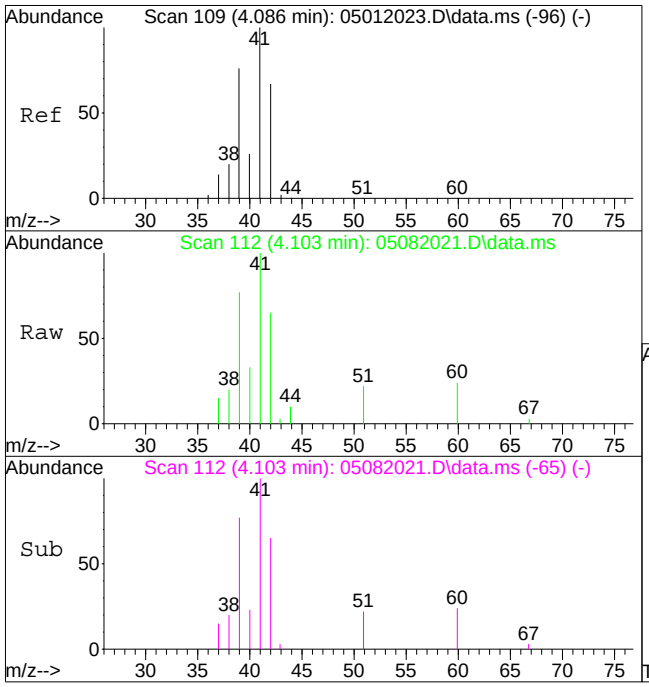
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082021.D Vial: 12
Acq On : 8 May 2020 12:18 Operator: LH
Sample : P2002107-029 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 08 15:23:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

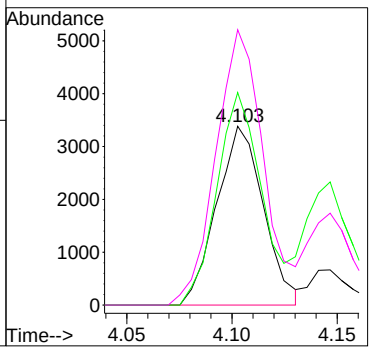


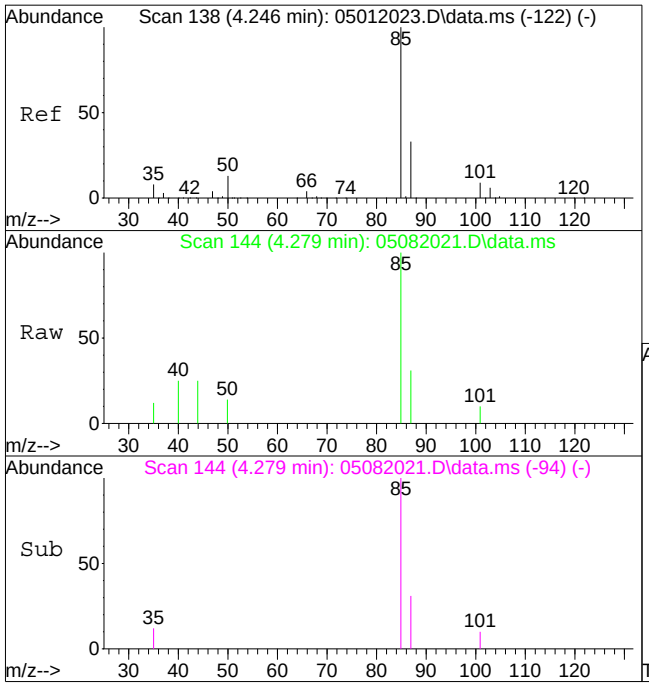


#2
Propene
Concen: 0.18 ng
RT: 4.10 min Scan# 112
Delta R.T. 0.011 min
Lab File: 05082021.D
Acq: 8 May 2020 12:18

Tgt Ion: 42 Resp: 5248

Ion	Ratio	Lower	Upper
42	100		
39	112.9	96.1	136.1
41	156.7	131.9	171.9

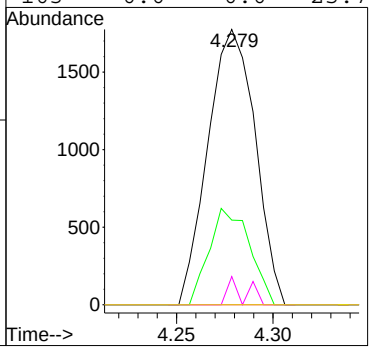


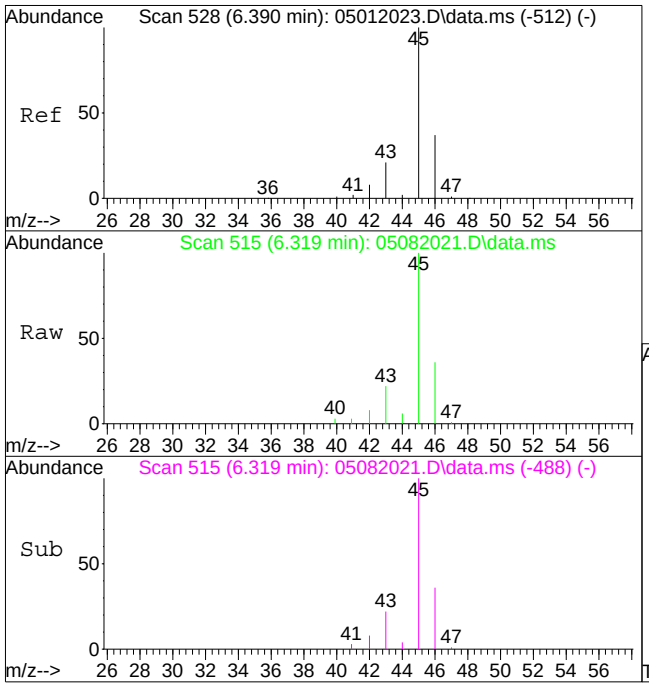


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.05 ng
RT: 4.28 min Scan# 144
Delta R.T. 0.027 min
Lab File: 05082021.D
Acq: 8 May 2020 12:18

Tgt Ion: 85 Resp: 3026

Ion	Ratio	Lower	Upper
85	100		
87	30.0	12.4	52.4
101	3.6	0.0	28.8
103	0.0	0.0	25.7

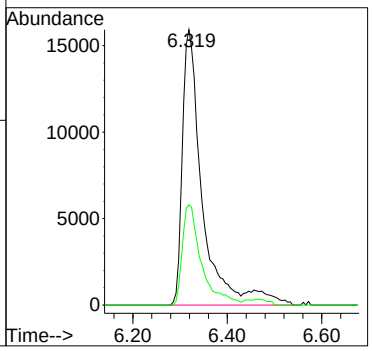


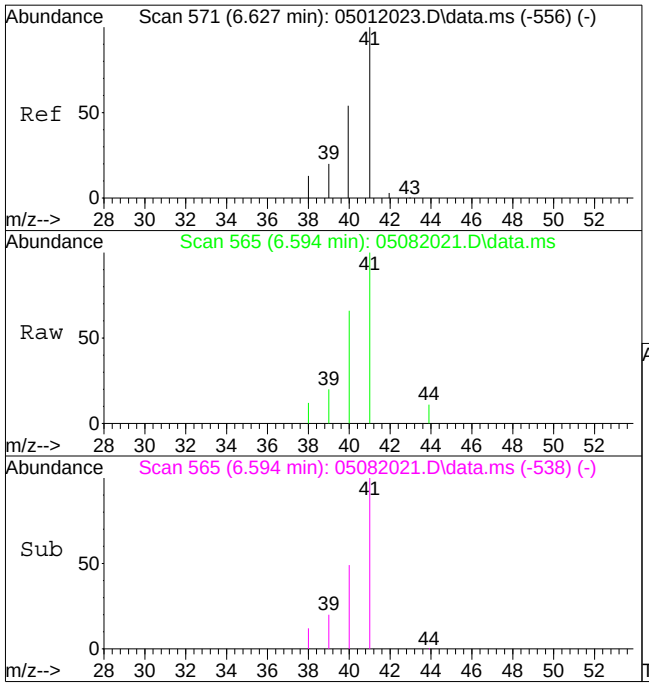


#10
Ethanol
Concen: 2.07 ng
RT: 6.32 min Scan# 515
Delta R.T. -0.099 min
Lab File: 05082021.D
Acq: 8 May 2020 12:18

Tgt Ion: 45 Resp: 47049

Ion	Ratio	Lower	Upper
45	100		
46	36.8	17.2	57.2

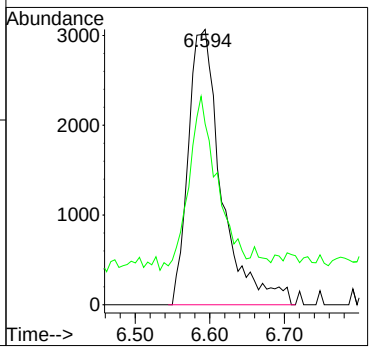


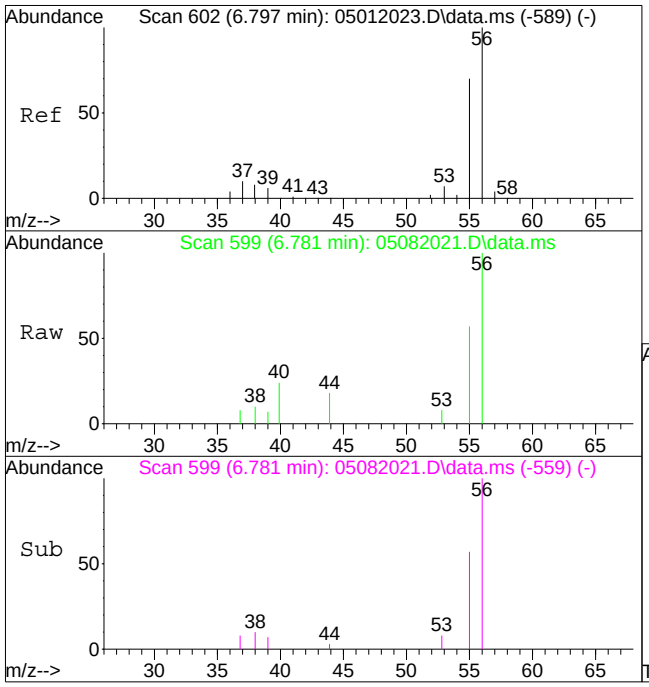


#11
Acetonitrile
Concen: 0.18 ng
RT: 6.59 min Scan# 565
Delta R.T. -0.050 min
Lab File: 05082021.D
Acq: 8 May 2020 12:18

Tgt Ion: 41 Resp: 9502

Ion	Ratio	Lower	Upper
41	100		
40	60.1	33.6	73.6

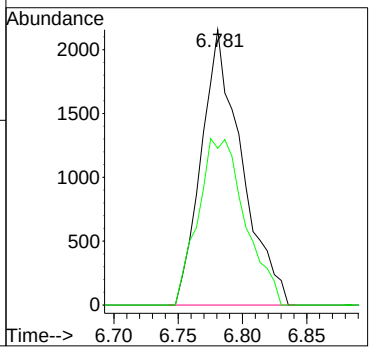


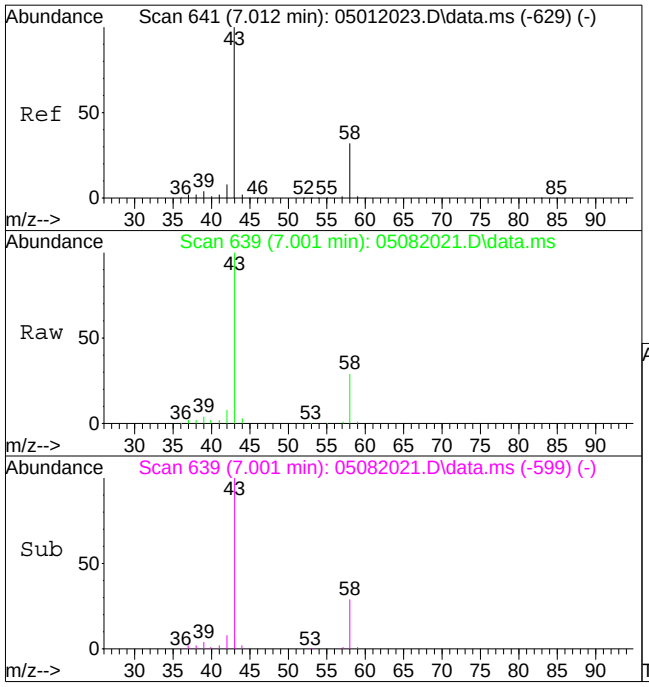


#12
Acrolein
Concen: 0.26 ng
RT: 6.78 min Scan# 599
Delta R.T. -0.028 min
Lab File: 05082021.D
Acq: 8 May 2020 12:18

Tgt Ion: 56 Resp: 4696

Ion	Ratio	Lower	Upper
56	100		
55	70.3	50.2	90.2

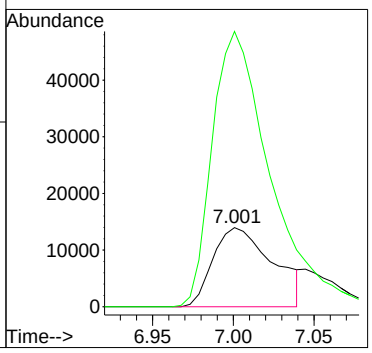


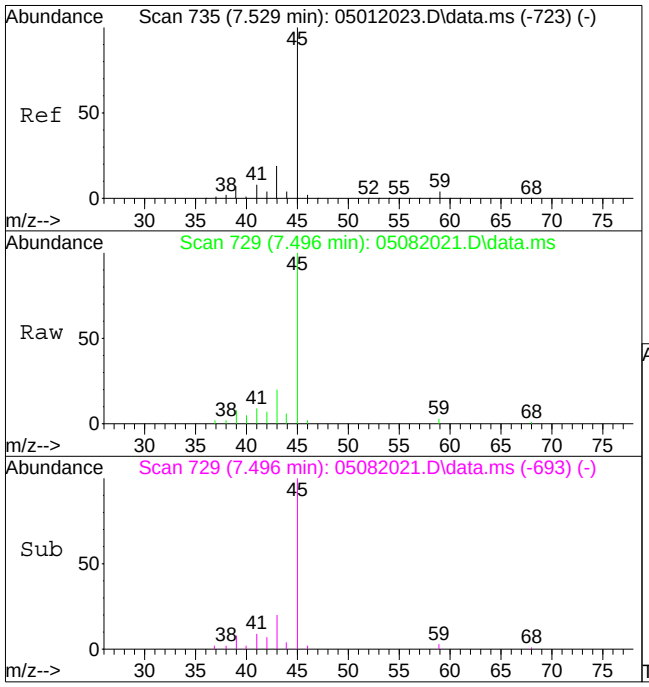


#13
Acetone
Concen: 1.58 ng m
RT: 7.00 min Scan# 639
Delta R.T. -0.028 min
Lab File: 05082021.D
Acq: 8 May 2020 12:18

Tgt Ion: 58 Resp: 35936

Ion	Ratio	Lower	Upper
58	100		
43	347.3	294.4	354.4

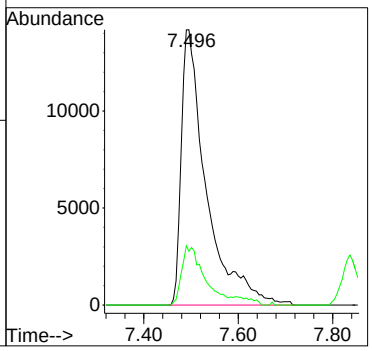


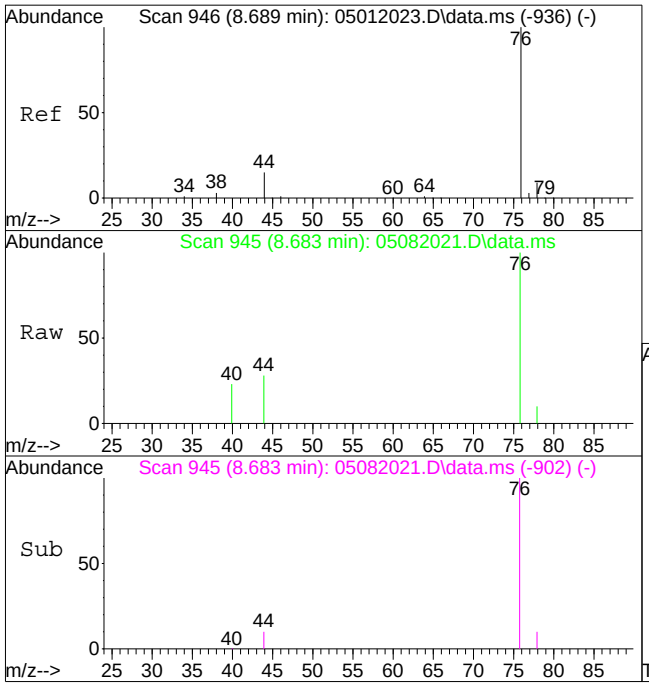


#15
2-Propanol (Isopropanol)
Concen: 0.76 ng
RT: 7.50 min Scan# 729
Delta R.T. -0.050 min
Lab File: 05082021.D
Acq: 8 May 2020 12:18

Tgt Ion: 45 Resp: 52234

Ion	Ratio	Lower	Upper
45	100		
43	21.7	0.0	39.5

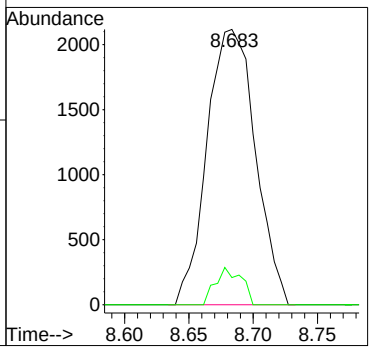


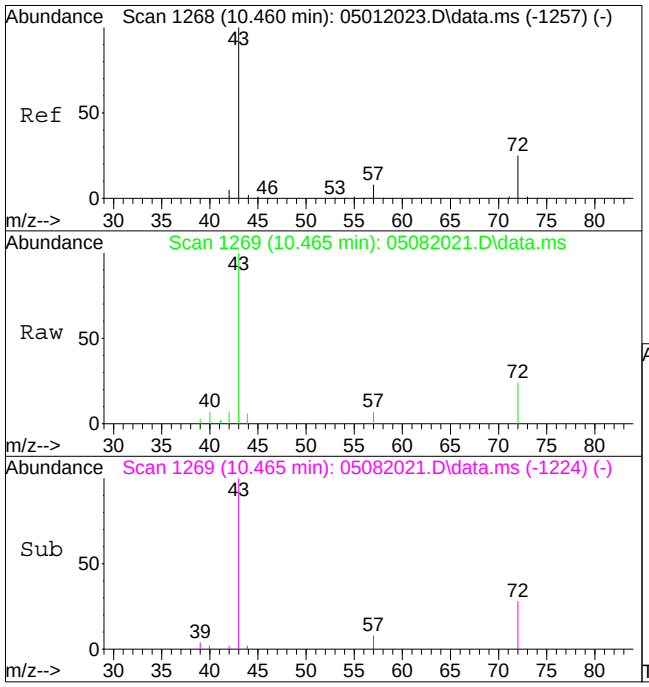


#22
Carbon Disulfide
Concen: 0.05 ng
RT: 8.68 min Scan# 945
Delta R.T. -0.011 min
Lab File: 05082021.D
Acq: 8 May 2020 12:18

Tgt Ion: 76 Resp: 5538

Ion	Ratio	Lower	Upper
76	100		
78	7.3	0.0	29.2

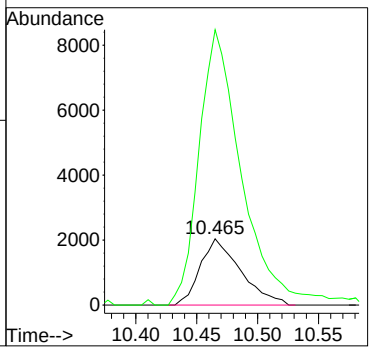


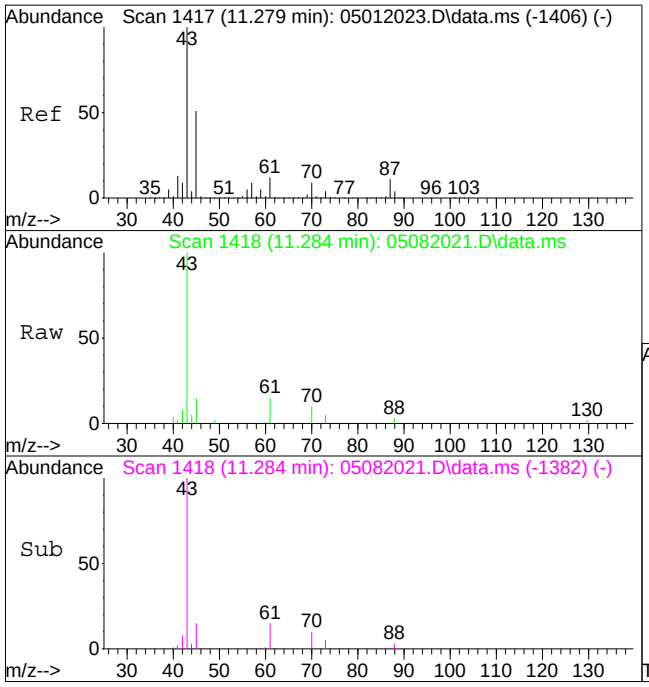


#27
2-Butanone (MEK)
Concen: 0.24 ng
RT: 10.47 min Scan# 1269
Delta R.T. -0.000 min
Lab File: 05082021.D
Acq: 8 May 2020 12:18

Tgt Ion: 72 Resp: 4711

Ion	Ratio	Lower	Upper
72	100		
43	441.5	389.7	429.7#

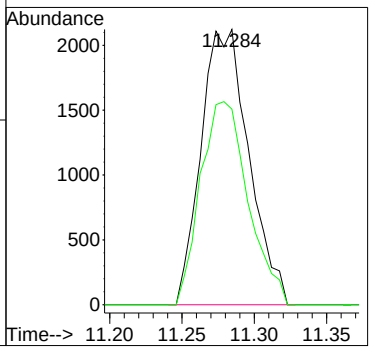


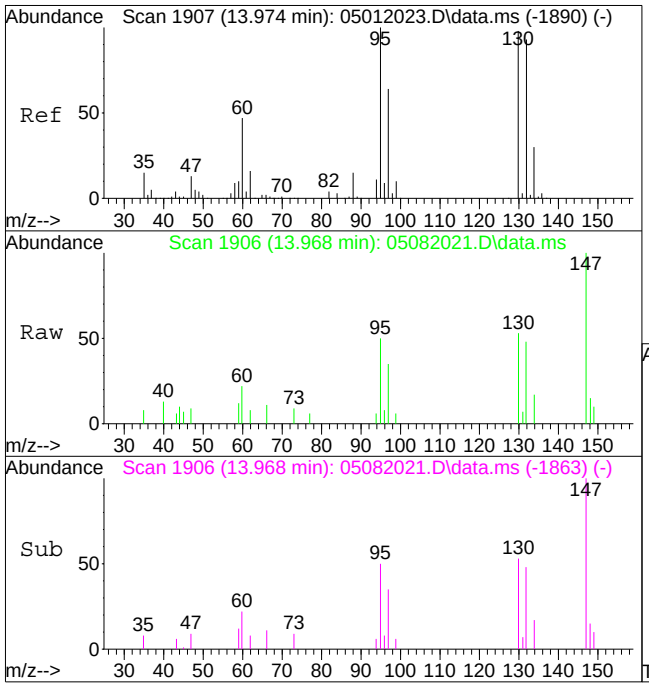


#30
Ethyl Acetate
Concen: 0.44 ng
RT: 11.28 min Scan# 1418
Delta R.T. -0.000 min
Lab File: 05082021.D
Acq: 8 May 2020 12:18

Tgt Ion: 61 Resp: 4888

Ion	Ratio	Lower	Upper
61	100		
70	73.3	57.9	97.9

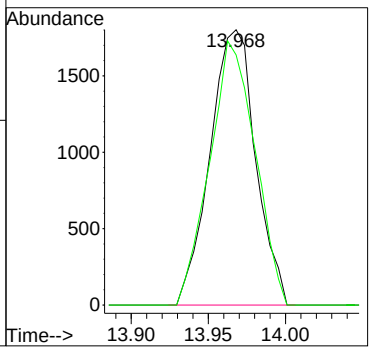


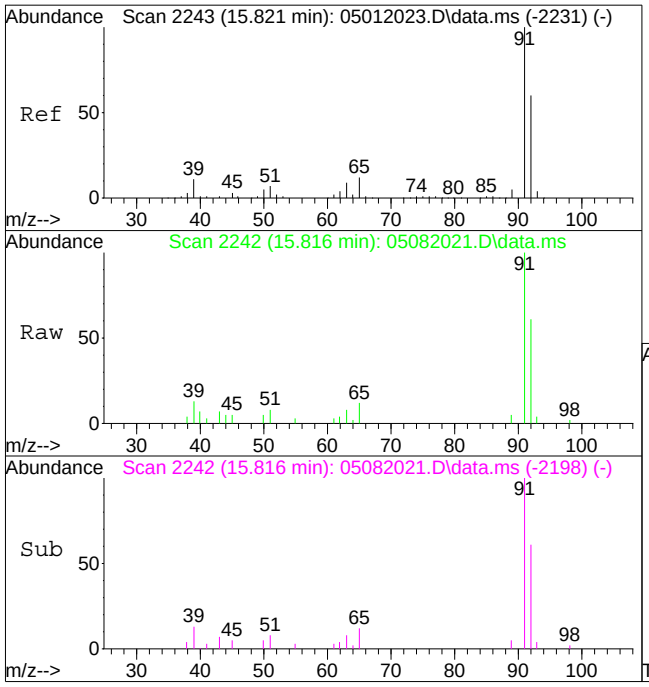


#47
Trichloroethene
Concen: 0.12 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05082021.D
Acq: 8 May 2020 12:18

Tgt Ion:130 Resp: 3713

Ion	Ratio	Lower	Upper
130	100		
132	95.6	74.9	114.9

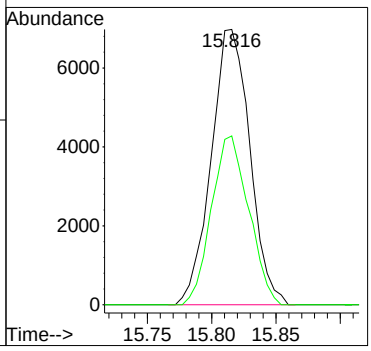


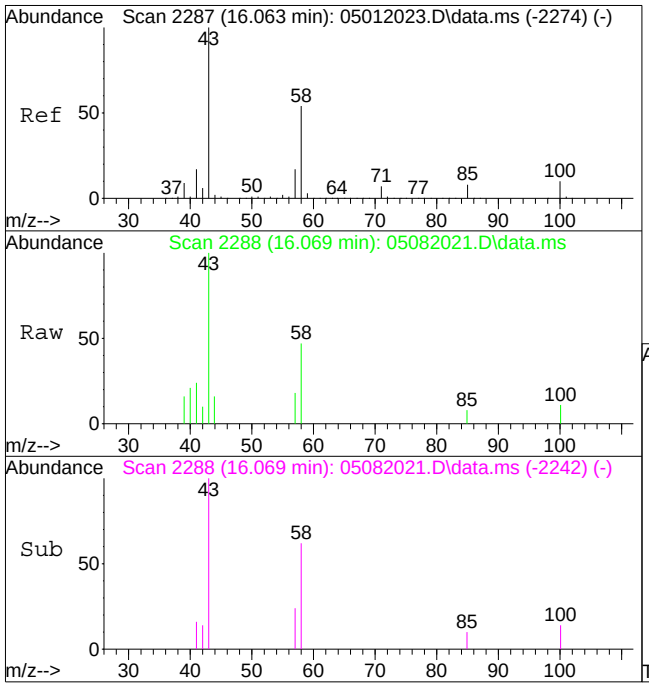


#58
Toluene
Concen: 0.13 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05082021.D
Acq: 8 May 2020 12:18

Tgt Ion: 91 Resp: 14601

Ion	Ratio	Lower	Upper
91	100		
92	59.0	39.4	79.4

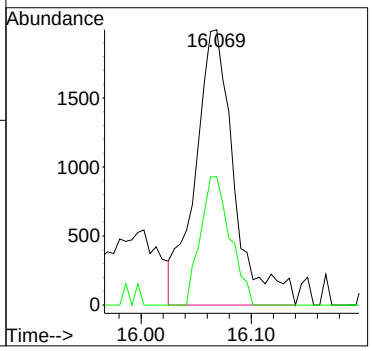


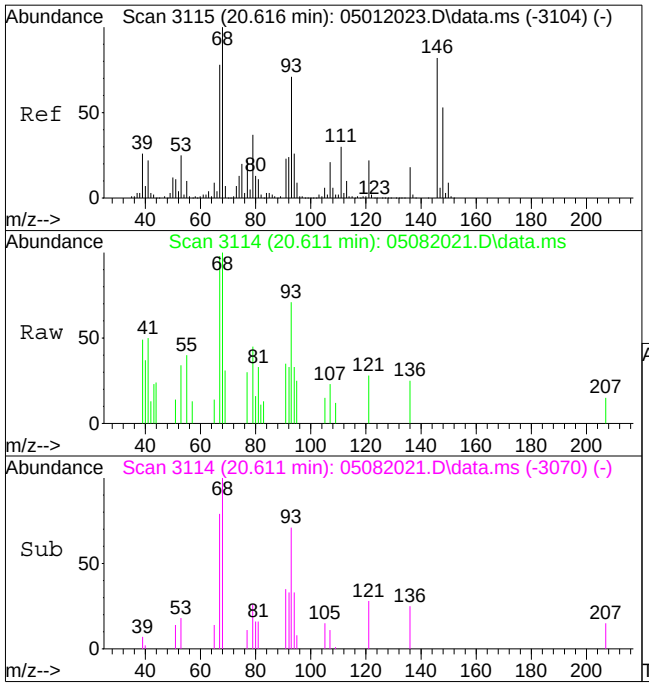


#59
2-Hexanone
Concen: 0.08 ng
RT: 16.07 min Scan# 2288
Delta R.T. 0.005 min
Lab File: 05082021.D
Acq: 8 May 2020 12:18

Tgt Ion: 43 Resp: 4897

Ion	Ratio	Lower	Upper
43	100		
58	35.6	34.5	74.5

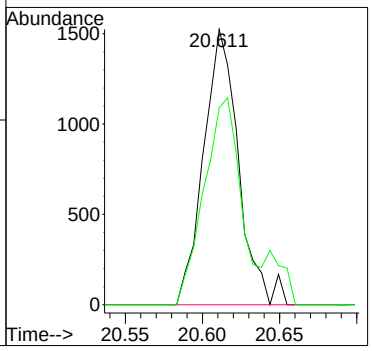




#91
d-Limonene
Concen: 0.06 ng
RT: 20.61 min Scan# 3114
Delta R.T. -0.006 min
Lab File: 05082021.D
Acq: 8 May 2020 12:18

Tgt Ion: 68 Resp: 2401

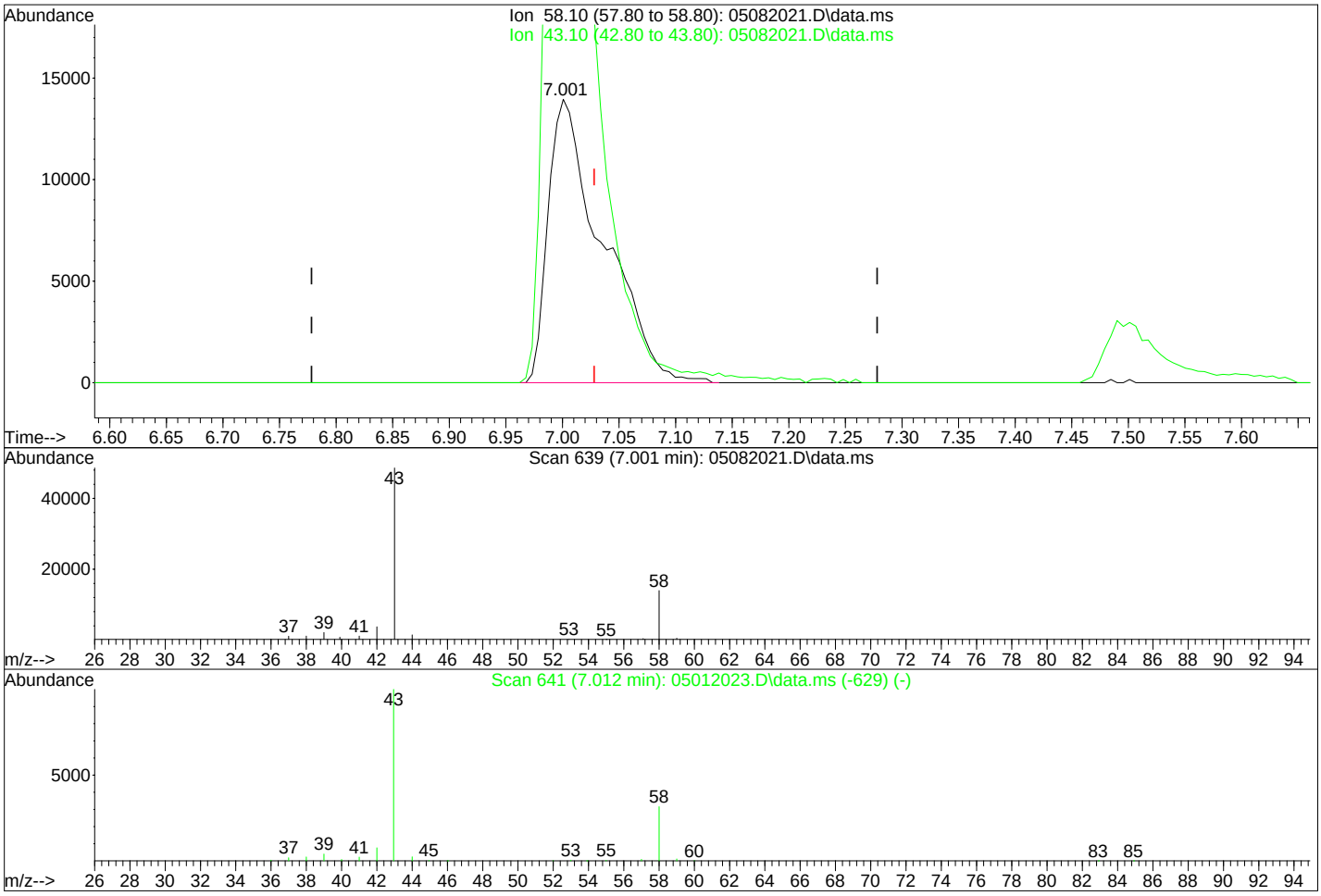
Ion	Ratio	Lower	Upper
68	100		
93	79.8	51.1	91.1



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\08\05082021.D Vial: 12
Acq On : 8 May 2020 12:18 Operator: LH
Sample : P2002107-029 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 08 14:52:20 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05082021.D\data.ms

(13) Acetone (T)

7.001min (-0.028) 2.05ng

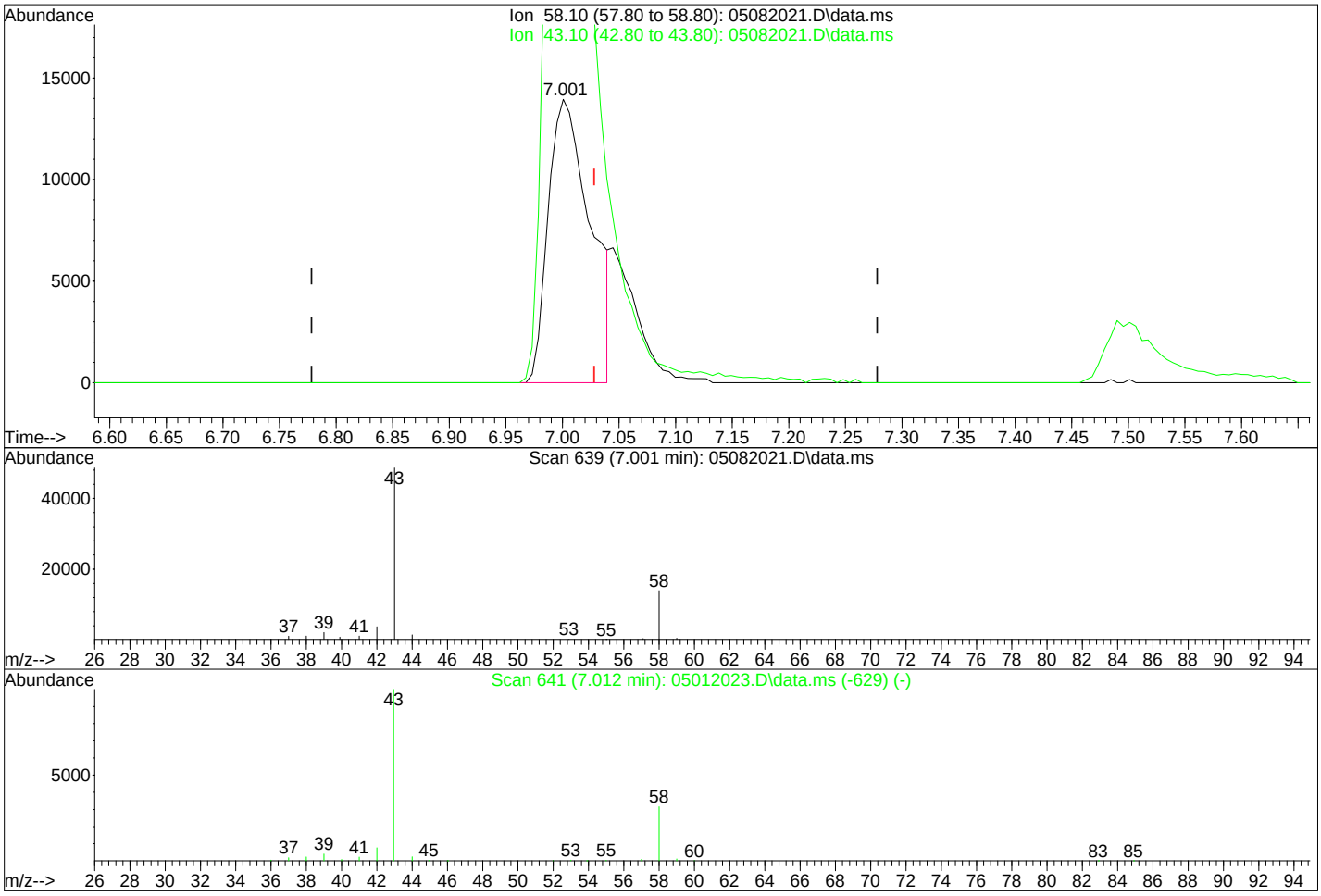
response 46754

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	266.97#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\08\05082021.D Vial: 12
Acq On : 8 May 2020 12:18 Operator: LH
Sample : P2002107-029 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 08 14:52:20 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05082021.D\data.ms

(13) Acetone (T)

7.001min (-0.028) 1.58ng m

response 35936

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	347.33
0.00	0.00	0.00
0.00	0.00	0.00

IPC

LH 5/8/20

5/12/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052004.D Vial: 2
Acq On : 5 May 2020 4:52 Operator: TD
Sample : MB R16050520_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: May 05 07:11:17 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/6/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	258335	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1123652	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	524091	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	423889	12.108	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.88%				
57) Toluene-d8 (SS2)	15.72	98	1117682	12.582	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.64%				
73) Bromofluorobenzene (SS3)	18.98	174	401632	12.565	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.56%				
Target Compounds							Qvalue
2) Propene	4.14	42	537	N.D.			
3) Dichlorodifluoromethan...	4.29	85	539	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.34	45	9499	0.411	ng		88
11) Acetonitrile	6.60	41	4618	0.087	ng	#	39
12) Acrolein	6.81	56	661	N.D.			
13) Acetone	7.04	58	3942	0.171	ng		89
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	7.55	45	1576	N.D.			
16) Acrylonitrile	7.75	53	1586	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	8.40	84	131	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.69	76	1595	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	10.50	72	125	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	11.77	72	256	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	12.87	56	2508	0.089	ng	#	75
41) Benzene	12.87	78	988	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	13.26	84	658	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	13.96	130	585	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052004.D Vial: 2
Acq On : 5 May 2020 4:52 Operator: TD
Sample : MB R16050520_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: May 05 07:11:17 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

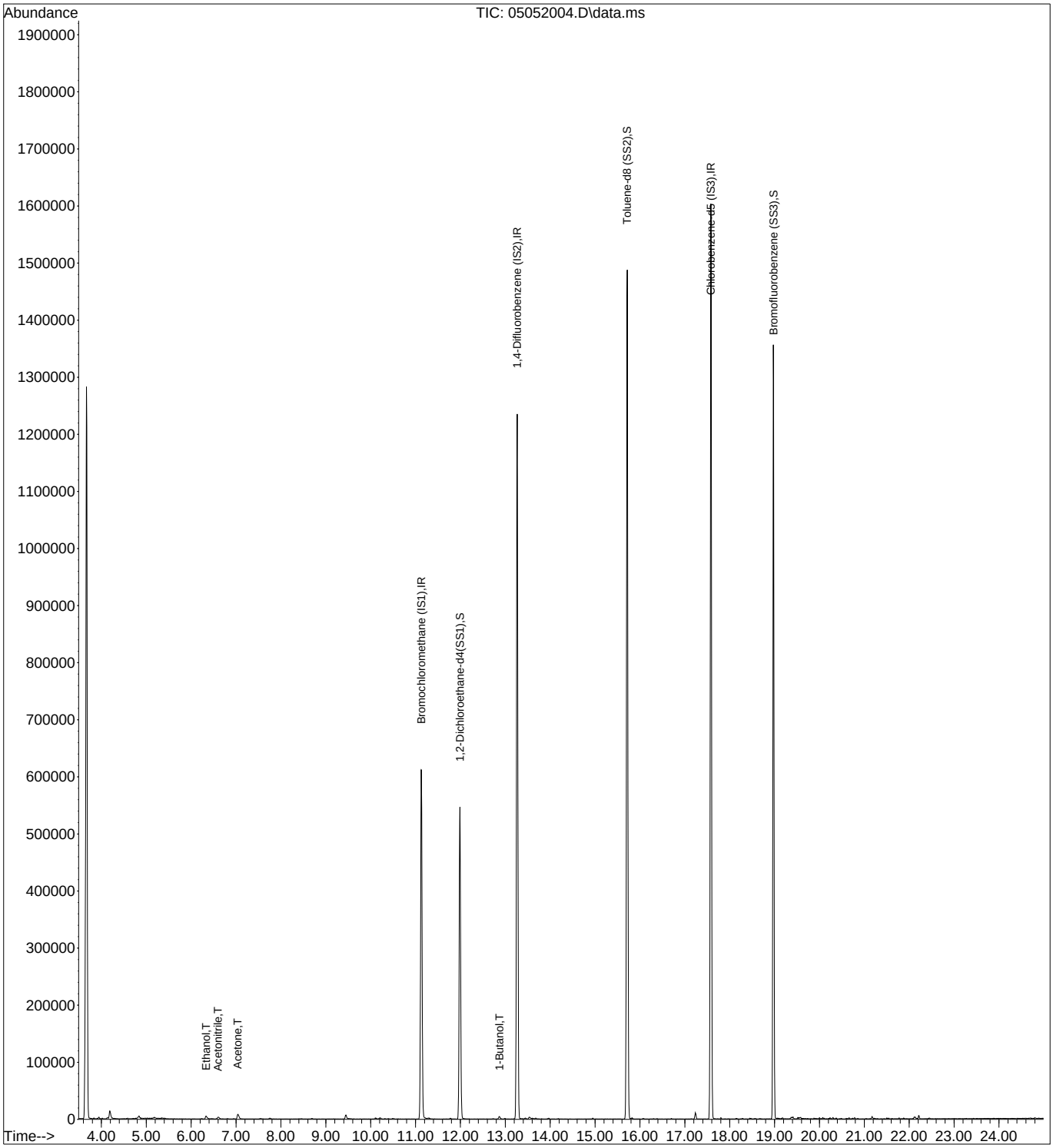
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.82	91	1210	N.D.		
59) 2-Hexanone	16.08	43	1145	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.70	43	817	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	17.62	112	356	N.D.		
66) Ethylbenzene	17.98	91	784	N.D.		
67) m- & p-Xylenes	18.14	91	1223	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	664	N.D.		
70) o-Xylene	18.57	91	448	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.10	105	899	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	19.58	91	2023	N.D.		
77) 3-Ethyltoluene	19.64	105	1232	N.D.		
78) 4-Ethyltoluene	19.68	105	1073	N.D.		
79) 1,3,5-Trimethylbenzene	19.75	105	626	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	19.91	105	583	N.D.		
82) 1,2,4-Trimethylbenzene	20.11	105	807	N.D.		
83) n-Decane	20.19	57	285	N.D.		
84) Benzyl Chloride	20.22	91	1127	N.D.		
85) 1,3-Dichlorobenzene	20.24	146	864	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	1306	N.D.		
87) sec-Butylbenzene	20.35	105	323	N.D.		
88) 4-Isopropyltoluene (p-...	20.48	119	358	N.D.		
89) 1,2,3-Trimethylbenzene	20.48	105	251	N.D.		
90) 1,2-Dichlorobenzene	20.60	146	646	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.30	57	174	N.D.		
94) 1,2,4-Trichlorobenzene	22.11	180	1076	N.D.		
95) Naphthalene	22.22	128	5165	N.D.		
96) n-Dodecane	22.21	57	204	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.28	55	644	N.D.		
99) tert-Butylbenzene	20.11	119	176	N.D.		
100) n-Butylbenzene	20.85	91	711	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052004.D Vial: 2
Acq On : 5 May 2020 4:52 Operator: TD
Sample : MB R16050520_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: May 05 07:11:17 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082003.D Vial: 2
Acq On : 8 May 2020 2:06 Operator: LH
Sample : MB R16050820_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: May 08 03:02:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/8/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.12	130	250380	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	13.26	114	1068912	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	513861	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.98	65	401681	11.838	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.72%			
57) Toluene-d8 (SS2)	15.71	98	1079088	12.389	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.12%			
73) Bromofluorobenzene (SS3)	18.97	174	403810	12.885	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.04%			
Target Compounds						Qvalue
2) Propene	4.12	42	438	N.D.		
3) Dichlorodifluoromethan...	0.00	85	0	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.32	45	10478	0.468	ng	91
11) Acetonitrile	6.59	41	7799	0.152	ng	92
12) Acrolein	6.80	56	627	N.D.		
13) Acetone	7.02	58	4481	0.200	ng	92
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	7.54	45	1800	N.D.		
16) Acrylonitrile	7.74	53	1527	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	0.00	84	0	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	8.68	76	1318	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	10.49	72	192	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	11.77	72	115	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	12.86	56	2897	0.108	ng #	67
41) Benzene	12.87	78	891	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	13.26	84	654	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082003.D Vial: 2
Acq On : 8 May 2020 2:06 Operator: LH
Sample : MB R16050820_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: May 08 03:02:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

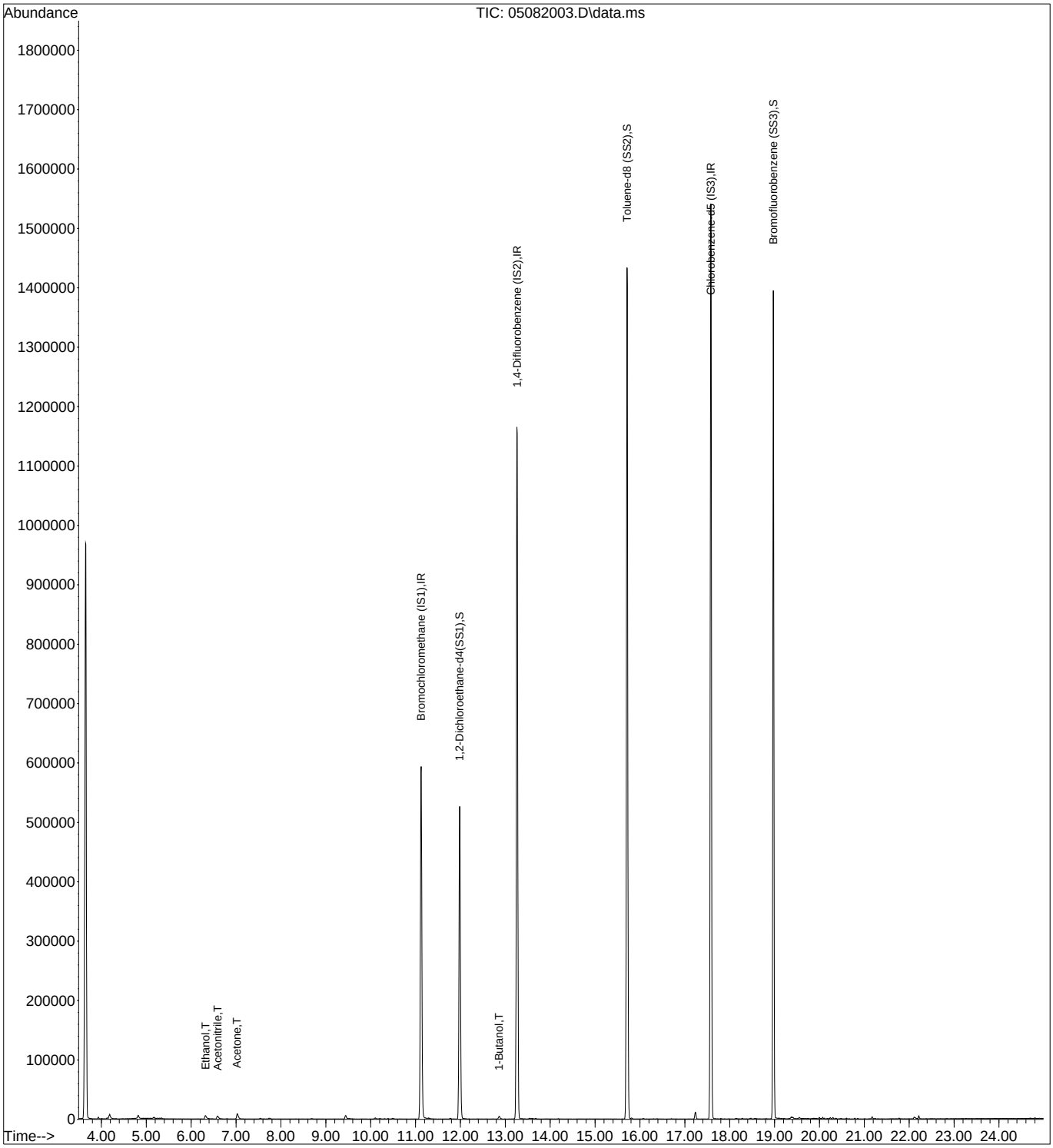
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.81	91	1555	N.D.		
59) 2-Hexanone	16.08	43	1043	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.71	43	806	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	17.62	112	442	N.D.		
66) Ethylbenzene	17.98	91	732	N.D.		
67) m- & p-Xylenes	18.15	91	1111	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	561	N.D.		
70) o-Xylene	18.57	91	419	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.10	105	654	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	19.56	91	948	N.D.		
77) 3-Ethyltoluene	19.64	105	429	N.D.		
78) 4-Ethyltoluene	19.68	105	362	N.D.		
79) 1,3,5-Trimethylbenzene	19.74	105	283	N.D.		
80) alpha-Methylstyrene	19.87	118	105	N.D.		
81) 2-Ethyltoluene	19.91	105	865	N.D.		
82) 1,2,4-Trimethylbenzene	20.10	105	1077	N.D.		
83) n-Decane	20.37	57	691	N.D.		
84) Benzyl Chloride	20.22	91	1210	N.D.		
85) 1,3-Dichlorobenzene	20.24	146	879	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	1141	N.D.		
87) sec-Butylbenzene	20.35	105	336	N.D.		
88) 4-Isopropyltoluene (p-...	20.48	119	279	N.D.		
89) 1,2,3-Trimethylbenzene	20.48	105	234	N.D.		
90) 1,2-Dichlorobenzene	20.60	146	564	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.25	57	182	N.D.		
94) 1,2,4-Trichlorobenzene	22.11	180	1072	N.D.		
95) Naphthalene	22.21	128	4792	N.D.		
96) n-Dodecane	22.13	57	827	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.28	55	567	N.D.		
99) tert-Butylbenzene	20.10	119	295	N.D.		
100) n-Butylbenzene	20.85	91	538	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082003.D Vial: 2
Acq On : 8 May 2020 2:06 Operator: LH
Sample : MB R16050820_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: May 08 03:02:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052005.D Vial: 2
Acq On : 5 May 2020 5:26 Operator: TD
Sample : LCS R16050520_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 05 07:11:19 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 5/6/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	280171	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.28	114	1195033	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	544800	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	436386	11.493	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.92%				
57) Toluene-d8 (SS2)	15.72	98	1151422	12.469	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.76%				
73) Bromofluorobenzene (SS3)	18.98	174	454188	13.669	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.36%				
Target Compounds							Qvalue
2) Propene	4.09	42	814388	25.097	ng		99
3) Dichlorodifluoromethan...	4.25	85	1516955	23.901	ng		100
4) Chloromethane	4.53	50	1133164	22.790	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	875877	23.098	ng		100
6) Vinyl Chloride	4.95	62	1296629	23.781	ng		99
7) 1,3-Butadiene	5.22	54	1070446	23.727	ng		100
8) Bromomethane	5.65	94	668927	23.224	ng		100
9) Chloroethane	5.98	64	505491	23.468	ng		100
10) Ethanol	6.39	45	2894376	115.515	ng		100
11) Acetonitrile	6.63	41	1301808	22.735	ng		100
12) Acrolein	6.80	56	456379	23.052	ng		99
13) Acetone	7.01	58	3057241	122.006	ng		100
14) Trichlorofluoromethane	7.24	101	1347556	24.024	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	3714803	48.981	ng		100
16) Acrylonitrile	7.77	53	967293	23.613	ng		100
17) 1,1-Dichloroethene	8.20	96	740409	25.181	ng		97
18) 2-Methyl-2-Propanol (t...	8.39	59	3508334	49.619	ng		99
19) Methylene Chloride	8.44	84	774957	23.790	ng		98
20) 3-Chloro-1-propene (Al...	8.59	41	1044635	23.343	ng		98
21) Trichlorotrifluoroethane	8.84	151	693551	26.189	ng		97
22) Carbon Disulfide	8.69	76	2824790	24.201	ng		100
23) trans-1,2-Dichloroethene	9.71	61	1087331	24.285	ng		97
24) 1,1-Dichloroethane	9.96	63	1266750	23.832	ng		100
25) Methyl tert-Butyl Ether	10.05	73	1948066	23.301	ng		99
26) Vinyl Acetate	10.22	86	1053742	135.002	ng	#	95
27) 2-Butanone (MEK)	10.46	72	516446	24.167	ng		97
28) cis-1,2-Dichloroethene	10.98	61	1035025	23.634	ng		98
29) Diisopropyl Ether	11.27	87	735578	24.333	ng		98
30) Ethyl Acetate	11.28	61	671704	54.511	ng		99
31) n-Hexane	11.26	57	1381047	25.839	ng		100
32) Chloroform	11.32	83	1375393	24.662	ng		100
34) Tetrahydrofuran (THF)	11.72	72	505253	24.242	ng		98
35) Ethyl tert-Butyl Ether	11.87	87	919518	25.171	ng		98
36) 1,2-Dichloroethane	12.12	62	1046834	23.692	ng		100
38) 1,1,1-Trichloroethane	12.40	97	1230107	25.557	ng		100
39) Isopropyl Acetate	12.83	61	1125908	53.478	ng		98
40) 1-Butanol	12.85	56	1760637	58.778	ng		95
41) Benzene	12.88	78	3133860	24.454	ng		100
42) Carbon Tetrachloride	13.04	117	1097745	25.183	ng		100
43) Cyclohexane	13.17	84	2475237	51.831	ng		98
44) tert-Amyl Methyl Ether	13.52	73	2227799	25.924	ng		99
45) 1,2-Dichloropropane	13.73	63	751733	25.327	ng		100
46) Bromodichloromethane	13.92	83	1124344	25.960	ng		100
47) Trichloroethene	13.97	130	866974	26.173	ng		100
48) 1,4-Dioxane	13.95	88	677379	26.244	ng		98
49) 2,2,4-Trimethylpentane...	14.05	57	3081564	24.711	ng		99
50) Methyl Methacrylate	14.18	100	690315	54.297	ng		97

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052005.D Vial: 2
Acq On : 5 May 2020 5:26 Operator: TD
Sample : LCS R16050520_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 05 07:11:19 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

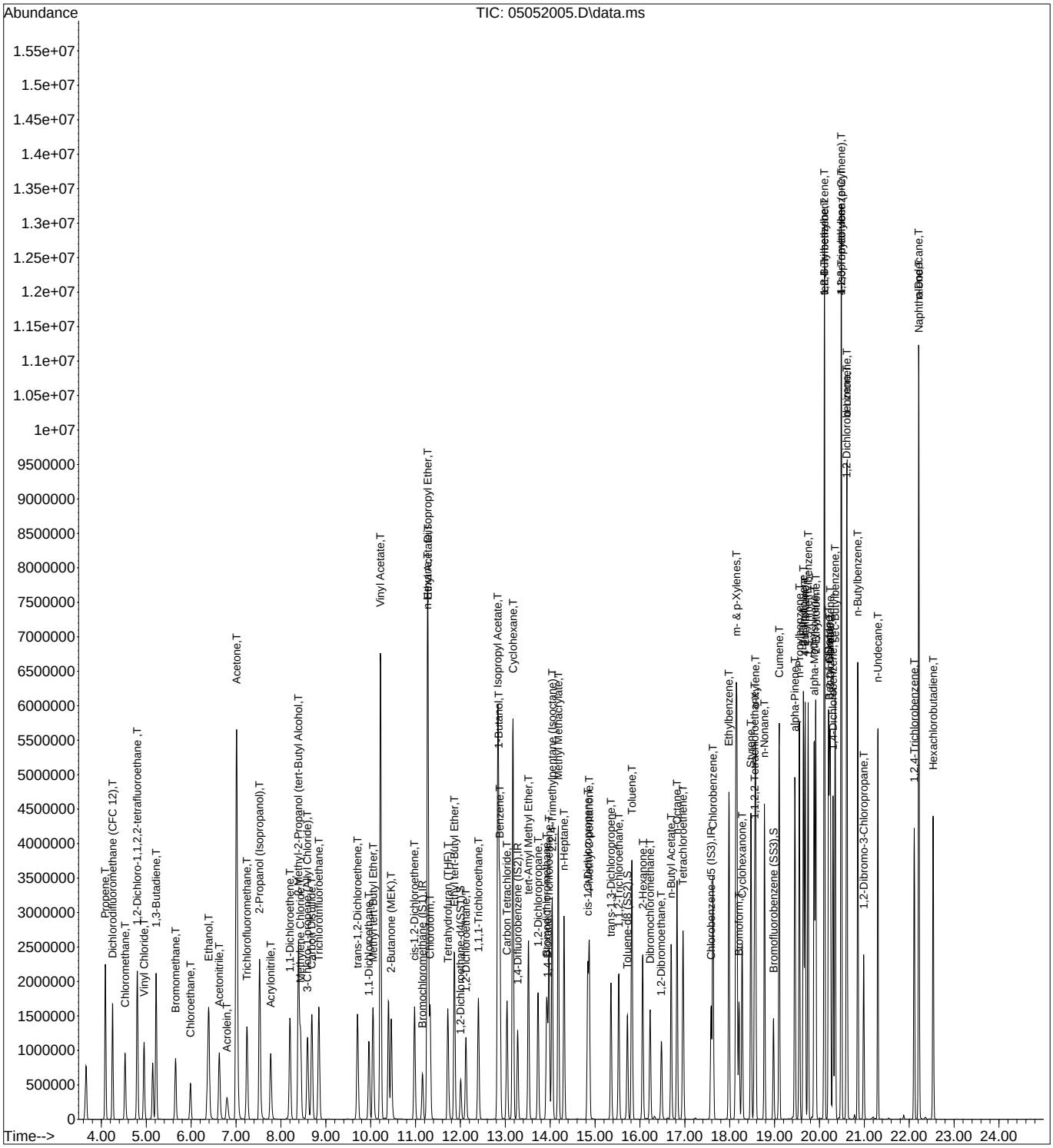
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	746923	24.923	ng	99
52) cis-1,3-Dichloropropene	14.84	75	1370930	26.904	ng	100
53) 4-Methyl-2-pentanone	14.87	58	747351	26.160	ng	99
54) trans-1,3-Dichloropropene	15.35	75	1185154	27.183	ng	100
55) 1,1,2-Trichloroethane	15.53	97	770138	26.166	ng	99
58) Toluene	15.82	91	3118495	26.199	ng	100
59) 2-Hexanone	16.06	43	1814535	27.820	ng	99
60) Dibromochloromethane	16.23	129	977368	28.675	ng	100
61) 1,2-Dibromoethane	16.48	107	902377	27.546	ng	100
62) n-Butyl Acetate	16.70	43	2027750	28.782	ng	100
63) n-Octane	16.83	57	645780	26.205	ng	99
64) Tetrachloroethene	16.96	166	922907	27.450	ng	100
65) Chlorobenzene	17.62	112	2125526	25.952	ng	100
66) Ethylbenzene	17.98	91	3675857	27.694	ng	100
67) m- & p-Xylenes	18.15	91	5925272	56.272	ng	99
68) Bromoform	18.21	173	858423	29.051	ng	100
69) Styrene	18.47	104	2308993	29.155	ng	99
70) o-Xylene	18.58	91	2951861	27.613	ng	99
71) n-Nonane	18.77	43	1527531	26.932	ng	100
72) 1,1,2,2-Tetrachloroethane	18.55	83	1494125	28.174	ng	100
74) Cumene	19.10	105	3712764	28.301	ng	100
75) alpha-Pinene	19.45	93	1929248	27.561	ng	100
76) n-Propylbenzene	19.56	91	4493735	28.833	ng	99
77) 3-Ethyltoluene	19.64	105	3939063	31.021	ng	100
78) 4-Ethyltoluene	19.68	105	3332625	27.048	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	3079758	28.788	ng	99
80) alpha-Methylstyrene	19.88	118	1667717	27.657	ng	100
81) 2-Ethyltoluene	19.92	105	3654923	29.181	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3442216	32.012	ng	99
83) n-Decane	20.20	57	1637497	27.223	ng	99
84) Benzyl Chloride	20.23	91	2913935	29.075	ng	99
85) 1,3-Dichlorobenzene	20.24	146	1893638	30.328	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1843374	30.253	ng	100
87) sec-Butylbenzene	20.35	105	4091676	29.314	ng	100
88) 4-Isopropyltoluene (p-...	20.48	119	4025447	30.455	ng	99
89) 1,2,3-Trimethylbenzene	20.48	105	3367084	29.920	ng	99
90) 1,2-Dichlorobenzene	20.61	146	1876093	31.383	ng	100
91) d-Limonene	20.61	68	1266677	29.826	ng	99
92) 1,2-Dibromo-3-Chloropr...	20.98	157	645308	28.628	ng	96
93) n-Undecane	21.30	57	1622155	29.138	ng	100
94) 1,2,4-Trichlorobenzene	22.11	180	1294689	31.226	ng	100
95) Naphthalene	22.22	128	4352404	33.166	ng	100
96) n-Dodecane	22.21	57	1580251	32.783	ng	100
97) Hexachlorobutadiene	22.54	225	821056	28.628	ng	100
98) Cyclohexanone	18.28	55	1118117	26.835	ng	99
99) tert-Butylbenzene	20.11	119	3222495	30.449	ng	100
100) n-Butylbenzene	20.85	91	3329536	30.412	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052005.D Vial: 2
Acq On : 5 May 2020 5:26 Operator: TD
Sample : LCS R16050520_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 05 07:11:19 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052006.D Vial: 2
Acq On : 5 May 2020 6:00 Operator: TD
Sample : LCSD R16050520_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 05 07:11:21 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/6/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	287594	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	13.28	114	1213206	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.58	82	552360	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.00	65	446288	11.451	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.60%			
57) Toluene-d8 (SS2)	15.72	98	1184244	12.649	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.20%			
73) Bromofluorobenzene (SS3)	18.98	174	458632	13.614	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.88%			
Target Compounds						Qvalue
2) Propene	4.09	42	832997	25.008	ng	100
3) Dichlorodifluoromethan...	4.25	85	1564531	24.014	ng	100
4) Chloromethane	4.53	50	1177256	23.066	ng	99
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	903287	23.206	ng	100
6) Vinyl Chloride	4.95	62	1308096	23.372	ng	100
7) 1,3-Butadiene	5.22	54	1104162	23.843	ng	100
8) Bromomethane	5.65	94	703749	23.802	ng	99
9) Chloroethane	5.98	64	530891	24.011	ng	100
10) Ethanol	6.39	45	3029205	117.776	ng	100
11) Acetonitrile	6.63	41	1354985	23.053	ng	100
12) Acrolein	6.80	56	466572	22.958	ng	100
13) Acetone	7.01	58	3170797	123.271	ng	100
14) Trichlorofluoromethane	7.24	101	1380535	23.977	ng	100
15) 2-Propanol (Isopropanol)	7.52	45	3863509	49.626	ng	100
16) Acrylonitrile	7.77	53	1001909	23.827	ng	100
17) 1,1-Dichloroethene	8.20	96	754744	25.006	ng	96
18) 2-Methyl-2-Propanol (t...	8.39	59	3713187	51.161	ng	99
19) Methylene Chloride	8.44	84	793617	23.734	ng	98
20) 3-Chloro-1-propene (Al...	8.59	41	1084959	23.618	ng	98
21) Trichlorotrifluoroethane	8.85	151	711416	26.171	ng	97
22) Carbon Disulfide	8.69	76	2888910	24.112	ng	100
23) trans-1,2-Dichloroethene	9.71	61	1103793	24.017	ng	97
24) 1,1-Dichloroethane	9.96	63	1286738	23.583	ng	100
25) Methyl tert-Butyl Ether	10.05	73	2003569	23.346	ng	100
26) Vinyl Acetate	10.22	86	1072808	133.897	ng	98
27) 2-Butanone (MEK)	10.46	72	530175	24.169	ng	98
28) cis-1,2-Dichloroethene	10.98	61	1062011	23.624	ng	97
29) Diisopropyl Ether	11.27	87	740730	23.871	ng	98
30) Ethyl Acetate	11.28	61	684405	54.108	ng	100
31) n-Hexane	11.26	57	1413335	25.761	ng	100
32) Chloroform	11.32	83	1400892	24.471	ng	100
34) Tetrahydrofuran (THF)	11.72	72	519480	24.281	ng	98
35) Ethyl tert-Butyl Ether	11.87	87	952537	25.402	ng	99
36) 1,2-Dichloroethane	12.12	62	1063351	23.445	ng	100
38) 1,1,1-Trichloroethane	12.40	97	1261677	25.820	ng	99
39) Isopropyl Acetate	12.83	61	1158804	54.216	ng	98
40) 1-Butanol	12.85	56	1825691	60.037	ng	94
41) Benzene	12.88	78	3193152	24.543	ng	100
42) Carbon Tetrachloride	13.04	117	1122984	25.376	ng	100
43) Cyclohexane	13.17	84	2516850	51.913	ng	99
44) tert-Amyl Methyl Ether	13.52	73	2300261	26.366	ng	99
45) 1,2-Dichloropropane	13.73	63	766398	25.435	ng	100
46) Bromodichloromethane	13.92	83	1153291	26.229	ng	100
47) Trichloroethene	13.97	130	878258	26.116	ng	99
48) 1,4-Dioxane	13.95	88	690147	26.338	ng	98
49) 2,2,4-Trimethylpentane...	14.04	57	3156655	24.934	ng	100
50) Methyl Methacrylate	14.18	100	701934	54.384	ng	98

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052006.D Vial: 2
Acq On : 5 May 2020 6:00 Operator: TD
Sample : LCSD R16050520_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 05 07:11:21 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

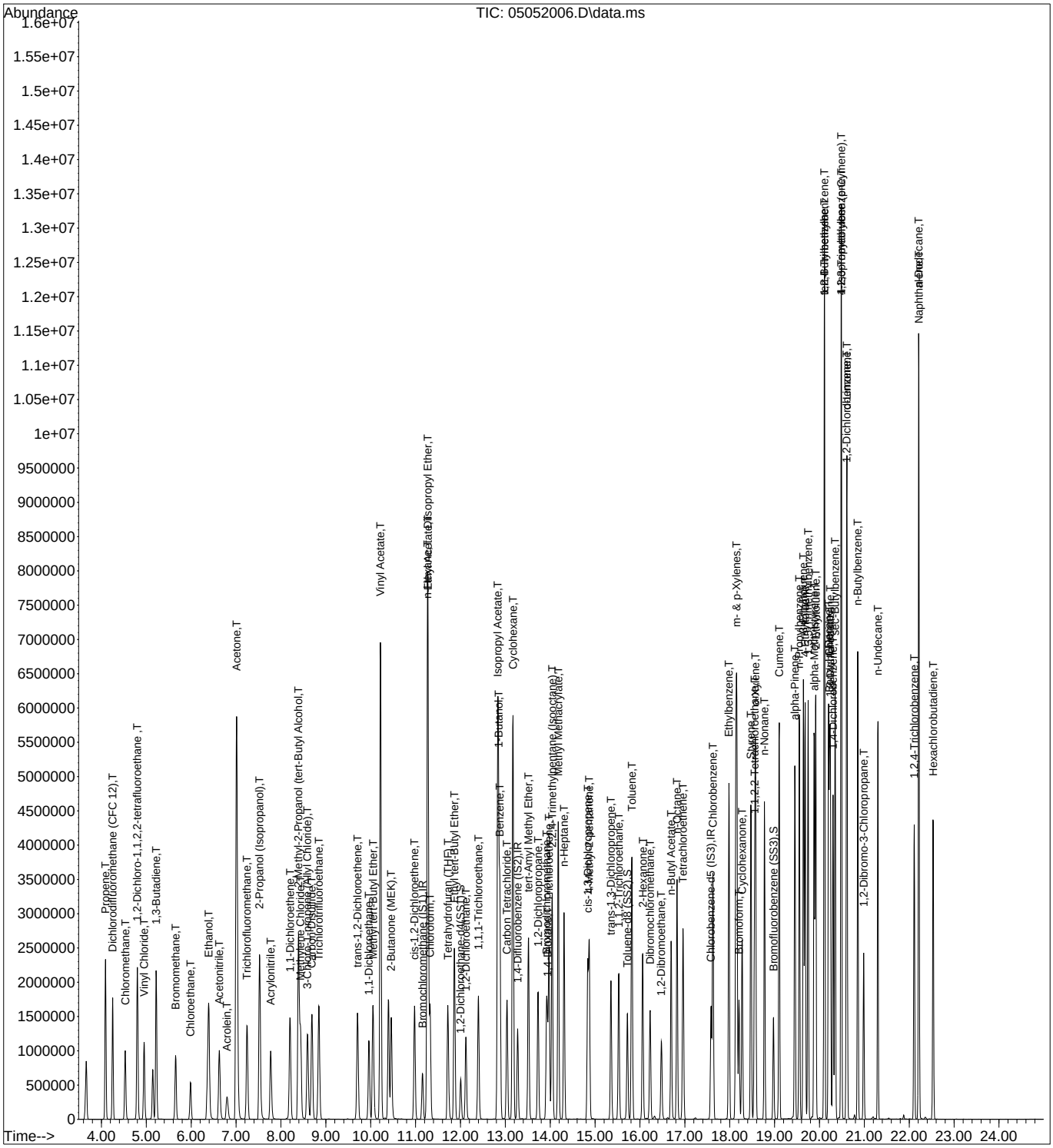
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	759857	24.975	ng	100
52) cis-1,3-Dichloropropene	14.84	75	1401917	27.100	ng	100
53) 4-Methyl-2-pentanone	14.87	58	764632	26.364	ng	99
54) trans-1,3-Dichloropropene	15.35	75	1210181	27.341	ng	100
55) 1,1,2-Trichloroethane	15.53	97	782352	26.182	ng	99
58) Toluene	15.82	91	3175612	26.313	ng	100
59) 2-Hexanone	16.06	43	1865093	28.204	ng	100
60) Dibromochloromethane	16.23	129	990794	28.671	ng	100
61) 1,2-Dibromoethane	16.48	107	913737	27.511	ng	100
62) n-Butyl Acetate	16.70	43	2094747	29.326	ng	100
63) n-Octane	16.83	57	660490	26.436	ng	99
64) Tetrachloroethene	16.96	166	937811	27.512	ng	100
65) Chlorobenzene	17.62	112	2141614	25.790	ng	100
66) Ethylbenzene	17.98	91	3728103	27.704	ng	100
67) m- & p-Xylenes	18.15	91	6035750	56.537	ng	100
68) Bromoform	18.21	173	872811	29.134	ng	100
69) Styrene	18.47	104	2354459	29.322	ng	100
70) o-Xylene	18.58	91	2998477	27.666	ng	99
71) n-Nonane	18.77	43	1559471	27.119	ng	100
72) 1,1,2,2-Tetrachloroethane	18.55	83	1513172	28.142	ng	100
74) Cumene	19.10	105	3768857	28.335	ng	100
75) alpha-Pinene	19.45	93	1974155	27.816	ng	100
76) n-Propylbenzene	19.55	91	4553742	28.818	ng	100
77) 3-Ethyltoluene	19.64	105	3725802	28.940	ng	95
78) 4-Ethyltoluene	19.68	105	3651437	29.230	ng	96
79) 1,3,5-Trimethylbenzene	19.75	105	3123301	28.795	ng	100
80) alpha-Methylstyrene	19.88	118	1693814	27.705	ng	99
81) 2-Ethyltoluene	19.92	105	3708921	29.207	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3482398	31.943	ng	99
83) n-Decane	20.20	57	1674647	27.459	ng	99
84) Benzyl Chloride	20.23	91	2986618	29.392	ng	99
85) 1,3-Dichlorobenzene	20.24	146	1924507	30.401	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1871844	30.300	ng	100
87) sec-Butylbenzene	20.35	105	4133996	29.212	ng	100
88) 4-Isopropyltoluene (p-...	20.48	119	4055487	30.262	ng	99
89) 1,2,3-Trimethylbenzene	20.48	105	3408354	29.872	ng	99
90) 1,2-Dichlorobenzene	20.61	146	1906056	31.447	ng	100
91) d-Limonene	20.61	68	1293281	30.036	ng	99
92) 1,2-Dibromo-3-Chloropr...	20.98	157	651607	28.512	ng	97
93) n-Undecane	21.30	57	1649430	29.222	ng	100
94) 1,2,4-Trichlorobenzene	22.11	180	1316002	31.305	ng	100
95) Naphthalene	22.22	128	4414406	33.178	ng	100
96) n-Dodecane	22.21	57	1602186	32.783	ng	100
97) Hexachlorobutadiene	22.54	225	829838	28.538	ng	100
98) Cyclohexanone	18.28	55	1147420	27.162	ng	99
99) tert-Butylbenzene	20.11	119	3249044	30.279	ng	100
100) n-Butylbenzene	20.85	91	3384802	30.494	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052006.D Vial: 2
Acq On : 5 May 2020 6:00 Operator: TD
Sample : LCSD R16050520_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 05 07:11:21 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082004.D Vial: 2
Acq On : 8 May 2020 2:40 Operator: LH
Sample : LCS R16050820_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 08 14:46:02 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/8/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	270292	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.28	114	1136932	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.58	82	539874	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	418393	11.422	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.36%				
57) Toluene-d8 (SS2)	15.72	98	1120734	12.247	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.00%				
73) Bromofluorobenzene (SS3)	18.98	174	451206	13.703	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.60%				
Target Compounds							Qvalue
2) Propene	4.08	42	806530	25.763	ng		99
3) Dichlorodifluoromethan...	4.24	85	1433587	23.413	ng		100
4) Chloromethane	4.52	50	1102990	22.994	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.79	135	826514	22.593	ng		100
6) Vinyl Chloride	4.94	62	1238980	23.554	ng		99
7) 1,3-Butadiene	5.21	54	1045343	24.018	ng		100
8) Bromomethane	5.65	94	634924	22.849	ng		100
9) Chloroethane	5.98	64	484920	23.335	ng		100
10) Ethanol	6.38	45	2823028	116.786	ng		100
11) Acetonitrile	6.62	41	1293429	23.415	ng		100
12) Acrolein	6.79	56	428305	22.424	ng		99
13) Acetone	7.01	58	2944141	121.786	ng		99
14) Trichlorofluoromethane	7.24	101	1264546	23.369	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	3590323	49.069	ng		100
16) Acrylonitrile	7.76	53	933611	23.624	ng		100
17) 1,1-Dichloroethene	8.20	96	692804	24.423	ng		97
18) 2-Methyl-2-Propanol (t...	8.39	59	3320471	48.678	ng		100
19) Methylene Chloride	8.43	84	724909	23.067	ng		99
20) 3-Chloro-1-propene (Al...	8.59	41	1003362	23.240	ng		99
21) Trichlorotrifluoroethane	8.84	151	643314	25.180	ng		98
22) Carbon Disulfide	8.68	76	2645850	23.497	ng		100
23) trans-1,2-Dichloroethene	9.70	61	1022239	23.666	ng		98
24) 1,1-Dichloroethane	9.96	63	1195326	23.310	ng		100
25) Methyl tert-Butyl Ether	10.05	73	1859837	23.058	ng		100
26) Vinyl Acetate	10.22	86	973498	129.280	ng	#	94
27) 2-Butanone (MEK)	10.45	72	488155	23.678	ng		100
28) cis-1,2-Dichloroethene	10.98	61	989626	23.423	ng		99
29) Diisopropyl Ether	11.27	87	690913	23.691	ng	#	95
30) Ethyl Acetate	11.27	61	637992	53.667	ng		98
31) n-Hexane	11.26	57	1309288	25.392	ng		99
32) Chloroform	11.32	83	1289281	23.963	ng		100
34) Tetrahydrofuran (THF)	11.72	72	480281	23.886	ng		99
35) Ethyl tert-Butyl Ether	11.86	87	869678	24.677	ng		100
36) 1,2-Dichloroethane	12.12	62	975536	22.885	ng		100
38) 1,1,1-Trichloroethane	12.40	97	1156182	25.248	ng		100
39) Isopropyl Acetate	12.83	61	1074112	53.625	ng		95
40) 1-Butanol	12.85	56	1682116	59.026	ng		96
41) Benzene	12.88	78	2962875	24.301	ng		100
42) Carbon Tetrachloride	13.04	117	1023466	24.678	ng		100
43) Cyclohexane	13.17	84	2321379	51.093	ng		100
44) tert-Amyl Methyl Ether	13.52	73	2102340	25.714	ng		100
45) 1,2-Dichloropropane	13.73	63	713282	25.260	ng		99
46) Bromodichloromethane	13.92	83	1055201	25.609	ng		100
47) Trichloroethene	13.97	130	804269	25.520	ng		99
48) 1,4-Dioxane	13.95	88	639746	26.053	ng		99
49) 2,2,4-Trimethylpentane...	14.04	57	2969357	25.028	ng		99
50) Methyl Methacrylate	14.18	100	647342	53.519	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082004.D Vial: 2
Acq On : 8 May 2020 2:40 Operator: LH
Sample : LCS R16050820_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 08 14:46:02 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

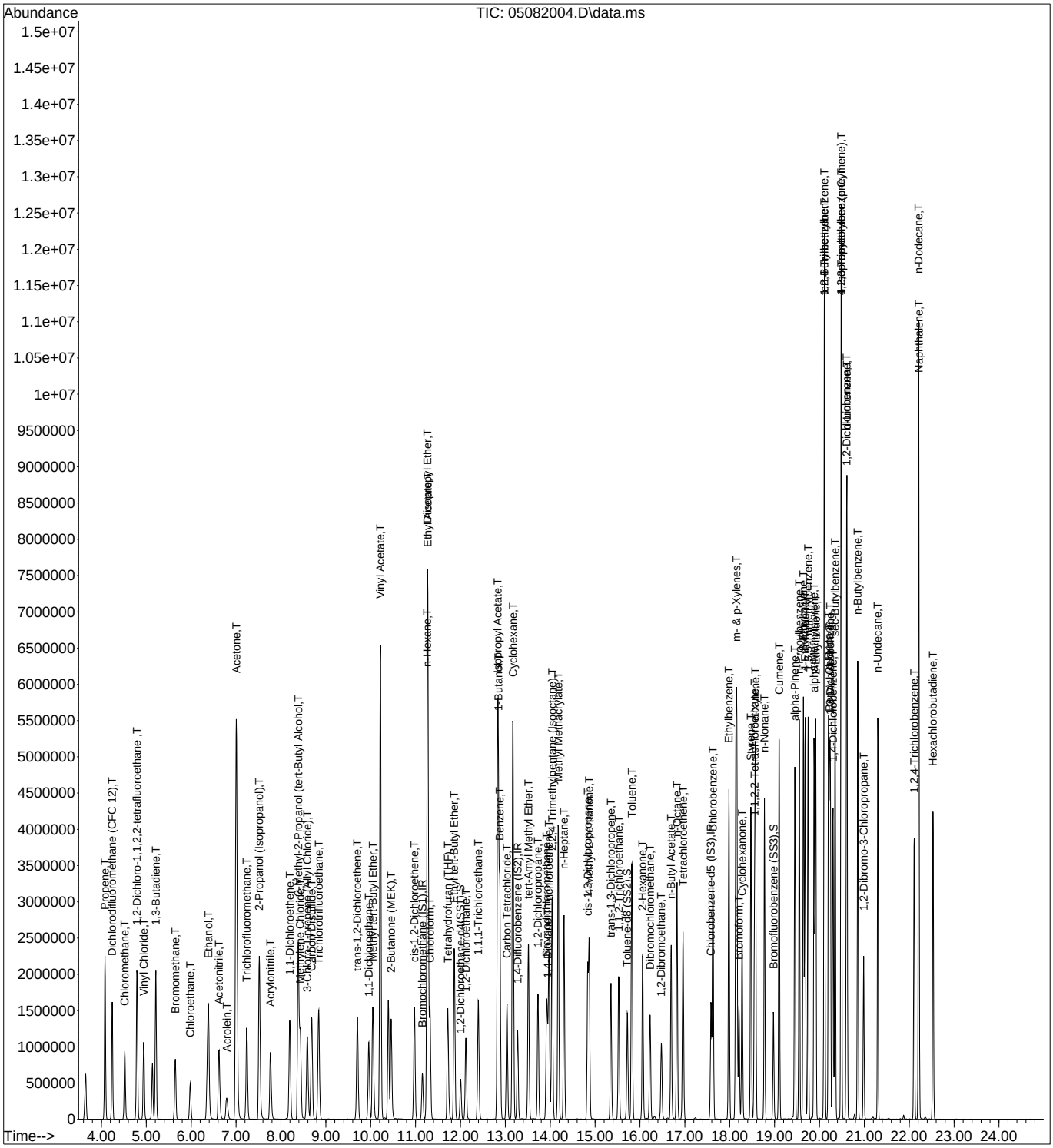
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	707057	24.799	ng	99
52) cis-1,3-Dichloropropene	14.84	75	1293976	26.691	ng	100
53) 4-Methyl-2-pentanone	14.87	58	712975	26.232	ng	99
54) trans-1,3-Dichloropropene	15.35	75	1116712	26.922	ng	100
55) 1,1,2-Trichloroethane	15.53	97	724035	25.856	ng	100
58) Toluene	15.82	91	2942856	24.949	ng	100
59) 2-Hexanone	16.06	43	1743119	26.969	ng	99
60) Dibromochloromethane	16.23	129	903256	26.742	ng	100
61) 1,2-Dibromoethane	16.48	107	845977	26.060	ng	100
62) n-Butyl Acetate	16.70	43	1949888	27.929	ng	100
63) n-Octane	16.83	57	621226	25.439	ng	100
64) Tetrachloroethene	16.96	166	861103	25.845	ng	100
65) Chlorobenzene	17.62	112	1988134	24.496	ng	100
66) Ethylbenzene	17.98	91	3443717	26.182	ng	100
67) m- & p-Xylenes	18.15	91	5540260	53.096	ng	100
68) Bromoform	18.21	173	782486	26.723	ng	100
69) Styrene	18.47	104	2149805	27.393	ng	100
70) o-Xylene	18.58	91	2763739	26.090	ng	99
71) n-Nonane	18.77	43	1486735	26.452	ng	99
72) 1,1,2,2-Tetrachloroethane	18.55	83	1388058	26.413	ng	100
74) Cumene	19.10	105	3466718	26.666	ng	100
75) alpha-Pinene	19.45	93	1806243	26.039	ng	99
76) n-Propylbenzene	19.55	91	4199843	27.193	ng	100
77) 3-Ethyltoluene	19.64	105	3442178	27.355	ng	100
78) 4-Ethyltoluene	19.68	105	3319259	27.186	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	2868177	27.055	ng	99
80) alpha-Methylstyrene	19.88	118	1530364	25.611	ng	99
81) 2-Ethyltoluene	19.92	105	3400349	27.396	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3223441	30.251	ng	100
83) n-Decane	20.20	57	1560597	26.181	ng	100
84) Benzyl Chloride	20.23	91	2678598	26.971	ng	100
85) 1,3-Dichlorobenzene	20.24	146	1759957	28.444	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1696675	28.099	ng	100
87) sec-Butylbenzene	20.35	105	3828392	27.678	ng	100
88) 4-Isopropyltoluene (p-...	20.48	119	3775975	28.828	ng	99
89) 1,2,3-Trimethylbenzene	20.48	105	3165786	28.388	ng	99
90) 1,2-Dichlorobenzene	20.61	146	1742930	29.421	ng	100
91) d-Limonene	20.61	68	1197376	28.452	ng	100
92) 1,2-Dibromo-3-Chloropr...	20.98	157	592744	26.536	ng	98
93) n-Undecane	21.30	57	1556135	28.207	ng	100
94) 1,2,4-Trichlorobenzene	22.11	180	1214696	29.564	ng	99
95) Naphthalene	22.22	128	4059692	31.218	ng	100
96) n-Dodecane	22.21	57	1552322	32.498	ng	99
97) Hexachlorobutadiene	22.53	225	775895	27.300	ng	100
98) Cyclohexanone	18.27	55	1054380	25.536	ng	100
99) tert-Butylbenzene	20.11	119	3020885	28.804	ng	100
100) n-Butylbenzene	20.85	91	3147312	29.010	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082004.D Vial: 2
Acq On : 8 May 2020 2:40 Operator: LH
Sample : LCS R16050820_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 08 14:46:02 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082005.D Vial: 2
Acq On : 8 May 2020 3:14 Operator: LH
Sample : LCSD R16050820_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 08 14:47:35 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/8/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	275598	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.28	114	1176711	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.58	82	553249	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	436235	11.680	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.44%				
57) Toluene-d8 (SS2)	15.72	98	1150780	12.272	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.16%				
73) Bromofluorobenzene (SS3)	18.98	174	459630	13.622	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.96%				
Target Compounds							Qvalue
2) Propene	4.09	42	817102	25.599	ng		100
3) Dichlorodifluoromethan...	4.25	85	1464075	23.451	ng		100
4) Chloromethane	4.53	50	1131584	23.136	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	845374	22.664	ng		100
6) Vinyl Chloride	4.95	62	1241578	23.149	ng		100
7) 1,3-Butadiene	5.21	54	1064339	23.983	ng		100
8) Bromomethane	5.65	94	662480	23.382	ng		100
9) Chloroethane	5.98	64	499777	23.587	ng		100
10) Ethanol	6.38	45	2923887	118.629	ng		100
11) Acetonitrile	6.62	41	1320800	23.450	ng		100
12) Acrolein	6.80	56	439138	22.549	ng		100
13) Acetone	7.01	58	3047397	123.631	ng		99
14) Trichlorofluoromethane	7.24	101	1291968	23.416	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	3691021	49.475	ng		100
16) Acrylonitrile	7.77	53	961253	23.855	ng		100
17) 1,1-Dichloroethene	8.20	96	710670	24.570	ng		98
18) 2-Methyl-2-Propanol (t...	8.39	59	3395980	48.827	ng		100
19) Methylene Chloride	8.44	84	746420	23.295	ng		100
20) 3-Chloro-1-propene (Al...	8.59	41	1043325	23.700	ng		100
21) Trichlorotrifluoroethane	8.84	151	661077	25.377	ng		98
22) Carbon Disulfide	8.69	76	2733633	23.809	ng		100
23) trans-1,2-Dichloroethene	9.71	61	1047896	23.793	ng		98
24) 1,1-Dichloroethane	9.96	63	1225015	23.429	ng		100
25) Methyl tert-Butyl Ether	10.05	73	1921441	23.363	ng		100
26) Vinyl Acetate	10.22	86	999018	130.115	ng	#	95
27) 2-Butanone (MEK)	10.46	72	503866	23.970	ng		99
28) cis-1,2-Dichloroethene	10.98	61	1015239	23.567	ng		99
29) Diisopropyl Ether	11.27	87	698313	23.483	ng	#	92
30) Ethyl Acetate	11.27	61	660078	54.456	ng		98
31) n-Hexane	11.26	57	1345691	25.596	ng		100
32) Chloroform	11.32	83	1318613	24.036	ng		100
34) Tetrahydrofuran (THF)	11.72	72	491361	23.966	ng		99
35) Ethyl tert-Butyl Ether	11.86	87	890188	24.772	ng		100
36) 1,2-Dichloroethane	12.12	62	1004020	23.100	ng		100
38) 1,1,1-Trichloroethane	12.40	97	1186949	25.044	ng		100
39) Isopropyl Acetate	12.83	61	1107698	53.432	ng		96
40) 1-Butanol	12.85	56	1722711	58.407	ng		96
41) Benzene	12.88	78	3010257	23.855	ng		100
42) Carbon Tetrachloride	13.04	117	1049345	24.447	ng		100
43) Cyclohexane	13.17	84	2390088	50.827	ng		100
44) tert-Amyl Methyl Ether	13.52	73	2175079	25.704	ng		100
45) 1,2-Dichloropropane	13.73	63	733613	25.102	ng		100
46) Bromodichloromethane	13.92	83	1081035	25.349	ng		100
47) Trichloroethene	13.97	130	828794	25.410	ng		100
48) 1,4-Dioxane	13.95	88	656387	25.827	ng		99
49) 2,2,4-Trimethylpentane...	14.05	57	3029414	24.671	ng		100
50) Methyl Methacrylate	14.18	100	662058	52.885	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082005.D Vial: 2
Acq On : 8 May 2020 3:14 Operator: LH
Sample : LCSD R16050820_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 08 14:47:35 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

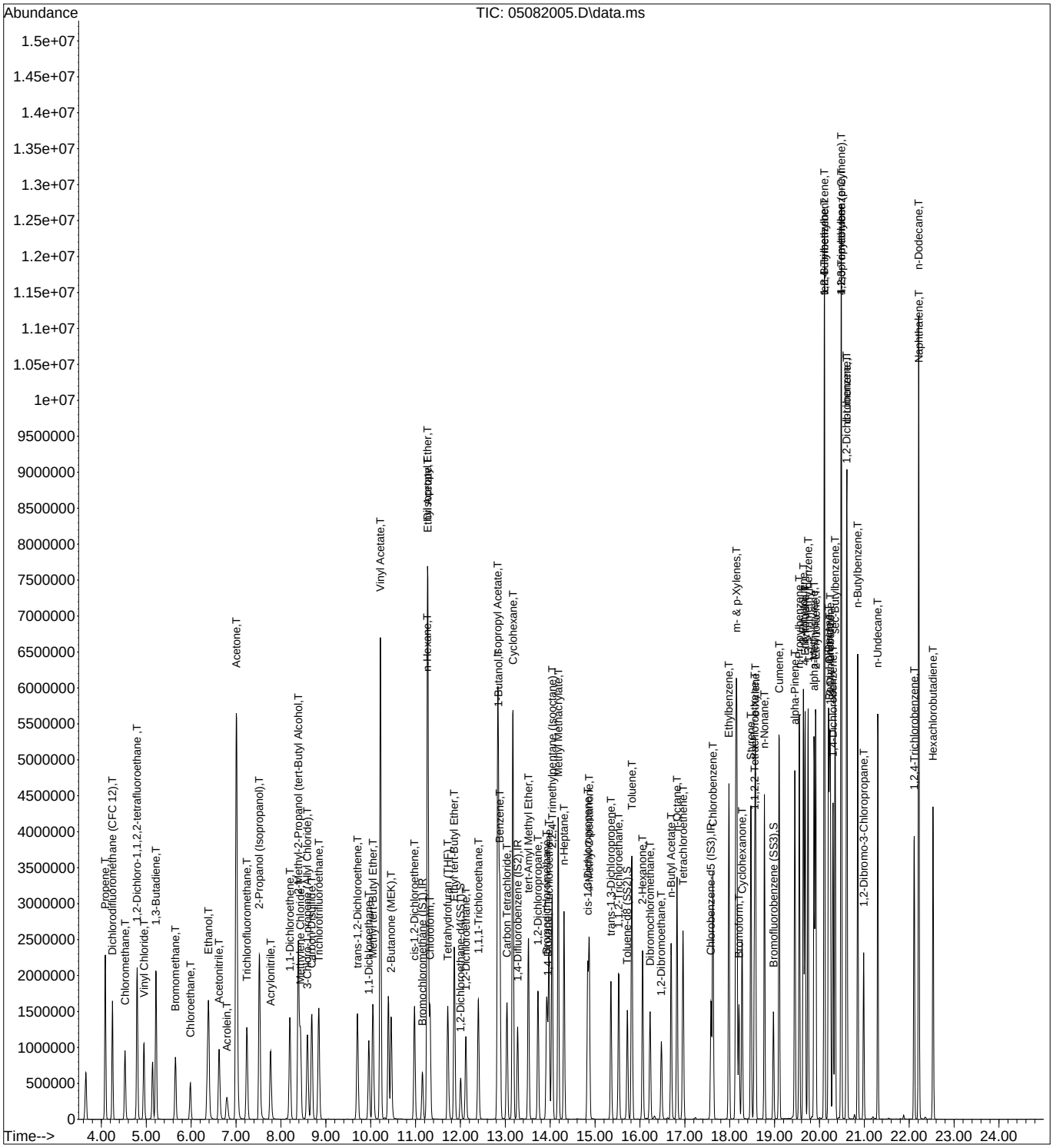
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	721683	24.456	ng	99
52) cis-1,3-Dichloropropene	14.84	75	1323295	26.373	ng	100
53) 4-Methyl-2-pentanone	14.87	58	734264	26.102	ng	99
54) trans-1,3-Dichloropropene	15.35	75	1139629	26.546	ng	99
55) 1,1,2-Trichloroethane	15.52	97	739839	25.528	ng	100
58) Toluene	15.82	91	3013996	24.934	ng	100
59) 2-Hexanone	16.06	43	1801481	27.198	ng	100
60) Dibromochloromethane	16.23	129	926115	26.756	ng	100
61) 1,2-Dibromoethane	16.48	107	858731	25.813	ng	100
62) n-Butyl Acetate	16.70	43	2016486	28.185	ng	100
63) n-Octane	16.83	57	638694	25.522	ng	100
64) Tetrachloroethene	16.96	166	878082	25.718	ng	100
65) Chlorobenzene	17.62	112	2036921	24.490	ng	100
66) Ethylbenzene	17.98	91	3522768	26.136	ng	100
67) m- & p-Xylenes	18.15	91	5695601	53.265	ng	100
68) Bromoform	18.21	173	798175	26.600	ng	100
69) Styrene	18.47	104	2200201	27.357	ng	99
70) o-Xylene	18.58	91	2818779	25.966	ng	99
71) n-Nonane	18.77	43	1519655	26.384	ng	99
72) 1,1,2,2-Tetrachloroethane	18.55	83	1430129	26.555	ng	100
74) Cumene	19.10	105	3520287	26.424	ng	100
75) alpha-Pinene	19.45	93	1841383	25.904	ng	100
76) n-Propylbenzene	19.55	91	4306064	27.207	ng	100
77) 3-Ethyltoluene	19.64	105	3537781	27.435	ng	100
78) 4-Ethyltoluene	19.68	105	3420565	27.338	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	2934166	27.008	ng	99
80) alpha-Methylstyrene	19.88	118	1567076	25.591	ng	99
81) 2-Ethyltoluene	19.92	105	3478056	27.345	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3261766	29.871	ng	99
83) n-Decane	20.20	57	1612839	26.403	ng	100
84) Benzyl Chloride	20.23	91	2757695	27.096	ng	100
85) 1,3-Dichlorobenzene	20.24	146	1799800	28.385	ng	99
86) 1,4-Dichlorobenzene	20.30	146	1738288	28.093	ng	100
87) sec-Butylbenzene	20.35	105	3901627	27.526	ng	100
88) 4-Isopropyltoluene (p-...	20.48	119	3818938	28.452	ng	99
89) 1,2,3-Trimethylbenzene	20.48	105	3194271	27.951	ng	99
90) 1,2-Dichlorobenzene	20.61	146	1772777	29.201	ng	100
91) d-Limonene	20.61	68	1221567	28.325	ng	99
92) 1,2-Dibromo-3-Chloropr...	20.98	157	607983	26.560	ng	98
93) n-Undecane	21.30	57	1595072	28.214	ng	100
94) 1,2,4-Trichlorobenzene	22.11	180	1231928	29.258	ng	100
95) Naphthalene	22.22	128	4131760	31.004	ng	100
96) n-Dodecane	22.21	57	1579502	32.267	ng	99
97) Hexachlorobutadiene	22.53	225	791522	27.177	ng	100
98) Cyclohexanone	18.27	55	1085368	25.651	ng	100
99) tert-Butylbenzene	20.11	119	3063211	28.502	ng	100
100) n-Butylbenzene	20.85	91	3198424	28.768	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082005.D Vial: 2
Acq On : 8 May 2020 3:14 Operator: LH
Sample : LCSD R16050820_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 08 14:47:35 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052014.D Vial: 1
Acq On : 5 May 2020 10:43 Operator: WA
Sample : P2002107-005dup (3.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 20:59:08 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/6/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	277774	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1193339	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	578887	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	453013	12.034	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.24%				
57) Toluene-d8 (SS2)	15.72	98	1180142	12.027	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.24%				
73) Bromofluorobenzene (SS3)	18.98	174	469969	13.311	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.48%				
Target Compounds							Qvalue
2) Propene	4.12	42	10421	0.324	ng	#	88
3) Dichlorodifluoromethan...	4.29	85	381	N.D.			
4) Chloromethane	4.55	50	3226	0.065	ng		97
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	4.97	62	252	N.D.			
7) 1,3-Butadiene	5.15	54	1125	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.34	45	4374	0.176	ng		92
11) Acetonitrile	6.62	41	257	N.D.			
12) Acrolein	6.79	56	824	N.D.			
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	7.51	45	23229	0.309	ng		88
16) Acrylonitrile	7.69	53	954	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.41	84	355	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.68	76	18877	0.163	ng		100
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	9.99	63	605	N.D.			
25) Methyl tert-Butyl Ether	10.10	73	319	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.49	72	1993	0.094	ng	#	70
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.27	87	789	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	11.26	57	91547	1.728	ng		99
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	11.76	72	2179	0.105	ng	#	74
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	3356	0.077	ng		98
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	12.87	56	892	N.D.			
41) Benzene	12.87	78	2338505	18.273	ng		100
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	13.16	84	390713	8.193	ng		98
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	13.64	63	575	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	13.97	130	234	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.11	100	488	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052014.D Vial: 1
Acq On : 5 May 2020 10:43 Operator: WA
Sample : P2002107-005dup (3.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 20:59:08 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

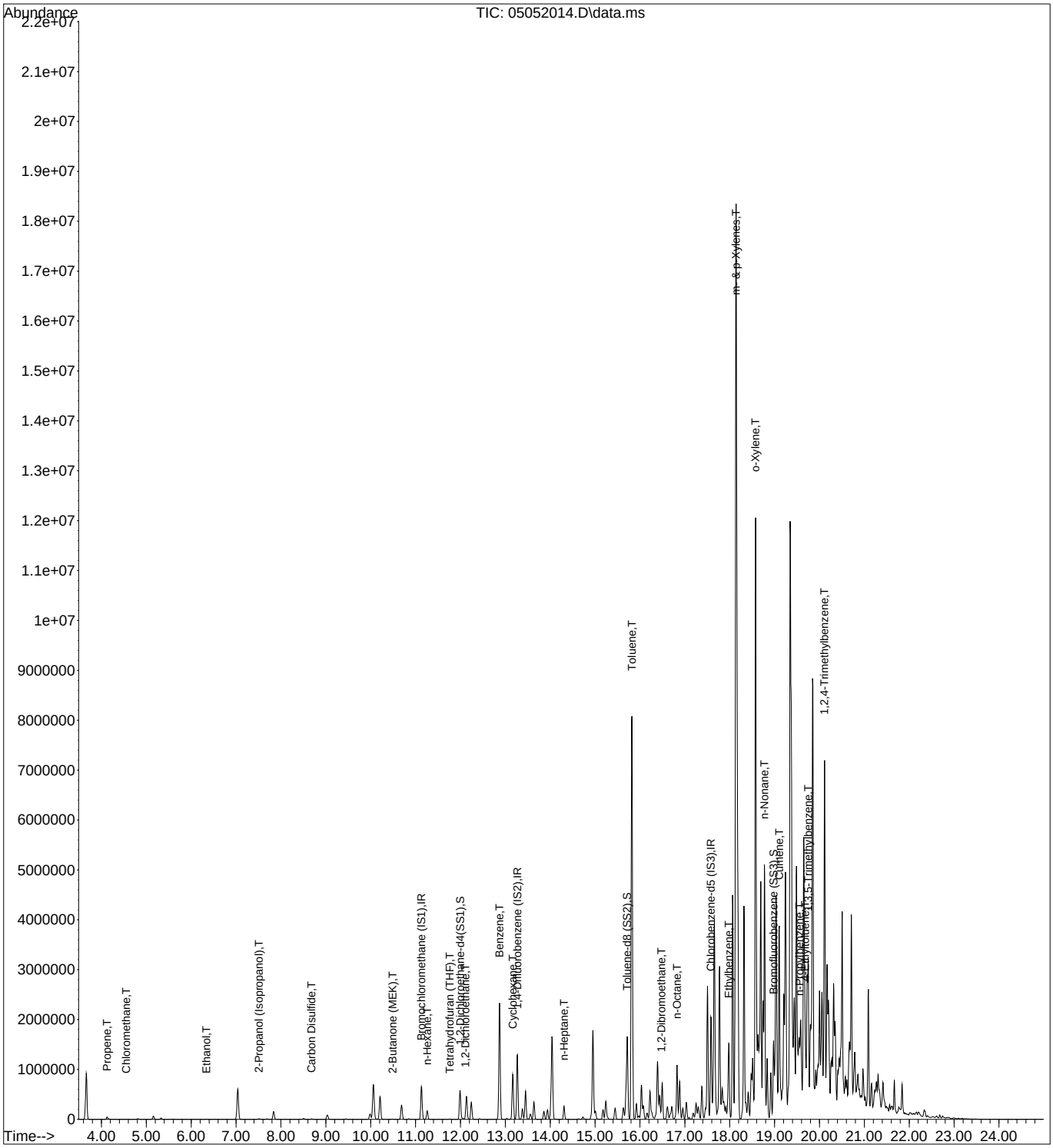
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	67010	2.239 ng	99
52) cis-1,3-Dichloropropene	14.96	75	261	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	15.14	75	255	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	15.82	91	6383883	50.473 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	16.48	107	27337	0.785 ng	99
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	16.83	57	209685	8.008 ng	99
64) Tetrachloroethene	16.96	166	101	N.D.	
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	17.98	91	703672	4.989 ng	100
67) m- & p-Xylenes	18.14	91	13236472	118.304 ng	99
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.48	104	2441	N.D.	
70) o-Xylene	18.58	91	6861606	60.408 ng	100
71) n-Nonane	18.77	43	1619168	26.866 ng	100
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	19.10	105	594462	4.264 ng	100
75) alpha-Pinene	19.44	93	1040	N.D.	
76) n-Propylbenzene	19.55	91	515583	3.113 ng	98
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.68	105	174361	1.332 ng	99
79) 1,3,5-Trimethylbenzene	19.75	105	765269	6.732 ng	99
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.11	105	821143	7.187 ng	92
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	0.00	91	0	N.D. d	
85) 1,3-Dichlorobenzene	20.24	146	185	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	364	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.11	180	620	N.D.	
95) Naphthalene	22.22	128	3603	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052014.D Vial: 1
Acq On : 5 May 2020 10:43 Operator: WA
Sample : P2002107-005dup (3.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 20:59:08 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052014.D Vial: 1
Acq On : 5 May 2020 10:43 Operator: WA
Sample : P2002107-005dup (3.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 20:59:08 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/6/20

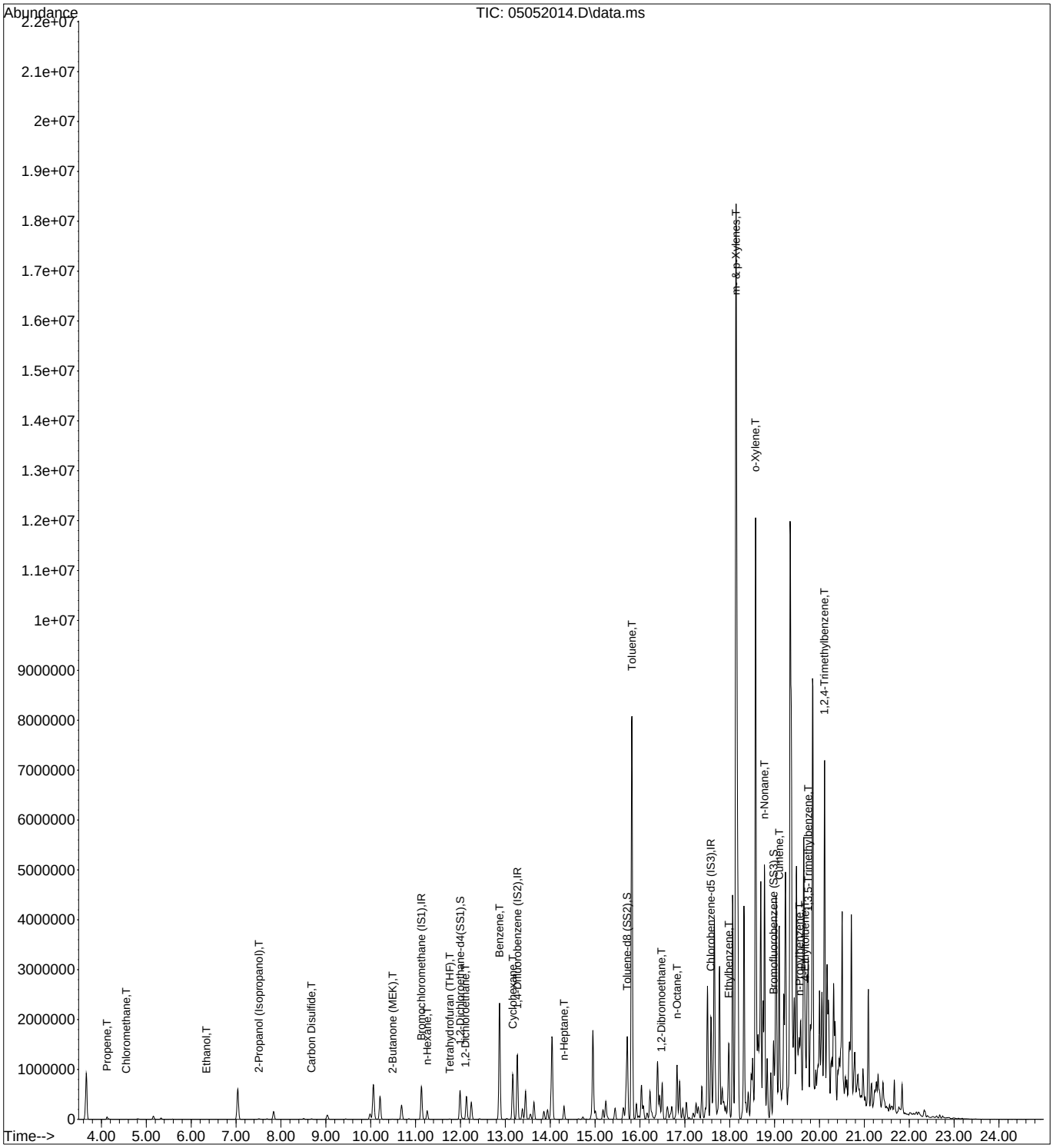
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	277774	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1193339	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	578887	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	453013	12.034	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.24%				
57) Toluene-d8 (SS2)	15.72	98	1180142	12.027	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.24%				
73) Bromofluorobenzene (SS3)	18.98	174	469969	13.311	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.48%				
Target Compounds							Qvalue
2) Propene	4.12	42	10421	0.324	ng	#	88
4) Chloromethane	4.55	50	3226	0.065	ng		97
10) Ethanol	6.34	45	4374	0.176	ng		92
15) 2-Propanol (Isopropanol)	7.51	45	23229	0.309	ng		88
22) Carbon Disulfide	8.68	76	18877	0.163	ng		100
27) 2-Butanone (MEK)	10.49	72	1993	0.094	ng	#	70
31) n-Hexane	11.26	57	91547	1.728	ng		99
34) Tetrahydrofuran (THF)	11.76	72	2179	0.105	ng	#	74
36) 1,2-Dichloroethane	12.11	62	3356	0.077	ng		98
41) Benzene	12.87	78	2338505	18.273	ng		100
43) Cyclohexane	13.16	84	390713	8.193	ng		98
51) n-Heptane	14.31	71	67010	2.239	ng		99
58) Toluene	15.82	91	6383883	50.473	ng		100
61) 1,2-Dibromoethane	16.48	107	27337	0.785	ng		99
63) n-Octane	16.83	57	209685	8.008	ng		99
66) Ethylbenzene	17.98	91	703672	4.989	ng		100
67) m- & p-Xylenes	18.14	91	13236472	118.304	ng		99
70) o-Xylene	18.58	91	6861606	60.408	ng		100
71) n-Nonane	18.77	43	1619168	26.866	ng		100
74) Cumene	19.10	105	594462	4.264	ng		100
76) n-Propylbenzene	19.55	91	515583	3.113	ng		98
78) 4-Ethyltoluene	19.68	105	174361	1.332	ng		99
79) 1,3,5-Trimethylbenzene	19.75	105	765269	6.732	ng		99
82) 1,2,4-Trimethylbenzene	20.11	105	821143	7.187	ng		92

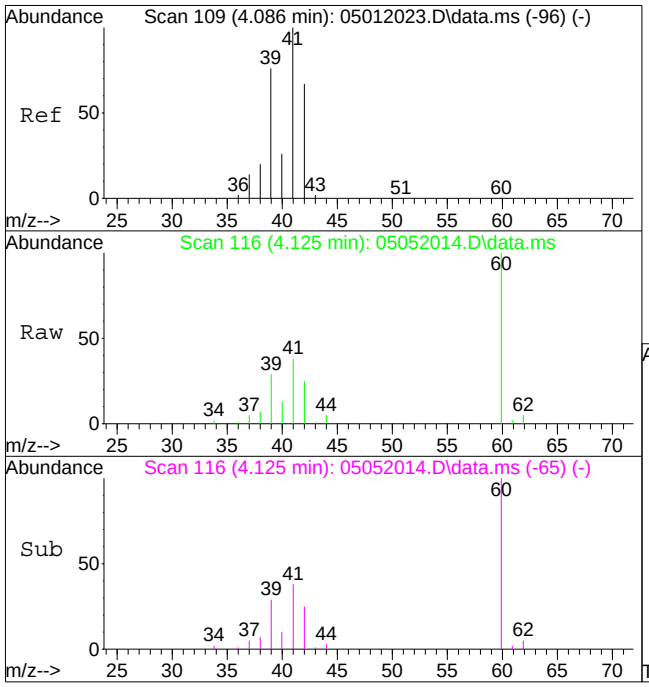
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052014.D Vial: 1
Acq On : 5 May 2020 10:43 Operator: WA
Sample : P2002107-005dup (3.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 06 20:59:08 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

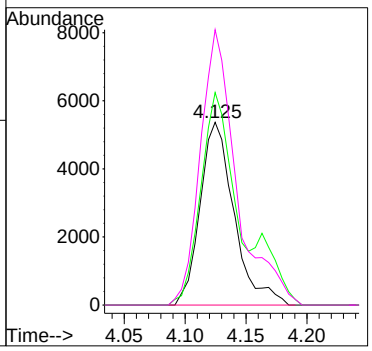


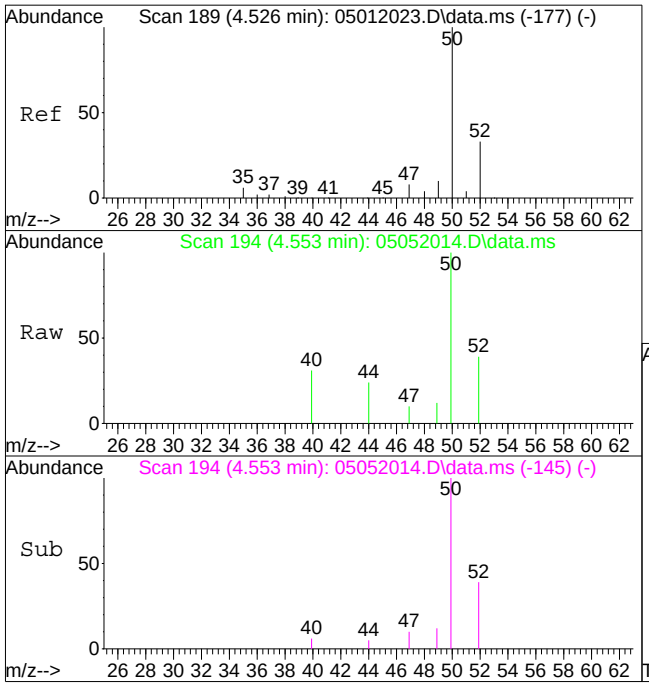


#2
Propene
Concen: 0.32 ng
RT: 4.12 min Scan# 116
Delta R.T. 0.033 min
Lab File: 05052014.D
Acq: 5 May 2020 10:43

Tgt Ion: 42 Resp: 10421

Ion	Ratio	Lower	Upper
42	100		
39	136.1	96.1	136.1#
41	161.2	131.9	171.9

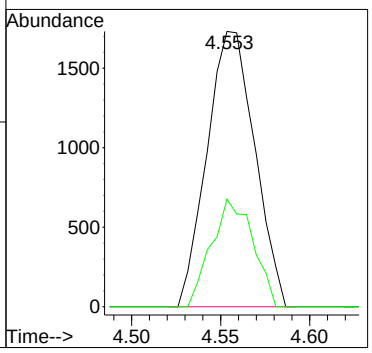


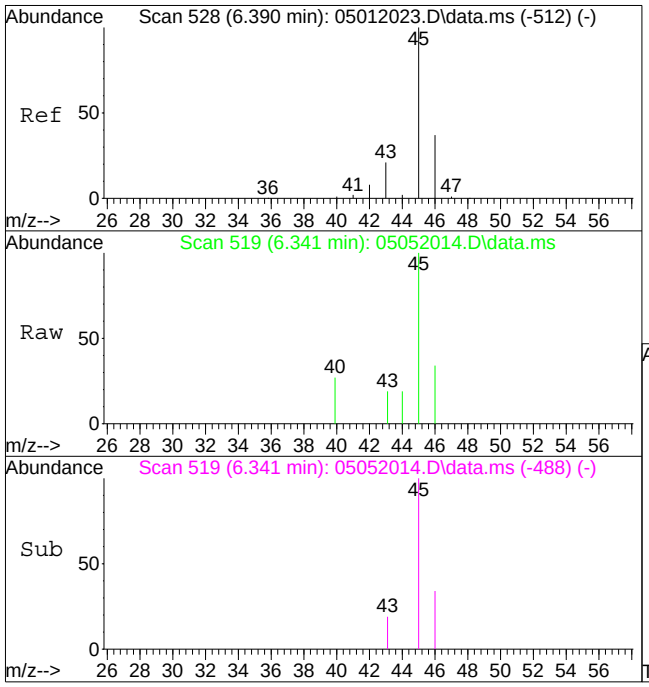


#4
Chloromethane
Concen: 0.07 ng
RT: 4.55 min Scan# 194
Delta R.T. 0.022 min
Lab File: 05052014.D
Acq: 5 May 2020 10:43

Tgt Ion: 50 Resp: 3226

Ion	Ratio	Lower	Upper
50	100		
52	34.0	12.5	52.5

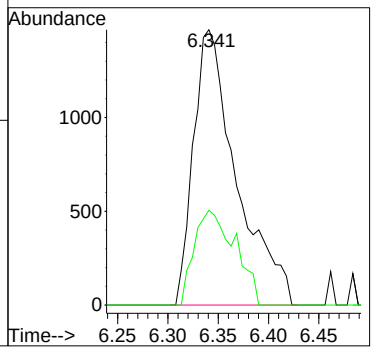


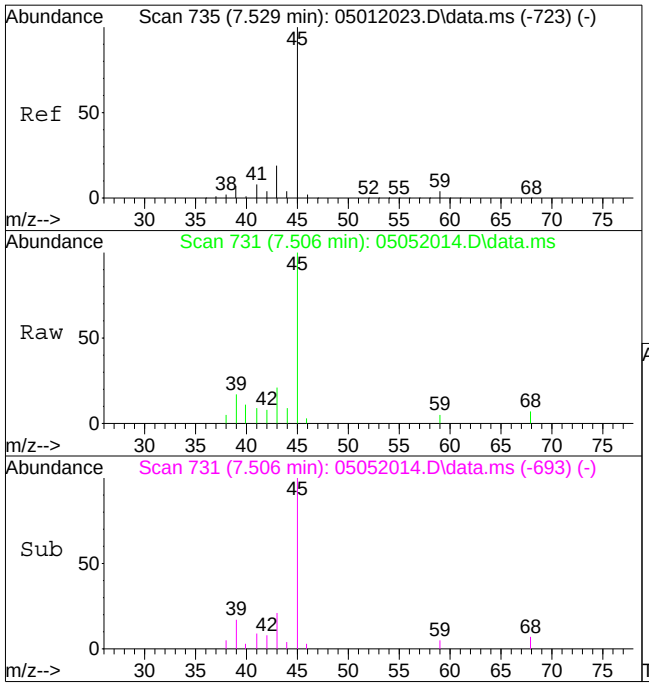


#10
Ethanol
Concen: 0.18 ng
RT: 6.34 min Scan# 519
Delta R.T. -0.077 min
Lab File: 05052014.D
Acq: 5 May 2020 10:43

Tgt Ion: 45 Resp: 4374

Ion	Ratio	Lower	Upper
45	100		
46	32.6	17.2	57.2

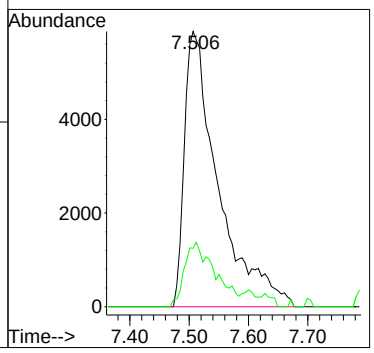


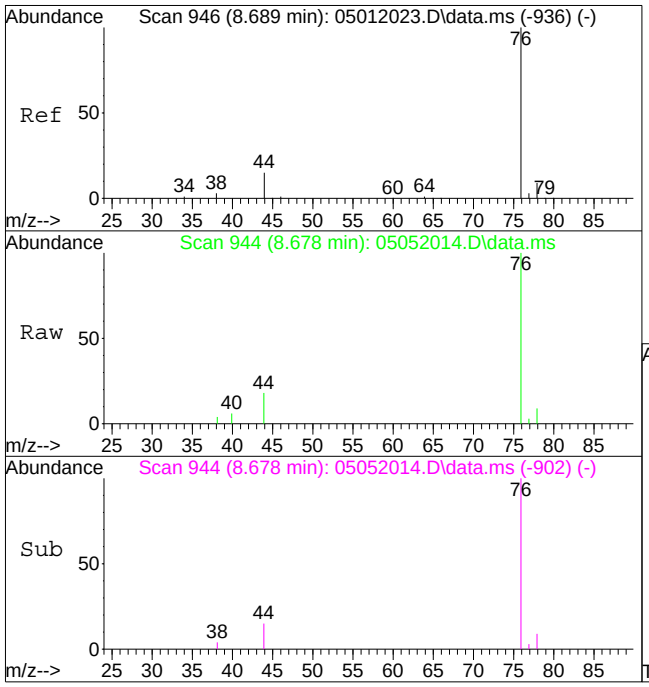


#15
2-Propanol (Isopropanol)
Concen: 0.31 ng
RT: 7.51 min Scan# 731
Delta R.T. -0.039 min
Lab File: 05052014.D
Acq: 5 May 2020 10:43

Tgt Ion: 45 Resp: 23229

Ion	Ratio	Lower	Upper
45	100		
43	25.1	0.0	39.5

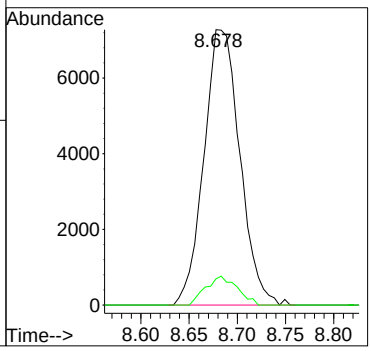


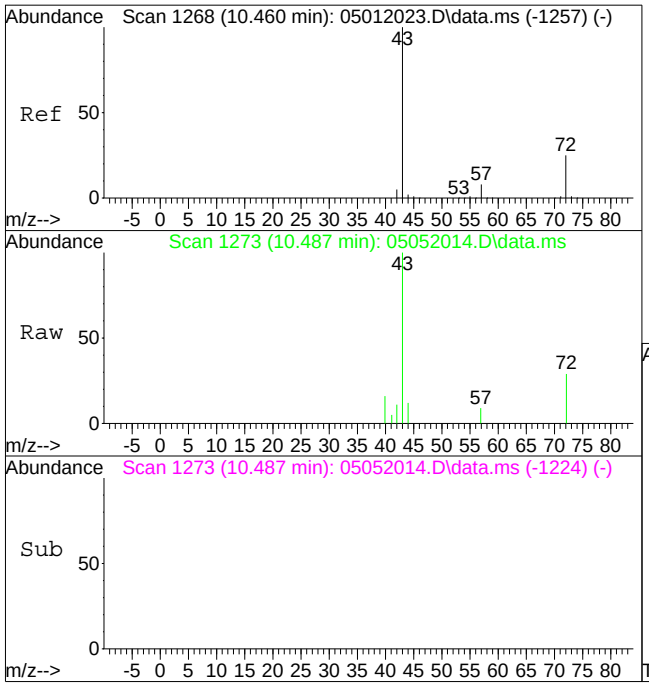


#22
Carbon Disulfide
Concen: 0.16 ng
RT: 8.68 min Scan# 944
Delta R.T. -0.017 min
Lab File: 05052014.D
Acq: 5 May 2020 10:43

Tgt Ion: 76 Resp: 18877

Ion	Ratio	Lower	Upper
76	100		
78	9.2	0.0	29.2

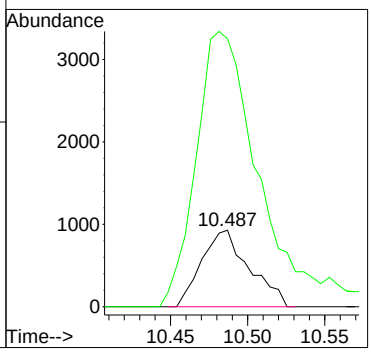


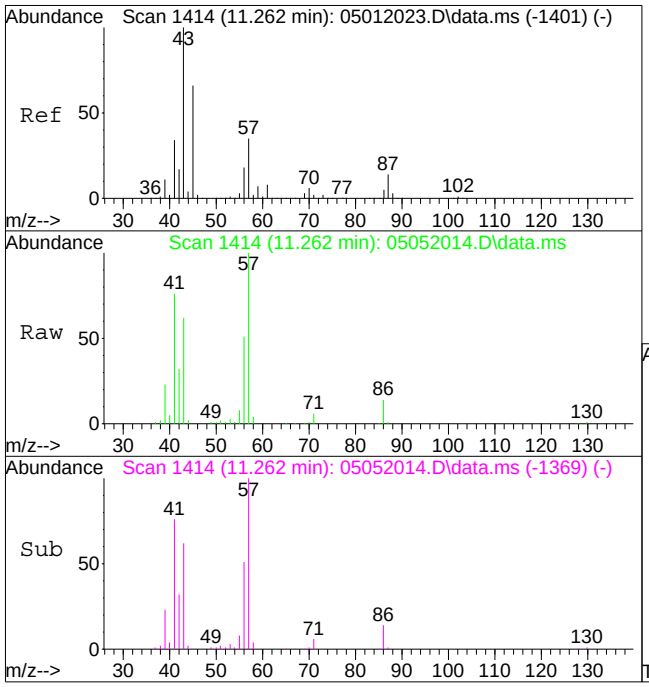


#27
2-Butanone (MEK)
Concen: 0.09 ng
RT: 10.49 min Scan# 1273
Delta R.T. 0.022 min
Lab File: 05052014.D
Acq: 5 May 2020 10:43

Tgt Ion: 72 Resp: 1993

Ion	Ratio	Lower	Upper
72	100		
43	482.9	389.7	429.7#

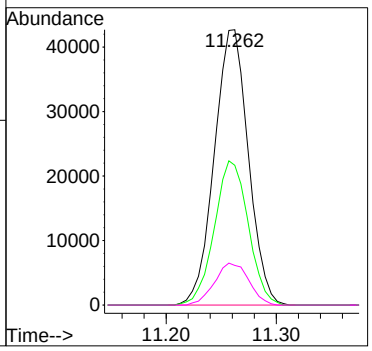


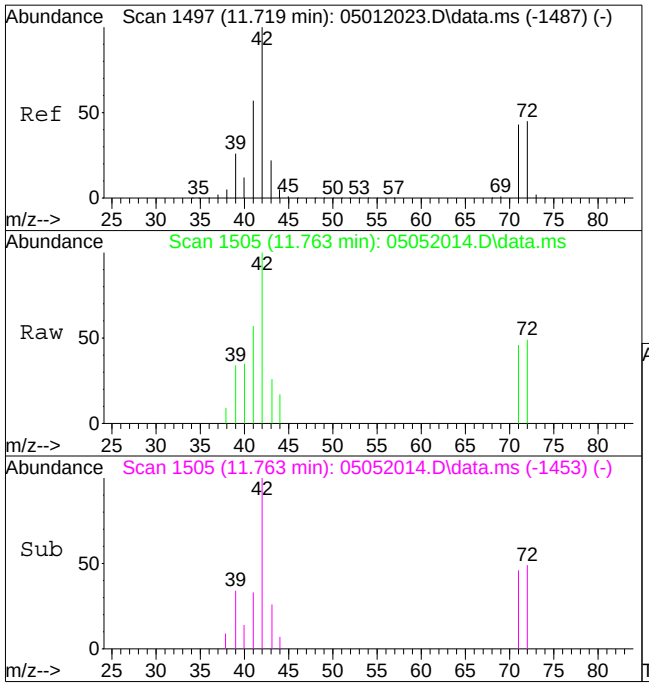


#31
n-Hexane
Concen: 1.73 ng
RT: 11.26 min Scan# 1414
Delta R.T. -0.000 min
Lab File: 05052014.D
Acq: 5 May 2020 10:43

Tgt Ion: 57 Resp: 91547

Ion	Ratio	Lower	Upper
57	100		
56	52.1	41.4	62.0
86	15.4	12.4	18.6

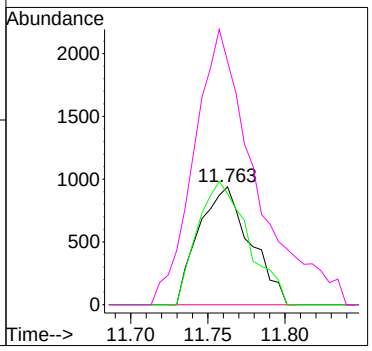


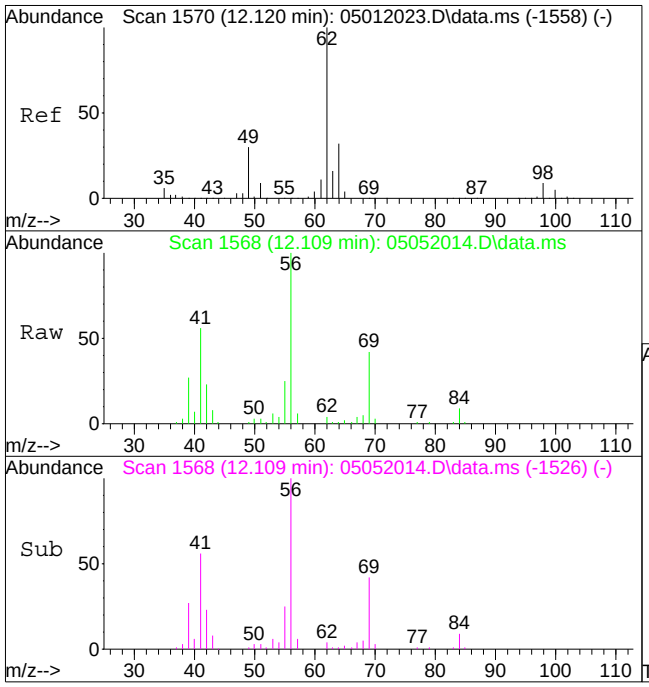


#34
Tetrahydrofuran (THF)
Concen: 0.11 ng
RT: 11.76 min Scan# 1505
Delta R.T. 0.038 min
Lab File: 05052014.D
Acq: 5 May 2020 10:43

Tgt Ion: 72 Resp: 2179

Ion	Ratio	Lower	Upper
72	100		
71	103.1	77.0	117.0
42	280.9	204.6	244.6#

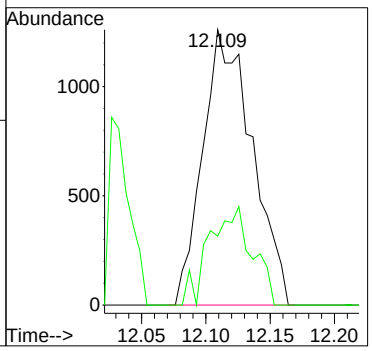


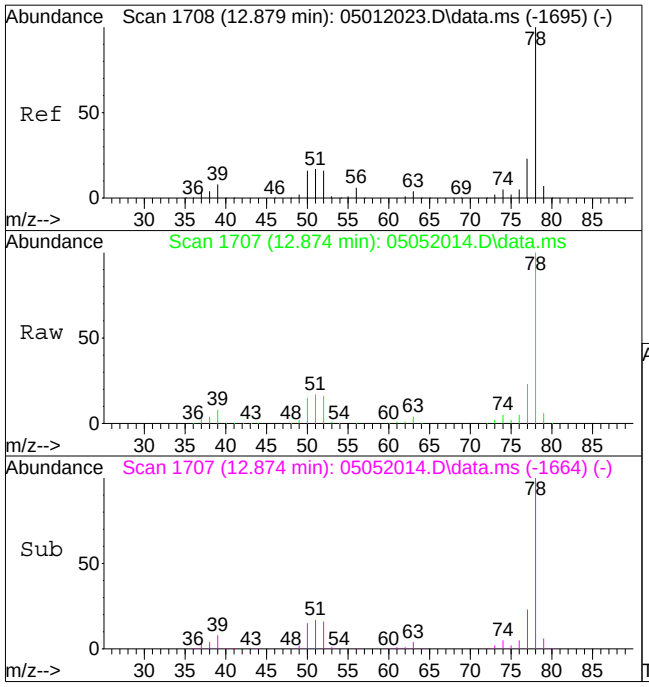


#36
1,2-Dichloroethane
Concen: 0.08 ng
RT: 12.11 min Scan# 1568
Delta R.T. -0.017 min
Lab File: 05052014.D
Acq: 5 May 2020 10:43

Tgt Ion: 62 Resp: 3356

Ion	Ratio	Lower	Upper
62	100		
64	31.2	12.4	52.4

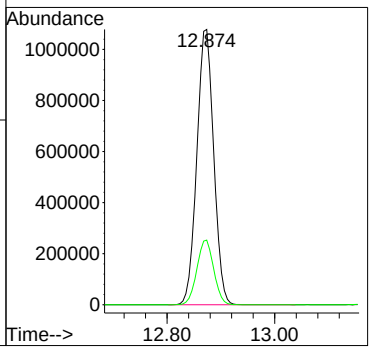


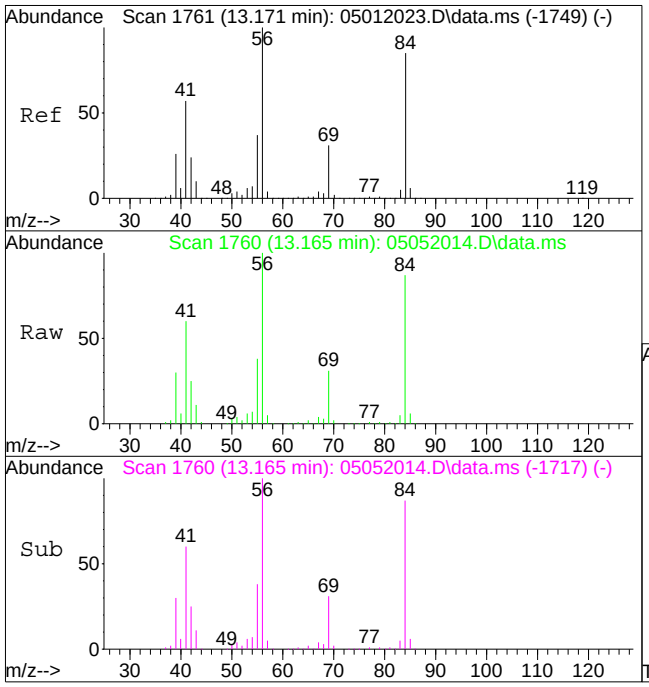


#41
Benzene
Concen: 18.27 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05052014.D
Acq: 5 May 2020 10:43

Tgt Ion: 78 Resp: 2338505

Ion	Ratio	Lower	Upper
78	100		
77	23.4	3.4	43.4

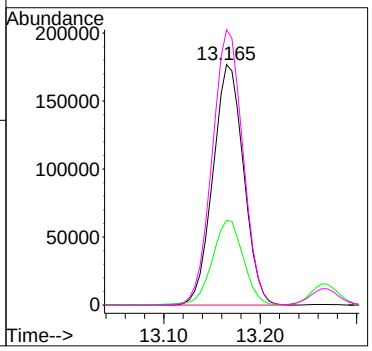


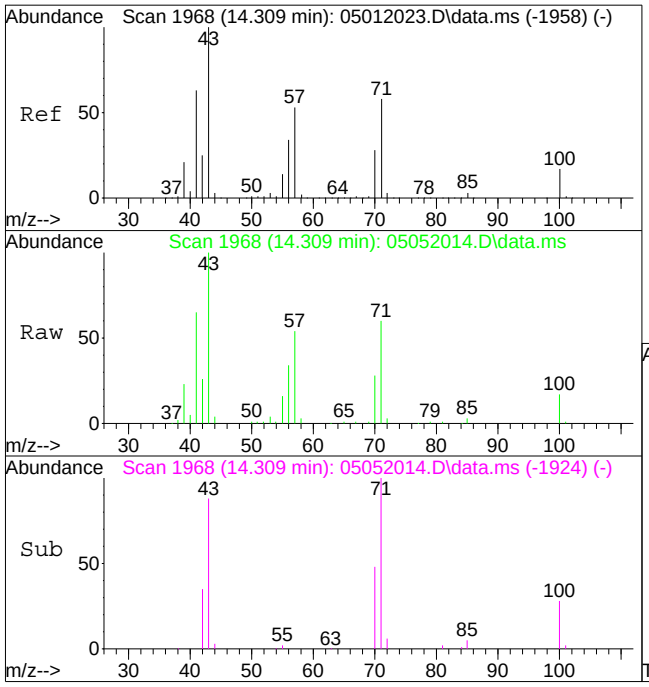


#43
Cyclohexane
Concen: 8.19 ng
RT: 13.16 min Scan# 1760
Delta R.T. -0.011 min
Lab File: 05052014.D
Acq: 5 May 2020 10:43

Tgt Ion: 84 Resp: 390713

Ion	Ratio	Lower	Upper
84	100		
69	35.9	16.5	56.5
56	114.8	97.4	137.4

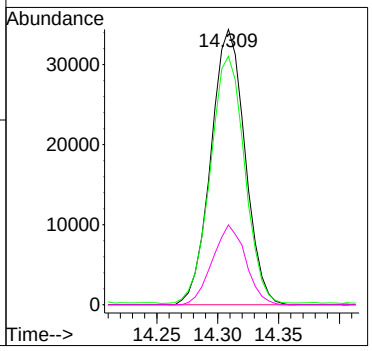


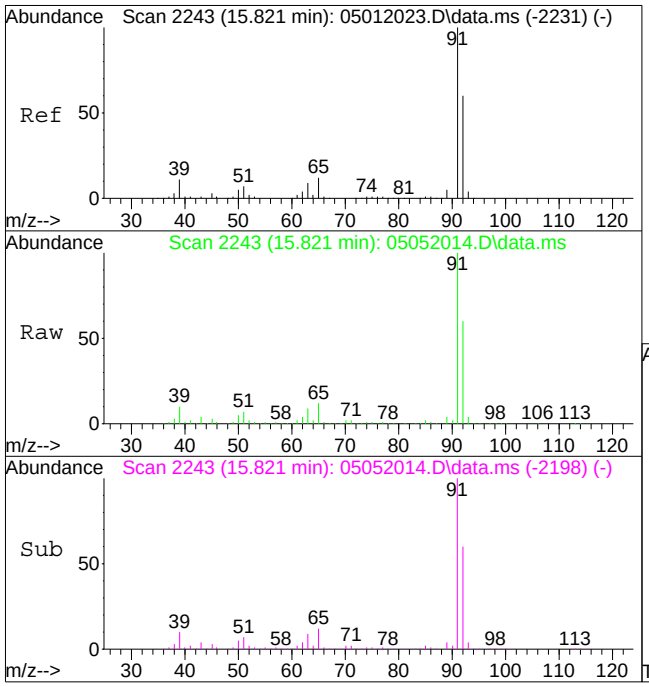


#51
n-Heptane
Concen: 2.24 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05052014.D
Acq: 5 May 2020 10:43

Tgt Ion: 71 Resp: 67010

Ion	Ratio	Lower	Upper
71	100		
57	90.4	71.0	111.0
100	28.2	8.4	48.4

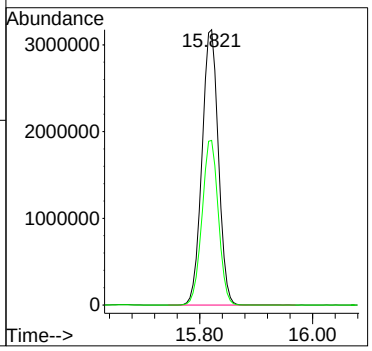


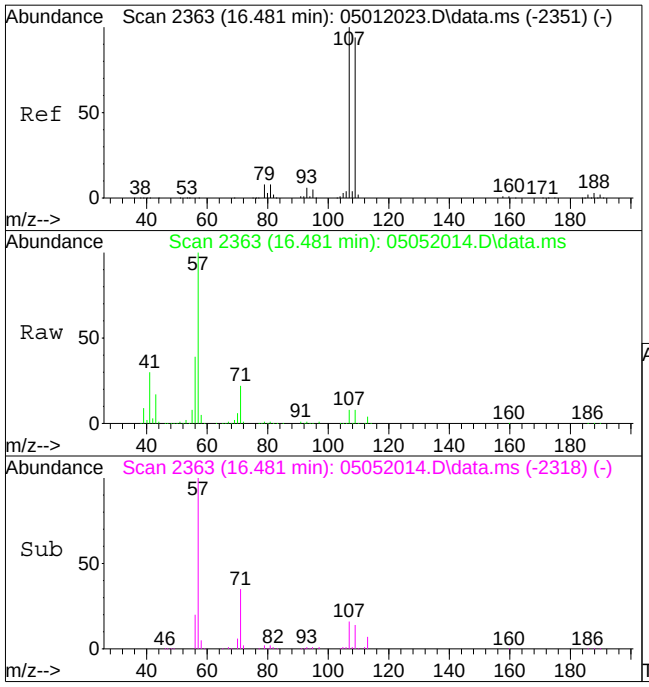


#58
Toluene
Concen: 50.47 ng
RT: 15.82 min Scan# 2243
Delta R.T. -0.000 min
Lab File: 05052014.D
Acq: 5 May 2020 10:43

Tgt Ion: 91 Resp: 6383883

Ion	Ratio	Lower	Upper
91	100		
92	59.7	39.4	79.4

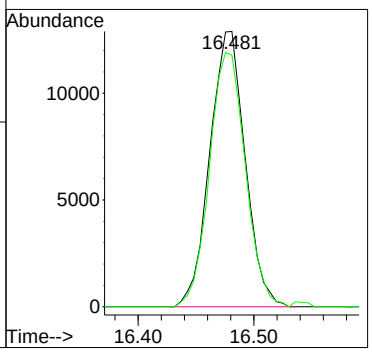


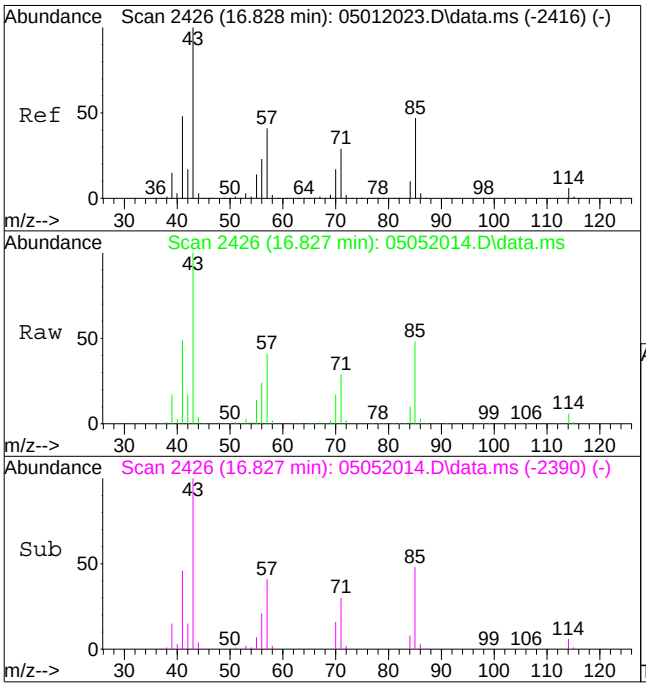


#61
1,2-Dibromoethane
Concen: 0.79 ng
RT: 16.48 min Scan# 2363
Delta R.T. -0.000 min
Lab File: 05052014.D
Acq: 5 May 2020 10:43

Tgt Ion:107 Resp: 27337

Ion	Ratio	Lower	Upper
107	100		
109	93.9	74.5	114.5

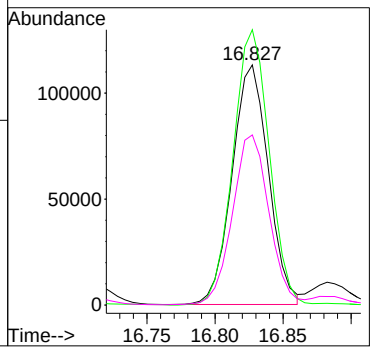


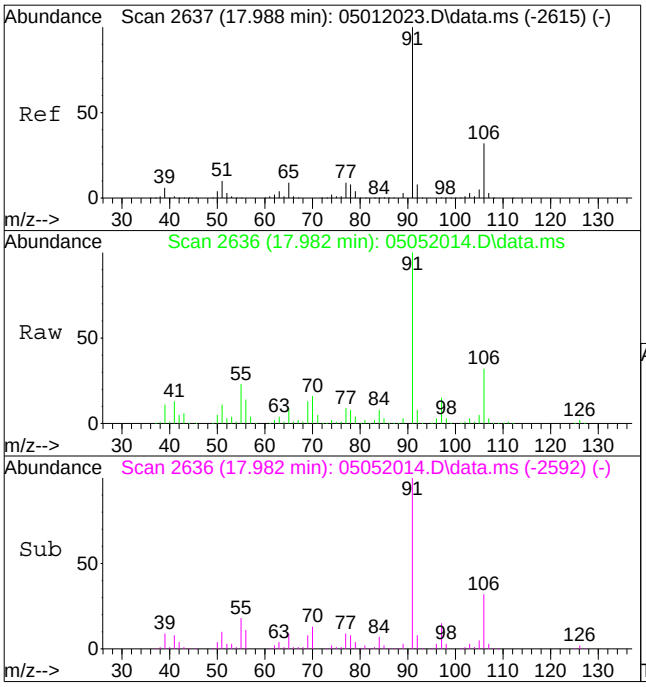


#63
n-Octane
Concen: 8.01 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05052014.D
Acq: 5 May 2020 10:43

Tgt Ion: 57 Resp: 209685

Ion	Ratio	Lower	Upper
57	100		
85	115.1	91.0	136.4
71	71.5	56.2	84.2

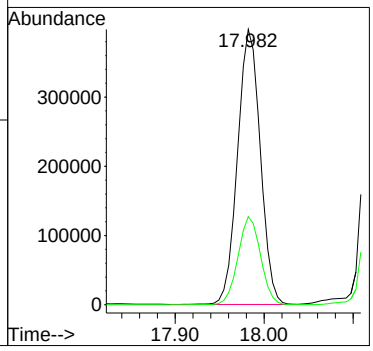


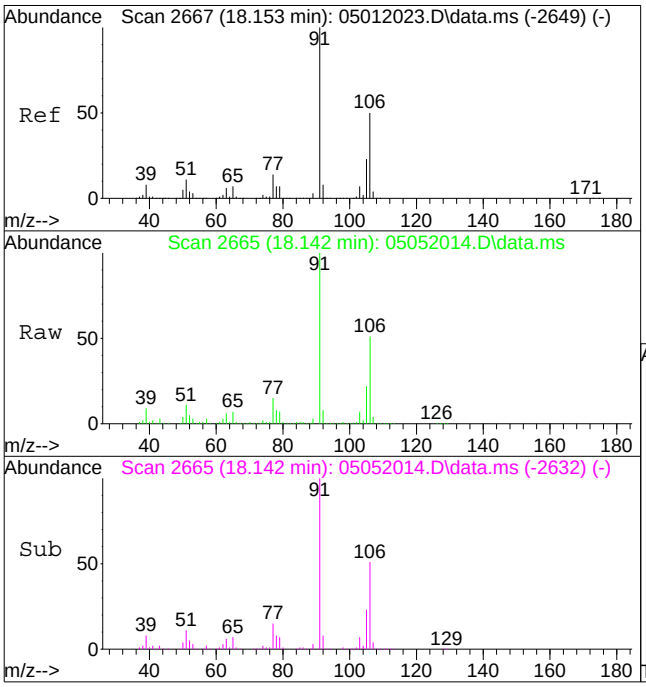


#66
Ethylbenzene
Concen: 4.99 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05052014.D
Acq: 5 May 2020 10:43

Tgt Ion: 91 Resp: 703672

Ion	Ratio	Lower	Upper
91	100		
106	31.8	11.6	51.6

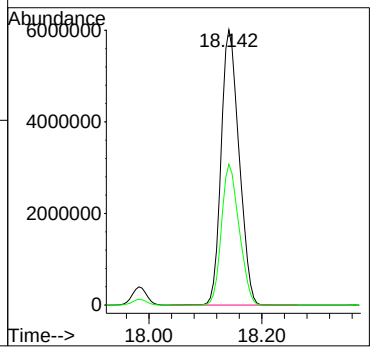


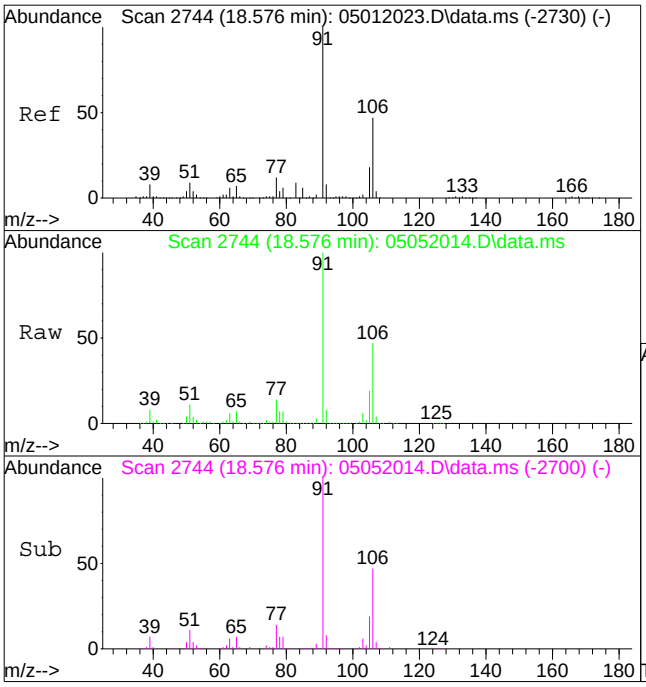


#67
m- & p-Xylenes
Concen: 118.30 ng
RT: 18.14 min Scan# 2665
Delta R.T. -0.017 min
Lab File: 05052014.D
Acq: 5 May 2020 10:43

Tgt Ion: 91 Resp:13236472

Ion	Ratio	Lower	Upper
91	100		
106	50.5	29.7	69.7

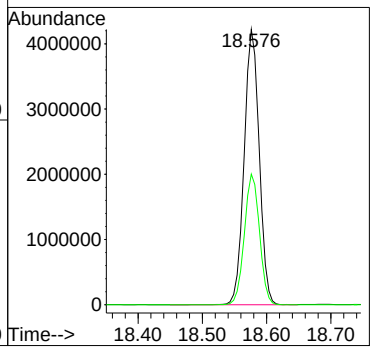


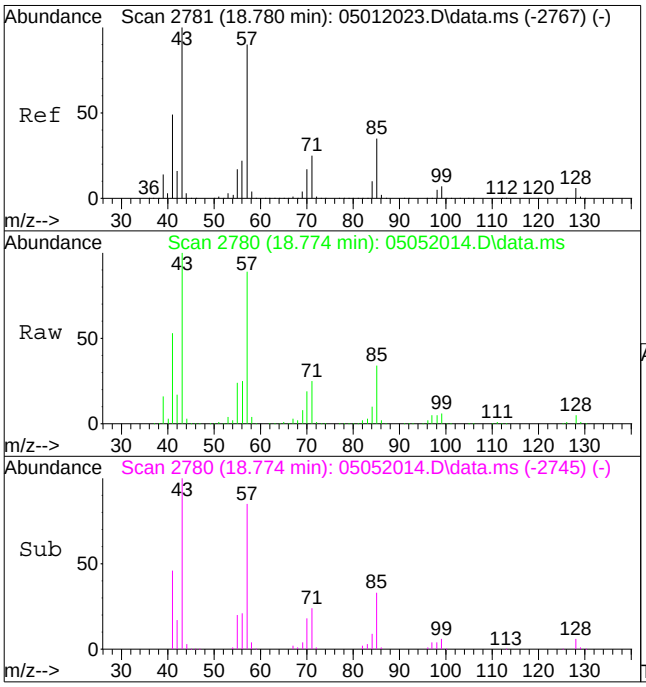


#70
o-Xylene
Concen: 60.41 ng
RT: 18.58 min Scan# 2744
Delta R.T. -0.006 min
Lab File: 05052014.D
Acq: 5 May 2020 10:43

Tgt Ion: 91 Resp: 6861606

Ion	Ratio	Lower	Upper
91	100		
106	47.7	27.5	67.5

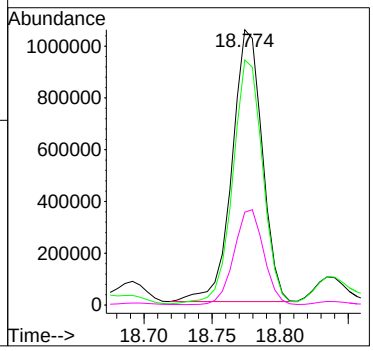


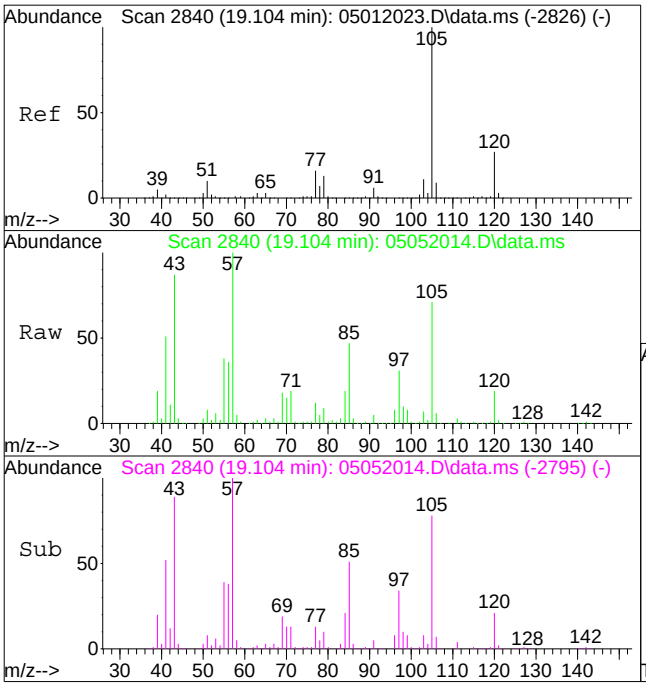


#71
n-Nonane
Concen: 26.87 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05052014.D
Acq: 5 May 2020 10:43

Tgt Ion: 43 Resp: 1619168

Ion	Ratio	Lower	Upper
43	100		
57	88.9	69.0	109.0
85	34.1	14.6	54.6

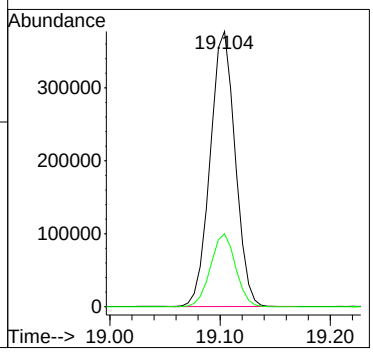


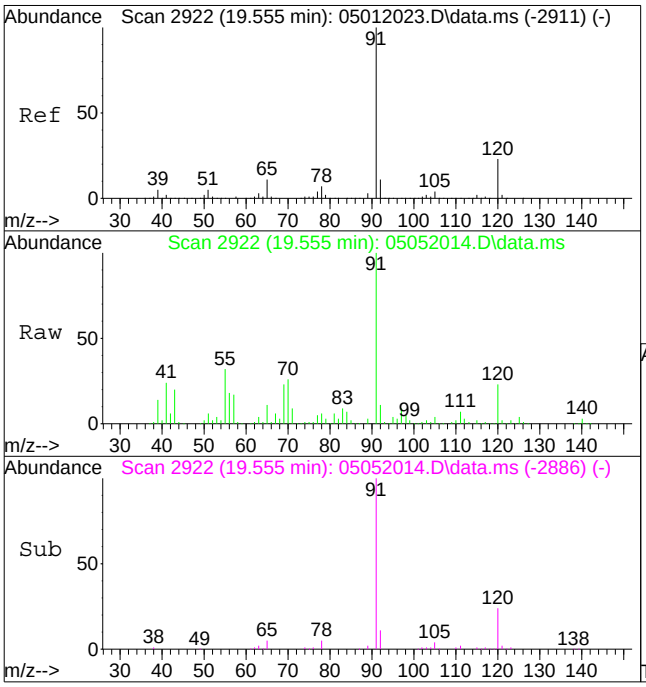


#74
Cumene
Concen: 4.26 ng
RT: 19.10 min Scan# 2840
Delta R.T. -0.000 min
Lab File: 05052014.D
Acq: 5 May 2020 10:43

Tgt Ion:105 Resp: 594462

Ion	Ratio	Lower	Upper
105	100		
120	26.6	6.8	46.8

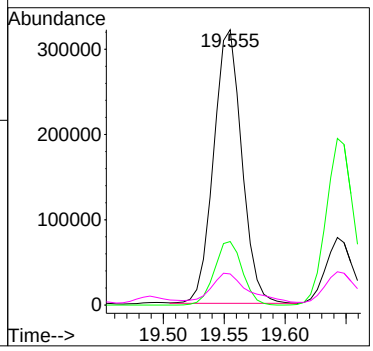


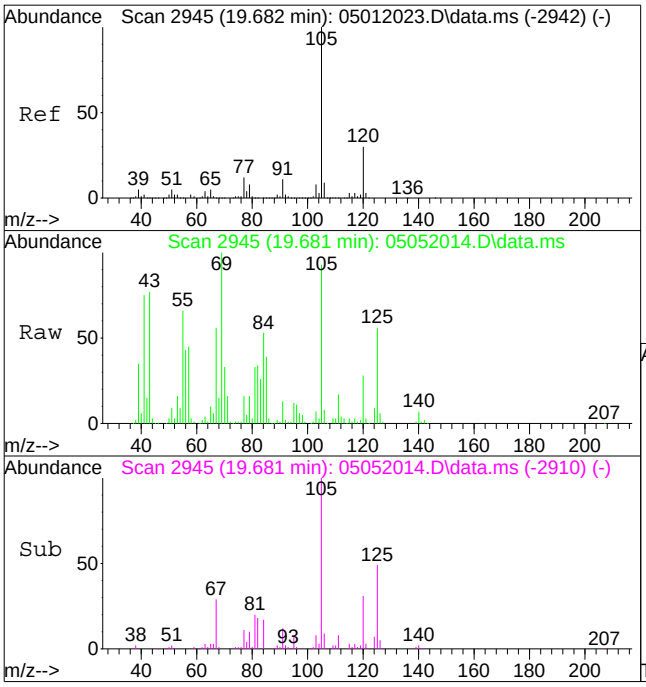


#76
n-Propylbenzene
Concen: 3.11 ng
RT: 19.55 min Scan# 2922
Delta R.T. -0.000 min
Lab File: 05052014.D
Acq: 5 May 2020 10:43

Tgt Ion: 91 Resp: 515583

Ion	Ratio	Lower	Upper
91	100		
120	23.1	3.1	43.1
65	13.7	0.0	30.9

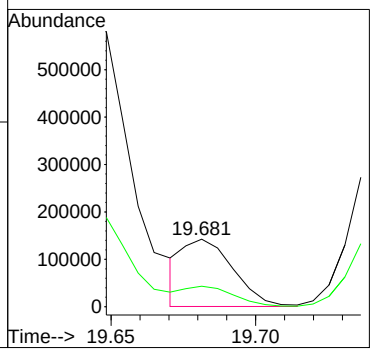


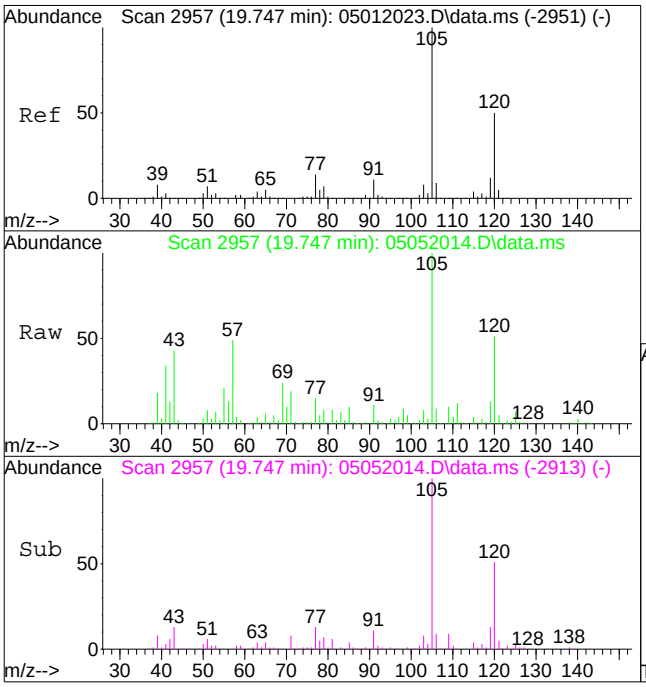


#78
4-Ethyltoluene
Concen: 1.33 ng
RT: 19.68 min Scan# 2945
Delta R.T. -0.006 min
Lab File: 05052014.D
Acq: 5 May 2020 10:43

Tgt Ion:105 Resp: 174361

Ion	Ratio	Lower	Upper
105	100		
120	30.8	10.4	50.4

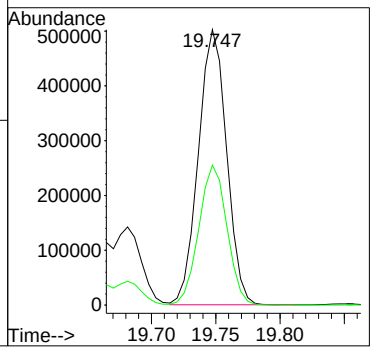


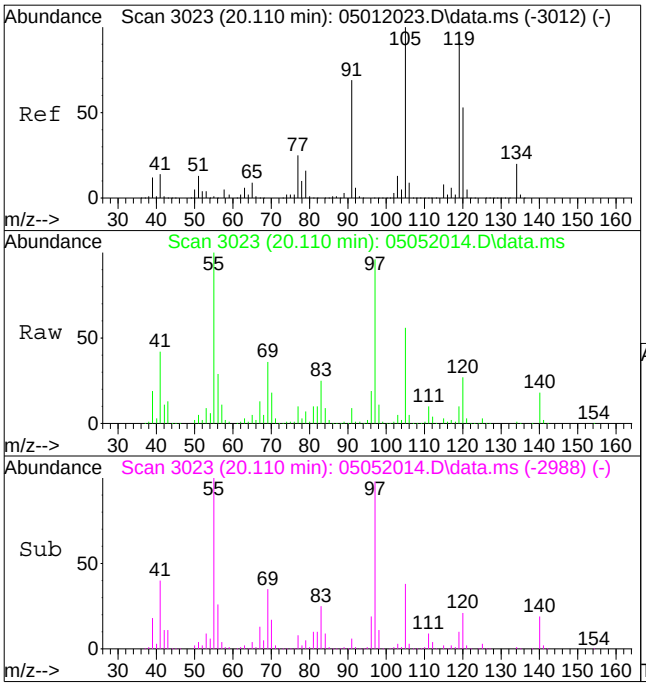


#79
1,3,5-Trimethylbenzene
Concen: 6.73 ng
RT: 19.75 min Scan# 2957
Delta R.T. -0.006 min
Lab File: 05052014.D
Acq: 5 May 2020 10:43

Tgt Ion:105 Resp: 765269

Ion	Ratio	Lower	Upper
105	100		
120	50.8	29.9	69.9

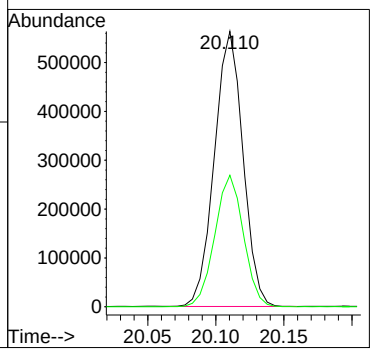




#82
1,2,4-Trimethylbenzene
Concen: 7.19 ng
RT: 20.11 min Scan# 3023
Delta R.T. -0.006 min
Lab File: 05052014.D
Acq: 5 May 2020 10:43

Tgt Ion:105 Resp: 821143

Ion	Ratio	Lower	Upper
105	100		
120	47.9	33.6	73.6



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082011.D Vial: 5
Acq On : 8 May 2020 6:40 Operator: LH
Sample : P2002107-019dup (50mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 08 15:10:22 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/8/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	287869	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1259800	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	593476	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	470151	12.051	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.40%				
57) Toluene-d8 (SS2)	15.72	98	1311533	13.038	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.32%				
73) Bromofluorobenzene (SS3)	18.97	174	456659	12.616	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.96%				
Target Compounds							Qvalue
2) Propene	4.12	42	2082	0.062	ng		92
3) Dichlorodifluoromethan...	4.26	85	28433	0.436	ng		99
4) Chloromethane	4.54	50	5519	0.108	ng		93
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	325	N.D.			
6) Vinyl Chloride	4.96	62	627	N.D.			
7) 1,3-Butadiene	5.15	54	431	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.97	64	170	N.D.			
10) Ethanol	6.46	45	52	N.D.			
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	6.97	58	134354m	5.218	ng		
14) Trichlorofluoromethane	7.25	101	2950	0.051	ng		98
15) 2-Propanol (Isopropanol)	7.51	45	4437	0.057	ng		69
16) Acrylonitrile	7.77	53	51	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.42	84	180	N.D.			
20) 3-Chloro-1-propene (Al...	8.60	41	127	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.69	76	27138	0.226	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.	d		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	d		
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.44	72	158271	7.208	ng		98
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	11.27	57	7357	0.134	ng	#	85
32) Chloroform	11.31	83	354	N.D.			
34) Tetrahydrofuran (THF)	11.72	72	32765	1.530	ng		96
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.12	62	625	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	444557	3.291	ng		99
42) Carbon Tetrachloride	13.04	117	292	N.D.			
43) Cyclohexane	13.17	84	106674	2.119	ng		99
44) tert-Amyl Methyl Ether	13.46	73	947	N.D.			
45) 1,2-Dichloropropane	13.56	63	1123	N.D.			
46) Bromodichloromethane	13.95	83	1181	N.D.			
47) Trichloroethene	13.97	130	544	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082011.D Vial: 5
Acq On : 8 May 2020 6:40 Operator: LH
Sample : P2002107-019dup (50mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 08 15:10:22 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

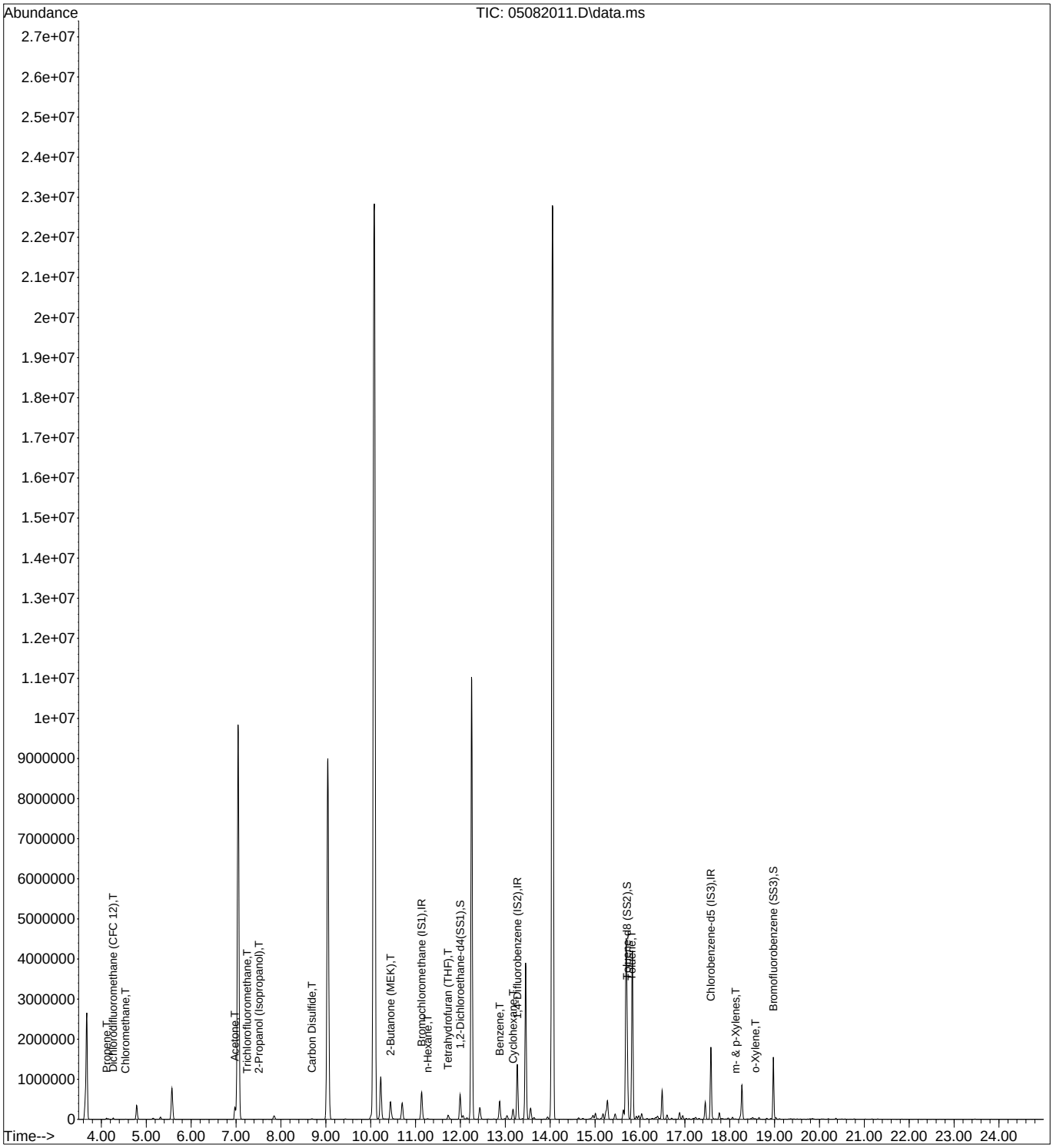
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	768	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D. d	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	15.82	91	76973	0.594 ng	99
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.71	43	2083	N.D.	
63) n-Octane	16.82	57	414	N.D.	
64) Tetrachloroethene	16.96	166	1303	N.D.	
65) Chlorobenzene	17.63	112	1435	N.D.	
66) Ethylbenzene	17.98	91	4643	N.D.	
67) m- & p-Xylenes	18.14	91	6821	0.059 ng	96
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	612	N.D.	
70) o-Xylene	18.58	91	7128	0.061 ng	93
71) n-Nonane	18.76	43	1724	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	19.10	105	4692	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	19.56	91	1062	N.D.	
77) 3-Ethyltoluene	19.64	105	903	N.D.	
78) 4-Ethyltoluene	19.68	105	693	N.D.	
79) 1,3,5-Trimethylbenzene	19.74	105	1159	N.D.	
80) alpha-Methylstyrene	19.88	118	3009	N.D.	
81) 2-Ethyltoluene	19.91	105	638	N.D.	
82) 1,2,4-Trimethylbenzene	20.10	105	906	N.D.	
83) n-Decane	20.20	57	2403	N.D.	
84) Benzyl Chloride	20.22	91	264	N.D.	
85) 1,3-Dichlorobenzene	20.24	146	355	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	506	N.D.	
87) sec-Butylbenzene	20.35	105	323	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	150	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	608	N.D.	
90) 1,2-Dichlorobenzene	20.61	146	208	N.D.	
91) d-Limonene	20.61	68	138	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.30	57	2200	N.D.	
94) 1,2,4-Trichlorobenzene	22.11	180	292	N.D.	
95) Naphthalene	22.21	128	2199	N.D.	
96) n-Dodecane	22.21	57	1305	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.10	119	132	N.D.	
100) n-Butylbenzene	20.85	91	669	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082011.D Vial: 5
Acq On : 8 May 2020 6:40 Operator: LH
Sample : P2002107-019dup (50mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 08 15:10:22 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082011.D Vial: 5
Acq On : 8 May 2020 6:40 Operator: LH
Sample : P2002107-019dup (50mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 08 15:10:22 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/8/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

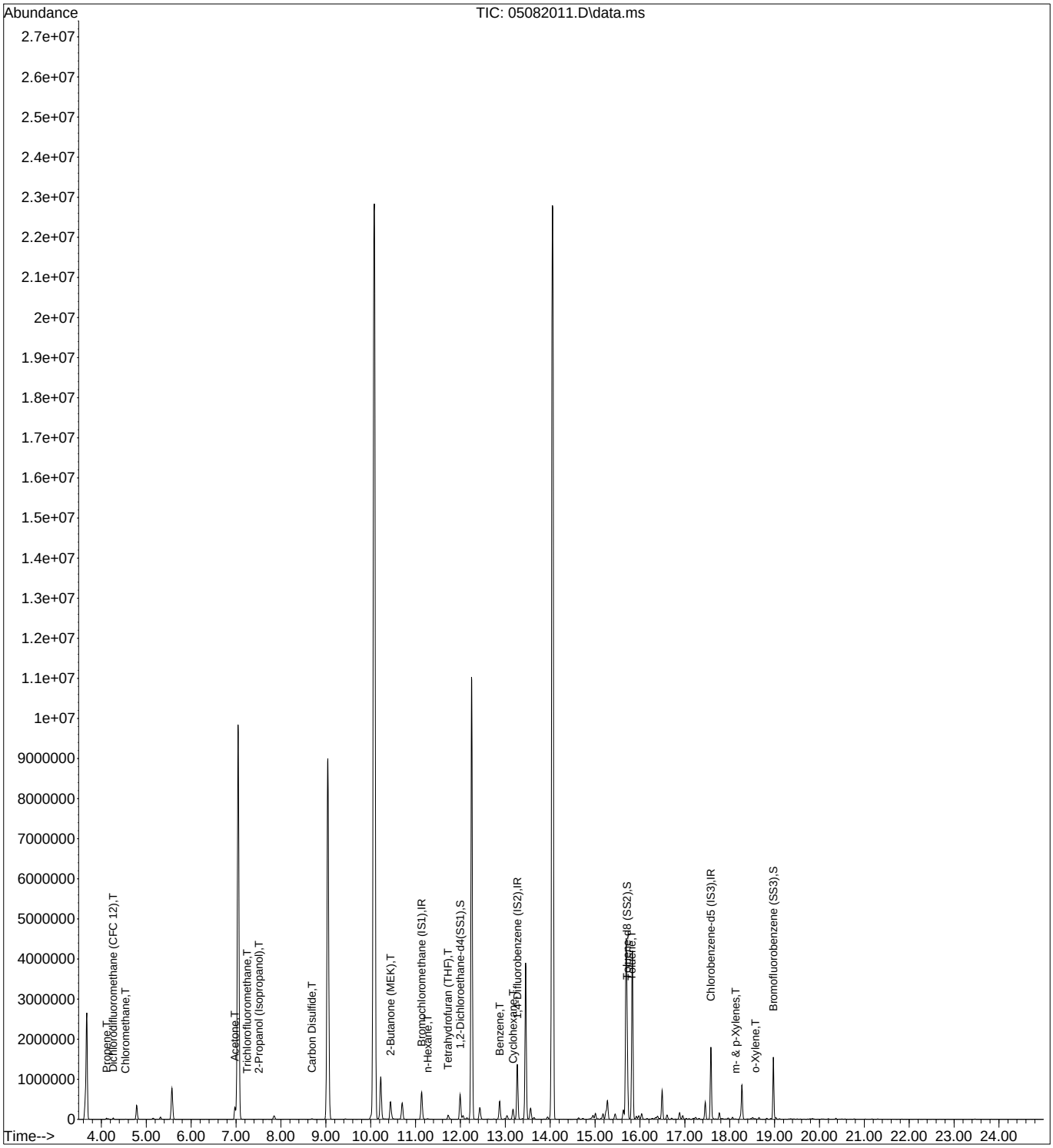
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	287869	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1259800	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	593476	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	470151	12.051	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.40%				
57) Toluene-d8 (SS2)	15.72	98	1311533	13.038	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.32%				
73) Bromofluorobenzene (SS3)	18.97	174	456659	12.616	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.96%				
Target Compounds							Qvalue
2) Propene	4.12	42	2082	0.062	ng		92
3) Dichlorodifluoromethan...	4.26	85	28433	0.436	ng		99
4) Chloromethane	4.54	50	5519	0.108	ng		93
13) Acetone	6.97	58	134354m	5.218	ng		
14) Trichlorofluoromethane	7.25	101	2950	0.051	ng		98
15) 2-Propanol (Isopropanol)	7.51	45	4437	0.057	ng		69
22) Carbon Disulfide	8.69	76	27138	0.226	ng		99
27) 2-Butanone (MEK)	10.44	72	158271	7.208	ng		98
31) n-Hexane	11.27	57	7357	0.134	ng	#	85
34) Tetrahydrofuran (THF)	11.72	72	32765	1.530	ng		96
41) Benzene	12.87	78	444557	3.291	ng		99
43) Cyclohexane	13.17	84	106674	2.119	ng		99
58) Toluene	15.82	91	76973	0.594	ng		99
67) m- & p-Xylenes	18.14	91	6821	0.059	ng		96
70) o-Xylene	18.58	91	7128	0.061	ng		93

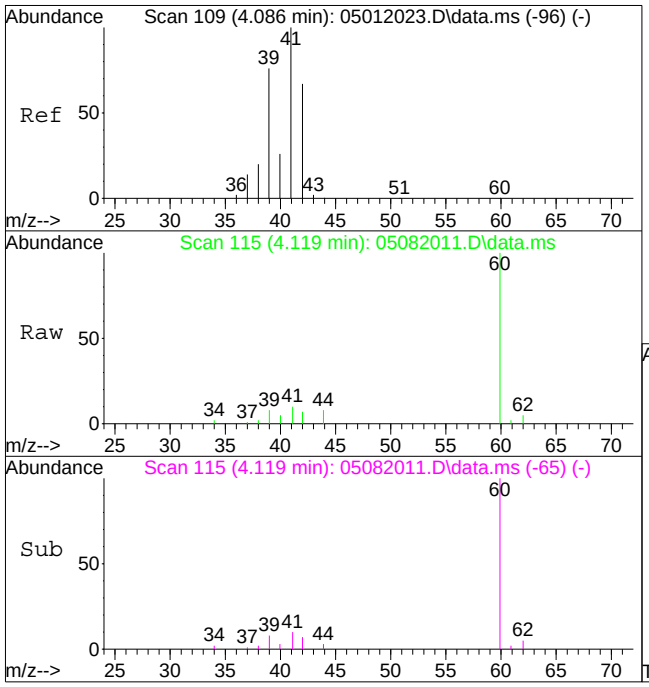
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082011.D Vial: 5
Acq On : 8 May 2020 6:40 Operator: LH
Sample : P2002107-019dup (50mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 08 15:10:22 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

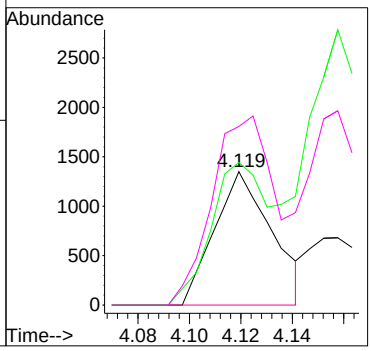


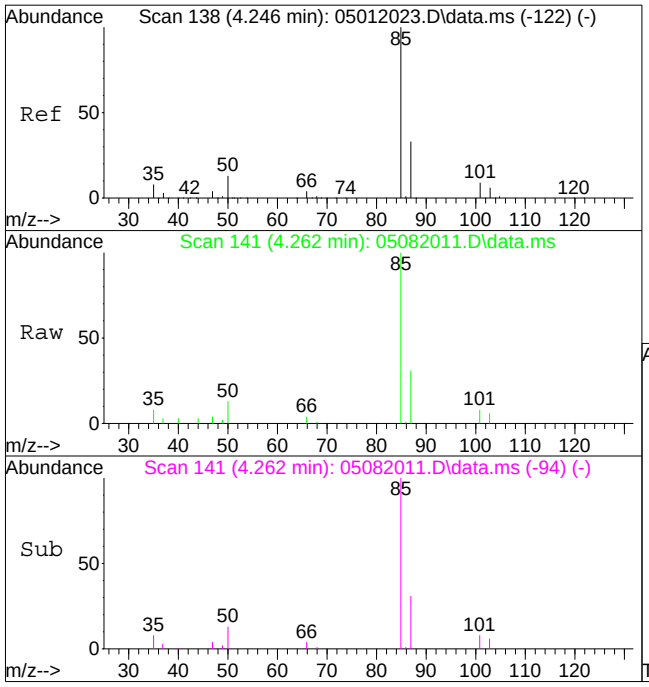


#2
Propene
Concen: 0.06 ng
RT: 4.12 min Scan# 115
Delta R.T. 0.027 min
Lab File: 05082011.D
Acq: 8 May 2020 6:40

Tgt Ion: 42 Resp: 2082

Ion	Ratio	Lower	Upper
42	100		
39	100.1	96.1	136.1
41	149.0	131.9	171.9

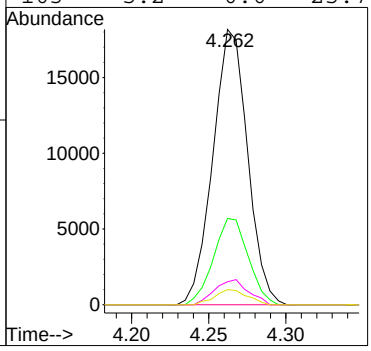


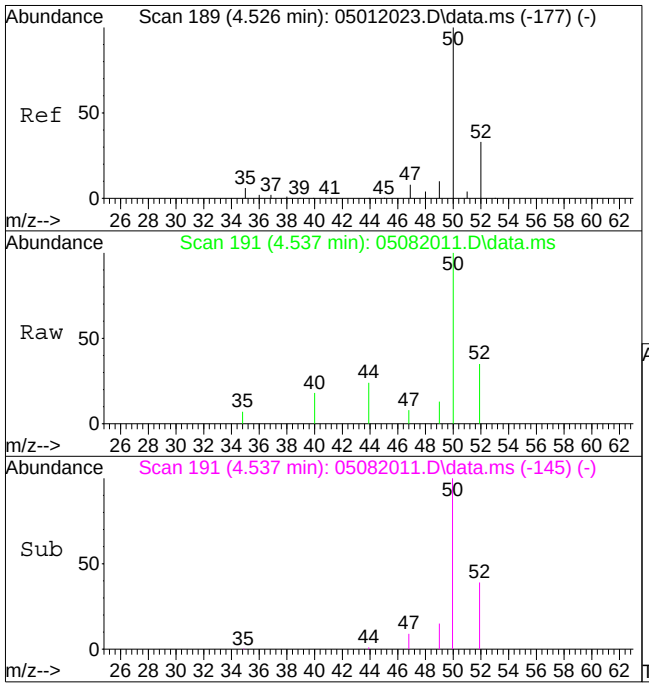


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.44 ng
RT: 4.26 min Scan# 141
Delta R.T. 0.011 min
Lab File: 05082011.D
Acq: 8 May 2020 6:40

Tgt Ion: 85 Resp: 28433

Ion	Ratio	Lower	Upper
85	100		
87	31.5	12.4	52.4
101	8.8	0.0	28.8
103	5.2	0.0	25.7

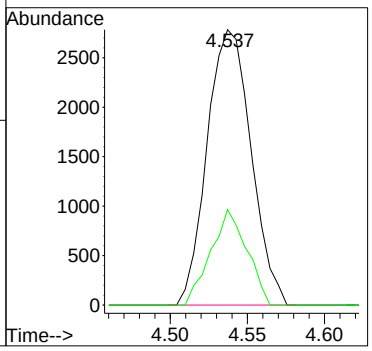


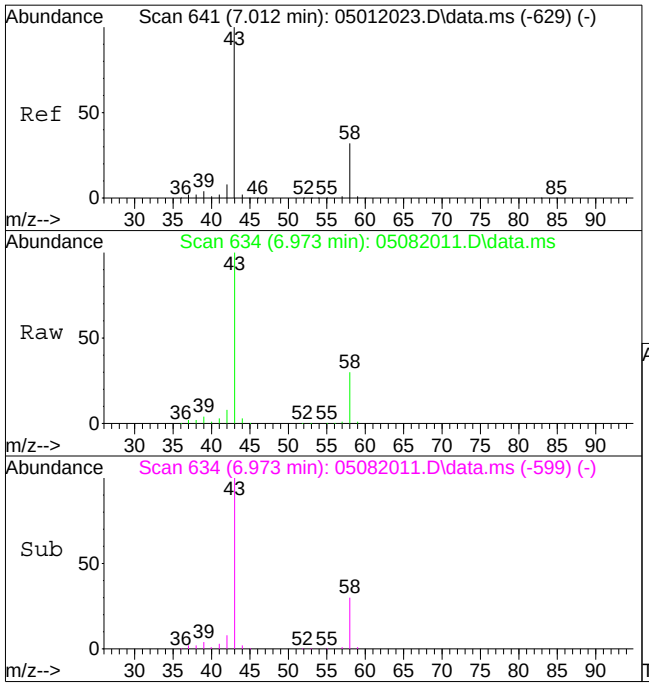


#4
Chloromethane
Concen: 0.11 ng
RT: 4.54 min Scan# 191
Delta R.T. 0.005 min
Lab File: 05082011.D
Acq: 8 May 2020 6:40

Tgt Ion: 50 Resp: 5519

Ion	Ratio	Lower	Upper
50	100		
52	28.5	12.5	52.5

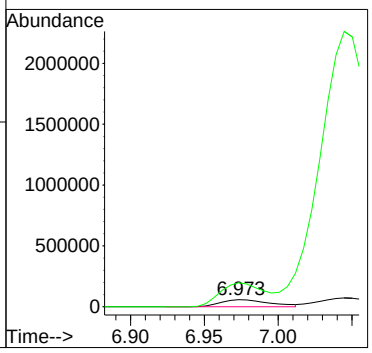


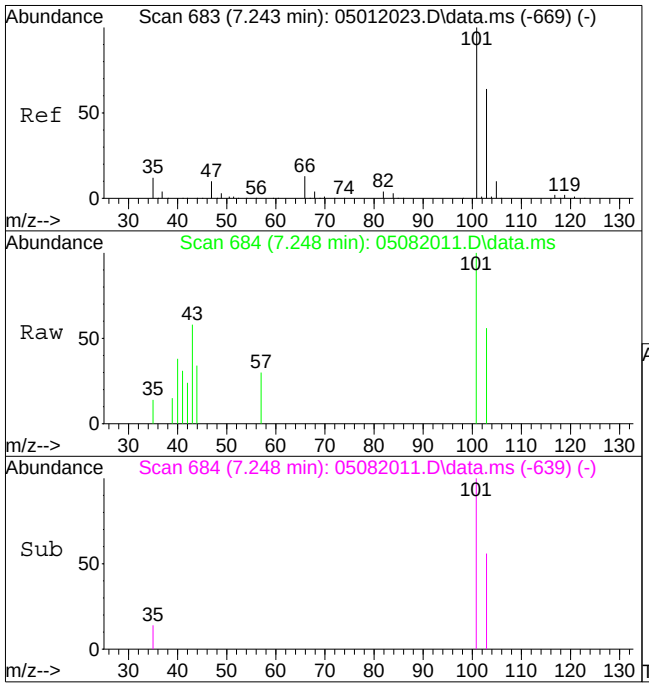


#13
Acetone
Concen: 5.22 ng m
RT: 6.97 min Scan# 634
Delta R.T. -0.055 min
Lab File: 05082011.D
Acq: 8 May 2020 6:40

Tgt Ion: 58 Resp: 134354

Ion	Ratio	Lower	Upper
58	100		
43	4233.5	294.4	354.4#

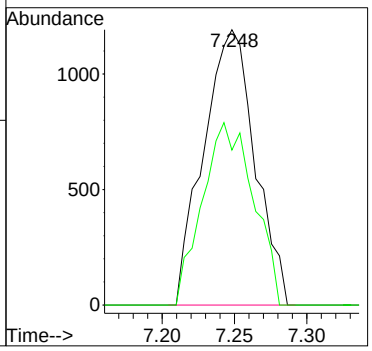


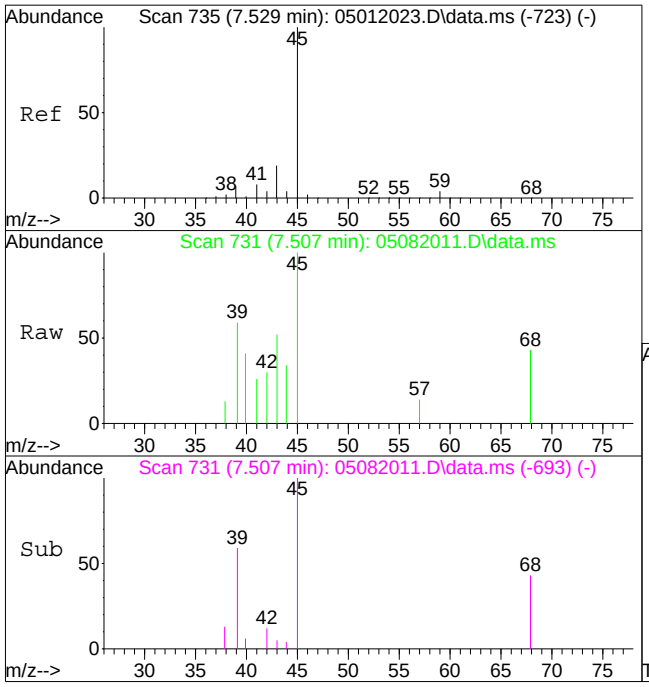


#14
Trichlorofluoromethane
Concen: 0.05 ng
RT: 7.25 min Scan# 684
Delta R.T. -0.000 min
Lab File: 05082011.D
Acq: 8 May 2020 6:40

Tgt Ion:101 Resp: 2950

Ion	Ratio	Lower	Upper
101	100		
103	65.8	44.4	84.4

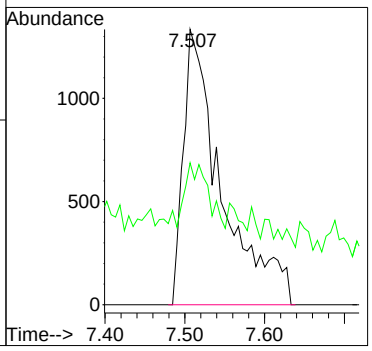


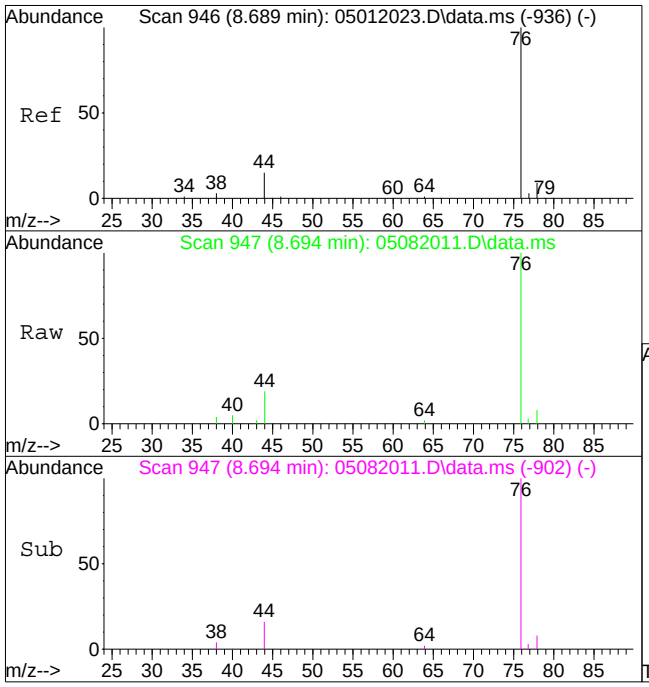


#15
2-Propanol (Isopropanol)
Concen: 0.06 ng
RT: 7.51 min Scan# 731
Delta R.T. -0.039 min
Lab File: 05082011.D
Acq: 8 May 2020 6:40

Tgt Ion: 45 Resp: 4437

Ion	Ratio	Lower	Upper
45	100		
43	33.8	0.0	39.5

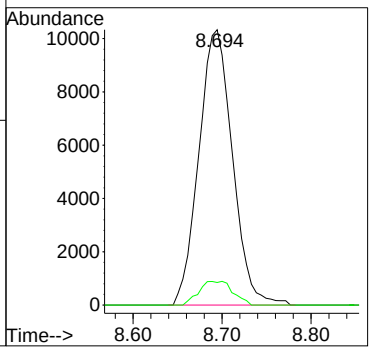


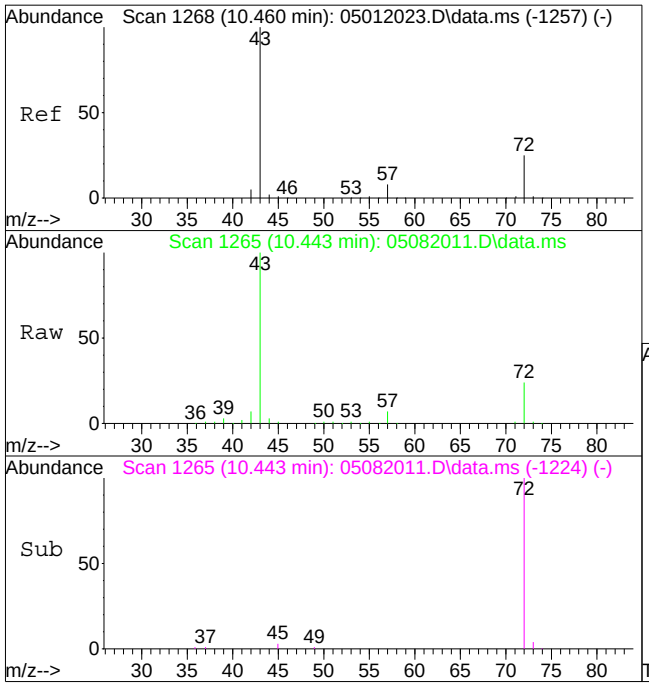


#22
Carbon Disulfide
Concen: 0.23 ng
RT: 8.69 min Scan# 947
Delta R.T. -0.000 min
Lab File: 05082011.D
Acq: 8 May 2020 6:40

Tgt Ion: 76 Resp: 27138

Ion	Ratio	Lower	Upper
76	100		
78	8.7	0.0	29.2

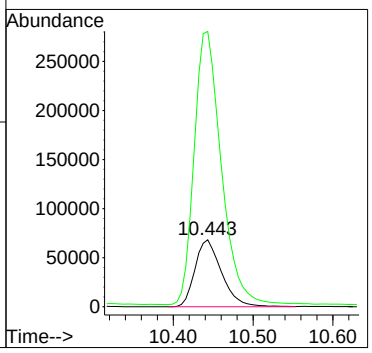


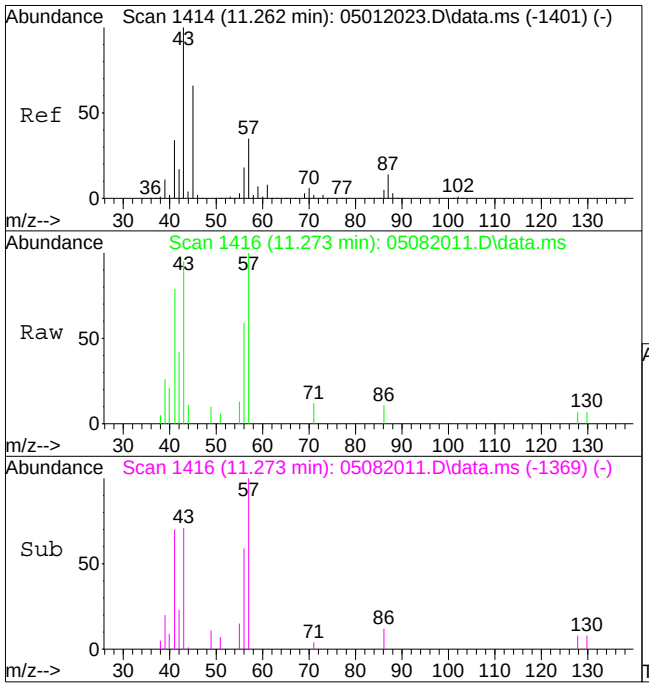


#27
2-Butanone (MEK)
Concen: 7.21 ng
RT: 10.44 min Scan# 1265
Delta R.T. -0.022 min
Lab File: 05082011.D
Acq: 8 May 2020 6:40

Tgt Ion: 72 Resp: 158271

Ion	Ratio	Lower	Upper
72	100		
43	415.4	389.7	429.7

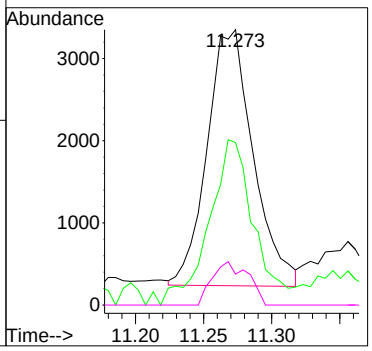


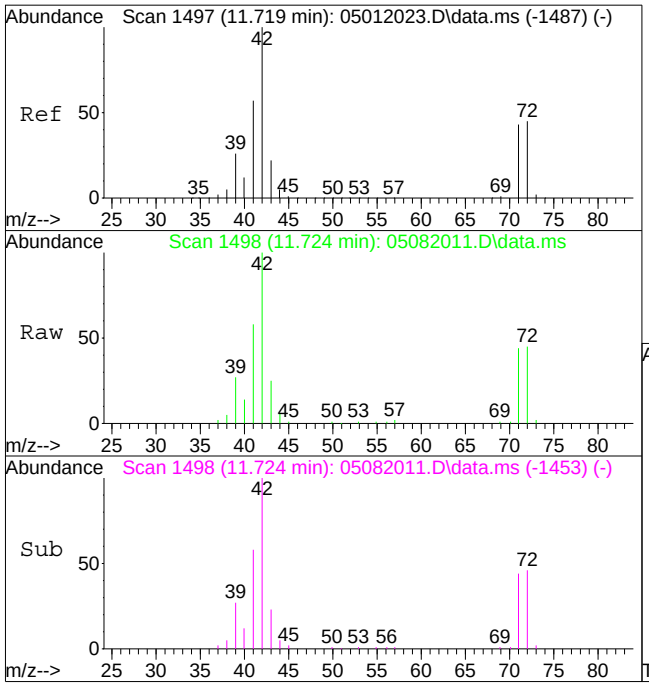


#31
n-Hexane
Concen: 0.13 ng
RT: 11.27 min Scan# 1416
Delta R.T. 0.011 min
Lab File: 05082011.D
Acq: 8 May 2020 6:40

Tgt Ion: 57 Resp: 7357

Ion	Ratio	Lower	Upper
57	100		
56	63.7	41.4	62.0#
86	13.0	12.4	18.6

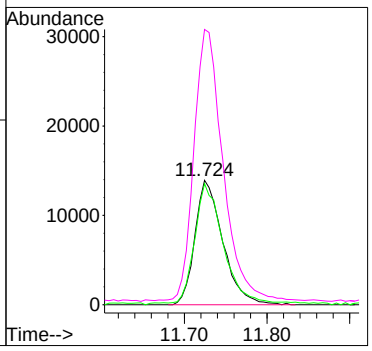


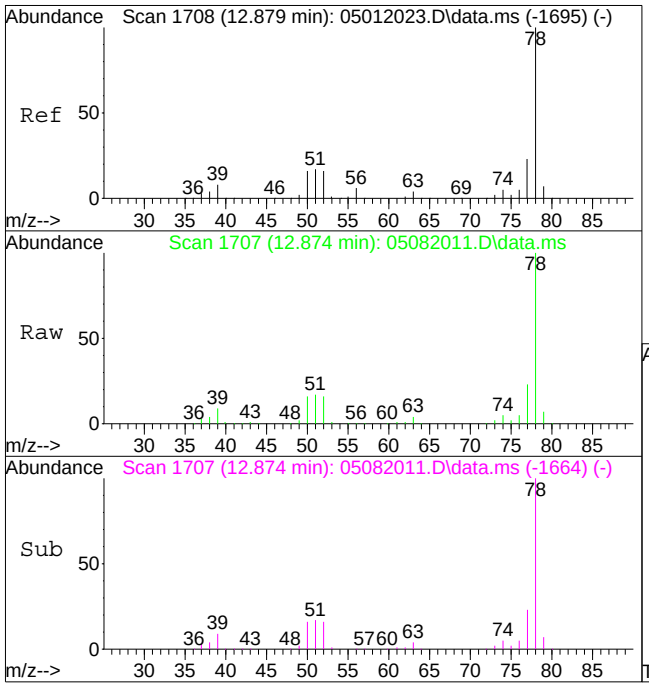


#34
Tetrahydrofuran (THF)
Concen: 1.53 ng
RT: 11.72 min Scan# 1498
Delta R.T. -0.000 min
Lab File: 05082011.D
Acq: 8 May 2020 6:40

Tgt Ion: 72 Resp: 32765

Ion	Ratio	Lower	Upper
72	100		
71	103.6	77.0	117.0
42	228.1	204.6	244.6

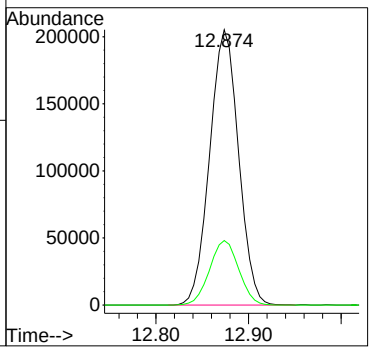


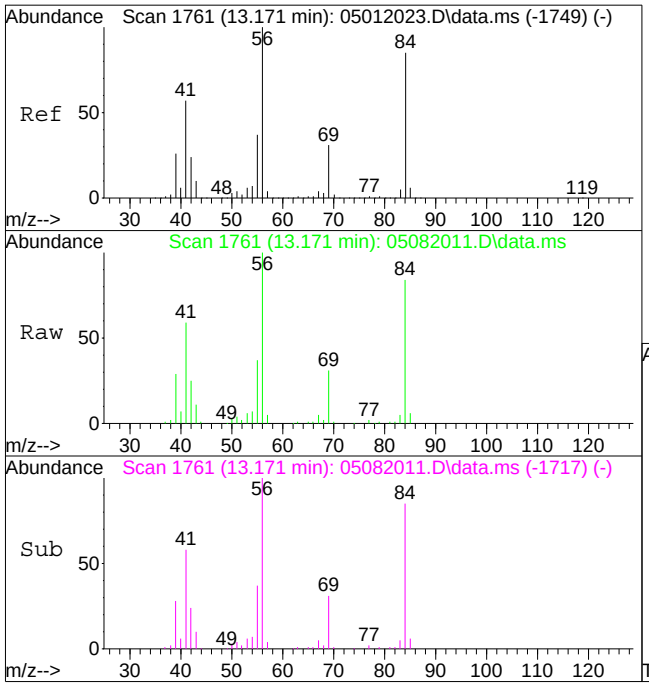


#41
Benzene
Concen: 3.29 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05082011.D
Acq: 8 May 2020 6:40

Tgt Ion: 78 Resp: 444557

Ion	Ratio	Lower	Upper
78	100		
77	23.7	3.4	43.4

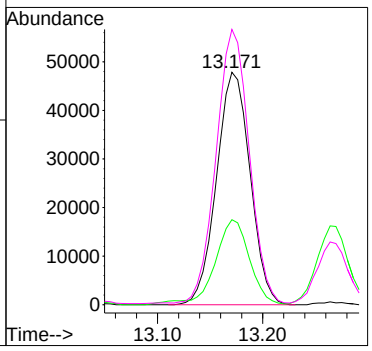


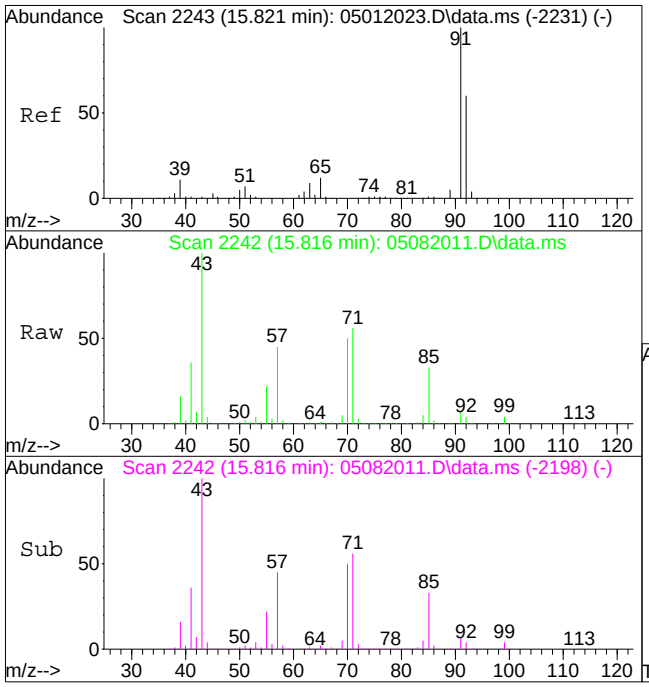


#43
Cyclohexane
Concen: 2.12 ng
RT: 13.17 min Scan# 1761
Delta R.T. -0.006 min
Lab File: 05082011.D
Acq: 8 May 2020 6:40

Tgt Ion: 84 Resp: 106674

Ion	Ratio	Lower	Upper
84	100		
69	37.6	16.5	56.5
56	116.4	97.4	137.4

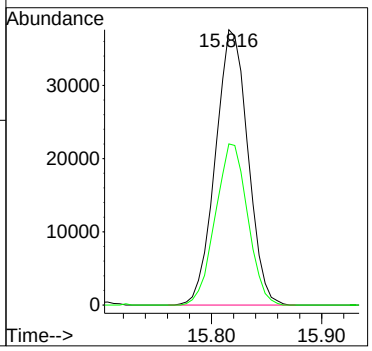


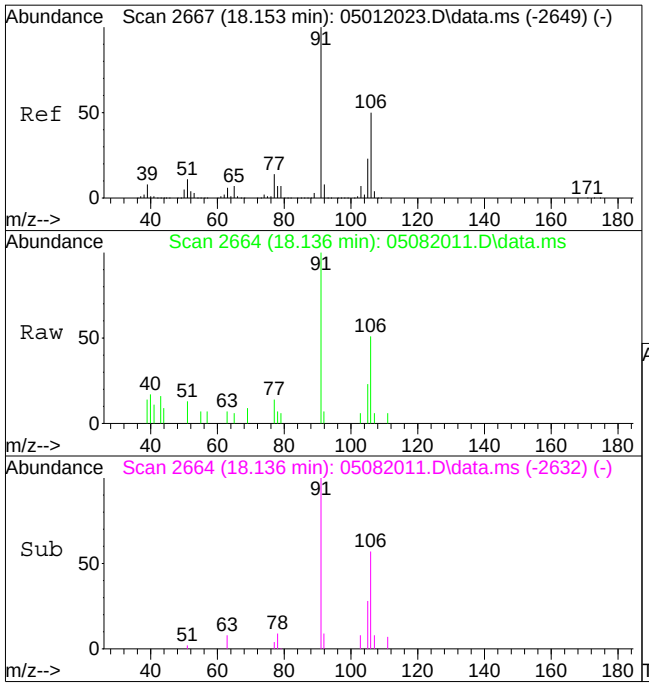


#58
Toluene
Concen: 0.59 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05082011.D
Acq: 8 May 2020 6:40

Tgt Ion: 91 Resp: 76973

Ion	Ratio	Lower	Upper
91	100		
92	58.3	39.4	79.4

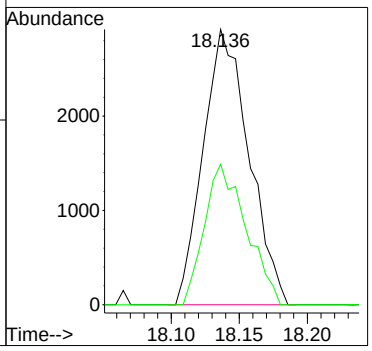


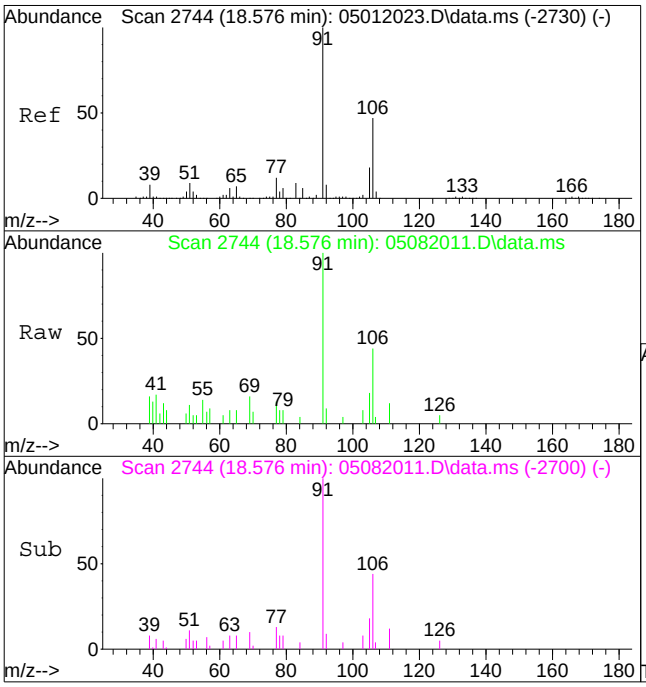


#67
m- & p-Xylenes
Concen: 0.06 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05082011.D
Acq: 8 May 2020 6:40

Tgt Ion: 91 Resp: 6821

Ion	Ratio	Lower	Upper
91	100		
106	46.6	29.7	69.7

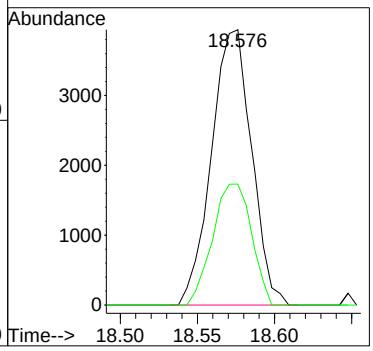




#70
o-Xylene
Concen: 0.06 ng
RT: 18.58 min Scan# 2744
Delta R.T. -0.006 min
Lab File: 05082011.D
Acq: 8 May 2020 6:40

Tgt Ion: 91 Resp: 7128

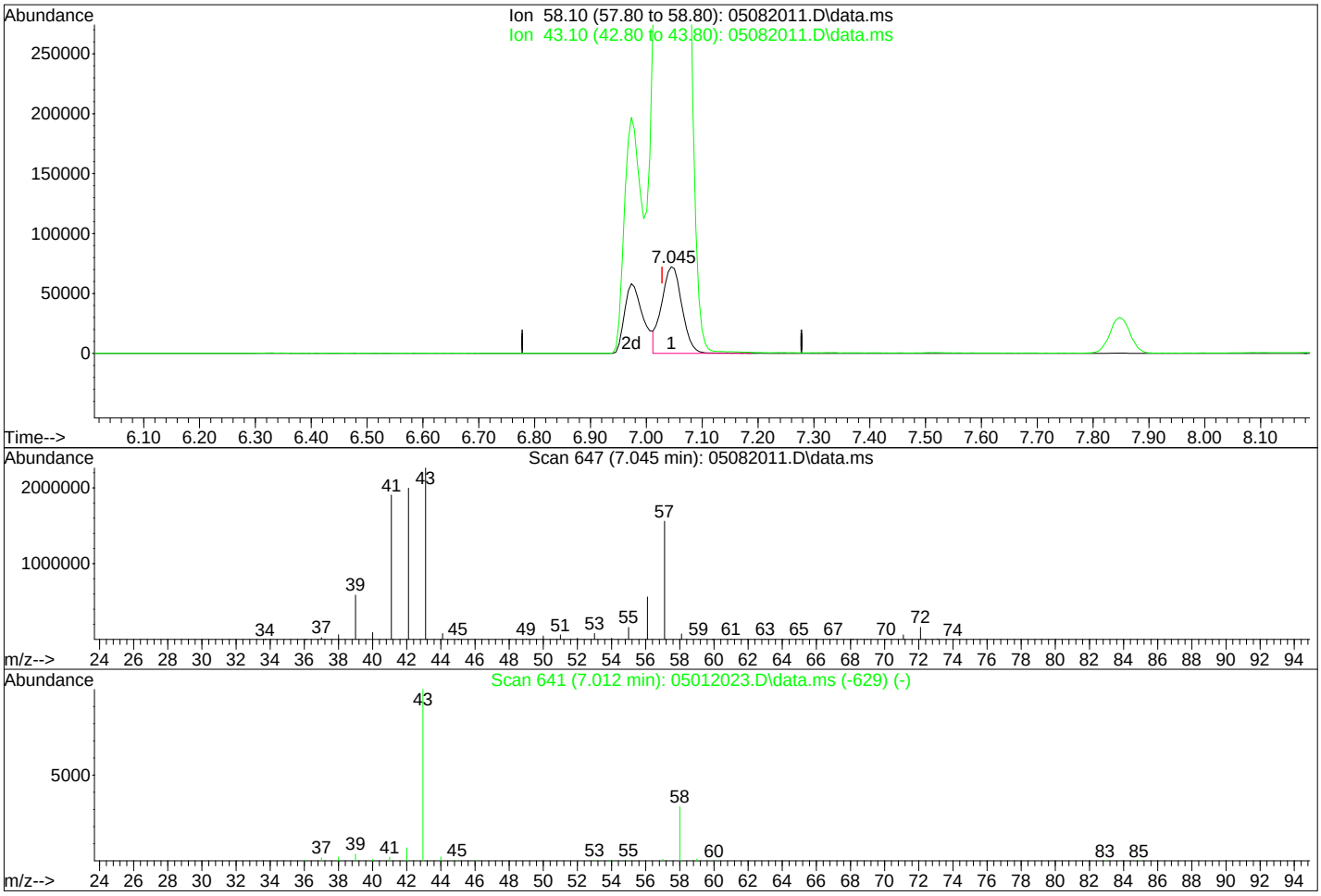
Ion	Ratio	Lower	Upper
91	100		
106	42.6	27.5	67.5



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\08\05082011.D Vial: 5
Acq On : 8 May 2020 6:40 Operator: LH
Sample : P2002107-019dup (50mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 08 14:52:53 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05082011.D\data.ms

(13) Acetone (T)

7.045min (+0.016) 7.09ng

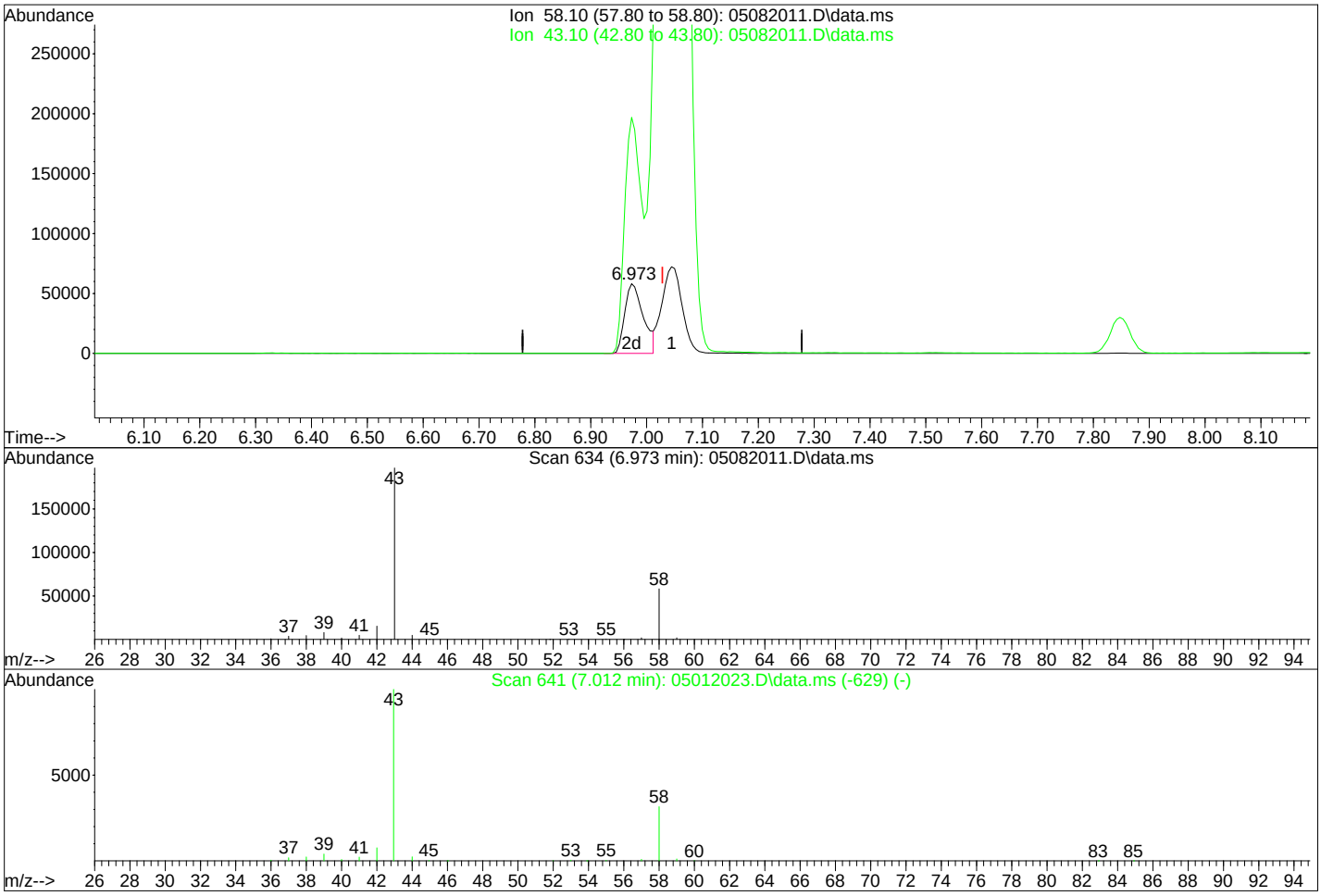
response 182618

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	3114.60#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\08\05082011.D Vial: 5
Acq On : 8 May 2020 6:40 Operator: LH
Sample : P2002107-019dup (50mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 08 14:52:53 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05082011.D\data.ms

(13) Acetone (T)

6.973min (-0.055) 5.22ng m

response 134354

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	4233.46#
0.00	0.00	0.00
0.00	0.00	0.00

WP

LH 5/8/20

5/12/20

Response Factor Report GCMS-16

Method Path : I:\MS16\METHODS\
Method File : R16050120.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri May 01 18:22:00 2020
Response Via : Initial Calibration

LH 5/1/20

Calibration Files
0.1 =05012018.D 0.2 =05012019.D 0.5 =05012020.D 1.0 =05012021.D 5.0 =05012022.D 25 =05012
100 =03112009.D

		Compound	0.1	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------	ISTD	----------							
2)	T	Propene	1.611	1.539	1.503	1.380	1.499	1.474	1.430	1.147	1.448	9.66
3)	T	Dichlorodifluo...	3.202	3.003	3.068	2.842	3.010	2.737	2.537	2.254	2.832	11.03
4)	T	Chloromethane	2.604	2.435	2.388	2.238	2.356	2.193	2.172	1.361	2.218	16.88
5)	T	1,2-Dichloro-1...	1.897	1.683	1.822	1.625	1.745	1.600	1.555	1.607	1.692	7.08
6)	T	Vinyl Chloride	2.717	2.540	2.556	2.389	2.585	2.348	2.256	2.069	2.433	8.56
7)	T	1,3-Butadiene	2.247	2.061	2.143	1.977	2.145	1.964	1.905	1.660	2.013	9.02
8)	T	Bromomethane	1.419	1.343	1.315	1.211	1.293	1.245	1.264	1.190	1.285	5.79
9)	T	Chloroethane	1.050	0.952	0.985	0.919	0.990	0.943	0.960	0.887	0.961	5.13
10)	T	Ethanol	1.410	1.184	1.009	0.940	1.092	1.112	1.151	1.046	1.118	12.66
11)	T	Acetonitrile	3.482	2.840	2.383	2.251	2.529	2.471	2.438	2.042	2.555	17.16
12)	T	Acrolein	1.059	0.868	0.880	0.829	0.918	0.879	0.863	0.770	0.883	9.44
13)	T	Acetone	1.252	1.110	1.062	0.988	1.109	1.131	1.179	1.113	1.118	6.92
14)	T	Trichlorofluor...	2.713	2.523	2.575	2.359	2.565	2.454	2.411	2.421	2.503	4.58
15)	T	2-Propanol (Is...	3.870	3.534	3.450	3.257	3.738	3.508	3.156	2.557	3.384	12.00
16)	T	Acrylonitrile	2.202	1.897	1.701	1.617	1.893	1.829	1.828	1.654	1.828	10.12
17)	T	1,1-Dichloroet...	1.408	1.288	1.314	1.236	1.342	1.312	1.299	1.297	1.312	3.73
18)	T	2-Methyl-2-Pro...	3.534	3.198	3.325	3.089	3.578	3.200	2.158		3.155	15.06
19)	T	Methylene Chlo...	1.693	1.502	1.403	1.354	1.469	1.431	1.419	1.356	1.453	7.53
20)	T	3-Chloro-1-pro...	2.223	1.929	1.964	1.905	2.142	2.028	2.036	1.746	1.997	7.37
21)	T	Trichlorotrifl...	1.264	1.065	1.154	1.097	1.218	1.201	1.208	1.246	1.182	5.97
22)	T	Carbon Disulfide	6.112	5.388	5.148	4.831	5.368	5.134	5.024	4.656	5.208	8.48
23)	T	trans-1,2-Dich...	2.284	2.004	1.981	1.860	2.050	1.980	1.964	1.858	1.998	6.70
24)	T	1,1-Dichloroet...	2.569	2.334	2.469	2.238	2.450	2.380	2.330	2.202	2.371	5.15
25)	T	Methyl tert-Bu...	4.195	3.994	4.129	3.762	3.968	3.534	3.241	3.018	3.730	11.49
26)	T	Vinyl Acetate			0.280	0.275	0.355	0.375	0.393	0.412	0.348	16.73
27)	T	2-Butanone (MEK)	1.010	0.938	0.937	0.883	1.007	0.953	0.956	0.944	0.953	4.27
28)	T	cis-1,2-Dichlo...	2.186	1.950	1.950	1.831	2.014	1.928	1.927	1.846	1.954	5.66
29)	T	Diisopropyl Ether	1.400	1.264	1.362	1.283	1.461	1.320	1.346	1.353	1.349	4.68
30)	T	Ethyl Acetate	0.528	0.515	0.507	0.480	0.567	0.596	0.638	0.567	0.550	9.48
31)	T	n-Hexane	2.506	2.242	2.328	2.176	2.400	2.485	2.588	2.351	2.385	5.82
32)	T	Chloroform	2.635	2.393	2.541	2.359	2.618	2.470	2.464	2.425	2.488	4.07
33)	S	1,2-Dichloroet...	1.759	1.788	1.757	1.756	1.704	1.635	1.616	1.538	1.694	5.22
34)	T	Tetrahydrofura...	1.068	0.962	0.909	0.857	0.954	0.901	0.903	0.885	0.930	7.02
35)	T	Ethyl tert-But...	1.603	1.564	1.583	1.487	1.688	1.661	1.680	1.772	1.630	5.43
36)	T	1,2-Dichloroet...	2.204	2.065	2.007	1.843	2.020	1.911	1.892	1.830	1.971	6.45
37)	IR	1,4-Difluorobenzen...	----------	ISTD	----------							
38)	T	1,1,1-Trichlor...	0.520	0.477	0.504	0.469	0.521	0.513	0.513	0.511	0.503	3.91
39)	T	Isopropyl Acetate	0.217	0.187	0.204	0.189	0.226	0.238	0.254	0.247	0.220	11.50
40)	T	1-Butanol	0.335	0.286	0.247	0.231	0.307	0.333	0.362	0.405	0.313	18.51
41)	T	Benzene	1.454	1.263	1.288	1.194	1.366	1.343	1.417	1.400	1.340	6.50
42)	T	Carbon Tetrach...	0.446	0.414	0.449	0.410	0.482	0.473	0.477	0.496	0.456	6.99
43)	T	Cyclohexane	0.491	0.450	0.481	0.443	0.512	0.523	0.544	0.553	0.500	8.14
44)	T	tert-Amyl Meth...	0.895	0.829	0.881	0.824	0.950	0.934	0.955	0.923	0.899	5.70
45)	T	1,2-Dichloropr...	0.322	0.296	0.311	0.288	0.327	0.317	0.320	0.303	0.310	4.42
46)	T	Bromodichlorom...	0.443	0.421	0.437	0.406	0.477	0.479	0.482	0.480	0.453	6.69
47)	T	Trichloroethene	0.348	0.318	0.331	0.303	0.355	0.355	0.366	0.396	0.346	8.37
48)	T	1,4-Dioxane	0.278	0.250	0.253	0.238	0.274	0.278	0.286	0.303	0.270	7.97
49)	T	2,2,4-Trimethy...	1.365	1.266	1.317	1.213	1.370	1.328	1.346	1.231	1.304	4.63
50)	T	Methyl Methacr...	0.126	0.113	0.118	0.116	0.138	0.143	0.149	0.161	0.133	13.21
51)	T	n-Heptane	0.325	0.297	0.306	0.286	0.318	0.310	0.324	0.342	0.313	5.60
52)	T	cis-1,3-Dichlo...	0.535	0.486	0.494	0.468	0.562	0.566	0.581	0.572	0.533	8.30
53)	T	4-Methyl-2-pen...	0.303	0.265	0.287	0.274	0.311	0.319	0.318	0.299	7.10	
54)	T	trans-1,3-Dich...	0.418	0.389	0.410	0.399	0.496	0.508	0.521	0.506	0.456	12.35

55)	T	1,1,2-Trichlor...	0.300	0.292	0.301	0.279	0.324	0.321	0.324	0.323	0.308	5.60
56)	IR	Chlorobenzene-d5 (...	----------ISTD----------									
57)	S	Toluene-d8 (SS2)	2.112	2.125	2.110	2.107	2.097	2.123	2.090	2.186	2.119	1.40
58)	T	Toluene	3.003	2.567	2.666	2.473	2.815	2.802	2.780	2.744	2.731	5.97
59)	T	2-Hexanone	1.547	1.361	1.410	1.339	1.614	1.583	1.602	1.515	1.497	7.42
60)	T	Dibromochlorom...	0.735	0.677	0.704	0.667	0.834	0.868	0.864	0.909	0.782	12.37
61)	T	1,2-Dibromoethane	0.757	0.686	0.705	0.663	0.792	0.804	0.797	0.809	0.752	7.82
62)	T	n-Butyl Acetate	1.611	1.401	1.545	1.456	1.756	1.742	1.751	1.671	1.616	8.55
63)	T	n-Octane	0.572	0.504	0.542	0.504	0.578	0.591	0.613	0.620	0.565	7.95
64)	T	Tetrachloroethene	0.764	0.679	0.700	0.653	0.778	0.829	0.838	0.931	0.771	12.10
65)	T	Chlorobenzene	1.873	1.701	1.737	1.609	1.870	1.882	2.340	2.020	1.879	12.02
66)	T	Ethylbenzene	3.030	2.763	2.965	2.768	3.264	3.313	3.301	2.958	3.045	7.41
67)	T	m- & p-Xylenes	2.416	2.101	2.285	2.203	2.562	2.656	2.741	2.363	2.416	9.24
68)	T	Bromoform			0.523	0.502	0.708	0.751	0.755	0.828	0.678	19.74
69)	T	Styrene	1.554	1.405	1.689	1.594	2.029	2.068	2.060	2.138	1.817	15.77
70)	T	o-Xylene	2.442	2.173	2.312	2.170	2.597	2.662	2.680	2.586	2.453	8.61
71)	T	n-Nonane	1.287	1.140	1.243	1.181	1.387	1.412	1.455	1.306	1.301	8.60
72)	T	1,1,2,2-Tetrac...	1.206	1.074	1.114	1.057	1.298	1.323	1.337	1.325	1.217	9.86
73)	S	Bromofluoroben...	0.715	0.714	0.725	0.724	0.787	0.802	0.783	0.849	0.762	6.56
74)	T	Cumene	3.035	2.729	2.906	2.711	3.284	3.320	3.265	2.830	3.010	8.41
75)	T	alpha-Pinene	1.511	1.362	1.446	1.393	1.701	1.785	1.795	1.856	1.606	12.43
76)	T	n-Propylbenzene	3.631	3.223	3.513	3.346	3.994	4.033	3.904	2.964	3.576	10.84
77)	T	3-Ethyltoluene	2.929	2.407	2.714	2.579	3.163	3.387	3.232	2.897	2.913	11.58
78)	T	4-Ethyltoluene	2.513	2.455	2.758	2.630	3.275	3.167	3.181	2.637	2.827	11.64
79)	T	1,3,5-Trimethy...	2.364	2.022	2.272	2.212	2.706	2.770	2.730	2.561	2.455	11.29
80)	T	alpha-Methylst...			1.138	1.116	1.443	1.485	1.469	1.649	1.384	15.29
81)	T	2-Ethyltoluene	2.821	2.480	2.756	2.582	3.185	3.223	3.148	2.796	2.874	9.82
82)	T	1,2,4-Trimethy...	2.215	1.944	2.255	2.185	2.813	3.050	2.878	2.397	2.467	16.03
83)	T	n-Decane			1.125	1.102	1.410	1.517	1.611	1.515	1.380	15.65
84)	T	Benzyl Chloride				1.519	2.279	2.600	2.687	2.413	2.300	20.21
85)	T	1,3-Dichlorobe...	1.252	1.034	1.264	1.221	1.626	1.660	1.639	1.766	1.433	18.79
86)	T	1,4-Dichlorobe...	1.206	1.004	1.283	1.196	1.601	1.620	1.581	1.693	1.398	18.29
87)	T	sec-Butylbenzene	3.179	2.829	3.093	2.947	3.632	3.636	3.486	2.818	3.203	10.67
88)	T	4-Isopropyltol...			2.761	2.656	3.414	3.547	3.227	2.590	3.033	13.68
89)	T	1,2,3-Trimethy...			2.234	2.175	2.830	3.061	2.870	2.323	2.582	14.77
90)	T	1,2-Dichlorobe...	1.199	1.054	1.223	1.173	1.569	1.646	1.594	1.513	1.372	16.90
91)	T	d-Limonene	0.811	0.750	0.867	0.867	1.070	1.169	1.205	1.057	0.974	17.65
92)	T	1,2-Dibromo-3-...			0.388	0.391	0.568	0.581	0.581	0.595	0.517	19.22
93)	T	n-Undecane			0.906	0.866	1.357	1.474	1.565	1.496	1.277	24.32
94)	T	1,2,4-Trichlor...			0.655	0.635	1.013	1.144	1.183	1.078	0.951	25.70
95)	T	Naphthalene			2.173	2.044	3.472	3.864	3.717	2.796	3.011	26.24
96)	T	n-Dodecane			0.500	0.482	1.251	1.474	1.554	1.375	1.106	44.05
97)	T	Hexachlorobuta...			0.463	0.446	0.622	0.725	0.766	0.927	0.658	28.24
98)	T	Cyclohexanone	1.048	0.943	0.832	0.804	0.983	0.979	0.980	1.079	0.956	10.00
99)	T	tert-Butylbenzene	2.363	2.071	2.240	2.164	2.722	2.855	2.658	2.351	2.428	11.70
100)	T	n-Butylbenzene	2.187	1.921	2.417	2.334	2.916	2.966	2.883	2.471	2.512	15.09

(#) = Out of Range

R16050120.M Fri May 01 18:44:38 2020

Primary Source Standards Concentrations (Working & Initial Calibration)

LH 5/1/20

1ng/L Std. ID:		40ng/L Std. ID:	
4ng/L Std. ID:	S34-04272015	200ng/L Std. ID:	S31-04292003
20ng/L Std. ID:	S34-05012002	1000ng/L Std. ID:	

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	200	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.0250	0.050	0.025	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
Propene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Dichlorodifluoromethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Chloromethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Freon-114	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Vinyl Chloride	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3-Butadiene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Bromomethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Chloroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Ethanol	5.21	5210	1042	208.4	104.2	20.84	5.21		0.521	1.042	2.605	5.21	26.05	130.25	260.5	521
Acetonitrile	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Acrolein	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Acetone	5.33	5330	1066	213.2	106.6	21.32	5.33		0.533	1.066	2.665	5.33	26.65	133.25	266.5	533
Trichlorofluoromethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Isopropanol	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
Acrylonitrile	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,1-Dichloroethene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
tert-Butanol	2.16	2160	432	86.4	43.2	8.64	2.16		0.216	0.432	1.080	2.16	10.80	54.00	108.0	216
Methylene Chloride	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Allyl Chloride	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Dichlorotrifluoroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Carbon Disulfide	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
trans-1,2-Dichloroethene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1-Dichloroethane	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
Methyl tert-Butyl Ether	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Vinyl Acetate	5.35	5350	1070	214.0	107.0	21.40	5.35		0.535	1.070	2.675	5.35	26.75	133.75	267.5	535
2-Butanone	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
cis-1,2-Dichloroethene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Diisopropyl Ether	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Ethyl Acetate	2.17	2170	434	86.8	43.4	8.68	2.17		0.217	0.434	1.085	2.17	10.85	54.25	108.5	217
n-Hexane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Chloroform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Tetrahydrofuran	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
Ethyl tert-Butyl Ether	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dichloroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1,1-Trichloroethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Isopropyl Acetate	2.11	2110	422	84.4	42.2	8.44	2.11		0.211	0.422	1.055	2.11	10.55	52.75	105.5	211
1-Butanol	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
Benzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Carbon Tetrachloride	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Cyclohexane	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
tert-Amyl Methyl Ether	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dichloropropane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Bromodichloromethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Trichloroethene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,4-Dioxane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Isooctane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Methyl Methacrylate	2.15	2150	430	86.0	43.0	8.60	2.15		0.215	0.430	1.075	2.15	10.75	53.75	107.5	215
n-Heptane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108

LH 5/1/20

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID:
4ng/L Std. ID: S34-04272015
20ng/L Std. ID: S34-05012002
40ng/L Std. ID:
200ng/L Std. ID: S31-04292003
1000ng/L Std. ID:

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	200	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.0250	0.050	0.025	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
cis-1,3-Dichloropropene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
4-Methyl-2-pentanone	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
trans-1,3-Dichloropropene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1,2-Trichloroethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Toluene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
2-Hexanone	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Dibromochloromethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,2-Dibromoethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Butyl Acetate	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
n-Octane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Tetrachloroethene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Chlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Ethylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
m-&p-Xylene	2.14	2140	428	85.6	42.8	8.56	2.14		0.214	0.428	1.070	2.14	10.70	53.50	107.0	214
Bromoform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Styrene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
o-Xylene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Nonane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,1,2,2-Tetrachloroethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Cumene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
alpha-Pinene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Propylbenzene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
3-Ethyltoluene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
4-Ethyltoluene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3,5-Trimethylbenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
alpha-Methylstyrene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
2-Ethyltoluene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2,4-Trimethylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Decane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Benzyl Chloride	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3-Dichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,4-Dichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
sec-Butylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
p-Isopropyltoluene	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
1,2,3-Trimethylbenzene	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
1,2-Dichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
d-Limonene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dibromo-3-chloropropane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
n-Undecane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2,4-Trichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Naphthalene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
n-Dodecane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Hexachloro-1,3-butadiene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Methacrylonitrile	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Cyclohexanone	1.00	1000	200	40.0	20.0	4.00	1.00		0.100	0.200	0.500	1.00	5.00	25.00	50.0	100
tert-Butylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Butylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107

Q:\TO15 Std. Concentrations\MS16 Std. Conc\2020\R16050120\ICAL Conc. (Primary Source)

Calibration Status Report GCMS-16

Method : I:\MS16\METHODS\R16050120.M (RTE Integrator)
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	0.1	0	13	I:\MS16\DATA\2020_05\01\05012018.D
2	0.2	0	13	I:\MS16\DATA\2020_05\01\05012019.D
3	0.5	1	13	I:\MS16\DATA\2020_05\01\05012020.D
4	1.0	1	13	I:\MS16\DATA\2020_05\01\05012021.D
5	5.0	5	13	I:\MS16\DATA\2020_05\01\05012022.D
6	25	27	13	I:\MS16\DATA\2020_05\01\05012023.D
7	50	53	13	I:\MS16\DATA\2020_05\01\05012024.D
8	100	106	13	I:\MS16\DATA\2020_03\11\03112009.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.1	May 01 17:28 2020	May 01 17:26 2020	1 May 2020 14:09
2	0.2	May 01 17:28 2020	May 01 17:26 2020	1 May 2020 14:42
3	0.5	May 01 17:28 2020	May 01 17:26 2020	1 May 2020 15:16
4	1.0	May 01 17:29 2020	May 01 17:26 2020	1 May 2020 15:51
5	5.0	May 01 17:29 2020	May 01 17:26 2020	1 May 2020 16:25
6	25	May 01 17:29 2020	May 01 17:26 2020	1 May 2020 16:59
7	50	May 01 18:22 2020	May 01 18:21 2020	1 May 2020 17:33
8	100	May 01 17:01 2020	Mar 11 10:34 2020	11 Mar 2020 4:52

R16050120.M Fri May 01 18:52:03 2020

LH 5/1/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012018.D Vial: 6
Acq On : 1 May 2020 14:09 Operator: LH
Sample : 0.1ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04272015 (5/26)

Quant Time: May 01 17:26:08 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	289278	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1281029	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	612084	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	508980	12.744	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.92%				
57) Toluene-d8 (SS2)	15.72	98	1292505	11.971	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.76%				
73) Bromofluorobenzene (SS3)	18.98	174	437866	11.415	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.28%				
Target Compounds							Qvalue
2) Propene	4.13	42	3951	0.128	ng		96
3) Dichlorodifluoromethan...	4.28	85	7854	0.120	ng		99
4) Chloromethane	4.55	50	6389	0.124	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.83	135	4609	0.112	ng		98
6) Vinyl Chloride	4.97	62	6791	0.124	ng		98
7) 1,3-Butadiene	5.24	54	5512	0.135	ng		93
8) Bromomethane	5.66	94	3547	0.129	ng		100
9) Chloroethane	5.99	64	2625	0.124	ng		97
10) Ethanol	6.32	45	16999	0.700	ng		96
11) Acetonitrile	6.59	41	8460	0.157	ng		84
12) Acrolein	6.79	56	2525	0.141	ng		97
13) Acetone	7.01	58	15440	0.650	ng	#	85
14) Trichlorofluoromethane	7.25	101	6656	0.116	ng		97
15) 2-Propanol (Isopropanol)	7.50	45	18806	0.266	ng		91
16) Acrylonitrile	7.74	53	5351	0.149	ng		99
17) 1,1-Dichloroethene	8.21	96	3518	0.123	ng		97
18) 2-Methyl-2-Propanol (t...	8.40	59	17666	0.282	ng		93
19) Methylene Chloride	8.40	84	4154	0.134	ng		94
20) 3-Chloro-1-propene (Al...	8.58	41	5555	0.137	ng		88
21) Trichlorotrifluoroethane	8.84	151	3158	0.114	ng		96
22) Carbon Disulfide	8.69	76	15135	0.136	ng		97
23) trans-1,2-Dichloroethene	9.68	61	5709	0.137	ng		99
24) 1,1-Dichloroethane	9.93	63	6480	0.122	ng		98
25) Methyl tert-Butyl Ether	10.09	73	10484	0.124	ng		100
26) Vinyl Acetate	10.21	86	3501	0.438	ng	#	69
27) 2-Butanone (MEK)	10.48	72	2477	0.126	ng	#	74
28) cis-1,2-Dichloroethene	10.95	61	5362	0.125	ng		95
29) Diisopropyl Ether	11.29	87	3500	0.113	ng	#	86
30) Ethyl Acetate	11.28	61	2653	0.229	ng		98
31) n-Hexane	11.26	57	6264	0.117	ng		97
32) Chloroform	11.30	83	6525	0.114	ng		100
34) Tetrahydrofuran (THF)	11.75	72	2693	0.133	ng		91
35) Ethyl tert-Butyl Ether	11.87	87	4007	0.109	ng		93
36) 1,2-Dichloroethane	12.11	62	5509	0.123	ng		98
38) 1,1,1-Trichloroethane	12.39	97	5705	0.113	ng		98
39) Isopropyl Acetate	12.84	61	4697	0.226	ng	#	91
40) 1-Butanol	12.85	56	7144	0.220	ng		93
41) Benzene	12.87	78	15792	0.120	ng		98
42) Carbon Tetrachloride	13.03	117	4803	0.106	ng		98
43) Cyclohexane	13.17	84	10671	0.211	ng		98
44) tert-Amyl Methyl Ether	13.53	73	9904	0.115	ng		97
45) 1,2-Dichloropropane	13.72	63	3569	0.117	ng		99
46) Bromodichloromethane	13.91	83	4900	0.109	ng		98
47) Trichloroethene	13.96	130	3818	0.102	ng		96
48) 1,4-Dioxane	13.96	88	3076	0.120	ng		99
49) 2,2,4-Trimethylpentane...	14.05	57	14967	0.118	ng		97
50) Methyl Methacrylate	14.18	100	2774	0.218	ng		96

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012018.D Vial: 6
Acq On : 1 May 2020 14:09 Operator: LH
Sample : 0.1ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04272015 (5/26)

Quant Time: May 01 17:26:08 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

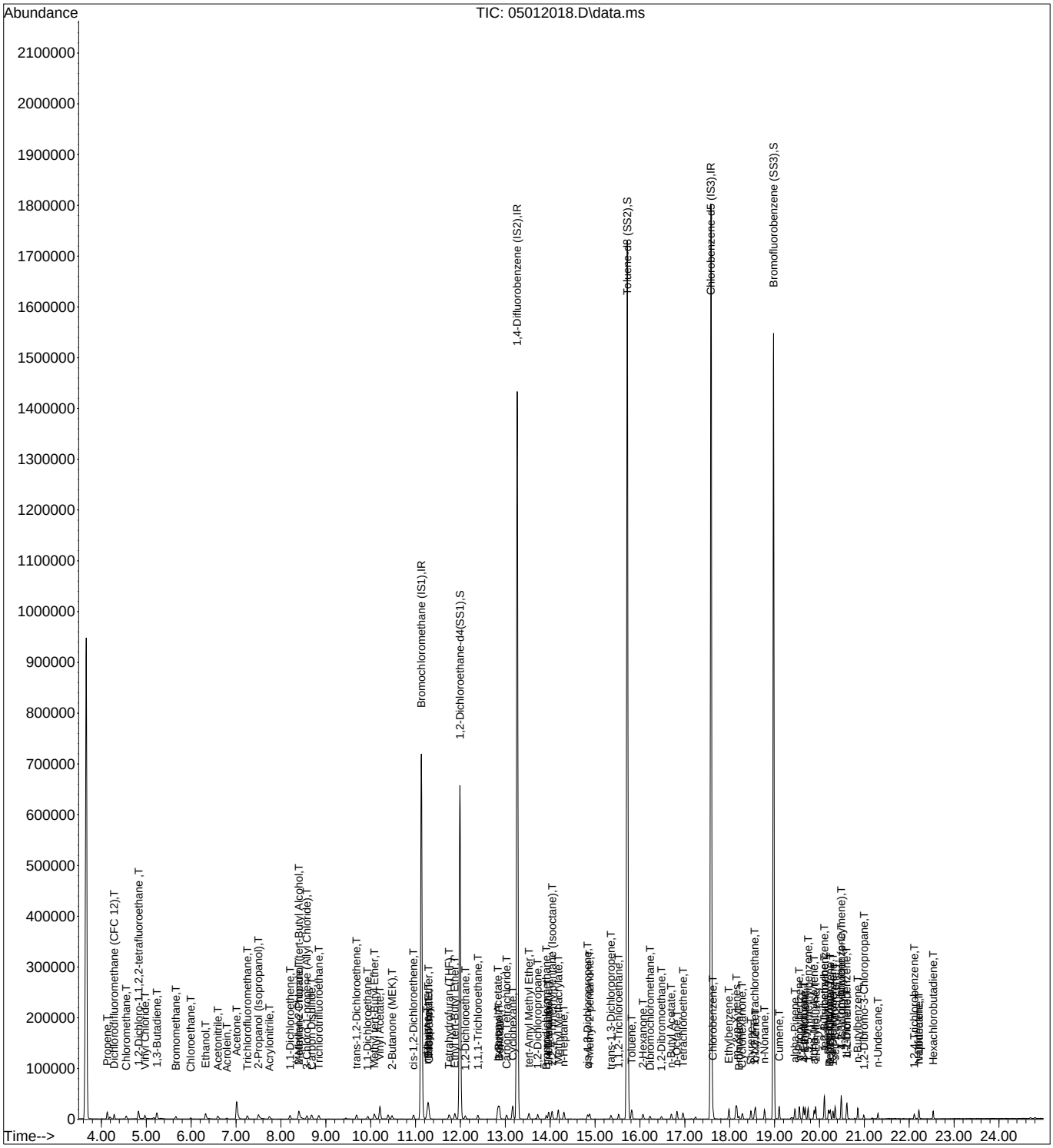
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.30	71	3595	0.117 ng		97
52) cis-1,3-Dichloropropene	14.83	75	5704	0.116 ng		96
53) 4-Methyl-2-pentanone	14.88	58	3296	0.119 ng		93
54) trans-1,3-Dichloropropene	15.35	75	4544	0.099 ng		98
55) 1,1,2-Trichloroethane	15.52	97	3290	0.107 ng		92
58) Toluene	15.82	91	15732	0.118 ng		98
59) 2-Hexanone	16.07	43	8108	0.120 ng		95
60) Dibromochloromethane	16.23	129	3850	0.107 ng		98
61) 1,2-Dibromoethane	16.48	107	3967	0.115 ng		99
62) n-Butyl Acetate	16.70	43	8599	0.119 ng		100
63) n-Octane	16.82	57	3026	0.113 ng		95
64) Tetrachloroethene	16.96	166	3889	0.104 ng		96
65) Chlorobenzene	17.62	112	9815	0.109 ng		97
66) Ethylbenzene	17.98	91	15876	0.108 ng		99
67) m- & p-Xylenes	18.15	91	25313	0.213 ng		97
68) Bromoform	18.21	173	2794	0.087 ng		97
69) Styrene	18.47	104	8068	0.087 ng		98
70) o-Xylene	18.58	91	12796	0.107 ng		97
71) n-Nonane	18.77	43	6742	0.112 ng		94
72) 1,1,2,2-Tetrachloroethane	18.55	83	6321	0.110 ng		99
74) Cumene	19.10	105	16051	0.107 ng		99
75) alpha-Pinene	19.45	93	7915	0.104 ng		98
76) n-Propylbenzene	19.55	91	19200	0.109 ng		96
77) 3-Ethyltoluene	19.64	105	15205	0.102 ng		95
78) 4-Ethyltoluene	19.68	105	13291	0.094 ng		97
79) 1,3,5-Trimethylbenzene	19.75	105	12270	0.097 ng		98
80) alpha-Methylstyrene	19.88	118	5286	0.077 ng		90
81) 2-Ethyltoluene	19.92	105	14918	0.102 ng		98
82) 1,2,4-Trimethylbenzene	20.11	105	11607	0.089 ng		98
83) n-Decane	20.20	57	5622	0.088 ng		96
84) Benzyl Chloride	20.23	91	6198	0.059 ng		94
85) 1,3-Dichlorobenzene	20.24	146	6559	0.093 ng		97
86) 1,4-Dichlorobenzene	20.30	146	6317	0.090 ng		95
87) sec-Butylbenzene	20.35	105	16656	0.102 ng		97
88) 4-Isopropyltoluene (p-...	20.48	119	14335	0.094 ng		98
89) 1,2,3-Trimethylbenzene	20.48	105	11912	0.091 ng		98
90) 1,2-Dichlorobenzene	20.61	146	6284	0.088 ng		97
91) d-Limonene	20.61	68	4287	0.084 ng		100
92) 1,2-Dibromo-3-Chloropr...	20.99	157	1904	0.078 ng	#	68
93) n-Undecane	21.30	57	3299	0.050 ng		96
94) 1,2,4-Trichlorobenzene	22.11	180	2902	0.065 ng		95
95) Naphthalene	22.22	128	9207	0.061 ng		99
96) n-Dodecane	22.22	57	1759	0.027 ng		84
97) Hexachlorobutadiene	22.54	225	2672	0.079 ng		98
98) Cyclohexanone	18.28	55	5130	0.112 ng		96
99) tert-Butylbenzene	20.11	119	12381	0.098 ng		100
100) n-Butylbenzene	20.85	91	11459	0.087 ng		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012018.D Vial: 6
Acq On : 1 May 2020 14:09 Operator: LH
Sample : 0.1ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04272015 (5/26)

Quant Time: May 01 17:26:08 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012019.D Vial: 6
Acq On : 1 May 2020 14:42 Operator: LH
Sample : 0.2ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04272015 (5/26)

Quant Time: May 01 17:26:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	281203	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1265644	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	605249	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	502682	12.948	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.60%				
57) Toluene-d8 (SS2)	15.72	98	1286177	12.047	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.40%				
73) Bromofluorobenzene (SS3)	18.98	174	432138	11.393	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.12%				
Target Compounds							Qvalue
2) Propene	4.12	42	7340	0.244	ng		98
3) Dichlorodifluoromethan...	4.28	85	14321	0.225	ng		98
4) Chloromethane	4.54	50	11611	0.231	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	7949	0.198	ng		100
6) Vinyl Chloride	4.97	62	12344	0.232	ng		98
7) 1,3-Butadiene	5.22	54	9830	0.247	ng		96
8) Bromomethane	5.65	94	6528	0.244	ng		95
9) Chloroethane	5.98	64	4628	0.226	ng		98
10) Ethanol	6.31	45	27749	1.175	ng		96
11) Acetonitrile	6.59	41	13417	0.257	ng		87
12) Acrolein	6.79	56	4024	0.232	ng		98
13) Acetone	7.01	58	26616	1.152	ng		88
14) Trichlorofluoromethane	7.25	101	12031	0.215	ng		96
15) 2-Propanol (Isopropanol)	7.48	45	33389	0.485	ng		93
16) Acrylonitrile	7.74	53	8962	0.257	ng		98
17) 1,1-Dichloroethene	8.20	96	6259	0.225	ng		97
18) 2-Methyl-2-Propanol (t...	8.39	59	31078	0.511	ng		95
19) Methylene Chloride	8.40	84	7162	0.238	ng		95
20) 3-Chloro-1-propene (Al...	8.57	41	9375	0.238	ng		97
21) Trichlorotrifluoroethane	8.85	151	5174	0.193	ng		91
22) Carbon Disulfide	8.68	76	25939	0.240	ng		98
23) trans-1,2-Dichloroethene	9.69	61	9736	0.240	ng		99
24) 1,1-Dichloroethane	9.93	63	11448	0.222	ng		100
25) Methyl tert-Butyl Ether	10.07	73	19408	0.236	ng		100
26) Vinyl Acetate	10.20	86	6257	0.806	ng	#	65
27) 2-Butanone (MEK)	10.47	72	4473	0.235	ng	#	85
28) cis-1,2-Dichloroethene	10.95	61	9299	0.222	ng		95
29) Diisopropyl Ether	11.27	87	6141	0.203	ng	#	89
30) Ethyl Acetate	11.28	61	5026	0.447	ng		94
31) n-Hexane	11.26	57	10892	0.209	ng		100
32) Chloroform	11.30	83	11522	0.207	ng		100
34) Tetrahydrofuran (THF)	11.74	72	4717	0.239	ng		96
35) Ethyl tert-Butyl Ether	11.87	87	7599	0.213	ng		99
36) 1,2-Dichloroethane	12.11	62	10033	0.231	ng		97
38) 1,1,1-Trichloroethane	12.39	97	10336	0.208	ng		99
39) Isopropyl Acetate	12.84	61	8005	0.390	ng	#	82
40) 1-Butanol	12.85	56	12049	0.376	ng		93
41) Benzene	12.87	78	27102	0.208	ng		100
42) Carbon Tetrachloride	13.03	117	8801	0.196	ng		99
43) Cyclohexane	13.17	84	19302	0.386	ng		99
44) tert-Amyl Methyl Ether	13.52	73	18140	0.213	ng		97
45) 1,2-Dichloropropane	13.72	63	6464	0.215	ng		100
46) Bromodichloromethane	13.91	83	9202	0.208	ng		97
47) Trichloroethene	13.97	130	6883	0.185	ng		99
48) 1,4-Dioxane	13.96	88	5469	0.215	ng		98
49) 2,2,4-Trimethylpentane...	14.04	57	27442	0.219	ng		99
50) Methyl Methacrylate	14.18	100	4902	0.390	ng		92

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012019.D Vial: 6
Acq On : 1 May 2020 14:42 Operator: LH
Sample : 0.2ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04272015 (5/26)

Quant Time: May 01 17:26:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

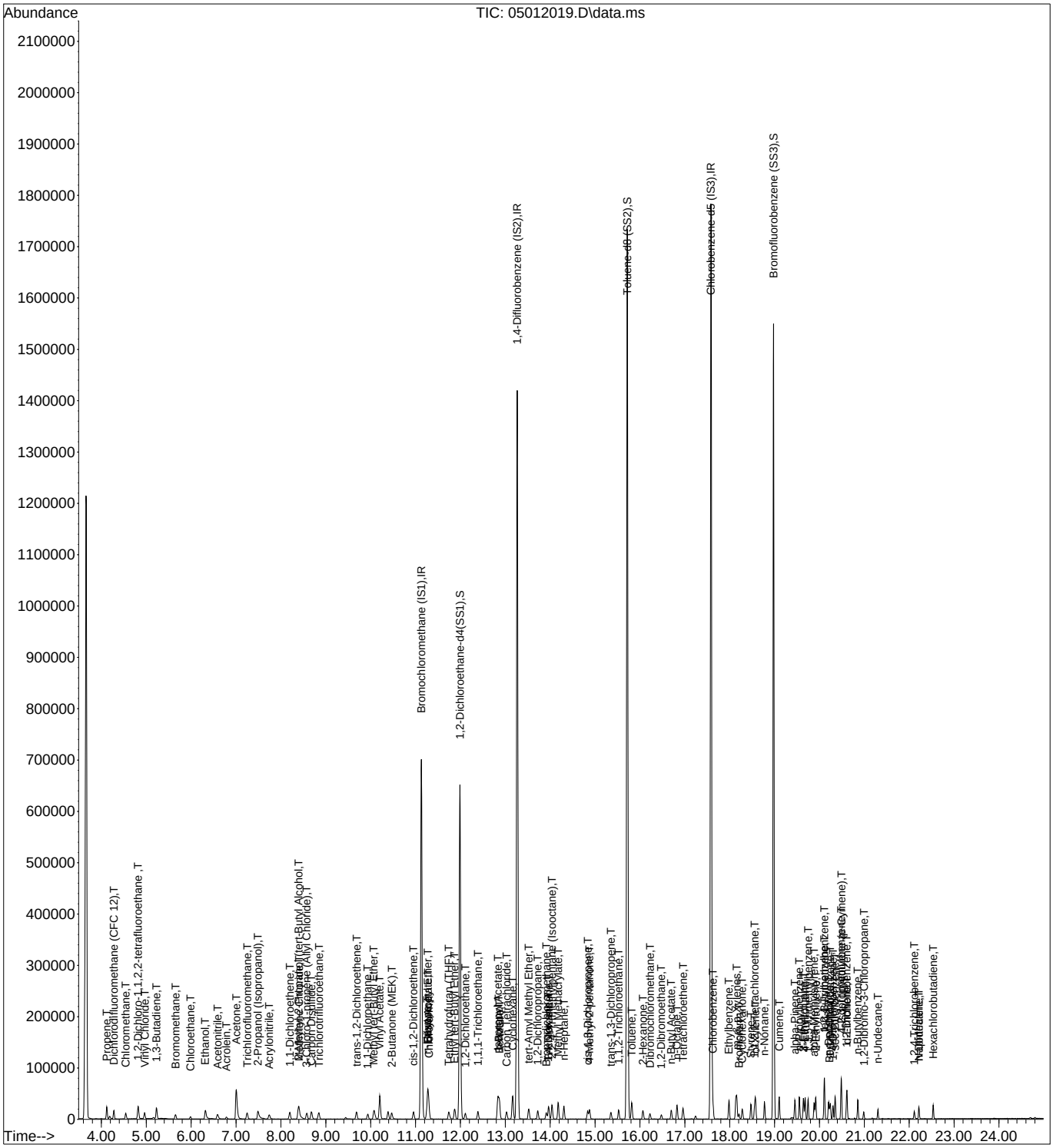
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.31	71	6485	0.213 ng		99
52) cis-1,3-Dichloropropene	14.84	75	10229	0.211 ng		99
53) 4-Methyl-2-pentanone	14.88	58	5691	0.207 ng		91
54) trans-1,3-Dichloropropene	15.35	75	8360	0.185 ng		96
55) 1,1,2-Trichloroethane	15.52	97	6328	0.209 ng		98
58) Toluene	15.82	91	26600	0.201 ng		99
59) 2-Hexanone	16.06	43	14103	0.211 ng		96
60) Dibromochloromethane	16.23	129	7014	0.198 ng		97
61) 1,2-Dibromoethane	16.48	107	7112	0.208 ng		98
62) n-Butyl Acetate	16.70	43	14786	0.207 ng		99
63) n-Octane	16.82	57	5273	0.199 ng		99
64) Tetrachloroethene	16.96	166	6836	0.184 ng		98
65) Chlorobenzene	17.62	112	17628	0.198 ng		99
66) Ethylbenzene	17.98	91	28627	0.197 ng		98
67) m- & p-Xylenes	18.15	91	43549	0.370 ng		100
68) Bromoform	18.21	173	4948	0.156 ng		97
69) Styrene	18.47	104	14427	0.157 ng		98
70) o-Xylene	18.58	91	22519	0.191 ng		99
71) n-Nonane	18.77	43	11811	0.198 ng		96
72) 1,1,2,2-Tetrachloroethane	18.55	83	11124	0.196 ng		98
74) Cumene	19.10	105	28539	0.192 ng		97
75) alpha-Pinene	19.45	93	14109	0.187 ng		97
76) n-Propylbenzene	19.55	91	33704	0.194 ng		96
77) 3-Ethyltoluene	19.64	105	24706	0.167 ng		95
78) 4-Ethyltoluene	19.68	105	25673	0.184 ng		92
79) 1,3,5-Trimethylbenzene	19.75	105	20755	0.166 ng		100
80) alpha-Methylstyrene	19.88	118	9566	0.141 ng		98
81) 2-Ethyltoluene	19.92	105	25934	0.179 ng		98
82) 1,2,4-Trimethylbenzene	20.11	105	20144	0.156 ng		100
83) n-Decane	20.20	57	9540	0.150 ng		99
84) Benzyl Chloride	20.22	91	10864	0.105 ng		96
85) 1,3-Dichlorobenzene	20.24	146	10709	0.154 ng		98
86) 1,4-Dichlorobenzene	20.30	146	10405	0.150 ng		99
87) sec-Butylbenzene	20.35	105	29313	0.182 ng		98
88) 4-Isopropyltoluene (p-...	20.49	119	25509	0.168 ng		98
89) 1,2,3-Trimethylbenzene	20.48	105	20308	0.157 ng		97
90) 1,2-Dichlorobenzene	20.61	146	10926	0.154 ng		99
91) d-Limonene	20.61	68	7844	0.156 ng		98
92) 1,2-Dibromo-3-Chloropr...	20.99	157	3246	0.134 ng	#	68
93) n-Undecane	21.30	57	5419	0.083 ng		99
94) 1,2,4-Trichlorobenzene	22.11	180	4530	0.103 ng		98
95) Naphthalene	22.22	128	12645	0.085 ng		100
96) n-Dodecane	22.22	57	2203	0.035 ng		95
97) Hexachlorobutadiene	22.54	225	4472	0.134 ng		100
98) Cyclohexanone	18.28	55	9134	0.201 ng		98
99) tert-Butylbenzene	20.11	119	21458	0.172 ng		100
100) n-Butylbenzene	20.85	91	19904	0.152 ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012019.D Vial: 6
Acq On : 1 May 2020 14:42 Operator: LH
Sample : 0.2ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04272015 (5/26)

Quant Time: May 01 17:26:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012020.D Vial: 13
Acq On : 1 May 2020 15:16 Operator: LH
Sample : 0.5ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-05012002 (5/30)

Quant Time: May 01 17:26:12 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	282762	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1246042	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	597894	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	496699	12.724	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.76%				
57) Toluene-d8 (SS2)	15.72	98	1261623	11.962	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.68%				
73) Bromofluorobenzene (SS3)	18.98	174	433440	11.568	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.56%				
Target Compounds							Qvalue
2) Propene	4.12	42	18019	0.595	ng		100
3) Dichlorodifluoromethan...	4.27	85	36783	0.574	ng		100
4) Chloromethane	4.54	50	28625	0.567	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	21643	0.536	ng		98
6) Vinyl Chloride	4.96	62	31225	0.584	ng		99
7) 1,3-Butadiene	5.22	54	25691	0.642	ng		97
8) Bromomethane	5.65	94	16060	0.596	ng		100
9) Chloroethane	5.98	64	12037	0.584	ng		100
10) Ethanol	6.32	45	59441	2.504	ng		99
11) Acetonitrile	6.58	41	28303	0.538	ng		92
12) Acrolein	6.78	56	10249	0.587	ng		99
13) Acetone	7.00	58	64034	2.757	ng		90
14) Trichlorofluoromethane	7.24	101	30869	0.549	ng		99
15) 2-Propanol (Isopropanol)	7.49	45	81950	1.184	ng		94
16) Acrylonitrile	7.74	53	20199	0.576	ng		99
17) 1,1-Dichloroethene	8.19	96	16045	0.574	ng		99
18) 2-Methyl-2-Propanol (t...	8.38	59	81236	1.327	ng		97
19) Methylene Chloride	8.40	84	16818	0.555	ng		93
20) 3-Chloro-1-propene (Al...	8.57	41	23985	0.605	ng		100
21) Trichlorotrifluoroethane	8.84	151	14094	0.522	ng		90
22) Carbon Disulfide	8.68	76	62306	0.573	ng		100
23) trans-1,2-Dichloroethene	9.68	61	24198	0.594	ng		98
24) 1,1-Dichloroethane	9.94	63	30445	0.588	ng		98
25) Methyl tert-Butyl Ether	10.06	73	50440	0.609	ng		100
26) Vinyl Acetate	10.20	86	16921	2.167	ng	#	71
27) 2-Butanone (MEK)	10.46	72	11237	0.586	ng	#	91
28) cis-1,2-Dichloroethene	10.95	61	23378	0.555	ng		97
29) Diisopropyl Ether	11.27	87	16633	0.547	ng	#	80
30) Ethyl Acetate	11.28	61	12444	1.100	ng		99
31) n-Hexane	11.26	57	28441	0.542	ng		99
32) Chloroform	11.30	83	30757	0.550	ng		100
34) Tetrahydrofuran (THF)	11.74	72	11211	0.565	ng		97
35) Ethyl tert-Butyl Ether	11.87	87	19341	0.539	ng		95
36) 1,2-Dichloroethane	12.11	62	24513	0.560	ng		98
38) 1,1,1-Trichloroethane	12.39	97	26870	0.549	ng		98
39) Isopropyl Acetate	12.83	61	21414	1.060	ng		94
40) 1-Butanol	12.85	56	25610	0.811	ng		84
41) Benzene	12.87	78	68060	0.531	ng		99
42) Carbon Tetrachloride	13.03	117	23499	0.531	ng		100
43) Cyclohexane	13.17	84	50782	1.030	ng		99
44) tert-Amyl Methyl Ether	13.52	73	47408	0.566	ng		98
45) 1,2-Dichloropropane	13.73	63	16720	0.564	ng		98
46) Bromodichloromethane	13.91	83	23539	0.540	ng		99
47) Trichloroethene	13.97	130	17666	0.483	ng		98
48) 1,4-Dioxane	13.95	88	13607	0.544	ng		98
49) 2,2,4-Trimethylpentane...	14.04	57	70232	0.570	ng		98
50) Methyl Methacrylate	14.18	100	12679	1.026	ng		89

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012020.D Vial: 13
Acq On : 1 May 2020 15:16 Operator: LH
Sample : 0.5ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-05012002 (5/30)

Quant Time: May 01 17:26:12 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

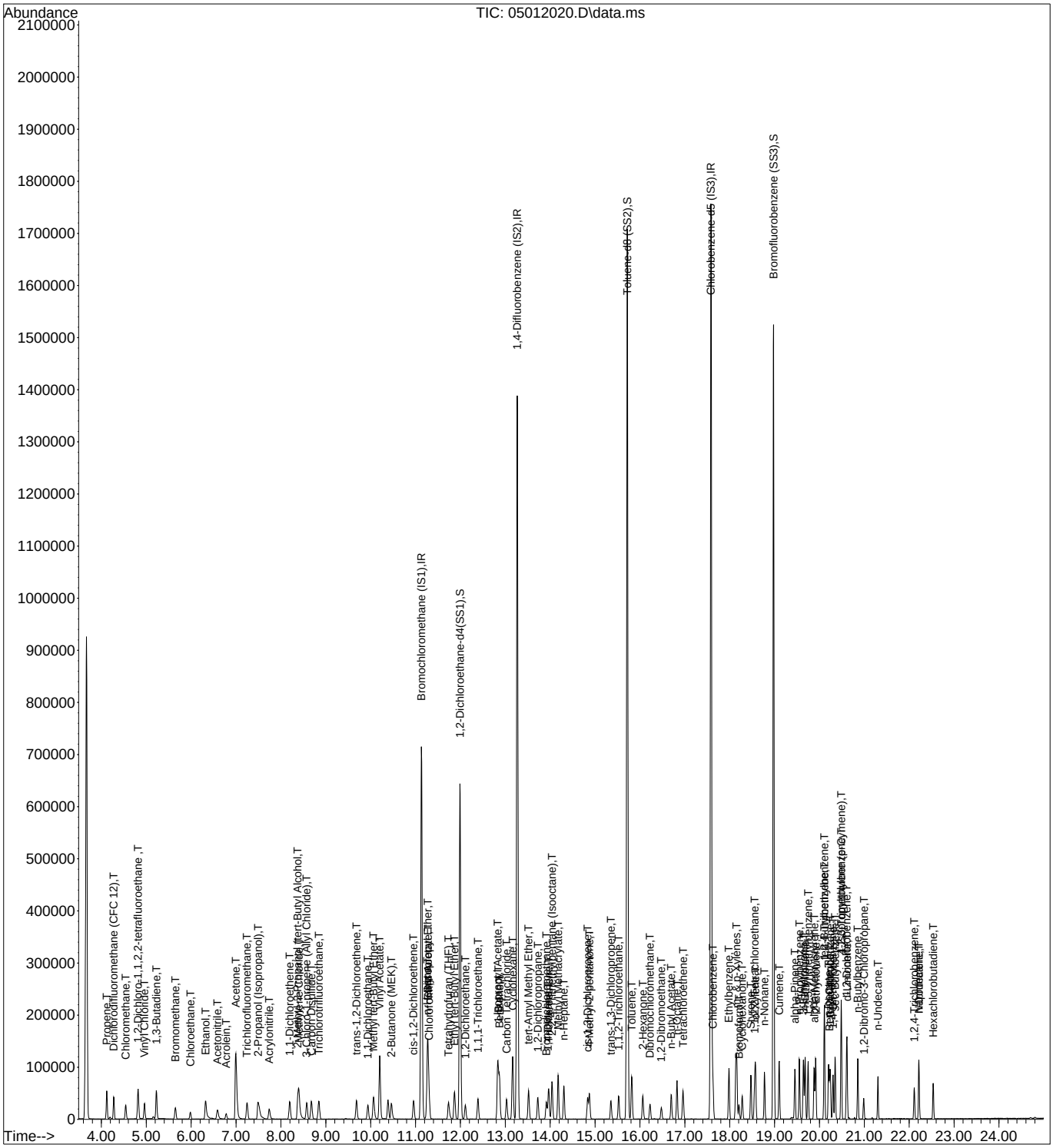
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.30	71	16470	0.549	ng		99
52) cis-1,3-Dichloropropene	14.83	75	25622	0.537	ng		100
53) 4-Methyl-2-pentanone	14.88	58	15185	0.562	ng		96
54) trans-1,3-Dichloropropene	15.35	75	21678	0.488	ng		100
55) 1,1,2-Trichloroethane	15.52	97	16061	0.538	ng		99
58) Toluene	15.82	91	68212	0.522	ng		99
59) 2-Hexanone	16.06	43	36076	0.547	ng		97
60) Dibromochloromethane	16.22	129	18007	0.513	ng		100
61) 1,2-Dibromoethane	16.48	107	18032	0.535	ng		99
62) n-Butyl Acetate	16.70	43	40268	0.571	ng		99
63) n-Octane	16.83	57	14009	0.536	ng		98
64) Tetrachloroethene	16.96	166	17406	0.474	ng		98
65) Chlorobenzene	17.62	112	44455	0.505	ng		99
66) Ethylbenzene	17.98	91	75877	0.529	ng		99
67) m- & p-Xylenes	18.15	91	116955	1.007	ng		99
68) Bromoform	18.21	173	13392	0.426	ng		100
69) Styrene	18.47	104	42807	0.472	ng		99
70) o-Xylene	18.58	91	59151	0.509	ng		98
71) n-Nonane	18.77	43	31809	0.539	ng		98
72) 1,1,2,2-Tetrachloroethane	18.55	83	28515	0.507	ng		100
74) Cumene	19.10	105	75062	0.513	ng		98
75) alpha-Pinene	19.45	93	36992	0.496	ng		98
76) n-Propylbenzene	19.56	91	90744	0.529	ng		97
77) 3-Ethyltoluene	19.64	105	68792	0.472	ng		99
78) 4-Ethyltoluene	19.68	105	71240	0.516	ng		99
79) 1,3,5-Trimethylbenzene	19.75	105	57590	0.466	ng		100
80) alpha-Methylstyrene	19.88	118	29121	0.435	ng		98
81) 2-Ethyltoluene	19.92	105	71176	0.498	ng		98
82) 1,2,4-Trimethylbenzene	20.11	105	57697	0.454	ng		98
83) n-Decane	20.20	57	28801	0.460	ng		98
84) Benzyl Chloride	20.23	91	38679	0.379	ng		97
85) 1,3-Dichlorobenzene	20.24	146	32341	0.470	ng		99
86) 1,4-Dichlorobenzene	20.30	146	32829	0.480	ng		98
87) sec-Butylbenzene	20.35	105	79152	0.499	ng		98
88) 4-Isopropyltoluene (p-...	20.48	119	71971	0.481	ng		98
89) 1,2,3-Trimethylbenzene	20.48	105	58236	0.457	ng		97
90) 1,2-Dichlorobenzene	20.61	146	31295	0.447	ng		100
91) d-Limonene	20.62	68	22394	0.451	ng		99
92) 1,2-Dibromo-3-Chloropr...	20.99	157	9748	0.406	ng	#	80
93) n-Undecane	21.30	57	23411	0.364	ng		98
94) 1,2,4-Trichlorobenzene	22.11	180	16758	0.385	ng		99
95) Naphthalene	22.22	128	53528	0.365	ng		100
96) n-Dodecane	22.22	57	12440	0.198	ng		98
97) Hexachlorobutadiene	22.54	225	11744	0.356	ng		99
98) Cyclohexanone	18.28	55	19899	0.444	ng		97
99) tert-Butylbenzene	20.11	119	57329	0.464	ng		99
100) n-Butylbenzene	20.85	91	61839	0.478	ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012020.D Vial: 13
Acq On : 1 May 2020 15:16 Operator: LH
Sample : 0.5ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-05012002 (5/30)

Quant Time: May 01 17:26:12 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012021.D Vial: 13
Acq On : 1 May 2020 15:51 Operator: LH
Sample : 1.0ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-05012002 (5/30)

Quant Time: May 01 17:26:14 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	283099	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1255557	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	599231	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	497020	12.717	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.76%				
57) Toluene-d8 (SS2)	15.72	98	1262658	11.945	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.60%				
73) Bromofluorobenzene (SS3)	18.98	174	433746	11.550	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.40%				
Target Compounds							Qvalue
2) Propene	4.11	42	33126	1.093	ng		99
3) Dichlorodifluoromethan...	4.27	85	68235	1.064	ng		99
4) Chloromethane	4.53	50	53718	1.062	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	38642	0.956	ng		99
6) Vinyl Chloride	4.96	62	58432	1.092	ng		100
7) 1,3-Butadiene	5.22	54	47465	1.185	ng		98
8) Bromomethane	5.64	94	29630	1.099	ng		100
9) Chloroethane	5.98	64	22473	1.088	ng		99
10) Ethanol	6.32	45	110869	4.665	ng		99
11) Acetonitrile	6.58	41	53541	1.017	ng		100
12) Acrolein	6.78	56	19340	1.106	ng		100
13) Acetone	6.98	58	119315	5.130	ng		90
14) Trichlorofluoromethane	7.24	101	56632	1.006	ng		99
15) 2-Propanol (Isopropanol)	7.48	45	154892	2.235	ng		96
16) Acrylonitrile	7.74	53	38461	1.095	ng		99
17) 1,1-Dichloroethene	8.19	96	30236	1.080	ng		97
18) 2-Methyl-2-Propanol (t...	8.36	59	151128	2.466	ng		98
19) Methylene Chloride	8.40	84	32502	1.072	ng		97
20) 3-Chloro-1-propene (Al...	8.57	41	46601	1.174	ng		98
21) Trichlorotrifluoroethane	8.84	151	26828	0.993	ng		96
22) Carbon Disulfide	8.68	76	117066	1.075	ng		99
23) trans-1,2-Dichloroethene	9.68	61	45490	1.115	ng		97
24) 1,1-Dichloroethane	9.94	63	55243	1.065	ng		99
25) Methyl tert-Butyl Ether	10.06	73	92006	1.109	ng		99
26) Vinyl Acetate	10.20	86	33295	4.258	ng	#	76
27) 2-Butanone (MEK)	10.46	72	21197	1.105	ng		96
28) cis-1,2-Dichloroethene	10.96	61	43960	1.043	ng		97
29) Diisopropyl Ether	11.27	87	31384	1.031	ng	#	79
30) Ethyl Acetate	11.27	61	23578	2.083	ng		97
31) n-Hexane	11.26	57	53227	1.014	ng		99
32) Chloroform	11.30	83	57167	1.020	ng		98
34) Tetrahydrofuran (THF)	11.73	72	21166	1.066	ng		97
35) Ethyl tert-Butyl Ether	11.87	87	36365	1.013	ng		97
36) 1,2-Dichloroethane	12.11	62	45068	1.029	ng		100
38) 1,1,1-Trichloroethane	12.39	97	50409	1.021	ng		98
39) Isopropyl Acetate	12.83	61	40161	1.973	ng	#	92
40) 1-Butanol	12.84	56	48310	1.519	ng		82
41) Benzene	12.87	78	127091	0.984	ng		100
42) Carbon Tetrachloride	13.03	117	43210	0.970	ng		98
43) Cyclohexane	13.17	84	94431	1.902	ng		98
44) tert-Amyl Methyl Ether	13.52	73	89386	1.060	ng		98
45) 1,2-Dichloropropane	13.73	63	31276	1.047	ng		99
46) Bromodichloromethane	13.91	83	44019	1.002	ng		99
47) Trichloroethene	13.97	130	32599	0.885	ng		100
48) 1,4-Dioxane	13.95	88	25788	1.023	ng		99
49) 2,2,4-Trimethylpentane...	14.04	57	130371	1.050	ng		98
50) Methyl Methacrylate	14.18	100	24994	2.007	ng		96

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012021.D Vial: 13
Acq On : 1 May 2020 15:51 Operator: LH
Sample : 1.0ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-05012002 (5/30)

Quant Time: May 01 17:26:14 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

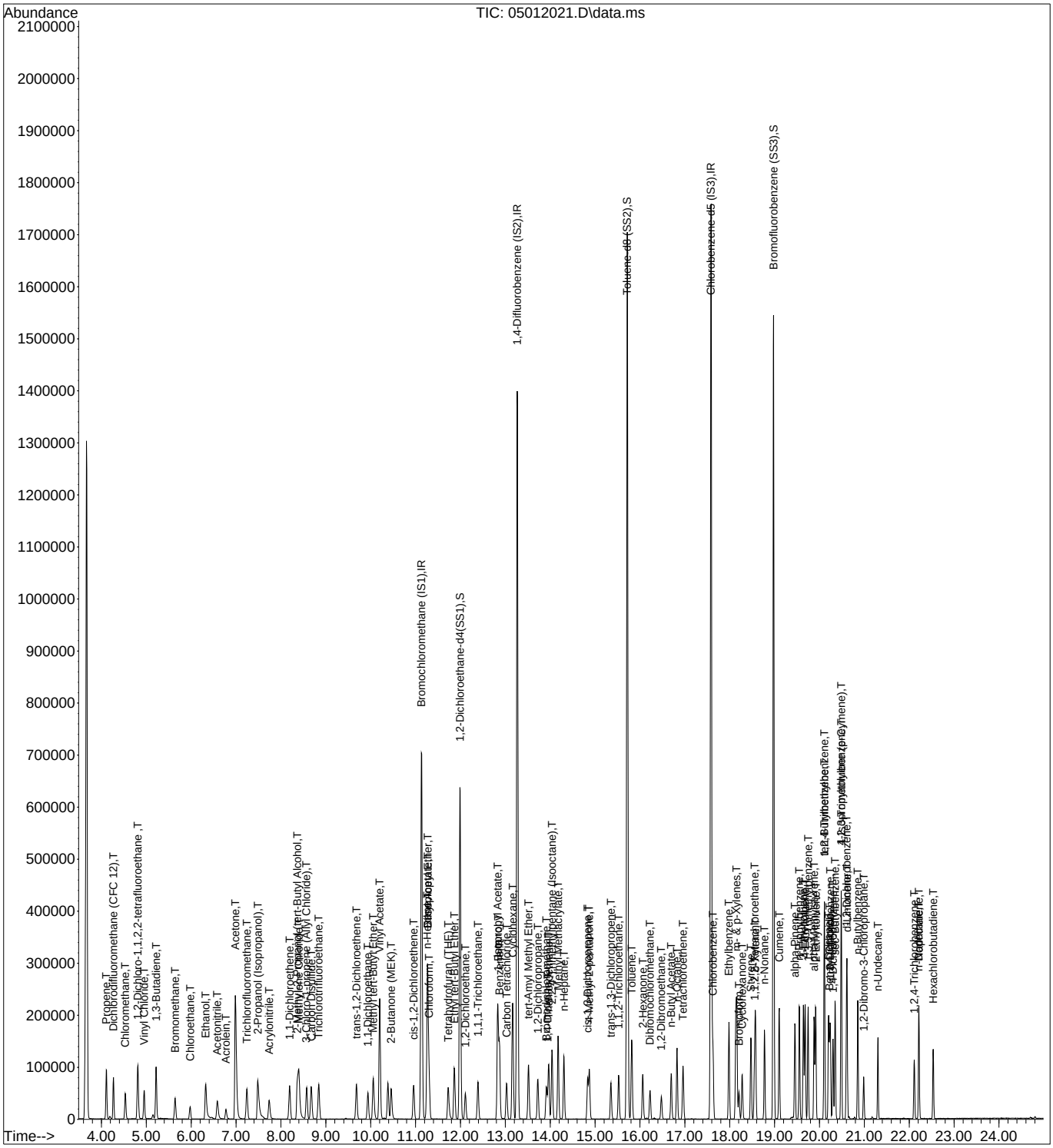
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	31052	1.028	ng	99
52) cis-1,3-Dichloropropene	14.83	75	48884	1.016	ng	100
53) 4-Methyl-2-pentanone	14.87	58	28992	1.064	ng	98
54) trans-1,3-Dichloropropene	15.35	75	42499	0.949	ng	99
55) 1,1,2-Trichloroethane	15.52	97	29976	0.997	ng	99
58) Toluene	15.82	91	126852	0.968	ng	100
59) 2-Hexanone	16.06	43	68688	1.039	ng	98
60) Dibromochloromethane	16.22	129	34198	0.973	ng	100
61) 1,2-Dibromoethane	16.48	107	33986	1.006	ng	99
62) n-Butyl Acetate	16.70	43	76066	1.076	ng	98
63) n-Octane	16.83	57	26077	0.995	ng	99
64) Tetrachloroethene	16.96	166	32577	0.886	ng	100
65) Chlorobenzene	17.62	112	82545	0.935	ng	98
66) Ethylbenzene	17.98	91	142006	0.988	ng	99
67) m- & p-Xylenes	18.15	91	225991	1.941	ng	98
68) Bromoform	18.21	173	25763	0.818	ng	100
69) Styrene	18.47	104	80976	0.891	ng	99
70) o-Xylene	18.58	91	111310	0.955	ng	99
71) n-Nonane	18.77	43	60557	1.023	ng	97
72) 1,1,2,2-Tetrachloroethane	18.55	83	54222	0.963	ng	99
74) Cumene	19.10	105	140371	0.956	ng	99
75) alpha-Pinene	19.45	93	71471	0.956	ng	99
76) n-Propylbenzene	19.55	91	173225	1.008	ng	98
77) 3-Ethyltoluene	19.64	105	131045	0.897	ng	99
78) 4-Ethyltoluene	19.68	105	136161	0.983	ng	99
79) 1,3,5-Trimethylbenzene	19.75	105	112385	0.908	ng	99
80) alpha-Methylstyrene	19.88	118	57239	0.853	ng	99
81) 2-Ethyltoluene	19.92	105	133665	0.933	ng	99
82) 1,2,4-Trimethylbenzene	20.11	105	112073	0.879	ng	99
83) n-Decane	20.20	57	56537	0.900	ng	99
84) Benzyl Chloride	20.23	91	78621	0.769	ng	97
85) 1,3-Dichlorobenzene	20.24	146	62650	0.909	ng	99
86) 1,4-Dichlorobenzene	20.30	146	61324	0.895	ng	100
87) sec-Butylbenzene	20.35	105	151180	0.950	ng	98
88) 4-Isopropyltoluene (p-...	20.48	119	138806	0.925	ng	99
89) 1,2,3-Trimethylbenzene	20.48	105	113653	0.890	ng	99
90) 1,2-Dichlorobenzene	20.61	146	60175	0.857	ng	99
91) d-Limonene	20.62	68	44904	0.903	ng	98
92) 1,2-Dibromo-3-Chloropr...	20.98	157	19657	0.817	ng	85
93) n-Undecane	21.30	57	44833	0.696	ng	99
94) 1,2,4-Trichlorobenzene	22.11	180	32560	0.746	ng	100
95) Naphthalene	22.22	128	100929	0.687	ng	100
96) n-Dodecane	22.21	57	24009	0.380	ng	99
97) Hexachlorobutadiene	22.54	225	22641	0.684	ng	99
98) Cyclohexanone	18.28	55	38554	0.858	ng	99
99) tert-Butylbenzene	20.11	119	111007	0.897	ng	99
100) n-Butylbenzene	20.85	91	119734	0.924	ng	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012021.D Vial: 13
Acq On : 1 May 2020 15:51 Operator: LH
Sample : 1.0ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-05012002 (5/30)

Quant Time: May 01 17:26:14 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012022.D Vial: 2
Acq On : 1 May 2020 16:25 Operator: LH
Sample : 5.0ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 17:26:16 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	303798	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.27	114	1318017	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	623963	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	517657	12.342	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.72%				
57) Toluene-d8 (SS2)	15.72	98	1308528	11.889	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.12%				
73) Bromofluorobenzene (SS3)	18.98	174	490919	12.554	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.40%				
Target Compounds							Qvalue
2) Propene	4.09	42	193048	5.934	ng		100
3) Dichlorodifluoromethan...	4.25	85	387745	5.637	ng		100
4) Chloromethane	4.52	50	303525	5.594	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	222610	5.132	ng		100
6) Vinyl Chloride	4.94	62	339270	5.907	ng		100
7) 1,3-Butadiene	5.21	54	276281	6.430	ng		99
8) Bromomethane	5.64	94	169682	5.863	ng		98
9) Chloroethane	5.97	64	129957	5.865	ng		100
10) Ethanol	6.35	45	691643	27.117	ng		100
11) Acetonitrile	6.60	41	322707	5.712	ng		100
12) Acrolein	6.78	56	114887	6.125	ng		99
13) Acetone	6.99	58	718205	28.778	ng		93
14) Trichlorofluoromethane	7.24	101	330361	5.469	ng		100
15) 2-Propanol (Isopropanol)	7.50	45	953934	12.829	ng		99
16) Acrylonitrile	7.75	53	241513	6.410	ng		100
17) 1,1-Dichloroethene	8.19	96	176135	5.860	ng		97
18) 2-Methyl-2-Propanol (t...	8.36	59	939029	14.278	ng		99
19) Methylene Chloride	8.42	84	189273	5.818	ng		97
20) 3-Chloro-1-propene (Al...	8.58	41	281181	6.602	ng		99
21) Trichlorotrifluoroethane	8.84	151	159827	5.511	ng		97
22) Carbon Disulfide	8.68	76	697922	5.971	ng		100
23) trans-1,2-Dichloroethene	9.70	61	269106	6.148	ng		99
24) 1,1-Dichloroethane	9.95	63	324467	5.829	ng		100
25) Methyl tert-Butyl Ether	10.05	73	520731	5.850	ng		100
26) Vinyl Acetate	10.21	86	230843	27.513	ng	#	86
27) 2-Butanone (MEK)	10.45	72	129697	6.298	ng		97
28) cis-1,2-Dichloroethene	10.97	61	259456	5.737	ng		98
29) Diisopropyl Ether	11.27	87	191800	5.871	ng	#	79
30) Ethyl Acetate	11.27	61	149560	12.310	ng		98
31) n-Hexane	11.26	57	314981	5.592	ng		99
32) Chloroform	11.31	83	340357	5.661	ng		99
34) Tetrahydrofuran (THF)	11.72	72	126370	5.930	ng		99
35) Ethyl tert-Butyl Ether	11.86	87	221593	5.751	ng		97
36) 1,2-Dichloroethane	12.11	62	265122	5.640	ng		100
38) 1,1,1-Trichloroethane	12.40	97	293872	5.672	ng		100
39) Isopropyl Acetate	12.83	61	250912	11.741	ng	#	94
40) 1-Butanol	12.84	56	336318	10.073	ng		93
41) Benzene	12.87	78	763486	5.631	ng		100
42) Carbon Tetrachloride	13.03	117	266893	5.707	ng		100
43) Cyclohexane	13.17	84	572113	10.975	ng		100
44) tert-Amyl Methyl Ether	13.52	73	541195	6.112	ng		99
45) 1,2-Dichloropropane	13.73	63	186128	5.938	ng		99
46) Bromodichloromethane	13.92	83	271708	5.892	ng		100
47) Trichloroethene	13.97	130	200472	5.185	ng		100
48) 1,4-Dioxane	13.95	88	156033	5.899	ng		100
49) 2,2,4-Trimethylpentane...	14.04	57	772648	5.931	ng		99
50) Methyl Methacrylate	14.18	100	156609	11.977	ng		97

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012022.D Vial: 2
Acq On : 1 May 2020 16:25 Operator: LH
Sample : 5.0ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 17:26:16 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

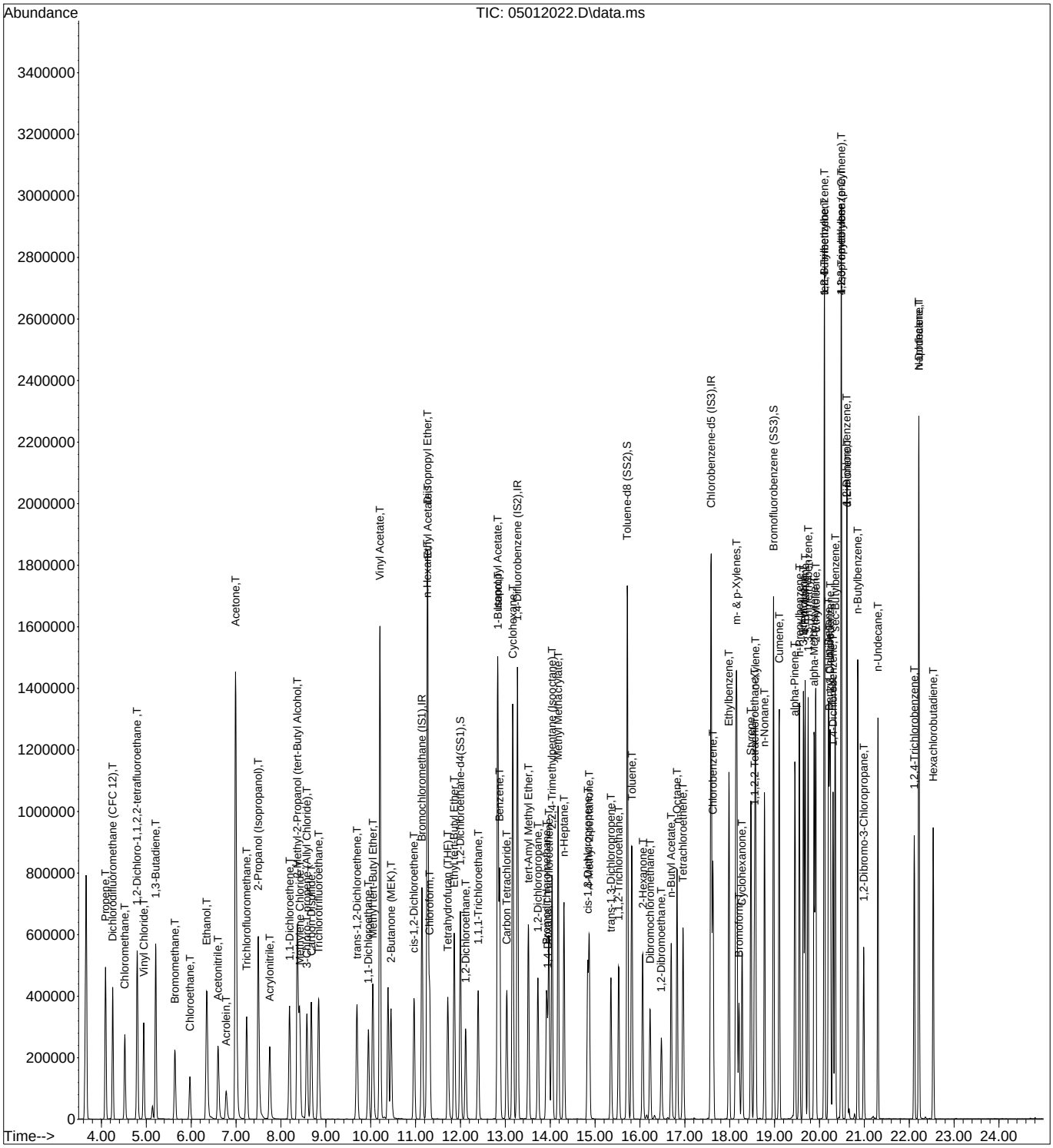
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	180946	5.706 ng	99
52) cis-1,3-Dichloropropene	14.84	75	308293	6.105 ng	100
53) 4-Methyl-2-pentanone	14.87	58	175513	6.138 ng	97
54) trans-1,3-Dichloropropene	15.35	75	277438	5.899 ng	100
55) 1,1,2-Trichloroethane	15.52	97	182608	5.786 ng	99
58) Toluene	15.82	91	751701	5.508 ng	100
59) 2-Hexanone	16.06	43	431067	6.262 ng	99
60) Dibromochloromethane	16.23	129	222764	6.086 ng	99
61) 1,2-Dibromoethane	16.48	107	211443	6.008 ng	100
62) n-Butyl Acetate	16.70	43	477782	6.493 ng	100
63) n-Octane	16.83	57	155673	5.704 ng	100
64) Tetrachloroethene	16.96	166	201840	5.271 ng	100
65) Chlorobenzene	17.62	112	499525	5.435 ng	100
66) Ethylbenzene	17.98	91	871724	5.827 ng	99
67) m- & p-Xylenes	18.15	91	1368621	11.288 ng	100
68) Bromoform	18.21	173	189068	5.768 ng	100
69) Styrene	18.47	104	536906	5.670 ng	100
70) o-Xylene	18.58	91	693423	5.713 ng	100
71) n-Nonane	18.77	43	370451	6.012 ng	98
72) 1,1,2,2-Tetrachloroethane	18.55	83	346585	5.910 ng	100
74) Cumene	19.10	105	885174	5.792 ng	99
75) alpha-Pinene	19.45	93	454351	5.834 ng	100
76) n-Propylbenzene	19.55	91	1076654	6.015 ng	99
77) 3-Ethyltoluene	19.64	105	836770	5.500 ng	95
78) 4-Ethyltoluene	19.68	105	882656	6.121 ng	95
79) 1,3,5-Trimethylbenzene	19.75	105	715909	5.552 ng	99
80) alpha-Methylstyrene	19.88	118	385478	5.515 ng	100
81) 2-Ethyltoluene	19.92	105	858573	5.755 ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	751354	5.662 ng	98
83) n-Decane	20.20	57	376639	5.759 ng	99
84) Benzyl Chloride	20.23	91	614231	5.773 ng	99
85) 1,3-Dichlorobenzene	20.24	146	434270	6.049 ng	100
86) 1,4-Dichlorobenzene	20.30	146	427551	5.990 ng	100
87) sec-Butylbenzene	20.35	105	969884	5.855 ng	99
88) 4-Isopropyltoluene (p-...	20.48	119	928906	5.944 ng	98
89) 1,2,3-Trimethylbenzene	20.48	105	769774	5.787 ng	98
90) 1,2-Dichlorobenzene	20.61	146	419115	5.732 ng	100
91) d-Limonene	20.62	68	288464	5.570 ng	99
92) 1,2-Dibromo-3-Chloropr...	20.98	157	148727	5.940 ng	97
93) n-Undecane	21.30	57	365721	5.450 ng	100
94) 1,2,4-Trichlorobenzene	22.11	180	270469	5.951 ng	99
95) Naphthalene	22.22	128	892593	5.833 ng	100
96) n-Dodecane	22.22	57	324655	4.939 ng	99
97) Hexachlorobutadiene	22.54	225	164461	4.774 ng	100
98) Cyclohexanone	18.27	55	245365	5.243 ng	99
99) tert-Butylbenzene	20.11	119	727041	5.643 ng	100
100) n-Butylbenzene	20.85	91	778801	5.771 ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012022.D Vial: 2
Acq On : 1 May 2020 16:25 Operator: LH
Sample : 5.0ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 17:26:16 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012023.D Vial: 2
Acq On : 1 May 2020 16:59 Operator: LH
Sample : 25ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 17:26:18 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	286303	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	13.28	114	1228912	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	571123	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.01	65	468097	11.843	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.72%			
57) Toluene-d8 (SS2)	15.72	98	1212242	12.033	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.24%			
73) Bromofluorobenzene (SS3)	18.98	174	458310	12.805	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.40%			
Target Compounds						Qvalue
2) Propene	4.09	42	894762	29.187	ng	100
3) Dichlorodifluoromethan...	4.25	85	1661240	25.625	ng	100
4) Chloromethane	4.53	50	1331334	26.035	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	962170	23.538	ng	100
6) Vinyl Chloride	4.94	62	1452200	26.828	ng	100
7) 1,3-Butadiene	5.21	54	1192249	29.444	ng	100
8) Bromomethane	5.65	94	769909	28.228	ng	100
9) Chloroethane	5.98	64	583429	27.941	ng	100
10) Ethanol	6.39	45	3316498	137.974	ng	100
11) Acetonitrile	6.63	41	1485800	27.907	ng	100
12) Acrolein	6.80	56	518321	29.321	ng	100
13) Acetone	7.01	58	3451253	146.739	ng	100
14) Trichlorofluoromethane	7.24	101	1489634	26.165	ng	100
15) 2-Propanol (Isopropanol)	7.53	45	4218436	60.200	ng	100
16) Acrylonitrile	7.77	53	1099575	30.969	ng	100
17) 1,1-Dichloroethene	8.20	96	811190	28.639	ng	100
18) 2-Methyl-2-Propanol (t...	8.39	59	3958148	63.861	ng	100
19) Methylene Chloride	8.44	84	868569	28.330	ng	100
20) 3-Chloro-1-propene (Al...	8.59	41	1253954	31.243	ng	100
21) Trichlorotrifluoroethane	8.84	151	743004	27.185	ng	100
22) Carbon Disulfide	8.69	76	3145335	28.555	ng	100
23) trans-1,2-Dichloroethene	9.71	61	1224632	29.687	ng	100
24) 1,1-Dichloroethane	9.96	63	1485162	28.313	ng	100
25) Methyl tert-Butyl Ether	10.05	73	2185564	26.052	ng	100
26) Vinyl Acetate	10.22	86	1147538	145.128	ng	100
27) 2-Butanone (MEK)	10.46	72	578422	29.805	ng	100
28) cis-1,2-Dichloroethene	10.98	61	1170190	27.455	ng	100
29) Diisopropyl Ether	11.27	87	816119	26.509	ng	100
30) Ethyl Acetate	11.28	61	740753	64.696	ng	100
31) n-Hexane	11.26	57	1536846	28.951	ng	100
32) Chloroform	11.32	83	1513438	26.712	ng	100
34) Tetrahydrofuran (THF)	11.72	72	562319	27.999	ng	100
35) Ethyl tert-Butyl Ether	11.87	87	1027494	28.295	ng	100
36) 1,2-Dichloroethane	12.12	62	1181488	26.670	ng	100
38) 1,1,1-Trichloroethane	12.40	97	1349990	27.947	ng	100
39) Isopropyl Acetate	12.84	61	1233560	61.905	ng	100
40) 1-Butanol	12.85	56	1704801	54.762	ng	100
41) Benzene	12.88	78	3498072	27.670	ng	100
42) Carbon Tetrachloride	13.04	117	1221860	28.021	ng	100
43) Cyclohexane	13.17	84	2724355	56.049	ng	100
44) tert-Amyl Methyl Ether	13.52	73	2480433	30.042	ng	100
45) 1,2-Dichloropropane	13.73	63	842781	28.835	ng	100
46) Bromodichloromethane	13.92	83	1270274	29.545	ng	100
47) Trichloroethene	13.97	130	932766	25.873	ng	100
48) 1,4-Dioxane	13.95	88	738598	29.950	ng	100
49) 2,2,4-Trimethylpentane...	14.05	57	3492402	28.751	ng	100
50) Methyl Methacrylate	14.18	100	756519	62.050	ng	100

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012023.D Vial: 2
Acq On : 1 May 2020 16:59 Operator: LH
Sample : 25ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 17:26:18 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

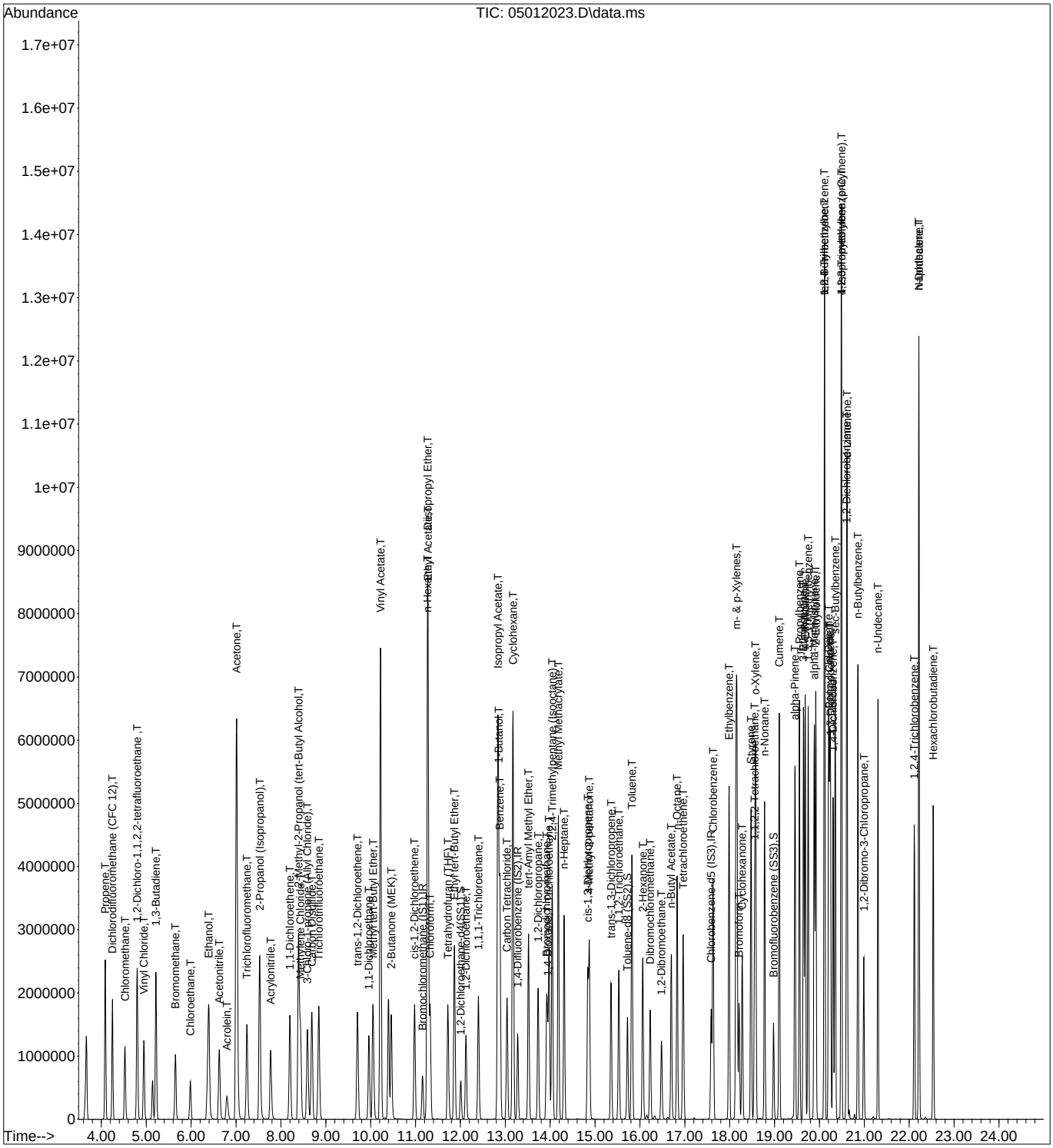
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	823934	27.865 ng	100
52) cis-1,3-Dichloropropene	14.84	75	1447687	30.747 ng	100
53) 4-Methyl-2-pentanone	14.87	58	811075	30.423 ng	100
54) trans-1,3-Dichloropropene	15.36	75	1324553	30.205 ng	100
55) 1,1,2-Trichloroethane	15.53	97	843984	28.682 ng	100
58) Toluene	15.82	91	3424256	27.410 ng	100
59) 2-Hexanone	16.06	43	1935226	30.714 ng	100
60) Dibromochloromethane	16.23	129	1060385	31.652 ng	100
61) 1,2-Dibromoethane	16.48	107	982343	30.496 ng	100
62) n-Butyl Acetate	16.70	43	2168912	32.203 ng	100
63) n-Octane	16.83	57	728475	29.163 ng	100
64) Tetrachloroethene	16.96	166	984776	28.099 ng	100
65) Chlorobenzene	17.63	112	2300188	27.341 ng	100
66) Ethylbenzene	17.99	91	4049520	29.572 ng	100
67) m- & p-Xylenes	18.15	91	6491657	58.495 ng	100
68) Bromoform	18.21	173	917591	30.583 ng	100
69) Styrene	18.48	104	2503836	28.891 ng	100
70) o-Xylene	18.58	91	3253541	29.284 ng	100
71) n-Nonane	18.78	43	1726340	30.608 ng	100
72) 1,1,2,2-Tetrachloroethane	18.55	83	1616722	30.117 ng	100
74) Cumene	19.10	105	4096128	29.280 ng	100
75) alpha-Pinene	19.46	93	2182133	30.613 ng	100
76) n-Propylbenzene	19.56	91	4975591	30.367 ng	100
77) 3-Ethyltoluene	19.64	105	4101218	29.451 ng	100
78) 4-Ethyltoluene	19.68	105	3906607	29.596 ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	3353822	28.417 ng	100
80) alpha-Methylstyrene	19.88	118	1815476	28.379 ng	100
81) 2-Ethyltoluene	19.92	105	3976342	29.119 ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3727437	30.689 ng	100
83) n-Decane	20.20	57	1854354	30.977 ng	100
84) Benzyl Chloride	20.23	91	3206821	32.930 ng	100
85) 1,3-Dichlorobenzene	20.25	146	2028248	30.866 ng	100
86) 1,4-Dichlorobenzene	20.30	146	1980369	30.311 ng	100
87) sec-Butylbenzene	20.35	105	4443941	29.308 ng	100
88) 4-Isopropyltoluene (p-...	20.49	119	4416603	30.875 ng	100
89) 1,2,3-Trimethylbenzene	20.49	105	3810515	31.296 ng	100
90) 1,2-Dichlorobenzene	20.61	146	2012317	30.068 ng	100
91) d-Limonene	20.62	68	1441613	30.414 ng	100
92) 1,2-Dibromo-3-Chloropr...	20.99	157	697199	30.419 ng	100
93) n-Undecane	21.30	57	1818070	29.597 ng	100
94) 1,2,4-Trichlorobenzene	22.11	180	1398370	33.614 ng	100
95) Naphthalene	22.22	128	4546028	32.455 ng	100
96) n-Dodecane	22.22	57	1750966	29.104 ng	100
97) Hexachlorobutadiene	22.54	225	878145	27.851 ng	100
98) Cyclohexanone	18.28	55	1117925	26.097 ng	100
99) tert-Butylbenzene	20.11	119	3489996	29.594 ng	100
100) n-Butylbenzene	20.86	91	3625532	29.353 ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012023.D Vial: 2
Acq On : 1 May 2020 16:59 Operator: LH
Sample : 25ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 17:26:18 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012024.D Vial: 2
Acq On : 1 May 2020 17:33 Operator: LH
Sample : 50ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 18:21:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:29:13 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	296329	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.28	114	1261474	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	593519	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.01	65	478735	11.900	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.20%				
57) Toluene-d8 (SS2)	15.72	98	1240425	12.243	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.92%				
73) Bromofluorobenzene (SS3)	18.98	174	464734	12.717	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.76%				
Target Compounds							Qvalue
2) Propene	4.09	42	1796953	52.860	ng		99
3) Dichlorodifluoromethan...	4.25	85	3187990	47.567	ng		100
4) Chloromethane	4.53	50	2729050	52.530	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	1935925	47.940	ng		100
6) Vinyl Chloride	4.96	62	2887895	50.326	ng		100
7) 1,3-Butadiene	5.22	54	2393303	50.778	ng		99
8) Bromomethane	5.66	94	1618002	53.561	ng		100
9) Chloroethane	5.99	64	1229227	54.539	ng		99
10) Ethanol	6.42	45	7106079	270.958	ng		100
11) Acetonitrile	6.64	41	3034898	50.934	ng		100
12) Acrolein	6.81	56	1054165	50.758	ng		100
13) Acetone	7.03	58	7450473	282.417	ng	#	85
14) Trichlorofluoromethane	7.25	101	3028815	50.994	ng		100
15) 2-Propanol (Isopropanol)	7.55	45	7855441	98.616	ng		99
16) Acrylonitrile	7.78	53	2274854	52.994	ng		100
17) 1,1-Dichloroethene	8.21	96	1662670	53.624	ng		99
18) 2-Methyl-2-Propanol (t...	8.41	59	5524708	78.677	ng		100
19) Methylene Chloride	8.44	84	1782729	52.018	ng		100
20) 3-Chloro-1-propene (Al...	8.60	41	2606826	55.998	ng		100
21) Trichlorotrifluoroethane	8.85	151	1546599	55.362	ng		98
22) Carbon Disulfide	8.69	76	6372275	51.854	ng		100
23) trans-1,2-Dichloroethene	9.71	61	2513808	53.485	ng		99
24) 1,1-Dichloroethane	9.96	63	3010944	53.864	ng		100
25) Methyl tert-Butyl Ether	10.05	73	4149230	46.527	ng		100
26) Vinyl Acetate	10.23	86	2491407	314.423	ng	#	57
27) 2-Butanone (MEK)	10.47	72	1200800	53.091	ng		100
28) cis-1,2-Dichloroethene	10.98	61	2420682	52.524	ng		99
29) Diisopropyl Ether	11.27	87	1723473	53.021	ng	#	93
30) Ethyl Acetate	11.28	61	1642236	125.490	ng		100
31) n-Hexane	11.26	57	3312834	58.268	ng		100
32) Chloroform	11.33	83	3125242	52.888	ng		100
34) Tetrahydrofuran (THF)	11.72	72	1166647	53.025	ng		100
35) Ethyl tert-Butyl Ether	11.87	87	2150206	55.497	ng		100
36) 1,2-Dichloroethane	12.13	62	2421427	51.847	ng		100
38) 1,1,1-Trichloroethane	12.40	97	2767260	54.541	ng		100
39) Isopropyl Acetate	12.84	61	2703577	121.791	ng	#	89
40) 1-Butanol	12.86	56	3801241	117.283	ng		94
41) Benzene	12.88	78	7578608	55.786	ng		100
42) Carbon Tetrachloride	13.04	117	2525594	54.795	ng		100
43) Cyclohexane	13.18	84	5820559	114.692	ng		99
44) tert-Amyl Methyl Ether	13.52	73	5201775	57.533	ng		99
45) 1,2-Dichloropropane	13.73	63	1741280	55.926	ng		99
46) Bromodichloromethane	13.92	83	2627252	57.456	ng		100
47) Trichloroethene	13.98	130	1973429	56.342	ng		100
48) 1,4-Dioxane	13.95	88	1556720	57.092	ng		99
49) 2,2,4-Trimethylpentane...	14.05	57	7264805	55.532	ng		98
50) Methyl Methacrylate	14.19	100	1612357	118.946	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012024.D Vial: 2
Acq On : 1 May 2020 17:33 Operator: LH
Sample : 50ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 18:21:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:29:13 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

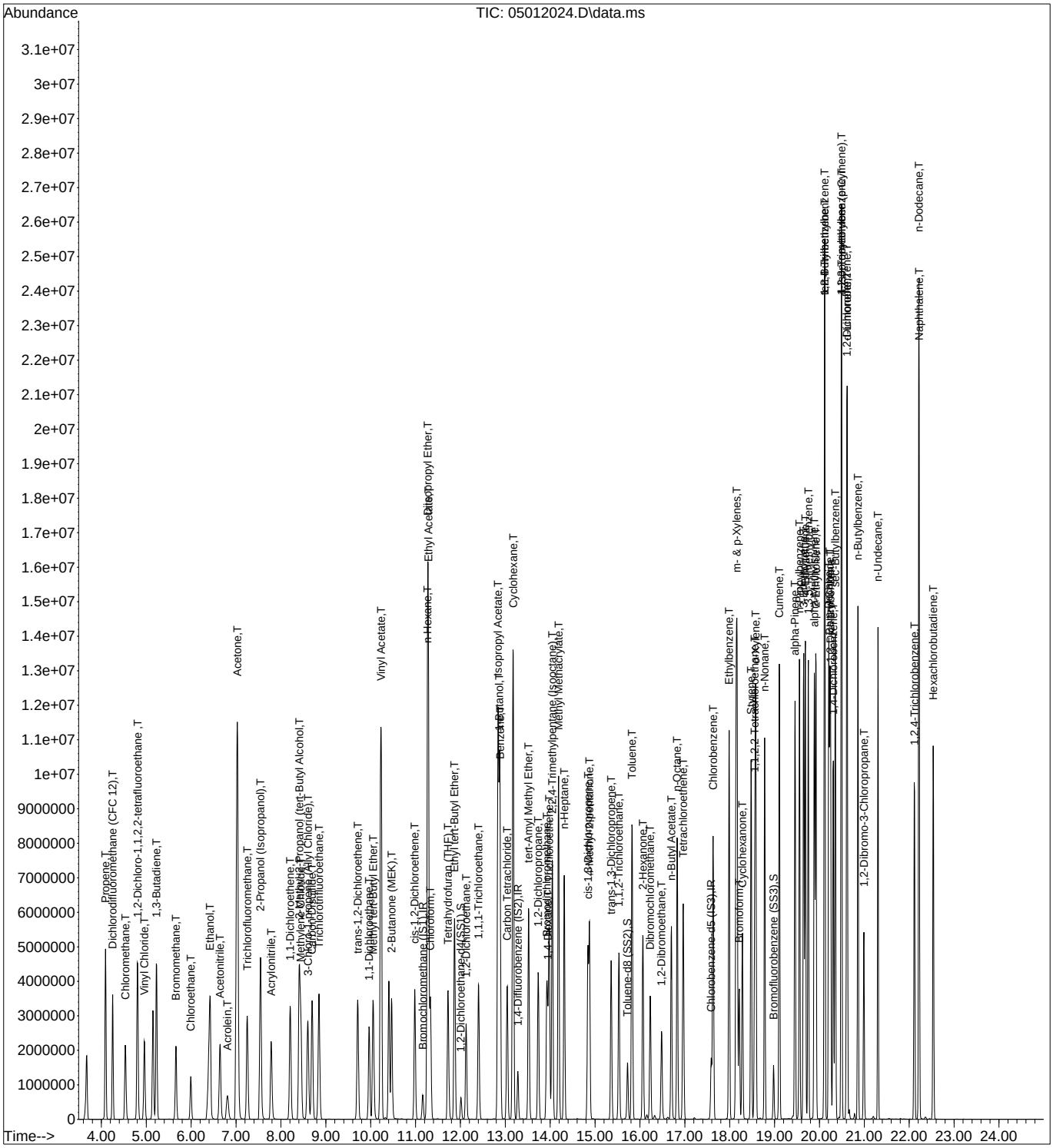
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	1767254	55.726	ng	100
52) cis-1,3-Dichloropropene	14.84	75	3046439	56.787	ng	100
53) 4-Methyl-2-pentanone	14.88	58	1706203	56.697	ng	99
54) trans-1,3-Dichloropropene	15.36	75	2784226	60.799	ng	100
55) 1,1,2-Trichloroethane	15.53	97	1746966	56.334	ng	99
58) Toluene	15.82	91	7061705	54.313	ng	99
59) 2-Hexanone	16.06	43	4070739	57.784	ng	99
60) Dibromochloromethane	16.23	129	2194267	59.071	ng	100
61) 1,2-Dibromoethane	16.48	107	2025699	56.837	ng	100
62) n-Butyl Acetate	16.70	43	4530163	59.421	ng	99
63) n-Octane	16.83	57	1570654	58.903	ng	100
64) Tetrachloroethene	16.97	166	2068921	56.346	ng	100
65) Chlorobenzene	17.63	112	4832830	53.780	ng	100
66) Ethylbenzene	17.99	91	8386382	57.841	ng	99
67) m- & p-Xylenes	18.16	91	13925432	121.021	ng	98
68) Bromoform	18.21	173	1918060	63.108	ng	100
69) Styrene	18.48	104	5183954	59.571	ng	99
70) o-Xylene	18.58	91	6807386	58.156	ng	100
71) n-Nonane	18.78	43	3697140	60.502	ng	98
72) 1,1,2,2-Tetrachloroethane	18.56	83	3397226	58.901	ng	100
74) Cumene	19.10	105	8370559	58.039	ng	99
75) alpha-Pinene	19.46	93	4559119	59.324	ng	99
76) n-Propylbenzene	19.56	91	10009459	58.692	ng	98
77) 3-Ethyltoluene	19.65	105	8132559	58.352	ng	99
78) 4-Ethyltoluene	19.69	105	8156559	59.940	ng	99
79) 1,3,5-Trimethylbenzene	19.75	105	6870991	58.237	ng	99
80) alpha-Methylstyrene	19.89	118	3732298	60.194	ng	98
81) 2-Ethyltoluene	19.92	105	8070320	58.450	ng	99
82) 1,2,4-Trimethylbenzene	20.12	105	7311702	61.264	ng	100
83) n-Decane	20.20	57	4092282	67.333	ng	100
84) Benzyl Chloride	20.23	91	6890327	76.746	ng	99
85) 1,3-Dichlorobenzene	20.25	146	4163439	60.293	ng	100
86) 1,4-Dichlorobenzene	20.31	146	4017198	59.763	ng	100
87) sec-Butylbenzene	20.35	105	8855378	57.530	ng	98
88) 4-Isopropyltoluene (p-...	20.49	119	8351171	59.057	ng	98
89) 1,2,3-Trimethylbenzene	20.49	105	7426933	62.512	ng	99
90) 1,2-Dichlorobenzene	20.61	146	4049033	60.984	ng	100
91) d-Limonene	20.62	68	3089607	66.195	ng	98
92) 1,2-Dibromo-3-Chloropr...	20.99	157	1448206	64.485	ng	98
93) n-Undecane	21.30	57	4012904	76.685	ng	100
94) 1,2,4-Trichlorobenzene	22.12	180	3005308	77.697	ng	99
95) Naphthalene	22.22	128	9089253	72.417	ng	99
96) n-Dodecane	22.22	57	3837089	87.820	ng	99
97) Hexachlorobutadiene	22.54	225	1927632	64.992	ng	100
98) Cyclohexanone	18.28	55	2325790	50.761	ng	99
99) tert-Butylbenzene	20.12	119	6753035	57.139	ng	100
100) n-Butylbenzene	20.86	91	7324522	61.000	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012024.D Vial: 2
Acq On : 1 May 2020 17:33 Operator: LH
Sample : 50ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 18:21:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:29:13 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012025.D Vial: 2
Acq On : 1 May 2020 18:07 Operator: LH
Sample : 100ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 18:32:42 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/1/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	307101	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.29	114	1302649	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	623928	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	496605	11.932	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.44%				
57) Toluene-d8 (SS2)	15.73	98	1277690	12.082	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.64%				
73) Bromofluorobenzene (SS3)	18.98	174	482815	12.688	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.52%				
Target Compounds							Qvalue
2) Propene	4.09	42	2805564	78.878	ng		99
3) Dichlorodifluoromethan...	4.25	85	5430136	78.055	ng		99
4) Chloromethane	4.53	50	5012802	91.976	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	3608284	86.813	ng		100
6) Vinyl Chloride	4.96	62	5582487	93.407	ng		100
7) 1,3-Butadiene	5.24	54	4618053	93.386	ng		97
8) Bromomethane	5.67	94	3307082	104.747	ng		100
9) Chloroethane	6.00	64	2534746	107.357	ng		100
10) Ethanol	6.47	45	15131456	550.944	ng		99
11) Acetonitrile	6.67	41	6424952	102.369	ng		100
12) Acrolein	6.82	56	2202179	101.477	ng		100
13) Acetone	7.05	58	15042025	547.644	ng	#	56
14) Trichlorofluoromethane	7.25	101	6310121	102.633	ng		100
15) 2-Propanol (Isopropanol)	7.58	45	15078880	181.384	ng		98
16) Acrylonitrile	7.80	53	4844904	107.901	ng		100
17) 1,1-Dichloroethene	8.22	96	3526226	109.408	ng		99
18) 2-Methyl-2-Propanol (t...	8.43	59	5971963	83.578	ng		99
19) Methylene Chloride	8.45	84	3794776	106.281	ng		99
20) 3-Chloro-1-propene (Al...	8.61	41	5538474	112.906	ng		99
21) Trichlorotrifluoroethane	8.85	151	3229354	111.251	ng		98
22) Carbon Disulfide	8.71	76	13073755	102.186	ng		99
23) trans-1,2-Dichloroethene	9.72	61	5348726	108.987	ng		100
24) 1,1-Dichloroethane	9.97	63	6355885	109.091	ng		100
25) Methyl tert-Butyl Ether	10.06	73	6522340	71.172	ng		99
26) Vinyl Acetate	10.25	86	4839363	598.679	ng	#	3
27) 2-Butanone (MEK)	10.48	72	2544981	108.649	ng		97
28) cis-1,2-Dichloroethene	10.99	61	5160701	107.507	ng		99
29) Diisopropyl Ether	11.28	87	3334523	100.633	ng	#	74
30) Ethyl Acetate	11.30	61	3181460	235.544	ng		97
31) n-Hexane	11.26	57	6466041	110.371	ng		100
32) Chloroform	11.34	83	6496904	106.280	ng		100
34) Tetrahydrofuran (THF)	11.73	72	2481850	108.635	ng		99
35) Ethyl tert-Butyl Ether	11.87	87	4598768	114.847	ng		98
36) 1,2-Dichloroethane	12.13	62	5046702	104.202	ng		100
38) 1,1,1-Trichloroethane	12.41	97	5801042	110.565	ng		100
39) Isopropyl Acetate	12.85	61	5612819	244.569	ng	#	65
40) 1-Butanol	12.88	56	7686632	235.415	ng		89
41) Benzene	12.89	78	15377837	110.081	ng		99
42) Carbon Tetrachloride	13.04	117	5341272	112.408	ng		99
43) Cyclohexane	13.18	84	11703238	224.817	ng		99
44) tert-Amyl Methyl Ether	13.52	73	10906653	116.431	ng		98
45) 1,2-Dichloropropane	13.74	63	3747744	115.837	ng		100
46) Bromodichloromethane	13.93	83	5488917	116.263	ng		100
47) Trichloroethene	13.98	130	4190784	116.061	ng		99
48) 1,4-Dioxane	13.96	88	3428858	121.871	ng		97
49) 2,2,4-Trimethylpentane...	14.05	57	14950897	109.987	ng		97
50) Methyl Methacrylate	14.19	100	3386785	244.382	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012025.D Vial: 2
Acq On : 1 May 2020 18:07 Operator: LH
Sample : 100ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 18:32:42 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

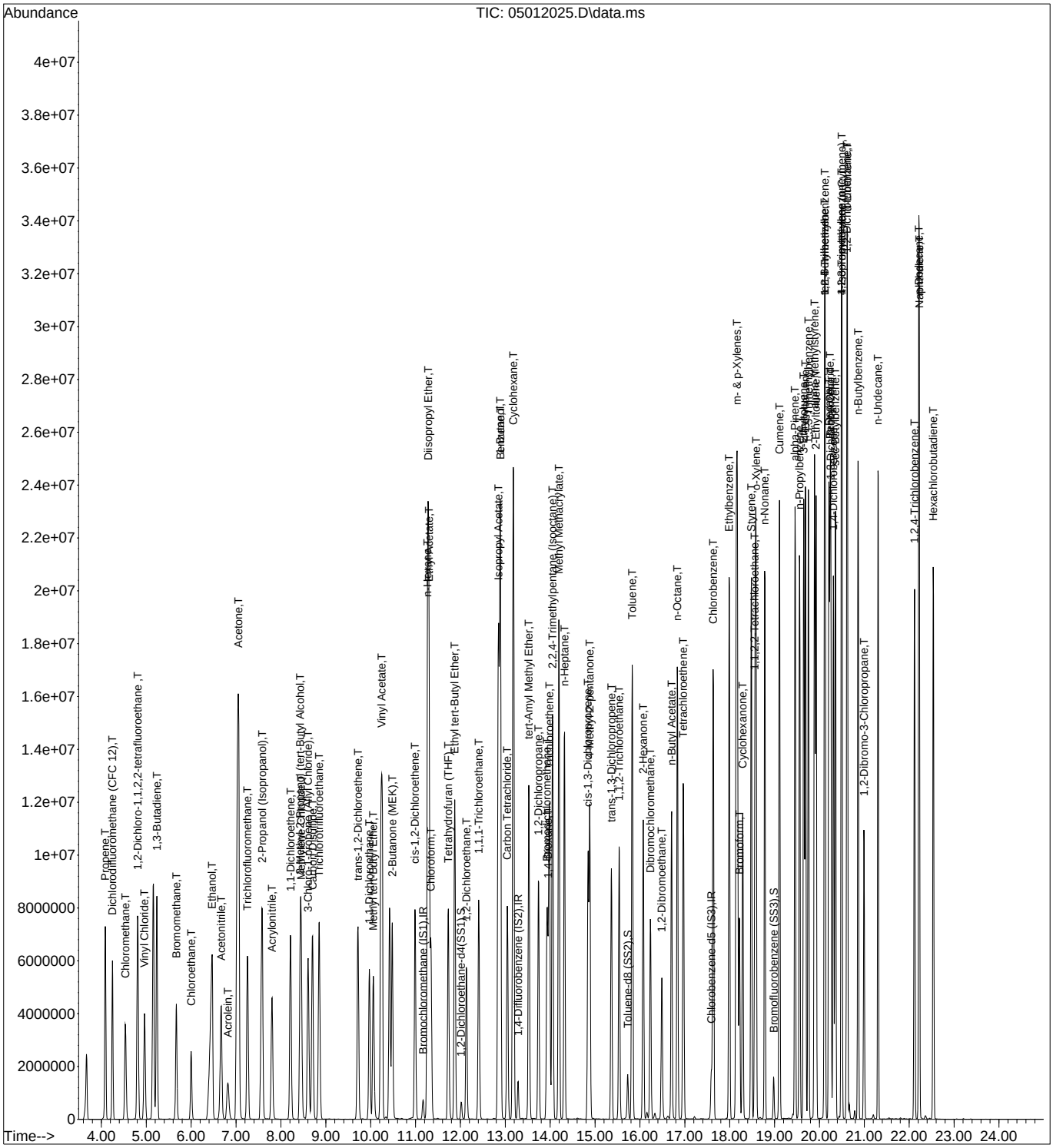
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.32	71	3860770	118.183	ng	99
52) cis-1,3-Dichloropropene	14.84	75	6512364	117.244	ng	99
53) 4-Methyl-2-pentanone	14.88	58	3720592	119.475	ng	94
54) trans-1,3-Dichloropropene	15.36	75	5980136	125.830	ng	100
55) 1,1,2-Trichloroethane	15.54	97	3694486	115.151	ng	98
58) Toluene	15.83	91	14122055	103.594	ng	97
59) 2-Hexanone	16.07	43	8538604	114.309	ng	97
60) Dibromochloromethane	16.23	129	4599117	117.821	ng	98
61) 1,2-Dibromoethane	16.49	107	4236452	112.921	ng	99
62) n-Butyl Acetate	16.71	43	9464801	117.306	ng	97
63) n-Octane	16.83	57	3422153	121.258	ng	99
64) Tetrachloroethene	16.96	166	4251324	110.411	ng	98
65) Chlorobenzene	17.63	112	10058959	107.240	ng	99
66) Ethylbenzene	17.99	91	15775647	103.782	ng	94
67) m- & p-Xylenes	18.16	91	24994911	207.270	ng	97
68) Bromoform	18.22	173	4017610	126.792	ng	100
69) Styrene	18.48	104	10371248	114.347	ng	96
70) o-Xylene	18.59	91	13044798	106.553	ng	98
71) n-Nonane	18.78	43	7415015	114.154	ng	95
72) 1,1,2,2-Tetrachloroethane	18.56	83	6995233	115.177	ng	100
74) Cumene	19.11	105	14928599	99.362	ng	93
75) alpha-Pinene	19.46	93	9103677	113.559	ng	97
76) n-Propylbenzene	19.56	91	16348034	91.592	ng	88
77) 3-Ethyltoluene	19.65	105	15320091	105.349	ng	94
78) 4-Ethyltoluene	19.69	105	13577066	96.220	ng	91
79) 1,3,5-Trimethylbenzene	19.75	105	12866248	105.014	ng	96
80) alpha-Methylstyrene	19.89	118	7332836	114.848	ng	89
81) 2-Ethyltoluene	19.92	105	14549504	101.431	ng	94
82) 1,2,4-Trimethylbenzene	20.12	105	11677289	94.825	ng	99
83) n-Decane	20.21	57	7901549	123.258	ng	99
84) Benzyl Chloride	20.24	91	12745970	134.347	ng	96
85) 1,3-Dichlorobenzene	20.25	146	7870539	110.067	ng	99
86) 1,4-Dichlorobenzene	20.31	146	7896122	113.154	ng	100
87) sec-Butylbenzene	20.36	105	15000490	93.840	ng	91
88) 4-Isopropyltoluene (p-...	20.50	119	12758034	87.765	ng	95
89) 1,2,3-Trimethylbenzene	20.49	105	11655993	95.082	ng	99
90) 1,2-Dichlorobenzene	20.61	146	7018237	102.510	ng	100
91) d-Limonene	20.62	68	5329834	109.584	ng	99
92) 1,2-Dibromo-3-Chloropr...	21.00	157	2996254	126.618	ng	94
93) n-Undecane	21.30	57	7881239	143.443	ng	98
94) 1,2,4-Trichlorobenzene	22.12	180	6156917	147.306	ng	99
95) Naphthalene	22.23	128	14689712	111.271	ng	97
96) n-Dodecane	22.22	57	6472005	144.069	ng	99
97) Hexachlorobutadiene	22.54	225	3985864	130.408	ng	100
98) Cyclohexanone	18.29	55	4951545	103.767	ng	97
99) tert-Butylbenzene	20.12	119	10982141	90.608	ng	99
100) n-Butylbenzene	20.86	91	12973286	103.470	ng	92

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012025.D Vial: 2
Acq On : 1 May 2020 18:07 Operator: LH
Sample : 100ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 18:32:42 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012026.D Vial: 2
Acq On : 1 May 2020 18:41 Operator: LH
Sample : 25ng TO15 ICV STD Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 01 19:07:38 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/1/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	306012	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.28	114	1305280	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	605237	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	502495	12.117	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.96%				
57) Toluene-d8 (SS2)	15.72	98	1272559	12.405	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.20%				
73) Bromofluorobenzene (SS3)	18.98	174	479316	12.985	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.84%				
Target Compounds							Qvalue
2) Propene	4.08	42	966787	27.278	ng		100
3) Dichlorodifluoromethan...	4.23	85	1760370	25.394	ng		100
4) Chloromethane	4.52	50	1357331	24.993	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.79	135	976267	23.572	ng		100
6) Vinyl Chloride	4.94	62	1467519	24.642	ng		99
7) 1,3-Butadiene	5.21	54	1260843	25.588	ng		100
8) Bromomethane	5.64	94	787063	25.018	ng		99
9) Chloroethane	5.97	64	602406	25.605	ng		99
10) Ethanol	6.38	45	3553289	129.837	ng		100
11) Acetonitrile	6.62	41	1622424	25.942	ng		100
12) Acrolein	6.79	56	555653	25.696	ng		100
13) Acetone	7.01	58	3611891	131.968	ng		99
14) Trichlorofluoromethane	7.24	101	1552897	25.347	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	4510536	54.450	ng		99
16) Acrylonitrile	7.77	53	1180769	26.391	ng		100
17) 1,1-Dichloroethene	8.19	96	847883	26.401	ng		100
18) 2-Methyl-2-Propanol (t...	8.39	59	4343249	56.240	ng		99
19) Methylene Chloride	8.43	84	892462	25.084	ng		99
20) 3-Chloro-1-propene (Al...	8.58	41	1276351	26.112	ng		100
21) Trichlorotrifluoroethane	8.84	151	781006	27.001	ng		99
22) Carbon Disulfide	8.68	76	3274656	25.686	ng		100
23) trans-1,2-Dichloroethene	9.70	61	1280278	26.180	ng		100
24) 1,1-Dichloroethane	9.96	63	1484365	25.568	ng		100
25) Methyl tert-Butyl Ether	10.05	73	2264086	24.794	ng		100
26) Vinyl Acetate	10.22	86	1192344	139.859	ng		100
27) 2-Butanone (MEK)	10.45	72	609878	26.129	ng		99
28) cis-1,2-Dichloroethene	10.98	61	1232559	25.768	ng		100
29) Diisopropyl Ether	11.27	87	824575	24.973	ng	#	95
30) Ethyl Acetate	11.27	61	776633	57.704	ng		100
31) n-Hexane	11.26	57	1581365	27.089	ng		100
32) Chloroform	11.32	83	1591321	26.124	ng		100
34) Tetrahydrofuran (THF)	11.72	72	595371	26.153	ng		100
35) Ethyl tert-Butyl Ether	11.86	87	1068978	26.791	ng		99
36) 1,2-Dichloroethane	12.12	62	1234056	25.571	ng		100
38) 1,1,1-Trichloroethane	12.40	97	1423725	27.081	ng		100
39) Isopropyl Acetate	12.83	61	1293737	56.259	ng		97
40) 1-Butanol	12.85	56	2086238	63.765	ng		94
41) Benzene	12.88	78	3590944	25.654	ng		100
42) Carbon Tetrachloride	13.04	117	1259961	26.463	ng		100
43) Cyclohexane	13.17	84	2795016	53.584	ng		99
44) tert-Amyl Methyl Ether	13.52	73	2599327	27.692	ng		100
45) 1,2-Dichloropropane	13.73	63	867296	26.753	ng		99
46) Bromodichloromethane	13.92	83	1295074	27.376	ng		100
47) Trichloroethene	13.97	130	967338	26.736	ng		100
48) 1,4-Dioxane	13.95	88	775383	27.504	ng		100
49) 2,2,4-Trimethylpentane...	14.04	57	3603157	26.453	ng		100
50) Methyl Methacrylate	14.18	100	775781	55.866	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012026.D Vial: 2
Acq On : 1 May 2020 18:41 Operator: LH
Sample : 25ng TO15 ICV STD Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 01 19:07:38 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

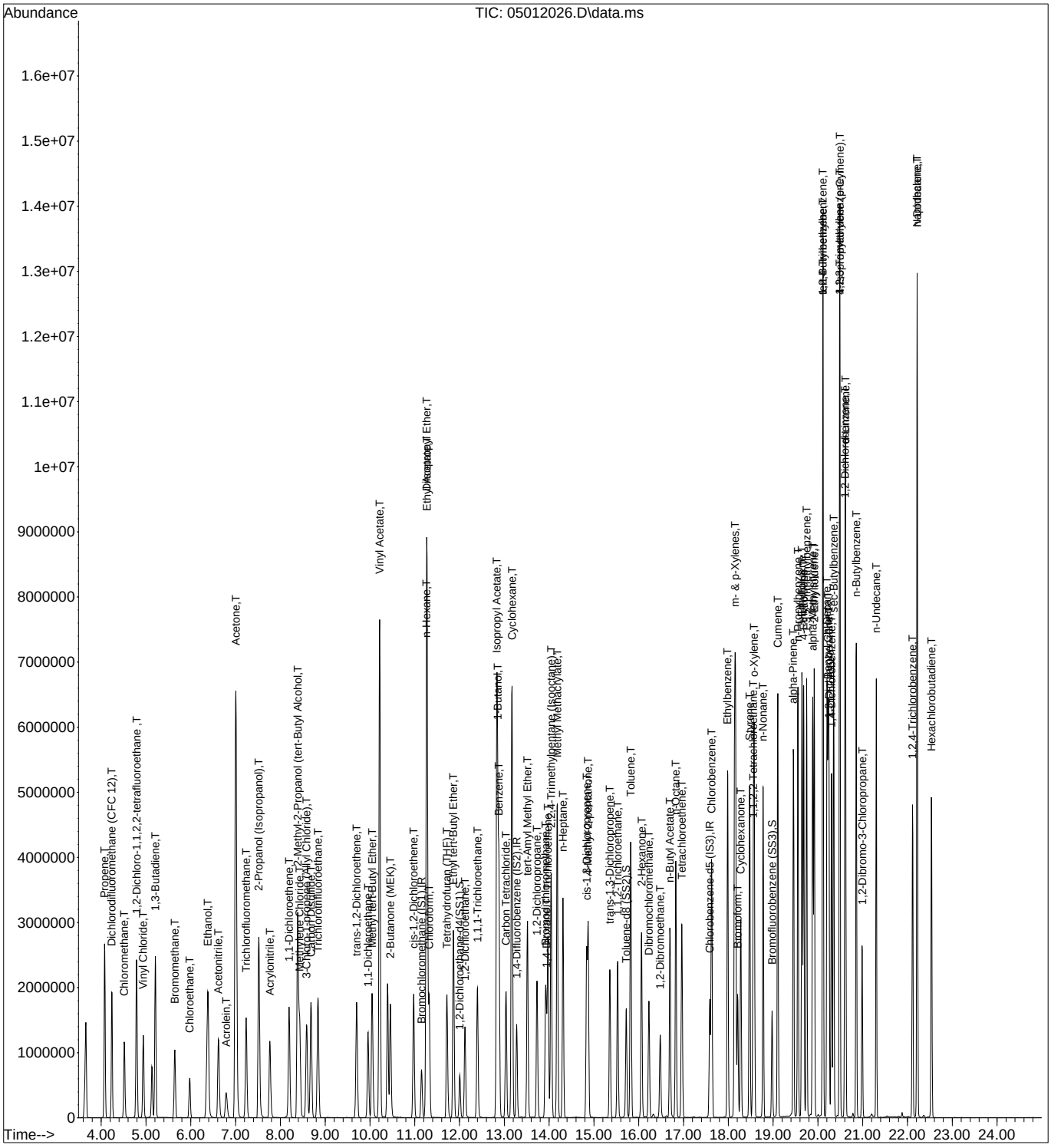
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	851667	26.018	ng	100
52) cis-1,3-Dichloropropene	14.84	75	1585771	28.492	ng	100
53) 4-Methyl-2-pentanone	14.87	58	872253	27.953	ng	100
54) trans-1,3-Dichloropropene	15.35	75	1387054	29.127	ng	100
55) 1,1,2-Trichloroethane	15.53	97	867139	26.973	ng	100
58) Toluene	15.82	91	3509323	26.538	ng	100
59) 2-Hexanone	16.06	43	2142962	29.574	ng	100
60) Dibromochloromethane	16.23	129	1094576	28.907	ng	100
61) 1,2-Dibromoethane	16.48	107	1019112	28.003	ng	100
62) n-Butyl Acetate	16.70	43	2398863	30.649	ng	100
63) n-Octane	16.83	57	741607	27.089	ng	100
64) Tetrachloroethene	16.96	166	1010020	27.041	ng	99
65) Chlorobenzene	17.62	112	2369161	26.038	ng	100
66) Ethylbenzene	17.98	91	4140285	28.079	ng	100
67) m- & p-Xylenes	18.15	91	6646028	56.814	ng	100
68) Bromoform	18.21	173	952116	29.005	ng	100
69) Styrene	18.48	104	2615334	29.726	ng	100
70) o-Xylene	18.58	91	3318680	27.945	ng	100
71) n-Nonane	18.77	43	1768593	28.068	ng	100
72) 1,1,2,2-Tetrachloroethane	18.55	83	1670094	28.347	ng	100
74) Cumene	19.10	105	4140007	28.406	ng	100
75) alpha-Pinene	19.45	93	2192080	28.188	ng	99
76) n-Propylbenzene	19.55	91	5034559	29.078	ng	100
77) 3-Ethyltoluene	19.64	105	4294103	30.440	ng	100
78) 4-Ethyltoluene	19.68	105	3790629	27.694	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	3430468	28.864	ng	100
80) alpha-Methylstyrene	19.88	118	1874877	27.988	ng	100
81) 2-Ethyltoluene	19.92	105	4065181	29.215	ng	99
82) 1,2,4-Trimethylbenzene	20.11	105	3770591	31.564	ng	100
83) n-Decane	20.20	57	1887277	28.242	ng	100
84) Benzyl Chloride	20.23	91	3366173	30.233	ng	100
85) 1,3-Dichlorobenzene	20.25	146	2073075	29.887	ng	100
86) 1,4-Dichlorobenzene	20.30	146	2047327	30.245	ng	100
87) sec-Butylbenzene	20.35	105	4505729	29.057	ng	100
88) 4-Isopropyltoluene (p-...	20.49	119	4352844	29.644	ng	100
89) 1,2,3-Trimethylbenzene	20.48	105	3682695	29.457	ng	100
90) 1,2-Dichlorobenzene	20.61	146	2035560	30.650	ng	100
91) d-Limonene	20.62	68	1446579	30.661	ng	100
92) 1,2-Dibromo-3-Chloropr...	20.99	157	709248	28.322	ng	99
93) n-Undecane	21.30	57	1877490	30.357	ng	99
94) 1,2,4-Trichlorobenzene	22.11	180	1445626	31.384	ng	100
95) Naphthalene	22.22	128	4860431	33.339	ng	100
96) n-Dodecane	22.22	57	1815131	33.896	ng	100
97) Hexachlorobutadiene	22.54	225	900762	28.271	ng	99
98) Cyclohexanone	18.28	55	1308763	28.274	ng	99
99) tert-Butylbenzene	20.11	119	3490399	29.687	ng	100
100) n-Butylbenzene	20.86	91	3725548	30.631	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012026.D Vial: 2
Acq On : 1 May 2020 18:41 Operator: LH
Sample : 25ng TO15 ICV STD Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 01 19:07:38 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



LH 5/1/20

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **05012026.D**
Data File Path: **I:\MS16\DATA\2020_05\01**
Operator: **LH**
Date Acquired: **5/1/2020** **18:41**

Acq. Method File: **TO15.M**
Sample Name: **25ng TO15 ICV STD**
Misc Info: **S31-02112001/S34-04302003 (**
Instrument Name: **GCMS-16**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
2)	**Propene**	**4.08**	**27.3**	26.25	104	**51**	**133**	*	*
3)	**Dichlorodifluoromethane (CFC 1**	**4.23**	**25.4**	**26.25**	97	**64**	**115**	*	*
4)	**Chloromethane**	**4.52**	**25.0**	**26.50**	94	**49**	**127**	*	*
5)	**1,2-Dichloro-1,1,2,2-tetrafluoroet**	**4.79**	**23.6**	**25.75**	92	**65**	**114**	*	*
6)	**Vinyl Chloride**	**4.94**	**24.6**	**26.50**	93	**61**	**129**	*	*
7)	**1,3-Butadiene**	**5.21**	**25.6**	**26.50**	97	**54**	**140**	*	*
8)	**Bromomethane**	**5.64**	**25.0**	**26.50**	94	**68**	**120**	*	*
9)	**Chloroethane**	**5.97**	**25.6**	**26.75**	96	**63**	**123**	*	*
10)	**Ethanol**	**6.38**	**130**	**132.50**	98	**49**	**134**	*	*
11)	**Acetonitrile**	**6.62**	**25.9**	**26.75**	97	**50**	**137**	*	*
12)	**Acrolein**	**6.79**	**25.7**	**25.75**	100	**62**	**128**	*	*
13)	**Acetone**	**7.01**	**132**	**133.50**	99	**56**	**125**	*	*
14)	**Trichlorofluoromethane**	**7.24**	**25.3**	**26.50**	95	**64**	**115**	*	*
15)	**2-Propanol (Isopropanol)**	**7.52**	**54.5**	**52.75**	103	**57**	**133**	*	*
16)	**Acrylonitrile**	**7.77**	**26.4**	**26.50**	100	**64**	**136**	*	*
17)	**1,1-Dichloroethene**	**8.19**	**26.4**	**26.75**	99	**68**	**115**	*	*
18)	2-Methyl-2-Propanol (tert-Butyl Alc	8.39	56.2	53.75	105	56	132	*	*
19)	**Methylene Chloride**	**8.43**	**25.1**	**26.25**	96	**68**	**114**	*	*
20)	**3-Chloro-1-propene (Allyl Chloric**	**8.58**	**26.1**	**26.75**	98	**55**	**139**	*	*
21)	**Trichlorotrifluoroethane**	**8.84**	**27.0**	**27.00**	100	**65**	**115**	*	*
22)	**Carbon Disulfide**	**8.68**	**25.7**	**26.50**	97	**68**	**113**	*	*
23)	**trans-1,2-Dichloroethene**	**9.70**	**26.2**	**26.75**	98	**65**	**122**	*	*
24)	**1,1-Dichloroethane**	**9.96**	**25.6**	**26.50**	97	**63**	**118**	*	*
25)	**Methyl tert-Butyl Ether**	**10.05**	**24.8**	**26.75**	93	**57**	**131**	*	*
26)	**Vinyl Acetate**	**10.22**	**140**	**133.25**	105	**71**	**128**	*	*
27)	**2-Butanone (MEK)**	**10.45**	**26.1**	**26.50**	98	**67**	**123**	*	*
28)	**cis-1,2-Dichloroethene**	**10.98**	**25.8**	**26.50**	97	**64**	**120**	*	*
29)	Diisopropyl Ether	11.27	25.0	27.00	93	62	121	*	*
30)	**Ethyl Acetate**	**11.27**	**57.7**	**54.00**	107	**64**	**131**	*	*
31)	**n-Hexane**	**11.26**	**27.1**	**27.00**	100	**58**	**125**	*	*
32)	**Chloroform**	**11.32**	**26.1**	**26.75**	98	**65**	**114**	*	*
34)	**Tetrahydrofuran (THF)**	**11.72**	**26.2**	**27.50**	95	**65**	**115**	*	*
35)	Ethyl tert-Butyl Ether	11.86	26.8	26.75	100	61	130	*	*
36)	**1,2-Dichloroethane**	**12.12**	**25.6**	**26.75**	96	**59**	**120**	*	*
38)	**1,1,1-Trichloroethane**	**12.40**	**27.1**	**26.75**	101	**66**	**115**	*	*
39)	Isopropyl Acetate	12.83	56.3	52.50	107	65	129	*	*
40)	1-Butanol	12.85	63.8	53.25	120	58	140	*	*
41)	**Benzene**	**12.88**	**25.7**	**26.25**	98	**66**	**109**	*	*
42)	**Carbon Tetrachloride**	**13.04**	**26.5**	**26.00**	102	**66**	**119**	*	*
43)	**Cyclohexane**	**13.17**	**53.6**	**52.75**	102	**67**	**117**	*	*
44)	tert-Amyl Methyl Ether	13.52	27.7	**26.75**	104	62	133	*	*
45)	**1,2-Dichloropropane**	**13.73**	**26.8**	**26.75**	100	**66**	**119**	*	*
46)	**Bromodichloromethane**	**13.92**	**27.4**	**27.25**	101	**71**	**119**	*	*
47)	**Trichloroethene**	**13.97**	**26.7**	**27.00**	99	**70**	**114**	*	*
48)	**1,4-Dioxane**	**13.95**	**27.5**	**27.00**	102	**71**	**117**	*	*
49)	2,2,4-Trimethylpentane (Isooctane)	14.04	26.5	26.75	99	61	122	*	*

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **05012026.D** **TO15.M**
Data File Path: **I:\MS16\DATA\2020_05\01** Sample Name: **25ng TO15 ICV STD**
Operator: **LH** Misc Info: **S31-02112001/S34-04302003 (**
Date Acquired: **5/1/2020** **18:41** Instrument Name: **GCMS-16**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
50)	**Methyl Methacrylate**	**14.18**	**55.9**	**53.75**	104	**76**	**121**	*	*
51)	**n-Heptane**	**14.31**	**26.0**	**26.75**	97	**66**	**119**	*	*
52)	**cis-1,3-Dichloropropene**	**14.84**	**28.5**	**26.75**	107	**72**	**125**	*	*
53)	**4-Methyl-2-pentanone**	**14.87**	**28.0**	**26.50**	106	**68**	**130**	*	*
54)	**trans-1,3-Dichloropropene**	**15.35**	**29.1**	**26.50**	110	**71**	**132**	*	*
55)	**1,1,2-Trichloroethane**	**15.53**	**27.0**	**26.75**	101	**70**	**117**	*	*
58)	**Toluene**	**15.82**	**26.5**	**26.50**	100	**67**	**113**	*	*
59)	**2-Hexanone**	**16.06**	**29.6**	**27.00**	110	**62**	**135**	*	*
60)	**Dibromochloromethane**	**16.23**	**28.9**	**26.75**	108	**73**	**126**	*	*
61)	**1,2-Dibromoethane**	**16.48**	**28.0**	**26.75**	105	**71**	**122**	*	*
62)	**n-Butyl Acetate**	**16.70**	**30.6**	**27.25**	112	**65**	**134**	*	*
63)	**n-Octane**	**16.83**	**27.1**	**27.00**	100	**63**	**120**	*	*
64)	**Tetrachloroethene**	**16.96**	**27.0**	**26.00**	104	**64**	**120**	*	*
65)	**Chlorobenzene**	**17.62**	**26.0**	**26.75**	97	**65**	**116**	*	*
66)	**Ethylbenzene**	**17.98**	**28.1**	**26.50**	106	**65**	**117**	*	*
67)	**m- & p-Xylenes**	**18.15**	**56.8**	**53.25**	107	**64**	**121**	*	*
68)	**Bromoform**	**18.21**	**29.0**	**26.75**	108	**72**	**130**	*	*
69)	**Styrene**	**18.48**	**29.7**	**26.50**	112	**72**	**126**	*	*
70)	**o-Xylene**	**18.58**	**27.9**	**26.75**	104	**64**	**120**	*	*
71)	**n-Nonane**	**18.77**	**28.1**	**26.75**	105	**56**	**132**	*	*
72)	**1,1,2,2-Tetrachloroethane**	**18.55**	**28.3**	**26.75**	106	**66**	**122**	*	*
74)	**Cumene**	**19.10**	**28.4**	**26.75**	106	**64**	**121**	*	*
75)	**alpha-Pinene**	**19.45**	**28.2**	**26.50**	106	**62**	**136**	*	*
76)	**n-Propylbenzene**	**19.55**	**29.1**	**26.75**	109	**65**	**123**	*	*
77)	3-Ethyltoluene	19.64	30.4	26.75	114	62	123	*	*
78)	**4-Ethyltoluene**	**19.68**	**27.7**	**26.25**	**106**	**71**	**126**	*	*
79)	**1,3,5-Trimethylbenzene**	**19.75**	**28.9**	**26.50**	**109**	**65**	**120**	*	*
80)	alpha-Methylstyrene	19.88	28.0	26.50	**106**	70	132	*	*
81)	2-Ethyltoluene	19.92	29.2	26.75	**109**	66	121	*	*
82)	**1,2,4-Trimethylbenzene**	**20.11**	**31.6**	**26.50**	**119**	**63**	**129**	*	*
83)	n-Decane	20.20	28.2	26.75	**105**	61	131	*	*
84)	**Benzyl Chloride**	**20.23**	**30.2**	**26.75**	**113**	**66**	**138**	*	*
85)	**1,3-Dichlorobenzene**	**20.25**	**29.9**	**26.75**	**112**	**65**	**127**	*	*
86)	**1,4-Dichlorobenzene**	**20.30**	**30.2**	**26.75**	**113**	**66**	**125**	*	*
87)	sec-Butylbenzene	20.35	29.1	26.50	**110**	68	123	*	*
88)	4-Isopropyltoluene (p-Cymene)	20.49	29.6	27.25	**109**	61	129	*	*
89)	1,2,3-Trimethylbenzene	20.48	29.5	27.00	**109**	60	134	*	*
90)	**1,2-Dichlorobenzene**	**20.61**	**30.6**	**26.75**	**114**	**67**	**128**	*	*
91)	**d-Limonene**	**20.62**	**30.7**	**26.50**	**116**	**65**	**136**	*	*
92)	**1,2-Dibromo-3-Chloropropane**	**20.99**	**28.3**	**26.75**	**106**	**73**	**133**	*	*
93)	n-Undecane	21.30	30.4	27.00	**113**	64	131	*	*
94)	**1,2,4-Trichlorobenzene**	**22.11**	**31.4**	**27.00**	**116**	**62**	**140**	*	*
95)	**Naphthalene**	**22.22**	**33.3**	**26.50**	**126**	**57**	**149**	*	*
96)	n-Dodecane	22.22	33.9	26.50	**128**	41	181	*	*
97)	**Hexachlorobutadiene**	**22.54**	**28.3**	**26.75**	**106**	57	129	*	*
98)	Cyclohexanone	18.28	28.3	25.25	112	61	131	*	*
99)	tert-Butylbenzene	20.11	29.7	26.50	112	62	130	*	*
100)	n-Butylbenzene	20.86	30.6	26.75	114	67	124	*	*

Bold = 75 Compound List

 *** = Pass** **I:\MS16\0-Instrument Info\0-Security Certificates\ICV_LCS_2019_10111902.CRT** 5/1/2020 7:08 PM

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\05\05052002.D Vial: 2
Acq On : 5 May 2020 3:43 Operator: TD
Sample : CCV R16050520_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 05 07:11:13 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

5/6/20

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	101	-0.01
2	T	Propene	1.448	1.402	3.2	96	0.00
3	T	Dichlorodifluoromethane (CF	2.832	2.657	6.2	98	0.00
4	T	Chloromethane	2.218	2.069	6.7	95	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.692	1.582	6.5	100	-0.01
6	T	Vinyl Chloride	2.433	2.210	9.2	95	0.00
7	T	1,3-Butadiene	2.013	1.829	9.1	94	0.00
8	T	Bromomethane	1.285	1.203	6.4	98	-0.01
9	T	Chloroethane	0.961	0.891	7.3	96	0.00
10	T	Ethanol	1.118	1.011	9.6	92	-0.03
11	T	Acetonitrile	2.555	2.230	12.7	91	-0.02
12	T	Acrolein	0.883	0.792	10.3	91	-0.02
13	T	Acetone	1.118	1.043	6.7	93	-0.02
14	T	Trichlorofluoromethane	2.503	2.318	7.4	96	0.00
15	T	2-Propanol (Isopropanol)	3.384	3.187	5.8	92	-0.03
16	T	Acrylonitrile	1.828	1.671	8.6	92	-0.02
17	T	1,1-Dichloroethene	1.312	1.238	5.6	95	0.00
18	T	2-Methyl-2-Propanol (tert-B	3.155	2.916	7.6	92	-0.02
19	T	Methylene Chloride	1.453	1.325	8.8	94	0.00
20	T	3-Chloro-1-propene (Allyl C	1.997	1.836	8.1	92	-0.01
21	T	Trichlorotrifluoroethane	1.182	1.163	1.6	98	0.00
22	T	Carbon Disulfide	5.208	4.799	7.9	95	0.00
23	T	trans-1,2-Dichloroethene	1.998	1.796	10.1	92	0.00
24	T	1,1-Dichloroethane	2.371	2.163	8.8	92	0.00
25	T	Methyl tert-Butyl Ether	3.730	3.285	11.9	94	0.00
26	T	Vinyl Acetate	0.348	0.342	1.7	92	-0.01
27	T	2-Butanone (MEK)	0.953	0.877	8.0	93	-0.01
28	T	cis-1,2-Dichloroethene	1.954	1.753	10.3	92	0.00
29	T	Diisopropyl Ether	1.349	1.214	10.0	93	0.00
30	T	Ethyl Acetate	0.550	0.550	0.0	93	-0.01
31	T	n-Hexane	2.385	2.271	4.8	92	0.00
32	T	Chloroform	2.488	2.291	7.9	94	0.00
33	S	1,2-Dichloroethane-d4(SS1)	1.694	1.551	8.4	96	0.00
34	T	Tetrahydrofuran (THF)	0.930	0.831	10.6	93	0.00
35	T	Ethyl tert-Butyl Ether	1.630	1.541	5.5	94	0.00
36	T	1,2-Dichloroethane	1.971	1.725	12.5	91	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	99	0.00
38	T	1,1,1-Trichloroethane	0.503	0.486	3.4	94	0.00
39	T	Isopropyl Acetate	0.220	0.223	-1.4	93	0.00
40	T	1-Butanol	0.313	0.305	2.6	91	-0.02
41	T	Benzene	1.340	1.265	5.6	93	0.00
42	T	Carbon Tetrachloride	0.456	0.454	0.4	95	0.00
43	T	Cyclohexane	0.500	0.497	0.6	94	0.00
44	T	tert-Amyl Methyl Ether	0.899	0.888	1.2	94	0.00
45	T	1,2-Dichloropropane	0.310	0.294	5.2	92	0.00
46	T	Bromodichloromethane	0.453	0.449	0.9	93	0.00
47	T	Trichloroethene	0.346	0.345	0.3	96	0.00
48	T	1,4-Dioxane	0.270	0.261	3.3	93	0.00
49	T	2,2,4-Trimethylpentane (Iso	1.304	1.233	5.4	92	0.00
50	T	Methyl Methacrylate	0.133	0.136	-2.3	94	0.00
51	T	n-Heptane	0.313	0.292	6.7	93	0.00
52	T	cis-1,3-Dichloropropene	0.533	0.529	0.8	92	0.00
53	T	4-Methyl-2-pentanone	0.299	0.288	3.7	92	0.00
54	T	trans-1,3-Dichloropropene	0.456	0.474	-3.9	92	0.00
55	T	1,1,2-Trichloroethane	0.308	0.308	0.0	95	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\05\05052002.D Vial: 2
Acq On : 5 May 2020 3:43 Operator: TD
Sample : CCV R16050520_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 05 07:11:13 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	99	0.00
57	S	Toluene-d8 (SS2)	2.119	2.116	0.1	98	0.00
58	T	Toluene	2.731	2.664	2.5	94	0.00
59	T	2-Hexanone	1.497	1.455	2.8	91	0.00
60	T	Dibromochloromethane	0.782	0.845	-8.1	96	0.00
61	T	1,2-Dibromoethane	0.752	0.772	-2.7	95	0.00
62	T	n-Butyl Acetate	1.616	1.582	2.1	90	0.00
63	T	n-Octane	0.565	0.550	2.7	92	0.00
64	T	Tetrachloroethene	0.771	0.816	-5.8	97	0.00
65	T	Chlorobenzene	1.879	1.813	3.5	95	0.00
66	T	Ethylbenzene	3.045	3.128	-2.7	93	0.00
67	T	m- & p-Xylenes	2.416	2.515	-4.1	94	0.00
68	T	Bromoform	0.678	0.734	-8.3	97	0.00
69	T	Styrene	1.817	1.957	-7.7	93	0.00
70	T	o-Xylene	2.453	2.520	-2.7	93	0.00
71	T	n-Nonane	1.301	1.316	-1.2	92	0.00
72	T	1,1,2,2-Tetrachloroethane	1.217	1.264	-3.9	94	0.00
73	S	Bromofluorobenzene (SS3)	0.762	0.843	-10.6	104	0.00
74	T	Cumene	3.010	3.179	-5.6	95	0.00
75	T	alpha-Pinene	1.606	1.695	-5.5	94	0.00
76	T	n-Propylbenzene	3.576	3.838	-7.3	94	0.00
77	T	3-Ethyltoluene	2.913	3.080	-5.7	90	0.00
78	T	4-Ethyltoluene	2.827	3.186	-12.7	99	0.00
79	T	1,3,5-Trimethylbenzene	2.455	2.644	-7.7	94	0.00
80	T	alpha-Methylstyrene	1.384	1.399	-1.1	93	0.00
81	T	2-Ethyltoluene	2.874	3.098	-7.8	95	0.00
82	T	1,2,4-Trimethylbenzene	2.467	2.926	-18.6	95	0.00
83	T	n-Decane	1.380	1.422	-3.0	93	0.00
84	T	Benzyl Chloride	2.300	2.444	-6.3	93	0.00
85	T	1,3-Dichlorobenzene	1.433	1.616	-12.8	96	0.00
86	T	1,4-Dichlorobenzene	1.398	1.562	-11.7	95	0.00
87	T	sec-Butylbenzene	3.203	3.512	-9.6	95	0.00
88	T	4-Isopropyltoluene (p-Cymen	3.033	3.441	-13.5	96	0.00
89	T	1,2,3-Trimethylbenzene	2.582	2.951	-14.3	95	0.00
90	T	1,2-Dichlorobenzene	1.372	1.604	-16.9	96	0.00
91	T	d-Limonene	0.974	1.091	-12.0	92	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.517	0.562	-8.7	96	0.00
93	T	n-Undecane	1.277	1.387	-8.6	93	0.00
94	T	1,2,4-Trichlorobenzene	0.951	1.115	-17.2	96	0.00
95	T	Naphthalene	3.011	3.649	-21.2	93	0.00
96	T	n-Dodecane	1.106	1.386	-25.3	93	0.00
97	T	Hexachlorobutadiene	0.658	0.722	-9.7	98	0.00
98	T	Cyclohexanone	0.956	0.887	7.2	90	-0.01
99	T	tert-Butylbenzene	2.428	2.761	-13.7	95	0.00
100	T	n-Butylbenzene	2.512	2.838	-13.0	94	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052002.D Vial: 2
Acq On : 5 May 2020 3:43 Operator: TD
Sample : CCV R16050520_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 05 07:11:13 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/6/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	289532	12.500	ng	-0.01
37) 1,4-Difluorobenzene (IS2)	13.28	114	1217379	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	564088	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.00	65	449186	11.448	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.60%			
57) Toluene-d8 (SS2)	15.72	98	1193385	12.481	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.84%			
73) Bromofluorobenzene (SS3)	18.98	174	475303	13.816	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.56%			
Target Compounds						Qvalue
2) Propene	4.09	42	860865	25.672	ng	99
3) Dichlorodifluoromethan...	4.25	85	1630605	24.861	ng	100
4) Chloromethane	4.53	50	1270109	24.718	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	961962	24.548	ng	100
6) Vinyl Chloride	4.95	62	1382052	24.528	ng	100
7) 1,3-Butadiene	5.22	54	1122945	24.086	ng	100
8) Bromomethane	5.65	94	752326	25.275	ng	99
9) Chloroethane	5.98	64	557401	25.041	ng	100
10) Ethanol	6.38	45	3051186	117.837	ng	100
11) Acetonitrile	6.62	41	1356027	22.917	ng	100
12) Acrolein	6.79	56	472101	23.075	ng	100
13) Acetone	7.01	58	3218355	124.283	ng	99
14) Trichlorofluoromethane	7.24	101	1423079	24.551	ng	100
15) 2-Propanol (Isopropanol)	7.52	45	3875006	49.441	ng	100
16) Acrylonitrile	7.77	53	1015710	23.994	ng	100
17) 1,1-Dichloroethene	8.20	96	774023	25.473	ng	95
18) 2-Methyl-2-Propanol (t...	8.39	59	3647459	49.919	ng	99
19) Methylene Chloride	8.44	84	813100	24.154	ng	97
20) 3-Chloro-1-propene (Al...	8.59	41	1147982	24.822	ng	98
21) Trichlorotrifluoroethane	8.84	151	727264	26.574	ng	97
22) Carbon Disulfide	8.69	76	2973231	24.649	ng	100
23) trans-1,2-Dichloroethene	9.71	61	1123264	24.277	ng	97
24) 1,1-Dichloroethane	9.96	63	1365505	24.859	ng	100
25) Methyl tert-Butyl Ether	10.05	73	2054226	23.776	ng	100
26) Vinyl Acetate	10.22	86	1060289	131.449	ng	97
27) 2-Butanone (MEK)	10.45	72	538533	24.386	ng	97
28) cis-1,2-Dichloroethene	10.98	61	1076302	23.782	ng	97
29) Diisopropyl Ether	11.27	87	759248	24.304	ng	98
30) Ethyl Acetate	11.27	61	691169	54.277	ng	99
31) n-Hexane	11.26	57	1420475	25.718	ng	100
32) Chloroform	11.32	83	1419195	24.625	ng	100
34) Tetrahydrofuran (THF)	11.72	72	524220	24.338	ng	98
35) Ethyl tert-Butyl Ether	11.86	87	963853	25.531	ng	99
36) 1,2-Dichloroethane	12.12	62	1078571	23.621	ng	100
38) 1,1,1-Trichloroethane	12.40	97	1266640	25.832	ng	100
39) Isopropyl Acetate	12.83	61	1145504	53.410	ng	98
40) 1-Butanol	12.85	56	1545038	50.634	ng	100
41) Benzene	12.88	78	3263824	25.000	ng	100
42) Carbon Tetrachloride	13.04	117	1161197	26.149	ng	100
43) Cyclohexane	13.17	84	2567185	52.769	ng	99
44) tert-Amyl Methyl Ether	13.51	73	2336321	26.688	ng	99
45) 1,2-Dichloropropane	13.73	63	771965	25.532	ng	100
46) Bromodichloromethane	13.92	83	1179373	26.731	ng	100
47) Trichloroethene	13.97	130	898528	26.627	ng	99
48) 1,4-Dioxane	13.95	88	686706	26.117	ng	98
49) 2,2,4-Trimethylpentane...	14.04	57	3211790	25.283	ng	100
50) Methyl Methacrylate	14.18	100	710389	54.850	ng	98

Quantitation Report (QT Reviewed)

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Acq On : 5 May 2020 3:43 Operator: TD
Sample : CCV R16050520_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 05 07:11:13 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

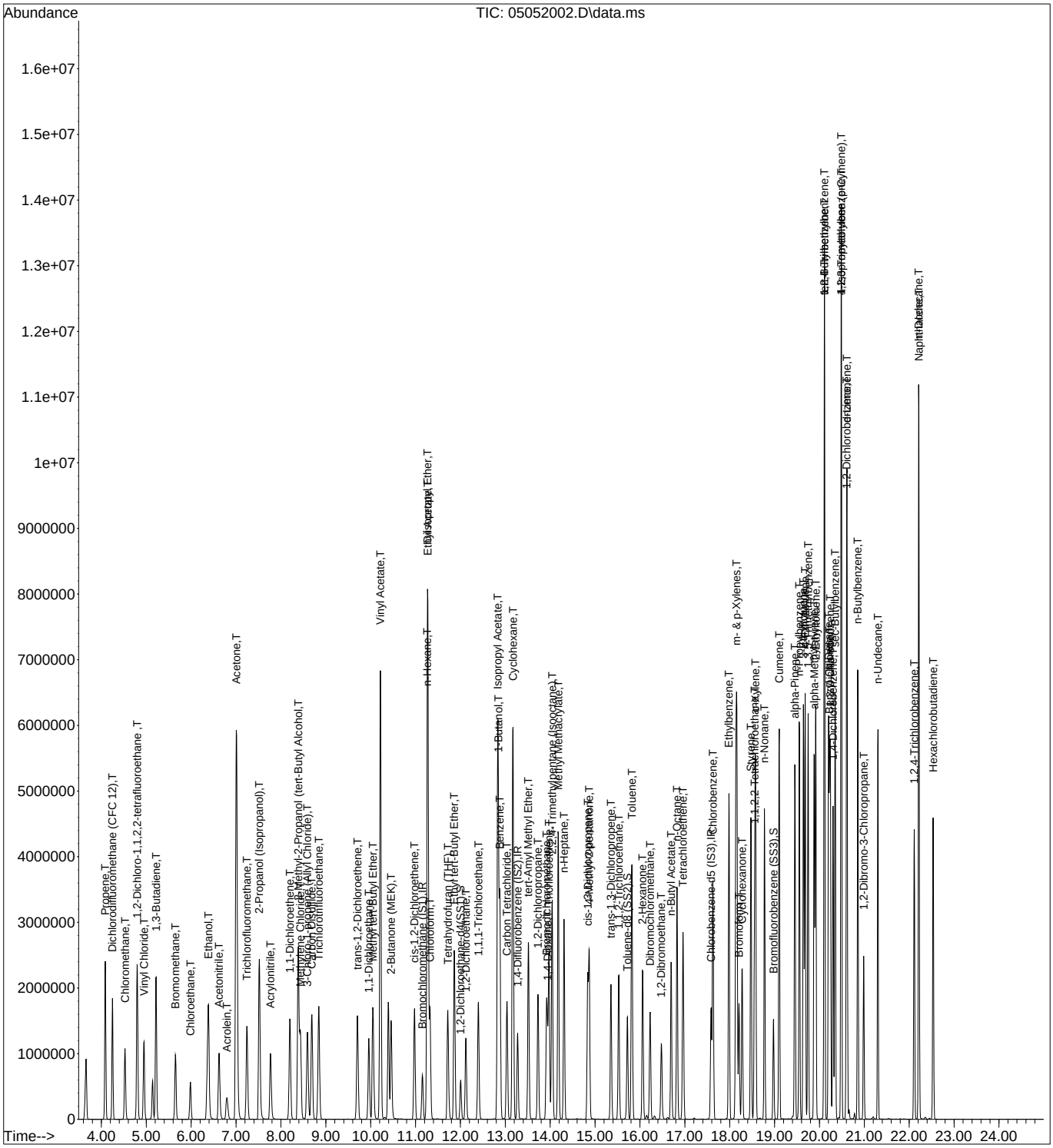
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	768718	25.180	ng	100
52) cis-1,3-Dichloropropene	14.84	75	1338380	25.783	ng	100
53) 4-Methyl-2-pentanone	14.87	58	744227	25.572	ng	99
54) trans-1,3-Dichloropropene	15.35	75	1224226	27.564	ng	100
55) 1,1,2-Trichloroethane	15.53	97	802978	26.781	ng	99
58) Toluene	15.82	91	3216354	26.097	ng	100
59) 2-Hexanone	16.06	43	1756102	26.003	ng	100
60) Dibromochloromethane	16.23	129	1020103	28.905	ng	100
61) 1,2-Dibromoethane	16.48	107	932308	27.487	ng	100
62) n-Butyl Acetate	16.70	43	1944882	26.662	ng	99
63) n-Octane	16.83	57	670050	26.261	ng	99
64) Tetrachloroethene	16.96	166	957155	27.495	ng	100
65) Chlorobenzene	17.62	112	2189122	25.814	ng	100
66) Ethylbenzene	17.98	91	3776480	27.480	ng	99
67) m- & p-Xylenes	18.15	91	6071082	55.685	ng	99
68) Bromoform	18.21	173	885911	28.957	ng	100
69) Styrene	18.47	104	2340574	28.543	ng	100
70) o-Xylene	18.58	91	3042004	27.484	ng	99
71) n-Nonane	18.77	43	1588009	27.041	ng	100
72) 1,1,2,2-Tetrachloroethane	18.55	83	1526050	27.792	ng	100
74) Cumene	19.10	105	3873951	28.520	ng	100
75) alpha-Pinene	19.45	93	2046681	28.238	ng	100
76) n-Propylbenzene	19.55	91	4676290	28.979	ng	99
77) 3-Ethyltoluene	19.64	105	3683826	28.019	ng	95
78) 4-Ethyltoluene	19.68	105	3881811	30.429	ng	96
79) 1,3,5-Trimethylbenzene	19.75	105	3162064	28.547	ng	99
80) alpha-Methylstyrene	19.88	118	1689221	27.056	ng	99
81) 2-Ethyltoluene	19.92	105	3774265	29.103	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3531927	31.723	ng	99
83) n-Decane	20.20	57	1716376	27.558	ng	99
84) Benzyl Chloride	20.23	91	2977455	28.693	ng	99
85) 1,3-Dichlorobenzene	20.24	146	1950897	30.177	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1885059	29.879	ng	100
87) sec-Butylbenzene	20.35	105	4239202	29.333	ng	100
88) 4-Isopropyltoluene (p-...	20.48	119	4231143	30.917	ng	99
89) 1,2,3-Trimethylbenzene	20.48	105	3628570	31.141	ng	100
90) 1,2-Dichlorobenzene	20.61	146	1936038	31.278	ng	100
91) d-Limonene	20.61	68	1329441	30.234	ng	99
92) 1,2-Dibromo-3-Chloropr...	20.98	157	666244	28.546	ng	97
93) n-Undecane	21.30	57	1690202	29.322	ng	100
94) 1,2,4-Trichlorobenzene	22.11	180	1346301	31.360	ng	100
95) Naphthalene	22.22	128	4240583	31.209	ng	100
96) n-Dodecane	22.21	57	1625735	32.574	ng	100
97) Hexachlorobutadiene	22.54	225	863968	29.094	ng	100
98) Cyclohexanone	18.27	55	1000940	23.201	ng	99
99) tert-Butylbenzene	20.11	119	3332410	30.411	ng	99
100) n-Butylbenzene	20.85	91	3425371	30.218	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052002.D Vial: 2
Acq On : 5 May 2020 3:43 Operator: TD
Sample : CCV R16050520_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 05 07:11:13 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\05\05052033.D Vial: 2
Acq On : 5 May 2020 23:01 Operator: WA
Sample : CCVend R16050520_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 06 03:56:58 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 WA 5/6/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	99	0.00
2	T	Propene	1.448	1.420	1.9	96	0.00
3	T	Dichlorodifluoromethane (CF	2.832	2.630	7.1	95	0.00
4	T	Chloromethane	2.218	2.062	7.0	93	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.692	1.541	8.9	95	0.00
6	T	Vinyl Chloride	2.433	2.229	8.4	94	0.00
7	T	1,3-Butadiene	2.013	1.822	9.5	92	0.00
8	T	Bromomethane	1.285	1.172	8.8	93	0.00
9	T	Chloroethane	0.961	0.883	8.1	93	0.00
10	T	Ethanol	1.118	1.015	9.2	91	-0.02
11	T	Acetonitrile	2.555	2.254	11.8	90	-0.01
12	T	Acrolein	0.883	0.786	11.0	89	0.00
13	T	Acetone	1.118	1.041	6.9	91	-0.01
14	T	Trichlorofluoromethane	2.503	2.276	9.1	92	0.00
15	T	2-Propanol (Isopropanol)	3.384	3.180	6.0	90	-0.02
16	T	Acrylonitrile	1.828	1.670	8.6	91	0.00
17	T	1,1-Dichloroethene	1.312	1.226	6.6	93	0.00
18	T	2-Methyl-2-Propanol (tert-B	3.155	2.825	10.5	88	-0.02
19	T	Methylene Chloride	1.453	1.304	10.3	90	0.00
20	T	3-Chloro-1-propene (Allyl C	1.997	1.840	7.9	90	0.00
21	T	Trichlorotrifluoroethane	1.182	1.130	4.4	93	0.00
22	T	Carbon Disulfide	5.208	4.772	8.4	92	0.00
23	T	trans-1,2-Dichloroethene	1.998	1.794	10.2	90	0.00
24	T	1,1-Dichloroethane	2.371	2.158	9.0	90	0.00
25	T	Methyl tert-Butyl Ether	3.730	3.248	12.9	91	0.00
26	T	Vinyl Acetate	0.348	0.339	2.6	90	0.00
27	T	2-Butanone (MEK)	0.953	0.873	8.4	91	0.00
28	T	cis-1,2-Dichloroethene	1.954	1.745	10.7	90	0.00
29	T	Diisopropyl Ether	1.349	1.214	10.0	91	0.00
30	T	Ethyl Acetate	0.550	0.551	-0.2	92	0.00
31	T	n-Hexane	2.385	2.278	4.5	91	0.00
32	T	Chloroform	2.488	2.271	8.7	91	0.00
33	S	1,2-Dichloroethane-d4(SS1)	1.694	1.554	8.3	94	0.00
34	T	Tetrahydrofuran (THF)	0.930	0.826	11.2	91	0.00
35	T	Ethyl tert-Butyl Ether	1.630	1.524	6.5	91	0.00
36	T	1,2-Dichloroethane	1.971	1.713	13.1	89	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	97	0.00
38	T	1,1,1-Trichloroethane	0.503	0.480	4.6	91	0.00
39	T	Isopropyl Acetate	0.220	0.223	-1.4	91	0.00
40	T	1-Butanol	0.313	0.306	2.2	89	-0.01
41	T	Benzene	1.340	1.264	5.7	91	0.00
42	T	Carbon Tetrachloride	0.456	0.447	2.0	91	0.00
43	T	Cyclohexane	0.500	0.493	1.4	91	0.00
44	T	tert-Amyl Methyl Ether	0.899	0.879	2.2	91	0.00
45	T	1,2-Dichloropropane	0.310	0.295	4.8	90	0.00
46	T	Bromodichloromethane	0.453	0.443	2.2	90	0.00
47	T	Trichloroethene	0.346	0.342	1.2	93	0.00
48	T	1,4-Dioxane	0.270	0.259	4.1	90	0.00
49	T	2,2,4-Trimethylpentane (Iso	1.304	1.240	4.9	90	0.00
50	T	Methyl Methacrylate	0.133	0.134	-0.8	90	0.00
51	T	n-Heptane	0.313	0.293	6.4	91	0.00
52	T	cis-1,3-Dichloropropene	0.533	0.523	1.9	89	0.00
53	T	4-Methyl-2-pentanone	0.299	0.288	3.7	89	0.00
54	T	trans-1,3-Dichloropropene	0.456	0.466	-2.2	89	0.00
55	T	1,1,2-Trichloroethane	0.308	0.302	1.9	91	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\05\05052033.D Vial: 2
Acq On : 5 May 2020 23:01 Operator: WA
Sample : CCVend R16050520_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 06 03:56:58 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	100	0.00
57	S	Toluene-d8 (SS2)	2.119	2.059	2.8	97	0.00
58	T	Toluene	2.731	2.539	7.0	91	0.00
59	T	2-Hexanone	1.497	1.405	6.1	89	0.00
60	T	Dibromochloromethane	0.782	0.795	-1.7	92	0.00
61	T	1,2-Dibromoethane	0.752	0.729	3.1	91	0.00
62	T	n-Butyl Acetate	1.616	1.526	5.6	88	0.00
63	T	n-Octane	0.565	0.530	6.2	90	0.00
64	T	Tetrachloroethene	0.771	0.771	0.0	93	0.00
65	T	Chlorobenzene	1.879	1.723	8.3	92	0.00
66	T	Ethylbenzene	3.045	3.001	1.4	91	0.00
67	T	m- & p-Xylenes	2.416	2.419	-0.1	91	0.00
68	T	Bromoform	0.678	0.689	-1.6	92	0.00
69	T	Styrene	1.817	1.873	-3.1	91	0.00
70	T	o-Xylene	2.453	2.424	1.2	91	0.00
71	T	n-Nonane	1.301	1.283	1.4	91	0.00
72	T	1,1,2,2-Tetrachloroethane	1.217	1.209	0.7	92	0.00
73	S	Bromofluorobenzene (SS3)	0.762	0.849	-11.4	106	0.00
74	T	Cumene	3.010	3.041	-1.0	92	0.00
75	T	alpha-Pinene	1.606	1.609	-0.2	90	0.00
76	T	n-Propylbenzene	3.576	3.658	-2.3	91	0.00
77	T	3-Ethyltoluene	2.913	2.944	-1.1	87	0.00
78	T	4-Ethyltoluene	2.827	3.034	-7.3	96	0.00
79	T	1,3,5-Trimethylbenzene	2.455	2.523	-2.8	91	0.00
80	T	alpha-Methylstyrene	1.384	1.322	4.5	89	0.00
81	T	2-Ethyltoluene	2.874	2.957	-2.9	92	0.00
82	T	1,2,4-Trimethylbenzene	2.467	2.813	-14.0	92	0.00
83	T	n-Decane	1.380	1.364	1.2	90	0.00
84	T	Benzyl Chloride	2.300	2.311	-0.5	89	0.00
85	T	1,3-Dichlorobenzene	1.433	1.532	-6.9	93	0.00
86	T	1,4-Dichlorobenzene	1.398	1.479	-5.8	91	0.00
87	T	sec-Butylbenzene	3.203	3.350	-4.6	92	0.00
88	T	4-Isopropyltoluene (p-Cymen	3.033	3.301	-8.8	93	0.00
89	T	1,2,3-Trimethylbenzene	2.582	2.830	-9.6	93	0.00
90	T	1,2-Dichlorobenzene	1.372	1.531	-11.6	93	0.00
91	T	d-Limonene	0.974	1.051	-7.9	90	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.517	0.536	-3.7	92	0.00
93	T	n-Undecane	1.277	1.332	-4.3	91	0.00
94	T	1,2,4-Trichlorobenzene	0.951	1.054	-10.8	92	0.00
95	T	Naphthalene	3.011	3.503	-16.3	91	0.00
96	T	n-Dodecane	1.106	1.352	-22.2	92	0.00
97	T	Hexachlorobutadiene	0.658	0.688	-4.6	95	0.00
98	T	Cyclohexanone	0.956	0.843	11.8	86	-0.01
99	T	tert-Butylbenzene	2.428	2.663	-9.7	94	0.00
100	T	n-Butylbenzene	2.512	2.703	-7.6	91	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052033.D Vial: 2
Acq On : 5 May 2020 23:01 Operator: WA
Sample : CCVend R16050520_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 06 03:56:58 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 5/6/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	283963	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	13.27	114	1188588	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	572586	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.01	65	441169	11.464	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.68%			
57) Toluene-d8 (SS2)	15.72	98	1178753	12.145	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.20%			
73) Bromofluorobenzene (SS3)	18.98	174	485904	13.914	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.28%			
Target Compounds						Qvalue
2) Propene	4.09	42	855103	26.000	ng	100
3) Dichlorodifluoromethan...	4.25	85	1583331	24.614	ng	100
4) Chloromethane	4.53	50	1241420	24.634	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	918851	23.908	ng	100
6) Vinyl Chloride	4.95	62	1367309	24.742	ng	100
7) 1,3-Butadiene	5.22	54	1096703	23.985	ng	100
8) Bromomethane	5.65	94	719051	24.631	ng	100
9) Chloroethane	5.99	64	541416	24.800	ng	99
10) Ethanol	6.40	45	3004576	118.312	ng	100
11) Acetonitrile	6.63	41	1343995	23.159	ng	100
12) Acrolein	6.80	56	459615	22.905	ng	100
13) Acetone	7.02	58	3150297	124.040	ng	100
14) Trichlorofluoromethane	7.25	101	1370127	24.101	ng	100
15) 2-Propanol (Isopropanol)	7.53	45	3792374	49.336	ng	99
16) Acrylonitrile	7.78	53	995957	23.988	ng	100
17) 1,1-Dichloroethene	8.20	96	752074	25.236	ng	98
18) 2-Methyl-2-Propanol (t...	8.39	59	3465127	48.353	ng	100
19) Methylene Chloride	8.44	84	785281	23.785	ng	98
20) 3-Chloro-1-propene (Al...	8.60	41	1128299	24.875	ng	99
21) Trichlorotrifluoroethane	8.85	151	692920	25.816	ng	99
22) Carbon Disulfide	8.69	76	2899604	24.510	ng	100
23) trans-1,2-Dichloroethene	9.71	61	1100514	24.251	ng	98
24) 1,1-Dichloroethane	9.96	63	1336056	24.800	ng	100
25) Methyl tert-Butyl Ether	10.05	73	1991966	23.508	ng	100
26) Vinyl Acetate	10.22	86	1028564	130.016	ng	99
27) 2-Butanone (MEK)	10.46	72	525648	24.269	ng	98
28) cis-1,2-Dichloroethene	10.98	61	1050721	23.672	ng	98
29) Diisopropyl Ether	11.27	87	744328	24.294	ng	100
30) Ethyl Acetate	11.28	61	679113	54.376	ng	99
31) n-Hexane	11.26	57	1397430	25.797	ng	100
32) Chloroform	11.33	83	1379932	24.413	ng	100
34) Tetrahydrofuran (THF)	11.72	72	511401	24.209	ng	99
35) Ethyl tert-Butyl Ether	11.87	87	934723	25.245	ng	99
36) 1,2-Dichloroethane	12.13	62	1050772	23.464	ng	100
38) 1,1,1-Trichloroethane	12.40	97	1222060	25.527	ng	100
39) Isopropyl Acetate	12.84	61	1118771	53.427	ng	99
40) 1-Butanol	12.85	56	1513065	50.787	ng	99
41) Benzene	12.88	78	3185558	24.992	ng	100
42) Carbon Tetrachloride	13.04	117	1115961	25.739	ng	100
43) Cyclohexane	13.17	84	2485045	52.318	ng	99
44) tert-Amyl Methyl Ether	13.52	73	2256057	26.395	ng	99
45) 1,2-Dichloropropane	13.73	63	756626	25.630	ng	100
46) Bromodichloromethane	13.92	83	1136905	26.392	ng	100
47) Trichloroethene	13.97	130	869348	26.387	ng	100
48) 1,4-Dioxane	13.95	88	664825	25.897	ng	98
49) 2,2,4-Trimethylpentane...	14.04	57	3155199	25.439	ng	100
50) Methyl Methacrylate	14.18	100	683305	54.037	ng	99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052033.D Vial: 2
Acq On : 5 May 2020 23:01 Operator: WA
Sample : CCVend R16050520_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 06 03:56:58 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

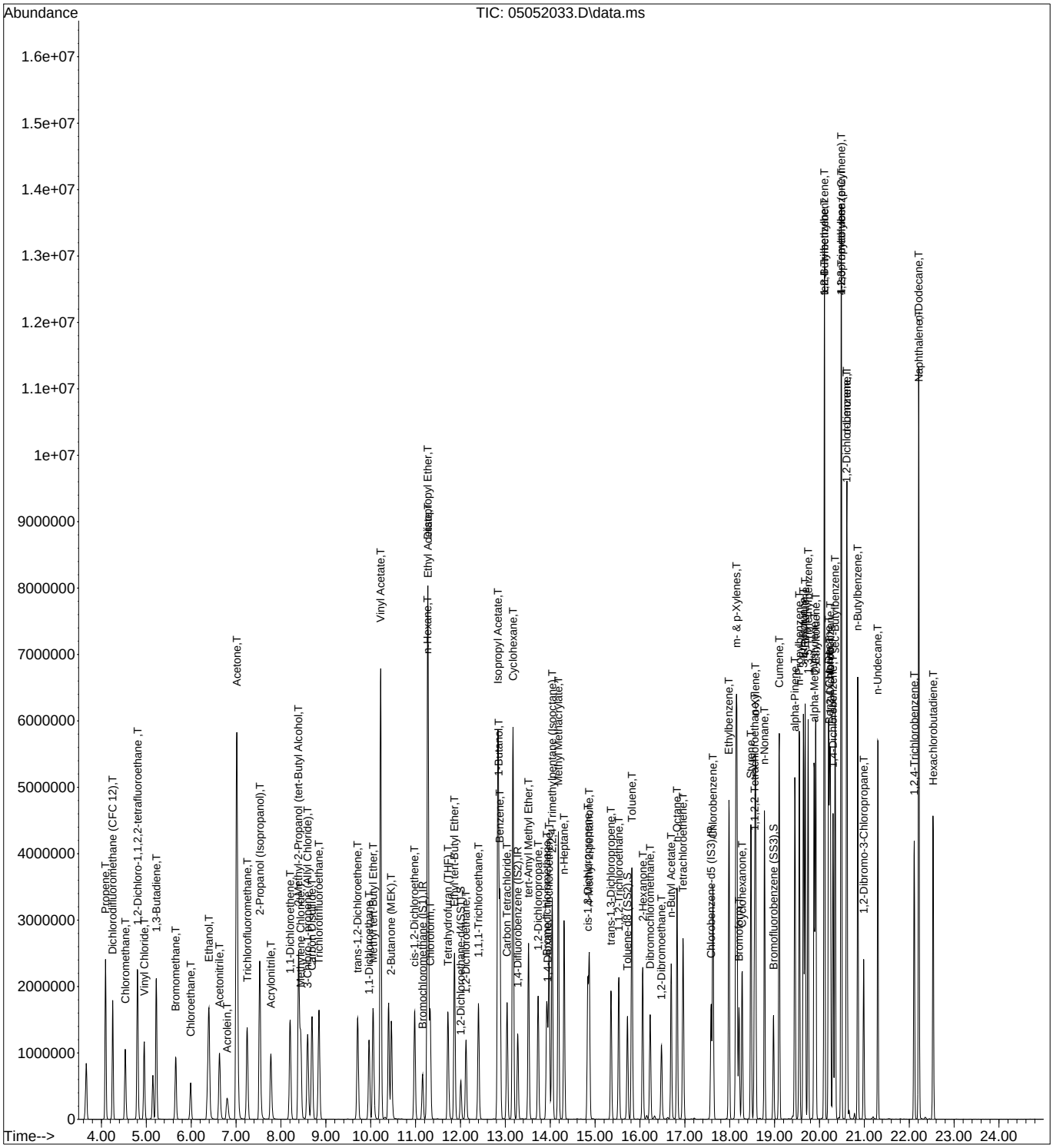
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	752047	25.230	ng	100
52) cis-1,3-Dichloropropene	14.84	75	1292986	25.512	ng	100
53) 4-Methyl-2-pentanone	14.87	58	725908	25.547	ng	99
54) trans-1,3-Dichloropropene	15.35	75	1174701	27.089	ng	100
55) 1,1,2-Trichloroethane	15.53	97	768884	26.265	ng	99
58) Toluene	15.82	91	3110793	24.866	ng	100
59) 2-Hexanone	16.06	43	1721986	25.120	ng	100
60) Dibromochloromethane	16.23	129	974117	27.193	ng	100
61) 1,2-Dibromoethane	16.48	107	893598	25.954	ng	100
62) n-Butyl Acetate	16.70	43	1904318	25.718	ng	100
63) n-Octane	16.83	57	655499	25.309	ng	99
64) Tetrachloroethene	16.96	166	918319	25.988	ng	100
65) Chlorobenzene	17.62	112	2111386	24.528	ng	100
66) Ethylbenzene	17.98	91	3677598	26.363	ng	100
67) m- & p-Xylenes	18.15	91	5927572	53.562	ng	100
68) Bromoform	18.21	173	843844	27.172	ng	100
69) Styrene	18.47	104	2274140	27.322	ng	99
70) o-Xylene	18.58	91	2970052	26.435	ng	100
71) n-Nonane	18.77	43	1571806	26.368	ng	99
72) 1,1,2,2-Tetrachloroethane	18.55	83	1481174	26.574	ng	100
74) Cumene	19.10	105	3761484	27.281	ng	100
75) alpha-Pinene	19.45	93	1972061	26.805	ng	99
76) n-Propylbenzene	19.55	91	4523805	27.618	ng	99
77) 3-Ethyltoluene	19.64	105	3573784	26.779	ng	95
78) 4-Ethyltoluene	19.68	105	3752027	28.975	ng	96
79) 1,3,5-Trimethylbenzene	19.75	105	3063035	27.242	ng	99
80) alpha-Methylstyrene	19.88	118	1619938	25.561	ng	99
81) 2-Ethyltoluene	19.92	105	3657570	27.785	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3447209	30.503	ng	100
83) n-Decane	20.20	57	1671581	26.441	ng	99
84) Benzyl Chloride	20.23	91	2858625	27.139	ng	100
85) 1,3-Dichlorobenzene	20.24	146	1877383	28.609	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1811954	28.294	ng	100
87) sec-Butylbenzene	20.35	105	4105454	27.986	ng	100
88) 4-Isopropyltoluene (p-...	20.48	119	4119991	29.658	ng	99
89) 1,2,3-Trimethylbenzene	20.48	105	3531889	29.862	ng	100
90) 1,2-Dichlorobenzene	20.61	146	1875933	29.857	ng	100
91) d-Limonene	20.61	68	1299583	29.116	ng	100
92) 1,2-Dibromo-3-Chloropr...	20.98	157	644323	27.197	ng	97
93) n-Undecane	21.30	57	1647393	28.155	ng	100
94) 1,2,4-Trichlorobenzene	22.11	180	1290906	29.624	ng	100
95) Naphthalene	22.22	128	4131905	29.958	ng	100
96) n-Dodecane	22.21	57	1610189	31.783	ng	100
97) Hexachlorobutadiene	22.54	225	834990	27.701	ng	100
98) Cyclohexanone	18.27	55	965306	22.043	ng	100
99) tert-Butylbenzene	20.11	119	3263553	29.340	ng	100
100) n-Butylbenzene	20.85	91	3312063	28.784	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\05\05052033.D Vial: 2
Acq On : 5 May 2020 23:01 Operator: WA
Sample : CCVend R16050520_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 06 03:56:58 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\08\05082001.D Vial: 2
Acq On : 8 May 2020 00:57 Operator: LH
Sample : CCV R16050820_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 08 03:02:38 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/8/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	96	-0.01
2	T	Propene	1.448	1.386	4.3	91	-0.01
3	T	Dichlorodifluoromethane (CF	2.832	2.519	11.1	89	-0.01
4	T	Chloromethane	2.218	2.033	8.3	89	-0.01
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.692	1.501	11.3	90	-0.02
6	T	Vinyl Chloride	2.433	2.125	12.7	87	-0.02
7	T	1,3-Butadiene	2.013	1.800	10.6	88	-0.02
8	T	Bromomethane	1.285	1.170	8.9	91	-0.02
9	T	Chloroethane	0.961	0.869	9.6	89	-0.01
10	T	Ethanol	1.118	1.010	9.7	88	-0.04
11	T	Acetonitrile	2.555	2.244	12.2	88	-0.03
12	T	Acrolein	0.883	0.770	12.8	85	-0.02
13	T	Acetone	1.118	1.024	8.4	87	-0.03
14	T	Trichlorofluoromethane	2.503	2.228	11.0	88	-0.01
15	T	2-Propanol (Isopropanol)	3.384	3.107	8.2	85	-0.03
16	T	Acrylonitrile	1.828	1.659	9.2	87	-0.02
17	T	1,1-Dichloroethene	1.312	1.204	8.2	89	-0.01
18	T	2-Methyl-2-Propanol (tert-B	3.155	2.729	13.5	82	-0.03
19	T	Methylene Chloride	1.453	1.276	12.2	86	-0.01
20	T	3-Chloro-1-propene (Allyl C	1.997	1.821	8.8	87	-0.02
21	T	Trichlorotrifluoroethane	1.182	1.129	4.5	91	-0.01
22	T	Carbon Disulfide	5.208	4.671	10.3	88	-0.01
23	T	trans-1,2-Dichloroethene	1.998	1.747	12.6	85	-0.01
24	T	1,1-Dichloroethane	2.371	2.104	11.3	85	-0.01
25	T	Methyl tert-Butyl Ether	3.730	3.209	14.0	88	0.00
26	T	Vinyl Acetate	0.348	0.324	6.9	83	-0.02
27	T	2-Butanone (MEK)	0.953	0.863	9.4	87	-0.01
28	T	cis-1,2-Dichloroethene	1.954	1.717	12.1	86	-0.01
29	T	Diisopropyl Ether	1.349	1.193	11.6	87	0.00
30	T	Ethyl Acetate	0.550	0.544	1.1	88	-0.01
31	T	n-Hexane	2.385	2.262	5.2	88	0.00
32	T	Chloroform	2.488	2.242	9.9	88	-0.01
33	S	1,2-Dichloroethane-d4(SS1)	1.694	1.562	7.8	92	0.00
34	T	Tetrahydrofuran (THF)	0.930	0.817	12.2	87	0.00
35	T	Ethyl tert-Butyl Ether	1.630	1.498	8.1	87	0.00
36	T	1,2-Dichloroethane	1.971	1.683	14.6	85	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	94	0.00
38	T	1,1,1-Trichloroethane	0.503	0.470	6.6	86	0.00
39	T	Isopropyl Acetate	0.220	0.219	0.5	87	0.00
40	T	1-Butanol	0.313	0.298	4.8	84	-0.02
41	T	Benzene	1.340	1.245	7.1	87	0.00
42	T	Carbon Tetrachloride	0.456	0.434	4.8	86	-0.01
43	T	Cyclohexane	0.500	0.482	3.6	87	-0.01
44	T	tert-Amyl Methyl Ether	0.899	0.864	3.9	87	0.00
45	T	1,2-Dichloropropane	0.310	0.290	6.5	86	0.00
46	T	Bromodichloromethane	0.453	0.435	4.0	86	0.00
47	T	Trichloroethene	0.346	0.335	3.2	89	0.00
48	T	1,4-Dioxane	0.270	0.253	6.3	86	-0.01
49	T	2,2,4-Trimethylpentane (Iso	1.304	1.226	6.0	87	0.00
50	T	Methyl Methacrylate	0.133	0.130	2.3	86	-0.01
51	T	n-Heptane	0.313	0.289	7.7	88	0.00
52	T	cis-1,3-Dichloropropene	0.533	0.512	3.9	85	0.00
53	T	4-Methyl-2-pentanone	0.299	0.282	5.7	85	0.00
54	T	trans-1,3-Dichloropropene	0.456	0.453	0.7	84	0.00
55	T	1,1,2-Trichloroethane	0.308	0.297	3.6	87	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\08\05082001.D Vial: 2
Acq On : 8 May 2020 00:57 Operator: LH
Sample : CCV R16050820_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 08 03:02:38 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	96	0.00
57	S	Toluene-d8 (SS2)	2.119	2.072	2.2	94	0.00
58	T	Toluene	2.731	2.518	7.8	87	0.00
59	T	2-Hexanone	1.497	1.403	6.3	85	0.00
60	T	Dibromochloromethane	0.782	0.784	-0.3	87	0.00
61	T	1,2-Dibromoethane	0.752	0.721	4.1	87	0.00
62	T	n-Butyl Acetate	1.616	1.517	6.1	84	0.00
63	T	n-Octane	0.565	0.528	6.5	86	0.00
64	T	Tetrachloroethene	0.771	0.762	1.2	89	0.00
65	T	Chlorobenzene	1.879	1.704	9.3	87	0.00
66	T	Ethylbenzene	3.045	2.976	2.3	87	0.00
67	T	m- & p-Xylenes	2.416	2.396	0.8	87	-0.01
68	T	Bromoform	0.678	0.675	0.4	87	0.00
69	T	Styrene	1.817	1.843	-1.4	86	0.00
70	T	o-Xylene	2.453	2.401	2.1	87	0.00
71	T	n-Nonane	1.301	1.291	0.8	88	0.00
72	T	1,1,2,2-Tetrachloroethane	1.217	1.194	1.9	87	0.00
73	S	Bromofluorobenzene (SS3)	0.762	0.844	-10.8	101	0.00
74	T	Cumene	3.010	3.008	0.1	87	0.00
75	T	alpha-Pinene	1.606	1.597	0.6	86	0.00
76	T	n-Propylbenzene	3.576	3.624	-1.3	87	0.00
77	T	3-Ethyltoluene	2.913	2.939	-0.9	84	0.00
78	T	4-Ethyltoluene	2.827	2.953	-4.5	90	0.00
79	T	1,3,5-Trimethylbenzene	2.455	2.489	-1.4	87	0.00
80	T	alpha-Methylstyrene	1.384	1.290	6.8	84	0.00
81	T	2-Ethyltoluene	2.874	2.928	-1.9	88	0.00
82	T	1,2,4-Trimethylbenzene	2.467	2.765	-12.1	87	0.00
83	T	n-Decane	1.380	1.364	1.2	87	0.00
84	T	Benzyl Chloride	2.300	2.236	2.8	83	0.00
85	T	1,3-Dichlorobenzene	1.433	1.496	-4.4	87	0.00
86	T	1,4-Dichlorobenzene	1.398	1.457	-4.2	87	0.00
87	T	sec-Butylbenzene	3.203	3.314	-3.5	88	0.00
88	T	4-Isopropyltoluene (p-Cymen	3.033	3.248	-7.1	88	0.00
89	T	1,2,3-Trimethylbenzene	2.582	2.784	-7.8	88	0.00
90	T	1,2-Dichlorobenzene	1.372	1.510	-10.1	88	0.00
91	T	d-Limonene	0.974	1.041	-6.9	86	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.517	0.524	-1.4	87	0.00
93	T	n-Undecane	1.277	1.325	-3.8	87	0.00
94	T	1,2,4-Trichlorobenzene	0.951	1.037	-9.0	87	0.00
95	T	Naphthalene	3.011	3.404	-13.1	85	0.00
96	T	n-Dodecane	1.106	1.335	-20.7	87	0.00
97	T	Hexachlorobutadiene	0.658	0.687	-4.4	91	0.00
98	T	Cyclohexanone	0.956	0.825	13.7	81	-0.01
99	T	tert-Butylbenzene	2.428	2.621	-7.9	89	0.00
100	T	n-Butylbenzene	2.512	2.674	-6.4	87	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082001.D Vial: 2
Acq On : 8 May 2020 00:57 Operator: LH
Sample : CCV R16050820_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 08 03:02:38 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/8/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	276091	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.28	114	1158097	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.58	82	550769	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	431262	11.526	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.24%				
57) Toluene-d8 (SS2)	15.72	98	1141275	12.225	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.84%				
73) Bromofluorobenzene (SS3)	18.98	174	464890	13.840	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.72%				
Target Compounds							Qvalue
2) Propene	4.08	42	811420	25.375	ng		99
3) Dichlorodifluoromethan...	4.24	85	1474671	23.578	ng		100
4) Chloromethane	4.52	50	1189724	24.281	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.79	135	870016	23.283	ng		100
6) Vinyl Chloride	4.94	62	1267173	23.584	ng		100
7) 1,3-Butadiene	5.21	54	1053515	23.697	ng		100
8) Bromomethane	5.64	94	697854	24.586	ng		100
9) Chloroethane	5.98	64	518196	24.413	ng		99
10) Ethanol	6.38	45	2906064	117.696	ng		100
11) Acetonitrile	6.62	41	1300934	23.056	ng		100
12) Acrolein	6.79	56	438085	22.455	ng		99
13) Acetone	7.00	58	3014372	122.073	ng		99
14) Trichlorofluoromethane	7.24	101	1303992	23.591	ng		100
15) 2-Propanol (Isopropanol)	7.51	45	3602653	48.204	ng		99
16) Acrylonitrile	7.77	53	961927	23.829	ng		100
17) 1,1-Dichloroethene	8.19	96	717975	24.779	ng		97
18) 2-Methyl-2-Propanol (t...	8.38	59	3255107	46.718	ng		100
19) Methylene Chloride	8.43	84	747077	23.274	ng		99
20) 3-Chloro-1-propene (Al...	8.58	41	1086094	24.628	ng		100
21) Trichlorotrifluoroethane	8.84	151	673049	25.791	ng		97
22) Carbon Disulfide	8.68	76	2759940	23.995	ng		100
23) trans-1,2-Dichloroethene	9.70	61	1041942	23.615	ng		98
24) 1,1-Dichloroethane	9.95	63	1266574	24.181	ng		100
25) Methyl tert-Butyl Ether	10.05	73	1913669	23.227	ng		100
26) Vinyl Acetate	10.21	86	957109	124.434	ng	#	95
27) 2-Butanone (MEK)	10.45	72	505161	23.988	ng		100
28) cis-1,2-Dichloroethene	10.97	61	1004939	23.286	ng		98
29) Diisopropyl Ether	11.27	87	711163	23.873	ng		97
30) Ethyl Acetate	11.27	61	652393	53.726	ng		98
31) n-Hexane	11.26	57	1348883	25.611	ng		100
32) Chloroform	11.32	83	1324721	24.105	ng		100
34) Tetrahydrofuran (THF)	11.72	72	492024	23.956	ng		100
35) Ethyl tert-Butyl Ether	11.86	87	893237	24.813	ng		99
36) 1,2-Dichloroethane	12.12	62	1003911	23.056	ng		100
38) 1,1,1-Trichloroethane	12.40	97	1164094	24.956	ng		100
39) Isopropyl Acetate	12.83	61	1071677	52.525	ng		99
40) 1-Butanol	12.85	56	1437523	49.522	ng		98
41) Benzene	12.88	78	3055911	24.606	ng		100
42) Carbon Tetrachloride	13.03	117	1055689	24.990	ng		100
43) Cyclohexane	13.17	84	2369121	51.191	ng		100
44) tert-Amyl Methyl Ether	13.51	73	2160304	25.940	ng		100
45) 1,2-Dichloropropane	13.73	63	726368	25.253	ng		100
46) Bromodichloromethane	13.92	83	1087867	25.919	ng		100
47) Trichloroethene	13.97	130	829230	25.832	ng		99
48) 1,4-Dioxane	13.94	88	632155	25.273	ng		99
49) 2,2,4-Trimethylpentane...	14.04	57	3037277	25.133	ng		100
50) Methyl Methacrylate	14.18	100	647479	52.552	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082001.D Vial: 2
Acq On : 8 May 2020 00:57 Operator: LH
Sample : CCV R16050820_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 08 03:02:38 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

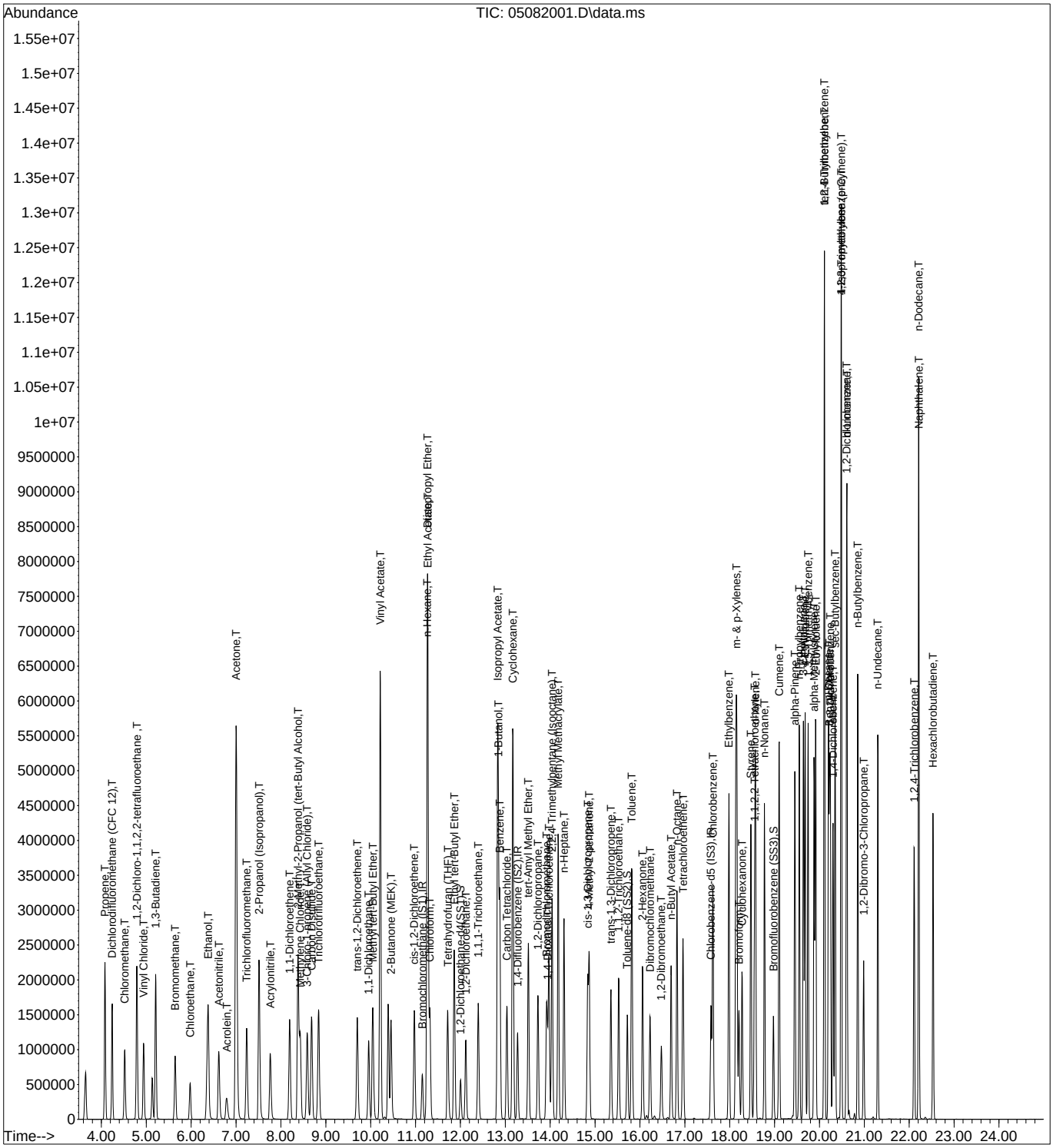
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	722115	24.864	ng	99
52) cis-1,3-Dichloropropene	14.84	75	1232416	24.957	ng	100
53) 4-Methyl-2-pentanone	14.87	58	693469	25.048	ng	99
54) trans-1,3-Dichloropropene	15.35	75	1112421	26.328	ng	99
55) 1,1,2-Trichloroethane	15.52	97	736013	25.804	ng	99
58) Toluene	15.82	91	2967449	24.660	ng	100
59) 2-Hexanone	16.06	43	1653183	25.071	ng	100
60) Dibromochloromethane	16.23	129	923784	26.809	ng	100
61) 1,2-Dibromoethane	16.48	107	850141	25.670	ng	100
62) n-Butyl Acetate	16.70	43	1822001	25.581	ng	100
63) n-Octane	16.83	57	627841	25.201	ng	100
64) Tetrachloroethene	16.96	166	873011	25.685	ng	100
65) Chlorobenzene	17.62	112	2007983	24.251	ng	100
66) Ethylbenzene	17.98	91	3507217	26.138	ng	100
67) m- & p-Xylenes	18.15	91	5649119	53.068	ng	100
68) Bromoform	18.21	173	796158	26.652	ng	100
69) Styrene	18.47	104	2151646	26.874	ng	99
70) o-Xylene	18.58	91	2829608	26.183	ng	99
71) n-Nonane	18.77	43	1521665	26.538	ng	99
72) 1,1,2,2-Tetrachloroethane	18.55	83	1407039	26.244	ng	100
74) Cumene	19.10	105	3578092	26.978	ng	100
75) alpha-Pinene	19.45	93	1881814	26.592	ng	99
76) n-Propylbenzene	19.55	91	4311116	27.362	ng	100
77) 3-Ethyltoluene	19.64	105	3431372	26.730	ng	99
78) 4-Ethyltoluene	19.68	105	3513239	28.205	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	2905722	26.867	ng	99
80) alpha-Methylstyrene	19.88	118	1520764	24.947	ng	99
81) 2-Ethyltoluene	19.92	105	3482897	27.506	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3258628	29.976	ng	99
83) n-Decane	20.20	57	1607887	26.441	ng	99
84) Benzyl Chloride	20.23	91	2660193	26.255	ng	100
85) 1,3-Dichlorobenzene	20.24	146	1763488	27.938	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1716862	27.871	ng	100
87) sec-Butylbenzene	20.35	105	3906293	27.683	ng	100
88) 4-Isopropyltoluene (p-...	20.48	119	3899524	29.183	ng	99
89) 1,2,3-Trimethylbenzene	20.48	105	3343083	29.385	ng	100
90) 1,2-Dichlorobenzene	20.61	146	1779864	29.450	ng	100
91) d-Limonene	20.61	68	1237920	28.833	ng	100
92) 1,2-Dibromo-3-Chloropr...	20.98	157	606206	26.602	ng	97
93) n-Undecane	21.30	57	1576298	28.007	ng	100
94) 1,2,4-Trichlorobenzene	22.11	180	1222575	29.167	ng	100
95) Naphthalene	22.22	128	3862344	29.113	ng	100
96) n-Dodecane	22.21	57	1529428	31.385	ng	100
97) Hexachlorobutadiene	22.53	225	801845	27.655	ng	100
98) Cyclohexanone	18.27	55	909230	21.585	ng	100
99) tert-Butylbenzene	20.11	119	3089253	28.873	ng	100
100) n-Butylbenzene	20.85	91	3151492	28.474	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082001.D Vial: 2
Acq On : 8 May 2020 00:57 Operator: LH
Sample : CCV R16050820_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 08 03:02:38 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\07\05082022.D Vial: 2
Acq On : 8 May 2020 12:52 Operator: LH
Sample : CCVend R16050820_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 08 13:48:56 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/8/20

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	95	-0.01
2	T	Propene	1.448	1.477	-2.0	95	-0.01
3	T	Dichlorodifluoromethane (CF	2.832	2.634	7.0	91	-0.01
4	T	Chloromethane	2.218	2.168	2.3	94	-0.01
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.692	1.539	9.0	91	-0.01
6	T	Vinyl Chloride	2.433	2.241	7.9	91	-0.01
7	T	1,3-Butadiene	2.013	1.891	6.1	91	-0.01
8	T	Bromomethane	1.285	1.217	5.3	93	-0.01
9	T	Chloroethane	0.961	0.920	4.3	93	-0.01
10	T	Ethanol	1.118	1.054	5.7	90	-0.03
11	T	Acetonitrile	2.555	2.359	7.7	91	-0.02
12	T	Acrolein	0.883	0.803	9.1	87	-0.02
13	T	Acetone	1.118	1.077	3.7	90	-0.02
14	T	Trichlorofluoromethane	2.503	2.297	8.2	89	0.00
15	T	2-Propanol (Isopropanol)	3.384	3.293	2.7	89	-0.02
16	T	Acrylonitrile	1.828	1.728	5.5	90	-0.01
17	T	1,1-Dichloroethene	1.312	1.233	6.0	89	0.00
18	T	2-Methyl-2-Propanol (tert-B	3.155	2.909	7.8	86	-0.02
19	T	Methylene Chloride	1.453	1.327	8.7	88	0.00
20	T	3-Chloro-1-propene (Allyl C	1.997	1.918	4.0	90	-0.01
21	T	Trichlorotrifluoroethane	1.182	1.146	3.0	90	0.00
22	T	Carbon Disulfide	5.208	4.835	7.2	89	0.00
23	T	trans-1,2-Dichloroethene	1.998	1.836	8.1	88	0.00
24	T	1,1-Dichloroethane	2.371	2.220	6.4	88	0.00
25	T	Methyl tert-Butyl Ether	3.730	3.392	9.1	91	0.00
26	T	Vinyl Acetate	0.348	0.332	4.6	84	-0.01
27	T	2-Butanone (MEK)	0.953	0.893	6.3	89	-0.01
28	T	cis-1,2-Dichloroethene	1.954	1.786	8.6	88	0.00
29	T	Diisopropyl Ether	1.349	1.212	10.2	87	0.00
30	T	Ethyl Acetate	0.550	0.562	-2.2	89	0.00
31	T	n-Hexane	2.385	2.349	1.5	90	0.00
32	T	Chloroform	2.488	2.306	7.3	89	0.00
33	S	1,2-Dichloroethane-d4(SS1)	1.694	1.590	6.1	92	0.00
34	T	Tetrahydrofuran (THF)	0.930	0.842	9.5	89	0.00
35	T	Ethyl tert-Butyl Ether	1.630	1.541	5.5	88	0.00
36	T	1,2-Dichloroethane	1.971	1.752	11.1	87	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	94	0.00
38	T	1,1,1-Trichloroethane	0.503	0.476	5.4	87	0.00
39	T	Isopropyl Acetate	0.220	0.225	-2.3	89	0.00
40	T	1-Butanol	0.313	0.302	3.5	85	-0.02
41	T	Benzene	1.340	1.269	5.3	89	0.00
42	T	Carbon Tetrachloride	0.456	0.440	3.5	87	0.00
43	T	Cyclohexane	0.500	0.494	1.2	89	0.00
44	T	tert-Amyl Methyl Ether	0.899	0.880	2.1	89	0.00
45	T	1,2-Dichloropropane	0.310	0.298	3.9	88	0.00
46	T	Bromodichloromethane	0.453	0.441	2.6	87	0.00
47	T	Trichloroethene	0.346	0.337	2.6	89	0.00
48	T	1,4-Dioxane	0.270	0.258	4.4	87	0.00
49	T	2,2,4-Trimethylpentane (Iso	1.304	1.257	3.6	89	0.00
50	T	Methyl Methacrylate	0.133	0.133	0.0	87	0.00
51	T	n-Heptane	0.313	0.297	5.1	90	0.00
52	T	cis-1,3-Dichloropropene	0.533	0.523	1.9	87	0.00
53	T	4-Methyl-2-pentanone	0.299	0.291	2.7	88	0.00
54	T	trans-1,3-Dichloropropene	0.456	0.466	-2.2	86	0.00
55	T	1,1,2-Trichloroethane	0.308	0.303	1.6	89	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\07\05082022.D Vial: 2
Acq On : 8 May 2020 12:52 Operator: LH
Sample : CCVend R16050820_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 08 13:48:56 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	94	0.00
57	S	Toluene-d8 (SS2)	2.119	2.097	1.0	93	0.00
58	T	Toluene	2.731	2.621	4.0	88	0.00
59	T	2-Hexanone	1.497	1.480	1.1	88	0.00
60	T	Dibromochloromethane	0.782	0.808	-3.3	88	0.00
61	T	1,2-Dibromoethane	0.752	0.750	0.3	88	0.00
62	T	n-Butyl Acetate	1.616	1.602	0.9	87	0.00
63	T	n-Octane	0.565	0.560	0.9	89	0.00
64	T	Tetrachloroethene	0.771	0.785	-1.8	89	0.00
65	T	Chlorobenzene	1.879	1.764	6.1	88	0.00
66	T	Ethylbenzene	3.045	3.088	-1.4	88	0.00
67	T	m- & p-Xylenes	2.416	2.487	-2.9	88	-0.01
68	T	Bromoform	0.678	0.691	-1.9	87	0.00
69	T	Styrene	1.817	1.898	-4.5	86	0.00
70	T	o-Xylene	2.453	2.493	-1.6	88	0.00
71	T	n-Nonane	1.301	1.370	-5.3	91	0.00
72	T	1,1,2,2-Tetrachloroethane	1.217	1.238	-1.7	88	0.00
73	S	Bromofluorobenzene (SS3)	0.762	0.806	-5.8	95	0.00
74	T	Cumene	3.010	3.106	-3.2	88	0.00
75	T	alpha-Pinene	1.606	1.648	-2.6	87	0.00
76	T	n-Propylbenzene	3.576	3.753	-4.9	88	0.00
77	T	3-Ethyltoluene	2.913	3.014	-3.5	84	0.00
78	T	4-Ethyltoluene	2.827	3.077	-8.8	91	0.00
79	T	1,3,5-Trimethylbenzene	2.455	2.571	-4.7	87	0.00
80	T	alpha-Methylstyrene	1.384	1.319	4.7	84	0.00
81	T	2-Ethyltoluene	2.874	3.021	-5.1	88	0.00
82	T	1,2,4-Trimethylbenzene	2.467	2.850	-15.5	88	0.00
83	T	n-Decane	1.380	1.431	-3.7	89	0.00
84	T	Benzyl Chloride	2.300	2.303	-0.1	83	0.00
85	T	1,3-Dichlorobenzene	1.433	1.543	-7.7	87	0.00
86	T	1,4-Dichlorobenzene	1.398	1.478	-5.7	86	0.00
87	T	sec-Butylbenzene	3.203	3.424	-6.9	89	0.00
88	T	4-Isopropyltoluene (p-Cymen	3.033	3.343	-10.2	89	0.00
89	T	1,2,3-Trimethylbenzene	2.582	2.871	-11.2	88	0.00
90	T	1,2-Dichlorobenzene	1.372	1.541	-12.3	88	0.00
91	T	d-Limonene	0.974	1.082	-11.1	87	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.517	0.535	-3.5	87	0.00
93	T	n-Undecane	1.277	1.387	-8.6	89	0.00
94	T	1,2,4-Trichlorobenzene	0.951	1.046	-10.0	86	0.00
95	T	Naphthalene	3.011	3.438	-14.2	84	0.00
96	T	n-Dodecane	1.106	1.380	-24.8	88	0.00
97	T	Hexachlorobutadiene	0.658	0.695	-5.6	90	0.00
98	T	Cyclohexanone	0.956	0.865	9.5	83	-0.01
99	T	tert-Butylbenzene	2.428	2.692	-10.9	89	0.00
100	T	n-Butylbenzene	2.512	2.762	-10.0	88	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\07\05082022.D Vial: 2
Acq On : 8 May 2020 12:52 Operator: LH
Sample : CCVend R16050820_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 08 13:48:56 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/8/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	271504	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.27	114	1155761	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.58	82	537353	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	431819	11.736	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.92%				
57) Toluene-d8 (SS2)	15.72	98	1126822	12.372	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.96%				
73) Bromofluorobenzene (SS3)	18.98	174	433282	13.221	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.76%				
Target Compounds							Qvalue
2) Propene	4.08	42	849975	27.030	ng		99
3) Dichlorodifluoromethan...	4.24	85	1515918	24.647	ng		100
4) Chloromethane	4.52	50	1247849	25.898	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	877307	23.875	ng		100
6) Vinyl Chloride	4.94	62	1314244	24.873	ng		100
7) 1,3-Butadiene	5.21	54	1088414	24.896	ng		99
8) Bromomethane	5.65	94	713903	25.576	ng		100
9) Chloroethane	5.98	64	539779	25.859	ng		100
10) Ethanol	6.38	45	2982007	122.812	ng		100
11) Acetonitrile	6.62	41	1345158	24.242	ng		100
12) Acrolein	6.79	56	449306	23.419	ng		100
13) Acetone	7.01	58	3116513	128.341	ng		99
14) Trichlorofluoromethane	7.24	101	1322138	24.324	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	3755378	51.096	ng		99
16) Acrylonitrile	7.77	53	985121	24.816	ng		100
17) 1,1-Dichloroethene	8.20	96	722824	25.367	ng		99
18) 2-Methyl-2-Propanol (t...	8.39	59	3412475	49.804	ng		100
19) Methylene Chloride	8.44	84	763878	24.199	ng		99
20) 3-Chloro-1-propene (Al...	8.59	41	1125095	25.943	ng		100
21) Trichlorotrifluoroethane	8.84	151	672009	26.186	ng		98
22) Carbon Disulfide	8.69	76	2809103	24.835	ng		100
23) trans-1,2-Dichloroethene	9.71	61	1076466	24.810	ng		99
24) 1,1-Dichloroethane	9.96	63	1313894	25.508	ng		100
25) Methyl tert-Butyl Ether	10.05	73	1989211	24.552	ng		100
26) Vinyl Acetate	10.22	86	965221	127.608	ng	#	91
27) 2-Butanone (MEK)	10.45	72	513716	24.807	ng		98
28) cis-1,2-Dichloroethene	10.98	61	1028177	24.227	ng		99
29) Diisopropyl Ether	11.27	87	710741	24.262	ng	#	91
30) Ethyl Acetate	11.28	61	662447	55.476	ng		98
31) n-Hexane	11.26	57	1377487	26.596	ng		99
32) Chloroform	11.32	83	1339870	24.792	ng		100
34) Tetrahydrofuran (THF)	11.72	72	498427	24.678	ng		98
35) Ethyl tert-Butyl Ether	11.86	87	903480	25.521	ng		98
36) 1,2-Dichloroethane	12.12	62	1027218	23.990	ng		100
38) 1,1,1-Trichloroethane	12.40	97	1177526	25.295	ng		100
39) Isopropyl Acetate	12.83	61	1095073	53.780	ng		98
40) 1-Butanol	12.85	56	1450283	50.062	ng		97
41) Benzene	12.88	78	3110173	25.094	ng		100
42) Carbon Tetrachloride	13.04	117	1069117	25.359	ng		99
43) Cyclohexane	13.17	84	2418886	52.372	ng		99
44) tert-Amyl Methyl Ether	13.52	73	2195688	26.418	ng		100
45) 1,2-Dichloropropane	13.73	63	743386	25.897	ng		100
46) Bromodichloromethane	13.92	83	1100665	26.277	ng		100
47) Trichloroethene	13.97	130	833771	26.025	ng		100
48) 1,4-Dioxane	13.95	88	644096	25.803	ng		100
49) 2,2,4-Trimethylpentane...	14.04	57	3109973	25.786	ng		100
50) Methyl Methacrylate	14.18	100	659886	53.667	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\07\05082022.D Vial: 2
Acq On : 8 May 2020 12:52 Operator: LH
Sample : CCVend R16050820_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 08 13:48:56 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

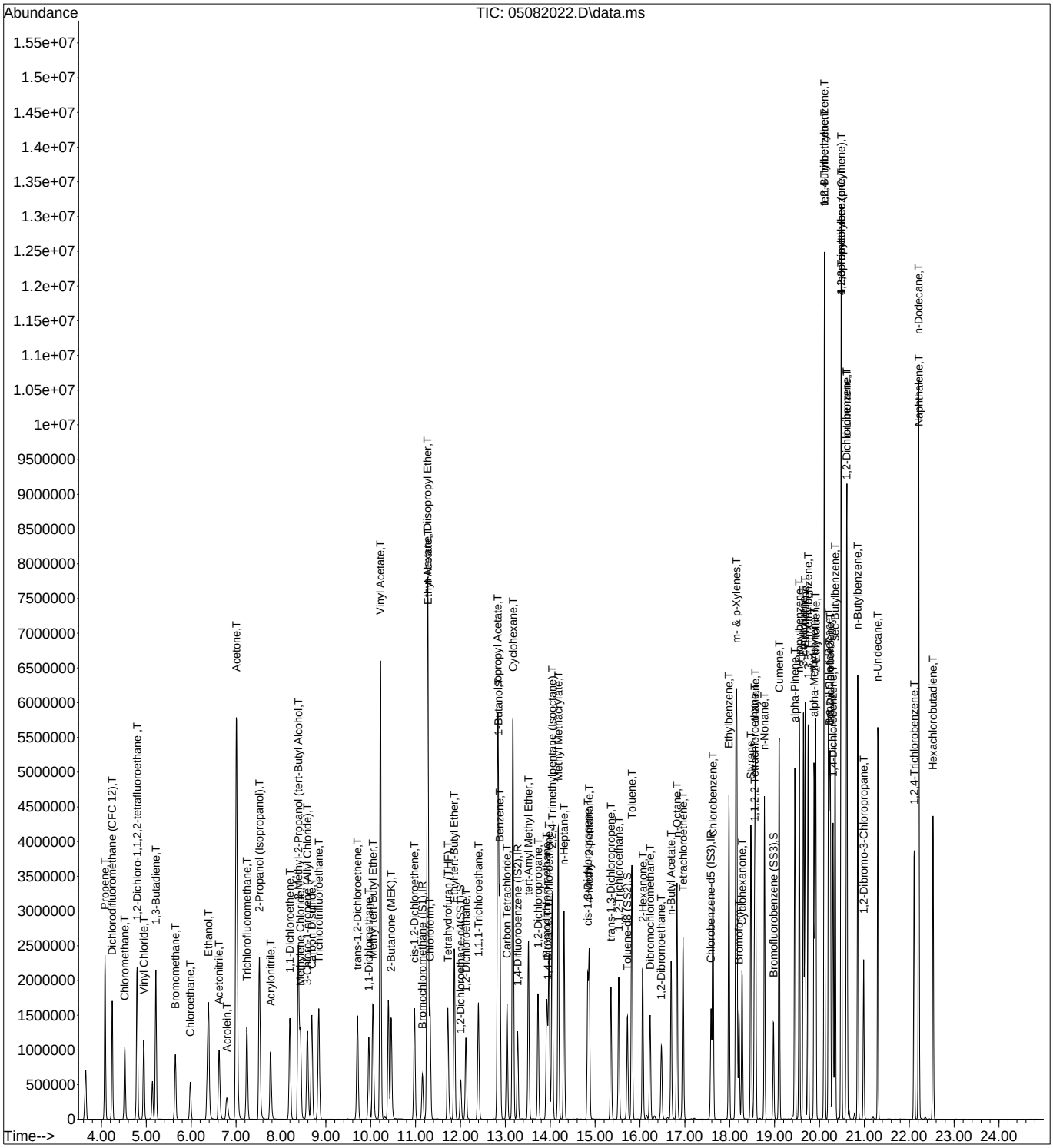
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	740873	25.561	ng	99
52) cis-1,3-Dichloropropene	14.84	75	1256715	25.500	ng	100
53) 4-Methyl-2-pentanone	14.87	58	712784	25.798	ng	98
54) trans-1,3-Dichloropropene	15.35	75	1142363	27.092	ng	100
55) 1,1,2-Trichloroethane	15.53	97	749233	26.320	ng	100
58) Toluene	15.82	91	3013437	25.667	ng	100
59) 2-Hexanone	16.06	43	1702228	26.460	ng	99
60) Dibromochloromethane	16.23	129	929305	27.643	ng	100
61) 1,2-Dibromoethane	16.48	107	862256	26.686	ng	100
62) n-Butyl Acetate	16.70	43	1877085	27.013	ng	99
63) n-Octane	16.83	57	649685	26.729	ng	99
64) Tetrachloroethene	16.96	166	877025	26.447	ng	100
65) Chlorobenzene	17.62	112	2028790	25.114	ng	100
66) Ethylbenzene	17.98	91	3550429	27.120	ng	100
67) m- & p-Xylenes	18.15	91	5718989	55.066	ng	100
68) Bromoform	18.21	173	794590	27.264	ng	100
69) Styrene	18.47	104	2161666	27.673	ng	100
70) o-Xylene	18.58	91	2866529	27.187	ng	100
71) n-Nonane	18.77	43	1575005	28.154	ng	98
72) 1,1,2,2-Tetrachloroethane	18.55	83	1424079	27.225	ng	100
74) Cumene	19.10	105	3605060	27.860	ng	100
75) alpha-Pinene	19.45	93	1895201	27.449	ng	100
76) n-Propylbenzene	19.55	91	4356552	28.340	ng	100
77) 3-Ethyltoluene	19.64	105	3433779	27.417	ng	100
78) 4-Ethyltoluene	19.68	105	3571658	29.390	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	2929406	27.762	ng	100
80) alpha-Methylstyrene	19.88	118	1516317	25.495	ng	99
81) 2-Ethyltoluene	19.92	105	3506469	28.384	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3277448	30.902	ng	100
83) n-Decane	20.20	57	1645569	27.736	ng	100
84) Benzyl Chloride	20.23	91	2673259	27.043	ng	100
85) 1,3-Dichlorobenzene	20.24	146	1773959	28.805	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1700098	28.288	ng	100
87) sec-Butylbenzene	20.35	105	3937714	28.602	ng	100
88) 4-Isopropyltoluene (p-...	20.48	119	3916185	30.039	ng	100
89) 1,2,3-Trimethylbenzene	20.48	105	3362788	30.296	ng	99
90) 1,2-Dichlorobenzene	20.61	146	1771688	30.047	ng	100
91) d-Limonene	20.61	68	1255980	29.984	ng	99
92) 1,2-Dibromo-3-Chloropr...	20.98	157	603334	27.137	ng	99
93) n-Undecane	21.30	57	1610100	29.322	ng	99
94) 1,2,4-Trichlorobenzene	22.11	180	1202331	29.400	ng	100
95) Naphthalene	22.22	128	3805276	29.399	ng	100
96) n-Dodecane	22.21	57	1542000	32.433	ng	99
97) Hexachlorobutadiene	22.53	225	791633	27.984	ng	100
98) Cyclohexanone	18.27	55	929173	22.609	ng	99
99) tert-Butylbenzene	20.11	119	3095451	29.654	ng	100
100) n-Butylbenzene	20.85	91	3175579	29.408	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\07\05082022.D Vial: 2
Acq On : 8 May 2020 12:52 Operator: LH
Sample : CCVend R16050820_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 08 13:48:56 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

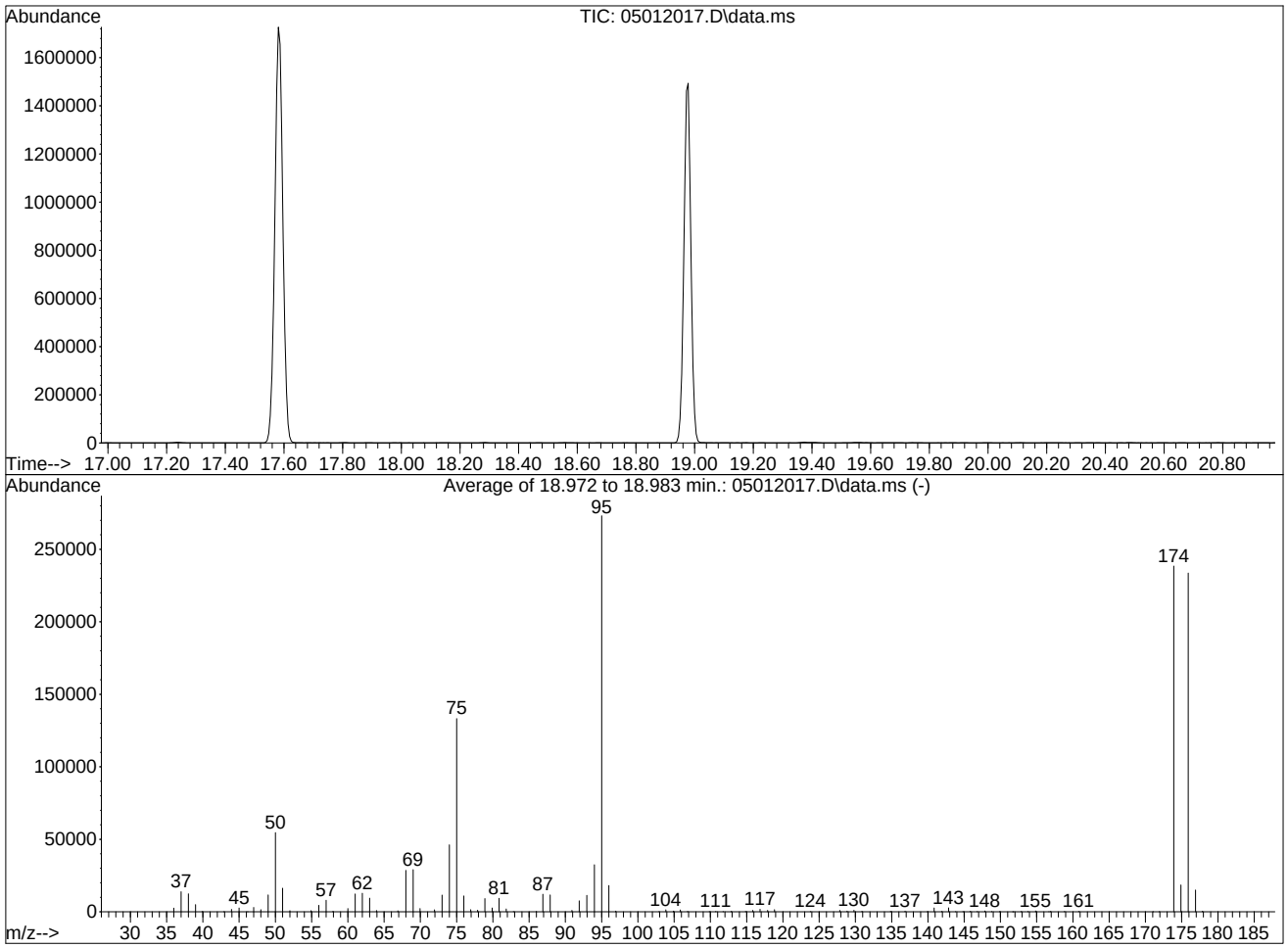


BFB

Data Path : I:\MS16\DATA\2020_05\01\
Data File : 05012017.D
Acq On : 1 May 2020 13:35
Operator : LH
Sample : 12.5ng TO15 BFB
Misc : S31-02112001
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16050120.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri May 01 17:25:50 2020



AutoFind: Scans 2816, 2817, 2818; Background Corrected with Scan 2808

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	20.0	54576	PASS
75	95	30	66	48.8	133227	PASS
95	95	100	100	100.0	273088	PASS
96	95	5	9	6.6	18099	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	87.3	238485	PASS
175	174	4	9	7.8	18527	PASS
176	174	93	101	98.0	233621	PASS
177	176	5	9	6.4	15004	PASS

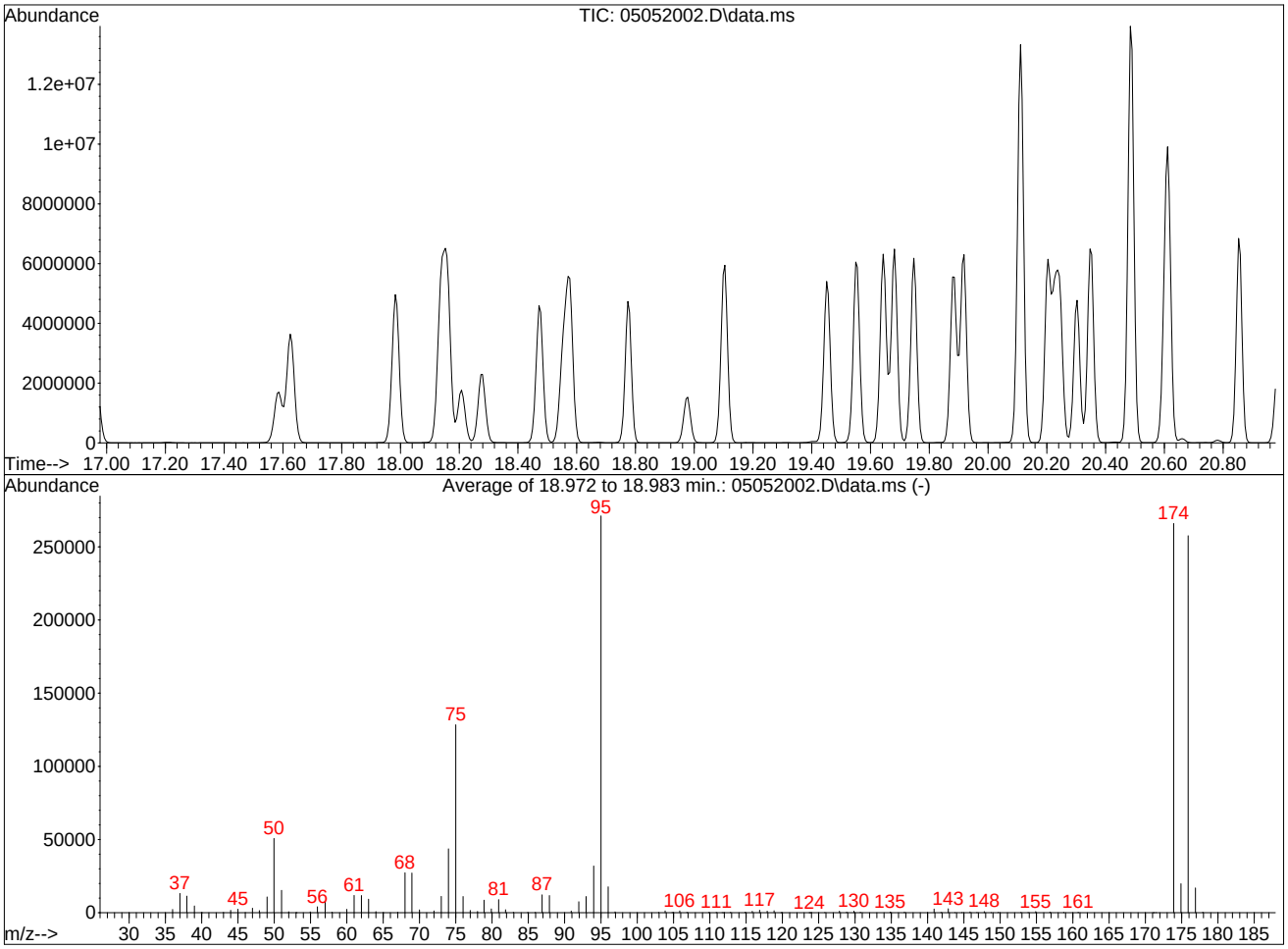
LH 5/1/20

BFB

Data Path : I:\MS16\DATA\2020_05\05\
Data File : 05052002.D
Acq On : 5 May 2020 3:43
Operator : TD
Sample : CCV R16050520_25ng
Misc : S31-02112001/S34-04292003 (5/28)
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16050120.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri May 01 18:22:00 2020



AutoFind: Scans 2816, 2817, 2818; Background Corrected with Scan 2807

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	18.7	50790	PASS
75	95	30	66	47.4	128437	PASS
95	95	100	100	100.0	271147	PASS
96	95	5	9	6.5	17675	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	98.1	266005	PASS
175	174	4	9	7.5	19829	PASS
176	174	93	101	96.8	257600	PASS
177	176	5	9	6.6	16924	PASS

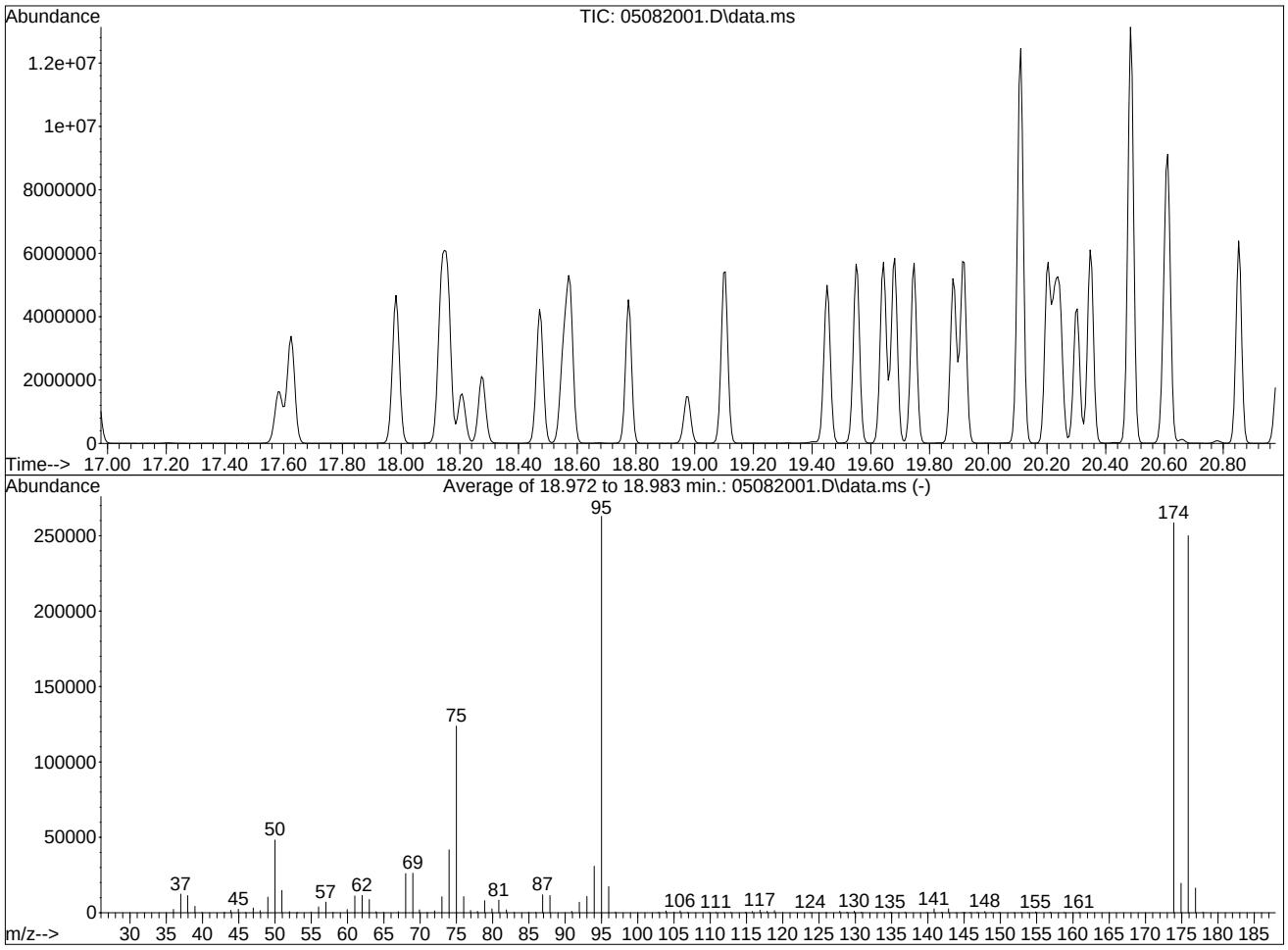
5/6/20

BFB

Data Path : I:\MS16\DATA\2020_05\08\
Data File : 05082001.D
Acq On : 8 May 2020 00:57
Operator : LH
Sample : CCV R16050820_25ng
Misc : S31-02112001/S34-04292003 (5/28)
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16050120.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri May 01 18:22:00 2020



AutoFind: Scans 2816, 2817, 2818; Background Corrected with Scan 2807

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	18.4	48312	PASS
75	95	30	66	47.1	123720	PASS
95	95	100	100	100.0	262827	PASS
96	95	5	9	6.6	17339	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	98.4	258560	PASS
175	174	4	9	7.6	19592	PASS
176	174	93	101	96.7	250005	PASS
177	176	5	9	6.6	16434	PASS

LH 5/8/20

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
17	5/1/20 13:35	05012017.D	12.5ng TO15 BFB	S31-02112001	LH	2	
18	5/1/20 14:09	05012018.D	0.1ng TO15 ICAL STD	S31-02112001/S34-04272015 (5/26)	LH	6	
19	5/1/20 14:42	05012019.D	0.2ng TO15 ICAL STD	S31-02112001/S34-04272015 (5/26)	LH	6	
20	5/1/20 15:16	05012020.D	0.5ng TO15 ICAL STD	S31-02112001/S34-05012002 (5/30)	LH	13	
21	5/1/20 15:51	05012021.D	1.0ng TO15 ICAL STD	S31-02112001/S34-05012002 (5/30)	LH	13	
22	5/1/20 16:25	05012022.D	5.0ng TO15 ICAL STD	S31-02112001/S34-04292003 (5/28)	LH	2	
23	5/1/20 16:59	05012023.D	25ng TO15 ICAL STD	S31-02112001/S34-04292003 (5/28)	LH	2	
24	5/1/20 17:33	05012024.D	50ng TO15 ICAL STD	S31-02112001/S34-04292003 (5/28)	LH	2	
25	5/1/20 18:07	05012025.D	100ng TO15 ICAL STD	S31-02112001/S34-04292003 (5/28)	LH	2	
26	5/1/20 18:41	05012026.D	25ng TO15 ICV STD	S31-02112001/S34-04302003 (5/29)	LH	2	
	ICAL R16050120.M passed for all compounds 0.1ng-100ng, except: tert butanol 0.1ng-50ng, vinyl acetate 2.5ng-500ng, bromoform,						
	alpha-methylstyrene, n-decane, 4-isopropyltolune, 1,2,3-trtimethylbenzene, 1,2-dibromo-3-chloropropane, n-undecane, 1,2,4-trichlorobenzene,						
	naphthalene, n-dodecane, hexachlorobutadiene 0.5ng-100ng, benzyl chloride 1.0ng-100ng.						

LH 5/4/20

Injection Log

Directory: I:\MS16\DATA\2020_05\05\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	5/5/20 3:09	05052001.D	CCV C16050520_25ng	S31-02112001/S34-04162002 (5/15)	TD	3	
2	5/5/20 3:43	05052002.D	CCV R16050520_25ng	S31-02112001/S34-04292003 (5/28)	TD	2	Passed
3	5/5/20 4:17	05052003.D	Blank (100mL)	S31-02112001/S34-04102011 (6/7)	TD	4	
4	5/5/20 4:52	05052004.D	MB R16050520_1000mL	S31-02112001/AS01319	TD	2	Passed
5	5/5/20 5:26	05052005.D	LCS R16050520_25ng	S31-02112001/S34-04302003 (5/29)	TD	2	Passed
6	5/5/20 6:00	05052006.D	LCSD R16050520_25ng	S31-02112001/S34-04302003 (5/29)	TD	2	Passed
7	5/5/20 6:34	05052007.D	Blank (100mL)	S31-02112001	TD	2	
8	5/5/20 7:08	05052008.D	P2002107-001 (400mL)	S31-02112001	TD	8	
9	5/5/20 7:42	05052009.D	P2002107-002 (400mL)	S31-02112001	TD	9	
10	5/5/20 8:16	05052010.D	P2002107-003 (400mL)	S31-02112001	TD	10	
11	5/5/20 8:50	05052011.D	P2002107-004 (400mL)	S31-02112001	TD	11	
12	5/5/20 9:24	05052012.D	P2002107-006 (400mL)	S31-02112001	TD	12	
13	5/5/20 10:05	05052013.D	P2002107-005 (3.0mL)	S31-02112001	WA	1	
14	5/5/20 10:43	05052014.D	P2002107-005dup (3.0mL)	S31-02112001	WA	1	Passed
15	5/5/20 11:32	05052015.D	P2002107-021 (0.2mL)	S31-02112001	WA	1	
16	5/5/20 12:07	05052016.D	P2002107-022 (0.4mL)	S31-02112001	WA	1	
17	5/5/20 12:48	05052017.D	P2002105-017dil (40mL)	S31-02112001	WA	5	
18	5/5/20 13:22	05052018.D	P2002105-018dil (25mL)	S31-02112001	WA	6	
19	5/5/20 15:05	05052019.D	P2002105-020dil (40mL)	S31-02112001	WA	7	need higher dil
20	5/5/20 15:37	05052020.D	P2002107-017 (200mL) Pf2	S31-02112001	WA	14	
21	5/5/20 16:12	05052021.D	P2002107-007 (400mL)	S31-02112001	WA	4	
22	5/5/20 16:46	05052022.D	P2002107-008 (400mL) pf2	S31-02112001	WA	5	
23	5/5/20 17:20	05052023.D	P2002107-009 (400mL)	S31-02112001	WA	6	
24	5/5/20 17:54	05052024.D	P2002107-009dil (40mL)	S31-02112001	WA	6	
25	5/5/20 18:28	05052025.D	P2002107-010 (400mL)	S31-02112001	WA	7	need dil
26	5/5/20 19:02	05052026.D	P2002107-011 (400mL)	S31-02112001	WA	8	need dil
27	5/5/20 19:36	05052027.D	P2002107-012 (400mL)	S31-02112001	WA	9	
28	5/5/20 20:10	05052028.D	P2002107-013 (400mL)	S31-02112001	WA	10	
29	5/5/20 20:45	05052029.D	P2002107-014 (400mL)	S31-02112001	WA	11	
30	5/5/20 21:19	05052030.D	P2002107-015 (400mL)	S31-02112001	WA	12	
31	5/5/20 21:53	05052031.D	P2002107-016 (400mL)	S31-02112001	WA	13	
32	5/5/20 22:27	05052032.D	P2002107-020 (400mL)	S31-02112001	WA	15	
33	5/5/20 23:01	05052033.D	CCVend R16050520_25ng	S31-02112001/S34-04292003 (5/28)	WA	2	Passed

WA 5/6/20

Injection Log

Directory: I:\MS16\DATA\2020_05\08\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	5/8/20 0:57	05082001.D	CCV R16050820_25ng	S31-02112001/S34-04292003 (5/28)	LH	2	Passed
2	5/8/20 1:32	05082002.D	Blank (100mL)	S31-02112001/S34-04102011 (6/7)	LH	2	
3	5/8/20 2:06	05082003.D	MB R16050820_1000mL	S31-02112001/AS01319	LH	2	Passed
4	5/8/20 2:40	05082004.D	LCS R16050820_25ng	S31-02112001/S34-04302003 (5/29)	LH	2	Passed
5	5/8/20 3:14	05082005.D	LCSD R16050820_25ng	S31-02112001/S34-04302003 (5/29)	LH	2	Passed
6	5/8/20 3:49	05082006.D	Blank (100mL)	S31-02112001	LH	2	
7	5/8/20 4:23	05082007.D	P2002107-010dil (40mL)	S31-02112001	LH	1	
8	5/8/20 4:57	05082008.D	P2002107-011dil (40mL)	S31-02112001	LH	3	
9	5/8/20 5:31	05082009.D	P2002107-018 (50mL)	S31-02112001	LH	4	
10	5/8/20 6:06	05082010.D	P2002107-019 (50mL)	S31-02112001	LH	5	
11	5/8/20 6:40	05082011.D	P2002107-019dup (50mL)	S31-02112001	LH	5	Passed
12	5/8/20 7:14	05082012.D	P2002107-023 (400mL)	S31-02112001 pf2	LH	6	
13	5/8/20 7:47	05082013.D	P2002107-024 (400mL)	S31-02112001 pf2	LH	7	
14	5/8/20 8:21	05082014.D	P2002107-024dil (40mL)	S31-02112001 pf2	LH	7	
15	5/8/20 8:55	05082015.D	P2002107-025 (400mL)	S31-02112001 pf2	LH	8	
16	5/8/20 9:29	05082016.D	P2002107-025dil (40mL)	S31-02112001 pf2	LH	8	
17	5/8/20 10:02	05082017.D	P2002107-026 (400mL)	S31-02112001 pf2	LH	9	
18	5/8/20 10:36	05082018.D	P2002107-026dil (40mL)	S31-02112001 pf2	LH	9	
19	5/8/20 11:10	05082019.D	P2002107-027 (400mL)	S31-02112001 pf2	LH	10	
20	5/8/20 11:44	05082020.D	P2002107-028 (400mL)	S31-02112001 pf3 (0.03, 5.67)	LH	11	
21	5/8/20 12:18	05082021.D	P2002107-029 (400mL)	S31-02112001	LH	12	
22	5/8/20 12:52	05082022.D	CCVend R16050820_25ng	S31-02112001/S34-04292003 (5/28)	LH	2	Passed
23	5/8/20 15:01	05082023.D	P2002237-001 (1000mL)	S31-02112001	LH	3	
24	5/8/20 15:35	05082024.D	P2002237-002 (1000mL)	S31-02112001	LH	4	
25	5/8/20 16:27	05082025.D	P2002237-003 (1000mL)	S31-02112001	LH	5	
26	5/8/20 17:01	05082026.D	J2002226-002 (0.1mL)	S31-02112001	LH	1	
27	5/8/20 17:35	05082027.D	J2002226-002 (0.2mL)	S31-02112001	LH	1	
28	5/8/20 18:08	05082028.D	J2002226-003 (12mL)	S31-02112001	LH	6	
29	5/8/20 18:54	05082029.D	J2002226-001 (80mL)	S31-02112001	LH	6	
30	5/8/20 19:44	05082030.D	J2002226-003dil (6.0mL)	S31-02112001	LH	1	
31	5/8/20 20:17	05082031.D	J2002226-004 (15mL)	S31-02112001	LH	7	
32	5/8/20 20:51	05082032.D	J2002226-005 (30mL)	S31-02112001	LH	8	

LDA 5/9/20

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Primary

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Propylene	115-07-1	1.00 mg/m3	1.06 mg/m3
Freon-12	75-71-8	1.00 mg/m3	1.06 mg/m3
Chloromethane	74-87-3	1.00 mg/m3	1.06 mg/m3
Freon-114	76-14-2	1.00 mg/m3	1.05 mg/m3
Vinyl Chloride	75-01-4	1.00 mg/m3	1.08 mg/m3
1,3-Butadiene	106-99-0	1.00 mg/m3	1.06 mg/m3
Bromomethane	74-83-9	1.00 mg/m3	1.08 mg/m3
Chloroethane	75-00-3	1.00 mg/m3	1.08 mg/m3
Ethanol	64-17-5	5.00 mg/m3	5.21 mg/m3
Acetonitrile	75-05-8	1.00 mg/m3	1.05 mg/m3
Acrolein	107-02-8	1.00 mg/m3	1.03 mg/m3
Acetone	67-64-1	5.00 mg/m3	5.33 mg/m3
Freon-11	75-69-4	1.00 mg/m3	1.06 mg/m3
Isopropyl Alcohol	67-63-0	2.00 mg/m3	2.10 mg/m3
Acrylonitrile	107-13-1	1.00 mg/m3	1.05 mg/m3
1,1-Dichloroethene	75-35-4	1.00 mg/m3	1.08 mg/m3
Carbon Disulfide	75-15-0	1.00 mg/m3	1.07 mg/m3
Methylene Chloride	75-09-2	1.00 mg/m3	1.06 mg/m3
Tert-Butanol	75-65-0	2.00 mg/m3	2.16 mg/m3
Allyl Chloride	107-05-1	1.00 mg/m3	1.08 mg/m3
Freon-113	76-13-1	1.00 mg/m3	1.08 mg/m3
Trans-1,2-Dichloroethene	156-60-5	1.00 mg/m3	1.08 mg/m3
1,1-Dichloroethane	75-34-3	1.00 mg/m3	1.09 mg/m3
Methyl Tert Butyl Ether	1634-04-4	1.00 mg/m3	1.08 mg/m3
Vinyl Acetate	108-05-4	5.00 mg/m3	5.35 mg/m3
Methacrylonitrile	126-98-7	1.00 mg/m3	1.06 mg/m3
Methyl Ethyl Ketone	78-93-3	1.00 mg/m3	1.06 mg/m3
Cis-1,2-Dichloroethene	156-59-2	1.00 mg/m3	1.06 mg/m3
Hexane	110-54-3	1.00 mg/m3	1.08 mg/m3
Di-isopropyl Ether	108-20-3	1.00 mg/m3	1.08 mg/m3

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ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chloroform	67-66-3	1.00 mg/m3	1.07 mg/m3
Ethyl Acetate	141-78-6	2.00 mg/m3	2.17 mg/m3
Tetrahydrofuran	109-99-9	1.00 mg/m3	1.09 mg/m3
Ethyl Tert-Butyl Ether	637-92-3	1.00 mg/m3	1.08 mg/m3
1,2-Dichloroethane	107-06-2	1.00 mg/m3	1.08 mg/m3
1,1,1-Trichloroethane	71-55-6	1.00 mg/m3	1.07 mg/m3
Benzene	71-43-2	1.00 mg/m3	1.06 mg/m3
Isopropyl Acetate	108-21-4	2.00 mg/m3	2.11 mg/m3
1-Butanol	71-36-3	2.00 mg/m3	2.08 mg/m3
Carbon Tetrachloride	56-23-5	1.00 mg/m3	1.05 mg/m3
Cyclohexane	110-82-7	2.00 mg/m3	2.12 mg/m3
Tert Amyl Methyl Ether	994-05-8	1.00 mg/m3	1.08 mg/m3
1,2-Dichloropropane	78-87-5	1.00 mg/m3	1.08 mg/m3
Trichloroethylene	79-01-6	1.00 mg/m3	1.07 mg/m3
Bromodichloromethane	75-27-4	1.00 mg/m3	1.08 mg/m3
1,4-Dioxane	123-91-1	1.00 mg/m3	1.08 mg/m3
Isooctane	540-84-1	1.00 mg/m3	1.07 mg/m3
Methyl Methacrylate	80-62-6	2.00 mg/m3	2.15 mg/m3
Heptane	142-82-5	1.00 mg/m3	1.08 mg/m3
Cis-1,3-Dichloropropene	10061-01-5	1.00 mg/m3	1.04 mg/m3
Methyl Isobutyl Ketone	108-10-1	1.00 mg/m3	1.06 mg/m3
Trans-1,3-Dichloropropene	10061-02-6	1.00 mg/m3	1.06 mg/m3
1,1,2-Trichloroethane	79-00-5	1.00 mg/m3	1.07 mg/m3
Toluene	108-88-3	1.00 mg/m3	1.07 mg/m3
Methyl Butyl Ketone	591-78-6	1.00 mg/m3	1.07 mg/m3
Dibromochloromethane	124-48-1	1.00 mg/m3	1.07 mg/m3
1,2-Dibromoethane	106-93-4	1.00 mg/m3	1.07 mg/m3
n-Butyl Acetate	123-86-4	1.00 mg/m3	1.09 mg/m3
n-Octane	111-65-9	1.00 mg/m3	1.08 mg/m3
Tetrachloroethylene	127-18-4	1.00 mg/m3	1.04 mg/m3

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PAGE: 3 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chlorobenzene	108-90-7	1.00 mg/m3	1.07 mg/m3
Ethylbenzene	100-41-4	1.00 mg/m3	1.07 mg/m3
p-xylene	106-42-3	1.00 mg/m3	1.07 mg/m3
m-xylene	108-38-3	1.00 mg/m3	1.07 mg/m3
Bromoform	75-25-2	1.00 mg/m3	1.07 mg/m3
Cyclohexanone	108-94-1	1.00 mg/m3	1.00 mg/m3
Styrene	100-42-5	1.00 mg/m3	1.06 mg/m3
o-xylene	95-47-6	1.00 mg/m3	1.07 mg/m3
1,1,2,2-Tetrachloroethane	79-34-5	1.00 mg/m3	1.07 mg/m3
Nonane	111-84-2	1.00 mg/m3	1.07 mg/m3
Isopropylbenzene	98-82-8	1.00 mg/m3	1.08 mg/m3
alpha-Pinene	80-56-8	1.00 mg/m3	1.07 mg/m3
n-Propylbenzene	103-65-1	1.00 mg/m3	1.08 mg/m3
3-Ethyltoluene	620-14-4	1.00 mg/m3	1.06 mg/m3
4-Ethyltoluene	622-96-8	1.00 mg/m3	1.08 mg/m3
2-Ethyltoluene	611-14-3	1.00 mg/m3	1.08 mg/m3
1,3,5-Trimethylbenzene	108-67-8	1.00 mg/m3	1.06 mg/m3
alpha-Methylstyrene	98-83-9	1.00 mg/m3	1.07 mg/m3
Tert-Butyl Benzene	98-06-6	1.00 mg/m3	1.07 mg/m3
1,2,4-Trimethylbenzene	95-63-6	1.00 mg/m3	1.07 mg/m3
1,3-Dichlorobenzene	541-73-1	1.00 mg/m3	1.07 mg/m3
Benzyl Chloride	100-44-7	1.00 mg/m3	1.08 mg/m3
n-Decane	124-18-5	1.00 mg/m3	1.07 mg/m3
1,4-Dichlorobenzene	106-46-7	1.00 mg/m3	1.07 mg/m3
Sec-Butyl Benzene	135-98-8	1.00 mg/m3	1.07 mg/m3
p-Isopropyltoluene	99-87-6	1.00 mg/m3	1.09 mg/m3
1,2,3-Trimethylbenzene	526-73-8	1.00 mg/m3	1.09 mg/m3
1,2-Dichlorobenzene	95-50-1	1.00 mg/m3	1.07 mg/m3

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PAGE: 4 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
d-Limonene	5989-27-5	1.00 mg/m3	1.08 mg/m3
n-Butyl Benzene	104-51-8	1.00 mg/m3	1.07 mg/m3
1,2-Dibromo-3-Chloropropane	96-12-8	1.00 mg/m3	1.05 mg/m3
n-Undecane	1120-21-4	1.00 mg/m3	1.08 mg/m3
1,2,4-Trichlorobenzene	120-82-1	1.00 mg/m3	1.07 mg/m3
Naphthalene	91-20-3	1.00 mg/m3	1.03 mg/m3
n-Dodecane	112-40-3	1.00 mg/m3	1.04 mg/m3
Hexachloro-1,3-Butadiene	87-68-3	1.00 mg/m3	1.06 mg/m3
Nitrogen	7727-37-9	Balance	Balance

ANALYST: Lou Lorenzetti **DATE:** Sep-24-2019

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PAGE: 1 of 4

Secondary

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Propylene	115-07-1	1.00 mg/m3	1.05 mg/m3
Freon-12	75-71-8	1.00 mg/m3	1.05 mg/m3
Chloromethane	74-87-3	1.00 mg/m3	1.06 mg/m3
Freon-114	76-14-2	1.00 mg/m3	1.03 mg/m3
Vinyl Chloride	75-01-4	1.00 mg/m3	1.06 mg/m3
1,3-Butadiene	106-99-0	1.00 mg/m3	1.06 mg/m3
Bromomethane	74-83-9	1.00 mg/m3	1.06 mg/m3
Chloroethane	75-00-3	1.00 mg/m3	1.07 mg/m3
Ethanol	64-17-5	5.00 mg/m3	5.30 mg/m3
Acetonitrile	75-05-8	1.00 mg/m3	1.07 mg/m3
Acrolein	107-02-8	1.00 mg/m3	1.03 mg/m3
Acetone	67-64-1	5.00 mg/m3	5.34 mg/m3
Freon-11	75-69-4	1.00 mg/m3	1.06 mg/m3
Isopropyl Alcohol	67-63-0	2.00 mg/m3	2.11 mg/m3
Acrylonitrile	107-13-1	1.00 mg/m3	1.06 mg/m3
1,1-Dichloroethene	75-35-4	1.00 mg/m3	1.07 mg/m3
Carbon Disulfide	75-15-0	1.00 mg/m3	1.06 mg/m3
Methylene Chloride	75-09-2	1.00 mg/m3	1.05 mg/m3
Tert-Butanol	75-65-0	2.00 mg/m3	2.15 mg/m3
Allyl Chloride	107-05-1	1.00 mg/m3	1.07 mg/m3
Freon-113	76-13-1	1.00 mg/m3	1.08 mg/m3
Trans-1,2-Dichloroethene	156-60-5	1.00 mg/m3	1.07 mg/m3
1,1-Dichloroethane	75-34-3	1.00 mg/m3	1.06 mg/m3
Methyl Tert Butyl Ether	1634-04-4	1.00 mg/m3	1.07 mg/m3
Vinyl Acetate	108-05-4	5.00 mg/m3	5.33 mg/m3
Methacrylonitrile	126-98-7	1.00 mg/m3	1.06 mg/m3
Methyl Ethyl Ketone	78-93-3	1.00 mg/m3	1.06 mg/m3
Cis-1,2-Dichloroethene	156-59-2	1.00 mg/m3	1.06 mg/m3
Hexane	110-54-3	1.00 mg/m3	1.08 mg/m3
Di-isopropyl Ether	108-20-3	1.00 mg/m3	1.08 mg/m3

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PAGE: 2 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chloroform	67-66-3	1.00 mg/m3	1.07 mg/m3
Ethyl Acetate	141-78-6	2.00 mg/m3	2.16 mg/m3
Tetrahydrofuran	109-99-9	1.00 mg/m3	1.10 mg/m3
Ethyl Tert-Butyl Ether	637-92-3	1.00 mg/m3	1.07 mg/m3
1,2-Dichloroethane	107-06-2	1.00 mg/m3	1.07 mg/m3
1,1,1-Trichloroethane	71-55-6	1.00 mg/m3	1.07 mg/m3
Benzene	71-43-2	1.00 mg/m3	1.05 mg/m3
Isopropyl Acetate	108-21-4	2.00 mg/m3	2.10 mg/m3
1-Butanol	71-36-3	2.00 mg/m3	2.13 mg/m3
Carbon Tetrachloride	56-23-5	1.00 mg/m3	1.04 mg/m3
Cyclohexane	110-82-7	2.00 mg/m3	2.11 mg/m3
Tert Amyl Methyl Ether	994-05-8	1.00 mg/m3	1.07 mg/m3
1,2-Dichloropropane	78-87-5	1.00 mg/m3	1.07 mg/m3
Trichloroethylene	79-01-6	1.00 mg/m3	1.08 mg/m3
Bromodichloromethane	75-27-4	1.00 mg/m3	1.09 mg/m3
1,4-Dioxane	123-91-1	1.00 mg/m3	1.08 mg/m3
Isooctane	540-84-1	1.00 mg/m3	1.07 mg/m3
Methyl Methacrylate	80-62-6	2.00 mg/m3	2.15 mg/m3
Heptane	142-82-5	1.00 mg/m3	1.07 mg/m3
Cis-1,3-Dichloropropene	10061-01-5	1.00 mg/m3	1.07 mg/m3
Methyl Isobutyl Ketone	108-10-1	1.00 mg/m3	1.06 mg/m3
Trans-1,3-Dichloropropene	10061-02-6	1.00 mg/m3	1.06 mg/m3
1,1,2-Trichloroethane	79-00-5	1.00 mg/m3	1.07 mg/m3
Toluene	108-88-3	1.00 mg/m3	1.06 mg/m3
Methyl Butyl Ketone	591-78-6	1.00 mg/m3	1.08 mg/m3
Dibromochloromethane	124-48-1	1.00 mg/m3	1.07 mg/m3
1,2-Dibromoethane	106-93-4	1.00 mg/m3	1.07 mg/m3
n-Butyl Acetate	123-86-4	1.00 mg/m3	1.09 mg/m3
n-Octane	111-65-9	1.00 mg/m3	1.08 mg/m3
Tetrachloroethylene	127-18-4	1.00 mg/m3	1.04 mg/m3

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PAGE: 3 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chlorobenzene	108-90-7	1.00 mg/m3	1.07 mg/m3
Ethylbenzene	100-41-4	1.00 mg/m3	1.06 mg/m3
p-xylene	106-42-3	1.00 mg/m3	1.07 mg/m3
m-xylene	108-38-3	1.00 mg/m3	1.06 mg/m3
Bromoform	75-25-2	1.00 mg/m3	1.07 mg/m3
Cyclohexanone	108-94-1	1.00 mg/m3	1.01 mg/m3
Styrene	100-42-5	1.00 mg/m3	1.06 mg/m3
o-xylene	95-47-6	1.00 mg/m3	1.07 mg/m3
1,1,2,2-Tetrachloroethane	79-34-5	1.00 mg/m3	1.07 mg/m3
Nonane	111-84-2	1.00 mg/m3	1.07 mg/m3
Isopropylbenzene	98-82-8	1.00 mg/m3	1.07 mg/m3
alpha-Pinene	80-56-8	1.00 mg/m3	1.06 mg/m3
n-Propylbenzene	103-65-1	1.00 mg/m3	1.07 mg/m3
3-Ethyltoluene	620-14-4	1.00 mg/m3	1.07 mg/m3
4-Ethyltoluene	622-96-8	1.00 mg/m3	1.05 mg/m3
2-Ethyltoluene	611-14-3	1.00 mg/m3	1.07 mg/m3
1,3,5-Trimethylbenzene	108-67-8	1.00 mg/m3	1.06 mg/m3
alpha-Methylstyrene	98-83-9	1.00 mg/m3	1.06 mg/m3
Tert-Butyl Benzene	98-06-6	1.00 mg/m3	1.06 mg/m3
1,2,4-Trimethylbenzene	95-63-6	1.00 mg/m3	1.06 mg/m3
1,3-Dichlorobenzene	541-73-1	1.00 mg/m3	1.07 mg/m3
Benzyl Chloride	100-44-7	1.00 mg/m3	1.07 mg/m3
n-Decane	124-18-5	1.00 mg/m3	1.07 mg/m3
1,4-Dichlorobenzene	106-46-7	1.00 mg/m3	1.07 mg/m3
Sec-Butyl Benzene	135-98-8	1.00 mg/m3	1.06 mg/m3
p-Isopropyltoluene	99-87-6	1.00 mg/m3	1.09 mg/m3
1,2,3-Trimethylbenzene	526-73-8	1.00 mg/m3	1.08 mg/m3
1,2-Dichlorobenzene	95-50-1	1.00 mg/m3	1.07 mg/m3

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PAGE: 4 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
d-Limonene	5989-27-5	1.00 mg/m3	1.06 mg/m3
n-Butyl Benzene	104-51-8	1.00 mg/m3	1.07 mg/m3
1,2-Dibromo-3-Chloropropane	96-12-8	1.00 mg/m3	1.07 mg/m3
n-Undecane	1120-21-4	1.00 mg/m3	1.08 mg/m3
1,2,4-Trichlorobenzene	120-82-1	1.00 mg/m3	1.08 mg/m3
Naphthalene	91-20-3	1.00 mg/m3	1.06 mg/m3
n-Dodecane	112-40-3	1.00 mg/m3	1.06 mg/m3
Hexachloro-1,3-Butadiene	87-68-3	1.00 mg/m3	1.07 mg/m3
Nitrogen	7727-37-9	Balance	Balance

ANALYST: Lou Lorenzetti

DATE: Sep-24-2019

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1/6/20 VH

TO-15 MAPH STD				20ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of S31-11061903 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-01062006	20 ng/L	STD00164	1/6/20	3/4/20	LH

1/6/20 S31-01062007 TO-15 IS/SURR STD ~0.5 mg/m³

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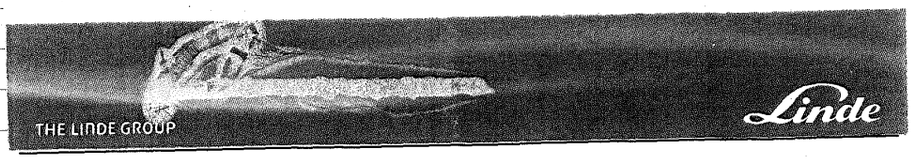

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PAGE: 1 of 1

S31-01062007 **ANALYSIS REPORT** IS/SURR STD.

Sales#:	117350975	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1502527	**Cylinder # :**	CC-430401
Report Date:	Dec-23-2019	**Cylinder Pressure:**	2000 psig
P.O.# :	SM003000	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24086333	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	4000 Liters
Expiration Date:	Dec-23-~~2020~~ 2021	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	10% Relative

VH 1/7/20

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Bromochloromethane	74-97-5	0.50 mg/m3	0.55 mg/m3
1,2-Dichloroethane-d4	17060-07-0	0.50 mg/m3	0.55 mg/m3
1,4-Difluorobenzene	540-36-3	0.50 mg/m3	0.55 mg/m3
Toluene-d8	2037-26-5	0.50 mg/m3	0.55 mg/m3
Chlorobenzene-d5	3114-55-4	0.50 mg/m3	0.55 mg/m3
4-Bromofluorobenzene	460-00-4	0.50 mg/m3	0.53 mg/m3
Nitrogen	7727-37-9	Balance	Balance

1/7/20 MA

EPA 325B STD	BTEX 1° Working Standard	200 µg/mL
S31-01072001	Expires:	1/21/2020
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 2000µg/mL BTEX stock standard S31-11271903 (expires 1/27/20).		

MA

EPA 325B STD	BTEX 2° Working Standard	200 µg/mL
S31-01072002	Expires:	1/21/2020
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 2000µg/mL BTEX stock standard S31-11271904 (expires 1/27/20).		

2/5/2020
RVT

		TO-15 STD		4 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S31-01292007**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02052009	4 ng/L	STD00094	2/5/20	3/5/20	RVT

RVT

TO-15 STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111901**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02052010	200 ng/L	STD00224	2/5/20	3/5/20	RVT

2/6/2020
RVT

TO-15 STD **20 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S31-02052007**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02062001	20 ng/L	STD00064	2/6/20	3/6/20	RVT

RVT

TO-15 ICV/ LCS STD **20 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S31-02052002**
with HZA Lot # 70086915004 using 4700 diluter

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02062002	20 ng/L	STD00113	2/6/20	3/6/2020	RVT

RVT

TO15 STD 1000 ng/L
S31-02062003
Filled Can STD00136 w/ S31-10111901 To ~ 5.61 psig
Exp. 3/6/2020

2/7/20
CR

S31-02072001 Toluene-d8 2.0 µg/ml
Spiked 4.2 µl S29-04281601 into 2010 ml glass SDB
purged w/ helium. Exp. 3/7/20.

02/11/20
VH

S31-02112001 TO-15 IS/SURR 500 ng/L
FILLED CAN # STD00214 TO ~ 20 PSIG WITH S31-01062007
EXP 08/09/20

4/15/20
RVT

TO-15 STD **4 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S34-04102010**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04152001	4 ng/L	STD00161	4/15/20	**5/14/20**	RVT

TO-15 Custom STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter

TD 4/16/20

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04162001	200 ng/L	STD00009	4/16/2020	**5/15/2020**	TD
S34-04162002	200 ng/L	STD00124	4/16/2020	**5/15/2020**	TD

4/16/20
RVT

TO-15 STD **4 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of **S34-04102003**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04162003	4 ng/L	STD00227	4/16/20	**5/15/20**	RVT

4/20/20
RVT

TO-15 STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111901**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04202001	200 ng/L	STD00128	4/20/20	**5/19/20**	RVT
S34-04202002	200 ng/L	STD00112	4/20/20	**5/19/20**	RVT
S34-04202003	200 ng/L	STD00105	4/20/20	**5/19/20**	RVT
S34-04202004	200 ng/L	STD00047	4/20/20	**5/19/20**	RVT

TO-15 Custom STD **20 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter

TD 4/21/20

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04212001	20 ng/L	STD00049	4/21/2020	**5/20/2020**	TD

TD 4/21/20

18
4/22/20
RVT
4/27/20
RVT

TO-15 Custom STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272005	200 ng/L	STD00024	4/27/2020	**5/26/2020**	RVT
S34-04272006	200 ng/L	STD00066	4/27/2020	**5/26/2020**	RVT

RVT

TO-15 ICV/LCS STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111902** with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272007	200 ng/L	STD00063	4/27/20	**5/26/20**	RVT
S34-04272008	200 ng/L	STD00072	4/27/20	**5/26/20**	RVT

RVT

TO-15 ICV/ LCS STD				20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04272007** with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272009	20 ng/L	STD00015	4/27/20	**5/26/20**	RVT

RVT

TO-15 STD				20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04202001** using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272010	20 ng/L	STD00026	4/27/20	**5/26/20**	RVT

LH
4/27/20

TO-15 STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-10111901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272011	200 ng/L	STD00028	4/27/2020	**5/26/2020**	LH

LH

TO-15 STD				20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of S34-04272011 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272012	20 ng/L	STD00061	4/27/2020	**5/26/2020**	LH

905 of 908

4/27/20 LH

	TO-15 STD		**20 ng/L**		
Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of S31-10111901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272013	20 ng/L	STD00217	4/27/2020	**5/26/2020**	LH

LH

	TO-15 STD		**4 ng/L**		
Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of S34-04272011 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272014	4 ng/L	STD00131	4/27/2020	**5/26/2020**	LH

LH

	TO-15 STD		**4 ng/L**		
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S34-04272012 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272015	4 ng/L	STD00184	4/27/2020	**5/26/2020**	LH

4/28/20 RVT

	TO-15 Custom STD		**20 ng/L**		
Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04282001	20 ng/L	STD00037	4/28/2020	**5/27/2020**	RVT
S34-04282002	20 ng/L	STD00207	4/28/2020	**5/27/2020**	RVT

RVT

	TO-15 Custom STD		**20 ng/L**		
Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04282003	20 ng/L	STD00086	4/28/2020	**5/27/2020**	RVT

RVT

	TO-15 Custom STD		**200 ng/L**		
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04282004	200 ng/L	STD00102	4/28/2020	**5/27/2020**	RVT
S34-04282005	200 ng/L	STD00121	4/28/2020	**5/27/2020**	RVT
S34-04282006	200 ng/L	STD00192	4/28/2020	**5/27/2020**	RVT
S34-04282007	200 ng/L	STD00017	4/28/2020	**5/27/2020**	RVT

20

4/28/20 RVT

TO-15 Custom STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04282008	200 ng/L	STD00017	4/28/2020	5/27/2020	RVT

RVT

S34-04282009 TO-15 STD 1000 ng/L ICV/LCS

Pressurized can : STD00136 w/ 531-b111902 To RVT 11 psig

EXP: 5/27/2020

MA

EPA 325B STD	BTEX 1° Working Standard	200 µg/mL
S34-04282010	Expires:	5/12/2020
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 2000µg/mL BTEX stock standard S34-03312005 (expires 5/31/20).		

MA

EPA 325B STD	BTEX 2° Working Standard	200 µg/mL
S34-04282011	Expires:	5/12/2020
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 2000µg/mL BTEX stock standard S34-04142001 (expires 6/14/20).		

4/29/20

TO-15 STD				20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of S34-04202001					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04292001	20 ng/L	STD00007	4/29/20	5/28/20	RVT

RVT

TO-15 STD				1 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 20X dilution of S34-04292001					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04292002	1 ng/L	STD00069	4/29/20	5/28/20	RVT

RVT

TO-15 STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-10111901					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04292003	200 ng/L	STD00088	4/29/20	5/28/20	RVT
S34-04292004	200 ng/L	STD00019	4/29/20	5/28/20	RVT

RVT

TD 4/29/20

TO-15 ICV/LCS STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111902** with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04292005	200 ng/L	STD00099	4/29/20	**5/28/20**	TD

4/30/20 RVT

TO-15 ICV/LCS STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111902** with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04302001	200 ng/L	STD00172	4/30/20	**5/29/20**	RVT
S34-04302002	200 ng/L	STD00205	4/30/20	**5/29/20**	RVT
S34-04302003	200 ng/L	STD00194	4/30/20	**5/29/20**	RVT

RVT

TO-15 Custom ICV/LCS				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251902 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04302004	200 ng/L	STD00150	4/30/2020	**5/29/2020**	RVT
S34-04302005	200 ng/L	STD00100	4/30/2020	**5/29/2020**	RVT
S34-04302006	200 ng/L	STD00006	4/30/2020	**5/29/2020**	RVT

5/1/2020 RVT

TO-15 STD				20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04202001** using 4700 diluter HZA Lot #70086915004					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-05012001	20 ng/L	STD00221	5/1/20	**5/30/20**	RVT

RVT

TO-15 STD				20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of **S31-10111901** using 4700 diluter HZA Lot #70086915004					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-05012002	20 ng/L	STD00113	5/1/20	**5/30/20**	RVT

5/14/2020

M.A.

EPA 325B STD	BTEX 1° Working Standard	20 µg/mL
S34-05052001	Expires:	**5/19/2020**
Into 1mL mininert vial with 990µL B&J P&T methanol, Lot #DL535, added 10µL 2000µg/mL BTEX Stock standard S34-03312005 (expires 5/31/20).		

908 of 908

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

LABORATORY REPORT

May 19, 2020

Pamela Moss
EA Engineering, Science, and Technology, Inc.
7995 E. Prentice Ave, Suite 206E
Greenwood Village, CO 80111

RE: Kirtland AFB Bulk Fuels Facility / 62735DM02

Dear Pamela:

Enclosed are the results of the samples submitted to our laboratory on April 28, 2020. For your reference, these analyses have been assigned our service request number P2002299.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

Kate Kaneko
May 19, 2020, 10:54 am

Kate Kaneko
Project Manager

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

Client: EA Engineering, Science, and Technology, Inc. Service Request No: P2002299
Project: Kirtland AFB Bulk Fuels Facility / 62735DM02

CASE NARRATIVE

The samples were received intact under chain of custody on April 28, 2020 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

Manual integrations were performed on the following sample(s) and analyte(s). Refer to the raw data for additional information.

Sample Identifications	Analytes
P2002299-001, 010, 015, 017	Acetone
P2002299-016	1,2,4-trimethylbenzene, 2-hexanone

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.1 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

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Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1776326
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-007
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272019-10
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: EA Engineering, Science, and Technology, Inc. Service Request: P2002299
Project ID: Kirtland AFB Bulk Fuels Facility / 62735DM02

Date Received: 4/28/2020
Time Received: 10:15

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	2nd Pi (psig)	2nd Pf (psig)	TO-15 - VOC Cans
SV108-025-202	P2002299-001	Air	4/21/2020	10:08	1SC01089	-3.43	5.18			X
SV108-050-202	P2002299-002	Air	4/21/2020	10:11	1SS00749	-3.47	5.28	-0.16	5.73	X
SV108-150-202	P2002299-003	Air	4/21/2020	10:15	1SC00586	-2.46	5.13			X
SV108-250-202	P2002299-004	Air	4/21/2020	10:19	1SS00944	-3.80	5.21			X
SV108-350-202	P2002299-005	Air	4/21/2020	10:23	1SS00535	-4.50	5.33			X
SV108-350-602	P2002299-006	Air	4/21/2020	10:23	1SS00859	-4.97	5.85			X
SV108-450-202	P2002299-007	Air	4/21/2020	10:37	1SC01082	-3.35	5.72			X
SV112-025-202	P2002299-008	Air	4/21/2020	12:50	1SS00952	-4.31	5.99			X
SV112-050-202	P2002299-009	Air	4/21/2020	12:54	1SS00491	-4.32	5.97			X
SV112-150-202	P2002299-010	Air	4/21/2020	12:57	1SC00962	-3.25	5.91			X
SV112-250-202	P2002299-011	Air	4/21/2020	13:01	1SC00063	-3.16	6.35			X
SV112-350-202	P2002299-012	Air	4/21/2020	13:05	1SS01001	-4.75	5.43			X
SV112-450-602	P2002299-013	Air	4/21/2020	13:18	1SC00412	-3.67	5.71			X
SV112-450-202	P2002299-014	Air	4/21/2020	13:18	1SC00582	-2.82	5.56			X
SV118-025-202	P2002299-015	Air	4/21/2020	08:53	1SS00013	-3.65	5.40			X
SV118-050-202	P2002299-016	Air	4/21/2020	08:56	1SC00286	-2.81	6.27			X
SV118-160-202	P2002299-017	Air	4/21/2020	09:01	1SC00496	-2.71	5.47			X
SV118-265-202	P2002299-018	Air	4/21/2020	09:04	1SS00223	-2.93	5.55			X
SV118-350-202	P2002299-019	Air	4/21/2020	09:10	1SS00018	-3.65	6.43			X
SV118-450-602	P2002299-020	Air	4/21/2020	09:25	1SS00741	-2.53	3.81			X

5-01-700

Air - Chain of Custody Record & Analytical Service Request

Page 1 of 2

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

COC #: COC-SV202-13

Requested Turnaround Time in Business Days: 10 Day-Standard

ALS Project No.: R2002299

Company Name & Address (Reporting Information): EA Engineering, Science, and Technology, Inc., PBC, 225 Schilling Circle Suite 400, Hunt Valley, MD (410) 584-7000

Project Name: Kirtland AFB Bulk Fuels Facility

Project Number: 62735DM02

P.O. # / Billing Information: 17682

Project Manager / Project Chemist: Bernie Bockish (505) 234-1105 / Pam Moss (303) 590-9143

Email Address for Result Reporting:
Tara Lamond: tlamond@eaest.com
Amanda Smith: asmith@eaest.com
Pam Moss: pmoss@eaest.com

Sampler (Print & Sign): Ryan Wortman

ALS Contact: Kate Kaneko 1 (805) 577-2089

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg	Sample Volume	Analysis Method: TO-15 Project Specific List	Comments e.g. Actual Preservative or specific instructions
SV108-025-202	1	4/21/2020	1008	ISC01089	AVG05003	-26.5	-4.0	1L	X	None
SV108-050-202	2	4/21/2020	1011	ISS00749	NA	-25.5	-4.0	1L	X	None
SV108-150-202	3	4/21/2020	1015	ISC00586	AVG04357	-22.0	-1.0	1L	X	None
SV108-250-202	4	4/21/2020	1019	ISS00944	AVG0458#	-24.0	-2.5	1L	X	None
SV108-350-202	5	4/21/2020	1023	ISS00535	NA	-25.0	-4.0	1L	X	None
SV108-350-602	6	4/21/2020	1023	ISS00859	AVG04723	-27.5	-5.0	1L	X	None
SV108-450-202	7	4/21/2020	1037	ISC01082	NA	-26.0	-2.5	1L	X	None
SV112-025-202	8	4/21/2020	1250	ISS00952	NA	-25.5	-4.5	1L	X	None
SV112-050-202	9	4/21/2020	1254	ISS00491	AVG04911	-23.5	-3.0	1L	X	None
SV112-150-202	10	4/21/2020	1257	ISC00962	NA	-24.0	-2.0	1L	X	None

FedEX Tracking Number: 1028 3396 9810

Associated with Trip blank: SVTB-202-03

Shipping information: Box number 1 of 4

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____ Tier III (Results + QC & Calibration Summaries) ____
Tier II (Results + QC Summaries) ____ Tier IV (Data Validation Package) X

EDD required: Yes
Type: ERPIMS / EQuIS

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements: QAPP

Relinquished by: (Signature) Ryan Wortman	Date: 4/23/20	Time: 0900	Received by: (Signature)
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)

Received by: (Signature) Date: Time:

Received by: (Signature) Date: 4-28-20 Time: 1015

Cooler / Blank Temperature NA °C

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

COC #: COC-SV202-13

Requested Turnaround Time in Business Days: 10 Day-Standard

ALS Project No.

Company Name & Address (Reporting Information): EA Engineering, Science, and Technology, Inc., PBC, 225 Schilling Circle Suite 400, Hunt Valley, MD (410) 584-7000

Project Name: Kirtland AFB Bulk Fuels Faciltiy

Project Number: 62735DM02

P.O. # / Billing Information: 17682

Project Manager / Project Chemist: Bernie Bockish (505) 234-1105 / Pam Moss (303) 590-9143

Sampler (Print & Sign): Ryan Wortman

Email Address for Result Reporting:
Tara Lamond: tlamond@eaest.com
Amanda Smith: asmith@eaest.com
Pam Moss: pmoss@eaest.com

ALS Contact: Kate Kaneko
1 (805) 577-2089

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - SC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg	Sample Volume	Analysis Method: TO-15 Project Specific List	Comments e.g. Actual Preservative or specific instructions
SV112-250-202	11	4/21/2020	1301	ISC00063	AVG04868	-25.0	-1.0	1L	X	None
SV112-350-202	12	4/21/2020	1305	ISS01001	AVG04383	-25.0	-4.0	1L	X	None
SV112-450-602	13	4/21/2020	1318	ISC00412	AVG03260	-25.0	-2.0	1L	X	None
SV112-450-202	14	4/21/2020	1318	ISC00582	AVG05076	-25.0	-2.0	1L	X	None
SV118-025-202	15	4/21/2020	0853	ISS00013	NA	-26.0	-4.0	1L	X	None
SV118-050-202	16	4/21/2020	0856	ISC00286	AVG04705	-23.0	-2.0	1L	X	None
SV118-160-202	17	4/21/2020	0901	ISC00496	NA	-25.0	-1.5	1L	X	None
SV118-265-202	18	4/21/2020	0904	ISS00223	NA	-25.0	-2.0	1L	X	None
SV118-350-202	19	4/21/2020	0910	ISS00018	NA	-27.0	-4.0	1L	X	None
SV118-450-602	20	4/21/2020	0925	ISS00741	AVG04965	-27.0	-1.5	1L	X	None

FedEX Tracking Number: 1028 3396 9810

Associated with Trip blank: SVTB-202-03

Shipping information: Box number 1 of 4

Report Tier Levels - please select
Tier I - Results (Default if not specified) ____ Tier III (Results + QC & Calibration Summaries) ____
Tier II (Results + QC Summaries) ____ Tier IV (Data Validation Package) X

EDD required: Yes
Type: ERPIMS / EQuIS

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Ryan Wortman	4/23/20	0900			
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Project Requirements: QAPP

Cooler / Blank Temperature NA °C

ALS Environmental

Sample Acceptance Check Form

Client: EA Engineering, Science, and Technology, Inc. Work order: P2002299

Project: Kirtland AFB Bulk Fuels Facility / 62735DM02

Sample(s) received on: 04/28/20 Date opened: 04/28/20 by: DENISE.POSADA

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☒	☐	☐
	Location of seal(s)? Box sealing. Sealing Lid?	☒	☐	☐
	Were signature and date included?	☒	☐	☐
	Were seals intact?	☒	☐	☐
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2002299-001.01	1.0 L Source Can					
P2002299-002.01	1.0 L Source Silonite Canister					
P2002299-003.01	1.0 L Source Can					
P2002299-004.01	1.0 L Source Silonite Canister					
P2002299-005.01	1.0 L Source Silonite Canister					
P2002299-006.01	1.0 L Source Silonite Canister					
P2002299-007.01	1.0 L Source Can					
P2002299-008.01	1.0 L Source Silonite Canister					
P2002299-009.01	1.0 L Source Silonite Canister					
P2002299-010.01	1.0 L Source Can					
P2002299-011.01	1.0 L Source Can					
P2002299-012.01	1.0 L Source Silonite Canister					
P2002299-013.01	1.0 L Source Can					
P2002299-014.01	1.0 L Source Can					
P2002299-015.01	1.0 L Source Silonite Canister					

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS Environmental

Sample Acceptance Check Form

Client: EA Engineering, Science, and Technology, Inc. Work order: P2002299

Project: Kirtland AFB Bulk Fuels Facility / 62735DM02

Sample(s) received on: 04/28/20 Date opened: 04/28/20 by: DENISE.POSADA

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2002299-016.01	1.0 L Source Can					
P2002299-017.01	1.0 L Source Can					
P2002299-018.01	1.0 L Source Silonite Canister					
P2002299-019.01	1.0 L Source Silonite Canister					
P2002299-020.01	1.0 L Source Silonite Canister					

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV108-025-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-001

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/9/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01089

Initial Pressure (psig): -3.43 Final Pressure (psig): 5.18

Container Dilution Factor: 1.76

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.88**	1.4	0.82	0.33	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.96**	0.47	0.28	0.077	
74-87-3	Chloromethane	**0.70**	1.1	0.68	0.18	**J**
75-01-4	Vinyl Chloride	0.29	0.93	0.29	0.098	**U**
106-99-0	1,3-Butadiene	0.64	1.1	0.64	0.18	**U**
75-00-3	Chloroethane	0.53	0.90	0.53	0.11	**U**
64-17-5	Ethanol	**8.9**	12	1.9	0.86	**J**
67-64-1	Acetone	**9.5**	9.8	5.0	2.2	**J**
75-69-4	Trichlorofluoromethane	**0.34**	0.42	0.25	0.063	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.3**	3.8	1.1	0.39	**J**
75-09-2	Methylene Chloride	0.41	0.67	0.41	0.19	**U**
76-13-1	Trichlorotrifluoroethane	**19**	0.31	0.098	0.044	
75-15-0	Carbon Disulfide	**0.53**	1.6	0.76	0.23	**J**
75-34-3	1,1-Dichloroethane	0.36	0.60	0.36	0.085	**U**
78-93-3	2-Butanone (MEK)	**1.6**	1.6	0.48	0.16	**J**
141-78-6	Ethyl Acetate	**0.70**	1.3	0.79	0.34	**J**
110-54-3	n-Hexane	0.40	0.67	0.40	0.14	**U**
67-66-3	Chloroform	**0.24**	0.49	0.15	0.064	**J**
109-99-9	Tetrahydrofuran (THF)	**0.33**	0.82	0.25	0.10	**J**
107-06-2	1,2-Dichloroethane	0.18	0.59	0.18	0.064	**U**
71-43-2	Benzene	0.23	0.73	0.23	0.11	**U**
56-23-5	Carbon Tetrachloride	**1.6**	0.37	0.12	0.052	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV108-025-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-001

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/9/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01089

Initial Pressure (psig): -3.43 Final Pressure (psig): 5.18

Container Dilution Factor: 1.76

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.43	1.4	0.43	0.19	**U**
75-27-4	Bromodichloromethane	0.11	0.35	0.11	0.051	**U**
79-01-6	Trichloroethene	**0.15**	0.44	0.14	0.059	**J**
123-91-1	1,4-Dioxane	**24**	0.66	0.21	0.077	
142-82-5	n-Heptane	0.34	0.58	0.34	0.091	**U**
108-10-1	4-Methyl-2-pentanone	0.18	0.57	0.18	0.078	**U**
108-88-3	Toluene	**0.30**	0.63	0.20	0.076	**J**
591-78-6	2-Hexanone	**0.30**	0.58	0.18	0.071	**J**
124-48-1	Dibromochloromethane	0.088	0.28	0.088	0.036	**U**
106-93-4	1,2-Dibromoethane	0.097	0.31	0.097	0.036	**U**
127-18-4	Tetrachloroethene	**0.30**	0.34	0.11	0.045	**J**
100-41-4	Ethylbenzene	0.17	0.55	0.17	0.076	**U**
179601-23-1	m,p-Xylenes	**0.36**	1.1	0.34	0.14	**J**
75-25-2	Bromoform	0.14	0.23	0.14	0.047	**U**
100-42-5	Styrene	0.33	0.55	0.33	0.089	**U**
95-47-6	o-Xylene	**0.13**	0.55	0.17	0.078	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.21**	0.47	0.15	0.069	**J**
95-63-6	1,2,4-Trimethylbenzene	**1.1**	0.48	0.15	0.066	
120-82-1	1,2,4-Trichlorobenzene	0.19	0.32	0.19	0.077	**U**
91-20-3	Naphthalene	**0.25**	0.44	0.26	0.11	**J**
1330-20-7	Xylenes, Total	**0.49**	1.1	0.34	0.14	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV108-050-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-002

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/9/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00749

Initial Pressure (psig): -3.47 Final Pressure (psig): 5.28
Initial Pressure 2 (psig): -0.16 Final Pressure 2 (psig): 5.73

Container Dilution Factor: 2.50

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**1.1**	1.9	1.2	0.47	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.9**	0.67	0.40	0.11	
74-87-3	Chloromethane	0.97	1.6	0.97	0.26	**U**
75-01-4	Vinyl Chloride	0.42	1.3	0.42	0.14	**U**
106-99-0	1,3-Butadiene	0.90	1.5	0.90	0.25	**U**
75-00-3	Chloroethane	0.76	1.3	0.76	0.16	**U**
64-17-5	Ethanol	**16**	17	2.8	1.2	**J**
67-64-1	Acetone	**10**	14	7.1	3.2	**J**
75-69-4	Trichlorofluoromethane	**0.65**	0.59	0.36	0.090	
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.5**	5.3	1.6	0.56	**J**
75-09-2	Methylene Chloride	**0.28**	0.95	0.58	0.27	**J**
76-13-1	Trichlorotrifluoroethane	**55**	0.44	0.14	0.062	
75-15-0	Carbon Disulfide	**0.71**	2.2	1.1	0.32	**J**
75-34-3	1,1-Dichloroethane	0.51	0.85	0.51	0.12	**U**
78-93-3	2-Butanone (MEK)	**0.66**	2.3	0.68	0.23	**J**
141-78-6	Ethyl Acetate	**0.83**	1.9	1.1	0.49	**J**
110-54-3	n-Hexane	0.57	0.96	0.57	0.20	**U**
67-66-3	Chloroform	**0.61**	0.69	0.22	0.091	**J**
109-99-9	Tetrahydrofuran (THF)	0.36	1.2	0.36	0.14	**U**
107-06-2	1,2-Dichloroethane	0.26	0.83	0.26	0.091	**U**
71-43-2	Benzene	0.33	1.0	0.33	0.15	**U**
56-23-5	Carbon Tetrachloride	**5.7**	0.53	0.17	0.074	

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV108-050-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-002

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/9/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00749

Initial Pressure (psig): -3.47 Final Pressure (psig): 5.28
Initial Pressure 2 (psig): -0.16 Final Pressure 2 (psig): 5.73

Container Dilution Factor: 2.50

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.62	2.0	0.62	0.27	**U**
75-27-4	Bromodichloromethane	0.16	0.50	0.16	0.072	**U**
79-01-6	Trichloroethene	**0.14**	0.63	0.20	0.084	**J**
123-91-1	1,4-Dioxane	0.29	0.94	0.29	0.11	**U**
142-82-5	n-Heptane	0.49	0.82	0.49	0.13	**U**
108-10-1	4-Methyl-2-pentanone	0.26	0.81	0.26	0.11	**U**
108-88-3	Toluene	**0.68**	0.90	0.28	0.11	**J**
591-78-6	2-Hexanone	0.26	0.82	0.26	0.10	**U**
124-48-1	Dibromochloromethane	0.12	0.40	0.12	0.051	**U**
106-93-4	1,2-Dibromoethane	0.14	0.44	0.14	0.050	**U**
127-18-4	Tetrachloroethene	**0.58**	0.48	0.16	0.064	
100-41-4	Ethylbenzene	0.24	0.78	0.24	0.11	**U**
179601-23-1	m,p-Xylenes	**0.45**	1.6	0.49	0.20	**J**
75-25-2	Bromoform	0.19	0.33	0.19	0.067	**U**
100-42-5	Styrene	0.47	0.78	0.47	0.13	**U**
95-47-6	o-Xylene	**0.14**	0.78	0.24	0.11	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.23**	0.67	0.22	0.098	**J**
95-63-6	1,2,4-Trimethylbenzene	**1.0**	0.69	0.22	0.094	
120-82-1	1,2,4-Trichlorobenzene	0.27	0.45	0.27	0.11	**U**
91-20-3	Naphthalene	**0.27**	0.62	0.37	0.16	**J**
1330-20-7	Xylenes, Total	**0.59**	1.6	0.49	0.20	**J**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV108-150-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-003

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/11/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0015 Liter(s)
Test Notes:
Container ID: 1SC00586

Initial Pressure (psig): -2.46 Final Pressure (psig): 5.13

Container Dilution Factor: 1.62

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**1,200**	330	200	82	
75-71-8	Dichlorodifluoromethane (CFC 12)	70	120	70	19	**U**
74-87-3	Chloromethane	170	280	170	45	**U**
75-01-4	Vinyl Chloride	72	230	72	24	**U**
106-99-0	1,3-Butadiene	160	260	160	43	**U**
75-00-3	Chloroethane	130	220	130	27	**U**
64-17-5	Ethanol	480	3,000	480	210	**U**
67-64-1	Acetone	1,200	2,400	1,200	550	**U**
75-69-4	Trichlorofluoromethane	62	100	62	16	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	280	920	280	97	**U**
75-09-2	Methylene Chloride	100	160	100	47	**U**
76-13-1	Trichlorotrifluoroethane	**80**	76	24	11	
75-15-0	Carbon Disulfide	190	380	190	56	**U**
75-34-3	1,1-Dichloroethane	88	150	88	21	**U**
78-93-3	2-Butanone (MEK)	120	400	120	40	**U**
141-78-6	Ethyl Acetate	190	330	190	84	**U**
110-54-3	n-Hexane	**24,000**	170	98	34	
67-66-3	Chloroform	38	120	38	16	**U**
109-99-9	Tetrahydrofuran (THF)	62	200	62	25	**U**
107-06-2	1,2-Dichloroethane	45	140	45	16	**U**
71-43-2	Benzene	**210**	180	57	26	
56-23-5	Carbon Tetrachloride	29	91	29	13	**U**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV108-150-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-003

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/11/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0015 Liter(s)
Test Notes:
Container ID: 1SC00586

Initial Pressure (psig): -2.46 Final Pressure (psig): 5.13

Container Dilution Factor: 1.62

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**32,000**	350	110	47	
75-27-4	Bromodichloromethane	27	87	27	12	**U**
79-01-6	Trichloroethene	34	110	34	14	**U**
123-91-1	1,4-Dioxane	51	160	51	19	**U**
142-82-5	n-Heptane	**2,500**	140	84	22	
108-10-1	4-Methyl-2-pentanone	**43**	140	45	19	**J**
108-88-3	Toluene	**46**	150	49	19	**J**
591-78-6	2-Hexanone	45	140	45	17	**U**
124-48-1	Dibromochloromethane	22	68	22	8.9	**U**
106-93-4	1,2-Dibromoethane	24	76	24	8.7	**U**
127-18-4	Tetrachloroethene	27	83	27	11	**U**
100-41-4	Ethylbenzene	42	130	42	19	**U**
179601-23-1	m,p-Xylenes	85	270	85	35	**U**
75-25-2	Bromoform	33	56	33	11	**U**
100-42-5	Styrene	81	130	81	22	**U**
95-47-6	o-Xylene	**19**	130	42	19	**J**
108-67-8	1,3,5-Trimethylbenzene	37	120	37	17	**U**
95-63-6	1,2,4-Trimethylbenzene	37	120	37	16	**U**
120-82-1	1,2,4-Trichlorobenzene	47	79	47	19	**U**
91-20-3	Naphthalene	64	110	64	27	**U**
1330-20-7	Xylenes, Total	85	270	85	35	**U**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV108-250-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-004

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/11/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00040 Liter(s)
Test Notes:
Container ID: 1SS00944

Initial Pressure (psig): -3.80 Final Pressure (psig): 5.21

Container Dilution Factor: 1.83

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**4,000**	1,400	850	350	
75-71-8	Dichlorodifluoromethane (CFC 12)	300	490	300	81	**U**
74-87-3	Chloromethane	710	1,200	710	190	**U**
75-01-4	Vinyl Chloride	300	970	300	100	**U**
106-99-0	1,3-Butadiene	660	1,100	660	180	**U**
75-00-3	Chloroethane	560	940	560	110	**U**
64-17-5	Ethanol	2,000	13,000	2,000	900	**U**
67-64-1	Acetone	5,200	10,000	5,200	2,300	**U**
75-69-4	Trichlorofluoromethane	260	430	260	66	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	1,200	3,900	1,200	410	**U**
75-09-2	Methylene Chloride	420	700	420	200	**U**
76-13-1	Trichlorotrifluoroethane	**110**	320	100	45	**J**
75-15-0	Carbon Disulfide	790	1,600	790	240	**U**
75-34-3	1,1-Dichloroethane	370	620	370	88	**U**
78-93-3	2-Butanone (MEK)	500	1,700	500	170	**U**
141-78-6	Ethyl Acetate	830	1,400	830	360	**U**
110-54-3	n-Hexane	**84,000**	700	420	140	
67-66-3	Chloroform	160	510	160	67	**U**
109-99-9	Tetrahydrofuran (THF)	260	850	260	100	**U**
107-06-2	1,2-Dichloroethane	190	610	190	67	**U**
71-43-2	Benzene	240	760	240	110	**U**
56-23-5	Carbon Tetrachloride	120	390	120	54	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV108-250-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-004

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/11/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00040 Liter(s)
Test Notes:
Container ID: 1SS00944

Initial Pressure (psig): -3.80 Final Pressure (psig): 5.21

Container Dilution Factor: 1.83

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**120,000**	1,500	450	200	
75-27-4	Bromodichloromethane	120	370	120	53	**U**
79-01-6	Trichloroethene	140	460	140	61	**U**
123-91-1	1,4-Dioxane	220	690	220	80	**U**
142-82-5	n-Heptane	**13,000**	600	360	95	
108-10-1	4-Methyl-2-pentanone	190	590	190	82	**U**
108-88-3	Toluene	210	660	210	79	**U**
591-78-6	2-Hexanone	190	600	190	74	**U**
124-48-1	Dibromochloromethane	91	290	91	38	**U**
106-93-4	1,2-Dibromoethane	100	320	100	37	**U**
127-18-4	Tetrachloroethene	**50**	350	110	47	**J**
100-41-4	Ethylbenzene	180	570	180	79	**U**
179601-23-1	m,p-Xylenes	360	1,200	360	150	**U**
75-25-2	Bromoform	140	240	140	49	**U**
100-42-5	Styrene	340	570	340	92	**U**
95-47-6	o-Xylene	**100**	570	180	81	**J**
108-67-8	1,3,5-Trimethylbenzene	160	490	160	72	**U**
95-63-6	1,2,4-Trimethylbenzene	160	500	160	69	**U**
120-82-1	1,2,4-Trichlorobenzene	200	330	200	80	**U**
91-20-3	Naphthalene	270	450	270	110	**U**
1330-20-7	Xylenes, Total	360	1,200	360	150	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV108-350-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-005

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/9/20 & 5/11/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.12 Liter(s)
Test Notes: 0.020 Liter(s)
Container ID: 1SS00535

Initial Pressure (psig): -4.50 Final Pressure (psig): 5.33

Container Dilution Factor: 1.96

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**6.6**	5.0	3.0	1.2	
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.6**	1.8	1.1	0.29	**J**
74-87-3	Chloromethane	**37**	4.2	2.5	0.68	
75-01-4	Vinyl Chloride	**4.1**	3.5	1.1	0.36	
106-99-0	1,3-Butadiene	2.4	3.9	2.4	0.65	**U**
75-00-3	Chloroethane	**3.0**	3.3	2.0	0.41	**J**
64-17-5	Ethanol	**5.1**	45	7.2	3.2	**J**
67-64-1	Acetone	19	36	19	8.3	**U**
75-69-4	Trichlorofluoromethane	**2.9**	1.5	0.93	0.24	
67-63-0	2-Propanol (Isopropyl Alcohol)	4.2	14	4.2	1.5	**U**
75-09-2	Methylene Chloride	1.5	2.5	1.5	0.71	**U**
76-13-1	Trichlorotrifluoroethane	**210**	6.9	2.2	0.97	**D**
75-15-0	Carbon Disulfide	**120**	5.8	2.8	0.84	
75-34-3	1,1-Dichloroethane	**0.57**	2.2	1.3	0.31	**J**
78-93-3	2-Butanone (MEK)	**1.4**	6.1	1.8	0.61	**J**
141-78-6	Ethyl Acetate	2.9	5.0	2.9	1.3	**U**
110-54-3	n-Hexane	**50**	2.5	1.5	0.51	
67-66-3	Chloroform	**1.5**	1.8	0.57	0.24	**J**
109-99-9	Tetrahydrofuran (THF)	**70**	3.0	0.94	0.37	
107-06-2	1,2-Dichloroethane	**1.7**	2.2	0.69	0.24	**J**
71-43-2	Benzene	**320**	2.7	0.87	0.39	
56-23-5	Carbon Tetrachloride	**12**	1.4	0.44	0.19	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV108-350-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-005

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/9/20 & 5/11/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.12 Liter(s)
Test Notes: 0.020 Liter(s)
Container ID: 1SS00535

Initial Pressure (psig): -4.50 Final Pressure (psig): 5.33

Container Dilution Factor: 1.96

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**110**	5.2	1.6	0.71	
75-27-4	Bromodichloromethane	0.41	1.3	0.41	0.19	**U**
79-01-6	Trichloroethene	**1.4**	1.6	0.52	0.22	**J**
123-91-1	1,4-Dioxane	0.77	2.4	0.77	0.29	**U**
142-82-5	n-Heptane	**10**	2.2	1.3	0.34	
108-10-1	4-Methyl-2-pentanone	**0.90**	2.1	0.68	0.29	**J**
108-88-3	Toluene	**84**	2.3	0.74	0.28	
591-78-6	2-Hexanone	0.68	2.2	0.68	0.26	**U**
124-48-1	Dibromochloromethane	0.33	1.0	0.33	0.13	**U**
106-93-4	1,2-Dibromoethane	**0.36**	1.1	0.36	0.13	**J**
127-18-4	Tetrachloroethene	**2.1**	1.3	0.41	0.17	
100-41-4	Ethylbenzene	**1.0**	2.0	0.64	0.28	**J**
179601-23-1	m,p-Xylenes	**16**	4.1	1.3	0.53	
75-25-2	Bromoform	0.51	0.85	0.51	0.17	**U**
100-42-5	Styrene	1.2	2.0	1.2	0.33	**U**
95-47-6	o-Xylene	**12**	2.0	0.64	0.29	
108-67-8	1,3,5-Trimethylbenzene	**1.6**	1.8	0.57	0.26	**J**
95-63-6	1,2,4-Trimethylbenzene	**2.2**	1.8	0.57	0.25	
120-82-1	1,2,4-Trichlorobenzene	0.70	1.2	0.70	0.29	**U**
91-20-3	Naphthalene	0.97	1.6	0.97	0.41	**U**
1330-20-7	Xylenes, Total	**27**	4.1	1.3	0.53	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV108-350-602** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-006

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/9/20 & 5/11/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.12 Liter(s)
Test Notes: 0.020 Liter(s)
Container ID: 1SS00859

Initial Pressure (psig): -4.97 Final Pressure (psig): 5.85

Container Dilution Factor: 2.11

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**5.6**	5.4	3.3	1.3	
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.6**	1.9	1.1	0.31	**J**
74-87-3	Chloromethane	**30**	4.5	2.7	0.73	
75-01-4	Vinyl Chloride	**3.3**	3.7	1.2	0.39	**J**
106-99-0	1,3-Butadiene	2.5	4.2	2.5	0.70	**U**
75-00-3	Chloroethane	**2.4**	3.6	2.1	0.44	**J**
64-17-5	Ethanol	**5.5**	49	7.7	3.5	**J**
67-64-1	Acetone	**13**	39	20	8.9	**J**
75-69-4	Trichlorofluoromethane	**3.1**	1.7	1.0	0.25	
67-63-0	2-Propanol (Isopropyl Alcohol)	4.5	15	4.5	1.6	**U**
75-09-2	Methylene Chloride	1.6	2.7	1.6	0.76	**U**
76-13-1	Trichlorotrifluoroethane	**250**	7.4	2.3	1.0	**D**
75-15-0	Carbon Disulfide	**100**	6.2	3.1	0.90	
75-34-3	1,1-Dichloroethane	**0.46**	2.4	1.4	0.34	**J**
78-93-3	2-Butanone (MEK)	**1.8**	6.6	1.9	0.66	**J**
141-78-6	Ethyl Acetate	3.2	5.4	3.2	1.4	**U**
110-54-3	n-Hexane	**46**	2.7	1.6	0.55	
67-66-3	Chloroform	**1.5**	1.9	0.61	0.26	**J**
109-99-9	Tetrahydrofuran (THF)	**59**	3.3	1.0	0.40	
107-06-2	1,2-Dichloroethane	**1.4**	2.3	0.74	0.26	**J**
71-43-2	Benzene	**250**	2.9	0.94	0.42	
56-23-5	Carbon Tetrachloride	**12**	1.5	0.48	0.21	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV108-350-602** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-006

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/9/20 & 5/11/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.12 Liter(s)
Test Notes: 0.020 Liter(s)
Container ID: 1SS00859

Initial Pressure (psig): -4.97 Final Pressure (psig): 5.85

Container Dilution Factor: 2.11

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**100**		5.6	1.7	0.77	
75-27-4	Bromodichloromethane		0.45	1.4	0.45	0.20	**U**
79-01-6	Trichloroethene	**1.4**		1.8	0.56	0.24	**J**
123-91-1	1,4-Dioxane		0.83	2.6	0.83	0.31	**U**
142-82-5	n-Heptane	**12**		2.3	1.4	0.36	
108-10-1	4-Methyl-2-pentanone	**0.45**		2.3	0.73	0.31	**J**
108-88-3	Toluene	**76**		2.5	0.79	0.30	
591-78-6	2-Hexanone		0.73	2.3	0.73	0.28	**U**
124-48-1	Dibromochloromethane		0.35	1.1	0.35	0.14	**U**
106-93-4	1,2-Dibromoethane	**0.29**		1.2	0.39	0.14	**J**
127-18-4	Tetrachloroethene	**2.3**		1.3	0.44	0.18	
100-41-4	Ethylbenzene	**1.2**		2.2	0.69	0.30	**J**
179601-23-1	m,p-Xylenes	**15**		4.5	1.4	0.57	
75-25-2	Bromoform		0.54	0.92	0.54	0.19	**U**
100-42-5	Styrene		1.3	2.2	1.3	0.36	**U**
95-47-6	o-Xylene	**11**		2.2	0.69	0.31	
108-67-8	1,3,5-Trimethylbenzene	**2.2**		1.9	0.61	0.28	
95-63-6	1,2,4-Trimethylbenzene	**6.1**		1.9	0.61	0.26	
120-82-1	1,2,4-Trichlorobenzene		0.76	1.3	0.76	0.31	**U**
91-20-3	Naphthalene	**1.0**		1.7	1.0	0.44	**J**
1330-20-7	Xylenes, Total	**26**		4.5	1.4	0.57	

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV108-450-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-007

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/9/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01082

Initial Pressure (psig): -3.35 Final Pressure (psig): 5.72

Container Dilution Factor: 1.80

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.81**	1.4	0.84	0.34	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.42**	0.48	0.29	0.079	**J**
74-87-3	Chloromethane	**3.4**	1.2	0.70	0.19	
75-01-4	Vinyl Chloride	**0.74**	0.95	0.30	0.10	**J**
106-99-0	1,3-Butadiene	0.65	1.1	0.65	0.18	**U**
75-00-3	Chloroethane	**0.59**	0.92	0.55	0.11	**J**
64-17-5	Ethanol	**1.4**	12	2.0	0.88	**J**
67-64-1	Acetone	**5.7**	10	5.1	2.3	**J**
75-69-4	Trichlorofluoromethane	**0.32**	0.42	0.26	0.065	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.2	3.8	1.2	0.40	**U**
75-09-2	Methylene Chloride	0.41	0.69	0.41	0.19	**U**
76-13-1	Trichlorotrifluoroethane	**31**	0.32	0.10	0.045	
75-15-0	Carbon Disulfide	**7.9**	1.6	0.78	0.23	
75-34-3	1,1-Dichloroethane	**0.29**	0.61	0.37	0.087	**J**
78-93-3	2-Butanone (MEK)	**1.1**	1.7	0.49	0.17	**J**
141-78-6	Ethyl Acetate	0.81	1.4	0.81	0.35	**U**
110-54-3	n-Hexane	**2.0**	0.69	0.41	0.14	
67-66-3	Chloroform	**0.22**	0.50	0.16	0.065	**J**
109-99-9	Tetrahydrofuran (THF)	**2.8**	0.84	0.26	0.10	
107-06-2	1,2-Dichloroethane	**0.22**	0.60	0.19	0.066	**J**
71-43-2	Benzene	**4.2**	0.75	0.24	0.11	
56-23-5	Carbon Tetrachloride	**2.3**	0.38	0.12	0.053	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV108-450-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-007

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/9/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01082

Initial Pressure (psig): -3.35 Final Pressure (psig): 5.72

Container Dilution Factor: 1.80

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**2.9**	1.4	0.44	0.20	
75-27-4	Bromodichloromethane	0.11	0.36	0.11	0.052	**U**
79-01-6	Trichloroethene	**0.23**	0.45	0.14	0.060	**J**
123-91-1	1,4-Dioxane	**0.10**	0.67	0.21	0.079	**J**
142-82-5	n-Heptane	**0.46**	0.59	0.35	0.093	**J**
108-10-1	4-Methyl-2-pentanone	**0.85**	0.58	0.19	0.080	
108-88-3	Toluene	**19**	0.65	0.20	0.078	
591-78-6	2-Hexanone	**0.18**	0.59	0.19	0.073	**J**
124-48-1	Dibromochloromethane	0.090	0.29	0.090	0.037	**U**
106-93-4	1,2-Dibromoethane	0.10	0.32	0.10	0.036	**U**
127-18-4	Tetrachloroethene	**1.5**	0.35	0.11	0.046	
100-41-4	Ethylbenzene	**0.23**	0.56	0.18	0.078	**J**
179601-23-1	m,p-Xylenes	**1.3**	1.1	0.35	0.15	
75-25-2	Bromoform	0.14	0.24	0.14	0.048	**U**
100-42-5	Styrene	0.34	0.56	0.34	0.091	**U**
95-47-6	o-Xylene	**0.72**	0.56	0.18	0.080	
108-67-8	1,3,5-Trimethylbenzene	**0.13**	0.49	0.16	0.071	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.53**	0.49	0.16	0.068	
120-82-1	1,2,4-Trichlorobenzene	0.19	0.33	0.19	0.079	**U**
91-20-3	Naphthalene	0.27	0.45	0.27	0.11	**U**
1330-20-7	Xylenes, Total	**2.1**	1.1	0.35	0.15	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV112-025-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-008

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/9/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00952

Initial Pressure (psig): -4.31 Final Pressure (psig): 5.99

Container Dilution Factor: 1.99

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.93	1.5	0.93	0.38	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.6**	0.53	0.32	0.088	
74-87-3	Chloromethane	0.77	1.3	0.77	0.21	**U**
75-01-4	Vinyl Chloride	0.33	1.1	0.33	0.11	**U**
106-99-0	1,3-Butadiene	0.72	1.2	0.72	0.20	**U**
75-00-3	Chloroethane	0.60	1.0	0.60	0.12	**U**
64-17-5	Ethanol	**2.4**	14	2.2	0.98	**J**
67-64-1	Acetone	5.7	11	5.7	2.5	**U**
75-69-4	Trichlorofluoromethane	**0.56**	0.47	0.28	0.072	
67-63-0	2-Propanol (Isopropyl Alcohol)	1.3	4.3	1.3	0.45	**U**
75-09-2	Methylene Chloride	0.46	0.76	0.46	0.21	**U**
76-13-1	Trichlorotrifluoroethane	**3.1**	0.35	0.11	0.049	
75-15-0	Carbon Disulfide	**0.70**	1.8	0.86	0.26	**J**
75-34-3	1,1-Dichloroethane	0.41	0.68	0.41	0.096	**U**
78-93-3	2-Butanone (MEK)	**0.46**	1.9	0.54	0.19	**J**
141-78-6	Ethyl Acetate	**0.61**	1.5	0.90	0.39	**J**
110-54-3	n-Hexane	0.45	0.76	0.45	0.16	**U**
67-66-3	Chloroform	**2.2**	0.55	0.17	0.072	
109-99-9	Tetrahydrofuran (THF)	**1.4**	0.93	0.29	0.11	
107-06-2	1,2-Dichloroethane	0.21	0.66	0.21	0.073	**U**
71-43-2	Benzene	0.26	0.83	0.26	0.12	**U**
56-23-5	Carbon Tetrachloride	**1.5**	0.42	0.13	0.059	

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV112-025-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-008

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/9/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00952

Initial Pressure (psig): -4.31 Final Pressure (psig): 5.99

Container Dilution Factor: 1.99

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.49	1.6	0.49	0.22	**U**
75-27-4	Bromodichloromethane	0.13	0.40	0.13	0.057	**U**
79-01-6	Trichloroethene	0.16	0.50	0.16	0.067	**U**
123-91-1	1,4-Dioxane	**0.13**	0.75	0.23	0.087	**J**
142-82-5	n-Heptane	0.39	0.66	0.39	0.10	**U**
108-10-1	4-Methyl-2-pentanone	0.21	0.64	0.21	0.089	**U**
108-88-3	Toluene	**0.41**	0.71	0.22	0.086	**J**
591-78-6	2-Hexanone	**0.11**	0.66	0.21	0.080	**J**
124-48-1	Dibromochloromethane	0.099	0.32	0.099	0.041	**U**
106-93-4	1,2-Dibromoethane	0.11	0.35	0.11	0.040	**U**
127-18-4	Tetrachloroethene	**0.20**	0.38	0.12	0.051	**J**
100-41-4	Ethylbenzene	**0.11**	0.62	0.19	0.086	**J**
179601-23-1	m,p-Xylenes	**0.55**	1.3	0.39	0.16	**J**
75-25-2	Bromoform	0.15	0.26	0.15	0.053	**U**
100-42-5	Styrene	0.37	0.62	0.37	0.10	**U**
95-47-6	o-Xylene	**0.20**	0.62	0.19	0.088	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.31**	0.54	0.17	0.078	**J**
95-63-6	1,2,4-Trimethylbenzene	**1.8**	0.55	0.17	0.075	
120-82-1	1,2,4-Trichlorobenzene	0.21	0.36	0.21	0.087	**U**
91-20-3	Naphthalene	**0.60**	0.49	0.29	0.12	
1330-20-7	Xylenes, Total	**0.75**	1.3	0.39	0.16	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV112-050-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-009

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/9/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00491

Initial Pressure (psig): -4.32 Final Pressure (psig): 5.97

Container Dilution Factor: 1.99

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**2.3**	1.5	0.93	0.38	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.8**	0.53	0.32	0.088	
74-87-3	Chloromethane	0.77	1.3	0.77	0.21	**U**
75-01-4	Vinyl Chloride	0.33	1.1	0.33	0.11	**U**
106-99-0	1,3-Butadiene	0.72	1.2	0.72	0.20	**U**
75-00-3	Chloroethane	0.60	1.0	0.60	0.12	**U**
64-17-5	Ethanol	**46**	14	2.2	0.98	
67-64-1	Acetone	**7.1**	11	5.7	2.5	**J**
75-69-4	Trichlorofluoromethane	**0.64**	0.47	0.28	0.072	
67-63-0	2-Propanol (Isopropyl Alcohol)	**7.1**	4.3	1.3	0.45	
75-09-2	Methylene Chloride	0.46	0.76	0.46	0.21	**U**
76-13-1	Trichlorotrifluoroethane	**3.7**	0.35	0.11	0.049	
75-15-0	Carbon Disulfide	**0.78**	1.8	0.86	0.26	**J**
75-34-3	1,1-Dichloroethane	0.41	0.68	0.41	0.096	**U**
78-93-3	2-Butanone (MEK)	**4.2**	1.9	0.54	0.19	
141-78-6	Ethyl Acetate	**20**	1.5	0.90	0.39	
110-54-3	n-Hexane	0.45	0.76	0.45	0.16	**U**
67-66-3	Chloroform	**3.0**	0.55	0.17	0.072	
109-99-9	Tetrahydrofuran (THF)	**5.1**	0.93	0.29	0.11	
107-06-2	1,2-Dichloroethane	0.21	0.66	0.21	0.073	**U**
71-43-2	Benzene	**0.17**	0.83	0.26	0.12	**J**
56-23-5	Carbon Tetrachloride	**1.9**	0.42	0.13	0.059	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV112-050-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-009

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/9/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00491

Initial Pressure (psig): -4.32 Final Pressure (psig): 5.97

Container Dilution Factor: 1.99

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.49	1.6	0.49	0.22	**U**
75-27-4	Bromodichloromethane	0.13	0.40	0.13	0.057	**U**
79-01-6	Trichloroethene	**0.072**	0.50	0.16	0.067	**J**
123-91-1	1,4-Dioxane	0.23	0.75	0.23	0.087	**U**
142-82-5	n-Heptane	**0.15**	0.66	0.39	0.10	**J**
108-10-1	4-Methyl-2-pentanone	**1.0**	0.64	0.21	0.089	
108-88-3	Toluene	**3.1**	0.71	0.22	0.086	
591-78-6	2-Hexanone	**0.083**	0.66	0.21	0.080	**J**
124-48-1	Dibromochloromethane	0.099	0.32	0.099	0.041	**U**
106-93-4	1,2-Dibromoethane	0.11	0.35	0.11	0.040	**U**
127-18-4	Tetrachloroethene	**0.23**	0.38	0.12	0.051	**J**
100-41-4	Ethylbenzene	**0.32**	0.62	0.19	0.086	**J**
179601-23-1	m,p-Xylenes	**1.3**	1.3	0.39	0.16	**J**
75-25-2	Bromoform	0.15	0.26	0.15	0.053	**U**
100-42-5	Styrene	**0.14**	0.62	0.37	0.10	**J**
95-47-6	o-Xylene	**0.44**	0.62	0.19	0.088	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.16**	0.54	0.17	0.078	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.78**	0.55	0.17	0.075	
120-82-1	1,2,4-Trichlorobenzene	0.21	0.36	0.21	0.087	**U**
91-20-3	Naphthalene	**0.28**	0.49	0.29	0.12	**J**
1330-20-7	Xylenes, Total	**1.7**	1.3	0.39	0.16	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV112-150-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-010

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/9/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00962

Initial Pressure (psig): -3.25 Final Pressure (psig): 5.91

Container Dilution Factor: 1.80

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.78**	1.4	0.84	0.34	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.6**	0.48	0.29	0.079	
74-87-3	Chloromethane	**0.58**	1.2	0.70	0.19	**J**
75-01-4	Vinyl Chloride	0.30	0.95	0.30	0.10	**U**
106-99-0	1,3-Butadiene	0.65	1.1	0.65	0.18	**U**
75-00-3	Chloroethane	0.55	0.92	0.55	0.11	**U**
64-17-5	Ethanol	**21**	12	2.0	0.88	
67-64-1	Acetone	**12**	10	5.1	2.3	
75-69-4	Trichlorofluoromethane	**0.32**	0.42	0.26	0.065	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.0**	3.8	1.2	0.40	**J**
75-09-2	Methylene Chloride	**0.22**	0.69	0.41	0.19	**J**
76-13-1	Trichlorotrifluoroethane	**1.3**	0.32	0.10	0.045	
75-15-0	Carbon Disulfide	**2.7**	1.6	0.78	0.23	
75-34-3	1,1-Dichloroethane	0.37	0.61	0.37	0.087	**U**
78-93-3	2-Butanone (MEK)	**2.1**	1.7	0.49	0.17	
141-78-6	Ethyl Acetate	**8.3**	1.4	0.81	0.35	
110-54-3	n-Hexane	0.41	0.69	0.41	0.14	**U**
67-66-3	Chloroform	**0.16**	0.50	0.16	0.065	**J**
109-99-9	Tetrahydrofuran (THF)	**3.9**	0.84	0.26	0.10	
107-06-2	1,2-Dichloroethane	0.19	0.60	0.19	0.066	**U**
71-43-2	Benzene	**0.34**	0.75	0.24	0.11	**J**
56-23-5	Carbon Tetrachloride	**0.39**	0.38	0.12	0.053	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV112-150-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-010

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/9/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00962

Initial Pressure (psig): -3.25 Final Pressure (psig): 5.91

Container Dilution Factor: 1.80

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.44	1.4	0.44	0.20	**U**
75-27-4	Bromodichloromethane	0.11	0.36	0.11	0.052	**U**
79-01-6	Trichloroethene	0.14	0.45	0.14	0.060	**U**
123-91-1	1,4-Dioxane	0.21	0.67	0.21	0.079	**U**
142-82-5	n-Heptane	0.35	0.59	0.35	0.093	**U**
108-10-1	4-Methyl-2-pentanone	0.19	0.58	0.19	0.080	**U**
108-88-3	Toluene	**1.7**	0.65	0.20	0.078	
591-78-6	2-Hexanone	**0.24**	0.59	0.19	0.073	**J**
124-48-1	Dibromochloromethane	0.090	0.29	0.090	0.037	**U**
106-93-4	1,2-Dibromoethane	0.10	0.32	0.10	0.036	**U**
127-18-4	Tetrachloroethene	**0.40**	0.35	0.11	0.046	
100-41-4	Ethylbenzene	**0.14**	0.56	0.18	0.078	**J**
179601-23-1	m,p-Xylenes	**0.57**	1.1	0.35	0.15	**J**
75-25-2	Bromoform	0.14	0.24	0.14	0.048	**U**
100-42-5	Styrene	0.34	0.56	0.34	0.091	**U**
95-47-6	o-Xylene	**0.19**	0.56	0.18	0.080	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.15**	0.49	0.16	0.071	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.74**	0.49	0.16	0.068	
120-82-1	1,2,4-Trichlorobenzene	0.19	0.33	0.19	0.079	**U**
91-20-3	Naphthalene	**0.16**	0.45	0.27	0.11	**J**
1330-20-7	Xylenes, Total	**0.76**	1.1	0.35	0.15	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV112-250-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-011

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/9/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00063

Initial Pressure (psig): -3.16 Final Pressure (psig): 6.35

Container Dilution Factor: 1.82

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**1.3**	1.4	0.85	0.34	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.6**	0.49	0.29	0.080	
74-87-3	Chloromethane	**0.40**	1.2	0.71	0.19	**J**
75-01-4	Vinyl Chloride	0.30	0.96	0.30	0.10	**U**
106-99-0	1,3-Butadiene	0.66	1.1	0.66	0.18	**U**
75-00-3	Chloroethane	0.55	0.93	0.55	0.11	**U**
64-17-5	Ethanol	**4.8**	13	2.0	0.89	**J**
67-64-1	Acetone	**14**	10	5.2	2.3	
75-69-4	Trichlorofluoromethane	**0.39**	0.43	0.26	0.066	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.9**	3.9	1.2	0.41	**J**
75-09-2	Methylene Chloride	0.42	0.69	0.42	0.20	**U**
76-13-1	Trichlorotrifluoroethane	**2.1**	0.32	0.10	0.045	
75-15-0	Carbon Disulfide	**12**	1.6	0.79	0.23	
75-34-3	1,1-Dichloroethane	0.37	0.62	0.37	0.088	**U**
78-93-3	2-Butanone (MEK)	**3.3**	1.7	0.49	0.17	
141-78-6	Ethyl Acetate	**0.56**	1.4	0.82	0.35	**J**
110-54-3	n-Hexane	**0.25**	0.70	0.41	0.14	**J**
67-66-3	Chloroform	**0.090**	0.50	0.16	0.066	**J**
109-99-9	Tetrahydrofuran (THF)	**3.8**	0.85	0.26	0.10	
107-06-2	1,2-Dichloroethane	**0.081**	0.61	0.19	0.066	**J**
71-43-2	Benzene	**21**	0.76	0.24	0.11	
56-23-5	Carbon Tetrachloride	**1.6**	0.38	0.12	0.054	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV112-250-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-011

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/9/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00063

Initial Pressure (psig): -3.16 Final Pressure (psig): 6.35

Container Dilution Factor: 1.82

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**0.82**		1.5	0.45	0.20	**J**
75-27-4	Bromodichloromethane		0.12	0.37	0.12	0.052	**U**
79-01-6	Trichloroethene	**0.31**		0.46	0.14	0.061	**J**
123-91-1	1,4-Dioxane	**0.17**		0.68	0.21	0.080	**J**
142-82-5	n-Heptane	**0.11**		0.60	0.36	0.094	**J**
108-10-1	4-Methyl-2-pentanone		0.19	0.59	0.19	0.081	**U**
108-88-3	Toluene	**26**		0.65	0.21	0.079	
591-78-6	2-Hexanone		0.19	0.60	0.19	0.073	**U**
124-48-1	Dibromochloromethane		0.091	0.29	0.091	0.037	**U**
106-93-4	1,2-Dibromoethane	**0.13**		0.32	0.10	0.037	**J**
127-18-4	Tetrachloroethene	**1.2**		0.35	0.11	0.046	
100-41-4	Ethylbenzene	**1.3**		0.57	0.18	0.079	
179601-23-1	m,p-Xylenes	**3.2**		1.2	0.36	0.15	
75-25-2	Bromoform		0.14	0.24	0.14	0.048	**U**
100-42-5	Styrene		0.34	0.57	0.34	0.092	**U**
95-47-6	o-Xylene	**2.8**		0.57	0.18	0.081	
108-67-8	1,3,5-Trimethylbenzene	**0.77**		0.49	0.16	0.071	
95-63-6	1,2,4-Trimethylbenzene	**1.0**		0.50	0.16	0.069	
120-82-1	1,2,4-Trichlorobenzene		0.20	0.33	0.20	0.080	**U**
91-20-3	Naphthalene	**0.14**		0.45	0.27	0.11	**J**
1330-20-7	Xylenes, Total	**6.1**		1.2	0.36	0.15	

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV112-350-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-012

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/9/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.050 Liter(s)
Test Notes:
Container ID: 1SS01001

Initial Pressure (psig): -4.75 Final Pressure (psig): 5.43

Container Dilution Factor: 2.02

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	7.5	12	7.5	3.1	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.9**	4.3	2.6	0.71	**J**
74-87-3	Chloromethane	**14**	10	6.3	1.7	
75-01-4	Vinyl Chloride	**1.3**	8.5	2.7	0.90	**J**
106-99-0	1,3-Butadiene	5.8	9.7	5.8	1.6	**U**
75-00-3	Chloroethane	4.9	8.3	4.9	1.0	**U**
64-17-5	Ethanol	18	110	18	7.9	**U**
67-64-1	Acetone	46	90	46	20	**U**
75-69-4	Trichlorofluoromethane	2.3	3.8	2.3	0.58	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	10	35	10	3.6	**U**
75-09-2	Methylene Chloride	3.7	6.2	3.7	1.7	**U**
76-13-1	Trichlorotrifluoroethane	**0.85**	2.8	0.90	0.40	**J**
75-15-0	Carbon Disulfide	**63**	14	7.0	2.1	
75-34-3	1,1-Dichloroethane	3.3	5.5	3.3	0.78	**U**
78-93-3	2-Butanone (MEK)	4.4	15	4.4	1.5	**U**
141-78-6	Ethyl Acetate	7.3	12	7.3	3.1	**U**
110-54-3	n-Hexane	**5.2**	6.2	3.7	1.3	**J**
67-66-3	Chloroform	1.4	4.5	1.4	0.59	**U**
109-99-9	Tetrahydrofuran (THF)	**1.9**	7.5	2.3	0.92	**J**
107-06-2	1,2-Dichloroethane	**2.7**	5.4	1.7	0.59	**J**
71-43-2	Benzene	**480**	6.7	2.2	0.97	
56-23-5	Carbon Tetrachloride	**0.75**	3.4	1.1	0.48	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV112-350-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-012

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/9/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.050 Liter(s)
Test Notes:
Container ID: 1SS01001

Initial Pressure (psig): -4.75 Final Pressure (psig): 5.43

Container Dilution Factor: 2.02

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**5.4**	13	4.0	1.8	**J**
75-27-4	Bromodichloromethane	1.0	3.3	1.0	0.46	**U**
79-01-6	Trichloroethene	1.3	4.1	1.3	0.54	**U**
123-91-1	1,4-Dioxane	1.9	6.1	1.9	0.71	**U**
142-82-5	n-Heptane	**3.4**	5.3	3.2	0.84	**J**
108-10-1	4-Methyl-2-pentanone	1.7	5.2	1.7	0.72	**U**
108-88-3	Toluene	**1,100**	5.8	1.8	0.70	
591-78-6	2-Hexanone	1.7	5.3	1.7	0.65	**U**
124-48-1	Dibromochloromethane	0.81	2.6	0.81	0.33	**U**
106-93-4	1,2-Dibromoethane	**5.9**	2.8	0.89	0.33	
127-18-4	Tetrachloroethene	**0.42**	3.1	1.0	0.41	**J**
100-41-4	Ethylbenzene	**30**	5.0	1.6	0.70	
179601-23-1	m,p-Xylenes	**110**	10	3.2	1.3	
75-25-2	Bromoform	1.3	2.1	1.3	0.43	**U**
100-42-5	Styrene	3.0	5.0	3.0	0.82	**U**
95-47-6	o-Xylene	**59**	5.0	1.6	0.72	
108-67-8	1,3,5-Trimethylbenzene	**3.9**	4.4	1.4	0.63	**J**
95-63-6	1,2,4-Trimethylbenzene	**5.3**	4.4	1.4	0.61	
120-82-1	1,2,4-Trichlorobenzene	1.7	2.9	1.7	0.71	**U**
91-20-3	Naphthalene	2.4	4.0	2.4	1.0	**U**
1330-20-7	Xylenes, Total	**170**	10	3.2	1.3	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV112-450-602** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-013

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/11/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0020 Liter(s)
Test Notes:
Container ID: 1SC00412

Initial Pressure (psig): -3.67 Final Pressure (psig): 5.71

Container Dilution Factor: 1.85

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**640**	280	170	70	
75-71-8	Dichlorodifluoromethane (CFC 12)	60	99	60	16	**U**
74-87-3	Chloromethane	140	240	140	39	**U**
75-01-4	Vinyl Chloride	62	200	62	21	**U**
106-99-0	1,3-Butadiene	130	220	130	37	**U**
75-00-3	Chloroethane	110	190	110	23	**U**
64-17-5	Ethanol	**240**	2,600	410	180	**J**
67-64-1	Acetone	1,100	2,100	1,100	470	**U**
75-69-4	Trichlorofluoromethane	53	87	53	13	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	240	790	240	83	**U**
75-09-2	Methylene Chloride	85	140	85	40	**U**
76-13-1	Trichlorotrifluoroethane	21	65	21	9.2	**U**
75-15-0	Carbon Disulfide	160	330	160	48	**U**
75-34-3	1,1-Dichloroethane	75	130	75	18	**U**
78-93-3	2-Butanone (MEK)	100	350	100	35	**U**
141-78-6	Ethyl Acetate	170	280	170	72	**U**
110-54-3	n-Hexane	**19,000**	140	84	29	
67-66-3	Chloroform	32	100	32	13	**U**
109-99-9	Tetrahydrofuran (THF)	53	170	53	21	**U**
107-06-2	1,2-Dichloroethane	39	120	39	13	**U**
71-43-2	Benzene	**4,600**	150	49	22	
56-23-5	Carbon Tetrachloride	25	78	25	11	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV112-450-602** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-013

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/11/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0020 Liter(s)
Test Notes:
Container ID: 1SC00412

Initial Pressure (psig): -3.67 Final Pressure (psig): 5.71

Container Dilution Factor: 1.85

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**42,000**		300	91	40	
75-27-4	Bromodichloromethane	23		75	23	11	**U**
79-01-6	Trichloroethene	29		93	29	12	**U**
123-91-1	1,4-Dioxane	44		140	44	16	**U**
142-82-5	n-Heptane	**12,000**		120	72	19	
108-10-1	4-Methyl-2-pentanone	38		120	38	16	**U**
108-88-3	Toluene	**4,100**		130	42	16	
591-78-6	2-Hexanone	38		120	38	15	**U**
124-48-1	Dibromochloromethane	18		59	18	7.6	**U**
106-93-4	1,2-Dibromoethane	20		65	20	7.5	**U**
127-18-4	Tetrachloroethene	23		71	23	9.4	**U**
100-41-4	Ethylbenzene	**290**		120	36	16	
179601-23-1	m,p-Xylenes	**1,400**		230	72	30	
75-25-2	Bromoform	29		48	29	9.8	**U**
100-42-5	Styrene	70		120	70	19	**U**
95-47-6	o-Xylene	**950**		120	36	16	
108-67-8	1,3,5-Trimethylbenzene	**170**		100	32	14	
95-63-6	1,2,4-Trimethylbenzene	**120**		100	32	14	
120-82-1	1,2,4-Trichlorobenzene	40		67	40	16	**U**
91-20-3	Naphthalene	55		92	55	23	**U**
1330-20-7	Xylenes, Total	**2,400**		230	72	30	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV112-450-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-014

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/11/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0020 Liter(s)
Test Notes:
Container ID: 1SC00582

Initial Pressure (psig): -2.82 Final Pressure (psig): 5.56

Container Dilution Factor: 1.71

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**660**	260	160	65	
75-71-8	Dichlorodifluoromethane (CFC 12)	**15**	92	55	15	**J**
74-87-3	Chloromethane	130	220	130	36	**U**
75-01-4	Vinyl Chloride	57	180	57	19	**U**
106-99-0	1,3-Butadiene	120	200	120	34	**U**
75-00-3	Chloroethane	100	180	100	21	**U**
64-17-5	Ethanol	**700**	2,400	380	170	**J**
67-64-1	Acetone	970	1,900	970	430	**U**
75-69-4	Trichlorofluoromethane	49	81	49	12	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	220	730	220	77	**U**
75-09-2	Methylene Chloride	79	130	79	37	**U**
76-13-1	Trichlorotrifluoroethane	**33**	60	19	8.5	**J**
75-15-0	Carbon Disulfide	150	300	150	44	**U**
75-34-3	1,1-Dichloroethane	70	120	70	16	**U**
78-93-3	2-Butanone (MEK)	**38**	320	93	32	**J**
141-78-6	Ethyl Acetate	150	260	150	66	**U**
110-54-3	n-Hexane	**19,000**	130	78	27	
67-66-3	Chloroform	30	95	30	12	**U**
109-99-9	Tetrahydrofuran (THF)	**23**	160	49	19	**J**
107-06-2	1,2-Dichloroethane	36	110	36	12	**U**
71-43-2	Benzene	**4,600**	140	46	21	
56-23-5	Carbon Tetrachloride	**25**	72	23	10	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV112-450-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-014

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/11/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0020 Liter(s)
Test Notes:
Container ID: 1SC00582

Initial Pressure (psig): -2.82 Final Pressure (psig): 5.56

Container Dilution Factor: 1.71

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**41,000**		270	84	37	
75-27-4	Bromodichloromethane		22	69	22	9.8	**U**
79-01-6	Trichloroethene	**32**		86	27	11	**J**
123-91-1	1,4-Dioxane		40	130	40	15	**U**
142-82-5	n-Heptane	**12,000**		110	67	18	
108-10-1	4-Methyl-2-pentanone		35	110	35	15	**U**
108-88-3	Toluene	**4,100**		120	39	15	
591-78-6	2-Hexanone		35	110	35	14	**U**
124-48-1	Dibromochloromethane		17	54	17	7.0	**U**
106-93-4	1,2-Dibromoethane		19	60	19	6.9	**U**
127-18-4	Tetrachloroethene	**17**		66	21	8.7	**J**
100-41-4	Ethylbenzene	**290**		110	33	15	
179601-23-1	m,p-Xylenes	**1,500**		220	67	28	
75-25-2	Bromoform		26	45	26	9.1	**U**
100-42-5	Styrene		64	110	64	17	**U**
95-47-6	o-Xylene	**960**		110	33	15	
108-67-8	1,3,5-Trimethylbenzene	**170**		92	30	13	
95-63-6	1,2,4-Trimethylbenzene	**140**		94	30	13	
120-82-1	1,2,4-Trichlorobenzene		37	62	37	15	**U**
91-20-3	Naphthalene		51	85	51	21	**U**
1330-20-7	Xylenes, Total	**2,400**		220	67	28	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV118-025-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-015

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan/Wida Ang Date Analyzed: 5/11 - 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00013

Initial Pressure (psig): -3.65 Final Pressure (psig): 5.40

Container Dilution Factor: 1.82

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**3.6**		1.4	0.85	0.34	
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.6**		0.49	0.29	0.080	
74-87-3	Chloromethane		0.71	1.2	0.71	0.19	**U**
75-01-4	Vinyl Chloride		0.30	0.96	0.30	0.10	**U**
106-99-0	1,3-Butadiene	**0.55**		1.1	0.66	0.18	**J**
75-00-3	Chloroethane		0.55	0.93	0.55	0.11	**U**
64-17-5	Ethanol	**39**		13	2.0	0.89	
67-64-1	Acetone	**95**		10	5.2	2.3	
75-69-4	Trichlorofluoromethane	**0.80**		0.43	0.26	0.066	
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.2**		3.9	1.2	0.41	**J**
75-09-2	Methylene Chloride		0.42	0.69	0.42	0.20	**U**
76-13-1	Trichlorotrifluoroethane	**2.7**		0.32	0.10	0.045	
75-15-0	Carbon Disulfide	**19**		1.6	0.79	0.23	
75-34-3	1,1-Dichloroethane		0.37	0.62	0.37	0.088	**U**
78-93-3	2-Butanone (MEK)	**13**		1.7	0.49	0.17	
141-78-6	Ethyl Acetate		0.82	1.4	0.82	0.35	**U**
110-54-3	n-Hexane	**0.41**		0.70	0.41	0.14	**J**
67-66-3	Chloroform	**0.18**		0.50	0.16	0.066	**J**
109-99-9	Tetrahydrofuran (THF)	**0.33**		0.85	0.26	0.10	**J**
107-06-2	1,2-Dichloroethane		0.19	0.61	0.19	0.066	**U**
71-43-2	Benzene	**71**		0.76	0.24	0.11	
56-23-5	Carbon Tetrachloride	**1.4**		0.38	0.12	0.054	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV118-025-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-015

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan/Wida Ang Date Analyzed: 5/11 - 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00013

Initial Pressure (psig): -3.65 Final Pressure (psig): 5.40

Container Dilution Factor: 1.82

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**1.8**		1.5	0.45	0.20	
75-27-4	Bromodichloromethane		0.12	0.37	0.12	0.052	**U**
79-01-6	Trichloroethene		0.14	0.46	0.14	0.061	**U**
123-91-1	1,4-Dioxane	**1.3**		0.68	0.21	0.080	
142-82-5	n-Heptane	**0.44**		0.60	0.36	0.094	**J**
108-10-1	4-Methyl-2-pentanone	**25**		0.59	0.19	0.081	
108-88-3	Toluene	**110**		6.5	2.1	0.79	**D**
591-78-6	2-Hexanone		0.19	0.60	0.19	0.073	**U**
124-48-1	Dibromochloromethane		0.091	0.29	0.091	0.037	**U**
106-93-4	1,2-Dibromoethane		0.10	0.32	0.10	0.037	**U**
127-18-4	Tetrachloroethene	**0.060**		0.35	0.11	0.046	**J**
100-41-4	Ethylbenzene	**13**		0.57	0.18	0.079	
179601-23-1	m,p-Xylenes	**30**		1.2	0.36	0.15	
75-25-2	Bromoform		0.14	0.24	0.14	0.048	**U**
100-42-5	Styrene	**2.2**		0.57	0.34	0.092	
95-47-6	o-Xylene	**8.2**		0.57	0.18	0.081	
108-67-8	1,3,5-Trimethylbenzene	**1.0**		0.49	0.16	0.071	
95-63-6	1,2,4-Trimethylbenzene	**4.1**		0.50	0.16	0.069	
120-82-1	1,2,4-Trichlorobenzene		0.20	0.33	0.20	0.080	**U**
91-20-3	Naphthalene	**0.27**		0.45	0.27	0.11	**J**
1330-20-7	Xylenes, Total	**38**		1.2	0.36	0.15	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV118-050-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-016

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/11/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00286

Initial Pressure (psig): -2.81 Final Pressure (psig): 6.27

Container Dilution Factor: 1.76

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**4.3**	1.4	0.82	0.33	
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.7**	0.47	0.28	0.077	
74-87-3	Chloromethane	**0.36**	1.1	0.68	0.18	**J**
75-01-4	Vinyl Chloride	0.29	0.93	0.29	0.098	**U**
106-99-0	1,3-Butadiene	0.64	1.1	0.64	0.18	**U**
75-00-3	Chloroethane	0.53	0.90	0.53	0.11	**U**
64-17-5	Ethanol	**73**	12	1.9	0.86	
67-64-1	Acetone	**14**	9.8	5.0	2.2	
75-69-4	Trichlorofluoromethane	**0.87**	0.42	0.25	0.063	
67-63-0	2-Propanol (Isopropyl Alcohol)	**16**	3.8	1.1	0.39	
75-09-2	Methylene Chloride	**0.35**	0.67	0.41	0.19	**J**
76-13-1	Trichlorotrifluoroethane	**3.1**	0.31	0.098	0.044	
75-15-0	Carbon Disulfide	**0.60**	1.6	0.76	0.23	**J**
75-34-3	1,1-Dichloroethane	0.36	0.60	0.36	0.085	**U**
78-93-3	2-Butanone (MEK)	**2.4**	1.6	0.48	0.16	
141-78-6	Ethyl Acetate	**25**	1.3	0.79	0.34	
110-54-3	n-Hexane	**0.21**	0.67	0.40	0.14	**J**
67-66-3	Chloroform	**0.22**	0.49	0.15	0.064	**J**
109-99-9	Tetrahydrofuran (THF)	**13**	0.82	0.25	0.10	
107-06-2	1,2-Dichloroethane	0.18	0.59	0.18	0.064	**U**
71-43-2	Benzene	**0.24**	0.73	0.23	0.11	**J**
56-23-5	Carbon Tetrachloride	**1.6**	0.37	0.12	0.052	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV118-050-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-016

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/11/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00286

Initial Pressure (psig): -2.81 Final Pressure (psig): 6.27

Container Dilution Factor: 1.76

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**0.35**	1.4	0.43	0.19	**J**
75-27-4	Bromodichloromethane	0.11	0.35	0.11	0.051	**U**
79-01-6	Trichloroethene	**0.076**	0.44	0.14	0.059	**J**
123-91-1	1,4-Dioxane	**0.18**	0.66	0.21	0.077	**J**
142-82-5	n-Heptane	**0.38**	0.58	0.34	0.091	**J**
108-10-1	4-Methyl-2-pentanone	**2.9**	0.57	0.18	0.078	
108-88-3	Toluene	**6.5**	0.63	0.20	0.076	
591-78-6	2-Hexanone	**0.23**	0.58	0.18	0.071	**J**
124-48-1	Dibromochloromethane	0.088	0.28	0.088	0.036	**U**
106-93-4	1,2-Dibromoethane	0.097	0.31	0.097	0.036	**U**
127-18-4	Tetrachloroethene	**0.084**	0.34	0.11	0.045	**J**
100-41-4	Ethylbenzene	**0.71**	0.55	0.17	0.076	
179601-23-1	m,p-Xylenes	**2.9**	1.1	0.34	0.14	
75-25-2	Bromoform	0.14	0.23	0.14	0.047	**U**
100-42-5	Styrene	**0.33**	0.55	0.33	0.089	**J**
95-47-6	o-Xylene	**1.0**	0.55	0.17	0.078	
108-67-8	1,3,5-Trimethylbenzene	**0.25**	0.47	0.15	0.069	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.99**	0.48	0.15	0.066	
120-82-1	1,2,4-Trichlorobenzene	**0.19**	0.32	0.19	0.077	**J**
91-20-3	Naphthalene	**0.22**	0.44	0.26	0.11	**J**
1330-20-7	Xylenes, Total	**3.9**	1.1	0.34	0.14	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV118-160-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-017

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/11/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00496

Initial Pressure (psig): -2.71 Final Pressure (psig): 5.47

Container Dilution Factor: 1.68

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.63**	1.3	0.78	0.32	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.5**	0.45	0.27	0.074	
74-87-3	Chloromethane	**0.24**	1.1	0.65	0.17	**J**
75-01-4	Vinyl Chloride	0.28	0.89	0.28	0.094	**U**
106-99-0	1,3-Butadiene	0.61	1.0	0.61	0.17	**U**
75-00-3	Chloroethane	0.51	0.86	0.51	0.11	**U**
64-17-5	Ethanol	**4.5**	12	1.9	0.83	**J**
67-64-1	Acetone	**10**	9.4	4.8	2.1	
75-69-4	Trichlorofluoromethane	**0.84**	0.40	0.24	0.061	
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.51**	3.6	1.1	0.38	**J**
75-09-2	Methylene Chloride	0.39	0.64	0.39	0.18	**U**
76-13-1	Trichlorotrifluoroethane	**2.2**	0.30	0.093	0.042	
75-15-0	Carbon Disulfide	**1.0**	1.5	0.73	0.22	**J**
75-34-3	1,1-Dichloroethane	0.34	0.57	0.34	0.081	**U**
78-93-3	2-Butanone (MEK)	**1.8**	1.6	0.46	0.16	
141-78-6	Ethyl Acetate	**0.91**	1.3	0.76	0.33	**J**
110-54-3	n-Hexane	0.38	0.64	0.38	0.13	**U**
67-66-3	Chloroform	**0.30**	0.46	0.15	0.061	**J**
109-99-9	Tetrahydrofuran (THF)	**0.14**	0.78	0.24	0.095	**J**
107-06-2	1,2-Dichloroethane	0.18	0.56	0.18	0.061	**U**
71-43-2	Benzene	**0.17**	0.70	0.22	0.10	**J**
56-23-5	Carbon Tetrachloride	**1.3**	0.35	0.11	0.049	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV118-160-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-017

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/11/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00496

Initial Pressure (psig): -2.71 Final Pressure (psig): 5.47

Container Dilution Factor: 1.68

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.42	1.3	0.42	0.18	**U**
75-27-4	Bromodichloromethane	0.11	0.34	0.11	0.048	**U**
79-01-6	Trichloroethene	0.13	0.42	0.13	0.056	**U**
123-91-1	1,4-Dioxane	**0.15**	0.63	0.20	0.073	**J**
142-82-5	n-Heptane	**0.097**	0.55	0.33	0.087	**J**
108-10-1	4-Methyl-2-pentanone	**0.092**	0.54	0.17	0.075	**J**
108-88-3	Toluene	**1.0**	0.60	0.19	0.072	
591-78-6	2-Hexanone	**0.36**	0.55	0.17	0.068	**J**
124-48-1	Dibromochloromethane	0.084	0.27	0.084	0.035	**U**
106-93-4	1,2-Dibromoethane	0.093	0.30	0.093	0.034	**U**
127-18-4	Tetrachloroethene	**0.089**	0.32	0.11	0.043	**J**
100-41-4	Ethylbenzene	**0.15**	0.52	0.16	0.073	**J**
179601-23-1	m,p-Xylenes	**0.64**	1.1	0.33	0.14	**J**
75-25-2	Bromoform	0.13	0.22	0.13	0.045	**U**
100-42-5	Styrene	0.32	0.52	0.32	0.085	**U**
95-47-6	o-Xylene	**0.17**	0.52	0.16	0.074	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.14**	0.45	0.15	0.066	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.41**	0.46	0.15	0.063	**J**
120-82-1	1,2,4-Trichlorobenzene	0.18	0.31	0.18	0.074	**U**
91-20-3	Naphthalene	0.25	0.42	0.25	0.10	**U**
1330-20-7	Xylenes, Total	**0.81**	1.1	0.33	0.14	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV118-265-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-018

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/11/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00223

Initial Pressure (psig): -2.93 Final Pressure (psig): 5.55

Container Dilution Factor: 1.72

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.77**	1.3	0.80	0.32	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.84**	0.46	0.28	0.076	
74-87-3	Chloromethane	**0.29**	1.1	0.67	0.18	**J**
75-01-4	Vinyl Chloride	0.29	0.91	0.29	0.096	**U**
106-99-0	1,3-Butadiene	0.62	1.0	0.62	0.17	**U**
75-00-3	Chloroethane	0.52	0.88	0.52	0.11	**U**
64-17-5	Ethanol	**41**	12	1.9	0.84	
67-64-1	Acetone	**12**	9.6	4.9	2.2	
75-69-4	Trichlorofluoromethane	**1.1**	0.41	0.24	0.062	
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.3**	3.7	1.1	0.39	**J**
75-09-2	Methylene Chloride	**0.29**	0.66	0.40	0.19	**J**
76-13-1	Trichlorotrifluoroethane	**3.2**	0.30	0.095	0.043	
75-15-0	Carbon Disulfide	**3.7**	1.5	0.75	0.22	
75-34-3	1,1-Dichloroethane	0.35	0.58	0.35	0.083	**U**
78-93-3	2-Butanone (MEK)	**1.1**	1.6	0.47	0.16	**J**
141-78-6	Ethyl Acetate	**0.49**	1.3	0.78	0.33	**J**
110-54-3	n-Hexane	0.39	0.66	0.39	0.13	**U**
67-66-3	Chloroform	**0.16**	0.48	0.15	0.063	**J**
109-99-9	Tetrahydrofuran (THF)	**2.1**	0.80	0.25	0.098	
107-06-2	1,2-Dichloroethane	**0.094**	0.57	0.18	0.063	**J**
71-43-2	Benzene	**1.5**	0.71	0.23	0.10	
56-23-5	Carbon Tetrachloride	**5.8**	0.36	0.12	0.051	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV118-265-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-018

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/11/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00223

Initial Pressure (psig): -2.93 Final Pressure (psig): 5.55

Container Dilution Factor: 1.72

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.42	1.4	0.42	0.19	**U**
75-27-4	Bromodichloromethane	0.11	0.35	0.11	0.049	**U**
79-01-6	Trichloroethene	0.14	0.43	0.14	0.058	**U**
123-91-1	1,4-Dioxane	0.20	0.64	0.20	0.075	**U**
142-82-5	n-Heptane	0.34	0.57	0.34	0.089	**U**
108-10-1	4-Methyl-2-pentanone	0.18	0.56	0.18	0.077	**U**
108-88-3	Toluene	**7.9**	0.62	0.19	0.074	
591-78-6	2-Hexanone	0.18	0.57	0.18	0.069	**U**
124-48-1	Dibromochloromethane	0.086	0.27	0.086	0.035	**U**
106-93-4	1,2-Dibromoethane	**0.056**	0.30	0.095	0.035	**J**
127-18-4	Tetrachloroethene	**0.048**	0.33	0.11	0.044	**J**
100-41-4	Ethylbenzene	**0.26**	0.53	0.17	0.074	**J**
179601-23-1	m,p-Xylenes	**0.70**	1.1	0.34	0.14	**J**
75-25-2	Bromoform	0.13	0.22	0.13	0.046	**U**
100-42-5	Styrene	0.32	0.54	0.32	0.087	**U**
95-47-6	o-Xylene	**0.35**	0.53	0.17	0.076	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.14**	0.46	0.15	0.067	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.69**	0.47	0.15	0.065	
120-82-1	1,2,4-Trichlorobenzene	0.19	0.31	0.19	0.075	**U**
91-20-3	Naphthalene	**0.16**	0.43	0.25	0.11	**J**
1330-20-7	Xylenes, Total	**1.0**	1.1	0.34	0.14	**J**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV118-350-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-019

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00018

Initial Pressure (psig): -3.65 Final Pressure (psig): 6.43

Container Dilution Factor: 1.91

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**6.3**	1.5	0.89	0.36	
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.74**	0.51	0.31	0.084	
74-87-3	Chloromethane	0.74	1.2	0.74	0.20	**U**
75-01-4	Vinyl Chloride	0.32	1.0	0.32	0.11	**U**
106-99-0	1,3-Butadiene	0.69	1.1	0.69	0.19	**U**
75-00-3	Chloroethane	0.58	0.98	0.58	0.12	**U**
64-17-5	Ethanol	**1.8**	13	2.1	0.94	**J**
67-64-1	Acetone	**9.2**	11	5.4	2.4	**J**
75-69-4	Trichlorofluoromethane	**1.3**	0.45	0.27	0.069	
67-63-0	2-Propanol (Isopropyl Alcohol)	1.2	4.1	1.2	0.43	**U**
75-09-2	Methylene Chloride	0.44	0.73	0.44	0.21	**U**
76-13-1	Trichlorotrifluoroethane	**1.5**	0.34	0.11	0.047	
75-15-0	Carbon Disulfide	**1.4**	1.7	0.83	0.25	**J**
75-34-3	1,1-Dichloroethane	0.39	0.65	0.39	0.092	**U**
78-93-3	2-Butanone (MEK)	**0.69**	1.8	0.52	0.18	**J**
141-78-6	Ethyl Acetate	0.86	1.5	0.86	0.37	**U**
110-54-3	n-Hexane	0.43	0.73	0.43	0.15	**U**
67-66-3	Chloroform	**1.4**	0.53	0.17	0.069	
109-99-9	Tetrahydrofuran (THF)	**0.15**	0.89	0.28	0.11	**J**
107-06-2	1,2-Dichloroethane	0.20	0.64	0.20	0.070	**U**
71-43-2	Benzene	**0.28**	0.79	0.25	0.12	**J**
56-23-5	Carbon Tetrachloride	**3.1**	0.40	0.13	0.056	

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV118-350-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-019

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00018

Initial Pressure (psig): -3.65 Final Pressure (psig): 6.43

Container Dilution Factor: 1.91

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane		0.47	1.5	0.47	0.21	**U**
75-27-4	Bromodichloromethane		0.12	0.39	0.12	0.055	**U**
79-01-6	Trichloroethene		0.15	0.48	0.15	0.064	**U**
123-91-1	1,4-Dioxane		0.23	0.72	0.23	0.084	**U**
142-82-5	n-Heptane	**0.22**		0.63	0.37	0.099	**J**
108-10-1	4-Methyl-2-pentanone		0.20	0.62	0.20	0.085	**U**
108-88-3	Toluene	**1.3**		0.68	0.22	0.082	
591-78-6	2-Hexanone	**0.087**		0.63	0.20	0.077	**J**
124-48-1	Dibromochloromethane		0.095	0.30	0.095	0.039	**U**
106-93-4	1,2-Dibromoethane		0.11	0.34	0.11	0.039	**U**
127-18-4	Tetrachloroethene	**0.080**		0.37	0.12	0.049	**J**
100-41-4	Ethylbenzene	**0.38**		0.59	0.19	0.082	**J**
179601-23-1	m,p-Xylenes	**1.7**		1.2	0.37	0.15	
75-25-2	Bromoform		0.15	0.25	0.15	0.051	**U**
100-42-5	Styrene		0.36	0.59	0.36	0.096	**U**
95-47-6	o-Xylene	**0.49**		0.59	0.19	0.085	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.86**		0.51	0.17	0.075	
95-63-6	1,2,4-Trimethylbenzene	**4.0**		0.52	0.17	0.072	
120-82-1	1,2,4-Trichlorobenzene		0.21	0.35	0.21	0.084	**U**
91-20-3	Naphthalene	**0.51**		0.47	0.28	0.12	
1330-20-7	Xylenes, Total	**2.1**		1.2	0.37	0.15	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV118-450-602** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-020

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SS00741

Initial Pressure (psig): -2.53 Final Pressure (psig): 3.81

Container Dilution Factor: 1.52

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**6.1**	23	14	5.7	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	4.9	8.1	4.9	1.3	**U**
74-87-3	Chloromethane	**16**	20	12	3.2	**J**
75-01-4	Vinyl Chloride	**2.6**	16	5.1	1.7	**J**
106-99-0	1,3-Butadiene	11	18	11	3.0	**U**
75-00-3	Chloroethane	**2.1**	16	9.2	1.9	**J**
64-17-5	Ethanol	33	210	33	15	**U**
67-64-1	Acetone	86	170	86	38	**U**
75-69-4	Trichlorofluoromethane	4.3	7.2	4.3	1.1	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	19	65	19	6.8	**U**
75-09-2	Methylene Chloride	7.0	12	7.0	3.3	**U**
76-13-1	Trichlorotrifluoroethane	**1.4**	5.4	1.7	0.75	**J**
75-15-0	Carbon Disulfide	**68**	27	13	3.9	
75-34-3	1,1-Dichloroethane	6.2	10	6.2	1.5	**U**
78-93-3	2-Butanone (MEK)	8.2	28	8.2	2.8	**U**
141-78-6	Ethyl Acetate	14	23	14	5.9	**U**
110-54-3	n-Hexane	**80**	12	6.9	2.4	
67-66-3	Chloroform	**1.5**	8.4	2.6	1.1	**J**
109-99-9	Tetrahydrofuran (THF)	**21**	14	4.4	1.7	
107-06-2	1,2-Dichloroethane	3.2	10	3.2	1.1	**U**
71-43-2	Benzene	**30**	13	4.0	1.8	
56-23-5	Carbon Tetrachloride	**9.8**	6.4	2.1	0.89	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV118-450-602** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-020

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SS00741

Initial Pressure (psig): -2.53 Final Pressure (psig): 3.81

Container Dilution Factor: 1.52

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**1,700**	24	7.5	3.3	
75-27-4	Bromodichloromethane	1.9	6.1	1.9	0.87	**U**
79-01-6	Trichloroethene	2.4	7.6	2.4	1.0	**U**
123-91-1	1,4-Dioxane	3.6	11	3.6	1.3	**U**
142-82-5	n-Heptane	5.9	10	5.9	1.6	**U**
108-10-1	4-Methyl-2-pentanone	3.2	9.8	3.2	1.4	**U**
108-88-3	Toluene	**120**	11	3.4	1.3	
591-78-6	2-Hexanone	3.2	10	3.2	1.2	**U**
124-48-1	Dibromochloromethane	1.5	4.8	1.5	0.62	**U**
106-93-4	1,2-Dibromoethane	1.7	5.3	1.7	0.61	**U**
127-18-4	Tetrachloroethene	1.9	5.8	1.9	0.77	**U**
100-41-4	Ethylbenzene	**3.2**	9.5	3.0	1.3	**J**
179601-23-1	m,p-Xylenes	**7.4**	19	6.0	2.5	**J**
75-25-2	Bromoform	2.4	4.0	2.4	0.81	**U**
100-42-5	Styrene	5.7	9.5	5.7	1.5	**U**
95-47-6	o-Xylene	**4.8**	9.5	3.0	1.3	**J**
108-67-8	1,3,5-Trimethylbenzene	**2.8**	8.2	2.6	1.2	**J**
95-63-6	1,2,4-Trimethylbenzene	**6.5**	8.4	2.6	1.1	**J**
120-82-1	1,2,4-Trichlorobenzene	3.3	5.5	3.3	1.3	**U**
91-20-3	Naphthalene	4.5	7.5	4.5	1.9	**U**
1330-20-7	Xylenes, Total	**12**	19	6.0	2.5	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200508-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.19	0.31	0.19	0.076	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.065	0.11	0.065	0.018	**U**
74-87-3	Chloromethane	0.16	0.26	0.16	0.042	**U**
75-01-4	Vinyl Chloride	0.067	0.21	0.067	0.022	**U**
106-99-0	1,3-Butadiene	0.14	0.24	0.14	0.040	**U**
75-00-3	Chloroethane	0.12	0.20	0.12	0.025	**U**
64-17-5	Ethanol	0.44	2.8	0.44	0.20	**U**
67-64-1	Acetone	1.1	2.2	1.1	0.51	**U**
75-69-4	Trichlorofluoromethane	0.057	0.094	0.057	0.014	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.26	0.85	0.26	0.090	**U**
75-09-2	Methylene Chloride	0.092	0.15	0.092	0.043	**U**
76-13-1	Trichlorotrifluoroethane	0.022	0.070	0.022	0.0099	**U**
75-15-0	Carbon Disulfide	0.17	0.35	0.17	0.051	**U**
75-34-3	1,1-Dichloroethane	0.082	0.14	0.082	0.019	**U**
78-93-3	2-Butanone (MEK)	0.11	0.37	0.11	0.037	**U**
141-78-6	Ethyl Acetate	0.18	0.31	0.18	0.078	**U**
110-54-3	n-Hexane	0.091	0.15	0.091	0.031	**U**
67-66-3	Chloroform	0.035	0.11	0.035	0.015	**U**
109-99-9	Tetrahydrofuran (THF)	0.058	0.19	0.058	0.023	**U**
107-06-2	1,2-Dichloroethane	0.042	0.13	0.042	0.015	**U**
71-43-2	Benzene	0.053	0.17	0.053	0.024	**U**
56-23-5	Carbon Tetrachloride	0.027	0.084	0.027	0.012	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200508-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.099	0.32	0.099	0.044	**U**
75-27-4	Bromodichloromethane	0.025	0.081	0.025	0.011	**U**
79-01-6	Trichloroethene	0.032	0.10	0.032	0.013	**U**
123-91-1	1,4-Dioxane	0.047	0.15	0.047	0.017	**U**
142-82-5	n-Heptane	0.078	0.13	0.078	0.021	**U**
108-10-1	4-Methyl-2-pentanone	0.041	0.13	0.041	0.018	**U**
108-88-3	Toluene	0.045	0.14	0.045	0.017	**U**
591-78-6	2-Hexanone	0.042	0.13	0.042	0.016	**U**
124-48-1	Dibromochloromethane	0.020	0.063	0.020	0.0082	**U**
106-93-4	1,2-Dibromoethane	0.022	0.070	0.022	0.0081	**U**
127-18-4	Tetrachloroethene	0.025	0.077	0.025	0.010	**U**
100-41-4	Ethylbenzene	0.039	0.12	0.039	0.017	**U**
179601-23-1	m,p-Xylenes	0.078	0.25	0.078	0.032	**U**
75-25-2	Bromoform	0.031	0.052	0.031	0.011	**U**
100-42-5	Styrene	0.075	0.12	0.075	0.020	**U**
95-47-6	o-Xylene	0.039	0.12	0.039	0.018	**U**
108-67-8	1,3,5-Trimethylbenzene	0.035	0.11	0.035	0.016	**U**
95-63-6	1,2,4-Trimethylbenzene	0.035	0.11	0.035	0.015	**U**
120-82-1	1,2,4-Trichlorobenzene	0.043	0.073	0.043	0.018	**U**
91-20-3	Naphthalene	0.059	0.099	0.059	0.025	**U**
1330-20-7	Xylenes, Total	0.078	0.25	0.078	0.032	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200511-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 5/11/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.19	0.31	0.19	0.076	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.065	0.11	0.065	0.018	**U**
74-87-3	Chloromethane	0.16	0.26	0.16	0.042	**U**
75-01-4	Vinyl Chloride	0.067	0.21	0.067	0.022	**U**
106-99-0	1,3-Butadiene	0.14	0.24	0.14	0.040	**U**
75-00-3	Chloroethane	0.12	0.20	0.12	0.025	**U**
64-17-5	Ethanol	0.44	2.8	0.44	0.20	**U**
67-64-1	Acetone	1.1	2.2	1.1	0.51	**U**
75-69-4	Trichlorofluoromethane	0.057	0.094	0.057	0.014	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.26	0.85	0.26	0.090	**U**
75-09-2	Methylene Chloride	0.092	0.15	0.092	0.043	**U**
76-13-1	Trichlorotrifluoroethane	0.022	0.070	0.022	0.0099	**U**
75-15-0	Carbon Disulfide	0.17	0.35	0.17	0.051	**U**
75-34-3	1,1-Dichloroethane	0.082	0.14	0.082	0.019	**U**
78-93-3	2-Butanone (MEK)	0.11	0.37	0.11	0.037	**U**
141-78-6	Ethyl Acetate	0.18	0.31	0.18	0.078	**U**
110-54-3	n-Hexane	0.091	0.15	0.091	0.031	**U**
67-66-3	Chloroform	0.035	0.11	0.035	0.015	**U**
109-99-9	Tetrahydrofuran (THF)	0.058	0.19	0.058	0.023	**U**
107-06-2	1,2-Dichloroethane	0.042	0.13	0.042	0.015	**U**
71-43-2	Benzene	0.053	0.17	0.053	0.024	**U**
56-23-5	Carbon Tetrachloride	0.027	0.084	0.027	0.012	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200511-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 5/11/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.099	0.32	0.099	0.044	**U**
75-27-4	Bromodichloromethane	0.025	0.081	0.025	0.011	**U**
79-01-6	Trichloroethene	0.032	0.10	0.032	0.013	**U**
123-91-1	1,4-Dioxane	0.047	0.15	0.047	0.017	**U**
142-82-5	n-Heptane	0.078	0.13	0.078	0.021	**U**
108-10-1	4-Methyl-2-pentanone	0.041	0.13	0.041	0.018	**U**
108-88-3	Toluene	0.045	0.14	0.045	0.017	**U**
591-78-6	2-Hexanone	0.042	0.13	0.042	0.016	**U**
124-48-1	Dibromochloromethane	0.020	0.063	0.020	0.0082	**U**
106-93-4	1,2-Dibromoethane	0.022	0.070	0.022	0.0081	**U**
127-18-4	Tetrachloroethene	0.025	0.077	0.025	0.010	**U**
100-41-4	Ethylbenzene	0.039	0.12	0.039	0.017	**U**
179601-23-1	m,p-Xylenes	0.078	0.25	0.078	0.032	**U**
75-25-2	Bromoform	0.031	0.052	0.031	0.011	**U**
100-42-5	Styrene	0.075	0.12	0.075	0.020	**U**
95-47-6	o-Xylene	0.039	0.12	0.039	0.018	**U**
108-67-8	1,3,5-Trimethylbenzene	0.035	0.11	0.035	0.016	**U**
95-63-6	1,2,4-Trimethylbenzene	0.035	0.11	0.035	0.015	**U**
120-82-1	1,2,4-Trichlorobenzene	0.043	0.073	0.043	0.018	**U**
91-20-3	Naphthalene	0.059	0.099	0.059	0.025	**U**
1330-20-7	Xylenes, Total	0.078	0.25	0.078	0.032	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200512-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.19	0.31	0.19	0.076	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.065	0.11	0.065	0.018	**U**
74-87-3	Chloromethane	0.16	0.26	0.16	0.042	**U**
75-01-4	Vinyl Chloride	0.067	0.21	0.067	0.022	**U**
106-99-0	1,3-Butadiene	0.14	0.24	0.14	0.040	**U**
75-00-3	Chloroethane	0.12	0.20	0.12	0.025	**U**
64-17-5	Ethanol	**0.22**	2.8	0.44	0.20	**J**
67-64-1	Acetone	1.1	2.2	1.1	0.51	**U**
75-69-4	Trichlorofluoromethane	0.057	0.094	0.057	0.014	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.26	0.85	0.26	0.090	**U**
75-09-2	Methylene Chloride	0.092	0.15	0.092	0.043	**U**
76-13-1	Trichlorotrifluoroethane	0.022	0.070	0.022	0.0099	**U**
75-15-0	Carbon Disulfide	0.17	0.35	0.17	0.051	**U**
75-34-3	1,1-Dichloroethane	0.082	0.14	0.082	0.019	**U**
78-93-3	2-Butanone (MEK)	0.11	0.37	0.11	0.037	**U**
141-78-6	Ethyl Acetate	0.18	0.31	0.18	0.078	**U**
110-54-3	n-Hexane	0.091	0.15	0.091	0.031	**U**
67-66-3	Chloroform	0.035	0.11	0.035	0.015	**U**
109-99-9	Tetrahydrofuran (THF)	0.058	0.19	0.058	0.023	**U**
107-06-2	1,2-Dichloroethane	0.042	0.13	0.042	0.015	**U**
71-43-2	Benzene	0.053	0.17	0.053	0.024	**U**
56-23-5	Carbon Tetrachloride	0.027	0.084	0.027	0.012	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200512-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.099	0.32	0.099	0.044	**U**
75-27-4	Bromodichloromethane	0.025	0.081	0.025	0.011	**U**
79-01-6	Trichloroethene	0.032	0.10	0.032	0.013	**U**
123-91-1	1,4-Dioxane	0.047	0.15	0.047	0.017	**U**
142-82-5	n-Heptane	0.078	0.13	0.078	0.021	**U**
108-10-1	4-Methyl-2-pentanone	0.041	0.13	0.041	0.018	**U**
108-88-3	Toluene	0.045	0.14	0.045	0.017	**U**
591-78-6	2-Hexanone	0.042	0.13	0.042	0.016	**U**
124-48-1	Dibromochloromethane	0.020	0.063	0.020	0.0082	**U**
106-93-4	1,2-Dibromoethane	0.022	0.070	0.022	0.0081	**U**
127-18-4	Tetrachloroethene	0.025	0.077	0.025	0.010	**U**
100-41-4	Ethylbenzene	0.039	0.12	0.039	0.017	**U**
179601-23-1	m,p-Xylenes	0.078	0.25	0.078	0.032	**U**
75-25-2	Bromoform	0.031	0.052	0.031	0.011	**U**
100-42-5	Styrene	0.075	0.12	0.075	0.020	**U**
95-47-6	o-Xylene	0.039	0.12	0.039	0.018	**U**
108-67-8	1,3,5-Trimethylbenzene	0.035	0.11	0.035	0.016	**U**
95-63-6	1,2,4-Trimethylbenzene	0.035	0.11	0.035	0.015	**U**
120-82-1	1,2,4-Trichlorobenzene	0.043	0.073	0.043	0.018	**U**
91-20-3	Naphthalene	0.059	0.099	0.059	0.025	**U**
1330-20-7	Xylenes, Total	0.078	0.25	0.078	0.032	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Project ID: P2002299

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date(s) Collected: 4/21/20
Analyst: Lusine Hakobyan Date(s) Received: 4/28/20
Sampling Media: 1.0 L Summa Canister(s) / 1.0 L Silonite Summa Canister(s) Date(s) Analyzed: 5/8 - 5/12/20
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P200508-MB	**96**	**99**	**101**	70-130	
Method Blank	P200511-MB	**95**	**100**	**104**	70-130	
Method Blank	P200512-MB	**92**	**102**	**106**	70-130	
Lab Control Sample	P200508-LCS	**93**	**98**	**109**	70-130	
Lab Control Sample	P200511-LCS	**92**	**99**	**108**	70-130	
Lab Control Sample	P200512-LCS	**92**	**100**	**106**	70-130	
Duplicate Lab Control Sample	P200508-DLCS	**93**	**97**	**107**	70-130	
Duplicate Lab Control Sample	P200511-DLCS	**93**	**99**	**109**	70-130	
Duplicate Lab Control Sample	P200512-DLCS	**94**	**101**	**107**	70-130	
SV108-025-202	P2002299-001	**92**	**100**	**110**	70-130	
SV108-050-202	P2002299-002	**92**	**100**	**109**	70-130	
SV108-150-202	P2002299-003	**97**	**98**	**101**	70-130	
SV108-250-202	P2002299-004	**97**	**98**	**103**	70-130	
SV108-350-202	P2002299-005	**92**	**99**	**109**	70-130	
SV108-350-602	P2002299-006	**92**	**100**	**110**	70-130	
SV108-450-202	P2002299-007	**92**	**102**	**110**	70-130	
SV112-025-202	P2002299-008	**93**	**101**	**107**	70-130	
SV112-050-202	P2002299-009	**92**	**101**	**108**	70-130	
SV112-150-202	P2002299-010	**92**	**100**	**109**	70-130	
SV112-250-202	P2002299-011	**92**	**101**	**109**	70-130	
SV112-350-202	P2002299-012	**92**	**102**	**109**	70-130	
SV112-350-202	P2002299-012DUP	**92**	**101**	**109**	70-130	
SV112-450-602	P2002299-013	**96**	**96**	**95**	70-130	
SV112-450-202	P2002299-014	**97**	**94**	**96**	70-130	
SV118-025-202	P2002299-015	**92**	**99**	**109**	70-130	
SV118-050-202	P2002299-016	**92**	**101**	**110**	70-130	
SV118-160-202	P2002299-017	**92**	**100**	**108**	70-130	
SV118-265-202	P2002299-018	**92**	**100**	**109**	70-130	
SV118-350-202	P2002299-019	**92**	**100**	**108**	70-130	
SV118-450-602	P2002299-020	**93**	**100**	**105**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200508-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	122	122	119	**100**	**98**	57-136	2	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	42.5	38.3	37.8	**90**	**89**	59-128	1	25	
74-87-3	Chloromethane	103	89.3	88.4	**87**	**86**	59-132	1	25	
75-01-4	Vinyl Chloride	83.0	73.4	72.2	**88**	**87**	64-127	1	25	
106-99-0	1,3-Butadiene	95.9	85.1	84.9	**89**	**89**	66-134	0	25	
75-00-3	Chloroethane	81.1	70.6	70.6	**87**	**87**	63-127	0	25	
64-17-5	Ethanol	563	489	493	**87**	**88**	59-125	1	25	
67-64-1	Acetone	450	406	407	**90**	**90**	58-128	0	25	
75-69-4	Trichlorofluoromethane	37.7	32.4	32.5	**86**	**86**	62-126	0	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	172	156	158	**91**	**92**	52-125	1	25	
75-09-2	Methylene Chloride	60.5	52.8	52.5	**87**	**87**	62-115	0	25	
76-13-1	Trichlorotrifluoroethane	28.2	26.0	25.8	**92**	**91**	66-126	1	25	
75-15-0	Carbon Disulfide	68.1	59.2	59.9	**87**	**88**	57-134	1	25	
75-34-3	1,1-Dichloroethane	52.4	45.5	45.8	**87**	**87**	68-126	0	25	
78-93-3	2-Butanone (MEK)	71.9	63.6	63.8	**88**	**89**	67-130	1	25	
141-78-6	Ethyl Acetate	120	119	119	**99**	**99**	65-128	0	25	
110-54-3	n-Hexane	61.3	58.5	57.9	**95**	**94**	63-120	1	25	
67-66-3	Chloroform	43.8	38.8	38.7	**89**	**88**	68-123	1	25	
109-99-9	Tetrahydrofuran (THF)	74.6	64.6	64.2	**87**	**86**	64-123	1	25	
107-06-2	1,2-Dichloroethane	52.9	44.9	45.0	**85**	**85**	65-128	0	25	
71-43-2	Benzene	65.8	59.9	59.9	**91**	**91**	69-119	0	25	
56-23-5	Carbon Tetrachloride	33.1	30.5	30.8	**92**	**93**	68-132	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200508-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	123	118	118	**96**	**96**	70-117	0	25	
75-27-4	Bromodichloromethane	32.6	30.1	30.0	**92**	**92**	72-128	0	25	
79-01-6	Trichloroethene	40.2	37.4	37.5	**93**	**93**	71-123	0	25	
123-91-1	1,4-Dioxane	60.0	56.7	57.1	**95**	**95**	71-122	0	25	
142-82-5	n-Heptane	52.2	48.3	48.6	**93**	**93**	69-123	0	25	
108-10-1	4-Methyl-2-pentanone	51.8	51.0	51.4	**98**	**99**	67-130	1	25	
108-88-3	Toluene	56.3	52.1	51.0	**93**	**91**	66-119	2	25	
591-78-6	2-Hexanone	52.7	52.6	52.1	**100**	**99**	62-128	1	25	
124-48-1	Dibromochloromethane	25.1	24.6	24.2	**98**	**96**	70-130	2	25	
106-93-4	1,2-Dibromoethane	27.9	26.6	26.0	**95**	**93**	74-122	2	25	
127-18-4	Tetrachloroethene	30.7	29.8	29.2	**97**	**95**	66-124	2	25	
100-41-4	Ethylbenzene	48.8	47.8	46.5	**98**	**95**	70-124	3	25	
179601-23-1	m,p-Xylenes	98.1	96.8	94.9	**99**	**97**	61-134	2	25	
75-25-2	Bromoform	20.7	20.3	19.9	**98**	**96**	66-139	2	25	
100-42-5	Styrene	49.8	50.7	49.6	**102**	**100**	73-127	2	25	
95-47-6	o-Xylene	49.3	47.5	46.4	**96**	**94**	67-125	2	25	
108-67-8	1,3,5-Trimethylbenzene	43.1	43.3	42.6	**100**	**99**	67-130	1	25	
95-63-6	1,2,4-Trimethylbenzene	43.1	48.0	46.9	**111**	**109**	66-132	2	25	
120-82-1	1,2,4-Trichlorobenzene	29.1	31.2	30.3	**107**	**104**	55-142	3	25	
91-20-3	Naphthalene	40.5	46.5	45.4	**115**	**112**	57-138	3	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200511-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 5/11/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	122	121	118	**99**	**97**	57-136	2	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	42.5	38.2	37.1	**90**	**87**	59-128	3	25	
74-87-3	Chloromethane	103	88.6	87.0	**86**	**84**	59-132	2	25	
75-01-4	Vinyl Chloride	83.0	72.4	70.7	**87**	**85**	64-127	2	25	
106-99-0	1,3-Butadiene	95.9	85.3	85.0	**89**	**89**	66-134	0	25	
75-00-3	Chloroethane	81.1	70.9	69.9	**87**	**86**	63-127	1	25	
64-17-5	Ethanol	563	487	490	**87**	**87**	59-125	0	25	
67-64-1	Acetone	450	405	405	**90**	**90**	58-128	0	25	
75-69-4	Trichlorofluoromethane	37.7	32.7	32.6	**87**	**86**	62-126	1	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	172	157	157	**91**	**91**	52-125	0	25	
75-09-2	Methylene Chloride	60.5	52.4	52.2	**87**	**86**	62-115	1	25	
76-13-1	Trichlorotrifluoroethane	28.2	26.1	25.8	**93**	**91**	66-126	2	25	
75-15-0	Carbon Disulfide	68.1	60.1	59.8	**88**	**88**	57-134	0	25	
75-34-3	1,1-Dichloroethane	52.4	45.0	45.3	**86**	**86**	68-126	0	25	
78-93-3	2-Butanone (MEK)	71.9	63.3	63.5	**88**	**88**	67-130	0	25	
141-78-6	Ethyl Acetate	120	118	117	**98**	**98**	65-128	0	25	
110-54-3	n-Hexane	61.3	58.3	57.0	**95**	**93**	63-120	2	25	
67-66-3	Chloroform	43.8	38.8	38.4	**89**	**88**	68-123	1	25	
109-99-9	Tetrahydrofuran (THF)	74.6	64.0	63.5	**86**	**85**	64-123	1	25	
107-06-2	1,2-Dichloroethane	52.9	44.7	44.4	**84**	**84**	65-128	0	25	
71-43-2	Benzene	65.8	59.8	59.3	**91**	**90**	69-119	1	25	
56-23-5	Carbon Tetrachloride	33.1	30.7	30.4	**93**	**92**	68-132	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200511-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 5/11/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	123	117	116	**95**	**94**	70-117	1	25	
75-27-4	Bromodichloromethane	32.6	29.9	29.7	**92**	**91**	72-128	1	25	
79-01-6	Trichloroethene	40.2	37.4	37.0	**93**	**92**	71-123	1	25	
123-91-1	1,4-Dioxane	60.0	56.6	55.8	**94**	**93**	71-122	1	25	
142-82-5	n-Heptane	52.2	48.0	47.2	**92**	**90**	69-123	2	25	
108-10-1	4-Methyl-2-pentanone	51.8	50.7	50.3	**98**	**97**	67-130	1	25	
108-88-3	Toluene	56.3	53.1	52.6	**94**	**93**	66-119	1	25	
591-78-6	2-Hexanone	52.7	53.6	53.8	**102**	**102**	62-128	0	25	
124-48-1	Dibromochloromethane	25.1	25.3	25.0	**101**	**100**	70-130	1	25	
106-93-4	1,2-Dibromoethane	27.9	27.1	26.8	**97**	**96**	74-122	1	25	
127-18-4	Tetrachloroethene	30.7	30.5	30.1	**99**	**98**	66-124	1	25	
100-41-4	Ethylbenzene	48.8	48.7	48.5	**100**	**99**	70-124	1	25	
179601-23-1	m,p-Xylenes	98.1	99.4	101	**101**	**103**	61-134	2	25	
75-25-2	Bromoform	20.7	20.7	20.7	**100**	**100**	66-139	0	25	
100-42-5	Styrene	49.8	52.0	51.9	**104**	**104**	73-127	0	25	
95-47-6	o-Xylene	49.3	48.7	48.3	**99**	**98**	67-125	1	25	
108-67-8	1,3,5-Trimethylbenzene	43.1	44.7	44.5	**104**	**103**	67-130	1	25	
95-63-6	1,2,4-Trimethylbenzene	43.1	49.4	48.8	**115**	**113**	66-132	2	25	
120-82-1	1,2,4-Trichlorobenzene	29.1	31.6	31.3	**109**	**108**	55-142	0.9	25	
91-20-3	Naphthalene	40.5	47.2	46.8	**117**	**116**	57-138	0.9	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200512-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	122	115	118	**94**	**97**	57-136	3	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	42.5	37.0	37.7	**87**	**89**	59-128	2	25	
74-87-3	Chloromethane	103	84.9	88.4	**82**	**86**	59-132	5	25	
75-01-4	Vinyl Chloride	83.0	69.5	71.6	**84**	**86**	64-127	2	25	
106-99-0	1,3-Butadiene	95.9	82.1	85.2	**86**	**89**	66-134	3	25	
75-00-3	Chloroethane	81.1	68.4	69.9	**84**	**86**	63-127	2	25	
64-17-5	Ethanol	563	474	496	**84**	**88**	59-125	5	25	
67-64-1	Acetone	450	397	411	**88**	**91**	58-128	3	25	
75-69-4	Trichlorofluoromethane	37.7	32.3	32.9	**86**	**87**	62-126	1	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	172	155	160	**90**	**93**	52-125	3	25	
75-09-2	Methylene Chloride	60.5	51.5	52.8	**85**	**87**	62-115	2	25	
76-13-1	Trichlorotrifluoroethane	28.2	25.7	26.3	**91**	**93**	66-126	2	25	
75-15-0	Carbon Disulfide	68.1	58.7	60.0	**86**	**88**	57-134	2	25	
75-34-3	1,1-Dichloroethane	52.4	44.4	45.8	**85**	**87**	68-126	2	25	
78-93-3	2-Butanone (MEK)	71.9	62.3	65.0	**87**	**90**	67-130	3	25	
141-78-6	Ethyl Acetate	120	116	119	**97**	**99**	65-128	2	25	
110-54-3	n-Hexane	61.3	56.4	58.3	**92**	**95**	63-120	3	25	
67-66-3	Chloroform	43.8	38.1	38.9	**87**	**89**	68-123	2	25	
109-99-9	Tetrahydrofuran (THF)	74.6	62.8	64.3	**84**	**86**	64-123	2	25	
107-06-2	1,2-Dichloroethane	52.9	44.2	45.4	**84**	**86**	65-128	2	25	
71-43-2	Benzene	65.8	58.4	59.2	**89**	**90**	69-119	1	25	
56-23-5	Carbon Tetrachloride	33.1	30.0	30.1	**91**	**91**	68-132	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200512-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	123	114	116	**93**	**94**	70-117	1	25	
75-27-4	Bromodichloromethane	32.6	29.1	29.7	**89**	**91**	72-128	2	25	
79-01-6	Trichloroethene	40.2	36.6	37.1	**91**	**92**	71-123	1	25	
123-91-1	1,4-Dioxane	60.0	55.3	55.9	**92**	**93**	71-122	1	25	
142-82-5	n-Heptane	52.2	46.5	47.3	**89**	**91**	69-123	2	25	
108-10-1	4-Methyl-2-pentanone	51.8	49.5	50.3	**96**	**97**	67-130	1	25	
108-88-3	Toluene	56.3	52.7	54.1	**94**	**96**	66-119	2	25	
591-78-6	2-Hexanone	52.7	53.4	55.0	**101**	**104**	62-128	3	25	
124-48-1	Dibromochloromethane	25.1	25.2	25.5	**100**	**102**	70-130	2	25	
106-93-4	1,2-Dibromoethane	27.9	27.1	27.5	**97**	**99**	74-122	2	25	
127-18-4	Tetrachloroethene	30.7	30.4	30.9	**99**	**101**	66-124	2	25	
100-41-4	Ethylbenzene	48.8	48.5	49.4	**99**	**101**	70-124	2	25	
179601-23-1	m,p-Xylenes	98.1	99.1	103	**101**	**105**	61-134	4	25	
75-25-2	Bromoform	20.7	20.7	21.2	**100**	**102**	66-139	2	25	
100-42-5	Styrene	49.8	51.8	53.2	**104**	**107**	73-127	3	25	
95-47-6	o-Xylene	49.3	48.4	49.5	**98**	**100**	67-125	2	25	
108-67-8	1,3,5-Trimethylbenzene	43.1	44.8	45.8	**104**	**106**	67-130	2	25	
95-63-6	1,2,4-Trimethylbenzene	43.1	48.4	49.0	**112**	**114**	66-132	2	25	
120-82-1	1,2,4-Trichlorobenzene	29.1	31.3	31.7	**108**	**109**	55-142	0.9	25	
91-20-3	Naphthalene	40.5	46.0	46.6	**114**	**115**	57-138	0.9	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV112-350-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-012DUP

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/9/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.050 Liter(s)
Test Notes:
Container ID: 1SS01001

Initial Pressure (psig): -4.75 Final Pressure (psig): 5.43

Container Dilution Factor: 2.02

Compound	Sample Result ppbV	Duplicate Sample Result ppbV	Average ppbV	% RPD	RPD Limit	Data Qualifier
Propene	ND	ND	-	-	25	
Dichlorodifluoromethane (CFC 12)	2.9	2.9	2.9	**0**	25	**J**
Chloromethane	14	14	14	**0**	25	
Vinyl Chloride	1.3	1.3	1.3	**0**	25	**J**
1,3-Butadiene	ND	ND	-	-	25	
Chloroethane	ND	ND	-	-	25	
Ethanol	ND	ND	-	-	25	
Acetone	ND	ND	-	-	25	
Trichlorofluoromethane	ND	ND	-	-	25	
2-Propanol (Isopropyl Alcohol)	ND	ND	-	-	25	
Methylene Chloride	ND	ND	-	-	25	
Trichlorotrifluoroethane	0.85	0.84	0.845	**1**	25	**J**
Carbon Disulfide	63	63	63	**0**	25	
1,1-Dichloroethane	ND	ND	-	-	25	
2-Butanone (MEK)	ND	ND	-	-	25	
Ethyl Acetate	ND	ND	-	-	25	
n-Hexane	5.2	5.2	5.2	**0**	25	**J**
Chloroform	ND	ND	-	-	25	
Tetrahydrofuran (THF)	1.9	1.9	1.9	**0**	25	**J**
1,2-Dichloroethane	2.7	2.7	2.7	**0**	25	**J**
Benzene	480	470	475	**2**	25	
Carbon Tetrachloride	0.75	0.76	0.755	**1**	25	**J**

ND = Compound was analyzed for, but not detected.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV112-350-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-012DUP

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/9/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.050 Liter(s)
Test Notes:
Container ID: 1SS01001

Initial Pressure (psig): -4.75 Final Pressure (psig): 5.43

Container Dilution Factor: 2.02

Compound	Sample Result ppbV	Duplicate Sample Result ppbV	Average ppbV	% RPD	RPD Limit	Data Qualifier
Cyclohexane	5.4	5.3	5.35	**2**	25	**J**
Bromodichloromethane	ND	ND	-	-	25	
Trichloroethene	ND	ND	-	-	25	
1,4-Dioxane	ND	ND	-	-	25	
n-Heptane	3.4	3.2	3.3	**6**	25	**J**
4-Methyl-2-pentanone	ND	ND	-	-	25	
Toluene	1,100	1,100	1100	**0**	25	
2-Hexanone	ND	ND	-	-	25	
Dibromochloromethane	ND	ND	-	-	25	
1,2-Dibromoethane	5.9	5.8	5.85	**2**	25	
Tetrachloroethene	0.42	ND	-	-	25	
Ethylbenzene	30	30	30	**0**	25	
m,p-Xylenes	110	110	110	**0**	25	
Bromoform	ND	ND	-	-	25	
Styrene	ND	ND	-	-	25	
o-Xylene	59	57	58	**3**	25	
1,3,5-Trimethylbenzene	3.9	3.7	3.8	**5**	25	**J**
1,2,4-Trimethylbenzene	5.3	5.0	5.15	**6**	25	
1,2,4-Trichlorobenzene	ND	ND	-	-	25	
Naphthalene	ND	ND	-	-	25	
Xylenes, Total	170	160	165	**6**	25	

ND = Compound was analyzed for, but not detected.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV108-025-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-001

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/9/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01089

Initial Pressure (psig): -3.43 Final Pressure (psig): 5.18

Container Dilution Factor: 1.76

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.5**	2.3	1.4	0.57	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**4.8**	2.3	1.4	0.38	
74-87-3	Chloromethane	**1.4**	2.3	1.4	0.38	**J**
75-01-4	Vinyl Chloride	0.75	2.4	0.75	0.25	**U**
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.39	**U**
75-00-3	Chloroethane	1.4	2.4	1.4	0.29	**U**
64-17-5	Ethanol	**17**	23	3.7	1.6	**J**
67-64-1	Acetone	**23**	23	12	5.3	**J**
75-69-4	Trichlorofluoromethane	**1.9**	2.3	1.4	0.36	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**3.2**	9.2	2.8	0.97	**J**
75-09-2	Methylene Chloride	1.4	2.3	1.4	0.66	**U**
76-13-1	Trichlorotrifluoroethane	**140**	2.4	0.75	0.33	
75-15-0	Carbon Disulfide	**1.6**	4.8	2.4	0.70	**J**
75-34-3	1,1-Dichloroethane	1.5	2.4	1.5	0.34	**U**
78-93-3	2-Butanone (MEK)	**4.6**	4.8	1.4	0.48	**J**
141-78-6	Ethyl Acetate	**2.5**	4.8	2.9	1.2	**J**
110-54-3	n-Hexane	1.4	2.4	1.4	0.48	**U**
67-66-3	Chloroform	**1.1**	2.4	0.75	0.31	**J**
109-99-9	Tetrahydrofuran (THF)	**0.97**	2.4	0.75	0.29	**J**
107-06-2	1,2-Dichloroethane	0.75	2.4	0.75	0.26	**U**
71-43-2	Benzene	0.75	2.3	0.75	0.34	**U**
56-23-5	Carbon Tetrachloride	**10**	2.3	0.75	0.33	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV108-025-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-001

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/9/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01089

Initial Pressure (psig): -3.43 Final Pressure (psig): 5.18

Container Dilution Factor: 1.76

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.5	4.8	1.5	0.66	**U**
75-27-4	Bromodichloromethane	0.75	2.4	0.75	0.34	**U**
79-01-6	Trichloroethene	**0.79**	2.4	0.75	0.32	**J**
123-91-1	1,4-Dioxane	**85**	2.4	0.75	0.28	
142-82-5	n-Heptane	1.4	2.4	1.4	0.37	**U**
108-10-1	4-Methyl-2-pentanone	0.75	2.3	0.75	0.32	**U**
108-88-3	Toluene	**1.1**	2.4	0.75	0.29	**J**
591-78-6	2-Hexanone	**1.2**	2.4	0.75	0.29	**J**
124-48-1	Dibromochloromethane	0.75	2.4	0.75	0.31	**U**
106-93-4	1,2-Dibromoethane	0.75	2.4	0.75	0.27	**U**
127-18-4	Tetrachloroethene	**2.0**	2.3	0.75	0.30	**J**
100-41-4	Ethylbenzene	0.75	2.4	0.75	0.33	**U**
179601-23-1	m,p-Xylenes	**1.6**	4.8	1.5	0.62	**J**
75-25-2	Bromoform	1.4	2.4	1.4	0.48	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.38	**U**
95-47-6	o-Xylene	**0.56**	2.4	0.75	0.34	**J**
108-67-8	1,3,5-Trimethylbenzene	**1.0**	2.3	0.75	0.34	**J**
95-63-6	1,2,4-Trimethylbenzene	**5.2**	2.4	0.75	0.33	
120-82-1	1,2,4-Trichlorobenzene	1.4	2.4	1.4	0.57	**U**
91-20-3	Naphthalene	**1.3**	2.3	1.4	0.57	**J**
1330-20-7	Xylenes, Total	**2.1**	4.8	1.5	0.62	**J**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV108-050-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-002

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/9/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00749

Initial Pressure (psig): -3.47 Final Pressure (psig): 5.28
Initial Pressure 2 (psig): -0.16 Final Pressure 2 (psig): 5.73

Container Dilution Factor: 2.50

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**2.0**	3.3	2.0	0.81	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**9.6**	3.3	2.0	0.54	
74-87-3	Chloromethane	2.0	3.3	2.0	0.54	**U**
75-01-4	Vinyl Chloride	1.1	3.4	1.1	0.36	**U**
106-99-0	1,3-Butadiene	2.0	3.3	2.0	0.55	**U**
75-00-3	Chloroethane	2.0	3.4	2.0	0.41	**U**
64-17-5	Ethanol	**30**	33	5.2	2.3	**J**
67-64-1	Acetone	**24**	33	17	7.5	**J**
75-69-4	Trichlorofluoromethane	**3.7**	3.3	2.0	0.51	
67-63-0	2-Propanol (Isopropyl Alcohol)	**3.6**	13	3.9	1.4	**J**
75-09-2	Methylene Chloride	**0.97**	3.3	2.0	0.94	**J**
76-13-1	Trichlorotrifluoroethane	**420**	3.4	1.1	0.48	
75-15-0	Carbon Disulfide	**2.2**	6.9	3.4	1.0	**J**
75-34-3	1,1-Dichloroethane	2.1	3.4	2.1	0.49	**U**
78-93-3	2-Butanone (MEK)	**1.9**	6.9	2.0	0.69	**J**
141-78-6	Ethyl Acetate	**3.0**	6.9	4.1	1.8	**J**
110-54-3	n-Hexane	2.0	3.4	2.0	0.69	**U**
67-66-3	Chloroform	**3.0**	3.4	1.1	0.44	**J**
109-99-9	Tetrahydrofuran (THF)	1.1	3.4	1.1	0.42	**U**
107-06-2	1,2-Dichloroethane	1.1	3.4	1.1	0.37	**U**
71-43-2	Benzene	1.1	3.3	1.1	0.48	**U**
56-23-5	Carbon Tetrachloride	**36**	3.3	1.1	0.46	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV108-050-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-002

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/9/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00749

Initial Pressure (psig): -3.47 Final Pressure (psig): 5.28
Initial Pressure 2 (psig): -0.16 Final Pressure 2 (psig): 5.73

Container Dilution Factor: 2.50

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	2.1	6.9	2.1	0.94	**U**
75-27-4	Bromodichloromethane	1.1	3.4	1.1	0.48	**U**
79-01-6	Trichloroethene	**0.78**	3.4	1.1	0.45	**J**
123-91-1	1,4-Dioxane	1.1	3.4	1.1	0.39	**U**
142-82-5	n-Heptane	2.0	3.4	2.0	0.53	**U**
108-10-1	4-Methyl-2-pentanone	1.1	3.3	1.1	0.46	**U**
108-88-3	Toluene	**2.6**	3.4	1.1	0.41	**J**
591-78-6	2-Hexanone	1.1	3.4	1.1	0.41	**U**
124-48-1	Dibromochloromethane	1.1	3.4	1.1	0.44	**U**
106-93-4	1,2-Dibromoethane	1.1	3.4	1.1	0.39	**U**
127-18-4	Tetrachloroethene	**3.9**	3.3	1.1	0.43	
100-41-4	Ethylbenzene	1.1	3.4	1.1	0.47	**U**
179601-23-1	m,p-Xylenes	**1.9**	6.9	2.1	0.88	**J**
75-25-2	Bromoform	2.0	3.4	2.0	0.69	**U**
100-42-5	Styrene	2.0	3.3	2.0	0.54	**U**
95-47-6	o-Xylene	**0.61**	3.4	1.1	0.48	**J**
108-67-8	1,3,5-Trimethylbenzene	**1.1**	3.3	1.1	0.48	**J**
95-63-6	1,2,4-Trimethylbenzene	**5.0**	3.4	1.1	0.46	
120-82-1	1,2,4-Trichlorobenzene	2.0	3.4	2.0	0.81	**U**
91-20-3	Naphthalene	**1.4**	3.3	1.9	0.81	**J**
1330-20-7	Xylenes, Total	**2.6**	6.9	2.1	0.88	**J**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV108-150-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-003

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/11/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0015 Liter(s)
Test Notes:
Container ID: 1SC00586

Initial Pressure (psig): -2.46 Final Pressure (psig): 5.13

Container Dilution Factor: 1.62

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**2,100**	570	350	140	
75-71-8	Dichlorodifluoromethane (CFC 12)	350	570	350	94	**U**
74-87-3	Chloromethane	350	570	350	93	**U**
75-01-4	Vinyl Chloride	180	580	180	62	**U**
106-99-0	1,3-Butadiene	350	570	350	95	**U**
75-00-3	Chloroethane	350	580	350	71	**U**
64-17-5	Ethanol	900	5,600	900	400	**U**
67-64-1	Acetone	2,900	5,700	2,900	1,300	**U**
75-69-4	Trichlorofluoromethane	350	570	350	87	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	680	2,300	680	240	**U**
75-09-2	Methylene Chloride	350	570	350	160	**U**
76-13-1	Trichlorotrifluoroethane	**610**	580	180	82	
75-15-0	Carbon Disulfide	580	1,200	580	170	**U**
75-34-3	1,1-Dichloroethane	360	590	360	84	**U**
78-93-3	2-Butanone (MEK)	350	1,200	350	120	**U**
141-78-6	Ethyl Acetate	700	1,200	700	300	**U**
110-54-3	n-Hexane	**85,000**	580	350	120	
67-66-3	Chloroform	180	580	180	77	**U**
109-99-9	Tetrahydrofuran (THF)	180	590	180	72	**U**
107-06-2	1,2-Dichloroethane	180	580	180	64	**U**
71-43-2	Benzene	**660**	570	180	83	
56-23-5	Carbon Tetrachloride	180	570	180	80	**U**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV108-150-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-003

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/11/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0015 Liter(s)
Test Notes:
Container ID: 1SC00586

Initial Pressure (psig): -2.46 Final Pressure (psig): 5.13

Container Dilution Factor: 1.62

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**110,000**	1,200	370	160	
75-27-4	Bromodichloromethane	180	580	180	83	**U**
79-01-6	Trichloroethene	180	580	180	78	**U**
123-91-1	1,4-Dioxane	180	580	180	68	**U**
142-82-5	n-Heptane	**10,000**	580	350	92	
108-10-1	4-Methyl-2-pentanone	**180**	570	180	79	**J**
108-88-3	Toluene	**170**	580	180	70	**J**
591-78-6	2-Hexanone	180	580	180	71	**U**
124-48-1	Dibromochloromethane	180	580	180	76	**U**
106-93-4	1,2-Dibromoethane	180	580	180	67	**U**
127-18-4	Tetrachloroethene	180	560	180	75	**U**
100-41-4	Ethylbenzene	180	580	180	81	**U**
179601-23-1	m,p-Xylenes	370	1,200	370	150	**U**
75-25-2	Bromoform	350	580	350	120	**U**
100-42-5	Styrene	350	570	350	93	**U**
95-47-6	o-Xylene	**83**	580	180	83	**J**
108-67-8	1,3,5-Trimethylbenzene	180	570	180	83	**U**
95-63-6	1,2,4-Trimethylbenzene	180	580	180	80	**U**
120-82-1	1,2,4-Trichlorobenzene	350	580	350	140	**U**
91-20-3	Naphthalene	330	560	330	140	**U**
1330-20-7	Xylenes, Total	370	1,200	370	150	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV108-250-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-004

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/11/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00040 Liter(s)
Test Notes:
Container ID: 1SS00944

Initial Pressure (psig): -3.80 Final Pressure (psig): 5.21

Container Dilution Factor: 1.83

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**6,900**	2,400	1,500	590	
75-71-8	Dichlorodifluoromethane (CFC 12)	1,500	2,400	1,500	400	**U**
74-87-3	Chloromethane	1,500	2,400	1,500	390	**U**
75-01-4	Vinyl Chloride	780	2,500	780	260	**U**
106-99-0	1,3-Butadiene	1,500	2,400	1,500	400	**U**
75-00-3	Chloroethane	1,500	2,500	1,500	300	**U**
64-17-5	Ethanol	3,800	24,000	3,800	1,700	**U**
67-64-1	Acetone	12,000	24,000	12,000	5,500	**U**
75-69-4	Trichlorofluoromethane	1,500	2,400	1,500	370	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	2,900	9,600	2,900	1,000	**U**
75-09-2	Methylene Chloride	1,500	2,400	1,500	690	**U**
76-13-1	Trichlorotrifluoroethane	**850**	2,500	780	350	**J**
75-15-0	Carbon Disulfide	2,500	5,000	2,500	730	**U**
75-34-3	1,1-Dichloroethane	1,500	2,500	1,500	360	**U**
78-93-3	2-Butanone (MEK)	1,500	5,000	1,500	500	**U**
141-78-6	Ethyl Acetate	3,000	5,000	3,000	1,300	**U**
110-54-3	n-Hexane	**300,000**	2,500	1,500	500	
67-66-3	Chloroform	780	2,500	780	320	**U**
109-99-9	Tetrahydrofuran (THF)	780	2,500	780	310	**U**
107-06-2	1,2-Dichloroethane	780	2,500	780	270	**U**
71-43-2	Benzene	780	2,400	780	350	**U**
56-23-5	Carbon Tetrachloride	780	2,400	780	340	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV108-250-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-004

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/11/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00040 Liter(s)
Test Notes:
Container ID: 1SS00944

Initial Pressure (psig): -3.80 Final Pressure (psig): 5.21

Container Dilution Factor: 1.83

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**400,000**	5,000	1,600	690	
75-27-4	Bromodichloromethane	780	2,500	780	350	**U**
79-01-6	Trichloroethene	780	2,500	780	330	**U**
123-91-1	1,4-Dioxane	780	2,500	780	290	**U**
142-82-5	n-Heptane	**54,000**	2,500	1,500	390	
108-10-1	4-Methyl-2-pentanone	780	2,400	780	330	**U**
108-88-3	Toluene	780	2,500	780	300	**U**
591-78-6	2-Hexanone	780	2,500	780	300	**U**
124-48-1	Dibromochloromethane	780	2,500	780	320	**U**
106-93-4	1,2-Dibromoethane	780	2,500	780	280	**U**
127-18-4	Tetrachloroethene	**340**	2,400	780	320	**J**
100-41-4	Ethylbenzene	780	2,500	780	340	**U**
179601-23-1	m,p-Xylenes	1,600	5,000	1,600	640	**U**
75-25-2	Bromoform	1,500	2,500	1,500	500	**U**
100-42-5	Styrene	1,500	2,400	1,500	390	**U**
95-47-6	o-Xylene	**430**	2,500	780	350	**J**
108-67-8	1,3,5-Trimethylbenzene	780	2,400	780	350	**U**
95-63-6	1,2,4-Trimethylbenzene	780	2,500	780	340	**U**
120-82-1	1,2,4-Trichlorobenzene	1,500	2,500	1,500	590	**U**
91-20-3	Naphthalene	1,400	2,400	1,400	590	**U**
1330-20-7	Xylenes, Total	1,600	5,000	1,600	640	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV108-350-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-005

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/9/20 & 5/11/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.12 Liter(s)
Test Notes: 0.020 Liter(s)
Container ID: 1SS00535

Initial Pressure (psig): -4.50 Final Pressure (psig): 5.33

Container Dilution Factor: 1.96

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**11**	8.7	5.2	2.1	
75-71-8	Dichlorodifluoromethane (CFC 12)	**7.9**	8.7	5.2	1.4	**J**
74-87-3	Chloromethane	**77**	8.7	5.2	1.4	
75-01-4	Vinyl Chloride	**10**	8.8	2.8	0.93	
106-99-0	1,3-Butadiene	5.2	8.7	5.2	1.4	**U**
75-00-3	Chloroethane	**8.0**	8.8	5.2	1.1	**J**
64-17-5	Ethanol	**9.7**	85	14	6.0	**J**
67-64-1	Acetone	44	87	44	20	**U**
75-69-4	Trichlorofluoromethane	**16**	8.7	5.2	1.3	
67-63-0	2-Propanol (Isopropyl Alcohol)	10	34	10	3.6	**U**
75-09-2	Methylene Chloride	5.2	8.7	5.2	2.5	**U**
76-13-1	Trichlorotrifluoroethane	**1,600**	53	17	7.4	**D**
75-15-0	Carbon Disulfide	**380**	18	8.8	2.6	
75-34-3	1,1-Dichloroethane	**2.3**	9.0	5.4	1.3	**J**
78-93-3	2-Butanone (MEK)	**4.1**	18	5.2	1.8	**J**
141-78-6	Ethyl Acetate	11	18	11	4.6	**U**
110-54-3	n-Hexane	**180**	8.8	5.2	1.8	
67-66-3	Chloroform	**7.2**	8.8	2.8	1.2	**J**
109-99-9	Tetrahydrofuran (THF)	**210**	9.0	2.8	1.1	
107-06-2	1,2-Dichloroethane	**6.8**	8.8	2.8	0.96	**J**
71-43-2	Benzene	**1,000**	8.7	2.8	1.3	
56-23-5	Carbon Tetrachloride	**74**	8.7	2.8	1.2	

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV108-350-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-005

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/9/20 & 5/11/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.12 Liter(s)
Test Notes: 0.020 Liter(s)
Container ID: 1SS00535

Initial Pressure (psig): -4.50 Final Pressure (psig): 5.33

Container Dilution Factor: 1.96

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**370**	18	5.6	2.5	
75-27-4	Bromodichloromethane	2.8	8.8	2.8	1.3	**U**
79-01-6	Trichloroethene	**7.6**	8.8	2.8	1.2	**J**
123-91-1	1,4-Dioxane	2.8	8.8	2.8	1.0	**U**
142-82-5	n-Heptane	**41**	8.8	5.2	1.4	
108-10-1	4-Methyl-2-pentanone	**3.7**	8.7	2.8	1.2	**J**
108-88-3	Toluene	**320**	8.8	2.8	1.1	
591-78-6	2-Hexanone	2.8	8.8	2.8	1.1	**U**
124-48-1	Dibromochloromethane	2.8	8.8	2.8	1.1	**U**
106-93-4	1,2-Dibromoethane	**2.8**	8.8	2.8	1.0	**J**
127-18-4	Tetrachloroethene	**14**	8.5	2.8	1.1	
100-41-4	Ethylbenzene	**4.4**	8.8	2.8	1.2	**J**
179601-23-1	m,p-Xylenes	**68**	18	5.6	2.3	
75-25-2	Bromoform	5.2	8.8	5.2	1.8	**U**
100-42-5	Styrene	5.2	8.7	5.2	1.4	**U**
95-47-6	o-Xylene	**50**	8.8	2.8	1.3	
108-67-8	1,3,5-Trimethylbenzene	**7.9**	8.7	2.8	1.3	**J**
95-63-6	1,2,4-Trimethylbenzene	**11**	8.8	2.8	1.2	
120-82-1	1,2,4-Trichlorobenzene	5.2	8.8	5.2	2.1	**U**
91-20-3	Naphthalene	5.1	8.5	5.1	2.1	**U**
1330-20-7	Xylenes, Total	**120**	18	5.6	2.3	

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV108-350-602** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-006

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/9/20 & 5/11/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.12 Liter(s)
Test Notes: 0.020 Liter(s)
Container ID: 1SS00859

Initial Pressure (psig): -4.97 Final Pressure (psig): 5.85

Container Dilution Factor: 2.11

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**9.6**	9.3	5.6	2.3	
75-71-8	Dichlorodifluoromethane (CFC 12)	**8.1**	9.3	5.6	1.5	**J**
74-87-3	Chloromethane	**63**	9.3	5.6	1.5	
75-01-4	Vinyl Chloride	**8.3**	9.5	3.0	1.0	**J**
106-99-0	1,3-Butadiene	5.6	9.3	5.6	1.5	**U**
75-00-3	Chloroethane	**6.4**	9.5	5.6	1.2	**J**
64-17-5	Ethanol	**10**	91	15	6.5	**J**
67-64-1	Acetone	**30**	93	47	21	**J**
75-69-4	Trichlorofluoromethane	**17**	9.3	5.6	1.4	
67-63-0	2-Propanol (Isopropyl Alcohol)	11	37	11	3.9	**U**
75-09-2	Methylene Chloride	5.6	9.3	5.6	2.6	**U**
76-13-1	Trichlorotrifluoroethane	**1,900**	57	18	8.0	**D**
75-15-0	Carbon Disulfide	**320**	19	9.5	2.8	
75-34-3	1,1-Dichloroethane	**1.9**	9.7	5.8	1.4	**J**
78-93-3	2-Butanone (MEK)	**5.3**	19	5.6	1.9	**J**
141-78-6	Ethyl Acetate	11	19	11	4.9	**U**
110-54-3	n-Hexane	**160**	9.5	5.6	1.9	
67-66-3	Chloroform	**7.5**	9.5	3.0	1.2	**J**
109-99-9	Tetrahydrofuran (THF)	**170**	9.7	3.0	1.2	
107-06-2	1,2-Dichloroethane	**5.5**	9.5	3.0	1.0	**J**
71-43-2	Benzene	**810**	9.3	3.0	1.4	
56-23-5	Carbon Tetrachloride	**77**	9.3	3.0	1.3	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV108-350-602** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-006

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/9/20 & 5/11/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.12 Liter(s)
Test Notes: 0.020 Liter(s)
Container ID: 1SS00859

Initial Pressure (psig): -4.97 Final Pressure (psig): 5.85

Container Dilution Factor: 2.11

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**340**	19	6.0	2.6	
75-27-4	Bromodichloromethane	3.0	9.5	3.0	1.4	**U**
79-01-6	Trichloroethene	**7.5**	9.5	3.0	1.3	**J**
123-91-1	1,4-Dioxane	3.0	9.5	3.0	1.1	**U**
142-82-5	n-Heptane	**47**	9.5	5.6	1.5	
108-10-1	4-Methyl-2-pentanone	**1.8**	9.3	3.0	1.3	**J**
108-88-3	Toluene	**290**	9.5	3.0	1.1	
591-78-6	2-Hexanone	3.0	9.5	3.0	1.2	**U**
124-48-1	Dibromochloromethane	3.0	9.5	3.0	1.2	**U**
106-93-4	1,2-Dibromoethane	**2.2**	9.5	3.0	1.1	**J**
127-18-4	Tetrachloroethene	**15**	9.1	3.0	1.2	
100-41-4	Ethylbenzene	**5.0**	9.5	3.0	1.3	**J**
179601-23-1	m,p-Xylenes	**66**	19	6.0	2.5	
75-25-2	Bromoform	5.6	9.5	5.6	1.9	**U**
100-42-5	Styrene	5.6	9.3	5.6	1.5	**U**
95-47-6	o-Xylene	**47**	9.5	3.0	1.4	
108-67-8	1,3,5-Trimethylbenzene	**11**	9.3	3.0	1.4	
95-63-6	1,2,4-Trimethylbenzene	**30**	9.5	3.0	1.3	
120-82-1	1,2,4-Trichlorobenzene	5.6	9.5	5.6	2.3	**U**
91-20-3	Naphthalene	**5.3**	9.1	5.5	2.3	**J**
1330-20-7	Xylenes, Total	**110**	19	6.0	2.5	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV108-450-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-007

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/9/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01082

Initial Pressure (psig): -3.35 Final Pressure (psig): 5.72

Container Dilution Factor: 1.80

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.4**	2.4	1.4	0.59	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.1**	2.4	1.4	0.39	**J**
74-87-3	Chloromethane	**7.1**	2.4	1.4	0.39	
75-01-4	Vinyl Chloride	**1.9**	2.4	0.77	0.26	**J**
106-99-0	1,3-Butadiene	1.4	2.4	1.4	0.40	**U**
75-00-3	Chloroethane	**1.6**	2.4	1.4	0.30	**J**
64-17-5	Ethanol	**2.7**	23	3.7	1.7	**J**
67-64-1	Acetone	**14**	24	12	5.4	**J**
75-69-4	Trichlorofluoromethane	**1.8**	2.4	1.4	0.36	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	2.8	9.5	2.8	0.99	**U**
75-09-2	Methylene Chloride	1.4	2.4	1.4	0.68	**U**
76-13-1	Trichlorotrifluoroethane	**240**	2.4	0.77	0.34	
75-15-0	Carbon Disulfide	**25**	5.0	2.4	0.72	
75-34-3	1,1-Dichloroethane	**1.2**	2.5	1.5	0.35	**J**
78-93-3	2-Butanone (MEK)	**3.1**	5.0	1.4	0.50	**J**
141-78-6	Ethyl Acetate	2.9	5.0	2.9	1.3	**U**
110-54-3	n-Hexane	**7.0**	2.4	1.4	0.50	
67-66-3	Chloroform	**1.1**	2.4	0.77	0.32	**J**
109-99-9	Tetrahydrofuran (THF)	**8.2**	2.5	0.77	0.30	
107-06-2	1,2-Dichloroethane	**0.88**	2.4	0.77	0.27	**J**
71-43-2	Benzene	**13**	2.4	0.77	0.35	
56-23-5	Carbon Tetrachloride	**14**	2.4	0.77	0.33	

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV108-450-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-007

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/9/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01082

Initial Pressure (psig): -3.35 Final Pressure (psig): 5.72

Container Dilution Factor: 1.80

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**10**	5.0	1.5	0.68	
75-27-4	Bromodichloromethane	0.77	2.4	0.77	0.35	**U**
79-01-6	Trichloroethene	**1.2**	2.4	0.77	0.32	**J**
123-91-1	1,4-Dioxane	**0.37**	2.4	0.77	0.28	**J**
142-82-5	n-Heptane	**1.9**	2.4	1.4	0.38	**J**
108-10-1	4-Methyl-2-pentanone	**3.5**	2.4	0.77	0.33	
108-88-3	Toluene	**71**	2.4	0.77	0.29	
591-78-6	2-Hexanone	**0.73**	2.4	0.77	0.30	**J**
124-48-1	Dibromochloromethane	0.77	2.4	0.77	0.32	**U**
106-93-4	1,2-Dibromoethane	0.77	2.4	0.77	0.28	**U**
127-18-4	Tetrachloroethene	**10**	2.3	0.77	0.31	
100-41-4	Ethylbenzene	**0.99**	2.4	0.77	0.34	**J**
179601-23-1	m,p-Xylenes	**5.8**	5.0	1.5	0.63	
75-25-2	Bromoform	1.4	2.4	1.4	0.50	**U**
100-42-5	Styrene	1.4	2.4	1.4	0.39	**U**
95-47-6	o-Xylene	**3.1**	2.4	0.77	0.35	
108-67-8	1,3,5-Trimethylbenzene	**0.64**	2.4	0.77	0.35	**J**
95-63-6	1,2,4-Trimethylbenzene	**2.6**	2.4	0.77	0.33	
120-82-1	1,2,4-Trichlorobenzene	1.4	2.4	1.4	0.59	**U**
91-20-3	Naphthalene	1.4	2.3	1.4	0.59	**U**
1330-20-7	Xylenes, Total	**9.0**	5.0	1.5	0.63	

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV112-025-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-008

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/9/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00952

Initial Pressure (psig): -4.31 Final Pressure (psig): 5.99

Container Dilution Factor: 1.99

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	1.6	2.6	1.6	0.65	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**13**	2.6	1.6	0.43	
74-87-3	Chloromethane	1.6	2.6	1.6	0.43	**U**
75-01-4	Vinyl Chloride	0.85	2.7	0.85	0.28	**U**
106-99-0	1,3-Butadiene	1.6	2.6	1.6	0.44	**U**
75-00-3	Chloroethane	1.6	2.7	1.6	0.33	**U**
64-17-5	Ethanol	**4.4**	26	4.1	1.8	**J**
67-64-1	Acetone	13	26	13	6.0	**U**
75-69-4	Trichlorofluoromethane	**3.1**	2.6	1.6	0.40	
67-63-0	2-Propanol (Isopropyl Alcohol)	3.1	10	3.1	1.1	**U**
75-09-2	Methylene Chloride	1.6	2.6	1.6	0.75	**U**
76-13-1	Trichlorotrifluoroethane	**24**	2.7	0.85	0.38	
75-15-0	Carbon Disulfide	**2.2**	5.5	2.7	0.80	**J**
75-34-3	1,1-Dichloroethane	1.6	2.7	1.6	0.39	**U**
78-93-3	2-Butanone (MEK)	**1.4**	5.5	1.6	0.55	**J**
141-78-6	Ethyl Acetate	**2.2**	5.5	3.2	1.4	**J**
110-54-3	n-Hexane	1.6	2.7	1.6	0.55	**U**
67-66-3	Chloroform	**11**	2.7	0.85	0.35	
109-99-9	Tetrahydrofuran (THF)	**4.2**	2.7	0.85	0.33	
107-06-2	1,2-Dichloroethane	0.85	2.7	0.85	0.29	**U**
71-43-2	Benzene	0.85	2.6	0.85	0.38	**U**
56-23-5	Carbon Tetrachloride	**9.6**	2.6	0.85	0.37	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV112-025-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-008

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/9/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00952

Initial Pressure (psig): -4.31 Final Pressure (psig): 5.99

Container Dilution Factor: 1.99

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.7	5.5	1.7	0.75	**U**
75-27-4	Bromodichloromethane	0.85	2.7	0.85	0.38	**U**
79-01-6	Trichloroethene	0.85	2.7	0.85	0.36	**U**
123-91-1	1,4-Dioxane	**0.47**	2.7	0.85	0.31	**J**
142-82-5	n-Heptane	1.6	2.7	1.6	0.42	**U**
108-10-1	4-Methyl-2-pentanone	0.85	2.6	0.85	0.36	**U**
108-88-3	Toluene	**1.5**	2.7	0.85	0.32	**J**
591-78-6	2-Hexanone	**0.46**	2.7	0.85	0.33	**J**
124-48-1	Dibromochloromethane	0.85	2.7	0.85	0.35	**U**
106-93-4	1,2-Dibromoethane	0.85	2.7	0.85	0.31	**U**
127-18-4	Tetrachloroethene	**1.3**	2.6	0.85	0.34	**J**
100-41-4	Ethylbenzene	**0.46**	2.7	0.85	0.37	**J**
179601-23-1	m,p-Xylenes	**2.4**	5.5	1.7	0.70	**J**
75-25-2	Bromoform	1.6	2.7	1.6	0.55	**U**
100-42-5	Styrene	1.6	2.6	1.6	0.43	**U**
95-47-6	o-Xylene	**0.86**	2.7	0.85	0.38	**J**
108-67-8	1,3,5-Trimethylbenzene	**1.5**	2.6	0.85	0.38	**J**
95-63-6	1,2,4-Trimethylbenzene	**8.7**	2.7	0.85	0.37	
120-82-1	1,2,4-Trichlorobenzene	1.6	2.7	1.6	0.65	**U**
91-20-3	Naphthalene	**3.1**	2.6	1.5	0.65	
1330-20-7	Xylenes, Total	**3.2**	5.5	1.7	0.70	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV112-050-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-009

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/9/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00491

Initial Pressure (psig): -4.32 Final Pressure (psig): 5.97

Container Dilution Factor: 1.99

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**3.9**	2.6	1.6	0.65	
75-71-8	Dichlorodifluoromethane (CFC 12)	**14**	2.6	1.6	0.43	
74-87-3	Chloromethane	1.6	2.6	1.6	0.43	**U**
75-01-4	Vinyl Chloride	0.85	2.7	0.85	0.28	**U**
106-99-0	1,3-Butadiene	1.6	2.6	1.6	0.44	**U**
75-00-3	Chloroethane	1.6	2.7	1.6	0.33	**U**
64-17-5	Ethanol	**86**	26	4.1	1.8	
67-64-1	Acetone	**17**	26	13	6.0	**J**
75-69-4	Trichlorofluoromethane	**3.6**	2.6	1.6	0.40	
67-63-0	2-Propanol (Isopropyl Alcohol)	**17**	10	3.1	1.1	
75-09-2	Methylene Chloride	1.6	2.6	1.6	0.75	**U**
76-13-1	Trichlorotrifluoroethane	**28**	2.7	0.85	0.38	
75-15-0	Carbon Disulfide	**2.4**	5.5	2.7	0.80	**J**
75-34-3	1,1-Dichloroethane	1.6	2.7	1.6	0.39	**U**
78-93-3	2-Butanone (MEK)	**12**	5.5	1.6	0.55	
141-78-6	Ethyl Acetate	**72**	5.5	3.2	1.4	
110-54-3	n-Hexane	1.6	2.7	1.6	0.55	**U**
67-66-3	Chloroform	**15**	2.7	0.85	0.35	
109-99-9	Tetrahydrofuran (THF)	**15**	2.7	0.85	0.33	
107-06-2	1,2-Dichloroethane	0.85	2.7	0.85	0.29	**U**
71-43-2	Benzene	**0.54**	2.6	0.85	0.38	**J**
56-23-5	Carbon Tetrachloride	**12**	2.6	0.85	0.37	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV112-050-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-009

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/9/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00491

Initial Pressure (psig): -4.32 Final Pressure (psig): 5.97

Container Dilution Factor: 1.99

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.7	5.5	1.7	0.75	**U**
75-27-4	Bromodichloromethane	0.85	2.7	0.85	0.38	**U**
79-01-6	Trichloroethene	**0.39**	2.7	0.85	0.36	**J**
123-91-1	1,4-Dioxane	0.85	2.7	0.85	0.31	**U**
142-82-5	n-Heptane	**0.62**	2.7	1.6	0.42	**J**
108-10-1	4-Methyl-2-pentanone	**4.3**	2.6	0.85	0.36	
108-88-3	Toluene	**12**	2.7	0.85	0.32	
591-78-6	2-Hexanone	**0.34**	2.7	0.85	0.33	**J**
124-48-1	Dibromochloromethane	0.85	2.7	0.85	0.35	**U**
106-93-4	1,2-Dibromoethane	0.85	2.7	0.85	0.31	**U**
127-18-4	Tetrachloroethene	**1.5**	2.6	0.85	0.34	**J**
100-41-4	Ethylbenzene	**1.4**	2.7	0.85	0.37	**J**
179601-23-1	m,p-Xylenes	**5.4**	5.5	1.7	0.70	**J**
75-25-2	Bromoform	1.6	2.7	1.6	0.55	**U**
100-42-5	Styrene	**0.58**	2.6	1.6	0.43	**J**
95-47-6	o-Xylene	**1.9**	2.7	0.85	0.38	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.80**	2.6	0.85	0.38	**J**
95-63-6	1,2,4-Trimethylbenzene	**3.8**	2.7	0.85	0.37	
120-82-1	1,2,4-Trichlorobenzene	1.6	2.7	1.6	0.65	**U**
91-20-3	Naphthalene	**1.5**	2.6	1.5	0.65	**J**
1330-20-7	Xylenes, Total	**7.3**	5.5	1.7	0.70	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV112-150-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-010

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/9/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00962

Initial Pressure (psig): -3.25 Final Pressure (psig): 5.91

Container Dilution Factor: 1.80

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.3**	2.4	1.4	0.59	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**8.0**	2.4	1.4	0.39	
74-87-3	Chloromethane	**1.2**	2.4	1.4	0.39	**J**
75-01-4	Vinyl Chloride	0.77	2.4	0.77	0.26	**U**
106-99-0	1,3-Butadiene	1.4	2.4	1.4	0.40	**U**
75-00-3	Chloroethane	1.4	2.4	1.4	0.30	**U**
64-17-5	Ethanol	**40**	23	3.7	1.7	
67-64-1	Acetone	**28**	24	12	5.4	
75-69-4	Trichlorofluoromethane	**1.8**	2.4	1.4	0.36	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**2.5**	9.5	2.8	0.99	**J**
75-09-2	Methylene Chloride	**0.75**	2.4	1.4	0.68	**J**
76-13-1	Trichlorotrifluoroethane	**9.7**	2.4	0.77	0.34	
75-15-0	Carbon Disulfide	**8.5**	5.0	2.4	0.72	
75-34-3	1,1-Dichloroethane	1.5	2.5	1.5	0.35	**U**
78-93-3	2-Butanone (MEK)	**6.1**	5.0	1.4	0.50	
141-78-6	Ethyl Acetate	**30**	5.0	2.9	1.3	
110-54-3	n-Hexane	1.4	2.4	1.4	0.50	**U**
67-66-3	Chloroform	**0.77**	2.4	0.77	0.32	**J**
109-99-9	Tetrahydrofuran (THF)	**11**	2.5	0.77	0.30	
107-06-2	1,2-Dichloroethane	0.77	2.4	0.77	0.27	**U**
71-43-2	Benzene	**1.1**	2.4	0.77	0.35	**J**
56-23-5	Carbon Tetrachloride	**2.4**	2.4	0.77	0.33	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV112-150-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-010

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/9/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00962

Initial Pressure (psig): -3.25 Final Pressure (psig): 5.91

Container Dilution Factor: 1.80

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.5	5.0	1.5	0.68	**U**
75-27-4	Bromodichloromethane	0.77	2.4	0.77	0.35	**U**
79-01-6	Trichloroethene	0.77	2.4	0.77	0.32	**U**
123-91-1	1,4-Dioxane	0.77	2.4	0.77	0.28	**U**
142-82-5	n-Heptane	1.4	2.4	1.4	0.38	**U**
108-10-1	4-Methyl-2-pentanone	0.77	2.4	0.77	0.33	**U**
108-88-3	Toluene	**6.3**	2.4	0.77	0.29	
591-78-6	2-Hexanone	**0.99**	2.4	0.77	0.30	**J**
124-48-1	Dibromochloromethane	0.77	2.4	0.77	0.32	**U**
106-93-4	1,2-Dibromoethane	0.77	2.4	0.77	0.28	**U**
127-18-4	Tetrachloroethene	**2.7**	2.3	0.77	0.31	
100-41-4	Ethylbenzene	**0.59**	2.4	0.77	0.34	**J**
179601-23-1	m,p-Xylenes	**2.5**	5.0	1.5	0.63	**J**
75-25-2	Bromoform	1.4	2.4	1.4	0.50	**U**
100-42-5	Styrene	1.4	2.4	1.4	0.39	**U**
95-47-6	o-Xylene	**0.82**	2.4	0.77	0.35	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.76**	2.4	0.77	0.35	**J**
95-63-6	1,2,4-Trimethylbenzene	**3.6**	2.4	0.77	0.33	
120-82-1	1,2,4-Trichlorobenzene	1.4	2.4	1.4	0.59	**U**
91-20-3	Naphthalene	**0.86**	2.3	1.4	0.59	**J**
1330-20-7	Xylenes, Total	**3.3**	5.0	1.5	0.63	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV112-250-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-011

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/9/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00063

Initial Pressure (psig): -3.16 Final Pressure (psig): 6.35

Container Dilution Factor: 1.82

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**2.2**	2.4	1.5	0.59	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**7.8**	2.4	1.5	0.40	
74-87-3	Chloromethane	**0.83**	2.4	1.5	0.39	**J**
75-01-4	Vinyl Chloride	0.77	2.5	0.77	0.26	**U**
106-99-0	1,3-Butadiene	1.5	2.4	1.5	0.40	**U**
75-00-3	Chloroethane	1.5	2.5	1.5	0.30	**U**
64-17-5	Ethanol	**9.0**	24	3.8	1.7	**J**
67-64-1	Acetone	**33**	24	12	5.5	
75-69-4	Trichlorofluoromethane	**2.2**	2.4	1.5	0.37	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**4.6**	9.6	2.9	1.0	**J**
75-09-2	Methylene Chloride	1.5	2.4	1.5	0.68	**U**
76-13-1	Trichlorotrifluoroethane	**16**	2.5	0.77	0.35	
75-15-0	Carbon Disulfide	**39**	5.0	2.5	0.73	
75-34-3	1,1-Dichloroethane	1.5	2.5	1.5	0.35	**U**
78-93-3	2-Butanone (MEK)	**9.9**	5.0	1.5	0.50	
141-78-6	Ethyl Acetate	**2.0**	5.0	3.0	1.3	**J**
110-54-3	n-Hexane	**0.89**	2.5	1.5	0.50	**J**
67-66-3	Chloroform	**0.44**	2.5	0.77	0.32	**J**
109-99-9	Tetrahydrofuran (THF)	**11**	2.5	0.77	0.30	
107-06-2	1,2-Dichloroethane	**0.33**	2.5	0.77	0.27	**J**
71-43-2	Benzene	**69**	2.4	0.77	0.35	
56-23-5	Carbon Tetrachloride	**9.8**	2.4	0.77	0.34	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV112-250-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-011

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/9/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00063

Initial Pressure (psig): -3.16 Final Pressure (psig): 6.35

Container Dilution Factor: 1.82

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**2.8**	5.0	1.5	0.68	**J**
75-27-4	Bromodichloromethane	0.77	2.5	0.77	0.35	**U**
79-01-6	Trichloroethene	**1.7**	2.5	0.77	0.33	**J**
123-91-1	1,4-Dioxane	**0.61**	2.5	0.77	0.29	**J**
142-82-5	n-Heptane	**0.45**	2.5	1.5	0.39	**J**
108-10-1	4-Methyl-2-pentanone	0.77	2.4	0.77	0.33	**U**
108-88-3	Toluene	**97**	2.5	0.77	0.30	
591-78-6	2-Hexanone	0.77	2.5	0.77	0.30	**U**
124-48-1	Dibromochloromethane	0.77	2.5	0.77	0.32	**U**
106-93-4	1,2-Dibromoethane	**0.96**	2.5	0.77	0.28	**J**
127-18-4	Tetrachloroethene	**8.2**	2.4	0.77	0.31	
100-41-4	Ethylbenzene	**5.6**	2.5	0.77	0.34	
179601-23-1	m,p-Xylenes	**14**	5.0	1.5	0.64	
75-25-2	Bromoform	1.5	2.5	1.5	0.50	**U**
100-42-5	Styrene	1.5	2.4	1.5	0.39	**U**
95-47-6	o-Xylene	**12**	2.5	0.77	0.35	
108-67-8	1,3,5-Trimethylbenzene	**3.8**	2.4	0.77	0.35	
95-63-6	1,2,4-Trimethylbenzene	**5.1**	2.5	0.77	0.34	
120-82-1	1,2,4-Trichlorobenzene	1.5	2.5	1.5	0.59	**U**
91-20-3	Naphthalene	**0.72**	2.4	1.4	0.59	**J**
1330-20-7	Xylenes, Total	**26**	5.0	1.5	0.64	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV112-350-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-012

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/9/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.050 Liter(s)
Test Notes:
Container ID: 1SS01001

Initial Pressure (psig): -4.75 Final Pressure (psig): 5.43

Container Dilution Factor: 2.02

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	13	21	13	5.3	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**14**	21	13	3.5	**J**
74-87-3	Chloromethane	**29**	21	13	3.5	
75-01-4	Vinyl Chloride	**3.4**	22	6.9	2.3	**J**
106-99-0	1,3-Butadiene	13	21	13	3.6	**U**
75-00-3	Chloroethane	13	22	13	2.7	**U**
64-17-5	Ethanol	34	210	34	15	**U**
67-64-1	Acetone	110	210	110	48	**U**
75-69-4	Trichlorofluoromethane	13	21	13	3.3	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	25	85	25	8.9	**U**
75-09-2	Methylene Chloride	13	21	13	6.1	**U**
76-13-1	Trichlorotrifluoroethane	**6.5**	22	6.9	3.1	**J**
75-15-0	Carbon Disulfide	**200**	44	22	6.5	
75-34-3	1,1-Dichloroethane	13	22	13	3.2	**U**
78-93-3	2-Butanone (MEK)	13	44	13	4.4	**U**
141-78-6	Ethyl Acetate	26	44	26	11	**U**
110-54-3	n-Hexane	**18**	22	13	4.4	**J**
67-66-3	Chloroform	6.9	22	6.9	2.9	**U**
109-99-9	Tetrahydrofuran (THF)	**5.5**	22	6.9	2.7	**J**
107-06-2	1,2-Dichloroethane	**11**	22	6.9	2.4	**J**
71-43-2	Benzene	**1,500**	21	6.9	3.1	
56-23-5	Carbon Tetrachloride	**4.7**	21	6.9	3.0	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV112-350-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-012

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/9/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.050 Liter(s)
Test Notes:
Container ID: 1SS01001

Initial Pressure (psig): -4.75 Final Pressure (psig): 5.43

Container Dilution Factor: 2.02

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**19**	44	14	6.1	**J**
75-27-4	Bromodichloromethane	6.9	22	6.9	3.1	**U**
79-01-6	Trichloroethene	6.9	22	6.9	2.9	**U**
123-91-1	1,4-Dioxane	6.9	22	6.9	2.5	**U**
142-82-5	n-Heptane	**14**	22	13	3.4	**J**
108-10-1	4-Methyl-2-pentanone	6.9	21	6.9	2.9	**U**
108-88-3	Toluene	**4,300**	22	6.9	2.6	
591-78-6	2-Hexanone	6.9	22	6.9	2.7	**U**
124-48-1	Dibromochloromethane	6.9	22	6.9	2.8	**U**
106-93-4	1,2-Dibromoethane	**45**	22	6.9	2.5	
127-18-4	Tetrachloroethene	**2.8**	21	6.9	2.8	**J**
100-41-4	Ethylbenzene	**130**	22	6.9	3.0	
179601-23-1	m,p-Xylenes	**470**	44	14	5.7	
75-25-2	Bromoform	13	22	13	4.4	**U**
100-42-5	Styrene	13	21	13	3.5	**U**
95-47-6	o-Xylene	**250**	22	6.9	3.1	
108-67-8	1,3,5-Trimethylbenzene	**19**	21	6.9	3.1	**J**
95-63-6	1,2,4-Trimethylbenzene	**26**	22	6.9	3.0	
120-82-1	1,2,4-Trichlorobenzene	13	22	13	5.3	**U**
91-20-3	Naphthalene	13	21	13	5.3	**U**
1330-20-7	Xylenes, Total	**730**	44	14	5.7	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV112-450-602** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-013

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/11/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0020 Liter(s)
Test Notes:
Container ID: 1SC00412

Initial Pressure (psig): -3.67 Final Pressure (psig): 5.71

Container Dilution Factor: 1.85

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1,100**	490	300	120	
75-71-8	Dichlorodifluoromethane (CFC 12)	300	490	300	80	**U**
74-87-3	Chloromethane	300	490	300	80	**U**
75-01-4	Vinyl Chloride	160	500	160	53	**U**
106-99-0	1,3-Butadiene	300	490	300	81	**U**
75-00-3	Chloroethane	300	500	300	61	**U**
64-17-5	Ethanol	**450**	4,800	770	340	**J**
67-64-1	Acetone	2,500	4,900	2,500	1,100	**U**
75-69-4	Trichlorofluoromethane	300	490	300	75	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	580	1,900	580	200	**U**
75-09-2	Methylene Chloride	300	490	300	140	**U**
76-13-1	Trichlorotrifluoroethane	160	500	160	70	**U**
75-15-0	Carbon Disulfide	500	1,000	500	150	**U**
75-34-3	1,1-Dichloroethane	310	510	310	72	**U**
78-93-3	2-Butanone (MEK)	300	1,000	300	100	**U**
141-78-6	Ethyl Acetate	600	1,000	600	260	**U**
110-54-3	n-Hexane	**66,000**	500	300	100	
67-66-3	Chloroform	160	500	160	66	**U**
109-99-9	Tetrahydrofuran (THF)	160	510	160	62	**U**
107-06-2	1,2-Dichloroethane	160	500	160	55	**U**
71-43-2	Benzene	**15,000**	490	160	71	
56-23-5	Carbon Tetrachloride	160	490	160	68	**U**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV112-450-602** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-013

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/11/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0020 Liter(s)
Test Notes:
Container ID: 1SC00412

Initial Pressure (psig): -3.67 Final Pressure (psig): 5.71

Container Dilution Factor: 1.85

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**150,000**	1,000	310	140	
75-27-4	Bromodichloromethane	160	500	160	71	**U**
79-01-6	Trichloroethene	160	500	160	67	**U**
123-91-1	1,4-Dioxane	160	500	160	58	**U**
142-82-5	n-Heptane	**49,000**	500	300	79	
108-10-1	4-Methyl-2-pentanone	160	490	160	68	**U**
108-88-3	Toluene	**15,000**	500	160	60	
591-78-6	2-Hexanone	160	500	160	61	**U**
124-48-1	Dibromochloromethane	160	500	160	65	**U**
106-93-4	1,2-Dibromoethane	160	500	160	57	**U**
127-18-4	Tetrachloroethene	160	480	160	64	**U**
100-41-4	Ethylbenzene	**1,300**	500	160	69	
179601-23-1	m,p-Xylenes	**6,300**	1,000	310	130	
75-25-2	Bromoform	300	500	300	100	**U**
100-42-5	Styrene	300	490	300	80	**U**
95-47-6	o-Xylene	**4,100**	500	160	71	
108-67-8	1,3,5-Trimethylbenzene	**820**	490	160	71	
95-63-6	1,2,4-Trimethylbenzene	**610**	500	160	68	
120-82-1	1,2,4-Trichlorobenzene	300	500	300	120	**U**
91-20-3	Naphthalene	290	480	290	120	**U**
1330-20-7	Xylenes, Total	**10,000**	1,000	310	130	

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV112-450-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-014

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/11/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0020 Liter(s)
Test Notes:
Container ID: 1SC00582

Initial Pressure (psig): -2.82 Final Pressure (psig): 5.56

Container Dilution Factor: 1.71

CAS #	Compound	Result µg/m³		LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1,100**		450	270	110	
75-71-8	Dichlorodifluoromethane (CFC 12)	**76**		450	270	74	**J**
74-87-3	Chloromethane		270	450	270	74	**U**
75-01-4	Vinyl Chloride		150	460	150	49	**U**
106-99-0	1,3-Butadiene		270	450	270	75	**U**
75-00-3	Chloroethane		270	460	270	56	**U**
64-17-5	Ethanol	**1,300**		4,400	710	320	**J**
67-64-1	Acetone		2,300	4,500	2,300	1,000	**U**
75-69-4	Trichlorofluoromethane		270	450	270	69	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)		540	1,800	540	190	**U**
75-09-2	Methylene Chloride		270	450	270	130	**U**
76-13-1	Trichlorotrifluoroethane	**250**		460	150	65	**J**
75-15-0	Carbon Disulfide		460	940	460	140	**U**
75-34-3	1,1-Dichloroethane		280	470	280	67	**U**
78-93-3	2-Butanone (MEK)	**110**		940	270	94	**J**
141-78-6	Ethyl Acetate		560	940	560	240	**U**
110-54-3	n-Hexane	**65,000**		460	270	94	
67-66-3	Chloroform		150	460	150	61	**U**
109-99-9	Tetrahydrofuran (THF)	**69**		470	150	57	**J**
107-06-2	1,2-Dichloroethane		150	460	150	50	**U**
71-43-2	Benzene	**15,000**		450	150	66	
56-23-5	Carbon Tetrachloride	**160**		450	150	63	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV112-450-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-014

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/11/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0020 Liter(s)
Test Notes:
Container ID: 1SC00582

Initial Pressure (psig): -2.82 Final Pressure (psig): 5.56

Container Dilution Factor: 1.71

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**140,000**	940	290	130	
75-27-4	Bromodichloromethane	150	460	150	66	**U**
79-01-6	Trichloroethene	**170**	460	150	62	**J**
123-91-1	1,4-Dioxane	150	460	150	54	**U**
142-82-5	n-Heptane	**48,000**	460	270	73	
108-10-1	4-Methyl-2-pentanone	150	450	150	62	**U**
108-88-3	Toluene	**15,000**	460	150	56	
591-78-6	2-Hexanone	150	460	150	56	**U**
124-48-1	Dibromochloromethane	150	460	150	60	**U**
106-93-4	1,2-Dibromoethane	150	460	150	53	**U**
127-18-4	Tetrachloroethene	**110**	440	150	59	**J**
100-41-4	Ethylbenzene	**1,300**	460	150	64	
179601-23-1	m,p-Xylenes	**6,400**	940	290	120	
75-25-2	Bromoform	270	460	270	94	**U**
100-42-5	Styrene	270	450	270	74	**U**
95-47-6	o-Xylene	**4,200**	460	150	66	
108-67-8	1,3,5-Trimethylbenzene	**860**	450	150	66	
95-63-6	1,2,4-Trimethylbenzene	**670**	460	150	63	
120-82-1	1,2,4-Trichlorobenzene	270	460	270	110	**U**
91-20-3	Naphthalene	270	440	270	110	**U**
1330-20-7	Xylenes, Total	**11,000**	940	290	120	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV118-025-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-015

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan/Wida Ang Date Analyzed: 5/11 - 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00013

Initial Pressure (psig): -3.65 Final Pressure (psig): 5.40

Container Dilution Factor: 1.82

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**6.1**	2.4	1.5	0.59	
75-71-8	Dichlorodifluoromethane (CFC 12)	**8.0**	2.4	1.5	0.40	
74-87-3	Chloromethane	1.5	2.4	1.5	0.39	**U**
75-01-4	Vinyl Chloride	0.77	2.5	0.77	0.26	**U**
106-99-0	1,3-Butadiene	**1.2**	2.4	1.5	0.40	**J**
75-00-3	Chloroethane	1.5	2.5	1.5	0.30	**U**
64-17-5	Ethanol	**73**	24	3.8	1.7	
67-64-1	Acetone	**220**	24	12	5.5	
75-69-4	Trichlorofluoromethane	**4.5**	2.4	1.5	0.37	
67-63-0	2-Propanol (Isopropyl Alcohol)	**2.9**	9.6	2.9	1.0	**J**
75-09-2	Methylene Chloride	1.5	2.4	1.5	0.68	**U**
76-13-1	Trichlorotrifluoroethane	**21**	2.5	0.77	0.35	
75-15-0	Carbon Disulfide	**60**	5.0	2.5	0.73	
75-34-3	1,1-Dichloroethane	1.5	2.5	1.5	0.35	**U**
78-93-3	2-Butanone (MEK)	**38**	5.0	1.5	0.50	
141-78-6	Ethyl Acetate	3.0	5.0	3.0	1.3	**U**
110-54-3	n-Hexane	**1.4**	2.5	1.5	0.50	**J**
67-66-3	Chloroform	**0.89**	2.5	0.77	0.32	**J**
109-99-9	Tetrahydrofuran (THF)	**0.96**	2.5	0.77	0.30	**J**
107-06-2	1,2-Dichloroethane	0.77	2.5	0.77	0.27	**U**
71-43-2	Benzene	**230**	2.4	0.77	0.35	
56-23-5	Carbon Tetrachloride	**8.7**	2.4	0.77	0.34	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV118-025-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-015

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan/Wida Ang Date Analyzed: 5/11 - 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00013

Initial Pressure (psig): -3.65 Final Pressure (psig): 5.40

Container Dilution Factor: 1.82

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**6.2**	5.0	1.5	0.68	
75-27-4	Bromodichloromethane	0.77	2.5	0.77	0.35	**U**
79-01-6	Trichloroethene	0.77	2.5	0.77	0.33	**U**
123-91-1	1,4-Dioxane	**4.8**	2.5	0.77	0.29	
142-82-5	n-Heptane	**1.8**	2.5	1.5	0.39	**J**
108-10-1	4-Methyl-2-pentanone	**100**	2.4	0.77	0.33	
108-88-3	Toluene	**400**	25	7.7	3.0	**D**
591-78-6	2-Hexanone	0.77	2.5	0.77	0.30	**U**
124-48-1	Dibromochloromethane	0.77	2.5	0.77	0.32	**U**
106-93-4	1,2-Dibromoethane	0.77	2.5	0.77	0.28	**U**
127-18-4	Tetrachloroethene	**0.41**	2.4	0.77	0.31	**J**
100-41-4	Ethylbenzene	**56**	2.5	0.77	0.34	
179601-23-1	m,p-Xylenes	**130**	5.0	1.5	0.64	
75-25-2	Bromoform	1.5	2.5	1.5	0.50	**U**
100-42-5	Styrene	**9.4**	2.4	1.5	0.39	
95-47-6	o-Xylene	**36**	2.5	0.77	0.35	
108-67-8	1,3,5-Trimethylbenzene	**5.0**	2.4	0.77	0.35	
95-63-6	1,2,4-Trimethylbenzene	**20**	2.5	0.77	0.34	
120-82-1	1,2,4-Trichlorobenzene	1.5	2.5	1.5	0.59	**U**
91-20-3	Naphthalene	**1.4**	2.4	1.4	0.59	**J**
1330-20-7	Xylenes, Total	**160**	5.0	1.5	0.64	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV118-050-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-016

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/11/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00286

Initial Pressure (psig): -2.81 Final Pressure (psig): 6.27

Container Dilution Factor: 1.76

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**7.4**	2.3	1.4	0.57	
75-71-8	Dichlorodifluoromethane (CFC 12)	**8.3**	2.3	1.4	0.38	
74-87-3	Chloromethane	**0.75**	2.3	1.4	0.38	**J**
75-01-4	Vinyl Chloride	0.75	2.4	0.75	0.25	**U**
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.39	**U**
75-00-3	Chloroethane	1.4	2.4	1.4	0.29	**U**
64-17-5	Ethanol	**140**	23	3.7	1.6	
67-64-1	Acetone	**34**	23	12	5.3	
75-69-4	Trichlorofluoromethane	**4.9**	2.3	1.4	0.36	
67-63-0	2-Propanol (Isopropyl Alcohol)	**39**	9.2	2.8	0.97	
75-09-2	Methylene Chloride	**1.2**	2.3	1.4	0.66	**J**
76-13-1	Trichlorotrifluoroethane	**24**	2.4	0.75	0.33	
75-15-0	Carbon Disulfide	**1.9**	4.8	2.4	0.70	**J**
75-34-3	1,1-Dichloroethane	1.5	2.4	1.5	0.34	**U**
78-93-3	2-Butanone (MEK)	**7.0**	4.8	1.4	0.48	
141-78-6	Ethyl Acetate	**91**	4.8	2.9	1.2	
110-54-3	n-Hexane	**0.76**	2.4	1.4	0.48	**J**
67-66-3	Chloroform	**1.1**	2.4	0.75	0.31	**J**
109-99-9	Tetrahydrofuran (THF)	**38**	2.4	0.75	0.29	
107-06-2	1,2-Dichloroethane	0.75	2.4	0.75	0.26	**U**
71-43-2	Benzene	**0.76**	2.3	0.75	0.34	**J**
56-23-5	Carbon Tetrachloride	**9.8**	2.3	0.75	0.33	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV118-050-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-016

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/11/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00286

Initial Pressure (psig): -2.81 Final Pressure (psig): 6.27

Container Dilution Factor: 1.76

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**1.2**	4.8	1.5	0.66	**J**
75-27-4	Bromodichloromethane	0.75	2.4	0.75	0.34	**U**
79-01-6	Trichloroethene	**0.41**	2.4	0.75	0.32	**J**
123-91-1	1,4-Dioxane	**0.65**	2.4	0.75	0.28	**J**
142-82-5	n-Heptane	**1.6**	2.4	1.4	0.37	**J**
108-10-1	4-Methyl-2-pentanone	**12**	2.3	0.75	0.32	
108-88-3	Toluene	**25**	2.4	0.75	0.29	
591-78-6	2-Hexanone	**0.94**	2.4	0.75	0.29	**J**
124-48-1	Dibromochloromethane	0.75	2.4	0.75	0.31	**U**
106-93-4	1,2-Dibromoethane	0.75	2.4	0.75	0.27	**U**
127-18-4	Tetrachloroethene	**0.57**	2.3	0.75	0.30	**J**
100-41-4	Ethylbenzene	**3.1**	2.4	0.75	0.33	
179601-23-1	m,p-Xylenes	**13**	4.8	1.5	0.62	
75-25-2	Bromoform	1.4	2.4	1.4	0.48	**U**
100-42-5	Styrene	**1.4**	2.3	1.4	0.38	**J**
95-47-6	o-Xylene	**4.3**	2.4	0.75	0.34	
108-67-8	1,3,5-Trimethylbenzene	**1.2**	2.3	0.75	0.34	**J**
95-63-6	1,2,4-Trimethylbenzene	**4.9**	2.4	0.75	0.33	
120-82-1	1,2,4-Trichlorobenzene	**1.4**	2.4	1.4	0.57	**J**
91-20-3	Naphthalene	**1.2**	2.3	1.4	0.57	**J**
1330-20-7	Xylenes, Total	**17**	4.8	1.5	0.62	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV118-160-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-017

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/11/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00496

Initial Pressure (psig): -2.71 Final Pressure (psig): 5.47

Container Dilution Factor: 1.68

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.1**	2.2	1.3	0.55	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**7.5**	2.2	1.3	0.37	
74-87-3	Chloromethane	**0.49**	2.2	1.3	0.36	**J**
75-01-4	Vinyl Chloride	0.71	2.3	0.71	0.24	**U**
106-99-0	1,3-Butadiene	1.3	2.2	1.3	0.37	**U**
75-00-3	Chloroethane	1.3	2.3	1.3	0.28	**U**
64-17-5	Ethanol	**8.6**	22	3.5	1.6	**J**
67-64-1	Acetone	**25**	22	11	5.0	
75-69-4	Trichlorofluoromethane	**4.7**	2.2	1.3	0.34	
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.3**	8.8	2.6	0.92	**J**
75-09-2	Methylene Chloride	1.3	2.2	1.3	0.63	**U**
76-13-1	Trichlorotrifluoroethane	**17**	2.3	0.71	0.32	
75-15-0	Carbon Disulfide	**3.1**	4.6	2.3	0.67	**J**
75-34-3	1,1-Dichloroethane	1.4	2.3	1.4	0.33	**U**
78-93-3	2-Butanone (MEK)	**5.3**	4.6	1.3	0.46	
141-78-6	Ethyl Acetate	**3.3**	4.6	2.7	1.2	**J**
110-54-3	n-Hexane	1.3	2.3	1.3	0.46	**U**
67-66-3	Chloroform	**1.5**	2.3	0.71	0.30	**J**
109-99-9	Tetrahydrofuran (THF)	**0.41**	2.3	0.71	0.28	**J**
107-06-2	1,2-Dichloroethane	0.71	2.3	0.71	0.25	**U**
71-43-2	Benzene	**0.55**	2.2	0.71	0.32	**J**
56-23-5	Carbon Tetrachloride	**8.1**	2.2	0.71	0.31	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV118-160-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-017

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/11/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00496

Initial Pressure (psig): -2.71 Final Pressure (psig): 5.47

Container Dilution Factor: 1.68

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.4	4.6	1.4	0.63	**U**
75-27-4	Bromodichloromethane	0.71	2.3	0.71	0.32	**U**
79-01-6	Trichloroethene	0.71	2.3	0.71	0.30	**U**
123-91-1	1,4-Dioxane	**0.53**	2.3	0.71	0.26	**J**
142-82-5	n-Heptane	**0.40**	2.3	1.3	0.36	**J**
108-10-1	4-Methyl-2-pentanone	**0.38**	2.2	0.71	0.31	**J**
108-88-3	Toluene	**3.8**	2.3	0.71	0.27	
591-78-6	2-Hexanone	**1.5**	2.3	0.71	0.28	**J**
124-48-1	Dibromochloromethane	0.71	2.3	0.71	0.29	**U**
106-93-4	1,2-Dibromoethane	0.71	2.3	0.71	0.26	**U**
127-18-4	Tetrachloroethene	**0.60**	2.2	0.71	0.29	**J**
100-41-4	Ethylbenzene	**0.65**	2.3	0.71	0.32	**J**
179601-23-1	m,p-Xylenes	**2.8**	4.6	1.4	0.59	**J**
75-25-2	Bromoform	1.3	2.3	1.3	0.46	**U**
100-42-5	Styrene	1.3	2.2	1.3	0.36	**U**
95-47-6	o-Xylene	**0.76**	2.3	0.71	0.32	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.70**	2.2	0.71	0.32	**J**
95-63-6	1,2,4-Trimethylbenzene	**2.0**	2.3	0.71	0.31	**J**
120-82-1	1,2,4-Trichlorobenzene	1.3	2.3	1.3	0.55	**U**
91-20-3	Naphthalene	1.3	2.2	1.3	0.55	**U**
1330-20-7	Xylenes, Total	**3.5**	4.6	1.4	0.59	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV118-265-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-018

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/11/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00223

Initial Pressure (psig): -2.93 Final Pressure (psig): 5.55

Container Dilution Factor: 1.72

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.3**	2.3	1.4	0.56	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**4.1**	2.3	1.4	0.37	
74-87-3	Chloromethane	**0.59**	2.3	1.4	0.37	**J**
75-01-4	Vinyl Chloride	0.73	2.3	0.73	0.25	**U**
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.38	**U**
75-00-3	Chloroethane	1.4	2.3	1.4	0.28	**U**
64-17-5	Ethanol	**78**	22	3.6	1.6	
67-64-1	Acetone	**28**	23	12	5.2	
75-69-4	Trichlorofluoromethane	**6.0**	2.3	1.4	0.35	
67-63-0	2-Propanol (Isopropyl Alcohol)	**3.1**	9.0	2.7	0.95	**J**
75-09-2	Methylene Chloride	**1.0**	2.3	1.4	0.65	**J**
76-13-1	Trichlorotrifluoroethane	**24**	2.3	0.73	0.33	
75-15-0	Carbon Disulfide	**11**	4.7	2.3	0.69	
75-34-3	1,1-Dichloroethane	1.4	2.4	1.4	0.34	**U**
78-93-3	2-Butanone (MEK)	**3.3**	4.7	1.4	0.47	**J**
141-78-6	Ethyl Acetate	**1.8**	4.7	2.8	1.2	**J**
110-54-3	n-Hexane	1.4	2.3	1.4	0.47	**U**
67-66-3	Chloroform	**0.80**	2.3	0.73	0.31	**J**
109-99-9	Tetrahydrofuran (THF)	**6.3**	2.4	0.73	0.29	
107-06-2	1,2-Dichloroethane	**0.38**	2.3	0.73	0.25	**J**
71-43-2	Benzene	**4.9**	2.3	0.73	0.33	
56-23-5	Carbon Tetrachloride	**36**	2.3	0.73	0.32	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV118-265-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-018

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/11/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00223

Initial Pressure (psig): -2.93 Final Pressure (psig): 5.55

Container Dilution Factor: 1.72

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.5	4.7	1.5	0.65	**U**
75-27-4	Bromodichloromethane	0.73	2.3	0.73	0.33	**U**
79-01-6	Trichloroethene	0.73	2.3	0.73	0.31	**U**
123-91-1	1,4-Dioxane	0.73	2.3	0.73	0.27	**U**
142-82-5	n-Heptane	1.4	2.3	1.4	0.37	**U**
108-10-1	4-Methyl-2-pentanone	0.73	2.3	0.73	0.31	**U**
108-88-3	Toluene	**30**	2.3	0.73	0.28	
591-78-6	2-Hexanone	0.73	2.3	0.73	0.28	**U**
124-48-1	Dibromochloromethane	0.73	2.3	0.73	0.30	**U**
106-93-4	1,2-Dibromoethane	**0.43**	2.3	0.73	0.27	**J**
127-18-4	Tetrachloroethene	**0.33**	2.2	0.73	0.30	**J**
100-41-4	Ethylbenzene	**1.1**	2.3	0.73	0.32	**J**
179601-23-1	m,p-Xylenes	**3.0**	4.7	1.5	0.60	**J**
75-25-2	Bromoform	1.4	2.3	1.4	0.47	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.37	**U**
95-47-6	o-Xylene	**1.5**	2.3	0.73	0.33	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.71**	2.3	0.73	0.33	**J**
95-63-6	1,2,4-Trimethylbenzene	**3.4**	2.3	0.73	0.32	
120-82-1	1,2,4-Trichlorobenzene	1.4	2.3	1.4	0.56	**U**
91-20-3	Naphthalene	**0.85**	2.2	1.3	0.56	**J**
1330-20-7	Xylenes, Total	**4.5**	4.7	1.5	0.60	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV118-350-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-019

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00018

Initial Pressure (psig): -3.65 Final Pressure (psig): 6.43

Container Dilution Factor: 1.91

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**11**	2.5	1.5	0.62	
75-71-8	Dichlorodifluoromethane (CFC 12)	**3.7**	2.5	1.5	0.42	
74-87-3	Chloromethane	1.5	2.5	1.5	0.41	**U**
75-01-4	Vinyl Chloride	0.81	2.6	0.81	0.27	**U**
106-99-0	1,3-Butadiene	1.5	2.5	1.5	0.42	**U**
75-00-3	Chloroethane	1.5	2.6	1.5	0.32	**U**
64-17-5	Ethanol	**3.3**	25	4.0	1.8	**J**
67-64-1	Acetone	**22**	25	13	5.7	**J**
75-69-4	Trichlorofluoromethane	**7.5**	2.5	1.5	0.39	
67-63-0	2-Propanol (Isopropyl Alcohol)	3.0	10	3.0	1.1	**U**
75-09-2	Methylene Chloride	1.5	2.5	1.5	0.72	**U**
76-13-1	Trichlorotrifluoroethane	**12**	2.6	0.81	0.36	
75-15-0	Carbon Disulfide	**4.3**	5.3	2.6	0.76	**J**
75-34-3	1,1-Dichloroethane	1.6	2.6	1.6	0.37	**U**
78-93-3	2-Butanone (MEK)	**2.0**	5.3	1.5	0.53	**J**
141-78-6	Ethyl Acetate	3.1	5.3	3.1	1.3	**U**
110-54-3	n-Hexane	1.5	2.6	1.5	0.53	**U**
67-66-3	Chloroform	**6.7**	2.6	0.81	0.34	
109-99-9	Tetrahydrofuran (THF)	**0.44**	2.6	0.81	0.32	**J**
107-06-2	1,2-Dichloroethane	0.81	2.6	0.81	0.28	**U**
71-43-2	Benzene	**0.89**	2.5	0.81	0.37	**J**
56-23-5	Carbon Tetrachloride	**19**	2.5	0.81	0.35	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV118-350-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-019

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00018

Initial Pressure (psig): -3.65 Final Pressure (psig): 6.43

Container Dilution Factor: 1.91

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.6	5.3	1.6	0.72	**U**
75-27-4	Bromodichloromethane	0.81	2.6	0.81	0.37	**U**
79-01-6	Trichloroethene	0.81	2.6	0.81	0.34	**U**
123-91-1	1,4-Dioxane	0.81	2.6	0.81	0.30	**U**
142-82-5	n-Heptane	**0.91**	2.6	1.5	0.41	**J**
108-10-1	4-Methyl-2-pentanone	0.81	2.5	0.81	0.35	**U**
108-88-3	Toluene	**4.9**	2.6	0.81	0.31	
591-78-6	2-Hexanone	**0.36**	2.6	0.81	0.32	**J**
124-48-1	Dibromochloromethane	0.81	2.6	0.81	0.33	**U**
106-93-4	1,2-Dibromoethane	0.81	2.6	0.81	0.30	**U**
127-18-4	Tetrachloroethene	**0.54**	2.5	0.81	0.33	**J**
100-41-4	Ethylbenzene	**1.6**	2.6	0.81	0.36	**J**
179601-23-1	m,p-Xylenes	**7.2**	5.3	1.6	0.67	
75-25-2	Bromoform	1.5	2.6	1.5	0.53	**U**
100-42-5	Styrene	1.5	2.5	1.5	0.41	**U**
95-47-6	o-Xylene	**2.1**	2.6	0.81	0.37	**J**
108-67-8	1,3,5-Trimethylbenzene	**4.2**	2.5	0.81	0.37	
95-63-6	1,2,4-Trimethylbenzene	**20**	2.6	0.81	0.35	
120-82-1	1,2,4-Trichlorobenzene	1.5	2.6	1.5	0.62	**U**
91-20-3	Naphthalene	**2.7**	2.5	1.5	0.62	
1330-20-7	Xylenes, Total	**9.3**	5.3	1.6	0.67	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV118-450-602** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-020

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SS00741

Initial Pressure (psig): -2.53 Final Pressure (psig): 3.81

Container Dilution Factor: 1.52

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**10**	40	24	9.9	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	24	40	24	6.6	**U**
74-87-3	Chloromethane	**33**	40	24	6.5	**J**
75-01-4	Vinyl Chloride	**6.6**	41	13	4.3	**J**
106-99-0	1,3-Butadiene	24	40	24	6.7	**U**
75-00-3	Chloroethane	**5.5**	41	24	5.0	**J**
64-17-5	Ethanol	63	400	63	28	**U**
67-64-1	Acetone	210	400	210	91	**U**
75-69-4	Trichlorofluoromethane	24	40	24	6.2	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	48	160	48	17	**U**
75-09-2	Methylene Chloride	24	40	24	11	**U**
76-13-1	Trichlorotrifluoroethane	**11**	41	13	5.8	**J**
75-15-0	Carbon Disulfide	**210**	84	41	12	
75-34-3	1,1-Dichloroethane	25	42	25	5.9	**U**
78-93-3	2-Butanone (MEK)	24	84	24	8.4	**U**
141-78-6	Ethyl Acetate	49	84	49	21	**U**
110-54-3	n-Hexane	**280**	41	24	8.4	
67-66-3	Chloroform	**7.5**	41	13	5.4	**J**
109-99-9	Tetrahydrofuran (THF)	**61**	42	13	5.1	
107-06-2	1,2-Dichloroethane	13	41	13	4.5	**U**
71-43-2	Benzene	**96**	40	13	5.9	
56-23-5	Carbon Tetrachloride	**62**	40	13	5.6	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV118-450-602** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-020

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SS00741

Initial Pressure (psig): -2.53 Final Pressure (psig): 3.81

Container Dilution Factor: 1.52

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**5,900**	84	26	11	
75-27-4	Bromodichloromethane	13	41	13	5.9	**U**
79-01-6	Trichloroethene	13	41	13	5.5	**U**
123-91-1	1,4-Dioxane	13	41	13	4.8	**U**
142-82-5	n-Heptane	24	41	24	6.5	**U**
108-10-1	4-Methyl-2-pentanone	13	40	13	5.5	**U**
108-88-3	Toluene	**440**	41	13	4.9	
591-78-6	2-Hexanone	13	41	13	5.0	**U**
124-48-1	Dibromochloromethane	13	41	13	5.3	**U**
106-93-4	1,2-Dibromoethane	13	41	13	4.7	**U**
127-18-4	Tetrachloroethene	13	40	13	5.2	**U**
100-41-4	Ethylbenzene	**14**	41	13	5.7	**J**
179601-23-1	m,p-Xylenes	**32**	84	26	11	**J**
75-25-2	Bromoform	24	41	24	8.4	**U**
100-42-5	Styrene	24	40	24	6.5	**U**
95-47-6	o-Xylene	**21**	41	13	5.9	**J**
108-67-8	1,3,5-Trimethylbenzene	**14**	40	13	5.9	**J**
95-63-6	1,2,4-Trimethylbenzene	**32**	41	13	5.6	**J**
120-82-1	1,2,4-Trichlorobenzene	24	41	24	9.9	**U**
91-20-3	Naphthalene	24	40	24	9.9	**U**
1330-20-7	Xylenes, Total	**53**	84	26	11	**J**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200508-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	0.32	0.53	0.32	0.13	U
75-71-8	Dichlorodifluoromethane (CFC 12)	0.32	0.53	0.32	0.087	U
74-87-3	Chloromethane	0.32	0.53	0.32	0.086	U
75-01-4	Vinyl Chloride	0.17	0.54	0.17	0.057	U
106-99-0	1,3-Butadiene	0.32	0.53	0.32	0.088	U
75-00-3	Chloroethane	0.32	0.54	0.32	0.066	U
64-17-5	Ethanol	0.83	5.2	0.83	0.37	U
67-64-1	Acetone	2.7	5.3	2.7	1.2	U
75-69-4	Trichlorofluoromethane	0.32	0.53	0.32	0.081	U
67-63-0	2-Propanol (Isopropyl Alcohol)	0.63	2.1	0.63	0.22	U
75-09-2	Methylene Chloride	0.32	0.53	0.32	0.15	U
76-13-1	Trichlorotrifluoroethane	0.17	0.54	0.17	0.076	U
75-15-0	Carbon Disulfide	0.54	1.1	0.54	0.16	U
75-34-3	1,1-Dichloroethane	0.33	0.55	0.33	0.078	U
78-93-3	2-Butanone (MEK)	0.32	1.1	0.32	0.11	U
141-78-6	Ethyl Acetate	0.65	1.1	0.65	0.28	U
110-54-3	n-Hexane	0.32	0.54	0.32	0.11	U
67-66-3	Chloroform	0.17	0.54	0.17	0.071	U
109-99-9	Tetrahydrofuran (THF)	0.17	0.55	0.17	0.067	U
107-06-2	1,2-Dichloroethane	0.17	0.54	0.17	0.059	U
71-43-2	Benzene	0.17	0.53	0.17	0.077	U
56-23-5	Carbon Tetrachloride	0.17	0.53	0.17	0.074	U

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200508-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	0.34	1.1	0.34	0.15	U
75-27-4	Bromodichloromethane	0.17	0.54	0.17	0.077	U
79-01-6	Trichloroethene	0.17	0.54	0.17	0.072	U
123-91-1	1,4-Dioxane	0.17	0.54	0.17	0.063	U
142-82-5	n-Heptane	0.32	0.54	0.32	0.085	U
108-10-1	4-Methyl-2-pentanone	0.17	0.53	0.17	0.073	U
108-88-3	Toluene	0.17	0.54	0.17	0.065	U
591-78-6	2-Hexanone	0.17	0.54	0.17	0.066	U
124-48-1	Dibromochloromethane	0.17	0.54	0.17	0.070	U
106-93-4	1,2-Dibromoethane	0.17	0.54	0.17	0.062	U
127-18-4	Tetrachloroethene	0.17	0.52	0.17	0.069	U
100-41-4	Ethylbenzene	0.17	0.54	0.17	0.075	U
179601-23-1	m,p-Xylenes	0.34	1.1	0.34	0.14	U
75-25-2	Bromoform	0.32	0.54	0.32	0.11	U
100-42-5	Styrene	0.32	0.53	0.32	0.086	U
95-47-6	o-Xylene	0.17	0.54	0.17	0.077	U
108-67-8	1,3,5-Trimethylbenzene	0.17	0.53	0.17	0.077	U
95-63-6	1,2,4-Trimethylbenzene	0.17	0.54	0.17	0.074	U
120-82-1	1,2,4-Trichlorobenzene	0.32	0.54	0.32	0.13	U
91-20-3	Naphthalene	0.31	0.52	0.31	0.13	U
1330-20-7	Xylenes, Total	0.34	1.1	0.34	0.14	U

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200511-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 5/11/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	0.32	0.53	0.32	0.13	U
75-71-8	Dichlorodifluoromethane (CFC 12)	0.32	0.53	0.32	0.087	U
74-87-3	Chloromethane	0.32	0.53	0.32	0.086	U
75-01-4	Vinyl Chloride	0.17	0.54	0.17	0.057	U
106-99-0	1,3-Butadiene	0.32	0.53	0.32	0.088	U
75-00-3	Chloroethane	0.32	0.54	0.32	0.066	U
64-17-5	Ethanol	0.83	5.2	0.83	0.37	U
67-64-1	Acetone	2.7	5.3	2.7	1.2	U
75-69-4	Trichlorofluoromethane	0.32	0.53	0.32	0.081	U
67-63-0	2-Propanol (Isopropyl Alcohol)	0.63	2.1	0.63	0.22	U
75-09-2	Methylene Chloride	0.32	0.53	0.32	0.15	U
76-13-1	Trichlorotrifluoroethane	0.17	0.54	0.17	0.076	U
75-15-0	Carbon Disulfide	0.54	1.1	0.54	0.16	U
75-34-3	1,1-Dichloroethane	0.33	0.55	0.33	0.078	U
78-93-3	2-Butanone (MEK)	0.32	1.1	0.32	0.11	U
141-78-6	Ethyl Acetate	0.65	1.1	0.65	0.28	U
110-54-3	n-Hexane	0.32	0.54	0.32	0.11	U
67-66-3	Chloroform	0.17	0.54	0.17	0.071	U
109-99-9	Tetrahydrofuran (THF)	0.17	0.55	0.17	0.067	U
107-06-2	1,2-Dichloroethane	0.17	0.54	0.17	0.059	U
71-43-2	Benzene	0.17	0.53	0.17	0.077	U
56-23-5	Carbon Tetrachloride	0.17	0.53	0.17	0.074	U

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200511-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 5/11/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	0.34	1.1	0.34	0.15	U
75-27-4	Bromodichloromethane	0.17	0.54	0.17	0.077	U
79-01-6	Trichloroethene	0.17	0.54	0.17	0.072	U
123-91-1	1,4-Dioxane	0.17	0.54	0.17	0.063	U
142-82-5	n-Heptane	0.32	0.54	0.32	0.085	U
108-10-1	4-Methyl-2-pentanone	0.17	0.53	0.17	0.073	U
108-88-3	Toluene	0.17	0.54	0.17	0.065	U
591-78-6	2-Hexanone	0.17	0.54	0.17	0.066	U
124-48-1	Dibromochloromethane	0.17	0.54	0.17	0.070	U
106-93-4	1,2-Dibromoethane	0.17	0.54	0.17	0.062	U
127-18-4	Tetrachloroethene	0.17	0.52	0.17	0.069	U
100-41-4	Ethylbenzene	0.17	0.54	0.17	0.075	U
179601-23-1	m,p-Xylenes	0.34	1.1	0.34	0.14	U
75-25-2	Bromoform	0.32	0.54	0.32	0.11	U
100-42-5	Styrene	0.32	0.53	0.32	0.086	U
95-47-6	o-Xylene	0.17	0.54	0.17	0.077	U
108-67-8	1,3,5-Trimethylbenzene	0.17	0.53	0.17	0.077	U
95-63-6	1,2,4-Trimethylbenzene	0.17	0.54	0.17	0.074	U
120-82-1	1,2,4-Trichlorobenzene	0.32	0.54	0.32	0.13	U
91-20-3	Naphthalene	0.31	0.52	0.31	0.13	U
1330-20-7	Xylenes, Total	0.34	1.1	0.34	0.14	U

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200512-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	0.32	0.53	0.32	0.13	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.32	0.53	0.32	0.087	**U**
74-87-3	Chloromethane	0.32	0.53	0.32	0.086	**U**
75-01-4	Vinyl Chloride	0.17	0.54	0.17	0.057	**U**
106-99-0	1,3-Butadiene	0.32	0.53	0.32	0.088	**U**
75-00-3	Chloroethane	0.32	0.54	0.32	0.066	**U**
64-17-5	Ethanol	**0.42**	5.2	0.83	0.37	**J**
67-64-1	Acetone	2.7	5.3	2.7	1.2	**U**
75-69-4	Trichlorofluoromethane	0.32	0.53	0.32	0.081	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.63	2.1	0.63	0.22	**U**
75-09-2	Methylene Chloride	0.32	0.53	0.32	0.15	**U**
76-13-1	Trichlorotrifluoroethane	0.17	0.54	0.17	0.076	**U**
75-15-0	Carbon Disulfide	0.54	1.1	0.54	0.16	**U**
75-34-3	1,1-Dichloroethane	0.33	0.55	0.33	0.078	**U**
78-93-3	2-Butanone (MEK)	0.32	1.1	0.32	0.11	**U**
141-78-6	Ethyl Acetate	0.65	1.1	0.65	0.28	**U**
110-54-3	n-Hexane	0.32	0.54	0.32	0.11	**U**
67-66-3	Chloroform	0.17	0.54	0.17	0.071	**U**
109-99-9	Tetrahydrofuran (THF)	0.17	0.55	0.17	0.067	**U**
107-06-2	1,2-Dichloroethane	0.17	0.54	0.17	0.059	**U**
71-43-2	Benzene	0.17	0.53	0.17	0.077	**U**
56-23-5	Carbon Tetrachloride	0.17	0.53	0.17	0.074	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200512-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	0.34	1.1	0.34	0.15	**U**
75-27-4	Bromodichloromethane	0.17	0.54	0.17	0.077	**U**
79-01-6	Trichloroethene	0.17	0.54	0.17	0.072	**U**
123-91-1	1,4-Dioxane	0.17	0.54	0.17	0.063	**U**
142-82-5	n-Heptane	0.32	0.54	0.32	0.085	**U**
108-10-1	4-Methyl-2-pentanone	0.17	0.53	0.17	0.073	**U**
108-88-3	Toluene	0.17	0.54	0.17	0.065	**U**
591-78-6	2-Hexanone	0.17	0.54	0.17	0.066	**U**
124-48-1	Dibromochloromethane	0.17	0.54	0.17	0.070	**U**
106-93-4	1,2-Dibromoethane	0.17	0.54	0.17	0.062	**U**
127-18-4	Tetrachloroethene	0.17	0.52	0.17	0.069	**U**
100-41-4	Ethylbenzene	0.17	0.54	0.17	0.075	**U**
179601-23-1	m,p-Xylenes	0.34	1.1	0.34	0.14	**U**
75-25-2	Bromoform	0.32	0.54	0.32	0.11	**U**
100-42-5	Styrene	0.32	0.53	0.32	0.086	**U**
95-47-6	o-Xylene	0.17	0.54	0.17	0.077	**U**
108-67-8	1,3,5-Trimethylbenzene	0.17	0.53	0.17	0.077	**U**
95-63-6	1,2,4-Trimethylbenzene	0.17	0.54	0.17	0.074	**U**
120-82-1	1,2,4-Trichlorobenzene	0.32	0.54	0.32	0.13	**U**
91-20-3	Naphthalene	0.31	0.52	0.31	0.13	**U**
1330-20-7	Xylenes, Total	0.34	1.1	0.34	0.14	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Project ID: P2002299

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date(s) Collected: 4/21/20
Analyst: Lusine Hakobyan Date(s) Received: 4/28/20
Sampling Media: 1.0 L Summa Canister(s) / 1.0 L Silonite Summa Canister(s) Date(s) Analyzed: 5/8 - 5/12/20
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P200508-MB	**96**	**99**	**101**	70-130	
Method Blank	P200511-MB	**95**	**100**	**104**	70-130	
Method Blank	P200512-MB	**93**	**101**	**106**	70-130	
Lab Control Sample	P200508-LCS	**93**	**97**	**109**	70-130	
Lab Control Sample	P200511-LCS	**92**	**99**	**108**	70-130	
Lab Control Sample	P200512-LCS	**93**	**100**	**106**	70-130	
Duplicate Lab Control Sample	P200508-DLCS	**93**	**97**	**107**	70-130	
Duplicate Lab Control Sample	P200511-DLCS	**93**	**99**	**109**	70-130	
Duplicate Lab Control Sample	P200512-DLCS	**94**	**101**	**107**	70-130	
SV108-025-202	P2002299-001	**92**	**100**	**110**	70-130	
SV108-050-202	P2002299-002	**93**	**100**	**109**	70-130	
SV108-150-202	P2002299-003	**97**	**99**	**101**	70-130	
SV108-250-202	P2002299-004	**97**	**98**	**103**	70-130	
SV108-350-202	P2002299-005	**92**	**99**	**109**	70-130	
SV108-350-602	P2002299-006	**92**	**100**	**110**	70-130	
SV108-450-202	P2002299-007	**92**	**102**	**110**	70-130	
SV112-025-202	P2002299-008	**93**	**101**	**107**	70-130	
SV112-050-202	P2002299-009	**92**	**101**	**108**	70-130	
SV112-150-202	P2002299-010	**93**	**100**	**109**	70-130	
SV112-250-202	P2002299-011	**92**	**101**	**109**	70-130	
SV112-350-202	P2002299-012	**92**	**102**	**109**	70-130	
SV112-350-202	P2002299-012DUP	**93**	**101**	**109**	70-130	
SV112-450-602	P2002299-013	**96**	**96**	**95**	70-130	
SV112-450-202	P2002299-014	**97**	**95**	**96**	70-130	
SV118-025-202	P2002299-015	**93**	**99**	**109**	70-130	
SV118-050-202	P2002299-016	**93**	**101**	**110**	70-130	
SV118-160-202	P2002299-017	**92**	**100**	**108**	70-130	
SV118-265-202	P2002299-018	**92**	**100**	**109**	70-130	
SV118-350-202	P2002299-019	**92**	**100**	**108**	70-130	
SV118-450-602	P2002299-020	**93**	**100**	**105**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200508-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	210	210	204	**100**	**97**	57-136	3	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	189	187	**90**	**89**	59-128	1	25	
74-87-3	Chloromethane	212	184	183	**87**	**86**	59-132	1	25	
75-01-4	Vinyl Chloride	212	188	184	**89**	**87**	64-127	2	25	
106-99-0	1,3-Butadiene	212	188	188	**89**	**89**	66-134	0	25	
75-00-3	Chloroethane	214	186	186	**87**	**87**	63-127	0	25	
64-17-5	Ethanol	1,060	920	929	**87**	**88**	59-125	1	25	
67-64-1	Acetone	1,070	964	967	**90**	**90**	58-128	0	25	
75-69-4	Trichlorofluoromethane	212	182	183	**86**	**86**	62-126	0	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	422	382	387	**91**	**92**	52-125	1	25	
75-09-2	Methylene Chloride	210	183	182	**87**	**87**	62-115	0	25	
76-13-1	Trichlorotrifluoroethane	216	199	198	**92**	**92**	66-126	0	25	
75-15-0	Carbon Disulfide	212	184	187	**87**	**88**	57-134	1	25	
75-34-3	1,1-Dichloroethane	212	184	185	**87**	**87**	68-126	0	25	
78-93-3	2-Butanone (MEK)	212	188	188	**89**	**89**	67-130	0	25	
141-78-6	Ethyl Acetate	432	427	427	**99**	**99**	65-128	0	25	
110-54-3	n-Hexane	216	206	204	**95**	**94**	63-120	1	25	
67-66-3	Chloroform	214	189	189	**88**	**88**	68-123	0	25	
109-99-9	Tetrahydrofuran (THF)	220	190	189	**86**	**86**	64-123	0	25	
107-06-2	1,2-Dichloroethane	214	182	182	**85**	**85**	65-128	0	25	
71-43-2	Benzene	210	191	191	**91**	**91**	69-119	0	25	
56-23-5	Carbon Tetrachloride	208	192	194	**92**	**93**	68-132	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200508-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	422	406	405	**96**	**96**	70-117	0	25	
75-27-4	Bromodichloromethane	218	202	201	**93**	**92**	72-128	1	25	
79-01-6	Trichloroethene	216	201	201	**93**	**93**	71-123	0	25	
123-91-1	1,4-Dioxane	216	204	206	**94**	**95**	71-122	1	25	
142-82-5	n-Heptane	214	198	199	**93**	**93**	69-123	0	25	
108-10-1	4-Methyl-2-pentanone	212	209	211	**99**	**100**	67-130	1	25	
108-88-3	Toluene	212	196	192	**92**	**91**	66-119	1	25	
591-78-6	2-Hexanone	216	215	214	**100**	**99**	62-128	1	25	
124-48-1	Dibromochloromethane	214	210	206	**98**	**96**	70-130	2	25	
106-93-4	1,2-Dibromoethane	214	204	200	**95**	**93**	74-122	2	25	
127-18-4	Tetrachloroethene	208	202	198	**97**	**95**	66-124	2	25	
100-41-4	Ethylbenzene	212	208	202	**98**	**95**	70-124	3	25	
179601-23-1	m,p-Xylenes	426	420	412	**99**	**97**	61-134	2	25	
75-25-2	Bromoform	214	210	206	**98**	**96**	66-139	2	25	
100-42-5	Styrene	212	216	211	**102**	**100**	73-127	2	25	
95-47-6	o-Xylene	214	206	201	**96**	**94**	67-125	2	25	
108-67-8	1,3,5-Trimethylbenzene	212	213	209	**100**	**99**	67-130	1	25	
95-63-6	1,2,4-Trimethylbenzene	212	236	231	**111**	**109**	66-132	2	25	
120-82-1	1,2,4-Trichlorobenzene	216	231	224	**107**	**104**	55-142	3	25	
91-20-3	Naphthalene	212	243	238	**115**	**112**	57-138	3	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200511-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 5/11/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	210	209	204	**100**	**97**	57-136	3	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	189	183	**90**	**87**	59-128	3	25	
74-87-3	Chloromethane	212	183	180	**86**	**85**	59-132	1	25	
75-01-4	Vinyl Chloride	212	185	181	**87**	**85**	64-127	2	25	
106-99-0	1,3-Butadiene	212	189	188	**89**	**89**	66-134	0	25	
75-00-3	Chloroethane	214	187	184	**87**	**86**	63-127	1	25	
64-17-5	Ethanol	1,060	917	923	**87**	**87**	59-125	0	25	
67-64-1	Acetone	1,070	961	962	**90**	**90**	58-128	0	25	
75-69-4	Trichlorofluoromethane	212	184	183	**87**	**86**	62-126	1	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	422	386	386	**91**	**91**	52-125	0	25	
75-09-2	Methylene Chloride	210	182	181	**87**	**86**	62-115	1	25	
76-13-1	Trichlorotrifluoroethane	216	200	198	**93**	**92**	66-126	1	25	
75-15-0	Carbon Disulfide	212	187	186	**88**	**88**	57-134	0	25	
75-34-3	1,1-Dichloroethane	212	182	183	**86**	**86**	68-126	0	25	
78-93-3	2-Butanone (MEK)	212	187	187	**88**	**88**	67-130	0	25	
141-78-6	Ethyl Acetate	432	426	423	**99**	**98**	65-128	1	25	
110-54-3	n-Hexane	216	205	201	**95**	**93**	63-120	2	25	
67-66-3	Chloroform	214	190	188	**89**	**88**	68-123	1	25	
109-99-9	Tetrahydrofuran (THF)	220	189	187	**86**	**85**	64-123	1	25	
107-06-2	1,2-Dichloroethane	214	181	179	**85**	**84**	65-128	1	25	
71-43-2	Benzene	210	191	189	**91**	**90**	69-119	1	25	
56-23-5	Carbon Tetrachloride	208	193	191	**93**	**92**	68-132	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200511-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Wida Ang Date Analyzed: 5/11/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	422	401	400	**95**	**95**	70-117	0	25	
75-27-4	Bromodichloromethane	218	200	199	**92**	**91**	72-128	1	25	
79-01-6	Trichloroethene	216	201	199	**93**	**92**	71-123	1	25	
123-91-1	1,4-Dioxane	216	204	201	**94**	**93**	71-122	1	25	
142-82-5	n-Heptane	214	197	193	**92**	**90**	69-123	2	25	
108-10-1	4-Methyl-2-pentanone	212	208	206	**98**	**97**	67-130	1	25	
108-88-3	Toluene	212	200	198	**94**	**93**	66-119	1	25	
591-78-6	2-Hexanone	216	219	220	**101**	**102**	62-128	1	25	
124-48-1	Dibromochloromethane	214	215	213	**100**	**100**	70-130	0	25	
106-93-4	1,2-Dibromoethane	214	209	206	**98**	**96**	74-122	2	25	
127-18-4	Tetrachloroethene	208	207	204	**100**	**98**	66-124	2	25	
100-41-4	Ethylbenzene	212	212	211	**100**	**100**	70-124	0	25	
179601-23-1	m,p-Xylenes	426	431	439	**101**	**103**	61-134	2	25	
75-25-2	Bromoform	214	214	214	**100**	**100**	66-139	0	25	
100-42-5	Styrene	212	221	221	**104**	**104**	73-127	0	25	
95-47-6	o-Xylene	214	211	210	**99**	**98**	67-125	1	25	
108-67-8	1,3,5-Trimethylbenzene	212	220	219	**104**	**103**	67-130	1	25	
95-63-6	1,2,4-Trimethylbenzene	212	243	240	**115**	**113**	66-132	2	25	
120-82-1	1,2,4-Trichlorobenzene	216	234	232	**108**	**107**	55-142	0.9	25	
91-20-3	Naphthalene	212	248	245	**117**	**116**	57-138	0.9	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200512-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	210	198	204	**94**	**97**	57-136	3	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	183	186	**87**	**89**	59-128	2	25	
74-87-3	Chloromethane	212	175	183	**83**	**86**	59-132	4	25	
75-01-4	Vinyl Chloride	212	178	183	**84**	**86**	64-127	2	25	
106-99-0	1,3-Butadiene	212	182	188	**86**	**89**	66-134	3	25	
75-00-3	Chloroethane	214	181	184	**85**	**86**	63-127	1	25	
64-17-5	Ethanol	1,060	893	935	**84**	**88**	59-125	5	25	
67-64-1	Acetone	1,070	942	975	**88**	**91**	58-128	3	25	
75-69-4	Trichlorofluoromethane	212	181	185	**85**	**87**	62-126	2	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	422	380	393	**90**	**93**	52-125	3	25	
75-09-2	Methylene Chloride	210	179	183	**85**	**87**	62-115	2	25	
76-13-1	Trichlorotrifluoroethane	216	197	201	**91**	**93**	66-126	2	25	
75-15-0	Carbon Disulfide	212	183	187	**86**	**88**	57-134	2	25	
75-34-3	1,1-Dichloroethane	212	180	185	**85**	**87**	68-126	2	25	
78-93-3	2-Butanone (MEK)	212	184	192	**87**	**91**	67-130	4	25	
141-78-6	Ethyl Acetate	432	417	427	**97**	**99**	65-128	2	25	
110-54-3	n-Hexane	216	199	205	**92**	**95**	63-120	3	25	
67-66-3	Chloroform	214	186	190	**87**	**89**	68-123	2	25	
109-99-9	Tetrahydrofuran (THF)	220	185	190	**84**	**86**	64-123	2	25	
107-06-2	1,2-Dichloroethane	214	179	184	**84**	**86**	65-128	2	25	
71-43-2	Benzene	210	187	189	**89**	**90**	69-119	1	25	
56-23-5	Carbon Tetrachloride	208	189	189	**91**	**91**	68-132	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200512-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	422	394	399	**93**	**95**	70-117	2	25	
75-27-4	Bromodichloromethane	218	195	199	**89**	**91**	72-128	2	25	
79-01-6	Trichloroethene	216	197	199	**91**	**92**	71-123	1	25	
123-91-1	1,4-Dioxane	216	199	201	**92**	**93**	71-122	1	25	
142-82-5	n-Heptane	214	190	194	**89**	**91**	69-123	2	25	
108-10-1	4-Methyl-2-pentanone	212	203	206	**96**	**97**	67-130	1	25	
108-88-3	Toluene	212	198	204	**93**	**96**	66-119	3	25	
591-78-6	2-Hexanone	216	219	225	**101**	**104**	62-128	3	25	
124-48-1	Dibromochloromethane	214	215	217	**100**	**101**	70-130	1	25	
106-93-4	1,2-Dibromoethane	214	208	211	**97**	**99**	74-122	2	25	
127-18-4	Tetrachloroethene	208	206	209	**99**	**100**	66-124	1	25	
100-41-4	Ethylbenzene	212	211	214	**100**	**101**	70-124	1	25	
179601-23-1	m,p-Xylenes	426	430	448	**101**	**105**	61-134	4	25	
75-25-2	Bromoform	214	214	219	**100**	**102**	66-139	2	25	
100-42-5	Styrene	212	220	226	**104**	**107**	73-127	3	25	
95-47-6	o-Xylene	214	210	215	**98**	**100**	67-125	2	25	
108-67-8	1,3,5-Trimethylbenzene	212	220	225	**104**	**106**	67-130	2	25	
95-63-6	1,2,4-Trimethylbenzene	212	238	241	**112**	**114**	66-132	2	25	
120-82-1	1,2,4-Trichlorobenzene	216	232	235	**107**	**109**	55-142	2	25	
91-20-3	Naphthalene	212	241	244	**114**	**115**	57-138	0.9	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV112-350-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-012DUP

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/9/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.050 Liter(s)
Test Notes:
Container ID: 1SS01001

Initial Pressure (psig): -4.75 Final Pressure (psig): 5.43

Container Dilution Factor: 2.02

Compound	Sample Result µg/m³	Duplicate Sample Result µg/m³	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Propene	ND	ND	-	-	25	
Dichlorodifluoromethane (CFC 12)	14	14	14	**0**	25	**J**
Chloromethane	29	29	29	**0**	25	
Vinyl Chloride	3.4	3.4	3.4	**0**	25	**J**
1,3-Butadiene	ND	ND	-	-	25	
Chloroethane	ND	ND	-	-	25	
Ethanol	ND	ND	-	-	25	
Acetone	ND	ND	-	-	25	
Trichlorofluoromethane	ND	ND	-	-	25	
2-Propanol (Isopropyl Alcohol)	ND	ND	-	-	25	
Methylene Chloride	ND	ND	-	-	25	
Trichlorotrifluoroethane	6.5	6.5	6.5	**0**	25	**J**
Carbon Disulfide	200	200	200	**0**	25	
1,1-Dichloroethane	ND	ND	-	-	25	
2-Butanone (MEK)	ND	ND	-	-	25	
Ethyl Acetate	ND	ND	-	-	25	
n-Hexane	18	18	18	**0**	25	**J**
Chloroform	ND	ND	-	-	25	
Tetrahydrofuran (THF)	5.5	5.5	5.5	**0**	25	**J**
1,2-Dichloroethane	11	11	11	**0**	25	**J**
Benzene	1,500	1,500	1500	**0**	25	
Carbon Tetrachloride	4.7	4.8	4.75	**2**	25	**J**

ND = Compound was analyzed for, but not detected.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV112-350-202** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002299-012DUP

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/9/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.050 Liter(s)
Test Notes:
Container ID: 1SS01001

Initial Pressure (psig): -4.75 Final Pressure (psig): 5.43

Container Dilution Factor: 2.02

Compound	Sample Result µg/m³	Duplicate Sample Result µg/m³	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Cyclohexane	19	18	18.5	**5**	25	**J**
Bromodichloromethane	ND	ND	-	-	25	
Trichloroethene	ND	ND	-	-	25	
1,4-Dioxane	ND	ND	-	-	25	
n-Heptane	14	13	13.5	**7**	25	**J**
4-Methyl-2-pentanone	ND	ND	-	-	25	
Toluene	4,300	4,200	4250	**2**	25	
2-Hexanone	ND	ND	-	-	25	
Dibromochloromethane	ND	ND	-	-	25	
1,2-Dibromoethane	45	44	44.5	**2**	25	
Tetrachloroethene	2.8	ND	-	-	25	
Ethylbenzene	130	130	130	**0**	25	
m,p-Xylenes	470	460	465	**2**	25	
Bromoform	ND	ND	-	-	25	
Styrene	ND	ND	-	-	25	
o-Xylene	250	250	250	**0**	25	
1,3,5-Trimethylbenzene	19	18	18.5	**5**	25	**J**
1,2,4-Trimethylbenzene	26	25	25.5	**4**	25	
1,2,4-Trichlorobenzene	ND	ND	-	-	25	
Naphthalene	ND	ND	-	-	25	
Xylenes, Total	730	710	720	**3**	25	

ND = Compound was analyzed for, but not detected.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: **EA Engineering, Science, and Technology, Inc.** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Lab File ID: 05082033.D
Analyst: Lusine Hakobyan Date Analyzed: 5/8/20
Sampling Media: 1.0 L Summa Canister(s) Time Analyzed: 21:36
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	274161		11.15	1168237		13.28		536761		17.58	
	Upper Limit	383825		11.48	1635532		13.61		751465		17.91	
	Lower Limit	164497		10.82	700942		12.95		322057		17.25	
	Client Sample ID											
01	Method Blank	256387		11.13	1106146		13.26		525057		17.58	
02	Lab Control Sample	273265		11.15	1154357		13.28		549228		17.58	
03	Duplicate Lab Control Sample	280672		11.15	1178383		13.28		570651		17.58	
04	SV108-025-202	275640		11.13	1159525		13.26		540609		17.58	
05	SV108-050-202	271061		11.14	1160403		13.26		528661		17.58	
06	SV108-350-202	265944		11.14	1138665		13.27		532421		17.58	
07	SV108-350-602	264548		11.14	1135492		13.27		519726		17.58	
08	SV108-450-202	267997		11.14	1138450		13.26		513887		17.58	
09	SV112-025-202	265675		11.13	1142681		13.26		526432		17.58	
10	SV112-050-202	264658		11.13	1118197		13.27		514825		17.58	
11	SV112-150-202	263744		11.13	1130602		13.26		516849		17.58	
12	SV112-250-202	268584		11.13	1140540		13.26		523394		17.58	
13	SV112-350-202	307708		11.13	1318568		13.27		591139		17.58	
14	SV112-350-202 (Lab Duplicate)	301859		11.13	1298811		13.27		587940		17.58	
15												
16												
17												
18												
19												
20												

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: **EA Engineering, Science, and Technology, Inc.** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Lab File ID: 05112002.D
Analyst: Wida Ang Date Analyzed: 5/11/20
Sampling Media: 1.0 L Summa Canister(s) Time Analyzed: 03:08
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	257464		11.15	1091697		13.28		509007		17.58	
	Upper Limit	360450		11.48	1528376		13.61		712610		17.91	
	Lower Limit	154478		10.82	655018		12.95		305404		17.25	
	Client Sample ID											
01	Method Blank	245891		11.12	1059308		13.26		492154		17.58	
02	Lab Control Sample	257765		11.15	1091227		13.27		506790		17.58	
03	Duplicate Lab Control Sample	268953		11.15	1135449		13.28		523123		17.58	
04	SV108-150-202	235551		11.14	1030716		13.27		486593		17.58	
05	SV108-250-202	245009		11.13	1066013		13.27		510499		17.58	
06	SV112-450-602	251454		11.13	1075430		13.27		546896		17.58	
07	SV112-450-202	257684		11.13	1121828		13.26		569704		17.58	
08	SV108-350-202 (Dilution)	302579		11.14	1307514		13.26		603984		17.58	
09	SV108-350-602 (Dilution)	291925		11.13	1251288		13.26		571853		17.58	
10	SV118-025-202	264827		11.15	1121369		13.27		545229		17.58	
11	SV118-050-202	266512		11.14	1138590		13.27		525115		17.58	
12	SV118-160-202	268937		11.13	1132440		13.26		527150		17.58	
13	SV118-265-202	265660		11.13	1122210		13.26		517308		17.58	
14	SV118-350-202	261540		11.13	1109252		13.26		510954		17.58	
15	SV118-450-602	297491		11.13	1263763		13.26		603682		17.58	
16												
17												
18												
19												
20												

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
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# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: **EA Engineering, Science, and Technology, Inc.** ALS Project ID: P2002299
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Lab File ID: 05122002.D
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister(s) Time Analyzed: 02:28
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	274186		11.15	1162512		13.27		534747		17.58	
	Upper Limit	383860		11.48	1627517		13.60		748646		17.91	
	Lower Limit	164512		10.82	697507		12.94		320848		17.25	
	Client Sample ID											
01	Method Blank	254103		11.13	1093988		13.26		494320		17.58	
02	Lab Control Sample	271922		11.15	1156459		13.28		526614		17.58	
03	Duplicate Lab Control Sample	273665		11.15	1172398		13.28		530162		17.58	
04	SV118-025-202 (Dilution)	295691		11.14	1284584		13.26		597140		17.58	
05												
06												
07												
08												
09												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												

IS1 (BCM) = Bromochloromethane
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IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082043.D Vial: 14
Acq On : 9 May 2020 3:16 Operator: LH
Sample : P2002299-001 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 17:27:17 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/11/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	275640	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1159525	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	540609	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	430902	11.535	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.32%				
57) Toluene-d8 (SS2)	15.72	98	1144184	12.487	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.92%				
73) Bromofluorobenzene (SS3)	18.97	174	453761	13.762	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.08%				
Target Compounds							Qvalue
2) Propene	4.10	42	11006	0.345	ng		97
3) Dichlorodifluoromethan...	4.26	85	67598	1.083	ng		99
4) Chloromethane	4.53	50	15978	0.327	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	725	N.D.			
6) Vinyl Chloride	4.96	62	213	N.D.			
7) 1,3-Butadiene	5.21	54	371	N.D.			
8) Bromomethane	5.64	94	5042	0.178	ng		97
9) Chloroethane	5.97	64	1032	N.D.			
10) Ethanol	6.33	45	93834	3.806	ng		99
11) Acetonitrile	6.60	41	17599	0.312	ng		97
12) Acrolein	6.80	56	10654	0.547	ng		99
13) Acetone	7.00	58	126958m	5.150	ng		
14) Trichlorofluoromethane	7.24	101	24109	0.437	ng		99
15) 2-Propanol (Isopropanol)	7.50	45	54598	0.732	ng		86
16) Acrylonitrile	7.76	53	693	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.41	84	1413	N.D.			
20) 3-Chloro-1-propene (Al...	8.51	41	502	N.D.			
21) Trichlorotrifluoroethane	8.84	151	851597	32.686	ng		98
22) Carbon Disulfide	8.67	76	42711	0.372	ng		99
23) trans-1,2-Dichloroethene	9.69	61	115	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.09	73	471	N.D.			
26) Vinyl Acetate	10.17	86	13374	1.742	ng	#	9
27) 2-Butanone (MEK)	10.46	72	21977	1.045	ng		97
28) cis-1,2-Dichloroethene	10.91	61	581	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.28	61	6919	0.571	ng		95
31) n-Hexane	11.26	57	2411	N.D.			
32) Chloroform	11.30	83	14310	0.261	ng		98
34) Tetrahydrofuran (THF)	11.74	72	4525	0.221	ng	#	84
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	519	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	5260	N.D.			
42) Carbon Tetrachloride	13.03	117	99200	2.345	ng		99
43) Cyclohexane	13.16	84	1193	N.D.			
44) tert-Amyl Methyl Ether	13.46	73	1211	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	13.91	83	667	N.D.			
47) Trichloroethene	13.96	130	5788	0.180	ng		93
48) 1,4-Dioxane	13.94	88	483159	19.293	ng		99
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.31	100	243	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082043.D Vial: 14
Acq On : 9 May 2020 3:16 Operator: LH
Sample : P2002299-001 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 17:27:17 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

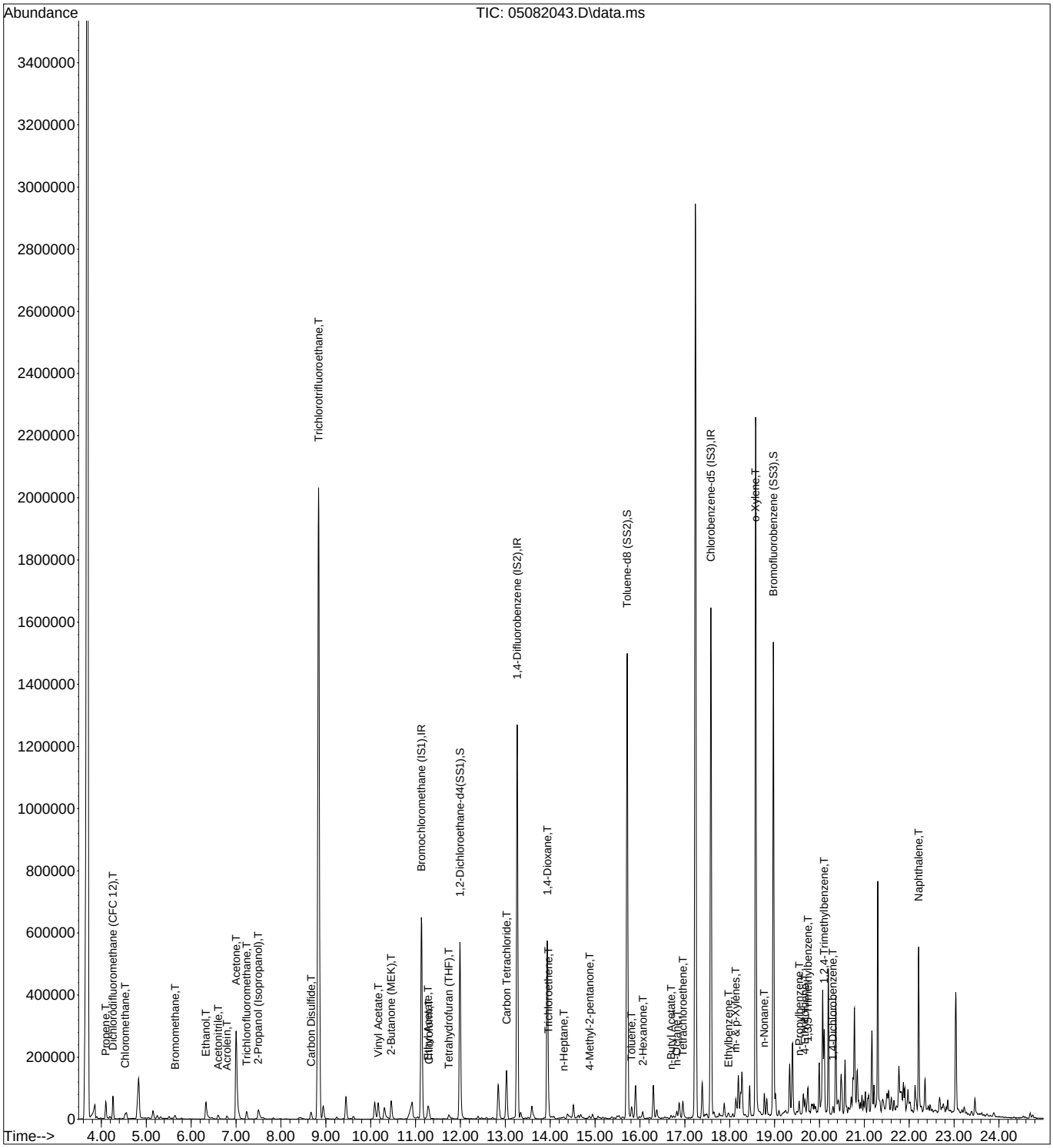
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.30	71	1596	0.055 ng		89
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.88	58	1934	0.070 ng	#	74
54) trans-1,3-Dichloropropene	15.35	75	104	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.81	91	29909	0.253 ng		98
59) 2-Hexanone	16.06	43	17828	0.275 ng		97
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.70	43	7322	0.105 ng		88
63) n-Octane	16.82	57	3048	0.125 ng		85
64) Tetrachloroethene	16.96	166	15484	0.464 ng		99
65) Chlorobenzene	17.62	112	732	N.D.		
66) Ethylbenzene	17.98	91	8387	0.064 ng		99
67) m- & p-Xylenes	18.14	91	36928	0.353 ng		99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	2769	N.D.		
70) o-Xylene	18.57	91	13609	0.128 ng		95
71) n-Nonane	18.77	43	25410	0.451 ng		98
72) 1,1,2,2-Tetrachloroethane	18.58	83	925	N.D.		
74) Cumene	19.10	105	4318	N.D.		
75) alpha-Pinene	19.45	93	394	N.D.		
76) n-Propylbenzene	19.55	91	16245	0.105 ng		80
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.68	105	18648	0.153 ng		100
79) 1,3,5-Trimethylbenzene	19.74	105	24511	0.231 ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	20.10	105	125876	1.180 ng		91
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.22	91	2184	N.D.		
85) 1,3-Dichlorobenzene	20.24	146	369	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	6020	0.100 ng		97
87) sec-Butylbenzene	0.00	105	0	N.D. d		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	20.60	146	288	N.D.		
91) d-Limonene	20.61	68	1927	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.11	180	516	N.D.		
95) Naphthalene	22.21	128	39012	0.300 ng		97
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082043.D Vial: 14
Acq On : 9 May 2020 3:16 Operator: LH
Sample : P2002299-001 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 17:27:17 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082043.D Vial: 14
Acq On : 9 May 2020 3:16 Operator: LH
Sample : P2002299-001 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 17:27:17 2020
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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/11/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	275640	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1159525	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	540609	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	430902	11.535	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.32%				
57) Toluene-d8 (SS2)	15.72	98	1144184	12.487	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.92%				
73) Bromofluorobenzene (SS3)	18.97	174	453761	13.762	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.08%				
Target Compounds							Qvalue
2) Propene	4.10	42	11006	0.345	ng		97
3) Dichlorodifluoromethan...	4.26	85	67598	1.083	ng		99
4) Chloromethane	4.53	50	15978	0.327	ng		100
8) Bromomethane	5.64	94	5042	0.178	ng		97
10) Ethanol	6.33	45	93834	3.806	ng		99
11) Acetonitrile	6.60	41	17599	0.312	ng		97
12) Acrolein	6.80	56	10654	0.547	ng		99
13) Acetone	7.00	58	126958m	5.150	ng		
14) Trichlorofluoromethane	7.24	101	24109	0.437	ng		99
15) 2-Propanol (Isopropanol)	7.50	45	54598	0.732	ng		86
21) Trichlorotrifluoroethane	8.84	151	851597	32.686	ng		98
22) Carbon Disulfide	8.67	76	42711	0.372	ng		99
26) Vinyl Acetate	10.17	86	13374	1.742	ng	#	9
27) 2-Butanone (MEK)	10.46	72	21977	1.045	ng		97
30) Ethyl Acetate	11.28	61	6919	0.571	ng		95
32) Chloroform	11.30	83	14310	0.261	ng		98
34) Tetrahydrofuran (THF)	11.74	72	4525	0.221	ng	#	84
42) Carbon Tetrachloride	13.03	117	99200	2.345	ng		99
47) Trichloroethene	13.96	130	5788	0.180	ng		93
48) 1,4-Dioxane	13.94	88	483159	19.293	ng		99
51) n-Heptane	14.30	71	1596	0.055	ng		89
53) 4-Methyl-2-pentanone	14.88	58	1934	0.070	ng	#	74
58) Toluene	15.81	91	29909	0.253	ng		98
59) 2-Hexanone	16.06	43	17828	0.275	ng		97
62) n-Butyl Acetate	16.70	43	7322	0.105	ng		88
63) n-Octane	16.82	57	3048	0.125	ng		85
64) Tetrachloroethene	16.96	166	15484	0.464	ng		99
66) Ethylbenzene	17.98	91	8387	0.064	ng		99
67) m- & p-Xylenes	18.14	91	36928	0.353	ng		99
70) o-Xylene	18.57	91	13609	0.128	ng		95
71) n-Nonane	18.77	43	25410	0.451	ng		98
76) n-Propylbenzene	19.55	91	16245	0.105	ng		80
78) 4-Ethyltoluene	19.68	105	18648	0.153	ng		100
79) 1,3,5-Trimethylbenzene	19.74	105	24511	0.231	ng		99
82) 1,2,4-Trimethylbenzene	20.10	105	125876	1.180	ng		91
86) 1,4-Dichlorobenzene	20.30	146	6020	0.100	ng		97
95) Naphthalene	22.21	128	39012	0.300	ng		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082043.D Vial: 14
Acq On : 9 May 2020 3:16 Operator: LH
Sample : P2002299-001 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 17:27:17 2020
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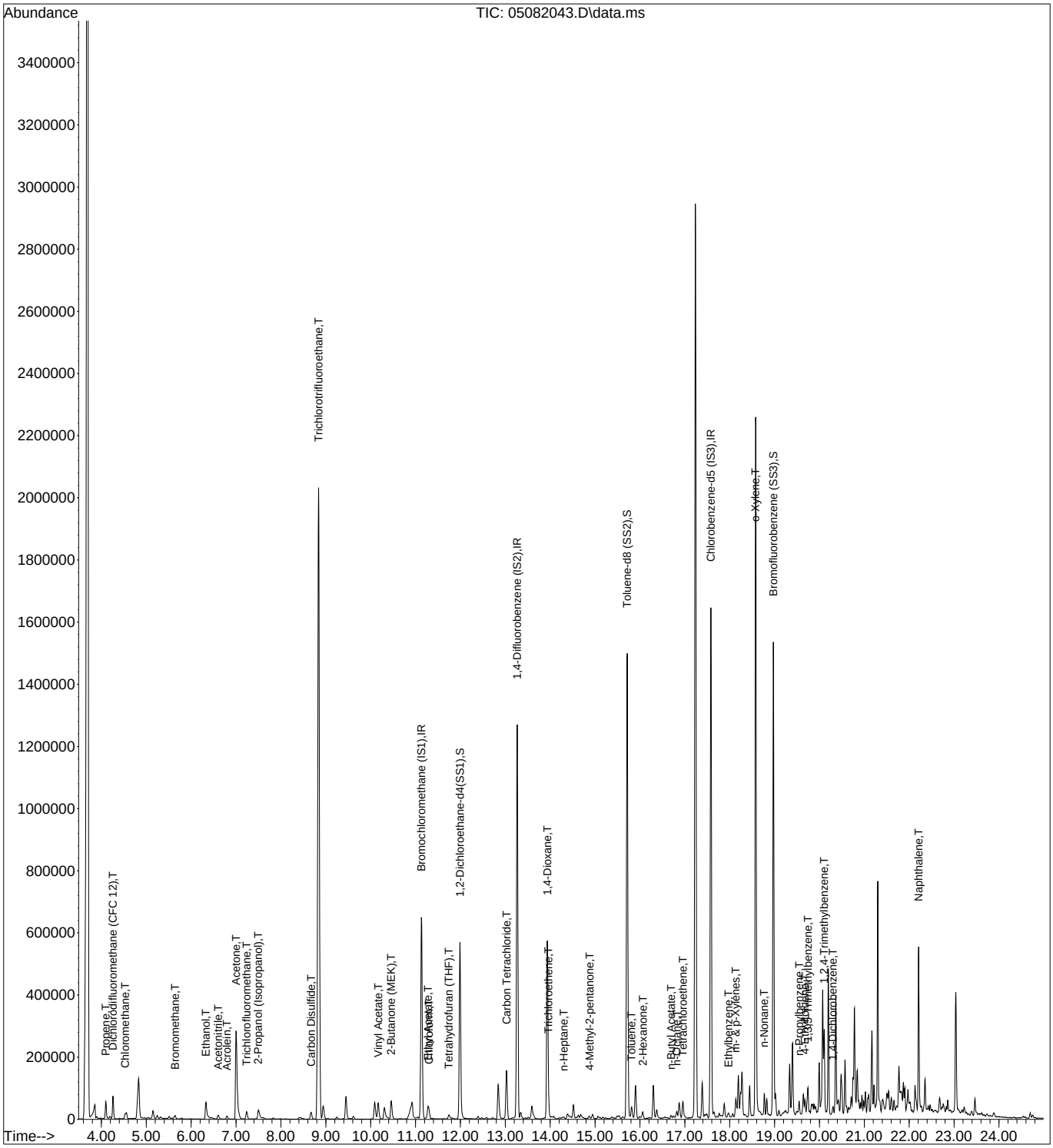
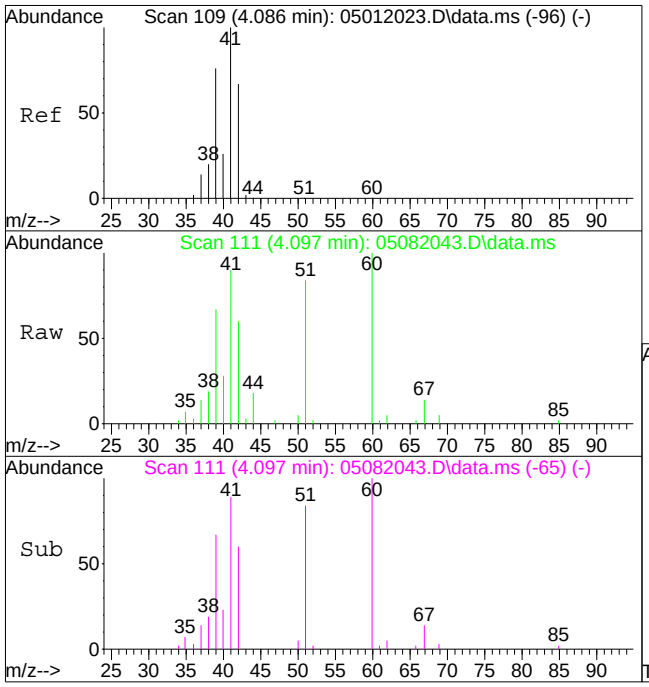
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

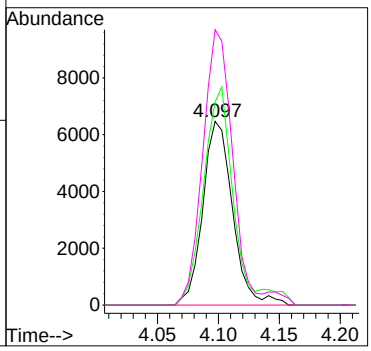


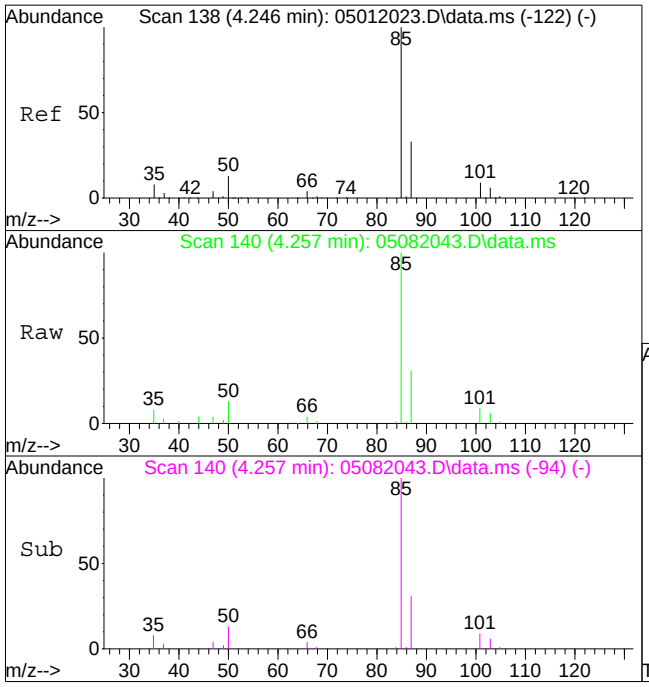


#2
Propene
Concen: 0.34 ng
RT: 4.10 min Scan# 111
Delta R.T. 0.005 min
Lab File: 05082043.D
Acq: 9 May 2020 3:16

Tgt Ion: 42 Resp: 11006

Ion	Ratio	Lower	Upper
42	100		
39	121.0	96.1	136.1
41	153.2	131.9	171.9

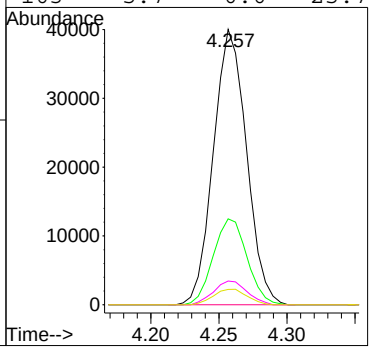


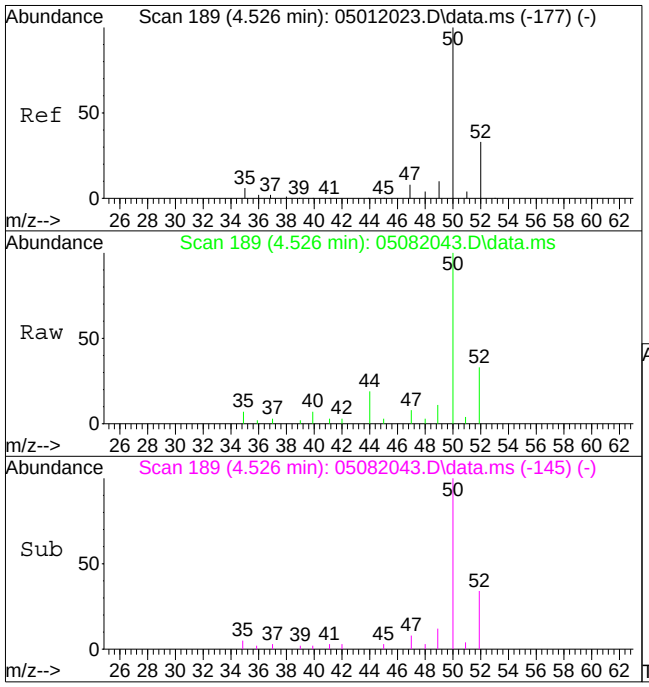


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.08 ng
RT: 4.26 min Scan# 140
Delta R.T. 0.005 min
Lab File: 05082043.D
Acq: 9 May 2020 3:16

Tgt Ion: 85 Resp: 67598

Ion	Ratio	Lower	Upper
85	100		
87	31.8	12.4	52.4
101	8.8	0.0	28.8
103	5.7	0.0	25.7

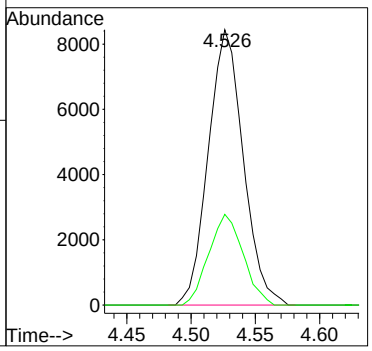


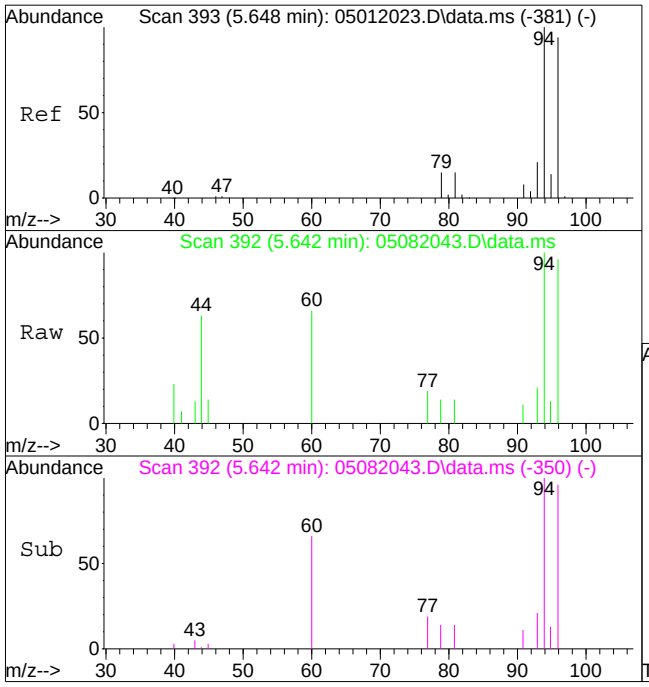


#4
Chloromethane
Concen: 0.33 ng
RT: 4.53 min Scan# 189
Delta R.T. -0.006 min
Lab File: 05082043.D
Acq: 9 May 2020 3:16

Tgt Ion: 50 Resp: 15978

Ion	Ratio	Lower	Upper
50	100		
52	32.4	12.5	52.5

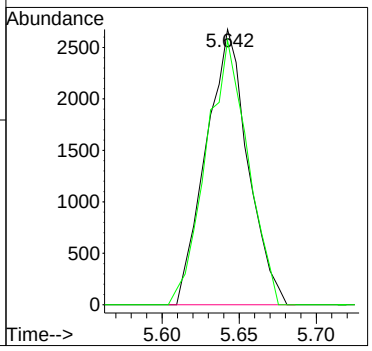


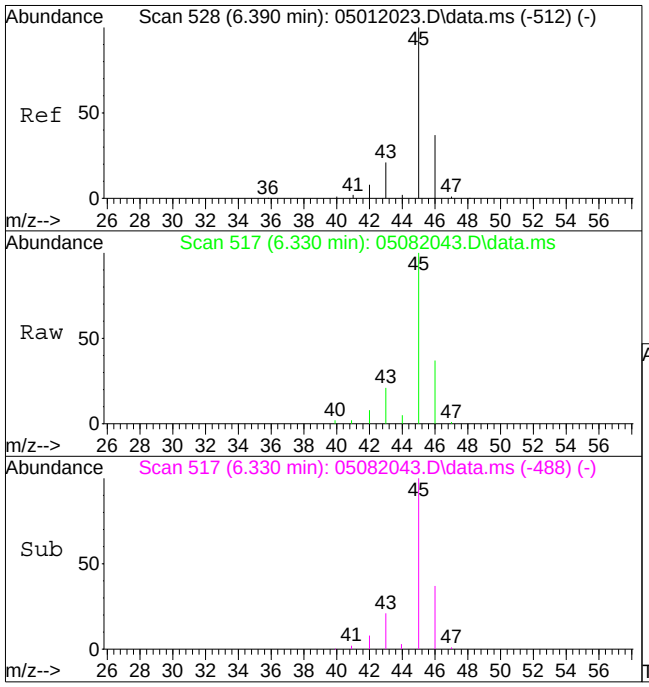


#8
Bromomethane
Concen: 0.18 ng
RT: 5.64 min Scan# 392
Delta R.T. -0.017 min
Lab File: 05082043.D
Acq: 9 May 2020 3:16

Tgt Ion: 94 Resp: 5042

Ion	Ratio	Lower	Upper
94	100		
96	96.4	73.7	113.7

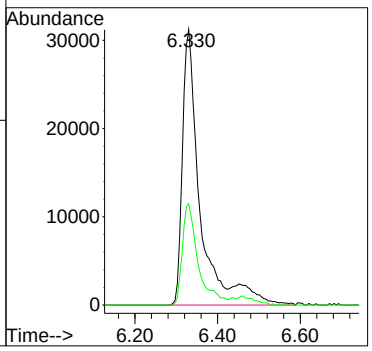


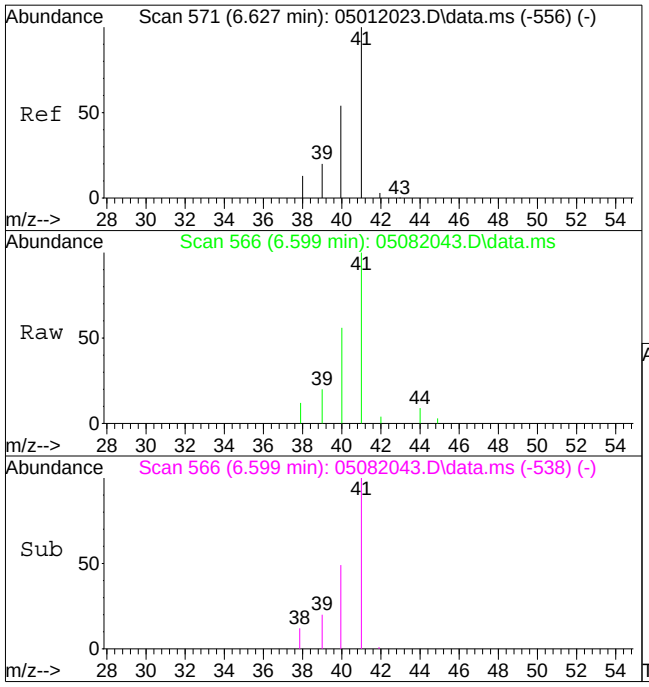


#10
Ethanol
Concen: 3.81 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.088 min
Lab File: 05082043.D
Acq: 9 May 2020 3:16

Tgt Ion: 45 Resp: 93834

Ion	Ratio	Lower	Upper
45	100		
46	36.6	17.2	57.2

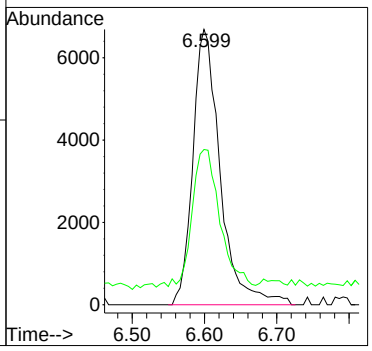


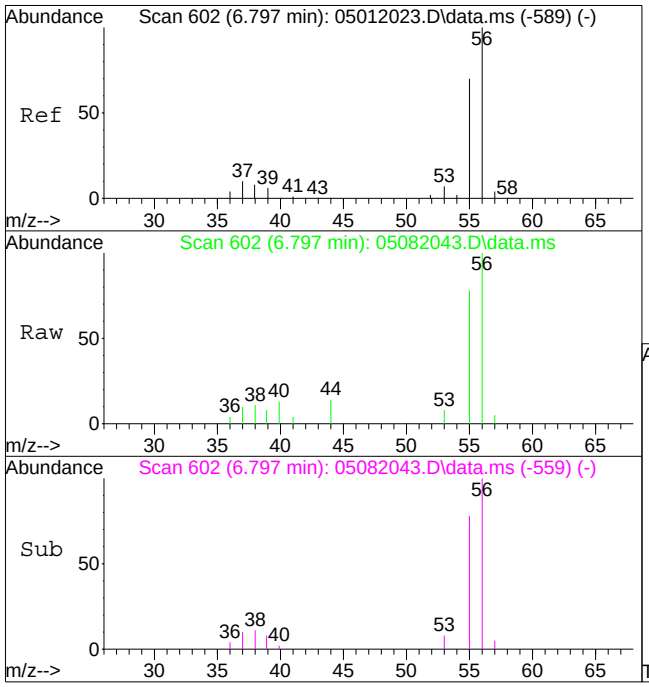


#11
Acetonitrile
Concen: 0.31 ng
RT: 6.60 min Scan# 566
Delta R.T. -0.044 min
Lab File: 05082043.D
Acq: 9 May 2020 3:16

Tgt Ion: 41 Resp: 17599

Ion	Ratio	Lower	Upper
41	100		
40	51.6	33.6	73.6

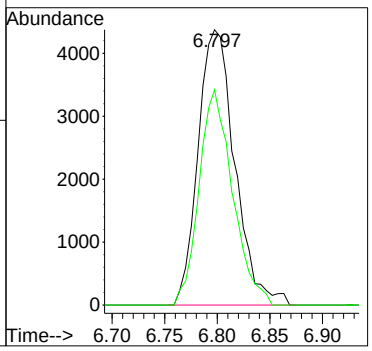


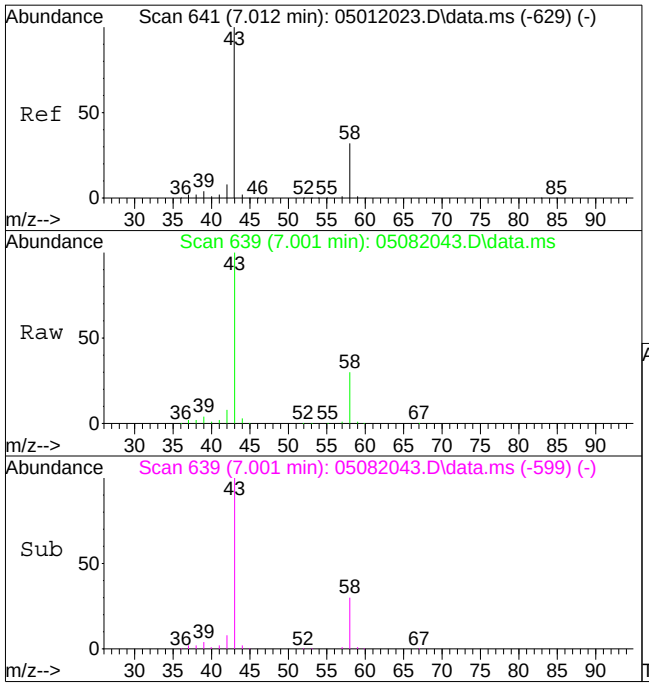


#12
Acrolein
Concen: 0.55 ng
RT: 6.80 min Scan# 602
Delta R.T. -0.011 min
Lab File: 05082043.D
Acq: 9 May 2020 3:16

Tgt Ion: 56 Resp: 10654

Ion	Ratio	Lower	Upper
56	100		
55	71.3	50.2	90.2

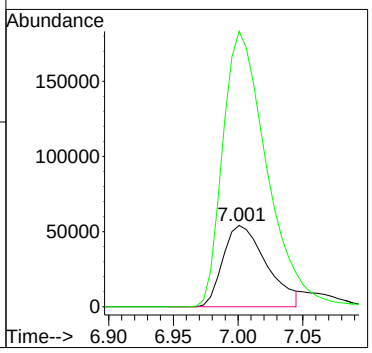


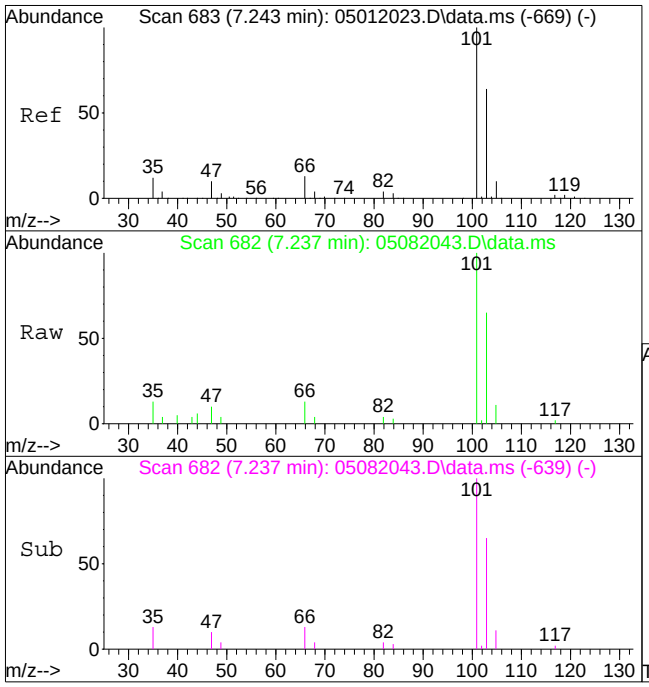


#13
Acetone
Concen: 5.15 ng m
RT: 7.00 min Scan# 639
Delta R.T. -0.028 min
Lab File: 05082043.D
Acq: 9 May 2020 3:16

Tgt Ion: 58 Resp: 126958

Ion	Ratio	Lower	Upper
58	100		
43	346.4	294.4	354.4

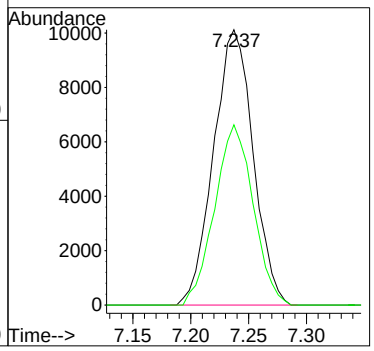


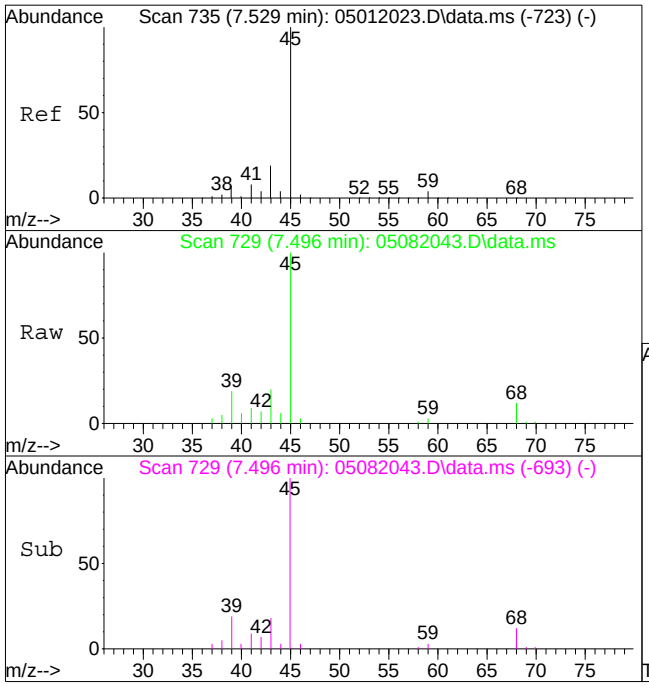


#14
Trichlorofluoromethane
Concen: 0.44 ng
RT: 7.24 min Scan# 682
Delta R.T. -0.011 min
Lab File: 05082043.D
Acq: 9 May 2020 3:16

Tgt Ion:101 Resp: 24109

Ion	Ratio	Lower	Upper
101	100		
103	63.7	44.4	84.4

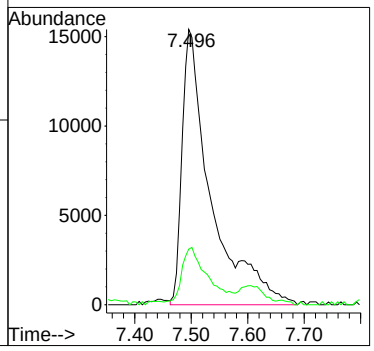


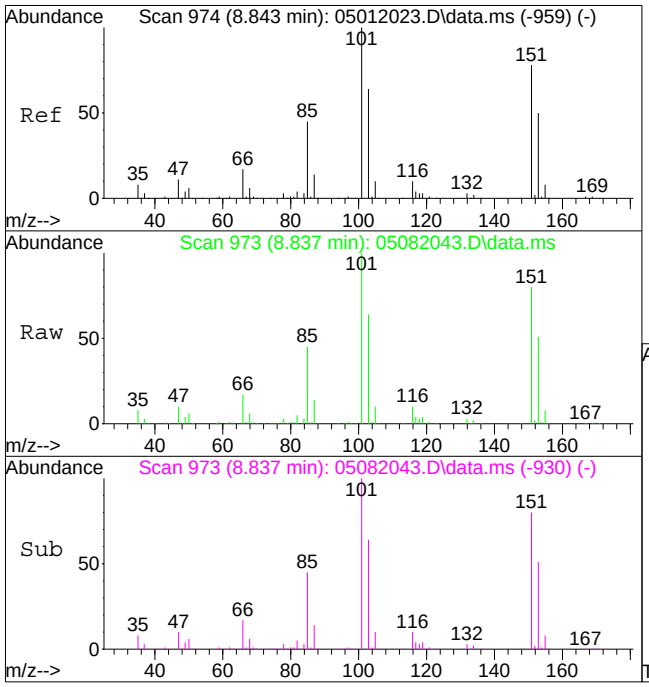


#15
2-Propanol (Isopropanol)
Concen: 0.73 ng
RT: 7.50 min Scan# 729
Delta R.T. -0.050 min
Lab File: 05082043.D
Acq: 9 May 2020 3:16

Tgt Ion: 45 Resp: 54598

Ion	Ratio	Lower	Upper
45	100		
43	25.7	0.0	39.5

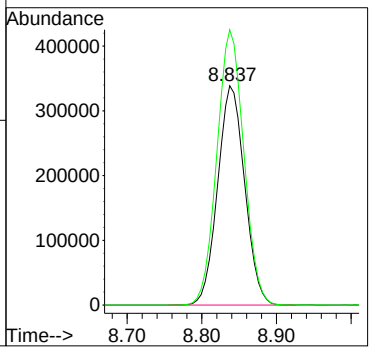


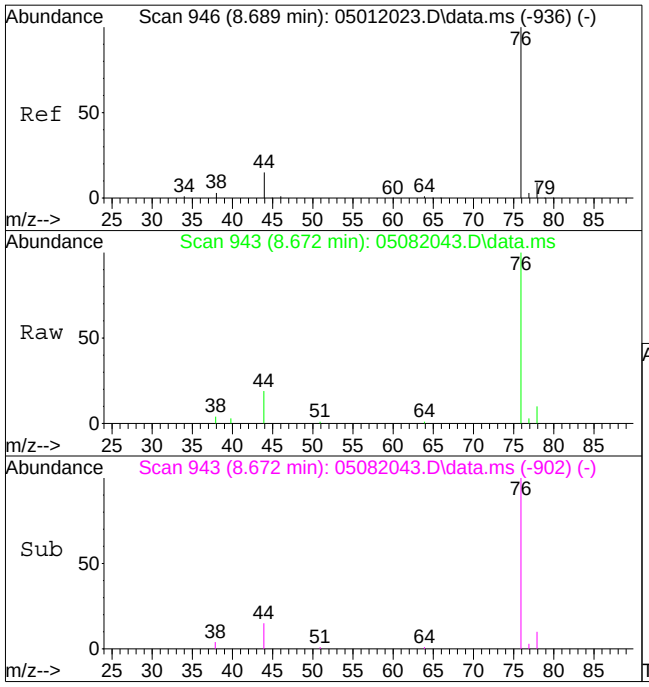


#21
Trichlorotrifluoroethane
Concen: 32.69 ng
RT: 8.84 min Scan# 973
Delta R.T. -0.011 min
Lab File: 05082043.D
Acq: 9 May 2020 3:16

Tgt Ion:151 Resp: 851597

Ion	Ratio	Lower	Upper
151	100		
101	125.2	107.3	147.3

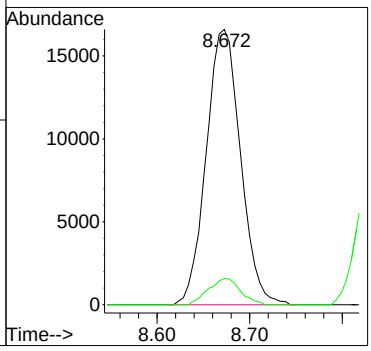


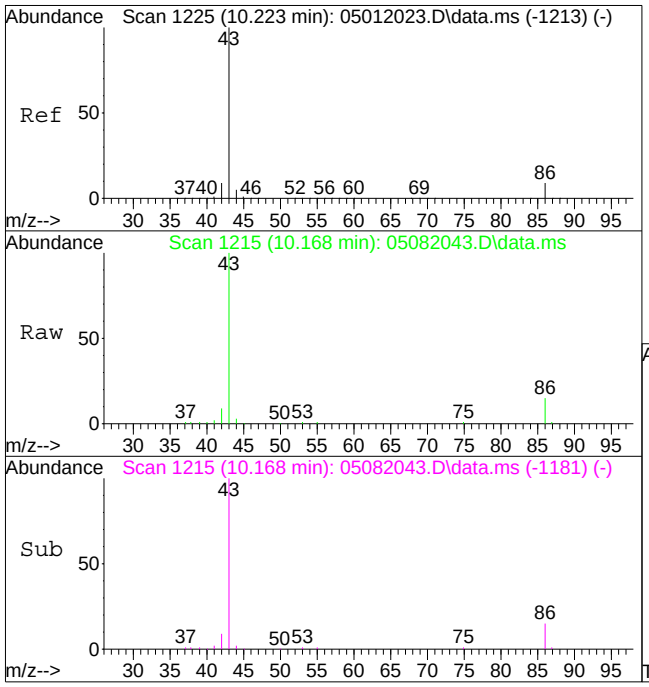


#22
Carbon Disulfide
Concen: 0.37 ng
RT: 8.67 min Scan# 943
Delta R.T. -0.022 min
Lab File: 05082043.D
Acq: 9 May 2020 3:16

Tgt Ion: 76 Resp: 42711

Ion	Ratio	Lower	Upper
76	100		
78	8.9	0.0	29.2

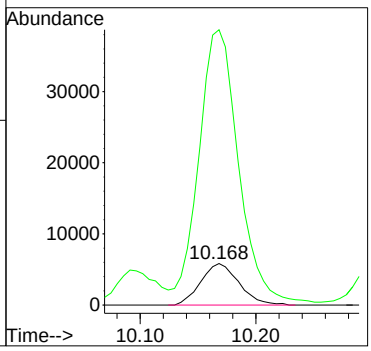


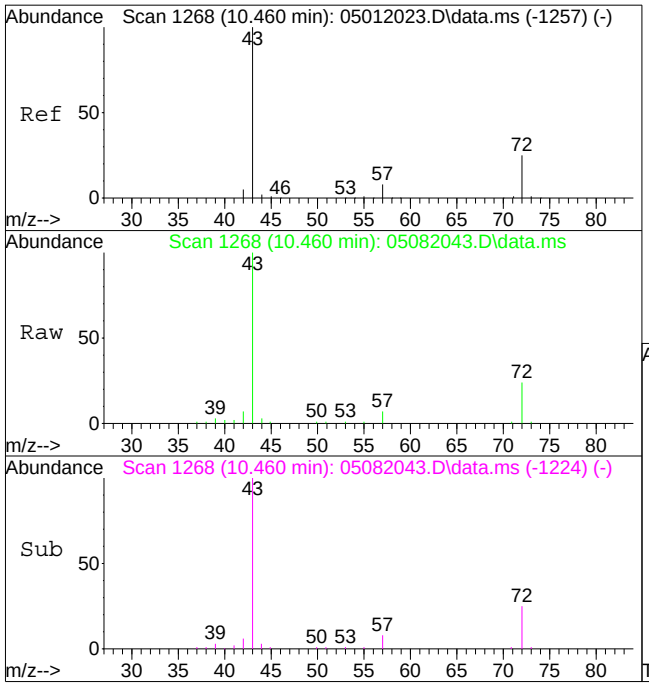


#26
Vinyl Acetate
Concen: 1.74 ng
RT: 10.17 min Scan# 1215
Delta R.T. -0.061 min
Lab File: 05082043.D
Acq: 9 May 2020 3:16

Tgt Ion: 86 Resp: 13374

Ion	Ratio	Lower	Upper
86	100		
43	681.5	1103.0	1143.0#

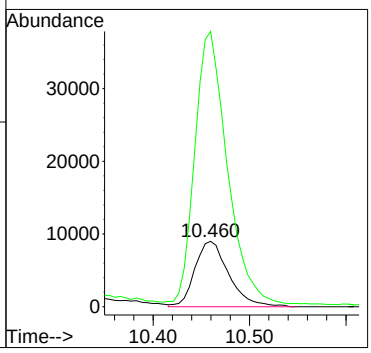


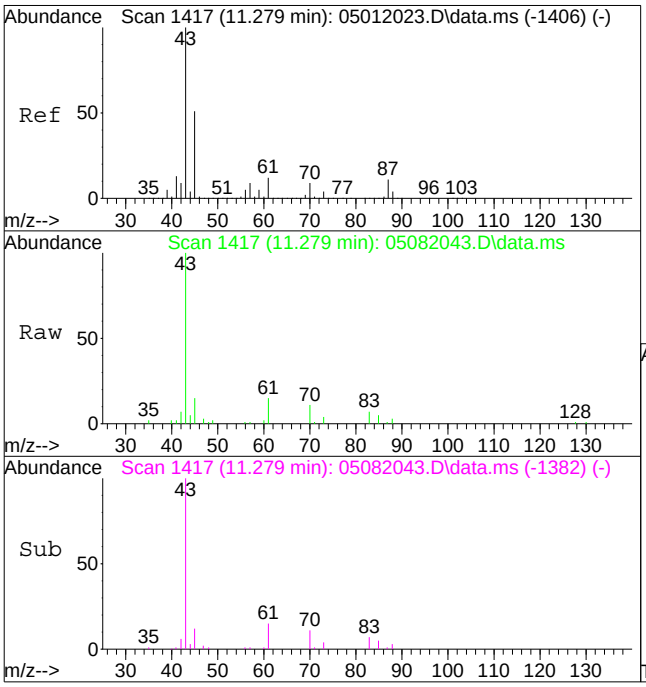


#27
2-Butanone (MEK)
Concen: 1.05 ng
RT: 10.46 min Scan# 1268
Delta R.T. -0.006 min
Lab File: 05082043.D
Acq: 9 May 2020 3:16

Tgt Ion: 72 Resp: 21977

Ion	Ratio	Lower	Upper
72	100		
43	402.8	389.7	429.7

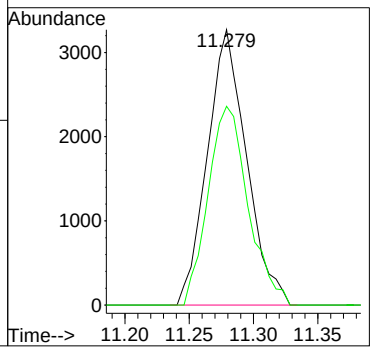


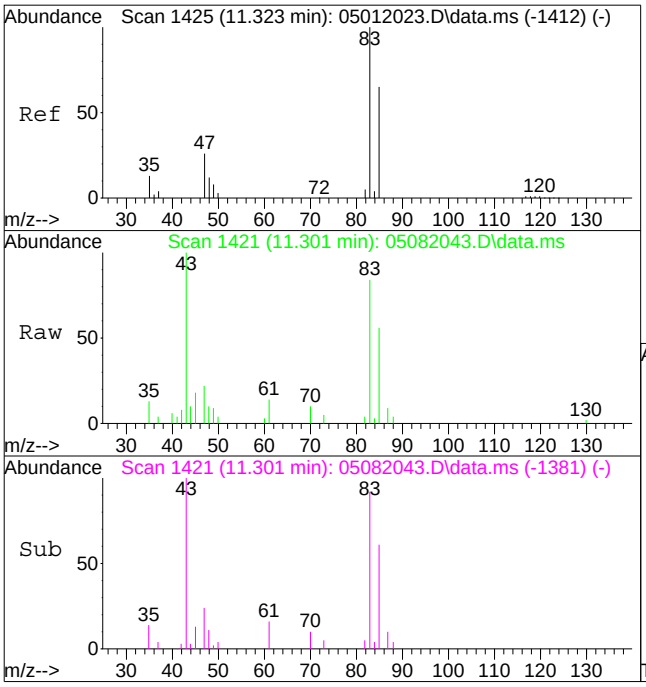


#30
Ethyl Acetate
Concen: 0.57 ng
RT: 11.28 min Scan# 1417
Delta R.T. -0.006 min
Lab File: 05082043.D
Acq: 9 May 2020 3:16

Tgt Ion: 61 Resp: 6919

Ion	Ratio	Lower	Upper
61	100		
70	73.9	57.9	97.9

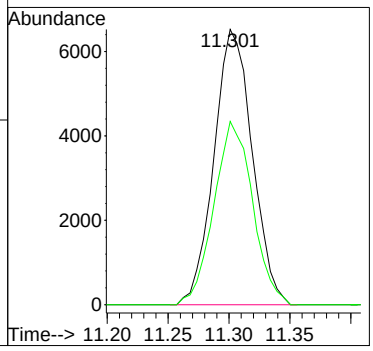


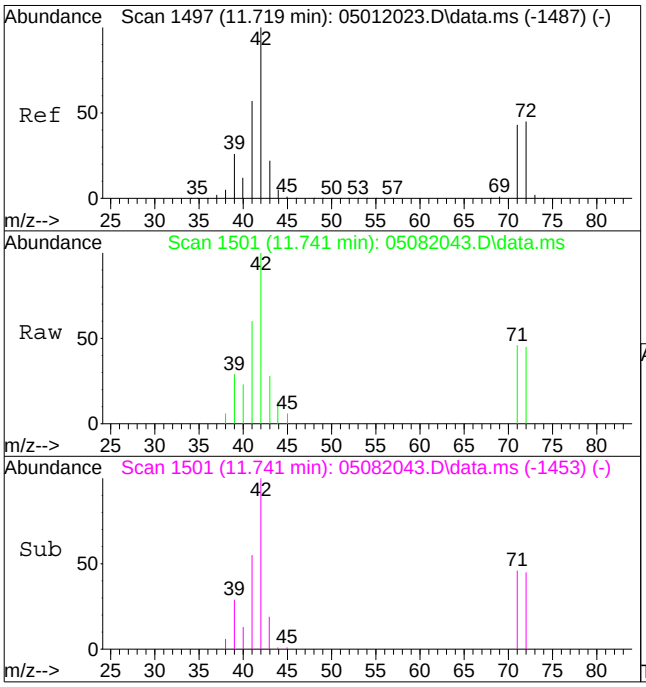


#32
Chloroform
Concen: 0.26 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.028 min
Lab File: 05082043.D
Acq: 9 May 2020 3:16

Tgt Ion: 83 Resp: 14310

Ion	Ratio	Lower	Upper
83	100		
85	67.0	45.5	85.5

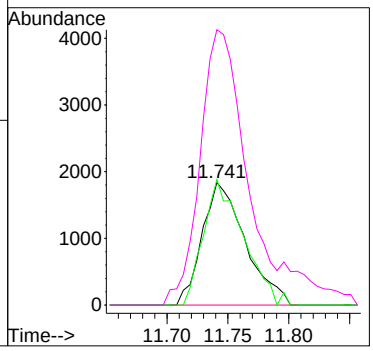


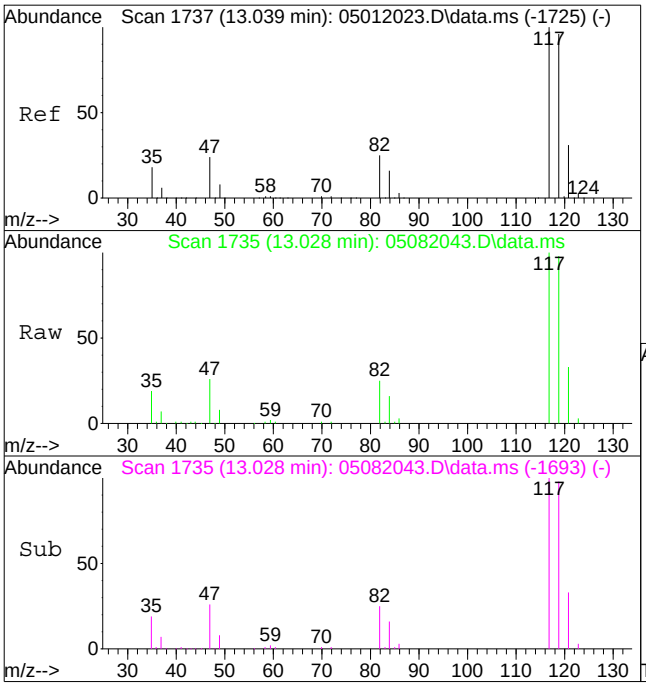


#34
Tetrahydrofuran (THF)
Concen: 0.22 ng
RT: 11.74 min Scan# 1501
Delta R.T. 0.016 min
Lab File: 05082043.D
Acq: 9 May 2020 3:16

Tgt Ion: 72 Resp: 4525

Ion	Ratio	Lower	Upper
72	100		
71	95.2	77.0	117.0
42	260.2	204.6	244.6#

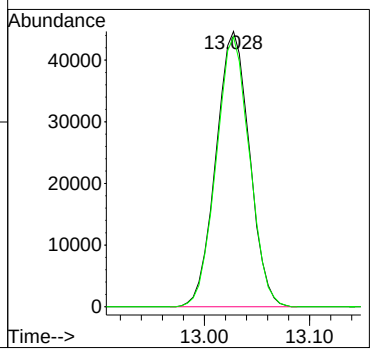


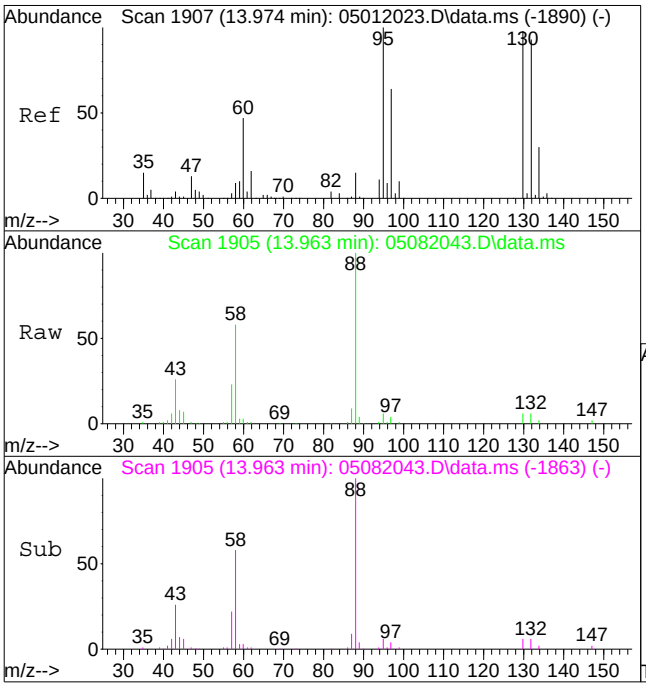


#42
Carbon Tetrachloride
Concen: 2.35 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05082043.D
Acq: 9 May 2020 3:16

Tgt Ion:117 Resp: 99200

Ion	Ratio	Lower	Upper
117	100		
119	97.0	76.2	116.2

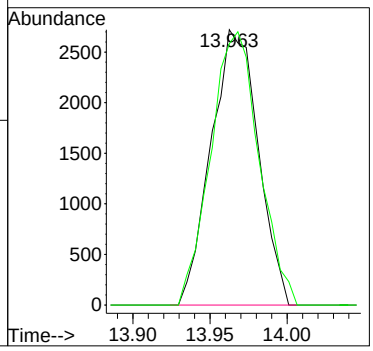


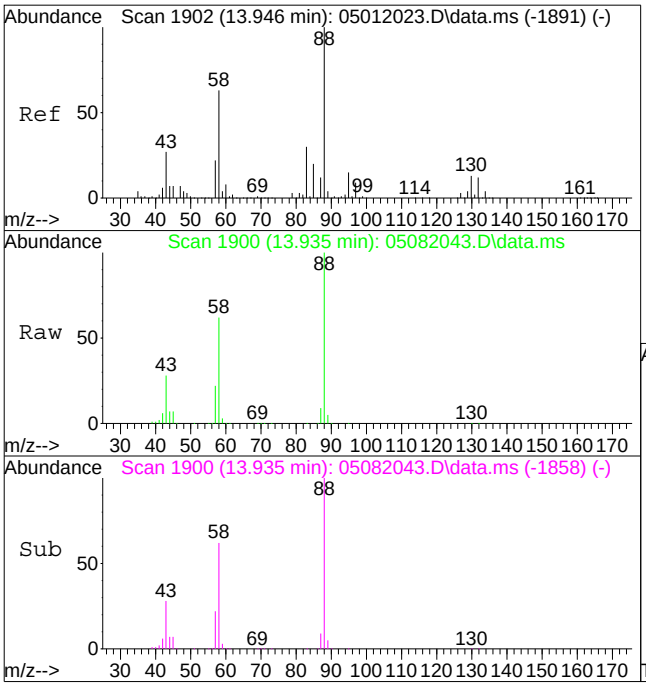


#47
Trichloroethene
Concen: 0.18 ng
RT: 13.96 min Scan# 1905
Delta R.T. -0.017 min
Lab File: 05082043.D
Acq: 9 May 2020 3:16

Tgt Ion:130 Resp: 5788

Ion	Ratio	Lower	Upper
130	100		
132	101.7	74.9	114.9

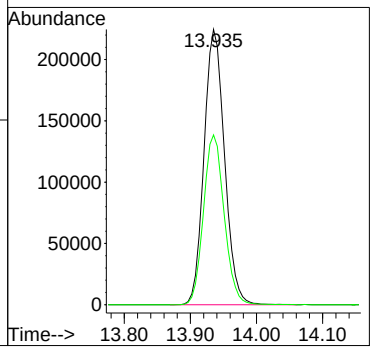


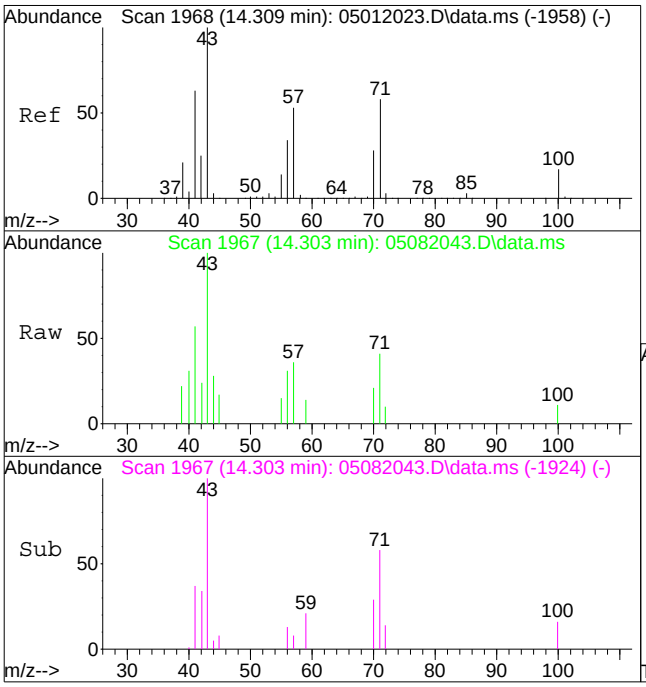


#48
1,4-Dioxane
Concen: 19.29 ng
RT: 13.94 min Scan# 1900
Delta R.T. -0.017 min
Lab File: 05082043.D
Acq: 9 May 2020 3:16

Tgt Ion: 88 Resp: 483159

Ion	Ratio	Lower	Upper
88	100		
58	62.2	42.8	82.8

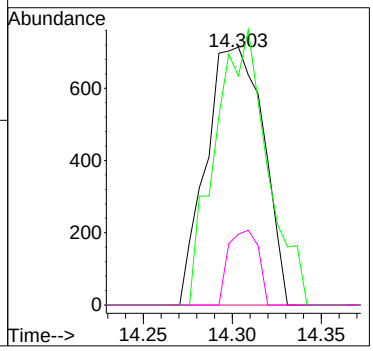


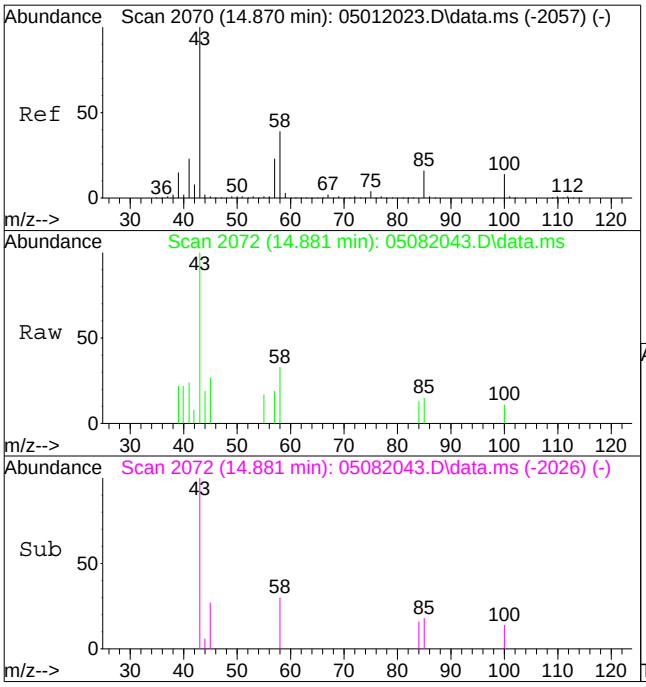


#51
n-Heptane
Concen: 0.05 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05082043.D
Acq: 9 May 2020 3:16

Tgt Ion: 71 Resp: 1596

Ion	Ratio	Lower	Upper
71	100		
57	97.1	71.0	111.0
100	15.2	8.4	48.4

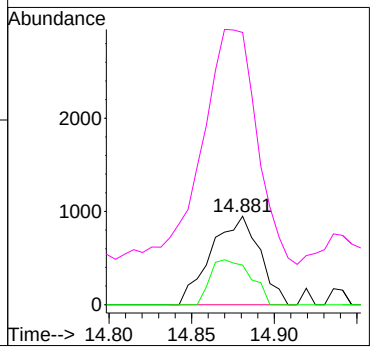


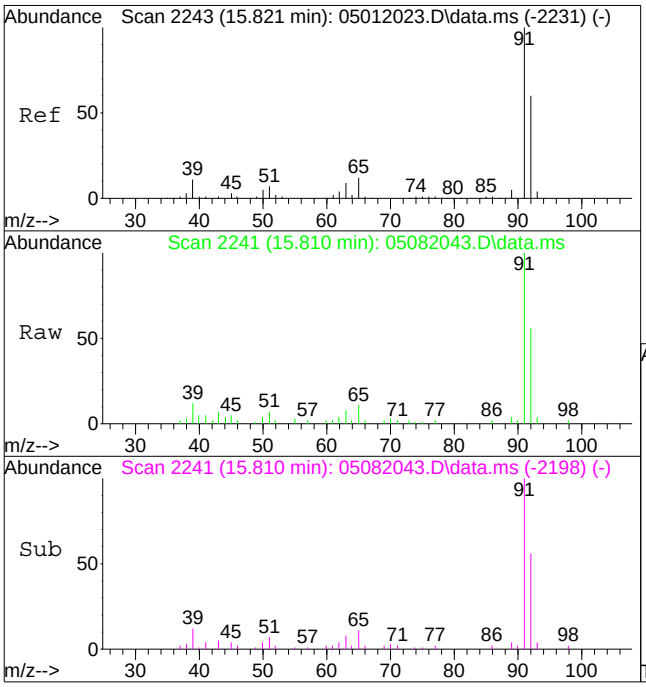


#53
4-Methyl-2-pentanone
Concen: 0.07 ng
RT: 14.88 min Scan# 2072
Delta R.T. 0.005 min
Lab File: 05082043.D
Acq: 9 May 2020 3:16

Tgt Ion: 58 Resp: 1934

Ion	Ratio	Lower	Upper
58	100		
85	42.7	35.4	53.2
43	308.0	203.3	304.9#

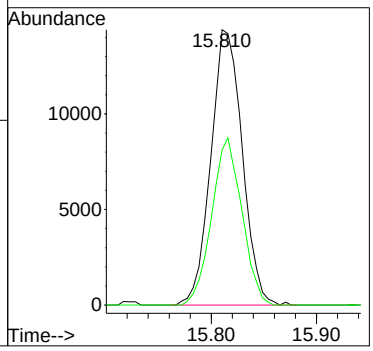


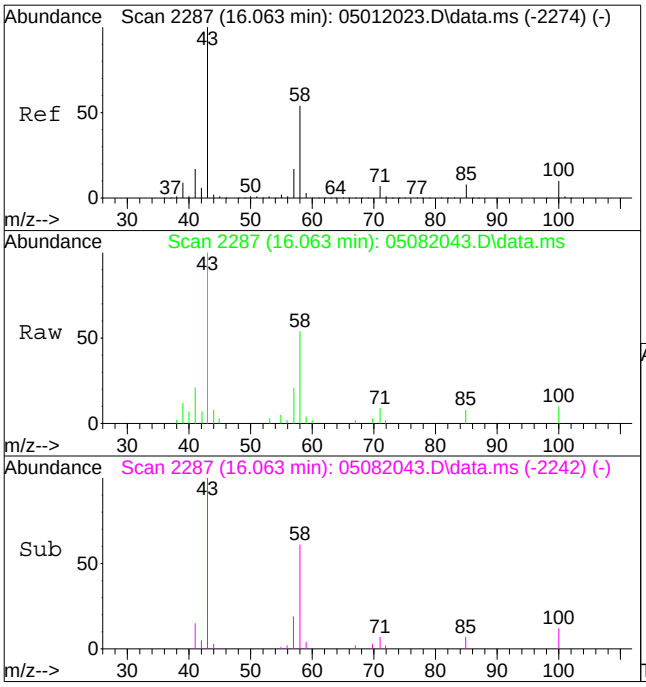


#58
Toluene
Concen: 0.25 ng
RT: 15.81 min Scan# 2241
Delta R.T. -0.011 min
Lab File: 05082043.D
Acq: 9 May 2020 3:16

Tgt Ion: 91 Resp: 29909

Ion	Ratio	Lower	Upper
91	100		
92	58.2	39.4	79.4

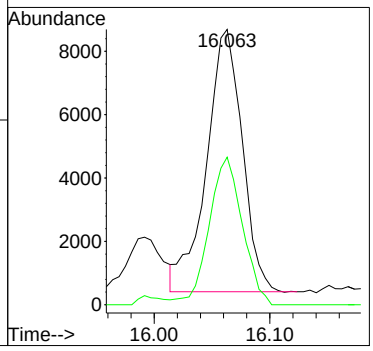


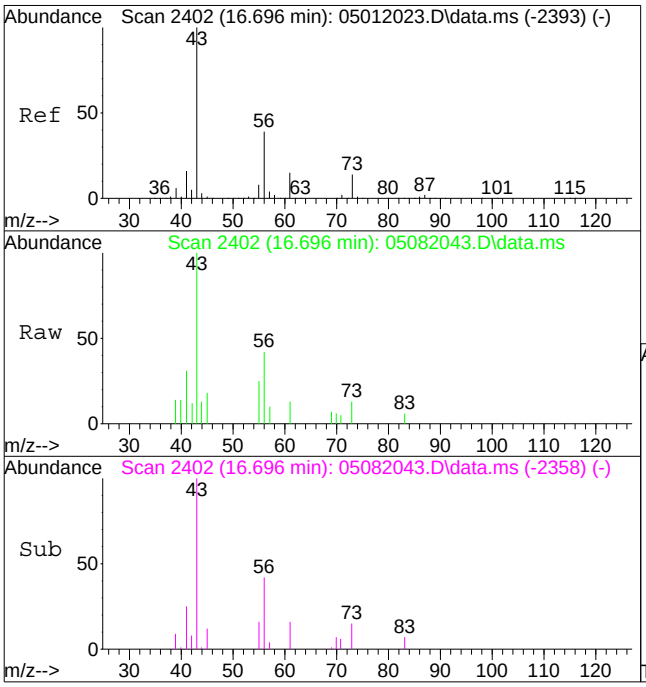


#59
2-Hexanone
Concen: 0.28 ng
RT: 16.06 min Scan# 2287
Delta R.T. -0.000 min
Lab File: 05082043.D
Acq: 9 May 2020 3:16

Tgt Ion: 43 Resp: 17828

Ion	Ratio	Lower	Upper
43	100		
58	52.3	34.5	74.5

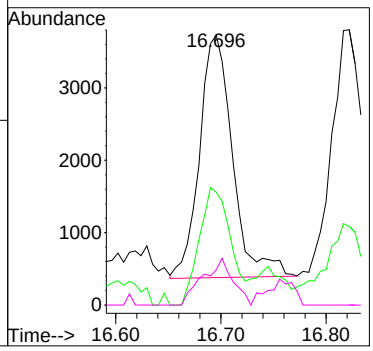


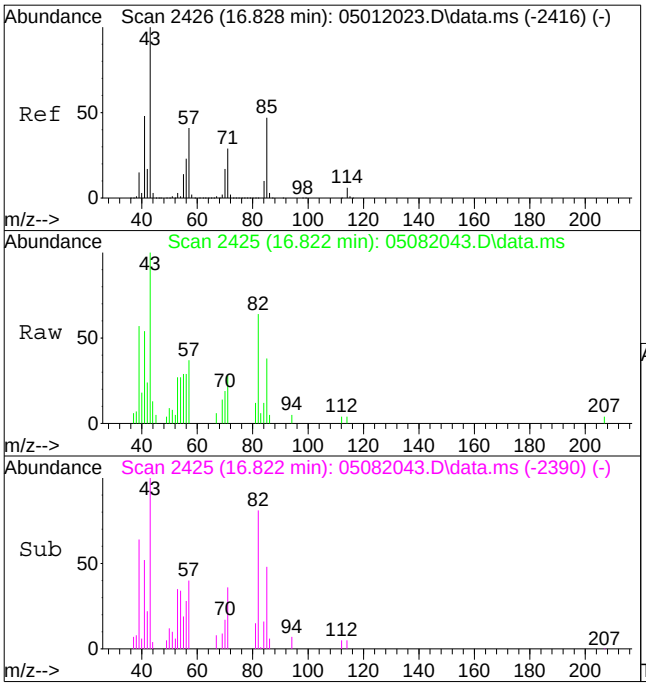


#62
n-Butyl Acetate
Concen: 0.10 ng
RT: 16.70 min Scan# 2402
Delta R.T. -0.006 min
Lab File: 05082043.D
Acq: 9 May 2020 3:16

Tgt Ion: 43 Resp: 7322

Ion	Ratio	Lower	Upper
43	100		
56	47.3	19.2	59.2
73	17.5	0.0	34.4

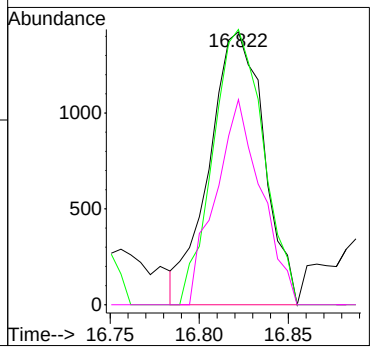


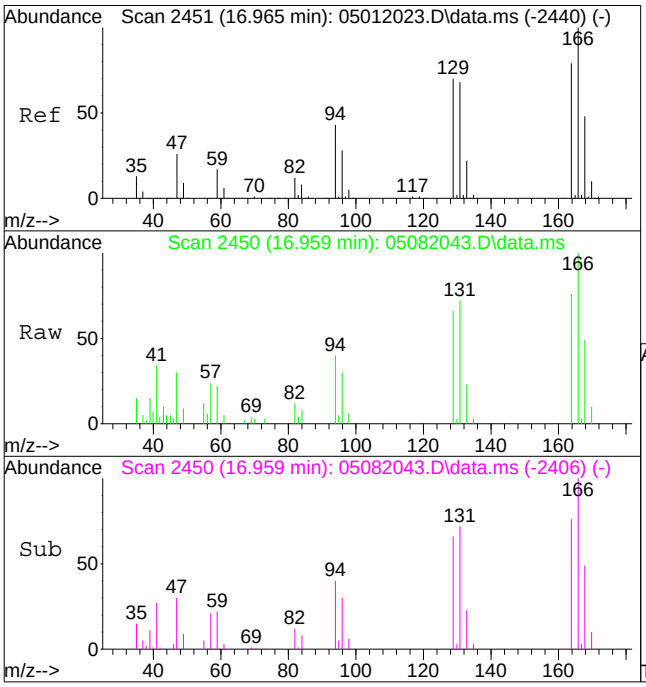


#63
n-Octane
Concen: 0.12 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05082043.D
Acq: 9 May 2020 3:16

Tgt Ion: 57 Resp: 3048

Ion	Ratio	Lower	Upper
57	100		
85	93.2	91.0	136.4
71	62.7	56.2	84.2

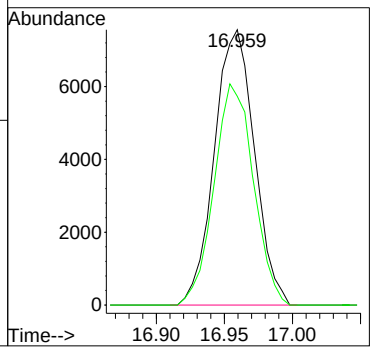


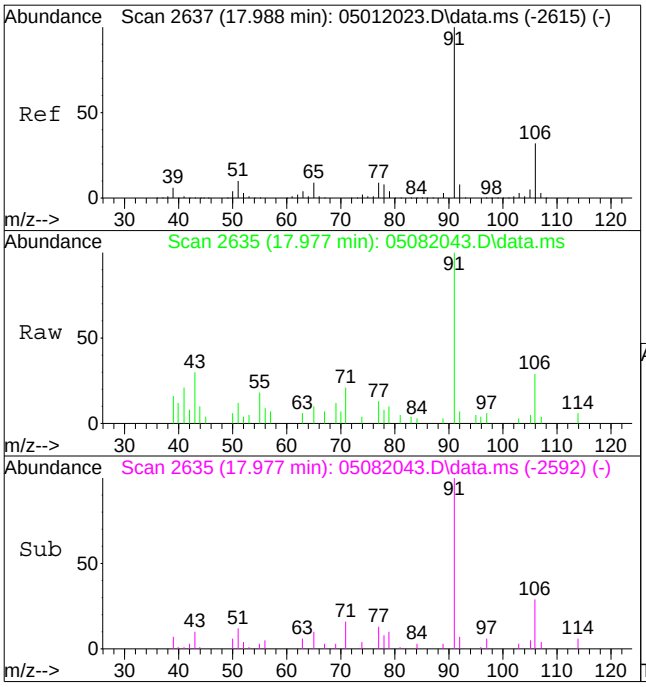


#64
Tetrachloroethene
Concen: 0.46 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05082043.D
Acq: 9 May 2020 3:16

Tgt Ion:166 Resp: 15484

Ion	Ratio	Lower	Upper
166	100		
164	78.9	58.4	98.4

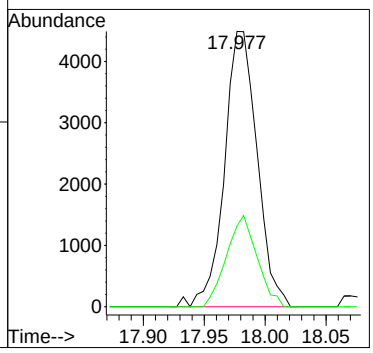


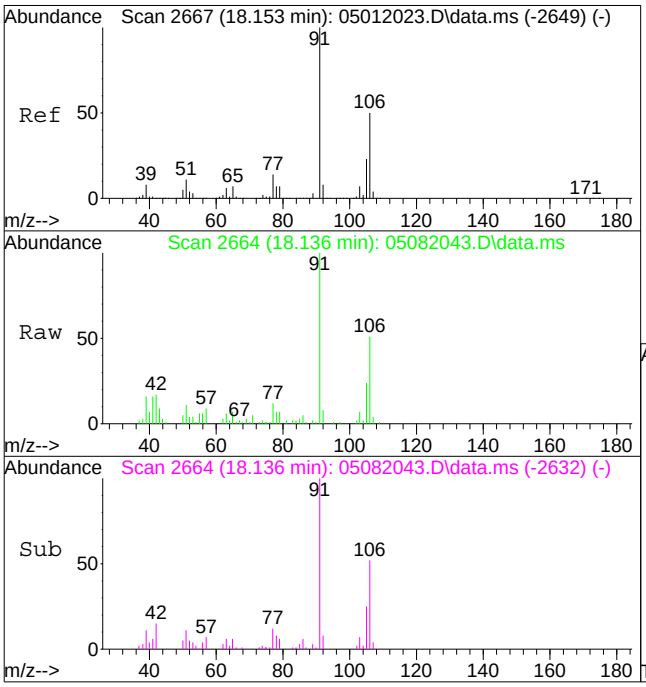


#66
Ethylbenzene
Concen: 0.06 ng
RT: 17.98 min Scan# 2635
Delta R.T. -0.011 min
Lab File: 05082043.D
Acq: 9 May 2020 3:16

Tgt Ion: 91 Resp: 8387

Ion	Ratio	Lower	Upper
91	100		
106	30.9	11.6	51.6

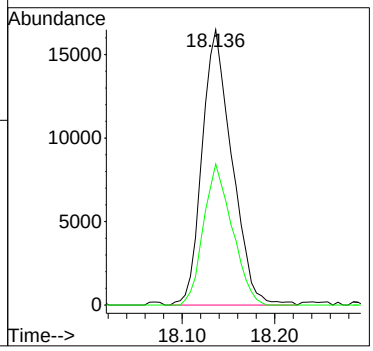


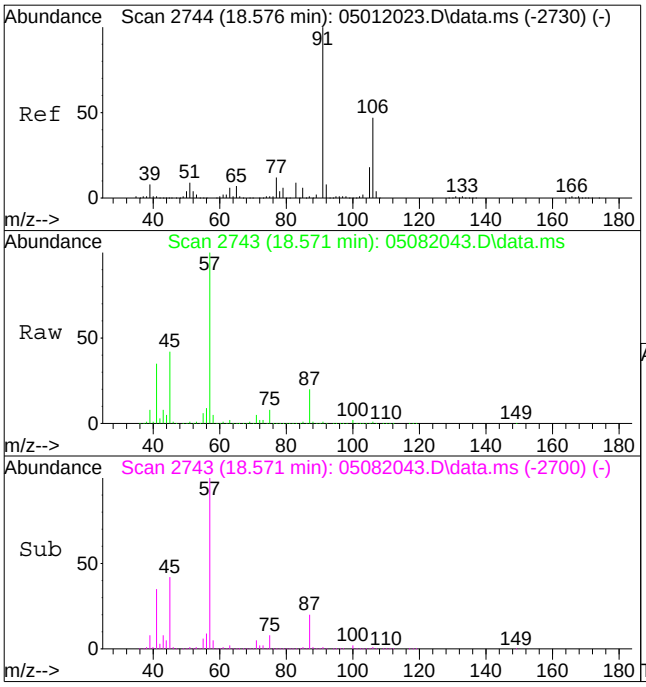


#67
m- & p-Xylenes
Concen: 0.35 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05082043.D
Acq: 9 May 2020 3:16

Tgt Ion: 91 Resp: 36928

Ion	Ratio	Lower	Upper
91	100		
106	49.2	29.7	69.7

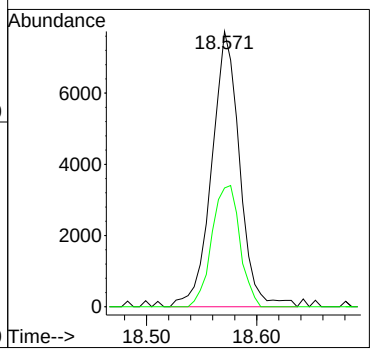


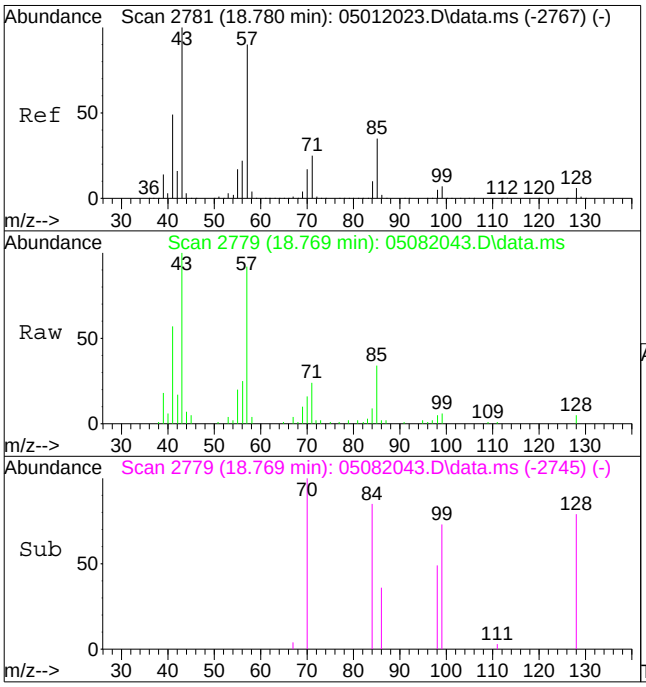


#70
o-Xylene
Concen: 0.13 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05082043.D
Acq: 9 May 2020 3:16

Tgt Ion: 91 Resp: 13609

Ion	Ratio	Lower	Upper
91	100		
106	44.1	27.5	67.5

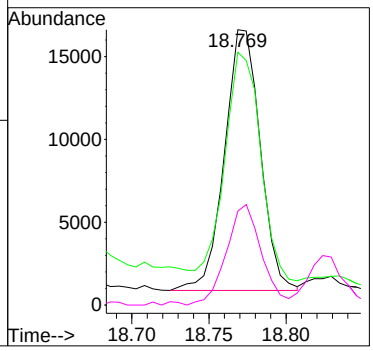


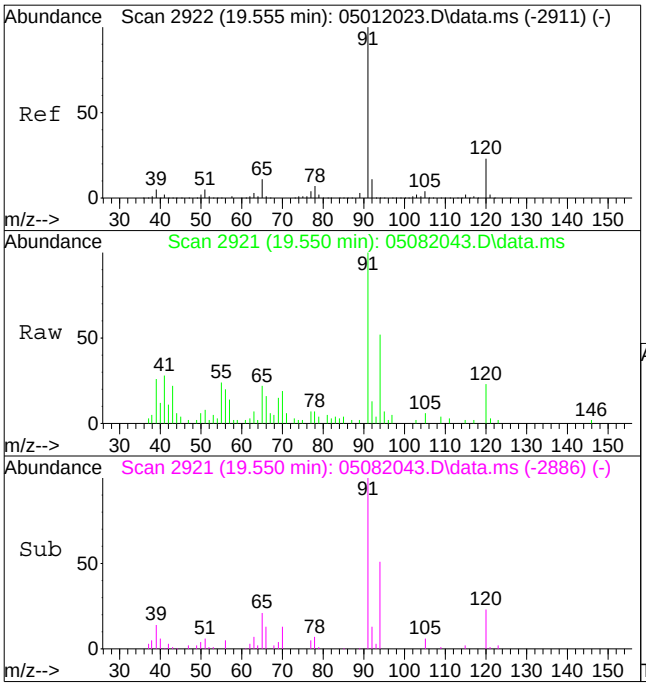


#71
n-Nonane
Concen: 0.45 ng
RT: 18.77 min Scan# 2779
Delta R.T. -0.011 min
Lab File: 05082043.D
Acq: 9 May 2020 3:16

Tgt Ion: 43 Resp: 25410

Ion	Ratio	Lower	Upper
43	100		
57	87.7	69.0	109.0
85	37.6	14.6	54.6

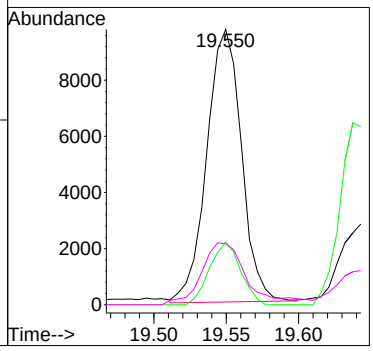


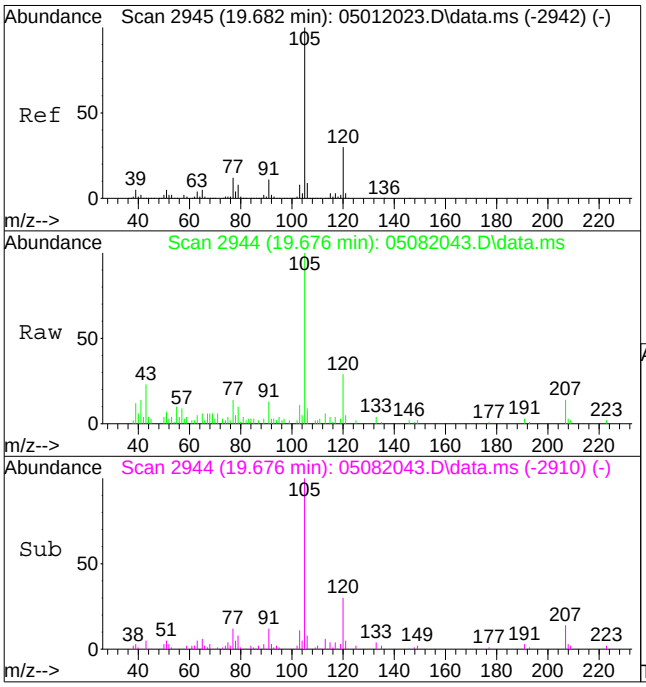


#76
n-Propylbenzene
Concen: 0.11 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05082043.D
Acq: 9 May 2020 3:16

Tgt Ion: 91 Resp: 16245

Ion	Ratio	Lower	Upper
91	100		
120	20.5	3.1	43.1
65	29.8	0.0	30.9

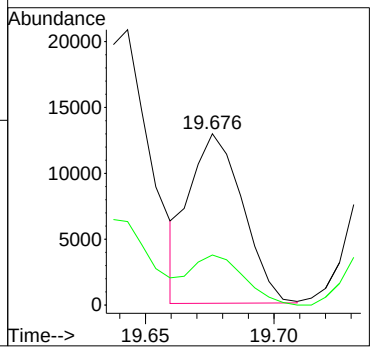


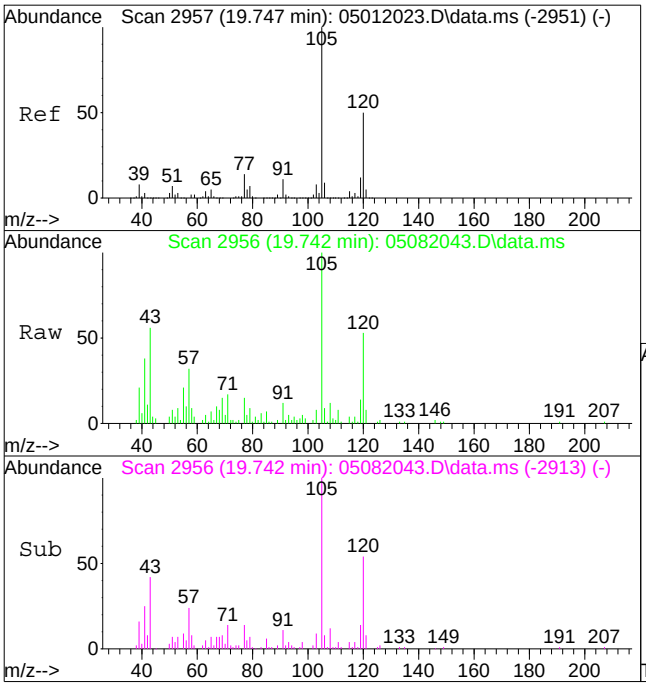


#78
4-Ethyltoluene
Concen: 0.15 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05082043.D
Acq: 9 May 2020 3:16

Tgt Ion:105 Resp: 18648

Ion	Ratio	Lower	Upper
105	100		
120	30.4	10.4	50.4

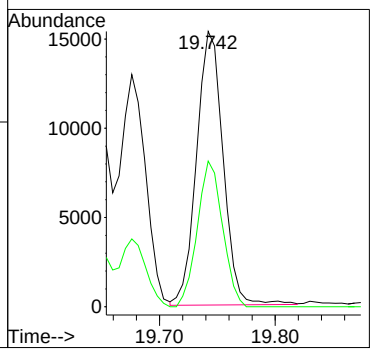


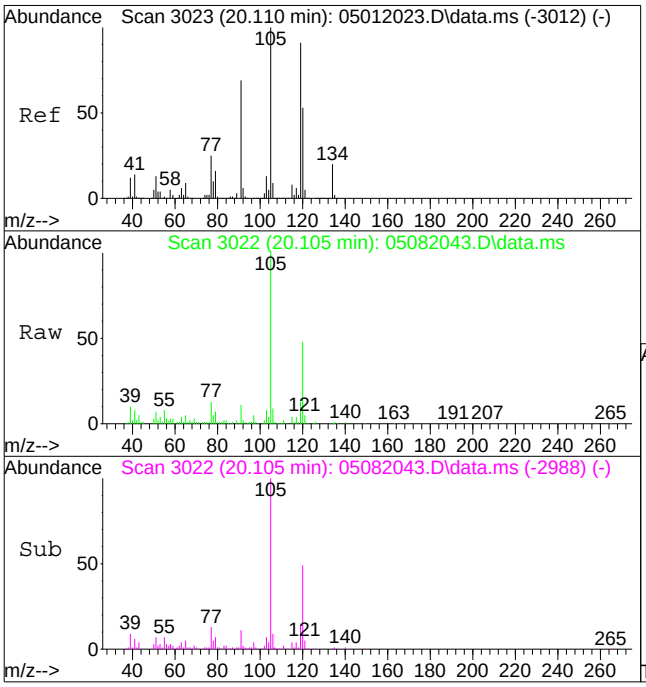


#79
1,3,5-Trimethylbenzene
Concen: 0.23 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05082043.D
Acq: 9 May 2020 3:16

Tgt Ion:105 Resp: 24511

Ion	Ratio	Lower	Upper
105	100		
120	50.3	29.9	69.9

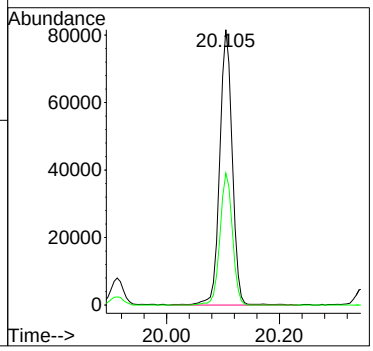


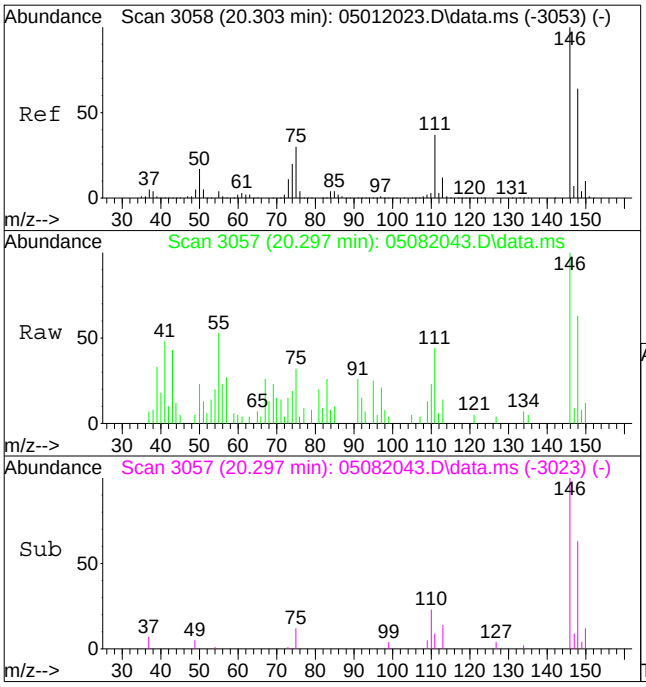


#82
1,2,4-Trimethylbenzene
Concen: 1.18 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05082043.D
Acq: 9 May 2020 3:16

Tgt Ion:105 Resp: 125876

Ion	Ratio	Lower	Upper
105	100		
120	47.4	33.6	73.6

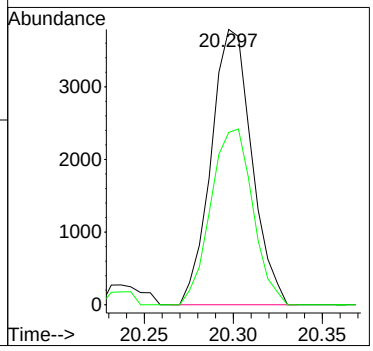


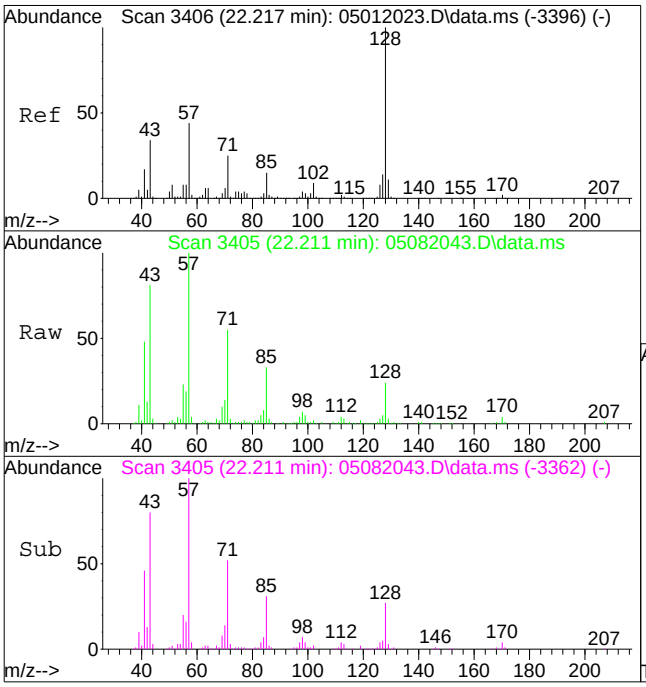


#86
1,4-Dichlorobenzene
Concen: 0.10 ng
RT: 20.30 min Scan# 3057
Delta R.T. -0.011 min
Lab File: 05082043.D
Acq: 9 May 2020 3:16

Tgt Ion:146 Resp: 6020

Ion	Ratio	Lower	Upper
146	100		
148	65.8	43.7	83.7

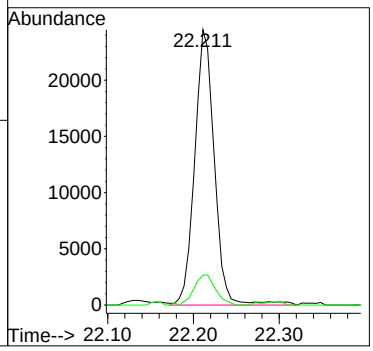




#95
Naphthalene
Concen: 0.30 ng
RT: 22.21 min Scan# 3405
Delta R.T. -0.011 min
Lab File: 05082043.D
Acq: 9 May 2020 3:16

Tgt Ion:128 Resp: 39012

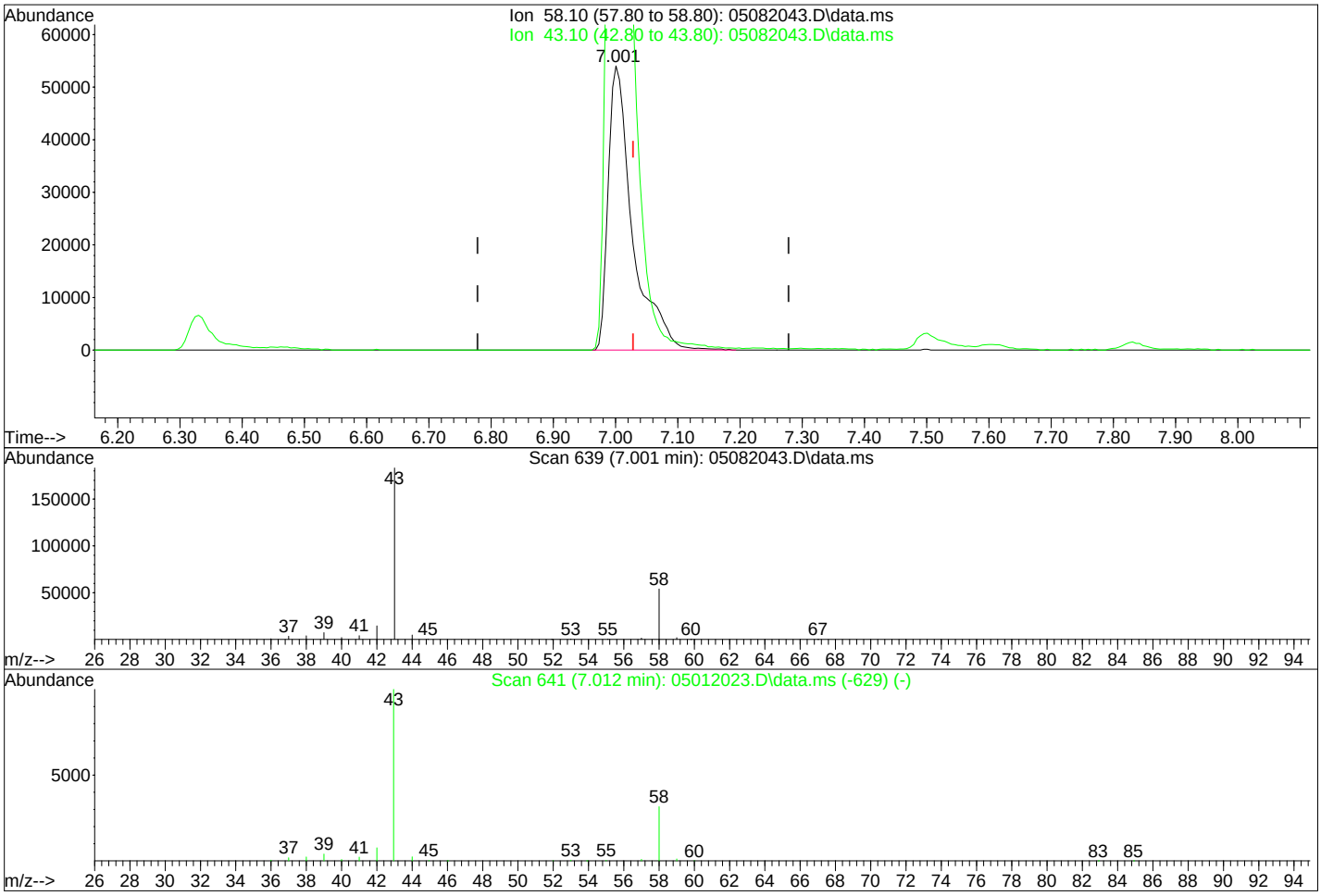
Ion	Ratio	Lower	Upper
128	100		
129	12.1	0.0	31.0



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\08\05082043.D Vial: 14
Acq On : 9 May 2020 3:16 Operator: LH
Sample : P2002299-001 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 09 07:17:06 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05082043.D\data.ms

(13) Acetone (T)

7.001min (-0.028) 5.99ng

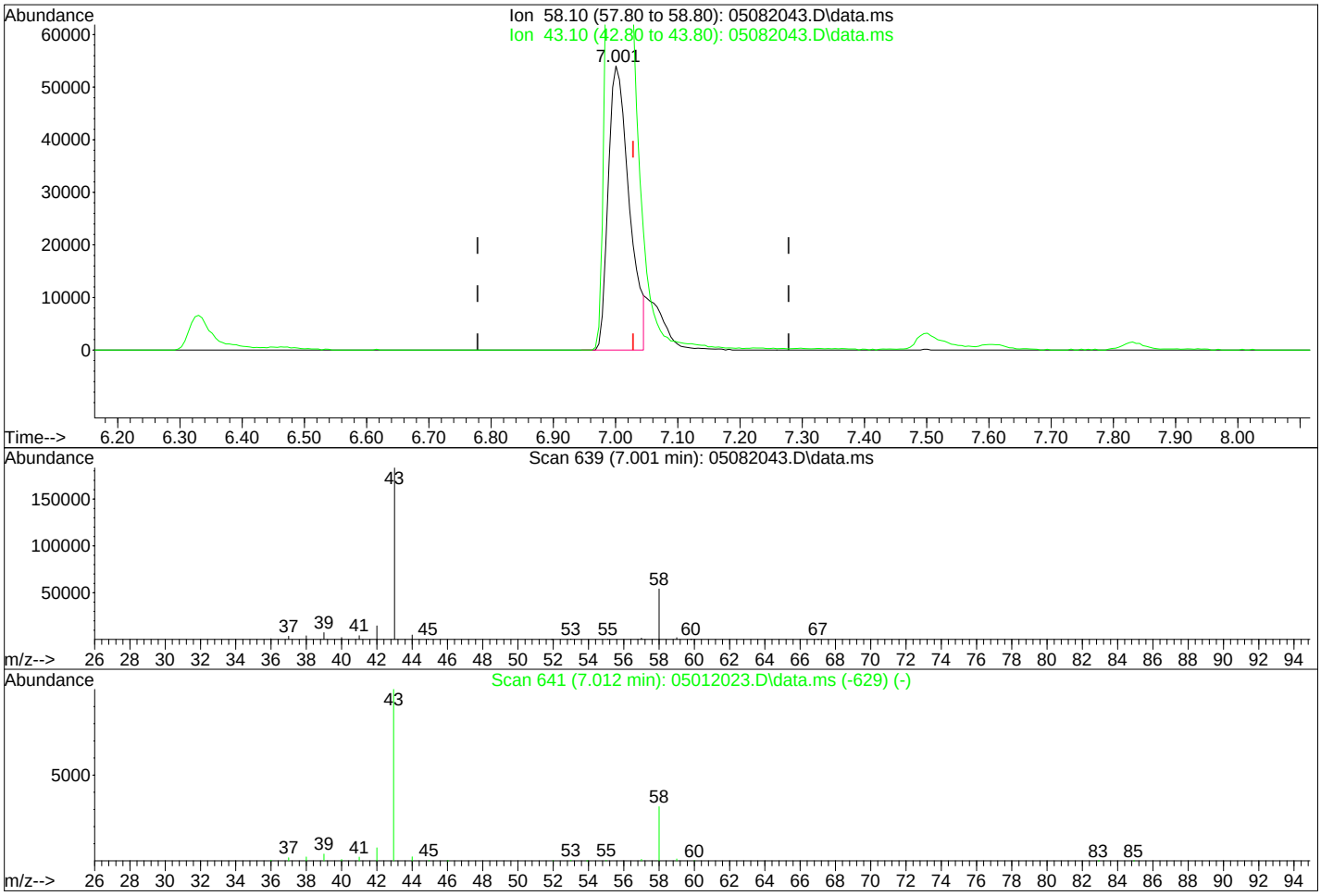
response 147590

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	297.98
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\08\05082043.D Vial: 14
Acq On : 9 May 2020 3:16 Operator: LH
Sample : P2002299-001 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 09 07:17:06 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05082043.D\data.ms

(13) Acetone (T)

7.001min (-0.028) 5.15ng m

response 126958

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	346.40
0.00	0.00	0.00
0.00	0.00	0.00

IPC

LH 5/11/20

5/14/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082044.D Vial: 15
Acq On : 9 May 2020 3:50 Operator: LH
Sample : P2002299-002 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 17:28:28 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/11/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	271061	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1160403	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	528661	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	425586	11.585	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.72%				
57) Toluene-d8 (SS2)	15.72	98	1115491	12.449	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.60%				
73) Bromofluorobenzene (SS3)	18.97	174	438415	13.597	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.80%				
Target Compounds							Qvalue
2) Propene	4.10	42	9790	0.312	ng		99
3) Dichlorodifluoromethan...	4.25	85	94388	1.537	ng		100
4) Chloromethane	4.53	50	3921	0.082	ng		95
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	565	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.15	54	341	N.D.			
8) Bromomethane	5.65	94	1428	0.051	ng		99
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.33	45	114729	4.733	ng		99
11) Acetonitrile	6.59	41	16474	0.297	ng		99
12) Acrolein	6.80	56	5947	0.310	ng		97
13) Acetone	7.00	58	92989	3.836	ng		99
14) Trichlorofluoromethane	7.24	101	31837	0.587	ng		99
15) 2-Propanol (Isopropanol)	7.51	45	42133	0.574	ng		87
16) Acrylonitrile	7.76	53	226	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	4894	0.155	ng		98
20) 3-Chloro-1-propene (Al...	8.51	41	189	N.D.			
21) Trichlorotrifluoroethane	8.84	151	1736652	67.782	ng		98
22) Carbon Disulfide	8.67	76	39734	0.352	ng		100
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	10.17	86	7511	0.995	ng	#	16
27) 2-Butanone (MEK)	10.47	72	6425	0.311	ng		95
28) cis-1,2-Dichloroethene	10.87	61	320	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.28	61	5716	0.479	ng		96
31) n-Hexane	11.25	57	2646	0.051	ng	#	95
32) Chloroform	11.30	83	25872	0.480	ng		100
34) Tetrahydrofuran (THF)	11.76	72	541	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.10	62	109	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	7482	0.060	ng		99
42) Carbon Tetrachloride	13.03	117	243522	5.753	ng		98
43) Cyclohexane	13.17	84	1376	N.D.			
44) tert-Amyl Methyl Ether	13.55	73	966	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	13.92	83	607	N.D.			
47) Trichloroethene	13.97	130	3979	0.124	ng		96
48) 1,4-Dioxane	13.96	88	960	N.D.			
49) 2,2,4-Trimethylpentane...	14.04	57	5095	N.D.			
50) Methyl Methacrylate	14.31	100	371	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082044.D Vial: 15
Acq On : 9 May 2020 3:50 Operator: LH
Sample : P2002299-002 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 17:28:28 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

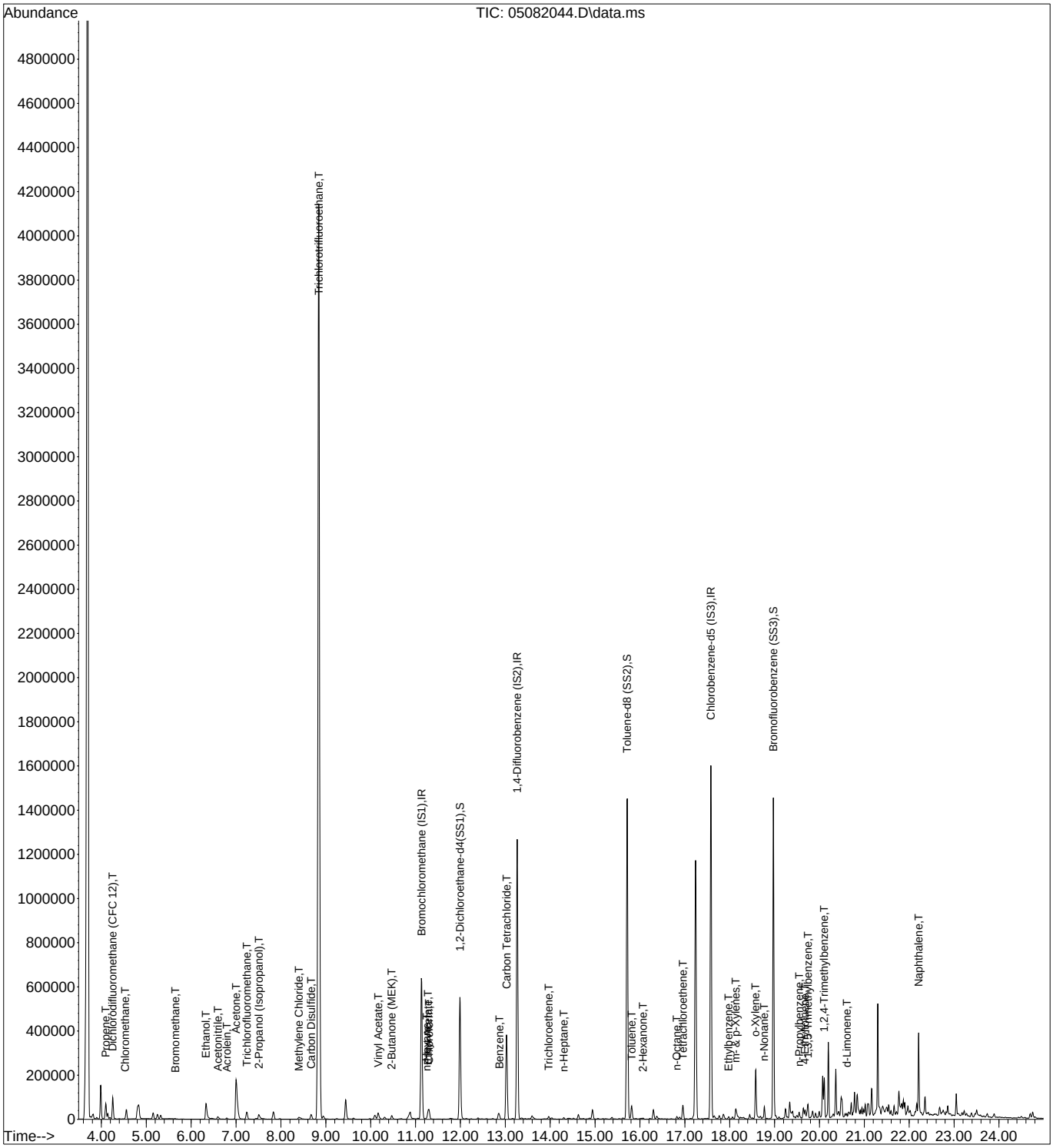
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.30	71	1816	0.062 ng	93
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.88	58	1289	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.82	91	47645	0.412 ng	100
59) 2-Hexanone	16.07	43	3239	0.051 ng	79
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.70	43	1239	N.D.	
63) n-Octane	16.82	57	2499	0.105 ng	87
64) Tetrachloroethene	16.96	166	20462	0.627 ng	98
65) Chlorobenzene	17.66	112	1663	N.D.	
66) Ethylbenzene	17.98	91	7464	0.058 ng	96
67) m- & p-Xylenes	18.14	91	31775	0.311 ng	99
68) Bromoform	18.21	173	301	N.D.	
69) Styrene	18.47	104	1079	N.D.	
70) o-Xylene	18.57	91	10022	0.097 ng	98
71) n-Nonane	18.77	43	19245	0.350 ng	98
72) 1,1,2,2-Tetrachloroethane	18.58	83	506	N.D.	
74) Cumene	19.10	105	2198	N.D.	
75) alpha-Pinene	19.45	93	2529	N.D.	
76) n-Propylbenzene	19.55	91	11483	0.076 ng	84
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.68	105	13786	0.115 ng	99
79) 1,3,5-Trimethylbenzene	19.74	105	18454	0.178 ng	100
80) alpha-Methylstyrene	19.88	118	1099	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.10	105	83116	0.797 ng	91
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.31	91	3298	N.D.	
85) 1,3-Dichlorobenzene	20.24	146	171	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	1867	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.61	68	4119	0.100 ng	94
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.11	180	383	N.D.	
95) Naphthalene	22.21	128	29156	0.229 ng	96
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082044.D Vial: 15
Acq On : 9 May 2020 3:50 Operator: LH
Sample : P2002299-002 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 17:28:28 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082044.D Vial: 15
Acq On : 9 May 2020 3:50 Operator: LH
Sample : P2002299-002 (400mL) Inst : GCMS-16
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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/11/20

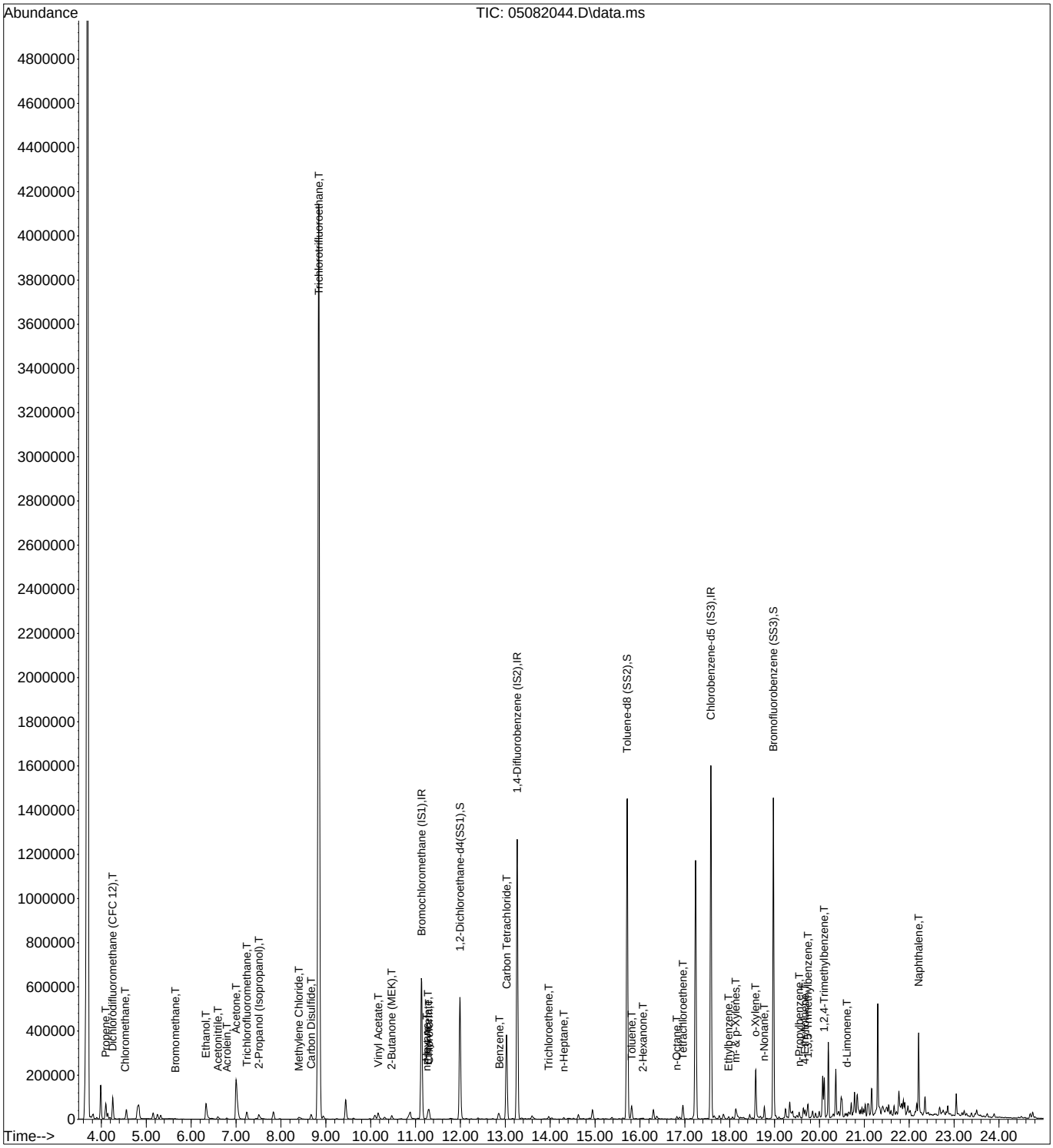
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	271061	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1160403	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	528661	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	425586	11.585	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.72%				
57) Toluene-d8 (SS2)	15.72	98	1115491	12.449	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.60%				
73) Bromofluorobenzene (SS3)	18.97	174	438415	13.597	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.80%				
Target Compounds							Qvalue
2) Propene	4.10	42	9790	0.312	ng		99
3) Dichlorodifluoromethan...	4.25	85	94388	1.537	ng		100
4) Chloromethane	4.53	50	3921	0.082	ng		95
8) Bromomethane	5.65	94	1428	0.051	ng		99
10) Ethanol	6.33	45	114729	4.733	ng		99
11) Acetonitrile	6.59	41	16474	0.297	ng		99
12) Acrolein	6.80	56	5947	0.310	ng		97
13) Acetone	7.00	58	92989	3.836	ng		99
14) Trichlorofluoromethane	7.24	101	31837	0.587	ng		99
15) 2-Propanol (Isopropanol)	7.51	45	42133	0.574	ng		87
19) Methylene Chloride	8.40	84	4894	0.155	ng		98
21) Trichlorotrifluoroethane	8.84	151	1736652	67.782	ng		98
22) Carbon Disulfide	8.67	76	39734	0.352	ng		100
26) Vinyl Acetate	10.17	86	7511	0.995	ng	#	16
27) 2-Butanone (MEK)	10.47	72	6425	0.311	ng		95
30) Ethyl Acetate	11.28	61	5716	0.479	ng		96
31) n-Hexane	11.25	57	2646	0.051	ng	#	95
32) Chloroform	11.30	83	25872	0.480	ng		100
41) Benzene	12.87	78	7482	0.060	ng		99
42) Carbon Tetrachloride	13.03	117	243522	5.753	ng		98
47) Trichloroethene	13.97	130	3979	0.124	ng		96
51) n-Heptane	14.30	71	1816	0.062	ng		93
58) Toluene	15.82	91	47645	0.412	ng		100
59) 2-Hexanone	16.07	43	3239	0.051	ng		79
63) n-Octane	16.82	57	2499	0.105	ng		87
64) Tetrachloroethene	16.96	166	20462	0.627	ng		98
66) Ethylbenzene	17.98	91	7464	0.058	ng		96
67) m- & p-Xylenes	18.14	91	31775	0.311	ng		99
70) o-Xylene	18.57	91	10022	0.097	ng		98
71) n-Nonane	18.77	43	19245	0.350	ng		98
76) n-Propylbenzene	19.55	91	11483	0.076	ng		84
78) 4-Ethyltoluene	19.68	105	13786	0.115	ng		99
79) 1,3,5-Trimethylbenzene	19.74	105	18454	0.178	ng		100
82) 1,2,4-Trimethylbenzene	20.10	105	83116	0.797	ng		91
91) d-Limonene	20.61	68	4119	0.100	ng		94
95) Naphthalene	22.21	128	29156	0.229	ng		96

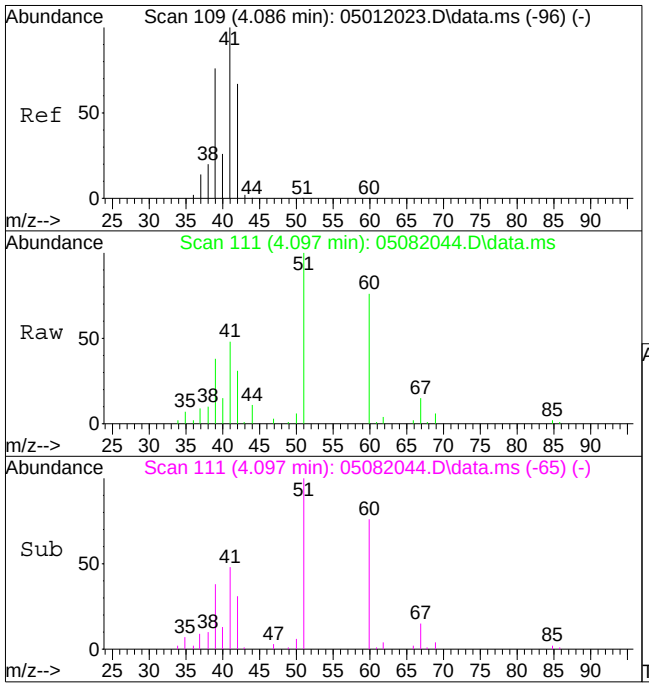
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082044.D Vial: 15
Acq On : 9 May 2020 3:50 Operator: LH
Sample : P2002299-002 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 17:28:28 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

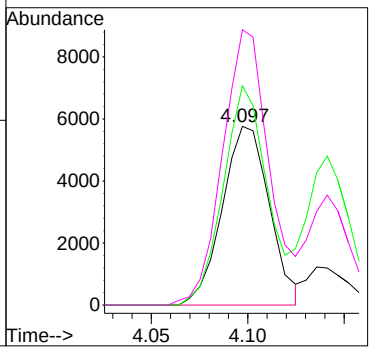


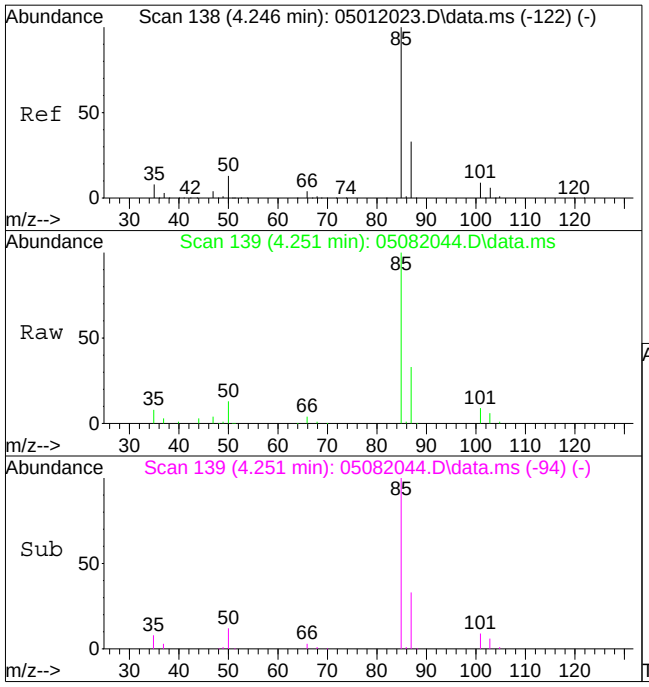


#2
Propene
Concen: 0.31 ng
RT: 4.10 min Scan# 111
Delta R.T. 0.005 min
Lab File: 05082044.D
Acq: 9 May 2020 3:50

Tgt Ion: 42 Resp: 9790

Ion	Ratio	Lower	Upper
42	100		
39	113.5	96.1	136.1
41	152.4	131.9	171.9

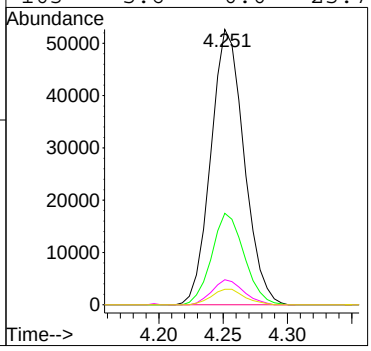


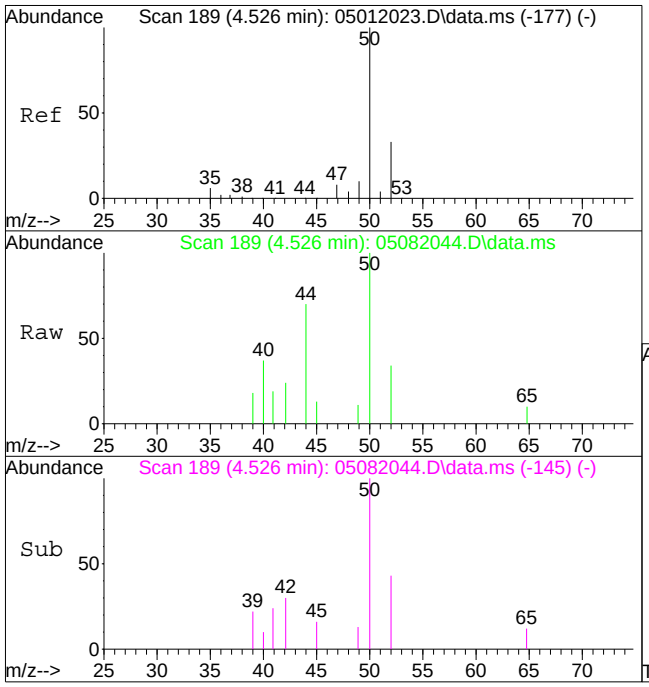


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.54 ng
RT: 4.25 min Scan# 139
Delta R.T. -0.000 min
Lab File: 05082044.D
Acq: 9 May 2020 3:50

Tgt Ion: 85 Resp: 94388

Ion	Ratio	Lower	Upper
85	100		
87	32.6	12.4	52.4
101	8.6	0.0	28.8
103	5.6	0.0	25.7

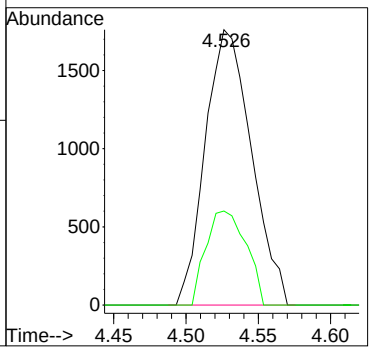


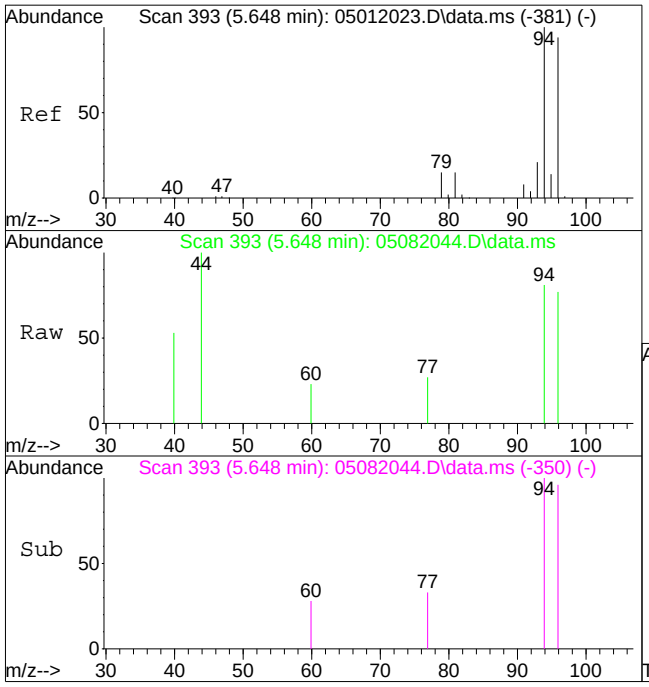


#4
Chloromethane
Concen: 0.08 ng
RT: 4.53 min Scan# 189
Delta R.T. -0.006 min
Lab File: 05082044.D
Acq: 9 May 2020 3:50

Tgt Ion: 50 Resp: 3921

Ion	Ratio	Lower	Upper
50	100		
52	29.6	12.5	52.5

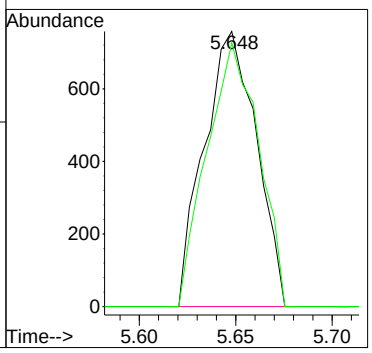


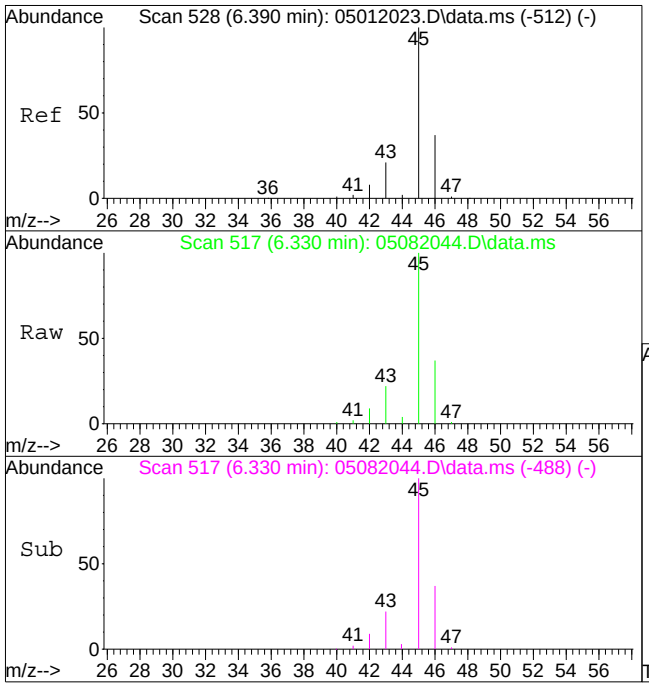


#8
Bromomethane
Concen: 0.05 ng
RT: 5.65 min Scan# 393
Delta R.T. -0.011 min
Lab File: 05082044.D
Acq: 9 May 2020 3:50

Tgt Ion: 94 Resp: 1428

Ion	Ratio	Lower	Upper
94	100		
96	95.1	73.7	113.7

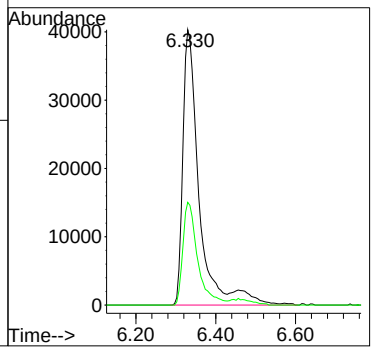


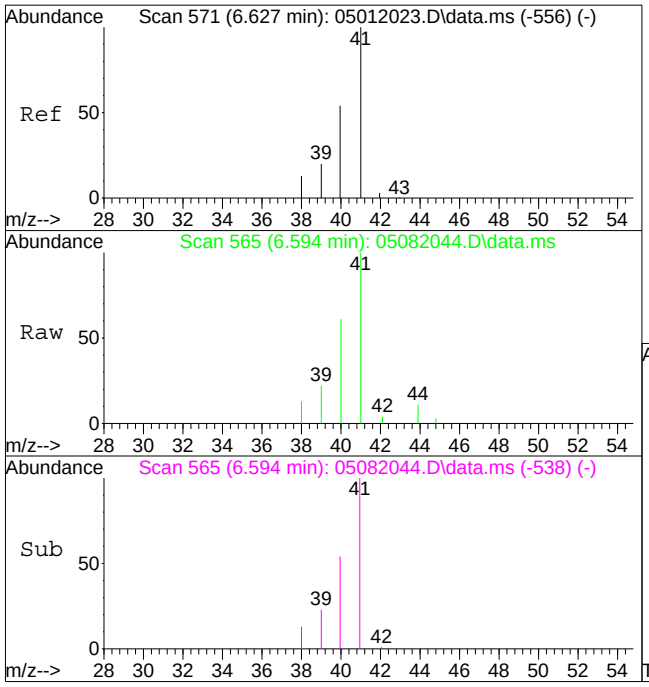


#10
Ethanol
Concen: 4.73 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.088 min
Lab File: 05082044.D
Acq: 9 May 2020 3:50

Tgt Ion: 45 Resp: 114729

Ion	Ratio	Lower	Upper
45	100		
46	36.8	17.2	57.2

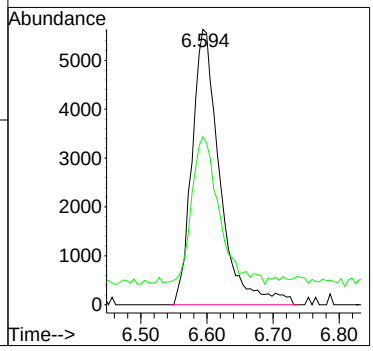


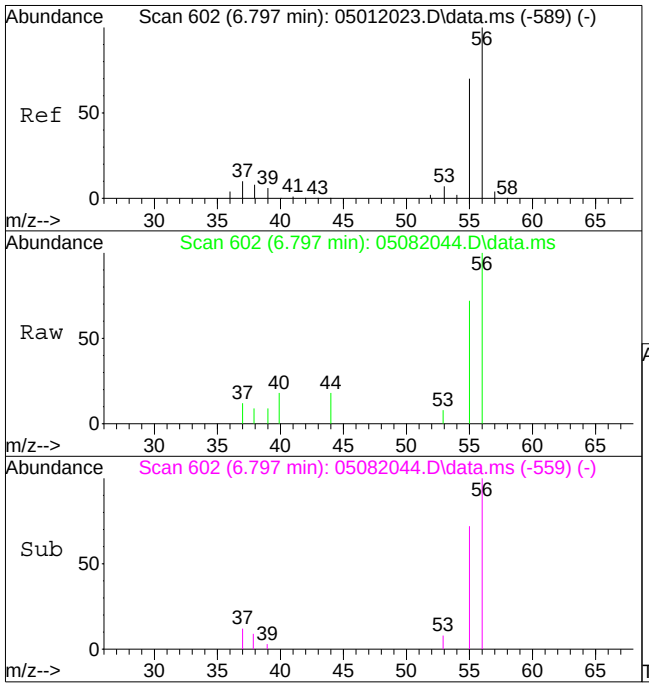


#11
Acetonitrile
Concen: 0.30 ng
RT: 6.59 min Scan# 565
Delta R.T. -0.050 min
Lab File: 05082044.D
Acq: 9 May 2020 3:50

Tgt Ion: 41 Resp: 16474

Ion	Ratio	Lower	Upper
41	100		
40	54.2	33.6	73.6

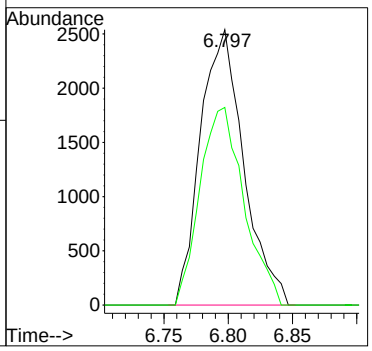


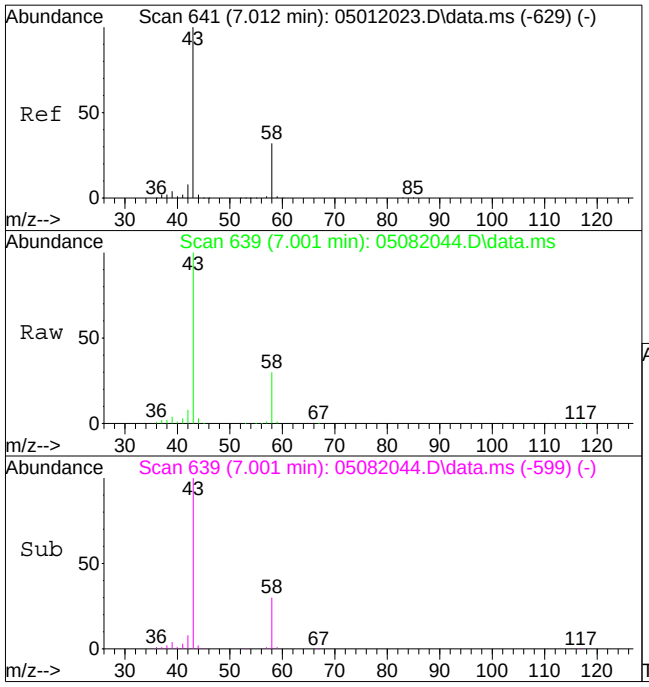


#12
Acrolein
Concen: 0.31 ng
RT: 6.80 min Scan# 602
Delta R.T. -0.011 min
Lab File: 05082044.D
Acq: 9 May 2020 3:50

Tgt Ion: 56 Resp: 5947

Ion	Ratio	Lower	Upper
56	100		
55	73.0	50.2	90.2

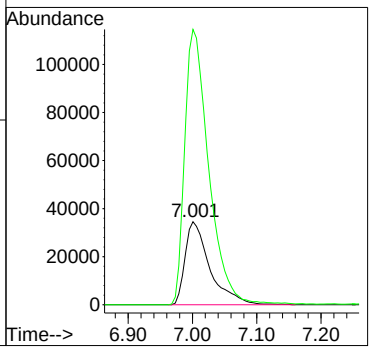


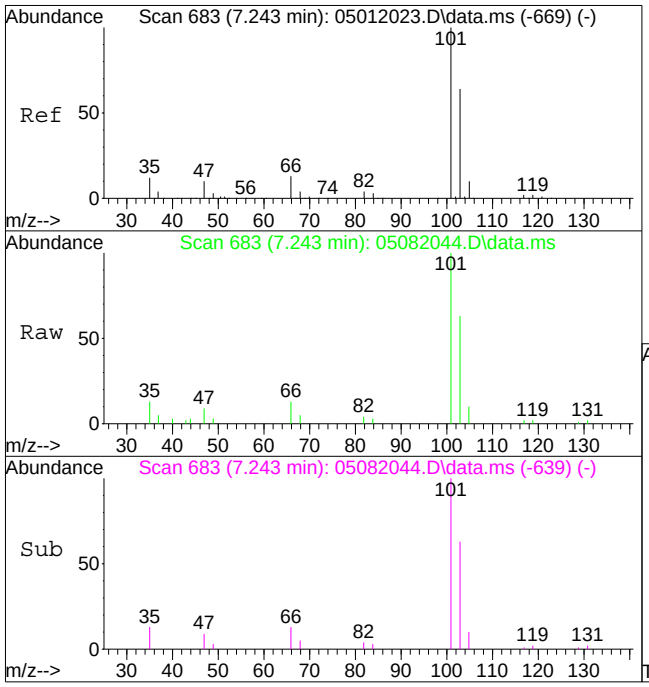


#13
Acetone
Concen: 3.84 ng
RT: 7.00 min Scan# 639
Delta R.T. -0.028 min
Lab File: 05082044.D
Acq: 9 May 2020 3:50

Tgt Ion: 58 Resp: 92989

Ion	Ratio	Lower	Upper
58	100		
43	322.0	294.4	354.4

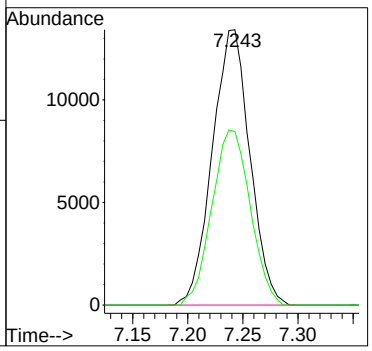


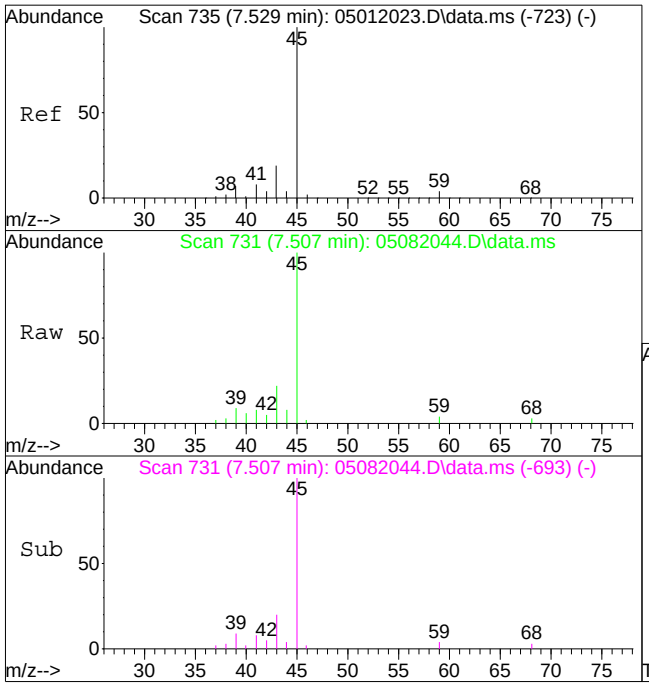


#14
Trichlorofluoromethane
Concen: 0.59 ng
RT: 7.24 min Scan# 683
Delta R.T. -0.006 min
Lab File: 05082044.D
Acq: 9 May 2020 3:50

Tgt Ion:101 Resp: 31837

Ion	Ratio	Lower	Upper
101	100		
103	64.9	44.4	84.4

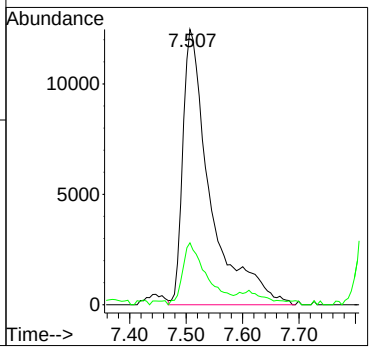


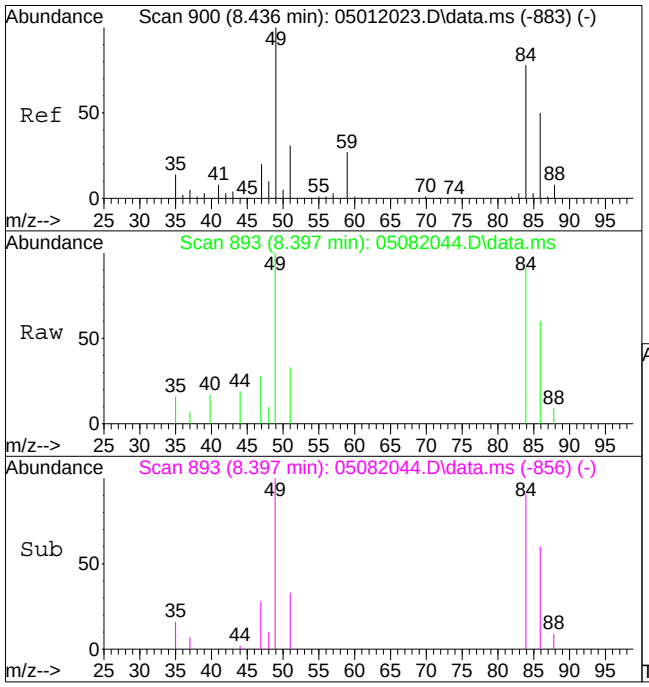


#15
2-Propanol (Isopropanol)
Concen: 0.57 ng
RT: 7.51 min Scan# 731
Delta R.T. -0.039 min
Lab File: 05082044.D
Acq: 9 May 2020 3:50

Tgt Ion: 45 Resp: 42133

Ion	Ratio	Lower	Upper
45	100		
43	25.2	0.0	39.5

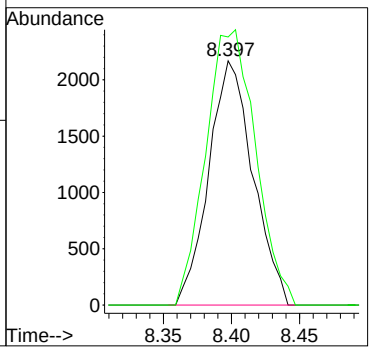


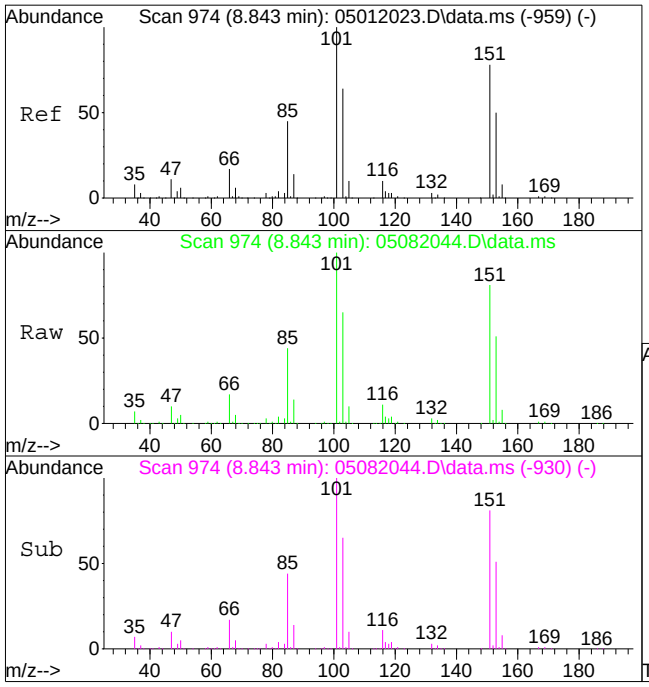


#19
Methylene Chloride
Concen: 0.16 ng
RT: 8.40 min Scan# 893
Delta R.T. -0.044 min
Lab File: 05082044.D
Acq: 9 May 2020 3:50

Tgt Ion: 84 Resp: 4894

Ion	Ratio	Lower	Upper
84	100		
49	127.1	104.8	154.8

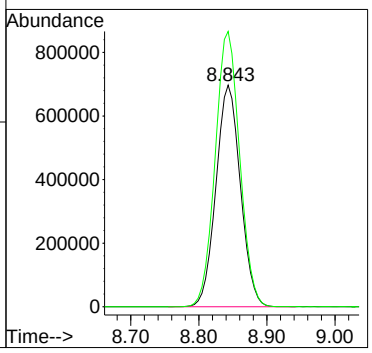


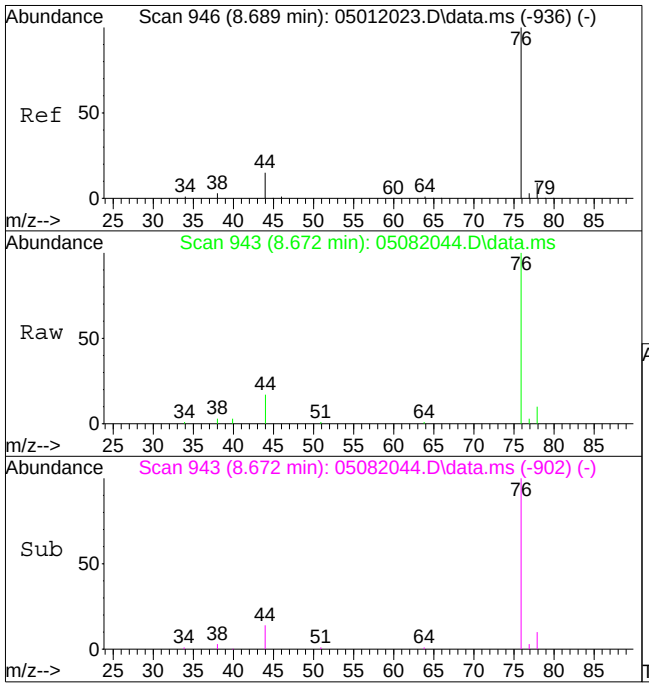


#21
Trichlorotrifluoroethane
Concen: 67.78 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05082044.D
Acq: 9 May 2020 3:50

Tgt Ion:151 Resp: 1736652

Ion	Ratio	Lower	Upper
151	100		
101	124.5	107.3	147.3

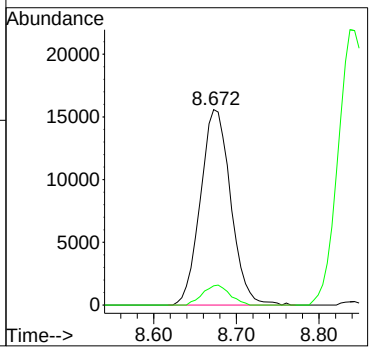


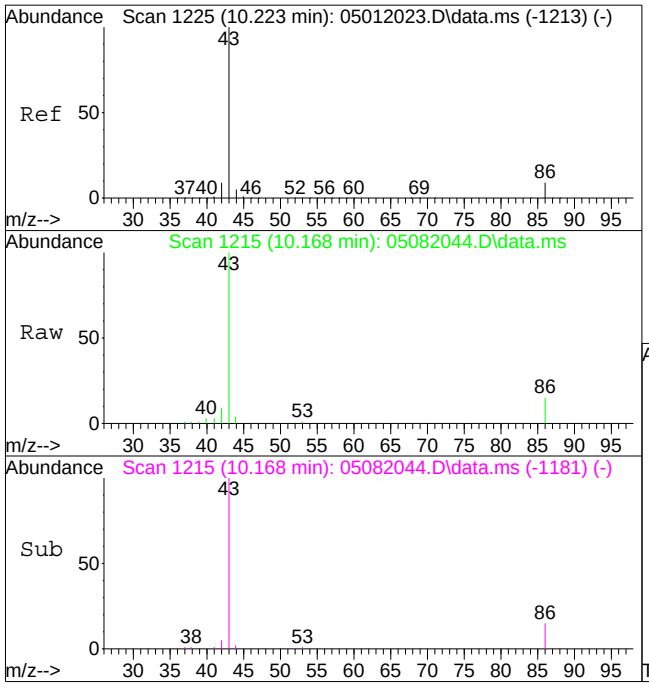


#22
Carbon Disulfide
Concen: 0.35 ng
RT: 8.67 min Scan# 943
Delta R.T. -0.022 min
Lab File: 05082044.D
Acq: 9 May 2020 3:50

Tgt Ion: 76 Resp: 39734

Ion	Ratio	Lower	Upper
76	100		
78	9.1	0.0	29.2

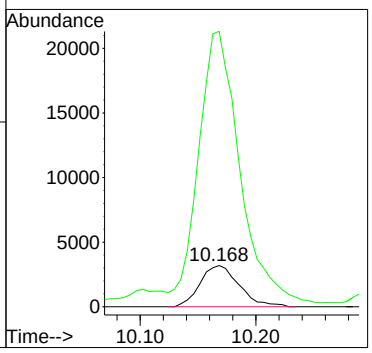


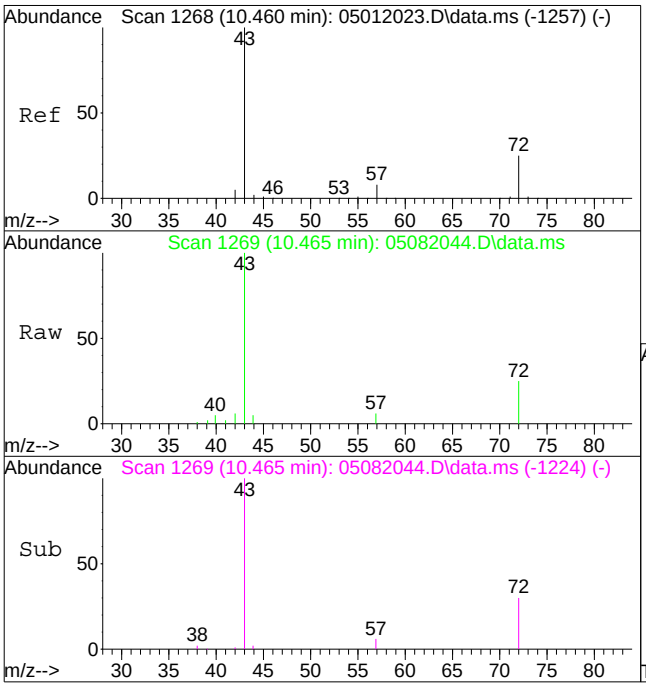


#26
Vinyl Acetate
Concen: 0.99 ng
RT: 10.17 min Scan# 1215
Delta R.T. -0.061 min
Lab File: 05082044.D
Acq: 9 May 2020 3:50

Tgt Ion: 86 Resp: 7511

Ion	Ratio	Lower	Upper
86	100		
43	715.5	1103.0	1143.0#

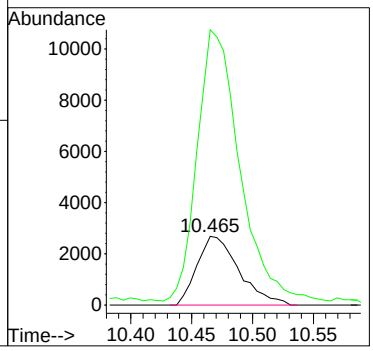


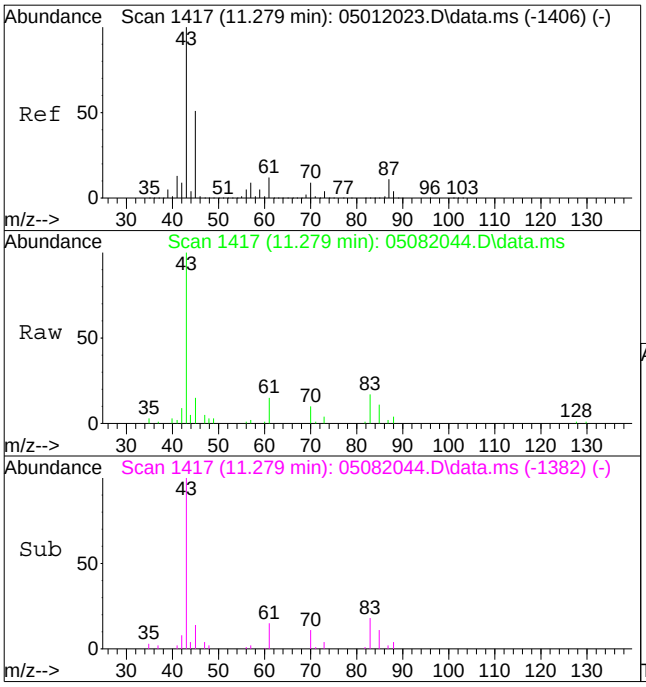


#27
2-Butanone (MEK)
Concen: 0.31 ng
RT: 10.47 min Scan# 1269
Delta R.T. -0.000 min
Lab File: 05082044.D
Acq: 9 May 2020 3:50

Tgt Ion: 72 Resp: 6425

Ion	Ratio	Lower	Upper
72	100		
43	397.7	389.7	429.7

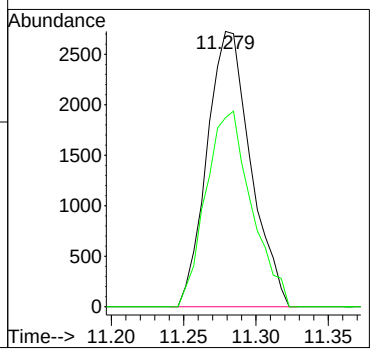


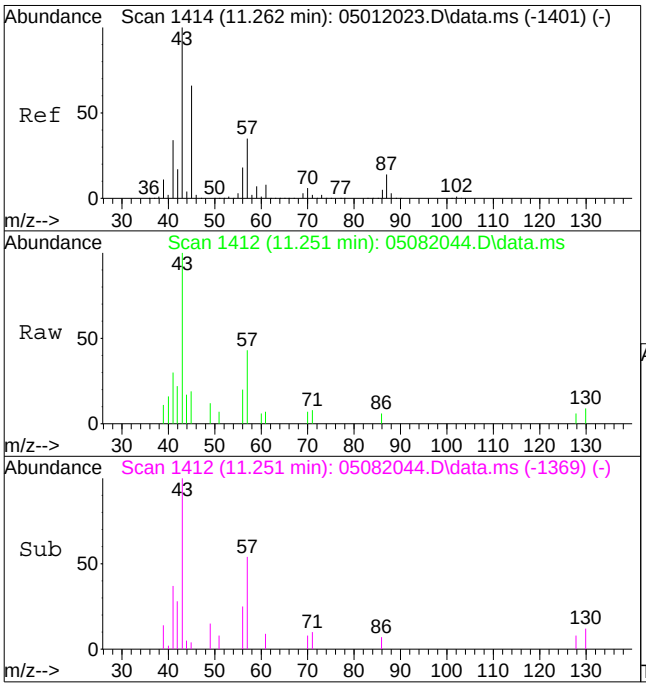


#30
Ethyl Acetate
Concen: 0.48 ng
RT: 11.28 min Scan# 1417
Delta R.T. -0.006 min
Lab File: 05082044.D
Acq: 9 May 2020 3:50

Tgt Ion: 61 Resp: 5716

Ion	Ratio	Lower	Upper
61	100		
70	74.4	57.9	97.9

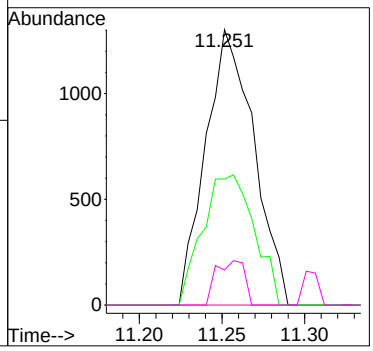


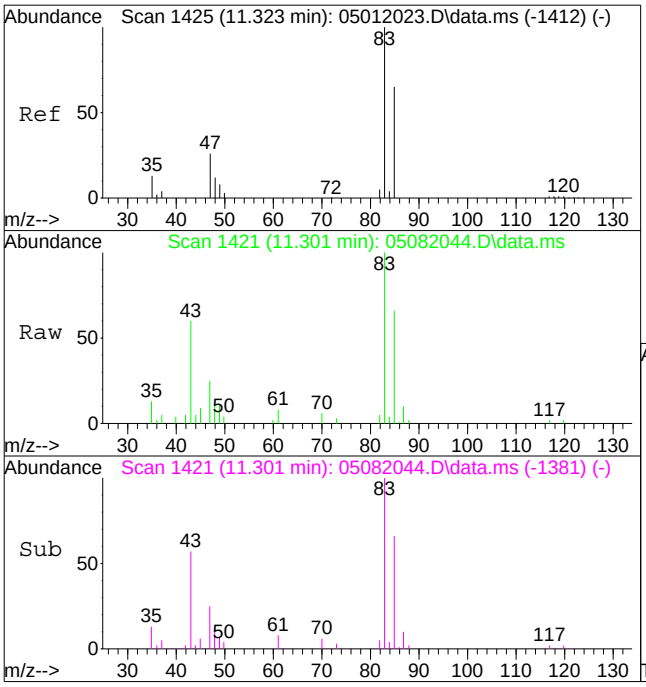


#31
n-Hexane
Concen: 0.05 ng
RT: 11.25 min Scan# 1412
Delta R.T. -0.011 min
Lab File: 05082044.D
Acq: 9 May 2020 3:50

Tgt Ion: 57 Resp: 2646

Ion	Ratio	Lower	Upper
57	100		
56	50.6	41.4	62.0
86	9.5	12.4	18.6#

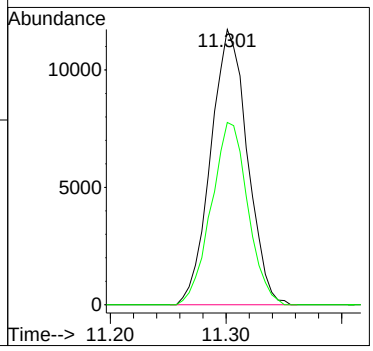


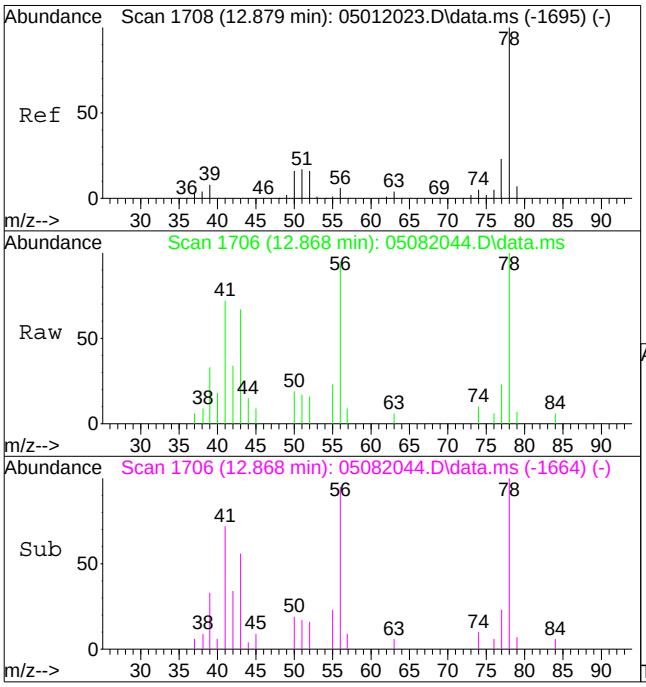


#32
Chloroform
Concen: 0.48 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.028 min
Lab File: 05082044.D
Acq: 9 May 2020 3:50

Tgt Ion: 83 Resp: 25872

Ion	Ratio	Lower	Upper
83	100		
85	65.8	45.5	85.5

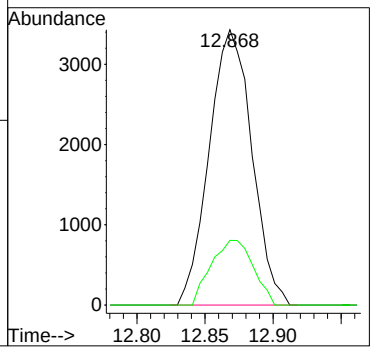


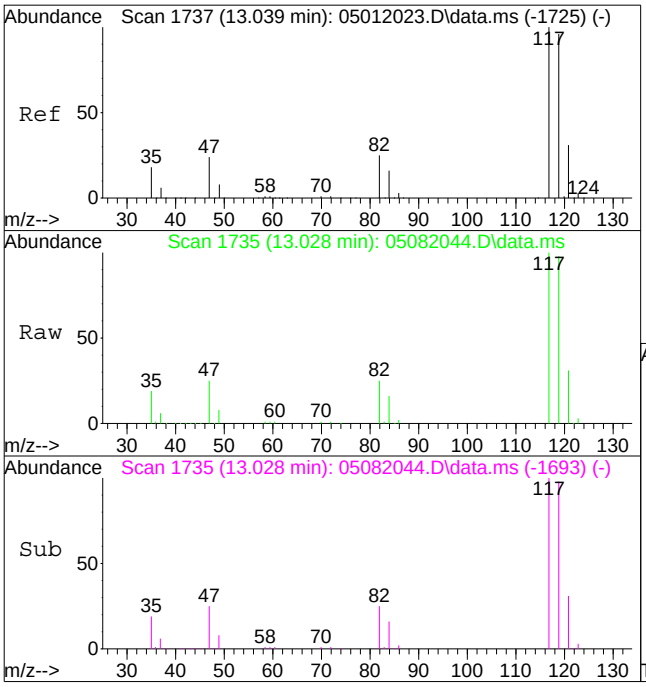


#41
Benzene
Concen: 0.06 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05082044.D
Acq: 9 May 2020 3:50

Tgt Ion: 78 Resp: 7482

Ion	Ratio	Lower	Upper
78	100		
77	23.1	3.4	43.4

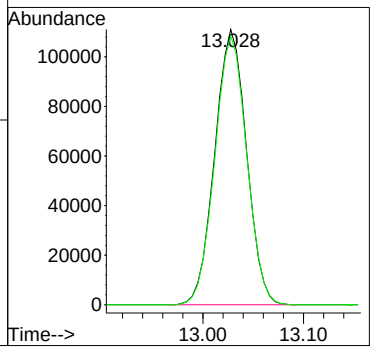


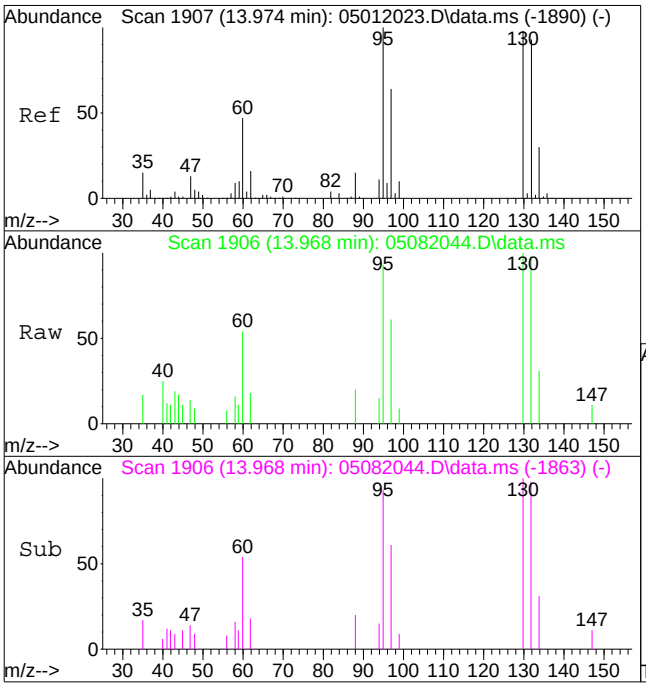


#42
Carbon Tetrachloride
Concen: 5.75 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05082044.D
Acq: 9 May 2020 3:50

Tgt Ion:117 Resp: 243522

Ion	Ratio	Lower	Upper
117	100		
119	97.8	76.2	116.2

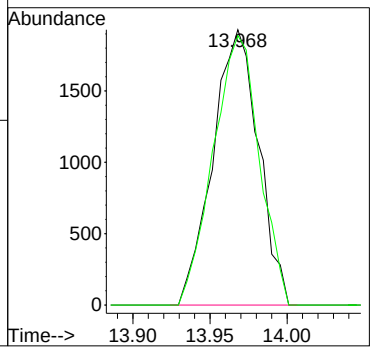


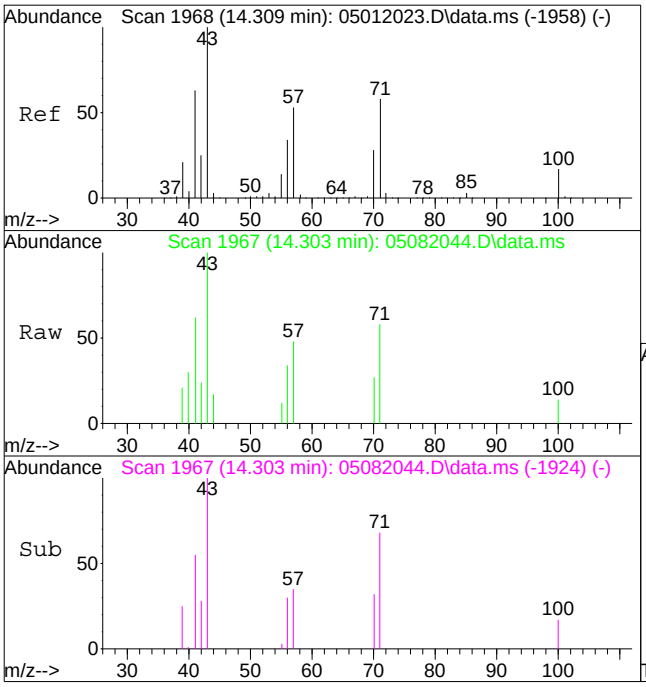


#47
Trichloroethene
Concen: 0.12 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05082044.D
Acq: 9 May 2020 3:50

Tgt Ion:130 Resp: 3979

Ion	Ratio	Lower	Upper
130	100		
132	98.6	74.9	114.9

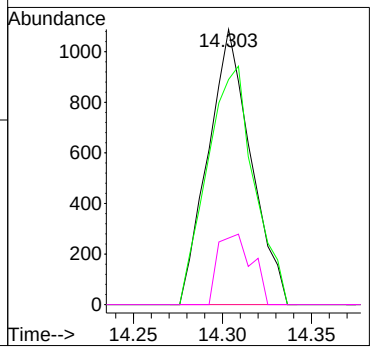


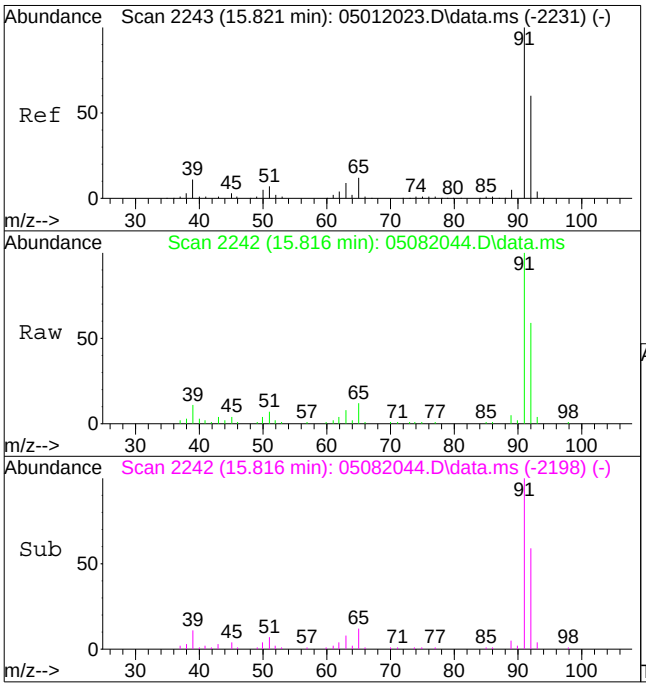


#51
n-Heptane
Concen: 0.06 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05082044.D
Acq: 9 May 2020 3:50

Tgt Ion: 71 Resp: 1816

Ion	Ratio	Lower	Upper
71	100		
57	94.7	71.0	111.0
100	20.4	8.4	48.4

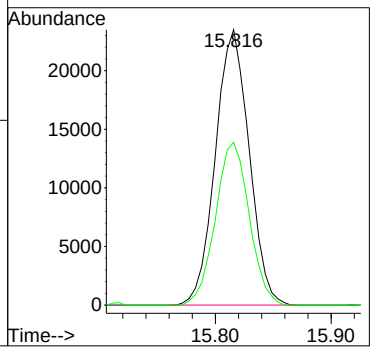


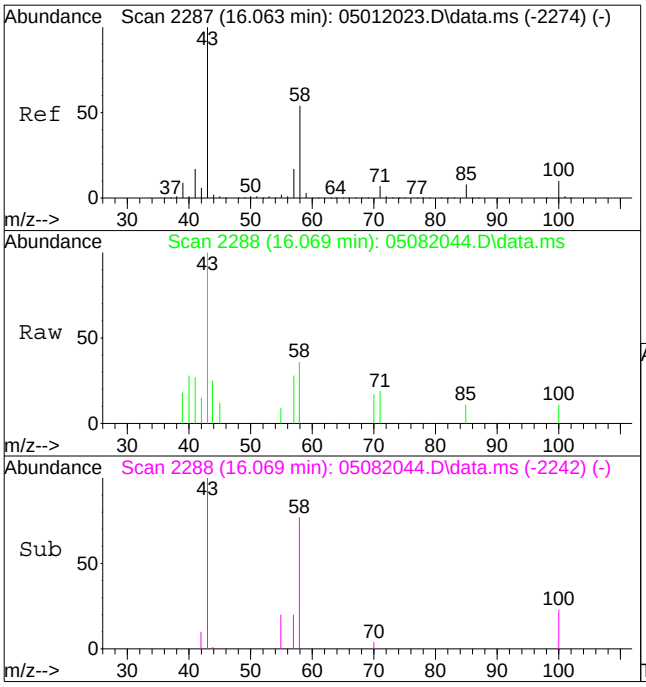


#58
Toluene
Concen: 0.41 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05082044.D
Acq: 9 May 2020 3:50

Tgt Ion: 91 Resp: 47645

Ion	Ratio	Lower	Upper
91	100		
92	59.1	39.4	79.4

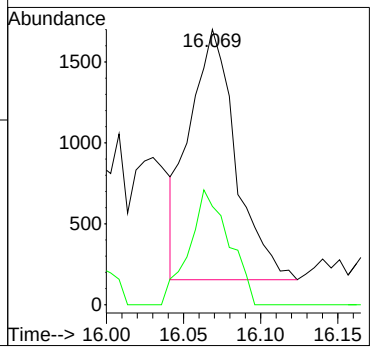


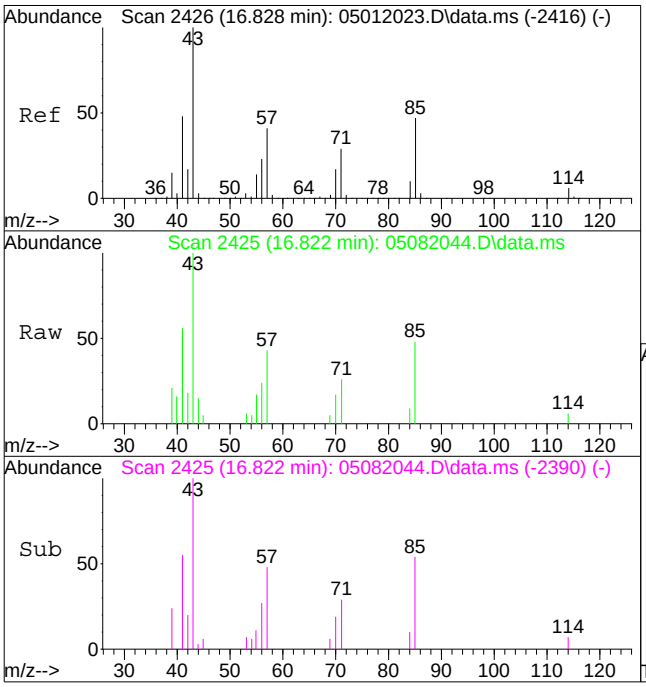


#59
2-Hexanone
Concen: 0.05 ng
RT: 16.07 min Scan# 2288
Delta R.T. 0.005 min
Lab File: 05082044.D
Acq: 9 May 2020 3:50

Tgt Ion: 43 Resp: 3239

Ion	Ratio	Lower	Upper
43	100		
58	39.4	34.5	74.5

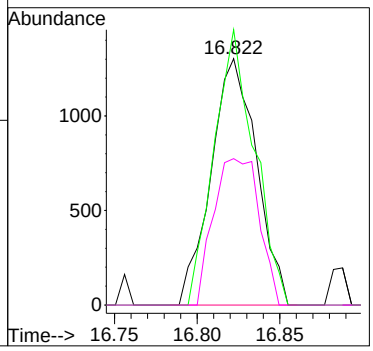


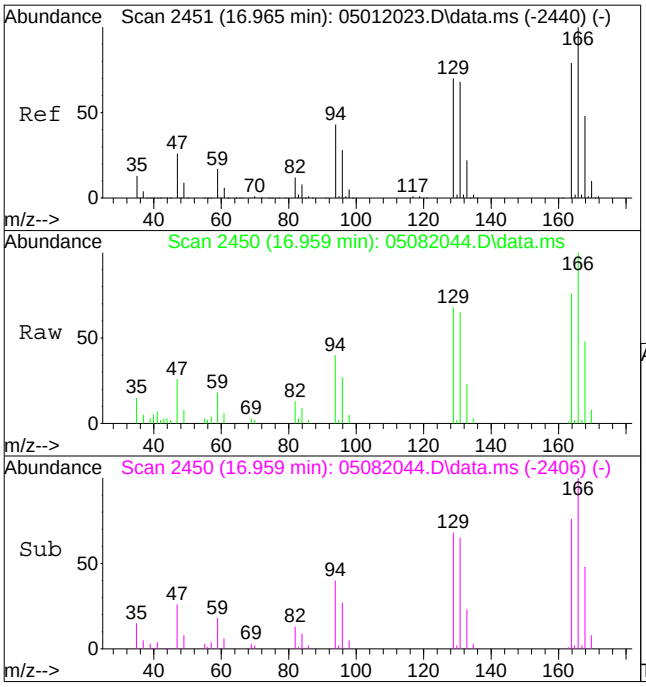


#63
n-Octane
Concen: 0.10 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05082044.D
Acq: 9 May 2020 3:50

Tgt Ion: 57 Resp: 2499

Ion	Ratio	Lower	Upper
57	100		
85	99.1	91.0	136.4
71	59.4	56.2	84.2

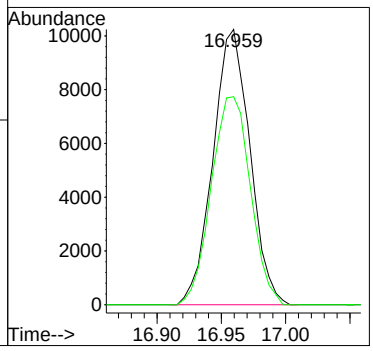


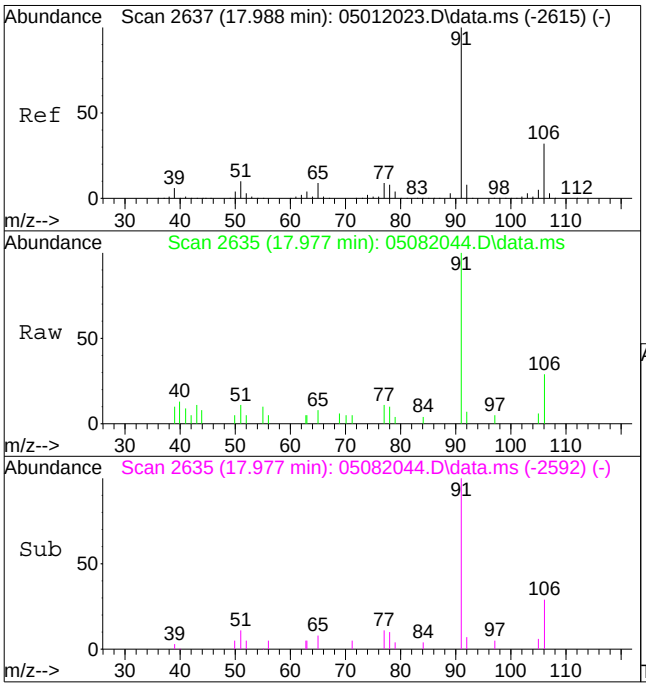


#64
Tetrachloroethene
Concen: 0.63 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05082044.D
Acq: 9 May 2020 3:50

Tgt Ion:166 Resp: 20462

Ion	Ratio	Lower	Upper
166	100		
164	80.2	58.4	98.4

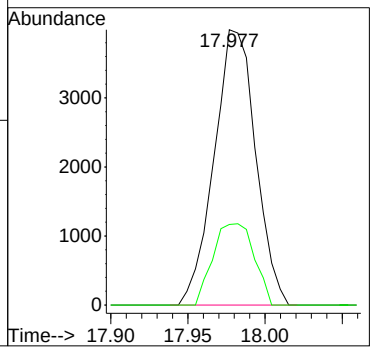


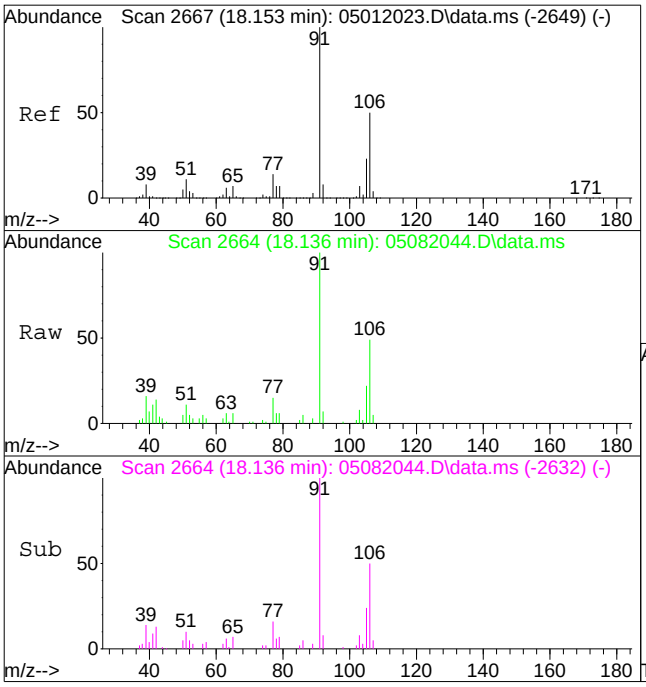


#66
Ethylbenzene
Concen: 0.06 ng
RT: 17.98 min Scan# 2635
Delta R.T. -0.011 min
Lab File: 05082044.D
Acq: 9 May 2020 3:50

Tgt Ion: 91 Resp: 7464

Ion	Ratio	Lower	Upper
91	100		
106	29.2	11.6	51.6

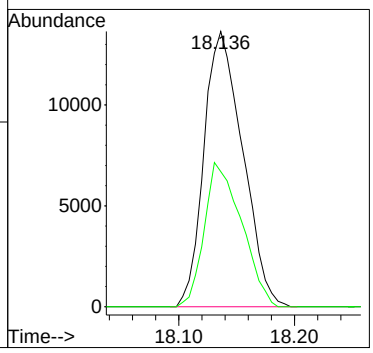


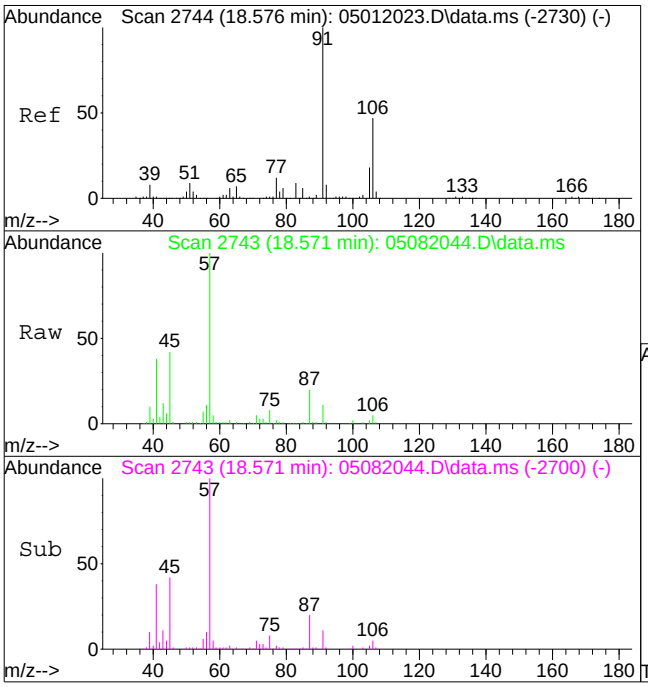


#67
m- & p-Xylenes
Concen: 0.31 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05082044.D
Acq: 9 May 2020 3:50

Tgt Ion: 91 Resp: 31775

Ion	Ratio	Lower	Upper
91	100		
106	50.3	29.7	69.7

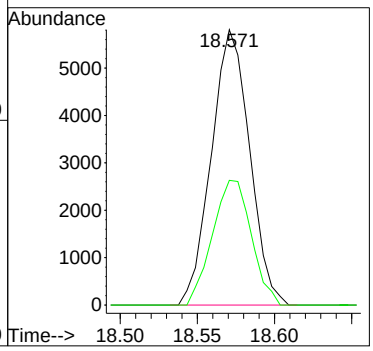


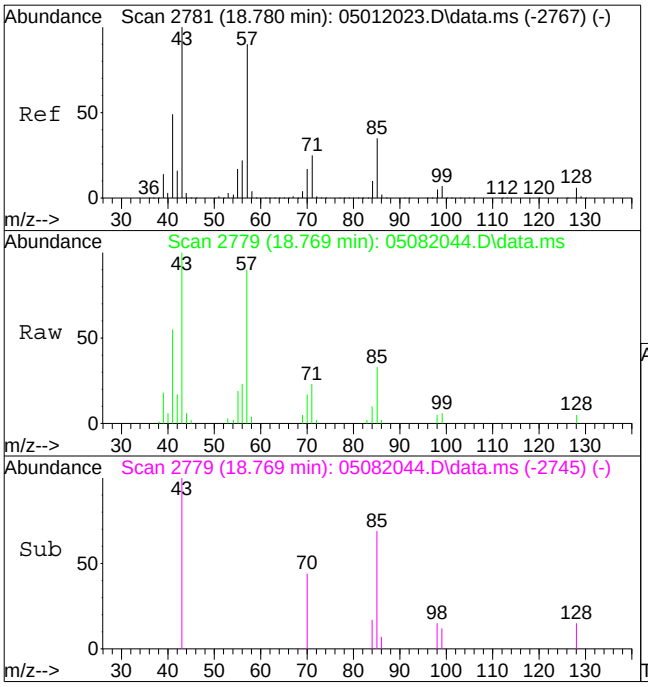


#70
o-Xylene
Concen: 0.10 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05082044.D
Acq: 9 May 2020 3:50

Tgt Ion: 91 Resp: 10022

Ion	Ratio	Lower	Upper
91	100		
106	45.9	27.5	67.5

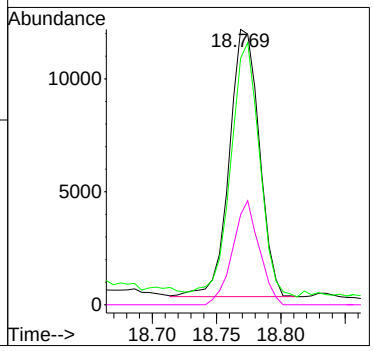


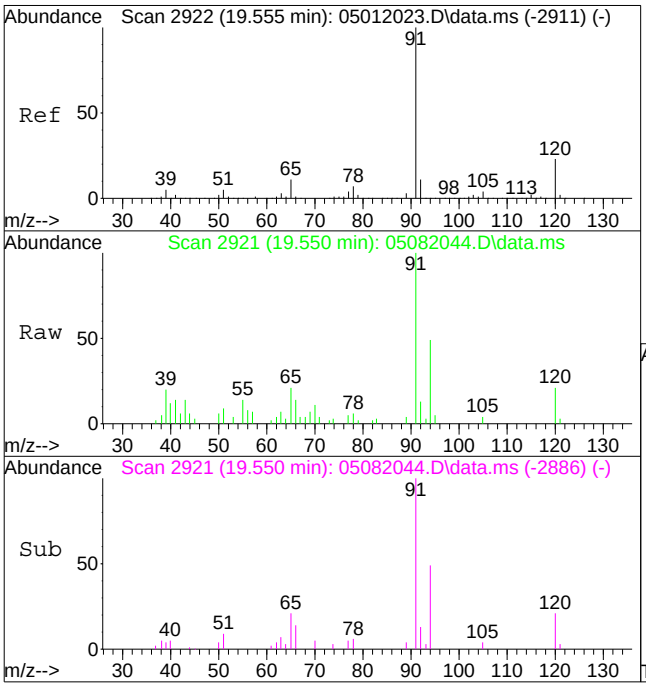


#71
n-Nonane
Concen: 0.35 ng
RT: 18.77 min Scan# 2779
Delta R.T. -0.011 min
Lab File: 05082044.D
Acq: 9 May 2020 3:50

Tgt Ion: 43 Resp: 19245

Ion	Ratio	Lower	Upper
43	100		
57	91.8	69.0	109.0
85	34.3	14.6	54.6

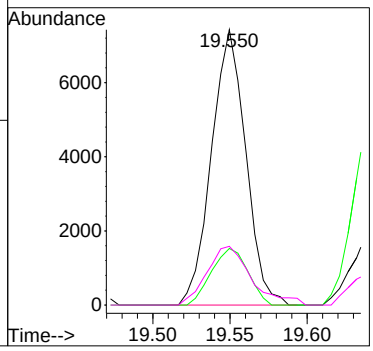


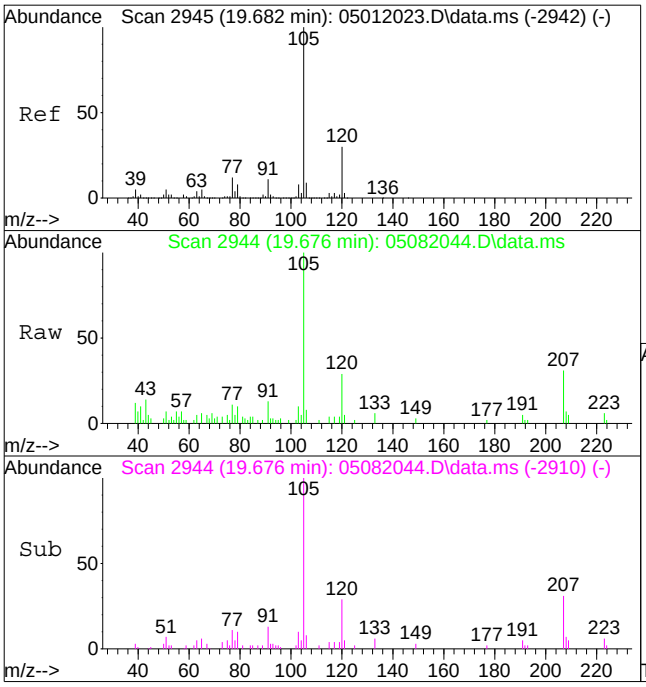


#76
n-Propylbenzene
Concen: 0.08 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05082044.D
Acq: 9 May 2020 3:50

Tgt Ion: 91 Resp: 11483

Ion	Ratio	Lower	Upper
91	100		
120	21.9	3.1	43.1
65	27.5	0.0	30.9

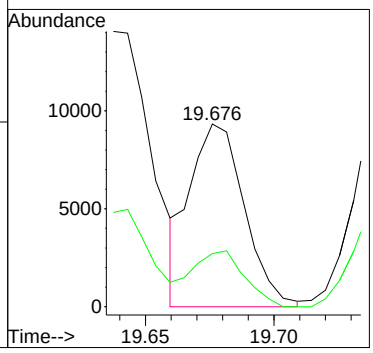


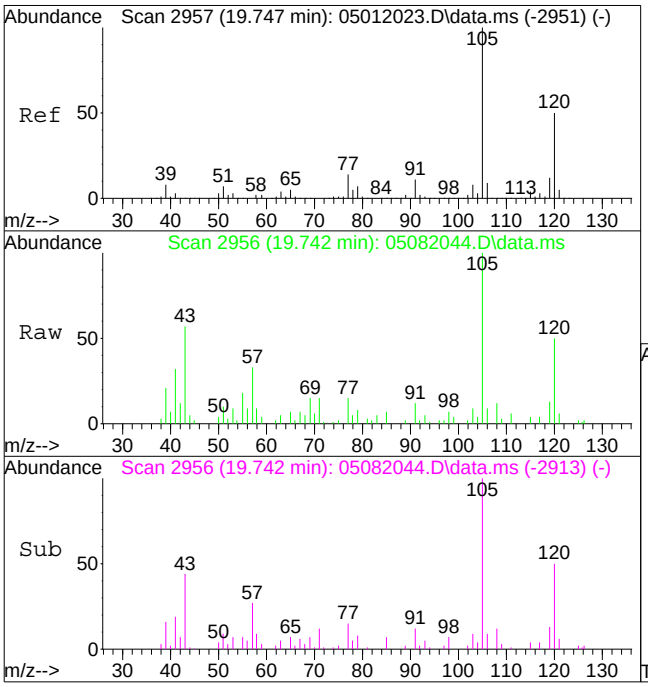


#78
4-Ethyltoluene
Concen: 0.12 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05082044.D
Acq: 9 May 2020 3:50

Tgt Ion:105 Resp: 13786

Ion	Ratio	Lower	Upper
105	100		
120	29.7	10.4	50.4

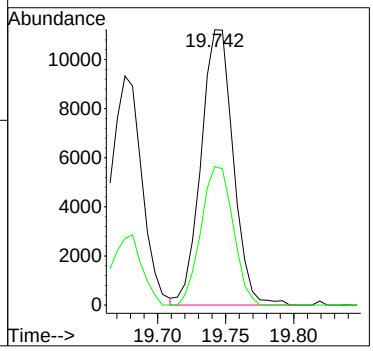


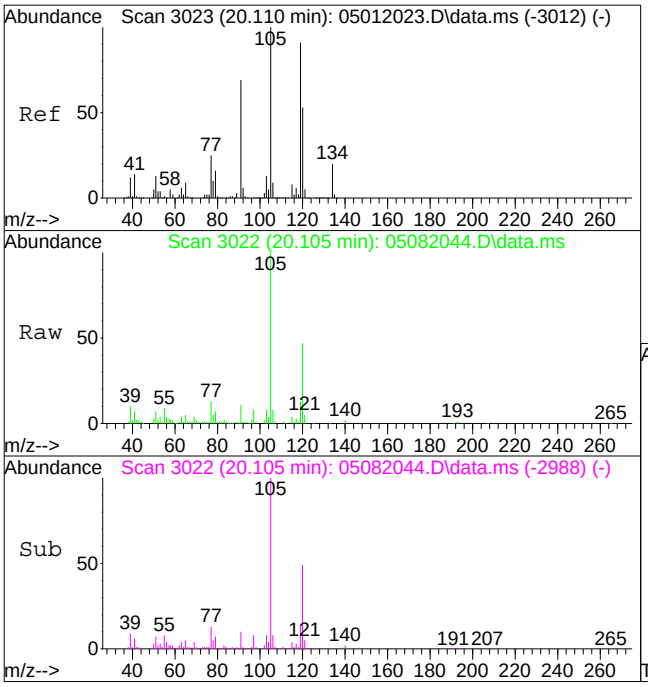


#79
1,3,5-Trimethylbenzene
Concen: 0.18 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05082044.D
Acq: 9 May 2020 3:50

Tgt Ion:105 Resp: 18454

Ion	Ratio	Lower	Upper
105	100		
120	50.0	29.9	69.9

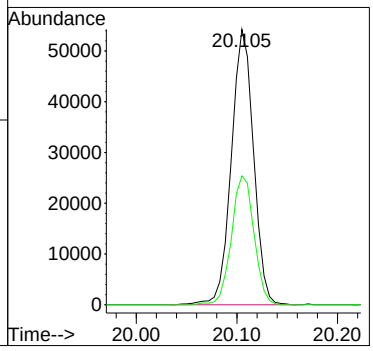


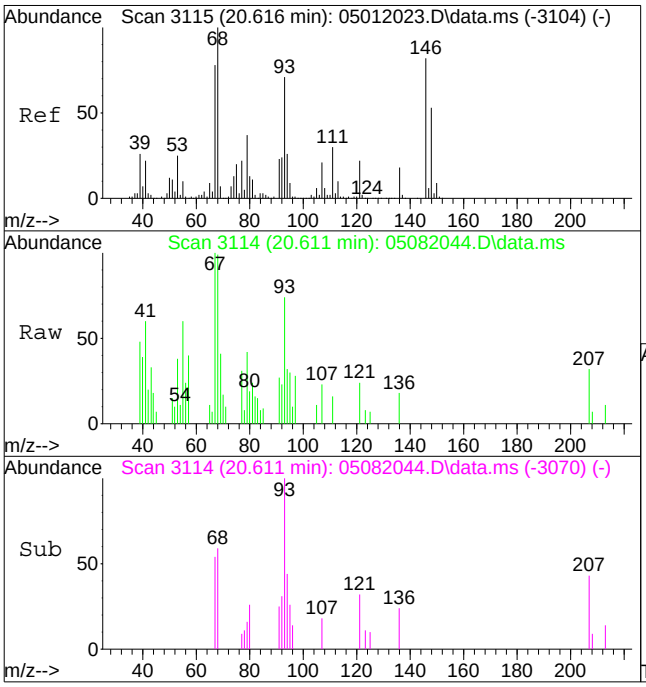


#82
1,2,4-Trimethylbenzene
Concen: 0.80 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05082044.D
Acq: 9 May 2020 3:50

Tgt Ion:105 Resp: 83116

Ion	Ratio	Lower	Upper
105	100		
120	47.5	33.6	73.6

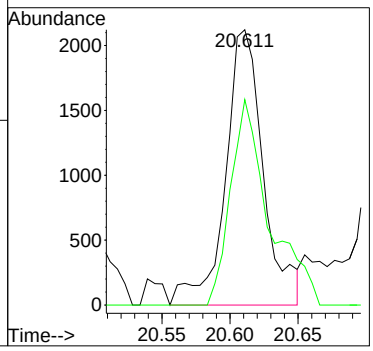


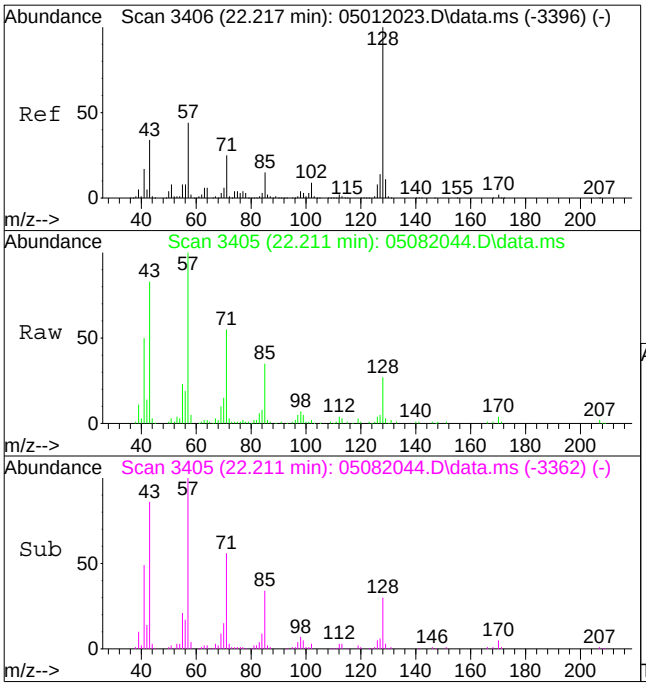


#91
d-Limonene
Concen: 0.10 ng
RT: 20.61 min Scan# 3114
Delta R.T. -0.006 min
Lab File: 05082044.D
Acq: 9 May 2020 3:50

Tgt Ion: 68 Resp: 4119

Ion	Ratio	Lower	Upper
68	100		
93	75.7	51.1	91.1

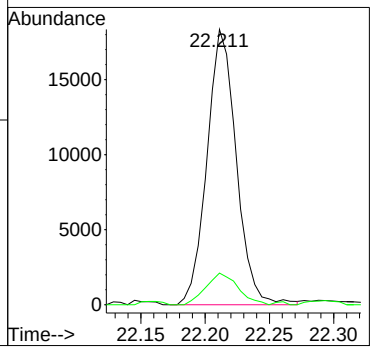




#95
Naphthalene
Concen: 0.23 ng
RT: 22.21 min Scan# 3405
Delta R.T. -0.011 min
Lab File: 05082044.D
Acq: 9 May 2020 3:50

Tgt Ion:128 Resp: 29156

Ion	Ratio	Lower	Upper
128	100		
129	12.5	0.0	31.0



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112021.D Vial: 1
Acq On : 11 May 2020 17:21 Operator: LH
Sample : P2002299-003 (1.5mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 19:08:26 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/11/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	235551	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1030716	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	486593	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	387213	12.130	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.04%			
57) Toluene-d8 (SS2)	15.72	98	1016265	12.322	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.56%			
73) Bromofluorobenzene (SS3)	18.97	174	375588	12.656	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.28%			
Target Compounds						Qvalue
2) Propene	4.09	42	51843	1.900	ng	88
3) Dichlorodifluoromethan...	4.27	85	784	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.	d	
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.34	45	2536	0.120	ng	86
11) Acetonitrile	6.56	41	669	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	7.54	45	3187	N.D.		
16) Acrylonitrile	7.70	53	1535	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	8.46	59	224	N.D.		
19) Methylene Chloride	8.41	84	109	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d	
21) Trichlorotrifluoroethane	8.85	151	12633	0.567	ng	98
22) Carbon Disulfide	8.69	76	1552	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.	d	
25) Methyl tert-Butyl Ether	10.07	73	1068	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	10.50	72	118	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	0.00	61	0	N.D.	d	
31) n-Hexane	11.27	57	3534713	78.662	ng	99
32) Chloroform	11.30	83	1357	N.D.		
34) Tetrahydrofuran (THF)	11.78	72	208	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d	
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	12.87	61	175	N.D.		
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	12.87	78	67073	0.607	ng	99
42) Carbon Tetrachloride	13.04	117	2136	0.057	ng	100
43) Cyclohexane	13.18	84	4171150	101.267	ng	97
44) tert-Amyl Methyl Ether	13.45	73	743	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d	
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	13.97	130	154	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112021.D Vial: 1
Acq On : 11 May 2020 17:21 Operator: LH
Sample : P2002299-003 (1.5mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 19:08:26 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

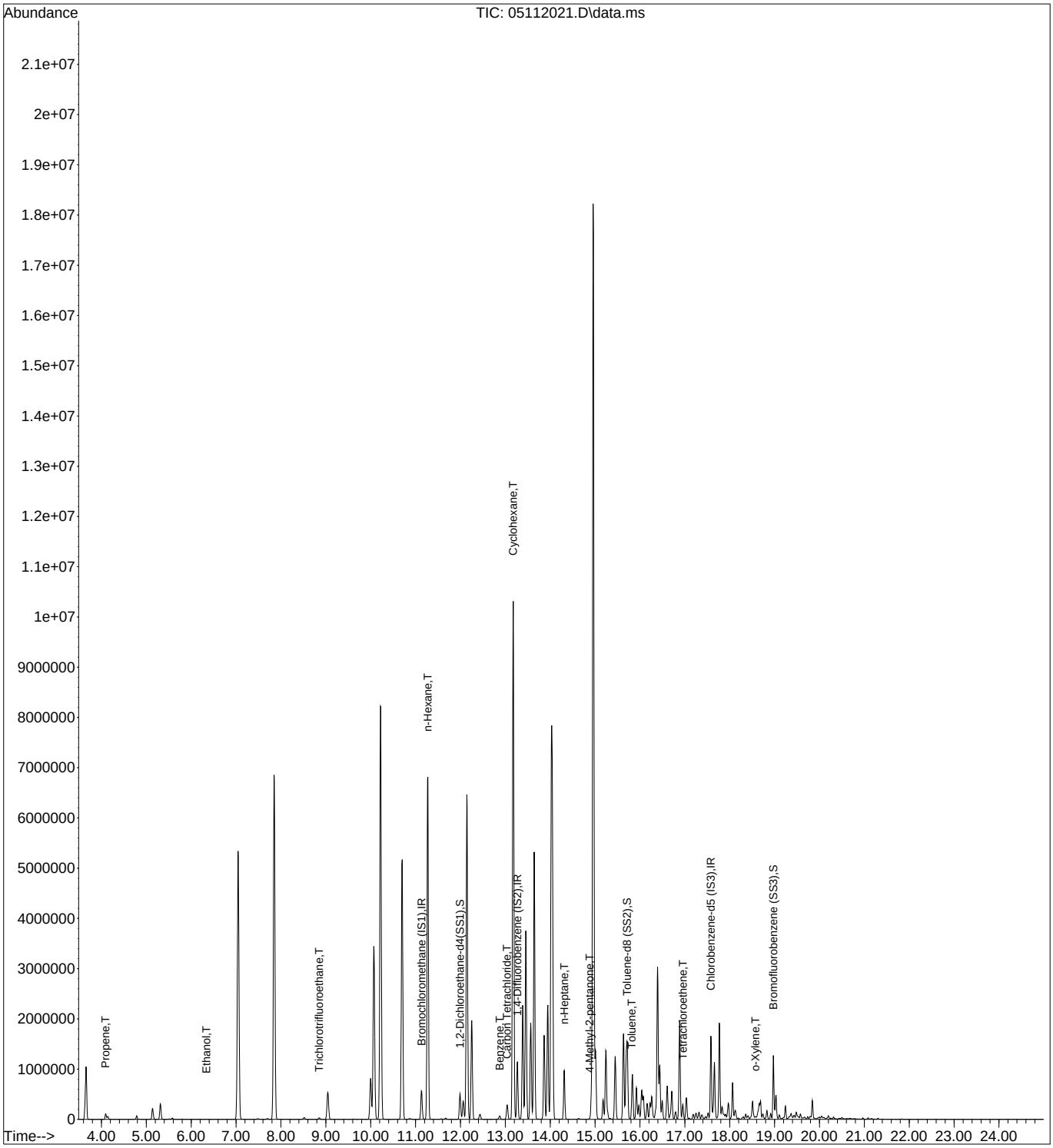
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	246786	9.547 ng	98
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d	
53) 4-Methyl-2-pentanone	14.88	58	4048	0.164 ng	94
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	15.82	91	17218	0.162 ng	98
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	0.00	57	0	N.D. d	
64) Tetrachloroethene	16.96	166	1527	0.051 ng	96
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	17.98	91	1691	N.D.	
67) m- & p-Xylenes	18.14	91	1911	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	18.57	91	7370	0.077 ng	98
71) n-Nonane	0.00	43	0	N.D. d	
72) 1,1,2,2-Tetrachloroethane	18.58	83	201	N.D.	
74) Cumene	18.97	105	467	N.D.	
75) alpha-Pinene	19.45	93	117	N.D.	
76) n-Propylbenzene	19.58	91	988	N.D.	
77) 3-Ethyltoluene	19.64	105	113	N.D.	
78) 4-Ethyltoluene	19.64	105	113	N.D.	
79) 1,3,5-Trimethylbenzene	19.75	105	1480	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	19.75	105	1480	N.D.	
82) 1,2,4-Trimethylbenzene	20.10	105	374	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.19	91	269	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	20.48	105	508	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	195	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	508	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.61	68	954	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.30	57	2458	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.21	128	534	N.D.	
96) n-Dodecane	22.21	57	242	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D.	
100) n-Butylbenzene	20.86	91	115	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112021.D Vial: 1
Acq On : 11 May 2020 17:21 Operator: LH
Sample : P2002299-003 (1.5mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 19:08:26 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



R16050120.M Mon May 11 19:10:12 2020

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112021.D Vial: 1
Acq On : 11 May 2020 17:21 Operator: LH
Sample : P2002299-003 (1.5mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 19:08:26 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/11/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

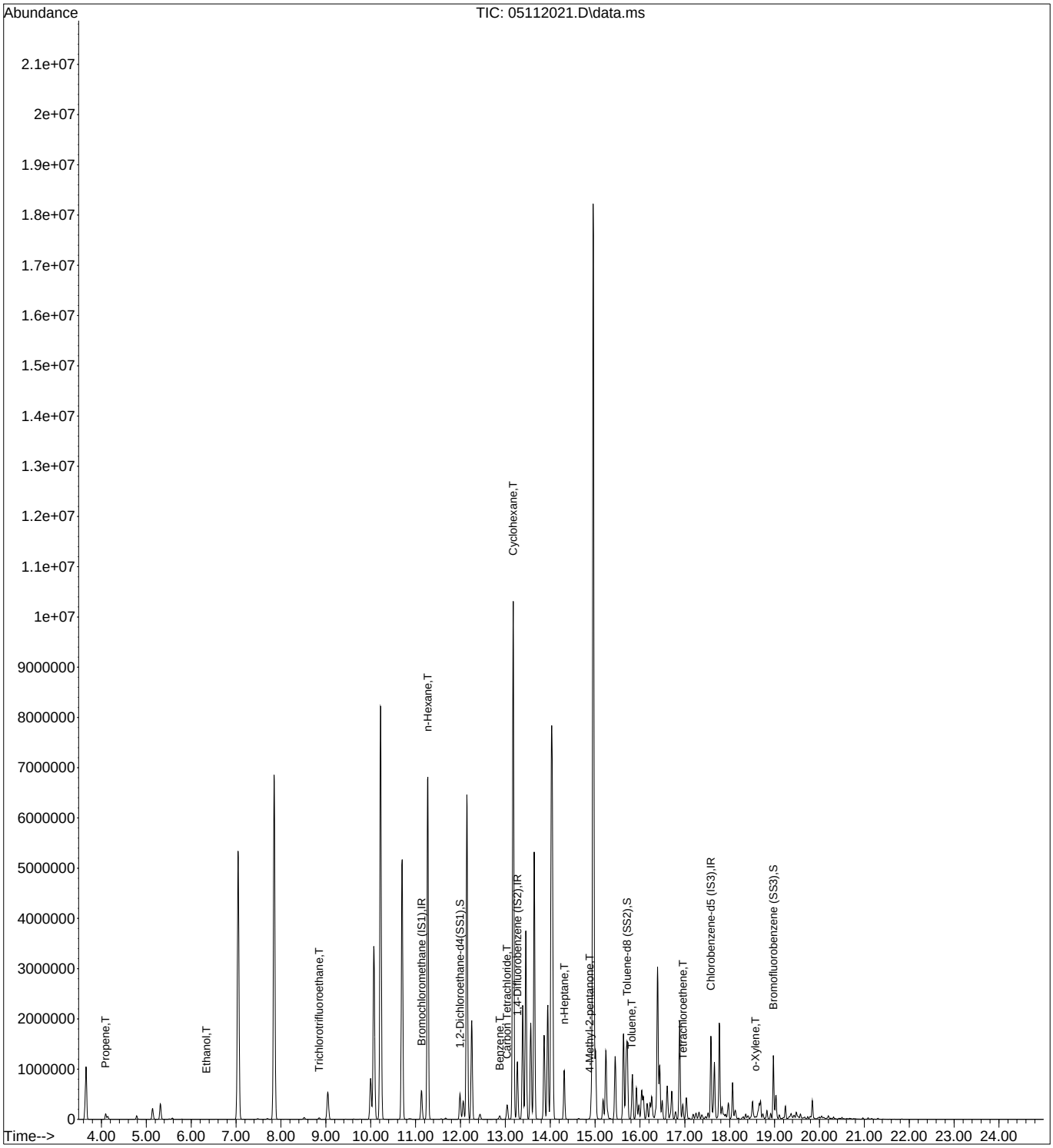
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	235551	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1030716	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	486593	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	387213	12.130	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.04%			
57) Toluene-d8 (SS2)	15.72	98	1016265	12.322	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.56%			
73) Bromofluorobenzene (SS3)	18.97	174	375588	12.656	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.28%			
Target Compounds						Qvalue
2) Propene	4.09	42	51843	1.900	ng	88
10) Ethanol	6.34	45	2536	0.120	ng	86
21) Trichlorotrifluoroethane	8.85	151	12633	0.567	ng	98
31) n-Hexane	11.27	57	3534713	78.662	ng	99
41) Benzene	12.87	78	67073	0.607	ng	99
42) Carbon Tetrachloride	13.04	117	2136	0.057	ng	100
43) Cyclohexane	13.18	84	4171150	101.267	ng	97
51) n-Heptane	14.31	71	246786	9.547	ng	98
53) 4-Methyl-2-pentanone	14.88	58	4048	0.164	ng	94
58) Toluene	15.82	91	17218	0.162	ng	98
64) Tetrachloroethene	16.96	166	1527	0.051	ng	96
70) o-Xylene	18.57	91	7370	0.077	ng	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

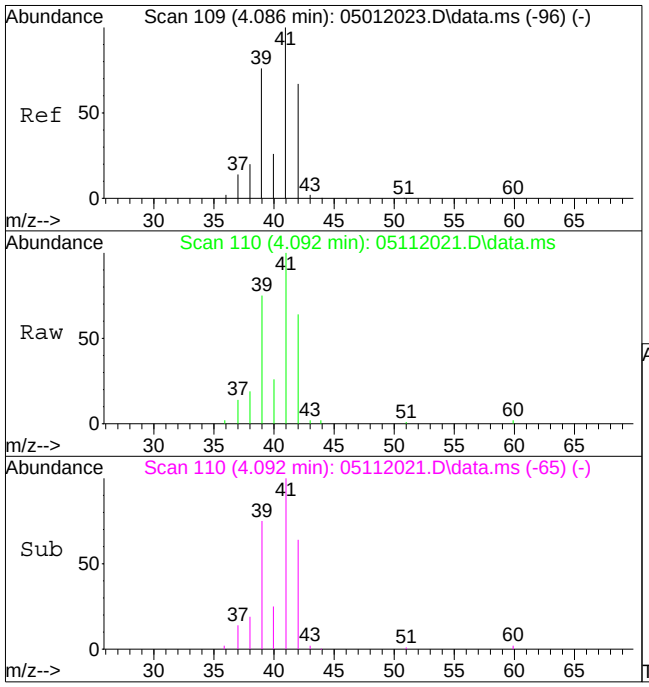
Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112021.D Vial: 1
Acq On : 11 May 2020 17:21 Operator: LH
Sample : P2002299-003 (1.5mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 19:08:26 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



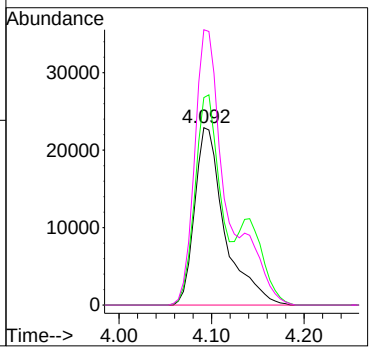
R16050120.M Mon May 11 19:08:32 2020

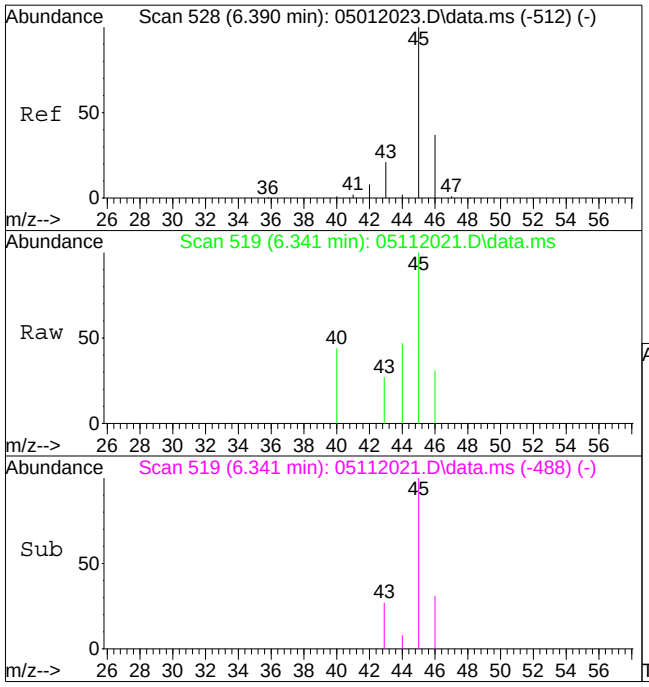


#2
Propene
Concen: 1.90 ng
RT: 4.09 min Scan# 110
Delta R.T. -0.000 min
Lab File: 05112021.D
Acq: 11 May 2020 17:21

Tgt Ion: 42 Resp: 51843

Ion	Ratio	Lower	Upper
42	100		
39	102.9	96.1	136.1
41	167.1	131.9	171.9

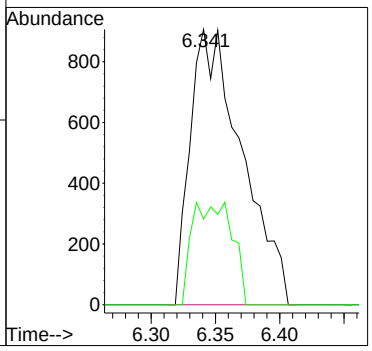


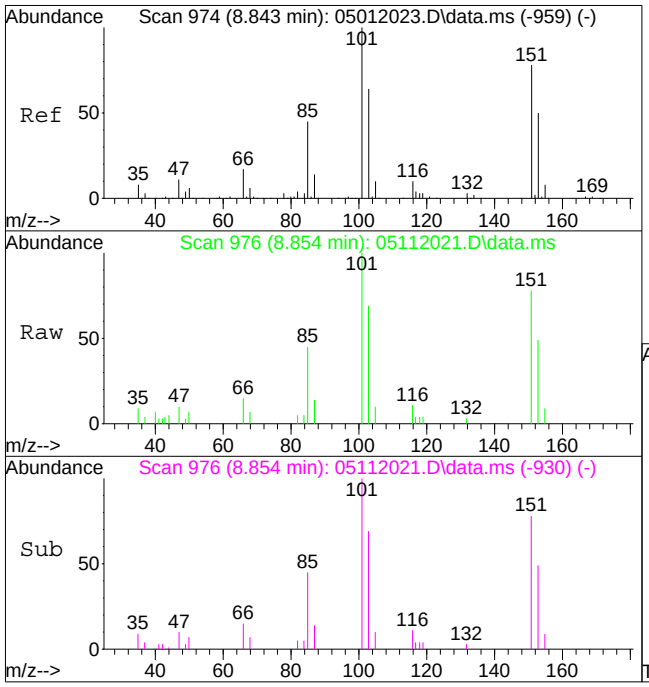


#10
Ethanol
Concen: 0.12 ng
RT: 6.34 min Scan# 519
Delta R.T. -0.077 min
Lab File: 05112021.D
Acq: 11 May 2020 17:21

Tgt Ion: 45 Resp: 2536

Ion	Ratio	Lower	Upper
45	100		
46	28.7	17.2	57.2

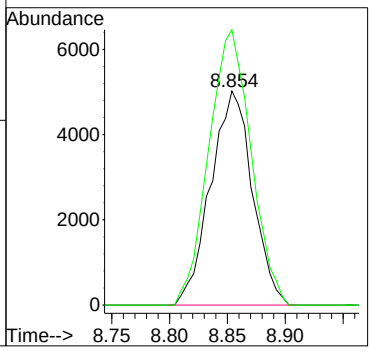


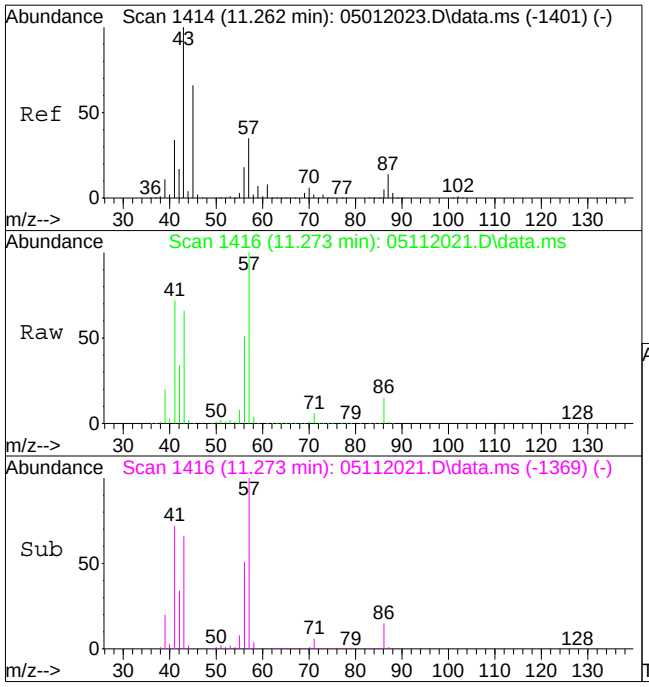


#21
Trichlorotrifluoroethane
Concen: 0.57 ng
RT: 8.85 min Scan# 976
Delta R.T. 0.005 min
Lab File: 05112021.D
Acq: 11 May 2020 17:21

Tgt Ion:151 Resp: 12633

Ion	Ratio	Lower	Upper
151	100		
101	130.2	107.3	147.3

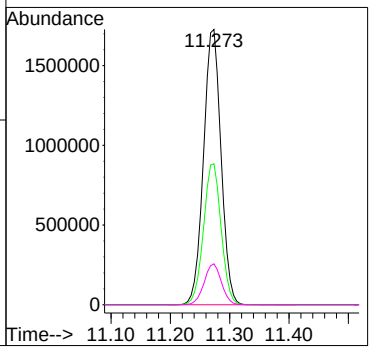


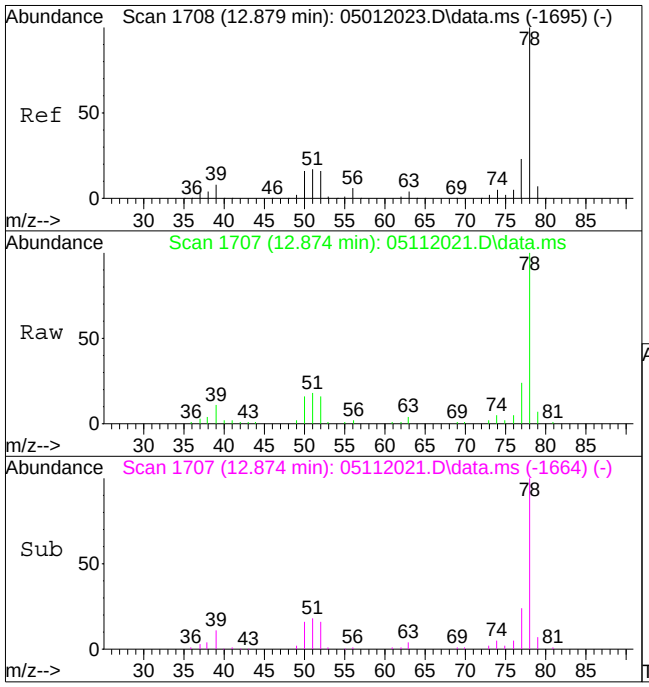


#31
n-Hexane
Concen: 78.66 ng
RT: 11.27 min Scan# 1416
Delta R.T. 0.011 min
Lab File: 05112021.D
Acq: 11 May 2020 17:21

Tgt Ion: 57 Resp: 3534713

Ion	Ratio	Lower	Upper
57	100		
56	51.4	41.4	62.0
86	14.7	12.4	18.6

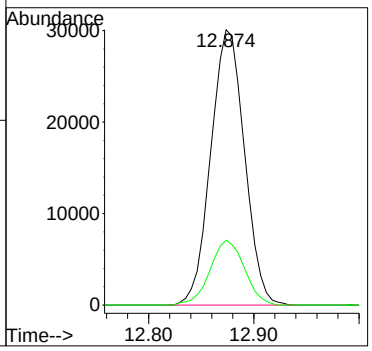


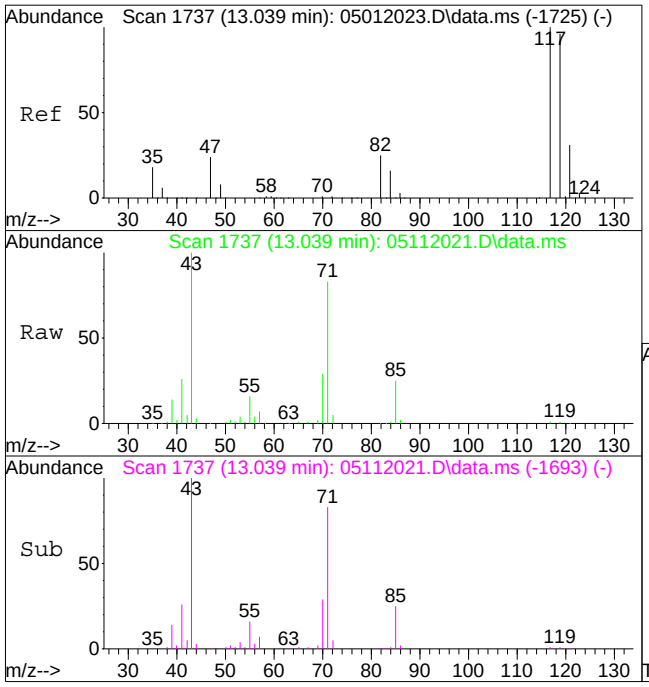


#41
Benzene
Concen: 0.61 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05112021.D
Acq: 11 May 2020 17:21

Tgt Ion: 78 Resp: 67073

Ion	Ratio	Lower	Upper
78	100		
77	24.0	3.4	43.4

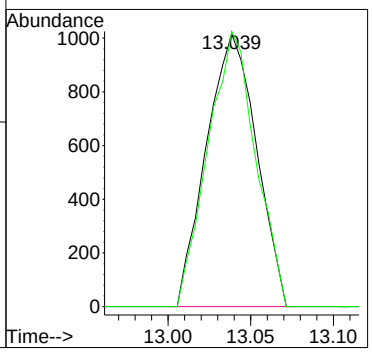


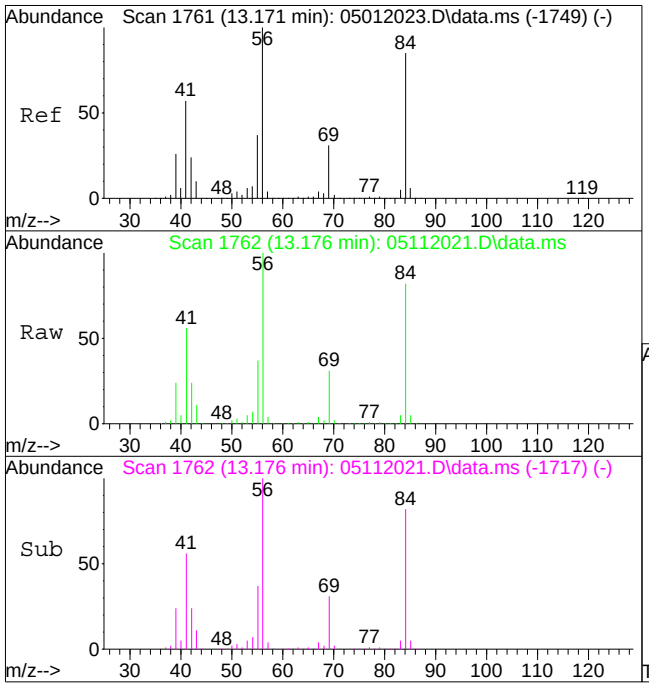


#42
Carbon Tetrachloride
Concen: 0.06 ng
RT: 13.04 min Scan# 1737
Delta R.T. -0.006 min
Lab File: 05112021.D
Acq: 11 May 2020 17:21

Tgt Ion:117 Resp: 2136

Ion	Ratio	Lower	Upper
117	100		
119	96.1	76.2	116.2

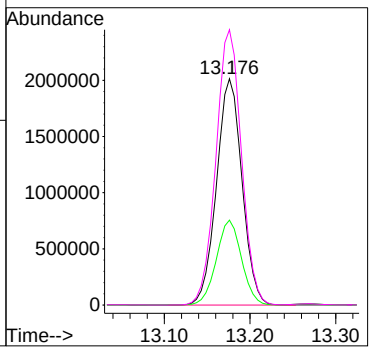


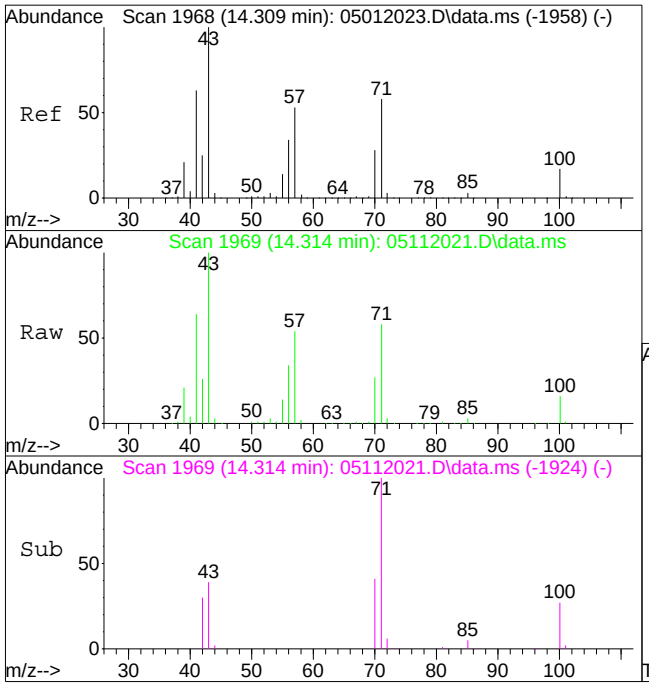


#43
Cyclohexane
Concen: 101.27 ng
RT: 13.18 min Scan# 1762
Delta R.T. -0.000 min
Lab File: 05112021.D
Acq: 11 May 2020 17:21

Tgt Ion: 84 Resp: 4171150

Ion	Ratio	Lower	Upper
84	100		
69	37.0	16.5	56.5
56	121.7	97.4	137.4

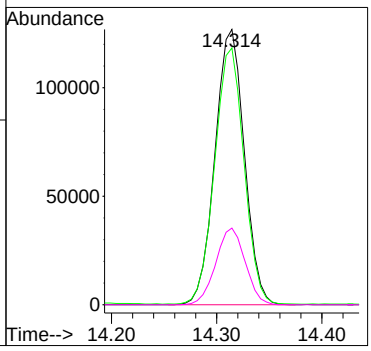


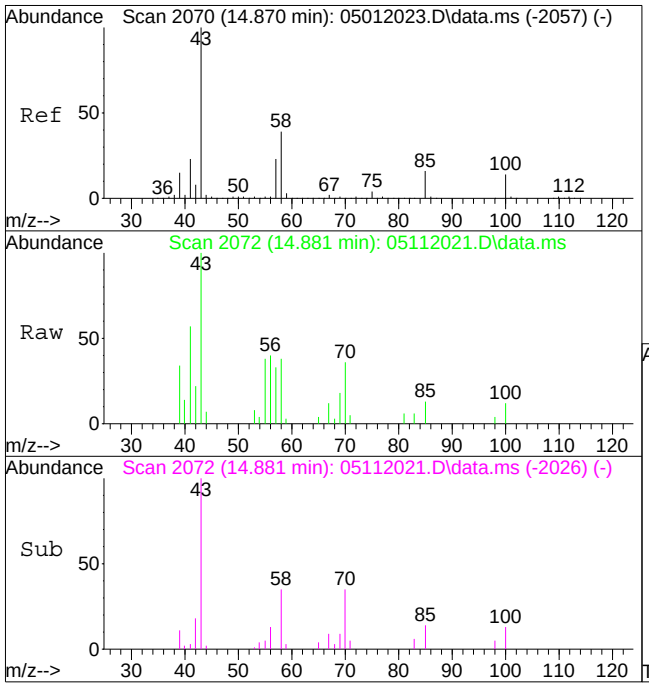


#51
n-Heptane
Concen: 9.55 ng
RT: 14.31 min Scan# 1969
Delta R.T. -0.000 min
Lab File: 05112021.D
Acq: 11 May 2020 17:21

Tgt Ion: 71 Resp: 246786

Ion	Ratio	Lower	Upper
71	100		
57	92.9	71.0	111.0
100	27.8	8.4	48.4

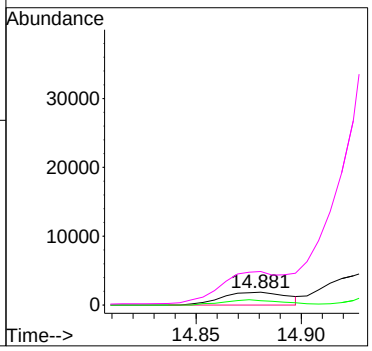


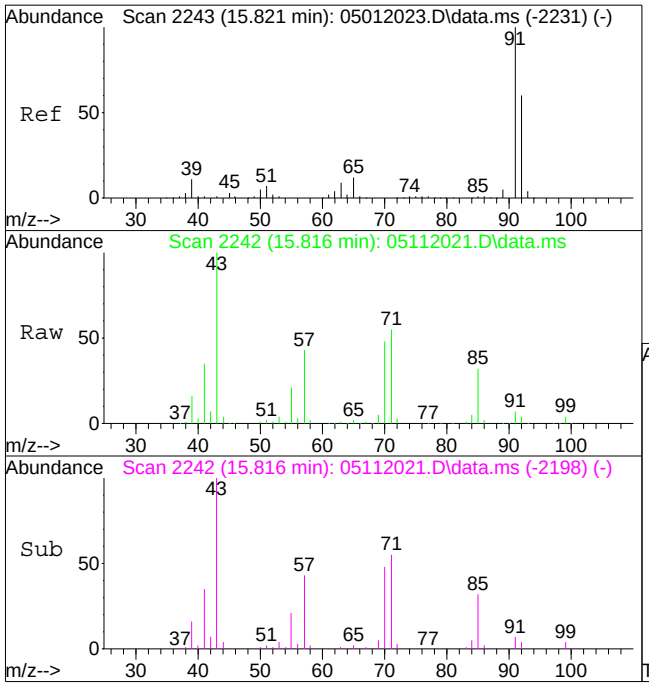


#53
4-Methyl-2-pentanone
Concen: 0.16 ng
RT: 14.88 min Scan# 2072
Delta R.T. 0.005 min
Lab File: 05112021.D
Acq: 11 May 2020 17:21

Tgt Ion: 58 Resp: 4048

Ion	Ratio	Lower	Upper
58	100		
85	37.5	35.4	53.2
43	244.1	203.3	304.9

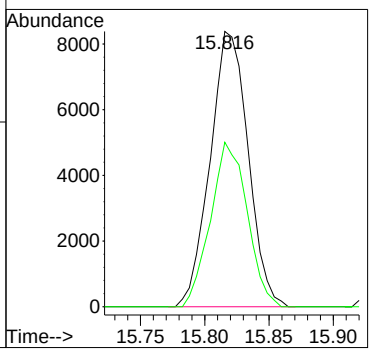


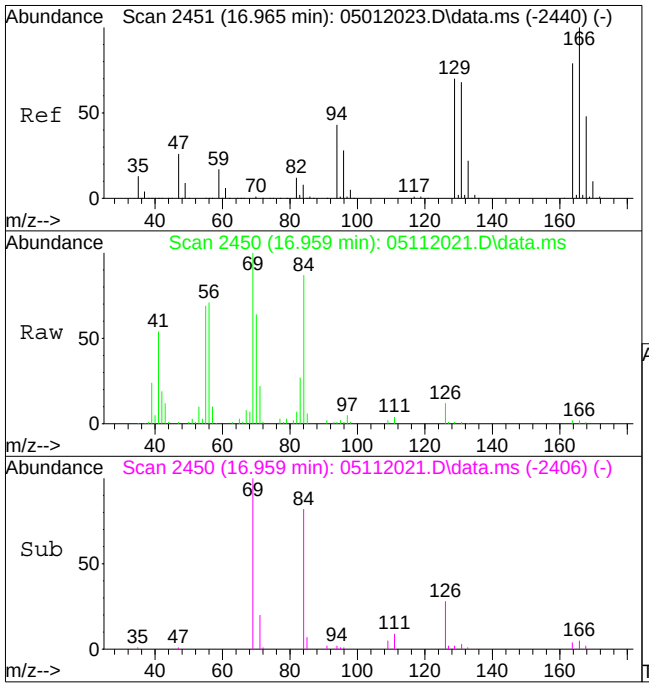


#58
Toluene
Concen: 0.16 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05112021.D
Acq: 11 May 2020 17:21

Tgt Ion: 91 Resp: 17218

Ion	Ratio	Lower	Upper
91	100		
92	57.6	39.4	79.4

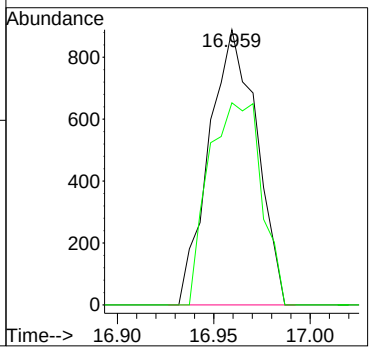


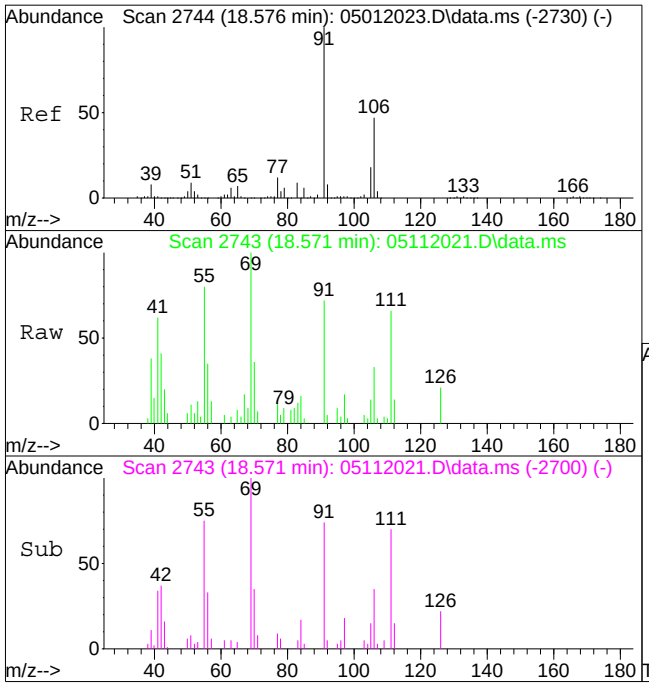


#64
Tetrachloroethene
Concen: 0.05 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05112021.D
Acq: 11 May 2020 17:21

Tgt Ion:166 Resp: 1527

Ion	Ratio	Lower	Upper
166	100		
164	81.6	58.4	98.4

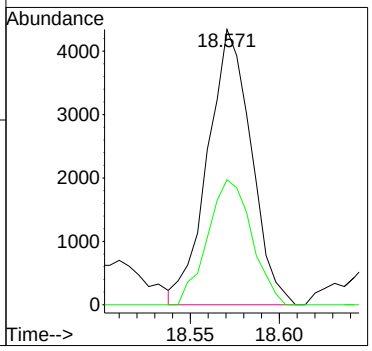




#70
o-Xylene
Concen: 0.08 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05112021.D
Acq: 11 May 2020 17:21

Tgt Ion: 91 Resp: 7370

Ion	Ratio	Lower	Upper
91	100		
106	45.9	27.5	67.5



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112022.D Vial: 1
Acq On : 11 May 2020 17:55 Operator: LH
Sample : P2002299-004 (0.4mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 19:09:26 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/11/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	245009	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1066013	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	510499	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	402103	12.110	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.88%			
57) Toluene-d8 (SS2)	15.72	98	1063761	12.294	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.32%			
73) Bromofluorobenzene (SS3)	18.97	174	399506	12.831	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.64%			
Target Compounds						Qvalue
2) Propene	4.10	42	42891	1.511	ng	# 85
3) Dichlorodifluoromethan...	4.27	85	175	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.	d	
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.36	45	881	N.D.		
11) Acetonitrile	6.60	41	100	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	7.56	45	613	N.D.		
16) Acrylonitrile	7.70	53	1164	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	0.00	84	0	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d	
21) Trichlorotrifluoroethane	8.85	151	4311	0.186	ng	100
22) Carbon Disulfide	8.69	76	889	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.	d	
25) Methyl tert-Butyl Ether	10.06	73	678	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	10.31	72	107	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	0.00	61	0	N.D.	d	
31) n-Hexane	11.27	57	3022118	64.659	ng	99
32) Chloroform	11.31	83	390	N.D.		
34) Tetrahydrofuran (THF)	11.77	72	719	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d	
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	12.88	78	1517	N.D.		
42) Carbon Tetrachloride	13.03	117	886	N.D.		
43) Cyclohexane	13.18	84	3687696	86.565	ng	96
44) tert-Amyl Methyl Ether	13.46	73	889	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d	
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112022.D Vial: 1
Acq On : 11 May 2020 17:55 Operator: LH
Sample : P2002299-004 (0.4mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 19:09:26 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

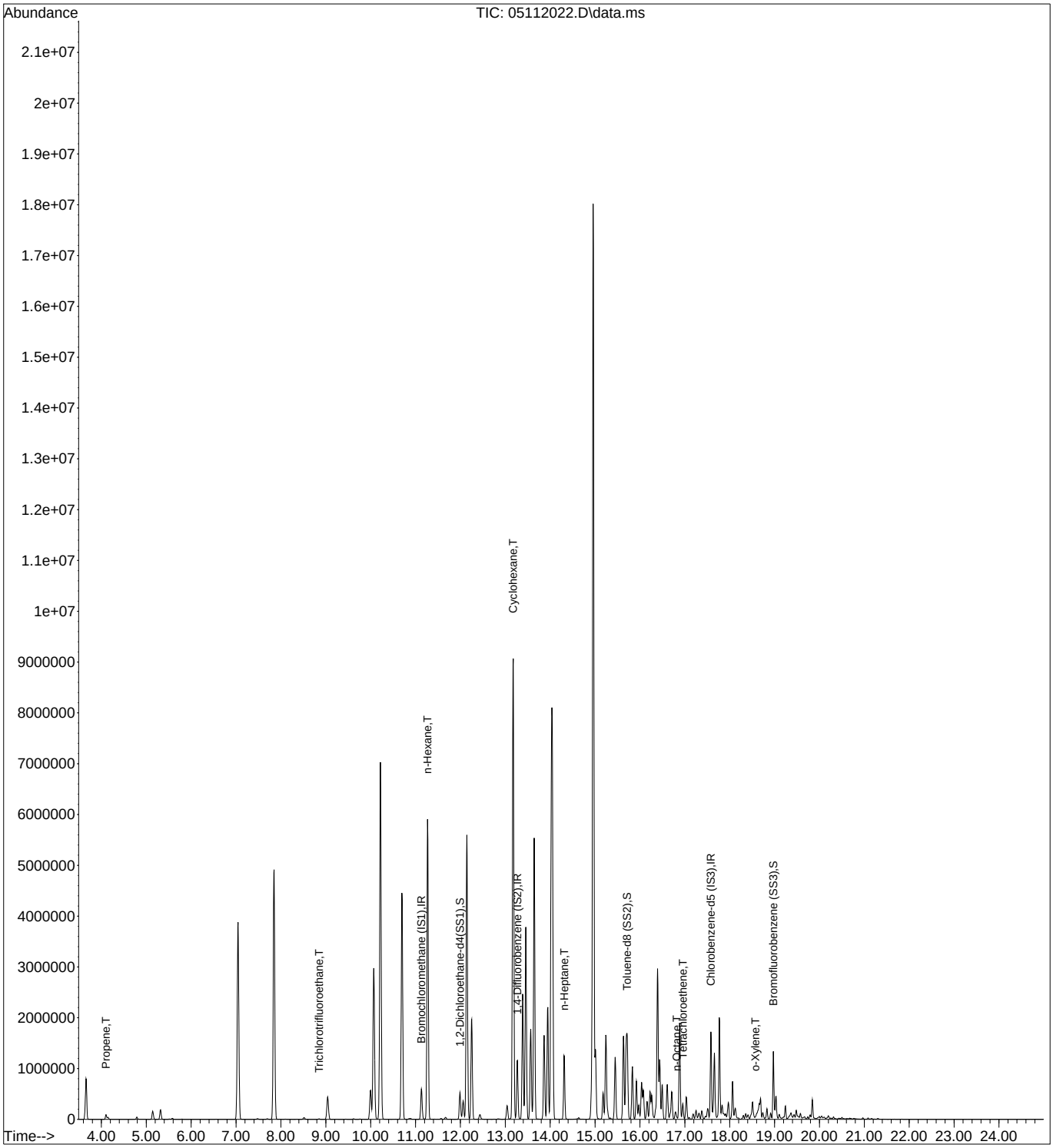
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.31	71	316364	11.834	ng		98
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	d		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	d		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.			
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	d		
58) Toluene	15.82	91	5136	N.D.			
59) 2-Hexanone	0.00	43	0	N.D.	d		
60) Dibromochloromethane	0.00	129	0	N.D.			
61) 1,2-Dibromoethane	0.00	107	0	N.D.			
62) n-Butyl Acetate	0.00	43	0	N.D.	d		
63) n-Octane	16.82	57	7665	0.332	ng	#	76
64) Tetrachloroethene	16.96	166	2340	0.074	ng		96
65) Chlorobenzene	0.00	112	0	N.D.	d		
66) Ethylbenzene	17.97	91	1283	N.D.			
67) m- & p-Xylenes	18.16	91	376	N.D.			
68) Bromoform	0.00	173	0	N.D.			
69) Styrene	0.00	104	0	N.D.			
70) o-Xylene	18.57	91	9523	0.095	ng		95
71) n-Nonane	0.00	43	0	N.D.	d		
72) 1,1,2,2-Tetrachloroethane	18.57	83	160	N.D.			
74) Cumene	18.97	105	452	N.D.			
75) alpha-Pinene	19.36	93	438	N.D.			
76) n-Propylbenzene	19.58	91	1180	N.D.			
77) 3-Ethyltoluene	19.75	105	234	N.D.			
78) 4-Ethyltoluene	19.75	105	234	N.D.			
79) 1,3,5-Trimethylbenzene	19.75	105	234	N.D.			
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	19.75	105	234	N.D.			
82) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.			
83) n-Decane	0.00	57	0	N.D.	d		
84) Benzyl Chloride	20.20	91	385	N.D.			
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.			
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.			
87) sec-Butylbenzene	20.48	105	702	N.D.			
88) 4-Isopropyltoluene (p-...	20.49	119	104	N.D.			
89) 1,2,3-Trimethylbenzene	20.48	105	702	N.D.			
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.			
91) d-Limonene	20.61	68	868	N.D.			
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.			
93) n-Undecane	21.30	57	1801	N.D.			
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.			
95) Naphthalene	22.21	128	539	N.D.			
96) n-Dodecane	22.13	57	378	N.D.			
97) Hexachlorobutadiene	0.00	225	0	N.D.			
98) Cyclohexanone	0.00	55	0	N.D.	d		
99) tert-Butylbenzene	0.00	119	0	N.D.			
100) n-Butylbenzene	20.70	91	224	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112022.D Vial: 1
Acq On : 11 May 2020 17:55 Operator: LH
Sample : P2002299-004 (0.4mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 19:09:26 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112022.D Vial: 1
Acq On : 11 May 2020 17:55 Operator: LH
Sample : P2002299-004 (0.4mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 19:09:26 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/11/20

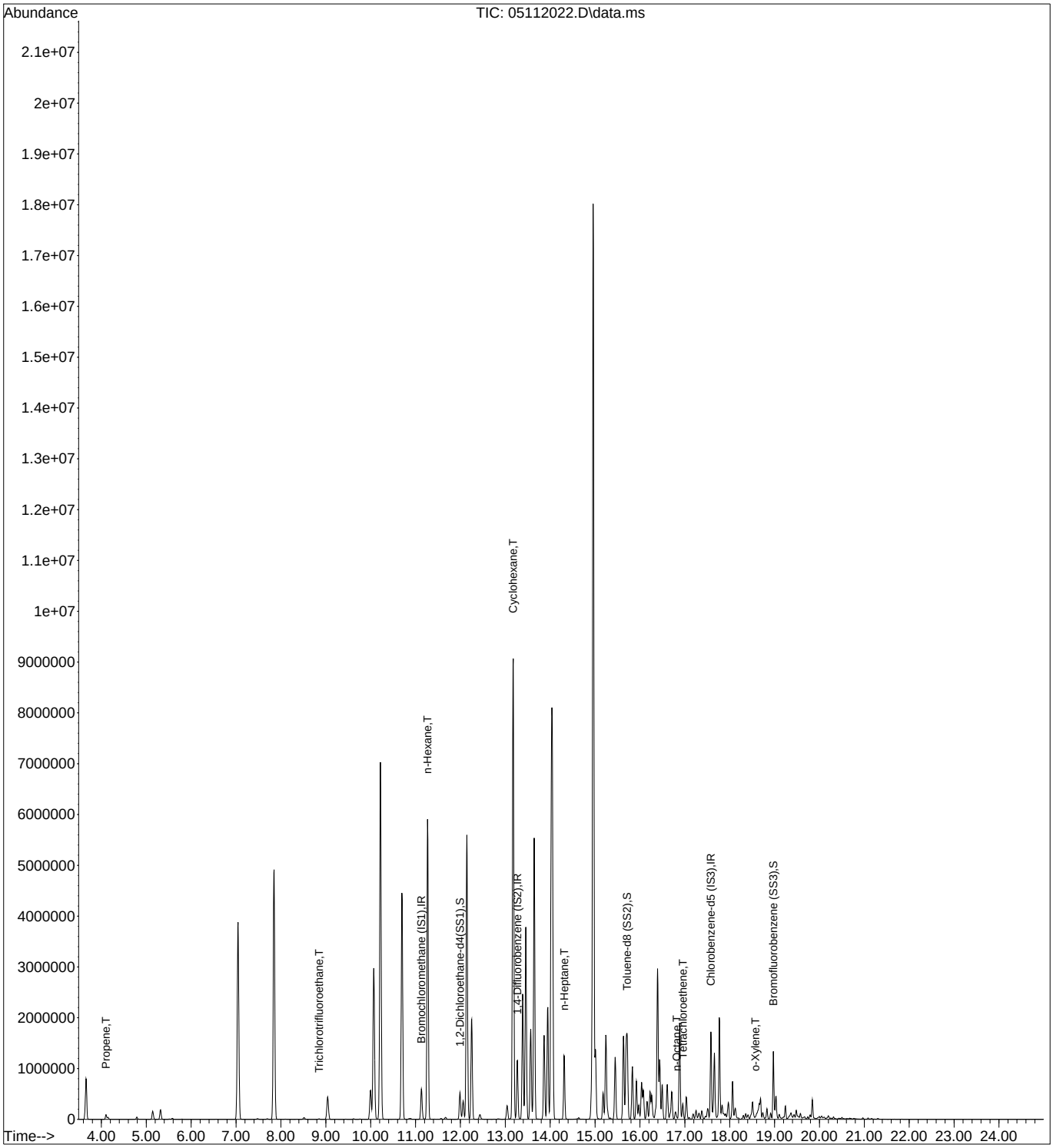
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	245009	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1066013	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	510499	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	402103	12.110	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.88%				
57) Toluene-d8 (SS2)	15.72	98	1063761	12.294	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.32%				
73) Bromofluorobenzene (SS3)	18.97	174	399506	12.831	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.64%				
Target Compounds							Qvalue
2) Propene	4.10	42	42891	1.511	ng	#	85
21) Trichlorotrifluoroethane	8.85	151	4311	0.186	ng		100
31) n-Hexane	11.27	57	3022118	64.659	ng		99
43) Cyclohexane	13.18	84	3687696	86.565	ng		96
51) n-Heptane	14.31	71	316364	11.834	ng		98
63) n-Octane	16.82	57	7665	0.332	ng	#	76
64) Tetrachloroethene	16.96	166	2340	0.074	ng		96
70) o-Xylene	18.57	91	9523	0.095	ng		95

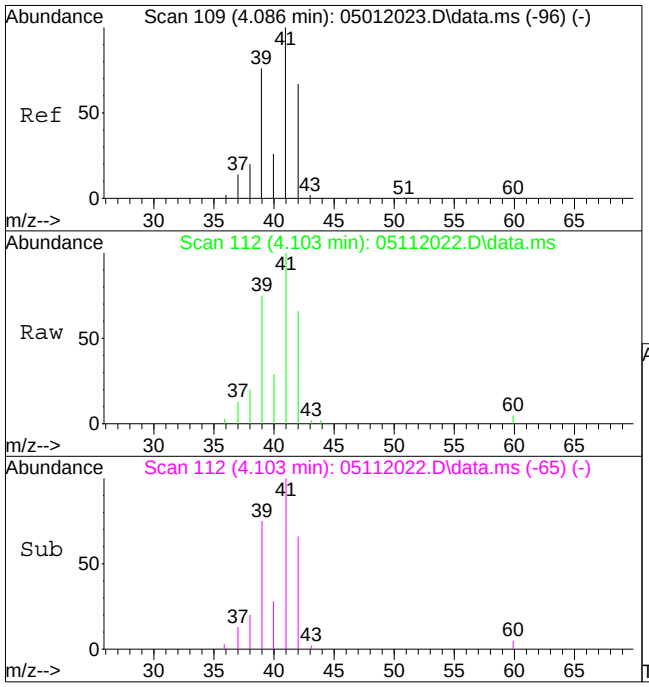
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112022.D Vial: 1
Acq On : 11 May 2020 17:55 Operator: LH
Sample : P2002299-004 (0.4mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 19:09:26 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

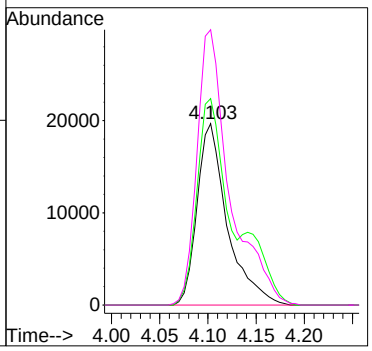


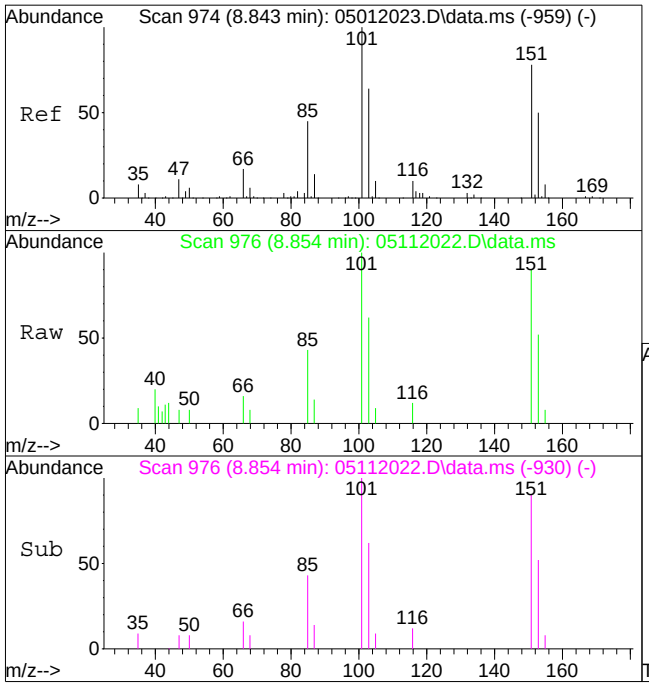


#2
Propene
Concen: 1.51 ng
RT: 4.10 min Scan# 112
Delta R.T. 0.011 min
Lab File: 05112022.D
Acq: 11 May 2020 17:55

Tgt Ion: 42 Resp: 42891

Ion	Ratio	Lower	Upper
42	100		
39	138.3	96.1	136.1#
41	165.2	131.9	171.9

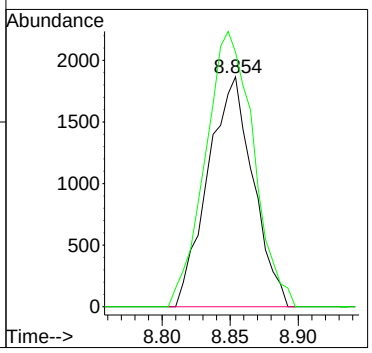


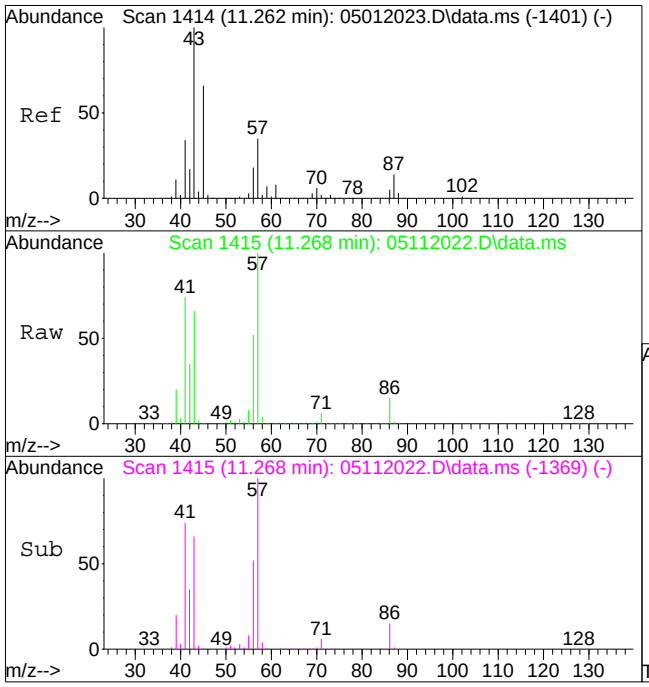


#21
Trichlorotrifluoroethane
Concen: 0.19 ng
RT: 8.85 min Scan# 976
Delta R.T. 0.005 min
Lab File: 05112022.D
Acq: 11 May 2020 17:55

Tgt Ion:151 Resp: 4311

Ion	Ratio	Lower	Upper
151	100		
101	127.6	107.3	147.3

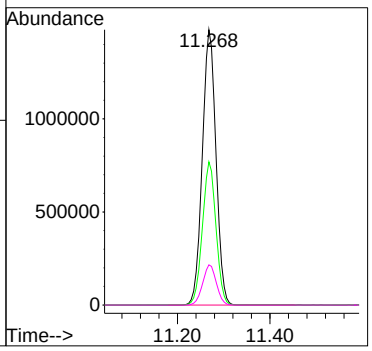


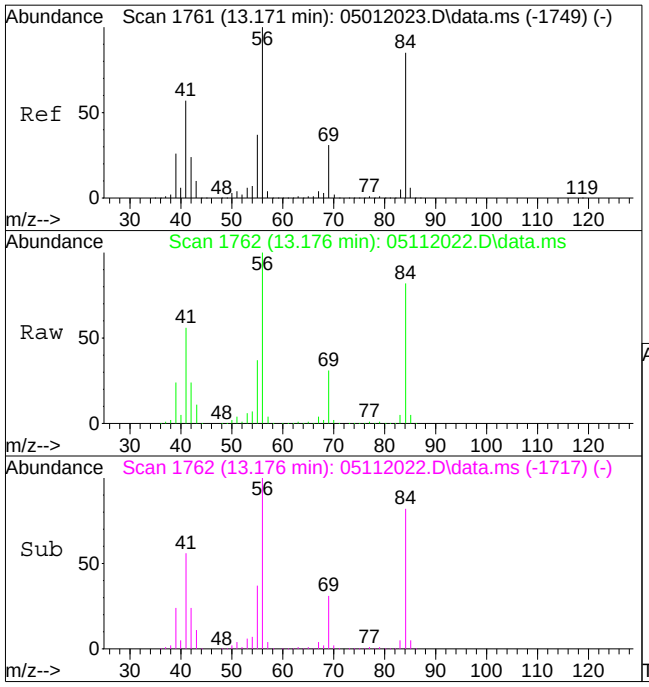


#31
n-Hexane
Concen: 64.66 ng
RT: 11.27 min Scan# 1415
Delta R.T. 0.005 min
Lab File: 05112022.D
Acq: 11 May 2020 17:55

Tgt Ion: 57 Resp: 3022118

Ion	Ratio	Lower	Upper
57	100		
56	51.6	41.4	62.0
86	14.6	12.4	18.6

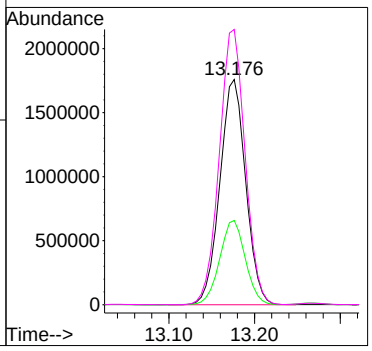


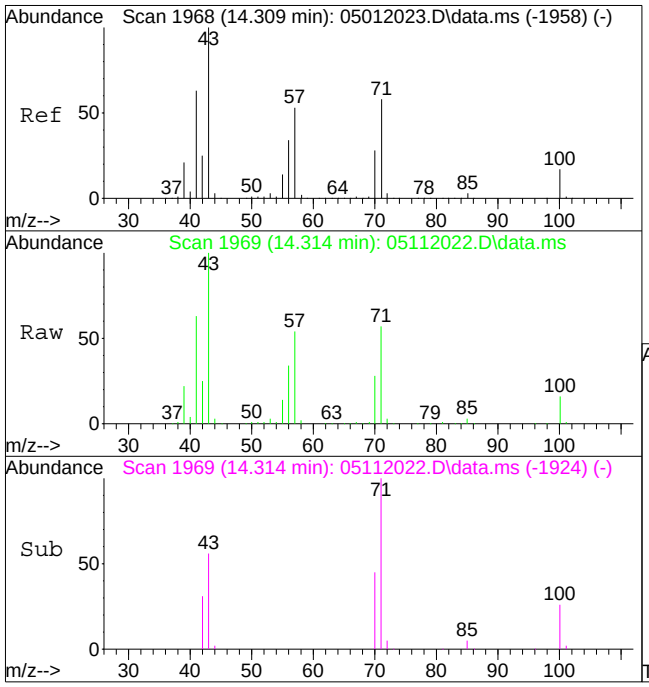


#43
Cyclohexane
Concen: 86.57 ng
RT: 13.18 min Scan# 1762
Delta R.T. -0.000 min
Lab File: 05112022.D
Acq: 11 May 2020 17:55

Tgt Ion: 84 Resp: 3687696

Ion	Ratio	Lower	Upper
84	100		
69	37.1	16.5	56.5
56	122.1	97.4	137.4

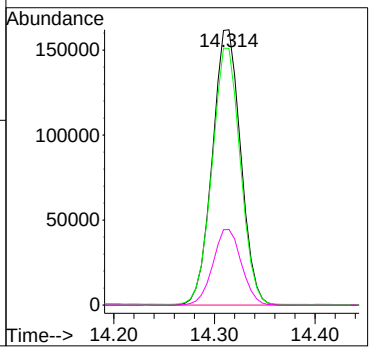


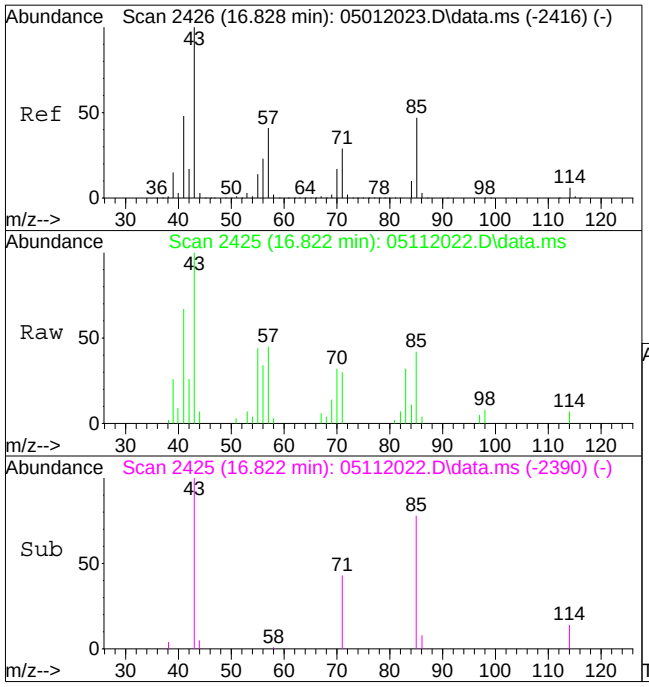


#51
n-Heptane
Concen: 11.83 ng
RT: 14.31 min Scan# 1969
Delta R.T. -0.000 min
Lab File: 05112022.D
Acq: 11 May 2020 17:55

Tgt Ion: 71 Resp: 316364

Ion	Ratio	Lower	Upper
71	100		
57	93.0	71.0	111.0
100	27.7	8.4	48.4

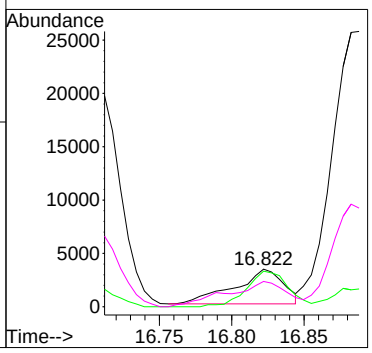


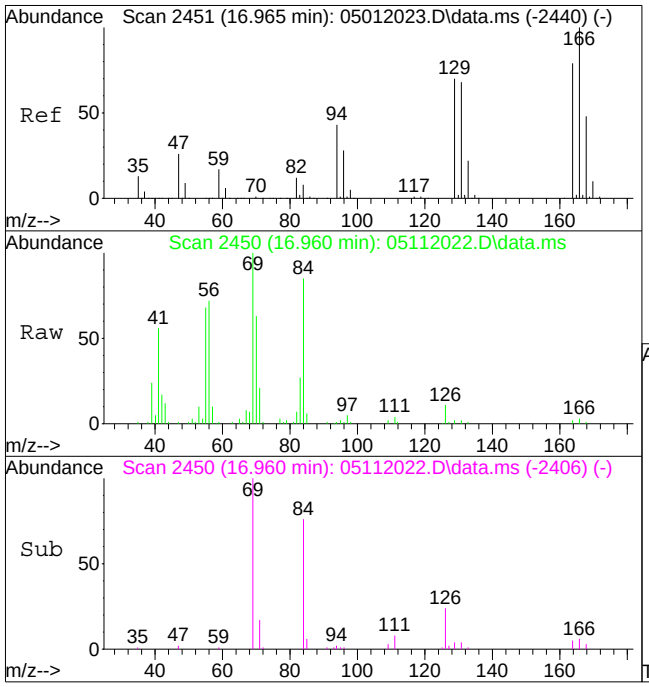


#63
n-Octane
Concen: 0.33 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05112022.D
Acq: 11 May 2020 17:55

Tgt Ion: 57 Resp: 7665

Ion	Ratio	Lower	Upper
57	100		
85	86.9	91.0	136.4#
71	88.3	56.2	84.2#

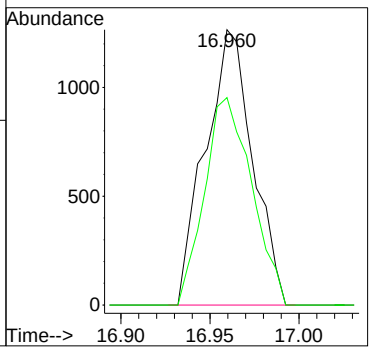


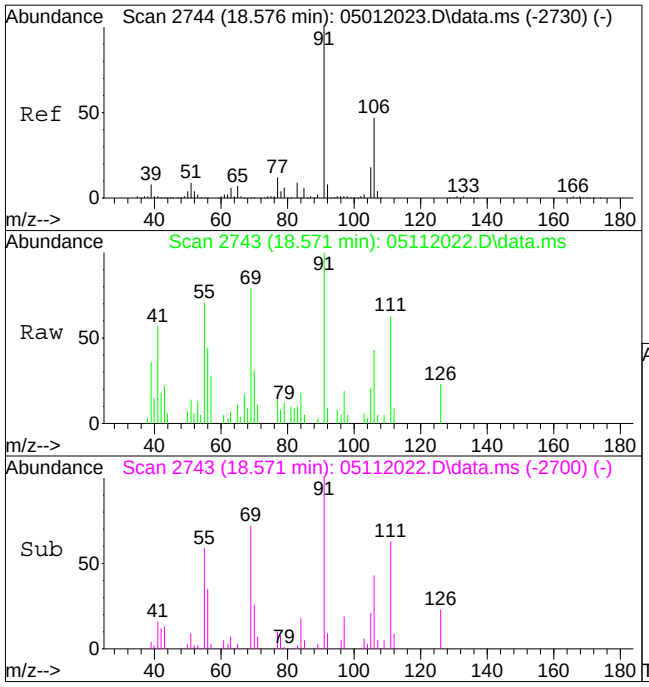


#64
Tetrachloroethene
Concen: 0.07 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05112022.D
Acq: 11 May 2020 17:55

Tgt Ion:166 Resp: 2340

Ion	Ratio	Lower	Upper
166	100		
164	75.0	58.4	98.4

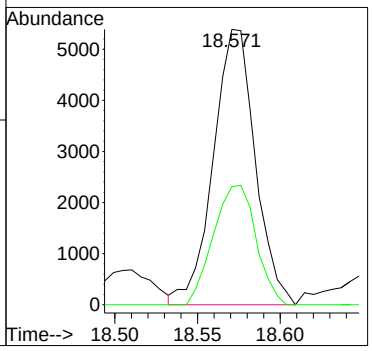




#70
o-Xylene
Concen: 0.10 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05112022.D
Acq: 11 May 2020 17:55

Tgt Ion: 91 Resp: 9523

Ion	Ratio	Lower	Upper
91	100		
106	43.9	27.5	67.5



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082045.D Vial: 16
Acq On : 9 May 2020 4:24 Operator: LH
Sample : P2002299-005 (120mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 17:30:02 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/11/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	265944	12.500 ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.27	114	1138665	12.500 ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	532421	12.500 ng		0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.00	65	413258	11.466 ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.76%			
57) Toluene-d8 (SS2)	15.72	98	1120301	12.414 ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.28%			
73) Bromofluorobenzene (SS3)	18.97	174	441980	13.611 ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.88%			
Target Compounds						Qvalue
2) Propene	4.10	42	21498	0.698 ng		98
3) Dichlorodifluoromethan...	4.27	85	29168	0.484 ng		99
4) Chloromethane	4.53	50	222942	4.724 ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	332	N.D.		
6) Vinyl Chloride	4.95	62	33126	0.640 ng		99
7) 1,3-Butadiene	5.22	54	1533	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	5.98	64	9995	0.489 ng		98
10) Ethanol	6.32	45	14105	0.593 ng		90
11) Acetonitrile	6.60	41	1711	N.D.		
12) Acrolein	6.80	56	1152	0.061 ng		93
13) Acetone	0.00	58	0	N.D. d		
14) Trichlorofluoromethane	7.24	101	53397	1.003 ng		99
15) 2-Propanol (Isopropanol)	7.52	45	4908	0.068 ng	#	54
16) Acrylonitrile	0.00	53	0	N.D. d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d		
19) Methylene Chloride	8.41	84	658	N.D.		
20) 3-Chloro-1-propene (Al...	8.58	41	461	N.D.		
21) Trichlorotrifluoroethane	8.85	151	4515048	179.614 ng		97
22) Carbon Disulfide	8.69	76	2597402	23.444 ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	9.95	63	7157	0.142 ng		98
25) Methyl tert-Butyl Ether	10.06	73	106	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D. d		
27) 2-Butanone (MEK)	10.48	72	5150	0.254 ng	#	82
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D. d		
30) Ethyl Acetate	11.28	61	389	N.D.		
31) n-Hexane	11.26	57	548633	10.814 ng		100
32) Chloroform	11.31	83	23321	0.441 ng		97
34) Tetrahydrofuran (THF)	11.71	72	248852	12.578 ng		99
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.11	62	17461	0.416 ng		99
38) 1,1,1-Trichloroethane	12.40	97	549	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D. d		
40) 1-Butanol	0.00	56	0	N.D. d		
41) Benzene	12.87	78	7713304	63.167 ng		100
42) Carbon Tetrachloride	13.03	117	189150	4.554 ng		100
43) Cyclohexane	13.17	84	1033547	22.714 ng		98
44) tert-Amyl Methyl Ether	13.64	73	401	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D. d		
46) Bromodichloromethane	0.00	83	0	N.D. d		
47) Trichloroethene	13.97	130	14751	0.467 ng		99
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d		
50) Methyl Methacrylate	14.11	100	434	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082045.D Vial: 16
Acq On : 9 May 2020 4:24 Operator: LH
Sample : P2002299-005 (120mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 17:30:02 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

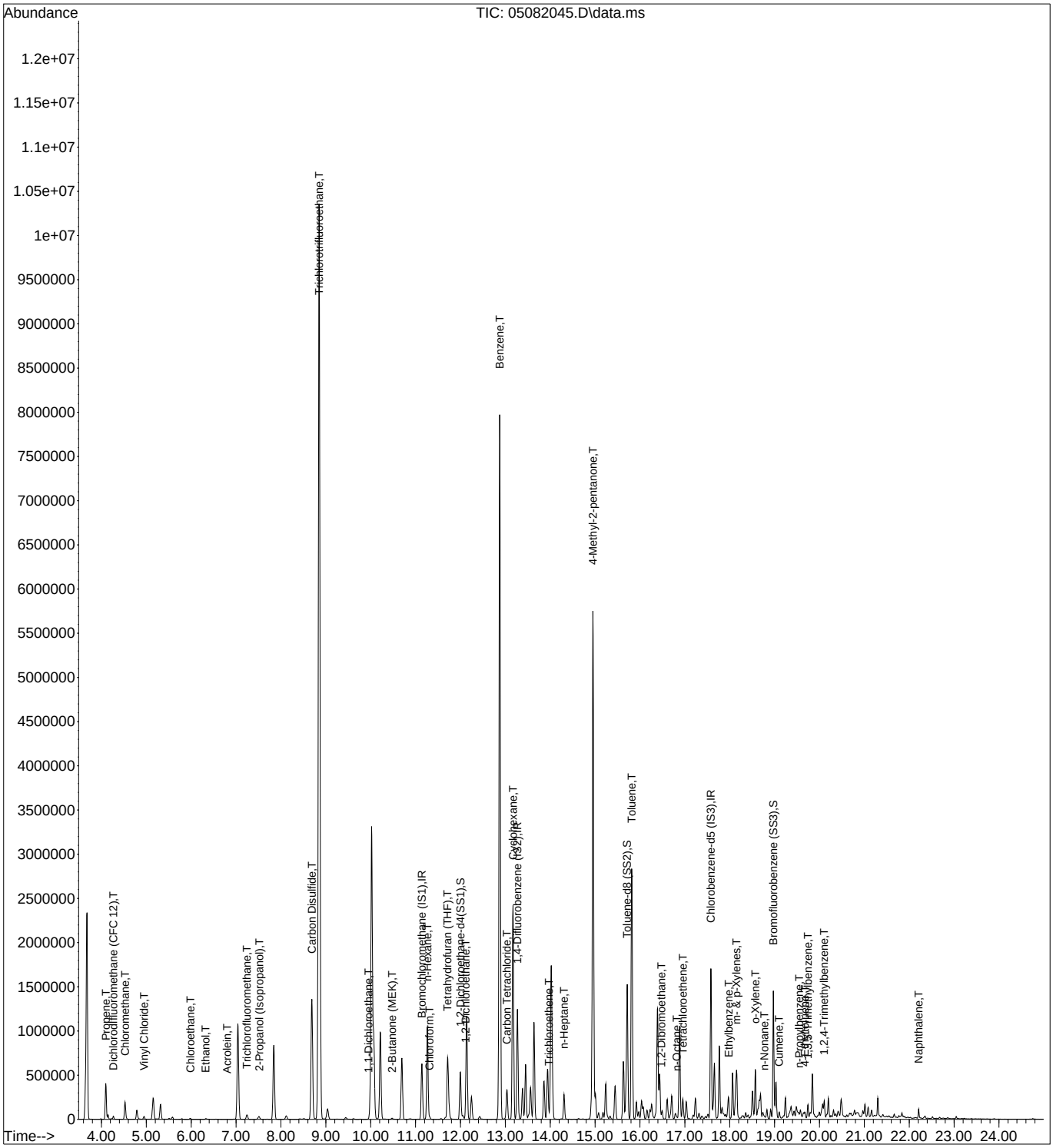
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.31	71	71776	2.514 ng		99
52) cis-1,3-Dichloropropene	14.95	75	1210	N.D.		
53) 4-Methyl-2-pentanone	14.95	58	6126	0.225 ng	#	1
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d		
58) Toluene	15.82	91	2248689	19.331 ng		100
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	16.48	107	5472	0.171 ng		98
62) n-Butyl Acetate	0.00	43	0	N.D. d		
63) n-Octane	16.82	57	6190	0.257 ng	#	81
64) Tetrachloroethene	16.96	166	28941	0.881 ng		99
65) Chlorobenzene	0.00	112	0	N.D. d		
66) Ethylbenzene	17.98	91	34570	0.267 ng		99
67) m- & p-Xylenes	18.15	91	428057	4.160 ng		98
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	915	N.D.		
70) o-Xylene	18.57	91	321773	3.080 ng		99
71) n-Nonane	18.77	43	8678	0.157 ng		91
72) 1,1,2,2-Tetrachloroethane	18.57	83	200	N.D.		
74) Cumene	19.10	105	11147	0.087 ng		99
75) alpha-Pinene	19.45	93	552	N.D.		
76) n-Propylbenzene	19.55	91	18759	0.123 ng		84
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.68	105	17678	0.147 ng		100
79) 1,3,5-Trimethylbenzene	19.74	105	50620	0.484 ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	20.10	105	68131	0.648 ng		93
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.31	91	1699	N.D.		
85) 1,3-Dichlorobenzene	20.30	146	858	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	858	N.D.		
87) sec-Butylbenzene	20.35	105	4698	N.D.		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.61	68	1177	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.11	180	255	N.D.		
95) Naphthalene	22.21	128	9939	0.077 ng		97
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082045.D Vial: 16
Acq On : 9 May 2020 4:24 Operator: LH
Sample : P2002299-005 (120mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 17:30:02 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082045.D Vial: 16
Acq On : 9 May 2020 4:24 Operator: LH
Sample : P2002299-005 (120mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 17:30:02 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/11/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	265944	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.27	114	1138665	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	532421	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	413258	11.466	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.76%				
57) Toluene-d8 (SS2)	15.72	98	1120301	12.414	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.28%				
73) Bromofluorobenzene (SS3)	18.97	174	441980	13.611	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.88%				
Target Compounds							Qvalue
2) Propene	4.10	42	21498	0.698	ng		98
3) Dichlorodifluoromethan...	4.27	85	29168	0.484	ng		99
4) Chloromethane	4.53	50	222942	4.724	ng		100
6) Vinyl Chloride	4.95	62	33126	0.640	ng		99
9) Chloroethane	5.98	64	9995	0.489	ng		98
10) Ethanol	6.32	45	14105	0.593	ng		90
12) Acrolein	6.80	56	1152	0.061	ng		93
14) Trichlorofluoromethane	7.24	101	53397	1.003	ng		99
15) 2-Propanol (Isopropanol)	7.52	45	4908	0.068	ng	#	54
21) Trichlorotrifluoroethane	8.85	151	4515048	179.614	ng		97
22) Carbon Disulfide	8.69	76	2597402	23.444	ng		99
24) 1,1-Dichloroethane	9.95	63	7157	0.142	ng		98
27) 2-Butanone (MEK)	10.48	72	5150	0.254	ng	#	82
31) n-Hexane	11.26	57	548633	10.814	ng		100
32) Chloroform	11.31	83	23321	0.441	ng		97
34) Tetrahydrofuran (THF)	11.71	72	248852	12.578	ng		99
36) 1,2-Dichloroethane	12.11	62	17461	0.416	ng		99
41) Benzene	12.87	78	7713304	63.167	ng		100
42) Carbon Tetrachloride	13.03	117	189150	4.554	ng		100
43) Cyclohexane	13.17	84	1033547	22.714	ng		98
47) Trichloroethene	13.97	130	14751	0.467	ng		99
51) n-Heptane	14.31	71	71776	2.514	ng		99
53) 4-Methyl-2-pentanone	14.95	58	6126	0.225	ng	#	1
58) Toluene	15.82	91	2248689	19.331	ng		100
61) 1,2-Dibromoethane	16.48	107	5472	0.171	ng		98
63) n-Octane	16.82	57	6190	0.257	ng	#	81
64) Tetrachloroethene	16.96	166	28941	0.881	ng		99
66) Ethylbenzene	17.98	91	34570	0.267	ng		99
67) m- & p-Xylenes	18.15	91	428057	4.160	ng		98
70) o-Xylene	18.57	91	321773	3.080	ng		99
71) n-Nonane	18.77	43	8678	0.157	ng		91
74) Cumene	19.10	105	11147	0.087	ng		99
76) n-Propylbenzene	19.55	91	18759	0.123	ng		84
78) 4-Ethyltoluene	19.68	105	17678	0.147	ng		100
79) 1,3,5-Trimethylbenzene	19.74	105	50620	0.484	ng		99
82) 1,2,4-Trimethylbenzene	20.10	105	68131	0.648	ng		93
95) Naphthalene	22.21	128	9939	0.077	ng		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082045.D Vial: 16
Acq On : 9 May 2020 4:24 Operator: LH
Sample : P2002299-005 (120mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 17:30:02 2020
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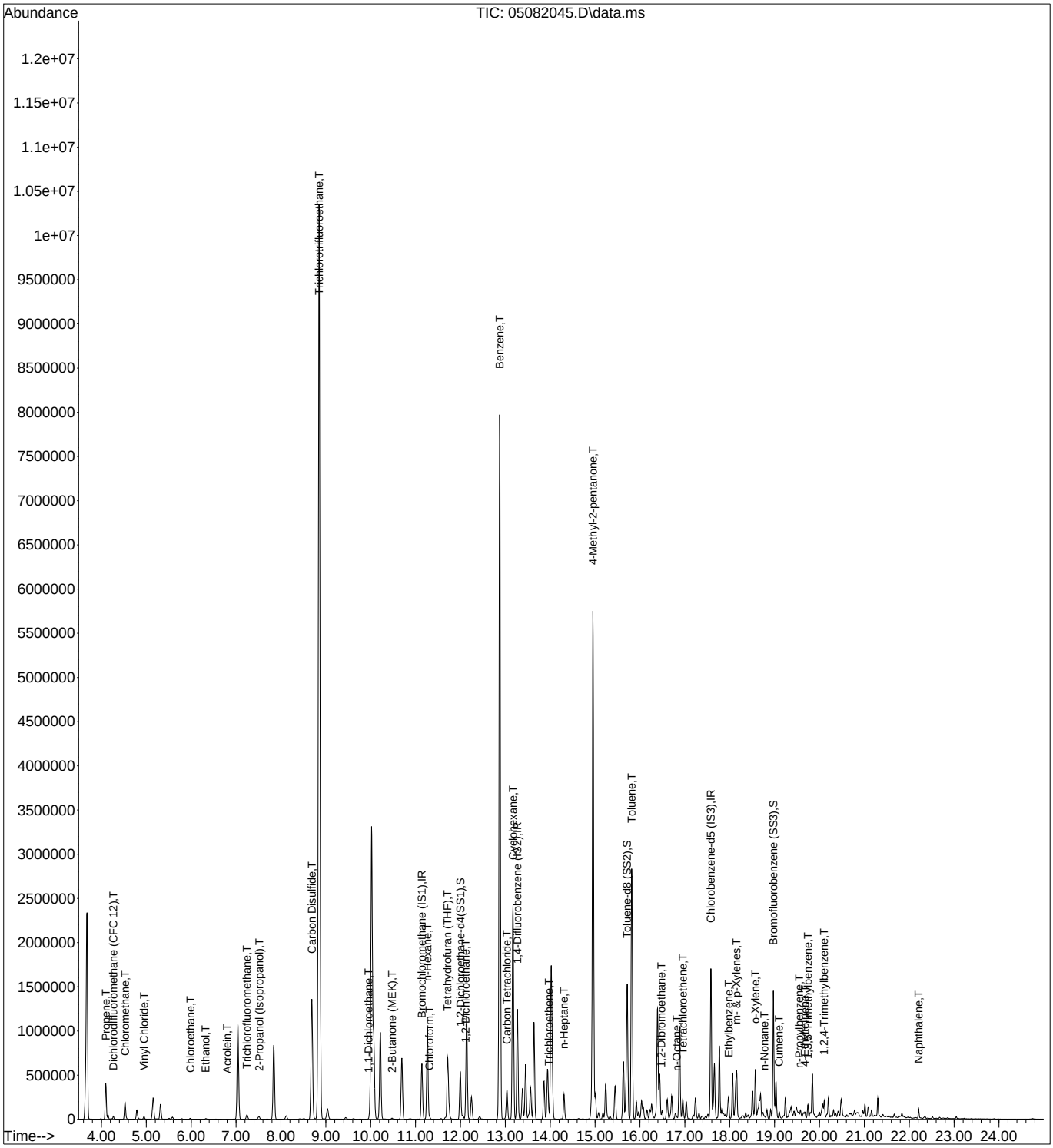
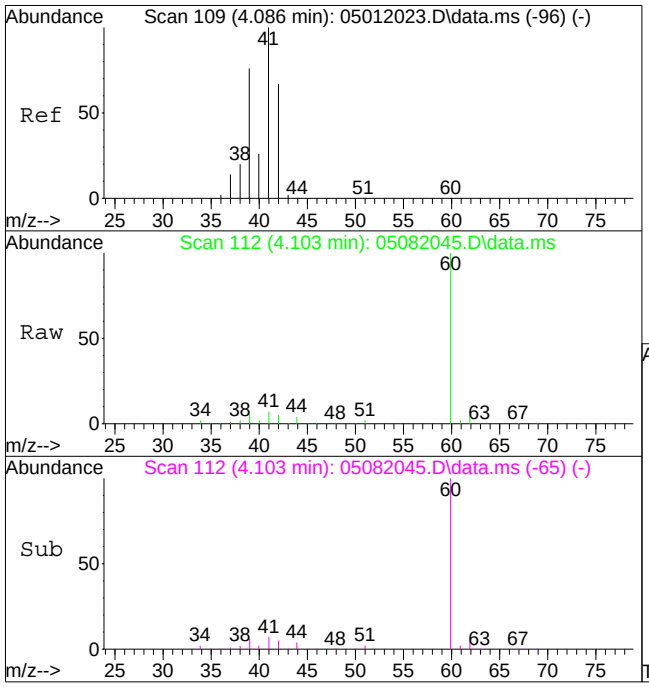
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

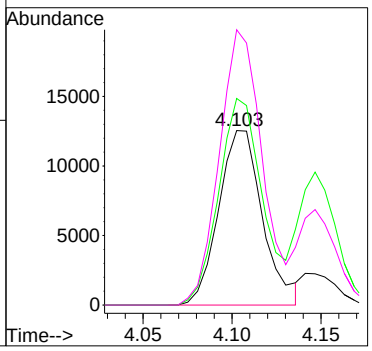


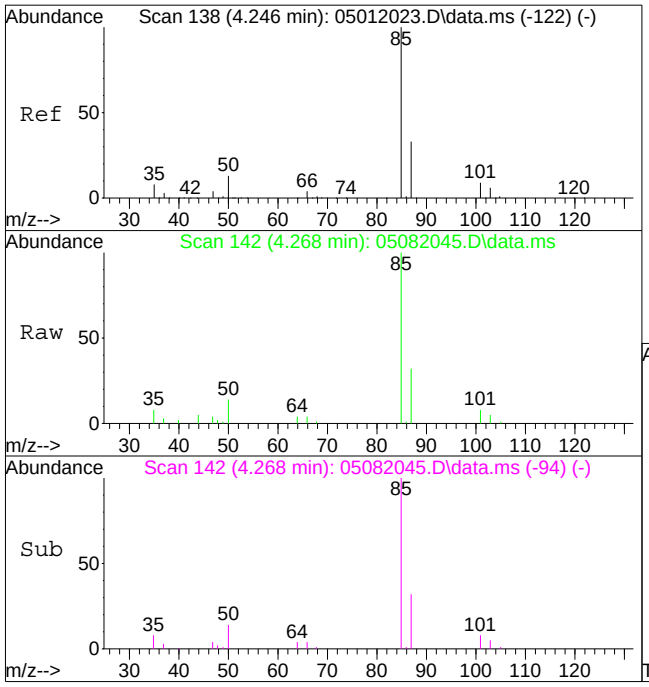


#2
Propene
Concen: 0.70 ng
RT: 4.10 min Scan# 112
Delta R.T. 0.011 min
Lab File: 05082045.D
Acq: 9 May 2020 4:24

Tgt Ion: 42 Resp: 21498

Ion	Ratio	Lower	Upper
42	100		
39	119.1	96.1	136.1
41	153.6	131.9	171.9

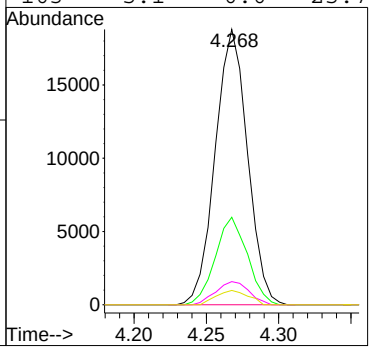


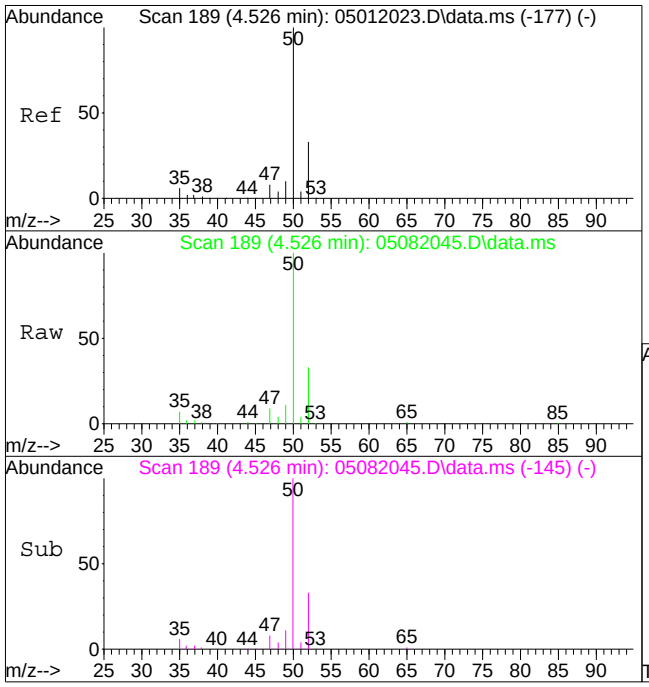


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.48 ng
RT: 4.27 min Scan# 142
Delta R.T. 0.016 min
Lab File: 05082045.D
Acq: 9 May 2020 4:24

Tgt Ion: 85 Resp: 29168

Ion	Ratio	Lower	Upper
85	100		
87	31.5	12.4	52.4
101	8.7	0.0	28.8
103	5.1	0.0	25.7

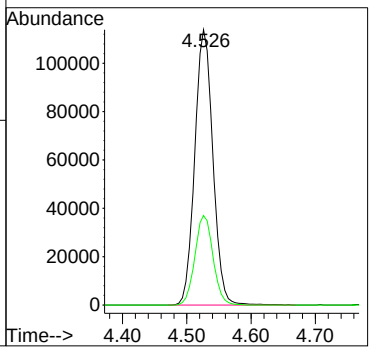


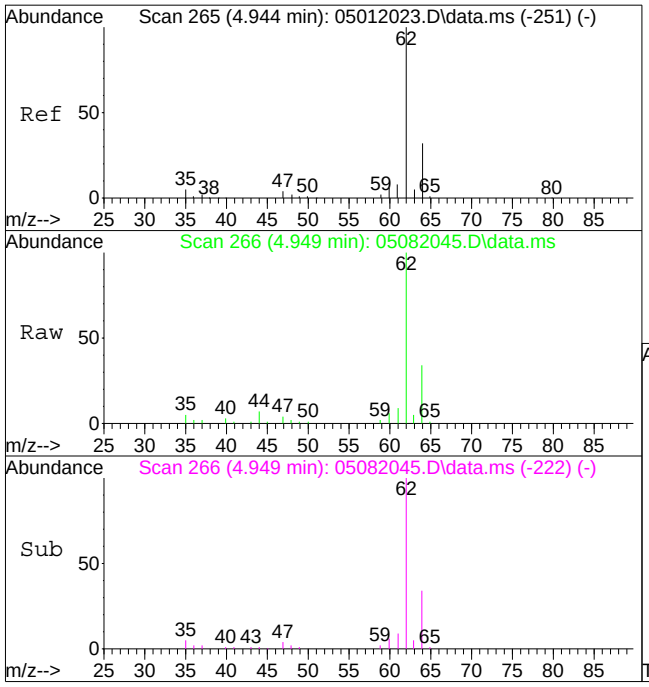


#4
Chloromethane
Concen: 4.72 ng
RT: 4.53 min Scan# 189
Delta R.T. -0.006 min
Lab File: 05082045.D
Acq: 9 May 2020 4:24

Tgt Ion: 50 Resp: 222942

Ion	Ratio	Lower	Upper
50	100		
52	32.5	12.5	52.5

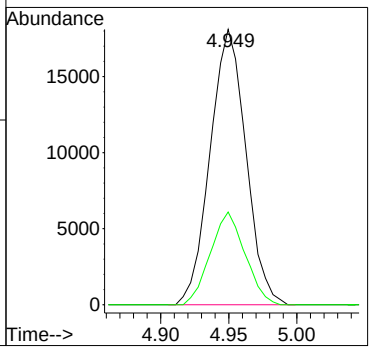


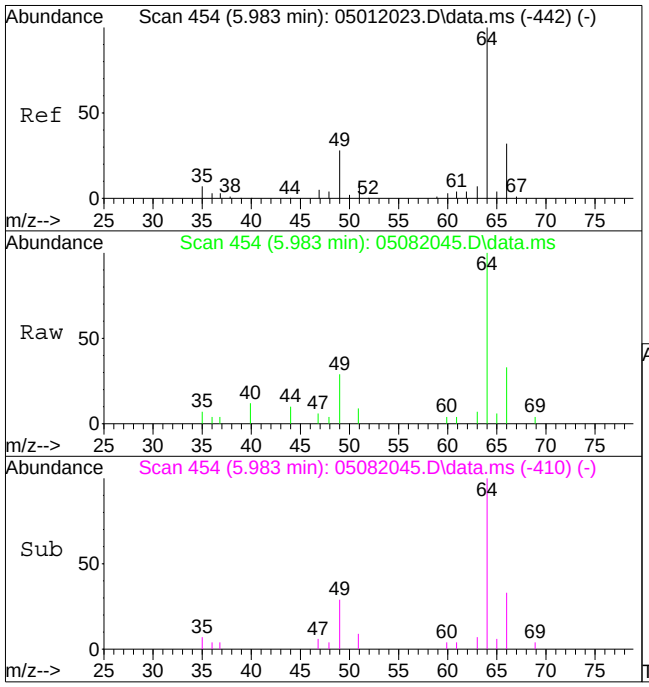


#6
Vinyl Chloride
Concen: 0.64 ng
RT: 4.95 min Scan# 266
Delta R.T. -0.006 min
Lab File: 05082045.D
Acq: 9 May 2020 4:24

Tgt Ion: 62 Resp: 33126

Ion	Ratio	Lower	Upper
62	100		
64	32.5	12.1	52.1

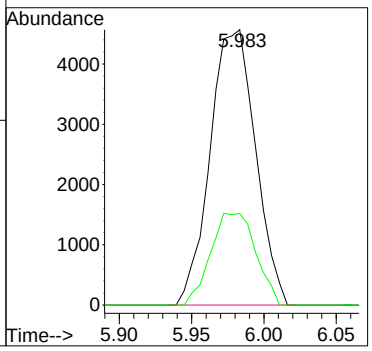


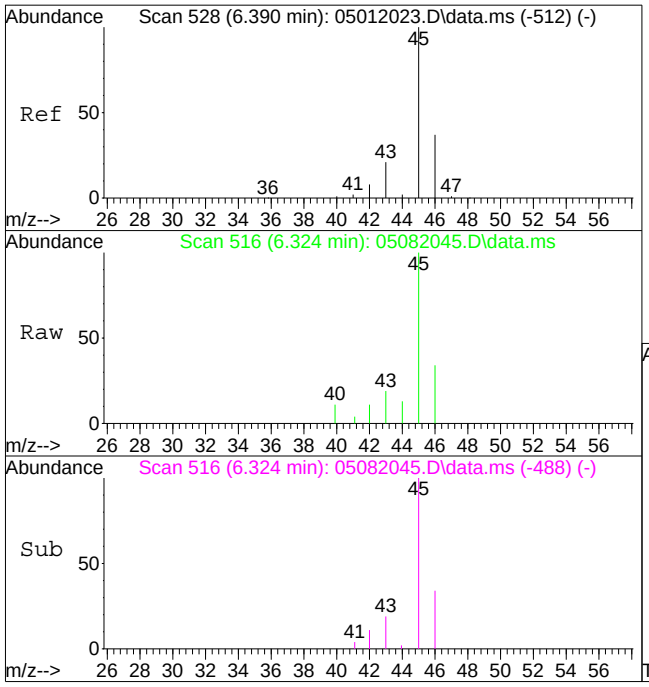


#9
Chloroethane
Concen: 0.49 ng
RT: 5.98 min Scan# 454
Delta R.T. -0.006 min
Lab File: 05082045.D
Acq: 9 May 2020 4:24

Tgt Ion: 64 Resp: 9995

Ion	Ratio	Lower	Upper
64	100		
66	33.0	12.1	52.1

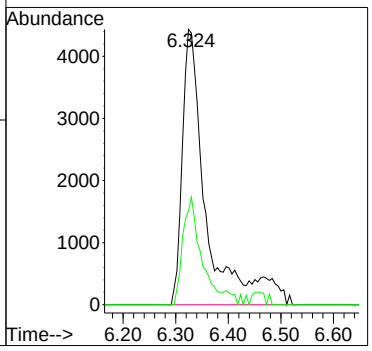


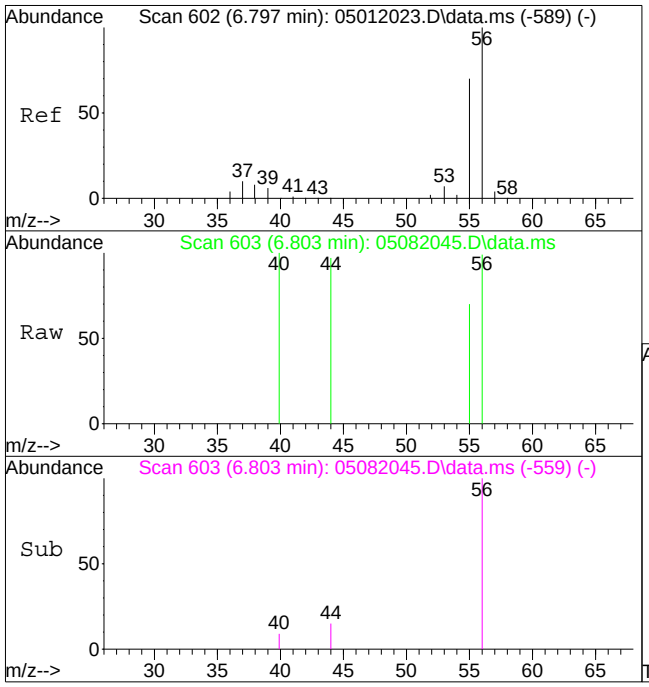


#10
Ethanol
Concen: 0.59 ng
RT: 6.32 min Scan# 516
Delta R.T. -0.094 min
Lab File: 05082045.D
Acq: 9 May 2020 4:24

Tgt Ion: 45 Resp: 14105

Ion	Ratio	Lower	Upper
45	100		
46	31.4	17.2	57.2

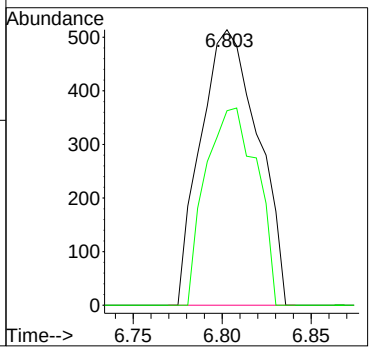


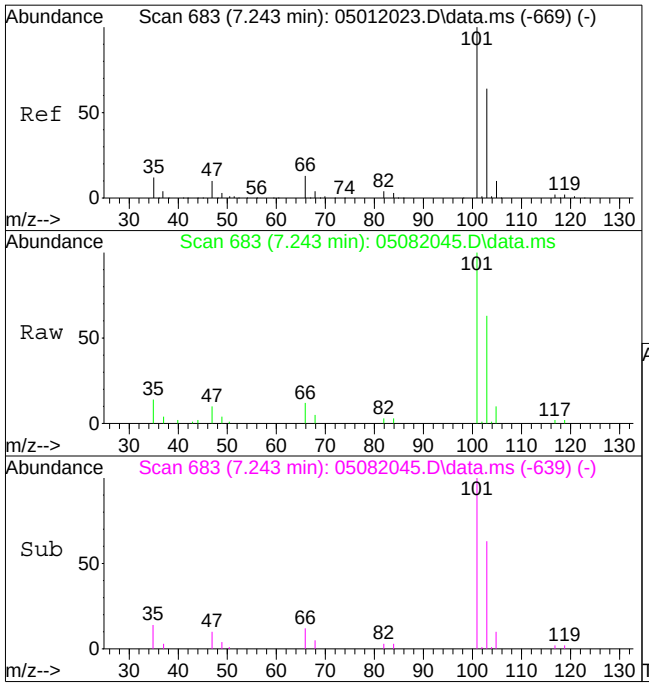


#12
Acrolein
Concen: 0.06 ng
RT: 6.80 min Scan# 603
Delta R.T. -0.006 min
Lab File: 05082045.D
Acq: 9 May 2020 4:24

Tgt Ion: 56 Resp: 1152

Ion	Ratio	Lower	Upper
56	100		
55	64.1	50.2	90.2

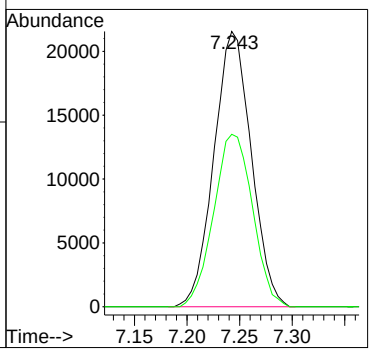


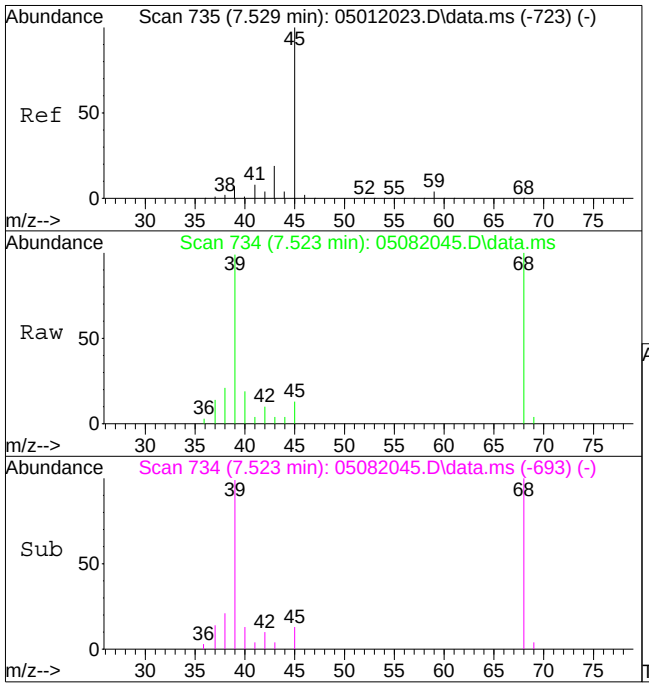


#14
Trichlorofluoromethane
Concen: 1.00 ng
RT: 7.24 min Scan# 683
Delta R.T. -0.006 min
Lab File: 05082045.D
Acq: 9 May 2020 4:24

Tgt Ion:101 Resp: 53397

Ion	Ratio	Lower	Upper
101	100		
103	65.1	44.4	84.4

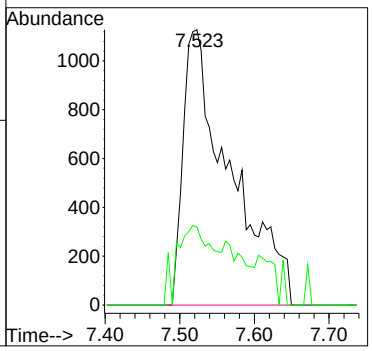


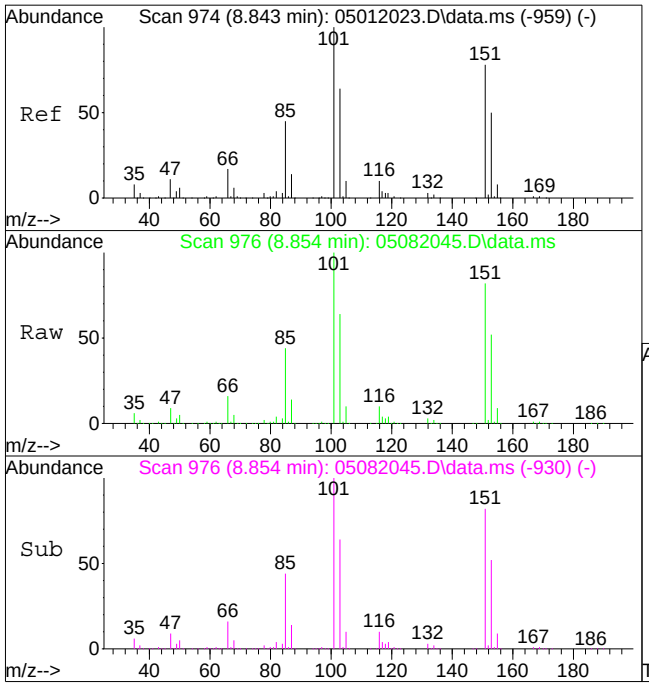


#15
2-Propanol (Isopropanol)
Concen: 0.07 ng
RT: 7.52 min Scan# 734
Delta R.T. -0.022 min
Lab File: 05082045.D
Acq: 9 May 2020 4:24

Tgt Ion: 45 Resp: 4908

Ion	Ratio	Lower	Upper
45	100		
43	40.5	0.0	39.5#

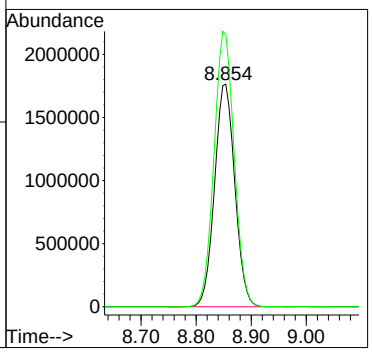


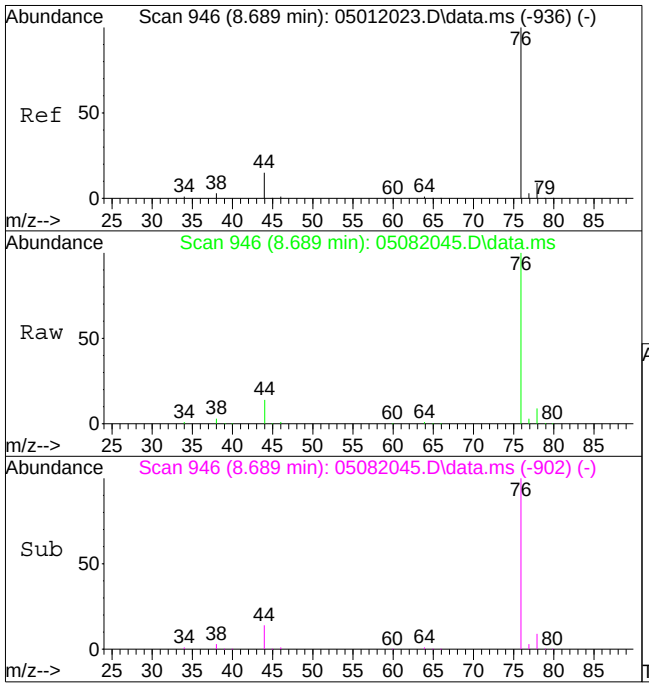


#21
Trichlorotrifluoroethane
Concen: 179.61 ng
RT: 8.85 min Scan# 976
Delta R.T. 0.005 min
Lab File: 05082045.D
Acq: 9 May 2020 4:24

Tgt Ion:151 Resp: 4515048

Ion	Ratio	Lower	Upper
151	100		
101	123.6	107.3	147.3

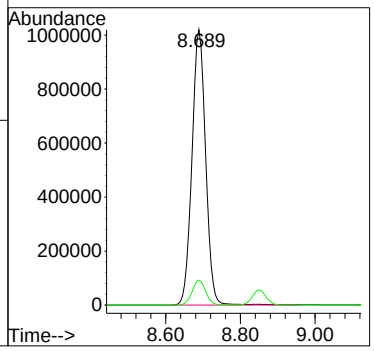


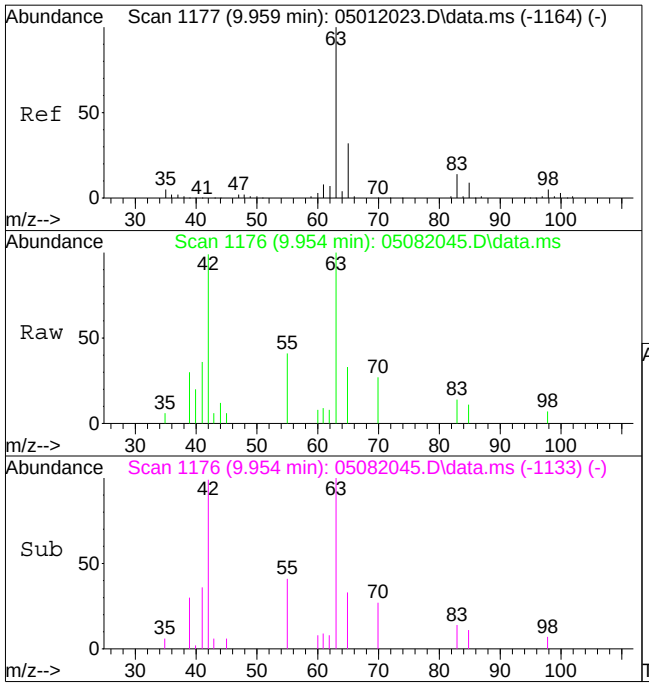


#22
Carbon Disulfide
Concen: 23.44 ng
RT: 8.69 min Scan# 946
Delta R.T. -0.006 min
Lab File: 05082045.D
Acq: 9 May 2020 4:24

Tgt Ion: 76 Resp: 2597402

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	29.2

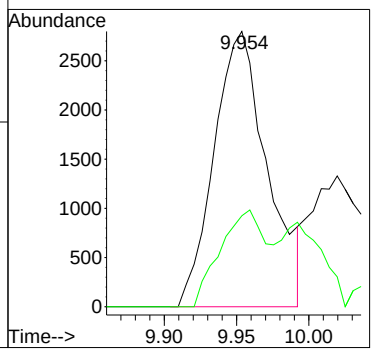


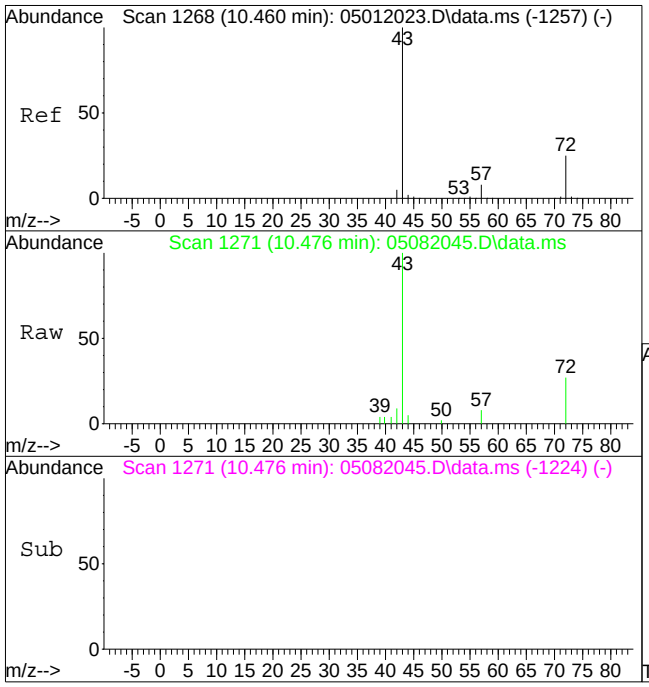


#24
1,1-Dichloroethane
Concen: 0.14 ng
RT: 9.95 min Scan# 1176
Delta R.T. -0.011 min
Lab File: 05082045.D
Acq: 9 May 2020 4:24

Tgt Ion: 63 Resp: 7157

Ion	Ratio	Lower	Upper
63	100		
65	30.9	11.8	51.8

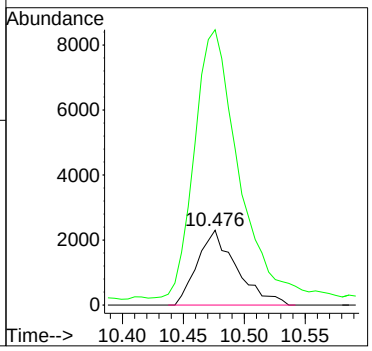


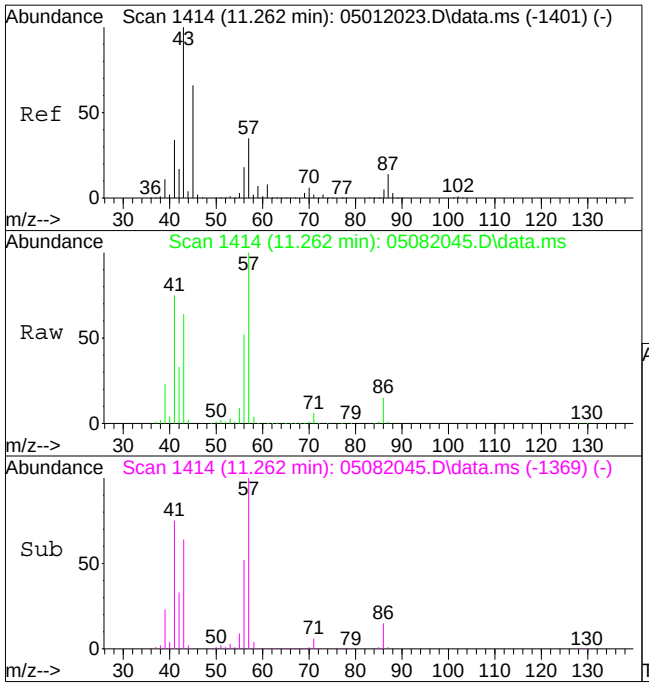


#27
2-Butanone (MEK)
Concen: 0.25 ng
RT: 10.48 min Scan# 1271
Delta R.T. 0.011 min
Lab File: 05082045.D
Acq: 9 May 2020 4:24

Tgt Ion: 72 Resp: 5150

Ion	Ratio	Lower	Upper
72	100		
43	453.2	389.7	429.7#

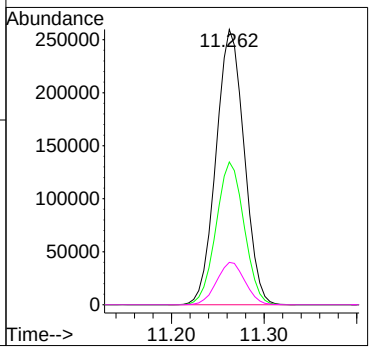


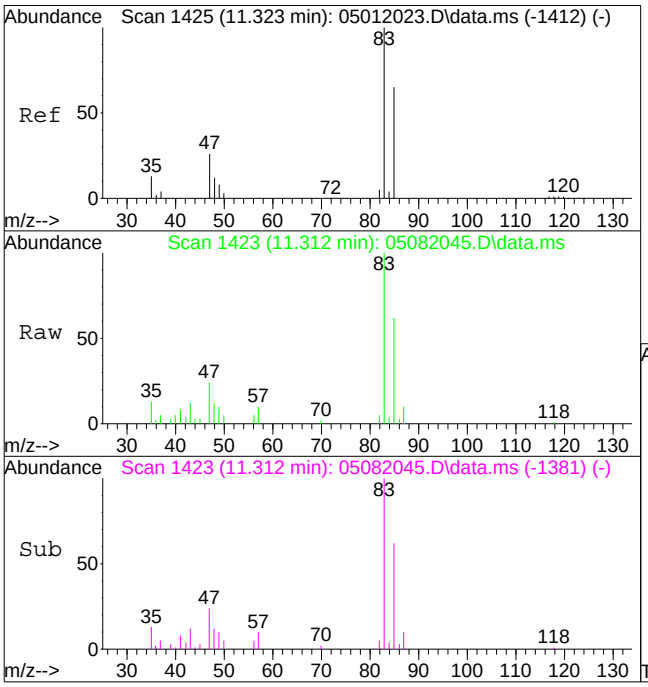


#31
n-Hexane
Concen: 10.81 ng
RT: 11.26 min Scan# 1414
Delta R.T. -0.000 min
Lab File: 05082045.D
Acq: 9 May 2020 4:24

Tgt Ion: 57 Resp: 548633

Ion	Ratio	Lower	Upper
57	100		
56	51.7	41.4	62.0
86	15.5	12.4	18.6

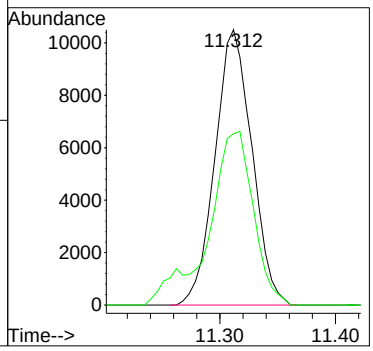


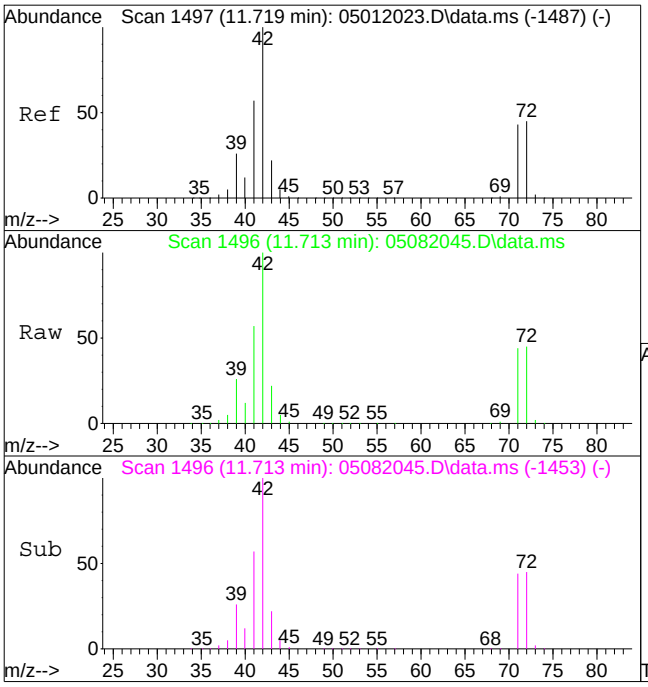


#32
Chloroform
Concen: 0.44 ng
RT: 11.31 min Scan# 1423
Delta R.T. -0.017 min
Lab File: 05082045.D
Acq: 9 May 2020 4:24

Tgt Ion: 83 Resp: 23321

Ion	Ratio	Lower	Upper
83	100		
85	67.7	45.5	85.5

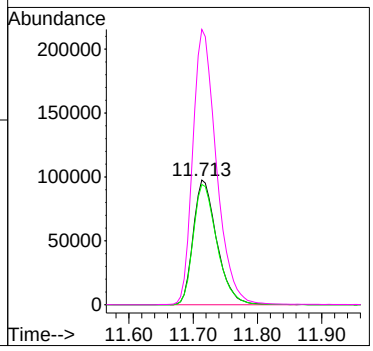


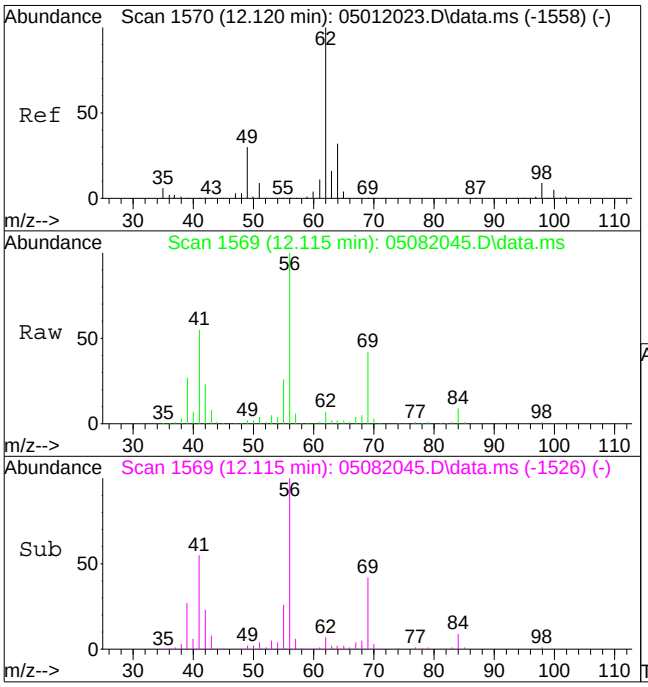


#34
Tetrahydrofuran (THF)
Concen: 12.58 ng
RT: 11.71 min Scan# 1496
Delta R.T. -0.011 min
Lab File: 05082045.D
Acq: 9 May 2020 4:24

Tgt Ion: 72 Resp: 248852

Ion	Ratio	Lower	Upper
72	100		
71	97.1	77.0	117.0
42	222.0	204.6	244.6

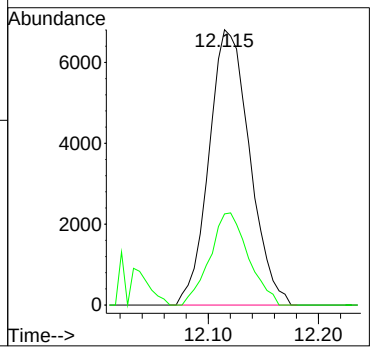


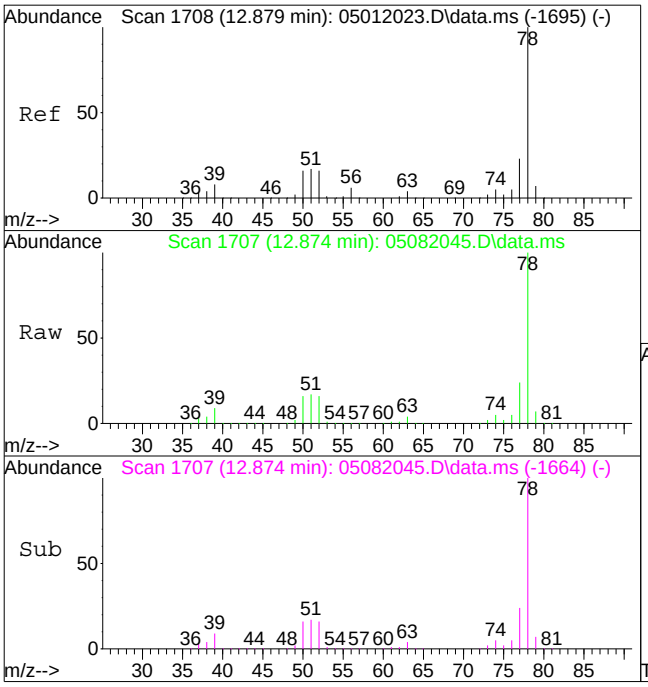


#36
1,2-Dichloroethane
Concen: 0.42 ng
RT: 12.11 min Scan# 1569
Delta R.T. -0.011 min
Lab File: 05082045.D
Acq: 9 May 2020 4:24

Tgt Ion: 62 Resp: 17461

Ion	Ratio	Lower	Upper
62	100		
64	31.7	12.4	52.4

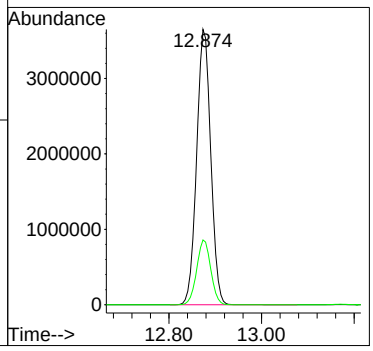


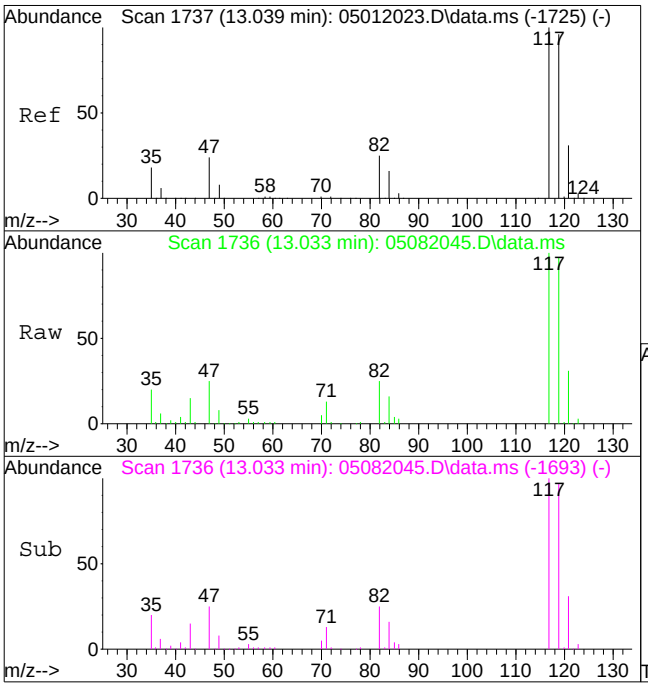


#41
Benzene
Concen: 63.17 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05082045.D
Acq: 9 May 2020 4:24

Tgt Ion: 78 Resp: 7713304

Ion	Ratio	Lower	Upper
78	100		
77	23.5	3.4	43.4

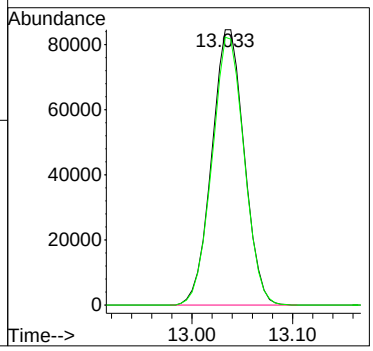


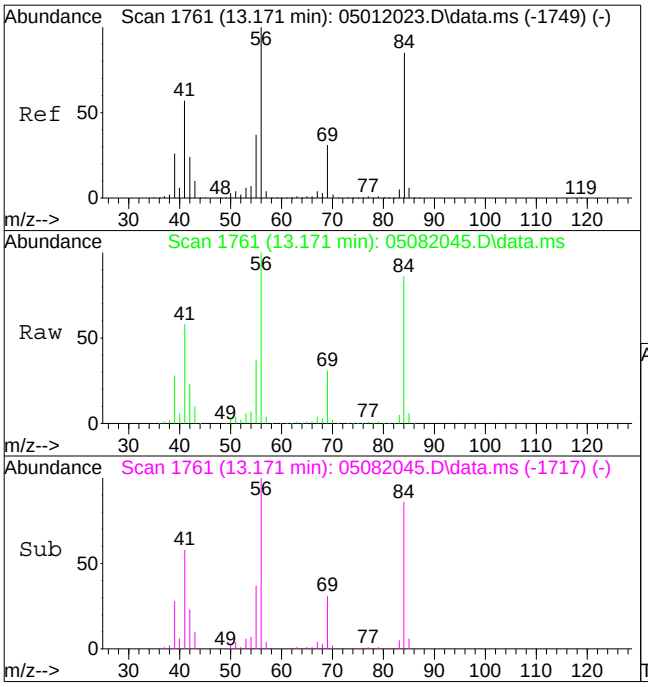


#42
Carbon Tetrachloride
Concen: 4.55 ng
RT: 13.03 min Scan# 1736
Delta R.T. -0.011 min
Lab File: 05082045.D
Acq: 9 May 2020 4:24

Tgt Ion:117 Resp: 189150

Ion	Ratio	Lower	Upper
117	100		
119	96.5	76.2	116.2

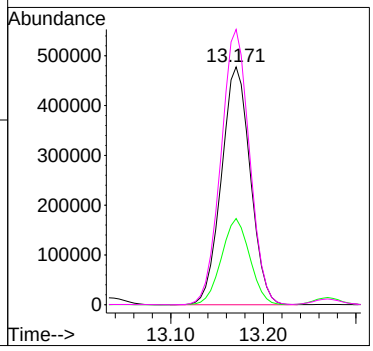


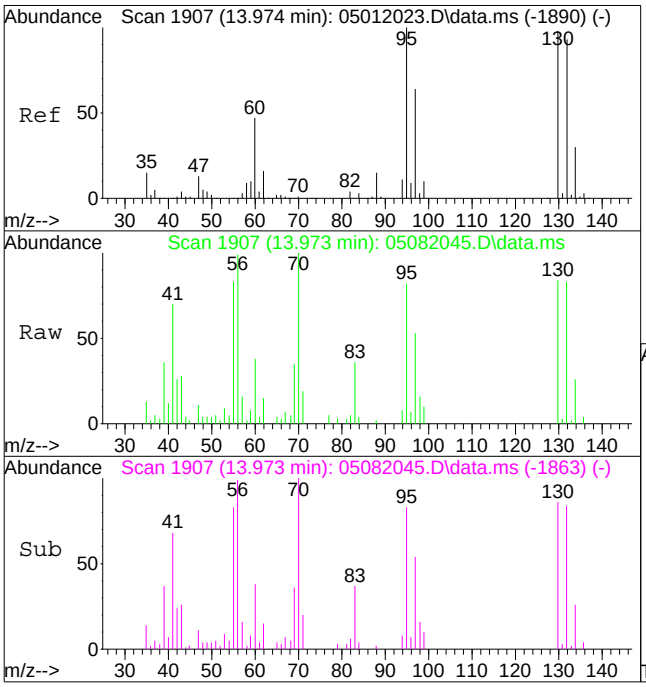


#43
Cyclohexane
Concen: 22.71 ng
RT: 13.17 min Scan# 1761
Delta R.T. -0.006 min
Lab File: 05082045.D
Acq: 9 May 2020 4:24

Tgt Ion: 84 Resp: 1033547

Ion	Ratio	Lower	Upper
84	100		
69	35.6	16.5	56.5
56	115.0	97.4	137.4

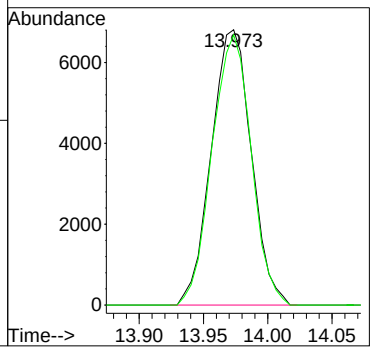


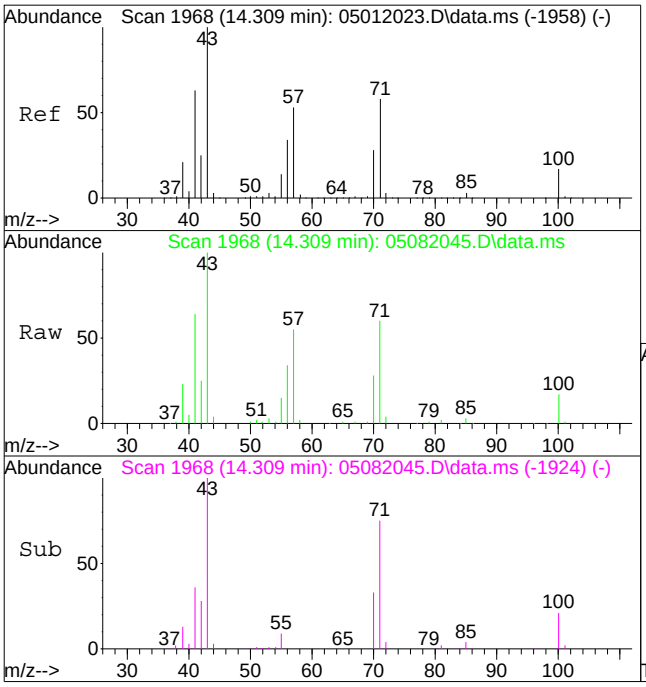


#47
Trichloroethene
Concen: 0.47 ng
RT: 13.97 min Scan# 1907
Delta R.T. -0.006 min
Lab File: 05082045.D
Acq: 9 May 2020 4:24

Tgt Ion:130 Resp: 14751

Ion	Ratio	Lower	Upper
130	100		
132	96.0	74.9	114.9

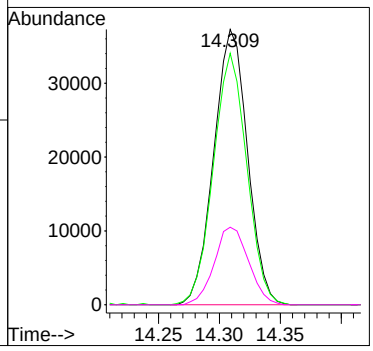


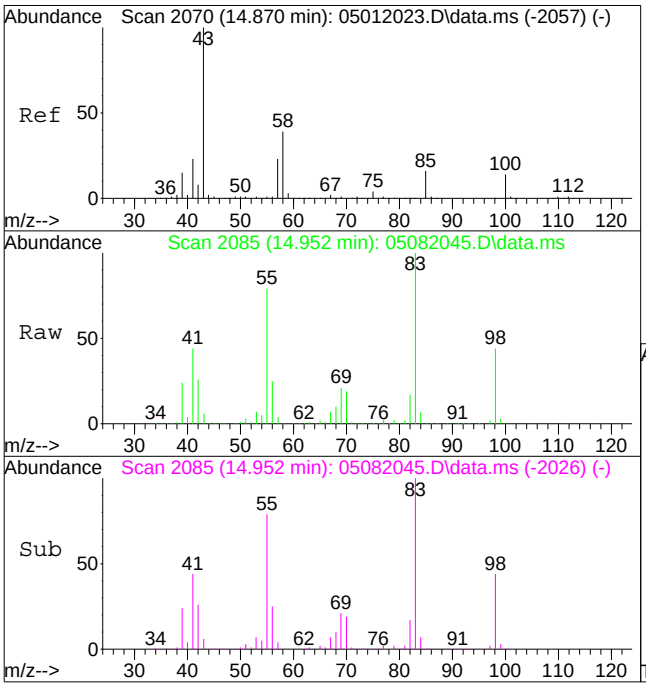


#51
n-Heptane
Concen: 2.51 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05082045.D
Acq: 9 May 2020 4:24

Tgt Ion: 71 Resp: 71776

Ion	Ratio	Lower	Upper
71	100		
57	90.5	71.0	111.0
100	28.7	8.4	48.4

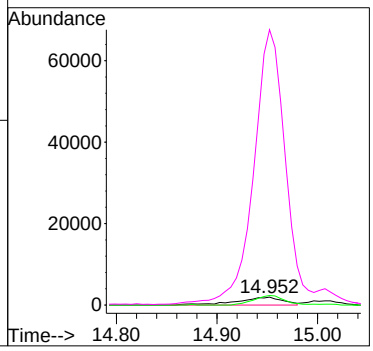


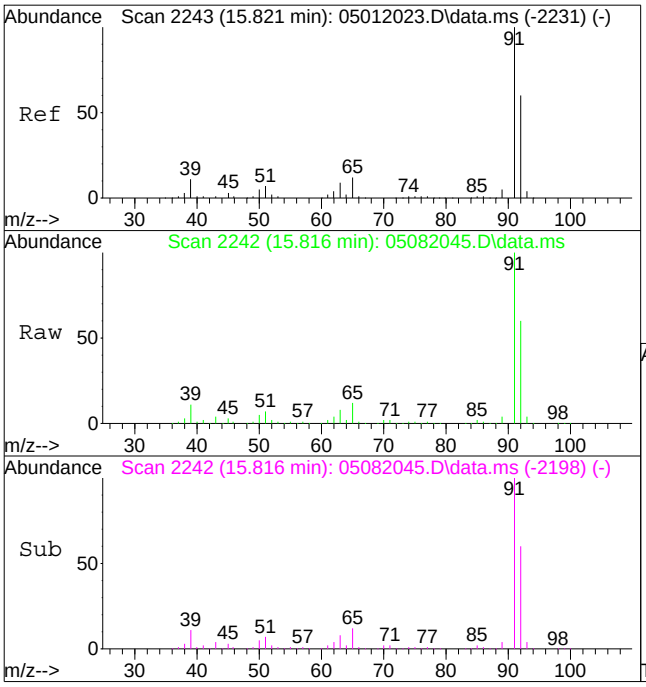


#53
4-Methyl-2-pentanone
Concen: 0.23 ng
RT: 14.95 min Scan# 2085
Delta R.T. 0.077 min
Lab File: 05082045.D
Acq: 9 May 2020 4:24

Tgt Ion: 58 Resp: 6126

Ion	Ratio	Lower	Upper
58	100		
85	86.4	35.4	53.2#
43	2511.0	203.3	304.9#

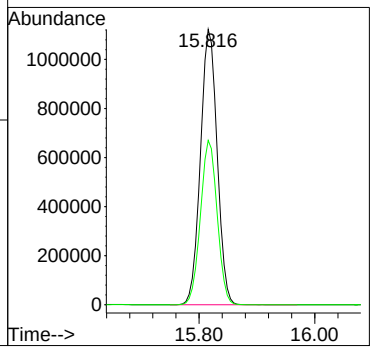


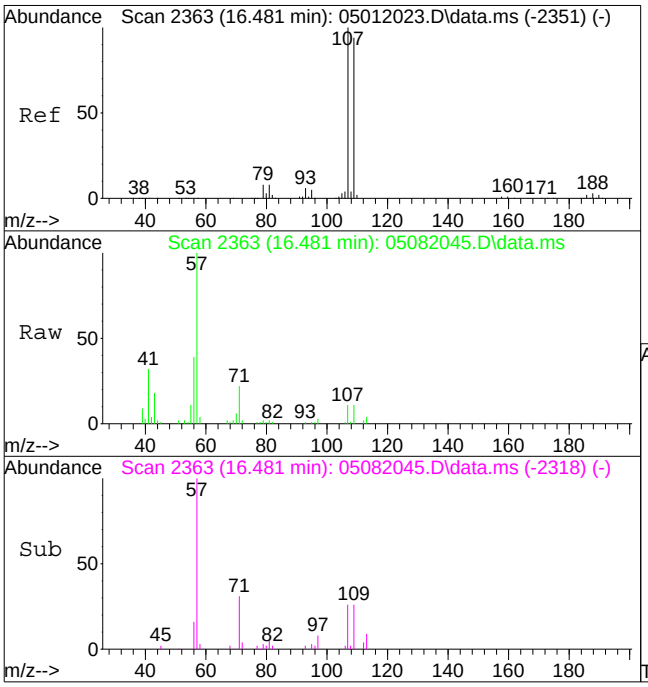


#58
Toluene
Concen: 19.33 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05082045.D
Acq: 9 May 2020 4:24

Tgt Ion: 91 Resp: 2248689

Ion	Ratio	Lower	Upper
91	100		
92	59.6	39.4	79.4

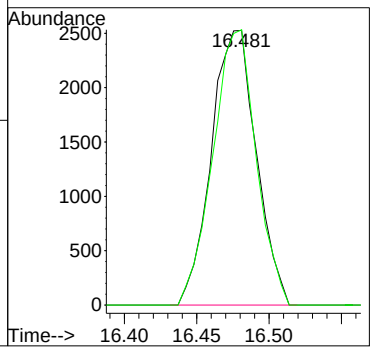


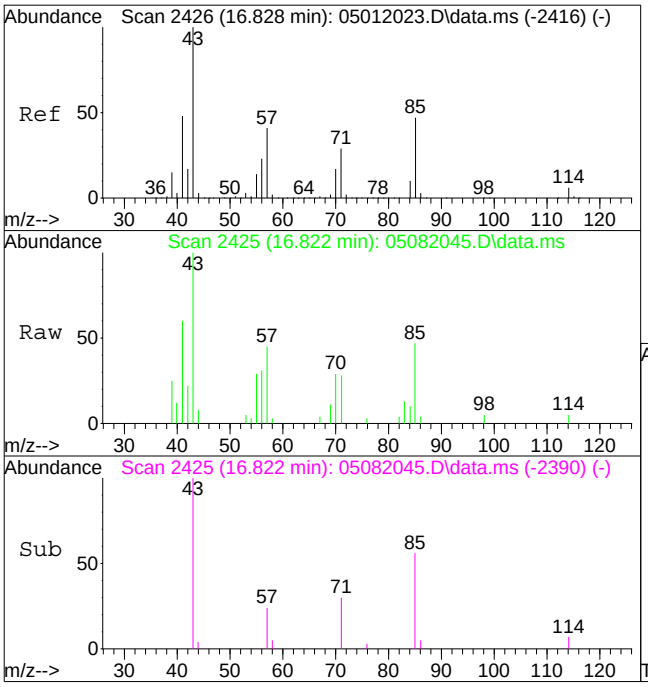


#61
1,2-Dibromoethane
Concen: 0.17 ng
RT: 16.48 min Scan# 2363
Delta R.T. -0.000 min
Lab File: 05082045.D
Acq: 9 May 2020 4:24

Tgt Ion:107 Resp: 5472

Ion	Ratio	Lower	Upper
107	100		
109	96.7	74.5	114.5

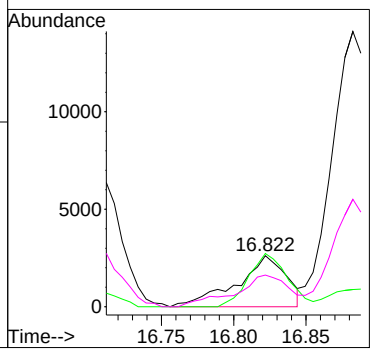


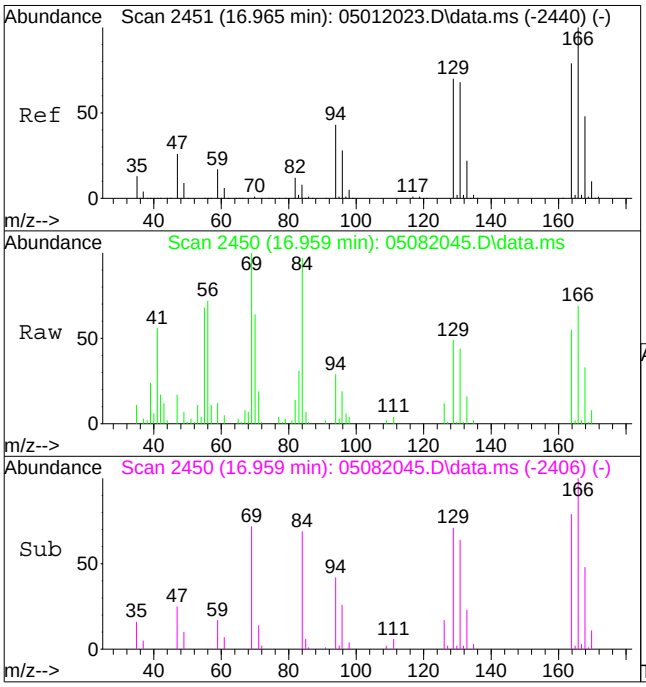


#63
n-Octane
Concen: 0.26 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05082045.D
Acq: 9 May 2020 4:24

Tgt Ion: 57 Resp: 6190

Ion	Ratio	Lower	Upper
57	100		
85	82.3	91.0	136.4#
71	68.9	56.2	84.2

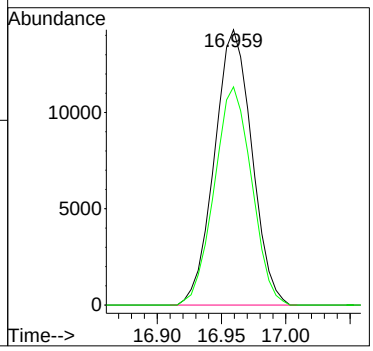


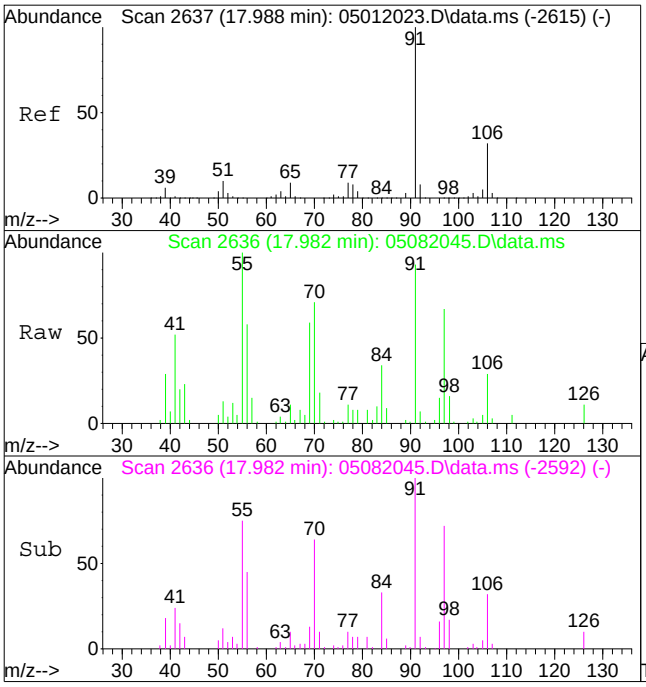


#64
Tetrachloroethene
Concen: 0.88 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05082045.D
Acq: 9 May 2020 4:24

Tgt Ion:166 Resp: 28941

Ion	Ratio	Lower	Upper
166	100		
164	79.1	58.4	98.4

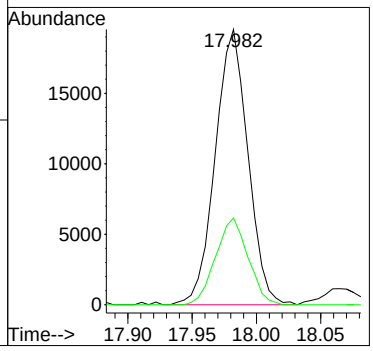


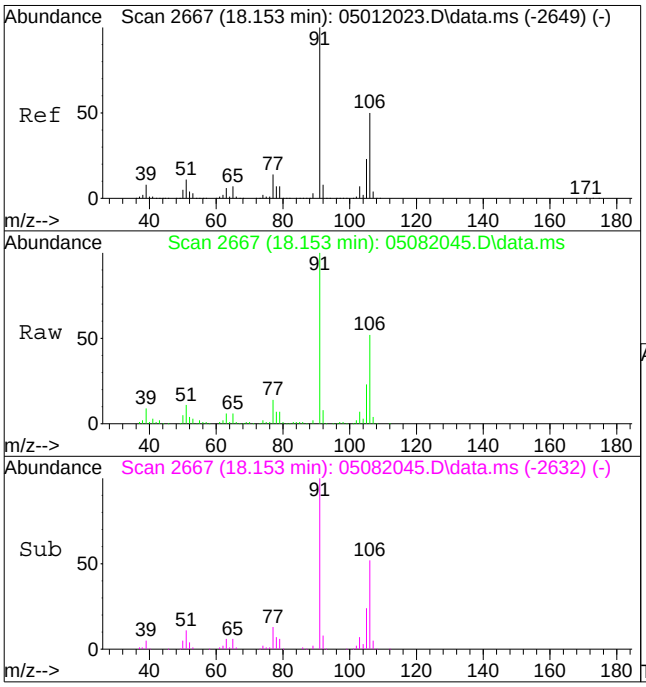


#66
Ethylbenzene
Concen: 0.27 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05082045.D
Acq: 9 May 2020 4:24

Tgt Ion: 91 Resp: 34570

Ion	Ratio	Lower	Upper
91	100		
106	31.1	11.6	51.6

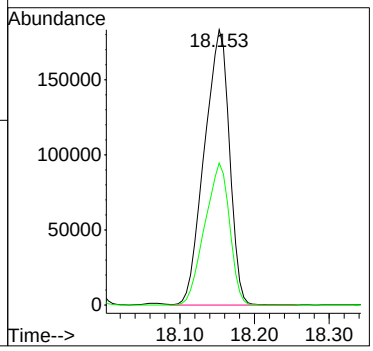


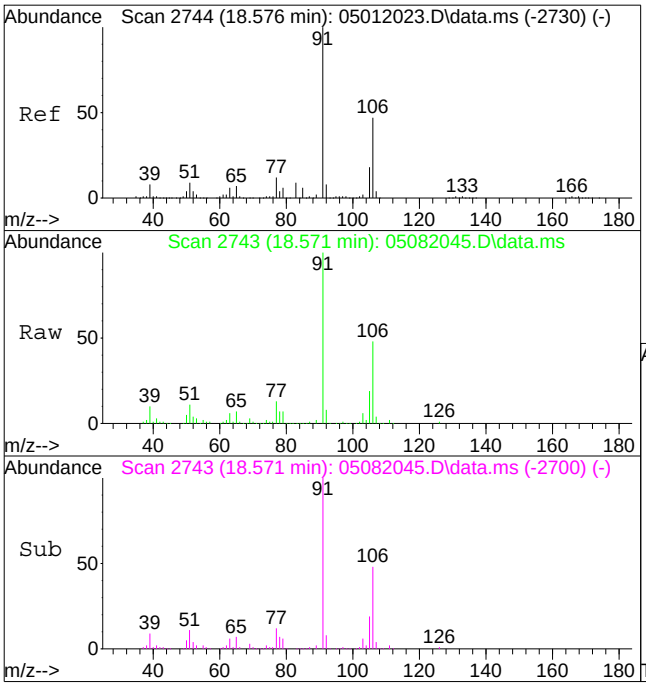


#67
m- & p-Xylenes
Concen: 4.16 ng
RT: 18.15 min Scan# 2667
Delta R.T. -0.006 min
Lab File: 05082045.D
Acq: 9 May 2020 4:24

Tgt Ion: 91 Resp: 428057

Ion	Ratio	Lower	Upper
91	100		
106	50.9	29.7	69.7

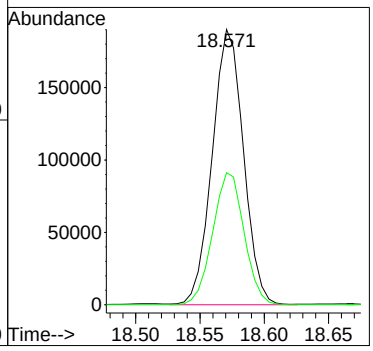


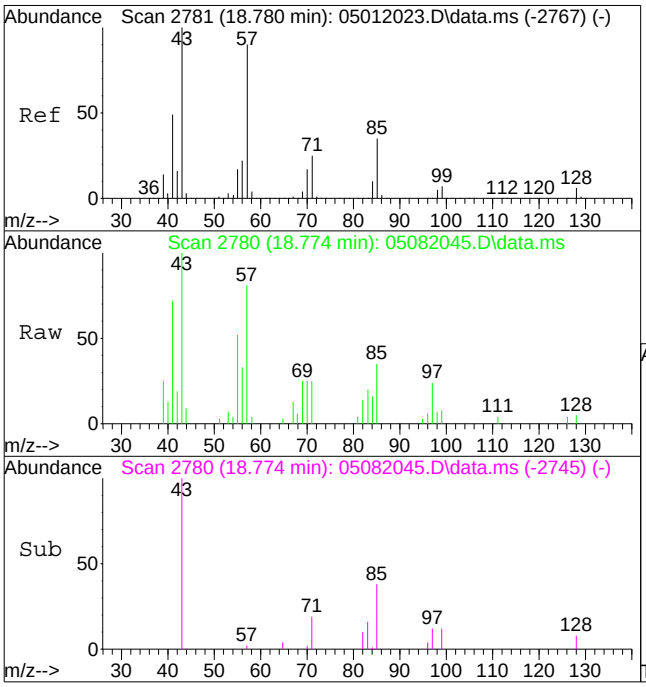


#70
o-Xylene
Concen: 3.08 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05082045.D
Acq: 9 May 2020 4:24

Tgt Ion: 91 Resp: 321773

Ion	Ratio	Lower	Upper
91	100		
106	48.1	27.5	67.5

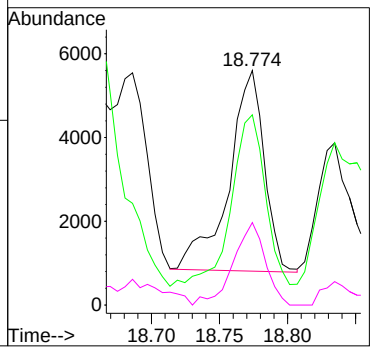


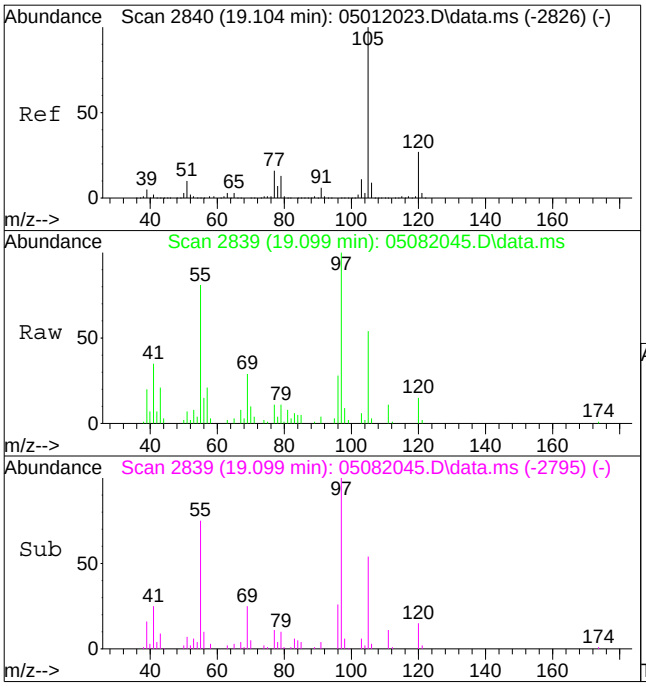


#71
n-Nonane
Concen: 0.16 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05082045.D
Acq: 9 May 2020 4:24

Tgt Ion: 43 Resp: 8678

Ion	Ratio	Lower	Upper
43	100		
57	78.8	69.0	109.0
85	37.0	14.6	54.6

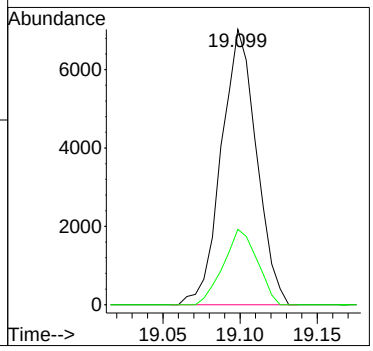


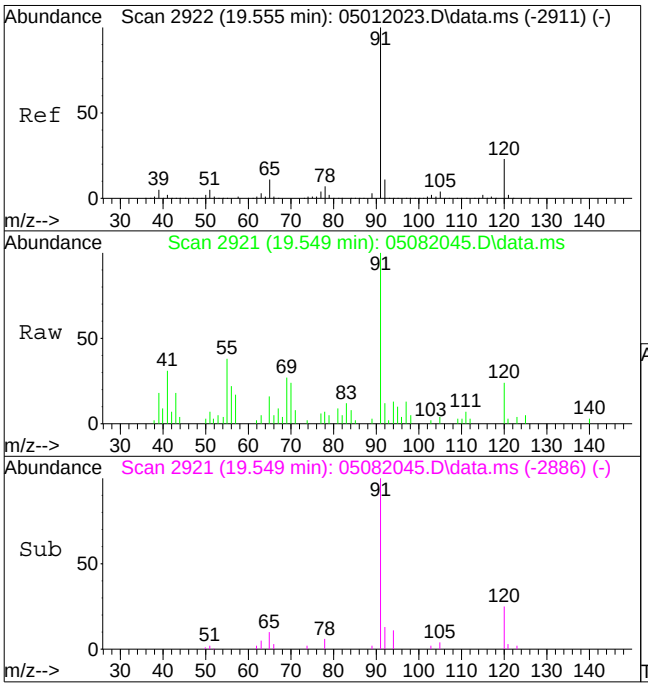


#74
Cumene
Concen: 0.09 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05082045.D
Acq: 9 May 2020 4:24

Tgt Ion:105 Resp: 11147

Ion	Ratio	Lower	Upper
105	100		
120	26.2	6.8	46.8

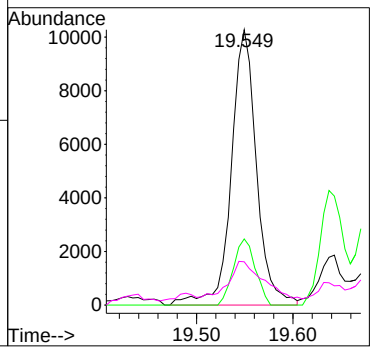


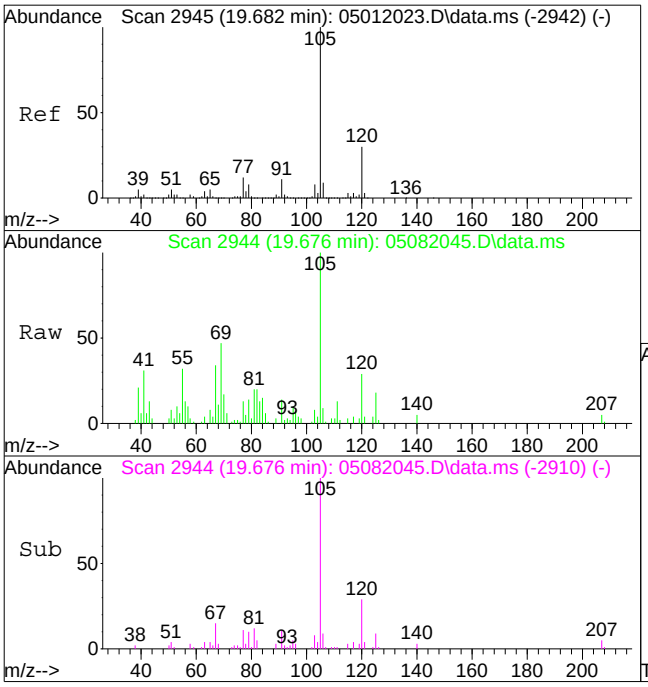


#76
n-Propylbenzene
Concen: 0.12 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05082045.D
Acq: 9 May 2020 4:24

Tgt Ion: 91 Resp: 18759

Ion	Ratio	Lower	Upper
91	100		
120	20.8	3.1	43.1
65	25.6	0.0	30.9

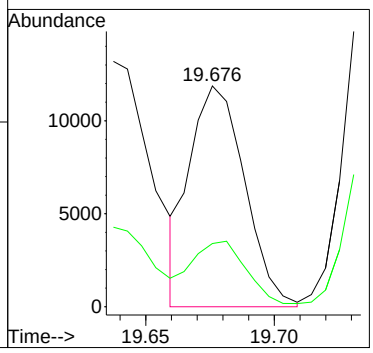


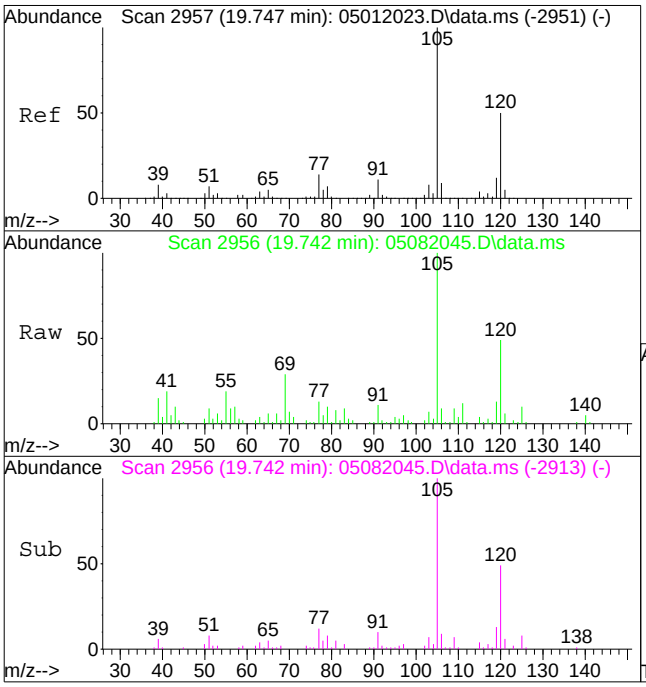


#78
4-Ethyltoluene
Concen: 0.15 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05082045.D
Acq: 9 May 2020 4:24

Tgt Ion:105 Resp: 17678

Ion	Ratio	Lower	Upper
105	100		
120	30.6	10.4	50.4

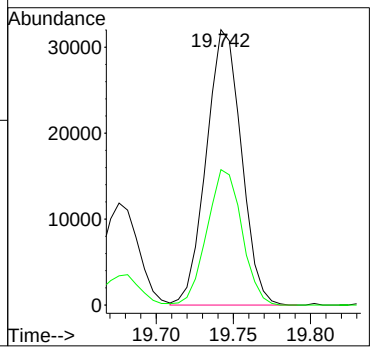


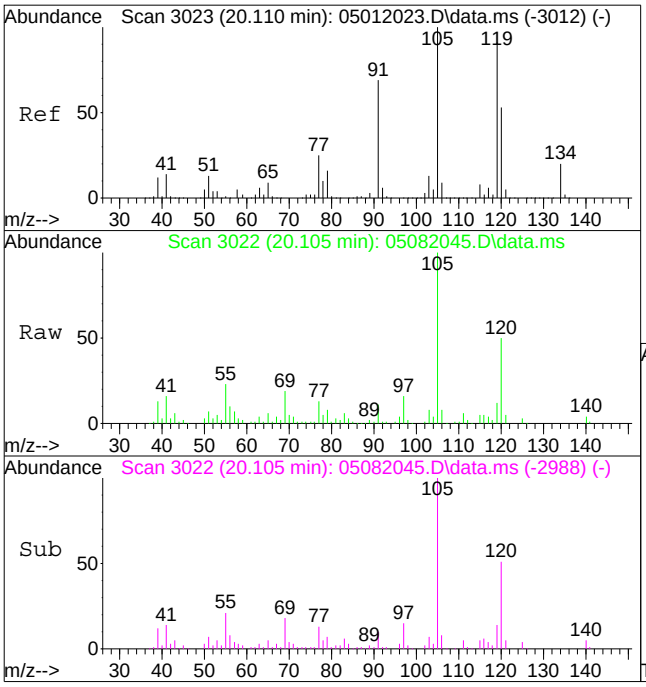


#79
1,3,5-Trimethylbenzene
Concen: 0.48 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05082045.D
Acq: 9 May 2020 4:24

Tgt Ion:105 Resp: 50620

Ion	Ratio	Lower	Upper
105	100		
120	48.9	29.9	69.9

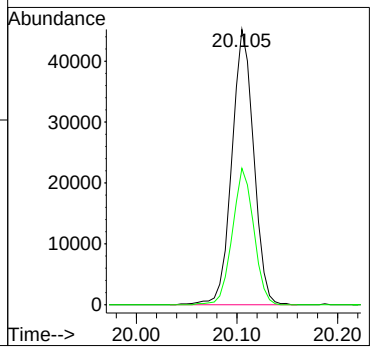


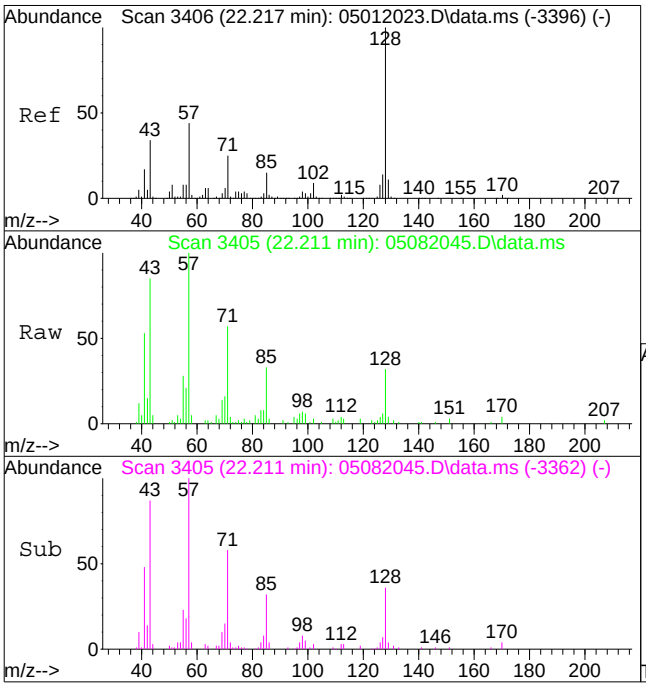


#82
1,2,4-Trimethylbenzene
Concen: 0.65 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05082045.D
Acq: 9 May 2020 4:24

Tgt Ion:105 Resp: 68131

Ion	Ratio	Lower	Upper
105	100		
120	48.6	33.6	73.6

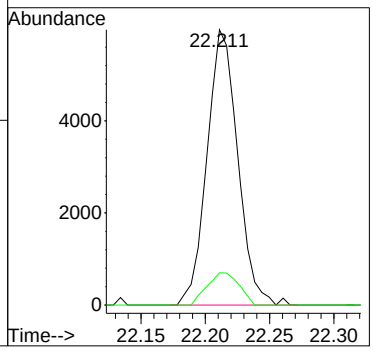




#95
Naphthalene
Concen: 0.08 ng
RT: 22.21 min Scan# 3405
Delta R.T. -0.011 min
Lab File: 05082045.D
Acq: 9 May 2020 4:24

Tgt Ion:128 Resp: 9939

Ion	Ratio	Lower	Upper
128	100		
129	12.2	0.0	31.0



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112027.D Vial: 5
Acq On : 11 May 2020 20:47 Operator: LH
Sample : P2002299-005dil (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 14:37:45 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/13/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	302579	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1307514	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	603984	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	487250	11.882	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.04%				
57) Toluene-d8 (SS2)	15.72	98	1276880	12.473	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.76%				
73) Bromofluorobenzene (SS3)	18.97	174	474365	12.878	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.04%				
Target Compounds							Qvalue
2) Propene	4.13	42	3489	0.100	ng		88
3) Dichlorodifluoromethan...	4.28	85	3695	0.054	ng	#	90
4) Chloromethane	4.55	50	29261	0.545	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	4.97	62	4192	0.071	ng		99
7) 1,3-Butadiene	5.17	54	507	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.98	64	1206	0.052	ng		82
10) Ethanol	6.45	45	51	N.D.			
11) Acetonitrile	6.62	41	365	N.D.			
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	7.24	101	6596	0.109	ng		97
15) 2-Propanol (Isopropanol)	7.55	45	1096	N.D.			
16) Acrylonitrile	7.84	53	1486	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.45	59	1212	N.D.			
19) Methylene Chloride	8.41	84	219	N.D.			
20) 3-Chloro-1-propene (Al...	8.63	41	111	N.D.			
21) Trichlorotrifluoroethane	8.84	151	471622	16.490	ng		99
22) Carbon Disulfide	8.68	76	298409	2.367	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	9.94	63	817	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.50	72	399	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.26	87	534	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	11.26	57	67492	1.169	ng		99
32) Chloroform	11.30	83	3028	0.050	ng		95
34) Tetrahydrofuran (THF)	11.73	72	30442	1.352	ng		98
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	2236	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	867977	6.190	ng		100
42) Carbon Tetrachloride	13.03	117	20944	0.439	ng		97
43) Cyclohexane	13.16	84	122355	2.342	ng		99
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	13.93	63	108	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	13.97	130	1846	0.051	ng		89
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112027.D Vial: 5
Acq On : 11 May 2020 20:47 Operator: LH
Sample : P2002299-005dil (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 14:37:45 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

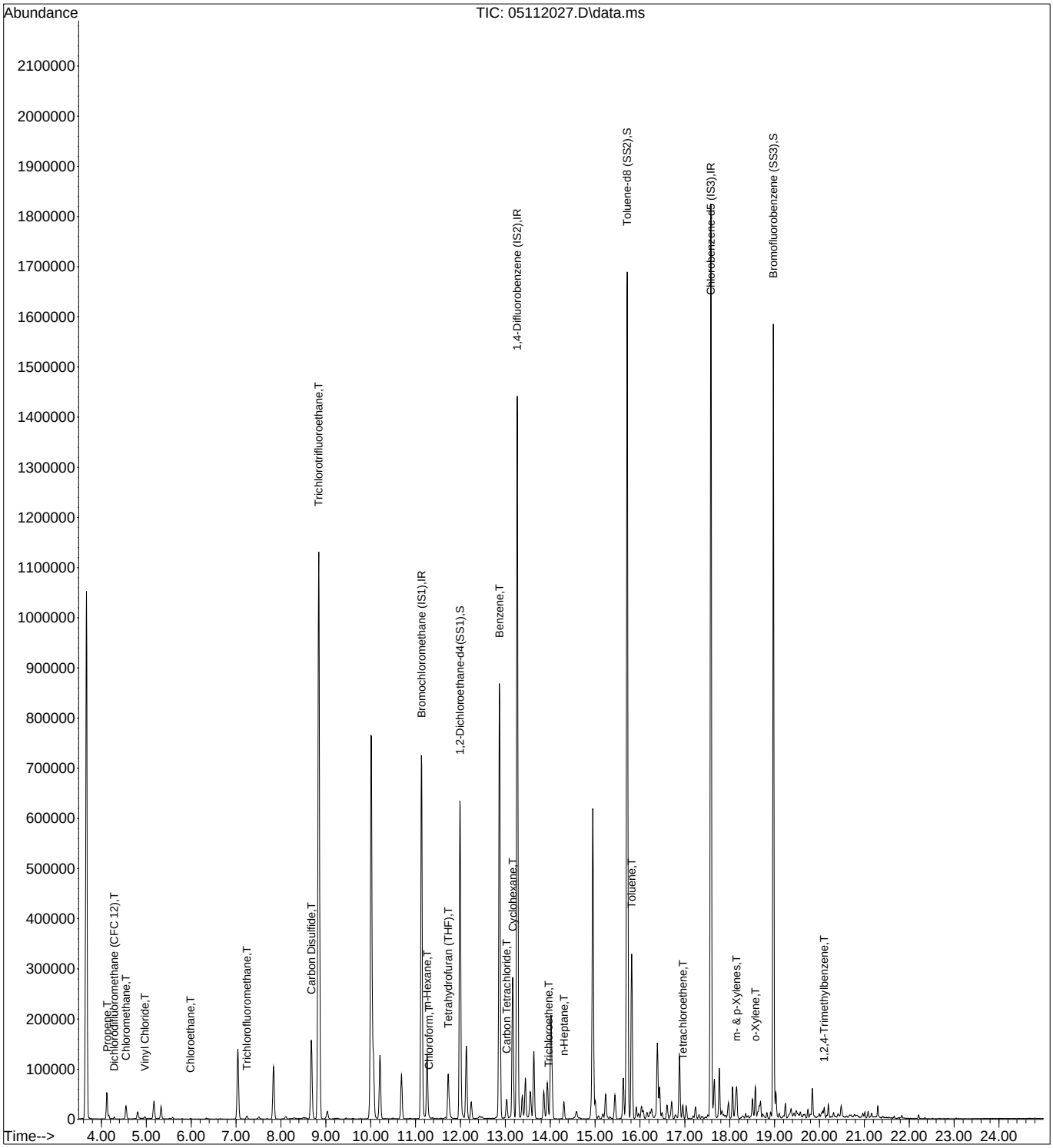
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	9026	0.275 ng	97
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.95	58	501	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	15.82	91	264055	2.001 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	16.48	107	548	N.D.	
62) n-Butyl Acetate	16.70	43	2107	N.D.	
63) n-Octane	16.82	57	859	N.D.	
64) Tetrachloroethene	16.96	166	3454	0.093 ng	95
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	17.98	91	4241	N.D.	
67) m- & p-Xylenes	18.15	91	49807	0.427 ng	99
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.58	104	745	N.D.	
70) o-Xylene	18.57	91	36956	0.312 ng	99
71) n-Nonane	18.77	43	1058	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	19.10	105	1379	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	19.55	91	2128	N.D.	
77) 3-Ethyltoluene	19.64	105	2518	N.D.	
78) 4-Ethyltoluene	19.68	105	2054	N.D.	
79) 1,3,5-Trimethylbenzene	19.74	105	5642	N.D.	
80) alpha-Methylstyrene	19.88	118	976	N.D.	
81) 2-Ethyltoluene	19.91	105	1264	N.D.	
82) 1,2,4-Trimethylbenzene	20.10	105	7170	0.060 ng	96
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.31	91	233	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	20.35	105	526	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	1534	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.61	68	333	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.21	128	953	N.D.	
96) n-Dodecane	22.21	57	2354	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.10	119	939	N.D.	
100) n-Butylbenzene	20.85	91	1274	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112027.D Vial: 5
Acq On : 11 May 2020 20:47 Operator: LH
Sample : P2002299-005dil (20mL) Inst : GCMS-16
Misc : S31-02112001

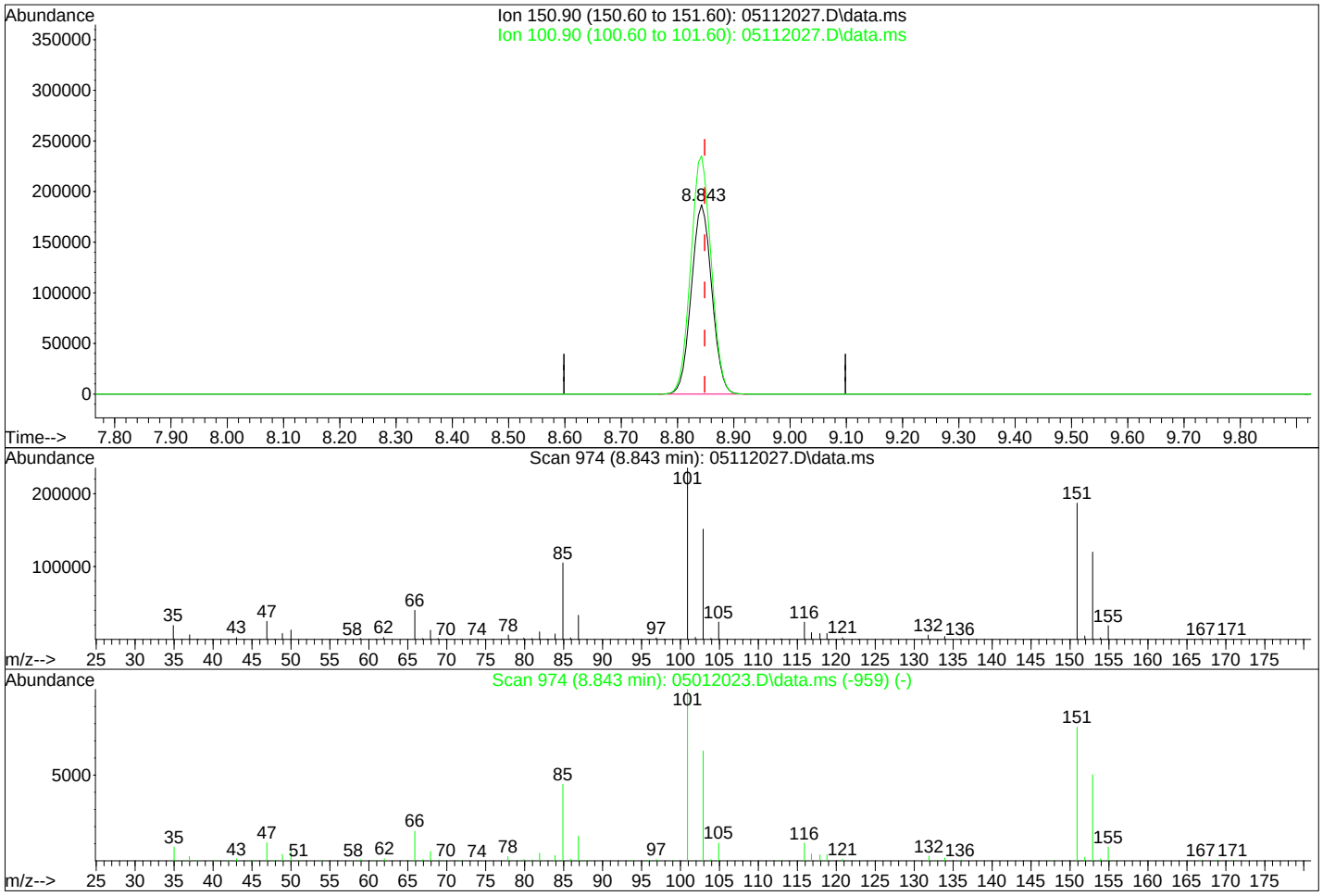
Quant Time: May 13 14:37:45 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\11\05112027.D Vial: 5
Acq On : 11 May 2020 20:47 Operator: LH
Sample : P2002299-005dil (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 12 02:52:37 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05112027.D\data.ms

(21) Trichlorotrifluoroethane (T)

8.843min (-0.006) 16.49ng

response 471622

Ion	Exp%	Act%
150.90	100	100
100.90	127.30	125.93
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082046.D Vial: 1
Acq On : 9 May 2020 4:57 Operator: LH
Sample : P2002299-006 (120mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 17:34:45 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/11/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	264548	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1135492	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	519726	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	412667	11.510	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.08%				
57) Toluene-d8 (SS2)	15.72	98	1099467	12.481	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.84%				
73) Bromofluorobenzene (SS3)	18.97	174	436915	13.784	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.24%				
Target Compounds							Qvalue
2) Propene	4.10	42	16803	0.548	ng		95
3) Dichlorodifluoromethan...	4.27	85	27436	0.458	ng		99
4) Chloromethane	4.53	50	167092	3.559	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	338	N.D.			
6) Vinyl Chloride	4.95	62	24413	0.474	ng		98
7) 1,3-Butadiene	5.22	54	1044	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.98	64	7433	0.365	ng		98
10) Ethanol	6.32	45	14013	0.592	ng		87
11) Acetonitrile	6.59	41	4608	0.085	ng		90
12) Acrolein	6.79	56	2613	0.140	ng		96
13) Acetone	7.03	58	40790	1.724	ng	#	1
14) Trichlorofluoromethane	7.24	101	52126	0.984	ng		99
15) 2-Propanol (Isopropanol)	7.51	45	2471	N.D.			
16) Acrylonitrile	7.77	53	711	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	273	N.D.			
20) 3-Chloro-1-propene (Al...	8.58	41	437	N.D.			
21) Trichlorotrifluoroethane	8.85	151	4279869	171.157	ng		97
22) Carbon Disulfide	8.68	76	2016723	18.298	ng		100
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	9.95	63	5302	0.106	ng		97
25) Methyl tert-Butyl Ether	10.22	73	221	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.47	72	6110	0.303	ng		95
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.26	61	191	N.D.			
31) n-Hexane	11.26	57	461887	9.152	ng		100
32) Chloroform	11.31	83	22452	0.426	ng		97
34) Tetrahydrofuran (THF)	11.71	72	193374	9.826	ng		99
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	12997	0.312	ng		98
38) 1,1,1-Trichloroethane	12.40	97	351	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	5635520	46.280	ng		100
42) Carbon Tetrachloride	13.03	117	180711	4.363	ng		99
43) Cyclohexane	13.17	84	888286	19.576	ng		98
44) tert-Amyl Methyl Ether	13.64	73	206	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	13.97	130	13465	0.428	ng		99
48) 1,4-Dioxane	13.98	88	555	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.12	100	373	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082046.D Vial: 1
Acq On : 9 May 2020 4:57 Operator: LH
Sample : P2002299-006 (120mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 17:34:45 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

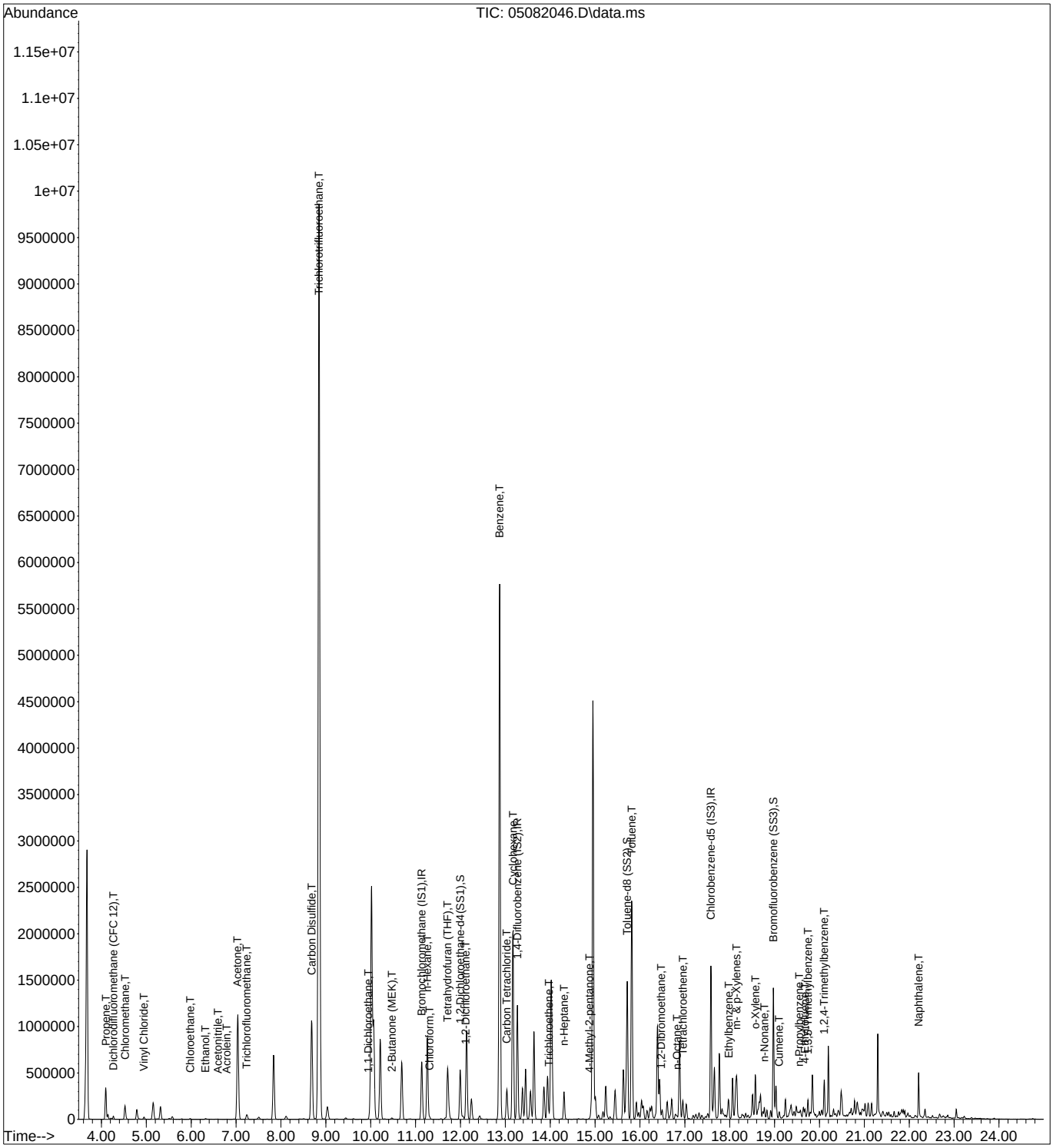
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.31	71	76722	2.694 ng		99
52) cis-1,3-Dichloropropene	14.96	75	942	N.D.		
53) 4-Methyl-2-pentanone	14.88	58	2855	0.105 ng		98
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d		
58) Toluene	15.82	91	1843735	16.237 ng		100
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	16.48	107	3971	0.127 ng		98
62) n-Butyl Acetate	0.00	43	0	N.D. d		
63) n-Octane	16.83	57	8621	0.367 ng	#	84
64) Tetrachloroethene	16.96	166	28198	0.879 ng		99
65) Chlorobenzene	0.00	112	0	N.D. d		
66) Ethylbenzene	17.98	91	36183	0.286 ng		99
67) m- & p-Xylenes	18.15	91	378228	3.765 ng		98
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	1090	N.D.		
70) o-Xylene	18.57	91	273045	2.677 ng		99
71) n-Nonane	18.77	43	40721	0.753 ng		99
72) 1,1,2,2-Tetrachloroethane	18.57	83	165	N.D.		
74) Cumene	19.10	105	11370	0.091 ng		99
75) alpha-Pinene	19.44	93	120	N.D.		
76) n-Propylbenzene	19.55	91	31703	0.213 ng		94
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.68	105	35213	0.300 ng		99
79) 1,3,5-Trimethylbenzene	19.74	105	63969	0.627 ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	20.10	105	175345	1.709 ng		92
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.20	91	1030	N.D.		
85) 1,3-Dichlorobenzene	20.30	146	637	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	637	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D. d		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.61	68	1139	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.11	180	188	N.D.		
95) Naphthalene	22.21	128	37790	0.302 ng		97
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082046.D Vial: 1
Acq On : 9 May 2020 4:57 Operator: LH
Sample : P2002299-006 (120mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 17:34:45 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082046.D Vial: 1
Acq On : 9 May 2020 4:57 Operator: LH
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QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/11/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	264548	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1135492	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	519726	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	412667	11.510	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.08%				
57) Toluene-d8 (SS2)	15.72	98	1099467	12.481	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.84%				
73) Bromofluorobenzene (SS3)	18.97	174	436915	13.784	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.24%				
Target Compounds							Qvalue
2) Propene	4.10	42	16803	0.548	ng		95
3) Dichlorodifluoromethan...	4.27	85	27436	0.458	ng		99
4) Chloromethane	4.53	50	167092	3.559	ng		100
6) Vinyl Chloride	4.95	62	24413	0.474	ng		98
9) Chloroethane	5.98	64	7433	0.365	ng		98
10) Ethanol	6.32	45	14013	0.592	ng		87
11) Acetonitrile	6.59	41	4608	0.085	ng		90
12) Acrolein	6.79	56	2613	0.140	ng		96
13) Acetone	7.03	58	40790	1.724	ng	#	1
14) Trichlorofluoromethane	7.24	101	52126	0.984	ng		99
21) Trichlorotrifluoroethane	8.85	151	4279869	171.157	ng		97
22) Carbon Disulfide	8.68	76	2016723	18.298	ng		100
24) 1,1-Dichloroethane	9.95	63	5302	0.106	ng		97
27) 2-Butanone (MEK)	10.47	72	6110	0.303	ng		95
31) n-Hexane	11.26	57	461887	9.152	ng		100
32) Chloroform	11.31	83	22452	0.426	ng		97
34) Tetrahydrofuran (THF)	11.71	72	193374	9.826	ng		99
36) 1,2-Dichloroethane	12.11	62	12997	0.312	ng		98
41) Benzene	12.87	78	5635520	46.280	ng		100
42) Carbon Tetrachloride	13.03	117	180711	4.363	ng		99
43) Cyclohexane	13.17	84	888286	19.576	ng		98
47) Trichloroethene	13.97	130	13465	0.428	ng		99
51) n-Heptane	14.31	71	76722	2.694	ng		99
53) 4-Methyl-2-pentanone	14.88	58	2855	0.105	ng		98
58) Toluene	15.82	91	1843735	16.237	ng		100
61) 1,2-Dibromoethane	16.48	107	3971	0.127	ng		98
63) n-Octane	16.83	57	8621	0.367	ng	#	84
64) Tetrachloroethene	16.96	166	28198	0.879	ng		99
66) Ethylbenzene	17.98	91	36183	0.286	ng		99
67) m- & p-Xylenes	18.15	91	378228	3.765	ng		98
70) o-Xylene	18.57	91	273045	2.677	ng		99
71) n-Nonane	18.77	43	40721	0.753	ng		99
74) Cumene	19.10	105	11370	0.091	ng		99
76) n-Propylbenzene	19.55	91	31703	0.213	ng		94
78) 4-Ethyltoluene	19.68	105	35213	0.300	ng		99
79) 1,3,5-Trimethylbenzene	19.74	105	63969	0.627	ng		99
82) 1,2,4-Trimethylbenzene	20.10	105	175345	1.709	ng		92
95) Naphthalene	22.21	128	37790	0.302	ng		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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Acq On : 9 May 2020 4:57 Operator: LH
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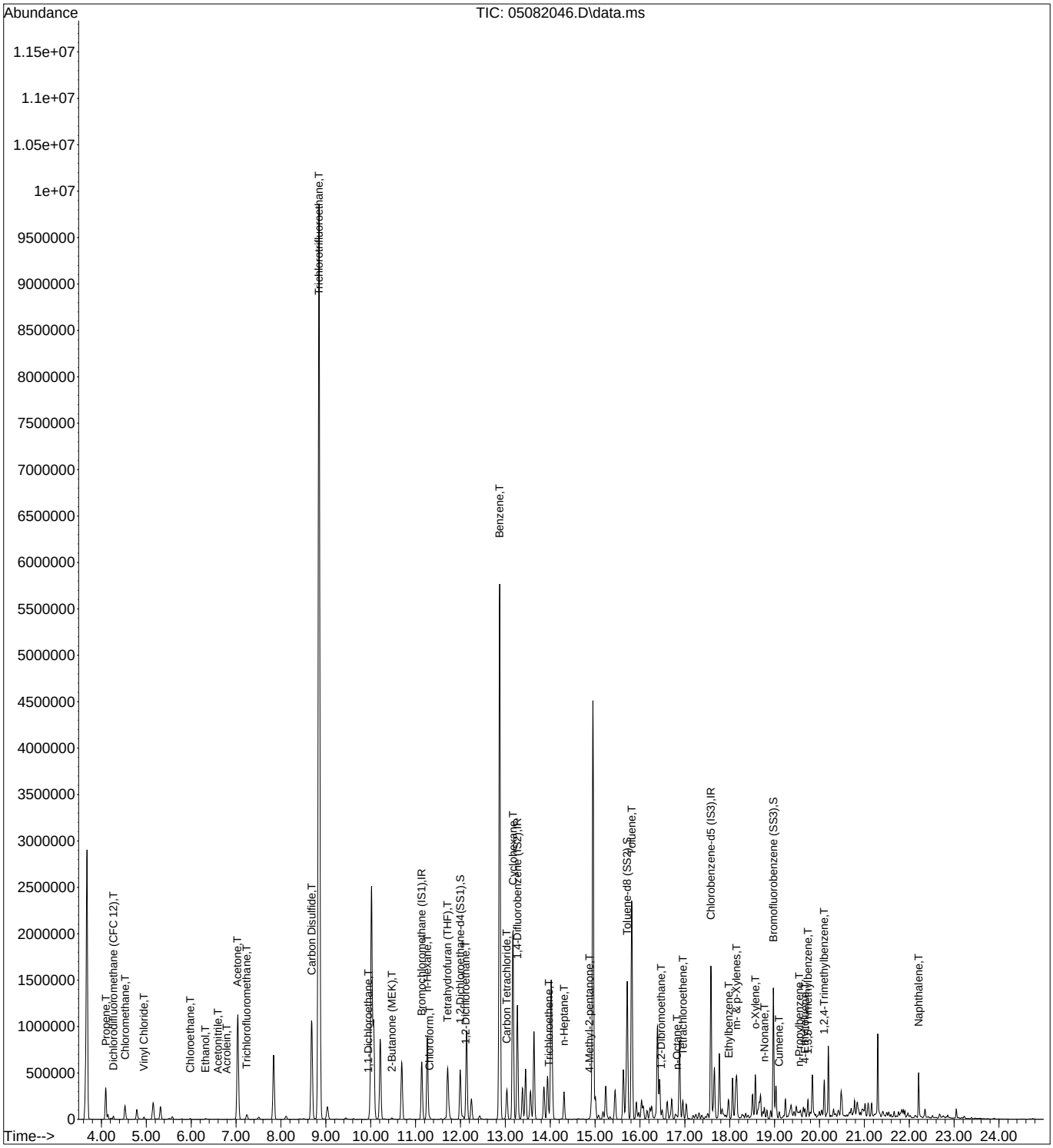
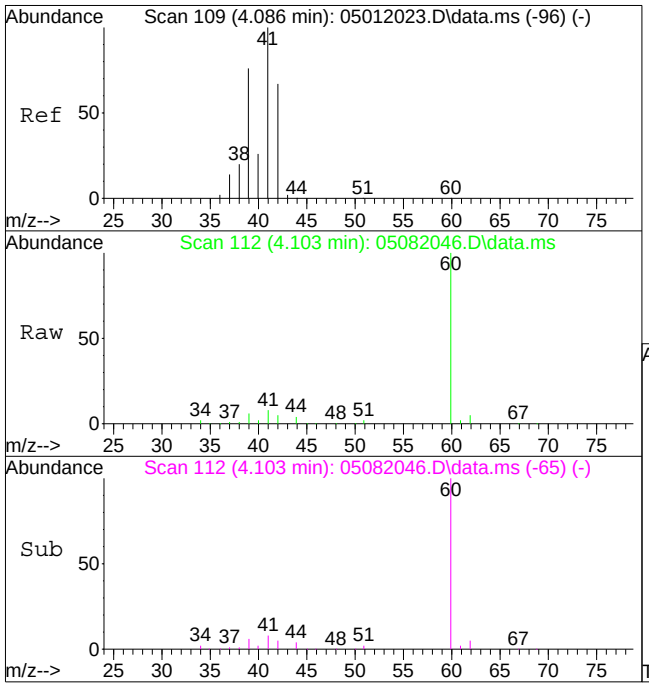
Response via : Initial Calibration
DataAcq Meth:TO15.M

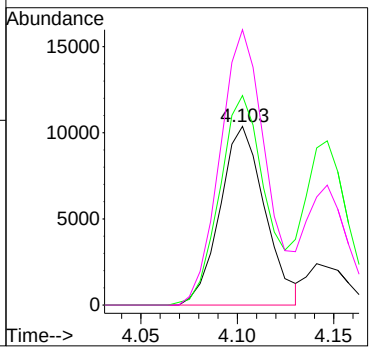


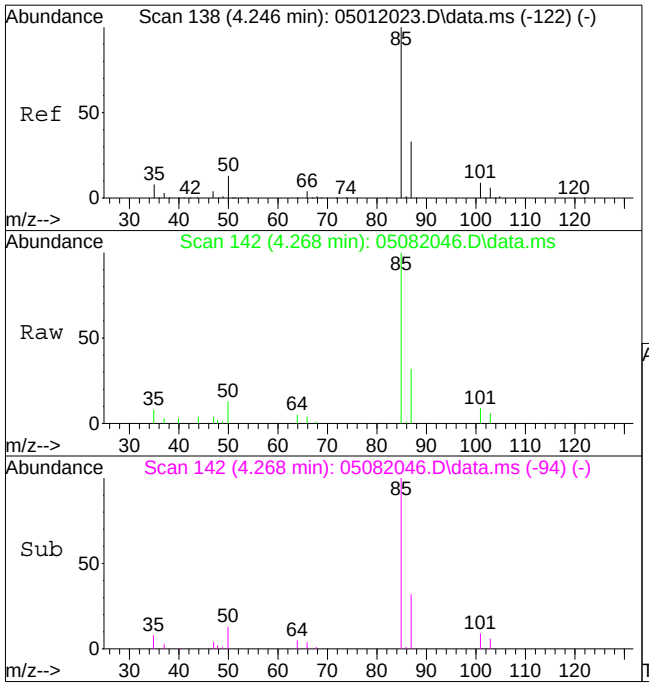


#2
Propene
Concen: 0.55 ng
RT: 4.10 min Scan# 112
Delta R.T. 0.011 min
Lab File: 05082046.D
Acq: 9 May 2020 4:57

Tgt Ion: 42 Resp: 16803

Ion	Ratio	Lower	Upper
42	100		
39	119.1	96.1	136.1
41	159.9	131.9	171.9

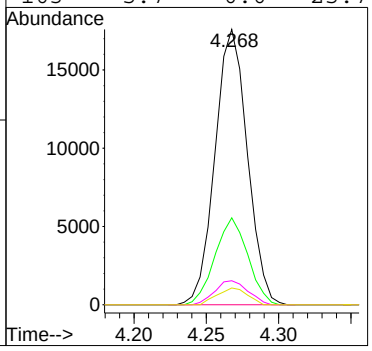


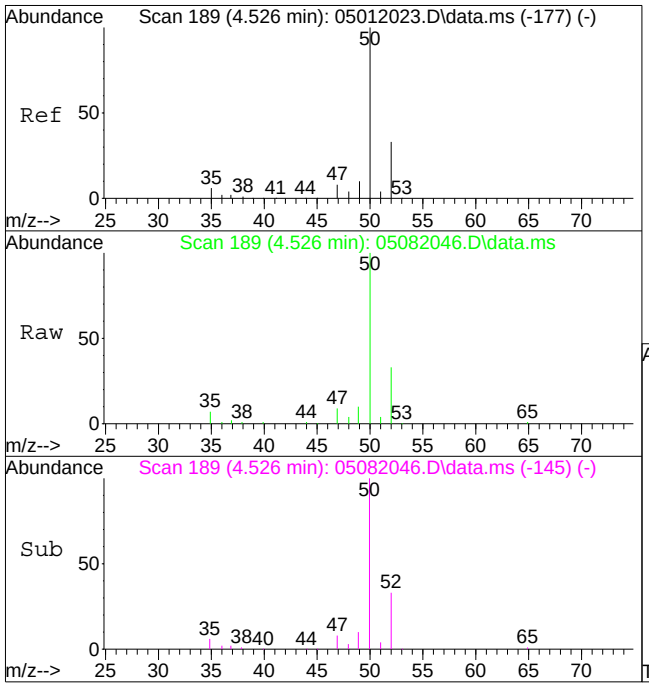


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.46 ng
RT: 4.27 min Scan# 142
Delta R.T. 0.016 min
Lab File: 05082046.D
Acq: 9 May 2020 4:57

Tgt Ion: 85 Resp: 27436

Ion	Ratio	Lower	Upper
85	100		
87	32.0	12.4	52.4
101	8.9	0.0	28.8
103	5.7	0.0	25.7

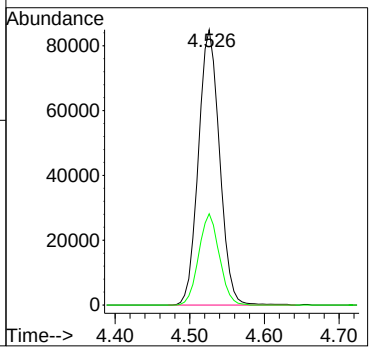


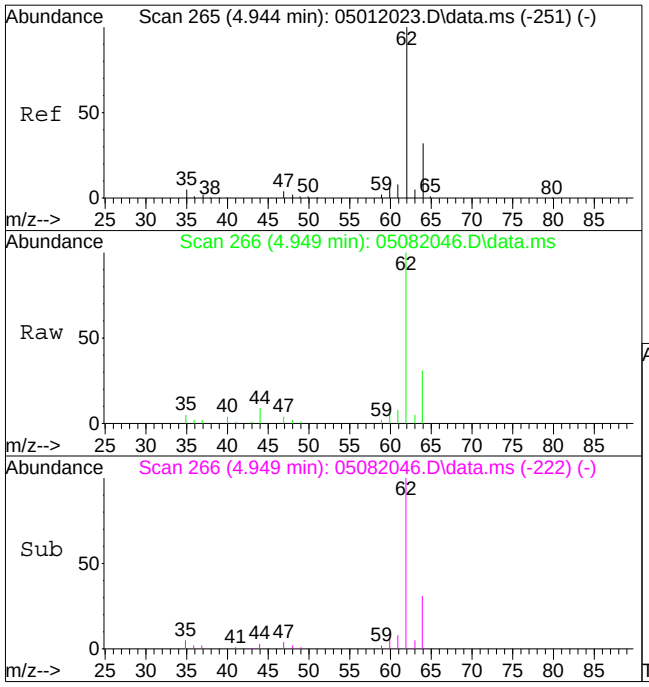


#4
Chloromethane
Concen: 3.56 ng
RT: 4.53 min Scan# 189
Delta R.T. -0.006 min
Lab File: 05082046.D
Acq: 9 May 2020 4:57

Tgt Ion: 50 Resp: 167092

Ion	Ratio	Lower	Upper
50	100		
52	32.2	12.5	52.5

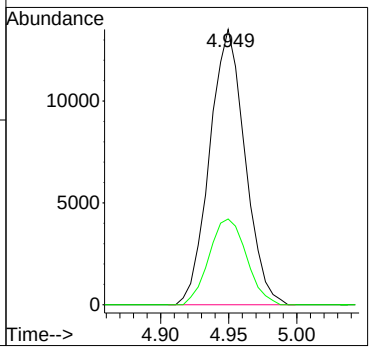


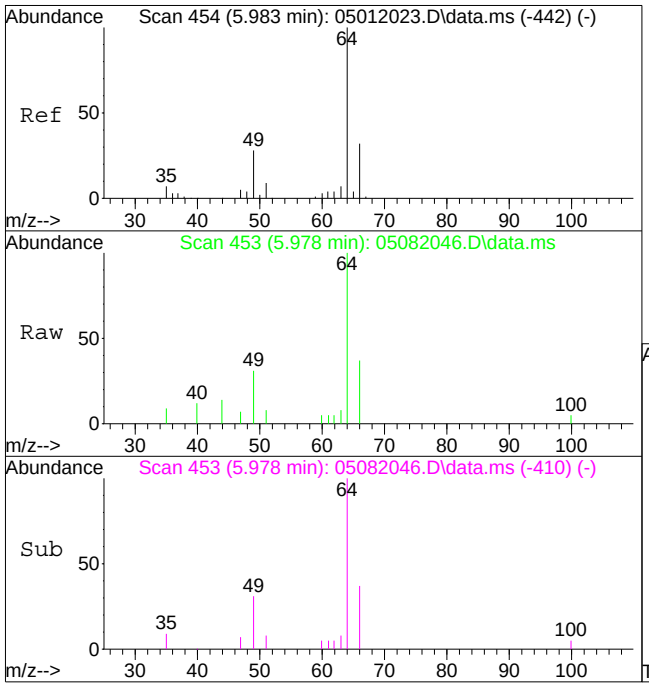


#6
Vinyl Chloride
Concen: 0.47 ng
RT: 4.95 min Scan# 266
Delta R.T. -0.006 min
Lab File: 05082046.D
Acq: 9 May 2020 4:57

Tgt Ion: 62 Resp: 24413

Ion	Ratio	Lower	Upper
62	100		
64	32.9	12.1	52.1

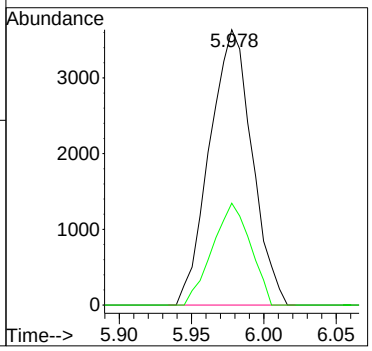


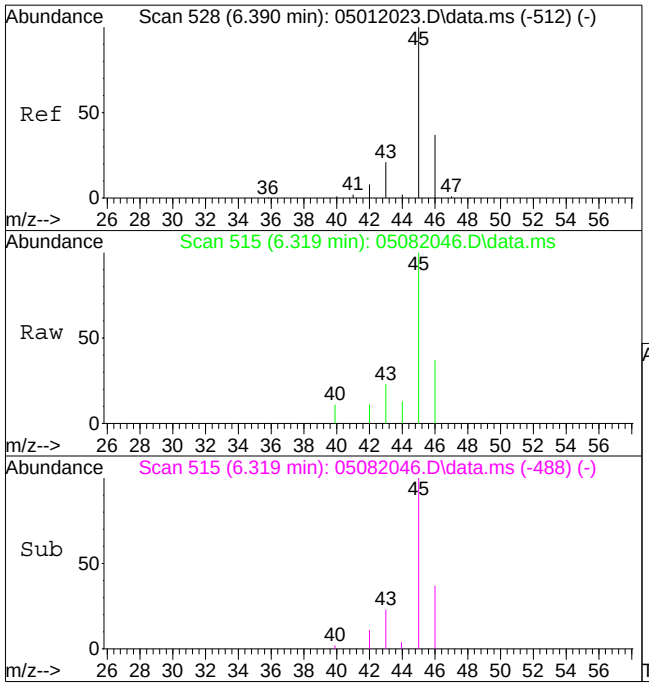


#9
Chloroethane
Concen: 0.37 ng
RT: 5.98 min Scan# 453
Delta R.T. -0.011 min
Lab File: 05082046.D
Acq: 9 May 2020 4:57

Tgt Ion: 64 Resp: 7433

Ion	Ratio	Lower	Upper
64	100		
66	33.2	12.1	52.1

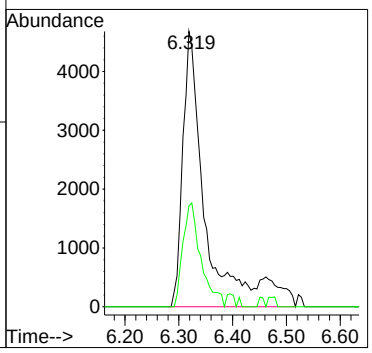


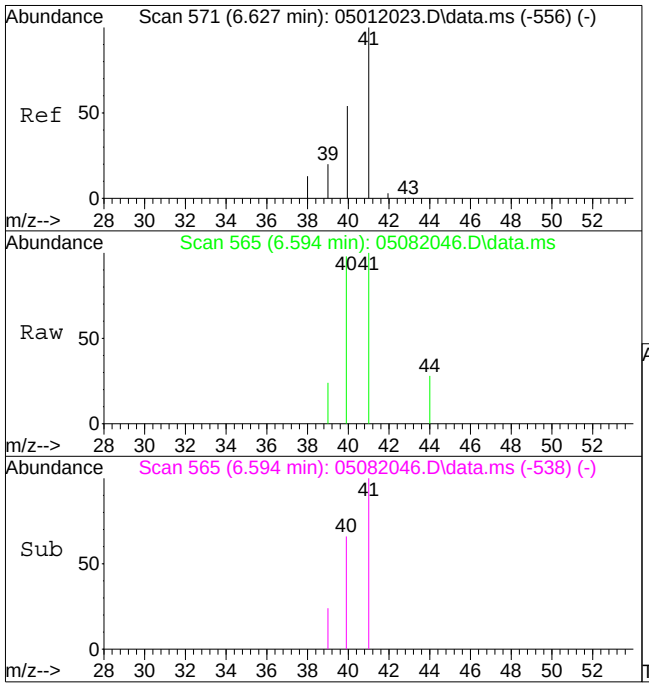


#10
Ethanol
Concen: 0.59 ng
RT: 6.32 min Scan# 515
Delta R.T. -0.099 min
Lab File: 05082046.D
Acq: 9 May 2020 4:57

Tgt Ion: 45 Resp: 14013

Ion	Ratio	Lower	Upper
45	100		
46	29.3	17.2	57.2

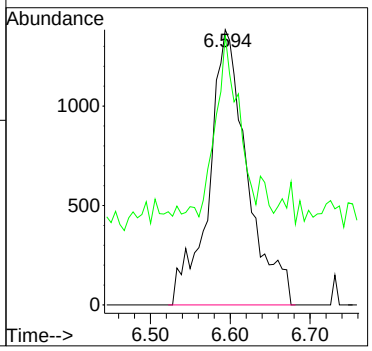


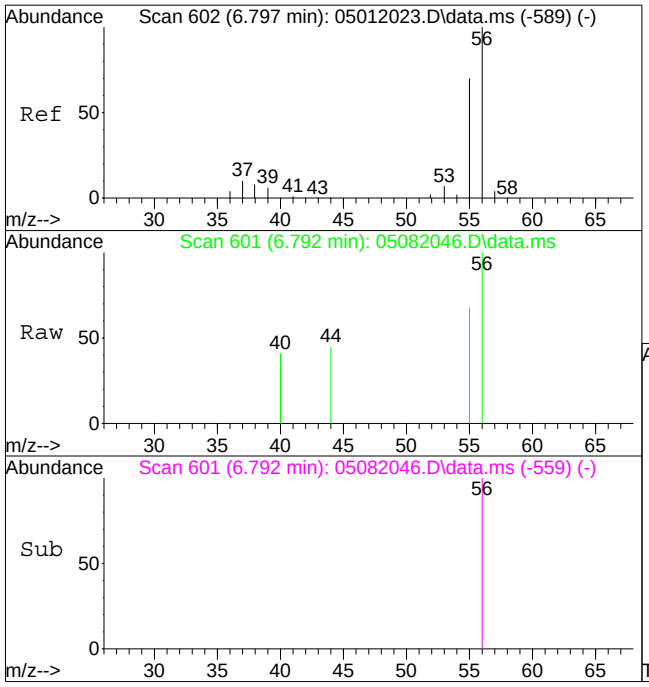


#11
Acetonitrile
Concen: 0.09 ng
RT: 6.59 min Scan# 565
Delta R.T. -0.050 min
Lab File: 05082046.D
Acq: 9 May 2020 4:57

Tgt Ion: 41 Resp: 4608

Ion	Ratio	Lower	Upper
41	100		
40	60.6	33.6	73.6

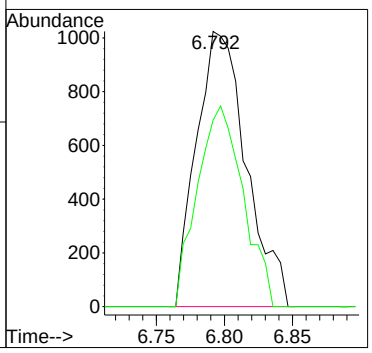


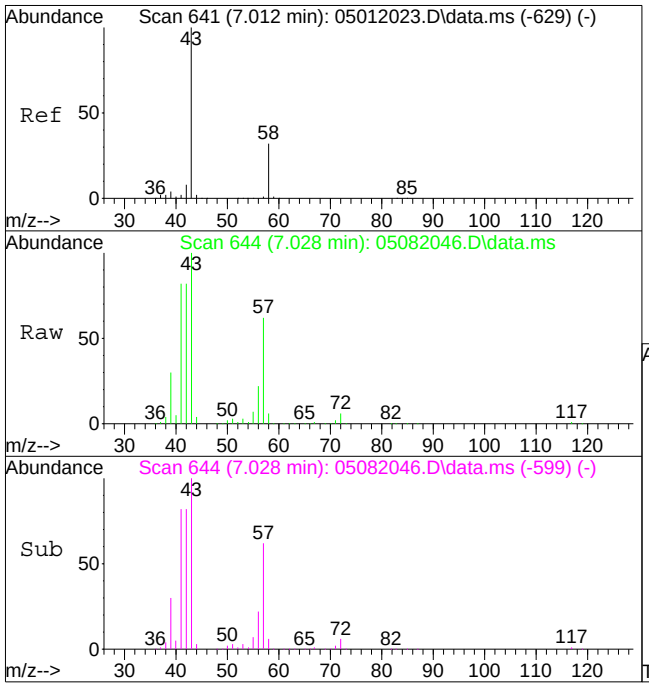


#12
Acrolein
Concen: 0.14 ng
RT: 6.79 min Scan# 601
Delta R.T. -0.017 min
Lab File: 05082046.D
Acq: 9 May 2020 4:57

Tgt Ion: 56 Resp: 2613

Ion	Ratio	Lower	Upper
56	100		
55	66.9	50.2	90.2

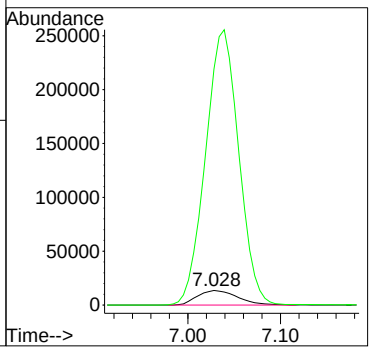


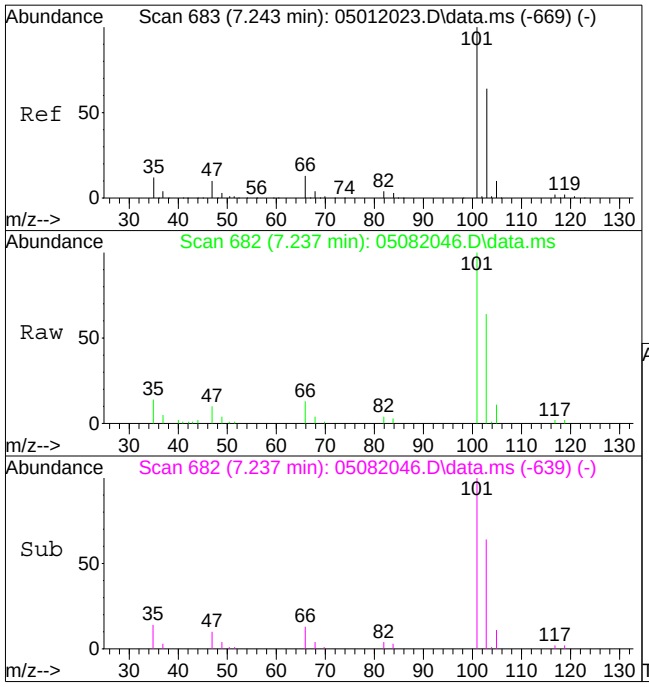


#13
Acetone
Concen: 1.72 ng
RT: 7.03 min Scan# 644
Delta R.T. -0.000 min
Lab File: 05082046.D
Acq: 9 May 2020 4:57

Tgt Ion: 58 Resp: 40790

Ion	Ratio	Lower	Upper
58	100		
43	1568.6	294.4	354.4#

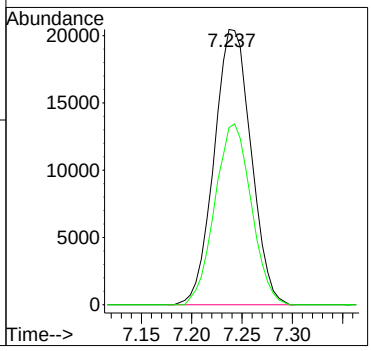


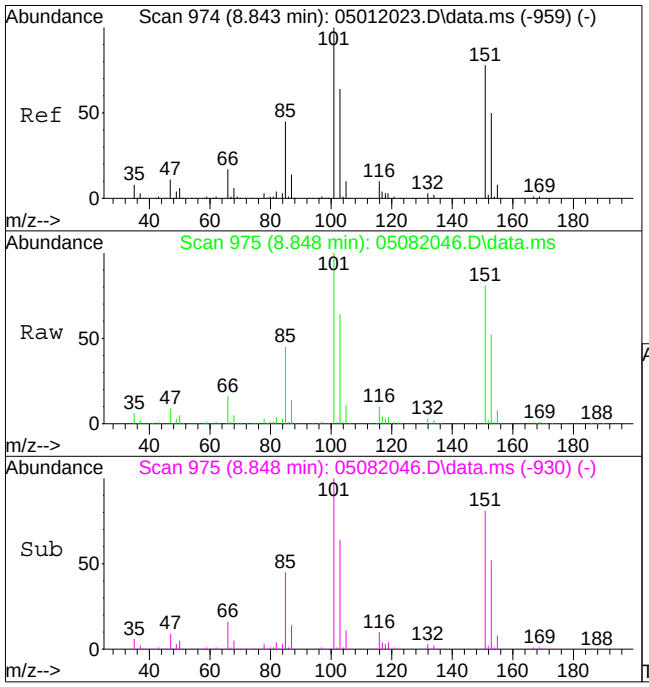


#14
Trichlorofluoromethane
Concen: 0.98 ng
RT: 7.24 min Scan# 682
Delta R.T. -0.011 min
Lab File: 05082046.D
Acq: 9 May 2020 4:57

Tgt Ion:101 Resp: 52126

Ion	Ratio	Lower	Upper
101	100		
103	64.8	44.4	84.4

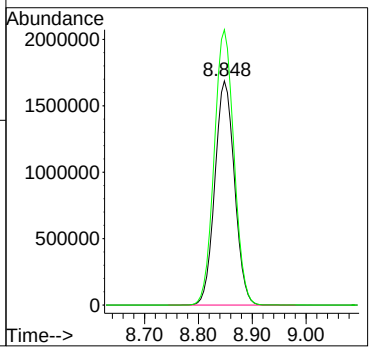


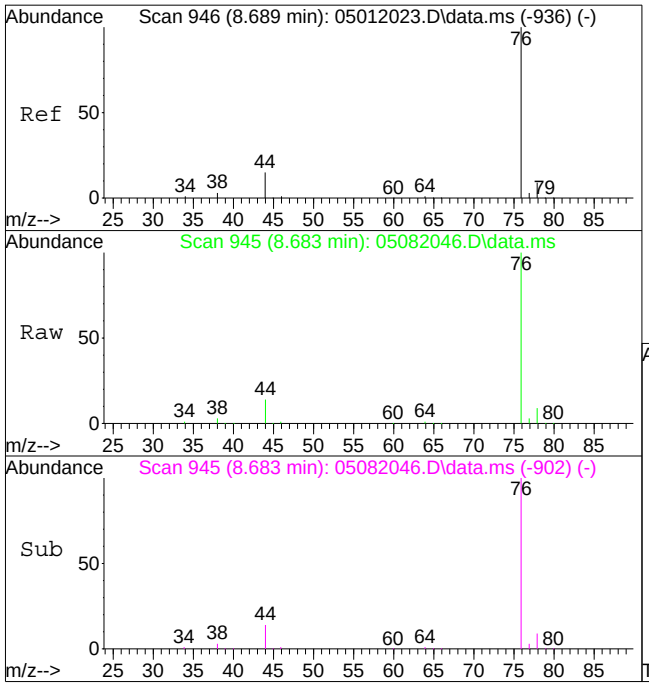


#21
Trichlorotrifluoroethane
Concen: 171.16 ng
RT: 8.85 min Scan# 975
Delta R.T. -0.000 min
Lab File: 05082046.D
Acq: 9 May 2020 4:57

Tgt Ion:151 Resp: 4279869

Ion	Ratio	Lower	Upper
151	100		
101	123.6	107.3	147.3

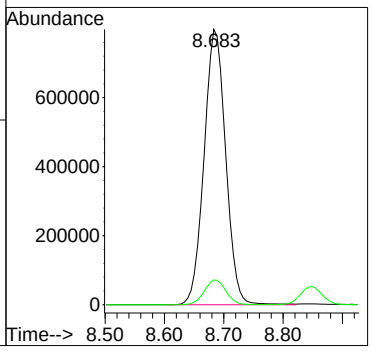


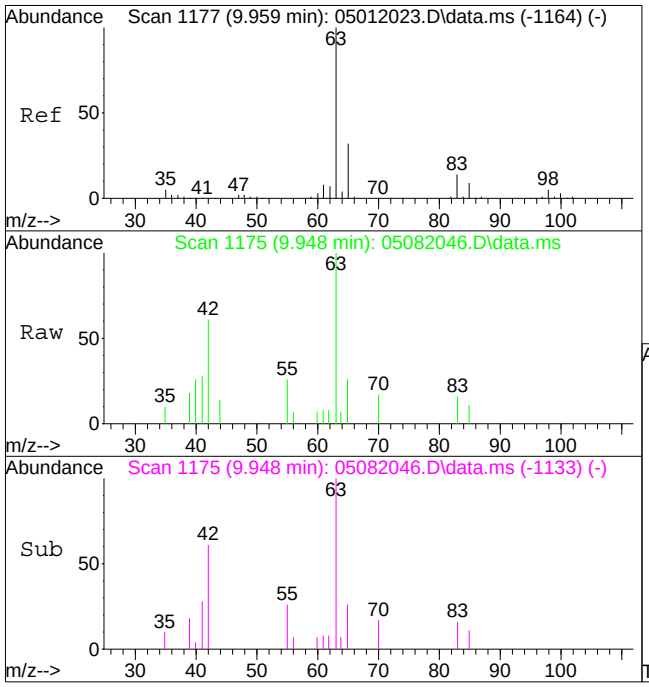


#22
Carbon Disulfide
Concen: 18.30 ng
RT: 8.68 min Scan# 945
Delta R.T. -0.011 min
Lab File: 05082046.D
Acq: 9 May 2020 4:57

Tgt Ion: 76 Resp: 2016723

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	29.2

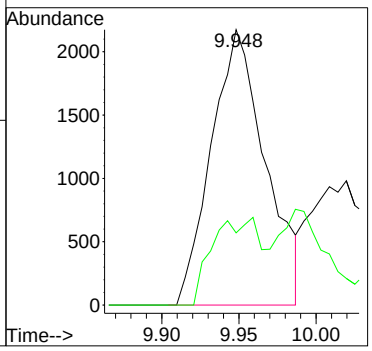


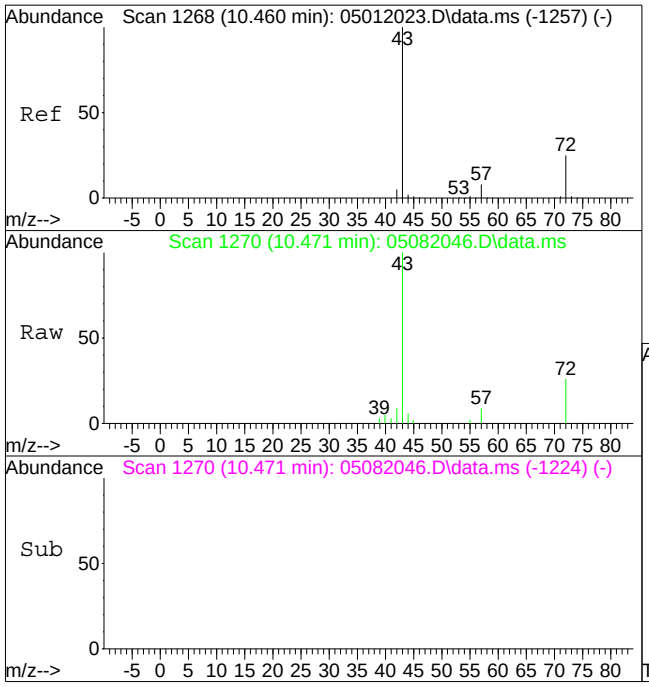


#24
1,1-Dichloroethane
Concen: 0.11 ng
RT: 9.95 min Scan# 1175
Delta R.T. -0.017 min
Lab File: 05082046.D
Acq: 9 May 2020 4:57

Tgt Ion: 63 Resp: 5302

Ion	Ratio	Lower	Upper
63	100		
65	29.9	11.8	51.8

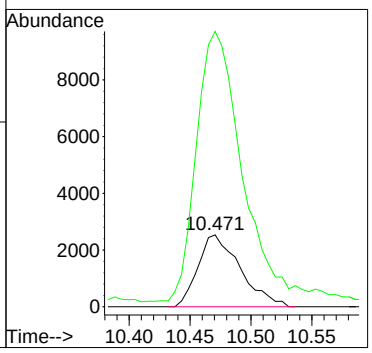


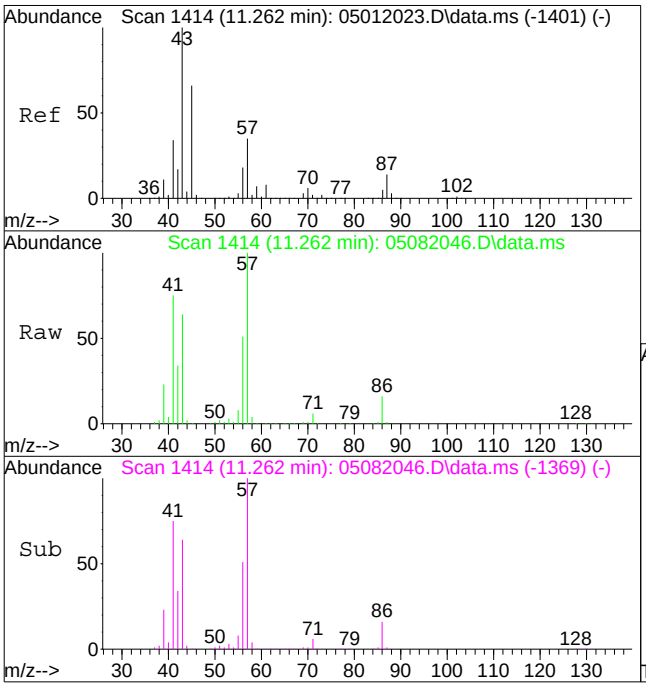


#27
2-Butanone (MEK)
Concen: 0.30 ng
RT: 10.47 min Scan# 1270
Delta R.T. 0.005 min
Lab File: 05082046.D
Acq: 9 May 2020 4:57

Tgt Ion: 72 Resp: 6110

Ion	Ratio	Lower	Upper
72	100		
43	420.6	389.7	429.7

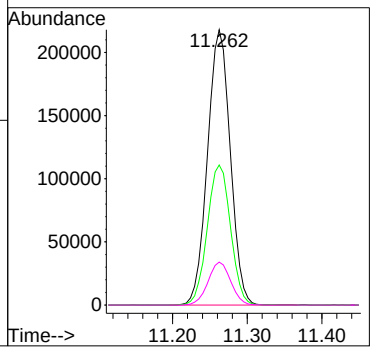


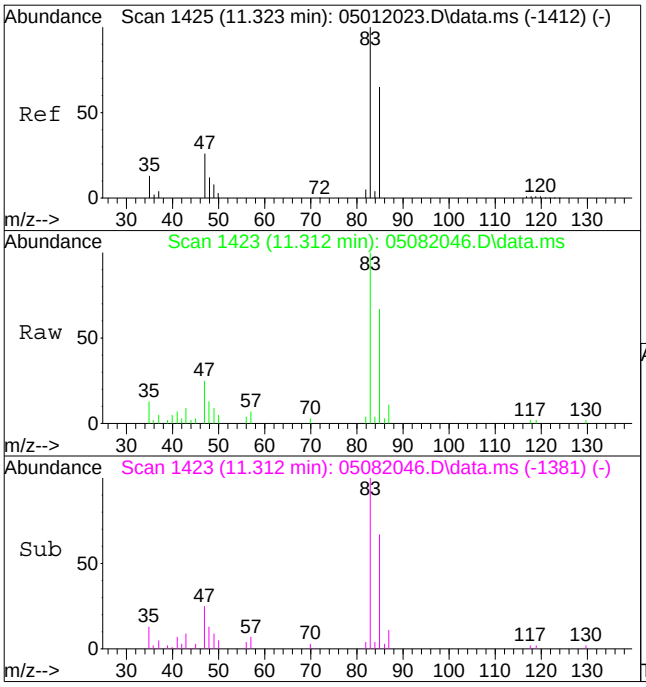


#31
n-Hexane
Concen: 9.15 ng
RT: 11.26 min Scan# 1414
Delta R.T. -0.000 min
Lab File: 05082046.D
Acq: 9 May 2020 4:57

Tgt Ion: 57 Resp: 461887

Ion	Ratio	Lower	Upper
57	100		
56	51.9	41.4	62.0
86	15.5	12.4	18.6

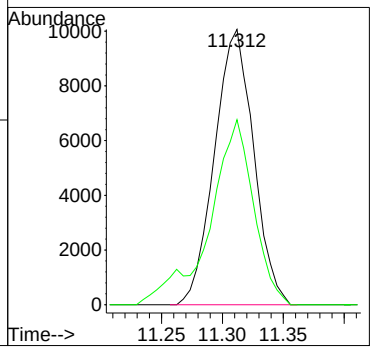


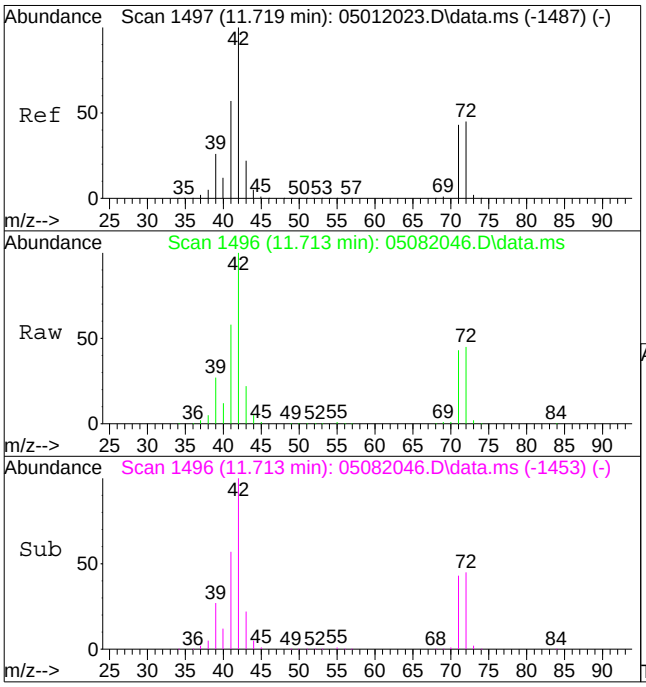


#32
Chloroform
Concen: 0.43 ng
RT: 11.31 min Scan# 1423
Delta R.T. -0.017 min
Lab File: 05082046.D
Acq: 9 May 2020 4:57

Tgt Ion: 83 Resp: 22452

Ion	Ratio	Lower	Upper
83	100		
85	67.8	45.5	85.5

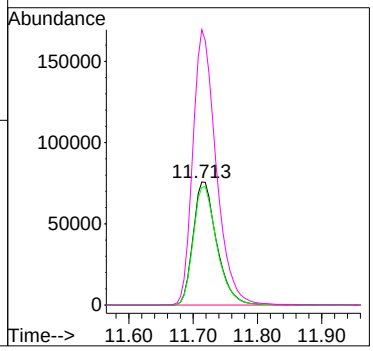


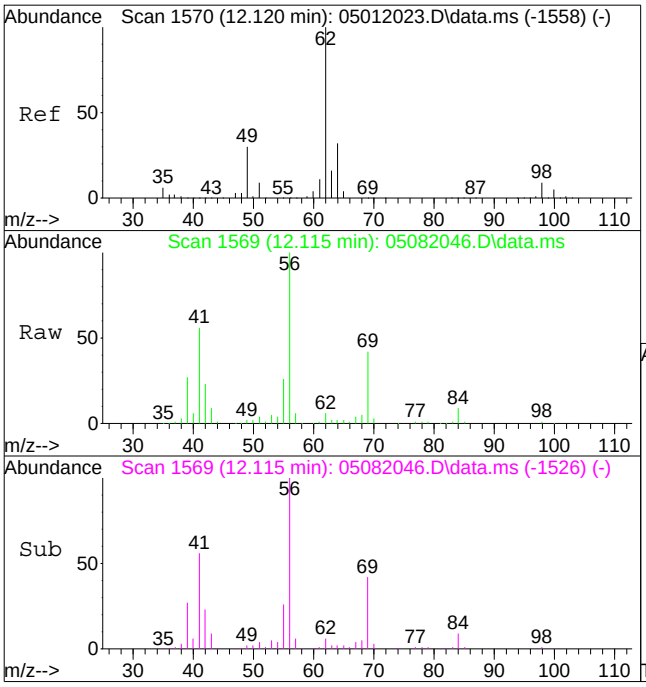


#34
Tetrahydrofuran (THF)
Concen: 9.83 ng
RT: 11.71 min Scan# 1496
Delta R.T. -0.011 min
Lab File: 05082046.D
Acq: 9 May 2020 4:57

Tgt Ion: 72 Resp: 193374

Ion	Ratio	Lower	Upper
72	100		
71	96.6	77.0	117.0
42	221.9	204.6	244.6

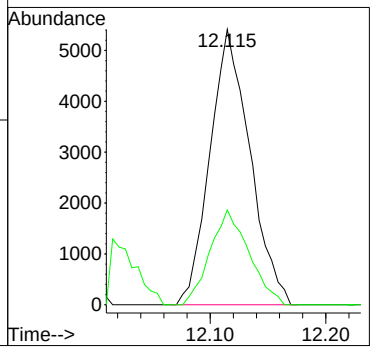


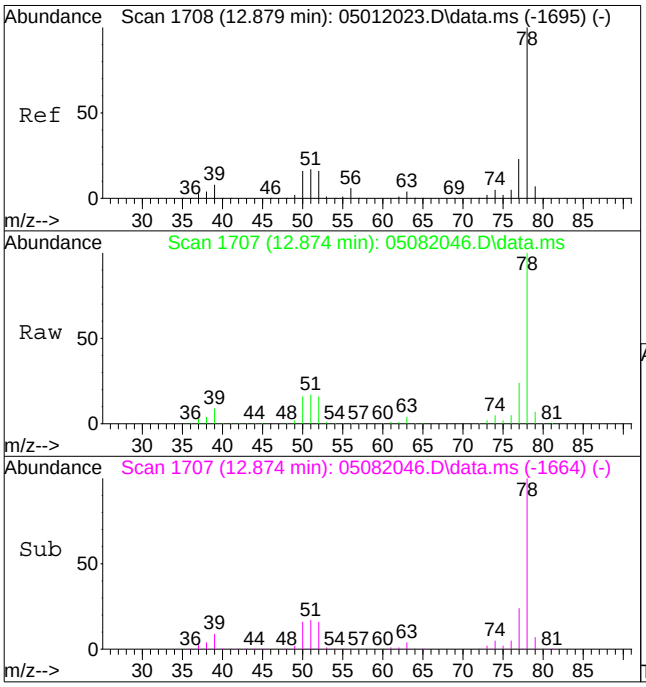


#36
1,2-Dichloroethane
Concen: 0.31 ng
RT: 12.11 min Scan# 1569
Delta R.T. -0.011 min
Lab File: 05082046.D
Acq: 9 May 2020 4:57

Tgt Ion: 62 Resp: 12997

Ion	Ratio	Lower	Upper
62	100		
64	33.4	12.4	52.4

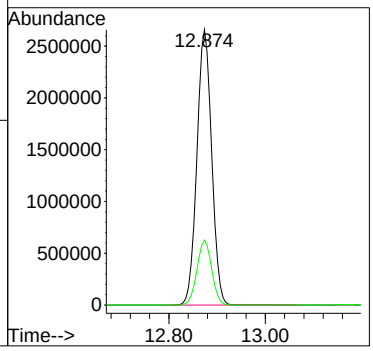


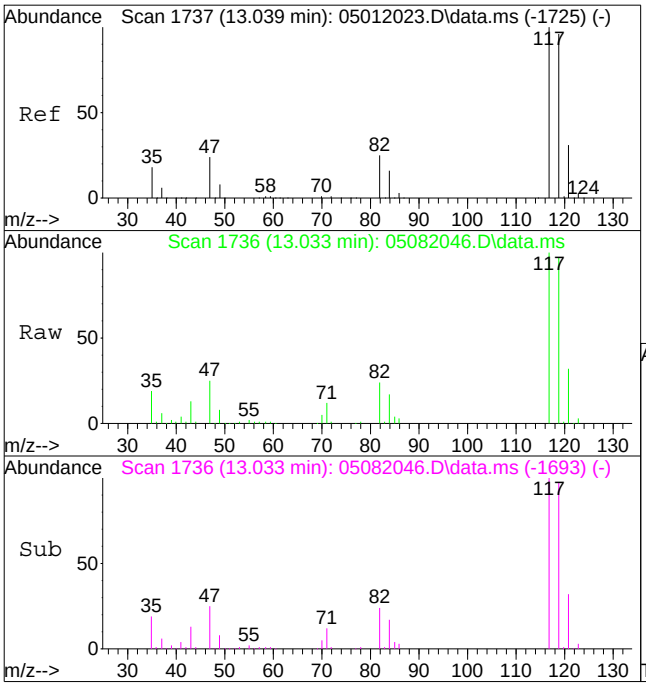


#41
Benzene
Concen: 46.28 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05082046.D
Acq: 9 May 2020 4:57

Tgt Ion: 78 Resp: 5635520

Ion	Ratio	Lower	Upper
78	100		
77	23.5	3.4	43.4

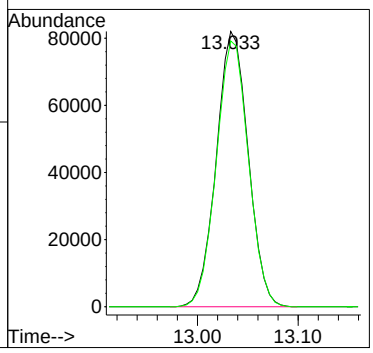


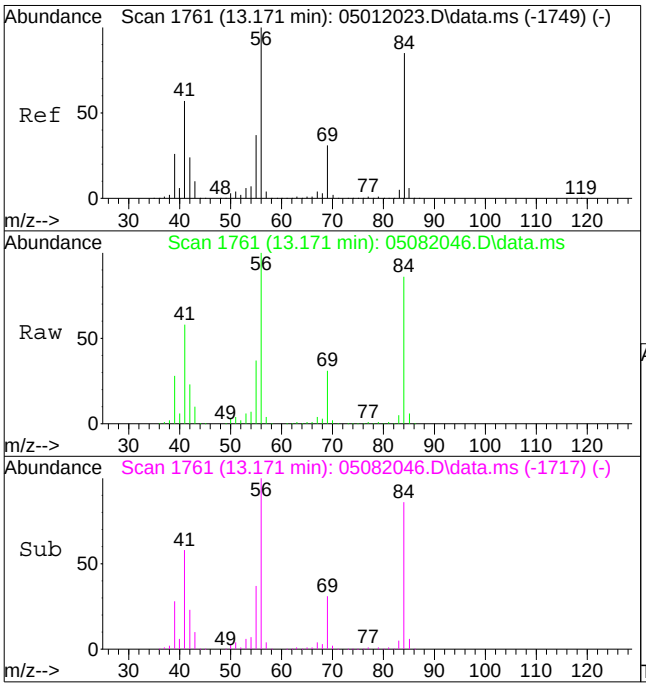


#42
Carbon Tetrachloride
Concen: 4.36 ng
RT: 13.03 min Scan# 1736
Delta R.T. -0.011 min
Lab File: 05082046.D
Acq: 9 May 2020 4:57

Tgt Ion:117 Resp: 180711

Ion	Ratio	Lower	Upper
117	100		
119	97.2	76.2	116.2

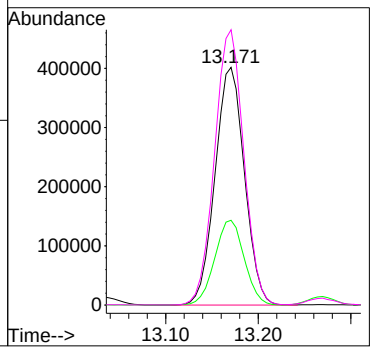


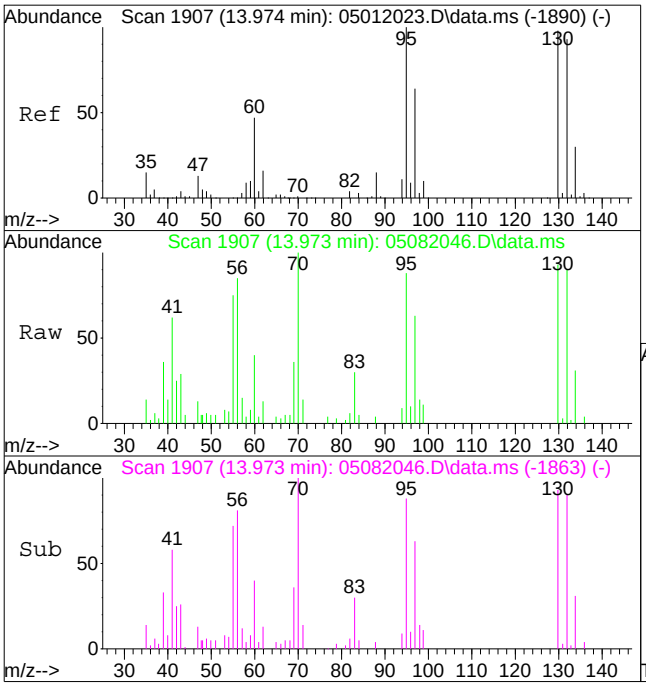


#43
Cyclohexane
Concen: 19.58 ng
RT: 13.17 min Scan# 1761
Delta R.T. -0.006 min
Lab File: 05082046.D
Acq: 9 May 2020 4:57

Tgt Ion: 84 Resp: 888286

Ion	Ratio	Lower	Upper
84	100		
69	35.9	16.5	56.5
56	114.8	97.4	137.4

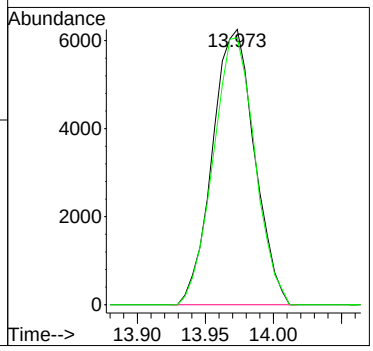


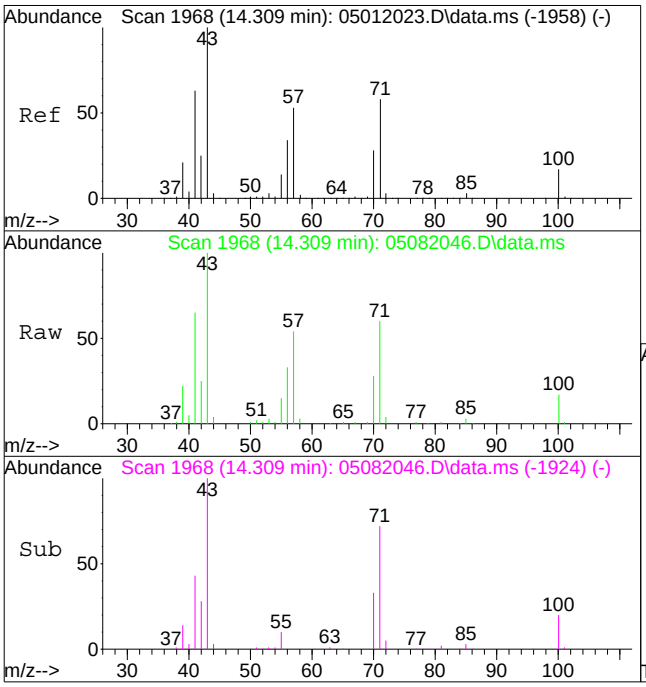


#47
Trichloroethene
Concen: 0.43 ng
RT: 13.97 min Scan# 1907
Delta R.T. -0.006 min
Lab File: 05082046.D
Acq: 9 May 2020 4:57

Tgt Ion:130 Resp: 13465

Ion	Ratio	Lower	Upper
130	100		
132	96.2	74.9	114.9

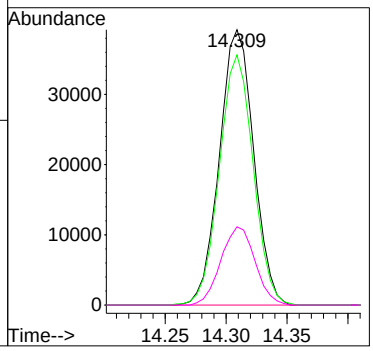


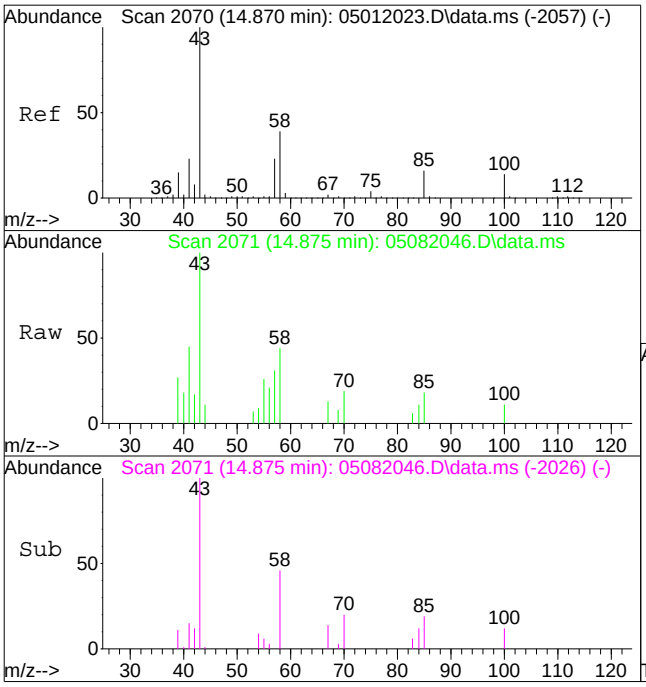


#51
n-Heptane
Concen: 2.69 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05082046.D
Acq: 9 May 2020 4:57

Tgt Ion: 71 Resp: 76722

Ion	Ratio	Lower	Upper
71	100		
57	89.7	71.0	111.0
100	28.3	8.4	48.4

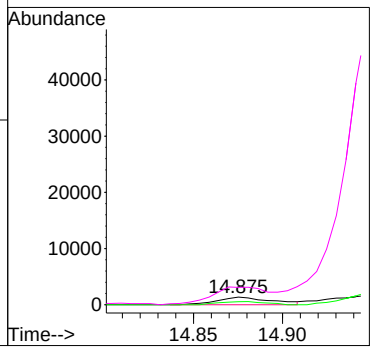


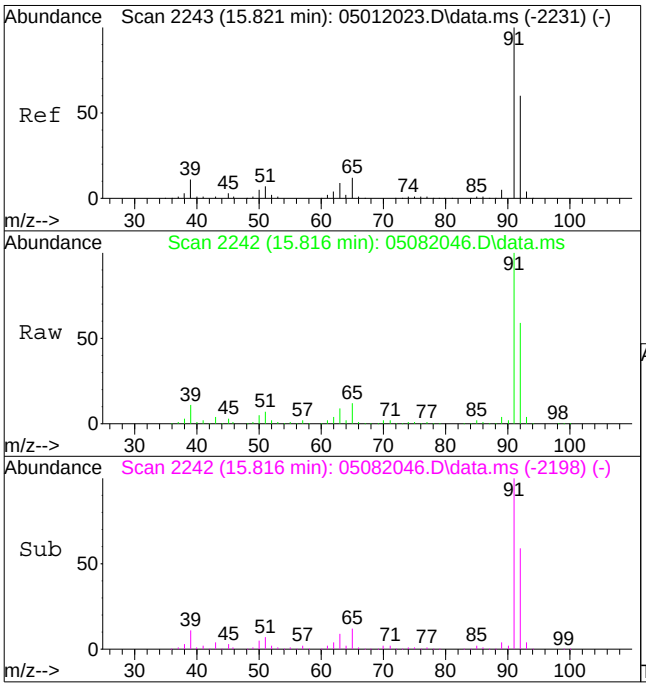


#53
4-Methyl-2-pentanone
Concen: 0.11 ng
RT: 14.88 min Scan# 2071
Delta R.T. -0.000 min
Lab File: 05082046.D
Acq: 9 May 2020 4:57

Tgt Ion: 58 Resp: 2855

Ion	Ratio	Lower	Upper
58	100		
85	36.1	35.4	53.2
43	254.9	203.3	304.9

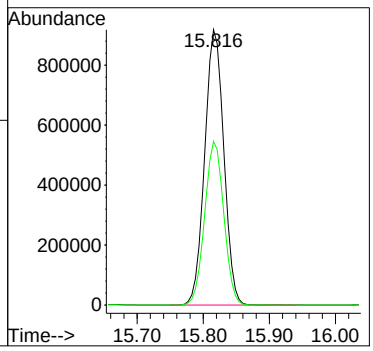


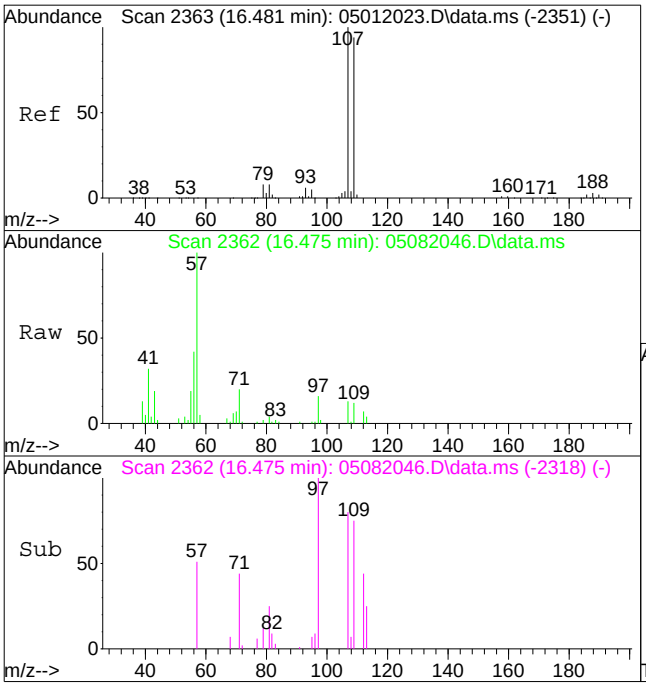


#58
Toluene
Concen: 16.24 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05082046.D
Acq: 9 May 2020 4:57

Tgt Ion: 91 Resp: 1843735

Ion	Ratio	Lower	Upper
91	100		
92	59.4	39.4	79.4

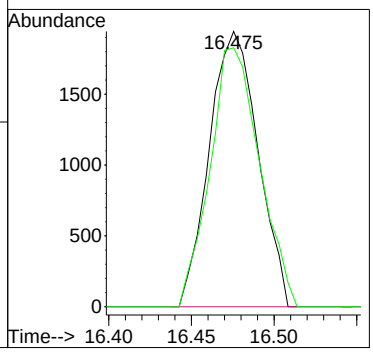


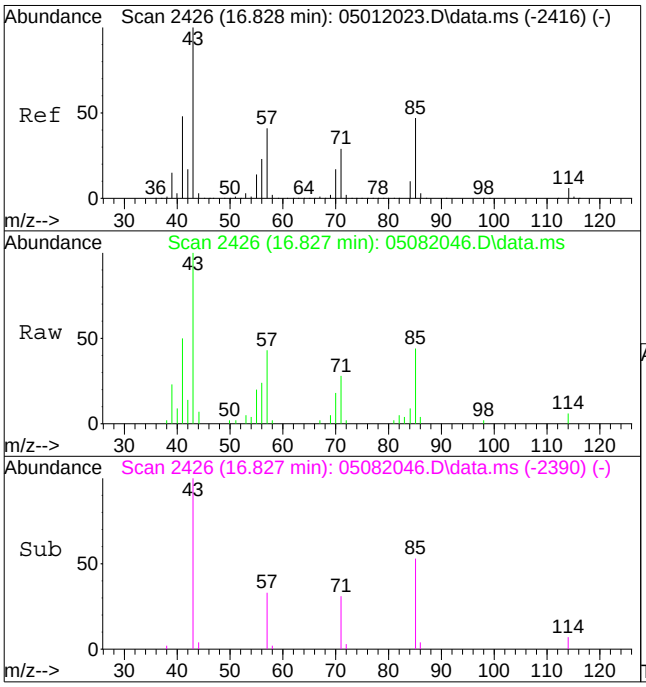


#61
1,2-Dibromoethane
Concen: 0.13 ng
RT: 16.48 min Scan# 2362
Delta R.T. -0.006 min
Lab File: 05082046.D
Acq: 9 May 2020 4:57

Tgt Ion:107 Resp: 3971

Ion	Ratio	Lower	Upper
107	100		
109	96.3	74.5	114.5

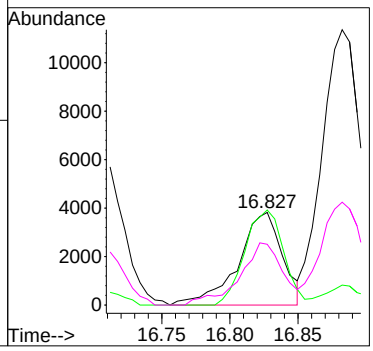


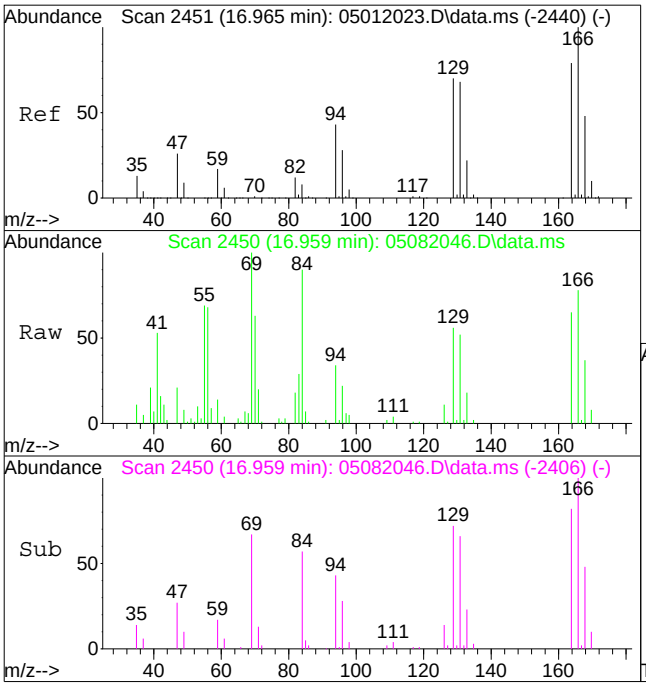


#63
n-Octane
Concen: 0.37 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05082046.D
Acq: 9 May 2020 4:57

Tgt Ion: 57 Resp: 8621

Ion	Ratio	Lower	Upper
57	100		
85	90.7	91.0	136.4#
71	64.5	56.2	84.2

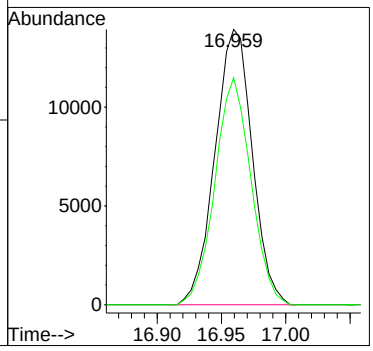


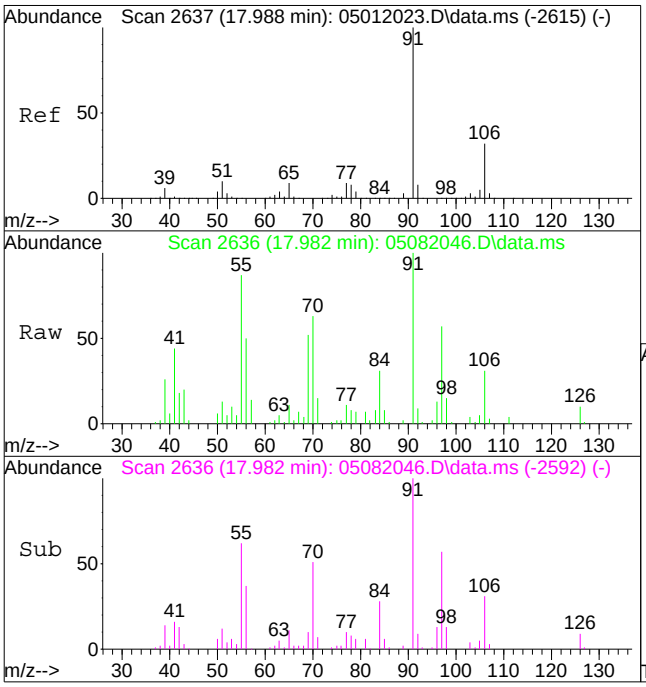


#64
Tetrachloroethene
Concen: 0.88 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05082046.D
Acq: 9 May 2020 4:57

Tgt Ion:166 Resp: 28198

Ion	Ratio	Lower	Upper
166	100		
164	79.3	58.4	98.4

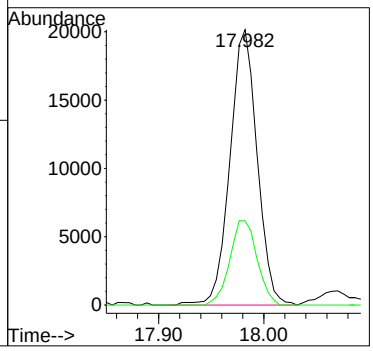


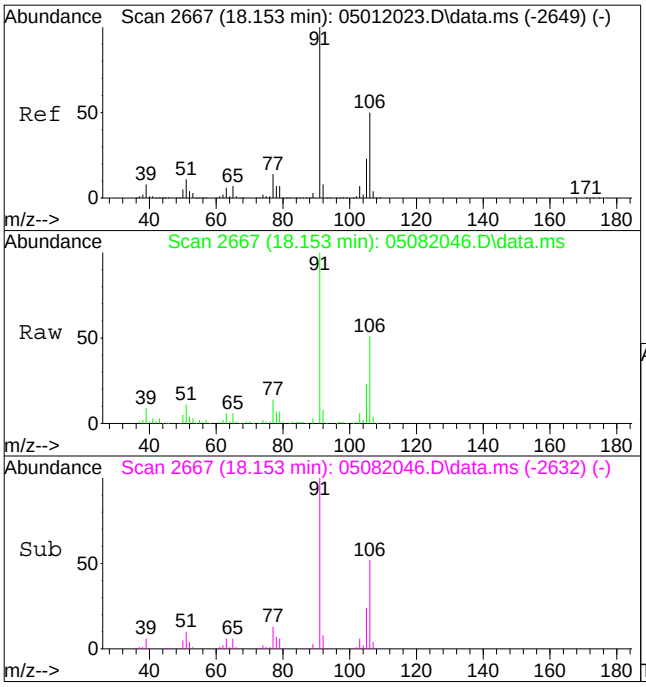


#66
Ethylbenzene
Concen: 0.29 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05082046.D
Acq: 9 May 2020 4:57

Tgt Ion: 91 Resp: 36183

Ion	Ratio	Lower	Upper
91	100		
106	30.8	11.6	51.6

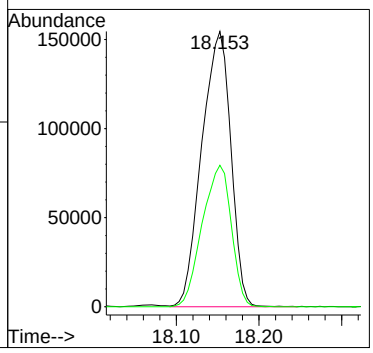


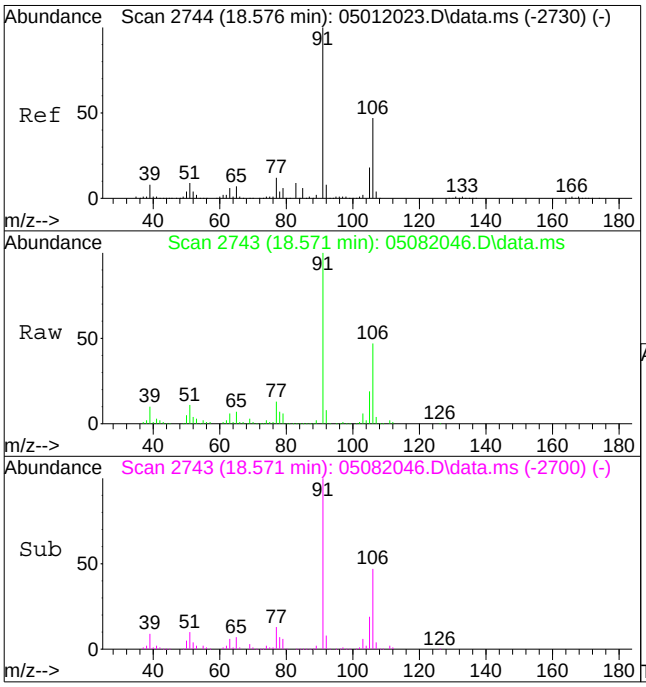


#67
m- & p-Xylenes
Concen: 3.77 ng
RT: 18.15 min Scan# 2667
Delta R.T. -0.006 min
Lab File: 05082046.D
Acq: 9 May 2020 4:57

Tgt Ion: 91 Resp: 378228

Ion	Ratio	Lower	Upper
91	100		
106	51.3	29.7	69.7

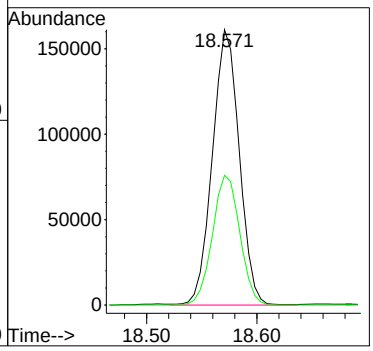


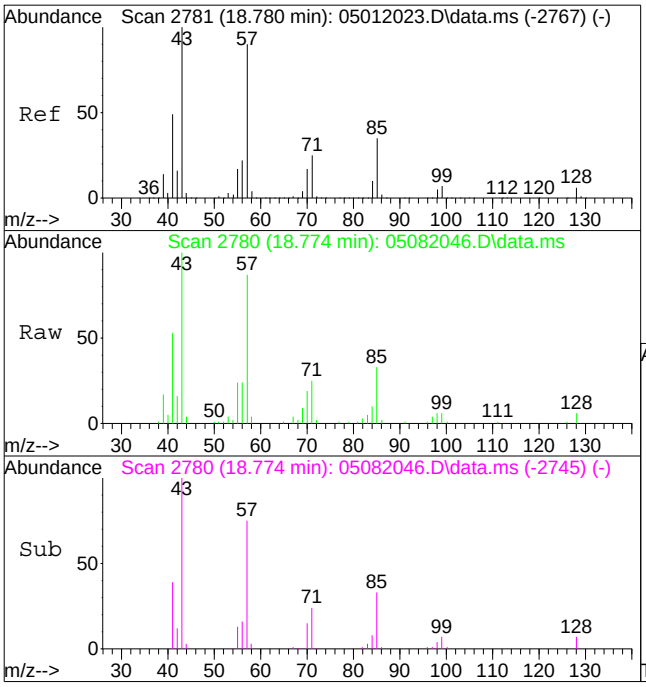


#70
o-Xylene
Concen: 2.68 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05082046.D
Acq: 9 May 2020 4:57

Tgt Ion: 91 Resp: 273045

Ion	Ratio	Lower	Upper
91	100		
106	48.1	27.5	67.5

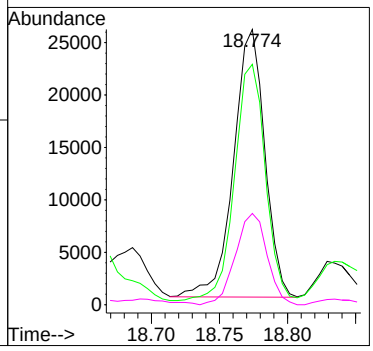


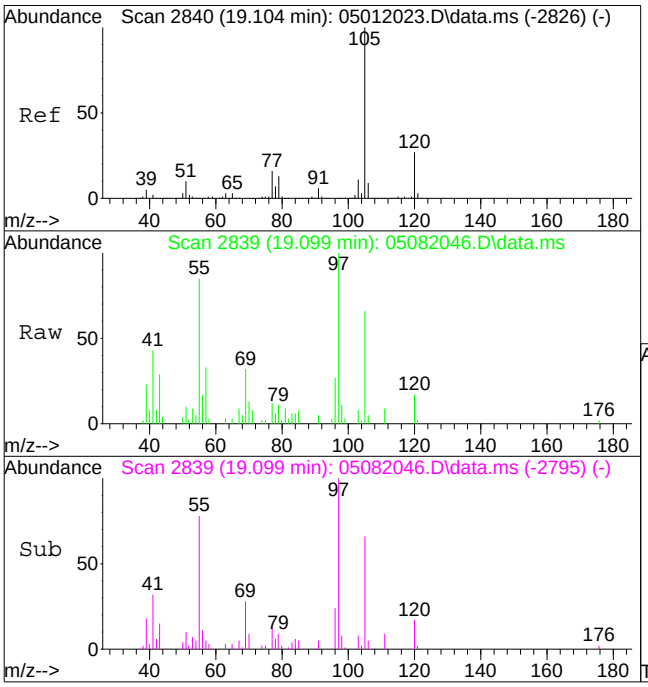


#71
n-Nonane
Concen: 0.75 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05082046.D
Acq: 9 May 2020 4:57

Tgt Ion: 43 Resp: 40721

Ion	Ratio	Lower	Upper
43	100		
57	87.2	69.0	109.0
85	34.4	14.6	54.6

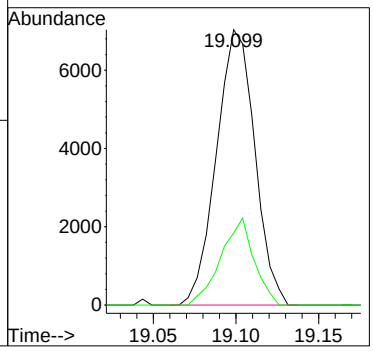


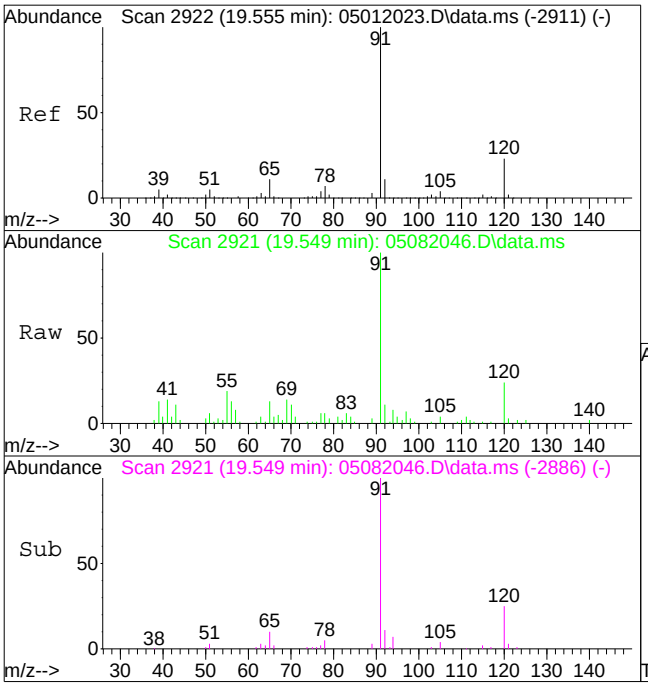


#74
Cumene
Concen: 0.09 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05082046.D
Acq: 9 May 2020 4:57

Tgt Ion:105 Resp: 11370

Ion	Ratio	Lower	Upper
105	100		
120	27.3	6.8	46.8

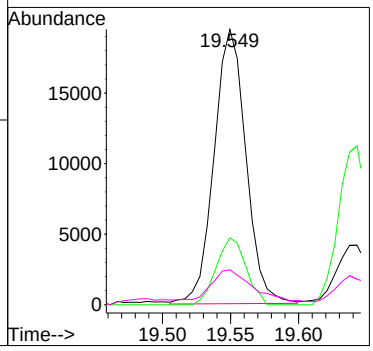


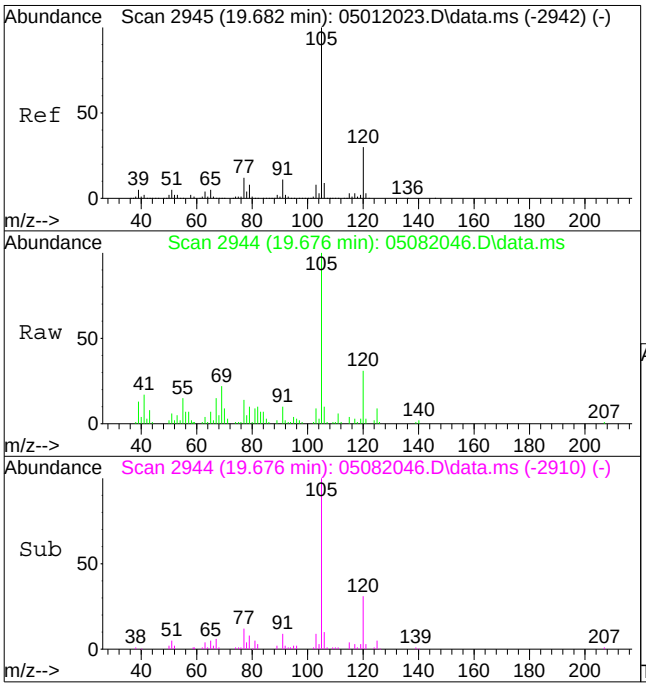


#76
n-Propylbenzene
Concen: 0.21 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05082046.D
Acq: 9 May 2020 4:57

Tgt Ion: 91 Resp: 31703

Ion	Ratio	Lower	Upper
91	100		
120	22.7	3.1	43.1
65	17.0	0.0	30.9

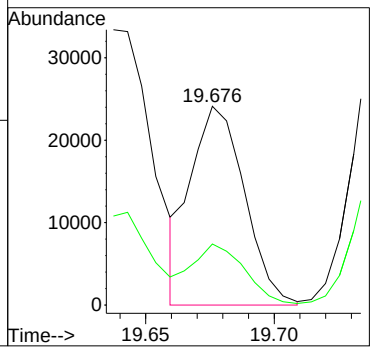


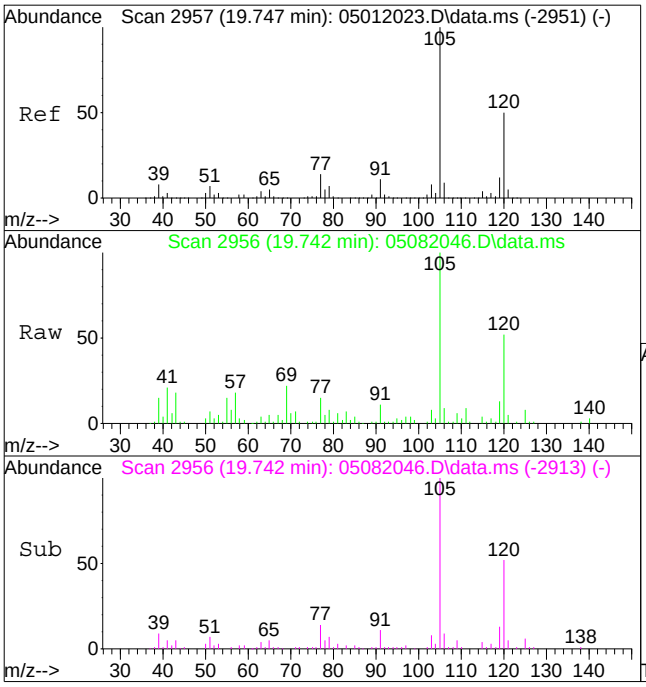


#78
4-Ethyltoluene
Concen: 0.30 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05082046.D
Acq: 9 May 2020 4:57

Tgt Ion:105 Resp: 35213

Ion	Ratio	Lower	Upper
105	100		
120	31.0	10.4	50.4

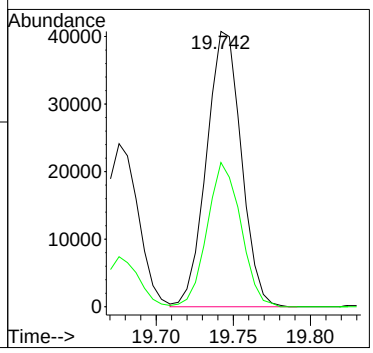


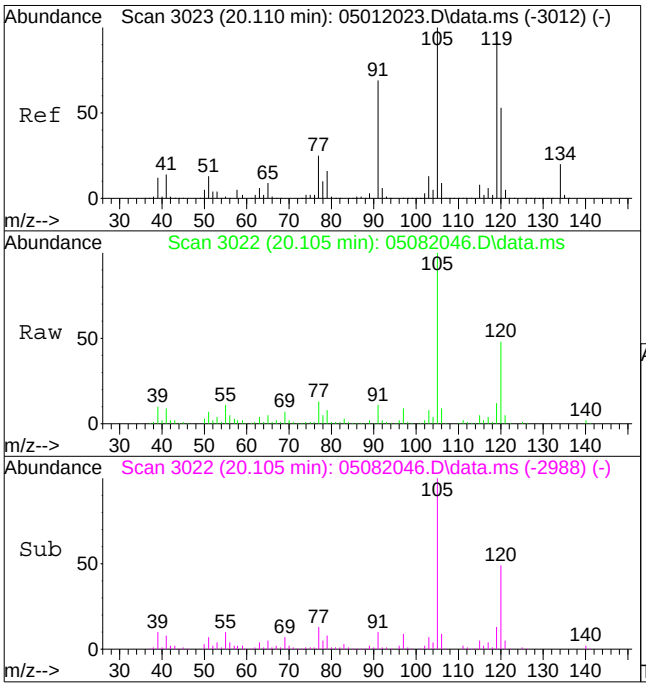


#79
1,3,5-Trimethylbenzene
Concen: 0.63 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05082046.D
Acq: 9 May 2020 4:57

Tgt Ion:105 Resp: 63969

Ion	Ratio	Lower	Upper
105	100		
120	50.7	29.9	69.9

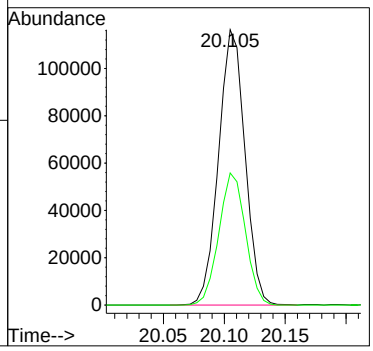


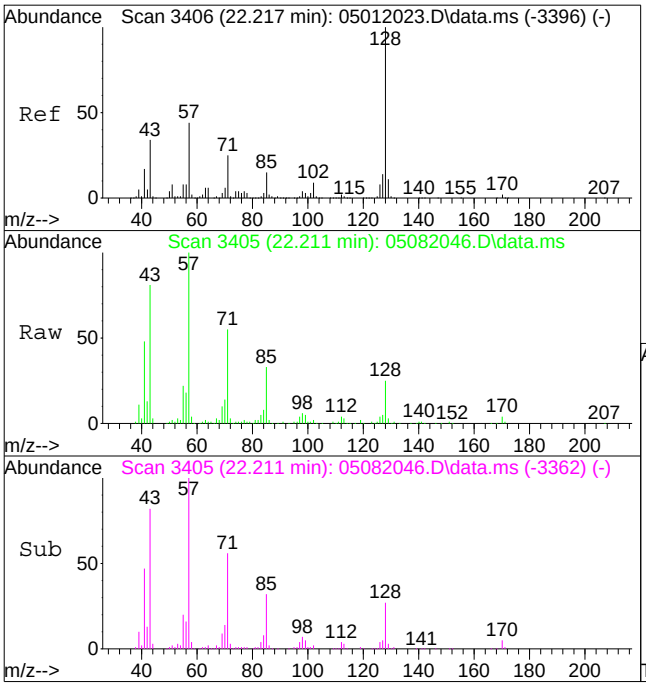


#82
1,2,4-Trimethylbenzene
Concen: 1.71 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05082046.D
Acq: 9 May 2020 4:57

Tgt Ion:105 Resp: 175345

Ion	Ratio	Lower	Upper
105	100		
120	48.2	33.6	73.6

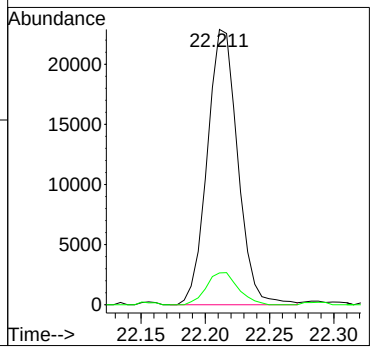




#95
Naphthalene
Concen: 0.30 ng
RT: 22.21 min Scan# 3405
Delta R.T. -0.011 min
Lab File: 05082046.D
Acq: 9 May 2020 4:57

Tgt Ion:128 Resp: 37790

Ion	Ratio	Lower	Upper
128	100		
129	12.2	0.0	31.0



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112028.D Vial: 6
Acq On : 11 May 2020 21:21 Operator: LH
Sample : P2002299-006dil (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 14:39:14 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/13/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	291925	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1251288	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	571853	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	469511	11.868	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.96%				
57) Toluene-d8 (SS2)	15.72	98	1218180	12.568	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.56%				
73) Bromofluorobenzene (SS3)	18.97	174	451016	12.932	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.44%				
Target Compounds							Qvalue
2) Propene	4.11	42	3033	0.090	ng		99
3) Dichlorodifluoromethan...	4.27	85	4435	0.067	ng	#	96
4) Chloromethane	4.53	50	25843	0.499	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	4.96	62	3534	0.062	ng		99
7) 1,3-Butadiene	5.15	54	509	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.98	64	1077	N.D.			
10) Ethanol	6.46	45	914	N.D.			
11) Acetonitrile	6.59	41	1170	N.D.			
12) Acrolein	6.80	56	446	N.D.			
13) Acetone	0.00	58	0	N.D. d			
14) Trichlorofluoromethane	7.24	101	7457	0.128	ng		97
15) 2-Propanol (Isopropanol)	7.52	45	5057	0.064	ng		95
16) Acrylonitrile	7.83	53	1555	N.D.			
17) 1,1-Dichloroethene	8.19	96	2091	0.068	ng		96
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d			
19) Methylene Chloride	8.40	84	385	N.D.			
20) 3-Chloro-1-propene (Al...	8.44	41	991	N.D.			
21) Trichlorotrifluoroethane	8.84	151	509580	18.468	ng		99
22) Carbon Disulfide	8.67	76	277207	2.279	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	9.95	63	759	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	10.49	72	912	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.26	87	571	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D. d			
31) n-Hexane	11.25	57	66475	1.194	ng		99
32) Chloroform	11.30	83	3906	0.067	ng		95
34) Tetrahydrofuran (THF)	11.72	72	26766	1.233	ng		98
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	1808	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D. d			
40) 1-Butanol	12.88	56	1072	N.D.			
41) Benzene	12.87	78	742634	5.534	ng		100
42) Carbon Tetrachloride	13.03	117	23448	0.514	ng		97
43) Cyclohexane	13.17	84	120722	2.414	ng		99
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D. d			
47) Trichloroethene	13.97	130	2125	0.061	ng		94
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d			
50) Methyl Methacrylate	0.00	100	0	N.D. d			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112028.D Vial: 6
Acq On : 11 May 2020 21:21 Operator: LH
Sample : P2002299-006dil (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 14:39:14 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

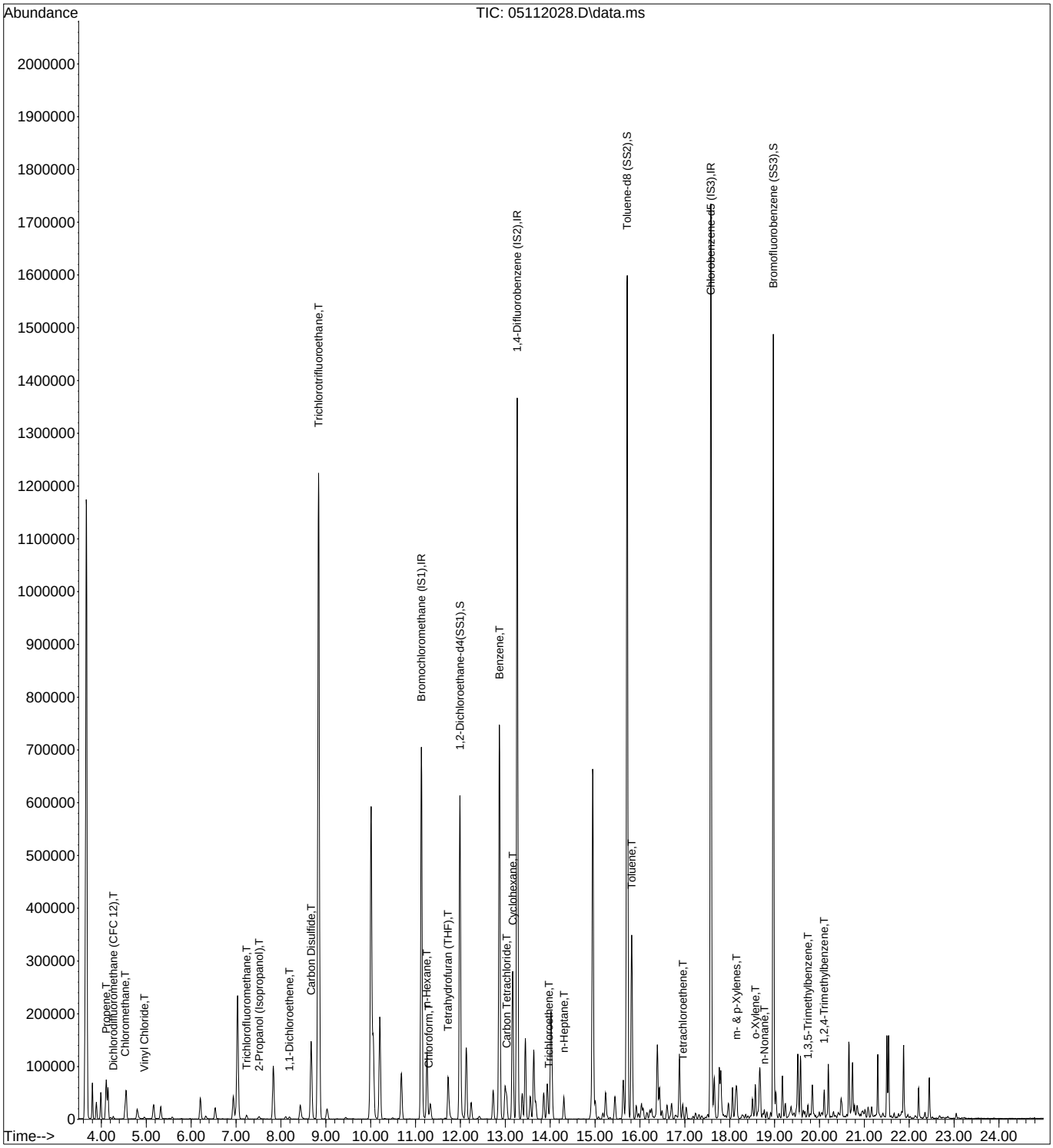
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	10622	0.338 ng	98
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.88	58	442	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	15.82	91	249222	1.995 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	16.47	107	569	N.D.	
62) n-Butyl Acetate	16.70	43	1360	N.D.	
63) n-Octane	16.82	57	1113	N.D.	
64) Tetrachloroethene	16.96	166	3700	0.105 ng	98
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	17.98	91	5214	N.D.	
67) m- & p-Xylenes	18.15	91	50768	0.459 ng	98
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	103	N.D.	
70) o-Xylene	18.57	91	36183	0.322 ng	98
71) n-Nonane	18.77	43	6640	0.112 ng	89
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	19.10	105	1598	N.D.	
75) alpha-Pinene	19.57	93	260	N.D.	
76) n-Propylbenzene	0.00	91	0	N.D. d	
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.68	105	4787	N.D.	
79) 1,3,5-Trimethylbenzene	19.74	105	8018	0.071 ng	94
80) alpha-Methylstyrene	19.88	118	1574	N.D.	
81) 2-Ethyltoluene	19.91	105	3040	N.D.	
82) 1,2,4-Trimethylbenzene	20.10	105	22716	0.201 ng	92
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.21	91	107	N.D.	
85) 1,3-Dichlorobenzene	20.30	146	196	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	196	N.D.	
87) sec-Butylbenzene	20.34	105	1492	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	3687	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.62	68	950	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.10	180	246	N.D.	
95) Naphthalene	22.21	128	5435	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.10	119	2796	N.D.	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112028.D Vial: 6
Acq On : 11 May 2020 21:21 Operator: LH
Sample : P2002299-006dil (20mL) Inst : GCMS-16
Misc : S31-02112001

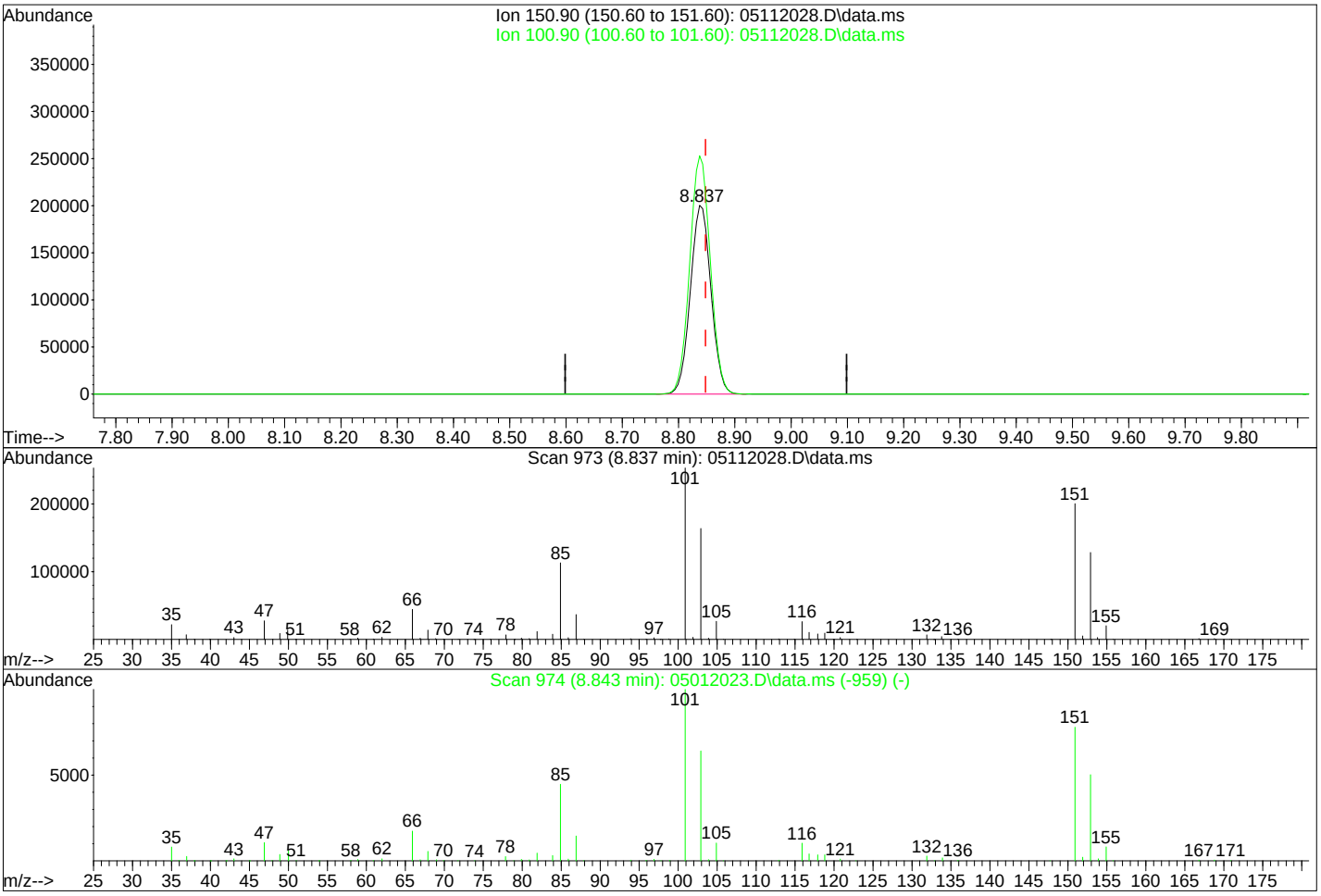
Quant Time: May 13 14:39:14 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\11\05112028.D Vial: 6
Acq On : 11 May 2020 21:21 Operator: LH
Sample : P2002299-006dil (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 12 02:52:39 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05112028.D\data.ms

(21) Trichlorotrifluoroethane (T)

8.837min (-0.011) 18.47ng

response 509580

Ion	Exp%	Act%
150.90	100	100
100.90	127.30	126.24
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082047.D Vial: 3
Acq On : 9 May 2020 5:31 Operator: LH
Sample : P2002299-007 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 17:36:16 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/11/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	267997	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1138450	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	513887	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	416183	11.459	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.68%				
57) Toluene-d8 (SS2)	15.72	98	1107131	12.711	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.68%				
73) Bromofluorobenzene (SS3)	18.97	174	431443	13.766	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.16%				
Target Compounds							Qvalue
2) Propene	4.10	42	9654	0.311	ng		98
3) Dichlorodifluoromethan...	4.27	85	27789	0.458	ng		100
4) Chloromethane	4.52	50	74737	1.571	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	390	N.D.			
6) Vinyl Chloride	4.94	62	22073	0.423	ng		98
7) 1,3-Butadiene	5.22	54	795	N.D.			
8) Bromomethane	5.65	94	478	N.D.			
9) Chloroethane	5.97	64	7133	0.346	ng		99
10) Ethanol	6.32	45	14482	0.604	ng		93
11) Acetonitrile	6.59	41	4437	0.081	ng		81
12) Acrolein	6.79	56	3682	0.194	ng		96
13) Acetone	7.01	58	71906	3.000	ng	#	38
14) Trichlorofluoromethane	7.24	101	21585	0.402	ng		100
15) 2-Propanol (Isopropanol)	7.54	45	5850	0.081	ng		92
16) Acrylonitrile	7.75	53	2754	0.070	ng		90
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	516	N.D.			
20) 3-Chloro-1-propene (Al...	8.57	41	351	N.D.			
21) Trichlorotrifluoroethane	8.84	151	1325551	52.328	ng		98
22) Carbon Disulfide	8.67	76	611909	5.481	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	9.94	63	13443	0.264	ng		97
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.46	72	14218	0.696	ng		99
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.26	87	829	N.D.			
30) Ethyl Acetate	11.30	61	528	N.D.			
31) n-Hexane	11.26	57	79457	1.554	ng		99
32) Chloroform	11.30	83	12761	0.239	ng		98
34) Tetrahydrofuran (THF)	11.73	72	36427	1.827	ng		97
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	8230	0.195	ng		97
38) 1,1,1-Trichloroethane	12.39	97	677	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	364667	2.987	ng		100
42) Carbon Tetrachloride	13.03	117	130788	3.149	ng		100
43) Cyclohexane	13.16	84	102161	2.246	ng		97
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	13.97	130	8572	0.272	ng		94
48) 1,4-Dioxane	13.97	88	2007	0.082	ng		96
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.04	100	378	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082047.D Vial: 3
Acq On : 9 May 2020 5:31 Operator: LH
Sample : P2002299-007 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 17:36:16 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

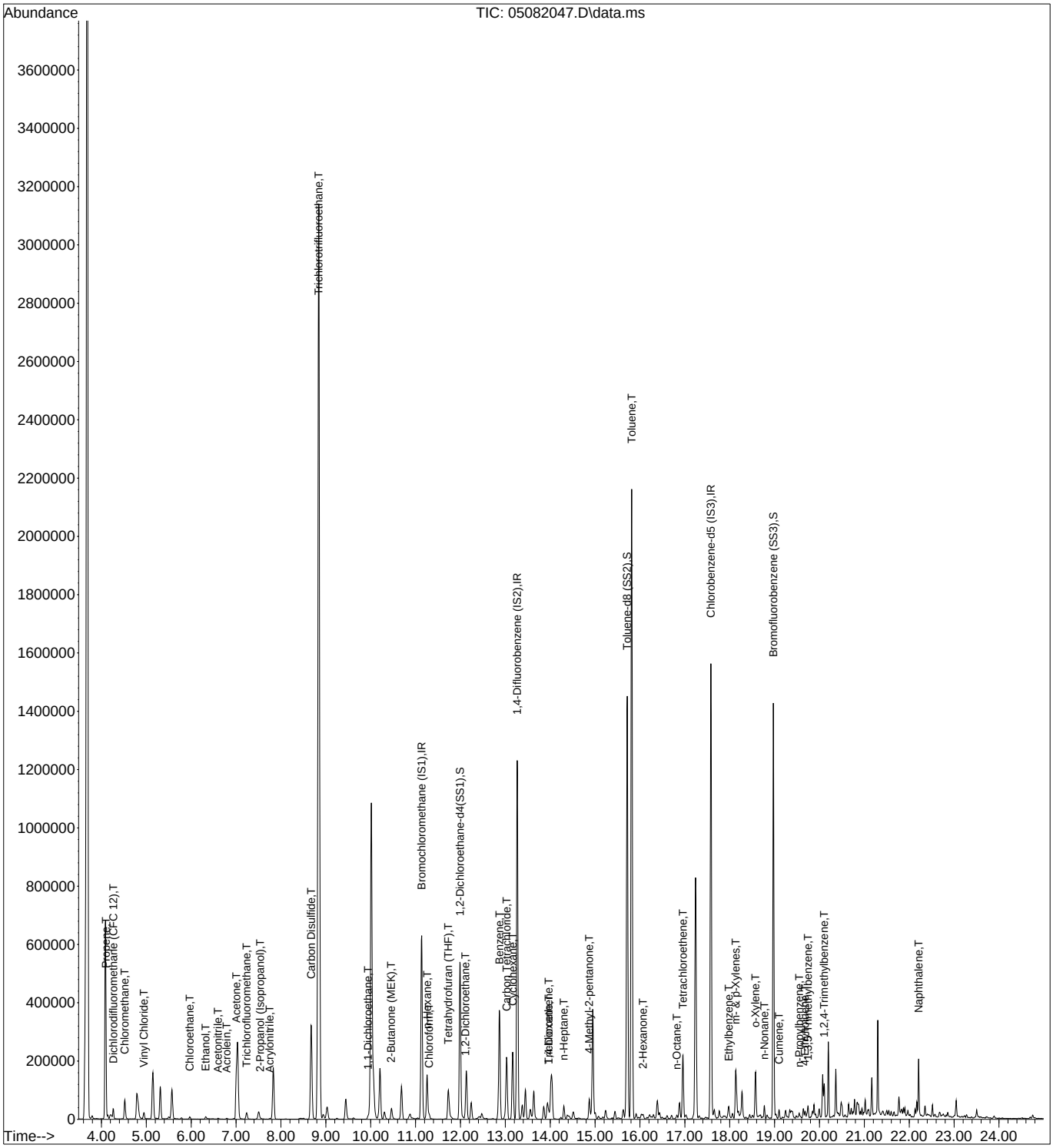
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.30	71	11883	0.416 ng	98
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.87	58	21022	0.772 ng	96
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	15.45	97	1091	N.D.	
58) Toluene	15.82	91	1780893	15.861 ng	100
59) 2-Hexanone	16.07	43	10058	0.163 ng	72
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.70	43	1206	N.D.	
63) n-Octane	16.82	57	2674	0.115 ng	88
64) Tetrachloroethene	16.96	166	73751	2.326 ng	100
65) Chlorobenzene	17.66	112	3178	N.D.	
66) Ethylbenzene	17.98	91	27549	0.220 ng	99
67) m- & p-Xylenes	18.14	91	128982	1.299 ng	98
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	979	N.D.	
70) o-Xylene	18.57	91	69948	0.694 ng	100
71) n-Nonane	18.77	43	16326	0.305 ng	95
72) 1,1,2,2-Tetrachloroethane	18.57	83	396	N.D.	
74) Cumene	19.10	105	16335	0.132 ng	100
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	19.55	91	13353	0.091 ng	84
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.68	105	10087	0.087 ng	99
79) 1,3,5-Trimethylbenzene	19.74	105	14472	0.143 ng	100
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.10	105	58358	0.575 ng	97
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.23	91	866	N.D.	
85) 1,3-Dichlorobenzene	20.24	146	121	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	494	N.D.	
87) sec-Butylbenzene	20.35	105	3373	N.D.	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.61	68	615	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.21	128	7770	0.063 ng	93
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082047.D Vial: 3
Acq On : 9 May 2020 5:31 Operator: LH
Sample : P2002299-007 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 17:36:16 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



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Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/11/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	267997	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1138450	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	513887	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	416183	11.459	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.68%				
57) Toluene-d8 (SS2)	15.72	98	1107131	12.711	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.68%				
73) Bromofluorobenzene (SS3)	18.97	174	431443	13.766	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.16%				
Target Compounds							Qvalue
2) Propene	4.10	42	9654	0.311	ng		98
3) Dichlorodifluoromethan...	4.27	85	27789	0.458	ng		100
4) Chloromethane	4.52	50	74737	1.571	ng		99
6) Vinyl Chloride	4.94	62	22073	0.423	ng		98
9) Chloroethane	5.97	64	7133	0.346	ng		99
10) Ethanol	6.32	45	14482	0.604	ng		93
11) Acetonitrile	6.59	41	4437	0.081	ng		81
12) Acrolein	6.79	56	3682	0.194	ng		96
13) Acetone	7.01	58	71906	3.000	ng	#	38
14) Trichlorofluoromethane	7.24	101	21585	0.402	ng		100
15) 2-Propanol (Isopropanol)	7.54	45	5850	0.081	ng		92
16) Acrylonitrile	7.75	53	2754	0.070	ng		90
21) Trichlorotrifluoroethane	8.84	151	1325551	52.328	ng		98
22) Carbon Disulfide	8.67	76	611909	5.481	ng		99
24) 1,1-Dichloroethane	9.94	63	13443	0.264	ng		97
27) 2-Butanone (MEK)	10.46	72	14218	0.696	ng		99
31) n-Hexane	11.26	57	79457	1.554	ng		99
32) Chloroform	11.30	83	12761	0.239	ng		98
34) Tetrahydrofuran (THF)	11.73	72	36427	1.827	ng		97
36) 1,2-Dichloroethane	12.11	62	8230	0.195	ng		97
41) Benzene	12.87	78	364667	2.987	ng		100
42) Carbon Tetrachloride	13.03	117	130788	3.149	ng		100
43) Cyclohexane	13.16	84	102161	2.246	ng		97
47) Trichloroethene	13.97	130	8572	0.272	ng		94
48) 1,4-Dioxane	13.97	88	2007	0.082	ng		96
51) n-Heptane	14.30	71	11883	0.416	ng		98
53) 4-Methyl-2-pentanone	14.87	58	21022	0.772	ng		96
58) Toluene	15.82	91	1780893	15.861	ng		100
59) 2-Hexanone	16.07	43	10058	0.163	ng		72
63) n-Octane	16.82	57	2674	0.115	ng		88
64) Tetrachloroethene	16.96	166	73751	2.326	ng		100
66) Ethylbenzene	17.98	91	27549	0.220	ng		99
67) m- & p-Xylenes	18.14	91	128982	1.299	ng		98
70) o-Xylene	18.57	91	69948	0.694	ng		100
71) n-Nonane	18.77	43	16326	0.305	ng		95
74) Cumene	19.10	105	16335	0.132	ng		100
76) n-Propylbenzene	19.55	91	13353	0.091	ng		84
78) 4-Ethyltoluene	19.68	105	10087	0.087	ng		99
79) 1,3,5-Trimethylbenzene	19.74	105	14472	0.143	ng		100
82) 1,2,4-Trimethylbenzene	20.10	105	58358	0.575	ng		97
95) Naphthalene	22.21	128	7770	0.063	ng		93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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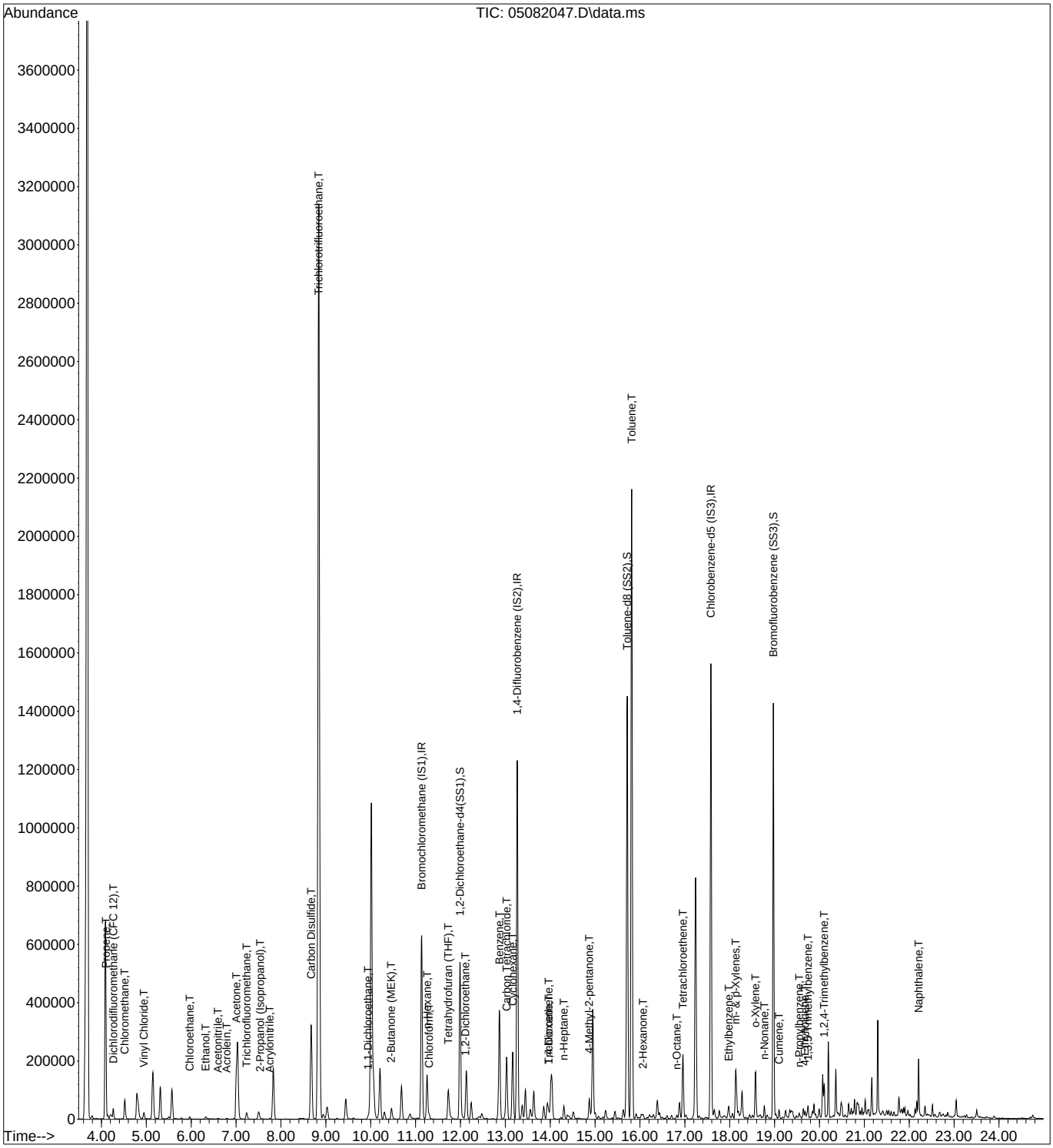
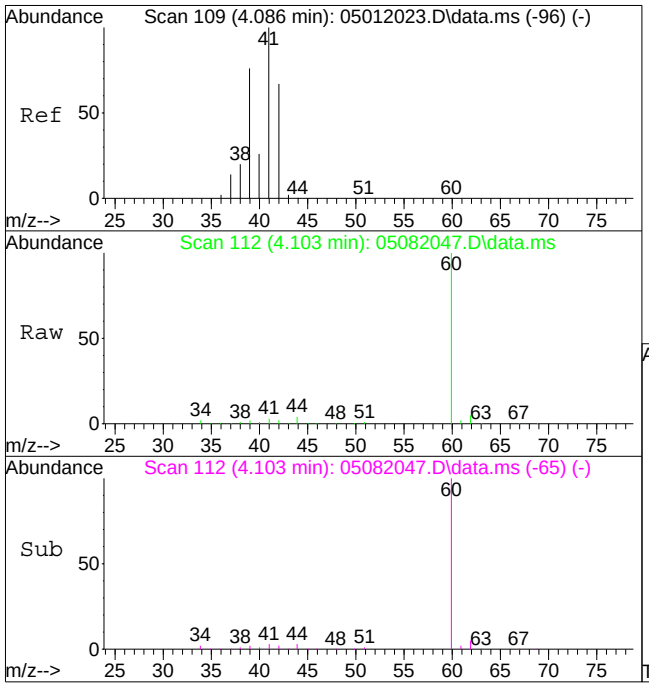
DataAcq Meth:TO15.M

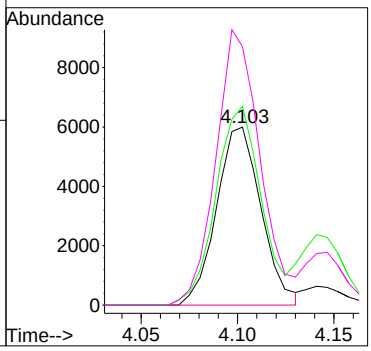


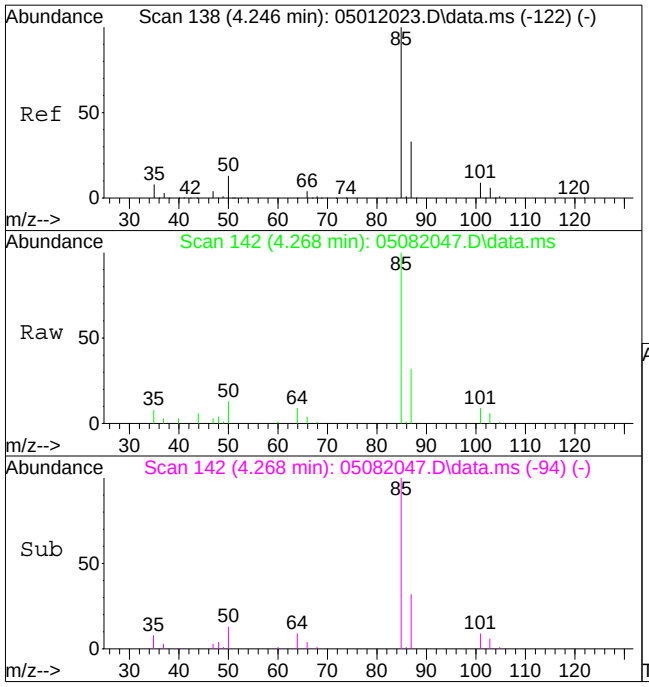


#2
Propene
Concen: 0.31 ng
RT: 4.10 min Scan# 112
Delta R.T. 0.011 min
Lab File: 05082047.D
Acq: 9 May 2020 5:31

Tgt Ion: 42 Resp: 9654

Ion	Ratio	Lower	Upper
42	100		
39	113.5	96.1	136.1
41	154.4	131.9	171.9

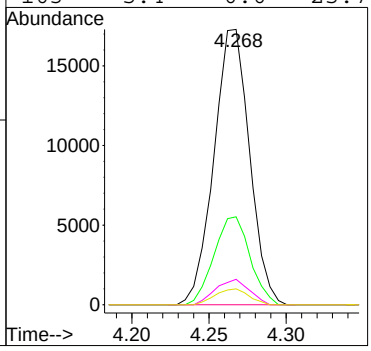


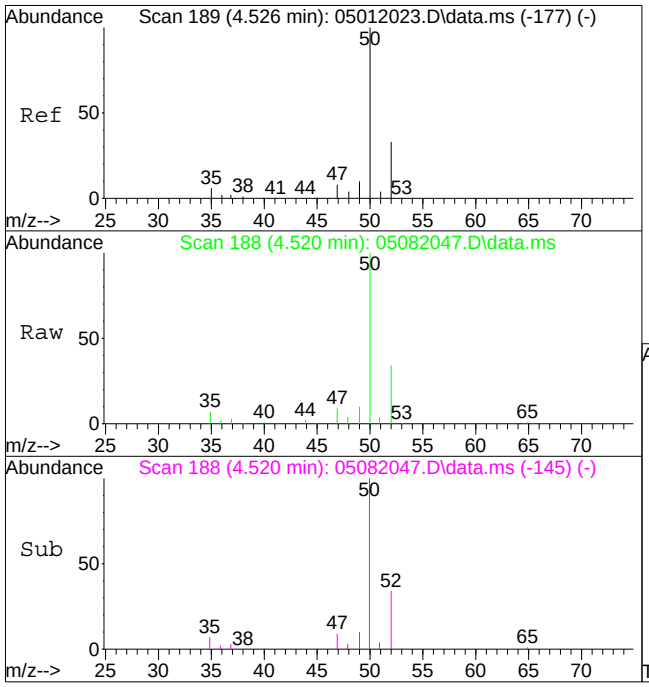


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.46 ng
RT: 4.27 min Scan# 142
Delta R.T. 0.016 min
Lab File: 05082047.D
Acq: 9 May 2020 5:31

Tgt Ion: 85 Resp: 27789

Ion	Ratio	Lower	Upper
85	100		
87	32.2	12.4	52.4
101	8.7	0.0	28.8
103	5.4	0.0	25.7

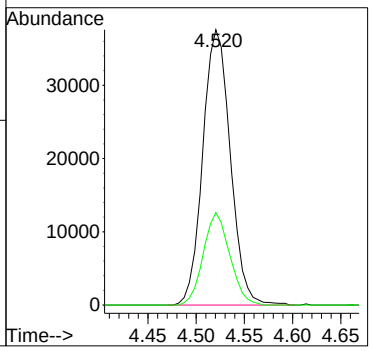


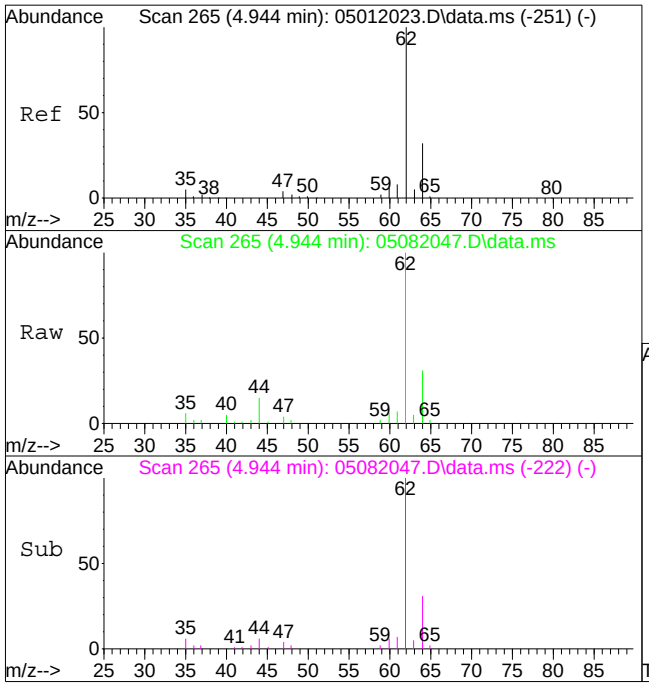


#4
Chloromethane
Concen: 1.57 ng
RT: 4.52 min Scan# 188
Delta R.T. -0.011 min
Lab File: 05082047.D
Acq: 9 May 2020 5:31

Tgt Ion: 50 Resp: 74737

Ion	Ratio	Lower	Upper
50	100		
52	32.2	12.5	52.5

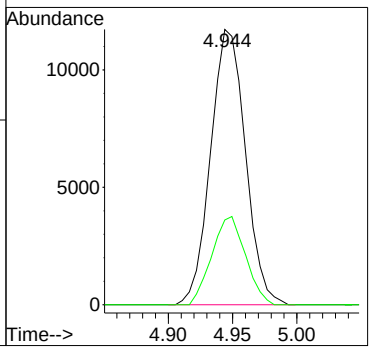


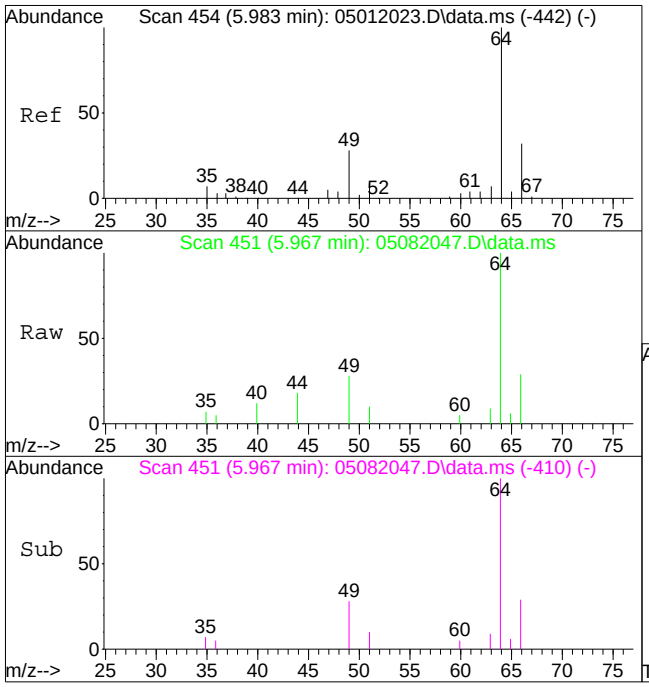


#6
Vinyl Chloride
Concen: 0.42 ng
RT: 4.94 min Scan# 265
Delta R.T. -0.011 min
Lab File: 05082047.D
Acq: 9 May 2020 5:31

Tgt Ion: 62 Resp: 22073

Ion	Ratio	Lower	Upper
62	100		
64	31.0	12.1	52.1

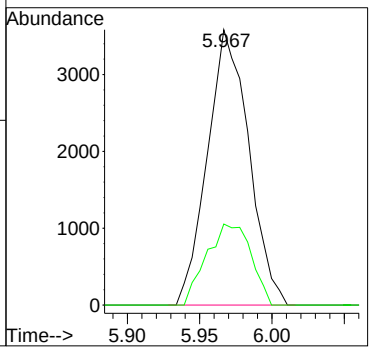


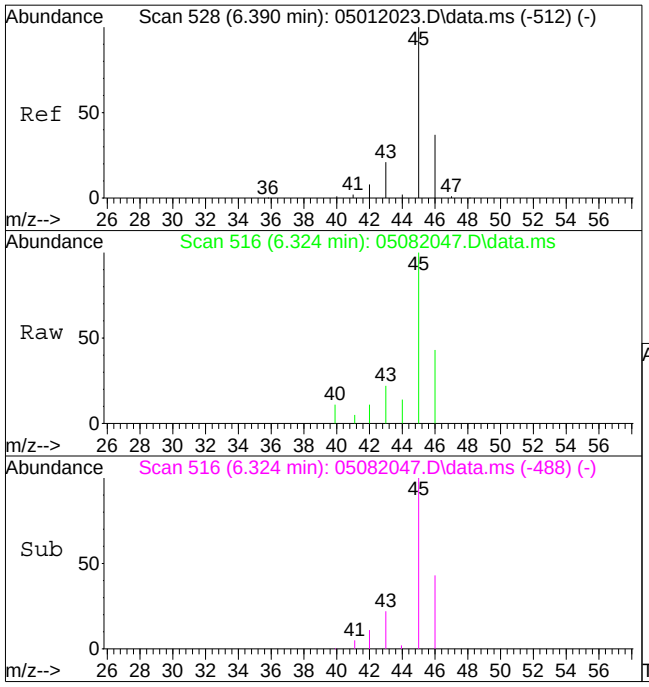


#9
Chloroethane
Concen: 0.35 ng
RT: 5.97 min Scan# 451
Delta R.T. -0.022 min
Lab File: 05082047.D
Acq: 9 May 2020 5:31

Tgt Ion: 64 Resp: 7133

Ion	Ratio	Lower	Upper
64	100		
66	31.6	12.1	52.1

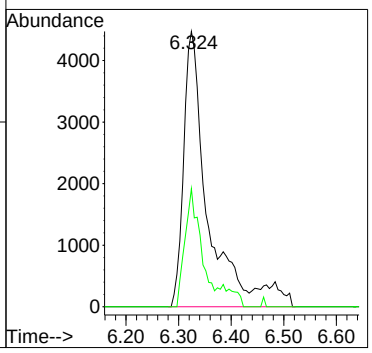


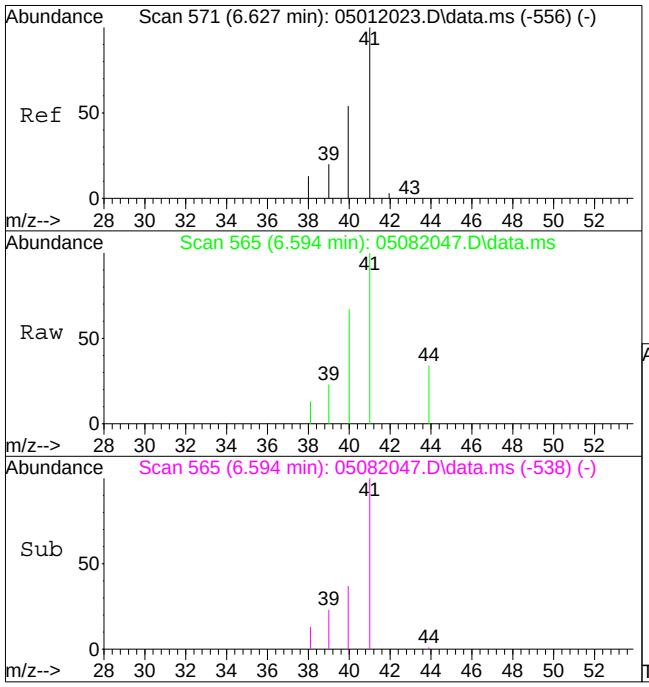


#10
Ethanol
Concen: 0.60 ng
RT: 6.32 min Scan# 516
Delta R.T. -0.094 min
Lab File: 05082047.D
Acq: 9 May 2020 5:31

Tgt Ion: 45 Resp: 14482

Ion	Ratio	Lower	Upper
45	100		
46	33.3	17.2	57.2

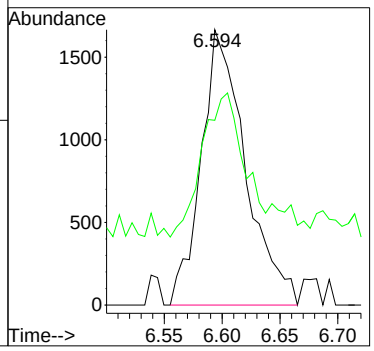


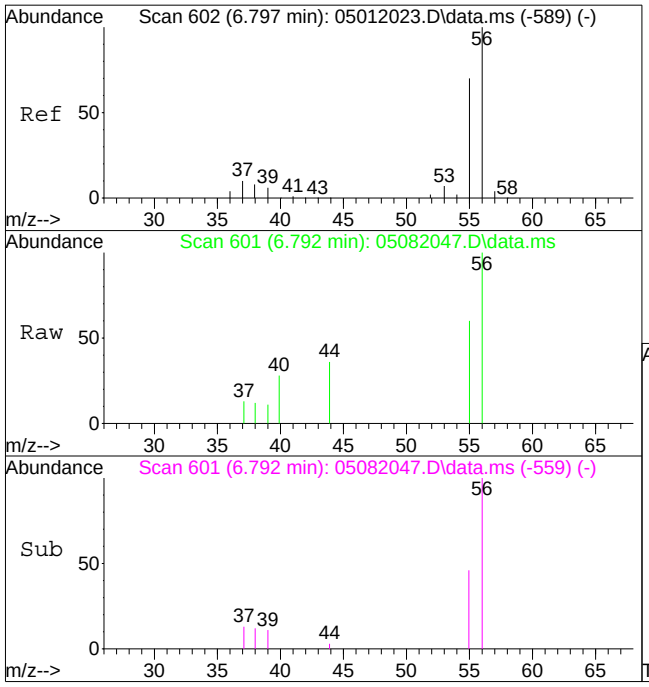


#11
Acetonitrile
Concen: 0.08 ng
RT: 6.59 min Scan# 565
Delta R.T. -0.050 min
Lab File: 05082047.D
Acq: 9 May 2020 5:31

Tgt Ion: 41 Resp: 4437

Ion	Ratio	Lower	Upper
41	100		
40	66.8	33.6	73.6

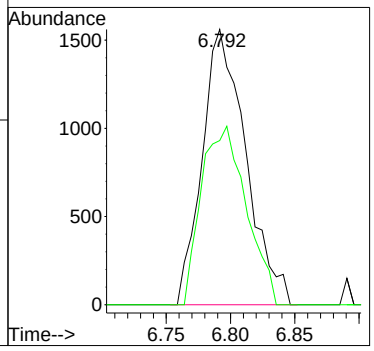


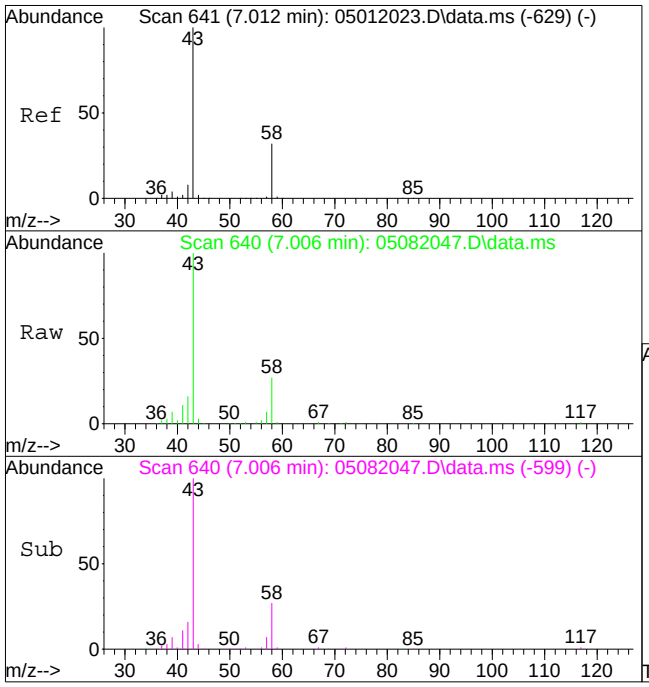


#12
Acrolein
Concen: 0.19 ng
RT: 6.79 min Scan# 601
Delta R.T. -0.017 min
Lab File: 05082047.D
Acq: 9 May 2020 5:31

Tgt Ion: 56 Resp: 3682

Ion	Ratio	Lower	Upper
56	100		
55	66.6	50.2	90.2

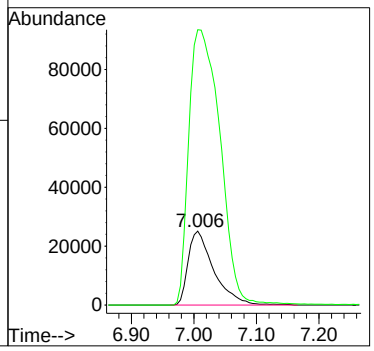


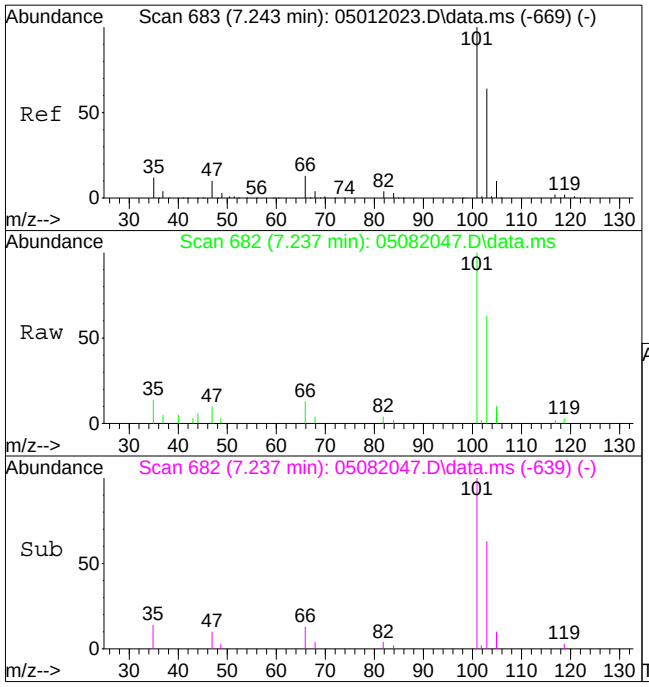


#13
Acetone
Concen: 3.00 ng
RT: 7.01 min Scan# 640
Delta R.T. -0.022 min
Lab File: 05082047.D
Acq: 9 May 2020 5:31

Tgt Ion: 58 Resp: 71906

Ion	Ratio	Lower	Upper
58	100		
43	453.1	294.4	354.4#

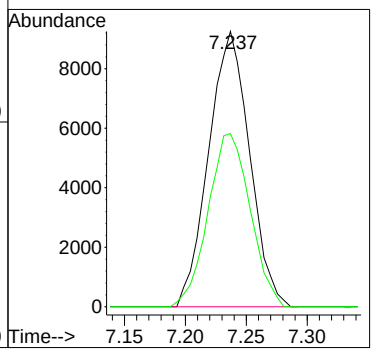


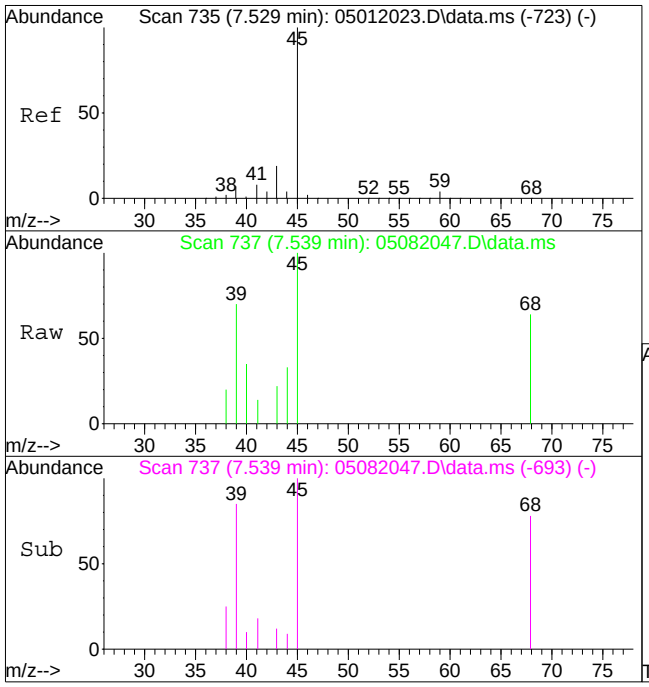


#14
Trichlorofluoromethane
Concen: 0.40 ng
RT: 7.24 min Scan# 682
Delta R.T. -0.011 min
Lab File: 05082047.D
Acq: 9 May 2020 5:31

Tgt Ion:101 Resp: 21585

Ion	Ratio	Lower	Upper
101	100		
103	64.6	44.4	84.4

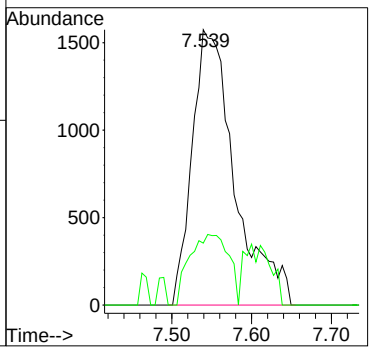


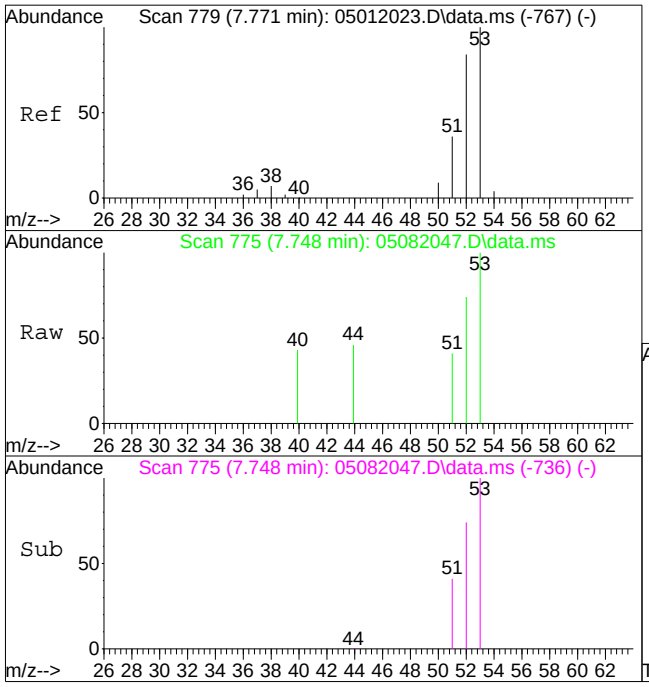


#15
2-Propanol (Isopropanol)
Concen: 0.08 ng
RT: 7.54 min Scan# 737
Delta R.T. -0.006 min
Lab File: 05082047.D
Acq: 9 May 2020 5:31

Tgt Ion: 45 Resp: 5850

Ion	Ratio	Lower	Upper
45	100		
43	23.3	0.0	39.5

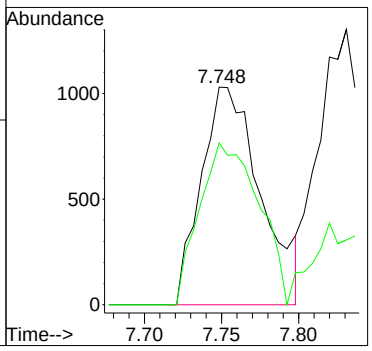


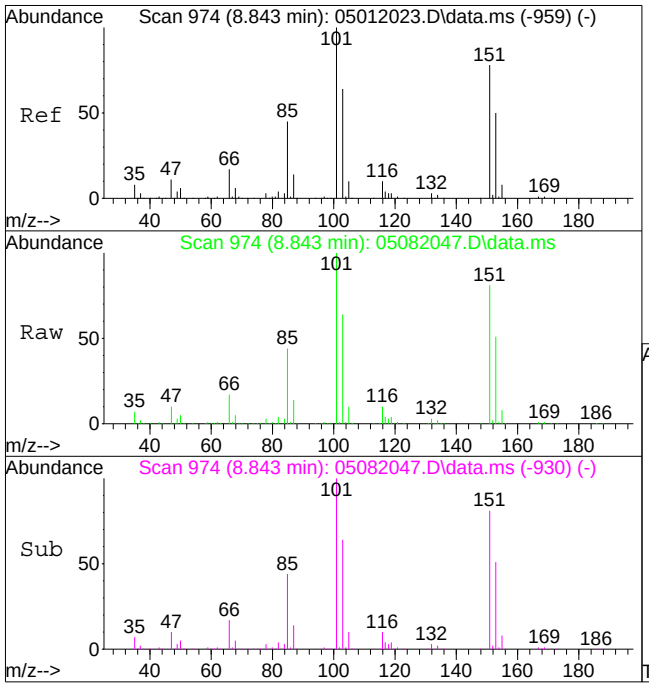


#16
Acrylonitrile
Concen: 0.07 ng
RT: 7.75 min Scan# 775
Delta R.T. -0.033 min
Lab File: 05082047.D
Acq: 9 May 2020 5:31

Tgt Ion: 53 Resp: 2754

Ion	Ratio	Lower	Upper
53	100		
52	74.4	63.7	103.7

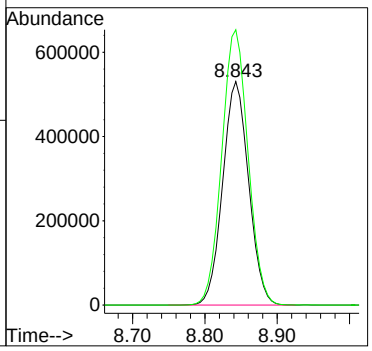


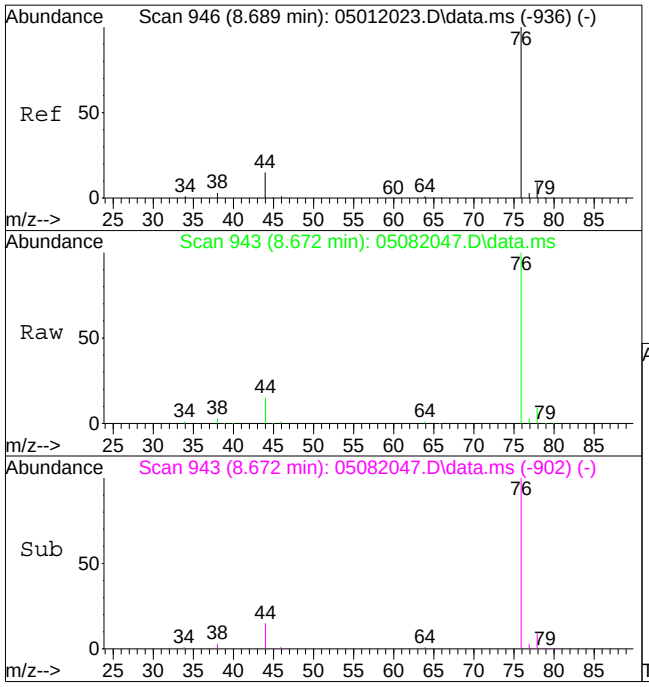


#21
Trichlorotrifluoroethane
Concen: 52.33 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05082047.D
Acq: 9 May 2020 5:31

Tgt Ion:151 Resp: 1325551

Ion	Ratio	Lower	Upper
151	100		
101	124.7	107.3	147.3

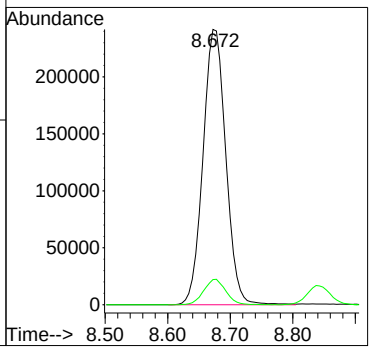


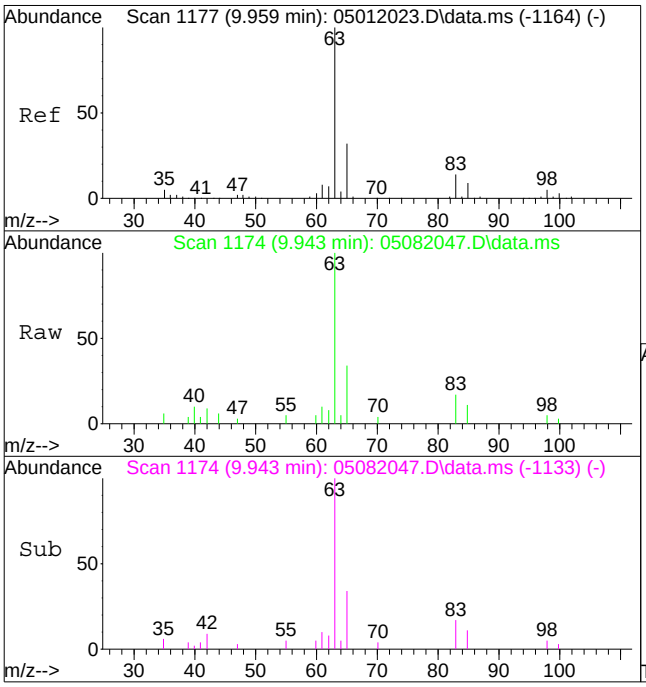


#22
Carbon Disulfide
Concen: 5.48 ng
RT: 8.67 min Scan# 943
Delta R.T. -0.022 min
Lab File: 05082047.D
Acq: 9 May 2020 5:31

Tgt Ion: 76 Resp: 611909

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	29.2

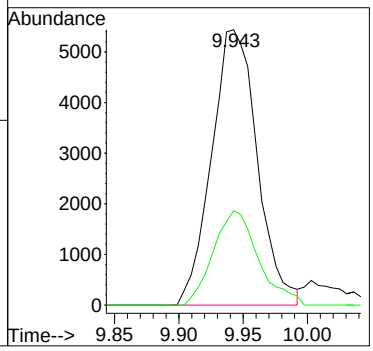


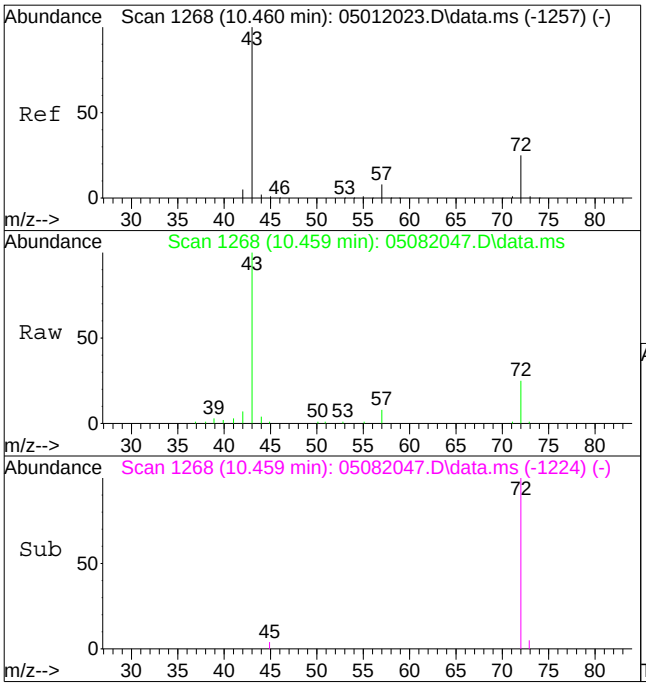


#24
1,1-Dichloroethane
Concen: 0.26 ng
RT: 9.94 min Scan# 1174
Delta R.T. -0.022 min
Lab File: 05082047.D
Acq: 9 May 2020 5:31

Tgt Ion: 63 Resp: 13443

Ion	Ratio	Lower	Upper
63	100		
65	33.7	11.8	51.8

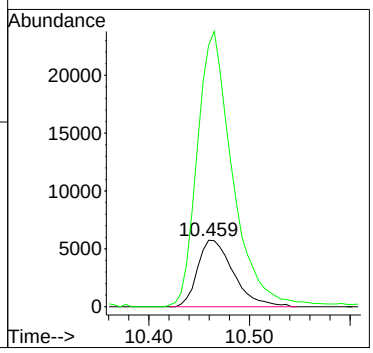


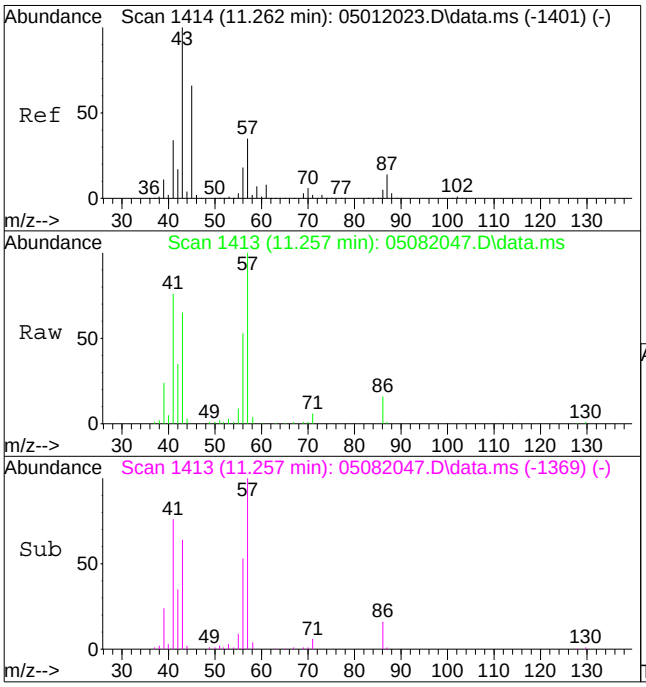


#27
2-Butanone (MEK)
Concen: 0.70 ng
RT: 10.46 min Scan# 1268
Delta R.T. -0.006 min
Lab File: 05082047.D
Acq: 9 May 2020 5:31

Tgt Ion: 72 Resp: 14218

Ion	Ratio	Lower	Upper
72	100		
43	411.8	389.7	429.7

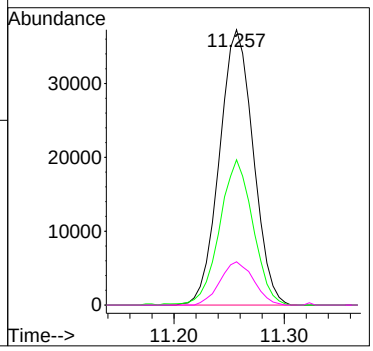


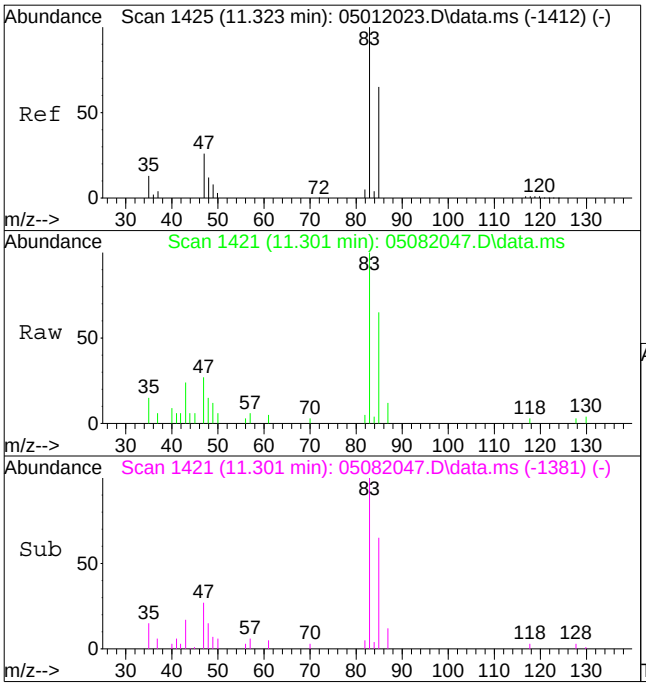


#31
n-Hexane
Concen: 1.55 ng
RT: 11.26 min Scan# 1413
Delta R.T. -0.006 min
Lab File: 05082047.D
Acq: 9 May 2020 5:31

Tgt Ion: 57 Resp: 79457

Ion	Ratio	Lower	Upper
57	100		
56	52.2	41.4	62.0
86	15.6	12.4	18.6

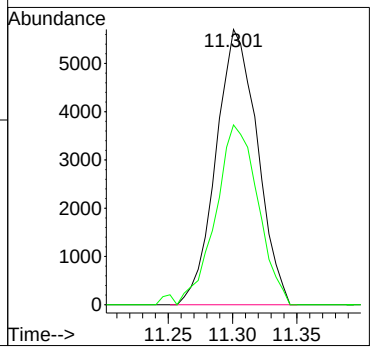


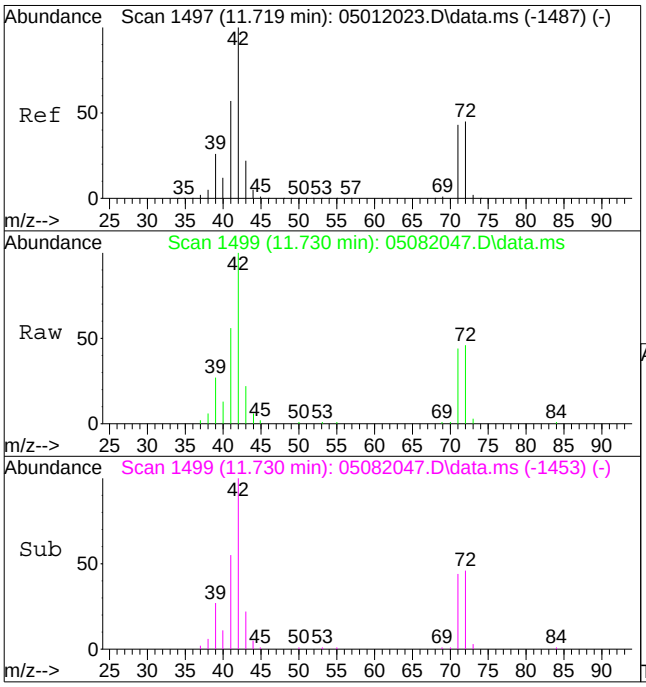


#32
Chloroform
Concen: 0.24 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.028 min
Lab File: 05082047.D
Acq: 9 May 2020 5:31

Tgt Ion: 83 Resp: 12761

Ion	Ratio	Lower	Upper
83	100		
85	66.7	45.5	85.5

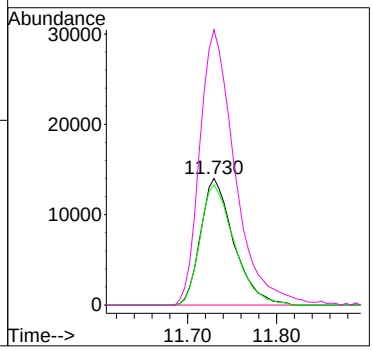


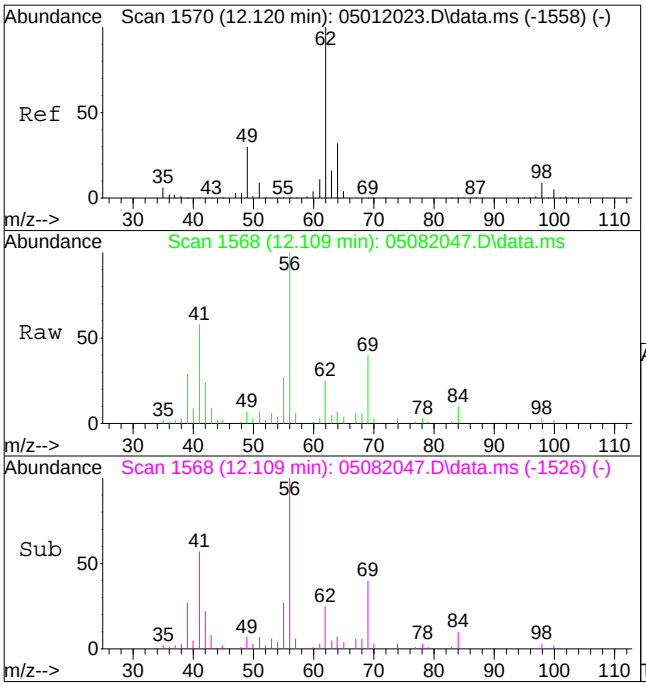


#34
Tetrahydrofuran (THF)
Concen: 1.83 ng
RT: 11.73 min Scan# 1499
Delta R.T. 0.005 min
Lab File: 05082047.D
Acq: 9 May 2020 5:31

Tgt Ion: 72 Resp: 36427

Ion	Ratio	Lower	Upper
72	100		
71	97.3	77.0	117.0
42	231.4	204.6	244.6

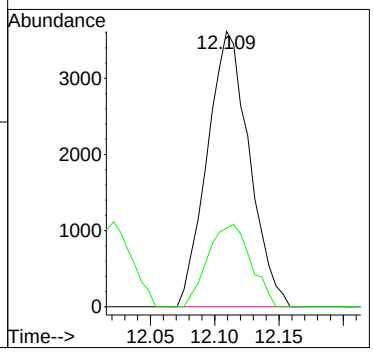


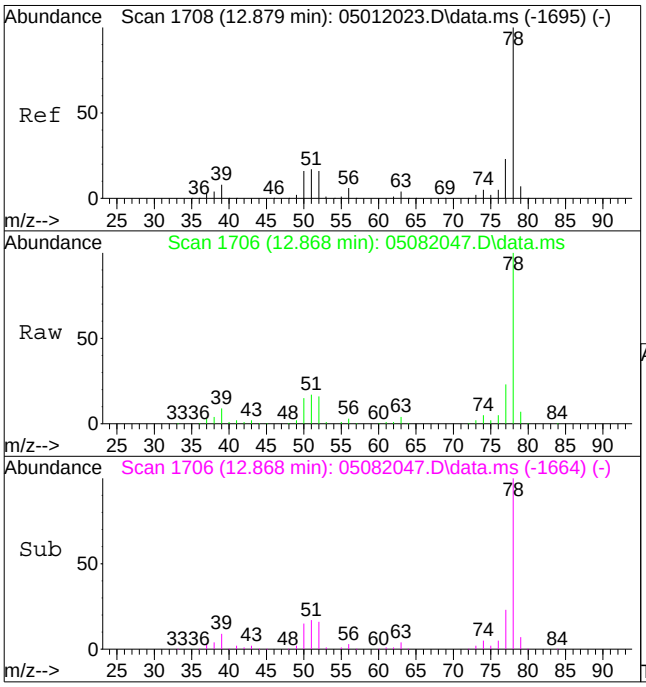


#36
1,2-Dichloroethane
Concen: 0.19 ng
RT: 12.11 min Scan# 1568
Delta R.T. -0.017 min
Lab File: 05082047.D
Acq: 9 May 2020 5:31

Tgt Ion: 62 Resp: 8230

Ion	Ratio	Lower	Upper
62	100		
64	30.5	12.4	52.4

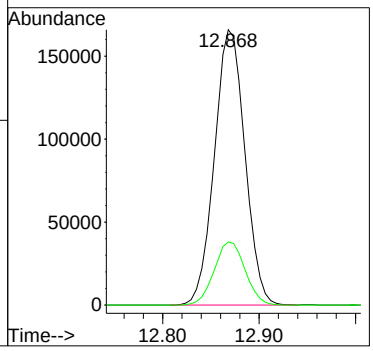


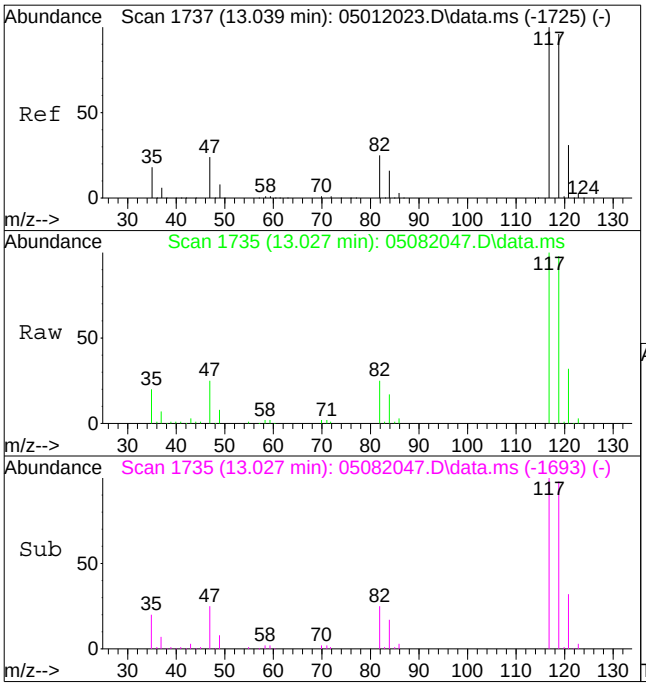


#41
Benzene
Concen: 2.99 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05082047.D
Acq: 9 May 2020 5:31

Tgt Ion: 78 Resp: 364667

Ion	Ratio	Lower	Upper
78	100		
77	23.2	3.4	43.4

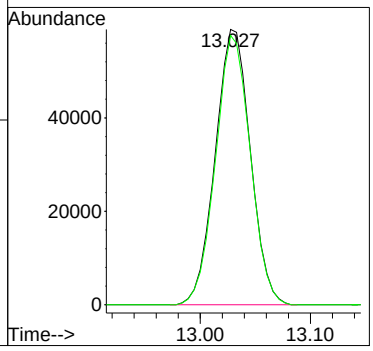


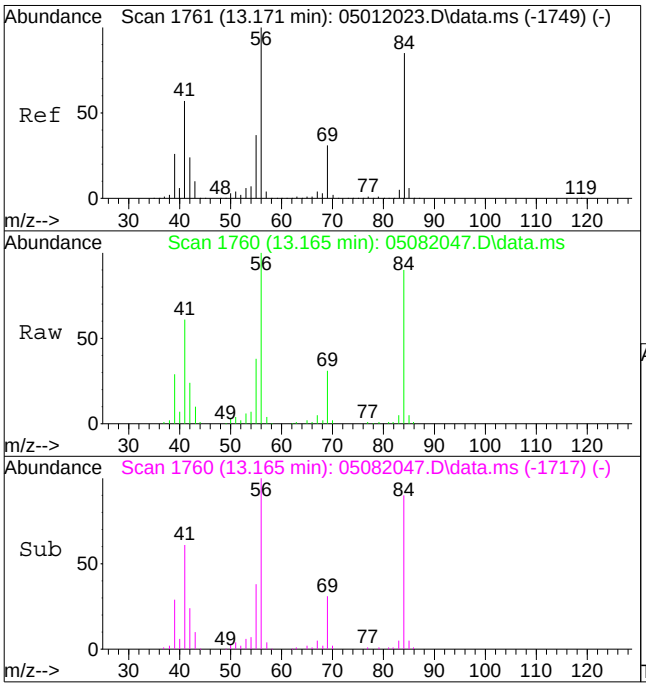


#42
Carbon Tetrachloride
Concen: 3.15 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05082047.D
Acq: 9 May 2020 5:31

Tgt Ion:117 Resp: 130788

Ion	Ratio	Lower	Upper
117	100		
119	96.5	76.2	116.2

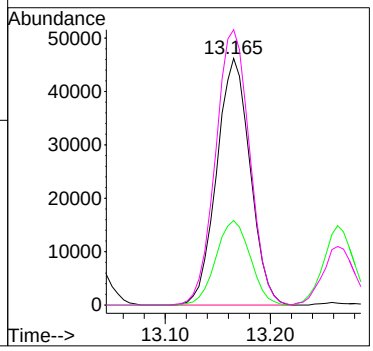


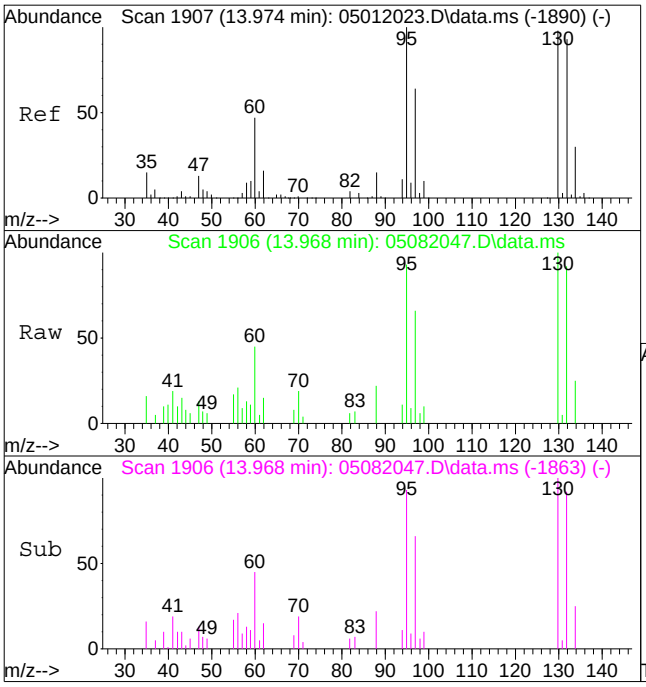


#43
Cyclohexane
Concen: 2.25 ng
RT: 13.16 min Scan# 1760
Delta R.T. -0.011 min
Lab File: 05082047.D
Acq: 9 May 2020 5:31

Tgt Ion: 84 Resp: 102161

Ion	Ratio	Lower	Upper
84	100		
69	35.2	16.5	56.5
56	113.9	97.4	137.4

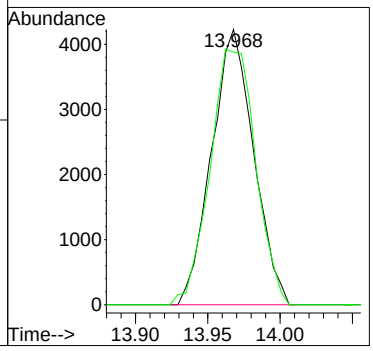


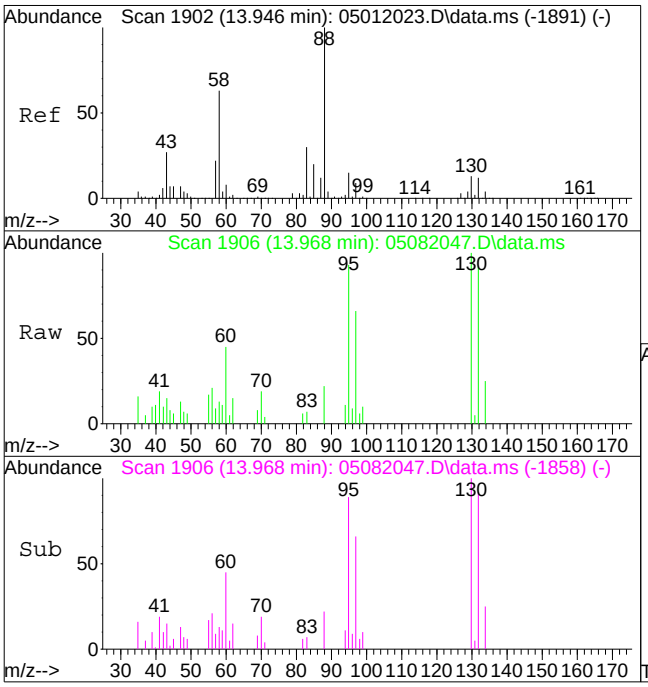


#47
Trichloroethene
Concen: 0.27 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05082047.D
Acq: 9 May 2020 5:31

Tgt Ion:130 Resp: 8572

Ion	Ratio	Lower	Upper
130	100		
132	100.3	74.9	114.9

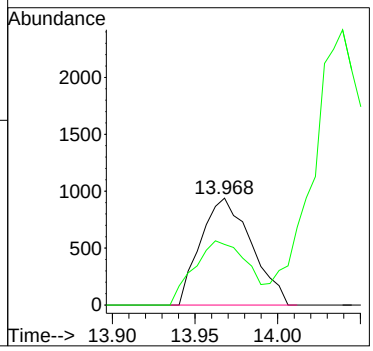


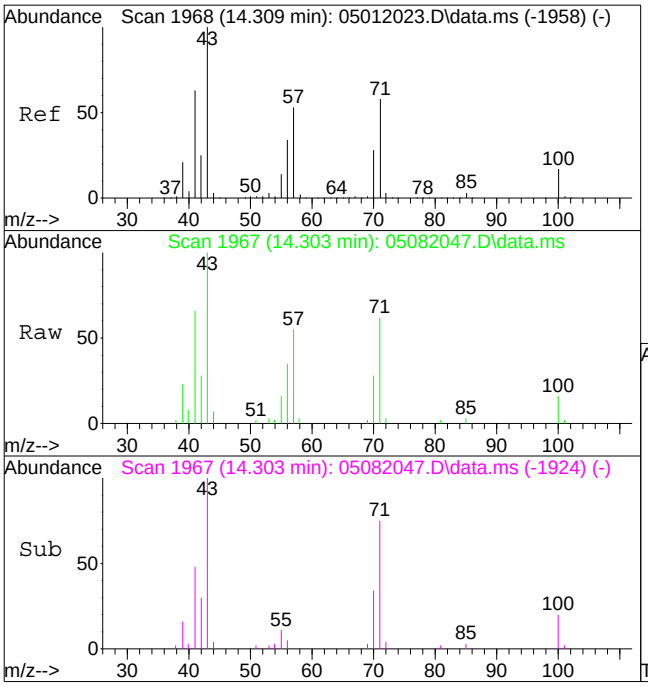


#48
1,4-Dioxane
Concen: 0.08 ng
RT: 13.97 min Scan# 1906
Delta R.T. 0.016 min
Lab File: 05082047.D
Acq: 9 May 2020 5:31

Tgt Ion: 88 Resp: 2007

Ion	Ratio	Lower	Upper
88	100		
58	65.8	42.8	82.8

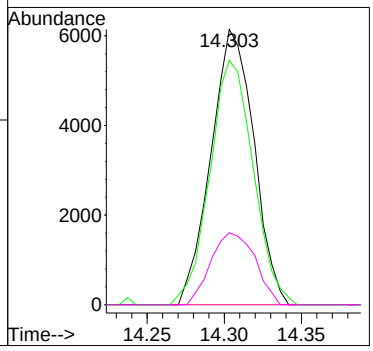


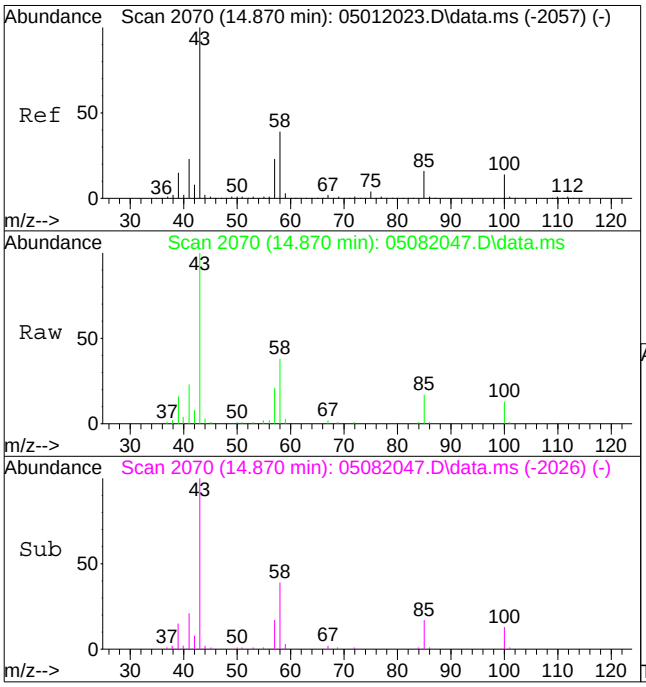


#51
n-Heptane
Concen: 0.42 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05082047.D
Acq: 9 May 2020 5:31

Tgt Ion: 71 Resp: 11883

Ion	Ratio	Lower	Upper
71	100		
57	89.8	71.0	111.0
100	26.9	8.4	48.4

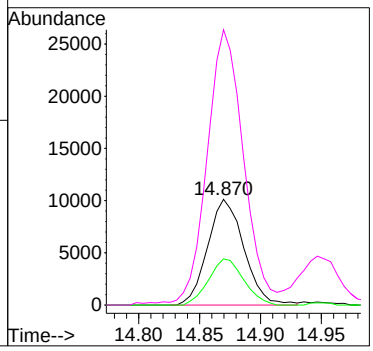


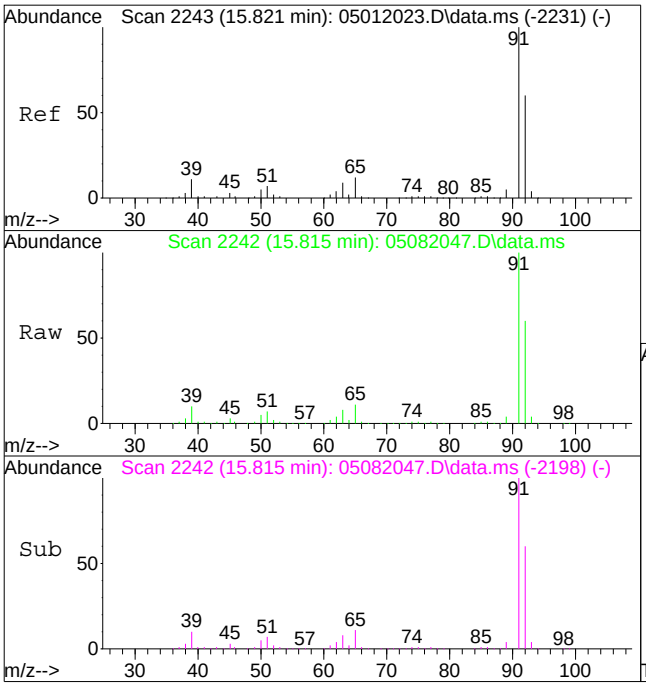


#53
4-Methyl-2-pentanone
Concen: 0.77 ng
RT: 14.87 min Scan# 2070
Delta R.T. -0.006 min
Lab File: 05082047.D
Acq: 9 May 2020 5:31

Tgt Ion: 58 Resp: 21022

Ion	Ratio	Lower	Upper
58	100		
85	42.1	35.4	53.2
43	262.0	203.3	304.9

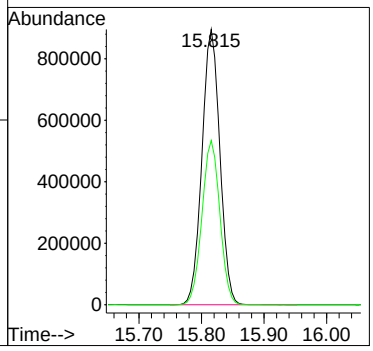


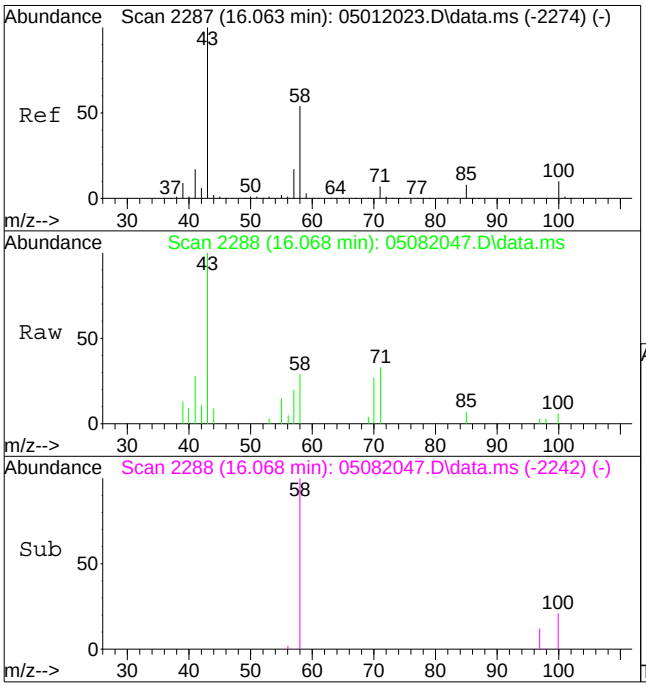


#58
Toluene
Concen: 15.86 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05082047.D
Acq: 9 May 2020 5:31

Tgt Ion: 91 Resp: 1780893

Ion	Ratio	Lower	Upper
91	100		
92	59.5	39.4	79.4

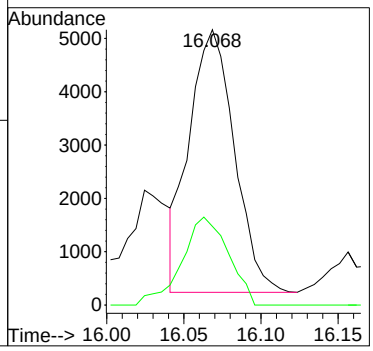


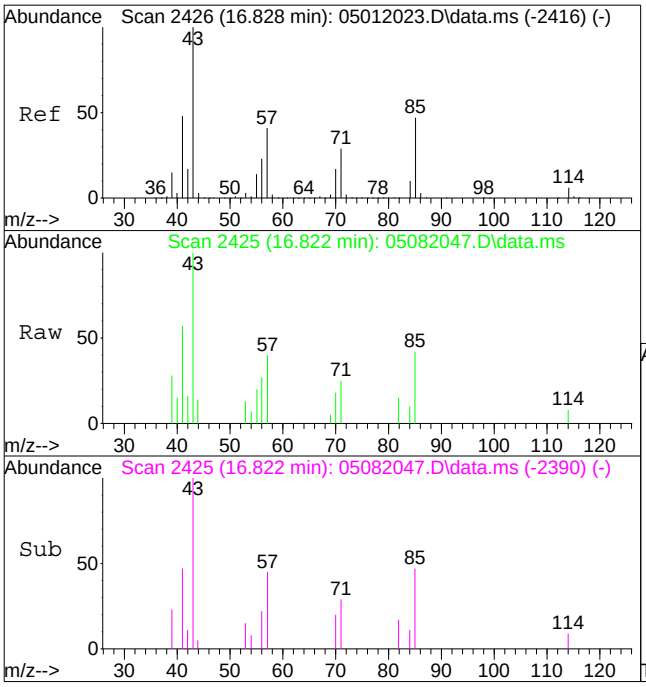


#59
2-Hexanone
Concen: 0.16 ng
RT: 16.07 min Scan# 2288
Delta R.T. 0.005 min
Lab File: 05082047.D
Acq: 9 May 2020 5:31

Tgt Ion: 43 Resp: 10058

Ion	Ratio	Lower	Upper
43	100		
58	34.6	34.5	74.5

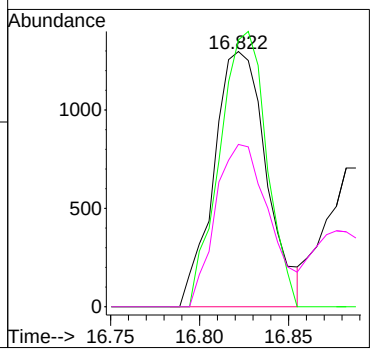


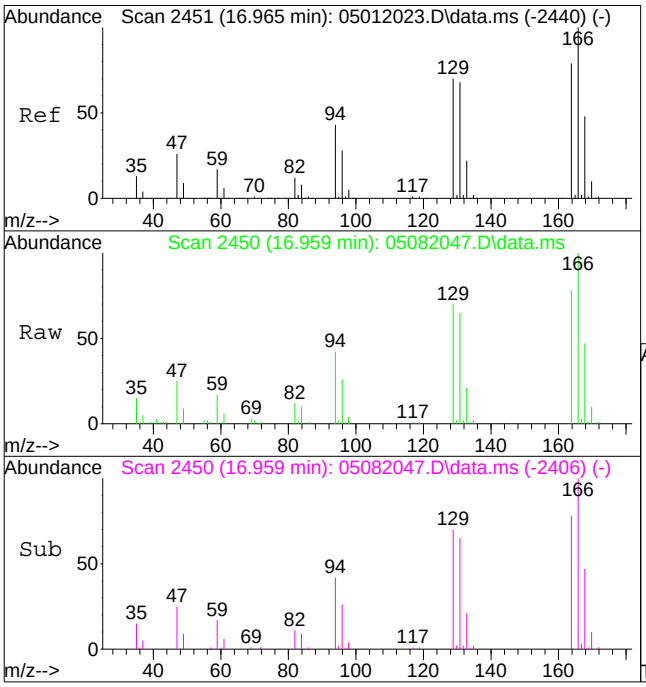


#63
n-Octane
Concen: 0.12 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05082047.D
Acq: 9 May 2020 5:31

Tgt Ion: 57 Resp: 2674

Ion	Ratio	Lower	Upper
57	100		
85	96.2	91.0	136.4
71	65.3	56.2	84.2

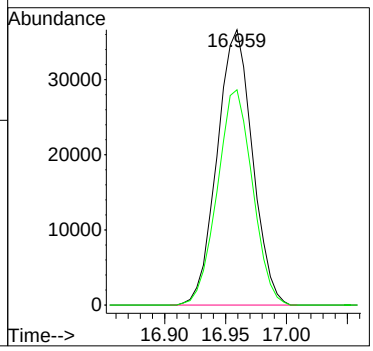


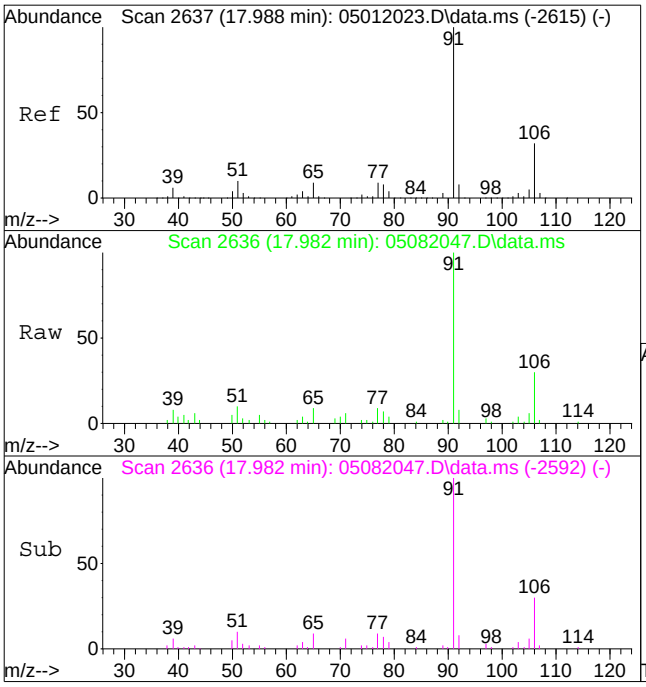


#64
Tetrachloroethene
Concen: 2.33 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05082047.D
Acq: 9 May 2020 5:31

Tgt Ion:166 Resp: 73751

Ion	Ratio	Lower	Upper
166	100		
164	78.0	58.4	98.4

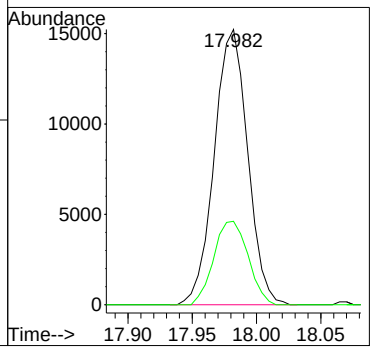


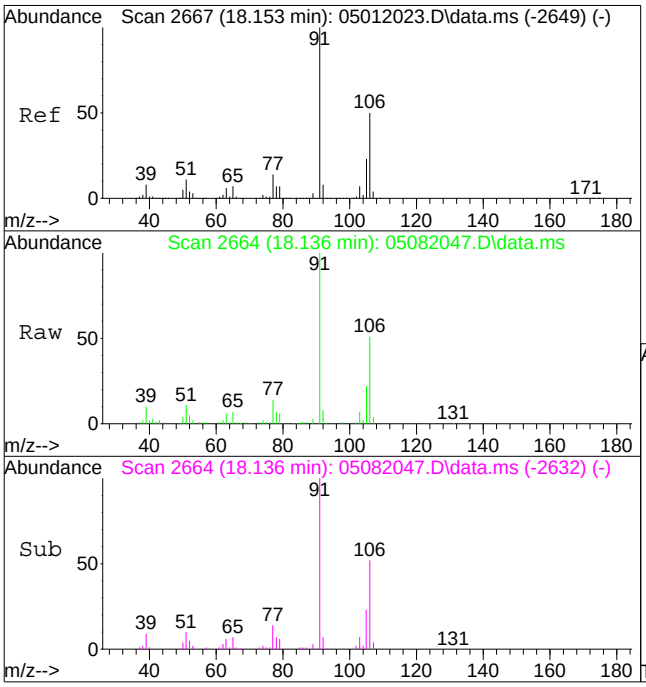


#66
Ethylbenzene
Concen: 0.22 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05082047.D
Acq: 9 May 2020 5:31

Tgt Ion: 91 Resp: 27549

Ion	Ratio	Lower	Upper
91	100		
106	31.1	11.6	51.6

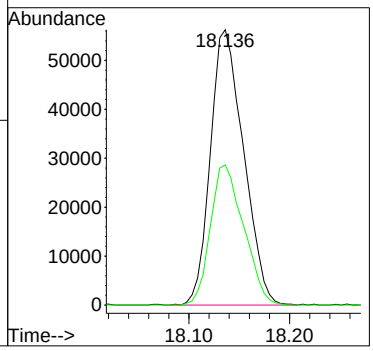


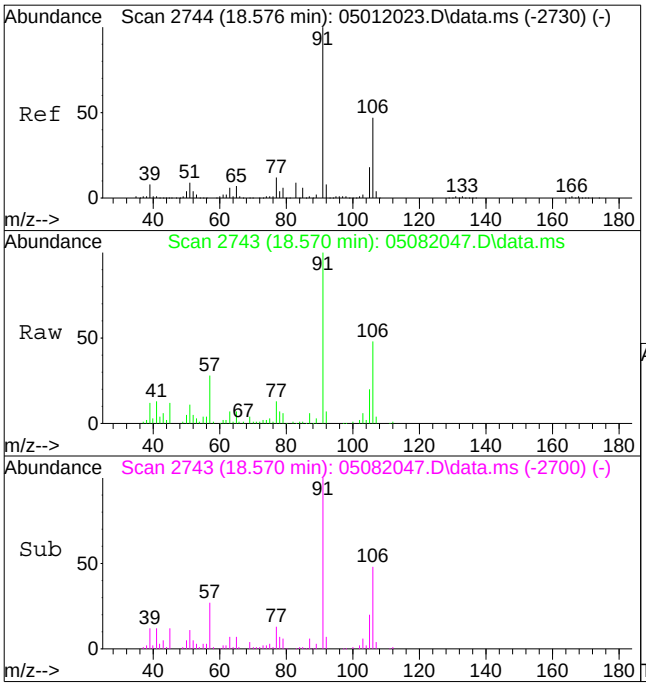


#67
m- & p-Xylenes
Concen: 1.30 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05082047.D
Acq: 9 May 2020 5:31

Tgt Ion: 91 Resp: 128982

Ion	Ratio	Lower	Upper
91	100		
106	50.9	29.7	69.7

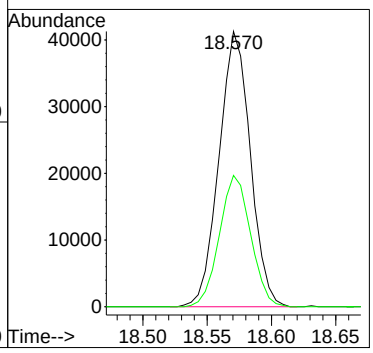


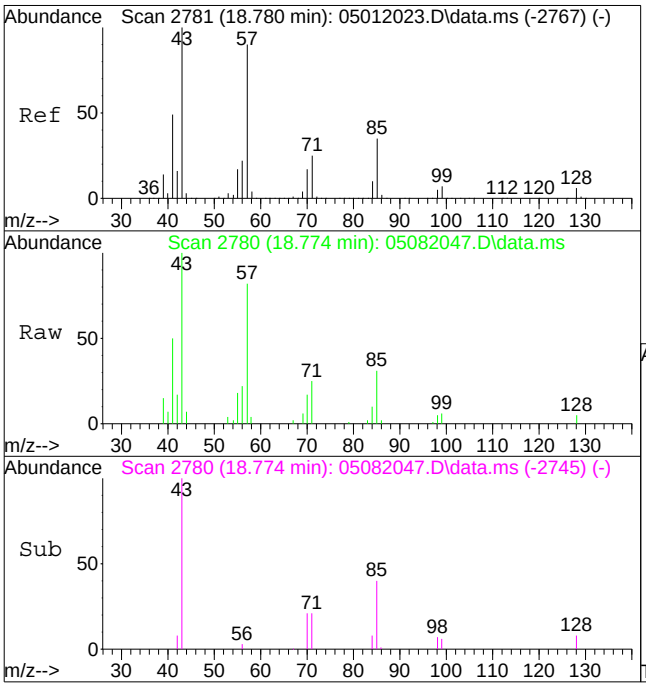


#70
o-Xylene
Concen: 0.69 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05082047.D
Acq: 9 May 2020 5:31

Tgt Ion: 91 Resp: 69948

Ion	Ratio	Lower	Upper
91	100		
106	47.5	27.5	67.5

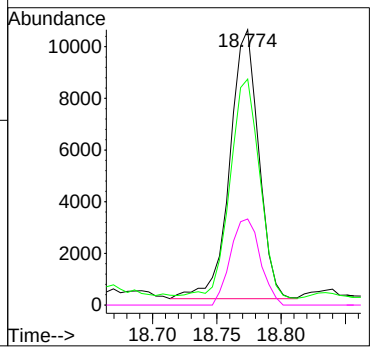


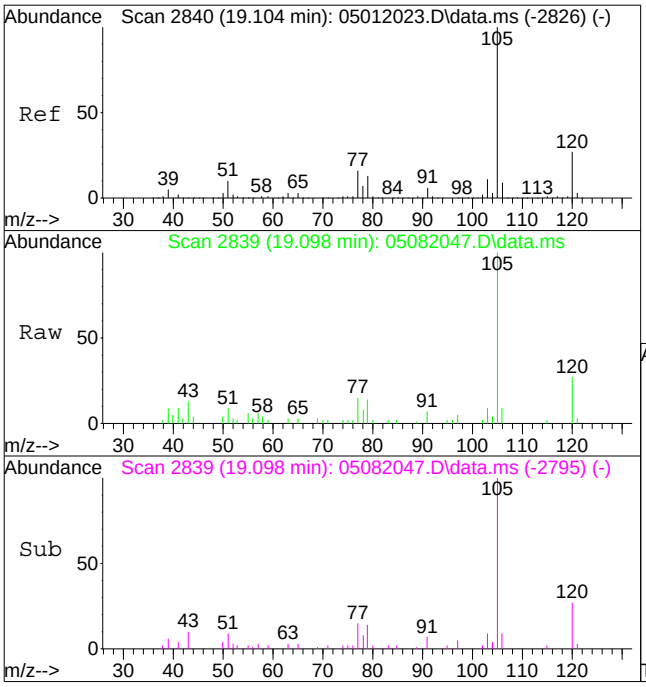


#71
n-Nonane
Concen: 0.31 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05082047.D
Acq: 9 May 2020 5:31

Tgt Ion: 43 Resp: 16326

Ion	Ratio	Lower	Upper
43	100		
57	83.9	69.0	109.0
85	32.7	14.6	54.6

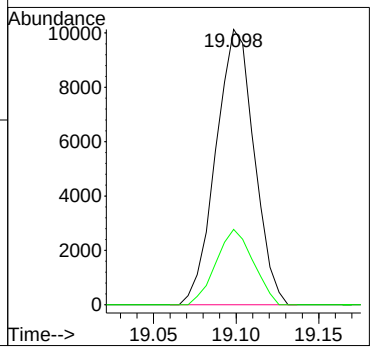


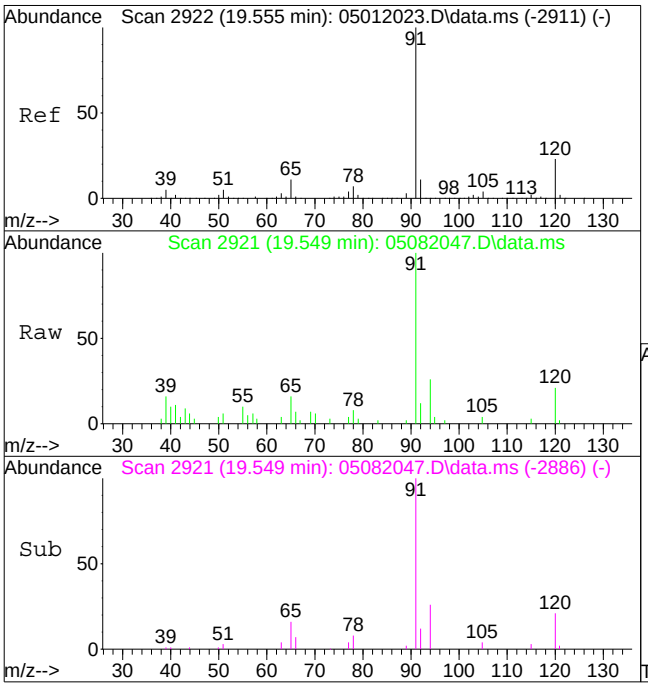


#74
Cumene
Concen: 0.13 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05082047.D
Acq: 9 May 2020 5:31

Tgt Ion:105 Resp: 16335

Ion	Ratio	Lower	Upper
105	100		
120	26.6	6.8	46.8

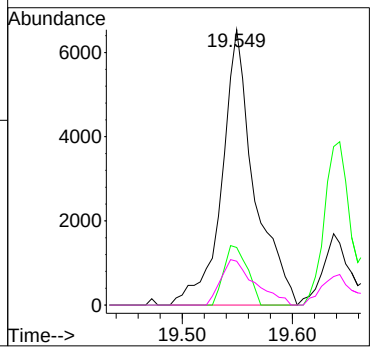


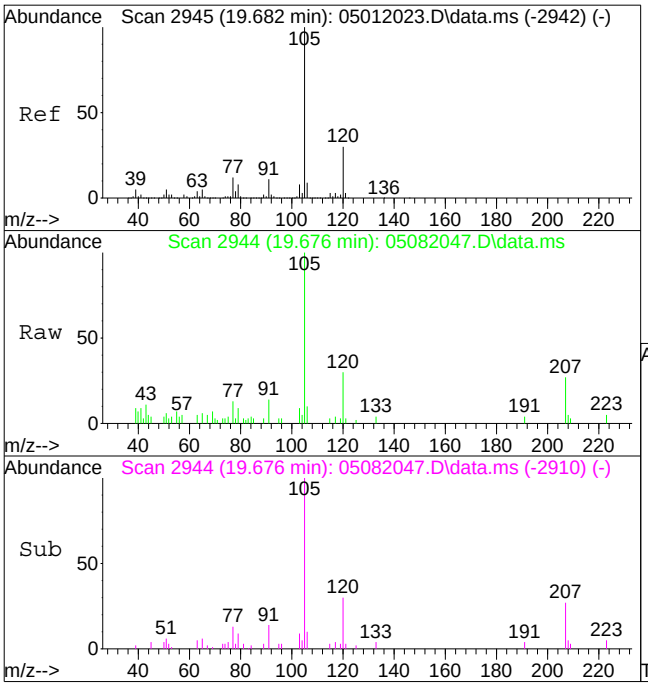


#76
n-Propylbenzene
Concen: 0.09 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05082047.D
Acq: 9 May 2020 5:31

Tgt Ion: 91 Resp: 13353

Ion	Ratio	Lower	Upper
91	100		
120	15.7	3.1	43.1
65	17.2	0.0	30.9

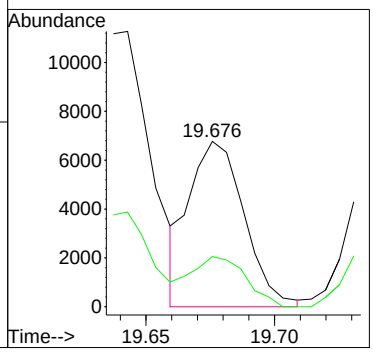


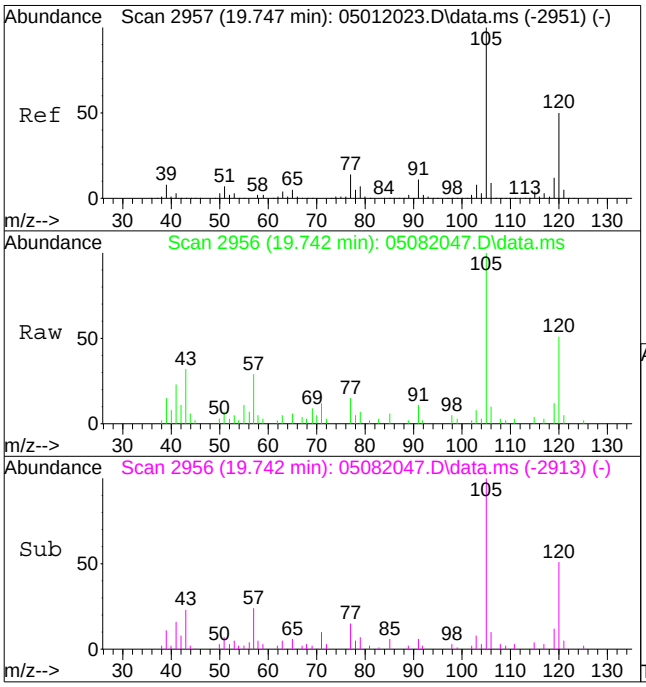


#78
4-Ethyltoluene
Concen: 0.09 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05082047.D
Acq: 9 May 2020 5:31

Tgt Ion:105 Resp: 10087

Ion	Ratio	Lower	Upper
105	100		
120	30.8	10.4	50.4

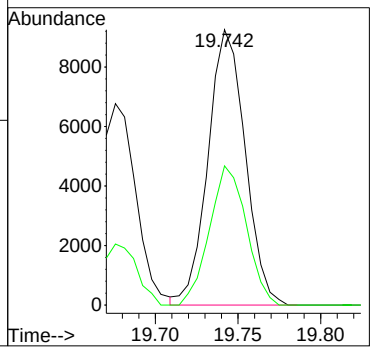


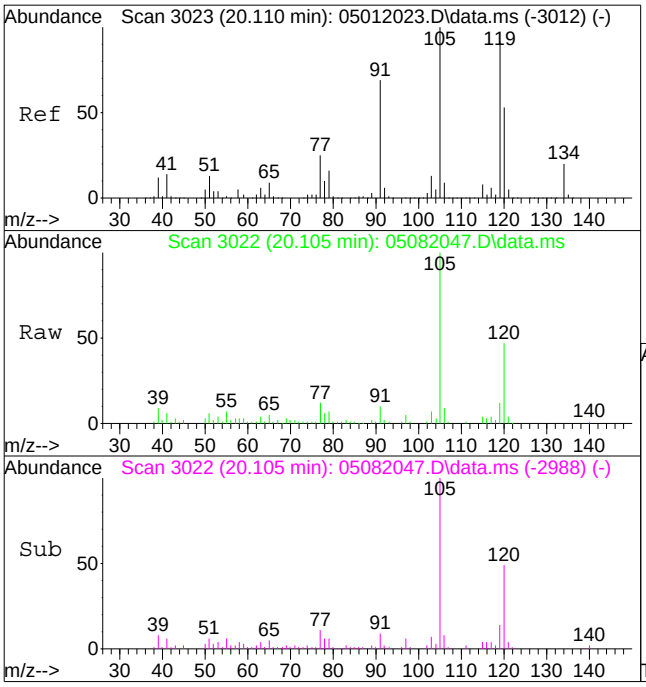


#79
1,3,5-Trimethylbenzene
Concen: 0.14 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05082047.D
Acq: 9 May 2020 5:31

Tgt Ion:105 Resp: 14472

Ion	Ratio	Lower	Upper
105	100		
120	50.1	29.9	69.9

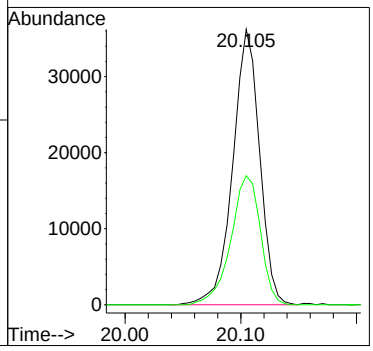


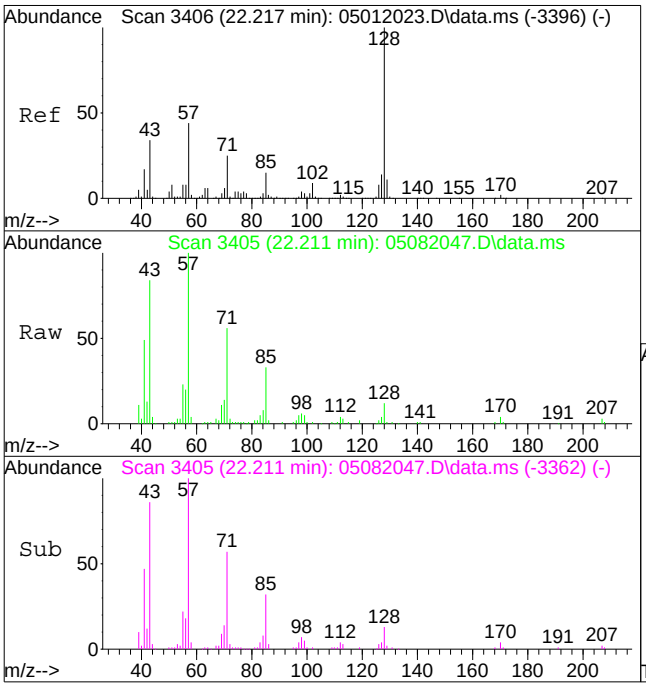


#82
1,2,4-Trimethylbenzene
Concen: 0.58 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05082047.D
Acq: 9 May 2020 5:31

Tgt Ion:105 Resp: 58358

Ion	Ratio	Lower	Upper
105	100		
120	51.5	33.6	73.6

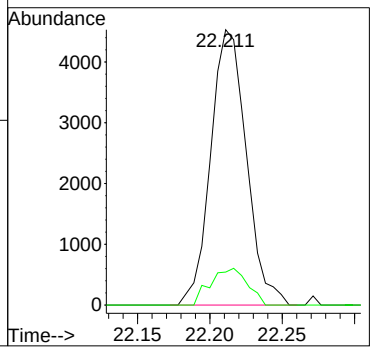




#95
Naphthalene
Concen: 0.06 ng
RT: 22.21 min Scan# 3405
Delta R.T. -0.011 min
Lab File: 05082047.D
Acq: 9 May 2020 5:31

Tgt Ion:128 Resp: 7770

Ion	Ratio	Lower	Upper
128	100		
129	13.8	0.0	31.0



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082048.D Vial: 4
Acq On : 9 May 2020 6:05 Operator: LH
Sample : P2002299-008 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 18:33:59 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/11/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	265675	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1142681	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	526432	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	419062	11.639	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.12%			
57) Toluene-d8 (SS2)	15.71	98	1121074	12.564	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.48%			
73) Bromofluorobenzene (SS3)	18.97	174	429979	13.392	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.12%			
Target Compounds						Qvalue
2) Propene	4.11	42	2848	0.093	ng	98
3) Dichlorodifluoromethan...	4.26	85	152758	2.538	ng	100
4) Chloromethane	4.53	50	2286	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	2228	0.062	ng	100
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	5.64	94	234	N.D.		
9) Chloroethane	5.97	64	284	N.D.		
10) Ethanol	6.31	45	21175	0.891	ng	93
11) Acetonitrile	6.59	41	1841	N.D.		
12) Acrolein	6.79	56	2845	0.152	ng	97
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	7.24	101	33602	0.632	ng	100
15) 2-Propanol (Isopropanol)	7.52	45	7481	0.104	ng	90
16) Acrylonitrile	7.74	53	856	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	8.45	59	1213	N.D.		
19) Methylene Chloride	8.40	84	992	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	8.84	151	120062	4.781	ng	98
22) Carbon Disulfide	8.67	76	48403	0.437	ng	98
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	10.10	73	112	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	10.47	72	5531	0.273	ng	99
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	11.28	61	5155	0.441	ng	86
31) n-Hexane	11.25	57	1993	N.D.		
32) Chloroform	11.30	83	112205	2.122	ng	99
34) Tetrahydrofuran (THF)	11.73	72	16564	0.838	ng	99
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	12.87	78	6559	0.054	ng	97
42) Carbon Tetrachloride	13.03	117	80720	1.937	ng	99
43) Cyclohexane	13.14	84	2235	N.D.		
44) tert-Amyl Methyl Ether	13.56	73	646	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d	
46) Bromodichloromethane	13.91	83	440	N.D.		
47) Trichloroethene	13.97	130	1146	N.D.		
48) 1,4-Dioxane	13.96	88	2313	0.094	ng	92
49) 2,2,4-Trimethylpentane...	14.05	57	2452	N.D.		
50) Methyl Methacrylate	14.31	100	404	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082048.D Vial: 4
Acq On : 9 May 2020 6:05 Operator: LH
Sample : P2002299-008 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 18:33:59 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

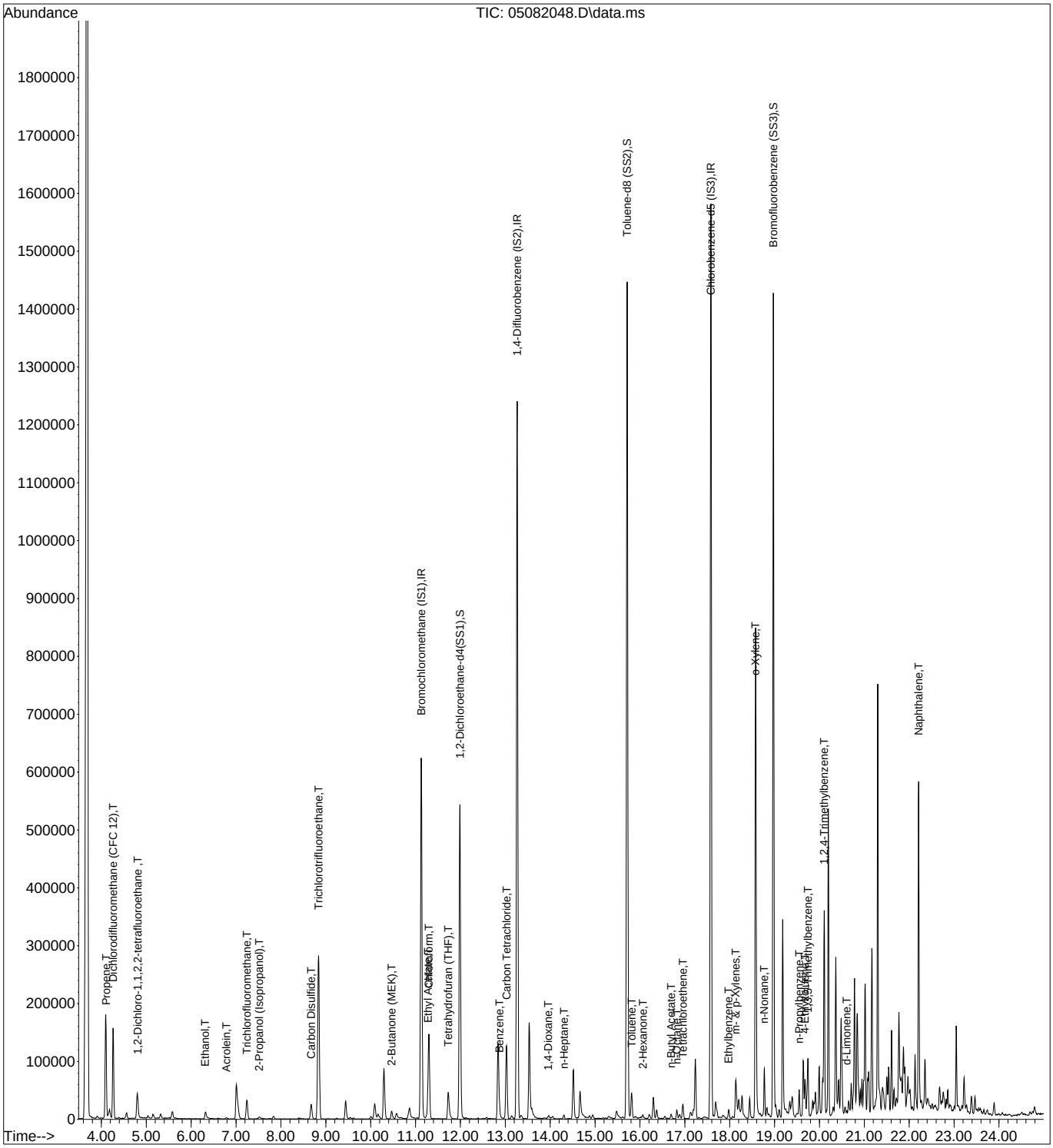
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	1751	0.061 ng	97
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.88	58	1209	N.D.	
54) trans-1,3-Dichloropropene	15.30	75	1052	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.82	91	35719	0.311 ng	98
59) 2-Hexanone	16.07	43	5857	0.093 ng	81
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.70	43	7740	0.114 ng	90
63) n-Octane	16.82	57	2895	0.122 ng	98
64) Tetrachloroethene	16.96	166	8735	0.269 ng	98
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	17.98	91	11861	0.092 ng	100
67) m- & p-Xylenes	18.14	91	48696	0.479 ng	98
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	735	N.D.	
70) o-Xylene	18.57	91	17920	0.173 ng	99
71) n-Nonane	18.77	43	30577	0.558 ng	97
72) 1,1,2,2-Tetrachloroethane	18.59	83	701	N.D.	
74) Cumene	19.10	105	4046	N.D.	
75) alpha-Pinene	19.56	93	307	N.D.	
76) n-Propylbenzene	19.55	91	25940	0.172 ng	92
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.68	105	30718	0.258 ng	99
79) 1,3,5-Trimethylbenzene	19.74	105	31785	0.307 ng	99
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.11	105	182412	1.756 ng	92
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.22	91	771	N.D.	
85) 1,3-Dichlorobenzene	20.24	146	357	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	840	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.61	68	2275	0.055 ng	94
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.11	180	337	N.D.	
95) Naphthalene	22.21	128	79750	0.629 ng	98
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082048.D Vial: 4
Acq On : 9 May 2020 6:05 Operator: LH
Sample : P2002299-008 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 18:33:59 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082048.D Vial: 4
Acq On : 9 May 2020 6:05 Operator: LH
Sample : P2002299-008 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 18:33:59 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/11/20

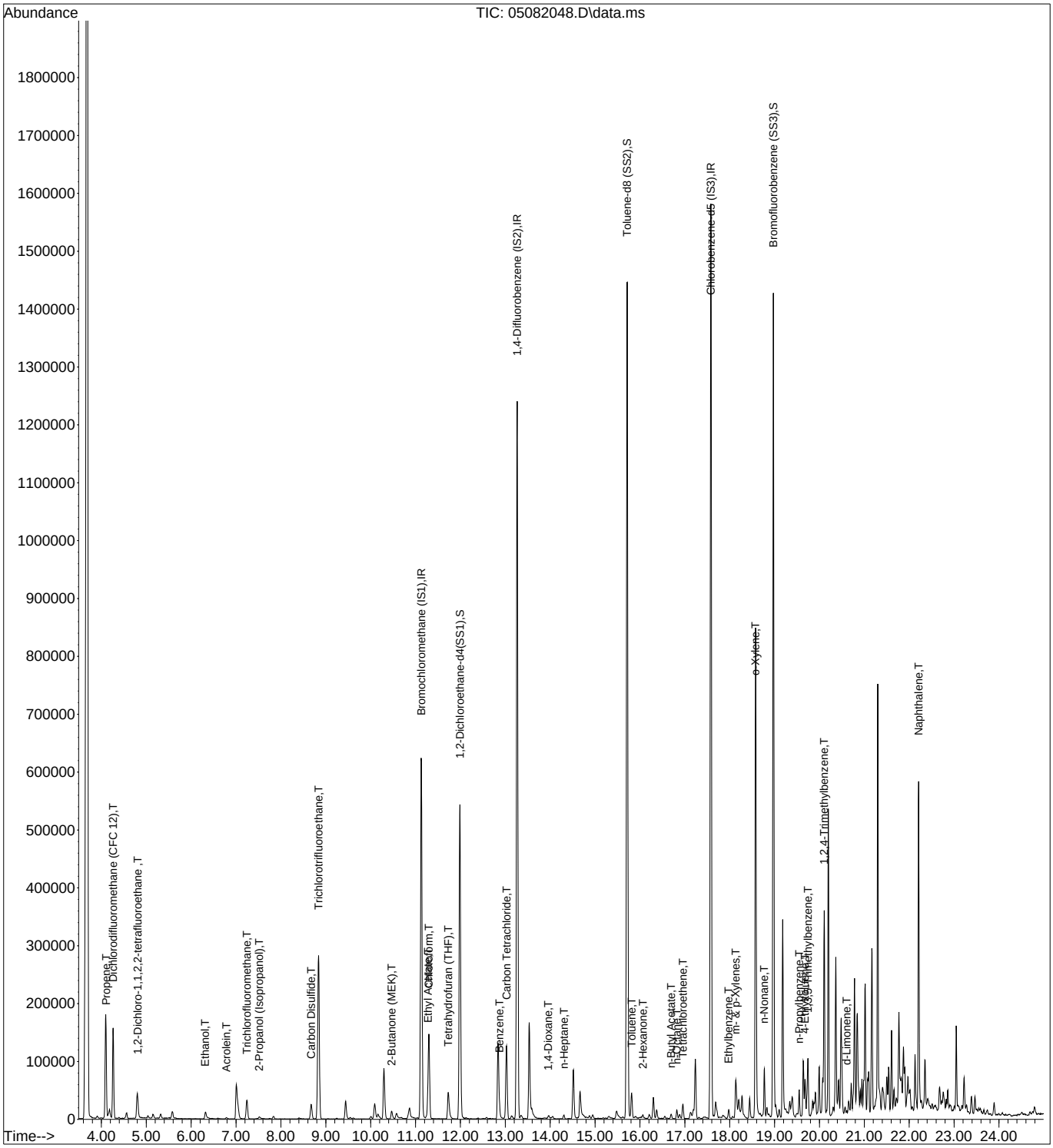
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	265675	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1142681	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	526432	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	419062	11.639	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.12%			
57) Toluene-d8 (SS2)	15.71	98	1121074	12.564	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.48%			
73) Bromofluorobenzene (SS3)	18.97	174	429979	13.392	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.12%			
Target Compounds						Qvalue
2) Propene	4.11	42	2848	0.093	ng	98
3) Dichlorodifluoromethan...	4.26	85	152758	2.538	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	2228	0.062	ng	100
10) Ethanol	6.31	45	21175	0.891	ng	93
12) Acrolein	6.79	56	2845	0.152	ng	97
14) Trichlorofluoromethane	7.24	101	33602	0.632	ng	100
15) 2-Propanol (Isopropanol)	7.52	45	7481	0.104	ng	90
21) Trichlorotrifluoroethane	8.84	151	120062	4.781	ng	98
22) Carbon Disulfide	8.67	76	48403	0.437	ng	98
27) 2-Butanone (MEK)	10.47	72	5531	0.273	ng	99
30) Ethyl Acetate	11.28	61	5155	0.441	ng	86
32) Chloroform	11.30	83	112205	2.122	ng	99
34) Tetrahydrofuran (THF)	11.73	72	16564	0.838	ng	99
41) Benzene	12.87	78	6559	0.054	ng	97
42) Carbon Tetrachloride	13.03	117	80720	1.937	ng	99
48) 1,4-Dioxane	13.96	88	2313	0.094	ng	92
51) n-Heptane	14.31	71	1751	0.061	ng	97
58) Toluene	15.82	91	35719	0.311	ng	98
59) 2-Hexanone	16.07	43	5857	0.093	ng	81
62) n-Butyl Acetate	16.70	43	7740	0.114	ng	90
63) n-Octane	16.82	57	2895	0.122	ng	98
64) Tetrachloroethene	16.96	166	8735	0.269	ng	98
66) Ethylbenzene	17.98	91	11861	0.092	ng	100
67) m- & p-Xylenes	18.14	91	48696	0.479	ng	98
70) o-Xylene	18.57	91	17920	0.173	ng	99
71) n-Nonane	18.77	43	30577	0.558	ng	97
76) n-Propylbenzene	19.55	91	25940	0.172	ng	92
78) 4-Ethyltoluene	19.68	105	30718	0.258	ng	99
79) 1,3,5-Trimethylbenzene	19.74	105	31785	0.307	ng	99
82) 1,2,4-Trimethylbenzene	20.11	105	182412	1.756	ng	92
91) d-Limonene	20.61	68	2275	0.055	ng	94
95) Naphthalene	22.21	128	79750	0.629	ng	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082048.D Vial: 4
Acq On : 9 May 2020 6:05 Operator: LH
Sample : P2002299-008 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 18:33:59 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082049.D Vial: 5
Acq On : 9 May 2020 6:38 Operator: LH
Sample : P2002299-009 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 18:37:06 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration LH 5/11/20
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	264658	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1118197	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	514825	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	413597	11.531	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.24%				
57) Toluene-d8 (SS2)	15.72	98	1096328	12.564	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.48%				
73) Bromofluorobenzene (SS3)	18.97	174	423832	13.498	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.00%				
Target Compounds							Qvalue
2) Propene	4.11	42	24303	0.793	ng		97
3) Dichlorodifluoromethan...	4.26	85	169678	2.830	ng		100
4) Chloromethane	4.54	50	1928	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	2659	0.074	ng		100
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.34	45	411351	17.379	ng		100
11) Acetonitrile	6.60	41	2084	N.D.			
12) Acrolein	6.79	56	2353	0.126	ng		95
13) Acetone	6.99	58	80348	3.394	ng	#	9
14) Trichlorofluoromethane	7.24	101	38559	0.728	ng		99
15) 2-Propanol (Isopropanol)	7.50	45	251181	3.506	ng		98
16) Acrylonitrile	7.75	53	50	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	4328	0.141	ng		96
20) 3-Chloro-1-propene (Al...	8.42	41	1581	N.D.			
21) Trichlorotrifluoroethane	8.84	151	141733	5.666	ng		98
22) Carbon Disulfide	8.68	76	53863	0.489	ng		98
23) trans-1,2-Dichloroethene	9.45	61	197	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.45	72	49914	2.473	ng		99
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.27	61	169505	14.562	ng		94
31) n-Hexane	11.26	57	4237	0.084	ng	#	69
32) Chloroform	11.30	83	156854	2.977	ng		99
34) Tetrahydrofuran (THF)	11.71	72	59247	3.009	ng		99
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	339	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	13075	0.109	ng		100
42) Carbon Tetrachloride	13.03	117	96334	2.362	ng		98
43) Cyclohexane	13.16	84	5678	0.127	ng		95
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	13.73	63	291	N.D.			
46) Bromodichloromethane	13.91	83	492	N.D.			
47) Trichloroethene	13.97	130	2428	0.078	ng		96
48) 1,4-Dioxane	13.96	88	1064	N.D.			
49) 2,2,4-Trimethylpentane...	14.04	57	3648	N.D.			
50) Methyl Methacrylate	14.18	100	726	0.061	ng		97

Quantitation Report (QT Reviewed)

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Acq On : 9 May 2020 6:38 Operator: LH
Sample : P2002299-009 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 18:37:06 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.31	71	3503	0.125	ng		97
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
53) 4-Methyl-2-pentanone	14.87	58	23050	0.862	ng		98
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.			
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.			
58) Toluene	15.82	91	263352	2.341	ng		100
59) 2-Hexanone	16.07	43	4182	0.068	ng	#	69
60) Dibromochloromethane	0.00	129	0	N.D.			
61) 1,2-Dibromoethane	16.47	107	445	N.D.			
62) n-Butyl Acetate	16.70	43	5270	0.079	ng		96
63) n-Octane	16.82	57	2548	0.109	ng		98
64) Tetrachloroethene	16.95	166	9743	0.307	ng		98
65) Chlorobenzene	17.65	112	106	N.D.			
66) Ethylbenzene	17.98	91	34581	0.276	ng		98
67) m- & p-Xylenes	18.14	91	108530	1.091	ng		97
68) Bromoform	0.00	173	0	N.D.			
69) Styrene	18.47	104	8778	0.117	ng		98
70) o-Xylene	18.57	91	38808	0.384	ng		100
71) n-Nonane	18.77	43	17884	0.334	ng		98
72) 1,1,2,2-Tetrachloroethane	18.59	83	504	N.D.			
74) Cumene	19.09	105	3439	N.D.			
75) alpha-Pinene	19.45	93	4988	0.075	ng		96
76) n-Propylbenzene	19.55	91	13024	0.088	ng		88
77) 3-Ethyltoluene	0.00	105	0	N.D.	d		
78) 4-Ethyltoluene	19.68	105	13587	0.117	ng		95
79) 1,3,5-Trimethylbenzene	19.74	105	16188	0.160	ng		95
80) alpha-Methylstyrene	0.00	118	0	N.D.	d		
81) 2-Ethyltoluene	0.00	105	0	N.D.	d		
82) 1,2,4-Trimethylbenzene	20.10	105	77806	0.766	ng		92
83) n-Decane	0.00	57	0	N.D.	d		
84) Benzyl Chloride	20.21	91	811	N.D.			
85) 1,3-Dichlorobenzene	20.24	146	110	N.D.			
86) 1,4-Dichlorobenzene	20.31	146	569	N.D.			
87) sec-Butylbenzene	20.35	105	5209	N.D.			
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.	d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.			
91) d-Limonene	20.61	68	7336	0.183	ng		96
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.			
93) n-Undecane	0.00	57	0	N.D.	d		
94) 1,2,4-Trichlorobenzene	22.11	180	131	N.D.			
95) Naphthalene	22.21	128	36629	0.295	ng		99
96) n-Dodecane	0.00	57	0	N.D.	d		
97) Hexachlorobutadiene	0.00	225	0	N.D.			
98) Cyclohexanone	0.00	55	0	N.D.	d		
99) tert-Butylbenzene	0.00	119	0	N.D.	d		
100) n-Butylbenzene	0.00	91	0	N.D.	d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
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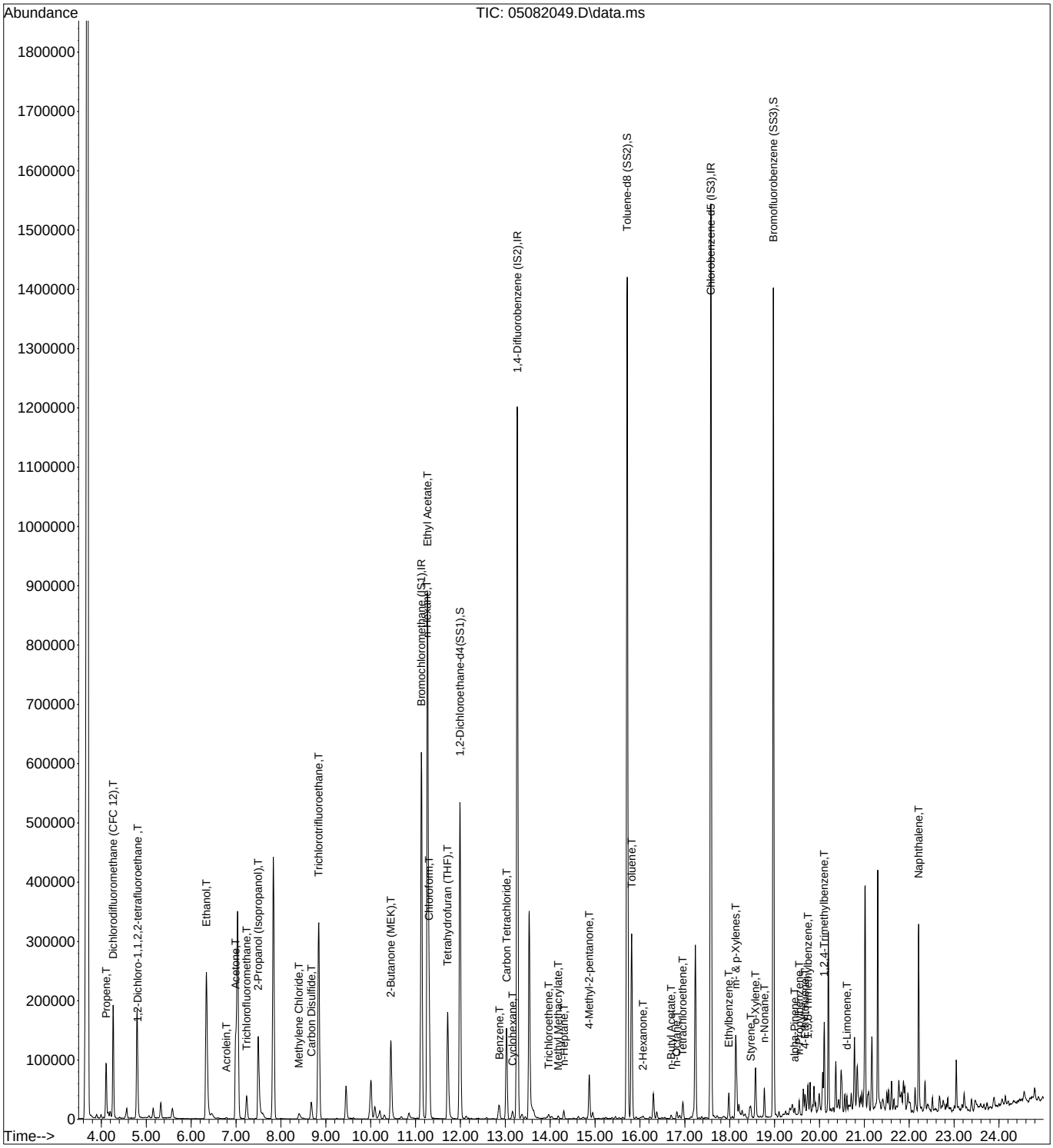

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LH 5/11/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
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56) Chlorobenzene-d5 (IS3)	17.58	82	514825	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	413597	11.531	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.24%				
57) Toluene-d8 (SS2)	15.72	98	1096328	12.564	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.48%				
73) Bromofluorobenzene (SS3)	18.97	174	423832	13.498	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.00%				
Target Compounds							Qvalue
2) Propene	4.11	42	24303	0.793	ng		97
3) Dichlorodifluoromethan...	4.26	85	169678	2.830	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	2659	0.074	ng		100
10) Ethanol	6.34	45	411351	17.379	ng		100
12) Acrolein	6.79	56	2353	0.126	ng		95
13) Acetone	6.99	58	80348	3.394	ng	#	9
14) Trichlorofluoromethane	7.24	101	38559	0.728	ng		99
15) 2-Propanol (Isopropanol)	7.50	45	251181	3.506	ng		98
19) Methylene Chloride	8.40	84	4328	0.141	ng		96
21) Trichlorotrifluoroethane	8.84	151	141733	5.666	ng		98
22) Carbon Disulfide	8.68	76	53863	0.489	ng		98
27) 2-Butanone (MEK)	10.45	72	49914	2.473	ng		99
30) Ethyl Acetate	11.27	61	169505	14.562	ng		94
31) n-Hexane	11.26	57	4237	0.084	ng	#	69
32) Chloroform	11.30	83	156854	2.977	ng		99
34) Tetrahydrofuran (THF)	11.71	72	59247	3.009	ng		99
41) Benzene	12.87	78	13075	0.109	ng		100
42) Carbon Tetrachloride	13.03	117	96334	2.362	ng		98
43) Cyclohexane	13.16	84	5678	0.127	ng		95
47) Trichloroethene	13.97	130	2428	0.078	ng		96
50) Methyl Methacrylate	14.18	100	726	0.061	ng		97
51) n-Heptane	14.31	71	3503	0.125	ng		97
53) 4-Methyl-2-pentanone	14.87	58	23050	0.862	ng		98
58) Toluene	15.82	91	263352	2.341	ng		100
59) 2-Hexanone	16.07	43	4182	0.068	ng	#	69
62) n-Butyl Acetate	16.70	43	5270	0.079	ng		96
63) n-Octane	16.82	57	2548	0.109	ng		98
64) Tetrachloroethene	16.95	166	9743	0.307	ng		98
66) Ethylbenzene	17.98	91	34581	0.276	ng		98
67) m- & p-Xylenes	18.14	91	108530	1.091	ng		97
69) Styrene	18.47	104	8778	0.117	ng		98
70) o-Xylene	18.57	91	38808	0.384	ng		100
71) n-Nonane	18.77	43	17884	0.334	ng		98
75) alpha-Pinene	19.45	93	4988	0.075	ng		96
76) n-Propylbenzene	19.55	91	13024	0.088	ng		88
78) 4-Ethyltoluene	19.68	105	13587	0.117	ng		95
79) 1,3,5-Trimethylbenzene	19.74	105	16188	0.160	ng		95
82) 1,2,4-Trimethylbenzene	20.10	105	77806	0.766	ng		92
91) d-Limonene	20.61	68	7336	0.183	ng		96
95) Naphthalene	22.21	128	36629	0.295	ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

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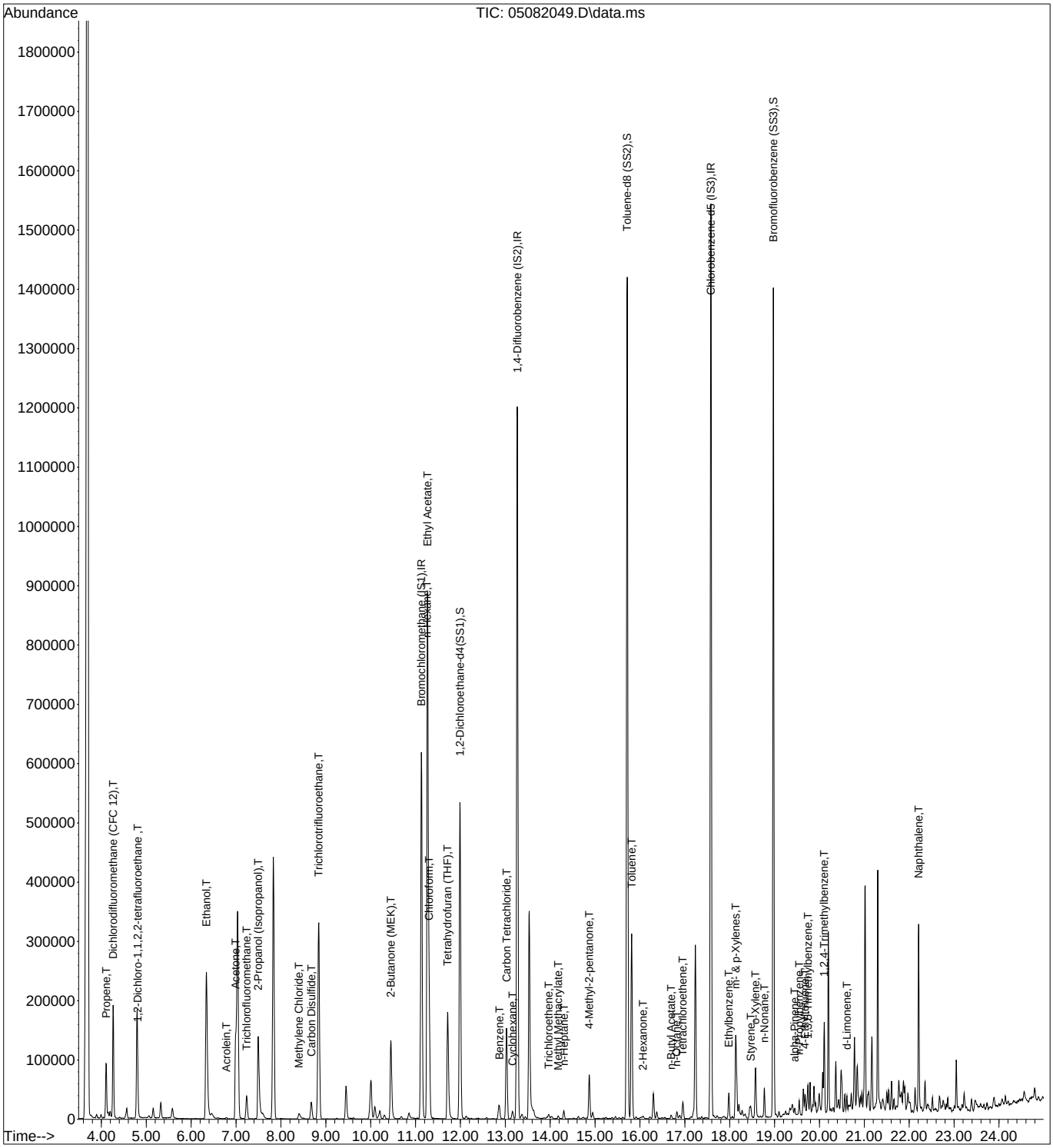
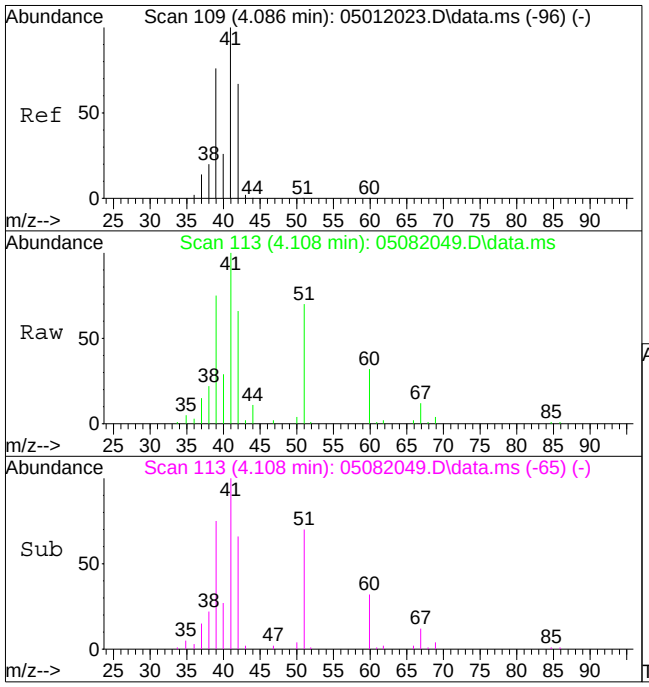
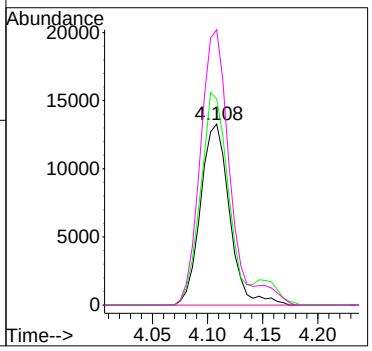


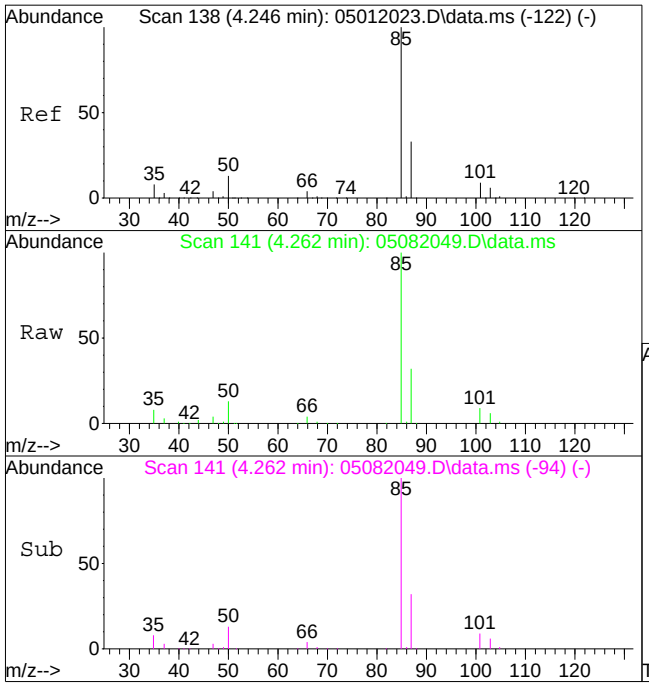


#2
Propene
Concen: 0.79 ng
RT: 4.11 min Scan# 113
Delta R.T. 0.016 min
Lab File: 05082049.D
Acq: 9 May 2020 6:38

Tgt Ion: 42 Resp: 24303

Ion	Ratio	Lower	Upper
42	100		
39	113.9	96.1	136.1
41	156.3	131.9	171.9

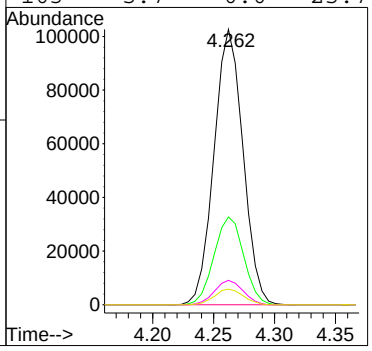


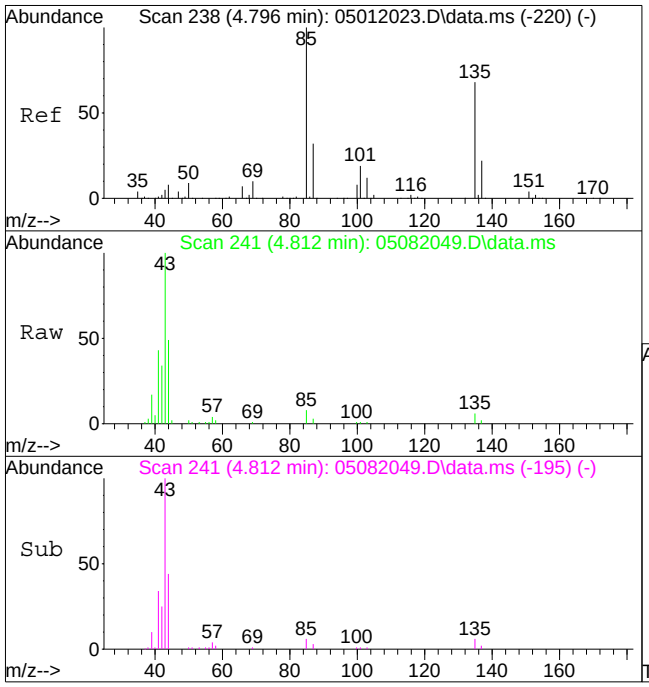


#3
Dichlorodifluoromethane (CFC 12)
Concen: 2.83 ng
RT: 4.26 min Scan# 141
Delta R.T. 0.011 min
Lab File: 05082049.D
Acq: 9 May 2020 6:38

Tgt Ion: 85 Resp: 169678

Ion	Ratio	Lower	Upper
85	100		
87	32.6	12.4	52.4
101	8.8	0.0	28.8
103	5.7	0.0	25.7

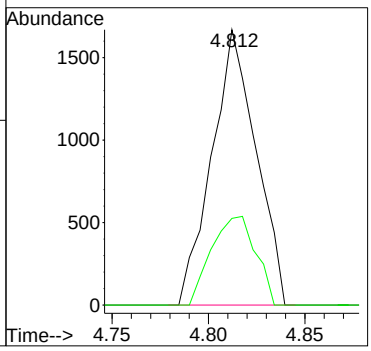


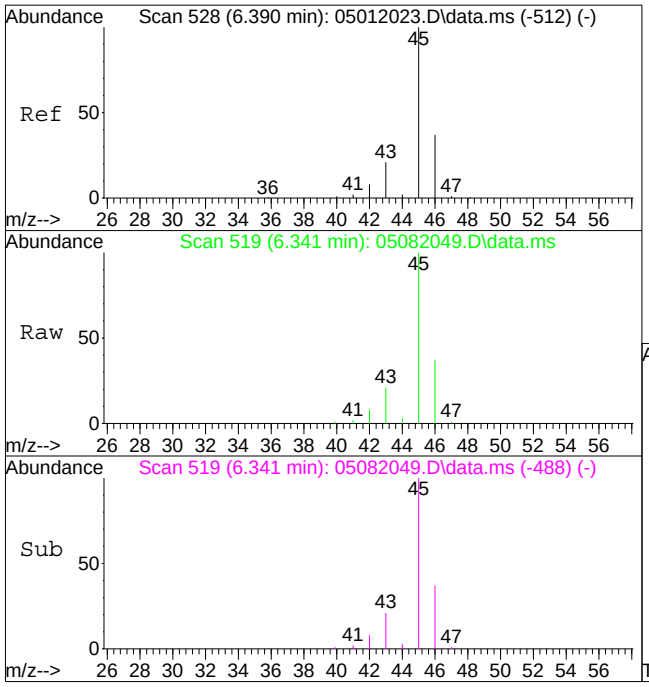


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 0.07 ng
RT: 4.81 min Scan# 241
Delta R.T. 0.005 min
Lab File: 05082049.D
Acq: 9 May 2020 6:38

Tgt Ion:135 Resp: 2659

Ion	Ratio	Lower	Upper
135	100		
137	32.3	12.1	52.1

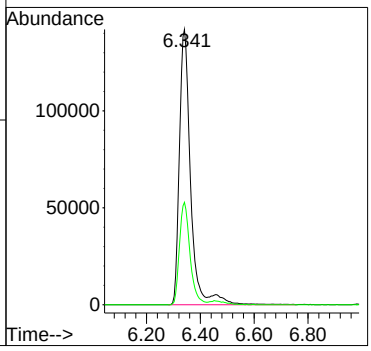


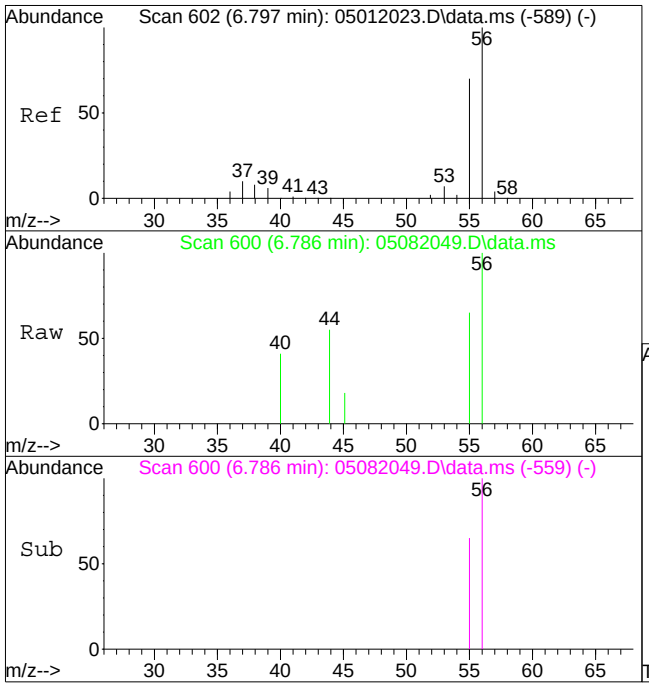


#10
Ethanol
Concen: 17.38 ng
RT: 6.34 min Scan# 519
Delta R.T. -0.077 min
Lab File: 05082049.D
Acq: 9 May 2020 6:38

Tgt Ion: 45 Resp: 411351

Ion	Ratio	Lower	Upper
45	100		
46	37.0	17.2	57.2

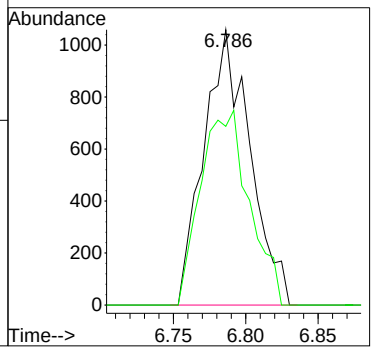


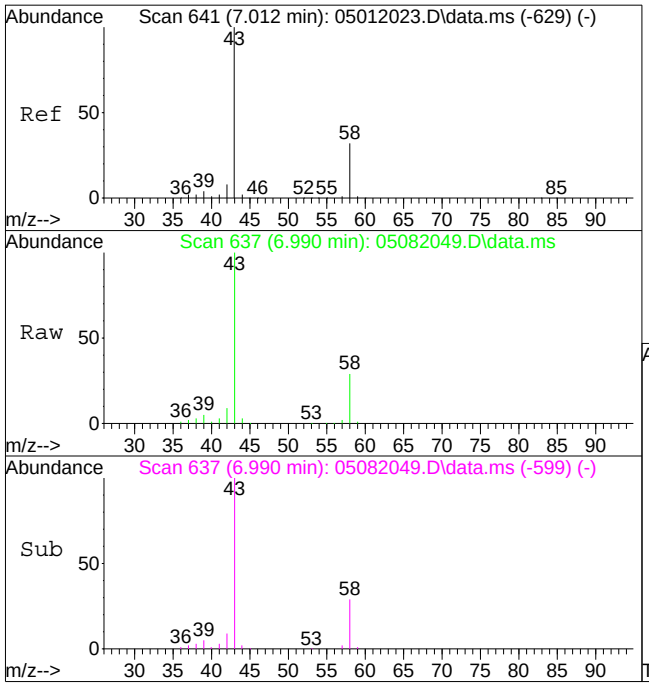


#12
Acrolein
Concen: 0.13 ng
RT: 6.79 min Scan# 600
Delta R.T. -0.022 min
Lab File: 05082049.D
Acq: 9 May 2020 6:38

Tgt Ion: 56 Resp: 2353

Ion	Ratio	Lower	Upper
56	100		
55	74.4	50.2	90.2

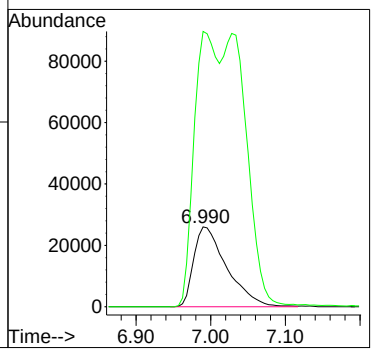


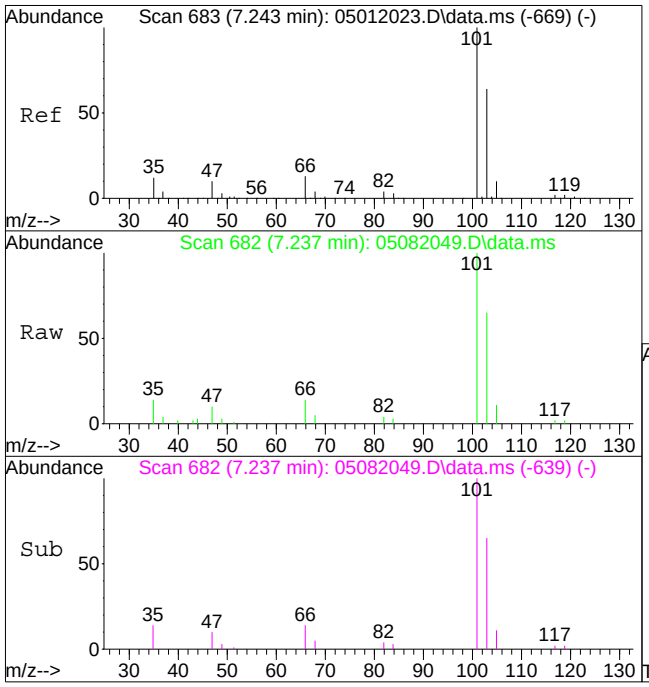


#13
Acetone
Concen: 3.39 ng
RT: 6.99 min Scan# 637
Delta R.T. -0.039 min
Lab File: 05082049.D
Acq: 9 May 2020 6:38

Tgt Ion: 58 Resp: 80348

Ion	Ratio	Lower	Upper
58	100		
43	511.6	294.4	354.4#

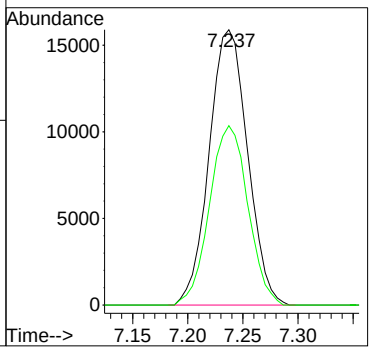


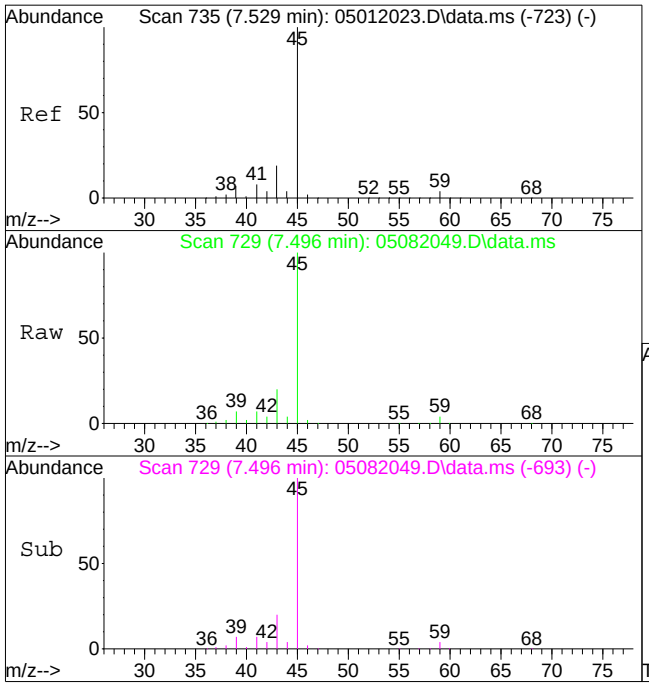


#14
Trichlorofluoromethane
Concen: 0.73 ng
RT: 7.24 min Scan# 682
Delta R.T. -0.011 min
Lab File: 05082049.D
Acq: 9 May 2020 6:38

Tgt Ion:101 Resp: 38559

Ion	Ratio	Lower	Upper
101	100		
103	65.0	44.4	84.4

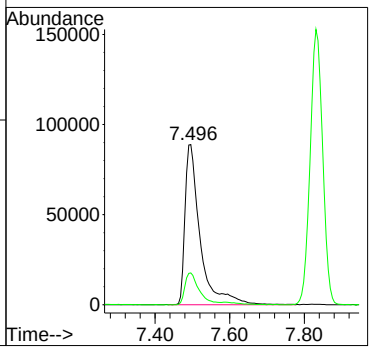


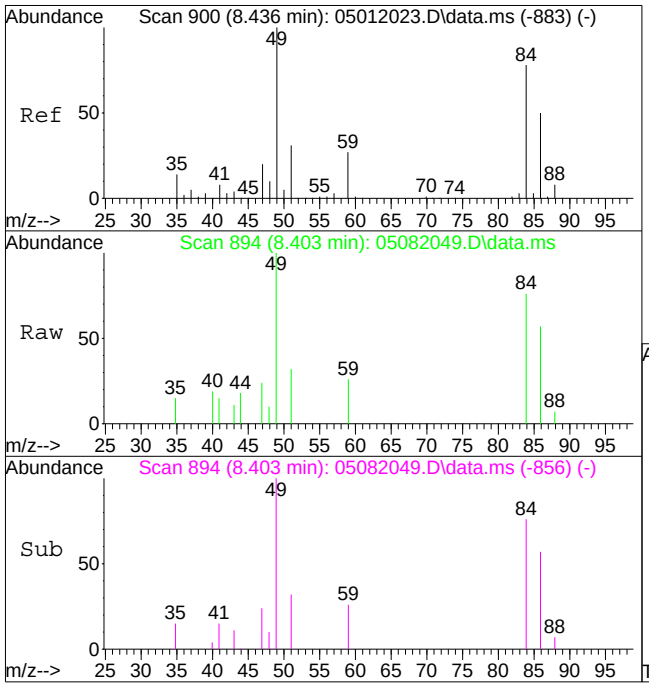


#15
2-Propanol (Isopropanol)
Concen: 3.51 ng
RT: 7.50 min Scan# 729
Delta R.T. -0.050 min
Lab File: 05082049.D
Acq: 9 May 2020 6:38

Tgt Ion: 45 Resp: 251181

Ion	Ratio	Lower	Upper
45	100		
43	20.6	0.0	39.5

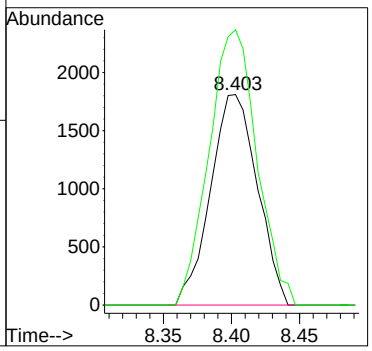


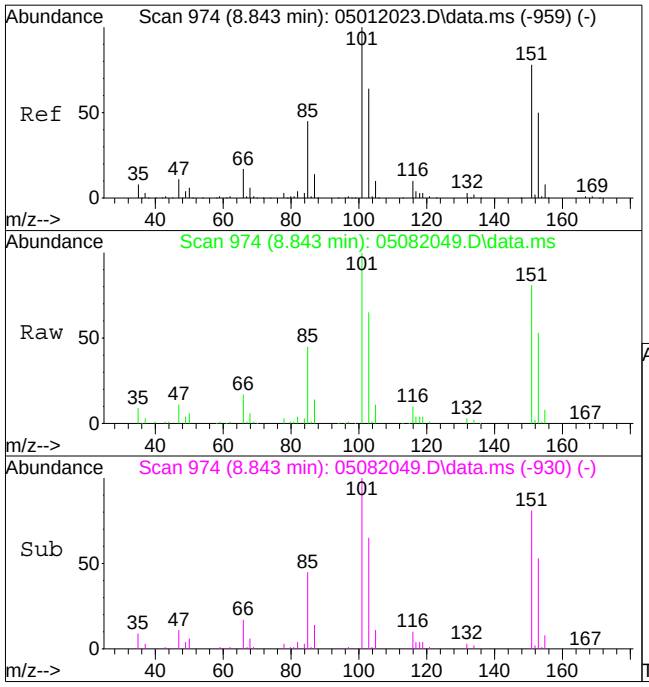


#19
Methylene Chloride
Concen: 0.14 ng
RT: 8.40 min Scan# 894
Delta R.T. -0.039 min
Lab File: 05082049.D
Acq: 9 May 2020 6:38

Tgt Ion: 84 Resp: 4328

Ion	Ratio	Lower	Upper
84	100		
49	134.2	104.8	154.8

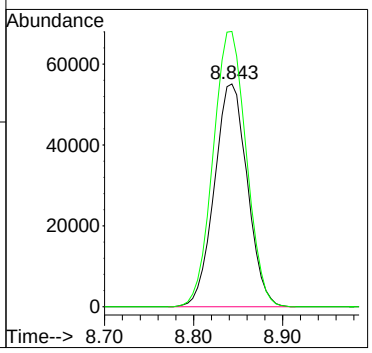


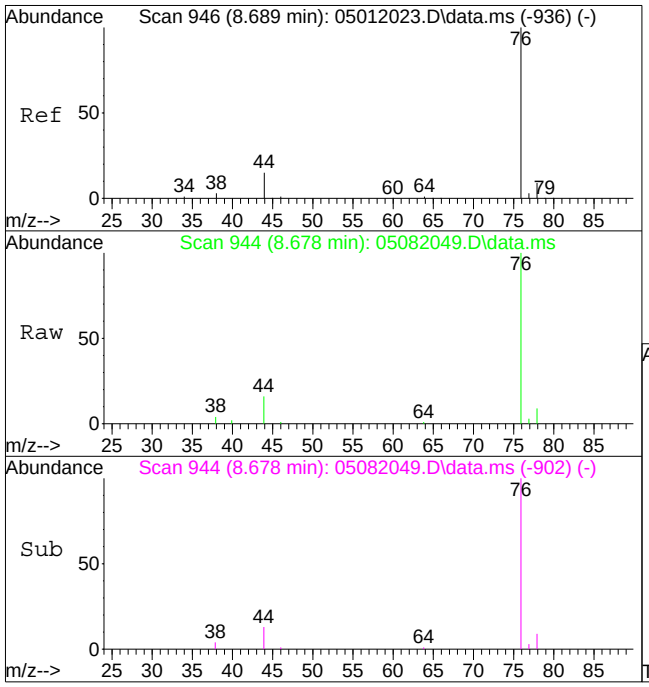


#21
Trichlorotrifluoroethane
Concen: 5.67 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05082049.D
Acq: 9 May 2020 6:38

Tgt Ion:151 Resp: 141733

Ion	Ratio	Lower	Upper
151	100		
101	124.5	107.3	147.3

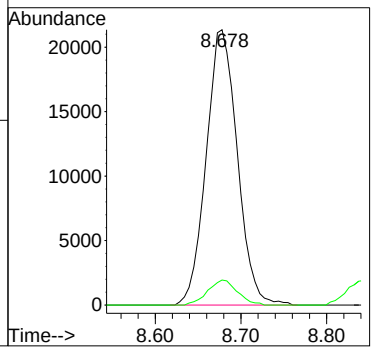


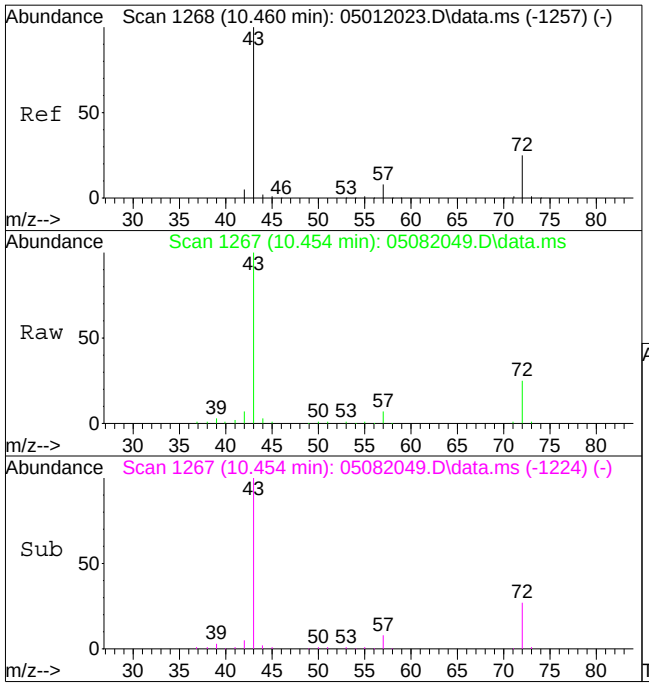


#22
Carbon Disulfide
Concen: 0.49 ng
RT: 8.68 min Scan# 944
Delta R.T. -0.017 min
Lab File: 05082049.D
Acq: 9 May 2020 6:38

Tgt Ion: 76 Resp: 53863

Ion	Ratio	Lower	Upper
76	100		
78	8.6	0.0	29.2

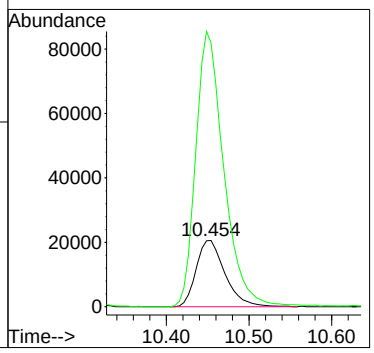


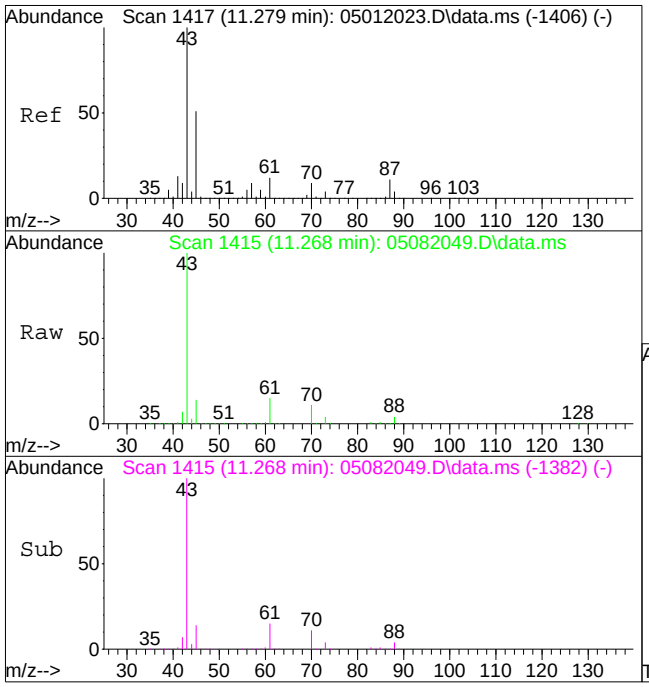


#27
2-Butanone (MEK)
Concen: 2.47 ng
RT: 10.45 min Scan# 1267
Delta R.T. -0.011 min
Lab File: 05082049.D
Acq: 9 May 2020 6:38

Tgt Ion: 72 Resp: 49914

Ion	Ratio	Lower	Upper
72	100		
43	406.6	389.7	429.7

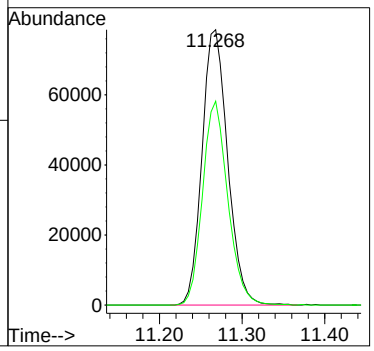


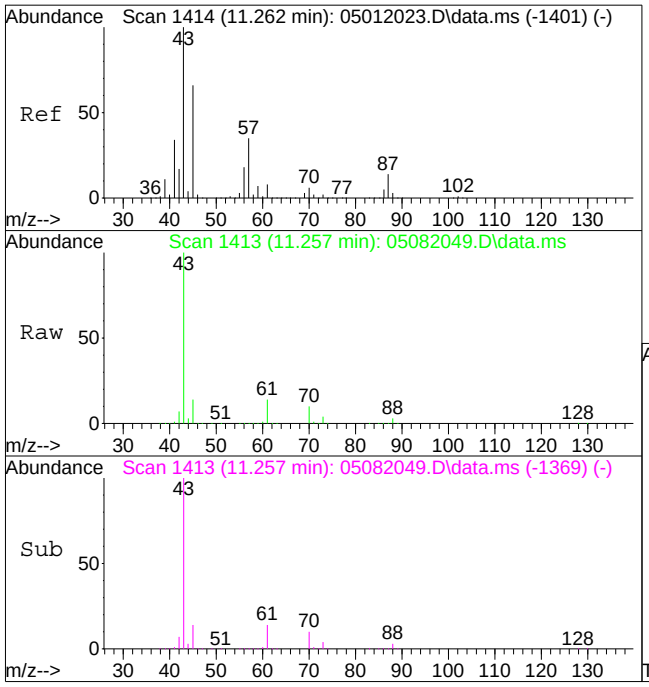


#30
Ethyl Acetate
Concen: 14.56 ng
RT: 11.27 min Scan# 1415
Delta R.T. -0.017 min
Lab File: 05082049.D
Acq: 9 May 2020 6:38

Tgt Ion: 61 Resp: 169505

Ion	Ratio	Lower	Upper
61	100		
70	72.9	57.9	97.9

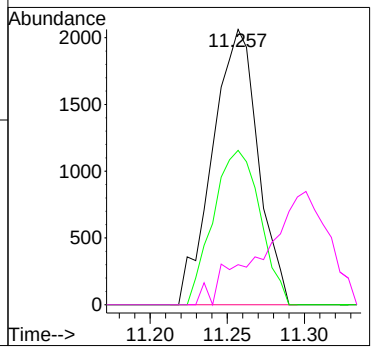


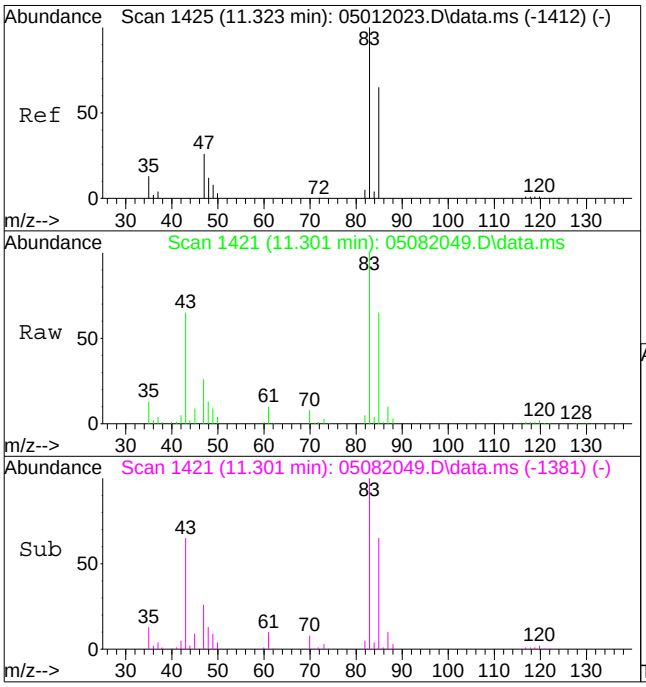


#31
n-Hexane
Concen: 0.08 ng
RT: 11.26 min Scan# 1413
Delta R.T. -0.006 min
Lab File: 05082049.D
Acq: 9 May 2020 6:38

Tgt Ion: 57 Resp: 4237

Ion	Ratio	Lower	Upper
57	100		
56	57.8	41.4	62.0
86	59.4	12.4	18.6#

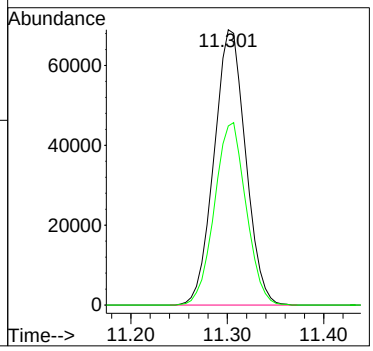


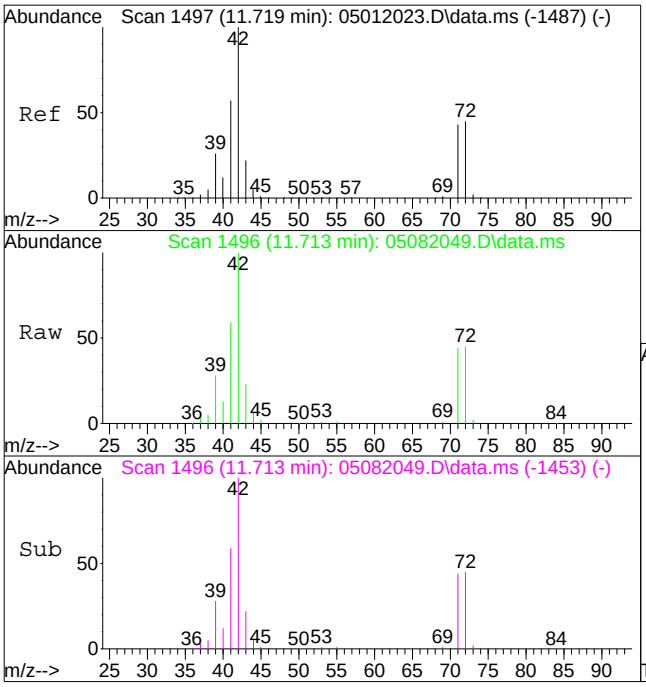


#32
Chloroform
Concen: 2.98 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.028 min
Lab File: 05082049.D
Acq: 9 May 2020 6:38

Tgt Ion: 83 Resp: 156854

Ion	Ratio	Lower	Upper
83	100		
85	66.1	45.5	85.5

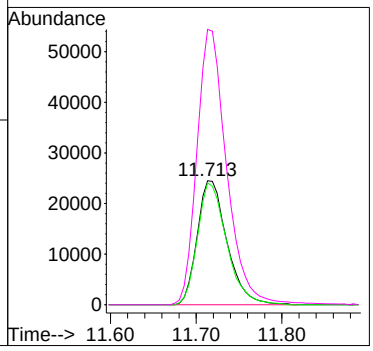


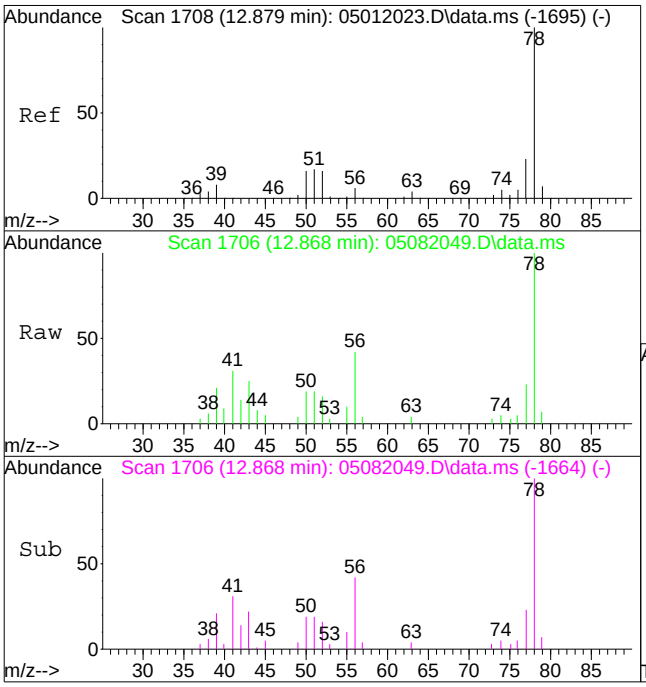


#34
Tetrahydrofuran (THF)
Concen: 3.01 ng
RT: 11.71 min Scan# 1496
Delta R.T. -0.011 min
Lab File: 05082049.D
Acq: 9 May 2020 6:38

Tgt Ion: 72 Resp: 59247

Ion	Ratio	Lower	Upper
72	100		
71	96.2	77.0	117.0
42	221.9	204.6	244.6

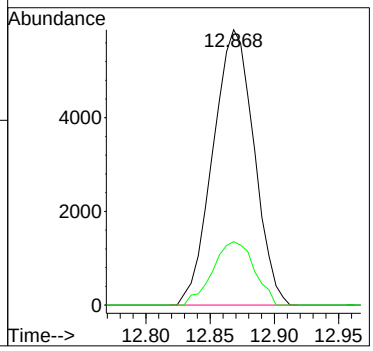


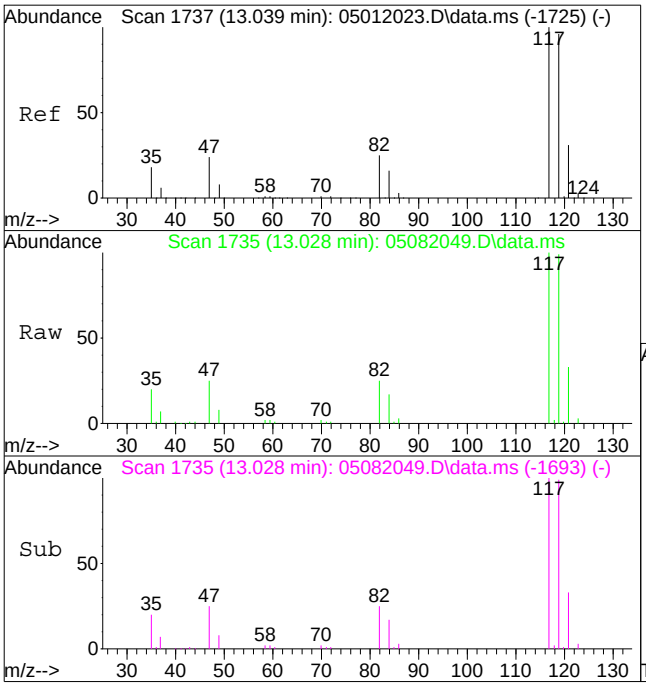


#41
Benzene
Concen: 0.11 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05082049.D
Acq: 9 May 2020 6:38

Tgt Ion: 78 Resp: 13075

Ion	Ratio	Lower	Upper
78	100		
77	23.3	3.4	43.4

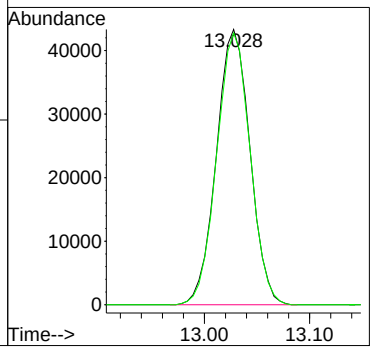


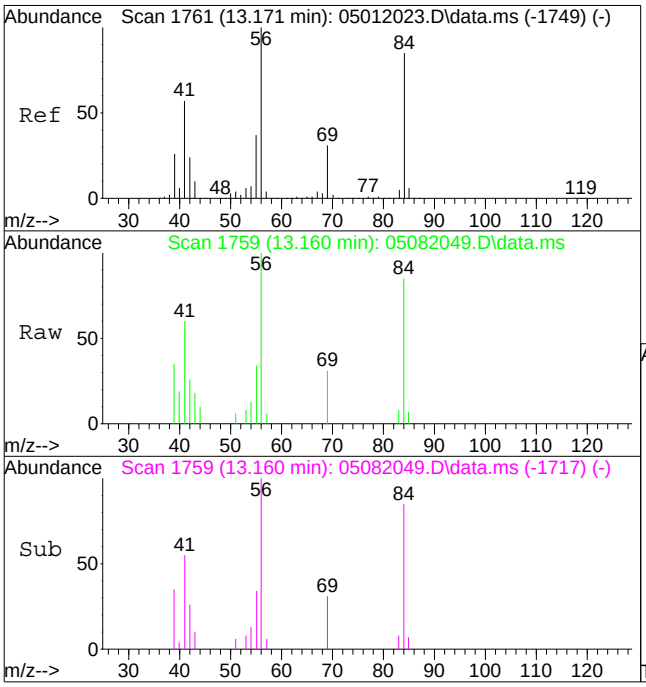


#42
Carbon Tetrachloride
Concen: 2.36 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05082049.D
Acq: 9 May 2020 6:38

Tgt Ion:117 Resp: 96334

Ion	Ratio	Lower	Upper
117	100		
119	98.0	76.2	116.2

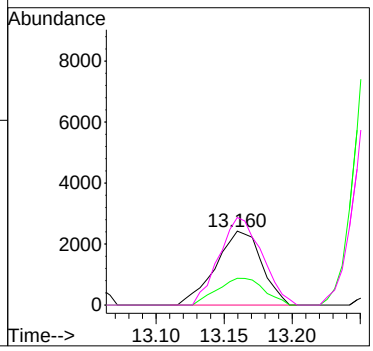


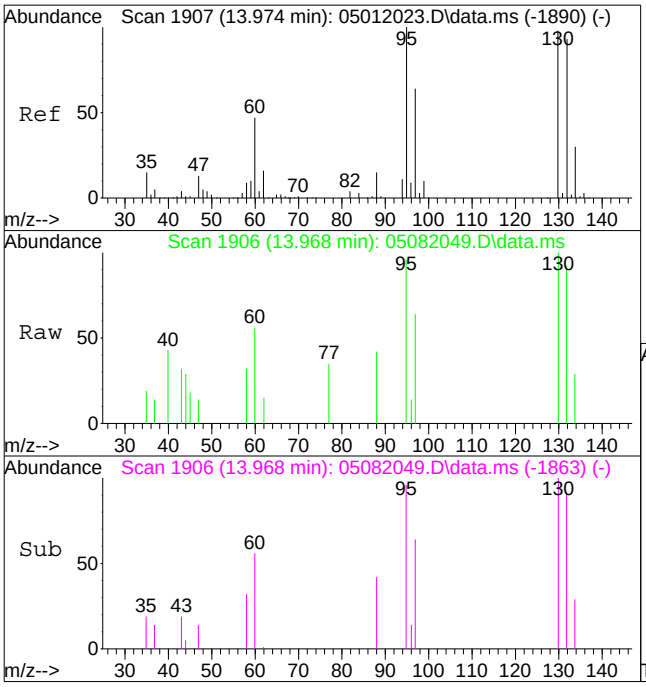


#43
Cyclohexane
Concen: 0.13 ng
RT: 13.16 min Scan# 1759
Delta R.T. -0.017 min
Lab File: 05082049.D
Acq: 9 May 2020 6:38

Tgt Ion: 84 Resp: 5678

Ion	Ratio	Lower	Upper
84	100		
69	36.9	16.5	56.5
56	110.4	97.4	137.4

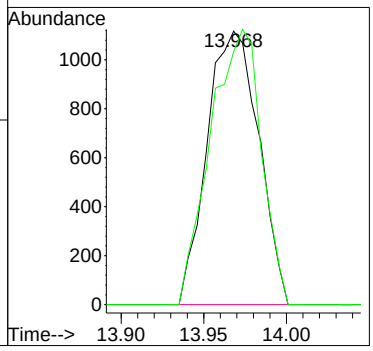


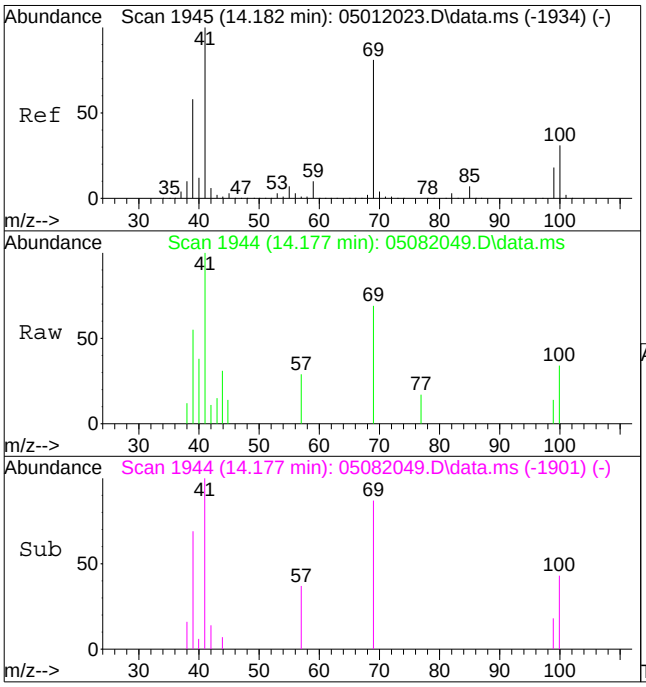


#47
Trichloroethene
Concen: 0.08 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05082049.D
Acq: 9 May 2020 6:38

Tgt Ion:130 Resp: 2428

Ion	Ratio	Lower	Upper
130	100		
132	99.2	74.9	114.9

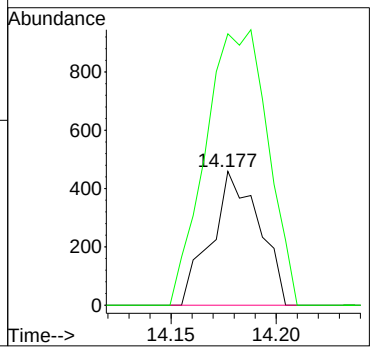


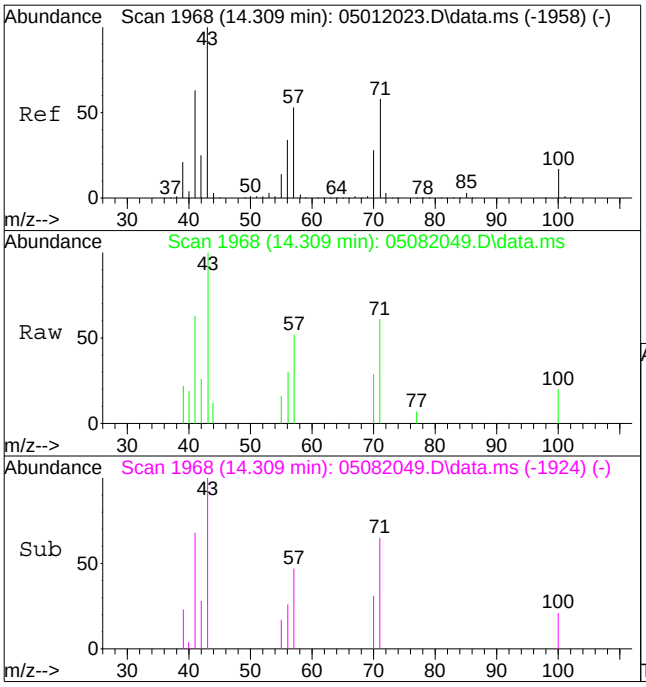


#50
Methyl Methacrylate
Concen: 0.06 ng
RT: 14.18 min Scan# 1944
Delta R.T. -0.011 min
Lab File: 05082049.D
Acq: 9 May 2020 6:38

Tgt Ion:100 Resp: 726

Ion	Ratio	Lower	Upper
100	100		
69	268.0	241.8	281.8

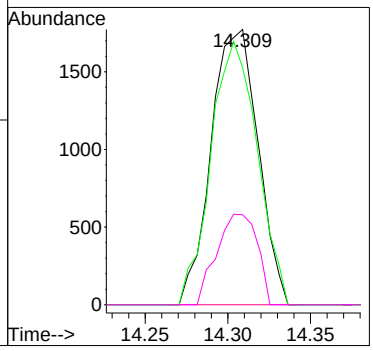


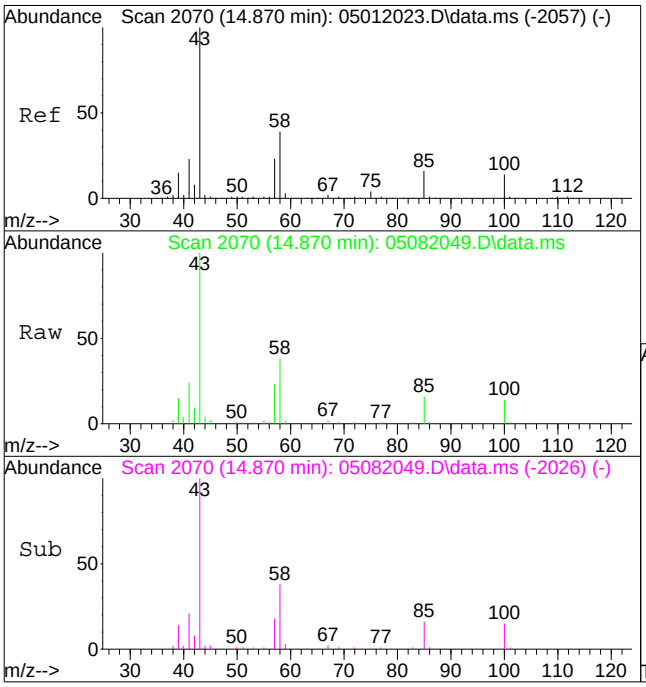


#51
n-Heptane
Concen: 0.12 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05082049.D
Acq: 9 May 2020 6:38

Tgt Ion: 71 Resp: 3503

Ion	Ratio	Lower	Upper
71	100		
57	94.8	71.0	111.0
100	28.3	8.4	48.4

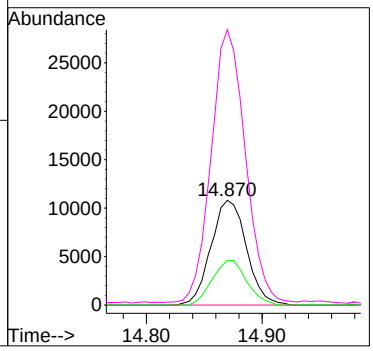


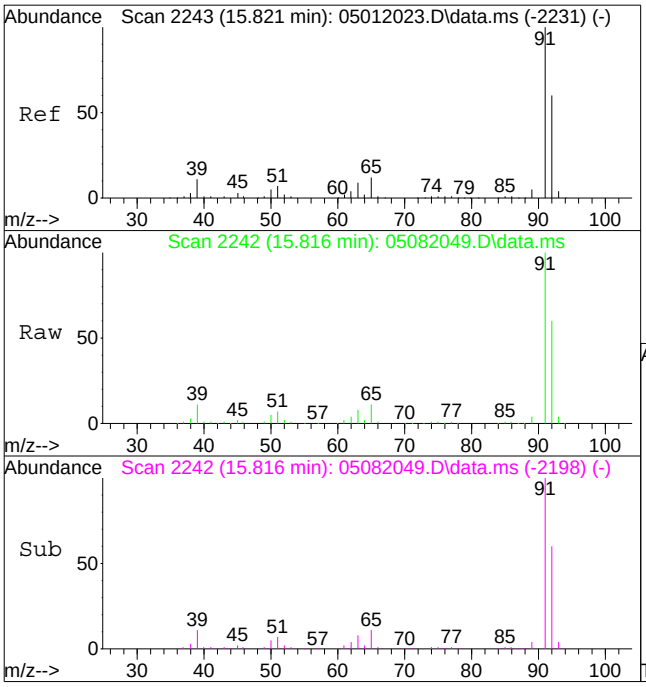


#53
4-Methyl-2-pentanone
Concen: 0.86 ng
RT: 14.87 min Scan# 2070
Delta R.T. -0.006 min
Lab File: 05082049.D
Acq: 9 May 2020 6:38

Tgt Ion: 58 Resp: 23050

Ion	Ratio	Lower	Upper
58	100		
85	41.3	35.4	53.2
43	251.6	203.3	304.9

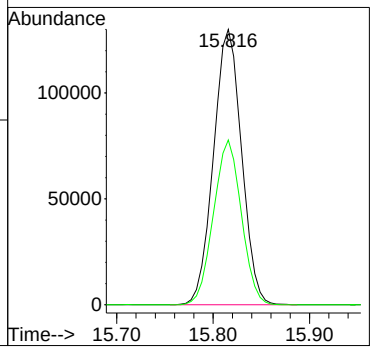


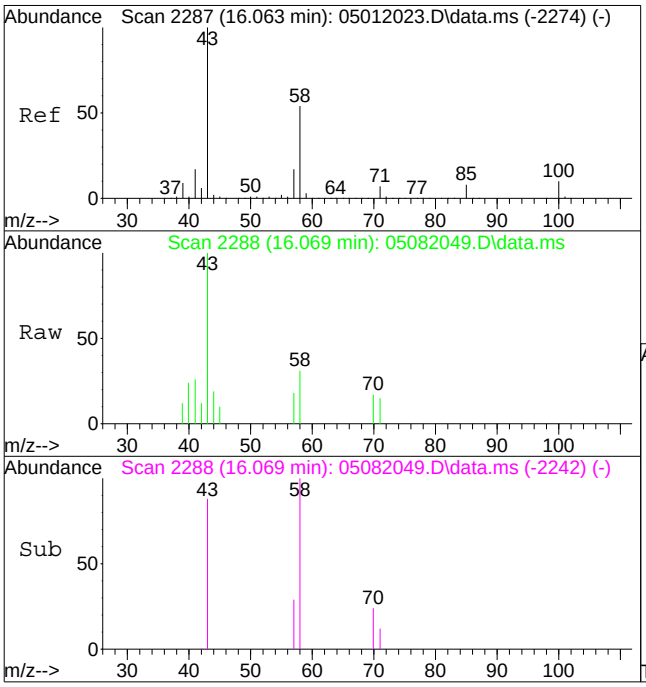


#58
Toluene
Concen: 2.34 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05082049.D
Acq: 9 May 2020 6:38

Tgt Ion: 91 Resp: 263352

Ion	Ratio	Lower	Upper
91	100		
92	59.2	39.4	79.4

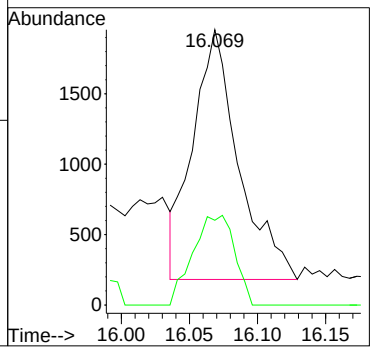


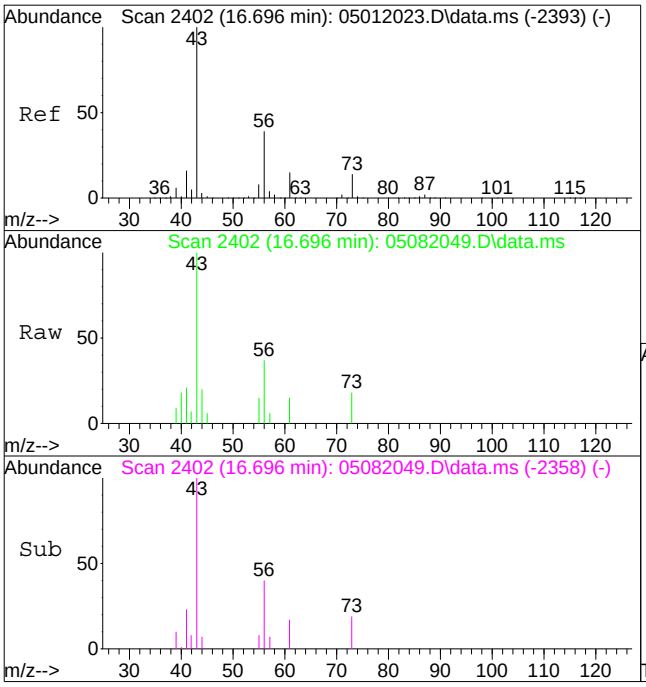


#59
2-Hexanone
Concen: 0.07 ng
RT: 16.07 min Scan# 2288
Delta R.T. 0.005 min
Lab File: 05082049.D
Acq: 9 May 2020 6:38

Tgt Ion: 43 Resp: 4182

Ion	Ratio	Lower	Upper
43	100		
58	32.4	34.5	74.5#

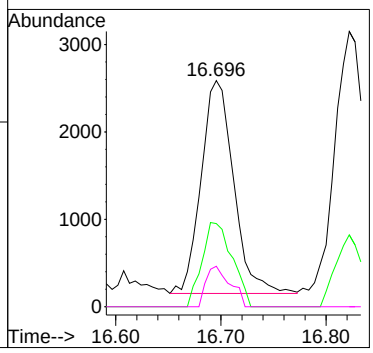


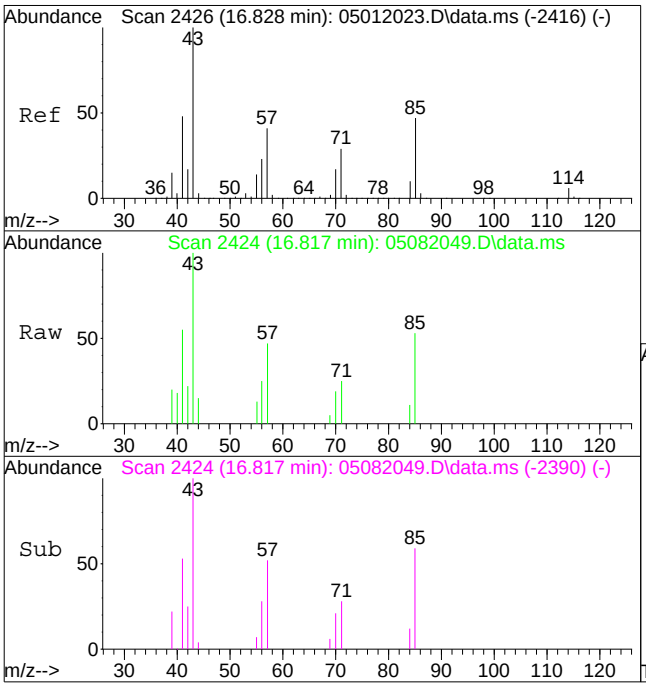


#62
n-Butyl Acetate
Concen: 0.08 ng
RT: 16.70 min Scan# 2402
Delta R.T. -0.006 min
Lab File: 05082049.D
Acq: 9 May 2020 6:38

Tgt Ion: 43 Resp: 5270

Ion	Ratio	Lower	Upper
43	100		
56	36.5	19.2	59.2
73	14.0	0.0	34.4

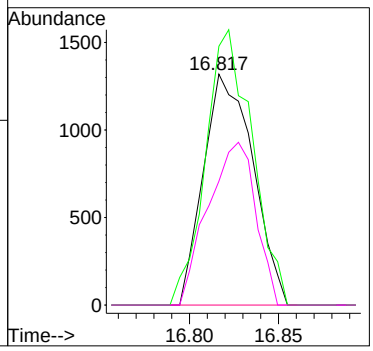


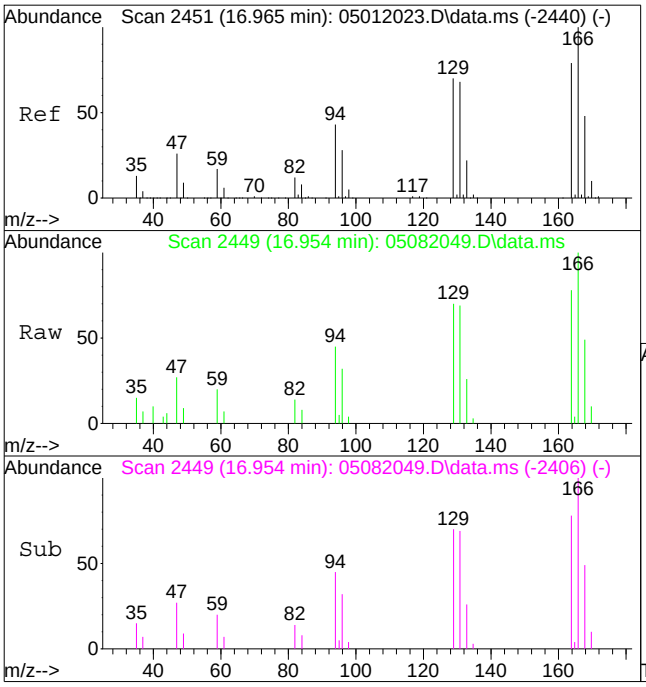


#63
n-Octane
Concen: 0.11 ng
RT: 16.82 min Scan# 2424
Delta R.T. -0.011 min
Lab File: 05082049.D
Acq: 9 May 2020 6:38

Tgt Ion: 57 Resp: 2548

Ion	Ratio	Lower	Upper
57	100		
85	112.3	91.0	136.4
71	67.9	56.2	84.2

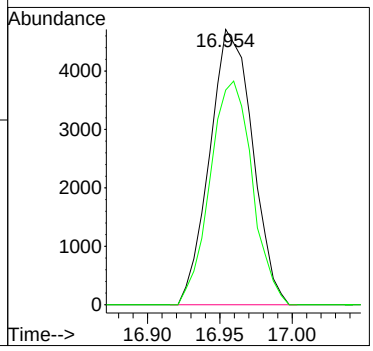


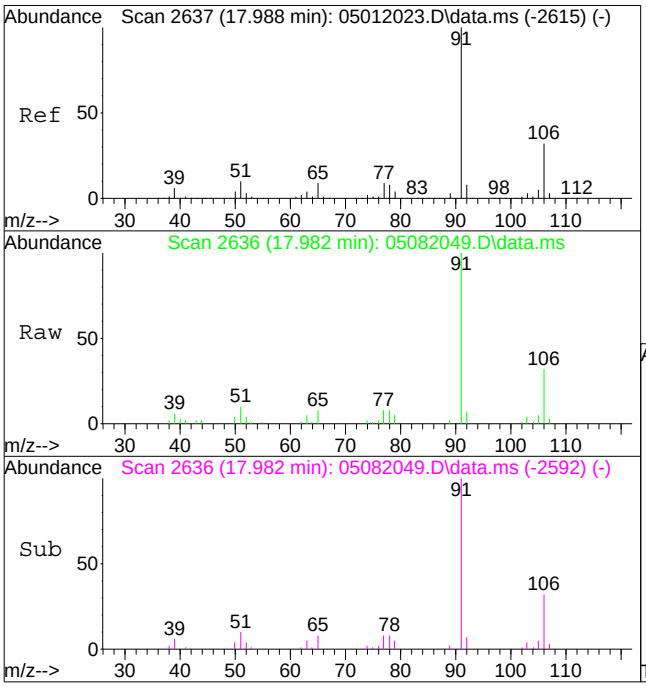


#64
Tetrachloroethene
Concen: 0.31 ng
RT: 16.95 min Scan# 2449
Delta R.T. -0.011 min
Lab File: 05082049.D
Acq: 9 May 2020 6:38

Tgt Ion:166 Resp: 9743

Ion	Ratio	Lower	Upper
166	100		
164	79.8	58.4	98.4

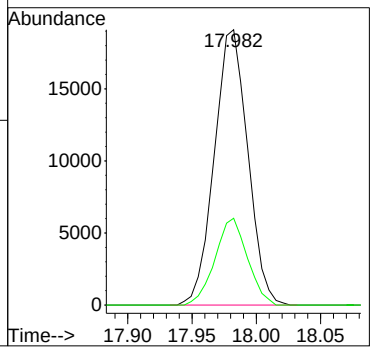


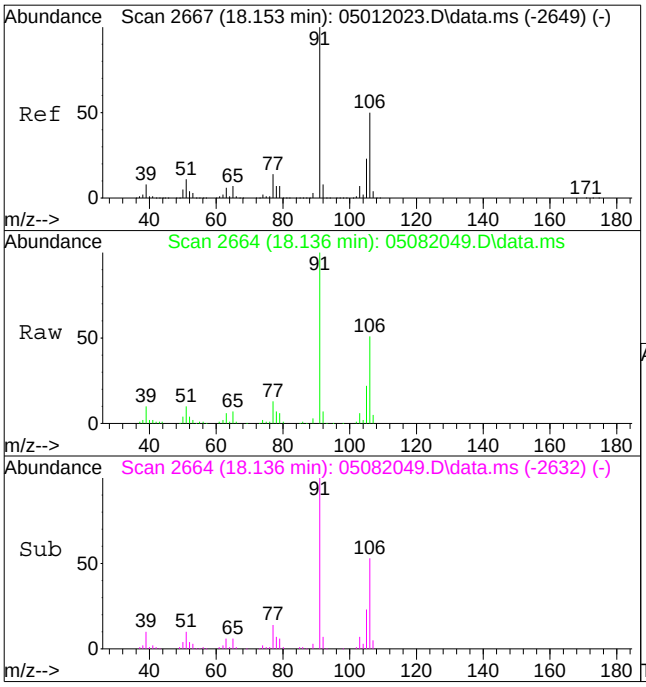


#66
Ethylbenzene
Concen: 0.28 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05082049.D
Acq: 9 May 2020 6:38

Tgt Ion: 91 Resp: 34581

Ion	Ratio	Lower	Upper
91	100		
106	30.5	11.6	51.6

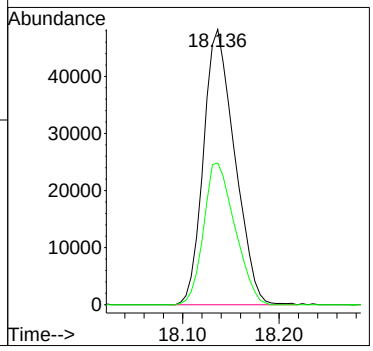


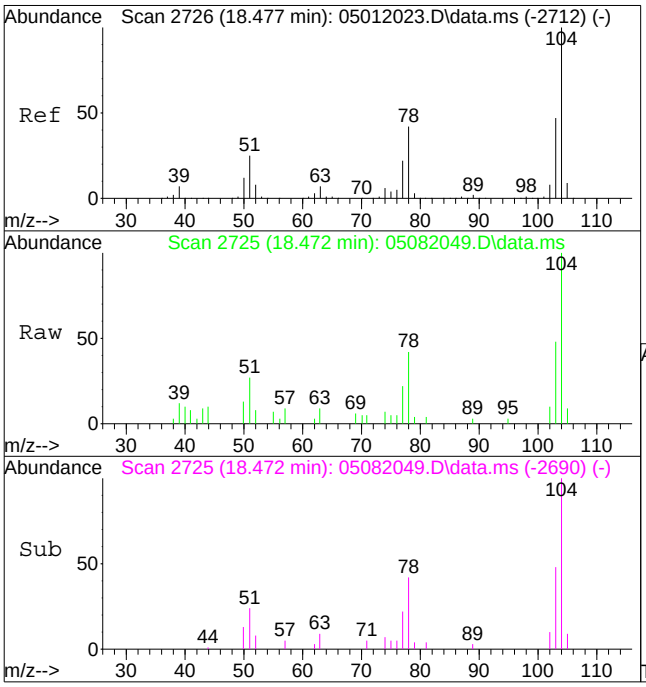


#67
m- & p-Xylenes
Concen: 1.09 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05082049.D
Acq: 9 May 2020 6:38

Tgt Ion: 91 Resp: 108530

Ion	Ratio	Lower	Upper
91	100		
106	51.5	29.7	69.7

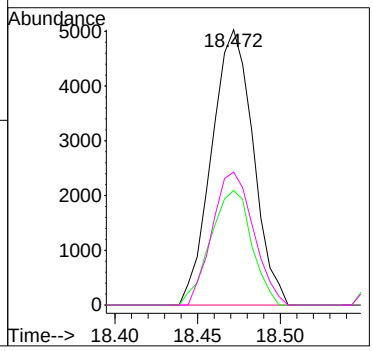


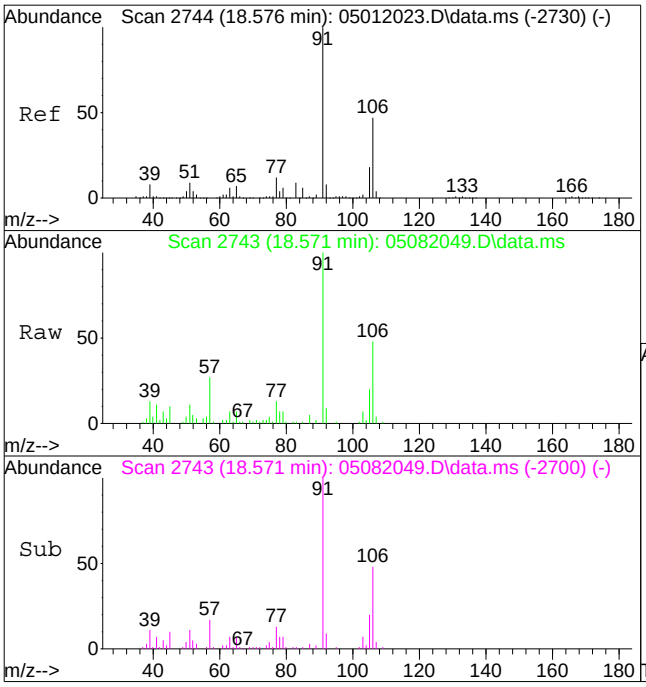


#69
Styrene
Concen: 0.12 ng
RT: 18.47 min Scan# 2725
Delta R.T. -0.006 min
Lab File: 05082049.D
Acq: 9 May 2020 6:38

Tgt Ion:104 Resp: 8778

Ion	Ratio	Lower	Upper
104	100		
78	41.3	22.5	62.5
103	48.0	27.0	67.0

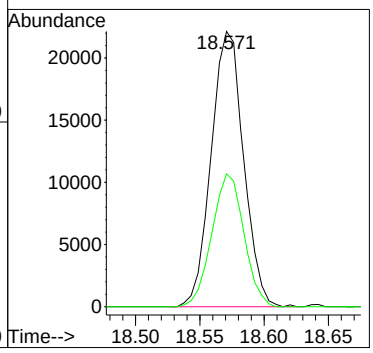


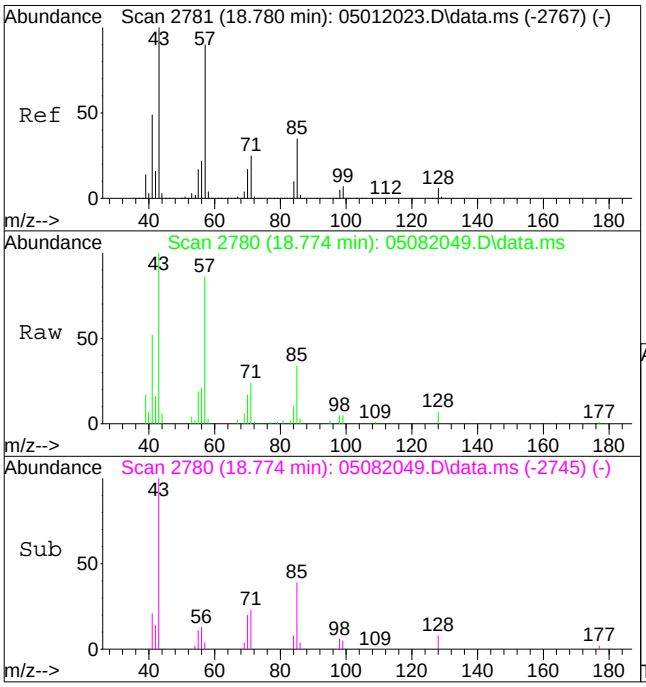


#70
o-Xylene
Concen: 0.38 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05082049.D
Acq: 9 May 2020 6:38

Tgt Ion: 91 Resp: 38808

Ion	Ratio	Lower	Upper
91	100		
106	47.6	27.5	67.5

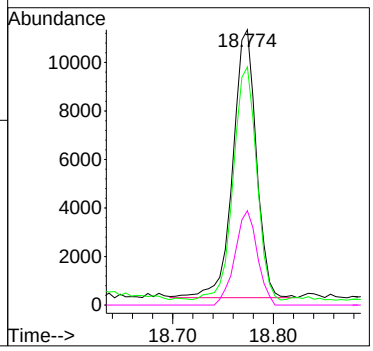


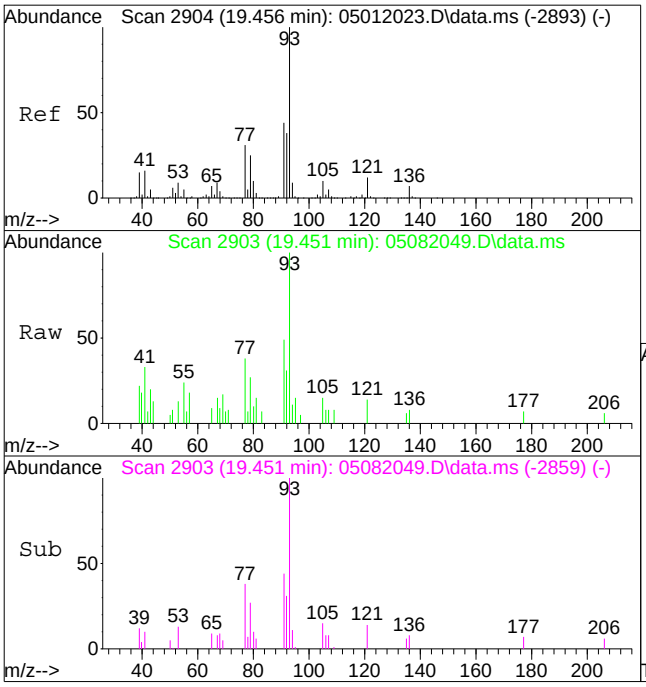


#71
n-Nonane
Concen: 0.33 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05082049.D
Acq: 9 May 2020 6:38

Tgt Ion: 43 Resp: 17884

Ion	Ratio	Lower	Upper
43	100		
57	86.6	69.0	109.0
85	33.5	14.6	54.6

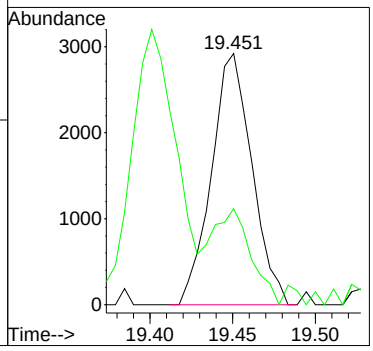


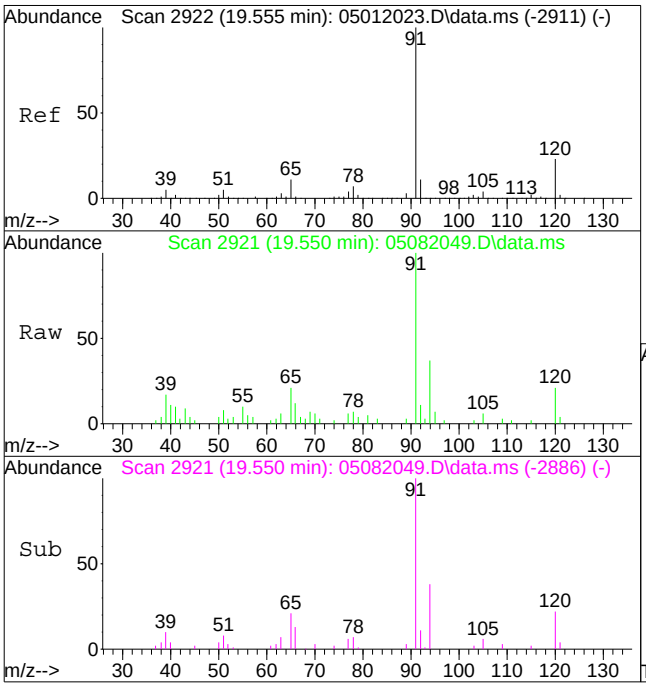


#75
alpha-Pinene
Concen: 0.08 ng
RT: 19.45 min Scan# 2903
Delta R.T. -0.006 min
Lab File: 05082049.D
Acq: 9 May 2020 6:38

Tgt Ion: 93 Resp: 4988

Ion	Ratio	Lower	Upper
93	100		
77	33.1	11.2	51.2

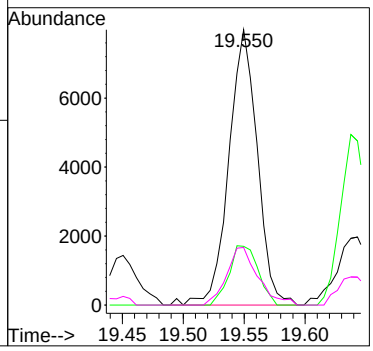


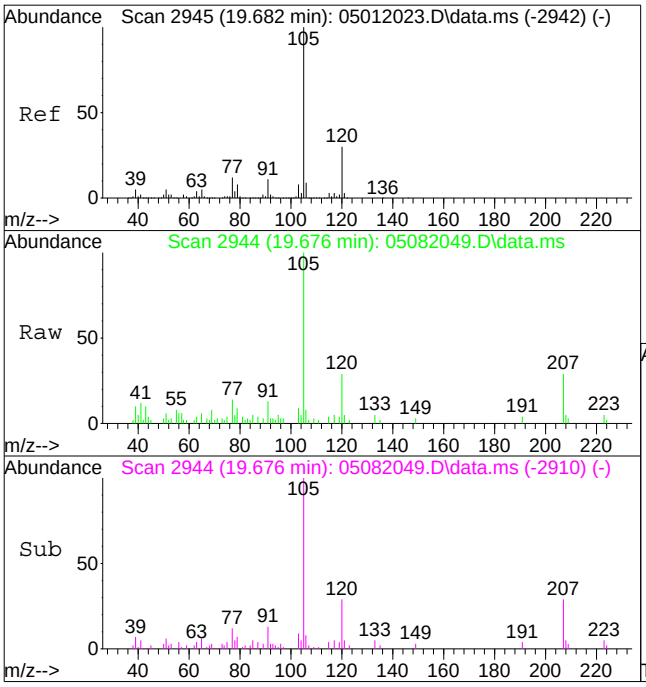


#76
n-Propylbenzene
Concen: 0.09 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05082049.D
Acq: 9 May 2020 6:38

Tgt Ion: 91 Resp: 13024

Ion	Ratio	Lower	Upper
91	100		
120	21.9	3.1	43.1
65	22.9	0.0	30.9

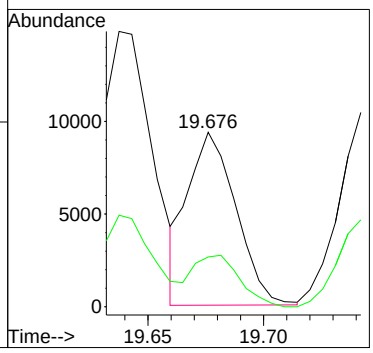


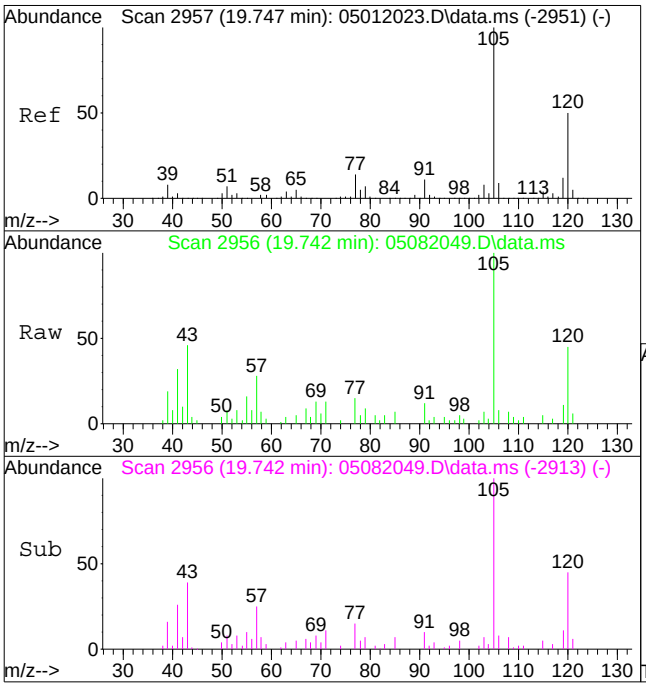


#78
4-Ethyltoluene
Concen: 0.12 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05082049.D
Acq: 9 May 2020 6:38

Tgt Ion:105 Resp: 13587

Ion	Ratio	Lower	Upper
105	100		
120	27.9	10.4	50.4

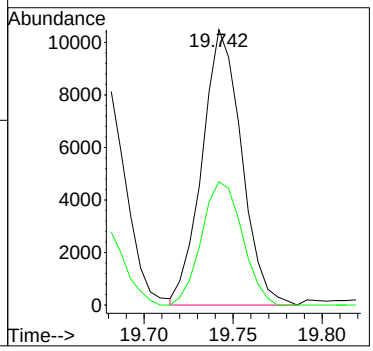


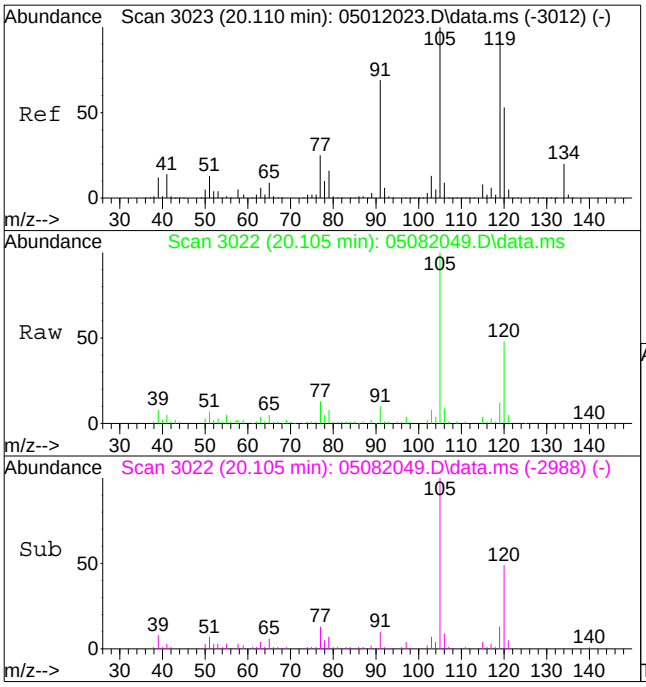


#79
1,3,5-Trimethylbenzene
Concen: 0.16 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05082049.D
Acq: 9 May 2020 6:38

Tgt Ion:105 Resp: 16188

Ion	Ratio	Lower	Upper
105	100		
120	46.1	29.9	69.9

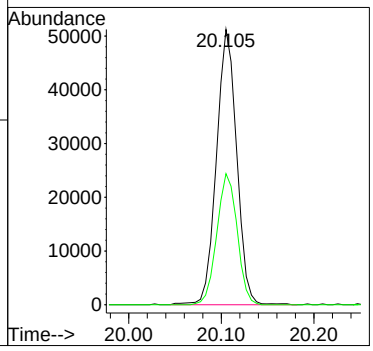


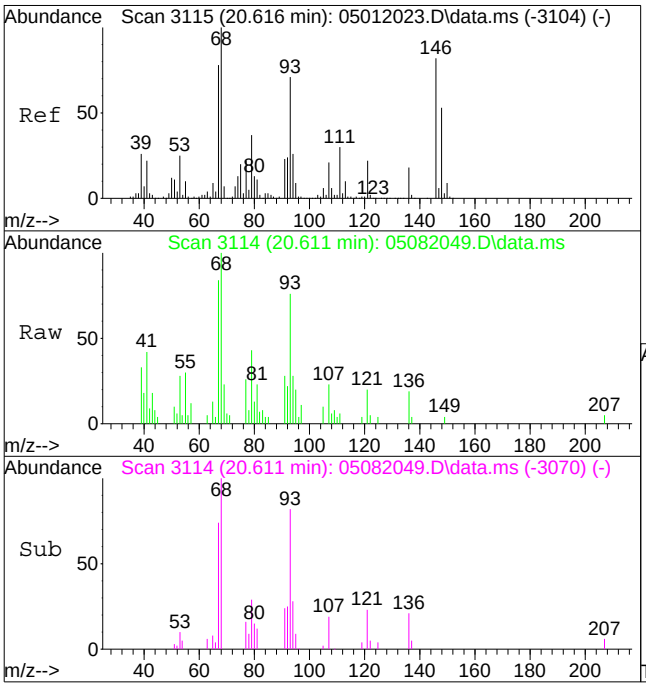


#82
1,2,4-Trimethylbenzene
Concen: 0.77 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05082049.D
Acq: 9 May 2020 6:38

Tgt Ion:105 Resp: 77806

Ion	Ratio	Lower	Upper
105	100		
120	47.8	33.6	73.6

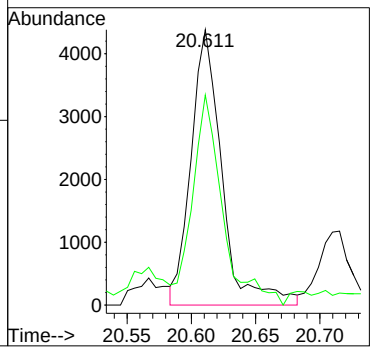


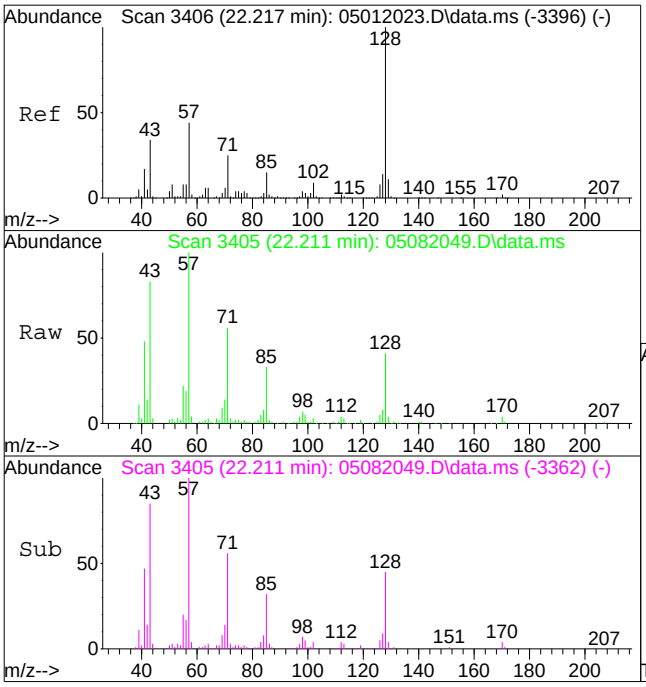


#91
d-Limonene
Concen: 0.18 ng
RT: 20.61 min Scan# 3114
Delta R.T. -0.006 min
Lab File: 05082049.D
Acq: 9 May 2020 6:38

Tgt Ion: 68 Resp: 7336

Ion	Ratio	Lower	Upper
68	100		
93	74.0	51.1	91.1

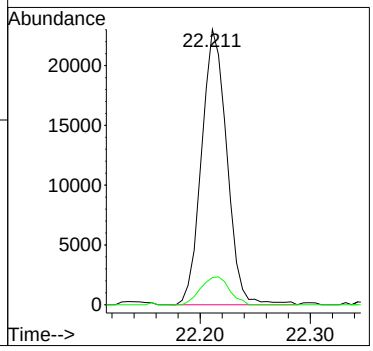




#95
Naphthalene
Concen: 0.30 ng
RT: 22.21 min Scan# 3405
Delta R.T. -0.011 min
Lab File: 05082049.D
Acq: 9 May 2020 6:38

Tgt Ion:128 Resp: 36629

Ion	Ratio	Lower	Upper
128	100		
129	11.5	0.0	31.0



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082050.D Vial: 6
Acq On : 9 May 2020 7:12 Operator: LH
Sample : P2002299-010 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 18:39:04 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/11/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	263744	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1130602	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	516849	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	415284	11.619	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.96%				
57) Toluene-d8 (SS2)	15.72	98	1098649	12.541	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.32%				
73) Bromofluorobenzene (SS3)	18.97	174	428465	13.592	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.72%				
Target Compounds							Qvalue
2) Propene	4.10	42	9084	0.297	ng		98
3) Dichlorodifluoromethan...	4.26	85	106201	1.778	ng		99
4) Chloromethane	4.52	50	12505	0.267	ng		96
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	1110	N.D.			
6) Vinyl Chloride	4.96	62	409	N.D.			
7) 1,3-Butadiene	5.22	54	573	N.D.			
8) Bromomethane	5.64	94	5144	0.190	ng		100
9) Chloroethane	5.97	64	946	N.D.			
10) Ethanol	6.33	45	211667	8.974	ng		99
11) Acetonitrile	6.59	41	6401	0.119	ng		89
12) Acrolein	6.77	56	15948	0.856	ng		99
13) Acetone	6.98	58	145095m	6.151	ng		
14) Trichlorofluoromethane	7.23	101	20923	0.396	ng		99
15) 2-Propanol (Isopropanol)	7.51	45	39273	0.550	ng		86
16) Acrylonitrile	7.75	53	248	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	5095	0.166	ng		98
20) 3-Chloro-1-propene (Al...	8.51	41	664	N.D.			
21) Trichlorotrifluoroethane	8.84	151	53924	2.163	ng		97
22) Carbon Disulfide	8.67	76	208464	1.897	ng		100
23) trans-1,2-Dichloroethene	9.45	61	120	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.08	73	1715	N.D.			
26) Vinyl Acetate	10.16	86	12047	1.640	ng	#	14
27) 2-Butanone (MEK)	10.45	72	27113	1.348	ng		99
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.27	61	77270	6.661	ng		93
31) n-Hexane	11.25	57	3995	0.079	ng		98
32) Chloroform	11.30	83	8907	0.170	ng		98
34) Tetrahydrofuran (THF)	11.72	72	49856	2.541	ng		99
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.00	62	117	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	28983	0.239	ng		100
42) Carbon Tetrachloride	13.03	117	22292	0.541	ng		98
43) Cyclohexane	13.16	84	3957	0.088	ng		94
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	13.92	83	165	N.D.			
47) Trichloroethene	13.96	130	2195	0.070	ng		96
48) 1,4-Dioxane	13.97	88	747	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082050.D Vial: 6
Acq On : 9 May 2020 7:12 Operator: LH
Sample : P2002299-010 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 18:39:04 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

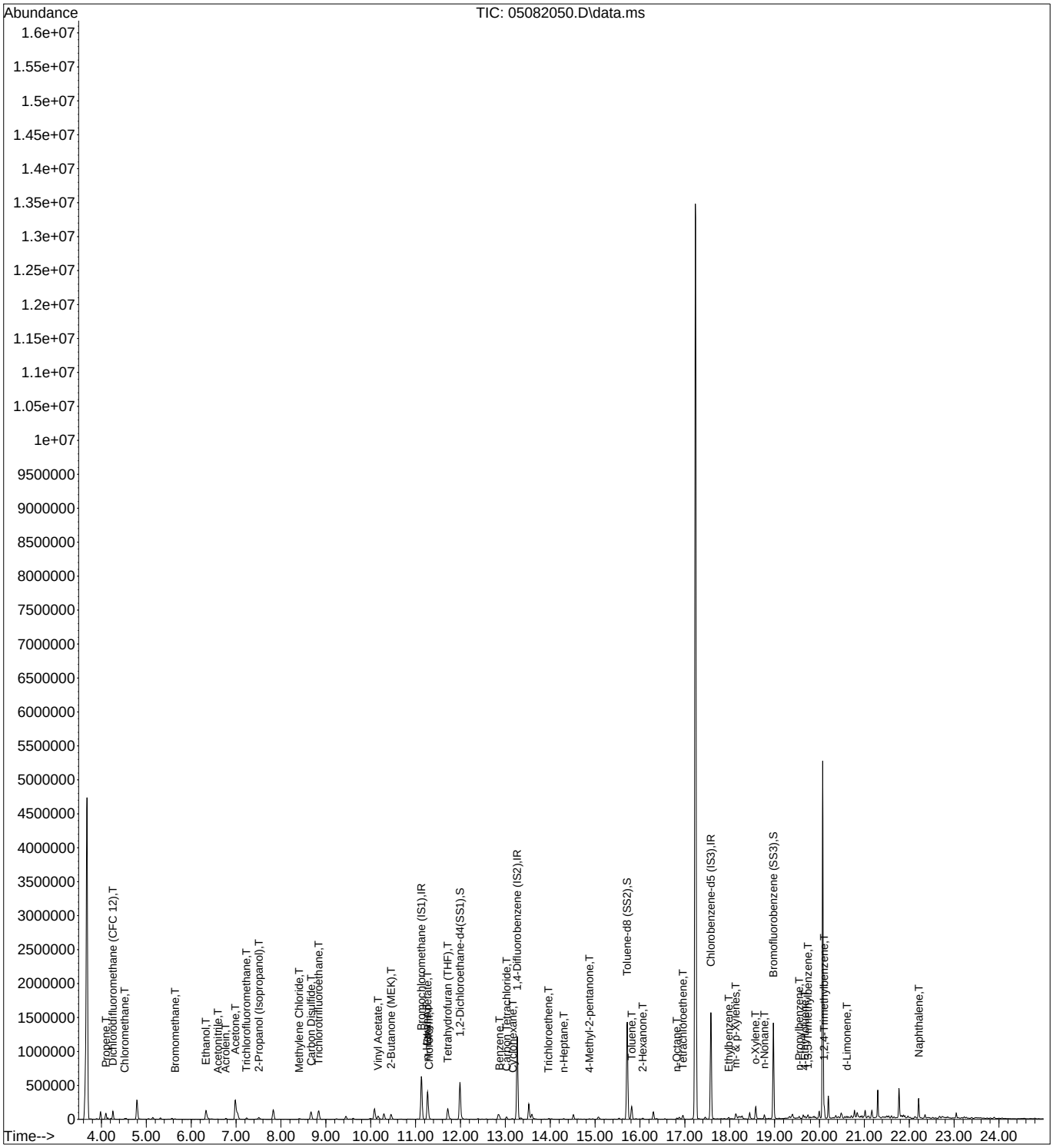
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.30	71	2306	0.081	ng		91
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
53) 4-Methyl-2-pentanone	14.88	58	1857	0.069	ng	#	62
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.			
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.			
58) Toluene	15.82	91	157895	1.398	ng		99
59) 2-Hexanone	16.06	43	13695	0.221	ng		91
60) Dibromochloromethane	0.00	129	0	N.D.			
61) 1,2-Dibromoethane	0.00	107	0	N.D.			
62) n-Butyl Acetate	16.70	43	1645	N.D.			
63) n-Octane	16.82	57	3108	0.133	ng		93
64) Tetrachloroethene	16.96	166	19287	0.605	ng		100
65) Chlorobenzene	17.63	112	120	N.D.			
66) Ethylbenzene	17.98	91	16644	0.132	ng		98
67) m- & p-Xylenes	18.14	91	55138	0.552	ng		99
68) Bromoform	0.00	173	0	N.D.			
69) Styrene	18.48	104	3191	N.D.			
70) o-Xylene	18.57	91	18580	0.183	ng		99
71) n-Nonane	18.77	43	21395	0.398	ng		98
72) 1,1,2,2-Tetrachloroethane	18.58	83	836	N.D.			
74) Cumene	19.10	105	3188	N.D.			
75) alpha-Pinene	19.45	93	2695	N.D.			
76) n-Propylbenzene	19.55	91	14507	0.098	ng		86
77) 3-Ethyltoluene	0.00	105	0	N.D.	d		
78) 4-Ethyltoluene	19.68	105	15076	0.129	ng		95
79) 1,3,5-Trimethylbenzene	19.74	105	17079	0.168	ng		96
80) alpha-Methylstyrene	0.00	118	0	N.D.	d		
81) 2-Ethyltoluene	0.00	105	0	N.D.	d		
82) 1,2,4-Trimethylbenzene	20.10	105	81947	0.803	ng		92
83) n-Decane	0.00	57	0	N.D.	d		
84) Benzyl Chloride	20.22	91	1220	N.D.			
85) 1,3-Dichlorobenzene	20.30	146	956	N.D.			
86) 1,4-Dichlorobenzene	20.30	146	956	N.D.			
87) sec-Butylbenzene	20.35	105	5199	N.D.			
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.	d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d		
90) 1,2-Dichlorobenzene	20.59	146	113	N.D.			
91) d-Limonene	20.61	68	6086	0.151	ng		92
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.			
93) n-Undecane	0.00	57	0	N.D.	d		
94) 1,2,4-Trichlorobenzene	22.11	180	182	N.D.			
95) Naphthalene	22.22	128	23862	0.192	ng		96
96) n-Dodecane	0.00	57	0	N.D.	d		
97) Hexachlorobutadiene	0.00	225	0	N.D.			
98) Cyclohexanone	0.00	55	0	N.D.	d		
99) tert-Butylbenzene	0.00	119	0	N.D.	d		
100) n-Butylbenzene	0.00	91	0	N.D.	d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082050.D Vial: 6
Acq On : 9 May 2020 7:12 Operator: LH
Sample : P2002299-010 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 18:39:04 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

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Acq On : 9 May 2020 7:12 Operator: LH
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Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/11/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	263744	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1130602	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	516849	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	415284	11.619	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.96%				
57) Toluene-d8 (SS2)	15.72	98	1098649	12.541	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.32%				
73) Bromofluorobenzene (SS3)	18.97	174	428465	13.592	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.72%				
Target Compounds							Qvalue
2) Propene	4.10	42	9084	0.297	ng		98
3) Dichlorodifluoromethan...	4.26	85	106201	1.778	ng		99
4) Chloromethane	4.52	50	12505	0.267	ng		96
8) Bromomethane	5.64	94	5144	0.190	ng		100
10) Ethanol	6.33	45	211667	8.974	ng		99
11) Acetonitrile	6.59	41	6401	0.119	ng		89
12) Acrolein	6.77	56	15948	0.856	ng		99
13) Acetone	6.98	58	145095m	6.151	ng		
14) Trichlorofluoromethane	7.23	101	20923	0.396	ng		99
15) 2-Propanol (Isopropanol)	7.51	45	39273	0.550	ng		86
19) Methylene Chloride	8.40	84	5095	0.166	ng		98
21) Trichlorotrifluoroethane	8.84	151	53924	2.163	ng		97
22) Carbon Disulfide	8.67	76	208464	1.897	ng		100
26) Vinyl Acetate	10.16	86	12047	1.640	ng	#	14
27) 2-Butanone (MEK)	10.45	72	27113	1.348	ng		99
30) Ethyl Acetate	11.27	61	77270	6.661	ng		93
31) n-Hexane	11.25	57	3995	0.079	ng		98
32) Chloroform	11.30	83	8907	0.170	ng		98
34) Tetrahydrofuran (THF)	11.72	72	49856	2.541	ng		99
41) Benzene	12.87	78	28983	0.239	ng		100
42) Carbon Tetrachloride	13.03	117	22292	0.541	ng		98
43) Cyclohexane	13.16	84	3957	0.088	ng		94
47) Trichloroethene	13.96	130	2195	0.070	ng		96
51) n-Heptane	14.30	71	2306	0.081	ng		91
53) 4-Methyl-2-pentanone	14.88	58	1857	0.069	ng	#	62
58) Toluene	15.82	91	157895	1.398	ng		99
59) 2-Hexanone	16.06	43	13695	0.221	ng		91
63) n-Octane	16.82	57	3108	0.133	ng		93
64) Tetrachloroethene	16.96	166	19287	0.605	ng		100
66) Ethylbenzene	17.98	91	16644	0.132	ng		98
67) m- & p-Xylenes	18.14	91	55138	0.552	ng		99
70) o-Xylene	18.57	91	18580	0.183	ng		99
71) n-Nonane	18.77	43	21395	0.398	ng		98
76) n-Propylbenzene	19.55	91	14507	0.098	ng		86
78) 4-Ethyltoluene	19.68	105	15076	0.129	ng		95
79) 1,3,5-Trimethylbenzene	19.74	105	17079	0.168	ng		96
82) 1,2,4-Trimethylbenzene	20.10	105	81947	0.803	ng		92
91) d-Limonene	20.61	68	6086	0.151	ng		92
95) Naphthalene	22.22	128	23862	0.192	ng		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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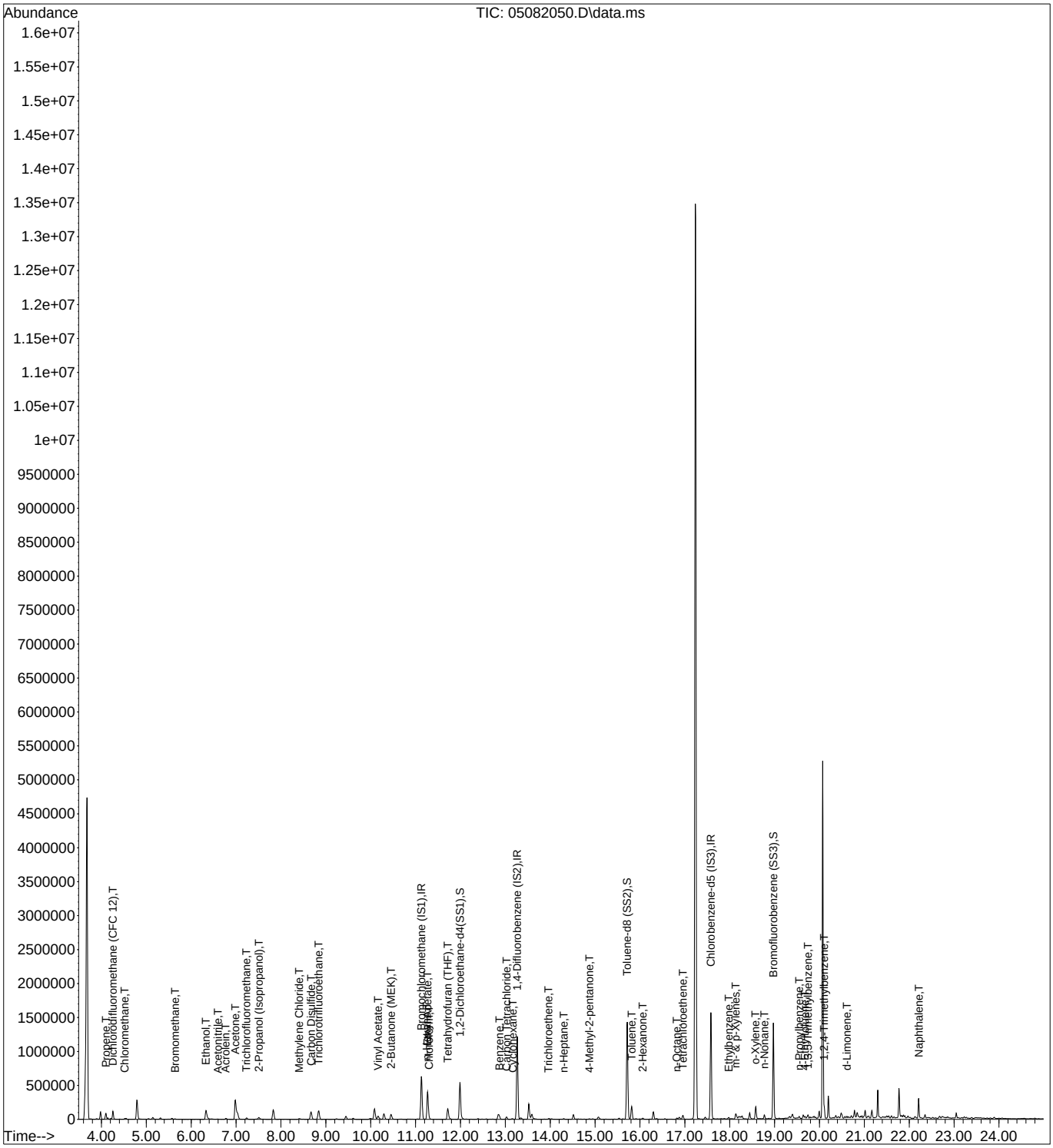
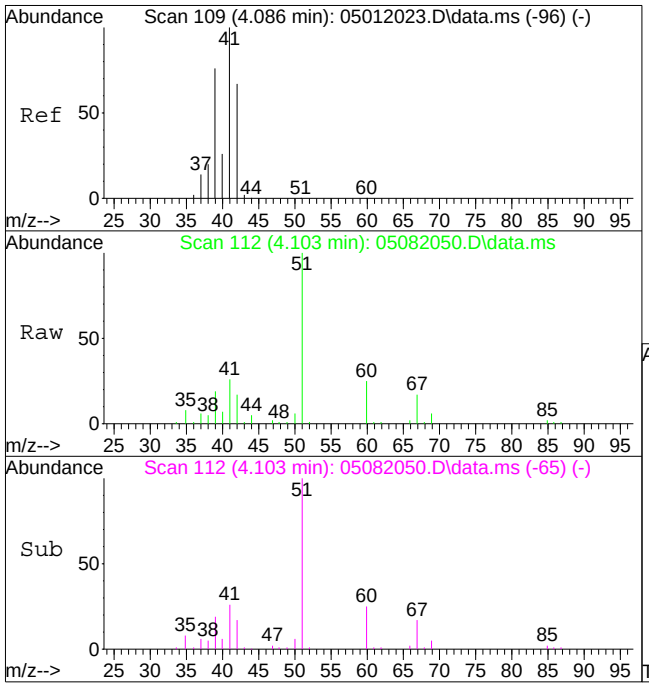
DataAcq Meth:TO15.M

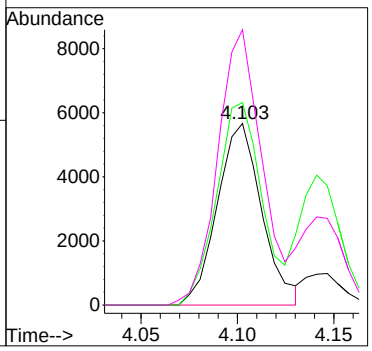


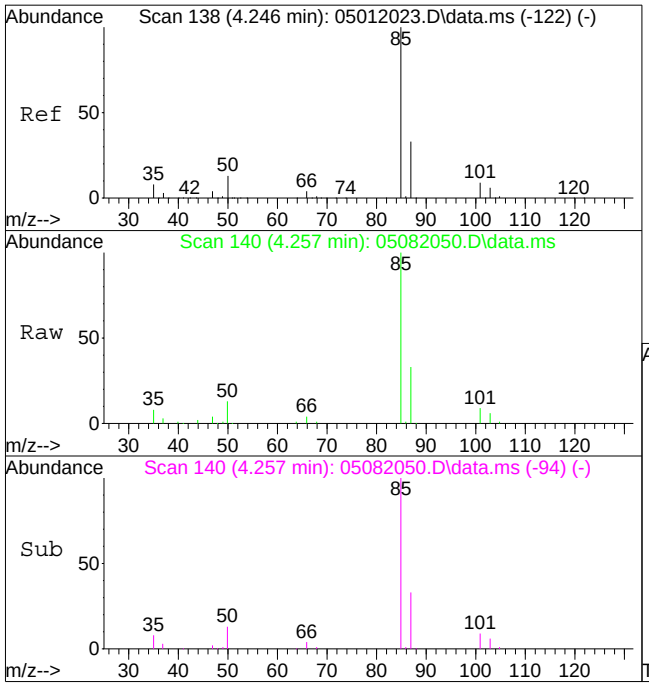


#2
Propene
Concen: 0.30 ng
RT: 4.10 min Scan# 112
Delta R.T. 0.011 min
Lab File: 05082050.D
Acq: 9 May 2020 7:12

Tgt Ion: 42 Resp: 9084

Ion	Ratio	Lower	Upper
42	100		
39	114.1	96.1	136.1
41	148.5	131.9	171.9

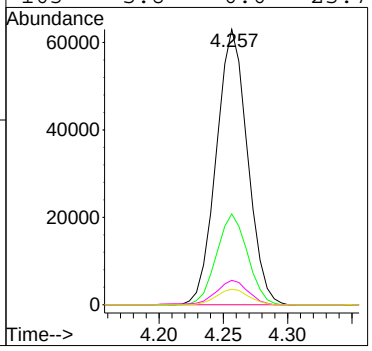


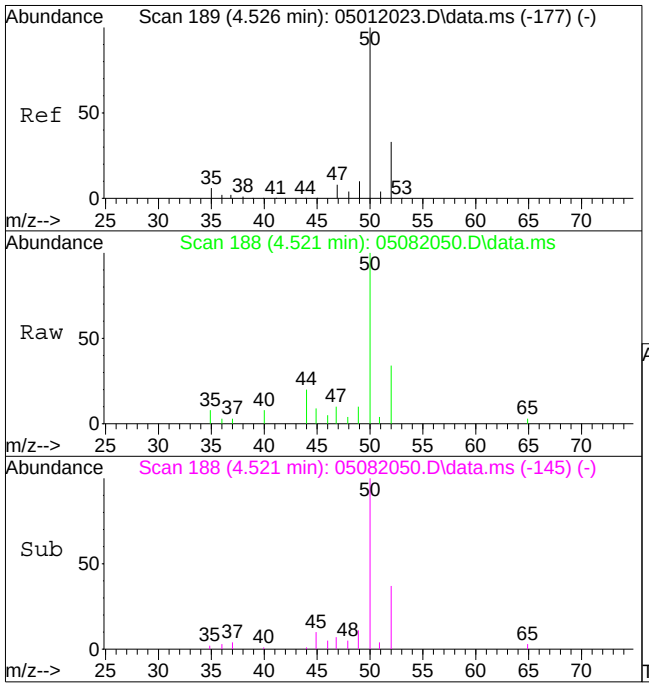


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.78 ng
RT: 4.26 min Scan# 140
Delta R.T. 0.005 min
Lab File: 05082050.D
Acq: 9 May 2020 7:12

Tgt Ion: 85 Resp: 106201

Ion	Ratio	Lower	Upper
85	100		
87	32.7	12.4	52.4
101	9.2	0.0	28.8
103	5.8	0.0	25.7

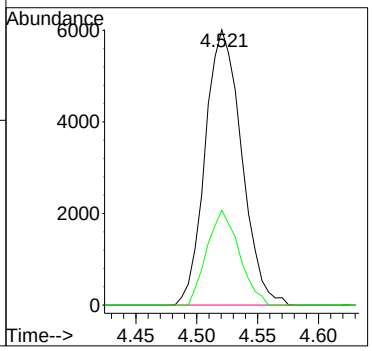


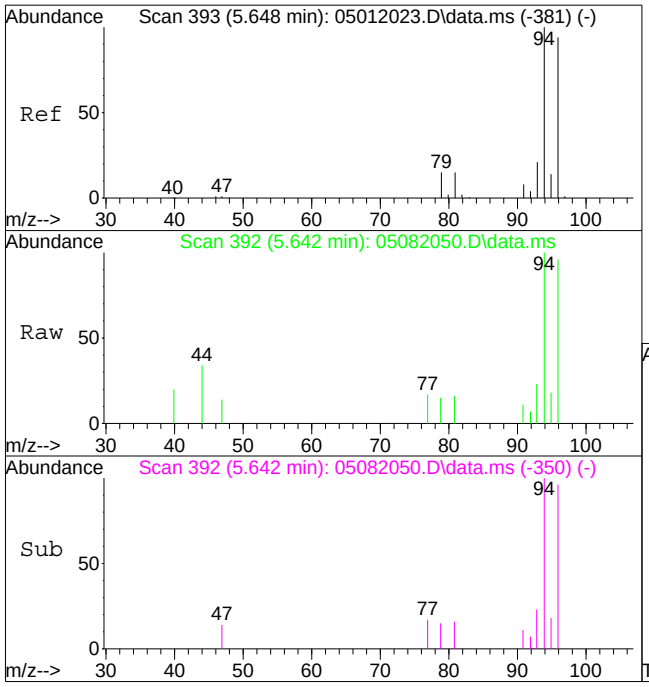


#4
Chloromethane
Concen: 0.27 ng
RT: 4.52 min Scan# 188
Delta R.T. -0.011 min
Lab File: 05082050.D
Acq: 9 May 2020 7:12

Tgt Ion: 50 Resp: 12505

Ion	Ratio	Lower	Upper
50	100		
52	30.5	12.5	52.5

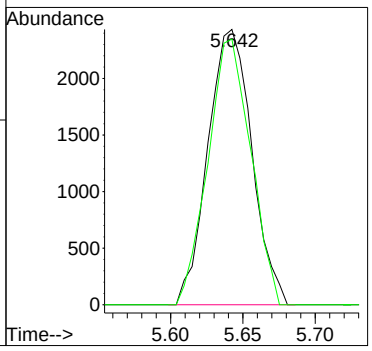


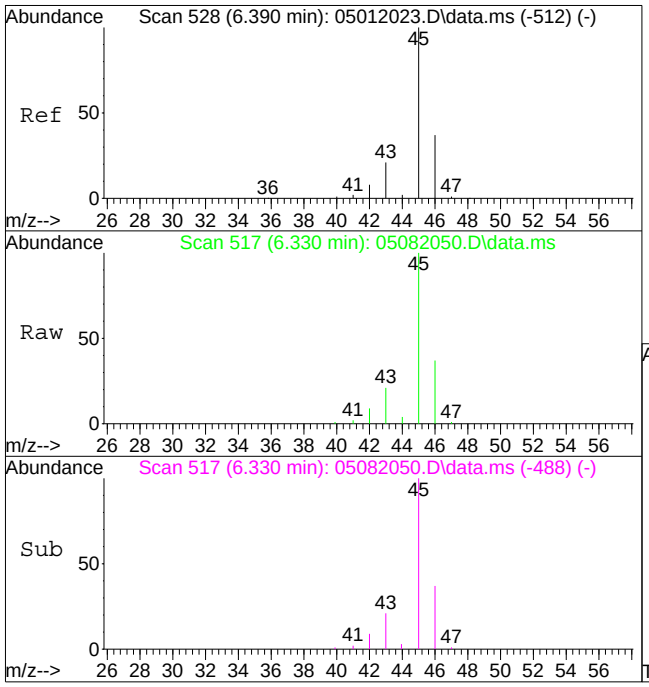


#8
Bromomethane
Concen: 0.19 ng
RT: 5.64 min Scan# 392
Delta R.T. -0.017 min
Lab File: 05082050.D
Acq: 9 May 2020 7:12

Tgt Ion: 94 Resp: 5144

Ion	Ratio	Lower	Upper
94	100		
96	93.8	73.7	113.7

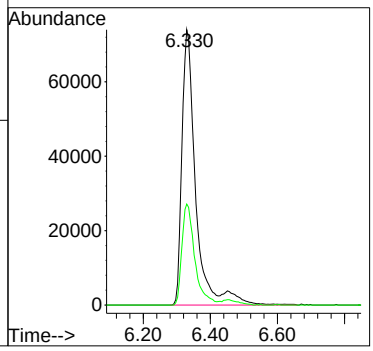


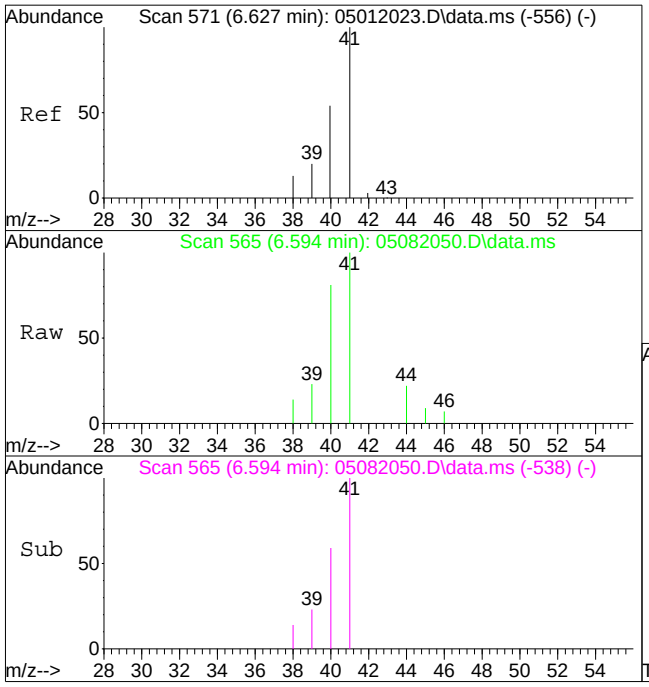


#10
Ethanol
Concen: 8.97 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.088 min
Lab File: 05082050.D
Acq: 9 May 2020 7:12

Tgt Ion: 45 Resp: 211667

Ion	Ratio	Lower	Upper
45	100		
46	36.6	17.2	57.2

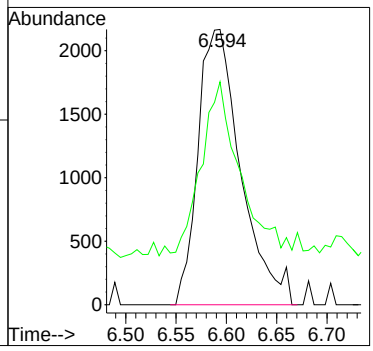


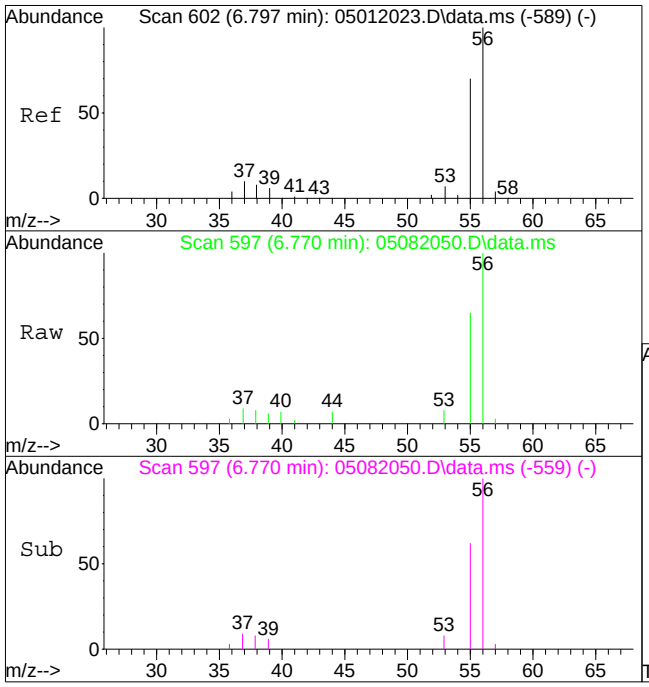


#11
Acetonitrile
Concen: 0.12 ng
RT: 6.59 min Scan# 565
Delta R.T. -0.050 min
Lab File: 05082050.D
Acq: 9 May 2020 7:12

Tgt Ion: 41 Resp: 6401

Ion	Ratio	Lower	Upper
41	100		
40	61.8	33.6	73.6

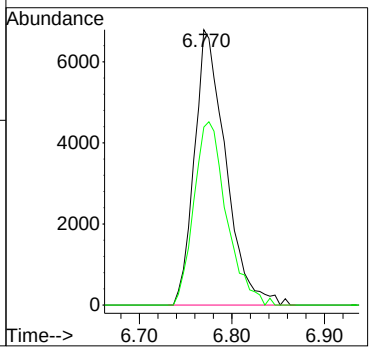


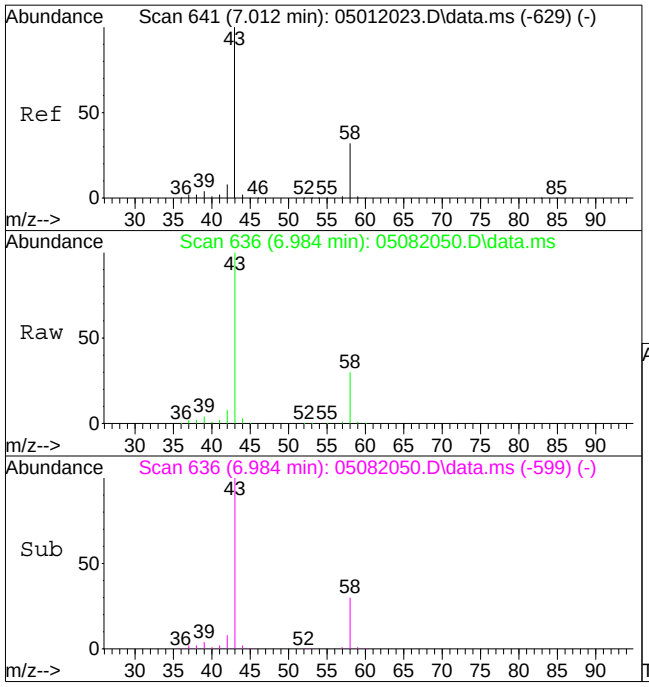


#12
Acrolein
Concen: 0.86 ng
RT: 6.77 min Scan# 597
Delta R.T. -0.039 min
Lab File: 05082050.D
Acq: 9 May 2020 7:12

Tgt Ion: 56 Resp: 15948

Ion	Ratio	Lower	Upper
56	100		
55	69.2	50.2	90.2

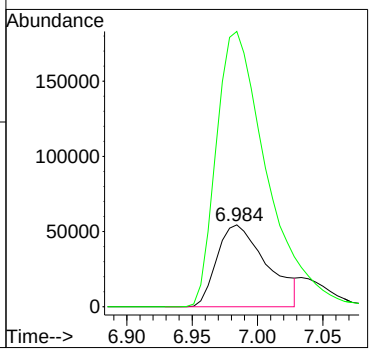


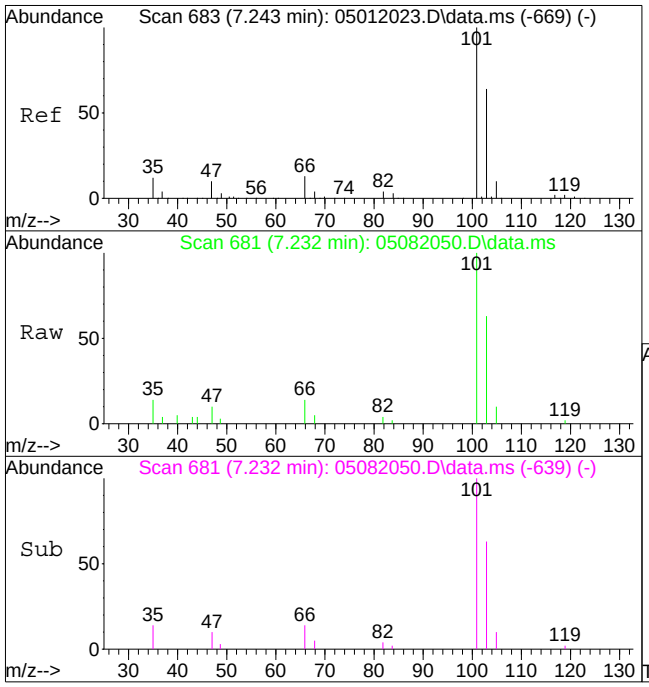


#13
Acetone
Concen: 6.15 ng m
RT: 6.98 min Scan# 636
Delta R.T. -0.044 min
Lab File: 05082050.D
Acq: 9 May 2020 7:12

Tgt Ion: 58 Resp: 145095

Ion	Ratio	Lower	Upper
58	100		
43	345.8	294.4	354.4

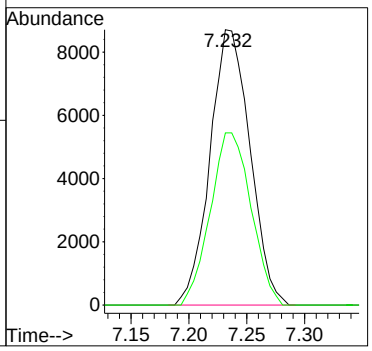


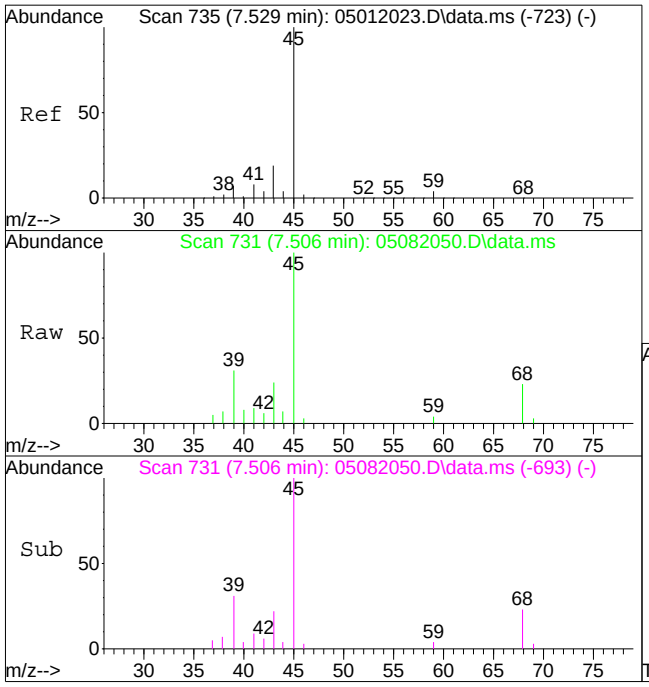


#14
Trichlorofluoromethane
Concen: 0.40 ng
RT: 7.23 min Scan# 681
Delta R.T. -0.017 min
Lab File: 05082050.D
Acq: 9 May 2020 7:12

Tgt Ion:101 Resp: 20923

Ion	Ratio	Lower	Upper
101	100		
103	63.7	44.4	84.4

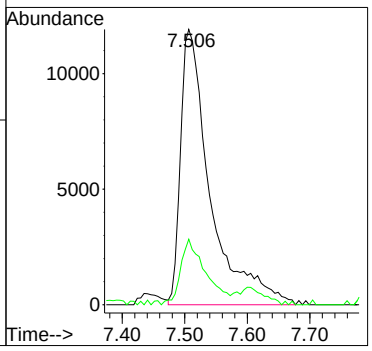


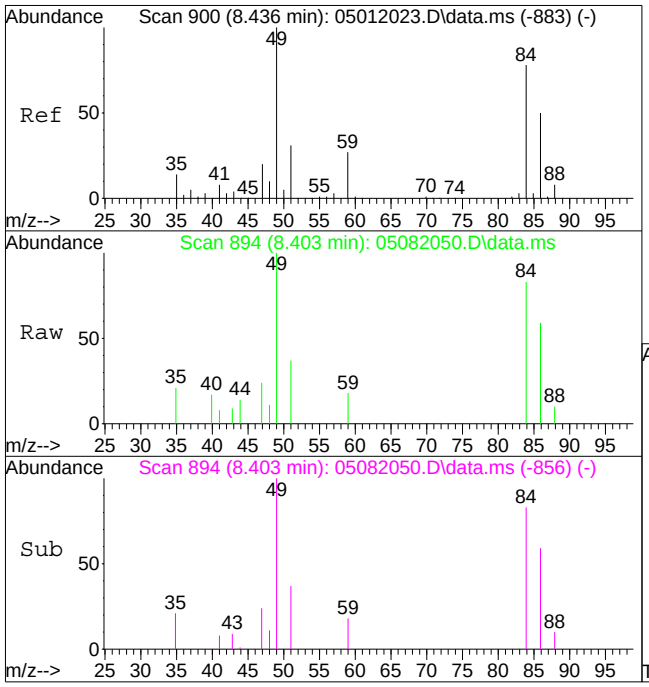


#15
2-Propanol (Isopropanol)
Concen: 0.55 ng
RT: 7.51 min Scan# 731
Delta R.T. -0.039 min
Lab File: 05082050.D
Acq: 9 May 2020 7:12

Tgt Ion: 45 Resp: 39273

Ion	Ratio	Lower	Upper
45	100		
43	25.8	0.0	39.5

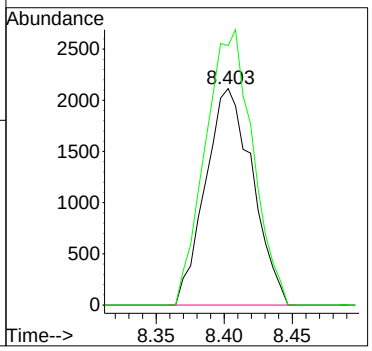


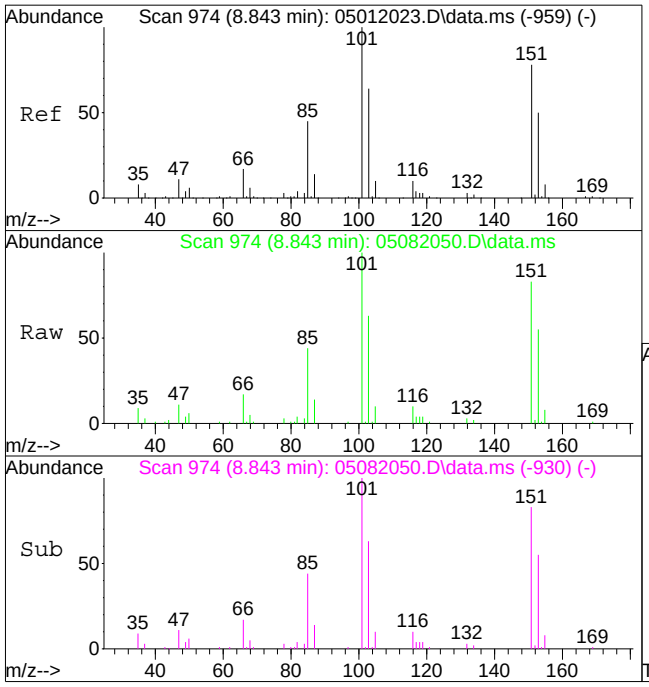


#19
Methylene Chloride
Concen: 0.17 ng
RT: 8.40 min Scan# 894
Delta R.T. -0.039 min
Lab File: 05082050.D
Acq: 9 May 2020 7:12

Tgt Ion: 84 Resp: 5095

Ion	Ratio	Lower	Upper
84	100		
49	127.9	104.8	154.8

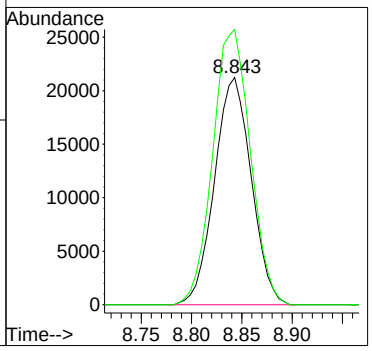


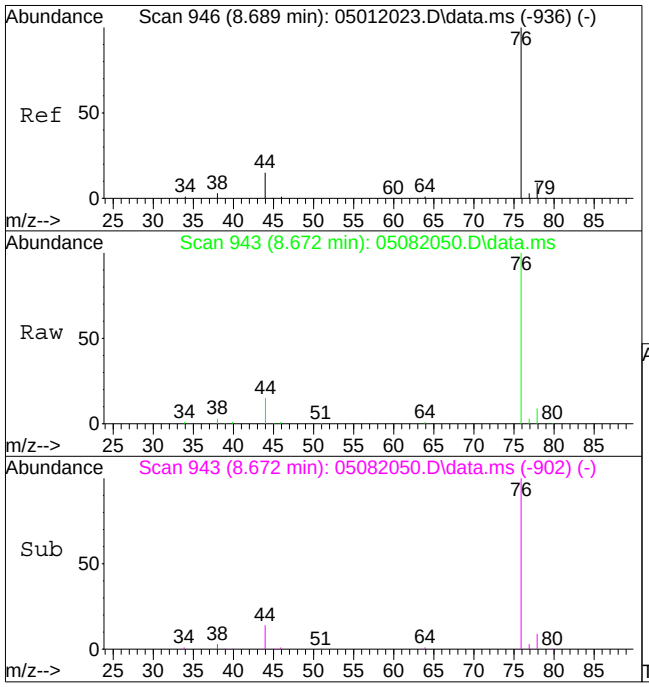


#21
Trichlorotrifluoroethane
Concen: 2.16 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05082050.D
Acq: 9 May 2020 7:12

Tgt Ion:151 Resp: 53924

Ion	Ratio	Lower	Upper
151	100		
101	124.2	107.3	147.3

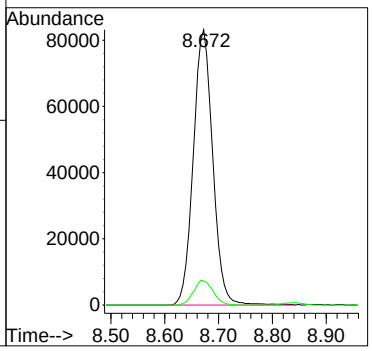


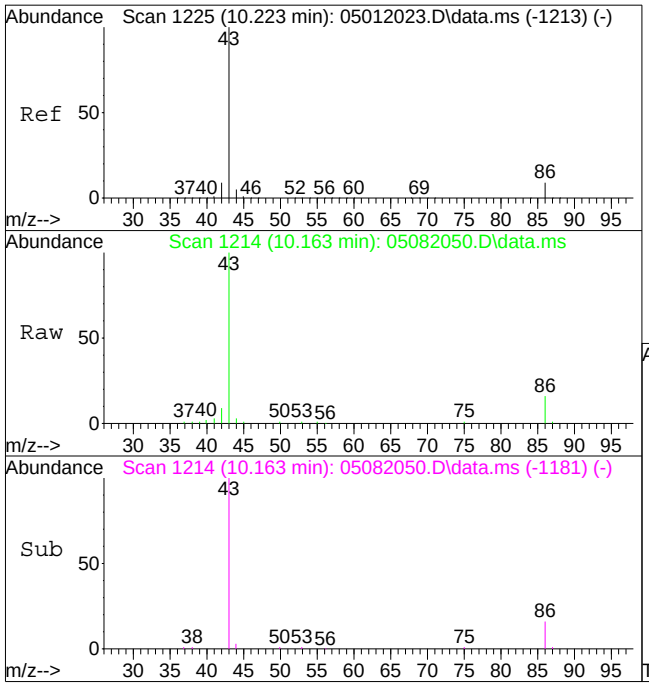


#22
Carbon Disulfide
Concen: 1.90 ng
RT: 8.67 min Scan# 943
Delta R.T. -0.022 min
Lab File: 05082050.D
Acq: 9 May 2020 7:12

Tgt Ion: 76 Resp: 208464

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	29.2

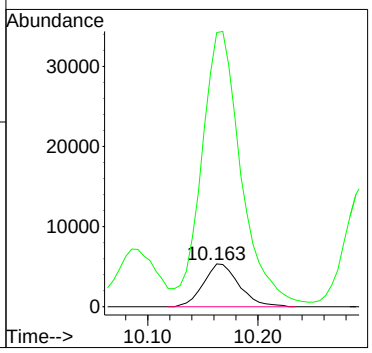


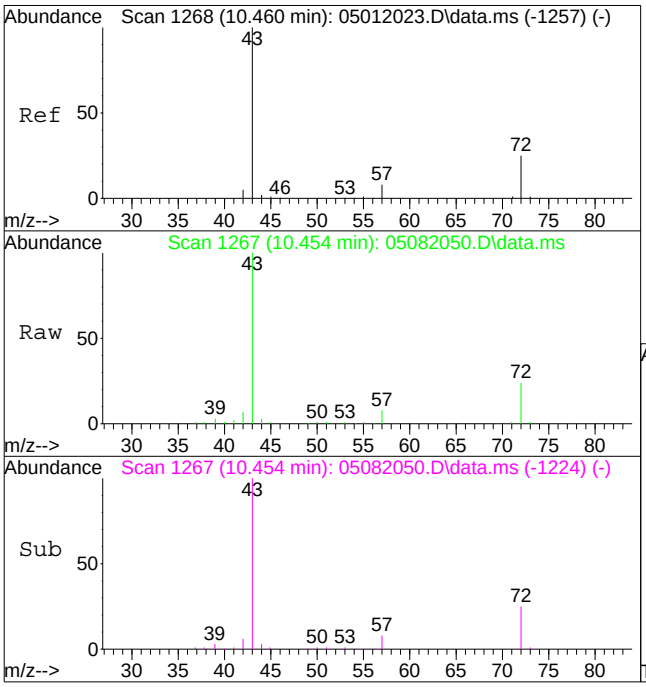


#26
Vinyl Acetate
Concen: 1.64 ng
RT: 10.16 min Scan# 1214
Delta R.T. -0.066 min
Lab File: 05082050.D
Acq: 9 May 2020 7:12

Tgt Ion: 86 Resp: 12047

Ion	Ratio	Lower	Upper
86	100		
43	706.5	1103.0	1143.0#

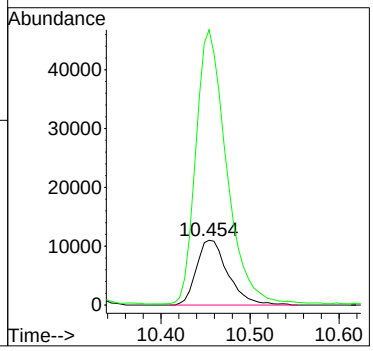


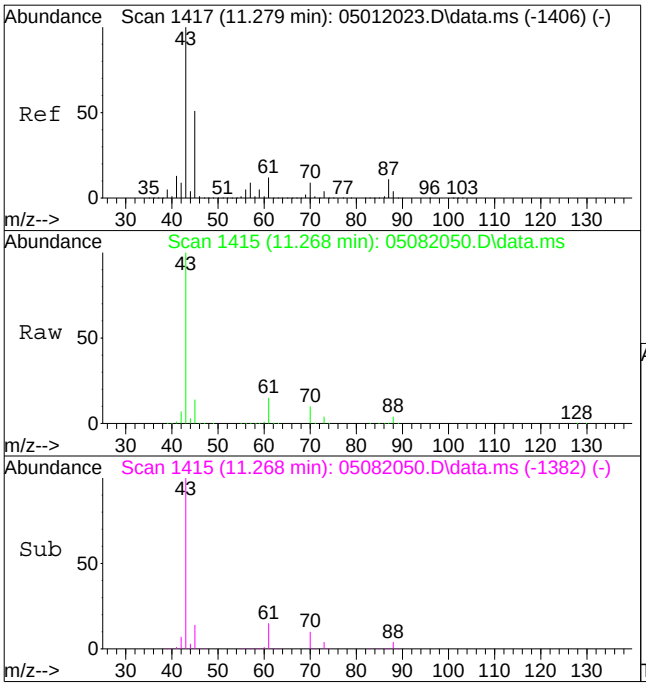


#27
2-Butanone (MEK)
Concen: 1.35 ng
RT: 10.45 min Scan# 1267
Delta R.T. -0.011 min
Lab File: 05082050.D
Acq: 9 May 2020 7:12

Tgt Ion: 72 Resp: 27113

Ion	Ratio	Lower	Upper
72	100		
43	411.0	389.7	429.7

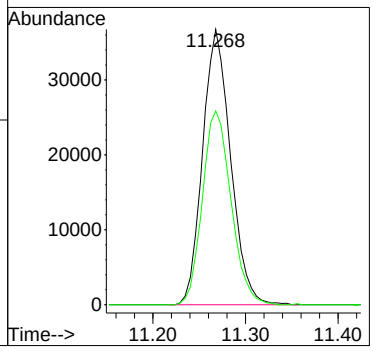


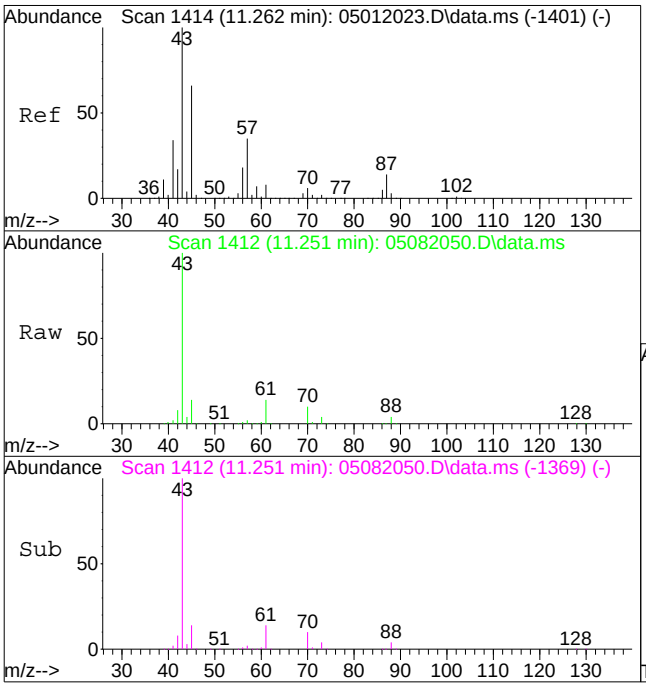


#30
Ethyl Acetate
Concen: 6.66 ng
RT: 11.27 min Scan# 1415
Delta R.T. -0.017 min
Lab File: 05082050.D
Acq: 9 May 2020 7:12

Tgt Ion: 61 Resp: 77270

Ion	Ratio	Lower	Upper
61	100		
70	71.8	57.9	97.9

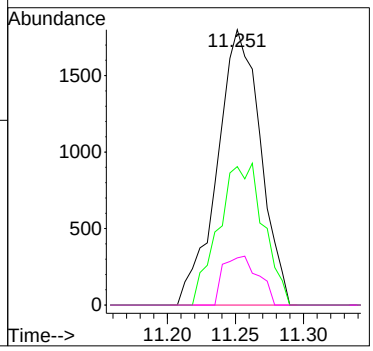


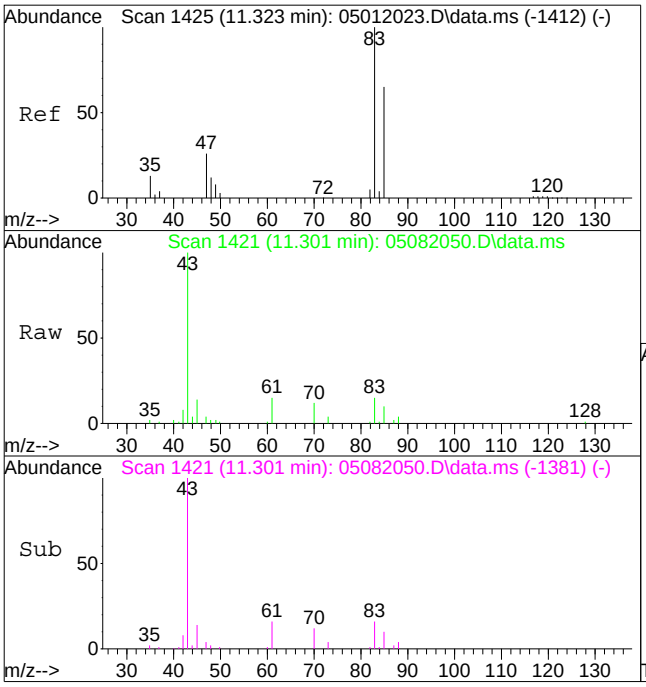


#31
n-Hexane
Concen: 0.08 ng
RT: 11.25 min Scan# 1412
Delta R.T. -0.011 min
Lab File: 05082050.D
Acq: 9 May 2020 7:12

Tgt Ion: 57 Resp: 3995

Ion	Ratio	Lower	Upper
57	100		
56	53.1	41.4	62.0
86	14.3	12.4	18.6

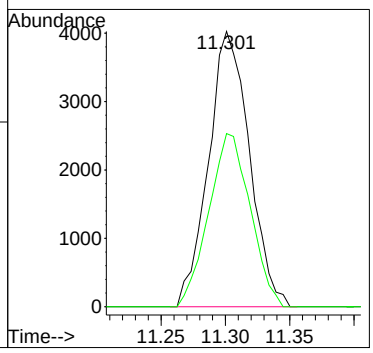


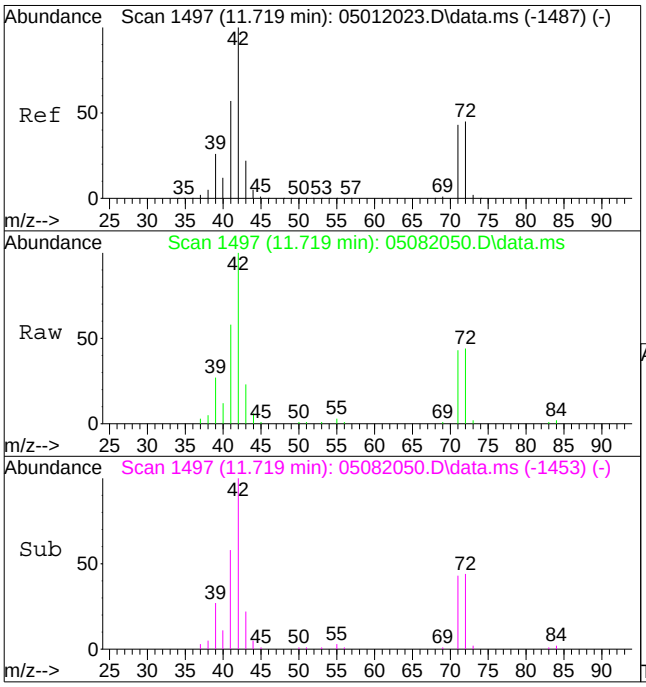


#32
Chloroform
Concen: 0.17 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.028 min
Lab File: 05082050.D
Acq: 9 May 2020 7:12

Tgt Ion: 83 Resp: 8907

Ion	Ratio	Lower	Upper
83	100		
85	63.7	45.5	85.5

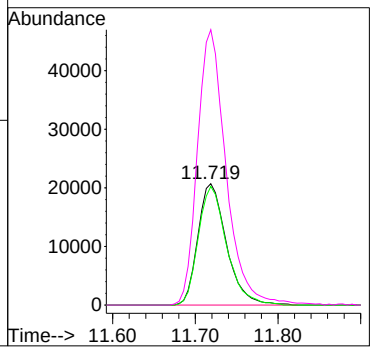


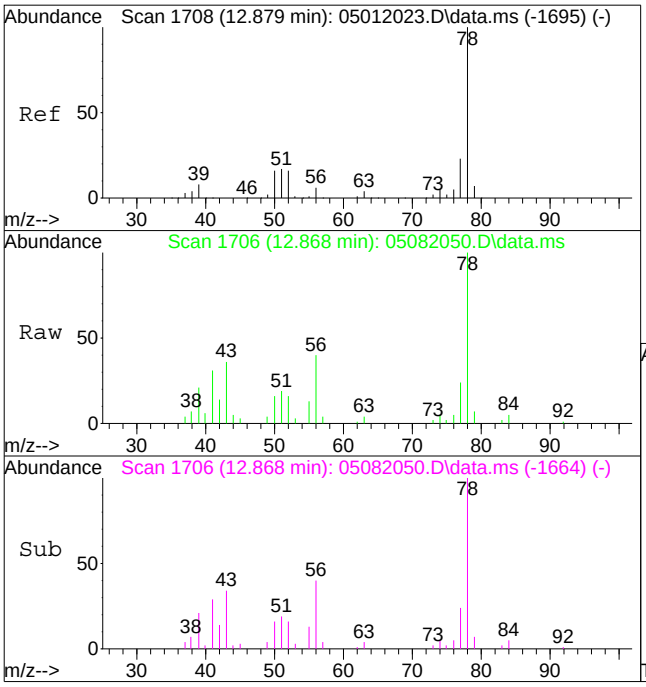


#34
Tetrahydrofuran (THF)
Concen: 2.54 ng
RT: 11.72 min Scan# 1497
Delta R.T. -0.006 min
Lab File: 05082050.D
Acq: 9 May 2020 7:12

Tgt Ion: 72 Resp: 49856

Ion	Ratio	Lower	Upper
72	100		
71	96.9	77.0	117.0
42	227.3	204.6	244.6

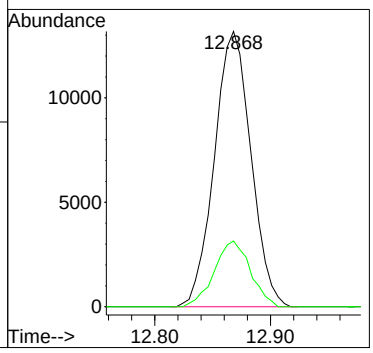


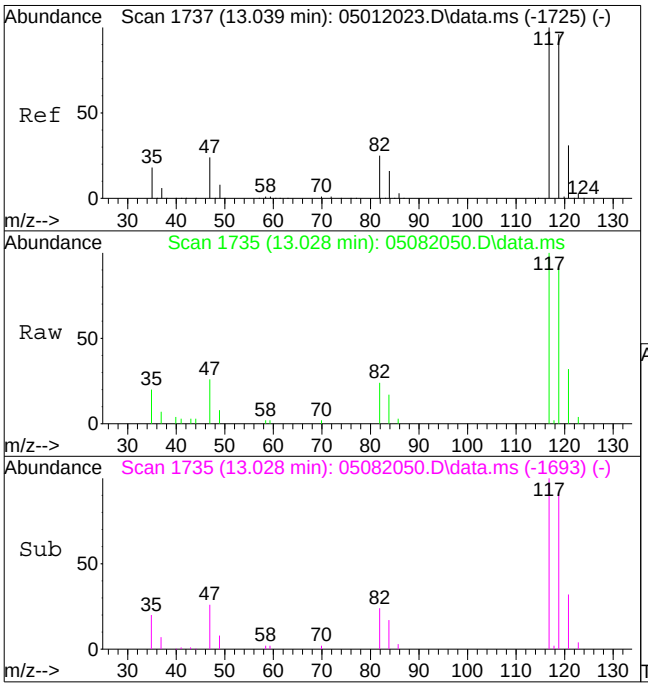


#41
Benzene
Concen: 0.24 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05082050.D
Acq: 9 May 2020 7:12

Tgt Ion: 78 Resp: 28983

Ion	Ratio	Lower	Upper
78	100		
77	23.5	3.4	43.4

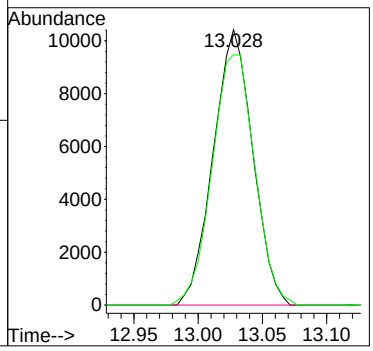


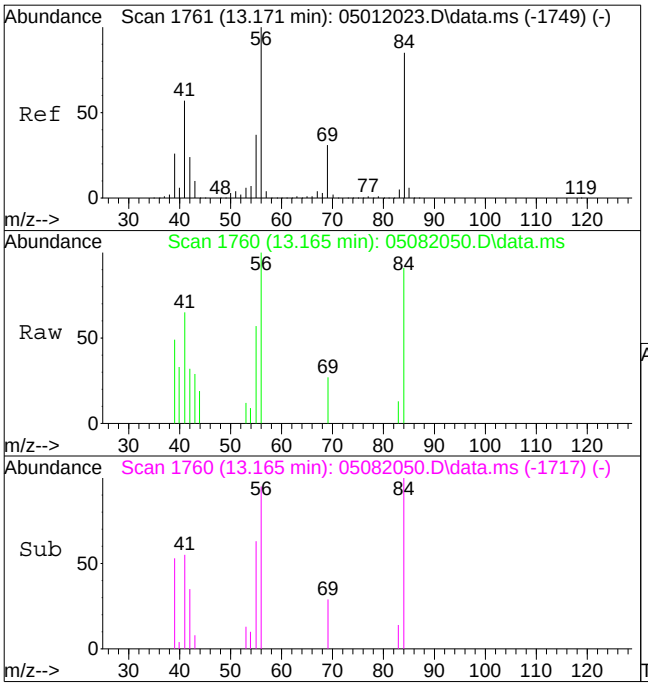


#42
Carbon Tetrachloride
Concen: 0.54 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05082050.D
Acq: 9 May 2020 7:12

Tgt Ion:117 Resp: 22292

Ion	Ratio	Lower	Upper
117	100		
119	98.0	76.2	116.2

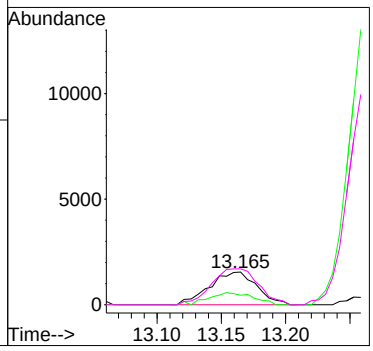


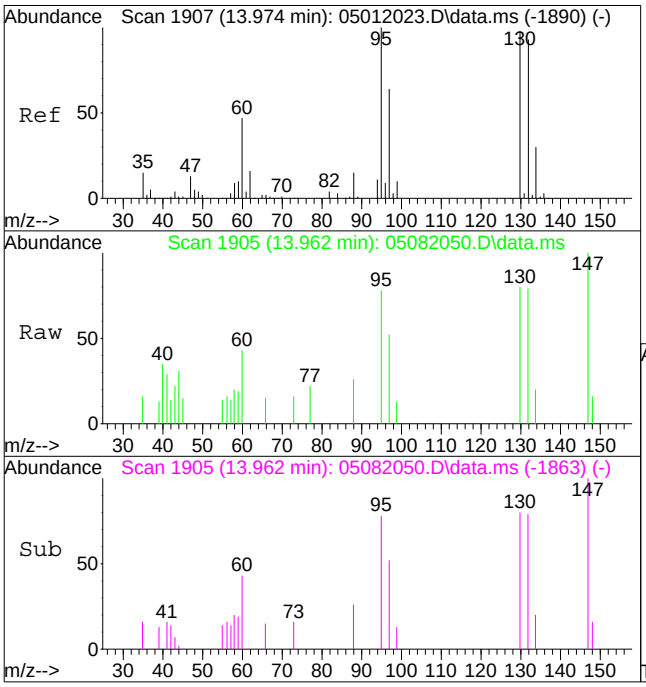


#43
Cyclohexane
Concen: 0.09 ng
RT: 13.16 min Scan# 1760
Delta R.T. -0.011 min
Lab File: 05082050.D
Acq: 9 May 2020 7:12

Tgt Ion: 84 Resp: 3957

Ion	Ratio	Lower	Upper
84	100		
69	35.1	16.5	56.5
56	109.6	97.4	137.4

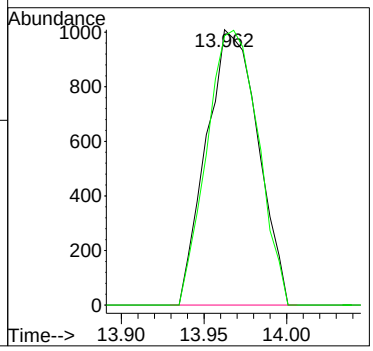


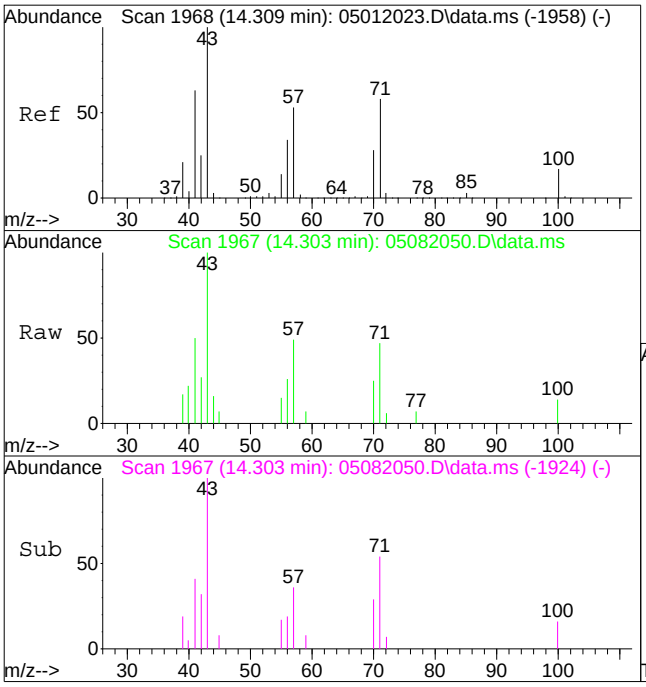


#47
Trichloroethene
Concen: 0.07 ng
RT: 13.96 min Scan# 1905
Delta R.T. -0.017 min
Lab File: 05082050.D
Acq: 9 May 2020 7:12

Tgt Ion:130 Resp: 2195

Ion	Ratio	Lower	Upper
130	100		
132	99.0	74.9	114.9

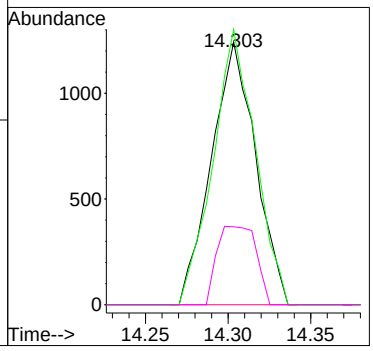


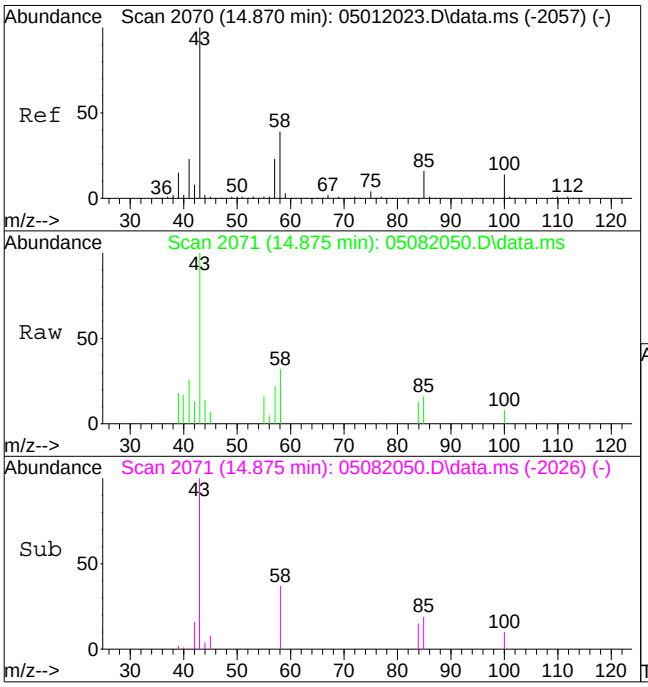


#51
n-Heptane
Concen: 0.08 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05082050.D
Acq: 9 May 2020 7:12

Tgt Ion: 71 Resp: 2306

Ion	Ratio	Lower	Upper
71	100		
57	100.5	71.0	111.0
100	26.5	8.4	48.4

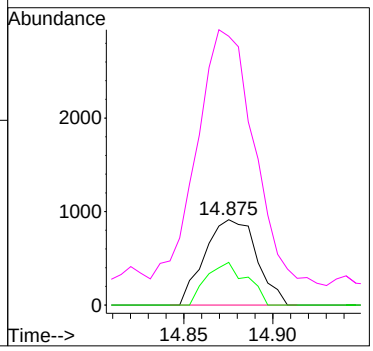


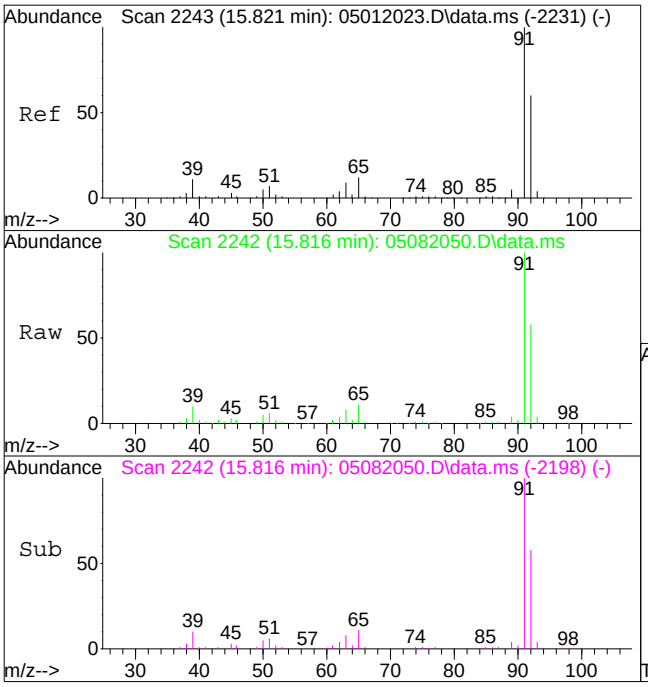


#53
4-Methyl-2-pentanone
Concen: 0.07 ng
RT: 14.88 min Scan# 2071
Delta R.T. -0.000 min
Lab File: 05082050.D
Acq: 9 May 2020 7:12

Tgt Ion: 58 Resp: 1857

Ion	Ratio	Lower	Upper
58	100		
85	38.7	35.4	53.2
43	329.7	203.3	304.9#

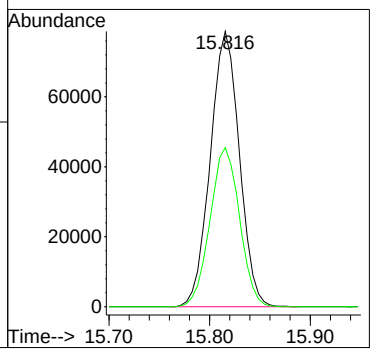


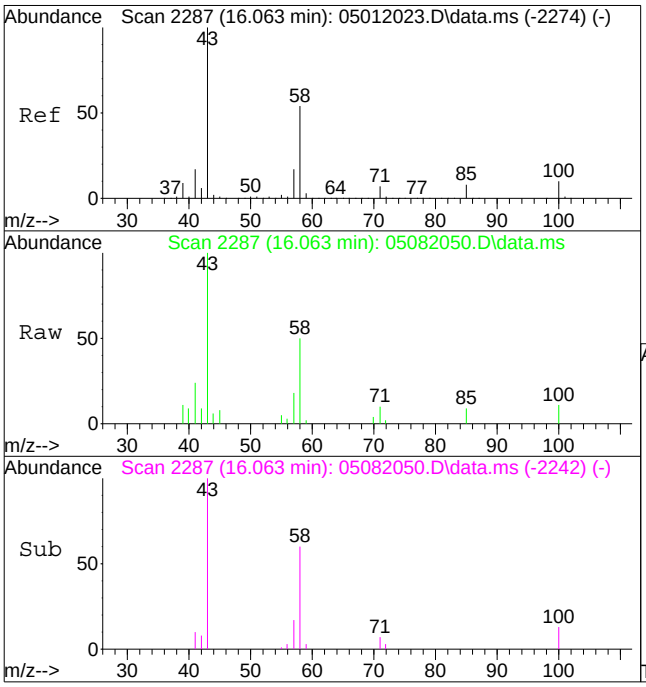


#58
Toluene
Concen: 1.40 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05082050.D
Acq: 9 May 2020 7:12

Tgt Ion: 91 Resp: 157895

Ion	Ratio	Lower	Upper
91	100		
92	58.6	39.4	79.4

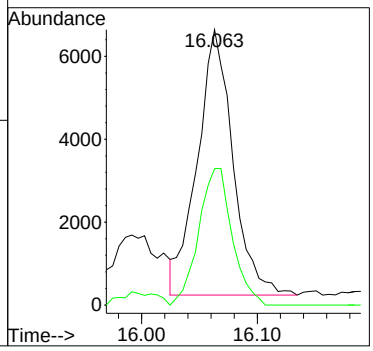


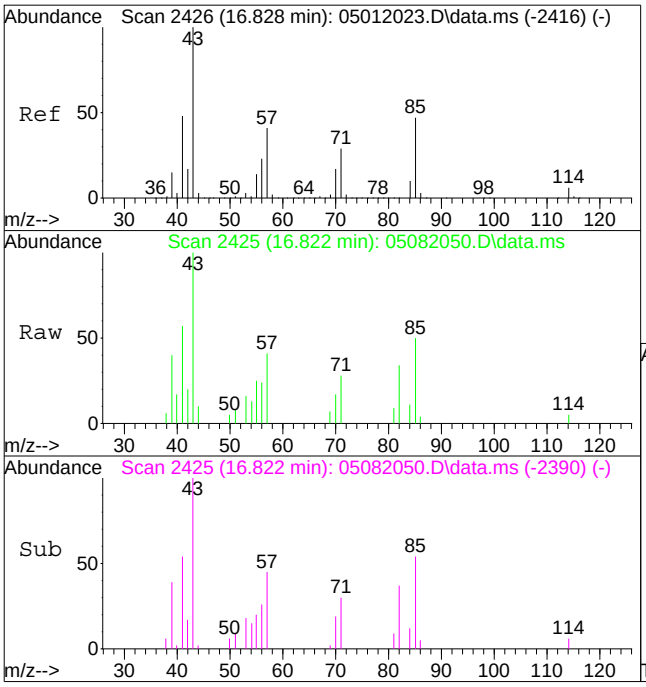


#59
2-Hexanone
Concen: 0.22 ng
RT: 16.06 min Scan# 2287
Delta R.T. -0.000 min
Lab File: 05082050.D
Acq: 9 May 2020 7:12

Tgt Ion: 43 Resp: 13695

Ion	Ratio	Lower	Upper
43	100		
58	48.4	34.5	74.5

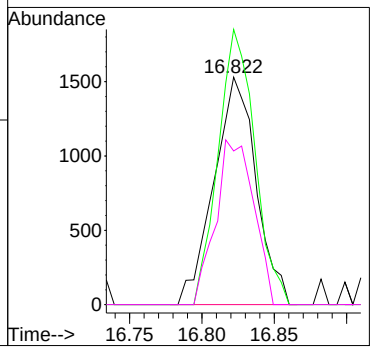


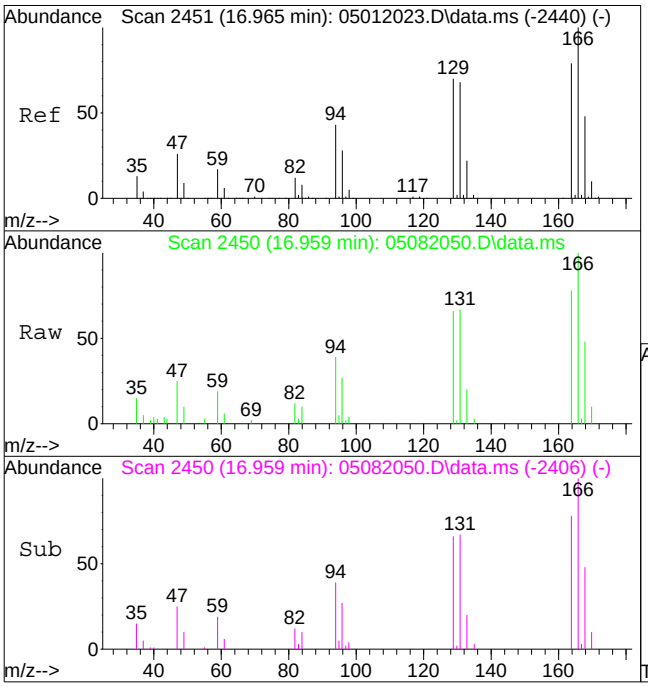


#63
n-Octane
Concen: 0.13 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05082050.D
Acq: 9 May 2020 7:12

Tgt Ion: 57 Resp: 3108

Ion	Ratio	Lower	Upper
57	100		
85	105.3	91.0	136.4
71	65.2	56.2	84.2

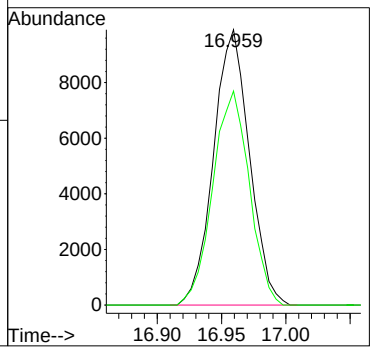


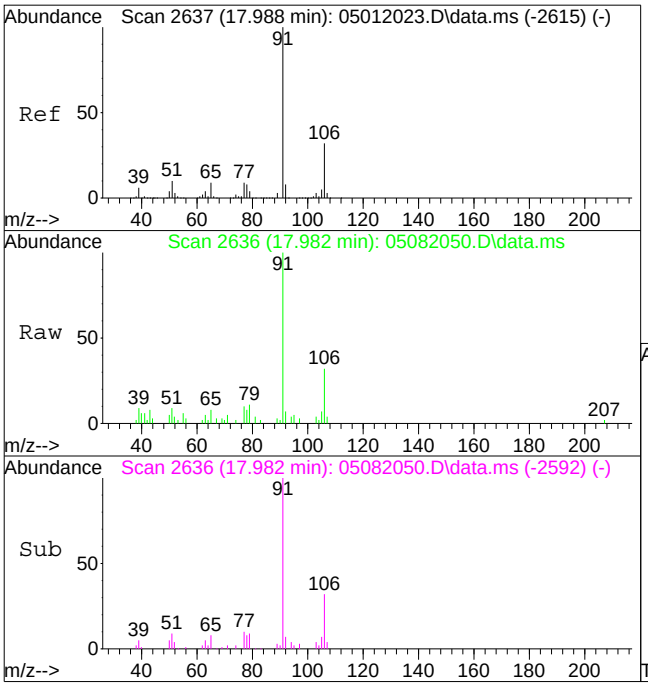


#64
Tetrachloroethene
Concen: 0.60 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05082050.D
Acq: 9 May 2020 7:12

Tgt Ion:166 Resp: 19287

Ion	Ratio	Lower	Upper
166	100		
164	78.8	58.4	98.4

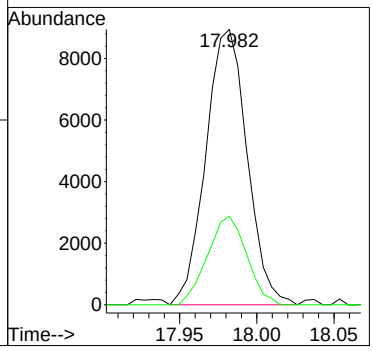


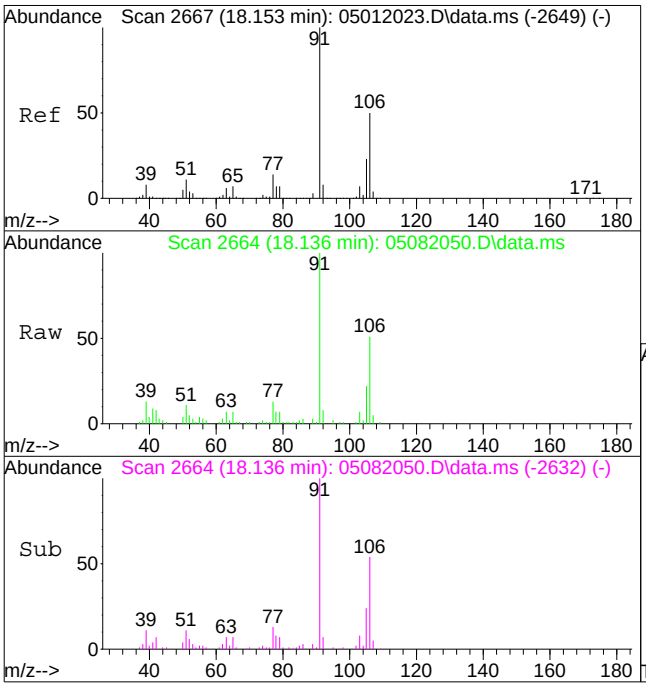


#66
Ethylbenzene
Concen: 0.13 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05082050.D
Acq: 9 May 2020 7:12

Tgt Ion: 91 Resp: 16644

Ion	Ratio	Lower	Upper
91	100		
106	30.5	11.6	51.6

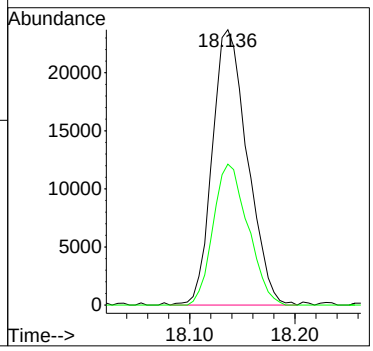


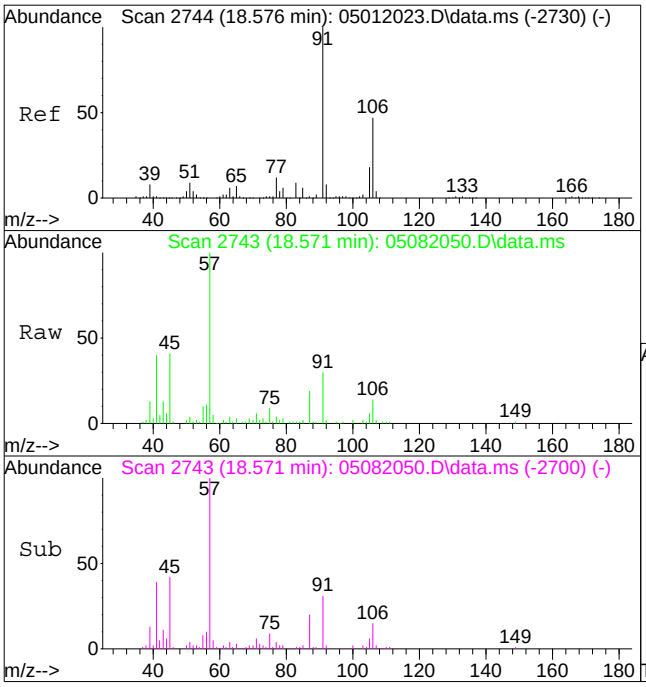


#67
m- & p-Xylenes
Concen: 0.55 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05082050.D
Acq: 9 May 2020 7:12

Tgt Ion: 91 Resp: 55138

Ion	Ratio	Lower	Upper
91	100		
106	50.6	29.7	69.7

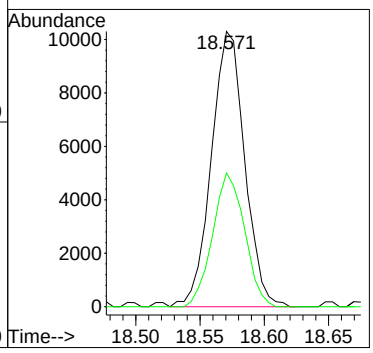


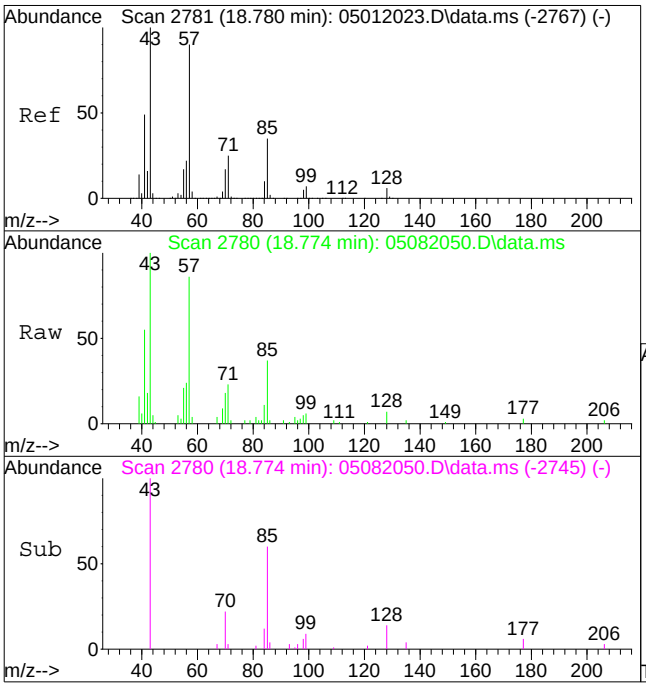


#70
o-Xylene
Concen: 0.18 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05082050.D
Acq: 9 May 2020 7:12

Tgt Ion: 91 Resp: 18580

Ion	Ratio	Lower	Upper
91	100		
106	46.5	27.5	67.5

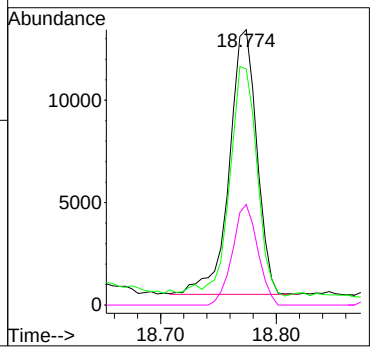


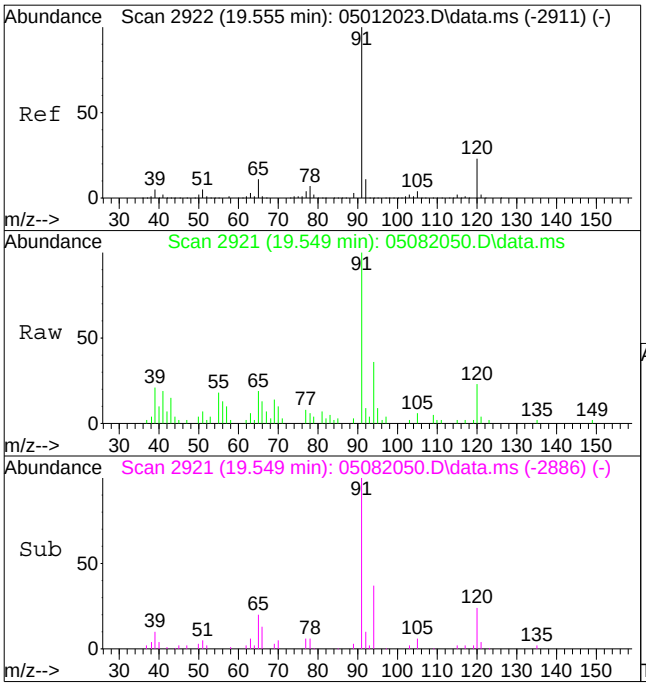


#71
n-Nonane
Concen: 0.40 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05082050.D
Acq: 9 May 2020 7:12

Tgt Ion: 43 Resp: 21395

Ion	Ratio	Lower	Upper
43	100		
57	86.2	69.0	109.0
85	34.7	14.6	54.6

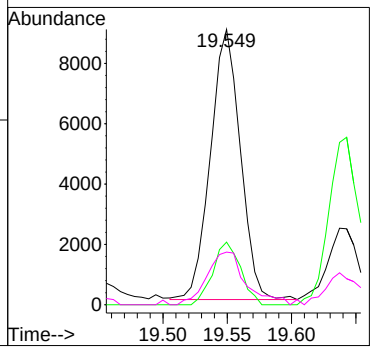


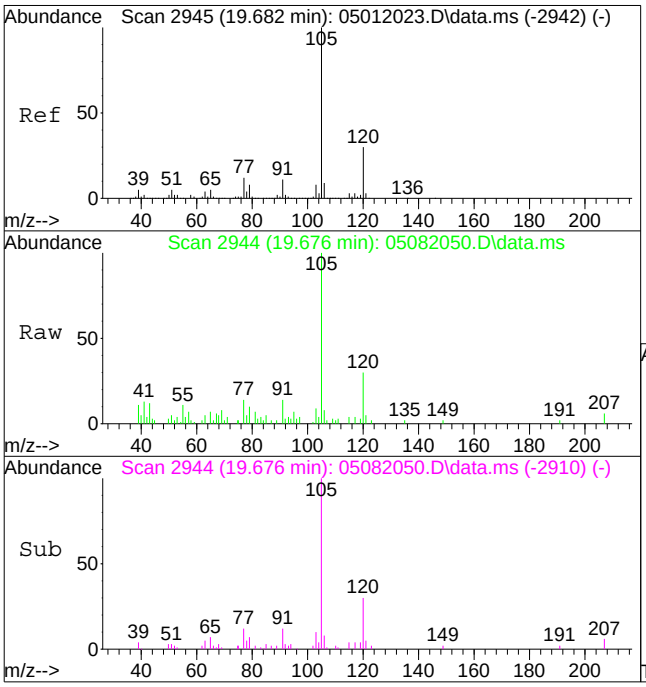


#76
n-Propylbenzene
Concen: 0.10 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05082050.D
Acq: 9 May 2020 7:12

Tgt Ion: 91 Resp: 14507

Ion	Ratio	Lower	Upper
91	100		
120	21.5	3.1	43.1
65	25.1	0.0	30.9

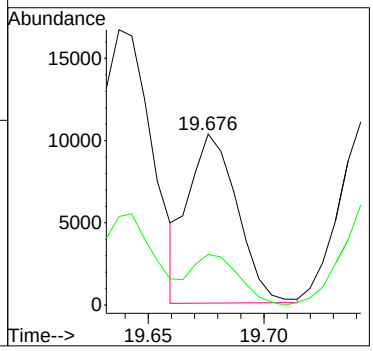


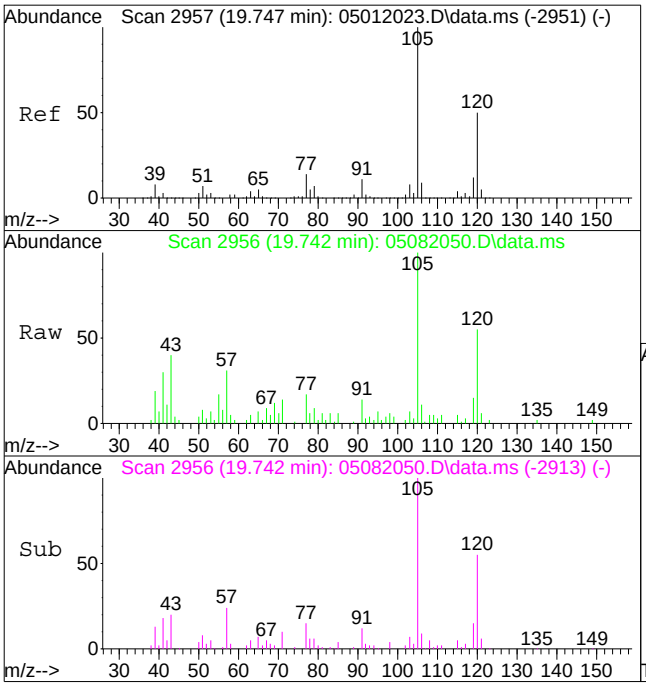


#78
4-Ethyltoluene
Concen: 0.13 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05082050.D
Acq: 9 May 2020 7:12

Tgt Ion:105 Resp: 15076

Ion	Ratio	Lower	Upper
105	100		
120	27.5	10.4	50.4

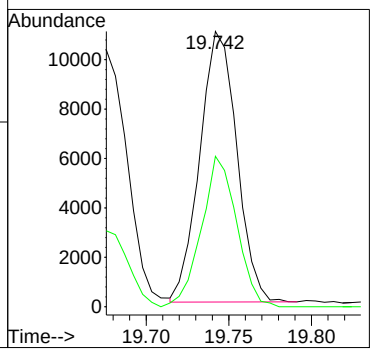


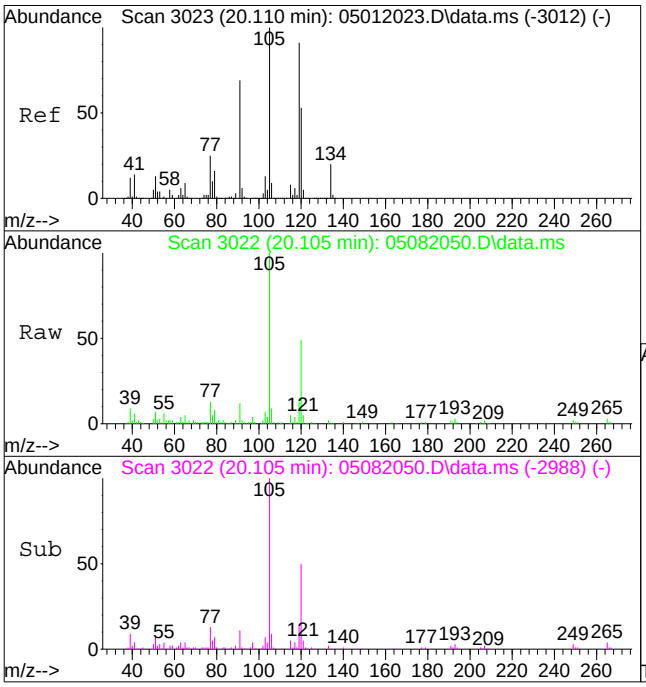


#79
1,3,5-Trimethylbenzene
Concen: 0.17 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05082050.D
Acq: 9 May 2020 7:12

Tgt Ion:105 Resp: 17079

Ion	Ratio	Lower	Upper
105	100		
120	52.7	29.9	69.9

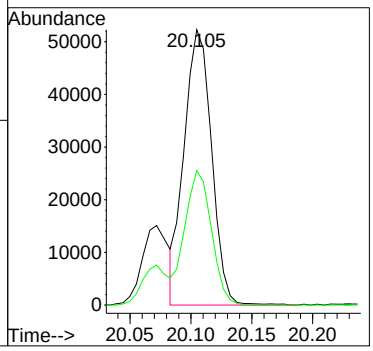


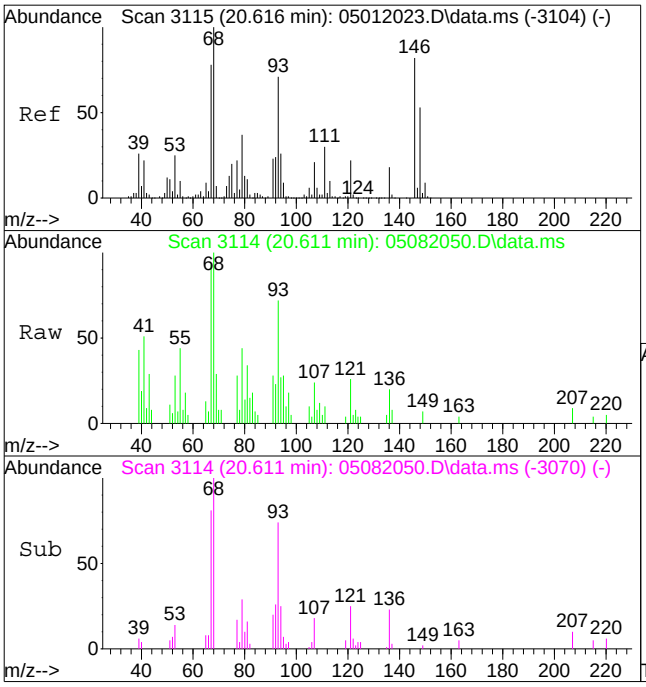


#82
1,2,4-Trimethylbenzene
Concen: 0.80 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05082050.D
Acq: 9 May 2020 7:12

Tgt Ion:105 Resp: 81947

Ion	Ratio	Lower	Upper
105	100		
120	47.6	33.6	73.6

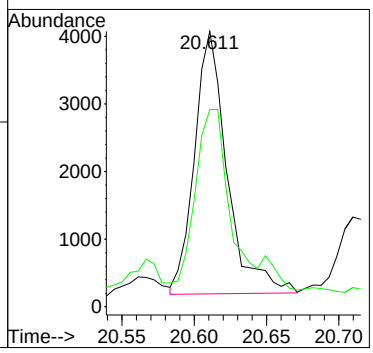


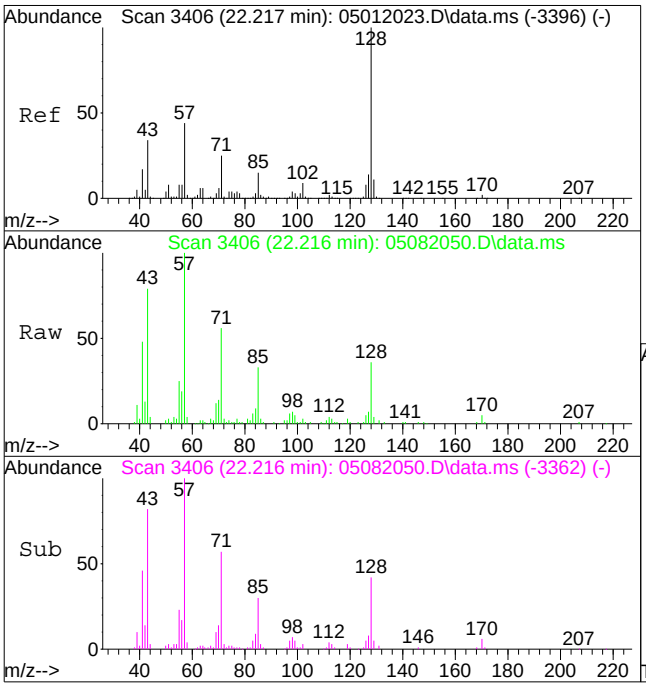


#91
d-Limonene
Concen: 0.15 ng
RT: 20.61 min Scan# 3114
Delta R.T. -0.006 min
Lab File: 05082050.D
Acq: 9 May 2020 7:12

Tgt Ion: 68 Resp: 6086

Ion	Ratio	Lower	Upper
68	100		
93	77.6	51.1	91.1

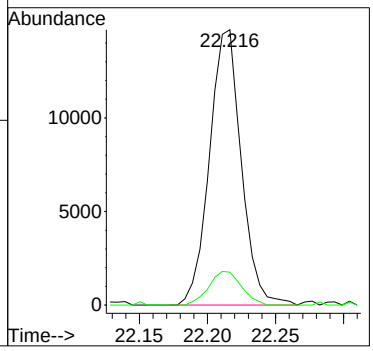




#95
Naphthalene
Concen: 0.19 ng
RT: 22.22 min Scan# 3406
Delta R.T. -0.006 min
Lab File: 05082050.D
Acq: 9 May 2020 7:12

Tgt Ion:128 Resp: 23862

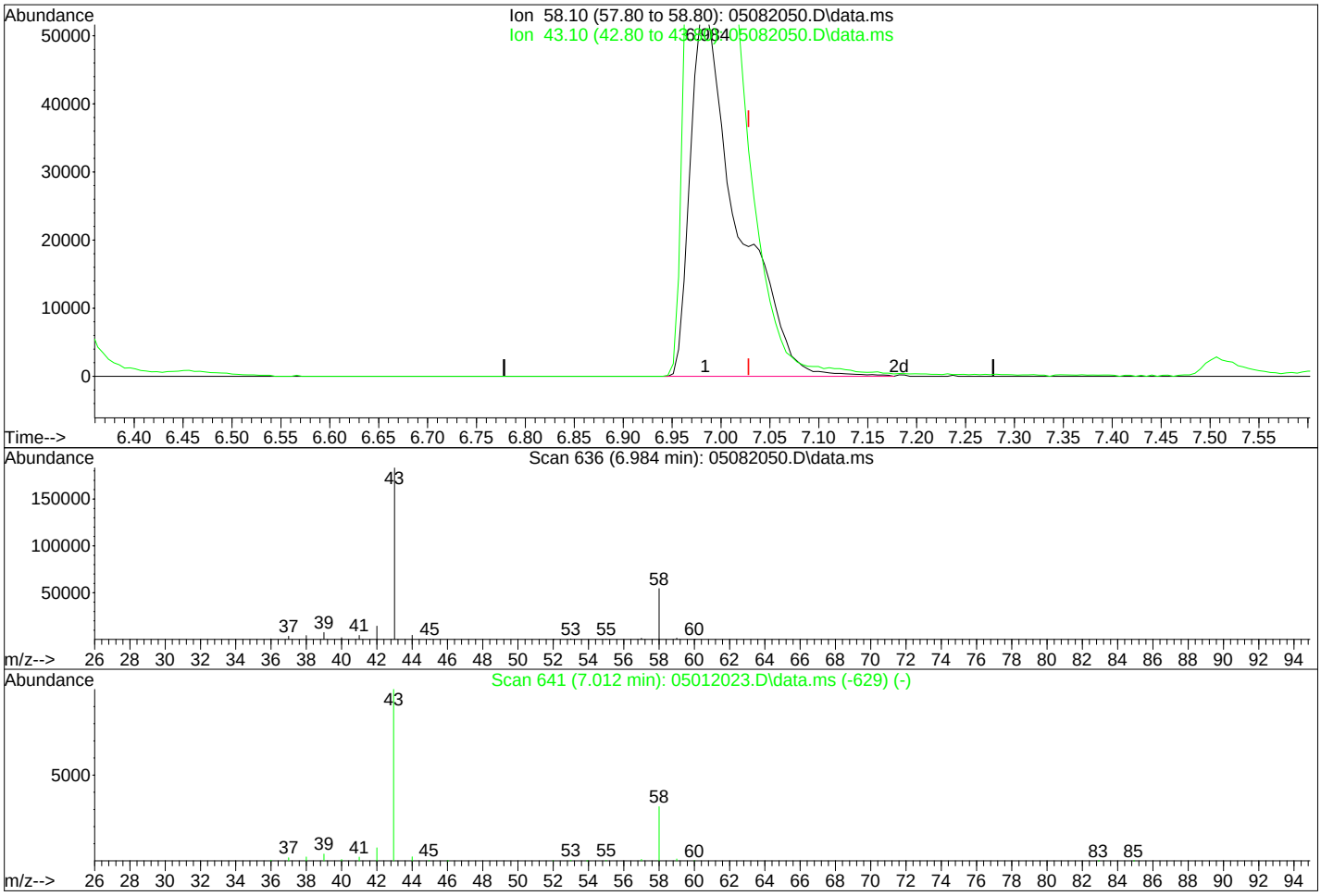
Ion	Ratio	Lower	Upper
128	100		
129	12.6	0.0	31.0



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\08\05082050.D Vial: 6
Acq On : 9 May 2020 7:12 Operator: LH
Sample : P2002299-010 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 09 10:00:04 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05082050.D\data.ms

(13) Acetone (T)

6.984min (-0.044) 7.61ng

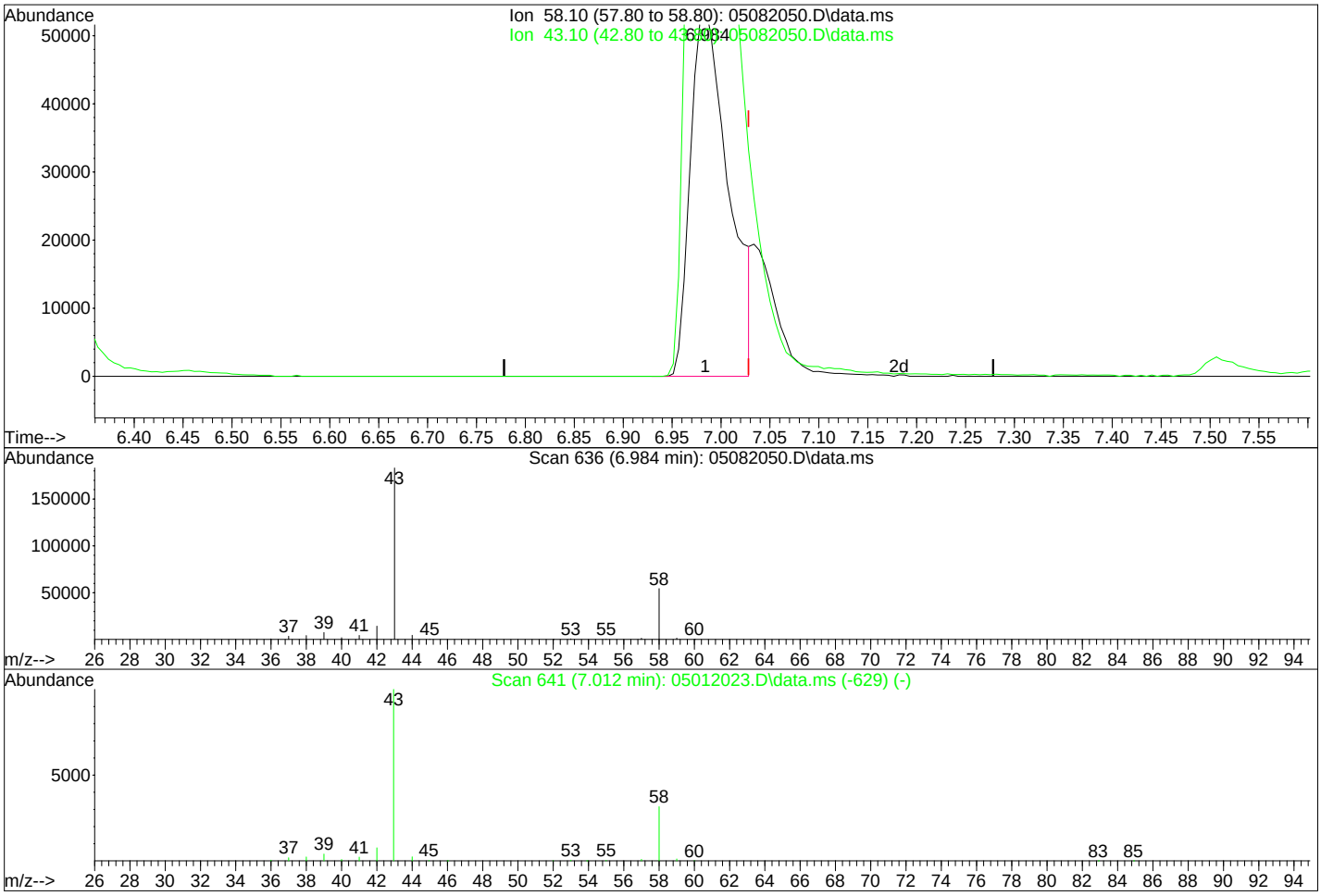
response 179514

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	279.49#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\08\05082050.D Vial: 6
Acq On : 9 May 2020 7:12 Operator: LH
Sample : P2002299-010 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 09 10:00:04 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05082050.D\data.ms

(13) Acetone (T)

6.984min (-0.044) 6.15ng m

response 145095

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	345.79
0.00	0.00	0.00
0.00	0.00	0.00

IPC

LH 5/11/20

5/14/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082051.D Vial: 7
Acq On : 9 May 2020 7:45 Operator: LH
Sample : P2002299-011 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 18:40:50 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/11/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	268584	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1140540	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	523394	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	419709	11.531	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.24%				
57) Toluene-d8 (SS2)	15.72	98	1115354	12.572	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.56%				
73) Bromofluorobenzene (SS3)	18.97	174	434394	13.608	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.88%				
Target Compounds							Qvalue
2) Propene	4.10	42	15137	0.487	ng		97
3) Dichlorodifluoromethan...	4.26	85	104773	1.722	ng		100
4) Chloromethane	4.53	50	8670	0.182	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.79	135	1435	N.D.			
6) Vinyl Chloride	4.95	62	642	N.D.			
7) 1,3-Butadiene	5.21	54	426	N.D.			
8) Bromomethane	5.63	94	410	N.D.			
9) Chloroethane	5.97	64	369	N.D.			
10) Ethanol	6.31	45	47406	1.974	ng		96
11) Acetonitrile	6.58	41	6626	0.121	ng		85
12) Acrolein	6.77	56	9171	0.483	ng		99
13) Acetone	6.97	58	174442	7.262	ng		98
14) Trichlorofluoromethane	7.24	101	25739	0.479	ng		99
15) 2-Propanol (Isopropanol)	7.50	45	73278	1.008	ng		91
16) Acrylonitrile	7.74	53	295	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	898	N.D.			
20) 3-Chloro-1-propene (Al...	8.50	41	1154	N.D.			
21) Trichlorotrifluoroethane	8.84	151	87698	3.454	ng		97
22) Carbon Disulfide	8.67	76	951546	8.504	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	10.05	63	114	N.D.			
25) Methyl tert-Butyl Ether	10.09	73	1121	N.D.			
26) Vinyl Acetate	10.16	86	14134	1.889	ng	#	43
27) 2-Butanone (MEK)	10.45	72	44353	2.165	ng		98
28) cis-1,2-Dichloroethene	10.97	61	831	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.27	61	5274	0.446	ng		99
31) n-Hexane	11.26	57	9977	0.195	ng		98
32) Chloroform	11.30	83	5172	0.097	ng		96
34) Tetrahydrofuran (THF)	11.72	72	49273	2.466	ng		98
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	3066	0.072	ng		92
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	1843316	15.071	ng		100
42) Carbon Tetrachloride	13.03	117	89994	2.163	ng		98
43) Cyclohexane	13.16	84	28366	0.622	ng		96
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.	d		
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	13.97	130	11515	0.364	ng		99
48) 1,4-Dioxane	13.96	88	3318	0.135	ng		97
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082051.D Vial: 7
Acq On : 9 May 2020 7:45 Operator: LH
Sample : P2002299-011 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 18:40:50 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

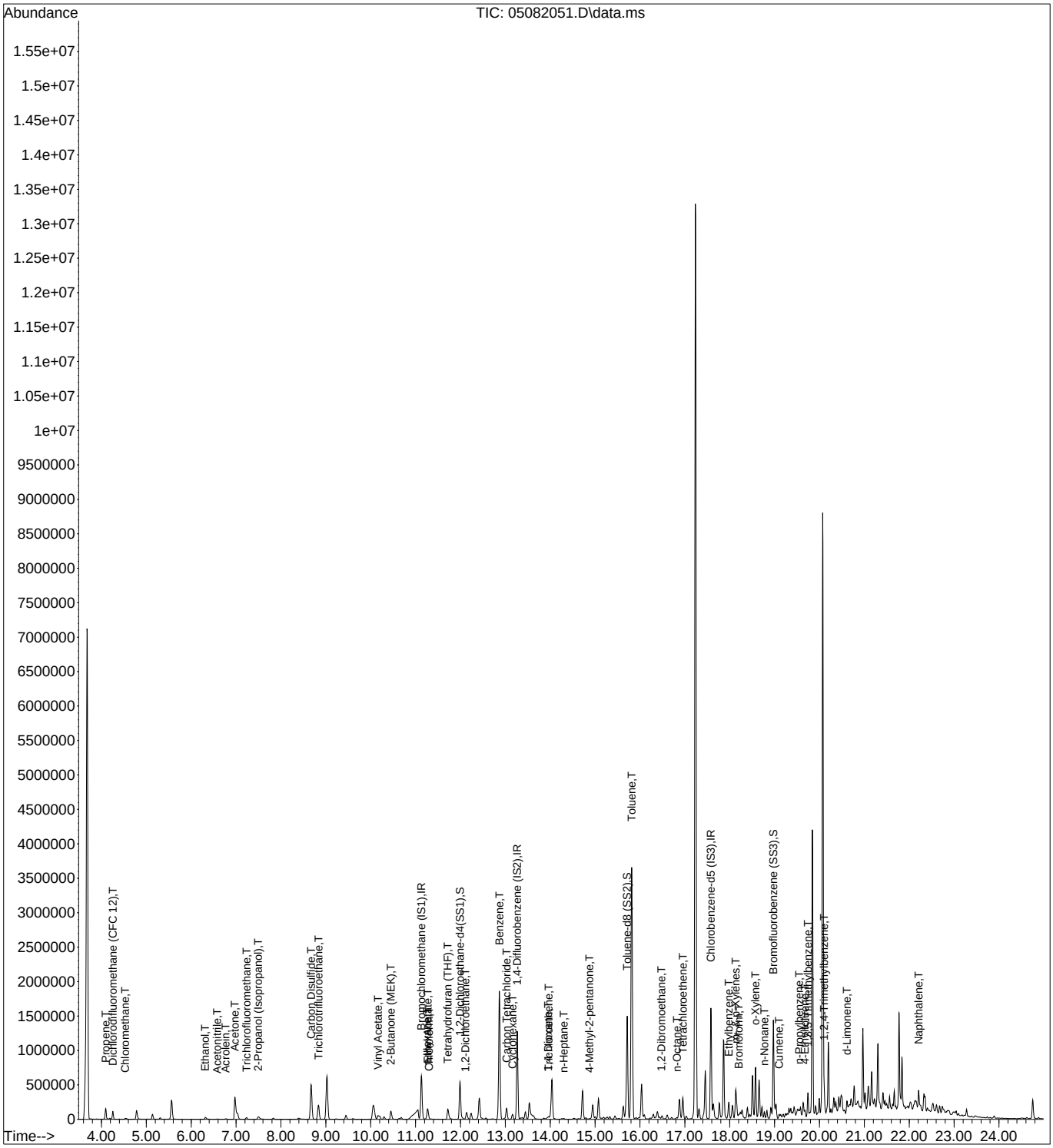
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.30	71	2817	0.098 ng		90
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.88	58	1402	0.051 ng	#	51
54) trans-1,3-Dichloropropene	15.36	75	434	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d		
58) Toluene	15.82	91	2448855	21.414 ng		100
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	16.23	129	439	N.D.		
61) 1,2-Dibromoethane	16.48	107	6684	0.212 ng		99
62) n-Butyl Acetate	16.70	43	2657	N.D.		
63) n-Octane	16.83	57	4215	0.178 ng		84
64) Tetrachloroethene	16.96	166	58431	1.809 ng		99
65) Chlorobenzene	17.62	112	2540	N.D.		
66) Ethylbenzene	17.98	91	156617	1.228 ng		100
67) m- & p-Xylenes	18.14	91	313726	3.101 ng		99
68) Bromoform	18.20	173	1742	0.061 ng		90
69) Styrene	18.47	104	3367	N.D.		
70) o-Xylene	18.57	91	276395	2.691 ng		99
71) n-Nonane	18.77	43	30999	0.569 ng		99
72) 1,1,2,2-Tetrachloroethane	18.58	83	759	N.D.		
74) Cumene	19.10	105	24460	0.194 ng		100
75) alpha-Pinene	19.45	93	1472	N.D.		
76) n-Propylbenzene	19.55	91	54269	0.362 ng		89
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.68	105	22685	0.192 ng		100
79) 1,3,5-Trimethylbenzene	19.74	105	85171	0.829 ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	20.10	105	115927	1.122 ng		92
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	0.00	91	0	N.D. d		
85) 1,3-Dichlorobenzene	20.24	146	770	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	1766	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D. d		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	20.60	146	479	N.D.		
91) d-Limonene	20.61	68	22429	0.550 ng		95
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D. d		
95) Naphthalene	22.21	128	19886	0.158 ng		95
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	22.53	225	158	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082051.D Vial: 7
Acq On : 9 May 2020 7:45 Operator: LH
Sample : P2002299-011 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 18:40:50 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082051.D Vial: 7
Acq On : 9 May 2020 7:45 Operator: LH
Sample : P2002299-011 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 18:40:50 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/11/20

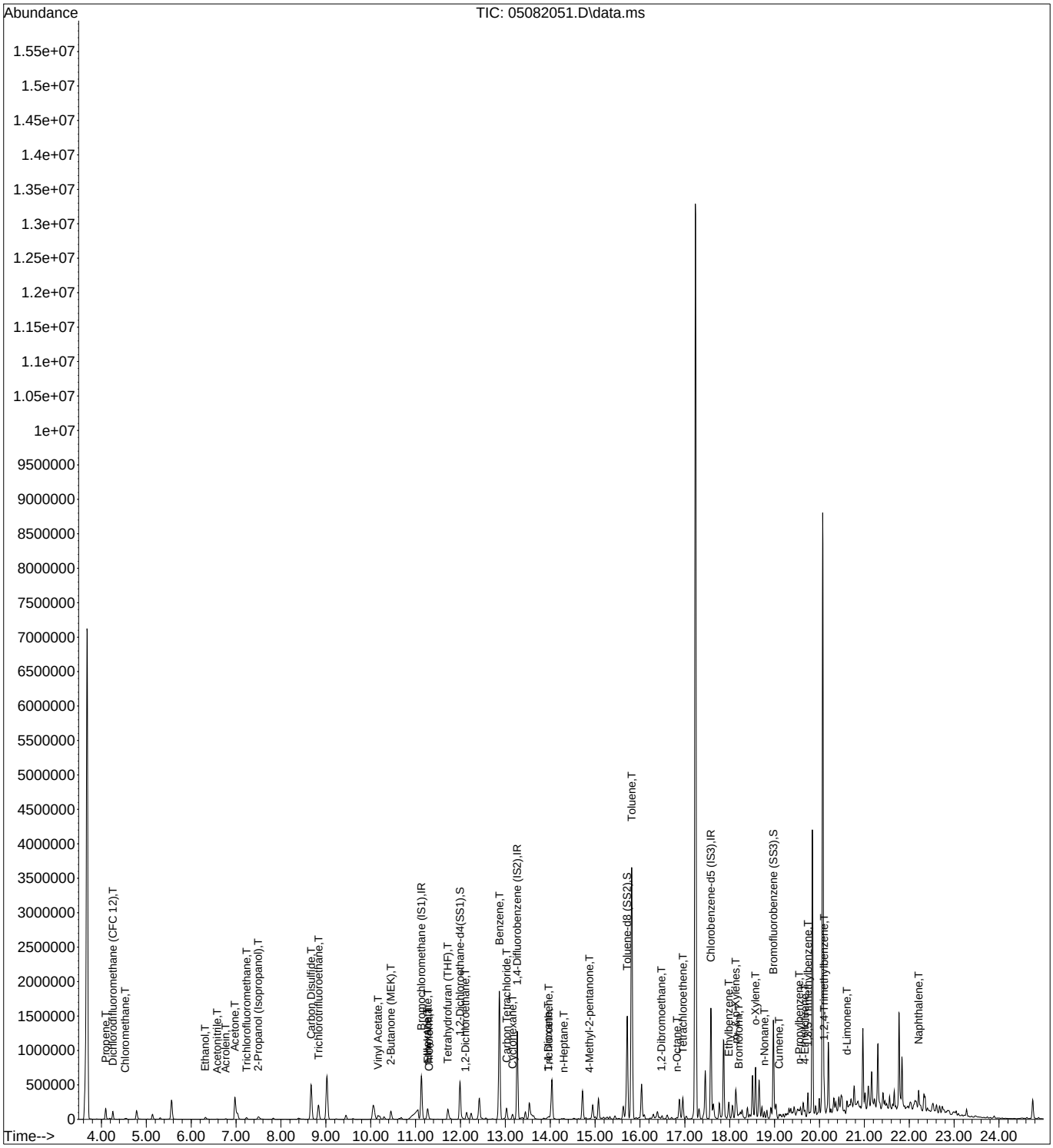
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	268584	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1140540	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	523394	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	419709	11.531	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.24%				
57) Toluene-d8 (SS2)	15.72	98	1115354	12.572	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.56%				
73) Bromofluorobenzene (SS3)	18.97	174	434394	13.608	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.88%				
Target Compounds							Qvalue
2) Propene	4.10	42	15137	0.487	ng		97
3) Dichlorodifluoromethan...	4.26	85	104773	1.722	ng		100
4) Chloromethane	4.53	50	8670	0.182	ng		99
10) Ethanol	6.31	45	47406	1.974	ng		96
11) Acetonitrile	6.58	41	6626	0.121	ng		85
12) Acrolein	6.77	56	9171	0.483	ng		99
13) Acetone	6.97	58	174442	7.262	ng		98
14) Trichlorofluoromethane	7.24	101	25739	0.479	ng		99
15) 2-Propanol (Isopropanol)	7.50	45	73278	1.008	ng		91
21) Trichlorotrifluoroethane	8.84	151	87698	3.454	ng		97
22) Carbon Disulfide	8.67	76	951546	8.504	ng		99
26) Vinyl Acetate	10.16	86	14134	1.889	ng	#	43
27) 2-Butanone (MEK)	10.45	72	44353	2.165	ng		98
30) Ethyl Acetate	11.27	61	5274	0.446	ng		99
31) n-Hexane	11.26	57	9977	0.195	ng		98
32) Chloroform	11.30	83	5172	0.097	ng		96
34) Tetrahydrofuran (THF)	11.72	72	49273	2.466	ng		98
36) 1,2-Dichloroethane	12.11	62	3066	0.072	ng		92
41) Benzene	12.87	78	1843316	15.071	ng		100
42) Carbon Tetrachloride	13.03	117	89994	2.163	ng		98
43) Cyclohexane	13.16	84	28366	0.622	ng		96
47) Trichloroethene	13.97	130	11515	0.364	ng		99
48) 1,4-Dioxane	13.96	88	3318	0.135	ng		97
51) n-Heptane	14.30	71	2817	0.098	ng		90
53) 4-Methyl-2-pentanone	14.88	58	1402	0.051	ng	#	51
58) Toluene	15.82	91	2448855	21.414	ng		100
61) 1,2-Dibromoethane	16.48	107	6684	0.212	ng		99
63) n-Octane	16.83	57	4215	0.178	ng		84
64) Tetrachloroethene	16.96	166	58431	1.809	ng		99
66) Ethylbenzene	17.98	91	156617	1.228	ng		100
67) m- & p-Xylenes	18.14	91	313726	3.101	ng		99
68) Bromoform	18.20	173	1742	0.061	ng		90
70) o-Xylene	18.57	91	276395	2.691	ng		99
71) n-Nonane	18.77	43	30999	0.569	ng		99
74) Cumene	19.10	105	24460	0.194	ng		100
76) n-Propylbenzene	19.55	91	54269	0.362	ng		89
78) 4-Ethyltoluene	19.68	105	22685	0.192	ng		100
79) 1,3,5-Trimethylbenzene	19.74	105	85171	0.829	ng		99
82) 1,2,4-Trimethylbenzene	20.10	105	115927	1.122	ng		92
91) d-Limonene	20.61	68	22429	0.550	ng		95
95) Naphthalene	22.21	128	19886	0.158	ng		95

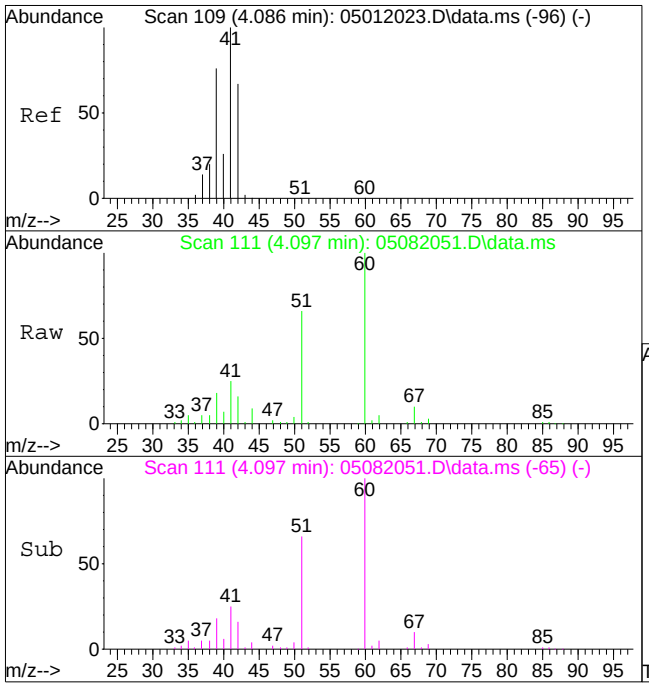
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082051.D Vial: 7
Acq On : 9 May 2020 7:45 Operator: LH
Sample : P2002299-011 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 18:40:50 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

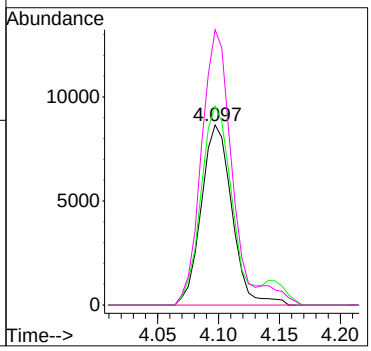


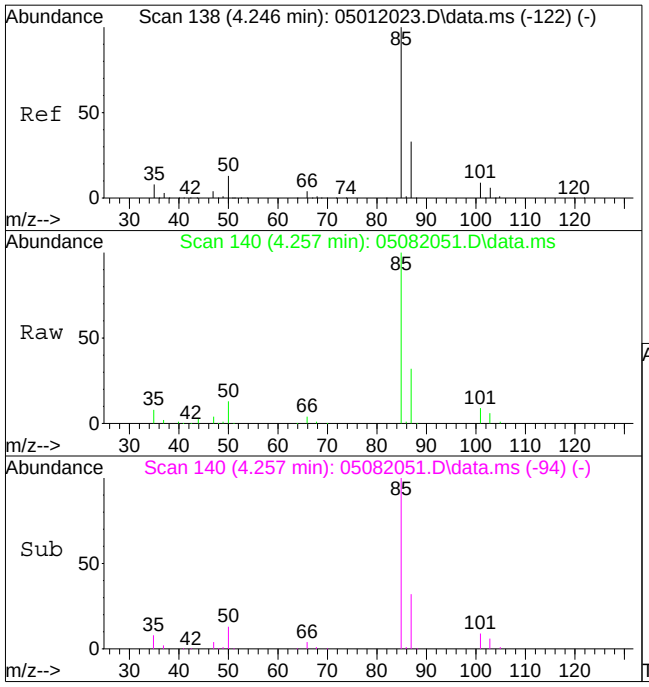


#2
Propene
Concen: 0.49 ng
RT: 4.10 min Scan# 111
Delta R.T. 0.005 min
Lab File: 05082051.D
Acq: 9 May 2020 7:45

Tgt Ion: 42 Resp: 15137

Ion	Ratio	Lower	Upper
42	100		
39	113.0	96.1	136.1
41	154.9	131.9	171.9

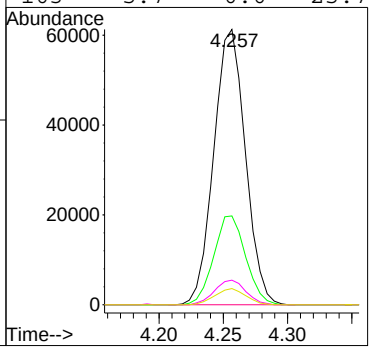


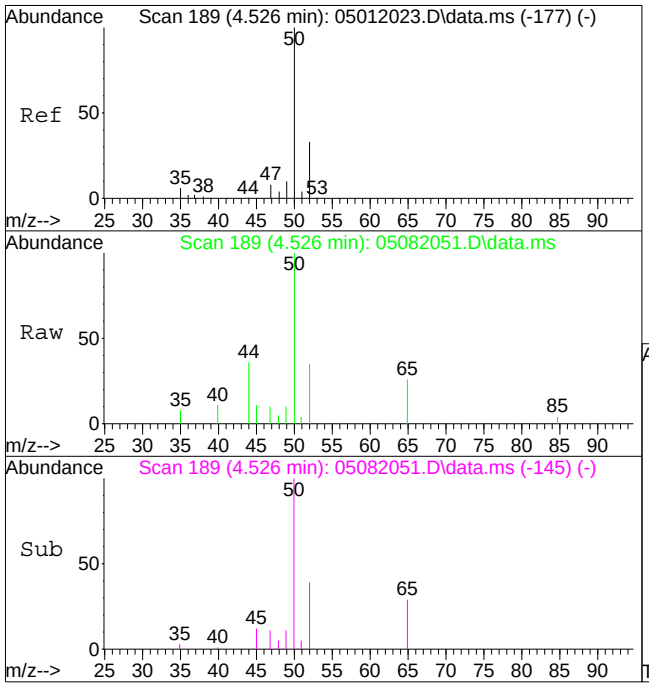


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.72 ng
RT: 4.26 min Scan# 140
Delta R.T. 0.005 min
Lab File: 05082051.D
Acq: 9 May 2020 7:45

Tgt Ion: 85 Resp: 104773

Ion	Ratio	Lower	Upper
85	100		
87	32.6	12.4	52.4
101	8.9	0.0	28.8
103	5.7	0.0	25.7

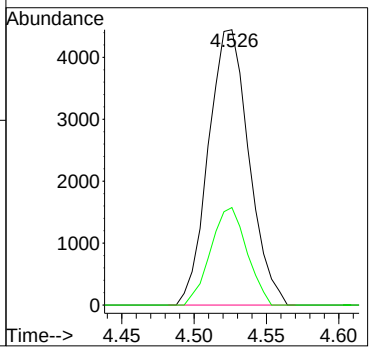


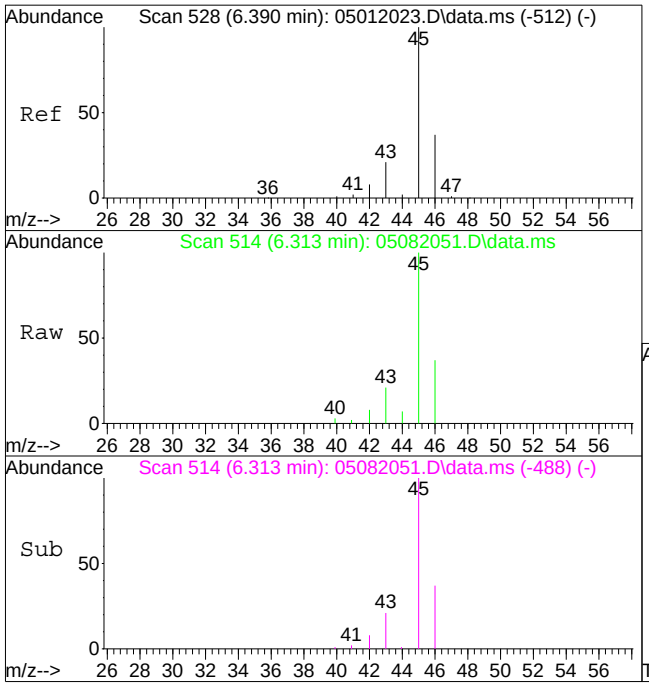


#4
Chloromethane
Concen: 0.18 ng
RT: 4.53 min Scan# 189
Delta R.T. -0.006 min
Lab File: 05082051.D
Acq: 9 May 2020 7:45

Tgt Ion: 50 Resp: 8670

Ion	Ratio	Lower	Upper
50	100		
52	31.7	12.5	52.5

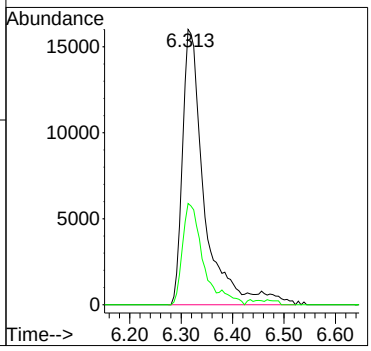


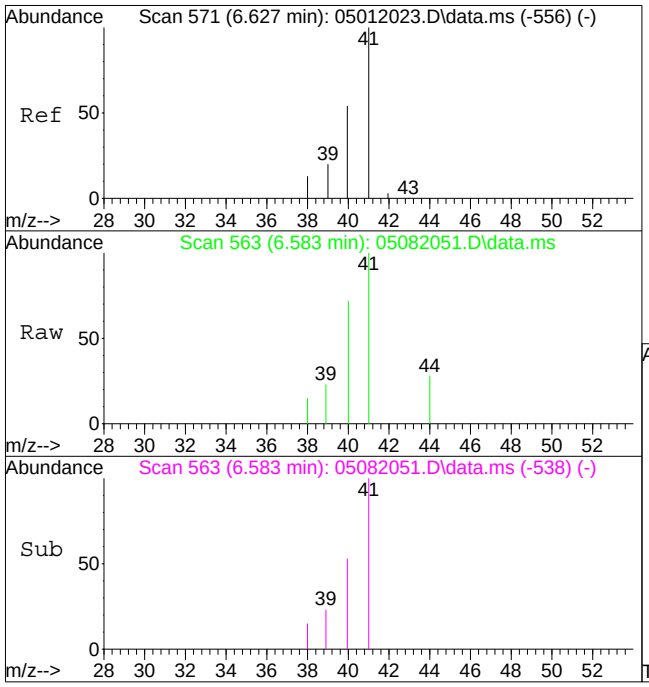


#10
Ethanol
Concen: 1.97 ng
RT: 6.31 min Scan# 514
Delta R.T. -0.105 min
Lab File: 05082051.D
Acq: 9 May 2020 7:45

Tgt Ion: 45 Resp: 47406

Ion	Ratio	Lower	Upper
45	100		
46	35.0	17.2	57.2

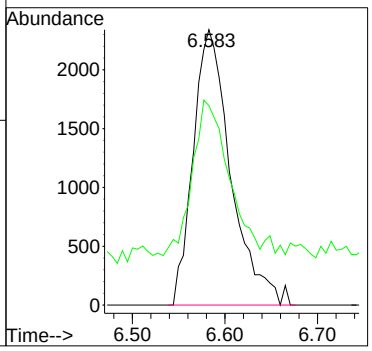


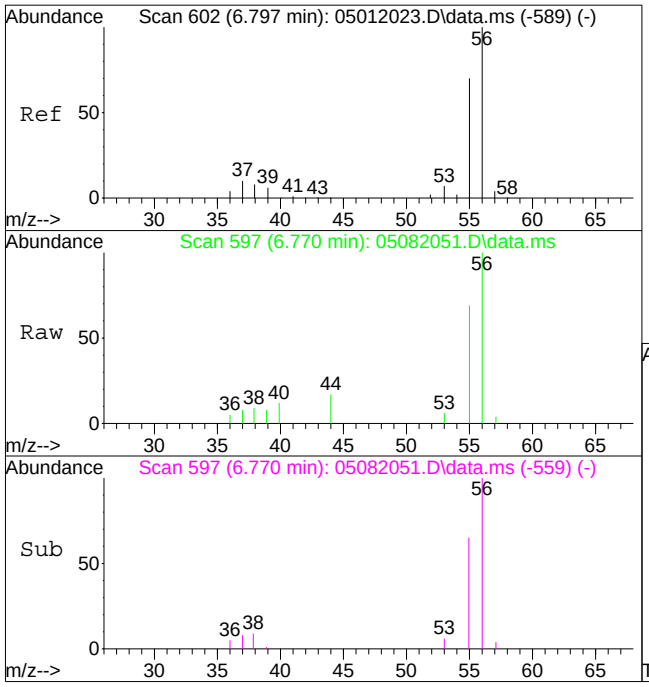


#11
Acetonitrile
Concen: 0.12 ng
RT: 6.58 min Scan# 563
Delta R.T. -0.061 min
Lab File: 05082051.D
Acq: 9 May 2020 7:45

Tgt Ion: 41 Resp: 6626

Ion	Ratio	Lower	Upper
41	100		
40	64.6	33.6	73.6

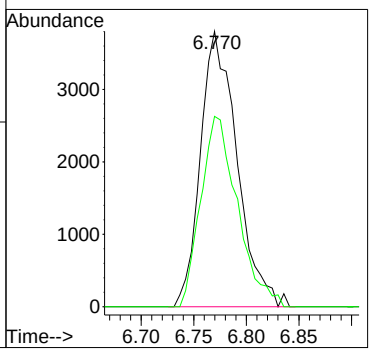


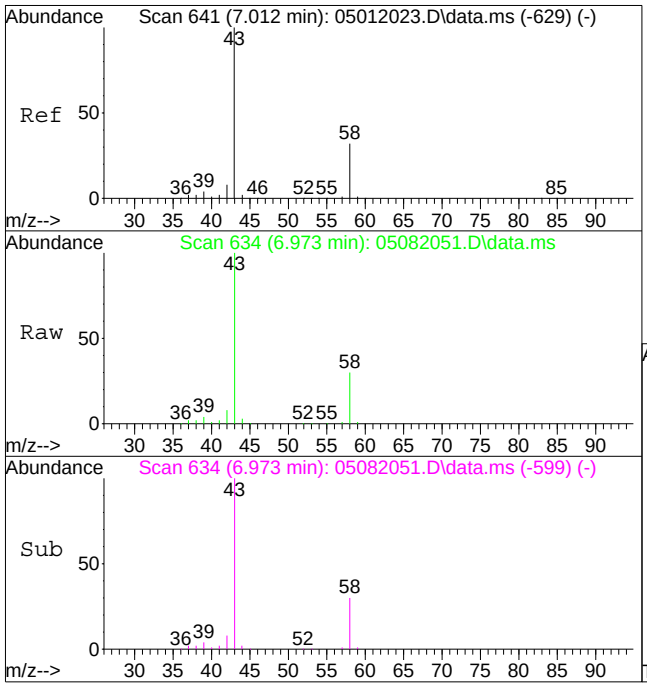


#12
Acrolein
Concen: 0.48 ng
RT: 6.77 min Scan# 597
Delta R.T. -0.039 min
Lab File: 05082051.D
Acq: 9 May 2020 7:45

Tgt Ion: 56 Resp: 9171

Ion	Ratio	Lower	Upper
56	100		
55	69.6	50.2	90.2

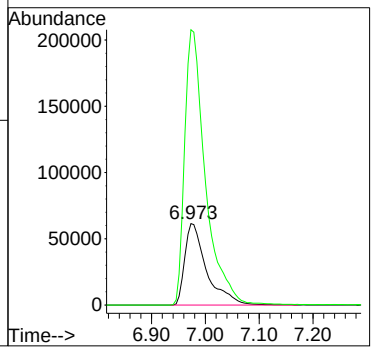


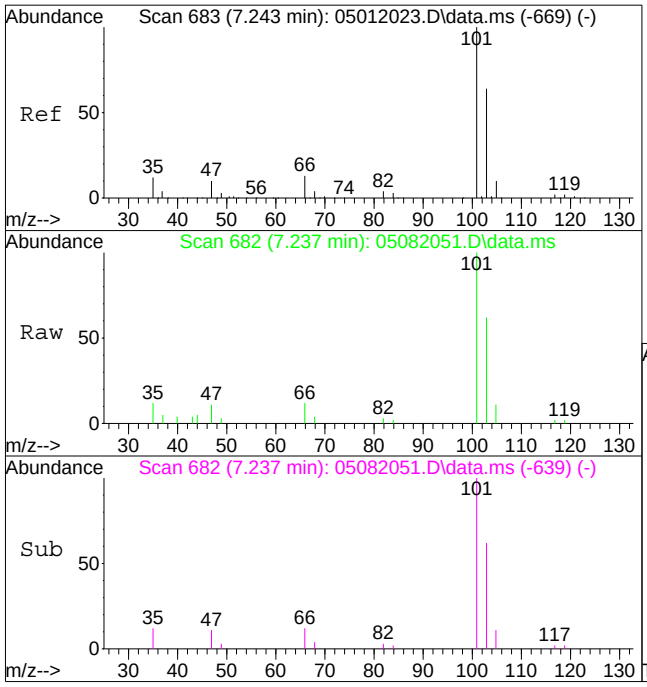


#13
Acetone
Concen: 7.26 ng
RT: 6.97 min Scan# 634
Delta R.T. -0.055 min
Lab File: 05082051.D
Acq: 9 May 2020 7:45

Tgt Ion: 58 Resp: 174442

Ion	Ratio	Lower	Upper
58	100		
43	320.4	294.4	354.4

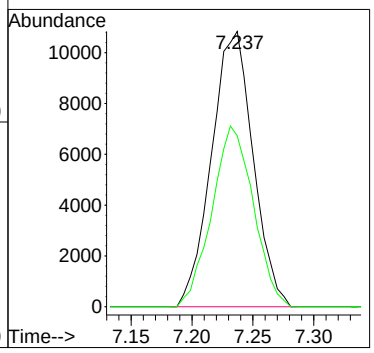


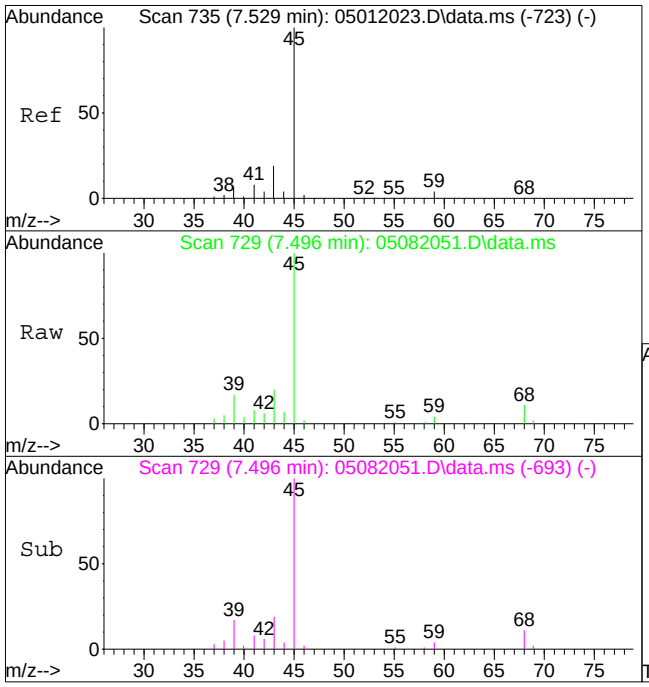


#14
Trichlorofluoromethane
Concen: 0.48 ng
RT: 7.24 min Scan# 682
Delta R.T. -0.011 min
Lab File: 05082051.D
Acq: 9 May 2020 7:45

Tgt Ion:101 Resp: 25739

Ion	Ratio	Lower	Upper
101	100		
103	65.2	44.4	84.4

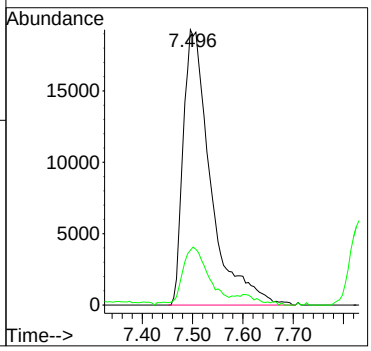


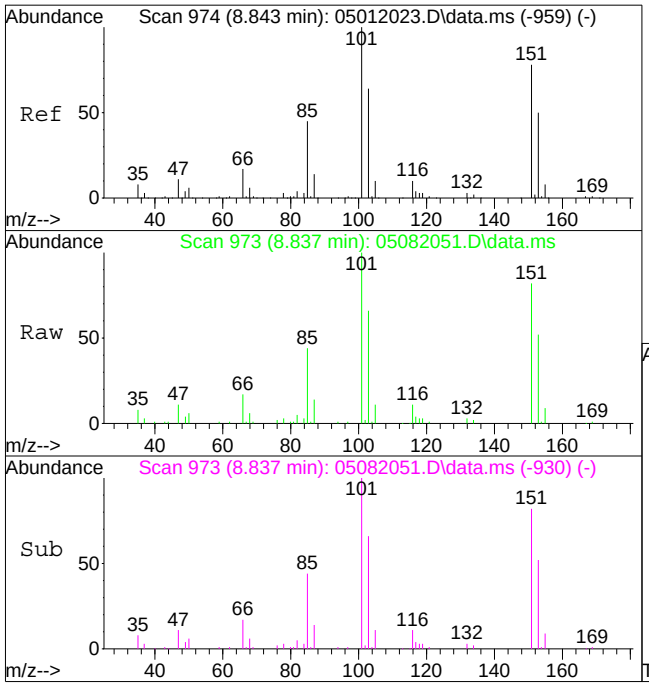


#15
2-Propanol (Isopropanol)
Concen: 1.01 ng
RT: 7.50 min Scan# 729
Delta R.T. -0.050 min
Lab File: 05082051.D
Acq: 9 May 2020 7:45

Tgt Ion: 45 Resp: 73278

Ion	Ratio	Lower	Upper
45	100		
43	23.4	0.0	39.5

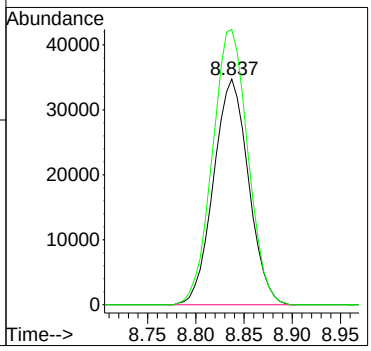


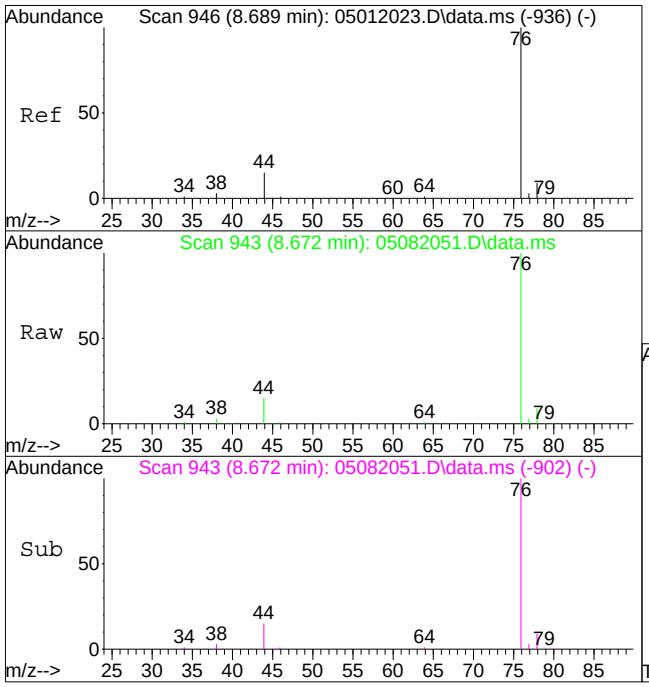


#21
Trichlorotrifluoroethane
Concen: 3.45 ng
RT: 8.84 min Scan# 973
Delta R.T. -0.011 min
Lab File: 05082051.D
Acq: 9 May 2020 7:45

Tgt Ion:151 Resp: 87698

Ion	Ratio	Lower	Upper
151	100		
101	123.7	107.3	147.3

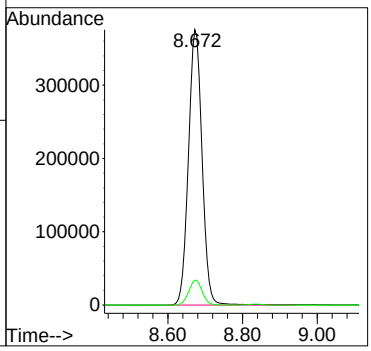


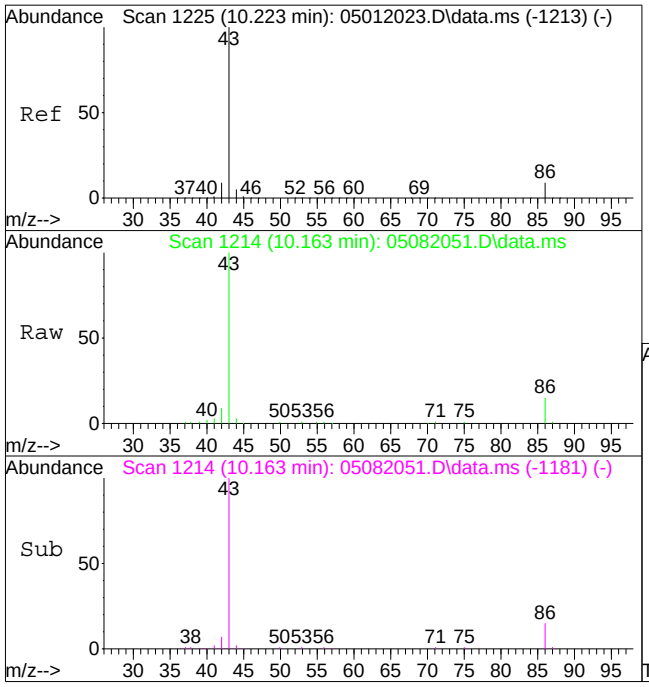


#22
Carbon Disulfide
Concen: 8.50 ng
RT: 8.67 min Scan# 943
Delta R.T. -0.022 min
Lab File: 05082051.D
Acq: 9 May 2020 7:45

Tgt Ion: 76 Resp: 951546

Ion	Ratio	Lower	Upper
76	100		
78	8.9	0.0	29.2

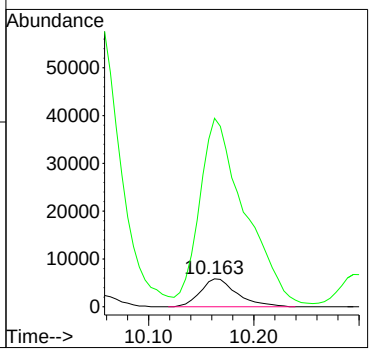


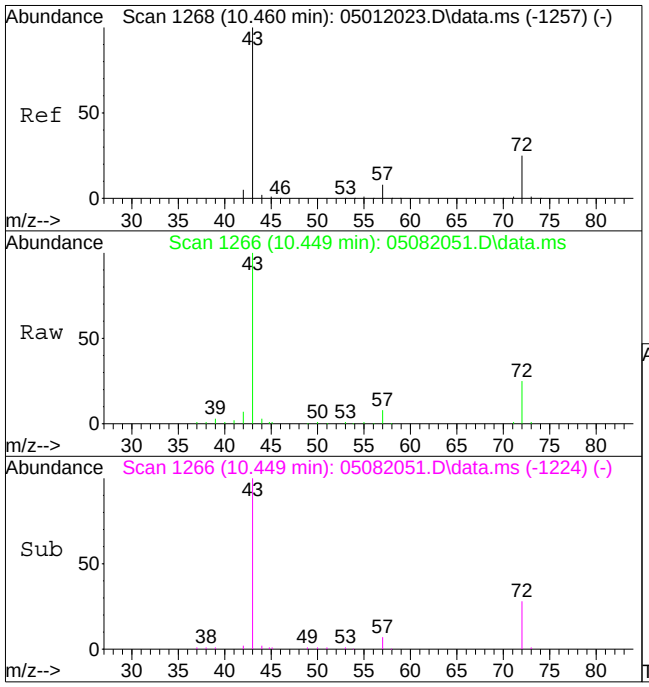


#26
Vinyl Acetate
Concen: 1.89 ng
RT: 10.16 min Scan# 1214
Delta R.T. -0.066 min
Lab File: 05082051.D
Acq: 9 May 2020 7:45

Tgt Ion: 86 Resp: 14134

Ion	Ratio	Lower	Upper
86	100		
43	844.9	1103.0	1143.0#

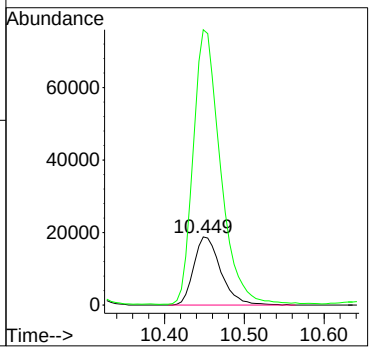


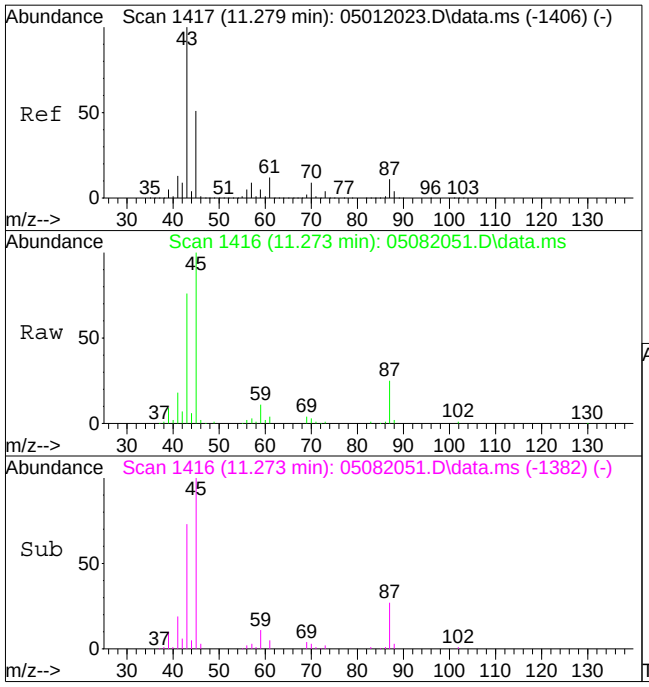


#27
2-Butanone (MEK)
Concen: 2.17 ng
RT: 10.45 min Scan# 1266
Delta R.T. -0.017 min
Lab File: 05082051.D
Acq: 9 May 2020 7:45

Tgt Ion: 72 Resp: 44353

Ion	Ratio	Lower	Upper
72	100		
43	405.7	389.7	429.7

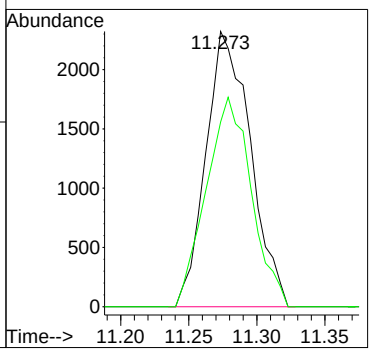


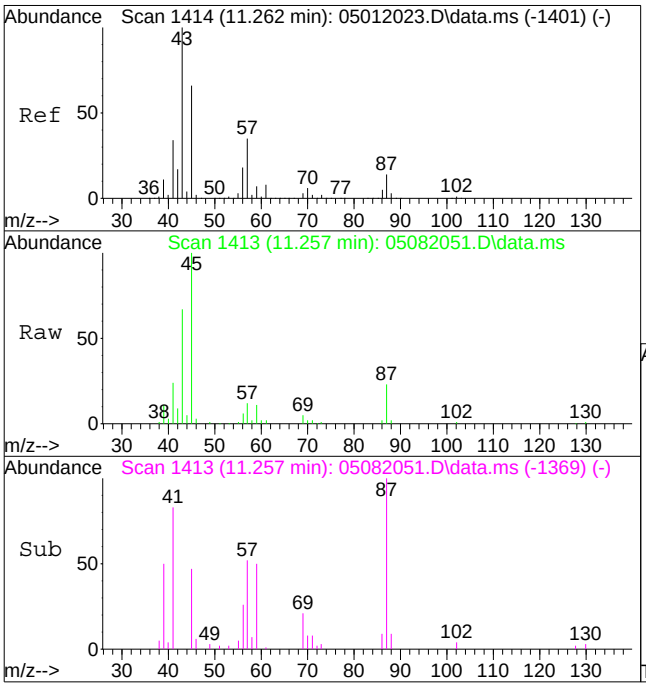


#30
Ethyl Acetate
Concen: 0.45 ng
RT: 11.27 min Scan# 1416
Delta R.T. -0.011 min
Lab File: 05082051.D
Acq: 9 May 2020 7:45

Tgt Ion: 61 Resp: 5274

Ion	Ratio	Lower	Upper
61	100		
70	77.2	57.9	97.9

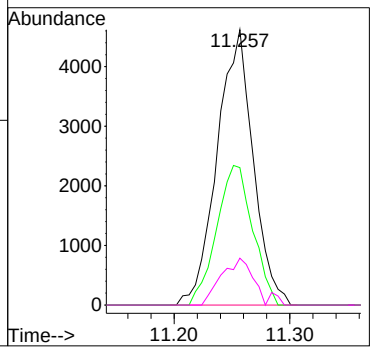


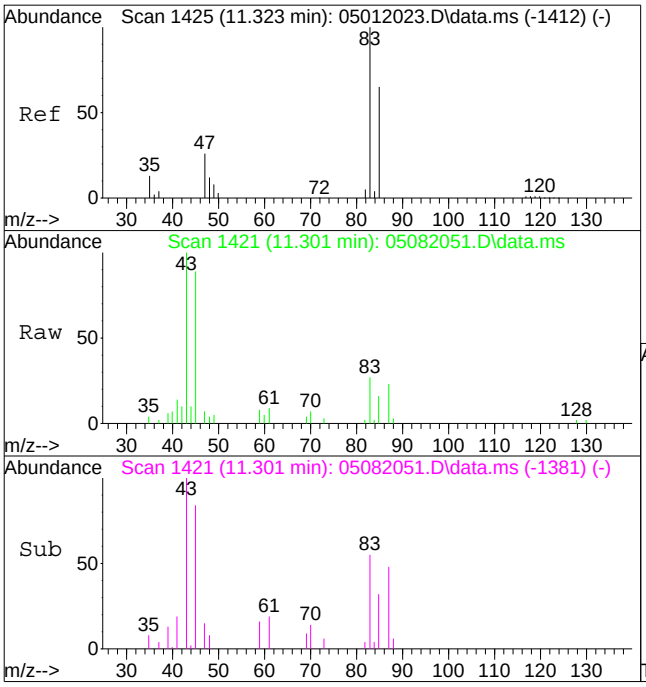


#31
n-Hexane
Concen: 0.19 ng
RT: 11.26 min Scan# 1413
Delta R.T. -0.006 min
Lab File: 05082051.D
Acq: 9 May 2020 7:45

Tgt Ion: 57 Resp: 9977

Ion	Ratio	Lower	Upper
57	100		
56	50.7	41.4	62.0
86	14.7	12.4	18.6

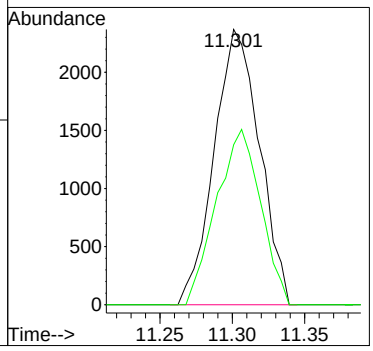


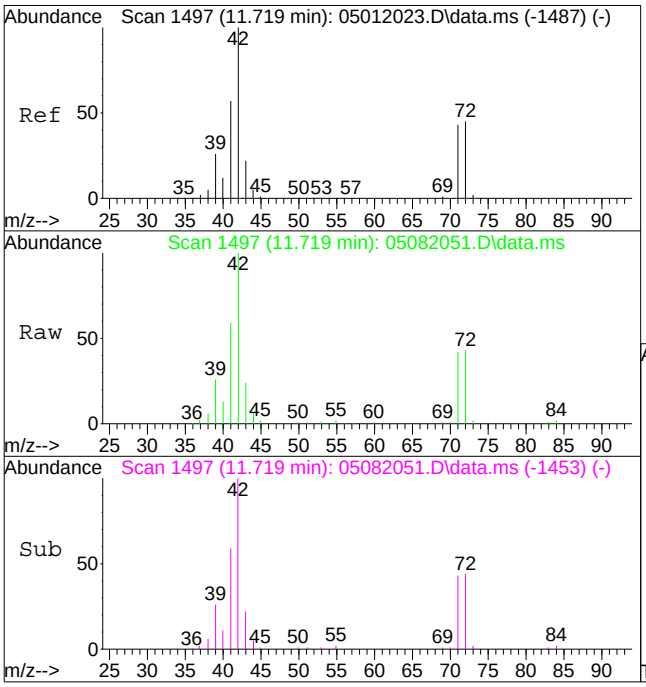


#32
Chloroform
Concen: 0.10 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.028 min
Lab File: 05082051.D
Acq: 9 May 2020 7:45

Tgt Ion: 83 Resp: 5172

Ion	Ratio	Lower	Upper
83	100		
85	62.2	45.5	85.5

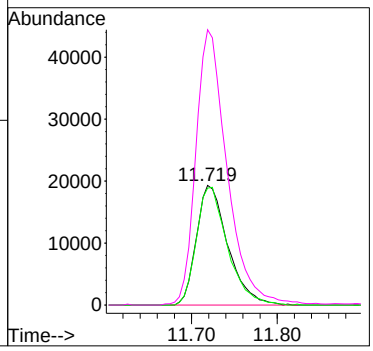


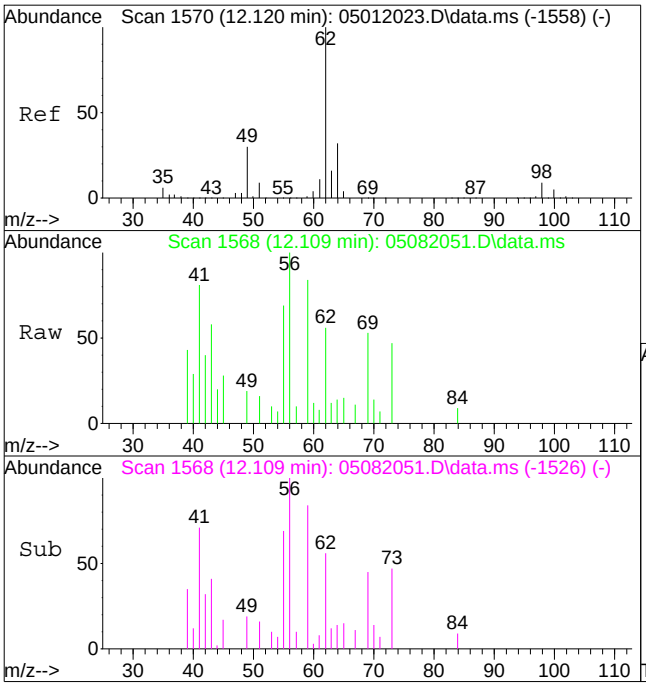


#34
Tetrahydrofuran (THF)
Concen: 2.47 ng
RT: 11.72 min Scan# 1497
Delta R.T. -0.006 min
Lab File: 05082051.D
Acq: 9 May 2020 7:45

Tgt Ion: 72 Resp: 49273

Ion	Ratio	Lower	Upper
72	100		
71	97.5	77.0	117.0
42	229.4	204.6	244.6

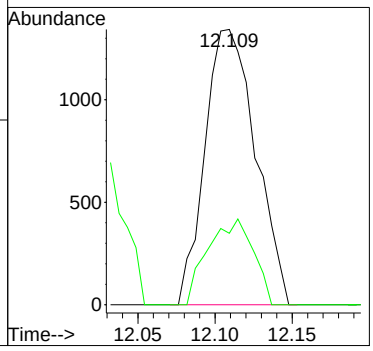


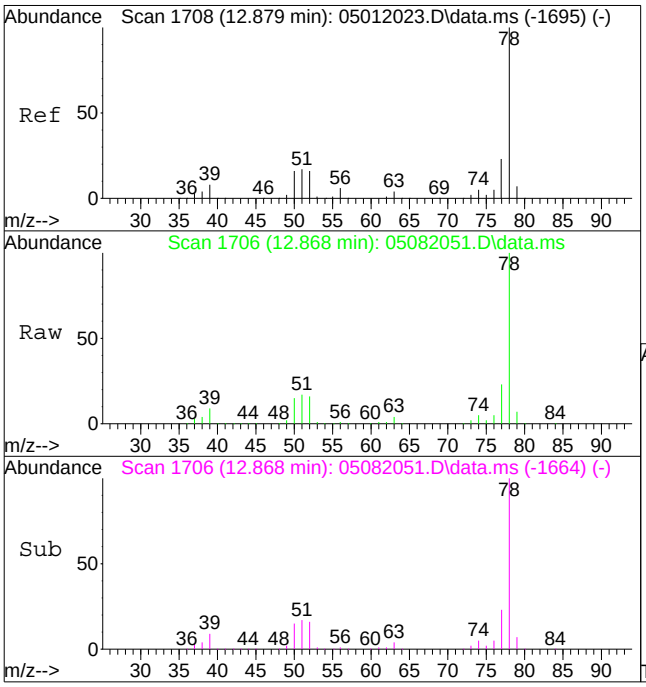


#36
1,2-Dichloroethane
Concen: 0.07 ng
RT: 12.11 min Scan# 1568
Delta R.T. -0.017 min
Lab File: 05082051.D
Acq: 9 May 2020 7:45

Tgt Ion: 62 Resp: 3066

Ion	Ratio	Lower	Upper
62	100		
64	28.0	12.4	52.4

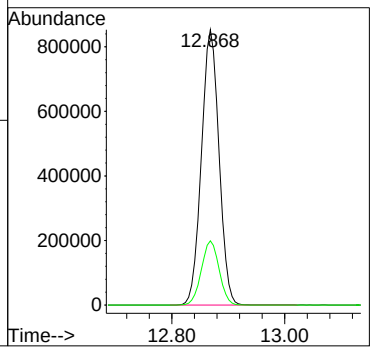


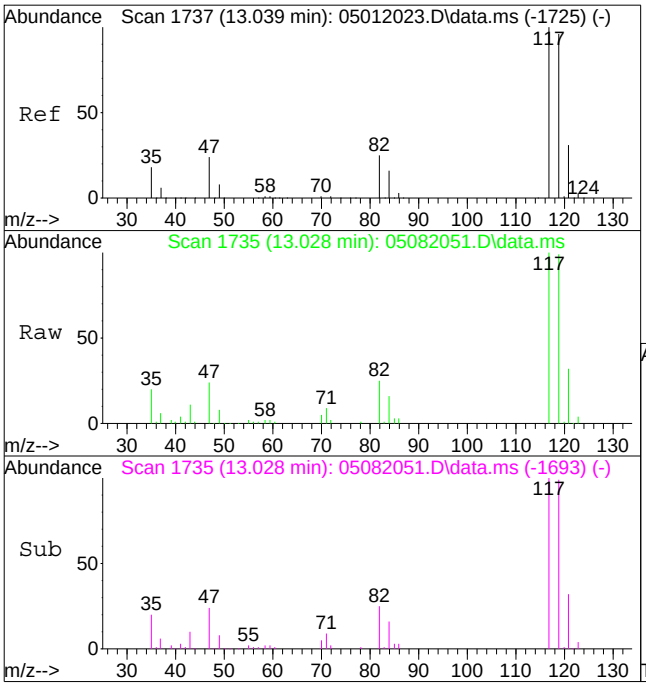


#41
Benzene
Concen: 15.07 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05082051.D
Acq: 9 May 2020 7:45

Tgt Ion: 78 Resp: 1843316

Ion	Ratio	Lower	Upper
78	100		
77	23.5	3.4	43.4

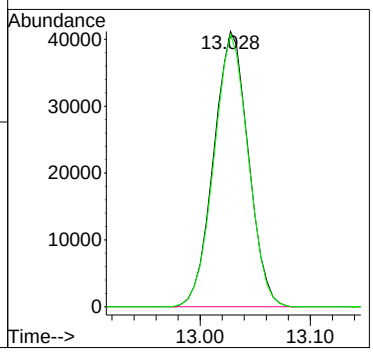


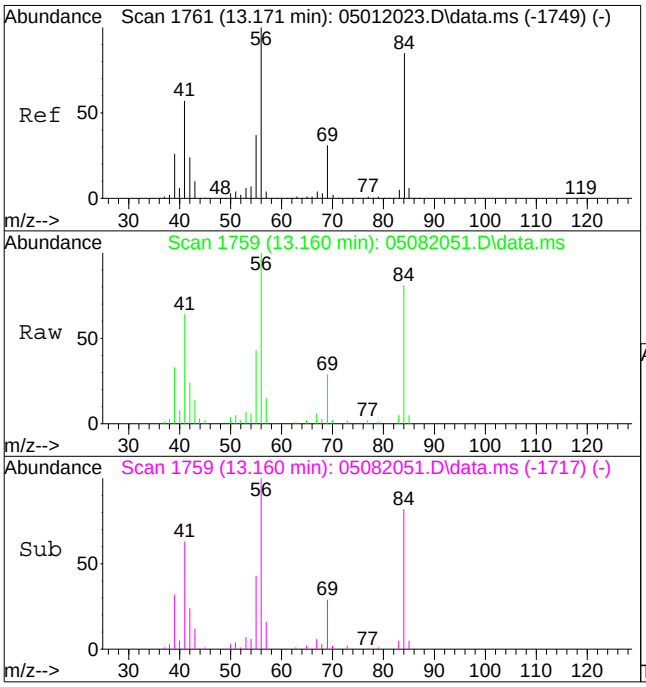


#42
Carbon Tetrachloride
Concen: 2.16 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05082051.D
Acq: 9 May 2020 7:45

Tgt Ion:117 Resp: 89994

Ion	Ratio	Lower	Upper
117	100		
119	97.7	76.2	116.2

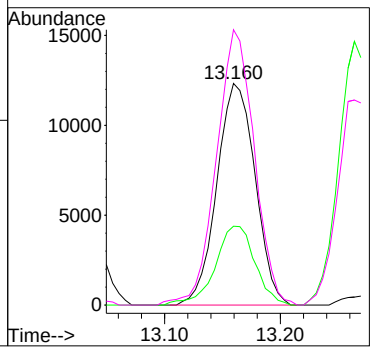


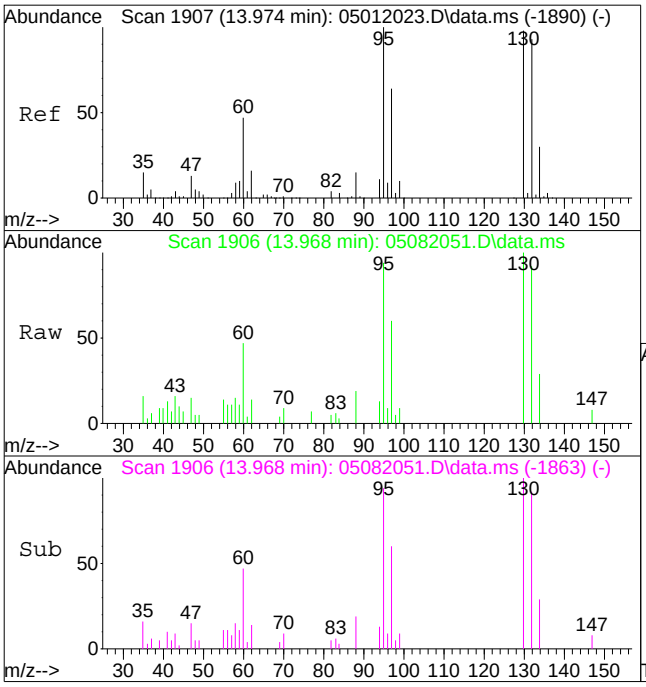


#43
Cyclohexane
Concen: 0.62 ng
RT: 13.16 min Scan# 1759
Delta R.T. -0.017 min
Lab File: 05082051.D
Acq: 9 May 2020 7:45

Tgt Ion: 84 Resp: 28366

Ion	Ratio	Lower	Upper
84	100		
69	36.9	16.5	56.5
56	122.6	97.4	137.4

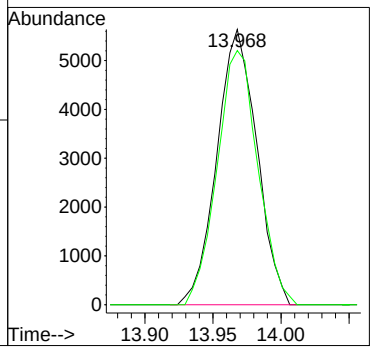


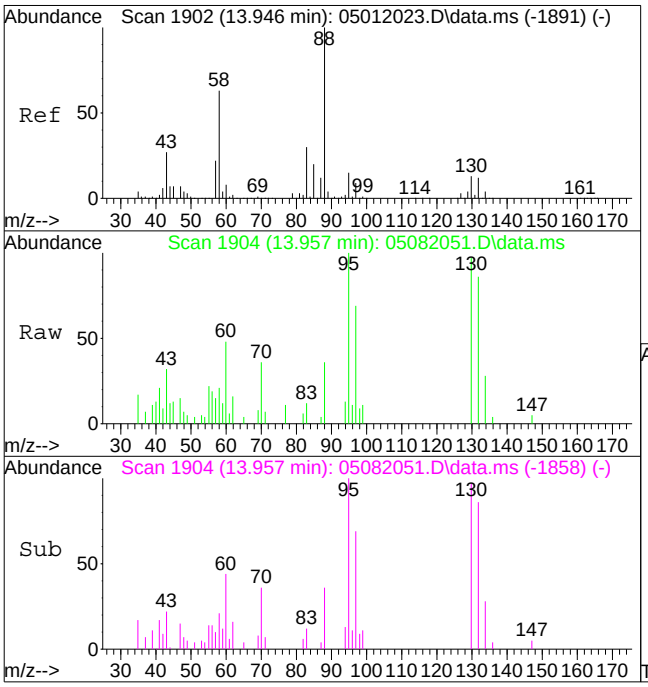


#47
Trichloroethene
Concen: 0.36 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05082051.D
Acq: 9 May 2020 7:45

Tgt Ion:130 Resp: 11515

Ion	Ratio	Lower	Upper
130	100		
132	94.4	74.9	114.9

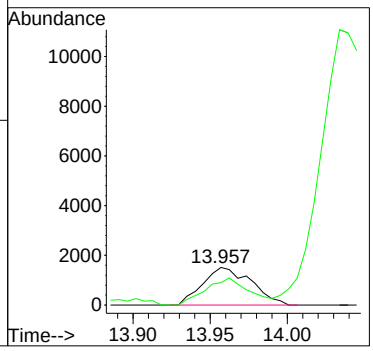


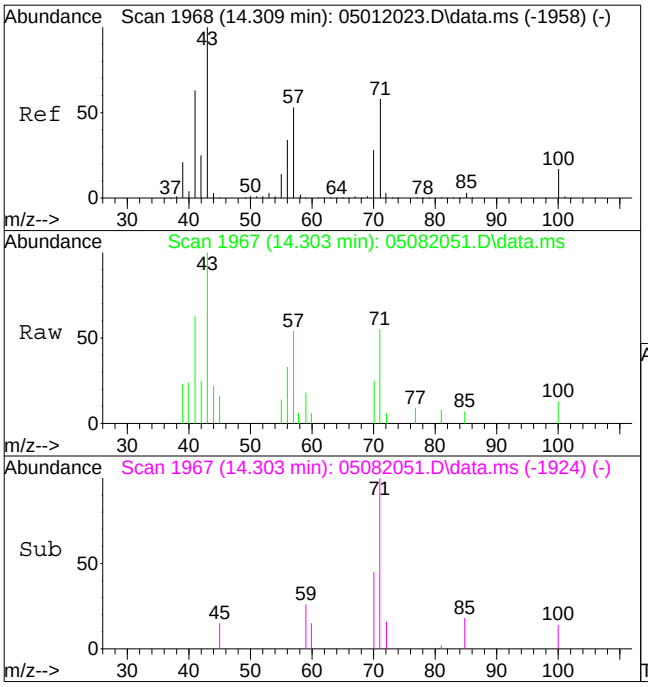


#48
1,4-Dioxane
Concen: 0.13 ng
RT: 13.96 min Scan# 1904
Delta R.T. 0.005 min
Lab File: 05082051.D
Acq: 9 May 2020 7:45

Tgt Ion: 88 Resp: 3318

Ion	Ratio	Lower	Upper
88	100		
58	65.0	42.8	82.8

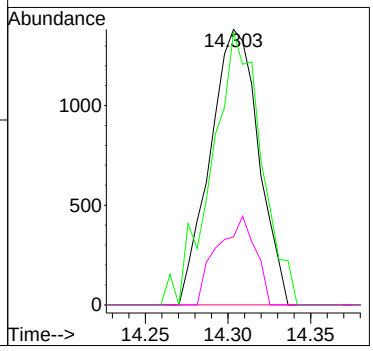


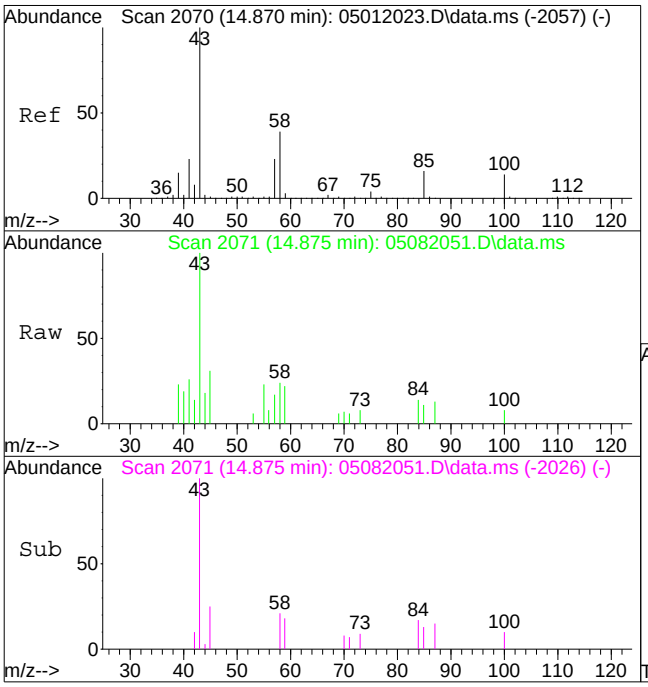


#51
n-Heptane
Concen: 0.10 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05082051.D
Acq: 9 May 2020 7:45

Tgt Ion: 71 Resp: 2817

Ion	Ratio	Lower	Upper
71	100		
57	101.6	71.0	111.0
100	25.2	8.4	48.4

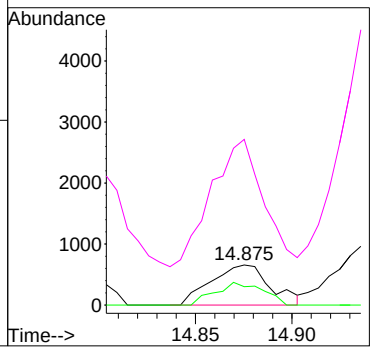


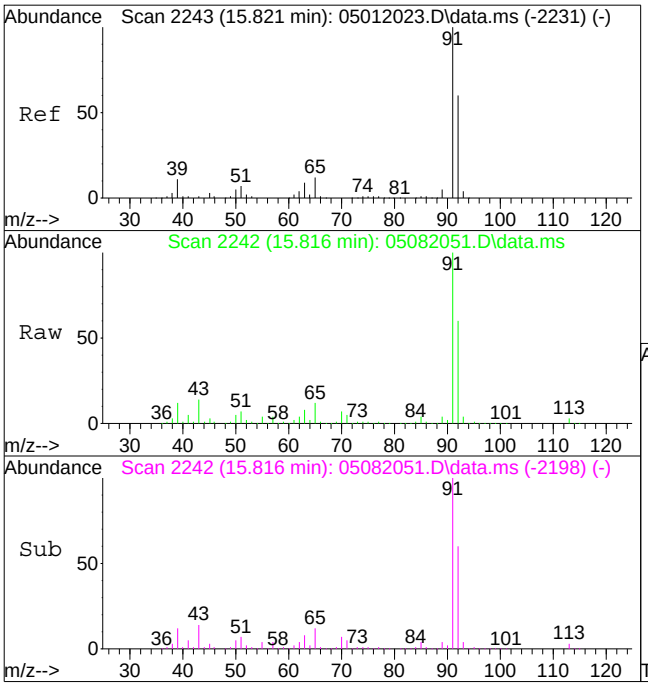


#53
4-Methyl-2-pentanone
Concen: 0.05 ng
RT: 14.88 min Scan# 2071
Delta R.T. -0.000 min
Lab File: 05082051.D
Acq: 9 May 2020 7:45

Tgt Ion: 58 Resp: 1402

Ion	Ratio	Lower	Upper
58	100		
85	45.6	35.4	53.2
43	354.1	203.3	304.9#

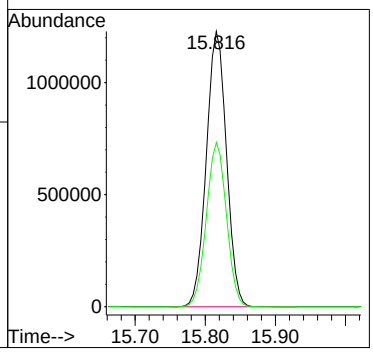


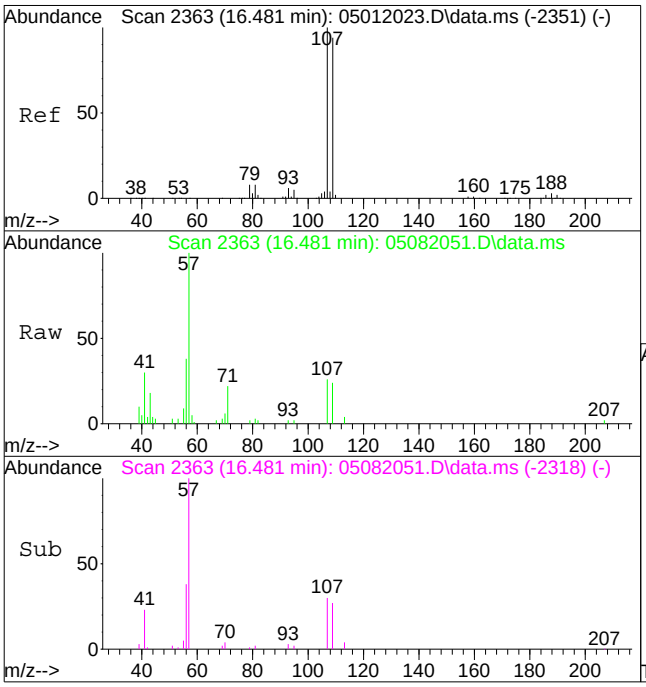


#58
Toluene
Concen: 21.41 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05082051.D
Acq: 9 May 2020 7:45

Tgt Ion: 91 Resp: 2448855

Ion	Ratio	Lower	Upper
91	100		
92	59.5	39.4	79.4

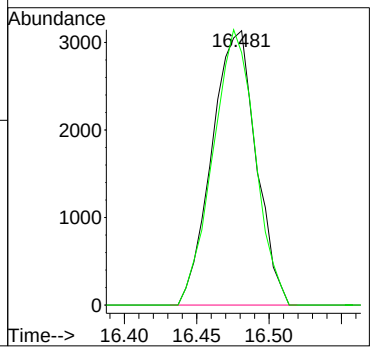


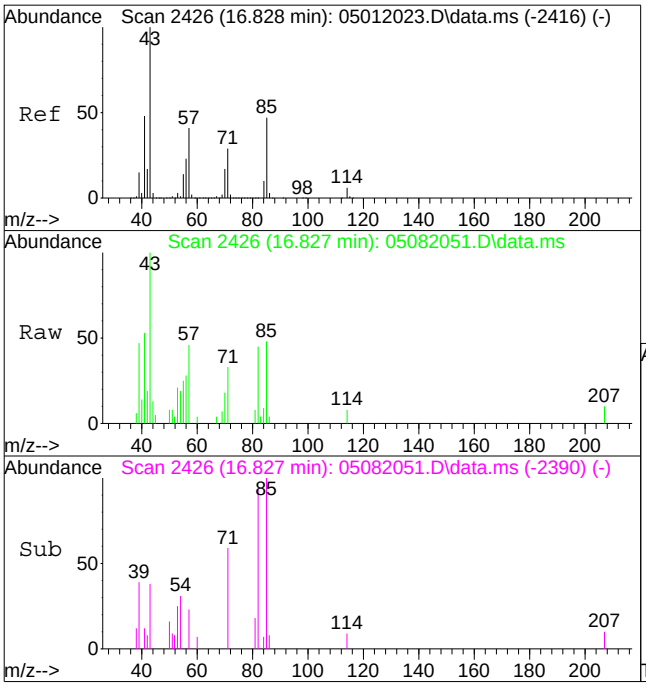


#61
1,2-Dibromoethane
Concen: 0.21 ng
RT: 16.48 min Scan# 2363
Delta R.T. -0.000 min
Lab File: 05082051.D
Acq: 9 May 2020 7:45

Tgt Ion:107 Resp: 6684

Ion	Ratio	Lower	Upper
107	100		
109	95.8	74.5	114.5

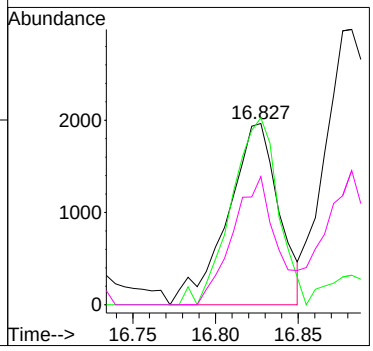


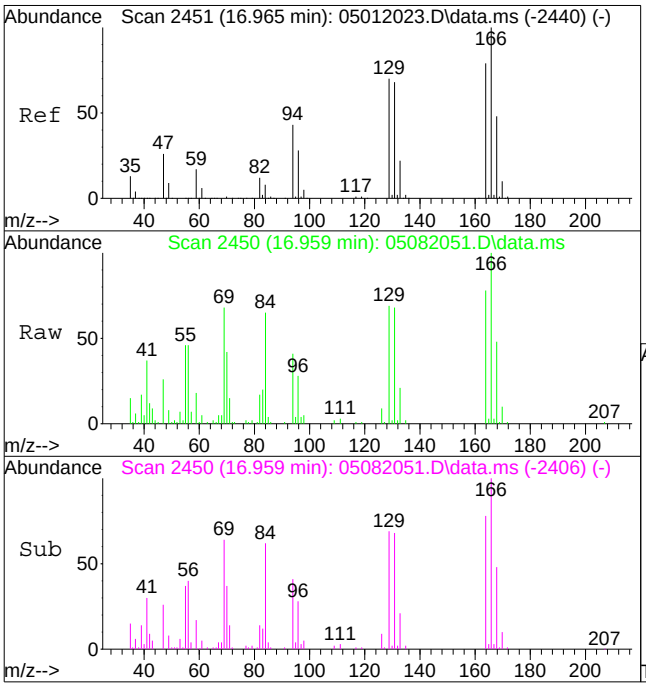


#63
n-Octane
Concen: 0.18 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05082051.D
Acq: 9 May 2020 7:45

Tgt Ion: 57 Resp: 4215

Ion	Ratio	Lower	Upper
57	100		
85	94.3	91.0	136.4
71	60.6	56.2	84.2

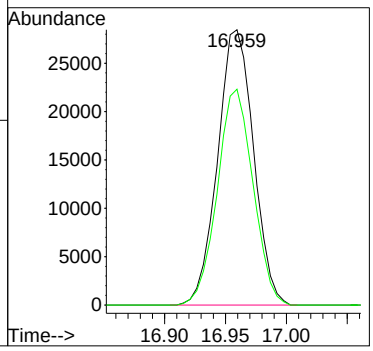


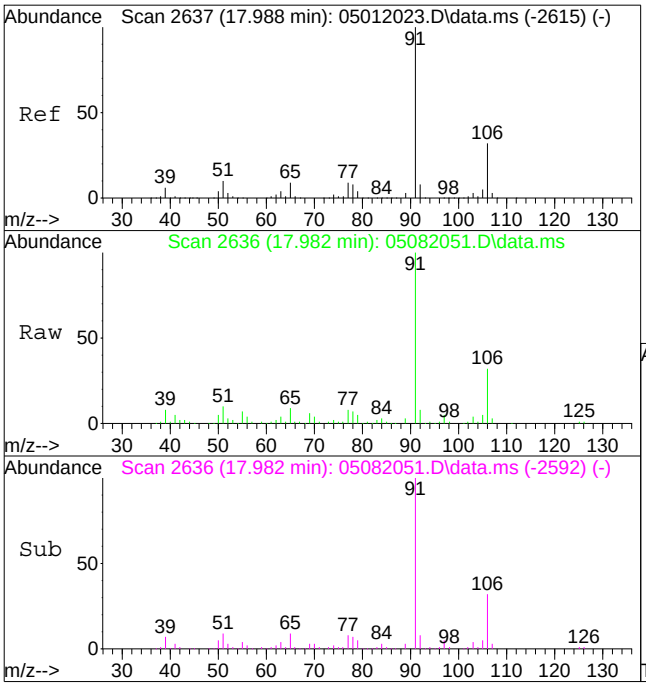


#64
Tetrachloroethene
Concen: 1.81 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05082051.D
Acq: 9 May 2020 7:45

Tgt Ion:166 Resp: 58431

Ion	Ratio	Lower	Upper
166	100		
164	77.9	58.4	98.4

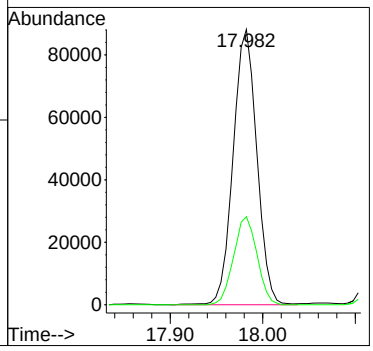


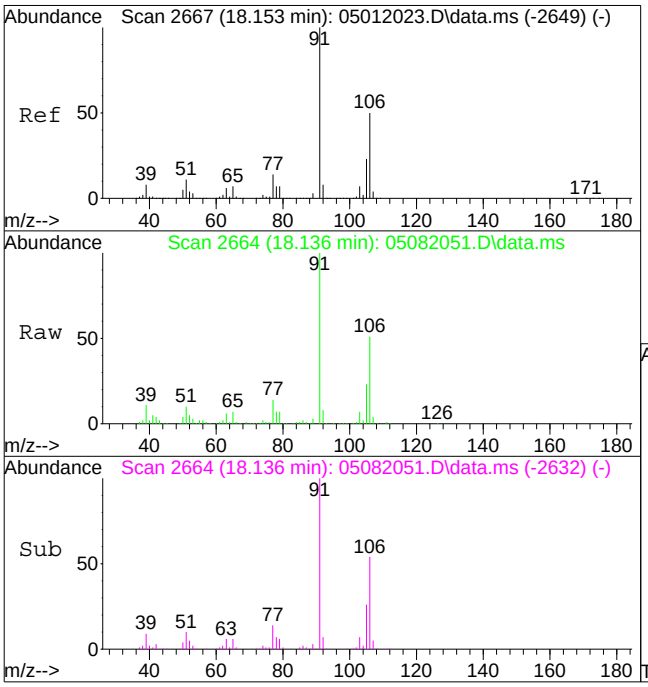


#66
Ethylbenzene
Concen: 1.23 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05082051.D
Acq: 9 May 2020 7:45

Tgt Ion: 91 Resp: 156617

Ion	Ratio	Lower	Upper
91	100		
106	31.6	11.6	51.6

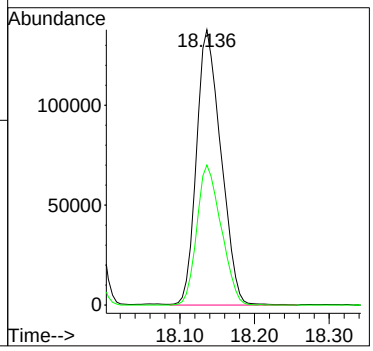


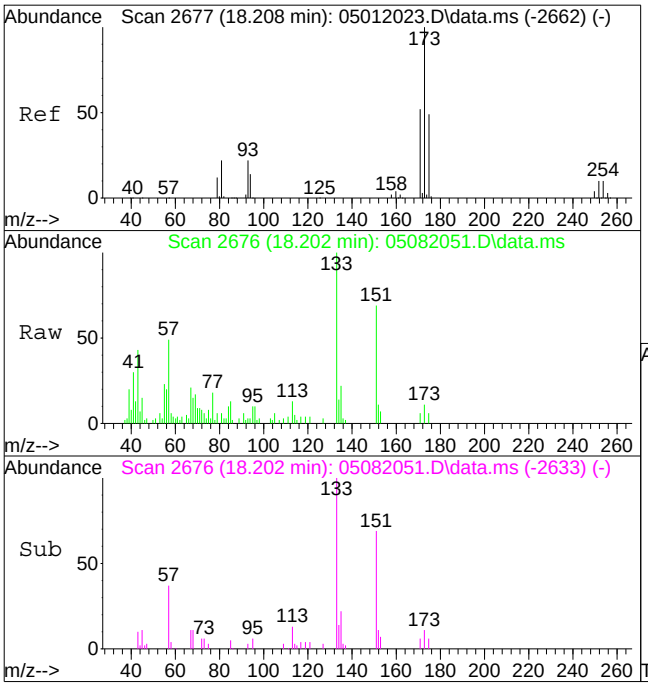


#67
m- & p-Xylenes
Concen: 3.10 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05082051.D
Acq: 9 May 2020 7:45

Tgt Ion: 91 Resp: 313726

Ion	Ratio	Lower	Upper
91	100		
106	50.5	29.7	69.7

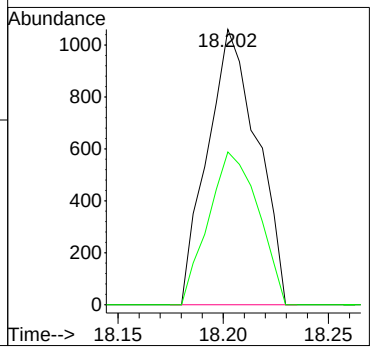


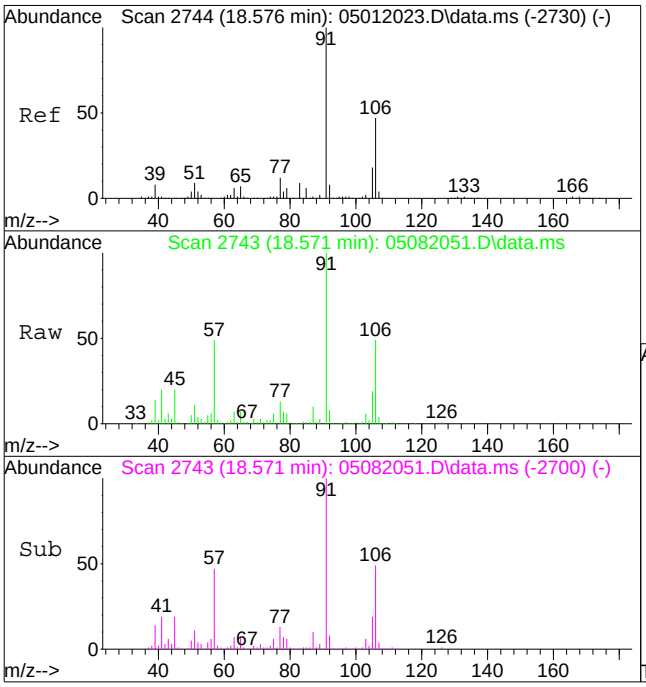


#68
Bromoform
Concen: 0.06 ng
RT: 18.20 min Scan# 2676
Delta R.T. -0.011 min
Lab File: 05082051.D
Acq: 9 May 2020 7:45

Tgt Ion:173 Resp: 1742

Ion	Ratio	Lower	Upper
173	100		
175	55.7	29.0	69.0

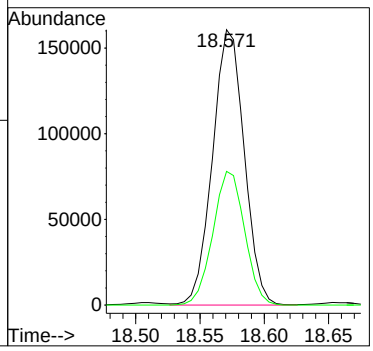


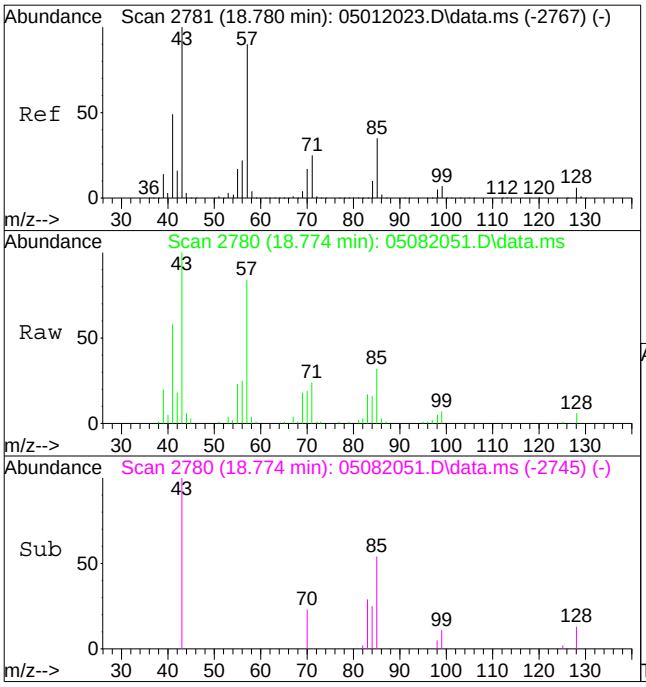


#70
o-Xylene
Concen: 2.69 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05082051.D
Acq: 9 May 2020 7:45

Tgt Ion: 91 Resp: 276395

Ion	Ratio	Lower	Upper
91	100		
106	48.4	27.5	67.5

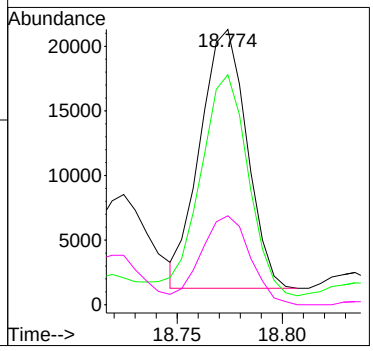


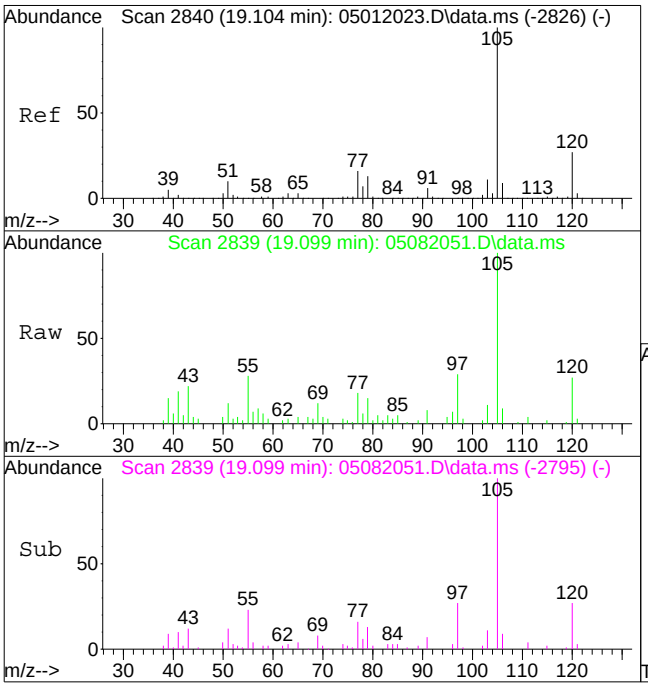


#71
n-Nonane
Concen: 0.57 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05082051.D
Acq: 9 May 2020 7:45

Tgt Ion: 43 Resp: 30999

Ion	Ratio	Lower	Upper
43	100		
57	88.4	69.0	109.0
85	36.3	14.6	54.6

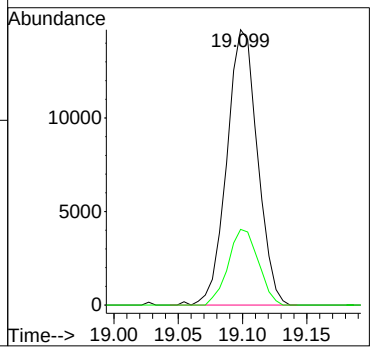


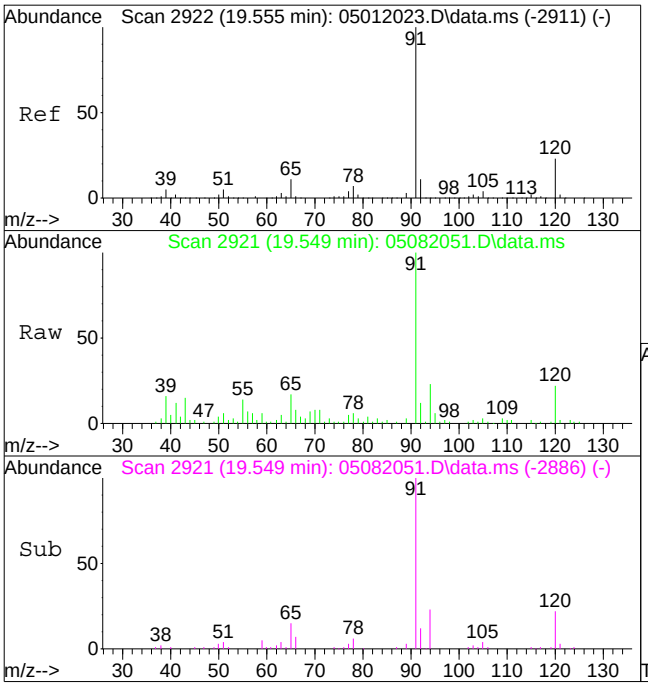


#74
Cumene
Concen: 0.19 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05082051.D
Acq: 9 May 2020 7:45

Tgt Ion:105 Resp: 24460

Ion	Ratio	Lower	Upper
105	100		
120	27.0	6.8	46.8

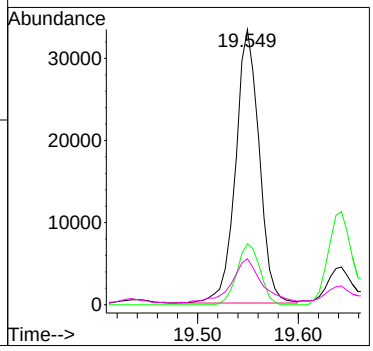


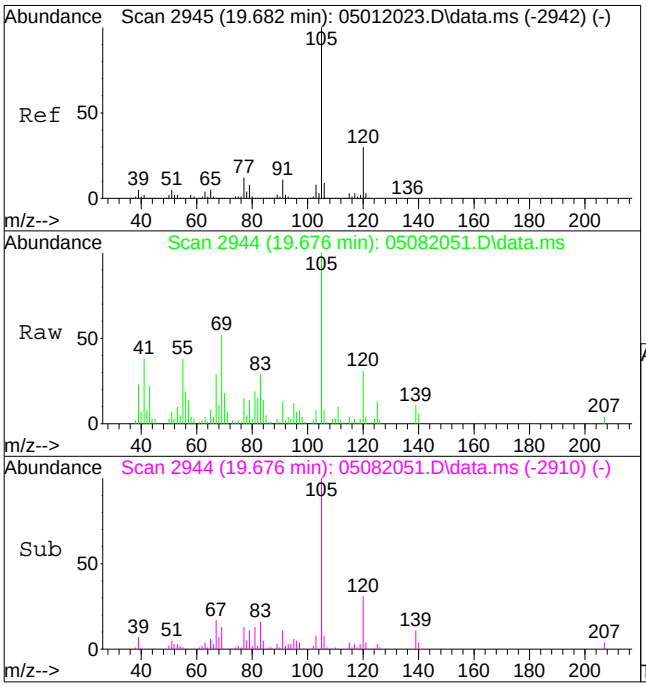


#76
n-Propylbenzene
Concen: 0.36 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05082051.D
Acq: 9 May 2020 7:45

Tgt Ion: 91 Resp: 54269

Ion	Ratio	Lower	Upper
91	100		
120	21.7	3.1	43.1
65	21.7	0.0	30.9

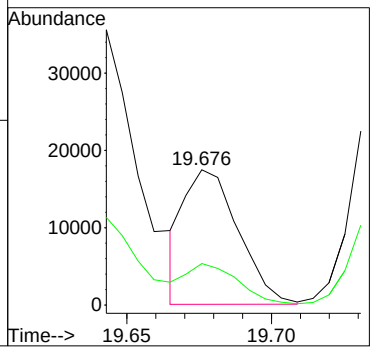


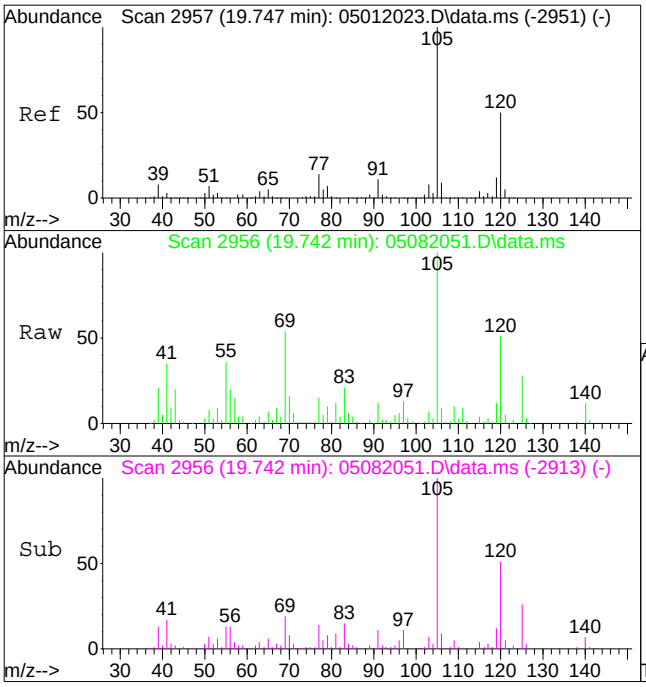


#78
4-Ethyltoluene
Concen: 0.19 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05082051.D
Acq: 9 May 2020 7:45

Tgt Ion:105 Resp: 22685

Ion	Ratio	Lower	Upper
105	100		
120	30.5	10.4	50.4

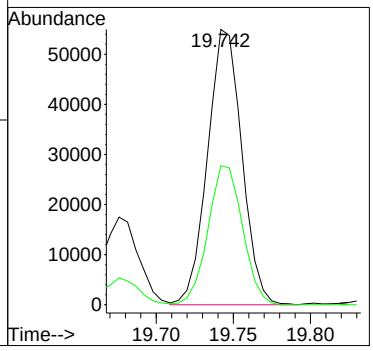


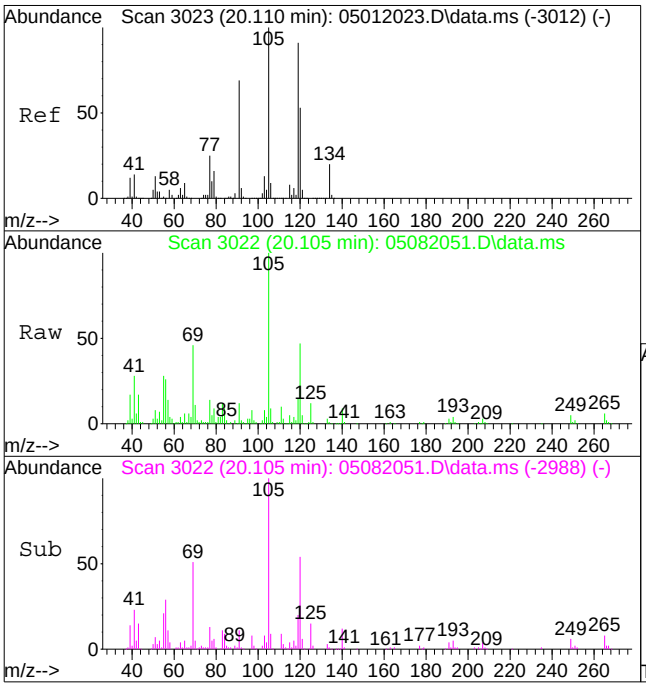


#79
1,3,5-Trimethylbenzene
Concen: 0.83 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05082051.D
Acq: 9 May 2020 7:45

Tgt Ion:105 Resp: 85171

Ion	Ratio	Lower	Upper
105	100		
120	50.8	29.9	69.9

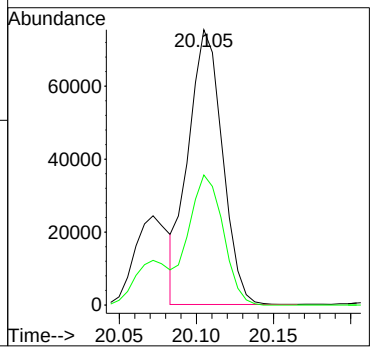


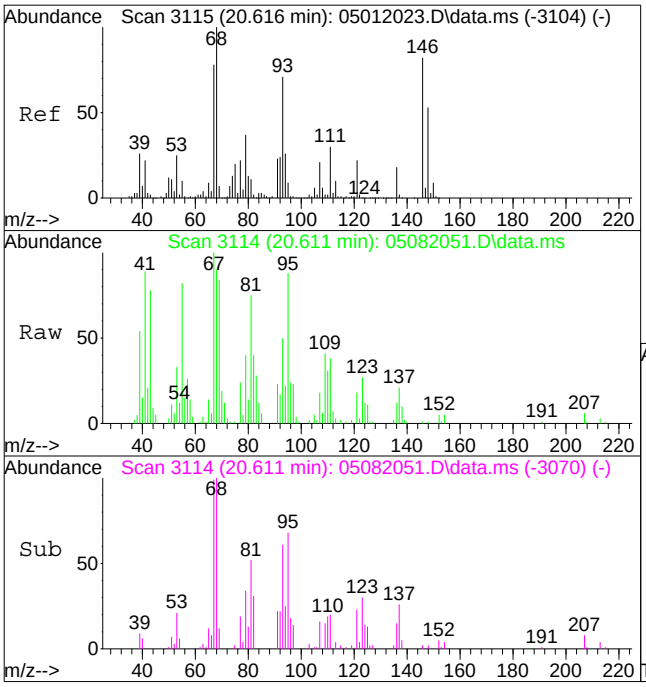


#82
1,2,4-Trimethylbenzene
Concen: 1.12 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05082051.D
Acq: 9 May 2020 7:45

Tgt Ion:105 Resp: 115927

Ion	Ratio	Lower	Upper
105	100		
120	48.2	33.6	73.6

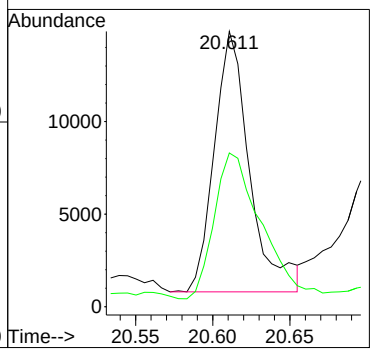


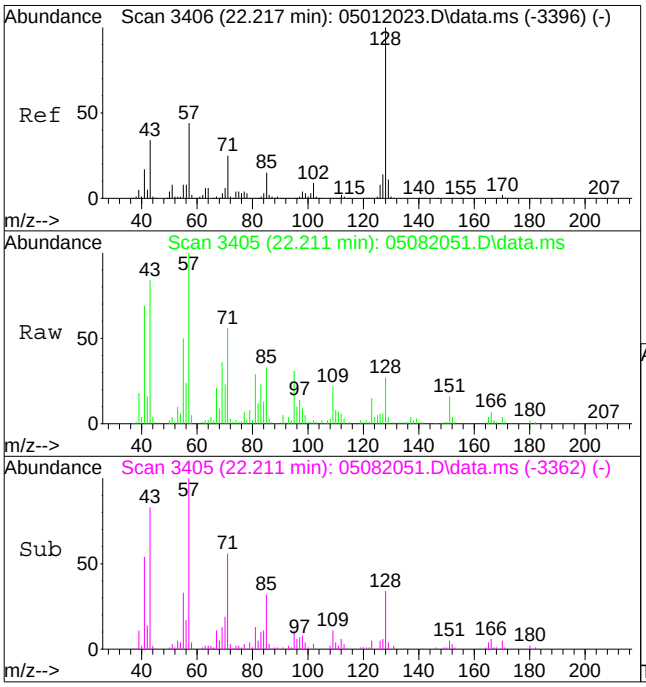


#91
d-Limonene
Concen: 0.55 ng
RT: 20.61 min Scan# 3114
Delta R.T. -0.006 min
Lab File: 05082051.D
Acq: 9 May 2020 7:45

Tgt Ion: 68 Resp: 22429

Ion	Ratio	Lower	Upper
68	100		
93	75.2	51.1	91.1

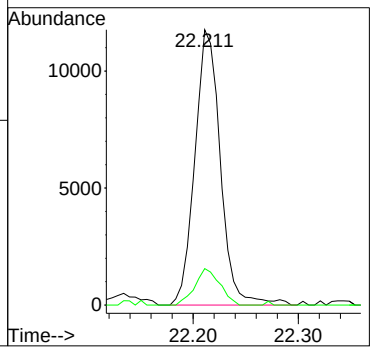




#95
Naphthalene
Concen: 0.16 ng
RT: 22.21 min Scan# 3405
Delta R.T. -0.011 min
Lab File: 05082051.D
Acq: 9 May 2020 7:45

Tgt Ion:128 Resp: 19886

Ion	Ratio	Lower	Upper
128	100		
129	12.9	0.0	31.0



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082052.D Vial: 8
Acq On : 9 May 2020 8:19 Operator: LH
Sample : P2002299-012 (50mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 18:42:11 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/11/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	307708	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1318568	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	591139	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	480865	11.531	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.24%				
57) Toluene-d8 (SS2)	15.72	98	1272312	12.698	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.60%				
73) Bromofluorobenzene (SS3)	18.97	174	490726	13.611	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.88%				
Target Compounds							Qvalue
2) Propene	4.11	42	3412	0.096	ng		97
3) Dichlorodifluoromethan...	4.27	85	24560	0.352	ng		98
4) Chloromethane	4.53	50	39023	0.715	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	355	N.D.			
6) Vinyl Chloride	4.96	62	5071	0.085	ng		100
7) 1,3-Butadiene	5.22	54	109	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.98	64	1480	0.063	ng		93
10) Ethanol	6.45	45	61	N.D.			
11) Acetonitrile	6.60	41	1247	N.D.			
12) Acrolein	6.79	56	173	N.D.			
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	7.24	101	4677	0.076	ng		98
15) 2-Propanol (Isopropanol)	7.53	45	1661	N.D.			
16) Acrylonitrile	7.83	53	636	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	239	N.D.			
20) 3-Chloro-1-propene (Al...	8.49	41	168	N.D.			
21) Trichlorotrifluoroethane	8.85	151	4699	0.162	ng		95
22) Carbon Disulfide	8.67	76	626780	4.889	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	9.94	63	824	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.49	72	1811	0.077	ng	#	79
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	11.25	57	26670	0.454	ng		98
32) Chloroform	11.30	83	245	N.D.			
34) Tetrahydrofuran (THF)	11.75	72	3128	0.137	ng		91
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	13059	0.269	ng		99
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	5337813	37.749	ng		100
42) Carbon Tetrachloride	13.03	117	5591	0.116	ng		99
43) Cyclohexane	13.16	84	24280	0.461	ng		97
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	13.95	83	1163	N.D.			
47) Trichloroethene	13.97	130	2493	0.068	ng		100
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

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Acq On : 9 May 2020 8:19 Operator: LH
Sample : P2002299-012 (50mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 18:42:11 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.30	71	11329	0.343 ng	98
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.94	58	346	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	15.44	97	108	N.D.	
58) Toluene	15.82	91	13789053	106.762 ng	97
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	16.48	107	39859	1.121 ng	98
62) n-Butyl Acetate	16.71	43	426	N.D.	
63) n-Octane	16.82	57	2544	0.095 ng	83
64) Tetrachloroethene	16.96	166	2538	0.070 ng	93
65) Chlorobenzene	17.66	112	2909	N.D.	
66) Ethylbenzene	17.98	91	466366	3.238 ng	99
67) m- & p-Xylenes	18.14	91	1335055	11.685 ng	98
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	2307	N.D.	
70) o-Xylene	18.57	91	730801	6.300 ng	99
71) n-Nonane	18.77	43	3614	0.059 ng	97
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	19.10	105	18235	0.128 ng	99
75) alpha-Pinene	19.54	93	484	N.D.	
76) n-Propylbenzene	19.55	91	64015	0.379 ng	99
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.68	105	17130	0.128 ng	99
79) 1,3,5-Trimethylbenzene	19.74	105	54568	0.470 ng	100
80) alpha-Methylstyrene	19.88	118	2048	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.10	105	74711	0.640 ng	91
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.22	91	897	N.D.	
85) 1,3-Dichlorobenzene	20.31	146	111	N.D.	
86) 1,4-Dichlorobenzene	20.31	146	111	N.D.	
87) sec-Butylbenzene	20.35	105	6324	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	5208	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.61	68	1186	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.21	128	3633	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

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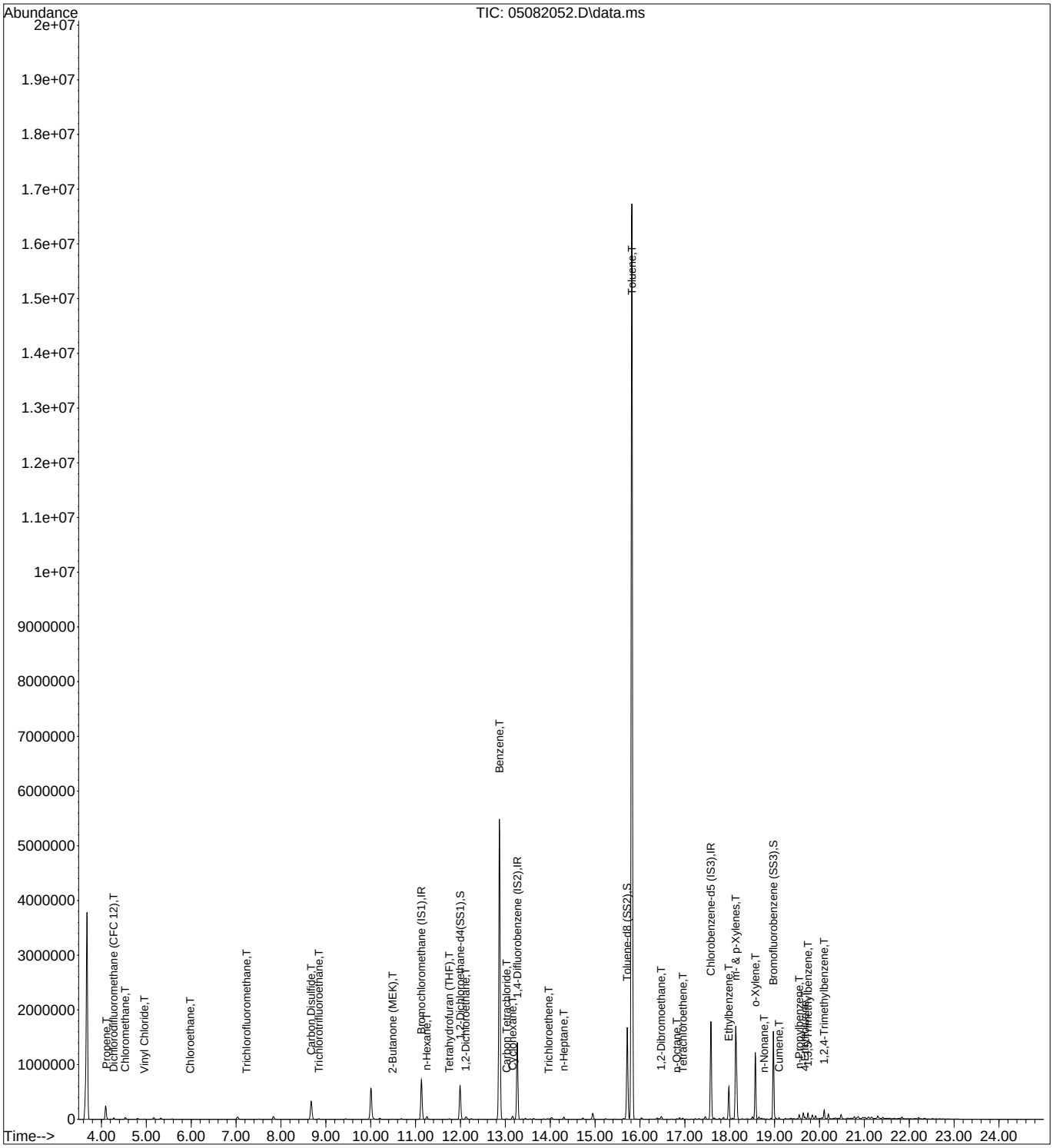
Misc : S31-02112001

Quant Time: May 11 18:42:11 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



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DataAcq Meth:TO15.M

LH 5/11/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
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37) 1,4-Difluorobenzene (IS2)	13.27	114	1318568	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	591139	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	480865	11.531	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.24%				
57) Toluene-d8 (SS2)	15.72	98	1272312	12.698	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.60%				
73) Bromofluorobenzene (SS3)	18.97	174	490726	13.611	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.88%				
Target Compounds							Qvalue
2) Propene	4.11	42	3412	0.096	ng		97
3) Dichlorodifluoromethan...	4.27	85	24560	0.352	ng		98
4) Chloromethane	4.53	50	39023	0.715	ng		99
6) Vinyl Chloride	4.96	62	5071	0.085	ng		100
9) Chloroethane	5.98	64	1480	0.063	ng		93
14) Trichlorofluoromethane	7.24	101	4677	0.076	ng		98
21) Trichlorotrifluoroethane	8.85	151	4699	0.162	ng		95
22) Carbon Disulfide	8.67	76	626780	4.889	ng		99
27) 2-Butanone (MEK)	10.49	72	1811	0.077	ng	#	79
31) n-Hexane	11.25	57	26670	0.454	ng		98
34) Tetrahydrofuran (THF)	11.75	72	3128	0.137	ng		91
36) 1,2-Dichloroethane	12.11	62	13059	0.269	ng		99
41) Benzene	12.87	78	5337813	37.749	ng		100
42) Carbon Tetrachloride	13.03	117	5591	0.116	ng		99
43) Cyclohexane	13.16	84	24280	0.461	ng		97
47) Trichloroethene	13.97	130	2493	0.068	ng		100
51) n-Heptane	14.30	71	11329	0.343	ng		98
58) Toluene	15.82	91	13789053	106.762	ng		97
61) 1,2-Dibromoethane	16.48	107	39859	1.121	ng		98
63) n-Octane	16.82	57	2544	0.095	ng		83
64) Tetrachloroethene	16.96	166	2538	0.070	ng		93
66) Ethylbenzene	17.98	91	466366	3.238	ng		99
67) m- & p-Xylenes	18.14	91	1335055	11.685	ng		98
70) o-Xylene	18.57	91	730801	6.300	ng		99
71) n-Nonane	18.77	43	3614	0.059	ng		97
74) Cumene	19.10	105	18235	0.128	ng		99
76) n-Propylbenzene	19.55	91	64015	0.379	ng		99
78) 4-Ethyltoluene	19.68	105	17130	0.128	ng		99
79) 1,3,5-Trimethylbenzene	19.74	105	54568	0.470	ng		100
82) 1,2,4-Trimethylbenzene	20.10	105	74711	0.640	ng		91

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
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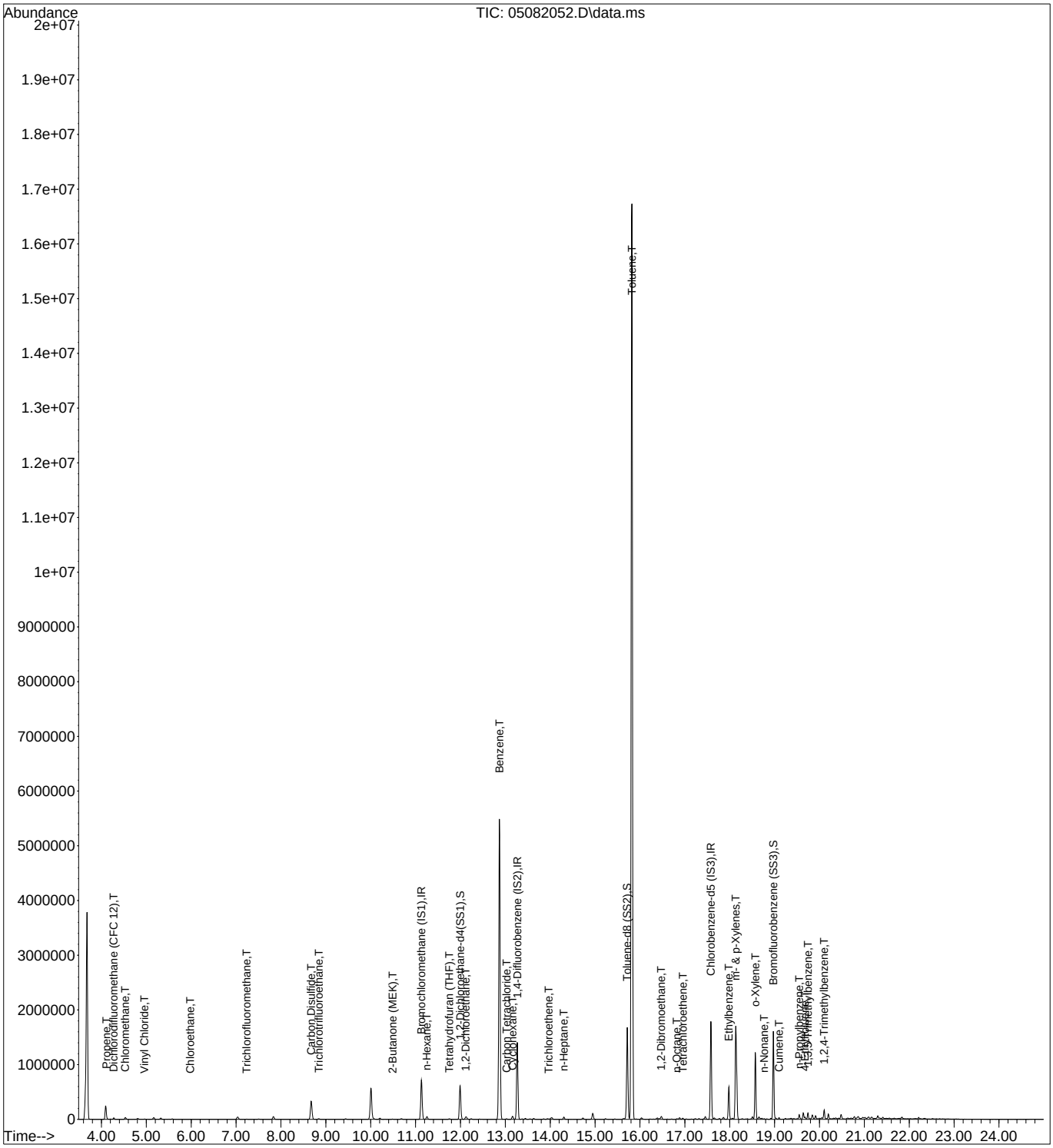
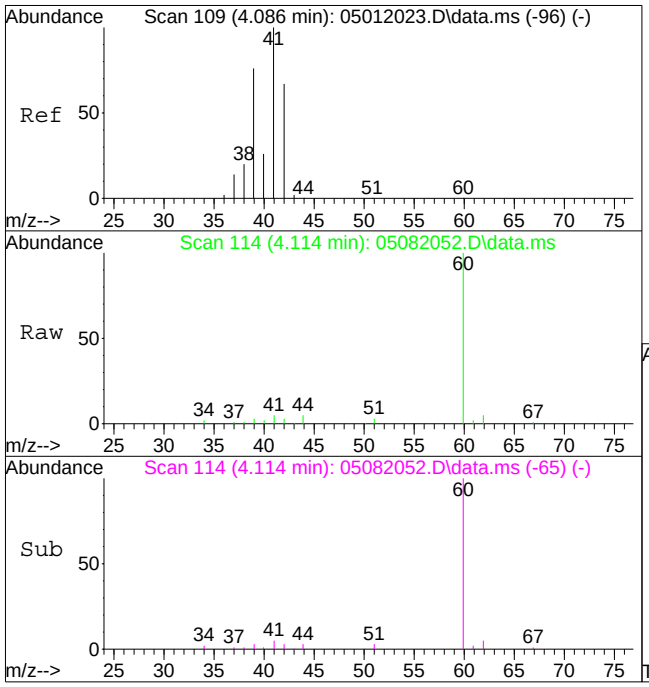
Response via : Initial Calibration
DataAcq Meth:TO15.M

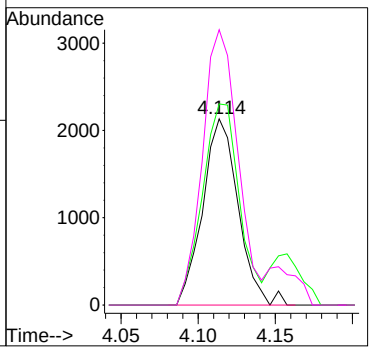


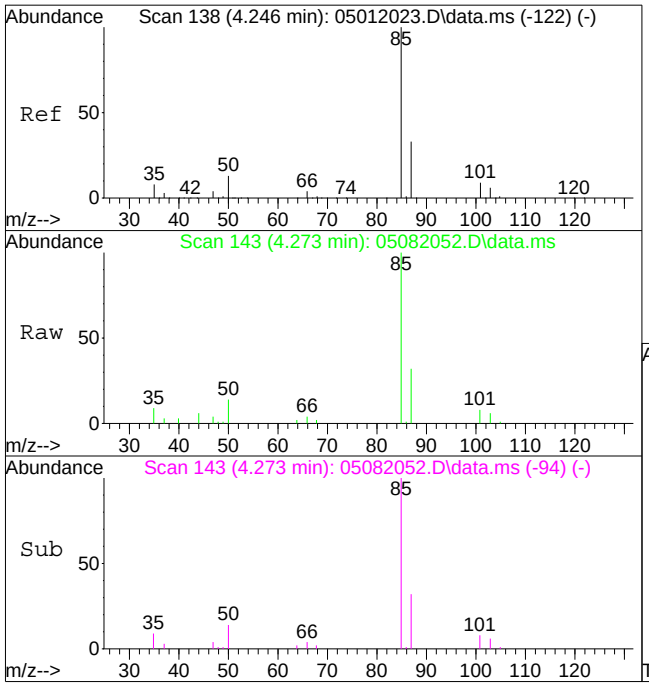


#2
Propene
Concen: 0.10 ng
RT: 4.11 min Scan# 114
Delta R.T. 0.022 min
Lab File: 05082052.D
Acq: 9 May 2020 8:19

Tgt Ion: 42 Resp: 3412

Ion	Ratio	Lower	Upper
42	100		
39	113.1	96.1	136.1
41	147.9	131.9	171.9

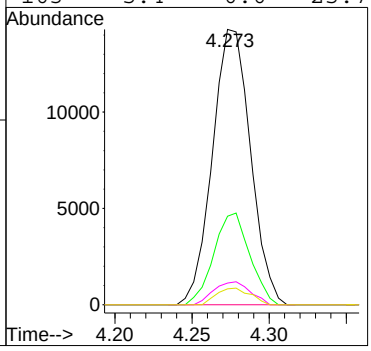


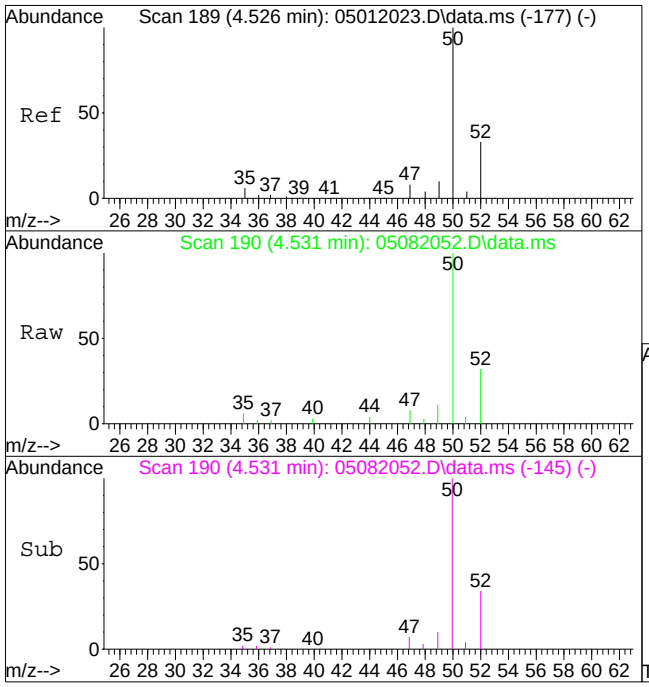


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.35 ng
RT: 4.27 min Scan# 143
Delta R.T. 0.022 min
Lab File: 05082052.D
Acq: 9 May 2020 8:19

Tgt Ion: 85 Resp: 24560

Ion	Ratio	Lower	Upper
85	100		
87	31.4	12.4	52.4
101	8.0	0.0	28.8
103	5.4	0.0	25.7

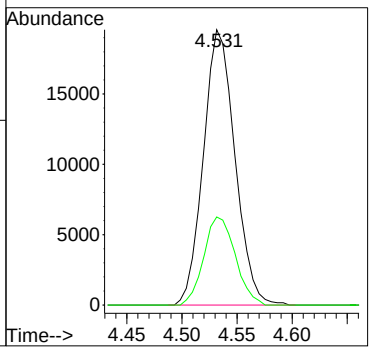


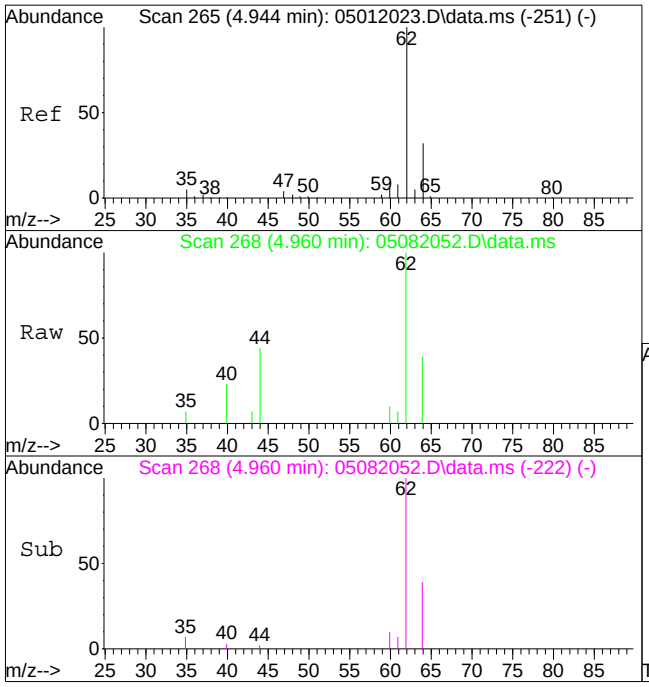


#4
Chloromethane
Concen: 0.71 ng
RT: 4.53 min Scan# 190
Delta R.T. -0.000 min
Lab File: 05082052.D
Acq: 9 May 2020 8:19

Tgt Ion: 50 Resp: 39023

Ion	Ratio	Lower	Upper
50	100		
52	31.9	12.5	52.5

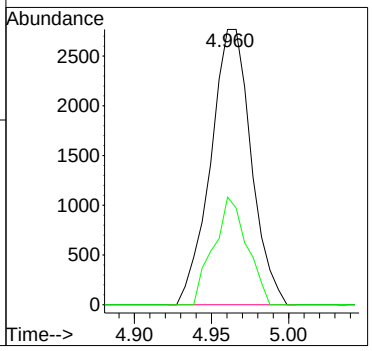


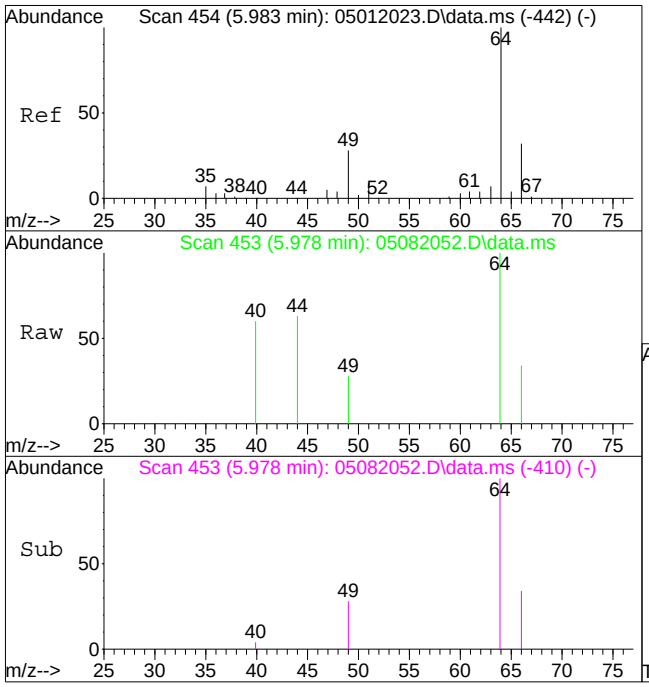


#6
Vinyl Chloride
Concen: 0.08 ng
RT: 4.96 min Scan# 268
Delta R.T. 0.005 min
Lab File: 05082052.D
Acq: 9 May 2020 8:19

Tgt Ion: 62 Resp: 5071

Ion	Ratio	Lower	Upper
62	100		
64	32.2	12.1	52.1

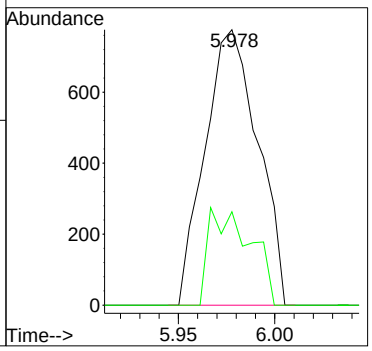


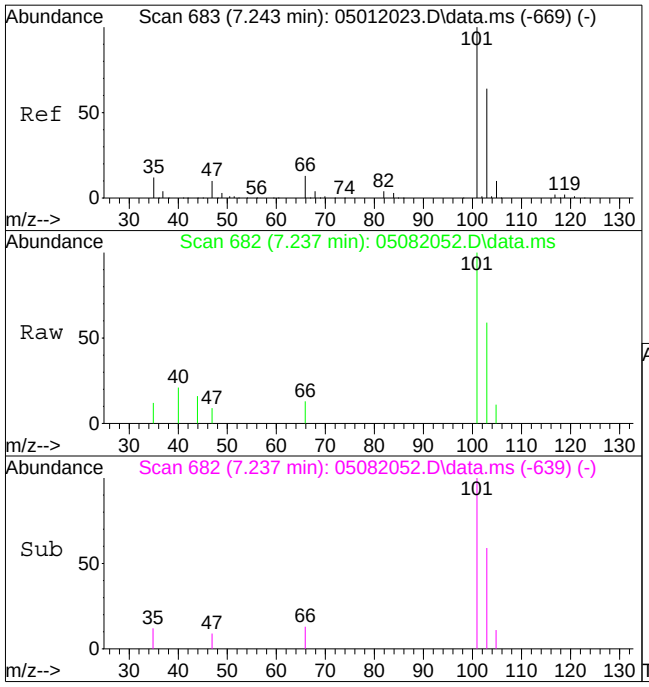


#9
Chloroethane
Concen: 0.06 ng
RT: 5.98 min Scan# 453
Delta R.T. -0.011 min
Lab File: 05082052.D
Acq: 9 May 2020 8:19

Tgt Ion: 64 Resp: 1480

Ion	Ratio	Lower	Upper
64	100		
66	28.0	12.1	52.1

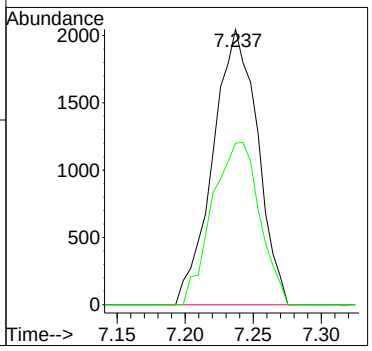


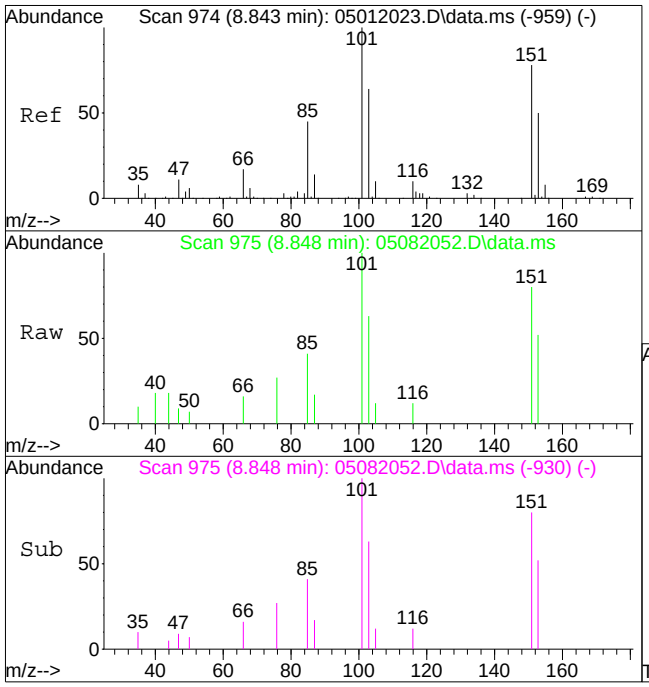


#14
Trichlorofluoromethane
Concen: 0.08 ng
RT: 7.24 min Scan# 682
Delta R.T. -0.011 min
Lab File: 05082052.D
Acq: 9 May 2020 8:19

Tgt Ion:101 Resp: 4677

Ion	Ratio	Lower	Upper
101	100		
103	62.6	44.4	84.4

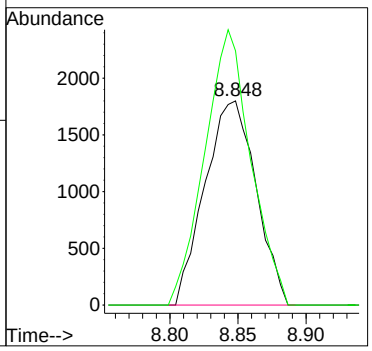


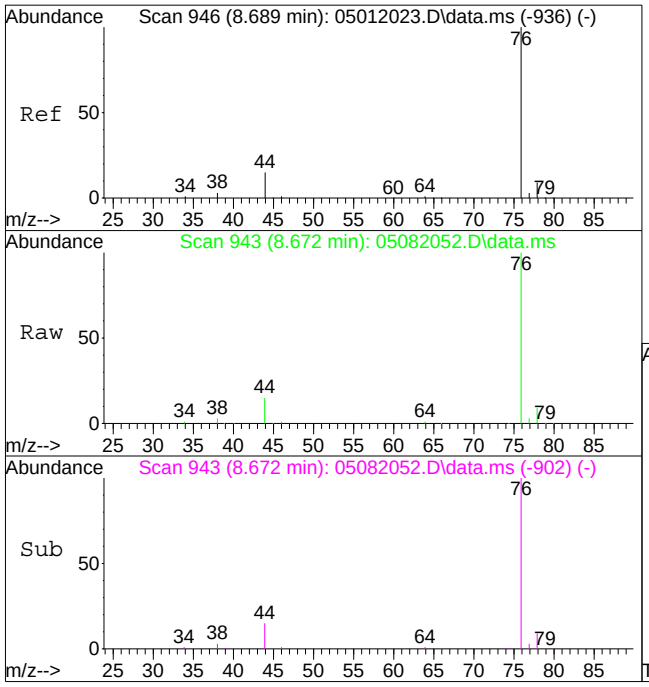


#21
Trichlorotrifluoroethane
Concen: 0.16 ng
RT: 8.85 min Scan# 975
Delta R.T. -0.000 min
Lab File: 05082052.D
Acq: 9 May 2020 8:19

Tgt Ion:151 Resp: 4699

Ion	Ratio	Lower	Upper
151	100		
101	122.0	107.3	147.3

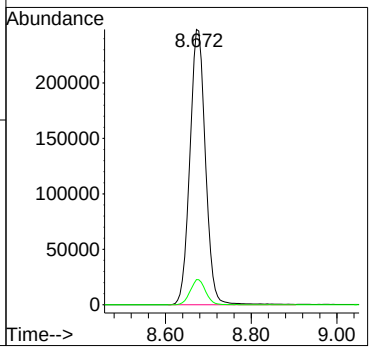


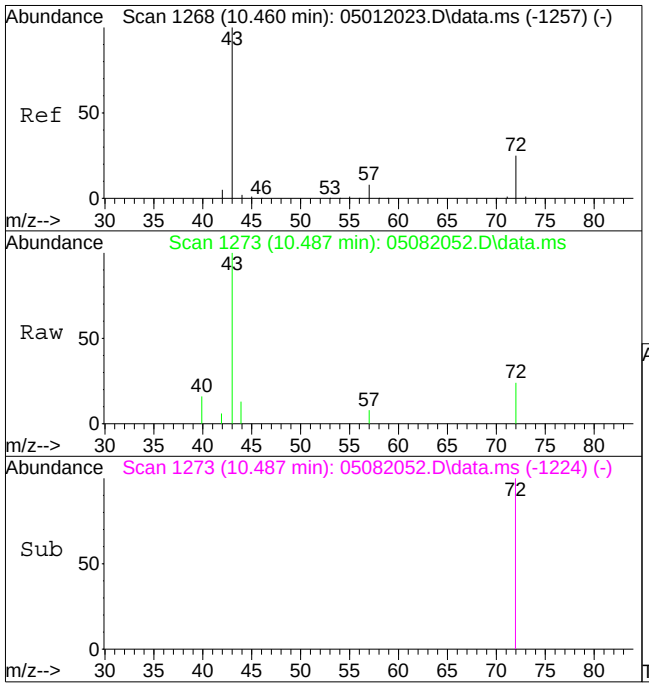


#22
Carbon Disulfide
Concen: 4.89 ng
RT: 8.67 min Scan# 943
Delta R.T. -0.022 min
Lab File: 05082052.D
Acq: 9 May 2020 8:19

Tgt Ion: 76 Resp: 626780

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	29.2

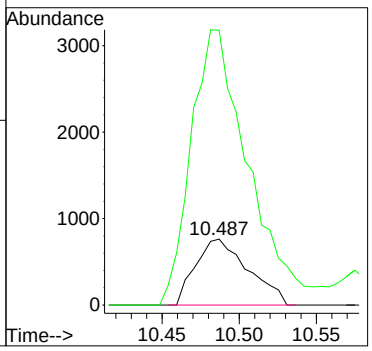


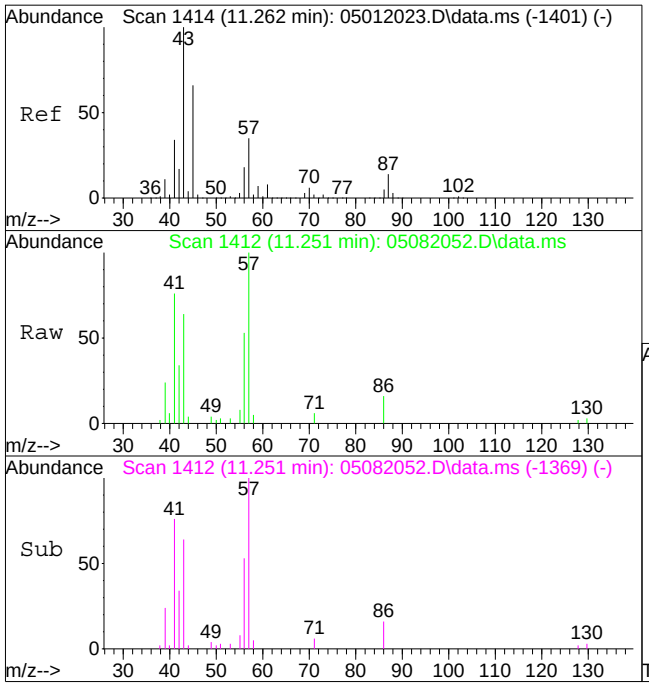


#27
2-Butanone (MEK)
Concen: 0.08 ng
RT: 10.49 min Scan# 1273
Delta R.T. 0.022 min
Lab File: 05082052.D
Acq: 9 May 2020 8:19

Tgt Ion: 72 Resp: 1811

Ion	Ratio	Lower	Upper
72	100		
43	459.4	389.7	429.7#

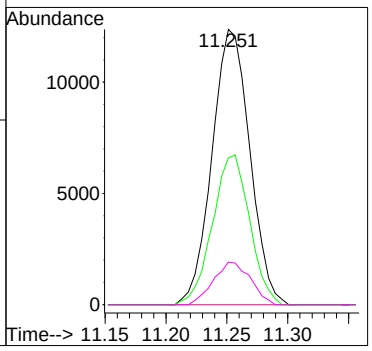


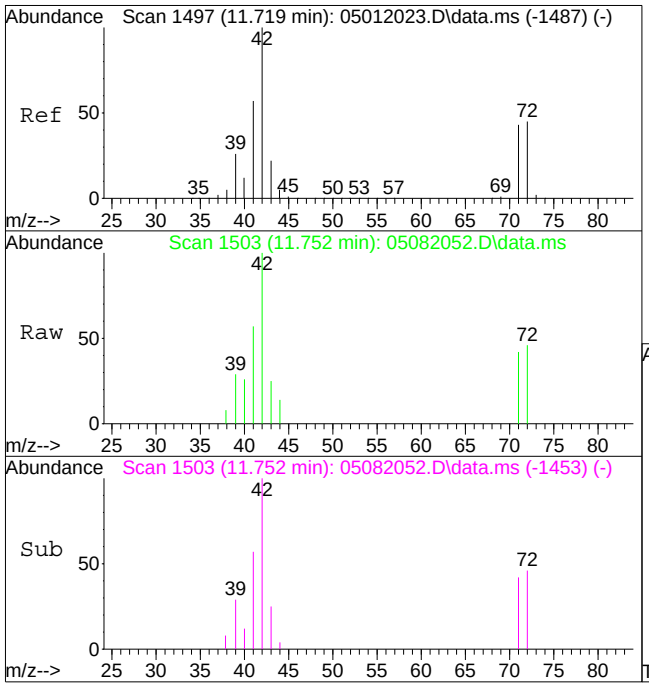


#31
n-Hexane
Concen: 0.45 ng
RT: 11.25 min Scan# 1412
Delta R.T. -0.011 min
Lab File: 05082052.D
Acq: 9 May 2020 8:19

Tgt Ion: 57 Resp: 26670

Ion	Ratio	Lower	Upper
57	100		
56	53.4	41.4	62.0
86	15.2	12.4	18.6

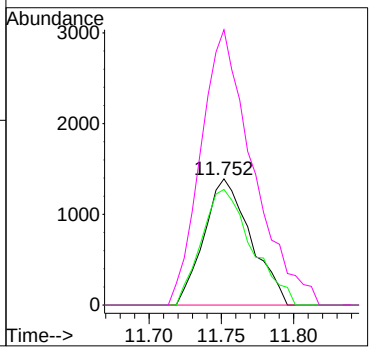


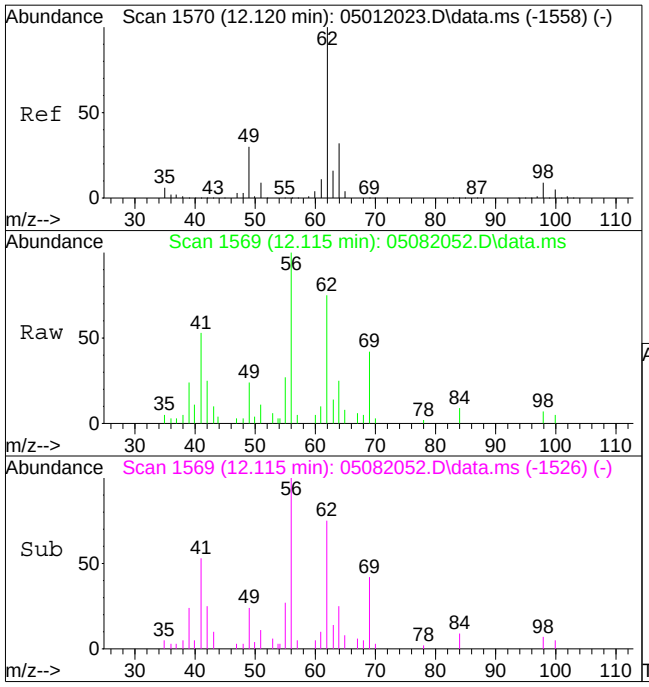


#34
Tetrahydrofuran (THF)
Concen: 0.14 ng
RT: 11.75 min Scan# 1503
Delta R.T. 0.027 min
Lab File: 05082052.D
Acq: 9 May 2020 8:19

Tgt Ion: 72 Resp: 3128

Ion	Ratio	Lower	Upper
72	100		
71	98.8	77.0	117.0
42	243.5	204.6	244.6

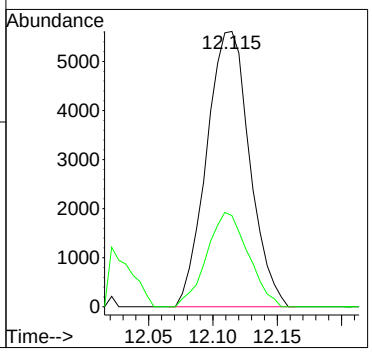


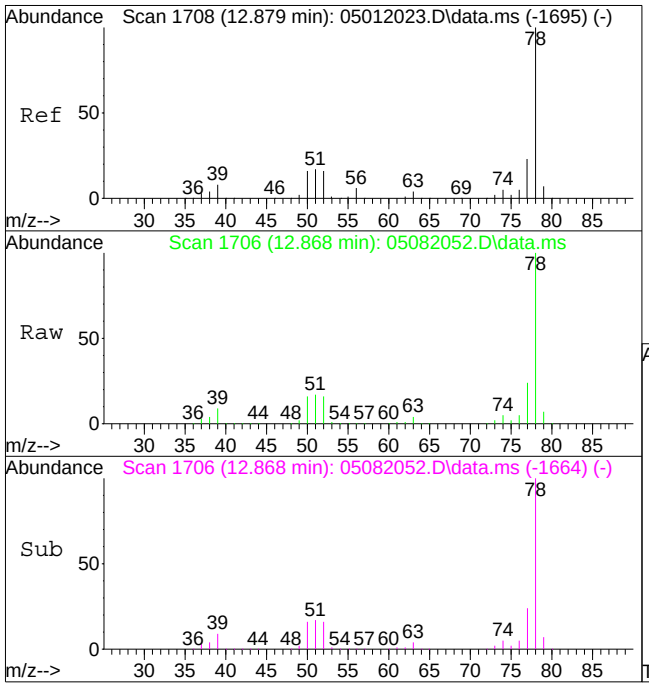


#36
1,2-Dichloroethane
Concen: 0.27 ng
RT: 12.11 min Scan# 1569
Delta R.T. -0.011 min
Lab File: 05082052.D
Acq: 9 May 2020 8:19

Tgt Ion: 62 Resp: 13059

Ion	Ratio	Lower	Upper
62	100		
64	33.0	12.4	52.4

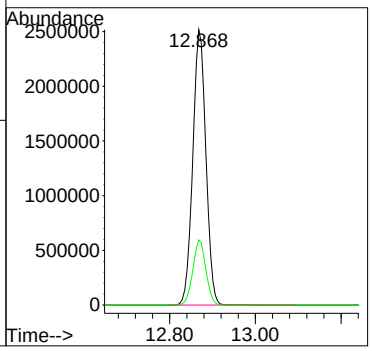


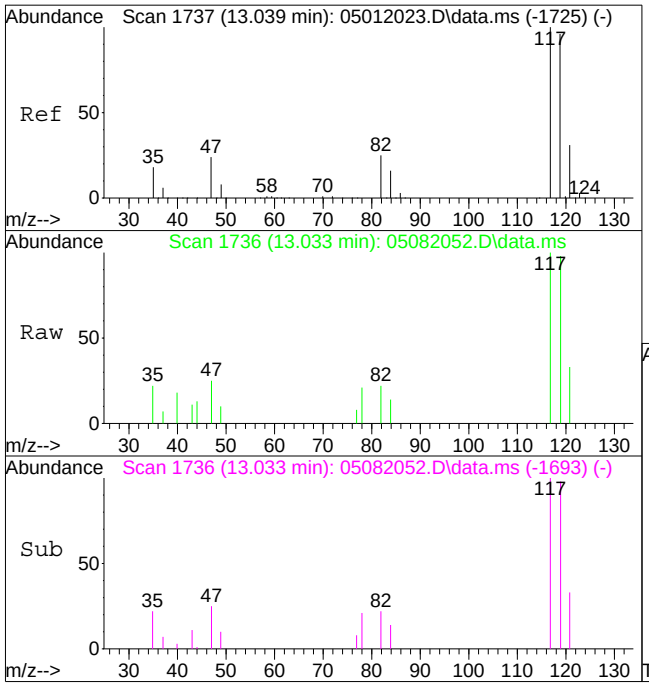


#41
Benzene
Concen: 37.75 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05082052.D
Acq: 9 May 2020 8:19

Tgt Ion: 78 Resp: 5337813

Ion	Ratio	Lower	Upper
78	100		
77	23.5	3.4	43.4

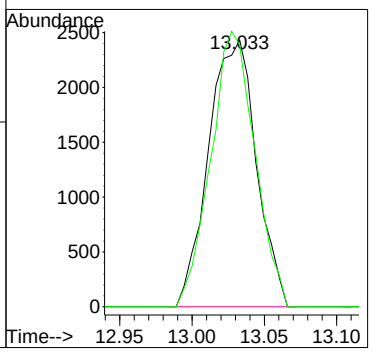


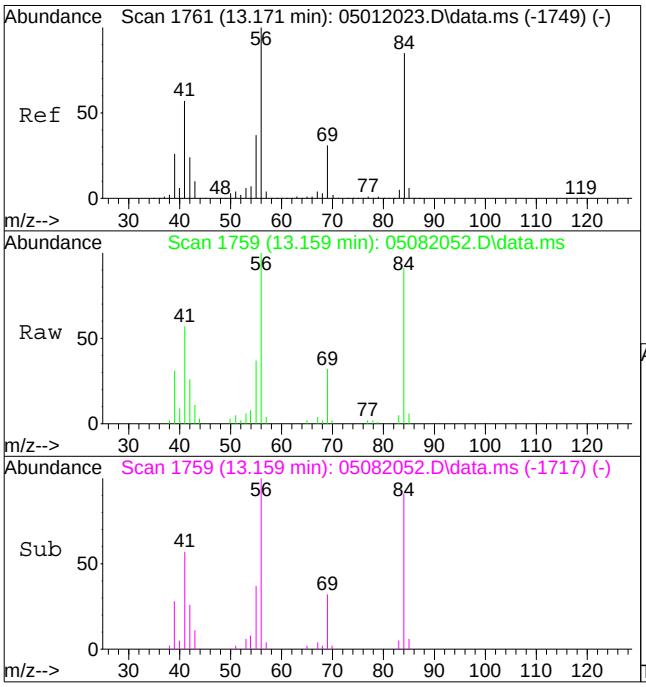


#42
Carbon Tetrachloride
Concen: 0.12 ng
RT: 13.03 min Scan# 1736
Delta R.T. -0.011 min
Lab File: 05082052.D
Acq: 9 May 2020 8:19

Tgt Ion:117 Resp: 5591

Ion	Ratio	Lower	Upper
117	100		
119	95.6	76.2	116.2

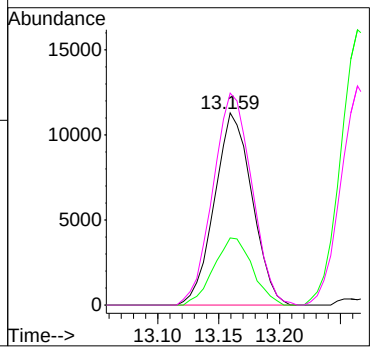


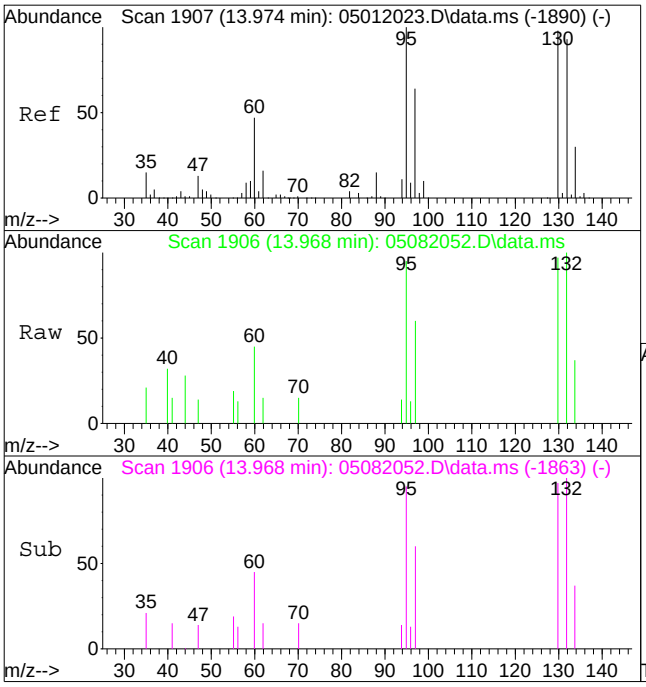


#43
Cyclohexane
Concen: 0.46 ng
RT: 13.16 min Scan# 1759
Delta R.T. -0.017 min
Lab File: 05082052.D
Acq: 9 May 2020 8:19

Tgt Ion: 84 Resp: 24280

Ion	Ratio	Lower	Upper
84	100		
69	35.7	16.5	56.5
56	114.2	97.4	137.4

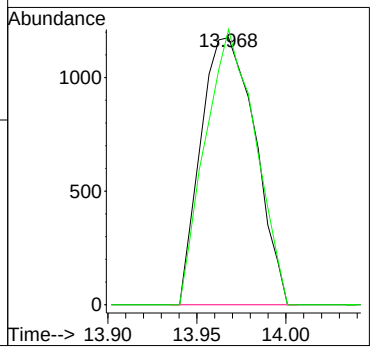


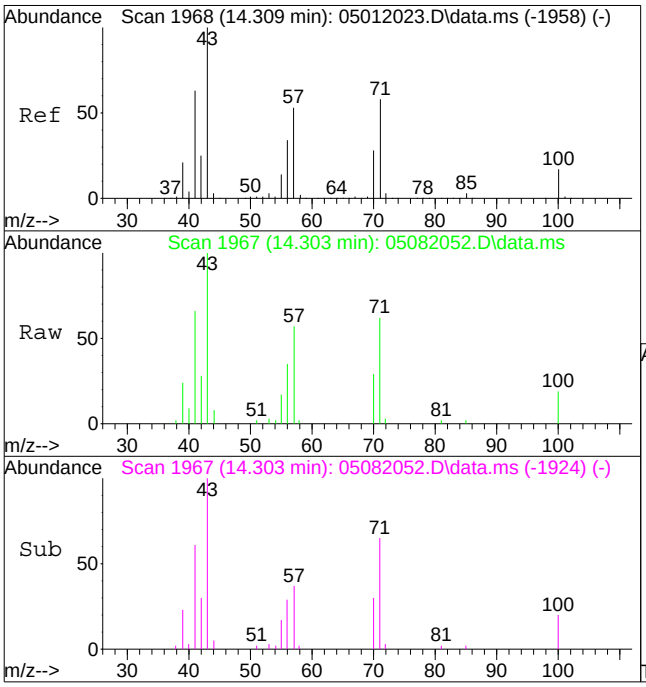


#47
Trichloroethene
Concen: 0.07 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05082052.D
Acq: 9 May 2020 8:19

Tgt Ion:130 Resp: 2493

Ion	Ratio	Lower	Upper
130	100		
132	95.3	74.9	114.9

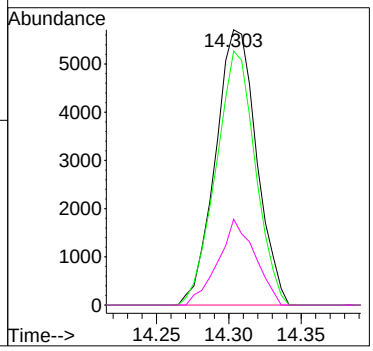


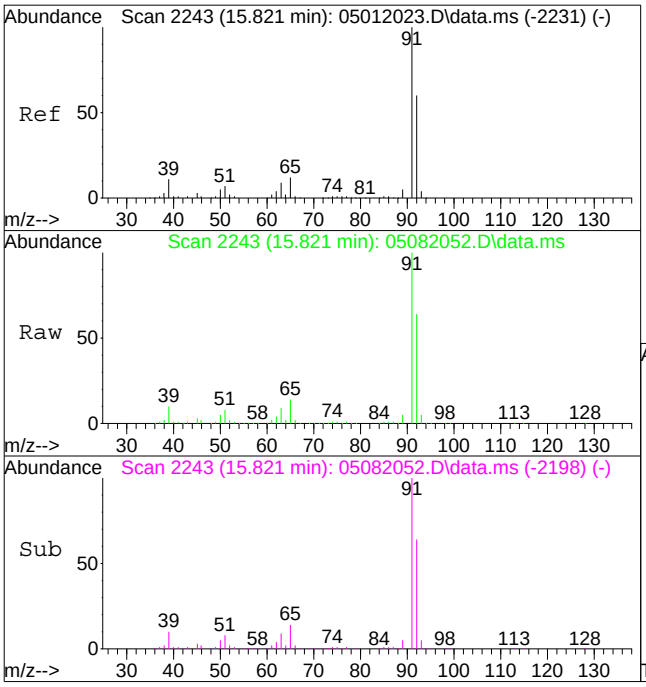


#51
n-Heptane
Concen: 0.34 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05082052.D
Acq: 9 May 2020 8:19

Tgt Ion: 71 Resp: 11329

Ion	Ratio	Lower	Upper
71	100		
57	88.4	71.0	111.0
100	27.8	8.4	48.4

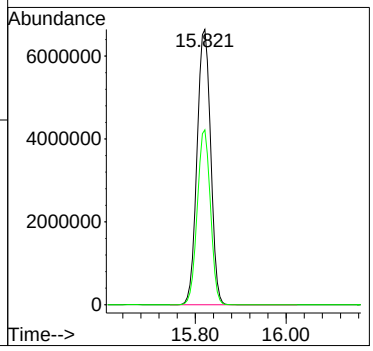


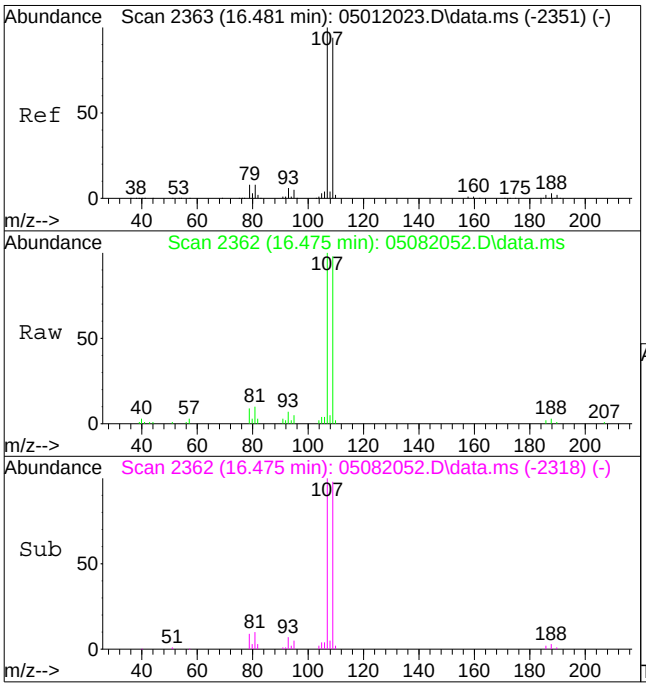


#58
Toluene
Concen: 106.76 ng
RT: 15.82 min Scan# 2243
Delta R.T. -0.000 min
Lab File: 05082052.D
Acq: 9 May 2020 8:19

Tgt Ion: 91 Resp:13789053

Ion	Ratio	Lower	Upper
91	100		
92	61.6	39.4	79.4

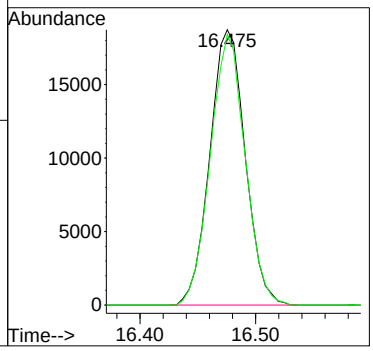


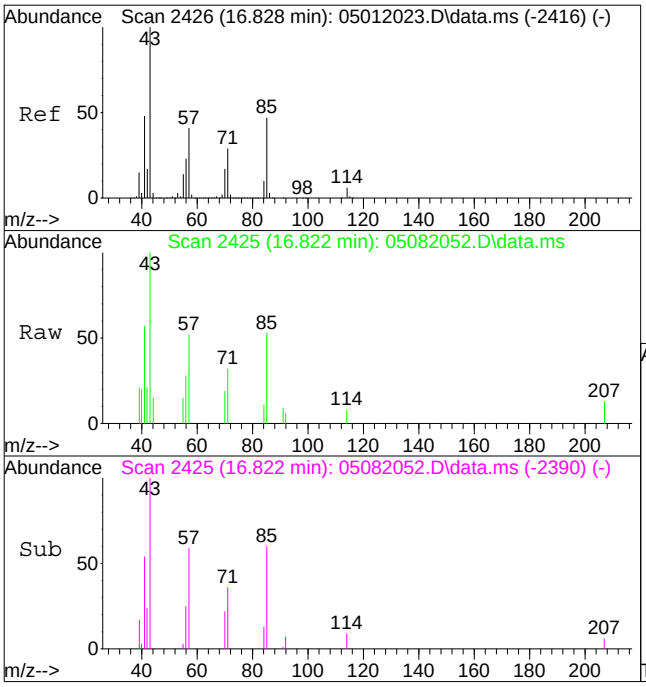


#61
1,2-Dibromoethane
Concen: 1.12 ng
RT: 16.48 min Scan# 2362
Delta R.T. -0.006 min
Lab File: 05082052.D
Acq: 9 May 2020 8:19

Tgt Ion:107 Resp: 39859

Ion	Ratio	Lower	Upper
107	100		
109	96.4	74.5	114.5

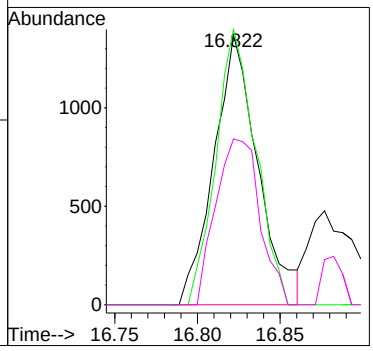


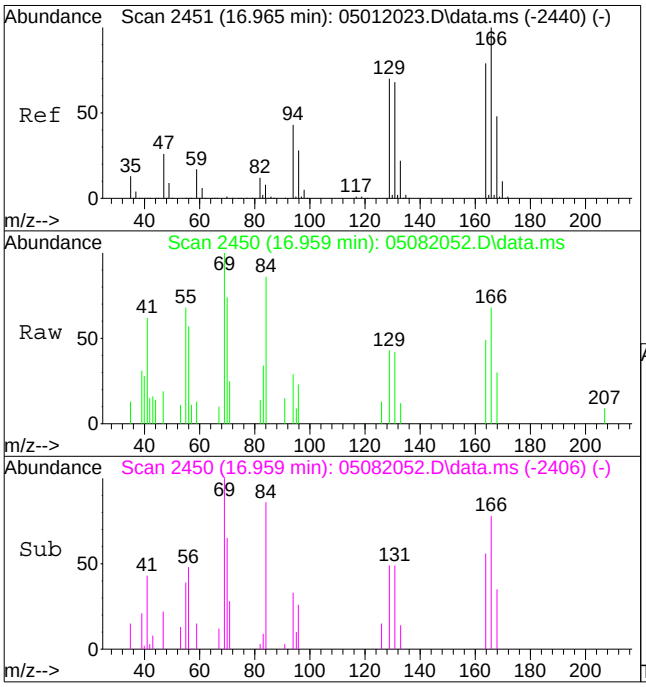


#63
n-Octane
Concen: 0.10 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05082052.D
Acq: 9 May 2020 8:19

Tgt Ion: 57 Resp: 2544

Ion	Ratio	Lower	Upper
57	100		
85	91.9	91.0	136.4
71	61.3	56.2	84.2

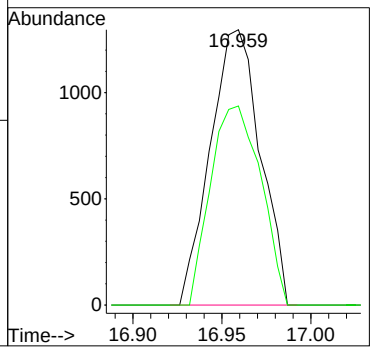


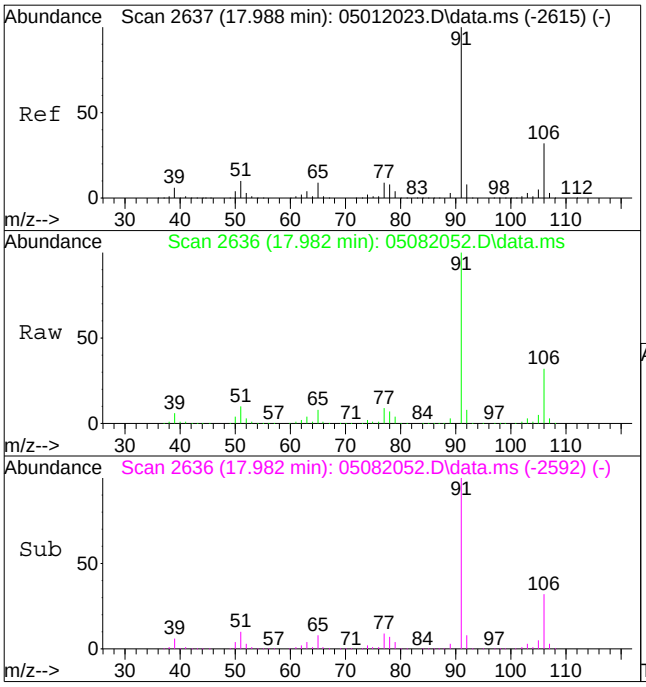


#64
Tetrachloroethene
Concen: 0.07 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05082052.D
Acq: 9 May 2020 8:19

Tgt Ion:166 Resp: 2538

Ion	Ratio	Lower	Upper
166	100		
164	72.6	58.4	98.4

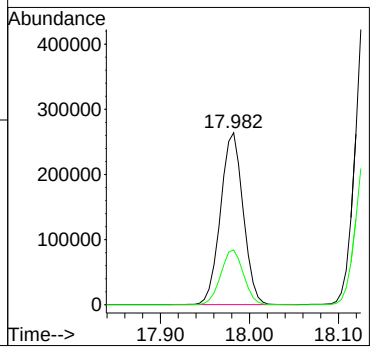


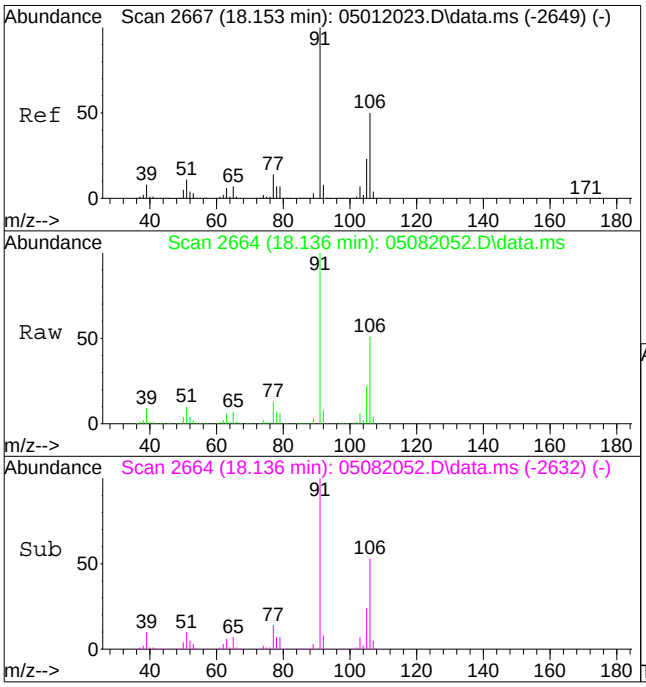


#66
Ethylbenzene
Concen: 3.24 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05082052.D
Acq: 9 May 2020 8:19

Tgt Ion: 91 Resp: 466366

Ion	Ratio	Lower	Upper
91	100		
106	32.0	11.6	51.6

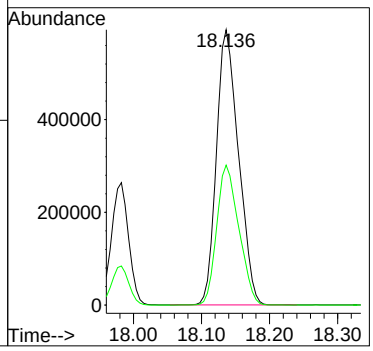


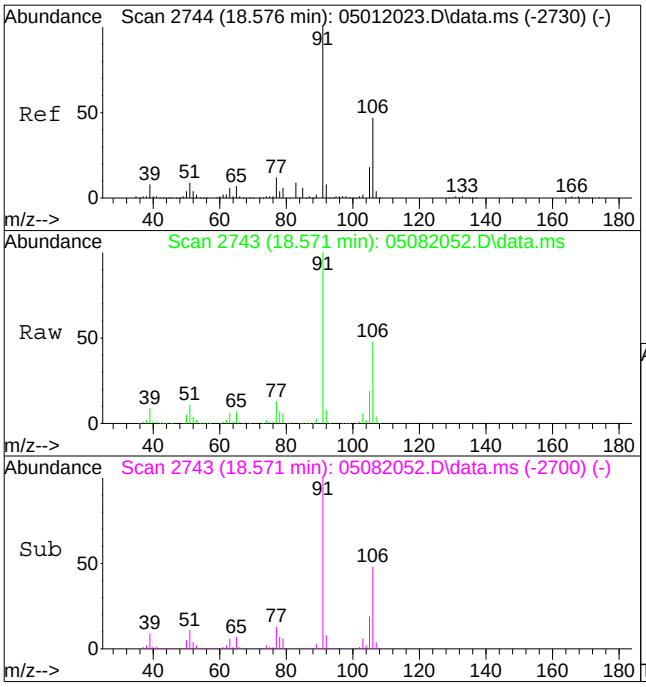


#67
m- & p-Xylenes
Concen: 11.69 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05082052.D
Acq: 9 May 2020 8:19

Tgt Ion: 91 Resp: 1335055

Ion	Ratio	Lower	Upper
91	100		
106	51.0	29.7	69.7

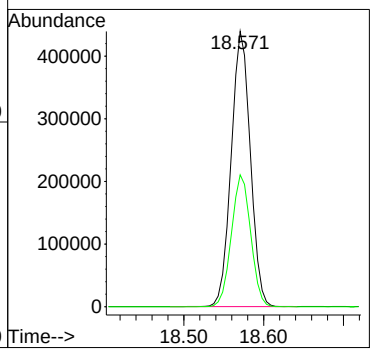


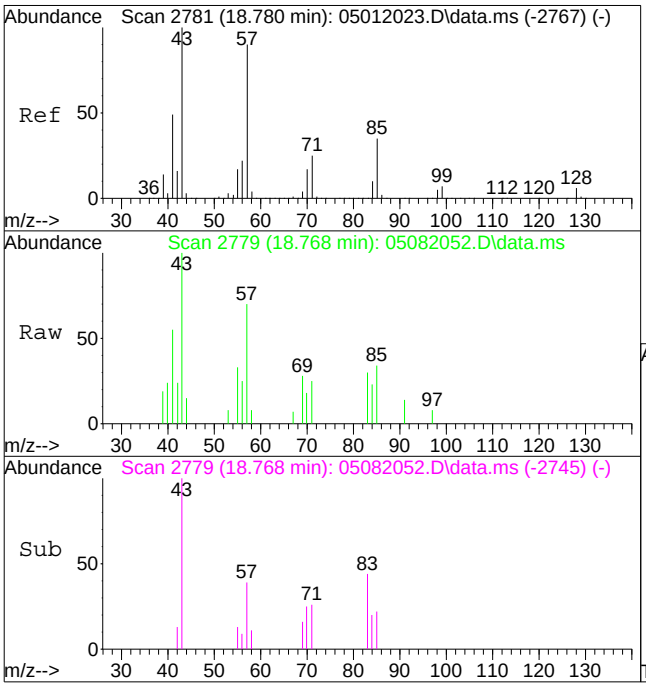


#70
o-Xylene
Concen: 6.30 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05082052.D
Acq: 9 May 2020 8:19

Tgt Ion: 91 Resp: 730801

Ion	Ratio	Lower	Upper
91	100		
106	48.3	27.5	67.5

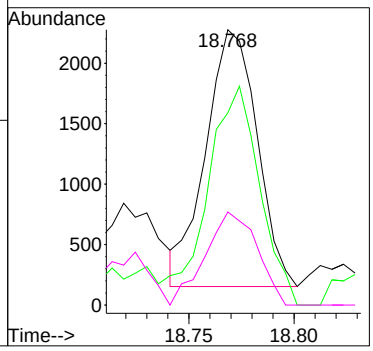


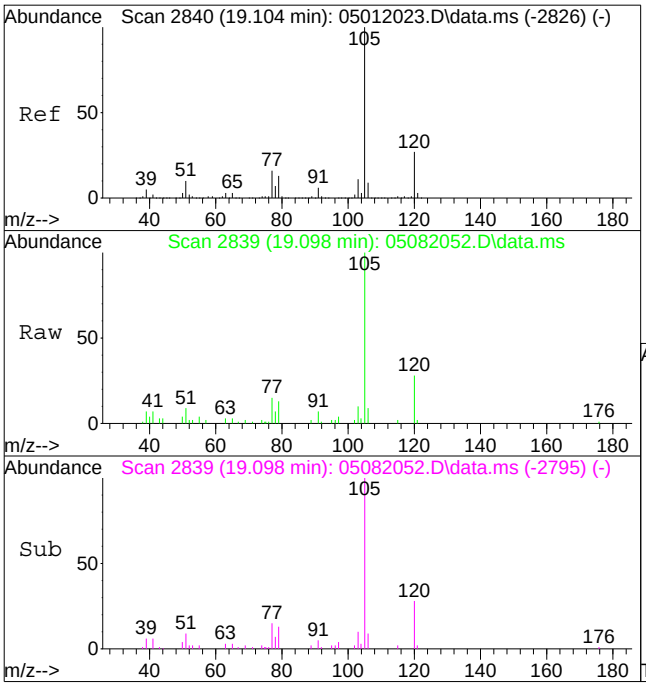


#71
n-Nonane
Concen: 0.06 ng
RT: 18.77 min Scan# 2779
Delta R.T. -0.011 min
Lab File: 05082052.D
Acq: 9 May 2020 8:19

Tgt Ion: 43 Resp: 3614

Ion	Ratio	Lower	Upper
43	100		
57	87.0	69.0	109.0
85	36.6	14.6	54.6

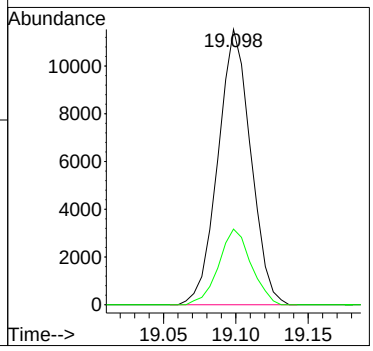


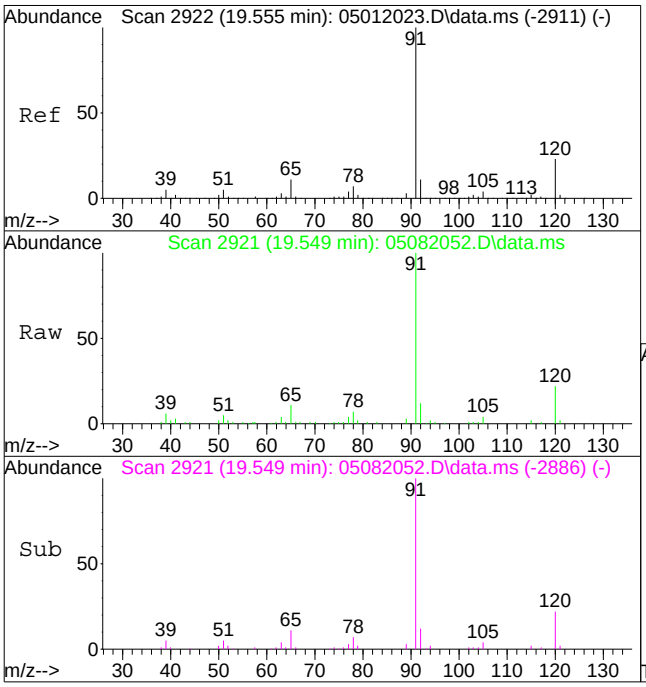


#74
Cumene
Concen: 0.13 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05082052.D
Acq: 9 May 2020 8:19

Tgt Ion:105 Resp: 18235

Ion	Ratio	Lower	Upper
105	100		
120	27.2	6.8	46.8

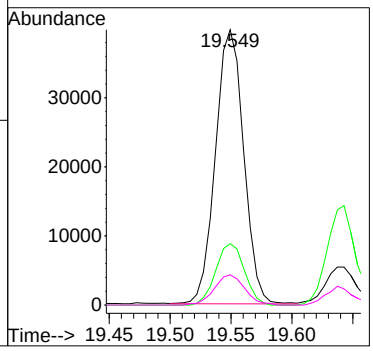


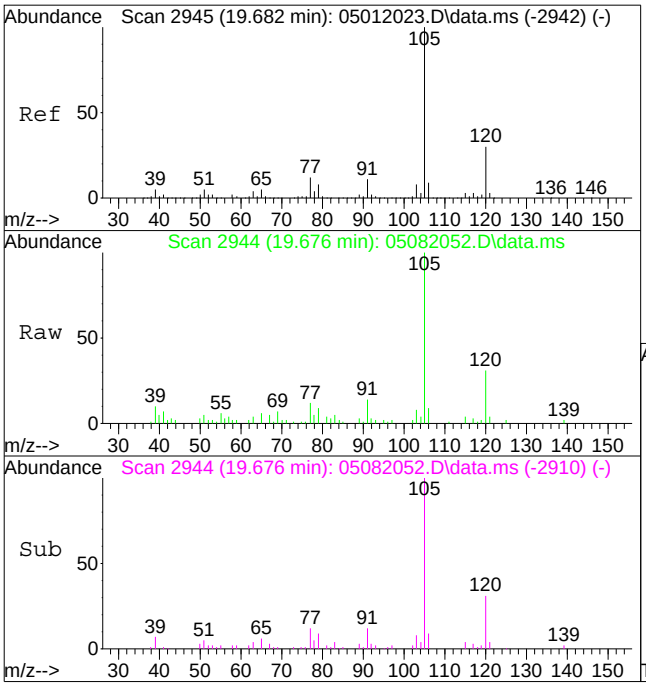


#76
n-Propylbenzene
Concen: 0.38 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05082052.D
Acq: 9 May 2020 8:19

Tgt Ion: 91 Resp: 64015

Ion	Ratio	Lower	Upper
91	100		
120	22.7	3.1	43.1
65	11.9	0.0	30.9

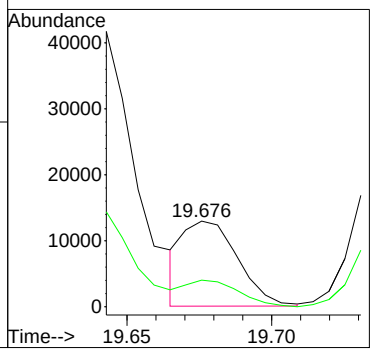


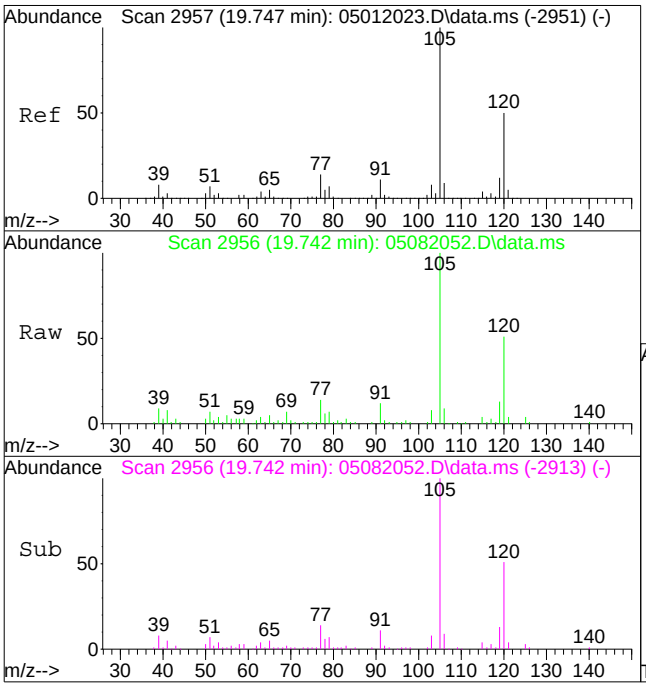


#78
4-Ethyltoluene
Concen: 0.13 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05082052.D
Acq: 9 May 2020 8:19

Tgt Ion:105 Resp: 17130

Ion	Ratio	Lower	Upper
105	100		
120	31.2	10.4	50.4

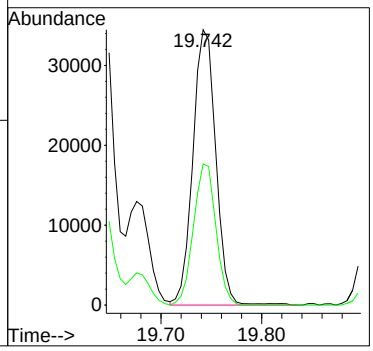


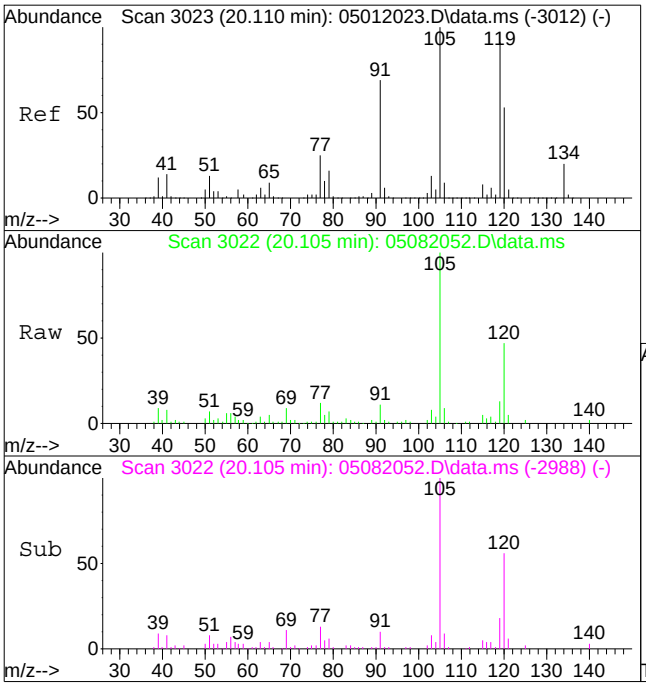


#79
1,3,5-Trimethylbenzene
Concen: 0.47 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05082052.D
Acq: 9 May 2020 8:19

Tgt Ion:105 Resp: 54568

Ion	Ratio	Lower	Upper
105	100		
120	50.2	29.9	69.9

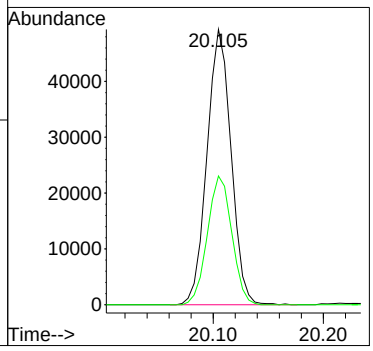




#82
1,2,4-Trimethylbenzene
Concen: 0.64 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05082052.D
Acq: 9 May 2020 8:19

Tgt Ion:105 Resp: 74711

Ion	Ratio	Lower	Upper
105	100		
120	47.3	33.6	73.6



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112025.D Vial: 1
Acq On : 11 May 2020 19:36 Operator: LH
Sample : P2002299-013 (2.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 14:34:36 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/13/20

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	251454	12.500 ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1075430	12.500 ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	546896	12.500 ng	0.00
System Monitoring Compounds					
33) 1,2-Dichloroethane-d4(...	11.99	65	408904	11.999 ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.00%		
57) Toluene-d8 (SS2)	15.72	98	1106867	11.941 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.52%		
73) Bromofluorobenzene (SS3)	18.97	174	396658	11.892 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.12%		
Target Compounds					Qvalue
2) Propene	4.10	42	34765	1.194 ng #	85
3) Dichlorodifluoromethan...	4.27	85	1466	N.D.	
4) Chloromethane	4.54	50	148	N.D.	
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.	
6) Vinyl Chloride	0.00	62	0	N.D.	
7) 1,3-Butadiene	0.00	54	0	N.D. d	
8) Bromomethane	0.00	94	0	N.D.	
9) Chloroethane	0.00	64	0	N.D.	
10) Ethanol	6.33	45	10957	0.487 ng	90
11) Acetonitrile	6.56	41	590	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) Acetone	0.00	58	0	N.D. d	
14) Trichlorofluoromethane	0.00	101	0	N.D.	
15) 2-Propanol (Isopropanol)	7.52	45	11813	0.174 ng #	42
16) Acrylonitrile	7.69	53	1635	N.D.	
17) 1,1-Dichloroethene	0.00	96	0	N.D.	
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d	
19) Methylene Chloride	8.40	84	105	N.D.	
20) 3-Chloro-1-propene (Al...	8.60	41	100	N.D.	
21) Trichlorotrifluoroethane	0.00	151	0	N.D.	
22) Carbon Disulfide	8.69	76	9954	0.095 ng	95
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.	
24) 1,1-Dichloroethane	0.00	63	0	N.D. d	
25) Methyl tert-Butyl Ether	10.07	73	3072	N.D.	
26) Vinyl Acetate	0.00	86	0	N.D. d	
27) 2-Butanone (MEK)	10.48	72	1346	0.070 ng #	60
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.	
29) Diisopropyl Ether	0.00	87	0	N.D. d	
30) Ethyl Acetate	0.00	61	0	N.D. d	
31) n-Hexane	11.27	57	3432330	71.553 ng	99
32) Chloroform	0.00	83	0	N.D.	
34) Tetrahydrofuran (THF)	11.78	72	458	N.D.	
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.	
36) 1,2-Dichloroethane	12.07	62	102	N.D.	
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.	
39) Isopropyl Acetate	0.00	61	0	N.D. d	
40) 1-Butanol	12.88	56	1128	N.D.	
41) Benzene	12.87	78	1835545	15.916 ng	100
42) Carbon Tetrachloride	0.00	117	0	N.D.	
43) Cyclohexane	13.18	84	6745280	156.953 ng	96
44) tert-Amyl Methyl Ether	13.46	73	2879	N.D.	
45) 1,2-Dichloropropane	0.00	63	0	N.D. d	
46) Bromodichloromethane	0.00	83	0	N.D. d	
47) Trichloroethene	13.97	130	143	N.D.	
48) 1,4-Dioxane	0.00	88	0	N.D.	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d	
50) Methyl Methacrylate	0.00	100	0	N.D. d	

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112025.D Vial: 1
Acq On : 11 May 2020 19:36 Operator: LH
Sample : P2002299-013 (2.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 14:34:36 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

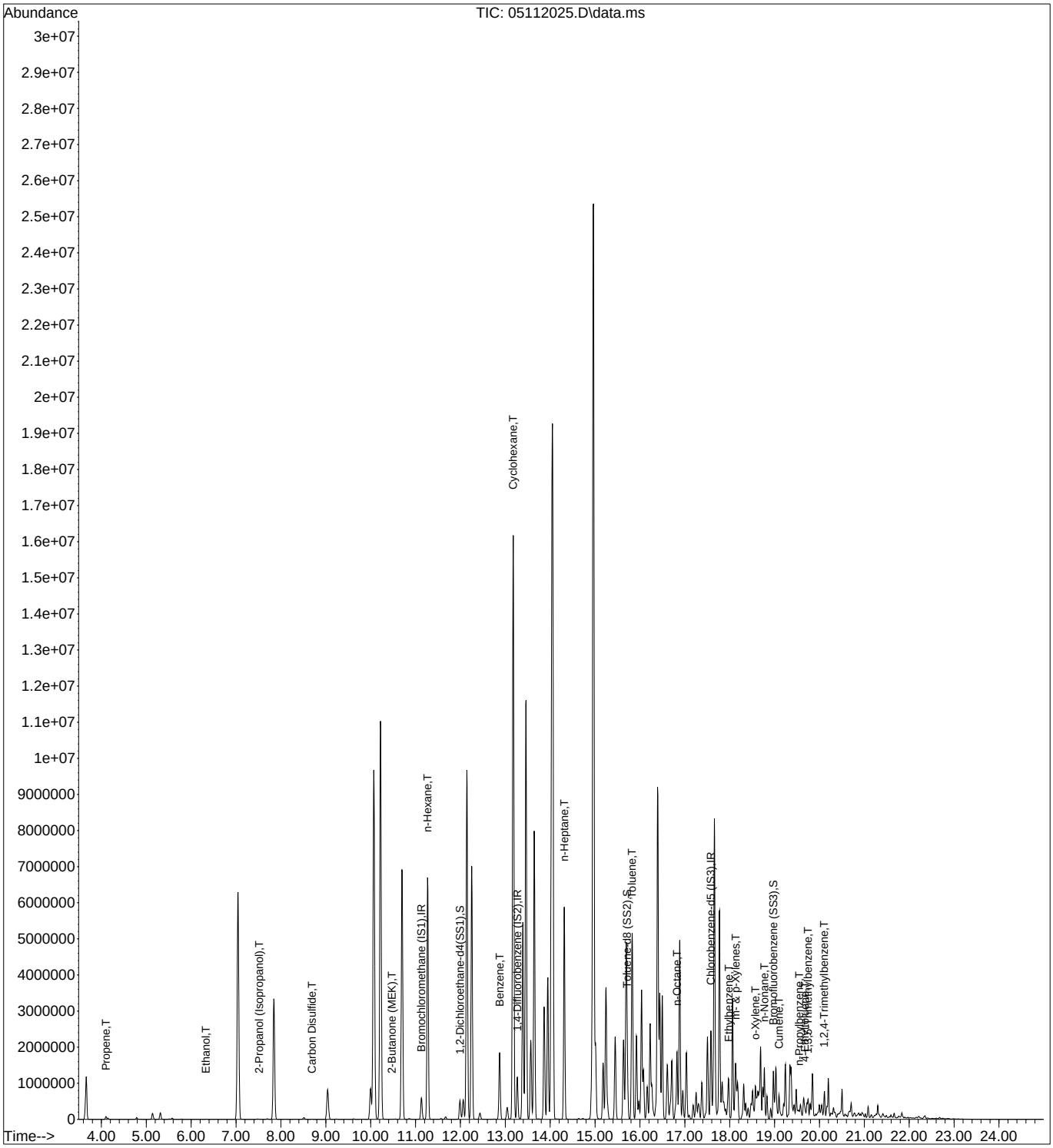
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.31	71	1438396	53.334	ng		98
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	d		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	d		
54) trans-1,3-Dichloropropene	15.45	75	371	N.D.			
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	d		
58) Toluene	15.82	91	1996807	16.711	ng		100
59) 2-Hexanone	0.00	43	0	N.D.	d		
60) Dibromochloromethane	0.00	129	0	N.D.			
61) 1,2-Dibromoethane	16.48	107	1032	N.D.			
62) n-Butyl Acetate	0.00	43	0	N.D.	d		
63) n-Octane	16.83	57	363327	14.687	ng		97
64) Tetrachloroethene	16.97	166	888	N.D.			
65) Chlorobenzene	0.00	112	0	N.D.	d		
66) Ethylbenzene	17.98	91	181956	1.366	ng		99
67) m- & p-Xylenes	18.14	91	718680	6.799	ng		99
68) Bromoform	0.00	173	0	N.D.			
69) Styrene	18.48	104	260	N.D.			
70) o-Xylene	18.57	91	476140	4.437	ng		99
71) n-Nonane	18.77	43	473706	8.320	ng		94
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	d		
74) Cumene	19.10	105	42940	0.326	ng		97
75) alpha-Pinene	19.45	93	243	N.D.			
76) n-Propylbenzene	19.55	91	41213	0.263	ng		89
77) 3-Ethyltoluene	0.00	105	0	N.D.	d		
78) 4-Ethyltoluene	19.68	105	8490	0.069	ng	#	44
79) 1,3,5-Trimethylbenzene	19.74	105	95536	0.890	ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D.	d		
81) 2-Ethyltoluene	0.00	105	0	N.D.	d		
82) 1,2,4-Trimethylbenzene	20.10	105	70717	0.655	ng		92
83) n-Decane	0.00	57	0	N.D.	d		
84) Benzyl Chloride	20.19	91	2131	N.D.			
85) 1,3-Dichlorobenzene	20.30	146	100	N.D.			
86) 1,4-Dichlorobenzene	20.30	146	100	N.D.			
87) sec-Butylbenzene	0.00	105	0	N.D.	d		
88) 4-Isopropyltoluene (p-...	20.48	119	4550	N.D.			
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.			
91) d-Limonene	0.00	68	0	N.D.	d		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.			
93) n-Undecane	0.00	57	0	N.D.	d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.			
95) Naphthalene	22.21	128	1098	N.D.			
96) n-Dodecane	0.00	57	0	N.D.	d		
97) Hexachlorobutadiene	0.00	225	0	N.D.			
98) Cyclohexanone	0.00	55	0	N.D.	d		
99) tert-Butylbenzene	0.00	119	0	N.D.	d		
100) n-Butylbenzene	20.85	91	3500	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112025.D Vial: 1
Acq On : 11 May 2020 19:36 Operator: LH
Sample : P2002299-013 (2.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 14:34:36 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112025.D Vial: 1
Acq On : 11 May 2020 19:36 Operator: LH
Sample : P2002299-013 (2.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 14:34:36 2020
Quant Method : I:\MS16\METHODS\R16050120.M LH 5/13/20
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

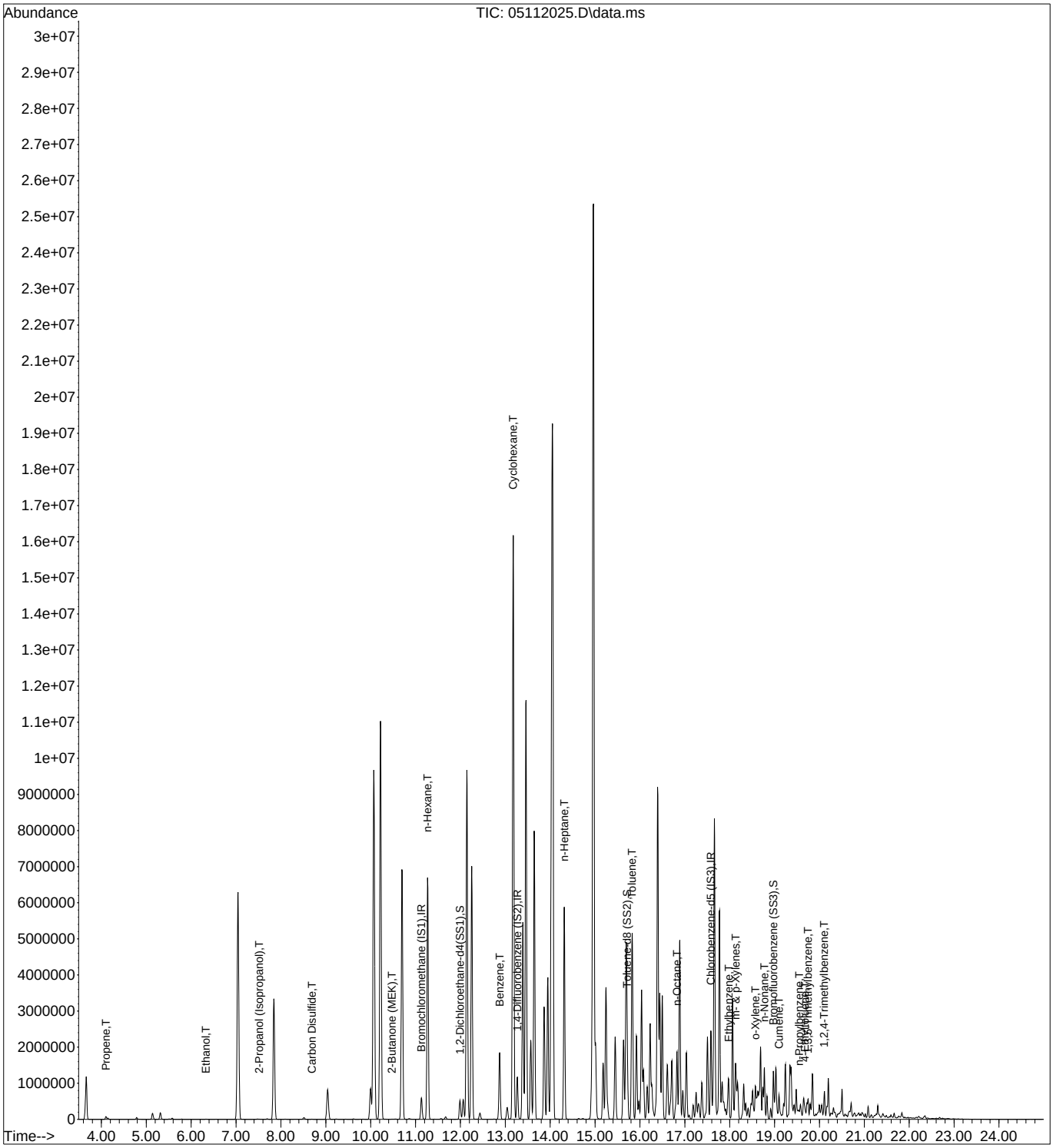
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	251454	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1075430	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	546896	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	408904	11.999	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.00%				
57) Toluene-d8 (SS2)	15.72	98	1106867	11.941	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.52%				
73) Bromofluorobenzene (SS3)	18.97	174	396658	11.892	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.12%				
Target Compounds							Qvalue
2) Propene	4.10	42	34765	1.194	ng	#	85
10) Ethanol	6.33	45	10957	0.487	ng		90
15) 2-Propanol (Isopropanol)	7.52	45	11813	0.174	ng	#	42
22) Carbon Disulfide	8.69	76	9954	0.095	ng		95
27) 2-Butanone (MEK)	10.48	72	1346	0.070	ng	#	60
31) n-Hexane	11.27	57	3432330	71.553	ng		99
41) Benzene	12.87	78	1835545	15.916	ng		100
43) Cyclohexane	13.18	84	6745280	156.953	ng		96
51) n-Heptane	14.31	71	1438396	53.334	ng		98
58) Toluene	15.82	91	1996807	16.711	ng		100
63) n-Octane	16.83	57	363327	14.687	ng		97
66) Ethylbenzene	17.98	91	181956	1.366	ng		99
67) m- & p-Xylenes	18.14	91	718680	6.799	ng		99
70) o-Xylene	18.57	91	476140	4.437	ng		99
71) n-Nonane	18.77	43	473706	8.320	ng		94
74) Cumene	19.10	105	42940	0.326	ng		97
76) n-Propylbenzene	19.55	91	41213	0.263	ng		89
78) 4-Ethyltoluene	19.68	105	8490	0.069	ng	#	44
79) 1,3,5-Trimethylbenzene	19.74	105	95536	0.890	ng		99
82) 1,2,4-Trimethylbenzene	20.10	105	70717	0.655	ng		92

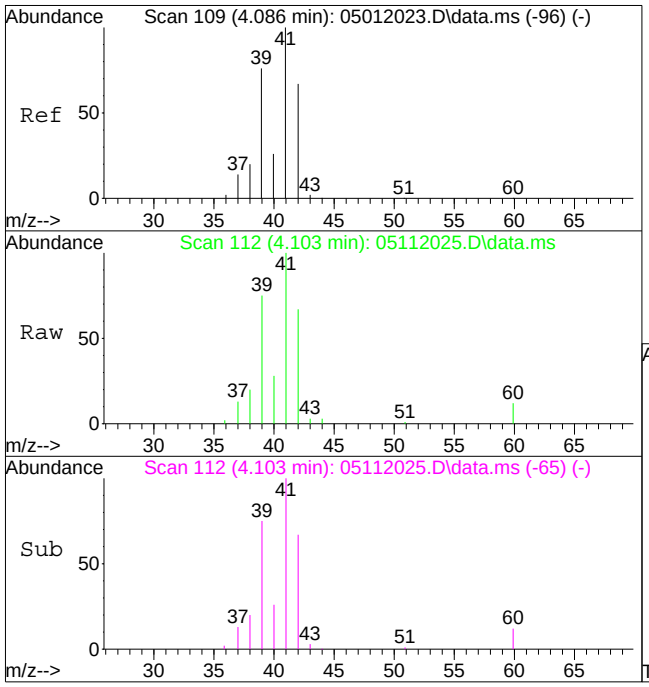
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112025.D Vial: 1
Acq On : 11 May 2020 19:36 Operator: LH
Sample : P2002299-013 (2.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 14:34:36 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

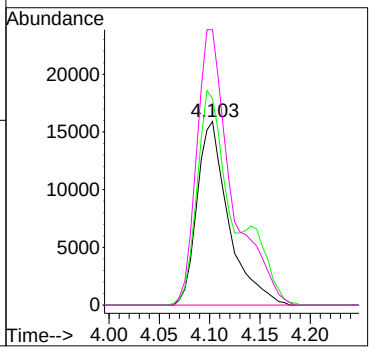


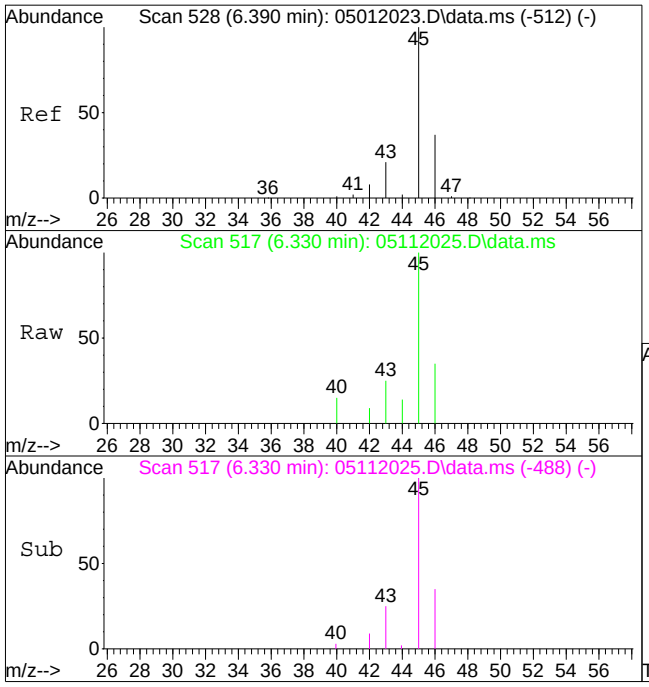


#2
Propene
Concen: 1.19 ng
RT: 4.10 min Scan# 112
Delta R.T. 0.011 min
Lab File: 05112025.D
Acq: 11 May 2020 19:36

Tgt Ion: 42 Resp: 34765

Ion	Ratio	Lower	Upper
42	100		
39	139.5	96.1	136.1#
41	165.7	131.9	171.9

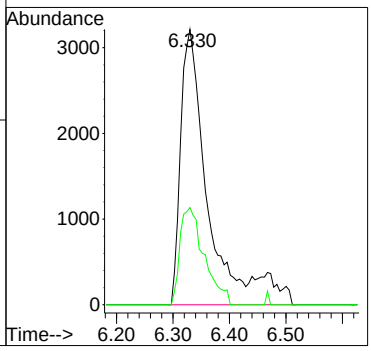


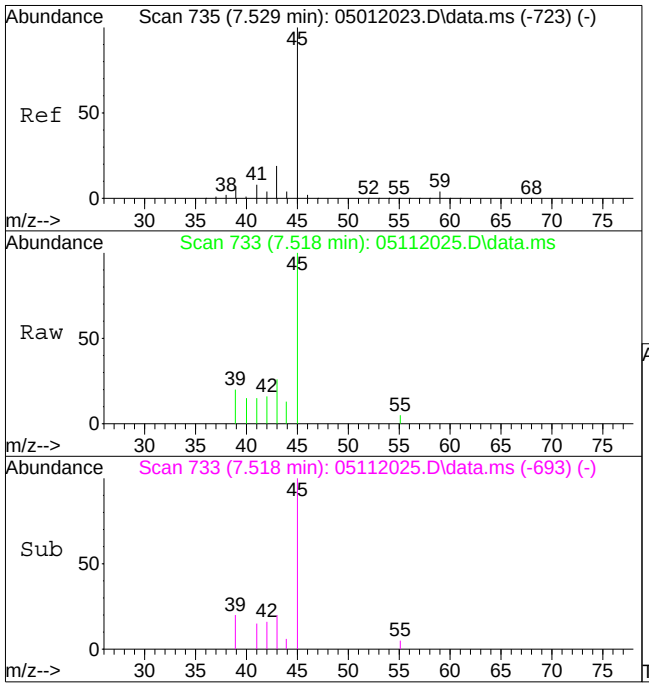


#10
Ethanol
Concen: 0.49 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.088 min
Lab File: 05112025.D
Acq: 11 May 2020 19:36

Tgt Ion: 45 Resp: 10957

Ion	Ratio	Lower	Upper
45	100		
46	30.9	17.2	57.2

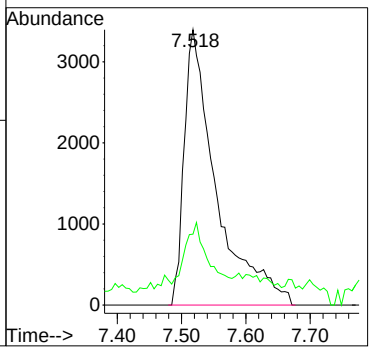


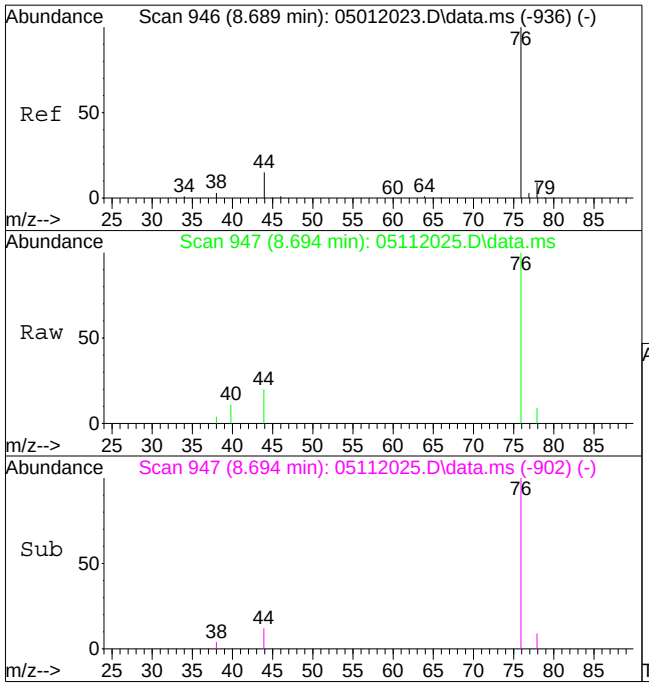


#15
2-Propanol (Isopropanol)
Concen: 0.17 ng
RT: 7.52 min Scan# 733
Delta R.T. -0.027 min
Lab File: 05112025.D
Acq: 11 May 2020 19:36

Tgt Ion: 45 Resp: 11813

Ion	Ratio	Lower	Upper
45	100		
43	46.0	0.0	39.5#

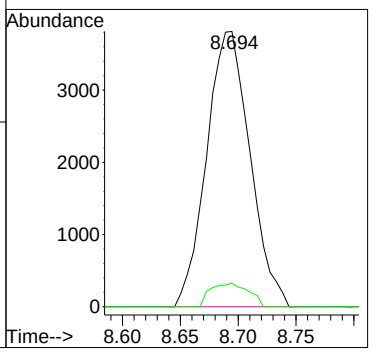


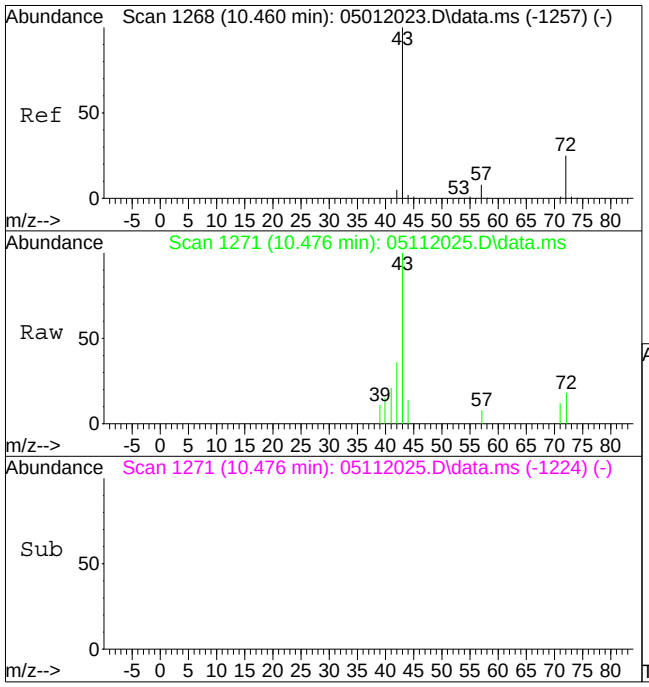


#22
Carbon Disulfide
Concen: 0.10 ng
RT: 8.69 min Scan# 947
Delta R.T. 0.000 min
Lab File: 05112025.D
Acq: 11 May 2020 19:36

Tgt Ion: 76 Resp: 9954

Ion	Ratio	Lower	Upper
76	100		
78	7.5	0.0	29.2

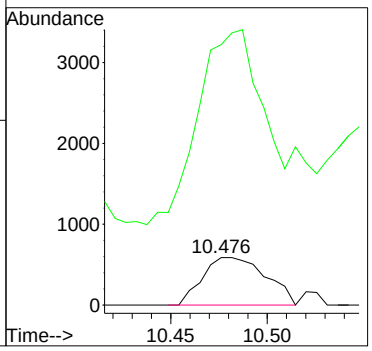


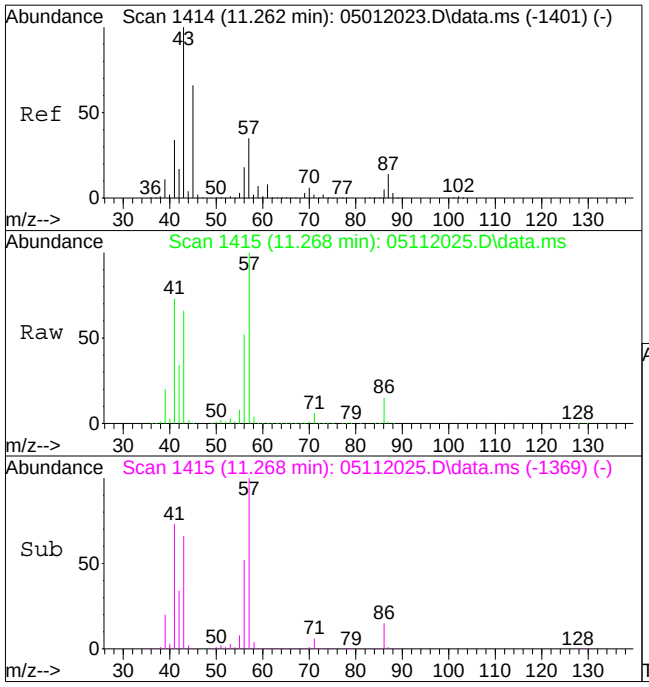


#27
2-Butanone (MEK)
Concen: 0.07 ng
RT: 10.48 min Scan# 1271
Delta R.T. 0.011 min
Lab File: 05112025.D
Acq: 11 May 2020 19:36

Tgt Ion: 72 Resp: 1346

Ion	Ratio	Lower	Upper
72	100		
43	504.9	389.7	429.7#

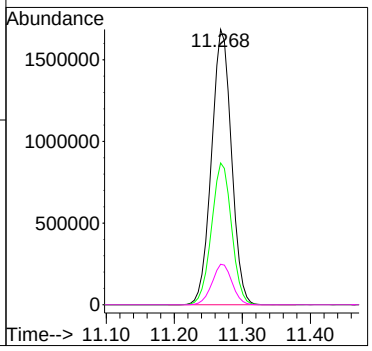


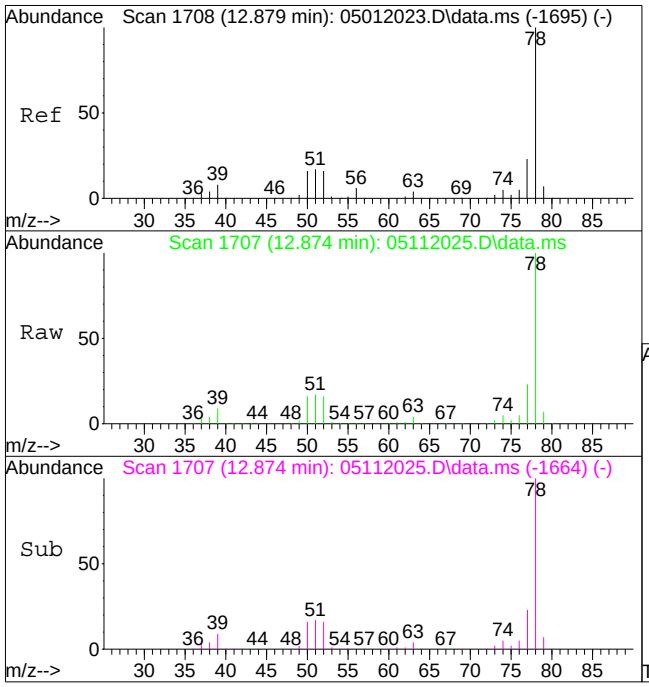


#31
n-Hexane
Concen: 71.55 ng
RT: 11.27 min Scan# 1415
Delta R.T. 0.005 min
Lab File: 05112025.D
Acq: 11 May 2020 19:36

Tgt Ion: 57 Resp: 3432330

Ion	Ratio	Lower	Upper
57	100		
56	51.8	41.4	62.0
86	14.8	12.4	18.6

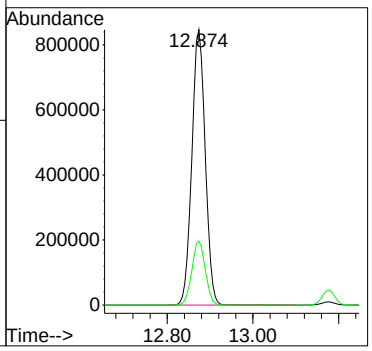


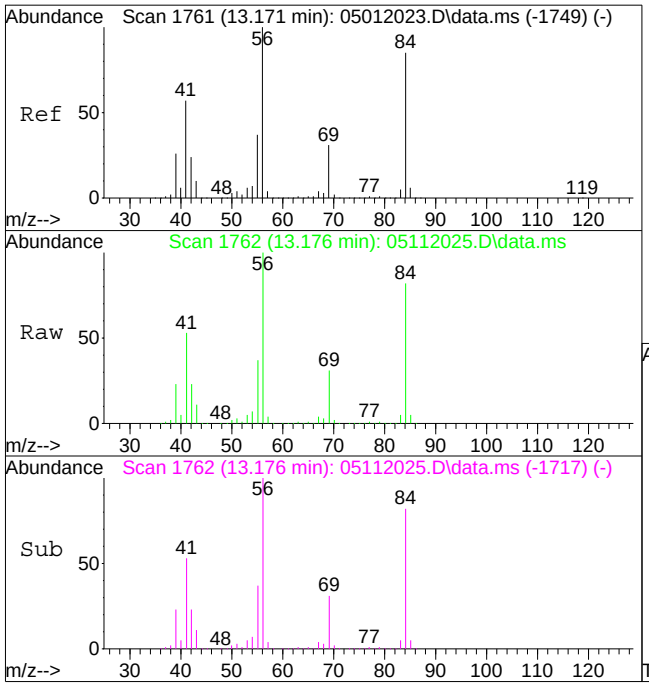


#41
Benzene
Concen: 15.92 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05112025.D
Acq: 11 May 2020 19:36

Tgt Ion: 78 Resp: 1835545

Ion	Ratio	Lower	Upper
78	100		
77	23.4	3.4	43.4

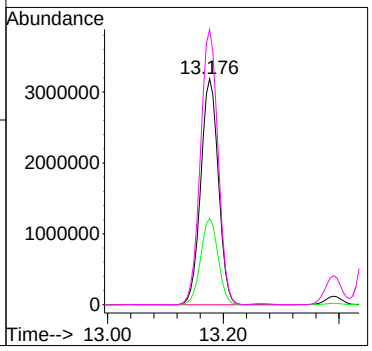


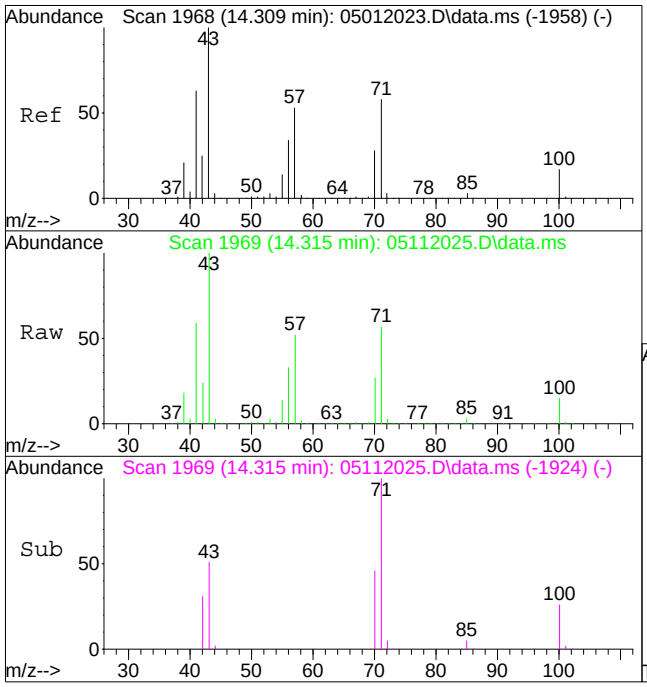


#43
Cyclohexane
Concen: 156.95 ng
RT: 13.18 min Scan# 1762
Delta R.T. 0.000 min
Lab File: 05112025.D
Acq: 11 May 2020 19:36

Tgt Ion: 84 Resp: 6745280

Ion	Ratio	Lower	Upper
84	100		
69	37.7	16.5	56.5
56	121.8	97.4	137.4

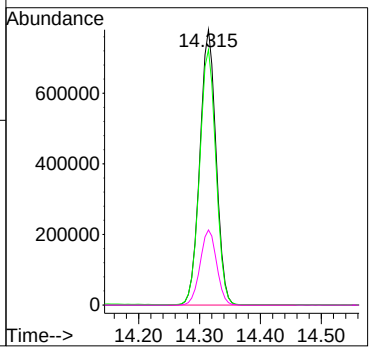


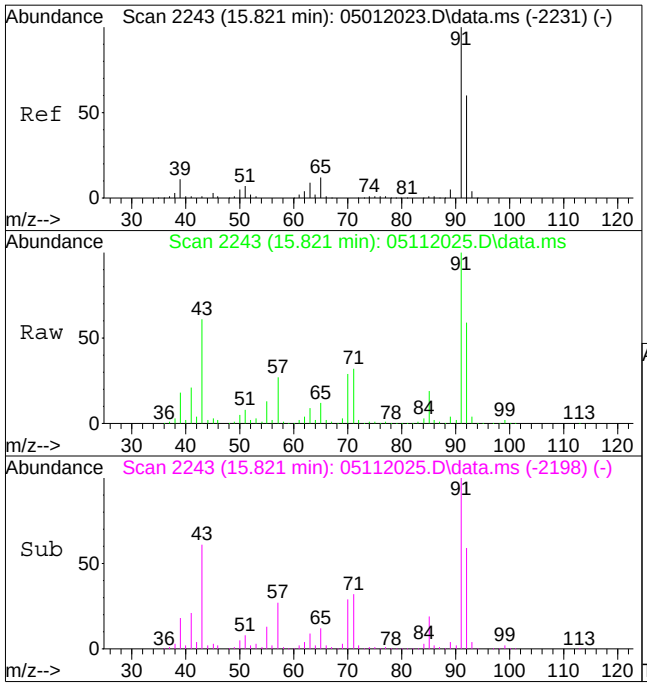


#51
n-Heptane
Concen: 53.33 ng
RT: 14.31 min Scan# 1969
Delta R.T. 0.000 min
Lab File: 05112025.D
Acq: 11 May 2020 19:36

Tgt Ion: 71 Resp: 1438396

Ion	Ratio	Lower	Upper
71	100		
57	93.4	71.0	111.0
100	27.8	8.4	48.4

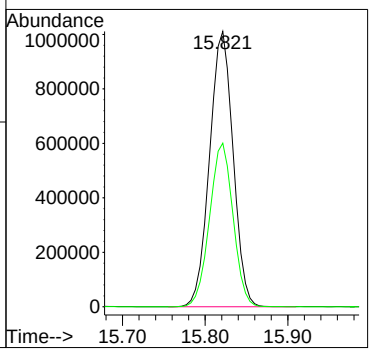


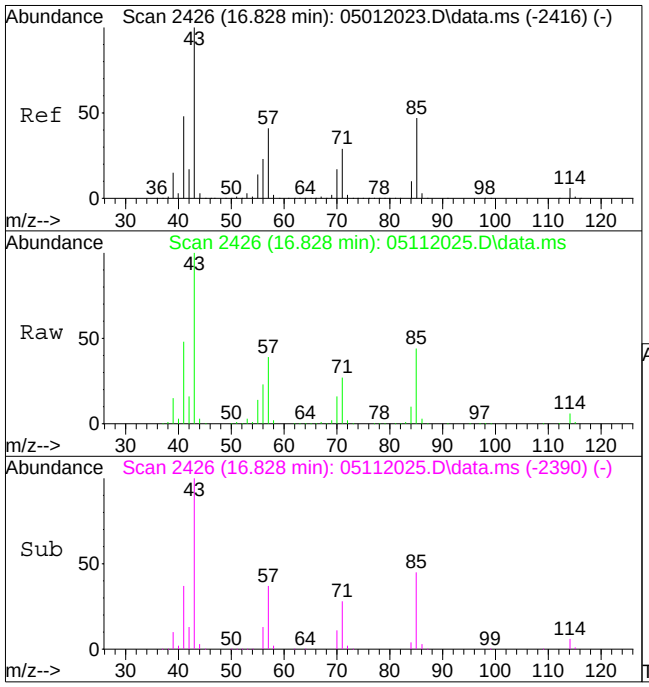


#58
Toluene
Concen: 16.71 ng
RT: 15.82 min Scan# 2243
Delta R.T. -0.000 min
Lab File: 05112025.D
Acq: 11 May 2020 19:36

Tgt Ion: 91 Resp: 1996807

Ion	Ratio	Lower	Upper
91	100		
92	59.2	39.4	79.4

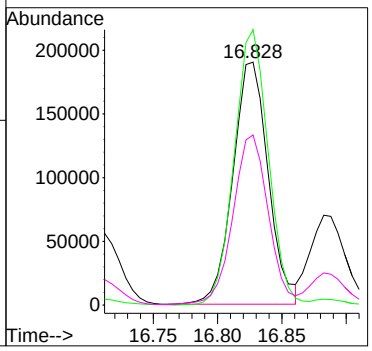


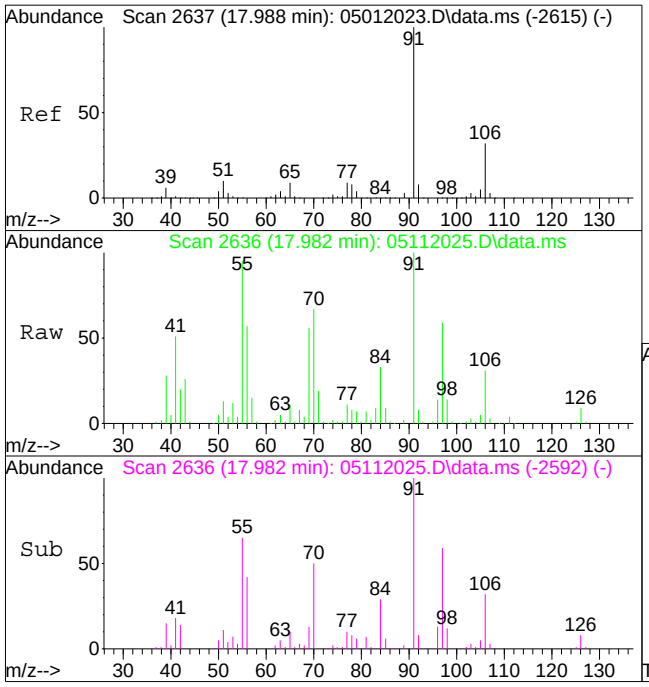


#63
n-Octane
Concen: 14.69 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05112025.D
Acq: 11 May 2020 19:36

Tgt Ion: 57 Resp: 363327

Ion	Ratio	Lower	Upper
57	100		
85	109.4	91.0	136.4
71	69.7	56.2	84.2

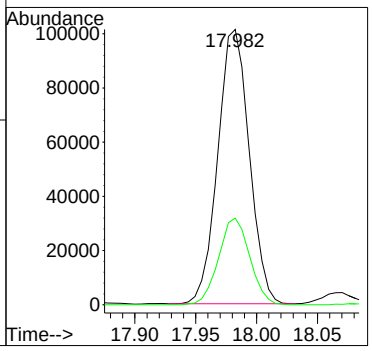


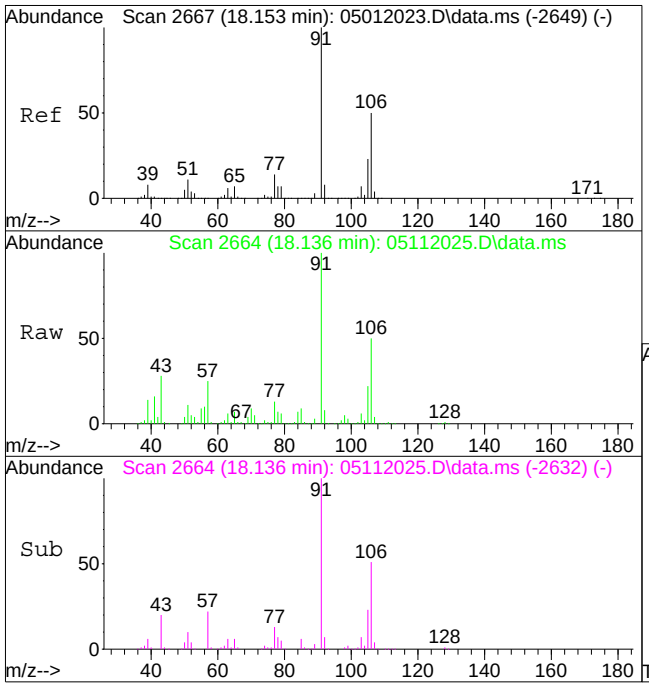


#66
Ethylbenzene
Concen: 1.37 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05112025.D
Acq: 11 May 2020 19:36

Tgt Ion: 91 Resp: 181956

Ion	Ratio	Lower	Upper
91	100		
106	31.2	11.6	51.6

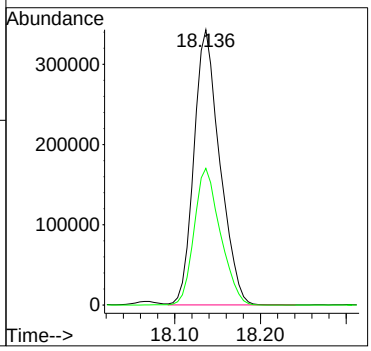


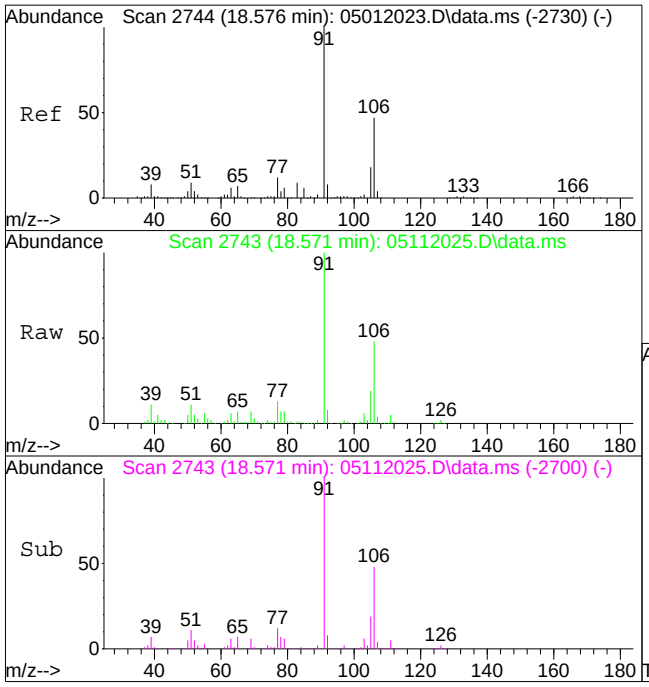


#67
m- & p-Xylenes
Concen: 6.80 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05112025.D
Acq: 11 May 2020 19:36

Tgt Ion: 91 Resp: 718680

Ion	Ratio	Lower	Upper
91	100		
106	50.4	29.7	69.7

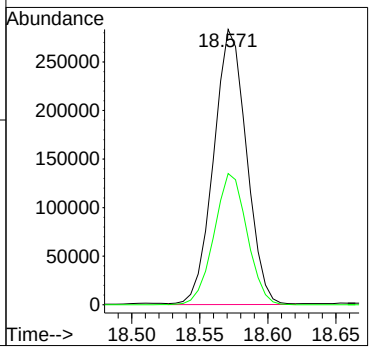


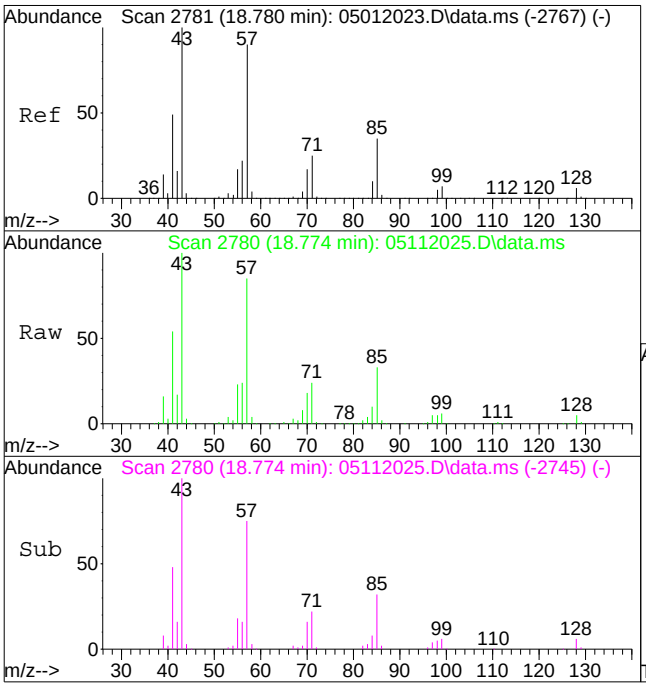


#70
o-Xylene
Concen: 4.44 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05112025.D
Acq: 11 May 2020 19:36

Tgt Ion: 91 Resp: 476140

Ion	Ratio	Lower	Upper
91	100		
106	47.8	27.5	67.5

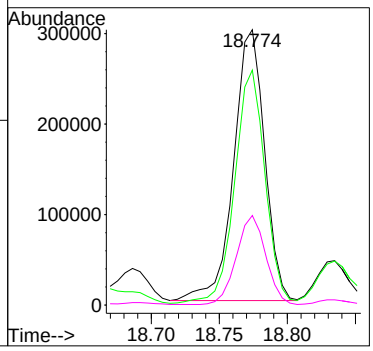


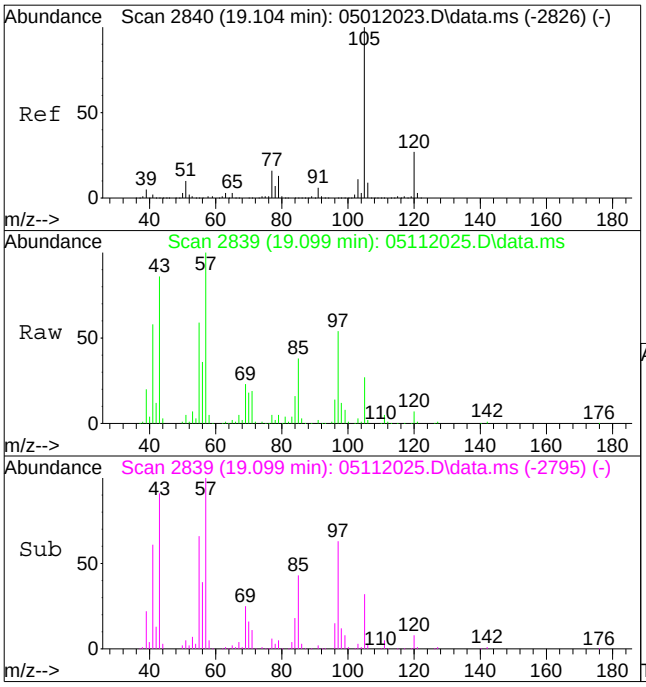


#71
n-Nonane
Concen: 8.32 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05112025.D
Acq: 11 May 2020 19:36

Tgt Ion: 43 Resp: 473706

Ion	Ratio	Lower	Upper
43	100		
57	83.9	69.0	109.0
85	31.1	14.6	54.6

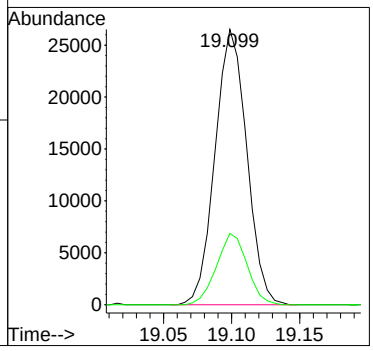


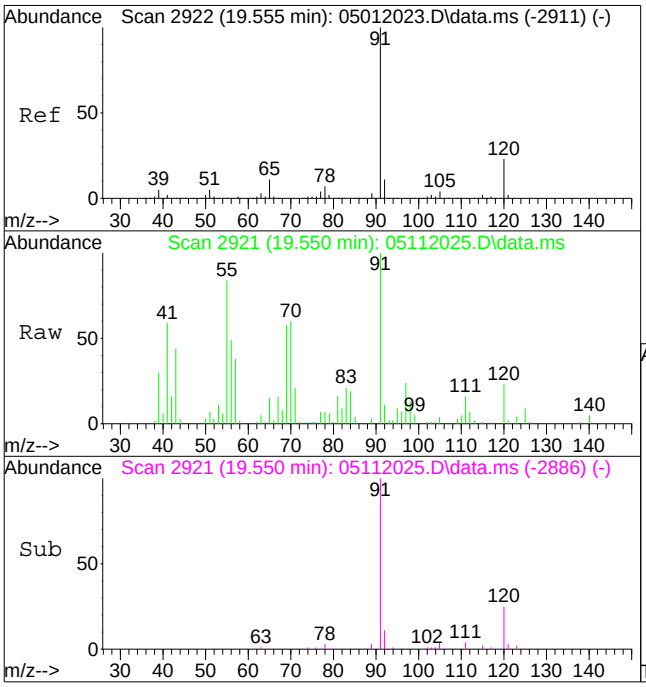


#74
Cumene
Concen: 0.33 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05112025.D
Acq: 11 May 2020 19:36

Tgt Ion:105 Resp: 42940

Ion	Ratio	Lower	Upper
105	100		
120	25.0	6.8	46.8

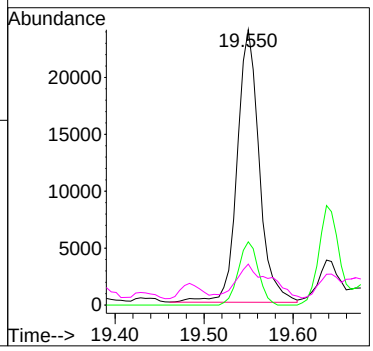


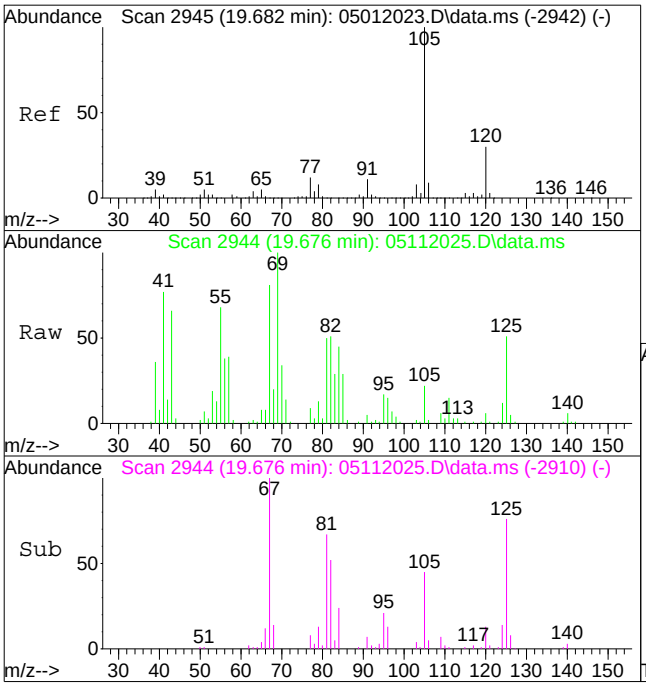


#76
n-Propylbenzene
Concen: 0.26 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.005 min
Lab File: 05112025.D
Acq: 11 May 2020 19:36

Tgt Ion: 91 Resp: 41213

Ion	Ratio	Lower	Upper
91	100		
120	21.1	3.1	43.1
65	20.3	0.0	30.9

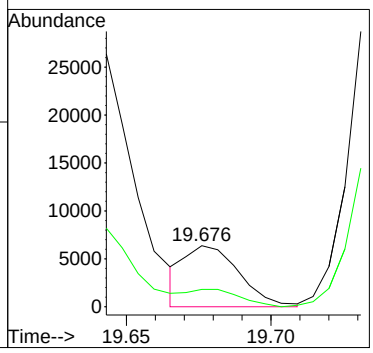


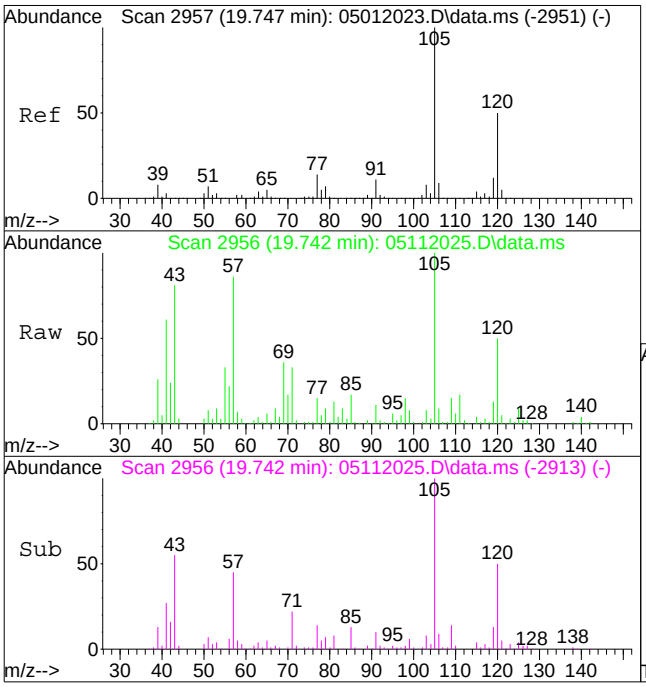


#78
4-Ethyltoluene
Concen: 0.07 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05112025.D
Acq: 11 May 2020 19:36

Tgt Ion:105 Resp: 8490

Ion	Ratio	Lower	Upper
105	100		
120	0.0	10.4	50.4#

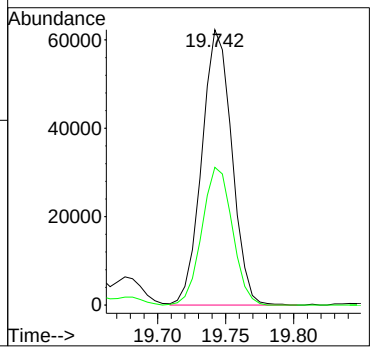


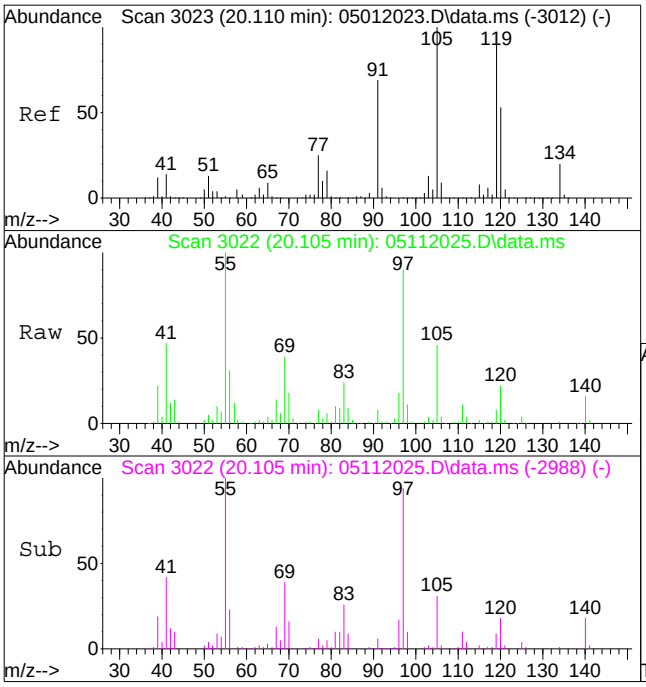


#79
1,3,5-Trimethylbenzene
Concen: 0.89 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05112025.D
Acq: 11 May 2020 19:36

Tgt Ion:105 Resp: 95536

Ion	Ratio	Lower	Upper
105	100		
120	50.6	29.9	69.9

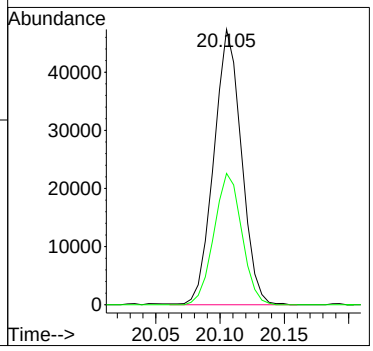




#82
1,2,4-Trimethylbenzene
Concen: 0.66 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05112025.D
Acq: 11 May 2020 19:36

Tgt Ion:105 Resp: 70717

Ion	Ratio	Lower	Upper
105	100		
120	48.1	33.6	73.6



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112026.D Vial: 1
Acq On : 11 May 2020 20:13 Operator: LH
Sample : P2002299-014 (2.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 14:36:18 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/13/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	257684	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1121828	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	569704	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	422316	12.093	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.72%				
57) Toluene-d8 (SS2)	15.72	98	1141181	11.818	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.56%				
73) Bromofluorobenzene (SS3)	18.97	174	415096	11.947	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.60%				
Target Compounds							Qvalue
2) Propene	4.09	42	39445	1.322	ng		90
3) Dichlorodifluoromethan...	4.27	85	5196	0.089	ng		95
4) Chloromethane	4.54	50	1332	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.22	54	155	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.31	45	35763	1.552	ng		100
11) Acetonitrile	6.58	41	6775	0.129	ng		84
12) Acrolein	6.78	56	1936	0.106	ng		86
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	7.25	101	2881	0.056	ng		95
15) 2-Propanol (Isopropanol)	7.51	45	12565	0.180	ng	#	57
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	1390	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	8.85	151	7141	0.293	ng		99
22) Carbon Disulfide	8.69	76	14216	0.132	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.	d		
25) Methyl tert-Butyl Ether	10.07	73	3844	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.48	72	2570	0.131	ng		100
28) cis-1,2-Dichloroethene	10.95	61	508	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	11.27	57	3765525	76.601	ng		100
32) Chloroform	11.30	83	1106	N.D.			
34) Tetrahydrofuran (THF)	11.76	72	1548	0.081	ng	#	36
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	2048157	17.025	ng		100
42) Carbon Tetrachloride	13.04	117	7506	0.183	ng		100
43) Cyclohexane	13.18	84	7435528	165.858	ng		97
44) tert-Amyl Methyl Ether	13.46	73	3391	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	13.97	130	6304	0.203	ng		98
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112026.D Vial: 1
Acq On : 11 May 2020 20:13 Operator: LH
Sample : P2002299-014 (2.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 14:36:18 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

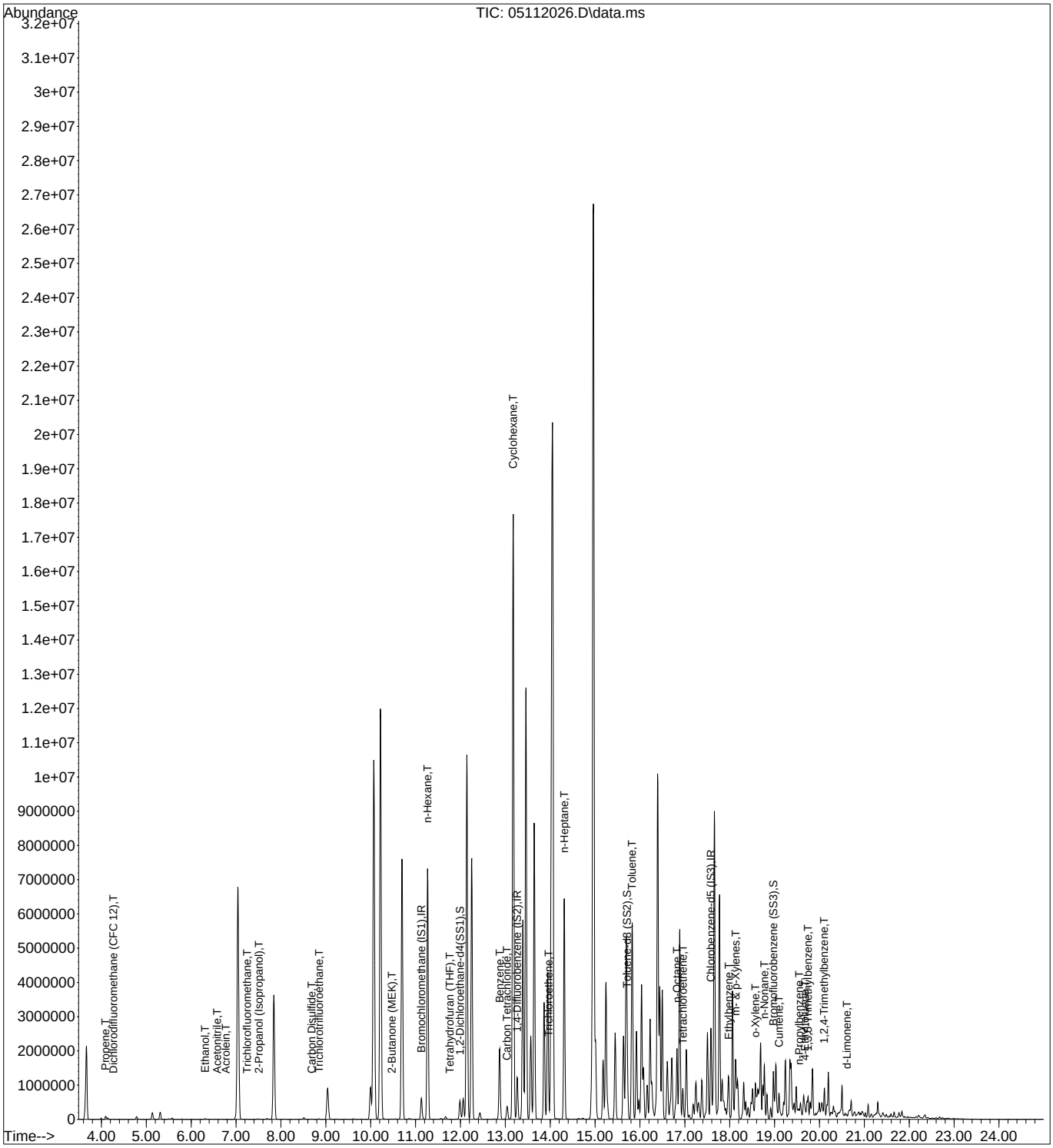
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.31	71	1575928	56.017	ng		98
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	d		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	d		
54) trans-1,3-Dichloropropene	15.44	75	415	N.D.			
55) 1,1,2-Trichloroethane	15.53	97	156	N.D.			
58) Toluene	15.82	91	2238686	17.985	ng		100
59) 2-Hexanone	0.00	43	0	N.D.	d		
60) Dibromochloromethane	0.00	129	0	N.D.			
61) 1,2-Dibromoethane	16.48	107	1565	N.D.			
62) n-Butyl Acetate	0.00	43	0	N.D.	d		
63) n-Octane	16.83	57	395096	15.332	ng		98
64) Tetrachloroethene	16.96	166	4596	0.131	ng		98
65) Chlorobenzene	0.00	112	0	N.D.	d		
66) Ethylbenzene	17.98	91	207550	1.495	ng		99
67) m- & p-Xylenes	18.14	91	821378	7.460	ng		99
68) Bromoform	0.00	173	0	N.D.			
69) Styrene	18.47	104	645	N.D.			
70) o-Xylene	18.57	91	544815	4.874	ng		100
71) n-Nonane	18.77	43	530526	8.945	ng		95
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	d		
74) Cumene	19.10	105	48925	0.357	ng		99
75) alpha-Pinene	19.44	93	1364	N.D.			
76) n-Propylbenzene	19.55	91	48568	0.298	ng		89
77) 3-Ethyltoluene	0.00	105	0	N.D.	d		
78) 4-Ethyltoluene	19.68	105	10500	0.081	ng	#	44
79) 1,3,5-Trimethylbenzene	19.74	105	112375	1.005	ng		99
80) alpha-Methylstyrene	19.88	118	499	N.D.			
81) 2-Ethyltoluene	0.00	105	0	N.D.	d		
82) 1,2,4-Trimethylbenzene	20.10	105	87570	0.779	ng		91
83) n-Decane	0.00	57	0	N.D.	d		
84) Benzyl Chloride	20.19	91	1909	N.D.			
85) 1,3-Dichlorobenzene	20.24	146	163	N.D.			
86) 1,4-Dichlorobenzene	20.30	146	377	N.D.			
87) sec-Butylbenzene	0.00	105	0	N.D.	d		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.	d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.			
91) d-Limonene	20.61	68	5366	0.121	ng		99
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.			
93) n-Undecane	0.00	57	0	N.D.	d		
94) 1,2,4-Trichlorobenzene	22.11	180	185	N.D.			
95) Naphthalene	22.21	128	2784	N.D.			
96) n-Dodecane	0.00	57	0	N.D.	d		
97) Hexachlorobutadiene	0.00	225	0	N.D.			
98) Cyclohexanone	0.00	55	0	N.D.	d		
99) tert-Butylbenzene	20.07	119	3098	N.D.			
100) n-Butylbenzene	20.85	91	5184	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112026.D Vial: 1
Acq On : 11 May 2020 20:13 Operator: LH
Sample : P2002299-014 (2.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 14:36:18 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112026.D Vial: 1
Acq On : 11 May 2020 20:13 Operator: LH
Sample : P2002299-014 (2.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 14:36:18 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/13/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	257684	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1121828	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	569704	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	422316	12.093	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.72%				
57) Toluene-d8 (SS2)	15.72	98	1141181	11.818	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.56%				
73) Bromofluorobenzene (SS3)	18.97	174	415096	11.947	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.60%				
Target Compounds							Qvalue
2) Propene	4.09	42	39445	1.322	ng		90
3) Dichlorodifluoromethan...	4.27	85	5196	0.089	ng		95
10) Ethanol	6.31	45	35763	1.552	ng		100
11) Acetonitrile	6.58	41	6775	0.129	ng		84
12) Acrolein	6.78	56	1936	0.106	ng		86
14) Trichlorofluoromethane	7.25	101	2881	0.056	ng		95
15) 2-Propanol (Isopropanol)	7.51	45	12565	0.180	ng	#	57
21) Trichlorotrifluoroethane	8.85	151	7141	0.293	ng		99
22) Carbon Disulfide	8.69	76	14216	0.132	ng		99
27) 2-Butanone (MEK)	10.48	72	2570	0.131	ng		100
31) n-Hexane	11.27	57	3765525	76.601	ng		100
34) Tetrahydrofuran (THF)	11.76	72	1548	0.081	ng	#	36
41) Benzene	12.87	78	2048157	17.025	ng		100
42) Carbon Tetrachloride	13.04	117	7506	0.183	ng		100
43) Cyclohexane	13.18	84	7435528	165.858	ng		97
47) Trichloroethene	13.97	130	6304	0.203	ng		98
51) n-Heptane	14.31	71	1575928	56.017	ng		98
58) Toluene	15.82	91	2238686	17.985	ng		100
63) n-Octane	16.83	57	395096	15.332	ng		98
64) Tetrachloroethene	16.96	166	4596	0.131	ng		98
66) Ethylbenzene	17.98	91	207550	1.495	ng		99
67) m- & p-Xylenes	18.14	91	821378	7.460	ng		99
70) o-Xylene	18.57	91	544815	4.874	ng		100
71) n-Nonane	18.77	43	530526	8.945	ng		95
74) Cumene	19.10	105	48925	0.357	ng		99
76) n-Propylbenzene	19.55	91	48568	0.298	ng		89
78) 4-Ethyltoluene	19.68	105	10500	0.081	ng	#	44
79) 1,3,5-Trimethylbenzene	19.74	105	112375	1.005	ng		99
82) 1,2,4-Trimethylbenzene	20.10	105	87570	0.779	ng		91
91) d-Limonene	20.61	68	5366	0.121	ng		99

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Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112026.D Vial: 1
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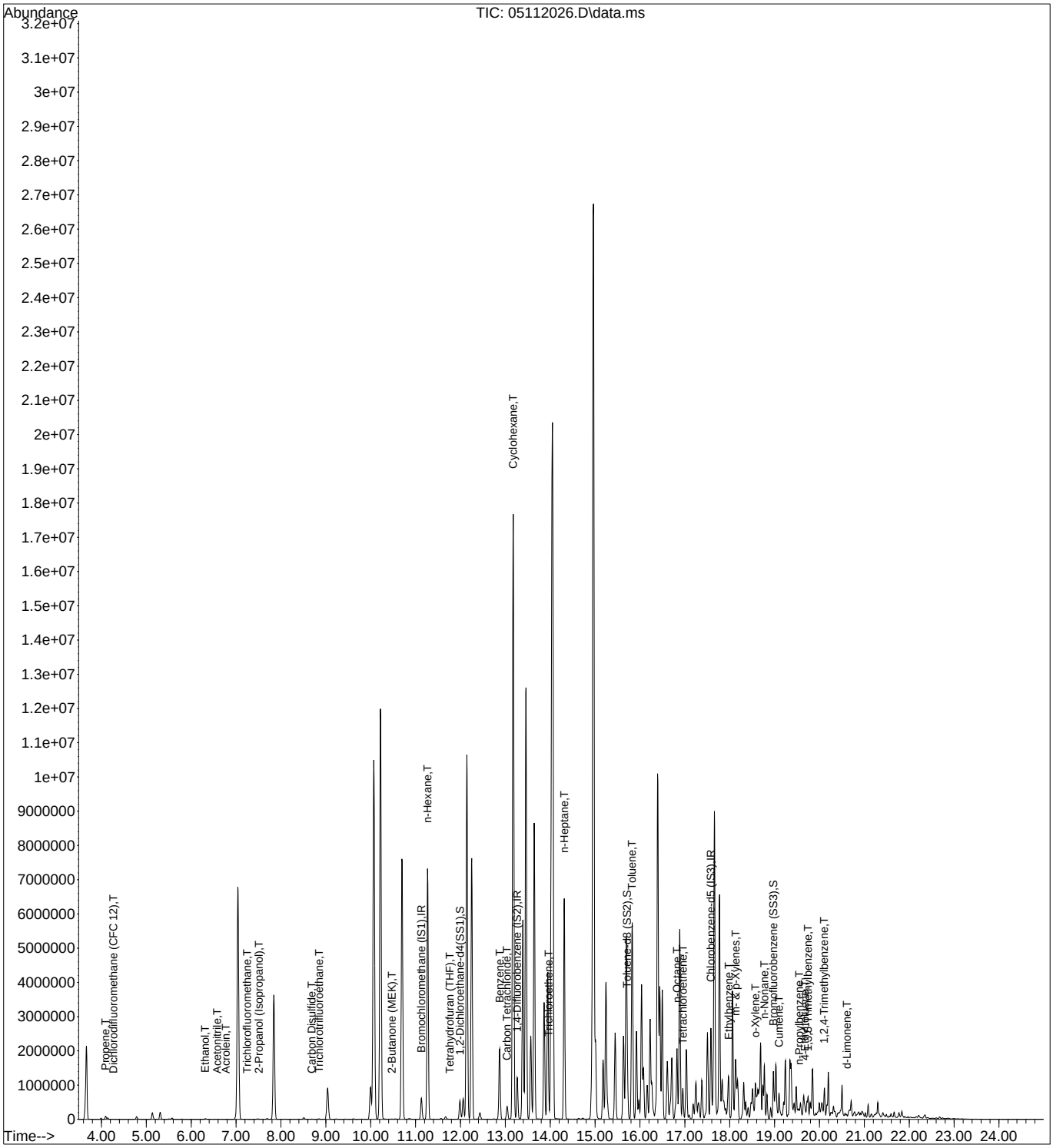
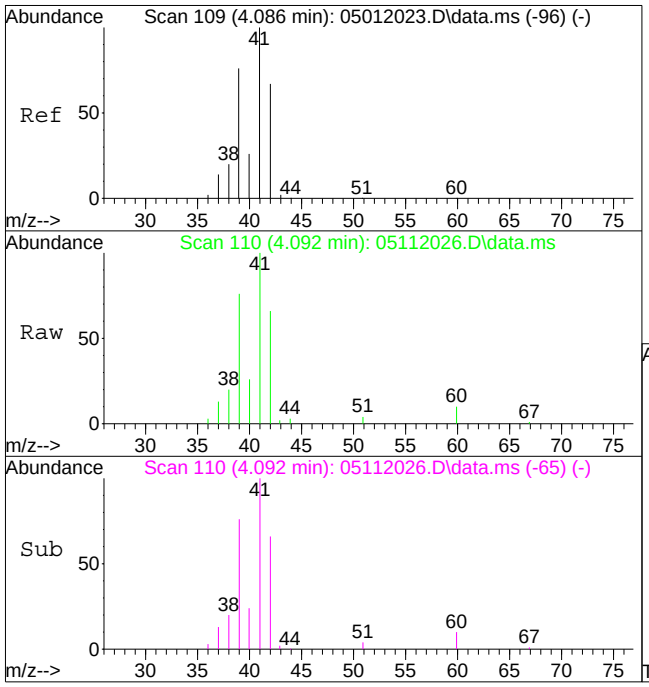
Sample : P2002299-014 (2.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 14:36:18 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

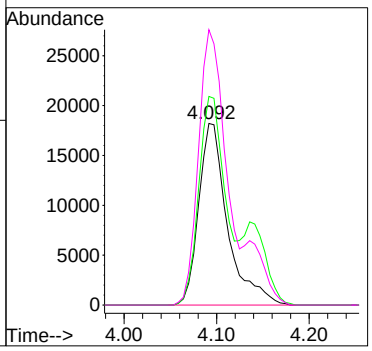


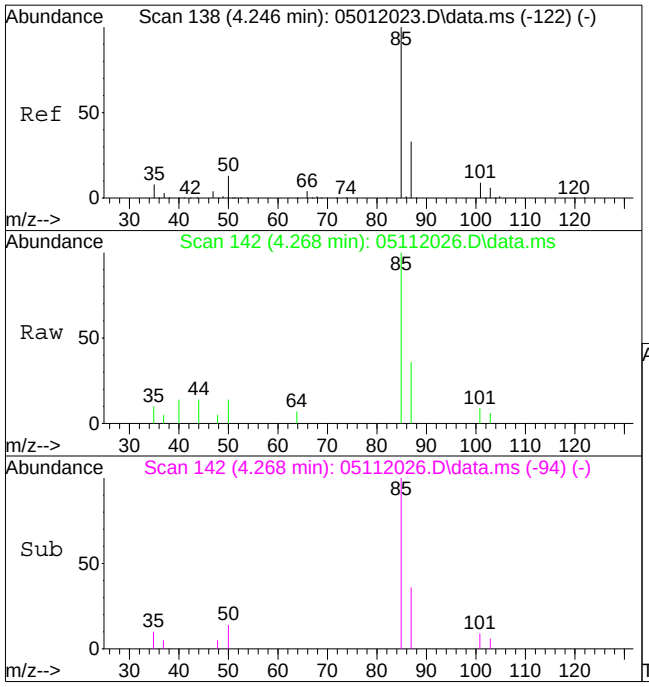


#2
Propene
Concen: 1.32 ng
RT: 4.09 min Scan# 110
Delta R.T. -0.000 min
Lab File: 05112026.D
Acq: 11 May 2020 20:13

Tgt Ion: 42 Resp: 39445

Ion	Ratio	Lower	Upper
42	100		
39	108.3	96.1	136.1
41	166.9	131.9	171.9

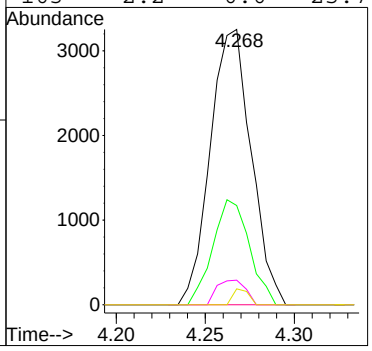


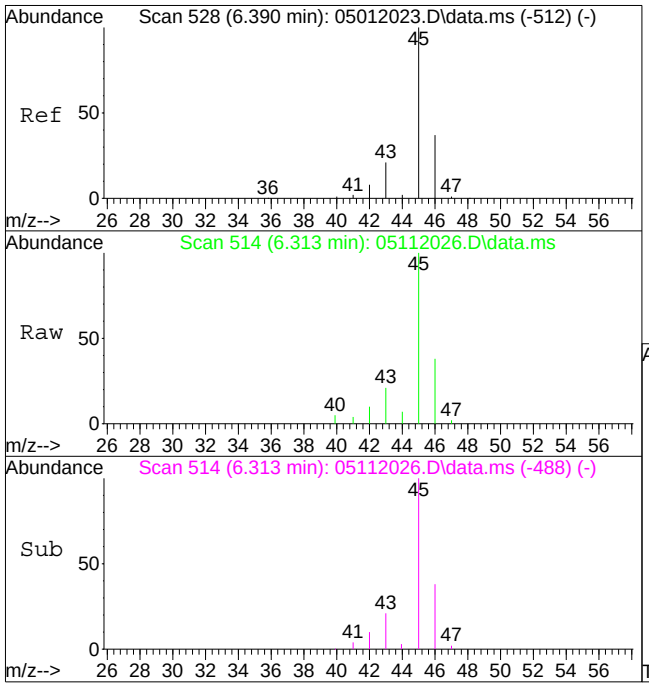


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.09 ng
RT: 4.27 min Scan# 142
Delta R.T. 0.016 min
Lab File: 05112026.D
Acq: 11 May 2020 20:13

Tgt Ion: 85 Resp: 5196

Ion	Ratio	Lower	Upper
85	100		
87	34.0	12.4	52.4
101	6.2	0.0	28.8
103	2.2	0.0	25.7

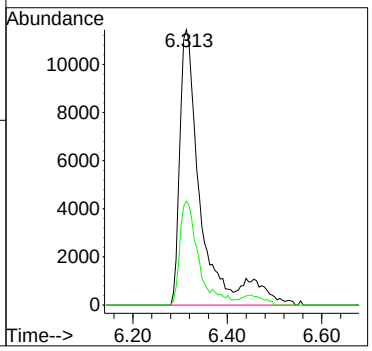


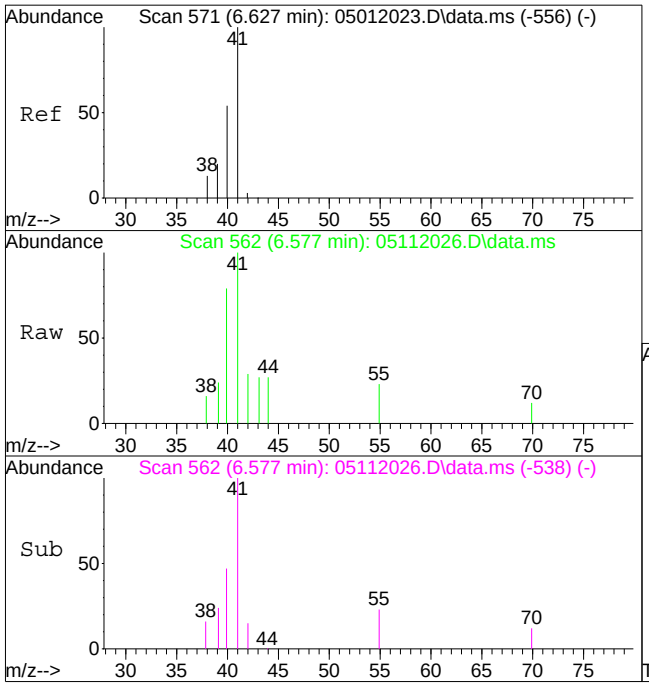


#10
Ethanol
Concen: 1.55 ng
RT: 6.31 min Scan# 514
Delta R.T. -0.105 min
Lab File: 05112026.D
Acq: 11 May 2020 20:13

Tgt Ion: 45 Resp: 35763

Ion	Ratio	Lower	Upper
45	100		
46	37.3	17.2	57.2

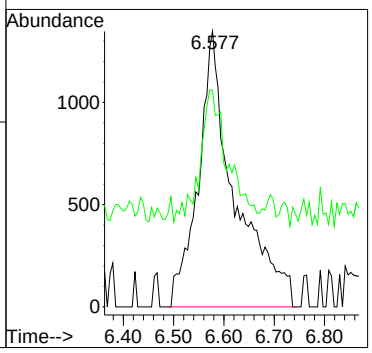


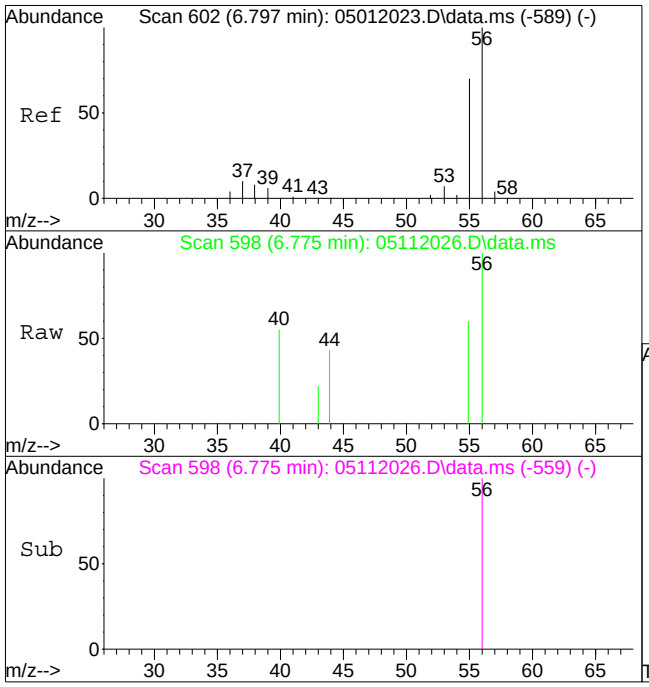


#11
Acetonitrile
Concen: 0.13 ng
RT: 6.58 min Scan# 562
Delta R.T. -0.066 min
Lab File: 05112026.D
Acq: 11 May 2020 20:13

Tgt Ion: 41 Resp: 6775

Ion	Ratio	Lower	Upper
41	100		
40	41.9	33.6	73.6

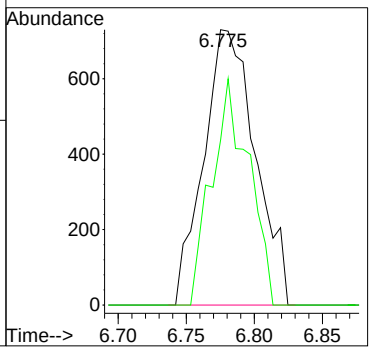


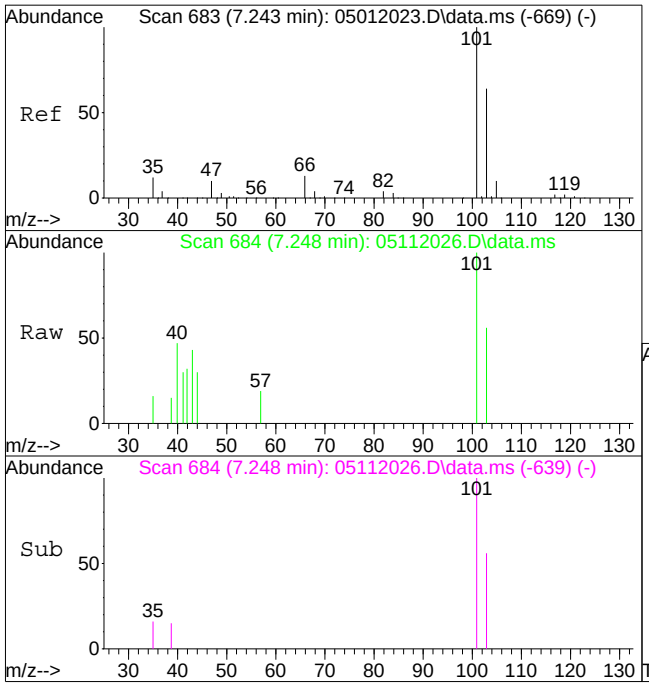


#12
Acrolein
Concen: 0.11 ng
RT: 6.78 min Scan# 598
Delta R.T. -0.033 min
Lab File: 05112026.D
Acq: 11 May 2020 20:13

Tgt Ion: 56 Resp: 1936

Ion	Ratio	Lower	Upper
56	100		
55	58.9	50.2	90.2

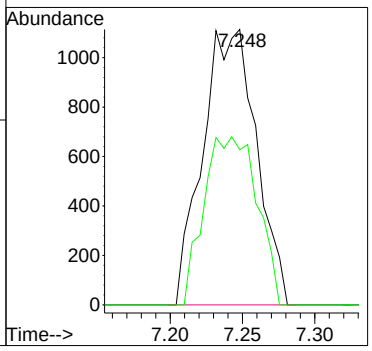


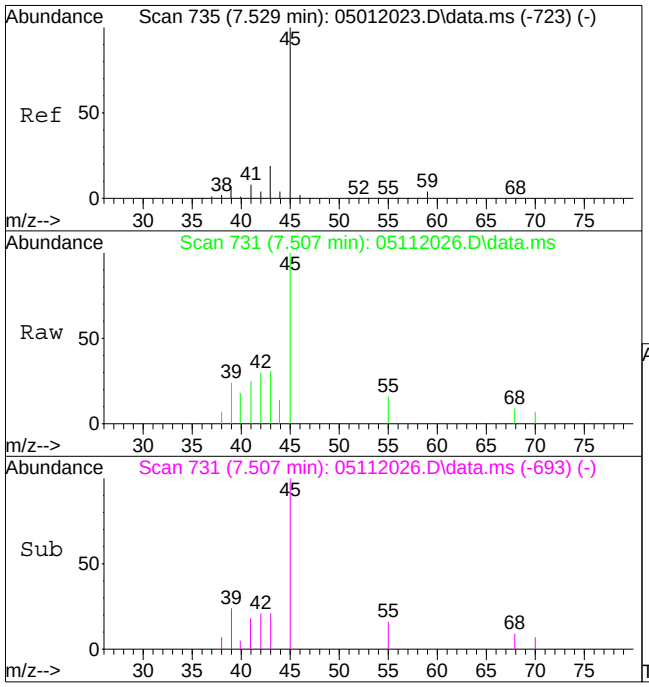


#14
Trichlorofluoromethane
Concen: 0.06 ng
RT: 7.25 min Scan# 684
Delta R.T. -0.000 min
Lab File: 05112026.D
Acq: 11 May 2020 20:13

Tgt Ion:101 Resp: 2881

Ion	Ratio	Lower	Upper
101	100		
103	60.6	44.4	84.4

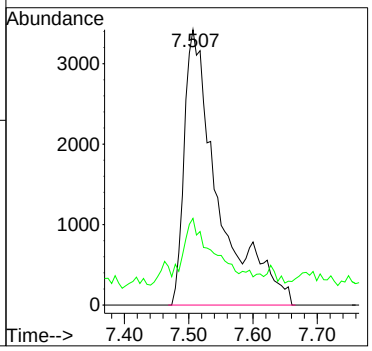


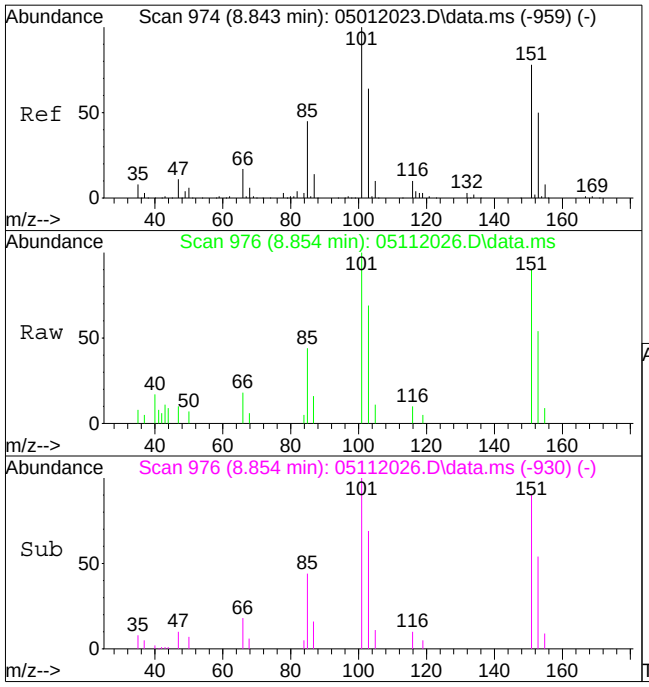


#15
2-Propanol (Isopropanol)
Concen: 0.18 ng
RT: 7.51 min Scan# 731
Delta R.T. -0.039 min
Lab File: 05112026.D
Acq: 11 May 2020 20:13

Tgt Ion: 45 Resp: 12565

Ion	Ratio	Lower	Upper
45	100		
43	0.0	0.0	39.5

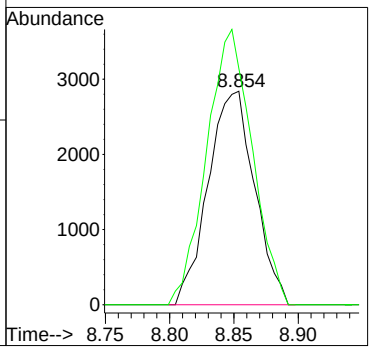


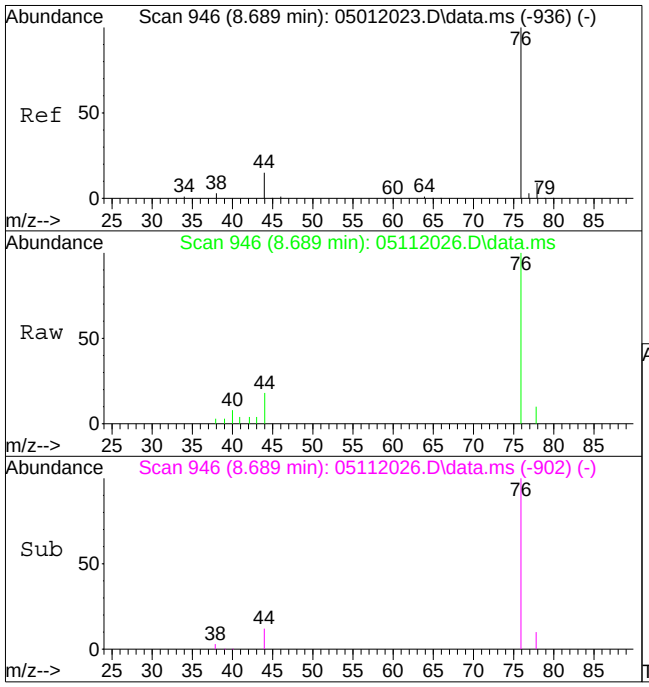


#21
Trichlorotrifluoroethane
Concen: 0.29 ng
RT: 8.85 min Scan# 976
Delta R.T. 0.005 min
Lab File: 05112026.D
Acq: 11 May 2020 20:13

Tgt Ion:151 Resp: 7141

Ion	Ratio	Lower	Upper
151	100		
101	126.6	107.3	147.3

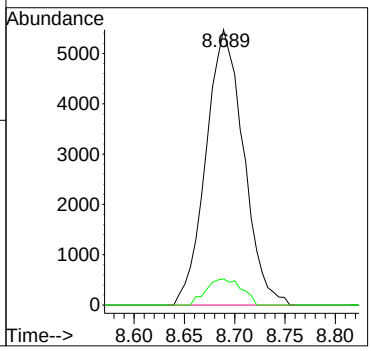


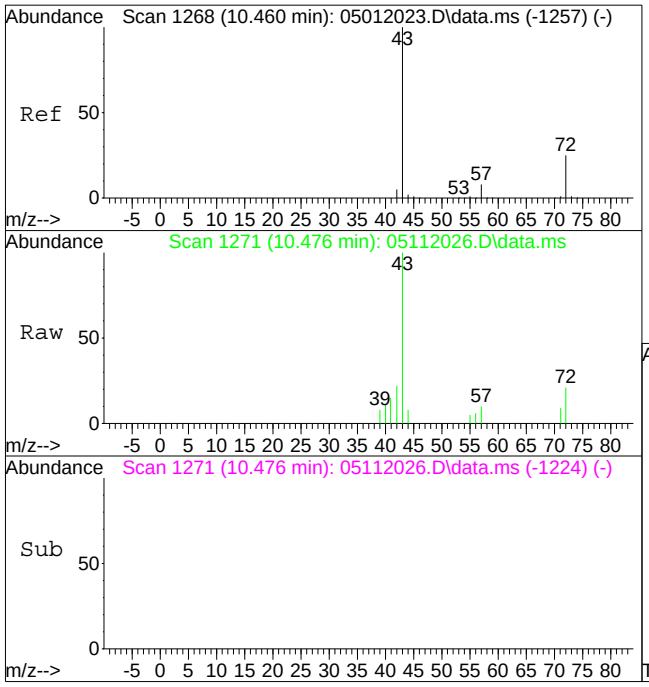


#22
Carbon Disulfide
Concen: 0.13 ng
RT: 8.69 min Scan# 946
Delta R.T. -0.006 min
Lab File: 05112026.D
Acq: 11 May 2020 20:13

Tgt Ion: 76 Resp: 14216

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	29.2

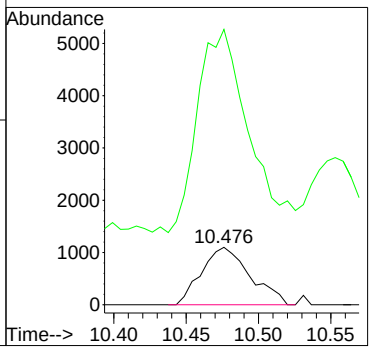


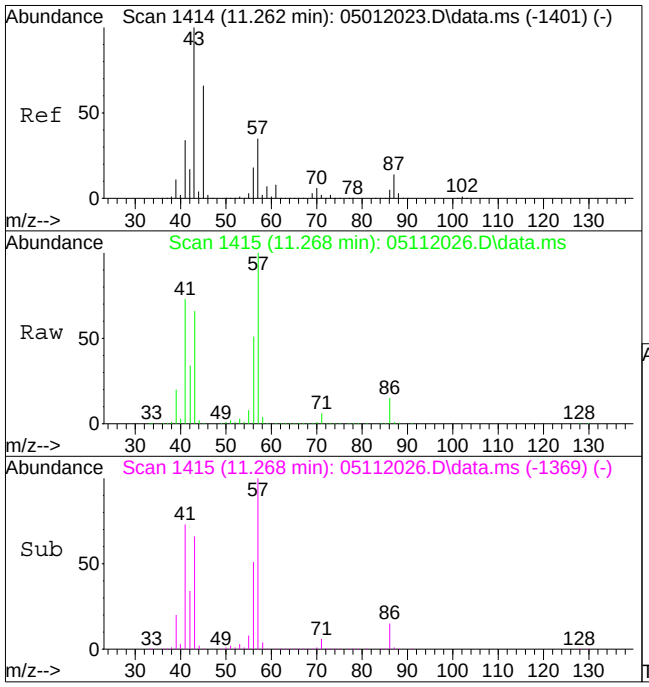


#27
2-Butanone (MEK)
Concen: 0.13 ng
RT: 10.48 min Scan# 1271
Delta R.T. 0.011 min
Lab File: 05112026.D
Acq: 11 May 2020 20:13

Tgt Ion: 72 Resp: 2570

Ion	Ratio	Lower	Upper
72	100		
43	409.1	389.7	429.7

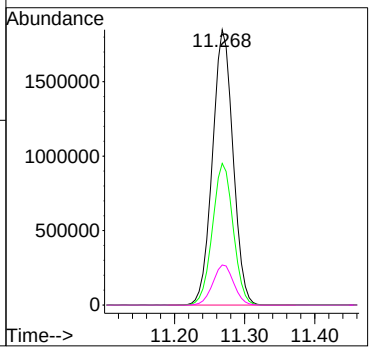


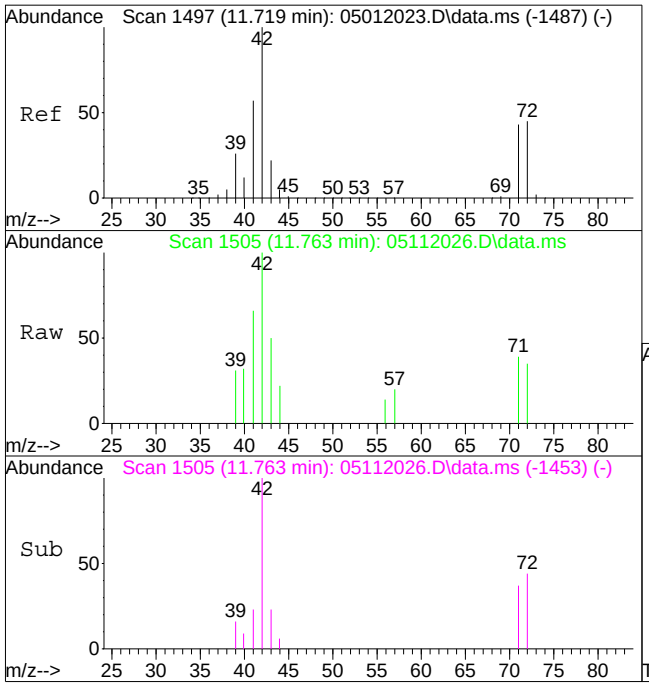


#31
n-Hexane
Concen: 76.60 ng
RT: 11.27 min Scan# 1415
Delta R.T. 0.005 min
Lab File: 05112026.D
Acq: 11 May 2020 20:13

Tgt Ion: 57 Resp: 3765525

Ion	Ratio	Lower	Upper
57	100		
56	51.8	41.4	62.0
86	14.8	12.4	18.6

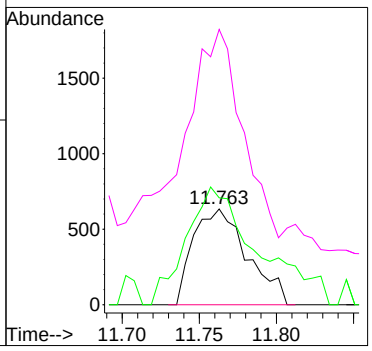


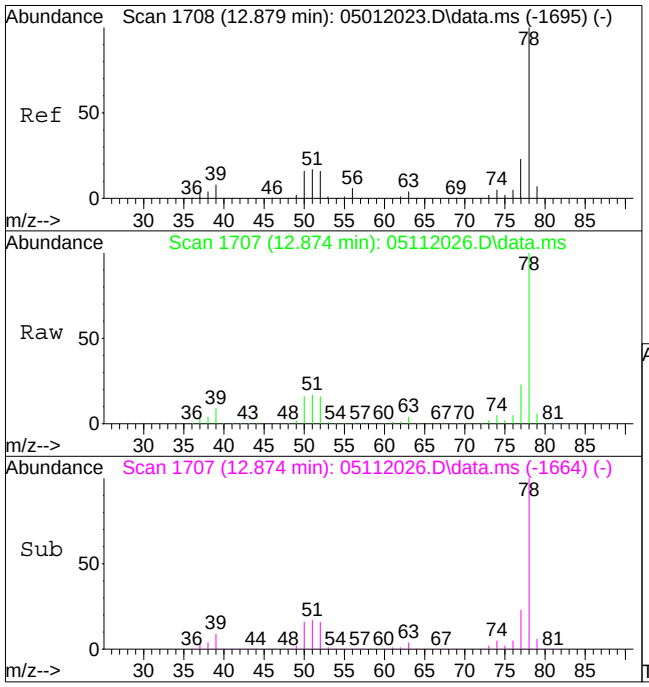


#34
Tetrahydrofuran (THF)
Concen: 0.08 ng
RT: 11.76 min Scan# 1505
Delta R.T. 0.038 min
Lab File: 05112026.D
Acq: 11 May 2020 20:13

Tgt Ion: 72 Resp: 1548

Ion	Ratio	Lower	Upper
72	100		
71	163.6	77.0	117.0#
42	326.0	204.6	244.6#

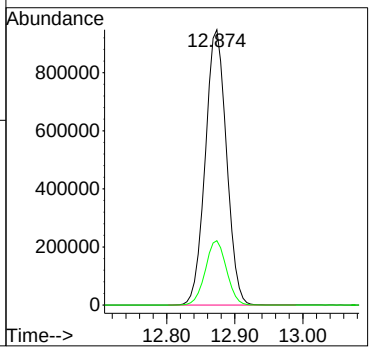


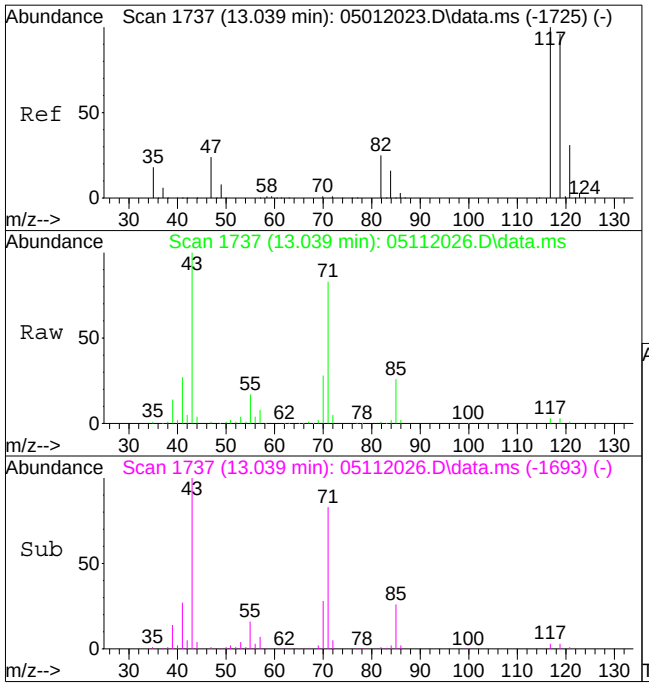


#41
Benzene
Concen: 17.02 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05112026.D
Acq: 11 May 2020 20:13

Tgt Ion: 78 Resp: 2048157

Ion	Ratio	Lower	Upper
78	100		
77	23.3	3.4	43.4

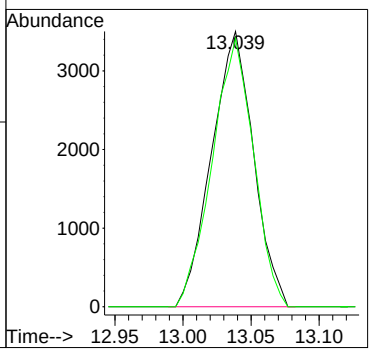


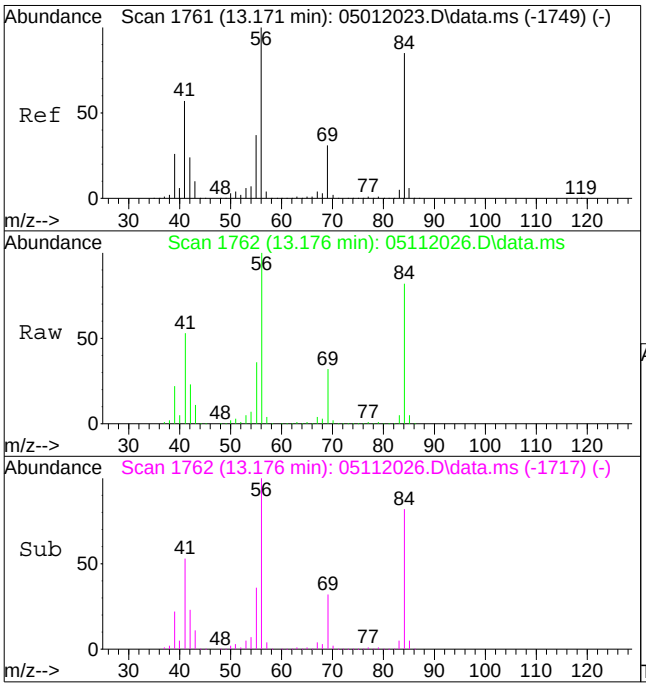


#42
Carbon Tetrachloride
Concen: 0.18 ng
RT: 13.04 min Scan# 1737
Delta R.T. -0.006 min
Lab File: 05112026.D
Acq: 11 May 2020 20:13

Tgt Ion:117 Resp: 7506

Ion	Ratio	Lower	Upper
117	100		
119	95.9	76.2	116.2

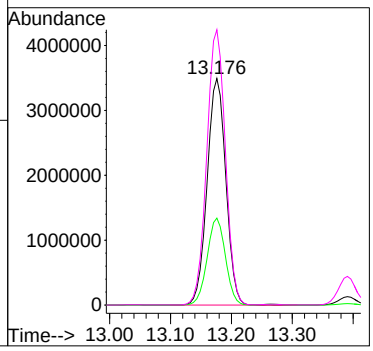


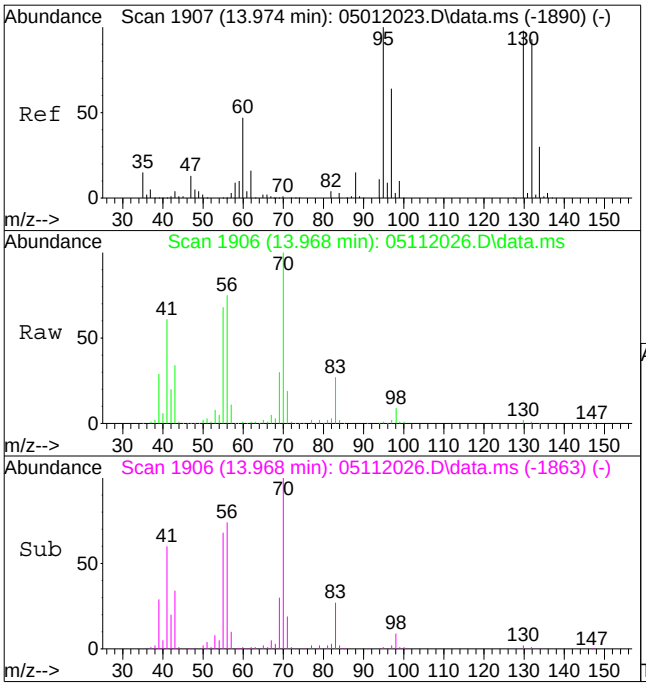


#43
Cyclohexane
Concen: 165.86 ng
RT: 13.18 min Scan# 1762
Delta R.T. -0.000 min
Lab File: 05112026.D
Acq: 11 May 2020 20:13

Tgt Ion: 84 Resp: 7435528

Ion	Ratio	Lower	Upper
84	100		
69	37.6	16.5	56.5
56	121.1	97.4	137.4

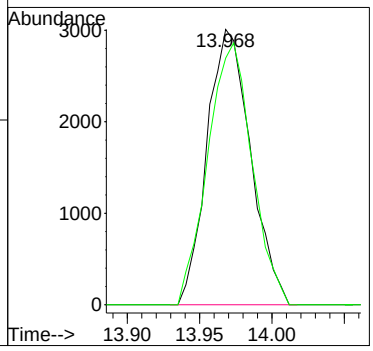


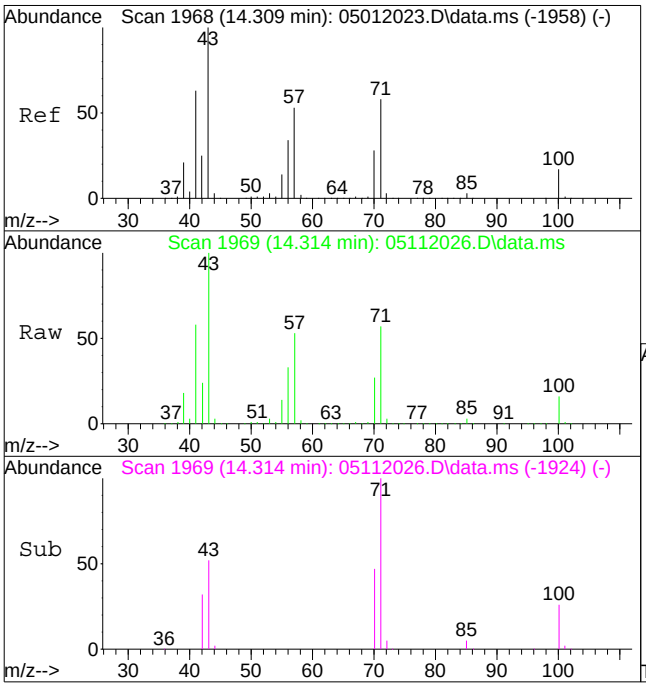


#47
Trichloroethene
Concen: 0.20 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05112026.D
Acq: 11 May 2020 20:13

Tgt Ion:130 Resp: 6304

Ion	Ratio	Lower	Upper
130	100		
132	96.8	74.9	114.9

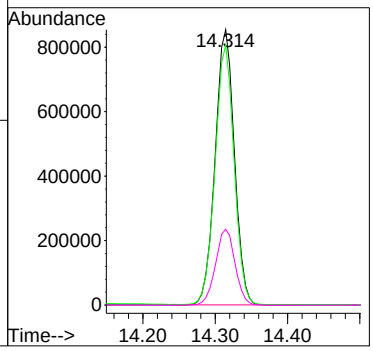


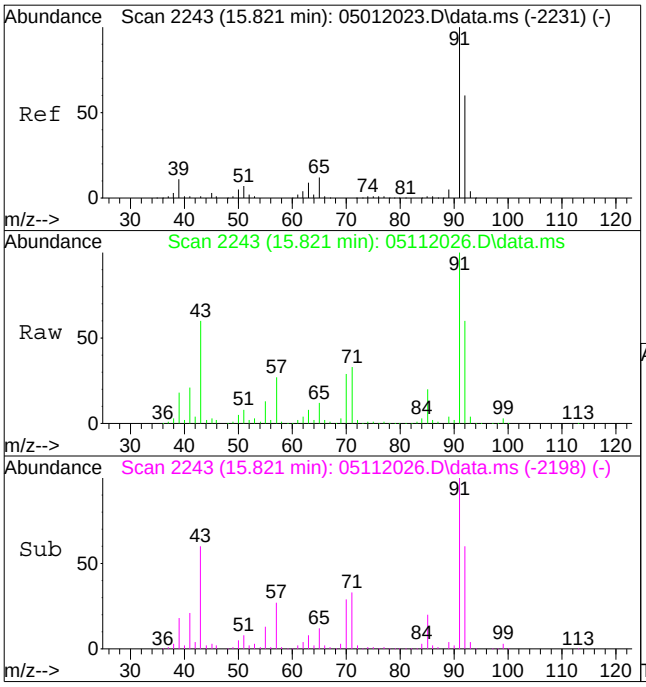


#51
n-Heptane
Concen: 56.02 ng
RT: 14.31 min Scan# 1969
Delta R.T. -0.000 min
Lab File: 05112026.D
Acq: 11 May 2020 20:13

Tgt Ion: 71 Resp: 1575928

Ion	Ratio	Lower	Upper
71	100		
57	93.5	71.0	111.0
100	27.9	8.4	48.4

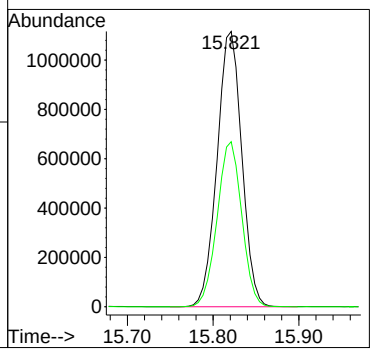


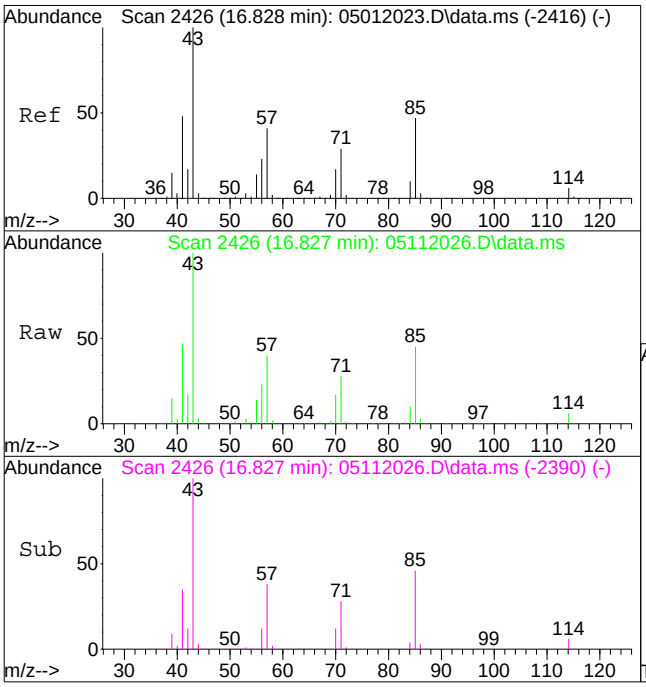


#58
Toluene
Concen: 17.99 ng
RT: 15.82 min Scan# 2243
Delta R.T. -0.000 min
Lab File: 05112026.D
Acq: 11 May 2020 20:13

Tgt Ion: 91 Resp: 2238686

Ion	Ratio	Lower	Upper
91	100		
92	59.7	39.4	79.4

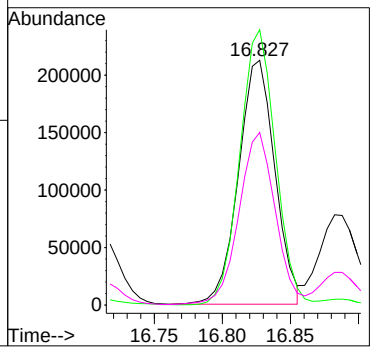


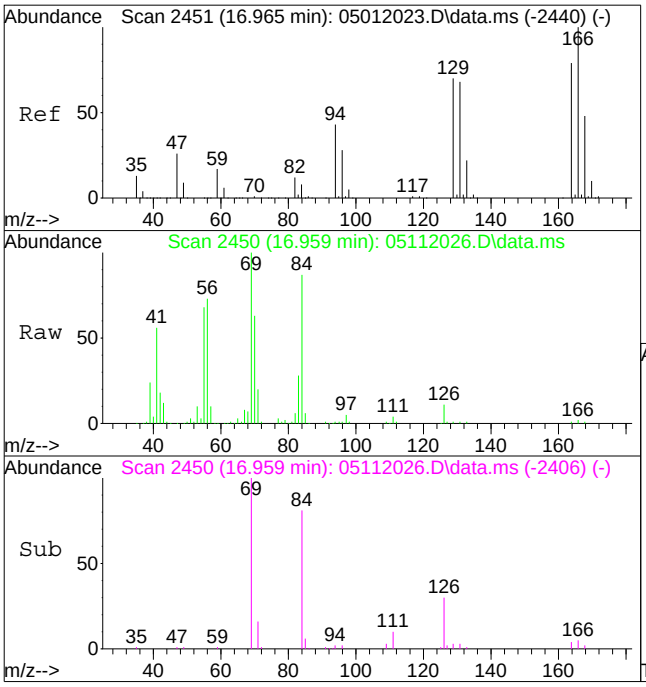


#63
n-Octane
Concen: 15.33 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05112026.D
Acq: 11 May 2020 20:13

Tgt Ion: 57 Resp: 395096

Ion	Ratio	Lower	Upper
57	100		
85	110.5	91.0	136.4
71	70.1	56.2	84.2

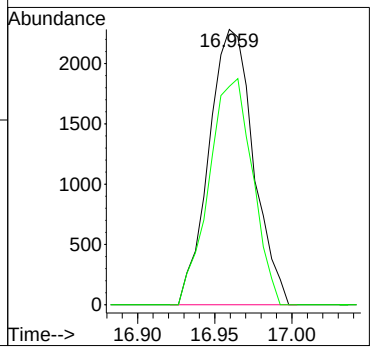


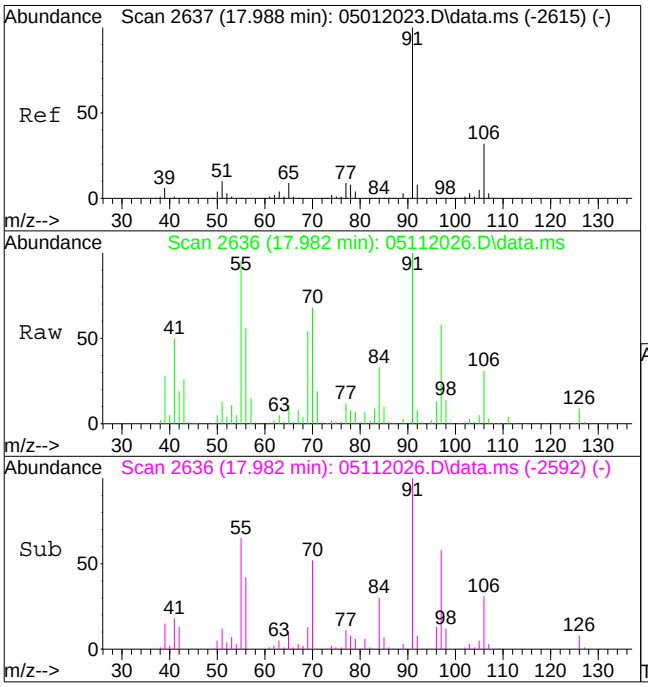


#64
Tetrachloroethene
Concen: 0.13 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05112026.D
Acq: 11 May 2020 20:13

Tgt Ion:166 Resp: 4596

Ion	Ratio	Lower	Upper
166	100		
164	80.1	58.4	98.4

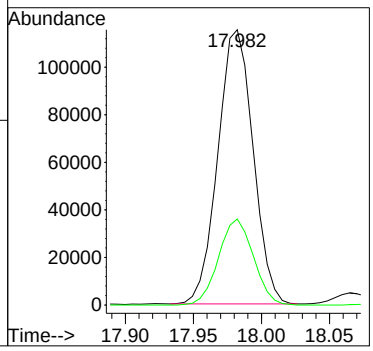


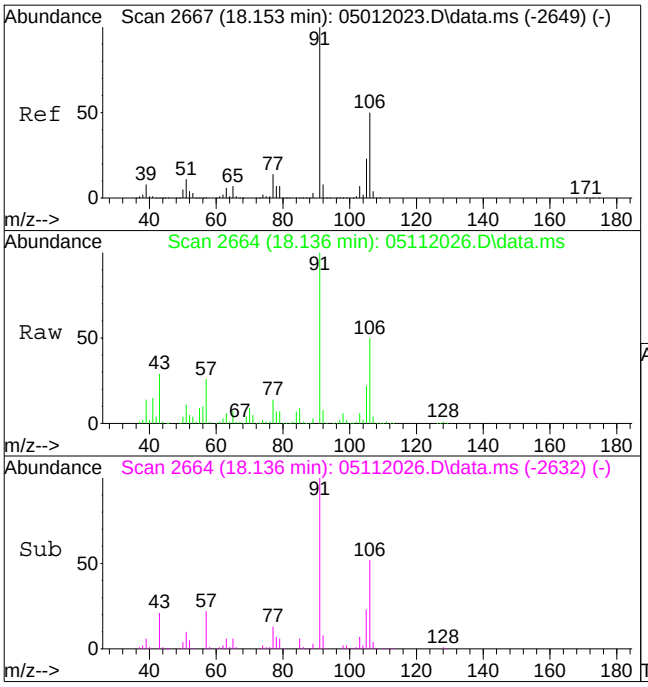


#66
Ethylbenzene
Concen: 1.50 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05112026.D
Acq: 11 May 2020 20:13

Tgt Ion: 91 Resp: 207550

Ion	Ratio	Lower	Upper
91	100		
106	31.0	11.6	51.6

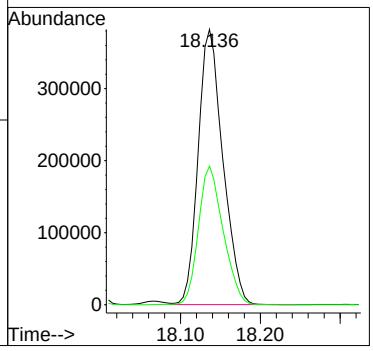


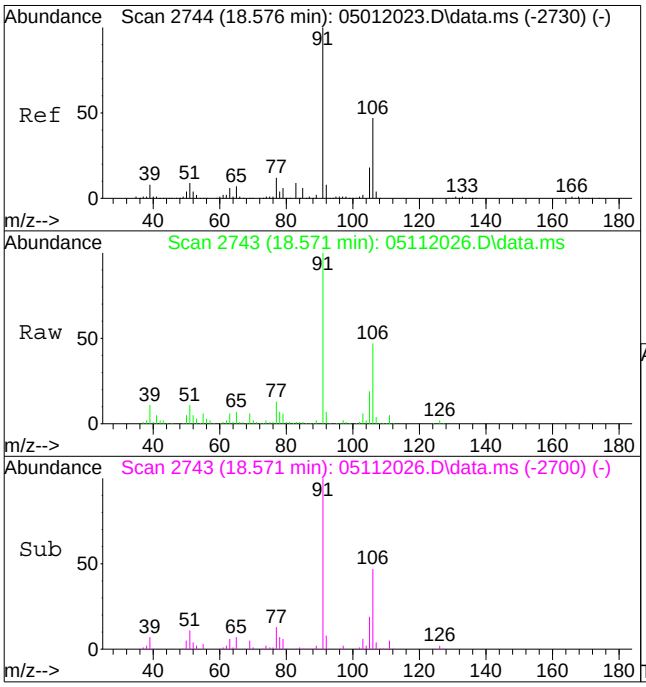


#67
m- & p-Xylenes
Concen: 7.46 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05112026.D
Acq: 11 May 2020 20:13

Tgt Ion: 91 Resp: 821378

Ion	Ratio	Lower	Upper
91	100		
106	50.3	29.7	69.7

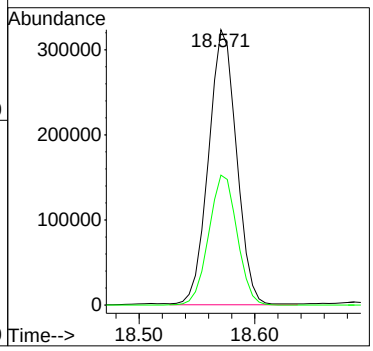


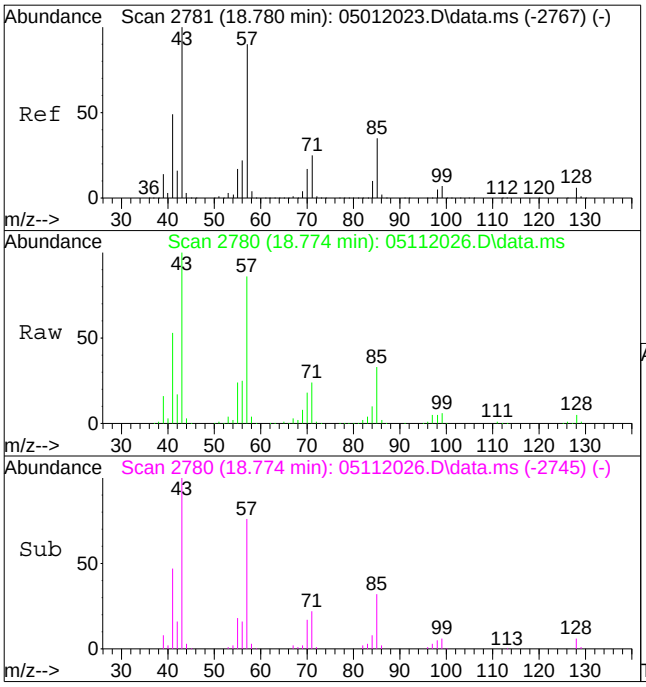


#70
o-Xylene
Concen: 4.87 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05112026.D
Acq: 11 May 2020 20:13

Tgt Ion: 91 Resp: 544815

Ion	Ratio	Lower	Upper
91	100		
106	47.7	27.5	67.5

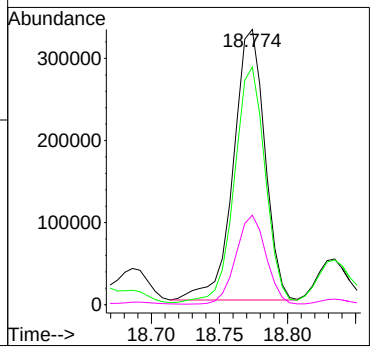


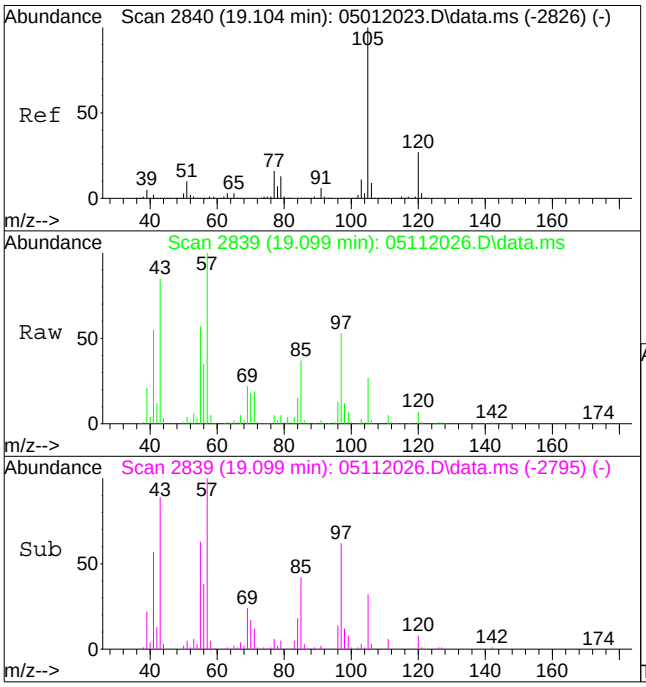


#71
n-Nonane
Concen: 8.94 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05112026.D
Acq: 11 May 2020 20:13

Tgt Ion: 43 Resp: 530526

Ion	Ratio	Lower	Upper
43	100		
57	85.0	69.0	109.0
85	31.3	14.6	54.6

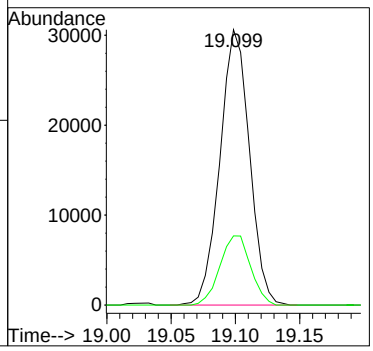


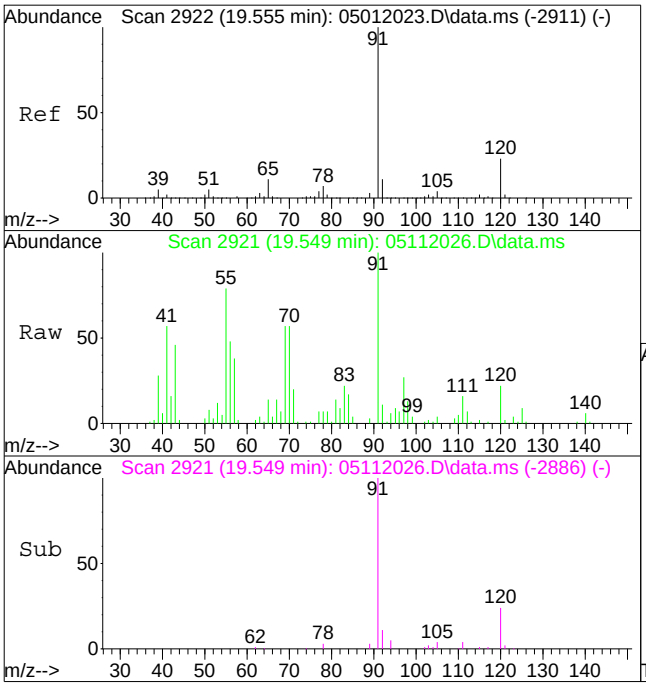


#74
Cumene
Concen: 0.36 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05112026.D
Acq: 11 May 2020 20:13

Tgt Ion:105 Resp: 48925

Ion	Ratio	Lower	Upper
105	100		
120	26.2	6.8	46.8

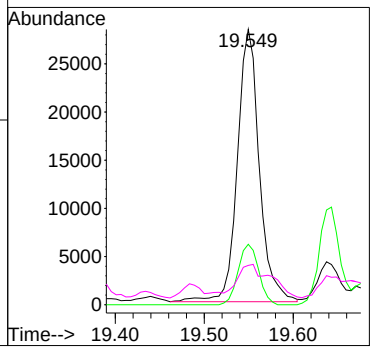


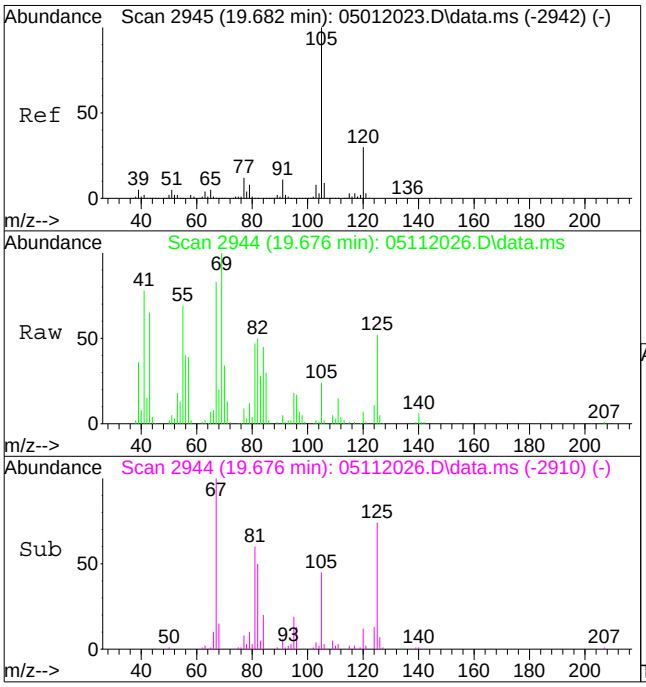


#76
n-Propylbenzene
Concen: 0.30 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05112026.D
Acq: 11 May 2020 20:13

Tgt Ion: 91 Resp: 48568

Ion	Ratio	Lower	Upper
91	100		
120	20.7	3.1	43.1
65	19.8	0.0	30.9

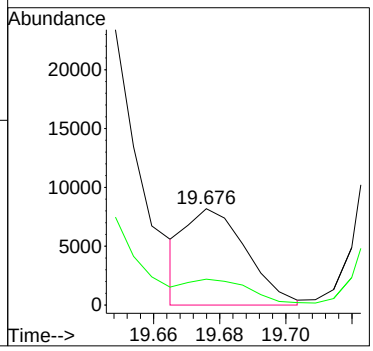


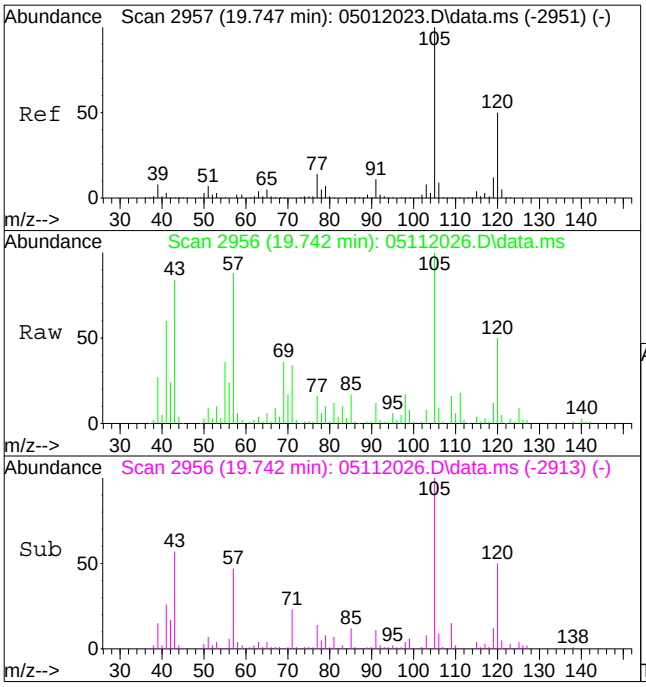


#78
4-Ethyltoluene
Concen: 0.08 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05112026.D
Acq: 11 May 2020 20:13

Tgt Ion:105 Resp: 10500

Ion	Ratio	Lower	Upper
105	100		
120	0.0	10.4	50.4#

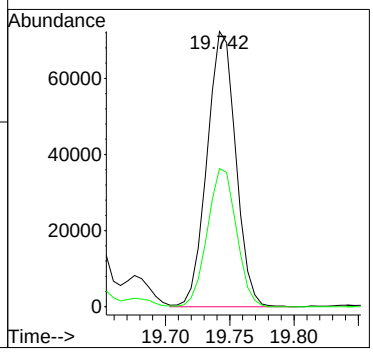


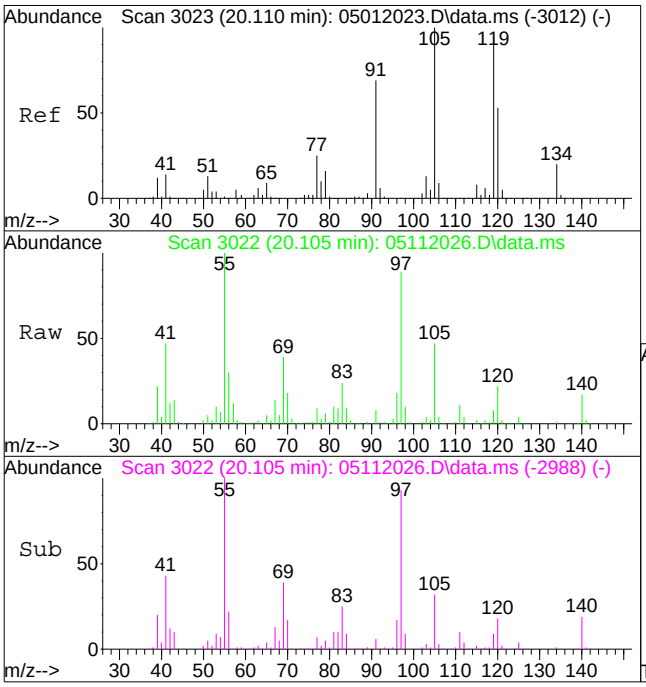


#79
1,3,5-Trimethylbenzene
Concen: 1.00 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05112026.D
Acq: 11 May 2020 20:13

Tgt Ion:105 Resp: 112375

Ion	Ratio	Lower	Upper
105	100		
120	50.7	29.9	69.9

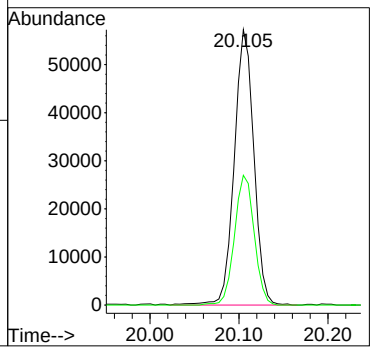


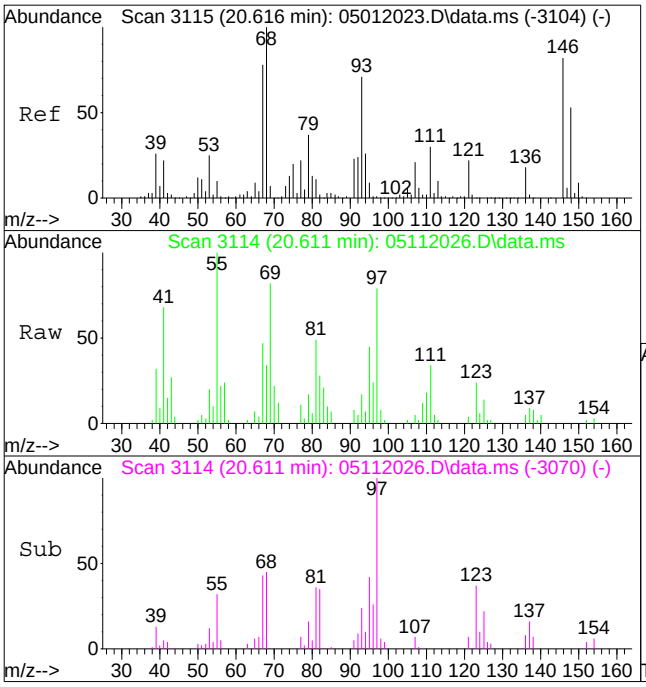


#82
1,2,4-Trimethylbenzene
Concen: 0.78 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05112026.D
Acq: 11 May 2020 20:13

Tgt Ion:105 Resp: 87570

Ion	Ratio	Lower	Upper
105	100		
120	47.4	33.6	73.6

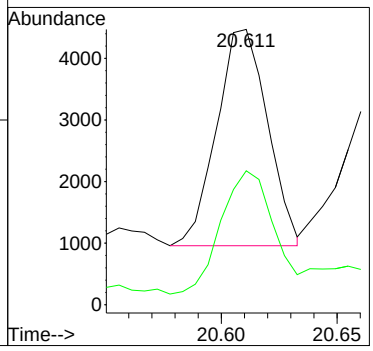




#91
d-Limonene
Concen: 0.12 ng
RT: 20.61 min Scan# 3114
Delta R.T. -0.006 min
Lab File: 05112026.D
Acq: 11 May 2020 20:13

Tgt Ion: 68 Resp: 5366

Ion	Ratio	Lower	Upper
68	100		
93	71.7	51.1	91.1



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112029.D Vial: 7
Acq On : 11 May 2020 21:55 Operator: LH
Sample : P2002299-015 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 14:43:17 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/13/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	264827	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.27	114	1121369	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	545229	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	416317	11.600	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.80%				
57) Toluene-d8 (SS2)	15.72	98	1141524	12.352	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.80%				
73) Bromofluorobenzene (SS3)	18.97	174	454510	13.668	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.36%				
Target Compounds							Qvalue
2) Propene	4.10	42	41204	1.343	ng		96
3) Dichlorodifluoromethan...	4.26	85	105042	1.751	ng		100
4) Chloromethane	4.53	50	2408	0.051	ng		94
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	526	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.21	54	11414	0.268	ng		95
8) Bromomethane	5.64	94	758	N.D.			
9) Chloroethane	5.98	64	1003	N.D.			
10) Ethanol	6.35	45	380437	16.063	ng		100
11) Acetonitrile	6.61	41	588905	10.881	ng		100
12) Acrolein	6.80	56	19031	1.017	ng		97
13) Acetone	7.00	58	1169512m	49.376	ng		
14) Trichlorofluoromethane	7.24	101	52624	0.993	ng		100
15) 2-Propanol (Isopropanol)	7.51	45	46229	0.645	ng		91
16) Acrylonitrile	7.78	53	17006	0.439	ng		98
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.42	84	940	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	8.85	151	115618	4.619	ng		99
22) Carbon Disulfide	8.68	76	1445661	13.103	ng		100
23) trans-1,2-Dichloroethene	9.60	61	889	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.10	73	678	N.D.			
26) Vinyl Acetate	10.17	86	35176	4.768	ng	#	11
27) 2-Butanone (MEK)	10.45	72	168938	8.363	ng		93
28) cis-1,2-Dichloroethene	10.98	61	877	N.D.			
29) Diisopropyl Ether	11.31	87	870	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	11.25	57	15936	0.315	ng	#	82
32) Chloroform	11.32	83	10344	0.196	ng		92
34) Tetrahydrofuran (THF)	11.75	72	4176	0.212	ng		95
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.20	62	199	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	6023161	50.087	ng		100
42) Carbon Tetrachloride	13.03	117	78306	1.914	ng		99
43) Cyclohexane	13.14	84	61293	1.368	ng	#	43
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.	d		
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	13.97	130	548	N.D.			
48) 1,4-Dioxane	13.95	88	25441	1.050	ng		89
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.11	100	325	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112029.D Vial: 7
Acq On : 11 May 2020 21:55 Operator: LH
Sample : P2002299-015 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 14:43:17 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

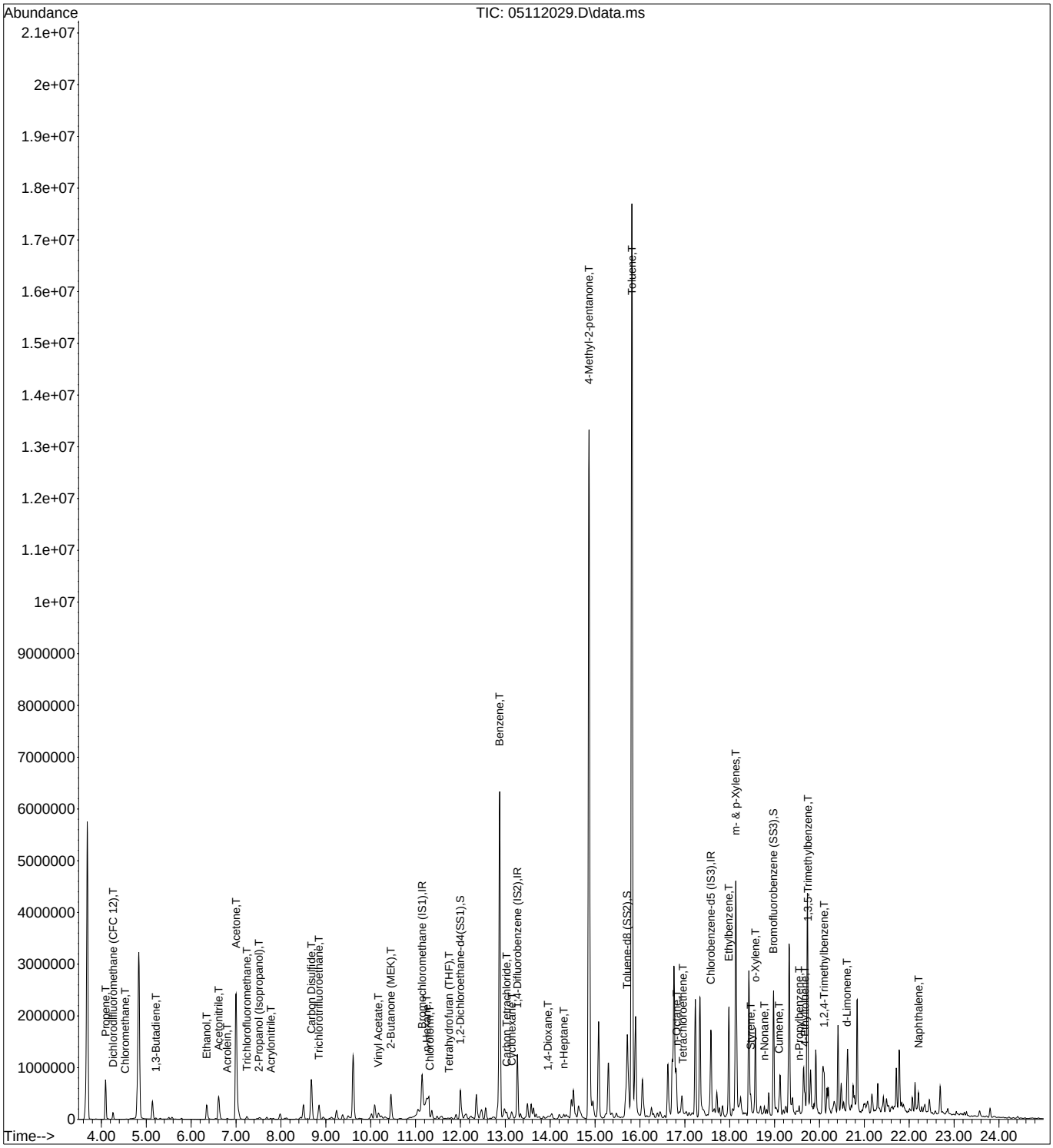
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.30	71	11200	0.398 ng	#	76
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d		
53) 4-Methyl-2-pentanone	14.86	58	599064	22.347 ng		97
54) trans-1,3-Dichloropropene	0.00	75	0	N.D. d		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d		
58) Toluene	15.82	91	14386100	120.764 ng		97
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	16.48	107	236	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D. d		
63) n-Octane	16.82	57	13465	0.546 ng		96
64) Tetrachloroethene	16.96	166	3033	0.090 ng		98
65) Chlorobenzene	0.00	112	0	N.D. d		
66) Ethylbenzene	17.98	91	1624066	12.226 ng		99
67) m- & p-Xylenes	18.14	91	2989849	28.372 ng		99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	163299	2.060 ng		98
70) o-Xylene	18.57	91	837544	7.829 ng		71
71) n-Nonane	18.77	43	63081	1.111 ng		87
72) 1,1,2,2-Tetrachloroethane	18.55	83	888	N.D.		
74) Cumene	19.10	105	116026	0.884 ng		100
75) alpha-Pinene	19.46	93	1755	N.D.		
76) n-Propylbenzene	19.55	91	105192	0.674 ng		92
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.68	105	169724	1.376 ng		99
79) 1,3,5-Trimethylbenzene	19.74	105	117738	1.100 ng		98
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	20.10	105	473234	4.398 ng		76
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.24	91	2880	N.D.		
85) 1,3-Dichlorobenzene	20.24	146	109	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	616	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D. d		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	20.43	146	188	N.D.		
91) d-Limonene	20.61	68	111499	2.623 ng		87
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	22.21	128	40349	0.307 ng		86
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	19.91	119	2256	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112029.D Vial: 7
Acq On : 11 May 2020 21:55 Operator: LH
Sample : P2002299-015 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 14:43:17 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112029.D Vial: 7
Acq On : 11 May 2020 21:55 Operator: LH
Sample : P2002299-015 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 14:43:17 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/13/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	264827	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.27	114	1121369	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	545229	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	416317	11.600	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.80%				
57) Toluene-d8 (SS2)	15.72	98	1141524	12.352	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.80%				
73) Bromofluorobenzene (SS3)	18.97	174	454510	13.668	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.36%				
Target Compounds							Qvalue
2) Propene	4.10	42	41204	1.343	ng		96
3) Dichlorodifluoromethan...	4.26	85	105042	1.751	ng		100
4) Chloromethane	4.53	50	2408	0.051	ng		94
7) 1,3-Butadiene	5.21	54	11414	0.268	ng		95
10) Ethanol	6.35	45	380437	16.063	ng		100
11) Acetonitrile	6.61	41	588905	10.881	ng		100
12) Acrolein	6.80	56	19031	1.017	ng		97
13) Acetone	7.00	58	1169512m	49.376	ng		
14) Trichlorofluoromethane	7.24	101	52624	0.993	ng		100
15) 2-Propanol (Isopropanol)	7.51	45	46229	0.645	ng		91
16) Acrylonitrile	7.78	53	17006	0.439	ng		98
21) Trichlorotrifluoroethane	8.85	151	115618	4.619	ng		99
22) Carbon Disulfide	8.68	76	1445661	13.103	ng		100
26) Vinyl Acetate	10.17	86	35176	4.768	ng	#	11
27) 2-Butanone (MEK)	10.45	72	168938	8.363	ng		93
31) n-Hexane	11.25	57	15936	0.315	ng	#	82
32) Chloroform	11.32	83	10344	0.196	ng		92
34) Tetrahydrofuran (THF)	11.75	72	4176	0.212	ng		95
41) Benzene	12.87	78	6023161	50.087	ng		100
42) Carbon Tetrachloride	13.03	117	78306	1.914	ng		99
43) Cyclohexane	13.14	84	61293	1.368	ng	#	43
48) 1,4-Dioxane	13.95	88	25441	1.050	ng		89
51) n-Heptane	14.30	71	11200	0.398	ng	#	76
53) 4-Methyl-2-pentanone	14.86	58	599064	22.347	ng		97
58) Toluene	15.82	91	14386100	120.764	ng		97
63) n-Octane	16.82	57	13465	0.546	ng		96
64) Tetrachloroethene	16.96	166	3033	0.090	ng		98
66) Ethylbenzene	17.98	91	1624066	12.226	ng		99
67) m- & p-Xylenes	18.14	91	2989849	28.372	ng		99
69) Styrene	18.47	104	163299	2.060	ng		98
70) o-Xylene	18.57	91	837544	7.829	ng		71
71) n-Nonane	18.77	43	63081	1.111	ng		87
74) Cumene	19.10	105	116026	0.884	ng		100
76) n-Propylbenzene	19.55	91	105192	0.674	ng		92
78) 4-Ethyltoluene	19.68	105	169724	1.376	ng		99
79) 1,3,5-Trimethylbenzene	19.74	105	117738	1.100	ng		98
82) 1,2,4-Trimethylbenzene	20.10	105	473234	4.398	ng		76
91) d-Limonene	20.61	68	111499	2.623	ng		87
95) Naphthalene	22.21	128	40349	0.307	ng		86

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112029.D Vial: 7
Acq On : 11 May 2020 21:55 Operator: LH
Sample : P2002299-015 (400mL) Inst : GCMS-16
Misc : S31-02112001

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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
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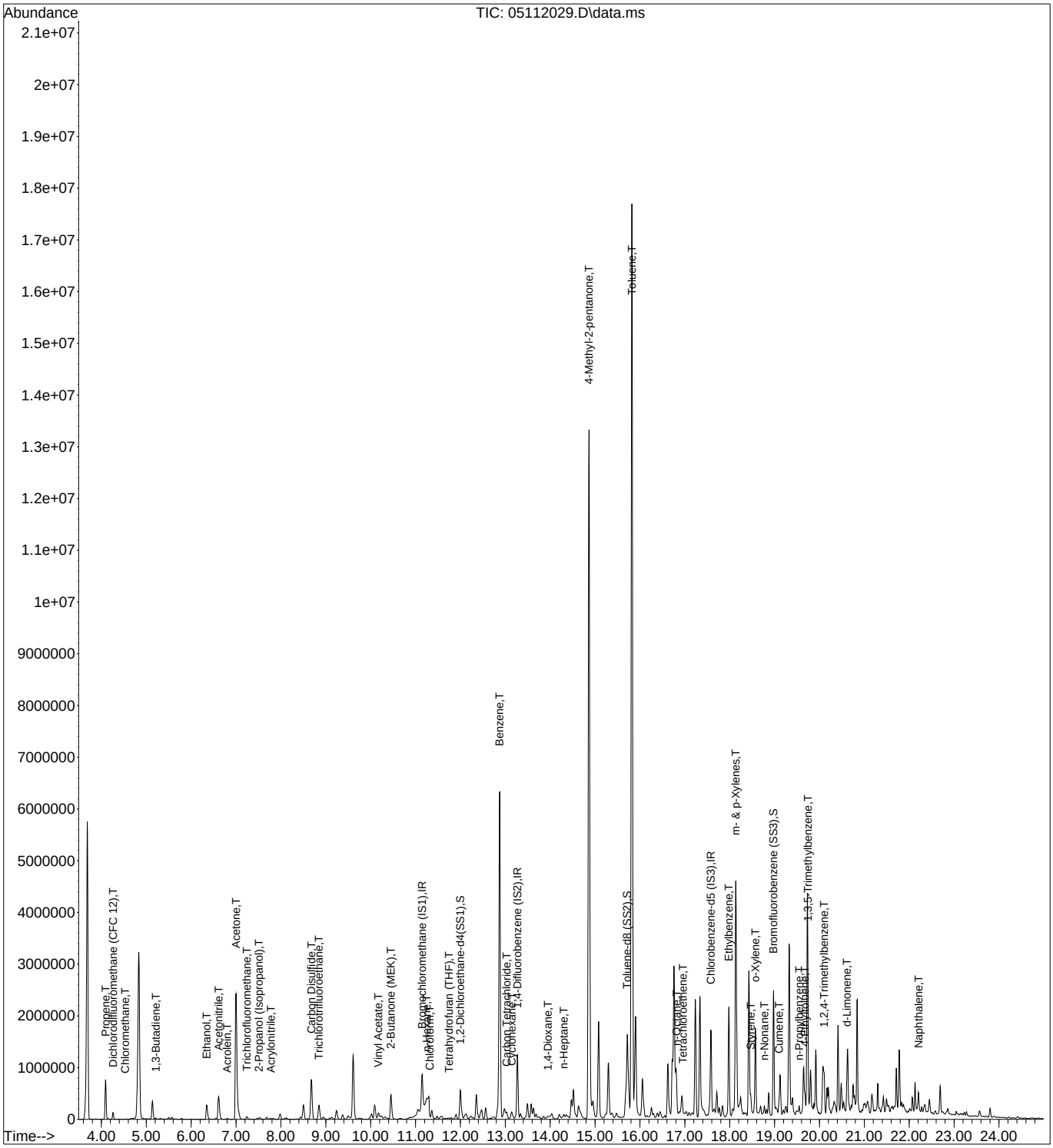
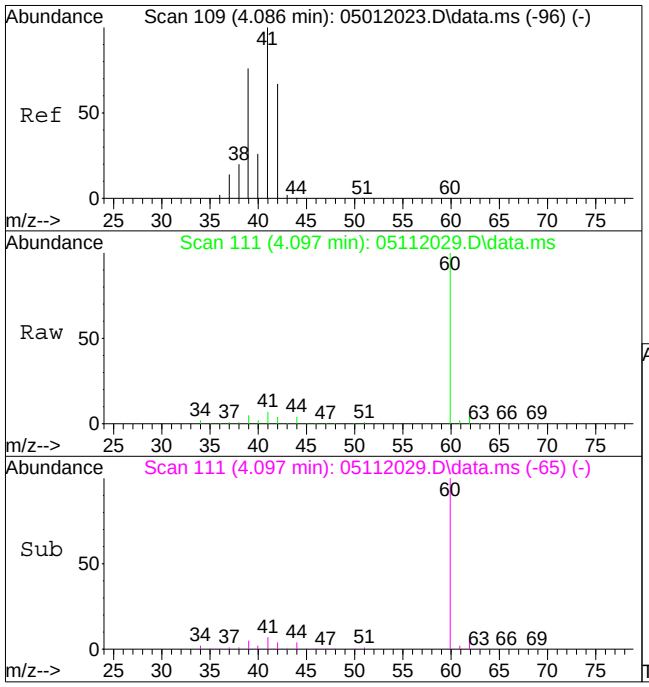
Response via : Initial Calibration
DataAcq Meth:TO15.M

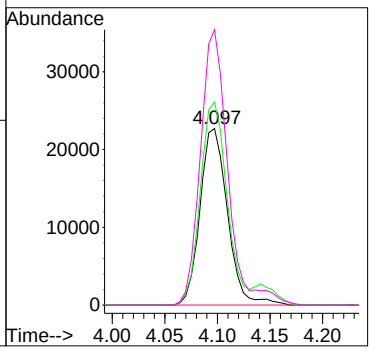


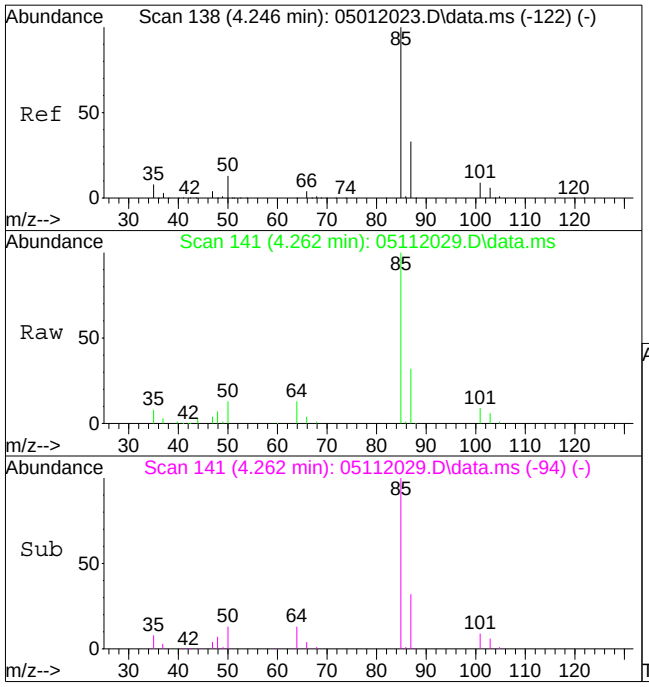


#2
Propene
Concen: 1.34 ng
RT: 4.10 min Scan# 111
Delta R.T. 0.005 min
Lab File: 05112029.D
Acq: 11 May 2020 21:55

Tgt Ion: 42 Resp: 41204

Ion	Ratio	Lower	Upper
42	100		
39	122.0	96.1	136.1
41	156.7	131.9	171.9

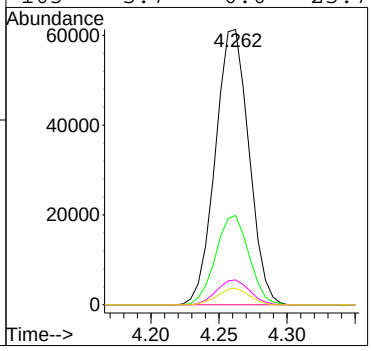


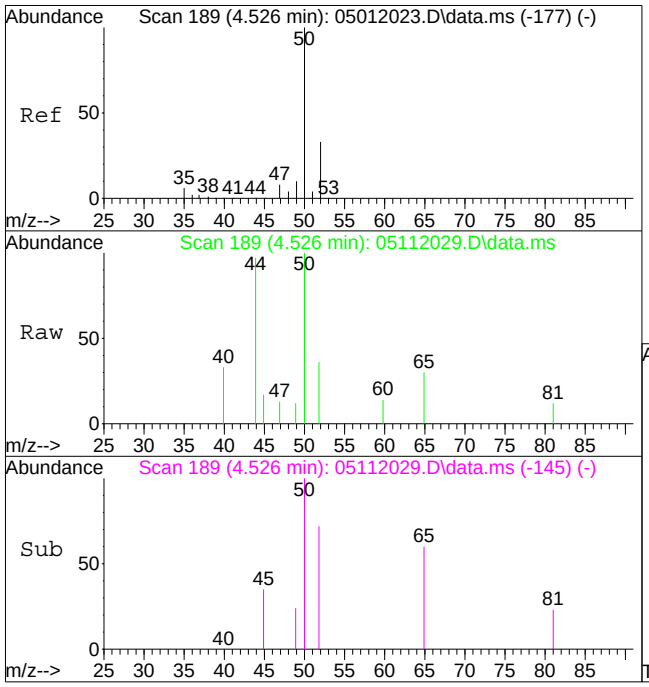


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.75 ng
RT: 4.26 min Scan# 141
Delta R.T. 0.011 min
Lab File: 05112029.D
Acq: 11 May 2020 21:55

Tgt Ion: 85 Resp: 105042

Ion	Ratio	Lower	Upper
85	100		
87	32.1	12.4	52.4
101	8.9	0.0	28.8
103	5.7	0.0	25.7

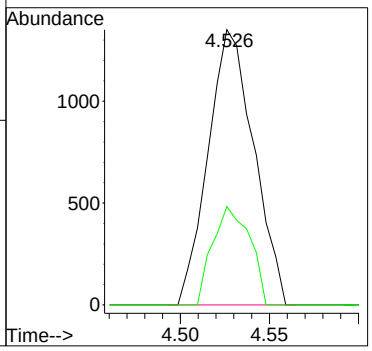


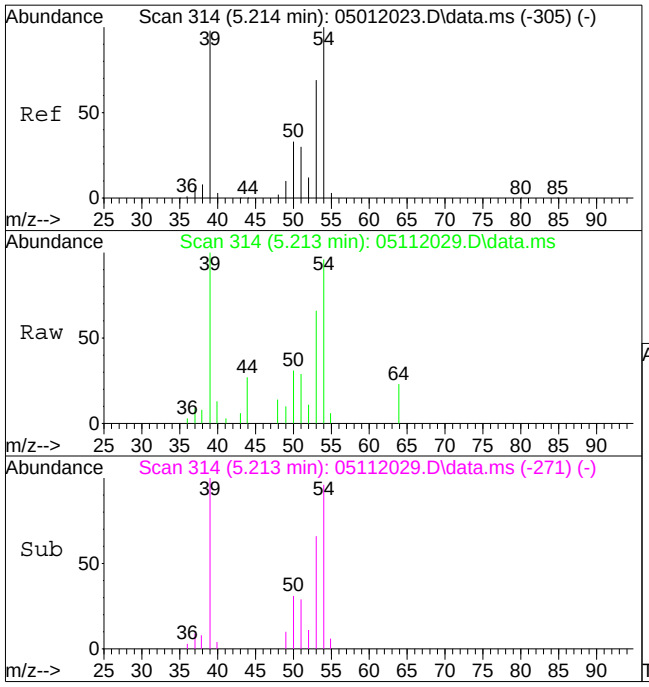


#4
Chloromethane
Concen: 0.05 ng
RT: 4.53 min Scan# 189
Delta R.T. -0.006 min
Lab File: 05112029.D
Acq: 11 May 2020 21:55

Tgt Ion: 50 Resp: 2408

Ion	Ratio	Lower	Upper
50	100		
52	29.2	12.5	52.5

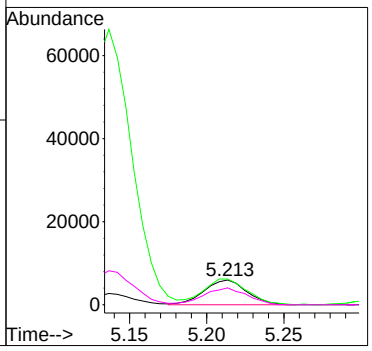


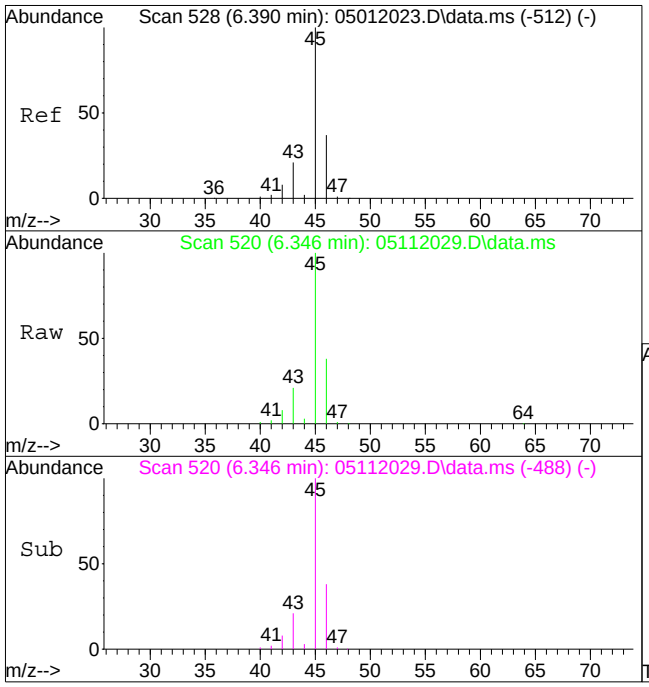


#7
1,3-Butadiene
Concen: 0.27 ng
RT: 5.21 min Scan# 314
Delta R.T. -0.011 min
Lab File: 05112029.D
Acq: 11 May 2020 21:55

Tgt Ion: 54 Resp: 11414

Ion	Ratio	Lower	Upper
54	100		
39	108.2	80.6	120.6
53	69.3	49.4	89.4

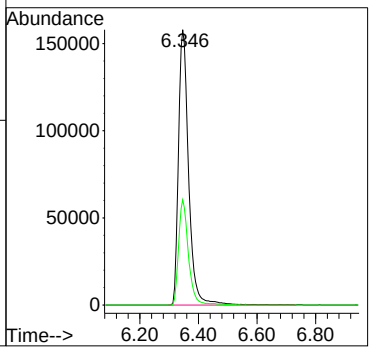


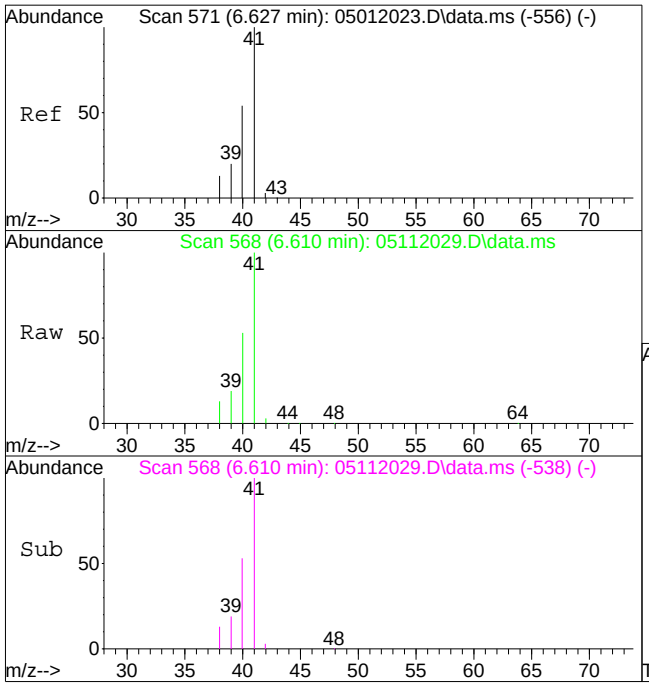


#10
Ethanol
Concen: 16.06 ng
RT: 6.35 min Scan# 520
Delta R.T. -0.072 min
Lab File: 05112029.D
Acq: 11 May 2020 21:55

Tgt Ion: 45 Resp: 380437

Ion	Ratio	Lower	Upper
45	100		
46	37.2	17.2	57.2

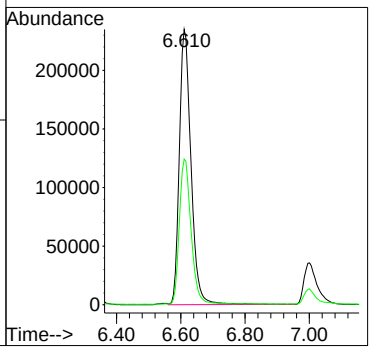


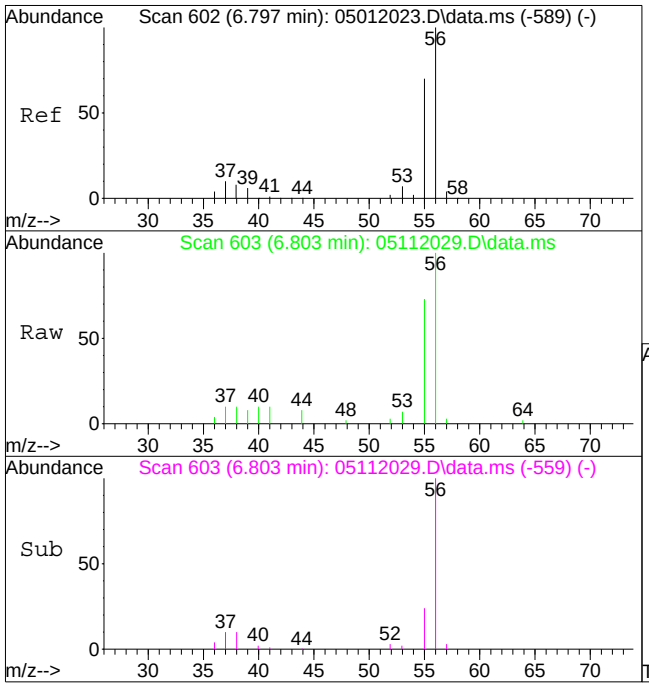


#11
Acetonitrile
Concen: 10.88 ng
RT: 6.61 min Scan# 568
Delta R.T. -0.033 min
Lab File: 05112029.D
Acq: 11 May 2020 21:55

Tgt Ion: 41 Resp: 588905

Ion	Ratio	Lower	Upper
41	100		
40	53.8	33.6	73.6

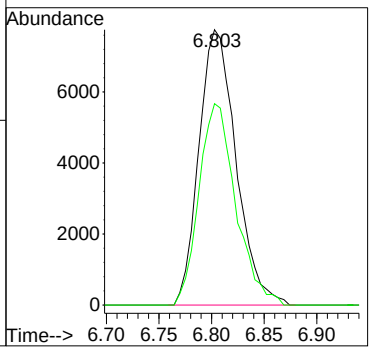


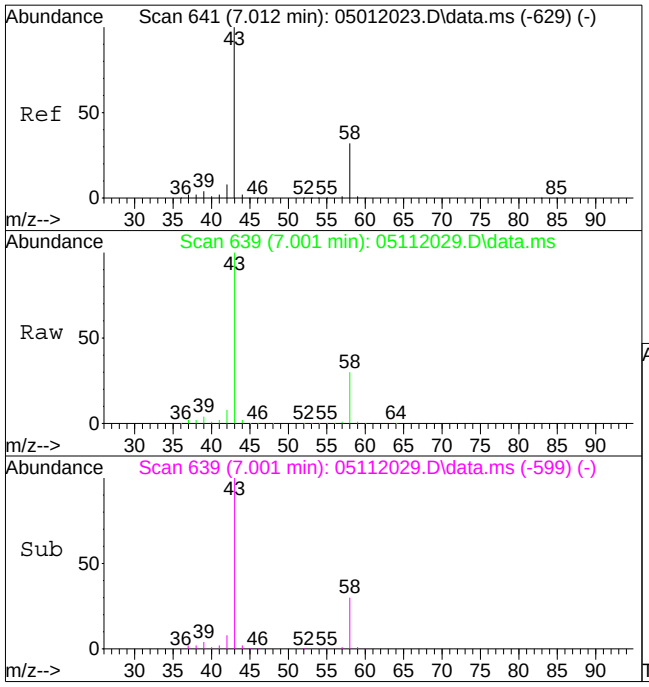


#12
Acrolein
Concen: 1.02 ng
RT: 6.80 min Scan# 603
Delta R.T. -0.006 min
Lab File: 05112029.D
Acq: 11 May 2020 21:55

Tgt Ion: 56 Resp: 19031

Ion	Ratio	Lower	Upper
56	100		
55	72.5	50.2	90.2

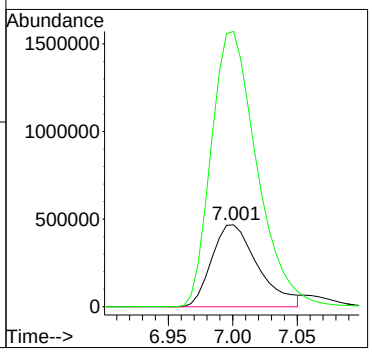


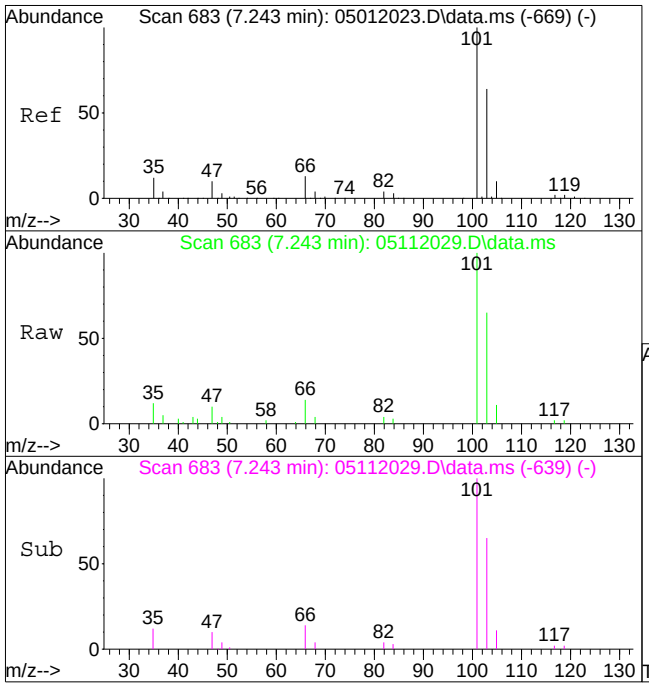


#13
Acetone
Concen: 49.38 ng m
RT: 7.00 min Scan# 639
Delta R.T. -0.028 min
Lab File: 05112029.D
Acq: 11 May 2020 21:55

Tgt Ion: 58 Resp: 1169512

Ion	Ratio	Lower	Upper
58	100		
43	332.6	294.4	354.4

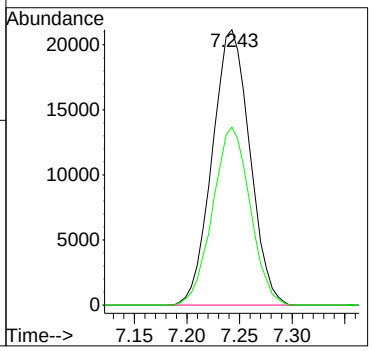


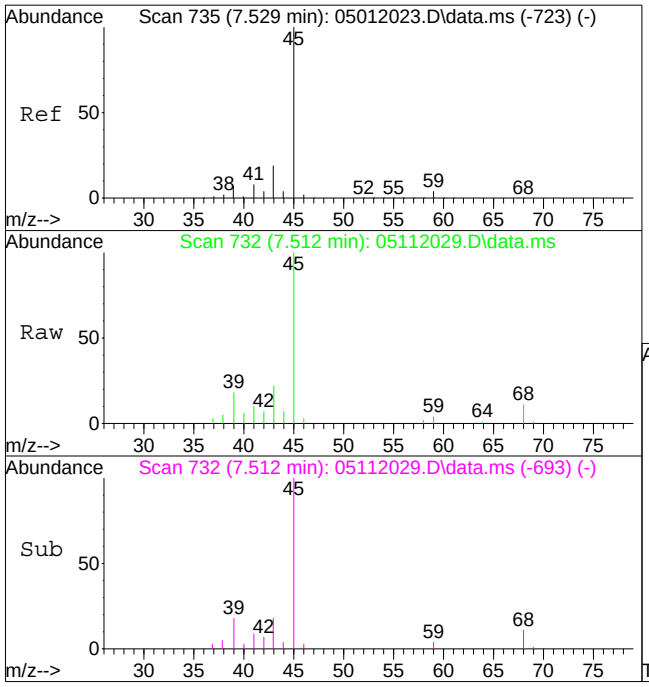


#14
Trichlorofluoromethane
Concen: 0.99 ng
RT: 7.24 min Scan# 683
Delta R.T. -0.006 min
Lab File: 05112029.D
Acq: 11 May 2020 21:55

Tgt Ion:101 Resp: 52624

Ion	Ratio	Lower	Upper
101	100		
103	64.3	44.4	84.4

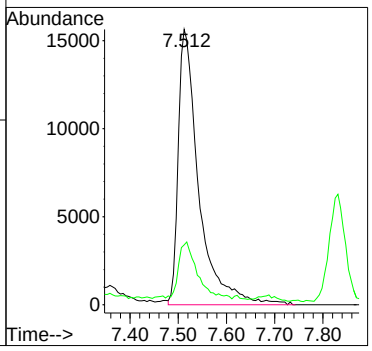


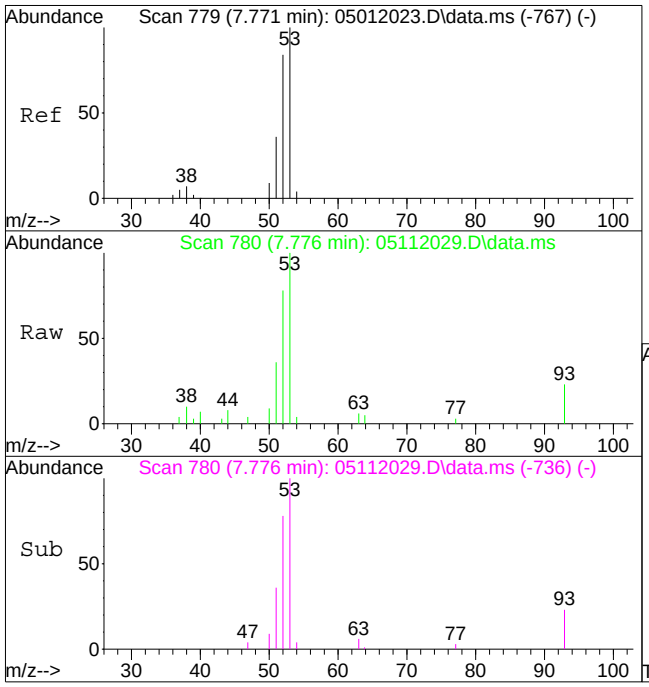


#15
2-Propanol (Isopropanol)
Concen: 0.64 ng
RT: 7.51 min Scan# 732
Delta R.T. -0.033 min
Lab File: 05112029.D
Acq: 11 May 2020 21:55

Tgt Ion: 45 Resp: 46229

Ion	Ratio	Lower	Upper
45	100		
43	23.5	0.0	39.5

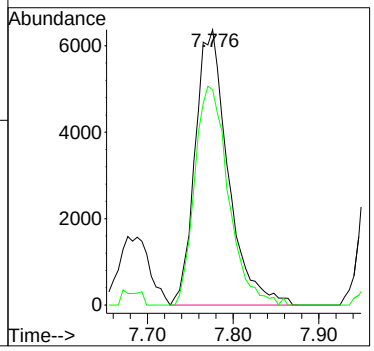


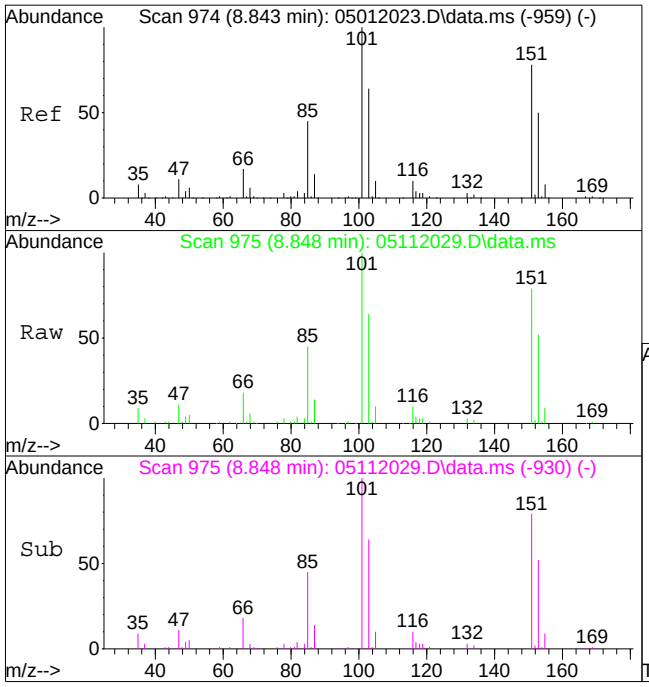


#16
Acrylonitrile
Concen: 0.44 ng
RT: 7.78 min Scan# 780
Delta R.T. -0.006 min
Lab File: 05112029.D
Acq: 11 May 2020 21:55

Tgt Ion: 53 Resp: 17006

Ion	Ratio	Lower	Upper
53	100		
52	81.5	63.7	103.7

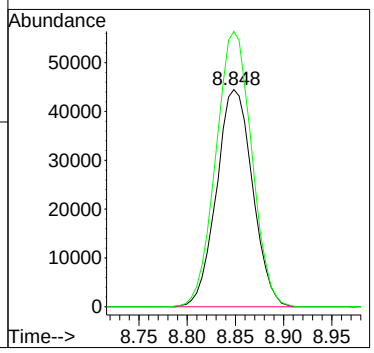


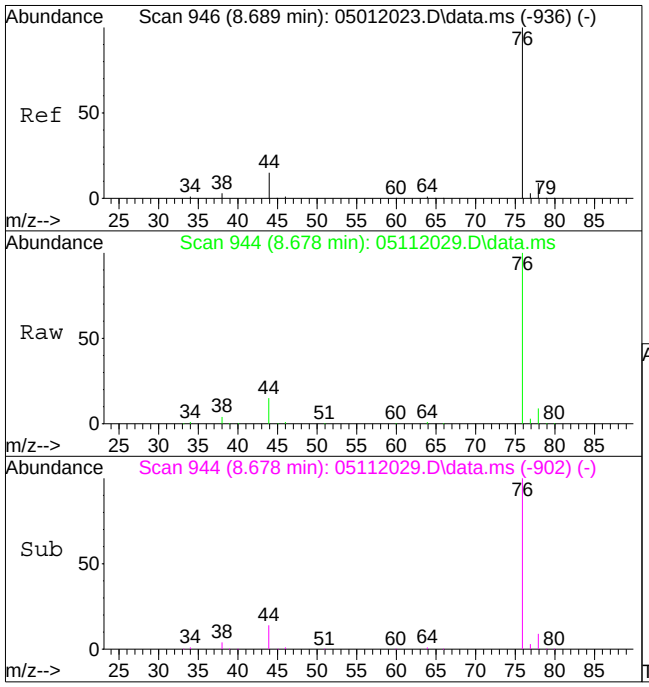


#21
Trichlorotrifluoroethane
Concen: 4.62 ng
RT: 8.85 min Scan# 975
Delta R.T. -0.000 min
Lab File: 05112029.D
Acq: 11 May 2020 21:55

Tgt Ion:151 Resp: 115618

Ion	Ratio	Lower	Upper
151	100		
101	126.2	107.3	147.3

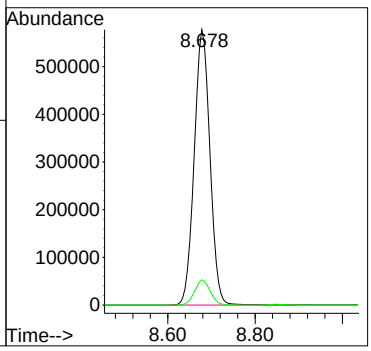


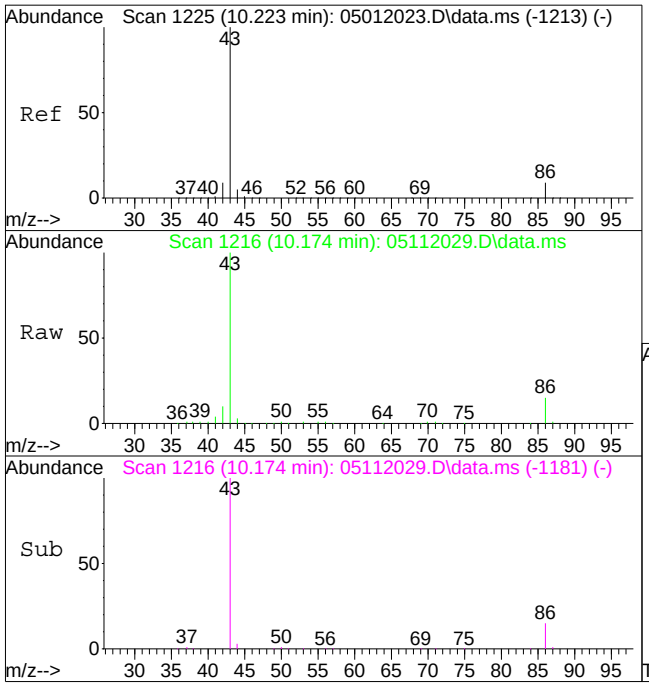


#22
Carbon Disulfide
Concen: 13.10 ng
RT: 8.68 min Scan# 944
Delta R.T. -0.017 min
Lab File: 05112029.D
Acq: 11 May 2020 21:55

Tgt Ion: 76 Resp: 1445661

Ion	Ratio	Lower	Upper
76	100		
78	9.1	0.0	29.2

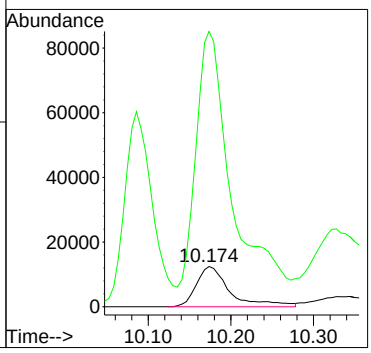


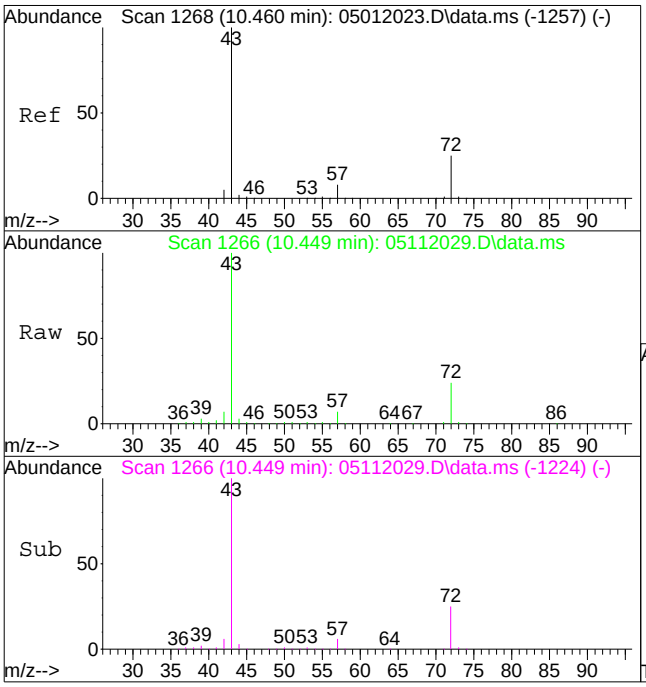


#26
Vinyl Acetate
Concen: 4.77 ng
RT: 10.17 min Scan# 1216
Delta R.T. -0.055 min
Lab File: 05112029.D
Acq: 11 May 2020 21:55

Tgt Ion: 86 Resp: 35176

Ion	Ratio	Lower	Upper
86	100		
43	691.4	1103.0	1143.0#

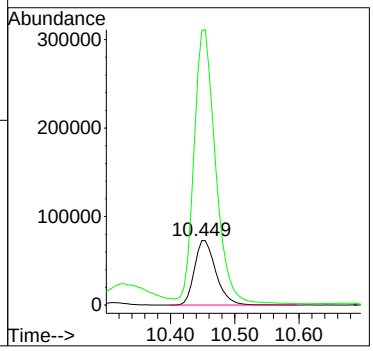


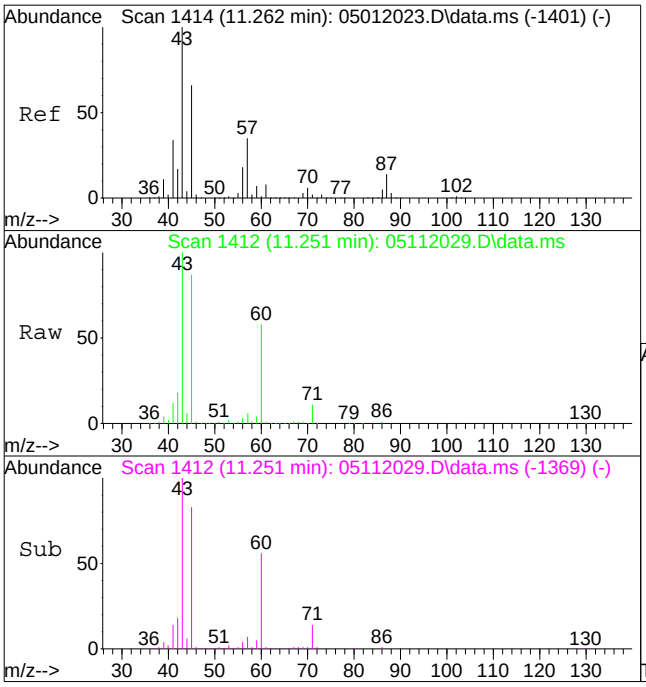


#27
2-Butanone (MEK)
Concen: 8.36 ng
RT: 10.45 min Scan# 1266
Delta R.T. -0.017 min
Lab File: 05112029.D
Acq: 11 May 2020 21:55

Tgt Ion: 72 Resp: 168938

Ion	Ratio	Lower	Upper
72	100		
43	427.7	389.7	429.7

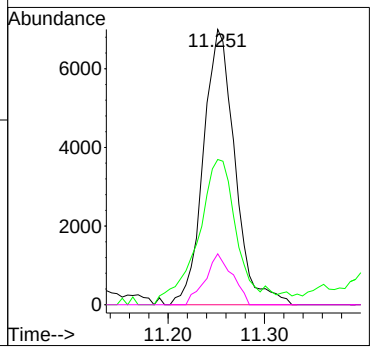


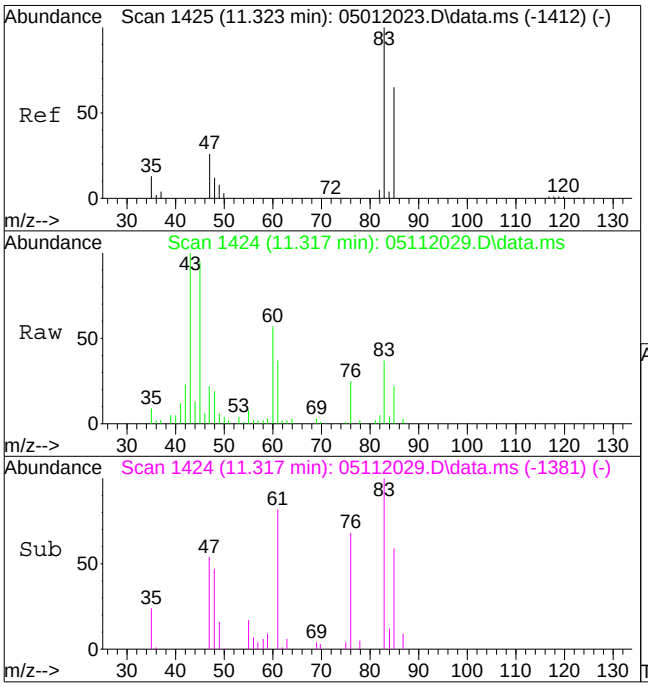


#31
n-Hexane
Concen: 0.32 ng
RT: 11.25 min Scan# 1412
Delta R.T. -0.011 min
Lab File: 05112029.D
Acq: 11 May 2020 21:55

Tgt Ion: 57 Resp: 15936

Ion	Ratio	Lower	Upper
57	100		
56	68.2	41.4	62.0#
86	15.8	12.4	18.6

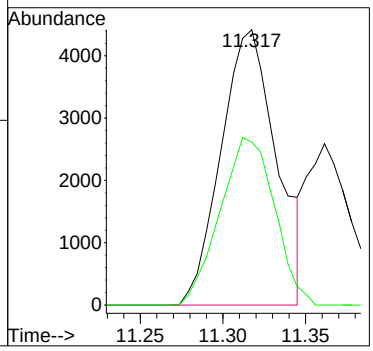


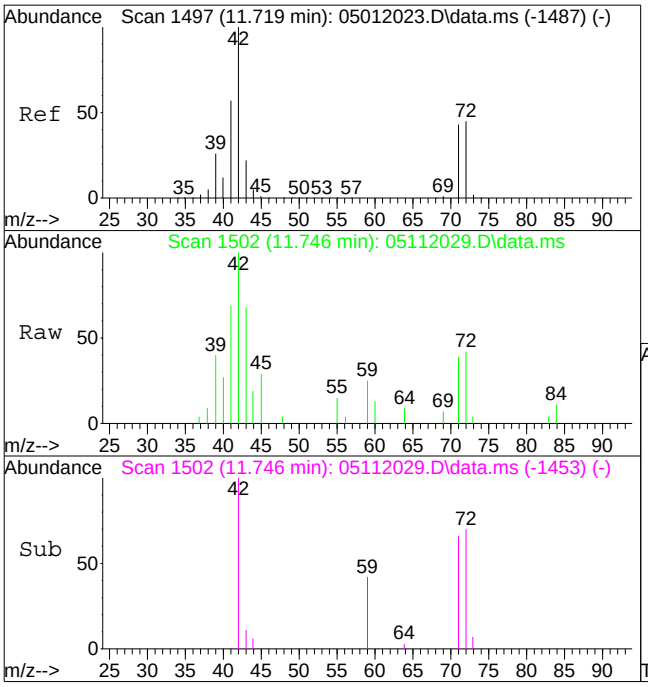


#32
Chloroform
Concen: 0.20 ng
RT: 11.32 min Scan# 1424
Delta R.T. -0.011 min
Lab File: 05112029.D
Acq: 11 May 2020 21:55

Tgt Ion: 83 Resp: 10344

Ion	Ratio	Lower	Upper
83	100		
85	59.4	45.5	85.5

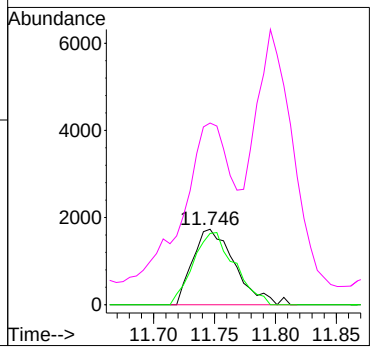


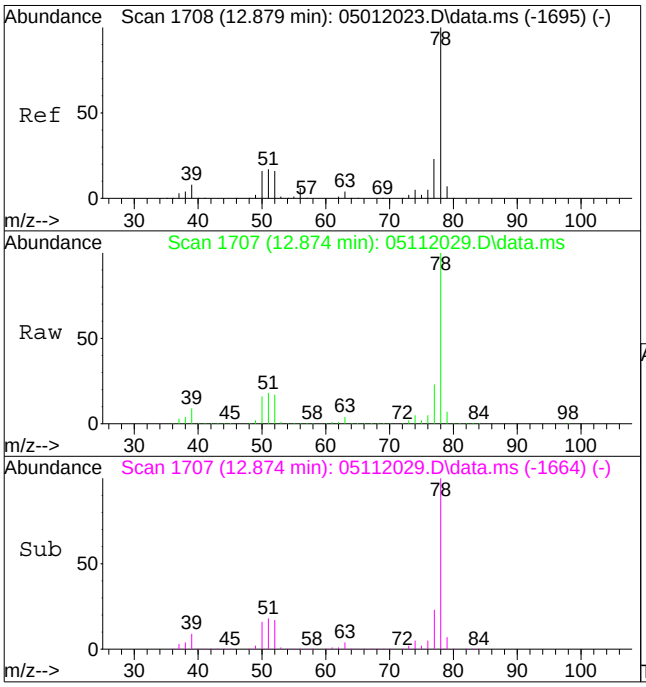


#34
Tetrahydrofuran (THF)
Concen: 0.21 ng
RT: 11.75 min Scan# 1502
Delta R.T. 0.022 min
Lab File: 05112029.D
Acq: 11 May 2020 21:55

Tgt Ion: 72 Resp: 4176

Ion	Ratio	Lower	Upper
72	100		
71	94.1	77.0	117.0
42	234.6	204.6	244.6

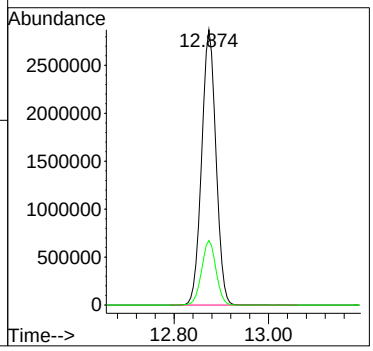


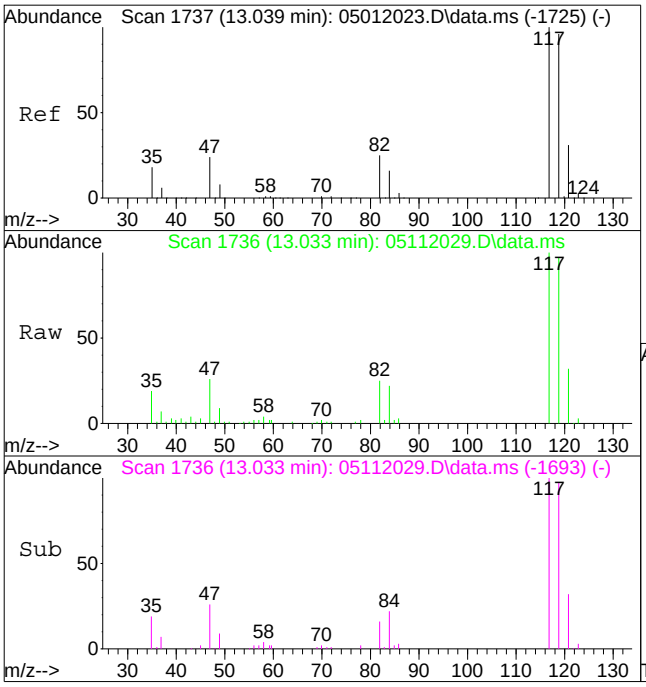


#41
Benzene
Concen: 50.09 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05112029.D
Acq: 11 May 2020 21:55

Tgt Ion: 78 Resp: 6023161

Ion	Ratio	Lower	Upper
78	100		
77	23.6	3.4	43.4

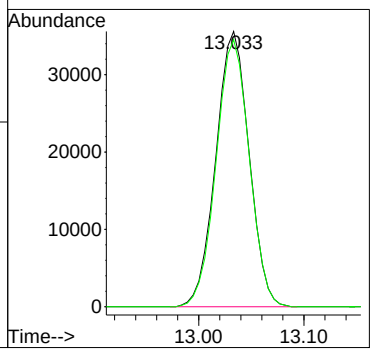


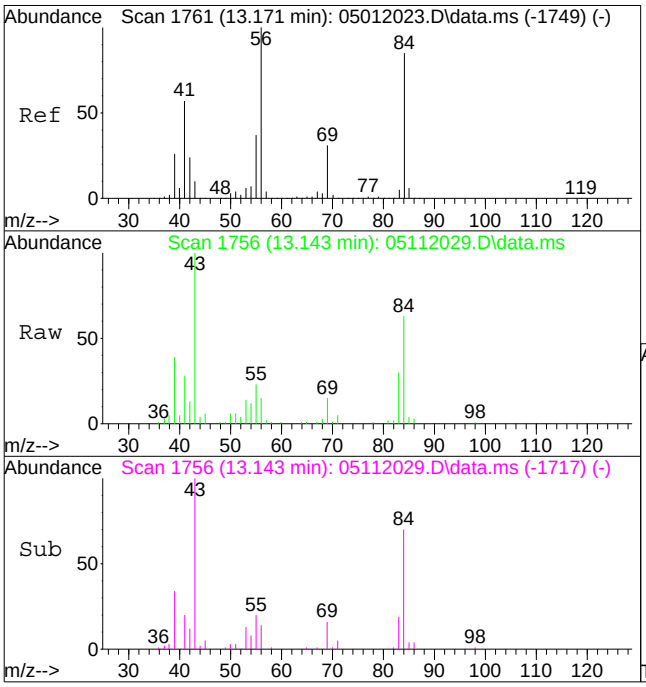


#42
Carbon Tetrachloride
Concen: 1.91 ng
RT: 13.03 min Scan# 1736
Delta R.T. -0.011 min
Lab File: 05112029.D
Acq: 11 May 2020 21:55

Tgt Ion:117 Resp: 78306

Ion	Ratio	Lower	Upper
117	100		
119	96.7	76.2	116.2

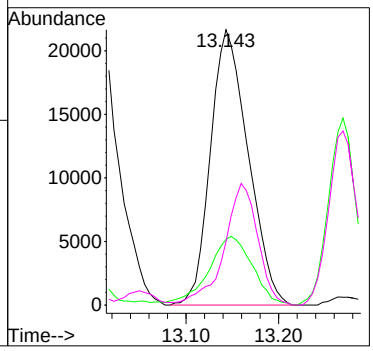


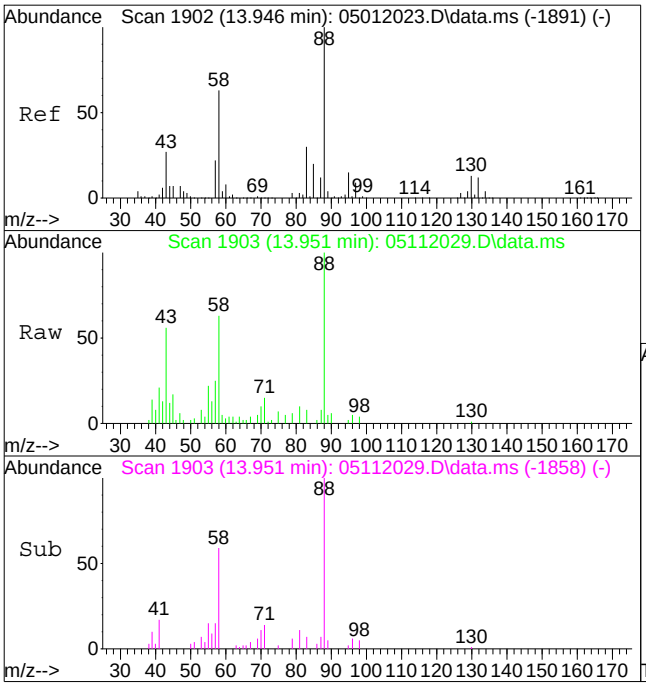


#43
Cyclohexane
Concen: 1.37 ng
RT: 13.14 min Scan# 1756
Delta R.T. -0.033 min
Lab File: 05112029.D
Acq: 11 May 2020 21:55

Tgt Ion: 84 Resp: 61293

Ion	Ratio	Lower	Upper
84	100		
69	29.0	16.5	56.5
56	39.4	97.4	137.4#

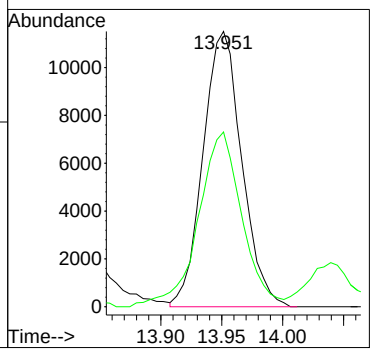


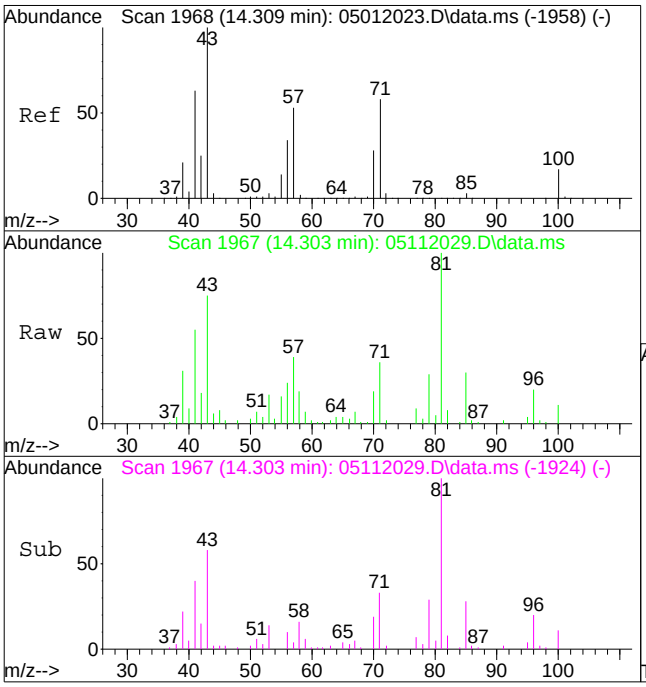


#48
1,4-Dioxane
Concen: 1.05 ng
RT: 13.95 min Scan# 1903
Delta R.T. -0.000 min
Lab File: 05112029.D
Acq: 11 May 2020 21:55

Tgt Ion: 88 Resp: 25441

Ion	Ratio	Lower	Upper
88	100		
58	71.2	42.8	82.8

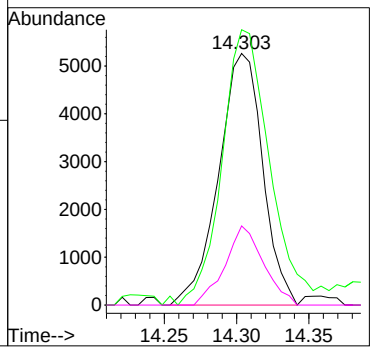


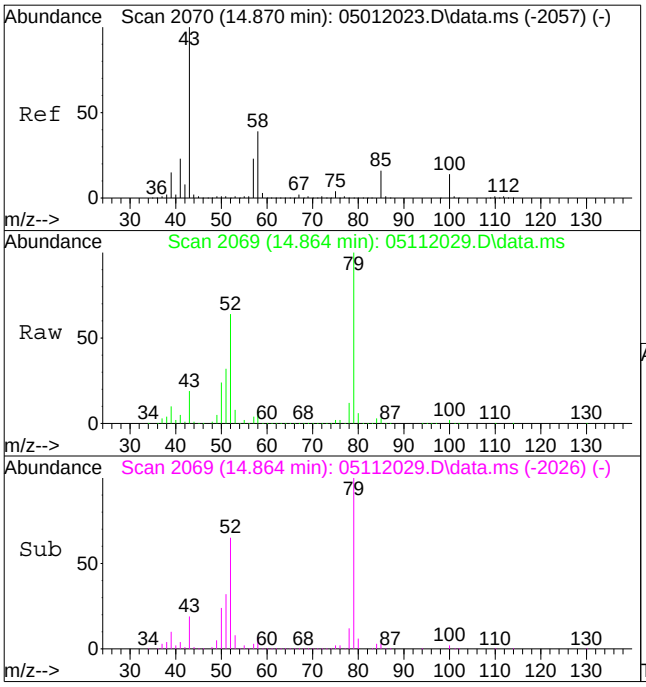


#51
n-Heptane
Concen: 0.40 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05112029.D
Acq: 11 May 2020 21:55

Tgt Ion: 71 Resp: 11200

Ion	Ratio	Lower	Upper
71	100		
57	120.0	71.0	111.0#
100	27.3	8.4	48.4

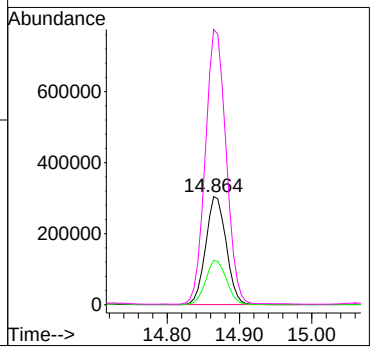


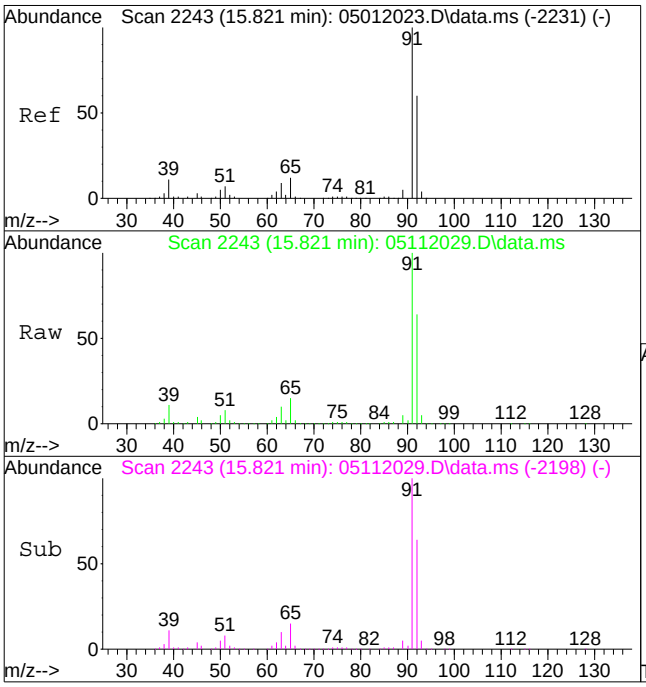


#53
4-Methyl-2-pentanone
Concen: 22.35 ng
RT: 14.86 min Scan# 2069
Delta R.T. -0.011 min
Lab File: 05112029.D
Acq: 11 May 2020 21:55

Tgt Ion: 58 Resp: 599064

Ion	Ratio	Lower	Upper
58	100		
85	42.1	35.4	53.2
43	258.4	203.3	304.9

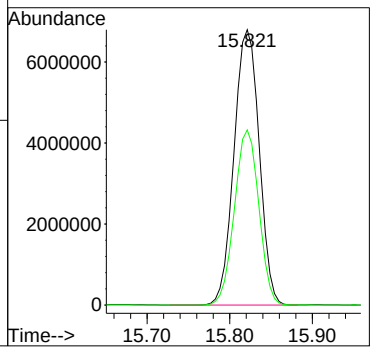


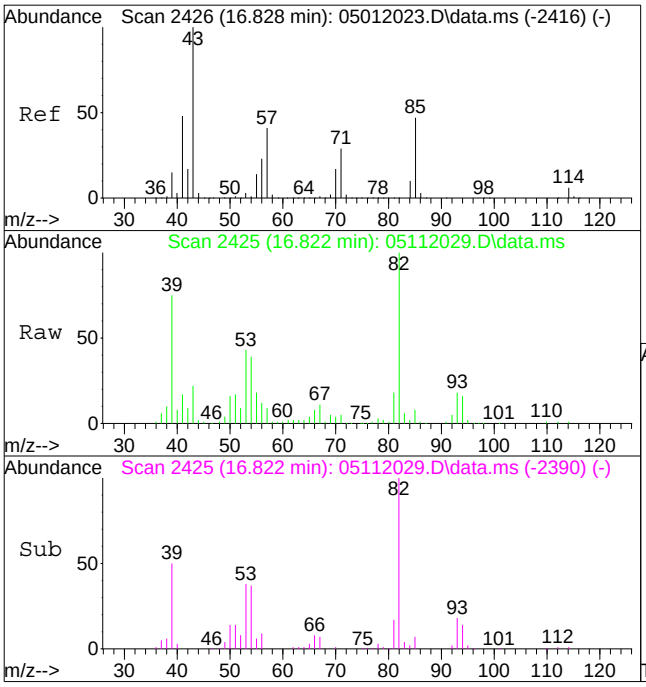


#58
Toluene
Concen: 120.76 ng
RT: 15.82 min Scan# 2243
Delta R.T. -0.000 min
Lab File: 05112029.D
Acq: 11 May 2020 21:55

Tgt Ion: 91 Resp:14386100

Ion	Ratio	Lower	Upper
91	100		
92	61.7	39.4	79.4

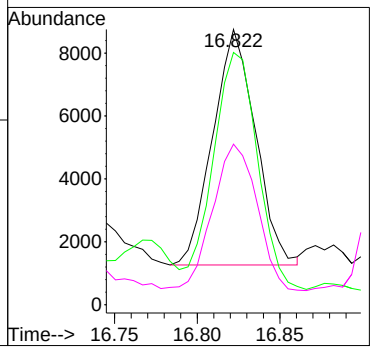


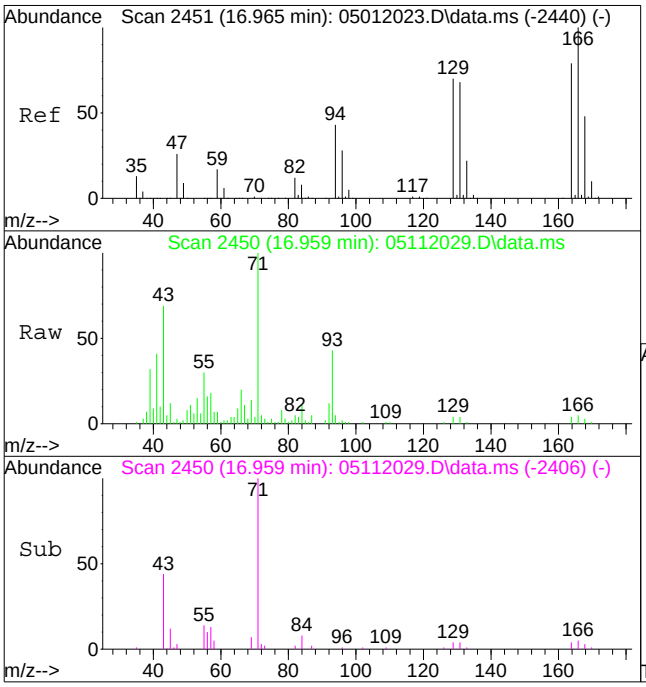


#63
n-Octane
Concen: 0.55 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05112029.D
Acq: 11 May 2020 21:55

Tgt Ion: 57 Resp: 13465

Ion	Ratio	Lower	Upper
57	100		
85	111.4	91.0	136.4
71	64.7	56.2	84.2

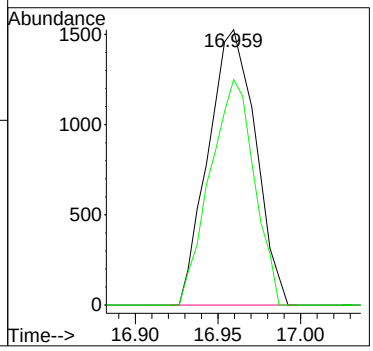


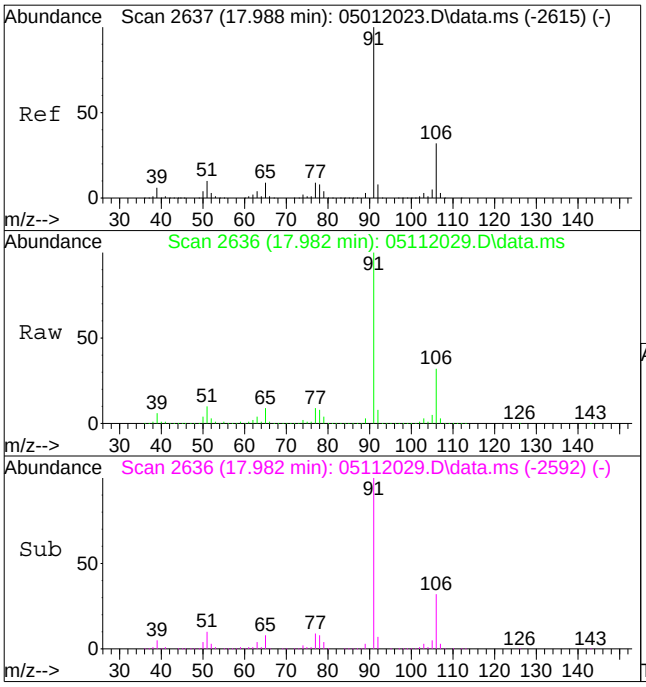


#64
Tetrachloroethene
Concen: 0.09 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05112029.D
Acq: 11 May 2020 21:55

Tgt Ion:166 Resp: 3033

Ion	Ratio	Lower	Upper
166	100		
164	76.7	58.4	98.4

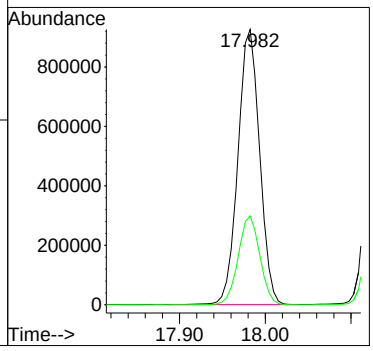


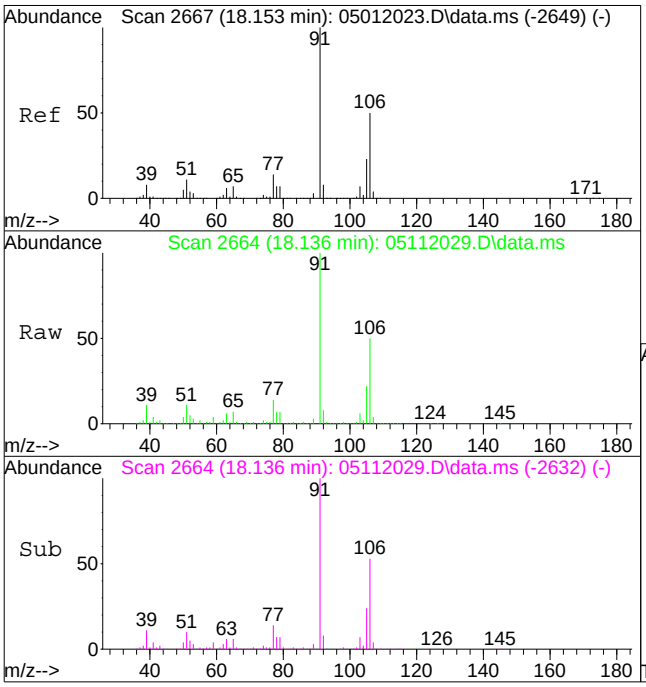


#66
Ethylbenzene
Concen: 12.23 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05112029.D
Acq: 11 May 2020 21:55

Tgt Ion: 91 Resp: 1624066

Ion	Ratio	Lower	Upper
91	100		
106	32.2	11.6	51.6

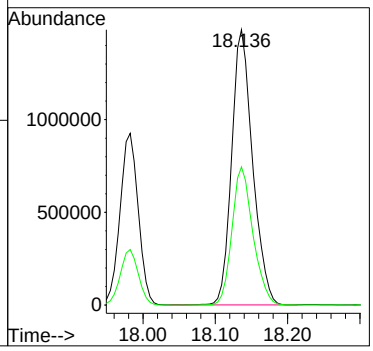


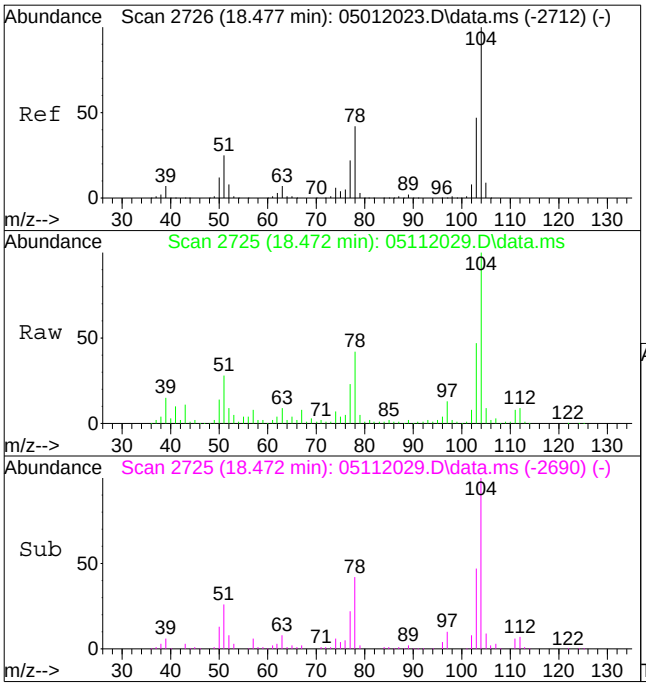


#67
m- & p-Xylenes
Concen: 28.37 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05112029.D
Acq: 11 May 2020 21:55

Tgt Ion: 91 Resp: 2989849

Ion	Ratio	Lower	Upper
91	100		
106	50.5	29.7	69.7

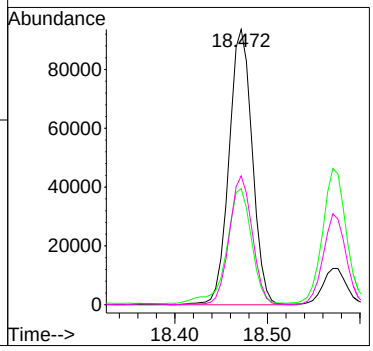


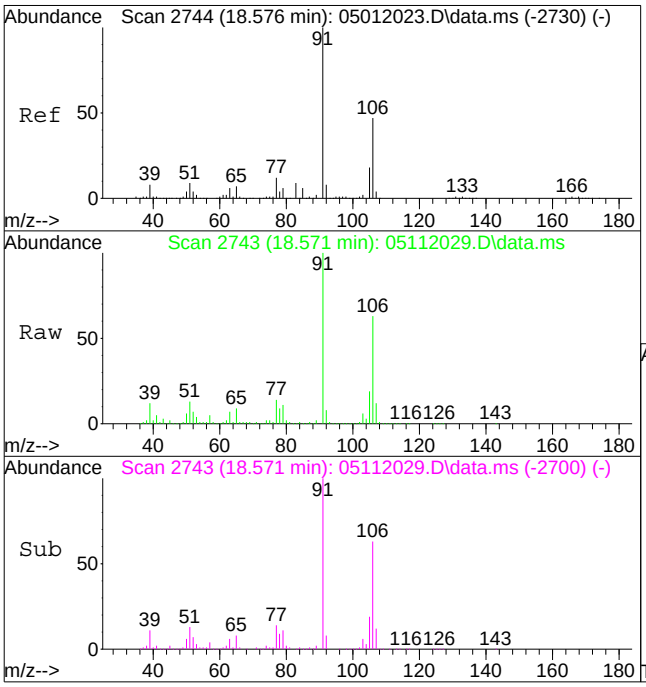


#69
Styrene
Concen: 2.06 ng
RT: 18.47 min Scan# 2725
Delta R.T. -0.006 min
Lab File: 05112029.D
Acq: 11 May 2020 21:55

Tgt Ion:104 Resp: 163299

Ion	Ratio	Lower	Upper
104	100		
78	45.0	22.5	62.5
103	46.3	27.0	67.0

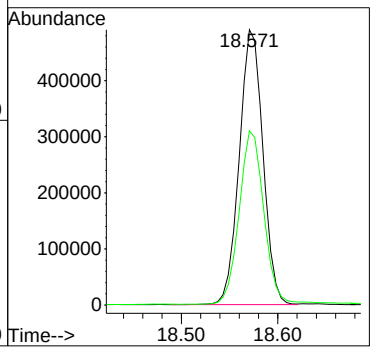


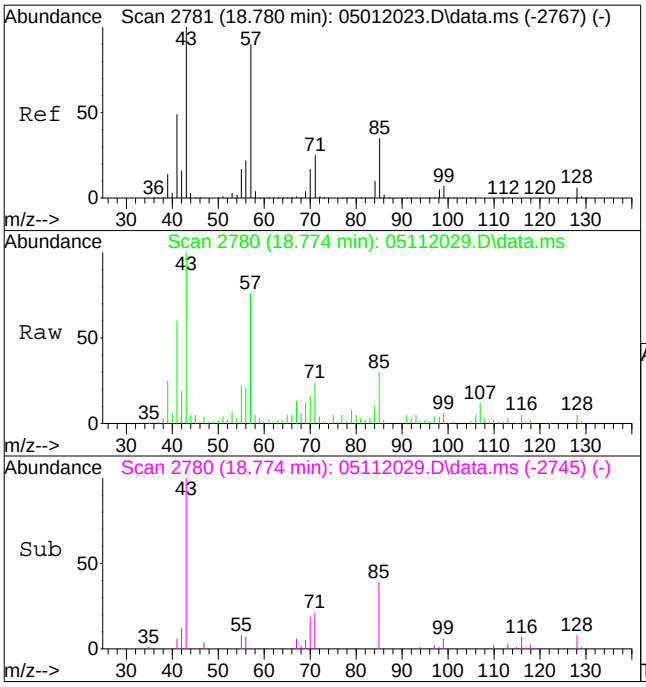


#70
o-Xylene
Concen: 7.83 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05112029.D
Acq: 11 May 2020 21:55

Tgt Ion: 91 Resp: 837544

Ion	Ratio	Lower	Upper
91	100		
106	66.9	27.5	67.5

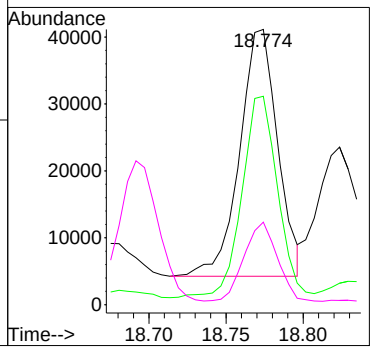


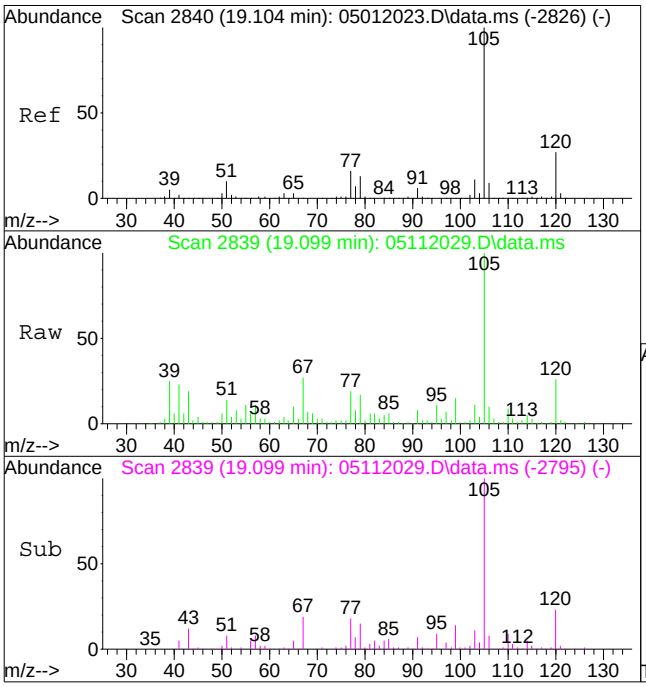


#71
n-Nonane
Concen: 1.11 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05112029.D
Acq: 11 May 2020 21:55

Tgt Ion: 43 Resp: 63081

Ion	Ratio	Lower	Upper
43	100		
57	76.6	69.0	109.0
85	28.0	14.6	54.6

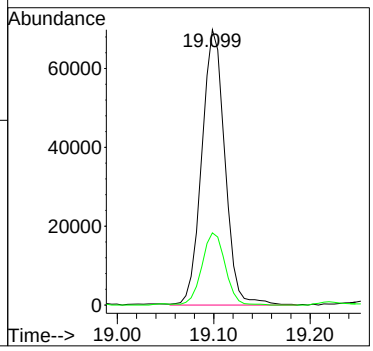


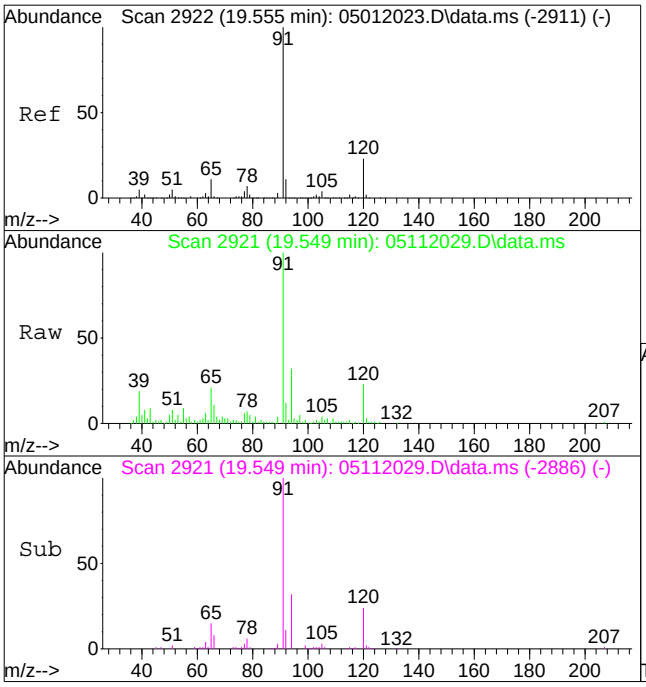


#74
Cumene
Concen: 0.88 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05112029.D
Acq: 11 May 2020 21:55

Tgt Ion:105 Resp: 116026

Ion	Ratio	Lower	Upper
105	100		
120	26.6	6.8	46.8

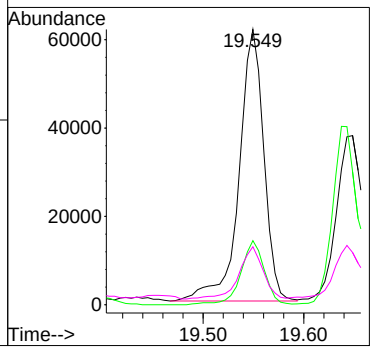


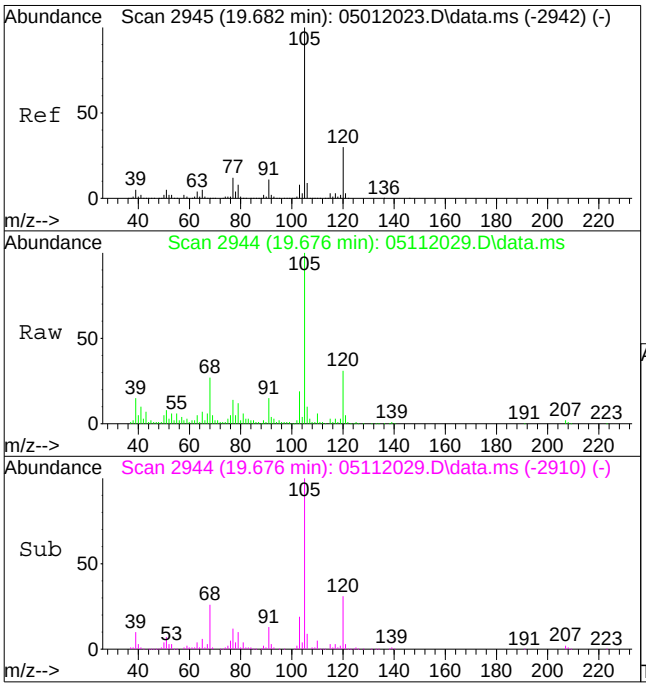


#76
n-Propylbenzene
Concen: 0.67 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05112029.D
Acq: 11 May 2020 21:55

Tgt Ion: 91 Resp: 105192

Ion	Ratio	Lower	Upper
91	100		
120	22.5	3.1	43.1
65	18.7	0.0	30.9

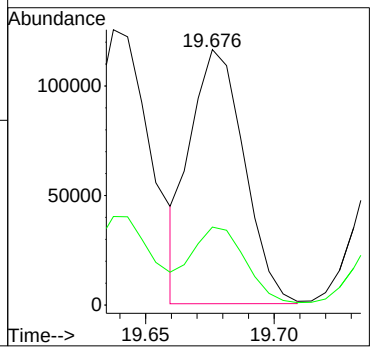


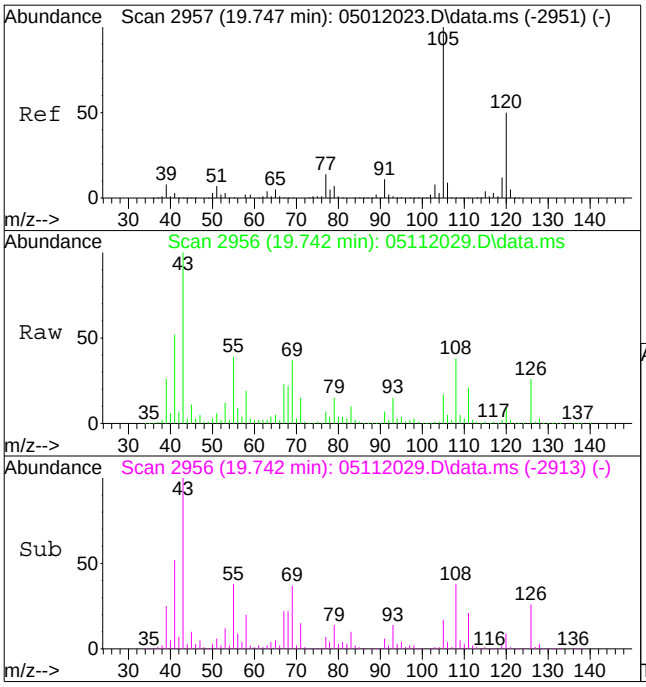


#78
4-Ethyltoluene
Concen: 1.38 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05112029.D
Acq: 11 May 2020 21:55

Tgt Ion:105 Resp: 169724

Ion	Ratio	Lower	Upper
105	100		
120	30.9	10.4	50.4

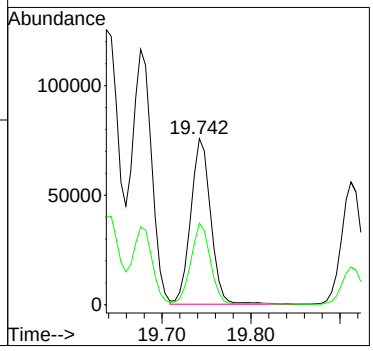


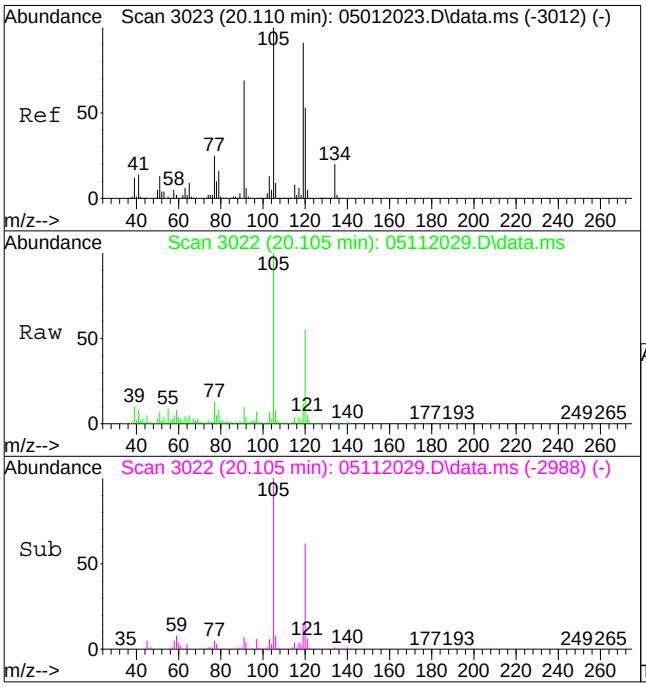


#79
1,3,5-Trimethylbenzene
Concen: 1.10 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05112029.D
Acq: 11 May 2020 21:55

Tgt Ion:105 Resp: 117738

Ion	Ratio	Lower	Upper
105	100		
120	48.9	29.9	69.9

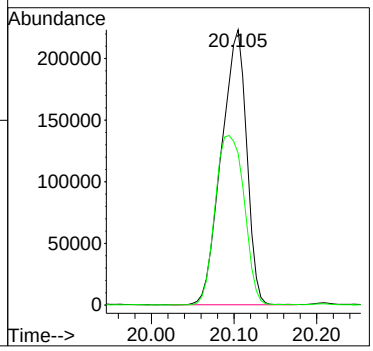


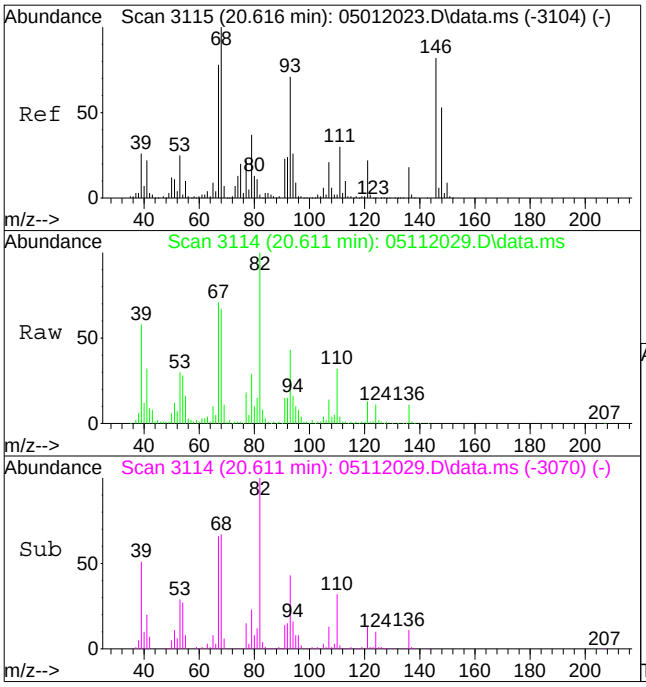


#82
1,2,4-Trimethylbenzene
Concen: 4.40 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05112029.D
Acq: 11 May 2020 21:55

Tgt Ion:105 Resp: 473234

Ion	Ratio	Lower	Upper
105	100		
120	70.7	33.6	73.6

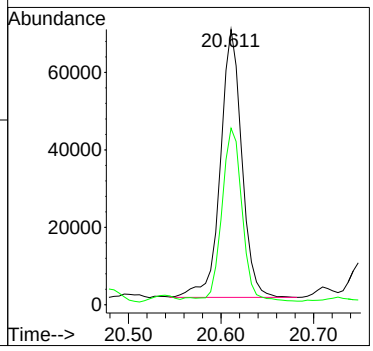


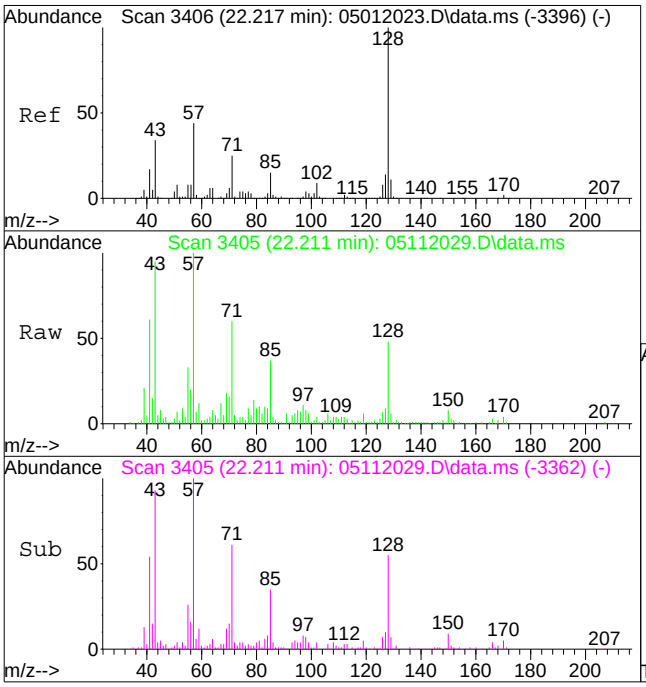


#91
d-Limonene
Concen: 2.62 ng
RT: 20.61 min Scan# 3114
Delta R.T. -0.006 min
Lab File: 05112029.D
Acq: 11 May 2020 21:55

Tgt Ion: 68 Resp: 111499

Ion	Ratio	Lower	Upper
68	100		
93	60.5	51.1	91.1

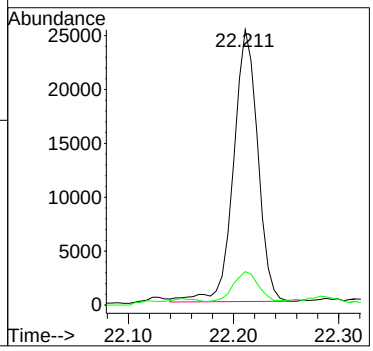




#95
Naphthalene
Concen: 0.31 ng
RT: 22.21 min Scan# 3405
Delta R.T. -0.011 min
Lab File: 05112029.D
Acq: 11 May 2020 21:55

Tgt Ion:128 Resp: 40349

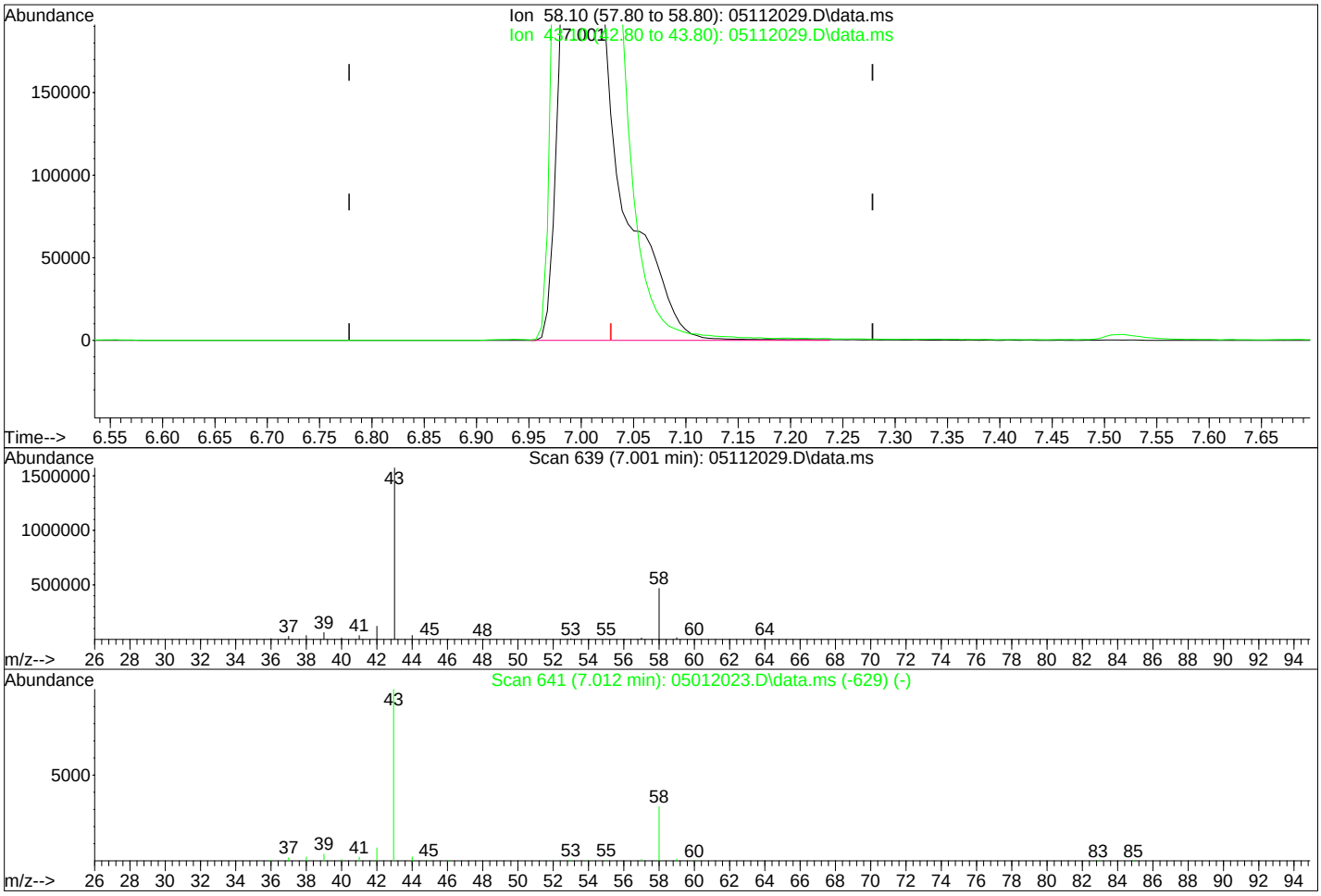
Ion	Ratio	Lower	Upper
128	100		
129	16.3	0.0	31.0



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\11\05112029.D Vial: 7
Acq On : 11 May 2020 21:55 Operator: LH
Sample : P2002299-015 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 12 02:52:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05112029.D\data.ms

(13) Acetone (T)

7.001min (-0.028) 54.27ng

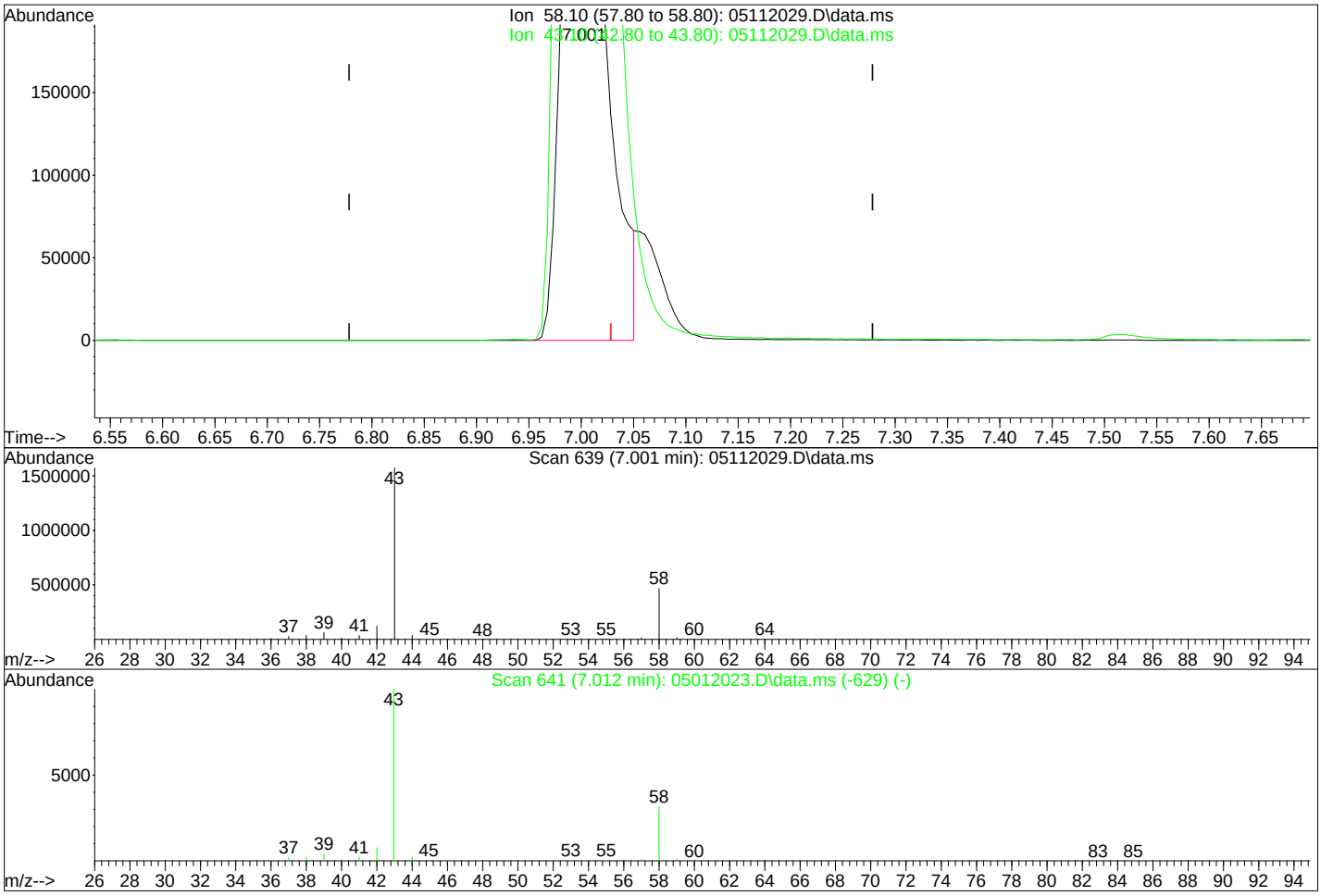
response 1285314

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	302.68
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\11\05112029.D Vial: 7
Acq On : 11 May 2020 21:55 Operator: LH
Sample : P2002299-015 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 12 02:52:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05112029.D\data.ms

(13) Acetone (T)

7.001min (-0.028) 49.38ng m

response 1169512

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	332.65
0.00	0.00	0.00
0.00	0.00	0.00

IPC

LH 5/13/20

5/14/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122025.D Vial: 7
Acq On : 12 May 2020 16:00 Operator: WA
Sample : P2002299-015dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 15:15:33 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/13/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	295691	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1284584	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	597140	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	475683	11.871	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.96%				
57) Toluene-d8 (SS2)	15.72	98	1253973	12.389	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.12%				
73) Bromofluorobenzene (SS3)	18.97	174	486223	13.351	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.80%				
Target Compounds							Qvalue
2) Propene	4.12	42	3493	0.102	ng		90
3) Dichlorodifluoromethan...	4.28	85	9510	0.142	ng		99
4) Chloromethane	4.56	50	254	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.22	54	608	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.33	45	33768	1.277	ng		99
11) Acetonitrile	6.59	41	49760	0.823	ng		98
12) Acrolein	6.79	56	1296	0.062	ng		94
13) Acetone	6.99	58	117148	4.430	ng	#	84
14) Trichlorofluoromethane	7.24	101	4731	0.080	ng		99
15) 2-Propanol (Isopropanol)	7.53	45	5343	0.067	ng		66
16) Acrylonitrile	7.76	53	1242	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.44	59	3560	N.D.			
19) Methylene Chloride	8.40	84	183	N.D.			
20) 3-Chloro-1-propene (Al...	8.57	41	162	N.D.			
21) Trichlorotrifluoroethane	8.84	151	10844	0.388	ng		95
22) Carbon Disulfide	8.67	76	127633	1.036	ng		100
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	10.17	86	4855	0.589	ng	#	19
27) 2-Butanone (MEK)	10.46	72	14315	0.635	ng		98
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	11.26	57	1203	N.D.			
32) Chloroform	11.31	83	948	N.D.			
34) Tetrahydrofuran (THF)	11.77	72	378	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	492557	3.576	ng		100
42) Carbon Tetrachloride	13.03	117	6399	0.137	ng		97
43) Cyclohexane	13.15	84	4103	0.080	ng	#	52
44) tert-Amyl Methyl Ether	13.50	73	113	N.D.			
45) 1,2-Dichloropropane	13.51	63	556	N.D.			
46) Bromodichloromethane	14.01	83	121	N.D.			
47) Trichloroethene	13.97	130	300	N.D.			
48) 1,4-Dioxane	13.96	88	2121	0.076	ng		100
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.30	100	114	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122025.D Vial: 7
Acq On : 12 May 2020 16:00 Operator: WA
Sample : P2002299-015dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 15:15:33 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

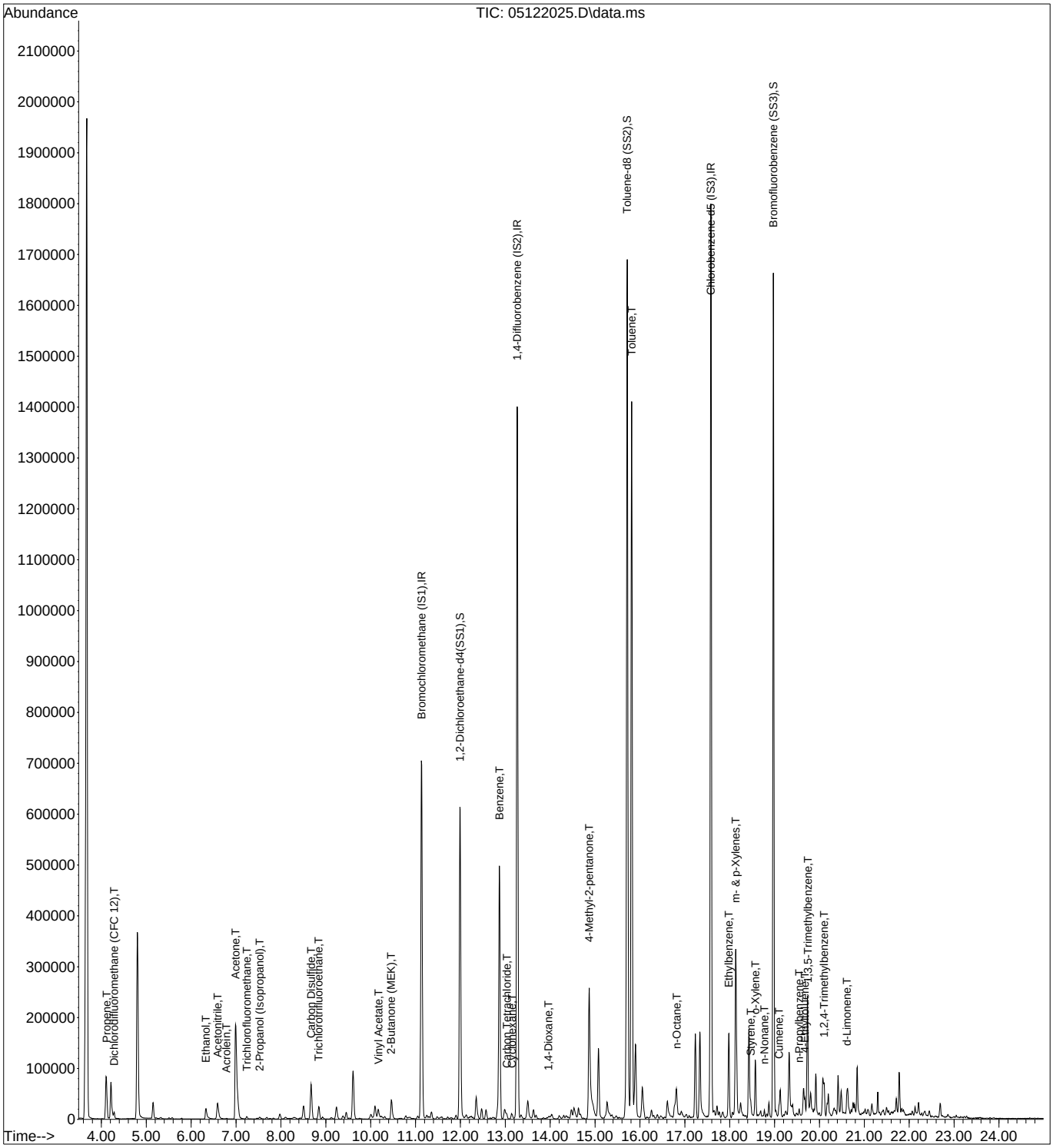
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.30	71	923	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d		
53) 4-Methyl-2-pentanone	14.87	58	39672	1.292 ng		94
54) trans-1,3-Dichloropropene	0.00	75	0	N.D. d		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.82	91	1154045	8.845 ng		100
59) 2-Hexanone	16.06	43	1617	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D. d		
63) n-Octane	16.82	57	1508	0.056 ng	#	75
64) Tetrachloroethene	16.96	166	545	N.D.		
65) Chlorobenzene	17.65	112	1089	N.D.		
66) Ethylbenzene	17.98	91	132035	0.908 ng		100
67) m- & p-Xylenes	18.14	91	231152	2.003 ng		98
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	12359	0.142 ng		98
70) o-Xylene	18.57	91	66921	0.571 ng		99
71) n-Nonane	18.77	43	5162	0.083 ng		96
72) 1,1,2,2-Tetrachloroethane	18.50	83	394	N.D.		
74) Cumene	19.10	105	9699	0.067 ng		98
75) alpha-Pinene	19.51	93	936	N.D.		
76) n-Propylbenzene	19.55	91	9279	0.054 ng		84
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.68	105	13517	0.100 ng		98
79) 1,3,5-Trimethylbenzene	19.74	105	9231	0.079 ng		92
80) alpha-Methylstyrene	19.88	118	1544	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	20.10	105	35446	0.301 ng		79
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.24	91	595	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	20.35	105	1752	N.D.		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.61	68	9735	0.209 ng		82
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	22.21	128	3699	N.D.		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	20.10	119	4754	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122025.D Vial: 7
Acq On : 12 May 2020 16:00 Operator: WA
Sample : P2002299-015dil (40mL) Inst : GCMS-16
Misc : S31-02112001

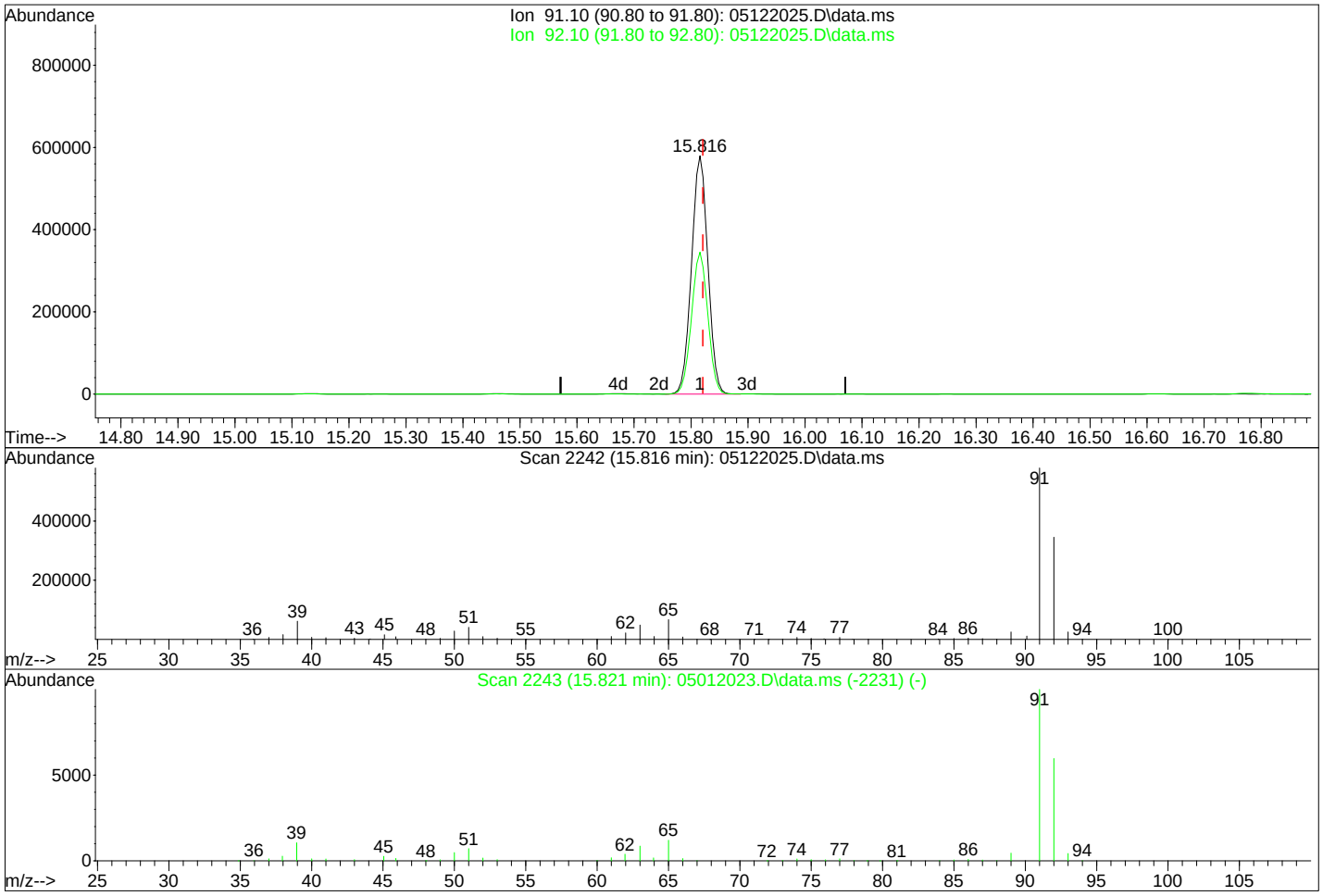
Quant Time: May 13 15:15:33 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\12\05122025.D Vial: 7
Acq On : 12 May 2020 16:00 Operator: WA
Sample : P2002299-015dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 15:15:33 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05122025.D\data.ms

(58) Toluene (T)

15.816min (-0.006) 8.85ng

response 1154045

Ion	Exp%	Act%
91.10	100	100
92.10	59.40	59.54
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112030.D Vial: 8
Acq On : 11 May 2020 22:29 Operator: LH
Sample : P2002299-016 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 14:51:05 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/13/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	266512	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1138590	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	525115	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	417781	11.567	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.56%				
57) Toluene-d8 (SS2)	15.72	98	1120862	12.593	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.72%				
73) Bromofluorobenzene (SS3)	18.97	174	439571	13.725	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.84%				
Target Compounds							Qvalue
2) Propene	4.09	42	51974	1.684	ng		97
3) Dichlorodifluoromethan...	4.26	85	113195	1.875	ng		100
4) Chloromethane	4.53	50	8108	0.171	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	607	N.D.			
6) Vinyl Chloride	4.94	62	112	N.D.			
7) 1,3-Butadiene	5.21	54	274	N.D.			
8) Bromomethane	5.64	94	3545	0.129	ng		100
9) Chloroethane	5.97	64	856	N.D.			
10) Ethanol	6.35	45	748578	31.407	ng		100
11) Acetonitrile	6.59	41	13839	0.254	ng		96
12) Acrolein	6.79	56	10145	0.539	ng		97
13) Acetone	7.00	58	182026	7.636	ng	#	23
14) Trichlorofluoromethane	7.23	101	59560	1.116	ng		99
15) 2-Propanol (Isopropanol)	7.50	45	643130	8.914	ng		99
16) Acrylonitrile	7.76	53	686	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	8502	0.274	ng		98
20) 3-Chloro-1-propene (Al...	8.57	41	156	N.D.			
21) Trichlorotrifluoroethane	8.84	151	136508	5.419	ng		97
22) Carbon Disulfide	8.68	76	47229	0.425	ng		100
23) trans-1,2-Dichloroethene	9.45	61	125	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.09	73	492	N.D.			
26) Vinyl Acetate	10.17	86	18288	2.463	ng	#	26
27) 2-Butanone (MEK)	10.45	72	32351	1.591	ng		98
28) cis-1,2-Dichloroethene	10.94	61	958	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.27	61	243510	20.774	ng		92
31) n-Hexane	11.25	57	8758	0.172	ng		92
32) Chloroform	11.31	83	13231	0.249	ng		99
34) Tetrahydrofuran (THF)	11.71	72	172794	8.715	ng		99
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	678	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	21134	0.173	ng		100
42) Carbon Tetrachloride	13.03	117	92484	2.227	ng		99
43) Cyclohexane	13.16	84	12613	0.277	ng		96
44) tert-Amyl Methyl Ether	13.47	73	315	N.D.			
45) 1,2-Dichloropropane	13.73	63	1160	N.D.			
46) Bromodichloromethane	13.91	83	1784	N.D.			
47) Trichloroethene	13.97	130	2927	0.093	ng		97
48) 1,4-Dioxane	13.96	88	3603	0.147	ng		89
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.18	100	2957	0.244	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112030.D Vial: 8
Acq On : 11 May 2020 22:29 Operator: LH
Sample : P2002299-016 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 14:51:05 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

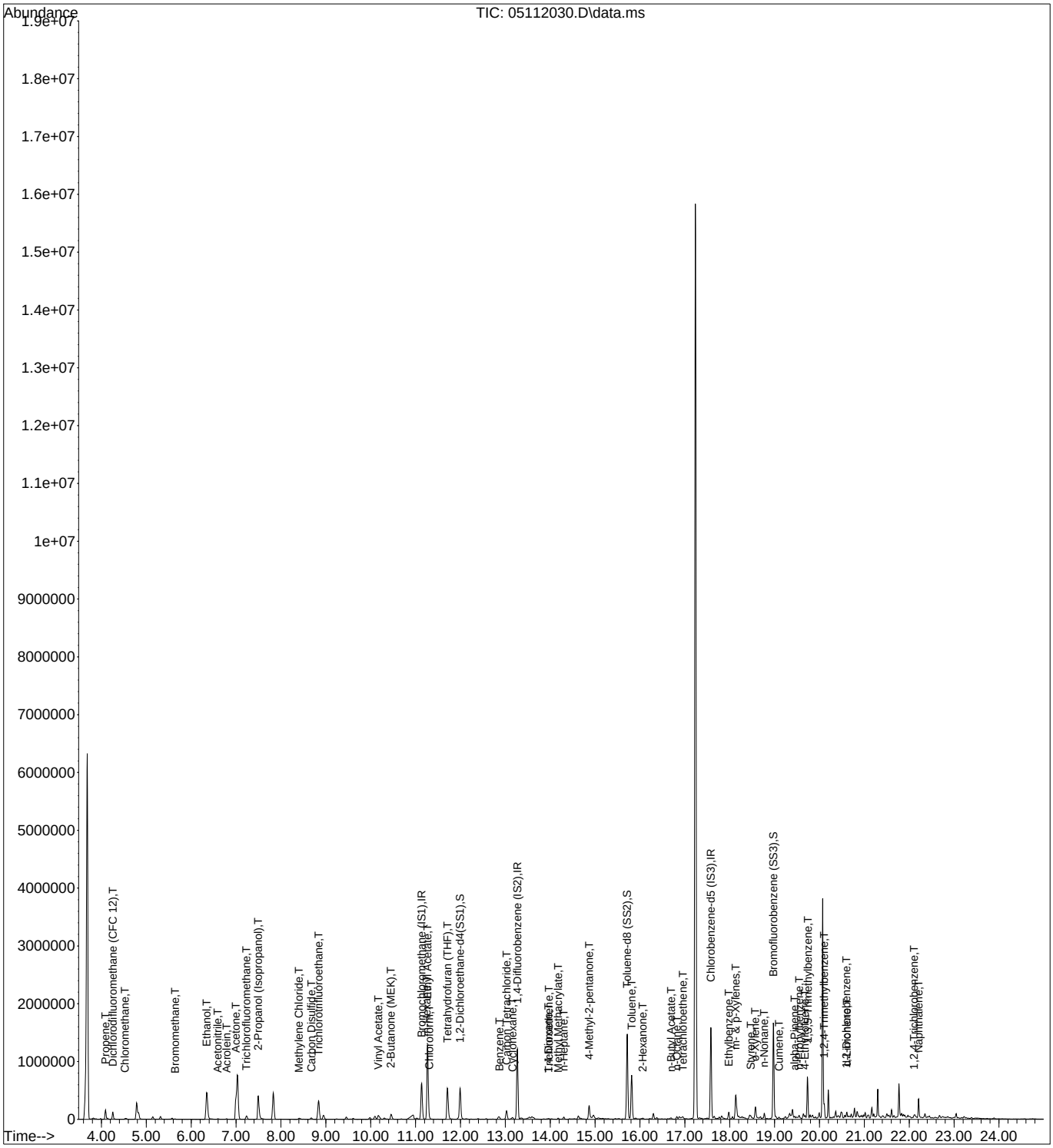
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.30	71	10192	0.357 ng		97
52) cis-1,3-Dichloropropene	14.91	75	397	N.D.		
53) 4-Methyl-2-pentanone	14.87	58	72414	2.660 ng		97
54) trans-1,3-Dichloropropene	15.29	75	1688	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.82	91	640177	5.580 ng		100
59) 2-Hexanone	16.06	43	13400m	0.213 ng		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.70	43	17200	0.253 ng		94
63) n-Octane	16.82	57	7325	0.308 ng		98
64) Tetrachloroethene	16.96	166	4204	0.130 ng		98
65) Chlorobenzene	0.00	112	0	N.D. d		
66) Ethylbenzene	17.98	91	89266	0.698 ng		100
67) m- & p-Xylenes	18.14	91	292739	2.884 ng		98
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	24104	0.316 ng		96
70) o-Xylene	18.57	91	101527	0.985 ng		99
71) n-Nonane	18.77	43	34808	0.637 ng		98
72) 1,1,2,2-Tetrachloroethane	18.58	83	1127	N.D.		
74) Cumene	19.10	105	8022	0.063 ng		96
75) alpha-Pinene	19.44	93	14154	0.210 ng		95
76) n-Propylbenzene	19.55	91	19873	0.132 ng	#	81
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.68	105	19864	0.167 ng		98
79) 1,3,5-Trimethylbenzene	19.74	105	28807	0.279 ng		98
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	20.10	105	114810m	1.108 ng		
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.31	91	2887	N.D.		
85) 1,3-Dichlorobenzene	20.24	146	202	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	1570	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D. d		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	20.60	146	7672	0.133 ng		98
91) d-Limonene	20.61	68	20687	0.505 ng		99
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.11	180	13124	0.328 ng		99
95) Naphthalene	22.21	128	33353	0.264 ng		99
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112030.D Vial: 8
Acq On : 11 May 2020 22:29 Operator: LH
Sample : P2002299-016 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 14:51:05 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112030.D Vial: 8
Acq On : 11 May 2020 22:29 Operator: LH
Sample : P2002299-016 (400mL) Inst : GCMS-16
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QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/13/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	266512	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1138590	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	525115	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	417781	11.567	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.56%				
57) Toluene-d8 (SS2)	15.72	98	1120862	12.593	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.72%				
73) Bromofluorobenzene (SS3)	18.97	174	439571	13.725	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.84%				
Target Compounds							Qvalue
2) Propene	4.09	42	51974	1.684	ng		97
3) Dichlorodifluoromethan...	4.26	85	113195	1.875	ng		100
4) Chloromethane	4.53	50	8108	0.171	ng		99
8) Bromomethane	5.64	94	3545	0.129	ng		100
10) Ethanol	6.35	45	748578	31.407	ng		100
11) Acetonitrile	6.59	41	13839	0.254	ng		96
12) Acrolein	6.79	56	10145	0.539	ng		97
13) Acetone	7.00	58	182026	7.636	ng	#	23
14) Trichlorofluoromethane	7.23	101	59560	1.116	ng		99
15) 2-Propanol (Isopropanol)	7.50	45	643130	8.914	ng		99
19) Methylene Chloride	8.40	84	8502	0.274	ng		98
21) Trichlorotrifluoroethane	8.84	151	136508	5.419	ng		97
22) Carbon Disulfide	8.68	76	47229	0.425	ng		100
26) Vinyl Acetate	10.17	86	18288	2.463	ng	#	26
27) 2-Butanone (MEK)	10.45	72	32351	1.591	ng		98
30) Ethyl Acetate	11.27	61	243510	20.774	ng		92
31) n-Hexane	11.25	57	8758	0.172	ng		92
32) Chloroform	11.31	83	13231	0.249	ng		99
34) Tetrahydrofuran (THF)	11.71	72	172794	8.715	ng		99
41) Benzene	12.87	78	21134	0.173	ng		100
42) Carbon Tetrachloride	13.03	117	92484	2.227	ng		99
43) Cyclohexane	13.16	84	12613	0.277	ng		96
47) Trichloroethene	13.97	130	2927	0.093	ng		97
48) 1,4-Dioxane	13.96	88	3603	0.147	ng		89
50) Methyl Methacrylate	14.18	100	2957	0.244	ng		99
51) n-Heptane	14.30	71	10192	0.357	ng		97
53) 4-Methyl-2-pentanone	14.87	58	72414	2.660	ng		97
58) Toluene	15.82	91	640177	5.580	ng		100
59) 2-Hexanone	16.06	43	13400m	0.213	ng		
62) n-Butyl Acetate	16.70	43	17200	0.253	ng		94
63) n-Octane	16.82	57	7325	0.308	ng		98
64) Tetrachloroethene	16.96	166	4204	0.130	ng		98
66) Ethylbenzene	17.98	91	89266	0.698	ng		100
67) m- & p-Xylenes	18.14	91	292739	2.884	ng		98
69) Styrene	18.47	104	24104	0.316	ng		96
70) o-Xylene	18.57	91	101527	0.985	ng		99
71) n-Nonane	18.77	43	34808	0.637	ng		98
74) Cumene	19.10	105	8022	0.063	ng		96
75) alpha-Pinene	19.44	93	14154	0.210	ng		95
76) n-Propylbenzene	19.55	91	19873	0.132	ng	#	81
78) 4-Ethyltoluene	19.68	105	19864	0.167	ng		98
79) 1,3,5-Trimethylbenzene	19.74	105	28807	0.279	ng		98
82) 1,2,4-Trimethylbenzene	20.10	105	114810m	1.108	ng		
90) 1,2-Dichlorobenzene	20.60	146	7672	0.133	ng		98
91) d-Limonene	20.61	68	20687	0.505	ng		99
94) 1,2,4-Trichlorobenzene	22.11	180	13124	0.328	ng		99
95) Naphthalene	22.21	128	33353	0.264	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112030.D Vial: 8
Acq On : 11 May 2020 22:29 Operator: LH
Sample : P2002299-016 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 14:51:05 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

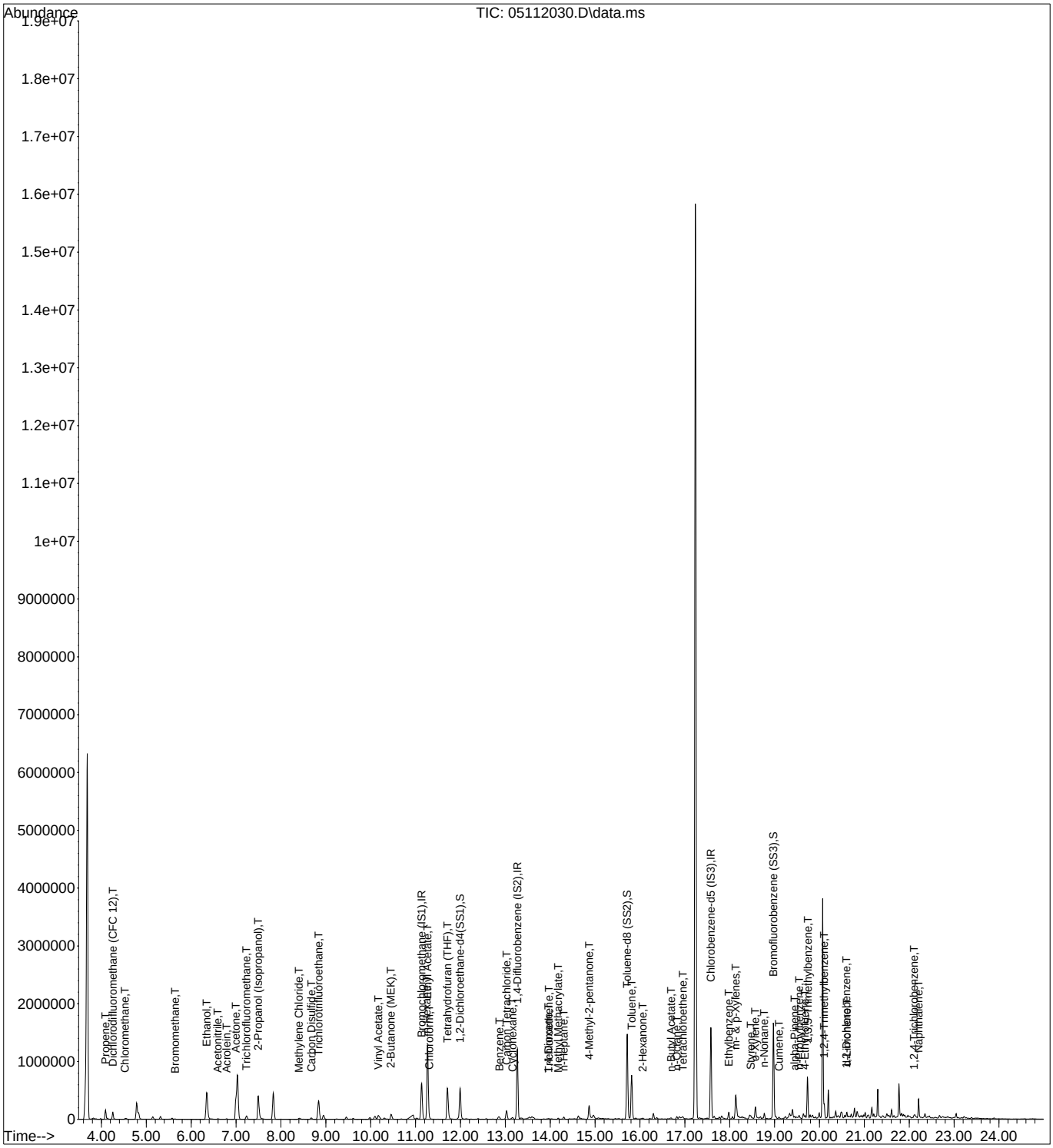
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)

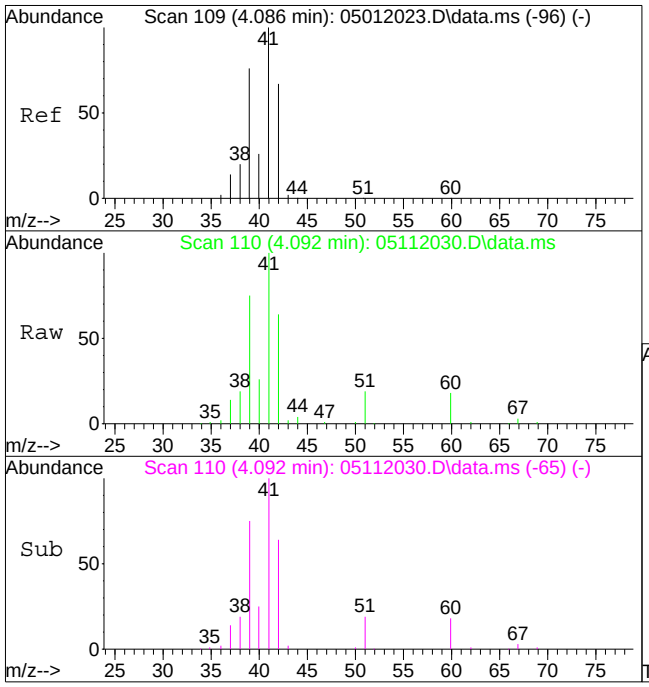
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112030.D Vial: 8
Acq On : 11 May 2020 22:29 Operator: LH
Sample : P2002299-016 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 14:51:05 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

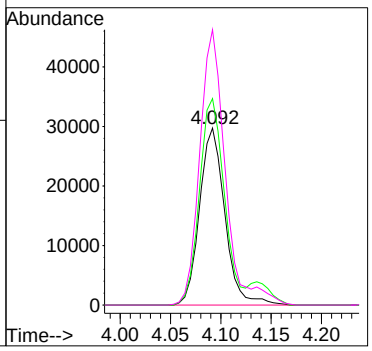


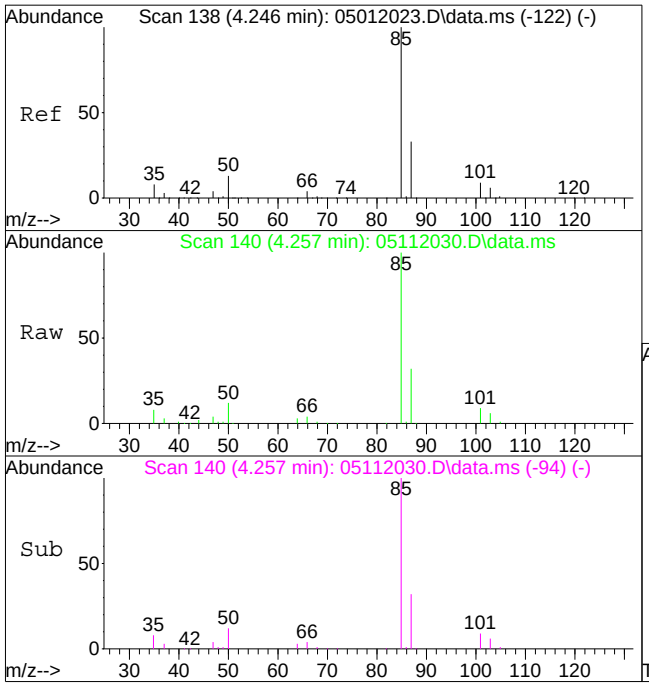


#2
Propene
Concen: 1.68 ng
RT: 4.09 min Scan# 110
Delta R.T. -0.000 min
Lab File: 05112030.D
Acq: 11 May 2020 22:29

Tgt Ion: 42 Resp: 51974

Ion	Ratio	Lower	Upper
42	100		
39	115.3	96.1	136.1
41	157.9	131.9	171.9

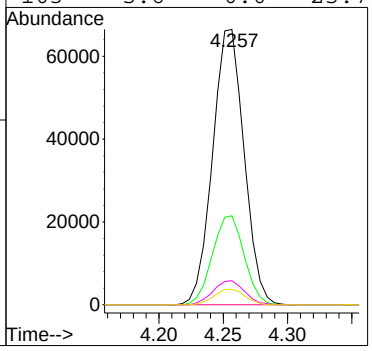


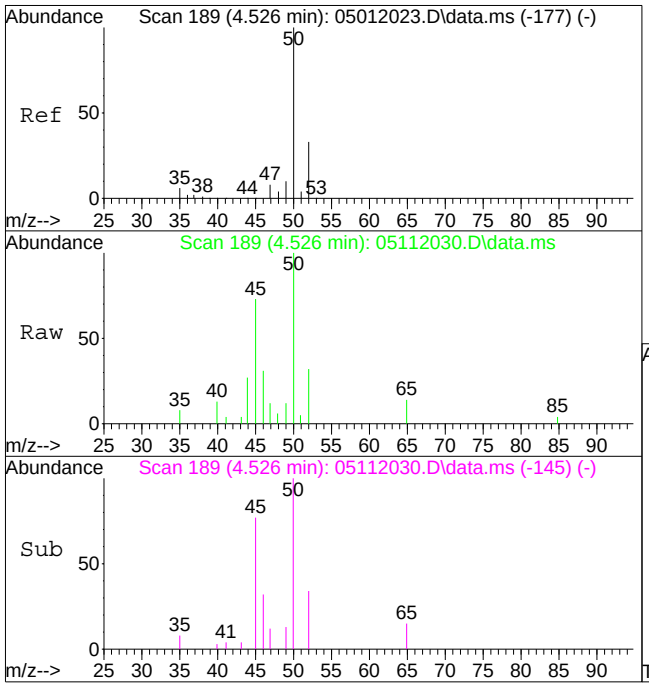


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.87 ng
RT: 4.26 min Scan# 140
Delta R.T. 0.005 min
Lab File: 05112030.D
Acq: 11 May 2020 22:29

Tgt Ion: 85 Resp: 113195

Ion	Ratio	Lower	Upper
85	100		
87	32.5	12.4	52.4
101	8.7	0.0	28.8
103	5.6	0.0	25.7

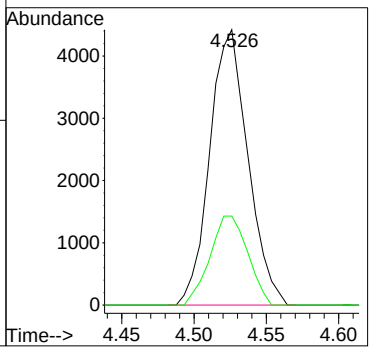


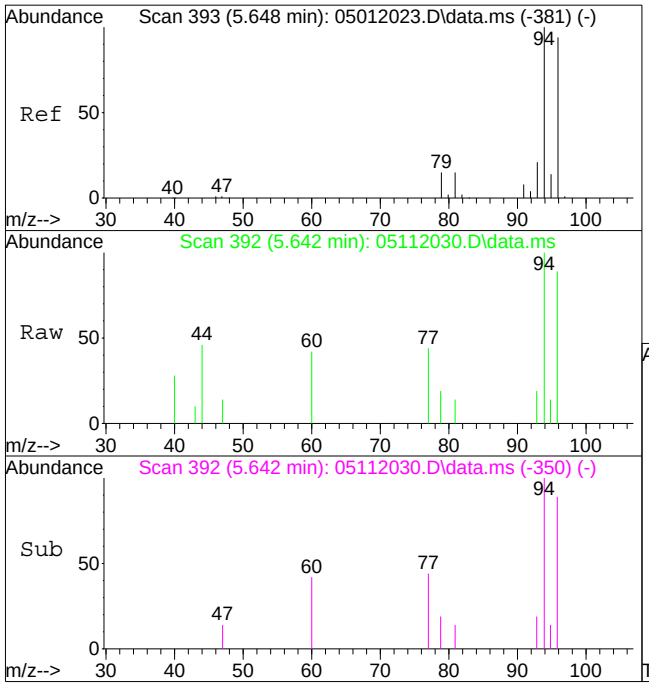


#4
Chloromethane
Concen: 0.17 ng
RT: 4.53 min Scan# 189
Delta R.T. -0.006 min
Lab File: 05112030.D
Acq: 11 May 2020 22:29

Tgt Ion: 50 Resp: 8108

Ion	Ratio	Lower	Upper
50	100		
52	32.0	12.5	52.5

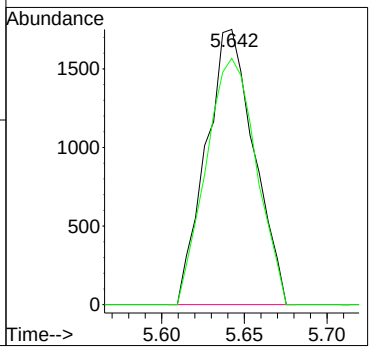


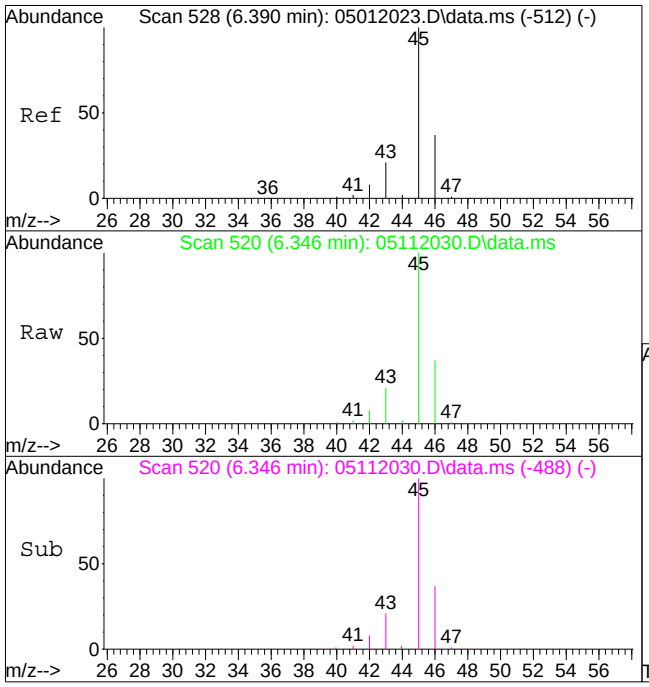


#8
Bromomethane
Concen: 0.13 ng
RT: 5.64 min Scan# 392
Delta R.T. -0.017 min
Lab File: 05112030.D
Acq: 11 May 2020 22:29

Tgt Ion: 94 Resp: 3545

Ion	Ratio	Lower	Upper
94	100		
96	93.3	73.7	113.7

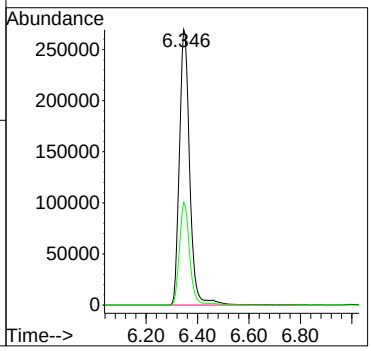


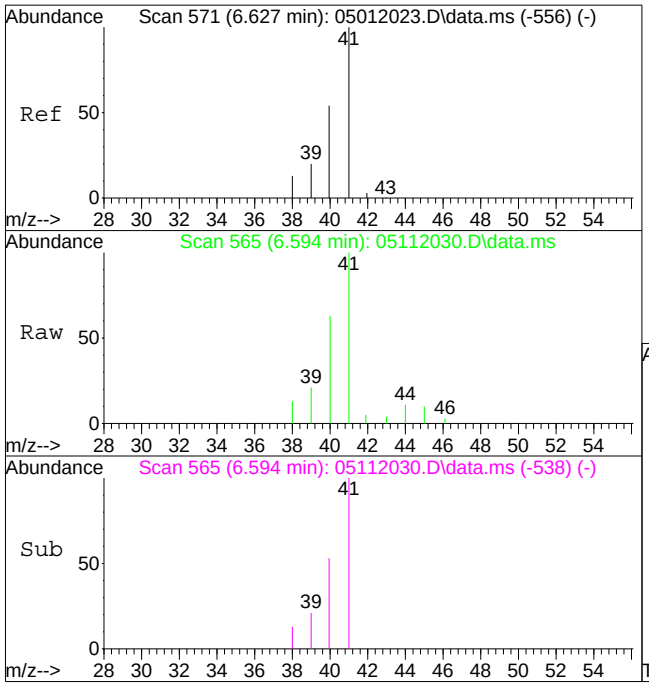


#10
Ethanol
Concen: 31.41 ng
RT: 6.35 min Scan# 520
Delta R.T. -0.072 min
Lab File: 05112030.D
Acq: 11 May 2020 22:29

Tgt Ion: 45 Resp: 748578

Ion	Ratio	Lower	Upper
45	100		
46	37.2	17.2	57.2

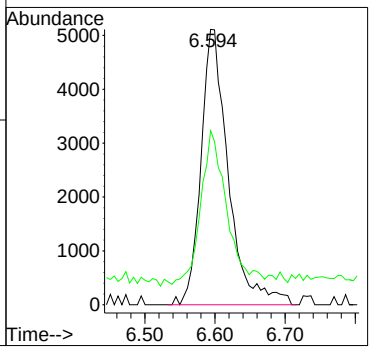


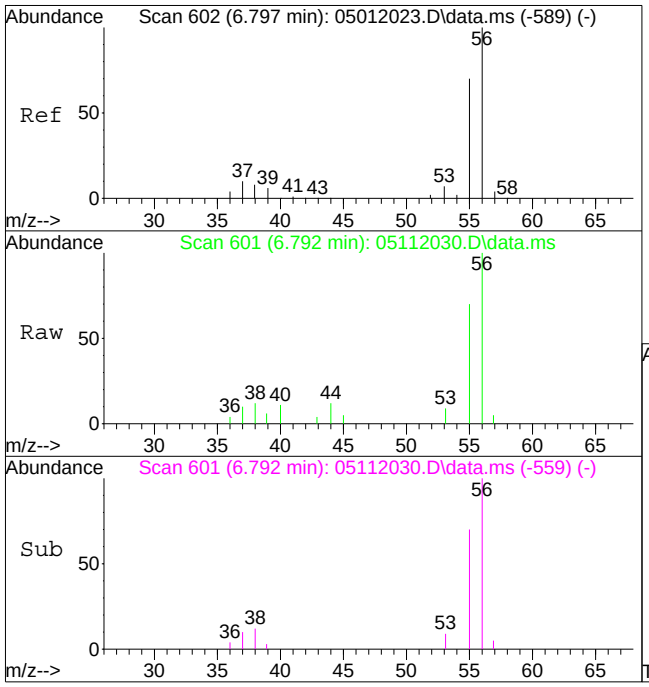


#11
Acetonitrile
Concen: 0.25 ng
RT: 6.59 min Scan# 565
Delta R.T. -0.050 min
Lab File: 05112030.D
Acq: 11 May 2020 22:29

Tgt Ion: 41 Resp: 13839

Ion	Ratio	Lower	Upper
41	100		
40	56.6	33.6	73.6

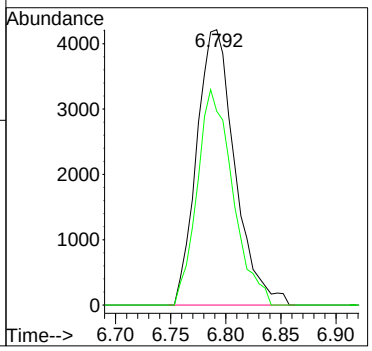


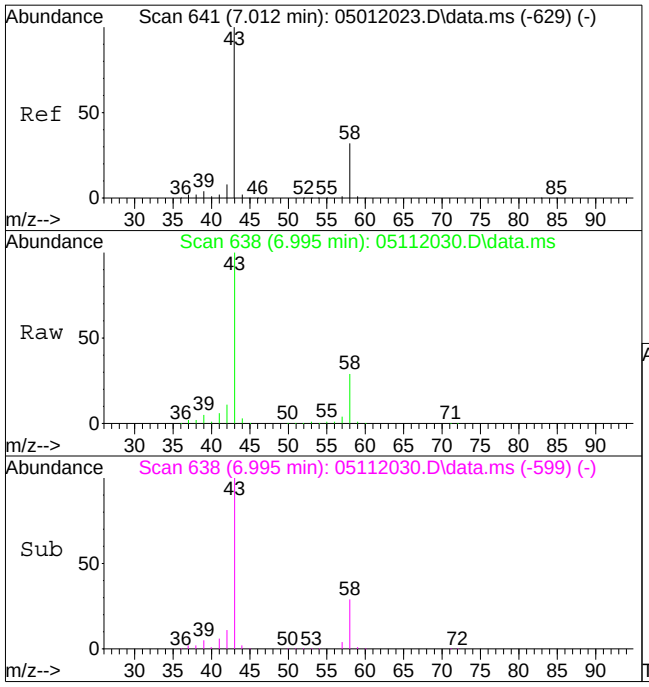


#12
Acrolein
Concen: 0.54 ng
RT: 6.79 min Scan# 601
Delta R.T. -0.017 min
Lab File: 05112030.D
Acq: 11 May 2020 22:29

Tgt Ion: 56 Resp: 10145

Ion	Ratio	Lower	Upper
56	100		
55	72.9	50.2	90.2

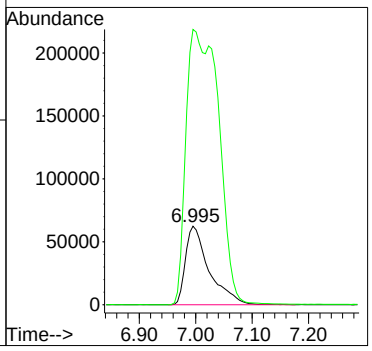


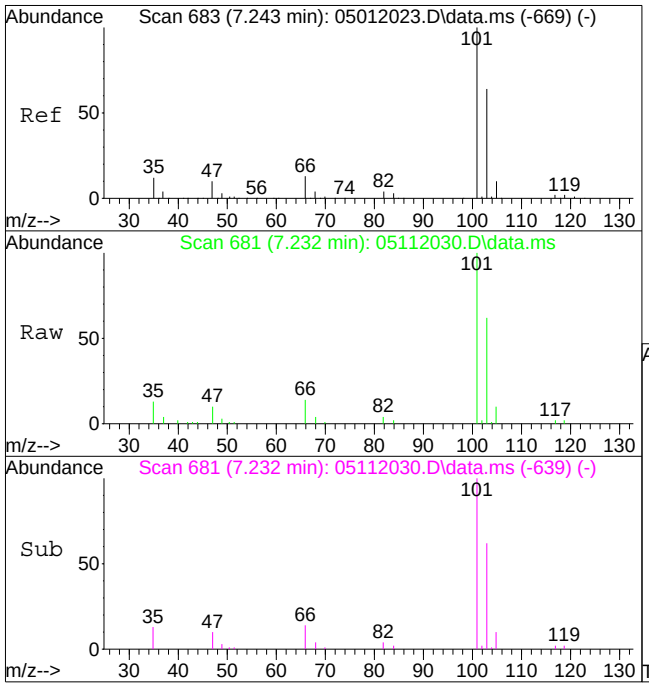


#13
Acetone
Concen: 7.64 ng
RT: 7.00 min Scan# 638
Delta R.T. -0.033 min
Lab File: 05112030.D
Acq: 11 May 2020 22:29

Tgt Ion: 58 Resp: 182026

Ion	Ratio	Lower	Upper
58	100		
43	484.2	294.4	354.4#

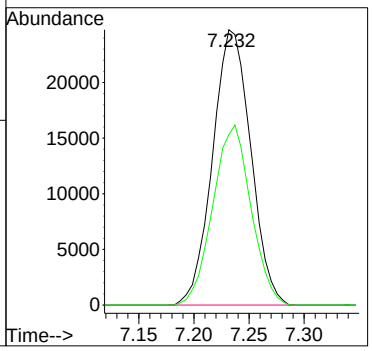


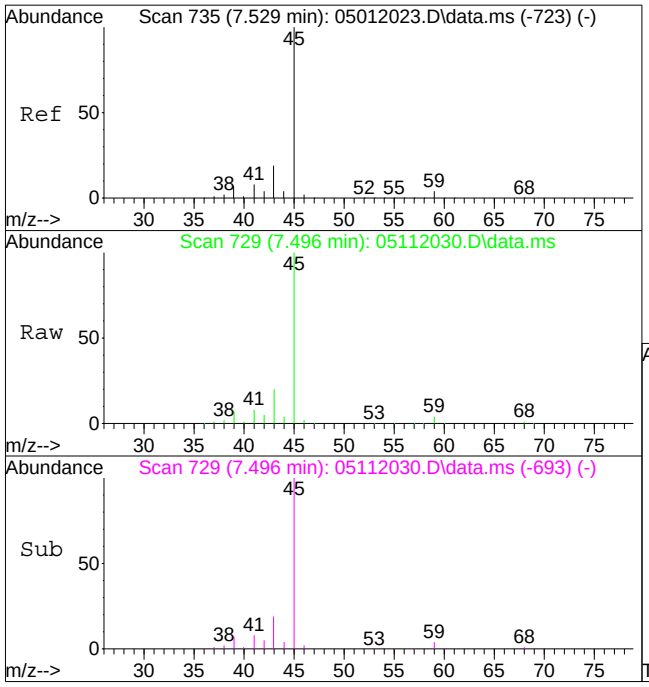


#14
Trichlorofluoromethane
Concen: 1.12 ng
RT: 7.23 min Scan# 681
Delta R.T. -0.017 min
Lab File: 05112030.D
Acq: 11 May 2020 22:29

Tgt Ion:101 Resp: 59560

Ion	Ratio	Lower	Upper
101	100		
103	65.2	44.4	84.4

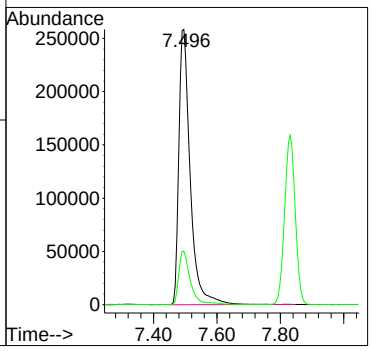


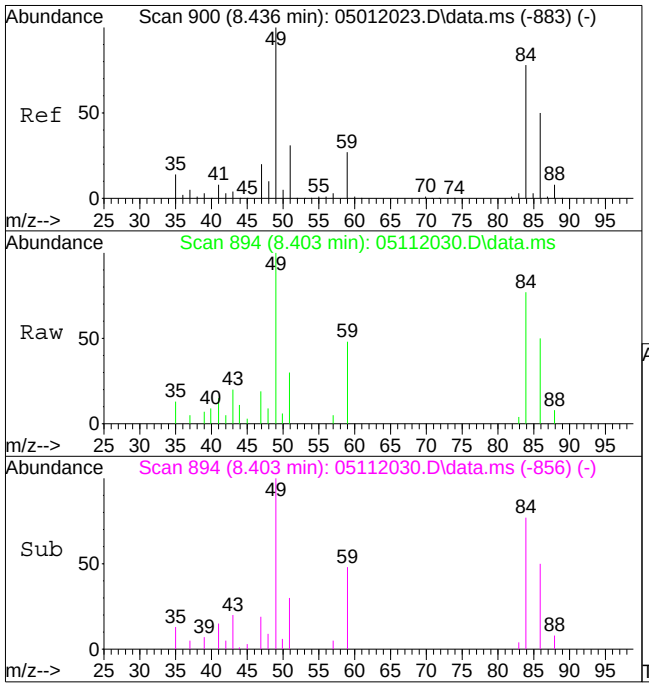


#15
2-Propanol (Isopropanol)
Concen: 8.91 ng
RT: 7.50 min Scan# 729
Delta R.T. -0.050 min
Lab File: 05112030.D
Acq: 11 May 2020 22:29

Tgt Ion: 45 Resp: 643130

Ion	Ratio	Lower	Upper
45	100		
43	19.8	0.0	39.5

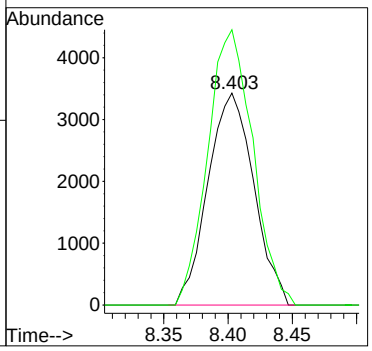


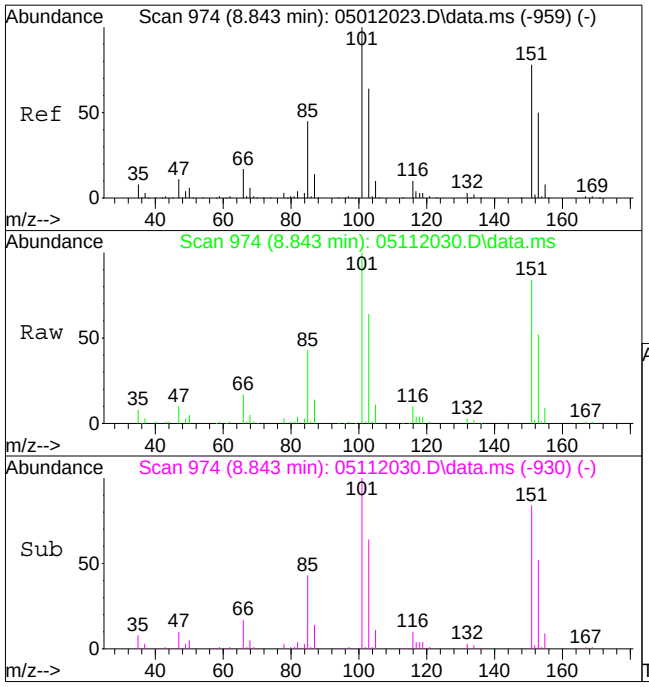


#19
Methylene Chloride
Concen: 0.27 ng
RT: 8.40 min Scan# 894
Delta R.T. -0.039 min
Lab File: 05112030.D
Acq: 11 May 2020 22:29

Tgt Ion: 84 Resp: 8502

Ion	Ratio	Lower	Upper
84	100		
49	127.9	104.8	154.8

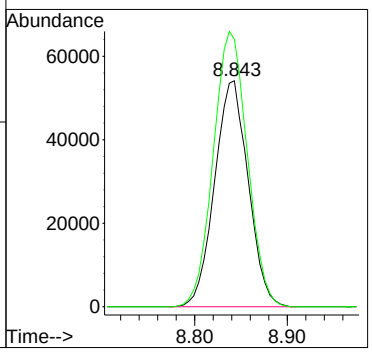


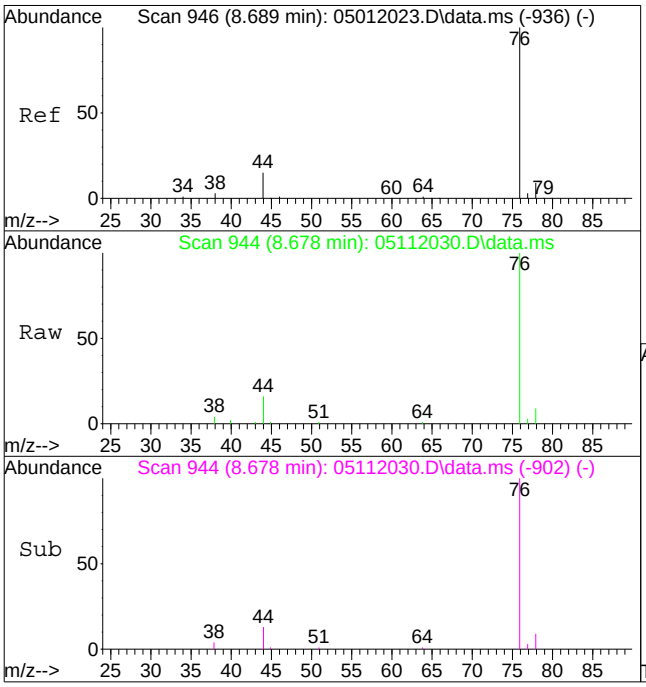


#21
Trichlorotrifluoroethane
Concen: 5.42 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05112030.D
Acq: 11 May 2020 22:29

Tgt Ion:151 Resp: 136508

Ion	Ratio	Lower	Upper
151	100		
101	123.5	107.3	147.3

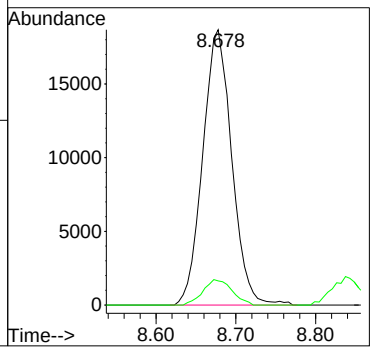


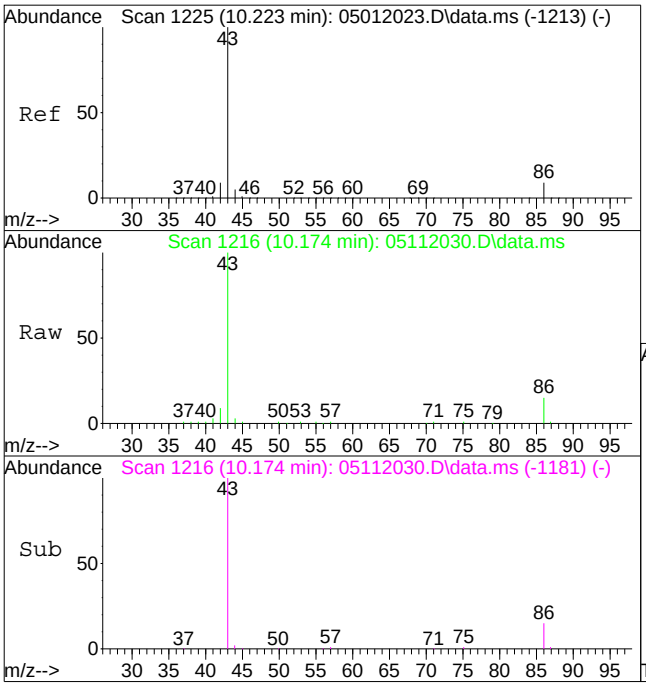


#22
Carbon Disulfide
Concen: 0.43 ng
RT: 8.68 min Scan# 944
Delta R.T. -0.017 min
Lab File: 05112030.D
Acq: 11 May 2020 22:29

Tgt Ion: 76 Resp: 47229

Ion	Ratio	Lower	Upper
76	100		
78	9.2	0.0	29.2

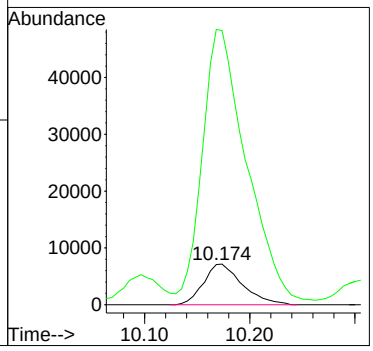


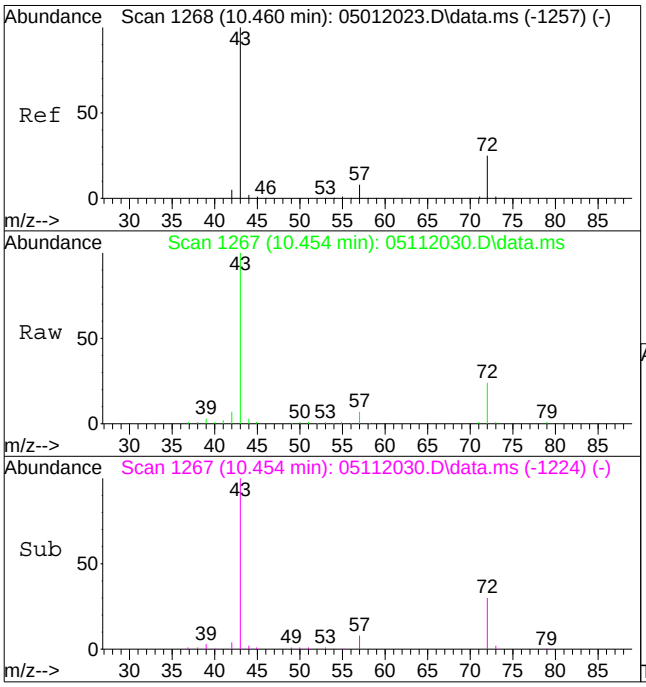


#26
Vinyl Acetate
Concen: 2.46 ng
RT: 10.17 min Scan# 1216
Delta R.T. -0.055 min
Lab File: 05112030.D
Acq: 11 May 2020 22:29

Tgt Ion: 86 Resp: 18288

Ion	Ratio	Lower	Upper
86	100		
43	765.6	1103.0	1143.0#

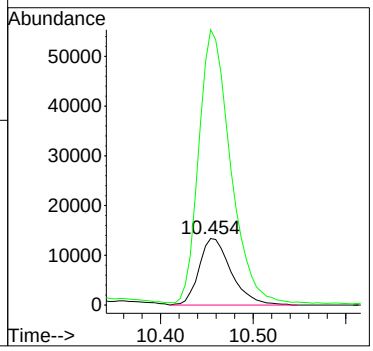


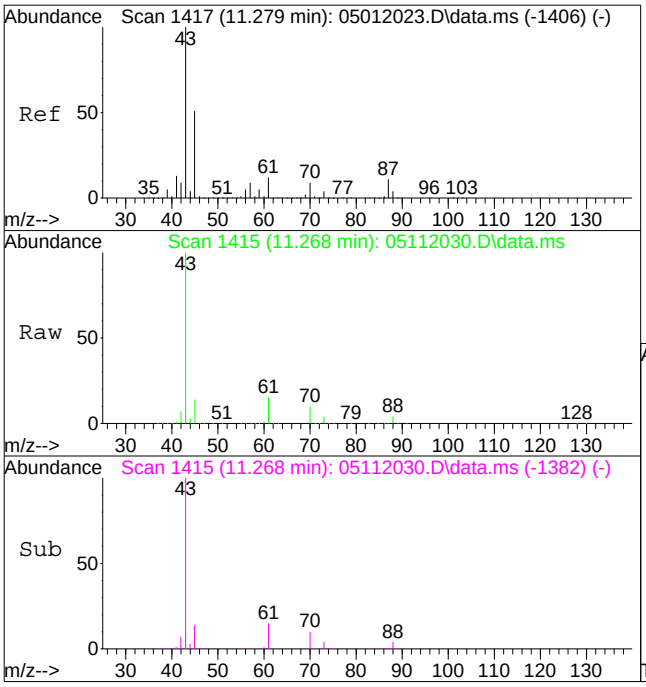


#27
2-Butanone (MEK)
Concen: 1.59 ng
RT: 10.45 min Scan# 1267
Delta R.T. -0.011 min
Lab File: 05112030.D
Acq: 11 May 2020 22:29

Tgt Ion: 72 Resp: 32351

Ion	Ratio	Lower	Upper
72	100		
43	404.6	389.7	429.7

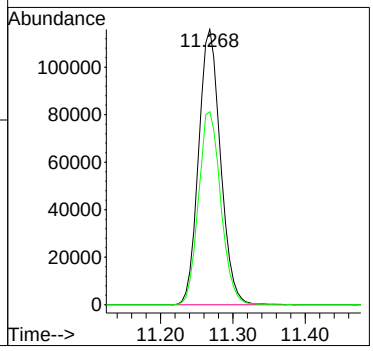


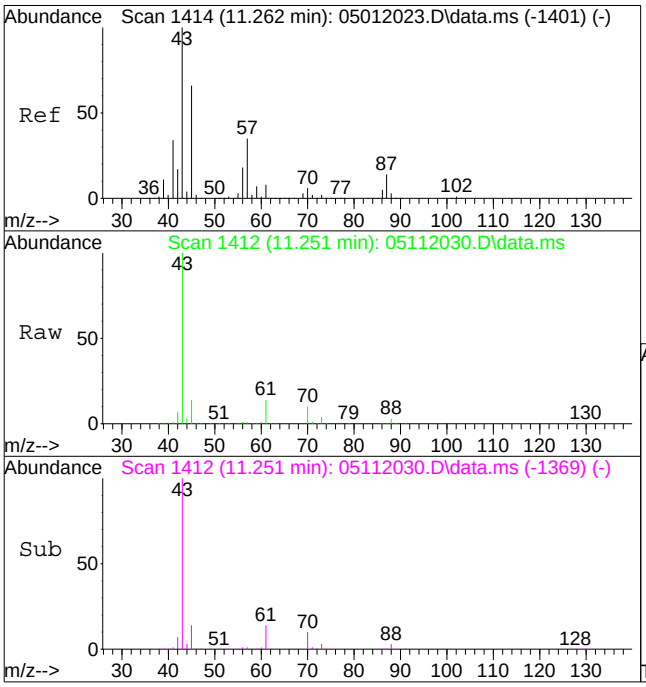


#30
Ethyl Acetate
Concen: 20.77 ng
RT: 11.27 min Scan# 1415
Delta R.T. -0.017 min
Lab File: 05112030.D
Acq: 11 May 2020 22:29

Tgt Ion: 61 Resp: 243510

Ion	Ratio	Lower	Upper
61	100		
70	71.3	57.9	97.9

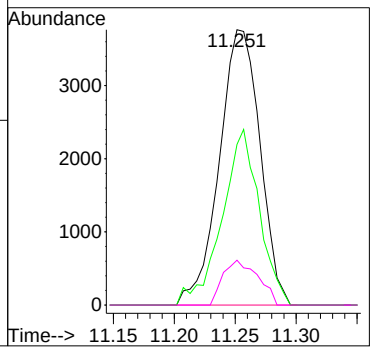


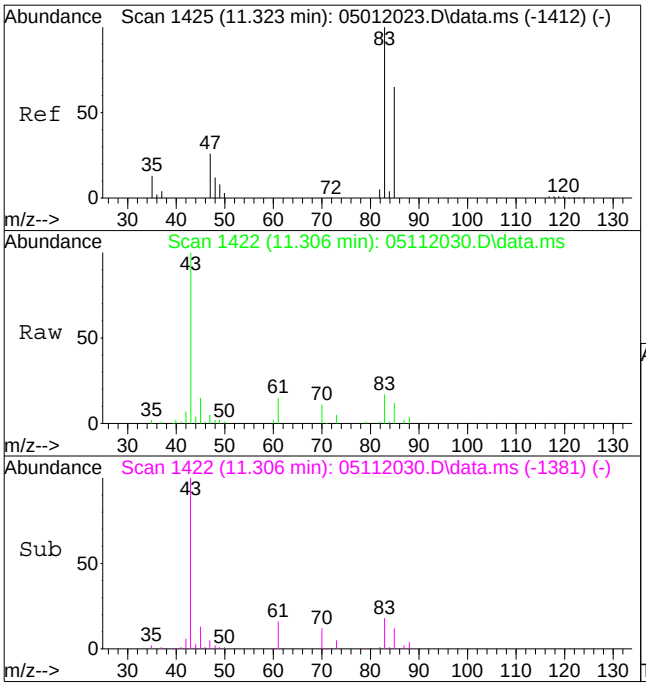


#31
n-Hexane
Concen: 0.17 ng
RT: 11.25 min Scan# 1412
Delta R.T. -0.011 min
Lab File: 05112030.D
Acq: 11 May 2020 22:29

Tgt Ion: 57 Resp: 8758

Ion	Ratio	Lower	Upper
57	100		
56	58.4	41.4	62.0
86	14.0	12.4	18.6

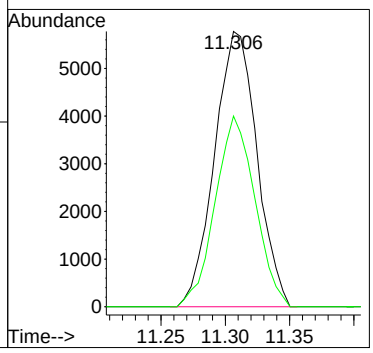


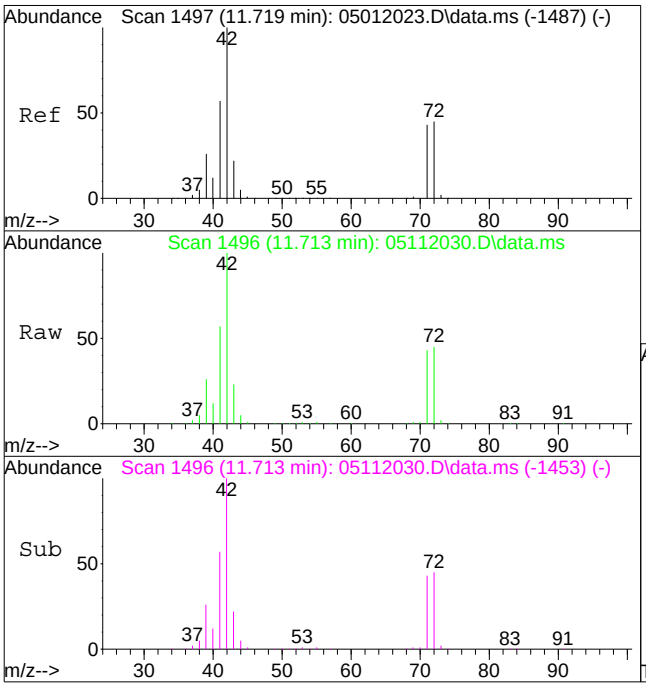


#32
Chloroform
Concen: 0.25 ng
RT: 11.31 min Scan# 1422
Delta R.T. -0.022 min
Lab File: 05112030.D
Acq: 11 May 2020 22:29

Tgt Ion: 83 Resp: 13231

Ion	Ratio	Lower	Upper
83	100		
85	65.0	45.5	85.5

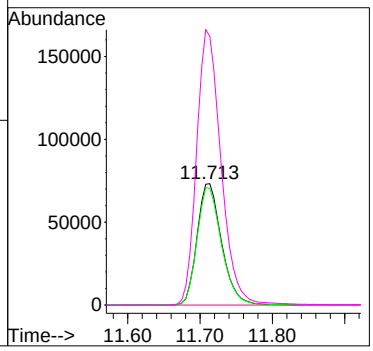


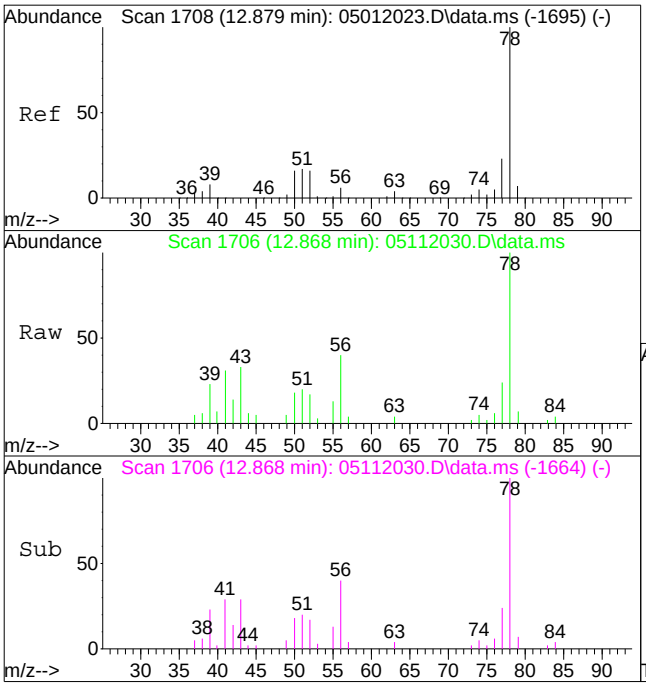


#34
Tetrahydrofuran (THF)
Concen: 8.72 ng
RT: 11.71 min Scan# 1496
Delta R.T. -0.011 min
Lab File: 05112030.D
Acq: 11 May 2020 22:29

Tgt Ion: 72 Resp: 172794

Ion	Ratio	Lower	Upper
72	100		
71	96.6	77.0	117.0
42	226.3	204.6	244.6

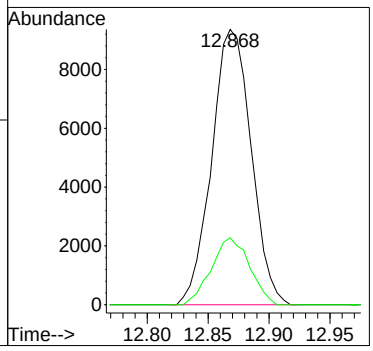


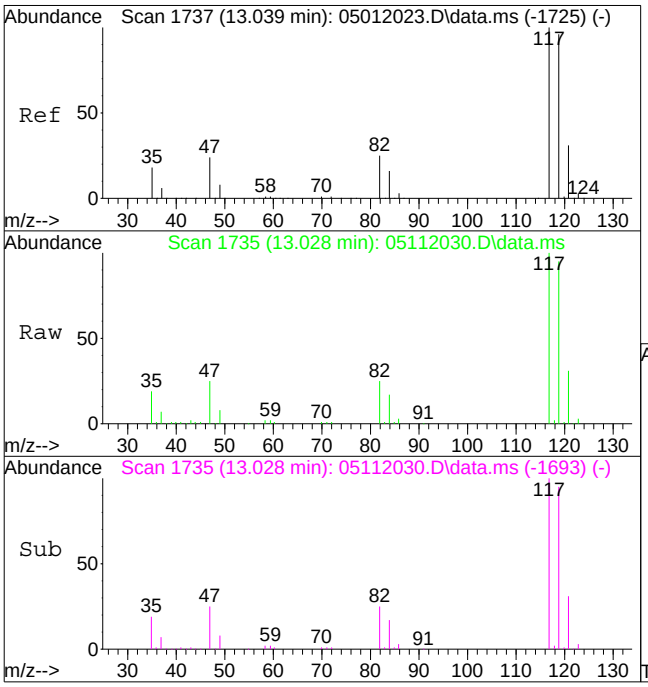


#41
Benzene
Concen: 0.17 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05112030.D
Acq: 11 May 2020 22:29

Tgt Ion: 78 Resp: 21134

Ion	Ratio	Lower	Upper
78	100		
77	23.5	3.4	43.4

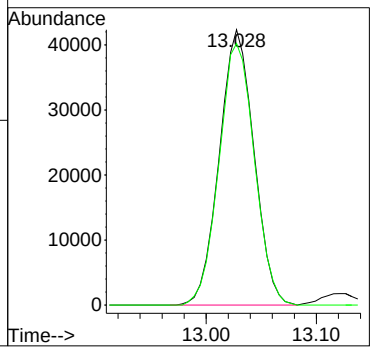


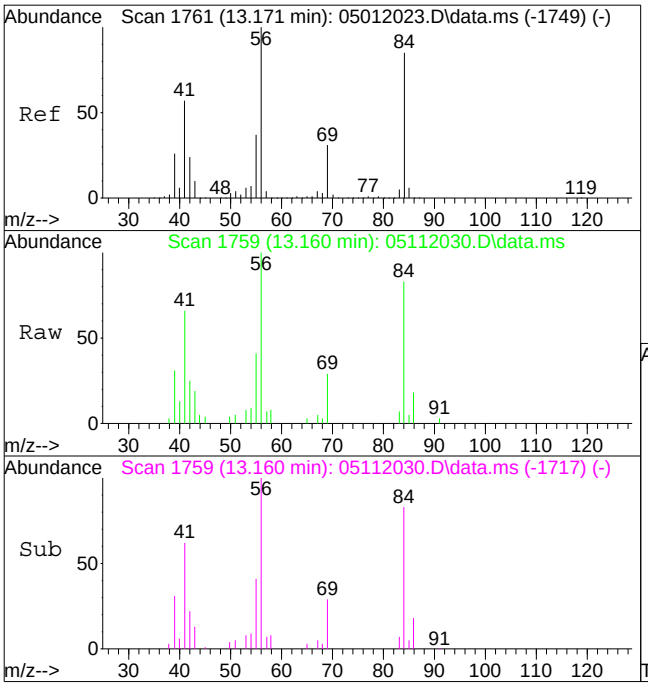


#42
Carbon Tetrachloride
Concen: 2.23 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05112030.D
Acq: 11 May 2020 22:29

Tgt Ion:117 Resp: 92484

Ion	Ratio	Lower	Upper
117	100		
119	97.3	76.2	116.2

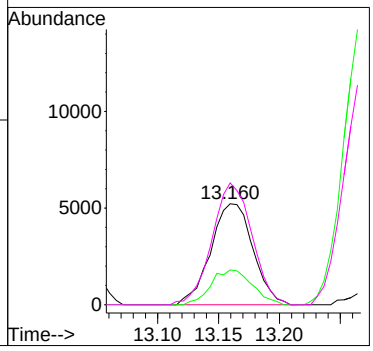


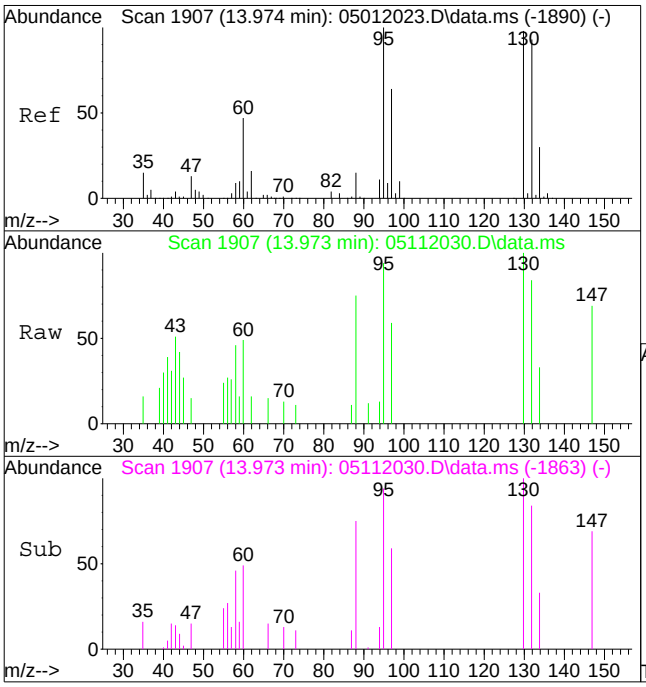


#43
Cyclohexane
Concen: 0.28 ng
RT: 13.16 min Scan# 1759
Delta R.T. -0.017 min
Lab File: 05112030.D
Acq: 11 May 2020 22:29

Tgt Ion: 84 Resp: 12613

Ion	Ratio	Lower	Upper
84	100		
69	33.7	16.5	56.5
56	113.9	97.4	137.4

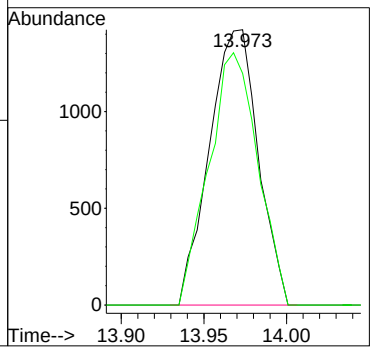


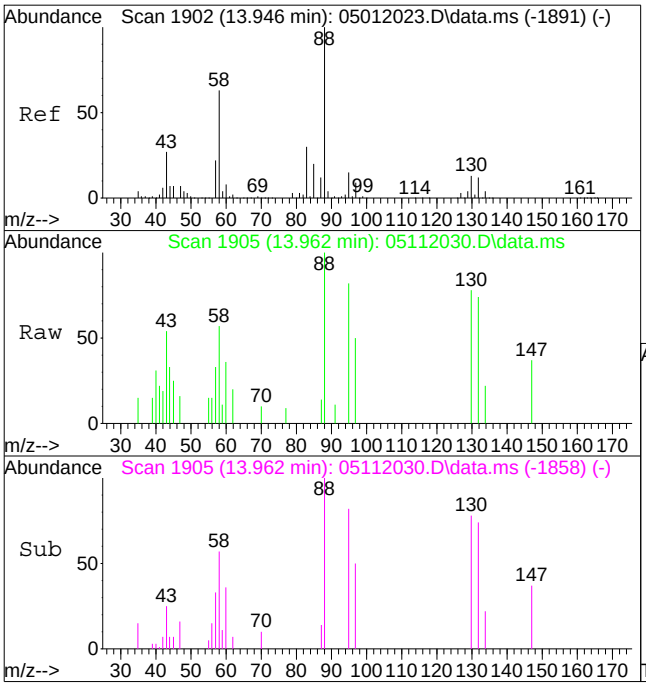


#47
Trichloroethene
Concen: 0.09 ng
RT: 13.97 min Scan# 1907
Delta R.T. -0.006 min
Lab File: 05112030.D
Acq: 11 May 2020 22:29

Tgt Ion:130 Resp: 2927

Ion	Ratio	Lower	Upper
130	100		
132	91.9	74.9	114.9

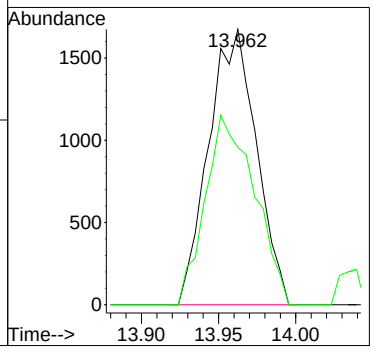


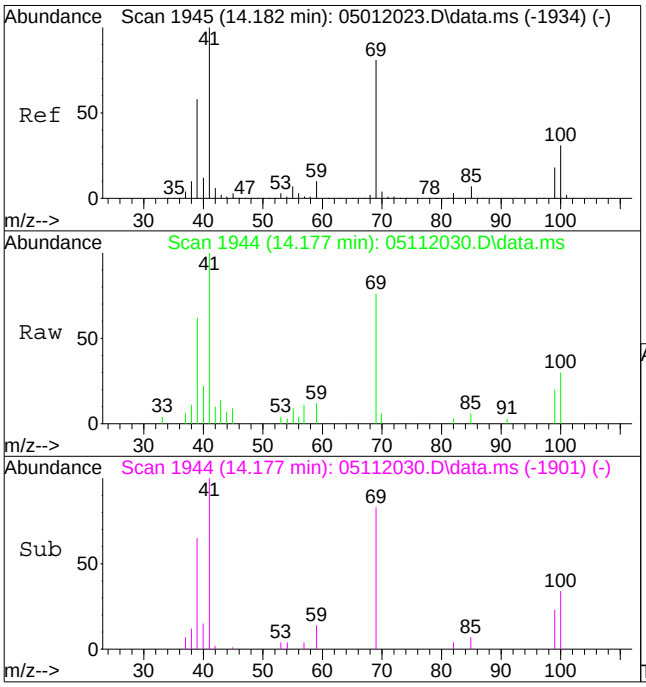


#48
1,4-Dioxane
Concen: 0.15 ng
RT: 13.96 min Scan# 1905
Delta R.T. 0.011 min
Lab File: 05112030.D
Acq: 11 May 2020 22:29

Tgt Ion: 88 Resp: 3603

Ion	Ratio	Lower	Upper
88	100		
58	71.2	42.8	82.8

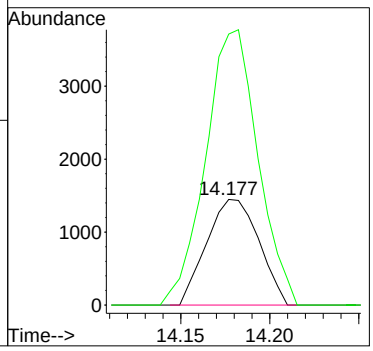


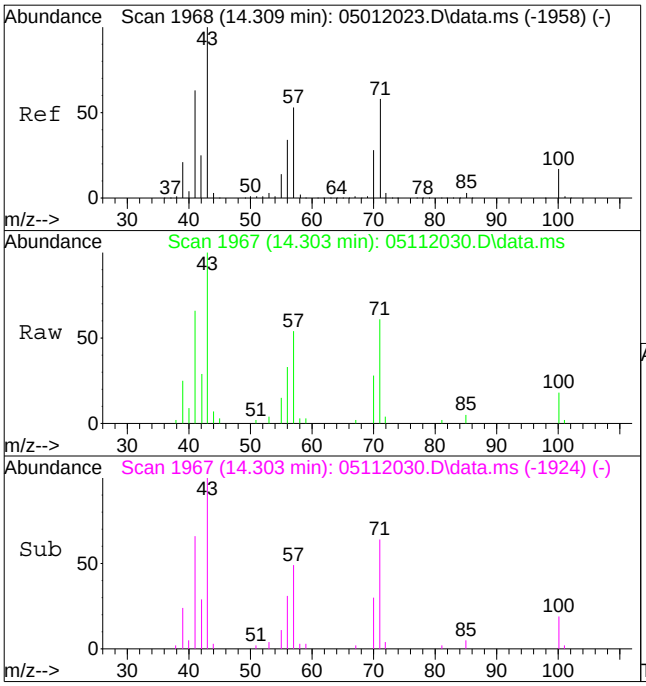


#50
Methyl Methacrylate
Concen: 0.24 ng
RT: 14.18 min Scan# 1944
Delta R.T. -0.011 min
Lab File: 05112030.D
Acq: 11 May 2020 22:29

Tgt Ion:100 Resp: 2957

Ion	Ratio	Lower	Upper
100	100		
69	260.5	241.8	281.8

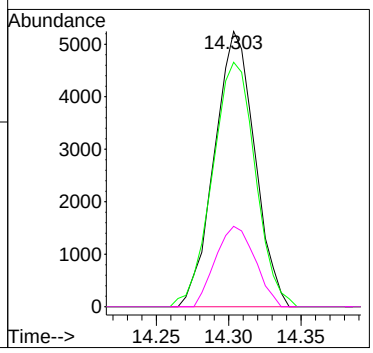


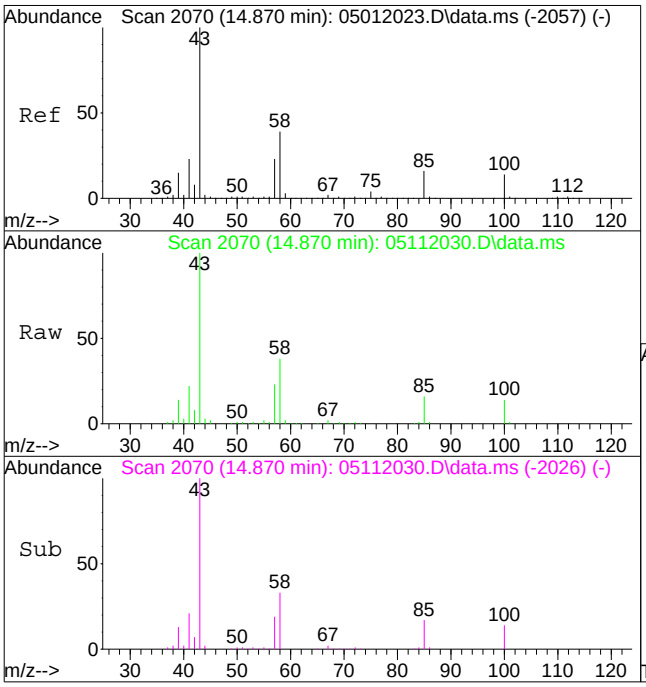


#51
n-Heptane
Concen: 0.36 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05112030.D
Acq: 11 May 2020 22:29

Tgt Ion: 71 Resp: 10192

Ion	Ratio	Lower	Upper
71	100		
57	94.3	71.0	111.0
100	28.6	8.4	48.4

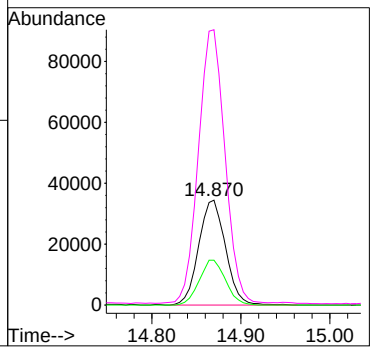


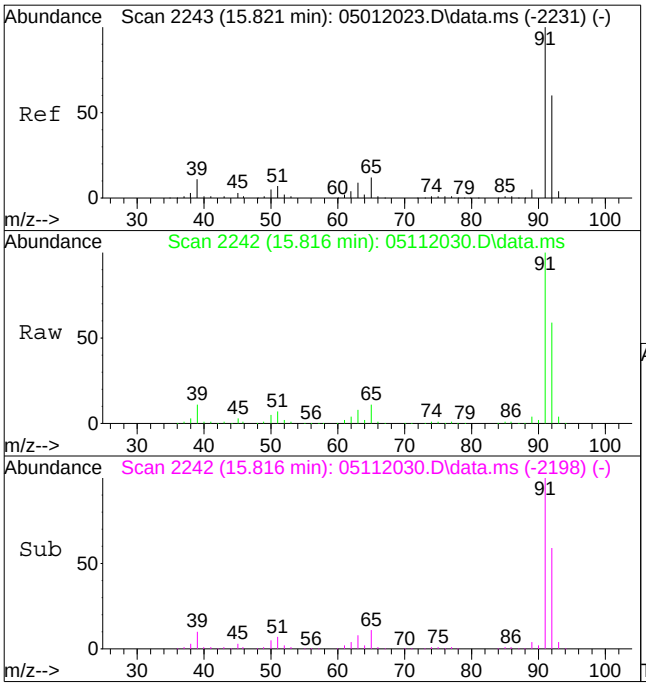


#53
4-Methyl-2-pentanone
Concen: 2.66 ng
RT: 14.87 min Scan# 2070
Delta R.T. -0.006 min
Lab File: 05112030.D
Acq: 11 May 2020 22:29

Tgt Ion: 58 Resp: 72414

Ion	Ratio	Lower	Upper
58	100		
85	41.7	35.4	53.2
43	259.9	203.3	304.9

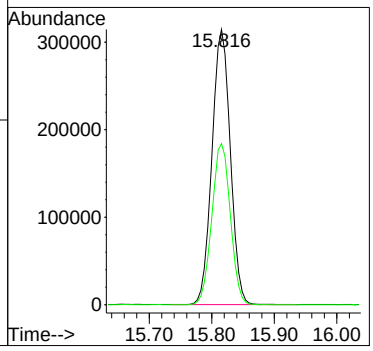


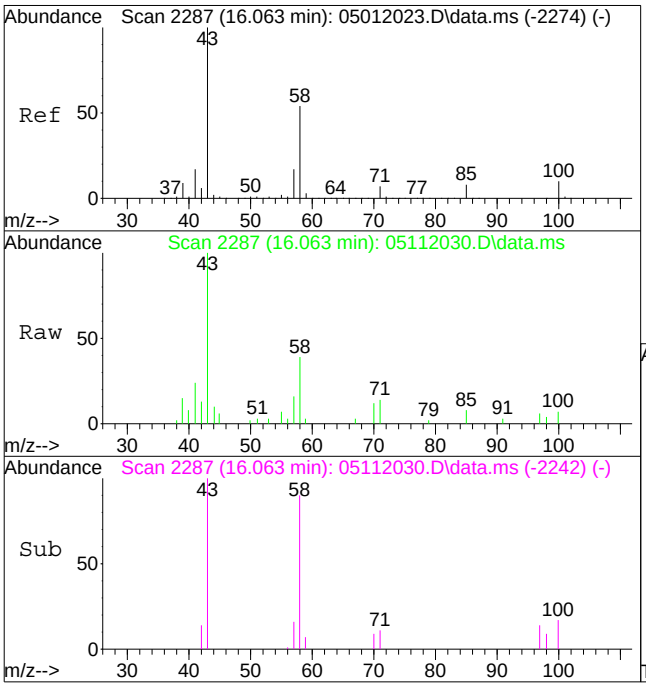


#58
Toluene
Concen: 5.58 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05112030.D
Acq: 11 May 2020 22:29

Tgt Ion: 91 Resp: 640177

Ion	Ratio	Lower	Upper
91	100		
92	59.1	39.4	79.4

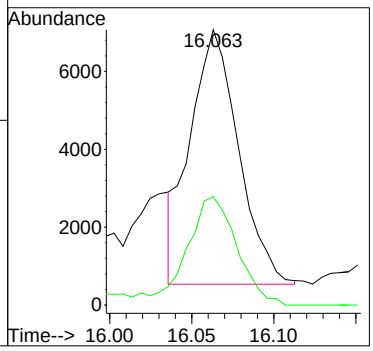


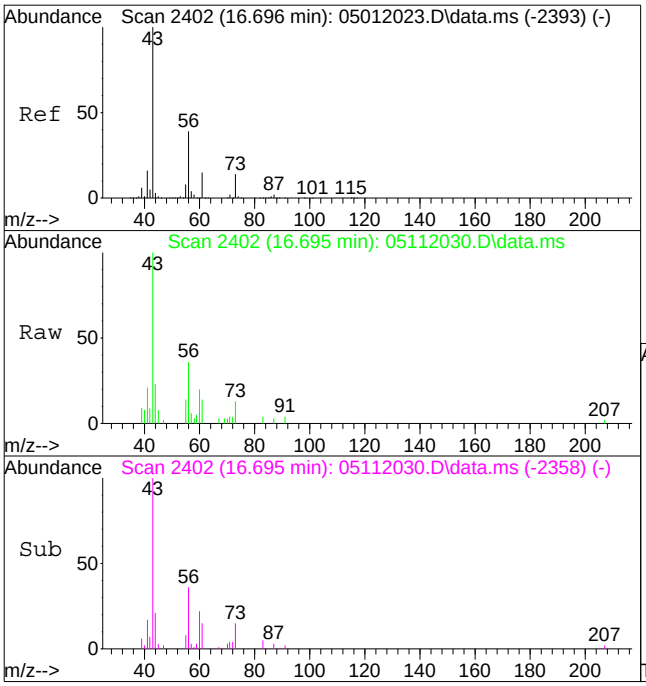


#59
2-Hexanone
Concen: 0.21 ng m
RT: 16.06 min Scan# 2287
Delta R.T. -0.000 min
Lab File: 05112030.D
Acq: 11 May 2020 22:29

Tgt Ion: 43 Resp: 13400

Ion	Ratio	Lower	Upper
43	100		
58	43.3	34.5	74.5

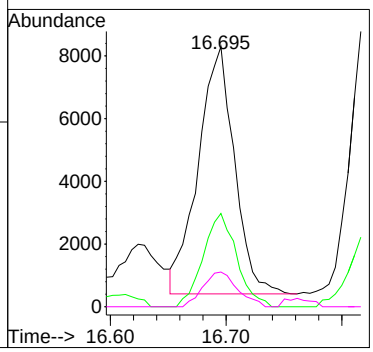


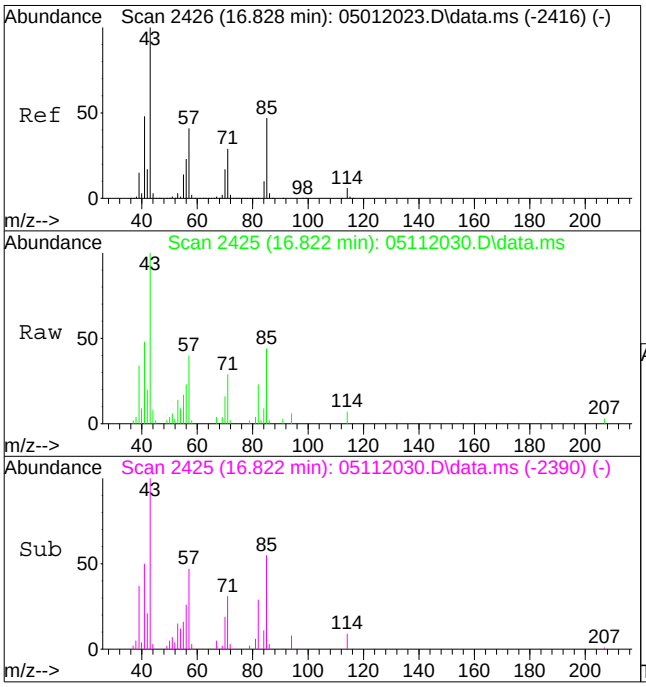


#62
n-Butyl Acetate
Concen: 0.25 ng
RT: 16.70 min Scan# 2402
Delta R.T. -0.006 min
Lab File: 05112030.D
Acq: 11 May 2020 22:29

Tgt Ion: 43 Resp: 17200

Ion	Ratio	Lower	Upper
43	100		
56	34.9	19.2	59.2
73	13.4	0.0	34.4

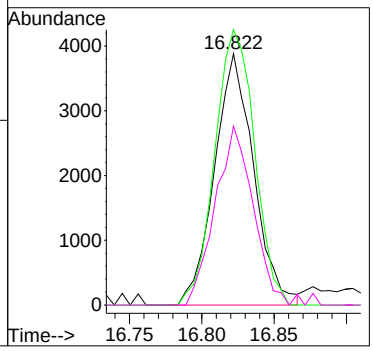


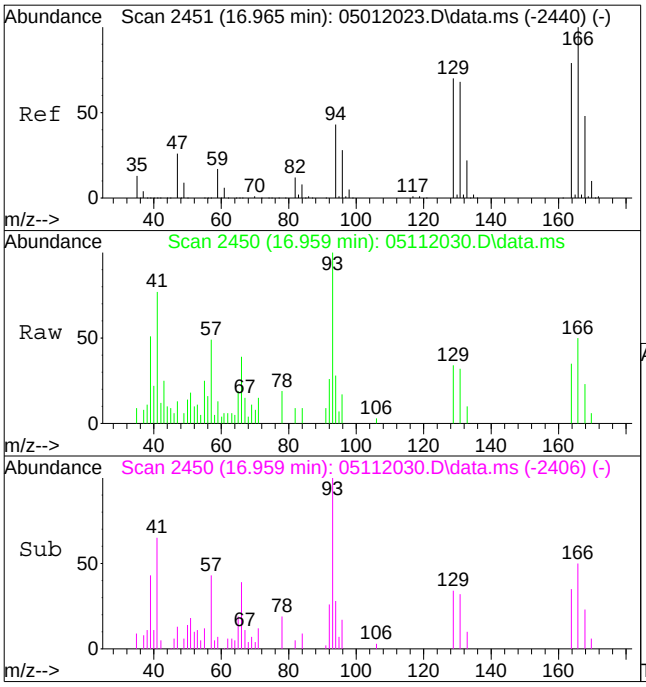


#63
n-Octane
Concen: 0.31 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05112030.D
Acq: 11 May 2020 22:29

Tgt Ion: 57 Resp: 7325

Ion	Ratio	Lower	Upper
57	100		
85	111.1	91.0	136.4
71	68.5	56.2	84.2

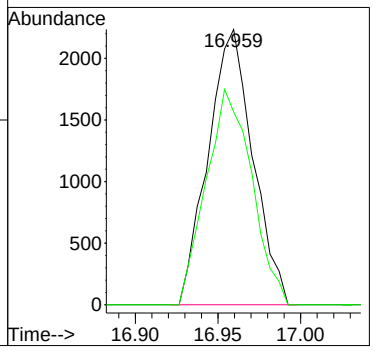


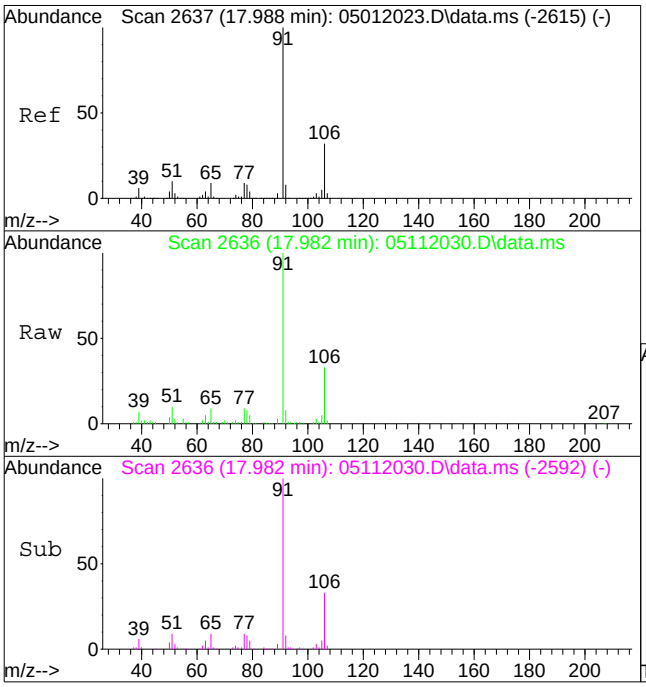


#64
Tetrachloroethene
Concen: 0.13 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05112030.D
Acq: 11 May 2020 22:29

Tgt Ion:166 Resp: 4204

Ion	Ratio	Lower	Upper
166	100		
164	79.8	58.4	98.4

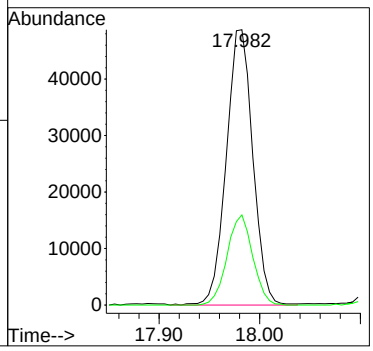


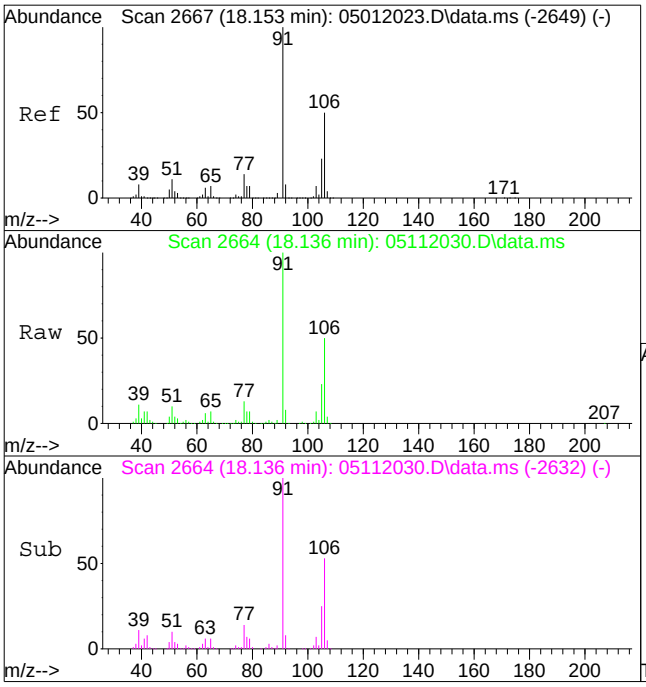


#66
Ethylbenzene
Concen: 0.70 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05112030.D
Acq: 11 May 2020 22:29

Tgt Ion: 91 Resp: 89266

Ion	Ratio	Lower	Upper
91	100		
106	31.5	11.6	51.6

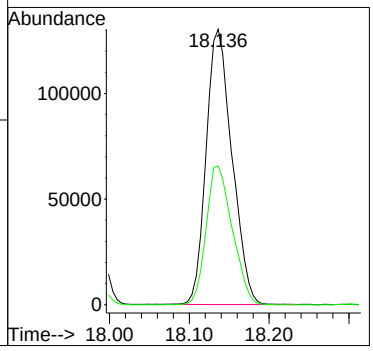


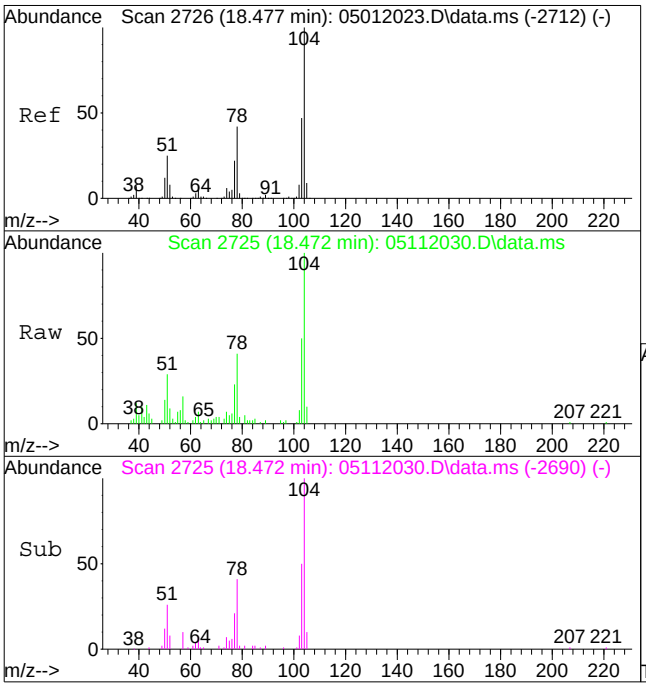


#67
m- & p-Xylenes
Concen: 2.88 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05112030.D
Acq: 11 May 2020 22:29

Tgt Ion: 91 Resp: 292739

Ion	Ratio	Lower	Upper
91	100		
106	51.1	29.7	69.7

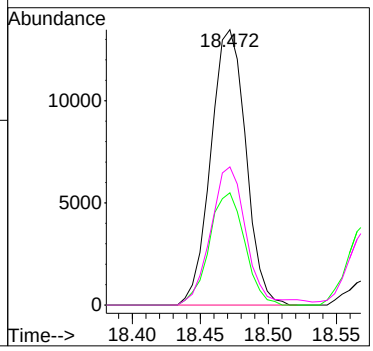


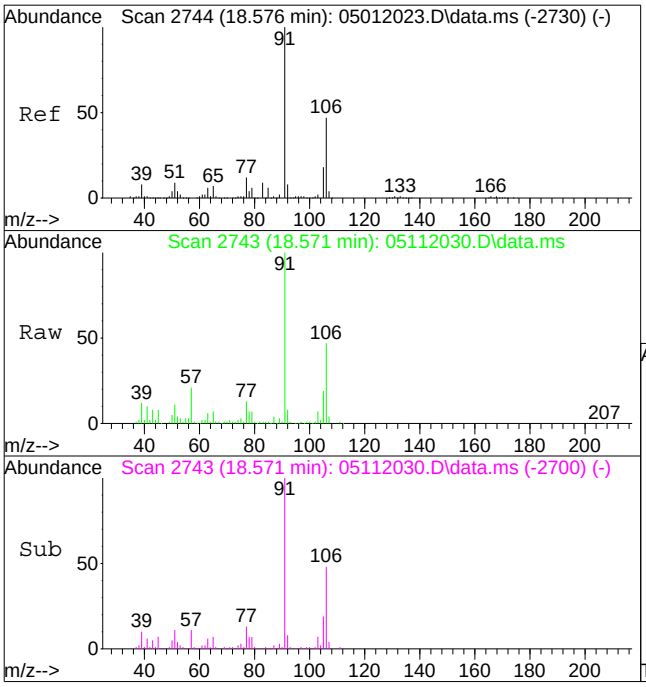


#69
Styrene
Concen: 0.32 ng
RT: 18.47 min Scan# 2725
Delta R.T. -0.006 min
Lab File: 05112030.D
Acq: 11 May 2020 22:29

Tgt Ion:104 Resp: 24104

Ion	Ratio	Lower	Upper
104	100		
78	41.3	22.5	62.5
103	51.3	27.0	67.0

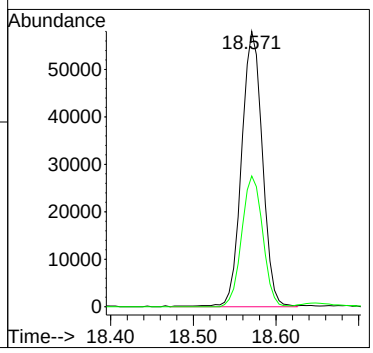


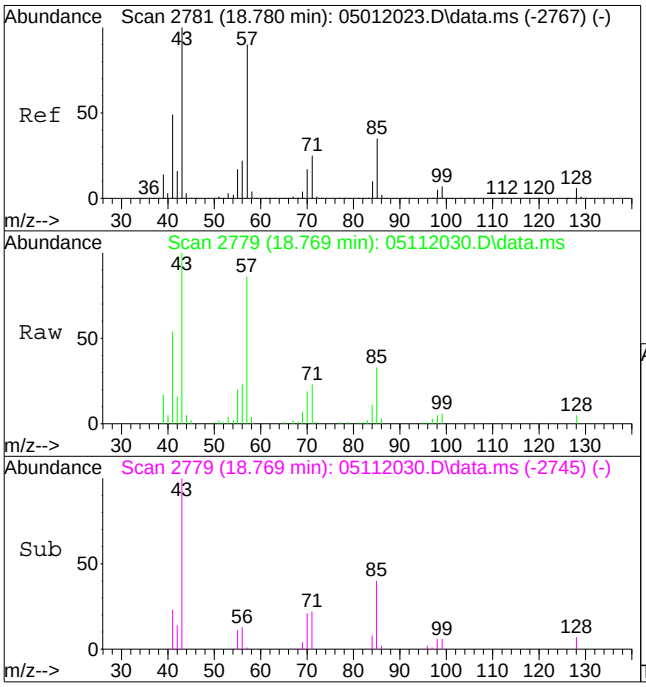


#70
o-Xylene
Concen: 0.99 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05112030.D
Acq: 11 May 2020 22:29

Tgt Ion: 91 Resp: 101527

Ion	Ratio	Lower	Upper
91	100		
106	47.9	27.5	67.5

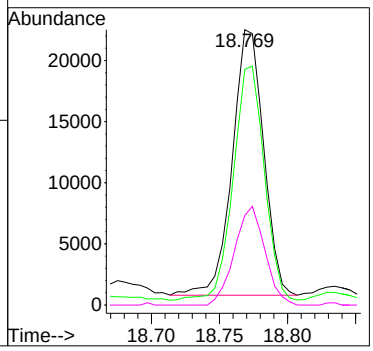


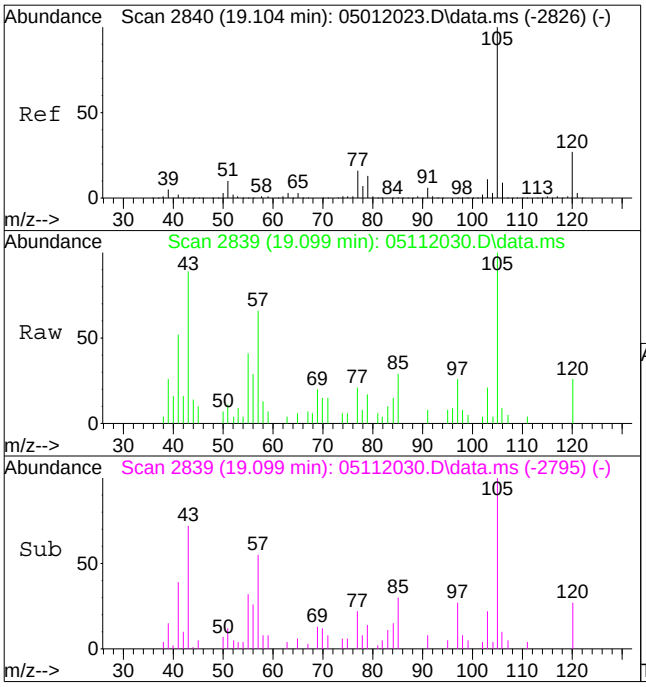


#71
n-Nonane
Concen: 0.64 ng
RT: 18.77 min Scan# 2779
Delta R.T. -0.011 min
Lab File: 05112030.D
Acq: 11 May 2020 22:29

Tgt Ion: 43 Resp: 34808

Ion	Ratio	Lower	Upper
43	100		
57	87.2	69.0	109.0
85	36.0	14.6	54.6

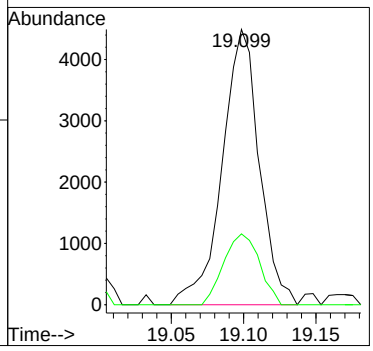


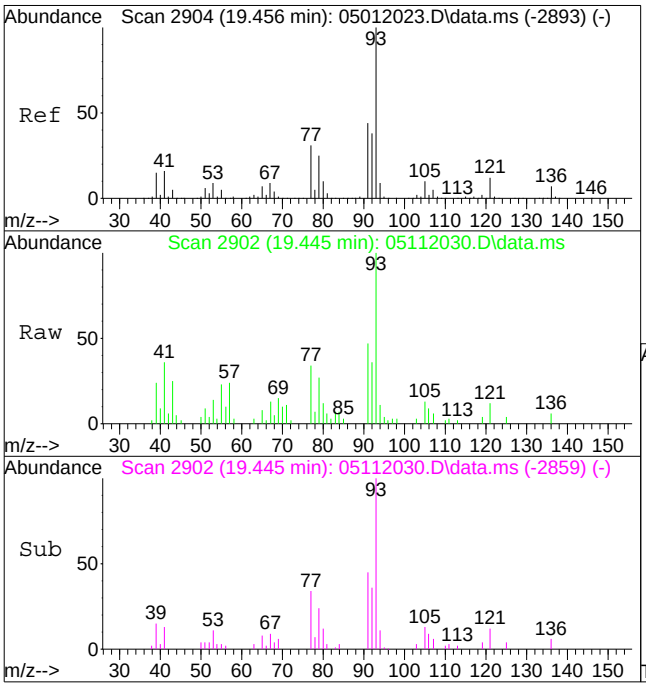


#74
Cumene
Concen: 0.06 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05112030.D
Acq: 11 May 2020 22:29

Tgt Ion:105 Resp: 8022

Ion	Ratio	Lower	Upper
105	100		
120	24.8	6.8	46.8

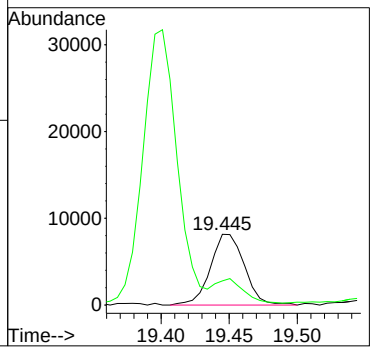


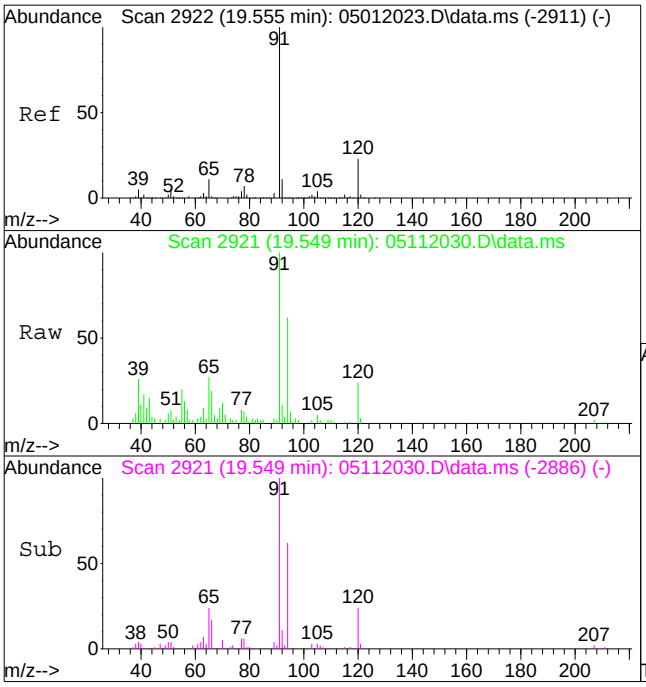


#75
alpha-Pinene
Concen: 0.21 ng
RT: 19.44 min Scan# 2902
Delta R.T. -0.011 min
Lab File: 05112030.D
Acq: 11 May 2020 22:29

Tgt Ion: 93 Resp: 14154

Ion	Ratio	Lower	Upper
93	100		
77	28.7	11.2	51.2

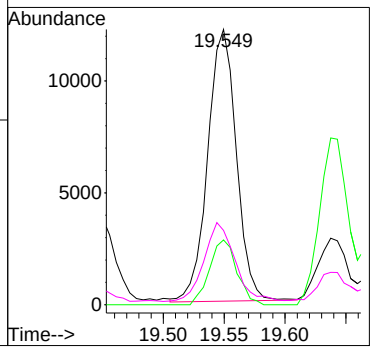


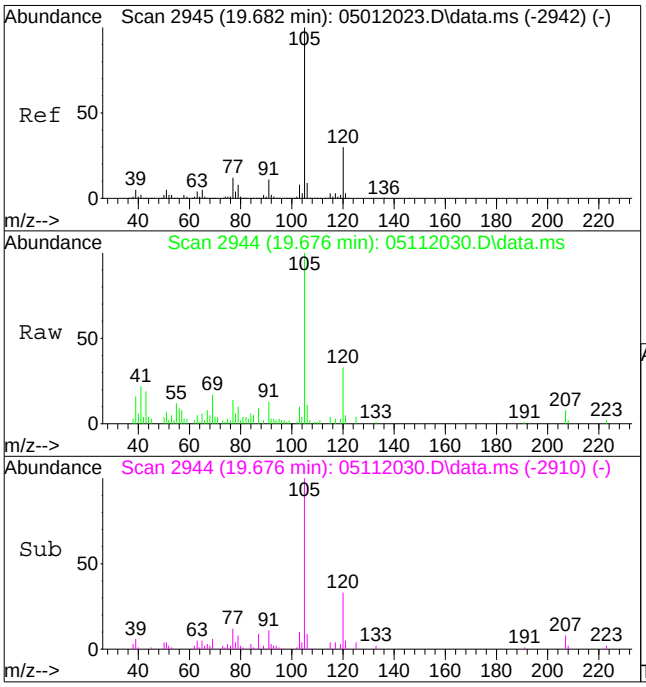


#76
n-Propylbenzene
Concen: 0.13 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05112030.D
Acq: 11 May 2020 22:29

Tgt Ion: 91 Resp: 19873

Ion	Ratio	Lower	Upper
91	100		
120	22.7	3.1	43.1
65	32.3	0.0	30.9#

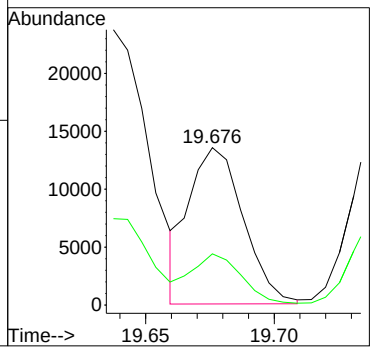


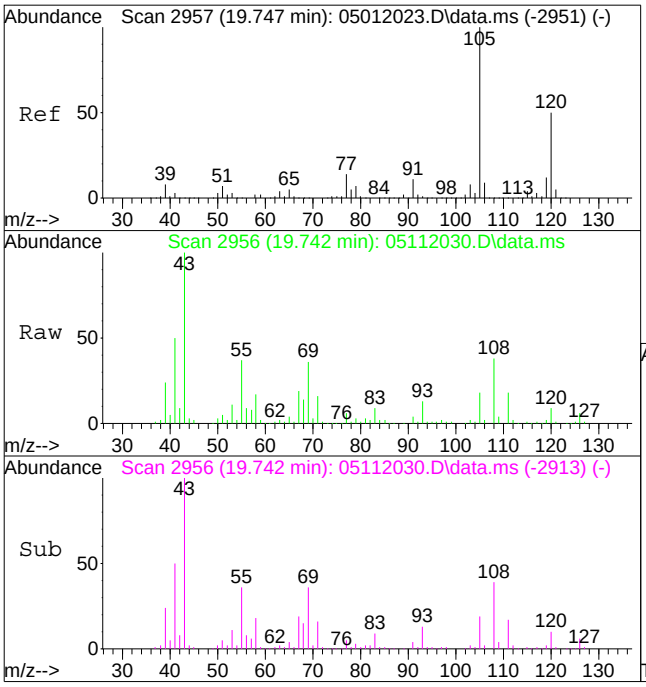


#78
4-Ethyltoluene
Concen: 0.17 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05112030.D
Acq: 11 May 2020 22:29

Tgt Ion:105 Resp: 19864

Ion	Ratio	Lower	Upper
105	100		
120	31.5	10.4	50.4

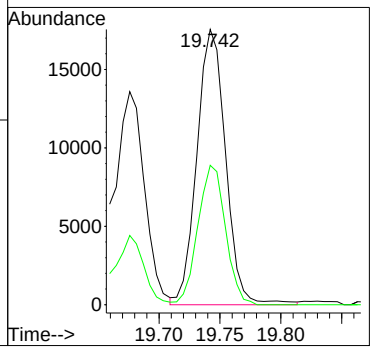


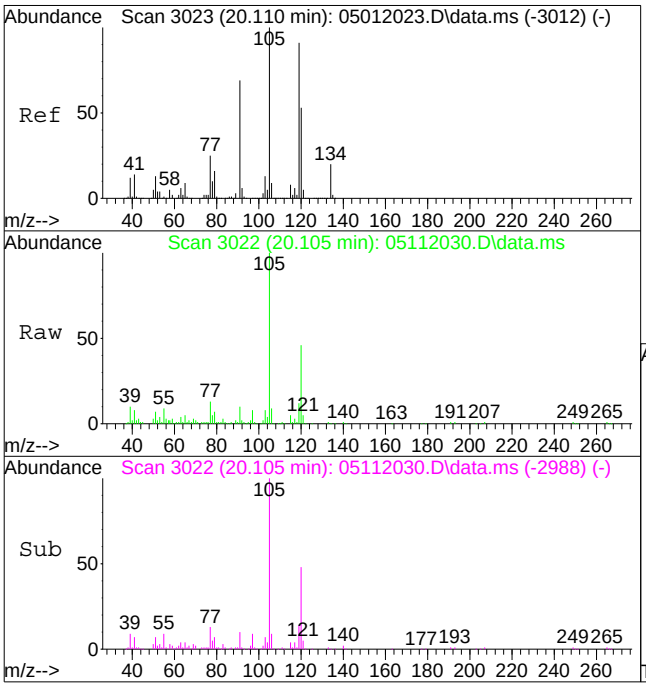


#79
1,3,5-Trimethylbenzene
Concen: 0.28 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05112030.D
Acq: 11 May 2020 22:29

Tgt Ion:105 Resp: 28807

Ion	Ratio	Lower	Upper
105	100		
120	48.6	29.9	69.9

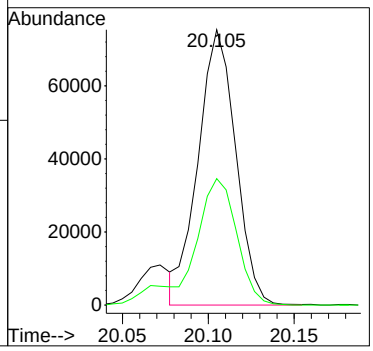


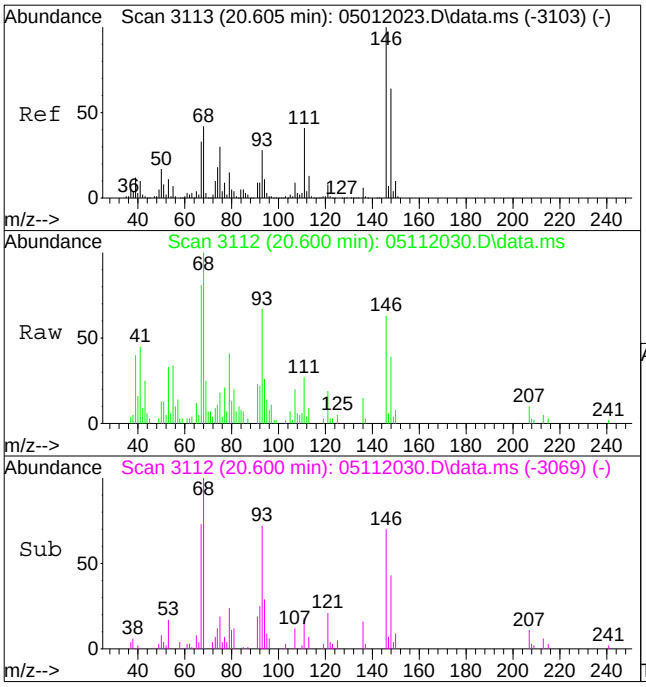


#82
1,2,4-Trimethylbenzene
Concen: 1.11 ng m
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05112030.D
Acq: 11 May 2020 22:29

Tgt Ion:105 Resp: 114810

Ion	Ratio	Lower	Upper
105	100		
120	53.6	33.6	73.6

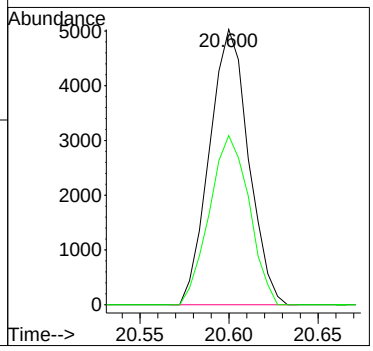


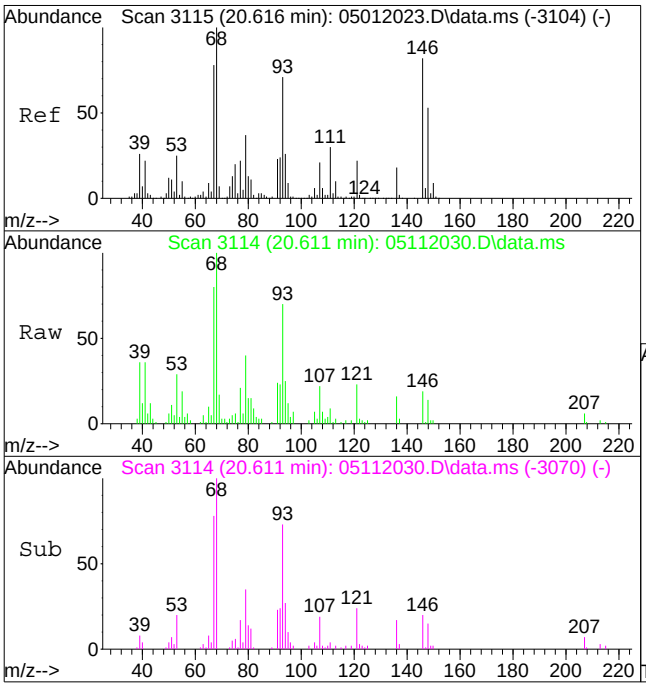


#90
1,2-Dichlorobenzene
Concen: 0.13 ng
RT: 20.60 min Scan# 3112
Delta R.T. -0.011 min
Lab File: 05112030.D
Acq: 11 May 2020 22:29

Tgt Ion:146 Resp: 7672

Ion	Ratio	Lower	Upper
146	100		
148	62.3	43.7	83.7

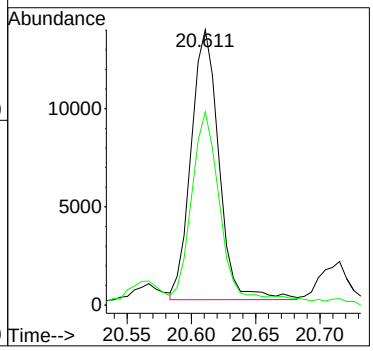


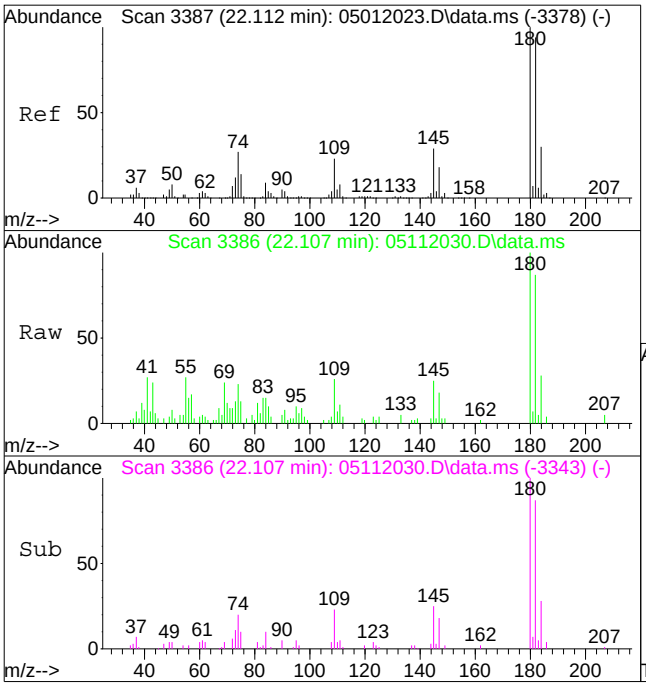


#91
d-Limonene
Concen: 0.51 ng
RT: 20.61 min Scan# 3114
Delta R.T. -0.006 min
Lab File: 05112030.D
Acq: 11 May 2020 22:29

Tgt Ion: 68 Resp: 20687

Ion	Ratio	Lower	Upper
68	100		
93	72.0	51.1	91.1

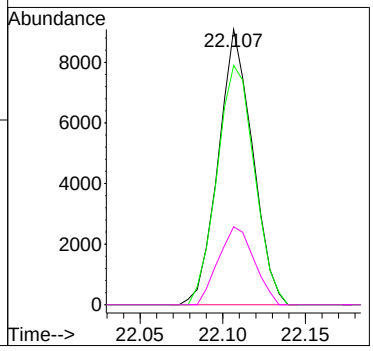


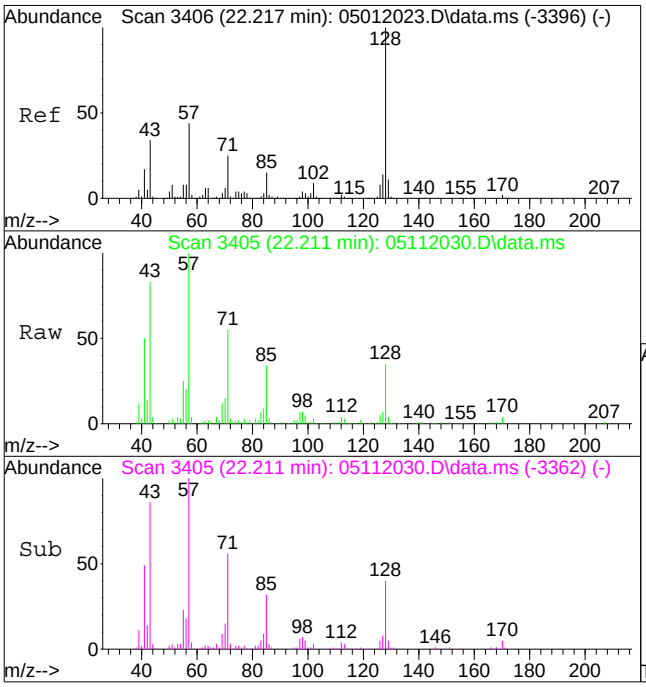


#94
1,2,4-Trichlorobenzene
Concen: 0.33 ng
RT: 22.11 min Scan# 3386
Delta R.T. -0.011 min
Lab File: 05112030.D
Acq: 11 May 2020 22:29

Tgt Ion:180 Resp: 13124

Ion	Ratio	Lower	Upper
180	100		
182	94.8	75.4	113.2
184	29.5	24.2	36.2

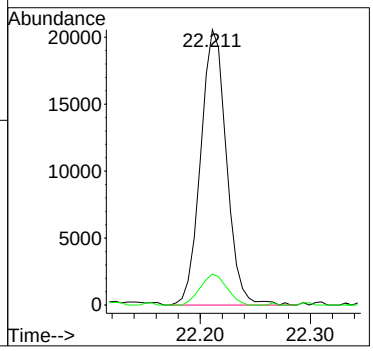




#95
Naphthalene
Concen: 0.26 ng
RT: 22.21 min Scan# 3405
Delta R.T. -0.011 min
Lab File: 05112030.D
Acq: 11 May 2020 22:29

Tgt Ion:128 Resp: 33353

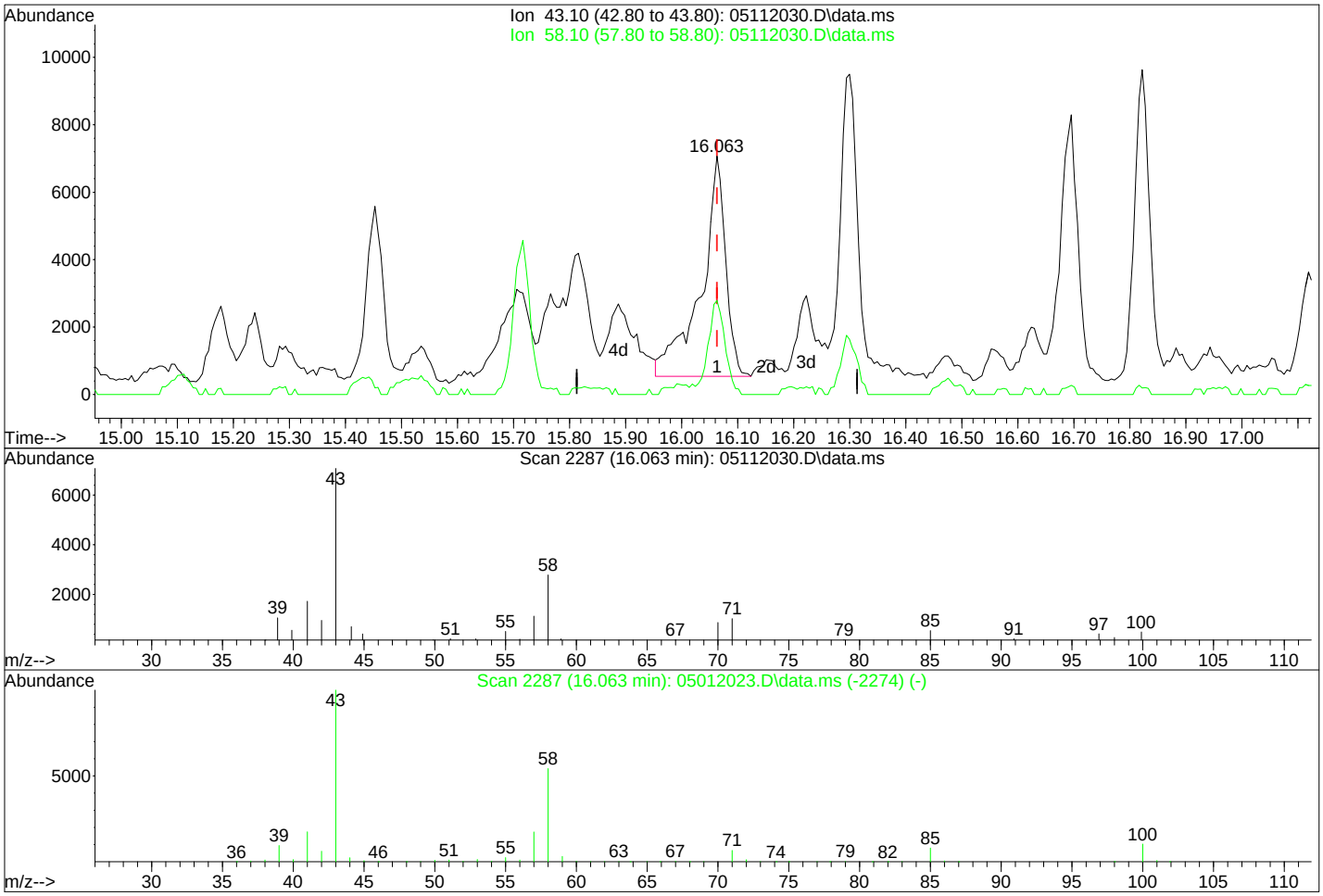
Ion	Ratio	Lower	Upper
128	100		
129	11.5	0.0	31.0



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\11\05112030.D Vial: 8
Acq On : 11 May 2020 22:29 Operator: LH
Sample : P2002299-016 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 12 02:52:43 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05112030.D\data.ms

(59) 2-Hexanone (T)

16.063min (-0.000) 0.32ng

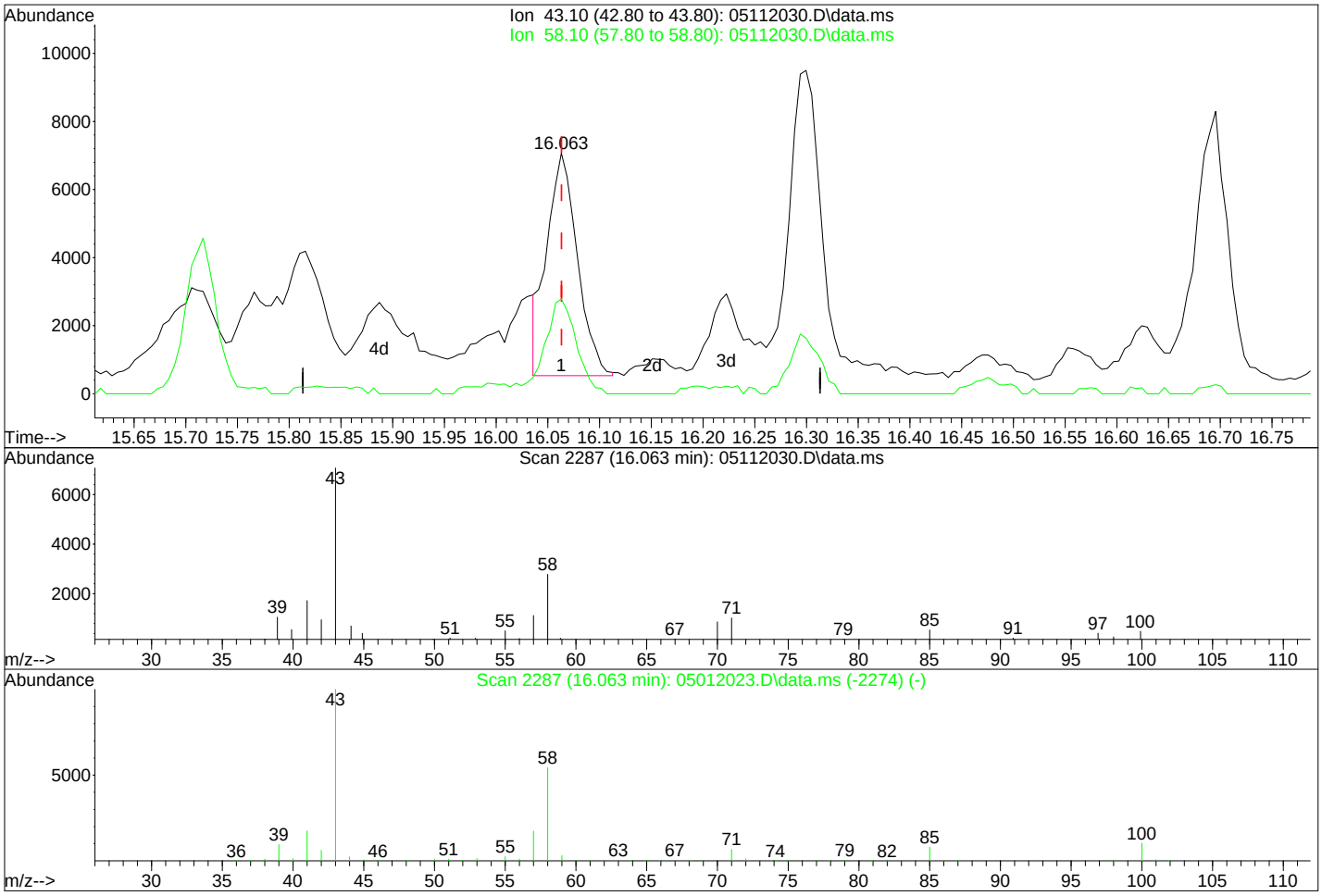
response 19864

Ion	Exp%	Act%
43.10	100	100
58.10	54.50	29.19#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\11\05112030.D Vial: 8
Acq On : 11 May 2020 22:29 Operator: LH
Sample : P2002299-016 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 12 02:52:43 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05112030.D\data.ms

(59) 2-Hexanone (T)

16.063min (-0.000) 0.21ng m

response 13400

Ion	Exp%	Act%
43.10	100	100
58.10	54.50	43.27
0.00	0.00	0.00
0.00	0.00	0.00

IPC

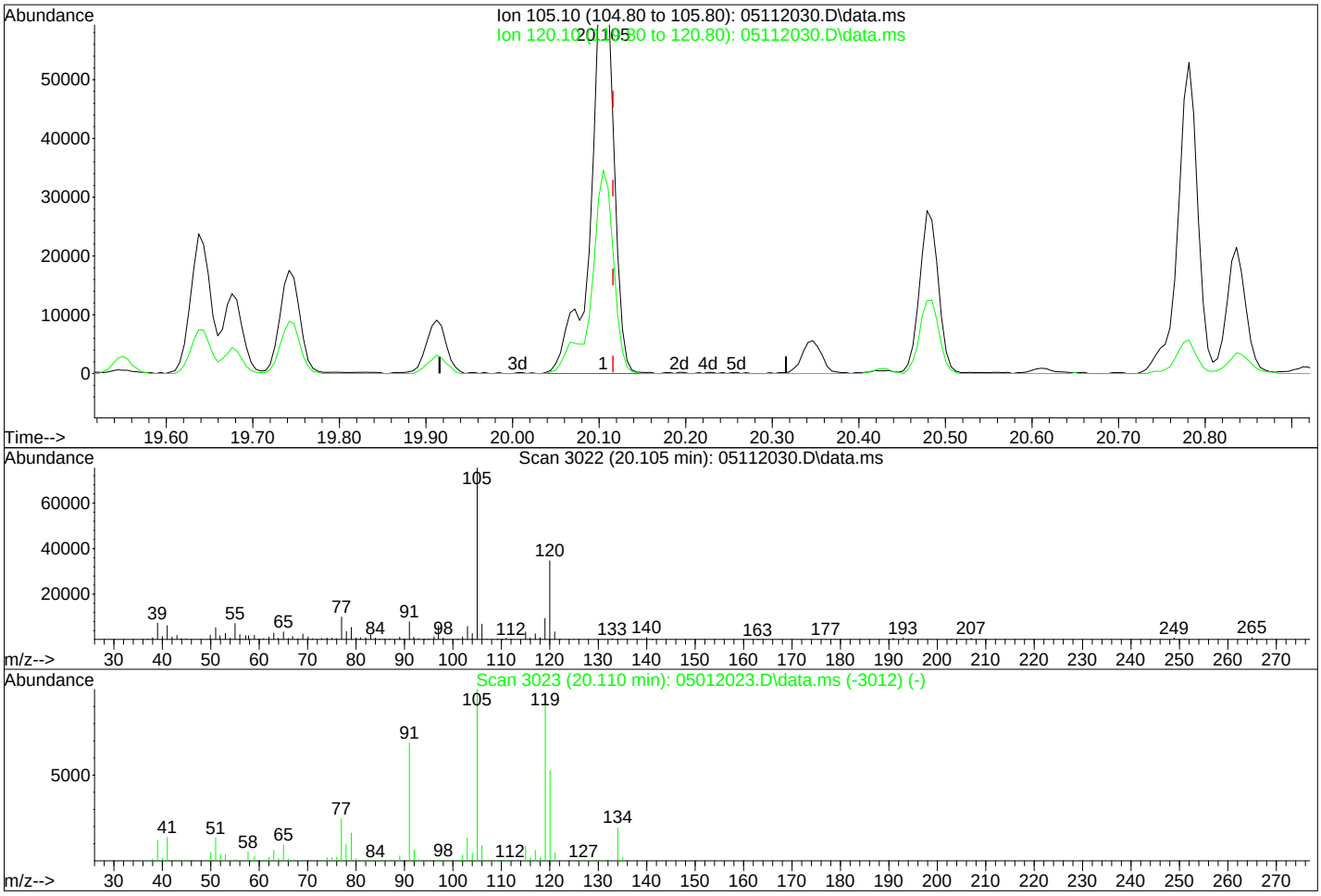
LH 5/13/20

5/14/20

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\11\05112030.D Vial: 8
Acq On : 11 May 2020 22:29 Operator: LH
Sample : P2002299-016 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 12 02:52:43 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05112030.D\data.ms

(82) 1,2,4-Trimethylbenzene (T)

20.105min (-0.011) 1.25ng

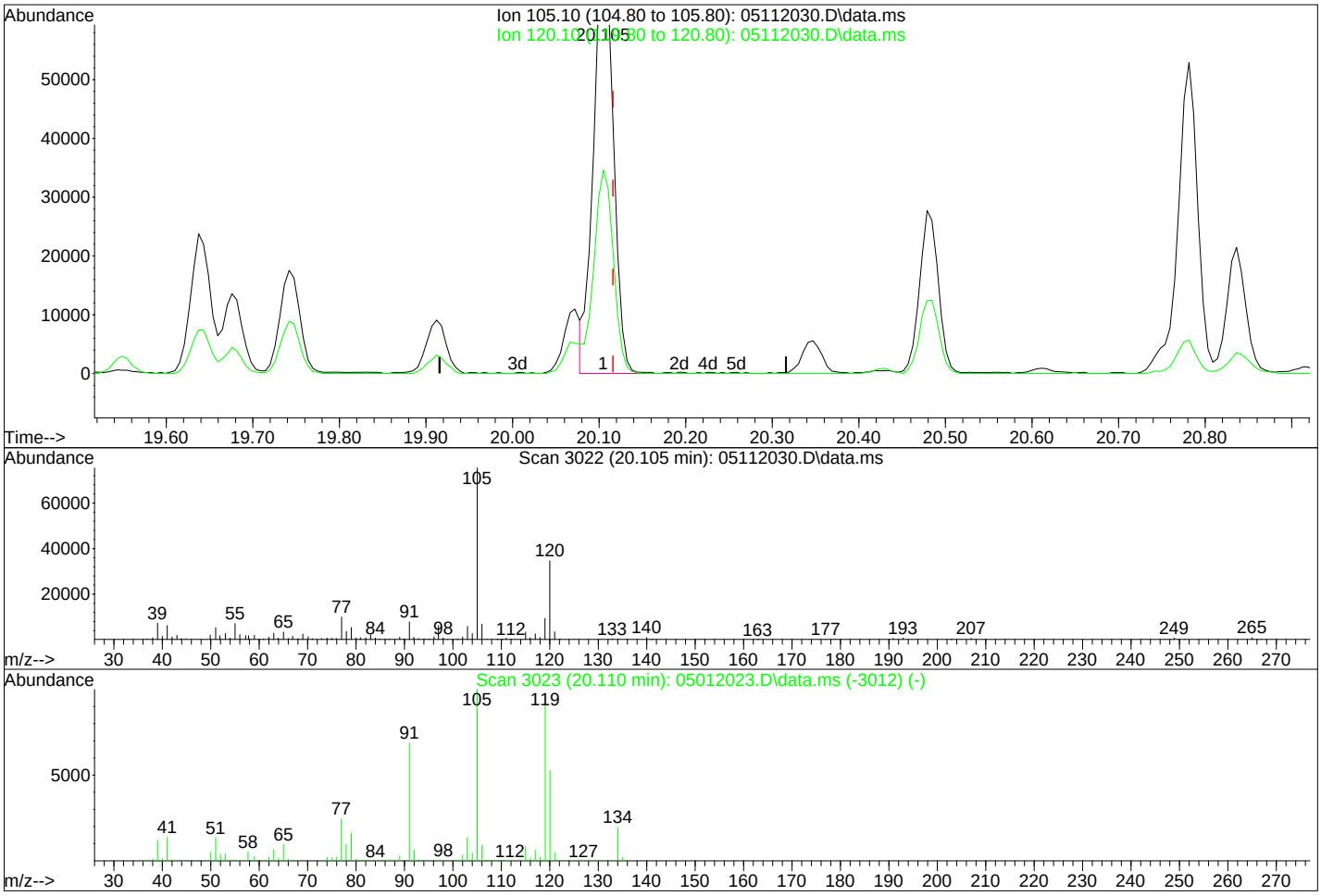
response 129283

Ion	Exp%	Act%
105.10	100	100
120.10	53.60	47.61
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\11\05112030.D Vial: 8
Acq On : 11 May 2020 22:29 Operator: LH
Sample : P2002299-016 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 12 02:52:43 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05112030.D\data.ms

(82) 1,2,4-Trimethylbenzene (T)

20.105min (-0.011) 1.11ng m

response 114810

Ion	Exp%	Act%
105.10	100	100
120.10	53.60	53.61
0.00	0.00	0.00
0.00	0.00	0.00

IPC

LH 5/13/20

5/14/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112031.D Vial: 9
Acq On : 11 May 2020 23:03 Operator: LH
Sample : P2002299-017 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 14:52:43 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/13/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	268937	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1132440	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	527150	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	417202	11.447	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.60%				
57) Toluene-d8 (SS2)	15.71	98	1113996	12.468	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.76%				
73) Bromofluorobenzene (SS3)	18.97	174	435977	13.560	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.48%				
Target Compounds							Qvalue
2) Propene	4.10	42	8030	0.258	ng		99
3) Dichlorodifluoromethan...	4.26	85	108993	1.789	ng		100
4) Chloromethane	4.53	50	5518	0.116	ng		95
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	416	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.21	54	381	N.D.			
8) Bromomethane	5.64	94	502	N.D.			
9) Chloroethane	5.97	64	548	N.D.			
10) Ethanol	6.31	45	49008	2.038	ng		99
11) Acetonitrile	6.59	41	4985	0.091	ng		91
12) Acrolein	6.77	56	18165	0.956	ng		100
13) Acetone	6.98	58	141278m	5.874	ng		
14) Trichlorofluoromethane	7.23	101	60349	1.121	ng		100
15) 2-Propanol (Isopropanol)	7.51	45	21756	0.299	ng		76
16) Acrylonitrile	7.74	53	2304	0.059	ng		96
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.39	84	958	N.D.			
20) 3-Chloro-1-propene (Al...	8.51	41	672	N.D.			
21) Trichlorotrifluoroethane	8.84	151	102939	4.049	ng		97
22) Carbon Disulfide	8.67	76	83047	0.741	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	10.08	63	102	N.D.			
25) Methyl tert-Butyl Ether	10.07	73	2475	N.D.			
26) Vinyl Acetate	10.16	86	19753	2.636	ng	#	6
27) 2-Butanone (MEK)	10.45	72	25651	1.250	ng		98
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.	d		
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.27	61	9187	0.777	ng		91
31) n-Hexane	11.25	57	2659	0.052	ng	#	93
32) Chloroform	11.30	83	18846	0.352	ng		95
34) Tetrahydrofuran (THF)	11.74	72	1950	0.097	ng	#	43
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	11.99	62	110	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	15971	0.132	ng		99
42) Carbon Tetrachloride	13.02	117	79516	1.925	ng		100
43) Cyclohexane	13.14	84	2327	0.051	ng	#	72
44) tert-Amyl Methyl Ether	13.57	73	2399	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	13.91	83	384	N.D.			
47) Trichloroethene	13.96	130	1630	0.052	ng		89
48) 1,4-Dioxane	13.96	88	3059	0.125	ng		96
49) 2,2,4-Trimethylpentane...	14.03	57	4980	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112031.D Vial: 9
Acq On : 11 May 2020 23:03 Operator: LH
Sample : P2002299-017 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 14:52:43 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

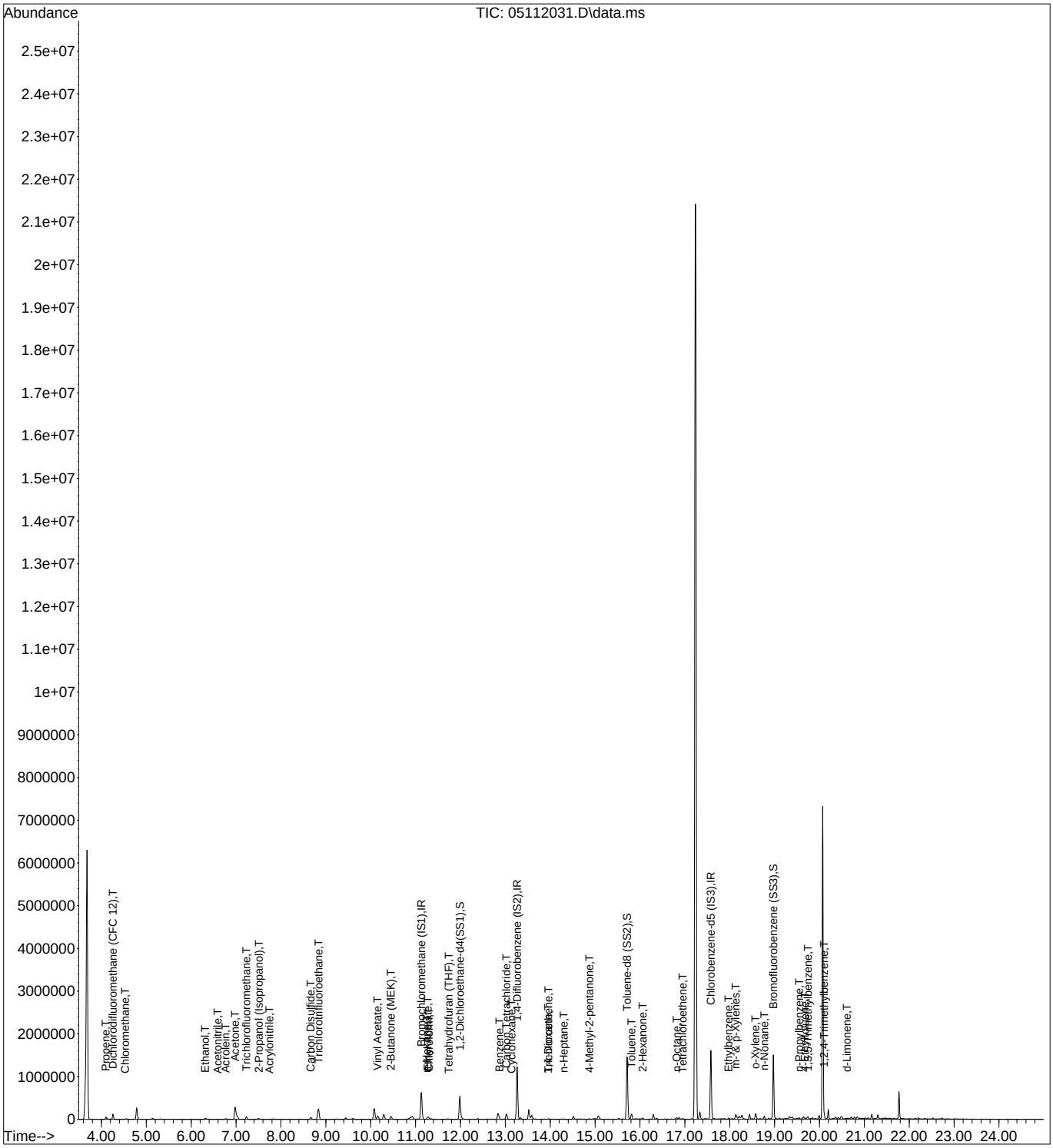
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.30	71	2684	0.095 ng		96
52) cis-1,3-Dichloropropene	14.99	75	283	N.D.		
53) 4-Methyl-2-pentanone	14.88	58	2448	0.090 ng	#	74
54) trans-1,3-Dichloropropene	15.37	75	104	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.81	91	104809	0.910 ng		100
59) 2-Hexanone	16.06	43	22016	0.349 ng		91
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.70	43	2800	N.D.		
63) n-Octane	16.82	57	4505	0.189 ng		95
64) Tetrachloroethene	16.95	166	4665	0.143 ng		97
65) Chlorobenzene	17.61	112	1124	N.D.		
66) Ethylbenzene	17.98	91	19857	0.155 ng		98
67) m- & p-Xylenes	18.14	91	67287	0.660 ng		98
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	1567	N.D.		
70) o-Xylene	18.57	91	18633	0.180 ng		97
71) n-Nonane	18.77	43	26084	0.475 ng		96
72) 1,1,2,2-Tetrachloroethane	18.59	83	850	N.D.		
74) Cumene	19.10	105	2967	N.D.		
75) alpha-Pinene	19.45	93	723	N.D.		
76) n-Propylbenzene	19.55	91	13390	0.089 ng		84
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.68	105	13273	0.111 ng		99
79) 1,3,5-Trimethylbenzene	19.74	105	17145	0.166 ng		99
80) alpha-Methylstyrene	19.88	118	489	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	20.10	105	50157	0.482 ng		87
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.21	91	1067	N.D.		
85) 1,3-Dichlorobenzene	20.30	146	398	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	398	N.D.		
87) sec-Butylbenzene	20.35	105	5537	N.D.		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.61	68	3942	0.096 ng		99
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	22.21	128	2976	N.D.		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112031.D Vial: 9
Acq On : 11 May 2020 23:03 Operator: LH
Sample : P2002299-017 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 14:52:43 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112031.D Vial: 9
Acq On : 11 May 2020 23:03 Operator: LH
Sample : P2002299-017 (400mL) Inst : GCMS-16
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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/13/20

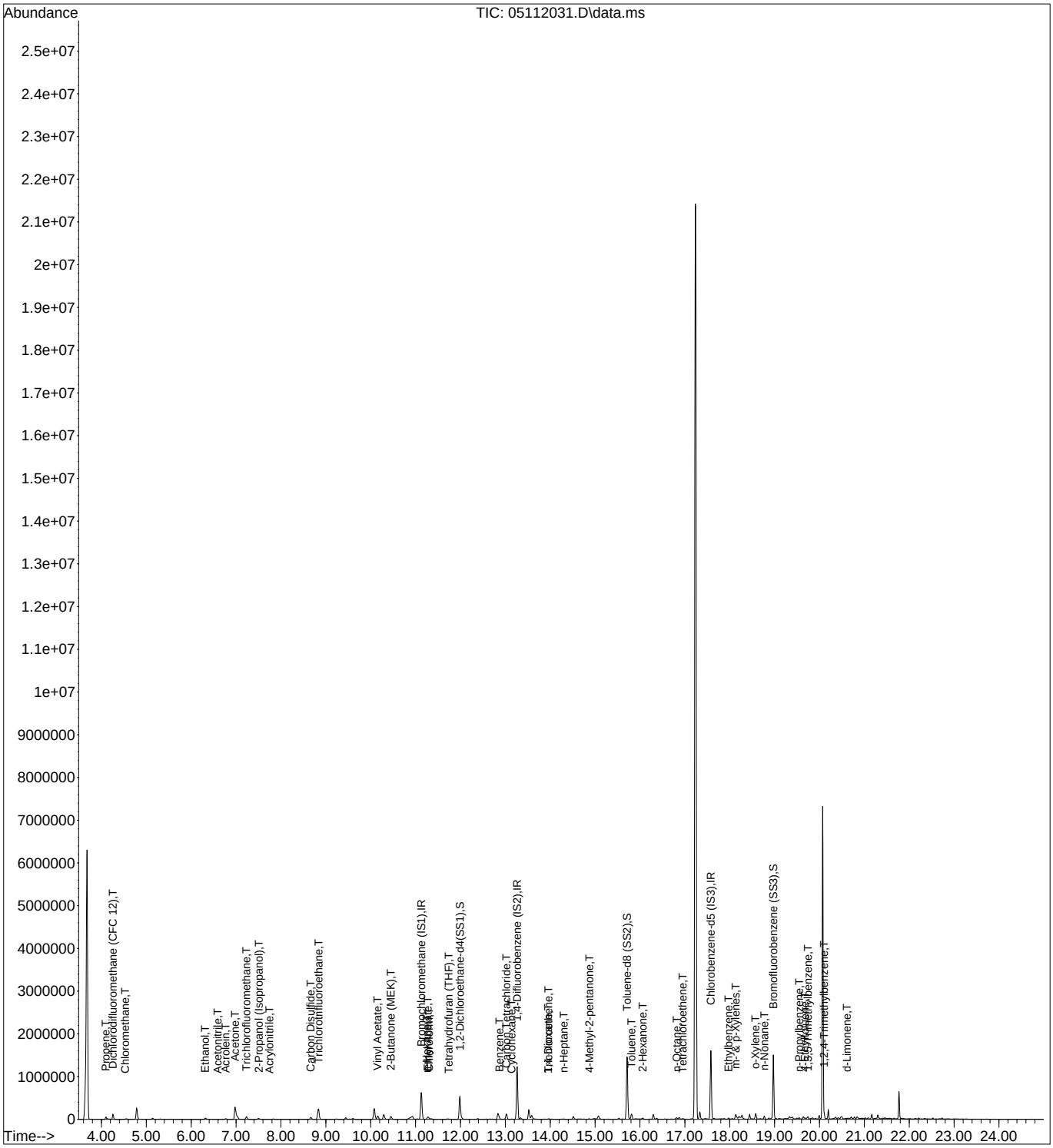
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	268937	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1132440	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	527150	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	417202	11.447	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.60%				
57) Toluene-d8 (SS2)	15.71	98	1113996	12.468	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.76%				
73) Bromofluorobenzene (SS3)	18.97	174	435977	13.560	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.48%				
Target Compounds							Qvalue
2) Propene	4.10	42	8030	0.258	ng		99
3) Dichlorodifluoromethan...	4.26	85	108993	1.789	ng		100
4) Chloromethane	4.53	50	5518	0.116	ng		95
10) Ethanol	6.31	45	49008	2.038	ng		99
11) Acetonitrile	6.59	41	4985	0.091	ng		91
12) Acrolein	6.77	56	18165	0.956	ng		100
13) Acetone	6.98	58	141278m	5.874	ng		
14) Trichlorofluoromethane	7.23	101	60349	1.121	ng		100
15) 2-Propanol (Isopropanol)	7.51	45	21756	0.299	ng		76
16) Acrylonitrile	7.74	53	2304	0.059	ng		96
21) Trichlorotrifluoroethane	8.84	151	102939	4.049	ng		97
22) Carbon Disulfide	8.67	76	83047	0.741	ng		99
26) Vinyl Acetate	10.16	86	19753	2.636	ng	#	6
27) 2-Butanone (MEK)	10.45	72	25651	1.250	ng		98
30) Ethyl Acetate	11.27	61	9187	0.777	ng		91
31) n-Hexane	11.25	57	2659	0.052	ng	#	93
32) Chloroform	11.30	83	18846	0.352	ng		95
34) Tetrahydrofuran (THF)	11.74	72	1950	0.097	ng	#	43
41) Benzene	12.87	78	15971	0.132	ng		99
42) Carbon Tetrachloride	13.02	117	79516	1.925	ng		100
43) Cyclohexane	13.14	84	2327	0.051	ng	#	72
47) Trichloroethene	13.96	130	1630	0.052	ng		89
48) 1,4-Dioxane	13.96	88	3059	0.125	ng		96
51) n-Heptane	14.30	71	2684	0.095	ng		96
53) 4-Methyl-2-pentanone	14.88	58	2448	0.090	ng	#	74
58) Toluene	15.81	91	104809	0.910	ng		100
59) 2-Hexanone	16.06	43	22016	0.349	ng		91
63) n-Octane	16.82	57	4505	0.189	ng		95
64) Tetrachloroethene	16.95	166	4665	0.143	ng		97
66) Ethylbenzene	17.98	91	19857	0.155	ng		98
67) m- & p-Xylenes	18.14	91	67287	0.660	ng		98
70) o-Xylene	18.57	91	18633	0.180	ng		97
71) n-Nonane	18.77	43	26084	0.475	ng		96
76) n-Propylbenzene	19.55	91	13390	0.089	ng		84
78) 4-Ethyltoluene	19.68	105	13273	0.111	ng		99
79) 1,3,5-Trimethylbenzene	19.74	105	17145	0.166	ng		99
82) 1,2,4-Trimethylbenzene	20.10	105	50157	0.482	ng		87
91) d-Limonene	20.61	68	3942	0.096	ng		99

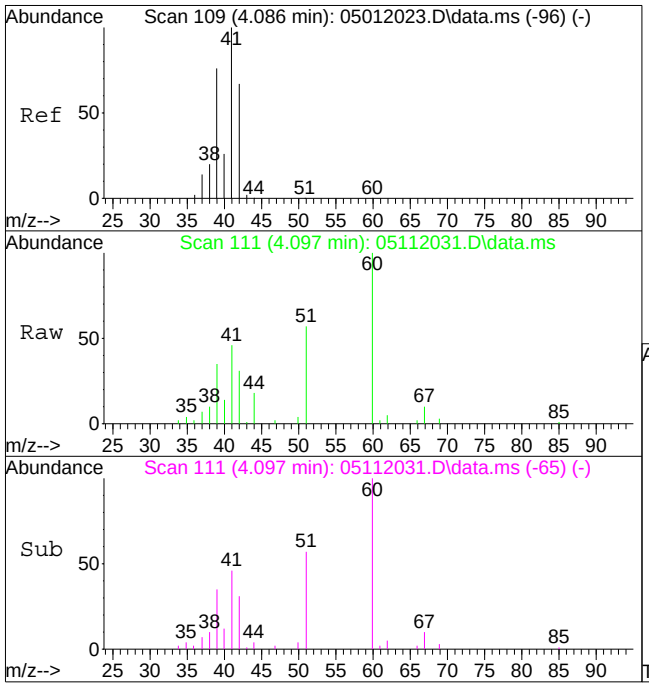
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112031.D Vial: 9
Acq On : 11 May 2020 23:03 Operator: LH
Sample : P2002299-017 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 14:52:43 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

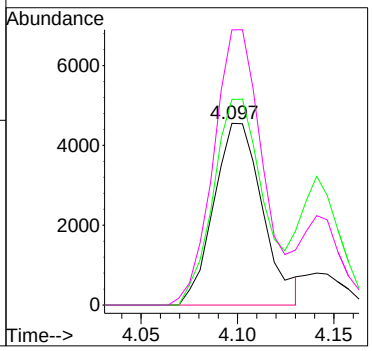


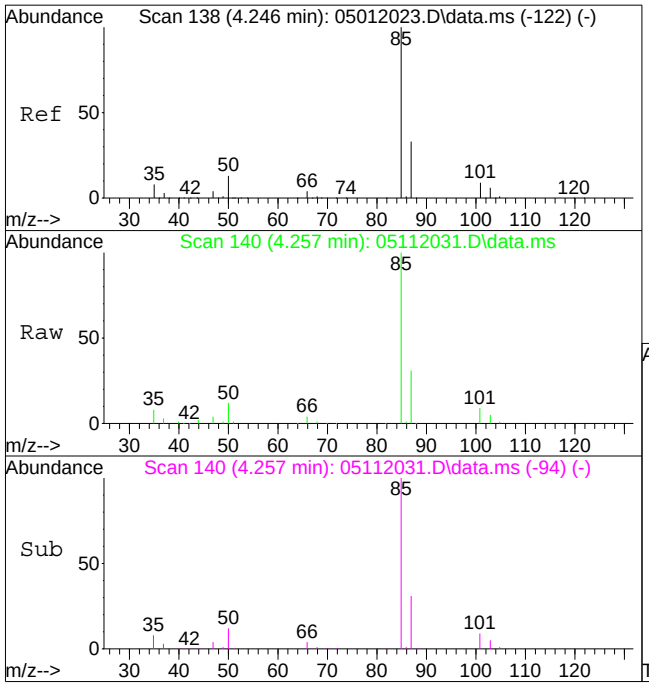


#2
Propene
Concen: 0.26 ng
RT: 4.10 min Scan# 111
Delta R.T. 0.005 min
Lab File: 05112031.D
Acq: 11 May 2020 23:03

Tgt Ion: 42 Resp: 8030

Ion	Ratio	Lower	Upper
42	100		
39	115.7	96.1	136.1
41	149.4	131.9	171.9

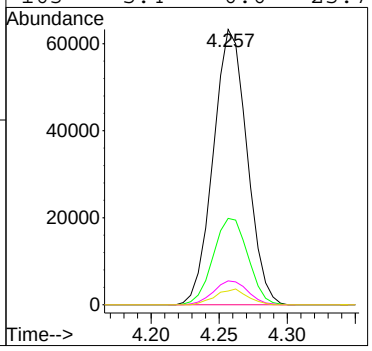


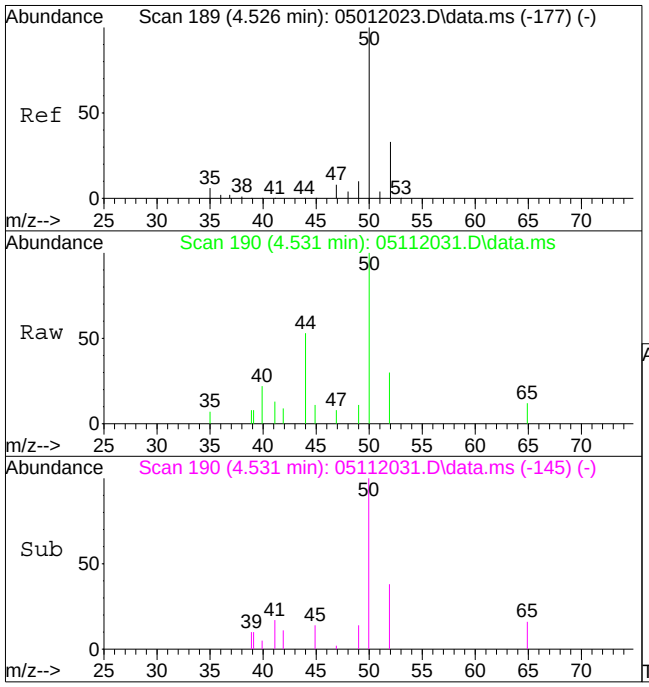


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.79 ng
RT: 4.26 min Scan# 140
Delta R.T. 0.005 min
Lab File: 05112031.D
Acq: 11 May 2020 23:03

Tgt Ion: 85 Resp: 108993

Ion	Ratio	Lower	Upper
85	100		
87	32.4	12.4	52.4
101	8.8	0.0	28.8
103	5.4	0.0	25.7

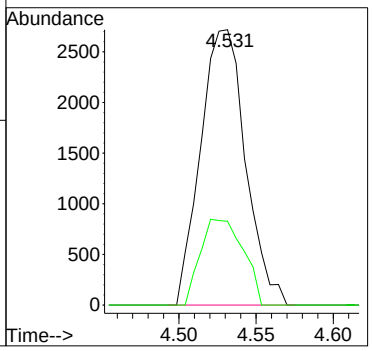


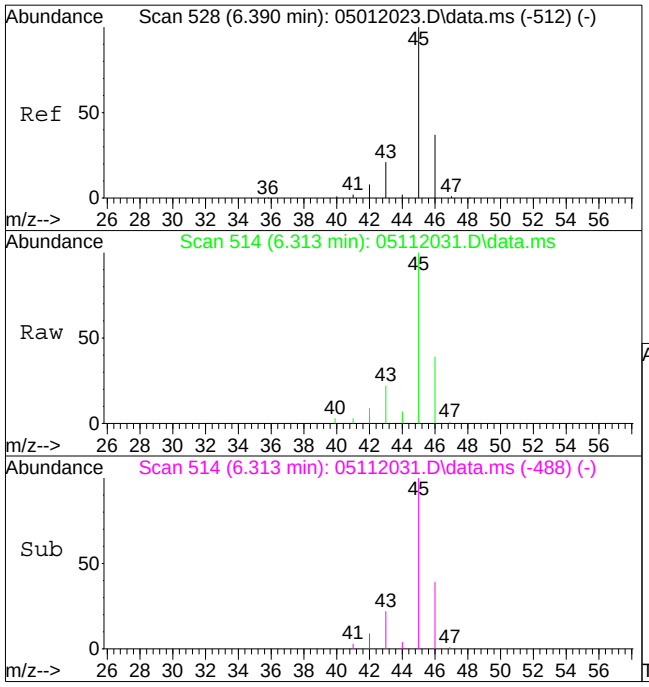


#4
Chloromethane
Concen: 0.12 ng
RT: 4.53 min Scan# 190
Delta R.T. -0.000 min
Lab File: 05112031.D
Acq: 11 May 2020 23:03

Tgt Ion: 50 Resp: 5518

Ion	Ratio	Lower	Upper
50	100		
52	29.6	12.5	52.5

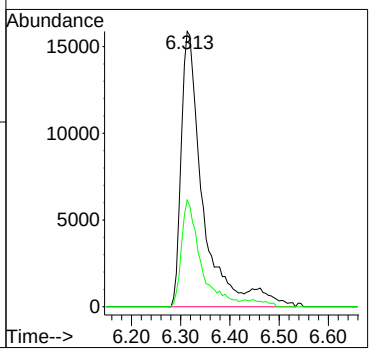


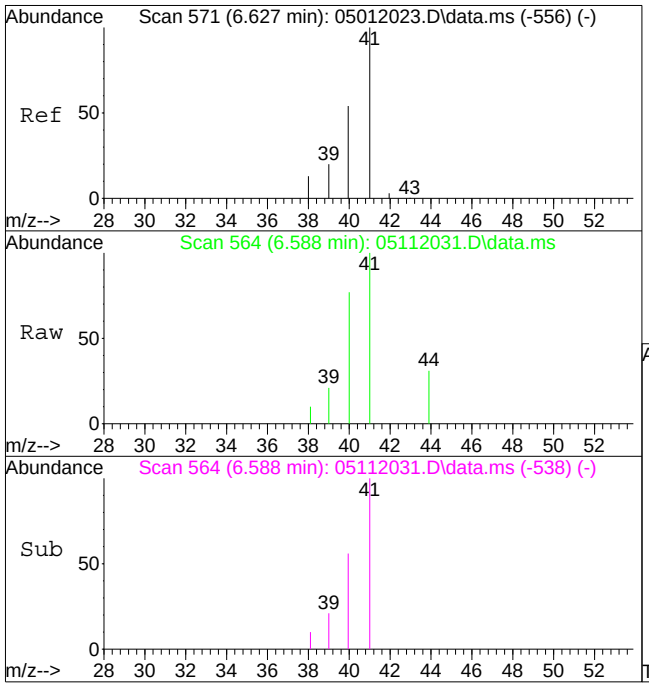


#10
Ethanol
Concen: 2.04 ng
RT: 6.31 min Scan# 514
Delta R.T. -0.105 min
Lab File: 05112031.D
Acq: 11 May 2020 23:03

Tgt Ion: 45 Resp: 49008

Ion	Ratio	Lower	Upper
45	100		
46	36.7	17.2	57.2

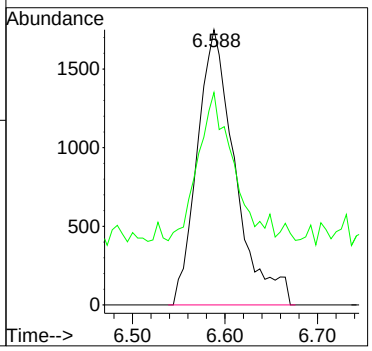


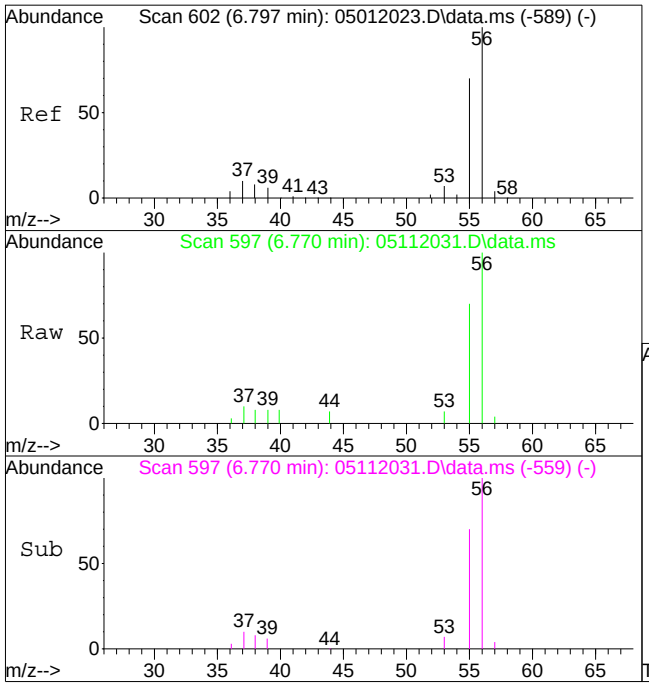


#11
Acetonitrile
Concen: 0.09 ng
RT: 6.59 min Scan# 564
Delta R.T. -0.055 min
Lab File: 05112031.D
Acq: 11 May 2020 23:03

Tgt Ion: 41 Resp: 4985

Ion	Ratio	Lower	Upper
41	100		
40	59.9	33.6	73.6

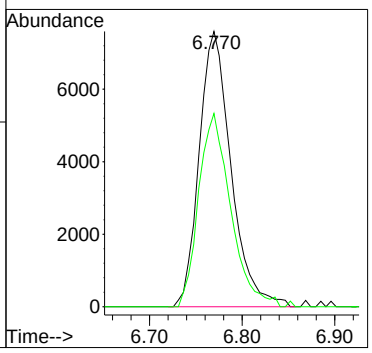


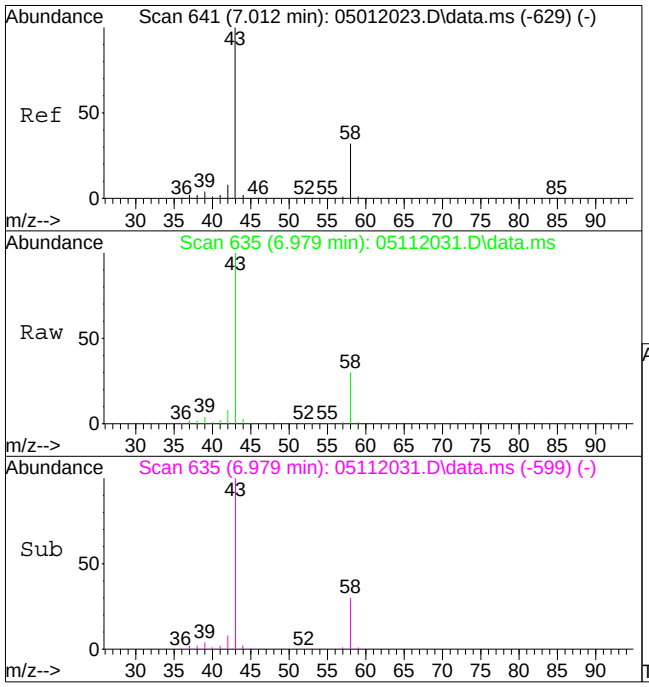


#12
Acrolein
Concen: 0.96 ng
RT: 6.77 min Scan# 597
Delta R.T. -0.039 min
Lab File: 05112031.D
Acq: 11 May 2020 23:03

Tgt Ion: 56 Resp: 18165

Ion	Ratio	Lower	Upper
56	100		
55	70.4	50.2	90.2

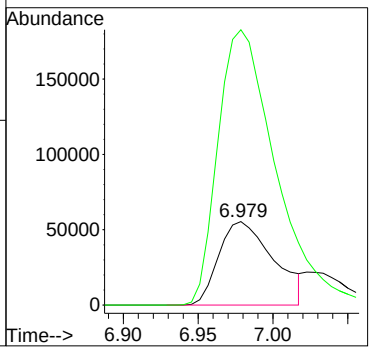


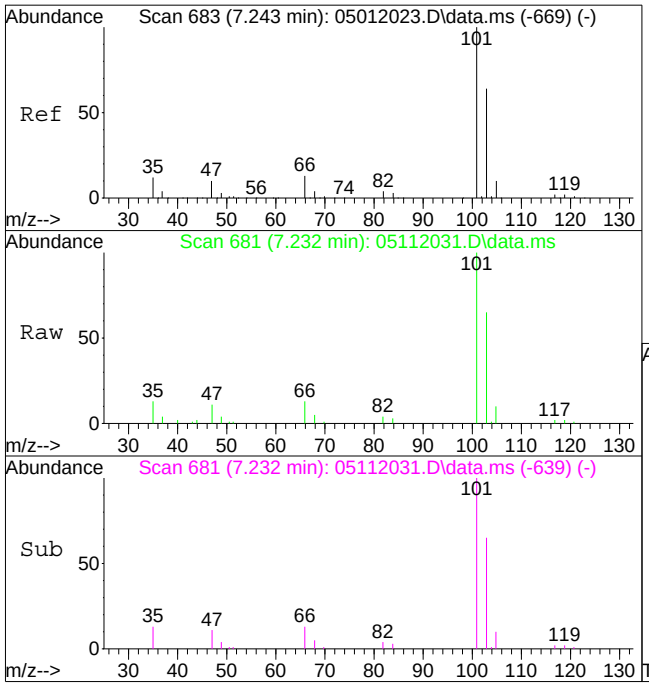


#13
Acetone
Concen: 5.87 ng m
RT: 6.98 min Scan# 635
Delta R.T. -0.050 min
Lab File: 05112031.D
Acq: 11 May 2020 23:03

Tgt Ion: 58 Resp: 141278

Ion	Ratio	Lower	Upper
58	100		
43	354.5	294.4	354.4#

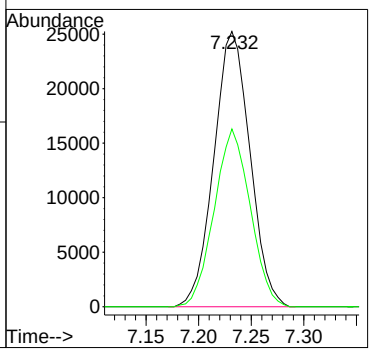


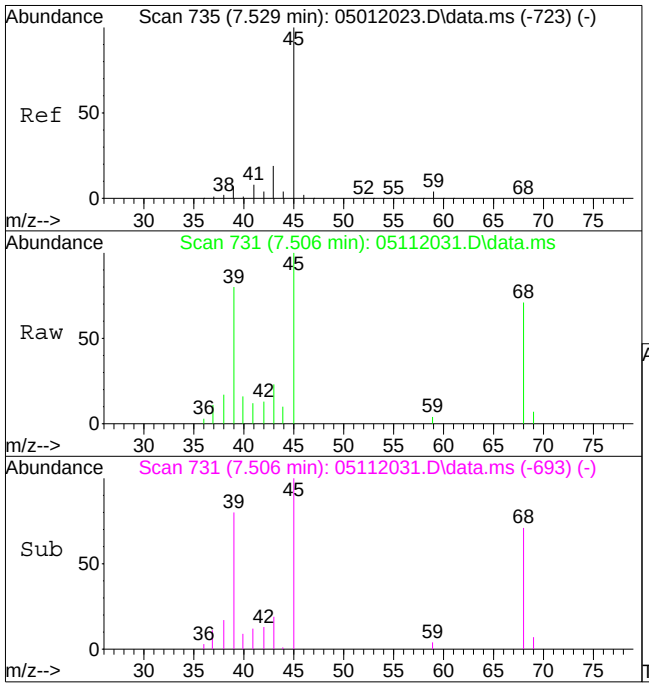


#14
Trichlorofluoromethane
Concen: 1.12 ng
RT: 7.23 min Scan# 681
Delta R.T. -0.017 min
Lab File: 05112031.D
Acq: 11 May 2020 23:03

Tgt Ion:101 Resp: 60349

Ion	Ratio	Lower	Upper
101	100		
103	64.3	44.4	84.4

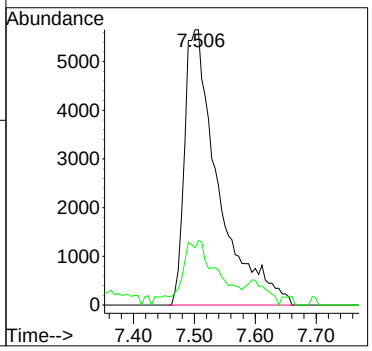


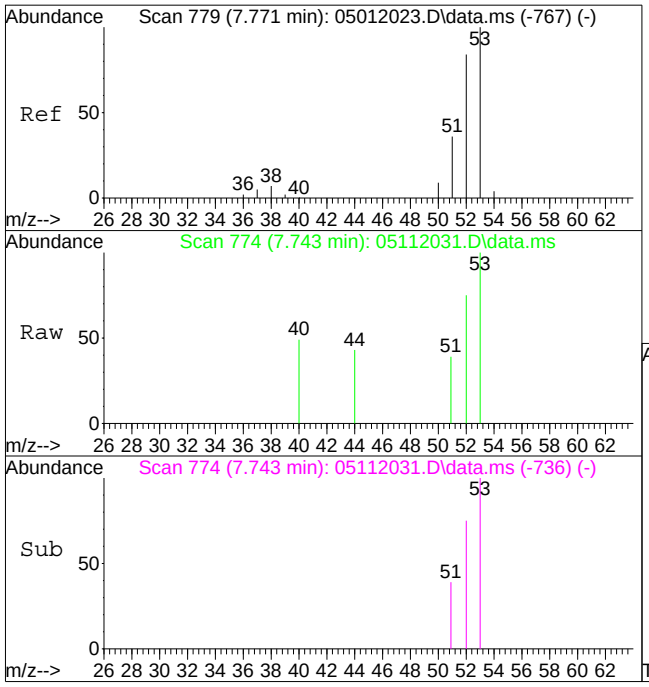


#15
2-Propanol (Isopropanol)
Concen: 0.30 ng
RT: 7.51 min Scan# 731
Delta R.T. -0.039 min
Lab File: 05112031.D
Acq: 11 May 2020 23:03

Tgt Ion: 45 Resp: 21756

Ion	Ratio	Lower	Upper
45	100		
43	30.2	0.0	39.5

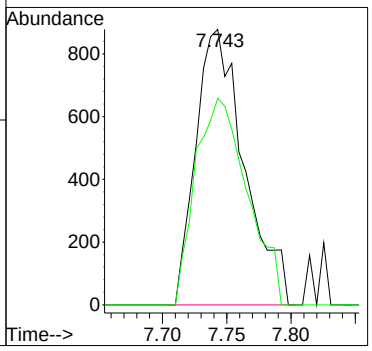


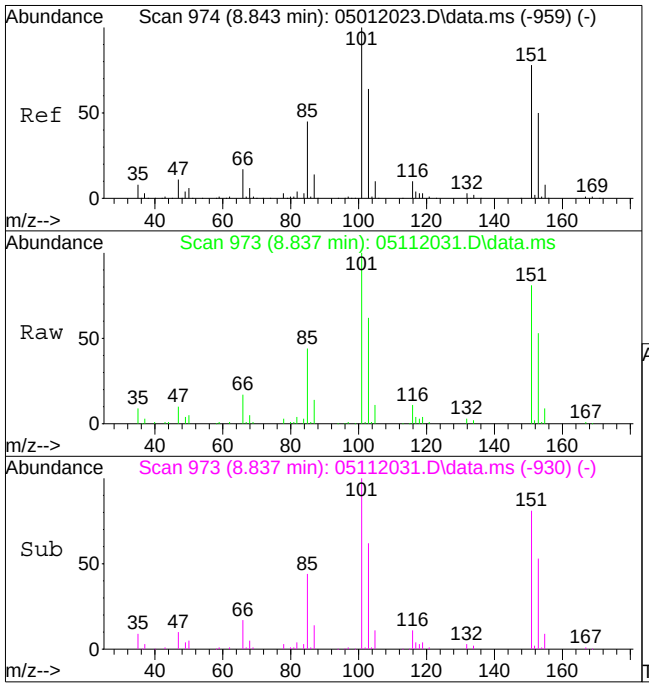


#16
Acrylonitrile
Concen: 0.06 ng
RT: 7.74 min Scan# 774
Delta R.T. -0.039 min
Lab File: 05112031.D
Acq: 11 May 2020 23:03

Tgt Ion: 53 Resp: 2304

Ion	Ratio	Lower	Upper
53	100		
52	80.2	63.7	103.7

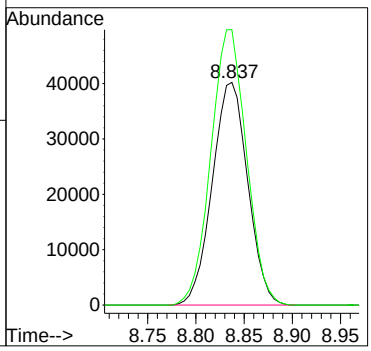


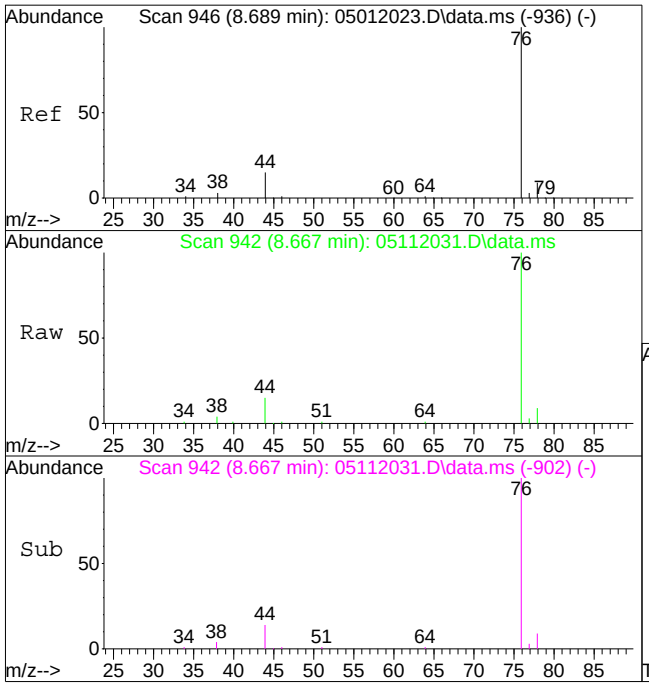


#21
Trichlorotrifluoroethane
Concen: 4.05 ng
RT: 8.84 min Scan# 973
Delta R.T. -0.011 min
Lab File: 05112031.D
Acq: 11 May 2020 23:03

Tgt Ion:151 Resp: 102939

Ion	Ratio	Lower	Upper
151	100		
101	123.7	107.3	147.3

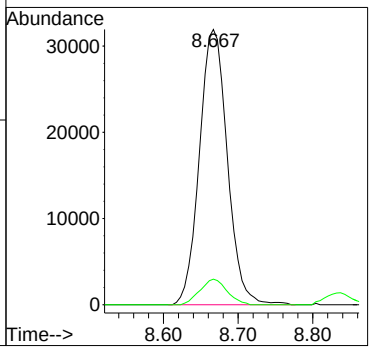


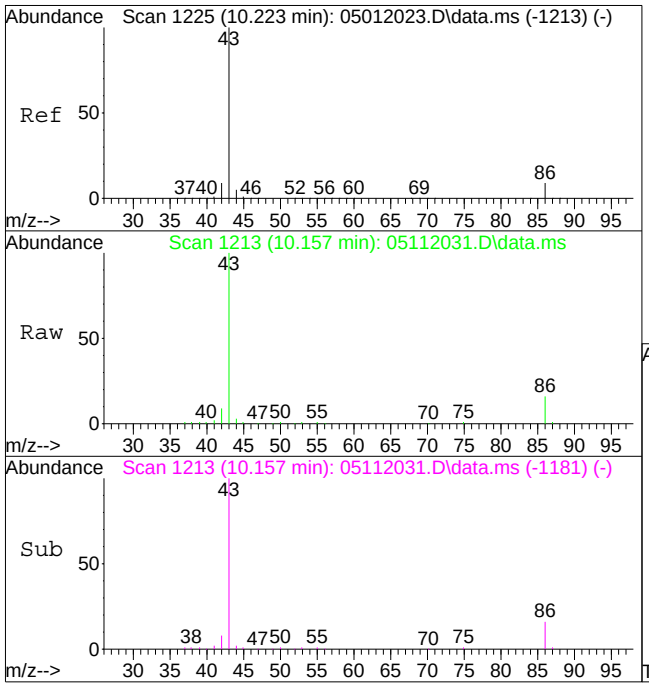


#22
Carbon Disulfide
Concen: 0.74 ng
RT: 8.67 min Scan# 942
Delta R.T. -0.028 min
Lab File: 05112031.D
Acq: 11 May 2020 23:03

Tgt Ion: 76 Resp: 83047

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	29.2

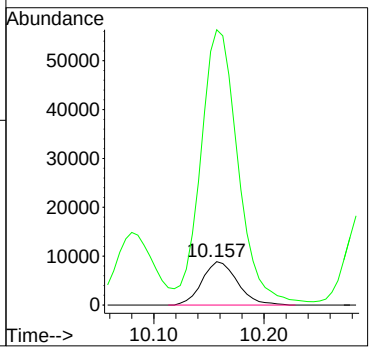


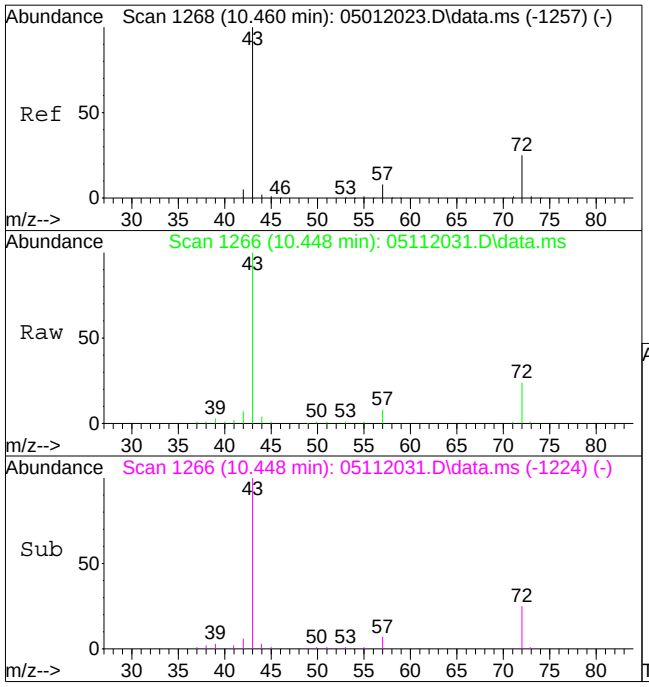


#26
Vinyl Acetate
Concen: 2.64 ng
RT: 10.16 min Scan# 1213
Delta R.T. -0.072 min
Lab File: 05112031.D
Acq: 11 May 2020 23:03

Tgt Ion: 86 Resp: 19753

Ion	Ratio	Lower	Upper
86	100		
43	667.3	1103.0	1143.0#

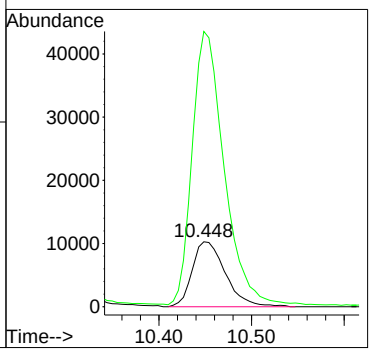


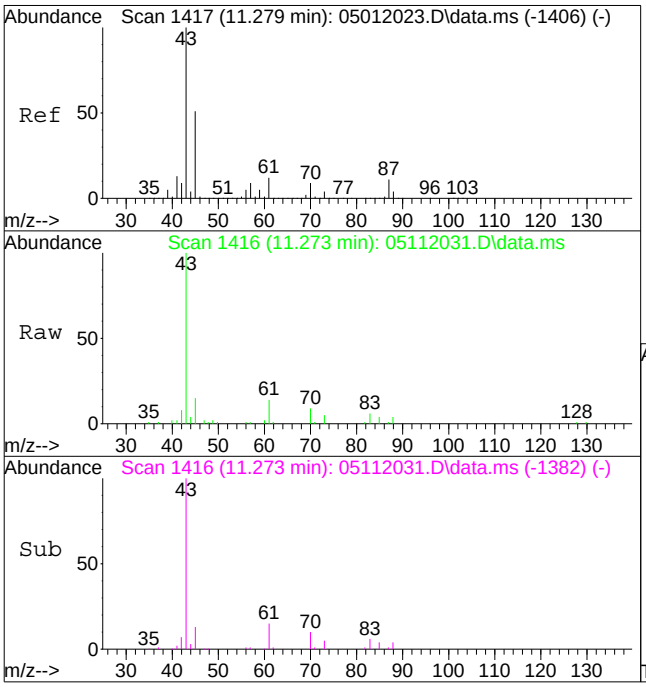


#27
2-Butanone (MEK)
Concen: 1.25 ng
RT: 10.45 min Scan# 1266
Delta R.T. -0.017 min
Lab File: 05112031.D
Acq: 11 May 2020 23:03

Tgt Ion: 72 Resp: 25651

Ion	Ratio	Lower	Upper
72	100		
43	405.9	389.7	429.7

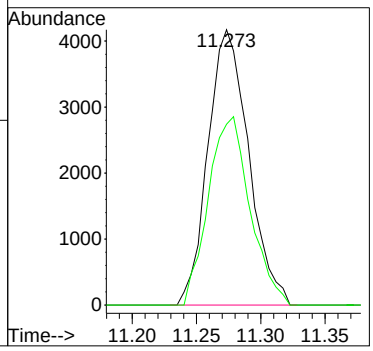


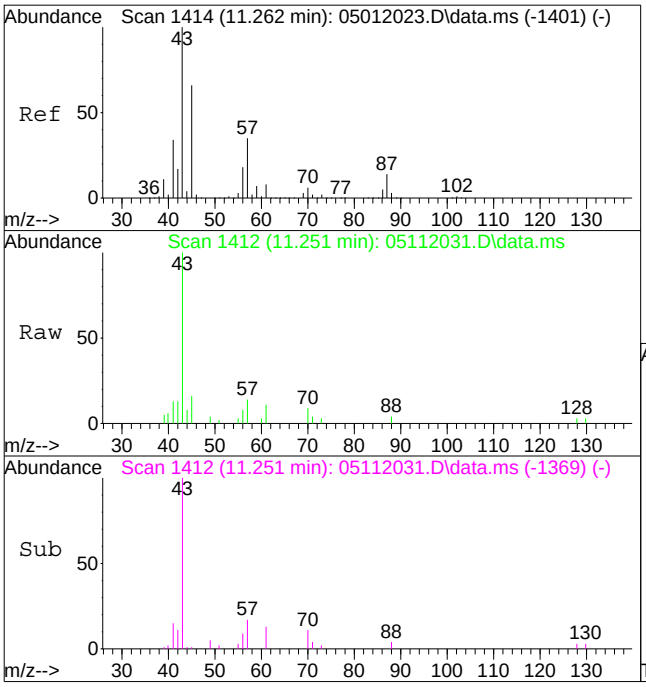


#30
Ethyl Acetate
Concen: 0.78 ng
RT: 11.27 min Scan# 1416
Delta R.T. -0.011 min
Lab File: 05112031.D
Acq: 11 May 2020 23:03

Tgt Ion: 61 Resp: 9187

Ion	Ratio	Lower	Upper
61	100		
70	69.9	57.9	97.9

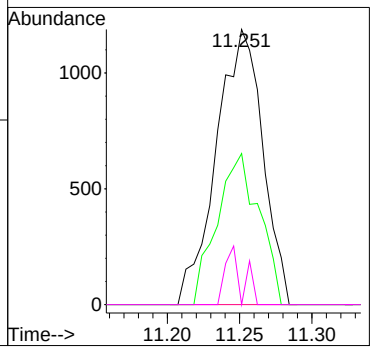


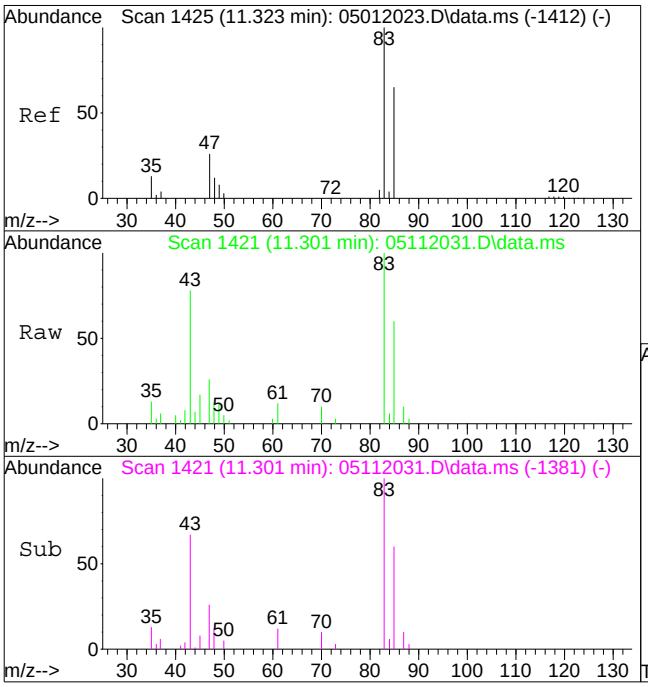


#31
n-Hexane
Concen: 0.05 ng
RT: 11.25 min Scan# 1412
Delta R.T. -0.011 min
Lab File: 05112031.D
Acq: 11 May 2020 23:03

Tgt Ion: 57 Resp: 2659

Ion	Ratio	Lower	Upper
57	100		
56	49.6	41.4	62.0
86	7.7	12.4	18.6#

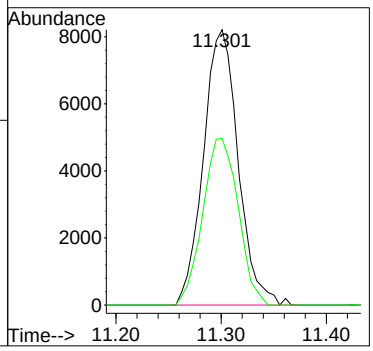


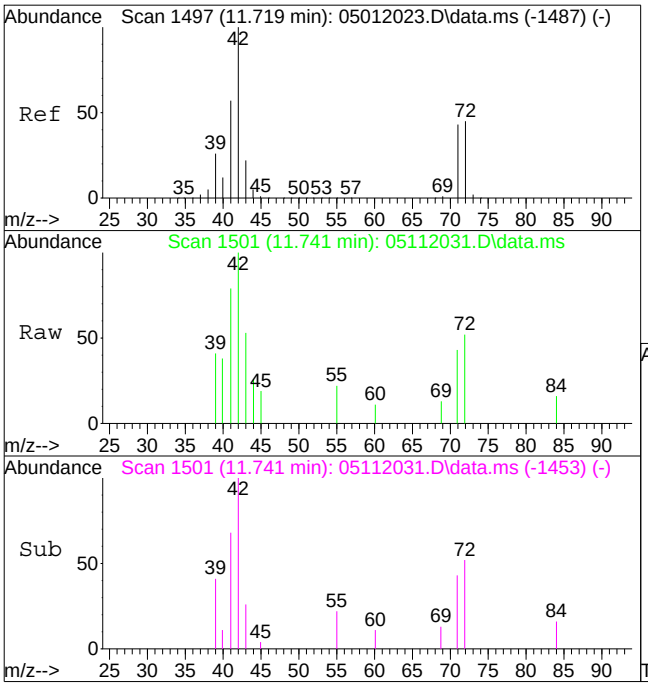


#32
Chloroform
Concen: 0.35 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.028 min
Lab File: 05112031.D
Acq: 11 May 2020 23:03

Tgt Ion: 83 Resp: 18846

Ion	Ratio	Lower	Upper
83	100		
85	61.7	45.5	85.5

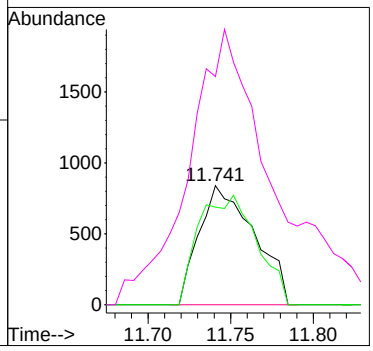


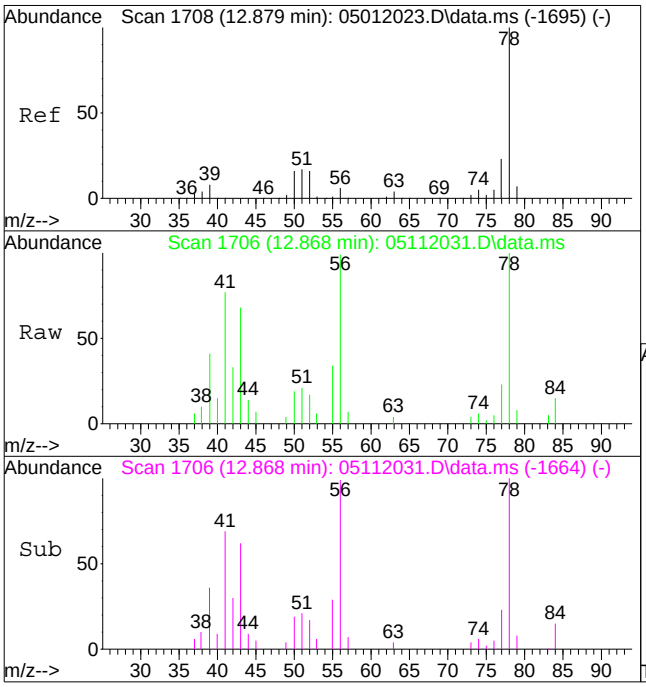


#34
Tetrahydrofuran (THF)
Concen: 0.10 ng
RT: 11.74 min Scan# 1501
Delta R.T. 0.016 min
Lab File: 05112031.D
Acq: 11 May 2020 23:03

Tgt Ion: 72 Resp: 1950

Ion	Ratio	Lower	Upper
72	100		
71	97.1	77.0	117.0
42	357.6	204.6	244.6#

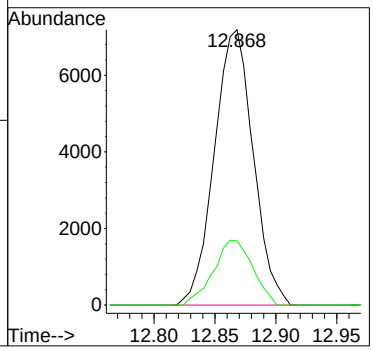


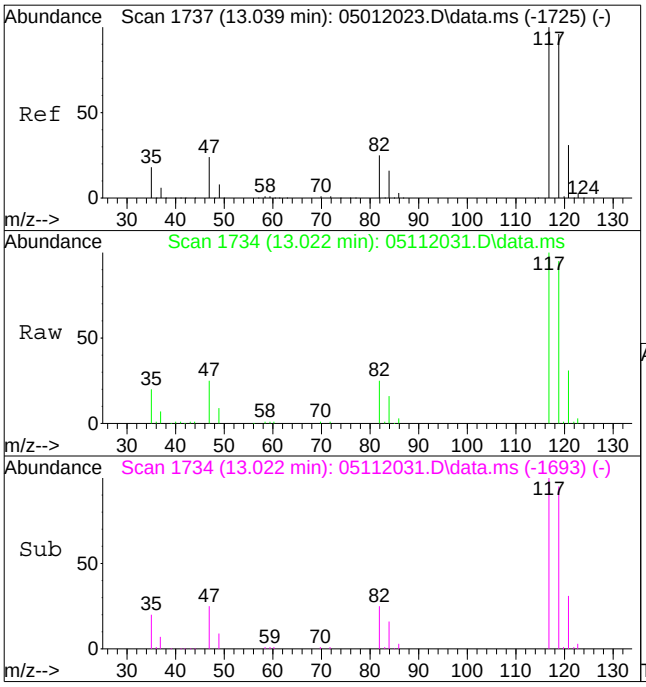


#41
Benzene
Concen: 0.13 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05112031.D
Acq: 11 May 2020 23:03

Tgt Ion: 78 Resp: 15971

Ion	Ratio	Lower	Upper
78	100		
77	23.8	3.4	43.4

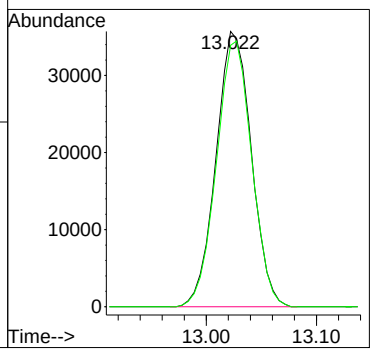


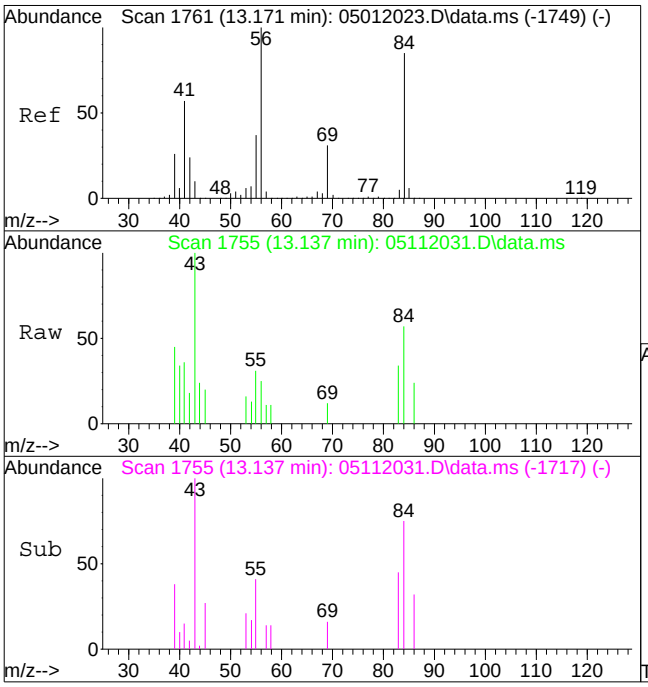


#42
Carbon Tetrachloride
Concen: 1.92 ng
RT: 13.02 min Scan# 1734
Delta R.T. -0.022 min
Lab File: 05112031.D
Acq: 11 May 2020 23:03

Tgt Ion:117 Resp: 79516

Ion	Ratio	Lower	Upper
117	100		
119	96.4	76.2	116.2

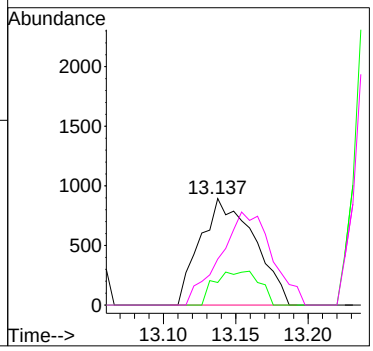


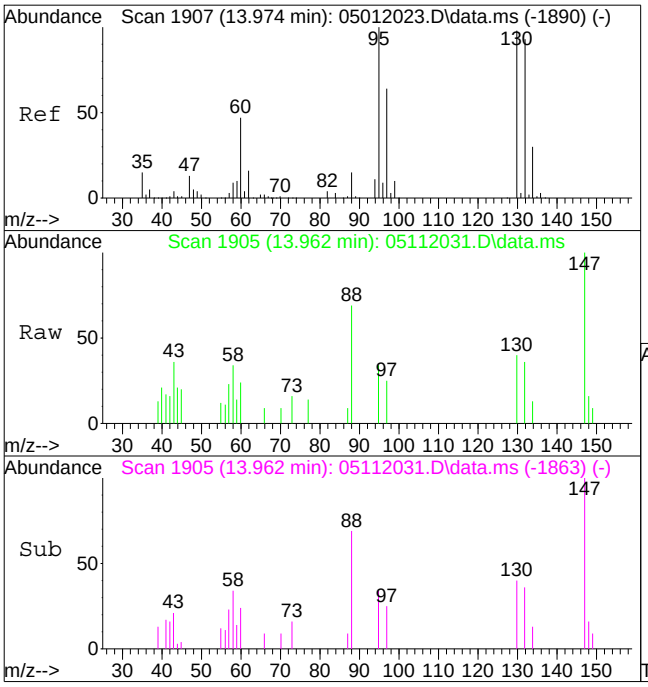


#43
Cyclohexane
Concen: 0.05 ng
RT: 13.14 min Scan# 1755
Delta R.T. -0.039 min
Lab File: 05112031.D
Acq: 11 May 2020 23:03

Tgt Ion: 84 Resp: 2327

Ion	Ratio	Lower	Upper
84	100		
69	26.2	16.5	56.5
56	83.6	97.4	137.4#

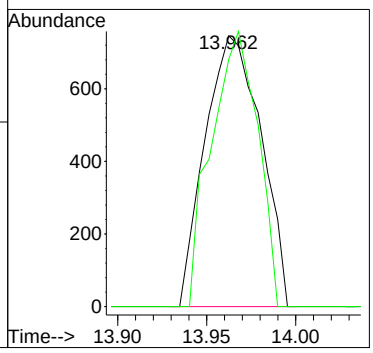


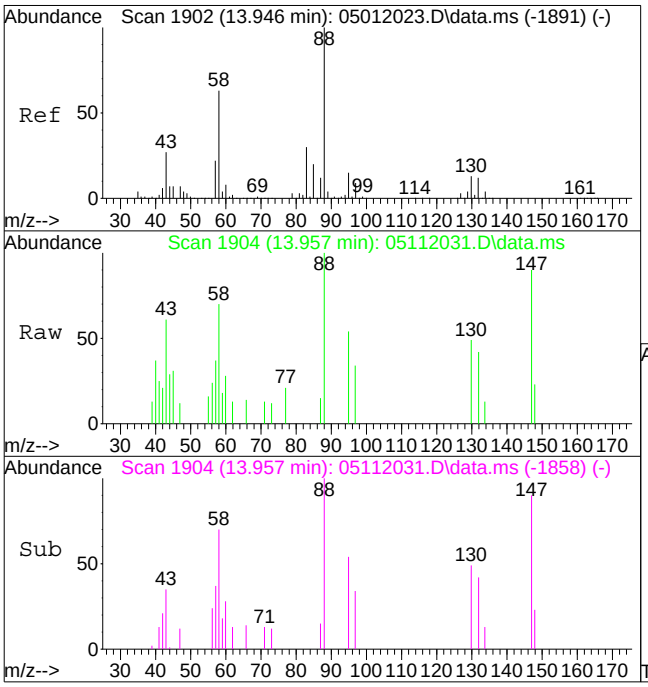


#47
Trichloroethene
Concen: 0.05 ng
RT: 13.96 min Scan# 1905
Delta R.T. -0.017 min
Lab File: 05112031.D
Acq: 11 May 2020 23:03

Tgt Ion:130 Resp: 1630

Ion	Ratio	Lower	Upper
130	100		
132	84.3	74.9	114.9

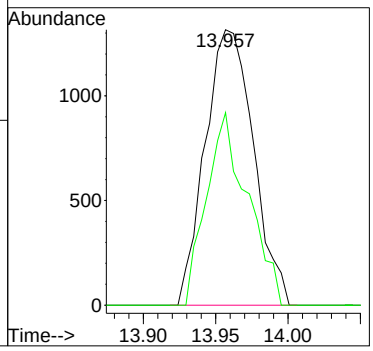


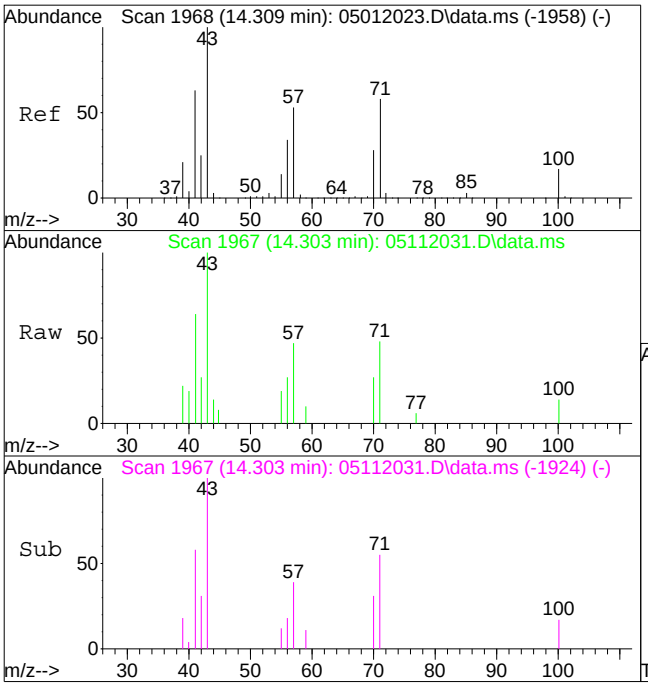


#48
1,4-Dioxane
Concen: 0.13 ng
RT: 13.96 min Scan# 1904
Delta R.T. 0.005 min
Lab File: 05112031.D
Acq: 11 May 2020 23:03

Tgt Ion: 88 Resp: 3059

Ion	Ratio	Lower	Upper
88	100		
58	59.5	42.8	82.8

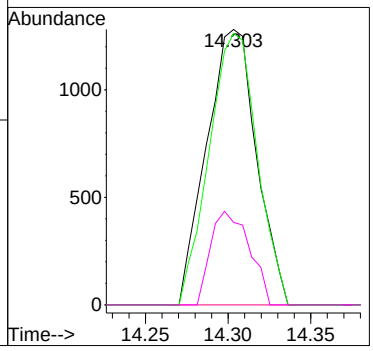


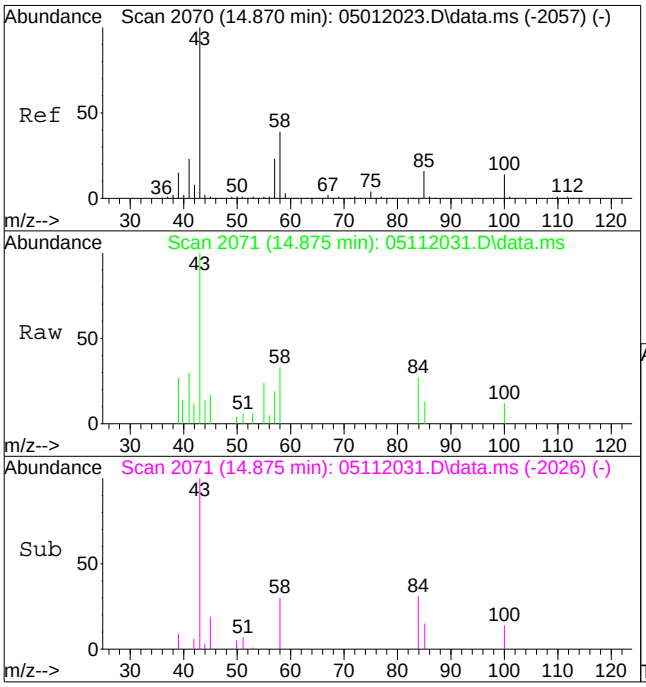


#51
n-Heptane
Concen: 0.09 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05112031.D
Acq: 11 May 2020 23:03

Tgt Ion: 71 Resp: 2684

Ion	Ratio	Lower	Upper
71	100		
57	95.1	71.0	111.0
100	26.4	8.4	48.4

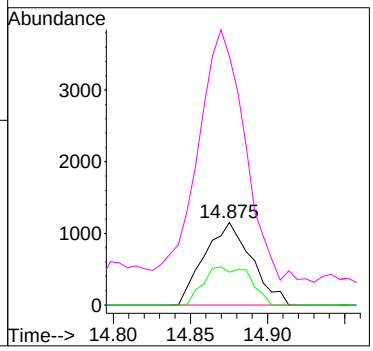


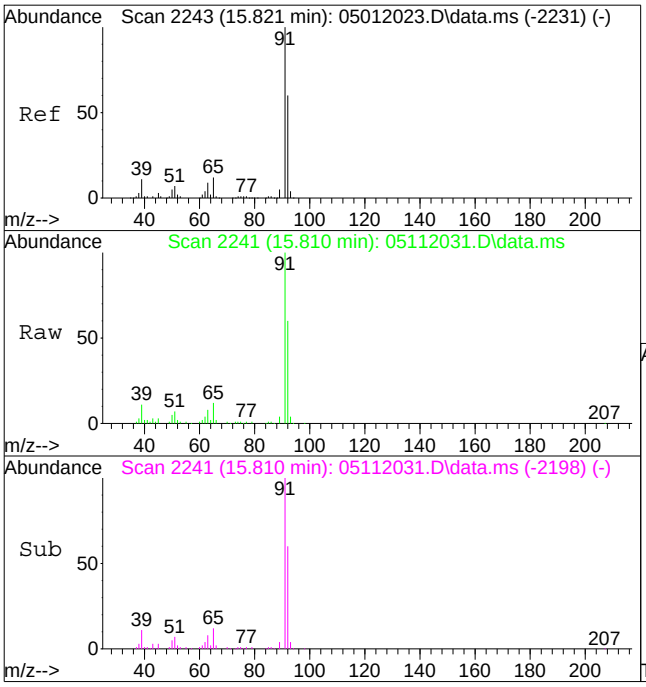


#53
4-Methyl-2-pentanone
Concen: 0.09 ng
RT: 14.88 min Scan# 2071
Delta R.T. -0.000 min
Lab File: 05112031.D
Acq: 11 May 2020 23:03

Tgt Ion: 58 Resp: 2448

Ion	Ratio	Lower	Upper
58	100		
85	45.7	35.4	53.2
43	307.6	203.3	304.9#

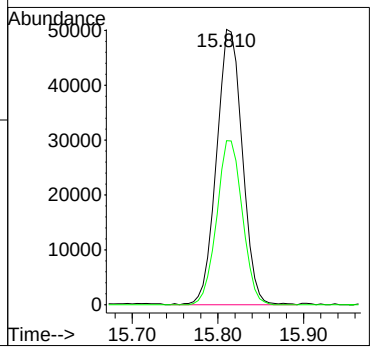


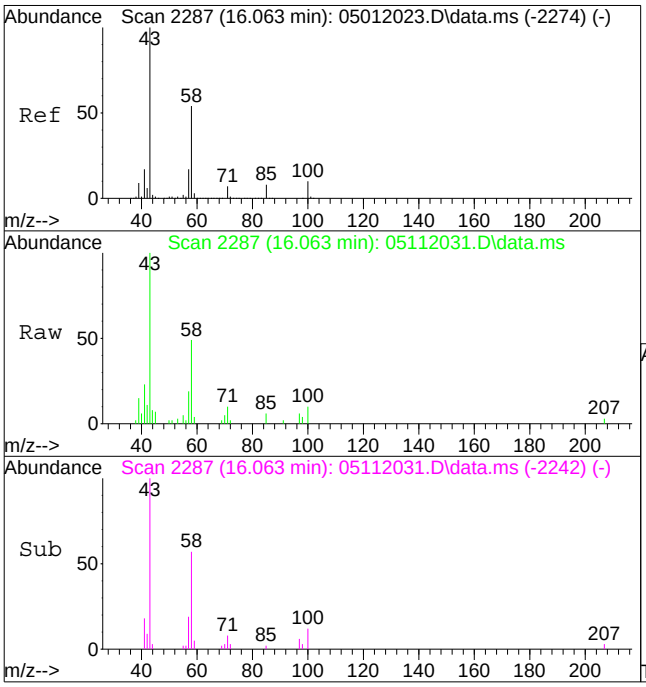


#58
Toluene
Concen: 0.91 ng
RT: 15.81 min Scan# 2241
Delta R.T. -0.011 min
Lab File: 05112031.D
Acq: 11 May 2020 23:03

Tgt Ion: 91 Resp: 104809

Ion	Ratio	Lower	Upper
91	100		
92	59.3	39.4	79.4

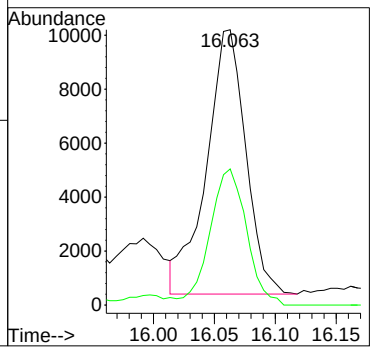


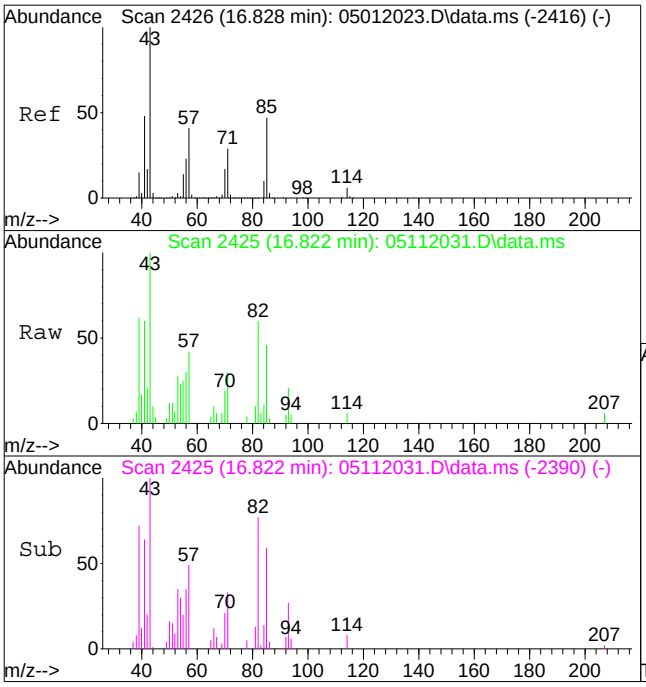


#59
2-Hexanone
Concen: 0.35 ng
RT: 16.06 min Scan# 2287
Delta R.T. -0.000 min
Lab File: 05112031.D
Acq: 11 May 2020 23:03

Tgt Ion: 43 Resp: 22016

Ion	Ratio	Lower	Upper
43	100		
58	47.7	34.5	74.5

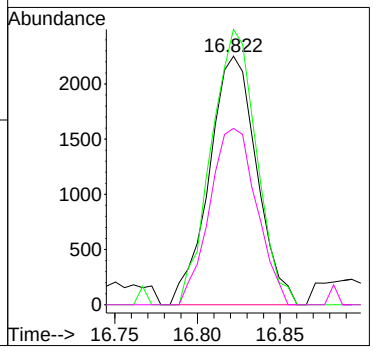


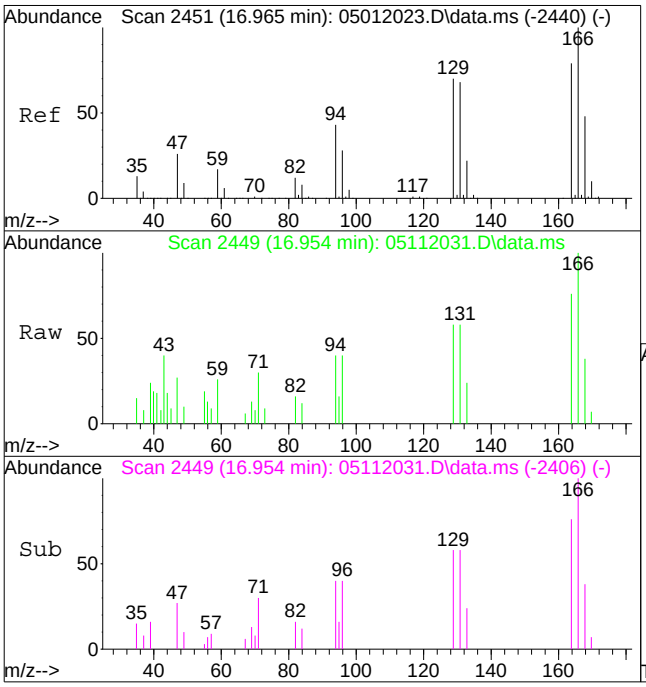


#63
n-Octane
Concen: 0.19 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05112031.D
Acq: 11 May 2020 23:03

Tgt Ion: 57 Resp: 4505

Ion	Ratio	Lower	Upper
57	100		
85	105.4	91.0	136.4
71	70.1	56.2	84.2

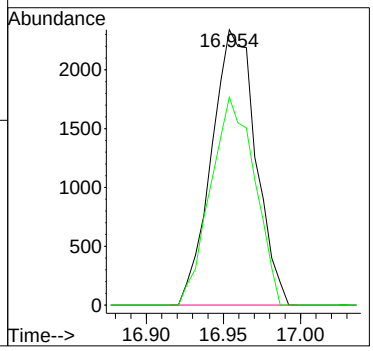


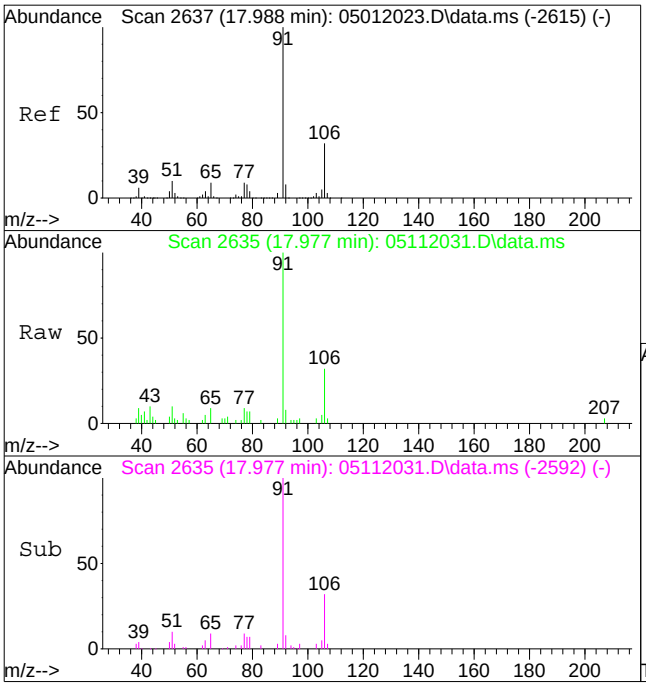


#64
Tetrachloroethene
Concen: 0.14 ng
RT: 16.95 min Scan# 2449
Delta R.T. -0.011 min
Lab File: 05112031.D
Acq: 11 May 2020 23:03

Tgt Ion:166 Resp: 4665

Ion	Ratio	Lower	Upper
166	100		
164	75.4	58.4	98.4

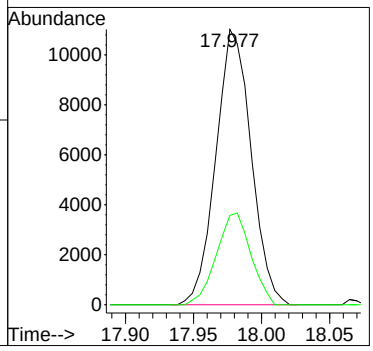


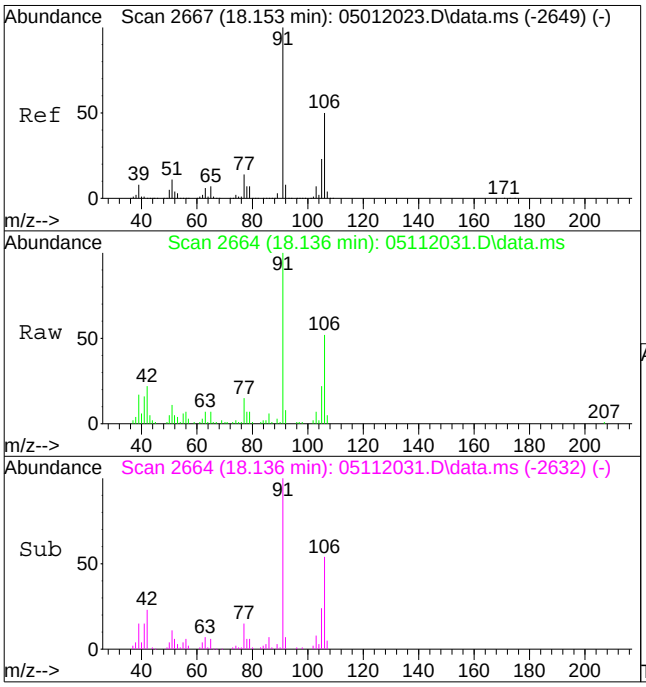


#66
Ethylbenzene
Concen: 0.15 ng
RT: 17.98 min Scan# 2635
Delta R.T. -0.011 min
Lab File: 05112031.D
Acq: 11 May 2020 23:03

Tgt Ion: 91 Resp: 19857

Ion	Ratio	Lower	Upper
91	100		
106	32.5	11.6	51.6

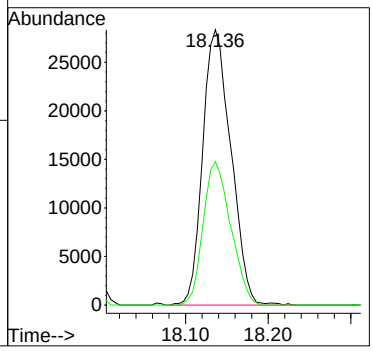


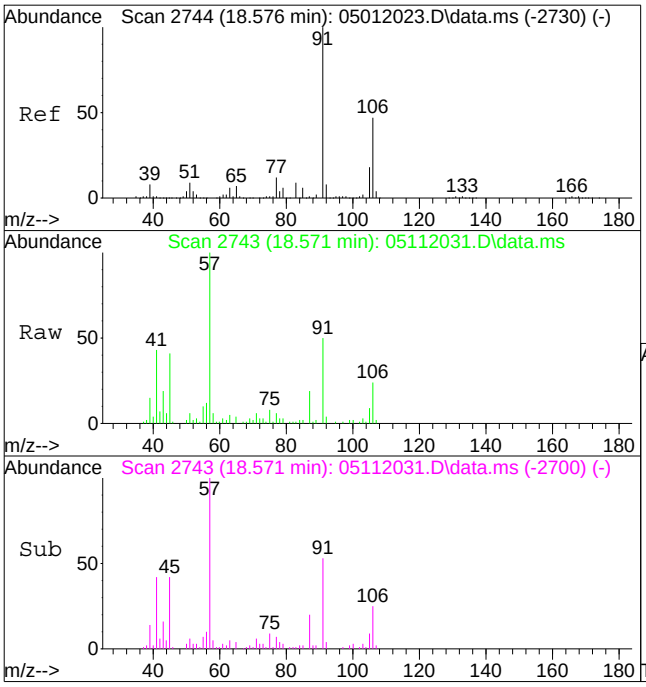


#67
m- & p-Xylenes
Concen: 0.66 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05112031.D
Acq: 11 May 2020 23:03

Tgt Ion: 91 Resp: 67287

Ion	Ratio	Lower	Upper
91	100		
106	50.8	29.7	69.7

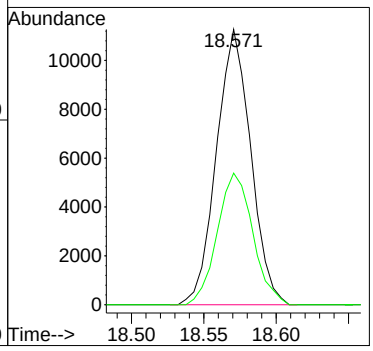


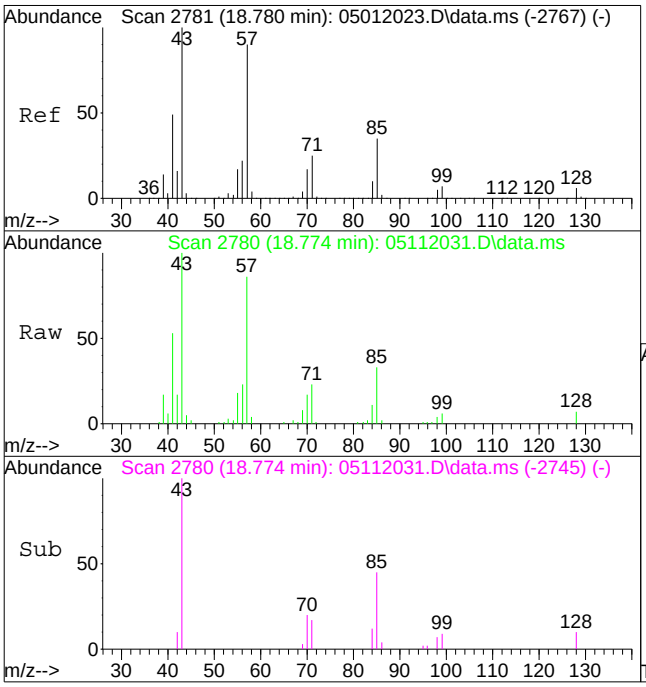


#70
o-Xylene
Concen: 0.18 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05112031.D
Acq: 11 May 2020 23:03

Tgt Ion: 91 Resp: 18633

Ion	Ratio	Lower	Upper
91	100		
106	49.4	27.5	67.5

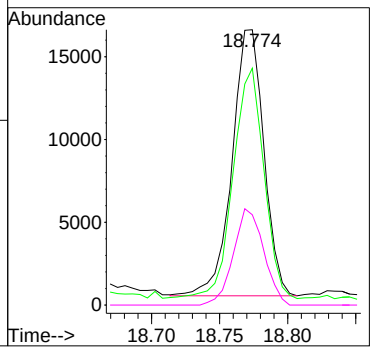


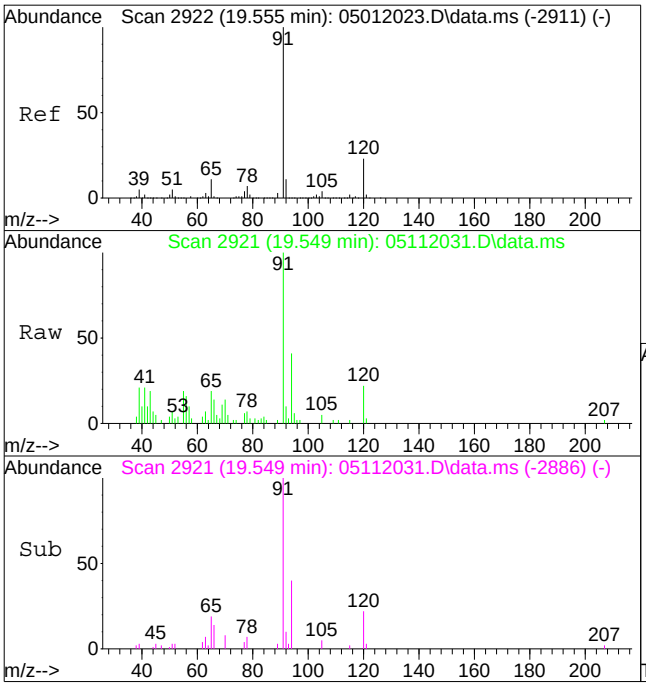


#71
n-Nonane
Concen: 0.48 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05112031.D
Acq: 11 May 2020 23:03

Tgt Ion: 43 Resp: 26084

Ion	Ratio	Lower	Upper
43	100		
57	84.3	69.0	109.0
85	34.5	14.6	54.6

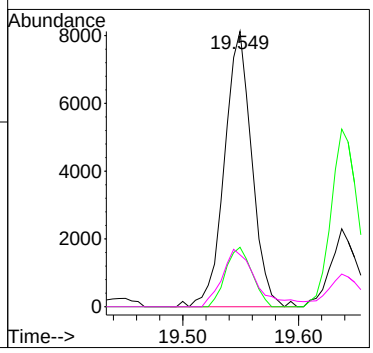


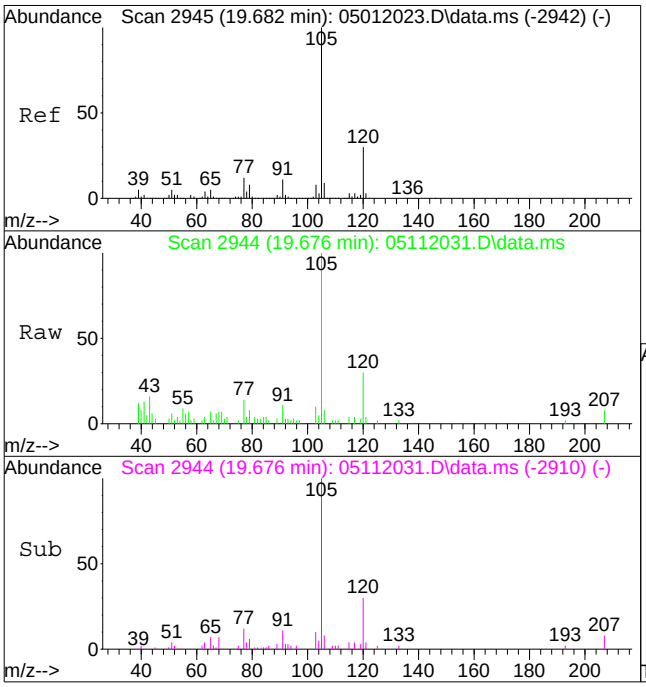


#76
n-Propylbenzene
Concen: 0.09 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05112031.D
Acq: 11 May 2020 23:03

Tgt Ion: 91 Resp: 13390

Ion	Ratio	Lower	Upper
91	100		
120	20.9	3.1	43.1
65	25.7	0.0	30.9

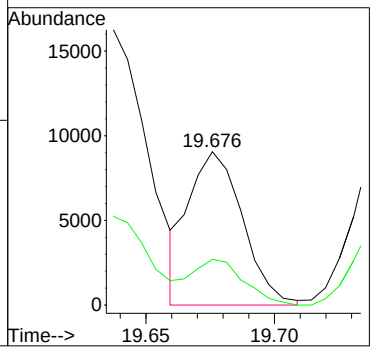


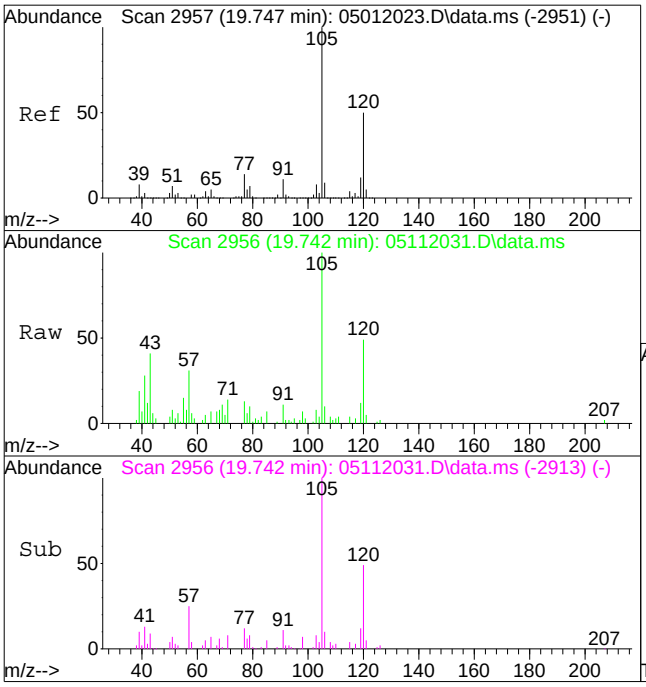


#78
4-Ethyltoluene
Concen: 0.11 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05112031.D
Acq: 11 May 2020 23:03

Tgt Ion:105 Resp: 13273

Ion	Ratio	Lower	Upper
105	100		
120	29.8	10.4	50.4

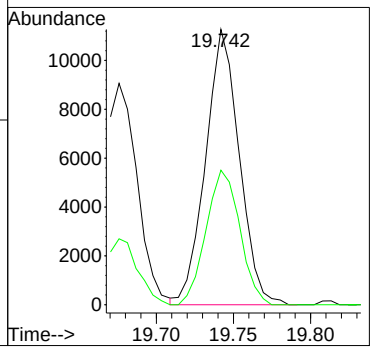


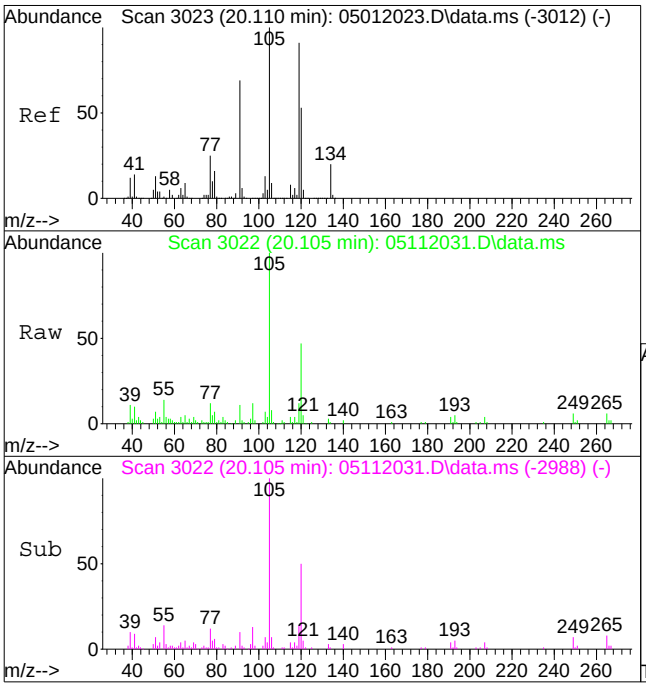


#79
1,3,5-Trimethylbenzene
Concen: 0.17 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05112031.D
Acq: 11 May 2020 23:03

Tgt Ion:105 Resp: 17145

Ion	Ratio	Lower	Upper
105	100		
120	48.9	29.9	69.9

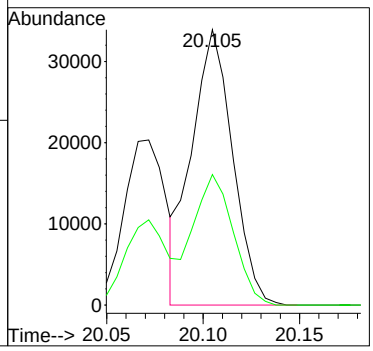


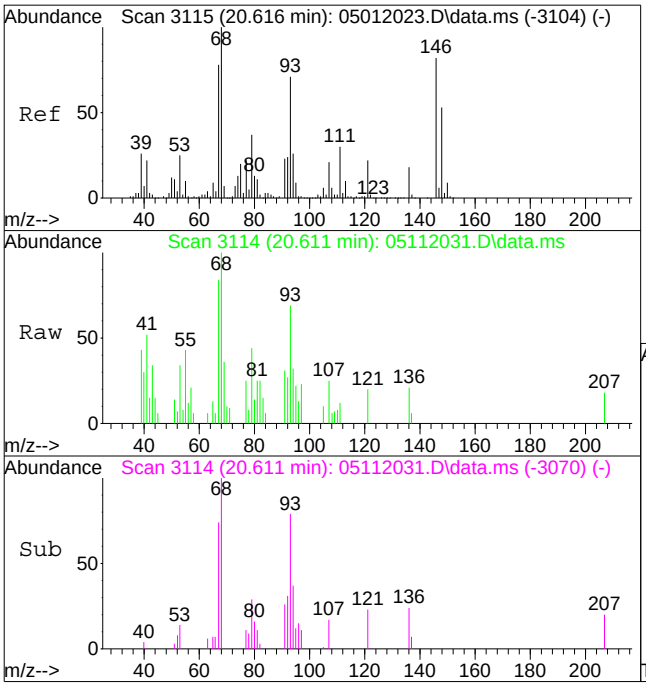


#82
1,2,4-Trimethylbenzene
Concen: 0.48 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05112031.D
Acq: 11 May 2020 23:03

Tgt Ion:105 Resp: 50157

Ion	Ratio	Lower	Upper
105	100		
120	44.1	33.6	73.6

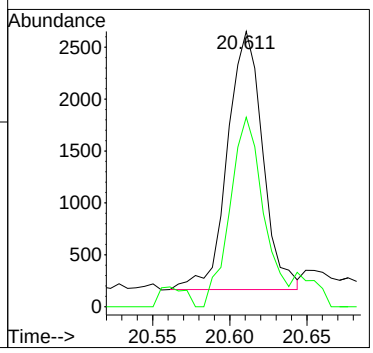




#91
d-Limonene
Concen: 0.10 ng
RT: 20.61 min Scan# 3114
Delta R.T. -0.006 min
Lab File: 05112031.D
Acq: 11 May 2020 23:03

Tgt Ion: 68 Resp: 3942

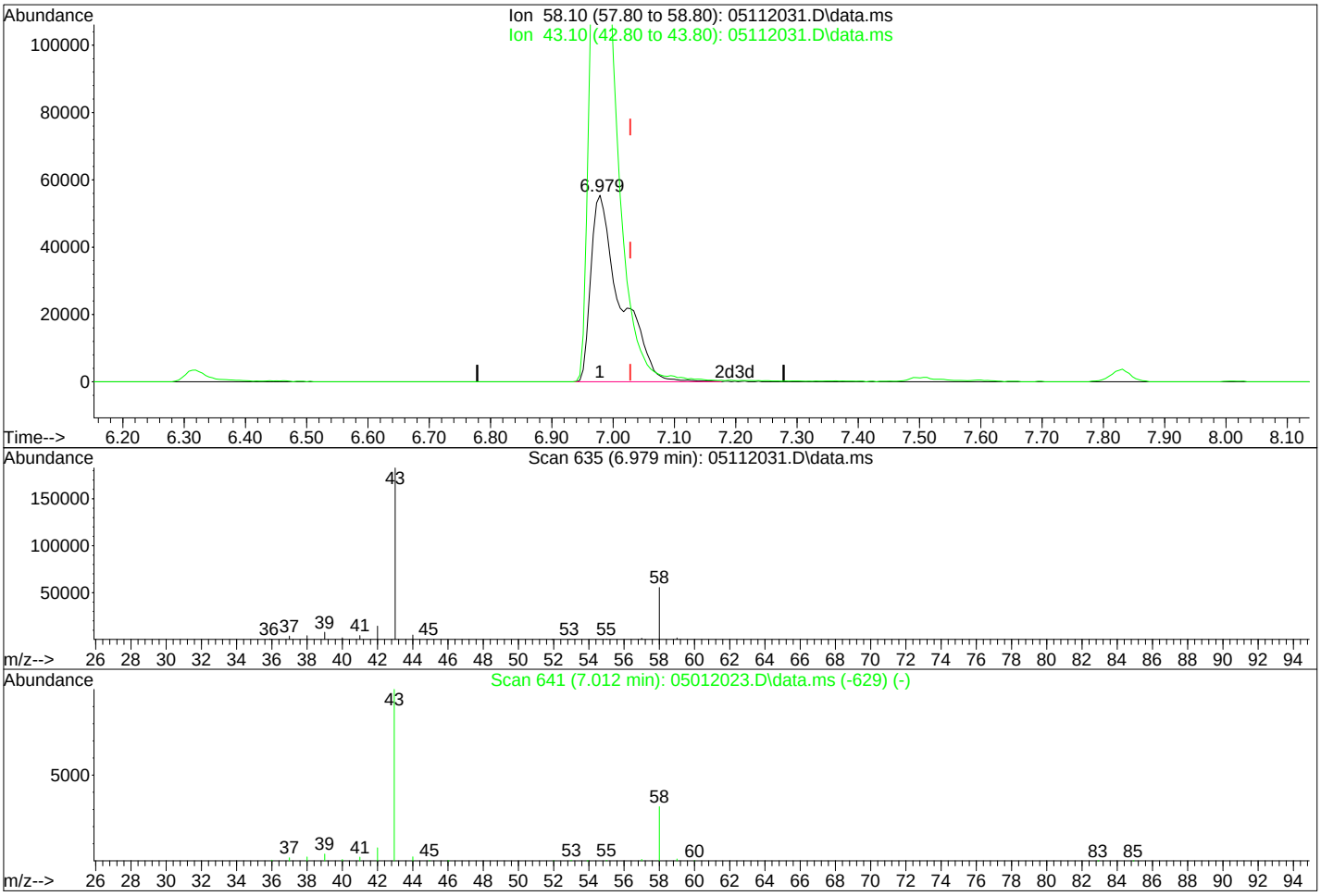
Ion	Ratio	Lower	Upper
68	100		
93	70.6	51.1	91.1



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\11\05112031.D Vial: 9
Acq On : 11 May 2020 23:03 Operator: LH
Sample : P2002299-017 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 12 02:52:45 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05112031.D\data.ms

(13) Acetone (T)

6.979min (-0.050) 7.78ng

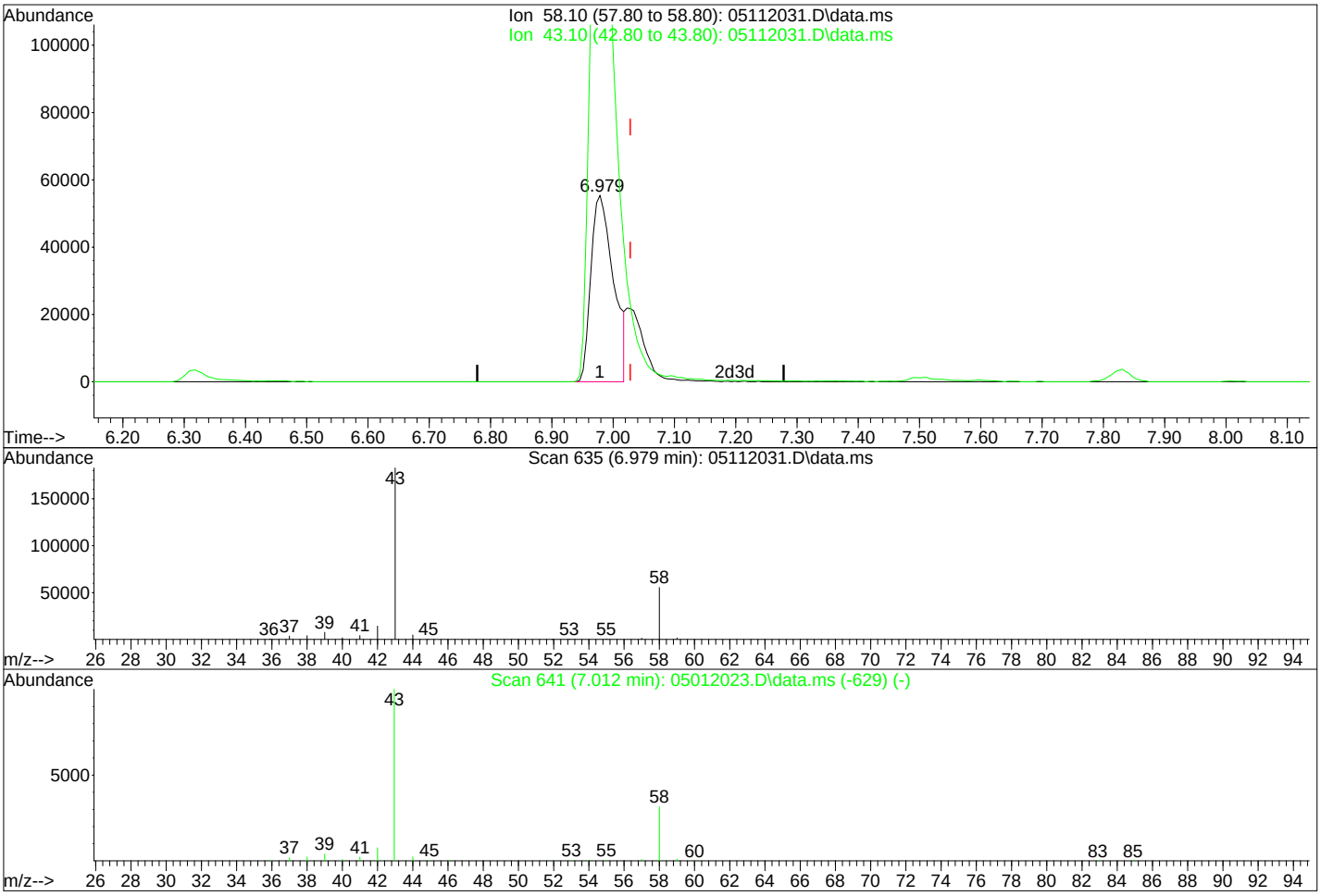
response 187167

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	267.58#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\11\05112031.D Vial: 9
Acq On : 11 May 2020 23:03 Operator: LH
Sample : P2002299-017 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 12 02:52:45 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05112031.D\data.ms

(13) Acetone (T)

6.979min (-0.050) 5.87ng m

response 141278

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	354.49#
0.00	0.00	0.00
0.00	0.00	0.00

IPC

LH 5/13/20

5/14/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112032.D Vial: 10
Acq On : 11 May 2020 23:37 Operator: LH
Sample : P2002299-018 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 14:53:53 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/13/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	265660	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1122210	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	517308	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	414075	11.501	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.00%				
57) Toluene-d8 (SS2)	15.71	98	1094279	12.480	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.84%				
73) Bromofluorobenzene (SS3)	18.97	174	428345	13.577	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.64%				
Target Compounds							Qvalue
2) Propene	4.10	42	9543	0.310	ng		97
3) Dichlorodifluoromethan...	4.25	85	58090	0.965	ng		100
4) Chloromethane	4.52	50	6527	0.138	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	477	N.D.			
6) Vinyl Chloride	4.96	62	449	N.D.			
7) 1,3-Butadiene	5.15	54	298	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.97	64	186	N.D.			
10) Ethanol	6.33	45	428700	18.044	ng		100
11) Acetonitrile	6.58	41	10486	0.193	ng		99
12) Acrolein	6.78	56	3836	0.204	ng		98
13) Acetone	6.98	58	153040	6.441	ng	#	74
14) Trichlorofluoromethane	7.23	101	74324	1.397	ng		99
15) 2-Propanol (Isopropanol)	7.50	45	52125	0.725	ng		90
16) Acrylonitrile	7.75	53	1766	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	7165	0.232	ng		99
20) 3-Chloro-1-propene (Al...	8.50	41	813	N.D.			
21) Trichlorotrifluoroethane	8.84	151	141341	5.629	ng		98
22) Carbon Disulfide	8.67	76	295190	2.667	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.08	73	1572	N.D.			
26) Vinyl Acetate	10.17	86	3186	0.430	ng	#	44
27) 2-Butanone (MEK)	10.46	72	15609	0.770	ng		94
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.28	61	4838	0.414	ng		98
31) n-Hexane	11.25	57	3199	0.063	ng	#	97
32) Chloroform	11.30	83	9840	0.186	ng		99
34) Tetrahydrofuran (THF)	11.72	72	28899	1.462	ng		99
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.10	62	3684	0.088	ng		96
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	12.86	61	773	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	138551	1.151	ng		100
42) Carbon Tetrachloride	13.03	117	347027	8.478	ng		99
43) Cyclohexane	13.16	84	2254	0.050	ng		87
44) tert-Amyl Methyl Ether	13.54	73	212	N.D.			
45) 1,2-Dichloropropane	13.52	63	1361	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	13.97	130	547	N.D.			
48) 1,4-Dioxane	13.97	88	1072	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.30	100	442	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112032.D Vial: 10
Acq On : 11 May 2020 23:37 Operator: LH
Sample : P2002299-018 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 14:53:53 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

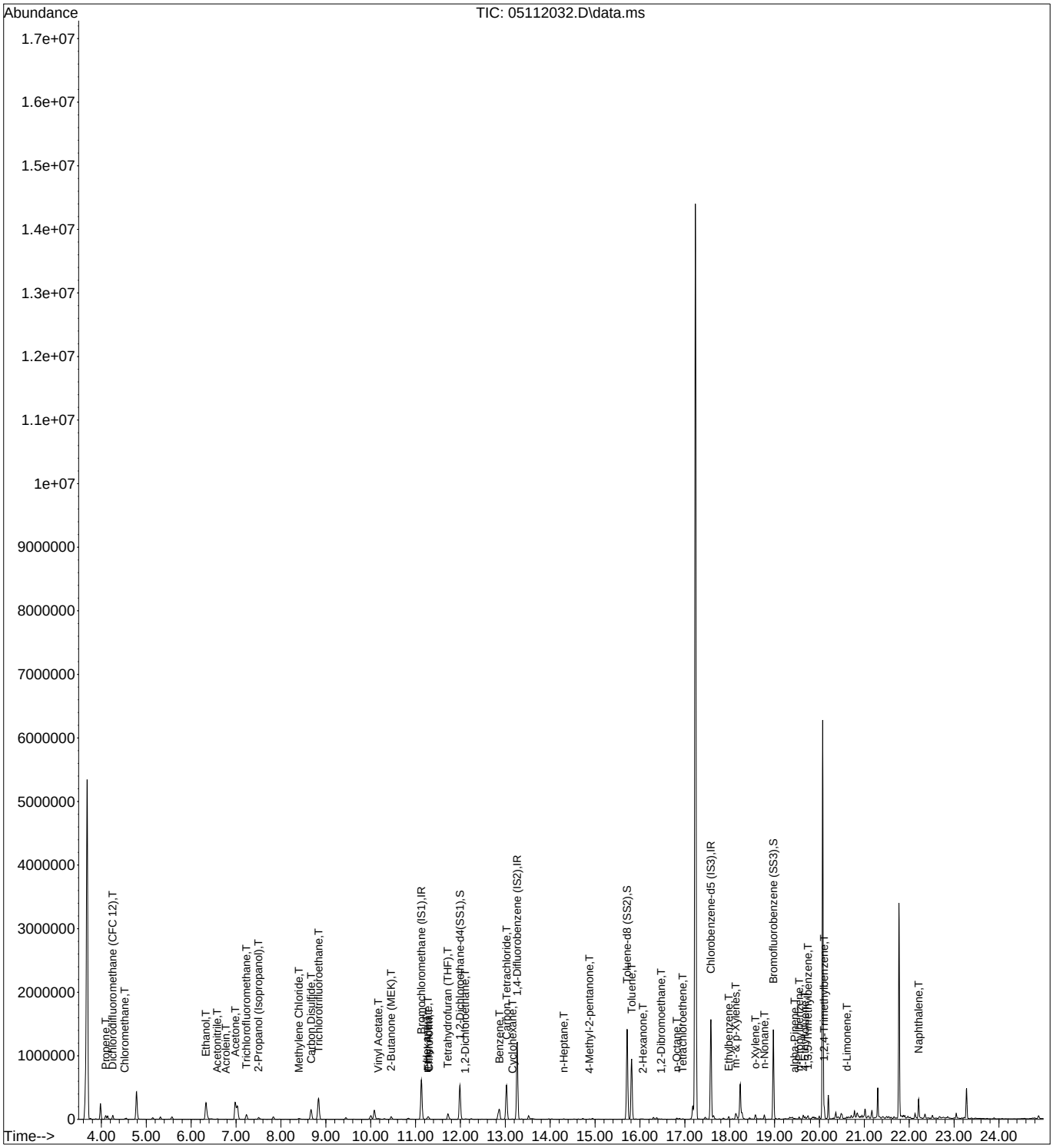
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.30	71	1874	0.067 ng		93
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.88	58	1373	0.051 ng	#	54
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.82	91	786074	6.955 ng		100
59) 2-Hexanone	16.07	43	3657	0.059 ng		81
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	16.48	107	3109	0.100 ng		100
62) n-Butyl Acetate	16.70	43	1363	N.D.		
63) n-Octane	16.82	57	3142	0.134 ng		93
64) Tetrachloroethene	16.95	166	2442	0.076 ng		99
65) Chlorobenzene	17.66	112	994	N.D.		
66) Ethylbenzene	17.98	91	33172	0.263 ng		99
67) m- & p-Xylenes	18.14	91	70426	0.704 ng		99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	1435	N.D.		
70) o-Xylene	18.57	91	35966	0.354 ng		99
71) n-Nonane	18.77	43	23934	0.444 ng		99
72) 1,1,2,2-Tetrachloroethane	18.58	83	322	N.D.		
74) Cumene	19.10	105	4830	N.D.		
75) alpha-Pinene	19.45	93	3974	0.060 ng		88
76) n-Propylbenzene	19.55	91	18013	0.122 ng		91
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.68	105	16837	0.144 ng		100
79) 1,3,5-Trimethylbenzene	19.74	105	16633	0.164 ng		100
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	20.10	105	80801	0.791 ng		91
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.31	91	2689	N.D.		
85) 1,3-Dichlorobenzene	20.30	146	751	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	751	N.D.		
87) sec-Butylbenzene	20.35	105	6151	N.D.		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.61	68	6009	0.149 ng		85
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	22.21	128	24537	0.197 ng		99
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112032.D Vial: 10
Acq On : 11 May 2020 23:37 Operator: LH
Sample : P2002299-018 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 14:53:53 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112032.D Vial: 10
Acq On : 11 May 2020 23:37 Operator: LH
Sample : P2002299-018 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 14:53:53 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/13/20

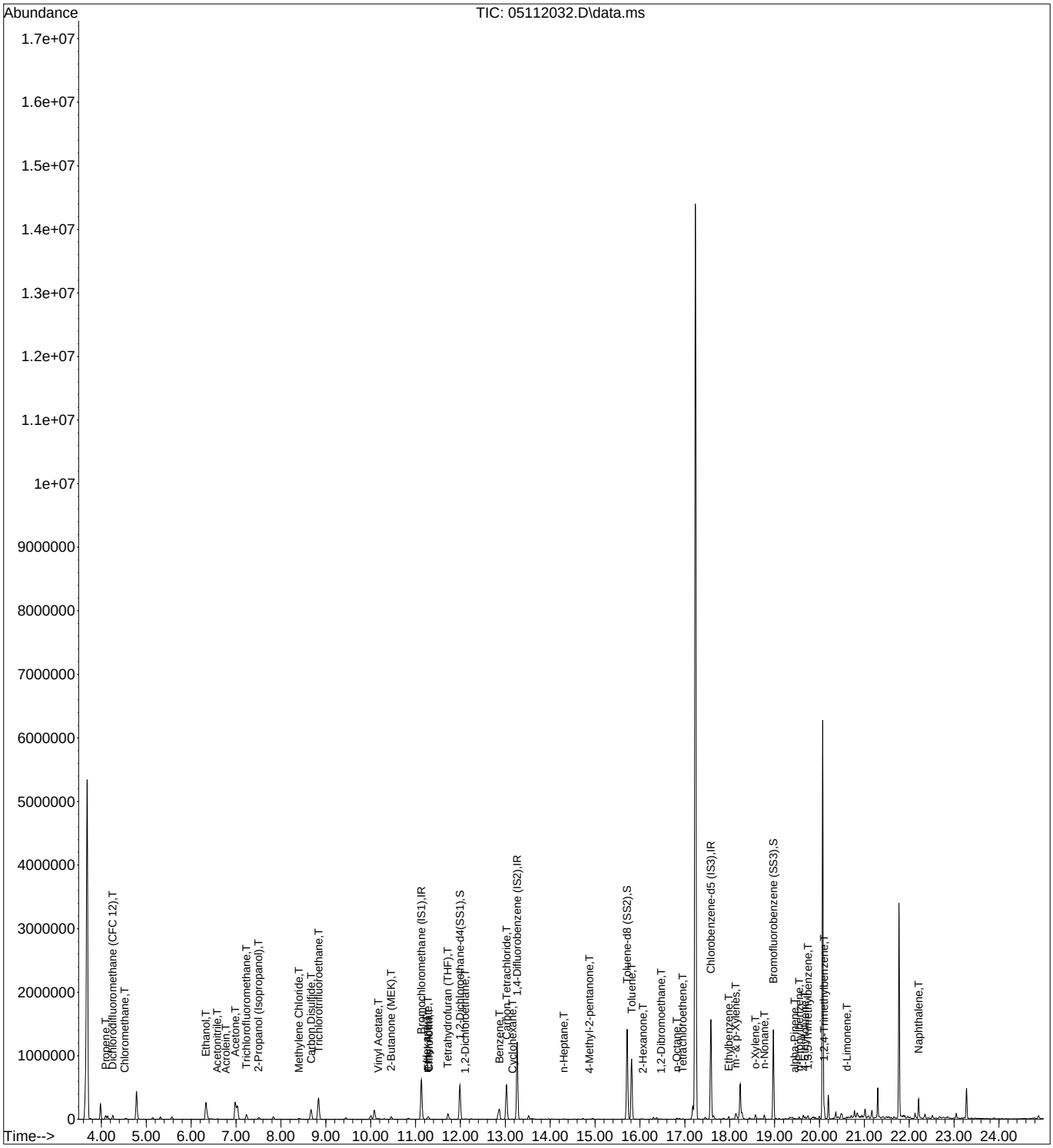
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	265660	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1122210	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	517308	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	414075	11.501	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.00%				
57) Toluene-d8 (SS2)	15.71	98	1094279	12.480	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.84%				
73) Bromofluorobenzene (SS3)	18.97	174	428345	13.577	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.64%				
Target Compounds							Qvalue
2) Propene	4.10	42	9543	0.310	ng		97
3) Dichlorodifluoromethan...	4.25	85	58090	0.965	ng		100
4) Chloromethane	4.52	50	6527	0.138	ng		99
10) Ethanol	6.33	45	428700	18.044	ng		100
11) Acetonitrile	6.58	41	10486	0.193	ng		99
12) Acrolein	6.78	56	3836	0.204	ng		98
13) Acetone	6.98	58	153040	6.441	ng	#	74
14) Trichlorofluoromethane	7.23	101	74324	1.397	ng		99
15) 2-Propanol (Isopropanol)	7.50	45	52125	0.725	ng		90
19) Methylene Chloride	8.40	84	7165	0.232	ng		99
21) Trichlorotrifluoroethane	8.84	151	141341	5.629	ng		98
22) Carbon Disulfide	8.67	76	295190	2.667	ng		99
26) Vinyl Acetate	10.17	86	3186	0.430	ng	#	44
27) 2-Butanone (MEK)	10.46	72	15609	0.770	ng		94
30) Ethyl Acetate	11.28	61	4838	0.414	ng		98
31) n-Hexane	11.25	57	3199	0.063	ng	#	97
32) Chloroform	11.30	83	9840	0.186	ng		99
34) Tetrahydrofuran (THF)	11.72	72	28899	1.462	ng		99
36) 1,2-Dichloroethane	12.10	62	3684	0.088	ng		96
41) Benzene	12.87	78	138551	1.151	ng		100
42) Carbon Tetrachloride	13.03	117	347027	8.478	ng		99
43) Cyclohexane	13.16	84	2254	0.050	ng		87
51) n-Heptane	14.30	71	1874	0.067	ng		93
53) 4-Methyl-2-pentanone	14.88	58	1373	0.051	ng	#	54
58) Toluene	15.82	91	786074	6.955	ng		100
59) 2-Hexanone	16.07	43	3657	0.059	ng		81
61) 1,2-Dibromoethane	16.48	107	3109	0.100	ng		100
63) n-Octane	16.82	57	3142	0.134	ng		93
64) Tetrachloroethene	16.95	166	2442	0.076	ng		99
66) Ethylbenzene	17.98	91	33172	0.263	ng		99
67) m- & p-Xylenes	18.14	91	70426	0.704	ng		99
70) o-Xylene	18.57	91	35966	0.354	ng		99
71) n-Nonane	18.77	43	23934	0.444	ng		99
75) alpha-Pinene	19.45	93	3974	0.060	ng		88
76) n-Propylbenzene	19.55	91	18013	0.122	ng		91
78) 4-Ethyltoluene	19.68	105	16837	0.144	ng		100
79) 1,3,5-Trimethylbenzene	19.74	105	16633	0.164	ng		100
82) 1,2,4-Trimethylbenzene	20.10	105	80801	0.791	ng		91
91) d-Limonene	20.61	68	6009	0.149	ng		85
95) Naphthalene	22.21	128	24537	0.197	ng		99

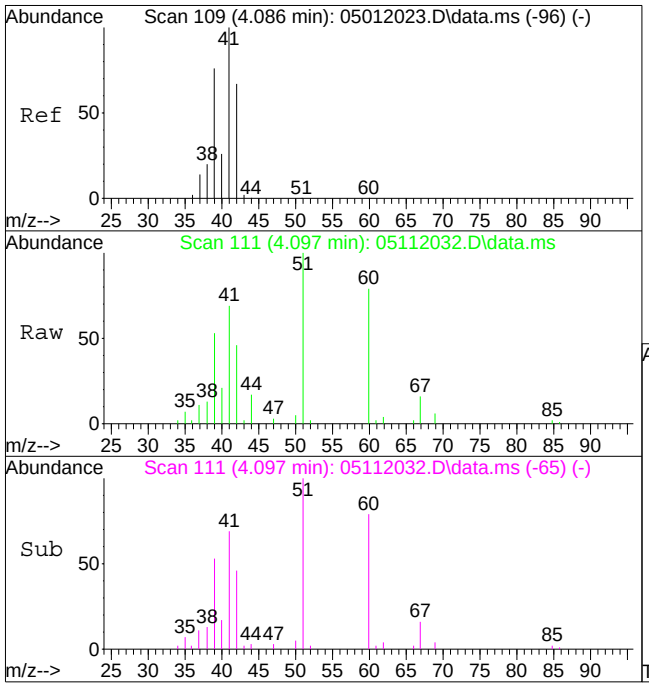
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112032.D Vial: 10
Acq On : 11 May 2020 23:37 Operator: LH
Sample : P2002299-018 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 14:53:53 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

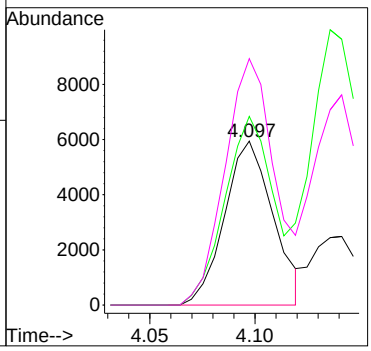


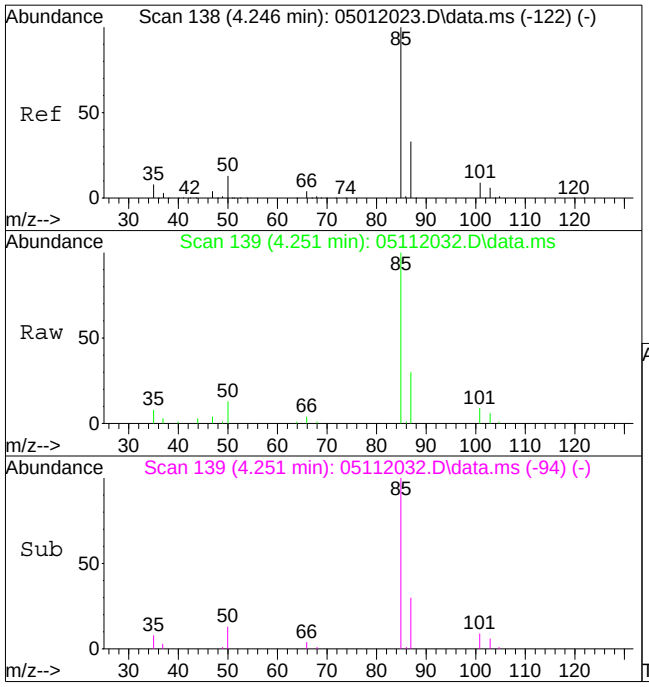


#2
Propene
Concen: 0.31 ng
RT: 4.10 min Scan# 111
Delta R.T. 0.005 min
Lab File: 05112032.D
Acq: 11 May 2020 23:37

Tgt Ion: 42 Resp: 9543

Ion	Ratio	Lower	Upper
42	100		
39	113.1	96.1	136.1
41	155.1	131.9	171.9

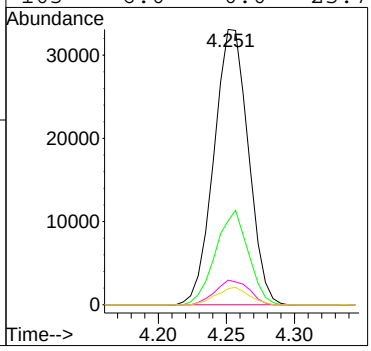


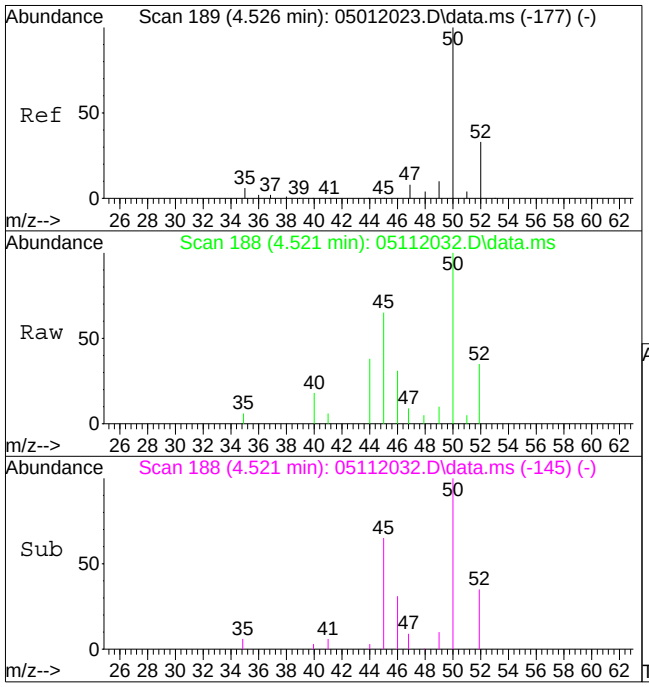


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.97 ng
RT: 4.25 min Scan# 139
Delta R.T. -0.000 min
Lab File: 05112032.D
Acq: 11 May 2020 23:37

Tgt Ion: 85 Resp: 58090

Ion	Ratio	Lower	Upper
85	100		
87	32.5	12.4	52.4
101	8.7	0.0	28.8
103	6.0	0.0	25.7

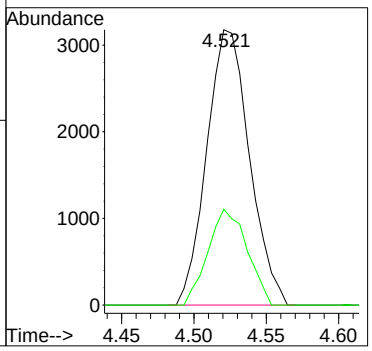


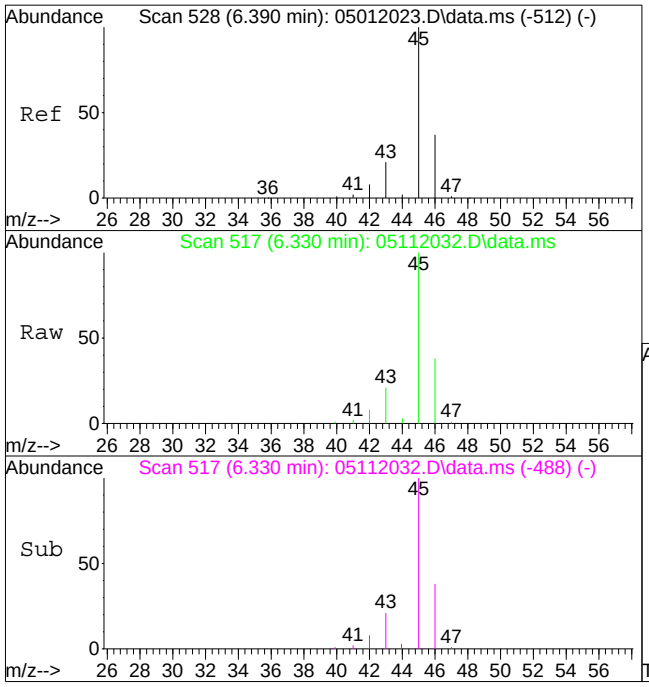


#4
Chloromethane
Concen: 0.14 ng
RT: 4.52 min Scan# 188
Delta R.T. -0.011 min
Lab File: 05112032.D
Acq: 11 May 2020 23:37

Tgt Ion: 50 Resp: 6527

Ion	Ratio	Lower	Upper
50	100		
52	31.9	12.5	52.5

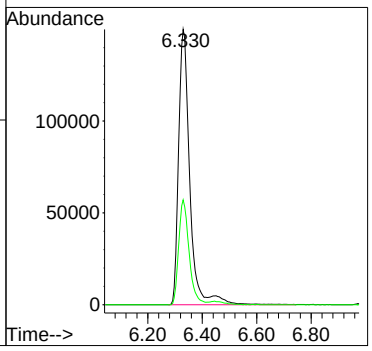


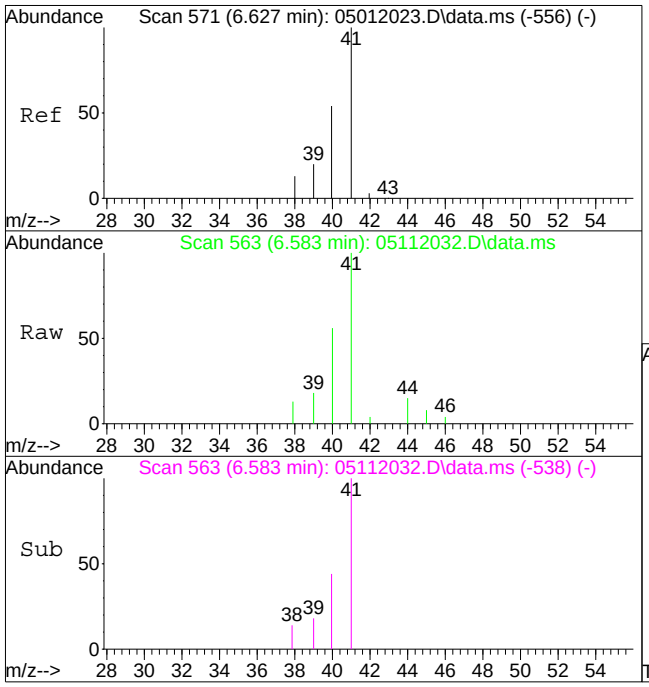


#10
Ethanol
Concen: 18.04 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.088 min
Lab File: 05112032.D
Acq: 11 May 2020 23:37

Tgt Ion: 45 Resp: 428700

Ion	Ratio	Lower	Upper
45	100		
46	37.1	17.2	57.2

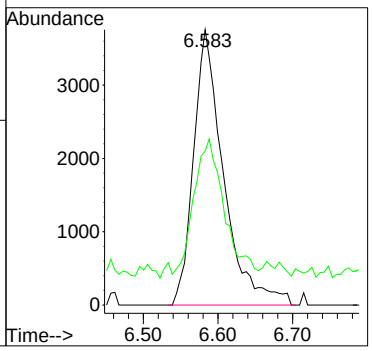


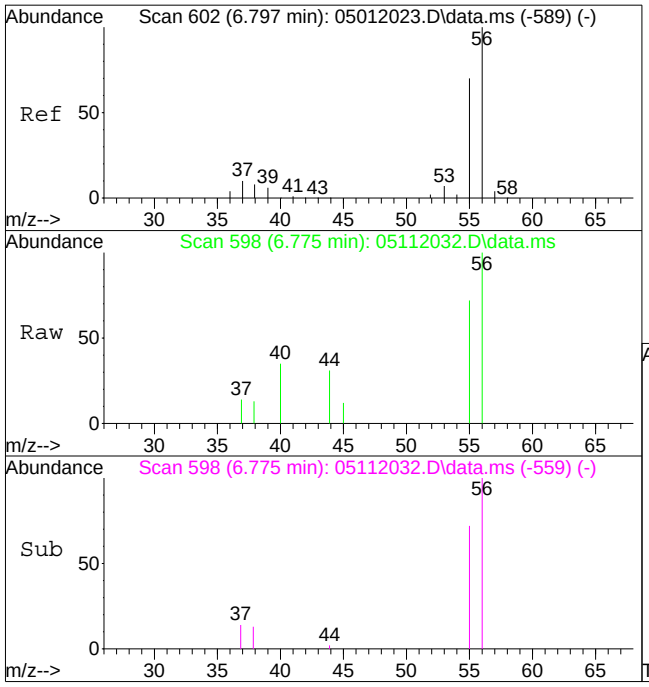


#11
Acetonitrile
Concen: 0.19 ng
RT: 6.58 min Scan# 563
Delta R.T. -0.061 min
Lab File: 05112032.D
Acq: 11 May 2020 23:37

Tgt Ion: 41 Resp: 10486

Ion	Ratio	Lower	Upper
41	100		
40	53.0	33.6	73.6

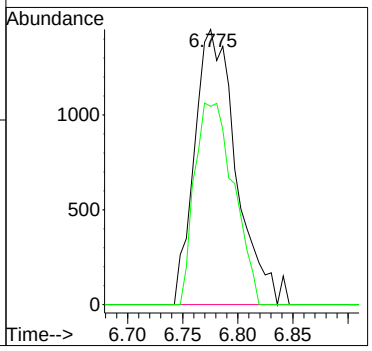


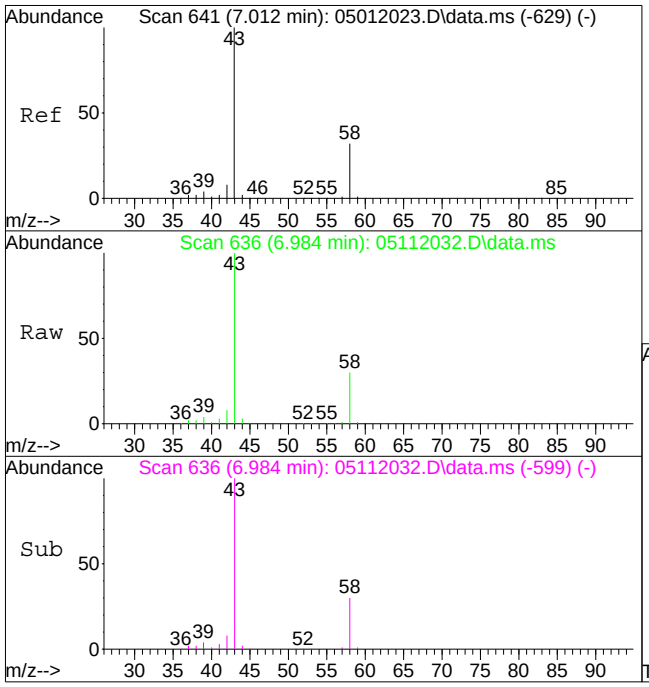


#12
Acrolein
Concen: 0.20 ng
RT: 6.78 min Scan# 598
Delta R.T. -0.033 min
Lab File: 05112032.D
Acq: 11 May 2020 23:37

Tgt Ion: 56 Resp: 3836

Ion	Ratio	Lower	Upper
56	100		
55	68.5	50.2	90.2

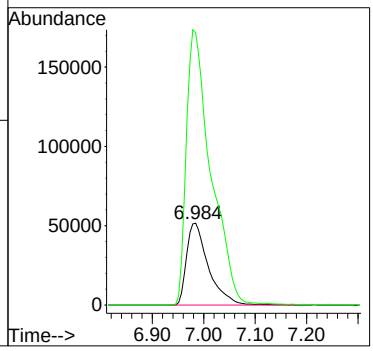


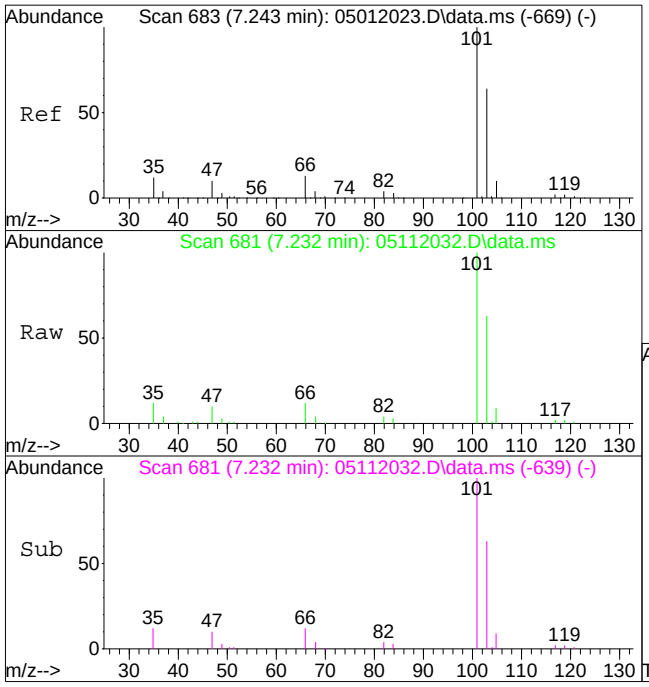


#13
Acetone
Concen: 6.44 ng
RT: 6.98 min Scan# 636
Delta R.T. -0.044 min
Lab File: 05112032.D
Acq: 11 May 2020 23:37

Tgt Ion: 58 Resp: 153040

Ion	Ratio	Lower	Upper
58	100		
43	378.6	294.4	354.4#

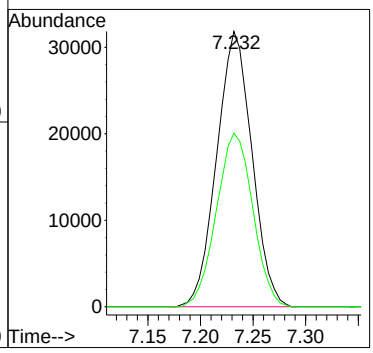


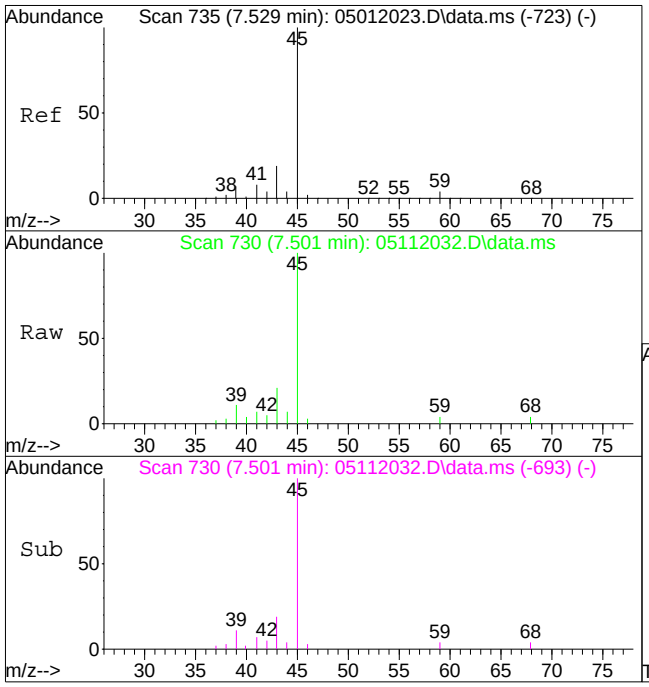


#14
Trichlorofluoromethane
Concen: 1.40 ng
RT: 7.23 min Scan# 681
Delta R.T. -0.017 min
Lab File: 05112032.D
Acq: 11 May 2020 23:37

Tgt Ion:101 Resp: 74324

Ion	Ratio	Lower	Upper
101	100		
103	65.2	44.4	84.4

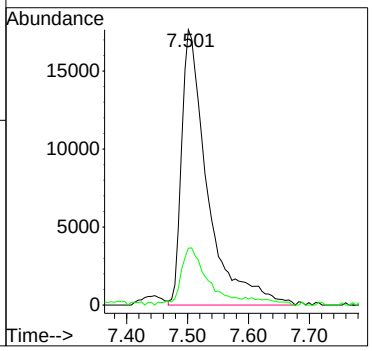


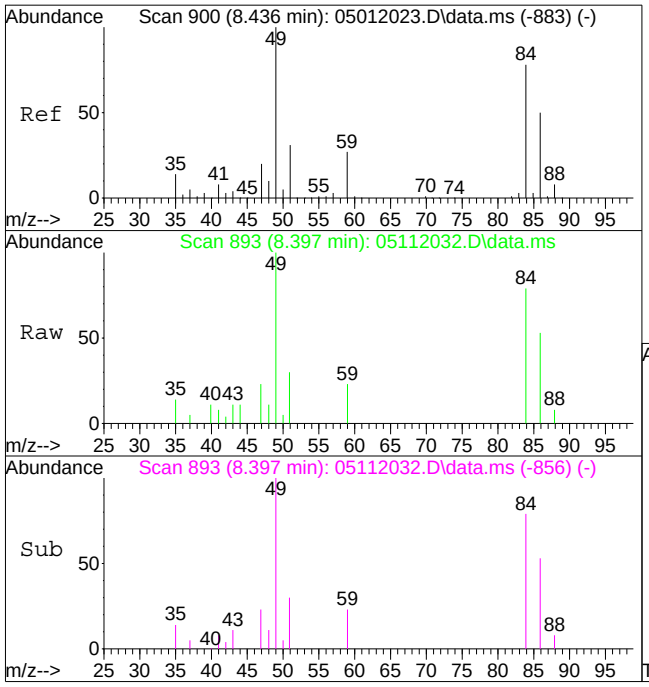


#15
2-Propanol (Isopropanol)
Concen: 0.72 ng
RT: 7.50 min Scan# 730
Delta R.T. -0.044 min
Lab File: 05112032.D
Acq: 11 May 2020 23:37

Tgt Ion: 45 Resp: 52125

Ion	Ratio	Lower	Upper
45	100		
43	24.0	0.0	39.5

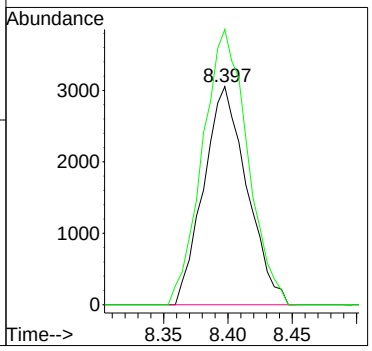


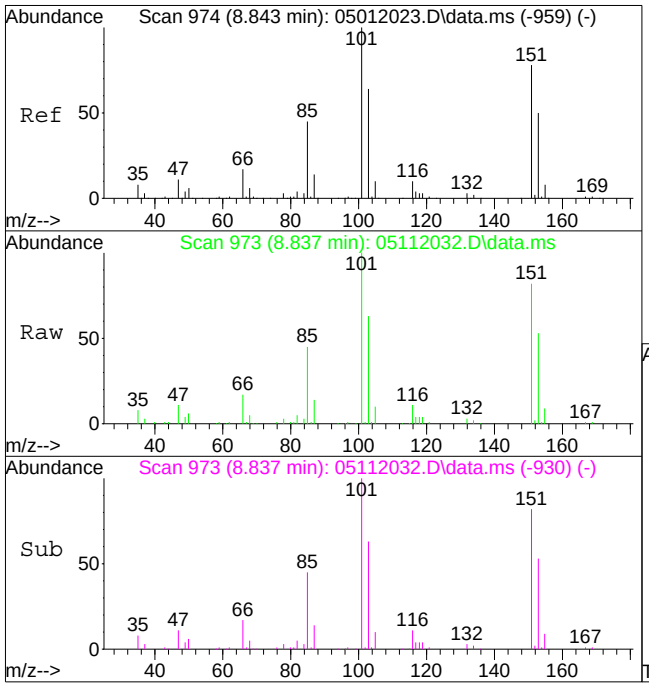


#19
Methylene Chloride
Concen: 0.23 ng
RT: 8.40 min Scan# 893
Delta R.T. -0.044 min
Lab File: 05112032.D
Acq: 11 May 2020 23:37

Tgt Ion: 84 Resp: 7165

Ion	Ratio	Lower	Upper
84	100		
49	131.1	104.8	154.8

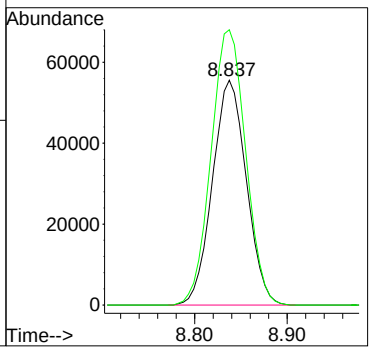


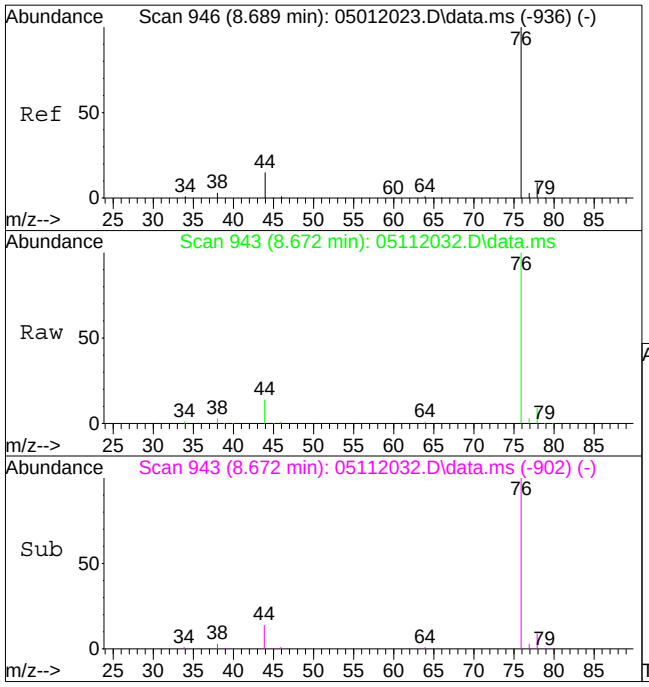


#21
Trichlorotrifluoroethane
Concen: 5.63 ng
RT: 8.84 min Scan# 973
Delta R.T. -0.011 min
Lab File: 05112032.D
Acq: 11 May 2020 23:37

Tgt Ion:151 Resp: 141341

Ion	Ratio	Lower	Upper
151	100		
101	125.0	107.3	147.3

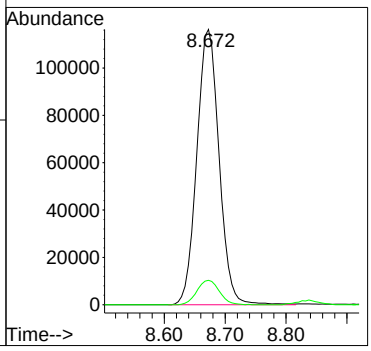


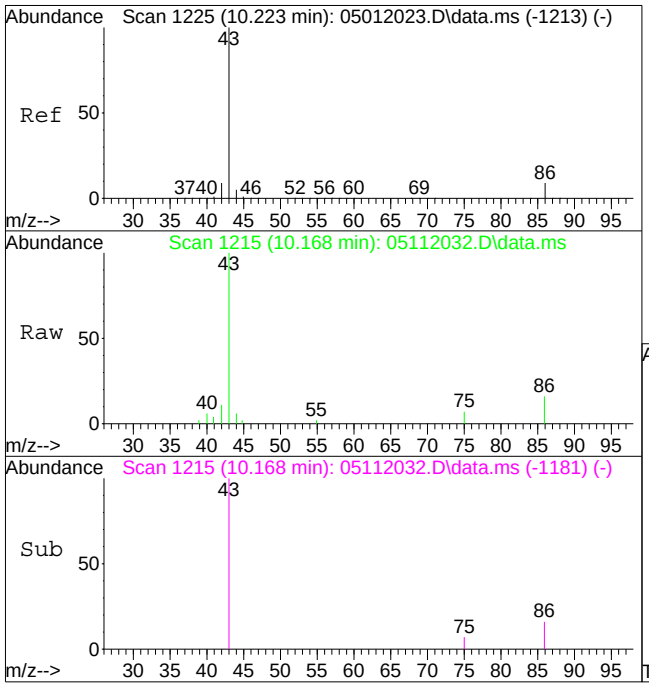


#22
Carbon Disulfide
Concen: 2.67 ng
RT: 8.67 min Scan# 943
Delta R.T. -0.022 min
Lab File: 05112032.D
Acq: 11 May 2020 23:37

Tgt Ion: 76 Resp: 295190

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	29.2

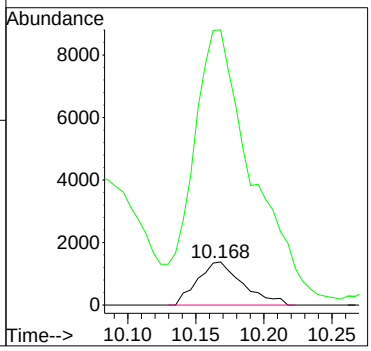


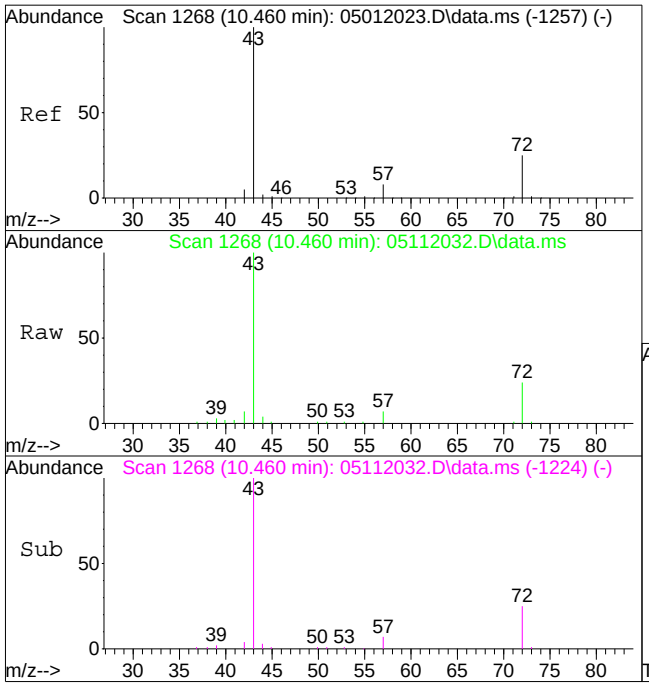


#26
Vinyl Acetate
Concen: 0.43 ng
RT: 10.17 min Scan# 1215
Delta R.T. -0.061 min
Lab File: 05112032.D
Acq: 11 May 2020 23:37

Tgt Ion: 86 Resp: 3186

Ion	Ratio	Lower	Upper
86	100		
43	853.2	1103.0	1143.0#

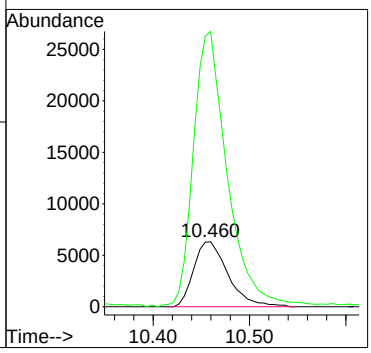


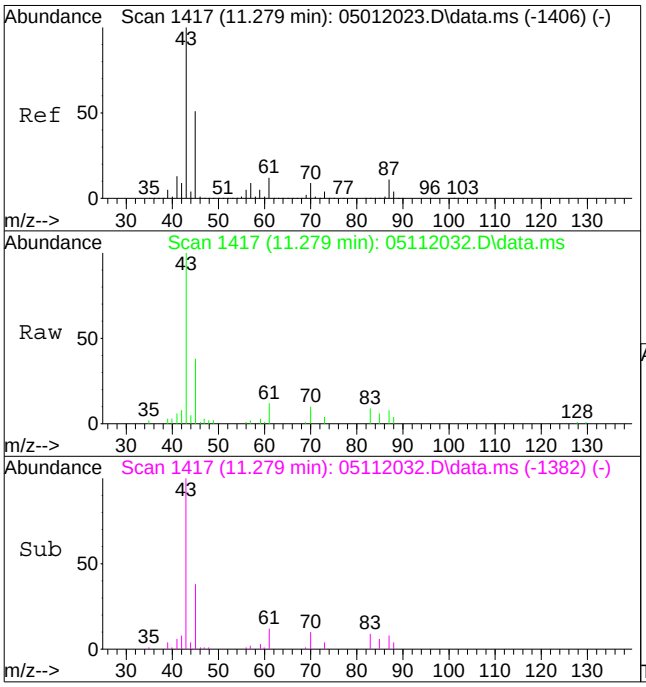


#27
2-Butanone (MEK)
Concen: 0.77 ng
RT: 10.46 min Scan# 1268
Delta R.T. -0.006 min
Lab File: 05112032.D
Acq: 11 May 2020 23:37

Tgt Ion: 72 Resp: 15609

Ion	Ratio	Lower	Upper
72	100		
43	423.4	389.7	429.7

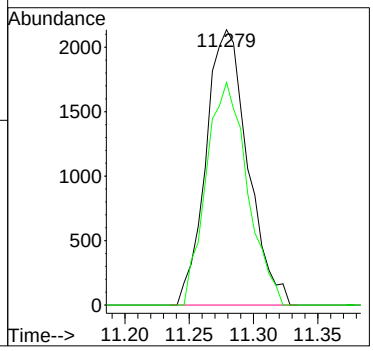


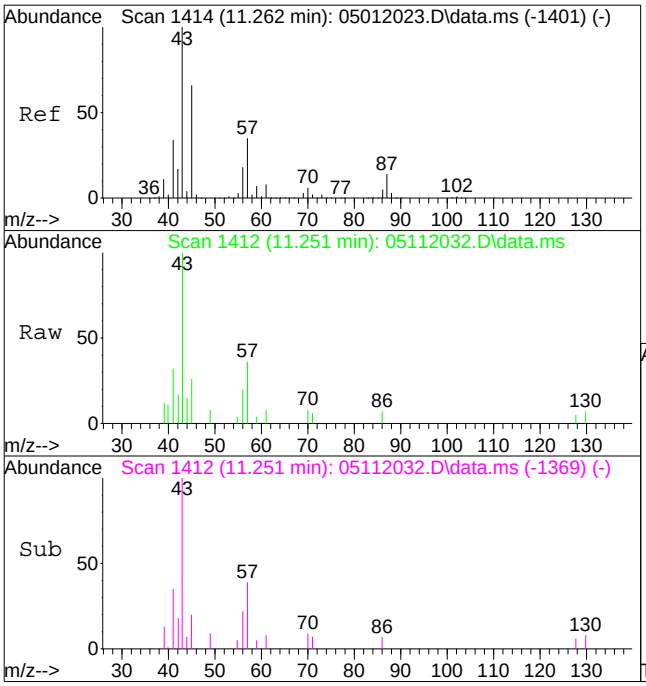


#30
Ethyl Acetate
Concen: 0.41 ng
RT: 11.28 min Scan# 1417
Delta R.T. -0.006 min
Lab File: 05112032.D
Acq: 11 May 2020 23:37

Tgt Ion: 61 Resp: 4838

Ion	Ratio	Lower	Upper
61	100		
70	79.5	57.9	97.9

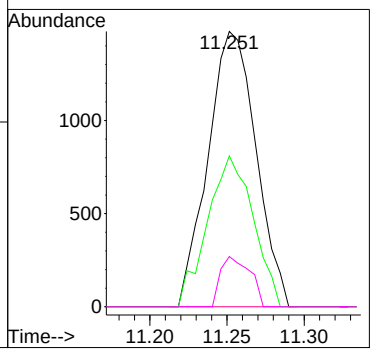


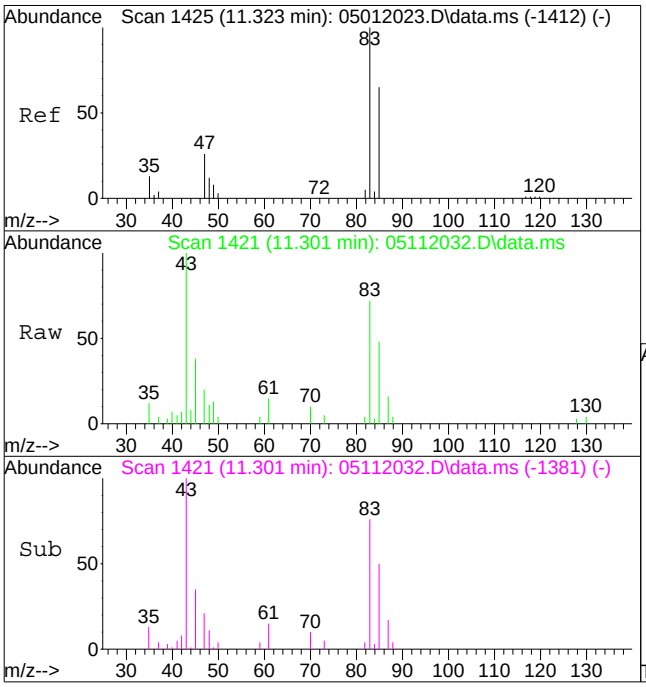


#31
n-Hexane
Concen: 0.06 ng
RT: 11.25 min Scan# 1412
Delta R.T. -0.011 min
Lab File: 05112032.D
Acq: 11 May 2020 23:37

Tgt Ion: 57 Resp: 3199

Ion	Ratio	Lower	Upper
57	100		
56	52.0	41.4	62.0
86	11.2	12.4	18.6#

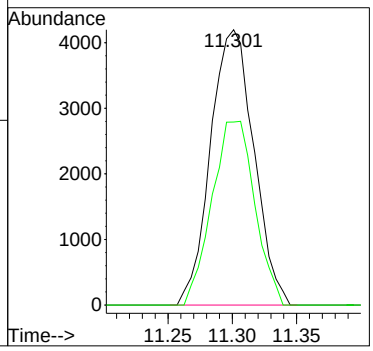


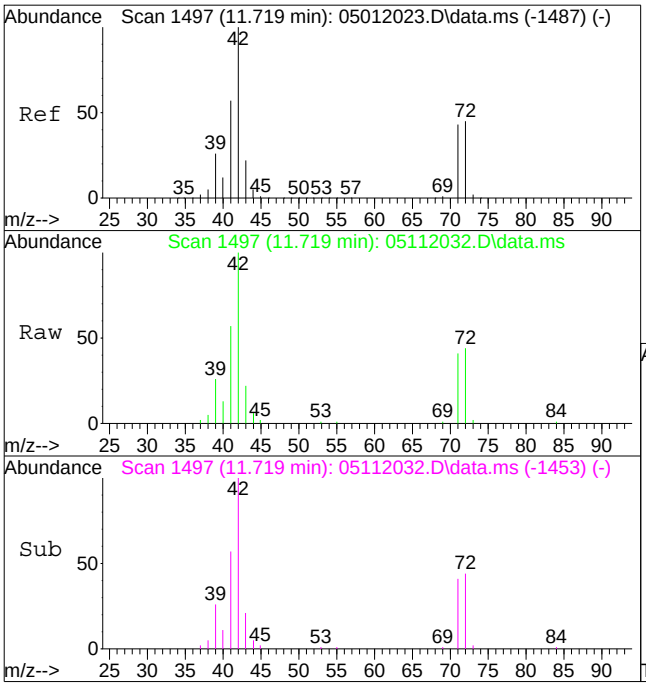


#32
Chloroform
Concen: 0.19 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.028 min
Lab File: 05112032.D
Acq: 11 May 2020 23:37

Tgt Ion: 83 Resp: 9840

Ion	Ratio	Lower	Upper
83	100		
85	66.0	45.5	85.5

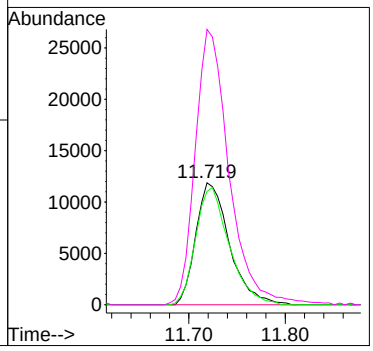


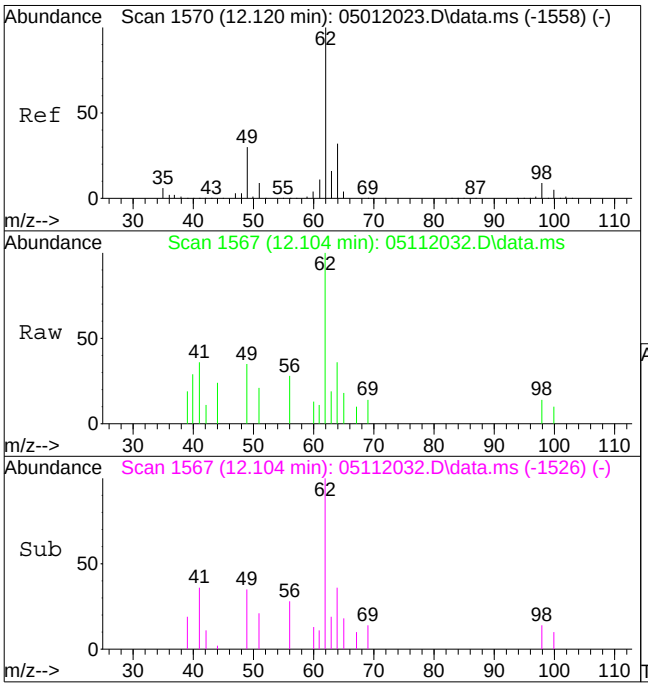


#34
Tetrahydrofuran (THF)
Concen: 1.46 ng
RT: 11.72 min Scan# 1497
Delta R.T. -0.006 min
Lab File: 05112032.D
Acq: 11 May 2020 23:37

Tgt Ion: 72 Resp: 28899

Ion	Ratio	Lower	Upper
72	100		
71	95.8	77.0	117.0
42	227.1	204.6	244.6

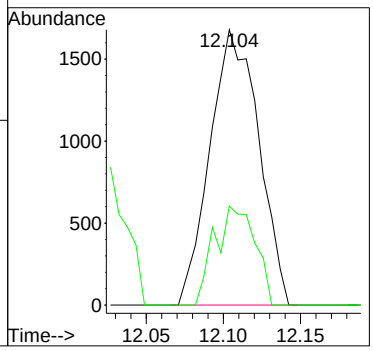


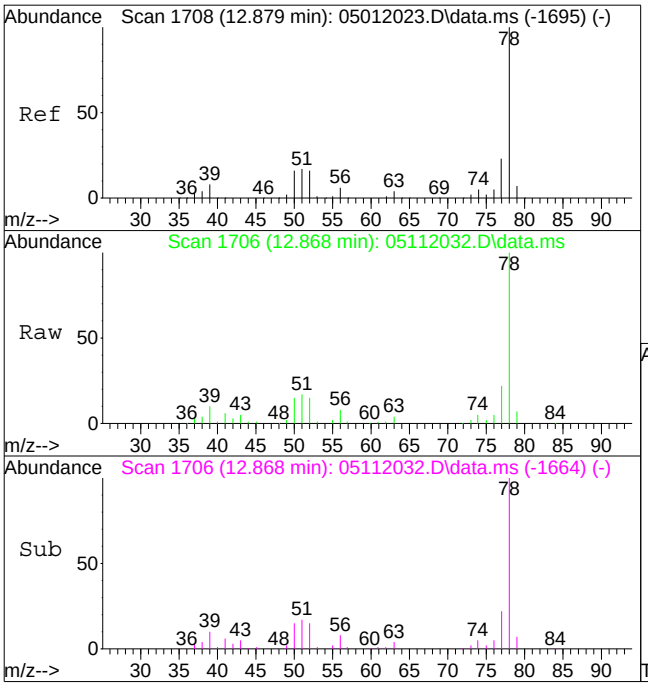


#36
1,2-Dichloroethane
Concen: 0.09 ng
RT: 12.10 min Scan# 1567
Delta R.T. -0.022 min
Lab File: 05112032.D
Acq: 11 May 2020 23:37

Tgt Ion: 62 Resp: 3684

Ion	Ratio	Lower	Upper
62	100		
64	29.9	12.4	52.4

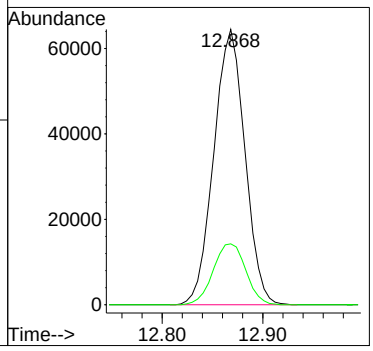


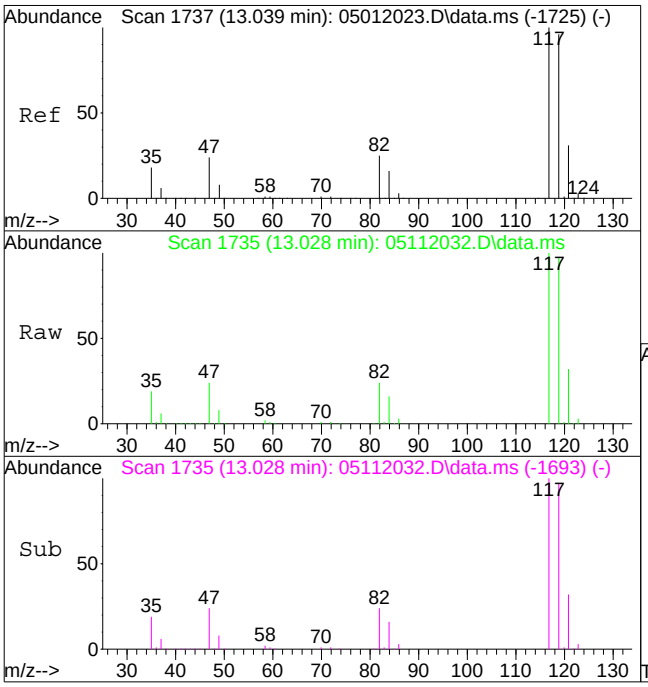


#41
Benzene
Concen: 1.15 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05112032.D
Acq: 11 May 2020 23:37

Tgt Ion: 78 Resp: 138551

Ion	Ratio	Lower	Upper
78	100		
77	23.2	3.4	43.4

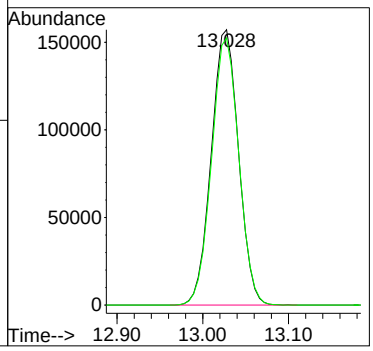


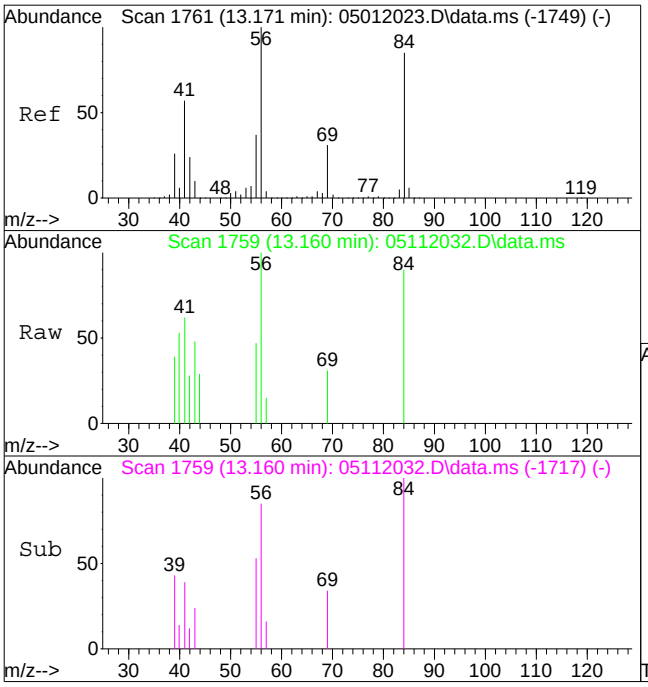


#42
Carbon Tetrachloride
Concen: 8.48 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05112032.D
Acq: 11 May 2020 23:37

Tgt Ion:117 Resp: 347027

Ion	Ratio	Lower	Upper
117	100		
119	97.0	76.2	116.2

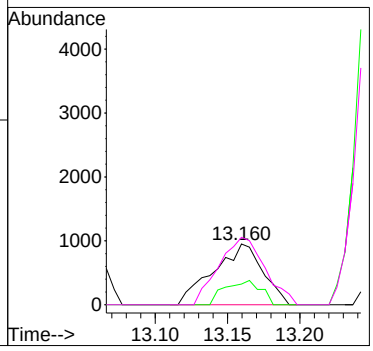


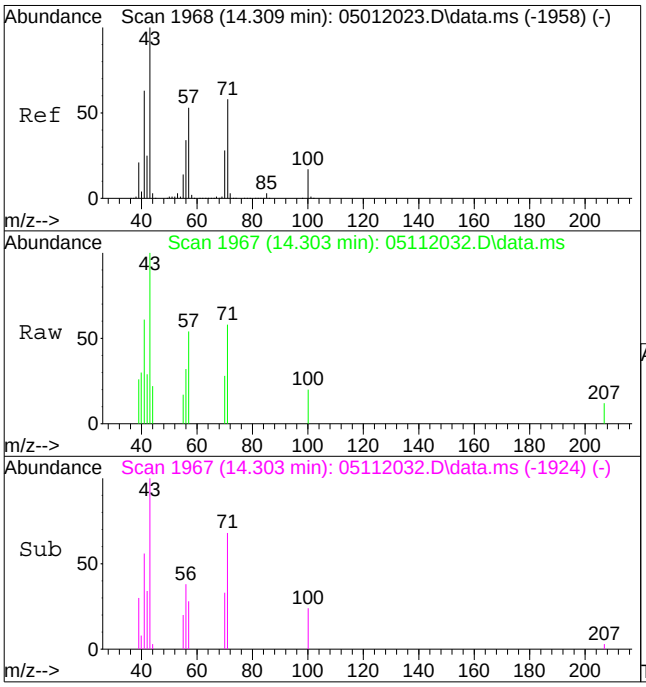


#43
Cyclohexane
Concen: 0.05 ng
RT: 13.16 min Scan# 1759
Delta R.T. -0.017 min
Lab File: 05112032.D
Acq: 11 May 2020 23:37

Tgt Ion: 84 Resp: 2254

Ion	Ratio	Lower	Upper
84	100		
69	29.1	16.5	56.5
56	103.5	97.4	137.4

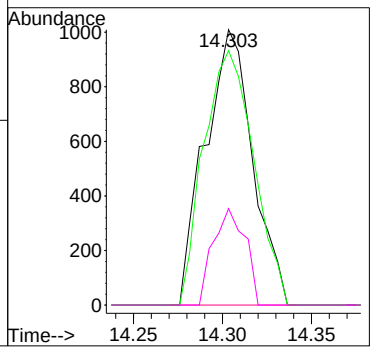


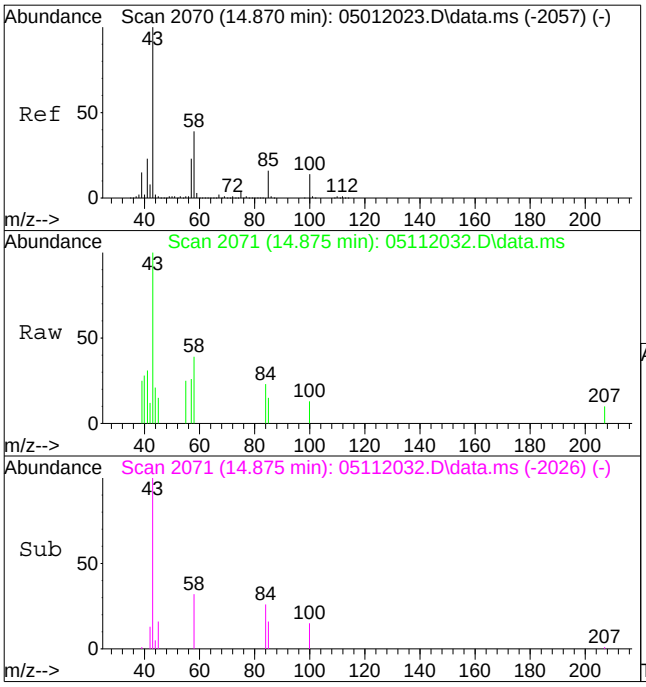


#51
n-Heptane
Concen: 0.07 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05112032.D
Acq: 11 May 2020 23:37

Tgt Ion: 71 Resp: 1874

Ion	Ratio	Lower	Upper
71	100		
57	97.0	71.0	111.0
100	23.6	8.4	48.4

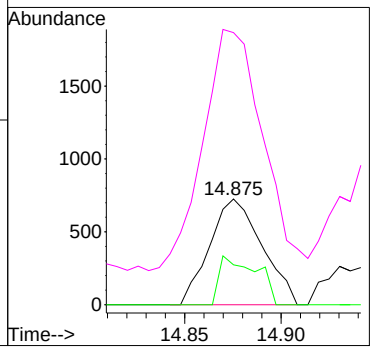


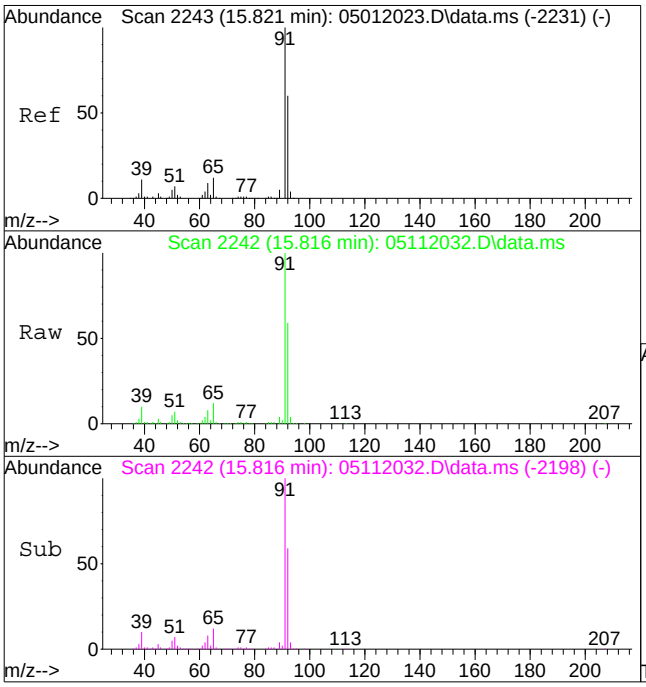


#53
4-Methyl-2-pentanone
Concen: 0.05 ng
RT: 14.88 min Scan# 2071
Delta R.T. -0.000 min
Lab File: 05112032.D
Acq: 11 May 2020 23:37

Tgt Ion: 58 Resp: 1373

Ion	Ratio	Lower	Upper
58	100		
85	32.5	35.4	53.2#
43	344.0	203.3	304.9#

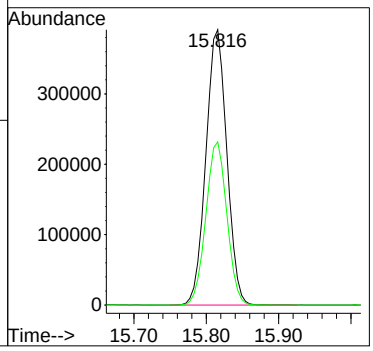


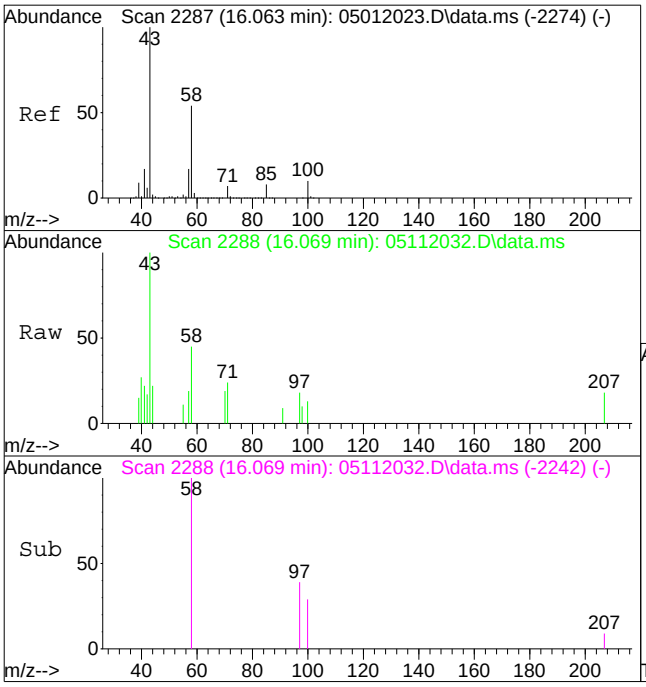


#58
Toluene
Concen: 6.95 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05112032.D
Acq: 11 May 2020 23:37

Tgt Ion: 91 Resp: 786074

Ion	Ratio	Lower	Upper
91	100		
92	59.4	39.4	79.4

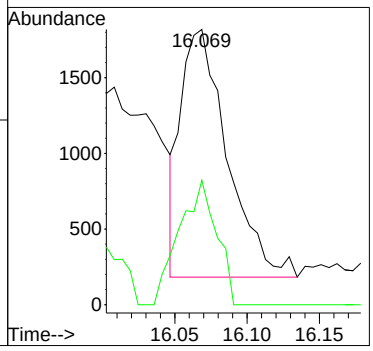


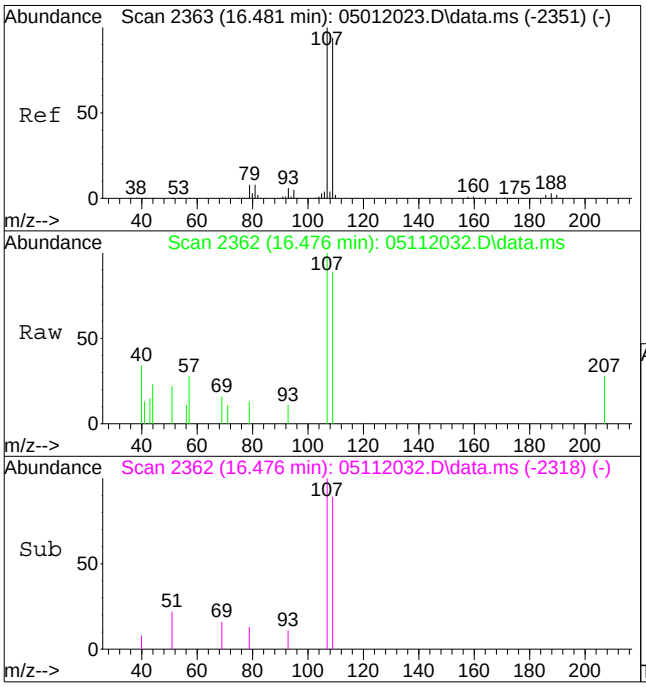


#59
2-Hexanone
Concen: 0.06 ng
RT: 16.07 min Scan# 2288
Delta R.T. 0.005 min
Lab File: 05112032.D
Acq: 11 May 2020 23:37

Tgt Ion: 43 Resp: 3657

Ion	Ratio	Lower	Upper
43	100		
58	40.5	34.5	74.5

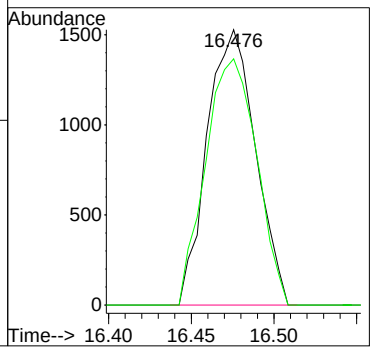


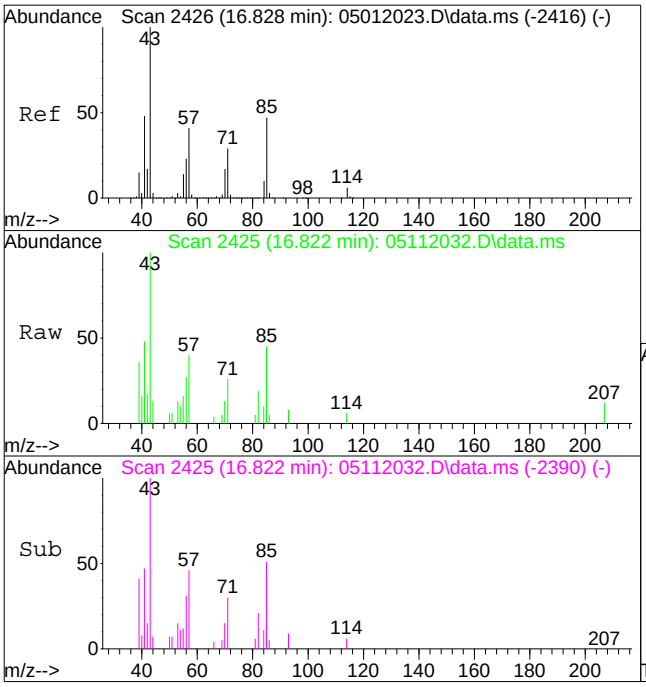


#61
1,2-Dibromoethane
Concen: 0.10 ng
RT: 16.48 min Scan# 2362
Delta R.T. -0.006 min
Lab File: 05112032.D
Acq: 11 May 2020 23:37

Tgt Ion:107 Resp: 3109

Ion	Ratio	Lower	Upper
107	100		
109	94.4	74.5	114.5

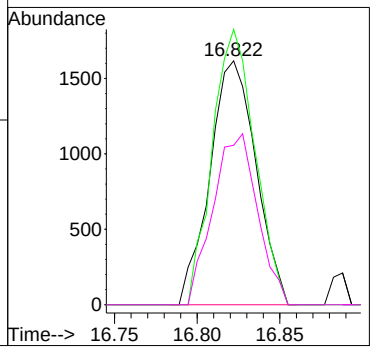


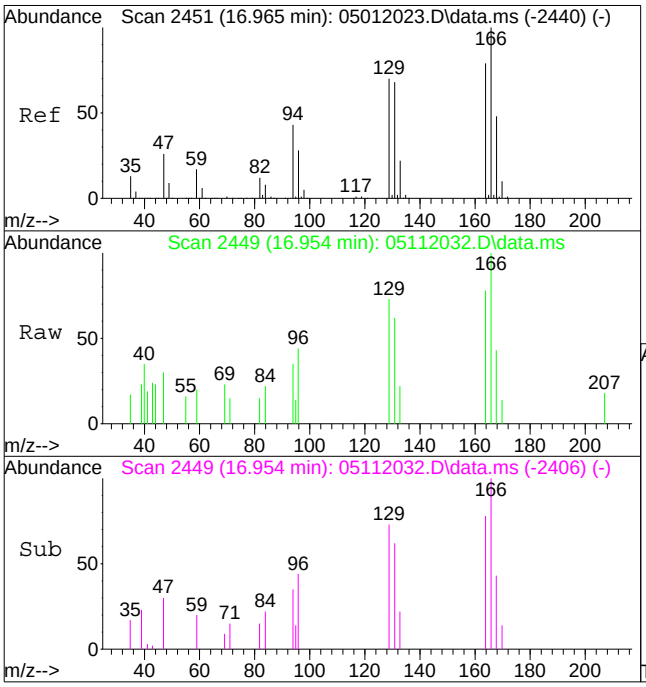


#63
n-Octane
Concen: 0.13 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05112032.D
Acq: 11 May 2020 23:37

Tgt Ion: 57 Resp: 3142

Ion	Ratio	Lower	Upper
57	100		
85	104.0	91.0	136.4
71	67.4	56.2	84.2

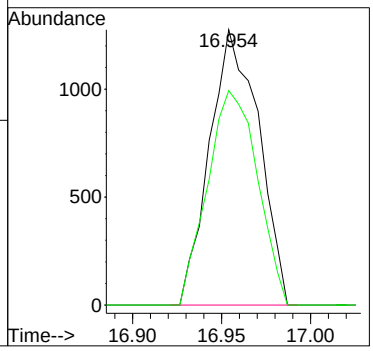


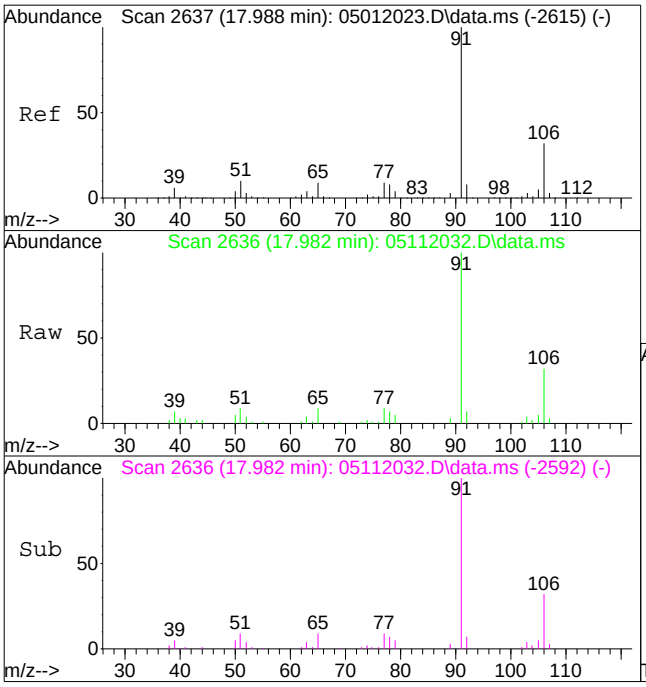


#64
Tetrachloroethene
Concen: 0.08 ng
RT: 16.95 min Scan# 2449
Delta R.T. -0.011 min
Lab File: 05112032.D
Acq: 11 May 2020 23:37

Tgt Ion:166 Resp: 2442

Ion	Ratio	Lower	Upper
166	100		
164	79.5	58.4	98.4

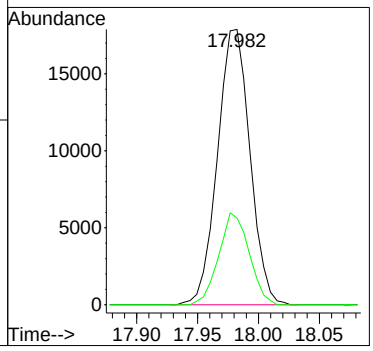


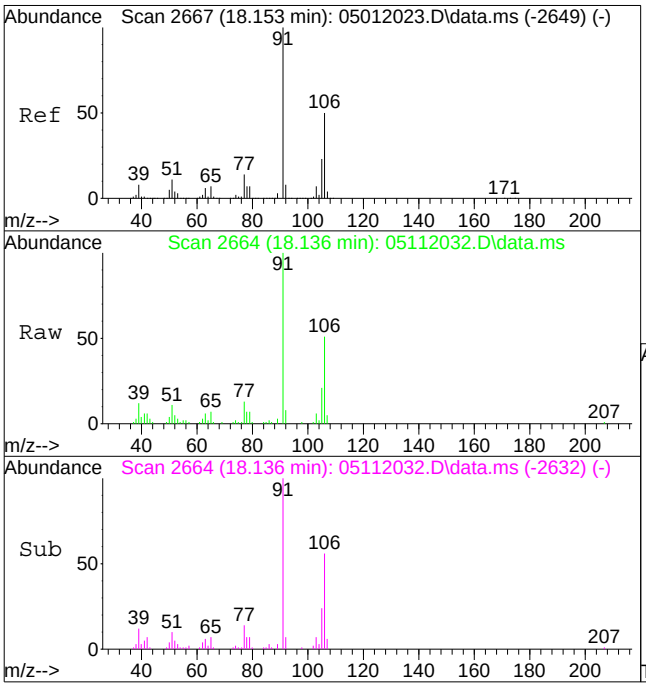


#66
Ethylbenzene
Concen: 0.26 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05112032.D
Acq: 11 May 2020 23:37

Tgt Ion: 91 Resp: 33172

Ion	Ratio	Lower	Upper
91	100		
106	31.1	11.6	51.6

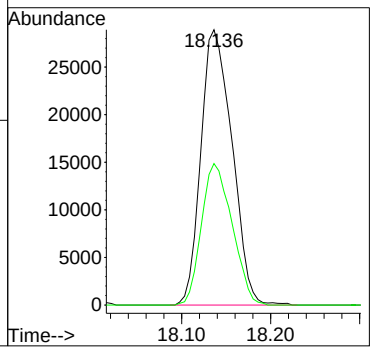


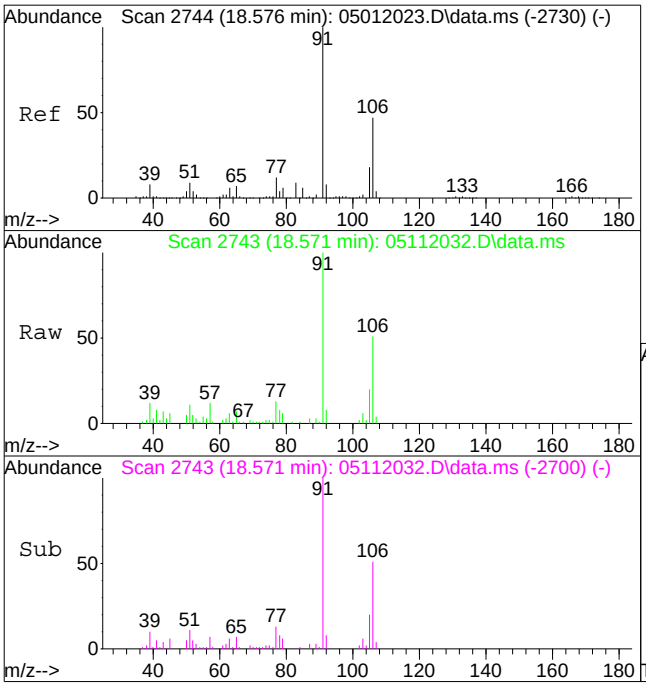


#67
m- & p-Xylenes
Concen: 0.70 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05112032.D
Acq: 11 May 2020 23:37

Tgt Ion: 91 Resp: 70426

Ion	Ratio	Lower	Upper
91	100		
106	50.5	29.7	69.7

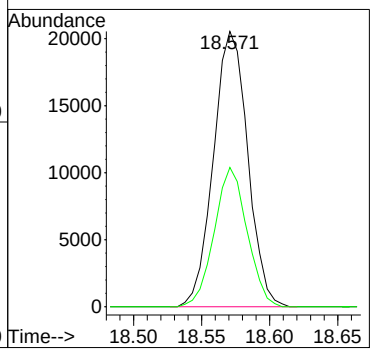


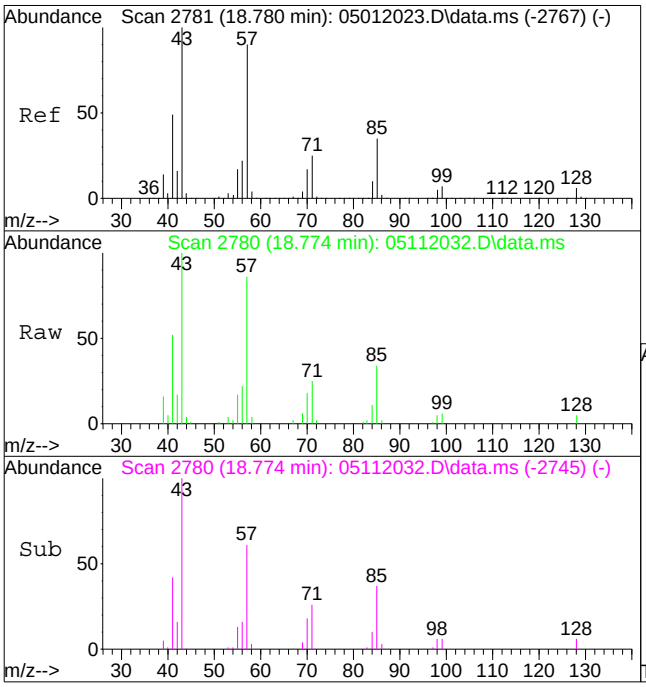


#70
o-Xylene
Concen: 0.35 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05112032.D
Acq: 11 May 2020 23:37

Tgt Ion: 91 Resp: 35966

Ion	Ratio	Lower	Upper
91	100		
106	48.4	27.5	67.5

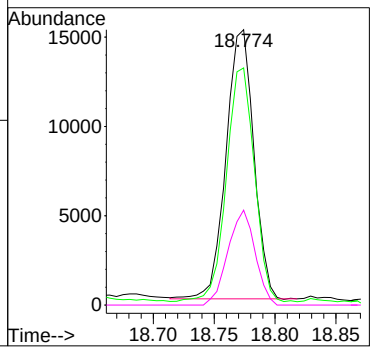


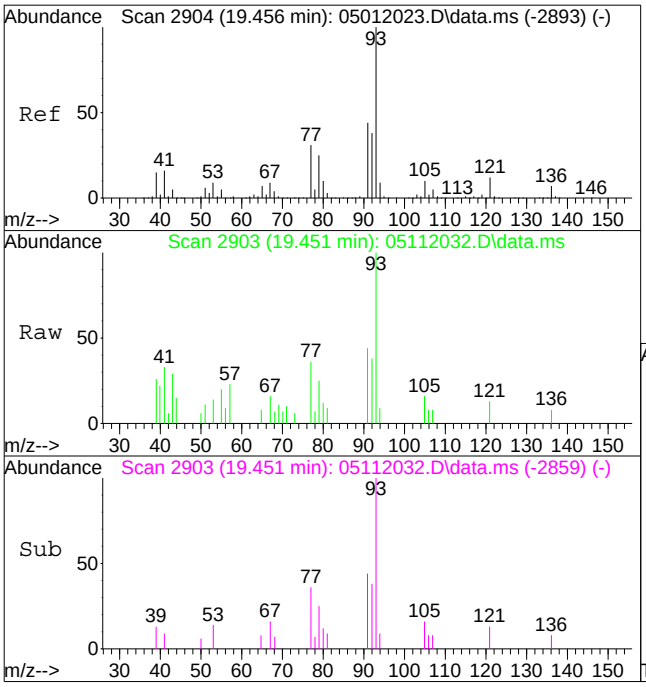


#71
n-Nonane
Concen: 0.44 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05112032.D
Acq: 11 May 2020 23:37

Tgt Ion: 43 Resp: 23934

Ion	Ratio	Lower	Upper
43	100		
57	87.8	69.0	109.0
85	34.3	14.6	54.6

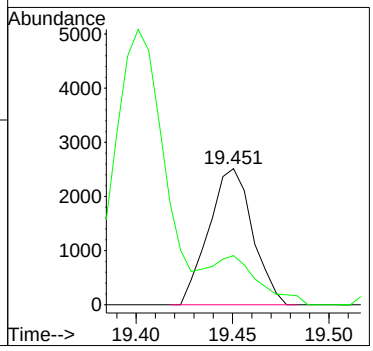


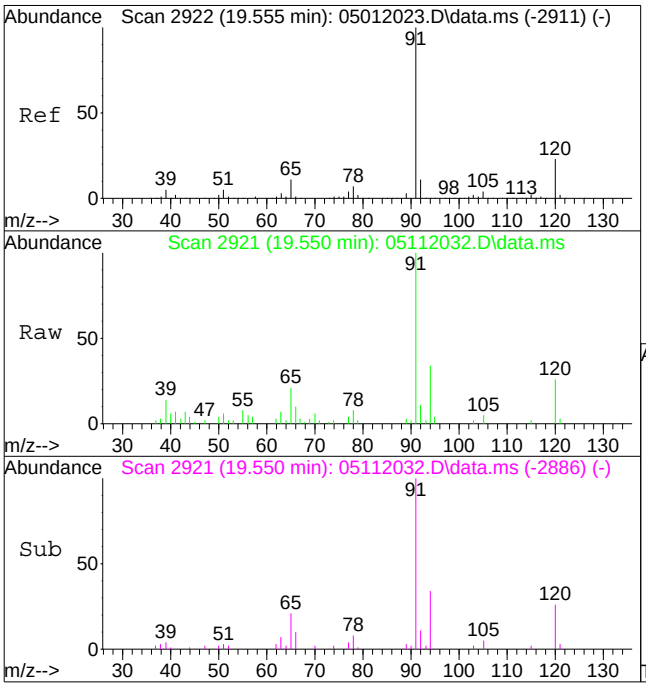


#75
alpha-Pinene
Concen: 0.06 ng
RT: 19.45 min Scan# 2903
Delta R.T. -0.006 min
Lab File: 05112032.D
Acq: 11 May 2020 23:37

Tgt Ion: 93 Resp: 3974

Ion	Ratio	Lower	Upper
93	100		
77	37.8	11.2	51.2

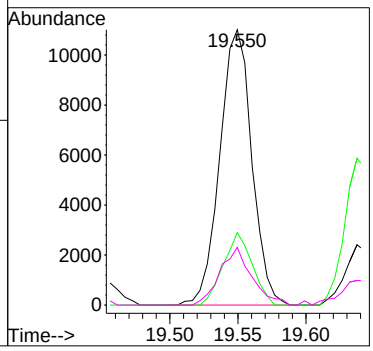


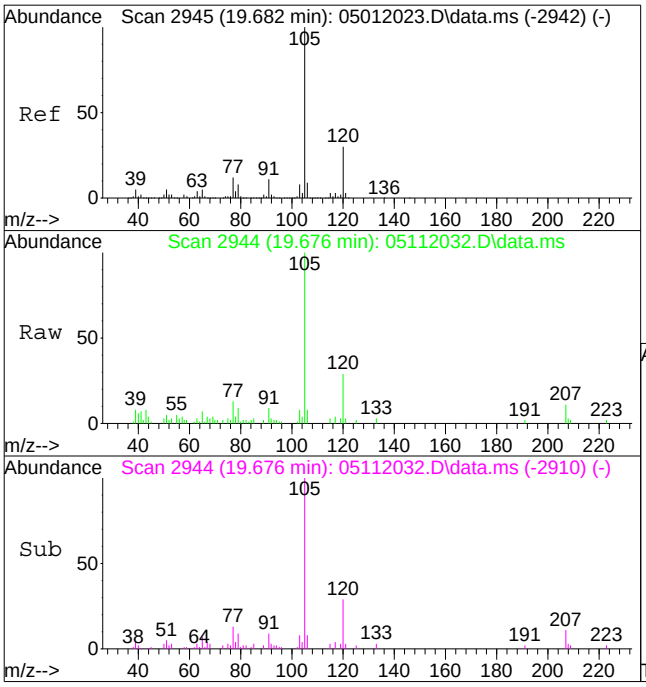


#76
n-Propylbenzene
Concen: 0.12 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05112032.D
Acq: 11 May 2020 23:37

Tgt Ion: 91 Resp: 18013

Ion	Ratio	Lower	Upper
91	100		
120	23.7	3.1	43.1
65	20.9	0.0	30.9

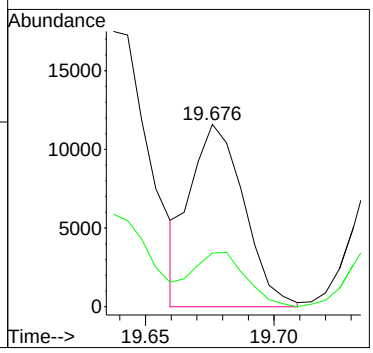


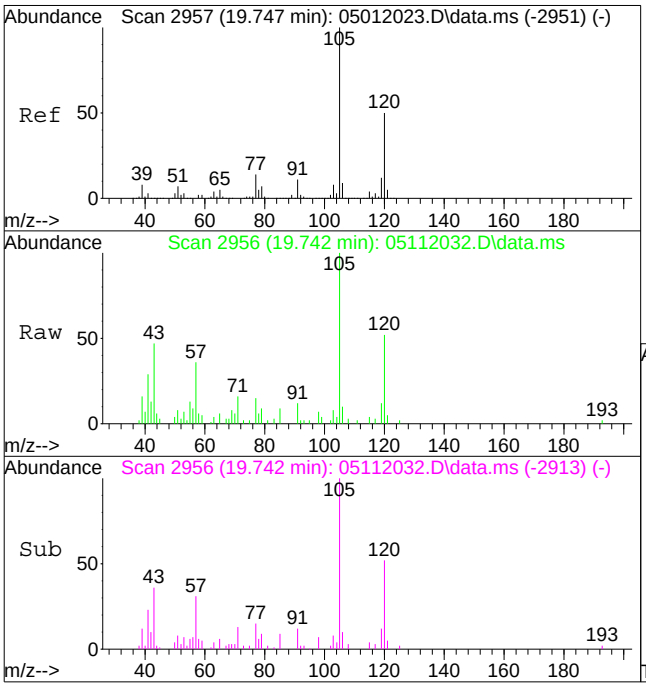


#78
4-Ethyltoluene
Concen: 0.14 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05112032.D
Acq: 11 May 2020 23:37

Tgt Ion:105 Resp: 16837

Ion	Ratio	Lower	Upper
105	100		
120	30.3	10.4	50.4

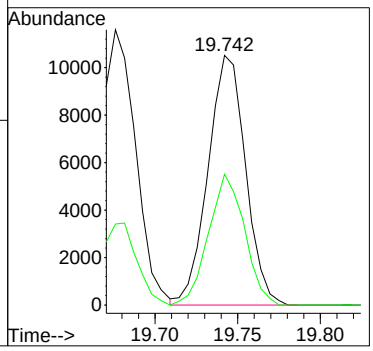


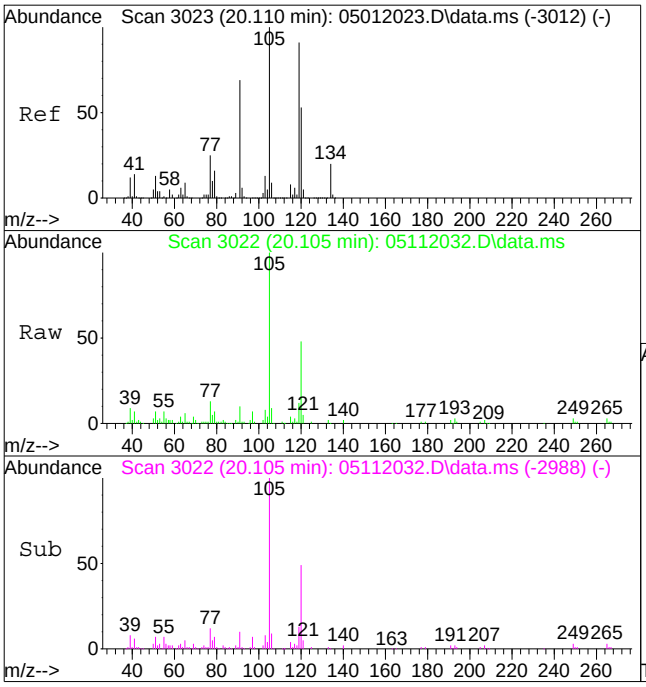


#79
1,3,5-Trimethylbenzene
Concen: 0.16 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05112032.D
Acq: 11 May 2020 23:37

Tgt Ion:105 Resp: 16633

Ion	Ratio	Lower	Upper
105	100		
120	50.1	29.9	69.9

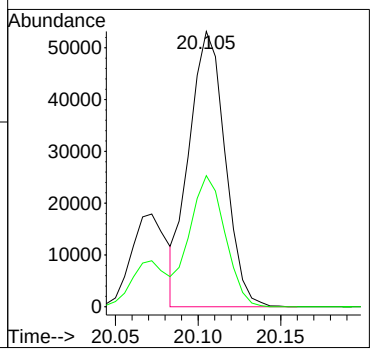


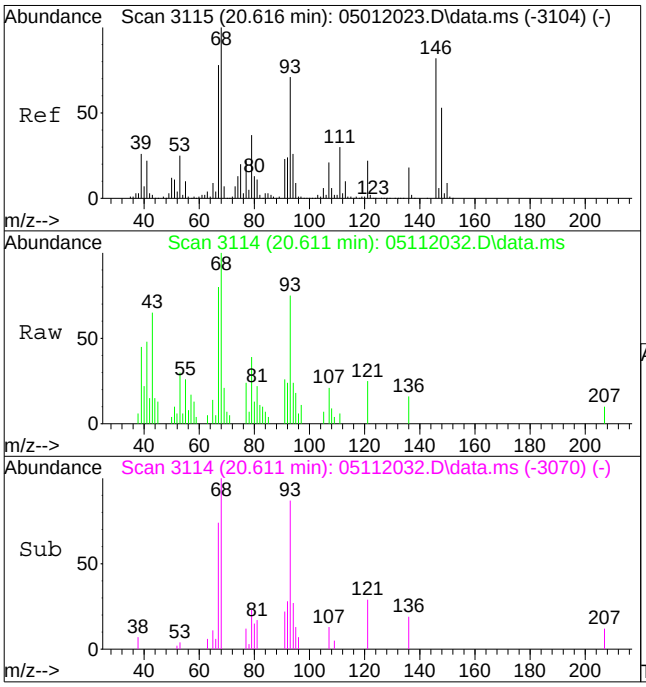


#82
1,2,4-Trimethylbenzene
Concen: 0.79 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05112032.D
Acq: 11 May 2020 23:37

Tgt Ion:105 Resp: 80801

Ion	Ratio	Lower	Upper
105	100		
120	47.0	33.6	73.6

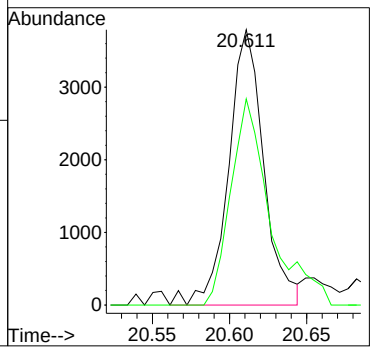


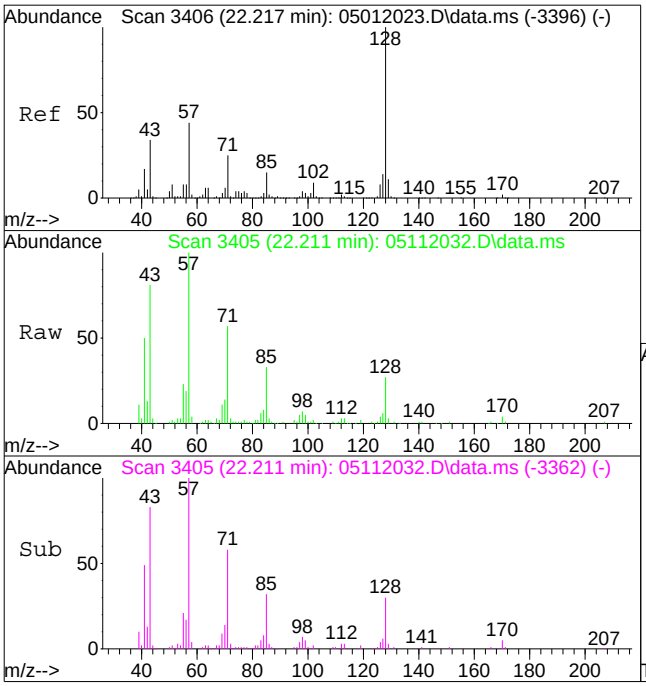


#91
d-Limonene
Concen: 0.15 ng
RT: 20.61 min Scan# 3114
Delta R.T. -0.006 min
Lab File: 05112032.D
Acq: 11 May 2020 23:37

Tgt Ion: 68 Resp: 6009

Ion	Ratio	Lower	Upper
68	100		
93	83.4	51.1	91.1

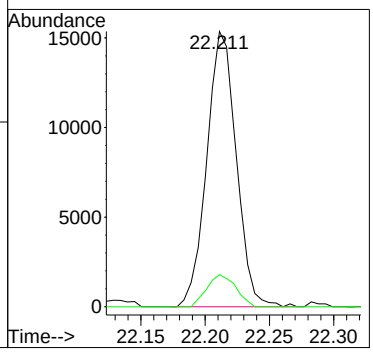




#95
Naphthalene
Concen: 0.20 ng
RT: 22.21 min Scan# 3405
Delta R.T. -0.011 min
Lab File: 05112032.D
Acq: 11 May 2020 23:37

Tgt Ion:128 Resp: 24537

Ion	Ratio	Lower	Upper
128	100		
129	11.4	0.0	31.0



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112033.D Vial: 11
Acq On : 12 May 2020 00:11 Operator: LH
Sample : P2002299-019 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 15:01:24 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/13/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	261540	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1109252	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	510954	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	408547	11.526	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.24%				
57) Toluene-d8 (SS2)	15.71	98	1086006	12.540	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.32%				
73) Bromofluorobenzene (SS3)	18.97	174	422373	13.554	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.40%				
Target Compounds							Qvalue
2) Propene	4.09	42	68332	2.256	ng		98
3) Dichlorodifluoromethan...	4.26	85	45533	0.769	ng		99
4) Chloromethane	4.54	50	2278	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	308	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.13	54	2013	N.D.			
8) Bromomethane	5.64	94	979	N.D.			
9) Chloroethane	5.97	64	501	N.D.			
10) Ethanol	6.32	45	16153	0.691	ng		94
11) Acetonitrile	6.60	41	2999	0.056	ng	#	62
12) Acrolein	6.78	56	4061	0.220	ng		94
13) Acetone	7.00	58	107175	4.582	ng	#	17
14) Trichlorofluoromethane	7.23	101	82152	1.569	ng		99
15) 2-Propanol (Isopropanol)	7.52	45	4933	0.070	ng	#	27
16) Acrylonitrile	7.83	53	1457	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.44	59	1340	N.D.			
19) Methylene Chloride	8.40	84	3536	0.116	ng		99
20) 3-Chloro-1-propene (Al...	8.50	41	1580	N.D.			
21) Trichlorotrifluoroethane	8.84	151	59567	2.410	ng		97
22) Carbon Disulfide	8.67	76	98648	0.905	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	10.16	86	8057	1.106	ng	#	18
27) 2-Butanone (MEK)	10.47	72	8482	0.425	ng		95
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.30	61	302	N.D.			
31) n-Hexane	11.25	57	2818	0.056	ng		98
32) Chloroform	11.30	83	72848	1.399	ng		99
34) Tetrahydrofuran (THF)	11.75	72	1806	0.093	ng	#	75
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	1002	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	22080	0.186	ng		100
42) Carbon Tetrachloride	13.03	117	164793	4.073	ng		99
43) Cyclohexane	13.15	84	3525	0.080	ng		88
44) tert-Amyl Methyl Ether	13.55	73	623	N.D.			
45) 1,2-Dichloropropane	13.52	63	752	N.D.			
46) Bromodichloromethane	13.93	83	999	N.D.			
47) Trichloroethene	13.95	130	462	N.D.			
48) 1,4-Dioxane	13.96	88	647	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112033.D Vial: 11
Acq On : 12 May 2020 00:11 Operator: LH
Sample : P2002299-019 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 15:01:24 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

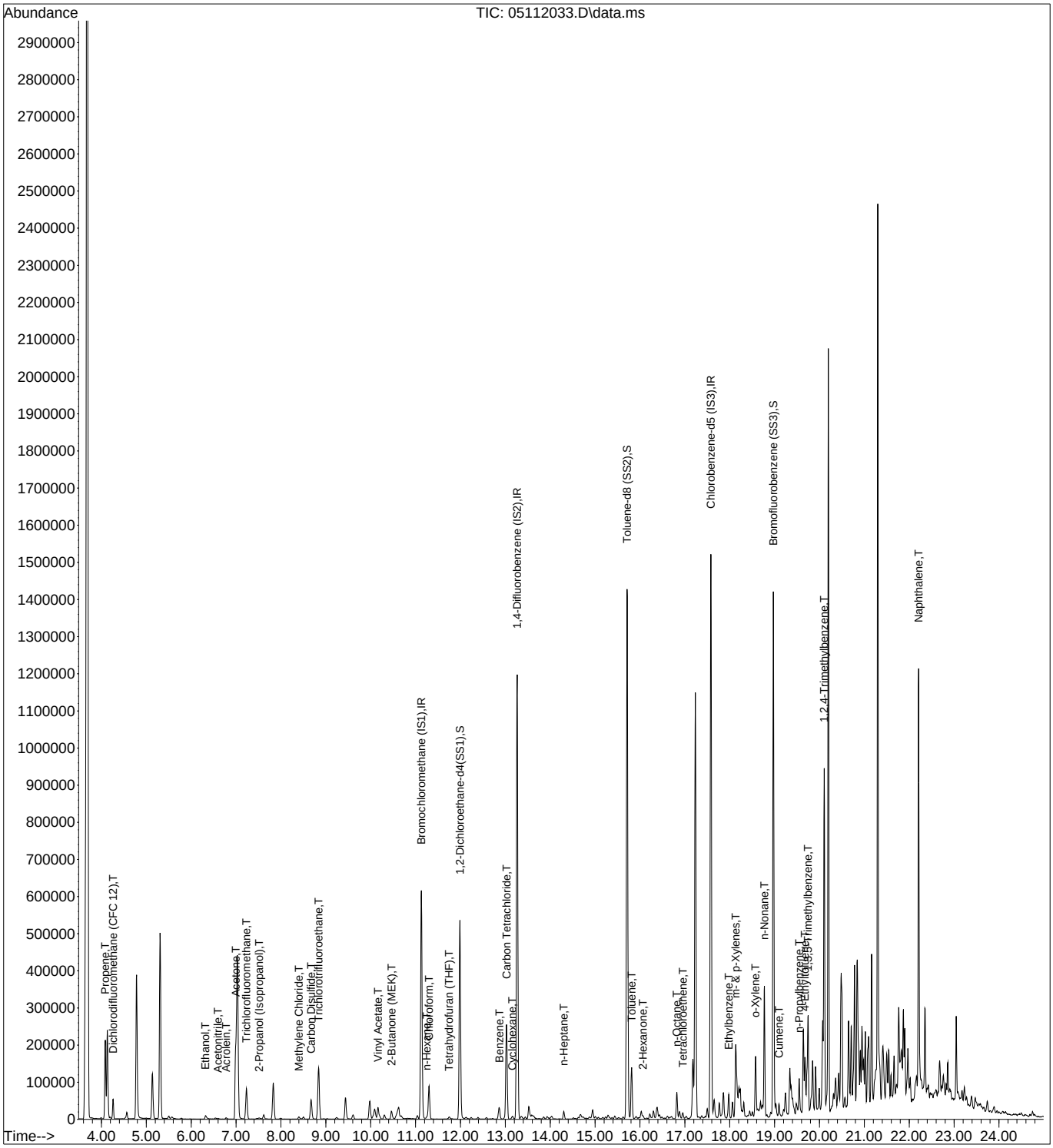
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.30	71	5301	0.191 ng		98
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.88	58	1272	N.D.		
54) trans-1,3-Dichloropropene	15.29	75	1754	N.D.		
55) 1,1,2-Trichloroethane	15.45	97	127	N.D.		
58) Toluene	15.82	91	115192	1.032 ng		100
59) 2-Hexanone	16.07	43	4562	0.075 ng	#	66
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	16.48	107	176	N.D.		
62) n-Butyl Acetate	16.63	43	900	N.D.		
63) n-Octane	16.82	57	12748	0.552 ng		99
64) Tetrachloroethene	16.96	166	3556	0.113 ng		100
65) Chlorobenzene	0.00	112	0	N.D. d		
66) Ethylbenzene	17.98	91	42772	0.344 ng		100
67) m- & p-Xylenes	18.14	91	148561	1.504 ng		99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	386	N.D.		
70) o-Xylene	18.57	91	44870	0.448 ng		99
71) n-Nonane	18.77	43	121886	2.291 ng		98
72) 1,1,2,2-Tetrachloroethane	18.59	83	552	N.D.		
74) Cumene	19.10	105	11970	0.097 ng		98
75) alpha-Pinene	19.44	93	661	N.D.		
76) n-Propylbenzene	19.55	91	65924	0.451 ng		97
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.68	105	71630	0.620 ng		99
79) 1,3,5-Trimethylbenzene	19.74	105	88543	0.882 ng		100
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	20.10	105	418072	4.146 ng		91
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.20	91	1003	N.D.		
85) 1,3-Dichlorobenzene	20.30	146	221	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	221	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D. d		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.61	68	974	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.10	180	365	N.D.		
95) Naphthalene	22.21	128	69231	0.562 ng		89
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112033.D Vial: 11
Acq On : 12 May 2020 00:11 Operator: LH
Sample : P2002299-019 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 15:01:24 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112033.D Vial: 11
Acq On : 12 May 2020 00:11 Operator: LH
Sample : P2002299-019 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 15:01:24 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/13/20

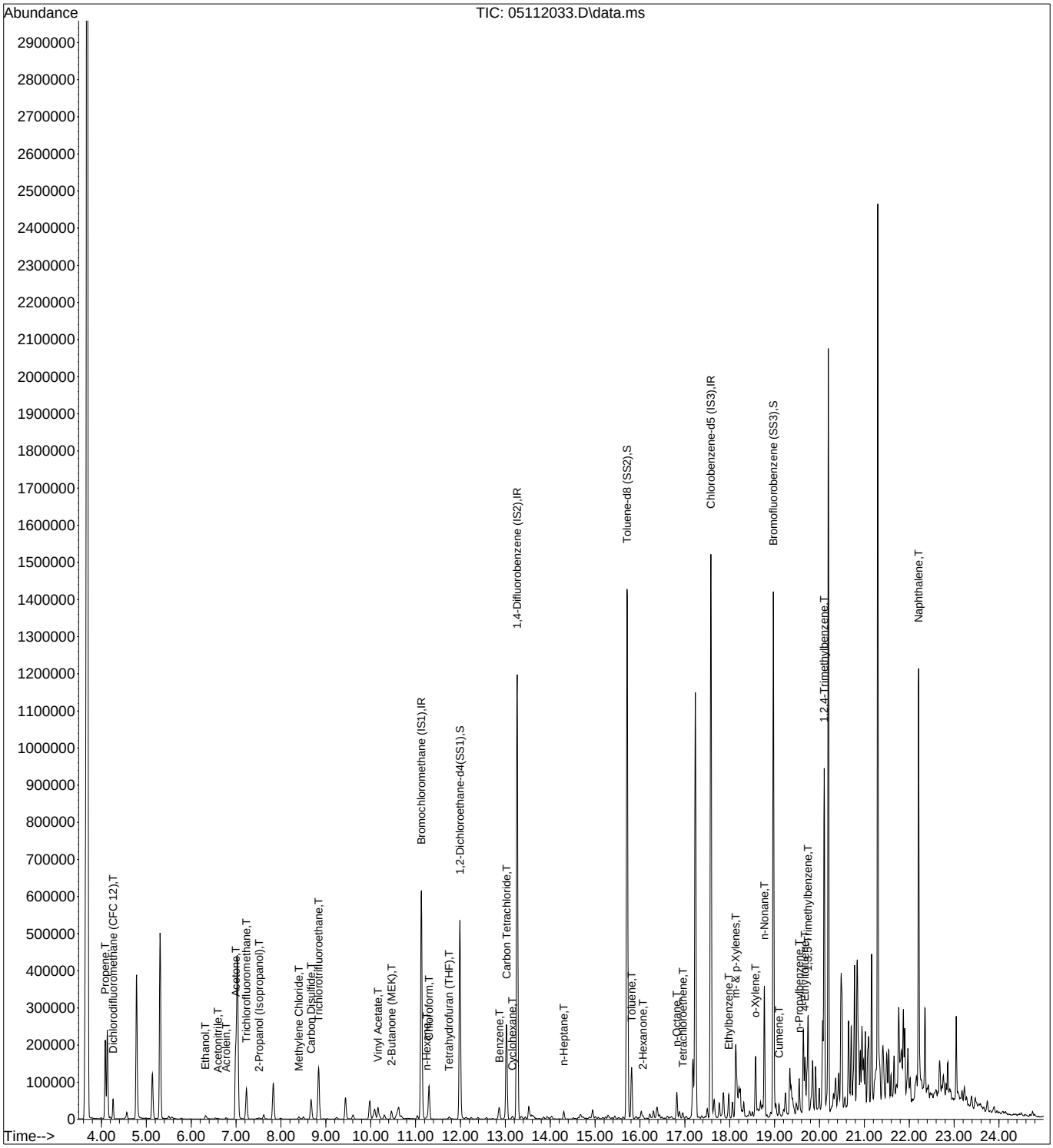
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	261540	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1109252	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	510954	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	408547	11.526	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.24%				
57) Toluene-d8 (SS2)	15.71	98	1086006	12.540	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.32%				
73) Bromofluorobenzene (SS3)	18.97	174	422373	13.554	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.40%				
Target Compounds							Qvalue
2) Propene	4.09	42	68332	2.256	ng		98
3) Dichlorodifluoromethan...	4.26	85	45533	0.769	ng		99
10) Ethanol	6.32	45	16153	0.691	ng		94
11) Acetonitrile	6.60	41	2999	0.056	ng	#	62
12) Acrolein	6.78	56	4061	0.220	ng		94
13) Acetone	7.00	58	107175	4.582	ng	#	17
14) Trichlorofluoromethane	7.23	101	82152	1.569	ng		99
15) 2-Propanol (Isopropanol)	7.52	45	4933	0.070	ng	#	27
19) Methylene Chloride	8.40	84	3536	0.116	ng		99
21) Trichlorotrifluoroethane	8.84	151	59567	2.410	ng		97
22) Carbon Disulfide	8.67	76	98648	0.905	ng		99
26) Vinyl Acetate	10.16	86	8057	1.106	ng	#	18
27) 2-Butanone (MEK)	10.47	72	8482	0.425	ng		95
31) n-Hexane	11.25	57	2818	0.056	ng		98
32) Chloroform	11.30	83	72848	1.399	ng		99
34) Tetrahydrofuran (THF)	11.75	72	1806	0.093	ng	#	75
41) Benzene	12.87	78	22080	0.186	ng		100
42) Carbon Tetrachloride	13.03	117	164793	4.073	ng		99
43) Cyclohexane	13.15	84	3525	0.080	ng		88
51) n-Heptane	14.30	71	5301	0.191	ng		98
58) Toluene	15.82	91	115192	1.032	ng		100
59) 2-Hexanone	16.07	43	4562	0.075	ng	#	66
63) n-Octane	16.82	57	12748	0.552	ng		99
64) Tetrachloroethene	16.96	166	3556	0.113	ng		100
66) Ethylbenzene	17.98	91	42772	0.344	ng		100
67) m- & p-Xylenes	18.14	91	148561	1.504	ng		99
70) o-Xylene	18.57	91	44870	0.448	ng		99
71) n-Nonane	18.77	43	121886	2.291	ng		98
74) Cumene	19.10	105	11970	0.097	ng		98
76) n-Propylbenzene	19.55	91	65924	0.451	ng		97
78) 4-Ethyltoluene	19.68	105	71630	0.620	ng		99
79) 1,3,5-Trimethylbenzene	19.74	105	88543	0.882	ng		100
82) 1,2,4-Trimethylbenzene	20.10	105	418072	4.146	ng		91
95) Naphthalene	22.21	128	69231	0.562	ng		89

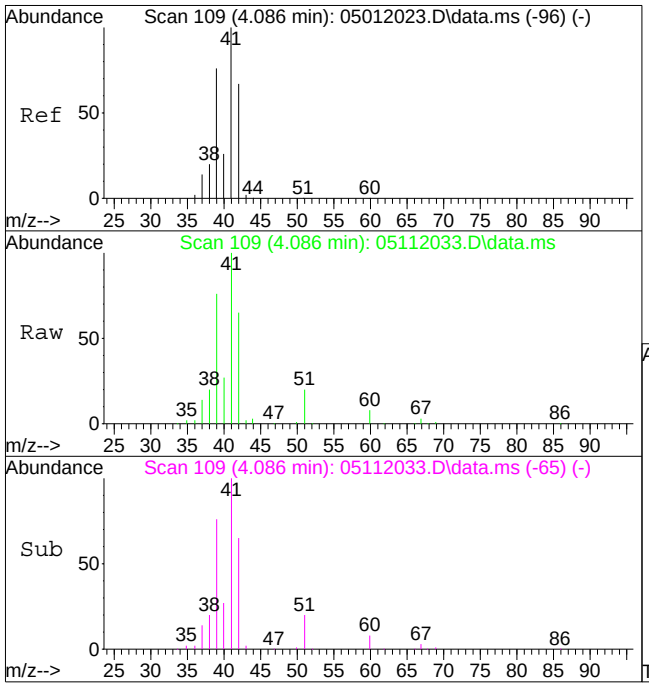
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112033.D Vial: 11
Acq On : 12 May 2020 00:11 Operator: LH
Sample : P2002299-019 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 15:01:24 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

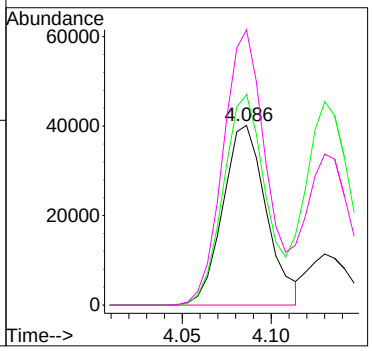


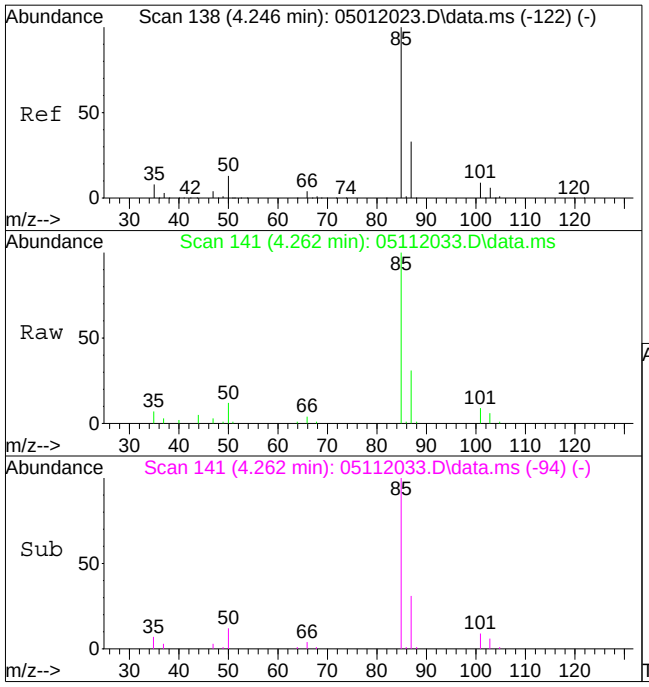


#2
Propene
Concen: 2.26 ng
RT: 4.09 min Scan# 109
Delta R.T. -0.006 min
Lab File: 05112033.D
Acq: 12 May 2020 00:11

Tgt Ion: 42 Resp: 68332

Ion	Ratio	Lower	Upper
42	100		
39	114.6	96.1	136.1
41	148.7	131.9	171.9

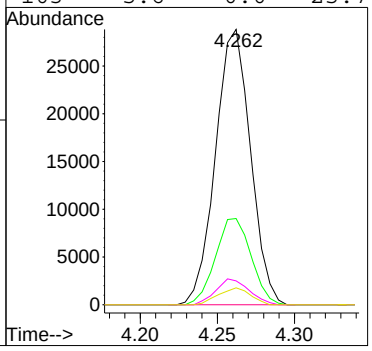


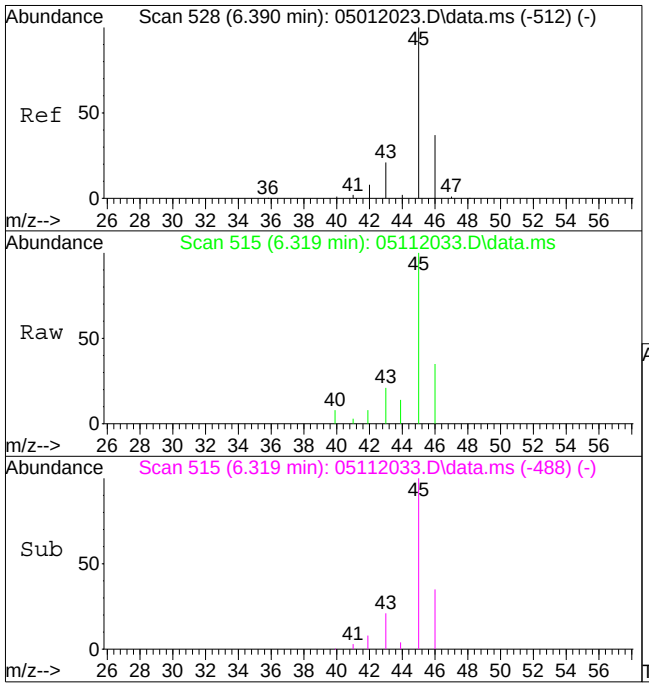


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.77 ng
RT: 4.26 min Scan# 141
Delta R.T. 0.011 min
Lab File: 05112033.D
Acq: 12 May 2020 00:11

Tgt Ion: 85 Resp: 45533

Ion	Ratio	Lower	Upper
85	100		
87	31.9	12.4	52.4
101	8.9	0.0	28.8
103	5.6	0.0	25.7

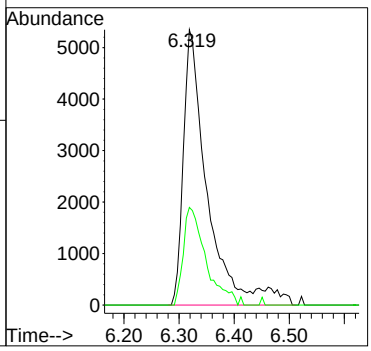


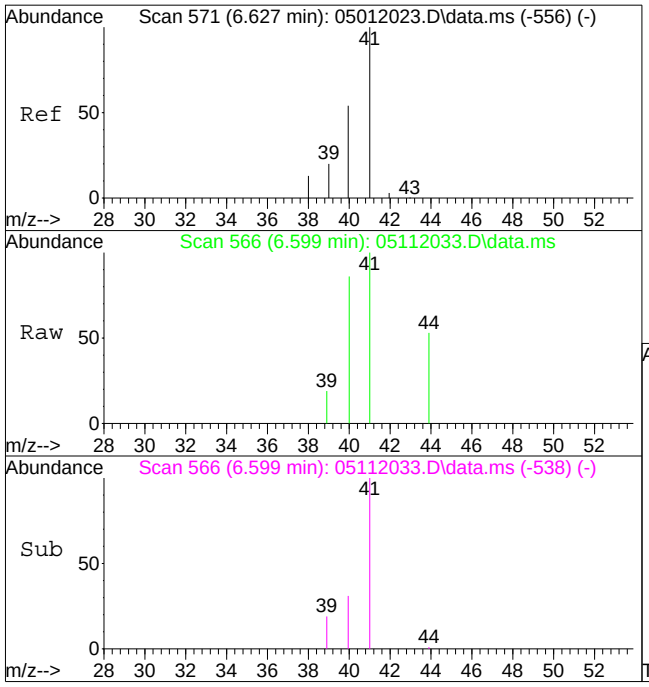


#10
Ethanol
Concen: 0.69 ng
RT: 6.32 min Scan# 515
Delta R.T. -0.099 min
Lab File: 05112033.D
Acq: 12 May 2020 00:11

Tgt Ion: 45 Resp: 16153

Ion	Ratio	Lower	Upper
45	100		
46	33.5	17.2	57.2

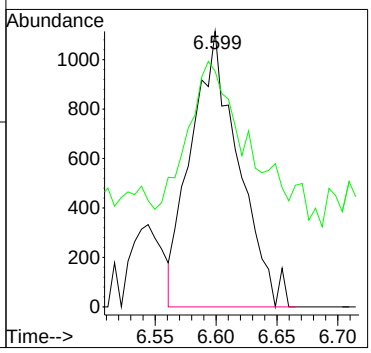


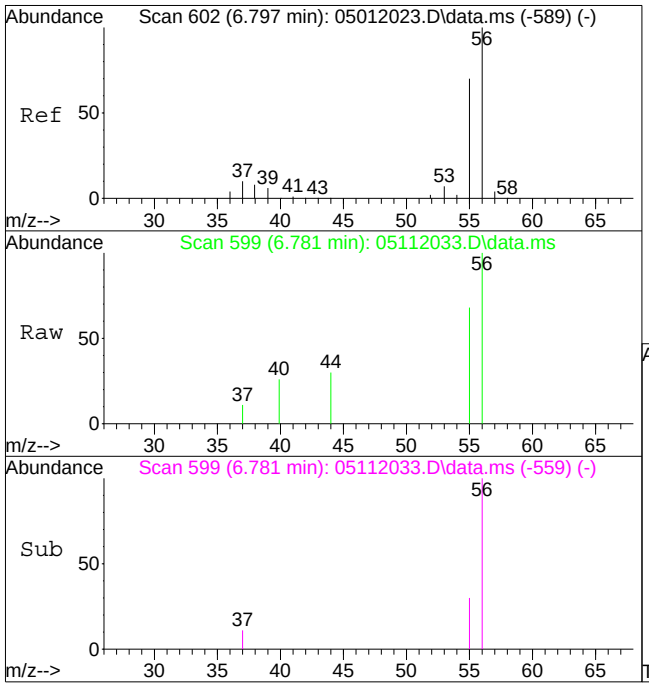


#11
Acetonitrile
Concen: 0.06 ng
RT: 6.60 min Scan# 566
Delta R.T. -0.044 min
Lab File: 05112033.D
Acq: 12 May 2020 00:11

Tgt Ion: 41 Resp: 2999

Ion	Ratio	Lower	Upper
41	100		
40	80.6	33.6	73.6#

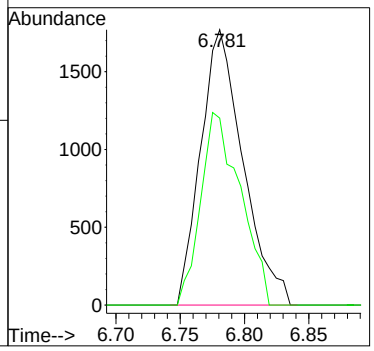


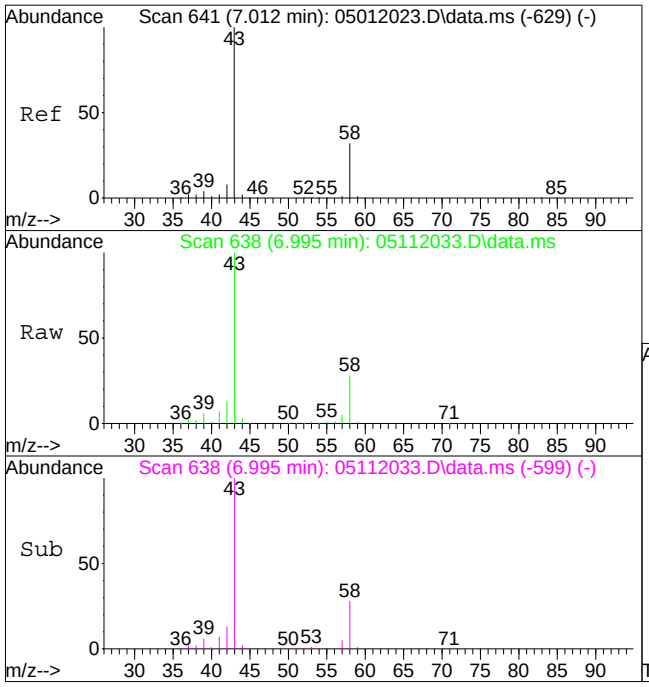


#12
Acrolein
Concen: 0.22 ng
RT: 6.78 min Scan# 599
Delta R.T. -0.028 min
Lab File: 05112033.D
Acq: 12 May 2020 00:11

Tgt Ion: 56 Resp: 4061

Ion	Ratio	Lower	Upper
56	100		
55	65.5	50.2	90.2

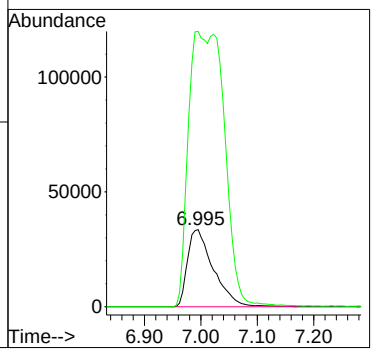


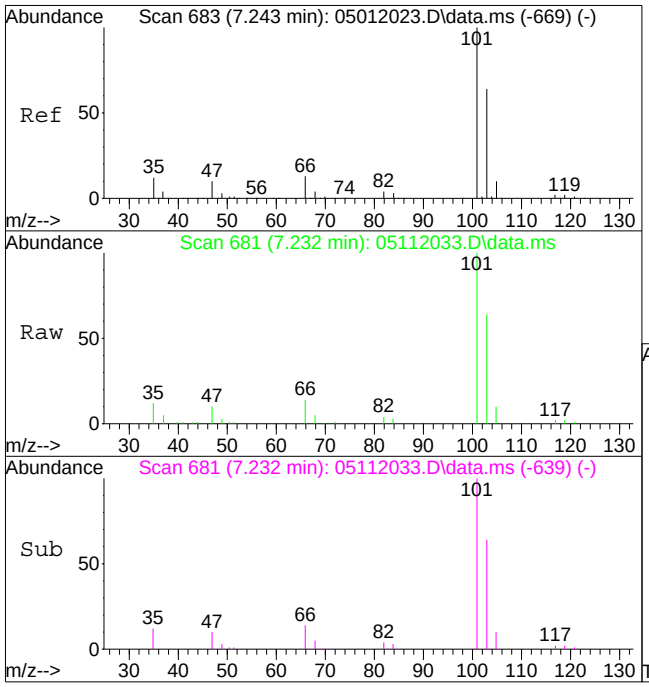


#13
Acetone
Concen: 4.58 ng
RT: 7.00 min Scan# 638
Delta R.T. -0.033 min
Lab File: 05112033.D
Acq: 12 May 2020 00:11

Tgt Ion: 58 Resp: 107175

Ion	Ratio	Lower	Upper
58	100		
43	494.8	294.4	354.4#

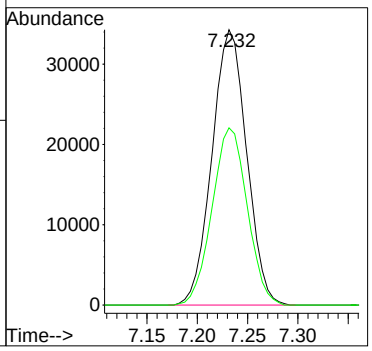


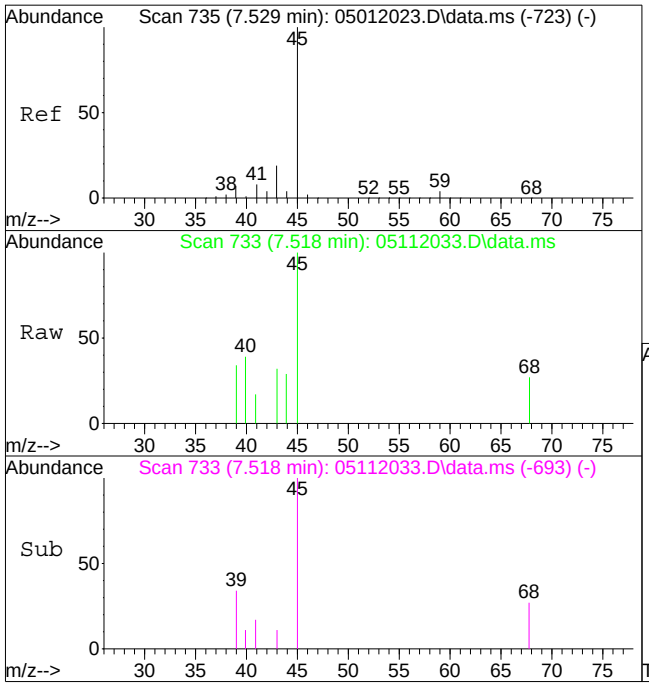


#14
Trichlorofluoromethane
Concen: 1.57 ng
RT: 7.23 min Scan# 681
Delta R.T. -0.017 min
Lab File: 05112033.D
Acq: 12 May 2020 00:11

Tgt Ion:101 Resp: 82152

Ion	Ratio	Lower	Upper
101	100		
103	65.2	44.4	84.4

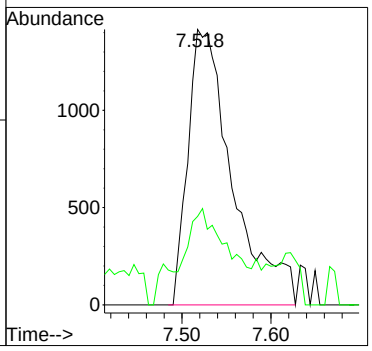


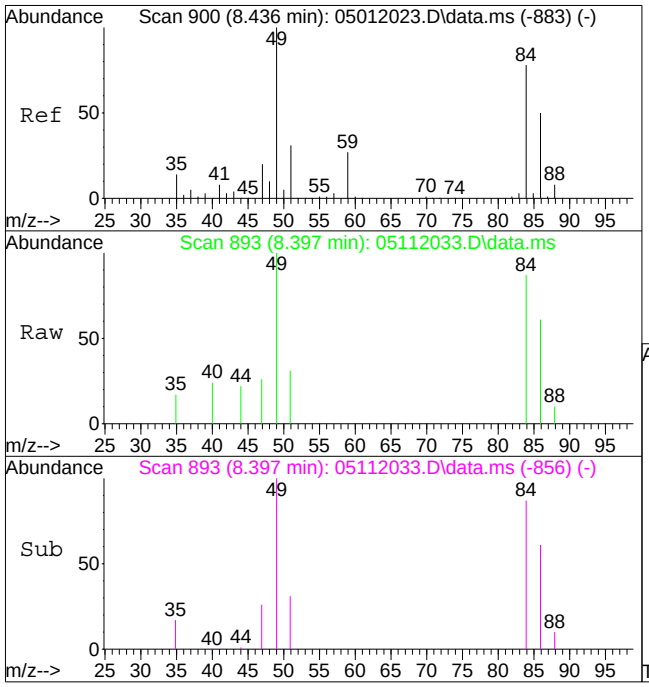


#15
2-Propanol (Isopropanol)
Concen: 0.07 ng
RT: 7.52 min Scan# 733
Delta R.T. -0.028 min
Lab File: 05112033.D
Acq: 12 May 2020 00:11

Tgt Ion: 45 Resp: 4933

Ion	Ratio	Lower	Upper
45	100		
43	52.7	0.0	39.5#

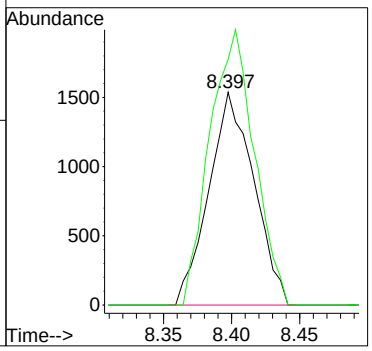


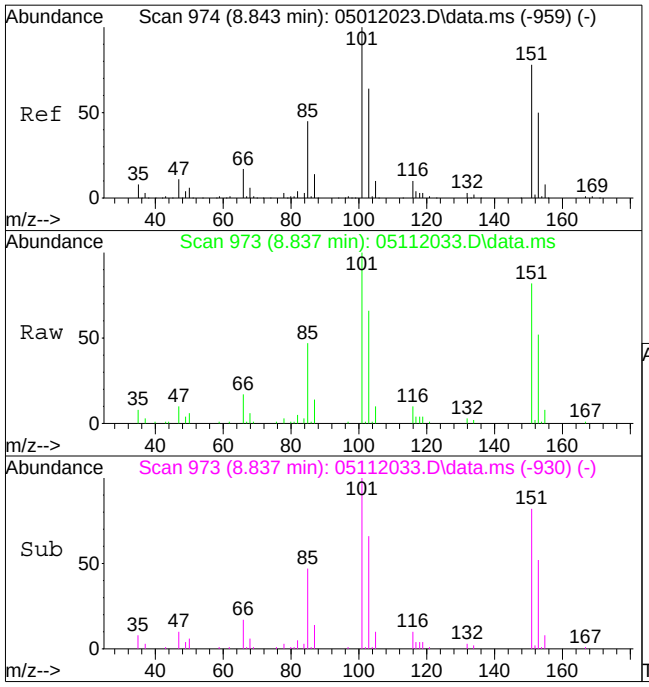


#19
Methylene Chloride
Concen: 0.12 ng
RT: 8.40 min Scan# 893
Delta R.T. -0.044 min
Lab File: 05112033.D
Acq: 12 May 2020 00:11

Tgt Ion: 84 Resp: 3536

Ion	Ratio	Lower	Upper
84	100		
49	128.5	104.8	154.8

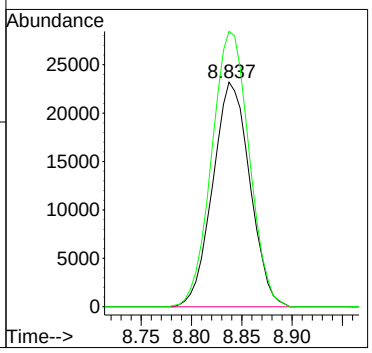


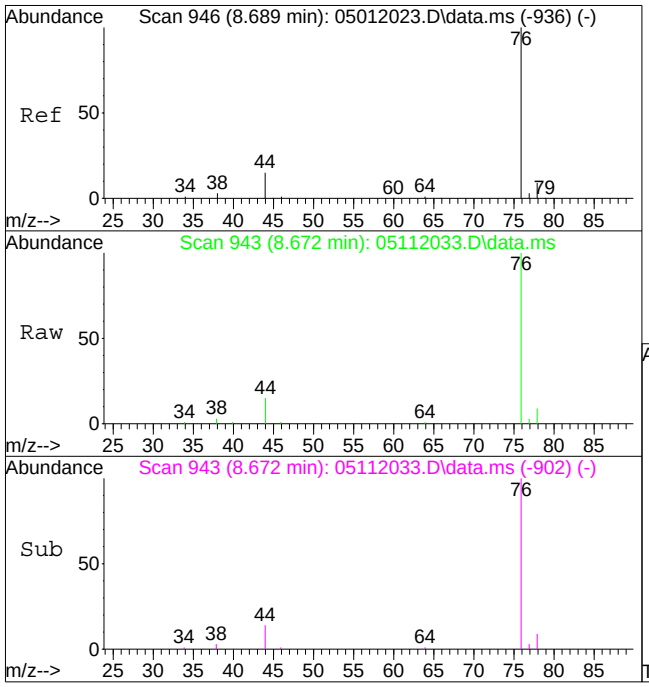


#21
Trichlorotrifluoroethane
Concen: 2.41 ng
RT: 8.84 min Scan# 973
Delta R.T. -0.011 min
Lab File: 05112033.D
Acq: 12 May 2020 00:11

Tgt Ion:151 Resp: 59567

Ion	Ratio	Lower	Upper
151	100		
101	123.5	107.3	147.3

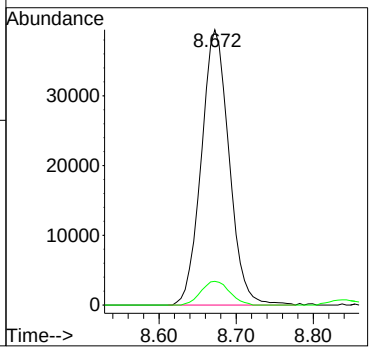


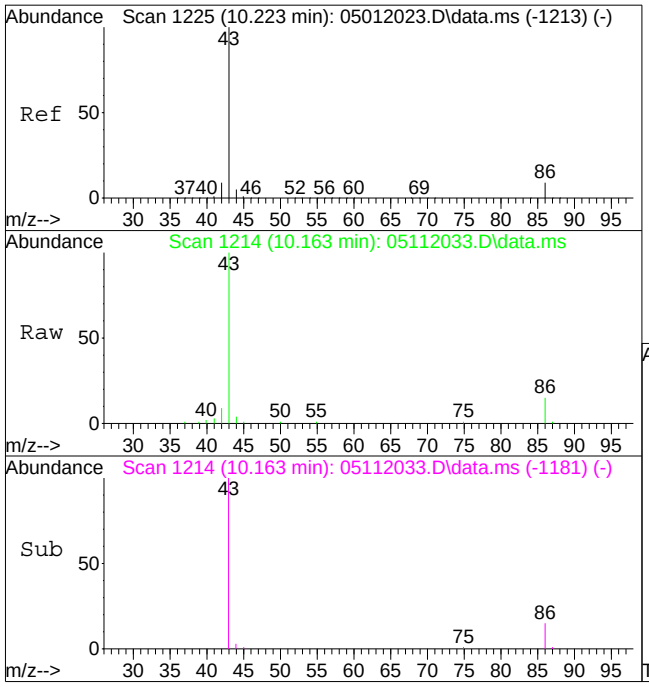


#22
Carbon Disulfide
Concen: 0.91 ng
RT: 8.67 min Scan# 943
Delta R.T. -0.022 min
Lab File: 05112033.D
Acq: 12 May 2020 00:11

Tgt Ion: 76 Resp: 98648

Ion	Ratio	Lower	Upper
76	100		
78	8.9	0.0	29.2

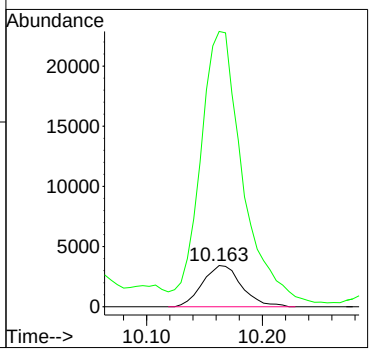


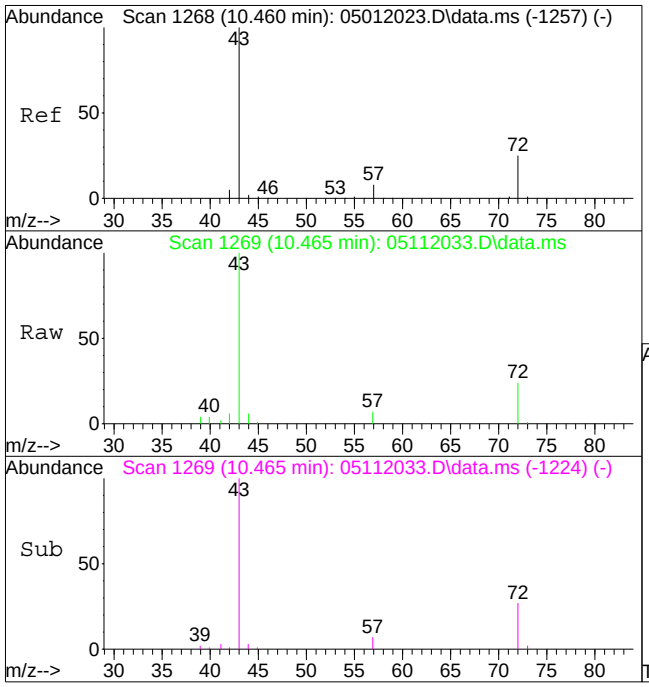


#26
Vinyl Acetate
Concen: 1.11 ng
RT: 10.16 min Scan# 1214
Delta R.T. -0.066 min
Lab File: 05112033.D
Acq: 12 May 2020 00:11

Tgt Ion: 86 Resp: 8057

Ion	Ratio	Lower	Upper
86	100		
43	726.6	1103.0	1143.0#

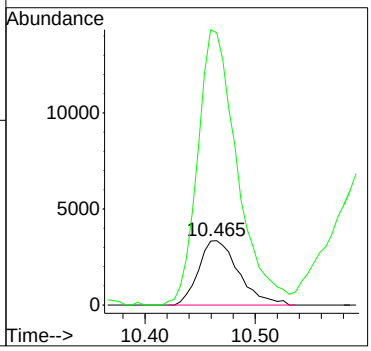


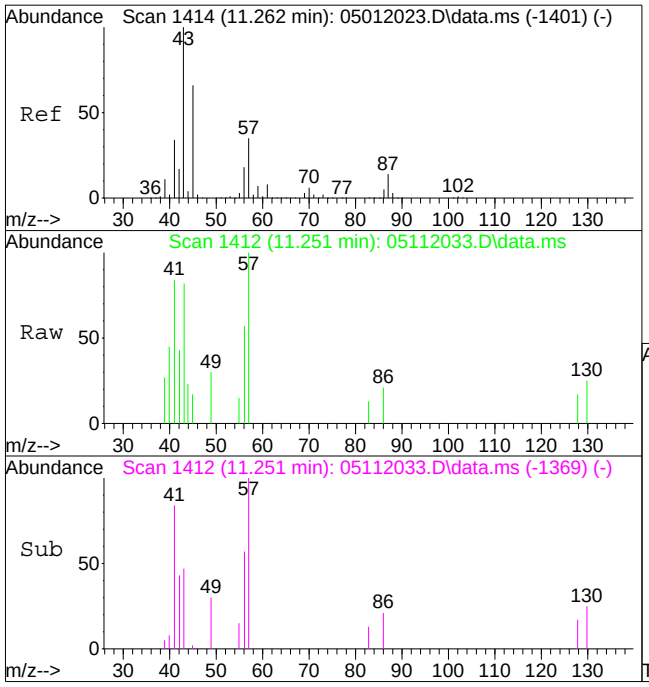


#27
2-Butanone (MEK)
Concen: 0.43 ng
RT: 10.47 min Scan# 1269
Delta R.T. -0.000 min
Lab File: 05112033.D
Acq: 12 May 2020 00:11

Tgt Ion: 72 Resp: 8482

Ion	Ratio	Lower	Upper
72	100		
43	422.0	389.7	429.7

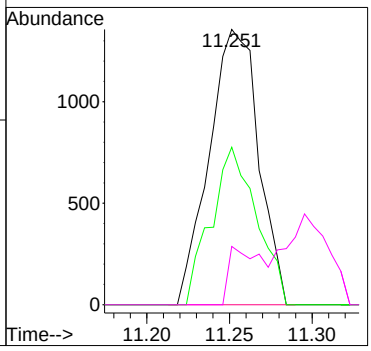


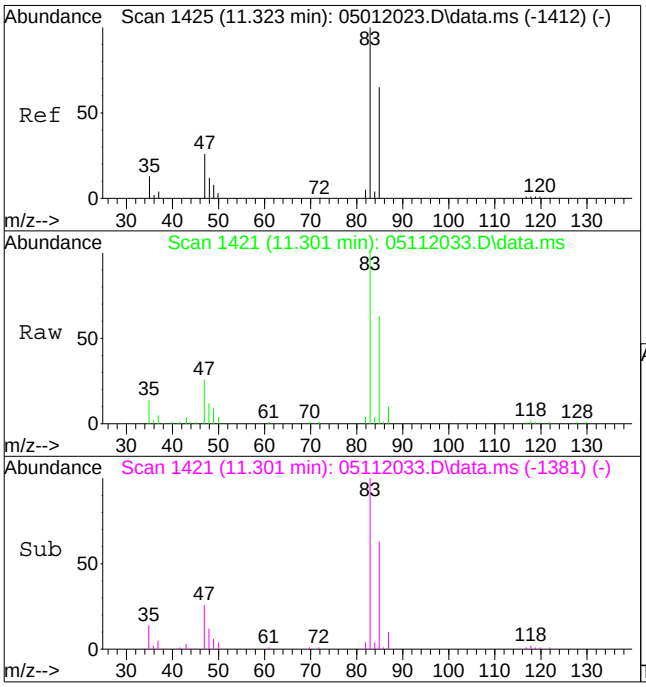


#31
n-Hexane
Concen: 0.06 ng
RT: 11.25 min Scan# 1412
Delta R.T. -0.011 min
Lab File: 05112033.D
Acq: 12 May 2020 00:11

Tgt Ion: 57 Resp: 2818

Ion	Ratio	Lower	Upper
57	100		
56	52.9	41.4	62.0
86	14.1	12.4	18.6

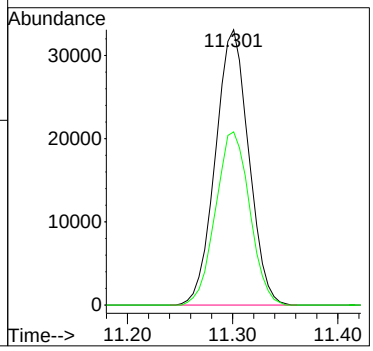


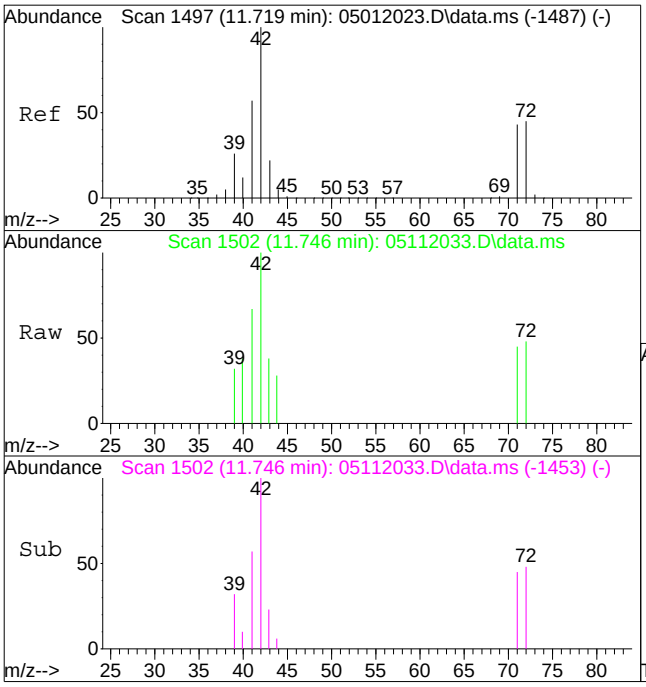


#32
Chloroform
Concen: 1.40 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.028 min
Lab File: 05112033.D
Acq: 12 May 2020 00:11

Tgt Ion: 83 Resp: 72848

Ion	Ratio	Lower	Upper
83	100		
85	64.4	45.5	85.5

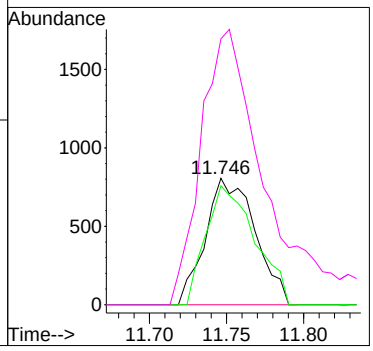


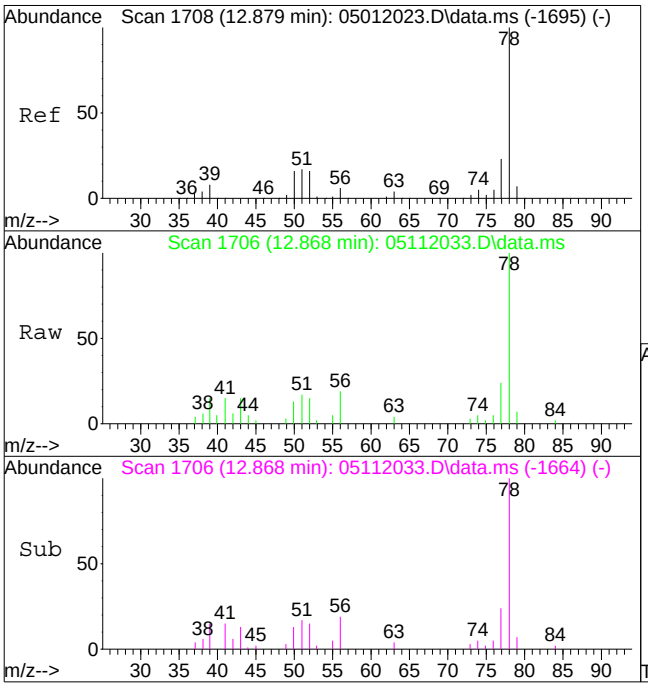


#34
Tetrahydrofuran (THF)
Concen: 0.09 ng
RT: 11.75 min Scan# 1502
Delta R.T. 0.022 min
Lab File: 05112033.D
Acq: 12 May 2020 00:11

Tgt Ion: 72 Resp: 1806

Ion	Ratio	Lower	Upper
72	100		
71	93.1	77.0	117.0
42	280.3	204.6	244.6#

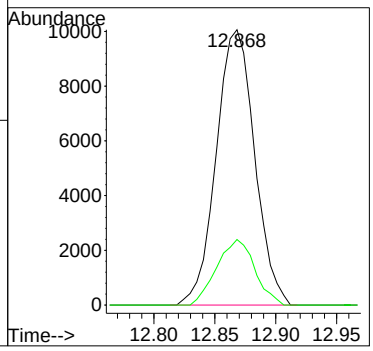


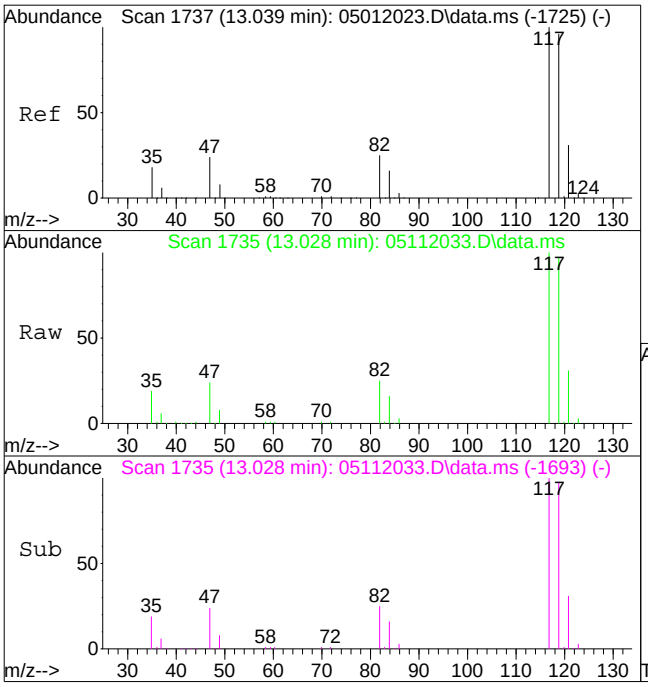


#41
Benzene
Concen: 0.19 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05112033.D
Acq: 12 May 2020 00:11

Tgt Ion: 78 Resp: 22080

Ion	Ratio	Lower	Upper
78	100		
77	23.5	3.4	43.4

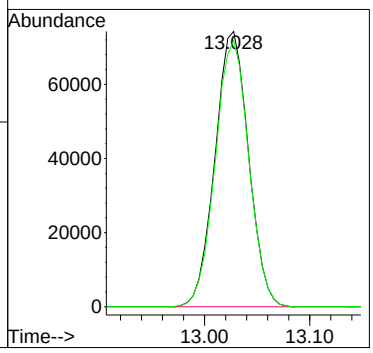


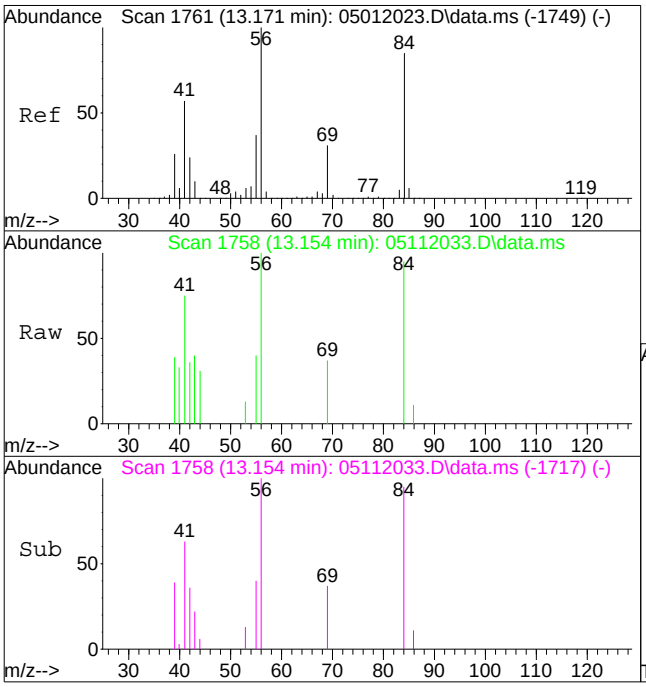


#42
Carbon Tetrachloride
Concen: 4.07 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05112033.D
Acq: 12 May 2020 00:11

Tgt Ion:117 Resp: 164793

Ion	Ratio	Lower	Upper
117	100		
119	96.8	76.2	116.2

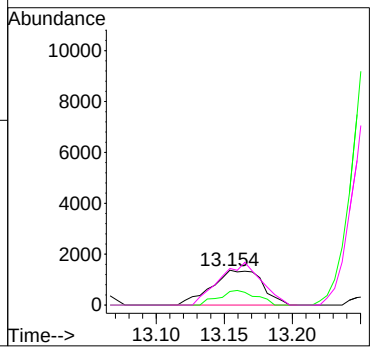


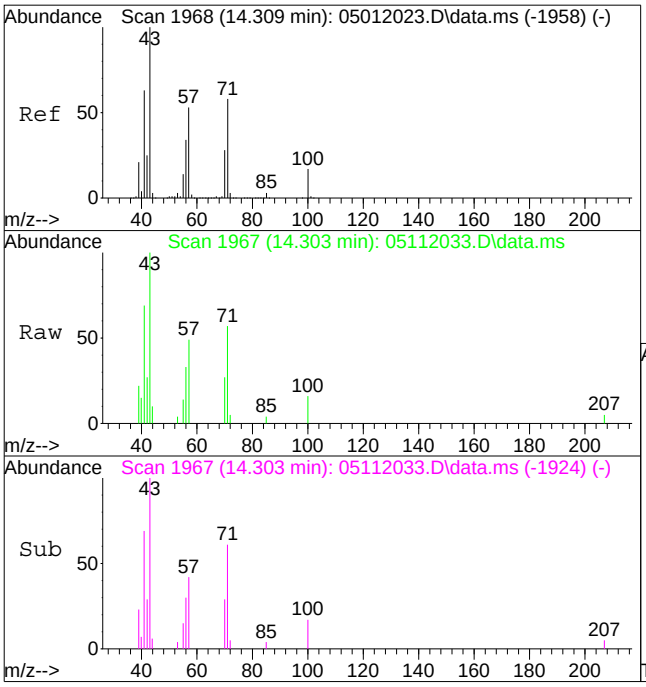


#43
Cyclohexane
Concen: 0.08 ng
RT: 13.15 min Scan# 1758
Delta R.T. -0.022 min
Lab File: 05112033.D
Acq: 12 May 2020 00:11

Tgt Ion: 84 Resp: 3525

Ion	Ratio	Lower	Upper
84	100		
69	30.9	16.5	56.5
56	102.8	97.4	137.4

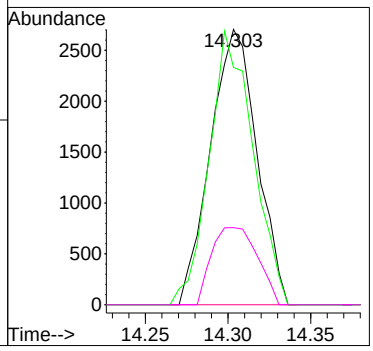


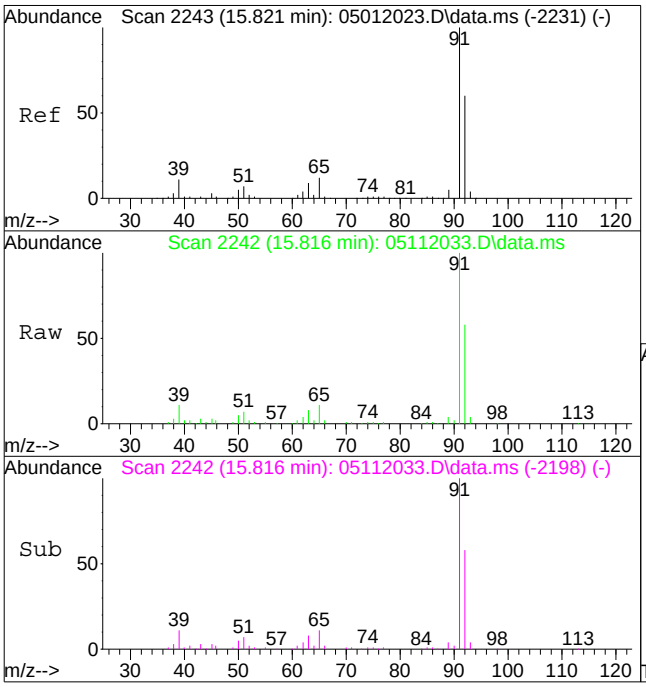


#51
n-Heptane
Concen: 0.19 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05112033.D
Acq: 12 May 2020 00:11

Tgt Ion: 71 Resp: 5301

Ion	Ratio	Lower	Upper
71	100		
57	93.6	71.0	111.0
100	27.6	8.4	48.4

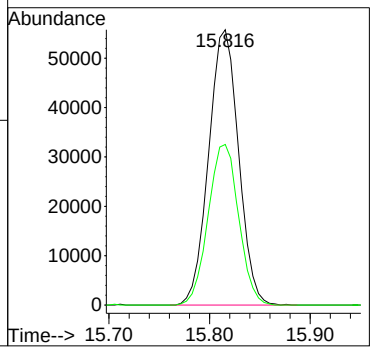


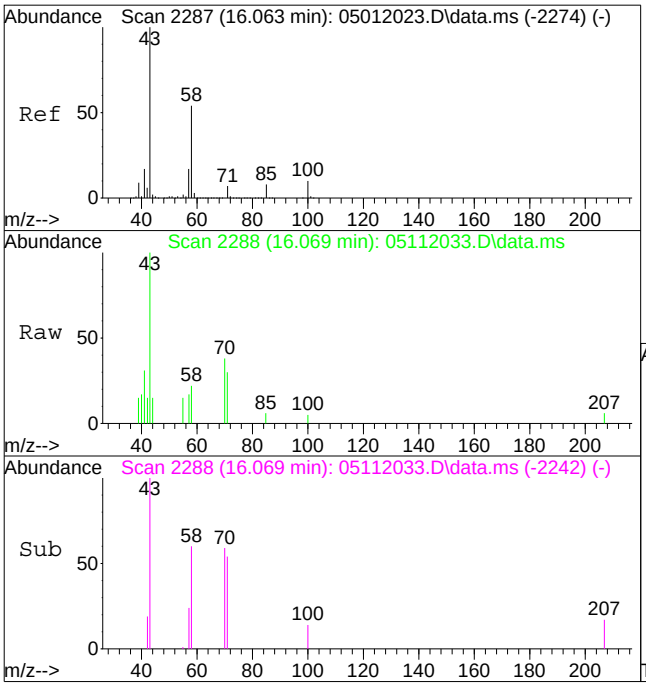


#58
Toluene
Concen: 1.03 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05112033.D
Acq: 12 May 2020 00:11

Tgt Ion: 91 Resp: 115192

Ion	Ratio	Lower	Upper
91	100		
92	59.3	39.4	79.4

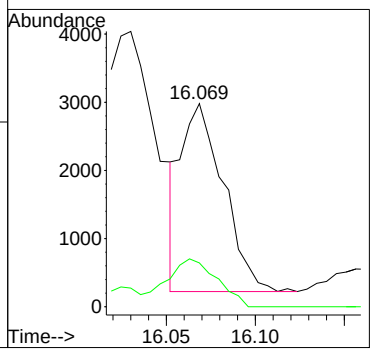


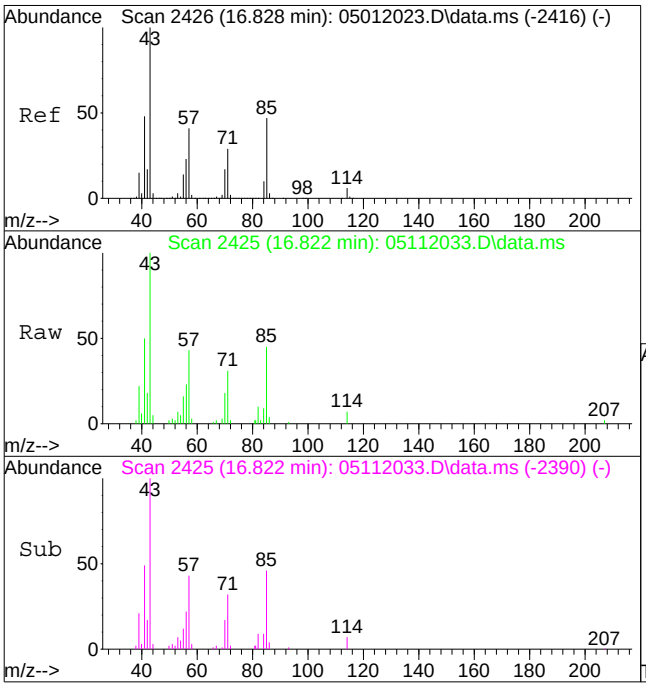


#59
2-Hexanone
Concen: 0.07 ng
RT: 16.07 min Scan# 2288
Delta R.T. 0.005 min
Lab File: 05112033.D
Acq: 12 May 2020 00:11

Tgt Ion: 43 Resp: 4562

Ion	Ratio	Lower	Upper
43	100		
58	30.4	34.5	74.5#

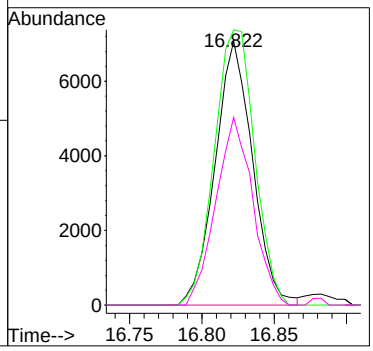


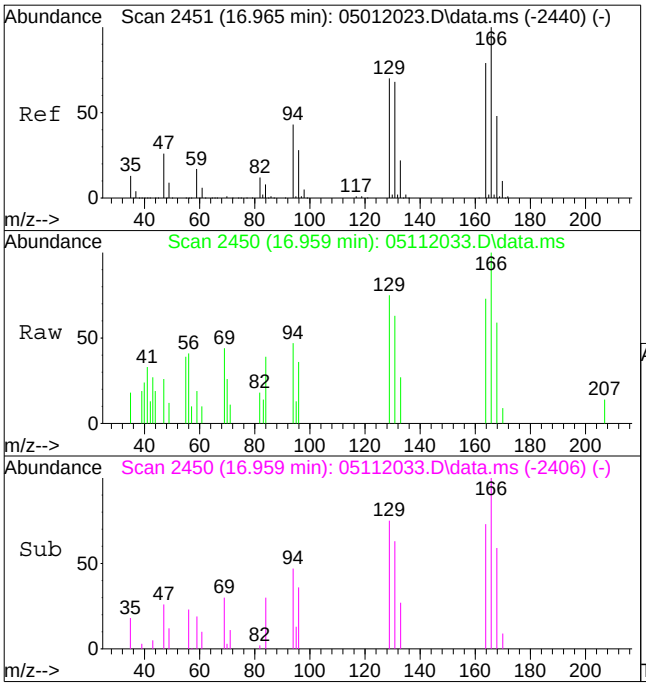


#63
n-Octane
Concen: 0.55 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05112033.D
Acq: 12 May 2020 00:11

Tgt Ion: 57 Resp: 12748

Ion	Ratio	Lower	Upper
57	100		
85	112.2	91.0	136.4
71	69.9	56.2	84.2

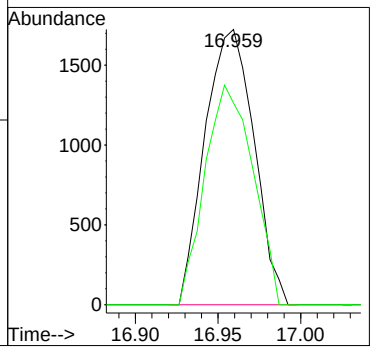


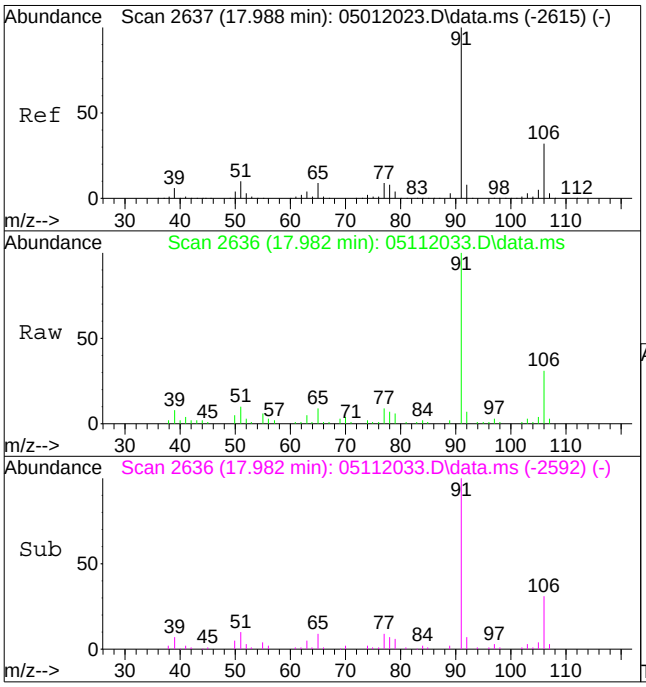


#64
Tetrachloroethene
Concen: 0.11 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05112033.D
Acq: 12 May 2020 00:11

Tgt Ion:166 Resp: 3556

Ion	Ratio	Lower	Upper
166	100		
164	78.1	58.4	98.4

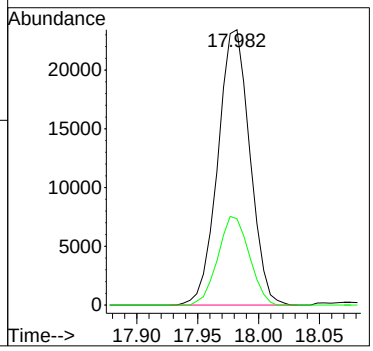


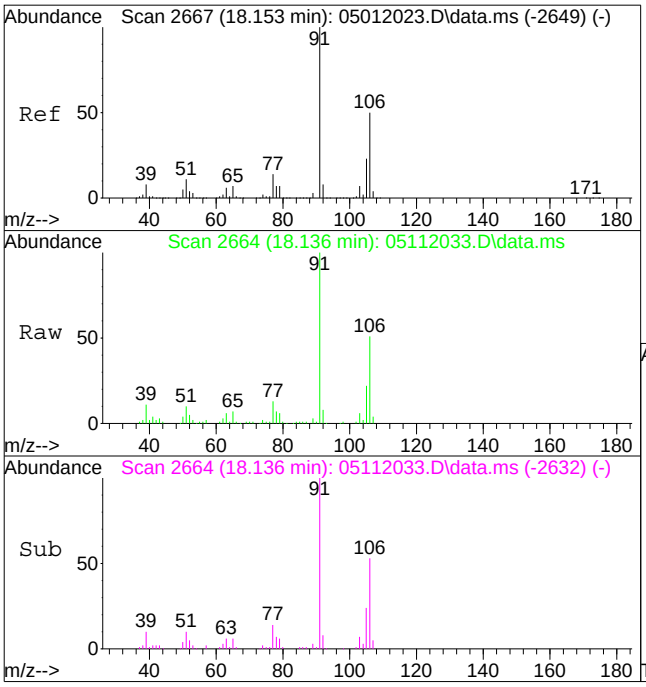


#66
Ethylbenzene
Concen: 0.34 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05112033.D
Acq: 12 May 2020 00:11

Tgt Ion: 91 Resp: 42772

Ion	Ratio	Lower	Upper
91	100		
106	31.6	11.6	51.6

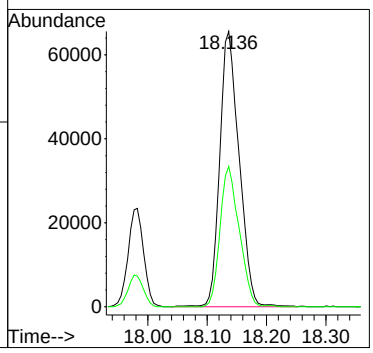


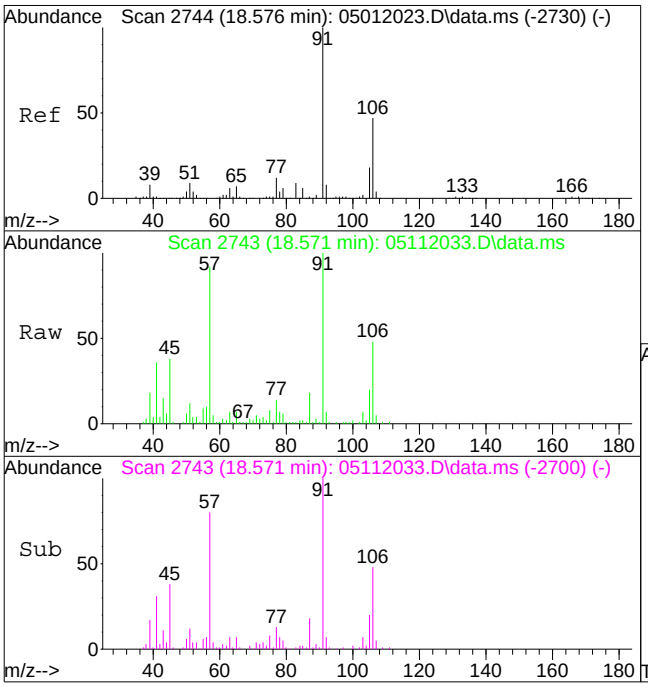


#67
m- & p-Xylenes
Concen: 1.50 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05112033.D
Acq: 12 May 2020 00:11

Tgt Ion: 91 Resp: 148561

Ion	Ratio	Lower	Upper
91	100		
106	50.3	29.7	69.7

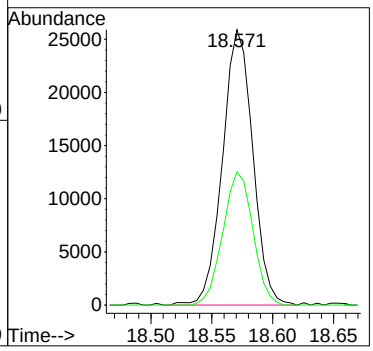


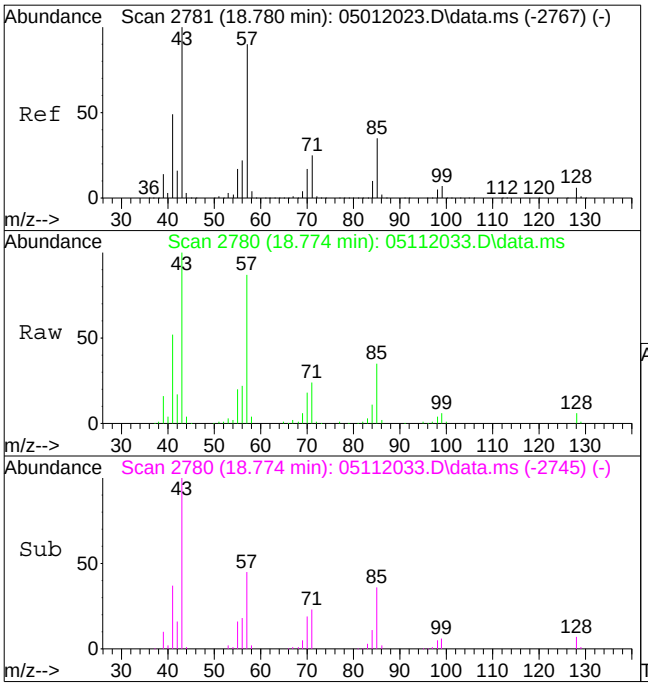


#70
o-Xylene
Concen: 0.45 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05112033.D
Acq: 12 May 2020 00:11

Tgt Ion: 91 Resp: 44870

Ion	Ratio	Lower	Upper
91	100		
106	47.9	27.5	67.5

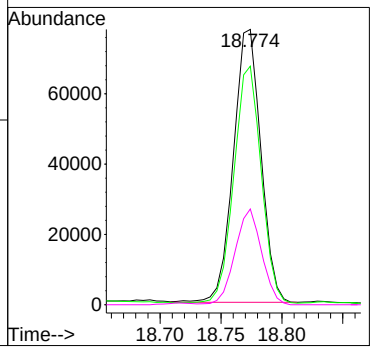


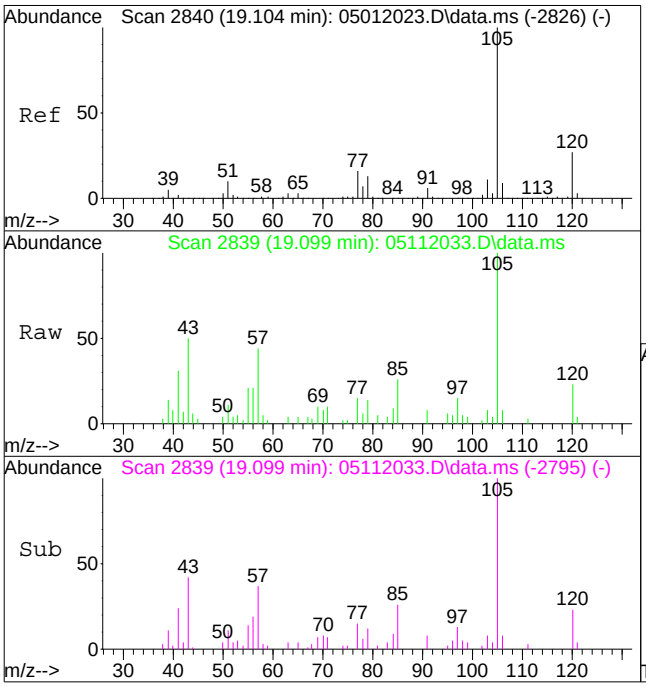


#71
n-Nonane
Concen: 2.29 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05112033.D
Acq: 12 May 2020 00:11

Tgt Ion: 43 Resp: 121886

Ion	Ratio	Lower	Upper
43	100		
57	86.3	69.0	109.0
85	34.0	14.6	54.6

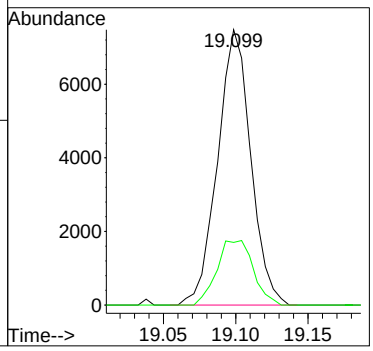


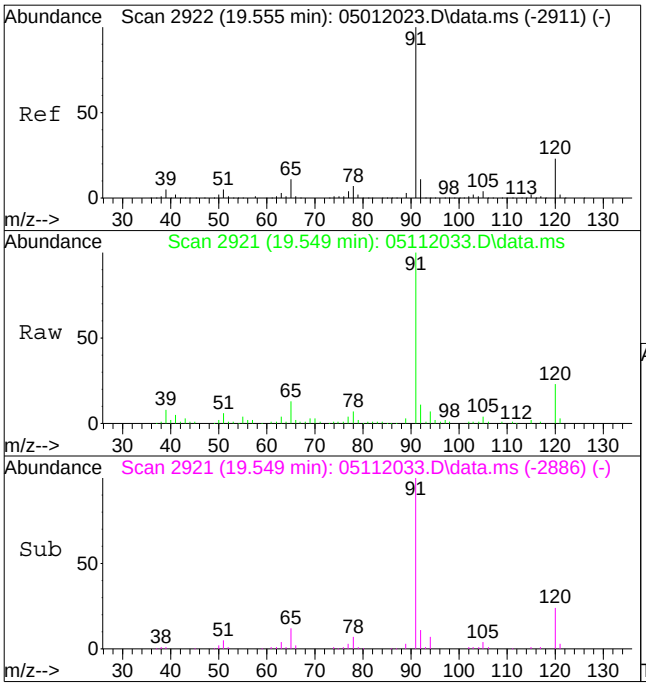


#74
Cumene
Concen: 0.10 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05112033.D
Acq: 12 May 2020 00:11

Tgt Ion:105 Resp: 11970

Ion	Ratio	Lower	Upper
105	100		
120	25.7	6.8	46.8

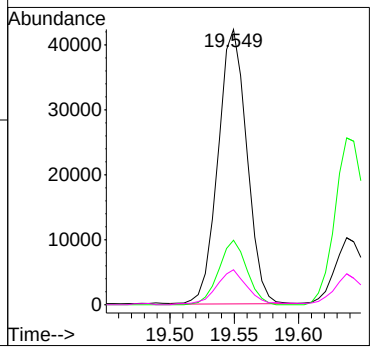


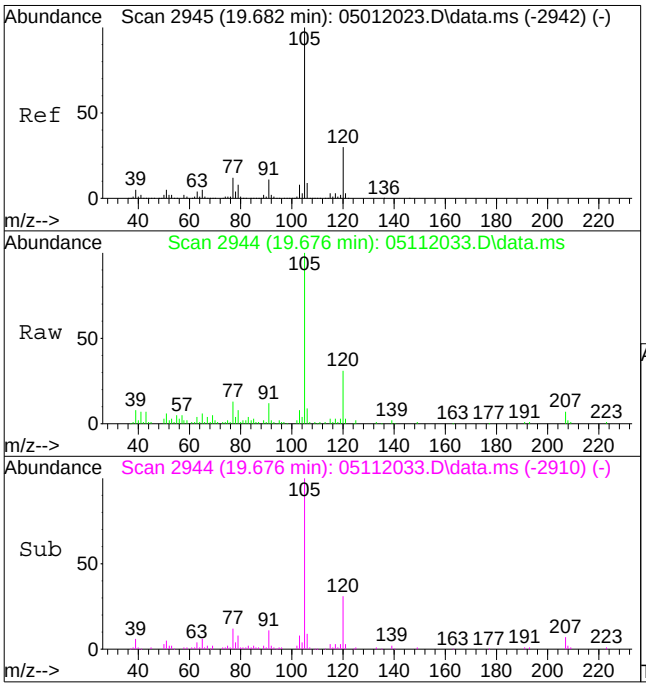


#76
n-Propylbenzene
Concen: 0.45 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05112033.D
Acq: 12 May 2020 00:11

Tgt Ion: 91 Resp: 65924

Ion	Ratio	Lower	Upper
91	100		
120	22.9	3.1	43.1
65	14.0	0.0	30.9

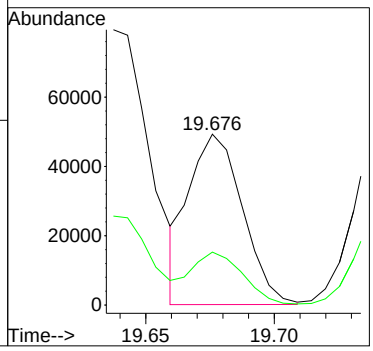


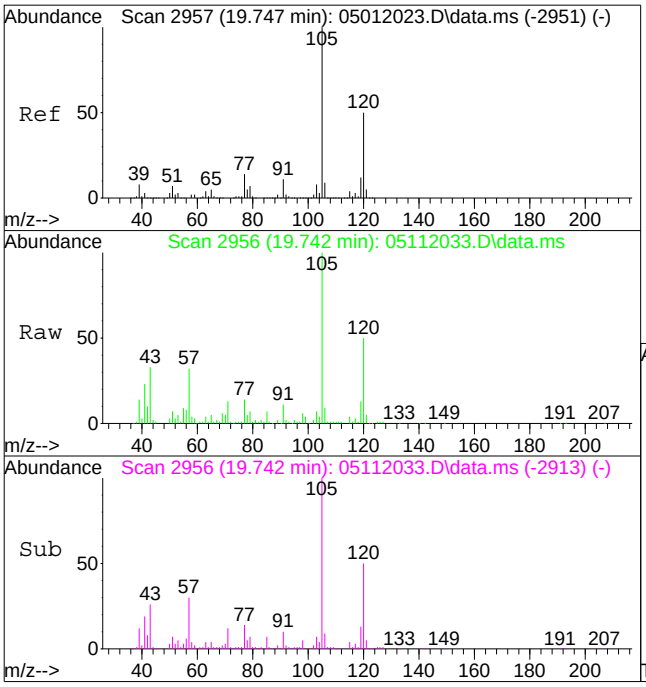


#78
4-Ethyltoluene
Concen: 0.62 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05112033.D
Acq: 12 May 2020 00:11

Tgt Ion:105 Resp: 71630

Ion	Ratio	Lower	Upper
105	100		
120	30.7	10.4	50.4

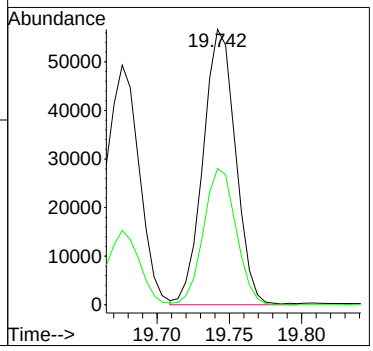


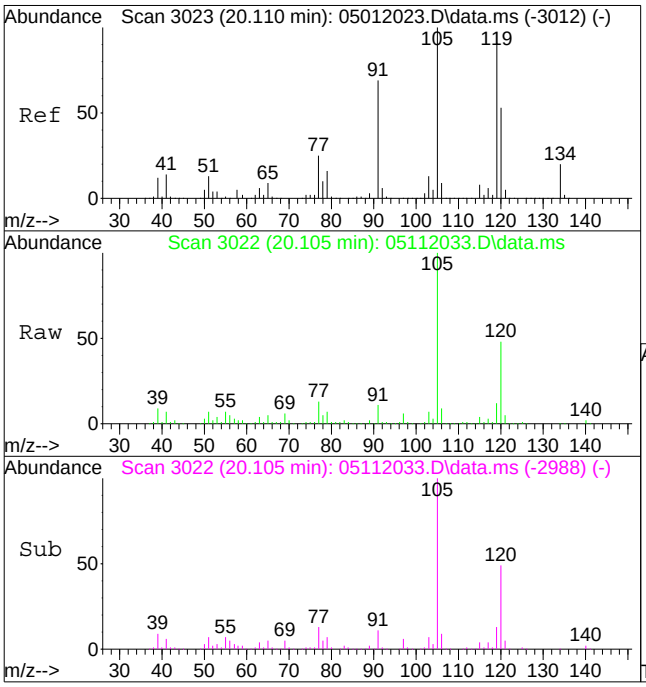


#79
1,3,5-Trimethylbenzene
Concen: 0.88 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05112033.D
Acq: 12 May 2020 00:11

Tgt Ion:105 Resp: 88543

Ion	Ratio	Lower	Upper
105	100		
120	49.6	29.9	69.9

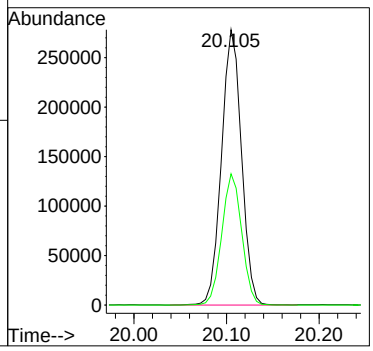


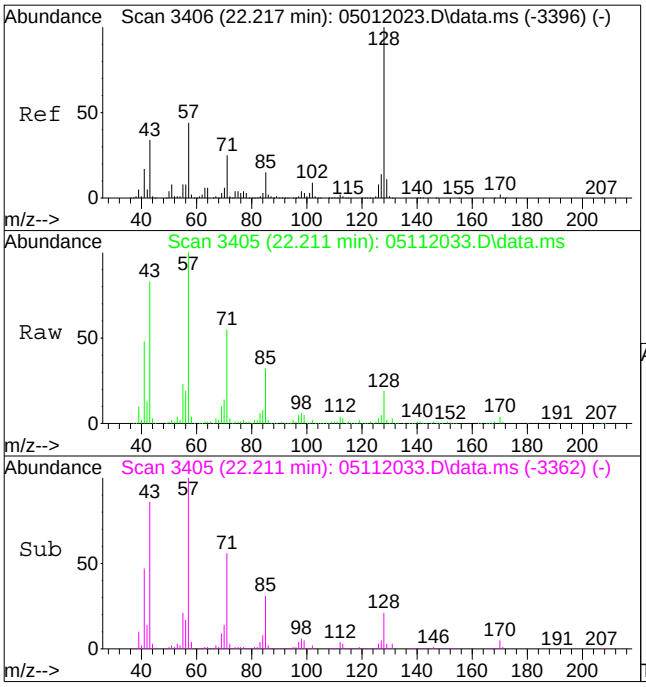


#82
1,2,4-Trimethylbenzene
Concen: 4.15 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05112033.D
Acq: 12 May 2020 00:11

Tgt Ion:105 Resp: 418072

Ion	Ratio	Lower	Upper
105	100		
120	47.5	33.6	73.6

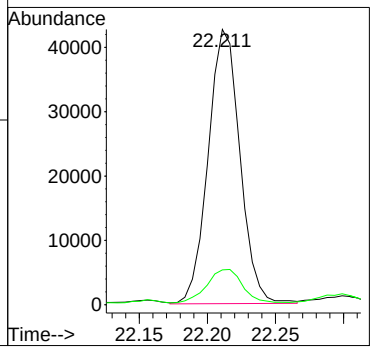




#95
Naphthalene
Concen: 0.56 ng
RT: 22.21 min Scan# 3405
Delta R.T. -0.011 min
Lab File: 05112033.D
Acq: 12 May 2020 00:11

Tgt Ion:128 Resp: 69231

Ion	Ratio	Lower	Upper
128	100		
129	15.2	0.0	31.0



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112034.D Vial: 12
Acq On : 12 May 2020 00:45 Operator: LH
Sample : P2002299-020 (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 15:03:03 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/13/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	297491	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1263763	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	603682	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	469578	11.647	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.20%			
57) Toluene-d8 (SS2)	15.72	98	1276088	12.471	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.76%			
73) Bromofluorobenzene (SS3)	18.97	174	483933	13.144	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.12%			
Target Compounds						Qvalue
2) Propene	4.12	42	4753	0.138	ng	95
3) Dichlorodifluoromethan...	4.27	85	2163	N.D.		
4) Chloromethane	4.54	50	23052	0.437	ng	98
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	4.95	62	5009	0.087	ng	100
7) 1,3-Butadiene	5.14	54	1553	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	5.98	64	1667	0.073	ng	91
10) Ethanol	6.34	45	1250	N.D.		
11) Acetonitrile	6.55	41	1508	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	7.24	101	4288	0.072	ng	98
15) 2-Propanol (Isopropanol)	7.54	45	1169	N.D.		
16) Acrylonitrile	7.69	53	469	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d	
19) Methylene Chloride	8.40	84	118	N.D.		
20) 3-Chloro-1-propene (Al...	8.58	41	154	N.D.		
21) Trichlorotrifluoroethane	8.85	151	3912	0.139	ng	96
22) Carbon Disulfide	8.69	76	347629	2.805	ng	99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	9.94	63	3275	0.058	ng	86
25) Methyl tert-Butyl Ether	10.06	73	3052	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	10.49	72	729	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	11.27	57	211294	3.723	ng	100
32) Chloroform	11.31	83	5885	0.099	ng	81
34) Tetrahydrofuran (THF)	11.74	72	17765	0.803	ng	94
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d	
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	12.87	61	985	N.D.		
40) 1-Butanol	12.88	56	1079	N.D.		
41) Benzene	12.87	78	171001	1.262	ng	100
42) Carbon Tetrachloride	13.03	117	37384	0.811	ng	99
43) Cyclohexane	13.17	84	3945294	78.120	ng	99
44) tert-Amyl Methyl Ether	13.45	73	2005	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d	
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	13.97	130	495	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112034.D Vial: 12
Acq On : 12 May 2020 00:45 Operator: LH
Sample : P2002299-020 (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 15:03:03 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

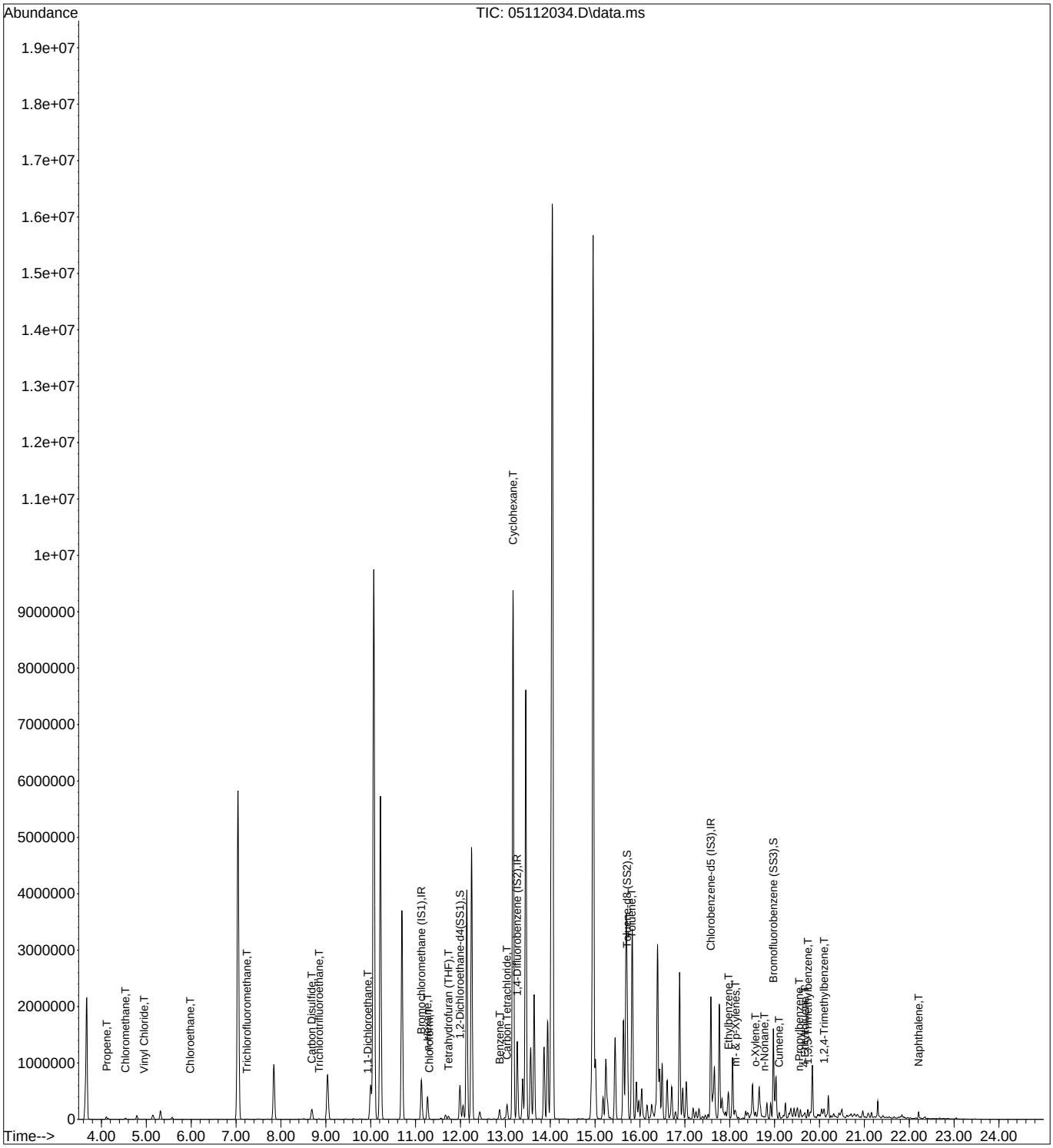
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.31	71	883	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d		
54) trans-1,3-Dichloropropene	15.44	75	108	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d		
58) Toluene	15.82	91	763180	5.786 ng		100
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D. d		
63) n-Octane	0.00	57	0	N.D. d		
64) Tetrachloroethene	16.96	166	151	N.D.		
65) Chlorobenzene	0.00	112	0	N.D. d		
66) Ethylbenzene	17.98	91	26982	0.183 ng		99
67) m- & p-Xylenes	18.14	91	49097	0.421 ng		99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.48	104	117	N.D.		
70) o-Xylene	18.57	91	32213	0.272 ng		100
71) n-Nonane	18.77	43	10990	0.175 ng		98
72) 1,1,2,2-Tetrachloroethane	18.58	83	867	N.D.		
74) Cumene	19.10	105	20836	0.143 ng		100
75) alpha-Pinene	19.44	93	636	N.D.		
76) n-Propylbenzene	19.55	91	9948	0.058 ng	#	72
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.68	105	7971	0.058 ng		95
79) 1,3,5-Trimethylbenzene	19.74	105	21614	0.182 ng		98
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	20.10	105	49751	0.418 ng		91
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.20	91	1157	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	20.35	105	5227	N.D.		
88) 4-Isopropyltoluene (p-...	20.48	119	6700	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	0.00	68	0	N.D. d		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	22.21	128	10328	0.071 ng		98
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112034.D Vial: 12
Acq On : 12 May 2020 00:45 Operator: LH
Sample : P2002299-020 (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 15:03:03 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

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Acq On : 12 May 2020 00:45 Operator: LH
Sample : P2002299-020 (20mL) Inst : GCMS-16
Misc : S31-02112001

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QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/13/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	297491	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1263763	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	603682	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	469578	11.647	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.20%				
57) Toluene-d8 (SS2)	15.72	98	1276088	12.471	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.76%				
73) Bromofluorobenzene (SS3)	18.97	174	483933	13.144	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.12%				
Target Compounds							Qvalue
2) Propene	4.12	42	4753	0.138	ng		95
4) Chloromethane	4.54	50	23052	0.437	ng		98
6) Vinyl Chloride	4.95	62	5009	0.087	ng		100
9) Chloroethane	5.98	64	1667	0.073	ng		91
14) Trichlorofluoromethane	7.24	101	4288	0.072	ng		98
21) Trichlorotrifluoroethane	8.85	151	3912	0.139	ng		96
22) Carbon Disulfide	8.69	76	347629	2.805	ng		99
24) 1,1-Dichloroethane	9.94	63	3275	0.058	ng		86
31) n-Hexane	11.27	57	211294	3.723	ng		100
32) Chloroform	11.31	83	5885	0.099	ng		81
34) Tetrahydrofuran (THF)	11.74	72	17765	0.803	ng		94
41) Benzene	12.87	78	171001	1.262	ng		100
42) Carbon Tetrachloride	13.03	117	37384	0.811	ng		99
43) Cyclohexane	13.17	84	3945294	78.120	ng		99
58) Toluene	15.82	91	763180	5.786	ng		100
66) Ethylbenzene	17.98	91	26982	0.183	ng		99
67) m- & p-Xylenes	18.14	91	49097	0.421	ng		99
70) o-Xylene	18.57	91	32213	0.272	ng		100
71) n-Nonane	18.77	43	10990	0.175	ng		98
74) Cumene	19.10	105	20836	0.143	ng		100
76) n-Propylbenzene	19.55	91	9948	0.058	ng	#	72
78) 4-Ethyltoluene	19.68	105	7971	0.058	ng		95
79) 1,3,5-Trimethylbenzene	19.74	105	21614	0.182	ng		98
82) 1,2,4-Trimethylbenzene	20.10	105	49751	0.418	ng		91
95) Naphthalene	22.21	128	10328	0.071	ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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Acq On : 12 May 2020 00:45 Operator: LH
Sample : P2002299-020 (20mL) Inst : GCMS-16
Misc : S31-02112001

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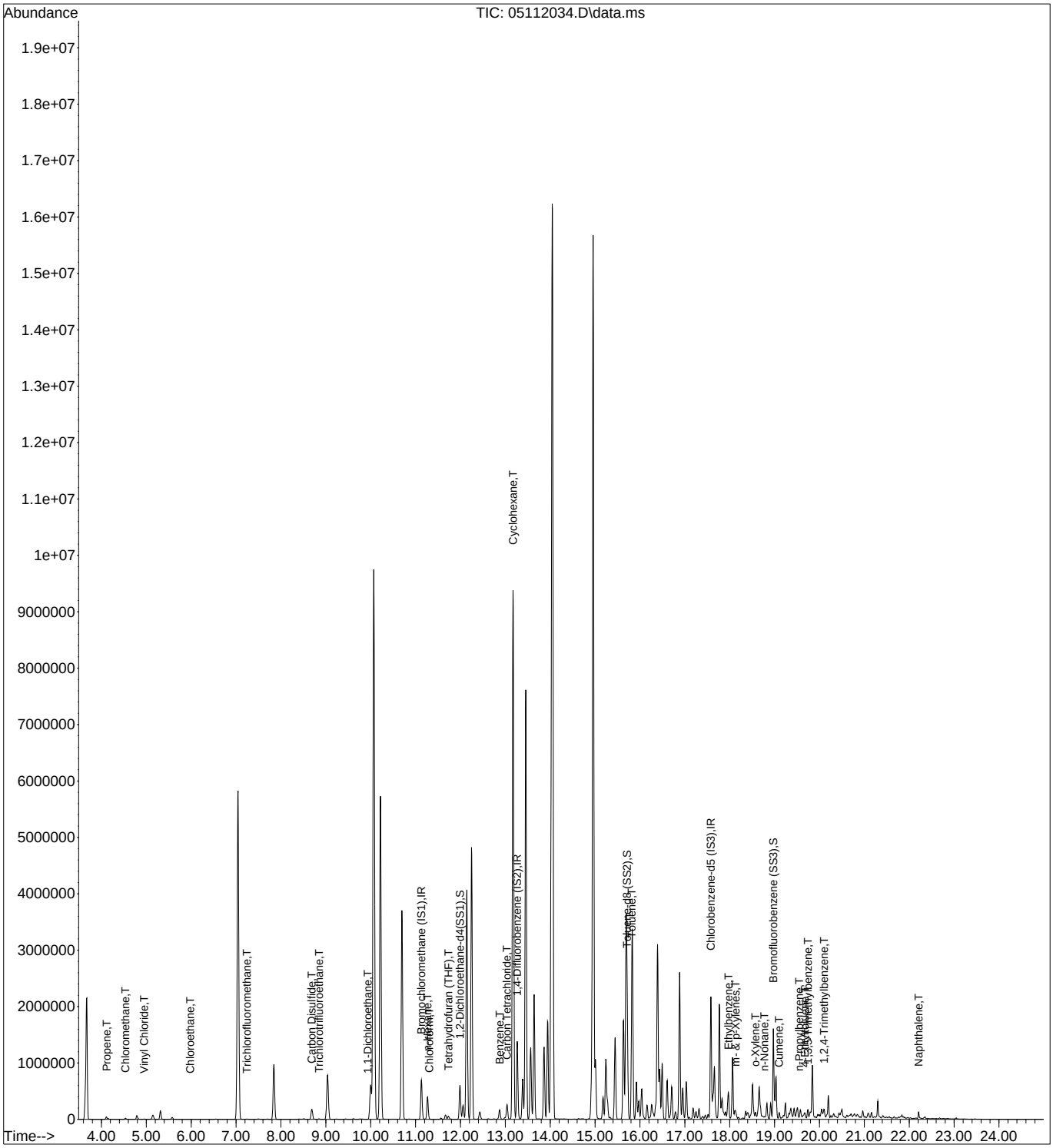
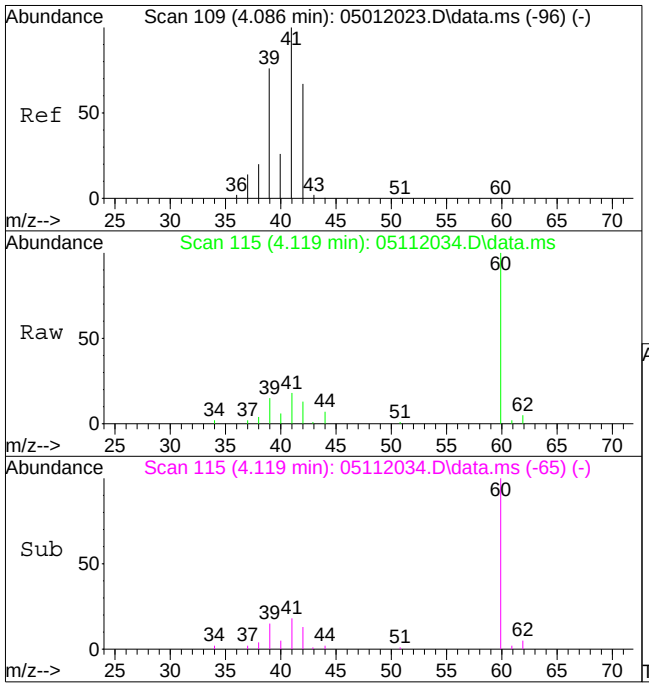
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

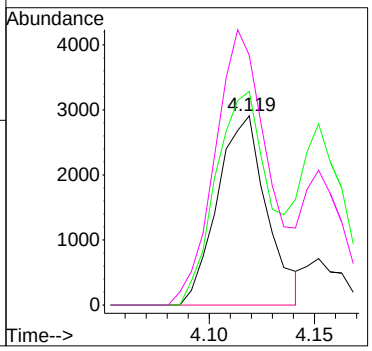


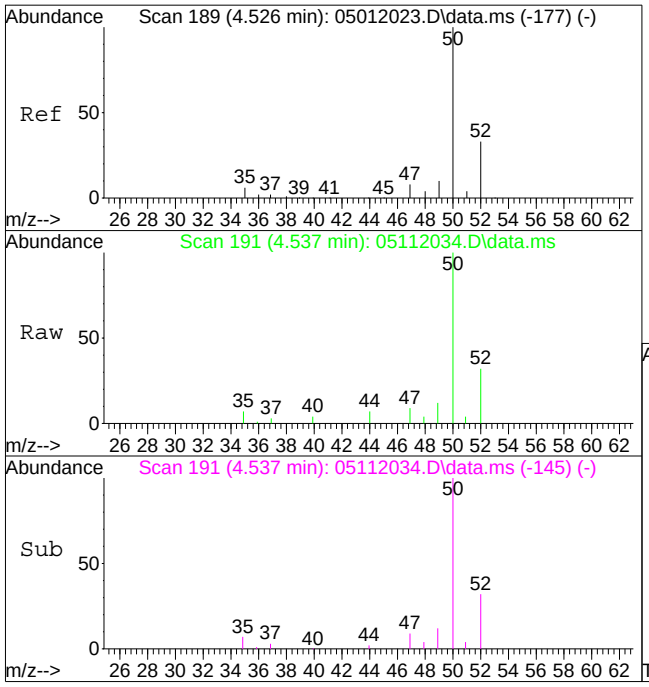


#2
Propene
Concen: 0.14 ng
RT: 4.12 min Scan# 115
Delta R.T. 0.027 min
Lab File: 05112034.D
Acq: 12 May 2020 00:45

Tgt Ion: 42 Resp: 4753

Ion	Ratio	Lower	Upper
42	100		
39	121.0	96.1	136.1
41	157.7	131.9	171.9

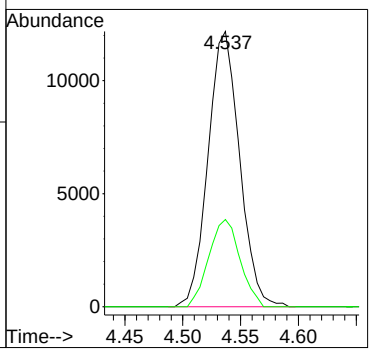


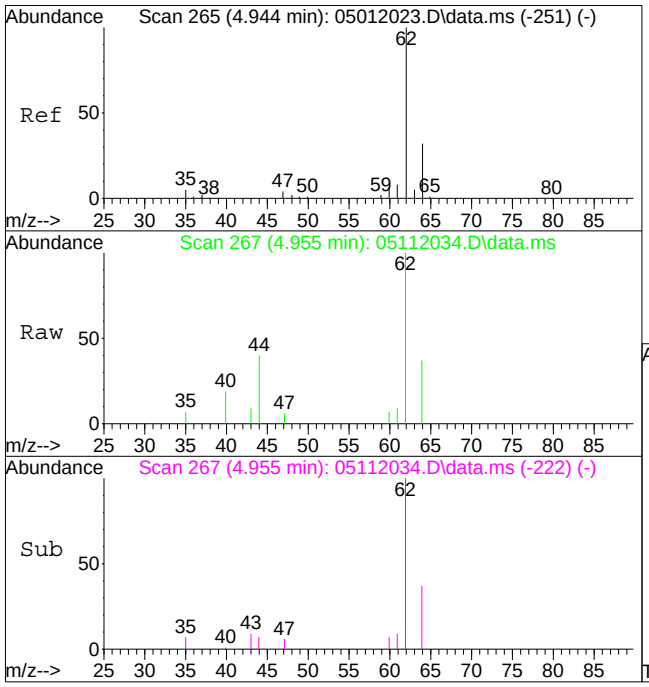


#4
Chloromethane
Concen: 0.44 ng
RT: 4.54 min Scan# 191
Delta R.T. 0.005 min
Lab File: 05112034.D
Acq: 12 May 2020 00:45

Tgt Ion: 50 Resp: 23052

Ion	Ratio	Lower	Upper
50	100		
52	31.3	12.5	52.5

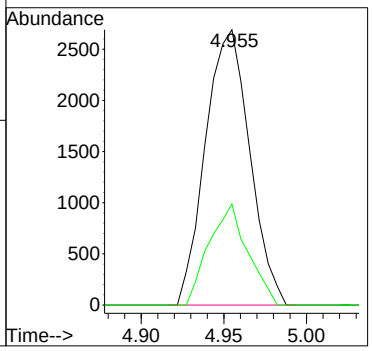


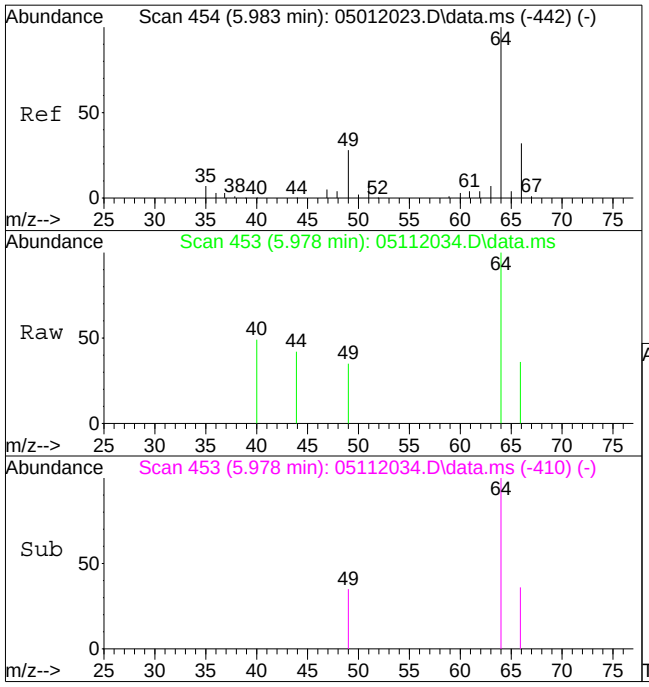


#6
Vinyl Chloride
Concen: 0.09 ng
RT: 4.95 min Scan# 267
Delta R.T. -0.000 min
Lab File: 05112034.D
Acq: 12 May 2020 00:45

Tgt Ion: 62 Resp: 5009

Ion	Ratio	Lower	Upper
62	100		
64	32.1	12.1	52.1

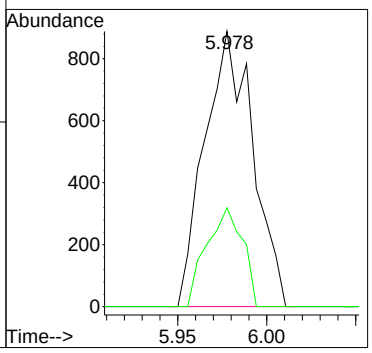


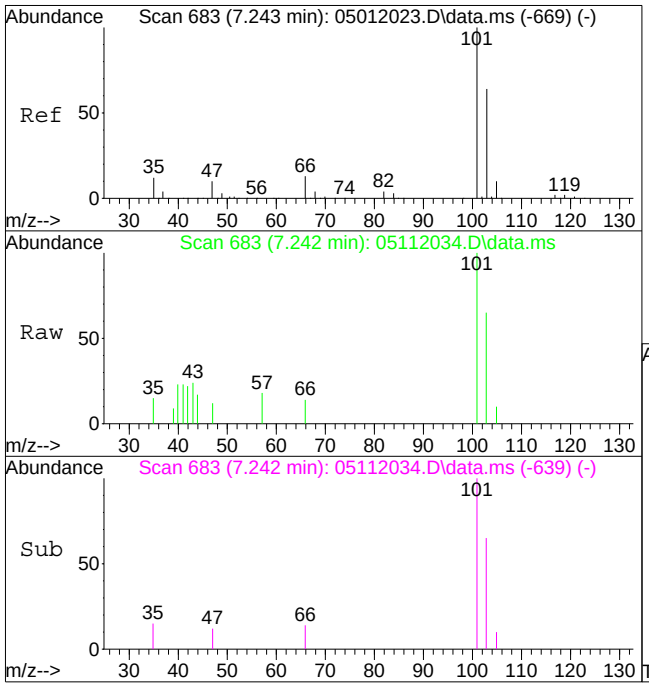


#9
Chloroethane
Concen: 0.07 ng
RT: 5.98 min Scan# 453
Delta R.T. -0.011 min
Lab File: 05112034.D
Acq: 12 May 2020 00:45

Tgt Ion: 64 Resp: 1667

Ion	Ratio	Lower	Upper
64	100		
66	27.0	12.1	52.1

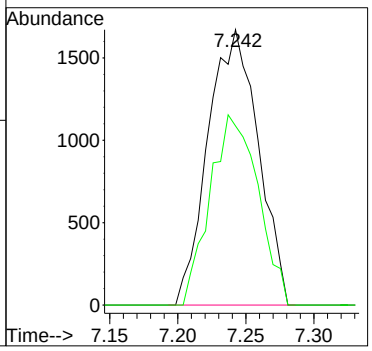


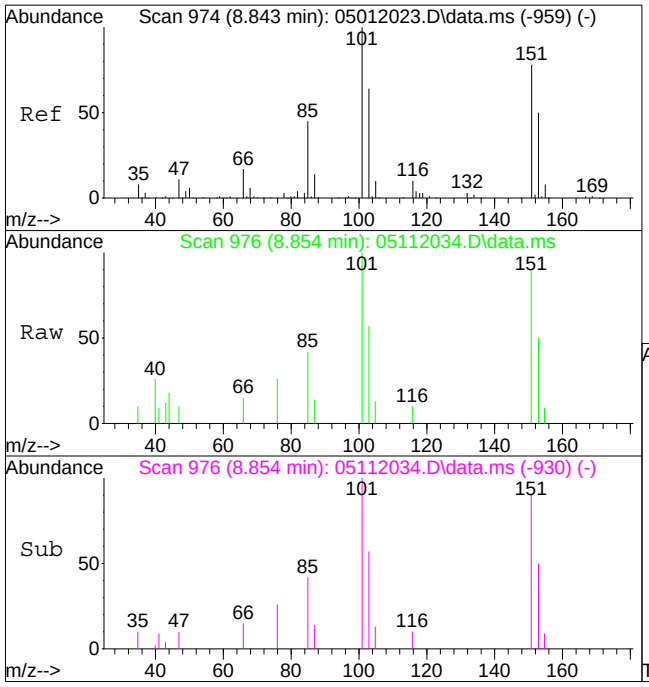


#14
Trichlorofluoromethane
Concen: 0.07 ng
RT: 7.24 min Scan# 683
Delta R.T. -0.006 min
Lab File: 05112034.D
Acq: 12 May 2020 00:45

Tgt Ion:101 Resp: 4288

Ion	Ratio	Lower	Upper
101	100		
103	66.1	44.4	84.4

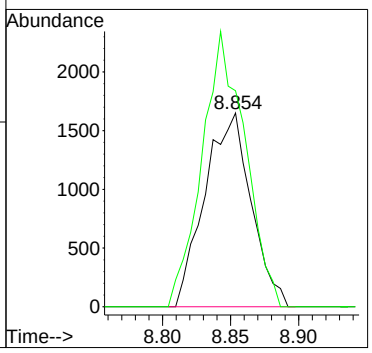


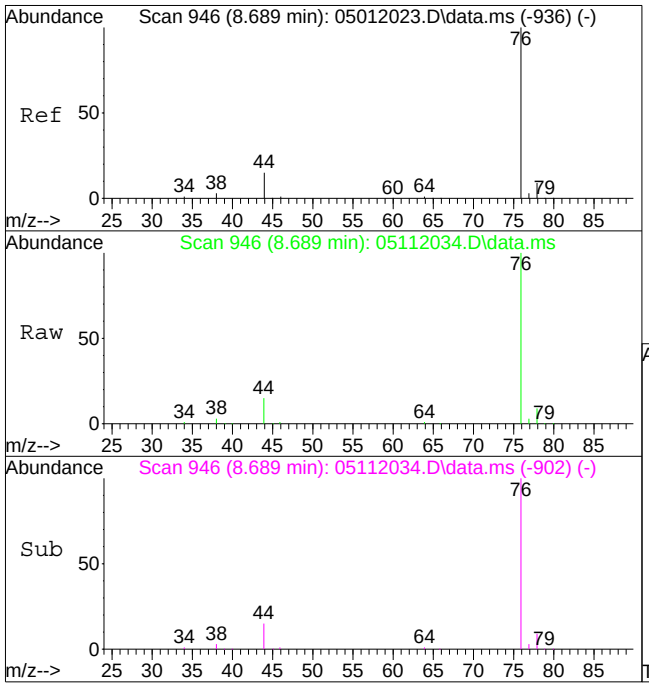


#21
Trichlorotrifluoroethane
Concen: 0.14 ng
RT: 8.85 min Scan# 976
Delta R.T. 0.005 min
Lab File: 05112034.D
Acq: 12 May 2020 00:45

Tgt Ion:151 Resp: 3912

Ion	Ratio	Lower	Upper
151	100		
101	132.0	107.3	147.3

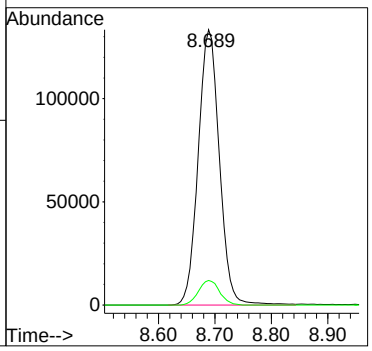


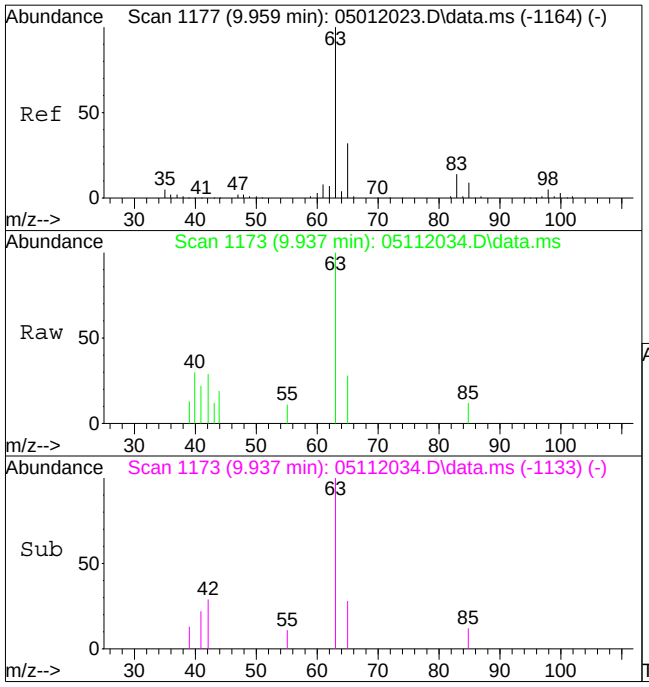


#22
Carbon Disulfide
Concen: 2.80 ng
RT: 8.69 min Scan# 946
Delta R.T. -0.006 min
Lab File: 05112034.D
Acq: 12 May 2020 00:45

Tgt Ion: 76 Resp: 347629

Ion	Ratio	Lower	Upper
76	100		
78	8.9	0.0	29.2

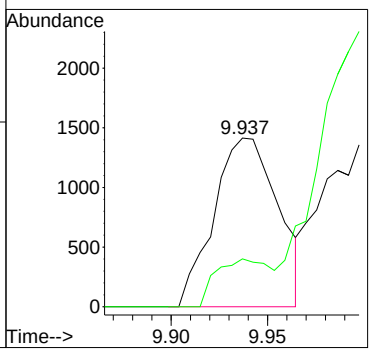


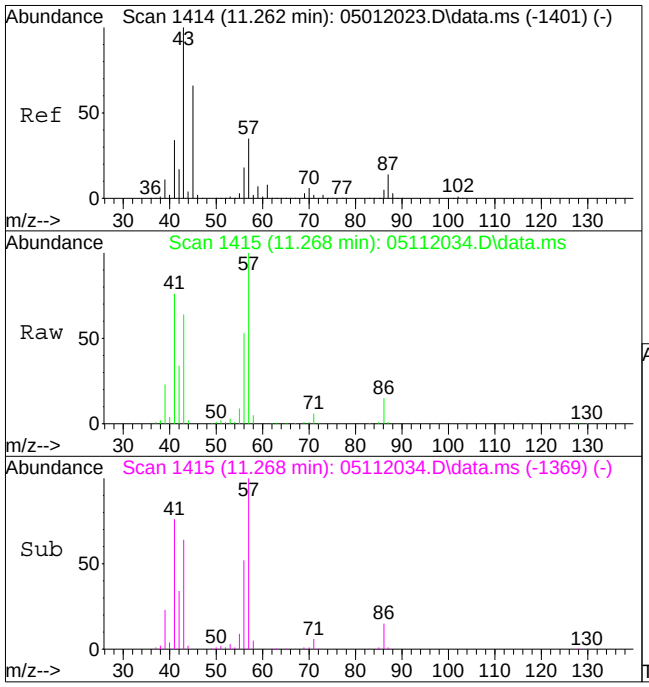


#24
1,1-Dichloroethane
Concen: 0.06 ng
RT: 9.94 min Scan# 1173
Delta R.T. -0.028 min
Lab File: 05112034.D
Acq: 12 May 2020 00:45

Tgt Ion: 63 Resp: 3275

Ion	Ratio	Lower	Upper
63	100		
65	24.0	11.8	51.8

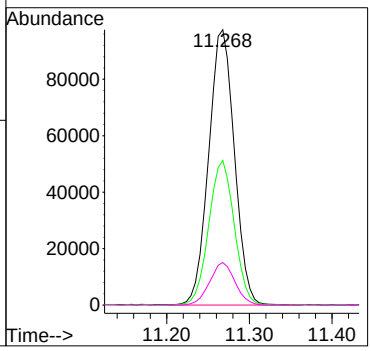


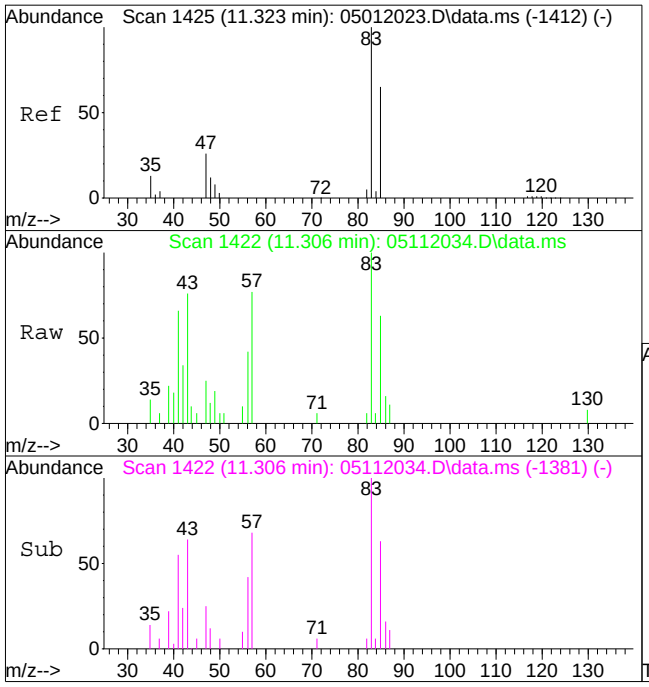


#31
n-Hexane
Concen: 3.72 ng
RT: 11.27 min Scan# 1415
Delta R.T. 0.005 min
Lab File: 05112034.D
Acq: 12 May 2020 00:45

Tgt Ion: 57 Resp: 211294

Ion	Ratio	Lower	Upper
57	100		
56	52.0	41.4	62.0
86	15.2	12.4	18.6

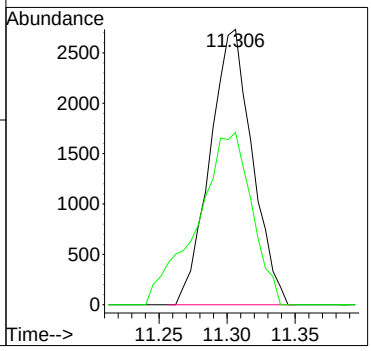


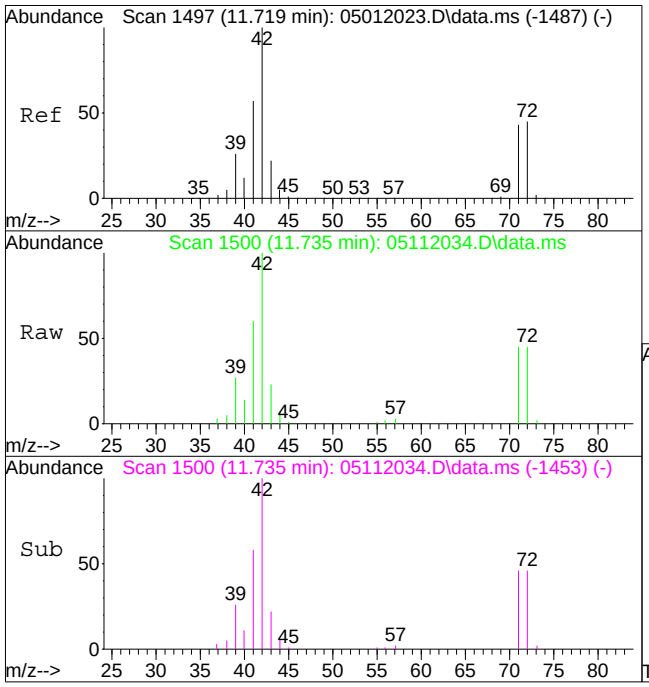


#32
Chloroform
Concen: 0.10 ng
RT: 11.31 min Scan# 1422
Delta R.T. -0.022 min
Lab File: 05112034.D
Acq: 12 May 2020 00:45

Tgt Ion: 83 Resp: 5885

Ion	Ratio	Lower	Upper
83	100		
85	80.8	45.5	85.5

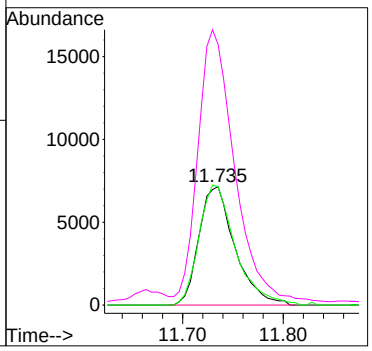


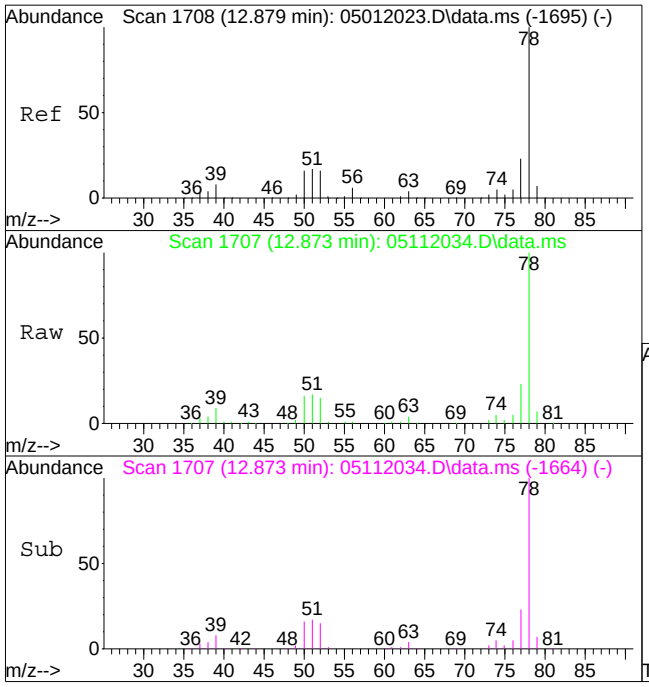


#34
Tetrahydrofuran (THF)
Concen: 0.80 ng
RT: 11.74 min Scan# 1500
Delta R.T. 0.011 min
Lab File: 05112034.D
Acq: 12 May 2020 00:45

Tgt Ion: 72 Resp: 17765

Ion	Ratio	Lower	Upper
72	100		
71	102.6	77.0	117.0
42	234.6	204.6	244.6

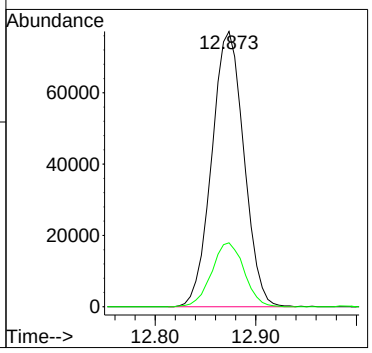


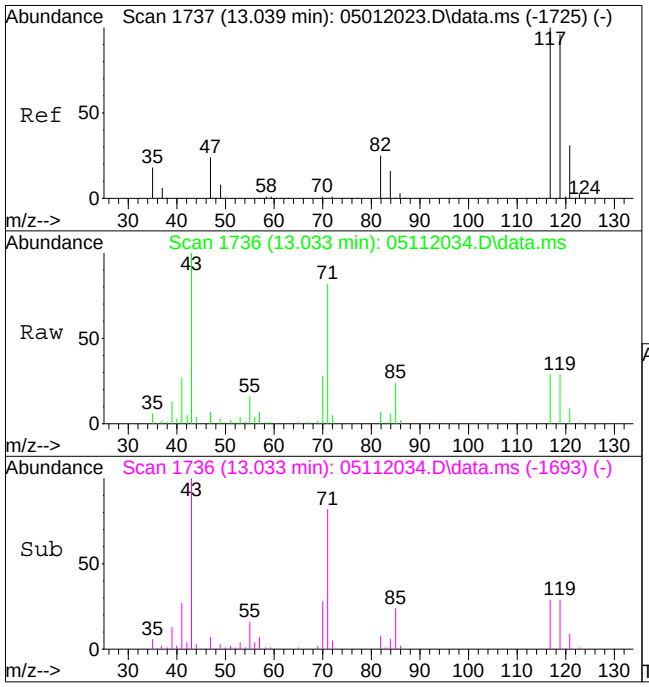


#41
Benzene
Concen: 1.26 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05112034.D
Acq: 12 May 2020 00:45

Tgt Ion: 78 Resp: 171001

Ion	Ratio	Lower	Upper
78	100		
77	23.6	3.4	43.4

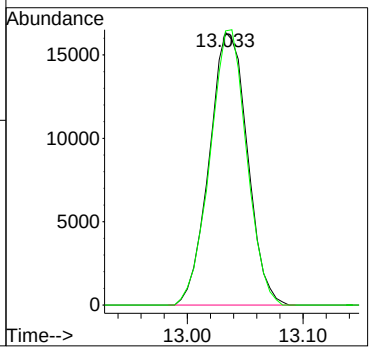


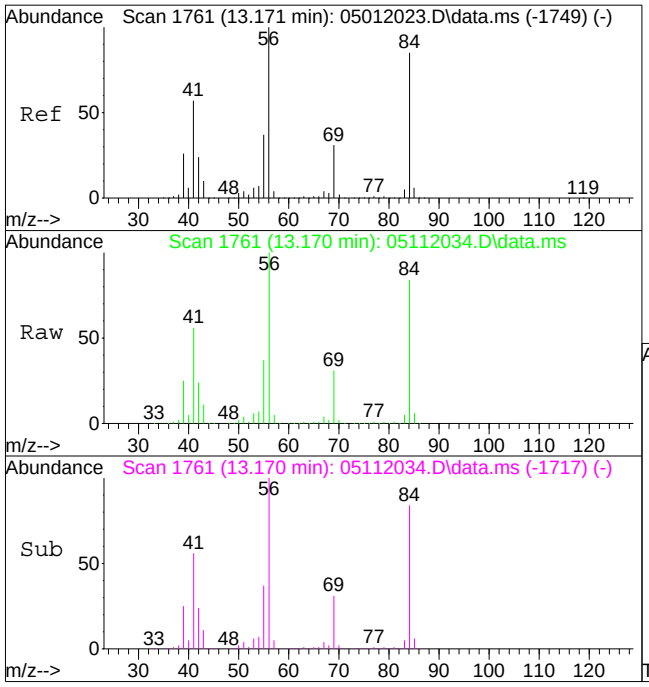


#42
Carbon Tetrachloride
Concen: 0.81 ng
RT: 13.03 min Scan# 1736
Delta R.T. -0.011 min
Lab File: 05112034.D
Acq: 12 May 2020 00:45

Tgt Ion:117 Resp: 37384

Ion	Ratio	Lower	Upper
117	100		
119	97.4	76.2	116.2

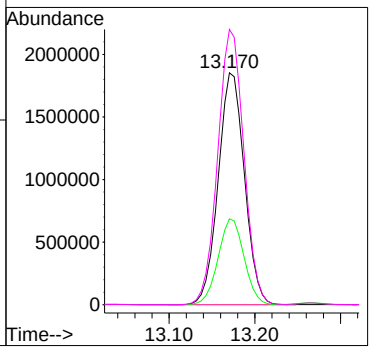


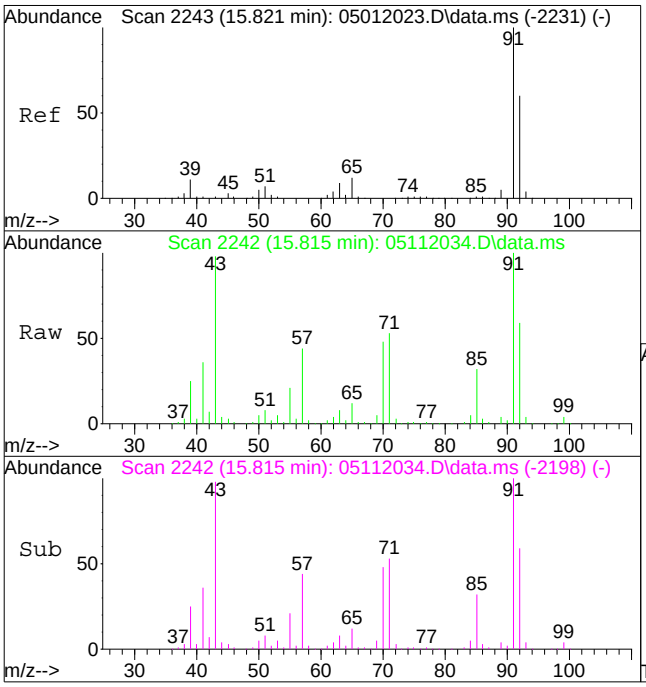


#43
Cyclohexane
Concen: 78.12 ng
RT: 13.17 min Scan# 1761
Delta R.T. -0.006 min
Lab File: 05112034.D
Acq: 12 May 2020 00:45

Tgt Ion: 84 Resp: 3945294

Ion	Ratio	Lower	Upper
84	100		
69	36.7	16.5	56.5
56	118.2	97.4	137.4

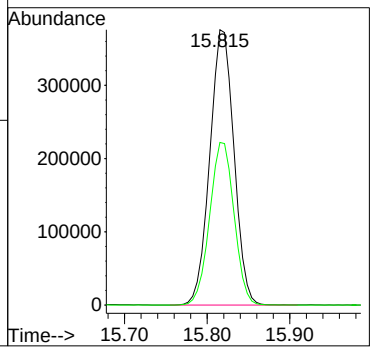


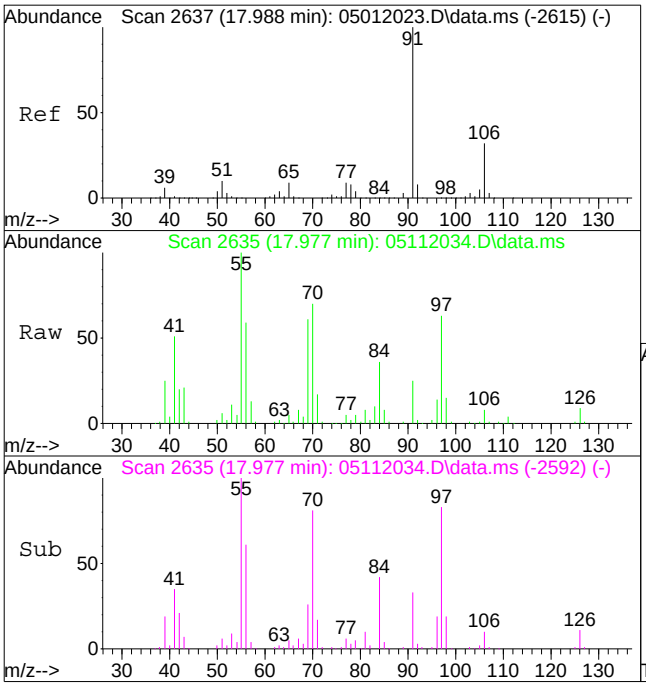


#58
Toluene
Concen: 5.79 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05112034.D
Acq: 12 May 2020 00:45

Tgt Ion: 91 Resp: 763180

Ion	Ratio	Lower	Upper
91	100		
92	59.6	39.4	79.4

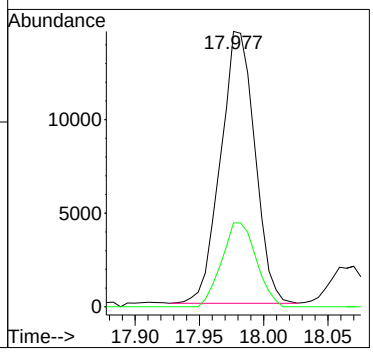


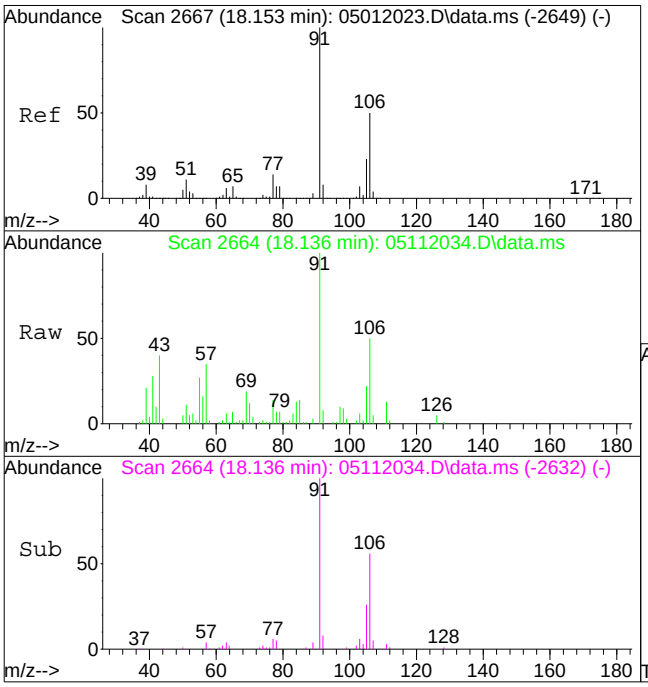


#66
Ethylbenzene
Concen: 0.18 ng
RT: 17.98 min Scan# 2635
Delta R.T. -0.011 min
Lab File: 05112034.D
Acq: 12 May 2020 00:45

Tgt Ion: 91 Resp: 26982

Ion	Ratio	Lower	Upper
91	100		
106	31.1	11.6	51.6

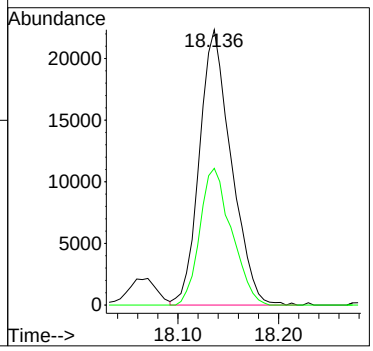


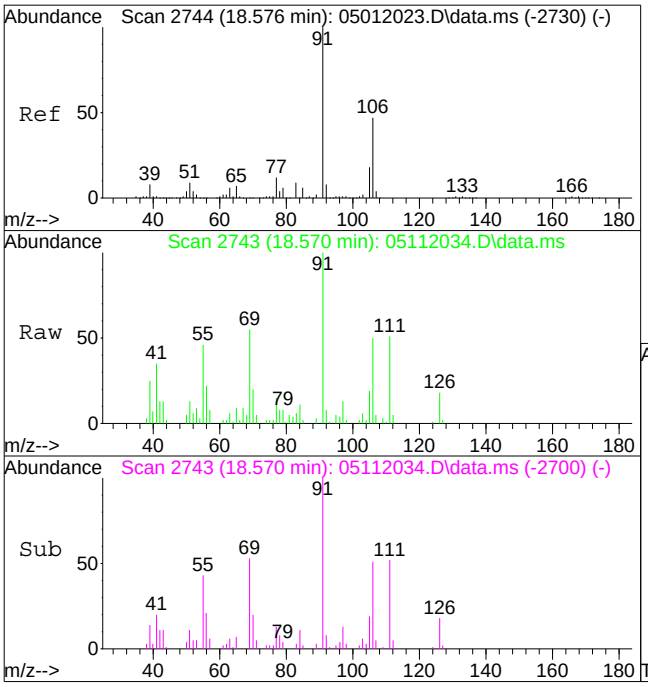


#67
m- & p-Xylenes
Concen: 0.42 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05112034.D
Acq: 12 May 2020 00:45

Tgt Ion: 91 Resp: 49097

Ion	Ratio	Lower	Upper
91	100		
106	49.3	29.7	69.7

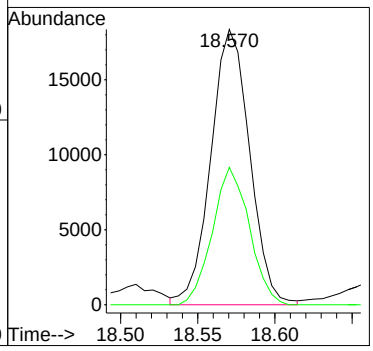


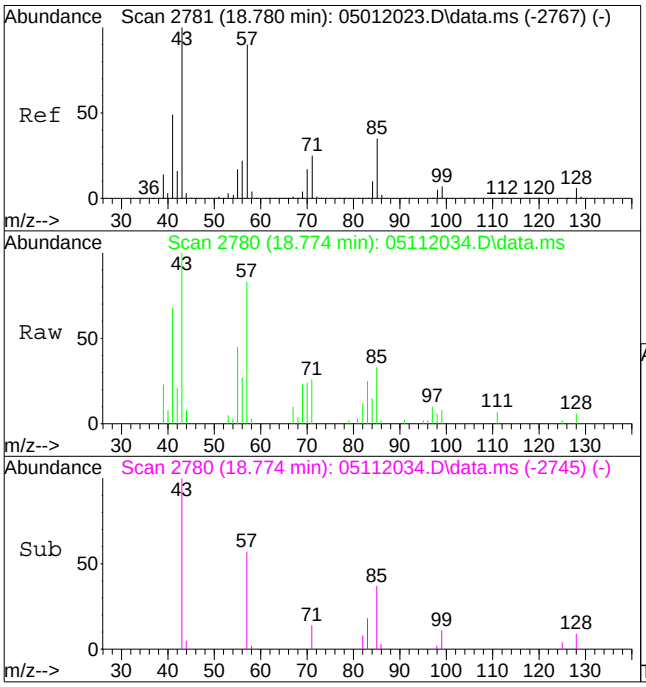


#70
o-Xylene
Concen: 0.27 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05112034.D
Acq: 12 May 2020 00:45

Tgt Ion: 91 Resp: 32213

Ion	Ratio	Lower	Upper
91	100		
106	47.3	27.5	67.5

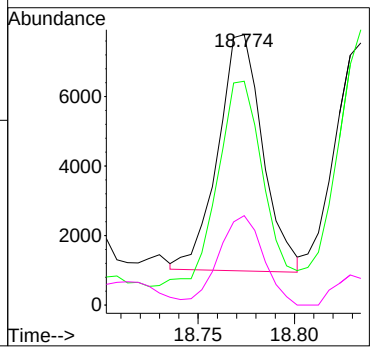


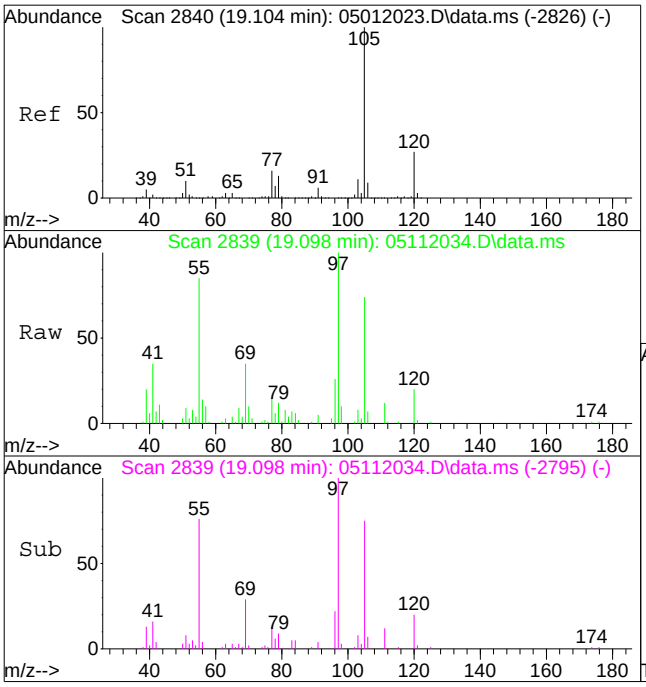


#71
n-Nonane
Concen: 0.17 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05112034.D
Acq: 12 May 2020 00:45

Tgt Ion: 43 Resp: 10990

Ion	Ratio	Lower	Upper
43	100		
57	88.5	69.0	109.0
85	37.7	14.6	54.6

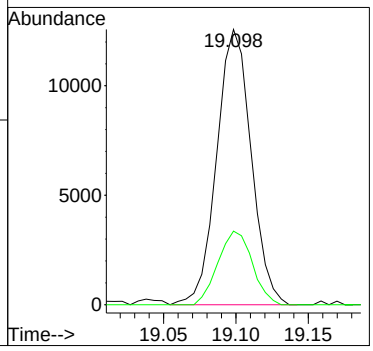


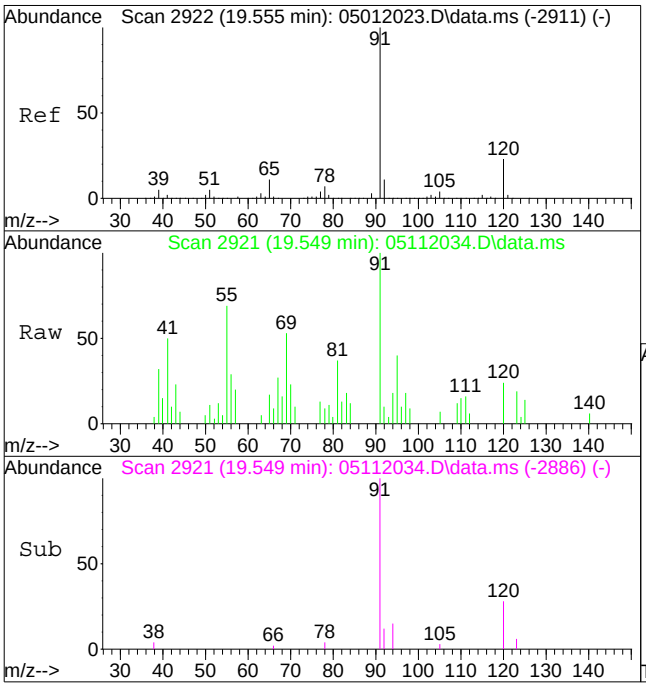


#74
Cumene
Concen: 0.14 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05112034.D
Acq: 12 May 2020 00:45

Tgt Ion:105 Resp: 20836

Ion	Ratio	Lower	Upper
105	100		
120	26.6	6.8	46.8

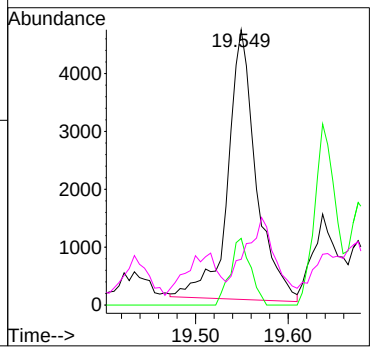


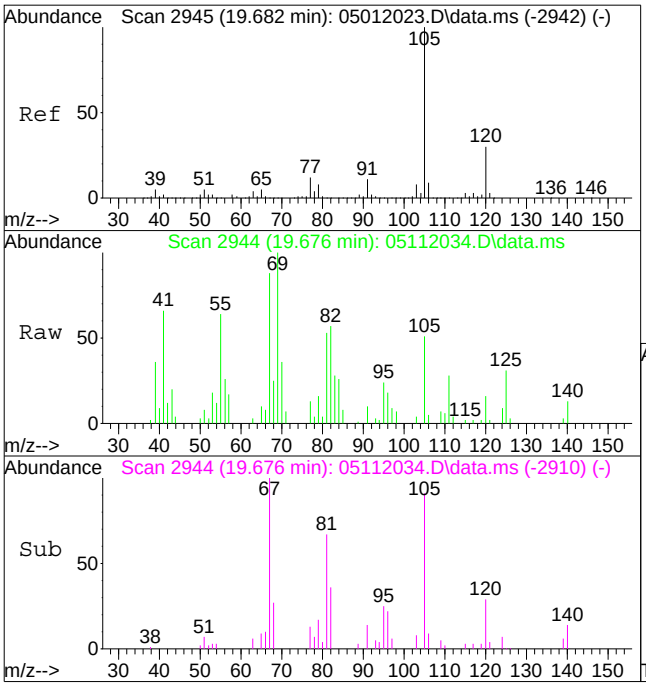


#76
n-Propylbenzene
Concen: 0.06 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05112034.D
Acq: 12 May 2020 00:45

Tgt Ion: 91 Resp: 9948

Ion	Ratio	Lower	Upper
91	100		
120	17.6	3.1	43.1
65	34.6	0.0	30.9#

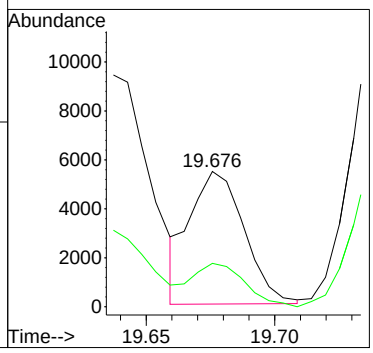


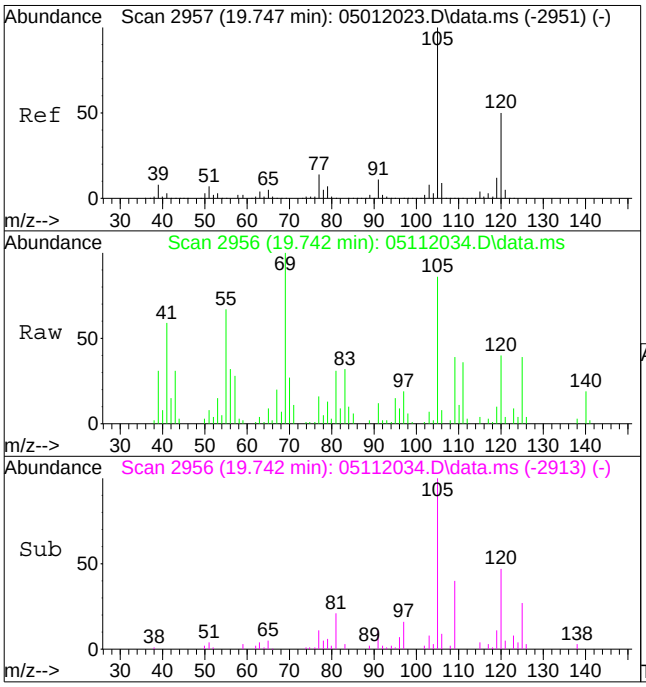


#78
4-Ethyltoluene
Concen: 0.06 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05112034.D
Acq: 12 May 2020 00:45

Tgt Ion:105 Resp: 7971

Ion	Ratio	Lower	Upper
105	100		
120	32.9	10.4	50.4

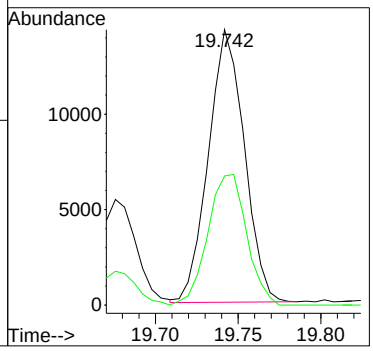


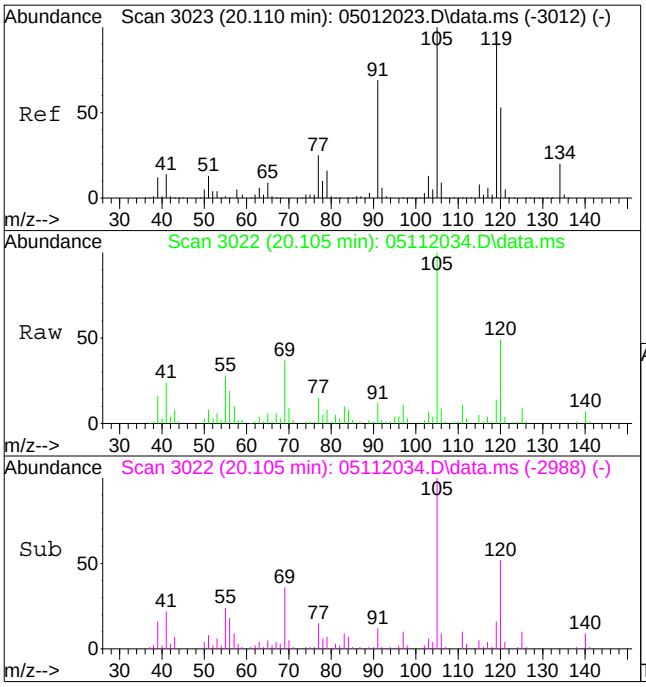


#79
1,3,5-Trimethylbenzene
Concen: 0.18 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05112034.D
Acq: 12 May 2020 00:45

Tgt Ion:105 Resp: 21614

Ion	Ratio	Lower	Upper
105	100		
120	51.6	29.9	69.9

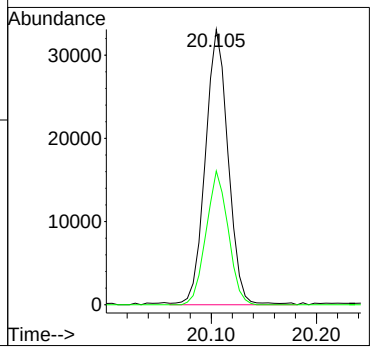


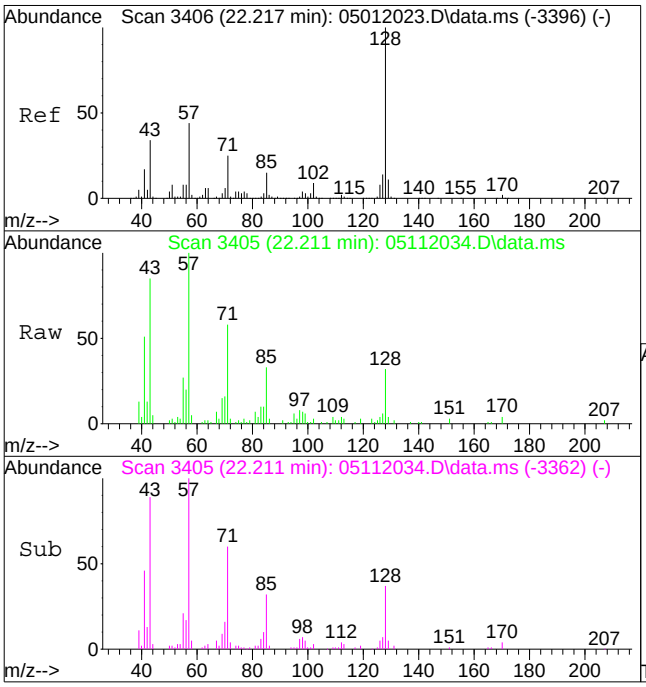


#82
1,2,4-Trimethylbenzene
Concen: 0.42 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05112034.D
Acq: 12 May 2020 00:45

Tgt Ion:105 Resp: 49751

Ion	Ratio	Lower	Upper
105	100		
120	47.1	33.6	73.6

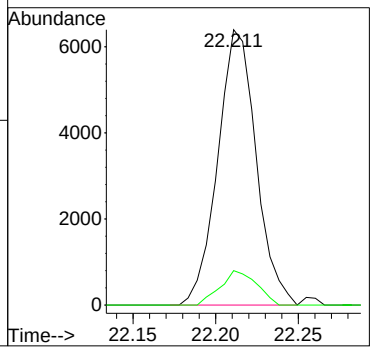




#95
Naphthalene
Concen: 0.07 ng
RT: 22.21 min Scan# 3405
Delta R.T. -0.011 min
Lab File: 05112034.D
Acq: 12 May 2020 00:45

Tgt Ion:128 Resp: 10328

Ion	Ratio	Lower	Upper
128	100		
129	11.8	0.0	31.0



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082035.D Vial: 2
Acq On : 8 May 2020 22:44 Operator: LH
Sample : MB2 R16050820_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: May 09 07:16:50 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration 5/9/20
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	256387	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1106146	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	525057	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	415128	11.947	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.60%				
57) Toluene-d8 (SS2)	15.72	98	1103571	12.400	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.20%				
73) Bromofluorobenzene (SS3)	18.98	174	405045	12.649	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.20%				
Target Compounds							Qvalue
2) Propene	4.15	42	347	N.D.			
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.34	45	6782	0.296	ng		93
11) Acetonitrile	6.60	41	3945	0.075	ng	#	66
12) Acrolein	6.81	56	453	N.D.			
13) Acetone	7.04	58	4096	0.179	ng		93
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	7.56	45	1762	N.D.			
16) Acrylonitrile	7.75	53	1061	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.69	76	1223	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	10.50	72	326	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	11.79	72	258	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	12.87	56	1754	0.063	ng	#	77
41) Benzene	12.87	78	806	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	13.26	84	631	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082035.D Vial: 2
Acq On : 8 May 2020 22:44 Operator: LH
Sample : MB2 R16050820_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: May 09 07:16:50 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

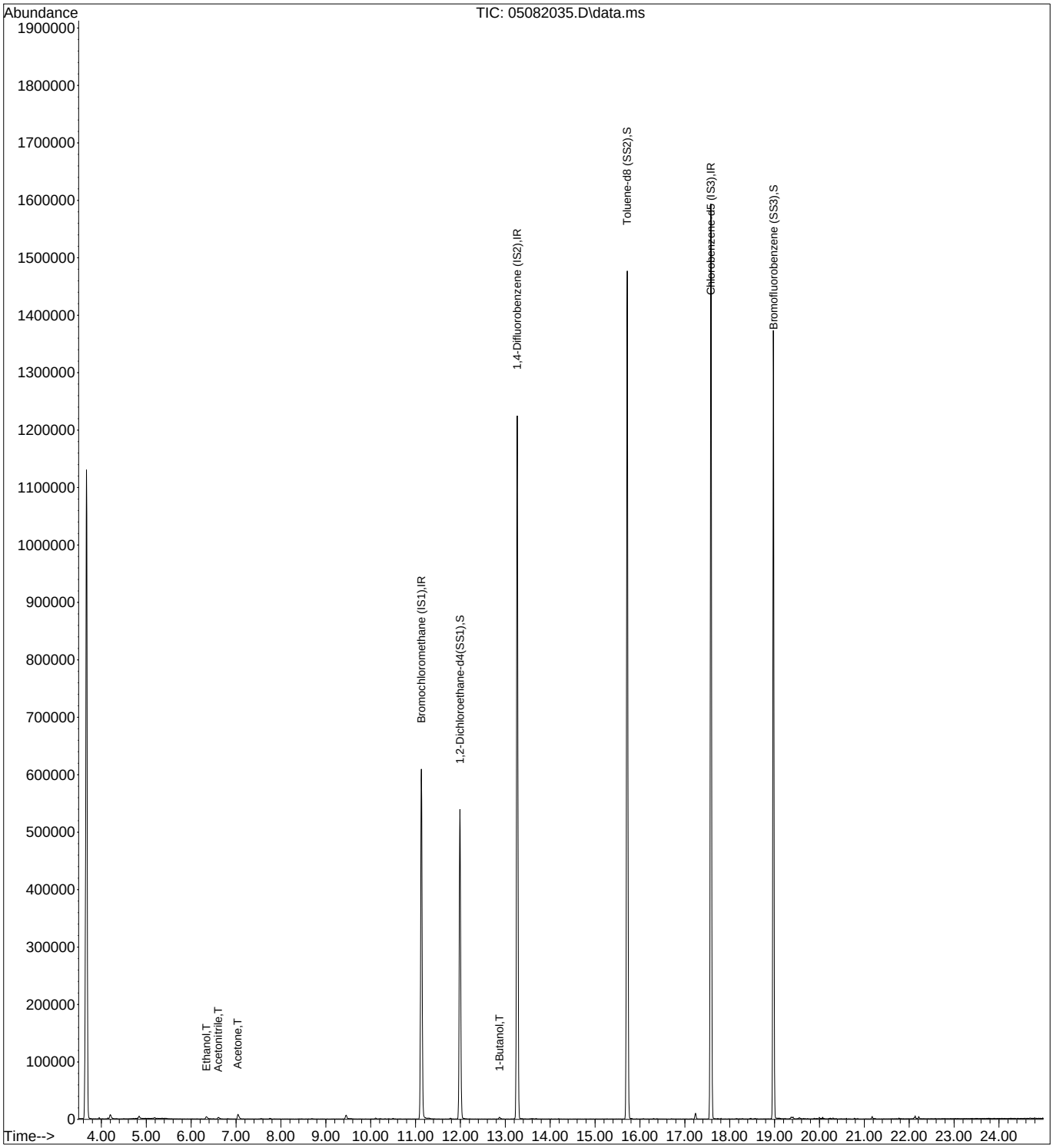
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.82	91	995	N.D.		
59) 2-Hexanone	16.07	43	794	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.70	43	598	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	17.62	112	187	N.D.		
66) Ethylbenzene	17.99	91	626	N.D.		
67) m- & p-Xylenes	18.14	91	803	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	354	N.D.		
70) o-Xylene	18.58	91	381	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.10	105	349	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	19.56	91	1115	N.D.		
77) 3-Ethyltoluene	19.64	105	143	N.D.		
78) 4-Ethyltoluene	19.68	105	389	N.D.		
79) 1,3,5-Trimethylbenzene	19.73	105	439	N.D.		
80) alpha-Methylstyrene	19.88	118	123	N.D.		
81) 2-Ethyltoluene	19.91	105	596	N.D.		
82) 1,2,4-Trimethylbenzene	20.10	105	1252	N.D.		
83) n-Decane	20.07	57	105	N.D.		
84) Benzyl Chloride	20.22	91	875	N.D.		
85) 1,3-Dichlorobenzene	20.24	146	697	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	1050	N.D.		
87) sec-Butylbenzene	20.34	105	248	N.D.		
88) 4-Isopropyltoluene (p-...	20.48	119	189	N.D.		
89) 1,2,3-Trimethylbenzene	20.48	105	165	N.D.		
90) 1,2-Dichlorobenzene	20.60	146	402	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.24	57	366	N.D.		
94) 1,2,4-Trichlorobenzene	22.11	180	829	N.D.		
95) Naphthalene	22.21	128	3704	N.D.		
96) n-Dodecane	22.13	57	1168	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.28	55	512	N.D.		
99) tert-Butylbenzene	20.11	119	116	N.D.		
100) n-Butylbenzene	20.85	91	443	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082035.D Vial: 2
Acq On : 8 May 2020 22:44 Operator: LH
Sample : MB2 R16050820_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: May 09 07:16:50 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112004.D Vial: 2
Acq On : 11 May 2020 4:16 Operator: WA
Sample : MB R16051120_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: May 11 10:17:52 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 5/11/20

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	11.12	130	245891	12.500 ng	-0.04
37) 1,4-Difluorobenzene (IS2)	13.26	114	1059308	12.500 ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	492154	12.500 ng	0.00
System Monitoring Compounds					
33) 1,2-Dichloroethane-d4(...	11.98	65	395166	11.858 ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.88%		
57) Toluene-d8 (SS2)	15.71	98	1039120	12.457 ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.68%		
73) Bromofluorobenzene (SS3)	18.97	174	389357	12.972 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.76%		
Target Compounds					Qvalue
2) Propene	4.13	42	226	N.D.	
3) Dichlorodifluoromethan...	0.00	85	0	N.D.	
4) Chloromethane	0.00	50	0	N.D.	
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.	
6) Vinyl Chloride	0.00	62	0	N.D.	
7) 1,3-Butadiene	0.00	54	0	N.D.	
8) Bromomethane	0.00	94	0	N.D.	
9) Chloroethane	0.00	64	0	N.D.	
10) Ethanol	6.33	45	7101	0.323 ng	93
11) Acetonitrile	6.60	41	3730	0.074 ng	85
12) Acrolein	6.80	56	388	N.D.	
13) Acetone	7.03	58	3515	0.160 ng	97
14) Trichlorofluoromethane	0.00	101	0	N.D.	
15) 2-Propanol (Isopropanol)	7.54	45	1331	N.D.	
16) Acrylonitrile	7.74	53	1002	N.D.	
17) 1,1-Dichloroethene	0.00	96	0	N.D.	
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	
19) Methylene Chloride	0.00	84	0	N.D.	
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	
21) Trichlorotrifluoroethane	0.00	151	0	N.D.	
22) Carbon Disulfide	8.69	76	1473	N.D.	
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.	
24) 1,1-Dichloroethane	0.00	63	0	N.D.	
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	
26) Vinyl Acetate	0.00	86	0	N.D.	
27) 2-Butanone (MEK)	10.50	72	119	N.D.	
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.	
29) Diisopropyl Ether	0.00	87	0	N.D.	
30) Ethyl Acetate	0.00	61	0	N.D.	
31) n-Hexane	0.00	57	0	N.D.	
32) Chloroform	0.00	83	0	N.D.	
34) Tetrahydrofuran (THF)	11.79	72	166	N.D.	
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.	
36) 1,2-Dichloroethane	0.00	62	0	N.D.	
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.	
39) Isopropyl Acetate	0.00	61	0	N.D.	
40) 1-Butanol	12.87	56	1744	0.066 ng #	69
41) Benzene	12.86	78	745	N.D.	
42) Carbon Tetrachloride	0.00	117	0	N.D.	
43) Cyclohexane	13.26	84	822	N.D.	
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.	
45) 1,2-Dichloropropane	0.00	63	0	N.D.	
46) Bromodichloromethane	0.00	83	0	N.D.	
47) Trichloroethene	0.00	130	0	N.D.	
48) 1,4-Dioxane	0.00	88	0	N.D.	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	
50) Methyl Methacrylate	0.00	100	0	N.D.	

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112004.D Vial: 2
Acq On : 11 May 2020 4:16 Operator: WA
Sample : MB R16051120_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: May 11 10:17:52 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

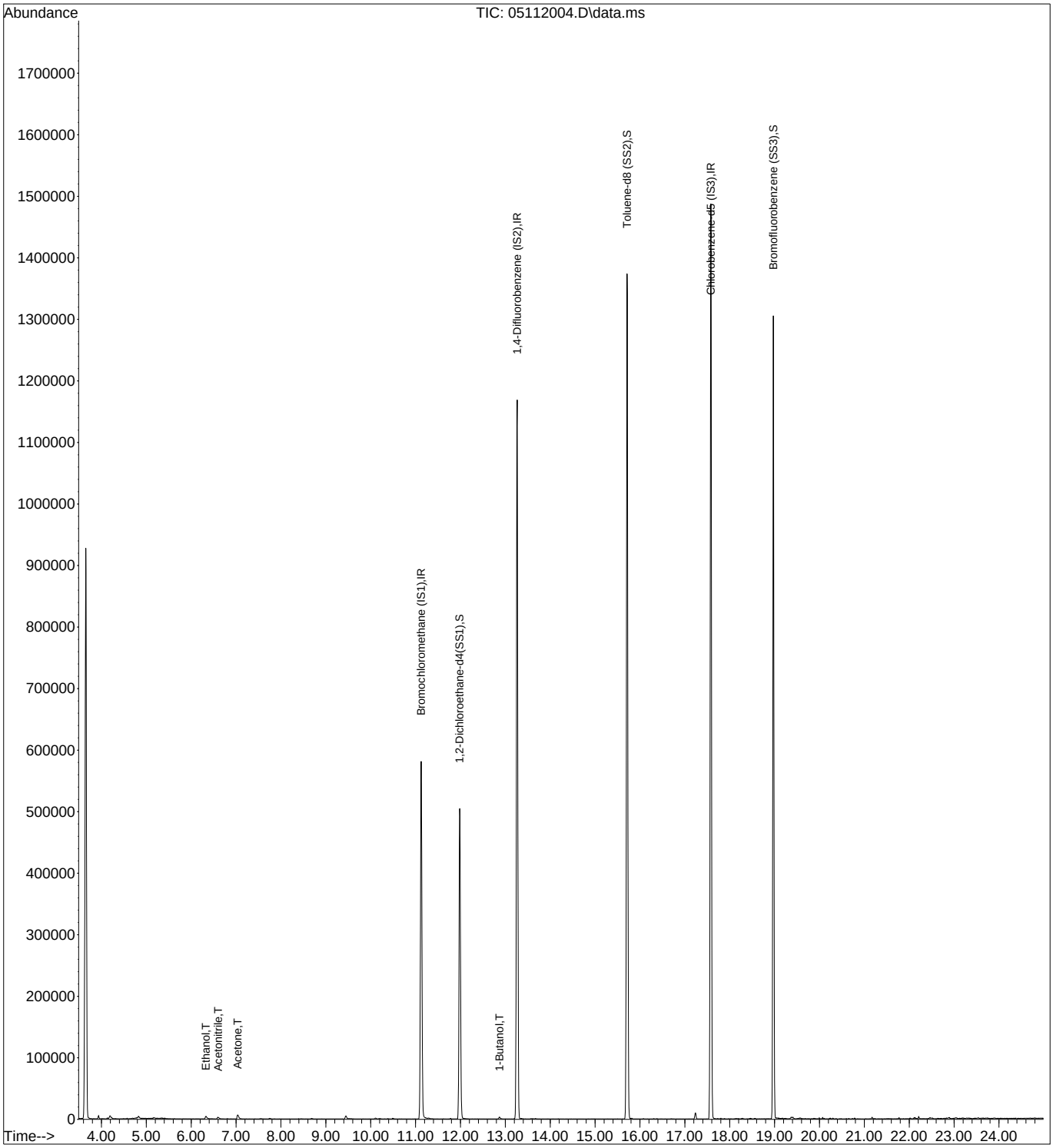
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.82	91	1002	N.D.		
59) 2-Hexanone	16.08	43	574	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.71	43	522	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	17.62	112	175	N.D.		
66) Ethylbenzene	17.98	91	888	N.D.		
67) m- & p-Xylenes	18.15	91	995	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	312	N.D.		
70) o-Xylene	18.57	91	523	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.11	105	159	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	19.58	91	1007	N.D.		
77) 3-Ethyltoluene	19.64	105	997	N.D.		
78) 4-Ethyltoluene	19.67	105	1017	N.D.		
79) 1,3,5-Trimethylbenzene	19.75	105	634	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	19.91	105	725	N.D.		
82) 1,2,4-Trimethylbenzene	20.11	105	674	N.D.		
83) n-Decane	20.36	57	352	N.D.		
84) Benzyl Chloride	20.23	91	443	N.D.		
85) 1,3-Dichlorobenzene	20.24	146	585	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	849	N.D.		
87) sec-Butylbenzene	20.23	105	114	N.D.		
88) 4-Isopropyltoluene (p-...	20.48	119	168	N.D.		
89) 1,2,3-Trimethylbenzene	20.48	105	116	N.D.		
90) 1,2-Dichlorobenzene	20.60	146	347	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.17	57	1419	N.D.		
94) 1,2,4-Trichlorobenzene	22.11	180	661	N.D.		
95) Naphthalene	22.21	128	3172	N.D.		
96) n-Dodecane	22.21	57	113	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.29	55	601	N.D.		
99) tert-Butylbenzene	20.09	119	221	N.D.		
100) n-Butylbenzene	20.86	91	304	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112004.D Vial: 2
Acq On : 11 May 2020 4:16 Operator: WA
Sample : MB R16051120_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: May 11 10:17:52 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122004.D Vial: 2
Acq On : 12 May 2020 3:36 Operator: LH
Sample : MB R16051220_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: May 12 10:09:03 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 5/12/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	254103	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	13.26	114	1093988	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	494320	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	399419	11.599	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.80%				
57) Toluene-d8 (SS2)	15.71	98	1061063	12.664	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.28%				
73) Bromofluorobenzene (SS3)	18.97	174	398089	13.204	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.60%				
Target Compounds							Qvalue
2) Propene	4.14	42	329	N.D.			
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.33	45	9511	0.419	ng		88
11) Acetonitrile	6.60	41	4892	0.094	ng	#	37
12) Acrolein	6.80	56	461	N.D.			
13) Acetone	7.04	58	3947	0.174	ng	#	42
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	7.56	45	1669	N.D.			
16) Acrylonitrile	7.75	53	1253	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.69	76	1590	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	10.49	72	110	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	11.26	57	258	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	11.79	72	127	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	12.87	56	1799	0.066	ng	#	70
41) Benzene	12.87	78	1003	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	13.16	84	5012	0.115	ng		99
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	14.02	83	311	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.04	57	20789	0.182	ng		85
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122004.D Vial: 2
Acq On : 12 May 2020 3:36 Operator: LH
Sample : MB R16051220_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: May 12 10:09:03 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

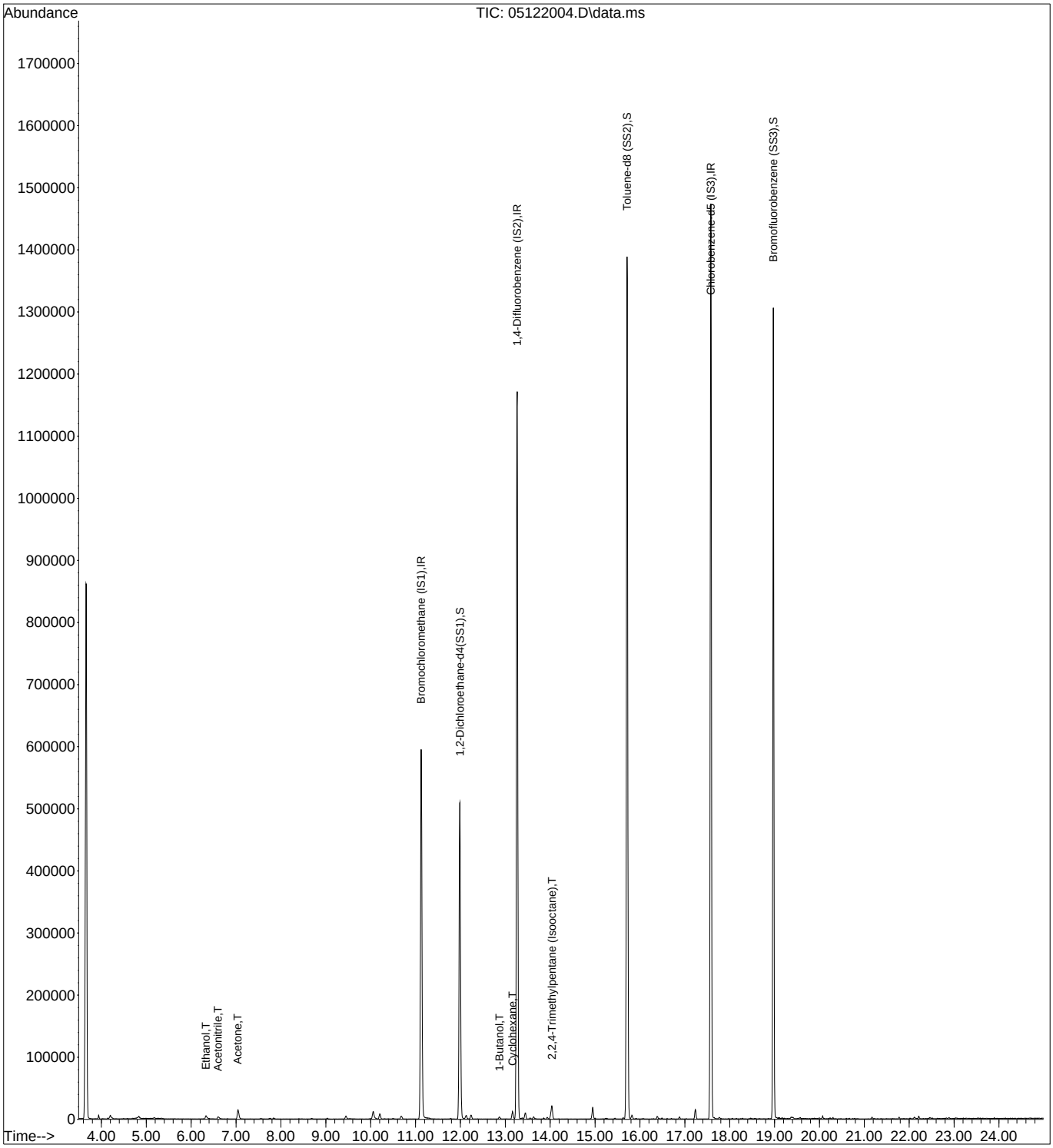
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.82	91	2256	N.D.		
59) 2-Hexanone	16.07	43	828	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.70	43	543	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	17.62	112	365	N.D.		
66) Ethylbenzene	17.98	91	750	N.D.		
67) m- & p-Xylenes	18.15	91	1331	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	429	N.D.		
70) o-Xylene	18.57	91	565	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.10	105	319	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	19.54	91	456	N.D.		
77) 3-Ethyltoluene	19.64	105	386	N.D.		
78) 4-Ethyltoluene	19.67	105	566	N.D.		
79) 1,3,5-Trimethylbenzene	19.73	105	1543	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	19.91	105	1111	N.D.		
82) 1,2,4-Trimethylbenzene	20.11	105	1261	N.D.		
83) n-Decane	20.37	57	312	N.D.		
84) Benzyl Chloride	20.22	91	944	N.D.		
85) 1,3-Dichlorobenzene	20.24	146	879	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	1097	N.D.		
87) sec-Butylbenzene	20.34	105	128	N.D.		
88) 4-Isopropyltoluene (p-...	20.48	119	191	N.D.		
89) 1,2,3-Trimethylbenzene	20.48	105	236	N.D.		
90) 1,2-Dichlorobenzene	20.60	146	469	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.24	57	112	N.D.		
94) 1,2,4-Trichlorobenzene	22.11	180	871	N.D.		
95) Naphthalene	22.21	128	4002	N.D.		
96) n-Dodecane	22.17	57	344	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.28	55	473	N.D.		
99) tert-Butylbenzene	20.07	119	453	N.D.		
100) n-Butylbenzene	20.85	91	466	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122004.D Vial: 2
Acq On : 12 May 2020 3:36 Operator: LH
Sample : MB R16051220_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: May 12 10:09:03 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082036.D Vial: 2
Acq On : 8 May 2020 23:18 Operator: LH
Sample : LCS2 R16050820_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 09 07:16:52 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/9/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	273265	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.28	114	1154357	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.58	82	549228	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	432180	11.670	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.36%				
57) Toluene-d8 (SS2)	15.72	98	1133248	12.173	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.36%				
73) Bromofluorobenzene (SS3)	18.98	174	455596	13.601	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.80%				
Target Compounds							Qvalue
2) Propene	4.08	42	829560	26.211	ng		99
3) Dichlorodifluoromethan...	4.24	85	1466197	23.685	ng		100
4) Chloromethane	4.52	50	1117177	23.036	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	820304	22.180	ng		100
6) Vinyl Chloride	4.94	62	1247144	23.451	ng		100
7) 1,3-Butadiene	5.21	54	1035393	23.530	ng		99
8) Bromomethane	5.65	94	636254	22.648	ng		100
9) Chloroethane	5.98	64	488754	23.264	ng		100
10) Ethanol	6.38	45	2811551	115.046	ng		100
11) Acetonitrile	6.62	41	1292255	23.139	ng		100
12) Acrolein	6.79	56	431671	22.355	ng		100
13) Acetone	7.01	58	2944659	120.483	ng		98
14) Trichlorofluoromethane	7.24	101	1244308	22.744	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	3533991	47.774	ng		100
16) Acrylonitrile	7.77	53	935214	23.407	ng		100
17) 1,1-Dichloroethene	8.20	96	678204	23.648	ng		99
18) 2-Methyl-2-Propanol (t...	8.39	59	3111881	45.124	ng		99
19) Methylene Chloride	8.44	84	727746	22.906	ng		100
20) 3-Chloro-1-propene (Al...	8.59	41	1027600	23.542	ng		100
21) Trichlorotrifluoroethane	8.84	151	641908	24.852	ng		97
22) Carbon Disulfide	8.69	76	2621742	23.029	ng		100
23) trans-1,2-Dichloroethene	9.71	61	1028935	23.562	ng		98
24) 1,1-Dichloroethane	9.96	63	1192504	23.002	ng		100
25) Methyl tert-Butyl Ether	10.05	73	1856421	22.766	ng		100
26) Vinyl Acetate	10.22	86	974729	128.035	ng	#	93
27) 2-Butanone (MEK)	10.45	72	488637	23.444	ng		98
28) cis-1,2-Dichloroethene	10.98	61	989209	23.159	ng		99
29) Diisopropyl Ether	11.27	87	682909	23.161	ng	#	91
30) Ethyl Acetate	11.28	61	641490	53.374	ng		98
31) n-Hexane	11.26	57	1343956	25.781	ng		100
32) Chloroform	11.32	83	1287139	23.663	ng		100
34) Tetrahydrofuran (THF)	11.72	72	483767	23.797	ng		99
35) Ethyl tert-Butyl Ether	11.86	87	864546	24.264	ng		99
36) 1,2-Dichloroethane	12.12	62	978700	22.710	ng		100
38) 1,1,1-Trichloroethane	12.40	97	1153499	24.809	ng		100
39) Isopropyl Acetate	12.83	61	1079677	53.089	ng		95
40) 1-Butanol	12.85	56	1671491	57.768	ng		97
41) Benzene	12.88	78	2961149	23.920	ng		100
42) Carbon Tetrachloride	13.04	117	1009956	23.985	ng		99
43) Cyclohexane	13.17	84	2338742	50.698	ng		100
44) tert-Amyl Methyl Ether	13.52	73	2103458	25.339	ng		100
45) 1,2-Dichloropropane	13.73	63	717965	25.042	ng		100
46) Bromodichloromethane	13.92	83	1054021	25.194	ng		100
47) Trichloroethene	13.97	130	804661	25.147	ng		100
48) 1,4-Dioxane	13.95	88	636617	25.534	ng		99
49) 2,2,4-Trimethylpentane...	14.05	57	2974941	24.697	ng		100
50) Methyl Methacrylate	14.18	100	641748	52.256	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082036.D Vial: 2
Acq On : 8 May 2020 23:18 Operator: LH
Sample : LCS2 R16050820_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 09 07:16:52 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

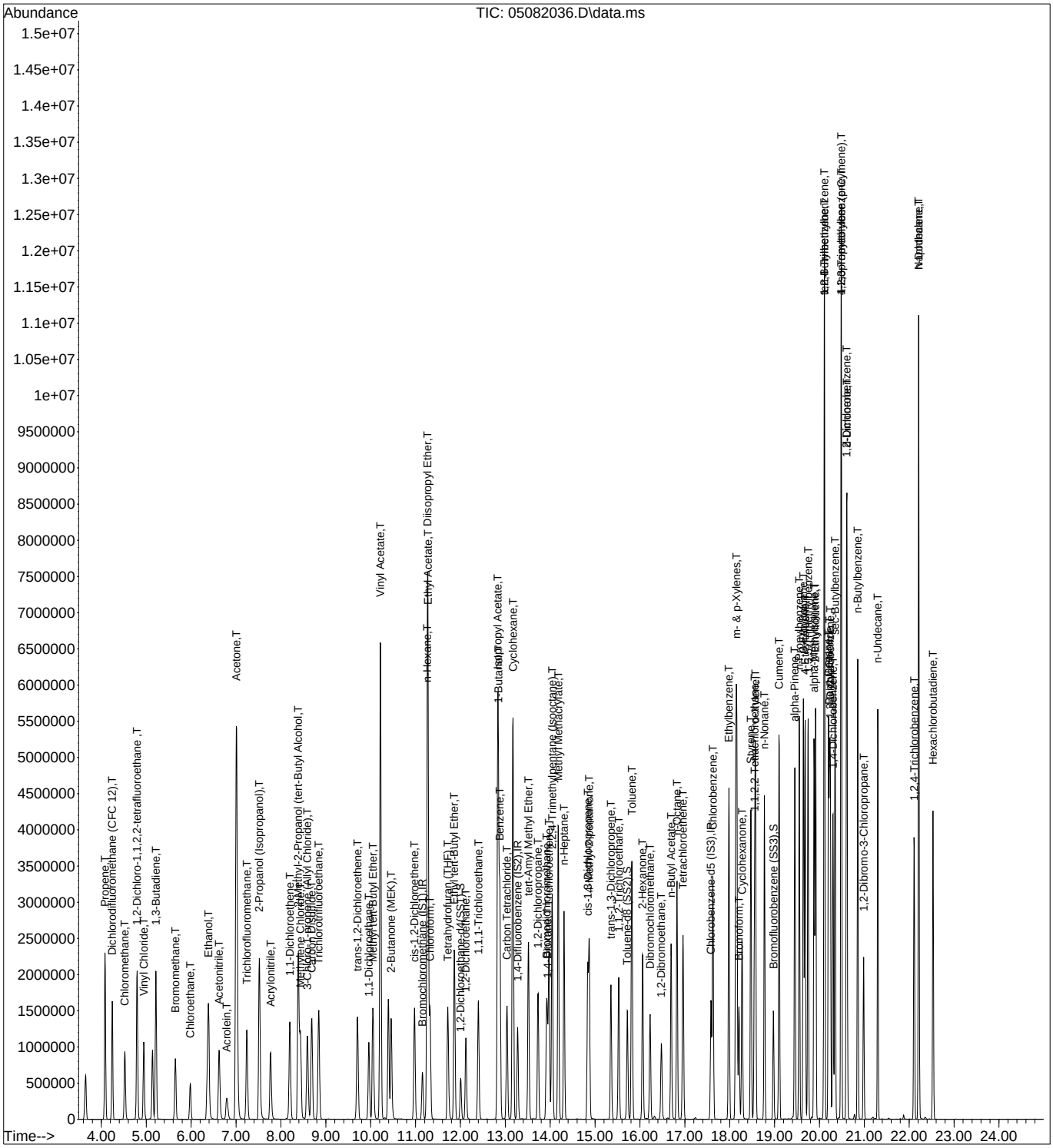
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	715271	24.708	ng	99
52) cis-1,3-Dichloropropene	14.84	75	1292535	26.259	ng	100
53) 4-Methyl-2-pentanone	14.87	58	720966	26.126	ng	99
54) trans-1,3-Dichloropropene	15.35	75	1113468	26.439	ng	100
55) 1,1,2-Trichloroethane	15.53	97	719556	25.309	ng	100
58) Toluene	15.82	91	2943605	24.530	ng	100
59) 2-Hexanone	16.06	43	1770336	26.923	ng	99
60) Dibromochloromethane	16.23	129	900384	26.203	ng	100
61) 1,2-Dibromoethane	16.48	107	842773	25.519	ng	99
62) n-Butyl Acetate	16.70	43	1983676	27.929	ng	100
63) n-Octane	16.83	57	624664	25.144	ng	100
64) Tetrachloroethene	16.96	166	855523	25.241	ng	100
65) Chlorobenzene	17.62	112	1981354	23.997	ng	100
66) Ethylbenzene	17.98	91	3470705	25.938	ng	100
67) m- & p-Xylenes	18.15	91	5576890	52.536	ng	100
68) Bromoform	18.21	173	780925	26.216	ng	100
69) Styrene	18.47	104	2152743	26.963	ng	100
70) o-Xylene	18.58	91	2779662	25.793	ng	100
71) n-Nonane	18.77	43	1506250	26.343	ng	99
72) 1,1,2,2-Tetrachloroethane	18.55	83	1400152	26.189	ng	100
74) Cumene	19.10	105	3459540	26.158	ng	100
75) alpha-Pinene	19.45	93	1793523	25.415	ng	100
76) n-Propylbenzene	19.55	91	4216749	26.838	ng	100
77) 3-Ethyltoluene	19.64	105	3482909	27.208	ng	100
78) 4-Ethyltoluene	19.68	105	3308939	26.640	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	2867929	26.592	ng	99
80) alpha-Methylstyrene	19.88	118	1533507	25.226	ng	99
81) 2-Ethyltoluene	19.91	105	3417733	27.067	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3193256	29.457	ng	99
83) n-Decane	20.20	57	1590703	26.232	ng	100
84) Benzyl Chloride	20.23	91	2683142	26.556	ng	100
85) 1,3-Dichlorobenzene	20.24	146	1743809	27.703	ng	99
86) 1,4-Dichlorobenzene	20.30	146	1710202	27.841	ng	100
87) sec-Butylbenzene	20.35	105	3829266	27.213	ng	100
88) 4-Isopropyltoluene (p-...	20.48	119	3761615	28.230	ng	99
89) 1,2,3-Trimethylbenzene	20.48	105	3142940	27.703	ng	99
90) 1,2-Dichlorobenzene	20.61	146	1738341	28.844	ng	100
91) d-Limonene	20.61	68	1199577	28.018	ng	100
92) 1,2-Dibromo-3-Chloropr...	20.98	157	596256	26.238	ng	98
93) n-Undecane	21.30	57	1585809	28.255	ng	99
94) 1,2,4-Trichlorobenzene	22.11	180	1208937	28.922	ng	100
95) Naphthalene	22.21	128	4026163	30.433	ng	100
96) n-Dodecane	22.21	57	1576290	32.437	ng	99
97) Hexachlorobutadiene	22.53	225	775601	26.825	ng	99
98) Cyclohexanone	18.27	55	1061116	25.262	ng	100
99) tert-Butylbenzene	20.11	119	3001443	28.131	ng	100
100) n-Butylbenzene	20.85	91	3165283	28.679	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082036.D Vial: 2
Acq On : 8 May 2020 23:18 Operator: LH
Sample : LCS2 R16050820_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 09 07:16:52 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082037.D Vial: 2
Acq On : 8 May 2020 23:52 Operator: LH
Sample : LCSD2 R16050820_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 09 07:16:54 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/9/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	280672	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.28	114	1178383	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.58	82	570651	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	444367	11.682	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.44%				
57) Toluene-d8 (SS2)	15.72	98	1169867	12.095	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.72%				
73) Bromofluorobenzene (SS3)	18.98	174	465187	13.366	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.96%				
Target Compounds							Qvalue
2) Propene	4.09	42	829913	25.530	ng		100
3) Dichlorodifluoromethan...	4.25	85	1484199	23.343	ng		100
4) Chloromethane	4.53	50	1136706	22.821	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	836329	22.016	ng		100
6) Vinyl Chloride	4.95	62	1259324	23.055	ng		99
7) 1,3-Butadiene	5.22	54	1060750	23.470	ng		99
8) Bromomethane	5.65	94	660077	22.876	ng		100
9) Chloroethane	5.99	64	501986	23.263	ng		100
10) Ethanol	6.39	45	2914698	116.119	ng		100
11) Acetonitrile	6.63	41	1330820	23.201	ng		100
12) Acrolein	6.80	56	443611	22.367	ng		100
13) Acetone	7.01	58	3034909	120.898	ng		98
14) Trichlorofluoromethane	7.24	101	1283263	22.837	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	3677624	48.404	ng		100
16) Acrylonitrile	7.77	53	971180	23.666	ng		100
17) 1,1-Dichloroethene	8.20	96	707803	24.029	ng		98
18) 2-Methyl-2-Propanol (t...	8.39	59	3248652	45.864	ng		100
19) Methylene Chloride	8.44	84	744083	22.802	ng		99
20) 3-Chloro-1-propene (Al...	8.59	41	1053546	23.500	ng		100
21) Trichlorotrifluoroethane	8.85	151	655146	24.695	ng		97
22) Carbon Disulfide	8.69	76	2726723	23.319	ng		100
23) trans-1,2-Dichloroethene	9.71	61	1058568	23.601	ng		99
24) 1,1-Dichloroethane	9.96	63	1233497	23.165	ng		100
25) Methyl tert-Butyl Ether	10.05	73	1907066	22.769	ng		100
26) Vinyl Acetate	10.22	86	1000876	128.000	ng	#	93
27) 2-Butanone (MEK)	10.46	72	503196	23.505	ng		97
28) cis-1,2-Dichloroethene	10.98	61	1021155	23.276	ng		99
29) Diisopropyl Ether	11.27	87	712953	23.542	ng	#	94
30) Ethyl Acetate	11.28	61	659428	53.419	ng		98
31) n-Hexane	11.26	57	1366332	25.518	ng		100
32) Chloroform	11.32	83	1319773	23.623	ng		100
34) Tetrahydrofuran (THF)	11.72	72	494345	23.676	ng		98
35) Ethyl tert-Butyl Ether	11.87	87	896707	24.503	ng		99
36) 1,2-Dichloroethane	12.12	62	1007057	22.751	ng		100
38) 1,1,1-Trichloroethane	12.40	97	1185354	24.975	ng		100
39) Isopropyl Acetate	12.83	61	1103963	53.176	ng		95
40) 1-Butanol	12.85	56	1713756	58.021	ng		97
41) Benzene	12.88	78	3019212	23.892	ng		100
42) Carbon Tetrachloride	13.04	117	1041661	24.234	ng		100
43) Cyclohexane	13.17	84	2384907	50.645	ng		99
44) tert-Amyl Methyl Ether	13.52	73	2167723	25.581	ng		100
45) 1,2-Dichloropropane	13.73	63	731656	24.999	ng		100
46) Bromodichloromethane	13.92	83	1072303	25.108	ng		100
47) Trichloroethene	13.97	130	821827	25.160	ng		100
48) 1,4-Dioxane	13.95	88	654393	25.712	ng		100
49) 2,2,4-Trimethylpentane...	14.04	57	3049970	24.803	ng		100
50) Methyl Methacrylate	14.18	100	656795	52.390	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082037.D Vial: 2
Acq On : 8 May 2020 23:52 Operator: LH
Sample : LCSD2 R16050820_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 09 07:16:54 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

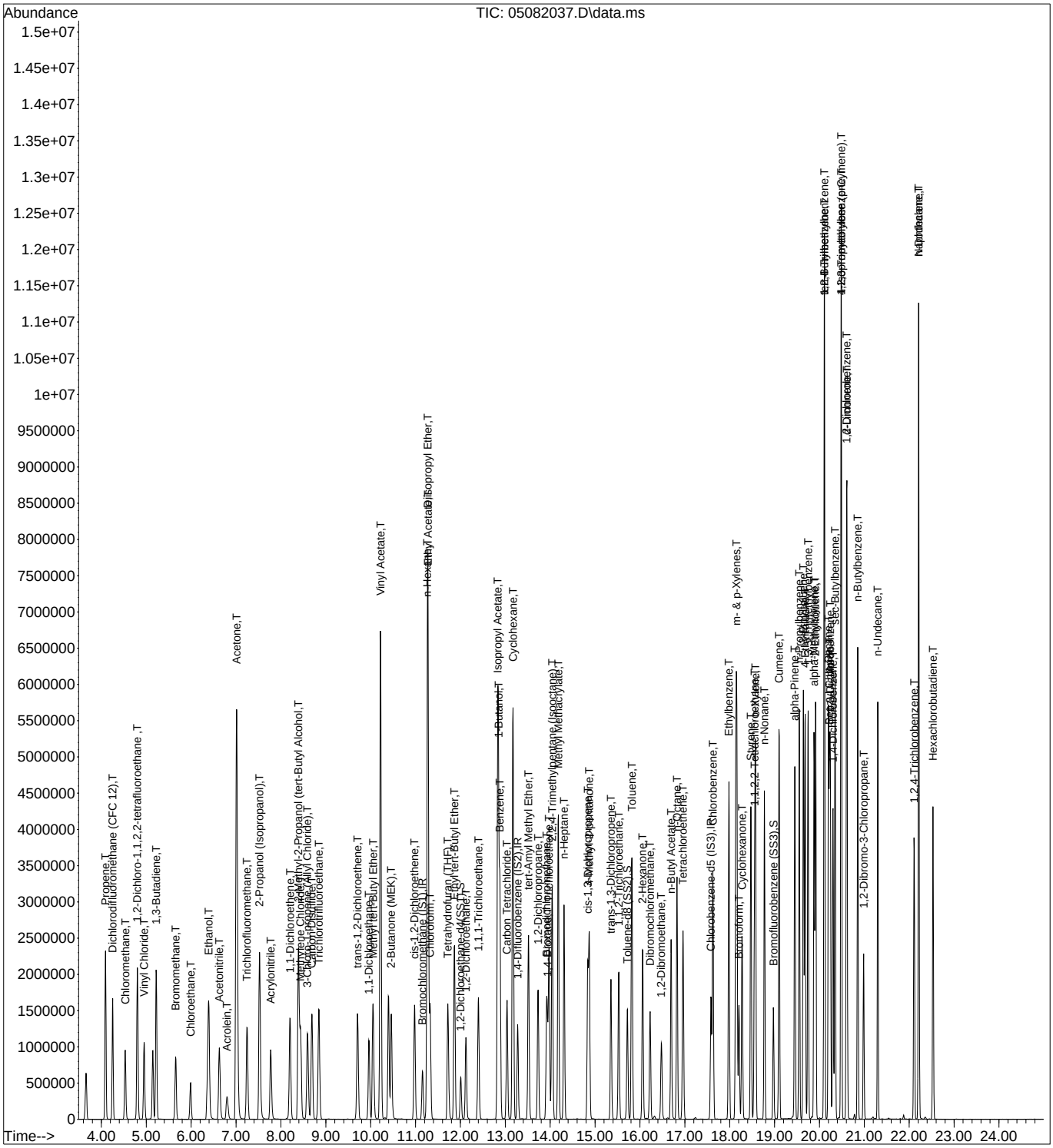
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	735248	24.880 ng	99
52) cis-1,3-Dichloropropene	14.84	75	1315915	26.189 ng	100
53) 4-Methyl-2-pentanone	14.87	58	741925	26.337 ng	99
54) trans-1,3-Dichloropropene	15.35	75	1141262	26.546 ng	100
55) 1,1,2-Trichloroethane	15.53	97	741912	25.563 ng	100
58) Toluene	15.82	91	2993627	24.010 ng	100
59) 2-Hexanone	16.06	43	1823463	26.690 ng	99
60) Dibromochloromethane	16.23	129	918923	25.739 ng	100
61) 1,2-Dibromoethane	16.48	107	857298	24.984 ng	100
62) n-Butyl Acetate	16.70	43	2029732	27.505 ng	100
63) n-Octane	16.83	57	642101	24.876 ng	99
64) Tetrachloroethene	16.96	166	870432	24.716 ng	100
65) Chlorobenzene	17.62	112	2028867	23.650 ng	100
66) Ethylbenzene	17.98	91	3511554	25.258 ng	100
67) m- & p-Xylenes	18.15	91	5680669	51.505 ng	100
68) Bromoform	18.21	173	797069	25.753 ng	99
69) Styrene	18.47	104	2187973	26.375 ng	100
70) o-Xylene	18.58	91	2819098	25.177 ng	99
71) n-Nonane	18.77	43	1541321	25.944 ng	98
72) 1,1,2,2-Tetrachloroethane	18.55	83	1426758	25.685 ng	100
74) Cumene	19.10	105	3523038	25.638 ng	100
75) alpha-Pinene	19.45	93	1843834	25.147 ng	99
76) n-Propylbenzene	19.55	91	4296126	26.317 ng	100
77) 3-Ethyltoluene	19.64	105	3549527	26.687 ng	100
78) 4-Ethyltoluene	19.68	105	3362497	26.055 ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	2930085	26.148 ng	100
80) alpha-Methylstyrene	19.88	118	1561433	24.721 ng	99
81) 2-Ethyltoluene	19.91	105	3486770	26.577 ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3247535	28.833 ng	100
83) n-Decane	20.20	57	1622564	25.753 ng	99
84) Benzyl Chloride	20.22	91	2748323	26.180 ng	100
85) 1,3-Dichlorobenzene	20.24	146	1770985	27.079 ng	99
86) 1,4-Dichlorobenzene	20.30	146	1738275	27.236 ng	100
87) sec-Butylbenzene	20.35	105	3901998	26.689 ng	100
88) 4-Isopropyltoluene (p-...	20.48	119	3789981	27.375 ng	100
89) 1,2,3-Trimethylbenzene	20.48	105	3193362	27.091 ng	100
90) 1,2-Dichlorobenzene	20.61	146	1767096	28.220 ng	100
91) d-Limonene	20.61	68	1227074	27.585 ng	99
92) 1,2-Dibromo-3-Chloropr...	20.98	157	599271	25.381 ng	99
93) n-Undecane	21.30	57	1617333	27.735 ng	99
94) 1,2,4-Trichlorobenzene	22.11	180	1218655	28.060 ng	100
95) Naphthalene	22.21	128	4090666	29.759 ng	100
96) n-Dodecane	22.21	57	1595321	31.597 ng	99
97) Hexachlorobutadiene	22.53	225	787042	26.199 ng	100
98) Cyclohexanone	18.27	55	1095596	25.103 ng	99
99) tert-Butylbenzene	20.11	119	3037068	27.397 ng	100
100) n-Butylbenzene	20.85	91	3208126	27.976 ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082037.D Vial: 2
Acq On : 8 May 2020 23:52 Operator: LH
Sample : LCSD2 R16050820_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 09 07:16:54 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112005.D Vial: 2
Acq On : 11 May 2020 4:51 Operator: WA
Sample : LCS R16051120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 11 10:17:54 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 5/11/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	257765	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.27	114	1091227	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.58	82	506790	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	402403	11.519	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.16%				
57) Toluene-d8 (SS2)	15.72	98	1062803	12.373	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.96%				
73) Bromofluorobenzene (SS3)	18.98	174	418059	13.526	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.24%				
Target Compounds							Qvalue
2) Propene	4.09	42	778637	26.081	ng		99
3) Dichlorodifluoromethan...	4.25	85	1378661	23.610	ng		100
4) Chloromethane	4.52	50	1045470	22.854	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	780974	22.386	ng		100
6) Vinyl Chloride	4.94	62	1159908	23.122	ng		100
7) 1,3-Butadiene	5.21	54	978161	23.566	ng		100
8) Bromomethane	5.65	94	606634	22.892	ng		99
9) Chloroethane	5.98	64	463203	23.374	ng		100
10) Ethanol	6.38	45	2641515	114.587	ng		100
11) Acetonitrile	6.62	41	1202277	22.822	ng		100
12) Acrolein	6.79	56	398610	21.884	ng		99
13) Acetone	7.01	58	2768830	120.101	ng		98
14) Trichlorofluoromethane	7.24	101	1185847	22.979	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	3362482	48.189	ng		100
16) Acrylonitrile	7.76	53	876097	23.246	ng		100
17) 1,1-Dichloroethene	8.20	96	652456	24.118	ng		97
18) 2-Methyl-2-Propanol (t...	8.38	59	2870992	44.134	ng		99
19) Methylene Chloride	8.43	84	681142	22.728	ng		100
20) 3-Chloro-1-propene (Al...	8.59	41	962367	23.373	ng		100
21) Trichlorotrifluoroethane	8.84	151	608804	24.987	ng		97
22) Carbon Disulfide	8.68	76	2510252	23.376	ng		100
23) trans-1,2-Dichloroethene	9.70	61	956760	23.226	ng		98
24) 1,1-Dichloroethane	9.96	63	1112821	22.756	ng		100
25) Methyl tert-Butyl Ether	10.05	73	1720235	22.364	ng		100
26) Vinyl Acetate	10.22	86	915850	127.535	ng	#	90
27) 2-Butanone (MEK)	10.45	72	458698	23.331	ng		97
28) cis-1,2-Dichloroethene	10.98	61	931245	23.113	ng		99
29) Diisopropyl Ether	11.27	87	650214	23.379	ng	#	91
30) Ethyl Acetate	11.27	61	602997	53.189	ng		98
31) n-Hexane	11.26	57	1262490	25.674	ng		100
32) Chloroform	11.32	83	1215397	23.688	ng		100
34) Tetrahydrofuran (THF)	11.72	72	452491	23.597	ng		99
35) Ethyl tert-Butyl Ether	11.86	87	813021	24.190	ng		99
36) 1,2-Dichloroethane	12.12	62	918070	22.584	ng		100
38) 1,1,1-Trichloroethane	12.40	97	1080006	24.573	ng		100
39) Isopropyl Acetate	12.83	61	1014437	52.767	ng		94
40) 1-Butanol	12.85	56	1569583	57.384	ng		97
41) Benzene	12.88	78	2793274	23.869	ng		100
42) Carbon Tetrachloride	13.04	117	959405	24.103	ng		100
43) Cyclohexane	13.17	84	2187452	50.162	ng		99
44) tert-Amyl Methyl Ether	13.52	73	1972454	25.136	ng		100
45) 1,2-Dichloropropane	13.73	63	666242	24.582	ng		99
46) Bromodichloromethane	13.92	83	990104	25.035	ng		100
47) Trichloroethene	13.97	130	760365	25.138	ng		100
48) 1,4-Dioxane	13.95	88	600986	25.499	ng		99
49) 2,2,4-Trimethylpentane...	14.04	57	2817380	24.742	ng		100
50) Methyl Methacrylate	14.18	100	605920	52.193	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112005.D Vial: 2
Acq On : 11 May 2020 4:51 Operator: WA
Sample : LCS R16051120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 11 10:17:54 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

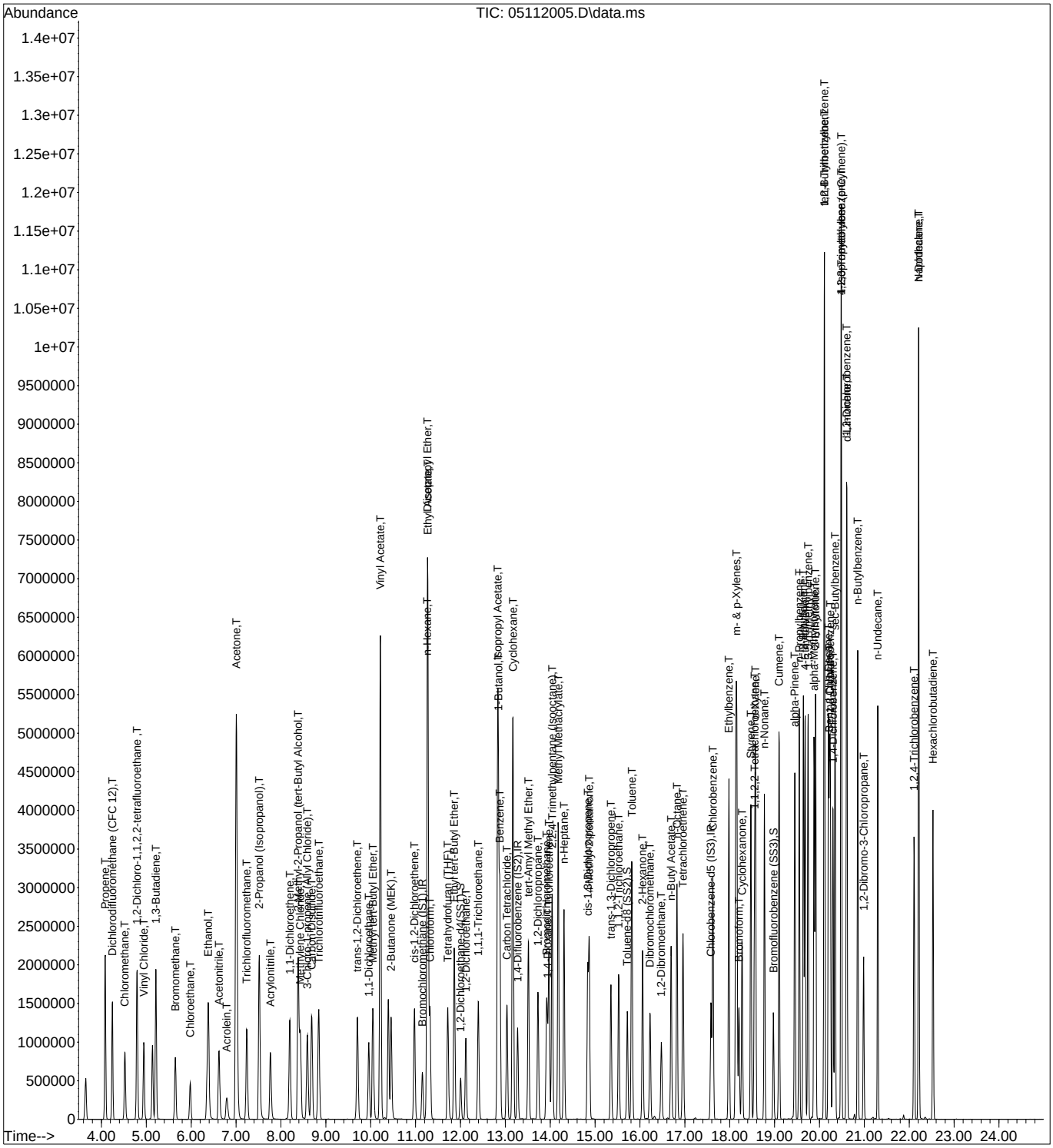
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	672358	24.569	ng	99
52) cis-1,3-Dichloropropene	14.84	75	1209679	25.998	ng	100
53) 4-Methyl-2-pentanone	14.87	58	677233	25.961	ng	98
54) trans-1,3-Dichloropropene	15.35	75	1040845	26.144	ng	100
55) 1,1,2-Trichloroethane	15.52	97	685617	25.510	ng	100
58) Toluene	15.82	91	2768823	25.006	ng	100
59) 2-Hexanone	16.06	43	1663038	27.410	ng	99
60) Dibromochloromethane	16.22	129	852498	26.887	ng	100
61) 1,2-Dibromoethane	16.48	107	794212	26.063	ng	100
62) n-Butyl Acetate	16.70	43	1859387	28.372	ng	100
63) n-Octane	16.83	57	588103	25.655	ng	100
64) Tetrachloroethene	16.96	166	808872	25.863	ng	100
65) Chlorobenzene	17.62	112	1868223	24.521	ng	100
66) Ethylbenzene	17.98	91	3264263	26.438	ng	100
67) m- & p-Xylenes	18.15	91	5281883	53.924	ng	100
68) Bromoform	18.21	173	736690	26.802	ng	100
69) Styrene	18.47	104	2038463	27.670	ng	99
70) o-Xylene	18.58	91	2626608	26.414	ng	100
71) n-Nonane	18.77	43	1428174	27.069	ng	98
72) 1,1,2,2-Tetrachloroethane	18.55	83	1320600	26.769	ng	100
74) Cumene	19.10	105	3297294	27.019	ng	100
75) alpha-Pinene	19.45	93	1709967	26.260	ng	99
76) n-Propylbenzene	19.55	91	4015857	27.700	ng	100
77) 3-Ethyltoluene	19.64	105	3327080	28.167	ng	100
78) 4-Ethyltoluene	19.68	105	3150864	27.491	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	2732682	27.459	ng	99
80) alpha-Methylstyrene	19.88	118	1453095	25.905	ng	99
81) 2-Ethyltoluene	19.91	105	3283184	28.179	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3035630	30.348	ng	99
83) n-Decane	20.20	57	1509525	26.977	ng	99
84) Benzyl Chloride	20.22	91	2531650	27.155	ng	100
85) 1,3-Dichlorobenzene	20.24	146	1664476	28.657	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1631460	28.783	ng	100
87) sec-Butylbenzene	20.35	105	3664202	28.221	ng	100
88) 4-Isopropyltoluene (p-...	20.48	119	3545311	28.834	ng	99
89) 1,2,3-Trimethylbenzene	20.48	105	2971322	28.384	ng	99
90) 1,2-Dichlorobenzene	20.61	146	1665439	29.948	ng	100
91) d-Limonene	20.61	68	1139796	28.851	ng	100
92) 1,2-Dibromo-3-Chloropr...	20.98	157	560407	26.726	ng	98
93) n-Undecane	21.30	57	1493165	28.832	ng	99
94) 1,2,4-Trichlorobenzene	22.11	180	1130360	29.307	ng	100
95) Naphthalene	22.21	128	3776860	30.939	ng	100
96) n-Dodecane	22.21	57	1454614	32.440	ng	99
97) Hexachlorobutadiene	22.53	225	733829	27.505	ng	99
98) Cyclohexanone	18.27	55	994879	25.668	ng	100
99) tert-Butylbenzene	20.11	119	2847429	28.923	ng	100
100) n-Butylbenzene	20.85	91	3015838	29.613	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112005.D Vial: 2
Acq On : 11 May 2020 4:51 Operator: WA
Sample : LCS R16051120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 11 10:17:54 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112006.D Vial: 2
Acq On : 11 May 2020 5:24 Operator: WA
Sample : LCSD R16051120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 11 10:17:56 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 5/11/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	268953	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.28	114	1135449	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.58	82	523123	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	423948	11.631	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.04%				
57) Toluene-d8 (SS2)	15.72	98	1098836	12.393	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.12%				
73) Bromofluorobenzene (SS3)	18.98	174	433075	13.574	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.56%				
Target Compounds							Qvalue
2) Propene	4.09	42	792428	25.439	ng		99
3) Dichlorodifluoromethan...	4.25	85	1397093	22.931	ng		100
4) Chloromethane	4.53	50	1071342	22.445	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	805054	22.116	ng		100
6) Vinyl Chloride	4.95	62	1182185	22.586	ng		100
7) 1,3-Butadiene	5.22	54	1017836	23.502	ng		100
8) Bromomethane	5.65	94	631842	22.851	ng		100
9) Chloroethane	5.98	64	476557	23.047	ng		99
10) Ethanol	6.39	45	2774621	115.355	ng		100
11) Acetonitrile	6.63	41	1268040	23.069	ng		100
12) Acrolein	6.80	56	413703	21.768	ng		99
13) Acetone	7.01	58	2893841	120.302	ng		98
14) Trichlorofluoromethane	7.24	101	1232091	22.882	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	3515304	48.283	ng		100
16) Acrylonitrile	7.77	53	920894	23.418	ng		100
17) 1,1-Dichloroethene	8.20	96	678666	24.044	ng		97
18) 2-Methyl-2-Propanol (t...	8.39	59	3085861	45.464	ng		100
19) Methylene Chloride	8.44	84	708323	22.652	ng		99
20) 3-Chloro-1-propene (Al...	8.59	41	1003829	23.366	ng		99
21) Trichlorotrifluoroethane	8.85	151	627703	24.691	ng		98
22) Carbon Disulfide	8.69	76	2607691	23.273	ng		100
23) trans-1,2-Dichloroethene	9.71	61	996760	23.191	ng		98
24) 1,1-Dichloroethane	9.96	63	1168247	22.896	ng		100
25) Methyl tert-Butyl Ether	10.05	73	1831964	22.826	ng		100
26) Vinyl Acetate	10.22	86	952451	127.114	ng	#	90
27) 2-Butanone (MEK)	10.46	72	479743	23.386	ng		97
28) cis-1,2-Dichloroethene	10.98	61	968701	23.042	ng		99
29) Diisopropyl Ether	11.27	87	681471	23.483	ng	#	95
30) Ethyl Acetate	11.28	61	625414	52.871	ng		98
31) n-Hexane	11.26	57	1287205	25.088	ng		99
32) Chloroform	11.32	83	1255062	23.443	ng		100
34) Tetrahydrofuran (THF)	11.72	72	468478	23.415	ng		98
35) Ethyl tert-Butyl Ether	11.87	87	852399	24.307	ng		99
36) 1,2-Dichloroethane	12.12	62	951608	22.435	ng		100
38) 1,1,1-Trichloroethane	12.40	97	1124615	24.591	ng		100
39) Isopropyl Acetate	12.83	61	1046191	52.299	ng		95
40) 1-Butanol	12.85	56	1622529	57.010	ng		97
41) Benzene	12.88	78	2881986	23.668	ng		100
42) Carbon Tetrachloride	13.04	117	990187	23.907	ng		100
43) Cyclohexane	13.17	84	2266649	49.954	ng		99
44) tert-Amyl Methyl Ether	13.52	73	2057712	25.201	ng		100
45) 1,2-Dichloropropane	13.73	63	695332	24.656	ng		100
46) Bromodichloromethane	13.92	83	1024067	24.885	ng		100
47) Trichloroethene	13.97	130	782705	24.869	ng		100
48) 1,4-Dioxane	13.95	88	616075	25.121	ng		99
49) 2,2,4-Trimethylpentane...	14.05	57	2905776	24.524	ng		99
50) Methyl Methacrylate	14.18	100	620310	51.351	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112006.D Vial: 2
Acq On : 11 May 2020 5:24 Operator: WA
Sample : LCSD R16051120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 11 10:17:56 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

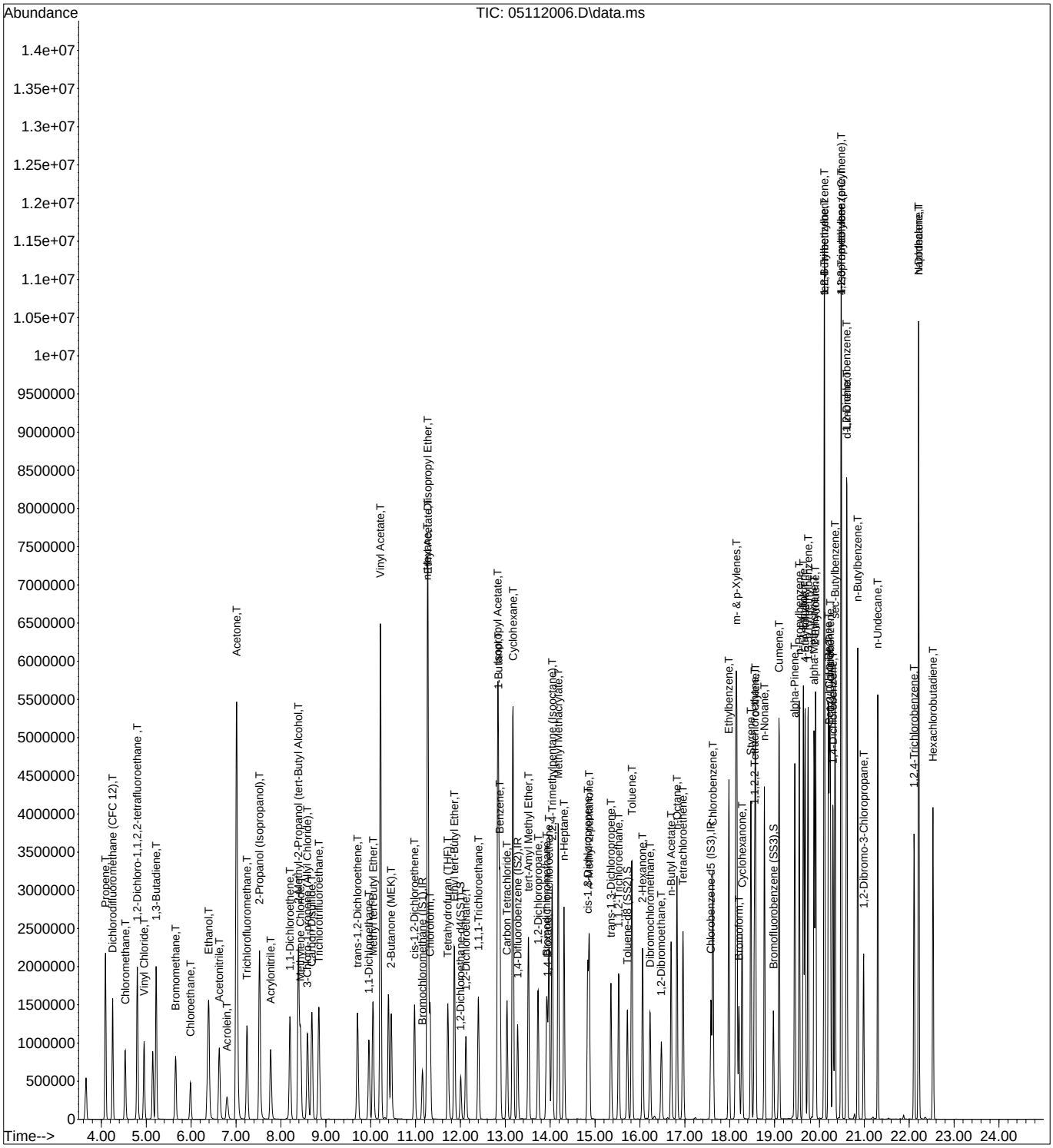
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	688210	24.169	ng	99
52) cis-1,3-Dichloropropene	14.84	75	1249084	25.799	ng	100
53) 4-Methyl-2-pentanone	14.87	58	699272	25.761	ng	98
54) trans-1,3-Dichloropropene	15.35	75	1069737	25.823	ng	100
55) 1,1,2-Trichloroethane	15.52	97	695796	24.880	ng	100
58) Toluene	15.82	91	2831175	24.771	ng	100
59) 2-Hexanone	16.06	43	1726010	27.559	ng	99
60) Dibromochloromethane	16.23	129	871506	26.629	ng	100
61) 1,2-Dibromoethane	16.48	107	810543	25.768	ng	100
62) n-Butyl Acetate	16.70	43	1920925	28.395	ng	99
63) n-Octane	16.83	57	603907	25.522	ng	99
64) Tetrachloroethene	16.96	166	822815	25.487	ng	100
65) Chlorobenzene	17.62	112	1912666	24.321	ng	100
66) Ethylbenzene	17.98	91	3355017	26.325	ng	100
67) m- & p-Xylenes	18.15	91	5542648	54.819	ng	99
68) Bromoform	18.21	173	758613	26.737	ng	100
69) Styrene	18.47	104	2097853	27.587	ng	100
70) o-Xylene	18.58	91	2692227	26.228	ng	100
71) n-Nonane	18.77	43	1472779	27.042	ng	98
72) 1,1,2,2-Tetrachloroethane	18.55	83	1363107	26.768	ng	100
74) Cumene	19.10	105	3392809	26.933	ng	100
75) alpha-Pinene	19.45	93	1769393	26.324	ng	100
76) n-Propylbenzene	19.55	91	4127302	27.580	ng	100
77) 3-Ethyltoluene	19.64	105	3418059	28.034	ng	100
78) 4-Ethyltoluene	19.68	105	3238300	27.372	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	2808222	27.337	ng	99
80) alpha-Methylstyrene	19.88	118	1494903	25.818	ng	99
81) 2-Ethyltoluene	19.91	105	3344707	27.811	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3095484	29.980	ng	100
83) n-Decane	20.20	57	1552892	26.886	ng	99
84) Benzyl Chloride	20.22	91	2633305	27.363	ng	100
85) 1,3-Dichlorobenzene	20.24	146	1704956	28.438	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1671720	28.573	ng	100
87) sec-Butylbenzene	20.35	105	3754017	28.010	ng	100
88) 4-Isopropyltoluene (p-...	20.48	119	3605012	28.404	ng	99
89) 1,2,3-Trimethylbenzene	20.48	105	3033928	28.077	ng	99
90) 1,2-Dichlorobenzene	20.61	146	1696420	29.553	ng	100
91) d-Limonene	20.61	68	1170274	28.698	ng	100
92) 1,2-Dibromo-3-Chloropr...	20.98	157	572423	26.447	ng	99
93) n-Undecane	21.30	57	1537661	28.764	ng	99
94) 1,2,4-Trichlorobenzene	22.11	180	1156888	29.058	ng	100
95) Naphthalene	22.21	128	3866238	30.682	ng	100
96) n-Dodecane	22.21	57	1498569	32.377	ng	99
97) Hexachlorobutadiene	22.53	225	754797	27.408	ng	100
98) Cyclohexanone	18.27	55	1043040	26.071	ng	99
99) tert-Butylbenzene	20.11	119	2890699	28.445	ng	100
100) n-Butylbenzene	20.85	91	3075258	29.253	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112006.D Vial: 2
Acq On : 11 May 2020 5:24 Operator: WA
Sample : LCSD R16051120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 11 10:17:56 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122005.D Vial: 2
Acq On : 12 May 2020 4:10 Operator: LH
Sample : LCS R16051220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 12 10:09:06 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 5/12/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	271922	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.28	114	1156459	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.58	82	526614	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	426996	11.587	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.72%				
57) Toluene-d8 (SS2)	15.72	98	1118566	12.531	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.24%				
73) Bromofluorobenzene (SS3)	18.98	174	426260	13.272	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.16%				
Target Compounds							Qvalue
2) Propene	4.08	42	778084	24.706	ng		100
3) Dichlorodifluoromethan...	4.24	85	1406826	22.838	ng		100
4) Chloromethane	4.52	50	1056783	21.899	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.79	135	798902	21.708	ng		100
6) Vinyl Chloride	4.94	62	1174979	22.203	ng		99
7) 1,3-Butadiene	5.21	54	994133	22.704	ng		99
8) Bromomethane	5.64	94	628281	22.474	ng		100
9) Chloroethane	5.98	64	471808	22.568	ng		100
10) Ethanol	6.38	45	2713169	111.568	ng		100
11) Acetonitrile	6.62	41	1235470	22.231	ng		100
12) Acrolein	6.79	56	410364	21.356	ng		100
13) Acetone	7.01	58	2863714	117.749	ng		98
14) Trichlorofluoromethane	7.24	101	1233128	22.651	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	3494381	47.472	ng		100
16) Acrylonitrile	7.77	53	911335	22.922	ng		100
17) 1,1-Dichloroethene	8.19	96	675302	23.663	ng		97
18) 2-Methyl-2-Propanol (t...	8.38	59	3032721	44.193	ng		100
19) Methylene Chloride	8.43	84	706362	22.343	ng		100
20) 3-Chloro-1-propene (Al...	8.58	41	989573	22.783	ng		100
21) Trichlorotrifluoroethane	8.84	151	633412	24.644	ng		96
22) Carbon Disulfide	8.68	76	2586212	22.829	ng		100
23) trans-1,2-Dichloroethene	9.70	61	992416	22.838	ng		97
24) 1,1-Dichloroethane	9.96	63	1158247	22.452	ng		100
25) Methyl tert-Butyl Ether	10.05	73	1815512	22.374	ng		100
26) Vinyl Acetate	10.22	86	950977	125.532	ng	#	93
27) 2-Butanone (MEK)	10.45	72	476530	22.976	ng		97
28) cis-1,2-Dichloroethene	10.98	61	962823	22.652	ng		98
29) Diisopropyl Ether	11.27	87	670195	22.843	ng	#	93
30) Ethyl Acetate	11.27	61	622871	52.081	ng		98
31) n-Hexane	11.26	57	1288651	24.842	ng		100
32) Chloroform	11.32	83	1257975	23.241	ng		100
34) Tetrahydrofuran (THF)	11.72	72	468069	23.139	ng		99
35) Ethyl tert-Butyl Ether	11.86	87	849203	23.951	ng		99
36) 1,2-Dichloroethane	12.12	62	959023	22.363	ng		100
38) 1,1,1-Trichloroethane	12.40	97	1129143	24.241	ng		100
39) Isopropyl Acetate	12.83	61	1040742	51.081	ng		95
40) 1-Butanol	12.85	56	1618183	55.824	ng		97
41) Benzene	12.88	78	2892446	23.323	ng		100
42) Carbon Tetrachloride	13.03	117	995507	23.599	ng		100
43) Cyclohexane	13.17	84	2274511	49.216	ng		100
44) tert-Amyl Methyl Ether	13.51	73	2063922	24.818	ng		100
45) 1,2-Dichloropropane	13.73	63	692844	24.122	ng		100
46) Bromodichloromethane	13.92	83	1021358	24.369	ng		100
47) Trichloroethene	13.97	130	788678	24.603	ng		100
48) 1,4-Dioxane	13.94	88	621812	24.895	ng		99
49) 2,2,4-Trimethylpentane...	14.04	57	2911988	24.130	ng		100
50) Methyl Methacrylate	14.18	100	627694	51.018	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122005.D Vial: 2
Acq On : 12 May 2020 4:10 Operator: LH
Sample : LCS R16051220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 12 10:09:06 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

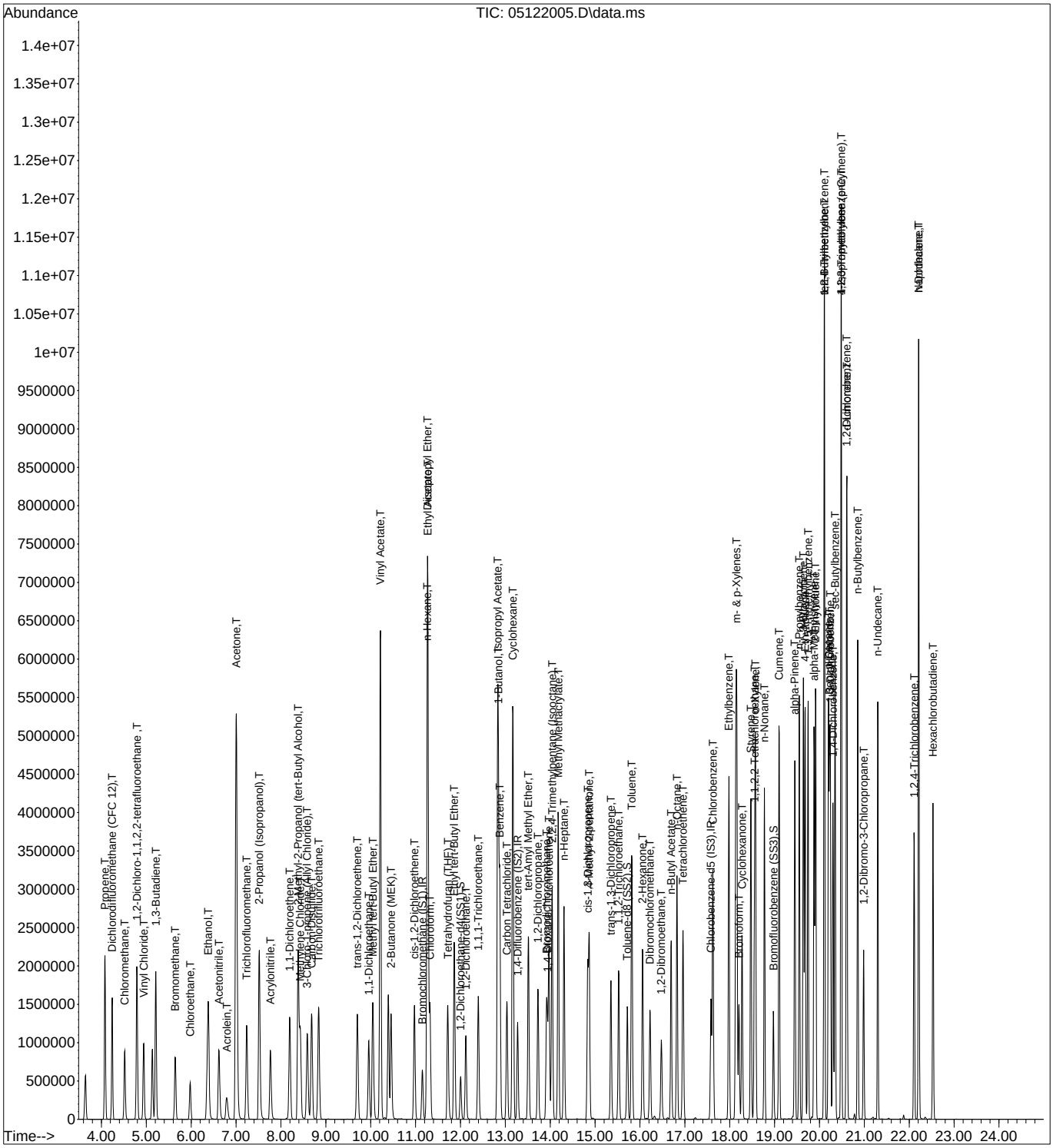
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	690508	23.809	ng	99
52) cis-1,3-Dichloropropene	14.84	75	1251194	25.373	ng	100
53) 4-Methyl-2-pentanone	14.87	58	701341	25.368	ng	98
54) trans-1,3-Dichloropropene	15.35	75	1085902	25.737	ng	100
55) 1,1,2-Trichloroethane	15.52	97	707097	24.825	ng	100
58) Toluene	15.82	91	2854839	24.812	ng	100
59) 2-Hexanone	16.06	43	1723907	27.343	ng	99
60) Dibromochloromethane	16.22	129	885089	26.864	ng	100
61) 1,2-Dibromoethane	16.48	107	824788	26.047	ng	100
62) n-Butyl Acetate	16.70	43	1919569	28.187	ng	100
63) n-Octane	16.83	57	606035	25.442	ng	99
64) Tetrachloroethene	16.96	166	836986	25.754	ng	100
65) Chlorobenzene	17.62	112	1928216	24.356	ng	100
66) Ethylbenzene	17.98	91	3377113	26.322	ng	100
67) m- & p-Xylenes	18.15	91	5472128	53.763	ng	100
68) Bromoform	18.21	173	765379	26.797	ng	100
69) Styrene	18.47	104	2109747	27.559	ng	99
70) o-Xylene	18.58	91	2714919	26.274	ng	100
71) n-Nonane	18.77	43	1472988	26.867	ng	98
72) 1,1,2,2-Tetrachloroethane	18.55	83	1372331	26.771	ng	100
74) Cumene	19.10	105	3390776	26.739	ng	100
75) alpha-Pinene	19.45	93	1769830	26.156	ng	99
76) n-Propylbenzene	19.55	91	4151928	27.560	ng	100
77) 3-Ethyltoluene	19.64	105	3443584	28.056	ng	100
78) 4-Ethyltoluene	19.68	105	3273531	27.486	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	2843054	27.493	ng	100
80) alpha-Methylstyrene	19.88	118	1508112	25.874	ng	99
81) 2-Ethyltoluene	19.91	105	3407903	28.148	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3090454	29.733	ng	100
83) n-Decane	20.20	57	1563923	26.897	ng	99
84) Benzyl Chloride	20.23	91	2619662	27.041	ng	100
85) 1,3-Dichlorobenzene	20.24	146	1730632	28.675	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1701093	28.882	ng	100
87) sec-Butylbenzene	20.35	105	3796050	28.136	ng	100
88) 4-Isopropyltoluene (p-...	20.48	119	3626895	28.387	ng	99
89) 1,2,3-Trimethylbenzene	20.48	105	3033050	27.883	ng	99
90) 1,2-Dichlorobenzene	20.61	146	1701670	29.448	ng	100
91) d-Limonene	20.61	68	1167974	28.452	ng	99
92) 1,2-Dibromo-3-Chloropr...	20.98	157	581886	26.706	ng	98
93) n-Undecane	21.30	57	1539093	28.600	ng	99
94) 1,2,4-Trichlorobenzene	22.11	180	1162112	28.996	ng	100
95) Naphthalene	22.21	128	3821352	30.125	ng	100
96) n-Dodecane	22.21	57	1465359	31.450	ng	99
97) Hexachlorobutadiene	22.53	225	759617	27.400	ng	100
98) Cyclohexanone	18.27	55	1035661	25.715	ng	99
99) tert-Butylbenzene	20.11	119	2895853	28.307	ng	100
100) n-Butylbenzene	20.85	91	3109731	29.385	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122005.D Vial: 2
Acq On : 12 May 2020 4:10 Operator: LH
Sample : LCS R16051220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 12 10:09:06 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122006.D Vial: 2
Acq On : 12 May 2020 4:44 Operator: LH
Sample : LCSD R16051220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 12 10:09:07 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 5/12/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	273665	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.28	114	1172398	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.58	82	530162	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	436211	11.762	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.08%				
57) Toluene-d8 (SS2)	15.72	98	1130030	12.575	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.64%				
73) Bromofluorobenzene (SS3)	18.98	174	432951	13.390	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.12%				
Target Compounds							Qvalue
2) Propene	4.09	42	807439	25.474	ng		100
3) Dichlorodifluoromethan...	4.25	85	1442329	23.266	ng		100
4) Chloromethane	4.53	50	1108173	22.817	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	827512	22.342	ng		100
6) Vinyl Chloride	4.95	62	1217911	22.868	ng		99
7) 1,3-Butadiene	5.22	54	1037711	23.548	ng		99
8) Bromomethane	5.65	94	649172	23.074	ng		100
9) Chloroethane	5.99	64	484978	23.051	ng		100
10) Ethanol	6.39	45	2860698	116.885	ng		100
11) Acetonitrile	6.63	41	1293770	23.132	ng		100
12) Acrolein	6.80	56	429757	22.223	ng		100
13) Acetone	7.01	58	2984046	121.916	ng		99
14) Trichlorofluoromethane	7.25	101	1265647	23.101	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	3639583	49.130	ng		99
16) Acrylonitrile	7.77	53	943337	23.576	ng		100
17) 1,1-Dichloroethene	8.21	96	693524	24.147	ng		98
18) 2-Methyl-2-Propanol (t...	8.39	59	3117733	45.143	ng		100
19) Methylene Chloride	8.44	84	729079	22.914	ng		100
20) 3-Chloro-1-propene (Al...	8.60	41	1047546	23.964	ng		100
21) Trichlorotrifluoroethane	8.85	151	650464	25.146	ng		97
22) Carbon Disulfide	8.69	76	2663290	23.360	ng		100
23) trans-1,2-Dichloroethene	9.71	61	1033421	23.630	ng		98
24) 1,1-Dichloroethane	9.96	63	1201451	23.141	ng		100
25) Methyl tert-Butyl Ether	10.05	73	1885906	23.093	ng		100
26) Vinyl Acetate	10.22	86	977907	128.265	ng	#	92
27) 2-Butanone (MEK)	10.46	72	499914	23.950	ng		96
28) cis-1,2-Dichloroethene	10.98	61	985334	23.034	ng		99
29) Diisopropyl Ether	11.27	87	688714	23.324	ng	#	93
30) Ethyl Acetate	11.28	61	642628	53.391	ng		98
31) n-Hexane	11.26	57	1339836	25.664	ng		100
32) Chloroform	11.32	83	1293272	23.741	ng		100
34) Tetrahydrofuran (THF)	11.72	72	482289	23.690	ng		98
35) Ethyl tert-Butyl Ether	11.87	87	874248	24.501	ng		99
36) 1,2-Dichloroethane	12.12	62	991164	22.965	ng		100
38) 1,1,1-Trichloroethane	12.40	97	1149292	24.339	ng		100
39) Isopropyl Acetate	12.83	61	1086211	52.588	ng		95
40) 1-Butanol	12.85	56	1676973	57.066	ng		97
41) Benzene	12.88	78	2971066	23.631	ng		100
42) Carbon Tetrachloride	13.04	117	1011543	23.653	ng		100
43) Cyclohexane	13.17	84	2335546	49.850	ng		99
44) tert-Amyl Methyl Ether	13.52	73	2143159	25.420	ng		100
45) 1,2-Dichloropropane	13.73	63	717980	24.657	ng		100
46) Bromodichloromethane	13.92	83	1054710	24.822	ng		100
47) Trichloroethene	13.97	130	809841	24.920	ng		100
48) 1,4-Dioxane	13.95	88	636819	25.149	ng		100
49) 2,2,4-Trimethylpentane...	14.05	57	2979702	24.356	ng		100
50) Methyl Methacrylate	14.18	100	645632	51.763	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122006.D Vial: 2
Acq On : 12 May 2020 4:44 Operator: LH
Sample : LCSD R16051220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 12 10:09:07 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

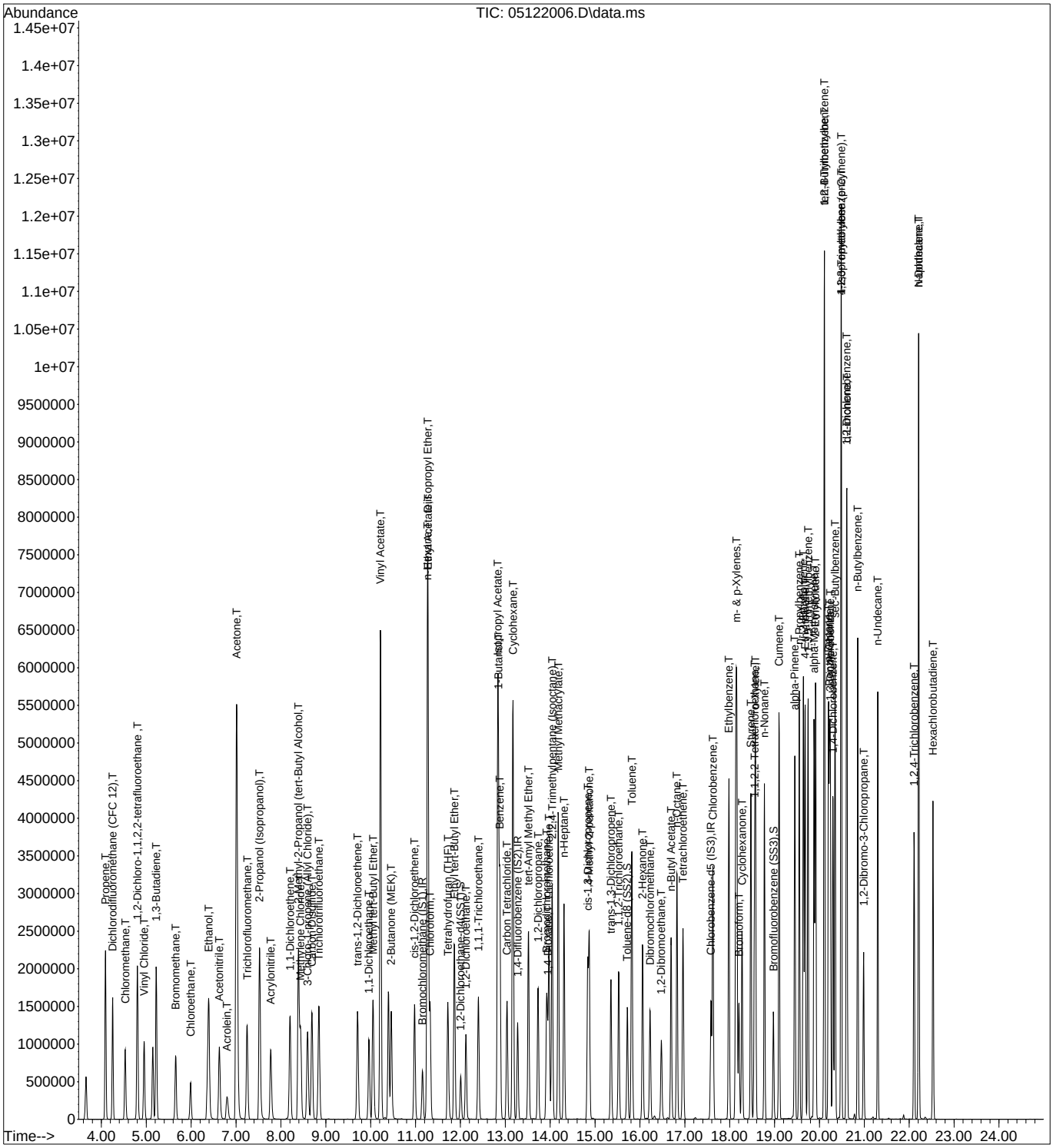
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	712250	24.225	ng	99
52) cis-1,3-Dichloropropene	14.84	75	1295314	25.911	ng	100
53) 4-Methyl-2-pentanone	14.87	58	722088	25.764	ng	98
54) trans-1,3-Dichloropropene	15.35	75	1114364	26.053	ng	100
55) 1,1,2-Trichloroethane	15.52	97	721705	24.993	ng	100
58) Toluene	15.82	91	2950949	25.476	ng	100
59) 2-Hexanone	16.06	43	1786602	28.148	ng	99
60) Dibromochloromethane	16.23	129	900672	27.154	ng	100
61) 1,2-Dibromoethane	16.48	107	841990	26.412	ng	100
62) n-Butyl Acetate	16.70	43	1995057	29.100	ng	99
63) n-Octane	16.82	57	628600	26.213	ng	99
64) Tetrachloroethene	16.96	166	855702	26.154	ng	100
65) Chlorobenzene	17.62	112	1980073	24.843	ng	100
66) Ethylbenzene	17.98	91	3460605	26.793	ng	100
67) m- & p-Xylenes	18.15	91	5734169	55.961	ng	99
68) Bromoform	18.21	173	788312	27.415	ng	100
69) Styrene	18.47	104	2180055	28.287	ng	100
70) o-Xylene	18.58	91	2795744	26.875	ng	100
71) n-Nonane	18.77	43	1524566	27.622	ng	98
72) 1,1,2,2-Tetrachloroethane	18.55	83	1407004	27.264	ng	100
74) Cumene	19.10	105	3499060	27.408	ng	100
75) alpha-Pinene	19.45	93	1823513	26.769	ng	99
76) n-Propylbenzene	19.55	91	4274657	28.185	ng	100
77) 3-Ethyltoluene	19.64	105	3555506	28.774	ng	100
78) 4-Ethyltoluene	19.68	105	3355992	27.990	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	2925838	28.104	ng	100
80) alpha-Methylstyrene	19.88	118	1553548	26.475	ng	99
81) 2-Ethyltoluene	19.91	105	3491425	28.645	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3147440	30.079	ng	99
83) n-Decane	20.20	57	1614527	27.582	ng	99
84) Benzyl Chloride	20.23	91	2716803	27.856	ng	100
85) 1,3-Dichlorobenzene	20.24	146	1775522	29.222	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1740739	29.357	ng	100
87) sec-Butylbenzene	20.35	105	3884849	28.601	ng	100
88) 4-Isopropyltoluene (p-...	20.48	119	3696154	28.736	ng	99
89) 1,2,3-Trimethylbenzene	20.48	105	3099876	28.306	ng	99
90) 1,2-Dichlorobenzene	20.61	146	1727577	29.696	ng	100
91) d-Limonene	20.61	68	1191636	28.834	ng	99
92) 1,2-Dibromo-3-Chloropr...	20.98	157	593482	27.056	ng	98
93) n-Undecane	21.30	57	1590383	29.356	ng	99
94) 1,2,4-Trichlorobenzene	22.11	180	1186415	29.404	ng	100
95) Naphthalene	22.21	128	3899033	30.532	ng	100
96) n-Dodecane	22.21	57	1499537	31.968	ng	99
97) Hexachlorobutadiene	22.53	225	778231	27.884	ng	100
98) Cyclohexanone	18.27	55	1080949	26.659	ng	99
99) tert-Butylbenzene	20.11	119	2954068	28.683	ng	100
100) n-Butylbenzene	20.85	91	3183768	29.884	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122006.D Vial: 2
Acq On : 12 May 2020 4:44 Operator: LH
Sample : LCSD R16051220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 12 10:09:07 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082053.D Vial: 8
Acq On : 9 May 2020 8:53 Operator: LH
Sample : P2002299-012dup (50mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 18:44:28 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/11/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	301859	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1298811	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	587940	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	475507	11.624	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.96%				
57) Toluene-d8 (SS2)	15.72	98	1252794	12.571	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.56%				
73) Bromofluorobenzene (SS3)	18.97	174	489754	13.658	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.28%				
Target Compounds							Qvalue
2) Propene	4.11	42	2962	0.085	ng		95
3) Dichlorodifluoromethan...	4.27	85	24042	0.352	ng		99
4) Chloromethane	4.53	50	37849	0.707	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	213	N.D.			
6) Vinyl Chloride	4.96	62	4945	0.084	ng		96
7) 1,3-Butadiene	5.16	54	548	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.98	64	1392	0.060	ng		98
10) Ethanol	6.38	45	262	N.D.			
11) Acetonitrile	6.60	41	875	N.D.			
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	7.24	101	4498	0.074	ng		100
15) 2-Propanol (Isopropanol)	7.53	45	1362	N.D.			
16) Acrylonitrile	7.84	53	564	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	225	N.D.			
20) 3-Chloro-1-propene (Al...	8.49	41	213	N.D.			
21) Trichlorotrifluoroethane	8.84	151	4561	0.160	ng		97
22) Carbon Disulfide	8.67	76	607160	4.828	ng		100
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	9.94	63	906	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.48	72	1637	0.071	ng	#	80
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	11.25	57	25922	0.450	ng		99
32) Chloroform	11.31	83	135	N.D.			
34) Tetrahydrofuran (THF)	11.75	72	3027	0.135	ng		96
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	12758	0.268	ng		99
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	5160729	37.052	ng		100
42) Carbon Tetrachloride	13.03	117	5612	0.118	ng		98
43) Cyclohexane	13.16	84	23579	0.454	ng		99
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	13.93	83	1004	N.D.			
47) Trichloroethene	13.97	130	2105	0.058	ng		98
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082053.D Vial: 8
Acq On : 9 May 2020 8:53 Operator: LH
Sample : P2002299-012dup (50mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 18:44:28 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

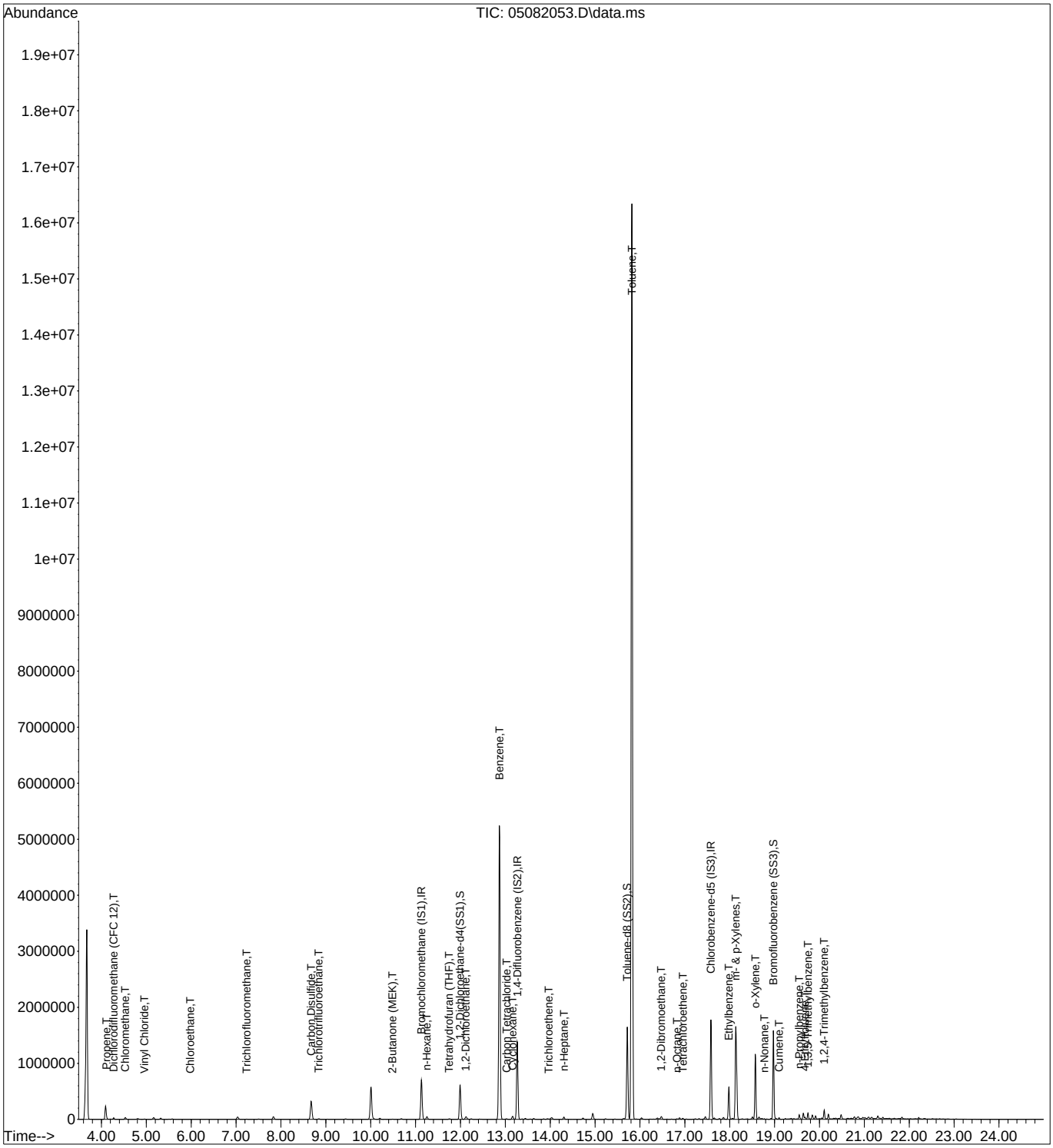
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	10524	0.323 ng	99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.94	58	341	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.82	91	13389212	104.230 ng	97
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	16.48	107	38817	1.098 ng	100
62) n-Butyl Acetate	16.70	43	271	N.D.	
63) n-Octane	16.83	57	2186	0.082 ng	90
64) Tetrachloroethene	16.96	166	2329	0.064 ng	92
65) Chlorobenzene	17.66	112	2599	N.D.	
66) Ethylbenzene	17.98	91	455535	3.180 ng	100
67) m- & p-Xylenes	18.14	91	1295010	11.396 ng	98
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	2121	N.D.	
70) o-Xylene	18.57	91	706400	6.123 ng	99
71) n-Nonane	18.77	43	3231	0.053 ng	97
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	19.10	105	17548	0.124 ng	99
75) alpha-Pinene	19.54	93	358	N.D.	
76) n-Propylbenzene	19.55	91	61110	0.363 ng	100
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.68	105	16935	0.127 ng	99
79) 1,3,5-Trimethylbenzene	19.74	105	51855	0.449 ng	98
80) alpha-Methylstyrene	19.87	118	1852	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.10	105	70716	0.609 ng	92
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.21	91	717	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	20.35	105	6197	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	5068	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.62	68	822	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.21	128	3468	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082053.D Vial: 8
Acq On : 9 May 2020 8:53 Operator: LH
Sample : P2002299-012dup (50mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 18:44:28 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082053.D Vial: 8
Acq On : 9 May 2020 8:53 Operator: LH
Sample : P2002299-012dup (50mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 11 18:44:28 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/11/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	301859	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1298811	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	587940	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	475507	11.624	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.96%				
57) Toluene-d8 (SS2)	15.72	98	1252794	12.571	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.56%				
73) Bromofluorobenzene (SS3)	18.97	174	489754	13.658	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.28%				
Target Compounds							Qvalue
2) Propene	4.11	42	2962	0.085	ng		95
3) Dichlorodifluoromethan...	4.27	85	24042	0.352	ng		99
4) Chloromethane	4.53	50	37849	0.707	ng		99
6) Vinyl Chloride	4.96	62	4945	0.084	ng		96
9) Chloroethane	5.98	64	1392	0.060	ng		98
14) Trichlorofluoromethane	7.24	101	4498	0.074	ng		100
21) Trichlorotrifluoroethane	8.84	151	4561	0.160	ng		97
22) Carbon Disulfide	8.67	76	607160	4.828	ng		100
27) 2-Butanone (MEK)	10.48	72	1637	0.071	ng	#	80
31) n-Hexane	11.25	57	25922	0.450	ng		99
34) Tetrahydrofuran (THF)	11.75	72	3027	0.135	ng		96
36) 1,2-Dichloroethane	12.11	62	12758	0.268	ng		99
41) Benzene	12.87	78	5160729	37.052	ng		100
42) Carbon Tetrachloride	13.03	117	5612	0.118	ng		98
43) Cyclohexane	13.16	84	23579	0.454	ng		99
47) Trichloroethene	13.97	130	2105	0.058	ng		98
51) n-Heptane	14.31	71	10524	0.323	ng		99
58) Toluene	15.82	91	13389212	104.230	ng		97
61) 1,2-Dibromoethane	16.48	107	38817	1.098	ng		100
63) n-Octane	16.83	57	2186	0.082	ng		90
64) Tetrachloroethene	16.96	166	2329	0.064	ng		92
66) Ethylbenzene	17.98	91	455535	3.180	ng		100
67) m- & p-Xylenes	18.14	91	1295010	11.396	ng		98
70) o-Xylene	18.57	91	706400	6.123	ng		99
71) n-Nonane	18.77	43	3231	0.053	ng		97
74) Cumene	19.10	105	17548	0.124	ng		99
76) n-Propylbenzene	19.55	91	61110	0.363	ng		100
78) 4-Ethyltoluene	19.68	105	16935	0.127	ng		99
79) 1,3,5-Trimethylbenzene	19.74	105	51855	0.449	ng		98
82) 1,2,4-Trimethylbenzene	20.10	105	70716	0.609	ng		92

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082053.D Vial: 8
Acq On : 9 May 2020 8:53 Operator: LH
Sample : P2002299-012dup (50mL) Inst : GCMS-16
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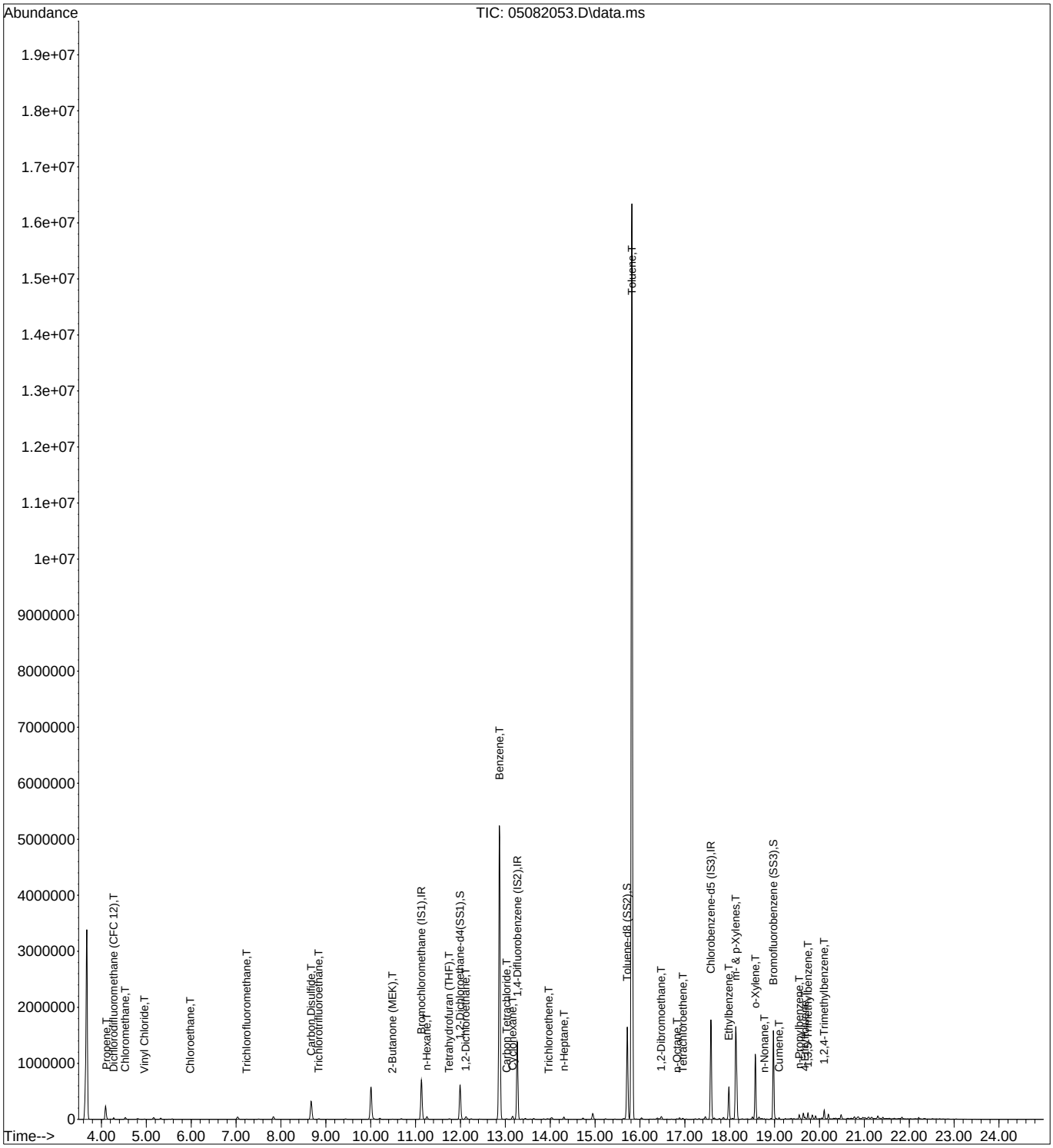
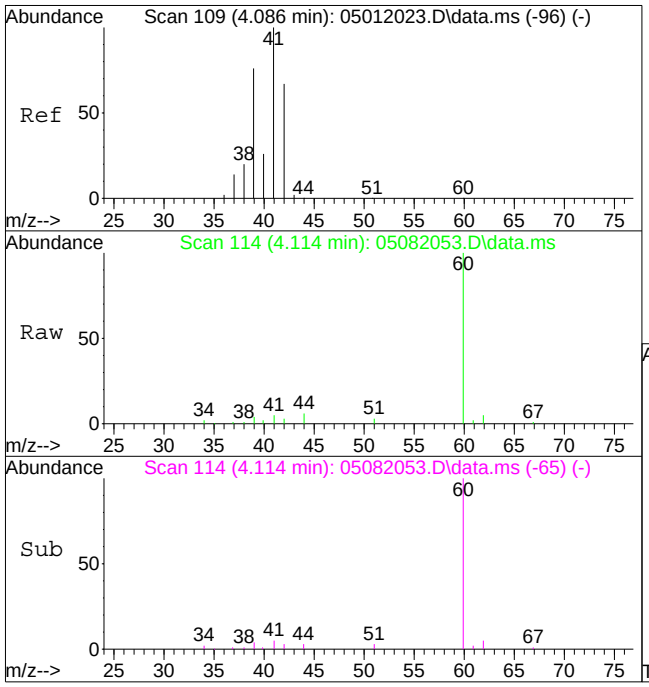
Response via : Initial Calibration
DataAcq Meth:TO15.M

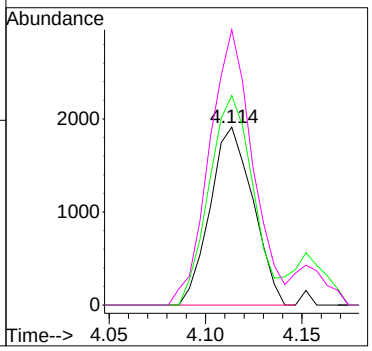


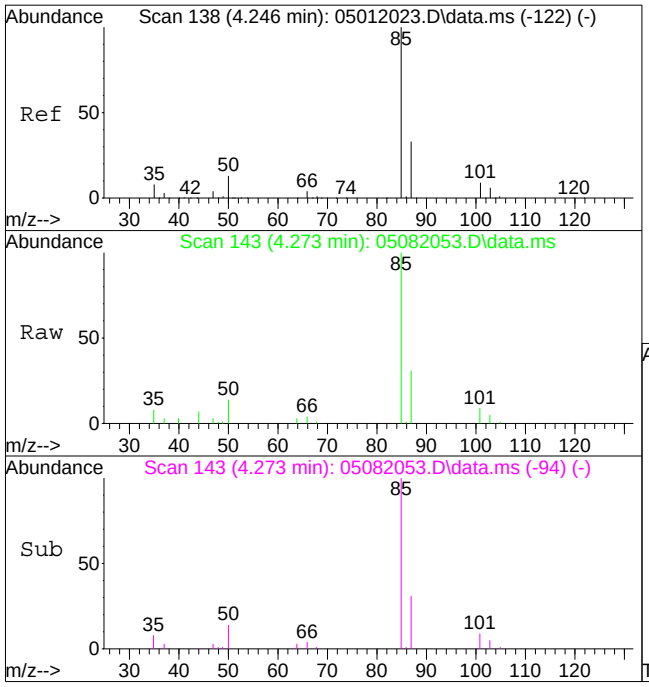


#2
Propene
Concen: 0.08 ng
RT: 4.11 min Scan# 114
Delta R.T. 0.022 min
Lab File: 05082053.D
Acq: 9 May 2020 8:53

Tgt Ion: 42 Resp: 2962

Ion	Ratio	Lower	Upper
42	100		
39	122.9	96.1	136.1
41	156.3	131.9	171.9

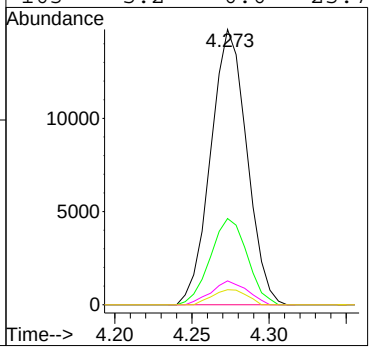


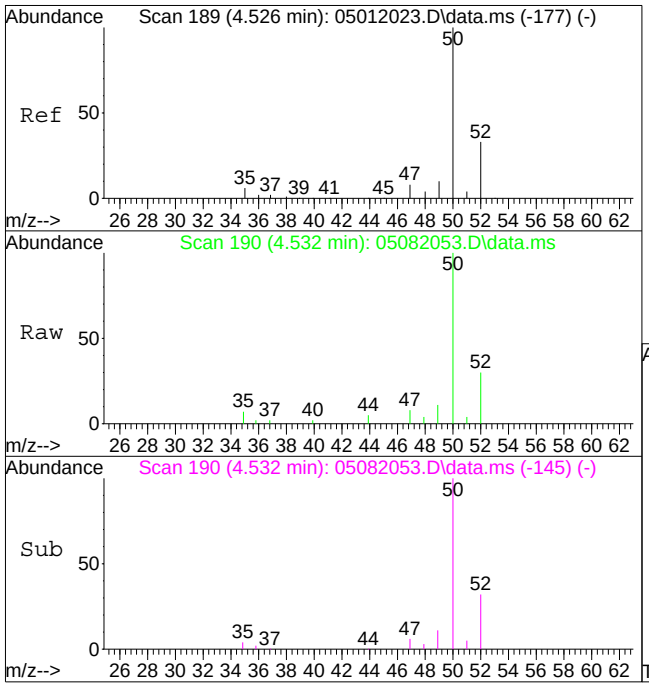


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.35 ng
RT: 4.27 min Scan# 143
Delta R.T. 0.022 min
Lab File: 05082053.D
Acq: 9 May 2020 8:53

Tgt Ion: 85 Resp: 24042

Ion	Ratio	Lower	Upper
85	100		
87	31.9	12.4	52.4
101	8.6	0.0	28.8
103	5.2	0.0	25.7

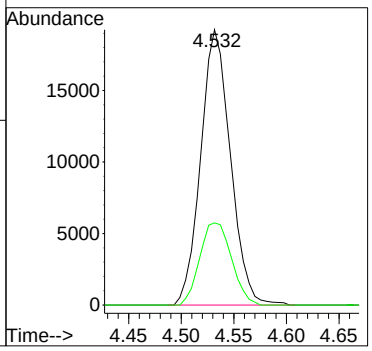


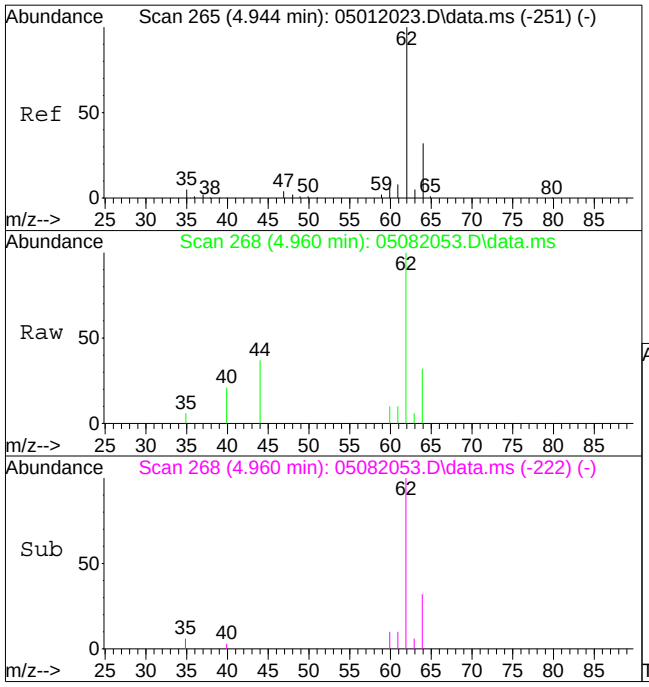


#4
Chloromethane
Concen: 0.71 ng
RT: 4.53 min Scan# 190
Delta R.T. -0.000 min
Lab File: 05082053.D
Acq: 9 May 2020 8:53

Tgt Ion: 50 Resp: 37849

Ion	Ratio	Lower	Upper
50	100		
52	31.9	12.5	52.5

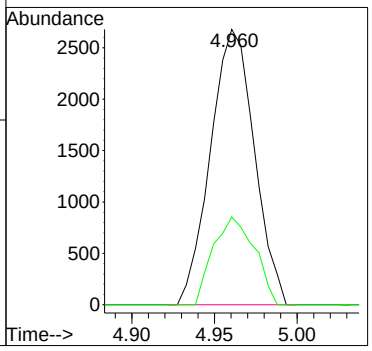


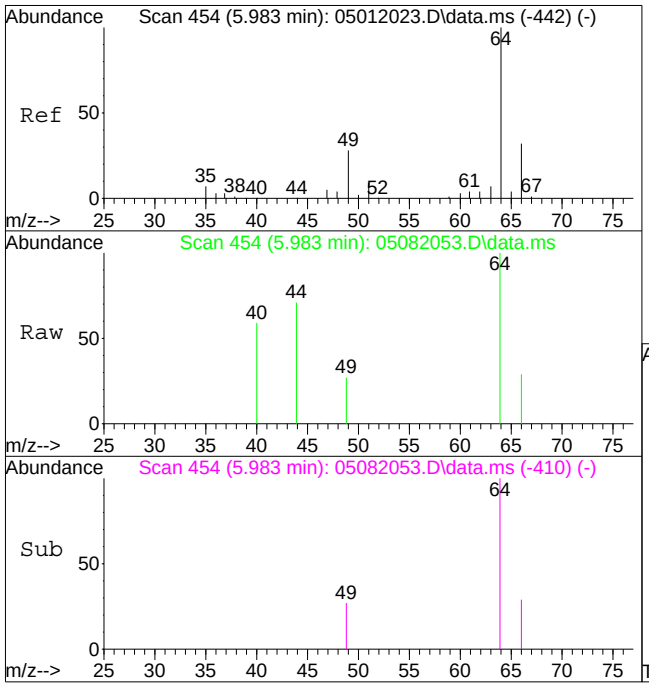


#6
Vinyl Chloride
Concen: 0.08 ng
RT: 4.96 min Scan# 268
Delta R.T. 0.005 min
Lab File: 05082053.D
Acq: 9 May 2020 8:53

Tgt Ion: 62 Resp: 4945

Ion	Ratio	Lower	Upper
62	100		
64	30.1	12.1	52.1

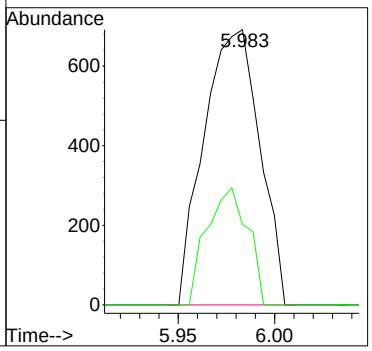


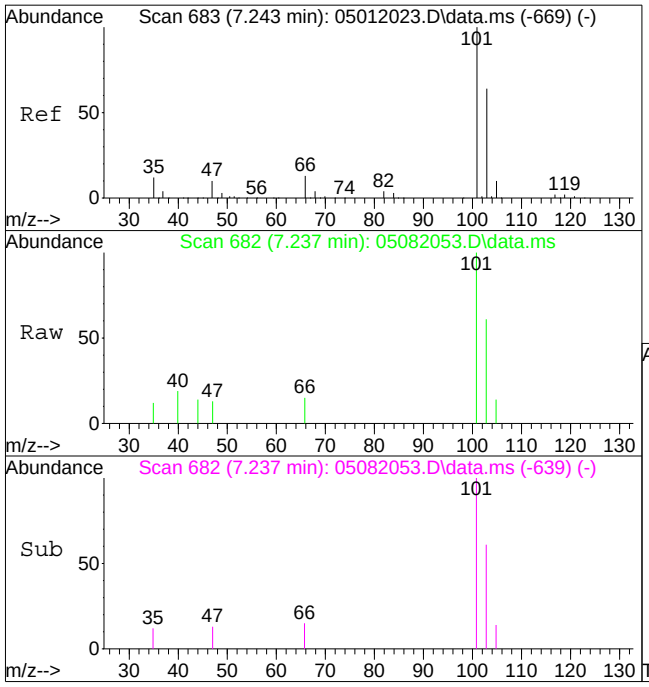


#9
Chloroethane
Concen: 0.06 ng
RT: 5.98 min Scan# 454
Delta R.T. -0.006 min
Lab File: 05082053.D
Acq: 9 May 2020 8:53

Tgt Ion: 64 Resp: 1392

Ion	Ratio	Lower	Upper
64	100		
66	31.2	12.1	52.1

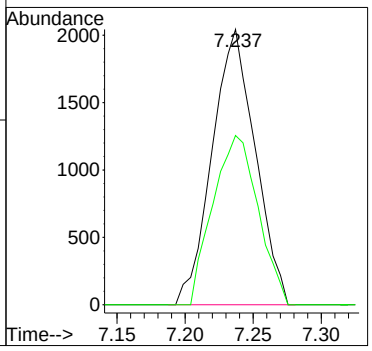


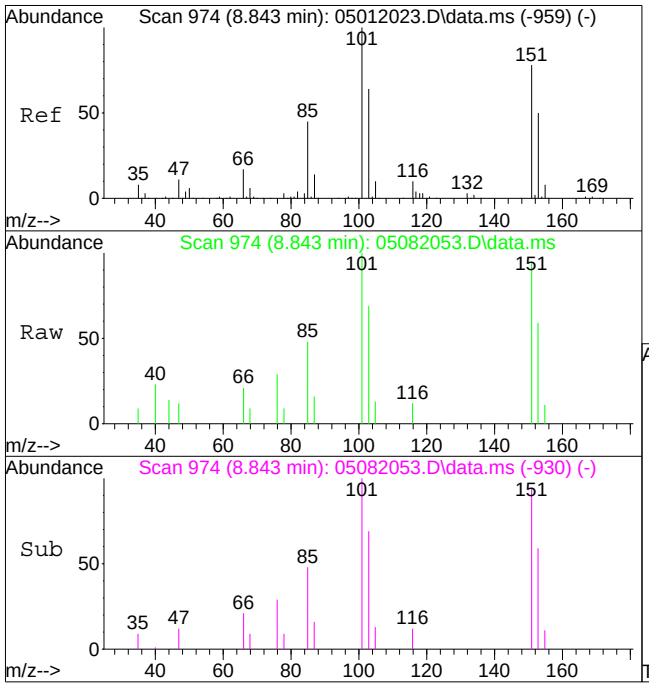


#14
Trichlorofluoromethane
Concen: 0.07 ng
RT: 7.24 min Scan# 682
Delta R.T. -0.011 min
Lab File: 05082053.D
Acq: 9 May 2020 8:53

Tgt Ion:101 Resp: 4498

Ion	Ratio	Lower	Upper
101	100		
103	64.5	44.4	84.4

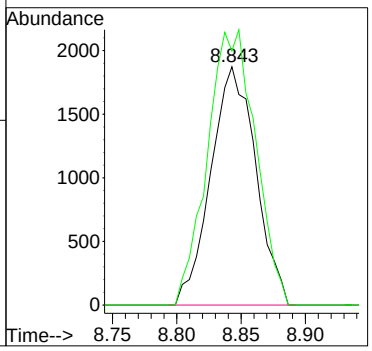


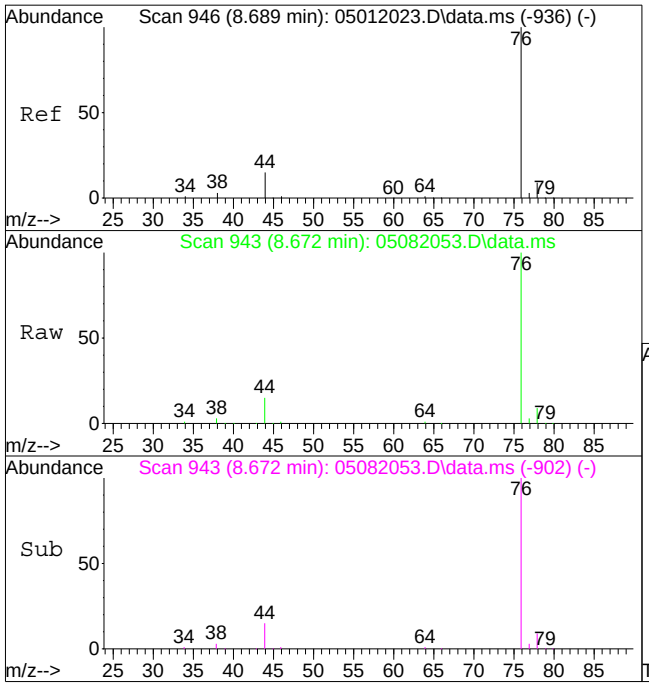


#21
Trichlorotrifluoroethane
Concen: 0.16 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05082053.D
Acq: 9 May 2020 8:53

Tgt Ion:151 Resp: 4561

Ion	Ratio	Lower	Upper
151	100		
101	123.7	107.3	147.3

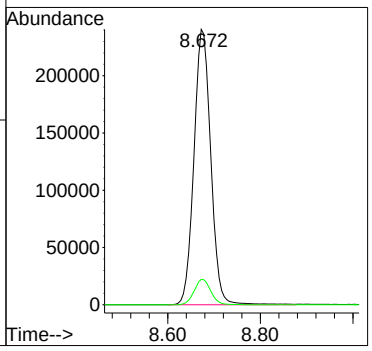


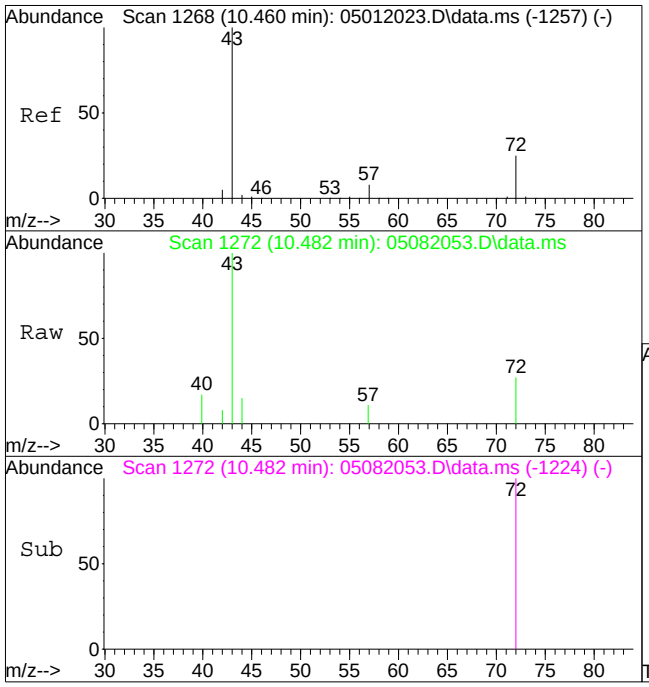


#22
Carbon Disulfide
Concen: 4.83 ng
RT: 8.67 min Scan# 943
Delta R.T. -0.022 min
Lab File: 05082053.D
Acq: 9 May 2020 8:53

Tgt Ion: 76 Resp: 607160

Ion	Ratio	Lower	Upper
76	100		
78	9.1	0.0	29.2

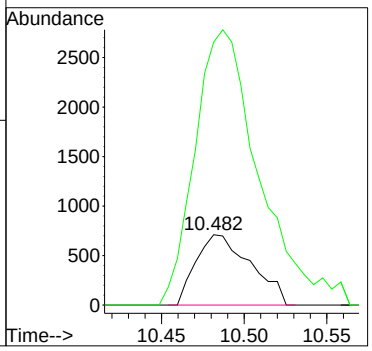


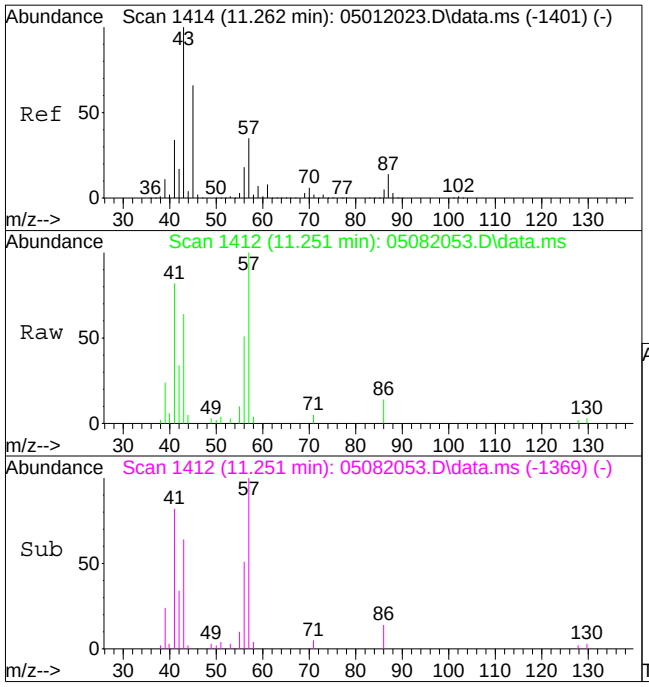


#27
2-Butanone (MEK)
Concen: 0.07 ng
RT: 10.48 min Scan# 1272
Delta R.T. 0.016 min
Lab File: 05082053.D
Acq: 9 May 2020 8:53

Tgt Ion: 72 Resp: 1637

Ion	Ratio	Lower	Upper
72	100		
43	459.1	389.7	429.7#

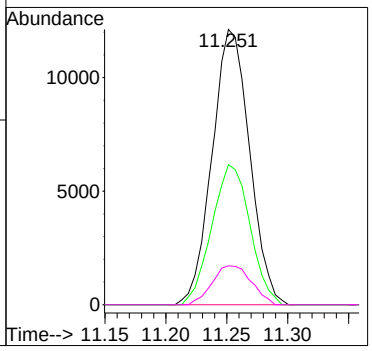


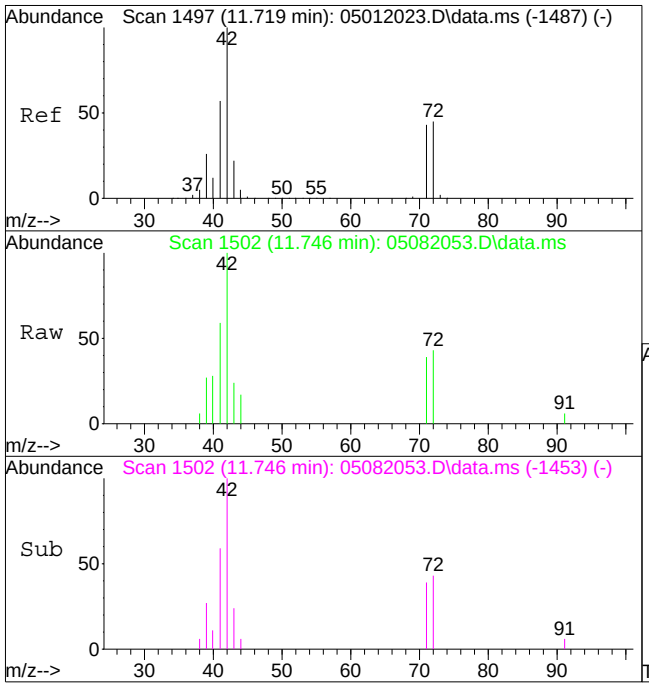


#31
n-Hexane
Concen: 0.45 ng
RT: 11.25 min Scan# 1412
Delta R.T. -0.011 min
Lab File: 05082053.D
Acq: 9 May 2020 8:53

Tgt Ion: 57 Resp: 25922

Ion	Ratio	Lower	Upper
57	100		
56	51.9	41.4	62.0
86	14.8	12.4	18.6

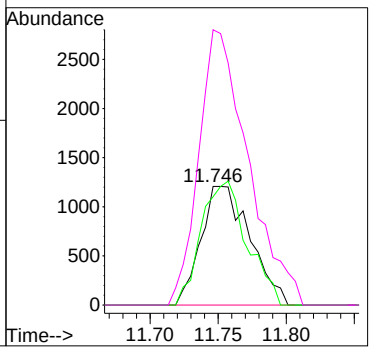


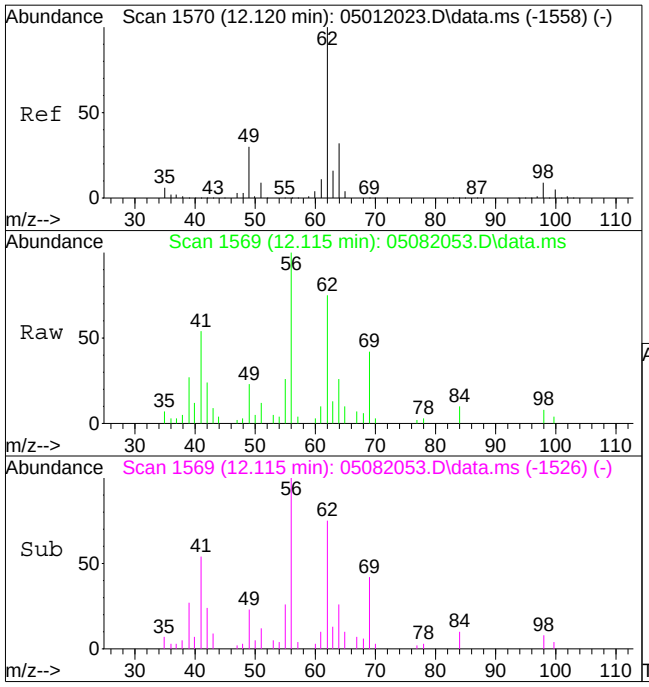


#34
Tetrahydrofuran (THF)
Concen: 0.13 ng
RT: 11.75 min Scan# 1502
Delta R.T. 0.022 min
Lab File: 05082053.D
Acq: 9 May 2020 8:53

Tgt Ion: 72 Resp: 3027

Ion	Ratio	Lower	Upper
72	100		
71	97.4	77.0	117.0
42	233.6	204.6	244.6

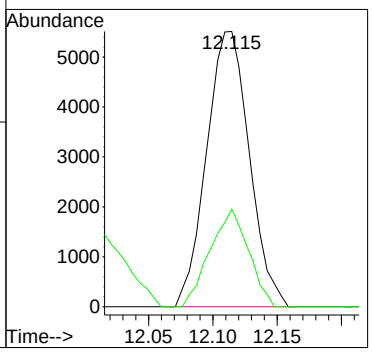


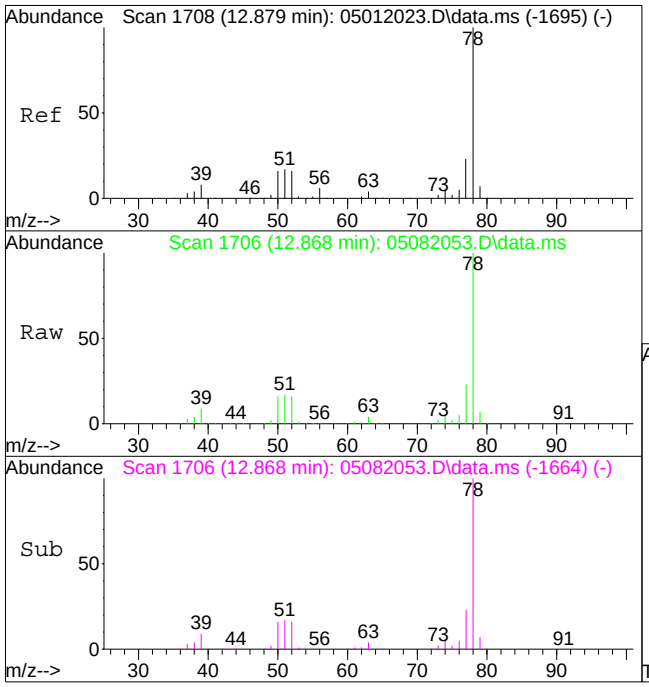


#36
1,2-Dichloroethane
Concen: 0.27 ng
RT: 12.11 min Scan# 1569
Delta R.T. -0.011 min
Lab File: 05082053.D
Acq: 9 May 2020 8:53

Tgt Ion: 62 Resp: 12758

Ion	Ratio	Lower	Upper
62	100		
64	31.8	12.4	52.4

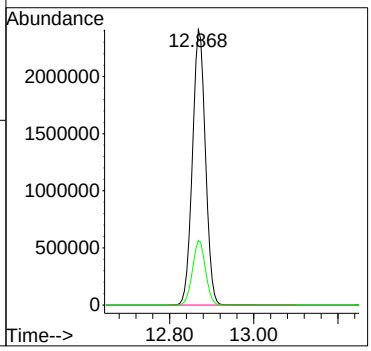


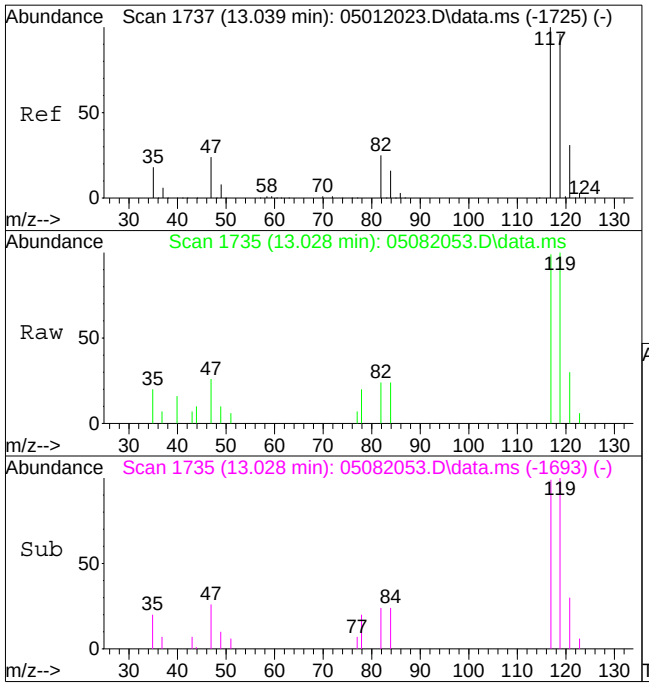


#41
Benzene
Concen: 37.05 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05082053.D
Acq: 9 May 2020 8:53

Tgt Ion: 78 Resp: 5160729

Ion	Ratio	Lower	Upper
78	100		
77	23.5	3.4	43.4

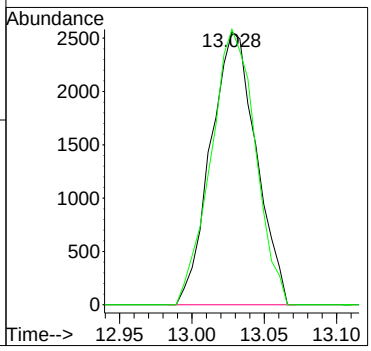


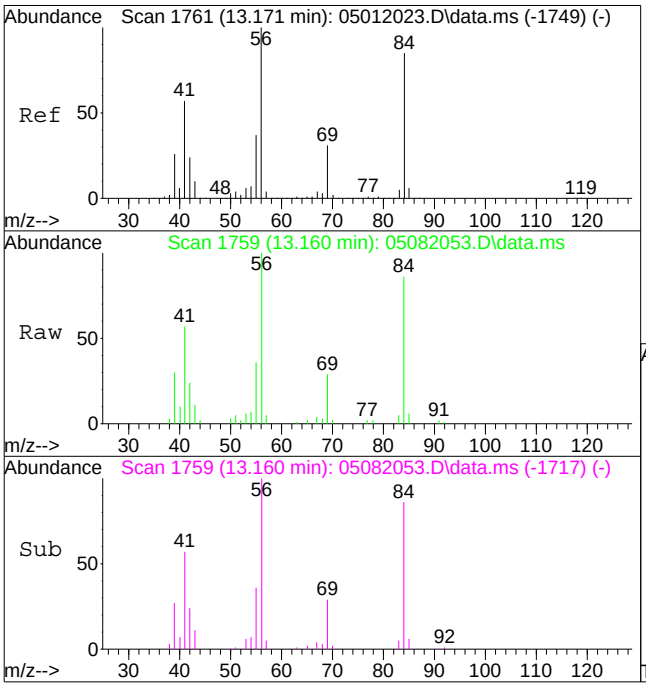


#42
Carbon Tetrachloride
Concen: 0.12 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05082053.D
Acq: 9 May 2020 8:53

Tgt Ion:117 Resp: 5612

Ion	Ratio	Lower	Upper
117	100		
119	98.3	76.2	116.2

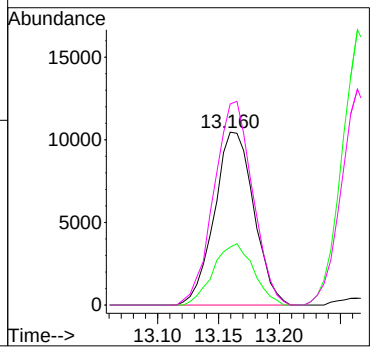


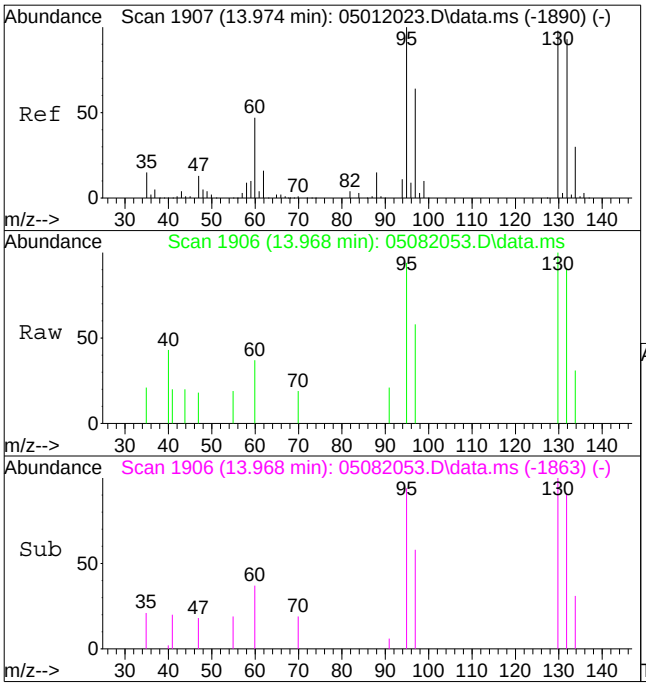


#43
Cyclohexane
Concen: 0.45 ng
RT: 13.16 min Scan# 1759
Delta R.T. -0.017 min
Lab File: 05082053.D
Acq: 9 May 2020 8:53

Tgt Ion: 84 Resp: 23579

Ion	Ratio	Lower	Upper
84	100		
69	36.1	16.5	56.5
56	115.6	97.4	137.4

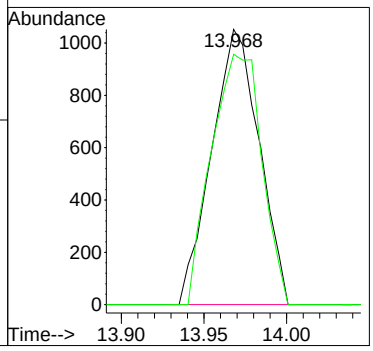


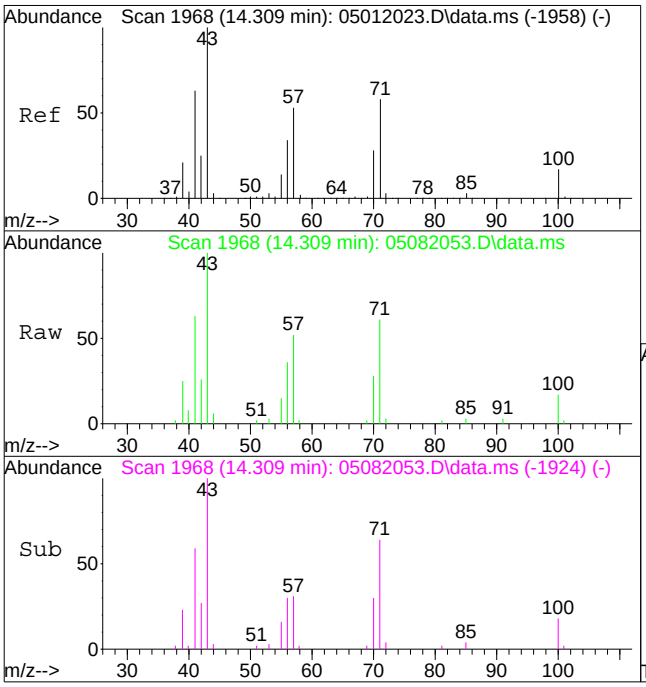


#47
Trichloroethene
Concen: 0.06 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05082053.D
Acq: 9 May 2020 8:53

Tgt Ion:130 Resp: 2105

Ion	Ratio	Lower	Upper
130	100		
132	96.4	74.9	114.9

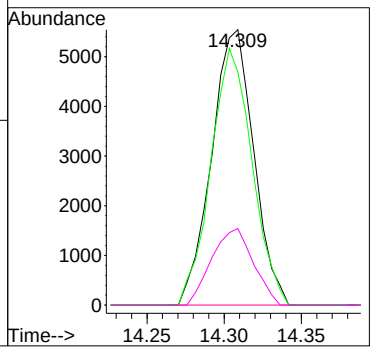


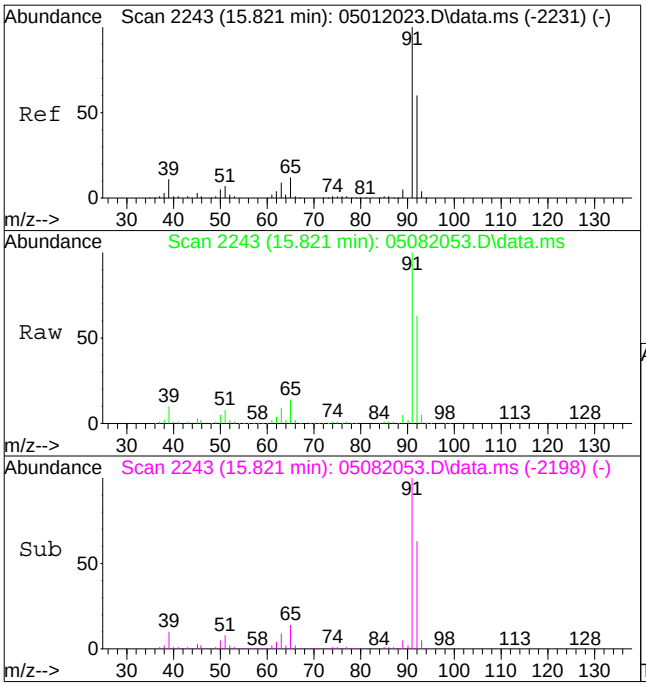


#51
n-Heptane
Concen: 0.32 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05082053.D
Acq: 9 May 2020 8:53

Tgt Ion: 71 Resp: 10524

Ion	Ratio	Lower	Upper
71	100		
57	91.3	71.0	111.0
100	27.4	8.4	48.4

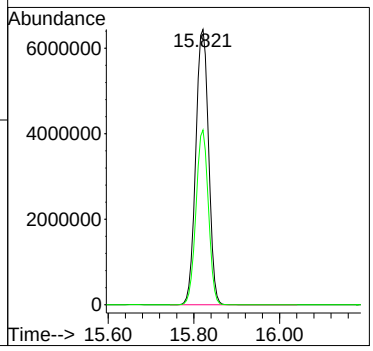


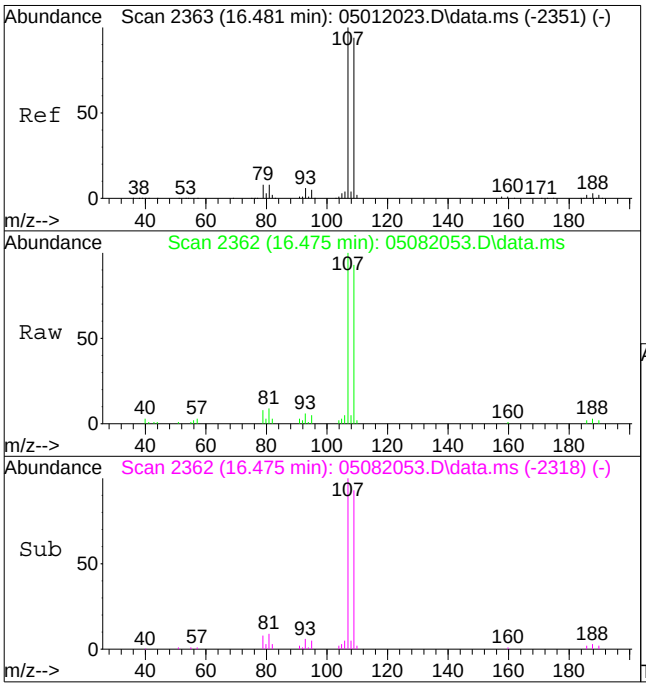


#58
Toluene
Concen: 104.23 ng
RT: 15.82 min Scan# 2243
Delta R.T. -0.000 min
Lab File: 05082053.D
Acq: 9 May 2020 8:53

Tgt Ion: 91 Resp:13389212

Ion	Ratio	Lower	Upper
91	100		
92	61.4	39.4	79.4

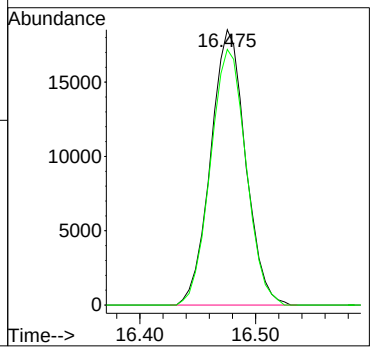


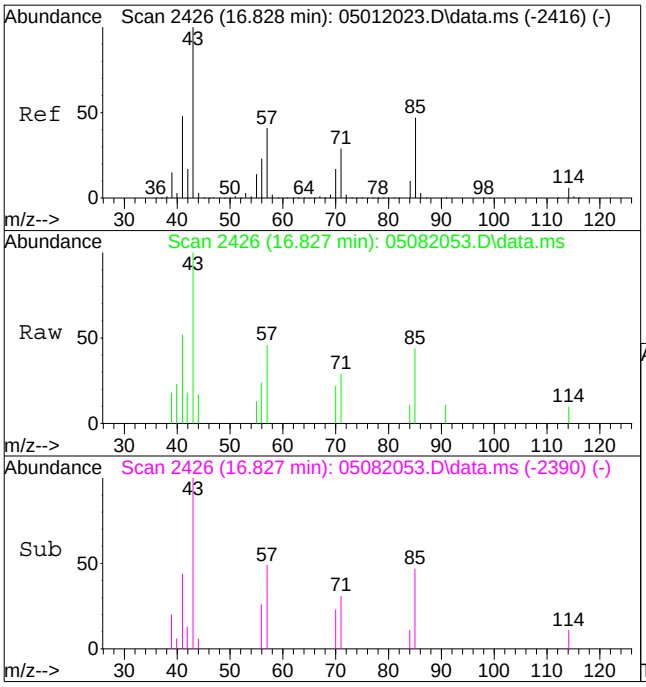


#61
1,2-Dibromoethane
Concen: 1.10 ng
RT: 16.48 min Scan# 2362
Delta R.T. -0.006 min
Lab File: 05082053.D
Acq: 9 May 2020 8:53

Tgt Ion:107 Resp: 38817

Ion	Ratio	Lower	Upper
107	100		
109	94.8	74.5	114.5

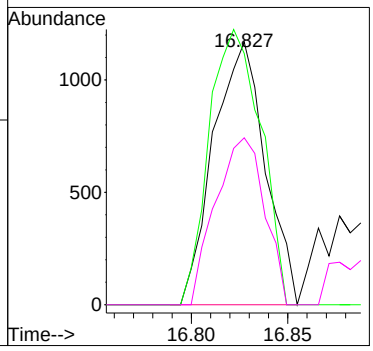


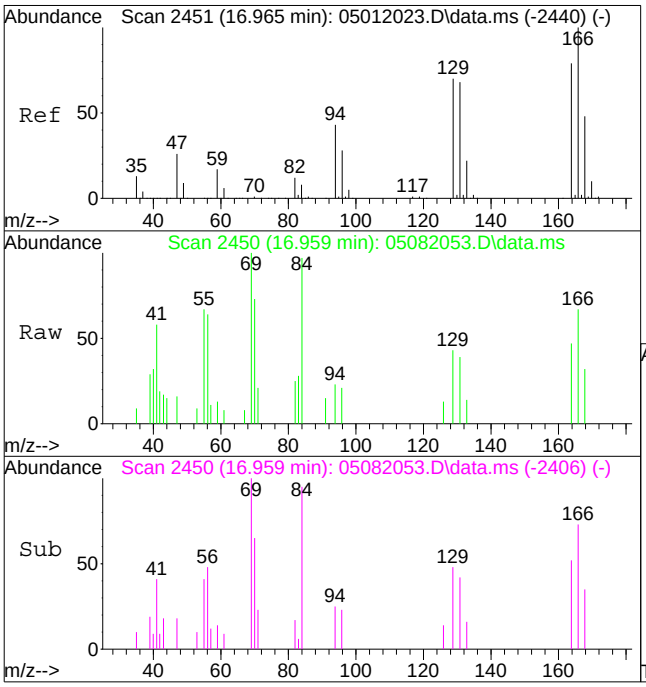


#63
n-Octane
Concen: 0.08 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05082053.D
Acq: 9 May 2020 8:53

Tgt Ion: 57 Resp: 2186

Ion	Ratio	Lower	Upper
57	100		
85	104.6	91.0	136.4
71	60.2	56.2	84.2

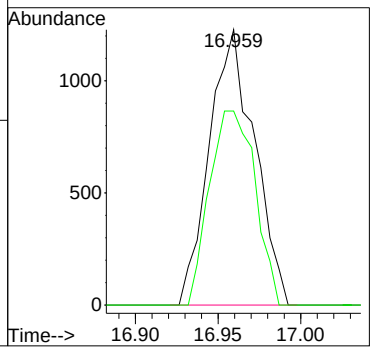


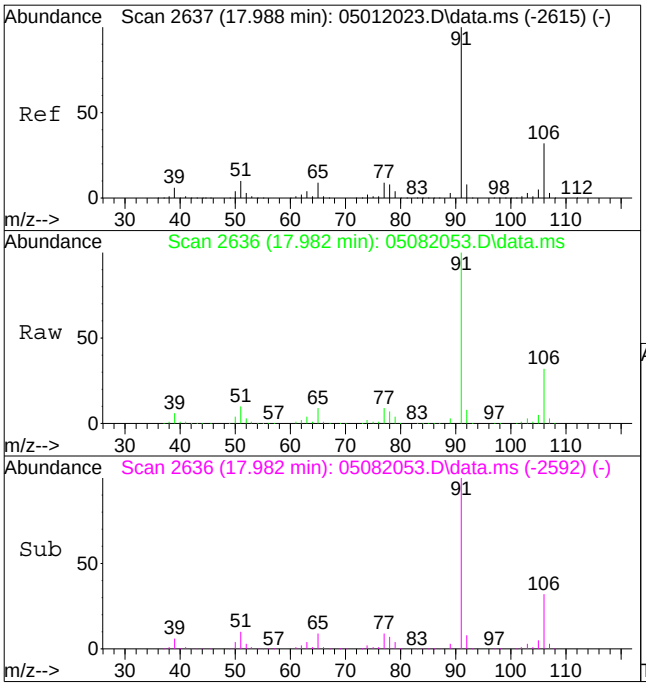


#64
Tetrachloroethene
Concen: 0.06 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05082053.D
Acq: 9 May 2020 8:53

Tgt Ion:166 Resp: 2329

Ion	Ratio	Lower	Upper
166	100		
164	71.3	58.4	98.4

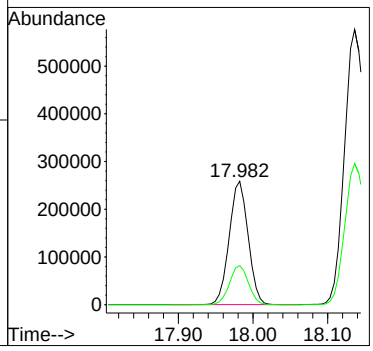


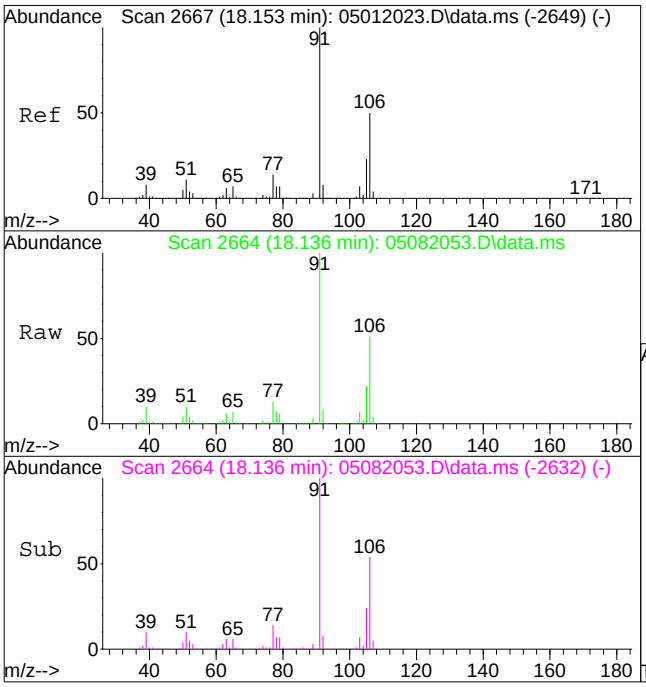


#66
Ethylbenzene
Concen: 3.18 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05082053.D
Acq: 9 May 2020 8:53

Tgt Ion: 91 Resp: 455535

Ion	Ratio	Lower	Upper
91	100		
106	31.8	11.6	51.6

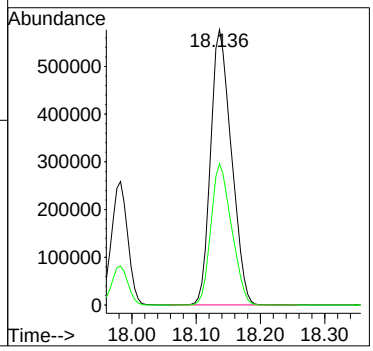


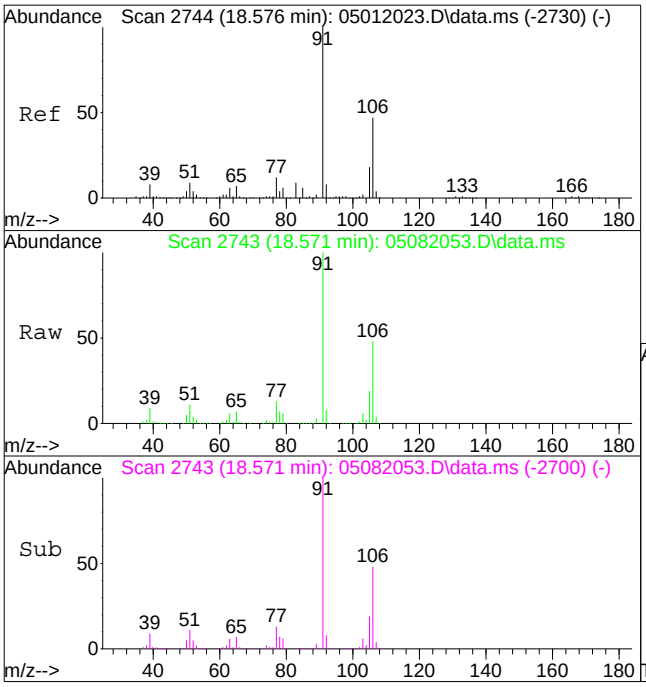


#67
m- & p-Xylenes
Concen: 11.40 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05082053.D
Acq: 9 May 2020 8:53

Tgt Ion: 91 Resp: 1295010

Ion	Ratio	Lower	Upper
91	100		
106	51.1	29.7	69.7

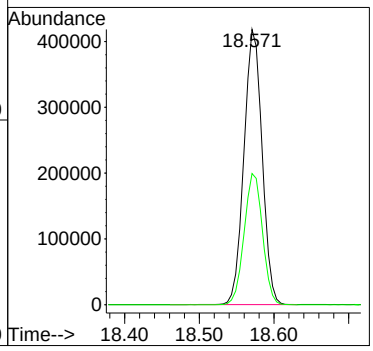


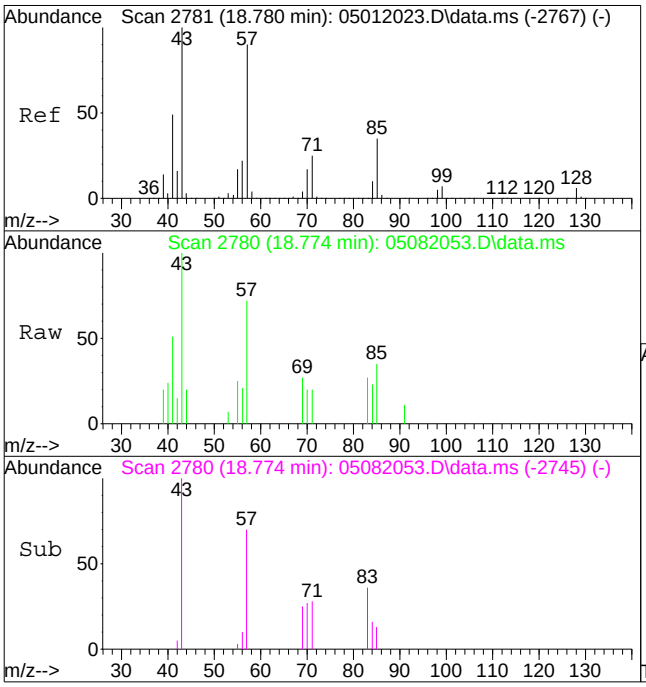


#70
o-Xylene
Concen: 6.12 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05082053.D
Acq: 9 May 2020 8:53

Tgt Ion: 91 Resp: 706400

Ion	Ratio	Lower	Upper
91	100		
106	48.2	27.5	67.5

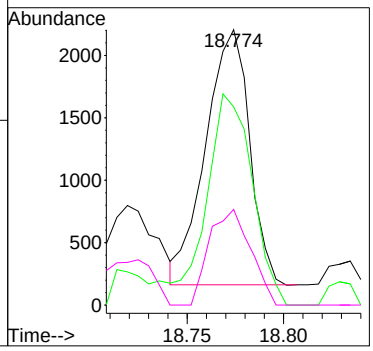


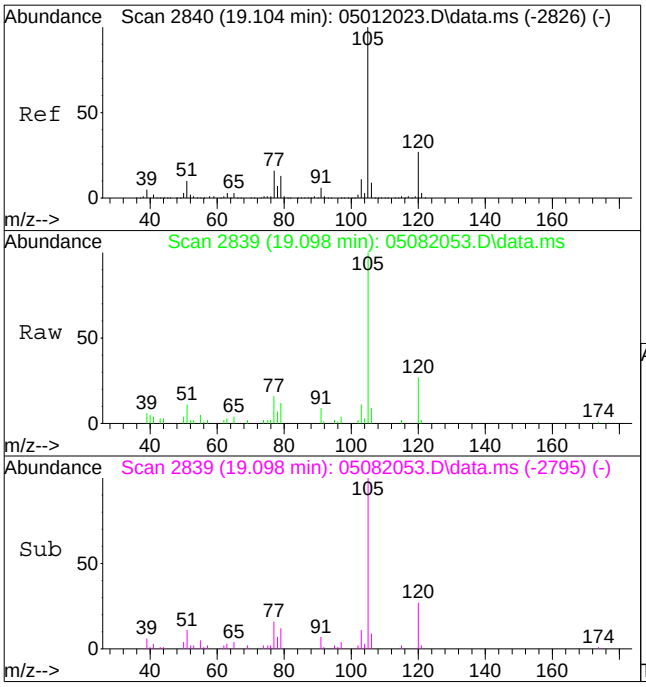


#71
n-Nonane
Concen: 0.05 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05082053.D
Acq: 9 May 2020 8:53

Tgt Ion: 43 Resp: 3231

Ion	Ratio	Lower	Upper
43	100		
57	85.4	69.0	109.0
85	35.4	14.6	54.6

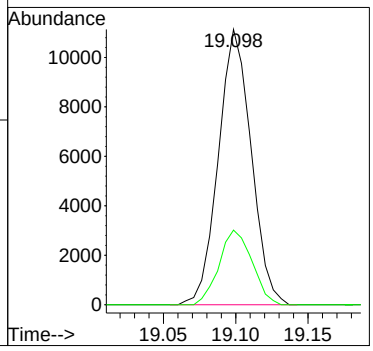


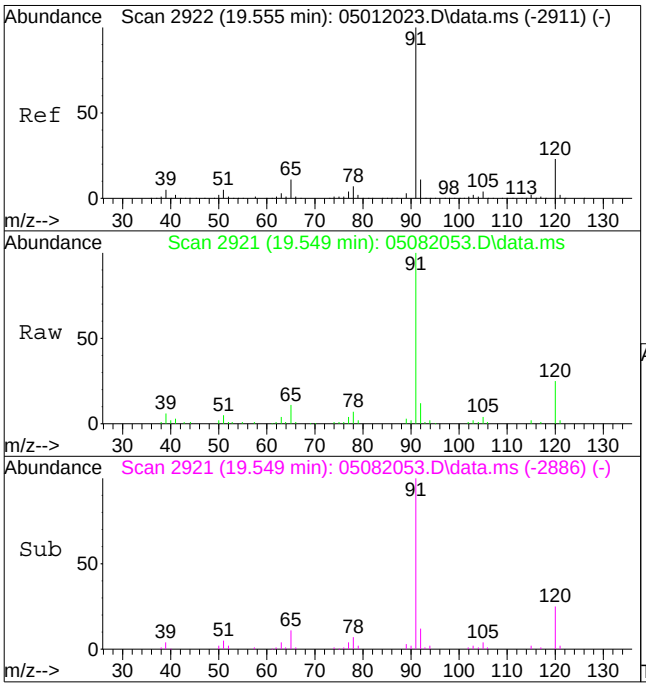


#74
Cumene
Concen: 0.12 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05082053.D
Acq: 9 May 2020 8:53

Tgt Ion:105 Resp: 17548

Ion	Ratio	Lower	Upper
105	100		
120	27.1	6.8	46.8

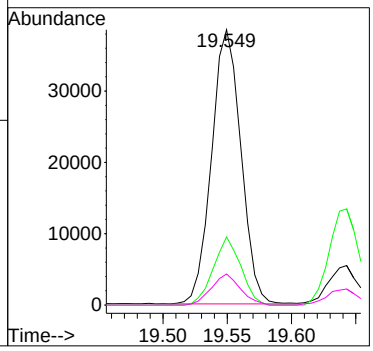


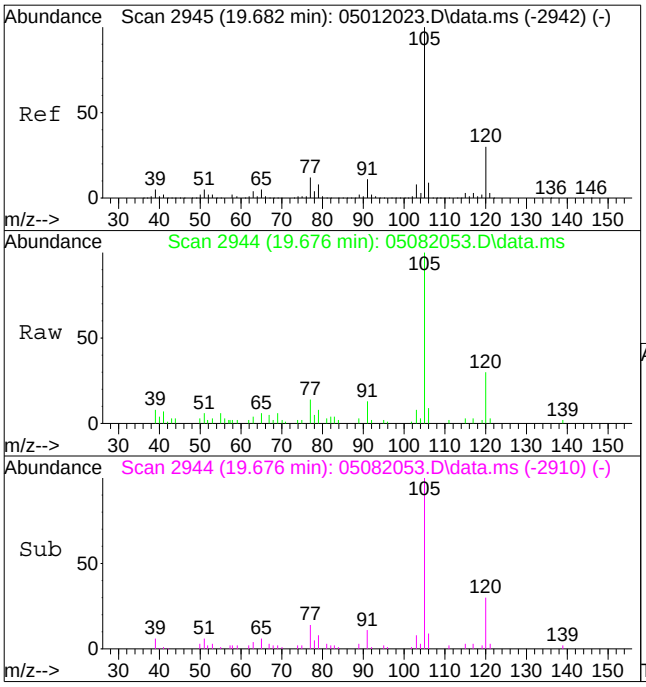


#76
n-Propylbenzene
Concen: 0.36 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05082053.D
Acq: 9 May 2020 8:53

Tgt Ion: 91 Resp: 61110

Ion	Ratio	Lower	Upper
91	100		
120	23.2	3.1	43.1
65	11.1	0.0	30.9

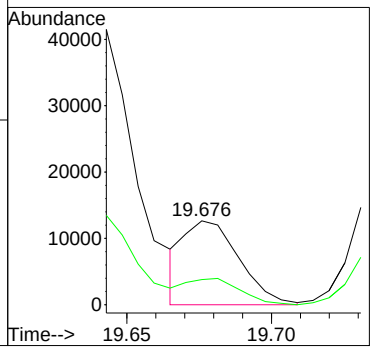


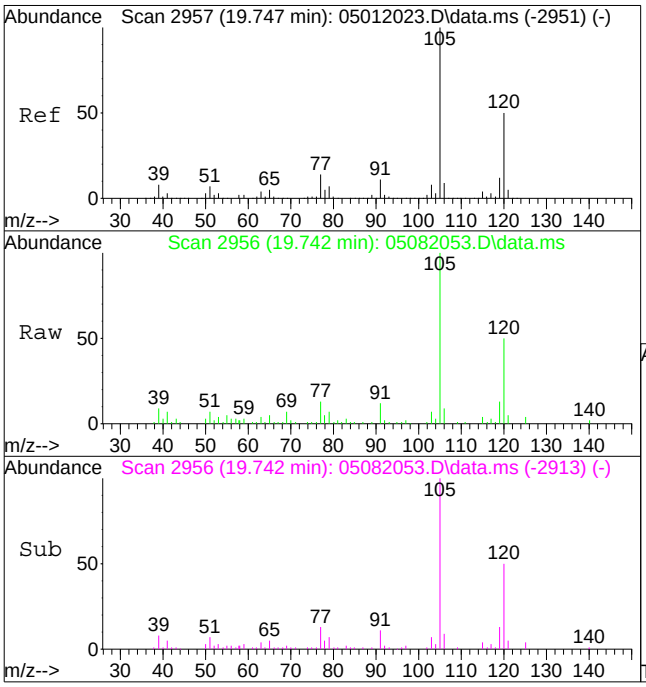


#78
4-Ethyltoluene
Concen: 0.13 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05082053.D
Acq: 9 May 2020 8:53

Tgt Ion:105 Resp: 16935

Ion	Ratio	Lower	Upper
105	100		
120	31.2	10.4	50.4

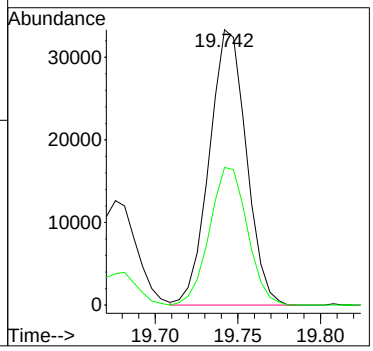


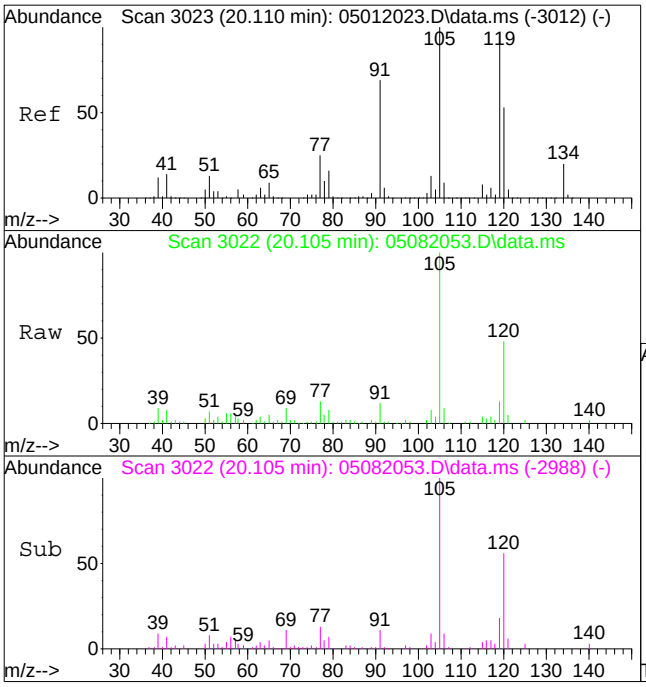


#79
1,3,5-Trimethylbenzene
Concen: 0.45 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05082053.D
Acq: 9 May 2020 8:53

Tgt Ion:105 Resp: 51855

Ion	Ratio	Lower	Upper
105	100		
120	51.1	29.9	69.9

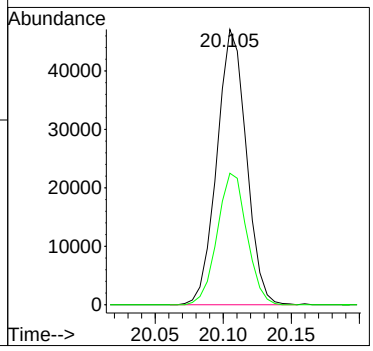




#82
1,2,4-Trimethylbenzene
Concen: 0.61 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05082053.D
Acq: 9 May 2020 8:53

Tgt Ion:105 Resp: 70716

Ion	Ratio	Lower	Upper
105	100		
120	48.1	33.6	73.6



Response Factor Report GCMS-16

Method Path : I:\MS16\METHODS\
Method File : R16050120.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri May 01 18:22:00 2020
Response Via : Initial Calibration

LH 5/1/20

Calibration Files
0.1 =05012018.D 0.2 =05012019.D 0.5 =05012020.D 1.0 =05012021.D 5.0 =05012022.D 25 =05012
100 =03112009.D

		Compound	0.1	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------			ISTD	----------					
2)	T	Propene	1.611	1.539	1.503	1.380	1.499	1.474	1.430	1.147	1.448	9.66
3)	T	Dichlorodifluo...	3.202	3.003	3.068	2.842	3.010	2.737	2.537	2.254	2.832	11.03
4)	T	Chloromethane	2.604	2.435	2.388	2.238	2.356	2.193	2.172	1.361	2.218	16.88
5)	T	1,2-Dichloro-1...	1.897	1.683	1.822	1.625	1.745	1.600	1.555	1.607	1.692	7.08
6)	T	Vinyl Chloride	2.717	2.540	2.556	2.389	2.585	2.348	2.256	2.069	2.433	8.56
7)	T	1,3-Butadiene	2.247	2.061	2.143	1.977	2.145	1.964	1.905	1.660	2.013	9.02
8)	T	Bromomethane	1.419	1.343	1.315	1.211	1.293	1.245	1.264	1.190	1.285	5.79
9)	T	Chloroethane	1.050	0.952	0.985	0.919	0.990	0.943	0.960	0.887	0.961	5.13
10)	T	Ethanol	1.410	1.184	1.009	0.940	1.092	1.112	1.151	1.046	1.118	12.66
11)	T	Acetonitrile	3.482	2.840	2.383	2.251	2.529	2.471	2.438	2.042	2.555	17.16
12)	T	Acrolein	1.059	0.868	0.880	0.829	0.918	0.879	0.863	0.770	0.883	9.44
13)	T	Acetone	1.252	1.110	1.062	0.988	1.109	1.131	1.179	1.113	1.118	6.92
14)	T	Trichlorofluor...	2.713	2.523	2.575	2.359	2.565	2.454	2.411	2.421	2.503	4.58
15)	T	2-Propanol (Is...	3.870	3.534	3.450	3.257	3.738	3.508	3.156	2.557	3.384	12.00
16)	T	Acrylonitrile	2.202	1.897	1.701	1.617	1.893	1.829	1.828	1.654	1.828	10.12
17)	T	1,1-Dichloroet...	1.408	1.288	1.314	1.236	1.342	1.312	1.299	1.297	1.312	3.73
18)	T	2-Methyl-2-Pro...	3.534	3.198	3.325	3.089	3.578	3.200	2.158		3.155	15.06
19)	T	Methylene Chlo...	1.693	1.502	1.403	1.354	1.469	1.431	1.419	1.356	1.453	7.53
20)	T	3-Chloro-1-pro...	2.223	1.929	1.964	1.905	2.142	2.028	2.036	1.746	1.997	7.37
21)	T	Trichlorotrifl...	1.264	1.065	1.154	1.097	1.218	1.201	1.208	1.246	1.182	5.97
22)	T	Carbon Disulfide	6.112	5.388	5.148	4.831	5.368	5.134	5.024	4.656	5.208	8.48
23)	T	trans-1,2-Dich...	2.284	2.004	1.981	1.860	2.050	1.980	1.964	1.858	1.998	6.70
24)	T	1,1-Dichloroet...	2.569	2.334	2.469	2.238	2.450	2.380	2.330	2.202	2.371	5.15
25)	T	Methyl tert-Bu...	4.195	3.994	4.129	3.762	3.968	3.534	3.241	3.018	3.730	11.49
26)	T	Vinyl Acetate			0.280	0.275	0.355	0.375	0.393	0.412	0.348	16.73
27)	T	2-Butanone (MEK)	1.010	0.938	0.937	0.883	1.007	0.953	0.956	0.944	0.953	4.27
28)	T	cis-1,2-Dichlo...	2.186	1.950	1.950	1.831	2.014	1.928	1.927	1.846	1.954	5.66
29)	T	Diisopropyl Ether	1.400	1.264	1.362	1.283	1.461	1.320	1.346	1.353	1.349	4.68
30)	T	Ethyl Acetate	0.528	0.515	0.507	0.480	0.567	0.596	0.638	0.567	0.550	9.48
31)	T	n-Hexane	2.506	2.242	2.328	2.176	2.400	2.485	2.588	2.351	2.385	5.82
32)	T	Chloroform	2.635	2.393	2.541	2.359	2.618	2.470	2.464	2.425	2.488	4.07
33)	S	1,2-Dichloroet...	1.759	1.788	1.757	1.756	1.704	1.635	1.616	1.538	1.694	5.22
34)	T	Tetrahydrofura...	1.068	0.962	0.909	0.857	0.954	0.901	0.903	0.885	0.930	7.02
35)	T	Ethyl tert-But...	1.603	1.564	1.583	1.487	1.688	1.661	1.680	1.772	1.630	5.43
36)	T	1,2-Dichloroet...	2.204	2.065	2.007	1.843	2.020	1.911	1.892	1.830	1.971	6.45
37)	IR	1,4-Difluorobenzen...	----------			ISTD	----------					
38)	T	1,1,1-Trichlor...	0.520	0.477	0.504	0.469	0.521	0.513	0.513	0.511	0.503	3.91
39)	T	Isopropyl Acetate	0.217	0.187	0.204	0.189	0.226	0.238	0.254	0.247	0.220	11.50
40)	T	1-Butanol	0.335	0.286	0.247	0.231	0.307	0.333	0.362	0.405	0.313	18.51
41)	T	Benzene	1.454	1.263	1.288	1.194	1.366	1.343	1.417	1.400	1.340	6.50
42)	T	Carbon Tetrach...	0.446	0.414	0.449	0.410	0.482	0.473	0.477	0.496	0.456	6.99
43)	T	Cyclohexane	0.491	0.450	0.481	0.443	0.512	0.523	0.544	0.553	0.500	8.14
44)	T	tert-Amyl Meth...	0.895	0.829	0.881	0.824	0.950	0.934	0.955	0.923	0.899	5.70
45)	T	1,2-Dichloropr...	0.322	0.296	0.311	0.288	0.327	0.317	0.320	0.303	0.310	4.42
46)	T	Bromodichlorom...	0.443	0.421	0.437	0.406	0.477	0.479	0.482	0.480	0.453	6.69
47)	T	Trichloroethene	0.348	0.318	0.331	0.303	0.355	0.355	0.366	0.396	0.346	8.37
48)	T	1,4-Dioxane	0.278	0.250	0.253	0.238	0.274	0.278	0.286	0.303	0.270	7.97
49)	T	2,2,4-Trimethy...	1.365	1.266	1.317	1.213	1.370	1.328	1.346	1.231	1.304	4.63
50)	T	Methyl Methacr...	0.126	0.113	0.118	0.116	0.138	0.143	0.149	0.161	0.133	13.21
51)	T	n-Heptane	0.325	0.297	0.306	0.286	0.318	0.310	0.324	0.342	0.313	5.60
52)	T	cis-1,3-Dichlo...	0.535	0.486	0.494	0.468	0.562	0.566	0.581	0.572	0.533	8.30
53)	T	4-Methyl-2-pen...	0.303	0.265	0.287	0.274	0.310	0.311	0.319	0.318	0.299	7.10
54)	T	trans-1,3-Dich...	0.418	0.389	0.410	0.399	0.496	0.508	0.521	0.506	0.456	12.35

55)	T	1,1,2-Trichlor...	0.300	0.292	0.301	0.279	0.324	0.321	0.324	0.323	0.308	5.60
56)	IR	Chlorobenzene-d5 (...	----------ISTD----------									
57)	S	Toluene-d8 (SS2)	2.112	2.125	2.110	2.107	2.097	2.123	2.090	2.186	2.119	1.40
58)	T	Toluene	3.003	2.567	2.666	2.473	2.815	2.802	2.780	2.744	2.731	5.97
59)	T	2-Hexanone	1.547	1.361	1.410	1.339	1.614	1.583	1.602	1.515	1.497	7.42
60)	T	Dibromochlorom...	0.735	0.677	0.704	0.667	0.834	0.868	0.864	0.909	0.782	12.37
61)	T	1,2-Dibromoethane	0.757	0.686	0.705	0.663	0.792	0.804	0.797	0.809	0.752	7.82
62)	T	n-Butyl Acetate	1.611	1.401	1.545	1.456	1.756	1.742	1.751	1.671	1.616	8.55
63)	T	n-Octane	0.572	0.504	0.542	0.504	0.578	0.591	0.613	0.620	0.565	7.95
64)	T	Tetrachloroethene	0.764	0.679	0.700	0.653	0.778	0.829	0.838	0.931	0.771	12.10
65)	T	Chlorobenzene	1.873	1.701	1.737	1.609	1.870	1.882	2.340	2.020	1.879	12.02
66)	T	Ethylbenzene	3.030	2.763	2.965	2.768	3.264	3.313	3.301	2.958	3.045	7.41
67)	T	m- & p-Xylenes	2.416	2.101	2.285	2.203	2.562	2.656	2.741	2.363	2.416	9.24
68)	T	Bromoform			0.523	0.502	0.708	0.751	0.755	0.828	0.678	19.74
69)	T	Styrene	1.554	1.405	1.689	1.594	2.029	2.068	2.060	2.138	1.817	15.77
70)	T	o-Xylene	2.442	2.173	2.312	2.170	2.597	2.662	2.680	2.586	2.453	8.61
71)	T	n-Nonane	1.287	1.140	1.243	1.181	1.387	1.412	1.455	1.306	1.301	8.60
72)	T	1,1,2,2-Tetrac...	1.206	1.074	1.114	1.057	1.298	1.323	1.337	1.325	1.217	9.86
73)	S	Bromofluoroben...	0.715	0.714	0.725	0.724	0.787	0.802	0.783	0.849	0.762	6.56
74)	T	Cumene	3.035	2.729	2.906	2.711	3.284	3.320	3.265	2.830	3.010	8.41
75)	T	alpha-Pinene	1.511	1.362	1.446	1.393	1.701	1.785	1.795	1.856	1.606	12.43
76)	T	n-Propylbenzene	3.631	3.223	3.513	3.346	3.994	4.033	3.904	2.964	3.576	10.84
77)	T	3-Ethyltoluene	2.929	2.407	2.714	2.579	3.163	3.387	3.232	2.897	2.913	11.58
78)	T	4-Ethyltoluene	2.513	2.455	2.758	2.630	3.275	3.167	3.181	2.637	2.827	11.64
79)	T	1,3,5-Trimethy...	2.364	2.022	2.272	2.212	2.706	2.770	2.730	2.561	2.455	11.29
80)	T	alpha-Methylst...			1.138	1.116	1.443	1.485	1.469	1.649	1.384	15.29
81)	T	2-Ethyltoluene	2.821	2.480	2.756	2.582	3.185	3.223	3.148	2.796	2.874	9.82
82)	T	1,2,4-Trimethy...	2.215	1.944	2.255	2.185	2.813	3.050	2.878	2.397	2.467	16.03
83)	T	n-Decane			1.125	1.102	1.410	1.517	1.611	1.515	1.380	15.65
84)	T	Benzyl Chloride				1.519	2.279	2.600	2.687	2.413	2.300	20.21
85)	T	1,3-Dichlorobe...	1.252	1.034	1.264	1.221	1.626	1.660	1.639	1.766	1.433	18.79
86)	T	1,4-Dichlorobe...	1.206	1.004	1.283	1.196	1.601	1.620	1.581	1.693	1.398	18.29
87)	T	sec-Butylbenzene	3.179	2.829	3.093	2.947	3.632	3.636	3.486	2.818	3.203	10.67
88)	T	4-Isopropyltol...			2.761	2.656	3.414	3.547	3.227	2.590	3.033	13.68
89)	T	1,2,3-Trimethy...			2.234	2.175	2.830	3.061	2.870	2.323	2.582	14.77
90)	T	1,2-Dichlorobe...	1.199	1.054	1.223	1.173	1.569	1.646	1.594	1.513	1.372	16.90
91)	T	d-Limonene	0.811	0.750	0.867	0.867	1.070	1.169	1.205	1.057	0.974	17.65
92)	T	1,2-Dibromo-3-...			0.388	0.391	0.568	0.581	0.581	0.595	0.517	19.22
93)	T	n-Undecane			0.906	0.866	1.357	1.474	1.565	1.496	1.277	24.32
94)	T	1,2,4-Trichlor...			0.655	0.635	1.013	1.144	1.183	1.078	0.951	25.70
95)	T	Naphthalene			2.173	2.044	3.472	3.864	3.717	2.796	3.011	26.24
96)	T	n-Dodecane			0.500	0.482	1.251	1.474	1.554	1.375	1.106	44.05
97)	T	Hexachlorobuta...			0.463	0.446	0.622	0.725	0.766	0.927	0.658	28.24
98)	T	Cyclohexanone	1.048	0.943	0.832	0.804	0.983	0.979	0.980	1.079	0.956	10.00
99)	T	tert-Butylbenzene	2.363	2.071	2.240	2.164	2.722	2.855	2.658	2.351	2.428	11.70
100)	T	n-Butylbenzene	2.187	1.921	2.417	2.334	2.916	2.966	2.883	2.471	2.512	15.09

(#) = Out of Range

R16050120.M Fri May 01 18:44:38 2020

Primary Source Standards Concentrations (Working & Initial Calibration)

LH 5/1/20

1ng/L Std. ID:
4ng/L Std. ID: S34-04272015
20ng/L Std. ID: S34-05012002
40ng/L Std. ID:
200ng/L Std. ID: S31-04292003
1000ng/L Std. ID:

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	200	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.0250	0.050	0.025	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
Propene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Dichlorodifluoromethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Chloromethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Freon-114	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Vinyl Chloride	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3-Butadiene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Bromomethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Chloroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Ethanol	5.21	5210	1042	208.4	104.2	20.84	5.21		0.521	1.042	2.605	5.21	26.05	130.25	260.5	521
Acetonitrile	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Acrolein	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Acetone	5.33	5330	1066	213.2	106.6	21.32	5.33		0.533	1.066	2.665	5.33	26.65	133.25	266.5	533
Trichlorofluoromethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Isopropanol	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
Acrylonitrile	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,1-Dichloroethene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
tert-Butanol	2.16	2160	432	86.4	43.2	8.64	2.16		0.216	0.432	1.080	2.16	10.80	54.00	108.0	216
Methylene Chloride	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Allyl Chloride	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Dichlorotrifluoroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Carbon Disulfide	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
trans-1,2-Dichloroethene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1-Dichloroethane	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
Methyl tert-Butyl Ether	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Vinyl Acetate	5.35	5350	1070	214.0	107.0	21.40	5.35		0.535	1.070	2.675	5.35	26.75	133.75	267.5	535
2-Butanone	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
cis-1,2-Dichloroethene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Diisopropyl Ether	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Ethyl Acetate	2.17	2170	434	86.8	43.4	8.68	2.17		0.217	0.434	1.085	2.17	10.85	54.25	108.5	217
n-Hexane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Chloroform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Tetrahydrofuran	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
Ethyl tert-Butyl Ether	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dichloroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1,1-Trichloroethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Isopropyl Acetate	2.11	2110	422	84.4	42.2	8.44	2.11		0.211	0.422	1.055	2.11	10.55	52.75	105.5	211
1-Butanol	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
Benzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Carbon Tetrachloride	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Cyclohexane	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
tert-Amyl Methyl Ether	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dichloropropane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Bromodichloromethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Trichloroethene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,4-Dioxane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Isooctane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Methyl Methacrylate	2.15	2150	430	86.0	43.0	8.60	2.15		0.215	0.430	1.075	2.15	10.75	53.75	107.5	215
n-Heptane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108

Q:\TO15 Std. Concentrations\MS16 Std. Conc\2020\R16050120\ICAL Conc. (Primary Source)

Date Updated: 04/22/20
Version: 3

LH 5/1/20

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID:
4ng/L Std. ID: S34-04272015
20ng/L Std. ID: S34-05012002
40ng/L Std. ID:
200ng/L Std. ID: S31-04292003
1000ng/L Std. ID:

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	200	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.0250	0.050	0.025	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
cis-1,3-Dichloropropene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
4-Methyl-2-pentanone	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
trans-1,3-Dichloropropene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1,2-Trichloroethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Toluene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
2-Hexanone	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Dibromochloromethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,2-Dibromoethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Butyl Acetate	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
n-Octane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Tetrachloroethene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Chlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Ethylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
m-&p-Xylene	2.14	2140	428	85.6	42.8	8.56	2.14		0.214	0.428	1.070	2.14	10.70	53.50	107.0	214
Bromoform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Styrene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
o-Xylene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Nonane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,1,2,2-Tetrachloroethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Cumene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
alpha-Pinene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Propylbenzene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
3-Ethyltoluene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
4-Ethyltoluene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3,5-Trimethylbenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
alpha-Methylstyrene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
2-Ethyltoluene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2,4-Trimethylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Decane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Benzyl Chloride	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3-Dichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,4-Dichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
sec-Butylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
p-Isopropyltoluene	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
1,2,3-Trimethylbenzene	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
1,2-Dichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
d-Limonene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dibromo-3-chloropropane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
n-Undecane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2,4-Trichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Naphthalene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
n-Dodecane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Hexachloro-1,3-butadiene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Methacrylonitrile	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Cyclohexanone	1.00	1000	200	40.0	20.0	4.00	1.00		0.100	0.200	0.500	1.00	5.00	25.00	50.0	100
tert-Butylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Butylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107

Q:\TO15 Std. Concentrations\MS16 Std. Conc\2020\R16050120\ICAL Conc. (Primary Source)

Calibration Status Report GCMS-16

Method : I:\MS16\METHODS\R16050120.M (RTE Integrator)
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	0.1	0	13	I:\MS16\DATA\2020_05\01\05012018.D
2	0.2	0	13	I:\MS16\DATA\2020_05\01\05012019.D
3	0.5	1	13	I:\MS16\DATA\2020_05\01\05012020.D
4	1.0	1	13	I:\MS16\DATA\2020_05\01\05012021.D
5	5.0	5	13	I:\MS16\DATA\2020_05\01\05012022.D
6	25	27	13	I:\MS16\DATA\2020_05\01\05012023.D
7	50	53	13	I:\MS16\DATA\2020_05\01\05012024.D
8	100	106	13	I:\MS16\DATA\2020_03\11\03112009.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.1	May 01 17:28 2020	May 01 17:26 2020	1 May 2020 14:09
2	0.2	May 01 17:28 2020	May 01 17:26 2020	1 May 2020 14:42
3	0.5	May 01 17:28 2020	May 01 17:26 2020	1 May 2020 15:16
4	1.0	May 01 17:29 2020	May 01 17:26 2020	1 May 2020 15:51
5	5.0	May 01 17:29 2020	May 01 17:26 2020	1 May 2020 16:25
6	25	May 01 17:29 2020	May 01 17:26 2020	1 May 2020 16:59
7	50	May 01 18:22 2020	May 01 18:21 2020	1 May 2020 17:33
8	100	May 01 17:01 2020	Mar 11 10:34 2020	11 Mar 2020 4:52

R16050120.M Fri May 01 18:52:03 2020

LH 5/1/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012018.D Vial: 6
Acq On : 1 May 2020 14:09 Operator: LH
Sample : 0.1ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04272015 (5/26)

Quant Time: May 01 17:26:08 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	289278	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1281029	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	612084	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	508980	12.744	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.92%				
57) Toluene-d8 (SS2)	15.72	98	1292505	11.971	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.76%				
73) Bromofluorobenzene (SS3)	18.98	174	437866	11.415	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.28%				
Target Compounds							Qvalue
2) Propene	4.13	42	3951	0.128	ng		96
3) Dichlorodifluoromethan...	4.28	85	7854	0.120	ng		99
4) Chloromethane	4.55	50	6389	0.124	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.83	135	4609	0.112	ng		98
6) Vinyl Chloride	4.97	62	6791	0.124	ng		98
7) 1,3-Butadiene	5.24	54	5512	0.135	ng		93
8) Bromomethane	5.66	94	3547	0.129	ng		100
9) Chloroethane	5.99	64	2625	0.124	ng		97
10) Ethanol	6.32	45	16999	0.700	ng		96
11) Acetonitrile	6.59	41	8460	0.157	ng		84
12) Acrolein	6.79	56	2525	0.141	ng		97
13) Acetone	7.01	58	15440	0.650	ng	#	85
14) Trichlorofluoromethane	7.25	101	6656	0.116	ng		97
15) 2-Propanol (Isopropanol)	7.50	45	18806	0.266	ng		91
16) Acrylonitrile	7.74	53	5351	0.149	ng		99
17) 1,1-Dichloroethene	8.21	96	3518	0.123	ng		97
18) 2-Methyl-2-Propanol (t...	8.40	59	17666	0.282	ng		93
19) Methylene Chloride	8.40	84	4154	0.134	ng		94
20) 3-Chloro-1-propene (Al...	8.58	41	5555	0.137	ng		88
21) Trichlorotrifluoroethane	8.84	151	3158	0.114	ng		96
22) Carbon Disulfide	8.69	76	15135	0.136	ng		97
23) trans-1,2-Dichloroethene	9.68	61	5709	0.137	ng		99
24) 1,1-Dichloroethane	9.93	63	6480	0.122	ng		98
25) Methyl tert-Butyl Ether	10.09	73	10484	0.124	ng		100
26) Vinyl Acetate	10.21	86	3501	0.438	ng	#	69
27) 2-Butanone (MEK)	10.48	72	2477	0.126	ng	#	74
28) cis-1,2-Dichloroethene	10.95	61	5362	0.125	ng		95
29) Diisopropyl Ether	11.29	87	3500	0.113	ng	#	86
30) Ethyl Acetate	11.28	61	2653	0.229	ng		98
31) n-Hexane	11.26	57	6264	0.117	ng		97
32) Chloroform	11.30	83	6525	0.114	ng		100
34) Tetrahydrofuran (THF)	11.75	72	2693	0.133	ng		91
35) Ethyl tert-Butyl Ether	11.87	87	4007	0.109	ng		93
36) 1,2-Dichloroethane	12.11	62	5509	0.123	ng		98
38) 1,1,1-Trichloroethane	12.39	97	5705	0.113	ng		98
39) Isopropyl Acetate	12.84	61	4697	0.226	ng	#	91
40) 1-Butanol	12.85	56	7144	0.220	ng		93
41) Benzene	12.87	78	15792	0.120	ng		98
42) Carbon Tetrachloride	13.03	117	4803	0.106	ng		98
43) Cyclohexane	13.17	84	10671	0.211	ng		98
44) tert-Amyl Methyl Ether	13.53	73	9904	0.115	ng		97
45) 1,2-Dichloropropane	13.72	63	3569	0.117	ng		99
46) Bromodichloromethane	13.91	83	4900	0.109	ng		98
47) Trichloroethene	13.96	130	3818	0.102	ng		96
48) 1,4-Dioxane	13.96	88	3076	0.120	ng		99
49) 2,2,4-Trimethylpentane...	14.05	57	14967	0.118	ng		97
50) Methyl Methacrylate	14.18	100	2774	0.218	ng		96

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012018.D Vial: 6
Acq On : 1 May 2020 14:09 Operator: LH
Sample : 0.1ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04272015 (5/26)

Quant Time: May 01 17:26:08 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

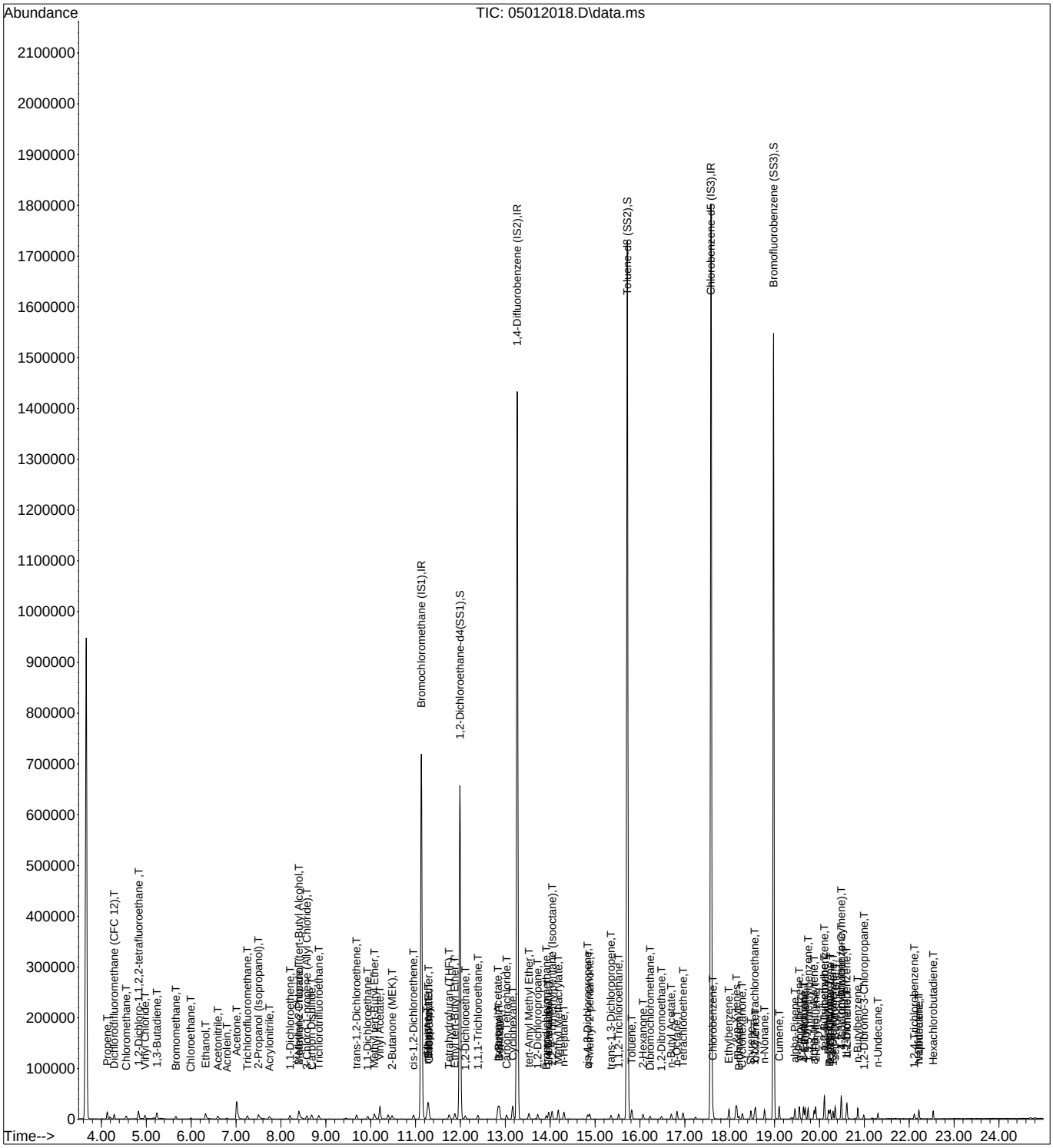
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.30	71	3595	0.117	ng		97
52) cis-1,3-Dichloropropene	14.83	75	5704	0.116	ng		96
53) 4-Methyl-2-pentanone	14.88	58	3296	0.119	ng		93
54) trans-1,3-Dichloropropene	15.35	75	4544	0.099	ng		98
55) 1,1,2-Trichloroethane	15.52	97	3290	0.107	ng		92
58) Toluene	15.82	91	15732	0.118	ng		98
59) 2-Hexanone	16.07	43	8108	0.120	ng		95
60) Dibromochloromethane	16.23	129	3850	0.107	ng		98
61) 1,2-Dibromoethane	16.48	107	3967	0.115	ng		99
62) n-Butyl Acetate	16.70	43	8599	0.119	ng		100
63) n-Octane	16.82	57	3026	0.113	ng		95
64) Tetrachloroethene	16.96	166	3889	0.104	ng		96
65) Chlorobenzene	17.62	112	9815	0.109	ng		97
66) Ethylbenzene	17.98	91	15876	0.108	ng		99
67) m- & p-Xylenes	18.15	91	25313	0.213	ng		97
68) Bromoform	18.21	173	2794	0.087	ng		97
69) Styrene	18.47	104	8068	0.087	ng		98
70) o-Xylene	18.58	91	12796	0.107	ng		97
71) n-Nonane	18.77	43	6742	0.112	ng		94
72) 1,1,2,2-Tetrachloroethane	18.55	83	6321	0.110	ng		99
74) Cumene	19.10	105	16051	0.107	ng		99
75) alpha-Pinene	19.45	93	7915	0.104	ng		98
76) n-Propylbenzene	19.55	91	19200	0.109	ng		96
77) 3-Ethyltoluene	19.64	105	15205	0.102	ng		95
78) 4-Ethyltoluene	19.68	105	13291	0.094	ng		97
79) 1,3,5-Trimethylbenzene	19.75	105	12270	0.097	ng		98
80) alpha-Methylstyrene	19.88	118	5286	0.077	ng		90
81) 2-Ethyltoluene	19.92	105	14918	0.102	ng		98
82) 1,2,4-Trimethylbenzene	20.11	105	11607	0.089	ng		98
83) n-Decane	20.20	57	5622	0.088	ng		96
84) Benzyl Chloride	20.23	91	6198	0.059	ng		94
85) 1,3-Dichlorobenzene	20.24	146	6559	0.093	ng		97
86) 1,4-Dichlorobenzene	20.30	146	6317	0.090	ng		95
87) sec-Butylbenzene	20.35	105	16656	0.102	ng		97
88) 4-Isopropyltoluene (p-...	20.48	119	14335	0.094	ng		98
89) 1,2,3-Trimethylbenzene	20.48	105	11912	0.091	ng		98
90) 1,2-Dichlorobenzene	20.61	146	6284	0.088	ng		97
91) d-Limonene	20.61	68	4287	0.084	ng		100
92) 1,2-Dibromo-3-Chloropr...	20.99	157	1904	0.078	ng	#	68
93) n-Undecane	21.30	57	3299	0.050	ng		96
94) 1,2,4-Trichlorobenzene	22.11	180	2902	0.065	ng		95
95) Naphthalene	22.22	128	9207	0.061	ng		99
96) n-Dodecane	22.22	57	1759	0.027	ng		84
97) Hexachlorobutadiene	22.54	225	2672	0.079	ng		98
98) Cyclohexanone	18.28	55	5130	0.112	ng		96
99) tert-Butylbenzene	20.11	119	12381	0.098	ng		100
100) n-Butylbenzene	20.85	91	11459	0.087	ng		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012018.D Vial: 6
Acq On : 1 May 2020 14:09 Operator: LH
Sample : 0.1ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04272015 (5/26)

Quant Time: May 01 17:26:08 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012019.D Vial: 6
Acq On : 1 May 2020 14:42 Operator: LH
Sample : 0.2ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04272015 (5/26)

Quant Time: May 01 17:26:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	281203	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1265644	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	605249	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	502682	12.948	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.60%				
57) Toluene-d8 (SS2)	15.72	98	1286177	12.047	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.40%				
73) Bromofluorobenzene (SS3)	18.98	174	432138	11.393	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.12%				
Target Compounds							Qvalue
2) Propene	4.12	42	7340	0.244	ng		98
3) Dichlorodifluoromethan...	4.28	85	14321	0.225	ng		98
4) Chloromethane	4.54	50	11611	0.231	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	7949	0.198	ng		100
6) Vinyl Chloride	4.97	62	12344	0.232	ng		98
7) 1,3-Butadiene	5.22	54	9830	0.247	ng		96
8) Bromomethane	5.65	94	6528	0.244	ng		95
9) Chloroethane	5.98	64	4628	0.226	ng		98
10) Ethanol	6.31	45	27749	1.175	ng		96
11) Acetonitrile	6.59	41	13417	0.257	ng		87
12) Acrolein	6.79	56	4024	0.232	ng		98
13) Acetone	7.01	58	26616	1.152	ng		88
14) Trichlorofluoromethane	7.25	101	12031	0.215	ng		96
15) 2-Propanol (Isopropanol)	7.48	45	33389	0.485	ng		93
16) Acrylonitrile	7.74	53	8962	0.257	ng		98
17) 1,1-Dichloroethene	8.20	96	6259	0.225	ng		97
18) 2-Methyl-2-Propanol (t...	8.39	59	31078	0.511	ng		95
19) Methylene Chloride	8.40	84	7162	0.238	ng		95
20) 3-Chloro-1-propene (Al...	8.57	41	9375	0.238	ng		97
21) Trichlorotrifluoroethane	8.85	151	5174	0.193	ng		91
22) Carbon Disulfide	8.68	76	25939	0.240	ng		98
23) trans-1,2-Dichloroethene	9.69	61	9736	0.240	ng		99
24) 1,1-Dichloroethane	9.93	63	11448	0.222	ng		100
25) Methyl tert-Butyl Ether	10.07	73	19408	0.236	ng		100
26) Vinyl Acetate	10.20	86	6257	0.806	ng	#	65
27) 2-Butanone (MEK)	10.47	72	4473	0.235	ng	#	85
28) cis-1,2-Dichloroethene	10.95	61	9299	0.222	ng		95
29) Diisopropyl Ether	11.27	87	6141	0.203	ng	#	89
30) Ethyl Acetate	11.28	61	5026	0.447	ng		94
31) n-Hexane	11.26	57	10892	0.209	ng		100
32) Chloroform	11.30	83	11522	0.207	ng		100
34) Tetrahydrofuran (THF)	11.74	72	4717	0.239	ng		96
35) Ethyl tert-Butyl Ether	11.87	87	7599	0.213	ng		99
36) 1,2-Dichloroethane	12.11	62	10033	0.231	ng		97
38) 1,1,1-Trichloroethane	12.39	97	10336	0.208	ng		99
39) Isopropyl Acetate	12.84	61	8005	0.390	ng	#	82
40) 1-Butanol	12.85	56	12049	0.376	ng		93
41) Benzene	12.87	78	27102	0.208	ng		100
42) Carbon Tetrachloride	13.03	117	8801	0.196	ng		99
43) Cyclohexane	13.17	84	19302	0.386	ng		99
44) tert-Amyl Methyl Ether	13.52	73	18140	0.213	ng		97
45) 1,2-Dichloropropane	13.72	63	6464	0.215	ng		100
46) Bromodichloromethane	13.91	83	9202	0.208	ng		97
47) Trichloroethene	13.97	130	6883	0.185	ng		99
48) 1,4-Dioxane	13.96	88	5469	0.215	ng		98
49) 2,2,4-Trimethylpentane...	14.04	57	27442	0.219	ng		99
50) Methyl Methacrylate	14.18	100	4902	0.390	ng		92

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012019.D Vial: 6
Acq On : 1 May 2020 14:42 Operator: LH
Sample : 0.2ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04272015 (5/26)

Quant Time: May 01 17:26:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

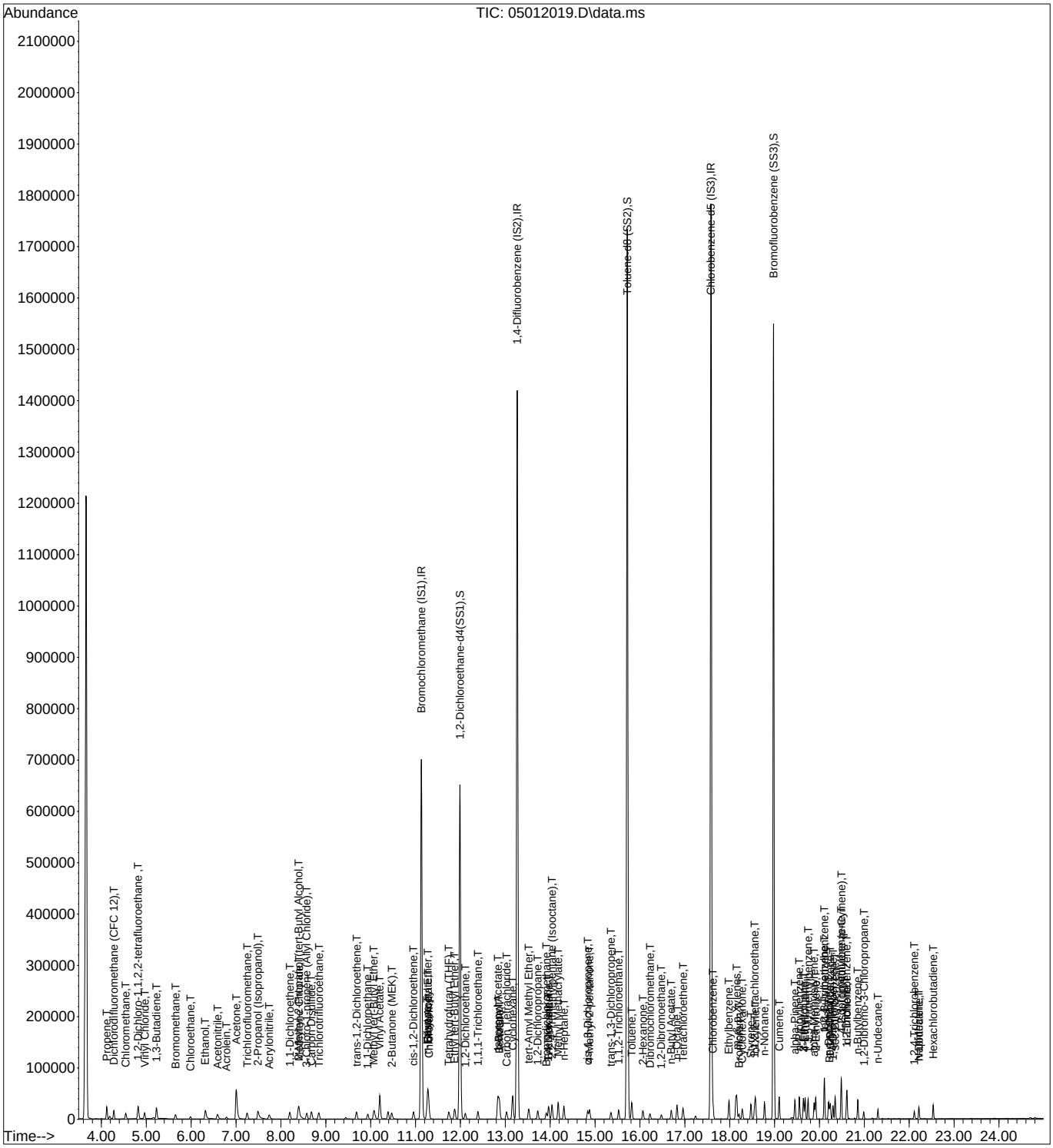
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.31	71	6485	0.213 ng		99
52) cis-1,3-Dichloropropene	14.84	75	10229	0.211 ng		99
53) 4-Methyl-2-pentanone	14.88	58	5691	0.207 ng		91
54) trans-1,3-Dichloropropene	15.35	75	8360	0.185 ng		96
55) 1,1,2-Trichloroethane	15.52	97	6328	0.209 ng		98
58) Toluene	15.82	91	26600	0.201 ng		99
59) 2-Hexanone	16.06	43	14103	0.211 ng		96
60) Dibromochloromethane	16.23	129	7014	0.198 ng		97
61) 1,2-Dibromoethane	16.48	107	7112	0.208 ng		98
62) n-Butyl Acetate	16.70	43	14786	0.207 ng		99
63) n-Octane	16.82	57	5273	0.199 ng		99
64) Tetrachloroethene	16.96	166	6836	0.184 ng		98
65) Chlorobenzene	17.62	112	17628	0.198 ng		99
66) Ethylbenzene	17.98	91	28627	0.197 ng		98
67) m- & p-Xylenes	18.15	91	43549	0.370 ng		100
68) Bromoform	18.21	173	4948	0.156 ng		97
69) Styrene	18.47	104	14427	0.157 ng		98
70) o-Xylene	18.58	91	22519	0.191 ng		99
71) n-Nonane	18.77	43	11811	0.198 ng		96
72) 1,1,2,2-Tetrachloroethane	18.55	83	11124	0.196 ng		98
74) Cumene	19.10	105	28539	0.192 ng		97
75) alpha-Pinene	19.45	93	14109	0.187 ng		97
76) n-Propylbenzene	19.55	91	33704	0.194 ng		96
77) 3-Ethyltoluene	19.64	105	24706	0.167 ng		95
78) 4-Ethyltoluene	19.68	105	25673	0.184 ng		92
79) 1,3,5-Trimethylbenzene	19.75	105	20755	0.166 ng		100
80) alpha-Methylstyrene	19.88	118	9566	0.141 ng		98
81) 2-Ethyltoluene	19.92	105	25934	0.179 ng		98
82) 1,2,4-Trimethylbenzene	20.11	105	20144	0.156 ng		100
83) n-Decane	20.20	57	9540	0.150 ng		99
84) Benzyl Chloride	20.22	91	10864	0.105 ng		96
85) 1,3-Dichlorobenzene	20.24	146	10709	0.154 ng		98
86) 1,4-Dichlorobenzene	20.30	146	10405	0.150 ng		99
87) sec-Butylbenzene	20.35	105	29313	0.182 ng		98
88) 4-Isopropyltoluene (p-...	20.49	119	25509	0.168 ng		98
89) 1,2,3-Trimethylbenzene	20.48	105	20308	0.157 ng		97
90) 1,2-Dichlorobenzene	20.61	146	10926	0.154 ng		99
91) d-Limonene	20.61	68	7844	0.156 ng		98
92) 1,2-Dibromo-3-Chloropr...	20.99	157	3246	0.134 ng	#	68
93) n-Undecane	21.30	57	5419	0.083 ng		99
94) 1,2,4-Trichlorobenzene	22.11	180	4530	0.103 ng		98
95) Naphthalene	22.22	128	12645	0.085 ng		100
96) n-Dodecane	22.22	57	2203	0.035 ng		95
97) Hexachlorobutadiene	22.54	225	4472	0.134 ng		100
98) Cyclohexanone	18.28	55	9134	0.201 ng		98
99) tert-Butylbenzene	20.11	119	21458	0.172 ng		100
100) n-Butylbenzene	20.85	91	19904	0.152 ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012019.D Vial: 6
Acq On : 1 May 2020 14:42 Operator: LH
Sample : 0.2ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04272015 (5/26)

Quant Time: May 01 17:26:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012020.D Vial: 13
Acq On : 1 May 2020 15:16 Operator: LH
Sample : 0.5ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-05012002 (5/30)

Quant Time: May 01 17:26:12 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	282762	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1246042	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	597894	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	496699	12.724	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.76%				
57) Toluene-d8 (SS2)	15.72	98	1261623	11.962	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.68%				
73) Bromofluorobenzene (SS3)	18.98	174	433440	11.568	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.56%				
Target Compounds							Qvalue
2) Propene	4.12	42	18019	0.595	ng		100
3) Dichlorodifluoromethan...	4.27	85	36783	0.574	ng		100
4) Chloromethane	4.54	50	28625	0.567	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	21643	0.536	ng		98
6) Vinyl Chloride	4.96	62	31225	0.584	ng		99
7) 1,3-Butadiene	5.22	54	25691	0.642	ng		97
8) Bromomethane	5.65	94	16060	0.596	ng		100
9) Chloroethane	5.98	64	12037	0.584	ng		100
10) Ethanol	6.32	45	59441	2.504	ng		99
11) Acetonitrile	6.58	41	28303	0.538	ng		92
12) Acrolein	6.78	56	10249	0.587	ng		99
13) Acetone	7.00	58	64034	2.757	ng		90
14) Trichlorofluoromethane	7.24	101	30869	0.549	ng		99
15) 2-Propanol (Isopropanol)	7.49	45	81950	1.184	ng		94
16) Acrylonitrile	7.74	53	20199	0.576	ng		99
17) 1,1-Dichloroethene	8.19	96	16045	0.574	ng		99
18) 2-Methyl-2-Propanol (t...	8.38	59	81236	1.327	ng		97
19) Methylene Chloride	8.40	84	16818	0.555	ng		93
20) 3-Chloro-1-propene (Al...	8.57	41	23985	0.605	ng		100
21) Trichlorotrifluoroethane	8.84	151	14094	0.522	ng		90
22) Carbon Disulfide	8.68	76	62306	0.573	ng		100
23) trans-1,2-Dichloroethene	9.68	61	24198	0.594	ng		98
24) 1,1-Dichloroethane	9.94	63	30445	0.588	ng		98
25) Methyl tert-Butyl Ether	10.06	73	50440	0.609	ng		100
26) Vinyl Acetate	10.20	86	16921	2.167	ng	#	71
27) 2-Butanone (MEK)	10.46	72	11237	0.586	ng	#	91
28) cis-1,2-Dichloroethene	10.95	61	23378	0.555	ng		97
29) Diisopropyl Ether	11.27	87	16633	0.547	ng	#	80
30) Ethyl Acetate	11.28	61	12444	1.100	ng		99
31) n-Hexane	11.26	57	28441	0.542	ng		99
32) Chloroform	11.30	83	30757	0.550	ng		100
34) Tetrahydrofuran (THF)	11.74	72	11211	0.565	ng		97
35) Ethyl tert-Butyl Ether	11.87	87	19341	0.539	ng		95
36) 1,2-Dichloroethane	12.11	62	24513	0.560	ng		98
38) 1,1,1-Trichloroethane	12.39	97	26870	0.549	ng		98
39) Isopropyl Acetate	12.83	61	21414	1.060	ng		94
40) 1-Butanol	12.85	56	25610	0.811	ng		84
41) Benzene	12.87	78	68060	0.531	ng		99
42) Carbon Tetrachloride	13.03	117	23499	0.531	ng		100
43) Cyclohexane	13.17	84	50782	1.030	ng		99
44) tert-Amyl Methyl Ether	13.52	73	47408	0.566	ng		98
45) 1,2-Dichloropropane	13.73	63	16720	0.564	ng		98
46) Bromodichloromethane	13.91	83	23539	0.540	ng		99
47) Trichloroethene	13.97	130	17666	0.483	ng		98
48) 1,4-Dioxane	13.95	88	13607	0.544	ng		98
49) 2,2,4-Trimethylpentane...	14.04	57	70232	0.570	ng		98
50) Methyl Methacrylate	14.18	100	12679	1.026	ng		89

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012020.D Vial: 13
Acq On : 1 May 2020 15:16 Operator: LH
Sample : 0.5ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-05012002 (5/30)

Quant Time: May 01 17:26:12 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

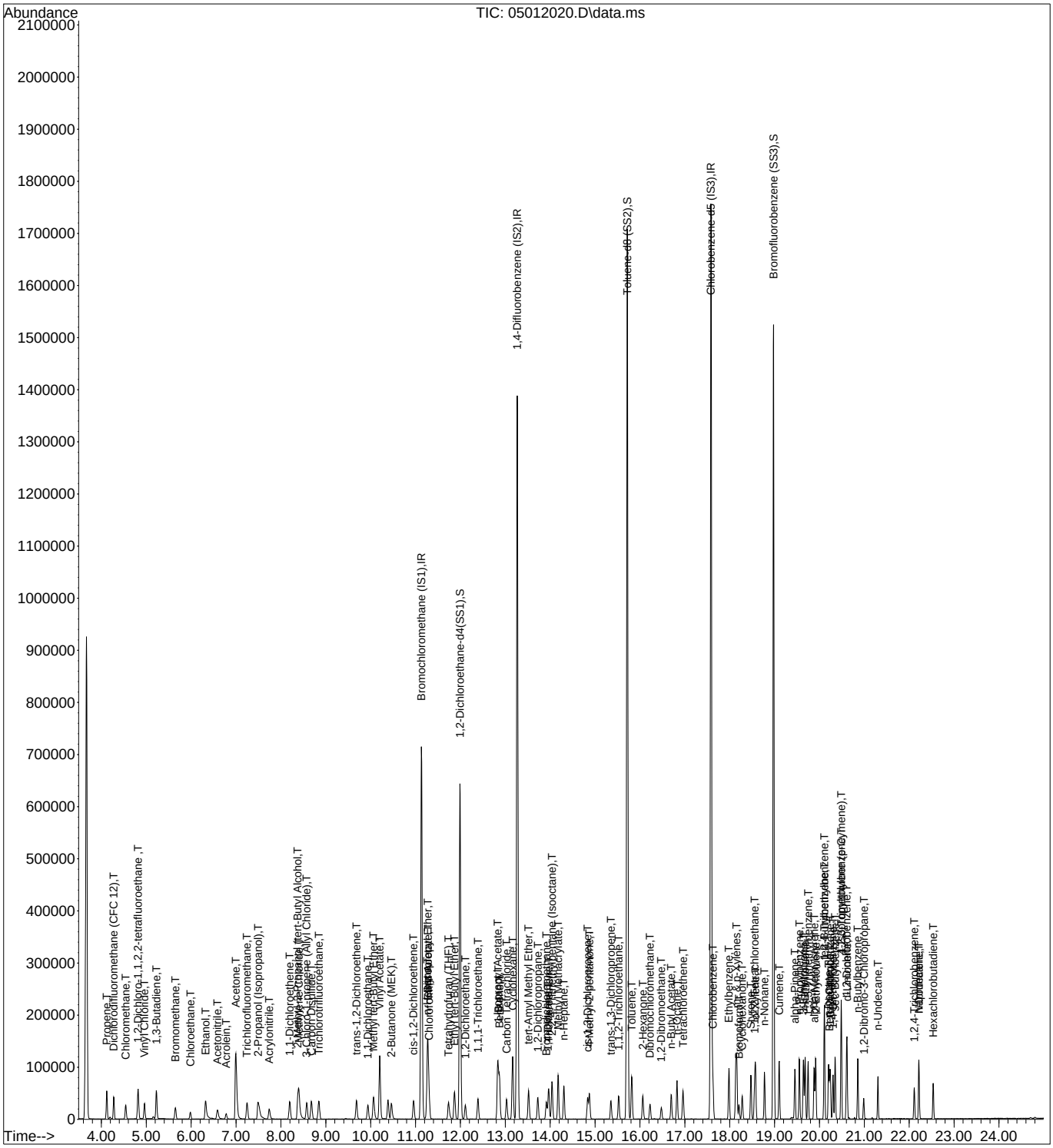
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.30	71	16470	0.549 ng		99
52) cis-1,3-Dichloropropene	14.83	75	25622	0.537 ng		100
53) 4-Methyl-2-pentanone	14.88	58	15185	0.562 ng		96
54) trans-1,3-Dichloropropene	15.35	75	21678	0.488 ng		100
55) 1,1,2-Trichloroethane	15.52	97	16061	0.538 ng		99
58) Toluene	15.82	91	68212	0.522 ng		99
59) 2-Hexanone	16.06	43	36076	0.547 ng		97
60) Dibromochloromethane	16.22	129	18007	0.513 ng		100
61) 1,2-Dibromoethane	16.48	107	18032	0.535 ng		99
62) n-Butyl Acetate	16.70	43	40268	0.571 ng		99
63) n-Octane	16.83	57	14009	0.536 ng		98
64) Tetrachloroethene	16.96	166	17406	0.474 ng		98
65) Chlorobenzene	17.62	112	44455	0.505 ng		99
66) Ethylbenzene	17.98	91	75877	0.529 ng		99
67) m- & p-Xylenes	18.15	91	116955	1.007 ng		99
68) Bromoform	18.21	173	13392	0.426 ng		100
69) Styrene	18.47	104	42807	0.472 ng		99
70) o-Xylene	18.58	91	59151	0.509 ng		98
71) n-Nonane	18.77	43	31809	0.539 ng		98
72) 1,1,2,2-Tetrachloroethane	18.55	83	28515	0.507 ng		100
74) Cumene	19.10	105	75062	0.513 ng		98
75) alpha-Pinene	19.45	93	36992	0.496 ng		98
76) n-Propylbenzene	19.56	91	90744	0.529 ng		97
77) 3-Ethyltoluene	19.64	105	68792	0.472 ng		99
78) 4-Ethyltoluene	19.68	105	71240	0.516 ng		99
79) 1,3,5-Trimethylbenzene	19.75	105	57590	0.466 ng		100
80) alpha-Methylstyrene	19.88	118	29121	0.435 ng		98
81) 2-Ethyltoluene	19.92	105	71176	0.498 ng		98
82) 1,2,4-Trimethylbenzene	20.11	105	57697	0.454 ng		98
83) n-Decane	20.20	57	28801	0.460 ng		98
84) Benzyl Chloride	20.23	91	38679	0.379 ng		97
85) 1,3-Dichlorobenzene	20.24	146	32341	0.470 ng		99
86) 1,4-Dichlorobenzene	20.30	146	32829	0.480 ng		98
87) sec-Butylbenzene	20.35	105	79152	0.499 ng		98
88) 4-Isopropyltoluene (p-...	20.48	119	71971	0.481 ng		98
89) 1,2,3-Trimethylbenzene	20.48	105	58236	0.457 ng		97
90) 1,2-Dichlorobenzene	20.61	146	31295	0.447 ng		100
91) d-Limonene	20.62	68	22394	0.451 ng		99
92) 1,2-Dibromo-3-Chloropr...	20.99	157	9748	0.406 ng	#	80
93) n-Undecane	21.30	57	23411	0.364 ng		98
94) 1,2,4-Trichlorobenzene	22.11	180	16758	0.385 ng		99
95) Naphthalene	22.22	128	53528	0.365 ng		100
96) n-Dodecane	22.22	57	12440	0.198 ng		98
97) Hexachlorobutadiene	22.54	225	11744	0.356 ng		99
98) Cyclohexanone	18.28	55	19899	0.444 ng		97
99) tert-Butylbenzene	20.11	119	57329	0.464 ng		99
100) n-Butylbenzene	20.85	91	61839	0.478 ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012020.D Vial: 13
Acq On : 1 May 2020 15:16 Operator: LH
Sample : 0.5ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-05012002 (5/30)

Quant Time: May 01 17:26:12 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012021.D Vial: 13
Acq On : 1 May 2020 15:51 Operator: LH
Sample : 1.0ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-05012002 (5/30)

Quant Time: May 01 17:26:14 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	283099	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1255557	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	599231	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	497020	12.717	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.76%				
57) Toluene-d8 (SS2)	15.72	98	1262658	11.945	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.60%				
73) Bromofluorobenzene (SS3)	18.98	174	433746	11.550	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.40%				
Target Compounds							Qvalue
2) Propene	4.11	42	33126	1.093	ng		99
3) Dichlorodifluoromethan...	4.27	85	68235	1.064	ng		99
4) Chloromethane	4.53	50	53718	1.062	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	38642	0.956	ng		99
6) Vinyl Chloride	4.96	62	58432	1.092	ng		100
7) 1,3-Butadiene	5.22	54	47465	1.185	ng		98
8) Bromomethane	5.64	94	29630	1.099	ng		100
9) Chloroethane	5.98	64	22473	1.088	ng		99
10) Ethanol	6.32	45	110869	4.665	ng		99
11) Acetonitrile	6.58	41	53541	1.017	ng		100
12) Acrolein	6.78	56	19340	1.106	ng		100
13) Acetone	6.98	58	119315	5.130	ng		90
14) Trichlorofluoromethane	7.24	101	56632	1.006	ng		99
15) 2-Propanol (Isopropanol)	7.48	45	154892	2.235	ng		96
16) Acrylonitrile	7.74	53	38461	1.095	ng		99
17) 1,1-Dichloroethene	8.19	96	30236	1.080	ng		97
18) 2-Methyl-2-Propanol (t...	8.36	59	151128	2.466	ng		98
19) Methylene Chloride	8.40	84	32502	1.072	ng		97
20) 3-Chloro-1-propene (Al...	8.57	41	46601	1.174	ng		98
21) Trichlorotrifluoroethane	8.84	151	26828	0.993	ng		96
22) Carbon Disulfide	8.68	76	117066	1.075	ng		99
23) trans-1,2-Dichloroethene	9.68	61	45490	1.115	ng		97
24) 1,1-Dichloroethane	9.94	63	55243	1.065	ng		99
25) Methyl tert-Butyl Ether	10.06	73	92006	1.109	ng		99
26) Vinyl Acetate	10.20	86	33295	4.258	ng	#	76
27) 2-Butanone (MEK)	10.46	72	21197	1.105	ng		96
28) cis-1,2-Dichloroethene	10.96	61	43960	1.043	ng		97
29) Diisopropyl Ether	11.27	87	31384	1.031	ng	#	79
30) Ethyl Acetate	11.27	61	23578	2.083	ng		97
31) n-Hexane	11.26	57	53227	1.014	ng		99
32) Chloroform	11.30	83	57167	1.020	ng		98
34) Tetrahydrofuran (THF)	11.73	72	21166	1.066	ng		97
35) Ethyl tert-Butyl Ether	11.87	87	36365	1.013	ng		97
36) 1,2-Dichloroethane	12.11	62	45068	1.029	ng		100
38) 1,1,1-Trichloroethane	12.39	97	50409	1.021	ng		98
39) Isopropyl Acetate	12.83	61	40161	1.973	ng	#	92
40) 1-Butanol	12.84	56	48310	1.519	ng		82
41) Benzene	12.87	78	127091	0.984	ng		100
42) Carbon Tetrachloride	13.03	117	43210	0.970	ng		98
43) Cyclohexane	13.17	84	94431	1.902	ng		98
44) tert-Amyl Methyl Ether	13.52	73	89386	1.060	ng		98
45) 1,2-Dichloropropane	13.73	63	31276	1.047	ng		99
46) Bromodichloromethane	13.91	83	44019	1.002	ng		99
47) Trichloroethene	13.97	130	32599	0.885	ng		100
48) 1,4-Dioxane	13.95	88	25788	1.023	ng		99
49) 2,2,4-Trimethylpentane...	14.04	57	130371	1.050	ng		98
50) Methyl Methacrylate	14.18	100	24994	2.007	ng		96

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012021.D Vial: 13
Acq On : 1 May 2020 15:51 Operator: LH
Sample : 1.0ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-05012002 (5/30)

Quant Time: May 01 17:26:14 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

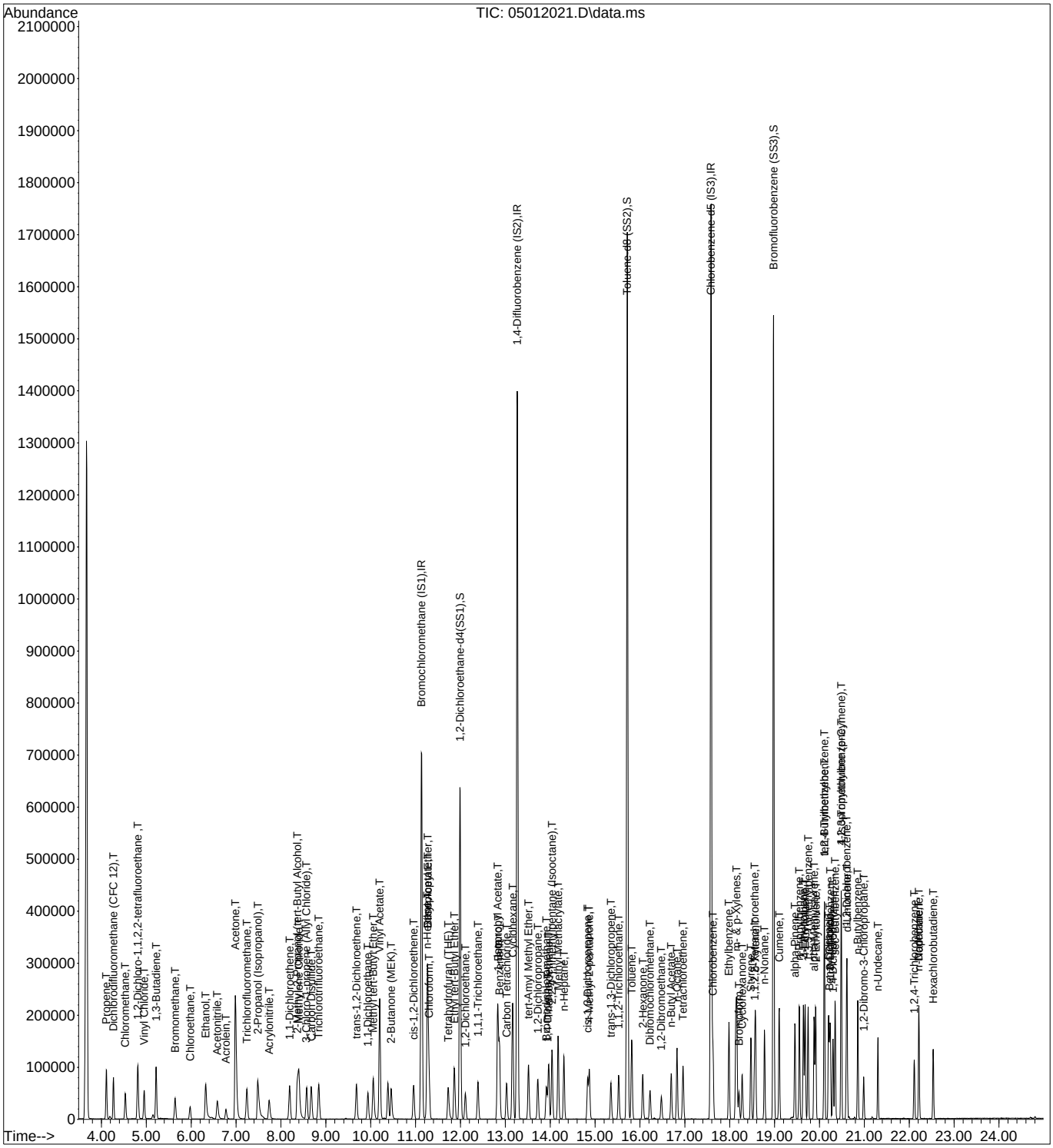
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	31052	1.028	ng	99
52) cis-1,3-Dichloropropene	14.83	75	48884	1.016	ng	100
53) 4-Methyl-2-pentanone	14.87	58	28992	1.064	ng	98
54) trans-1,3-Dichloropropene	15.35	75	42499	0.949	ng	99
55) 1,1,2-Trichloroethane	15.52	97	29976	0.997	ng	99
58) Toluene	15.82	91	126852	0.968	ng	100
59) 2-Hexanone	16.06	43	68688	1.039	ng	98
60) Dibromochloromethane	16.22	129	34198	0.973	ng	100
61) 1,2-Dibromoethane	16.48	107	33986	1.006	ng	99
62) n-Butyl Acetate	16.70	43	76066	1.076	ng	98
63) n-Octane	16.83	57	26077	0.995	ng	99
64) Tetrachloroethene	16.96	166	32577	0.886	ng	100
65) Chlorobenzene	17.62	112	82545	0.935	ng	98
66) Ethylbenzene	17.98	91	142006	0.988	ng	99
67) m- & p-Xylenes	18.15	91	225991	1.941	ng	98
68) Bromoform	18.21	173	25763	0.818	ng	100
69) Styrene	18.47	104	80976	0.891	ng	99
70) o-Xylene	18.58	91	111310	0.955	ng	99
71) n-Nonane	18.77	43	60557	1.023	ng	97
72) 1,1,2,2-Tetrachloroethane	18.55	83	54222	0.963	ng	99
74) Cumene	19.10	105	140371	0.956	ng	99
75) alpha-Pinene	19.45	93	71471	0.956	ng	99
76) n-Propylbenzene	19.55	91	173225	1.008	ng	98
77) 3-Ethyltoluene	19.64	105	131045	0.897	ng	99
78) 4-Ethyltoluene	19.68	105	136161	0.983	ng	99
79) 1,3,5-Trimethylbenzene	19.75	105	112385	0.908	ng	99
80) alpha-Methylstyrene	19.88	118	57239	0.853	ng	99
81) 2-Ethyltoluene	19.92	105	133665	0.933	ng	99
82) 1,2,4-Trimethylbenzene	20.11	105	112073	0.879	ng	99
83) n-Decane	20.20	57	56537	0.900	ng	99
84) Benzyl Chloride	20.23	91	78621	0.769	ng	97
85) 1,3-Dichlorobenzene	20.24	146	62650	0.909	ng	99
86) 1,4-Dichlorobenzene	20.30	146	61324	0.895	ng	100
87) sec-Butylbenzene	20.35	105	151180	0.950	ng	98
88) 4-Isopropyltoluene (p-...	20.48	119	138806	0.925	ng	99
89) 1,2,3-Trimethylbenzene	20.48	105	113653	0.890	ng	99
90) 1,2-Dichlorobenzene	20.61	146	60175	0.857	ng	99
91) d-Limonene	20.62	68	44904	0.903	ng	98
92) 1,2-Dibromo-3-Chloropr...	20.98	157	19657	0.817	ng	85
93) n-Undecane	21.30	57	44833	0.696	ng	99
94) 1,2,4-Trichlorobenzene	22.11	180	32560	0.746	ng	100
95) Naphthalene	22.22	128	100929	0.687	ng	100
96) n-Dodecane	22.21	57	24009	0.380	ng	99
97) Hexachlorobutadiene	22.54	225	22641	0.684	ng	99
98) Cyclohexanone	18.28	55	38554	0.858	ng	99
99) tert-Butylbenzene	20.11	119	111007	0.897	ng	99
100) n-Butylbenzene	20.85	91	119734	0.924	ng	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012021.D Vial: 13
Acq On : 1 May 2020 15:51 Operator: LH
Sample : 1.0ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-05012002 (5/30)

Quant Time: May 01 17:26:14 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012022.D Vial: 2
Acq On : 1 May 2020 16:25 Operator: LH
Sample : 5.0ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 17:26:16 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	303798	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.27	114	1318017	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	623963	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	517657	12.342	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.72%				
57) Toluene-d8 (SS2)	15.72	98	1308528	11.889	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.12%				
73) Bromofluorobenzene (SS3)	18.98	174	490919	12.554	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.40%				
Target Compounds							Qvalue
2) Propene	4.09	42	193048	5.934	ng		100
3) Dichlorodifluoromethan...	4.25	85	387745	5.637	ng		100
4) Chloromethane	4.52	50	303525	5.594	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	222610	5.132	ng		100
6) Vinyl Chloride	4.94	62	339270	5.907	ng		100
7) 1,3-Butadiene	5.21	54	276281	6.430	ng		99
8) Bromomethane	5.64	94	169682	5.863	ng		98
9) Chloroethane	5.97	64	129957	5.865	ng		100
10) Ethanol	6.35	45	691643	27.117	ng		100
11) Acetonitrile	6.60	41	322707	5.712	ng		100
12) Acrolein	6.78	56	114887	6.125	ng		99
13) Acetone	6.99	58	718205	28.778	ng		93
14) Trichlorofluoromethane	7.24	101	330361	5.469	ng		100
15) 2-Propanol (Isopropanol)	7.50	45	953934	12.829	ng		99
16) Acrylonitrile	7.75	53	241513	6.410	ng		100
17) 1,1-Dichloroethene	8.19	96	176135	5.860	ng		97
18) 2-Methyl-2-Propanol (t...	8.36	59	939029	14.278	ng		99
19) Methylene Chloride	8.42	84	189273	5.818	ng		97
20) 3-Chloro-1-propene (Al...	8.58	41	281181	6.602	ng		99
21) Trichlorotrifluoroethane	8.84	151	159827	5.511	ng		97
22) Carbon Disulfide	8.68	76	697922	5.971	ng		100
23) trans-1,2-Dichloroethene	9.70	61	269106	6.148	ng		99
24) 1,1-Dichloroethane	9.95	63	324467	5.829	ng		100
25) Methyl tert-Butyl Ether	10.05	73	520731	5.850	ng		100
26) Vinyl Acetate	10.21	86	230843	27.513	ng	#	86
27) 2-Butanone (MEK)	10.45	72	129697	6.298	ng		97
28) cis-1,2-Dichloroethene	10.97	61	259456	5.737	ng		98
29) Diisopropyl Ether	11.27	87	191800	5.871	ng	#	79
30) Ethyl Acetate	11.27	61	149560	12.310	ng		98
31) n-Hexane	11.26	57	314981	5.592	ng		99
32) Chloroform	11.31	83	340357	5.661	ng		99
34) Tetrahydrofuran (THF)	11.72	72	126370	5.930	ng		99
35) Ethyl tert-Butyl Ether	11.86	87	221593	5.751	ng		97
36) 1,2-Dichloroethane	12.11	62	265122	5.640	ng		100
38) 1,1,1-Trichloroethane	12.40	97	293872	5.672	ng		100
39) Isopropyl Acetate	12.83	61	250912	11.741	ng	#	94
40) 1-Butanol	12.84	56	336318	10.073	ng		93
41) Benzene	12.87	78	763486	5.631	ng		100
42) Carbon Tetrachloride	13.03	117	266893	5.707	ng		100
43) Cyclohexane	13.17	84	572113	10.975	ng		100
44) tert-Amyl Methyl Ether	13.52	73	541195	6.112	ng		99
45) 1,2-Dichloropropane	13.73	63	186128	5.938	ng		99
46) Bromodichloromethane	13.92	83	271708	5.892	ng		100
47) Trichloroethene	13.97	130	200472	5.185	ng		100
48) 1,4-Dioxane	13.95	88	156033	5.899	ng		100
49) 2,2,4-Trimethylpentane...	14.04	57	772648	5.931	ng		99
50) Methyl Methacrylate	14.18	100	156609	11.977	ng		97

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012022.D Vial: 2
Acq On : 1 May 2020 16:25 Operator: LH
Sample : 5.0ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 17:26:16 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

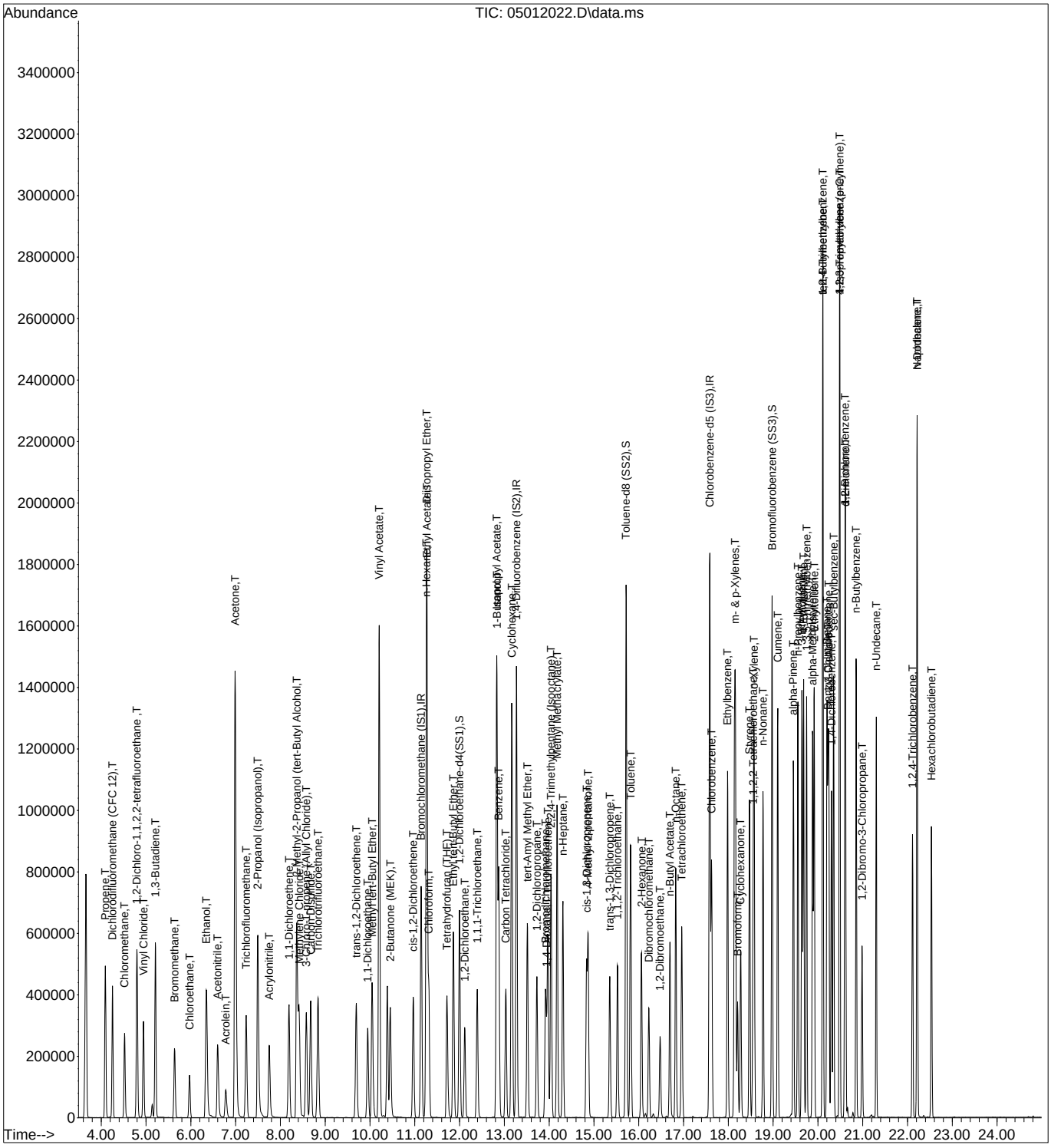
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	180946	5.706 ng	99
52) cis-1,3-Dichloropropene	14.84	75	308293	6.105 ng	100
53) 4-Methyl-2-pentanone	14.87	58	175513	6.138 ng	97
54) trans-1,3-Dichloropropene	15.35	75	277438	5.899 ng	100
55) 1,1,2-Trichloroethane	15.52	97	182608	5.786 ng	99
58) Toluene	15.82	91	751701	5.508 ng	100
59) 2-Hexanone	16.06	43	431067	6.262 ng	99
60) Dibromochloromethane	16.23	129	222764	6.086 ng	99
61) 1,2-Dibromoethane	16.48	107	211443	6.008 ng	100
62) n-Butyl Acetate	16.70	43	477782	6.493 ng	100
63) n-Octane	16.83	57	155673	5.704 ng	100
64) Tetrachloroethene	16.96	166	201840	5.271 ng	100
65) Chlorobenzene	17.62	112	499525	5.435 ng	100
66) Ethylbenzene	17.98	91	871724	5.827 ng	99
67) m- & p-Xylenes	18.15	91	1368621	11.288 ng	100
68) Bromoform	18.21	173	189068	5.768 ng	100
69) Styrene	18.47	104	536906	5.670 ng	100
70) o-Xylene	18.58	91	693423	5.713 ng	100
71) n-Nonane	18.77	43	370451	6.012 ng	98
72) 1,1,2,2-Tetrachloroethane	18.55	83	346585	5.910 ng	100
74) Cumene	19.10	105	885174	5.792 ng	99
75) alpha-Pinene	19.45	93	454351	5.834 ng	100
76) n-Propylbenzene	19.55	91	1076654	6.015 ng	99
77) 3-Ethyltoluene	19.64	105	836770	5.500 ng	95
78) 4-Ethyltoluene	19.68	105	882656	6.121 ng	95
79) 1,3,5-Trimethylbenzene	19.75	105	715909	5.552 ng	99
80) alpha-Methylstyrene	19.88	118	385478	5.515 ng	100
81) 2-Ethyltoluene	19.92	105	858573	5.755 ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	751354	5.662 ng	98
83) n-Decane	20.20	57	376639	5.759 ng	99
84) Benzyl Chloride	20.23	91	614231	5.773 ng	99
85) 1,3-Dichlorobenzene	20.24	146	434270	6.049 ng	100
86) 1,4-Dichlorobenzene	20.30	146	427551	5.990 ng	100
87) sec-Butylbenzene	20.35	105	969884	5.855 ng	99
88) 4-Isopropyltoluene (p-...	20.48	119	928906	5.944 ng	98
89) 1,2,3-Trimethylbenzene	20.48	105	769774	5.787 ng	98
90) 1,2-Dichlorobenzene	20.61	146	419115	5.732 ng	100
91) d-Limonene	20.62	68	288464	5.570 ng	99
92) 1,2-Dibromo-3-Chloropr...	20.98	157	148727	5.940 ng	97
93) n-Undecane	21.30	57	365721	5.450 ng	100
94) 1,2,4-Trichlorobenzene	22.11	180	270469	5.951 ng	99
95) Naphthalene	22.22	128	892593	5.833 ng	100
96) n-Dodecane	22.22	57	324655	4.939 ng	99
97) Hexachlorobutadiene	22.54	225	164461	4.774 ng	100
98) Cyclohexanone	18.27	55	245365	5.243 ng	99
99) tert-Butylbenzene	20.11	119	727041	5.643 ng	100
100) n-Butylbenzene	20.85	91	778801	5.771 ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012022.D Vial: 2
Acq On : 1 May 2020 16:25 Operator: LH
Sample : 5.0ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 17:26:16 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012023.D Vial: 2
Acq On : 1 May 2020 16:59 Operator: LH
Sample : 25ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 17:26:18 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	286303	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	13.28	114	1228912	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	571123	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.01	65	468097	11.843	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.72%			
57) Toluene-d8 (SS2)	15.72	98	1212242	12.033	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.24%			
73) Bromofluorobenzene (SS3)	18.98	174	458310	12.805	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.40%			
Target Compounds						Qvalue
2) Propene	4.09	42	894762	29.187	ng	100
3) Dichlorodifluoromethan...	4.25	85	1661240	25.625	ng	100
4) Chloromethane	4.53	50	1331334	26.035	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	962170	23.538	ng	100
6) Vinyl Chloride	4.94	62	1452200	26.828	ng	100
7) 1,3-Butadiene	5.21	54	1192249	29.444	ng	100
8) Bromomethane	5.65	94	769909	28.228	ng	100
9) Chloroethane	5.98	64	583429	27.941	ng	100
10) Ethanol	6.39	45	3316498	137.974	ng	100
11) Acetonitrile	6.63	41	1485800	27.907	ng	100
12) Acrolein	6.80	56	518321	29.321	ng	100
13) Acetone	7.01	58	3451253	146.739	ng	100
14) Trichlorofluoromethane	7.24	101	1489634	26.165	ng	100
15) 2-Propanol (Isopropanol)	7.53	45	4218436	60.200	ng	100
16) Acrylonitrile	7.77	53	1099575	30.969	ng	100
17) 1,1-Dichloroethene	8.20	96	811190	28.639	ng	100
18) 2-Methyl-2-Propanol (t...	8.39	59	3958148	63.861	ng	100
19) Methylene Chloride	8.44	84	868569	28.330	ng	100
20) 3-Chloro-1-propene (Al...	8.59	41	1253954	31.243	ng	100
21) Trichlorotrifluoroethane	8.84	151	743004	27.185	ng	100
22) Carbon Disulfide	8.69	76	3145335	28.555	ng	100
23) trans-1,2-Dichloroethene	9.71	61	1224632	29.687	ng	100
24) 1,1-Dichloroethane	9.96	63	1485162	28.313	ng	100
25) Methyl tert-Butyl Ether	10.05	73	2185564	26.052	ng	100
26) Vinyl Acetate	10.22	86	1147538	145.128	ng	100
27) 2-Butanone (MEK)	10.46	72	578422	29.805	ng	100
28) cis-1,2-Dichloroethene	10.98	61	1170190	27.455	ng	100
29) Diisopropyl Ether	11.27	87	816119	26.509	ng	100
30) Ethyl Acetate	11.28	61	740753	64.696	ng	100
31) n-Hexane	11.26	57	1536846	28.951	ng	100
32) Chloroform	11.32	83	1513438	26.712	ng	100
34) Tetrahydrofuran (THF)	11.72	72	562319	27.999	ng	100
35) Ethyl tert-Butyl Ether	11.87	87	1027494	28.295	ng	100
36) 1,2-Dichloroethane	12.12	62	1181488	26.670	ng	100
38) 1,1,1-Trichloroethane	12.40	97	1349990	27.947	ng	100
39) Isopropyl Acetate	12.84	61	1233560	61.905	ng	100
40) 1-Butanol	12.85	56	1704801	54.762	ng	100
41) Benzene	12.88	78	3498072	27.670	ng	100
42) Carbon Tetrachloride	13.04	117	1221860	28.021	ng	100
43) Cyclohexane	13.17	84	2724355	56.049	ng	100
44) tert-Amyl Methyl Ether	13.52	73	2480433	30.042	ng	100
45) 1,2-Dichloropropane	13.73	63	842781	28.835	ng	100
46) Bromodichloromethane	13.92	83	1270274	29.545	ng	100
47) Trichloroethene	13.97	130	932766	25.873	ng	100
48) 1,4-Dioxane	13.95	88	738598	29.950	ng	100
49) 2,2,4-Trimethylpentane...	14.05	57	3492402	28.751	ng	100
50) Methyl Methacrylate	14.18	100	756519	62.050	ng	100

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012023.D Vial: 2
Acq On : 1 May 2020 16:59 Operator: LH
Sample : 25ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 17:26:18 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

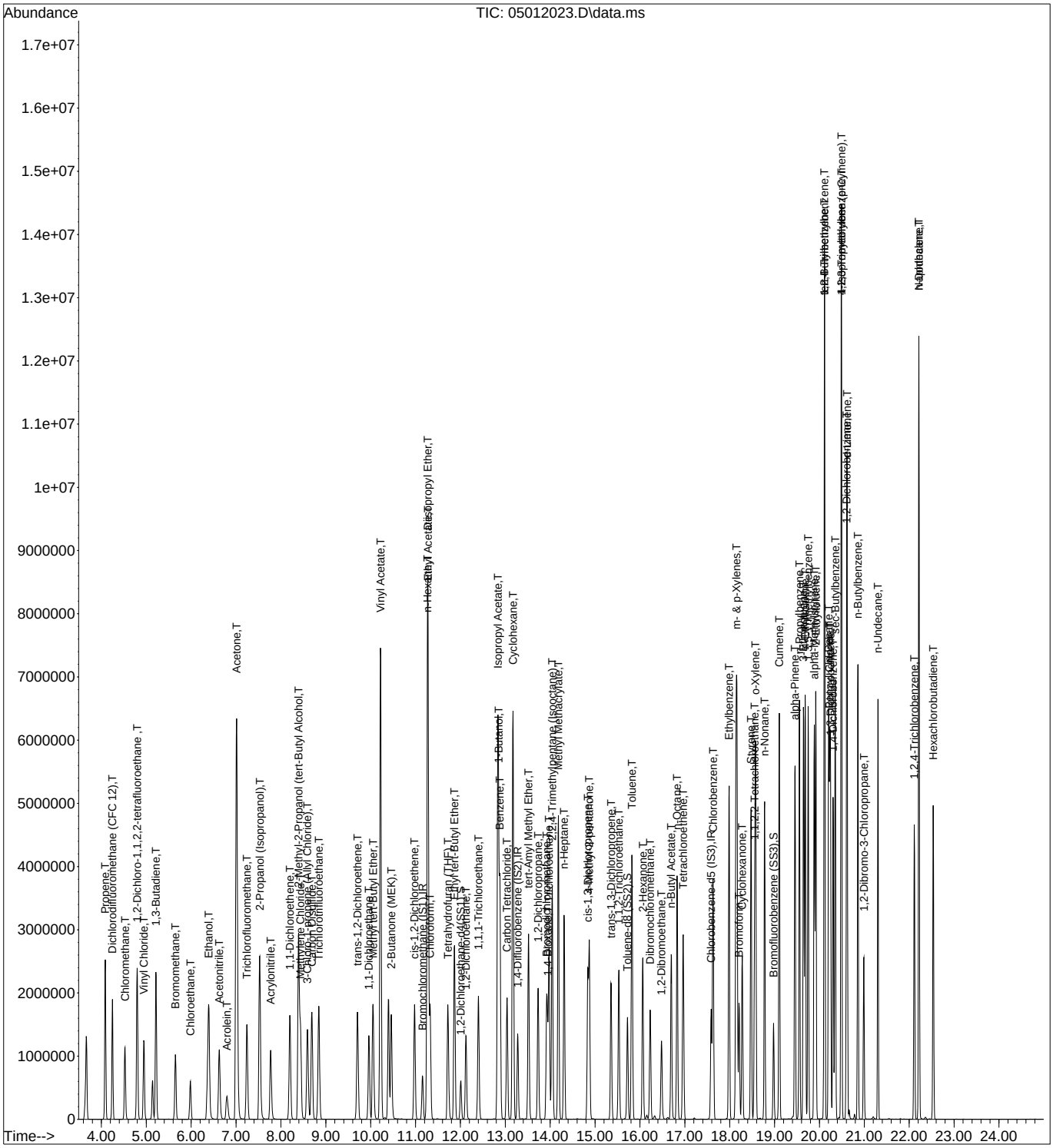
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	823934	27.865	ng	100
52) cis-1,3-Dichloropropene	14.84	75	1447687	30.747	ng	100
53) 4-Methyl-2-pentanone	14.87	58	811075	30.423	ng	100
54) trans-1,3-Dichloropropene	15.36	75	1324553	30.205	ng	100
55) 1,1,2-Trichloroethane	15.53	97	843984	28.682	ng	100
58) Toluene	15.82	91	3424256	27.410	ng	100
59) 2-Hexanone	16.06	43	1935226	30.714	ng	100
60) Dibromochloromethane	16.23	129	1060385	31.652	ng	100
61) 1,2-Dibromoethane	16.48	107	982343	30.496	ng	100
62) n-Butyl Acetate	16.70	43	2168912	32.203	ng	100
63) n-Octane	16.83	57	728475	29.163	ng	100
64) Tetrachloroethene	16.96	166	984776	28.099	ng	100
65) Chlorobenzene	17.63	112	2300188	27.341	ng	100
66) Ethylbenzene	17.99	91	4049520	29.572	ng	100
67) m- & p-Xylenes	18.15	91	6491657	58.495	ng	100
68) Bromoform	18.21	173	917591	30.583	ng	100
69) Styrene	18.48	104	2503836	28.891	ng	100
70) o-Xylene	18.58	91	3253541	29.284	ng	100
71) n-Nonane	18.78	43	1726340	30.608	ng	100
72) 1,1,2,2-Tetrachloroethane	18.55	83	1616722	30.117	ng	100
74) Cumene	19.10	105	4096128	29.280	ng	100
75) alpha-Pinene	19.46	93	2182133	30.613	ng	100
76) n-Propylbenzene	19.56	91	4975591	30.367	ng	100
77) 3-Ethyltoluene	19.64	105	4101218	29.451	ng	100
78) 4-Ethyltoluene	19.68	105	3906607	29.596	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	3353822	28.417	ng	100
80) alpha-Methylstyrene	19.88	118	1815476	28.379	ng	100
81) 2-Ethyltoluene	19.92	105	3976342	29.119	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3727437	30.689	ng	100
83) n-Decane	20.20	57	1854354	30.977	ng	100
84) Benzyl Chloride	20.23	91	3206821	32.930	ng	100
85) 1,3-Dichlorobenzene	20.25	146	2028248	30.866	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1980369	30.311	ng	100
87) sec-Butylbenzene	20.35	105	4443941	29.308	ng	100
88) 4-Isopropyltoluene (p-...	20.49	119	4416603	30.875	ng	100
89) 1,2,3-Trimethylbenzene	20.49	105	3810515	31.296	ng	100
90) 1,2-Dichlorobenzene	20.61	146	2012317	30.068	ng	100
91) d-Limonene	20.62	68	1441613	30.414	ng	100
92) 1,2-Dibromo-3-Chloropr...	20.99	157	697199	30.419	ng	100
93) n-Undecane	21.30	57	1818070	29.597	ng	100
94) 1,2,4-Trichlorobenzene	22.11	180	1398370	33.614	ng	100
95) Naphthalene	22.22	128	4546028	32.455	ng	100
96) n-Dodecane	22.22	57	1750966	29.104	ng	100
97) Hexachlorobutadiene	22.54	225	878145	27.851	ng	100
98) Cyclohexanone	18.28	55	1117925	26.097	ng	100
99) tert-Butylbenzene	20.11	119	3489996	29.594	ng	100
100) n-Butylbenzene	20.86	91	3625532	29.353	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012023.D Vial: 2
Acq On : 1 May 2020 16:59 Operator: LH
Sample : 25ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 17:26:18 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012024.D Vial: 2
Acq On : 1 May 2020 17:33 Operator: LH
Sample : 50ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 18:21:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:29:13 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	296329	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.28	114	1261474	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	593519	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.01	65	478735	11.900	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.20%				
57) Toluene-d8 (SS2)	15.72	98	1240425	12.243	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.92%				
73) Bromofluorobenzene (SS3)	18.98	174	464734	12.717	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.76%				
Target Compounds							Qvalue
2) Propene	4.09	42	1796953	52.860	ng		99
3) Dichlorodifluoromethan...	4.25	85	3187990	47.567	ng		100
4) Chloromethane	4.53	50	2729050	52.530	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	1935925	47.940	ng		100
6) Vinyl Chloride	4.96	62	2887895	50.326	ng		100
7) 1,3-Butadiene	5.22	54	2393303	50.778	ng		99
8) Bromomethane	5.66	94	1618002	53.561	ng		100
9) Chloroethane	5.99	64	1229227	54.539	ng		99
10) Ethanol	6.42	45	7106079	270.958	ng		100
11) Acetonitrile	6.64	41	3034898	50.934	ng		100
12) Acrolein	6.81	56	1054165	50.758	ng		100
13) Acetone	7.03	58	7450473	282.417	ng	#	85
14) Trichlorofluoromethane	7.25	101	3028815	50.994	ng		100
15) 2-Propanol (Isopropanol)	7.55	45	7855441	98.616	ng		99
16) Acrylonitrile	7.78	53	2274854	52.994	ng		100
17) 1,1-Dichloroethene	8.21	96	1662670	53.624	ng		99
18) 2-Methyl-2-Propanol (t...	8.41	59	5524708	78.677	ng		100
19) Methylene Chloride	8.44	84	1782729	52.018	ng		100
20) 3-Chloro-1-propene (Al...	8.60	41	2606826	55.998	ng		100
21) Trichlorotrifluoroethane	8.85	151	1546599	55.362	ng		98
22) Carbon Disulfide	8.69	76	6372275	51.854	ng		100
23) trans-1,2-Dichloroethene	9.71	61	2513808	53.485	ng		99
24) 1,1-Dichloroethane	9.96	63	3010944	53.864	ng		100
25) Methyl tert-Butyl Ether	10.05	73	4149230	46.527	ng		100
26) Vinyl Acetate	10.23	86	2491407	314.423	ng	#	57
27) 2-Butanone (MEK)	10.47	72	1200800	53.091	ng		100
28) cis-1,2-Dichloroethene	10.98	61	2420682	52.524	ng		99
29) Diisopropyl Ether	11.27	87	1723473	53.021	ng	#	93
30) Ethyl Acetate	11.28	61	1642236	125.490	ng		100
31) n-Hexane	11.26	57	3312834	58.268	ng		100
32) Chloroform	11.33	83	3125242	52.888	ng		100
34) Tetrahydrofuran (THF)	11.72	72	1166647	53.025	ng		100
35) Ethyl tert-Butyl Ether	11.87	87	2150206	55.497	ng		100
36) 1,2-Dichloroethane	12.13	62	2421427	51.847	ng		100
38) 1,1,1-Trichloroethane	12.40	97	2767260	54.541	ng		100
39) Isopropyl Acetate	12.84	61	2703577	121.791	ng	#	89
40) 1-Butanol	12.86	56	3801241	117.283	ng		94
41) Benzene	12.88	78	7578608	55.786	ng		100
42) Carbon Tetrachloride	13.04	117	2525594	54.795	ng		100
43) Cyclohexane	13.18	84	5820559	114.692	ng		99
44) tert-Amyl Methyl Ether	13.52	73	5201775	57.533	ng		99
45) 1,2-Dichloropropane	13.73	63	1741280	55.926	ng		99
46) Bromodichloromethane	13.92	83	2627252	57.456	ng		100
47) Trichloroethene	13.98	130	1973429	56.342	ng		100
48) 1,4-Dioxane	13.95	88	1556720	57.092	ng		99
49) 2,2,4-Trimethylpentane...	14.05	57	7264805	55.532	ng		98
50) Methyl Methacrylate	14.19	100	1612357	118.946	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012024.D Vial: 2
Acq On : 1 May 2020 17:33 Operator: LH
Sample : 50ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 18:21:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:29:13 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

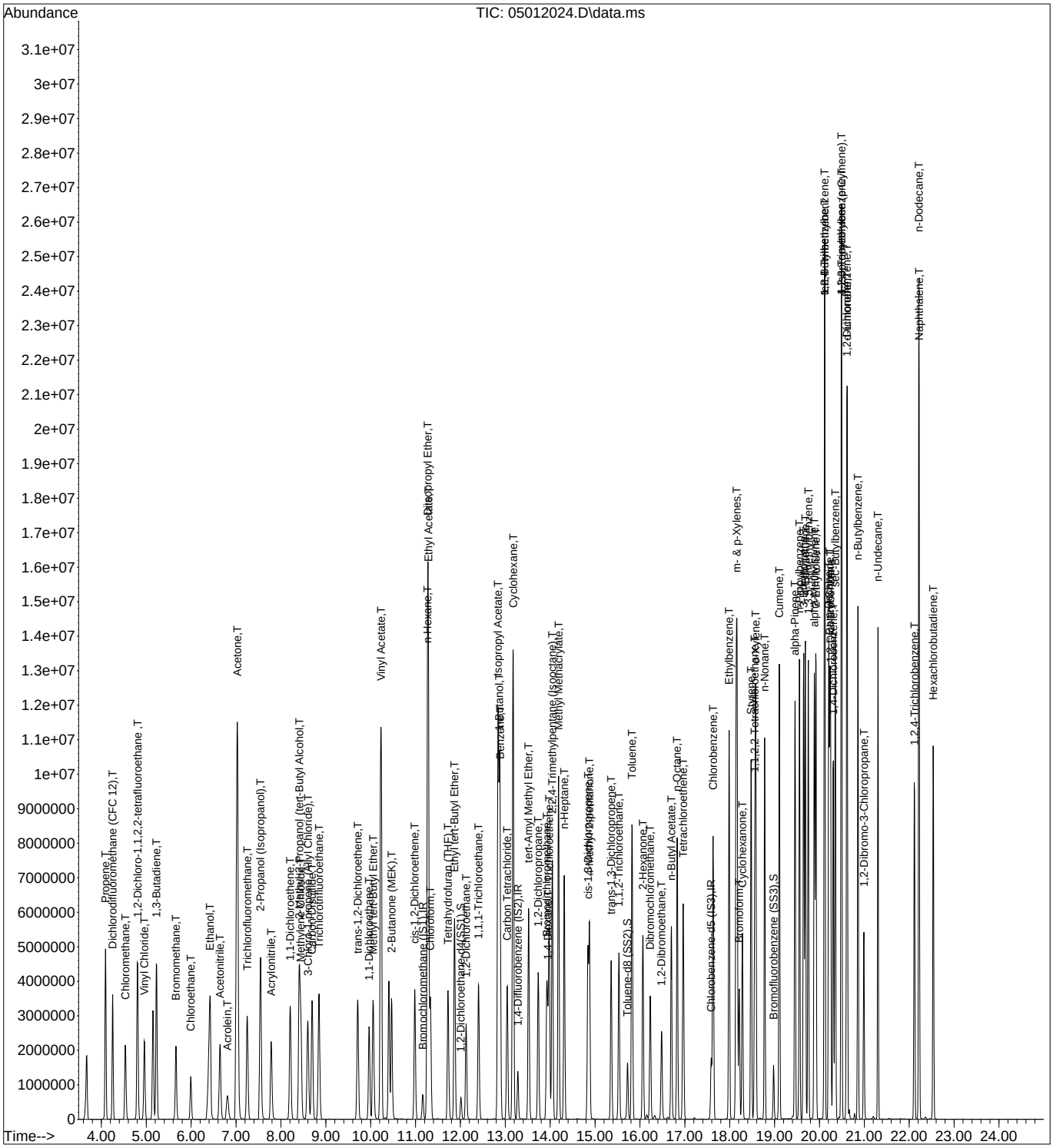
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	1767254	55.726	ng	100
52) cis-1,3-Dichloropropene	14.84	75	3046439	56.787	ng	100
53) 4-Methyl-2-pentanone	14.88	58	1706203	56.697	ng	99
54) trans-1,3-Dichloropropene	15.36	75	2784226	60.799	ng	100
55) 1,1,2-Trichloroethane	15.53	97	1746966	56.334	ng	99
58) Toluene	15.82	91	7061705	54.313	ng	99
59) 2-Hexanone	16.06	43	4070739	57.784	ng	99
60) Dibromochloromethane	16.23	129	2194267	59.071	ng	100
61) 1,2-Dibromoethane	16.48	107	2025699	56.837	ng	100
62) n-Butyl Acetate	16.70	43	4530163	59.421	ng	99
63) n-Octane	16.83	57	1570654	58.903	ng	100
64) Tetrachloroethene	16.97	166	2068921	56.346	ng	100
65) Chlorobenzene	17.63	112	4832830	53.780	ng	100
66) Ethylbenzene	17.99	91	8386382	57.841	ng	99
67) m- & p-Xylenes	18.16	91	13925432	121.021	ng	98
68) Bromoform	18.21	173	1918060	63.108	ng	100
69) Styrene	18.48	104	5183954	59.571	ng	99
70) o-Xylene	18.58	91	6807386	58.156	ng	100
71) n-Nonane	18.78	43	3697140	60.502	ng	98
72) 1,1,2,2-Tetrachloroethane	18.56	83	3397226	58.901	ng	100
74) Cumene	19.10	105	8370559	58.039	ng	99
75) alpha-Pinene	19.46	93	4559119	59.324	ng	99
76) n-Propylbenzene	19.56	91	10009459	58.692	ng	98
77) 3-Ethyltoluene	19.65	105	8132559	58.352	ng	99
78) 4-Ethyltoluene	19.69	105	8156559	59.940	ng	99
79) 1,3,5-Trimethylbenzene	19.75	105	6870991	58.237	ng	99
80) alpha-Methylstyrene	19.89	118	3732298	60.194	ng	98
81) 2-Ethyltoluene	19.92	105	8070320	58.450	ng	99
82) 1,2,4-Trimethylbenzene	20.12	105	7311702	61.264	ng	100
83) n-Decane	20.20	57	4092282	67.333	ng	100
84) Benzyl Chloride	20.23	91	6890327	76.746	ng	99
85) 1,3-Dichlorobenzene	20.25	146	4163439	60.293	ng	100
86) 1,4-Dichlorobenzene	20.31	146	4017198	59.763	ng	100
87) sec-Butylbenzene	20.35	105	8855378	57.530	ng	98
88) 4-Isopropyltoluene (p-...	20.49	119	8351171	59.057	ng	98
89) 1,2,3-Trimethylbenzene	20.49	105	7426933	62.512	ng	99
90) 1,2-Dichlorobenzene	20.61	146	4049033	60.984	ng	100
91) d-Limonene	20.62	68	3089607	66.195	ng	98
92) 1,2-Dibromo-3-Chloropr...	20.99	157	1448206	64.485	ng	98
93) n-Undecane	21.30	57	4012904	76.685	ng	100
94) 1,2,4-Trichlorobenzene	22.12	180	3005308	77.697	ng	99
95) Naphthalene	22.22	128	9089253	72.417	ng	99
96) n-Dodecane	22.22	57	3837089	87.820	ng	99
97) Hexachlorobutadiene	22.54	225	1927632	64.992	ng	100
98) Cyclohexanone	18.28	55	2325790	50.761	ng	99
99) tert-Butylbenzene	20.12	119	6753035	57.139	ng	100
100) n-Butylbenzene	20.86	91	7324522	61.000	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012024.D Vial: 2
Acq On : 1 May 2020 17:33 Operator: LH
Sample : 50ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 18:21:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:29:13 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012025.D Vial: 2
Acq On : 1 May 2020 18:07 Operator: LH
Sample : 100ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 18:32:42 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/1/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	307101	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.29	114	1302649	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	623928	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	496605	11.932	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.44%				
57) Toluene-d8 (SS2)	15.73	98	1277690	12.082	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.64%				
73) Bromofluorobenzene (SS3)	18.98	174	482815	12.688	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.52%				
Target Compounds							Qvalue
2) Propene	4.09	42	2805564	78.878	ng		99
3) Dichlorodifluoromethan...	4.25	85	5430136	78.055	ng		99
4) Chloromethane	4.53	50	5012802	91.976	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	3608284	86.813	ng		100
6) Vinyl Chloride	4.96	62	5582487	93.407	ng		100
7) 1,3-Butadiene	5.24	54	4618053	93.386	ng		97
8) Bromomethane	5.67	94	3307082	104.747	ng		100
9) Chloroethane	6.00	64	2534746	107.357	ng		100
10) Ethanol	6.47	45	15131456	550.944	ng		99
11) Acetonitrile	6.67	41	6424952	102.369	ng		100
12) Acrolein	6.82	56	2202179	101.477	ng		100
13) Acetone	7.05	58	15042025	547.644	ng	#	56
14) Trichlorofluoromethane	7.25	101	6310121	102.633	ng		100
15) 2-Propanol (Isopropanol)	7.58	45	15078880	181.384	ng		98
16) Acrylonitrile	7.80	53	4844904	107.901	ng		100
17) 1,1-Dichloroethene	8.22	96	3526226	109.408	ng		99
18) 2-Methyl-2-Propanol (t...	8.43	59	5971963	83.578	ng		99
19) Methylene Chloride	8.45	84	3794776	106.281	ng		99
20) 3-Chloro-1-propene (Al...	8.61	41	5538474	112.906	ng		99
21) Trichlorotrifluoroethane	8.85	151	3229354	111.251	ng		98
22) Carbon Disulfide	8.71	76	13073755	102.186	ng		99
23) trans-1,2-Dichloroethene	9.72	61	5348726	108.987	ng		100
24) 1,1-Dichloroethane	9.97	63	6355885	109.091	ng		100
25) Methyl tert-Butyl Ether	10.06	73	6522340	71.172	ng		99
26) Vinyl Acetate	10.25	86	4839363	598.679	ng	#	3
27) 2-Butanone (MEK)	10.48	72	2544981	108.649	ng		97
28) cis-1,2-Dichloroethene	10.99	61	5160701	107.507	ng		99
29) Diisopropyl Ether	11.28	87	3334523	100.633	ng	#	74
30) Ethyl Acetate	11.30	61	3181460	235.544	ng		97
31) n-Hexane	11.26	57	6466041	110.371	ng		100
32) Chloroform	11.34	83	6496904	106.280	ng		100
34) Tetrahydrofuran (THF)	11.73	72	2481850	108.635	ng		99
35) Ethyl tert-Butyl Ether	11.87	87	4598768	114.847	ng		98
36) 1,2-Dichloroethane	12.13	62	5046702	104.202	ng		100
38) 1,1,1-Trichloroethane	12.41	97	5801042	110.565	ng		100
39) Isopropyl Acetate	12.85	61	5612819	244.569	ng	#	65
40) 1-Butanol	12.88	56	7686632	235.415	ng		89
41) Benzene	12.89	78	15377837	110.081	ng		99
42) Carbon Tetrachloride	13.04	117	5341272	112.408	ng		99
43) Cyclohexane	13.18	84	11703238	224.817	ng		99
44) tert-Amyl Methyl Ether	13.52	73	10906653	116.431	ng		98
45) 1,2-Dichloropropane	13.74	63	3747744	115.837	ng		100
46) Bromodichloromethane	13.93	83	5488917	116.263	ng		100
47) Trichloroethene	13.98	130	4190784	116.061	ng		99
48) 1,4-Dioxane	13.96	88	3428858	121.871	ng		97
49) 2,2,4-Trimethylpentane...	14.05	57	14950897	109.987	ng		97
50) Methyl Methacrylate	14.19	100	3386785	244.382	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012025.D Vial: 2
Acq On : 1 May 2020 18:07 Operator: LH
Sample : 100ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 18:32:42 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

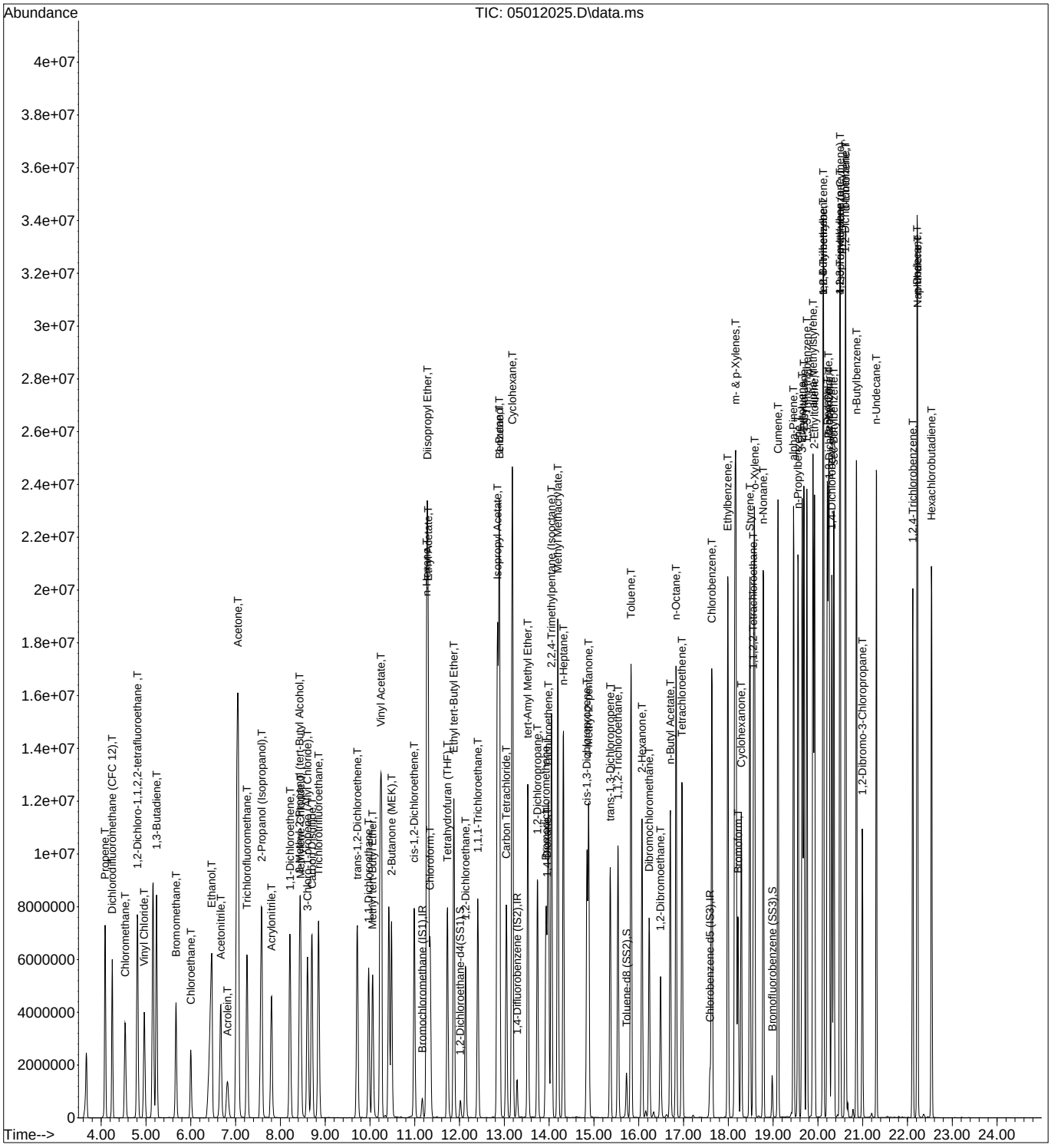
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.32	71	3860770	118.183 ng	99
52) cis-1,3-Dichloropropene	14.84	75	6512364	117.244 ng	99
53) 4-Methyl-2-pentanone	14.88	58	3720592	119.475 ng	94
54) trans-1,3-Dichloropropene	15.36	75	5980136	125.830 ng	100
55) 1,1,2-Trichloroethane	15.54	97	3694486	115.151 ng	98
58) Toluene	15.83	91	14122055	103.594 ng	97
59) 2-Hexanone	16.07	43	8538604	114.309 ng	97
60) Dibromochloromethane	16.23	129	4599117	117.821 ng	98
61) 1,2-Dibromoethane	16.49	107	4236452	112.921 ng	99
62) n-Butyl Acetate	16.71	43	9464801	117.306 ng	97
63) n-Octane	16.83	57	3422153	121.258 ng	99
64) Tetrachloroethene	16.96	166	4251324	110.411 ng	98
65) Chlorobenzene	17.63	112	10058959	107.240 ng	99
66) Ethylbenzene	17.99	91	15775647	103.782 ng	94
67) m- & p-Xylenes	18.16	91	24994911	207.270 ng	97
68) Bromoform	18.22	173	4017610	126.792 ng	100
69) Styrene	18.48	104	10371248	114.347 ng	96
70) o-Xylene	18.59	91	13044798	106.553 ng	98
71) n-Nonane	18.78	43	7415015	114.154 ng	95
72) 1,1,2,2-Tetrachloroethane	18.56	83	6995233	115.177 ng	100
74) Cumene	19.11	105	14928599	99.362 ng	93
75) alpha-Pinene	19.46	93	9103677	113.559 ng	97
76) n-Propylbenzene	19.56	91	16348034	91.592 ng	88
77) 3-Ethyltoluene	19.65	105	15320091	105.349 ng	94
78) 4-Ethyltoluene	19.69	105	13577066	96.220 ng	91
79) 1,3,5-Trimethylbenzene	19.75	105	12866248	105.014 ng	96
80) alpha-Methylstyrene	19.89	118	7332836	114.848 ng	89
81) 2-Ethyltoluene	19.92	105	14549504	101.431 ng	94
82) 1,2,4-Trimethylbenzene	20.12	105	11677289	94.825 ng	99
83) n-Decane	20.21	57	7901549	123.258 ng	99
84) Benzyl Chloride	20.24	91	12745970	134.347 ng	96
85) 1,3-Dichlorobenzene	20.25	146	7870539	110.067 ng	99
86) 1,4-Dichlorobenzene	20.31	146	7896122	113.154 ng	100
87) sec-Butylbenzene	20.36	105	15000490	93.840 ng	91
88) 4-Isopropyltoluene (p-...	20.50	119	12758034	87.765 ng	95
89) 1,2,3-Trimethylbenzene	20.49	105	11655993	95.082 ng	99
90) 1,2-Dichlorobenzene	20.61	146	7018237	102.510 ng	100
91) d-Limonene	20.62	68	5329834	109.584 ng	99
92) 1,2-Dibromo-3-Chloropr...	21.00	157	2996254	126.618 ng	94
93) n-Undecane	21.30	57	7881239	143.443 ng	98
94) 1,2,4-Trichlorobenzene	22.12	180	6156917	147.306 ng	99
95) Naphthalene	22.23	128	14689712	111.271 ng	97
96) n-Dodecane	22.22	57	6472005	144.069 ng	99
97) Hexachlorobutadiene	22.54	225	3985864	130.408 ng	100
98) Cyclohexanone	18.29	55	4951545	103.767 ng	97
99) tert-Butylbenzene	20.12	119	10982141	90.608 ng	99
100) n-Butylbenzene	20.86	91	12973286	103.470 ng	92

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012025.D Vial: 2
Acq On : 1 May 2020 18:07 Operator: LH
Sample : 100ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 18:32:42 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012026.D Vial: 2
Acq On : 1 May 2020 18:41 Operator: LH
Sample : 25ng TO15 ICV STD Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 01 19:07:38 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	306012	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.28	114	1305280	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	605237	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	502495	12.117	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.96%				
57) Toluene-d8 (SS2)	15.72	98	1272559	12.405	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.20%				
73) Bromofluorobenzene (SS3)	18.98	174	479316	12.985	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.84%				
Target Compounds							Qvalue
2) Propene	4.08	42	966787	27.278	ng		100
3) Dichlorodifluoromethan...	4.23	85	1760370	25.394	ng		100
4) Chloromethane	4.52	50	1357331	24.993	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.79	135	976267	23.572	ng		100
6) Vinyl Chloride	4.94	62	1467519	24.642	ng		99
7) 1,3-Butadiene	5.21	54	1260843	25.588	ng		100
8) Bromomethane	5.64	94	787063	25.018	ng		99
9) Chloroethane	5.97	64	602406	25.605	ng		99
10) Ethanol	6.38	45	3553289	129.837	ng		100
11) Acetonitrile	6.62	41	1622424	25.942	ng		100
12) Acrolein	6.79	56	555653	25.696	ng		100
13) Acetone	7.01	58	3611891	131.968	ng		99
14) Trichlorofluoromethane	7.24	101	1552897	25.347	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	4510536	54.450	ng		99
16) Acrylonitrile	7.77	53	1180769	26.391	ng		100
17) 1,1-Dichloroethene	8.19	96	847883	26.401	ng		100
18) 2-Methyl-2-Propanol (t...	8.39	59	4343249	56.240	ng		99
19) Methylene Chloride	8.43	84	892462	25.084	ng		99
20) 3-Chloro-1-propene (Al...	8.58	41	1276351	26.112	ng		100
21) Trichlorotrifluoroethane	8.84	151	781006	27.001	ng		99
22) Carbon Disulfide	8.68	76	3274656	25.686	ng		100
23) trans-1,2-Dichloroethene	9.70	61	1280278	26.180	ng		100
24) 1,1-Dichloroethane	9.96	63	1484365	25.568	ng		100
25) Methyl tert-Butyl Ether	10.05	73	2264086	24.794	ng		100
26) Vinyl Acetate	10.22	86	1192344	139.859	ng		100
27) 2-Butanone (MEK)	10.45	72	609878	26.129	ng		99
28) cis-1,2-Dichloroethene	10.98	61	1232559	25.768	ng		100
29) Diisopropyl Ether	11.27	87	824575	24.973	ng	#	95
30) Ethyl Acetate	11.27	61	776633	57.704	ng		100
31) n-Hexane	11.26	57	1581365	27.089	ng		100
32) Chloroform	11.32	83	1591321	26.124	ng		100
34) Tetrahydrofuran (THF)	11.72	72	595371	26.153	ng		100
35) Ethyl tert-Butyl Ether	11.86	87	1068978	26.791	ng		99
36) 1,2-Dichloroethane	12.12	62	1234056	25.571	ng		100
38) 1,1,1-Trichloroethane	12.40	97	1423725	27.081	ng		100
39) Isopropyl Acetate	12.83	61	1293737	56.259	ng		97
40) 1-Butanol	12.85	56	2086238	63.765	ng		94
41) Benzene	12.88	78	3590944	25.654	ng		100
42) Carbon Tetrachloride	13.04	117	1259961	26.463	ng		100
43) Cyclohexane	13.17	84	2795016	53.584	ng		99
44) tert-Amyl Methyl Ether	13.52	73	2599327	27.692	ng		100
45) 1,2-Dichloropropane	13.73	63	867296	26.753	ng		99
46) Bromodichloromethane	13.92	83	1295074	27.376	ng		100
47) Trichloroethene	13.97	130	967338	26.736	ng		100
48) 1,4-Dioxane	13.95	88	775383	27.504	ng		100
49) 2,2,4-Trimethylpentane...	14.04	57	3603157	26.453	ng		100
50) Methyl Methacrylate	14.18	100	775781	55.866	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012026.D Vial: 2
Acq On : 1 May 2020 18:41 Operator: LH
Sample : 25ng TO15 ICV STD Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 01 19:07:38 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

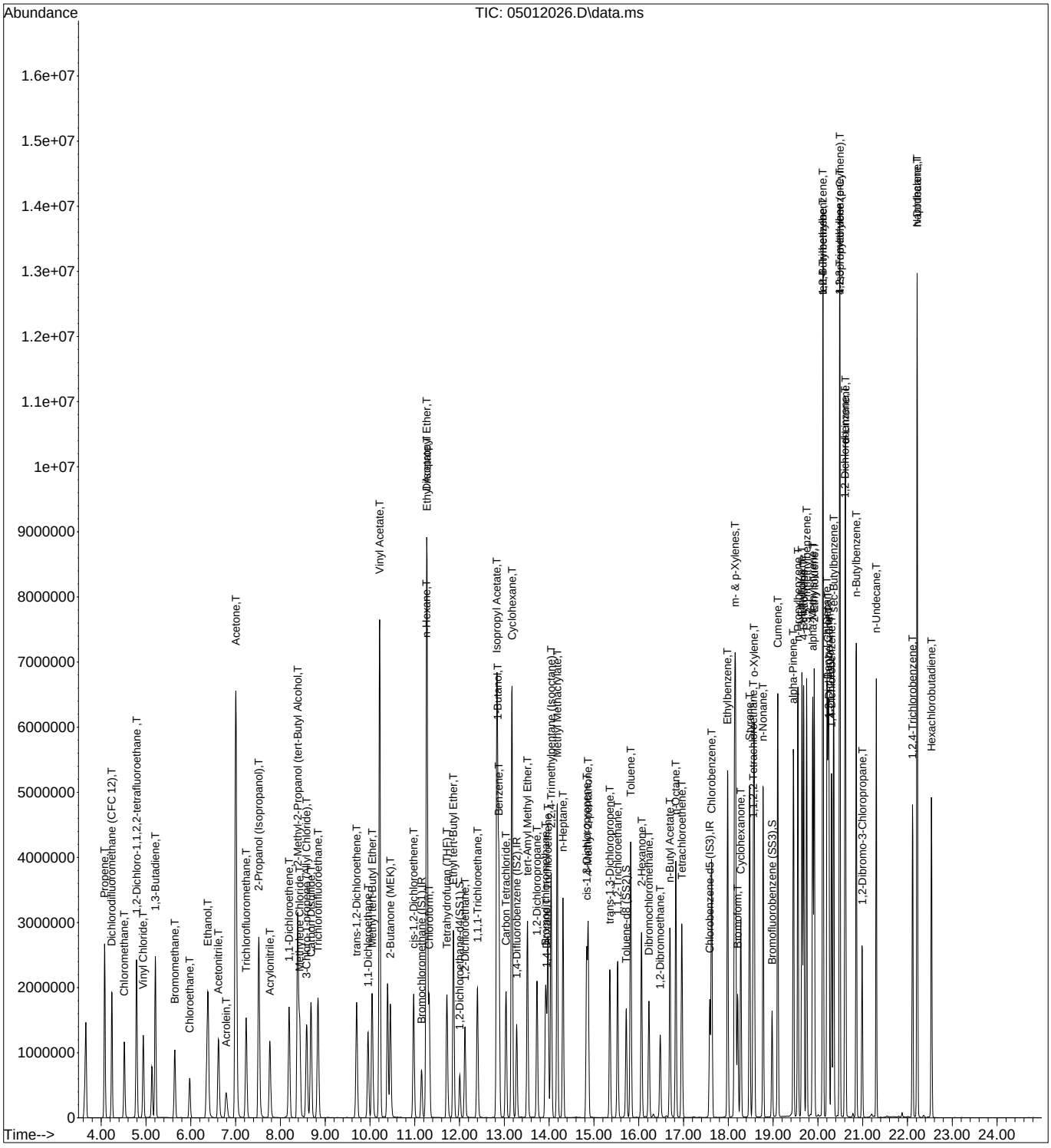
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	851667	26.018	ng	100
52) cis-1,3-Dichloropropene	14.84	75	1585771	28.492	ng	100
53) 4-Methyl-2-pentanone	14.87	58	872253	27.953	ng	100
54) trans-1,3-Dichloropropene	15.35	75	1387054	29.127	ng	100
55) 1,1,2-Trichloroethane	15.53	97	867139	26.973	ng	100
58) Toluene	15.82	91	3509323	26.538	ng	100
59) 2-Hexanone	16.06	43	2142962	29.574	ng	100
60) Dibromochloromethane	16.23	129	1094576	28.907	ng	100
61) 1,2-Dibromoethane	16.48	107	1019112	28.003	ng	100
62) n-Butyl Acetate	16.70	43	2398863	30.649	ng	100
63) n-Octane	16.83	57	741607	27.089	ng	100
64) Tetrachloroethene	16.96	166	1010020	27.041	ng	99
65) Chlorobenzene	17.62	112	2369161	26.038	ng	100
66) Ethylbenzene	17.98	91	4140285	28.079	ng	100
67) m- & p-Xylenes	18.15	91	6646028	56.814	ng	100
68) Bromoform	18.21	173	952116	29.005	ng	100
69) Styrene	18.48	104	2615334	29.726	ng	100
70) o-Xylene	18.58	91	3318680	27.945	ng	100
71) n-Nonane	18.77	43	1768593	28.068	ng	100
72) 1,1,2,2-Tetrachloroethane	18.55	83	1670094	28.347	ng	100
74) Cumene	19.10	105	4140007	28.406	ng	100
75) alpha-Pinene	19.45	93	2192080	28.188	ng	99
76) n-Propylbenzene	19.55	91	5034559	29.078	ng	100
77) 3-Ethyltoluene	19.64	105	4294103	30.440	ng	100
78) 4-Ethyltoluene	19.68	105	3790629	27.694	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	3430468	28.864	ng	100
80) alpha-Methylstyrene	19.88	118	1874877	27.988	ng	100
81) 2-Ethyltoluene	19.92	105	4065181	29.215	ng	99
82) 1,2,4-Trimethylbenzene	20.11	105	3770591	31.564	ng	100
83) n-Decane	20.20	57	1887277	28.242	ng	100
84) Benzyl Chloride	20.23	91	3366173	30.233	ng	100
85) 1,3-Dichlorobenzene	20.25	146	2073075	29.887	ng	100
86) 1,4-Dichlorobenzene	20.30	146	2047327	30.245	ng	100
87) sec-Butylbenzene	20.35	105	4505729	29.057	ng	100
88) 4-Isopropyltoluene (p-...	20.49	119	4352844	29.644	ng	100
89) 1,2,3-Trimethylbenzene	20.48	105	3682695	29.457	ng	100
90) 1,2-Dichlorobenzene	20.61	146	2035560	30.650	ng	100
91) d-Limonene	20.62	68	1446579	30.661	ng	100
92) 1,2-Dibromo-3-Chloropr...	20.99	157	709248	28.322	ng	99
93) n-Undecane	21.30	57	1877490	30.357	ng	99
94) 1,2,4-Trichlorobenzene	22.11	180	1445626	31.384	ng	100
95) Naphthalene	22.22	128	4860431	33.339	ng	100
96) n-Dodecane	22.22	57	1815131	33.896	ng	100
97) Hexachlorobutadiene	22.54	225	900762	28.271	ng	99
98) Cyclohexanone	18.28	55	1308763	28.274	ng	99
99) tert-Butylbenzene	20.11	119	3490399	29.687	ng	100
100) n-Butylbenzene	20.86	91	3725548	30.631	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012026.D Vial: 2
Acq On : 1 May 2020 18:41 Operator: LH
Sample : 25ng TO15 ICV STD Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 01 19:07:38 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



LH 5/1/20

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **05012026.D**
Data File Path: **I:\MS16\DATA\2020_05\01**
Operator: **LH**
Date Acquired: **5/1/2020** **18:41**

Acq. Method File: **TO15.M**
Sample Name: **25ng TO15 ICV STD**
Misc Info: **S31-02112001/S34-04302003 (**
Instrument Name: **GCMS-16**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
2)	**Propene**	**4.08**	**27.3**	26.25	104	**51**	**133**	*	*
3)	**Dichlorodifluoromethane (CFC 1**	**4.23**	**25.4**	**26.25**	97	**64**	**115**	*	*
4)	**Chloromethane**	**4.52**	**25.0**	**26.50**	94	**49**	**127**	*	*
5)	**1,2-Dichloro-1,1,2,2-tetrafluoroet**	**4.79**	**23.6**	**25.75**	92	**65**	**114**	*	*
6)	**Vinyl Chloride**	**4.94**	**24.6**	**26.50**	93	**61**	**129**	*	*
7)	**1,3-Butadiene**	**5.21**	**25.6**	**26.50**	97	**54**	**140**	*	*
8)	**Bromomethane**	**5.64**	**25.0**	**26.50**	94	**68**	**120**	*	*
9)	**Chloroethane**	**5.97**	**25.6**	**26.75**	96	**63**	**123**	*	*
10)	**Ethanol**	**6.38**	**130**	**132.50**	98	**49**	**134**	*	*
11)	**Acetonitrile**	**6.62**	**25.9**	**26.75**	97	**50**	**137**	*	*
12)	**Acrolein**	**6.79**	**25.7**	**25.75**	100	**62**	**128**	*	*
13)	**Acetone**	**7.01**	**132**	**133.50**	99	**56**	**125**	*	*
14)	**Trichlorofluoromethane**	**7.24**	**25.3**	**26.50**	95	**64**	**115**	*	*
15)	**2-Propanol (Isopropanol)**	**7.52**	**54.5**	**52.75**	103	**57**	**133**	*	*
16)	**Acrylonitrile**	**7.77**	**26.4**	**26.50**	100	**64**	**136**	*	*
17)	**1,1-Dichloroethene**	**8.19**	**26.4**	**26.75**	99	**68**	**115**	*	*
18)	2-Methyl-2-Propanol (tert-Butyl Alc	8.39	56.2	53.75	105	56	132	*	*
19)	**Methylene Chloride**	**8.43**	**25.1**	**26.25**	96	**68**	**114**	*	*
20)	**3-Chloro-1-propene (Allyl Chloric**	**8.58**	**26.1**	**26.75**	98	**55**	**139**	*	*
21)	**Trichlorotrifluoroethane**	**8.84**	**27.0**	**27.00**	100	**65**	**115**	*	*
22)	**Carbon Disulfide**	**8.68**	**25.7**	**26.50**	97	**68**	**113**	*	*
23)	**trans-1,2-Dichloroethene**	**9.70**	**26.2**	**26.75**	98	**65**	**122**	*	*
24)	**1,1-Dichloroethane**	**9.96**	**25.6**	**26.50**	97	**63**	**118**	*	*
25)	**Methyl tert-Butyl Ether**	**10.05**	**24.8**	**26.75**	93	**57**	**131**	*	*
26)	**Vinyl Acetate**	**10.22**	**140**	**133.25**	105	**71**	**128**	*	*
27)	**2-Butanone (MEK)**	**10.45**	**26.1**	**26.50**	98	**67**	**123**	*	*
28)	**cis-1,2-Dichloroethene**	**10.98**	**25.8**	**26.50**	97	**64**	**120**	*	*
29)	Diisopropyl Ether	11.27	25.0	27.00	93	62	121	*	*
30)	**Ethyl Acetate**	**11.27**	**57.7**	**54.00**	107	**64**	**131**	*	*
31)	**n-Hexane**	**11.26**	**27.1**	**27.00**	100	**58**	**125**	*	*
32)	**Chloroform**	**11.32**	**26.1**	**26.75**	98	**65**	**114**	*	*
34)	**Tetrahydrofuran (THF)**	**11.72**	**26.2**	**27.50**	95	**65**	**115**	*	*
35)	Ethyl tert-Butyl Ether	11.86	26.8	26.75	100	61	130	*	*
36)	**1,2-Dichloroethane**	**12.12**	**25.6**	**26.75**	96	**59**	**120**	*	*
38)	**1,1,1-Trichloroethane**	**12.40**	**27.1**	**26.75**	101	**66**	**115**	*	*
39)	Isopropyl Acetate	12.83	56.3	52.50	107	65	129	*	*
40)	1-Butanol	12.85	63.8	53.25	120	58	140	*	*
41)	**Benzene**	**12.88**	**25.7**	**26.25**	98	**66**	**109**	*	*
42)	**Carbon Tetrachloride**	**13.04**	**26.5**	**26.00**	102	**66**	**119**	*	*
43)	**Cyclohexane**	**13.17**	**53.6**	**52.75**	102	**67**	**117**	*	*
44)	tert-Amyl Methyl Ether	13.52	27.7	**26.75**	104	62	133	*	*
45)	**1,2-Dichloropropane**	**13.73**	**26.8**	**26.75**	100	**66**	**119**	*	*
46)	**Bromodichloromethane**	**13.92**	**27.4**	**27.25**	101	**71**	**119**	*	*
47)	**Trichloroethene**	**13.97**	**26.7**	**27.00**	99	**70**	**114**	*	*
48)	**1,4-Dioxane**	**13.95**	**27.5**	**27.00**	102	**71**	**117**	*	*
49)	2,2,4-Trimethylpentane (Isooctane)	14.04	26.5	26.75	99	61	122	*	*

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **05012026.D** **TO15.M**
Data File Path: **I:\MS16\DATA\2020_05\01** Sample Name: **25ng TO15 ICV STD**
Operator: **LH** Misc Info: **S31-02112001/S34-04302003 (**
Date Acquired: **5/1/2020** **18:41** Instrument Name: **GCMS-16**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
50)	**Methyl Methacrylate**	**14.18**	**55.9**	**53.75**	104	**76**	**121**	*	*
51)	**n-Heptane**	**14.31**	**26.0**	**26.75**	97	**66**	**119**	*	*
52)	**cis-1,3-Dichloropropene**	**14.84**	**28.5**	**26.75**	107	**72**	**125**	*	*
53)	**4-Methyl-2-pentanone**	**14.87**	**28.0**	**26.50**	106	**68**	**130**	*	*
54)	**trans-1,3-Dichloropropene**	**15.35**	**29.1**	**26.50**	110	**71**	**132**	*	*
55)	**1,1,2-Trichloroethane**	**15.53**	**27.0**	**26.75**	101	**70**	**117**	*	*
58)	**Toluene**	**15.82**	**26.5**	**26.50**	100	**67**	**113**	*	*
59)	**2-Hexanone**	**16.06**	**29.6**	**27.00**	110	**62**	**135**	*	*
60)	**Dibromochloromethane**	**16.23**	**28.9**	**26.75**	108	**73**	**126**	*	*
61)	**1,2-Dibromoethane**	**16.48**	**28.0**	**26.75**	105	**71**	**122**	*	*
62)	**n-Butyl Acetate**	**16.70**	**30.6**	**27.25**	112	**65**	**134**	*	*
63)	**n-Octane**	**16.83**	**27.1**	**27.00**	100	**63**	**120**	*	*
64)	**Tetrachloroethene**	**16.96**	**27.0**	**26.00**	104	**64**	**120**	*	*
65)	**Chlorobenzene**	**17.62**	**26.0**	**26.75**	97	**65**	**116**	*	*
66)	**Ethylbenzene**	**17.98**	**28.1**	**26.50**	106	**65**	**117**	*	*
67)	**m- & p-Xylenes**	**18.15**	**56.8**	**53.25**	107	**64**	**121**	*	*
68)	**Bromoform**	**18.21**	**29.0**	**26.75**	108	**72**	**130**	*	*
69)	**Styrene**	**18.48**	**29.7**	**26.50**	112	**72**	**126**	*	*
70)	**o-Xylene**	**18.58**	**27.9**	**26.75**	104	**64**	**120**	*	*
71)	**n-Nonane**	**18.77**	**28.1**	**26.75**	105	**56**	**132**	*	*
72)	**1,1,2,2-Tetrachloroethane**	**18.55**	**28.3**	**26.75**	106	**66**	**122**	*	*
74)	**Cumene**	**19.10**	**28.4**	**26.75**	106	**64**	**121**	*	*
75)	**alpha-Pinene**	**19.45**	**28.2**	**26.50**	106	**62**	**136**	*	*
76)	**n-Propylbenzene**	**19.55**	**29.1**	**26.75**	109	**65**	**123**	*	*
77)	3-Ethyltoluene	19.64	30.4	26.75	114	62	123	*	*
78)	**4-Ethyltoluene**	**19.68**	**27.7**	**26.25**	**106**	**71**	**126**	*	*
79)	**1,3,5-Trimethylbenzene**	**19.75**	**28.9**	**26.50**	**109**	**65**	**120**	*	*
80)	alpha-Methylstyrene	19.88	28.0	26.50	**106**	70	132	*	*
81)	2-Ethyltoluene	19.92	29.2	26.75	**109**	66	121	*	*
82)	**1,2,4-Trimethylbenzene**	**20.11**	**31.6**	**26.50**	**119**	**63**	**129**	*	*
83)	n-Decane	20.20	28.2	26.75	**105**	61	131	*	*
84)	**Benzyl Chloride**	**20.23**	**30.2**	**26.75**	**113**	**66**	**138**	*	*
85)	**1,3-Dichlorobenzene**	**20.25**	**29.9**	**26.75**	**112**	**65**	**127**	*	*
86)	**1,4-Dichlorobenzene**	**20.30**	**30.2**	**26.75**	**113**	**66**	**125**	*	*
87)	sec-Butylbenzene	20.35	29.1	26.50	**110**	68	123	*	*
88)	4-Isopropyltoluene (p-Cymene)	20.49	29.6	27.25	**109**	61	129	*	*
89)	1,2,3-Trimethylbenzene	20.48	29.5	27.00	**109**	60	134	*	*
90)	**1,2-Dichlorobenzene**	**20.61**	**30.6**	**26.75**	**114**	**67**	**128**	*	*
91)	**d-Limonene**	**20.62**	**30.7**	**26.50**	**116**	**65**	**136**	*	*
92)	**1,2-Dibromo-3-Chloropropane**	**20.99**	**28.3**	**26.75**	**106**	**73**	**133**	*	*
93)	n-Undecane	21.30	30.4	27.00	**113**	64	131	*	*
94)	**1,2,4-Trichlorobenzene**	**22.11**	**31.4**	**27.00**	**116**	**62**	**140**	*	*
95)	**Naphthalene**	**22.22**	**33.3**	**26.50**	**126**	**57**	**149**	*	*
96)	n-Dodecane	22.22	33.9	26.50	**128**	41	181	*	*
97)	**Hexachlorobutadiene**	**22.54**	**28.3**	**26.75**	**106**	57	129	*	*
98)	Cyclohexanone	18.28	28.3	25.25	112	61	131	*	*
99)	tert-Butylbenzene	20.11	29.7	26.50	112	62	130	*	*
100)	n-Butylbenzene	20.86	30.6	26.75	114	67	124	*	*

Bold = 75 Compound List

 *** = Pass** **I:\MS16\0-Instrument Info\0-Security Certificates\ICV_LCS_2019_10111902.CRT** 5/1/2020 7:08 PM

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\08\05082033.D Vial: 2
Acq On : 8 May 2020 21:36 Operator: LH
Sample : CCV2 R16050820_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 09 07:16:46 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

WDA 5/9/20

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	96	-0.01
2	T	Propene	1.448	1.424	1.7	93	0.00
3	T	Dichlorodifluoromethane (CF	2.832	2.578	9.0	90	0.00
4	T	Chloromethane	2.218	2.071	6.6	90	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.692	1.492	11.8	89	0.00
6	T	Vinyl Chloride	2.433	2.194	9.8	89	0.00
7	T	1,3-Butadiene	2.013	1.825	9.3	89	0.00
8	T	Bromomethane	1.285	1.168	9.1	90	0.00
9	T	Chloroethane	0.961	0.882	8.2	89	0.00
10	T	Ethanol	1.118	1.006	10.0	87	-0.03
11	T	Acetonitrile	2.555	2.241	12.3	87	-0.02
12	T	Acrolein	0.883	0.775	12.2	84	-0.01
13	T	Acetone	1.118	1.029	8.0	87	-0.02
14	T	Trichlorofluoromethane	2.503	2.215	11.5	86	0.00
15	T	2-Propanol (Isopropanol)	3.384	3.139	7.2	86	-0.02
16	T	Acrylonitrile	1.828	1.647	9.9	86	-0.01
17	T	1,1-Dichloroethene	1.312	1.192	9.1	87	0.00
18	T	2-Methyl-2-Propanol (tert-B	3.155	2.793	11.5	84	-0.02
19	T	Methylene Chloride	1.453	1.286	11.5	86	0.00
20	T	3-Chloro-1-propene (Allyl C	1.997	1.828	8.5	86	-0.01
21	T	Trichlorotrifluoroethane	1.182	1.113	5.8	89	0.00
22	T	Carbon Disulfide	5.208	4.637	11.0	86	0.00
23	T	trans-1,2-Dichloroethene	1.998	1.771	11.4	86	0.00
24	T	1,1-Dichloroethane	2.371	2.125	10.4	86	0.00
25	T	Methyl tert-Butyl Ether	3.730	3.345	10.3	91	0.00
26	T	Vinyl Acetate	0.348	0.321	7.8	82	-0.01
27	T	2-Butanone (MEK)	0.953	0.856	10.2	86	0.00
28	T	cis-1,2-Dichloroethene	1.954	1.711	12.4	85	0.00
29	T	Diisopropyl Ether	1.349	1.161	13.9	84	0.00
30	T	Ethyl Acetate	0.550	0.543	1.3	87	0.00
31	T	n-Hexane	2.385	2.267	4.9	87	0.00
32	T	Chloroform	2.488	2.222	10.7	86	0.00
33	S	1,2-Dichloroethane-d4(SS1)	1.694	1.584	6.5	93	0.00
34	T	Tetrahydrofuran (THF)	0.930	0.805	13.4	86	0.00
35	T	Ethyl tert-Butyl Ether	1.630	1.483	9.0	85	0.00
36	T	1,2-Dichloroethane	1.971	1.691	14.2	85	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	95	0.00
38	T	1,1,1-Trichloroethane	0.503	0.458	8.9	85	0.00
39	T	Isopropyl Acetate	0.220	0.215	2.3	86	0.00
40	T	1-Butanol	0.313	0.289	7.7	82	-0.02
41	T	Benzene	1.340	1.216	9.3	86	0.00
42	T	Carbon Tetrachloride	0.456	0.425	6.8	85	0.00
43	T	Cyclohexane	0.500	0.477	4.6	87	0.00
44	T	tert-Amyl Methyl Ether	0.899	0.845	6.0	86	0.00
45	T	1,2-Dichloropropane	0.310	0.288	7.1	86	0.00
46	T	Bromodichloromethane	0.453	0.430	5.1	85	0.00
47	T	Trichloroethene	0.346	0.328	5.2	88	0.00
48	T	1,4-Dioxane	0.270	0.250	7.4	85	0.00
49	T	2,2,4-Trimethylpentane (Iso	1.304	1.206	7.5	86	0.00
50	T	Methyl Methacrylate	0.133	0.129	3.0	86	0.00
51	T	n-Heptane	0.313	0.283	9.6	87	0.00
52	T	cis-1,3-Dichloropropene	0.533	0.508	4.7	85	0.00
53	T	4-Methyl-2-pentanone	0.299	0.278	7.0	85	0.00
54	T	trans-1,3-Dichloropropene	0.456	0.451	1.1	84	0.00
55	T	1,1,2-Trichloroethane	0.308	0.293	4.9	87	0.00

Evaluate Continuing Calibration Report

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Acq On : 8 May 2020 21:36 Operator: LH
Sample : CCV2 R16050820_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 09 07:16:46 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	94	0.00
57	S	Toluene-d8 (SS2)	2.119	2.130	-0.5	94	0.00
58	T	Toluene	2.731	2.586	5.3	87	0.00
59	T	2-Hexanone	1.497	1.427	4.7	85	0.00
60	T	Dibromochloromethane	0.782	0.795	-1.7	86	0.00
61	T	1,2-Dibromoethane	0.752	0.740	1.6	87	0.00
62	T	n-Butyl Acetate	1.616	1.539	4.8	83	0.00
63	T	n-Octane	0.565	0.545	3.5	87	0.00
64	T	Tetrachloroethene	0.771	0.782	-1.4	89	0.00
65	T	Chlorobenzene	1.879	1.735	7.7	87	0.00
66	T	Ethylbenzene	3.045	3.011	1.1	85	0.00
67	T	m- & p-Xylenes	2.416	2.426	-0.4	86	-0.01
68	T	Bromoform	0.678	0.688	-1.5	86	0.00
69	T	Styrene	1.817	1.871	-3.0	85	0.00
70	T	o-Xylene	2.453	2.445	0.3	86	0.00
71	T	n-Nonane	1.301	1.322	-1.6	88	0.00
72	T	1,1,2,2-Tetrachloroethane	1.217	1.219	-0.2	87	0.00
73	S	Bromofluorobenzene (SS3)	0.762	0.822	-7.9	96	0.00
74	T	Cumene	3.010	3.069	-2.0	87	0.00
75	T	alpha-Pinene	1.606	1.621	-0.9	85	0.00
76	T	n-Propylbenzene	3.576	3.698	-3.4	86	0.00
77	T	3-Ethyltoluene	2.913	2.998	-2.9	83	0.00
78	T	4-Ethyltoluene	2.827	3.014	-6.6	89	0.00
79	T	1,3,5-Trimethylbenzene	2.455	2.537	-3.3	86	0.00
80	T	alpha-Methylstyrene	1.384	1.305	5.7	83	0.00
81	T	2-Ethyltoluene	2.874	2.979	-3.7	87	0.00
82	T	1,2,4-Trimethylbenzene	2.467	2.807	-13.8	86	0.00
83	T	n-Decane	1.380	1.395	-1.1	86	0.00
84	T	Benzyl Chloride	2.300	2.262	1.7	82	0.00
85	T	1,3-Dichlorobenzene	1.433	1.513	-5.6	86	0.00
86	T	1,4-Dichlorobenzene	1.398	1.479	-5.8	86	0.00
87	T	sec-Butylbenzene	3.203	3.378	-5.5	87	0.00
88	T	4-Isopropyltoluene (p-Cymen	3.033	3.297	-8.7	87	0.00
89	T	1,2,3-Trimethylbenzene	2.582	2.823	-9.3	87	0.00
90	T	1,2-Dichlorobenzene	1.372	1.524	-11.1	87	0.00
91	T	d-Limonene	0.974	1.063	-9.1	85	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.517	0.533	-3.1	86	0.00
93	T	n-Undecane	1.277	1.359	-6.4	87	0.00
94	T	1,2,4-Trichlorobenzene	0.951	1.045	-9.9	86	0.00
95	T	Naphthalene	3.011	3.410	-13.3	83	-0.01
96	T	n-Dodecane	1.106	1.356	-22.6	86	0.00
97	T	Hexachlorobutadiene	0.658	0.692	-5.2	90	0.00
98	T	Cyclohexanone	0.956	0.849	11.2	81	-0.01
99	T	tert-Butylbenzene	2.428	2.662	-9.6	88	0.00
100	T	n-Butylbenzene	2.512	2.729	-8.6	86	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

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Acq On : 8 May 2020 21:36 Operator: LH
Sample : CCV2 R16050820_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 09 07:16:46 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LOA 5/9/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	274161	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.28	114	1168237	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.58	82	536761	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	434298	11.689	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.52%				
57) Toluene-d8 (SS2)	15.72	98	1143301	12.566	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.56%				
73) Bromofluorobenzene (SS3)	18.98	174	441070	13.473	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.76%				
Target Compounds							Qvalue
2) Propene	4.09	42	827872	26.072	ng		99
3) Dichlorodifluoromethan...	4.25	85	1498235	24.124	ng		100
4) Chloromethane	4.53	50	1203782	24.741	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	858889	23.147	ng		100
6) Vinyl Chloride	4.95	62	1299344	24.353	ng		100
7) 1,3-Butadiene	5.22	54	1060697	24.027	ng		99
8) Bromomethane	5.65	94	691566	24.536	ng		100
9) Chloroethane	5.98	64	522139	24.772	ng		100
10) Ethanol	6.39	45	2873807	117.209	ng		100
11) Acetonitrile	6.63	41	1290396	23.030	ng		100
12) Acrolein	6.80	56	437715	22.593	ng		100
13) Acetone	7.01	58	3008037	122.674	ng		99
14) Trichlorofluoromethane	7.24	101	1287613	23.459	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	3613958	48.695	ng		100
16) Acrylonitrile	7.77	53	948424	23.660	ng		100
17) 1,1-Dichloroethene	8.20	96	705678	24.526	ng		97
18) 2-Methyl-2-Propanol (t...	8.39	59	3308293	47.815	ng		100
19) Methylene Chloride	8.44	84	747387	23.447	ng		100
20) 3-Chloro-1-propene (Al...	8.59	41	1082393	24.716	ng		100
21) Trichlorotrifluoroethane	8.84	151	659117	25.435	ng		98
22) Carbon Disulfide	8.69	76	2720336	23.817	ng		100
23) trans-1,2-Dichloroethene	9.71	61	1048669	23.935	ng		98
24) 1,1-Dichloroethane	9.96	63	1269818	24.414	ng		100
25) Methyl tert-Butyl Ether	10.05	73	1980796	24.211	ng		100
26) Vinyl Acetate	10.22	86	941049	123.207	ng	#	94
27) 2-Butanone (MEK)	10.46	72	497649	23.798	ng		97
28) cis-1,2-Dichloroethene	10.98	61	994695	23.211	ng		99
29) Diisopropyl Ether	11.27	87	687772	23.250	ng	#	91
30) Ethyl Acetate	11.28	61	646313	53.600	ng		98
31) n-Hexane	11.26	57	1342533	25.669	ng		100
32) Chloroform	11.32	83	1303721	23.889	ng		100
34) Tetrahydrofuran (THF)	11.72	72	480882	23.578	ng		99
35) Ethyl tert-Butyl Ether	11.86	87	878417	24.573	ng		100
36) 1,2-Dichloroethane	12.12	62	1001285	23.158	ng		100
38) 1,1,1-Trichloroethane	12.40	97	1144059	24.314	ng		100
39) Isopropyl Acetate	12.83	61	1059225	51.464	ng		98
40) 1-Butanol	12.85	56	1403386	47.926	ng		97
41) Benzene	12.88	78	3012357	24.045	ng		100
42) Carbon Tetrachloride	13.04	117	1043273	24.482	ng		100
43) Cyclohexane	13.17	84	2362738	50.610	ng		99
44) tert-Amyl Methyl Ether	13.52	73	2131541	25.373	ng		100
45) 1,2-Dichloropropane	13.73	63	725554	25.006	ng		100
46) Bromodichloromethane	13.92	83	1083873	25.599	ng		100
47) Trichloroethene	13.97	130	819140	25.296	ng		100
48) 1,4-Dioxane	13.95	88	631152	25.014	ng		99
49) 2,2,4-Trimethylpentane...	14.04	57	3015207	24.734	ng		100
50) Methyl Methacrylate	14.18	100	646895	52.049	ng		99

Quantitation Report (QT Reviewed)

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Acq On : 8 May 2020 21:36 Operator: LH
Sample : CCV2 R16050820_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 09 07:16:46 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	714571	24.391	ng	99
52) cis-1,3-Dichloropropene	14.84	75	1235135	24.795	ng	100
53) 4-Methyl-2-pentanone	14.87	58	687819	24.628	ng	98
54) trans-1,3-Dichloropropene	15.35	75	1117437	26.218	ng	100
55) 1,1,2-Trichloroethane	15.53	97	732542	25.459	ng	100
58) Toluene	15.82	91	2970564	25.330	ng	100
59) 2-Hexanone	16.06	43	1639566	25.514	ng	99
60) Dibromochloromethane	16.23	129	913583	27.205	ng	100
61) 1,2-Dibromoethane	16.48	107	850174	26.341	ng	100
62) n-Butyl Acetate	16.70	43	1801426	25.952	ng	100
63) n-Octane	16.82	57	631658	26.016	ng	100
64) Tetrachloroethene	16.96	166	873286	26.363	ng	100
65) Chlorobenzene	17.62	112	1993305	24.702	ng	100
66) Ethylbenzene	17.98	91	3459194	26.452	ng	100
67) m- & p-Xylenes	18.15	91	5574352	53.732	ng	100
68) Bromoform	18.21	173	789835	27.131	ng	100
69) Styrene	18.47	104	2128612	27.280	ng	99
70) o-Xylene	18.58	91	2808607	26.667	ng	99
71) n-Nonane	18.77	43	1518062	27.166	ng	98
72) 1,1,2,2-Tetrachloroethane	18.55	83	1400100	26.796	ng	100
74) Cumene	19.10	105	3557738	27.525	ng	100
75) alpha-Pinene	19.45	93	1862526	27.006	ng	100
76) n-Propylbenzene	19.55	91	4287590	27.923	ng	100
77) 3-Ethyltoluene	19.64	105	3411519	27.269	ng	100
78) 4-Ethyltoluene	19.68	105	3494706	28.789	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	2887470	27.395	ng	99
80) alpha-Methylstyrene	19.88	118	1498607	25.225	ng	99
81) 2-Ethyltoluene	19.91	105	3453829	27.988	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3223898	30.431	ng	99
83) n-Decane	20.20	57	1602015	27.032	ng	100
84) Benzyl Chloride	20.23	91	2623051	26.564	ng	100
85) 1,3-Dichlorobenzene	20.24	146	1737799	28.249	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1698919	28.300	ng	100
87) sec-Butylbenzene	20.35	105	3879802	28.213	ng	100
88) 4-Isopropyltoluene (p-...	20.48	119	3858082	29.626	ng	100
89) 1,2,3-Trimethylbenzene	20.48	105	3302955	29.790	ng	99
90) 1,2-Dichlorobenzene	20.61	146	1750061	29.713	ng	100
91) d-Limonene	20.61	68	1232408	29.454	ng	99
92) 1,2-Dibromo-3-Chloropr...	20.98	157	600387	27.034	ng	98
93) n-Undecane	21.30	57	1575717	28.727	ng	99
94) 1,2,4-Trichlorobenzene	22.11	180	1200496	29.387	ng	100
95) Naphthalene	22.21	128	3770475	29.162	ng	100
96) n-Dodecane	22.21	57	1514411	31.888	ng	99
97) Hexachlorobutadiene	22.53	225	786898	27.848	ng	100
98) Cyclohexanone	18.27	55	911067	22.193	ng	100
99) tert-Butylbenzene	20.11	119	3058103	29.328	ng	100
100) n-Butylbenzene	20.85	91	3134932	29.063	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

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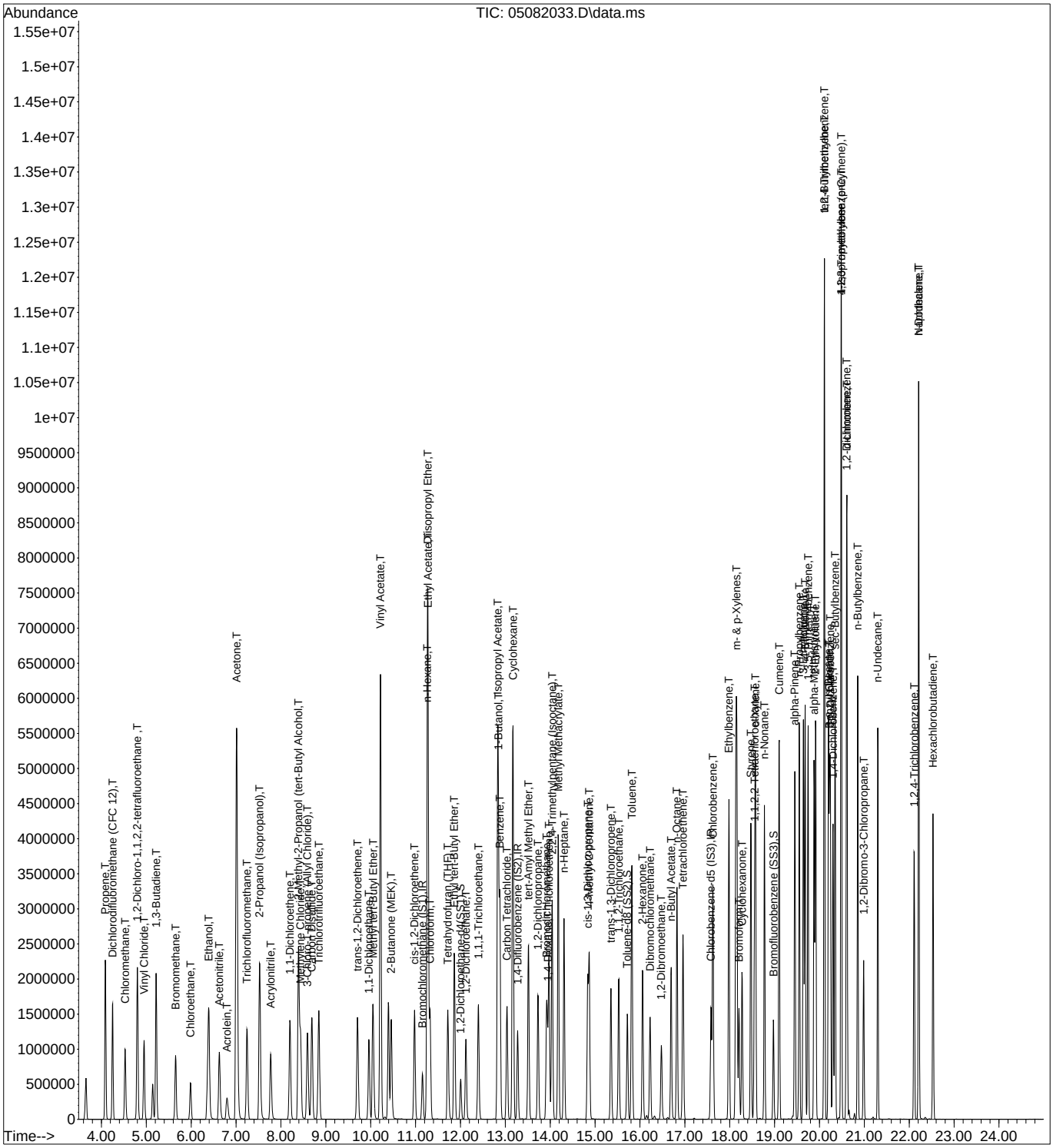
Quant Time: May 09 07:16:46 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\08\05082054.D Vial: 2
Acq On : 9 May 2020 9:27 Operator: LH
Sample : CCV2end R16050820_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 09 10:00:12 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/9/20

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	97	-0.01
2	T	Propene	1.448	1.357	6.3	89	-0.01
3	T	Dichlorodifluoromethane (CF	2.832	2.586	8.7	91	-0.01
4	T	Chloromethane	2.218	2.001	9.8	88	-0.01
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.692	1.527	9.8	92	-0.01
6	T	Vinyl Chloride	2.433	2.120	12.9	87	-0.01
7	T	1,3-Butadiene	2.013	1.752	13.0	86	-0.01
8	T	Bromomethane	1.285	1.176	8.5	91	-0.01
9	T	Chloroethane	0.961	0.869	9.6	89	0.00
10	T	Ethanol	1.118	0.972	13.1	84	-0.03
11	T	Acetonitrile	2.555	2.156	15.6	84	-0.02
12	T	Acrolein	0.883	0.747	15.4	82	-0.02
13	T	Acetone	1.118	1.006	10.0	86	-0.02
14	T	Trichlorofluoromethane	2.503	2.229	10.9	88	0.00
15	T	2-Propanol (Isopropanol)	3.384	3.068	9.3	84	-0.03
16	T	Acrylonitrile	1.828	1.612	11.8	85	-0.01
17	T	1,1-Dichloroethene	1.312	1.191	9.2	88	0.00
18	T	2-Methyl-2-Propanol (tert-B	3.155	2.659	15.7	80	-0.02
19	T	Methylene Chloride	1.453	1.273	12.4	86	-0.01
20	T	3-Chloro-1-propene (Allyl C	1.997	1.784	10.7	85	-0.01
21	T	Trichlorotrifluoroethane	1.182	1.133	4.1	91	0.00
22	T	Carbon Disulfide	5.208	4.613	11.4	87	0.00
23	T	trans-1,2-Dichloroethene	1.998	1.729	13.5	84	0.00
24	T	1,1-Dichloroethane	2.371	2.091	11.8	85	0.00
25	T	Methyl tert-Butyl Ether	3.730	3.180	14.7	87	0.00
26	T	Vinyl Acetate	0.348	0.317	8.9	82	-0.01
27	T	2-Butanone (MEK)	0.953	0.849	10.9	86	-0.01
28	T	cis-1,2-Dichloroethene	1.954	1.696	13.2	85	0.00
29	T	Diisopropyl Ether	1.349	1.175	12.9	86	0.00
30	T	Ethyl Acetate	0.550	0.533	3.1	86	0.00
31	T	n-Hexane	2.385	2.235	6.3	87	0.00
32	T	Chloroform	2.488	2.237	10.1	87	0.00
33	S	1,2-Dichloroethane-d4(SS1)	1.694	1.539	9.1	91	0.00
34	T	Tetrahydrofuran (THF)	0.930	0.804	13.5	86	0.00
35	T	Ethyl tert-Butyl Ether	1.630	1.498	8.1	87	0.00
36	T	1,2-Dichloroethane	1.971	1.677	14.9	85	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	95	0.00
38	T	1,1,1-Trichloroethane	0.503	0.472	6.2	87	0.00
39	T	Isopropyl Acetate	0.220	0.216	1.8	86	0.00
40	T	1-Butanol	0.313	0.287	8.3	81	-0.02
41	T	Benzene	1.340	1.239	7.5	87	0.00
42	T	Carbon Tetrachloride	0.456	0.439	3.7	88	0.00
43	T	Cyclohexane	0.500	0.479	4.2	87	0.00
44	T	tert-Amyl Methyl Ether	0.899	0.857	4.7	87	0.00
45	T	1,2-Dichloropropane	0.310	0.287	7.4	85	0.00
46	T	Bromodichloromethane	0.453	0.434	4.2	86	0.00
47	T	Trichloroethene	0.346	0.336	2.9	90	0.00
48	T	1,4-Dioxane	0.270	0.253	6.3	86	0.00
49	T	2,2,4-Trimethylpentane (Iso	1.304	1.206	7.5	86	0.00
50	T	Methyl Methacrylate	0.133	0.131	1.5	87	0.00
51	T	n-Heptane	0.313	0.290	7.3	88	0.00
52	T	cis-1,3-Dichloropropene	0.533	0.510	4.3	85	0.00
53	T	4-Methyl-2-pentanone	0.299	0.279	6.7	85	0.00
54	T	trans-1,3-Dichloropropene	0.456	0.455	0.2	85	0.00
55	T	1,1,2-Trichloroethane	0.308	0.299	2.9	88	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\08\05082054.D Vial: 2
Acq On : 9 May 2020 9:27 Operator: LH
Sample : CCV2end R16050820_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 09 10:00:12 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	93	0.00
57	S	Toluene-d8 (SS2)	2.119	2.115	0.2	93	0.00
58	T	Toluene	2.731	2.626	3.8	88	0.00
59	T	2-Hexanone	1.497	1.431	4.4	84	0.00
60	T	Dibromochloromethane	0.782	0.822	-5.1	89	0.00
61	T	1,2-Dibromoethane	0.752	0.756	-0.5	88	0.00
62	T	n-Butyl Acetate	1.616	1.538	4.8	83	0.00
63	T	n-Octane	0.565	0.545	3.5	86	0.00
64	T	Tetrachloroethene	0.771	0.808	-4.8	91	0.00
65	T	Chlorobenzene	1.879	1.776	5.5	88	0.00
66	T	Ethylbenzene	3.045	3.086	-1.3	87	0.00
67	T	m- & p-Xylenes	2.416	2.491	-3.1	88	-0.01
68	T	Bromoform	0.678	0.714	-5.3	89	0.00
69	T	Styrene	1.817	1.912	-5.2	86	0.00
70	T	o-Xylene	2.453	2.492	-1.6	87	0.00
71	T	n-Nonane	1.301	1.323	-1.7	88	0.00
72	T	1,1,2,2-Tetrachloroethane	1.217	1.229	-1.0	87	0.00
73	S	Bromofluorobenzene (SS3)	0.762	0.843	-10.6	98	0.00
74	T	Cumene	3.010	3.115	-3.5	88	0.00
75	T	alpha-Pinene	1.606	1.648	-2.6	86	0.00
76	T	n-Propylbenzene	3.576	3.746	-4.8	87	0.00
77	T	3-Ethyltoluene	2.913	3.050	-4.7	84	0.00
78	T	4-Ethyltoluene	2.827	3.069	-8.6	91	0.00
79	T	1,3,5-Trimethylbenzene	2.455	2.590	-5.5	87	0.00
80	T	alpha-Methylstyrene	1.384	1.333	3.7	84	0.00
81	T	2-Ethyltoluene	2.874	3.037	-5.7	88	0.00
82	T	1,2,4-Trimethylbenzene	2.467	2.855	-15.7	87	0.00
83	T	n-Decane	1.380	1.403	-1.7	86	0.00
84	T	Benzyl Chloride	2.300	2.303	-0.1	83	0.00
85	T	1,3-Dichlorobenzene	1.433	1.569	-9.5	88	0.00
86	T	1,4-Dichlorobenzene	1.398	1.507	-7.8	87	0.00
87	T	sec-Butylbenzene	3.203	3.441	-7.4	88	0.00
88	T	4-Isopropyltoluene (p-Cymen	3.033	3.349	-10.4	88	0.00
89	T	1,2,3-Trimethylbenzene	2.582	2.862	-10.8	87	0.00
90	T	1,2-Dichlorobenzene	1.372	1.563	-13.9	89	0.00
91	T	d-Limonene	0.974	1.062	-9.0	85	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.517	0.546	-5.6	88	0.00
93	T	n-Undecane	1.277	1.358	-6.3	86	0.00
94	T	1,2,4-Trichlorobenzene	0.951	1.074	-12.9	88	0.00
95	T	Naphthalene	3.011	3.459	-14.9	84	-0.01
96	T	n-Dodecane	1.106	1.342	-21.3	85	0.00
97	T	Hexachlorobutadiene	0.658	0.721	-9.6	93	0.00
98	T	Cyclohexanone	0.956	0.836	12.6	80	-0.01
99	T	tert-Butylbenzene	2.428	2.708	-11.5	89	0.00
100	T	n-Butylbenzene	2.512	2.762	-10.0	87	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082054.D Vial: 2
Acq On : 9 May 2020 9:27 Operator: LH
Sample : CCV2end R16050820_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 09 10:00:12 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/9/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	276430	12.500	ng	-0.01
37) 1,4-Difluorobenzene (IS2)	13.27	114	1163268	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.58	82	533667	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.00	65	425446	11.357	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.88%			
57) Toluene-d8 (SS2)	15.72	98	1128442	12.475	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.84%			
73) Bromofluorobenzene (SS3)	18.98	174	450043	13.827	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.64%			
Target Compounds						Qvalue
2) Propene	4.08	42	795260	24.839	ng	100
3) Dichlorodifluoromethan...	4.24	85	1515688	24.204	ng	100
4) Chloromethane	4.52	50	1172820	23.907	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	886595	23.698	ng	100
6) Vinyl Chloride	4.94	62	1265767	23.529	ng	100
7) 1,3-Butadiene	5.21	54	1026590	23.063	ng	100
8) Bromomethane	5.65	94	702267	24.711	ng	100
9) Chloroethane	5.98	64	518666	24.405	ng	100
10) Ethanol	6.38	45	2798996	113.220	ng	100
11) Acetonitrile	6.62	41	1251656	22.155	ng	100
12) Acrolein	6.79	56	425109	21.763	ng	100
13) Acetone	7.01	58	2964731	119.915	ng	100
14) Trichlorofluoromethane	7.24	101	1306434	23.607	ng	100
15) 2-Propanol (Isopropanol)	7.52	45	3562296	47.605	ng	100
16) Acrylonitrile	7.77	53	935602	23.149	ng	100
17) 1,1-Dichloroethene	8.20	96	711124	24.512	ng	96
18) 2-Methyl-2-Propanol (t...	8.39	59	3175327	45.517	ng	100
19) Methylene Chloride	8.43	84	745991	23.211	ng	98
20) 3-Chloro-1-propene (Al...	8.59	41	1065083	24.122	ng	99
21) Trichlorotrifluoroethane	8.84	151	676365	25.886	ng	97
22) Carbon Disulfide	8.69	76	2728696	23.694	ng	100
23) trans-1,2-Dichloroethene	9.71	61	1032320	23.369	ng	97
24) 1,1-Dichloroethane	9.96	63	1259893	24.024	ng	100
25) Methyl tert-Butyl Ether	10.05	73	1898768	23.018	ng	99
26) Vinyl Acetate	10.22	86	937633	121.752	ng	98
27) 2-Butanone (MEK)	10.45	72	497617	23.601	ng	99
28) cis-1,2-Dichloroethene	10.98	61	993657	22.996	ng	97
29) Diisopropyl Ether	11.27	87	701462	23.518	ng	98
30) Ethyl Acetate	11.28	61	639684	52.615	ng	99
31) n-Hexane	11.26	57	1334420	25.305	ng	100
32) Chloroform	11.32	83	1323458	24.052	ng	100
34) Tetrahydrofuran (THF)	11.72	72	484696	23.570	ng	99
35) Ethyl tert-Butyl Ether	11.86	87	894424	24.815	ng	99
36) 1,2-Dichloroethane	12.12	62	1001612	22.975	ng	100
38) 1,1,1-Trichloroethane	12.40	97	1174008	25.057	ng	99
39) Isopropyl Acetate	12.83	61	1059674	51.706	ng	100
40) 1-Butanol	12.85	56	1389071	47.640	ng	98
41) Benzene	12.88	78	3054743	24.487	ng	100
42) Carbon Tetrachloride	13.04	117	1071988	25.263	ng	100
43) Cyclohexane	13.17	84	2362001	50.810	ng	99
44) tert-Amyl Methyl Ether	13.52	73	2152958	25.737	ng	99
45) 1,2-Dichloropropane	13.73	63	720018	24.921	ng	100
46) Bromodichloromethane	13.92	83	1089627	25.845	ng	100
47) Trichloroethene	13.97	130	836494	25.942	ng	100
48) 1,4-Dioxane	13.95	88	634547	25.256	ng	98
49) 2,2,4-Trimethylpentane...	14.04	57	3001227	24.724	ng	100
50) Methyl Methacrylate	14.18	100	655364	52.956	ng	99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082054.D Vial: 2
Acq On : 9 May 2020 9:27 Operator: LH
Sample : CCV2end R16050820_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 09 10:00:12 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

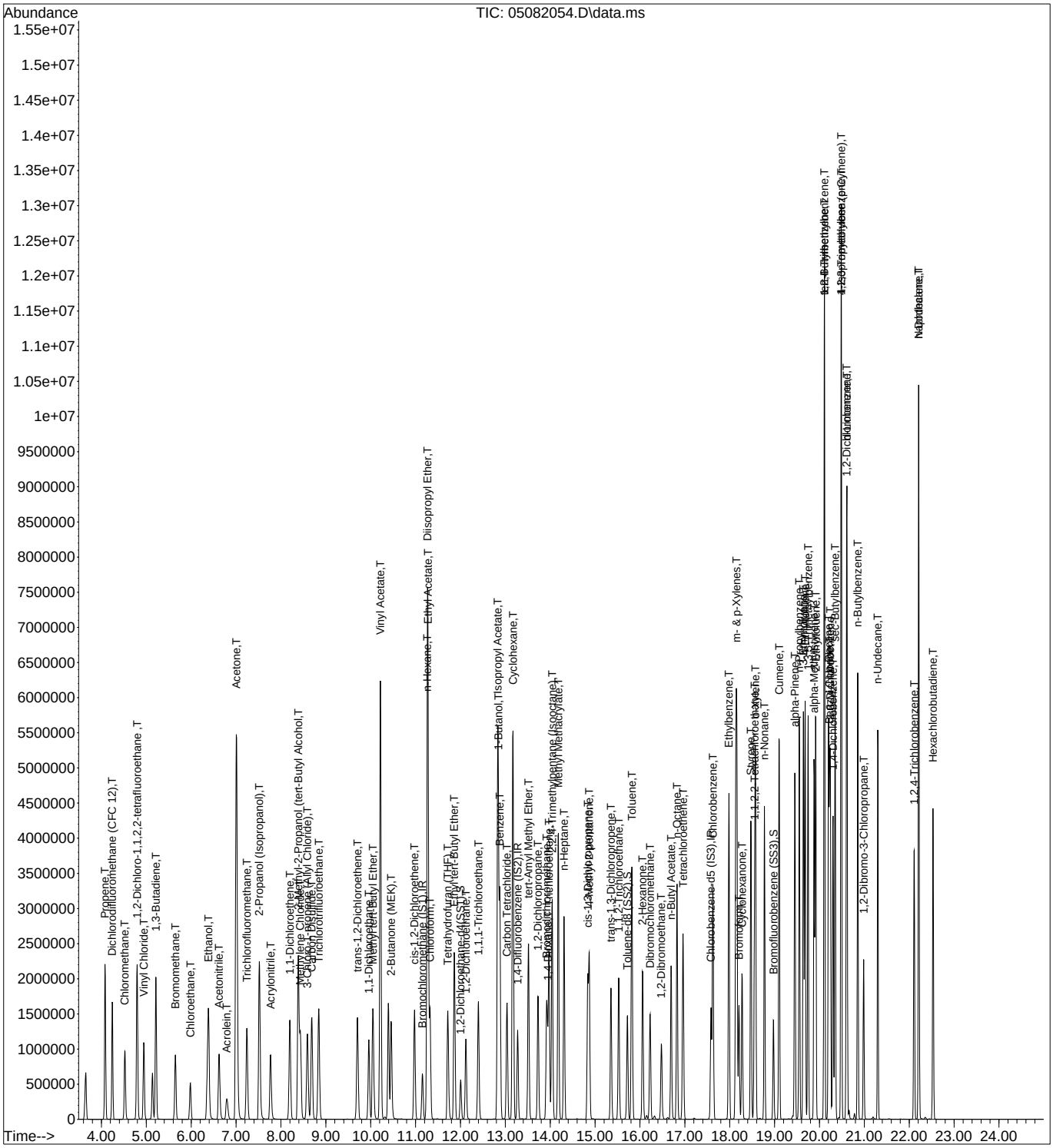
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	727509	24.938	ng	100
52) cis-1,3-Dichloropropene	14.84	75	1233746	24.873	ng	100
53) 4-Methyl-2-pentanone	14.87	58	687692	24.729	ng	99
54) trans-1,3-Dichloropropene	15.35	75	1121906	26.435	ng	100
55) 1,1,2-Trichloroethane	15.53	97	744570	25.988	ng	99
58) Toluene	15.82	91	2998734	25.718	ng	100
59) 2-Hexanone	16.06	43	1633909	25.573	ng	100
60) Dibromochloromethane	16.23	129	939296	28.133	ng	100
61) 1,2-Dibromoethane	16.48	107	863838	26.920	ng	100
62) n-Butyl Acetate	16.70	43	1789377	25.928	ng	100
63) n-Octane	16.83	57	627934	26.013	ng	99
64) Tetrachloroethene	16.96	166	896831	27.231	ng	100
65) Chlorobenzene	17.62	112	2028760	25.287	ng	100
66) Ethylbenzene	17.98	91	3524184	27.106	ng	100
67) m- & p-Xylenes	18.15	91	5690151	55.166	ng	100
68) Bromoform	18.21	173	815653	28.180	ng	100
69) Styrene	18.47	104	2163007	27.882	ng	99
70) o-Xylene	18.58	91	2845682	27.176	ng	99
71) n-Nonane	18.77	43	1510721	27.191	ng	99
72) 1,1,2,2-Tetrachloroethane	18.55	83	1404076	27.028	ng	100
74) Cumene	19.10	105	3590859	27.942	ng	100
75) alpha-Pinene	19.45	93	1882016	27.447	ng	99
76) n-Propylbenzene	19.55	91	4318658	28.288	ng	100
77) 3-Ethyltoluene	19.64	105	3451217	27.746	ng	99
78) 4-Ethyltoluene	19.68	105	3537289	29.309	ng	99
79) 1,3,5-Trimethylbenzene	19.75	105	2930286	27.962	ng	99
80) alpha-Methylstyrene	19.88	118	1522755	25.780	ng	99
81) 2-Ethyltoluene	19.92	105	3500779	28.533	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3260345	30.953	ng	99
83) n-Decane	20.20	57	1602502	27.197	ng	99
84) Benzyl Chloride	20.23	91	2654220	27.036	ng	99
85) 1,3-Dichlorobenzene	20.24	146	1792408	29.306	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1721401	28.841	ng	100
87) sec-Butylbenzene	20.35	105	3930302	28.746	ng	100
88) 4-Isopropyltoluene (p-...	20.48	119	3896330	30.093	ng	99
89) 1,2,3-Trimethylbenzene	20.48	105	3329359	30.202	ng	99
90) 1,2-Dichlorobenzene	20.61	146	1784897	30.480	ng	100
91) d-Limonene	20.61	68	1224592	29.437	ng	100
92) 1,2-Dibromo-3-Chloropr...	20.98	157	612355	27.733	ng	96
93) n-Undecane	21.30	57	1565365	28.704	ng	100
94) 1,2,4-Trichlorobenzene	22.11	180	1226909	30.208	ng	100
95) Naphthalene	22.21	128	3802870	29.583	ng	100
96) n-Dodecane	22.21	57	1489816	31.552	ng	100
97) Hexachlorobutadiene	22.53	225	816132	29.050	ng	100
98) Cyclohexanone	18.27	55	892033	21.856	ng	99
99) tert-Butylbenzene	20.11	119	3092915	29.834	ng	100
100) n-Butylbenzene	20.85	91	3153796	29.408	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\08\05082054.D Vial: 2
Acq On : 9 May 2020 9:27 Operator: LH
Sample : CCV2end R16050820_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 09 10:00:12 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\11\05112002.D Vial: 2
Acq On : 11 May 2020 3:08 Operator: WA
Sample : CCV R16051120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 11 10:17:48 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 5/11/20

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	90	-0.01
2	T	Propene	1.448	1.400	3.3	85	0.00
3	T	Dichlorodifluoromethane (CF	2.832	2.527	10.8	83	0.00
4	T	Chloromethane	2.218	2.007	9.5	82	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.692	1.515	10.5	85	-0.01
6	T	Vinyl Chloride	2.433	2.143	11.9	82	-0.01
7	T	1,3-Butadiene	2.013	1.810	10.1	83	-0.01
8	T	Bromomethane	1.285	1.178	8.3	85	-0.01
9	T	Chloroethane	0.961	0.880	8.4	84	0.00
10	T	Ethanol	1.118	0.994	11.1	80	-0.03
11	T	Acetonitrile	2.555	2.187	14.4	80	-0.02
12	T	Acrolein	0.883	0.747	15.4	76	-0.01
13	T	Acetone	1.118	1.021	8.7	81	-0.02
14	T	Trichlorofluoromethane	2.503	2.215	11.5	81	0.00
15	T	2-Propanol (Isopropanol)	3.384	3.067	9.4	79	-0.02
16	T	Acrylonitrile	1.828	1.639	10.3	81	-0.01
17	T	1,1-Dichloroethene	1.312	1.193	9.1	82	0.00
18	T	2-Methyl-2-Propanol (tert-B	3.155	2.619	17.0	74	-0.02
19	T	Methylene Chloride	1.453	1.278	12.0	80	0.00
20	T	3-Chloro-1-propene (Allyl C	1.997	1.814	9.2	80	-0.01
21	T	Trichlorotrifluoroethane	1.182	1.111	6.0	83	0.00
22	T	Carbon Disulfide	5.208	4.656	10.6	82	0.00
23	T	trans-1,2-Dichloroethene	1.998	1.743	12.8	79	0.00
24	T	1,1-Dichloroethane	2.371	2.091	11.8	79	0.00
25	T	Methyl tert-Butyl Ether	3.730	3.172	15.0	81	0.00
26	T	Vinyl Acetate	0.348	0.311	10.6	75	-0.01
27	T	2-Butanone (MEK)	0.953	0.864	9.3	81	-0.01
28	T	cis-1,2-Dichloroethene	1.954	1.706	12.7	80	0.00
29	T	Diisopropyl Ether	1.349	1.178	12.7	80	0.00
30	T	Ethyl Acetate	0.550	0.548	0.4	83	-0.01
31	T	n-Hexane	2.385	2.266	5.0	82	0.00
32	T	Chloroform	2.488	2.243	9.8	82	0.00
33	S	1,2-Dichloroethane-d4(SS1)	1.694	1.574	7.1	87	0.00
34	T	Tetrahydrofuran (THF)	0.930	0.813	12.6	81	0.00
35	T	Ethyl tert-Butyl Ether	1.630	1.489	8.7	81	0.00
36	T	1,2-Dichloroethane	1.971	1.689	14.3	79	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	89	0.00
38	T	1,1,1-Trichloroethane	0.503	0.461	8.3	80	0.00
39	T	Isopropyl Acetate	0.220	0.219	0.5	82	0.00
40	T	1-Butanol	0.313	0.288	8.0	77	-0.02
41	T	Benzene	1.340	1.234	7.9	82	0.00
42	T	Carbon Tetrachloride	0.456	0.427	6.4	80	0.00
43	T	Cyclohexane	0.500	0.482	3.6	82	0.00
44	T	tert-Amyl Methyl Ether	0.899	0.856	4.8	81	0.00
45	T	1,2-Dichloropropane	0.310	0.290	6.5	81	0.00
46	T	Bromodichloromethane	0.453	0.433	4.4	80	0.00
47	T	Trichloroethene	0.346	0.335	3.2	84	0.00
48	T	1,4-Dioxane	0.270	0.249	7.8	80	0.00
49	T	2,2,4-Trimethylpentane (Iso	1.304	1.220	6.4	82	0.00
50	T	Methyl Methacrylate	0.133	0.130	2.3	80	0.00
51	T	n-Heptane	0.313	0.288	8.0	83	0.00
52	T	cis-1,3-Dichloropropene	0.533	0.509	4.5	80	0.00
53	T	4-Methyl-2-pentanone	0.299	0.280	6.4	80	0.00
54	T	trans-1,3-Dichloropropene	0.456	0.452	0.9	79	0.00
55	T	1,1,2-Trichloroethane	0.308	0.295	4.2	82	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\11\05112002.D Vial: 2
Acq On : 11 May 2020 3:08 Operator: WA
Sample : CCV R16051120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 11 10:17:48 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	89	0.00
57	S	Toluene-d8 (SS2)	2.119	2.098	1.0	88	0.00
58	T	Toluene	2.731	2.583	5.4	82	0.00
59	T	2-Hexanone	1.497	1.429	4.5	80	0.00
60	T	Dibromochloromethane	0.782	0.790	-1.0	81	0.00
61	T	1,2-Dibromoethane	0.752	0.730	2.9	81	0.00
62	T	n-Butyl Acetate	1.616	1.526	5.6	78	0.00
63	T	n-Octane	0.565	0.548	3.0	83	0.00
64	T	Tetrachloroethene	0.771	0.781	-1.3	84	0.00
65	T	Chlorobenzene	1.879	1.723	8.3	82	0.00
66	T	Ethylbenzene	3.045	3.040	0.2	82	0.00
67	T	m- & p-Xylenes	2.416	2.512	-4.0	84	-0.01
68	T	Bromoform	0.678	0.685	-1.0	81	0.00
69	T	Styrene	1.817	1.871	-3.0	81	0.00
70	T	o-Xylene	2.453	2.454	-0.0	82	0.00
71	T	n-Nonane	1.301	1.337	-2.8	84	0.00
72	T	1,1,2,2-Tetrachloroethane	1.217	1.220	-0.2	82	0.00
73	S	Bromofluorobenzene (SS3)	0.762	0.826	-8.4	92	0.00
74	T	Cumene	3.010	3.077	-2.2	83	0.00
75	T	alpha-Pinene	1.606	1.622	-1.0	81	0.00
76	T	n-Propylbenzene	3.576	3.715	-3.9	82	0.00
77	T	3-Ethyltoluene	2.913	3.058	-5.0	80	0.00
78	T	4-Ethyltoluene	2.827	2.999	-6.1	84	0.00
79	T	1,3,5-Trimethylbenzene	2.455	2.556	-4.1	82	0.00
80	T	alpha-Methylstyrene	1.384	1.301	6.0	78	0.00
81	T	2-Ethyltoluene	2.874	3.012	-4.8	83	0.00
82	T	1,2,4-Trimethylbenzene	2.467	2.816	-14.1	82	0.00
83	T	n-Decane	1.380	1.409	-2.1	83	0.00
84	T	Benzyl Chloride	2.300	2.247	2.3	77	-0.01
85	T	1,3-Dichlorobenzene	1.433	1.529	-6.7	82	0.00
86	T	1,4-Dichlorobenzene	1.398	1.487	-6.4	82	0.00
87	T	sec-Butylbenzene	3.203	3.429	-7.1	84	0.00
88	T	4-Isopropyltoluene (p-Cymen	3.033	3.305	-9.0	83	0.00
89	T	1,2,3-Trimethylbenzene	2.582	2.825	-9.4	82	0.00
90	T	1,2-Dichlorobenzene	1.372	1.537	-12.0	83	0.00
91	T	d-Limonene	0.974	1.061	-8.9	81	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.517	0.530	-2.5	81	0.00
93	T	n-Undecane	1.277	1.362	-6.7	82	0.00
94	T	1,2,4-Trichlorobenzene	0.951	1.044	-9.8	81	-0.01
95	T	Naphthalene	3.011	3.374	-12.1	78	-0.01
96	T	n-Dodecane	1.106	1.343	-21.4	81	0.00
97	T	Hexachlorobutadiene	0.658	0.699	-6.2	86	0.00
98	T	Cyclohexanone	0.956	0.827	13.5	75	-0.01
99	T	tert-Butylbenzene	2.428	2.678	-10.3	84	0.00
100	T	n-Butylbenzene	2.512	2.750	-9.5	83	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112002.D Vial: 2
Acq On : 11 May 2020 3:08 Operator: WA
Sample : CCV R16051120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 11 10:17:48 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

WA 5/11/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	257464	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.28	114	1091697	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.58	82	509007	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	405358	11.617	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.96%				
57) Toluene-d8 (SS2)	15.72	98	1067857	12.377	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.04%				
73) Bromofluorobenzene (SS3)	18.97	174	420351	13.540	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.32%				
Target Compounds							Qvalue
2) Propene	4.09	42	763958	25.619	ng		99
3) Dichlorodifluoromethan...	4.25	85	1379395	23.651	ng		100
4) Chloromethane	4.53	50	1095281	23.971	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	819077	23.506	ng		100
6) Vinyl Chloride	4.94	62	1191951	23.789	ng		100
7) 1,3-Butadiene	5.21	54	987979	23.831	ng		99
8) Bromomethane	5.65	94	654896	24.742	ng		99
9) Chloroethane	5.98	64	489215	24.715	ng		99
10) Ethanol	6.38	45	2666273	115.797	ng		100
11) Acetonitrile	6.62	41	1182576	22.475	ng		100
12) Acrolein	6.80	56	395944	21.763	ng		99
13) Acetone	7.01	58	2801811	121.673	ng		99
14) Trichlorofluoromethane	7.24	101	1208801	23.451	ng		99
15) 2-Propanol (Isopropanol)	7.52	45	3316278	47.582	ng		100
16) Acrylonitrile	7.77	53	886137	23.540	ng		100
17) 1,1-Dichloroethene	8.20	96	663458	24.554	ng		97
18) 2-Methyl-2-Propanol (t...	8.39	59	2912632	44.827	ng		99
19) Methylene Chloride	8.44	84	697452	23.299	ng		100
20) 3-Chloro-1-propene (Al...	8.59	41	1008957	24.534	ng		100
21) Trichlorotrifluoroethane	8.84	151	618109	25.399	ng		97
22) Carbon Disulfide	8.69	76	2565304	23.916	ng		100
23) trans-1,2-Dichloroethene	9.71	61	969077	23.553	ng		98
24) 1,1-Dichloroethane	9.96	63	1173805	24.031	ng		100
25) Methyl tert-Butyl Ether	10.05	73	1764261	22.963	ng		100
26) Vinyl Acetate	10.22	86	855596	119.284	ng	#	90
27) 2-Butanone (MEK)	10.45	72	471381	24.004	ng		98
28) cis-1,2-Dichloroethene	10.98	61	930996	23.133	ng		99
29) Diisopropyl Ether	11.27	87	654975	23.577	ng	#	91
30) Ethyl Acetate	11.27	61	612316	54.074	ng		98
31) n-Hexane	11.26	57	1260008	25.654	ng		100
32) Chloroform	11.32	83	1235630	24.110	ng		100
34) Tetrahydrofuran (THF)	11.72	72	456539	23.836	ng		99
35) Ethyl tert-Butyl Ether	11.86	87	828084	24.667	ng		100
36) 1,2-Dichloroethane	12.12	62	939040	23.127	ng		100
38) 1,1,1-Trichloroethane	12.40	97	1077641	24.508	ng		100
39) Isopropyl Acetate	12.83	61	1007462	52.381	ng		99
40) 1-Butanol	12.85	56	1308312	47.812	ng		96
41) Benzene	12.88	78	2856503	24.399	ng		100
42) Carbon Tetrachloride	13.04	117	979227	24.590	ng		100
43) Cyclohexane	13.17	84	2233259	51.190	ng		100
44) tert-Amyl Methyl Ether	13.52	73	2018263	25.709	ng		100
45) 1,2-Dichloropropane	13.73	63	684051	25.229	ng		100
46) Bromodichloromethane	13.92	83	1021630	25.821	ng		99
47) Trichloroethene	13.97	130	782521	25.859	ng		100
48) 1,4-Dioxane	13.95	88	588036	24.939	ng		99
49) 2,2,4-Trimethylpentane...	14.05	57	2849682	25.015	ng		100
50) Methyl Methacrylate	14.18	100	608743	52.413	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112002.D Vial: 2
Acq On : 11 May 2020 3:08 Operator: WA
Sample : CCV R16051120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 11 10:17:48 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

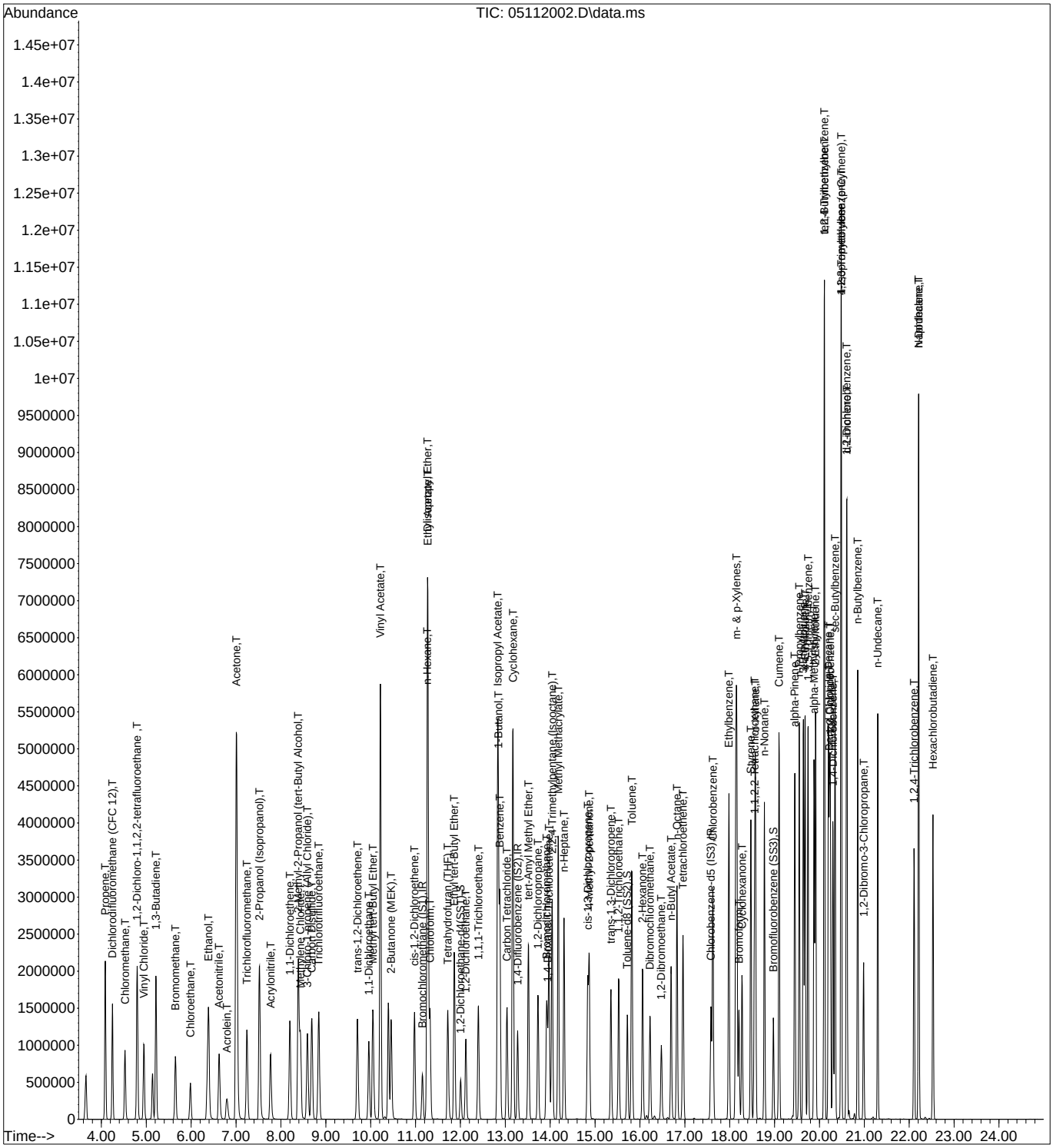
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	680175	24.844	ng	99
52) cis-1,3-Dichloropropene	14.84	75	1156647	24.847	ng	100
53) 4-Methyl-2-pentanone	14.87	58	647282	24.802	ng	98
54) trans-1,3-Dichloropropene	15.35	75	1045871	26.259	ng	100
55) 1,1,2-Trichloroethane	15.52	97	688992	25.624	ng	100
58) Toluene	15.82	91	2813914	25.302	ng	100
59) 2-Hexanone	16.06	43	1556136	25.536	ng	99
60) Dibromochloromethane	16.22	129	860765	27.030	ng	100
61) 1,2-Dibromoethane	16.48	107	794842	25.970	ng	100
62) n-Butyl Acetate	16.70	43	1693306	25.725	ng	100
63) n-Octane	16.83	57	602045	26.149	ng	99
64) Tetrachloroethene	16.96	166	827384	26.339	ng	100
65) Chlorobenzene	17.62	112	1876689	24.525	ng	100
66) Ethylbenzene	17.98	91	3310870	26.699	ng	100
67) m- & p-Xylenes	18.15	91	5472525	55.627	ng	99
68) Bromoform	18.21	173	745643	27.009	ng	100
69) Styrene	18.47	104	2019393	27.291	ng	100
70) o-Xylene	18.58	91	2673614	26.769	ng	99
71) n-Nonane	18.77	43	1456000	27.476	ng	98
72) 1,1,2,2-Tetrachloroethane	18.55	83	1329353	26.830	ng	100
74) Cumene	19.10	105	3383029	27.601	ng	100
75) alpha-Pinene	19.45	93	1766978	27.018	ng	99
76) n-Propylbenzene	19.55	91	4084377	28.050	ng	100
77) 3-Ethyltoluene	19.64	105	3299794	27.814	ng	100
78) 4-Ethyltoluene	19.68	105	3297745	28.648	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	2758610	27.599	ng	99
80) alpha-Methylstyrene	19.88	118	1417684	25.164	ng	99
81) 2-Ethyltoluene	19.91	105	3311416	28.297	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3067315	30.532	ng	99
83) n-Decane	20.20	57	1535194	27.317	ng	99
84) Benzyl Chloride	20.22	91	2470534	26.384	ng	100
85) 1,3-Dichlorobenzene	20.24	146	1665932	28.557	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1620123	28.459	ng	100
87) sec-Butylbenzene	20.35	105	3734780	28.639	ng	100
88) 4-Isopropyltoluene (p-...	20.48	119	3667528	29.698	ng	99
89) 1,2,3-Trimethylbenzene	20.48	105	3134562	29.813	ng	100
90) 1,2-Dichlorobenzene	20.61	146	1674406	29.978	ng	100
91) d-Limonene	20.61	68	1166436	29.397	ng	100
92) 1,2-Dibromo-3-Chloropr...	20.98	157	566579	26.903	ng	98
93) n-Undecane	21.30	57	1497754	28.795	ng	99
94) 1,2,4-Trichlorobenzene	22.11	180	1137458	29.363	ng	100
95) Naphthalene	22.21	128	3537463	28.852	ng	100
96) n-Dodecane	22.21	57	1421887	31.572	ng	99
97) Hexachlorobutadiene	22.53	225	754720	28.165	ng	100
98) Cyclohexanone	18.27	55	841520	21.617	ng	100
99) tert-Butylbenzene	20.11	119	2917493	29.505	ng	100
100) n-Butylbenzene	20.85	91	2995630	29.286	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112002.D Vial: 2
Acq On : 11 May 2020 3:08 Operator: WA
Sample : CCV R16051120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 11 10:17:48 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\11\05112035.D Vial: 2
Acq On : 12 May 2020 1:19 Operator: LH
Sample : CCVend R16051120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 12 02:52:54 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/12/20

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	97	-0.01
2	T	Propene	1.448	1.385	4.4	91	-0.02
3	T	Dichlorodifluoromethane (CF	2.832	2.557	9.7	90	-0.01
4	T	Chloromethane	2.218	2.031	8.4	89	-0.01
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.692	1.493	11.8	90	-0.02
6	T	Vinyl Chloride	2.433	2.114	13.1	87	-0.02
7	T	1,3-Butadiene	2.013	1.767	12.2	87	-0.02
8	T	Bromomethane	1.285	1.155	10.1	90	-0.02
9	T	Chloroethane	0.961	0.855	11.0	88	-0.01
10	T	Ethanol	1.118	0.989	11.5	86	-0.04
11	T	Acetonitrile	2.555	2.198	14.0	86	-0.03
12	T	Acrolein	0.883	0.749	15.2	82	-0.02
13	T	Acetone	1.118	1.018	8.9	87	-0.02
14	T	Trichlorofluoromethane	2.503	2.193	12.4	86	-0.01
15	T	2-Propanol (Isopropanol)	3.384	3.077	9.1	85	-0.03
16	T	Acrylonitrile	1.828	1.624	11.2	86	-0.02
17	T	1,1-Dichloroethene	1.312	1.184	9.8	87	-0.01
18	T	2-Methyl-2-Propanol (tert-B	3.155	2.611	17.2	79	-0.03
19	T	Methylene Chloride	1.453	1.272	12.5	86	-0.01
20	T	3-Chloro-1-propene (Allyl C	1.997	1.819	8.9	87	-0.02
21	T	Trichlorotrifluoroethane	1.182	1.116	5.6	90	-0.01
22	T	Carbon Disulfide	5.208	4.601	11.7	87	-0.01
23	T	trans-1,2-Dichloroethene	1.998	1.729	13.5	84	-0.01
24	T	1,1-Dichloroethane	2.371	2.091	11.8	85	-0.01
25	T	Methyl tert-Butyl Ether	3.730	3.196	14.3	87	0.00
26	T	Vinyl Acetate	0.348	0.304	12.6	78	-0.01
27	T	2-Butanone (MEK)	0.953	0.855	10.3	87	-0.01
28	T	cis-1,2-Dichloroethene	1.954	1.695	13.3	85	0.00
29	T	Diisopropyl Ether	1.349	1.168	13.4	86	0.00
30	T	Ethyl Acetate	0.550	0.531	3.5	86	-0.01
31	T	n-Hexane	2.385	2.230	6.5	87	0.00
32	T	Chloroform	2.488	2.203	11.5	86	0.00
33	S	1,2-Dichloroethane-d4(SS1)	1.694	1.566	7.6	93	0.00
34	T	Tetrahydrofuran (THF)	0.930	0.801	13.9	86	0.00
35	T	Ethyl tert-Butyl Ether	1.630	1.478	9.3	86	0.00
36	T	1,2-Dichloroethane	1.971	1.672	15.2	85	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	96	0.00
38	T	1,1,1-Trichloroethane	0.503	0.458	8.9	85	0.00
39	T	Isopropyl Acetate	0.220	0.213	3.2	86	0.00
40	T	1-Butanol	0.313	0.282	9.9	81	-0.02
41	T	Benzene	1.340	1.211	9.6	86	0.00
42	T	Carbon Tetrachloride	0.456	0.425	6.8	86	-0.01
43	T	Cyclohexane	0.500	0.471	5.8	86	-0.01
44	T	tert-Amyl Methyl Ether	0.899	0.845	6.0	87	0.00
45	T	1,2-Dichloropropane	0.310	0.285	8.1	86	0.00
46	T	Bromodichloromethane	0.453	0.423	6.6	85	0.00
47	T	Trichloroethene	0.346	0.326	5.8	88	0.00
48	T	1,4-Dioxane	0.270	0.246	8.9	85	0.00
49	T	2,2,4-Trimethylpentane (Iso	1.304	1.197	8.2	86	0.00
50	T	Methyl Methacrylate	0.133	0.128	3.8	85	-0.01
51	T	n-Heptane	0.313	0.284	9.3	88	0.00
52	T	cis-1,3-Dichloropropene	0.533	0.500	6.2	85	0.00
53	T	4-Methyl-2-pentanone	0.299	0.276	7.7	85	0.00
54	T	trans-1,3-Dichloropropene	0.456	0.444	2.6	84	0.00
55	T	1,1,2-Trichloroethane	0.308	0.291	5.5	87	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\11\05112035.D Vial: 2
Acq On : 12 May 2020 1:19 Operator: LH
Sample : CCVend R16051120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 12 02:52:54 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	95	0.00
57	S	Toluene-d8 (SS2)	2.119	2.109	0.5	94	0.00
58	T	Toluene	2.731	2.579	5.6	87	0.00
59	T	2-Hexanone	1.497	1.425	4.8	85	0.00
60	T	Dibromochloromethane	0.782	0.792	-1.3	86	0.00
61	T	1,2-Dibromoethane	0.752	0.732	2.7	86	0.00
62	T	n-Butyl Acetate	1.616	1.522	5.8	83	0.00
63	T	n-Octane	0.565	0.546	3.4	87	0.00
64	T	Tetrachloroethene	0.771	0.779	-1.0	89	0.00
65	T	Chlorobenzene	1.879	1.722	8.4	87	0.00
66	T	Ethylbenzene	3.045	3.023	0.7	86	0.00
67	T	m- & p-Xylenes	2.416	2.491	-3.1	89	-0.01
68	T	Bromoform	0.678	0.686	-1.2	86	0.00
69	T	Styrene	1.817	1.864	-2.6	85	0.00
70	T	o-Xylene	2.453	2.441	0.5	87	0.00
71	T	n-Nonane	1.301	1.329	-2.2	89	0.00
72	T	1,1,2,2-Tetrachloroethane	1.217	1.210	0.6	87	0.00
73	S	Bromofluorobenzene (SS3)	0.762	0.827	-8.5	97	0.00
74	T	Cumene	3.010	3.057	-1.6	87	0.00
75	T	alpha-Pinene	1.606	1.614	-0.5	86	0.00
76	T	n-Propylbenzene	3.576	3.679	-2.9	86	0.00
77	T	3-Ethyltoluene	2.913	3.038	-4.3	85	0.00
78	T	4-Ethyltoluene	2.827	2.982	-5.5	89	0.00
79	T	1,3,5-Trimethylbenzene	2.455	2.543	-3.6	87	0.00
80	T	alpha-Methylstyrene	1.384	1.295	6.4	82	0.00
81	T	2-Ethyltoluene	2.874	3.000	-4.4	88	0.00
82	T	1,2,4-Trimethylbenzene	2.467	2.741	-11.1	85	0.00
83	T	n-Decane	1.380	1.411	-2.2	88	0.00
84	T	Benzyl Chloride	2.300	2.222	3.4	81	-0.01
85	T	1,3-Dichlorobenzene	1.433	1.519	-6.0	87	0.00
86	T	1,4-Dichlorobenzene	1.398	1.474	-5.4	86	0.00
87	T	sec-Butylbenzene	3.203	3.394	-6.0	88	0.00
88	T	4-Isopropyltoluene (p-Cymen	3.033	3.232	-6.6	86	0.00
89	T	1,2,3-Trimethylbenzene	2.582	2.756	-6.7	85	0.00
90	T	1,2-Dichlorobenzene	1.372	1.507	-9.8	87	0.00
91	T	d-Limonene	0.974	1.032	-6.0	84	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.517	0.525	-1.5	85	0.00
93	T	n-Undecane	1.277	1.353	-6.0	87	0.00
94	T	1,2,4-Trichlorobenzene	0.951	1.020	-7.3	84	0.00
95	T	Naphthalene	3.011	3.259	-8.2	80	-0.01
96	T	n-Dodecane	1.106	1.296	-17.2	83	0.00
97	T	Hexachlorobutadiene	0.658	0.695	-5.6	91	0.00
98	T	Cyclohexanone	0.956	0.820	14.2	79	-0.01
99	T	tert-Butylbenzene	2.428	2.601	-7.1	86	0.00
100	T	n-Butylbenzene	2.512	2.714	-8.0	87	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112035.D Vial: 2
Acq On : 12 May 2020 1:19 Operator: LH
Sample : CCVend R16051120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 12 02:52:54 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

WDA 5/12/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	276603	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.28	114	1176697	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.58	82	540221	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	433231	11.557	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.48%				
57) Toluene-d8 (SS2)	15.72	98	1139415	12.444	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.52%				
73) Bromofluorobenzene (SS3)	18.98	174	446628	13.556	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.48%				
Target Compounds							Qvalue
2) Propene	4.08	42	812409	25.359	ng		100
3) Dichlorodifluoromethan...	4.24	85	1499315	23.928	ng		100
4) Chloromethane	4.52	50	1191135	24.265	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.79	135	867318	23.168	ng		100
6) Vinyl Chloride	4.94	62	1263221	23.467	ng		100
7) 1,3-Butadiene	5.21	54	1036193	23.264	ng		100
8) Bromomethane	5.64	94	690289	24.274	ng		99
9) Chloroethane	5.98	64	510547	24.008	ng		99
10) Ethanol	6.38	45	2850323	115.225	ng		100
11) Acetonitrile	6.62	41	1276604	22.583	ng		100
12) Acrolein	6.79	56	426971	21.844	ng		100
13) Acetone	7.01	58	3000251	121.276	ng		99
14) Trichlorofluoromethane	7.24	101	1285976	23.222	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	3574531	47.739	ng		99
16) Acrylonitrile	7.76	53	943261	23.324	ng		100
17) 1,1-Dichloroethene	8.19	96	707451	24.370	ng		97
18) 2-Methyl-2-Propanol (t...	8.38	59	3119818	44.693	ng		100
19) Methylene Chloride	8.43	84	746134	23.201	ng		99
20) 3-Chloro-1-propene (Al...	8.58	41	1086735	24.597	ng		100
21) Trichlorotrifluoroethane	8.84	151	666994	25.511	ng		97
22) Carbon Disulfide	8.68	76	2723550	23.635	ng		100
23) trans-1,2-Dichloroethene	9.70	61	1032875	23.367	ng		97
24) 1,1-Dichloroethane	9.95	63	1260848	24.027	ng		100
25) Methyl tert-Butyl Ether	10.05	73	1909642	23.136	ng		100
26) Vinyl Acetate	10.22	86	898944	116.655	ng	#	93
27) 2-Butanone (MEK)	10.45	72	501528	23.772	ng		98
28) cis-1,2-Dichloroethene	10.98	61	993838	22.986	ng		99
29) Diisopropyl Ether	11.27	87	698071	23.390	ng		96
30) Ethyl Acetate	11.27	61	637524	52.404	ng		98
31) n-Hexane	11.26	57	1332545	25.254	ng		100
32) Chloroform	11.32	83	1303771	23.679	ng		100
34) Tetrahydrofuran (THF)	11.72	72	482797	23.463	ng		99
35) Ethyl tert-Butyl Ether	11.86	87	883290	24.491	ng		99
36) 1,2-Dichloroethane	12.12	62	998737	22.895	ng		100
38) 1,1,1-Trichloroethane	12.40	97	1153008	24.328	ng		99
39) Isopropyl Acetate	12.83	61	1059950	51.129	ng		99
40) 1-Butanol	12.85	56	1379208	46.762	ng		97
41) Benzene	12.88	78	3020898	23.940	ng		100
42) Carbon Tetrachloride	13.03	117	1049074	24.441	ng		100
43) Cyclohexane	13.17	84	2348221	49.937	ng		100
44) tert-Amyl Methyl Ether	13.51	73	2146521	25.367	ng		100
45) 1,2-Dichloropropane	13.73	63	724092	24.776	ng		100
46) Bromodichloromethane	13.92	83	1075889	25.228	ng		100
47) Trichloroethene	13.97	130	821491	25.186	ng		100
48) 1,4-Dioxane	13.95	88	625310	24.604	ng		99
49) 2,2,4-Trimethylpentane...	14.04	57	3014379	24.549	ng		99
50) Methyl Methacrylate	14.18	100	646767	51.664	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112035.D Vial: 2
Acq On : 12 May 2020 1:19 Operator: LH
Sample : CCVend R16051120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 12 02:52:54 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

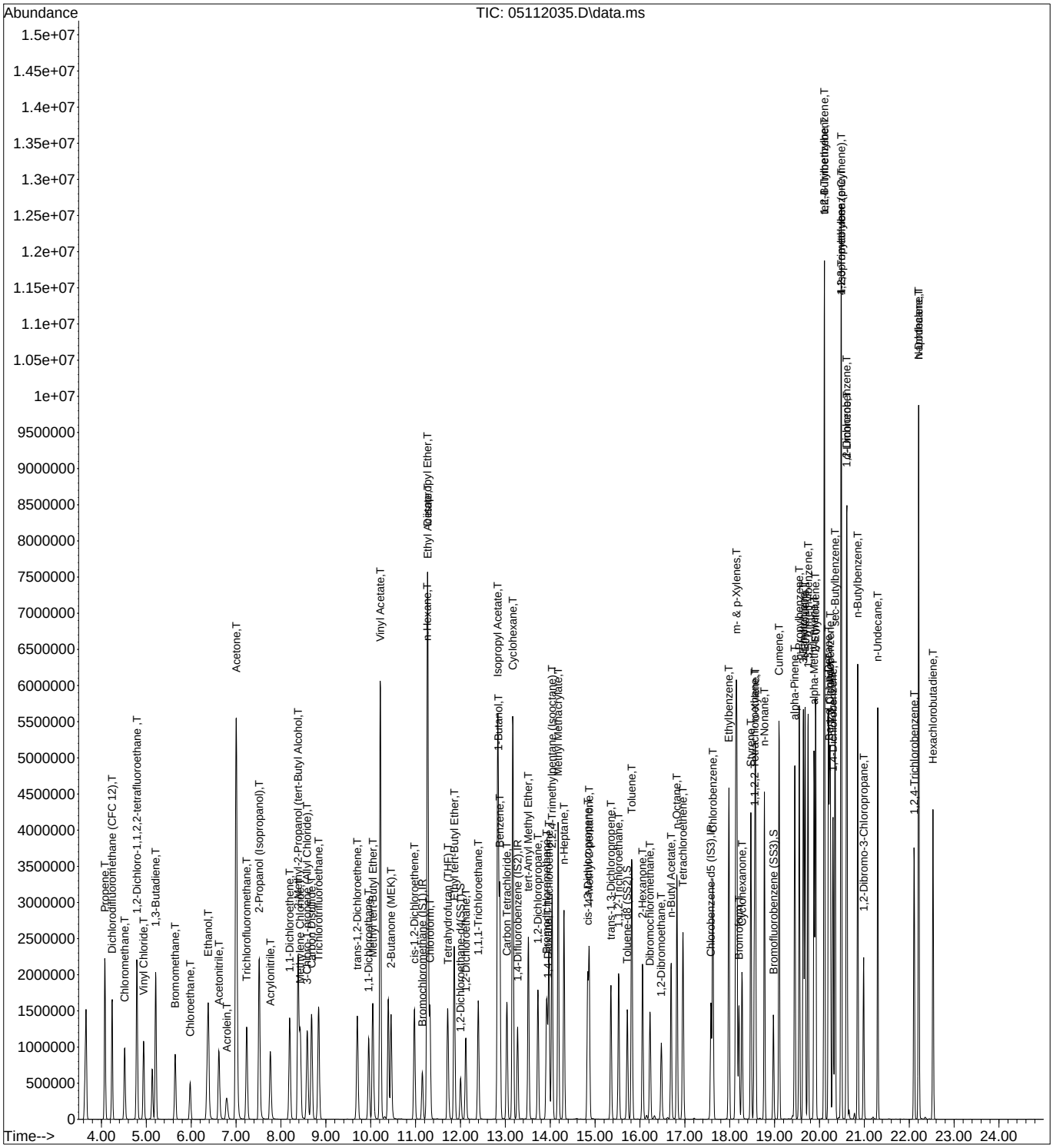
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	722994	24.501	ng	99
52) cis-1,3-Dichloropropene	14.84	75	1223453	24.384	ng	100
53) 4-Methyl-2-pentanone	14.87	58	688085	24.461	ng	99
54) trans-1,3-Dichloropropene	15.35	75	1107558	25.799	ng	100
55) 1,1,2-Trichloroethane	15.52	97	731580	25.243	ng	99
58) Toluene	15.82	91	2980977	25.256	ng	100
59) 2-Hexanone	16.06	43	1647644	25.475	ng	99
60) Dibromochloromethane	16.22	129	915051	27.074	ng	100
61) 1,2-Dibromoethane	16.48	107	846170	26.049	ng	100
62) n-Butyl Acetate	16.70	43	1792776	25.662	ng	100
63) n-Octane	16.82	57	636952	26.066	ng	99
64) Tetrachloroethene	16.96	166	875424	26.258	ng	100
65) Chlorobenzene	17.62	112	1990435	24.508	ng	100
66) Ethylbenzene	17.98	91	3494438	26.551	ng	100
67) m- & p-Xylenes	18.15	91	5760319	55.169	ng	99
68) Bromoform	18.21	173	792927	27.062	ng	100
69) Styrene	18.47	104	2134776	27.184	ng	100
70) o-Xylene	18.58	91	2821492	26.618	ng	99
71) n-Nonane	18.77	43	1536197	27.314	ng	98
72) 1,1,2,2-Tetrachloroethane	18.55	83	1399354	26.610	ng	100
74) Cumene	19.10	105	3567267	27.422	ng	100
75) alpha-Pinene	19.45	93	1866273	26.887	ng	99
76) n-Propylbenzene	19.55	91	4292446	27.775	ng	100
77) 3-Ethyltoluene	19.64	105	3479052	27.631	ng	100
78) 4-Ethyltoluene	19.68	105	3479296	28.478	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	2912053	27.451	ng	99
80) alpha-Methylstyrene	19.88	118	1497519	25.045	ng	99
81) 2-Ethyltoluene	19.91	105	3501198	28.190	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3168220	29.714	ng	99
83) n-Decane	20.20	57	1631589	27.354	ng	99
84) Benzyl Chloride	20.22	91	2593337	26.095	ng	100
85) 1,3-Dichlorobenzene	20.24	146	1755973	28.362	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1703619	28.196	ng	99
87) sec-Butylbenzene	20.35	105	3923660	28.349	ng	100
88) 4-Isopropyltoluene (p-...	20.48	119	3806776	29.045	ng	99
89) 1,2,3-Trimethylbenzene	20.48	105	3245338	29.083	ng	99
90) 1,2-Dichlorobenzene	20.61	146	1741656	29.381	ng	100
91) d-Limonene	20.61	68	1204580	28.604	ng	100
92) 1,2-Dibromo-3-Chloropr...	20.98	157	595898	26.660	ng	98
93) n-Undecane	21.30	57	1579242	28.607	ng	99
94) 1,2,4-Trichlorobenzene	22.11	180	1178733	28.670	ng	100
95) Naphthalene	22.21	128	3626552	27.869	ng	100
96) n-Dodecane	22.21	57	1456554	30.473	ng	99
97) Hexachlorobutadiene	22.53	225	796059	27.991	ng	100
98) Cyclohexanone	18.27	55	886373	21.454	ng	100
99) tert-Butylbenzene	20.11	119	3006774	28.651	ng	100
100) n-Butylbenzene	20.85	91	3137931	28.905	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\11\05112035.D Vial: 2
Acq On : 12 May 2020 1:19 Operator: LH
Sample : CCVend R16051120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 12 02:52:54 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\12\05122002.D Vial: 2
Acq On : 12 May 2020 2:28 Operator: LH
Sample : CCV R16051220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 12 10:09:00 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/12/20

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	96	-0.01
2	T	Propene	1.448	1.403	3.1	91	0.00
3	T	Dichlorodifluoromethane (CF	2.832	2.532	10.6	89	0.00
4	T	Chloromethane	2.218	1.991	10.2	87	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.692	1.496	11.6	90	-0.01
6	T	Vinyl Chloride	2.433	2.107	13.4	86	0.00
7	T	1,3-Butadiene	2.013	1.767	12.2	86	0.00
8	T	Bromomethane	1.285	1.155	10.1	89	-0.01
9	T	Chloroethane	0.961	0.857	10.8	87	0.00
10	T	Ethanol	1.118	0.995	11.0	86	-0.04
11	T	Acetonitrile	2.555	2.218	13.2	86	-0.02
12	T	Acrolein	0.883	0.754	14.6	82	-0.01
13	T	Acetone	1.118	1.024	8.4	87	-0.02
14	T	Trichlorofluoromethane	2.503	2.203	12.0	86	0.00
15	T	2-Propanol (Isopropanol)	3.384	3.095	8.5	84	-0.03
16	T	Acrylonitrile	1.828	1.648	9.8	86	-0.02
17	T	1,1-Dichloroethene	1.312	1.196	8.8	87	0.00
18	T	2-Methyl-2-Propanol (tert-B	3.155	2.613	17.2	78	-0.03
19	T	Methylene Chloride	1.453	1.275	12.3	85	0.00
20	T	3-Chloro-1-propene (Allyl C	1.997	1.845	7.6	87	-0.01
21	T	Trichlorotrifluoroethane	1.182	1.122	5.1	89	0.00
22	T	Carbon Disulfide	5.208	4.639	10.9	87	0.00
23	T	trans-1,2-Dichloroethene	1.998	1.751	12.4	85	0.00
24	T	1,1-Dichloroethane	2.371	2.108	11.1	85	0.00
25	T	Methyl tert-Butyl Ether	3.730	3.204	14.1	87	0.00
26	T	Vinyl Acetate	0.348	0.306	12.1	78	-0.01
27	T	2-Butanone (MEK)	0.953	0.858	10.0	86	-0.01
28	T	cis-1,2-Dichloroethene	1.954	1.714	12.3	85	0.00
29	T	Diisopropyl Ether	1.349	1.168	13.4	85	0.00
30	T	Ethyl Acetate	0.550	0.534	2.9	86	-0.01
31	T	n-Hexane	2.385	2.260	5.2	87	0.00
32	T	Chloroform	2.488	2.226	10.5	86	0.00
33	S	1,2-Dichloroethane-d4(SS1)	1.694	1.560	7.9	91	0.00
34	T	Tetrahydrofuran (THF)	0.930	0.810	12.9	86	0.00
35	T	Ethyl tert-Butyl Ether	1.630	1.502	7.9	87	0.00
36	T	1,2-Dichloroethane	1.971	1.685	14.5	84	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	95	0.00
38	T	1,1,1-Trichloroethane	0.503	0.464	7.8	85	0.00
39	T	Isopropyl Acetate	0.220	0.216	1.8	86	0.00
40	T	1-Butanol	0.313	0.283	9.6	80	-0.02
41	T	Benzene	1.340	1.227	8.4	86	0.00
42	T	Carbon Tetrachloride	0.456	0.429	5.9	86	-0.01
43	T	Cyclohexane	0.500	0.478	4.4	86	0.00
44	T	tert-Amyl Methyl Ether	0.899	0.854	5.0	86	0.00
45	T	1,2-Dichloropropane	0.310	0.287	7.4	85	0.00
46	T	Bromodichloromethane	0.453	0.428	5.5	85	0.00
47	T	Trichloroethene	0.346	0.327	5.5	87	0.00
48	T	1,4-Dioxane	0.270	0.250	7.4	85	-0.01
49	T	2,2,4-Trimethylpentane (Iso	1.304	1.214	6.9	86	0.00
50	T	Methyl Methacrylate	0.133	0.129	3.0	85	-0.01
51	T	n-Heptane	0.313	0.288	8.0	88	0.00
52	T	cis-1,3-Dichloropropene	0.533	0.506	5.1	84	0.00
53	T	4-Methyl-2-pentanone	0.299	0.279	6.7	85	0.00
54	T	trans-1,3-Dichloropropene	0.456	0.451	1.1	84	0.00
55	T	1,1,2-Trichloroethane	0.308	0.294	4.5	87	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\12\05122002.D Vial: 2
Acq On : 12 May 2020 2:28 Operator: LH
Sample : CCV R16051220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 12 10:09:00 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	94	0.00
57	S	Toluene-d8 (SS2)	2.119	2.104	0.7	93	0.00
58	T	Toluene	2.731	2.588	5.2	87	0.00
59	T	2-Hexanone	1.497	1.435	4.1	85	0.00
60	T	Dibromochloromethane	0.782	0.799	-2.2	86	0.00
61	T	1,2-Dibromoethane	0.752	0.740	1.6	86	0.00
62	T	n-Butyl Acetate	1.616	1.532	5.2	82	0.00
63	T	n-Octane	0.565	0.545	3.5	86	0.00
64	T	Tetrachloroethene	0.771	0.781	-1.3	88	0.00
65	T	Chlorobenzene	1.879	1.739	7.5	87	0.00
66	T	Ethylbenzene	3.045	3.058	-0.4	86	0.00
67	T	m- & p-Xylenes	2.416	2.514	-4.1	89	-0.01
68	T	Bromoform	0.678	0.693	-2.2	86	0.00
69	T	Styrene	1.817	1.879	-3.4	85	0.00
70	T	o-Xylene	2.453	2.457	-0.2	86	0.00
71	T	n-Nonane	1.301	1.337	-2.8	89	0.00
72	T	1,1,2,2-Tetrachloroethane	1.217	1.220	-0.2	86	-0.01
73	S	Bromofluorobenzene (SS3)	0.762	0.812	-6.6	95	0.00
74	T	Cumene	3.010	3.081	-2.4	87	0.00
75	T	alpha-Pinene	1.606	1.635	-1.8	86	0.00
76	T	n-Propylbenzene	3.576	3.734	-4.4	87	0.00
77	T	3-Ethyltoluene	2.913	3.093	-6.2	86	0.00
78	T	4-Ethyltoluene	2.827	3.009	-6.4	89	0.00
79	T	1,3,5-Trimethylbenzene	2.455	2.570	-4.7	87	0.00
80	T	alpha-Methylstyrene	1.384	1.315	5.0	83	0.00
81	T	2-Ethyltoluene	2.874	3.041	-5.8	88	0.00
82	T	1,2,4-Trimethylbenzene	2.467	2.752	-11.6	84	0.00
83	T	n-Decane	1.380	1.425	-3.3	88	0.00
84	T	Benzyl Chloride	2.300	2.255	2.0	81	-0.01
85	T	1,3-Dichlorobenzene	1.433	1.538	-7.3	87	0.00
86	T	1,4-Dichlorobenzene	1.398	1.496	-7.0	86	0.00
87	T	sec-Butylbenzene	3.203	3.429	-7.1	88	0.00
88	T	4-Isopropyltoluene (p-Cymen	3.033	3.239	-6.8	85	0.00
89	T	1,2,3-Trimethylbenzene	2.582	2.778	-7.6	85	0.00
90	T	1,2-Dichlorobenzene	1.372	1.516	-10.5	86	-0.01
91	T	d-Limonene	0.974	1.042	-7.0	84	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.517	0.532	-2.9	86	0.00
93	T	n-Undecane	1.277	1.372	-7.4	87	0.00
94	T	1,2,4-Trichlorobenzene	0.951	1.030	-8.3	84	-0.01
95	T	Naphthalene	3.011	3.296	-9.5	80	-0.01
96	T	n-Dodecane	1.106	1.311	-18.5	83	0.00
97	T	Hexachlorobutadiene	0.658	0.701	-6.5	91	0.00
98	T	Cyclohexanone	0.956	0.834	12.8	80	-0.01
99	T	tert-Butylbenzene	2.428	2.620	-7.9	86	0.00
100	T	n-Butylbenzene	2.512	2.748	-9.4	87	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122002.D Vial: 2
Acq On : 12 May 2020 2:28 Operator: LH
Sample : CCV R16051220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 12 10:09:00 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

WDA 5/12/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	274186	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.27	114	1162512	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.58	82	534747	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	427809	11.513	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.08%				
57) Toluene-d8 (SS2)	15.72	98	1125253	12.415	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.28%				
73) Bromofluorobenzene (SS3)	18.97	174	434029	13.308	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.48%				
Target Compounds							Qvalue
2) Propene	4.09	42	815301	25.674	ng		100
3) Dichlorodifluoromethan...	4.25	85	1471695	23.694	ng		100
4) Chloromethane	4.53	50	1157154	23.781	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	861470	23.214	ng		100
6) Vinyl Chloride	4.95	62	1248067	23.390	ng		100
7) 1,3-Butadiene	5.22	54	1027164	23.265	ng		99
8) Bromomethane	5.65	94	684035	24.267	ng		99
9) Chloroethane	5.98	64	507805	24.090	ng		100
10) Ethanol	6.38	45	2841352	115.874	ng		100
11) Acetonitrile	6.62	41	1277231	22.793	ng		100
12) Acrolein	6.80	56	426098	21.992	ng		100
13) Acetone	7.01	58	2991557	121.990	ng		99
14) Trichlorofluoromethane	7.24	101	1280588	23.329	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	3564231	48.021	ng		99
16) Acrylonitrile	7.76	53	948651	23.664	ng		100
17) 1,1-Dichloroethene	8.20	96	708052	24.606	ng		97
18) 2-Methyl-2-Propanol (t...	8.38	59	3094959	44.728	ng		100
19) Methylene Chloride	8.44	84	741404	23.257	ng		100
20) 3-Chloro-1-propene (Al...	8.59	41	1092461	24.944	ng		100
21) Trichlorotrifluoroethane	8.84	151	664527	25.641	ng		97
22) Carbon Disulfide	8.69	76	2722116	23.831	ng		100
23) trans-1,2-Dichloroethene	9.71	61	1037053	23.668	ng		98
24) 1,1-Dichloroethane	9.96	63	1259883	24.220	ng		100
25) Methyl tert-Butyl Ether	10.05	73	1897300	23.189	ng		100
26) Vinyl Acetate	10.22	86	896982	117.427	ng	#	92
27) 2-Butanone (MEK)	10.45	72	498966	23.859	ng		97
28) cis-1,2-Dichloroethene	10.98	61	996335	23.247	ng		99
29) Diisopropyl Ether	11.27	87	691789	23.384	ng	#	95
30) Ethyl Acetate	11.27	61	635458	52.695	ng		98
31) n-Hexane	11.26	57	1338171	25.584	ng		100
32) Chloroform	11.32	83	1306373	23.936	ng		100
34) Tetrahydrofuran (THF)	11.72	72	484135	23.735	ng		99
35) Ethyl tert-Butyl Ether	11.86	87	889303	24.875	ng		99
36) 1,2-Dichloroethane	12.12	62	998194	23.084	ng		100
38) 1,1,1-Trichloroethane	12.40	97	1153530	24.636	ng		100
39) Isopropyl Acetate	12.83	61	1057665	51.642	ng		99
40) 1-Butanol	12.85	56	1369650	47.004	ng		97
41) Benzene	12.88	78	3024739	24.262	ng		100
42) Carbon Tetrachloride	13.03	117	1048442	24.724	ng		100
43) Cyclohexane	13.17	84	2356220	50.719	ng		100
44) tert-Amyl Methyl Ether	13.51	73	2144157	25.649	ng		100
45) 1,2-Dichloropropane	13.73	63	720344	24.949	ng		100
46) Bromodichloromethane	13.92	83	1075862	25.535	ng		100
47) Trichloroethene	13.97	130	813650	25.250	ng		100
48) 1,4-Dioxane	13.94	88	627038	24.973	ng		99
49) 2,2,4-Trimethylpentane...	14.04	57	3019376	24.890	ng		100
50) Methyl Methacrylate	14.18	100	644691	52.127	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122002.D Vial: 2
Acq On : 12 May 2020 2:28 Operator: LH
Sample : CCV R16051220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 12 10:09:00 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

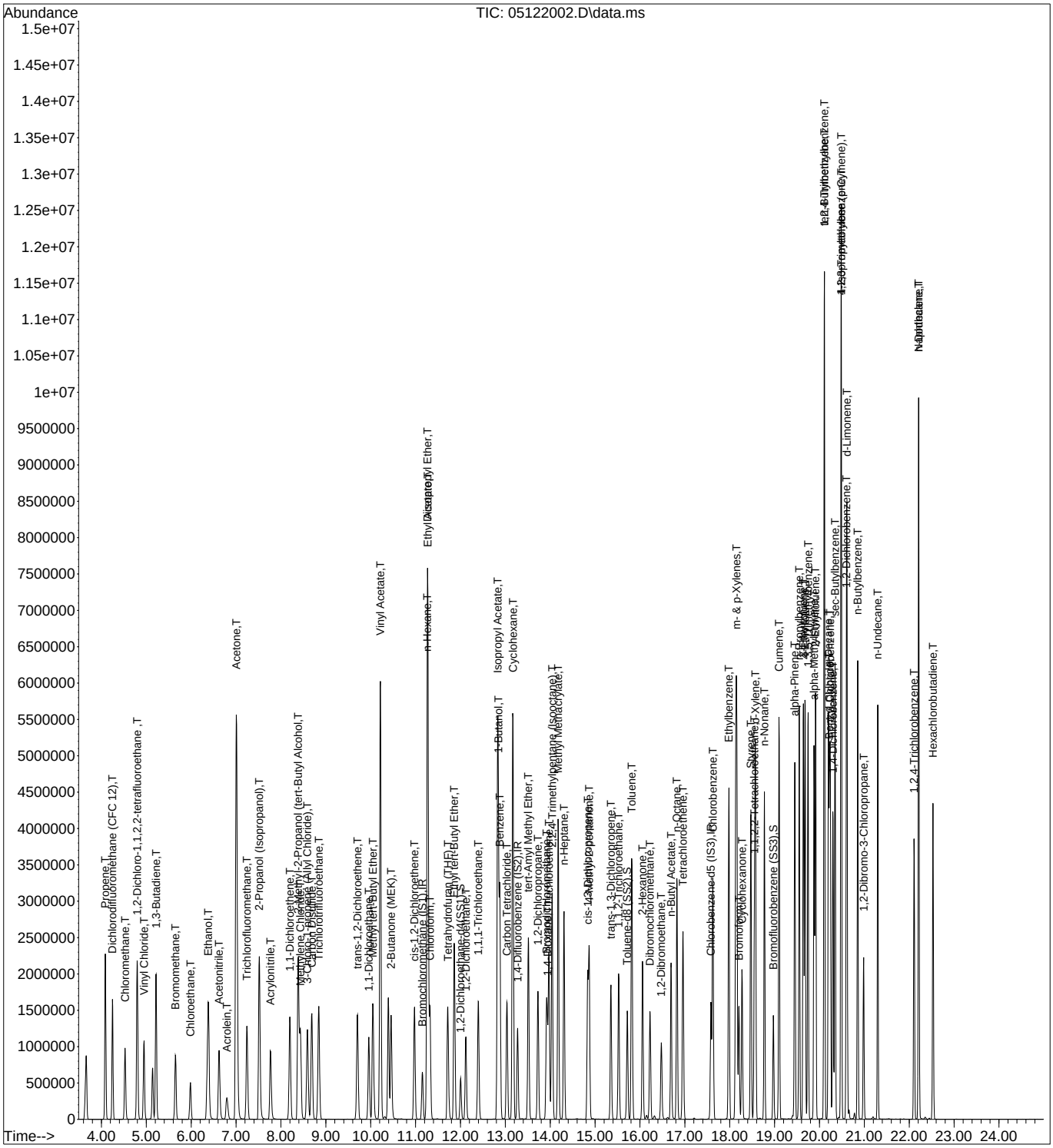
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	722001	24.766	ng	99
52) cis-1,3-Dichloropropene	14.84	75	1222524	24.663	ng	100
53) 4-Methyl-2-pentanone	14.87	58	688222	24.764	ng	99
54) trans-1,3-Dichloropropene	15.35	75	1112309	26.226	ng	100
55) 1,1,2-Trichloroethane	15.52	97	730491	25.513	ng	99
58) Toluene	15.82	91	2962060	25.352	ng	100
59) 2-Hexanone	16.06	43	1642149	25.650	ng	99
60) Dibromochloromethane	16.22	129	913877	27.316	ng	100
61) 1,2-Dibromoethane	16.48	107	846753	26.334	ng	100
62) n-Butyl Acetate	16.70	43	1785627	25.822	ng	100
63) n-Octane	16.82	57	629773	26.036	ng	100
64) Tetrachloroethene	16.96	166	868787	26.326	ng	100
65) Chlorobenzene	17.62	112	1990528	24.761	ng	100
66) Ethylbenzene	17.98	91	3499247	26.859	ng	100
67) m- & p-Xylenes	18.15	91	5754260	55.675	ng	99
68) Bromoform	18.21	173	792582	27.327	ng	100
69) Styrene	18.47	104	2130251	27.404	ng	100
70) o-Xylene	18.58	91	2811601	26.796	ng	100
71) n-Nonane	18.77	43	1529962	27.482	ng	99
72) 1,1,2,2-Tetrachloroethane	18.55	83	1395942	26.817	ng	100
74) Cumene	19.10	105	3558553	27.635	ng	100
75) alpha-Pinene	19.45	93	1870674	27.226	ng	99
76) n-Propylbenzene	19.55	91	4313039	28.194	ng	100
77) 3-Ethyltoluene	19.64	105	3506986	28.138	ng	100
78) 4-Ethyltoluene	19.68	105	3475970	28.742	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	2913808	27.749	ng	99
80) alpha-Methylstyrene	19.88	118	1504538	25.420	ng	99
81) 2-Ethyltoluene	19.91	105	3512482	28.571	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3149010	29.836	ng	99
83) n-Decane	20.20	57	1630518	27.616	ng	99
84) Benzyl Chloride	20.22	91	2604426	26.475	ng	100
85) 1,3-Dichlorobenzene	20.24	146	1759650	28.712	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1711450	28.616	ng	100
87) sec-Butylbenzene	20.35	105	3924234	28.643	ng	100
88) 4-Isopropyltoluene (p-...	20.48	119	3776147	29.106	ng	99
89) 1,2,3-Trimethylbenzene	20.48	105	3237994	29.314	ng	99
90) 1,2-Dichlorobenzene	20.60	146	1734607	29.561	ng	100
91) d-Limonene	20.61	68	1203916	28.881	ng	99
92) 1,2-Dibromo-3-Chloropr...	20.98	157	596878	26.977	ng	98
93) n-Undecane	21.30	57	1584953	29.005	ng	99
94) 1,2,4-Trichlorobenzene	22.11	180	1179082	28.972	ng	100
95) Naphthalene	22.21	128	3630458	28.185	ng	100
96) n-Dodecane	22.21	57	1458486	30.826	ng	99
97) Hexachlorobutadiene	22.53	225	795022	28.241	ng	99
98) Cyclohexanone	18.27	55	892230	21.816	ng	99
99) tert-Butylbenzene	20.11	119	2998122	28.861	ng	100
100) n-Butylbenzene	20.85	91	3144795	29.265	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122002.D Vial: 2
Acq On : 12 May 2020 2:28 Operator: LH
Sample : CCV R16051220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 12 10:09:00 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\12\05122033.D Vial: 2
Acq On : 12 May 2020 20:33 Operator: WA
Sample : CCVend R16051120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

TD 5/13/20

Quant Time: May 13 05:59:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	95	-0.01
2	T	Propene	1.448	1.451	-0.2	94	-0.01
3	T	Dichlorodifluoromethane (CF	2.832	2.568	9.3	89	0.00
4	T	Chloromethane	2.218	2.048	7.7	89	-0.01
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.692	1.479	12.6	88	-0.01
6	T	Vinyl Chloride	2.433	2.147	11.8	87	-0.01
7	T	1,3-Butadiene	2.013	1.780	11.6	86	-0.01
8	T	Bromomethane	1.285	1.167	9.2	89	-0.01
9	T	Chloroethane	0.961	0.878	8.6	89	0.00
10	T	Ethanol	1.118	1.023	8.5	88	-0.03
11	T	Acetonitrile	2.555	2.280	10.8	88	-0.02
12	T	Acrolein	0.883	0.767	13.1	83	-0.02
13	T	Acetone	1.118	1.046	6.4	88	-0.02
14	T	Trichlorofluoromethane	2.503	2.239	10.5	87	0.00
15	T	2-Propanol (Isopropanol)	3.384	3.182	6.0	86	-0.03
16	T	Acrylonitrile	1.828	1.688	7.7	88	-0.02
17	T	1,1-Dichloroethene	1.312	1.205	8.2	87	0.00
18	T	2-Methyl-2-Propanol (tert-B	3.155	2.622	16.9	78	-0.02
19	T	Methylene Chloride	1.453	1.290	11.2	86	0.00
20	T	3-Chloro-1-propene (Allyl C	1.997	1.888	5.5	89	-0.01
21	T	Trichlorotrifluoroethane	1.182	1.123	5.0	89	0.00
22	T	Carbon Disulfide	5.208	4.692	9.9	87	0.00
23	T	trans-1,2-Dichloroethene	1.998	1.784	10.7	86	0.00
24	T	1,1-Dichloroethane	2.371	2.144	9.6	86	0.00
25	T	Methyl tert-Butyl Ether	3.730	3.294	11.7	89	0.00
26	T	Vinyl Acetate	0.348	0.306	12.1	78	-0.01
27	T	2-Butanone (MEK)	0.953	0.879	7.8	88	-0.01
28	T	cis-1,2-Dichloroethene	1.954	1.748	10.5	86	0.00
29	T	Diisopropyl Ether	1.349	1.168	13.4	84	0.00
30	T	Ethyl Acetate	0.550	0.542	1.5	87	-0.01
31	T	n-Hexane	2.385	2.295	3.8	88	0.00
32	T	Chloroform	2.488	2.249	9.6	87	0.00
33	S	1,2-Dichloroethane-d4(SS1)	1.694	1.608	5.1	94	0.00
34	T	Tetrahydrofuran (THF)	0.930	0.815	12.4	86	0.00
35	T	Ethyl tert-Butyl Ether	1.630	1.504	7.7	86	0.00
36	T	1,2-Dichloroethane	1.971	1.720	12.7	86	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	96	0.00
38	T	1,1,1-Trichloroethane	0.503	0.456	9.3	85	0.00
39	T	Isopropyl Acetate	0.220	0.214	2.7	86	0.00
40	T	1-Butanol	0.313	0.280	10.5	81	-0.02
41	T	Benzene	1.340	1.216	9.3	87	0.00
42	T	Carbon Tetrachloride	0.456	0.419	8.1	85	0.00
43	T	Cyclohexane	0.500	0.473	5.4	87	0.00
44	T	tert-Amyl Methyl Ether	0.899	0.847	5.8	87	0.00
45	T	1,2-Dichloropropane	0.310	0.288	7.1	87	0.00
46	T	Bromodichloromethane	0.453	0.423	6.6	85	0.00
47	T	Trichloroethene	0.346	0.325	6.1	88	0.00
48	T	1,4-Dioxane	0.270	0.246	8.9	85	-0.01
49	T	2,2,4-Trimethylpentane (Iso	1.304	1.208	7.4	87	0.00
50	T	Methyl Methacrylate	0.133	0.127	4.5	85	0.00
51	T	n-Heptane	0.313	0.287	8.3	89	0.00
52	T	cis-1,3-Dichloropropene	0.533	0.505	5.3	86	0.00
53	T	4-Methyl-2-pentanone	0.299	0.276	7.7	85	0.00
54	T	trans-1,3-Dichloropropene	0.456	0.446	2.2	84	0.00
55	T	1,1,2-Trichloroethane	0.308	0.288	6.5	86	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\12\05122033.D Vial: 2
Acq On : 12 May 2020 20:33 Operator: WA
Sample : CCVend R16051120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 13 05:59:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	94	0.00
57	S	Toluene-d8 (SS2)	2.119	2.112	0.3	94	0.00
58	T	Toluene	2.731	2.595	5.0	87	0.00
59	T	2-Hexanone	1.497	1.456	2.7	86	0.00
60	T	Dibromochloromethane	0.782	0.784	-0.3	85	0.00
61	T	1,2-Dibromoethane	0.752	0.735	2.3	86	0.00
62	T	n-Butyl Acetate	1.616	1.549	4.1	84	0.00
63	T	n-Octane	0.565	0.557	1.4	89	0.00
64	T	Tetrachloroethene	0.771	0.774	-0.4	88	0.00
65	T	Chlorobenzene	1.879	1.733	7.8	87	0.00
66	T	Ethylbenzene	3.045	3.061	-0.5	87	0.00
67	T	m- & p-Xylenes	2.416	2.456	-1.7	87	-0.01
68	T	Bromoform	0.678	0.689	-1.6	86	0.00
69	T	Styrene	1.817	1.893	-4.2	86	0.00
70	T	o-Xylene	2.453	2.468	-0.6	87	0.00
71	T	n-Nonane	1.301	1.373	-5.5	91	0.00
72	T	1,1,2,2-Tetrachloroethane	1.217	1.229	-1.0	87	0.00
73	S	Bromofluorobenzene (SS3)	0.762	0.807	-5.9	95	0.00
74	T	Cumene	3.010	3.093	-2.8	88	0.00
75	T	alpha-Pinene	1.606	1.637	-1.9	86	0.00
76	T	n-Propylbenzene	3.576	3.752	-4.9	87	0.00
77	T	3-Ethyltoluene	2.913	3.075	-5.6	85	0.00
78	T	4-Ethyltoluene	2.827	3.041	-7.6	90	0.00
79	T	1,3,5-Trimethylbenzene	2.455	2.581	-5.1	88	0.00
80	T	alpha-Methylstyrene	1.384	1.305	5.7	83	0.00
81	T	2-Ethyltoluene	2.874	3.037	-5.7	89	0.00
82	T	1,2,4-Trimethylbenzene	2.467	2.732	-10.7	84	0.00
83	T	n-Decane	1.380	1.450	-5.1	90	0.00
84	T	Benzyl Chloride	2.300	2.236	2.8	81	-0.01
85	T	1,3-Dichlorobenzene	1.433	1.527	-6.6	87	0.00
86	T	1,4-Dichlorobenzene	1.398	1.490	-6.6	86	0.00
87	T	sec-Butylbenzene	3.203	3.424	-6.9	89	0.00
88	T	4-Isopropyltoluene (p-Cymen	3.033	3.237	-6.7	86	0.00
89	T	1,2,3-Trimethylbenzene	2.582	2.762	-7.0	85	0.00
90	T	1,2-Dichlorobenzene	1.372	1.499	-9.3	86	0.00
91	T	d-Limonene	0.974	1.035	-6.3	83	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.517	0.532	-2.9	86	0.00
93	T	n-Undecane	1.277	1.397	-9.4	89	0.00
94	T	1,2,4-Trichlorobenzene	0.951	1.017	-6.9	84	0.00
95	T	Naphthalene	3.011	3.230	-7.3	79	-0.01
96	T	n-Dodecane	1.106	1.325	-19.8	85	0.00
97	T	Hexachlorobutadiene	0.658	0.692	-5.2	90	0.00
98	T	Cyclohexanone	0.956	0.843	11.8	81	-0.01
99	T	tert-Butylbenzene	2.428	2.611	-7.5	86	0.00
100	T	n-Butylbenzene	2.512	2.760	-9.9	87	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122033.D Vial: 2
Acq On : 12 May 2020 20:33 Operator: WA
Sample : CCVend R16051120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

TD 5/13/20

Quant Time: May 13 05:59:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	272591	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.28	114	1179814	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.58	82	536963	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	438244	11.863	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.88%				
57) Toluene-d8 (SS2)	15.72	98	1133914	12.459	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.68%				
73) Bromofluorobenzene (SS3)	18.98	174	433531	13.238	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.92%				
Target Compounds							Qvalue
2) Propene	4.08	42	838671	26.564	ng		100
3) Dichlorodifluoromethan...	4.25	85	1483921	24.031	ng		100
4) Chloromethane	4.52	50	1183536	24.465	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	846554	22.946	ng		100
6) Vinyl Chloride	4.94	62	1264052	23.828	ng		100
7) 1,3-Butadiene	5.21	54	1028811	23.438	ng		99
8) Bromomethane	5.65	94	687370	24.528	ng		100
9) Chloroethane	5.98	64	517058	24.672	ng		99
10) Ethanol	6.38	45	2906369	119.219	ng		100
11) Acetonitrile	6.62	41	1305193	23.428	ng		100
12) Acrolein	6.79	56	430682	22.358	ng		100
13) Acetone	7.01	58	3039723	124.680	ng		99
14) Trichlorofluoromethane	7.24	101	1294160	23.714	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	3642650	49.365	ng		99
16) Acrylonitrile	7.77	53	966319	24.246	ng		100
17) 1,1-Dichloroethene	8.20	96	709316	24.794	ng		99
18) 2-Methyl-2-Propanol (t...	8.39	59	3087463	44.881	ng		100
19) Methylene Chloride	8.44	84	745282	23.516	ng		98
20) 3-Chloro-1-propene (Al...	8.59	41	1111835	25.535	ng		100
21) Trichlorotrifluoroethane	8.84	151	661481	25.673	ng		97
22) Carbon Disulfide	8.69	76	2737241	24.103	ng		100
23) trans-1,2-Dichloroethene	9.71	61	1050213	24.108	ng		99
24) 1,1-Dichloroethane	9.96	63	1273948	24.634	ng		100
25) Methyl tert-Butyl Ether	10.05	73	1939267	23.840	ng		100
26) Vinyl Acetate	10.22	86	891373	117.375	ng	#	89
27) 2-Butanone (MEK)	10.45	72	508055	24.435	ng		95
28) cis-1,2-Dichloroethene	10.98	61	1009988	23.704	ng		100
29) Diisopropyl Ether	11.27	87	687695	23.381	ng	#	92
30) Ethyl Acetate	11.27	61	641131	53.476	ng		98
31) n-Hexane	11.26	57	1351097	25.982	ng		99
32) Chloroform	11.32	83	1312212	24.184	ng		100
34) Tetrahydrofuran (THF)	11.72	72	484437	23.889	ng		97
35) Ethyl tert-Butyl Ether	11.86	87	885782	24.922	ng		98
36) 1,2-Dichloroethane	12.12	62	1012959	23.563	ng		100
38) 1,1,1-Trichloroethane	12.40	97	1150546	24.212	ng		100
39) Isopropyl Acetate	12.83	61	1065793	51.275	ng		99
40) 1-Butanol	12.85	56	1374105	46.466	ng		96
41) Benzene	12.88	78	3040396	24.030	ng		100
42) Carbon Tetrachloride	13.04	117	1038598	24.133	ng		100
43) Cyclohexane	13.17	84	2366029	50.183	ng		99
44) tert-Amyl Methyl Ether	13.51	73	2158645	25.443	ng		100
45) 1,2-Dichloropropane	13.73	63	733047	25.016	ng		100
46) Bromodichloromethane	13.92	83	1078890	25.232	ng		100
47) Trichloroethene	13.97	130	820236	25.081	ng		100
48) 1,4-Dioxane	13.94	88	626739	24.595	ng		99
49) 2,2,4-Trimethylpentane...	14.04	57	3051146	24.783	ng		99
50) Methyl Methacrylate	14.18	100	646244	51.486	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122033.D Vial: 2
Acq On : 12 May 2020 20:33 Operator: WA
Sample : CCVend R16051120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 13 05:59:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

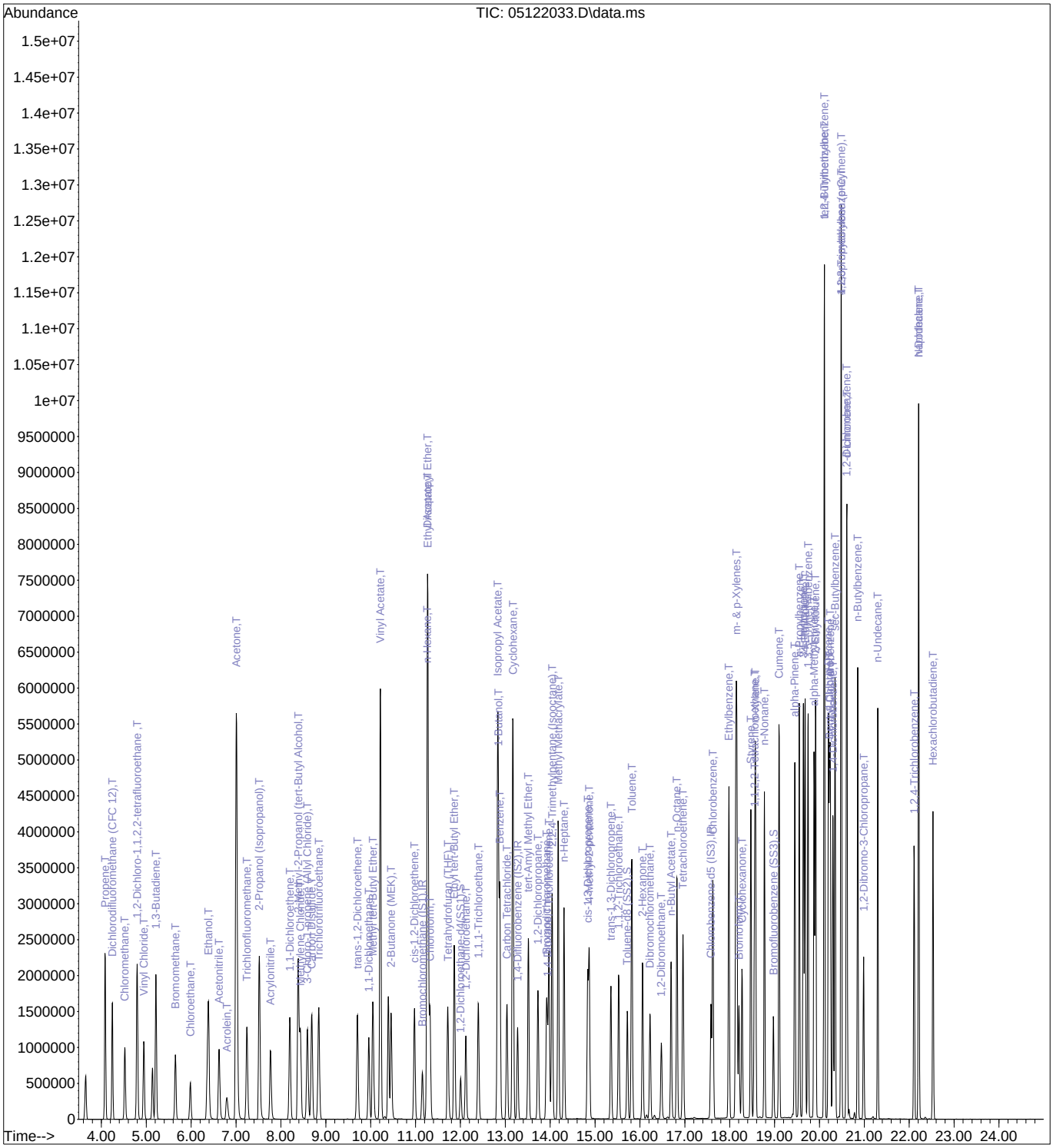
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	731481	24.723	ng	99
52) cis-1,3-Dichloropropene	14.84	75	1239901	24.646	ng	100
53) 4-Methyl-2-pentanone	14.87	58	690392	24.478	ng	97
54) trans-1,3-Dichloropropene	15.35	75	1115913	25.925	ng	100
55) 1,1,2-Trichloroethane	15.52	97	727175	25.025	ng	100
58) Toluene	15.82	91	2981988	25.418	ng	100
59) 2-Hexanone	16.06	43	1673300	26.029	ng	99
60) Dibromochloromethane	16.22	129	901390	26.832	ng	100
61) 1,2-Dibromoethane	16.48	107	844937	26.169	ng	100
62) n-Butyl Acetate	16.70	43	1813398	26.115	ng	99
63) n-Octane	16.82	57	645788	26.588	ng	99
64) Tetrachloroethene	16.96	166	864916	26.101	ng	100
65) Chlorobenzene	17.62	112	1991539	24.671	ng	100
66) Ethylbenzene	17.98	91	3517290	26.887	ng	100
67) m- & p-Xylenes	18.15	91	5644962	54.392	ng	100
68) Bromoform	18.21	173	791880	27.191	ng	100
69) Styrene	18.47	104	2155367	27.613	ng	100
70) o-Xylene	18.58	91	2836388	26.920	ng	100
71) n-Nonane	18.77	43	1577772	28.224	ng	98
72) 1,1,2,2-Tetrachloroethane	18.55	83	1412785	27.029	ng	100
74) Cumene	19.10	105	3587381	27.744	ng	100
75) alpha-Pinene	19.45	93	1880749	27.260	ng	100
76) n-Propylbenzene	19.55	91	4351775	28.330	ng	100
77) 3-Ethyltoluene	19.64	105	3500263	27.968	ng	100
78) 4-Ethyltoluene	19.68	105	3527286	29.046	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	2938483	27.868	ng	100
80) alpha-Methylstyrene	19.88	118	1499502	25.230	ng	99
81) 2-Ethyltoluene	19.91	105	3522562	28.535	ng	99
82) 1,2,4-Trimethylbenzene	20.11	105	3139045	29.619	ng	99
83) n-Decane	20.20	57	1666471	28.109	ng	99
84) Benzyl Chloride	20.22	91	2593829	26.259	ng	100
85) 1,3-Dichlorobenzene	20.24	146	1755054	28.519	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1712277	28.512	ng	100
87) sec-Butylbenzene	20.35	105	3934830	28.602	ng	100
88) 4-Isopropyltoluene (p-...	20.48	119	3789399	29.088	ng	99
89) 1,2,3-Trimethylbenzene	20.48	105	3233051	29.148	ng	99
90) 1,2-Dichlorobenzene	20.61	146	1722536	29.234	ng	100
91) d-Limonene	20.61	68	1200224	28.674	ng	99
92) 1,2-Dibromo-3-Chloropr...	20.98	157	599540	26.986	ng	98
93) n-Undecane	21.30	57	1619799	29.520	ng	99
94) 1,2,4-Trichlorobenzene	22.11	180	1168951	28.605	ng	100
95) Naphthalene	22.21	128	3572370	27.619	ng	100
96) n-Dodecane	22.21	57	1479629	31.144	ng	98
97) Hexachlorobutadiene	22.53	225	787786	27.869	ng	99
98) Cyclohexanone	18.27	55	904962	22.036	ng	99
99) tert-Butylbenzene	20.11	119	2999836	28.759	ng	100
100) n-Butylbenzene	20.85	91	3172031	29.396	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122033.D Vial: 2
Acq On : 12 May 2020 20:33 Operator: WA
Sample : CCVend R16051120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 13 05:59:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

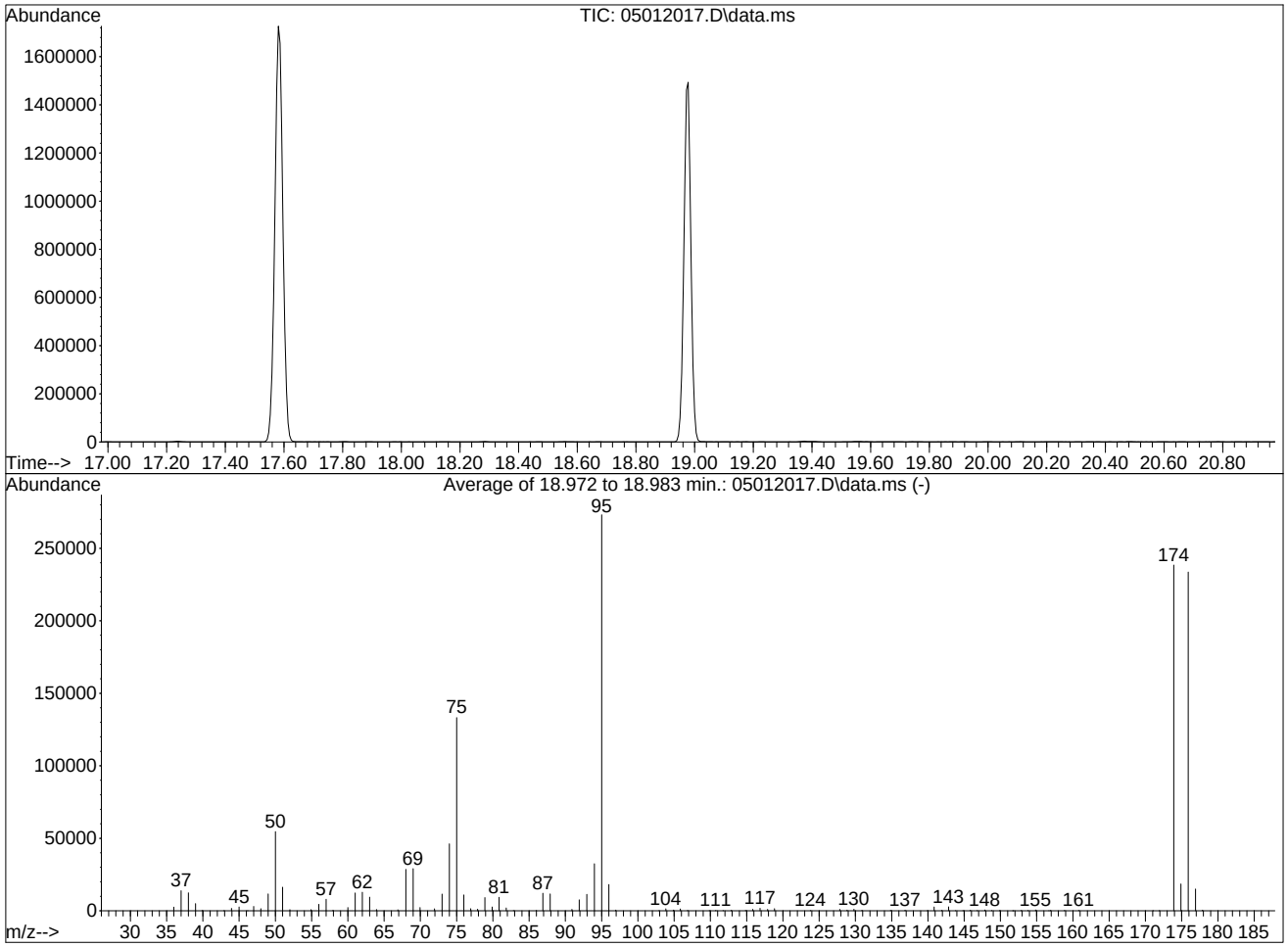


BFB

Data Path : I:\MS16\DATA\2020_05\01\
Data File : 05012017.D
Acq On : 1 May 2020 13:35
Operator : LH
Sample : 12.5ng TO15 BFB
Misc : S31-02112001
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16050120.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri May 01 17:25:50 2020



AutoFind: Scans 2816, 2817, 2818; Background Corrected with Scan 2808

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	20.0	54576	PASS
75	95	30	66	48.8	133227	PASS
95	95	100	100	100.0	273088	PASS
96	95	5	9	6.6	18099	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	87.3	238485	PASS
175	174	4	9	7.8	18527	PASS
176	174	93	101	98.0	233621	PASS
177	176	5	9	6.4	15004	PASS

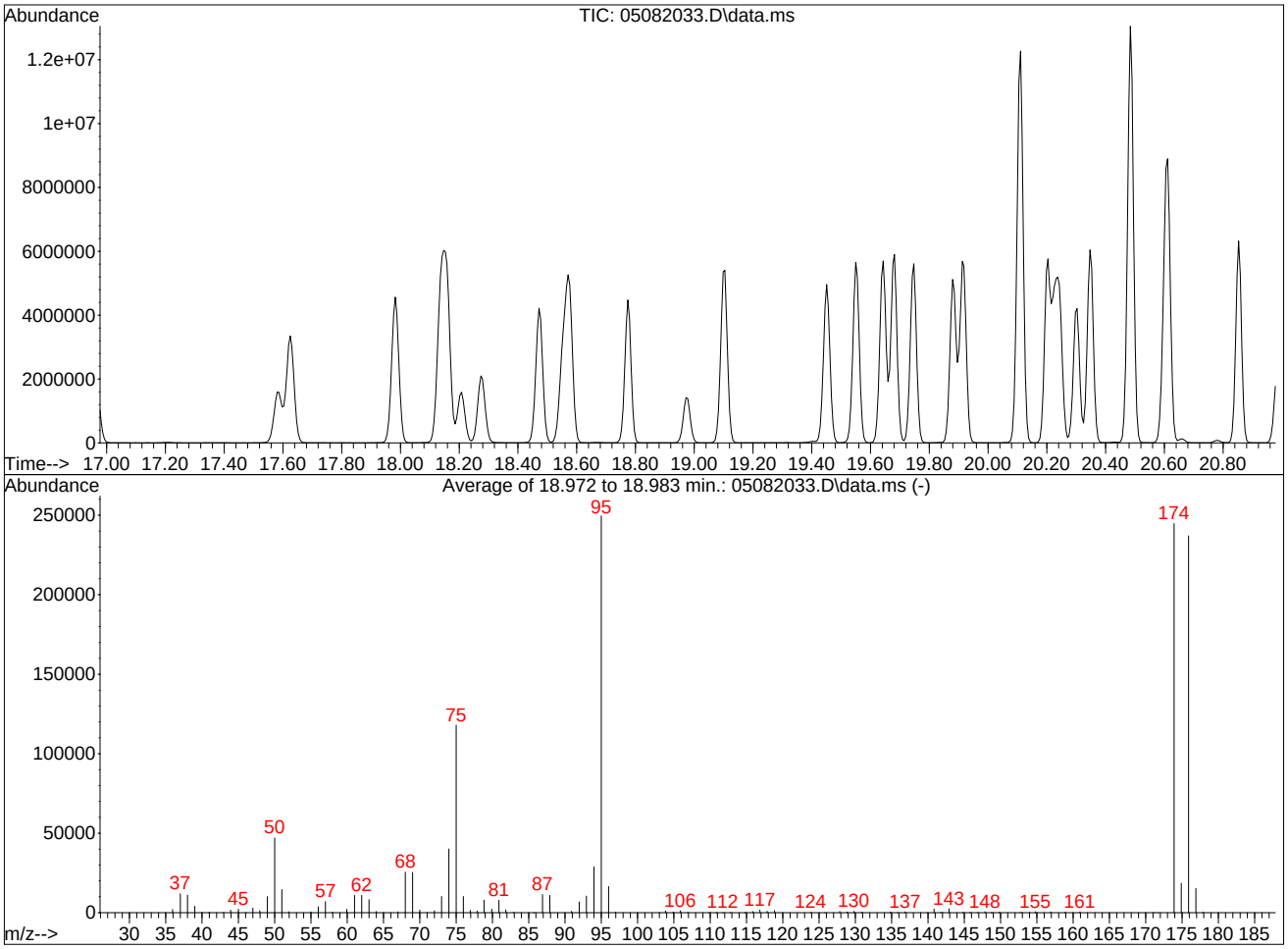
LH 5/1/20

BFB

Data Path : I:\MS16\DATA\2020_05\08\
Data File : 05082033.D
Acq On : 8 May 2020 21:36
Operator : LH
Sample : CCV2 R16050820_25ng
Misc : S31-02112001/S34-04292003 (5/28)
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16050120.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri May 01 18:22:00 2020



AutoFind: Scans 2816, 2817, 2818; Background Corrected with Scan 2807

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	18.8	47011	PASS
75	95	30	66	47.2	117923	PASS
95	95	100	100	100.0	249579	PASS
96	95	5	9	6.6	16447	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	98.1	244757	PASS
175	174	4	9	7.6	18480	PASS
176	174	93	101	96.8	237013	PASS
177	176	5	9	6.5	15359	PASS

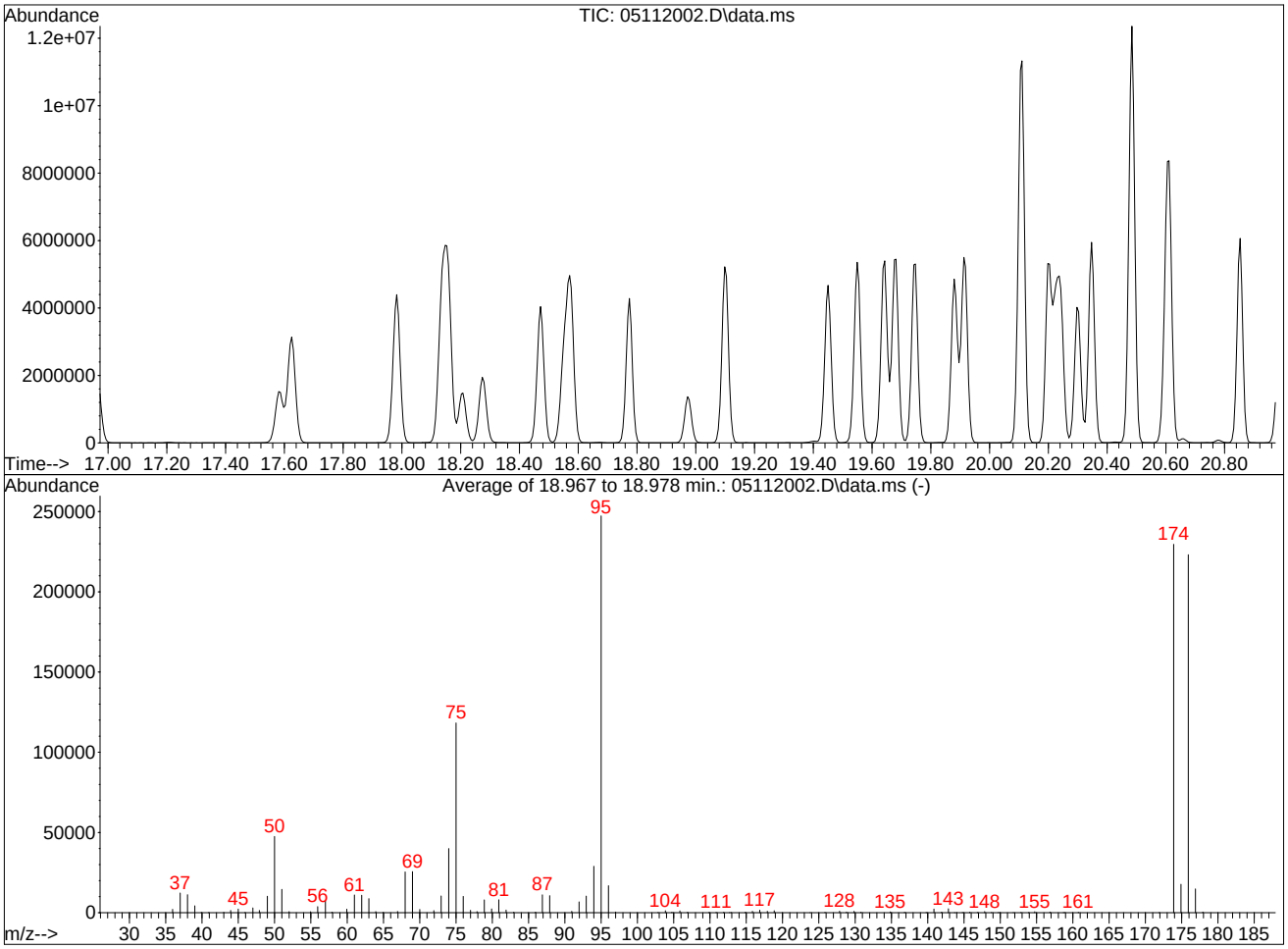
5/9/20

BFB

Data Path : I:\MS16\DATA\2020_05\11\
Data File : 05112002.D
Acq On : 11 May 2020 3:08
Operator : WA
Sample : CCV R16051120_25ng
Misc : S31-02112001/S34-04292003 (5/28)
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16050120.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri May 01 18:22:00 2020



AutoFind: Scans 2815, 2816, 2817; Background Corrected with Scan 2807

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	19.2	47483	PASS
75	95	30	66	47.8	118240	PASS
95	95	100	100	100.0	247317	PASS
96	95	5	9	6.8	16813	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	92.8	229568	PASS
175	174	4	9	7.7	17678	PASS
176	174	93	101	97.2	223104	PASS
177	176	5	9	6.7	14844	PASS

WA 5/11/20

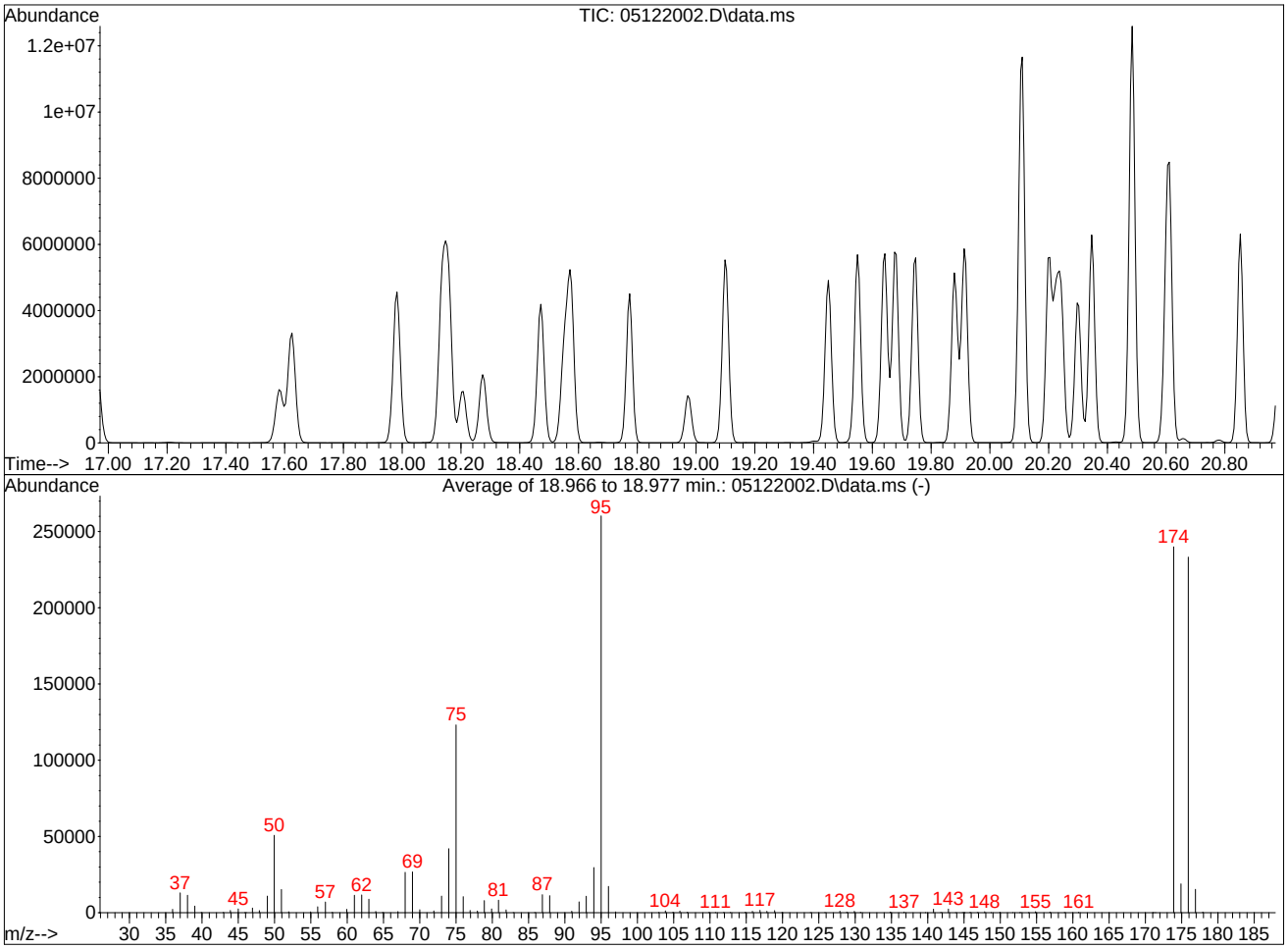
R16050120.M Mon May 11 10:18:19 2020

BFB

Data Path : I:\MS16\DATA\2020_05\12\
Data File : 05122002.D
Acq On : 12 May 2020 2:28
Operator : LH
Sample : CCV R16051220_25ng
Misc : S31-02112001/S34-04292003 (5/28)
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16050120.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri May 01 18:22:00 2020



AutoFind: Scans 2815, 2816, 2817; Background Corrected with Scan 2807

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	19.5	50775	PASS
75	95	30	66	47.3	123165	PASS
95	95	100	100	100.0	260267	PASS
96	95	5	9	6.6	17301	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	92.2	239979	PASS
175	174	4	9	7.9	18893	PASS
176	174	93	101	97.2	233216	PASS
177	176	5	9	6.6	15335	PASS

5/12/20

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
17	5/1/20 13:35	05012017.D	12.5ng TO15 BFB	S31-02112001	LH	2	
18	5/1/20 14:09	05012018.D	0.1ng TO15 ICAL STD	S31-02112001/S34-04272015 (5/26)	LH	6	
19	5/1/20 14:42	05012019.D	0.2ng TO15 ICAL STD	S31-02112001/S34-04272015 (5/26)	LH	6	
20	5/1/20 15:16	05012020.D	0.5ng TO15 ICAL STD	S31-02112001/S34-05012002 (5/30)	LH	13	
21	5/1/20 15:51	05012021.D	1.0ng TO15 ICAL STD	S31-02112001/S34-05012002 (5/30)	LH	13	
22	5/1/20 16:25	05012022.D	5.0ng TO15 ICAL STD	S31-02112001/S34-04292003 (5/28)	LH	2	
23	5/1/20 16:59	05012023.D	25ng TO15 ICAL STD	S31-02112001/S34-04292003 (5/28)	LH	2	
24	5/1/20 17:33	05012024.D	50ng TO15 ICAL STD	S31-02112001/S34-04292003 (5/28)	LH	2	
25	5/1/20 18:07	05012025.D	100ng TO15 ICAL STD	S31-02112001/S34-04292003 (5/28)	LH	2	
26	5/1/20 18:41	05012026.D	25ng TO15 ICV STD	S31-02112001/S34-04302003 (5/29)	LH	2	
	ICAL R16050120.M passed for all compounds 0.1ng-100ng, except: tert butanol 0.1ng-50ng, vinyl acetate 2.5ng-500ng, bromoform,						
	alpha-methylstyrene, n-decane, 4-isopropyltolune, 1,2,3-trtimethylbenzene, 1,2-dibromo-3-chloropropane, n-undecane, 1,2,4-trichlorobenzene,						
	naphthalene, n-dodecane, hexachlorobutadiene 0.5ng-100ng, benzyl chloride 1.0ng-100ng.						

LH 5/4/20

Injection Log

Directory: I:\MS16\DATA\2020_05\08\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	5/8/20 21:36	05082033.D	CCV2 R16050820_25ng	S31-02112001/S34-04292003 (5/28)	LH	2	Passed
2	5/8/20 22:10	05082034.D	Blank (100mL)	S31-02112001/S34-04102011 (6/7)	LH	2	
3	5/8/20 22:44	05082035.D	MB2 R16050820_1000mL	S31-02112001/AS01319	LH	2	Passed
4	5/8/20 23:18	05082036.D	LCS2 R16050820_25ng	S31-02112001/S34-04302003 (5/29)	LH	2	Passed
5	5/8/20 23:52	05082037.D	LCSD2 R16050820_25ng	S31-02112001/S34-04302003 (5/29)	LH	2	Passed
6	5/9/20 0:26	05082038.D	P2002105-016dil (40mL)	S31-02112001	LH	9	
7	5/9/20 1:00	05082039.D	P2002105-020dil (20mL)	S31-02112001	LH	10	
8	5/9/20 1:34	05082040.D	J2002227-001 (1000mL)	S31-02112001	LH	11	need dil
9	5/9/20 2:08	05082041.D	J2002228-001 (1000mL)	S31-02112001	LH	12	need dil
10	5/9/20 2:42	05082042.D	J2002228-002 (1000mL)	S31-02112001	LH	13	need dil
11	5/9/20 3:16	05082043.D	P2002299-001 (400mL)	S31-02112001	LH	14	
12	5/9/20 3:50	05082044.D	P2002299-002 (400mL)	S31-02112001	LH	15	
13	5/9/20 4:24	05082045.D	P2002299-005 (120mL)	S31-02112001	LH	16	need dil
14	5/9/20 4:57	05082046.D	P2002299-006 (120mL)	S31-02112001	LH	1	need dil
15	5/9/20 5:31	05082047.D	P2002299-007 (400mL)	S31-02112001	LH	3	
16	5/9/20 6:05	05082048.D	P2002299-008 (400mL)	S31-02112001	LH	4	
17	5/9/20 6:38	05082049.D	P2002299-009 (400mL)	S31-02112001	LH	5	
18	5/9/20 7:12	05082050.D	P2002299-010 (400mL)	S31-02112001	LH	6	
19	5/9/20 7:45	05082051.D	P2002299-011 (400mL)	S31-02112001	LH	7	
20	5/9/20 8:19	05082052.D	P2002299-012 (50mL)	S31-02112001	LH	8	
21	5/9/20 8:53	05082053.D	P2002299-012dup (50mL)	S31-02112001	LH	8	Passed
22	5/9/20 9:27	05082054.D	CCV2end R16050820_25ng	S31-02112001/S34-04292003 (5/28)	LH	2	Passed

WDA 5/11/20

Injection Log

Directory: I:\MS16\DATA\2020_05\11\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	5/11/20 2:34	05112001.D	CCV C16051120_25ng	S31-02112001/S34-04292003 (5/28)	WA	2	
2	5/11/20 3:08	05112002.D	CCV R16051120_25ng	S31-02112001/S34-04292003 (5/28)	WA	2	Passed
3	5/11/20 3:42	05112003.D	Blank (100mL)	S31-02112001	WA	2	
4	5/11/20 4:16	05112004.D	MB R16051120_1000mL	S31-02112001/AS01319	WA	2	Passed
5	5/11/20 4:51	05112005.D	LCS R16051120_25ng	S31-02112001/S34-04302003 (5/29)	WA	2	Passed
6	5/11/20 5:24	05112006.D	LCSD R16051120_25ng	S31-02112001/S34-04302003 (5/29)	WA	2	Passed
7	5/11/20 5:59	05112007.D	Blank (100mL)	S31-02112001	WA	2	
8	5/11/20 7:43	05112008.D	J2002227-001dil (200mL)	S31-02112001	WA	13	
9	5/11/20 8:17	05112009.D	J2002228-001dil (200mL)	S31-02112001	WA	14	
10	5/11/20 8:51	05112010.D	J2002228-002dil (200mL)	S31-02112001	WA	15	
11	5/11/20 9:34	05112011.D	J2002225-002 (3.5mL)	S31-02112001	WA	1	
12	5/11/20 10:14	05112012.D	J2002225-002dup (3.5mL)	S31-02112001	WA	1	Passed
13	5/11/20 10:49	05112013.D	J2002225-003 (0.75mL)	S31-02112001	WA	1	
14	5/11/20 11:22	05112014.D	J2002225-004 (0.65mL)	S31-02112001	WA	1	
15	5/11/20 12:11	05112015.D	J2002225-005 (0.8mL)	S31-02112001	WA	1	
16	5/11/20 12:45	05112016.D	J2002225-005 (1.5mL)	S31-02112001	WA	1	
17	5/11/20 13:19	05112017.D	J2002225-002 (3.5mL)	S31-02112001	WA	1	Conf.
18	5/11/20 14:38	05112018.D	J2002225-005dil (0.5mL)	S31-02112001	LH	1	
19	5/11/20 15:27	05112019.D	J2002225-005 (1.3mL)	S31-02112001	LH	1	
20	5/11/20 16:47	05112020.D	J2002225-005dil (0.5mL)	S31-02112001	LH	1	
21	5/11/20 17:21	05112021.D	P2002299-003 (1.5mL)	S31-02112001	LH	1	
22	5/11/20 17:55	05112022.D	P2002299-004 (0.4mL)	S31-02112001	LH	1	
23	5/11/20 18:29	05112023.D	J2002225-001 (1000mL)	S31-02112001	LH	13	
24	5/11/20 19:03	05112024.D	J2002225-001dil (100mL)	S31-02112001	LH	13	
25	5/11/20 19:36	05112025.D	P2002299-013 (2.0mL)	S31-02112001	LH	1	
26	5/11/20 20:13	05112026.D	P2002299-014 (2.0mL)	S31-02112001	LH	1	
27	5/11/20 20:47	05112027.D	P2002299-005dil (20mL)	S31-02112001	LH	5	
28	5/11/20 21:21	05112028.D	P2002299-006dil (20mL)	S31-02112001	LH	6	
29	5/11/20 21:55	05112029.D	P2002299-015 (400mL)	S31-02112001	LH	7	need dil
30	5/11/20 22:29	05112030.D	P2002299-016 (400mL)	S31-02112001	LH	8	
31	5/11/20 23:03	05112031.D	P2002299-017 (400mL)	S31-02112001	LH	9	
32	5/11/20 23:37	05112032.D	P2002299-018 (400mL)	S31-02112001	LH	10	
33	5/12/20 0:11	05112033.D	P2002299-019 (400mL)	S31-02112001	LH	11	
34	5/12/20 0:45	05112034.D	P2002299-020 (20mL)	S31-02112001	LH	12	
35	5/12/20 1:19	05112035.D	CCVend R16051120_25ng	S31-02112001/S34-04292003 (5/28)	LH	2	Passed

WDA 5/12/20

Injection Log

Directory: I:\MS16\DATA\2020_05\12\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	5/12/20 1:53	05122001.D	CCV C16051220_25ng	S31-02112001/S34-04292003 (5/28)	LH	2	not using
2	5/12/20 2:28	05122002.D	CCV R16051220_25ng	S31-02112001/S34-04292003 (5/28)	LH	2	passed
3	5/12/20 3:01	05122003.D	Blank (100mL)	S31-02112001	LH	2	
4	5/12/20 3:36	05122004.D	MB R16051220_1000mL	S31-02112001/AS01319	LH	2	passed
5	5/12/20 4:10	05122005.D	LCS R16051220_25ng	S31-02112001/S34-04302003 (5/29)	LH	2	passed
6	5/12/20 4:44	05122006.D	LCSD R16051220_25ng	S31-02112001/S34-04302003 (5/29)	LH	2	passed
7	5/12/20 5:18	05122007.D	Blank (100mL)	S31-02112001	LH	2	
8	5/12/20 5:52	05122008.D	P2002300-001 (20mL)	S31-02112001	LH	13	
9	5/12/20 6:26	05122009.D	P2002300-001dup (20mL)	S31-02112001	LH	13	passed
10	5/12/20 7:00	05122010.D	P2002300-002 (400mL)	S31-02112001	LH	14	
11	5/12/20 7:34	05122011.D	P2002300-003 (400mL)	S31-02112001	LH	15	
12	5/12/20 8:08	05122012.D	P2002300-008 (400mL)	S31-02112001	LH	16	
13	5/12/20 8:42	05122013.D	P2002300-009 (400mL)	S31-02112001	LH	1	
14	5/12/20 9:16	05122014.D	P2002300-010 (400mL)	S31-02112001	LH	4	
15	5/12/20 9:50	05122015.D	P2002300-011 (400mL)	S31-02112001	LH	5	
16	5/12/20 10:23	05122016.D	P2002300-004 (0.25mL)	S31-02112001	WA	1	
17	5/12/20 10:58	05122017.D	P2002300-005 (0.006mL)	S31-02112001 (1ml/1L; 6mL)	WA	1	over diluted
18	5/12/20 11:32	05122018.D	P2002300-006 (0.20mL)	S31-02112001	WA	1	
19	5/12/20 12:06	05122019.D	P2002300-005 (0.06mL)	S31-02112001	WA	1	
20	5/12/20 12:40	05122020.D	P2002300-007 (2.0mL)	S31-02112001	WA	1	
21	5/12/20 13:15	05122021.D	P2002300-012 (5.0mL)	S31-02112001	WA	1	over diluted
22	5/12/20 13:48	05122022.D	P2002300-013 (1.5mL)	S31-02112001	WA	1	
23	5/12/20 14:53	05122023.D	P2002300-019 (6.0mL)	S31-02112001	WA	1	
24	5/12/20 15:26	05122024.D	P2002300-012 (50mL)	S31-02112001	WA	5	
25	5/12/20 16:00	05122025.D	P2002299-015dil (40mL)	S31-02112001	WA	7	
26	5/12/20 16:34	05122026.D	P2002300-009Dil (40mL)	S31-02112001	WA	4	
27	5/12/20 17:08	05122027.D	P2002300-014 (400mL)	S31-02112001	WA	6	
28	5/12/20 17:42	05122028.D	P2002300-015 (400mL)	S31-02112001	WA	8	
29	5/12/20 18:16	05122029.D	P2002300-016 (400mL)	S31-02112001	WA	9	
30	5/12/20 18:50	05122030.D	P2002300-017 (400mL)	S31-02112001	WA	10	
31	5/12/20 19:25	05122031.D	P2002300-018 (400mL)	S31-02112001	WA	11	
32	5/12/20 19:59	05122032.D	P2002300-020 (400mL)	S31-02112001	WA	12	
33	5/12/20 20:33	05122033.D	CCVend R16051120_25ng	S31-02112001/S34-04292003 (5/28)	WA	2	passed

LH 5/13/20

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PAGE: 1 of 4

Primary

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Propylene	115-07-1	1.00 mg/m3	1.06 mg/m3
Freon-12	75-71-8	1.00 mg/m3	1.06 mg/m3
Chloromethane	74-87-3	1.00 mg/m3	1.06 mg/m3
Freon-114	76-14-2	1.00 mg/m3	1.05 mg/m3
Vinyl Chloride	75-01-4	1.00 mg/m3	1.08 mg/m3
1,3-Butadiene	106-99-0	1.00 mg/m3	1.06 mg/m3
Bromomethane	74-83-9	1.00 mg/m3	1.08 mg/m3
Chloroethane	75-00-3	1.00 mg/m3	1.08 mg/m3
Ethanol	64-17-5	5.00 mg/m3	5.21 mg/m3
Acetonitrile	75-05-8	1.00 mg/m3	1.05 mg/m3
Acrolein	107-02-8	1.00 mg/m3	1.03 mg/m3
Acetone	67-64-1	5.00 mg/m3	5.33 mg/m3
Freon-11	75-69-4	1.00 mg/m3	1.06 mg/m3
Isopropyl Alcohol	67-63-0	2.00 mg/m3	2.10 mg/m3
Acrylonitrile	107-13-1	1.00 mg/m3	1.05 mg/m3
1,1-Dichloroethene	75-35-4	1.00 mg/m3	1.08 mg/m3
Carbon Disulfide	75-15-0	1.00 mg/m3	1.07 mg/m3
Methylene Chloride	75-09-2	1.00 mg/m3	1.06 mg/m3
Tert-Butanol	75-65-0	2.00 mg/m3	2.16 mg/m3
Allyl Chloride	107-05-1	1.00 mg/m3	1.08 mg/m3
Freon-113	76-13-1	1.00 mg/m3	1.08 mg/m3
Trans-1,2-Dichloroethene	156-60-5	1.00 mg/m3	1.08 mg/m3
1,1-Dichloroethane	75-34-3	1.00 mg/m3	1.09 mg/m3
Methyl Tert Butyl Ether	1634-04-4	1.00 mg/m3	1.08 mg/m3
Vinyl Acetate	108-05-4	5.00 mg/m3	5.35 mg/m3
Methacrylonitrile	126-98-7	1.00 mg/m3	1.06 mg/m3
Methyl Ethyl Ketone	78-93-3	1.00 mg/m3	1.06 mg/m3
Cis-1,2-Dichloroethene	156-59-2	1.00 mg/m3	1.06 mg/m3
Hexane	110-54-3	1.00 mg/m3	1.08 mg/m3
Di-isopropyl Ether	108-20-3	1.00 mg/m3	1.08 mg/m3

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PAGE: 2 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chloroform	67-66-3	1.00 mg/m3	1.07 mg/m3
Ethyl Acetate	141-78-6	2.00 mg/m3	2.17 mg/m3
Tetrahydrofuran	109-99-9	1.00 mg/m3	1.09 mg/m3
Ethyl Tert-Butyl Ether	637-92-3	1.00 mg/m3	1.08 mg/m3
1,2-Dichloroethane	107-06-2	1.00 mg/m3	1.08 mg/m3
1,1,1-Trichloroethane	71-55-6	1.00 mg/m3	1.07 mg/m3
Benzene	71-43-2	1.00 mg/m3	1.06 mg/m3
Isopropyl Acetate	108-21-4	2.00 mg/m3	2.11 mg/m3
1-Butanol	71-36-3	2.00 mg/m3	2.08 mg/m3
Carbon Tetrachloride	56-23-5	1.00 mg/m3	1.05 mg/m3
Cyclohexane	110-82-7	2.00 mg/m3	2.12 mg/m3
Tert Amyl Methyl Ether	994-05-8	1.00 mg/m3	1.08 mg/m3
1,2-Dichloropropane	78-87-5	1.00 mg/m3	1.08 mg/m3
Trichloroethylene	79-01-6	1.00 mg/m3	1.07 mg/m3
Bromodichloromethane	75-27-4	1.00 mg/m3	1.08 mg/m3
1,4-Dioxane	123-91-1	1.00 mg/m3	1.08 mg/m3
Isooctane	540-84-1	1.00 mg/m3	1.07 mg/m3
Methyl Methacrylate	80-62-6	2.00 mg/m3	2.15 mg/m3
Heptane	142-82-5	1.00 mg/m3	1.08 mg/m3
Cis-1,3-Dichloropropene	10061-01-5	1.00 mg/m3	1.04 mg/m3
Methyl Isobutyl Ketone	108-10-1	1.00 mg/m3	1.06 mg/m3
Trans-1,3-Dichloropropene	10061-02-6	1.00 mg/m3	1.06 mg/m3
1,1,2-Trichloroethane	79-00-5	1.00 mg/m3	1.07 mg/m3
Toluene	108-88-3	1.00 mg/m3	1.07 mg/m3
Methyl Butyl Ketone	591-78-6	1.00 mg/m3	1.07 mg/m3
Dibromochloromethane	124-48-1	1.00 mg/m3	1.07 mg/m3
1,2-Dibromoethane	106-93-4	1.00 mg/m3	1.07 mg/m3
n-Butyl Acetate	123-86-4	1.00 mg/m3	1.09 mg/m3
n-Octane	111-65-9	1.00 mg/m3	1.08 mg/m3
Tetrachloroethylene	127-18-4	1.00 mg/m3	1.04 mg/m3

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ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chlorobenzene	108-90-7	1.00 mg/m3	1.07 mg/m3
Ethylbenzene	100-41-4	1.00 mg/m3	1.07 mg/m3
p-xylene	106-42-3	1.00 mg/m3	1.07 mg/m3
m-xylene	108-38-3	1.00 mg/m3	1.07 mg/m3
Bromoform	75-25-2	1.00 mg/m3	1.07 mg/m3
Cyclohexanone	108-94-1	1.00 mg/m3	1.00 mg/m3
Styrene	100-42-5	1.00 mg/m3	1.06 mg/m3
o-xylene	95-47-6	1.00 mg/m3	1.07 mg/m3
1,1,2,2-Tetrachloroethane	79-34-5	1.00 mg/m3	1.07 mg/m3
Nonane	111-84-2	1.00 mg/m3	1.07 mg/m3
Isopropylbenzene	98-82-8	1.00 mg/m3	1.08 mg/m3
alpha-Pinene	80-56-8	1.00 mg/m3	1.07 mg/m3
n-Propylbenzene	103-65-1	1.00 mg/m3	1.08 mg/m3
3-Ethyltoluene	620-14-4	1.00 mg/m3	1.06 mg/m3
4-Ethyltoluene	622-96-8	1.00 mg/m3	1.08 mg/m3
2-Ethyltoluene	611-14-3	1.00 mg/m3	1.08 mg/m3
1,3,5-Trimethylbenzene	108-67-8	1.00 mg/m3	1.06 mg/m3
alpha-Methylstyrene	98-83-9	1.00 mg/m3	1.07 mg/m3
Tert-Butyl Benzene	98-06-6	1.00 mg/m3	1.07 mg/m3
1,2,4-Trimethylbenzene	95-63-6	1.00 mg/m3	1.07 mg/m3
1,3-Dichlorobenzene	541-73-1	1.00 mg/m3	1.07 mg/m3
Benzyl Chloride	100-44-7	1.00 mg/m3	1.08 mg/m3
n-Decane	124-18-5	1.00 mg/m3	1.07 mg/m3
1,4-Dichlorobenzene	106-46-7	1.00 mg/m3	1.07 mg/m3
Sec-Butyl Benzene	135-98-8	1.00 mg/m3	1.07 mg/m3
p-Isopropyltoluene	99-87-6	1.00 mg/m3	1.09 mg/m3
1,2,3-Trimethylbenzene	526-73-8	1.00 mg/m3	1.09 mg/m3
1,2-Dichlorobenzene	95-50-1	1.00 mg/m3	1.07 mg/m3

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PAGE: 4 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
d-Limonene	5989-27-5	1.00 mg/m3	1.08 mg/m3
n-Butyl Benzene	104-51-8	1.00 mg/m3	1.07 mg/m3
1,2-Dibromo-3-Chloropropane	96-12-8	1.00 mg/m3	1.05 mg/m3
n-Undecane	1120-21-4	1.00 mg/m3	1.08 mg/m3
1,2,4-Trichlorobenzene	120-82-1	1.00 mg/m3	1.07 mg/m3
Naphthalene	91-20-3	1.00 mg/m3	1.03 mg/m3
n-Dodecane	112-40-3	1.00 mg/m3	1.04 mg/m3
Hexachloro-1,3-Butadiene	87-68-3	1.00 mg/m3	1.06 mg/m3
Nitrogen	7727-37-9	Balance	Balance

ANALYST: Lou Lorenzetti **DATE:** Sep-24-2019

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S31-1011902

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PAGE: 1 of 4

Secondary

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Propylene	115-07-1	1.00 mg/m3	1.05 mg/m3
Freon-12	75-71-8	1.00 mg/m3	1.05 mg/m3
Chloromethane	74-87-3	1.00 mg/m3	1.06 mg/m3
Freon-114	76-14-2	1.00 mg/m3	1.03 mg/m3
Vinyl Chloride	75-01-4	1.00 mg/m3	1.06 mg/m3
1,3-Butadiene	106-99-0	1.00 mg/m3	1.06 mg/m3
Bromomethane	74-83-9	1.00 mg/m3	1.06 mg/m3
Chloroethane	75-00-3	1.00 mg/m3	1.07 mg/m3
Ethanol	64-17-5	5.00 mg/m3	5.30 mg/m3
Acetonitrile	75-05-8	1.00 mg/m3	1.07 mg/m3
Acrolein	107-02-8	1.00 mg/m3	1.03 mg/m3
Acetone	67-64-1	5.00 mg/m3	5.34 mg/m3
Freon-11	75-69-4	1.00 mg/m3	1.06 mg/m3
Isopropyl Alcohol	67-63-0	2.00 mg/m3	2.11 mg/m3
Acrylonitrile	107-13-1	1.00 mg/m3	1.06 mg/m3
1,1-Dichloroethene	75-35-4	1.00 mg/m3	1.07 mg/m3
Carbon Disulfide	75-15-0	1.00 mg/m3	1.06 mg/m3
Methylene Chloride	75-09-2	1.00 mg/m3	1.05 mg/m3
Tert-Butanol	75-65-0	2.00 mg/m3	2.15 mg/m3
Allyl Chloride	107-05-1	1.00 mg/m3	1.07 mg/m3
Freon-113	76-13-1	1.00 mg/m3	1.08 mg/m3
Trans-1,2-Dichloroethene	156-60-5	1.00 mg/m3	1.07 mg/m3
1,1-Dichloroethane	75-34-3	1.00 mg/m3	1.06 mg/m3
Methyl Tert Butyl Ether	1634-04-4	1.00 mg/m3	1.07 mg/m3
Vinyl Acetate	108-05-4	5.00 mg/m3	5.33 mg/m3
Methacrylonitrile	126-98-7	1.00 mg/m3	1.06 mg/m3
Methyl Ethyl Ketone	78-93-3	1.00 mg/m3	1.06 mg/m3
Cis-1,2-Dichloroethene	156-59-2	1.00 mg/m3	1.06 mg/m3
Hexane	110-54-3	1.00 mg/m3	1.08 mg/m3
Di-isopropyl Ether	108-20-3	1.00 mg/m3	1.08 mg/m3

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PAGE: 2 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chloroform	67-66-3	1.00 mg/m3	1.07 mg/m3
Ethyl Acetate	141-78-6	2.00 mg/m3	2.16 mg/m3
Tetrahydrofuran	109-99-9	1.00 mg/m3	1.10 mg/m3
Ethyl Tert-Butyl Ether	637-92-3	1.00 mg/m3	1.07 mg/m3
1,2-Dichloroethane	107-06-2	1.00 mg/m3	1.07 mg/m3
1,1,1-Trichloroethane	71-55-6	1.00 mg/m3	1.07 mg/m3
Benzene	71-43-2	1.00 mg/m3	1.05 mg/m3
Isopropyl Acetate	108-21-4	2.00 mg/m3	2.10 mg/m3
1-Butanol	71-36-3	2.00 mg/m3	2.13 mg/m3
Carbon Tetrachloride	56-23-5	1.00 mg/m3	1.04 mg/m3
Cyclohexane	110-82-7	2.00 mg/m3	2.11 mg/m3
Tert Amyl Methyl Ether	994-05-8	1.00 mg/m3	1.07 mg/m3
1,2-Dichloropropane	78-87-5	1.00 mg/m3	1.07 mg/m3
Trichloroethylene	79-01-6	1.00 mg/m3	1.08 mg/m3
Bromodichloromethane	75-27-4	1.00 mg/m3	1.09 mg/m3
1,4-Dioxane	123-91-1	1.00 mg/m3	1.08 mg/m3
Isooctane	540-84-1	1.00 mg/m3	1.07 mg/m3
Methyl Methacrylate	80-62-6	2.00 mg/m3	2.15 mg/m3
Heptane	142-82-5	1.00 mg/m3	1.07 mg/m3
Cis-1,3-Dichloropropene	10061-01-5	1.00 mg/m3	1.07 mg/m3
Methyl Isobutyl Ketone	108-10-1	1.00 mg/m3	1.06 mg/m3
Trans-1,3-Dichloropropene	10061-02-6	1.00 mg/m3	1.06 mg/m3
1,1,2-Trichloroethane	79-00-5	1.00 mg/m3	1.07 mg/m3
Toluene	108-88-3	1.00 mg/m3	1.06 mg/m3
Methyl Butyl Ketone	591-78-6	1.00 mg/m3	1.08 mg/m3
Dibromochloromethane	124-48-1	1.00 mg/m3	1.07 mg/m3
1,2-Dibromoethane	106-93-4	1.00 mg/m3	1.07 mg/m3
n-Butyl Acetate	123-86-4	1.00 mg/m3	1.09 mg/m3
n-Octane	111-65-9	1.00 mg/m3	1.08 mg/m3
Tetrachloroethylene	127-18-4	1.00 mg/m3	1.04 mg/m3

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PAGE: 3 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chlorobenzene	108-90-7	1.00 mg/m3	1.07 mg/m3
Ethylbenzene	100-41-4	1.00 mg/m3	1.06 mg/m3
p-xylene	106-42-3	1.00 mg/m3	1.07 mg/m3
m-xylene	108-38-3	1.00 mg/m3	1.06 mg/m3
Bromoform	75-25-2	1.00 mg/m3	1.07 mg/m3
Cyclohexanone	108-94-1	1.00 mg/m3	1.01 mg/m3
Styrene	100-42-5	1.00 mg/m3	1.06 mg/m3
o-xylene	95-47-6	1.00 mg/m3	1.07 mg/m3
1,1,2,2-Tetrachloroethane	79-34-5	1.00 mg/m3	1.07 mg/m3
Nonane	111-84-2	1.00 mg/m3	1.07 mg/m3
Isopropylbenzene	98-82-8	1.00 mg/m3	1.07 mg/m3
alpha-Pinene	80-56-8	1.00 mg/m3	1.06 mg/m3
n-Propylbenzene	103-65-1	1.00 mg/m3	1.07 mg/m3
3-Ethyltoluene	620-14-4	1.00 mg/m3	1.07 mg/m3
4-Ethyltoluene	622-96-8	1.00 mg/m3	1.05 mg/m3
2-Ethyltoluene	611-14-3	1.00 mg/m3	1.07 mg/m3
1,3,5-Trimethylbenzene	108-67-8	1.00 mg/m3	1.06 mg/m3
alpha-Methylstyrene	98-83-9	1.00 mg/m3	1.06 mg/m3
Tert-Butyl Benzene	98-06-6	1.00 mg/m3	1.06 mg/m3
1,2,4-Trimethylbenzene	95-63-6	1.00 mg/m3	1.06 mg/m3
1,3-Dichlorobenzene	541-73-1	1.00 mg/m3	1.07 mg/m3
Benzyl Chloride	100-44-7	1.00 mg/m3	1.07 mg/m3
n-Decane	124-18-5	1.00 mg/m3	1.07 mg/m3
1,4-Dichlorobenzene	106-46-7	1.00 mg/m3	1.07 mg/m3
Sec-Butyl Benzene	135-98-8	1.00 mg/m3	1.06 mg/m3
p-Isopropyltoluene	99-87-6	1.00 mg/m3	1.09 mg/m3
1,2,3-Trimethylbenzene	526-73-8	1.00 mg/m3	1.08 mg/m3
1,2-Dichlorobenzene	95-50-1	1.00 mg/m3	1.07 mg/m3

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PAGE: **4 of 4**

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
d-Limonene	5989-27-5	1.00 mg/m3	1.06 mg/m3
n-Butyl Benzene	104-51-8	1.00 mg/m3	1.07 mg/m3
1,2-Dibromo-3-Chloropropane	96-12-8	1.00 mg/m3	1.07 mg/m3
n-Undecane	1120-21-4	1.00 mg/m3	1.08 mg/m3
1,2,4-Trichlorobenzene	120-82-1	1.00 mg/m3	1.08 mg/m3
Naphthalene	91-20-3	1.00 mg/m3	1.06 mg/m3
n-Dodecane	112-40-3	1.00 mg/m3	1.06 mg/m3
Hexachloro-1,3-Butadiene	87-68-3	1.00 mg/m3	1.07 mg/m3
Nitrogen	7727-37-9	Balance	Balance

ANALYST: _____
Lou Lorenzetti

DATE: Sep-24-2019

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1/6/20 VH

TO-15 MAPH STD				20ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of S31-11061903 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-01062006	20 ng/L	STD00164	1/6/20	3/4/20	LH

1/6/20 S31-01062007 TO-15 IS/SURR STD ~0.5 mg/m³

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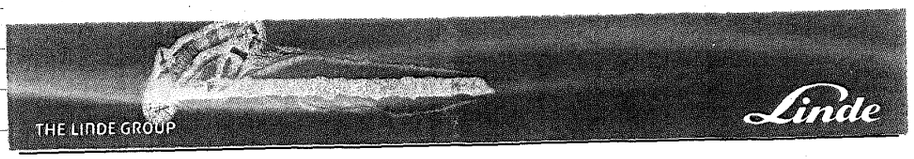

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PAGE: 1 of 1

S31-01062007 **ANALYSIS REPORT** IS/SURR STD.

Sales#:	117350975	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1502527	**Cylinder # :**	CC-430401
Report Date:	Dec-23-2019	**Cylinder Pressure:**	2000 psig
P.O.# :	SM003000	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24086333	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	4000 Liters
Expiration Date:	Dec-23-~~2020~~ 2021	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	10% Relative

VH 1/7/20

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Bromochloromethane	74-97-5	0.50 mg/m3	0.55 mg/m3
1,2-Dichloroethane-d4	17060-07-0	0.50 mg/m3	0.55 mg/m3
1,4-Difluorobenzene	540-36-3	0.50 mg/m3	0.55 mg/m3
Toluene-d8	2037-26-5	0.50 mg/m3	0.55 mg/m3
Chlorobenzene-d5	3114-55-4	0.50 mg/m3	0.55 mg/m3
4-Bromofluorobenzene	460-00-4	0.50 mg/m3	0.53 mg/m3
Nitrogen	7727-37-9	Balance	Balance

1/7/20 MA

EPA 325B STD	BTEX 1° Working Standard	200 µg/mL
S31-01072001	Expires:	1/21/2020
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 2000µg/mL BTEX stock standard S31-11271903 (expires 1/27/20).		

MA

EPA 325B STD	BTEX 2° Working Standard	200 µg/mL
S31-01072002	Expires:	1/21/2020
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 2000µg/mL BTEX stock standard S31-11271904 (expires 1/27/20).		

2/5/2020 RVT

		TO-15 STD		4 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S31-01292007**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02052009	4 ng/L	STD00094	2/5/20	3/5/20	RVT

RVT

TO-15 STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111901**

using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02052010	200 ng/L	STD00224	2/5/20	3/5/20	RVT

2/6/2020 RVT

TO-15 STD **20 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S31-02052007**

using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02062001	20 ng/L	STD00064	2/6/20	3/6/20	RVT

RVT

TO-15 ICV/ LCS STD **20 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S31-02052002**

with HZA Lot # 70086915004 using 4700 diluter

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02062002	20 ng/L	STD00113	2/6/20	3/6/2020	RVT

RVT TO15 STD 1000 ng/L

S31-02062003

Filled Can STD00136 w/ S31-10111901 To ~ 5.61 psig

Exp. 3/6/2020

2/7/20 S31-02072001 Toluene-d8 2.0 µg/ml

Spiked 4.2 µl S29-04281601 into 2010 ml glass SDS purged w/ helium. Exp. 3/7/20.

CV

02/11/20 S31-02112001 TO-15 IS/SURR 500 ng/L

VH FILLED CAN # STD 00214 TO ~ 20 PSIG WITH S31-01062007

EXP 08/09/20

4/15/20
RVT

TO-15 STD **4 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S34-04102010**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04152001	4 ng/L	STD00161	4/15/20	**5/14/20**	RVT

TO-15 Custom STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with
HZA Lot # 70086915004 using 4700 diluter

TD 4/16/20

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04162001	200 ng/L	STD00009	4/16/2020	**5/15/2020**	TD
S34-04162002	200 ng/L	STD00124	4/16/2020	**5/15/2020**	TD

4/16/20
RVT

TO-15 STD **4 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of **S34-04102003**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04162003	4 ng/L	STD00227	4/16/20	**5/15/20**	RVT

4/20/20
RVT

TO-15 STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111901**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04202001	200 ng/L	STD00128	4/20/20	**5/19/20**	RVT
S34-04202002	200 ng/L	STD00112	4/20/20	**5/19/20**	RVT
S34-04202003	200 ng/L	STD00105	4/20/20	**5/19/20**	RVT
S34-04202004	200 ng/L	STD00047	4/20/20	**5/19/20**	RVT

TO-15 Custom STD **20 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of S31-06251901 with
HZA Lot # 70086915004 using 4700 diluter

TD 4/21/20

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04212001	20 ng/L	STD00049	4/21/2020	**5/20/2020**	TD

TD 4/21/20

18
4/22/20
RVT
4/27/20
RVT

TO-15 Custom STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272005	200 ng/L	STD00024	4/27/2020	**5/26/2020**	RVT
S34-04272006	200 ng/L	STD00066	4/27/2020	**5/26/2020**	RVT

RVT

TO-15 ICV/LCS STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111902** with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272007	200 ng/L	STD00063	4/27/20	**5/26/20**	RVT
S34-04272008	200 ng/L	STD00072	4/27/20	**5/26/20**	RVT

RVT

TO-15 ICV/ LCS STD				20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04272007** with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272009	20 ng/L	STD00015	4/27/20	**5/26/20**	RVT

RVT

TO-15 STD				20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04202001** using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272010	20 ng/L	STD00026	4/27/20	**5/26/20**	RVT

LH
4/27/20

TO-15 STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-10111901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272011	200 ng/L	STD00028	4/27/2020	**5/26/2020**	LH

LH

TO-15 STD				20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of S34-04272011 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272012	20 ng/L	STD00061	4/27/2020	**5/26/2020**	LH

4/27/20 LH

	TO-15 STD		**20 ng/L**		
Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of S31-10111901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272013	20 ng/L	STD00217	4/27/2020	**5/26/2020**	LH

LH

	TO-15 STD		**4 ng/L**		
Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of S34-04272011 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272014	4 ng/L	STD00131	4/27/2020	**5/26/2020**	LH

LH

	TO-15 STD		**4 ng/L**		
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S34-04272012 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272015	4 ng/L	STD00184	4/27/2020	**5/26/2020**	LH

4/28/20 RVT

	TO-15 Custom STD		**20 ng/L**		
Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04282001	20 ng/L	STD00037	4/28/2020	**5/27/2020**	RVT
S34-04282002	20 ng/L	STD00207	4/28/2020	**5/27/2020**	RVT

RVT

	TO-15 Custom STD		**20 ng/L**		
Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04282003	20 ng/L	STD00086	4/28/2020	**5/27/2020**	RVT

RVT

	TO-15 Custom STD		**200 ng/L**		
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04282004	200 ng/L	STD00102	4/28/2020	**5/27/2020**	RVT
S34-04282005	200 ng/L	STD00121	4/28/2020	**5/27/2020**	RVT
S34-04282006	200 ng/L	STD00192	4/28/2020	**5/27/2020**	RVT
S34-04282007	200 ng/L	STD00017	4/28/2020	**5/27/2020**	RVT

20

4/28/20
RVT

TO-15 Custom STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04282008	200 ng/L	STD00017	4/28/2020	5/27/2020	RVT

RVT

S34-04282009 TO-15 STD 1000 ng/L
ICV/LCS
Pressurized can: STD00136 w/ S31-10111902 To 11 psig
RVT
EXP: 5/27/2020

MA

EPA 325B STD	BTEX 1° Working Standard	200 µg/mL
S34-04282010	Expires:	5/12/2020
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 2000µg/mL BTEX stock standard S34-03312005 (expires 5/31/20).		

MA

EPA 325B STD	BTEX 2° Working Standard	200 µg/mL
S34-04282011	Expires:	5/12/2020
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 2000µg/mL BTEX stock standard S34-04142001 (expires 6/14/20).		

4/29/20

RVT

TO-15 STD				20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04202001**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04292001	20 ng/L	STD00007	4/29/20	5/28/20	RVT

RVT

TO-15 STD				1 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 20X dilution of **S34-04292001**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04292002	1 ng/L	STD00069	4/29/20	5/28/20	RVT

RVT

TO-15 STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111901**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04292003	200 ng/L	STD00088	4/29/20	5/28/20	RVT
S34-04292004	200 ng/L	STD00019	4/29/20	5/28/20	RVT

TD 4/29/20

TO-15 ICV/LCS STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111902** with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04292005	200 ng/L	STD00099	4/29/20	**5/28/20**	TD

4/30/20 RVT

TO-15 ICV/LCS STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111902** with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04302001	200 ng/L	STD00172	4/30/20	**5/29/20**	RVT
S34-04302002	200 ng/L	STD00205	4/30/20	**5/29/20**	RVT
S34-04302003	200 ng/L	STD00194	4/30/20	**5/29/20**	RVT

RVT

TO-15 Custom ICV/LCS				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251902 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04302004	200 ng/L	STD00150	4/30/2020	**5/29/2020**	RVT
S34-04302005	200 ng/L	STD00100	4/30/2020	**5/29/2020**	RVT
S34-04302006	200 ng/L	STD00006	4/30/2020	**5/29/2020**	RVT

5/1/2020 RVT

TO-15 STD				20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04202001** using 4700 diluter HZA Lot #70086915004					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-05012001	20 ng/L	STD00221	5/1/20	**5/30/20**	RVT

RVT

TO-15 STD				20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of **S31-10111901** using 4700 diluter HZA Lot #70086915004					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-05012002	20 ng/L	STD00113	5/1/20	**5/30/20**	RVT

5/14/2020

M.A.

EPA 325B STD	BTEX 1° Working Standard	20 µg/mL
S34-05052001		Expires: 5/19/2020
Into 1mL mininert vial with 990µL B&J P&T methanol, Lot #DL535, added 10µL 2000µg/mL BTEX Stock standard S34-03312005 (expires 5/31/20).		

700 of 700

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

LABORATORY REPORT

May 19, 2020

Pamela Moss
EA Engineering, Science, and Technology, Inc.
7995 E. Prentice Ave, Suite 206E
Greenwood Village, CO 80111

RE: Kirtland AFB Bulk Fuels Facility / 62735DM02

Dear Pamela:

Enclosed are the results of the sample(s) submitted to our laboratory on April 28, 2020. For your reference, these analyses have been assigned our service request number P2002300.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

Kate Kaneko
May 19, 2020, 11:59 am

Kate Kaneko
Project Manager

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

Client: EA Engineering, Science, and Technology, Inc. Service Request No: P2002300
Project: Kirtland AFB Bulk Fuels Facility / 62735DM02

CASE NARRATIVE

The samples were received intact under chain of custody on April 28, 2020 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds and tentatively identified compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

Manual integrations were performed on the following samples and analytes. Refer to the raw data for additional information.

Sample Identifications	Analytes
P2002300-001dup, 012	Propene
P2002300-003, 017	Acetone
P2002300-019	1,2,4-Trimethylbenzene

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.1 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

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Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1776326
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-007
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272019-10
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: EA Engineering, Science, and Technology, Inc. Service Request: P2002300
Project ID: Kirtland AFB Bulk Fuels Facility / 62735DM02

Date Received: 4/28/2020
Time Received: 10:15

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	TO-15 - VOC Cans
SV118-450-202	P2002300-001	Air	4/21/2020	09:25	1SC00733	-2.90	5.80	X
SV119-025-202	P2002300-002	Air	4/22/2020	09:08	1SC01004	-2.20	7.34	X
SV119-050-202	P2002300-003	Air	4/22/2020	09:12	1SC00887	-2.71	6.35	X
SV119-150-202	P2002300-004	Air	4/22/2020	09:19	1SC00849	-4.10	6.21	X
SV119-250-202	P2002300-005	Air	4/22/2020	09:24	1SC00637	-2.77	5.71	X
SV119-350-202	P2002300-006	Air	4/22/2020	09:28	1SC00128	-2.72	5.68	X
SV119-450-202	P2002300-007	Air	4/22/2020	09:37	1SS00998	-2.65	5.24	X
SV126-025-202	P2002300-008	Air	4/21/2020	12:35	1SS00227	-3.76	5.73	X
SV126-050-202	P2002300-009	Air	4/21/2020	12:38	1SC00189	-3.03	5.26	X
SV126-150-202	P2002300-010	Air	4/21/2020	12:41	1SS00123	-4.85	5.84	X
SV126-250-202	P2002300-011	Air	4/21/2020	12:43	1SS00163	-3.25	5.56	X
SV126-350-202	P2002300-012	Air	4/21/2020	12:46	1SS00194	-3.64	5.09	X
SV126-450-202	P2002300-013	Air	4/21/2020	12:56	1SC01005	-2.91	6.23	X
SV129-025-202	P2002300-014	Air	4/21/2020	11:36	1SS00039	-5.07	5.13	X
SV129-050-202	P2002300-015	Air	4/21/2020	11:40	1SS00232	-3.61	5.99	X
SV129-150-202	P2002300-016	Air	4/21/2020	11:43	1SS01003	-3.48	5.62	X
SV129-250-202	P2002300-017	Air	4/21/2020	11:46	1SS00805	-3.89	5.71	X
SV129-350-202	P2002300-018	Air	4/21/2020	11:50	1SS01033	-4.25	8.09	X
SV129-450-202	P2002300-019	Air	4/21/2020	12:00	1SC00950	-2.98	5.95	X
SV130-025-202	P2002300-020	Air	4/22/2020	10:08	1SS00165	-4.09	5.39	X

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

COC #: **COC-SV202-14**

Requested Turnaround Time in Business Days
10 Day-Standard

ALS Project No. R2002300

Company Name & Address (Reporting Information)	EA Engineering, Science, and Technology, Inc., PBC 225 Schilling Circle Suite 400, Hunt Valley, MD (410) 584-7000
Project Manager / Project Chemist	Bernie Bockish (505) 234-1105 / Pam Moss (303) 590-9143
Email Address for Result Reporting	Tara Lamond: tlamond@eaest.com Amanda Smith: asmith@eaest.com Pam Moss: pmoss@eaest.com
Project Name	Kirtland AFB Bulk Fuels Facility
Project Number	62735DM02
P.O. # / Billing Information	17682
Sampler (Print & Sign)	R Jason Wortman

ALS Contact: Kate Kaneko
1 (805) 577-2089

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg	Sample Volume	Analysis Method: TO-15 Project Specific List	Comments e.g. Actual Preservative or specific instructions
SV118-450-202	1	4/21/2020	0925	ISC00733	AVG04993	-25.0	-1.0	1L	X	None
SV119-025-202	2	4/22/2020	0908	ISC01004	NA	-26.0	0.0	1L	X	None
SV119-050-202	3	4/22/2020	0912	ISC00887	NA	-27.0	-2.0	1L	X	None
SV119-150-202	4	4/22/2020	0919	ISC00849	NA	-25.0	-4.5	1L	X	None
SV119-250-202	5	4/22/2020	0924	ISC00637	NA	-24.0	-1.0	1L	X	None
SV119-350-202	6	4/22/2020	0928	ISC00128	NA	-24.5	-2.0	1L	X	None
SV119-450-202	7	4/22/2020	0937	ISS00998	NA	-24.5	-1.5	1L	X	None
SV126-025-202	8	4/21/2020	1235	ISS00227	NA	-27.0	-2.0	1L	X	None
SV126-050-202	9	4/21/2020	1238	ISC00189	AVG04816	-23.5	-3.0	1L	X	None
SV126-150-202	10	4/21/2020	1241	ISS00123	AVG0482	-25.0	-4.0	1L	X	None

FedEx Tracking Number: 1028 3396 9809

Associated with Trip blank: SVTB-202-03

Shipping information: Box number 2 of 4

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____ Tier III (Results + QC & Calibration Summaries) ____
Tier II (Results + QC Summaries) ____ Tier IV (Data Validation Package) X

EDD required: Yes
Type: ERPIMS / EQuIS

Chain of Custody Seal: (Circle)
INTACT BROKEN ABSENT

Project Requirements: QAPP

Relinquished by: (Signature)	Date: 4/23/20	Time: 0900	Received by: (Signature)	Date: 4-28-20	Time: 1015
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Cooler / Blank Temperature NA °C

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

COC #: COC-SV202-14

Requested Turnaround Time in Business Days: 10 Day-Standard

ALS Project No. R2002300

Company Name & Address (Reporting Information)	EA Engineering, Science, and Technology, Inc., PBC 225 Schilling Circle Suite 400, Hunt Valley, MD (410) 584-7000
Project Name	Kirtland AFB Bulk Fuels Facility
Project Number	62735DM02
P.O. # / Billing Information	17682
Project Manager / Project Chemist	Bernie Bockish (505) 234-1105 / Pam Moss (303) 590-9143
Email Address for Result Reporting	Tara Lamond: tlamond@eaest.com Amanda Smith: asmith@eaest.com Pam Moss: pmoss@eaest.com
Sampler (Print & Sign)	Ryan Wortman

ALS Contact: Kate Kaneko
1 (805) 577-2089

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg	Sample Volume	Analysis Method: TO-15 Project Specific List	Comments e.g. Actual Preservative or specific instructions
SV126-250-202	11	4/21/2020	1243	ISS00163	NA	-23.5	-2.0	1L	X	None
SV126-350-202	12	4/21/2020	1246	ISS00194	AVG04949	-24.0	0.0	1L	X	None
SV126-450-202	13	4/21/2020	1256	ISC01005	NA	-27.0	-1.5	1L	X	None
SV129-025-202	14	4/21/2020	1136	ISS00039	NA	-25.5	-4.5	1L	X	None
SV129-050-202	15	4/21/2020	1140	ISS00232	NA	-25.0	-2.0	1L	X	None
SV129-150-202	16	4/21/2020	1143	ISS01003	NA	-29.0	-2.0	1L	X	None
SV129-250-202	17	4/21/2020	1146	ISS00805	NA	-25.0	-2.0	1L	X	None
SV129-350-202	18	4/21/2020	1150	ISS01033	AVG05026	-24.0	-2.0	1L	X	None
SV129-450-202	19	4/21/2020	1200	ISC00950	AVG04501	-24.0	-1.0	1L	X	None
SV130-025-202	20	4/22/2020	1008	ISS00165	NA	-25.5	-4.0	1L	X	None

FedEx Tracking Number: 1028 3396 9809

Associated with Trip blank: SVTB-202-03

Shipping information: Box number 2 of 4

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____ Tier III (Results + QC & Calibration Summaries) ____
Tier II (Results + QC Summaries) ____ Tier IV (Data Validation Package) X

EDD required: Yes
Type: ERPIMS / EQuIS

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements: QAPP

Relinquished by: (Signature)		Date: 4/23/20	Time: 0900	Received by: (Signature)	Date: 4-28-20 Time: 1015
Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)	Date: Time:

Cooler / Blank Temperature NA °C

ALS Environmental

Sample Acceptance Check Form

Client: EA Engineering, Science, and Technology, Inc. Work order: P2002300

Project: Kirtland AFB Bulk Fuels Facility / 62735DM02

Sample(s) received on: 04/28/20 Date opened: 04/28/20 by: DENISE.POSADA

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☒	☐	☐
	Location of seal(s)? Box sealing. Sealing Lid?	☒	☐	☐
	Were signature and date included?	☒	☐	☐
	Were seals intact?	☒	☐	☐
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2002300-001.01	1.0 L Source Can					
P2002300-002.01	1.0 L Source Can					
P2002300-003.01	1.0 L Source Can					
P2002300-004.01	1.0 L Source Can					
P2002300-005.01	1.0 L Source Can					
P2002300-006.01	1.0 L Source Can					
P2002300-007.01	1.0 L Source Silonite Canister					
P2002300-008.01	1.0 L Source Silonite Canister					
P2002300-009.01	1.0 L Source Can					
P2002300-010.01	1.0 L Source Silonite Canister					
P2002300-011.01	1.0 L Source Silonite Canister					
P2002300-012.01	1.0 L Source Silonite Canister					
P2002300-013.01	1.0 L Source Can					
P2002300-014.01	1.0 L Source Silonite Canister					
P2002300-015.01	1.0 L Source Silonite Canister					

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS Environmental

Sample Acceptance Check Form

Client: EA Engineering, Science, and Technology, Inc. Work order: P2002300

Project: Kirtland AFB Bulk Fuels Facility / 62735DM02

Sample(s) received on: 04/28/20 Date opened: 04/28/20 by: DENISE.POSADA

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2002300-016.01	1.0 L Source Silonite Canister					
P2002300-017.01	1.0 L Source Silonite Canister					
P2002300-018.01	1.0 L Source Silonite Canister					
P2002300-019.01	1.0 L Source Can					
P2002300-020.01	1.0 L Source Silonite Canister					

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV118-450-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-001

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SC00733

Initial Pressure (psig): -2.90 Final Pressure (psig): 5.80

Container Dilution Factor: 1.74

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**7.3**	27	16	6.6	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	5.6	9.3	5.6	1.5	**U**
74-87-3	Chloromethane	**19**	22	13	3.6	**J**
75-01-4	Vinyl Chloride	**3.1**	18	5.8	1.9	**J**
106-99-0	1,3-Butadiene	13	21	13	3.5	**U**
75-00-3	Chloroethane	**2.6**	18	11	2.2	**J**
64-17-5	Ethanol	38	240	38	17	**U**
67-64-1	Acetone	99	190	99	44	**U**
75-69-4	Trichlorofluoromethane	5.0	8.2	5.0	1.3	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	22	74	22	7.8	**U**
75-09-2	Methylene Chloride	8.0	13	8.0	3.8	**U**
76-13-1	Trichlorotrifluoroethane	**1.6**	6.1	1.9	0.86	**J**
75-15-0	Carbon Disulfide	**81**	31	15	4.5	
75-34-3	1,1-Dichloroethane	7.1	12	7.1	1.7	**U**
78-93-3	2-Butanone (MEK)	9.4	32	9.4	3.2	**U**
141-78-6	Ethyl Acetate	16	27	16	6.8	**U**
110-54-3	n-Hexane	**94**	13	7.9	2.7	
67-66-3	Chloroform	**1.8**	9.6	3.0	1.3	**J**
109-99-9	Tetrahydrofuran (THF)	**24**	16	5.0	2.0	
107-06-2	1,2-Dichloroethane	3.7	12	3.7	1.3	**U**
71-43-2	Benzene	**34**	14	4.6	2.1	
56-23-5	Carbon Tetrachloride	**10**	7.3	2.4	1.0	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV118-450-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-001

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SC00733

Initial Pressure (psig): -2.90 Final Pressure (psig): 5.80

Container Dilution Factor: 1.74

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**2,000**	28	8.6	3.8	
75-27-4	Bromodichloromethane	2.2	7.0	2.2	1.0	**U**
79-01-6	Trichloroethene	2.8	8.7	2.8	1.2	**U**
123-91-1	1,4-Dioxane	4.1	13	4.1	1.5	**U**
142-82-5	n-Heptane	6.8	11	6.8	1.8	**U**
108-10-1	4-Methyl-2-pentanone	3.6	11	3.6	1.6	**U**
108-88-3	Toluene	**130**	12	3.9	1.5	
591-78-6	2-Hexanone	3.6	11	3.6	1.4	**U**
124-48-1	Dibromochloromethane	1.7	5.5	1.7	0.72	**U**
106-93-4	1,2-Dibromoethane	1.9	6.1	1.9	0.70	**U**
127-18-4	Tetrachloroethene	2.2	6.7	2.2	0.89	**U**
100-41-4	Ethylbenzene	**3.2**	11	3.4	1.5	**J**
179601-23-1	m,p-Xylenes	**6.3**	22	6.8	2.8	**J**
75-25-2	Bromoform	2.7	4.5	2.7	0.93	**U**
100-42-5	Styrene	6.5	11	6.5	1.8	**U**
95-47-6	o-Xylene	**4.7**	11	3.4	1.5	**J**
108-67-8	1,3,5-Trimethylbenzene	**1.7**	9.4	3.0	1.4	**J**
95-63-6	1,2,4-Trimethylbenzene	3.0	9.6	3.0	1.3	**U**
120-82-1	1,2,4-Trichlorobenzene	3.8	6.3	3.8	1.5	**U**
91-20-3	Naphthalene	5.1	8.6	5.1	2.2	**U**
1330-20-7	Xylenes, Total	**11**	22	6.8	2.8	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV119-025-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-002

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01004

Initial Pressure (psig): -2.20 Final Pressure (psig): 7.34

Container Dilution Factor: 1.76

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.68**	1.4	0.82	0.33	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.6**	0.47	0.28	0.077	
74-87-3	Chloromethane	0.68	1.1	0.68	0.18	**U**
75-01-4	Vinyl Chloride	0.29	0.93	0.29	0.098	**U**
106-99-0	1,3-Butadiene	0.64	1.1	0.64	0.18	**U**
75-00-3	Chloroethane	0.53	0.90	0.53	0.11	**U**
64-17-5	Ethanol	**3.7**	12	1.9	0.86	**J, B**
67-64-1	Acetone	**6.6**	9.8	5.0	2.2	**J**
75-69-4	Trichlorofluoromethane	**0.38**	0.42	0.25	0.063	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.47**	3.8	1.1	0.39	**J**
75-09-2	Methylene Chloride	0.41	0.67	0.41	0.19	**U**
76-13-1	Trichlorotrifluoroethane	**7.1**	0.31	0.098	0.044	
75-15-0	Carbon Disulfide	0.76	1.6	0.76	0.23	**U**
75-34-3	1,1-Dichloroethane	0.36	0.60	0.36	0.085	**U**
78-93-3	2-Butanone (MEK)	**1.4**	1.6	0.48	0.16	**J**
141-78-6	Ethyl Acetate	0.79	1.3	0.79	0.34	**U**
110-54-3	n-Hexane	0.40	0.67	0.40	0.14	**U**
67-66-3	Chloroform	**0.14**	0.49	0.15	0.064	**J**
109-99-9	Tetrahydrofuran (THF)	0.25	0.82	0.25	0.10	**U**
107-06-2	1,2-Dichloroethane	0.18	0.59	0.18	0.064	**U**
71-43-2	Benzene	0.23	0.73	0.23	0.11	**U**
56-23-5	Carbon Tetrachloride	**0.38**	0.37	0.12	0.052	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV119-025-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-002

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01004

Initial Pressure (psig): -2.20 Final Pressure (psig): 7.34

Container Dilution Factor: 1.76

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**0.59**	1.4	0.43	0.19	**J**
75-27-4	Bromodichloromethane	0.11	0.35	0.11	0.051	**U**
79-01-6	Trichloroethene	0.14	0.44	0.14	0.059	**U**
123-91-1	1,4-Dioxane	0.21	0.66	0.21	0.077	**U**
142-82-5	n-Heptane	0.34	0.58	0.34	0.091	**U**
108-10-1	4-Methyl-2-pentanone	0.18	0.57	0.18	0.078	**U**
108-88-3	Toluene	**0.29**	0.63	0.20	0.076	**J**
591-78-6	2-Hexanone	**0.23**	0.58	0.18	0.071	**J**
124-48-1	Dibromochloromethane	0.088	0.28	0.088	0.036	**U**
106-93-4	1,2-Dibromoethane	0.097	0.31	0.097	0.036	**U**
127-18-4	Tetrachloroethene	**0.13**	0.34	0.11	0.045	**J**
100-41-4	Ethylbenzene	0.17	0.55	0.17	0.076	**U**
179601-23-1	m,p-Xylenes	**0.16**	1.1	0.34	0.14	**J**
75-25-2	Bromoform	0.14	0.23	0.14	0.047	**U**
100-42-5	Styrene	0.33	0.55	0.33	0.089	**U**
95-47-6	o-Xylene	0.17	0.55	0.17	0.078	**U**
108-67-8	1,3,5-Trimethylbenzene	0.15	0.47	0.15	0.069	**U**
95-63-6	1,2,4-Trimethylbenzene	**0.073**	0.48	0.15	0.066	**J**
120-82-1	1,2,4-Trichlorobenzene	0.19	0.32	0.19	0.077	**U**
91-20-3	Naphthalene	0.26	0.44	0.26	0.11	**U**
1330-20-7	Xylenes, Total	**0.16**	1.1	0.34	0.14	**J**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV119-050-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-003

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00887

Initial Pressure (psig): -2.71 Final Pressure (psig): 6.35

Container Dilution Factor: 1.76

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**1.2**	1.4	0.82	0.33	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.3**	0.47	0.28	0.077	
74-87-3	Chloromethane	0.68	1.1	0.68	0.18	**U**
75-01-4	Vinyl Chloride	0.29	0.93	0.29	0.098	**U**
106-99-0	1,3-Butadiene	0.64	1.1	0.64	0.18	**U**
75-00-3	Chloroethane	0.53	0.90	0.53	0.11	**U**
64-17-5	Ethanol	**2.3**	12	1.9	0.86	**J, B**
67-64-1	Acetone	**6.4**	9.8	5.0	2.2	**J**
75-69-4	Trichlorofluoromethane	**0.65**	0.42	0.25	0.063	
67-63-0	2-Propanol (Isopropyl Alcohol)	1.1	3.8	1.1	0.39	**U**
75-09-2	Methylene Chloride	0.41	0.67	0.41	0.19	**U**
76-13-1	Trichlorotrifluoroethane	**25**	0.31	0.098	0.044	
75-15-0	Carbon Disulfide	**0.37**	1.6	0.76	0.23	**J**
75-34-3	1,1-Dichloroethane	0.36	0.60	0.36	0.085	**U**
78-93-3	2-Butanone (MEK)	**1.1**	1.6	0.48	0.16	**J**
141-78-6	Ethyl Acetate	0.79	1.3	0.79	0.34	**U**
110-54-3	n-Hexane	0.40	0.67	0.40	0.14	**U**
67-66-3	Chloroform	0.15	0.49	0.15	0.064	**U**
109-99-9	Tetrahydrofuran (THF)	0.25	0.82	0.25	0.10	**U**
107-06-2	1,2-Dichloroethane	0.18	0.59	0.18	0.064	**U**
71-43-2	Benzene	0.23	0.73	0.23	0.11	**U**
56-23-5	Carbon Tetrachloride	**0.59**	0.37	0.12	0.052	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV119-050-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-003

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00887

Initial Pressure (psig): -2.71 Final Pressure (psig): 6.35

Container Dilution Factor: 1.76

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.43	1.4	0.43	0.19	**U**
75-27-4	Bromodichloromethane	0.11	0.35	0.11	0.051	**U**
79-01-6	Trichloroethene	0.14	0.44	0.14	0.059	**U**
123-91-1	1,4-Dioxane	0.21	0.66	0.21	0.077	**U**
142-82-5	n-Heptane	0.34	0.58	0.34	0.091	**U**
108-10-1	4-Methyl-2-pentanone	0.18	0.57	0.18	0.078	**U**
108-88-3	Toluene	**0.15**	0.63	0.20	0.076	**J**
591-78-6	2-Hexanone	**0.16**	0.58	0.18	0.071	**J**
124-48-1	Dibromochloromethane	0.088	0.28	0.088	0.036	**U**
106-93-4	1,2-Dibromoethane	0.097	0.31	0.097	0.036	**U**
127-18-4	Tetrachloroethene	**0.39**	0.34	0.11	0.045	
100-41-4	Ethylbenzene	0.17	0.55	0.17	0.076	**U**
179601-23-1	m,p-Xylenes	0.34	1.1	0.34	0.14	**U**
75-25-2	Bromoform	0.14	0.23	0.14	0.047	**U**
100-42-5	Styrene	0.33	0.55	0.33	0.089	**U**
95-47-6	o-Xylene	0.17	0.55	0.17	0.078	**U**
108-67-8	1,3,5-Trimethylbenzene	0.15	0.47	0.15	0.069	**U**
95-63-6	1,2,4-Trimethylbenzene	0.15	0.48	0.15	0.066	**U**
120-82-1	1,2,4-Trichlorobenzene	0.19	0.32	0.19	0.077	**U**
91-20-3	Naphthalene	0.26	0.44	0.26	0.11	**U**
1330-20-7	Xylenes, Total	0.34	1.1	0.34	0.14	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV119-150-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-004

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00025 Liter(s)
Test Notes:
Container ID: 1SC00849

Initial Pressure (psig): -4.10 Final Pressure (psig): 6.21

Container Dilution Factor: 1.97

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**1,600**	2,400	1,500	600	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	510	840	510	140	**U**
74-87-3	Chloromethane	1,200	2,000	1,200	330	**U**
75-01-4	Vinyl Chloride	520	1,700	520	180	**U**
106-99-0	1,3-Butadiene	1,100	1,900	1,100	310	**U**
75-00-3	Chloroethane	960	1,600	960	200	**U**
64-17-5	Ethanol	3,500	22,000	3,500	1,500	**U**
67-64-1	Acetone	9,000	18,000	9,000	4,000	**U**
75-69-4	Trichlorofluoromethane	450	740	450	110	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	2,000	6,700	2,000	710	**U**
75-09-2	Methylene Chloride	730	1,200	730	340	**U**
76-13-1	Trichlorotrifluoroethane	170	560	170	78	**U**
75-15-0	Carbon Disulfide	1,400	2,800	1,400	410	**U**
75-34-3	1,1-Dichloroethane	640	1,100	640	150	**U**
78-93-3	2-Butanone (MEK)	860	2,900	860	290	**U**
141-78-6	Ethyl Acetate	1,400	2,400	1,400	610	**U**
110-54-3	n-Hexane	**4,500**	1,200	720	250	
67-66-3	Chloroform	270	870	270	110	**U**
109-99-9	Tetrahydrofuran (THF)	450	1,500	450	180	**U**
107-06-2	1,2-Dichloroethane	330	1,100	330	110	**U**
71-43-2	Benzene	**2,000**	1,300	420	190	
56-23-5	Carbon Tetrachloride	210	660	210	93	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV119-150-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-004

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00025 Liter(s)
Test Notes:
Container ID: 1SC00849

Initial Pressure (psig): -4.10 Final Pressure (psig): 6.21

Container Dilution Factor: 1.97

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**62,000**	2,500	780	340	
75-27-4	Bromodichloromethane	200	640	200	91	**U**
79-01-6	Trichloroethene	250	790	250	110	**U**
123-91-1	1,4-Dioxane	370	1,200	370	140	**U**
142-82-5	n-Heptane	**1,200**	1,000	620	160	
108-10-1	4-Methyl-2-pentanone	330	1,000	330	140	**U**
108-88-3	Toluene	**1,700**	1,100	360	140	
591-78-6	2-Hexanone	330	1,000	330	130	**U**
124-48-1	Dibromochloromethane	160	500	160	65	**U**
106-93-4	1,2-Dibromoethane	170	550	170	64	**U**
127-18-4	Tetrachloroethene	200	600	200	80	**U**
100-41-4	Ethylbenzene	310	980	310	140	**U**
179601-23-1	m,p-Xylenes	620	2,000	620	250	**U**
75-25-2	Bromoform	240	410	240	84	**U**
100-42-5	Styrene	590	980	590	160	**U**
95-47-6	o-Xylene	310	980	310	140	**U**
108-67-8	1,3,5-Trimethylbenzene	270	850	270	120	**U**
95-63-6	1,2,4-Trimethylbenzene	270	870	270	120	**U**
120-82-1	1,2,4-Trichlorobenzene	340	570	340	140	**U**
91-20-3	Naphthalene	470	780	470	200	**U**
1330-20-7	Xylenes, Total	620	2,000	620	250	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV119-250-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-005

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.000060 Liter(s)
Test Notes:
Container ID: 1SC00637

Initial Pressure (psig): -2.77 Final Pressure (psig): 5.71

Container Dilution Factor: 1.71

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	5,300	8,800	5,300	2,200	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	1,800	3,100	1,800	500	**U**
74-87-3	Chloromethane	4,400	7,300	4,400	1,200	**U**
75-01-4	Vinyl Chloride	1,900	6,000	1,900	640	**U**
106-99-0	1,3-Butadiene	4,100	6,800	4,100	1,100	**U**
75-00-3	Chloroethane	3,500	5,800	3,500	710	**U**
64-17-5	Ethanol	13,000	79,000	13,000	5,600	**U**
67-64-1	Acetone	32,000	64,000	32,000	14,000	**U**
75-69-4	Trichlorofluoromethane	1,600	2,700	1,600	410	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	7,300	24,000	7,300	2,600	**U**
75-09-2	Methylene Chloride	2,600	4,300	2,600	1,200	**U**
76-13-1	Trichlorotrifluoroethane	630	2,000	630	280	**U**
75-15-0	Carbon Disulfide	4,900	10,000	4,900	1,500	**U**
75-34-3	1,1-Dichloroethane	2,300	3,900	2,300	550	**U**
78-93-3	2-Butanone (MEK)	3,100	11,000	3,100	1,100	**U**
141-78-6	Ethyl Acetate	5,100	8,700	5,100	2,200	**U**
110-54-3	n-Hexane	**150,000**	4,400	2,600	890	
67-66-3	Chloroform	990	3,200	990	410	**U**
109-99-9	Tetrahydrofuran (THF)	1,600	5,300	1,600	650	**U**
107-06-2	1,2-Dichloroethane	1,200	3,800	1,200	420	**U**
71-43-2	Benzene	**57,000**	4,700	1,500	690	
56-23-5	Carbon Tetrachloride	770	2,400	770	340	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV119-250-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-005

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.000060 Liter(s)
Test Notes:
Container ID: 1SC00637

Initial Pressure (psig): -2.77 Final Pressure (psig): 5.71

Container Dilution Factor: 1.71

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**270,000**		9,100	2,800	1,200	
75-27-4	Bromodichloromethane		720	2,300	720	330	**U**
79-01-6	Trichloroethene		900	2,900	900	380	**U**
123-91-1	1,4-Dioxane		1,300	4,300	1,300	500	**U**
142-82-5	n-Heptane	**43,000**		3,800	2,200	590	
108-10-1	4-Methyl-2-pentanone		1,200	3,700	1,200	510	**U**
108-88-3	Toluene	**19,000**		4,100	1,300	490	
591-78-6	2-Hexanone		1,200	3,800	1,200	460	**U**
124-48-1	Dibromochloromethane		570	1,800	570	230	**U**
106-93-4	1,2-Dibromoethane		630	2,000	630	230	**U**
127-18-4	Tetrachloroethene		710	2,200	710	290	**U**
100-41-4	Ethylbenzene	**710**		3,500	1,100	490	**J**
179601-23-1	m,p-Xylenes	**3,700**		7,200	2,200	920	**J**
75-25-2	Bromoform		880	1,500	880	300	**U**
100-42-5	Styrene		2,100	3,500	2,100	580	**U**
95-47-6	o-Xylene	**3,600**		3,500	1,100	510	
108-67-8	1,3,5-Trimethylbenzene		990	3,100	990	450	**U**
95-63-6	1,2,4-Trimethylbenzene		990	3,100	990	430	**U**
120-82-1	1,2,4-Trichlorobenzene		1,200	2,100	1,200	500	**U**
91-20-3	Naphthalene		1,700	2,800	1,700	710	**U**
1330-20-7	Xylenes, Total	**7,400**		7,200	2,200	920	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV119-350-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-006

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00020 Liter(s)
Test Notes:
Container ID: 1SC00128

Initial Pressure (psig): -2.72 Final Pressure (psig): 5.68

Container Dilution Factor: 1.70

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**1,500**	2,600	1,600	640	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	550	910	550	150	**U**
74-87-3	Chloromethane	1,300	2,200	1,300	350	**U**
75-01-4	Vinyl Chloride	570	1,800	570	190	**U**
106-99-0	1,3-Butadiene	1,200	2,000	1,200	340	**U**
75-00-3	Chloroethane	1,000	1,700	1,000	210	**U**
64-17-5	Ethanol	3,700	23,000	3,700	1,700	**U**
67-64-1	Acetone	9,700	19,000	9,700	4,300	**U**
75-69-4	Trichlorofluoromethane	480	800	480	120	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	2,200	7,300	2,200	760	**U**
75-09-2	Methylene Chloride	780	1,300	780	370	**U**
76-13-1	Trichlorotrifluoroethane	190	600	190	84	**U**
75-15-0	Carbon Disulfide	1,500	3,000	1,500	440	**U**
75-34-3	1,1-Dichloroethane	690	1,200	690	160	**U**
78-93-3	2-Butanone (MEK)	920	3,200	920	320	**U**
141-78-6	Ethyl Acetate	1,500	2,600	1,500	660	**U**
110-54-3	n-Hexane	**17,000**	1,300	770	270	
67-66-3	Chloroform	300	940	300	120	**U**
109-99-9	Tetrahydrofuran (THF)	490	1,600	490	190	**U**
107-06-2	1,2-Dichloroethane	360	1,100	360	120	**U**
71-43-2	Benzene	**6,800**	1,400	450	200	
56-23-5	Carbon Tetrachloride	230	720	230	100	**U**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV119-350-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-006

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00020 Liter(s)
Test Notes:
Container ID: 1SC00128

Initial Pressure (psig): -2.72 Final Pressure (psig): 5.68

Container Dilution Factor: 1.70

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**73,000**		2,700	840	370	
75-27-4	Bromodichloromethane		220	690	220	98	**U**
79-01-6	Trichloroethene		270	850	270	110	**U**
123-91-1	1,4-Dioxane		400	1,300	400	150	**U**
142-82-5	n-Heptane	**12,000**		1,100	660	180	
108-10-1	4-Methyl-2-pentanone		350	1,100	350	150	**U**
108-88-3	Toluene	**230**		1,200	380	150	**J**
591-78-6	2-Hexanone		350	1,100	350	140	**U**
124-48-1	Dibromochloromethane		170	540	170	70	**U**
106-93-4	1,2-Dibromoethane		190	600	190	69	**U**
127-18-4	Tetrachloroethene		210	650	210	87	**U**
100-41-4	Ethylbenzene		330	1,100	330	150	**U**
179601-23-1	m,p-Xylenes	**280**		2,200	670	270	**J**
75-25-2	Bromoform		260	440	260	90	**U**
100-42-5	Styrene		640	1,100	640	170	**U**
95-47-6	o-Xylene	**690**		1,100	330	150	**J**
108-67-8	1,3,5-Trimethylbenzene	**150**		920	290	130	**J**
95-63-6	1,2,4-Trimethylbenzene	**140**		930	290	130	**J**
120-82-1	1,2,4-Trichlorobenzene		370	620	370	150	**U**
91-20-3	Naphthalene		500	840	500	210	**U**
1330-20-7	Xylenes, Total	**980**		2,200	670	270	**J**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV119-450-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-007

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0020 Liter(s)
Test Notes:
Container ID: 1SS00998

Initial Pressure (psig): -2.65 Final Pressure (psig): 5.24

Container Dilution Factor: 1.65

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**160**	250	150	62	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**18**	88	53	15	**J**
74-87-3	Chloromethane	130	210	130	34	**U**
75-01-4	Vinyl Chloride	55	170	55	18	**U**
106-99-0	1,3-Butadiene	120	200	120	33	**U**
75-00-3	Chloroethane	100	170	100	21	**U**
64-17-5	Ethanol	360	2,300	360	160	**U**
67-64-1	Acetone	940	1,800	940	420	**U**
75-69-4	Trichlorofluoromethane	47	78	47	12	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	210	710	210	74	**U**
75-09-2	Methylene Chloride	76	130	76	36	**U**
76-13-1	Trichlorotrifluoroethane	**50**	58	18	8.2	**J**
75-15-0	Carbon Disulfide	140	290	140	42	**U**
75-34-3	1,1-Dichloroethane	67	110	67	16	**U**
78-93-3	2-Butanone (MEK)	90	310	90	31	**U**
141-78-6	Ethyl Acetate	150	250	150	64	**U**
110-54-3	n-Hexane	**1,600**	130	75	26	
67-66-3	Chloroform	29	91	29	12	**U**
109-99-9	Tetrahydrofuran (THF)	48	150	48	19	**U**
107-06-2	1,2-Dichloroethane	35	110	35	12	**U**
71-43-2	Benzene	**34**	140	44	20	**J**
56-23-5	Carbon Tetrachloride	22	70	22	9.7	**U**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV119-450-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-007

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0020 Liter(s)
Test Notes:
Container ID: 1SS00998

Initial Pressure (psig): -2.65 Final Pressure (psig): 5.24

Container Dilution Factor: 1.65

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**10,000**	260	82	36	
75-27-4	Bromodichloromethane	21	67	21	9.5	**U**
79-01-6	Trichloroethene	26	83	26	11	**U**
123-91-1	1,4-Dioxane	39	120	39	14	**U**
142-82-5	n-Heptane	**1,500**	110	64	17	
108-10-1	4-Methyl-2-pentanone	34	110	34	15	**U**
108-88-3	Toluene	**47**	120	37	14	**J**
591-78-6	2-Hexanone	34	110	34	13	**U**
124-48-1	Dibromochloromethane	16	52	16	6.8	**U**
106-93-4	1,2-Dibromoethane	18	58	18	6.7	**U**
127-18-4	Tetrachloroethene	21	63	21	8.4	**U**
100-41-4	Ethylbenzene	32	100	32	14	**U**
179601-23-1	m,p-Xylenes	**35**	210	65	27	**J**
75-25-2	Bromoform	26	43	26	8.8	**U**
100-42-5	Styrene	62	100	62	17	**U**
95-47-6	o-Xylene	32	100	32	15	**U**
108-67-8	1,3,5-Trimethylbenzene	29	89	29	13	**U**
95-63-6	1,2,4-Trimethylbenzene	29	91	29	12	**U**
120-82-1	1,2,4-Trichlorobenzene	36	60	36	14	**U**
91-20-3	Naphthalene	49	82	49	20	**U**
1330-20-7	Xylenes, Total	**35**	210	65	27	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV126-025-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-008

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00227

Initial Pressure (psig): -3.76 Final Pressure (psig): 5.73

Container Dilution Factor: 1.87

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.87	1.4	0.87	0.35	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.44**	0.50	0.30	0.082	**J**
74-87-3	Chloromethane	0.72	1.2	0.72	0.19	**U**
75-01-4	Vinyl Chloride	0.31	0.99	0.31	0.10	**U**
106-99-0	1,3-Butadiene	0.68	1.1	0.68	0.19	**U**
75-00-3	Chloroethane	0.57	0.96	0.57	0.12	**U**
64-17-5	Ethanol	**1.6**	13	2.1	0.92	**J, B**
67-64-1	Acetone	**5.4**	10	5.3	2.4	**J**
75-69-4	Trichlorofluoromethane	**0.20**	0.44	0.27	0.067	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.2	4.0	1.2	0.42	**U**
75-09-2	Methylene Chloride	0.43	0.71	0.43	0.20	**U**
76-13-1	Trichlorotrifluoroethane	**0.081**	0.33	0.10	0.046	**J**
75-15-0	Carbon Disulfide	0.81	1.7	0.81	0.24	**U**
75-34-3	1,1-Dichloroethane	0.38	0.64	0.38	0.090	**U**
78-93-3	2-Butanone (MEK)	**1.0**	1.7	0.51	0.17	**J**
141-78-6	Ethyl Acetate	0.84	1.4	0.84	0.36	**U**
110-54-3	n-Hexane	**0.31**	0.72	0.42	0.15	**J**
67-66-3	Chloroform	**27**	0.52	0.16	0.068	
109-99-9	Tetrahydrofuran (THF)	**0.23**	0.87	0.27	0.11	**J**
107-06-2	1,2-Dichloroethane	0.20	0.62	0.20	0.068	**U**
71-43-2	Benzene	**0.32**	0.78	0.25	0.11	**J**
56-23-5	Carbon Tetrachloride	**1.2**	0.39	0.13	0.055	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV126-025-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-008

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00227

Initial Pressure (psig): -3.76 Final Pressure (psig): 5.73

Container Dilution Factor: 1.87

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.46	1.5	0.46	0.20	**U**
75-27-4	Bromodichloromethane	**1.2**	0.38	0.12	0.054	
79-01-6	Trichloroethene	**0.14**	0.47	0.15	0.063	**J**
123-91-1	1,4-Dioxane	0.22	0.70	0.22	0.082	**U**
142-82-5	n-Heptane	**0.44**	0.62	0.37	0.097	**J**
108-10-1	4-Methyl-2-pentanone	0.19	0.60	0.19	0.083	**U**
108-88-3	Toluene	**1.1**	0.67	0.21	0.081	
591-78-6	2-Hexanone	**0.12**	0.62	0.19	0.075	**J**
124-48-1	Dibromochloromethane	0.093	0.30	0.093	0.038	**U**
106-93-4	1,2-Dibromoethane	0.10	0.33	0.10	0.038	**U**
127-18-4	Tetrachloroethene	**0.42**	0.36	0.12	0.048	
100-41-4	Ethylbenzene	**0.084**	0.58	0.18	0.081	**J**
179601-23-1	m,p-Xylenes	**0.43**	1.2	0.37	0.15	**J**
75-25-2	Bromoform	0.14	0.24	0.14	0.050	**U**
100-42-5	Styrene	0.35	0.58	0.35	0.094	**U**
95-47-6	o-Xylene	**0.16**	0.58	0.18	0.083	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.089**	0.50	0.16	0.073	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.10**	0.51	0.16	0.070	**J**
120-82-1	1,2,4-Trichlorobenzene	0.20	0.34	0.20	0.082	**U**
91-20-3	Naphthalene	0.28	0.46	0.28	0.12	**U**
1330-20-7	Xylenes, Total	**0.59**	1.2	0.37	0.15	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV126-050-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-009

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan/Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00189

Initial Pressure (psig): -3.03 Final Pressure (psig): 5.26

Container Dilution Factor: 1.71

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**120**	1.3	0.80	0.32	
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.43**	0.46	0.28	0.075	**J**
74-87-3	Chloromethane	**0.23**	1.1	0.66	0.18	**J**
75-01-4	Vinyl Chloride	0.28	0.90	0.28	0.095	**U**
106-99-0	1,3-Butadiene	0.62	1.0	0.62	0.17	**U**
75-00-3	Chloroethane	0.52	0.88	0.52	0.11	**U**
64-17-5	Ethanol	**220**	12	1.9	0.84	**B**
67-64-1	Acetone	4.9	9.5	4.9	2.2	**U**
75-69-4	Trichlorofluoromethane	**0.20**	0.40	0.24	0.062	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**370**	37	11	3.8	**D**
75-09-2	Methylene Chloride	**1.8**	0.65	0.39	0.18	
76-13-1	Trichlorotrifluoroethane	**0.067**	0.30	0.095	0.042	**J**
75-15-0	Carbon Disulfide	**0.80**	1.5	0.74	0.22	**J**
75-34-3	1,1-Dichloroethane	0.35	0.58	0.35	0.082	**U**
78-93-3	2-Butanone (MEK)	**3.7**	1.6	0.46	0.16	
141-78-6	Ethyl Acetate	**38**	1.3	0.77	0.33	
110-54-3	n-Hexane	**1.1**	0.66	0.39	0.13	
67-66-3	Chloroform	**68**	4.7	1.5	0.62	**D**
109-99-9	Tetrahydrofuran (THF)	**6.3**	0.80	0.25	0.097	
107-06-2	1,2-Dichloroethane	**0.066**	0.57	0.18	0.062	**J**
71-43-2	Benzene	**0.53**	0.71	0.23	0.10	**J**
56-23-5	Carbon Tetrachloride	**2.0**	0.36	0.12	0.050	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV126-050-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-009

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan/Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00189

Initial Pressure (psig): -3.03 Final Pressure (psig): 5.26

Container Dilution Factor: 1.71

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**1.7**		1.4	0.42	0.19	
75-27-4	Bromodichloromethane	**7.1**		0.34	0.11	0.049	
79-01-6	Trichloroethene	**0.60**		0.43	0.14	0.057	
123-91-1	1,4-Dioxane		0.20	0.64	0.20	0.075	**U**
142-82-5	n-Heptane	**2.1**		0.56	0.33	0.089	
108-10-1	4-Methyl-2-pentanone	**12**		0.55	0.18	0.076	
108-88-3	Toluene	**24**		0.61	0.19	0.074	
591-78-6	2-Hexanone	**0.41**		0.56	0.18	0.069	**J**
124-48-1	Dibromochloromethane	**0.12**		0.27	0.085	0.035	**J**
106-93-4	1,2-Dibromoethane		0.095	0.30	0.095	0.035	**U**
127-18-4	Tetrachloroethene	**1.0**		0.33	0.11	0.044	
100-41-4	Ethylbenzene	**2.6**		0.53	0.17	0.074	
179601-23-1	m,p-Xylenes	**11**		1.1	0.33	0.14	
75-25-2	Bromoform		0.13	0.22	0.13	0.045	**U**
100-42-5	Styrene	**1.5**		0.53	0.32	0.086	
95-47-6	o-Xylene	**3.7**		0.53	0.17	0.076	
108-67-8	1,3,5-Trimethylbenzene	**0.10**		0.46	0.15	0.067	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.20**		0.47	0.15	0.064	**J**
120-82-1	1,2,4-Trichlorobenzene		0.18	0.31	0.18	0.075	**U**
91-20-3	Naphthalene		0.25	0.42	0.25	0.11	**U**
1330-20-7	Xylenes, Total	**14**		1.1	0.33	0.14	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV126-150-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-010

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00123

Initial Pressure (psig): -4.85 Final Pressure (psig): 5.84

Container Dilution Factor: 2.09

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**1.1**	1.6	0.97	0.39	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.19**	0.56	0.34	0.092	**J**
74-87-3	Chloromethane	**0.25**	1.3	0.81	0.22	**J**
75-01-4	Vinyl Chloride	0.35	1.1	0.35	0.12	**U**
106-99-0	1,3-Butadiene	0.76	1.3	0.76	0.21	**U**
75-00-3	Chloroethane	0.63	1.1	0.63	0.13	**U**
64-17-5	Ethanol	**8.4**	14	2.3	1.0	**J, B**
67-64-1	Acetone	**3.6**	12	5.9	2.6	**J**
75-69-4	Trichlorofluoromethane	**0.28**	0.49	0.30	0.075	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.7**	4.5	1.3	0.47	**J**
75-09-2	Methylene Chloride	0.48	0.80	0.48	0.23	**U**
76-13-1	Trichlorotrifluoroethane	0.12	0.37	0.12	0.052	**U**
75-15-0	Carbon Disulfide	**2.2**	1.8	0.91	0.27	
75-34-3	1,1-Dichloroethane	0.43	0.71	0.43	0.10	**U**
78-93-3	2-Butanone (MEK)	**1.0**	1.9	0.57	0.19	**J**
141-78-6	Ethyl Acetate	0.94	1.6	0.94	0.41	**U**
110-54-3	n-Hexane	**0.26**	0.80	0.47	0.16	**J**
67-66-3	Chloroform	**3.9**	0.58	0.18	0.076	
109-99-9	Tetrahydrofuran (THF)	**33**	0.97	0.30	0.12	
107-06-2	1,2-Dichloroethane	0.22	0.70	0.22	0.076	**U**
71-43-2	Benzene	**0.41**	0.87	0.28	0.13	**J**
56-23-5	Carbon Tetrachloride	**2.0**	0.44	0.14	0.061	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV126-150-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-010

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00123

Initial Pressure (psig): -4.85 Final Pressure (psig): 5.84

Container Dilution Factor: 2.09

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.52	1.7	0.52	0.23	**U**
75-27-4	Bromodichloromethane	**0.13**	0.42	0.13	0.060	**J**
79-01-6	Trichloroethene	0.17	0.53	0.17	0.070	**U**
123-91-1	1,4-Dioxane	**0.62**	0.78	0.25	0.091	**J**
142-82-5	n-Heptane	**0.36**	0.69	0.41	0.11	**J**
108-10-1	4-Methyl-2-pentanone	0.22	0.68	0.22	0.093	**U**
108-88-3	Toluene	**0.86**	0.75	0.24	0.090	
591-78-6	2-Hexanone	0.22	0.69	0.22	0.084	**U**
124-48-1	Dibromochloromethane	0.10	0.33	0.10	0.043	**U**
106-93-4	1,2-Dibromoethane	0.12	0.37	0.12	0.042	**U**
127-18-4	Tetrachloroethene	**0.39**	0.40	0.13	0.053	**J**
100-41-4	Ethylbenzene	0.20	0.65	0.20	0.090	**U**
179601-23-1	m,p-Xylenes	**0.35**	1.3	0.41	0.17	**J**
75-25-2	Bromoform	0.16	0.27	0.16	0.056	**U**
100-42-5	Styrene	0.39	0.65	0.39	0.11	**U**
95-47-6	o-Xylene	**0.13**	0.65	0.20	0.093	**J**
108-67-8	1,3,5-Trimethylbenzene	0.18	0.56	0.18	0.082	**U**
95-63-6	1,2,4-Trimethylbenzene	**0.088**	0.57	0.18	0.079	**J**
120-82-1	1,2,4-Trichlorobenzene	0.23	0.38	0.23	0.092	**U**
91-20-3	Naphthalene	0.31	0.52	0.31	0.13	**U**
1330-20-7	Xylenes, Total	**0.48**	1.3	0.41	0.17	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV126-250-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-011

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00163

Initial Pressure (psig): -3.25 Final Pressure (psig): 5.56

Container Dilution Factor: 1.77

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.60**	1.4	0.82	0.33	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.088**	0.47	0.29	0.078	**J**
74-87-3	Chloromethane	**0.33**	1.1	0.69	0.18	**J**
75-01-4	Vinyl Chloride	0.29	0.94	0.29	0.099	**U**
106-99-0	1,3-Butadiene	0.64	1.1	0.64	0.18	**U**
75-00-3	Chloroethane	0.54	0.91	0.54	0.11	**U**
64-17-5	Ethanol	**1.7**	12	1.9	0.87	**J, B**
67-64-1	Acetone	**3.0**	9.9	5.0	2.2	**J**
75-69-4	Trichlorofluoromethane	**0.22**	0.42	0.25	0.064	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.83**	3.8	1.1	0.40	**J**
75-09-2	Methylene Chloride	0.41	0.68	0.41	0.19	**U**
76-13-1	Trichlorotrifluoroethane	0.098	0.31	0.098	0.044	**U**
75-15-0	Carbon Disulfide	**2.5**	1.6	0.77	0.23	
75-34-3	1,1-Dichloroethane	0.36	0.60	0.36	0.085	**U**
78-93-3	2-Butanone (MEK)	**0.83**	1.7	0.48	0.17	**J**
141-78-6	Ethyl Acetate	0.80	1.4	0.80	0.34	**U**
110-54-3	n-Hexane	**0.20**	0.68	0.40	0.14	**J**
67-66-3	Chloroform	**0.19**	0.49	0.15	0.064	**J**
109-99-9	Tetrahydrofuran (THF)	**28**	0.83	0.26	0.10	
107-06-2	1,2-Dichloroethane	0.19	0.59	0.19	0.065	**U**
71-43-2	Benzene	**0.39**	0.73	0.24	0.11	**J**
56-23-5	Carbon Tetrachloride	**0.27**	0.37	0.12	0.052	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV126-250-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-011

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00163

Initial Pressure (psig): -3.25 Final Pressure (psig): 5.56

Container Dilution Factor: 1.77

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.44	1.4	0.44	0.19	**U**
75-27-4	Bromodichloromethane	0.11	0.36	0.11	0.051	**U**
79-01-6	Trichloroethene	0.14	0.44	0.14	0.059	**U**
123-91-1	1,4-Dioxane	**0.16**	0.66	0.21	0.077	**J**
142-82-5	n-Heptane	**0.29**	0.58	0.35	0.092	**J**
108-10-1	4-Methyl-2-pentanone	0.18	0.57	0.18	0.079	**U**
108-88-3	Toluene	**0.89**	0.63	0.20	0.076	
591-78-6	2-Hexanone	0.18	0.58	0.18	0.071	**U**
124-48-1	Dibromochloromethane	0.088	0.28	0.088	0.036	**U**
106-93-4	1,2-Dibromoethane	0.098	0.31	0.098	0.036	**U**
127-18-4	Tetrachloroethene	0.11	0.34	0.11	0.045	**U**
100-41-4	Ethylbenzene	**0.085**	0.55	0.17	0.076	**J**
179601-23-1	m,p-Xylenes	**0.35**	1.1	0.35	0.14	**J**
75-25-2	Bromoform	0.14	0.23	0.14	0.047	**U**
100-42-5	Styrene	0.33	0.55	0.33	0.089	**U**
95-47-6	o-Xylene	**0.12**	0.55	0.17	0.078	**J**
108-67-8	1,3,5-Trimethylbenzene	0.15	0.48	0.15	0.069	**U**
95-63-6	1,2,4-Trimethylbenzene	**0.11**	0.49	0.15	0.067	**J**
120-82-1	1,2,4-Trichlorobenzene	0.19	0.32	0.19	0.078	**U**
91-20-3	Naphthalene	0.26	0.44	0.26	0.11	**U**
1330-20-7	Xylenes, Total	**0.47**	1.1	0.35	0.14	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV126-350-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-012

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.050 Liter(s)
Test Notes:
Container ID: 1SS00194

Initial Pressure (psig): -3.64 Final Pressure (psig): 5.09

Container Dilution Factor: 1.79

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**8.3**	11	6.7	2.7	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	2.3	3.8	2.3	0.63	**U**
74-87-3	Chloromethane	5.5	9.2	5.5	1.5	**U**
75-01-4	Vinyl Chloride	2.4	7.6	2.4	0.80	**U**
106-99-0	1,3-Butadiene	5.2	8.6	5.2	1.4	**U**
75-00-3	Chloroethane	4.3	7.3	4.3	0.90	**U**
64-17-5	Ethanol	**9.2**	99	16	7.0	**J, B**
67-64-1	Acetone	41	80	41	18	**U**
75-69-4	Trichlorofluoromethane	2.0	3.4	2.0	0.52	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	**72**	31	9.2	3.2	
75-09-2	Methylene Chloride	3.3	5.5	3.3	1.5	**U**
76-13-1	Trichlorotrifluoroethane	0.79	2.5	0.79	0.36	**U**
75-15-0	Carbon Disulfide	6.2	13	6.2	1.8	**U**
75-34-3	1,1-Dichloroethane	2.9	4.9	2.9	0.69	**U**
78-93-3	2-Butanone (MEK)	3.9	13	3.9	1.3	**U**
141-78-6	Ethyl Acetate	6.5	11	6.5	2.8	**U**
110-54-3	n-Hexane	**3.2**	5.5	3.3	1.1	**J**
67-66-3	Chloroform	1.2	4.0	1.2	0.52	**U**
109-99-9	Tetrahydrofuran (THF)	2.1	6.7	2.1	0.81	**U**
107-06-2	1,2-Dichloroethane	1.5	4.8	1.5	0.52	**U**
71-43-2	Benzene	**2.3**	5.9	1.9	0.86	**J**
56-23-5	Carbon Tetrachloride	0.97	3.0	0.97	0.42	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV126-350-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-012

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.050 Liter(s)
Test Notes:
Container ID: 1SS00194

Initial Pressure (psig): -3.64 Final Pressure (psig): 5.09

Container Dilution Factor: 1.79

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**13**	11	3.5	1.6	
75-27-4	Bromodichloromethane	0.91	2.9	0.91	0.41	**U**
79-01-6	Trichloroethene	**0.60**	3.6	1.1	0.48	**J**
123-91-1	1,4-Dioxane	1.7	5.4	1.7	0.63	**U**
142-82-5	n-Heptane	2.8	4.7	2.8	0.74	**U**
108-10-1	4-Methyl-2-pentanone	1.5	4.6	1.5	0.64	**U**
108-88-3	Toluene	**1.1**	5.1	1.6	0.62	**J**
591-78-6	2-Hexanone	1.5	4.7	1.5	0.58	**U**
124-48-1	Dibromochloromethane	0.71	2.3	0.71	0.29	**U**
106-93-4	1,2-Dibromoethane	0.79	2.5	0.79	0.29	**U**
127-18-4	Tetrachloroethene	0.90	2.7	0.90	0.36	**U**
100-41-4	Ethylbenzene	1.4	4.5	1.4	0.62	**U**
179601-23-1	m,p-Xylenes	2.8	9.1	2.8	1.2	**U**
75-25-2	Bromoform	1.1	1.9	1.1	0.38	**U**
100-42-5	Styrene	2.7	4.5	2.7	0.72	**U**
95-47-6	o-Xylene	1.4	4.5	1.4	0.63	**U**
108-67-8	1,3,5-Trimethylbenzene	1.2	3.9	1.2	0.56	**U**
95-63-6	1,2,4-Trimethylbenzene	1.2	3.9	1.2	0.54	**U**
120-82-1	1,2,4-Trichlorobenzene	1.5	2.6	1.5	0.63	**U**
91-20-3	Naphthalene	2.1	3.6	2.1	0.89	**U**
1330-20-7	Xylenes, Total	2.8	9.1	2.8	1.2	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV126-450-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-013

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0015 Liter(s)
Test Notes:
Container ID: 1SC01005

Initial Pressure (psig): -2.91 Final Pressure (psig): 6.23

Container Dilution Factor: 1.78

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	220	370	220	90	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	77	130	77	21	**U**
74-87-3	Chloromethane	180	300	180	49	**U**
75-01-4	Vinyl Chloride	79	250	79	26	**U**
106-99-0	1,3-Butadiene	170	280	170	47	**U**
75-00-3	Chloroethane	140	240	140	30	**U**
64-17-5	Ethanol	520	3,300	520	230	**U**
67-64-1	Acetone	1,300	2,600	1,300	600	**U**
75-69-4	Trichlorofluoromethane	68	110	68	17	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	300	1,000	300	110	**U**
75-09-2	Methylene Chloride	110	180	110	51	**U**
76-13-1	Trichlorotrifluoroethane	26	84	26	12	**U**
75-15-0	Carbon Disulfide	210	420	210	61	**U**
75-34-3	1,1-Dichloroethane	97	160	97	23	**U**
78-93-3	2-Butanone (MEK)	130	440	130	44	**U**
141-78-6	Ethyl Acetate	210	360	210	92	**U**
110-54-3	n-Hexane	**550**	180	110	37	
67-66-3	Chloroform	41	130	41	17	**U**
109-99-9	Tetrahydrofuran (THF)	68	220	68	27	**U**
107-06-2	1,2-Dichloroethane	50	160	50	17	**U**
71-43-2	Benzene	63	200	63	29	**U**
56-23-5	Carbon Tetrachloride	32	100	32	14	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV126-450-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-013

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0015 Liter(s)
Test Notes:
Container ID: 1SC01005

Initial Pressure (psig): -2.91 Final Pressure (psig): 6.23

Container Dilution Factor: 1.78

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**1,700**	380	120	52	
75-27-4	Bromodichloromethane	30	96	30	14	**U**
79-01-6	Trichloroethene	38	120	38	16	**U**
123-91-1	1,4-Dioxane	56	180	56	21	**U**
142-82-5	n-Heptane	93	160	93	25	**U**
108-10-1	4-Methyl-2-pentanone	49	150	49	21	**U**
108-88-3	Toluene	54	170	54	20	**U**
591-78-6	2-Hexanone	49	160	49	19	**U**
124-48-1	Dibromochloromethane	24	75	24	9.8	**U**
106-93-4	1,2-Dibromoethane	26	83	26	9.6	**U**
127-18-4	Tetrachloroethene	30	91	30	12	**U**
100-41-4	Ethylbenzene	46	150	46	20	**U**
179601-23-1	m,p-Xylenes	93	300	93	38	**U**
75-25-2	Bromoform	37	62	37	13	**U**
100-42-5	Styrene	89	150	89	24	**U**
95-47-6	o-Xylene	46	150	46	21	**U**
108-67-8	1,3,5-Trimethylbenzene	41	130	41	19	**U**
95-63-6	1,2,4-Trimethylbenzene	41	130	41	18	**U**
120-82-1	1,2,4-Trichlorobenzene	51	86	51	21	**U**
91-20-3	Naphthalene	70	120	70	29	**U**
1330-20-7	Xylenes, Total	93	300	93	38	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV129-025-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-014

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00039

Initial Pressure (psig): -5.07 Final Pressure (psig): 5.13

Container Dilution Factor: 2.06

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.46**	1.6	0.96	0.39	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.64**	0.55	0.33	0.091	
74-87-3	Chloromethane	0.80	1.3	0.80	0.21	**U**
75-01-4	Vinyl Chloride	0.34	1.1	0.34	0.11	**U**
106-99-0	1,3-Butadiene	0.75	1.2	0.75	0.20	**U**
75-00-3	Chloroethane	0.62	1.1	0.62	0.13	**U**
64-17-5	Ethanol	**4.8**	14	2.3	1.0	**J, B**
67-64-1	Acetone	**2.6**	11	5.9	2.6	**J**
75-69-4	Trichlorofluoromethane	**0.19**	0.49	0.29	0.074	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.67**	4.4	1.3	0.46	**J**
75-09-2	Methylene Chloride	0.47	0.79	0.47	0.22	**U**
76-13-1	Trichlorotrifluoroethane	**0.26**	0.36	0.11	0.051	**J**
75-15-0	Carbon Disulfide	**1.1**	1.8	0.89	0.26	**J**
75-34-3	1,1-Dichloroethane	0.42	0.70	0.42	0.099	**U**
78-93-3	2-Butanone (MEK)	**0.23**	1.9	0.56	0.19	**J**
141-78-6	Ethyl Acetate	0.93	1.6	0.93	0.40	**U**
110-54-3	n-Hexane	**0.31**	0.79	0.47	0.16	**J**
67-66-3	Chloroform	**0.12**	0.57	0.18	0.075	**J**
109-99-9	Tetrahydrofuran (THF)	**1.0**	0.96	0.30	0.12	
107-06-2	1,2-Dichloroethane	0.22	0.69	0.22	0.075	**U**
71-43-2	Benzene	**0.46**	0.85	0.27	0.12	**J**
56-23-5	Carbon Tetrachloride	**0.30**	0.43	0.14	0.061	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV129-025-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-014

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00039

Initial Pressure (psig): -5.07 Final Pressure (psig): 5.13

Container Dilution Factor: 2.06

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.51	1.6	0.51	0.22	**U**
75-27-4	Bromodichloromethane	0.13	0.42	0.13	0.059	**U**
79-01-6	Trichloroethene	0.16	0.52	0.16	0.069	**U**
123-91-1	1,4-Dioxane	0.24	0.77	0.24	0.090	**U**
142-82-5	n-Heptane	**0.48**	0.68	0.40	0.11	**J**
108-10-1	4-Methyl-2-pentanone	0.21	0.67	0.21	0.092	**U**
108-88-3	Toluene	**1.3**	0.74	0.23	0.089	
591-78-6	2-Hexanone	0.21	0.68	0.21	0.083	**U**
124-48-1	Dibromochloromethane	0.10	0.33	0.10	0.042	**U**
106-93-4	1,2-Dibromoethane	0.11	0.36	0.11	0.042	**U**
127-18-4	Tetrachloroethene	**0.10**	0.40	0.13	0.052	**J**
100-41-4	Ethylbenzene	**0.75**	0.64	0.20	0.089	
179601-23-1	m,p-Xylenes	**0.58**	1.3	0.40	0.17	**J**
75-25-2	Bromoform	0.16	0.27	0.16	0.055	**U**
100-42-5	Styrene	0.39	0.64	0.39	0.10	**U**
95-47-6	o-Xylene	**0.18**	0.64	0.20	0.091	**J**
108-67-8	1,3,5-Trimethylbenzene	0.18	0.56	0.18	0.081	**U**
95-63-6	1,2,4-Trimethylbenzene	**0.10**	0.57	0.18	0.078	**J**
120-82-1	1,2,4-Trichlorobenzene	0.22	0.37	0.22	0.090	**U**
91-20-3	Naphthalene	**0.33**	0.51	0.30	0.13	**J**
1330-20-7	Xylenes, Total	**0.76**	1.3	0.40	0.17	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV129-050-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-015

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00232

Initial Pressure (psig): -3.61 Final Pressure (psig): 5.99

Container Dilution Factor: 1.87

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.67**	1.4	0.87	0.35	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.70**	0.50	0.30	0.082	
74-87-3	Chloromethane	0.72	1.2	0.72	0.19	**U**
75-01-4	Vinyl Chloride	0.31	0.99	0.31	0.10	**U**
106-99-0	1,3-Butadiene	0.68	1.1	0.68	0.19	**U**
75-00-3	Chloroethane	0.57	0.96	0.57	0.12	**U**
64-17-5	Ethanol	**2.7**	13	2.1	0.92	**J, B**
67-64-1	Acetone	**3.0**	10	5.3	2.4	**J**
75-69-4	Trichlorofluoromethane	**0.19**	0.44	0.27	0.067	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.1**	4.0	1.2	0.42	**J**
75-09-2	Methylene Chloride	0.43	0.71	0.43	0.20	**U**
76-13-1	Trichlorotrifluoroethane	**0.32**	0.33	0.10	0.046	**J**
75-15-0	Carbon Disulfide	**0.43**	1.7	0.81	0.24	**J**
75-34-3	1,1-Dichloroethane	0.38	0.64	0.38	0.090	**U**
78-93-3	2-Butanone (MEK)	**0.39**	1.7	0.51	0.17	**J**
141-78-6	Ethyl Acetate	0.84	1.4	0.84	0.36	**U**
110-54-3	n-Hexane	**0.41**	0.72	0.42	0.15	**J**
67-66-3	Chloroform	**0.18**	0.52	0.16	0.068	**J**
109-99-9	Tetrahydrofuran (THF)	**2.2**	0.87	0.27	0.11	
107-06-2	1,2-Dichloroethane	0.20	0.62	0.20	0.068	**U**
71-43-2	Benzene	**0.52**	0.78	0.25	0.11	**J**
56-23-5	Carbon Tetrachloride	**0.38**	0.39	0.13	0.055	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV129-050-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-015

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00232

Initial Pressure (psig): -3.61 Final Pressure (psig): 5.99

Container Dilution Factor: 1.87

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane		0.46	1.5	0.46	0.20	**U**
75-27-4	Bromodichloromethane		0.12	0.38	0.12	0.054	**U**
79-01-6	Trichloroethene		0.15	0.47	0.15	0.063	**U**
123-91-1	1,4-Dioxane	**0.083**		0.70	0.22	0.082	**J**
142-82-5	n-Heptane	**0.62**		0.62	0.37	0.097	
108-10-1	4-Methyl-2-pentanone		0.19	0.60	0.19	0.083	**U**
108-88-3	Toluene	**1.7**		0.67	0.21	0.081	
591-78-6	2-Hexanone		0.19	0.62	0.19	0.075	**U**
124-48-1	Dibromochloromethane		0.093	0.30	0.093	0.038	**U**
106-93-4	1,2-Dibromoethane		0.10	0.33	0.10	0.038	**U**
127-18-4	Tetrachloroethene	**0.11**		0.36	0.12	0.048	**J**
100-41-4	Ethylbenzene	**0.14**		0.58	0.18	0.081	**J**
179601-23-1	m,p-Xylenes	**0.75**		1.2	0.37	0.15	**J**
75-25-2	Bromoform		0.14	0.24	0.14	0.050	**U**
100-42-5	Styrene		0.35	0.58	0.35	0.094	**U**
95-47-6	o-Xylene	**0.26**		0.58	0.18	0.083	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.084**		0.50	0.16	0.073	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.19**		0.51	0.16	0.070	**J**
120-82-1	1,2,4-Trichlorobenzene		0.20	0.34	0.20	0.082	**U**
91-20-3	Naphthalene		0.28	0.46	0.28	0.12	**U**
1330-20-7	Xylenes, Total	**1.0**		1.2	0.37	0.15	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV129-150-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-016

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01003

Initial Pressure (psig): -3.48 Final Pressure (psig): 5.62

Container Dilution Factor: 1.81

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**1.1**	1.4	0.84	0.34	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.68**	0.49	0.29	0.080	
74-87-3	Chloromethane	0.70	1.2	0.70	0.19	**U**
75-01-4	Vinyl Chloride	0.30	0.96	0.30	0.10	**U**
106-99-0	1,3-Butadiene	0.65	1.1	0.65	0.18	**U**
75-00-3	Chloroethane	0.55	0.93	0.55	0.11	**U**
64-17-5	Ethanol	**4.1**	12	2.0	0.89	**J, B**
67-64-1	Acetone	**13**	10	5.1	2.3	
75-69-4	Trichlorofluoromethane	**0.18**	0.43	0.26	0.065	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.2**	3.9	1.2	0.41	**J**
75-09-2	Methylene Chloride	0.42	0.69	0.42	0.20	**U**
76-13-1	Trichlorotrifluoroethane	**0.53**	0.32	0.10	0.045	
75-15-0	Carbon Disulfide	**9.8**	1.6	0.78	0.23	
75-34-3	1,1-Dichloroethane	0.37	0.62	0.37	0.087	**U**
78-93-3	2-Butanone (MEK)	**1.6**	1.7	0.49	0.17	**J**
141-78-6	Ethyl Acetate	**0.83**	1.4	0.82	0.35	**J**
110-54-3	n-Hexane	**0.31**	0.69	0.41	0.14	**J**
67-66-3	Chloroform	**0.23**	0.50	0.16	0.066	**J**
109-99-9	Tetrahydrofuran (THF)	**0.97**	0.84	0.26	0.10	
107-06-2	1,2-Dichloroethane	0.19	0.60	0.19	0.066	**U**
71-43-2	Benzene	**5.2**	0.75	0.24	0.11	
56-23-5	Carbon Tetrachloride	**0.59**	0.38	0.12	0.053	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV129-150-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-016

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01003

Initial Pressure (psig): -3.48 Final Pressure (psig): 5.62

Container Dilution Factor: 1.81

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.45	1.4	0.45	0.20	**U**
75-27-4	Bromodichloromethane	0.11	0.36	0.11	0.052	**U**
79-01-6	Trichloroethene	**0.40**	0.45	0.14	0.061	**J**
123-91-1	1,4-Dioxane	**0.12**	0.68	0.21	0.079	**J**
142-82-5	n-Heptane	**0.46**	0.60	0.35	0.094	**J**
108-10-1	4-Methyl-2-pentanone	**0.26**	0.59	0.19	0.081	**J**
108-88-3	Toluene	**19**	0.65	0.20	0.078	
591-78-6	2-Hexanone	0.19	0.60	0.19	0.073	**U**
124-48-1	Dibromochloromethane	0.090	0.29	0.090	0.037	**U**
106-93-4	1,2-Dibromoethane	0.10	0.32	0.10	0.037	**U**
127-18-4	Tetrachloroethene	**0.23**	0.35	0.11	0.046	**J**
100-41-4	Ethylbenzene	**0.67**	0.56	0.18	0.078	
179601-23-1	m,p-Xylenes	**3.1**	1.1	0.35	0.15	
75-25-2	Bromoform	0.14	0.24	0.14	0.048	**U**
100-42-5	Styrene	0.34	0.56	0.34	0.091	**U**
95-47-6	o-Xylene	**0.92**	0.56	0.18	0.080	
108-67-8	1,3,5-Trimethylbenzene	**0.099**	0.49	0.16	0.071	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.22**	0.50	0.16	0.068	**J**
120-82-1	1,2,4-Trichlorobenzene	0.20	0.33	0.20	0.079	**U**
91-20-3	Naphthalene	0.27	0.45	0.27	0.11	**U**
1330-20-7	Xylenes, Total	**4.0**	1.1	0.35	0.15	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV129-250-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-017

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00805

Initial Pressure (psig): -3.89 Final Pressure (psig): 5.71

Container Dilution Factor: 1.89

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.88	1.5	0.88	0.36	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.64**	0.51	0.31	0.083	
74-87-3	Chloromethane	0.73	1.2	0.73	0.20	**U**
75-01-4	Vinyl Chloride	0.31	1.0	0.31	0.11	**U**
106-99-0	1,3-Butadiene	0.68	1.1	0.68	0.19	**U**
75-00-3	Chloroethane	0.57	0.97	0.57	0.12	**U**
64-17-5	Ethanol	**4.5**	13	2.1	0.93	**J, B**
67-64-1	Acetone	**2.4**	11	5.4	2.4	**J**
75-69-4	Trichlorofluoromethane	**0.12**	0.45	0.27	0.068	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.2	4.0	1.2	0.42	**U**
75-09-2	Methylene Chloride	0.44	0.72	0.44	0.20	**U**
76-13-1	Trichlorotrifluoroethane	**0.54**	0.33	0.10	0.047	
75-15-0	Carbon Disulfide	**16**	1.7	0.82	0.24	
75-34-3	1,1-Dichloroethane	0.39	0.64	0.39	0.091	**U**
78-93-3	2-Butanone (MEK)	**0.32**	1.8	0.51	0.18	**J**
141-78-6	Ethyl Acetate	0.85	1.4	0.85	0.37	**U**
110-54-3	n-Hexane	**0.31**	0.72	0.43	0.15	**J**
67-66-3	Chloroform	**0.14**	0.52	0.16	0.069	**J**
109-99-9	Tetrahydrofuran (THF)	**0.23**	0.88	0.27	0.11	**J**
107-06-2	1,2-Dichloroethane	0.20	0.63	0.20	0.069	**U**
71-43-2	Benzene	**0.81**	0.78	0.25	0.11	
56-23-5	Carbon Tetrachloride	**0.39**	0.40	0.13	0.056	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV129-250-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-017

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00805

Initial Pressure (psig): -3.89 Final Pressure (psig): 5.71

Container Dilution Factor: 1.89

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.47	1.5	0.47	0.21	**U**
75-27-4	Bromodichloromethane	0.12	0.38	0.12	0.054	**U**
79-01-6	Trichloroethene	**1.8**	0.47	0.15	0.063	
123-91-1	1,4-Dioxane	0.22	0.71	0.22	0.083	**U**
142-82-5	n-Heptane	**0.43**	0.62	0.37	0.098	**J**
108-10-1	4-Methyl-2-pentanone	0.20	0.61	0.20	0.084	**U**
108-88-3	Toluene	**1.0**	0.68	0.21	0.082	
591-78-6	2-Hexanone	0.20	0.62	0.20	0.076	**U**
124-48-1	Dibromochloromethane	0.094	0.30	0.094	0.039	**U**
106-93-4	1,2-Dibromoethane	0.10	0.33	0.10	0.038	**U**
127-18-4	Tetrachloroethene	**0.33**	0.36	0.12	0.048	**J**
100-41-4	Ethylbenzene	**0.096**	0.59	0.19	0.082	**J**
179601-23-1	m,p-Xylenes	**0.38**	1.2	0.37	0.15	**J**
75-25-2	Bromoform	0.15	0.25	0.15	0.050	**U**
100-42-5	Styrene	0.36	0.59	0.36	0.095	**U**
95-47-6	o-Xylene	**0.11**	0.59	0.19	0.084	**J**
108-67-8	1,3,5-Trimethylbenzene	0.16	0.51	0.16	0.074	**U**
95-63-6	1,2,4-Trimethylbenzene	0.16	0.52	0.16	0.071	**U**
120-82-1	1,2,4-Trichlorobenzene	0.20	0.34	0.20	0.083	**U**
91-20-3	Naphthalene	0.28	0.47	0.28	0.12	**U**
1330-20-7	Xylenes, Total	**0.50**	1.2	0.37	0.15	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV129-350-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-018

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01033

Initial Pressure (psig): -4.25 Final Pressure (psig): 8.09

Container Dilution Factor: 2.18

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.75**	1.7	1.0	0.41	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.87**	0.58	0.35	0.096	
74-87-3	Chloromethane	0.84	1.4	0.84	0.23	**U**
75-01-4	Vinyl Chloride	0.36	1.2	0.36	0.12	**U**
106-99-0	1,3-Butadiene	0.79	1.3	0.79	0.22	**U**
75-00-3	Chloroethane	0.66	1.1	0.66	0.14	**U**
64-17-5	Ethanol	**1.9**	15	2.4	1.1	**J, B**
67-64-1	Acetone	6.2	12	6.2	2.8	**U**
75-69-4	Trichlorofluoromethane	**0.10**	0.51	0.31	0.079	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.4	4.7	1.4	0.49	**U**
75-09-2	Methylene Chloride	0.50	0.83	0.50	0.24	**U**
76-13-1	Trichlorotrifluoroethane	**0.30**	0.38	0.12	0.054	**J**
75-15-0	Carbon Disulfide	**3.4**	1.9	0.95	0.28	
75-34-3	1,1-Dichloroethane	0.44	0.74	0.44	0.11	**U**
78-93-3	2-Butanone (MEK)	0.59	2.0	0.59	0.20	**U**
141-78-6	Ethyl Acetate	0.98	1.7	0.98	0.42	**U**
110-54-3	n-Hexane	**0.27**	0.84	0.49	0.17	**J**
67-66-3	Chloroform	**0.10**	0.60	0.19	0.079	**J**
109-99-9	Tetrahydrofuran (THF)	**0.50**	1.0	0.31	0.12	**J**
107-06-2	1,2-Dichloroethane	0.23	0.73	0.23	0.079	**U**
71-43-2	Benzene	**0.45**	0.90	0.29	0.13	**J**
56-23-5	Carbon Tetrachloride	**0.22**	0.46	0.15	0.064	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV129-350-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-018

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01033

Initial Pressure (psig): -4.25 Final Pressure (psig): 8.09

Container Dilution Factor: 2.18

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.54	1.7	0.54	0.24	**U**
75-27-4	Bromodichloromethane	0.14	0.44	0.14	0.063	**U**
79-01-6	Trichloroethene	**1.7**	0.55	0.17	0.073	
123-91-1	1,4-Dioxane	0.26	0.82	0.26	0.095	**U**
142-82-5	n-Heptane	**0.38**	0.72	0.43	0.11	**J**
108-10-1	4-Methyl-2-pentanone	0.23	0.71	0.23	0.097	**U**
108-88-3	Toluene	**1.2**	0.78	0.25	0.094	
591-78-6	2-Hexanone	0.23	0.72	0.23	0.088	**U**
124-48-1	Dibromochloromethane	0.11	0.35	0.11	0.045	**U**
106-93-4	1,2-Dibromoethane	0.12	0.38	0.12	0.044	**U**
127-18-4	Tetrachloroethene	**0.23**	0.42	0.14	0.055	**J**
100-41-4	Ethylbenzene	0.21	0.68	0.21	0.094	**U**
179601-23-1	m,p-Xylenes	**0.35**	1.4	0.43	0.18	**J**
75-25-2	Bromoform	0.17	0.28	0.17	0.058	**U**
100-42-5	Styrene	0.41	0.68	0.41	0.11	**U**
95-47-6	o-Xylene	**0.12**	0.68	0.21	0.097	**J**
108-67-8	1,3,5-Trimethylbenzene	0.19	0.59	0.19	0.085	**U**
95-63-6	1,2,4-Trimethylbenzene	0.19	0.60	0.19	0.082	**U**
120-82-1	1,2,4-Trichlorobenzene	0.24	0.40	0.24	0.095	**U**
91-20-3	Naphthalene	0.32	0.54	0.32	0.14	**U**
1330-20-7	Xylenes, Total	**0.47**	1.4	0.43	0.18	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV129-450-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-019

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0060 Liter(s)
Test Notes:
Container ID: 1SC00950

Initial Pressure (psig): -2.98 Final Pressure (psig): 5.95

Container Dilution Factor: 1.76

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**82**	90	55	22	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	19	31	19	5.2	**U**
74-87-3	Chloromethane	**19**	75	45	12	**J**
75-01-4	Vinyl Chloride	20	62	20	6.5	**U**
106-99-0	1,3-Butadiene	42	70	42	12	**U**
75-00-3	Chloroethane	36	60	36	7.3	**U**
64-17-5	Ethanol	130	810	130	58	**U**
67-64-1	Acetone	330	650	330	150	**U**
75-69-4	Trichlorofluoromethane	17	28	17	4.2	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	**71**	250	75	26	**J**
75-09-2	Methylene Chloride	27	45	27	13	**U**
76-13-1	Trichlorotrifluoroethane	6.5	21	6.5	2.9	**U**
75-15-0	Carbon Disulfide	**64**	100	51	15	**J**
75-34-3	1,1-Dichloroethane	24	40	24	5.7	**U**
78-93-3	2-Butanone (MEK)	**41**	110	32	11	**J**
141-78-6	Ethyl Acetate	53	90	53	23	**U**
110-54-3	n-Hexane	**120**	45	27	9.2	
67-66-3	Chloroform	10	32	10	4.3	**U**
109-99-9	Tetrahydrofuran (THF)	**21**	55	17	6.7	**J**
107-06-2	1,2-Dichloroethane	12	39	12	4.3	**U**
71-43-2	Benzene	**730**	49	16	7.1	
56-23-5	Carbon Tetrachloride	7.9	25	7.9	3.5	**U**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV129-450-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-019

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0060 Liter(s)
Test Notes:
Container ID: 1SC00950

Initial Pressure (psig): -2.98 Final Pressure (psig): 5.95

Container Dilution Factor: 1.76

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**190**	94	29	13	
75-27-4	Bromodichloromethane	7.4	24	7.4	3.4	**U**
79-01-6	Trichloroethene	9.3	29	9.3	3.9	**U**
123-91-1	1,4-Dioxane	14	44	14	5.1	**U**
142-82-5	n-Heptane	**110**	39	23	6.1	
108-10-1	4-Methyl-2-pentanone	12	38	12	5.2	**U**
108-88-3	Toluene	**900**	42	13	5.1	
591-78-6	2-Hexanone	12	39	12	4.7	**U**
124-48-1	Dibromochloromethane	5.9	19	5.9	2.4	**U**
106-93-4	1,2-Dibromoethane	**2.9**	21	6.5	2.4	**J**
127-18-4	Tetrachloroethene	7.4	23	7.4	3.0	**U**
100-41-4	Ethylbenzene	**30**	36	11	5.1	**J**
179601-23-1	m,p-Xylenes	**89**	74	23	9.5	
75-25-2	Bromoform	9.1	15	9.1	3.1	**U**
100-42-5	Styrene	22	37	22	5.9	**U**
95-47-6	o-Xylene	**73**	36	11	5.2	
108-67-8	1,3,5-Trimethylbenzene	**40**	32	10	4.6	
95-63-6	1,2,4-Trimethylbenzene	**6.6**	32	10	4.4	**J**
120-82-1	1,2,4-Trichlorobenzene	13	21	13	5.1	**U**
91-20-3	Naphthalene	17	29	17	7.3	**U**
1330-20-7	Xylenes, Total	**160**	74	23	9.5	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV130-025-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-020

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00165

Initial Pressure (psig): -4.09 Final Pressure (psig): 5.39

Container Dilution Factor: 1.89

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.37**	1.5	0.88	0.36	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.87**	0.51	0.31	0.083	
74-87-3	Chloromethane	0.73	1.2	0.73	0.20	**U**
75-01-4	Vinyl Chloride	0.31	1.0	0.31	0.11	**U**
106-99-0	1,3-Butadiene	0.68	1.1	0.68	0.19	**U**
75-00-3	Chloroethane	0.57	0.97	0.57	0.12	**U**
64-17-5	Ethanol	**2.7**	13	2.1	0.93	**J, B**
67-64-1	Acetone	**2.6**	11	5.4	2.4	**J**
75-69-4	Trichlorofluoromethane	**0.22**	0.45	0.27	0.068	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.82**	4.0	1.2	0.42	**J**
75-09-2	Methylene Chloride	0.44	0.72	0.44	0.20	**U**
76-13-1	Trichlorotrifluoroethane	**0.69**	0.33	0.10	0.047	
75-15-0	Carbon Disulfide	**6.6**	1.7	0.82	0.24	
75-34-3	1,1-Dichloroethane	0.39	0.64	0.39	0.091	**U**
78-93-3	2-Butanone (MEK)	**0.37**	1.8	0.51	0.18	**J**
141-78-6	Ethyl Acetate	0.85	1.4	0.85	0.37	**U**
110-54-3	n-Hexane	**0.17**	0.72	0.43	0.15	**J**
67-66-3	Chloroform	**0.19**	0.52	0.16	0.069	**J**
109-99-9	Tetrahydrofuran (THF)	0.27	0.88	0.27	0.11	**U**
107-06-2	1,2-Dichloroethane	0.20	0.63	0.20	0.069	**U**
71-43-2	Benzene	**0.26**	0.78	0.25	0.11	**J**
56-23-5	Carbon Tetrachloride	**0.17**	0.40	0.13	0.056	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV130-025-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-020

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00165

Initial Pressure (psig): -4.09 Final Pressure (psig): 5.39

Container Dilution Factor: 1.89

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**0.41**	1.5	0.47	0.21	**J**
75-27-4	Bromodichloromethane	0.12	0.38	0.12	0.054	**U**
79-01-6	Trichloroethene	**0.92**	0.47	0.15	0.063	
123-91-1	1,4-Dioxane	0.22	0.71	0.22	0.083	**U**
142-82-5	n-Heptane	**0.26**	0.62	0.37	0.098	**J**
108-10-1	4-Methyl-2-pentanone	**0.13**	0.61	0.20	0.084	**J**
108-88-3	Toluene	**0.56**	0.68	0.21	0.082	**J**
591-78-6	2-Hexanone	0.20	0.62	0.20	0.076	**U**
124-48-1	Dibromochloromethane	0.094	0.30	0.094	0.039	**U**
106-93-4	1,2-Dibromoethane	0.10	0.33	0.10	0.038	**U**
127-18-4	Tetrachloroethene	**0.42**	0.36	0.12	0.048	
100-41-4	Ethylbenzene	0.19	0.59	0.19	0.082	**U**
179601-23-1	m,p-Xylenes	**0.40**	1.2	0.37	0.15	**J**
75-25-2	Bromoform	0.15	0.25	0.15	0.050	**U**
100-42-5	Styrene	0.36	0.59	0.36	0.095	**U**
95-47-6	o-Xylene	**0.42**	0.59	0.19	0.084	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.25**	0.51	0.16	0.074	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.21**	0.52	0.16	0.071	**J**
120-82-1	1,2,4-Trichlorobenzene	0.20	0.34	0.20	0.083	**U**
91-20-3	Naphthalene	0.28	0.47	0.28	0.12	**U**
1330-20-7	Xylenes, Total	**0.82**	1.2	0.37	0.15	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200512-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.19	0.31	0.19	0.076	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.065	0.11	0.065	0.018	**U**
74-87-3	Chloromethane	0.16	0.26	0.16	0.042	**U**
75-01-4	Vinyl Chloride	0.067	0.21	0.067	0.022	**U**
106-99-0	1,3-Butadiene	0.14	0.24	0.14	0.040	**U**
75-00-3	Chloroethane	0.12	0.20	0.12	0.025	**U**
64-17-5	Ethanol	**0.22**	2.8	0.44	0.20	**J**
67-64-1	Acetone	1.1	2.2	1.1	0.51	**U**
75-69-4	Trichlorofluoromethane	0.057	0.094	0.057	0.014	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.26	0.85	0.26	0.090	**U**
75-09-2	Methylene Chloride	0.092	0.15	0.092	0.043	**U**
76-13-1	Trichlorotrifluoroethane	0.022	0.070	0.022	0.0099	**U**
75-15-0	Carbon Disulfide	0.17	0.35	0.17	0.051	**U**
75-34-3	1,1-Dichloroethane	0.082	0.14	0.082	0.019	**U**
78-93-3	2-Butanone (MEK)	0.11	0.37	0.11	0.037	**U**
141-78-6	Ethyl Acetate	0.18	0.31	0.18	0.078	**U**
110-54-3	n-Hexane	0.091	0.15	0.091	0.031	**U**
67-66-3	Chloroform	0.035	0.11	0.035	0.015	**U**
109-99-9	Tetrahydrofuran (THF)	0.058	0.19	0.058	0.023	**U**
107-06-2	1,2-Dichloroethane	0.042	0.13	0.042	0.015	**U**
71-43-2	Benzene	0.053	0.17	0.053	0.024	**U**
56-23-5	Carbon Tetrachloride	0.027	0.084	0.027	0.012	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200512-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.099	0.32	0.099	0.044	**U**
75-27-4	Bromodichloromethane	0.025	0.081	0.025	0.011	**U**
79-01-6	Trichloroethene	0.032	0.10	0.032	0.013	**U**
123-91-1	1,4-Dioxane	0.047	0.15	0.047	0.017	**U**
142-82-5	n-Heptane	0.078	0.13	0.078	0.021	**U**
108-10-1	4-Methyl-2-pentanone	0.041	0.13	0.041	0.018	**U**
108-88-3	Toluene	0.045	0.14	0.045	0.017	**U**
591-78-6	2-Hexanone	0.042	0.13	0.042	0.016	**U**
124-48-1	Dibromochloromethane	0.020	0.063	0.020	0.0082	**U**
106-93-4	1,2-Dibromoethane	0.022	0.070	0.022	0.0081	**U**
127-18-4	Tetrachloroethene	0.025	0.077	0.025	0.010	**U**
100-41-4	Ethylbenzene	0.039	0.12	0.039	0.017	**U**
179601-23-1	m,p-Xylenes	0.078	0.25	0.078	0.032	**U**
75-25-2	Bromoform	0.031	0.052	0.031	0.011	**U**
100-42-5	Styrene	0.075	0.12	0.075	0.020	**U**
95-47-6	o-Xylene	0.039	0.12	0.039	0.018	**U**
108-67-8	1,3,5-Trimethylbenzene	0.035	0.11	0.035	0.016	**U**
95-63-6	1,2,4-Trimethylbenzene	0.035	0.11	0.035	0.015	**U**
120-82-1	1,2,4-Trichlorobenzene	0.043	0.073	0.043	0.018	**U**
91-20-3	Naphthalene	0.059	0.099	0.059	0.025	**U**
1330-20-7	Xylenes, Total	0.078	0.25	0.078	0.032	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Project ID: P2002300

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date(s) Collected: 4/21 - 4/22/20
Analyst: Lusine Hakobyan Date(s) Received: 4/28/20
Sampling Media: 1.0 L Summa Canister(s) / 1.0 L Silonite Summa Canister(s) Date(s) Analyzed: 5/12/20
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P200512-MB	**92**	**102**	**106**	70-130	
Lab Control Sample	P200512-LCS	**92**	**100**	**106**	70-130	
Duplicate Lab Control Sample	P200512-DLCS	**94**	**101**	**107**	70-130	
SV118-450-202	P2002300-001	**94**	**101**	**102**	70-130	
SV118-450-202	P2002300-001DUP	**94**	**100**	**102**	70-130	
SV119-025-202	P2002300-002	**92**	**102**	**105**	70-130	
SV119-050-202	P2002300-003	**92**	**100**	**105**	70-130	
SV119-150-202	P2002300-004	**93**	**101**	**107**	70-130	
SV119-250-202	P2002300-005	**93**	**100**	**106**	70-130	
SV119-350-202	P2002300-006	**94**	**100**	**105**	70-130	
SV119-450-202	P2002300-007	**93**	**100**	**106**	70-130	
SV126-025-202	P2002300-008	**93**	**102**	**106**	70-130	
SV126-050-202	P2002300-009	**93**	**99**	**106**	70-130	
SV126-150-202	P2002300-010	**94**	**101**	**107**	70-130	
SV126-250-202	P2002300-011	**95**	**101**	**106**	70-130	
SV126-350-202	P2002300-012	**94**	**100**	**105**	70-130	
SV126-450-202	P2002300-013	**94**	**102**	**106**	70-130	
SV129-025-202	P2002300-014	**94**	**100**	**107**	70-130	
SV129-050-202	P2002300-015	**93**	**99**	**106**	70-130	
SV129-150-202	P2002300-016	**93**	**98**	**107**	70-130	
SV129-250-202	P2002300-017	**94**	**100**	**107**	70-130	
SV129-350-202	P2002300-018	**95**	**101**	**106**	70-130	
SV129-450-202	P2002300-019	**92**	**102**	**106**	70-130	
SV130-025-202	P2002300-020	**94**	**99**	**107**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200512-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	122	115	118	**94**	**97**	57-136	3	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	42.5	37.0	37.7	**87**	**89**	59-128	2	25	
74-87-3	Chloromethane	103	84.9	88.4	**82**	**86**	59-132	5	25	
75-01-4	Vinyl Chloride	83.0	69.5	71.6	**84**	**86**	64-127	2	25	
106-99-0	1,3-Butadiene	95.9	82.1	85.2	**86**	**89**	66-134	3	25	
75-00-3	Chloroethane	81.1	68.4	69.9	**84**	**86**	63-127	2	25	
64-17-5	Ethanol	563	474	496	**84**	**88**	59-125	5	25	
67-64-1	Acetone	450	397	411	**88**	**91**	58-128	3	25	
75-69-4	Trichlorofluoromethane	37.7	32.3	32.9	**86**	**87**	62-126	1	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	172	155	160	**90**	**93**	52-125	3	25	
75-09-2	Methylene Chloride	60.5	51.5	52.8	**85**	**87**	62-115	2	25	
76-13-1	Trichlorotrifluoroethane	28.2	25.7	26.3	**91**	**93**	66-126	2	25	
75-15-0	Carbon Disulfide	68.1	58.7	60.0	**86**	**88**	57-134	2	25	
75-34-3	1,1-Dichloroethane	52.4	44.4	45.8	**85**	**87**	68-126	2	25	
78-93-3	2-Butanone (MEK)	71.9	62.3	65.0	**87**	**90**	67-130	3	25	
141-78-6	Ethyl Acetate	120	116	119	**97**	**99**	65-128	2	25	
110-54-3	n-Hexane	61.3	56.4	58.3	**92**	**95**	63-120	3	25	
67-66-3	Chloroform	43.8	38.1	38.9	**87**	**89**	68-123	2	25	
109-99-9	Tetrahydrofuran (THF)	74.6	62.8	64.3	**84**	**86**	64-123	2	25	
107-06-2	1,2-Dichloroethane	52.9	44.2	45.4	**84**	**86**	65-128	2	25	
71-43-2	Benzene	65.8	58.4	59.2	**89**	**90**	69-119	1	25	
56-23-5	Carbon Tetrachloride	33.1	30.0	30.1	**91**	**91**	68-132	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200512-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	123	114	116	**93**	**94**	70-117	1	25	
75-27-4	Bromodichloromethane	32.6	29.1	29.7	**89**	**91**	72-128	2	25	
79-01-6	Trichloroethene	40.2	36.6	37.1	**91**	**92**	71-123	1	25	
123-91-1	1,4-Dioxane	60.0	55.3	55.9	**92**	**93**	71-122	1	25	
142-82-5	n-Heptane	52.2	46.5	47.3	**89**	**91**	69-123	2	25	
108-10-1	4-Methyl-2-pentanone	51.8	49.5	50.3	**96**	**97**	67-130	1	25	
108-88-3	Toluene	56.3	52.7	54.1	**94**	**96**	66-119	2	25	
591-78-6	2-Hexanone	52.7	53.4	55.0	**101**	**104**	62-128	3	25	
124-48-1	Dibromochloromethane	25.1	25.2	25.5	**100**	**102**	70-130	2	25	
106-93-4	1,2-Dibromoethane	27.9	27.1	27.5	**97**	**99**	74-122	2	25	
127-18-4	Tetrachloroethene	30.7	30.4	30.9	**99**	**101**	66-124	2	25	
100-41-4	Ethylbenzene	48.8	48.5	49.4	**99**	**101**	70-124	2	25	
179601-23-1	m,p-Xylenes	98.1	99.1	103	**101**	**105**	61-134	4	25	
75-25-2	Bromoform	20.7	20.7	21.2	**100**	**102**	66-139	2	25	
100-42-5	Styrene	49.8	51.8	53.2	**104**	**107**	73-127	3	25	
95-47-6	o-Xylene	49.3	48.4	49.5	**98**	**100**	67-125	2	25	
108-67-8	1,3,5-Trimethylbenzene	43.1	44.8	45.8	**104**	**106**	67-130	2	25	
95-63-6	1,2,4-Trimethylbenzene	43.1	48.4	49.0	**112**	**114**	66-132	2	25	
120-82-1	1,2,4-Trichlorobenzene	29.1	31.3	31.7	**108**	**109**	55-142	0.9	25	
91-20-3	Naphthalene	40.5	46.0	46.6	**114**	**115**	57-138	0.9	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV118-450-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-001DUP

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SC00733

Initial Pressure (psig): -2.90 Final Pressure (psig): 5.80

Container Dilution Factor: 1.74

Compound	Sample Result ppbV	Duplicate Sample Result ppbV	Average ppbV	% RPD	RPD Limit	Data Qualifier
Propene	7.3	7.4	7.35	**1**	25	**J**
Dichlorodifluoromethane (CFC 12)	ND	ND	-	-	25	
Chloromethane	19	19	19	**0**	25	**J**
Vinyl Chloride	3.1	3.0	3.05	**3**	25	**J**
1,3-Butadiene	ND	ND	-	-	25	
Chloroethane	2.6	2.5	2.55	**4**	25	**J**
Ethanol	ND	ND	-	-	25	
Acetone	ND	ND	-	-	25	
Trichlorofluoromethane	ND	ND	-	-	25	
2-Propanol (Isopropyl Alcohol)	ND	ND	-	-	25	
Methylene Chloride	ND	ND	-	-	25	
Trichlorotrifluoroethane	1.6	1.7	1.65	**6**	25	**J**
Carbon Disulfide	81	79	80	**3**	25	
1,1-Dichloroethane	ND	ND	-	-	25	
2-Butanone (MEK)	ND	ND	-	-	25	
Ethyl Acetate	ND	ND	-	-	25	
n-Hexane	94	92	93	**2**	25	
Chloroform	1.8	1.7	1.75	**6**	25	**J**
Tetrahydrofuran (THF)	24	24	24	**0**	25	
1,2-Dichloroethane	ND	ND	-	-	25	
Benzene	34	33	33.5	**3**	25	
Carbon Tetrachloride	10	10	10	**0**	25	

ND = Compound was analyzed for, but not detected.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV118-450-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-001DUP

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SC00733

Initial Pressure (psig): -2.90 Final Pressure (psig): 5.80

Container Dilution Factor: 1.74

Compound	Sample Result ppbV	Duplicate Sample Result ppbV	Average ppbV	% RPD	RPD Limit	Data Qualifier
Cyclohexane	2,000	1,900	1950	**5**	25	
Bromodichloromethane	ND	ND	-	-	25	
Trichloroethene	ND	ND	-	-	25	
1,4-Dioxane	ND	ND	-	-	25	
n-Heptane	ND	ND	-	-	25	
4-Methyl-2-pentanone	ND	ND	-	-	25	
Toluene	130	130	130	**0**	25	
2-Hexanone	ND	ND	-	-	25	
Dibromochloromethane	ND	ND	-	-	25	
1,2-Dibromoethane	ND	ND	-	-	25	
Tetrachloroethene	ND	ND	-	-	25	
Ethylbenzene	3.2	3.3	3.25	**3**	25	**J**
m,p-Xylenes	6.3	5.8	6.05	**8**	25	**J**
Bromoform	ND	ND	-	-	25	
Styrene	ND	ND	-	-	25	
o-Xylene	4.7	4.6	4.65	**2**	25	**J**
1,3,5-Trimethylbenzene	1.7	1.7	1.7	**0**	25	**J**
1,2,4-Trimethylbenzene	ND	ND	-	-	25	
1,2,4-Trichlorobenzene	ND	ND	-	-	25	
Naphthalene	ND	ND	-	-	25	
Xylenes, Total	11	10	10.5	**10**	25	**J**

ND = Compound was analyzed for, but not detected.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV118-450-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-001

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SC00733

Initial Pressure (psig): -2.90 Final Pressure (psig): 5.80

Container Dilution Factor: 1.74

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**13**	46	28	11	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	28	46	28	7.6	**U**
74-87-3	Chloromethane	**39**	46	28	7.5	**J**
75-01-4	Vinyl Chloride	**7.9**	47	15	5.0	**J**
106-99-0	1,3-Butadiene	28	46	28	7.7	**U**
75-00-3	Chloroethane	**6.9**	47	28	5.7	**J**
64-17-5	Ethanol	72	450	72	32	**U**
67-64-1	Acetone	230	460	230	100	**U**
75-69-4	Trichlorofluoromethane	28	46	28	7.0	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	55	180	55	19	**U**
75-09-2	Methylene Chloride	28	46	28	13	**U**
76-13-1	Trichlorotrifluoroethane	**13**	47	15	6.6	**J**
75-15-0	Carbon Disulfide	**250**	96	47	14	
75-34-3	1,1-Dichloroethane	29	48	29	6.8	**U**
78-93-3	2-Butanone (MEK)	28	96	28	9.6	**U**
141-78-6	Ethyl Acetate	57	96	57	24	**U**
110-54-3	n-Hexane	**330**	47	28	9.6	
67-66-3	Chloroform	**8.6**	47	15	6.2	**J**
109-99-9	Tetrahydrofuran (THF)	**70**	48	15	5.8	
107-06-2	1,2-Dichloroethane	15	47	15	5.1	**U**
71-43-2	Benzene	**110**	46	15	6.7	
56-23-5	Carbon Tetrachloride	**66**	46	15	6.4	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV118-450-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-001

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SC00733

Initial Pressure (psig): -2.90 Final Pressure (psig): 5.80

Container Dilution Factor: 1.74

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**6,800**	96	30	13	
75-27-4	Bromodichloromethane	15	47	15	6.7	**U**
79-01-6	Trichloroethene	15	47	15	6.3	**U**
123-91-1	1,4-Dioxane	15	47	15	5.5	**U**
142-82-5	n-Heptane	28	47	28	7.4	**U**
108-10-1	4-Methyl-2-pentanone	15	46	15	6.4	**U**
108-88-3	Toluene	**490**	47	15	5.7	
591-78-6	2-Hexanone	15	47	15	5.7	**U**
124-48-1	Dibromochloromethane	15	47	15	6.1	**U**
106-93-4	1,2-Dibromoethane	15	47	15	5.4	**U**
127-18-4	Tetrachloroethene	15	45	15	6.0	**U**
100-41-4	Ethylbenzene	**14**	47	15	6.5	**J**
179601-23-1	m,p-Xylenes	**27**	96	30	12	**J**
75-25-2	Bromoform	28	47	28	9.6	**U**
100-42-5	Styrene	28	46	28	7.5	**U**
95-47-6	o-Xylene	**21**	47	15	6.7	**J**
108-67-8	1,3,5-Trimethylbenzene	**8.4**	46	15	6.7	**J**
95-63-6	1,2,4-Trimethylbenzene	15	47	15	6.4	**U**
120-82-1	1,2,4-Trichlorobenzene	28	47	28	11	**U**
91-20-3	Naphthalene	27	45	27	11	**U**
1330-20-7	Xylenes, Total	**48**	96	30	12	**J**

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV119-025-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-002

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01004

Initial Pressure (psig): -2.20 Final Pressure (psig): 7.34

Container Dilution Factor: 1.76

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.2**	2.3	1.4	0.57	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**7.8**	2.3	1.4	0.38	
74-87-3	Chloromethane	1.4	2.3	1.4	0.38	**U**
75-01-4	Vinyl Chloride	0.75	2.4	0.75	0.25	**U**
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.39	**U**
75-00-3	Chloroethane	1.4	2.4	1.4	0.29	**U**
64-17-5	Ethanol	**7.0**	23	3.7	1.6	**J, B**
67-64-1	Acetone	**16**	23	12	5.3	**J**
75-69-4	Trichlorofluoromethane	**2.2**	2.3	1.4	0.36	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.2**	9.2	2.8	0.97	**J**
75-09-2	Methylene Chloride	1.4	2.3	1.4	0.66	**U**
76-13-1	Trichlorotrifluoroethane	**55**	2.4	0.75	0.33	
75-15-0	Carbon Disulfide	2.4	4.8	2.4	0.70	**U**
75-34-3	1,1-Dichloroethane	1.5	2.4	1.5	0.34	**U**
78-93-3	2-Butanone (MEK)	**4.0**	4.8	1.4	0.48	**J**
141-78-6	Ethyl Acetate	2.9	4.8	2.9	1.2	**U**
110-54-3	n-Hexane	1.4	2.4	1.4	0.48	**U**
67-66-3	Chloroform	**0.70**	2.4	0.75	0.31	**J**
109-99-9	Tetrahydrofuran (THF)	0.75	2.4	0.75	0.29	**U**
107-06-2	1,2-Dichloroethane	0.75	2.4	0.75	0.26	**U**
71-43-2	Benzene	0.75	2.3	0.75	0.34	**U**
56-23-5	Carbon Tetrachloride	**2.4**	2.3	0.75	0.33	

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B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV119-025-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-002

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01004

Initial Pressure (psig): -2.20 Final Pressure (psig): 7.34

Container Dilution Factor: 1.76

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**2.0**	4.8	1.5	0.66	**J**
75-27-4	Bromodichloromethane	0.75	2.4	0.75	0.34	**U**
79-01-6	Trichloroethene	0.75	2.4	0.75	0.32	**U**
123-91-1	1,4-Dioxane	0.75	2.4	0.75	0.28	**U**
142-82-5	n-Heptane	1.4	2.4	1.4	0.37	**U**
108-10-1	4-Methyl-2-pentanone	0.75	2.3	0.75	0.32	**U**
108-88-3	Toluene	**1.1**	2.4	0.75	0.29	**J**
591-78-6	2-Hexanone	**0.94**	2.4	0.75	0.29	**J**
124-48-1	Dibromochloromethane	0.75	2.4	0.75	0.31	**U**
106-93-4	1,2-Dibromoethane	0.75	2.4	0.75	0.27	**U**
127-18-4	Tetrachloroethene	**0.87**	2.3	0.75	0.30	**J**
100-41-4	Ethylbenzene	0.75	2.4	0.75	0.33	**U**
179601-23-1	m,p-Xylenes	**0.71**	4.8	1.5	0.62	**J**
75-25-2	Bromoform	1.4	2.4	1.4	0.48	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.38	**U**
95-47-6	o-Xylene	0.75	2.4	0.75	0.34	**U**
108-67-8	1,3,5-Trimethylbenzene	0.75	2.3	0.75	0.34	**U**
95-63-6	1,2,4-Trimethylbenzene	**0.36**	2.4	0.75	0.33	**J**
120-82-1	1,2,4-Trichlorobenzene	1.4	2.4	1.4	0.57	**U**
91-20-3	Naphthalene	1.4	2.3	1.4	0.57	**U**
1330-20-7	Xylenes, Total	**0.71**	4.8	1.5	0.62	**J**

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV119-050-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-003

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00887

Initial Pressure (psig): -2.71 Final Pressure (psig): 6.35

Container Dilution Factor: 1.76

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**2.1**	2.3	1.4	0.57	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**11**	2.3	1.4	0.38	
74-87-3	Chloromethane	1.4	2.3	1.4	0.38	**U**
75-01-4	Vinyl Chloride	0.75	2.4	0.75	0.25	**U**
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.39	**U**
75-00-3	Chloroethane	1.4	2.4	1.4	0.29	**U**
64-17-5	Ethanol	**4.3**	23	3.7	1.6	**J, B**
67-64-1	Acetone	**15**	23	12	5.3	**J**
75-69-4	Trichlorofluoromethane	**3.6**	2.3	1.4	0.36	
67-63-0	2-Propanol (Isopropyl Alcohol)	2.8	9.2	2.8	0.97	**U**
75-09-2	Methylene Chloride	1.4	2.3	1.4	0.66	**U**
76-13-1	Trichlorotrifluoroethane	**190**	2.4	0.75	0.33	
75-15-0	Carbon Disulfide	**1.1**	4.8	2.4	0.70	**J**
75-34-3	1,1-Dichloroethane	1.5	2.4	1.5	0.34	**U**
78-93-3	2-Butanone (MEK)	**3.3**	4.8	1.4	0.48	**J**
141-78-6	Ethyl Acetate	2.9	4.8	2.9	1.2	**U**
110-54-3	n-Hexane	1.4	2.4	1.4	0.48	**U**
67-66-3	Chloroform	0.75	2.4	0.75	0.31	**U**
109-99-9	Tetrahydrofuran (THF)	0.75	2.4	0.75	0.29	**U**
107-06-2	1,2-Dichloroethane	0.75	2.4	0.75	0.26	**U**
71-43-2	Benzene	0.75	2.3	0.75	0.34	**U**
56-23-5	Carbon Tetrachloride	**3.7**	2.3	0.75	0.33	

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV119-050-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-003

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00887

Initial Pressure (psig): -2.71 Final Pressure (psig): 6.35

Container Dilution Factor: 1.76

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.5	4.8	1.5	0.66	**U**
75-27-4	Bromodichloromethane	0.75	2.4	0.75	0.34	**U**
79-01-6	Trichloroethene	0.75	2.4	0.75	0.32	**U**
123-91-1	1,4-Dioxane	0.75	2.4	0.75	0.28	**U**
142-82-5	n-Heptane	1.4	2.4	1.4	0.37	**U**
108-10-1	4-Methyl-2-pentanone	0.75	2.3	0.75	0.32	**U**
108-88-3	Toluene	**0.58**	2.4	0.75	0.29	**J**
591-78-6	2-Hexanone	**0.65**	2.4	0.75	0.29	**J**
124-48-1	Dibromochloromethane	0.75	2.4	0.75	0.31	**U**
106-93-4	1,2-Dibromoethane	0.75	2.4	0.75	0.27	**U**
127-18-4	Tetrachloroethene	**2.6**	2.3	0.75	0.30	
100-41-4	Ethylbenzene	0.75	2.4	0.75	0.33	**U**
179601-23-1	m,p-Xylenes	1.5	4.8	1.5	0.62	**U**
75-25-2	Bromoform	1.4	2.4	1.4	0.48	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.38	**U**
95-47-6	o-Xylene	0.75	2.4	0.75	0.34	**U**
108-67-8	1,3,5-Trimethylbenzene	0.75	2.3	0.75	0.34	**U**
95-63-6	1,2,4-Trimethylbenzene	0.75	2.4	0.75	0.33	**U**
120-82-1	1,2,4-Trichlorobenzene	1.4	2.4	1.4	0.57	**U**
91-20-3	Naphthalene	1.4	2.3	1.4	0.57	**U**
1330-20-7	Xylenes, Total	1.5	4.8	1.5	0.62	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV119-150-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-004

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00025 Liter(s)
Test Notes:
Container ID: 1SC00849

Initial Pressure (psig): -4.10 Final Pressure (psig): 6.21

Container Dilution Factor: 1.97

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**2,700**	4,200	2,500	1,000	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	2,500	4,200	2,500	690	**U**
74-87-3	Chloromethane	2,500	4,200	2,500	680	**U**
75-01-4	Vinyl Chloride	1,300	4,300	1,300	450	**U**
106-99-0	1,3-Butadiene	2,500	4,200	2,500	690	**U**
75-00-3	Chloroethane	2,500	4,300	2,500	520	**U**
64-17-5	Ethanol	6,500	41,000	6,500	2,900	**U**
67-64-1	Acetone	21,000	42,000	21,000	9,500	**U**
75-69-4	Trichlorofluoromethane	2,500	4,200	2,500	640	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	5,000	17,000	5,000	1,700	**U**
75-09-2	Methylene Chloride	2,500	4,200	2,500	1,200	**U**
76-13-1	Trichlorotrifluoroethane	1,300	4,300	1,300	600	**U**
75-15-0	Carbon Disulfide	4,300	8,700	4,300	1,300	**U**
75-34-3	1,1-Dichloroethane	2,600	4,300	2,600	610	**U**
78-93-3	2-Butanone (MEK)	2,500	8,700	2,500	870	**U**
141-78-6	Ethyl Acetate	5,100	8,700	5,100	2,200	**U**
110-54-3	n-Hexane	**16,000**	4,300	2,500	870	
67-66-3	Chloroform	1,300	4,300	1,300	560	**U**
109-99-9	Tetrahydrofuran (THF)	1,300	4,300	1,300	530	**U**
107-06-2	1,2-Dichloroethane	1,300	4,300	1,300	460	**U**
71-43-2	Benzene	**6,400**	4,200	1,300	610	
56-23-5	Carbon Tetrachloride	1,300	4,200	1,300	580	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV119-150-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-004

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00025 Liter(s)
Test Notes:
Container ID: 1SC00849

Initial Pressure (psig): -4.10 Final Pressure (psig): 6.21

Container Dilution Factor: 1.97

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**210,000**	8,700	2,700	1,200	
75-27-4	Bromodichloromethane	1,300	4,300	1,300	610	**U**
79-01-6	Trichloroethene	1,300	4,300	1,300	570	**U**
123-91-1	1,4-Dioxane	1,300	4,300	1,300	500	**U**
142-82-5	n-Heptane	**5,000**	4,300	2,500	670	
108-10-1	4-Methyl-2-pentanone	1,300	4,200	1,300	580	**U**
108-88-3	Toluene	**6,300**	4,300	1,300	510	
591-78-6	2-Hexanone	1,300	4,300	1,300	520	**U**
124-48-1	Dibromochloromethane	1,300	4,300	1,300	550	**U**
106-93-4	1,2-Dibromoethane	1,300	4,300	1,300	490	**U**
127-18-4	Tetrachloroethene	1,300	4,100	1,300	540	**U**
100-41-4	Ethylbenzene	1,300	4,300	1,300	590	**U**
179601-23-1	m,p-Xylenes	2,700	8,700	2,700	1,100	**U**
75-25-2	Bromoform	2,500	4,300	2,500	870	**U**
100-42-5	Styrene	2,500	4,200	2,500	680	**U**
95-47-6	o-Xylene	1,300	4,300	1,300	610	**U**
108-67-8	1,3,5-Trimethylbenzene	1,300	4,200	1,300	610	**U**
95-63-6	1,2,4-Trimethylbenzene	1,300	4,300	1,300	580	**U**
120-82-1	1,2,4-Trichlorobenzene	2,500	4,300	2,500	1,000	**U**
91-20-3	Naphthalene	2,400	4,100	2,400	1,000	**U**
1330-20-7	Xylenes, Total	2,700	8,700	2,700	1,100	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV119-250-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-005

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.000060 Liter(s)
Test Notes:
Container ID: 1SC00637

Initial Pressure (psig): -2.77 Final Pressure (psig): 5.71

Container Dilution Factor: 1.71

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	9,100	15,000	9,100	3,700	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	9,100	15,000	9,100	2,500	**U**
74-87-3	Chloromethane	9,100	15,000	9,100	2,500	**U**
75-01-4	Vinyl Chloride	4,800	15,000	4,800	1,600	**U**
106-99-0	1,3-Butadiene	9,100	15,000	9,100	2,500	**U**
75-00-3	Chloroethane	9,100	15,000	9,100	1,900	**U**
64-17-5	Ethanol	24,000	150,000	24,000	11,000	**U**
67-64-1	Acetone	77,000	150,000	77,000	34,000	**U**
75-69-4	Trichlorofluoromethane	9,100	15,000	9,100	2,300	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	18,000	60,000	18,000	6,300	**U**
75-09-2	Methylene Chloride	9,100	15,000	9,100	4,300	**U**
76-13-1	Trichlorotrifluoroethane	4,800	15,000	4,800	2,200	**U**
75-15-0	Carbon Disulfide	15,000	31,000	15,000	4,600	**U**
75-34-3	1,1-Dichloroethane	9,400	16,000	9,400	2,200	**U**
78-93-3	2-Butanone (MEK)	9,100	31,000	9,100	3,100	**U**
141-78-6	Ethyl Acetate	19,000	31,000	19,000	8,000	**U**
110-54-3	n-Hexane	**510,000**	15,000	9,100	3,100	
67-66-3	Chloroform	4,800	15,000	4,800	2,000	**U**
109-99-9	Tetrahydrofuran (THF)	4,800	16,000	4,800	1,900	**U**
107-06-2	1,2-Dichloroethane	4,800	15,000	4,800	1,700	**U**
71-43-2	Benzene	**180,000**	15,000	4,800	2,200	
56-23-5	Carbon Tetrachloride	4,800	15,000	4,800	2,100	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV119-250-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-005

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.000060 Liter(s)
Test Notes:
Container ID: 1SC00637

Initial Pressure (psig): -2.77 Final Pressure (psig): 5.71

Container Dilution Factor: 1.71

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**920,000**	31,000	9,700	4,300	
75-27-4	Bromodichloromethane	4,800	15,000	4,800	2,200	**U**
79-01-6	Trichloroethene	4,800	15,000	4,800	2,100	**U**
123-91-1	1,4-Dioxane	4,800	15,000	4,800	1,800	**U**
142-82-5	n-Heptane	**180,000**	15,000	9,100	2,400	
108-10-1	4-Methyl-2-pentanone	4,800	15,000	4,800	2,100	**U**
108-88-3	Toluene	**73,000**	15,000	4,800	1,900	
591-78-6	2-Hexanone	4,800	15,000	4,800	1,900	**U**
124-48-1	Dibromochloromethane	4,800	15,000	4,800	2,000	**U**
106-93-4	1,2-Dibromoethane	4,800	15,000	4,800	1,800	**U**
127-18-4	Tetrachloroethene	4,800	15,000	4,800	2,000	**U**
100-41-4	Ethylbenzene	**3,100**	15,000	4,800	2,100	**J**
179601-23-1	m,p-Xylenes	**16,000**	31,000	9,700	4,000	**J**
75-25-2	Bromoform	9,100	15,000	9,100	3,100	**U**
100-42-5	Styrene	9,100	15,000	9,100	2,500	**U**
95-47-6	o-Xylene	**16,000**	15,000	4,800	2,200	
108-67-8	1,3,5-Trimethylbenzene	4,800	15,000	4,800	2,200	**U**
95-63-6	1,2,4-Trimethylbenzene	4,800	15,000	4,800	2,100	**U**
120-82-1	1,2,4-Trichlorobenzene	9,100	15,000	9,100	3,700	**U**
91-20-3	Naphthalene	8,800	15,000	8,800	3,700	**U**
1330-20-7	Xylenes, Total	**32,000**	31,000	9,700	4,000	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV119-350-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-006

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00020 Liter(s)
Test Notes:
Container ID: 1SC00128

Initial Pressure (psig): -2.72 Final Pressure (psig): 5.68

Container Dilution Factor: 1.70

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**2,500**	4,500	2,700	1,100	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	2,700	4,500	2,700	740	**U**
74-87-3	Chloromethane	2,700	4,500	2,700	730	**U**
75-01-4	Vinyl Chloride	1,400	4,600	1,400	480	**U**
106-99-0	1,3-Butadiene	2,700	4,500	2,700	750	**U**
75-00-3	Chloroethane	2,700	4,600	2,700	560	**U**
64-17-5	Ethanol	7,100	44,000	7,100	3,100	**U**
67-64-1	Acetone	23,000	45,000	23,000	10,000	**U**
75-69-4	Trichlorofluoromethane	2,700	4,500	2,700	690	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	5,400	18,000	5,400	1,900	**U**
75-09-2	Methylene Chloride	2,700	4,500	2,700	1,300	**U**
76-13-1	Trichlorotrifluoroethane	1,400	4,600	1,400	650	**U**
75-15-0	Carbon Disulfide	4,600	9,400	4,600	1,400	**U**
75-34-3	1,1-Dichloroethane	2,800	4,700	2,800	660	**U**
78-93-3	2-Butanone (MEK)	2,700	9,400	2,700	940	**U**
141-78-6	Ethyl Acetate	5,500	9,400	5,500	2,400	**U**
110-54-3	n-Hexane	**61,000**	4,600	2,700	940	
67-66-3	Chloroform	1,400	4,600	1,400	600	**U**
109-99-9	Tetrahydrofuran (THF)	1,400	4,700	1,400	570	**U**
107-06-2	1,2-Dichloroethane	1,400	4,600	1,400	500	**U**
71-43-2	Benzene	**22,000**	4,500	1,400	650	
56-23-5	Carbon Tetrachloride	1,400	4,500	1,400	630	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV119-350-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-006

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00020 Liter(s)
Test Notes:
Container ID: 1SC00128

Initial Pressure (psig): -2.72 Final Pressure (psig): 5.68

Container Dilution Factor: 1.70

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**250,000**	9,400	2,900	1,300	
75-27-4	Bromodichloromethane	1,400	4,600	1,400	650	**U**
79-01-6	Trichloroethene	1,400	4,600	1,400	610	**U**
123-91-1	1,4-Dioxane	1,400	4,600	1,400	540	**U**
142-82-5	n-Heptane	**51,000**	4,600	2,700	720	
108-10-1	4-Methyl-2-pentanone	1,400	4,500	1,400	620	**U**
108-88-3	Toluene	**860**	4,600	1,400	550	**J**
591-78-6	2-Hexanone	1,400	4,600	1,400	560	**U**
124-48-1	Dibromochloromethane	1,400	4,600	1,400	600	**U**
106-93-4	1,2-Dibromoethane	1,400	4,600	1,400	530	**U**
127-18-4	Tetrachloroethene	1,400	4,400	1,400	590	**U**
100-41-4	Ethylbenzene	1,400	4,600	1,400	640	**U**
179601-23-1	m,p-Xylenes	**1,200**	9,400	2,900	1,200	**J**
75-25-2	Bromoform	2,700	4,600	2,700	940	**U**
100-42-5	Styrene	2,700	4,500	2,700	730	**U**
95-47-6	o-Xylene	**3,000**	4,600	1,400	650	**J**
108-67-8	1,3,5-Trimethylbenzene	**730**	4,500	1,400	650	**J**
95-63-6	1,2,4-Trimethylbenzene	**690**	4,600	1,400	630	**J**
120-82-1	1,2,4-Trichlorobenzene	2,700	4,600	2,700	1,100	**U**
91-20-3	Naphthalene	2,600	4,400	2,600	1,100	**U**
1330-20-7	Xylenes, Total	**4,300**	9,400	2,900	1,200	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV119-450-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-007

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0020 Liter(s)
Test Notes:
Container ID: 1SS00998

Initial Pressure (psig): -2.65 Final Pressure (psig): 5.24

Container Dilution Factor: 1.65

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**270**	440	260	110	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**88**	440	260	72	**J**
74-87-3	Chloromethane	260	440	260	71	**U**
75-01-4	Vinyl Chloride	140	450	140	47	**U**
106-99-0	1,3-Butadiene	260	440	260	73	**U**
75-00-3	Chloroethane	260	450	260	54	**U**
64-17-5	Ethanol	680	4,300	680	310	**U**
67-64-1	Acetone	2,200	4,400	2,200	990	**U**
75-69-4	Trichlorofluoromethane	260	440	260	67	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	520	1,700	520	180	**U**
75-09-2	Methylene Chloride	260	440	260	120	**U**
76-13-1	Trichlorotrifluoroethane	**380**	450	140	63	**J**
75-15-0	Carbon Disulfide	450	910	450	130	**U**
75-34-3	1,1-Dichloroethane	270	450	270	64	**U**
78-93-3	2-Butanone (MEK)	260	910	260	91	**U**
141-78-6	Ethyl Acetate	540	910	540	230	**U**
110-54-3	n-Hexane	**5,800**	450	260	91	
67-66-3	Chloroform	140	450	140	59	**U**
109-99-9	Tetrahydrofuran (THF)	140	450	140	55	**U**
107-06-2	1,2-Dichloroethane	140	450	140	49	**U**
71-43-2	Benzene	**110**	440	140	64	**J**
56-23-5	Carbon Tetrachloride	140	440	140	61	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV119-450-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-007

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0020 Liter(s)
Test Notes:
Container ID: 1SS00998

Initial Pressure (psig): -2.65 Final Pressure (psig): 5.24

Container Dilution Factor: 1.65

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**35,000**	910	280	120	
75-27-4	Bromodichloromethane	140	450	140	64	**U**
79-01-6	Trichloroethene	140	450	140	59	**U**
123-91-1	1,4-Dioxane	140	450	140	52	**U**
142-82-5	n-Heptane	**6,300**	450	260	70	
108-10-1	4-Methyl-2-pentanone	140	440	140	60	**U**
108-88-3	Toluene	**180**	450	140	54	**J**
591-78-6	2-Hexanone	140	450	140	54	**U**
124-48-1	Dibromochloromethane	140	450	140	58	**U**
106-93-4	1,2-Dibromoethane	140	450	140	51	**U**
127-18-4	Tetrachloroethene	140	430	140	57	**U**
100-41-4	Ethylbenzene	140	450	140	62	**U**
179601-23-1	m,p-Xylenes	**150**	910	280	120	**J**
75-25-2	Bromoform	260	450	260	91	**U**
100-42-5	Styrene	260	440	260	71	**U**
95-47-6	o-Xylene	140	450	140	64	**U**
108-67-8	1,3,5-Trimethylbenzene	140	440	140	64	**U**
95-63-6	1,2,4-Trimethylbenzene	140	450	140	61	**U**
120-82-1	1,2,4-Trichlorobenzene	260	450	260	110	**U**
91-20-3	Naphthalene	260	430	260	110	**U**
1330-20-7	Xylenes, Total	**150**	910	280	120	**J**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV126-025-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-008

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00227

Initial Pressure (psig): -3.76 Final Pressure (psig): 5.73

Container Dilution Factor: 1.87

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	1.5	2.5	1.5	0.61	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.2**	2.5	1.5	0.41	**J**
74-87-3	Chloromethane	1.5	2.5	1.5	0.40	**U**
75-01-4	Vinyl Chloride	0.79	2.5	0.79	0.27	**U**
106-99-0	1,3-Butadiene	1.5	2.5	1.5	0.41	**U**
75-00-3	Chloroethane	1.5	2.5	1.5	0.31	**U**
64-17-5	Ethanol	**2.9**	24	3.9	1.7	**J, B**
67-64-1	Acetone	**13**	25	13	5.6	**J**
75-69-4	Trichlorofluoromethane	**1.1**	2.5	1.5	0.38	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	2.9	9.8	2.9	1.0	**U**
75-09-2	Methylene Chloride	1.5	2.5	1.5	0.70	**U**
76-13-1	Trichlorotrifluoroethane	**0.62**	2.5	0.79	0.36	**J**
75-15-0	Carbon Disulfide	2.5	5.1	2.5	0.75	**U**
75-34-3	1,1-Dichloroethane	1.5	2.6	1.5	0.36	**U**
78-93-3	2-Butanone (MEK)	**3.0**	5.1	1.5	0.51	**J**
141-78-6	Ethyl Acetate	3.0	5.1	3.0	1.3	**U**
110-54-3	n-Hexane	**1.1**	2.5	1.5	0.51	**J**
67-66-3	Chloroform	**130**	2.5	0.79	0.33	
109-99-9	Tetrahydrofuran (THF)	**0.66**	2.6	0.79	0.31	**J**
107-06-2	1,2-Dichloroethane	0.79	2.5	0.79	0.28	**U**
71-43-2	Benzene	**1.0**	2.5	0.79	0.36	**J**
56-23-5	Carbon Tetrachloride	**7.7**	2.5	0.79	0.35	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV126-025-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-008

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00227

Initial Pressure (psig): -3.76 Final Pressure (psig): 5.73

Container Dilution Factor: 1.87

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.6	5.1	1.6	0.70	**U**
75-27-4	Bromodichloromethane	**8.1**	2.5	0.79	0.36	
79-01-6	Trichloroethene	**0.75**	2.5	0.79	0.34	**J**
123-91-1	1,4-Dioxane	0.79	2.5	0.79	0.29	**U**
142-82-5	n-Heptane	**1.8**	2.5	1.5	0.40	**J**
108-10-1	4-Methyl-2-pentanone	0.79	2.5	0.79	0.34	**U**
108-88-3	Toluene	**4.0**	2.5	0.79	0.30	
591-78-6	2-Hexanone	**0.50**	2.5	0.79	0.31	**J**
124-48-1	Dibromochloromethane	0.79	2.5	0.79	0.33	**U**
106-93-4	1,2-Dibromoethane	0.79	2.5	0.79	0.29	**U**
127-18-4	Tetrachloroethene	**2.8**	2.4	0.79	0.32	
100-41-4	Ethylbenzene	**0.36**	2.5	0.79	0.35	**J**
179601-23-1	m,p-Xylenes	**1.9**	5.1	1.6	0.65	**J**
75-25-2	Bromoform	1.5	2.5	1.5	0.51	**U**
100-42-5	Styrene	1.5	2.5	1.5	0.40	**U**
95-47-6	o-Xylene	**0.70**	2.5	0.79	0.36	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.44**	2.5	0.79	0.36	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.49**	2.5	0.79	0.35	**J**
120-82-1	1,2,4-Trichlorobenzene	1.5	2.5	1.5	0.61	**U**
91-20-3	Naphthalene	1.4	2.4	1.4	0.61	**U**
1330-20-7	Xylenes, Total	**2.6**	5.1	1.6	0.65	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV126-050-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-009

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan/Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00189

Initial Pressure (psig): -3.03 Final Pressure (psig): 5.26

Container Dilution Factor: 1.71

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**200**	2.3	1.4	0.56	
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.1**	2.3	1.4	0.37	**J**
74-87-3	Chloromethane	**0.48**	2.3	1.4	0.37	**J**
75-01-4	Vinyl Chloride	0.73	2.3	0.73	0.24	**U**
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.38	**U**
75-00-3	Chloroethane	1.4	2.3	1.4	0.28	**U**
64-17-5	Ethanol	**420**	22	3.5	1.6	**B**
67-64-1	Acetone	12	23	12	5.1	**U**
75-69-4	Trichlorofluoromethane	**1.1**	2.3	1.4	0.35	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**910**	90	27	9.4	**D**
75-09-2	Methylene Chloride	**6.2**	2.3	1.4	0.64	
76-13-1	Trichlorotrifluoroethane	**0.51**	2.3	0.73	0.32	**J**
75-15-0	Carbon Disulfide	**2.5**	4.7	2.3	0.68	**J**
75-34-3	1,1-Dichloroethane	1.4	2.4	1.4	0.33	**U**
78-93-3	2-Butanone (MEK)	**11**	4.7	1.4	0.47	
141-78-6	Ethyl Acetate	**140**	4.7	2.8	1.2	
110-54-3	n-Hexane	**3.8**	2.3	1.4	0.47	
67-66-3	Chloroform	**330**	23	7.3	3.0	**D**
109-99-9	Tetrahydrofuran (THF)	**19**	2.4	0.73	0.29	
107-06-2	1,2-Dichloroethane	**0.27**	2.3	0.73	0.25	**J**
71-43-2	Benzene	**1.7**	2.3	0.73	0.33	**J**
56-23-5	Carbon Tetrachloride	**13**	2.3	0.73	0.32	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV126-050-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-009

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan/Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00189

Initial Pressure (psig): -3.03 Final Pressure (psig): 5.26

Container Dilution Factor: 1.71

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**5.9**	4.7	1.5	0.64	
75-27-4	Bromodichloromethane	**48**	2.3	0.73	0.33	
79-01-6	Trichloroethene	**3.2**	2.3	0.73	0.31	
123-91-1	1,4-Dioxane	0.73	2.3	0.73	0.27	**U**
142-82-5	n-Heptane	**8.6**	2.3	1.4	0.36	
108-10-1	4-Methyl-2-pentanone	**51**	2.3	0.73	0.31	
108-88-3	Toluene	**91**	2.3	0.73	0.28	
591-78-6	2-Hexanone	**1.7**	2.3	0.73	0.28	**J**
124-48-1	Dibromochloromethane	**1.0**	2.3	0.73	0.30	**J**
106-93-4	1,2-Dibromoethane	0.73	2.3	0.73	0.27	**U**
127-18-4	Tetrachloroethene	**6.8**	2.2	0.73	0.29	
100-41-4	Ethylbenzene	**11**	2.3	0.73	0.32	
179601-23-1	m,p-Xylenes	**47**	4.7	1.5	0.60	
75-25-2	Bromoform	1.4	2.3	1.4	0.47	**U**
100-42-5	Styrene	**6.3**	2.3	1.4	0.37	
95-47-6	o-Xylene	**16**	2.3	0.73	0.33	
108-67-8	1,3,5-Trimethylbenzene	**0.51**	2.3	0.73	0.33	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.96**	2.3	0.73	0.32	**J**
120-82-1	1,2,4-Trichlorobenzene	1.4	2.3	1.4	0.56	**U**
91-20-3	Naphthalene	1.3	2.2	1.3	0.56	**U**
1330-20-7	Xylenes, Total	**63**	4.7	1.5	0.60	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV126-150-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-010

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00123

Initial Pressure (psig): -4.85 Final Pressure (psig): 5.84

Container Dilution Factor: 2.09

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.8**	2.8	1.7	0.68	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.93**	2.8	1.7	0.45	**J**
74-87-3	Chloromethane	**0.52**	2.8	1.7	0.45	**J**
75-01-4	Vinyl Chloride	0.89	2.8	0.89	0.30	**U**
106-99-0	1,3-Butadiene	1.7	2.8	1.7	0.46	**U**
75-00-3	Chloroethane	1.7	2.8	1.7	0.34	**U**
64-17-5	Ethanol	**16**	27	4.3	1.9	**J, B**
67-64-1	Acetone	**8.5**	28	14	6.3	**J**
75-69-4	Trichlorofluoromethane	**1.6**	2.8	1.7	0.42	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**4.2**	11	3.3	1.1	**J**
75-09-2	Methylene Chloride	1.7	2.8	1.7	0.78	**U**
76-13-1	Trichlorotrifluoroethane	0.89	2.8	0.89	0.40	**U**
75-15-0	Carbon Disulfide	**6.7**	5.7	2.8	0.84	
75-34-3	1,1-Dichloroethane	1.7	2.9	1.7	0.41	**U**
78-93-3	2-Butanone (MEK)	**3.0**	5.7	1.7	0.57	**J**
141-78-6	Ethyl Acetate	3.4	5.7	3.4	1.5	**U**
110-54-3	n-Hexane	**0.91**	2.8	1.7	0.57	**J**
67-66-3	Chloroform	**19**	2.8	0.89	0.37	
109-99-9	Tetrahydrofuran (THF)	**96**	2.9	0.89	0.35	
107-06-2	1,2-Dichloroethane	0.89	2.8	0.89	0.31	**U**
71-43-2	Benzene	**1.3**	2.8	0.89	0.40	**J**
56-23-5	Carbon Tetrachloride	**13**	2.8	0.89	0.39	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV126-150-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-010

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00123

Initial Pressure (psig): -4.85 Final Pressure (psig): 5.84

Container Dilution Factor: 2.09

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.8	5.7	1.8	0.78	**U**
75-27-4	Bromodichloromethane	**0.90**	2.8	0.89	0.40	**J**
79-01-6	Trichloroethene	0.89	2.8	0.89	0.38	**U**
123-91-1	1,4-Dioxane	**2.2**	2.8	0.89	0.33	**J**
142-82-5	n-Heptane	**1.5**	2.8	1.7	0.44	**J**
108-10-1	4-Methyl-2-pentanone	0.89	2.8	0.89	0.38	**U**
108-88-3	Toluene	**3.2**	2.8	0.89	0.34	
591-78-6	2-Hexanone	0.89	2.8	0.89	0.34	**U**
124-48-1	Dibromochloromethane	0.89	2.8	0.89	0.37	**U**
106-93-4	1,2-Dibromoethane	0.89	2.8	0.89	0.32	**U**
127-18-4	Tetrachloroethene	**2.7**	2.7	0.89	0.36	**J**
100-41-4	Ethylbenzene	0.89	2.8	0.89	0.39	**U**
179601-23-1	m,p-Xylenes	**1.5**	5.7	1.8	0.73	**J**
75-25-2	Bromoform	1.7	2.8	1.7	0.57	**U**
100-42-5	Styrene	1.7	2.8	1.7	0.45	**U**
95-47-6	o-Xylene	**0.56**	2.8	0.89	0.40	**J**
108-67-8	1,3,5-Trimethylbenzene	0.89	2.8	0.89	0.40	**U**
95-63-6	1,2,4-Trimethylbenzene	**0.43**	2.8	0.89	0.39	**J**
120-82-1	1,2,4-Trichlorobenzene	1.7	2.8	1.7	0.68	**U**
91-20-3	Naphthalene	1.6	2.7	1.6	0.68	**U**
1330-20-7	Xylenes, Total	**2.1**	5.7	1.8	0.73	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV126-250-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-011

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00163

Initial Pressure (psig): -3.25 Final Pressure (psig): 5.56

Container Dilution Factor: 1.77

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.0**	2.3	1.4	0.58	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.43**	2.3	1.4	0.38	**J**
74-87-3	Chloromethane	**0.68**	2.3	1.4	0.38	**J**
75-01-4	Vinyl Chloride	0.75	2.4	0.75	0.25	**U**
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.39	**U**
75-00-3	Chloroethane	1.4	2.4	1.4	0.29	**U**
64-17-5	Ethanol	**3.2**	23	3.7	1.6	**J, B**
67-64-1	Acetone	**7.2**	23	12	5.3	**J**
75-69-4	Trichlorofluoromethane	**1.2**	2.3	1.4	0.36	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**2.0**	9.3	2.8	0.97	**J**
75-09-2	Methylene Chloride	1.4	2.3	1.4	0.66	**U**
76-13-1	Trichlorotrifluoroethane	0.75	2.4	0.75	0.34	**U**
75-15-0	Carbon Disulfide	**7.9**	4.9	2.4	0.71	
75-34-3	1,1-Dichloroethane	1.5	2.4	1.5	0.35	**U**
78-93-3	2-Butanone (MEK)	**2.5**	4.9	1.4	0.49	**J**
141-78-6	Ethyl Acetate	2.9	4.9	2.9	1.2	**U**
110-54-3	n-Hexane	**0.72**	2.4	1.4	0.49	**J**
67-66-3	Chloroform	**0.92**	2.4	0.75	0.31	**J**
109-99-9	Tetrahydrofuran (THF)	**83**	2.4	0.75	0.30	
107-06-2	1,2-Dichloroethane	0.75	2.4	0.75	0.26	**U**
71-43-2	Benzene	**1.3**	2.3	0.75	0.34	**J**
56-23-5	Carbon Tetrachloride	**1.7**	2.3	0.75	0.33	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV126-250-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-011

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00163

Initial Pressure (psig): -3.25 Final Pressure (psig): 5.56

Container Dilution Factor: 1.77

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.5	4.9	1.5	0.66	**U**
75-27-4	Bromodichloromethane	0.75	2.4	0.75	0.34	**U**
79-01-6	Trichloroethene	0.75	2.4	0.75	0.32	**U**
123-91-1	1,4-Dioxane	**0.59**	2.4	0.75	0.28	**J**
142-82-5	n-Heptane	**1.2**	2.4	1.4	0.38	**J**
108-10-1	4-Methyl-2-pentanone	0.75	2.3	0.75	0.32	**U**
108-88-3	Toluene	**3.3**	2.4	0.75	0.29	
591-78-6	2-Hexanone	0.75	2.4	0.75	0.29	**U**
124-48-1	Dibromochloromethane	0.75	2.4	0.75	0.31	**U**
106-93-4	1,2-Dibromoethane	0.75	2.4	0.75	0.27	**U**
127-18-4	Tetrachloroethene	0.75	2.3	0.75	0.31	**U**
100-41-4	Ethylbenzene	**0.37**	2.4	0.75	0.33	**J**
179601-23-1	m,p-Xylenes	**1.5**	4.9	1.5	0.62	**J**
75-25-2	Bromoform	1.4	2.4	1.4	0.49	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.38	**U**
95-47-6	o-Xylene	**0.50**	2.4	0.75	0.34	**J**
108-67-8	1,3,5-Trimethylbenzene	0.75	2.3	0.75	0.34	**U**
95-63-6	1,2,4-Trimethylbenzene	**0.54**	2.4	0.75	0.33	**J**
120-82-1	1,2,4-Trichlorobenzene	1.4	2.4	1.4	0.58	**U**
91-20-3	Naphthalene	1.4	2.3	1.4	0.58	**U**
1330-20-7	Xylenes, Total	**2.0**	4.9	1.5	0.62	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV126-350-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-012

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.050 Liter(s)
Test Notes:
Container ID: 1SS00194

Initial Pressure (psig): -3.64 Final Pressure (psig): 5.09

Container Dilution Factor: 1.79

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**14**	19	11	4.7	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	11	19	11	3.1	**U**
74-87-3	Chloromethane	11	19	11	3.1	**U**
75-01-4	Vinyl Chloride	6.1	19	6.1	2.0	**U**
106-99-0	1,3-Butadiene	11	19	11	3.2	**U**
75-00-3	Chloroethane	11	19	11	2.4	**U**
64-17-5	Ethanol	**17**	190	30	13	**J, B**
67-64-1	Acetone	97	190	97	43	**U**
75-69-4	Trichlorofluoromethane	11	19	11	2.9	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	**180**	75	23	7.9	
75-09-2	Methylene Chloride	11	19	11	5.4	**U**
76-13-1	Trichlorotrifluoroethane	6.1	19	6.1	2.7	**U**
75-15-0	Carbon Disulfide	19	39	19	5.7	**U**
75-34-3	1,1-Dichloroethane	12	20	12	2.8	**U**
78-93-3	2-Butanone (MEK)	11	39	11	3.9	**U**
141-78-6	Ethyl Acetate	23	39	23	10	**U**
110-54-3	n-Hexane	**11**	19	11	3.9	**J**
67-66-3	Chloroform	6.1	19	6.1	2.5	**U**
109-99-9	Tetrahydrofuran (THF)	6.1	20	6.1	2.4	**U**
107-06-2	1,2-Dichloroethane	6.1	19	6.1	2.1	**U**
71-43-2	Benzene	**7.2**	19	6.1	2.8	**J**
56-23-5	Carbon Tetrachloride	6.1	19	6.1	2.6	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV126-350-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-012

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.050 Liter(s)
Test Notes:
Container ID: 1SS00194

Initial Pressure (psig): -3.64 Final Pressure (psig): 5.09

Container Dilution Factor: 1.79

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**46**	39	12	5.4	
75-27-4	Bromodichloromethane	6.1	19	6.1	2.8	**U**
79-01-6	Trichloroethene	**3.2**	19	6.1	2.6	**J**
123-91-1	1,4-Dioxane	6.1	19	6.1	2.3	**U**
142-82-5	n-Heptane	11	19	11	3.0	**U**
108-10-1	4-Methyl-2-pentanone	6.1	19	6.1	2.6	**U**
108-88-3	Toluene	**4.2**	19	6.1	2.3	**J**
591-78-6	2-Hexanone	6.1	19	6.1	2.4	**U**
124-48-1	Dibromochloromethane	6.1	19	6.1	2.5	**U**
106-93-4	1,2-Dibromoethane	6.1	19	6.1	2.2	**U**
127-18-4	Tetrachloroethene	6.1	19	6.1	2.5	**U**
100-41-4	Ethylbenzene	6.1	19	6.1	2.7	**U**
179601-23-1	m,p-Xylenes	12	39	12	5.0	**U**
75-25-2	Bromoform	11	19	11	3.9	**U**
100-42-5	Styrene	11	19	11	3.1	**U**
95-47-6	o-Xylene	6.1	19	6.1	2.8	**U**
108-67-8	1,3,5-Trimethylbenzene	6.1	19	6.1	2.8	**U**
95-63-6	1,2,4-Trimethylbenzene	6.1	19	6.1	2.6	**U**
120-82-1	1,2,4-Trichlorobenzene	11	19	11	4.7	**U**
91-20-3	Naphthalene	11	19	11	4.7	**U**
1330-20-7	Xylenes, Total	12	39	12	5.0	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV126-450-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-013

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0015 Liter(s)
Test Notes:
Container ID: 1SC01005

Initial Pressure (psig): -2.91 Final Pressure (psig): 6.23

Container Dilution Factor: 1.78

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	380	630	380	150	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	380	630	380	100	**U**
74-87-3	Chloromethane	380	630	380	100	**U**
75-01-4	Vinyl Chloride	200	640	200	68	**U**
106-99-0	1,3-Butadiene	380	630	380	100	**U**
75-00-3	Chloroethane	380	640	380	78	**U**
64-17-5	Ethanol	980	6,200	980	440	**U**
67-64-1	Acetone	3,200	6,300	3,200	1,400	**U**
75-69-4	Trichlorofluoromethane	380	630	380	96	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	750	2,500	750	260	**U**
75-09-2	Methylene Chloride	380	630	380	180	**U**
76-13-1	Trichlorotrifluoroethane	200	640	200	90	**U**
75-15-0	Carbon Disulfide	640	1,300	640	190	**U**
75-34-3	1,1-Dichloroethane	390	650	390	93	**U**
78-93-3	2-Butanone (MEK)	380	1,300	380	130	**U**
141-78-6	Ethyl Acetate	770	1,300	770	330	**U**
110-54-3	n-Hexane	**1,900**	640	380	130	
67-66-3	Chloroform	200	640	200	84	**U**
109-99-9	Tetrahydrofuran (THF)	200	650	200	80	**U**
107-06-2	1,2-Dichloroethane	200	640	200	70	**U**
71-43-2	Benzene	200	630	200	91	**U**
56-23-5	Carbon Tetrachloride	200	630	200	88	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV126-450-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-013

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0015 Liter(s)
Test Notes:
Container ID: 1SC01005

Initial Pressure (psig): -2.91 Final Pressure (psig): 6.23

Container Dilution Factor: 1.78

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**5,700**	1,300	400	180	
75-27-4	Bromodichloromethane	200	640	200	91	**U**
79-01-6	Trichloroethene	200	640	200	85	**U**
123-91-1	1,4-Dioxane	200	640	200	75	**U**
142-82-5	n-Heptane	380	640	380	100	**U**
108-10-1	4-Methyl-2-pentanone	200	630	200	87	**U**
108-88-3	Toluene	200	640	200	77	**U**
591-78-6	2-Hexanone	200	640	200	78	**U**
124-48-1	Dibromochloromethane	200	640	200	83	**U**
106-93-4	1,2-Dibromoethane	200	640	200	74	**U**
127-18-4	Tetrachloroethene	200	620	200	82	**U**
100-41-4	Ethylbenzene	200	640	200	89	**U**
179601-23-1	m,p-Xylenes	400	1,300	400	170	**U**
75-25-2	Bromoform	380	640	380	130	**U**
100-42-5	Styrene	380	630	380	100	**U**
95-47-6	o-Xylene	200	640	200	91	**U**
108-67-8	1,3,5-Trimethylbenzene	200	630	200	91	**U**
95-63-6	1,2,4-Trimethylbenzene	200	640	200	88	**U**
120-82-1	1,2,4-Trichlorobenzene	380	640	380	150	**U**
91-20-3	Naphthalene	370	620	370	150	**U**
1330-20-7	Xylenes, Total	400	1,300	400	170	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV129-025-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-014

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00039

Initial Pressure (psig): -5.07 Final Pressure (psig): 5.13

Container Dilution Factor: 2.06

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**0.79**	2.7	1.6	0.67	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**3.2**	2.7	1.6	0.45	
74-87-3	Chloromethane	1.6	2.7	1.6	0.44	**U**
75-01-4	Vinyl Chloride	0.88	2.8	0.88	0.29	**U**
106-99-0	1,3-Butadiene	1.6	2.7	1.6	0.45	**U**
75-00-3	Chloroethane	1.6	2.8	1.6	0.34	**U**
64-17-5	Ethanol	**9.0**	27	4.3	1.9	**J, B**
67-64-1	Acetone	**6.3**	27	14	6.2	**J**
75-69-4	Trichlorofluoromethane	**1.1**	2.7	1.6	0.42	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.7**	11	3.2	1.1	**J**
75-09-2	Methylene Chloride	1.6	2.7	1.6	0.77	**U**
76-13-1	Trichlorotrifluoroethane	**2.0**	2.8	0.88	0.39	**J**
75-15-0	Carbon Disulfide	**3.5**	5.7	2.8	0.82	**J**
75-34-3	1,1-Dichloroethane	1.7	2.8	1.7	0.40	**U**
78-93-3	2-Butanone (MEK)	**0.68**	5.7	1.6	0.57	**J**
141-78-6	Ethyl Acetate	3.3	5.7	3.3	1.4	**U**
110-54-3	n-Hexane	**1.1**	2.8	1.6	0.57	**J**
67-66-3	Chloroform	**0.58**	2.8	0.88	0.37	**J**
109-99-9	Tetrahydrofuran (THF)	**2.9**	2.8	0.88	0.35	
107-06-2	1,2-Dichloroethane	0.88	2.8	0.88	0.30	**U**
71-43-2	Benzene	**1.5**	2.7	0.88	0.40	**J**
56-23-5	Carbon Tetrachloride	**1.9**	2.7	0.88	0.38	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
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B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV129-025-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-014

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00039

Initial Pressure (psig): -5.07 Final Pressure (psig): 5.13

Container Dilution Factor: 2.06

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.8	5.7	1.8	0.77	**U**
75-27-4	Bromodichloromethane	0.88	2.8	0.88	0.40	**U**
79-01-6	Trichloroethene	0.88	2.8	0.88	0.37	**U**
123-91-1	1,4-Dioxane	0.88	2.8	0.88	0.32	**U**
142-82-5	n-Heptane	**2.0**	2.8	1.6	0.44	**J**
108-10-1	4-Methyl-2-pentanone	0.88	2.7	0.88	0.38	**U**
108-88-3	Toluene	**5.1**	2.8	0.88	0.33	
591-78-6	2-Hexanone	0.88	2.8	0.88	0.34	**U**
124-48-1	Dibromochloromethane	0.88	2.8	0.88	0.36	**U**
106-93-4	1,2-Dibromoethane	0.88	2.8	0.88	0.32	**U**
127-18-4	Tetrachloroethene	**0.70**	2.7	0.88	0.36	**J**
100-41-4	Ethylbenzene	**3.3**	2.8	0.88	0.39	
179601-23-1	m,p-Xylenes	**2.5**	5.7	1.8	0.72	**J**
75-25-2	Bromoform	1.6	2.8	1.6	0.57	**U**
100-42-5	Styrene	1.6	2.7	1.6	0.44	**U**
95-47-6	o-Xylene	**0.78**	2.8	0.88	0.40	**J**
108-67-8	1,3,5-Trimethylbenzene	0.88	2.7	0.88	0.40	**U**
95-63-6	1,2,4-Trimethylbenzene	**0.51**	2.8	0.88	0.38	**J**
120-82-1	1,2,4-Trichlorobenzene	1.6	2.8	1.6	0.67	**U**
91-20-3	Naphthalene	**1.7**	2.7	1.6	0.67	**J**
1330-20-7	Xylenes, Total	**3.3**	5.7	1.8	0.72	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV129-050-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-015

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00232

Initial Pressure (psig): -3.61 Final Pressure (psig): 5.99

Container Dilution Factor: 1.87

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.1**	2.5	1.5	0.61	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**3.4**	2.5	1.5	0.41	
74-87-3	Chloromethane	1.5	2.5	1.5	0.40	**U**
75-01-4	Vinyl Chloride	0.79	2.5	0.79	0.27	**U**
106-99-0	1,3-Butadiene	1.5	2.5	1.5	0.41	**U**
75-00-3	Chloroethane	1.5	2.5	1.5	0.31	**U**
64-17-5	Ethanol	**5.1**	24	3.9	1.7	**J, B**
67-64-1	Acetone	**7.0**	25	13	5.6	**J**
75-69-4	Trichlorofluoromethane	**1.0**	2.5	1.5	0.38	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**2.6**	9.8	2.9	1.0	**J**
75-09-2	Methylene Chloride	1.5	2.5	1.5	0.70	**U**
76-13-1	Trichlorotrifluoroethane	**2.4**	2.5	0.79	0.36	**J**
75-15-0	Carbon Disulfide	**1.3**	5.1	2.5	0.75	**J**
75-34-3	1,1-Dichloroethane	1.5	2.6	1.5	0.36	**U**
78-93-3	2-Butanone (MEK)	**1.1**	5.1	1.5	0.51	**J**
141-78-6	Ethyl Acetate	3.0	5.1	3.0	1.3	**U**
110-54-3	n-Hexane	**1.4**	2.5	1.5	0.51	**J**
67-66-3	Chloroform	**0.86**	2.5	0.79	0.33	**J**
109-99-9	Tetrahydrofuran (THF)	**6.4**	2.6	0.79	0.31	
107-06-2	1,2-Dichloroethane	0.79	2.5	0.79	0.28	**U**
71-43-2	Benzene	**1.7**	2.5	0.79	0.36	**J**
56-23-5	Carbon Tetrachloride	**2.4**	2.5	0.79	0.35	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV129-050-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-015

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00232

Initial Pressure (psig): -3.61 Final Pressure (psig): 5.99

Container Dilution Factor: 1.87

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.6	5.1	1.6	0.70	**U**
75-27-4	Bromodichloromethane	0.79	2.5	0.79	0.36	**U**
79-01-6	Trichloroethene	0.79	2.5	0.79	0.34	**U**
123-91-1	1,4-Dioxane	**0.30**	2.5	0.79	0.29	**J**
142-82-5	n-Heptane	**2.5**	2.5	1.5	0.40	
108-10-1	4-Methyl-2-pentanone	0.79	2.5	0.79	0.34	**U**
108-88-3	Toluene	**6.3**	2.5	0.79	0.30	
591-78-6	2-Hexanone	0.79	2.5	0.79	0.31	**U**
124-48-1	Dibromochloromethane	0.79	2.5	0.79	0.33	**U**
106-93-4	1,2-Dibromoethane	0.79	2.5	0.79	0.29	**U**
127-18-4	Tetrachloroethene	**0.75**	2.4	0.79	0.32	**J**
100-41-4	Ethylbenzene	**0.60**	2.5	0.79	0.35	**J**
179601-23-1	m,p-Xylenes	**3.3**	5.1	1.6	0.65	**J**
75-25-2	Bromoform	1.5	2.5	1.5	0.51	**U**
100-42-5	Styrene	1.5	2.5	1.5	0.40	**U**
95-47-6	o-Xylene	**1.1**	2.5	0.79	0.36	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.41**	2.5	0.79	0.36	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.93**	2.5	0.79	0.35	**J**
120-82-1	1,2,4-Trichlorobenzene	1.5	2.5	1.5	0.61	**U**
91-20-3	Naphthalene	1.4	2.4	1.4	0.61	**U**
1330-20-7	Xylenes, Total	**4.4**	5.1	1.6	0.65	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV129-150-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-016

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01003

Initial Pressure (psig): -3.48 Final Pressure (psig): 5.62

Container Dilution Factor: 1.81

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.9**	2.4	1.4	0.59	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**3.4**	2.4	1.4	0.39	
74-87-3	Chloromethane	1.4	2.4	1.4	0.39	**U**
75-01-4	Vinyl Chloride	0.77	2.4	0.77	0.26	**U**
106-99-0	1,3-Butadiene	1.4	2.4	1.4	0.40	**U**
75-00-3	Chloroethane	1.4	2.4	1.4	0.30	**U**
64-17-5	Ethanol	**7.7**	24	3.8	1.7	**J, B**
67-64-1	Acetone	**31**	24	12	5.4	
75-69-4	Trichlorofluoromethane	**1.0**	2.4	1.4	0.37	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**2.9**	9.5	2.9	1.0	**J**
75-09-2	Methylene Chloride	1.4	2.4	1.4	0.68	**U**
76-13-1	Trichlorotrifluoroethane	**4.0**	2.4	0.77	0.34	
75-15-0	Carbon Disulfide	**30**	5.0	2.4	0.72	
75-34-3	1,1-Dichloroethane	1.5	2.5	1.5	0.35	**U**
78-93-3	2-Butanone (MEK)	**4.8**	5.0	1.4	0.50	**J**
141-78-6	Ethyl Acetate	**3.0**	5.0	2.9	1.3	**J**
110-54-3	n-Hexane	**1.1**	2.4	1.4	0.50	**J**
67-66-3	Chloroform	**1.1**	2.4	0.77	0.32	**J**
109-99-9	Tetrahydrofuran (THF)	**2.9**	2.5	0.77	0.30	
107-06-2	1,2-Dichloroethane	0.77	2.4	0.77	0.27	**U**
71-43-2	Benzene	**17**	2.4	0.77	0.35	
56-23-5	Carbon Tetrachloride	**3.7**	2.4	0.77	0.33	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV129-150-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-016

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01003

Initial Pressure (psig): -3.48 Final Pressure (psig): 5.62

Container Dilution Factor: 1.81

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.5	5.0	1.5	0.68	**U**
75-27-4	Bromodichloromethane	0.77	2.4	0.77	0.35	**U**
79-01-6	Trichloroethene	**2.1**	2.4	0.77	0.33	**J**
123-91-1	1,4-Dioxane	**0.43**	2.4	0.77	0.29	**J**
142-82-5	n-Heptane	**1.9**	2.4	1.4	0.38	**J**
108-10-1	4-Methyl-2-pentanone	**1.1**	2.4	0.77	0.33	**J**
108-88-3	Toluene	**73**	2.4	0.77	0.29	
591-78-6	2-Hexanone	0.77	2.4	0.77	0.30	**U**
124-48-1	Dibromochloromethane	0.77	2.4	0.77	0.32	**U**
106-93-4	1,2-Dibromoethane	0.77	2.4	0.77	0.28	**U**
127-18-4	Tetrachloroethene	**1.6**	2.4	0.77	0.31	**J**
100-41-4	Ethylbenzene	**2.9**	2.4	0.77	0.34	
179601-23-1	m,p-Xylenes	**13**	5.0	1.5	0.63	
75-25-2	Bromoform	1.4	2.4	1.4	0.50	**U**
100-42-5	Styrene	1.4	2.4	1.4	0.39	**U**
95-47-6	o-Xylene	**4.0**	2.4	0.77	0.35	
108-67-8	1,3,5-Trimethylbenzene	**0.49**	2.4	0.77	0.35	**J**
95-63-6	1,2,4-Trimethylbenzene	**1.1**	2.4	0.77	0.33	**J**
120-82-1	1,2,4-Trichlorobenzene	1.4	2.4	1.4	0.59	**U**
91-20-3	Naphthalene	1.4	2.4	1.4	0.59	**U**
1330-20-7	Xylenes, Total	**17**	5.0	1.5	0.63	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV129-250-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-017

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00805

Initial Pressure (psig): -3.89 Final Pressure (psig): 5.71

Container Dilution Factor: 1.89

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	1.5	2.5	1.5	0.61	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**3.2**	2.5	1.5	0.41	
74-87-3	Chloromethane	1.5	2.5	1.5	0.41	**U**
75-01-4	Vinyl Chloride	0.80	2.6	0.80	0.27	**U**
106-99-0	1,3-Butadiene	1.5	2.5	1.5	0.42	**U**
75-00-3	Chloroethane	1.5	2.6	1.5	0.31	**U**
64-17-5	Ethanol	**8.4**	25	3.9	1.7	**J, B**
67-64-1	Acetone	**5.7**	25	13	5.7	**J**
75-69-4	Trichlorofluoromethane	**0.67**	2.5	1.5	0.38	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	3.0	9.9	3.0	1.0	**U**
75-09-2	Methylene Chloride	1.5	2.5	1.5	0.71	**U**
76-13-1	Trichlorotrifluoroethane	**4.1**	2.6	0.80	0.36	
75-15-0	Carbon Disulfide	**50**	5.2	2.6	0.76	
75-34-3	1,1-Dichloroethane	1.6	2.6	1.6	0.37	**U**
78-93-3	2-Butanone (MEK)	**0.95**	5.2	1.5	0.52	**J**
141-78-6	Ethyl Acetate	3.1	5.2	3.1	1.3	**U**
110-54-3	n-Hexane	**1.1**	2.6	1.5	0.52	**J**
67-66-3	Chloroform	**0.69**	2.6	0.80	0.34	**J**
109-99-9	Tetrahydrofuran (THF)	**0.69**	2.6	0.80	0.32	**J**
107-06-2	1,2-Dichloroethane	0.80	2.6	0.80	0.28	**U**
71-43-2	Benzene	**2.6**	2.5	0.80	0.36	
56-23-5	Carbon Tetrachloride	**2.5**	2.5	0.80	0.35	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV129-250-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-017

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00805

Initial Pressure (psig): -3.89 Final Pressure (psig): 5.71

Container Dilution Factor: 1.89

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.6	5.2	1.6	0.71	**U**
75-27-4	Bromodichloromethane	0.80	2.6	0.80	0.36	**U**
79-01-6	Trichloroethene	**9.8**	2.6	0.80	0.34	
123-91-1	1,4-Dioxane	0.80	2.6	0.80	0.30	**U**
142-82-5	n-Heptane	**1.8**	2.6	1.5	0.40	**J**
108-10-1	4-Methyl-2-pentanone	0.80	2.5	0.80	0.34	**U**
108-88-3	Toluene	**3.9**	2.6	0.80	0.31	
591-78-6	2-Hexanone	0.80	2.6	0.80	0.31	**U**
124-48-1	Dibromochloromethane	0.80	2.6	0.80	0.33	**U**
106-93-4	1,2-Dibromoethane	0.80	2.6	0.80	0.29	**U**
127-18-4	Tetrachloroethene	**2.3**	2.5	0.80	0.33	**J**
100-41-4	Ethylbenzene	**0.42**	2.6	0.80	0.35	**J**
179601-23-1	m,p-Xylenes	**1.7**	5.2	1.6	0.66	**J**
75-25-2	Bromoform	1.5	2.6	1.5	0.52	**U**
100-42-5	Styrene	1.5	2.5	1.5	0.41	**U**
95-47-6	o-Xylene	**0.50**	2.6	0.80	0.36	**J**
108-67-8	1,3,5-Trimethylbenzene	0.80	2.5	0.80	0.36	**U**
95-63-6	1,2,4-Trimethylbenzene	0.80	2.6	0.80	0.35	**U**
120-82-1	1,2,4-Trichlorobenzene	1.5	2.6	1.5	0.61	**U**
91-20-3	Naphthalene	1.5	2.5	1.5	0.61	**U**
1330-20-7	Xylenes, Total	**2.1**	5.2	1.6	0.66	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV129-350-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-018

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01033

Initial Pressure (psig): -4.25 Final Pressure (psig): 8.09

Container Dilution Factor: 2.18

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.3**	2.9	1.7	0.71	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**4.3**	2.9	1.7	0.47	
74-87-3	Chloromethane	1.7	2.9	1.7	0.47	**U**
75-01-4	Vinyl Chloride	0.93	2.9	0.93	0.31	**U**
106-99-0	1,3-Butadiene	1.7	2.9	1.7	0.48	**U**
75-00-3	Chloroethane	1.7	2.9	1.7	0.36	**U**
64-17-5	Ethanol	**3.6**	28	4.5	2.0	**J, B**
67-64-1	Acetone	15	29	15	6.5	**U**
75-69-4	Trichlorofluoromethane	**0.58**	2.9	1.7	0.44	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	3.4	11	3.4	1.2	**U**
75-09-2	Methylene Chloride	1.7	2.9	1.7	0.82	**U**
76-13-1	Trichlorotrifluoroethane	**2.3**	2.9	0.93	0.41	**J**
75-15-0	Carbon Disulfide	**11**	6.0	2.9	0.87	
75-34-3	1,1-Dichloroethane	1.8	3.0	1.8	0.43	**U**
78-93-3	2-Butanone (MEK)	1.7	6.0	1.7	0.60	**U**
141-78-6	Ethyl Acetate	3.5	6.0	3.5	1.5	**U**
110-54-3	n-Hexane	**0.94**	2.9	1.7	0.60	**J**
67-66-3	Chloroform	**0.51**	2.9	0.93	0.39	**J**
109-99-9	Tetrahydrofuran (THF)	**1.5**	3.0	0.93	0.37	**J**
107-06-2	1,2-Dichloroethane	0.93	2.9	0.93	0.32	**U**
71-43-2	Benzene	**1.4**	2.9	0.93	0.42	**J**
56-23-5	Carbon Tetrachloride	**1.4**	2.9	0.93	0.40	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV129-350-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-018

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01033

Initial Pressure (psig): -4.25 Final Pressure (psig): 8.09

Container Dilution Factor: 2.18

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.9	6.0	1.9	0.82	**U**
75-27-4	Bromodichloromethane	0.93	2.9	0.93	0.42	**U**
79-01-6	Trichloroethene	**9.4**	2.9	0.93	0.39	
123-91-1	1,4-Dioxane	0.93	2.9	0.93	0.34	**U**
142-82-5	n-Heptane	**1.5**	2.9	1.7	0.46	**J**
108-10-1	4-Methyl-2-pentanone	0.93	2.9	0.93	0.40	**U**
108-88-3	Toluene	**4.4**	2.9	0.93	0.35	
591-78-6	2-Hexanone	0.93	2.9	0.93	0.36	**U**
124-48-1	Dibromochloromethane	0.93	2.9	0.93	0.38	**U**
106-93-4	1,2-Dibromoethane	0.93	2.9	0.93	0.34	**U**
127-18-4	Tetrachloroethene	**1.5**	2.8	0.93	0.38	**J**
100-41-4	Ethylbenzene	0.93	2.9	0.93	0.41	**U**
179601-23-1	m,p-Xylenes	**1.5**	6.0	1.9	0.76	**J**
75-25-2	Bromoform	1.7	2.9	1.7	0.60	**U**
100-42-5	Styrene	1.7	2.9	1.7	0.47	**U**
95-47-6	o-Xylene	**0.50**	2.9	0.93	0.42	**J**
108-67-8	1,3,5-Trimethylbenzene	0.93	2.9	0.93	0.42	**U**
95-63-6	1,2,4-Trimethylbenzene	0.93	2.9	0.93	0.40	**U**
120-82-1	1,2,4-Trichlorobenzene	1.7	2.9	1.7	0.71	**U**
91-20-3	Naphthalene	1.7	2.8	1.7	0.71	**U**
1330-20-7	Xylenes, Total	**2.0**	6.0	1.9	0.76	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV129-450-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-019

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0060 Liter(s)
Test Notes:
Container ID: 1SC00950

Initial Pressure (psig): -2.98 Final Pressure (psig): 5.95

Container Dilution Factor: 1.76

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**140**	160	94	38	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	94	160	94	26	**U**
74-87-3	Chloromethane	**40**	160	94	25	**J**
75-01-4	Vinyl Chloride	50	160	50	17	**U**
106-99-0	1,3-Butadiene	94	160	94	26	**U**
75-00-3	Chloroethane	94	160	94	19	**U**
64-17-5	Ethanol	240	1,500	240	110	**U**
67-64-1	Acetone	790	1,600	790	350	**U**
75-69-4	Trichlorofluoromethane	94	160	94	24	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	**170**	620	180	65	**J**
75-09-2	Methylene Chloride	94	160	94	44	**U**
76-13-1	Trichlorotrifluoroethane	50	160	50	22	**U**
75-15-0	Carbon Disulfide	**200**	320	160	47	**J**
75-34-3	1,1-Dichloroethane	97	160	97	23	**U**
78-93-3	2-Butanone (MEK)	**120**	320	94	32	**J**
141-78-6	Ethyl Acetate	190	320	190	82	**U**
110-54-3	n-Hexane	**420**	160	94	32	
67-66-3	Chloroform	50	160	50	21	**U**
109-99-9	Tetrahydrofuran (THF)	**61**	160	50	20	**J**
107-06-2	1,2-Dichloroethane	50	160	50	17	**U**
71-43-2	Benzene	**2,300**	160	50	23	
56-23-5	Carbon Tetrachloride	50	160	50	22	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV129-450-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-019

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0060 Liter(s)
Test Notes:
Container ID: 1SC00950

Initial Pressure (psig): -2.98 Final Pressure (psig): 5.95

Container Dilution Factor: 1.76

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**640**	320	100	44	
75-27-4	Bromodichloromethane	50	160	50	23	**U**
79-01-6	Trichloroethene	50	160	50	21	**U**
123-91-1	1,4-Dioxane	50	160	50	18	**U**
142-82-5	n-Heptane	**470**	160	94	25	
108-10-1	4-Methyl-2-pentanone	50	160	50	21	**U**
108-88-3	Toluene	**3,400**	160	50	19	
591-78-6	2-Hexanone	50	160	50	19	**U**
124-48-1	Dibromochloromethane	50	160	50	21	**U**
106-93-4	1,2-Dibromoethane	**22**	160	50	18	**J**
127-18-4	Tetrachloroethene	50	150	50	20	**U**
100-41-4	Ethylbenzene	**130**	160	50	22	**J**
179601-23-1	m,p-Xylenes	**390**	320	100	41	
75-25-2	Bromoform	94	160	94	32	**U**
100-42-5	Styrene	94	160	94	25	**U**
95-47-6	o-Xylene	**320**	160	50	23	
108-67-8	1,3,5-Trimethylbenzene	**200**	160	50	23	
95-63-6	1,2,4-Trimethylbenzene	**33**	160	50	22	**J**
120-82-1	1,2,4-Trichlorobenzene	94	160	94	38	**U**
91-20-3	Naphthalene	91	150	91	38	**U**
1330-20-7	Xylenes, Total	**700**	320	100	41	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV130-025-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-020

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00165

Initial Pressure (psig): -4.09 Final Pressure (psig): 5.39

Container Dilution Factor: 1.89

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**0.63**	2.5	1.5	0.61	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**4.3**	2.5	1.5	0.41	
74-87-3	Chloromethane	1.5	2.5	1.5	0.41	**U**
75-01-4	Vinyl Chloride	0.80	2.6	0.80	0.27	**U**
106-99-0	1,3-Butadiene	1.5	2.5	1.5	0.42	**U**
75-00-3	Chloroethane	1.5	2.6	1.5	0.31	**U**
64-17-5	Ethanol	**5.0**	25	3.9	1.7	**J, B**
67-64-1	Acetone	**6.1**	25	13	5.7	**J**
75-69-4	Trichlorofluoromethane	**1.2**	2.5	1.5	0.38	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**2.0**	9.9	3.0	1.0	**J**
75-09-2	Methylene Chloride	1.5	2.5	1.5	0.71	**U**
76-13-1	Trichlorotrifluoroethane	**5.3**	2.6	0.80	0.36	
75-15-0	Carbon Disulfide	**21**	5.2	2.6	0.76	
75-34-3	1,1-Dichloroethane	1.6	2.6	1.6	0.37	**U**
78-93-3	2-Butanone (MEK)	**1.1**	5.2	1.5	0.52	**J**
141-78-6	Ethyl Acetate	3.1	5.2	3.1	1.3	**U**
110-54-3	n-Hexane	**0.60**	2.6	1.5	0.52	**J**
67-66-3	Chloroform	**0.93**	2.6	0.80	0.34	**J**
109-99-9	Tetrahydrofuran (THF)	0.80	2.6	0.80	0.32	**U**
107-06-2	1,2-Dichloroethane	0.80	2.6	0.80	0.28	**U**
71-43-2	Benzene	**0.82**	2.5	0.80	0.36	**J**
56-23-5	Carbon Tetrachloride	**1.1**	2.5	0.80	0.35	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV130-025-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-020

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Wida Ang Date Analyzed: 5/12/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00165

Initial Pressure (psig): -4.09 Final Pressure (psig): 5.39

Container Dilution Factor: 1.89

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**1.4**	5.2	1.6	0.71	**J**
75-27-4	Bromodichloromethane	0.80	2.6	0.80	0.36	**U**
79-01-6	Trichloroethene	**4.9**	2.6	0.80	0.34	
123-91-1	1,4-Dioxane	0.80	2.6	0.80	0.30	**U**
142-82-5	n-Heptane	**1.0**	2.6	1.5	0.40	**J**
108-10-1	4-Methyl-2-pentanone	**0.52**	2.5	0.80	0.34	**J**
108-88-3	Toluene	**2.1**	2.6	0.80	0.31	**J**
591-78-6	2-Hexanone	0.80	2.6	0.80	0.31	**U**
124-48-1	Dibromochloromethane	0.80	2.6	0.80	0.33	**U**
106-93-4	1,2-Dibromoethane	0.80	2.6	0.80	0.29	**U**
127-18-4	Tetrachloroethene	**2.8**	2.5	0.80	0.33	
100-41-4	Ethylbenzene	0.80	2.6	0.80	0.35	**U**
179601-23-1	m,p-Xylenes	**1.7**	5.2	1.6	0.66	**J**
75-25-2	Bromoform	1.5	2.6	1.5	0.52	**U**
100-42-5	Styrene	1.5	2.5	1.5	0.41	**U**
95-47-6	o-Xylene	**1.8**	2.6	0.80	0.36	**J**
108-67-8	1,3,5-Trimethylbenzene	**1.2**	2.5	0.80	0.36	**J**
95-63-6	1,2,4-Trimethylbenzene	**1.0**	2.6	0.80	0.35	**J**
120-82-1	1,2,4-Trichlorobenzene	1.5	2.6	1.5	0.61	**U**
91-20-3	Naphthalene	1.5	2.5	1.5	0.61	**U**
1330-20-7	Xylenes, Total	**3.6**	5.2	1.6	0.66	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200512-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	0.32	0.53	0.32	0.13	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.32	0.53	0.32	0.087	**U**
74-87-3	Chloromethane	0.32	0.53	0.32	0.086	**U**
75-01-4	Vinyl Chloride	0.17	0.54	0.17	0.057	**U**
106-99-0	1,3-Butadiene	0.32	0.53	0.32	0.088	**U**
75-00-3	Chloroethane	0.32	0.54	0.32	0.066	**U**
64-17-5	Ethanol	**0.42**	5.2	0.83	0.37	**J**
67-64-1	Acetone	2.7	5.3	2.7	1.2	**U**
75-69-4	Trichlorofluoromethane	0.32	0.53	0.32	0.081	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.63	2.1	0.63	0.22	**U**
75-09-2	Methylene Chloride	0.32	0.53	0.32	0.15	**U**
76-13-1	Trichlorotrifluoroethane	0.17	0.54	0.17	0.076	**U**
75-15-0	Carbon Disulfide	0.54	1.1	0.54	0.16	**U**
75-34-3	1,1-Dichloroethane	0.33	0.55	0.33	0.078	**U**
78-93-3	2-Butanone (MEK)	0.32	1.1	0.32	0.11	**U**
141-78-6	Ethyl Acetate	0.65	1.1	0.65	0.28	**U**
110-54-3	n-Hexane	0.32	0.54	0.32	0.11	**U**
67-66-3	Chloroform	0.17	0.54	0.17	0.071	**U**
109-99-9	Tetrahydrofuran (THF)	0.17	0.55	0.17	0.067	**U**
107-06-2	1,2-Dichloroethane	0.17	0.54	0.17	0.059	**U**
71-43-2	Benzene	0.17	0.53	0.17	0.077	**U**
56-23-5	Carbon Tetrachloride	0.17	0.53	0.17	0.074	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200512-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	0.34	1.1	0.34	0.15	U
75-27-4	Bromodichloromethane	0.17	0.54	0.17	0.077	U
79-01-6	Trichloroethene	0.17	0.54	0.17	0.072	U
123-91-1	1,4-Dioxane	0.17	0.54	0.17	0.063	U
142-82-5	n-Heptane	0.32	0.54	0.32	0.085	U
108-10-1	4-Methyl-2-pentanone	0.17	0.53	0.17	0.073	U
108-88-3	Toluene	0.17	0.54	0.17	0.065	U
591-78-6	2-Hexanone	0.17	0.54	0.17	0.066	U
124-48-1	Dibromochloromethane	0.17	0.54	0.17	0.070	U
106-93-4	1,2-Dibromoethane	0.17	0.54	0.17	0.062	U
127-18-4	Tetrachloroethene	0.17	0.52	0.17	0.069	U
100-41-4	Ethylbenzene	0.17	0.54	0.17	0.075	U
179601-23-1	m,p-Xylenes	0.34	1.1	0.34	0.14	U
75-25-2	Bromoform	0.32	0.54	0.32	0.11	U
100-42-5	Styrene	0.32	0.53	0.32	0.086	U
95-47-6	o-Xylene	0.17	0.54	0.17	0.077	U
108-67-8	1,3,5-Trimethylbenzene	0.17	0.53	0.17	0.077	U
95-63-6	1,2,4-Trimethylbenzene	0.17	0.54	0.17	0.074	U
120-82-1	1,2,4-Trichlorobenzene	0.32	0.54	0.32	0.13	U
91-20-3	Naphthalene	0.31	0.52	0.31	0.13	U
1330-20-7	Xylenes, Total	0.34	1.1	0.34	0.14	U

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Project ID: P2002300

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date(s) Collected: 4/21 - 4/22/20
Analyst: Lusine Hakobyan Date(s) Received: 4/28/20
Sampling Media: 1.0 L Summa Canister(s) / 1.0 L Silonite Summa Canister(s) Date(s) Analyzed: 5/12/20
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P200512-MB	**93**	**101**	**106**	70-130	
Lab Control Sample	P200512-LCS	**93**	**100**	**106**	70-130	
Duplicate Lab Control Sample	P200512-DLCS	**94**	**101**	**107**	70-130	
SV118-450-202	P2002300-001	**94**	**101**	**102**	70-130	
SV118-450-202	P2002300-001DUP	**94**	**100**	**102**	70-130	
SV119-025-202	P2002300-002	**93**	**101**	**105**	70-130	
SV119-050-202	P2002300-003	**93**	**100**	**105**	70-130	
SV119-150-202	P2002300-004	**94**	**101**	**107**	70-130	
SV119-250-202	P2002300-005	**93**	**100**	**106**	70-130	
SV119-350-202	P2002300-006	**94**	**100**	**105**	70-130	
SV119-450-202	P2002300-007	**93**	**100**	**106**	70-130	
SV126-025-202	P2002300-008	**93**	**101**	**106**	70-130	
SV126-050-202	P2002300-009	**93**	**99**	**106**	70-130	
SV126-150-202	P2002300-010	**94**	**101**	**107**	70-130	
SV126-250-202	P2002300-011	**95**	**100**	**106**	70-130	
SV126-350-202	P2002300-012	**95**	**100**	**105**	70-130	
SV126-450-202	P2002300-013	**94**	**102**	**106**	70-130	
SV129-025-202	P2002300-014	**94**	**100**	**107**	70-130	
SV129-050-202	P2002300-015	**93**	**99**	**106**	70-130	
SV129-150-202	P2002300-016	**93**	**99**	**108**	70-130	
SV129-250-202	P2002300-017	**94**	**100**	**107**	70-130	
SV129-350-202	P2002300-018	**95**	**101**	**106**	70-130	
SV129-450-202	P2002300-019	**93**	**102**	**106**	70-130	
SV130-025-202	P2002300-020	**94**	**99**	**107**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200512-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	210	198	204	**94**	**97**	57-136	3	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	183	186	**87**	**89**	59-128	2	25	
74-87-3	Chloromethane	212	175	183	**83**	**86**	59-132	4	25	
75-01-4	Vinyl Chloride	212	178	183	**84**	**86**	64-127	2	25	
106-99-0	1,3-Butadiene	212	182	188	**86**	**89**	66-134	3	25	
75-00-3	Chloroethane	214	181	184	**85**	**86**	63-127	1	25	
64-17-5	Ethanol	1,060	893	935	**84**	**88**	59-125	5	25	
67-64-1	Acetone	1,070	942	975	**88**	**91**	58-128	3	25	
75-69-4	Trichlorofluoromethane	212	181	185	**85**	**87**	62-126	2	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	422	380	393	**90**	**93**	52-125	3	25	
75-09-2	Methylene Chloride	210	179	183	**85**	**87**	62-115	2	25	
76-13-1	Trichlorotrifluoroethane	216	197	201	**91**	**93**	66-126	2	25	
75-15-0	Carbon Disulfide	212	183	187	**86**	**88**	57-134	2	25	
75-34-3	1,1-Dichloroethane	212	180	185	**85**	**87**	68-126	2	25	
78-93-3	2-Butanone (MEK)	212	184	192	**87**	**91**	67-130	4	25	
141-78-6	Ethyl Acetate	432	417	427	**97**	**99**	65-128	2	25	
110-54-3	n-Hexane	216	199	205	**92**	**95**	63-120	3	25	
67-66-3	Chloroform	214	186	190	**87**	**89**	68-123	2	25	
109-99-9	Tetrahydrofuran (THF)	220	185	190	**84**	**86**	64-123	2	25	
107-06-2	1,2-Dichloroethane	214	179	184	**84**	**86**	65-128	2	25	
71-43-2	Benzene	210	187	189	**89**	**90**	69-119	1	25	
56-23-5	Carbon Tetrachloride	208	189	189	**91**	**91**	68-132	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200512-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	422	394	399	**93**	**95**	70-117	2	25	
75-27-4	Bromodichloromethane	218	195	199	**89**	**91**	72-128	2	25	
79-01-6	Trichloroethene	216	197	199	**91**	**92**	71-123	1	25	
123-91-1	1,4-Dioxane	216	199	201	**92**	**93**	71-122	1	25	
142-82-5	n-Heptane	214	190	194	**89**	**91**	69-123	2	25	
108-10-1	4-Methyl-2-pentanone	212	203	206	**96**	**97**	67-130	1	25	
108-88-3	Toluene	212	198	204	**93**	**96**	66-119	3	25	
591-78-6	2-Hexanone	216	219	225	**101**	**104**	62-128	3	25	
124-48-1	Dibromochloromethane	214	215	217	**100**	**101**	70-130	1	25	
106-93-4	1,2-Dibromoethane	214	208	211	**97**	**99**	74-122	2	25	
127-18-4	Tetrachloroethene	208	206	209	**99**	**100**	66-124	1	25	
100-41-4	Ethylbenzene	212	211	214	**100**	**101**	70-124	1	25	
179601-23-1	m,p-Xylenes	426	430	448	**101**	**105**	61-134	4	25	
75-25-2	Bromoform	214	214	219	**100**	**102**	66-139	2	25	
100-42-5	Styrene	212	220	226	**104**	**107**	73-127	3	25	
95-47-6	o-Xylene	214	210	215	**98**	**100**	67-125	2	25	
108-67-8	1,3,5-Trimethylbenzene	212	220	225	**104**	**106**	67-130	2	25	
95-63-6	1,2,4-Trimethylbenzene	212	238	241	**112**	**114**	66-132	2	25	
120-82-1	1,2,4-Trichlorobenzene	216	232	235	**107**	**109**	55-142	2	25	
91-20-3	Naphthalene	212	241	244	**114**	**115**	57-138	0.9	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV118-450-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-001DUP

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SC00733

Initial Pressure (psig): -2.90 Final Pressure (psig): 5.80

Container Dilution Factor: 1.74

Compound	Sample Result µg/m³	Duplicate Sample Result µg/m³	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Propene	13	13	13	**0**	25	**J**
Dichlorodifluoromethane (CFC 12)	ND	ND	-	-	25	
Chloromethane	39	39	39	**0**	25	**J**
Vinyl Chloride	7.9	7.7	7.8	**3**	25	**J**
1,3-Butadiene	ND	ND	-	-	25	
Chloroethane	6.9	6.5	6.7	**6**	25	**J**
Ethanol	ND	ND	-	-	25	
Acetone	ND	ND	-	-	25	
Trichlorofluoromethane	ND	ND	-	-	25	
2-Propanol (Isopropyl Alcohol)	ND	ND	-	-	25	
Methylene Chloride	ND	ND	-	-	25	
Trichlorotrifluoroethane	13	13	13	**0**	25	**J**
Carbon Disulfide	250	250	250	**0**	25	
1,1-Dichloroethane	ND	ND	-	-	25	
2-Butanone (MEK)	ND	ND	-	-	25	
Ethyl Acetate	ND	ND	-	-	25	
n-Hexane	330	320	325	**3**	25	
Chloroform	8.6	8.4	8.5	**2**	25	**J**
Tetrahydrofuran (THF)	70	70	70	**0**	25	
1,2-Dichloroethane	ND	ND	-	-	25	
Benzene	110	110	110	**0**	25	
Carbon Tetrachloride	66	65	65.5	**2**	25	

ND = Compound was analyzed for, but not detected.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV118-450-202** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002300-001DUP

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SC00733

Initial Pressure (psig): -2.90 Final Pressure (psig): 5.80

Container Dilution Factor: 1.74

Compound	Sample Result µg/m³	Duplicate Sample Result µg/m³	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Cyclohexane	6,800	6,600	6700	**3**	25	
Bromodichloromethane	ND	ND	-	-	25	
Trichloroethene	ND	ND	-	-	25	
1,4-Dioxane	ND	ND	-	-	25	
n-Heptane	ND	ND	-	-	25	
4-Methyl-2-pentanone	ND	ND	-	-	25	
Toluene	490	480	485	**2**	25	
2-Hexanone	ND	ND	-	-	25	
Dibromochloromethane	ND	ND	-	-	25	
1,2-Dibromoethane	ND	ND	-	-	25	
Tetrachloroethene	ND	ND	-	-	25	
Ethylbenzene	14	14	14	**0**	25	**J**
m,p-Xylenes	27	25	26	**8**	25	**J**
Bromoform	ND	ND	-	-	25	
Styrene	ND	ND	-	-	25	
o-Xylene	21	20	20.5	**5**	25	**J**
1,3,5-Trimethylbenzene	8.4	8.4	8.4	**0**	25	**J**
1,2,4-Trimethylbenzene	ND	ND	-	-	25	
1,2,4-Trichlorobenzene	ND	ND	-	-	25	
Naphthalene	ND	ND	-	-	25	
Xylenes, Total	48	45	46.5	**6**	25	**J**

ND = Compound was analyzed for, but not detected.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Lab File ID: 05122002.D
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister(s) Time Analyzed: 02:28
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	AREA	#	RT	AREA	#	RT
	24 Hour Standard	274186		11.15	1162512		13.27	534747		17.58
	Upper Limit	383860		11.48	1627517		13.60	748646		17.91
	Lower Limit	164512		10.82	697507		12.94	320848		17.25
	Client Sample ID									
01	Method Blank	254103		11.13	1093988		13.26	494320		17.58
02	Lab Control Sample	271922		11.15	1156459		13.28	526614		17.58
03	Duplicate Lab Control Sample	273665		11.15	1172398		13.28	530162		17.58
04	SV118-450-202	294739		11.13	1274027		13.26	601653		17.58
05	SV118-450-202 (Lab Duplicate)	297531		11.13	1290058		13.26	611482		17.58
06	SV119-025-202	263344		11.13	1119269		13.26	512983		17.58
07	SV119-050-202	261607		11.13	1124356		13.26	513768		17.58
08	SV126-025-202	257982		11.13	1105309		13.26	499396		17.58
09	SV126-050-202	269742		11.14	1145545		13.27	536080		17.58
10	SV126-150-202	264553		11.14	1146425		13.27	521347		17.58
11	SV126-250-202	267291		11.14	1160340		13.26	533683		17.58
12	SV119-150-202	274892		11.13	1178809		13.26	553134		17.58
13	SV119-350-202	265386		11.13	1151947		13.26	545714		17.58
14	SV119-250-202	266742		11.13	1141771		13.26	541816		17.58
15	SV119-450-202	266544		11.13	1150071		13.26	552468		17.58
16	SV126-450-202	268159		11.14	1160000		13.27	541823		17.58
17	SV129-450-202	270199		11.13	1151776		13.26	542047		17.58
18	SV126-350-202	298786		11.14	1293153		13.27	595761		17.58
19	SV126-050-202 (Dilution)	288803		11.13	1252777		13.26	573574		17.58
20	SV129-025-202	255942		11.13	1102213		13.26	507637		17.58

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.** ALS Project ID: P2002300
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Lab File ID: 05122002.D
Analyst: Lusine Hakobyan Date Analyzed: 5/12/20
Sampling Media: 1.0 L Summa Canister(s) Time Analyzed: 02:28
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	274186		11.15	1162512		13.27		534747		17.58	
	Upper Limit	383860		11.48	1627517		13.60		748646		17.91	
	Lower Limit	164512		10.82	697507		12.94		320848		17.25	
	Client Sample ID											
21	SV129-050-202	254620		11.13	1089613		13.26		508742		17.58	
22	SV129-150-202	256394		11.14	1094469		13.26		514738		17.58	
23	SV129-250-202	255299		11.12	1101493		13.26		503745		17.58	
24	SV129-350-202	256587		11.13	1118753		13.26		506502		17.58	
25	SV130-025-202	253151		11.13	1088910		13.26		501930		17.58	
26												
27												
28												
29												
30												
31												
32												
33												
34												
35												
36												
37												
38												
39												
40												

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122008.D Vial: 13
Acq On : 12 May 2020 5:52 Operator: LH
Sample : P2002300-001 (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:17:51 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/13/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	294739	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1274027	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	601653	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	468812	11.737	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.92%				
57) Toluene-d8 (SS2)	15.72	98	1285660	12.607	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.88%				
73) Bromofluorobenzene (SS3)	18.97	174	469727	12.801	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.40%				
Target Compounds							Qvalue
2) Propene	4.11	42	4954	0.145	ng		99
3) Dichlorodifluoromethan...	4.27	85	2109	N.D.			
4) Chloromethane	4.54	50	23564	0.450	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	4.95	62	5236	0.091	ng		96
7) 1,3-Butadiene	5.16	54	1511	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.98	64	1779	0.079	ng		86
10) Ethanol	6.33	45	6925	0.263	ng		88
11) Acetonitrile	6.58	41	4979	0.083	ng		95
12) Acrolein	6.79	56	989	N.D.			
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	7.25	101	4231	0.072	ng		98
15) 2-Propanol (Isopropanol)	7.54	45	2057	N.D.			
16) Acrylonitrile	7.74	53	1304	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.41	84	112	N.D.			
20) 3-Chloro-1-propene (Al...	8.57	41	107	N.D.			
21) Trichlorotrifluoroethane	8.85	151	4006	0.144	ng		98
22) Carbon Disulfide	8.69	76	355984	2.899	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	9.94	63	3446	0.062	ng		91
25) Methyl tert-Butyl Ether	10.07	73	2922	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.49	72	1576	0.070	ng	#	70
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	11.27	57	214992	3.824	ng		100
32) Chloroform	11.31	83	5833	0.099	ng		76
34) Tetrahydrofuran (THF)	11.74	72	17626	0.804	ng		96
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	172044	1.259	ng		100
42) Carbon Tetrachloride	13.03	117	35206	0.758	ng		98
43) Cyclohexane	13.17	84	3957794	77.737	ng		99
44) tert-Amyl Methyl Ether	13.46	73	1969	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	13.97	130	2090	0.059	ng		99
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122008.D Vial: 13
Acq On : 12 May 2020 5:52 Operator: LH
Sample : P2002300-001 (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:17:51 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

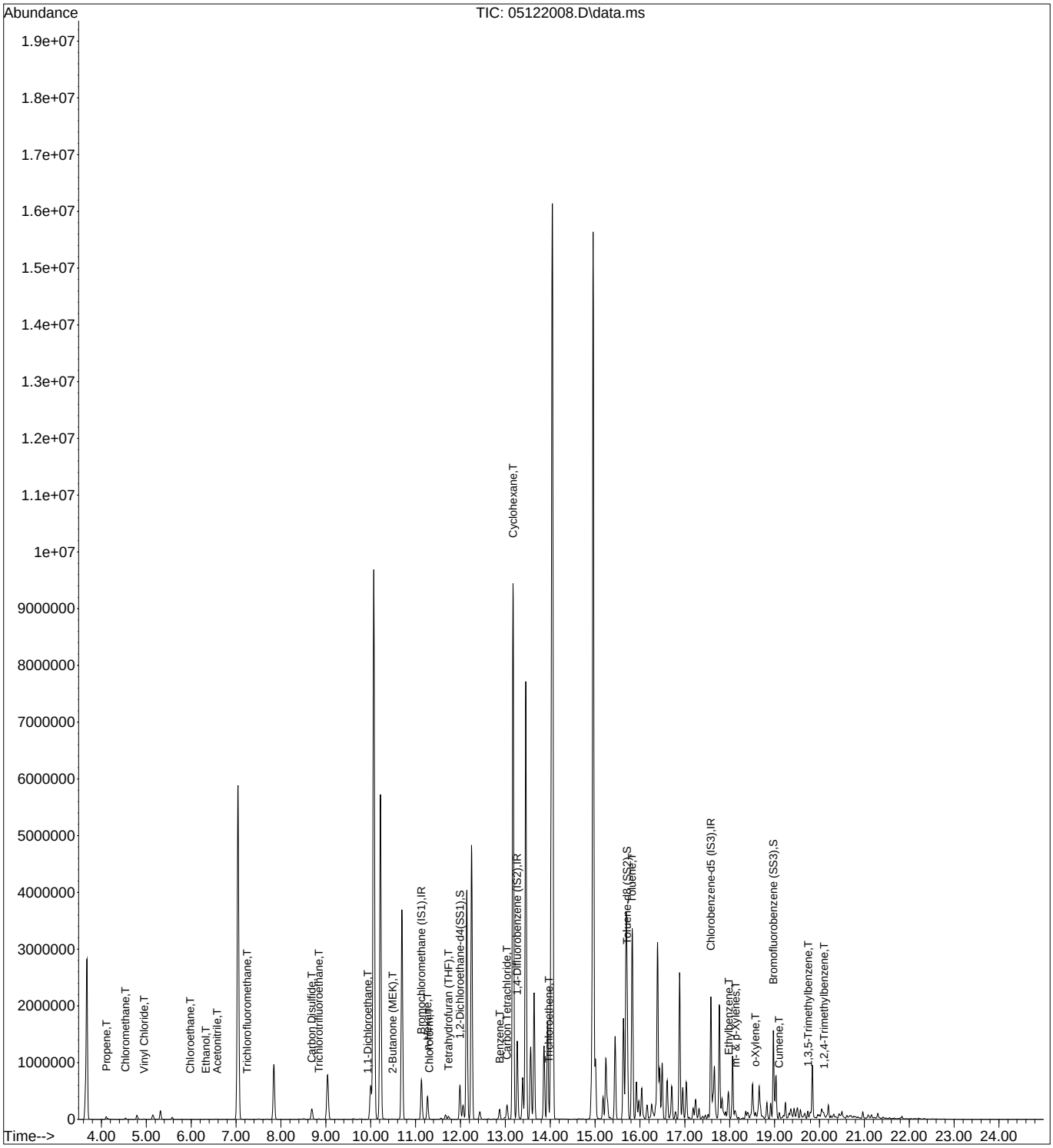
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.30	71	416	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	15.45	75	114	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	15.82	91	744251	5.662 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	0.00	57	0	N.D. d	
64) Tetrachloroethene	16.96	166	810	N.D.	
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	17.98	91	23808	0.162 ng	98
67) m- & p-Xylenes	18.14	91	36330	0.312 ng	98
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	785	N.D.	
70) o-Xylene	18.57	91	28026	0.237 ng	99
71) n-Nonane	18.77	43	1031	N.D.	
72) 1,1,2,2-Tetrachloroethane	18.58	83	640	N.D.	
74) Cumene	19.10	105	19161	0.132 ng	97
75) alpha-Pinene	19.43	93	519	N.D.	
76) n-Propylbenzene	19.55	91	3378	N.D.	
77) 3-Ethyltoluene	19.64	105	3174	N.D.	
78) 4-Ethyltoluene	19.68	105	1349	N.D.	
79) 1,3,5-Trimethylbenzene	19.75	105	11413	0.097 ng	98
80) alpha-Methylstyrene	19.88	118	1818	N.D.	
81) 2-Ethyltoluene	19.91	105	4651	N.D.	
82) 1,2,4-Trimethylbenzene	20.10	105	6074	0.051 ng	85
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.19	91	1674	N.D.	
85) 1,3-Dichlorobenzene	20.24	146	939	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	1223	N.D.	
87) sec-Butylbenzene	20.35	105	1916	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	854	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	3414	N.D.	
90) 1,2-Dichlorobenzene	20.60	146	610	N.D.	
91) d-Limonene	20.62	68	2006	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.11	180	1170	N.D.	
95) Naphthalene	22.22	128	5948	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.11	119	1526	N.D.	
100) n-Butylbenzene	20.85	91	3047	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122008.D Vial: 13
Acq On : 12 May 2020 5:52 Operator: LH
Sample : P2002300-001 (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:17:51 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122008.D Vial: 13
Acq On : 12 May 2020 5:52 Operator: LH
Sample : P2002300-001 (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:17:51 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/13/20

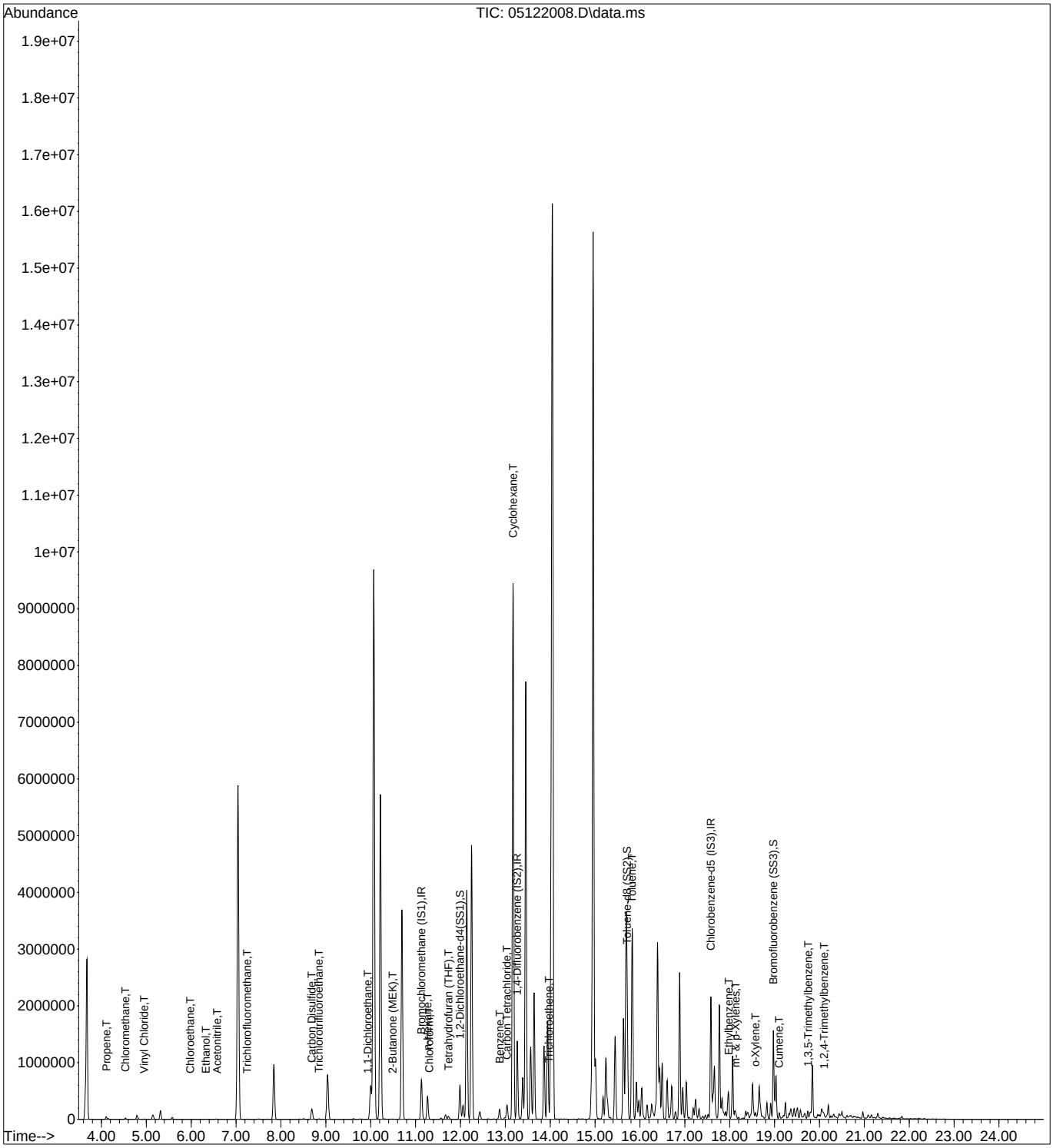
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	294739	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1274027	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	601653	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	468812	11.737	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.92%				
57) Toluene-d8 (SS2)	15.72	98	1285660	12.607	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.88%				
73) Bromofluorobenzene (SS3)	18.97	174	469727	12.801	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.40%				
Target Compounds							Qvalue
2) Propene	4.11	42	4954	0.145	ng		99
4) Chloromethane	4.54	50	23564	0.450	ng		100
6) Vinyl Chloride	4.95	62	5236	0.091	ng		96
9) Chloroethane	5.98	64	1779	0.079	ng		86
10) Ethanol	6.33	45	6925	0.263	ng		88
11) Acetonitrile	6.58	41	4979	0.083	ng		95
14) Trichlorofluoromethane	7.25	101	4231	0.072	ng		98
21) Trichlorotrifluoroethane	8.85	151	4006	0.144	ng		98
22) Carbon Disulfide	8.69	76	355984	2.899	ng		99
24) 1,1-Dichloroethane	9.94	63	3446	0.062	ng		91
27) 2-Butanone (MEK)	10.49	72	1576	0.070	ng	#	70
31) n-Hexane	11.27	57	214992	3.824	ng		100
32) Chloroform	11.31	83	5833	0.099	ng		76
34) Tetrahydrofuran (THF)	11.74	72	17626	0.804	ng		96
41) Benzene	12.87	78	172044	1.259	ng		100
42) Carbon Tetrachloride	13.03	117	35206	0.758	ng		98
43) Cyclohexane	13.17	84	3957794	77.737	ng		99
47) Trichloroethene	13.97	130	2090	0.059	ng		99
58) Toluene	15.82	91	744251	5.662	ng		100
66) Ethylbenzene	17.98	91	23808	0.162	ng		98
67) m- & p-Xylenes	18.14	91	36330	0.312	ng		98
70) o-Xylene	18.57	91	28026	0.237	ng		99
74) Cumene	19.10	105	19161	0.132	ng		97
79) 1,3,5-Trimethylbenzene	19.75	105	11413	0.097	ng		98
82) 1,2,4-Trimethylbenzene	20.10	105	6074	0.051	ng		85

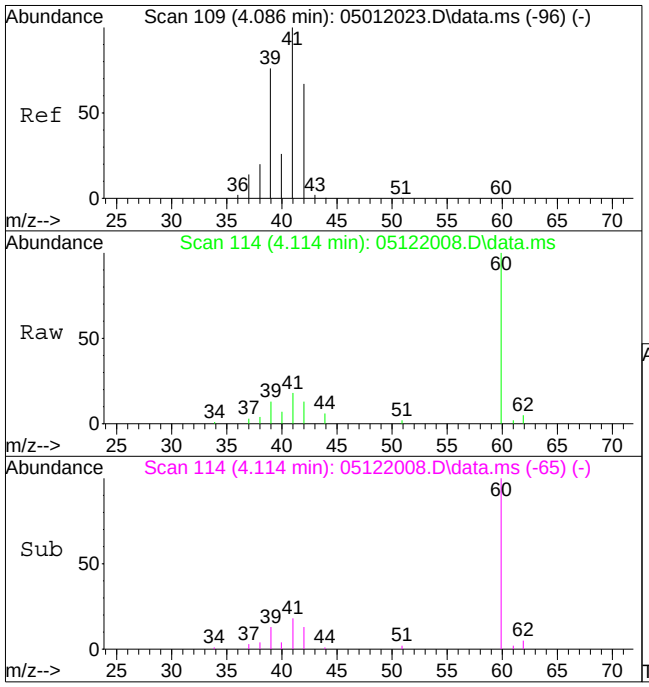
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122008.D Vial: 13
Acq On : 12 May 2020 5:52 Operator: LH
Sample : P2002300-001 (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:17:51 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

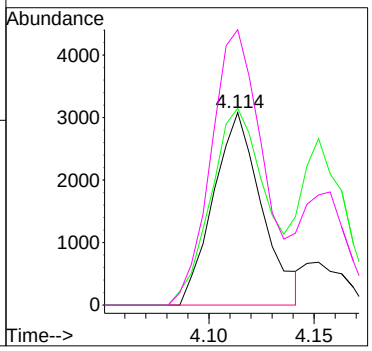


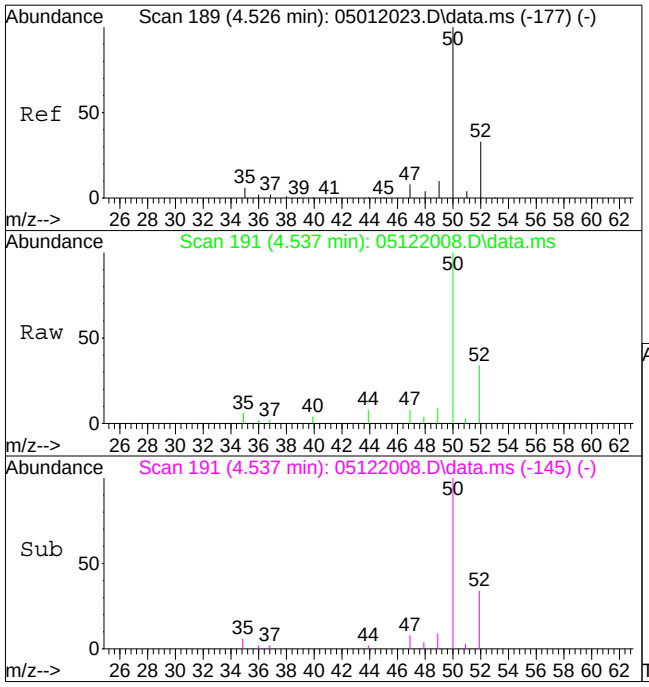


#2
Propene
Concen: 0.15 ng
RT: 4.11 min Scan# 114
Delta R.T. 0.022 min
Lab File: 05122008.D
Acq: 12 May 2020 5:52

Tgt Ion: 42 Resp: 4954

Ion	Ratio	Lower	Upper
42	100		
39	115.3	96.1	136.1
41	150.2	131.9	171.9

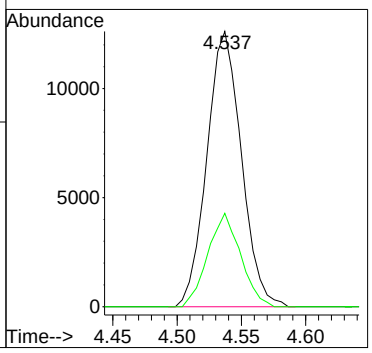


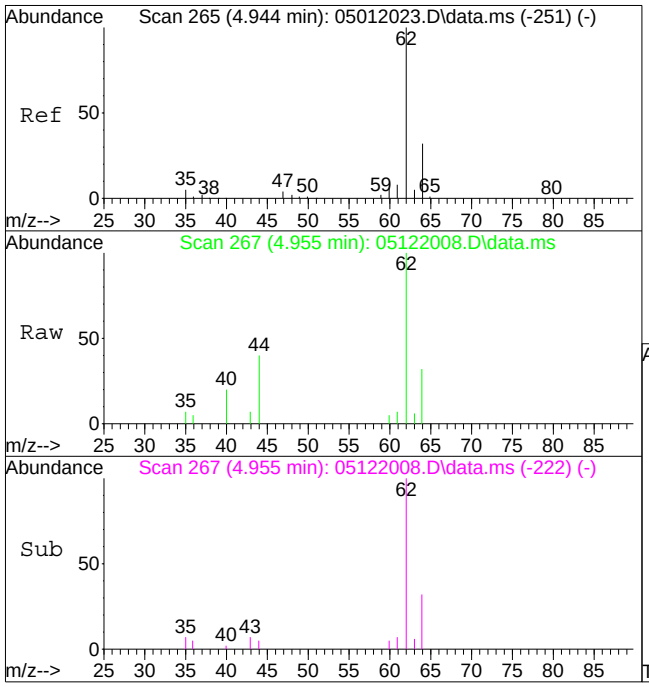


#4
Chloromethane
Concen: 0.45 ng
RT: 4.54 min Scan# 191
Delta R.T. 0.005 min
Lab File: 05122008.D
Acq: 12 May 2020 5:52

Tgt Ion: 50 Resp: 23564

Ion	Ratio	Lower	Upper
50	100		
52	32.2	12.5	52.5

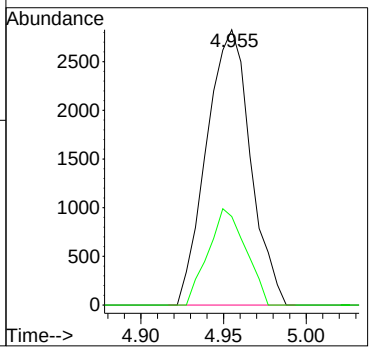


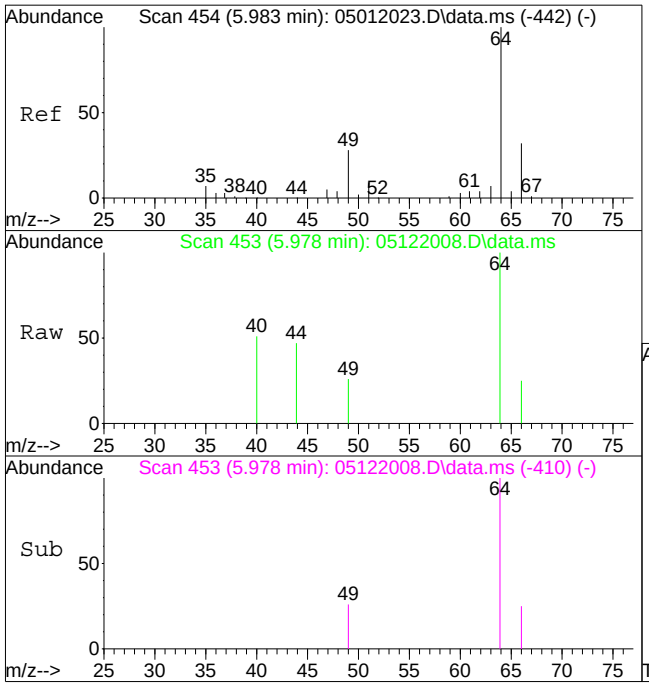


#6
Vinyl Chloride
Concen: 0.09 ng
RT: 4.95 min Scan# 267
Delta R.T. -0.000 min
Lab File: 05122008.D
Acq: 12 May 2020 5:52

Tgt Ion: 62 Resp: 5236

Ion	Ratio	Lower	Upper
62	100		
64	29.8	12.1	52.1

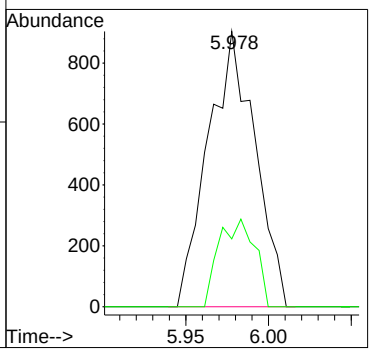


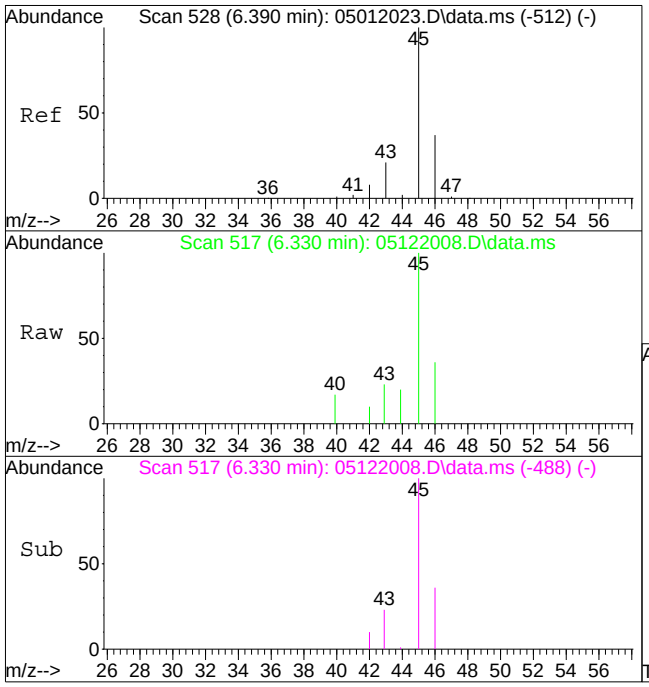


#9
Chloroethane
Concen: 0.08 ng
RT: 5.98 min Scan# 453
Delta R.T. -0.011 min
Lab File: 05122008.D
Acq: 12 May 2020 5:52

Tgt Ion: 64 Resp: 1779

Ion	Ratio	Lower	Upper
64	100		
66	24.5	12.1	52.1

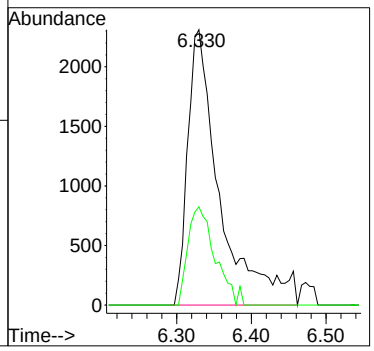


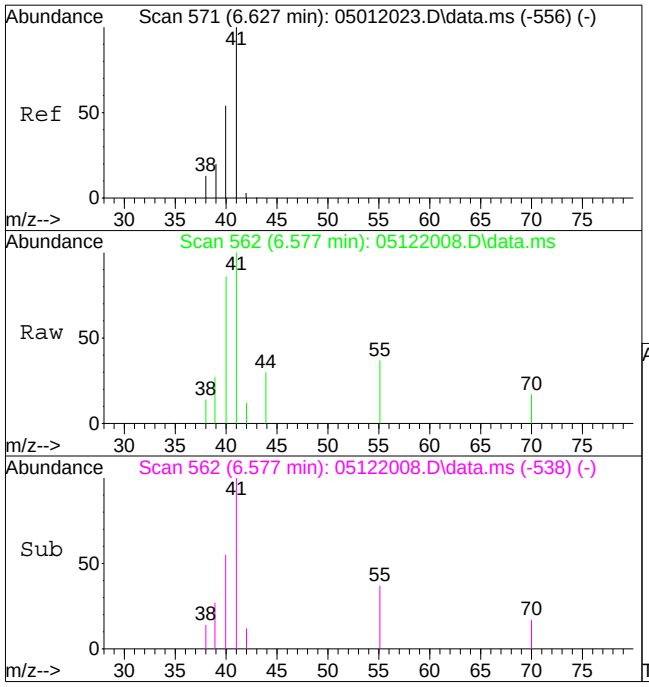


#10
Ethanol
Concen: 0.26 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.088 min
Lab File: 05122008.D
Acq: 12 May 2020 5:52

Tgt Ion: 45 Resp: 6925

Ion	Ratio	Lower	Upper
45	100		
46	30.2	17.2	57.2

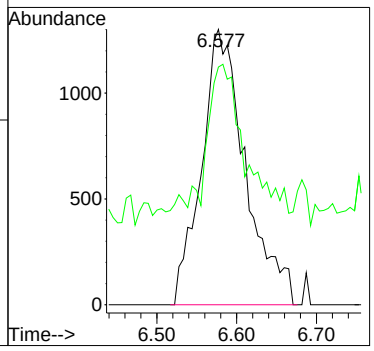


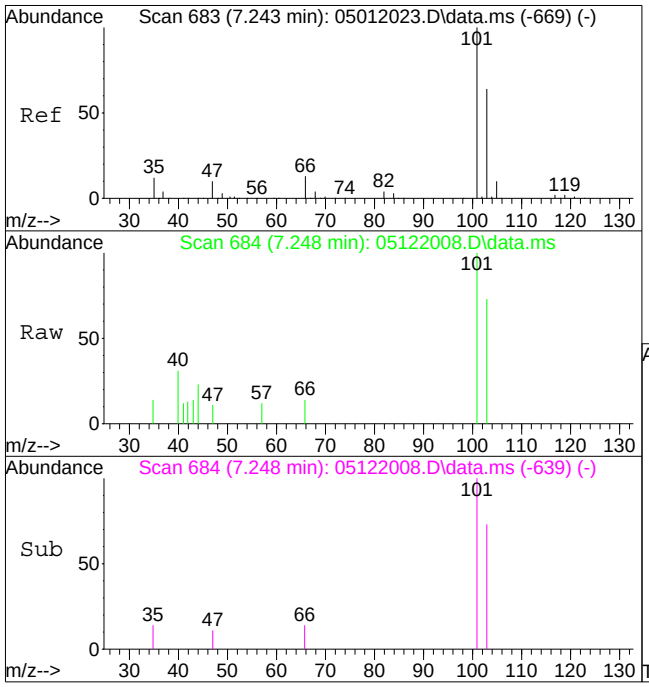


#11
Acetonitrile
Concen: 0.08 ng
RT: 6.58 min Scan# 562
Delta R.T. -0.066 min
Lab File: 05122008.D
Acq: 12 May 2020 5:52

Tgt Ion: 41 Resp: 4979

Ion	Ratio	Lower	Upper
41	100		
40	49.8	33.6	73.6

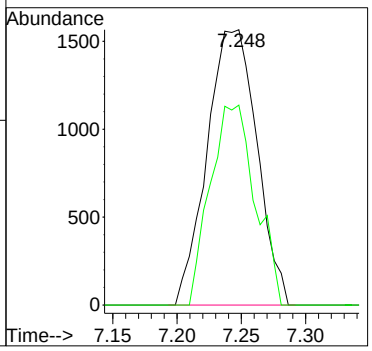


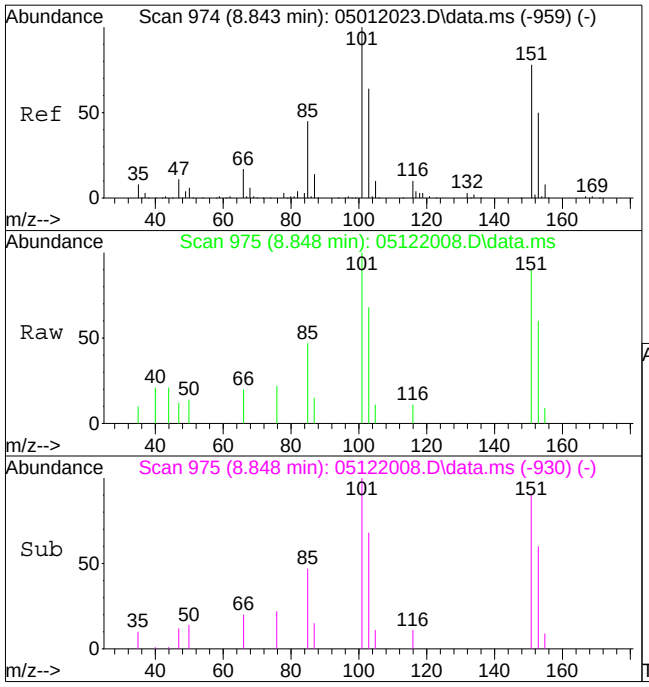


#14
Trichlorofluoromethane
Concen: 0.07 ng
RT: 7.25 min Scan# 684
Delta R.T. -0.000 min
Lab File: 05122008.D
Acq: 12 May 2020 5:52

Tgt Ion:101 Resp: 4231

Ion	Ratio	Lower	Upper
101	100		
103	65.7	44.4	84.4

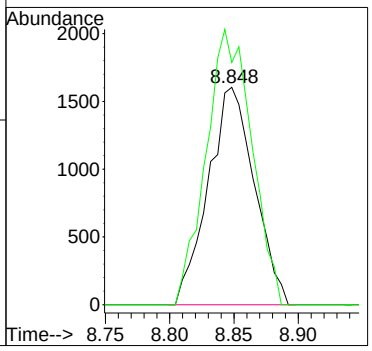


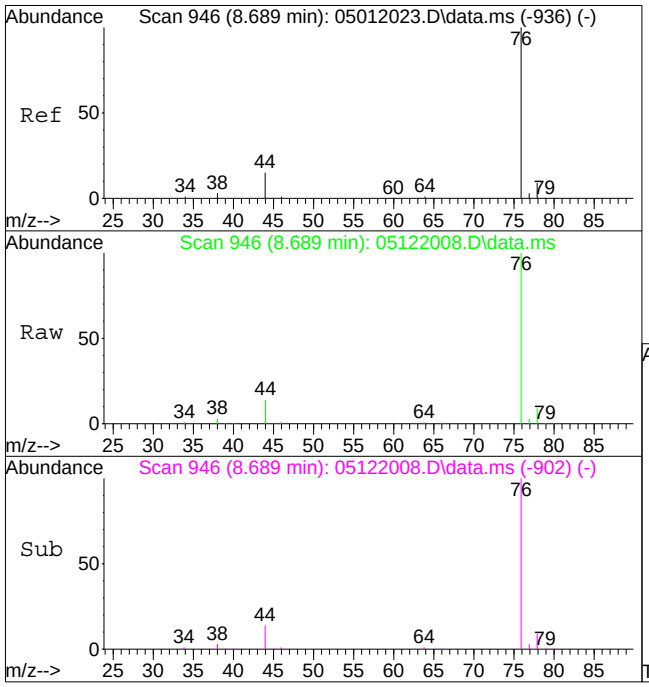


#21
Trichlorotrifluoroethane
Concen: 0.14 ng
RT: 8.85 min Scan# 975
Delta R.T. -0.000 min
Lab File: 05122008.D
Acq: 12 May 2020 5:52

Tgt Ion:151 Resp: 4006

Ion	Ratio	Lower	Upper
151	100		
101	125.5	107.3	147.3

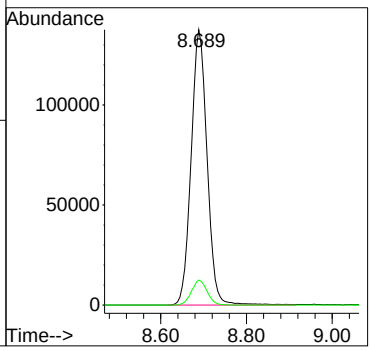


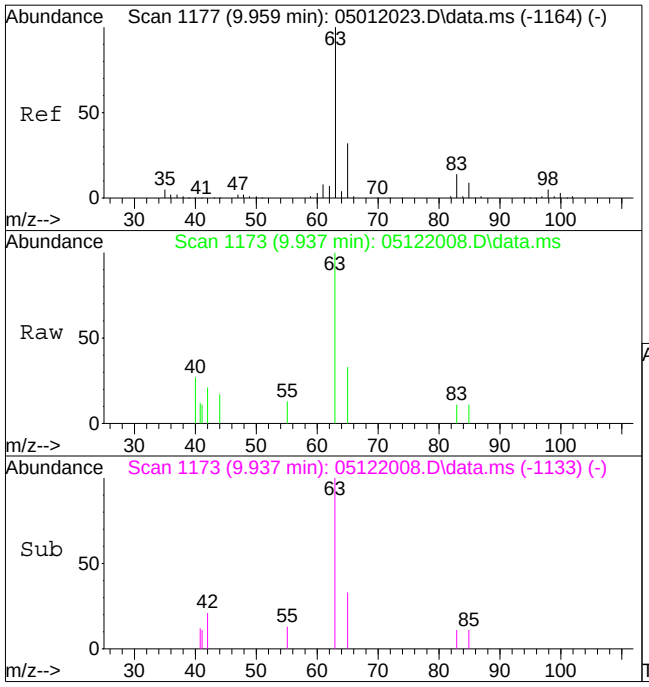


#22
Carbon Disulfide
Concen: 2.90 ng
RT: 8.69 min Scan# 946
Delta R.T. -0.006 min
Lab File: 05122008.D
Acq: 12 May 2020 5:52

Tgt Ion: 76 Resp: 355984

Ion	Ratio	Lower	Upper
76	100		
78	8.9	0.0	29.2

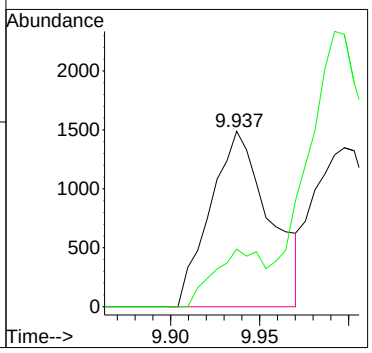


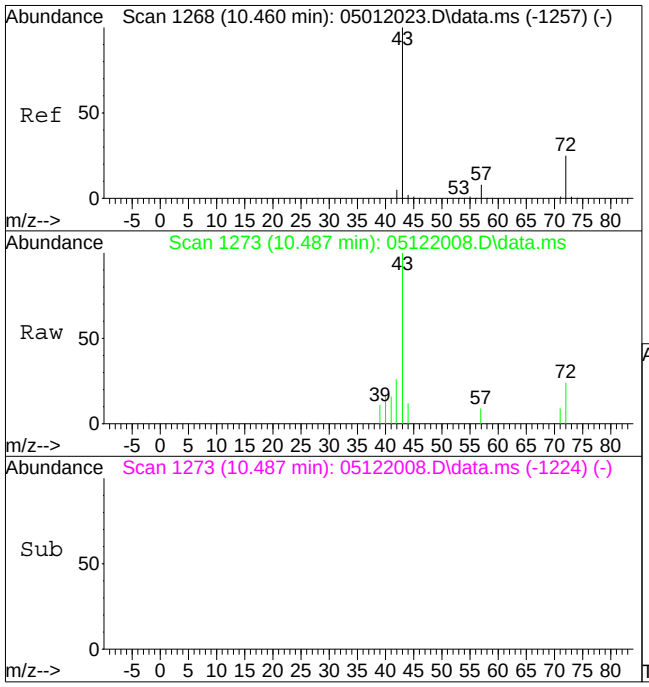


#24
1,1-Dichloroethane
Concen: 0.06 ng
RT: 9.94 min Scan# 1173
Delta R.T. -0.028 min
Lab File: 05122008.D
Acq: 12 May 2020 5:52

Tgt Ion: 63 Resp: 3446

Ion	Ratio	Lower	Upper
63	100		
65	26.8	11.8	51.8

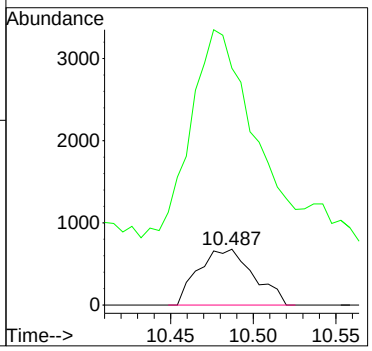


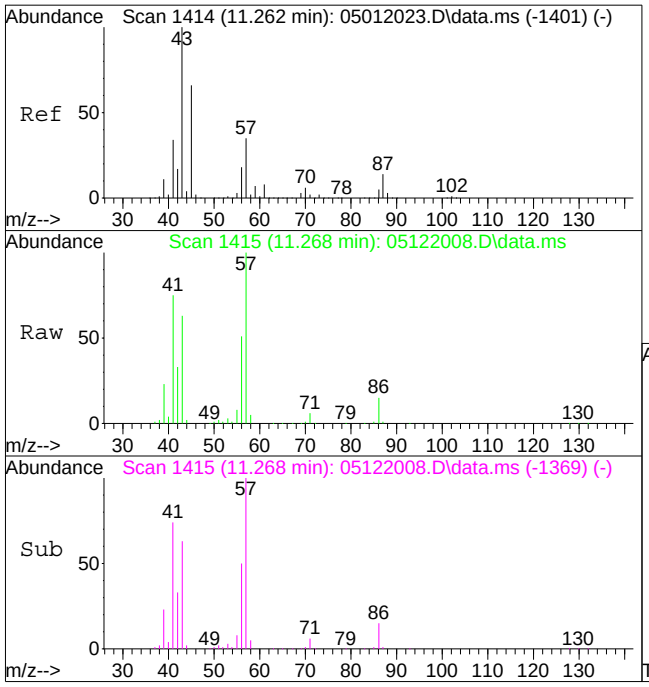


#27
2-Butanone (MEK)
Concen: 0.07 ng
RT: 10.49 min Scan# 1273
Delta R.T. 0.022 min
Lab File: 05122008.D
Acq: 12 May 2020 5:52

Tgt Ion: 72 Resp: 1576

Ion	Ratio	Lower	Upper
72	100		
43	482.4	389.7	429.7#

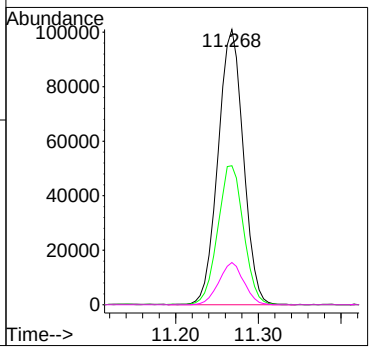


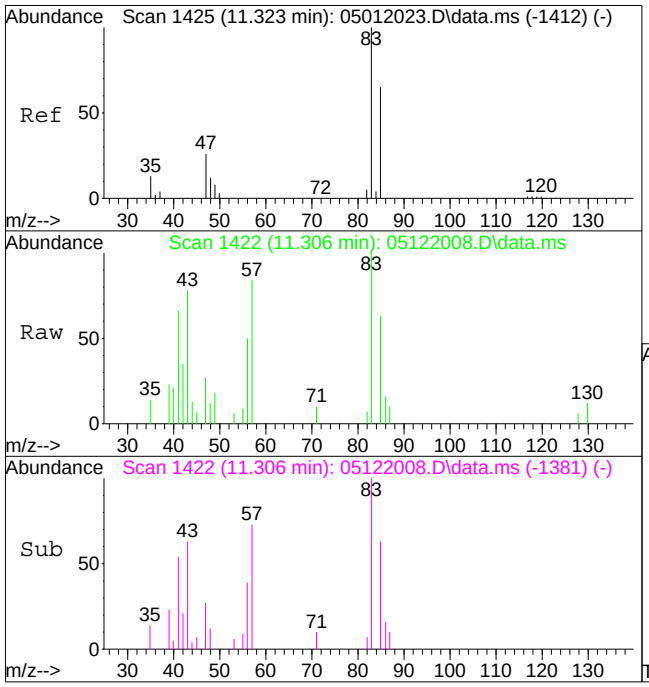


#31
n-Hexane
Concen: 3.82 ng
RT: 11.27 min Scan# 1415
Delta R.T. 0.005 min
Lab File: 05122008.D
Acq: 12 May 2020 5:52

Tgt Ion: 57 Resp: 214992

Ion	Ratio	Lower	Upper
57	100		
56	51.5	41.4	62.0
86	15.1	12.4	18.6

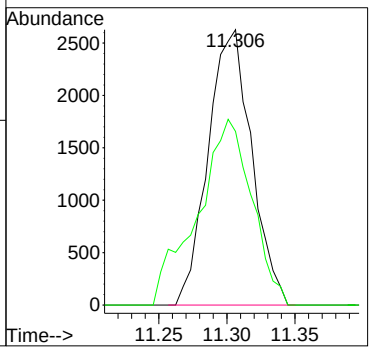


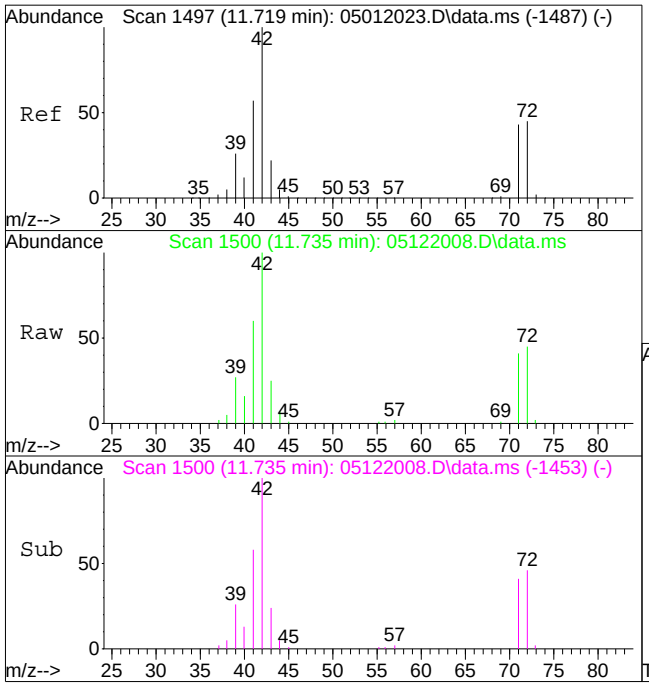


#32
Chloroform
Concen: 0.10 ng
RT: 11.31 min Scan# 1422
Delta R.T. -0.022 min
Lab File: 05122008.D
Acq: 12 May 2020 5:52

Tgt Ion: 83 Resp: 5833

Ion	Ratio	Lower	Upper
83	100		
85	84.7	45.5	85.5

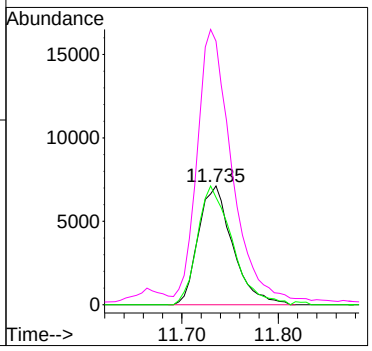


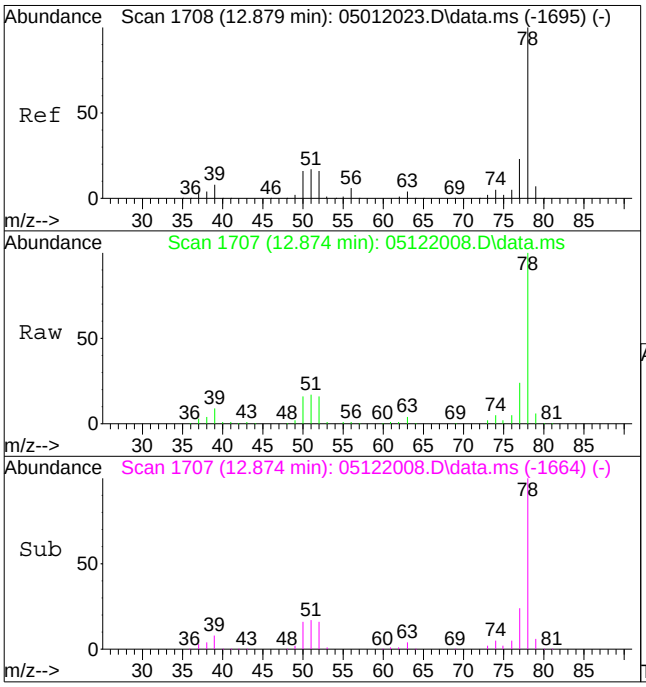


#34
Tetrahydrofuran (THF)
Concen: 0.80 ng
RT: 11.74 min Scan# 1500
Delta R.T. 0.011 min
Lab File: 05122008.D
Acq: 12 May 2020 5:52

Tgt Ion: 72 Resp: 17626

Ion	Ratio	Lower	Upper
72	100		
71	101.7	77.0	117.0
42	231.1	204.6	244.6

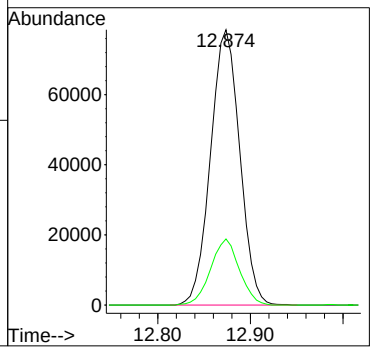


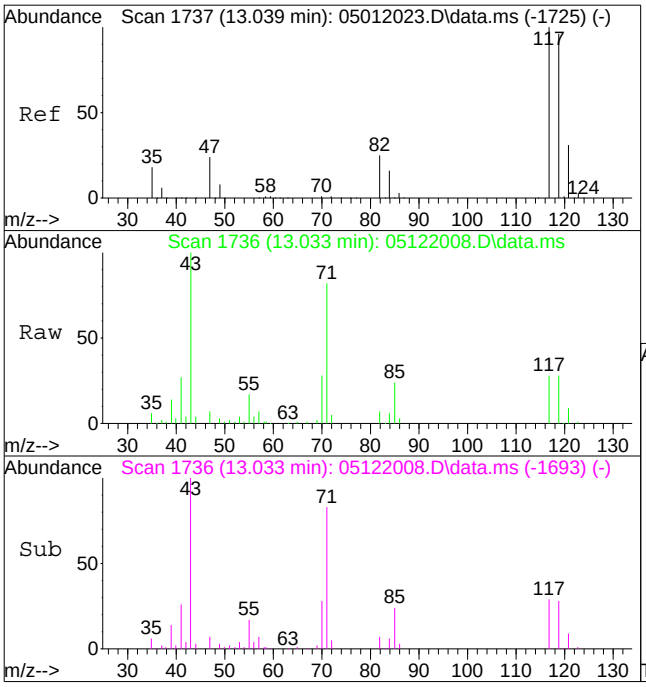


#41
Benzene
Concen: 1.26 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05122008.D
Acq: 12 May 2020 5:52

Tgt Ion: 78 Resp: 172044

Ion	Ratio	Lower	Upper
78	100		
77	23.6	3.4	43.4

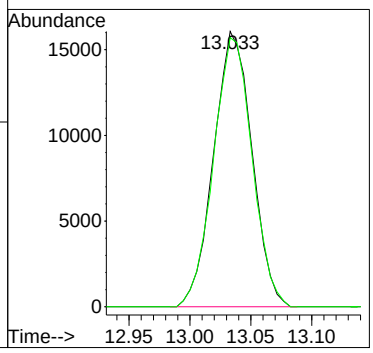


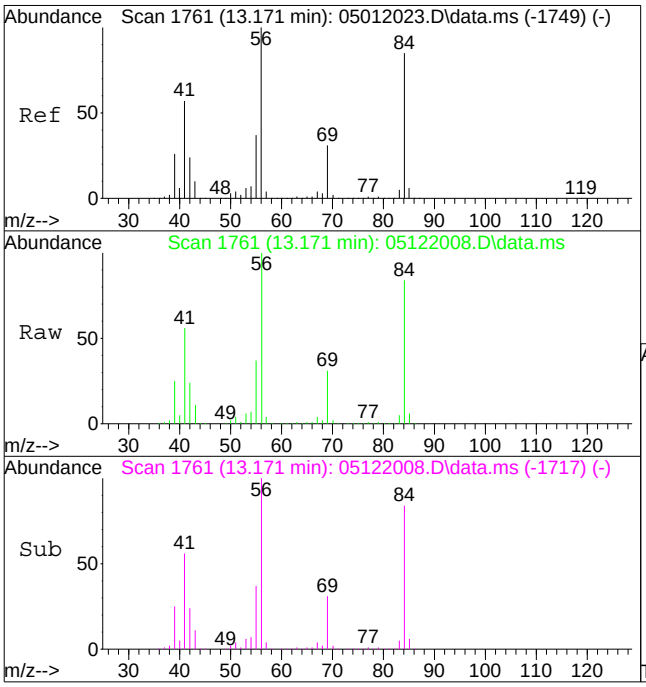


#42
Carbon Tetrachloride
Concen: 0.76 ng
RT: 13.03 min Scan# 1736
Delta R.T. -0.011 min
Lab File: 05122008.D
Acq: 12 May 2020 5:52

Tgt Ion:117 Resp: 35206

Ion	Ratio	Lower	Upper
117	100		
119	98.5	76.2	116.2

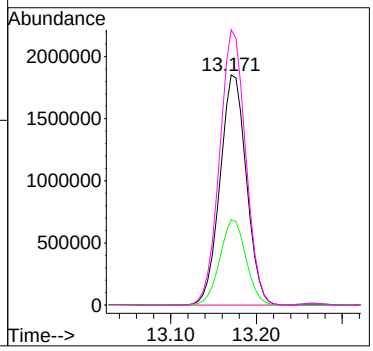


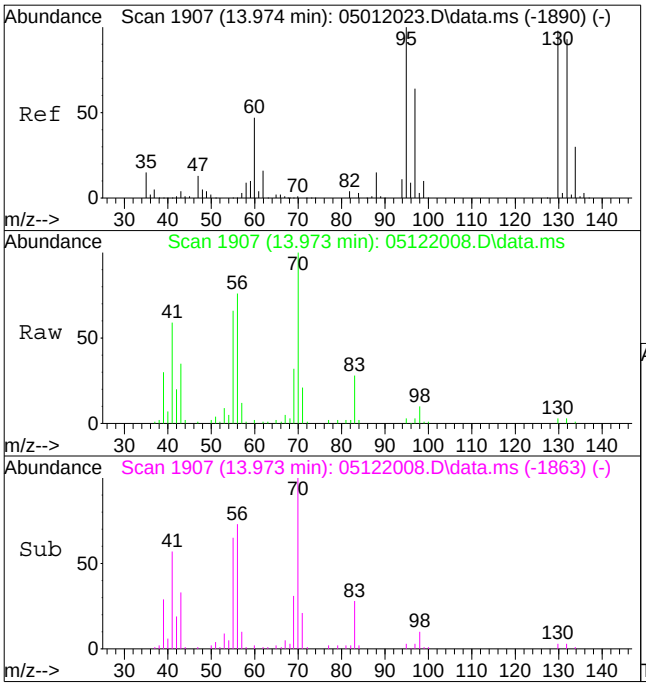


#43
Cyclohexane
Concen: 77.74 ng
RT: 13.17 min Scan# 1761
Delta R.T. -0.006 min
Lab File: 05122008.D
Acq: 12 May 2020 5:52

Tgt Ion: 84 Resp: 3957794

Ion	Ratio	Lower	Upper
84	100		
69	36.7	16.5	56.5
56	118.2	97.4	137.4

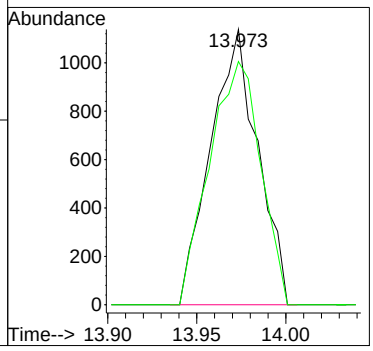


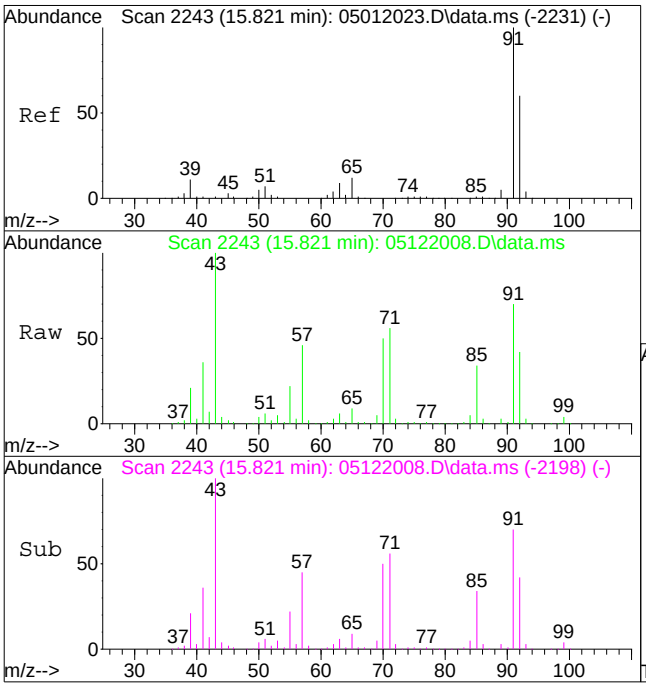


#47
Trichloroethene
Concen: 0.06 ng
RT: 13.97 min Scan# 1907
Delta R.T. -0.006 min
Lab File: 05122008.D
Acq: 12 May 2020 5:52

Tgt Ion:130 Resp: 2090

Ion	Ratio	Lower	Upper
130	100		
132	96.3	74.9	114.9

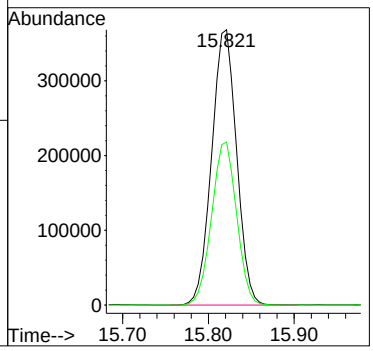


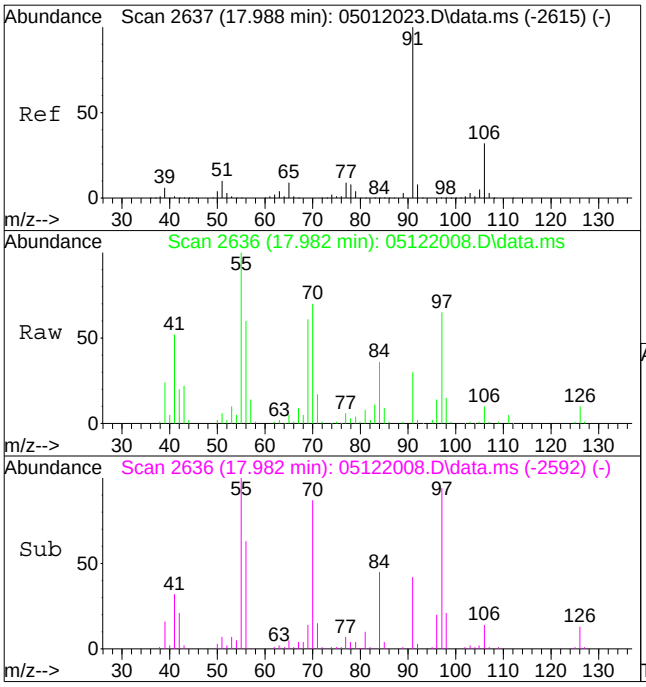


#58
Toluene
Concen: 5.66 ng
RT: 15.82 min Scan# 2243
Delta R.T. -0.000 min
Lab File: 05122008.D
Acq: 12 May 2020 5:52

Tgt Ion: 91 Resp: 744251

Ion	Ratio	Lower	Upper
91	100		
92	59.3	39.4	79.4

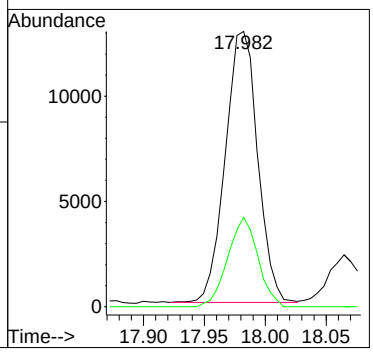


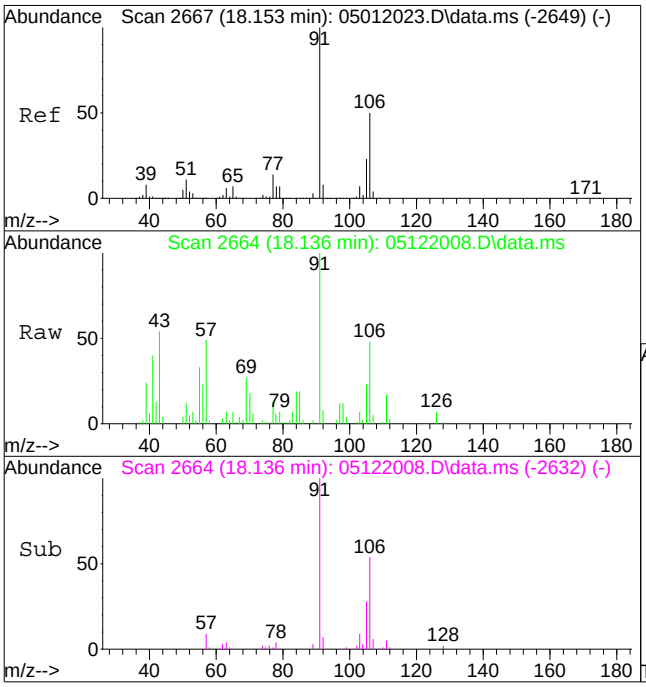


#66
Ethylbenzene
Concen: 0.16 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05122008.D
Acq: 12 May 2020 5:52

Tgt Ion: 91 Resp: 23808

Ion	Ratio	Lower	Upper
91	100		
106	30.7	11.6	51.6

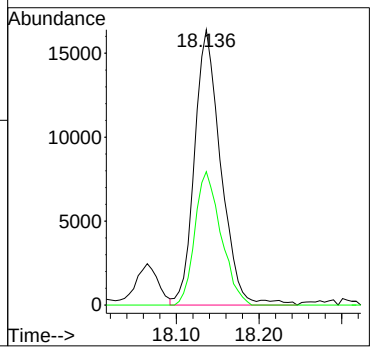


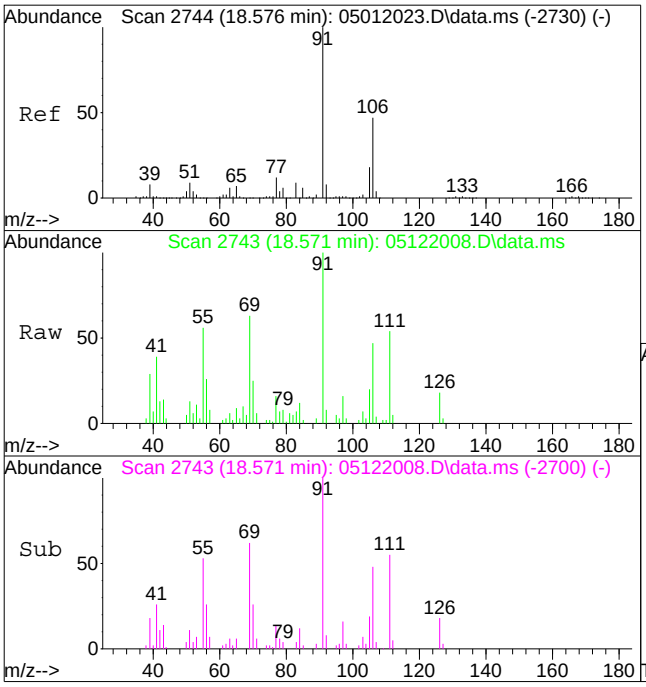


#67
m- & p-Xylenes
Concen: 0.31 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05122008.D
Acq: 12 May 2020 5:52

Tgt Ion: 91 Resp: 36330

Ion	Ratio	Lower	Upper
91	100		
106	48.0	29.7	69.7

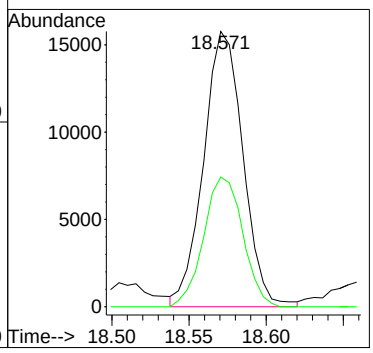


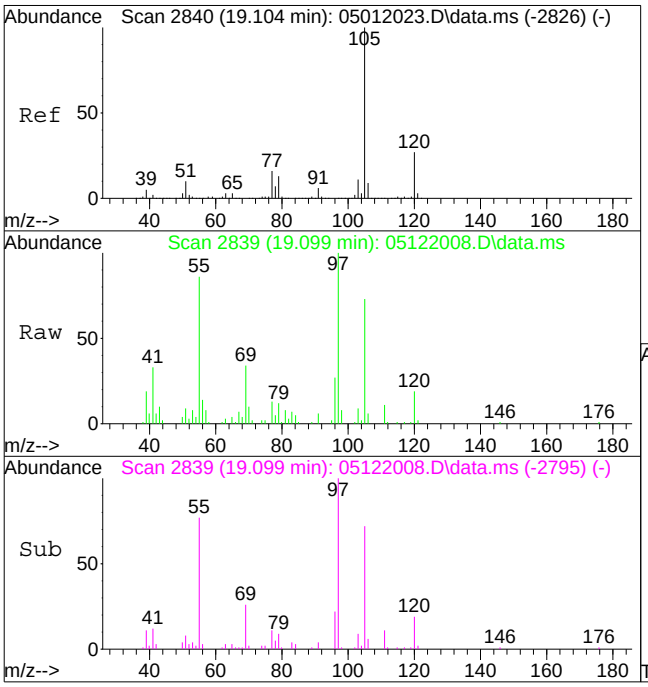


#70
o-Xylene
Concen: 0.24 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05122008.D
Acq: 12 May 2020 5:52

Tgt Ion: 91 Resp: 28026

Ion	Ratio	Lower	Upper
91	100		
106	46.7	27.5	67.5

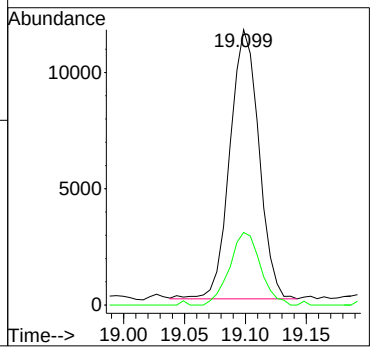


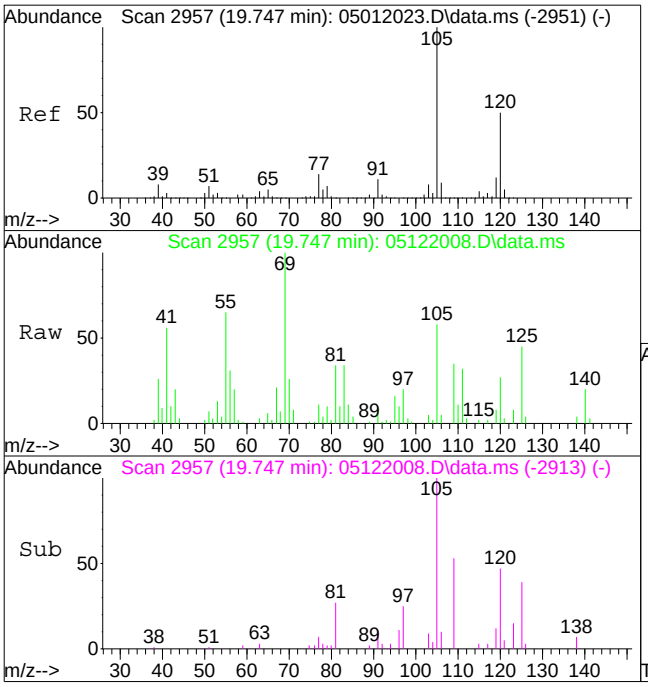


#74
Cumene
Concen: 0.13 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05122008.D
Acq: 12 May 2020 5:52

Tgt Ion:105 Resp: 19161

Ion	Ratio	Lower	Upper
105	100		
120	28.6	6.8	46.8

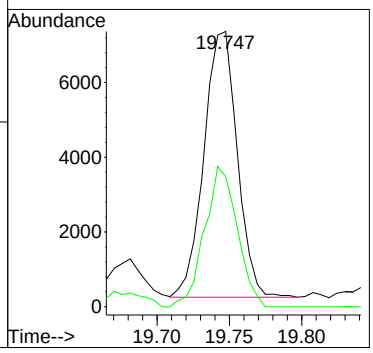


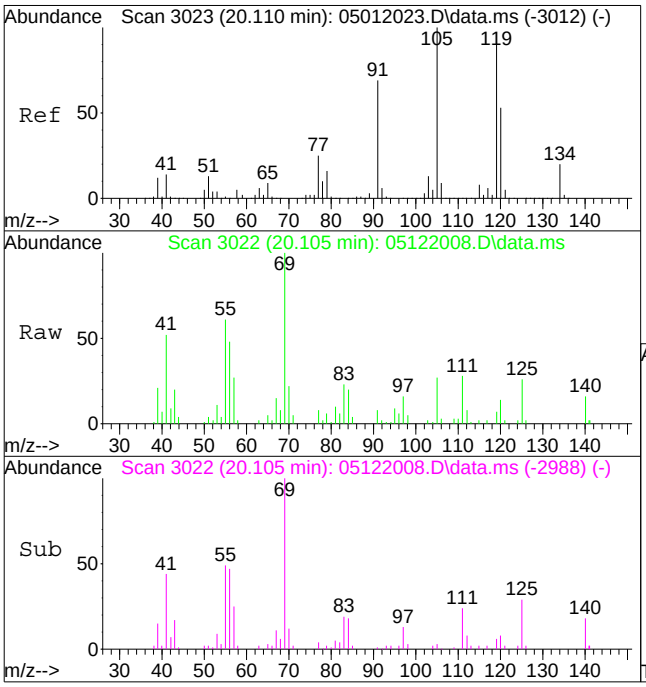


#79
1,3,5-Trimethylbenzene
Concen: 0.10 ng
RT: 19.75 min Scan# 2957
Delta R.T. -0.006 min
Lab File: 05122008.D
Acq: 12 May 2020 5:52

Tgt Ion:105 Resp: 11413

Ion	Ratio	Lower	Upper
105	100		
120	51.5	29.9	69.9

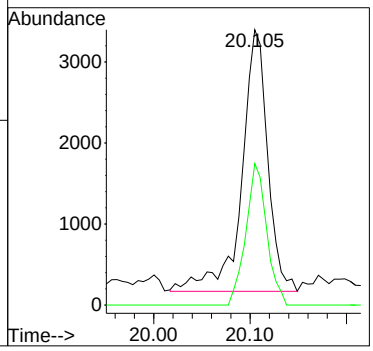




#82
1,2,4-Trimethylbenzene
Concen: 0.05 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05122008.D
Acq: 12 May 2020 5:52

Tgt Ion:105 Resp: 6074

Ion	Ratio	Lower	Upper
105	100		
120	43.1	33.6	73.6



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122010.D Vial: 14
Acq On : 12 May 2020 7:00 Operator: LH
Sample : P2002300-002 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:23:50 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/13/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	263344	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1119269	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	512983	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	413145	11.576	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.64%				
57) Toluene-d8 (SS2)	15.71	98	1101461	12.668	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.36%				
73) Bromofluorobenzene (SS3)	18.97	174	409205	13.079	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.64%				
Target Compounds							Qvalue
2) Propene	4.11	42	8153	0.267	ng		93
3) Dichlorodifluoromethan...	4.27	85	105491	1.768	ng		99
4) Chloromethane	4.55	50	1593	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	2108	0.059	ng		86
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.23	54	306	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.33	45	37293	1.583	ng		99
11) Acetonitrile	6.60	41	5050	0.094	ng		86
12) Acrolein	6.79	56	25775	1.385	ng		98
13) Acetone	7.00	58	83558	3.548	ng	#	64
14) Trichlorofluoromethane	7.24	101	25868	0.491	ng		98
15) 2-Propanol (Isopropanol)	7.52	45	18754	0.263	ng		78
16) Acrylonitrile	7.77	53	817	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.41	84	701	N.D.			
20) 3-Chloro-1-propene (Al...	8.57	41	511	N.D.			
21) Trichlorotrifluoroethane	8.84	151	309773	12.445	ng		98
22) Carbon Disulfide	8.67	76	11052	0.101	ng		98
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.09	73	658	N.D.			
26) Vinyl Acetate	10.17	86	13457	1.834	ng	#	37
27) 2-Butanone (MEK)	10.46	72	18225	0.907	ng		98
28) cis-1,2-Dichloroethene	10.92	61	674	N.D.			
29) Diisopropyl Ether	11.31	87	717	N.D.			
30) Ethyl Acetate	11.28	61	2066	0.178	ng		99
31) n-Hexane	11.26	57	3479	0.069	ng	#	88
32) Chloroform	11.30	83	8409	0.160	ng		99
34) Tetrahydrofuran (THF)	11.75	72	785	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	12.39	97	311	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	6044	0.050	ng		96
42) Carbon Tetrachloride	13.03	117	22264	0.545	ng		99
43) Cyclohexane	13.17	84	20731	0.463	ng		97
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	13.94	83	1173	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	13.97	88	438	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.31	100	470	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122010.D Vial: 14
Acq On : 12 May 2020 7:00 Operator: LH
Sample : P2002300-002 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:23:50 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

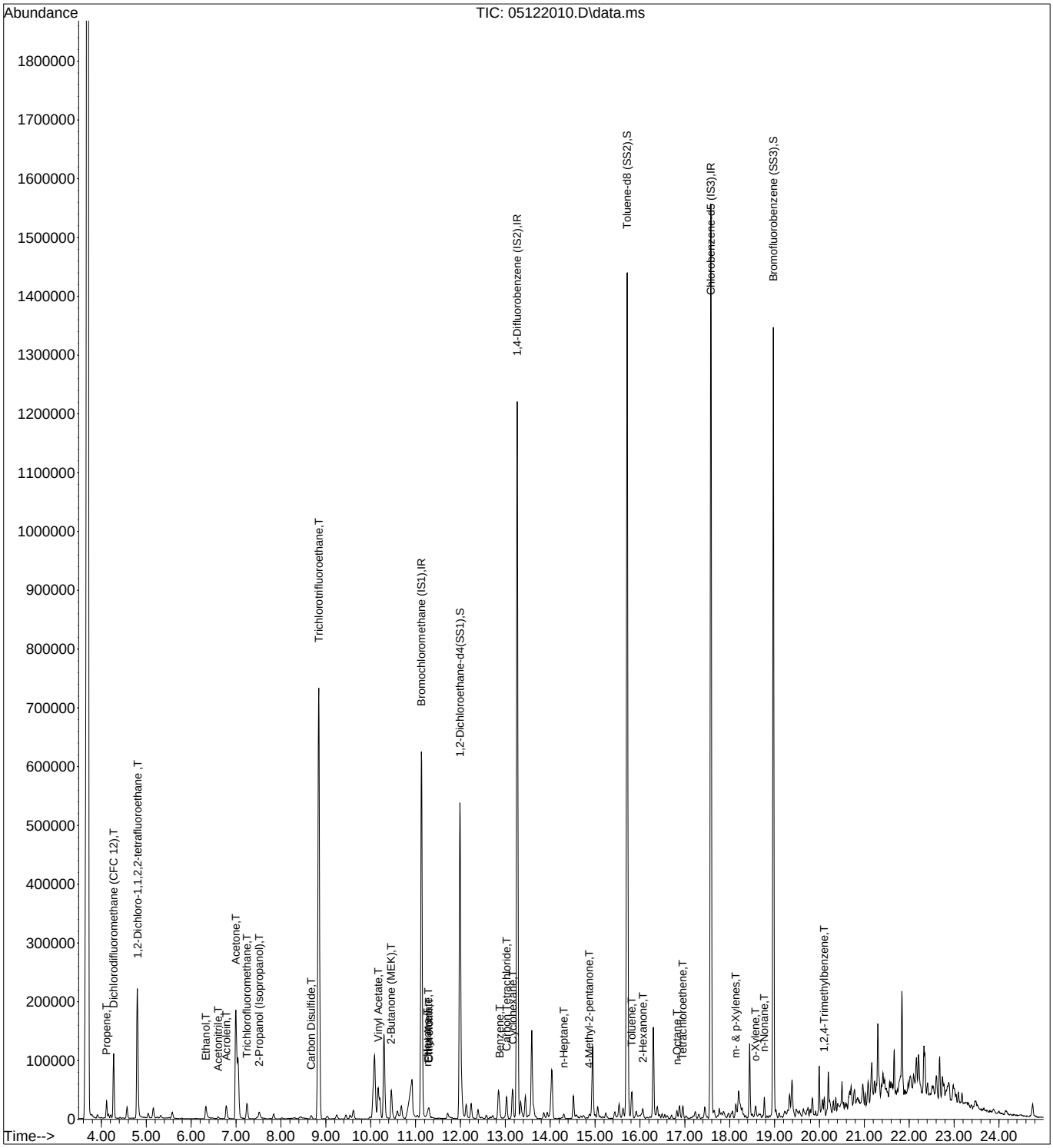
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.30	71	2050	0.073 ng		95
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.87	58	1697	0.063 ng	#	65
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	15.44	97	187	N.D.		
58) Toluene	15.82	91	28090	0.251 ng		97
59) 2-Hexanone	16.06	43	13105	0.213 ng		99
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.70	43	2650	N.D.		
63) n-Octane	16.83	57	2639	0.114 ng		89
64) Tetrachloroethene	16.95	166	6223	0.197 ng		99
65) Chlorobenzene	17.59	112	374	N.D.		
66) Ethylbenzene	17.98	91	4253	N.D.		
67) m- & p-Xylenes	18.14	91	16020	0.162 ng		96
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	881	N.D.		
70) o-Xylene	18.57	91	6281	0.062 ng		99
71) n-Nonane	18.77	43	13224	0.248 ng		99
72) 1,1,2,2-Tetrachloroethane	18.58	83	471	N.D.		
74) Cumene	19.10	105	1303	N.D.		
75) alpha-Pinene	19.34	93	289	N.D.		
76) n-Propylbenzene	19.55	91	3682	N.D.		
77) 3-Ethyltoluene	19.64	105	4466	N.D.		
78) 4-Ethyltoluene	19.68	105	2042	N.D.		
79) 1,3,5-Trimethylbenzene	19.75	105	3877	N.D.		
80) alpha-Methylstyrene	19.87	118	493	N.D.		
81) 2-Ethyltoluene	19.91	105	2193	N.D.		
82) 1,2,4-Trimethylbenzene	20.10	105	8267	0.082 ng		89
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.23	91	1269	N.D.		
85) 1,3-Dichlorobenzene	20.24	146	432	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	847	N.D.		
87) sec-Butylbenzene	20.35	105	2027	N.D.		
88) 4-Isopropyltoluene (p-...	20.48	119	1883	N.D.		
89) 1,2,3-Trimethylbenzene	20.48	105	3801	N.D.		
90) 1,2-Dichlorobenzene	20.61	146	298	N.D.		
91) d-Limonene	20.61	68	1953	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.11	180	633	N.D.		
95) Naphthalene	22.21	128	3719	N.D.		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	20.10	119	1227	N.D.		
100) n-Butylbenzene	20.85	91	3527	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122010.D Vial: 14
Acq On : 12 May 2020 7:00 Operator: LH
Sample : P2002300-002 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:23:50 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122010.D Vial: 14
Acq On : 12 May 2020 7:00 Operator: LH
Sample : P2002300-002 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:23:50 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/13/20

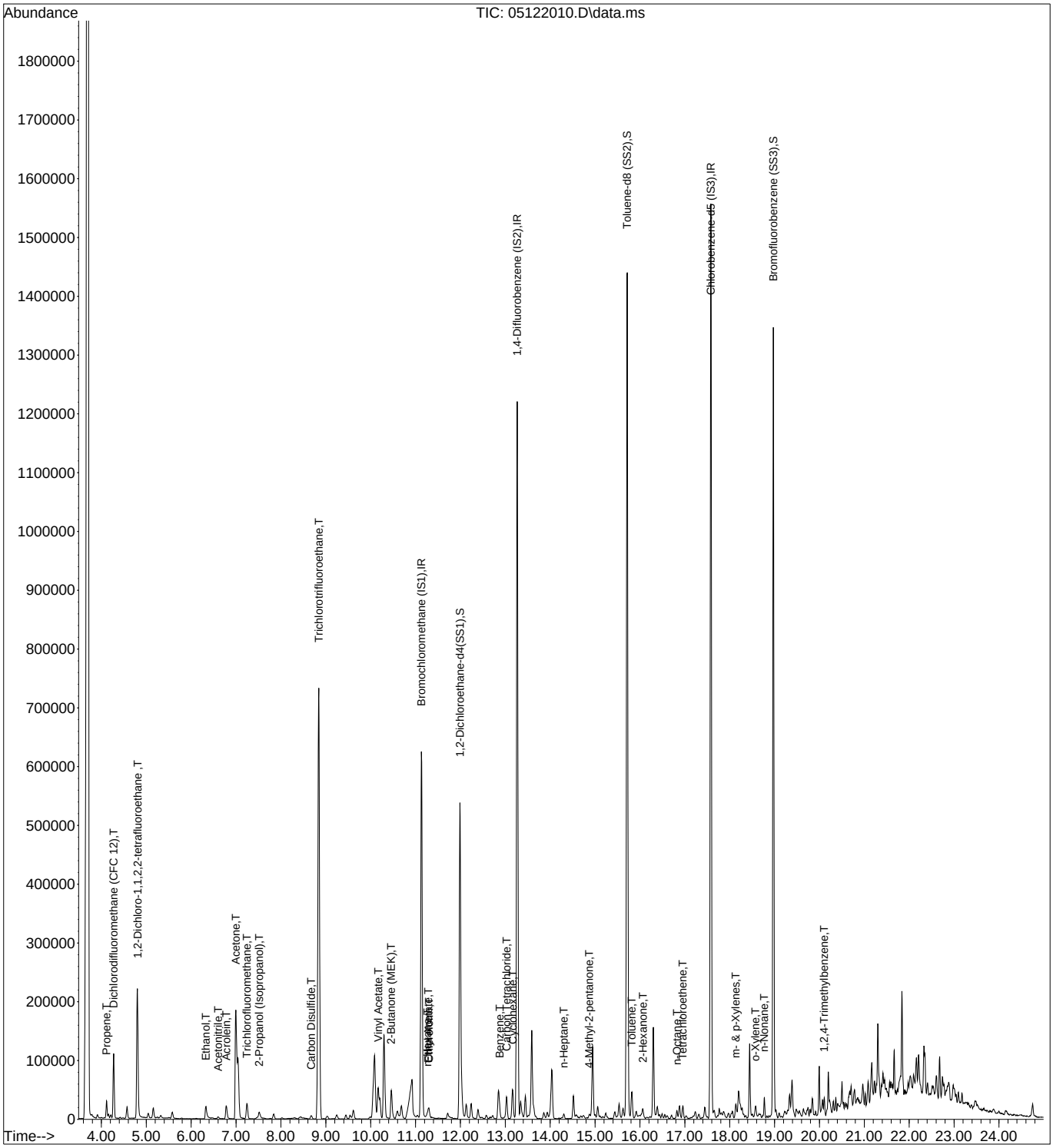
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	263344	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1119269	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	512983	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	413145	11.576	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.64%				
57) Toluene-d8 (SS2)	15.71	98	1101461	12.668	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.36%				
73) Bromofluorobenzene (SS3)	18.97	174	409205	13.079	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.64%				
Target Compounds							Qvalue
2) Propene	4.11	42	8153	0.267	ng		93
3) Dichlorodifluoromethan...	4.27	85	105491	1.768	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	2108	0.059	ng		86
10) Ethanol	6.33	45	37293	1.583	ng		99
11) Acetonitrile	6.60	41	5050	0.094	ng		86
12) Acrolein	6.79	56	25775	1.385	ng		98
13) Acetone	7.00	58	83558	3.548	ng	#	64
14) Trichlorofluoromethane	7.24	101	25868	0.491	ng		98
15) 2-Propanol (Isopropanol)	7.52	45	18754	0.263	ng		78
21) Trichlorotrifluoroethane	8.84	151	309773	12.445	ng		98
22) Carbon Disulfide	8.67	76	11052	0.101	ng		98
26) Vinyl Acetate	10.17	86	13457	1.834	ng	#	37
27) 2-Butanone (MEK)	10.46	72	18225	0.907	ng		98
30) Ethyl Acetate	11.28	61	2066	0.178	ng		99
31) n-Hexane	11.26	57	3479	0.069	ng	#	88
32) Chloroform	11.30	83	8409	0.160	ng		99
41) Benzene	12.87	78	6044	0.050	ng		96
42) Carbon Tetrachloride	13.03	117	22264	0.545	ng		99
43) Cyclohexane	13.17	84	20731	0.463	ng		97
51) n-Heptane	14.30	71	2050	0.073	ng		95
53) 4-Methyl-2-pentanone	14.87	58	1697	0.063	ng	#	65
58) Toluene	15.82	91	28090	0.251	ng		97
59) 2-Hexanone	16.06	43	13105	0.213	ng		99
63) n-Octane	16.83	57	2639	0.114	ng		89
64) Tetrachloroethene	16.95	166	6223	0.197	ng		99
67) m- & p-Xylenes	18.14	91	16020	0.162	ng		96
70) o-Xylene	18.57	91	6281	0.062	ng		99
71) n-Nonane	18.77	43	13224	0.248	ng		99
82) 1,2,4-Trimethylbenzene	20.10	105	8267	0.082	ng		89

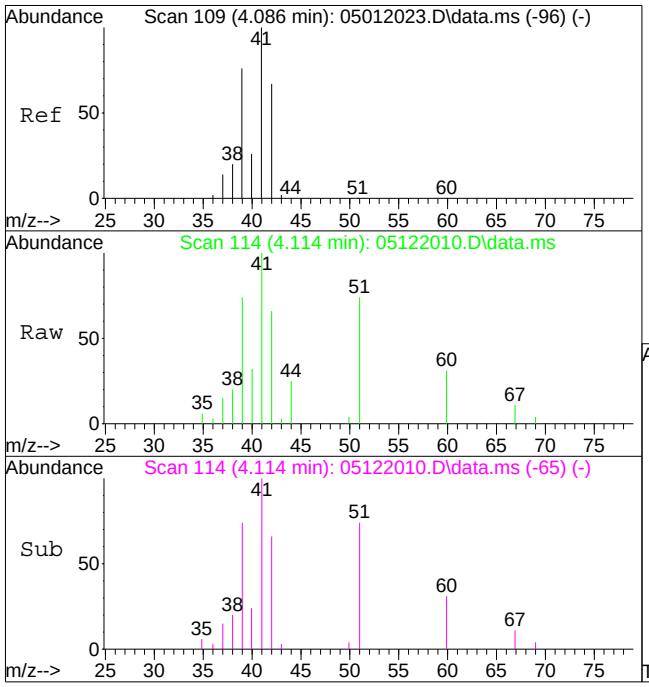
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122010.D Vial: 14
Acq On : 12 May 2020 7:00 Operator: LH
Sample : P2002300-002 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:23:50 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

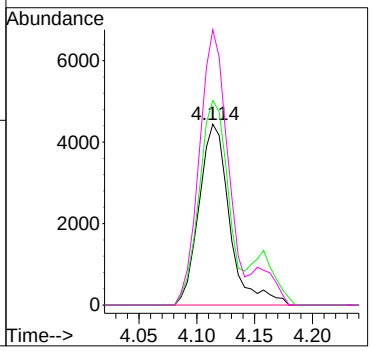


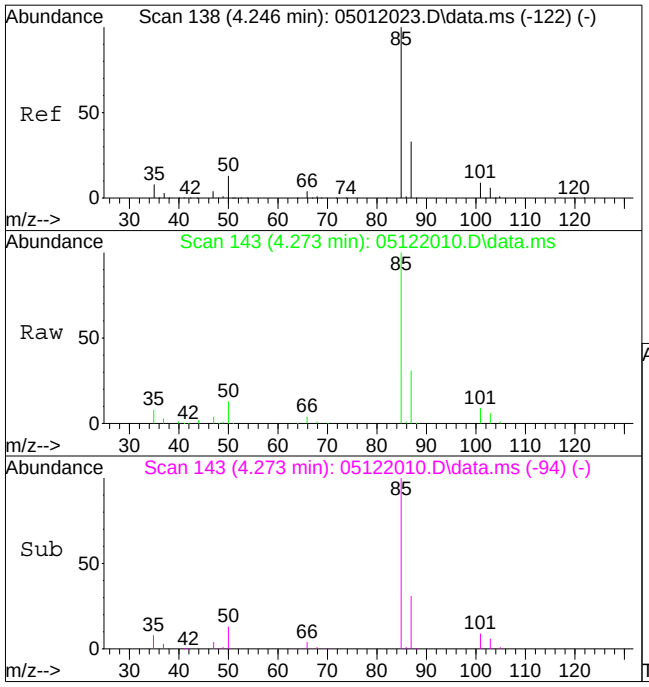


#2
Propene
Concen: 0.27 ng
RT: 4.11 min Scan# 114
Delta R.T. 0.022 min
Lab File: 05122010.D
Acq: 12 May 2020 7:00

Tgt Ion: 42 Resp: 8153

Ion	Ratio	Lower	Upper
42	100		
39	108.8	96.1	136.1
41	143.3	131.9	171.9

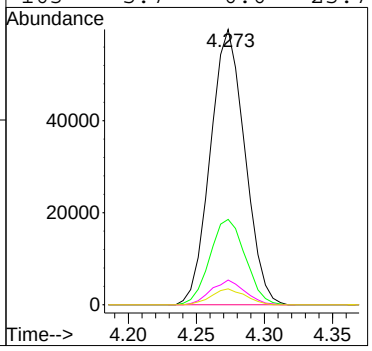


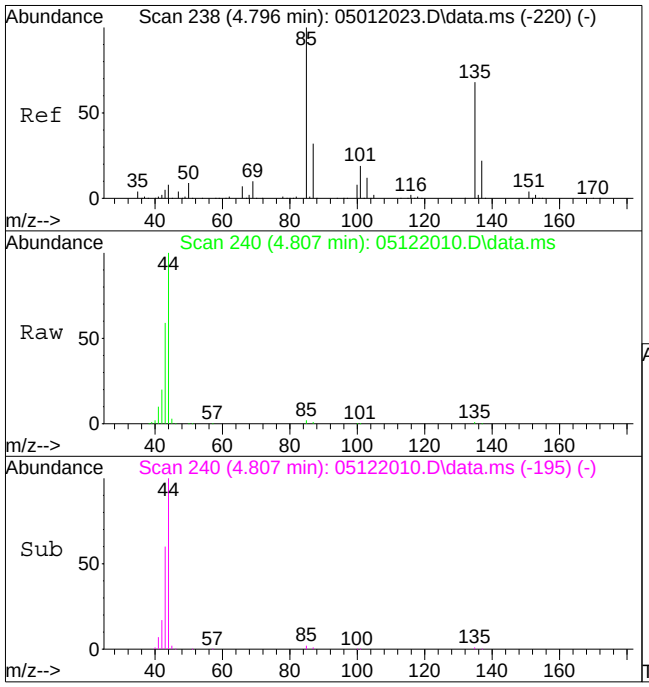


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.77 ng
RT: 4.27 min Scan# 143
Delta R.T. 0.022 min
Lab File: 05122010.D
Acq: 12 May 2020 7:00

Tgt Ion: 85 Resp: 105491

Ion	Ratio	Lower	Upper
85	100		
87	31.9	12.4	52.4
101	8.7	0.0	28.8
103	5.7	0.0	25.7

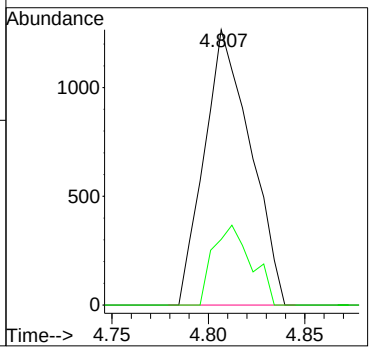


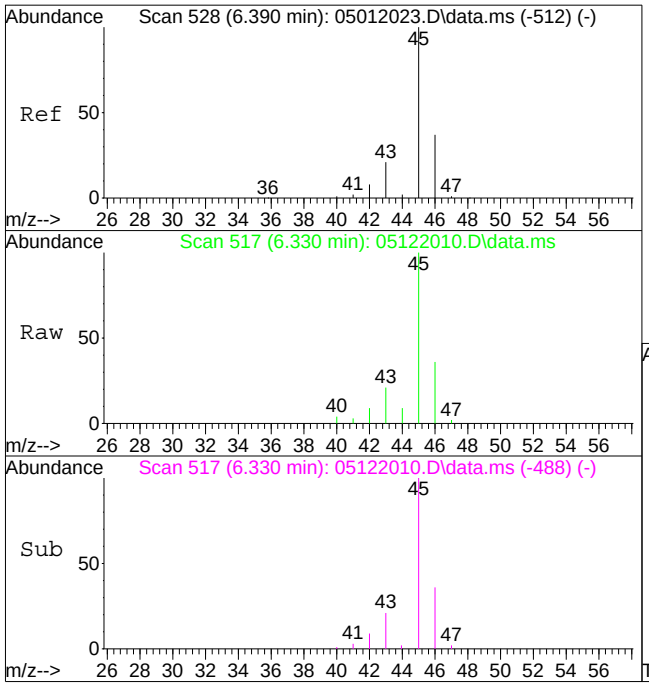


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 0.06 ng
RT: 4.81 min Scan# 240
Delta R.T. -0.000 min
Lab File: 05122010.D
Acq: 12 May 2020 7:00

Tgt Ion:135 Resp: 2108

Ion	Ratio	Lower	Upper
135	100		
137	24.1	12.1	52.1

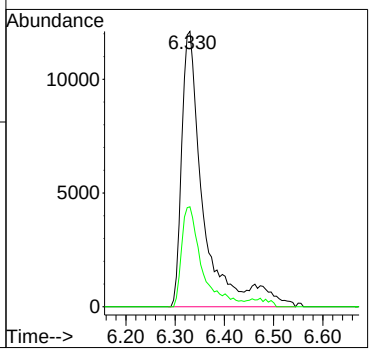


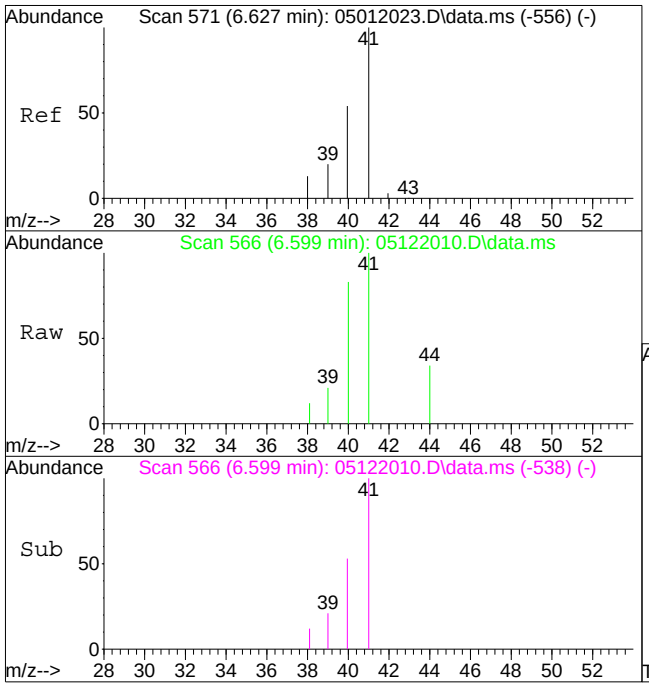


#10
Ethanol
Concen: 1.58 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.088 min
Lab File: 05122010.D
Acq: 12 May 2020 7:00

Tgt Ion: 45 Resp: 37293

Ion	Ratio	Lower	Upper
45	100		
46	36.5	17.2	57.2

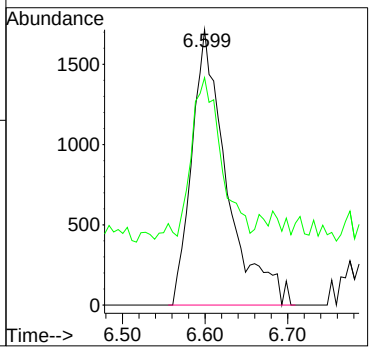


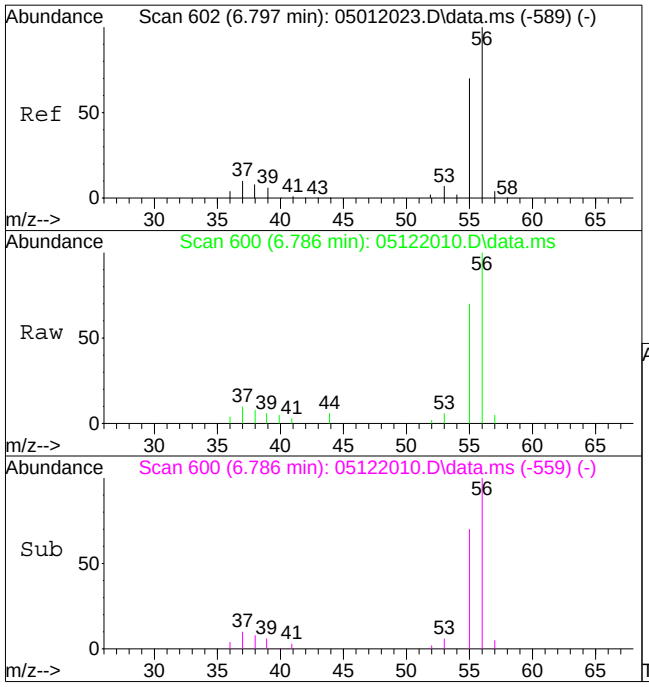


#11
Acetonitrile
Concen: 0.09 ng
RT: 6.60 min Scan# 566
Delta R.T. -0.044 min
Lab File: 05122010.D
Acq: 12 May 2020 7:00

Tgt Ion: 41 Resp: 5050

Ion	Ratio	Lower	Upper
41	100		
40	63.8	33.6	73.6

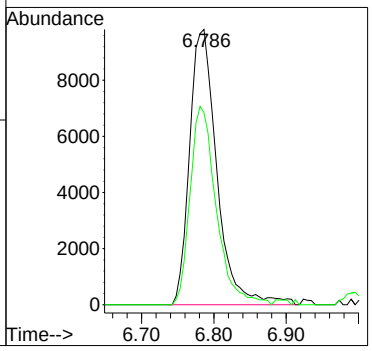


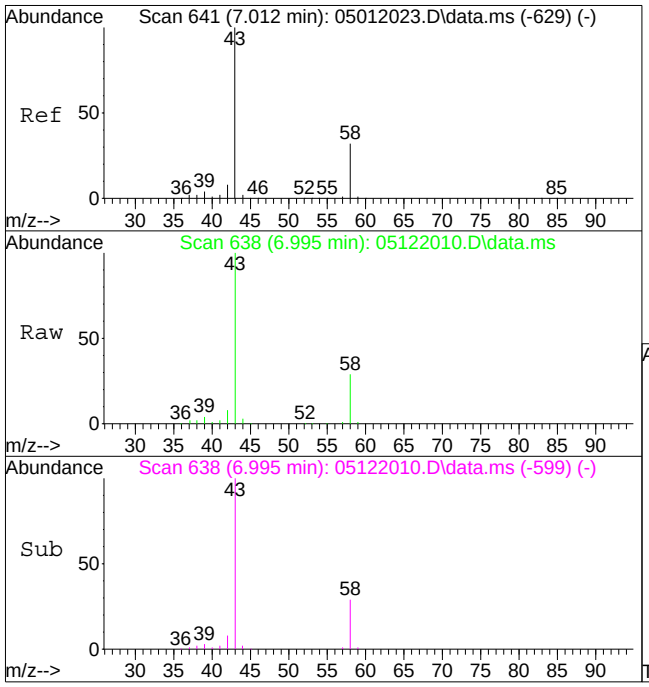


#12
Acrolein
Concen: 1.39 ng
RT: 6.79 min Scan# 600
Delta R.T. -0.022 min
Lab File: 05122010.D
Acq: 12 May 2020 7:00

Tgt Ion: 56 Resp: 25775

Ion	Ratio	Lower	Upper
56	100		
55	68.8	50.2	90.2

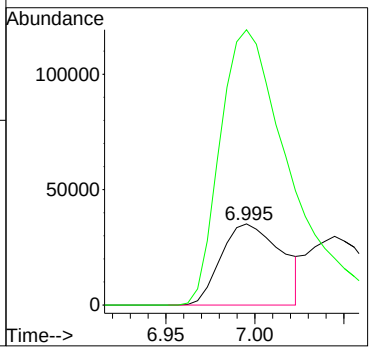


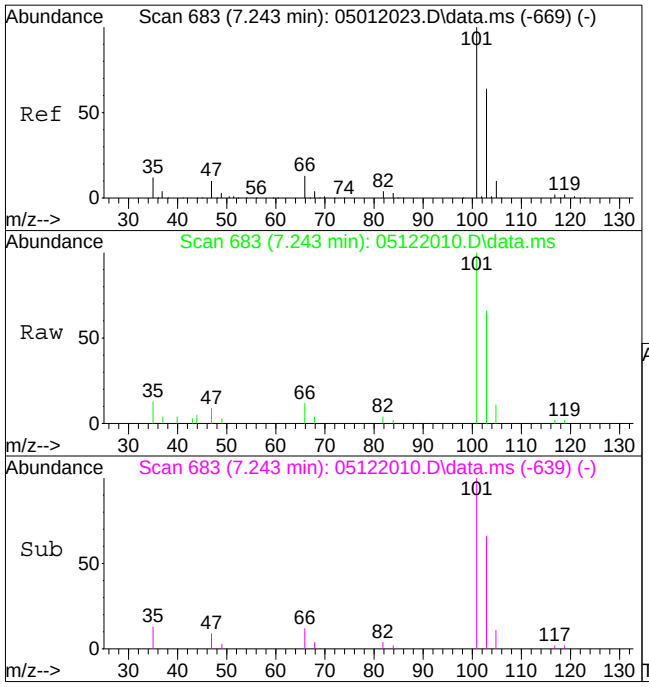


#13
Acetone
Concen: 3.55 ng
RT: 7.00 min Scan# 638
Delta R.T. -0.033 min
Lab File: 05122010.D
Acq: 12 May 2020 7:00

Tgt Ion: 58 Resp: 83558

Ion	Ratio	Lower	Upper
58	100		
43	399.8	294.4	354.4#

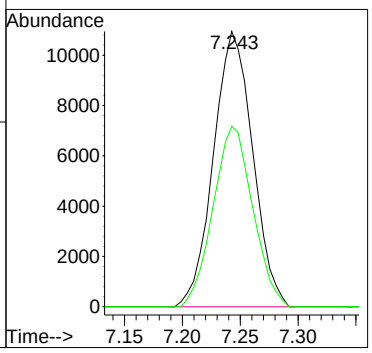


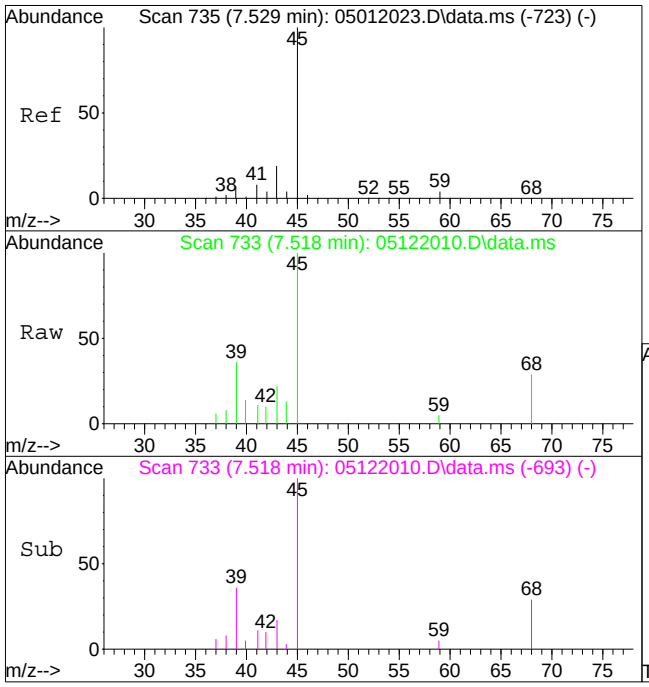


#14
Trichlorofluoromethane
Concen: 0.49 ng
RT: 7.24 min Scan# 683
Delta R.T. -0.006 min
Lab File: 05122010.D
Acq: 12 May 2020 7:00

Tgt Ion:101 Resp: 25868

Ion	Ratio	Lower	Upper
101	100		
103	66.2	44.4	84.4

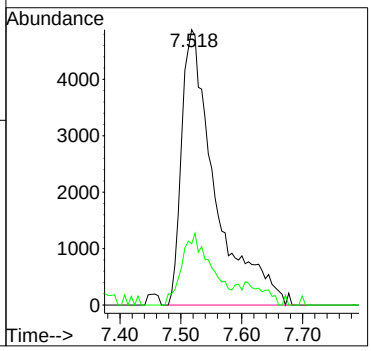


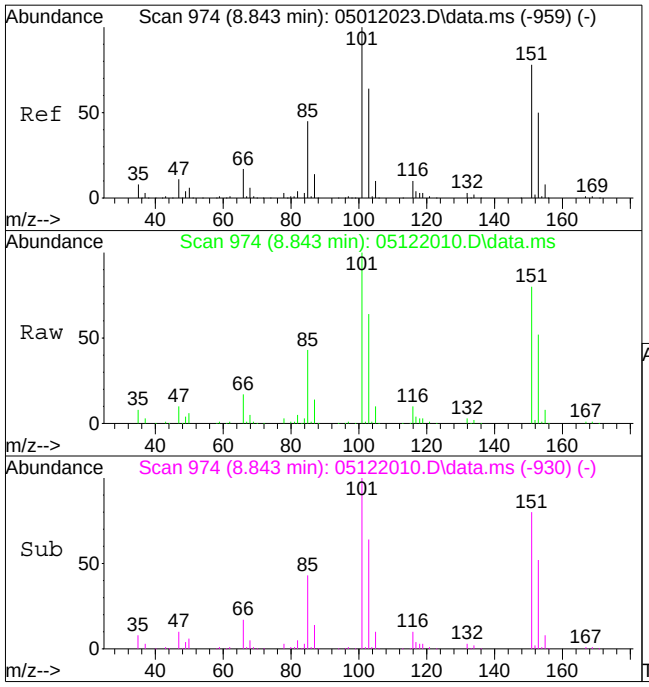


#15
2-Propanol (Isopropanol)
Concen: 0.26 ng
RT: 7.52 min Scan# 733
Delta R.T. -0.028 min
Lab File: 05122010.D
Acq: 12 May 2020 7:00

Tgt Ion: 45 Resp: 18754

Ion	Ratio	Lower	Upper
45	100		
43	29.5	0.0	39.5

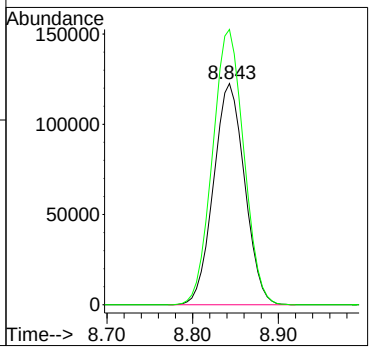


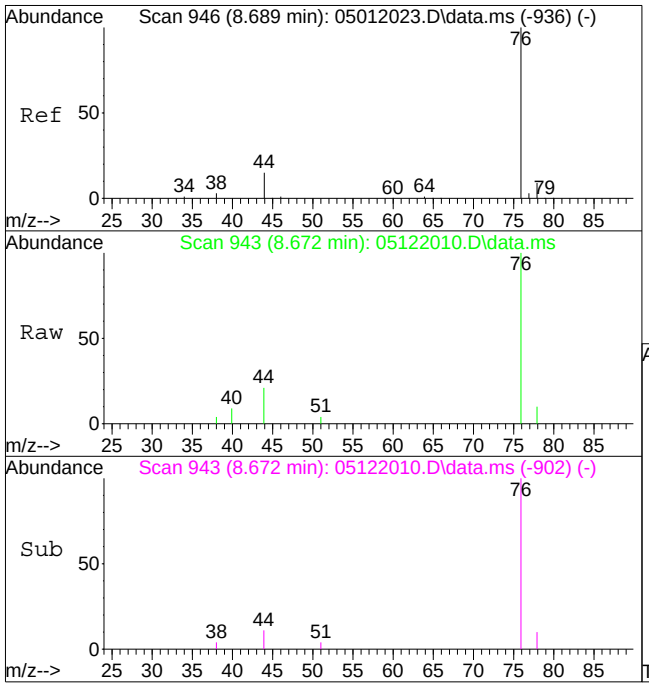


#21
Trichlorotrifluoroethane
Concen: 12.44 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05122010.D
Acq: 12 May 2020 7:00

Tgt Ion:151 Resp: 309773

Ion	Ratio	Lower	Upper
151	100		
101	125.1	107.3	147.3

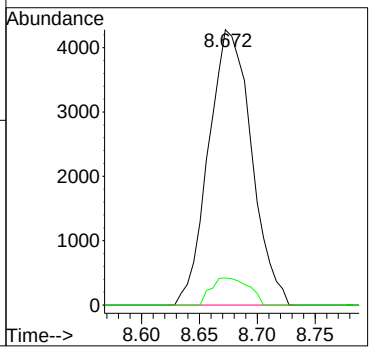


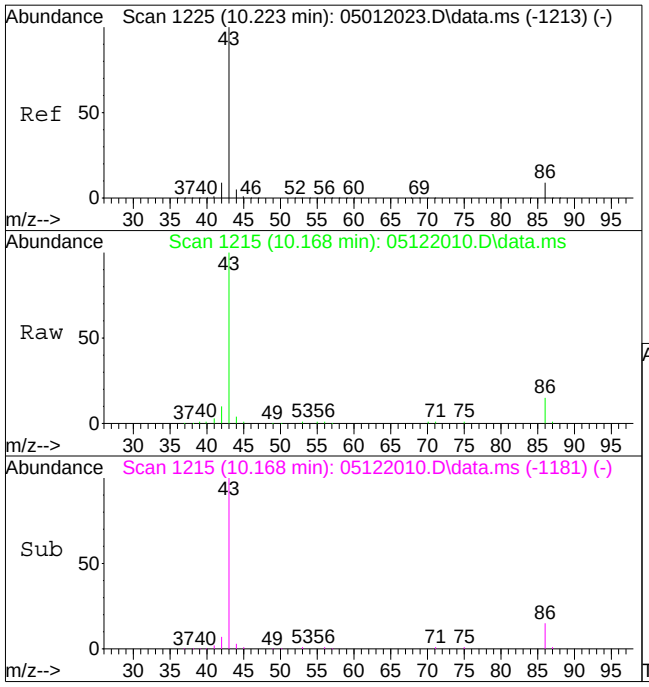


#22
Carbon Disulfide
Concen: 0.10 ng
RT: 8.67 min Scan# 943
Delta R.T. -0.022 min
Lab File: 05122010.D
Acq: 12 May 2020 7:00

Tgt Ion: 76 Resp: 11052

Ion	Ratio	Lower	Upper
76	100		
78	8.6	0.0	29.2

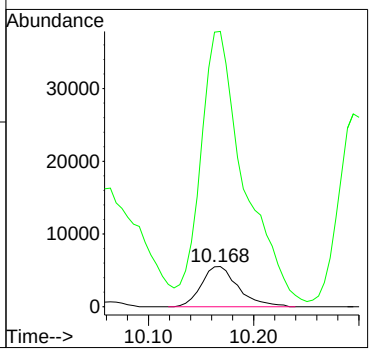


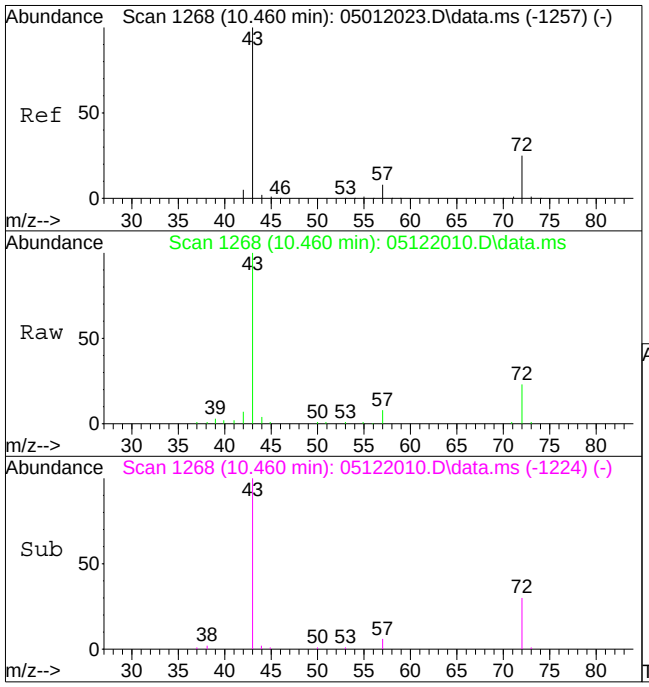


#26
Vinyl Acetate
Concen: 1.83 ng
RT: 10.17 min Scan# 1215
Delta R.T. -0.061 min
Lab File: 05122010.D
Acq: 12 May 2020 7:00

Tgt Ion: 86 Resp: 13457

Ion	Ratio	Lower	Upper
86	100		
43	817.0	1103.0	1143.0#

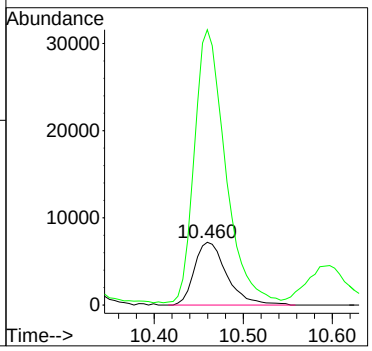


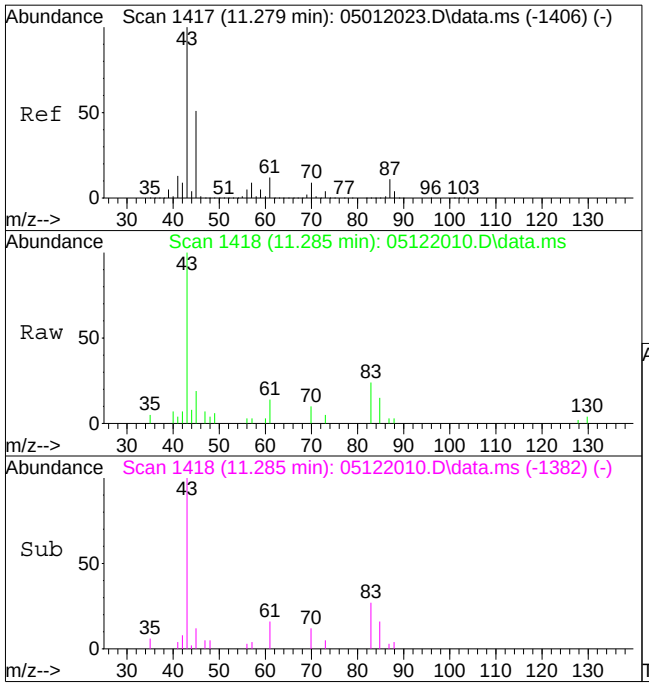


#27
2-Butanone (MEK)
Concen: 0.91 ng
RT: 10.46 min Scan# 1268
Delta R.T. -0.006 min
Lab File: 05122010.D
Acq: 12 May 2020 7:00

Tgt Ion: 72 Resp: 18225

Ion	Ratio	Lower	Upper
72	100		
43	413.9	389.7	429.7

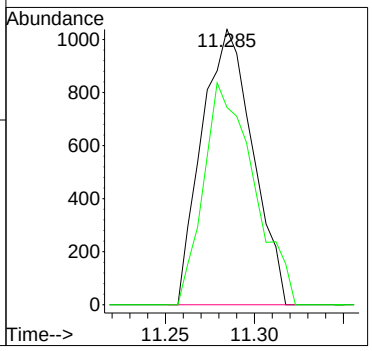


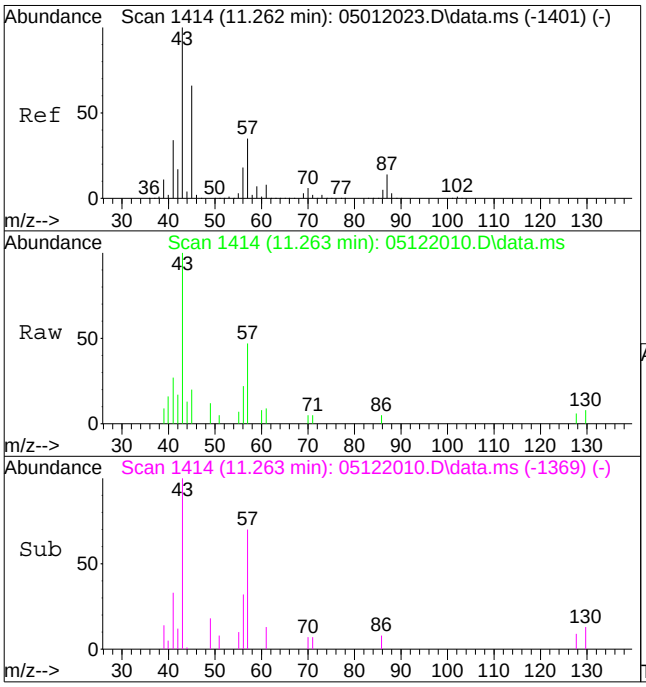


#30
Ethyl Acetate
Concen: 0.18 ng
RT: 11.28 min Scan# 1418
Delta R.T. -0.000 min
Lab File: 05122010.D
Acq: 12 May 2020 7:00

Tgt Ion: 61 Resp: 2066

Ion	Ratio	Lower	Upper
61	100		
70	79.1	57.9	97.9

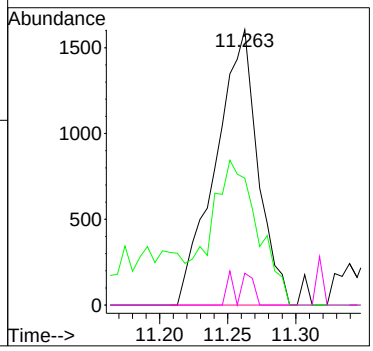


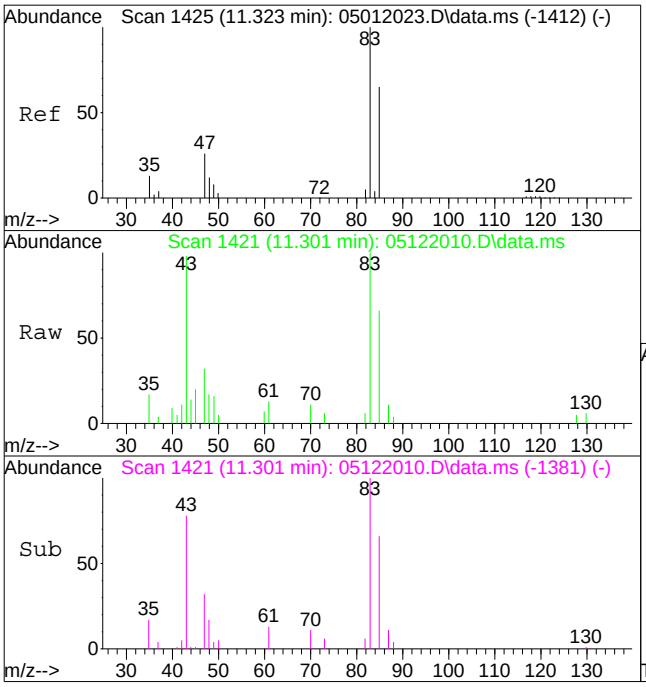


#31
n-Hexane
Concen: 0.07 ng
RT: 11.26 min Scan# 1414
Delta R.T. -0.000 min
Lab File: 05122010.D
Acq: 12 May 2020 7:00

Tgt Ion: 57 Resp: 3479

Ion	Ratio	Lower	Upper
57	100		
56	56.4	41.4	62.0
86	3.2	12.4	18.6#

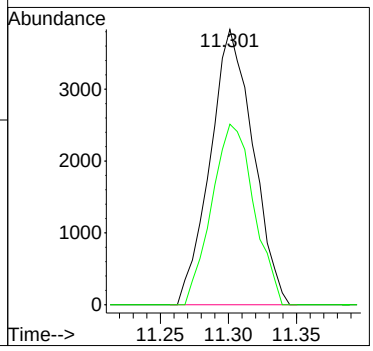


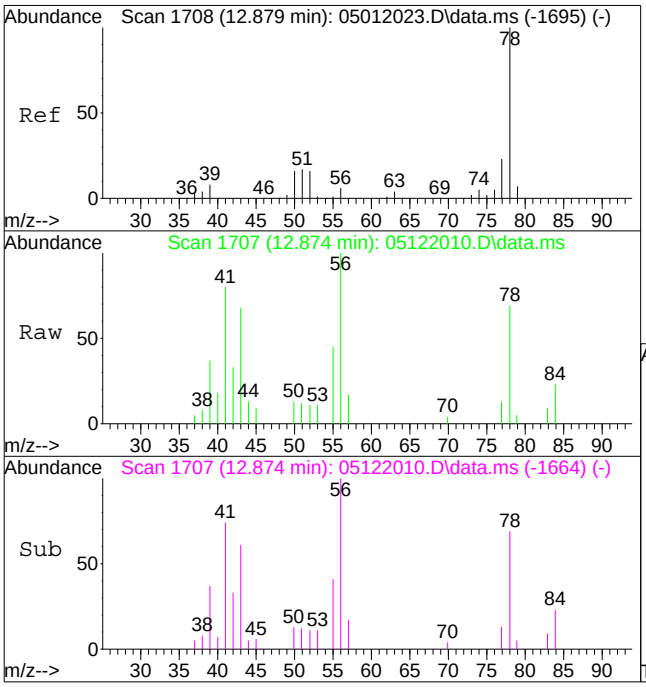


#32
Chloroform
Concen: 0.16 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.028 min
Lab File: 05122010.D
Acq: 12 May 2020 7:00

Tgt Ion: 83 Resp: 8409

Ion	Ratio	Lower	Upper
83	100		
85	64.3	45.5	85.5

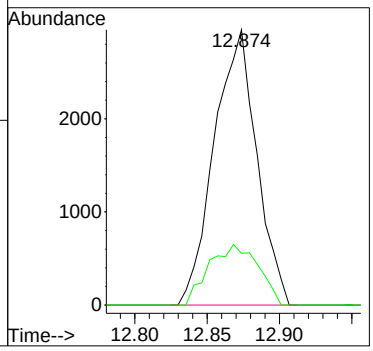


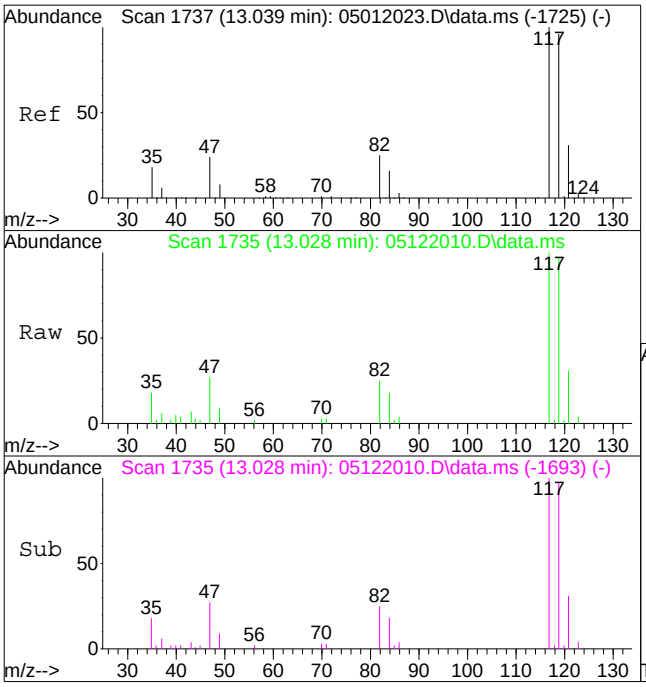


#41
Benzene
Concen: 0.05 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05122010.D
Acq: 12 May 2020 7:00

Tgt Ion: 78 Resp: 6044

Ion	Ratio	Lower	Upper
78	100		
77	25.4	3.4	43.4

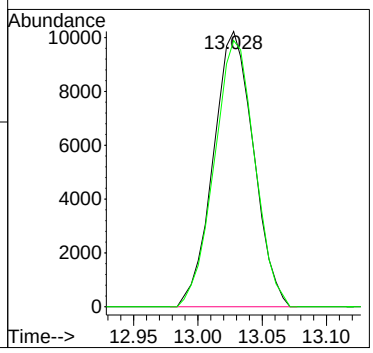


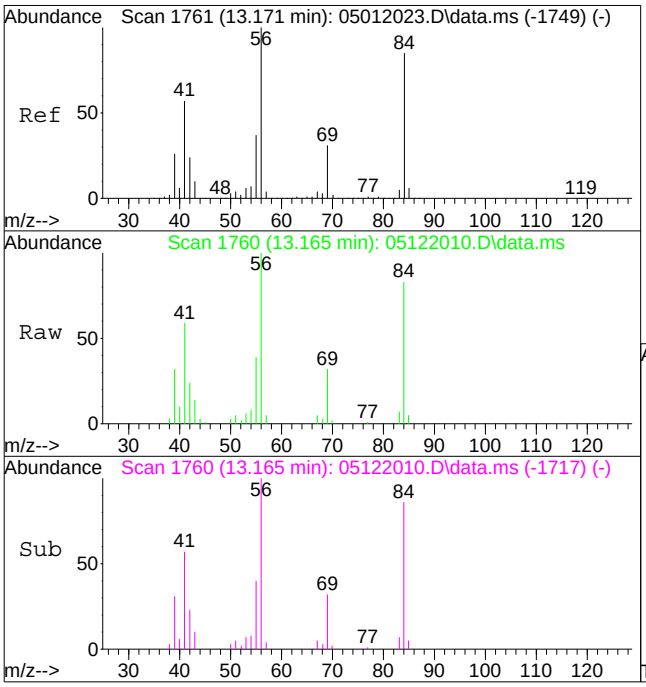


#42
Carbon Tetrachloride
Concen: 0.55 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05122010.D
Acq: 12 May 2020 7:00

Tgt Ion:117 Resp: 22264

Ion	Ratio	Lower	Upper
117	100		
119	97.1	76.2	116.2

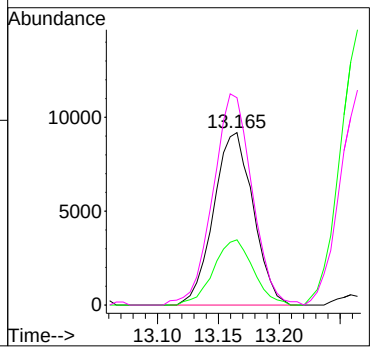


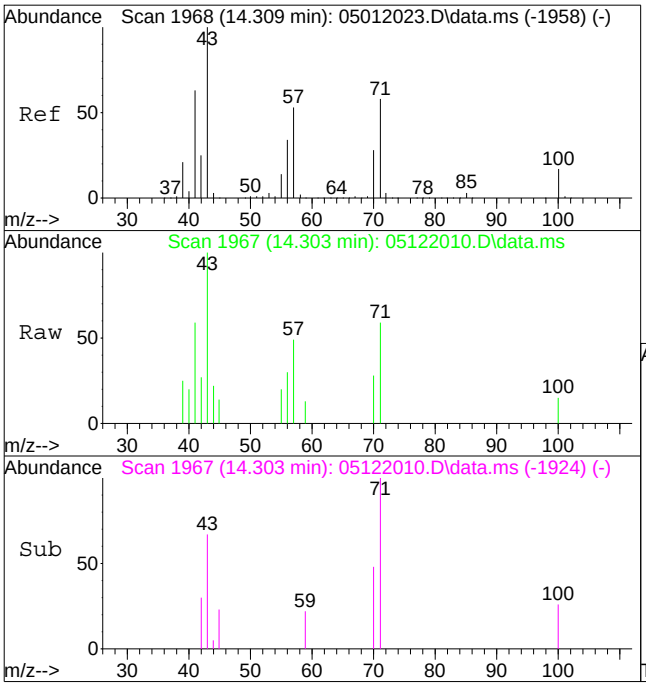


#43
Cyclohexane
Concen: 0.46 ng
RT: 13.17 min Scan# 1760
Delta R.T. -0.011 min
Lab File: 05122010.D
Acq: 12 May 2020 7:00

Tgt Ion: 84 Resp: 20731

Ion	Ratio	Lower	Upper
84	100		
69	38.0	16.5	56.5
56	121.5	97.4	137.4

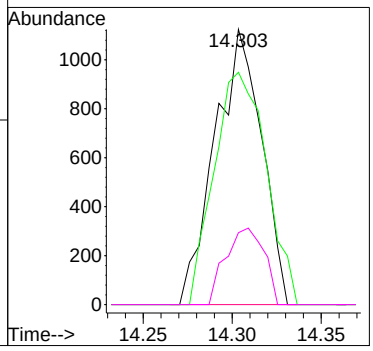


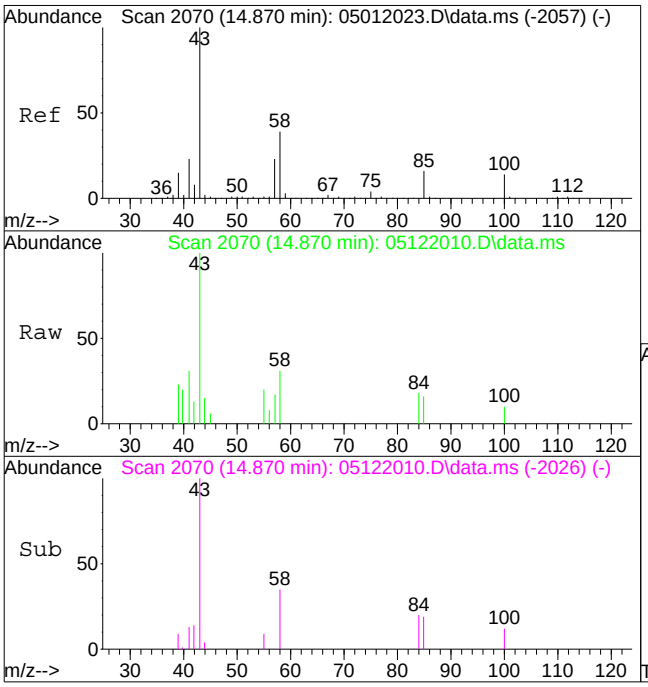


#51
n-Heptane
Concen: 0.07 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05122010.D
Acq: 12 May 2020 7:00

Tgt Ion: 71 Resp: 2050

Ion	Ratio	Lower	Upper
71	100		
57	94.1	71.0	111.0
100	22.9	8.4	48.4

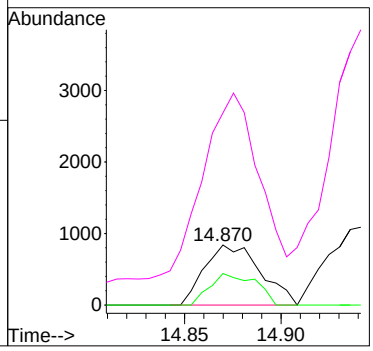


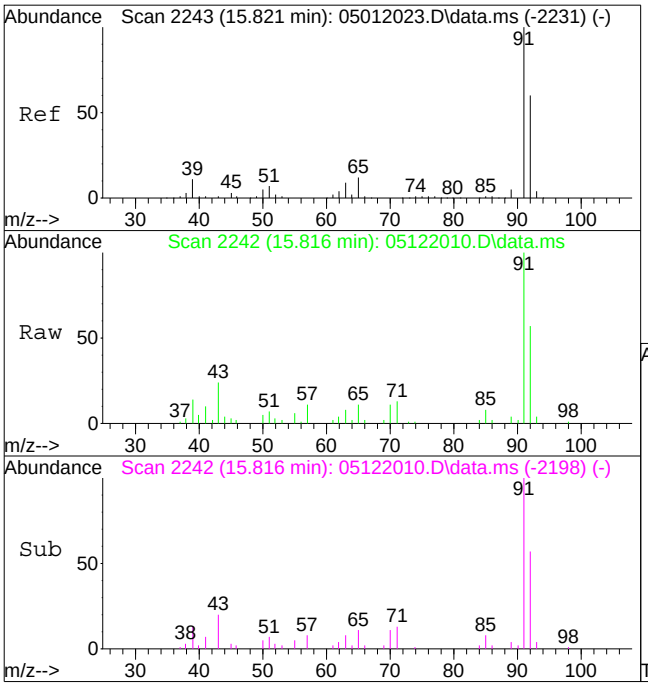


#53
4-Methyl-2-pentanone
Concen: 0.06 ng
RT: 14.87 min Scan# 2070
Delta R.T. -0.006 min
Lab File: 05122010.D
Acq: 12 May 2020 7:00

Tgt Ion: 58 Resp: 1697

Ion	Ratio	Lower	Upper
58	100		
85	42.6	35.4	53.2
43	324.9	203.3	304.9#

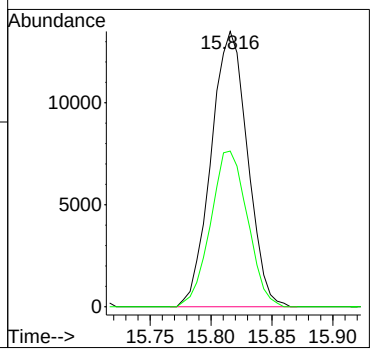


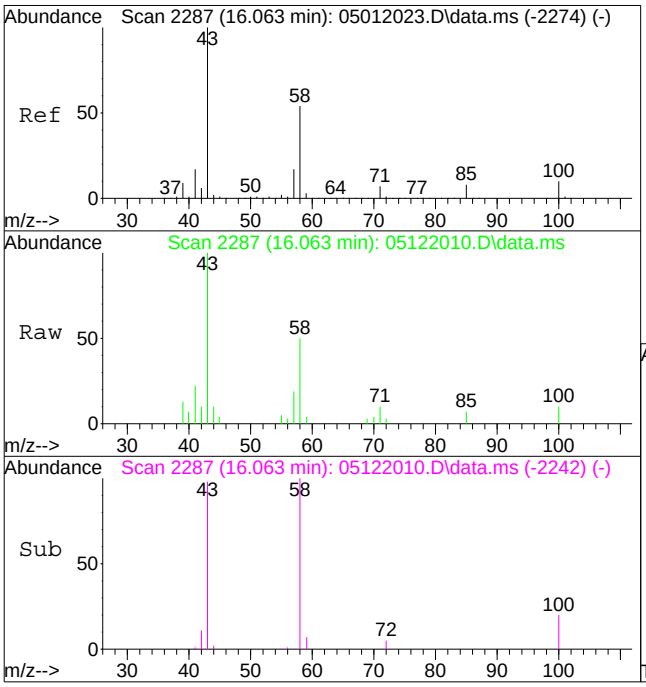


#58
Toluene
Concen: 0.25 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05122010.D
Acq: 12 May 2020 7:00

Tgt Ion: 91 Resp: 28090

Ion	Ratio	Lower	Upper
91	100		
92	57.3	39.4	79.4

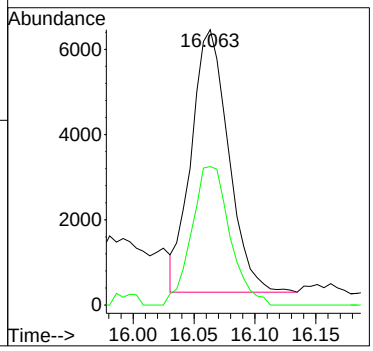


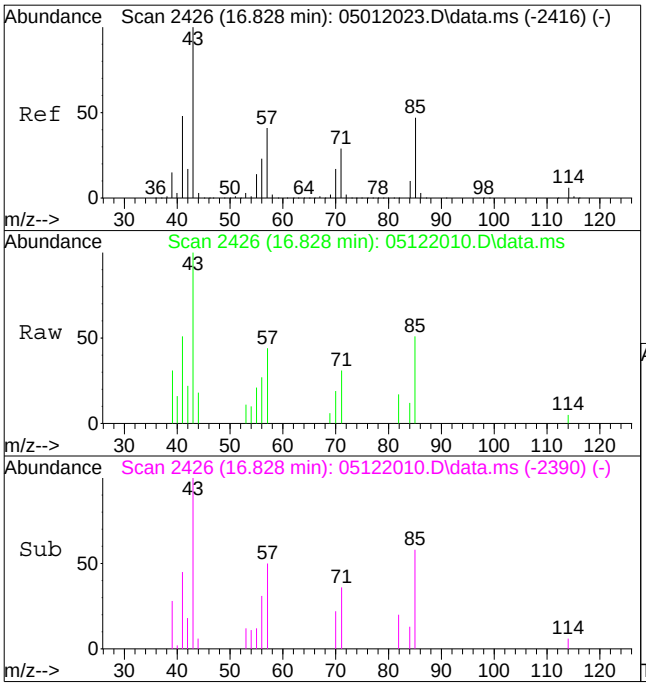


#59
2-Hexanone
Concen: 0.21 ng
RT: 16.06 min Scan# 2287
Delta R.T. -0.000 min
Lab File: 05122010.D
Acq: 12 May 2020 7:00

Tgt Ion: 43 Resp: 13105

Ion	Ratio	Lower	Upper
43	100		
58	54.0	34.5	74.5

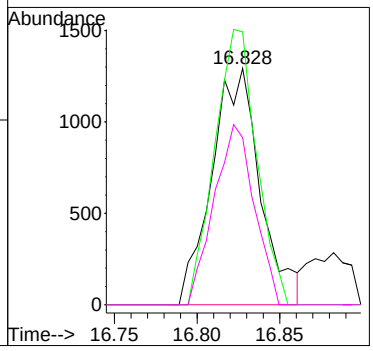


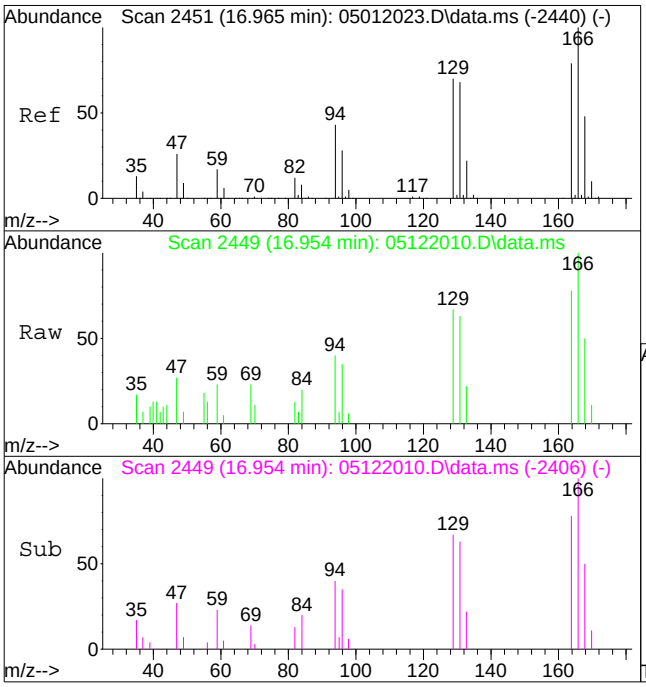


#63
n-Octane
Concen: 0.11 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05122010.D
Acq: 12 May 2020 7:00

Tgt Ion: 57 Resp: 2639

Ion	Ratio	Lower	Upper
57	100		
85	100.8	91.0	136.4
71	63.2	56.2	84.2

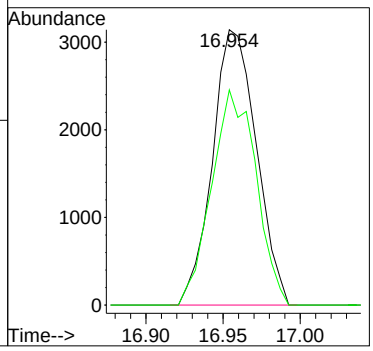


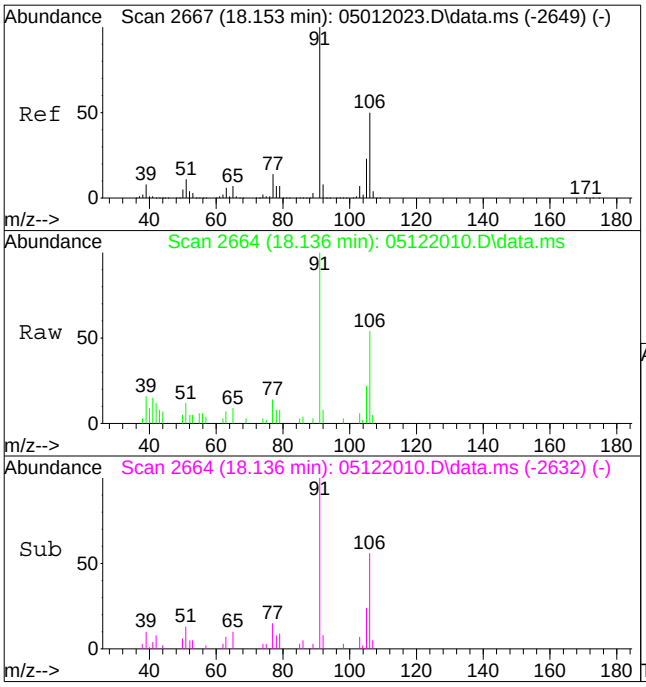


#64
Tetrachloroethene
Concen: 0.20 ng
RT: 16.95 min Scan# 2449
Delta R.T. -0.011 min
Lab File: 05122010.D
Acq: 12 May 2020 7:00

Tgt Ion:166 Resp: 6223

Ion	Ratio	Lower	Upper
166	100		
164	79.0	58.4	98.4

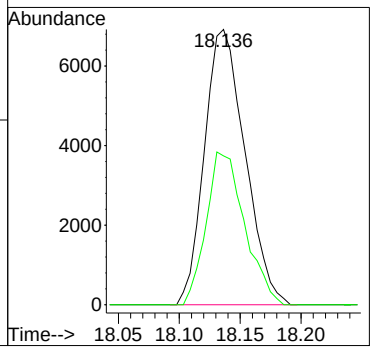


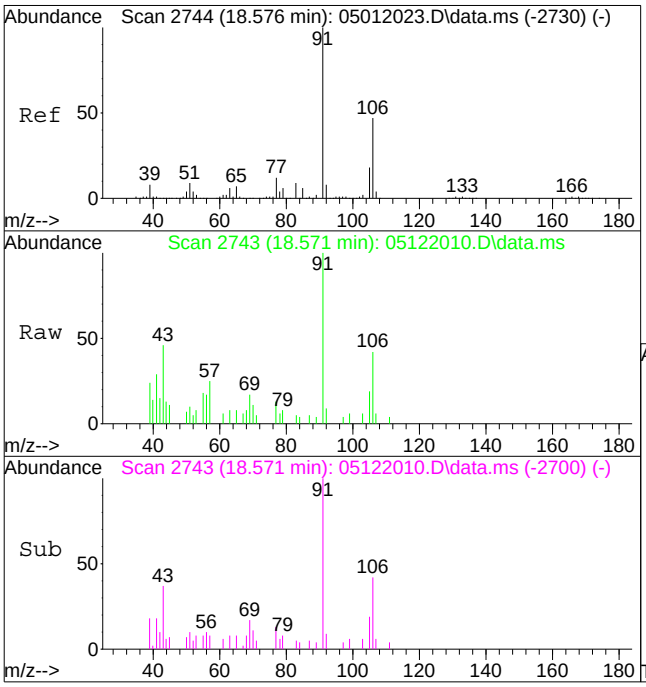


#67
m- & p-Xylenes
Concen: 0.16 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05122010.D
Acq: 12 May 2020 7:00

Tgt Ion: 91 Resp: 16020

Ion	Ratio	Lower	Upper
91	100		
106	52.3	29.7	69.7

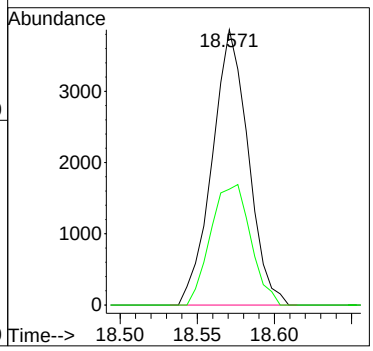


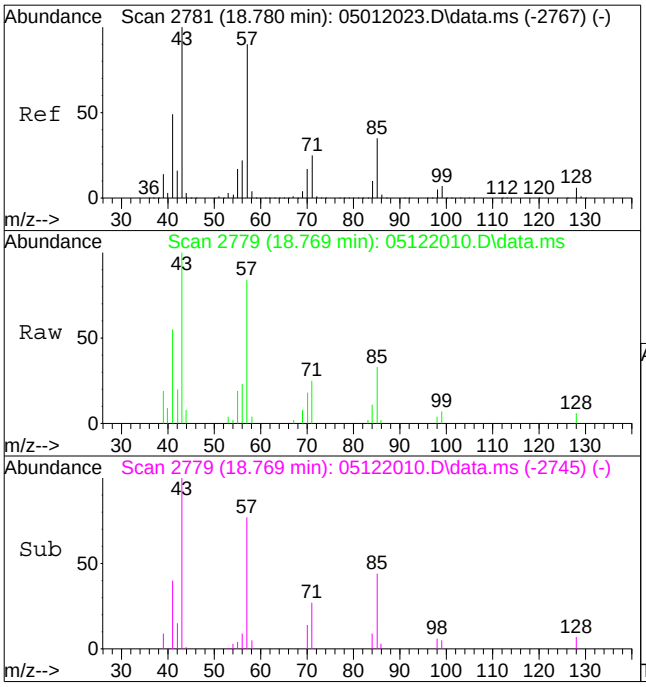


#70
o-Xylene
Concen: 0.06 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05122010.D
Acq: 12 May 2020 7:00

Tgt Ion: 91 Resp: 6281

Ion	Ratio	Lower	Upper
91	100		
106	48.4	27.5	67.5

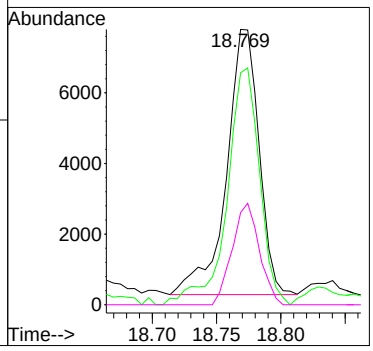


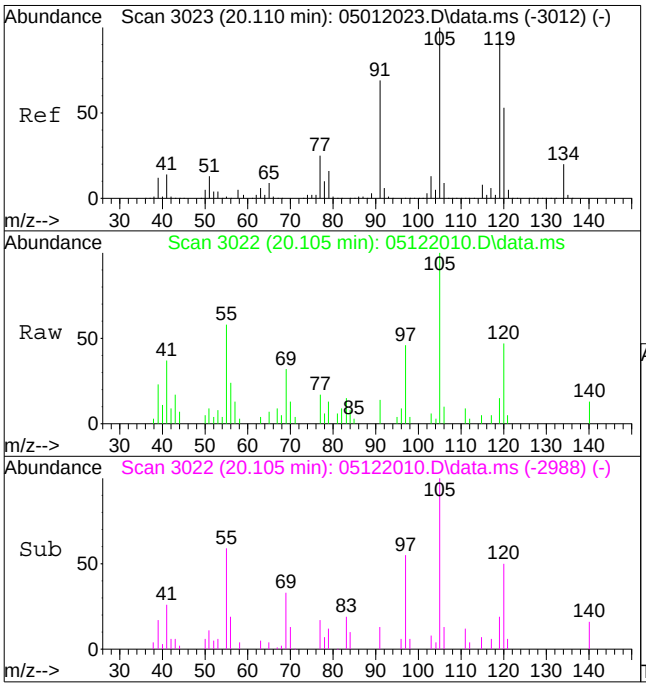


#71
n-Nonane
Concen: 0.25 ng
RT: 18.77 min Scan# 2779
Delta R.T. -0.011 min
Lab File: 05122010.D
Acq: 12 May 2020 7:00

Tgt Ion: 43 Resp: 13224

Ion	Ratio	Lower	Upper
43	100		
57	89.1	69.0	109.0
85	31.8	14.6	54.6

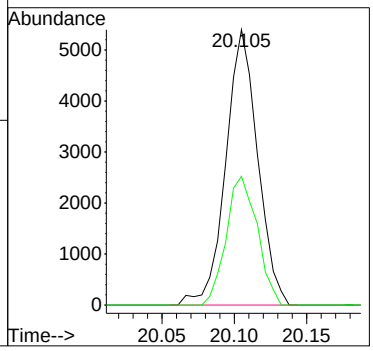




#82
1,2,4-Trimethylbenzene
Concen: 0.08 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05122010.D
Acq: 12 May 2020 7:00

Tgt Ion:105 Resp: 8267

Ion	Ratio	Lower	Upper
105	100		
120	45.5	33.6	73.6



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122011.D Vial: 15
Acq On : 12 May 2020 7:34 Operator: LH
Sample : P2002300-003 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:24:59 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/13/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	261607	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1124356	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	513768	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	412233	11.627	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.04%				
57) Toluene-d8 (SS2)	15.72	98	1087973	12.494	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.92%				
73) Bromofluorobenzene (SS3)	18.97	174	412153	13.153	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.20%				
Target Compounds							Qvalue
2) Propene	4.11	42	14399	0.475	ng		98
3) Dichlorodifluoromethan...	4.26	85	150648	2.542	ng		100
4) Chloromethane	4.54	50	2117	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	2762	0.078	ng		97
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.22	54	449	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.97	64	288	N.D.			
10) Ethanol	6.33	45	22717	0.971	ng		93
11) Acetonitrile	6.60	41	4018	0.075	ng		96
12) Acrolein	6.79	56	16107	0.871	ng		99
13) Acetone	7.00	58	80174m	3.427	ng		
14) Trichlorofluoromethane	7.24	101	43223	0.825	ng		100
15) 2-Propanol (Isopropanol)	7.51	45	14165	0.200	ng		75
16) Acrylonitrile	7.75	53	500	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.44	59	3229	N.D.			
19) Methylene Chloride	8.41	84	184	N.D.			
20) 3-Chloro-1-propene (Al...	8.43	41	775	N.D.			
21) Trichlorotrifluoroethane	8.84	151	1066299	43.122	ng		98
22) Carbon Disulfide	8.68	76	28175	0.259	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.09	73	356	N.D.			
26) Vinyl Acetate	10.17	86	10641	1.460	ng	#	12
27) 2-Butanone (MEK)	10.46	72	15168	0.760	ng		99
28) cis-1,2-Dichloroethene	10.91	61	763	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	11.29	61	600	0.052	ng		94
31) n-Hexane	11.26	57	1192	N.D.			
32) Chloroform	11.30	83	2566	N.D.			
34) Tetrahydrofuran (THF)	11.76	72	1258	0.065	ng	#	41
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	12.39	97	2149	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	4500	N.D.			
42) Carbon Tetrachloride	13.03	117	34397	0.839	ng		99
43) Cyclohexane	13.16	84	1316	N.D.			
44) tert-Amyl Methyl Ether	13.58	73	1317	N.D.			
45) 1,2-Dichloropropane	13.73	63	193	N.D.			
46) Bromodichloromethane	13.68	83	398	N.D.			
47) Trichloroethene	13.97	130	172	N.D.			
48) 1,4-Dioxane	13.97	88	1075	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.30	100	263	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122011.D Vial: 15
Acq On : 12 May 2020 7:34 Operator: LH
Sample : P2002300-003 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:24:59 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

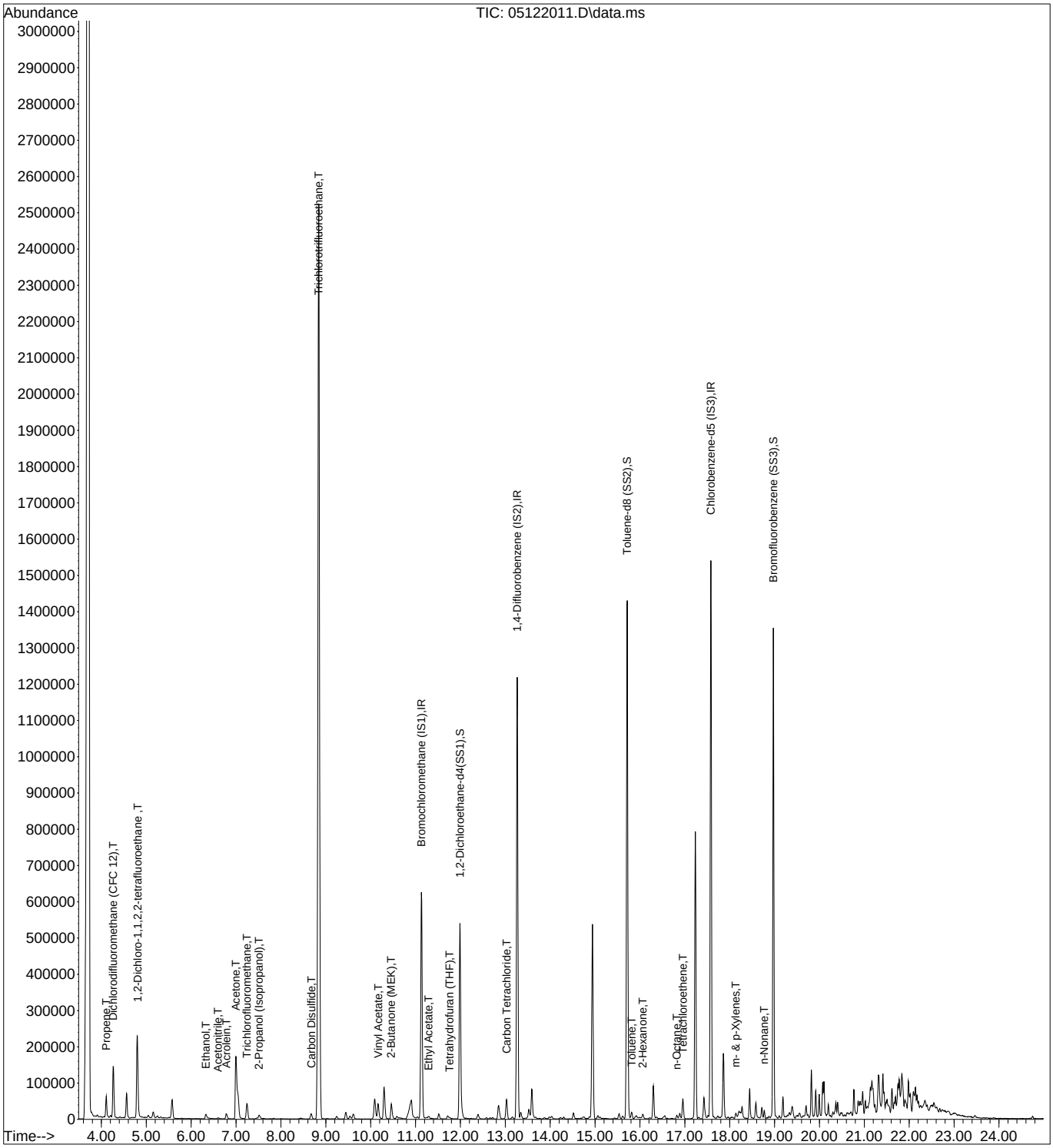
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.30	71	1129	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.88	58	1339	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.82	91	14652	0.131 ng	99
59) 2-Hexanone	16.06	43	9120	0.148 ng	94
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.70	43	1043	N.D.	
63) n-Octane	16.82	57	1494	0.064 ng	87
64) Tetrachloroethene	16.96	166	18974	0.598 ng	100
65) Chlorobenzene	17.58	112	113	N.D.	
66) Ethylbenzene	17.98	91	2175	N.D.	
67) m- & p-Xylenes	18.14	91	7916	0.080 ng	97
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.48	104	460	N.D.	
70) o-Xylene	18.57	91	2918	N.D.	
71) n-Nonane	18.77	43	5887	0.110 ng	98
72) 1,1,2,2-Tetrachloroethane	18.58	83	648	N.D.	
74) Cumene	19.10	105	677	N.D.	
75) alpha-Pinene	19.45	93	230	N.D.	
76) n-Propylbenzene	19.55	91	2363	N.D.	
77) 3-Ethyltoluene	19.64	105	2041	N.D.	
78) 4-Ethyltoluene	19.68	105	891	N.D.	
79) 1,3,5-Trimethylbenzene	19.74	105	1590	N.D.	
80) alpha-Methylstyrene	19.88	118	1137	N.D.	
81) 2-Ethyltoluene	19.91	105	1089	N.D.	
82) 1,2,4-Trimethylbenzene	20.10	105	3636	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.21	91	836	N.D.	
85) 1,3-Dichlorobenzene	20.24	146	161	N.D.	
86) 1,4-Dichlorobenzene	20.29	146	421	N.D.	
87) sec-Butylbenzene	20.34	105	628	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	713	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	1282	N.D.	
90) 1,2-Dichlorobenzene	20.60	146	135	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.11	180	1684	N.D.	
95) Naphthalene	22.22	128	2807	N.D.	
96) n-Dodecane	22.21	57	2232	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.10	119	365	N.D.	
100) n-Butylbenzene	20.86	91	2844	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122011.D Vial: 15
Acq On : 12 May 2020 7:34 Operator: LH
Sample : P2002300-003 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:24:59 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122011.D Vial: 15
Acq On : 12 May 2020 7:34 Operator: LH
Sample : P2002300-003 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:24:59 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/13/20

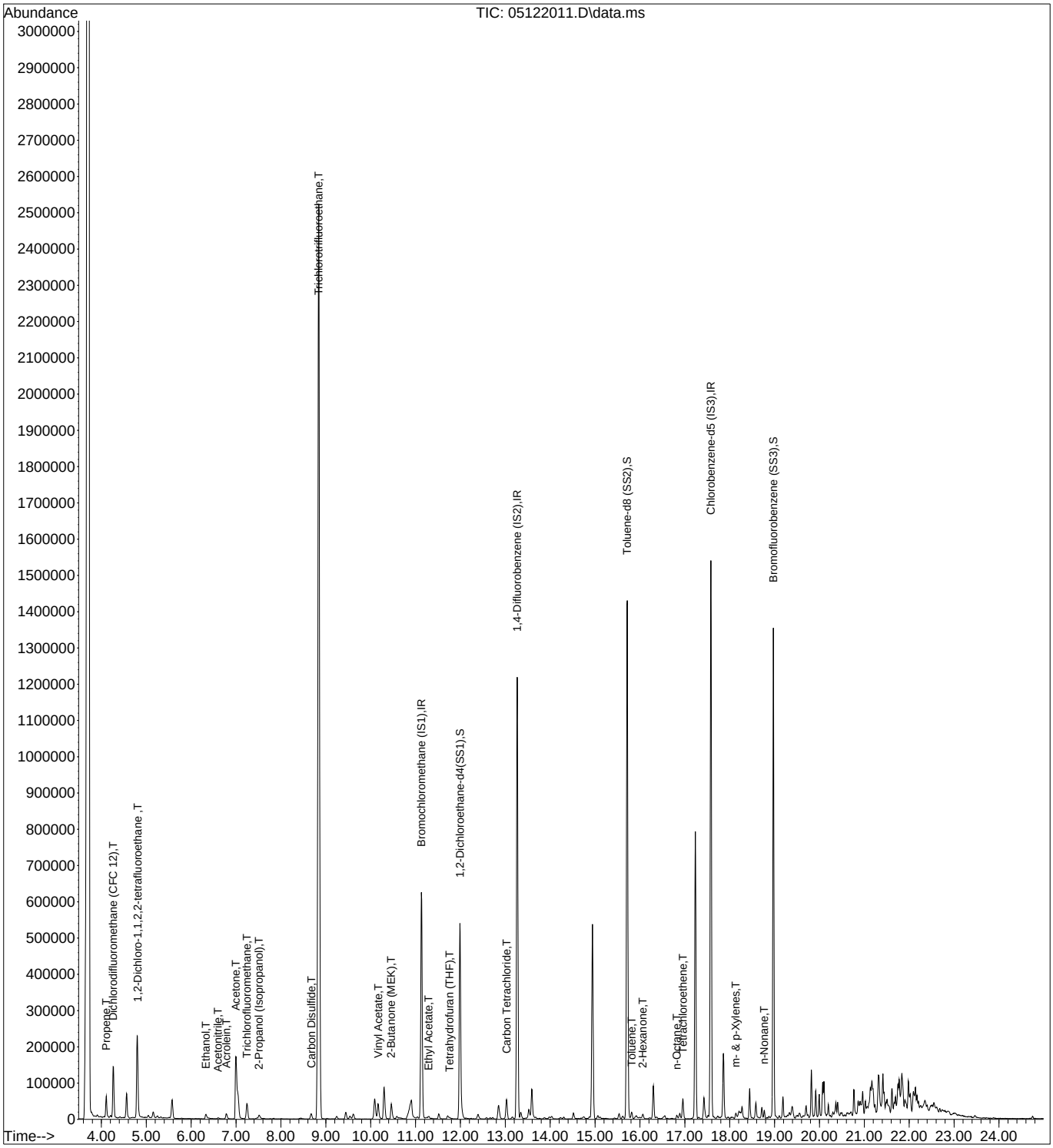
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	261607	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1124356	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	513768	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	412233	11.627	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.04%				
57) Toluene-d8 (SS2)	15.72	98	1087973	12.494	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.92%				
73) Bromofluorobenzene (SS3)	18.97	174	412153	13.153	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.20%				
Target Compounds							Qvalue
2) Propene	4.11	42	14399	0.475	ng		98
3) Dichlorodifluoromethan...	4.26	85	150648	2.542	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	2762	0.078	ng		97
10) Ethanol	6.33	45	22717	0.971	ng		93
11) Acetonitrile	6.60	41	4018	0.075	ng		96
12) Acrolein	6.79	56	16107	0.871	ng		99
13) Acetone	7.00	58	80174m	3.427	ng		
14) Trichlorofluoromethane	7.24	101	43223	0.825	ng		100
15) 2-Propanol (Isopropanol)	7.51	45	14165	0.200	ng		75
21) Trichlorotrifluoroethane	8.84	151	1066299	43.122	ng		98
22) Carbon Disulfide	8.68	76	28175	0.259	ng		99
26) Vinyl Acetate	10.17	86	10641	1.460	ng	#	12
27) 2-Butanone (MEK)	10.46	72	15168	0.760	ng		99
30) Ethyl Acetate	11.29	61	600	0.052	ng		94
34) Tetrahydrofuran (THF)	11.76	72	1258	0.065	ng	#	41
42) Carbon Tetrachloride	13.03	117	34397	0.839	ng		99
58) Toluene	15.82	91	14652	0.131	ng		99
59) 2-Hexanone	16.06	43	9120	0.148	ng		94
63) n-Octane	16.82	57	1494	0.064	ng		87
64) Tetrachloroethene	16.96	166	18974	0.598	ng		100
67) m- & p-Xylenes	18.14	91	7916	0.080	ng		97
71) n-Nonane	18.77	43	5887	0.110	ng		98

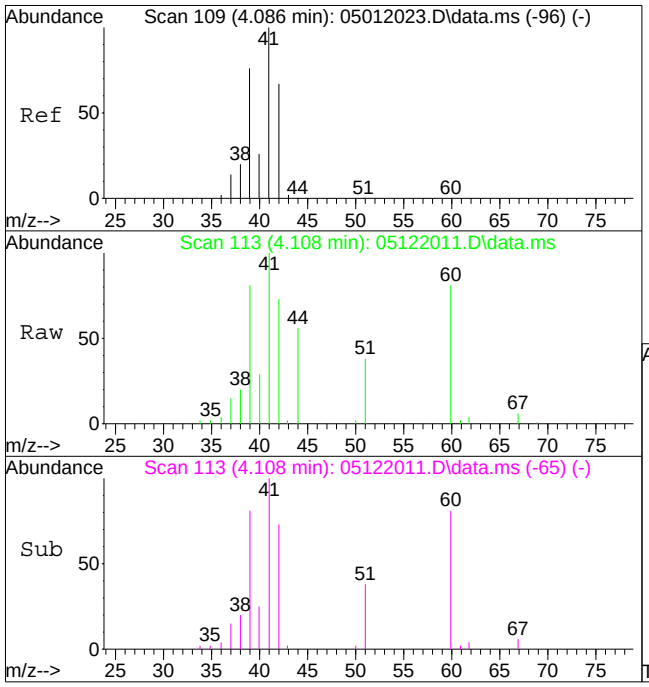
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122011.D Vial: 15
Acq On : 12 May 2020 7:34 Operator: LH
Sample : P2002300-003 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:24:59 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

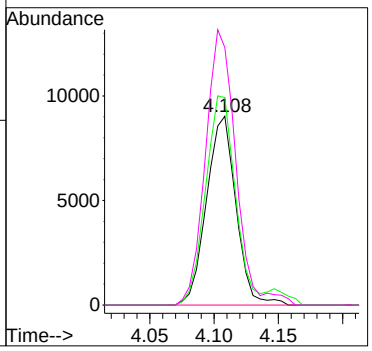


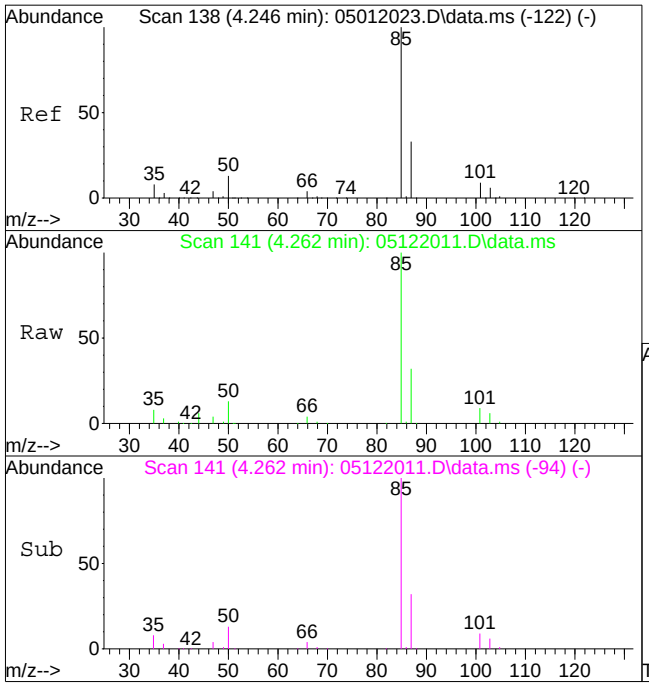


#2
Propene
Concen: 0.48 ng
RT: 4.11 min Scan# 113
Delta R.T. 0.016 min
Lab File: 05122011.D
Acq: 12 May 2020 7:34

Tgt Ion: 42 Resp: 14399

Ion	Ratio	Lower	Upper
42	100		
39	118.6	96.1	136.1
41	150.2	131.9	171.9

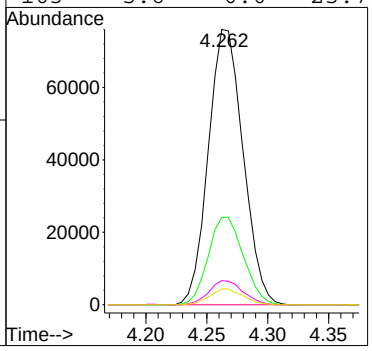


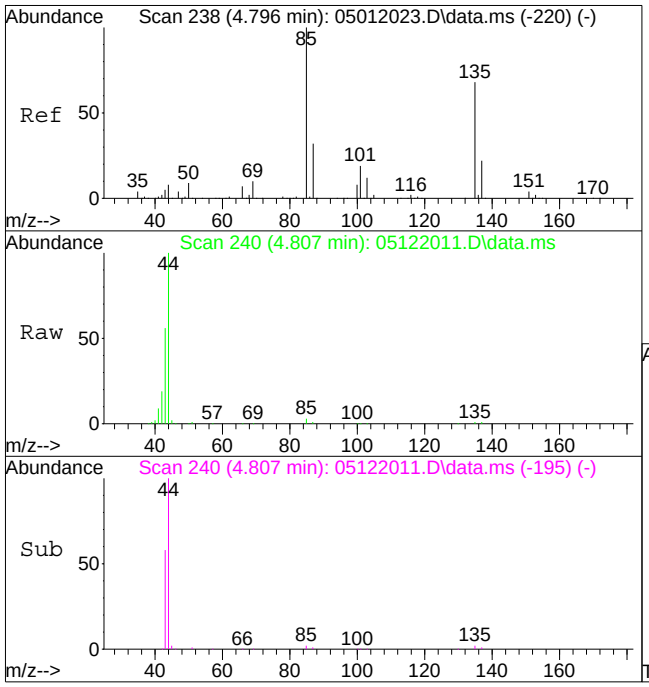


#3
Dichlorodifluoromethane (CFC 12)
Concen: 2.54 ng
RT: 4.26 min Scan# 141
Delta R.T. 0.011 min
Lab File: 05122011.D
Acq: 12 May 2020 7:34

Tgt Ion: 85 Resp: 150648

Ion	Ratio	Lower	Upper
85	100		
87	32.1	12.4	52.4
101	8.6	0.0	28.8
103	5.6	0.0	25.7

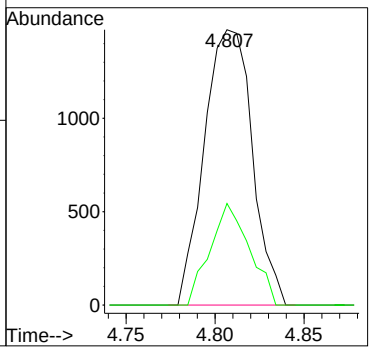


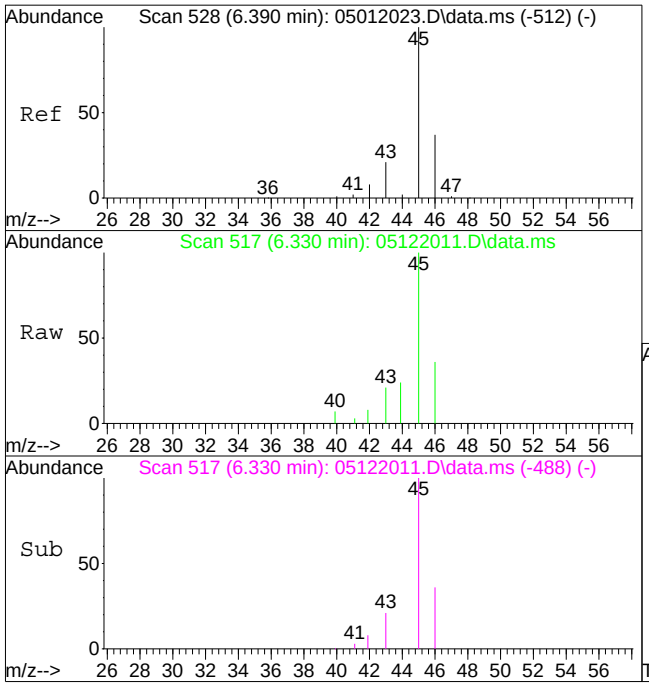


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 0.08 ng
RT: 4.81 min Scan# 240
Delta R.T. -0.000 min
Lab File: 05122011.D
Acq: 12 May 2020 7:34

Tgt Ion:135 Resp: 2762

Ion	Ratio	Lower	Upper
135	100		
137	30.3	12.1	52.1

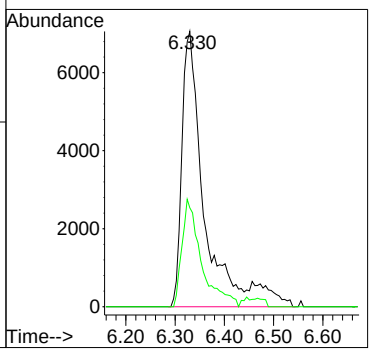


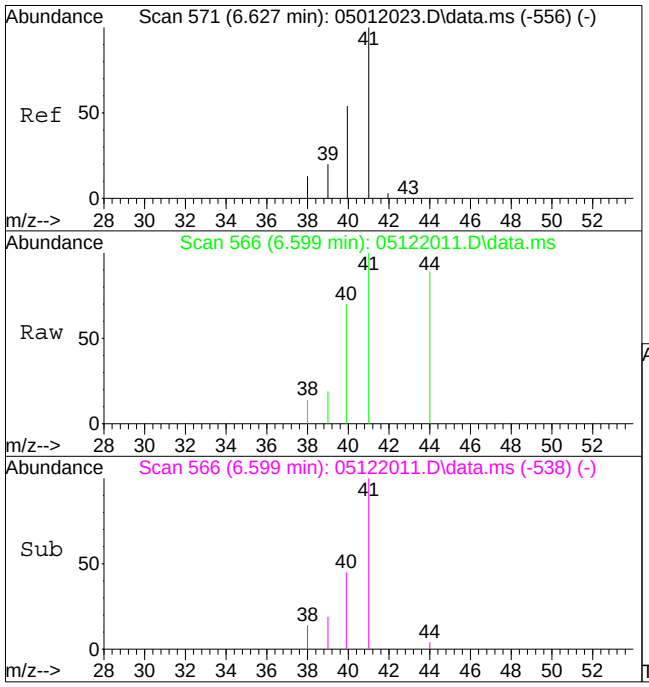


#10
Ethanol
Concen: 0.97 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.088 min
Lab File: 05122011.D
Acq: 12 May 2020 7:34

Tgt Ion: 45 Resp: 22717

Ion	Ratio	Lower	Upper
45	100		
46	33.2	17.2	57.2

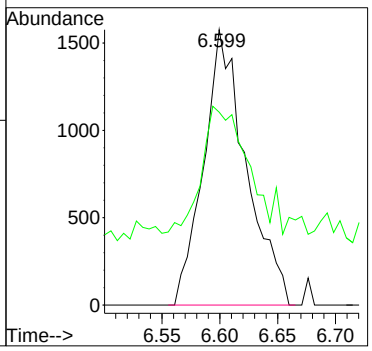


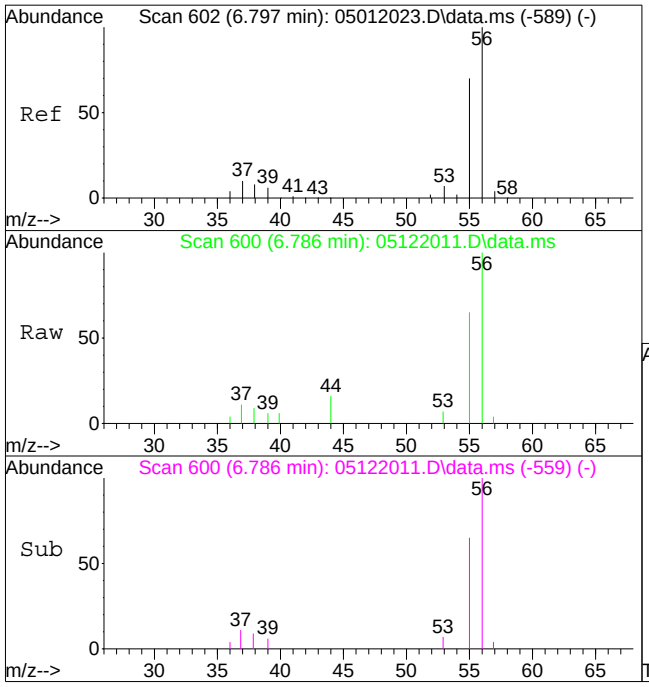


#11
Acetonitrile
Concen: 0.08 ng
RT: 6.60 min Scan# 566
Delta R.T. -0.044 min
Lab File: 05122011.D
Acq: 12 May 2020 7:34

Tgt Ion: 41 Resp: 4018

Ion	Ratio	Lower	Upper
41	100		
40	56.5	33.6	73.6

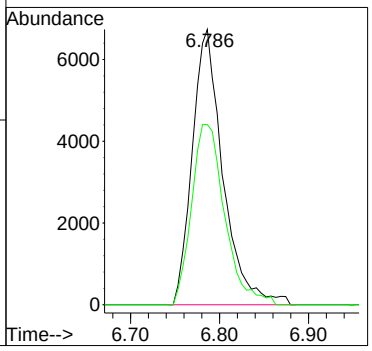


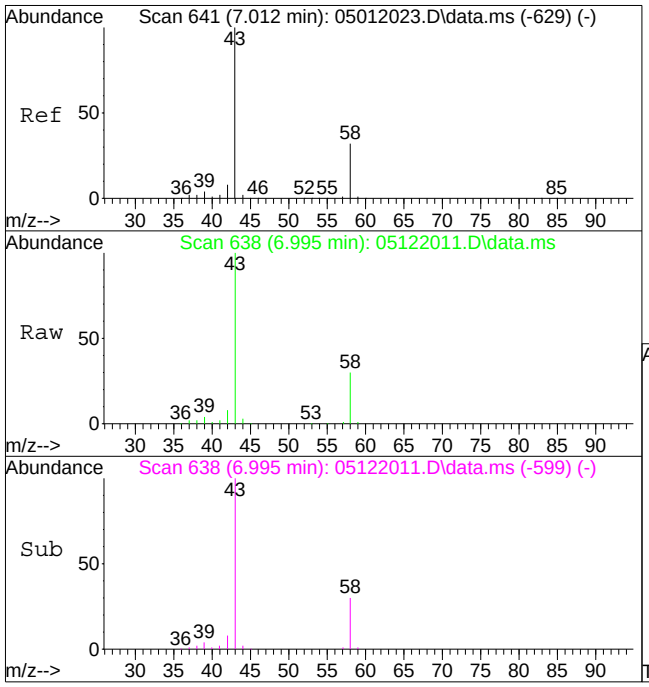


#12
Acrolein
Concen: 0.87 ng
RT: 6.79 min Scan# 600
Delta R.T. -0.022 min
Lab File: 05122011.D
Acq: 12 May 2020 7:34

Tgt Ion: 56 Resp: 16107

Ion	Ratio	Lower	Upper
56	100		
55	70.8	50.2	90.2

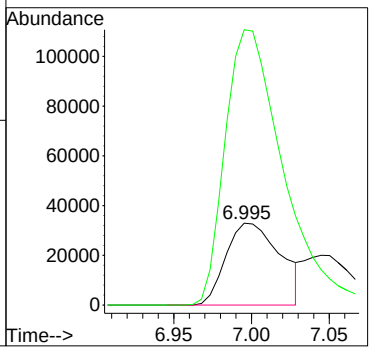


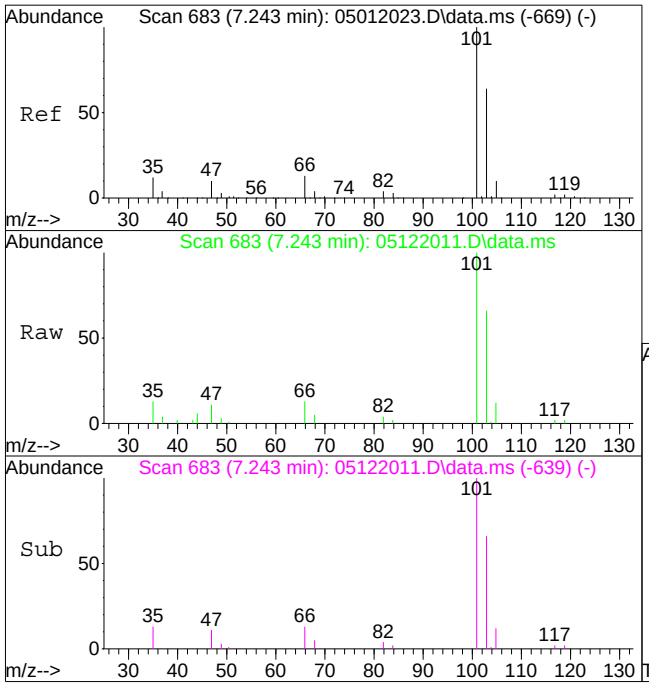


#13
Acetone
Concen: 3.43 ng m
RT: 7.00 min Scan# 638
Delta R.T. -0.033 min
Lab File: 05122011.D
Acq: 12 May 2020 7:34

Tgt Ion: 58 Resp: 80174

Ion	Ratio	Lower	Upper
58	100		
43	367.1	294.4	354.4#

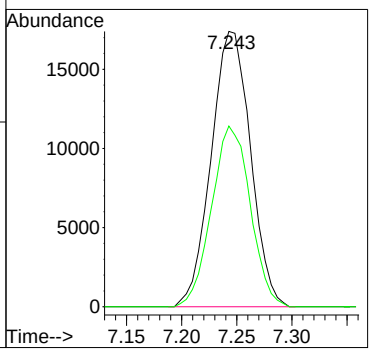


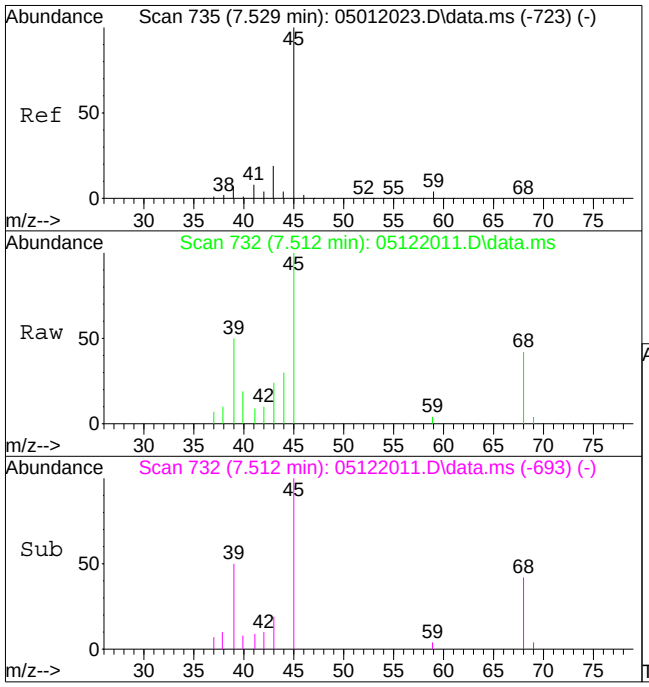


#14
Trichlorofluoromethane
Concen: 0.83 ng
RT: 7.24 min Scan# 683
Delta R.T. -0.006 min
Lab File: 05122011.D
Acq: 12 May 2020 7:34

Tgt Ion:101 Resp: 43223

Ion	Ratio	Lower	Upper
101	100		
103	64.4	44.4	84.4

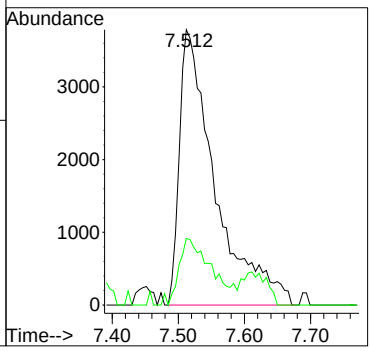


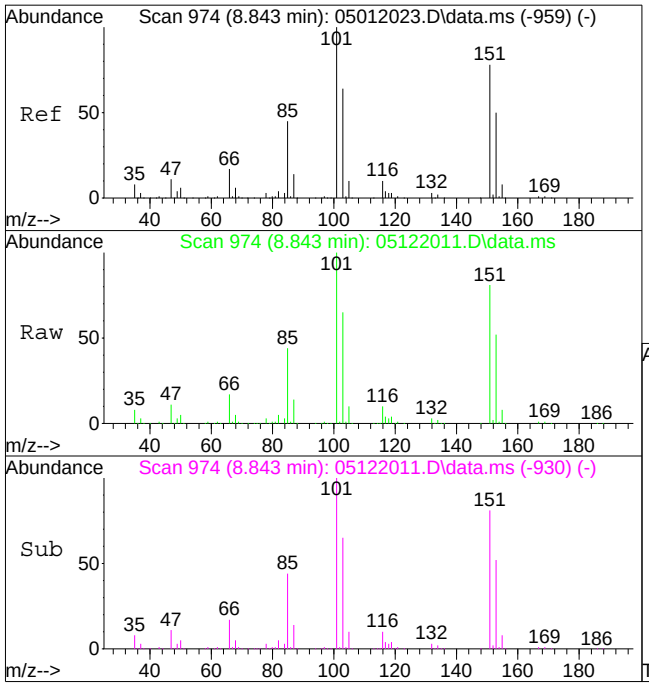


#15
2-Propanol (Isopropanol)
Concen: 0.20 ng
RT: 7.51 min Scan# 732
Delta R.T. -0.033 min
Lab File: 05122011.D
Acq: 12 May 2020 7:34

Tgt Ion: 45 Resp: 14165

Ion	Ratio	Lower	Upper
45	100		
43	30.8	0.0	39.5

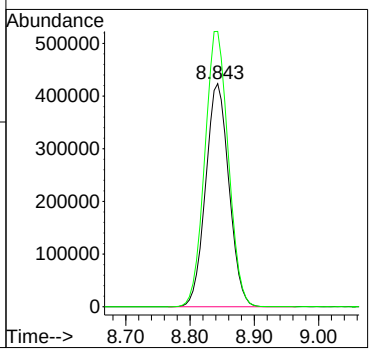


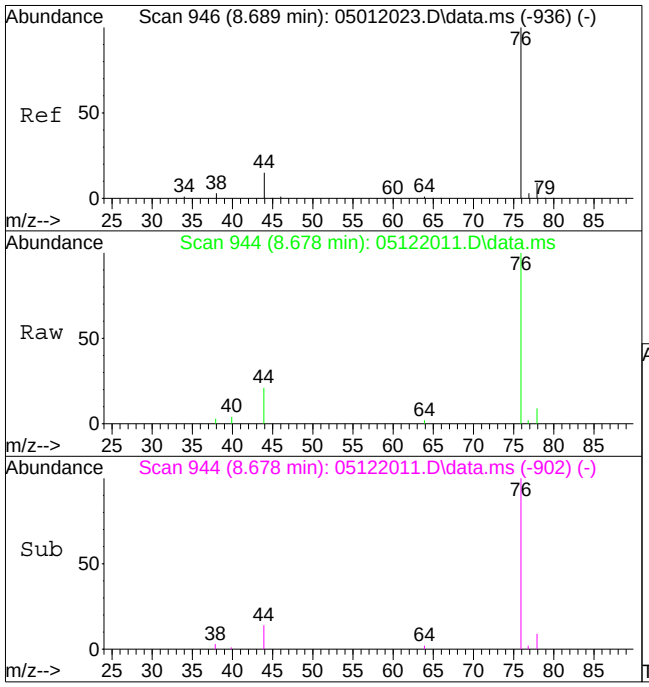


#21
Trichlorotrifluoroethane
Concen: 43.12 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05122011.D
Acq: 12 May 2020 7:34

Tgt Ion:151 Resp: 1066299

Ion	Ratio	Lower	Upper
151	100		
101	124.7	107.3	147.3

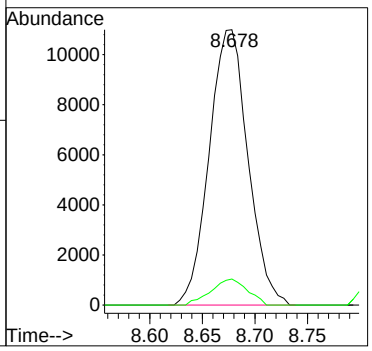


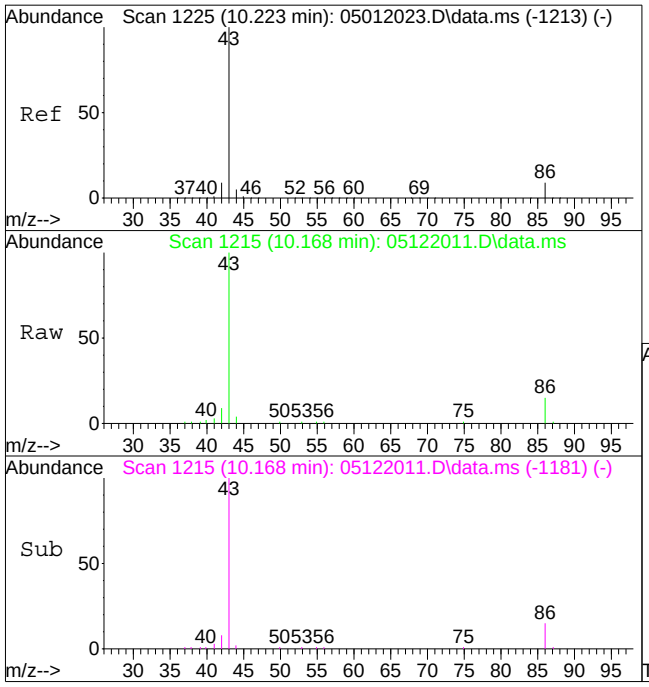


#22
Carbon Disulfide
Concen: 0.26 ng
RT: 8.68 min Scan# 944
Delta R.T. -0.016 min
Lab File: 05122011.D
Acq: 12 May 2020 7:34

Tgt Ion: 76 Resp: 28175

Ion	Ratio	Lower	Upper
76	100		
78	8.9	0.0	29.2

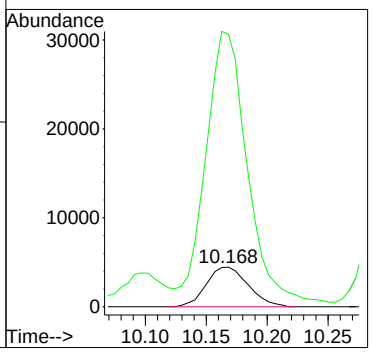


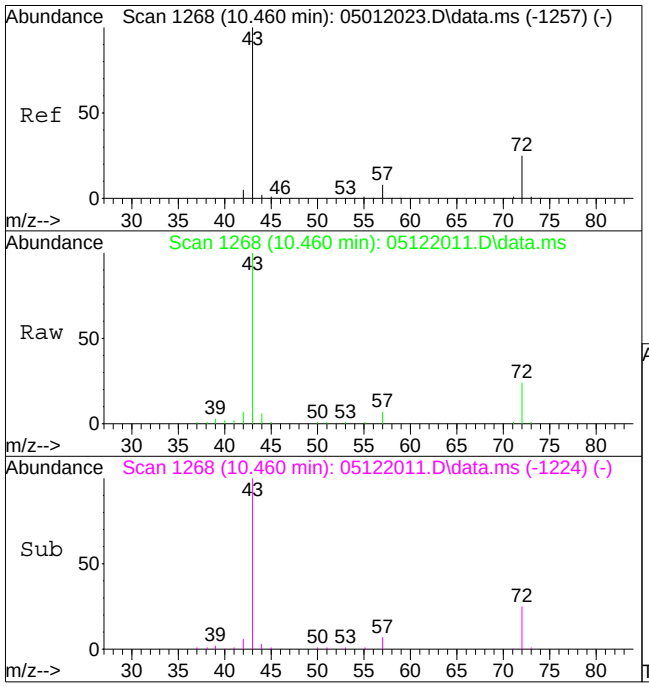


#26
Vinyl Acetate
Concen: 1.46 ng
RT: 10.17 min Scan# 1215
Delta R.T. -0.061 min
Lab File: 05122011.D
Acq: 12 May 2020 7:34

Tgt Ion: 86 Resp: 10641

Ion	Ratio	Lower	Upper
86	100		
43	697.5	1103.0	1143.0#

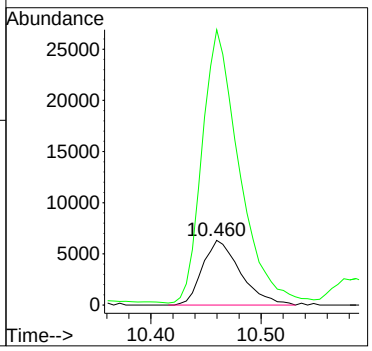


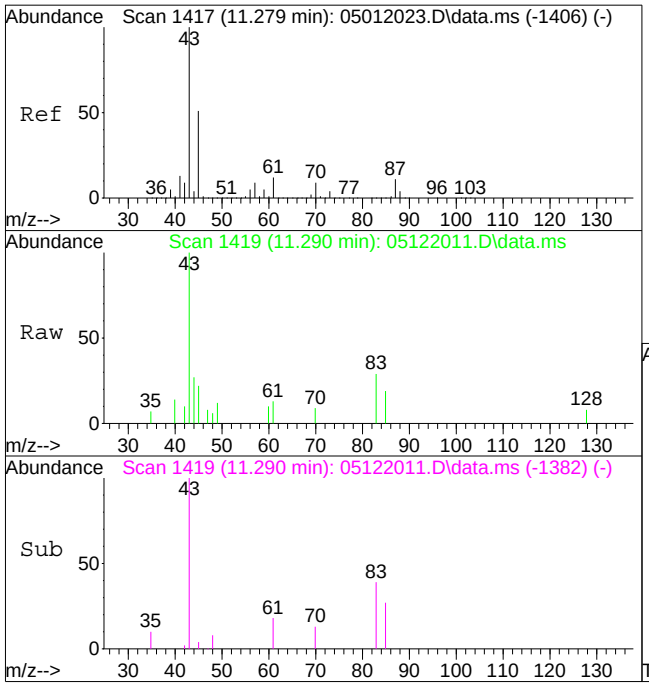


#27
2-Butanone (MEK)
Concen: 0.76 ng
RT: 10.46 min Scan# 1268
Delta R.T. -0.006 min
Lab File: 05122011.D
Acq: 12 May 2020 7:34

Tgt Ion: 72 Resp: 15168

Ion	Ratio	Lower	Upper
72	100		
43	411.2	389.7	429.7

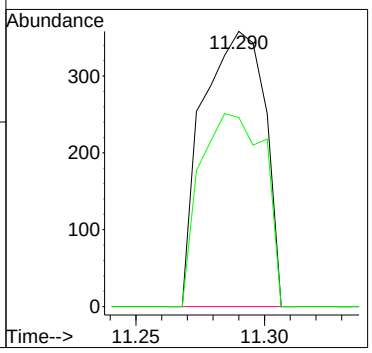


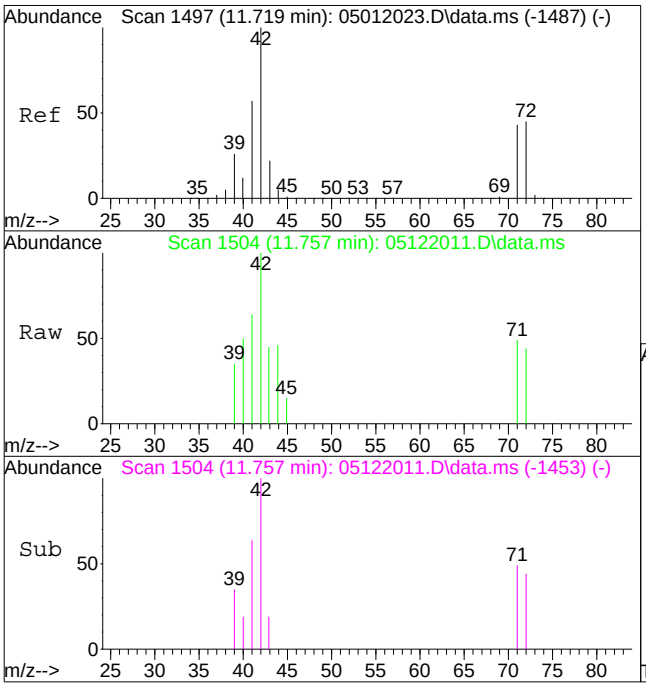


#30
Ethyl Acetate
Concen: 0.05 ng
RT: 11.29 min Scan# 1419
Delta R.T. 0.005 min
Lab File: 05122011.D
Acq: 12 May 2020 7:34

Tgt Ion: 61 Resp: 600

Ion	Ratio	Lower	Upper
61	100		
70	72.3	57.9	97.9

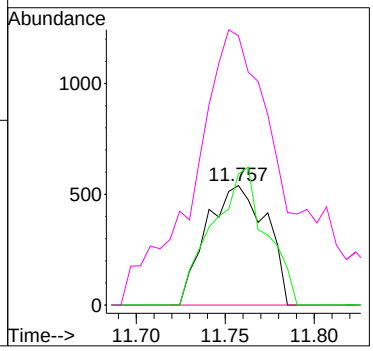


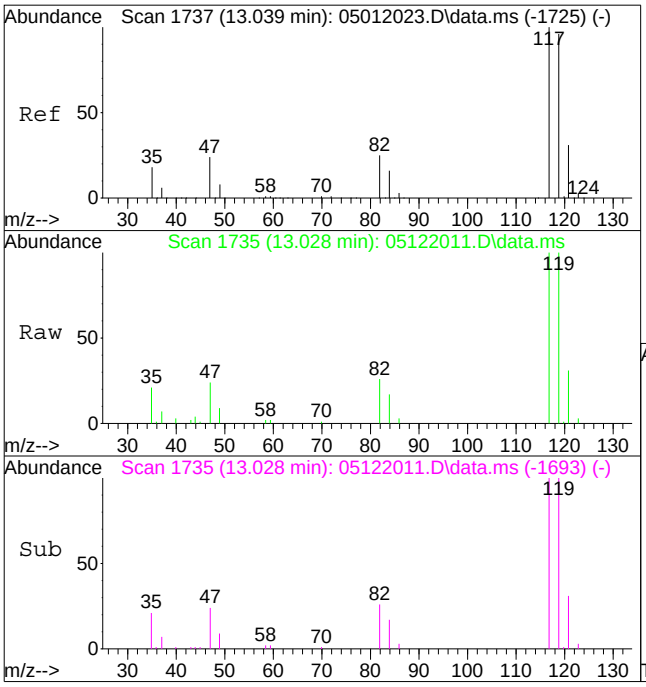


#34
Tetrahydrofuran (THF)
Concen: 0.06 ng
RT: 11.76 min Scan# 1504
Delta R.T. 0.033 min
Lab File: 05122011.D
Acq: 12 May 2020 7:34

Tgt Ion: 72 Resp: 1258

Ion	Ratio	Lower	Upper
72	100		
71	102.5	77.0	117.0
42	357.7	204.6	244.6#

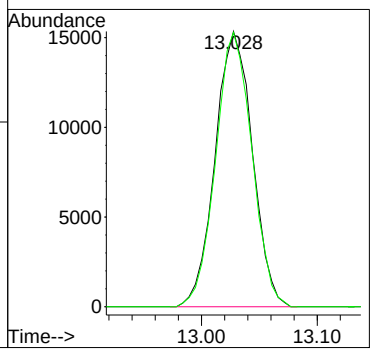


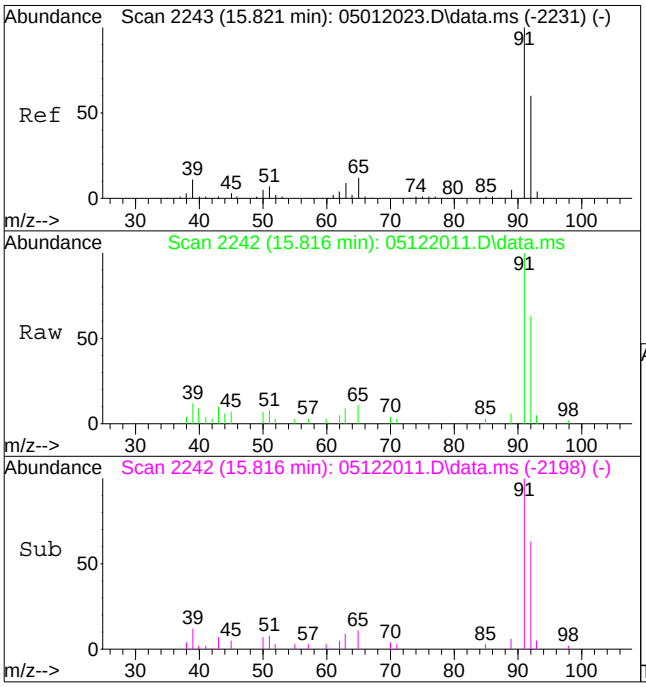


#42
Carbon Tetrachloride
Concen: 0.84 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05122011.D
Acq: 12 May 2020 7:34

Tgt Ion:117 Resp: 34397

Ion	Ratio	Lower	Upper
117	100		
119	97.0	76.2	116.2

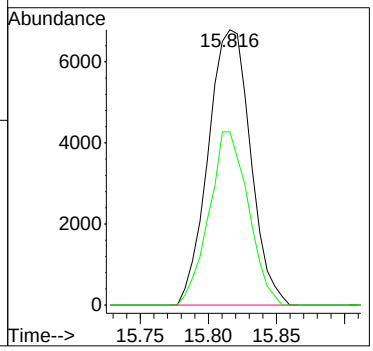


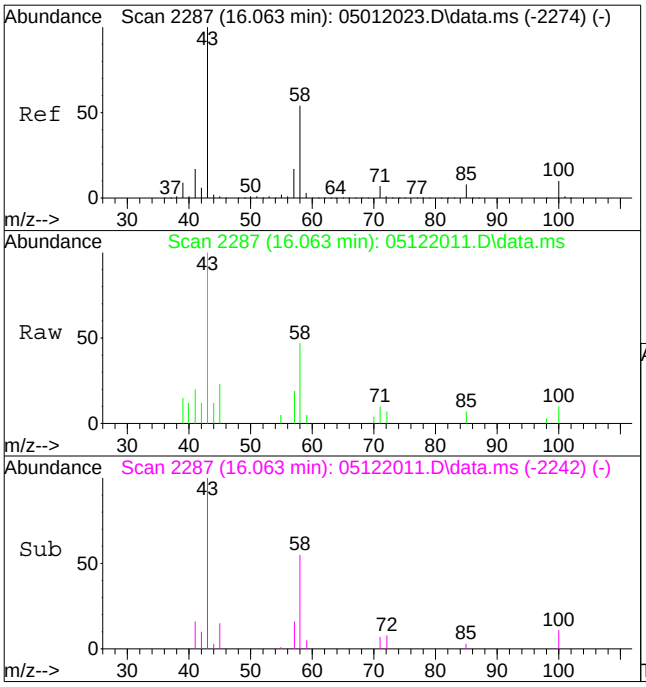


#58
Toluene
Concen: 0.13 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05122011.D
Acq: 12 May 2020 7:34

Tgt Ion: 91 Resp: 14652

Ion	Ratio	Lower	Upper
91	100		
92	58.4	39.4	79.4

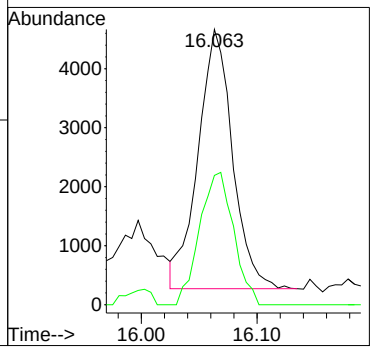


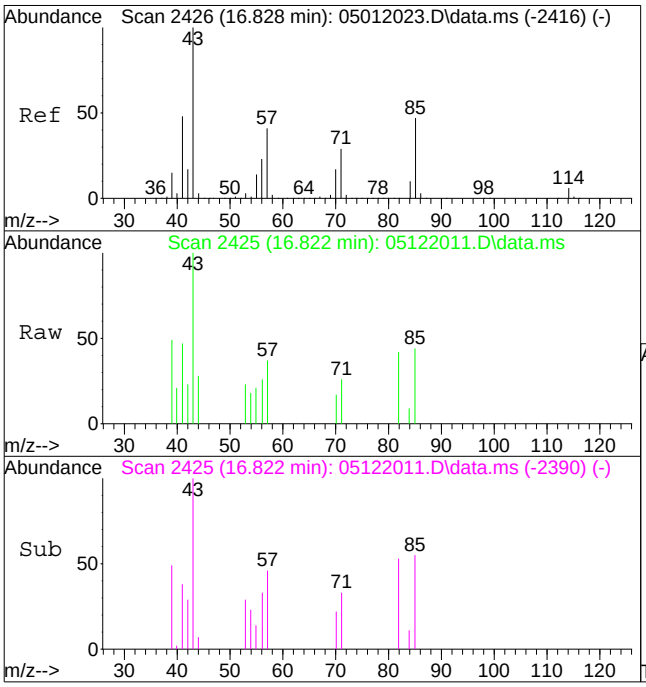


#59
2-Hexanone
Concen: 0.15 ng
RT: 16.06 min Scan# 2287
Delta R.T. -0.000 min
Lab File: 05122011.D
Acq: 12 May 2020 7:34

Tgt Ion: 43 Resp: 9120

Ion	Ratio	Lower	Upper
43	100		
58	50.1	34.5	74.5

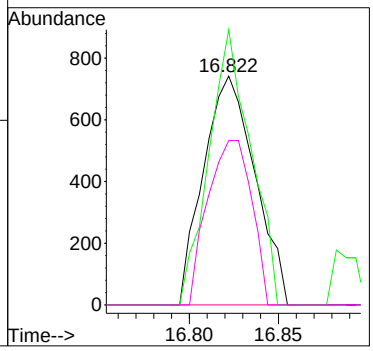


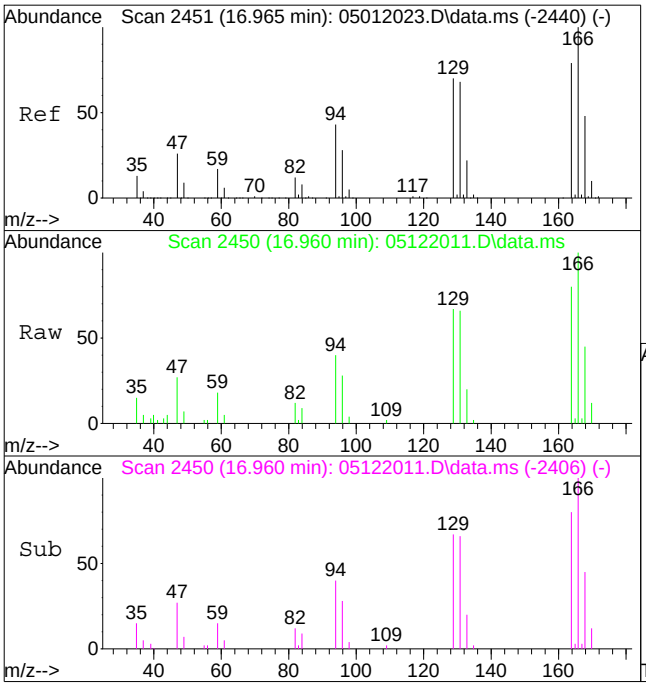


#63
n-Octane
Concen: 0.06 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05122011.D
Acq: 12 May 2020 7:34

Tgt Ion: 57 Resp: 1494

Ion	Ratio	Lower	Upper
57	100		
85	97.8	91.0	136.4
71	61.1	56.2	84.2

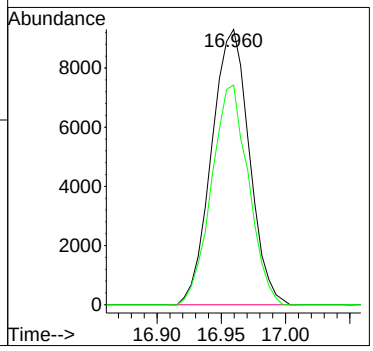


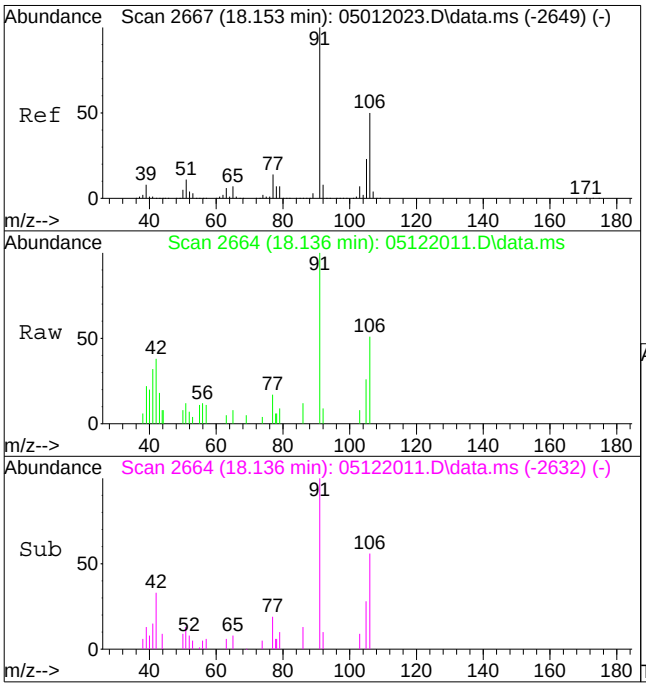


#64
Tetrachloroethene
Concen: 0.60 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05122011.D
Acq: 12 May 2020 7:34

Tgt Ion:166 Resp: 18974

Ion	Ratio	Lower	Upper
166	100		
164	78.0	58.4	98.4

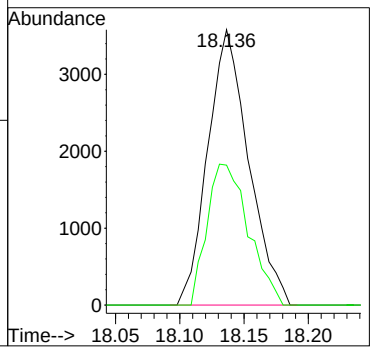


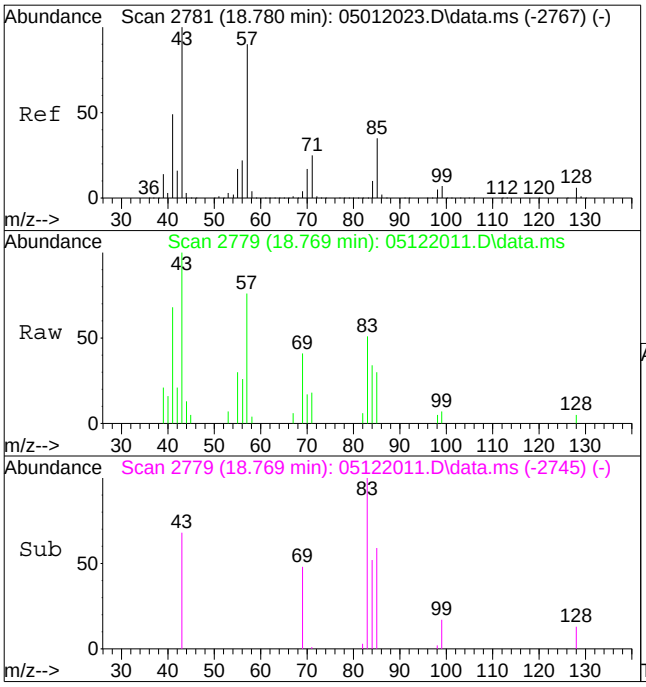


#67
m- & p-Xylenes
Concen: 0.08 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05122011.D
Acq: 12 May 2020 7:34

Tgt Ion: 91 Resp: 7916

Ion	Ratio	Lower	Upper
91	100		
106	51.8	29.7	69.7

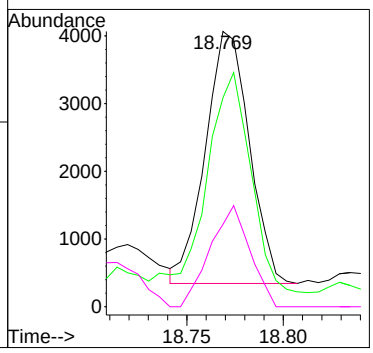




#71
n-Nonane
Concen: 0.11 ng
RT: 18.77 min Scan# 2779
Delta R.T. -0.011 min
Lab File: 05122011.D
Acq: 12 May 2020 7:34

Tgt Ion: 43 Resp: 5887

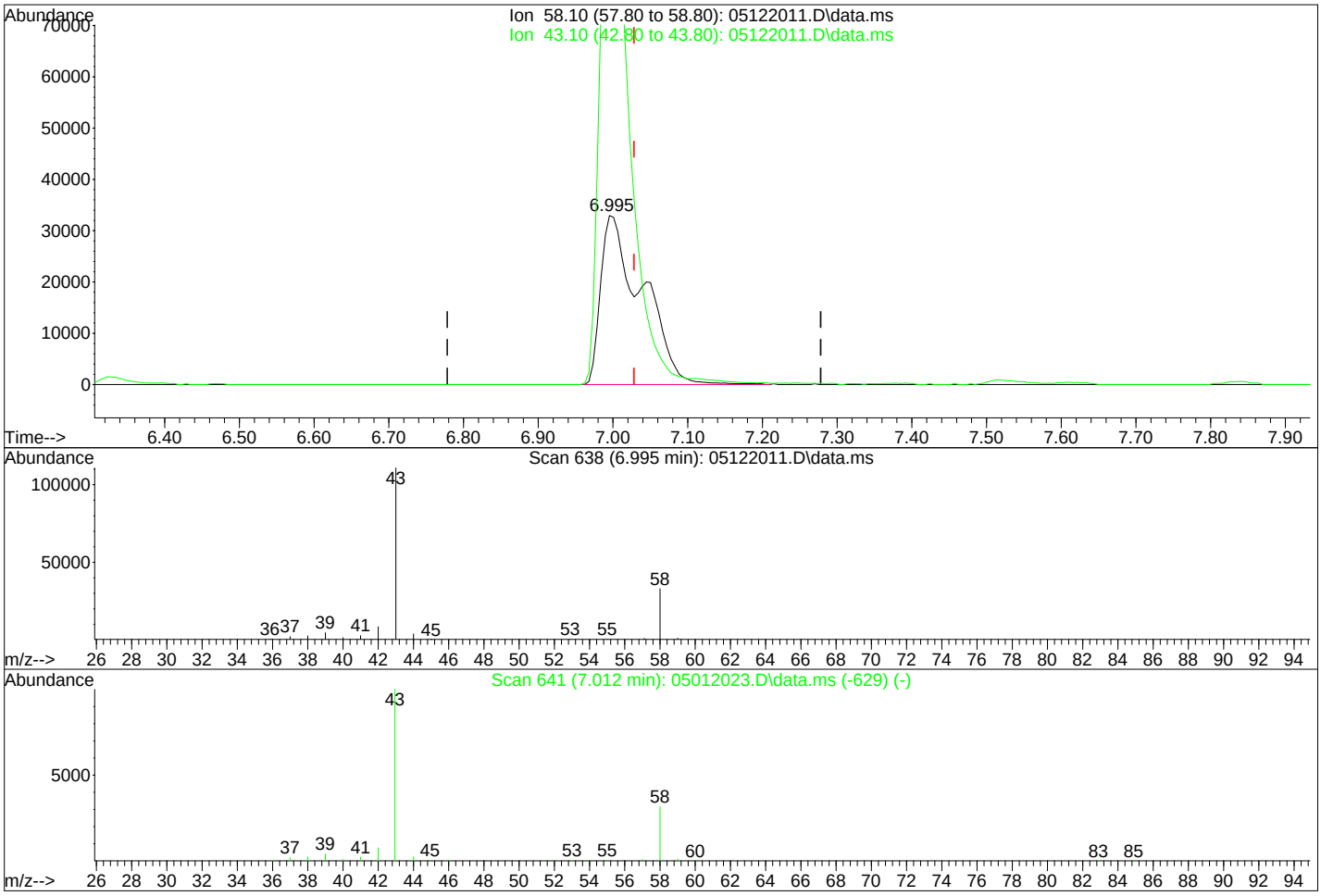
Ion	Ratio	Lower	Upper
43	100		
57	87.8	69.0	109.0
85	36.4	14.6	54.6



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\12\05122011.D Vial: 15
Acq On : 12 May 2020 7:34 Operator: LH
Sample : P2002300-003 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 12 10:09:17 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05122011.D\data.ms

(13) Acetone (T)

6.995min (-0.033) 5.46ng

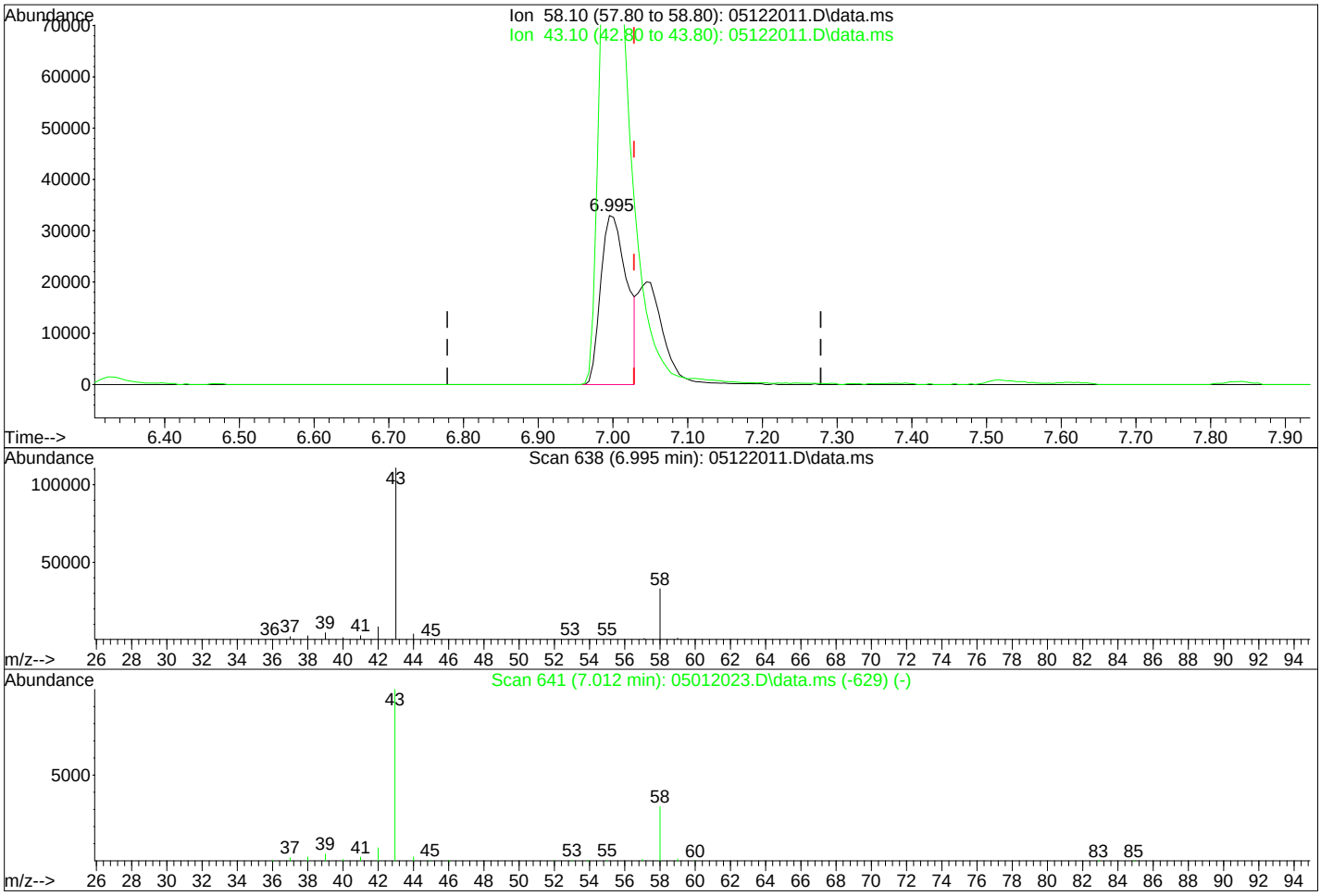
response 127657

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	230.54#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\12\05122011.D Vial: 15
Acq On : 12 May 2020 7:34 Operator: LH
Sample : P2002300-003 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 12 10:09:17 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05122011.D\data.ms

(13) Acetone (T)

6.995min (-0.033) 3.43ng m

response 80174

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	367.08#
0.00	0.00	0.00
0.00	0.00	0.00

IPC

LH 5/13/20

5/14/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122016.D Vial: 1
Acq On : 12 May 2020 10:23 Operator: WA
Sample : P2002300-004 (0.25mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:39:07 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/13/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	274892	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1178809	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	553134	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	436826	11.726	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.84%			
57) Toluene-d8 (SS2)	15.72	98	1184479	12.634	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.04%			
73) Bromofluorobenzene (SS3)	18.97	174	449405	13.321	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.56%			
Target Compounds						Qvalue
2) Propene	4.12	42	10908	0.343	ng	96
3) Dichlorodifluoromethan...	4.28	85	112	N.D.		
4) Chloromethane	4.56	50	231	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	5.17	54	264	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.43	45	57	N.D.		
11) Acetonitrile	6.61	41	246	N.D.		
12) Acrolein	6.81	56	336	N.D.		
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	7.55	45	1701	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.	d	
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	8.44	59	602	N.D.		
19) Methylene Chloride	8.40	84	262	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d	
21) Trichlorotrifluoroethane	8.83	151	475	N.D.		
22) Carbon Disulfide	8.69	76	1180	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	10.00	63	2123	N.D.		
25) Methyl tert-Butyl Ether	10.06	73	1355	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	10.31	72	257	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	11.27	87	1070	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	11.26	57	106238	2.026	ng	100
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	11.77	72	526	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d	
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	12.88	61	542	N.D.		
40) 1-Butanol	12.84	56	349	N.D.		
41) Benzene	12.87	78	103049	0.815	ng	98
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	13.17	84	1270489	26.970	ng	100
44) tert-Amyl Methyl Ether	13.46	73	717	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d	
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122016.D Vial: 1
Acq On : 12 May 2020 10:23 Operator: WA
Sample : P2002300-004 (0.25mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:39:07 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

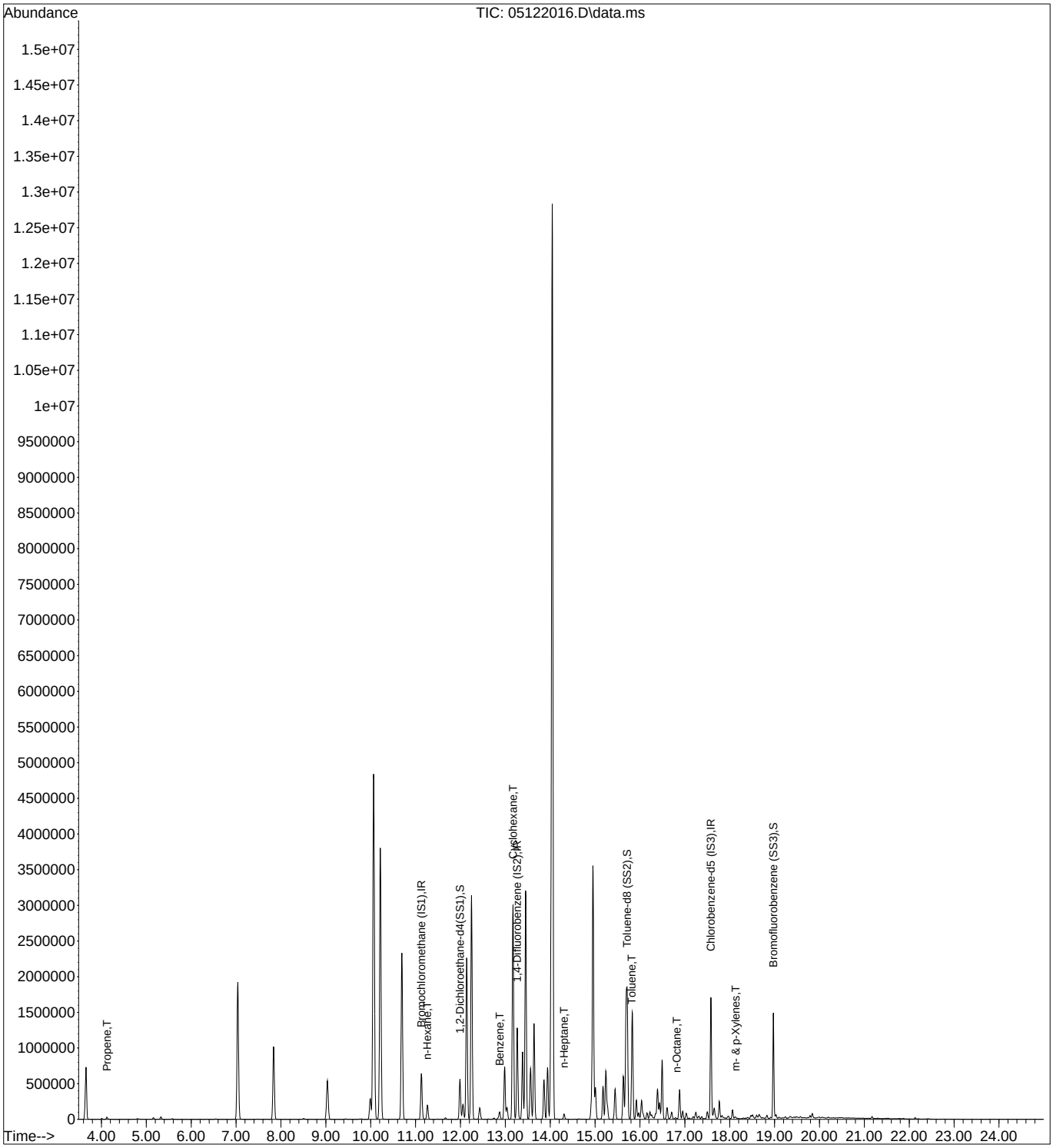
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.31	71	18855	0.638 ng		99
52) cis-1,3-Dichloropropene	14.95	75	779	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d		
54) trans-1,3-Dichloropropene	15.13	75	103	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d		
58) Toluene	15.82	91	96507	0.799 ng		100
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D. d		
63) n-Octane	16.82	57	1643	0.066 ng	#	87
64) Tetrachloroethene	16.95	166	356	N.D.		
65) Chlorobenzene	0.00	112	0	N.D. d		
66) Ethylbenzene	17.98	91	2118	N.D.		
67) m- & p-Xylenes	18.14	91	7416	0.069 ng		99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	18.57	91	3501	N.D.		
71) n-Nonane	18.76	43	437	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d		
74) Cumene	19.10	105	1180	N.D.		
75) alpha-Pinene	19.44	93	675	N.D.		
76) n-Propylbenzene	19.58	91	3384	N.D.		
77) 3-Ethyltoluene	19.64	105	441	N.D.		
78) 4-Ethyltoluene	19.64	105	441	N.D.		
79) 1,3,5-Trimethylbenzene	19.74	105	521	N.D.		
80) alpha-Methylstyrene	19.89	118	329	N.D.		
81) 2-Ethyltoluene	19.92	105	1008	N.D.		
82) 1,2,4-Trimethylbenzene	20.10	105	1349	N.D.		
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.18	91	156	N.D.		
85) 1,3-Dichlorobenzene	20.30	146	283	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	283	N.D.		
87) sec-Butylbenzene	20.35	105	366	N.D.		
88) 4-Isopropyltoluene (p-...	20.48	119	924	N.D.		
89) 1,2,3-Trimethylbenzene	20.44	105	246	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.61	68	1786	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.31	57	902	N.D.		
94) 1,2,4-Trichlorobenzene	22.11	180	188	N.D.		
95) Naphthalene	22.22	128	2411	N.D.		
96) n-Dodecane	22.21	57	1618	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	20.07	119	521	N.D.		
100) n-Butylbenzene	20.86	91	1729	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122016.D Vial: 1
Acq On : 12 May 2020 10:23 Operator: WA
Sample : P2002300-004 (0.25mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:39:07 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122016.D Vial: 1
Acq On : 12 May 2020 10:23 Operator: WA
Sample : P2002300-004 (0.25mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:39:07 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/13/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

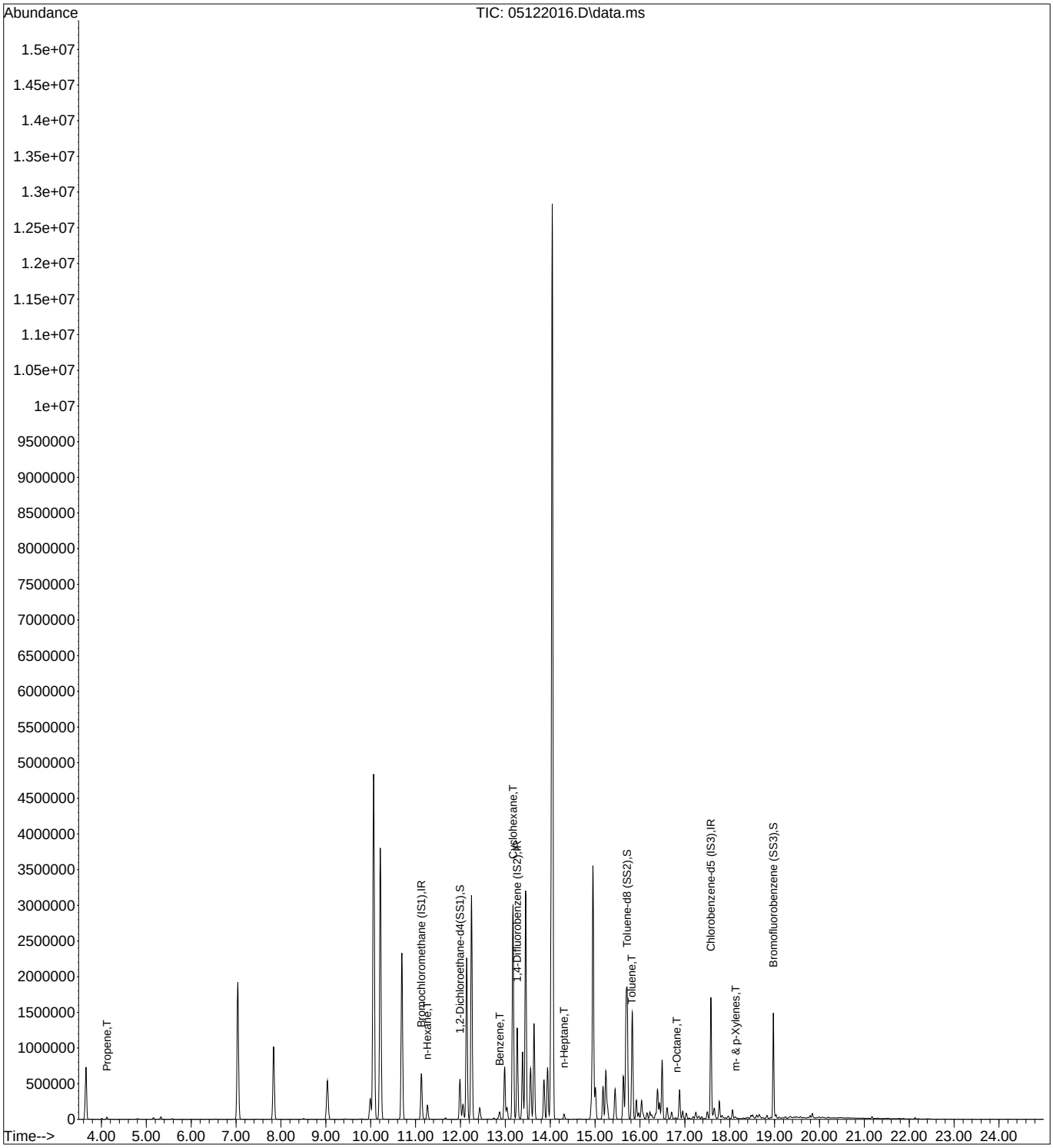
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	274892	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1178809	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	553134	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	436826	11.726	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.84%				
57) Toluene-d8 (SS2)	15.72	98	1184479	12.634	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.04%				
73) Bromofluorobenzene (SS3)	18.97	174	449405	13.321	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.56%				
Target Compounds							Qvalue
2) Propene	4.12	42	10908	0.343	ng		96
31) n-Hexane	11.26	57	106238	2.026	ng		100
41) Benzene	12.87	78	103049	0.815	ng		98
43) Cyclohexane	13.17	84	1270489	26.970	ng		100
51) n-Heptane	14.31	71	18855	0.638	ng		99
58) Toluene	15.82	91	96507	0.799	ng		100
63) n-Octane	16.82	57	1643	0.066	ng	#	87
67) m- & p-Xylenes	18.14	91	7416	0.069	ng		99

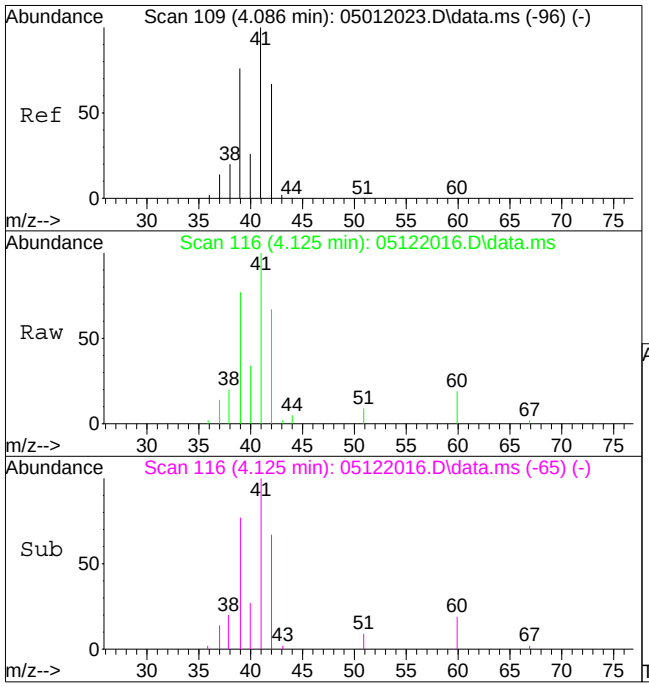
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122016.D Vial: 1
Acq On : 12 May 2020 10:23 Operator: WA
Sample : P2002300-004 (0.25mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:39:07 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

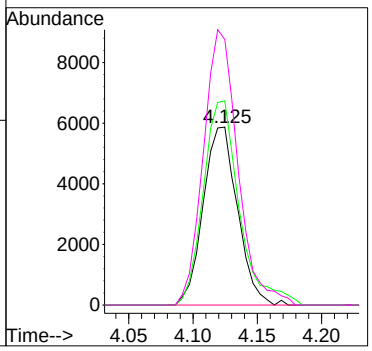


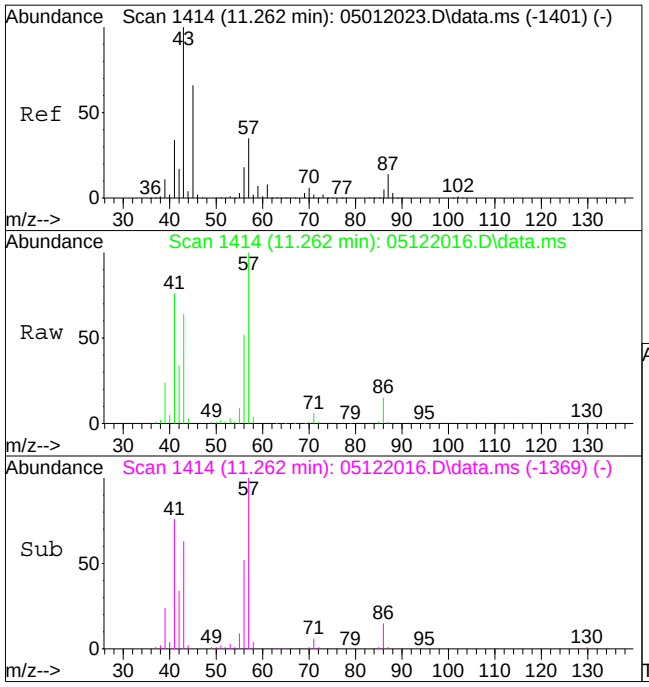


#2
Propene
Concen: 0.34 ng
RT: 4.12 min Scan# 116
Delta R.T. 0.033 min
Lab File: 05122016.D
Acq: 12 May 2020 10:23

Tgt Ion: 42 Resp: 10908

Ion	Ratio	Lower	Upper
42	100		
39	120.9	96.1	136.1
41	155.7	131.9	171.9

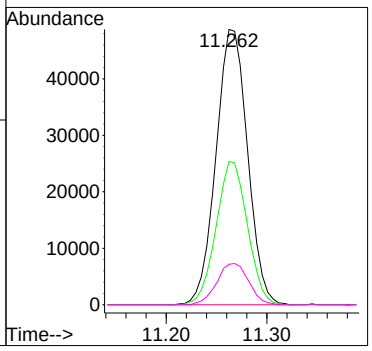


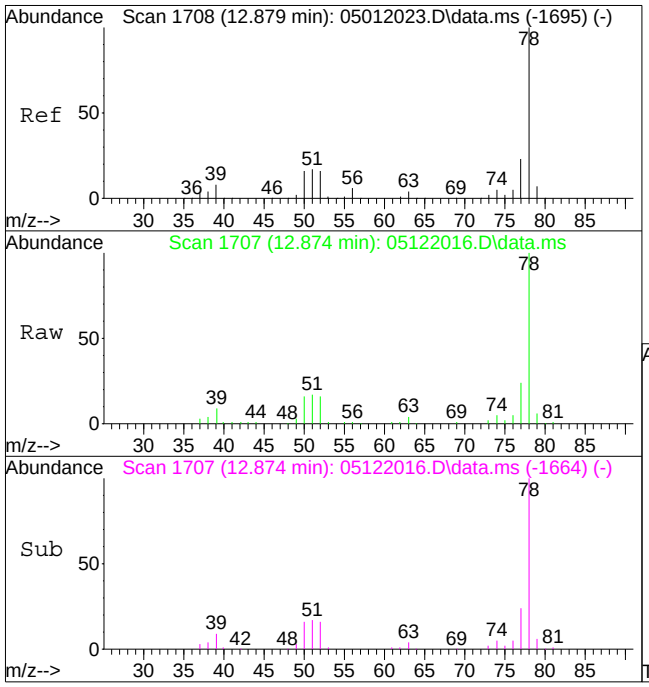


#31
n-Hexane
Concen: 2.03 ng
RT: 11.26 min Scan# 1414
Delta R.T. -0.000 min
Lab File: 05122016.D
Acq: 12 May 2020 10:23

Tgt Ion: 57 Resp: 106238

Ion	Ratio	Lower	Upper
57	100		
56	51.5	41.4	62.0
86	15.1	12.4	18.6

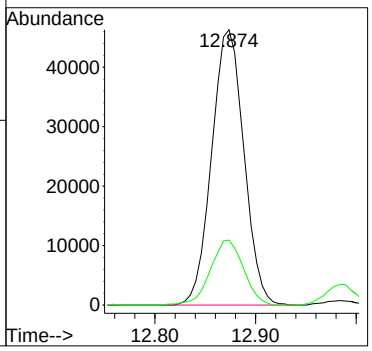


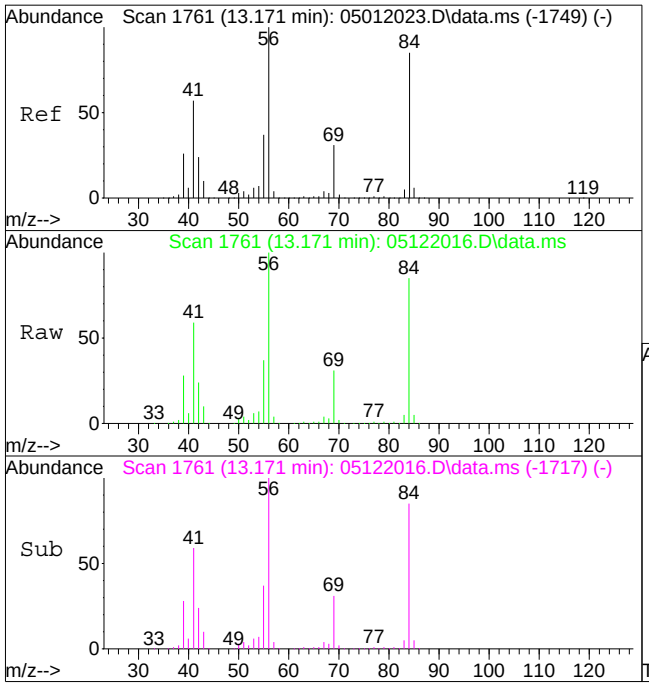


#41
Benzene
Concen: 0.82 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05122016.D
Acq: 12 May 2020 10:23

Tgt Ion: 78 Resp: 103049

Ion	Ratio	Lower	Upper
78	100		
77	24.2	3.4	43.4

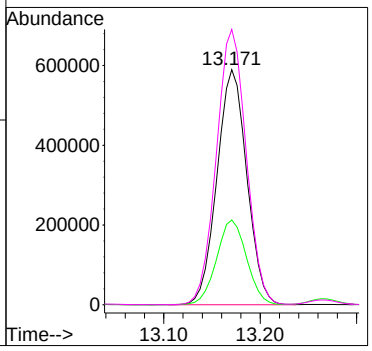


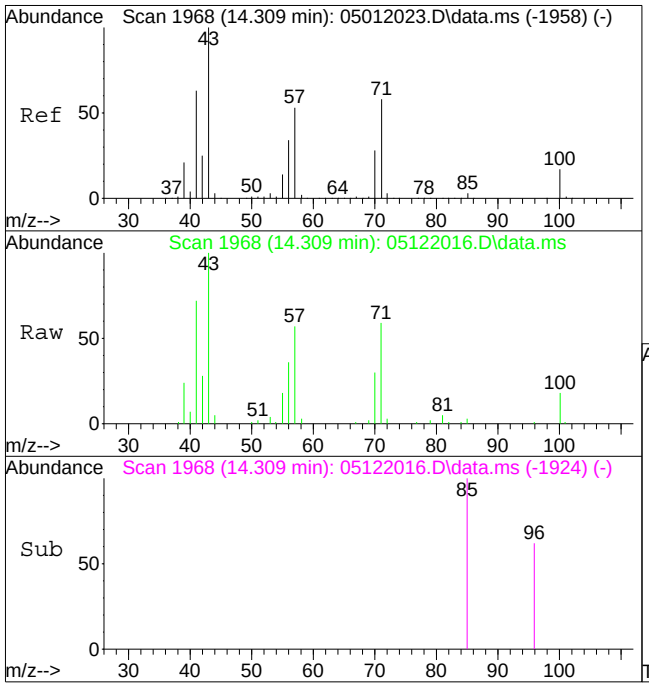


#43
Cyclohexane
Concen: 26.97 ng
RT: 13.17 min Scan# 1761
Delta R.T. -0.006 min
Lab File: 05122016.D
Acq: 12 May 2020 10:23

Tgt Ion: 84 Resp: 1270489

Ion	Ratio	Lower	Upper
84	100		
69	36.2	16.5	56.5
56	117.1	97.4	137.4

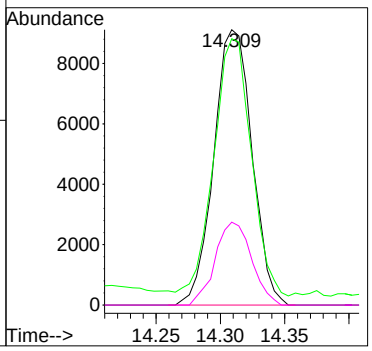


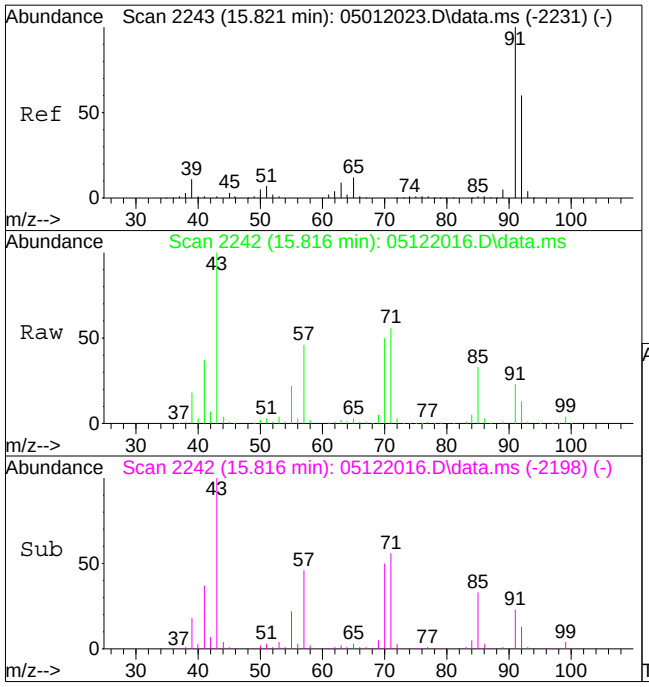


#51
n-Heptane
Concen: 0.64 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05122016.D
Acq: 12 May 2020 10:23

Tgt Ion: 71 Resp: 18855

Ion	Ratio	Lower	Upper
71	100		
57	91.7	71.0	111.0
100	28.6	8.4	48.4

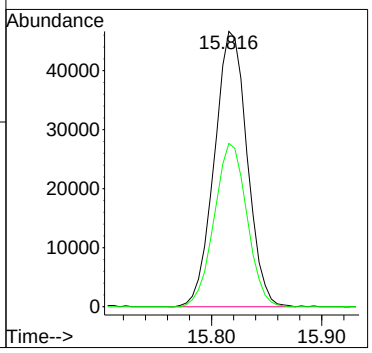


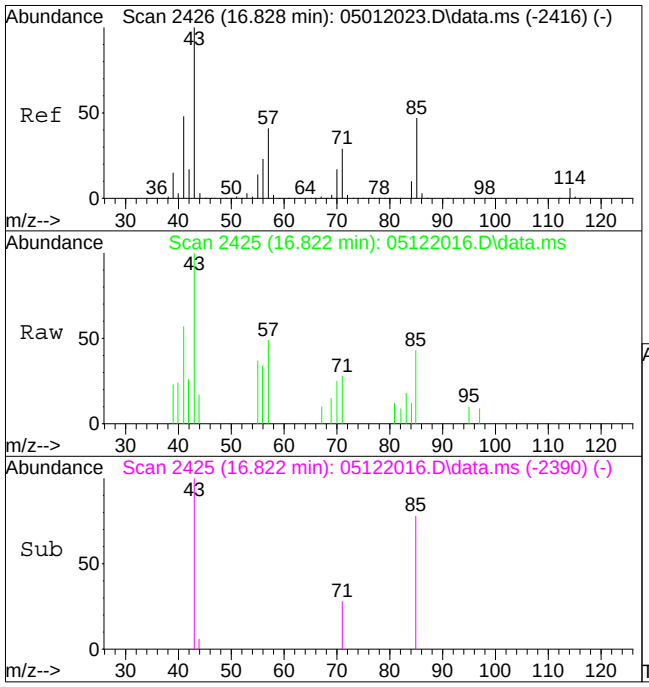


#58
Toluene
Concen: 0.80 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05122016.D
Acq: 12 May 2020 10:23

Tgt Ion: 91 Resp: 96507

Ion	Ratio	Lower	Upper
91	100		
92	59.0	39.4	79.4

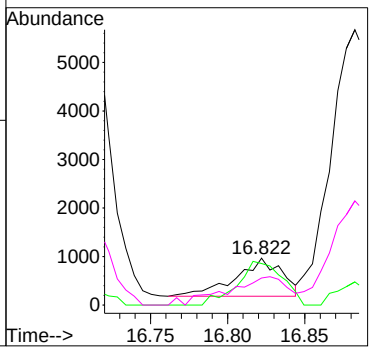


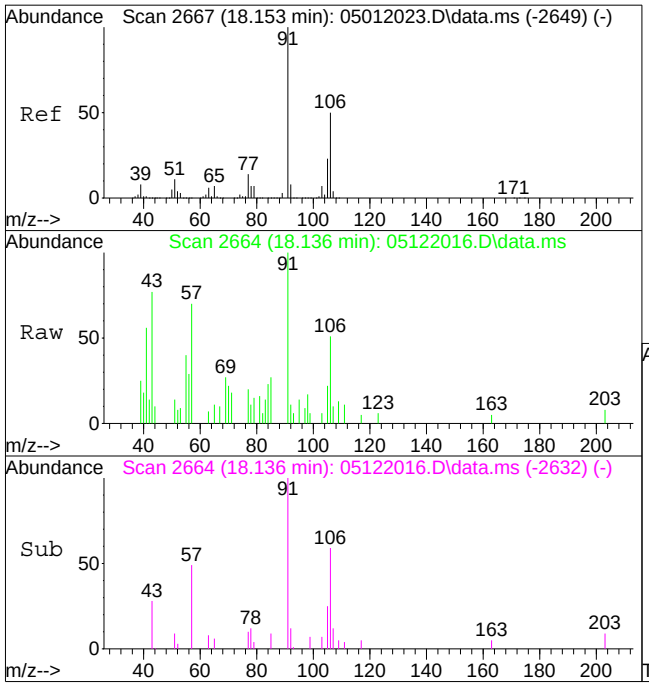


#63
n-Octane
Concen: 0.07 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05122016.D
Acq: 12 May 2020 10:23

Tgt Ion: 57 Resp: 1643

Ion	Ratio	Lower	Upper
57	100		
85	111.0	91.0	136.4
71	95.8	56.2	84.2#

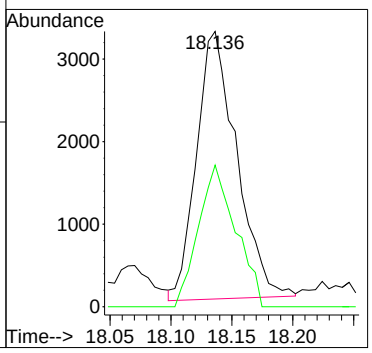




#67
m- & p-Xylenes
Concen: 0.07 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05122016.D
Acq: 12 May 2020 10:23

Tgt Ion: 91 Resp: 7416

Ion	Ratio	Lower	Upper
91	100		
106	49.1	29.7	69.7



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122019.D Vial: 1
Acq On : 12 May 2020 12:06 Operator: WA
Sample : P2002300-005 (0.06mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:49:22 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/13/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	266742	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1141771	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	541816	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	421491	11.660	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.28%			
57) Toluene-d8 (SS2)	15.72	98	1150519	12.528	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.24%			
73) Bromofluorobenzene (SS3)	18.97	174	436596	13.212	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.68%			
Target Compounds						Qvalue
2) Propene	4.14	42	2261	0.073	ng #	73
3) Dichlorodifluoromethan...	4.29	85	621	N.D.		
4) Chloromethane	4.56	50	248	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.34	45	7205	0.302	ng	90
11) Acetonitrile	6.60	41	705	N.D.		
12) Acrolein	6.81	56	333	N.D.		
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	7.53	45	4675	0.065	ng	89
16) Acrylonitrile	0.00	53	0	N.D.	d	
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	8.45	59	915	N.D.		
19) Methylene Chloride	8.41	84	950	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d	
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	8.68	76	915	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	9.99	63	1195	N.D.		
25) Methyl tert-Butyl Ether	10.06	73	513	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	10.50	72	180	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	11.26	61	506	N.D.		
31) n-Hexane	11.26	57	916717	18.015	ng	100
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	11.78	72	110	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d	
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.	d	
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	12.87	78	785738	6.417	ng	100
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	13.17	84	1475289	32.333	ng	100
44) tert-Amyl Methyl Ether	13.45	73	961	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d	
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122019.D Vial: 1
Acq On : 12 May 2020 12:06 Operator: WA
Sample : P2002300-005 (0.06mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:49:22 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

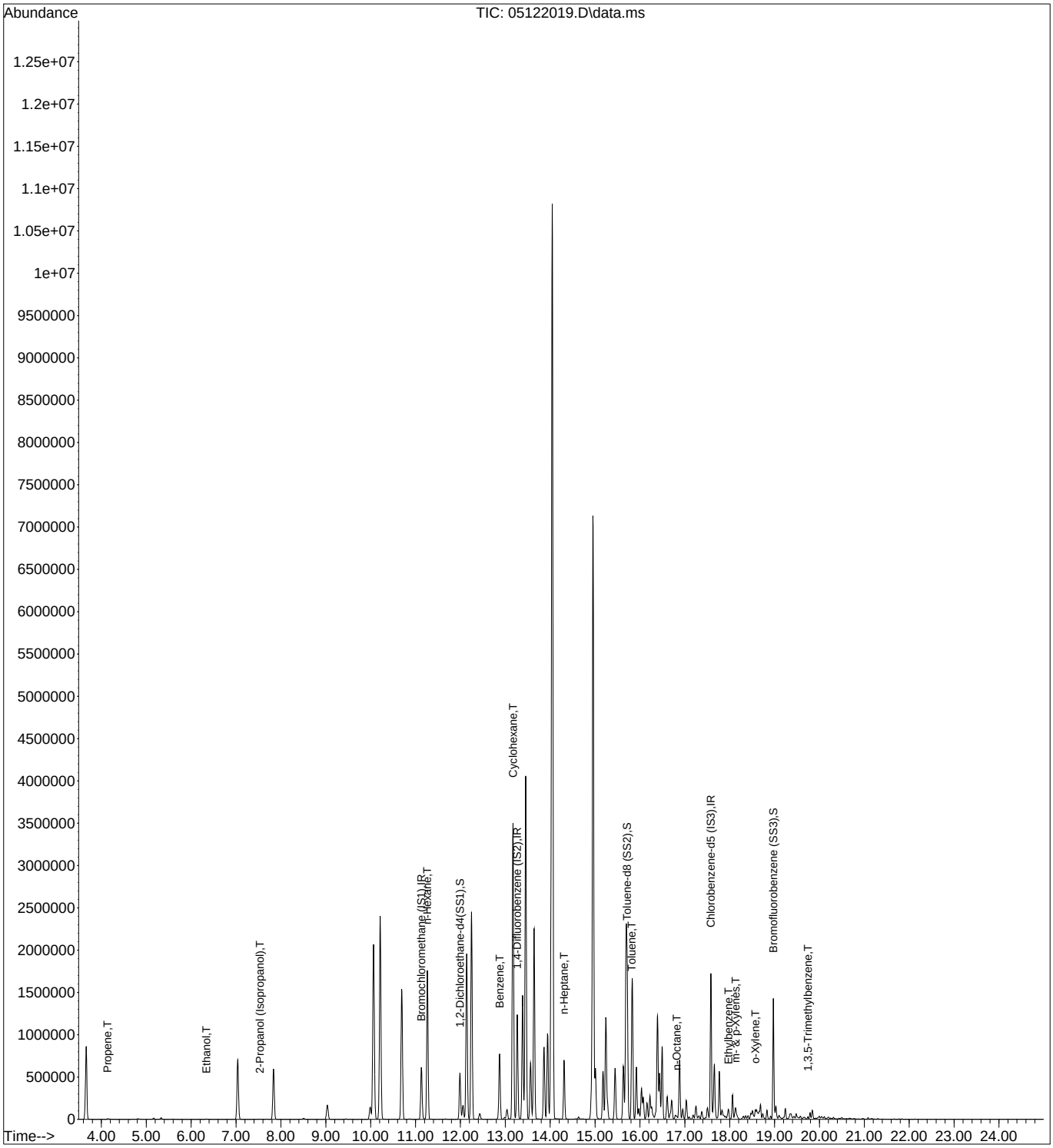
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	178515	6.235 ng	99
52) cis-1,3-Dichloropropene	14.95	75	1512	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	15.14	75	222	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	15.82	91	303757	2.566 ng	99
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	16.82	57	7143	0.291 ng	94
64) Tetrachloroethene	16.96	166	352	N.D.	
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	17.98	91	14238	0.108 ng	97
67) m- & p-Xylenes	18.14	91	59751	0.571 ng	98
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.57	104	1343	N.D.	
70) o-Xylene	18.57	91	58863	0.554 ng	98
71) n-Nonane	18.74	43	1824	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	19.10	105	2342	N.D.	
75) alpha-Pinene	19.25	93	443	N.D.	
76) n-Propylbenzene	19.55	91	1381	N.D.	
77) 3-Ethyltoluene	19.64	105	3326	N.D.	
78) 4-Ethyltoluene	19.64	105	3326	N.D.	
79) 1,3,5-Trimethylbenzene	19.74	105	8085	0.076 ng	99
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	19.91	105	2827	N.D.	
82) 1,2,4-Trimethylbenzene	20.10	105	2955	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.31	91	173	N.D.	
85) 1,3-Dichlorobenzene	20.30	146	278	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	278	N.D.	
87) sec-Butylbenzene	20.35	105	863	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	638	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	3080	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.61	68	916	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.30	57	1428	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.21	128	1046	N.D.	
96) n-Dodecane	22.20	57	253	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.10	119	590	N.D.	
100) n-Butylbenzene	20.85	91	177	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122019.D Vial: 1
Acq On : 12 May 2020 12:06 Operator: WA
Sample : P2002300-005 (0.06mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:49:22 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122019.D Vial: 1
Acq On : 12 May 2020 12:06 Operator: WA
Sample : P2002300-005 (0.06mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:49:22 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/13/20

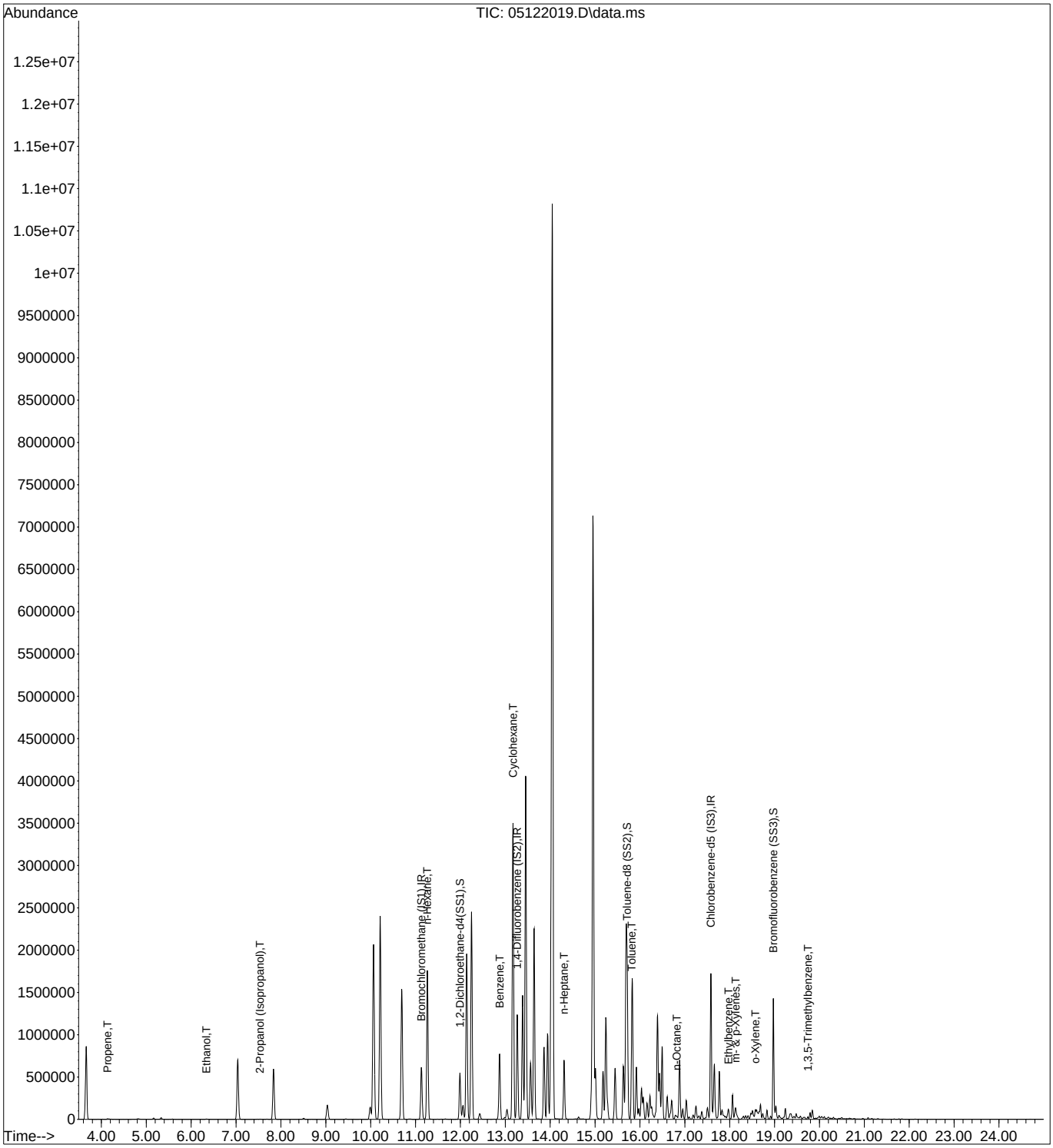
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	266742	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1141771	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	541816	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	421491	11.660	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.28%			
57) Toluene-d8 (SS2)	15.72	98	1150519	12.528	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.24%			
73) Bromofluorobenzene (SS3)	18.97	174	436596	13.212	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.68%			
Target Compounds						Qvalue
2) Propene	4.14	42	2261	0.073	ng	# 73
10) Ethanol	6.34	45	7205	0.302	ng	90
15) 2-Propanol (Isopropanol)	7.53	45	4675	0.065	ng	89
31) n-Hexane	11.26	57	916717	18.015	ng	100
41) Benzene	12.87	78	785738	6.417	ng	100
43) Cyclohexane	13.17	84	1475289	32.333	ng	100
51) n-Heptane	14.31	71	178515	6.235	ng	99
58) Toluene	15.82	91	303757	2.566	ng	99
63) n-Octane	16.82	57	7143	0.291	ng	94
66) Ethylbenzene	17.98	91	14238	0.108	ng	97
67) m- & p-Xylenes	18.14	91	59751	0.571	ng	98
70) o-Xylene	18.57	91	58863	0.554	ng	98
79) 1,3,5-Trimethylbenzene	19.74	105	8085	0.076	ng	99

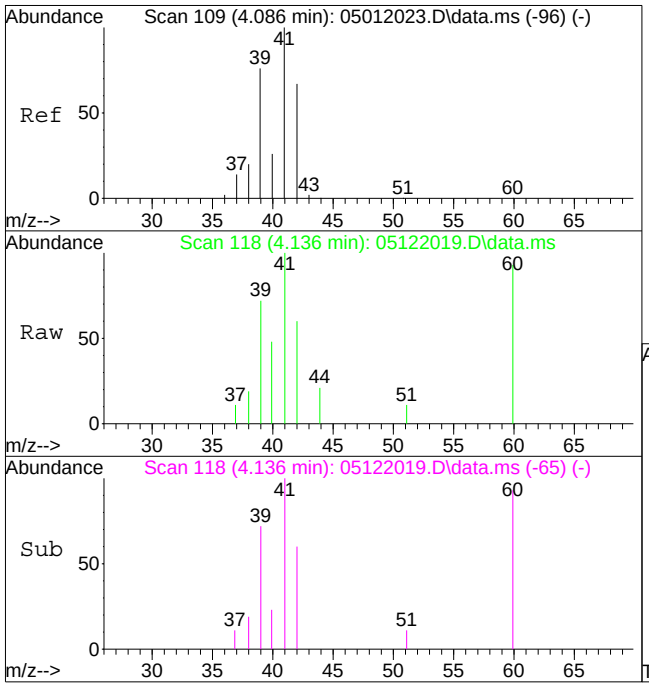
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122019.D Vial: 1
Acq On : 12 May 2020 12:06 Operator: WA
Sample : P2002300-005 (0.06mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:49:22 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

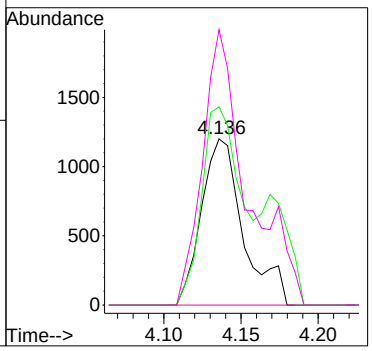


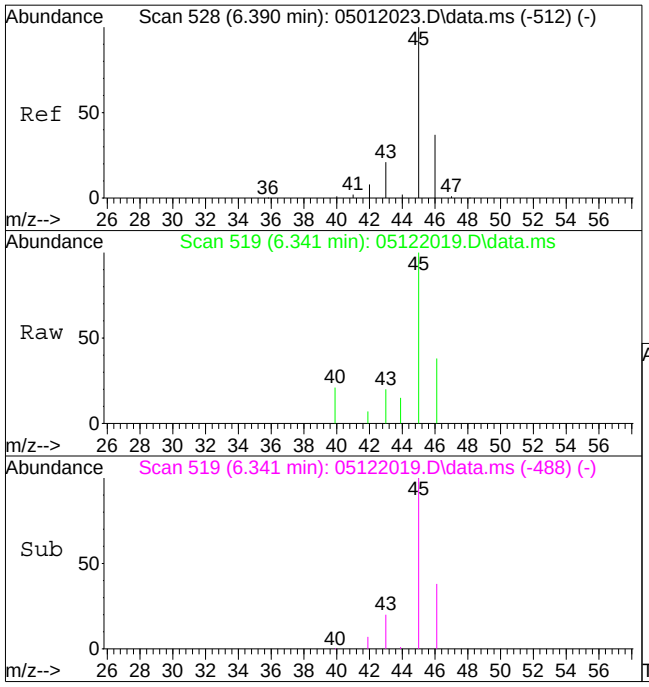


#2
Propene
Concen: 0.07 ng
RT: 4.14 min Scan# 118
Delta R.T. 0.044 min
Lab File: 05122019.D
Acq: 12 May 2020 12:06

Tgt Ion: 42 Resp: 2261

Ion	Ratio	Lower	Upper
42	100		
39	156.4	96.1	136.1#
41	176.6	131.9	171.9#

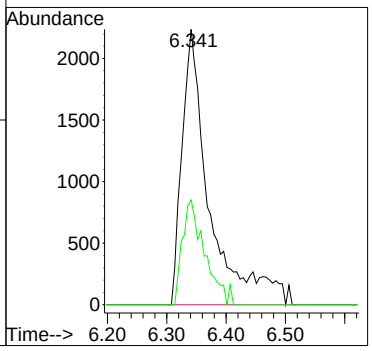


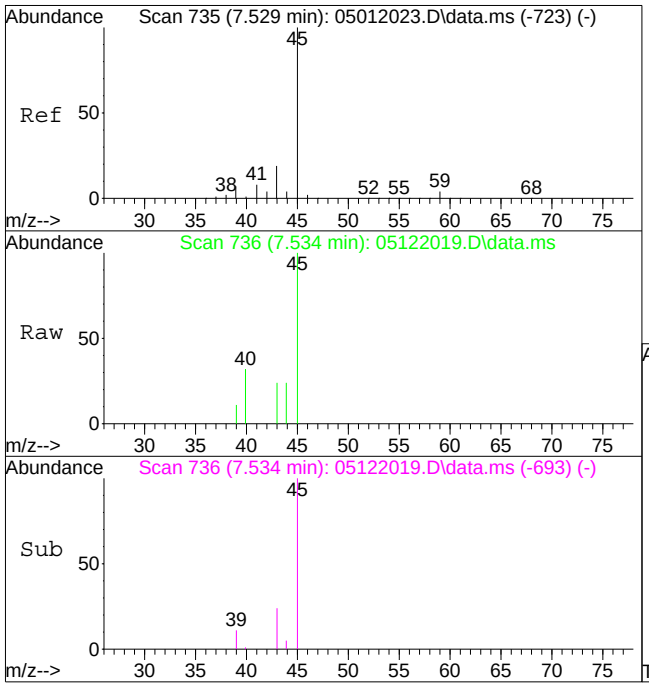


#10
Ethanol
Concen: 0.30 ng
RT: 6.34 min Scan# 519
Delta R.T. -0.077 min
Lab File: 05122019.D
Acq: 12 May 2020 12:06

Tgt Ion: 45 Resp: 7205

Ion	Ratio	Lower	Upper
45	100		
46	31.0	17.2	57.2

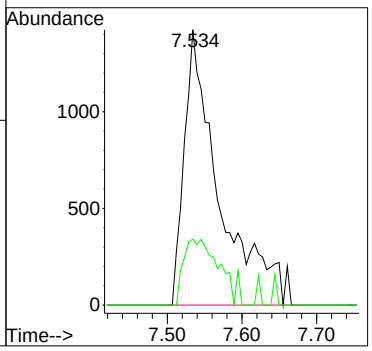


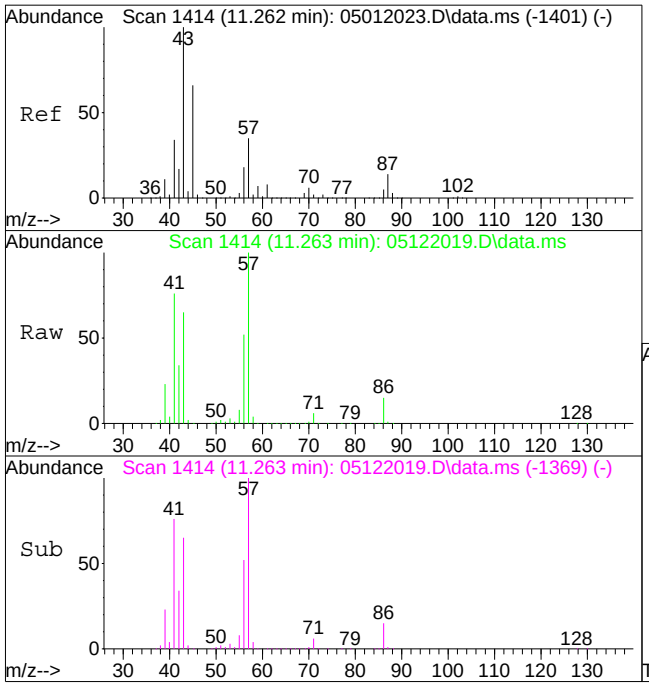


#15
2-Propanol (Isopropanol)
Concen: 0.06 ng
RT: 7.53 min Scan# 736
Delta R.T. -0.011 min
Lab File: 05122019.D
Acq: 12 May 2020 12:06

Tgt Ion: 45 Resp: 4675

Ion	Ratio	Lower	Upper
45	100		
43	24.4	0.0	39.5

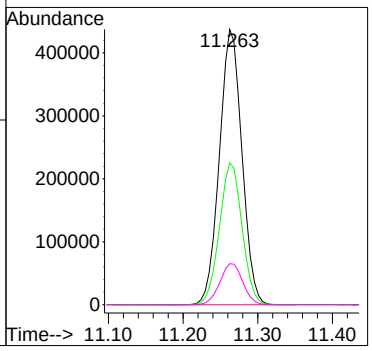


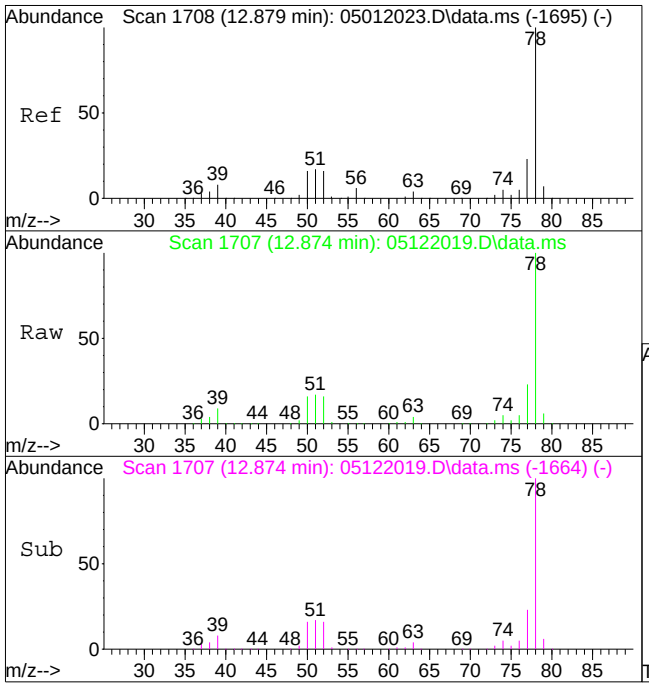


#31
n-Hexane
Concen: 18.02 ng
RT: 11.26 min Scan# 1414
Delta R.T. -0.000 min
Lab File: 05122019.D
Acq: 12 May 2020 12:06

Tgt Ion: 57 Resp: 916717

Ion	Ratio	Lower	Upper
57	100		
56	51.7	41.4	62.0
86	15.2	12.4	18.6

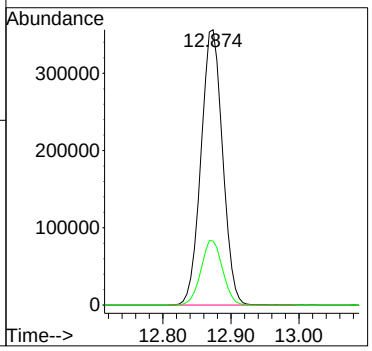


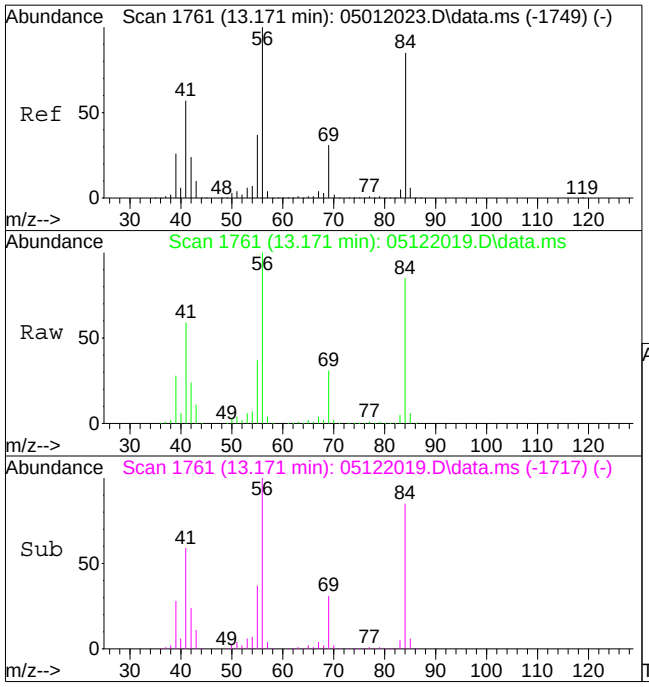


#41
Benzene
Concen: 6.42 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05122019.D
Acq: 12 May 2020 12:06

Tgt Ion: 78 Resp: 785738

Ion	Ratio	Lower	Upper
78	100		
77	23.5	3.4	43.4

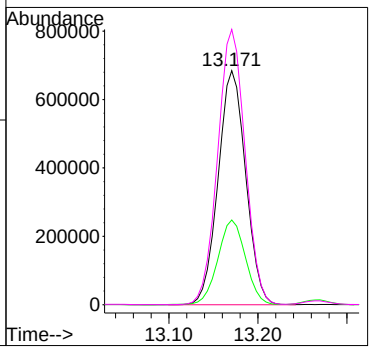


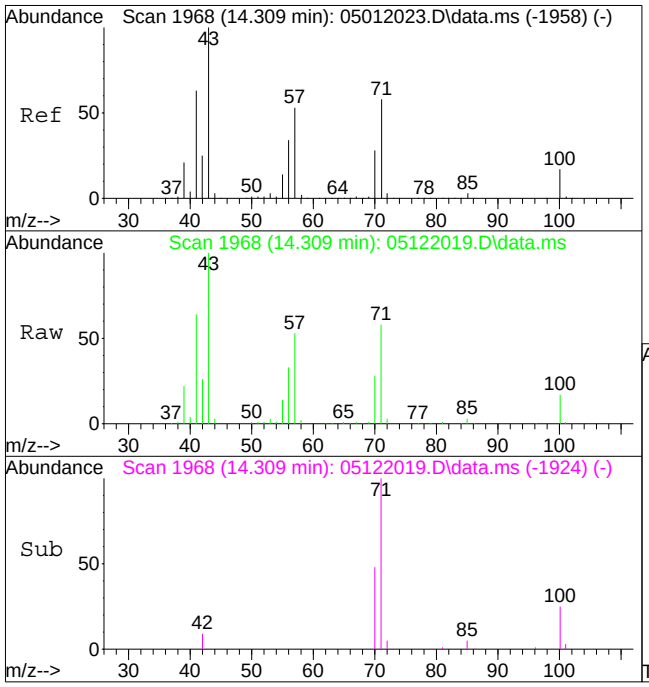


#43
Cyclohexane
Concen: 32.33 ng
RT: 13.17 min Scan# 1761
Delta R.T. -0.006 min
Lab File: 05122019.D
Acq: 12 May 2020 12:06

Tgt Ion: 84 Resp: 1475289

Ion	Ratio	Lower	Upper
84	100		
69	36.4	16.5	56.5
56	117.2	97.4	137.4

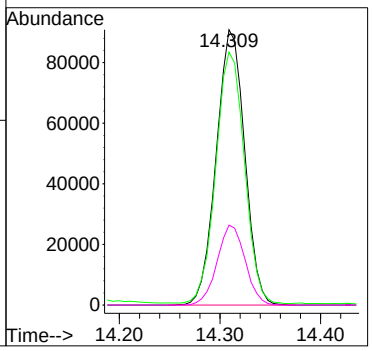


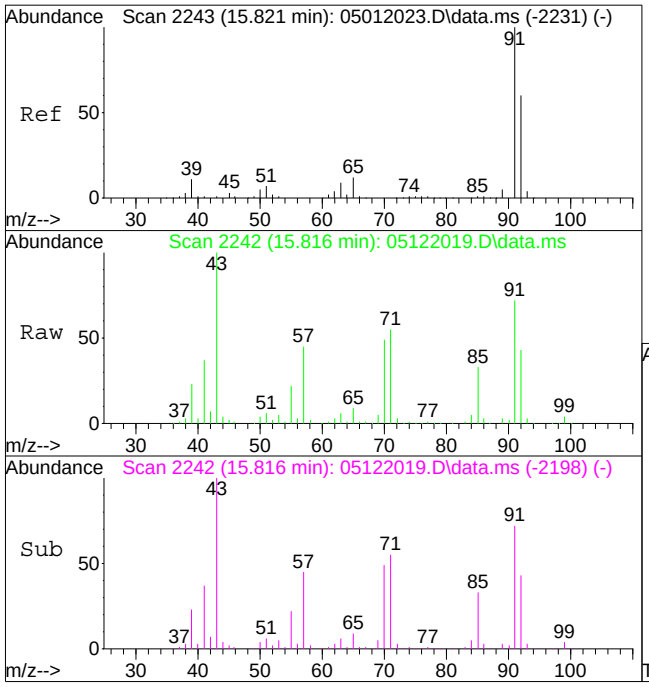


#51
n-Heptane
Concen: 6.23 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05122019.D
Acq: 12 May 2020 12:06

Tgt Ion: 71 Resp: 178515

Ion	Ratio	Lower	Upper
71	100		
57	91.9	71.0	111.0
100	28.5	8.4	48.4

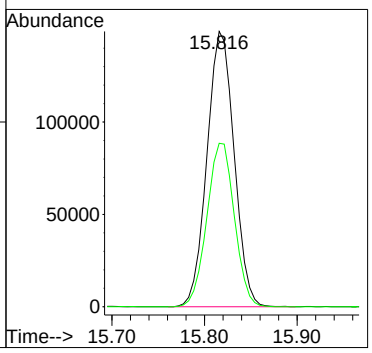


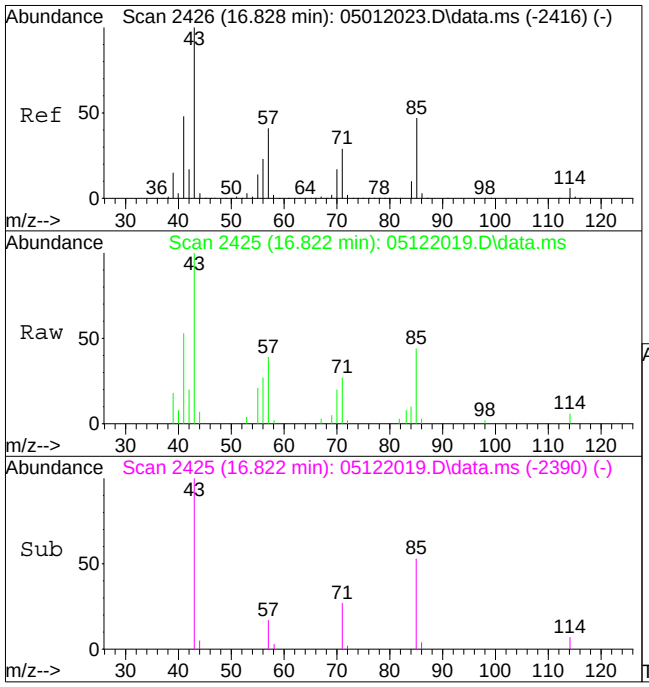


#58
Toluene
Concen: 2.57 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05122019.D
Acq: 12 May 2020 12:06

Tgt Ion: 91 Resp: 303757

Ion	Ratio	Lower	Upper
91	100		
92	60.0	39.4	79.4

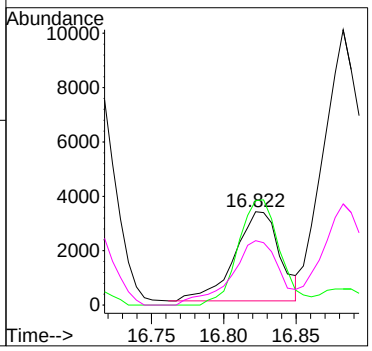


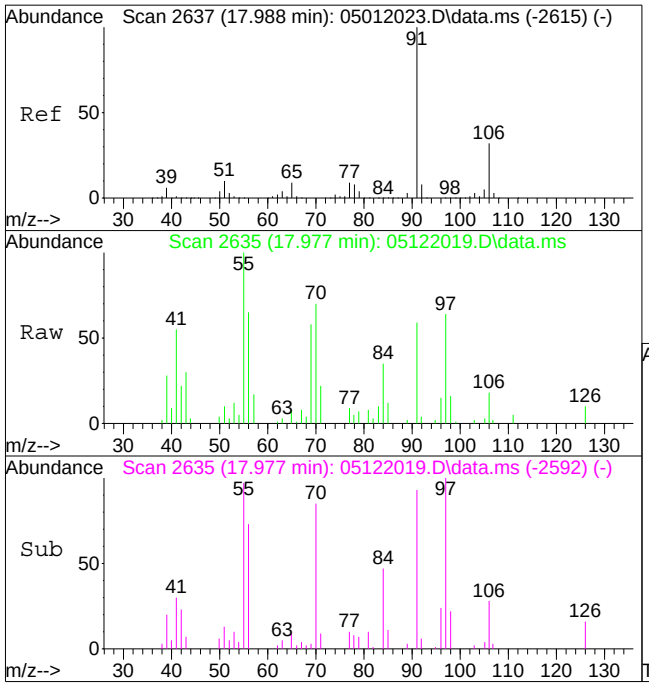


#63
n-Octane
Concen: 0.29 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05122019.D
Acq: 12 May 2020 12:06

Tgt Ion: 57 Resp: 7143

Ion	Ratio	Lower	Upper
57	100		
85	108.0	91.0	136.4
71	75.7	56.2	84.2

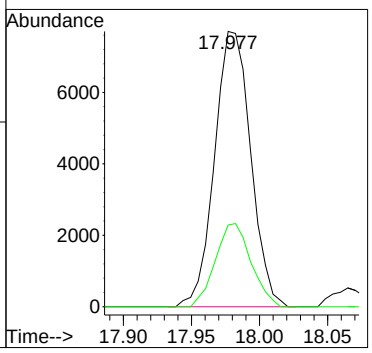


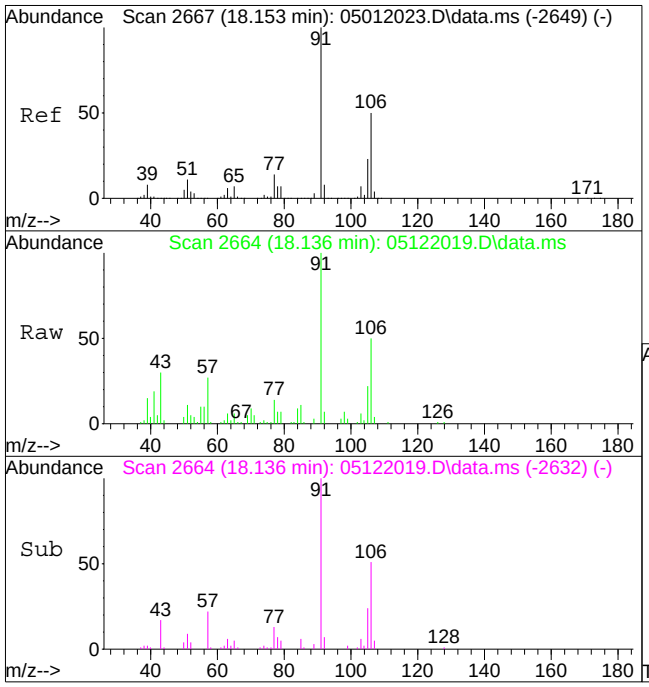


#66
Ethylbenzene
Concen: 0.11 ng
RT: 17.98 min Scan# 2635
Delta R.T. -0.011 min
Lab File: 05122019.D
Acq: 12 May 2020 12:06

Tgt Ion: 91 Resp: 14238

Ion	Ratio	Lower	Upper
91	100		
106	29.8	11.6	51.6

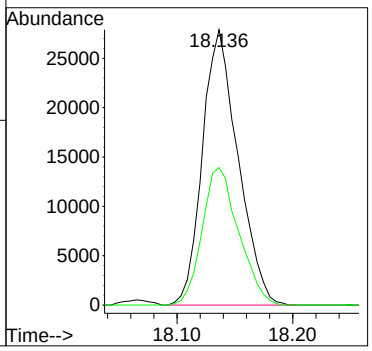


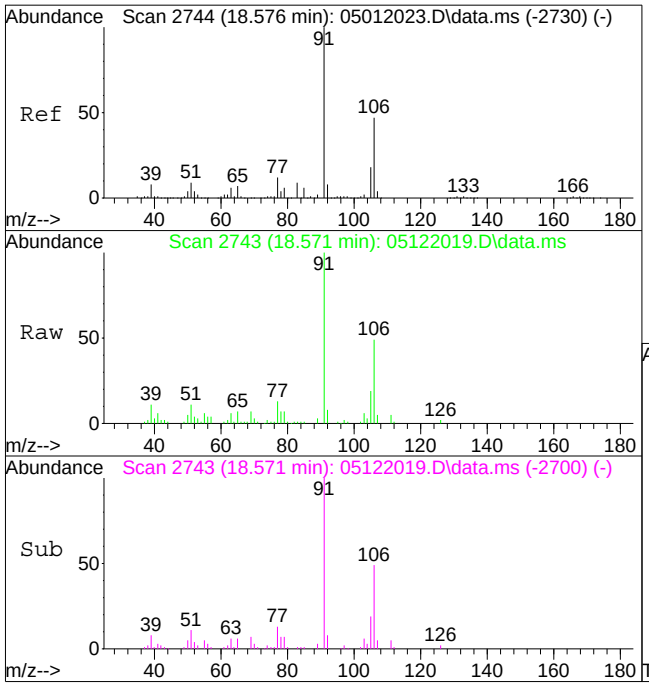


#67
m- & p-Xylenes
Concen: 0.57 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05122019.D
Acq: 12 May 2020 12:06

Tgt Ion: 91 Resp: 59751

Ion	Ratio	Lower	Upper
91	100		
106	51.1	29.7	69.7

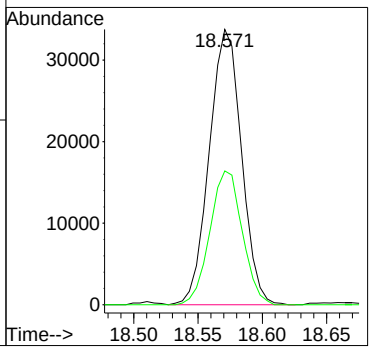


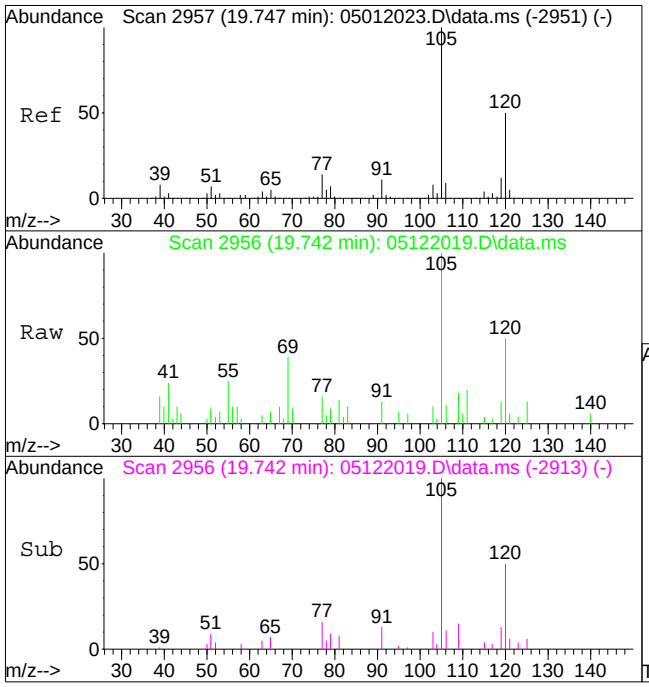


#70
o-Xylene
Concen: 0.55 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05122019.D
Acq: 12 May 2020 12:06

Tgt Ion: 91 Resp: 58863

Ion	Ratio	Lower	Upper
91	100		
106	48.7	27.5	67.5

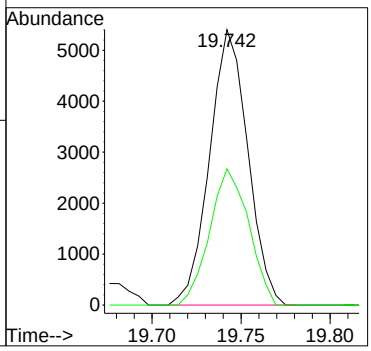




#79
1,3,5-Trimethylbenzene
Concen: 0.08 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05122019.D
Acq: 12 May 2020 12:06

Tgt Ion:105 Resp: 8085

Ion	Ratio	Lower	Upper
105	100		
120	50.3	29.9	69.9



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122018.D Vial: 1
Acq On : 12 May 2020 11:32 Operator: WA
Sample : P2002300-006 (0.20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:42:07 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/13/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	265386	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1151947	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	545714	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	422373	11.744	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.92%			
57) Toluene-d8 (SS2)	15.72	98	1152822	12.463	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.68%			
73) Bromofluorobenzene (SS3)	18.97	174	436866	13.126	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.04%			
Target Compounds						Qvalue
2) Propene	4.12	42	9128	0.297	ng	# 77
3) Dichlorodifluoromethan...	4.29	85	160	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	5.16	54	522	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.36	45	1146	N.D.		
11) Acetonitrile	6.62	41	102	N.D.		
12) Acrolein	6.82	56	318	N.D.		
13) Acetone	0.00	58	0	N.D. d		
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	7.56	45	1156	N.D.		
16) Acrylonitrile	7.69	53	178	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	8.47	59	53	N.D.		
19) Methylene Chloride	0.00	84	0	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D. d		
21) Trichlorotrifluoroethane	8.84	151	769	N.D.		
22) Carbon Disulfide	8.69	76	952	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	9.99	63	1114	N.D.		
25) Methyl tert-Butyl Ether	10.06	73	229	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D. d		
27) 2-Butanone (MEK)	10.32	72	274	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D. d		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	11.26	57	365488	7.219	ng	100
32) Chloroform	11.30	83	455	N.D.		
34) Tetrahydrofuran (THF)	11.78	72	119	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D. d		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D. d		
40) 1-Butanol	12.88	56	736	N.D.		
41) Benzene	12.87	78	316447	2.562	ng	100
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	13.17	84	1355354	29.442	ng	99
44) tert-Amyl Methyl Ether	13.45	73	780	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D. d		
46) Bromodichloromethane	0.00	83	0	N.D. d		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d		
50) Methyl Methacrylate	0.00	100	0	N.D. d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122018.D Vial: 1
Acq On : 12 May 2020 11:32 Operator: WA
Sample : P2002300-006 (0.20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:42:07 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

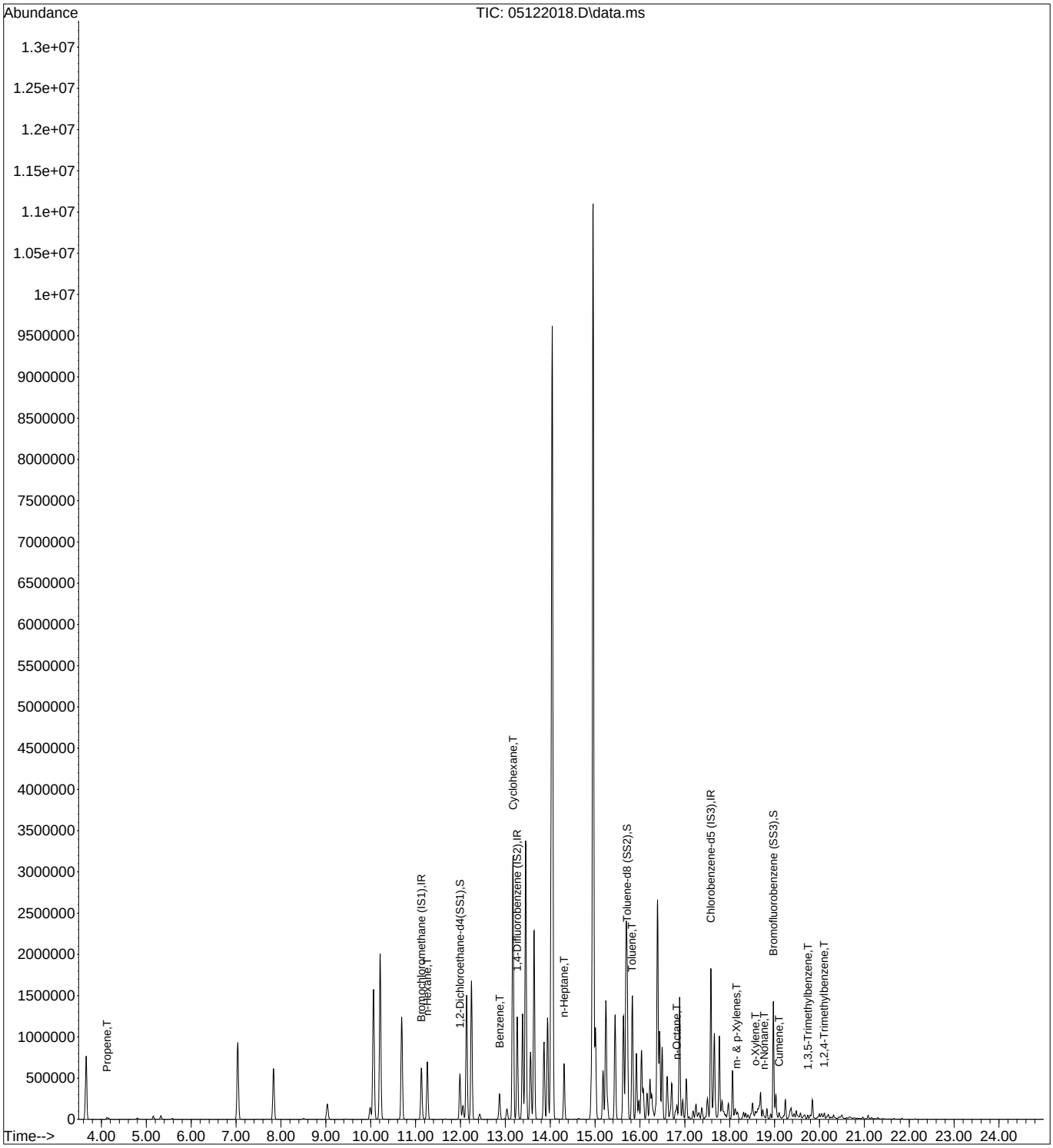
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	172511	5.972 ng	99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	15.44	75	108	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	15.82	91	12009	0.101 ng	99
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	16.82	57	34493	1.397 ng	97
64) Tetrachloroethene	16.96	166	259	N.D.	
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	17.98	91	1637	N.D.	
67) m- & p-Xylenes	18.15	91	15256	0.145 ng	100
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.57	104	829	N.D.	
70) o-Xylene	18.57	91	37997	0.355 ng	98
71) n-Nonane	18.77	43	7778m	0.137 ng	
72) 1,1,2,2-Tetrachloroethane	18.58	83	166	N.D.	
74) Cumene	19.10	105	7369	0.056 ng	96
75) alpha-Pinene	19.36	93	236	N.D.	
76) n-Propylbenzene	19.55	91	2658	N.D.	
77) 3-Ethyltoluene	19.64	105	1027	N.D.	
78) 4-Ethyltoluene	19.68	105	682	N.D.	
79) 1,3,5-Trimethylbenzene	19.74	105	9212	0.086 ng	100
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	19.91	105	1438	N.D.	
82) 1,2,4-Trimethylbenzene	20.10	105	8712	0.081 ng	94
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.31	91	708	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	20.35	105	3191	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	865	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.61	68	1085	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.30	57	1729	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.22	128	1017	N.D.	
96) n-Dodecane	22.20	57	247	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.11	119	1211	N.D.	
100) n-Butylbenzene	20.84	91	603	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122018.D Vial: 1
Acq On : 12 May 2020 11:32 Operator: WA
Sample : P2002300-006 (0.20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:42:07 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122018.D Vial: 1
Acq On : 12 May 2020 11:32 Operator: WA
Sample : P2002300-006 (0.20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:42:07 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/13/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

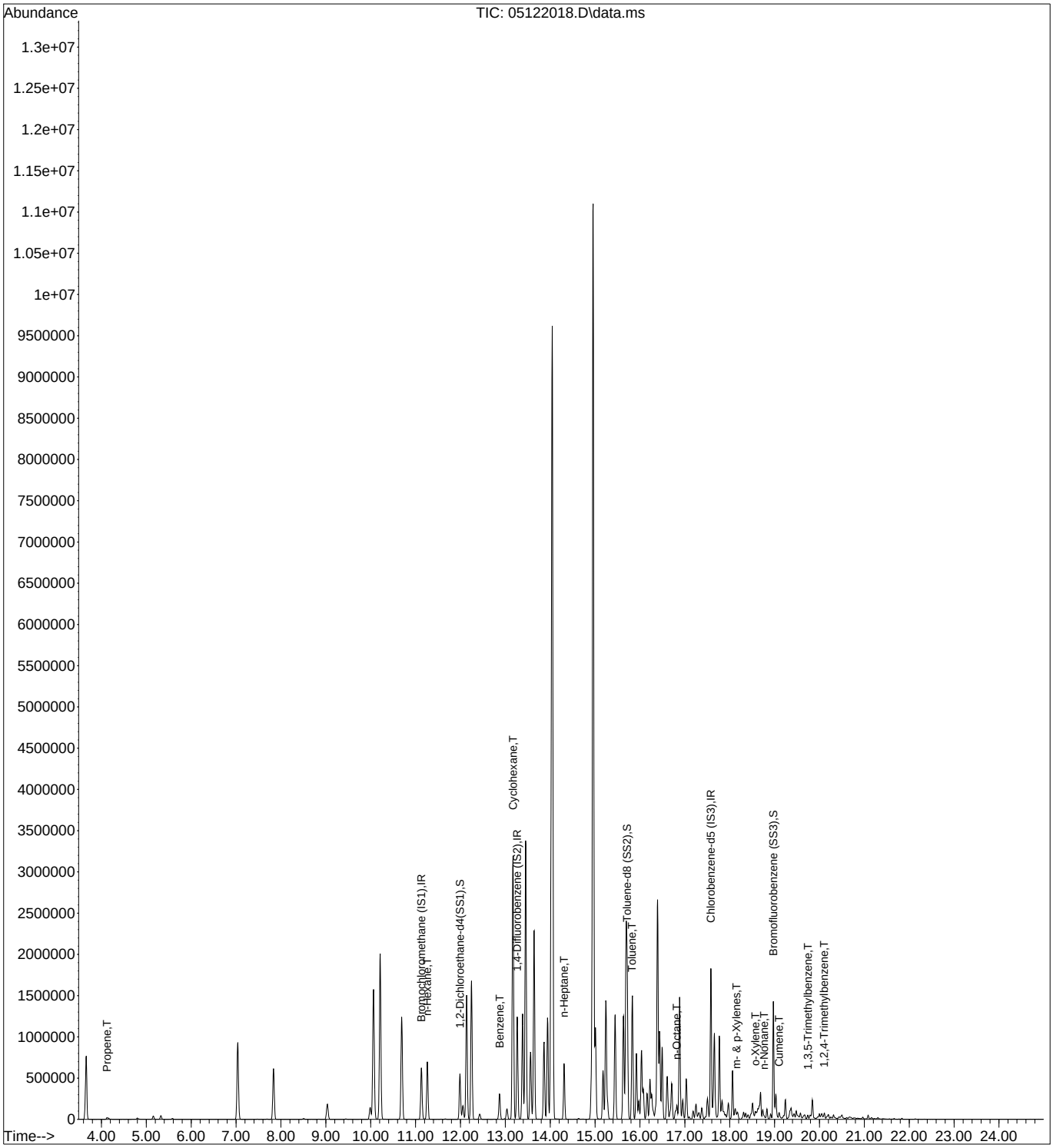
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	265386	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1151947	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	545714	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	422373	11.744	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.92%			
57) Toluene-d8 (SS2)	15.72	98	1152822	12.463	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.68%			
73) Bromofluorobenzene (SS3)	18.97	174	436866	13.126	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.04%			
Target Compounds						Qvalue
2) Propene	4.12	42	9128	0.297	ng	# 77
31) n-Hexane	11.26	57	365488	7.219	ng	100
41) Benzene	12.87	78	316447	2.562	ng	100
43) Cyclohexane	13.17	84	1355354	29.442	ng	99
51) n-Heptane	14.31	71	172511	5.972	ng	99
58) Toluene	15.82	91	12009	0.101	ng	99
63) n-Octane	16.82	57	34493	1.397	ng	97
67) m- & p-Xylenes	18.15	91	15256	0.145	ng	100
70) o-Xylene	18.57	91	37997	0.355	ng	98
71) n-Nonane	18.77	43	7778m	0.137	ng	
74) Cumene	19.10	105	7369	0.056	ng	96
79) 1,3,5-Trimethylbenzene	19.74	105	9212	0.086	ng	100
82) 1,2,4-Trimethylbenzene	20.10	105	8712	0.081	ng	94

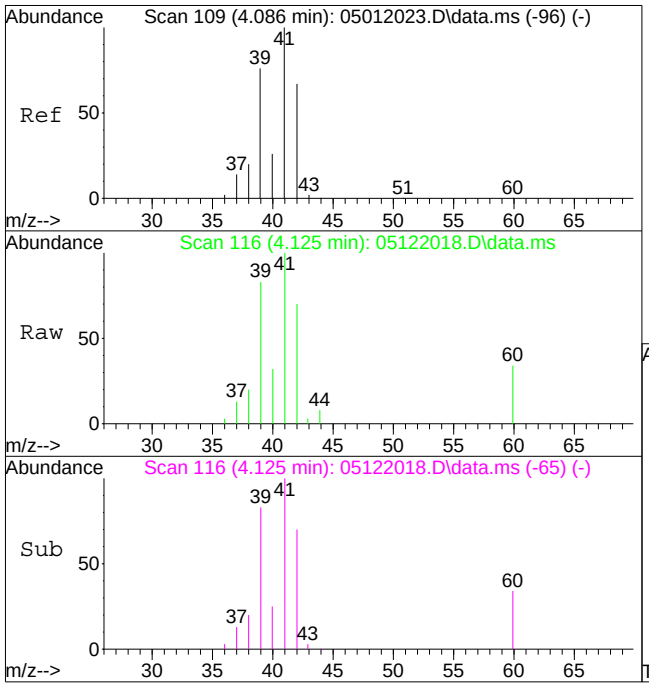
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122018.D Vial: 1
Acq On : 12 May 2020 11:32 Operator: WA
Sample : P2002300-006 (0.20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:42:07 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

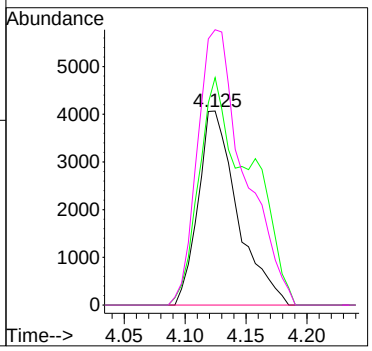


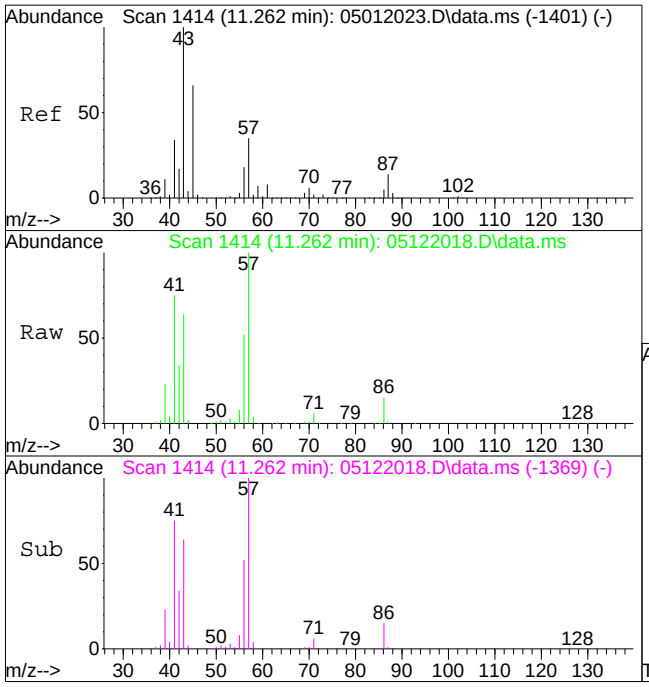


#2
Propene
Concen: 0.30 ng
RT: 4.12 min Scan# 116
Delta R.T. 0.033 min
Lab File: 05122018.D
Acq: 12 May 2020 11:32

Tgt Ion: 42 Resp: 9128

Ion	Ratio	Lower	Upper
42	100		
39	152.9	96.1	136.1#
41	169.9	131.9	171.9

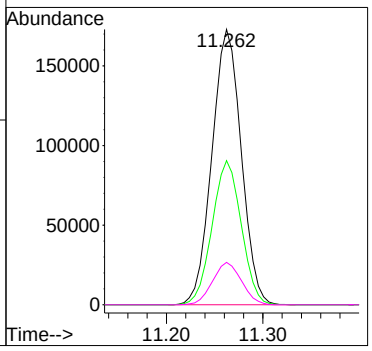


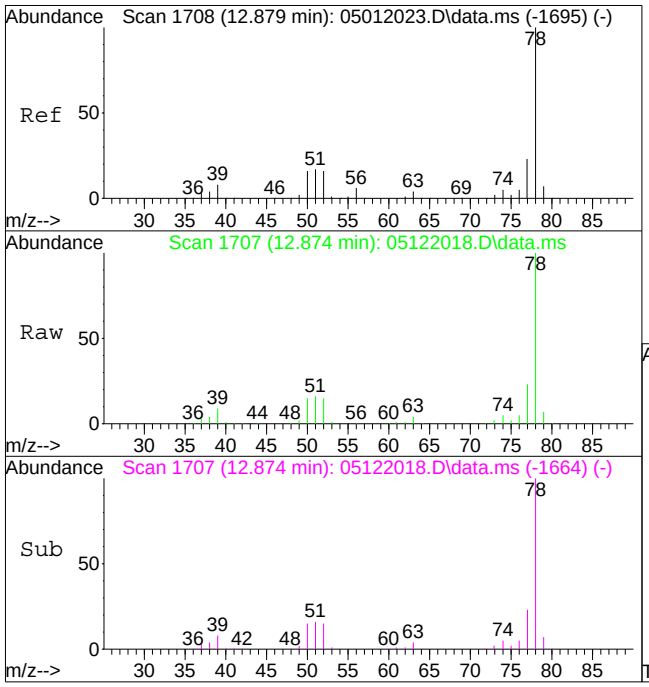


#31
n-Hexane
Concen: 7.22 ng
RT: 11.26 min Scan# 1414
Delta R.T. -0.000 min
Lab File: 05122018.D
Acq: 12 May 2020 11:32

Tgt Ion: 57 Resp: 365488

Ion	Ratio	Lower	Upper
57	100		
56	51.9	41.4	62.0
86	15.2	12.4	18.6

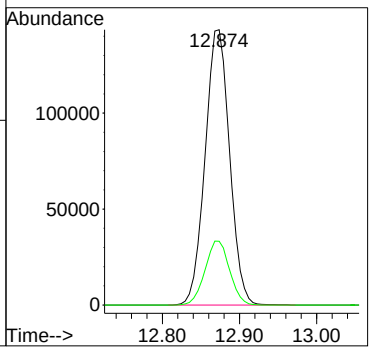


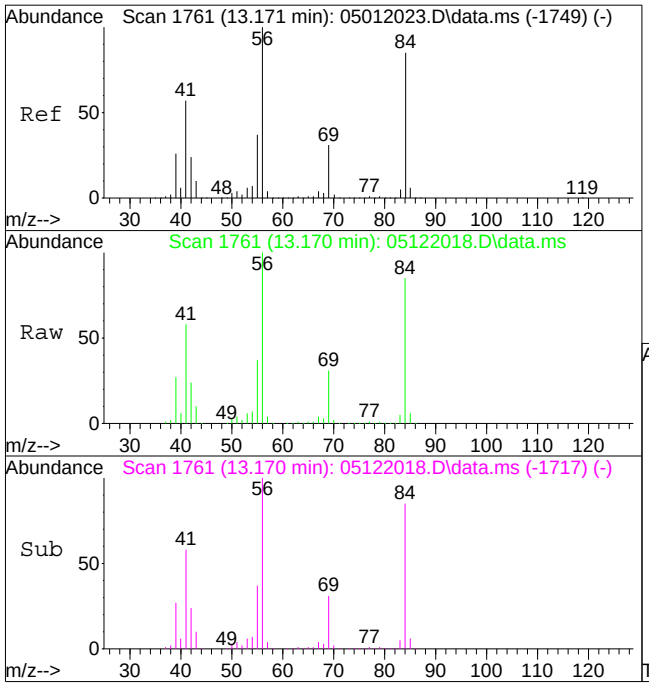


#41
Benzene
Concen: 2.56 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05122018.D
Acq: 12 May 2020 11:32

Tgt Ion: 78 Resp: 316447

Ion	Ratio	Lower	Upper
78	100		
77	23.3	3.4	43.4

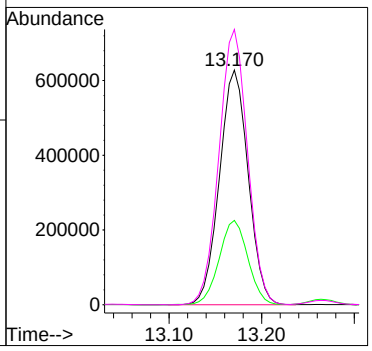


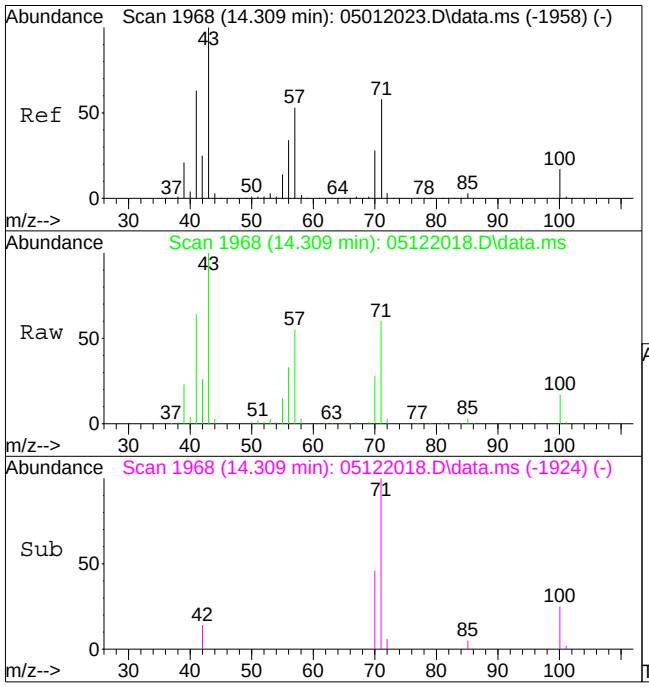


#43
Cyclohexane
Concen: 29.44 ng
RT: 13.17 min Scan# 1761
Delta R.T. -0.006 min
Lab File: 05122018.D
Acq: 12 May 2020 11:32

Tgt Ion: 84 Resp: 1355354

Ion	Ratio	Lower	Upper
84	100		
69	36.0	16.5	56.5
56	116.9	97.4	137.4

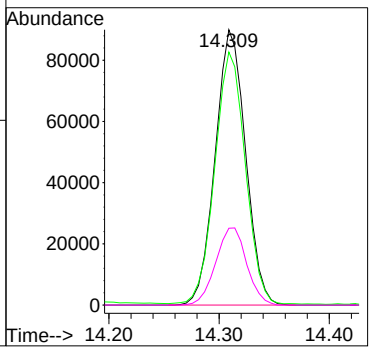


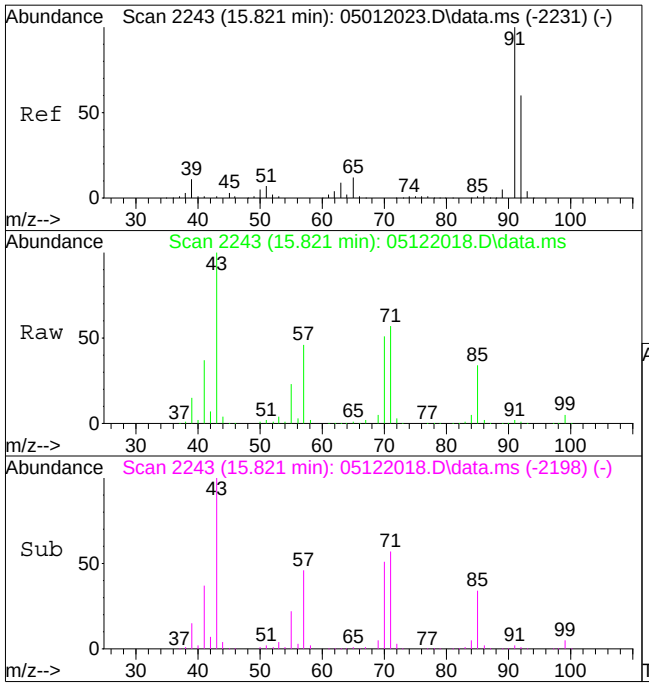


#51
n-Heptane
Concen: 5.97 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05122018.D
Acq: 12 May 2020 11:32

Tgt Ion: 71 Resp: 172511

Ion	Ratio	Lower	Upper
71	100		
57	92.2	71.0	111.0
100	28.6	8.4	48.4

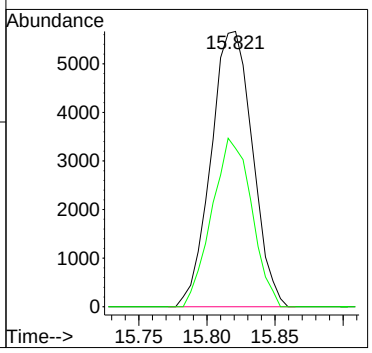


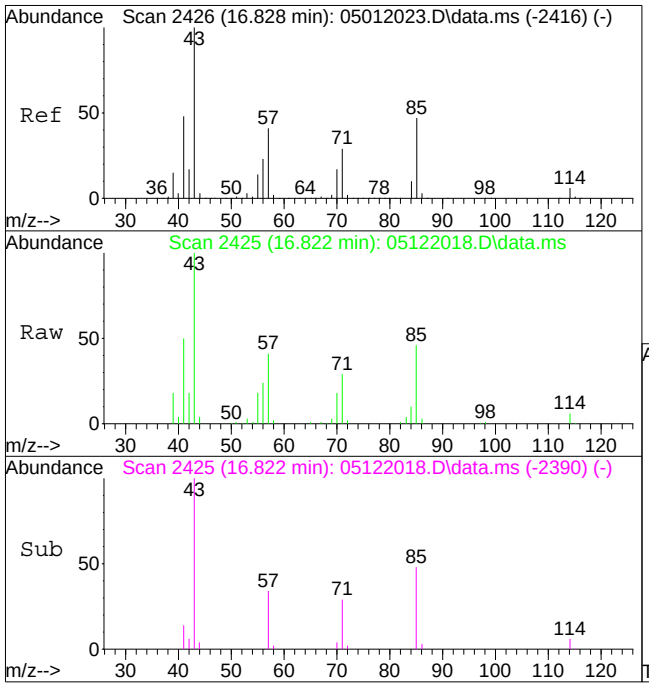


#58
Toluene
Concen: 0.10 ng
RT: 15.82 min Scan# 2243
Delta R.T. -0.000 min
Lab File: 05122018.D
Acq: 12 May 2020 11:32

Tgt Ion: 91 Resp: 12009

Ion	Ratio	Lower	Upper
91	100		
92	58.7	39.4	79.4

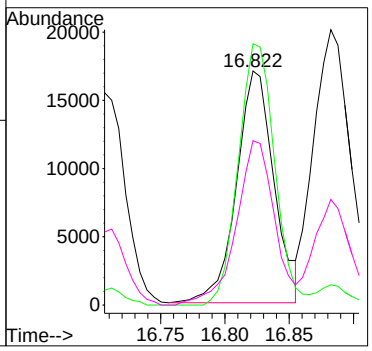


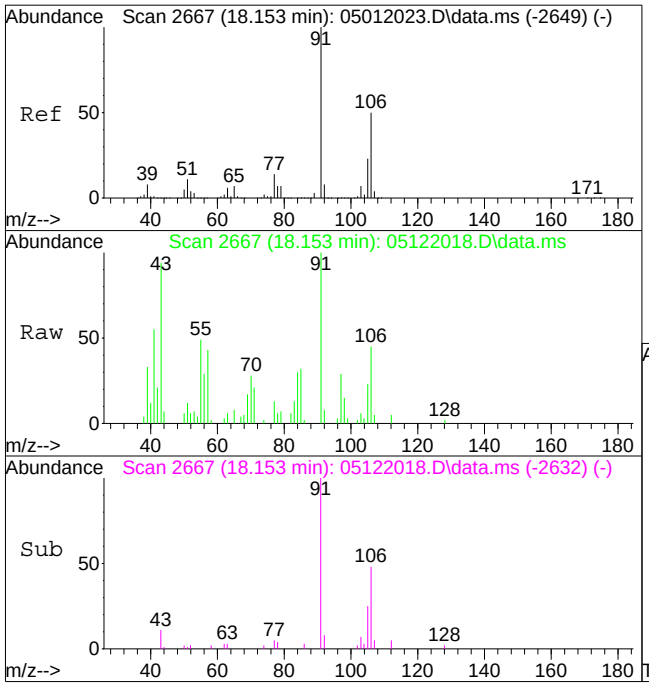


#63
n-Octane
Concen: 1.40 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05122018.D
Acq: 12 May 2020 11:32

Tgt Ion: 57 Resp: 34493

Ion	Ratio	Lower	Upper
57	100		
85	109.0	91.0	136.4
71	71.4	56.2	84.2

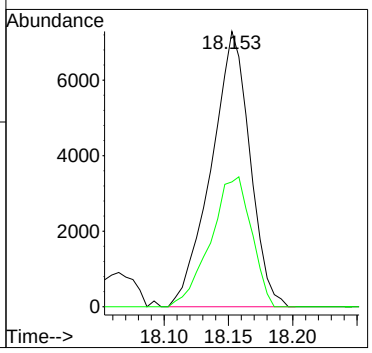


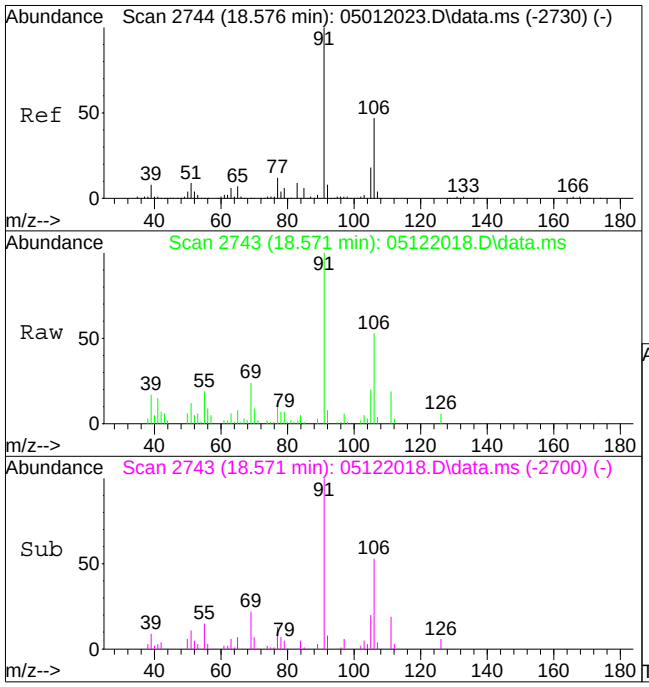


#67
m- & p-Xylenes
Concen: 0.14 ng
RT: 18.15 min Scan# 2667
Delta R.T. -0.006 min
Lab File: 05122018.D
Acq: 12 May 2020 11:32

Tgt Ion: 91 Resp: 15256

Ion	Ratio	Lower	Upper
91	100		
106	49.7	29.7	69.7

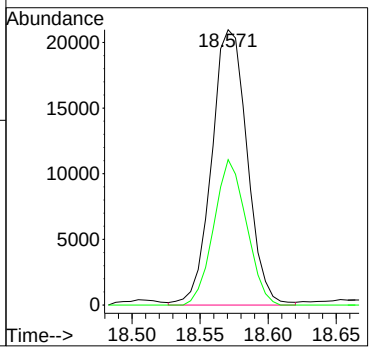


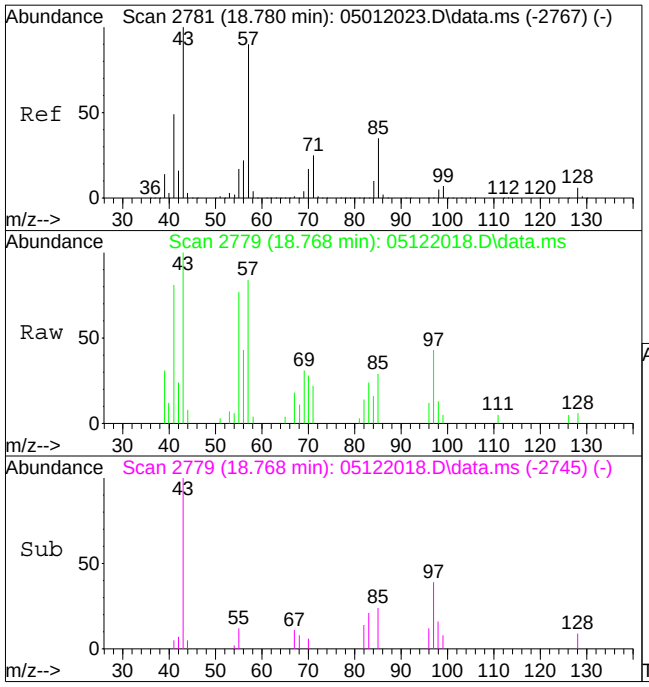


#70
o-Xylene
Concen: 0.35 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05122018.D
Acq: 12 May 2020 11:32

Tgt Ion: 91 Resp: 37997

Ion	Ratio	Lower	Upper
91	100		
106	48.5	27.5	67.5

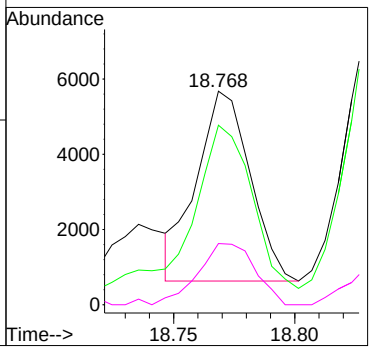


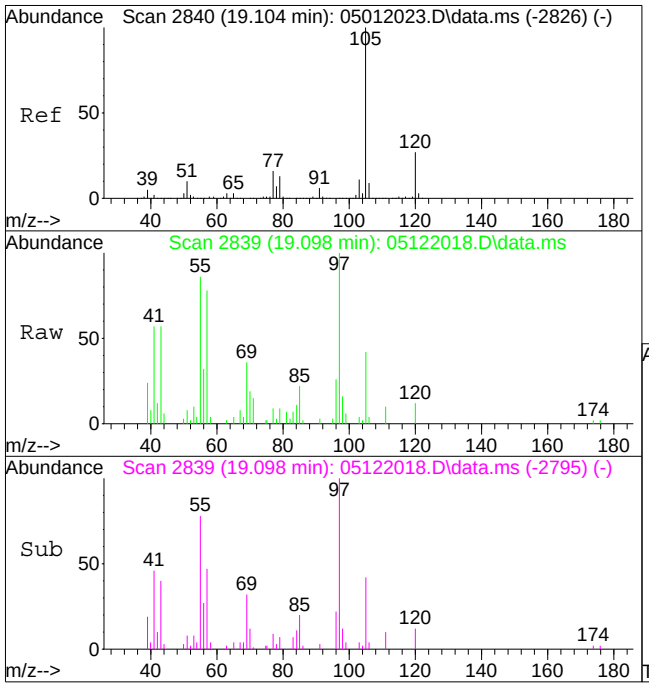


#71
n-Nonane
Concen: 0.14 ng m
RT: 18.77 min Scan# 2779
Delta R.T. -0.011 min
Lab File: 05122018.D
Acq: 12 May 2020 11:32

Tgt Ion: 43 Resp: 7778

Ion	Ratio	Lower	Upper
43	100		
57	94.4	69.0	109.0
85	34.8	14.6	54.6

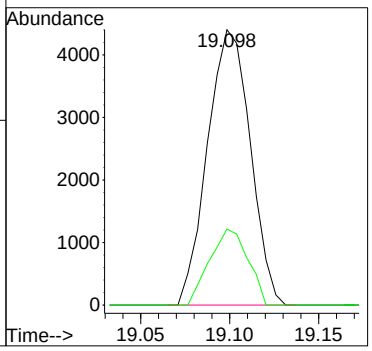


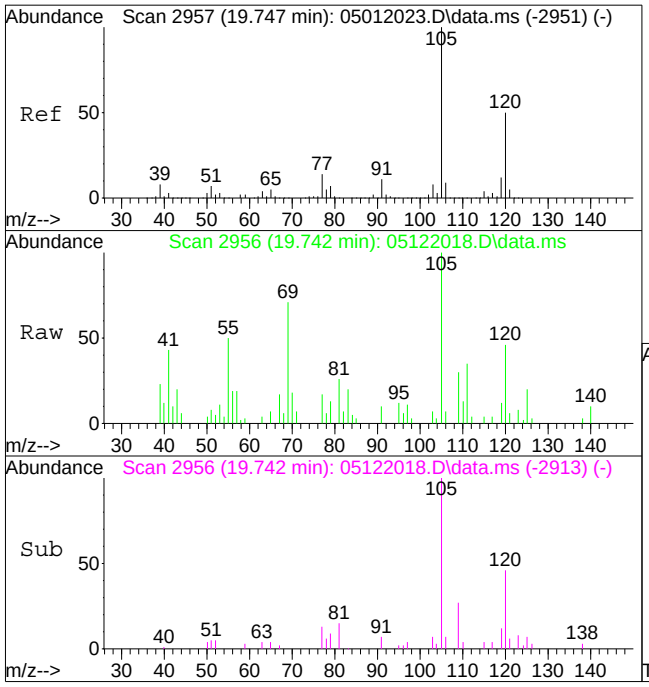


#74
Cumene
Concen: 0.06 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05122018.D
Acq: 12 May 2020 11:32

Tgt Ion:105 Resp: 7369

Ion	Ratio	Lower	Upper
105	100		
120	24.7	6.8	46.8

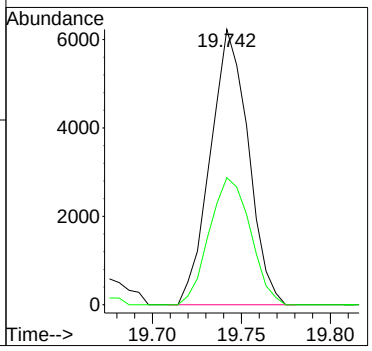


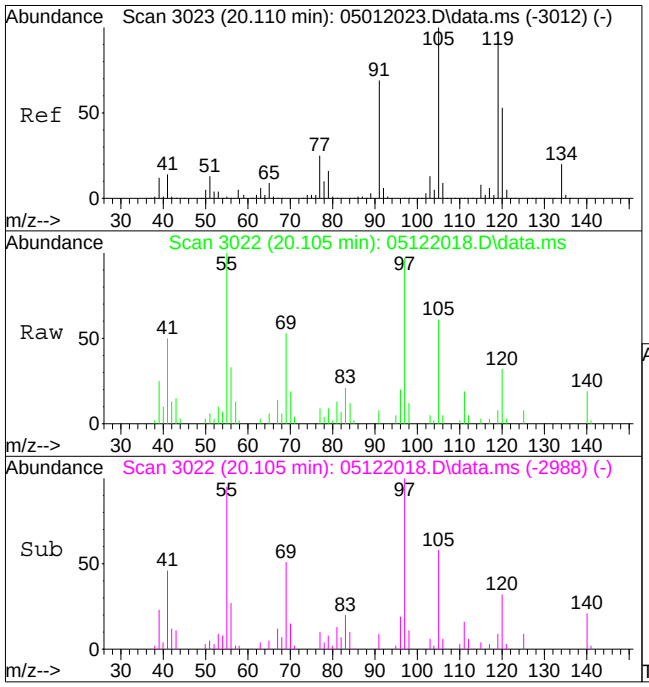


#79
1,3,5-Trimethylbenzene
Concen: 0.09 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05122018.D
Acq: 12 May 2020 11:32

Tgt Ion:105 Resp: 9212

Ion	Ratio	Lower	Upper
105	100		
120	49.9	29.9	69.9

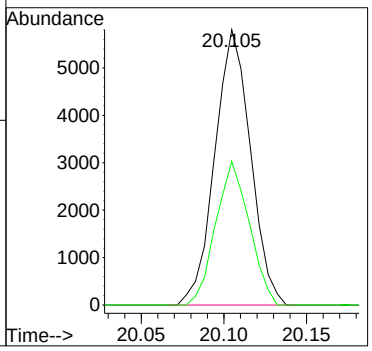




#82
1,2,4-Trimethylbenzene
Concen: 0.08 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05122018.D
Acq: 12 May 2020 11:32

Tgt Ion:105 Resp: 8712

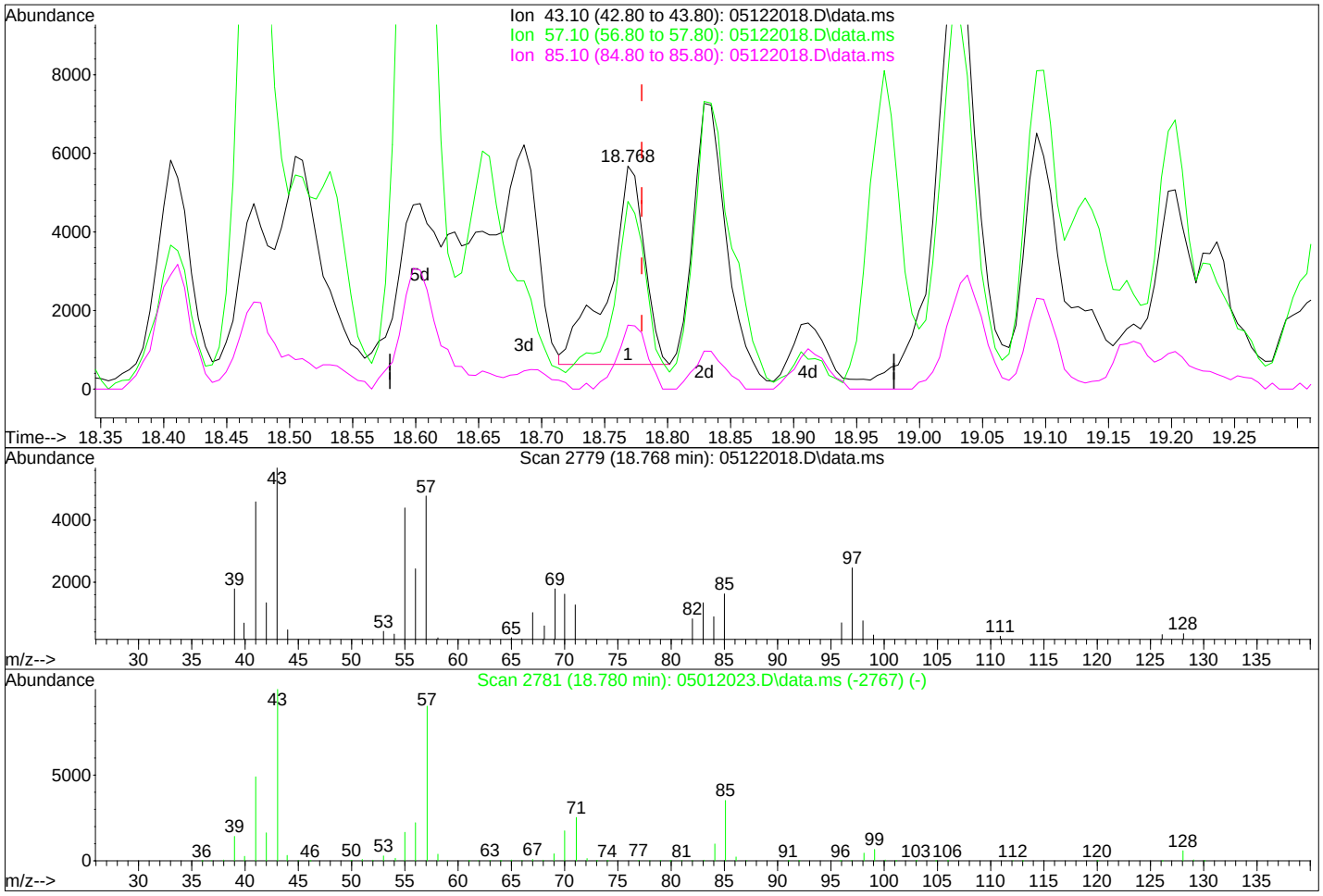
Ion	Ratio	Lower	Upper
105	100		
120	49.1	33.6	73.6



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\12\05122018.D Vial: 1
Acq On : 12 May 2020 11:32 Operator: WA
Sample : P2002300-006 (0.20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 05:59:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05122018.D\data.ms

(71) n-Nonane (T)

18.768min (-0.011) 0.18ng

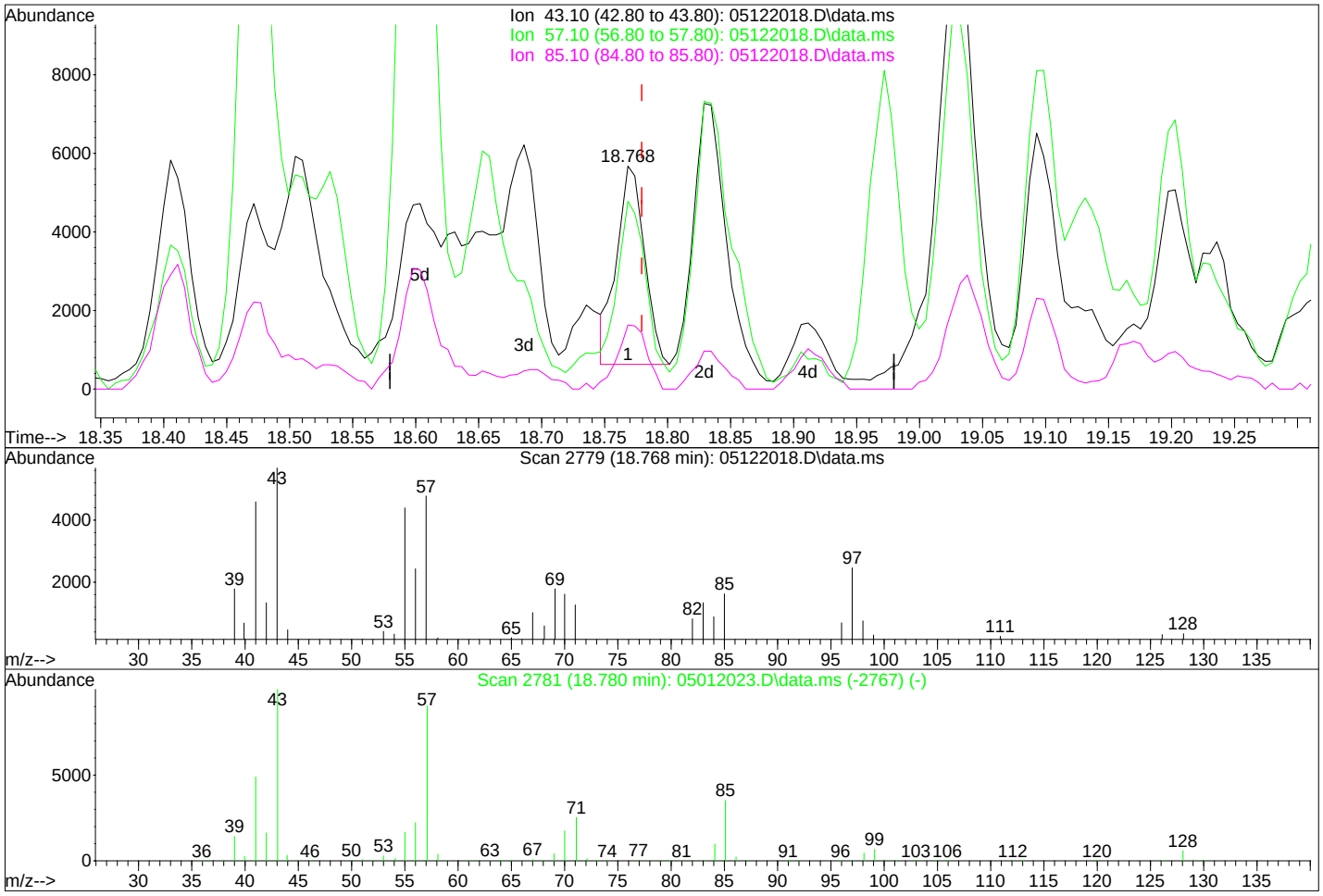
response 9979

Ion	Exp%	Act%
43.10	100	100
57.10	89.00	73.61
85.10	34.60	27.10
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\12\05122018.D Vial: 1
Acq On : 12 May 2020 11:32 Operator: WA
Sample : P2002300-006 (0.20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 05:59:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05122018.D\data.ms

(71) n-Nonane (T)

18.768min (-0.011) 0.14ng m

response 7778

Ion	Exp%	Act%
43.10	100	100
57.10	89.00	94.45
85.10	34.60	34.76
0.00	0.00	0.00

IPC

LH 5/13/20

5/14/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122020.D Vial: 1
Acq On : 12 May 2020 12:40 Operator: WA
Sample : P2002300-007 (2.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:55:28 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/13/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	266544	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1150071	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	552468	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	421975	11.682	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.44%			
57) Toluene-d8 (SS2)	15.72	98	1171752	12.513	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.08%			
73) Bromofluorobenzene (SS3)	18.97	174	448135	13.300	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.40%			
Target Compounds						Qvalue
2) Propene	4.12	42	10026	0.325	ng	# 78
3) Dichlorodifluoromethan...	4.28	85	6442	0.107	ng	97
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	5.15	54	852	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.37	45	1107	N.D.		
11) Acetonitrile	6.60	41	51	N.D.		
12) Acrolein	6.82	56	317	N.D.		
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	7.23	101	813	N.D.		
15) 2-Propanol (Isopropanol)	7.56	45	2157	N.D.		
16) Acrylonitrile	7.70	53	116	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	0.00	84	0	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d	
21) Trichlorotrifluoroethane	8.84	151	11598	0.460	ng	98
22) Carbon Disulfide	8.69	76	3565	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	9.99	63	1337	N.D.		
25) Methyl tert-Butyl Ether	10.06	73	488	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	10.32	72	337	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	11.26	57	355193	6.985	ng	100
32) Chloroform	11.31	83	923	N.D.		
34) Tetrahydrofuran (THF)	11.78	72	106	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d	
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	12.83	56	617	N.D.		
41) Benzene	12.87	78	16443	0.133	ng	94
42) Carbon Tetrachloride	13.03	117	2535	0.060	ng	98
43) Cyclohexane	13.17	84	1939122	42.192	ng	100
44) tert-Amyl Methyl Ether	13.45	73	1267	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d	
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122020.D Vial: 1
Acq On : 12 May 2020 12:40 Operator: WA
Sample : P2002300-007 (2.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:55:28 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

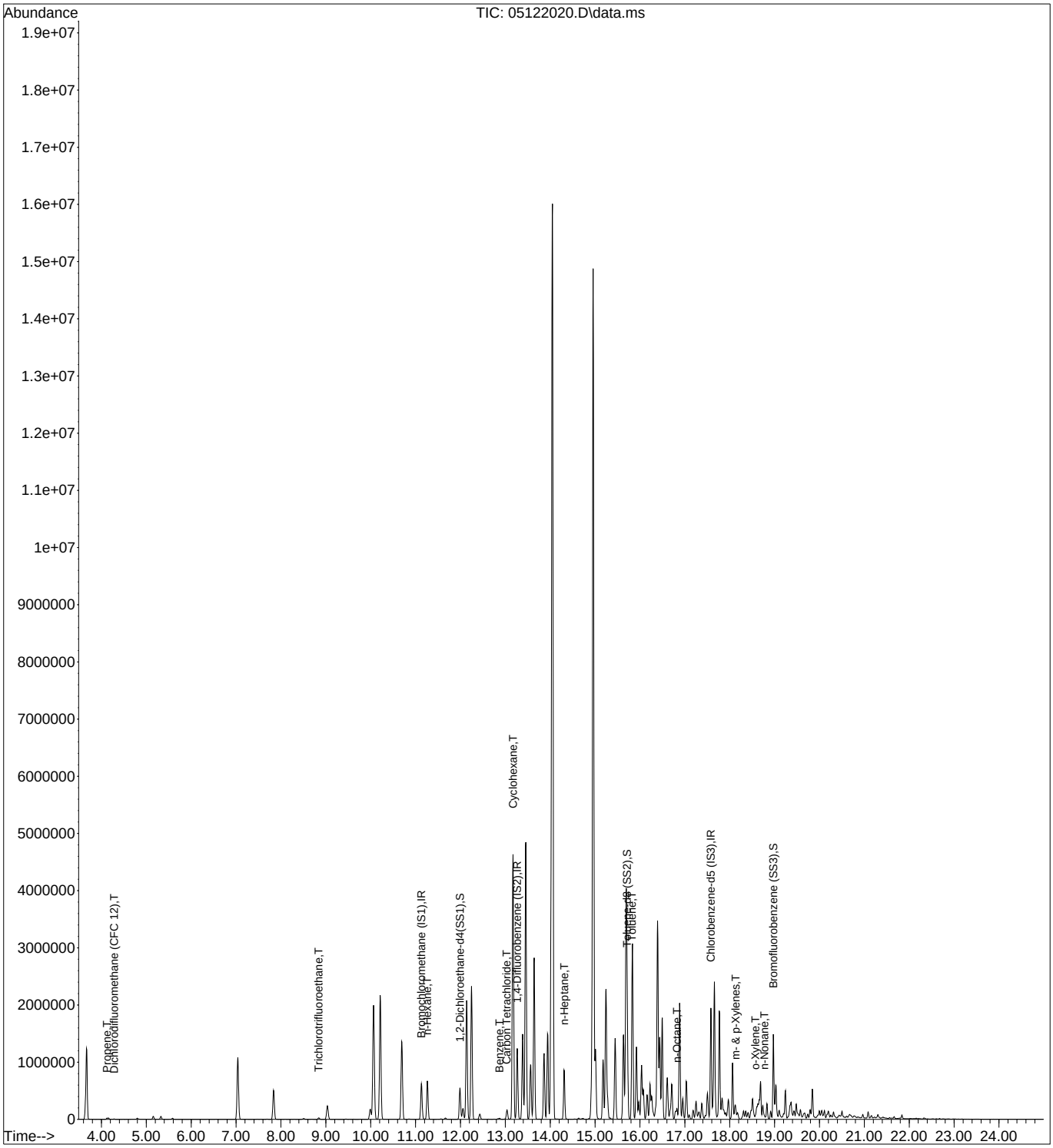
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	221787	7.690 ng	99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	15.14	75	564	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	15.82	91	25982	0.215 ng	99
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	16.48	107	842	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	16.83	57	36075	1.444 ng	96
64) Tetrachloroethene	16.95	166	451	N.D.	
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	17.98	91	3257	N.D.	
67) m- & p-Xylenes	18.13	91	19447	0.182 ng	98
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	18.57	91	5591	0.052 ng	99
71) n-Nonane	18.77	43	11100	0.193 ng	92
72) 1,1,2,2-Tetrachloroethane	18.57	83	405	N.D.	
74) Cumene	19.10	105	881	N.D.	
75) alpha-Pinene	19.44	93	170	N.D.	
76) n-Propylbenzene	19.58	91	2443	N.D.	
77) 3-Ethyltoluene	19.64	105	1334	N.D.	
78) 4-Ethyltoluene	19.64	105	1334	N.D.	
79) 1,3,5-Trimethylbenzene	19.74	105	5101	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	19.91	105	1417	N.D.	
82) 1,2,4-Trimethylbenzene	20.10	105	1276	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.25	91	852	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	20.35	105	1223	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	279	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	1228	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.61	68	1650	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.22	128	738	N.D.	
96) n-Dodecane	22.17	57	1359	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.10	119	464	N.D.	
100) n-Butylbenzene	20.85	91	255	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122020.D Vial: 1
Acq On : 12 May 2020 12:40 Operator: WA
Sample : P2002300-007 (2.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:55:28 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122020.D Vial: 1
Acq On : 12 May 2020 12:40 Operator: WA
Sample : P2002300-007 (2.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:55:28 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/13/20

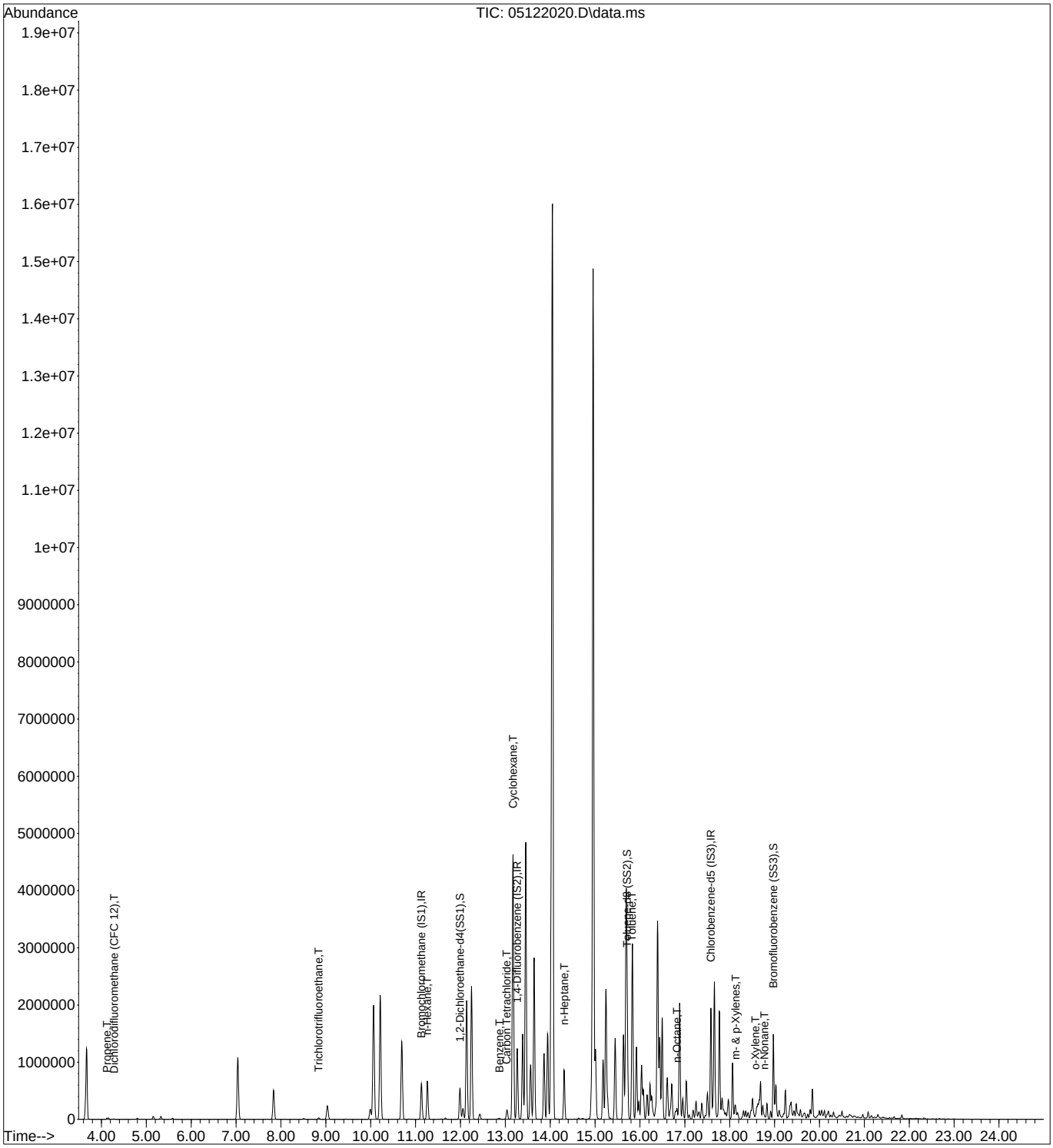
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	266544	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1150071	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	552468	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	421975	11.682	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.44%			
57) Toluene-d8 (SS2)	15.72	98	1171752	12.513	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.08%			
73) Bromofluorobenzene (SS3)	18.97	174	448135	13.300	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.40%			
Target Compounds						Qvalue
2) Propene	4.12	42	10026	0.325	ng	# 78
3) Dichlorodifluoromethan...	4.28	85	6442	0.107	ng	97
21) Trichlorotrifluoroethane	8.84	151	11598	0.460	ng	98
31) n-Hexane	11.26	57	355193	6.985	ng	100
41) Benzene	12.87	78	16443	0.133	ng	94
42) Carbon Tetrachloride	13.03	117	2535	0.060	ng	98
43) Cyclohexane	13.17	84	1939122	42.192	ng	100
51) n-Heptane	14.31	71	221787	7.690	ng	99
58) Toluene	15.82	91	25982	0.215	ng	99
63) n-Octane	16.83	57	36075	1.444	ng	96
67) m- & p-Xylenes	18.13	91	19447	0.182	ng	98
70) o-Xylene	18.57	91	5591	0.052	ng	99
71) n-Nonane	18.77	43	11100	0.193	ng	92

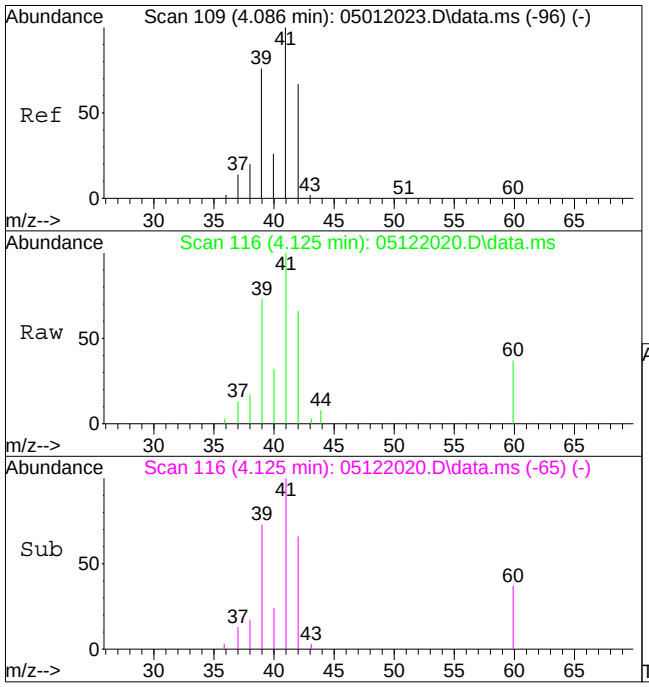
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122020.D Vial: 1
Acq On : 12 May 2020 12:40 Operator: WA
Sample : P2002300-007 (2.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:55:28 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

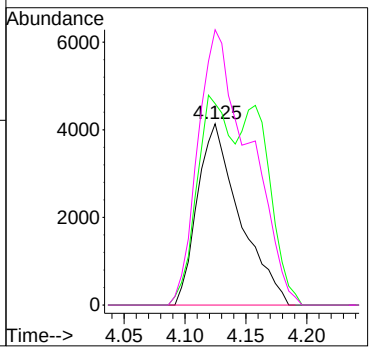


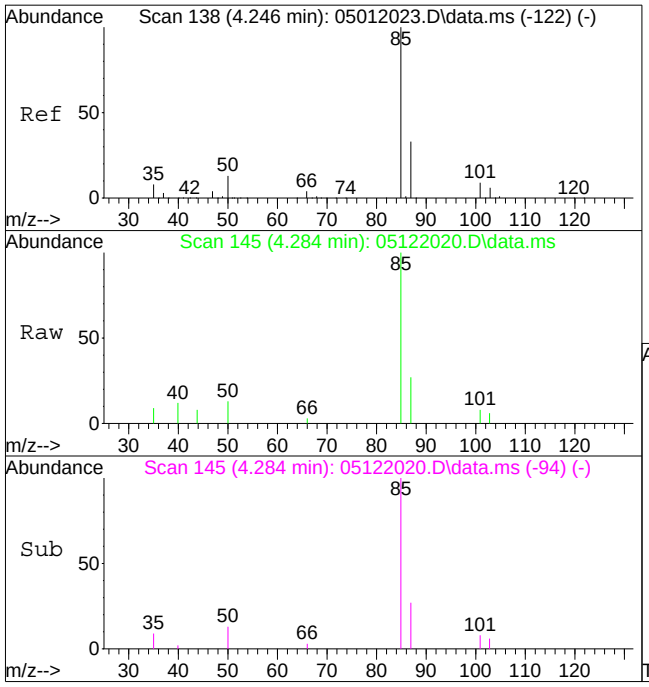


#2
Propene
Concen: 0.32 ng
RT: 4.12 min Scan# 116
Delta R.T. 0.033 min
Lab File: 05122020.D
Acq: 12 May 2020 12:40

Tgt Ion: 42 Resp: 10026

Ion	Ratio	Lower	Upper
42	100		
39	96.0	96.1	136.1#
41	183.9	131.9	171.9#

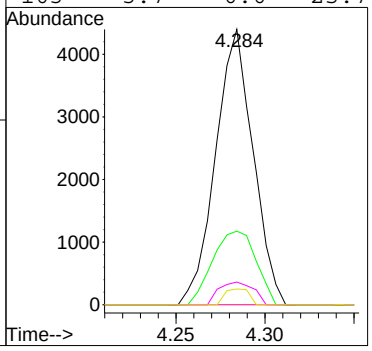


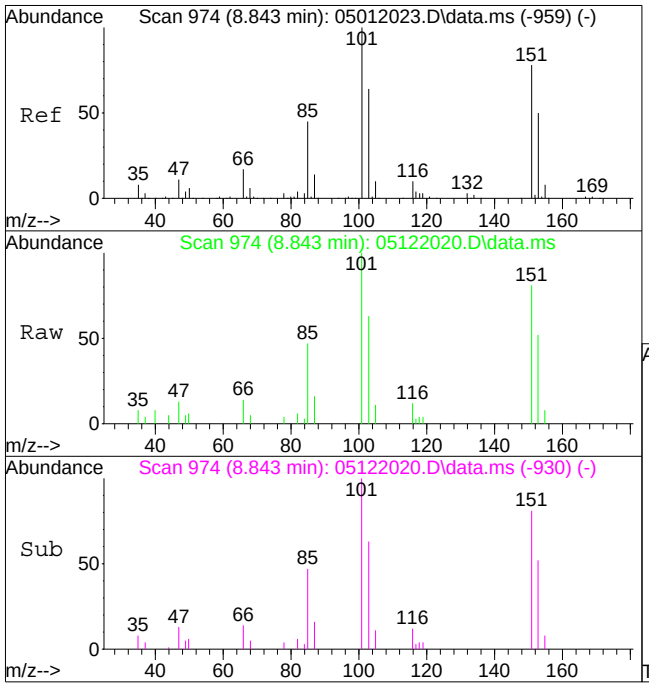


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.11 ng
RT: 4.28 min Scan# 145
Delta R.T. 0.033 min
Lab File: 05122020.D
Acq: 12 May 2020 12:40

Tgt Ion: 85 Resp: 6442

Ion	Ratio	Lower	Upper
85	100		
87	30.8	12.4	52.4
101	7.6	0.0	28.8
103	3.7	0.0	25.7

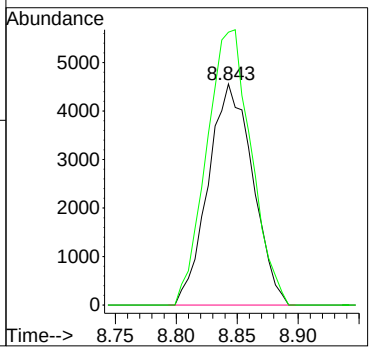


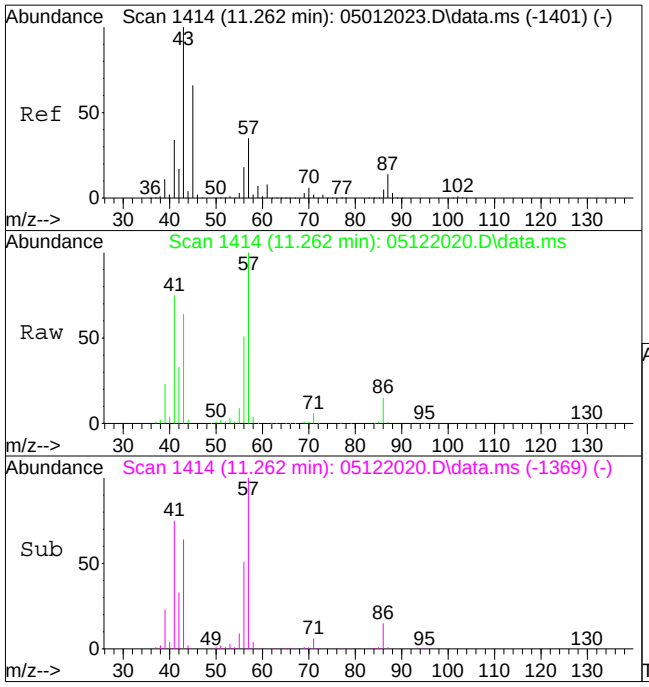


#21
Trichlorotrifluoroethane
Concen: 0.46 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05122020.D
Acq: 12 May 2020 12:40

Tgt Ion:151 Resp: 11598

Ion	Ratio	Lower	Upper
151	100		
101	124.9	107.3	147.3

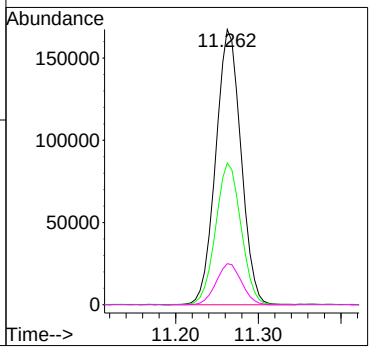


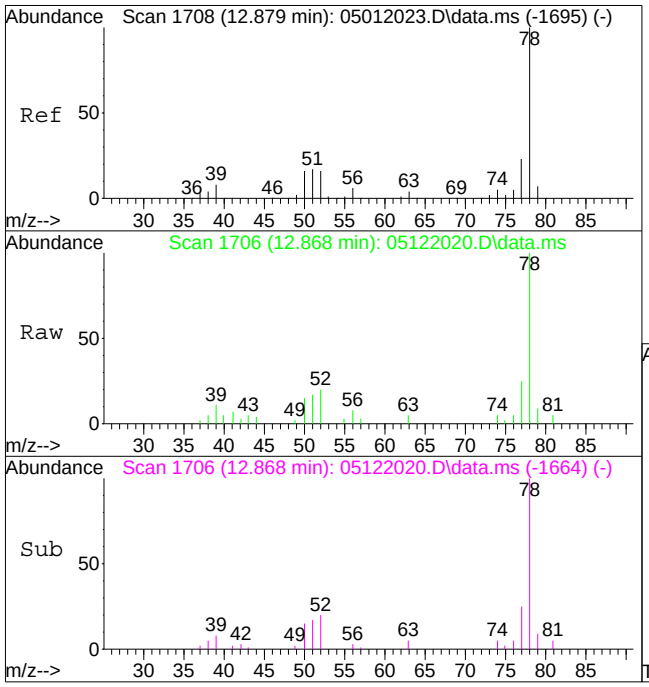


#31
n-Hexane
Concen: 6.99 ng
RT: 11.26 min Scan# 1414
Delta R.T. -0.000 min
Lab File: 05122020.D
Acq: 12 May 2020 12:40

Tgt Ion: 57 Resp: 355193

Ion	Ratio	Lower	Upper
57	100		
56	51.8	41.4	62.0
86	15.0	12.4	18.6

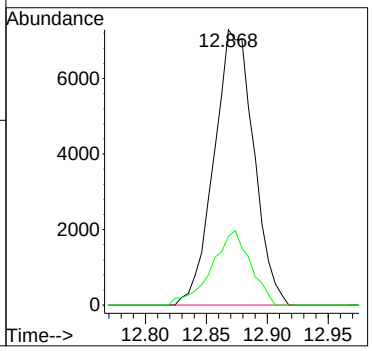


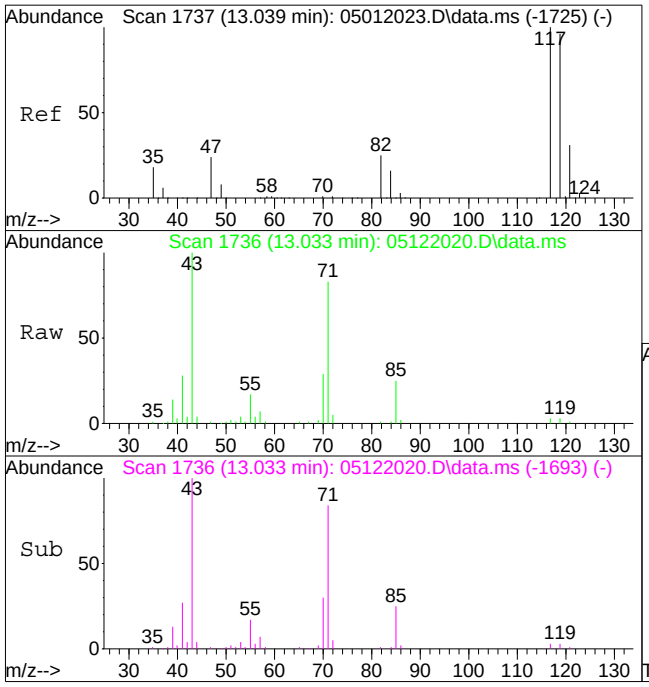


#41
Benzene
Concen: 0.13 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05122020.D
Acq: 12 May 2020 12:40

Tgt Ion: 78 Resp: 16443

Ion	Ratio	Lower	Upper
78	100		
77	26.5	3.4	43.4

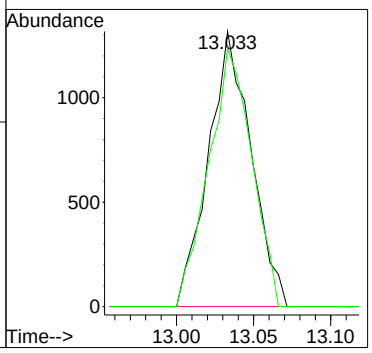


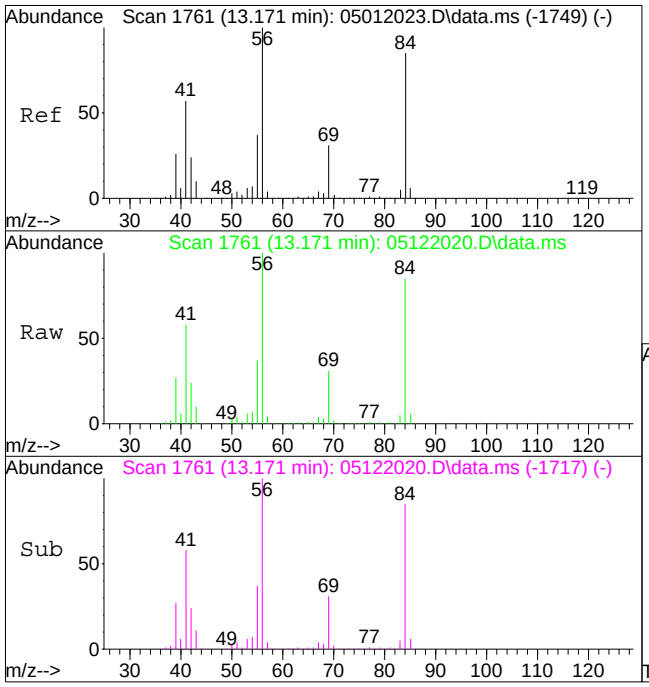


#42
Carbon Tetrachloride
Concen: 0.06 ng
RT: 13.03 min Scan# 1736
Delta R.T. -0.011 min
Lab File: 05122020.D
Acq: 12 May 2020 12:40

Tgt Ion:117 Resp: 2535

Ion	Ratio	Lower	Upper
117	100		
119	94.7	76.2	116.2

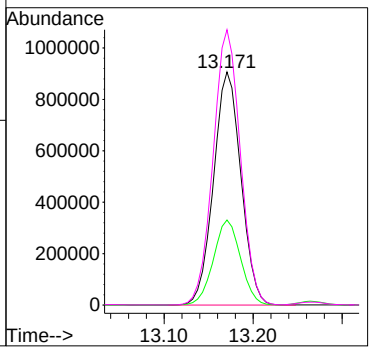


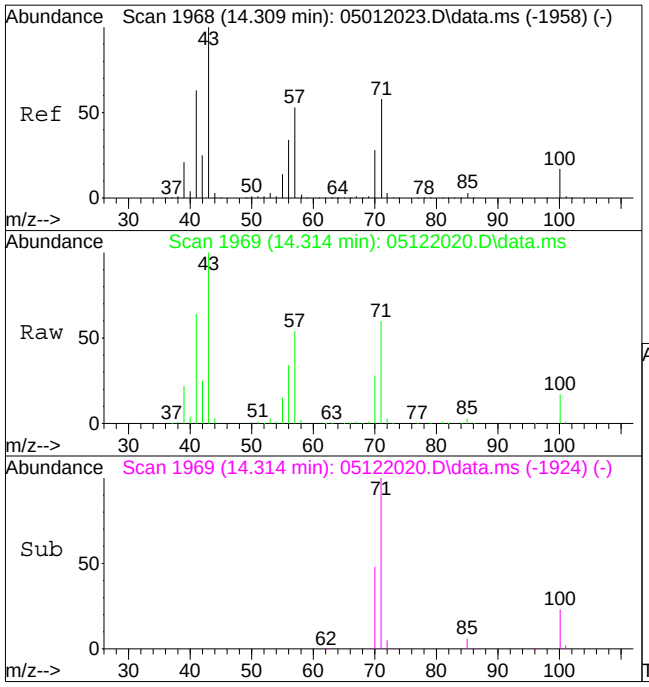


#43
Cyclohexane
Concen: 42.19 ng
RT: 13.17 min Scan# 1761
Delta R.T. -0.006 min
Lab File: 05122020.D
Acq: 12 May 2020 12:40

Tgt Ion: 84 Resp: 1939122

Ion	Ratio	Lower	Upper
84	100		
69	36.3	16.5	56.5
56	117.3	97.4	137.4

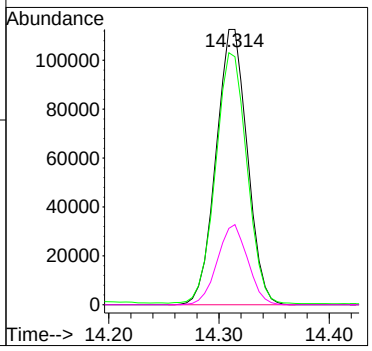


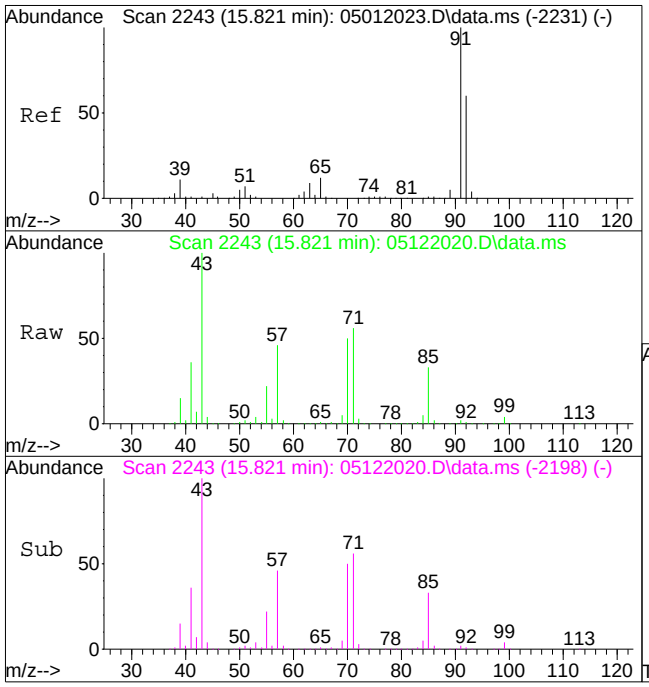


#51
n-Heptane
Concen: 7.69 ng
RT: 14.31 min Scan# 1969
Delta R.T. -0.000 min
Lab File: 05122020.D
Acq: 12 May 2020 12:40

Tgt Ion: 71 Resp: 221787

Ion	Ratio	Lower	Upper
71	100		
57	91.7	71.0	111.0
100	28.3	8.4	48.4

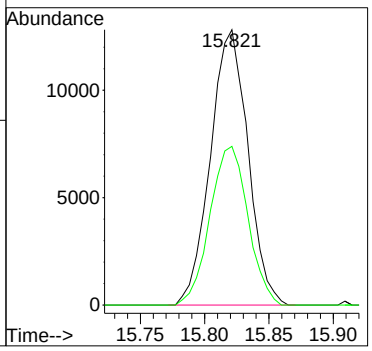


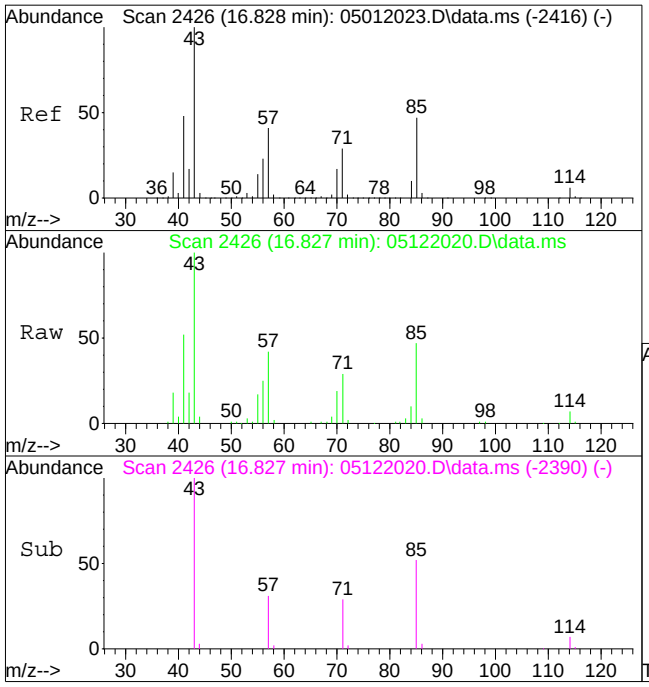


#58
Toluene
Concen: 0.22 ng
RT: 15.82 min Scan# 2243
Delta R.T. -0.000 min
Lab File: 05122020.D
Acq: 12 May 2020 12:40

Tgt Ion: 91 Resp: 25982

Ion	Ratio	Lower	Upper
91	100		
92	58.4	39.4	79.4

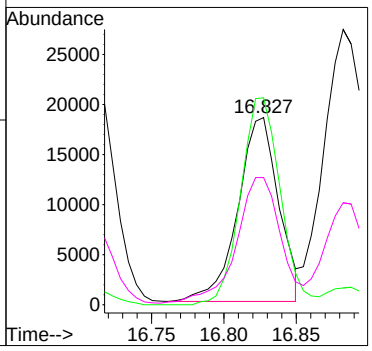


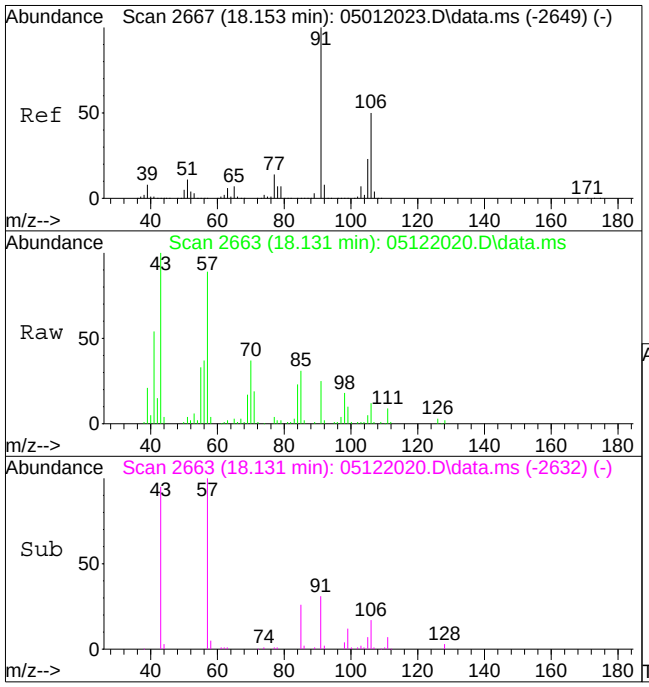


#63
n-Octane
Concen: 1.44 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05122020.D
Acq: 12 May 2020 12:40

Tgt Ion: 57 Resp: 36075

Ion	Ratio	Lower	Upper
57	100		
85	109.4	91.0	136.4
71	73.7	56.2	84.2

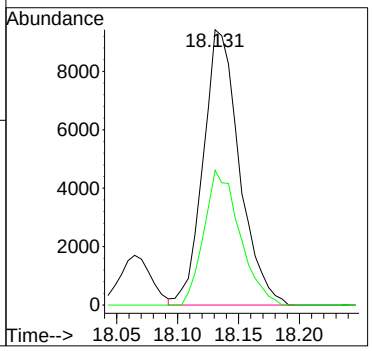


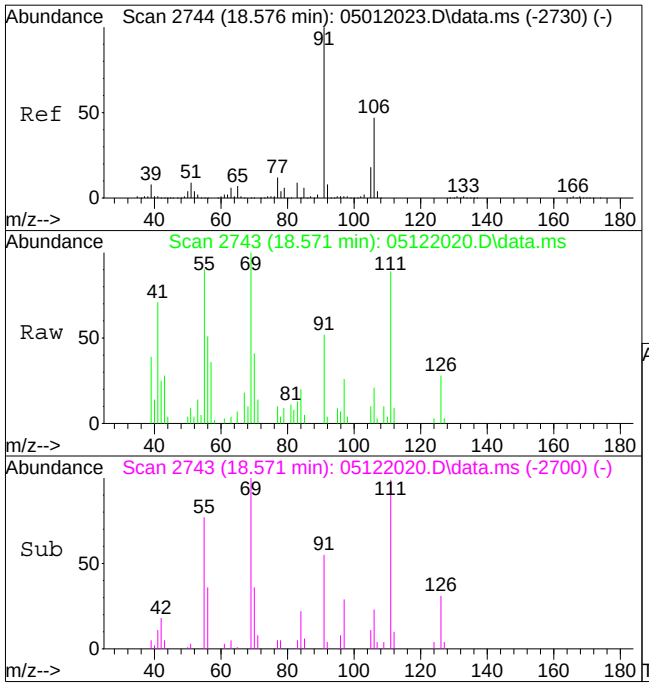


#67
m- & p-Xylenes
Concen: 0.18 ng
RT: 18.13 min Scan# 2663
Delta R.T. -0.028 min
Lab File: 05122020.D
Acq: 12 May 2020 12:40

Tgt Ion: 91 Resp: 19447

Ion	Ratio	Lower	Upper
91	100		
106	48.4	29.7	69.7

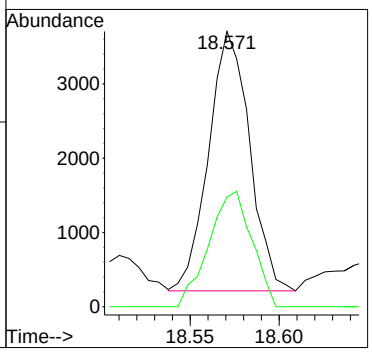


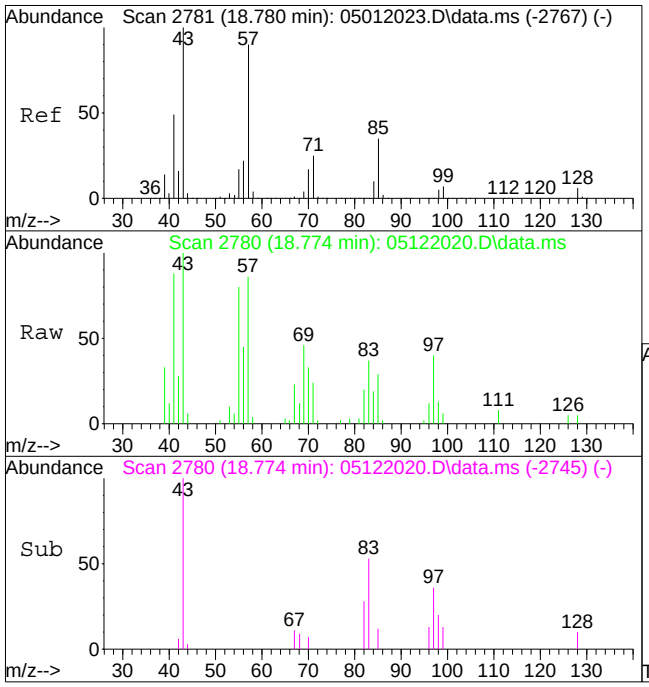


#70
o-Xylene
Concen: 0.05 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05122020.D
Acq: 12 May 2020 12:40

Tgt Ion: 91 Resp: 5591

Ion	Ratio	Lower	Upper
91	100		
106	46.6	27.5	67.5

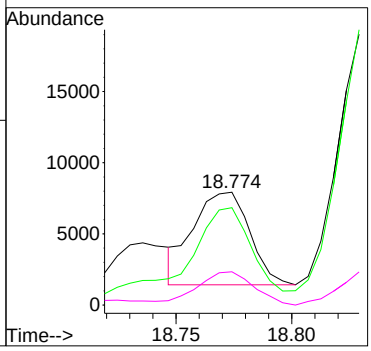




#71
n-Nonane
Concen: 0.19 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05122020.D
Acq: 12 May 2020 12:40

Tgt Ion: 43 Resp: 11100

Ion	Ratio	Lower	Upper
43	100		
57	98.5	69.0	109.0
85	35.9	14.6	54.6



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122012.D Vial: 16
Acq On : 12 May 2020 8:08 Operator: LH
Sample : P2002300-008 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:26:03 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/13/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	257982	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1105309	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	499396	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	407855	11.666	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.36%				
57) Toluene-d8 (SS2)	15.72	98	1071376	12.657	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.28%				
73) Bromofluorobenzene (SS3)	18.97	174	404428	13.278	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.24%				
Target Compounds							Qvalue
2) Propene	4.11	42	3845	0.129	ng		91
3) Dichlorodifluoromethan...	4.27	85	26910	0.460	ng		99
4) Chloromethane	4.54	50	2105	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	566	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.15	54	112	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.33	45	14455	0.627	ng		90
11) Acetonitrile	6.62	41	2001	N.D.			
12) Acrolein	6.80	56	8446	0.463	ng		98
13) Acetone	7.01	58	63369	2.746	ng		95
14) Trichlorofluoromethane	7.24	101	12281	0.238	ng		98
15) 2-Propanol (Isopropanol)	7.52	45	11847	0.170	ng		80
16) Acrylonitrile	7.76	53	60	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.41	84	442	N.D.			
20) 3-Chloro-1-propene (Al...	8.51	41	291	N.D.			
21) Trichlorotrifluoroethane	8.84	151	3214	0.132	ng		98
22) Carbon Disulfide	8.68	76	10373	0.097	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.09	73	2519	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.46	72	12788	0.650	ng		99
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	11.26	57	11637	0.236	ng	#	20
32) Chloroform	11.30	83	1423588	27.722	ng		99
34) Tetrahydrofuran (THF)	11.75	72	2722	0.142	ng	#	80
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	25930	0.219	ng		100
42) Carbon Tetrachloride	13.03	117	66243	1.643	ng		99
43) Cyclohexane	13.16	84	6056	0.137	ng		97
44) tert-Amyl Methyl Ether	13.56	73	121	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	13.91	83	69719	1.740	ng		98
47) Trichloroethene	13.97	130	4912	0.160	ng		98
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122012.D Vial: 16
Acq On : 12 May 2020 8:08 Operator: LH
Sample : P2002300-008 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:26:03 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

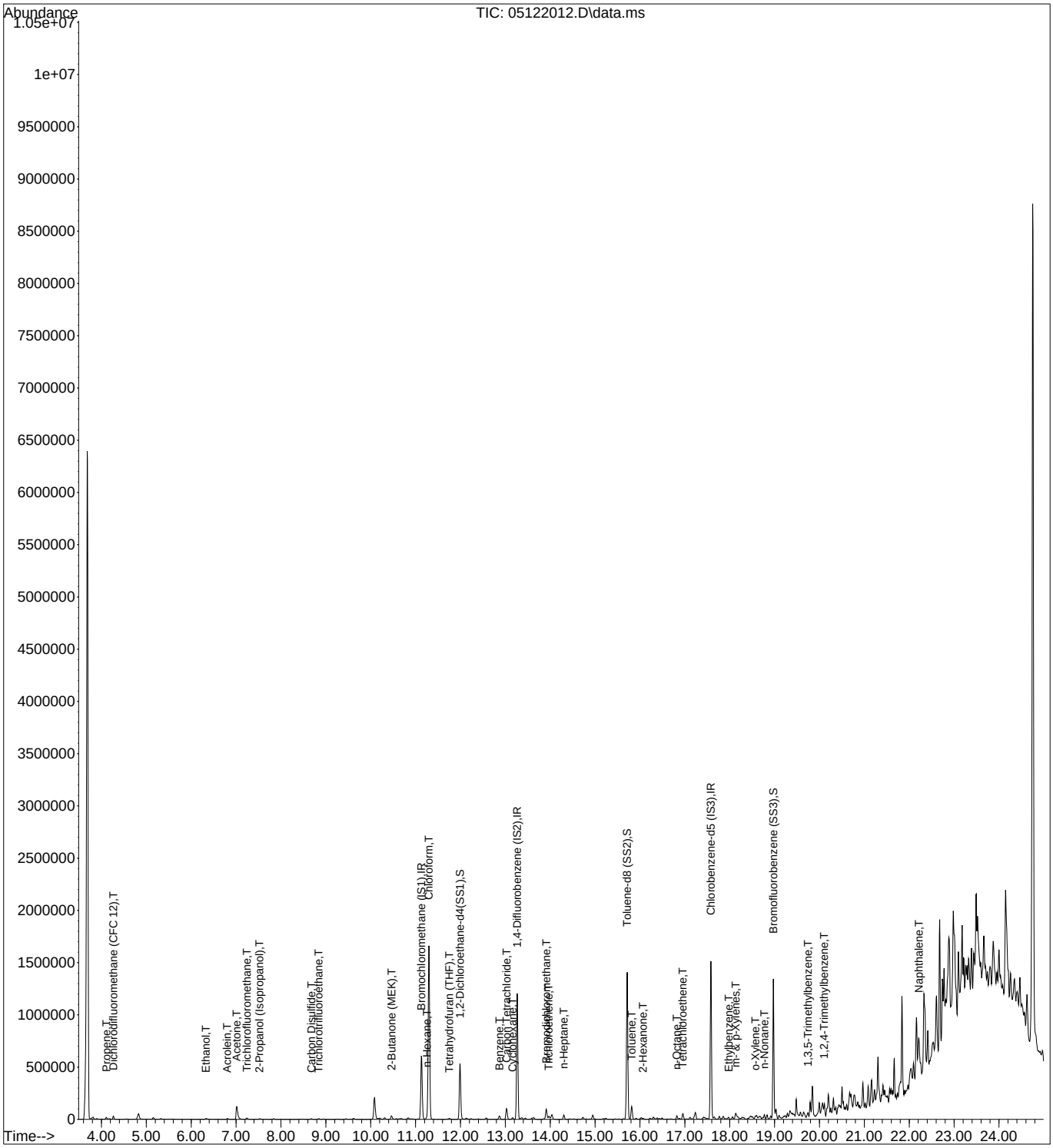
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.30	71	10730	0.387 ng	98
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.88	58	710	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.82	91	92365	0.847 ng	99
59) 2-Hexanone	16.07	43	6486	0.108 ng	75
60) Dibromochloromethane	16.22	129	578	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.70	43	1200	N.D.	
63) n-Octane	16.82	57	6577	0.291 ng	97
64) Tetrachloroethene	16.95	166	18632	0.605 ng	100
65) Chlorobenzene	17.66	112	1950	N.D.	
66) Ethylbenzene	17.98	91	9480	0.078 ng	99
67) m- & p-Xylenes	18.14	91	38646	0.400 ng	97
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	776	N.D.	
70) o-Xylene	18.57	91	14577	0.149 ng	99
71) n-Nonane	18.77	43	18038	0.347 ng	95
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	19.10	105	1497	N.D.	
75) alpha-Pinene	19.57	93	331	N.D.	
76) n-Propylbenzene	19.55	91	4827	N.D.	
77) 3-Ethyltoluene	19.64	105	5207	N.D.	
78) 4-Ethyltoluene	19.68	105	1911	N.D.	
79) 1,3,5-Trimethylbenzene	19.74	105	9179	0.094 ng	97
80) alpha-Methylstyrene	19.88	118	642	N.D.	
81) 2-Ethyltoluene	19.91	105	2625	N.D.	
82) 1,2,4-Trimethylbenzene	20.10	105	10387	0.105 ng	89
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.21	91	1128	N.D.	
85) 1,3-Dichlorobenzene	20.24	146	129	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	384	N.D.	
87) sec-Butylbenzene	20.35	105	2562	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	1073	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	4361	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D. d	
95) Naphthalene	22.22	128	14303	0.119 ng	98
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.10	119	2842	N.D.	
100) n-Butylbenzene	20.85	91	2806	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122012.D Vial: 16
Acq On : 12 May 2020 8:08 Operator: LH
Sample : P2002300-008 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:26:03 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122012.D Vial: 16
Acq On : 12 May 2020 8:08 Operator: LH
Sample : P2002300-008 (400mL) Inst : GCMS-16
Misc : S31-02112001

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Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/13/20

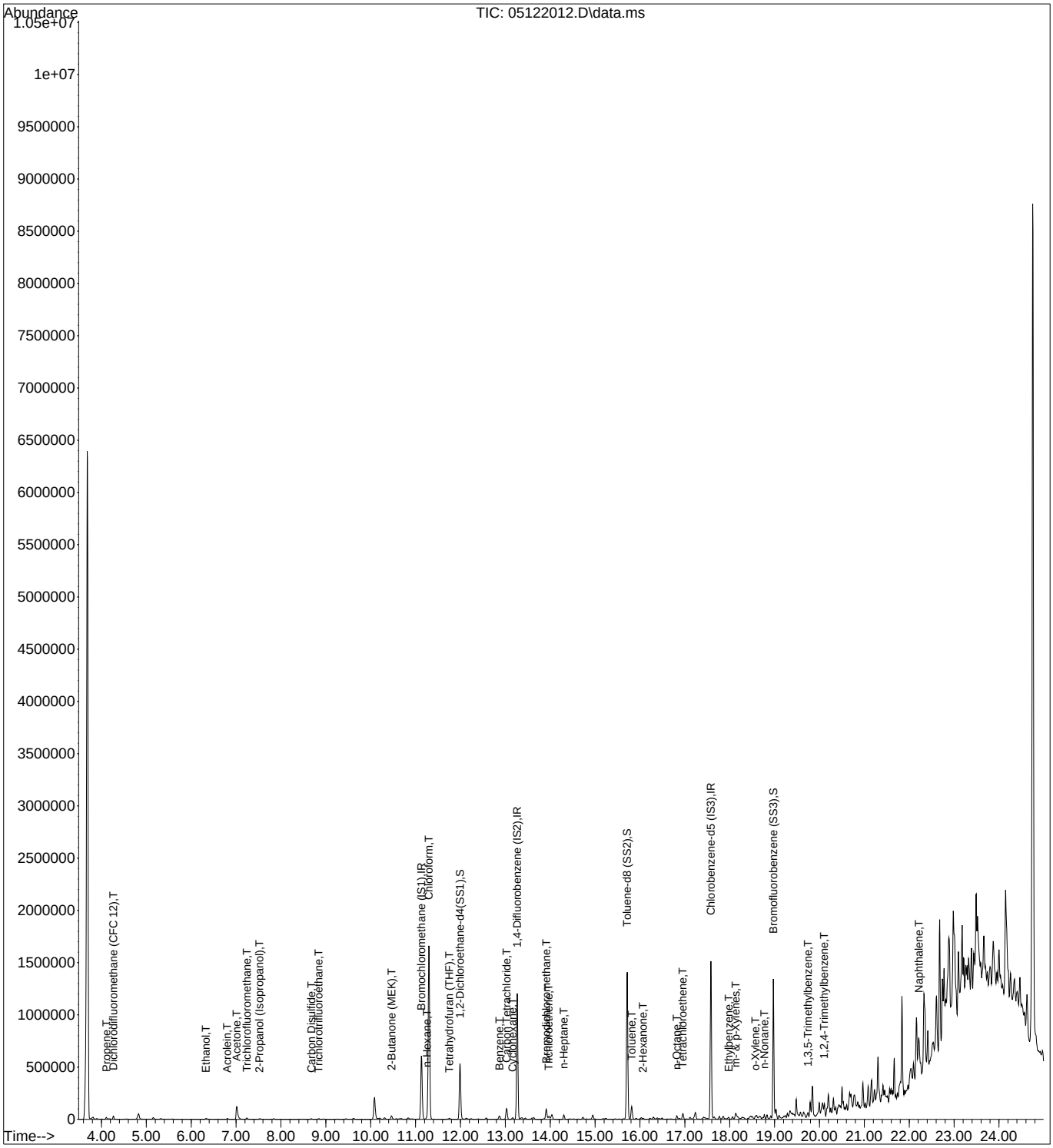
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	257982	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1105309	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	499396	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	407855	11.666	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.36%				
57) Toluene-d8 (SS2)	15.72	98	1071376	12.657	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.28%				
73) Bromofluorobenzene (SS3)	18.97	174	404428	13.278	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.24%				
Target Compounds							Qvalue
2) Propene	4.11	42	3845	0.129	ng		91
3) Dichlorodifluoromethan...	4.27	85	26910	0.460	ng		99
10) Ethanol	6.33	45	14455	0.627	ng		90
12) Acrolein	6.80	56	8446	0.463	ng		98
13) Acetone	7.01	58	63369	2.746	ng		95
14) Trichlorofluoromethane	7.24	101	12281	0.238	ng		98
15) 2-Propanol (Isopropanol)	7.52	45	11847	0.170	ng		80
21) Trichlorotrifluoroethane	8.84	151	3214	0.132	ng		98
22) Carbon Disulfide	8.68	76	10373	0.097	ng		99
27) 2-Butanone (MEK)	10.46	72	12788	0.650	ng		99
31) n-Hexane	11.26	57	11637	0.236	ng	#	20
32) Chloroform	11.30	83	1423588	27.722	ng		99
34) Tetrahydrofuran (THF)	11.75	72	2722	0.142	ng	#	80
41) Benzene	12.87	78	25930	0.219	ng		100
42) Carbon Tetrachloride	13.03	117	66243	1.643	ng		99
43) Cyclohexane	13.16	84	6056	0.137	ng		97
46) Bromodichloromethane	13.91	83	69719	1.740	ng		98
47) Trichloroethene	13.97	130	4912	0.160	ng		98
51) n-Heptane	14.30	71	10730	0.387	ng		98
58) Toluene	15.82	91	92365	0.847	ng		99
59) 2-Hexanone	16.07	43	6486	0.108	ng		75
63) n-Octane	16.82	57	6577	0.291	ng		97
64) Tetrachloroethene	16.95	166	18632	0.605	ng		100
66) Ethylbenzene	17.98	91	9480	0.078	ng		99
67) m- & p-Xylenes	18.14	91	38646	0.400	ng		97
70) o-Xylene	18.57	91	14577	0.149	ng		99
71) n-Nonane	18.77	43	18038	0.347	ng		95
79) 1,3,5-Trimethylbenzene	19.74	105	9179	0.094	ng		97
82) 1,2,4-Trimethylbenzene	20.10	105	10387	0.105	ng		89
95) Naphthalene	22.22	128	14303	0.119	ng		98

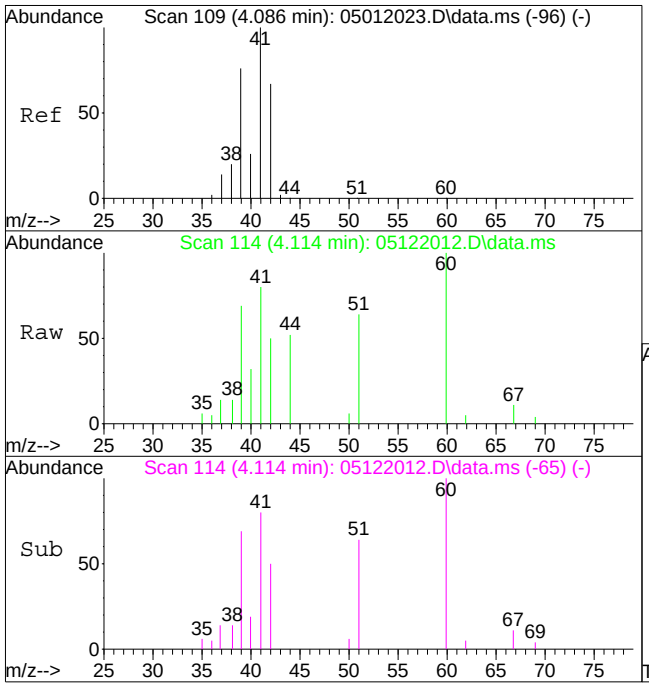
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122012.D Vial: 16
Acq On : 12 May 2020 8:08 Operator: LH
Sample : P2002300-008 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:26:03 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

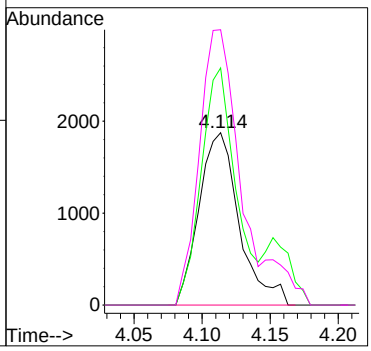


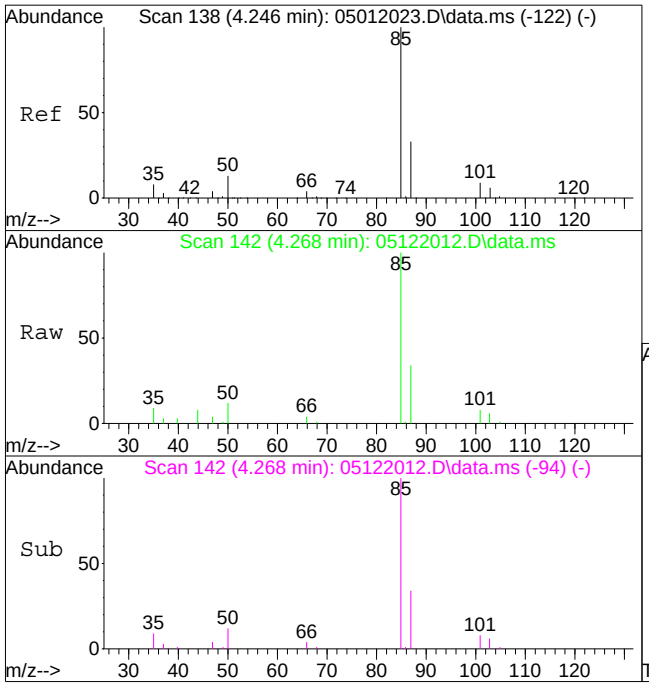


#2
Propene
Concen: 0.13 ng
RT: 4.11 min Scan# 114
Delta R.T. 0.022 min
Lab File: 05122012.D
Acq: 12 May 2020 8:08

Tgt Ion: 42 Resp: 3845

Ion	Ratio	Lower	Upper
42	100		
39	119.1	96.1	136.1
41	169.7	131.9	171.9

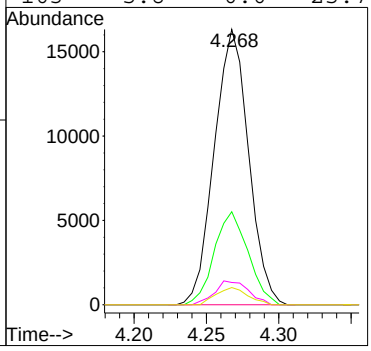


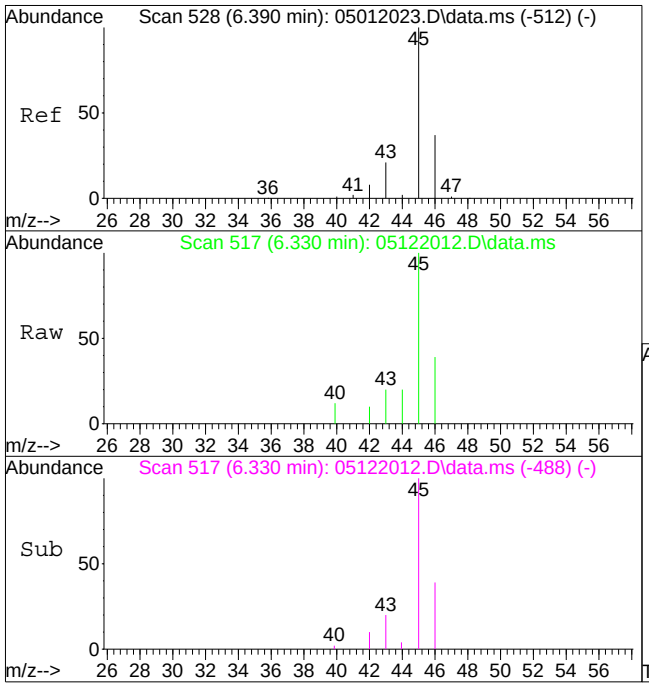


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.46 ng
RT: 4.27 min Scan# 142
Delta R.T. 0.016 min
Lab File: 05122012.D
Acq: 12 May 2020 8:08

Tgt Ion: 85 Resp: 26910

Ion	Ratio	Lower	Upper
85	100		
87	33.3	12.4	52.4
101	8.6	0.0	28.8
103	5.8	0.0	25.7

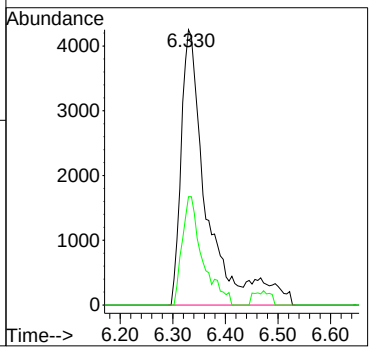


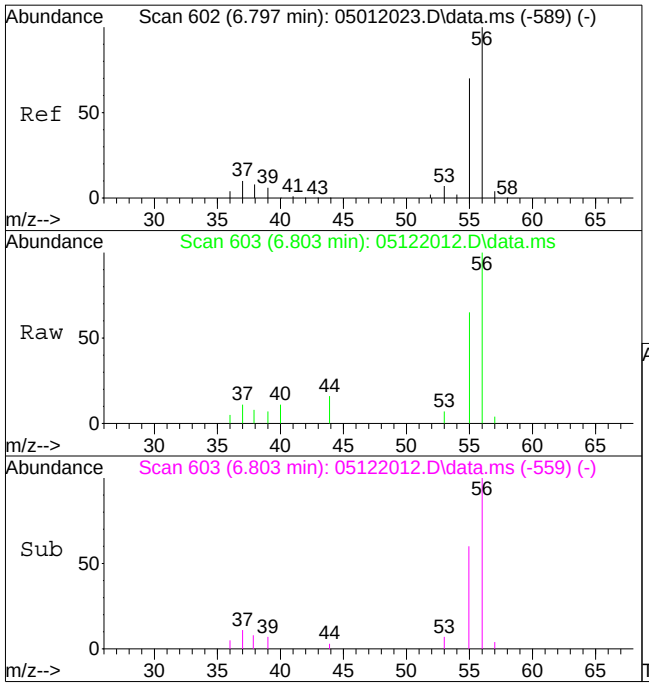


#10
Ethanol
Concen: 0.63 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.088 min
Lab File: 05122012.D
Acq: 12 May 2020 8:08

Tgt Ion: 45 Resp: 14455

Ion	Ratio	Lower	Upper
45	100		
46	31.0	17.2	57.2

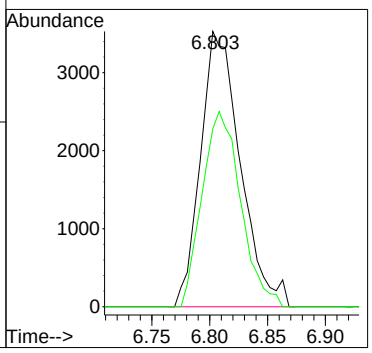


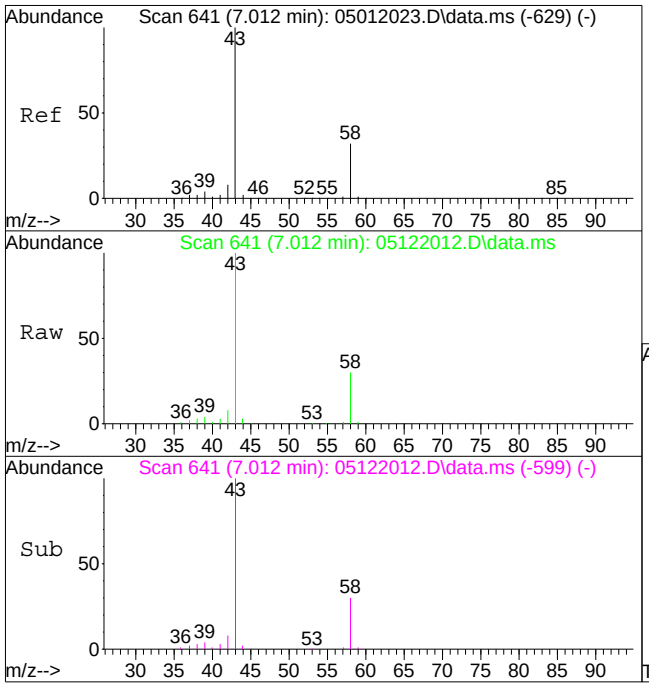


#12
Acrolein
Concen: 0.46 ng
RT: 6.80 min Scan# 603
Delta R.T. -0.006 min
Lab File: 05122012.D
Acq: 12 May 2020 8:08

Tgt Ion: 56 Resp: 8446

Ion	Ratio	Lower	Upper
56	100		
55	68.7	50.2	90.2

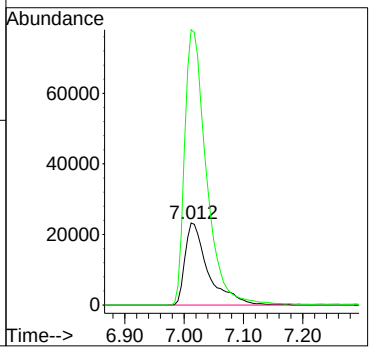


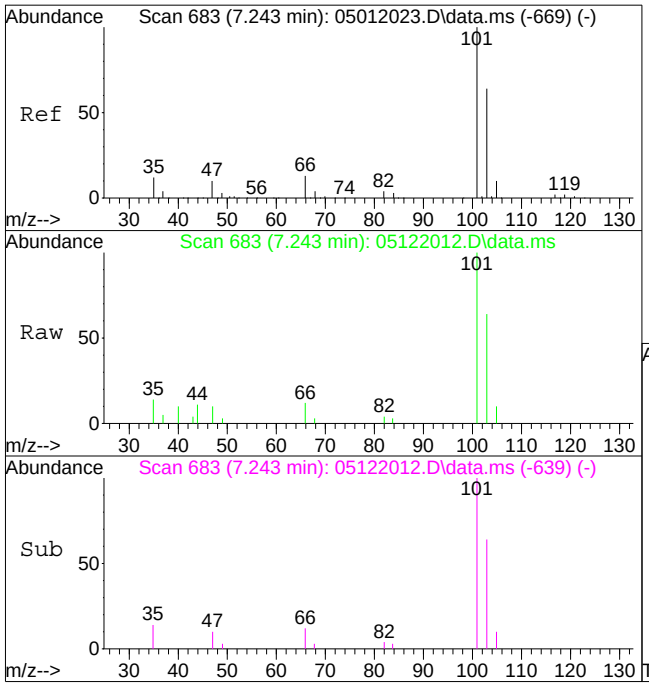


#13
Acetone
Concen: 2.75 ng
RT: 7.01 min Scan# 641
Delta R.T. -0.017 min
Lab File: 05122012.D
Acq: 12 May 2020 8:08

Tgt Ion: 58 Resp: 63369

Ion	Ratio	Lower	Upper
58	100		
43	314.0	294.4	354.4

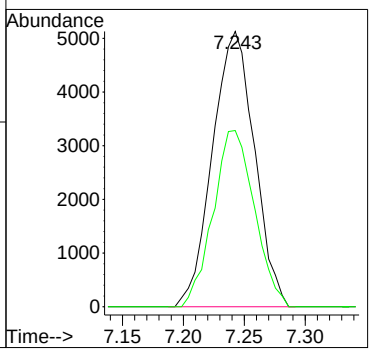


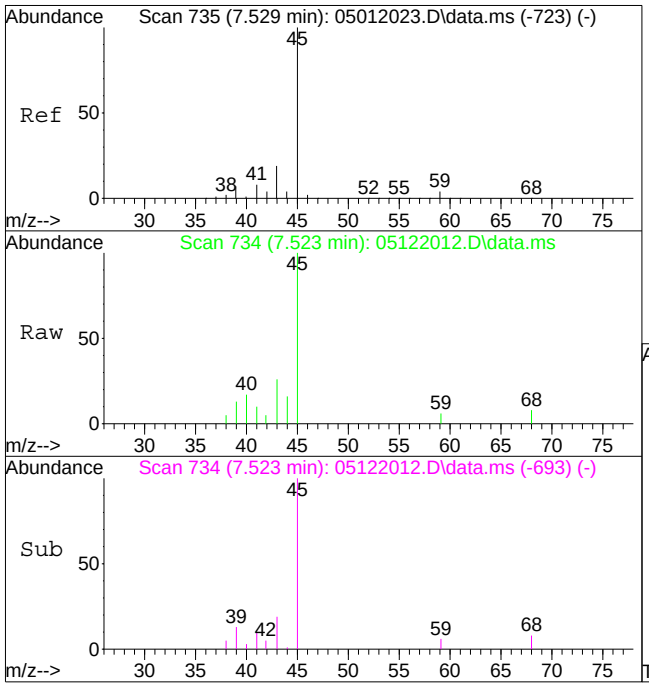


#14
Trichlorofluoromethane
Concen: 0.24 ng
RT: 7.24 min Scan# 683
Delta R.T. -0.006 min
Lab File: 05122012.D
Acq: 12 May 2020 8:08

Tgt Ion:101 Resp: 12281

Ion	Ratio	Lower	Upper
101	100		
103	62.9	44.4	84.4

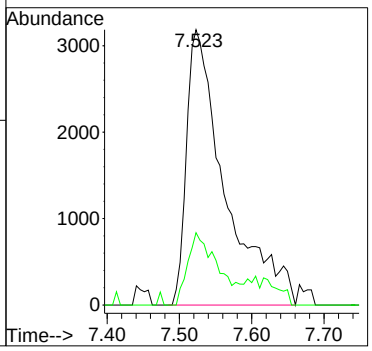


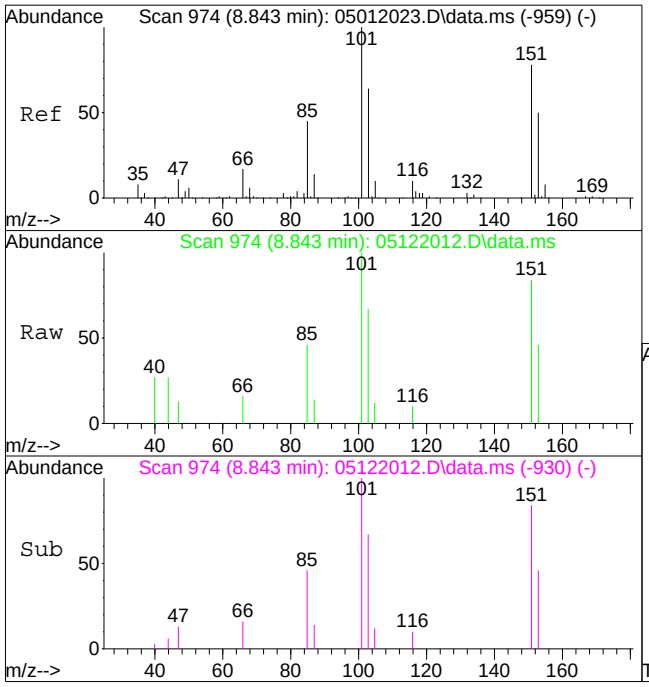


#15
2-Propanol (Isopropanol)
Concen: 0.17 ng
RT: 7.52 min Scan# 734
Delta R.T. -0.022 min
Lab File: 05122012.D
Acq: 12 May 2020 8:08

Tgt Ion: 45 Resp: 11847

Ion	Ratio	Lower	Upper
45	100		
43	28.7	0.0	39.5

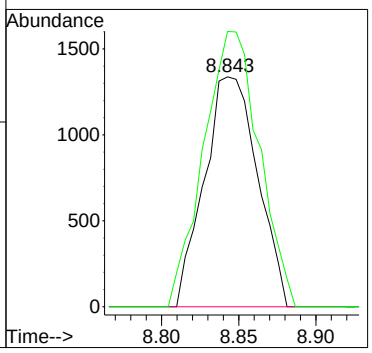


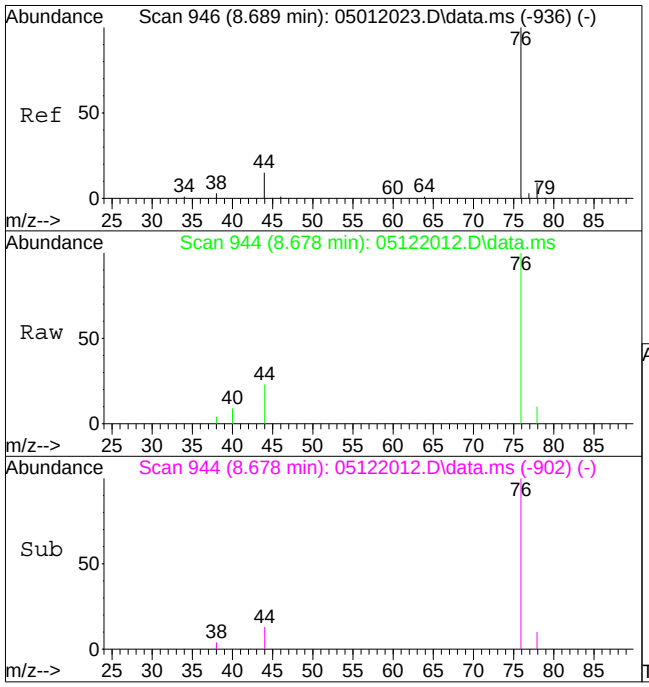


#21
Trichlorotrifluoroethane
Concen: 0.13 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05122012.D
Acq: 12 May 2020 8:08

Tgt Ion:151 Resp: 3214

Ion	Ratio	Lower	Upper
151	100		
101	125.0	107.3	147.3

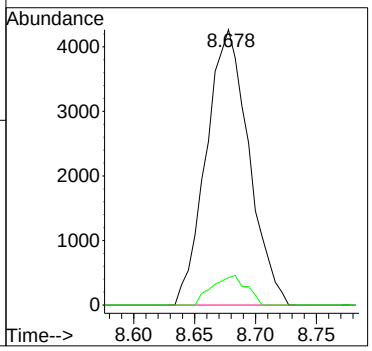


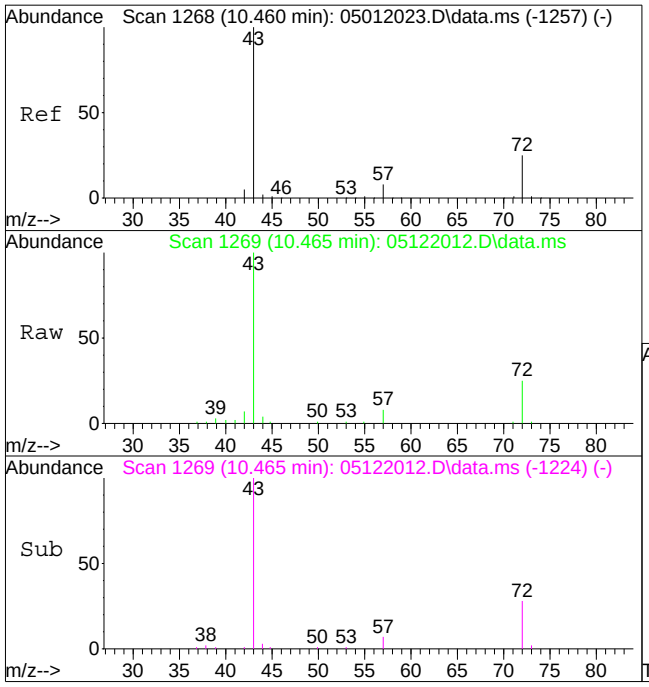


#22
Carbon Disulfide
Concen: 0.10 ng
RT: 8.68 min Scan# 944
Delta R.T. -0.017 min
Lab File: 05122012.D
Acq: 12 May 2020 8:08

Tgt Ion: 76 Resp: 10373

Ion	Ratio	Lower	Upper
76	100		
78	8.7	0.0	29.2

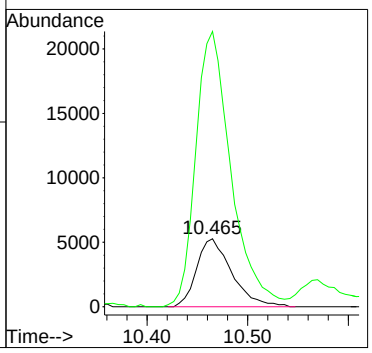


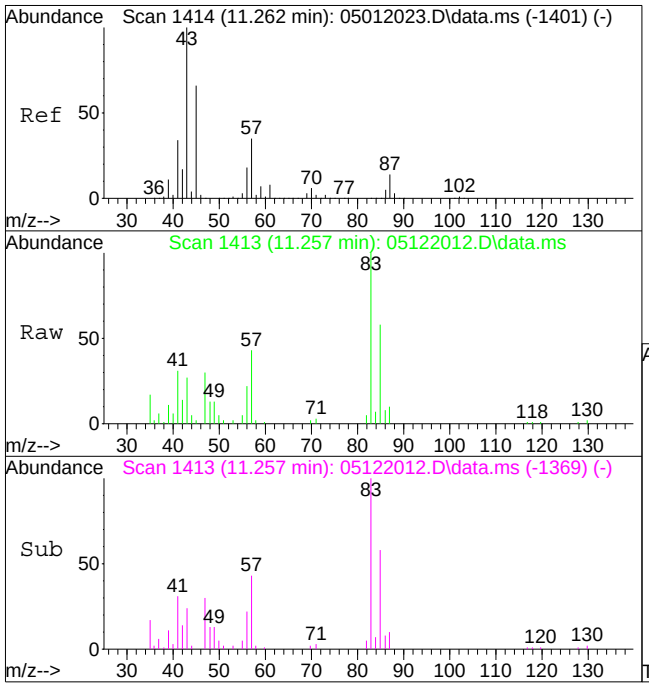


#27
2-Butanone (MEK)
Concen: 0.65 ng
RT: 10.46 min Scan# 1269
Delta R.T. -0.000 min
Lab File: 05122012.D
Acq: 12 May 2020 8:08

Tgt Ion: 72 Resp: 12788

Ion	Ratio	Lower	Upper
72	100		
43	407.0	389.7	429.7

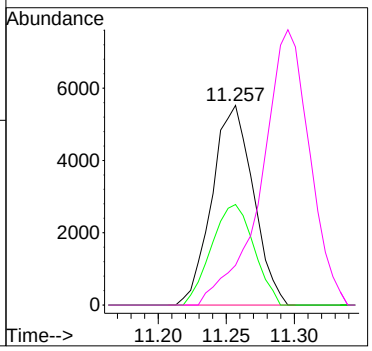


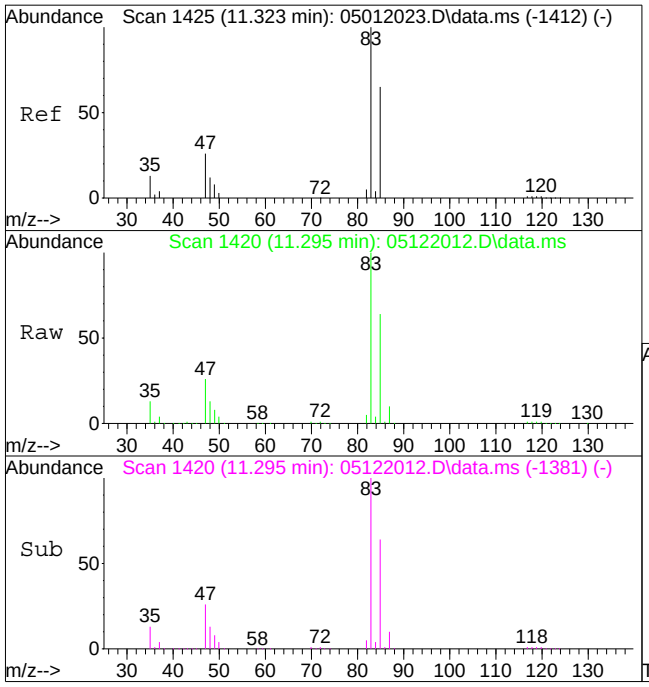


#31
n-Hexane
Concen: 0.24 ng
RT: 11.26 min Scan# 1413
Delta R.T. -0.006 min
Lab File: 05122012.D
Acq: 12 May 2020 8:08

Tgt Ion: 57 Resp: 11637

Ion	Ratio	Lower	Upper
57	100		
56	51.9	41.4	62.0
86	160.3	12.4	18.6#

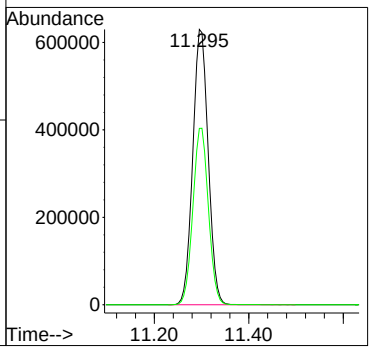


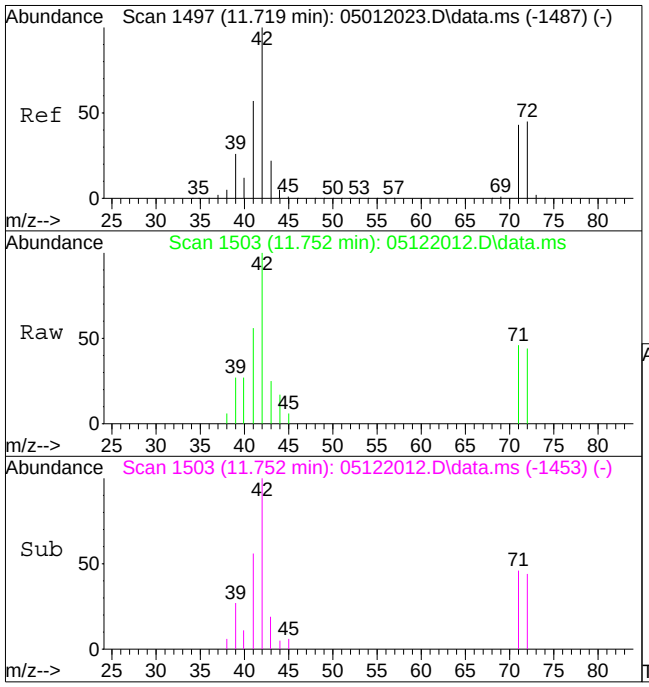


#32
Chloroform
Concen: 27.72 ng
RT: 11.30 min Scan# 1420
Delta R.T. -0.033 min
Lab File: 05122012.D
Acq: 12 May 2020 8:08

Tgt Ion: 83 Resp: 1423588

Ion	Ratio	Lower	Upper
83	100		
85	64.5	45.5	85.5

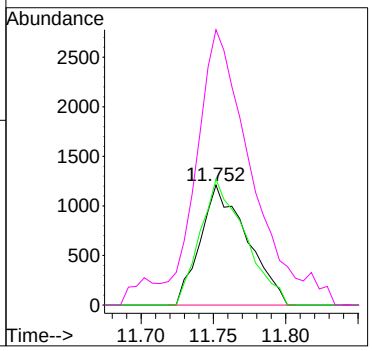


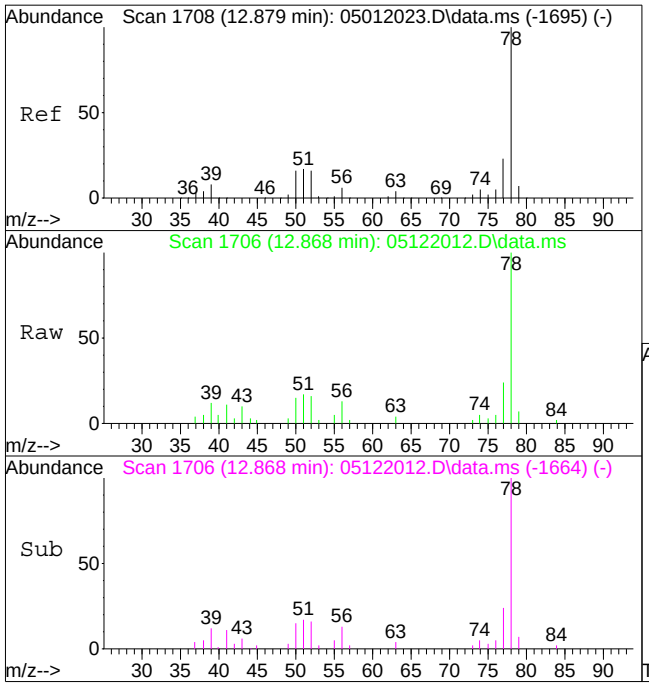


#34
Tetrahydrofuran (THF)
Concen: 0.14 ng
RT: 11.75 min Scan# 1503
Delta R.T. 0.027 min
Lab File: 05122012.D
Acq: 12 May 2020 8:08

Tgt Ion: 72 Resp: 2722

Ion	Ratio	Lower	Upper
72	100		
71	100.7	77.0	117.0
42	269.2	204.6	244.6#

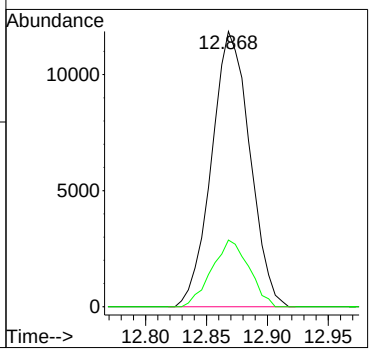


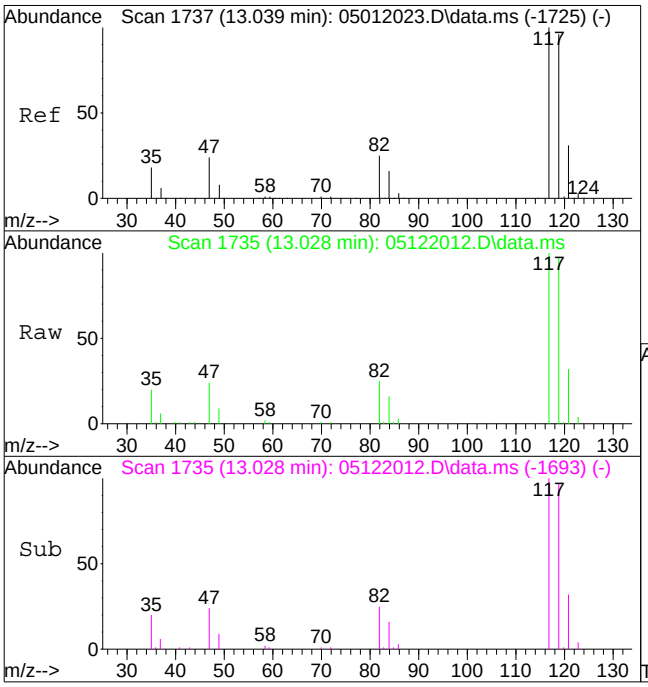


#41
Benzene
Concen: 0.22 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05122012.D
Acq: 12 May 2020 8:08

Tgt Ion: 78 Resp: 25930

Ion	Ratio	Lower	Upper
78	100		
77	23.5	3.4	43.4

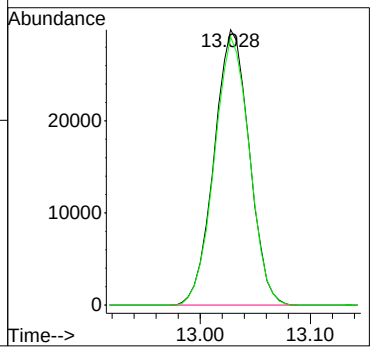


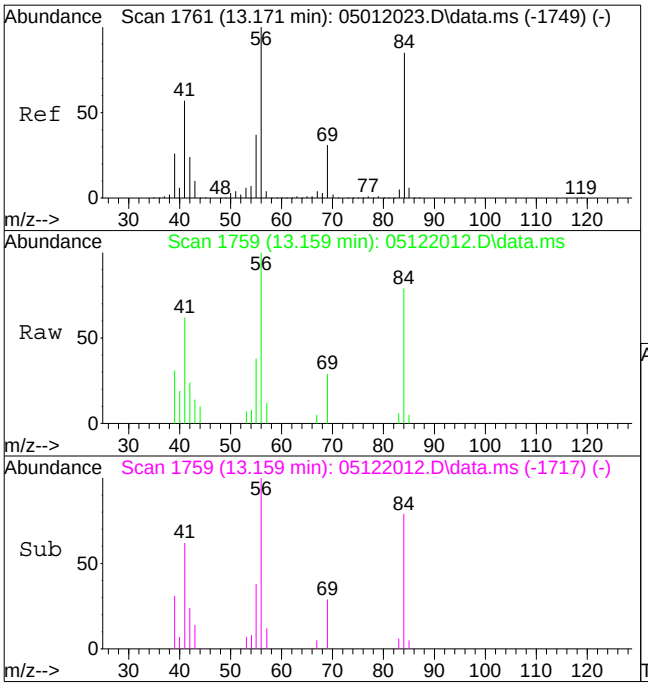


#42
Carbon Tetrachloride
Concen: 1.64 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05122012.D
Acq: 12 May 2020 8:08

Tgt Ion:117 Resp: 66243

Ion	Ratio	Lower	Upper
117	100		
119	97.0	76.2	116.2

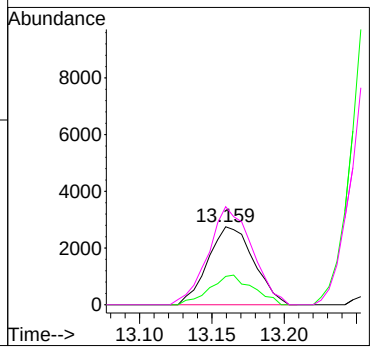


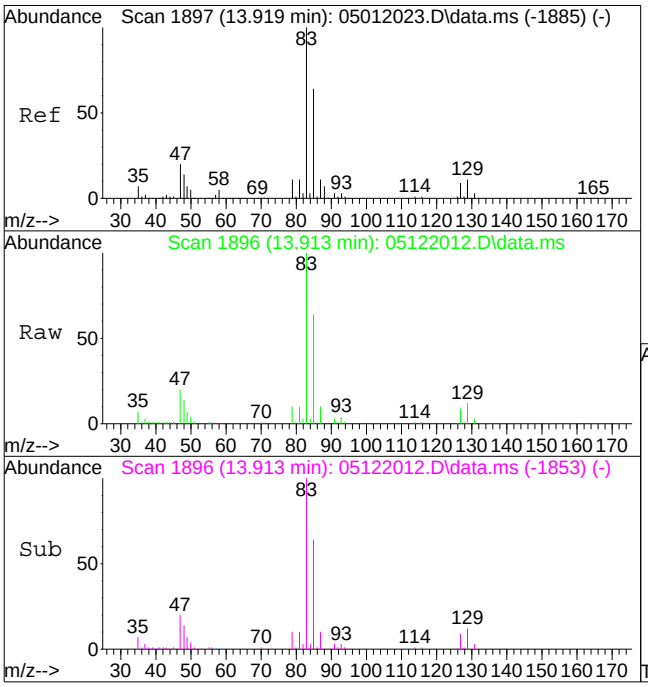


#43
Cyclohexane
Concen: 0.14 ng
RT: 13.16 min Scan# 1759
Delta R.T. -0.017 min
Lab File: 05122012.D
Acq: 12 May 2020 8:08

Tgt Ion: 84 Resp: 6056

Ion	Ratio	Lower	Upper
84	100		
69	35.8	16.5	56.5
56	120.7	97.4	137.4

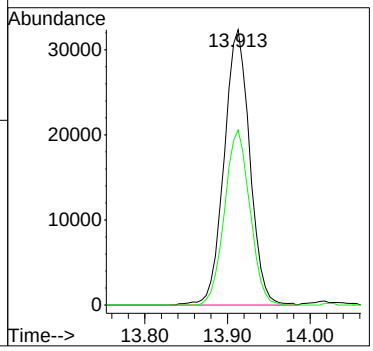


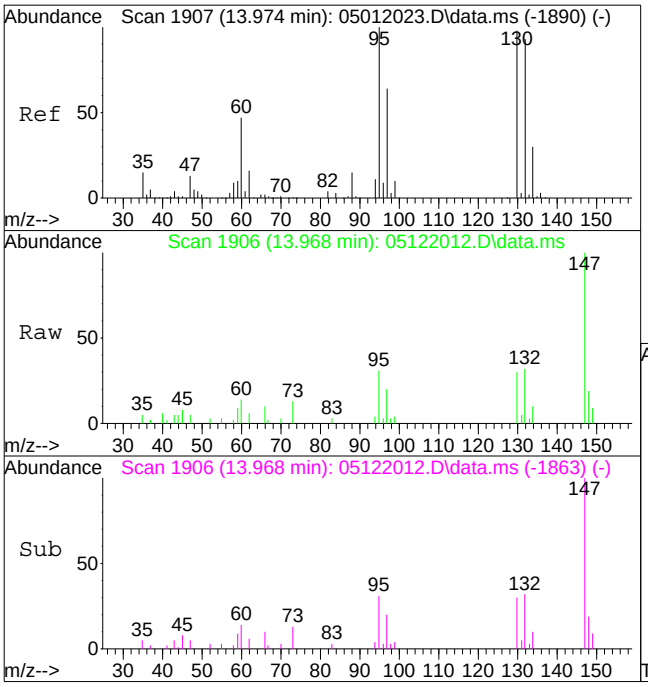


#46
Bromodichloromethane
Concen: 1.74 ng
RT: 13.91 min Scan# 1896
Delta R.T. -0.011 min
Lab File: 05122012.D
Acq: 12 May 2020 8:08

Tgt Ion: 83 Resp: 69719

Ion	Ratio	Lower	Upper
83	100		
85	62.7	44.4	84.4

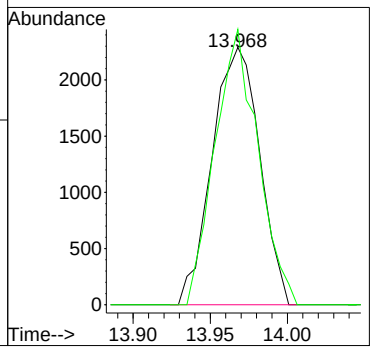


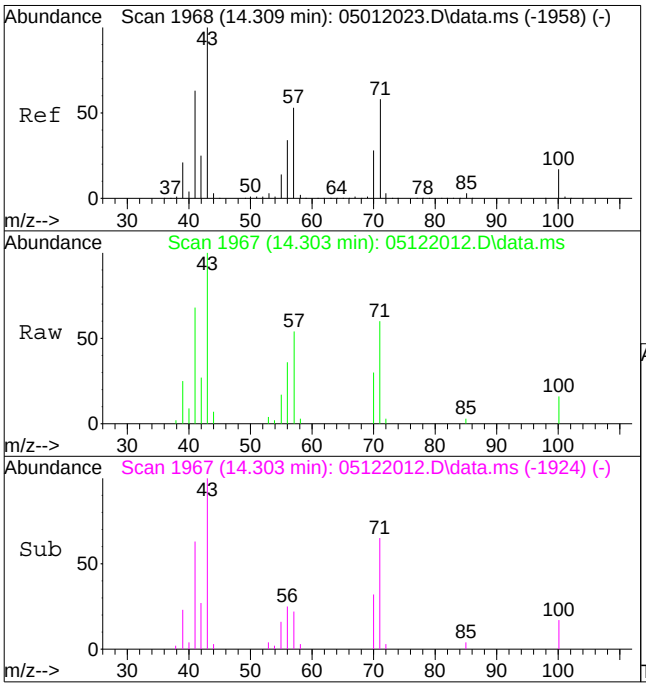


#47
Trichloroethene
Concen: 0.16 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05122012.D
Acq: 12 May 2020 8:08

Tgt Ion:130 Resp: 4912

Ion	Ratio	Lower	Upper
130	100		
132	96.6	74.9	114.9

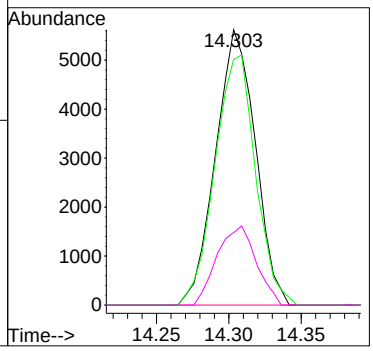


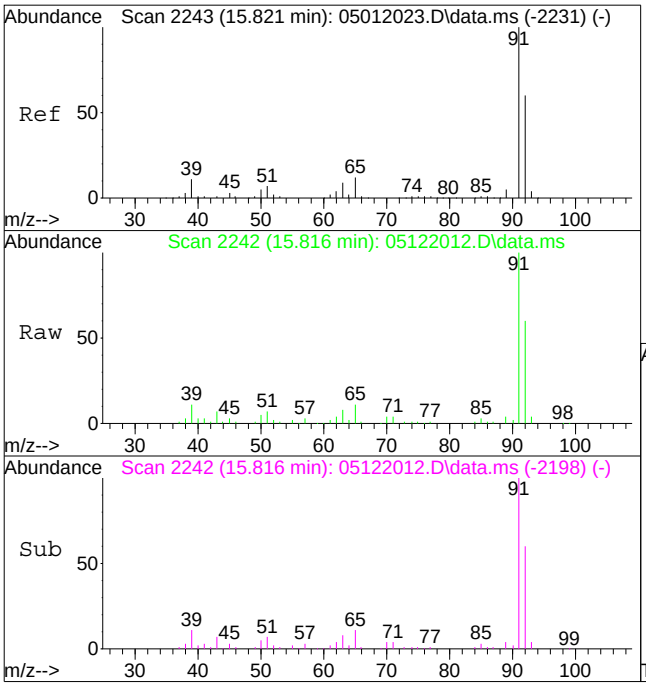


#51
n-Heptane
Concen: 0.39 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05122012.D
Acq: 12 May 2020 8:08

Tgt Ion: 71 Resp: 10730

Ion	Ratio	Lower	Upper
71	100		
57	92.9	71.0	111.0
100	28.2	8.4	48.4

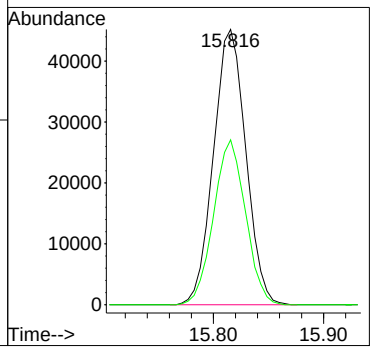


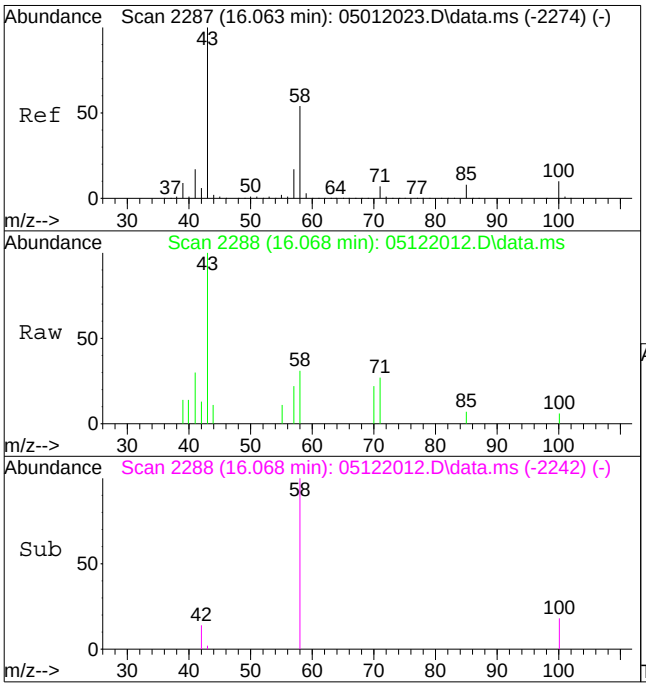


#58
Toluene
Concen: 0.85 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05122012.D
Acq: 12 May 2020 8:08

Tgt Ion: 91 Resp: 92365

Ion	Ratio	Lower	Upper
91	100		
92	59.0	39.4	79.4

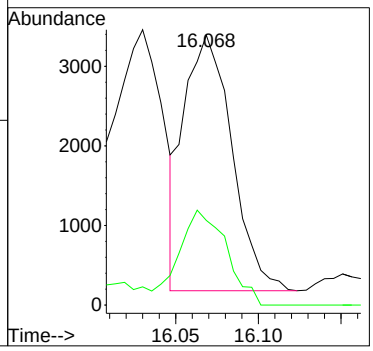


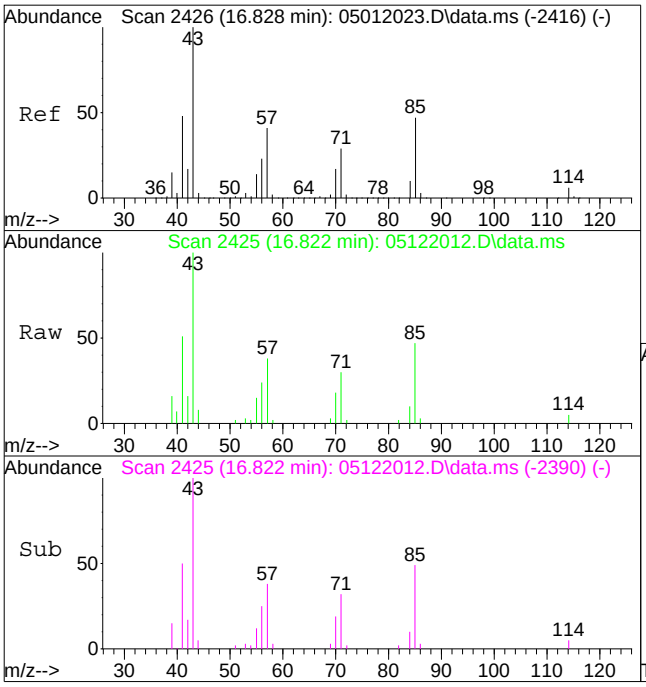


#59
2-Hexanone
Concen: 0.11 ng
RT: 16.07 min Scan# 2288
Delta R.T. 0.005 min
Lab File: 05122012.D
Acq: 12 May 2020 8:08

Tgt Ion: 43 Resp: 6486

Ion	Ratio	Lower	Upper
43	100		
58	36.7	34.5	74.5

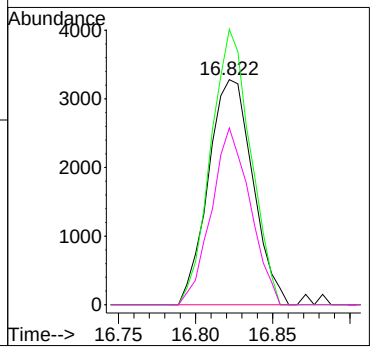


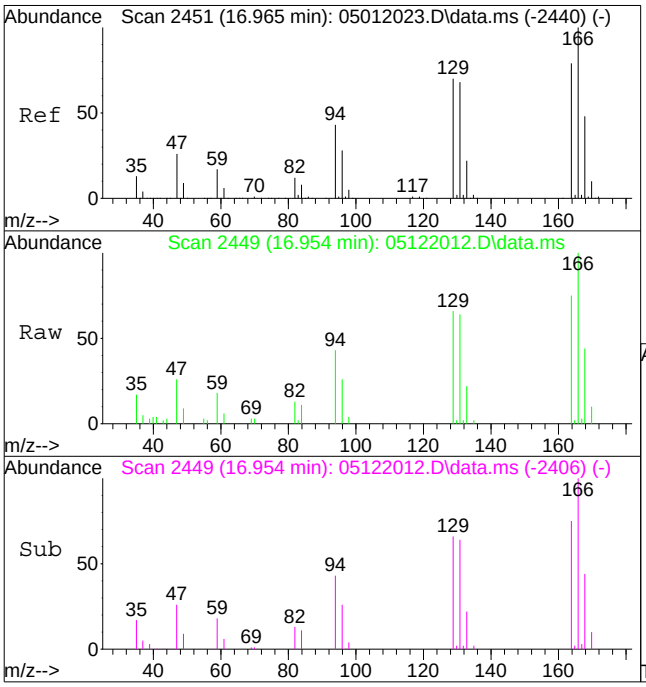


#63
n-Octane
Concen: 0.29 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05122012.D
Acq: 12 May 2020 8:08

Tgt Ion: 57 Resp: 6577

Ion	Ratio	Lower	Upper
57	100		
85	109.2	91.0	136.4
71	68.5	56.2	84.2

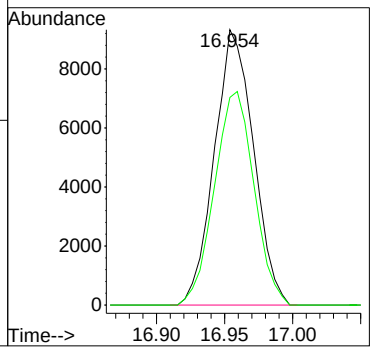


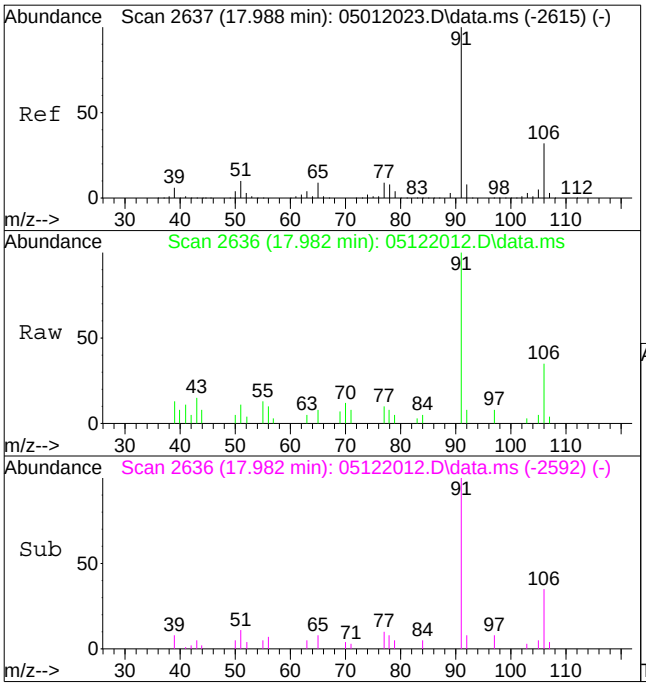


#64
Tetrachloroethene
Concen: 0.60 ng
RT: 16.95 min Scan# 2449
Delta R.T. -0.011 min
Lab File: 05122012.D
Acq: 12 May 2020 8:08

Tgt Ion:166 Resp: 18632

Ion	Ratio	Lower	Upper
166	100		
164	78.5	58.4	98.4

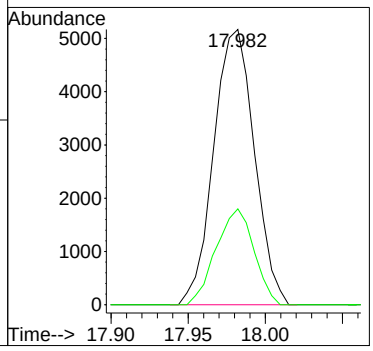


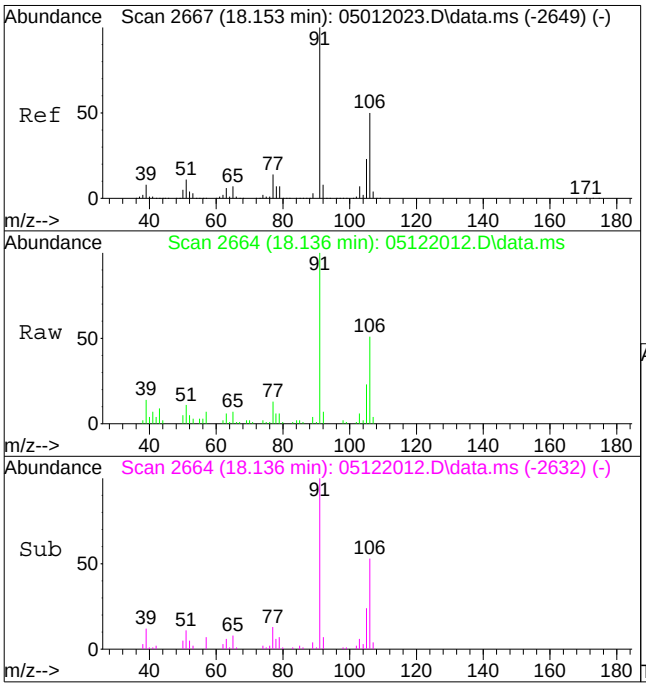


#66
Ethylbenzene
Concen: 0.08 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05122012.D
Acq: 12 May 2020 8:08

Tgt Ion: 91 Resp: 9480

Ion	Ratio	Lower	Upper
91	100		
106	32.4	11.6	51.6

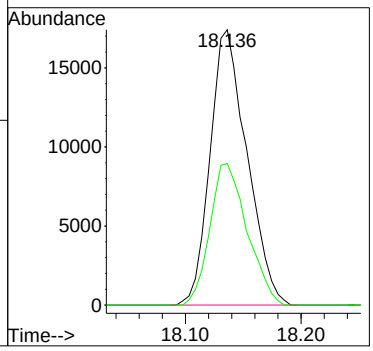


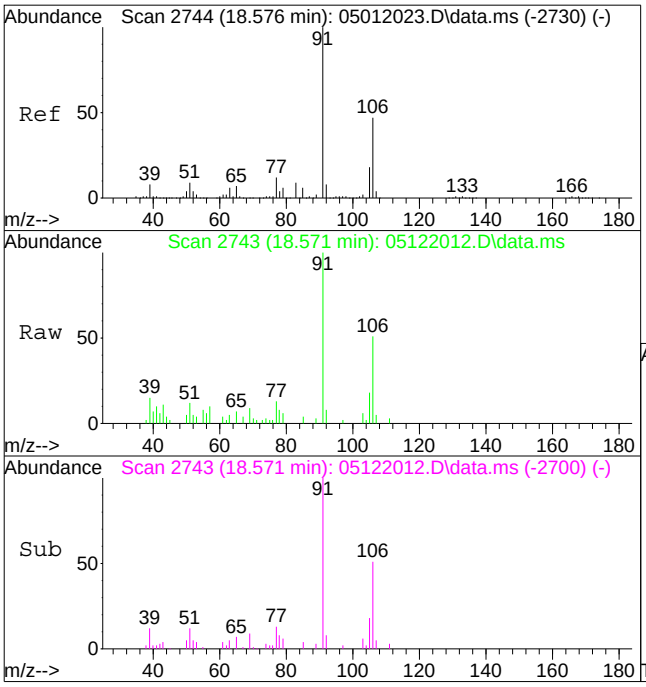


#67
m- & p-Xylenes
Concen: 0.40 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05122012.D
Acq: 12 May 2020 8:08

Tgt Ion: 91 Resp: 38646

Ion	Ratio	Lower	Upper
91	100		
106	51.7	29.7	69.7

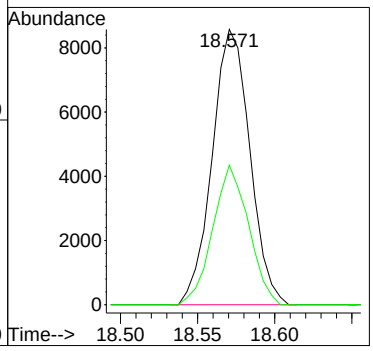


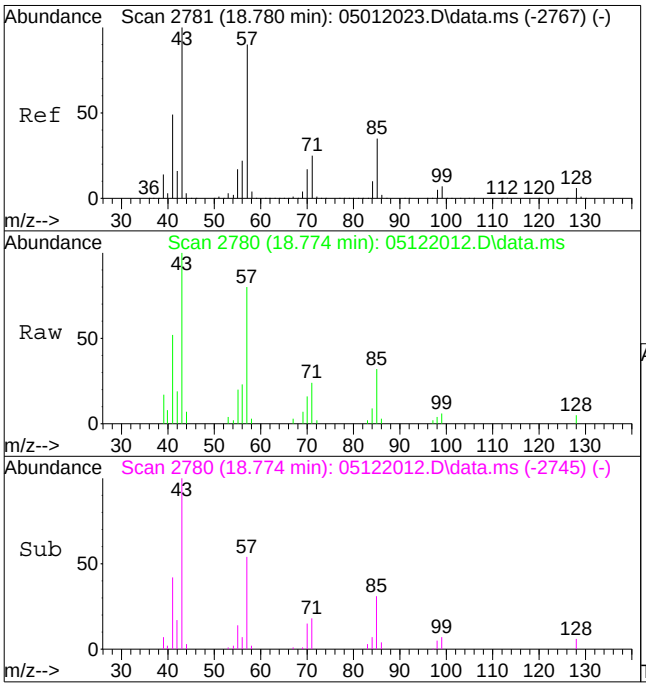


#70
o-Xylene
Concen: 0.15 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05122012.D
Acq: 12 May 2020 8:08

Tgt Ion: 91 Resp: 14577

Ion	Ratio	Lower	Upper
91	100		
106	48.1	27.5	67.5

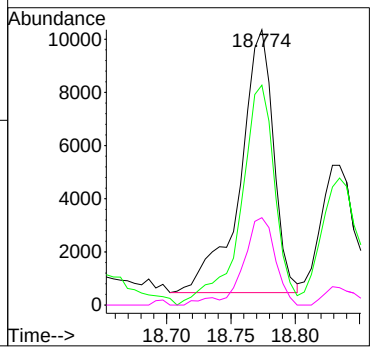


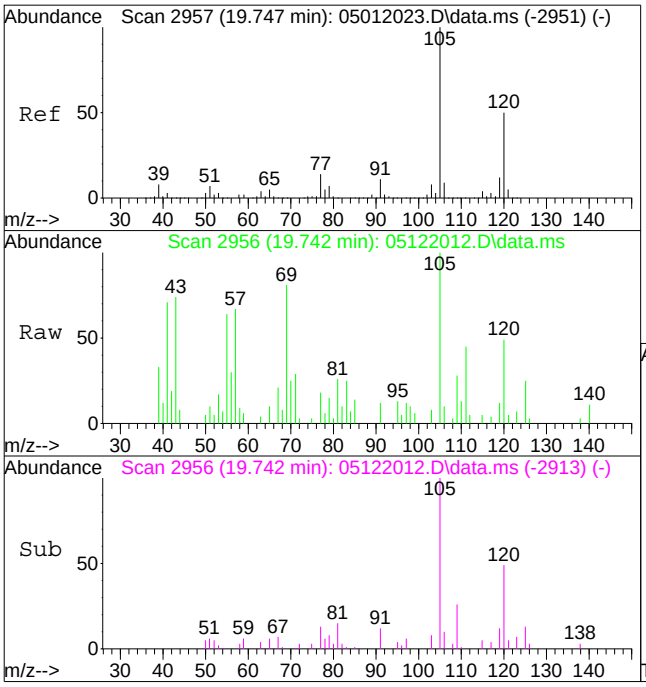


#71
n-Nonane
Concen: 0.35 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05122012.D
Acq: 12 May 2020 8:08

Tgt Ion: 43 Resp: 18038

Ion	Ratio	Lower	Upper
43	100		
57	84.2	69.0	109.0
85	31.7	14.6	54.6

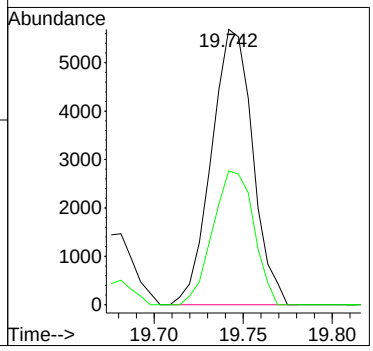


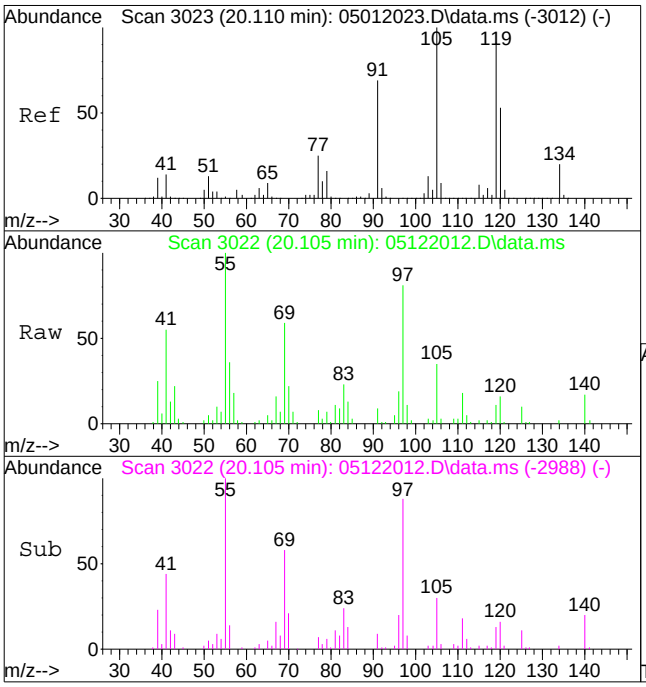


#79
1,3,5-Trimethylbenzene
Concen: 0.09 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05122012.D
Acq: 12 May 2020 8:08

Tgt Ion:105 Resp: 9179

Ion	Ratio	Lower	Upper
105	100		
120	48.1	29.9	69.9

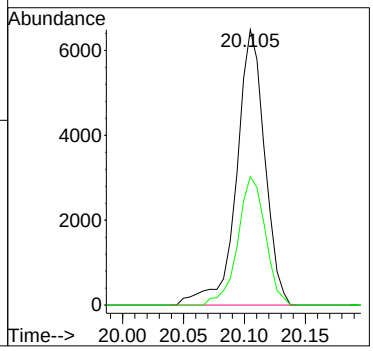


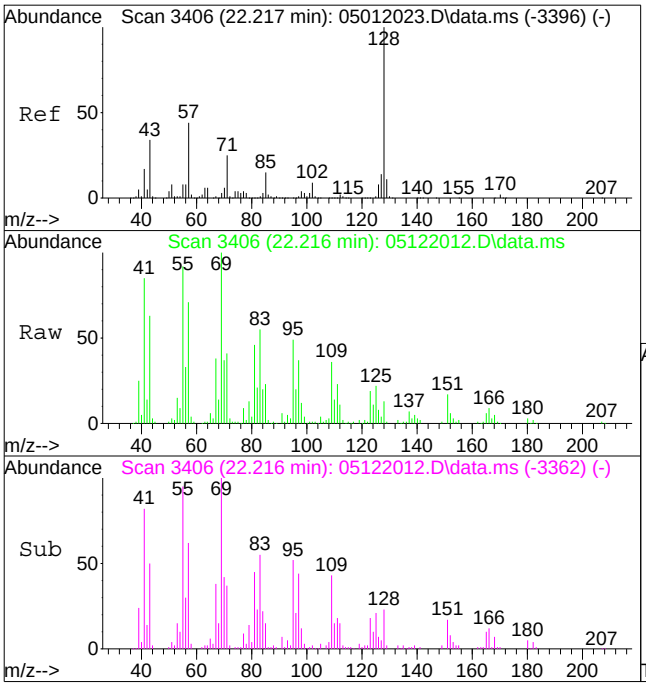


#82
1,2,4-Trimethylbenzene
Concen: 0.11 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05122012.D
Acq: 12 May 2020 8:08

Tgt Ion:105 Resp: 10387

Ion	Ratio	Lower	Upper
105	100		
120	45.7	33.6	73.6

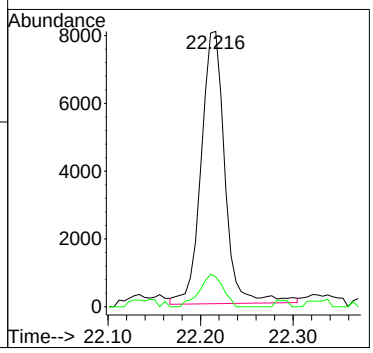




#95
Naphthalene
Concen: 0.12 ng
RT: 22.22 min Scan# 3406
Delta R.T. -0.006 min
Lab File: 05122012.D
Acq: 12 May 2020 8:08

Tgt Ion:128 Resp: 14303

Ion	Ratio	Lower	Upper
128	100		
129	11.7	0.0	31.0



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122013.D Vial: 1
Acq On : 12 May 2020 8:42 Operator: LH
Sample : P2002300-009 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:27:23 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/13/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	269742	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1145545	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	536080	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	425553	11.641	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.12%				
57) Toluene-d8 (SS2)	15.72	98	1121769	12.345	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.80%				
73) Bromofluorobenzene (SS3)	18.97	174	433367	13.255	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.00%				
Target Compounds							Qvalue
2) Propene	4.09	42	1485634	47.553	ng		99
3) Dichlorodifluoromethan...	4.25	85	30646	0.502	ng		100
4) Chloromethane	4.53	50	5342	0.112	ng		96
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	625	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.21	54	575	N.D.			
8) Bromomethane	5.64	94	109	N.D.			
9) Chloroethane	5.97	64	744	N.D.			
10) Ethanol	6.37	45	2387387	98.965	ng		100
11) Acetonitrile	6.61	41	8444	0.153	ng		99
12) Acrolein	6.78	56	11960	0.627	ng		100
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	7.23	101	14102	0.261	ng		100
15) 2-Propanol (Isopropanol)	7.54	45	17320299	237.202	ng		98
16) Acrylonitrile	7.76	53	1649	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	45780	1.460	ng		99
20) 3-Chloro-1-propene (Al...	8.56	41	501	N.D.			
21) Trichlorotrifluoroethane	8.84	151	3061	0.120	ng		92
22) Carbon Disulfide	8.68	76	65147	0.580	ng		99
23) trans-1,2-Dichloroethene	9.68	61	194	N.D.			
24) 1,1-Dichloroethane	9.94	63	397	N.D.			
25) Methyl tert-Butyl Ether	10.10	73	2367	N.D.			
26) Vinyl Acetate	10.17	86	12746	1.696	ng	#	65
27) 2-Butanone (MEK)	10.46	72	53058	2.579	ng		98
28) cis-1,2-Dichloroethene	10.90	61	320	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.27	61	378626	31.915	ng		91
31) n-Hexane	11.26	57	45451	0.883	ng	#	13
32) Chloroform	11.30	83	5967674	111.143	ng		99
34) Tetrahydrofuran (THF)	11.72	72	87828	4.377	ng		99
35) Ethyl tert-Butyl Ether	11.88	87	436	N.D.			
36) 1,2-Dichloroethane	12.11	62	2656	0.062	ng		96
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	49029	0.399	ng		99
42) Carbon Tetrachloride	13.03	117	125384	3.001	ng		99
43) Cyclohexane	13.16	84	63654	1.390	ng		99
44) tert-Amyl Methyl Ether	13.56	73	766	N.D.			
45) 1,2-Dichloropropane	13.73	63	5186	0.182	ng		99
46) Bromodichloromethane	13.91	83	461600	11.118	ng		99
47) Trichloroethene	13.97	130	23953	0.754	ng		98
48) 1,4-Dioxane	13.91	88	435	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.18	100	16019	1.314	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122013.D Vial: 1
Acq On : 12 May 2020 8:42 Operator: LH
Sample : P2002300-009 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:27:23 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

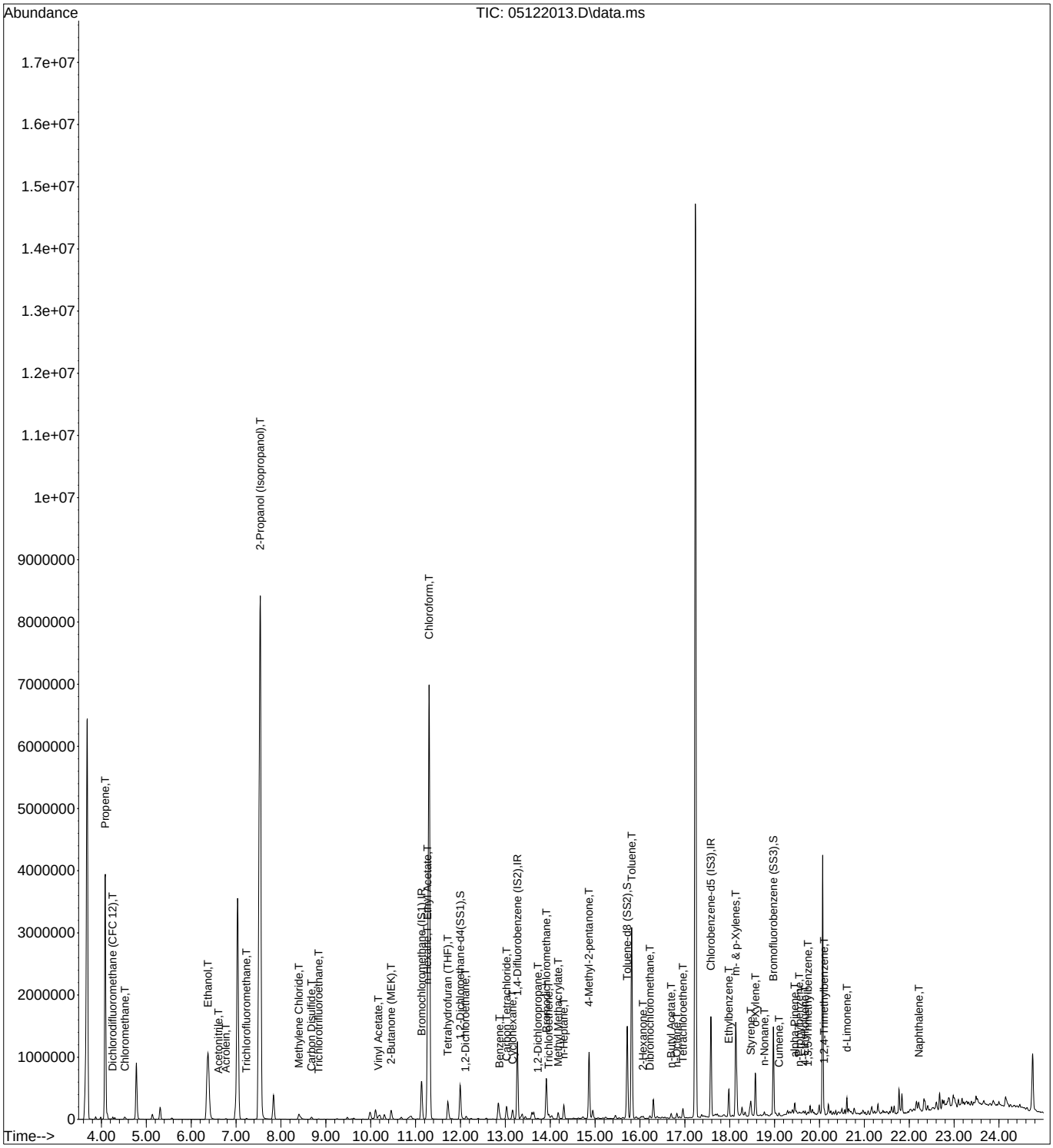
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.30	71	57735	2.010	ng		100
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
53) 4-Methyl-2-pentanone	14.86	58	325433	11.883	ng		98
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.			
55) 1,1,2-Trichloroethane	15.55	97	182	N.D.			
58) Toluene	15.82	91	2496383	21.313	ng		100
59) 2-Hexanone	16.07	43	25122	0.391	ng	#	71
60) Dibromochloromethane	16.22	129	8071	0.241	ng		100
61) 1,2-Dibromoethane	16.49	107	446	N.D.			
62) n-Butyl Acetate	16.70	43	60379	0.871	ng		97
63) n-Octane	16.82	57	15315	0.632	ng		98
64) Tetrachloroethene	16.96	166	52450	1.585	ng		100
65) Chlorobenzene	17.63	112	1866	N.D.			
66) Ethylbenzene	17.98	91	349712	2.678	ng		100
67) m- & p-Xylenes	18.14	91	1139066	10.994	ng		99
68) Bromoform	0.00	173	0	N.D.			
69) Styrene	18.47	104	115264	1.479	ng		99
70) o-Xylene	18.57	91	392504	3.731	ng		99
71) n-Nonane	18.77	43	23769	0.426	ng		92
72) 1,1,2,2-Tetrachloroethane	18.58	83	749	N.D.			
74) Cumene	19.10	105	18670	0.145	ng		95
75) alpha-Pinene	19.45	93	72410	1.051	ng		100
76) n-Propylbenzene	19.55	91	15340	0.100	ng		83
77) 3-Ethyltoluene	0.00	105	0	N.D.	d		
78) 4-Ethyltoluene	19.68	105	8995	0.074	ng		100
79) 1,3,5-Trimethylbenzene	19.74	105	12519	0.119	ng		95
80) alpha-Methylstyrene	0.00	118	0	N.D.	d		
81) 2-Ethyltoluene	0.00	105	0	N.D.	d		
82) 1,2,4-Trimethylbenzene	20.10	105	23777	0.225	ng		93
83) n-Decane	0.00	57	0	N.D.	d		
84) Benzyl Chloride	20.31	91	1691	N.D.			
85) 1,3-Dichlorobenzene	20.24	146	571	N.D.			
86) 1,4-Dichlorobenzene	20.30	146	1167	N.D.			
87) sec-Butylbenzene	20.35	105	3141	N.D.			
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.	d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d		
90) 1,2-Dichlorobenzene	20.60	146	341	N.D.			
91) d-Limonene	20.61	68	58525	1.400	ng		98
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.			
93) n-Undecane	0.00	57	0	N.D.	d		
94) 1,2,4-Trichlorobenzene	22.11	180	953	N.D.			
95) Naphthalene	22.22	128	9292	0.072	ng		98
96) n-Dodecane	0.00	57	0	N.D.	d		
97) Hexachlorobutadiene	0.00	225	0	N.D.			
98) Cyclohexanone	0.00	55	0	N.D.	d		
99) tert-Butylbenzene	0.00	119	0	N.D.	d		
100) n-Butylbenzene	20.85	91	5043	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122013.D Vial: 1
Acq On : 12 May 2020 8:42 Operator: LH
Sample : P2002300-009 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:27:23 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122013.D Vial: 1
Acq On : 12 May 2020 8:42 Operator: LH
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QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/13/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	269742	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1145545	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	536080	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	425553	11.641	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.12%				
57) Toluene-d8 (SS2)	15.72	98	1121769	12.345	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.80%				
73) Bromofluorobenzene (SS3)	18.97	174	433367	13.255	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.00%				
Target Compounds							Qvalue
2) Propene	4.09	42	1485634	47.553	ng		99
3) Dichlorodifluoromethan...	4.25	85	30646	0.502	ng		100
4) Chloromethane	4.53	50	5342	0.112	ng		96
10) Ethanol	6.37	45	2387387	98.965	ng		100
11) Acetonitrile	6.61	41	8444	0.153	ng		99
12) Acrolein	6.78	56	11960	0.627	ng		100
14) Trichlorofluoromethane	7.23	101	14102	0.261	ng		100
15) 2-Propanol (Isopropanol)	7.54	45	17320299	237.202	ng		98
19) Methylene Chloride	8.40	84	45780	1.460	ng		99
21) Trichlorotrifluoroethane	8.84	151	3061	0.120	ng		92
22) Carbon Disulfide	8.68	76	65147	0.580	ng		99
26) Vinyl Acetate	10.17	86	12746	1.696	ng	#	65
27) 2-Butanone (MEK)	10.46	72	53058	2.579	ng		98
30) Ethyl Acetate	11.27	61	378626	31.915	ng		91
31) n-Hexane	11.26	57	45451	0.883	ng	#	13
32) Chloroform	11.30	83	5967674	111.143	ng		99
34) Tetrahydrofuran (THF)	11.72	72	87828	4.377	ng		99
36) 1,2-Dichloroethane	12.11	62	2656	0.062	ng		96
41) Benzene	12.87	78	49029	0.399	ng		99
42) Carbon Tetrachloride	13.03	117	125384	3.001	ng		99
43) Cyclohexane	13.16	84	63654	1.390	ng		99
45) 1,2-Dichloropropane	13.73	63	5186	0.182	ng		99
46) Bromodichloromethane	13.91	83	461600	11.118	ng		99
47) Trichloroethene	13.97	130	23953	0.754	ng		98
50) Methyl Methacrylate	14.18	100	16019	1.314	ng		99
51) n-Heptane	14.30	71	57735	2.010	ng		100
53) 4-Methyl-2-pentanone	14.86	58	325433	11.883	ng		98
58) Toluene	15.82	91	2496383	21.313	ng		100
59) 2-Hexanone	16.07	43	25122	0.391	ng	#	71
60) Dibromochloromethane	16.22	129	8071	0.241	ng		100
62) n-Butyl Acetate	16.70	43	60379	0.871	ng		97
63) n-Octane	16.82	57	15315	0.632	ng		98
64) Tetrachloroethene	16.96	166	52450	1.585	ng		100
66) Ethylbenzene	17.98	91	349712	2.678	ng		100
67) m- & p-Xylenes	18.14	91	1139066	10.994	ng		99
69) Styrene	18.47	104	115264	1.479	ng		99
70) o-Xylene	18.57	91	392504	3.731	ng		99
71) n-Nonane	18.77	43	23769	0.426	ng		92
74) Cumene	19.10	105	18670	0.145	ng		95
75) alpha-Pinene	19.45	93	72410	1.051	ng		100
76) n-Propylbenzene	19.55	91	15340	0.100	ng		83
78) 4-Ethyltoluene	19.68	105	8995	0.074	ng		100
79) 1,3,5-Trimethylbenzene	19.74	105	12519	0.119	ng		95
82) 1,2,4-Trimethylbenzene	20.10	105	23777	0.225	ng		93
91) d-Limonene	20.61	68	58525	1.400	ng		98
95) Naphthalene	22.22	128	9292	0.072	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122013.D Vial: 1
Acq On : 12 May 2020 8:42 Operator: LH
Sample : P2002300-009 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:27:23 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122013.D Vial: 1
Acq On : 12 May 2020 8:42 Operator: LH
Sample : P2002300-009 (400mL) Inst : GCMS-16
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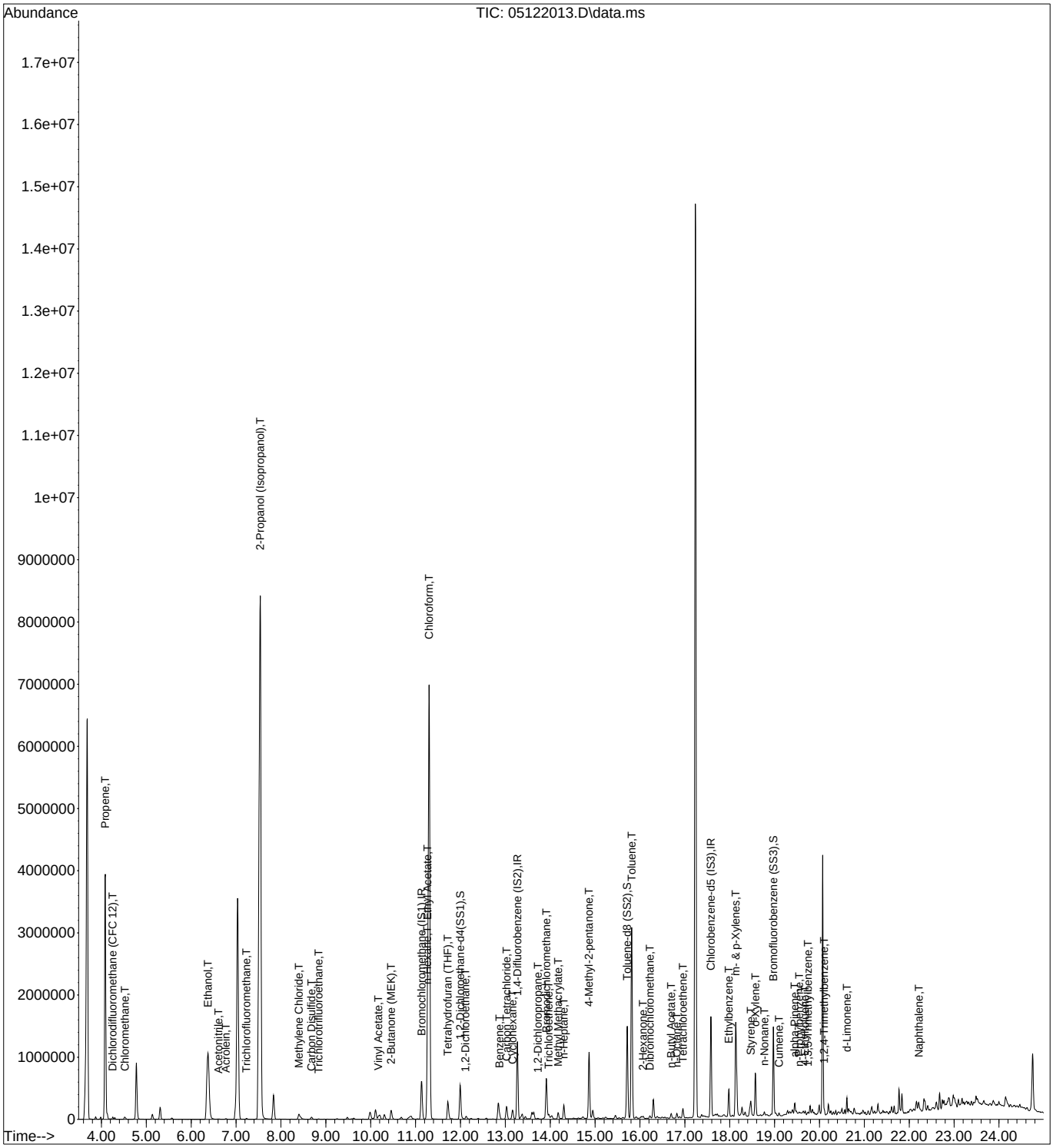
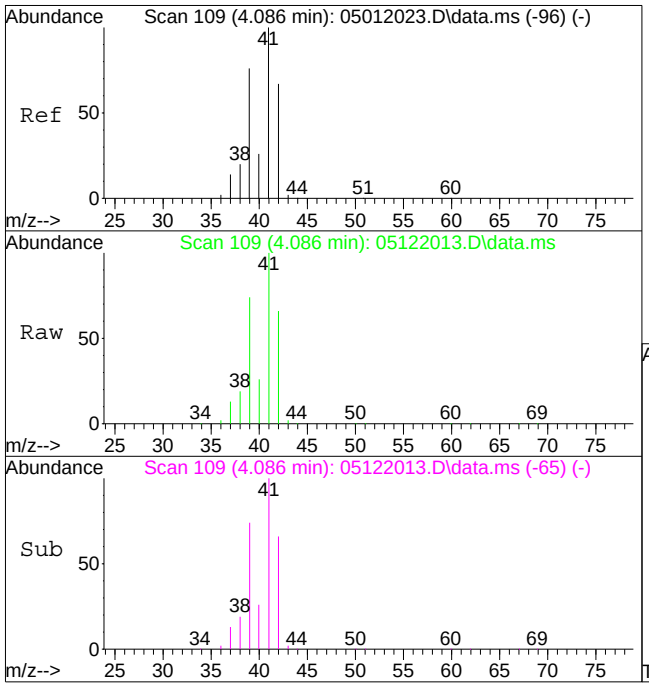
Quant Time: May 13 16:27:23 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

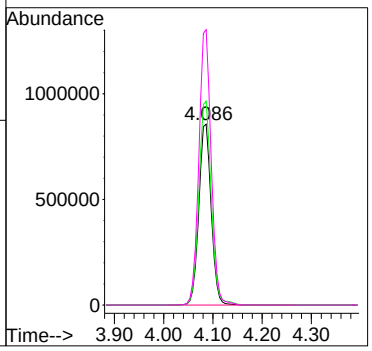


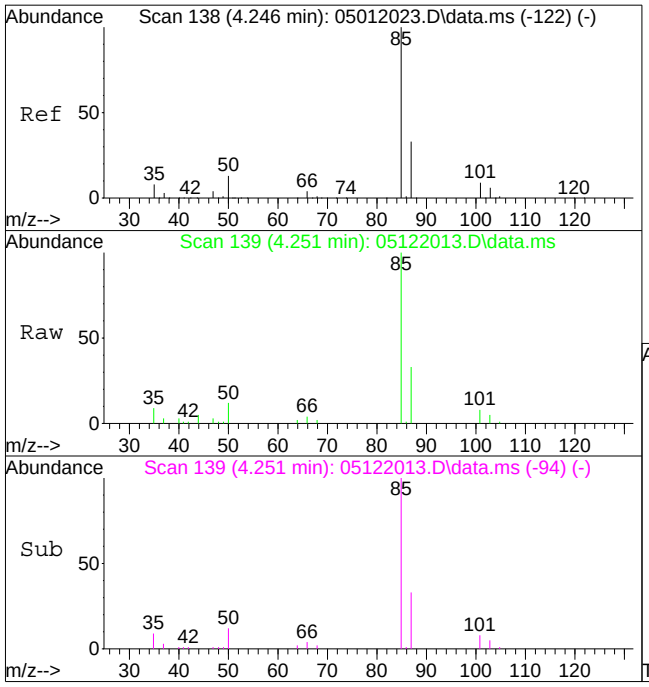


#2
Propene
Concen: 47.55 ng
RT: 4.09 min Scan# 109
Delta R.T. -0.006 min
Lab File: 05122013.D
Acq: 12 May 2020 8:42

Tgt Ion: 42 Resp: 1485634

Ion	Ratio	Lower	Upper
42	100		
39	114.9	96.1	136.1
41	152.5	131.9	171.9

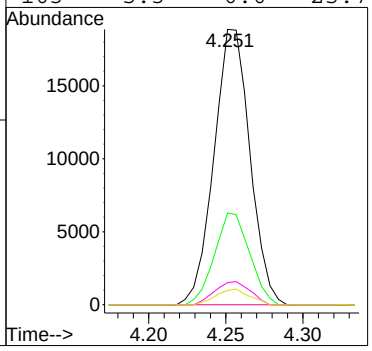


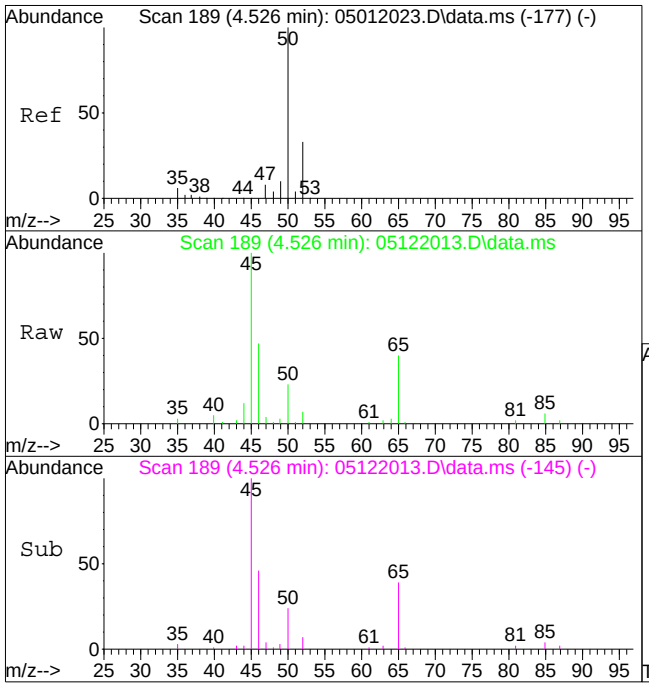


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.50 ng
RT: 4.25 min Scan# 139
Delta R.T. -0.000 min
Lab File: 05122013.D
Acq: 12 May 2020 8:42

Tgt Ion: 85 Resp: 30646

Ion	Ratio	Lower	Upper
85	100		
87	32.4	12.4	52.4
101	8.2	0.0	28.8
103	5.3	0.0	25.7

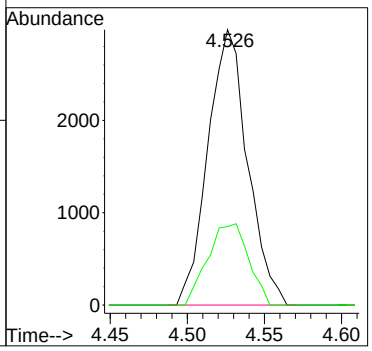


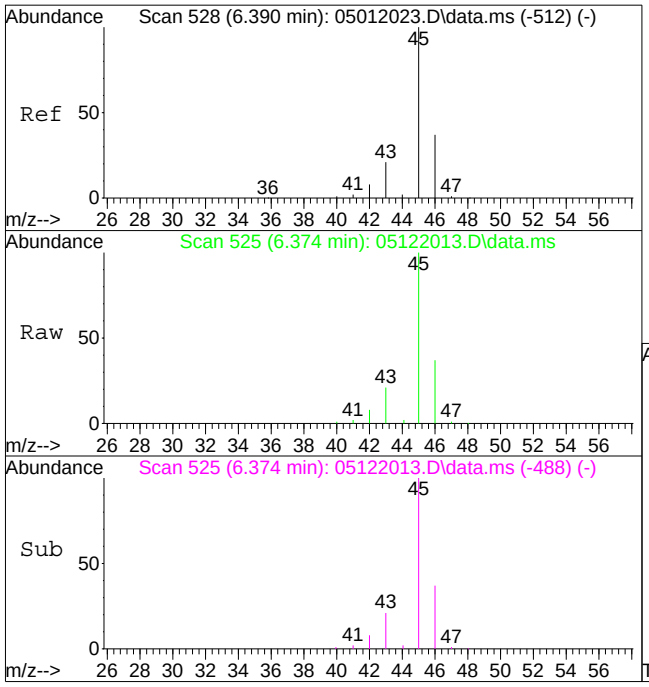


#4
Chloromethane
Concen: 0.11 ng
RT: 4.53 min Scan# 189
Delta R.T. -0.006 min
Lab File: 05122013.D
Acq: 12 May 2020 8:42

Tgt Ion: 50 Resp: 5342

Ion	Ratio	Lower	Upper
50	100		
52	30.4	12.5	52.5

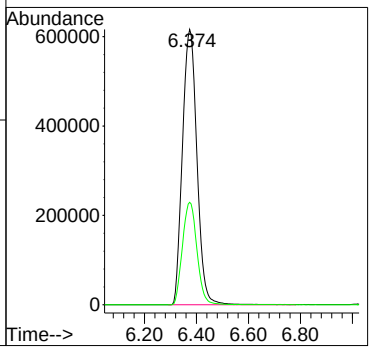


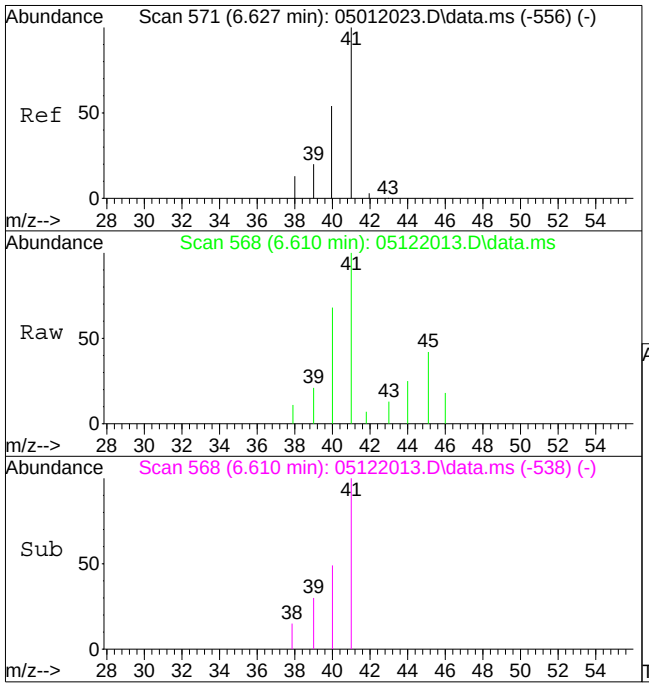


#10
Ethanol
Concen: 98.97 ng
RT: 6.37 min Scan# 525
Delta R.T. -0.044 min
Lab File: 05122013.D
Acq: 12 May 2020 8:42

Tgt Ion: 45 Resp: 2387387

Ion	Ratio	Lower	Upper
45	100		
46	37.3	17.2	57.2

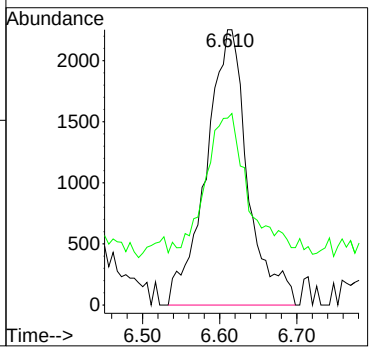


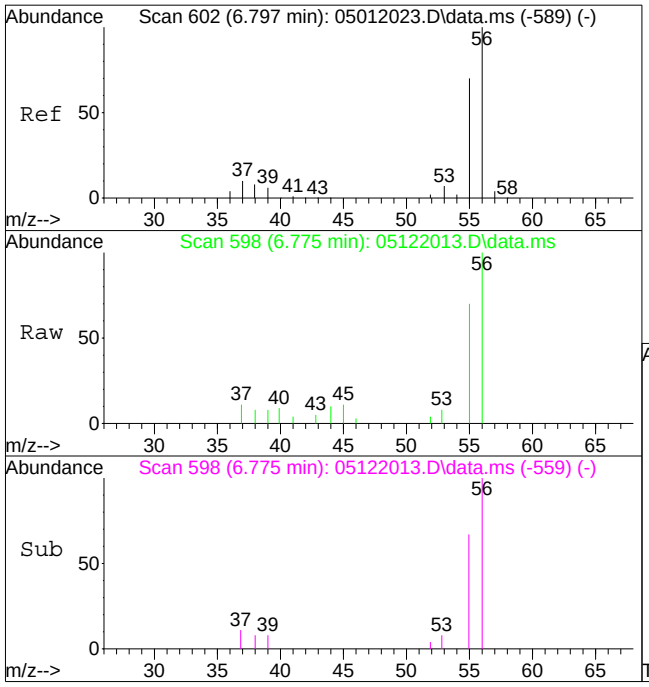


#11
Acetonitrile
Concen: 0.15 ng
RT: 6.61 min Scan# 568
Delta R.T. -0.033 min
Lab File: 05122013.D
Acq: 12 May 2020 8:42

Tgt Ion: 41 Resp: 8444

Ion	Ratio	Lower	Upper
41	100		
40	52.7	33.6	73.6

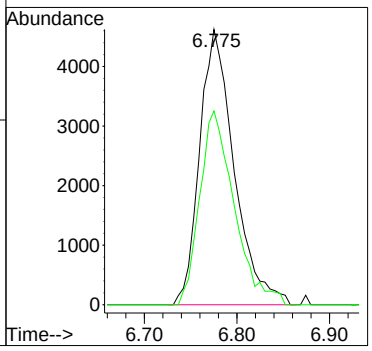


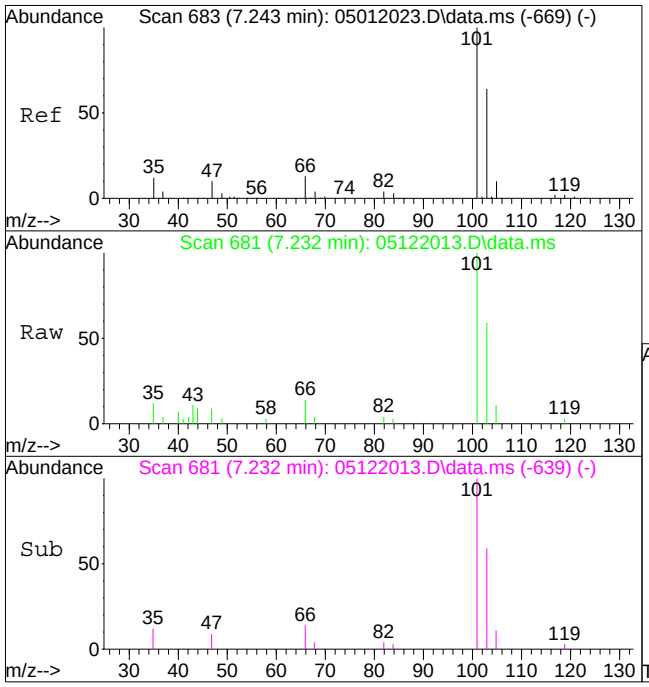


#12
Acrolein
Concen: 0.63 ng
RT: 6.78 min Scan# 598
Delta R.T. -0.033 min
Lab File: 05122013.D
Acq: 12 May 2020 8:42

Tgt Ion: 56 Resp: 11960

Ion	Ratio	Lower	Upper
56	100		
55	70.4	50.2	90.2

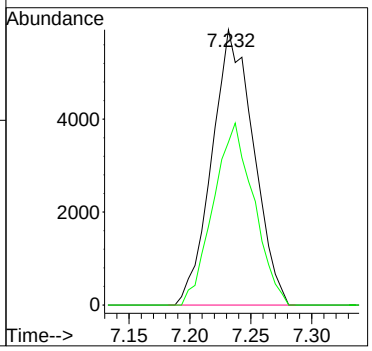


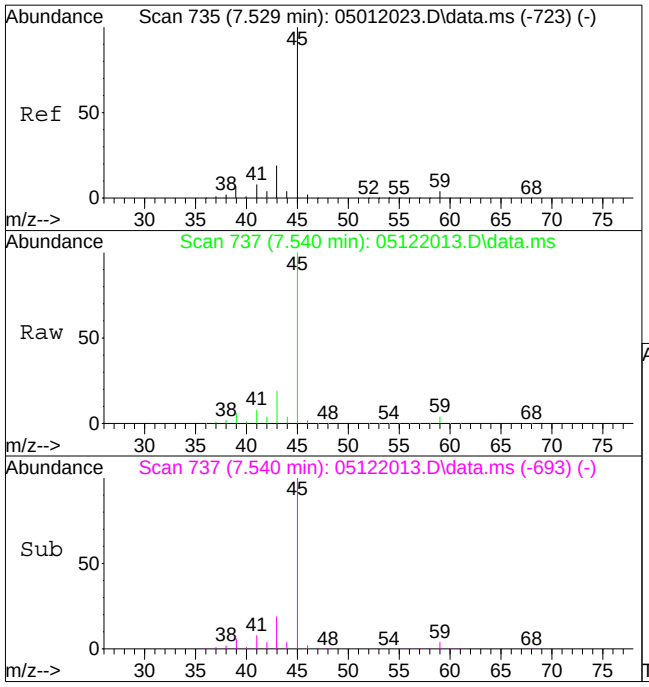


#14
Trichlorofluoromethane
Concen: 0.26 ng
RT: 7.23 min Scan# 681
Delta R.T. -0.017 min
Lab File: 05122013.D
Acq: 12 May 2020 8:42

Tgt Ion:101 Resp: 14102

Ion	Ratio	Lower	Upper
101	100		
103	64.2	44.4	84.4

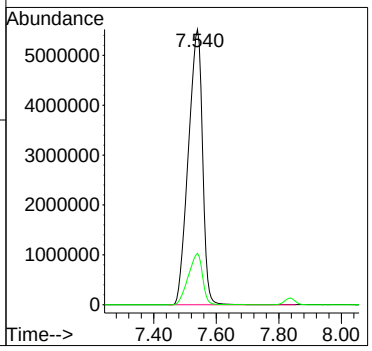


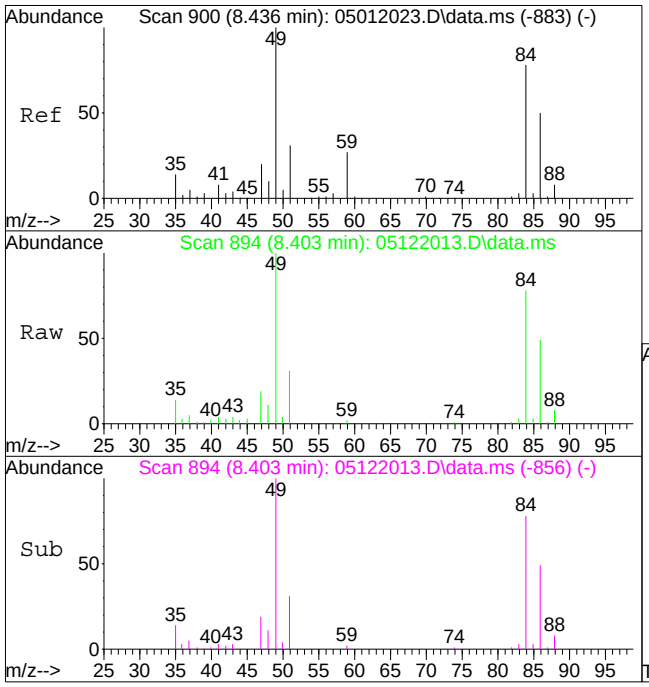


#15
2-Propanol (Isopropanol)
Concen: 237.20 ng
RT: 7.54 min Scan# 737
Delta R.T. -0.006 min
Lab File: 05122013.D
Acq: 12 May 2020 8:42

Tgt Ion: 45 Resp:17320299

Ion	Ratio	Lower	Upper
45	100		
43	18.8	0.0	39.5

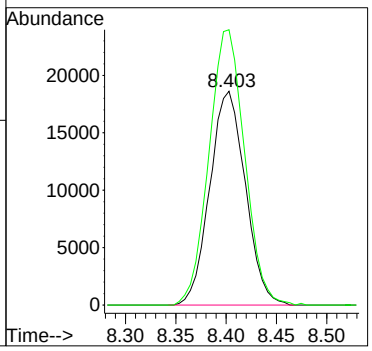


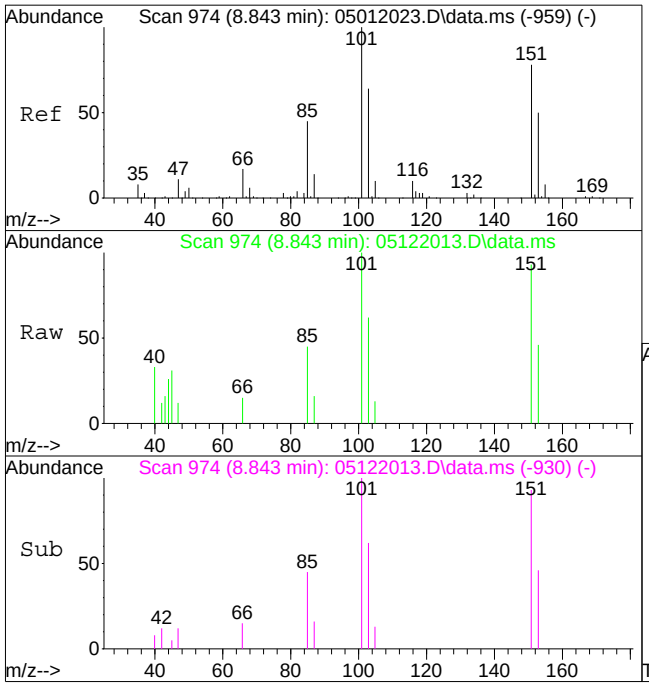


#19
Methylene Chloride
Concen: 1.46 ng
RT: 8.40 min Scan# 894
Delta R.T. -0.039 min
Lab File: 05122013.D
Acq: 12 May 2020 8:42

Tgt Ion: 84 Resp: 45780

Ion	Ratio	Lower	Upper
84	100		
49	129.1	104.8	154.8

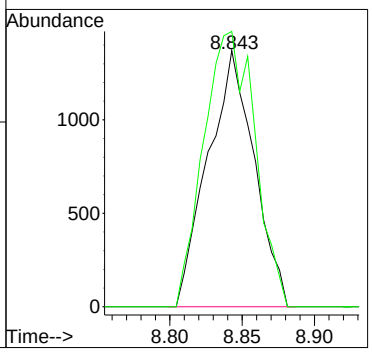


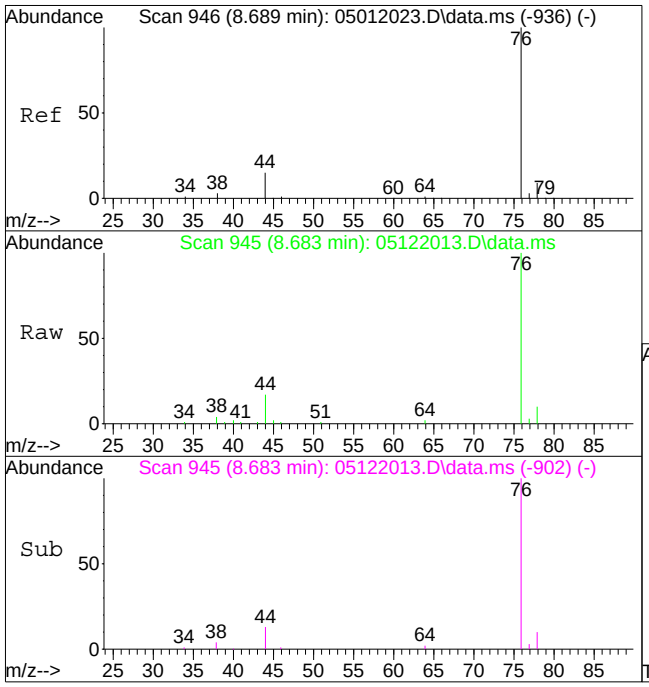


#21
Trichlorotrifluoroethane
Concen: 0.12 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05122013.D
Acq: 12 May 2020 8:42

Tgt Ion:151 Resp: 3061

Ion	Ratio	Lower	Upper
151	100		
101	118.7	107.3	147.3

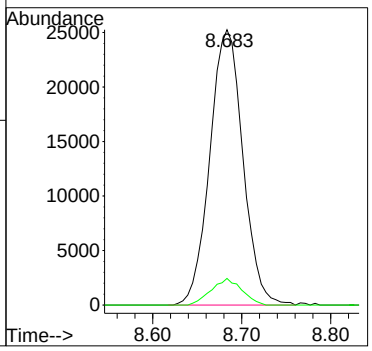


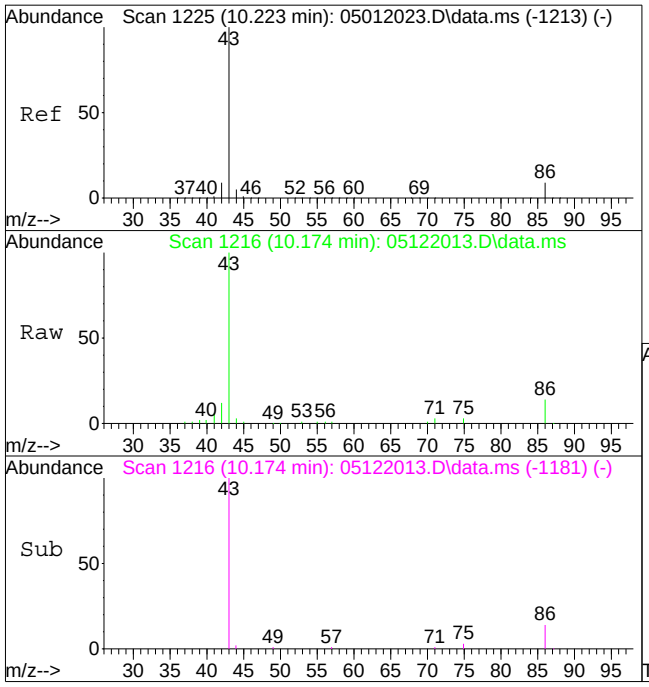


#22
Carbon Disulfide
Concen: 0.58 ng
RT: 8.68 min Scan# 945
Delta R.T. -0.011 min
Lab File: 05122013.D
Acq: 12 May 2020 8:42

Tgt Ion: 76 Resp: 65147

Ion	Ratio	Lower	Upper
76	100		
78	8.9	0.0	29.2

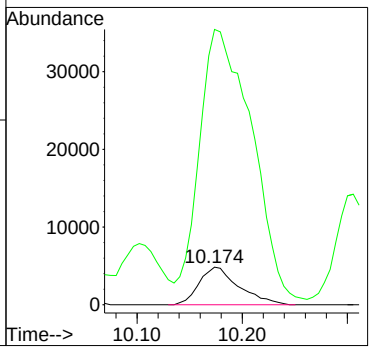


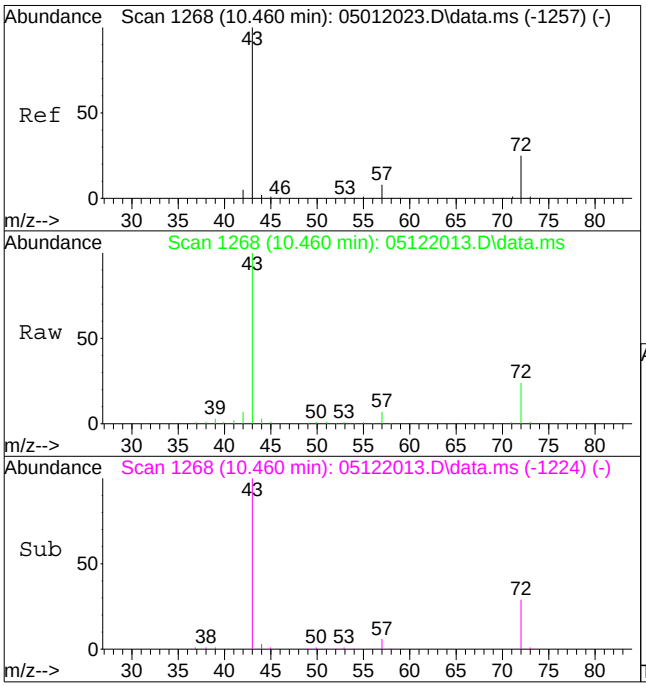


#26
Vinyl Acetate
Concen: 1.70 ng
RT: 10.17 min Scan# 1216
Delta R.T. -0.055 min
Lab File: 05122013.D
Acq: 12 May 2020 8:42

Tgt Ion: 86 Resp: 12746

Ion	Ratio	Lower	Upper
86	100		
43	951.6	1103.0	1143.0#

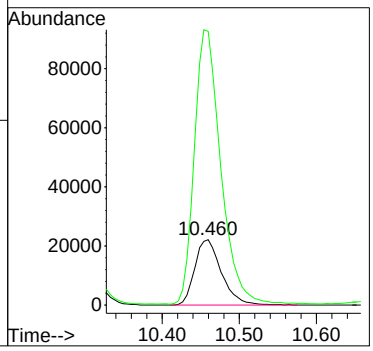


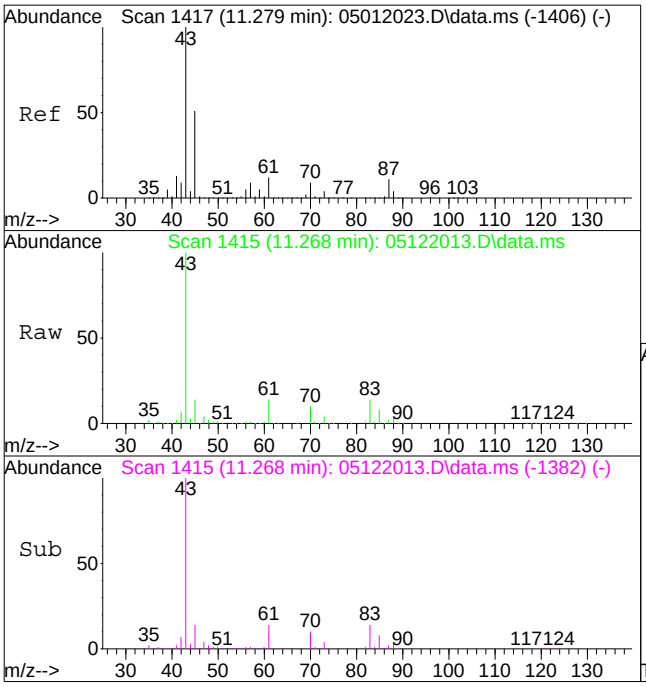


#27
2-Butanone (MEK)
Concen: 2.58 ng
RT: 10.46 min Scan# 1268
Delta R.T. -0.006 min
Lab File: 05122013.D
Acq: 12 May 2020 8:42

Tgt Ion: 72 Resp: 53058

Ion	Ratio	Lower	Upper
72	100		
43	415.6	389.7	429.7

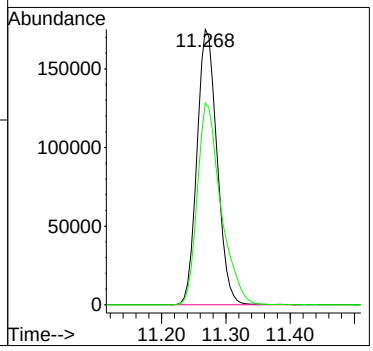


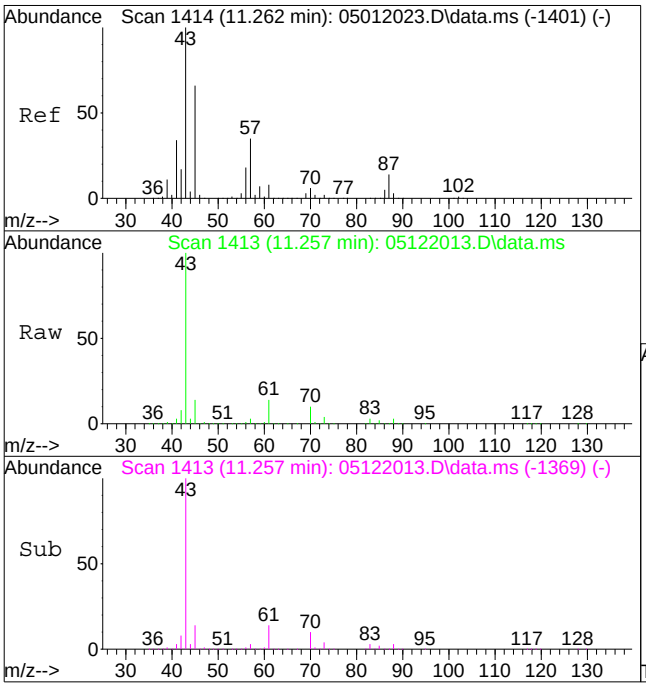


#30
Ethyl Acetate
Concen: 31.91 ng
RT: 11.27 min Scan# 1415
Delta R.T. -0.017 min
Lab File: 05122013.D
Acq: 12 May 2020 8:42

Tgt Ion: 61 Resp: 378626

Ion	Ratio	Lower	Upper
61	100		
70	85.9	57.9	97.9

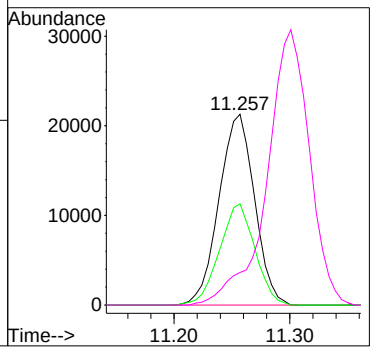


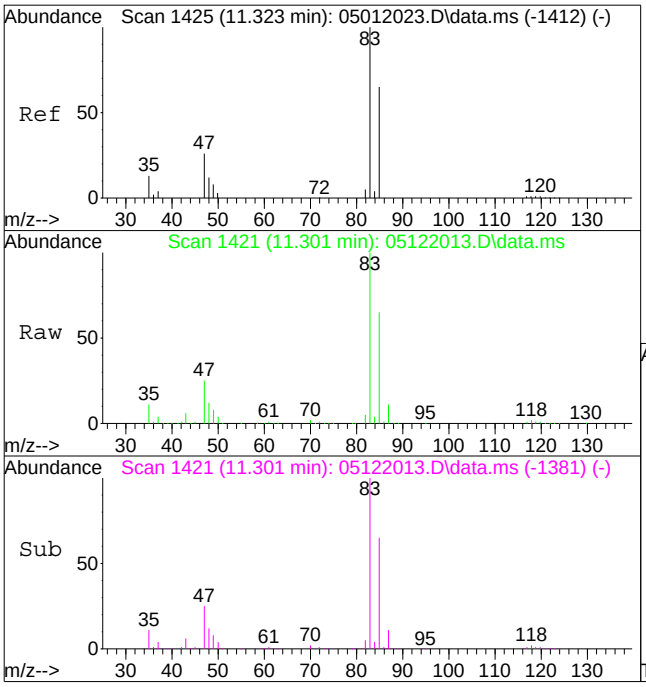


#31
n-Hexane
Concen: 0.88 ng
RT: 11.26 min Scan# 1413
Delta R.T. -0.006 min
Lab File: 05122013.D
Acq: 12 May 2020 8:42

Tgt Ion: 57 Resp: 45451

Ion	Ratio	Lower	Upper
57	100		
56	52.9	41.4	62.0
86	171.4	12.4	18.6#

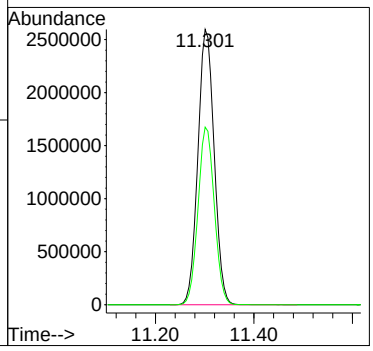


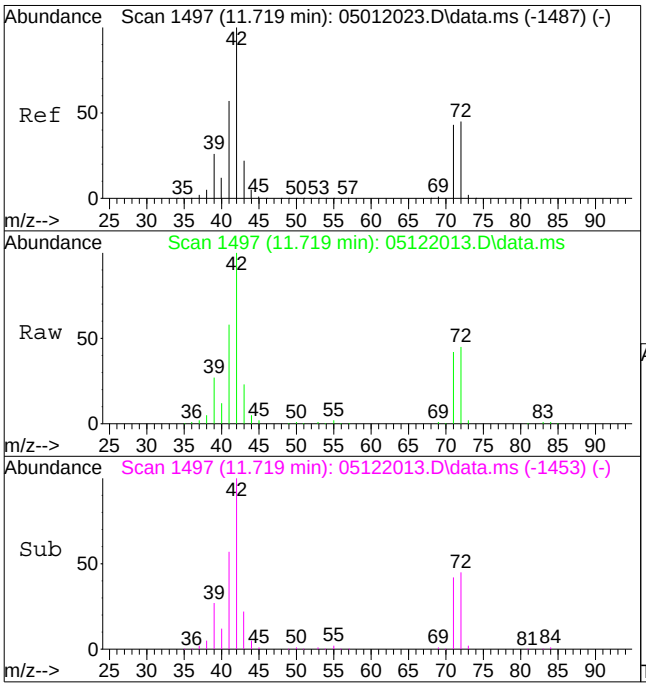


#32
Chloroform
Concen: 111.14 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.028 min
Lab File: 05122013.D
Acq: 12 May 2020 8:42

Tgt Ion: 83 Resp: 5967674

Ion	Ratio	Lower	Upper
83	100		
85	64.6	45.5	85.5

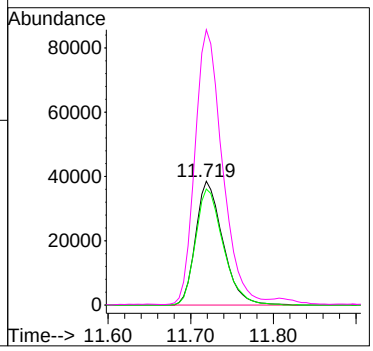


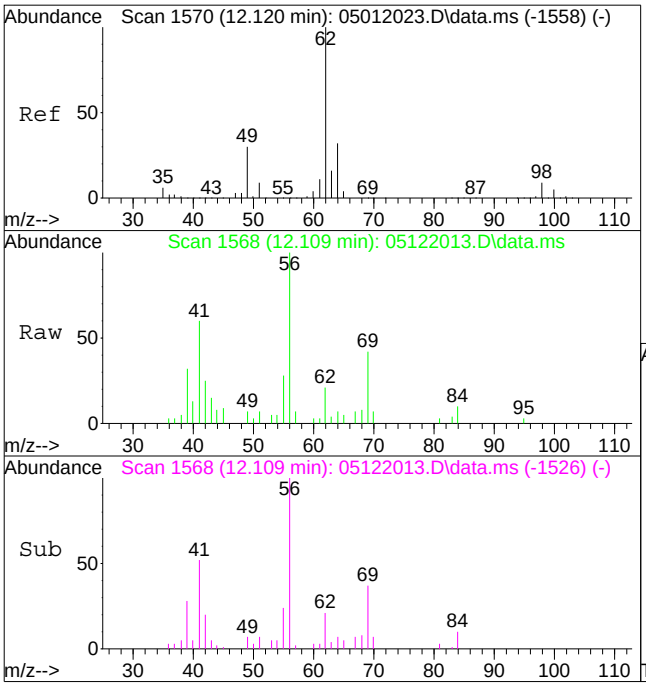


#34
Tetrahydrofuran (THF)
Concen: 4.38 ng
RT: 11.72 min Scan# 1497
Delta R.T. -0.006 min
Lab File: 05122013.D
Acq: 12 May 2020 8:42

Tgt Ion: 72 Resp: 87828

Ion	Ratio	Lower	Upper
72	100		
71	95.8	77.0	117.0
42	225.0	204.6	244.6

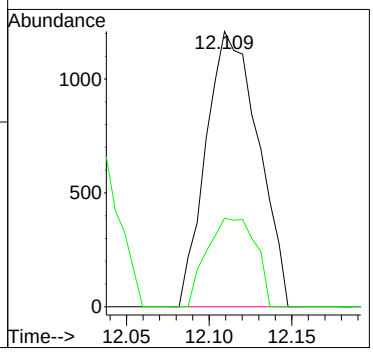


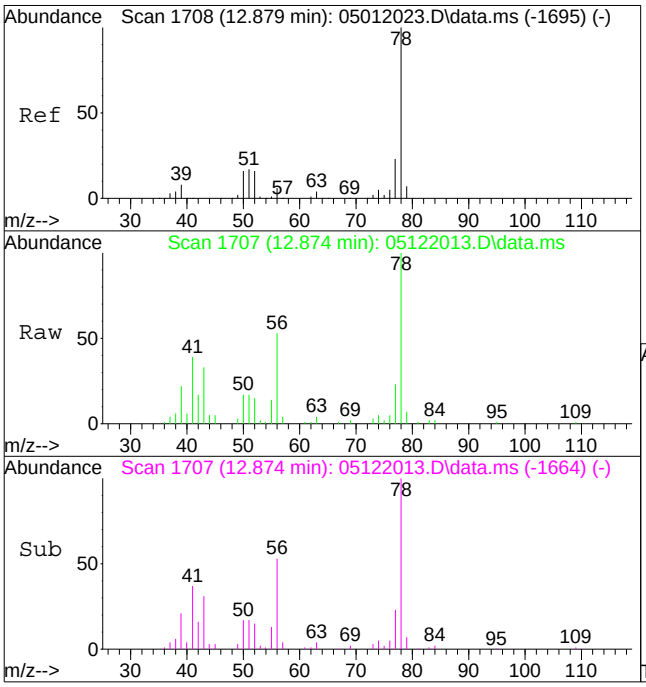


#36
1,2-Dichloroethane
Concen: 0.06 ng
RT: 12.11 min Scan# 1568
Delta R.T. -0.017 min
Lab File: 05122013.D
Acq: 12 May 2020 8:42

Tgt Ion: 62 Resp: 2656

Ion	Ratio	Lower	Upper
62	100		
64	30.0	12.4	52.4

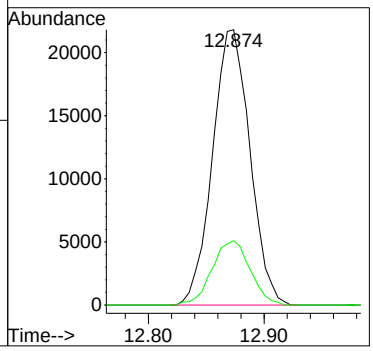


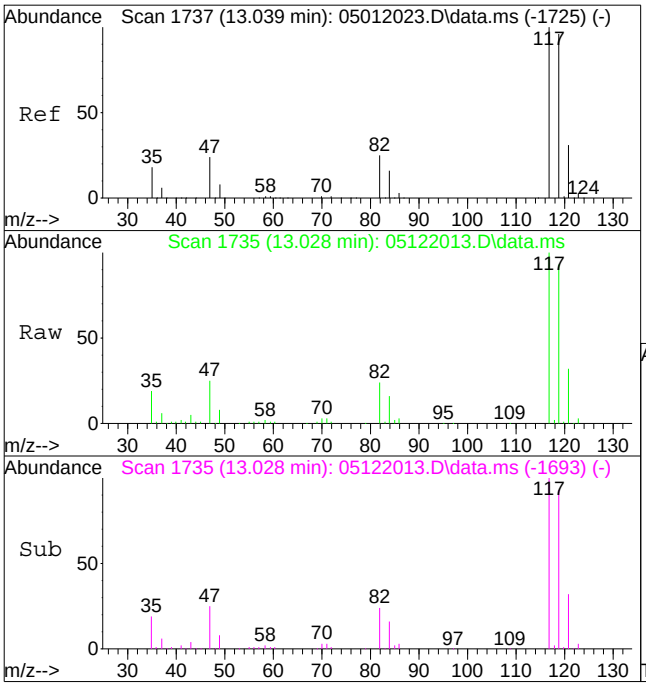


#41
Benzene
Concen: 0.40 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05122013.D
Acq: 12 May 2020 8:42

Tgt Ion: 78 Resp: 49029

Ion	Ratio	Lower	Upper
78	100		
77	23.7	3.4	43.4

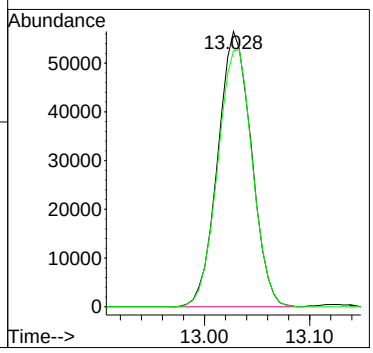


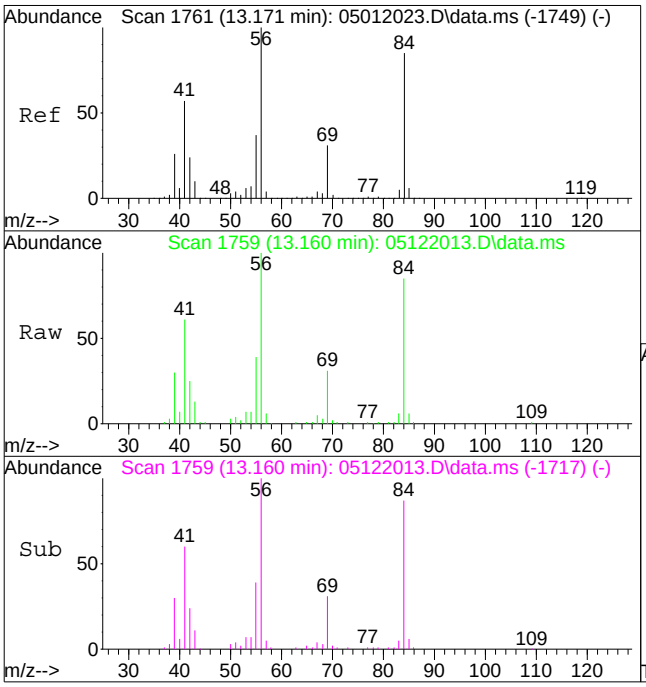


#42
Carbon Tetrachloride
Concen: 3.00 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05122013.D
Acq: 12 May 2020 8:42

Tgt Ion:117 Resp: 125384

Ion	Ratio	Lower	Upper
117	100		
119	96.7	76.2	116.2

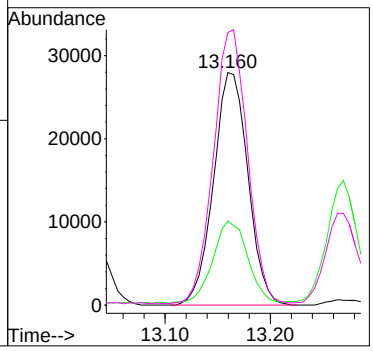


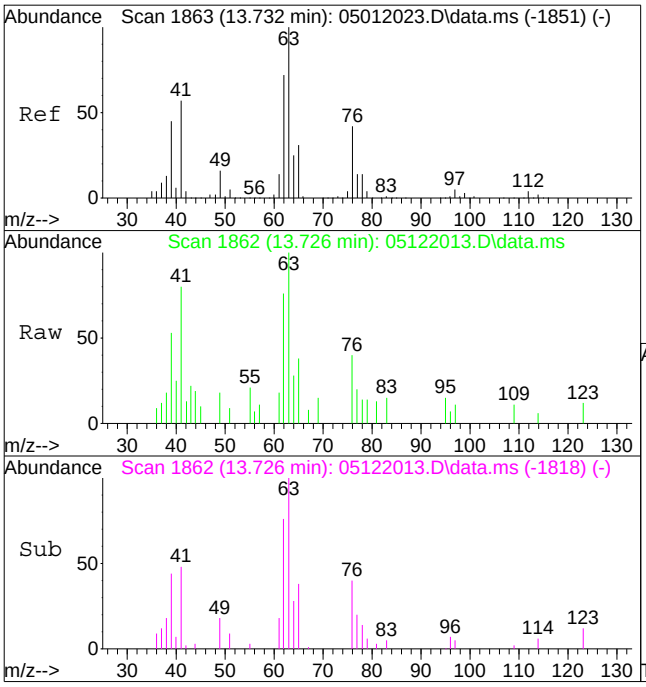


#43
Cyclohexane
Concen: 1.39 ng
RT: 13.16 min Scan# 1759
Delta R.T. -0.017 min
Lab File: 05122013.D
Acq: 12 May 2020 8:42

Tgt Ion: 84 Resp: 63654

Ion	Ratio	Lower	Upper
84	100		
69	36.0	16.5	56.5
56	116.4	97.4	137.4

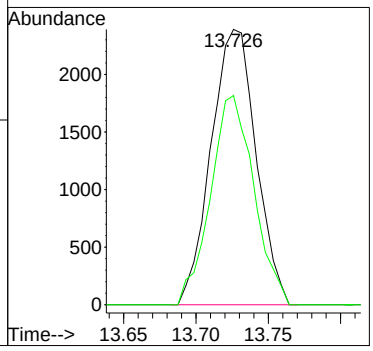


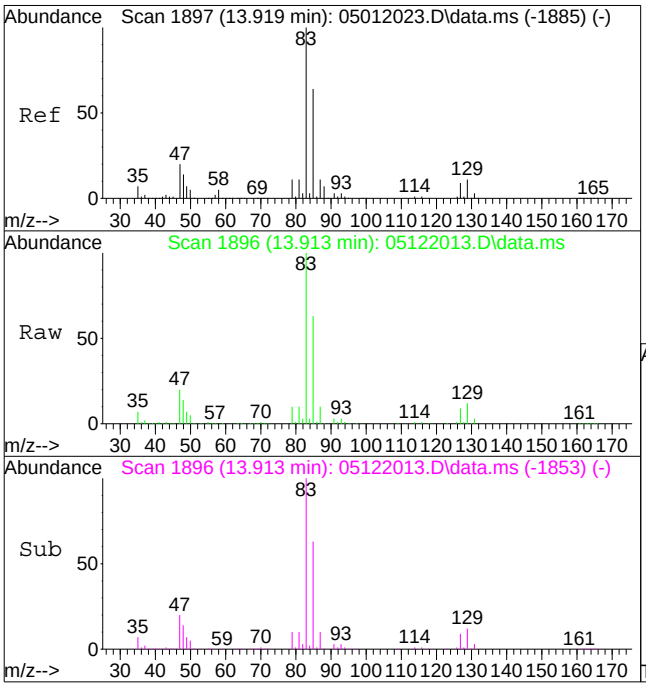


#45
1,2-Dichloropropane
Concen: 0.18 ng
RT: 13.73 min Scan# 1862
Delta R.T. -0.006 min
Lab File: 05122013.D
Acq: 12 May 2020 8:42

Tgt Ion: 63 Resp: 5186

Ion	Ratio	Lower	Upper
63	100		
62	73.0	52.4	92.4

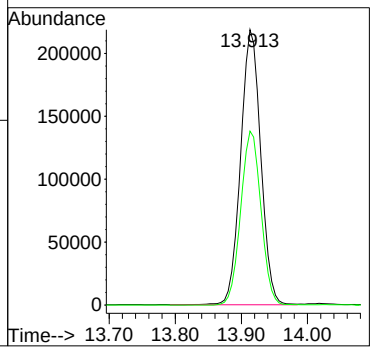


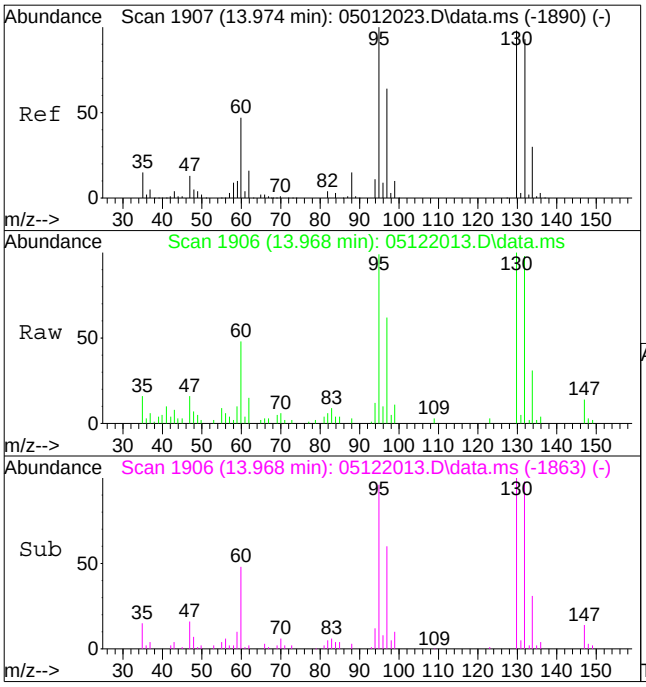


#46
Bromodichloromethane
Concen: 11.12 ng
RT: 13.91 min Scan# 1896
Delta R.T. -0.011 min
Lab File: 05122013.D
Acq: 12 May 2020 8:42

Tgt Ion: 83 Resp: 461600

Ion	Ratio	Lower	Upper
83	100		
85	63.6	44.4	84.4

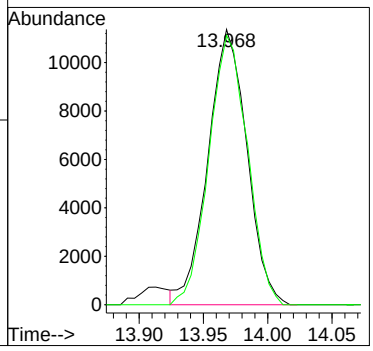


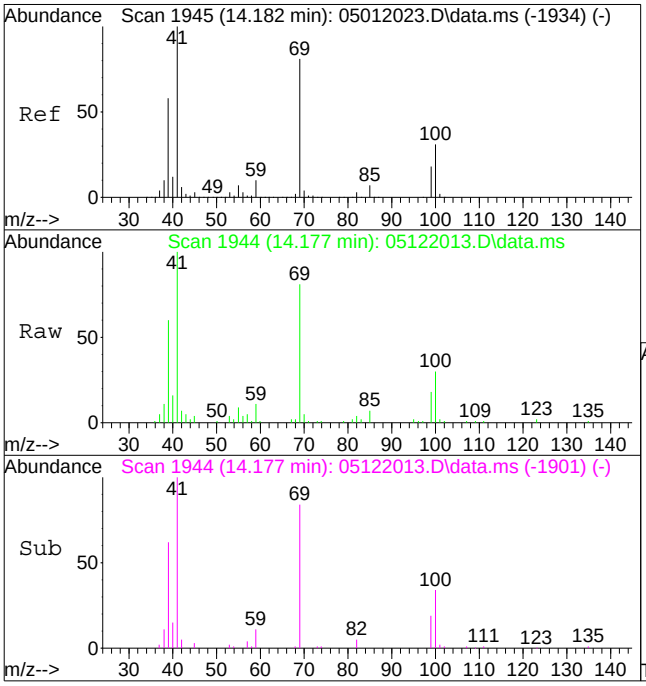


#47
Trichloroethene
Concen: 0.75 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05122013.D
Acq: 12 May 2020 8:42

Tgt Ion:130 Resp: 23953

Ion	Ratio	Lower	Upper
130	100		
132	97.2	74.9	114.9

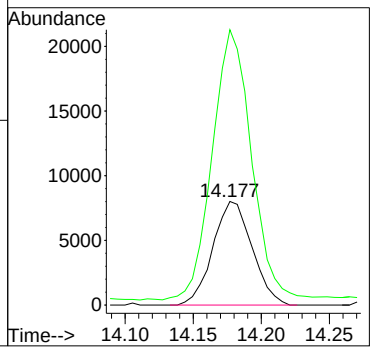


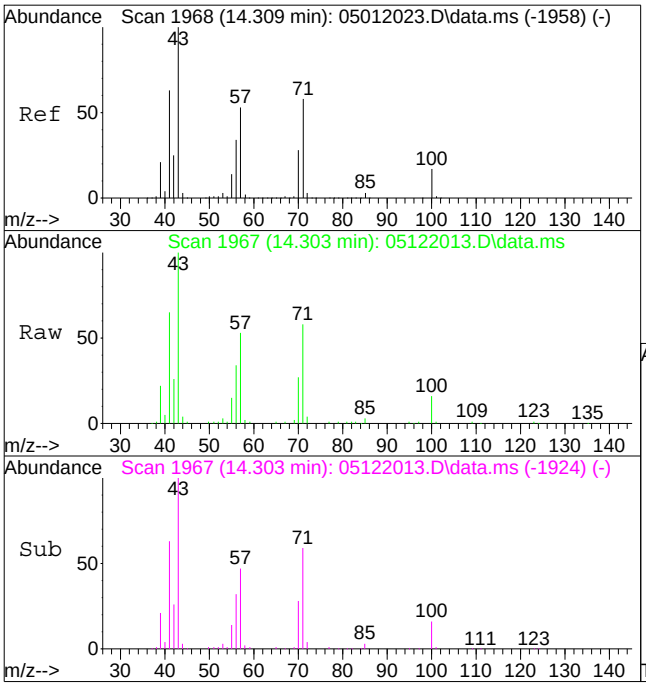


#50
Methyl Methacrylate
Concen: 1.31 ng
RT: 14.18 min Scan# 1944
Delta R.T. -0.011 min
Lab File: 05122013.D
Acq: 12 May 2020 8:42

Tgt Ion:100 Resp: 16019

Ion	Ratio	Lower	Upper
100	100		
69	263.4	241.8	281.8

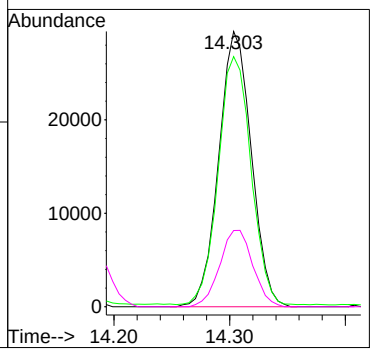


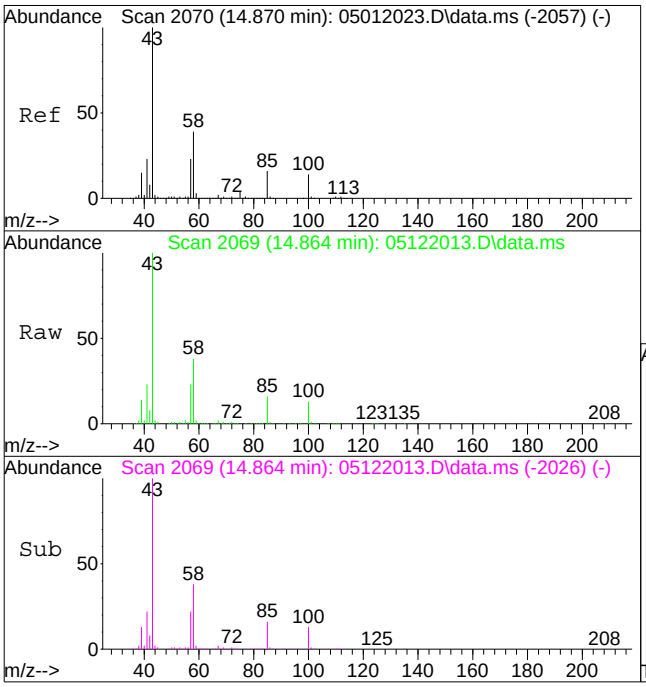


#51
n-Heptane
Concen: 2.01 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05122013.D
Acq: 12 May 2020 8:42

Tgt Ion: 71 Resp: 57735

Ion	Ratio	Lower	Upper
71	100		
57	90.6	71.0	111.0
100	28.1	8.4	48.4

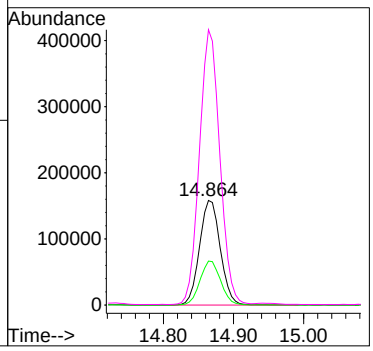


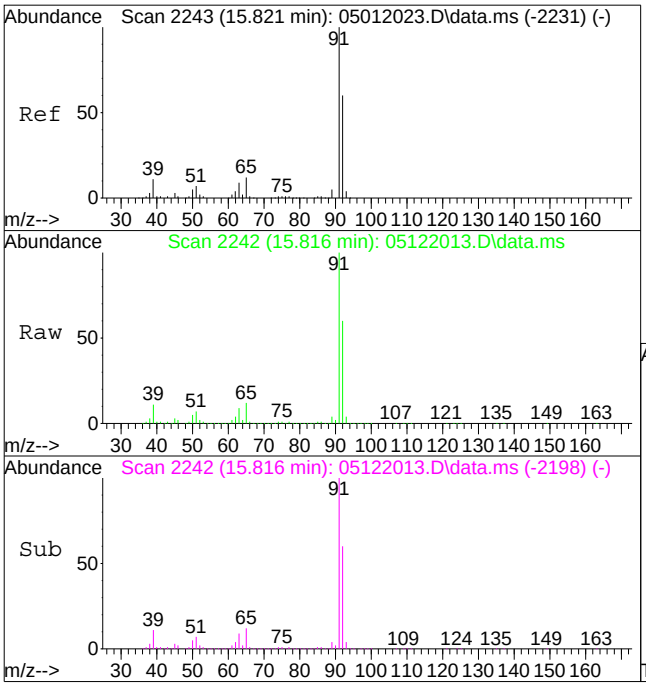


#53
4-Methyl-2-pentanone
Concen: 11.88 ng
RT: 14.86 min Scan# 2069
Delta R.T. -0.011 min
Lab File: 05122013.D
Acq: 12 May 2020 8:42

Tgt Ion: 58 Resp: 325433

Ion	Ratio	Lower	Upper
58	100		
85	41.9	35.4	53.2
43	258.0	203.3	304.9

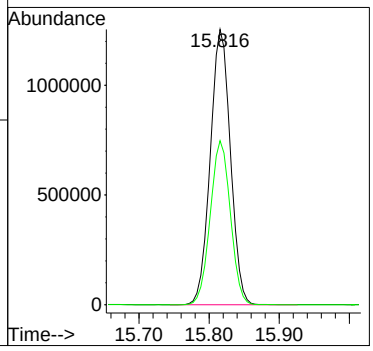


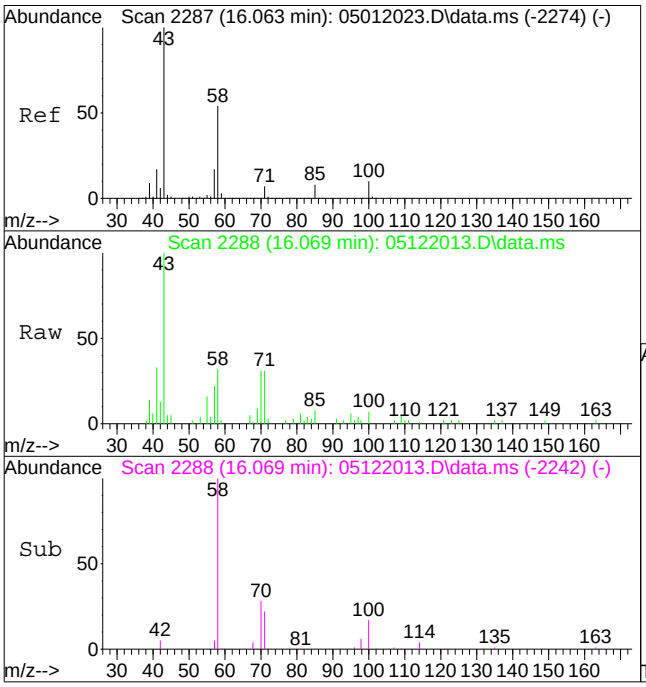


#58
Toluene
Concen: 21.31 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05122013.D
Acq: 12 May 2020 8:42

Tgt Ion: 91 Resp: 2496383

Ion	Ratio	Lower	Upper
91	100		
92	59.6	39.4	79.4

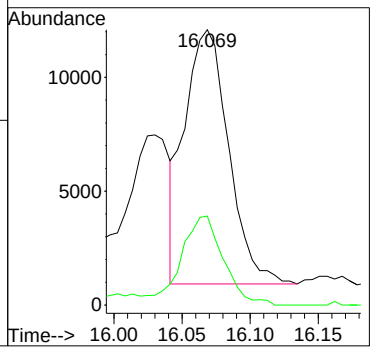


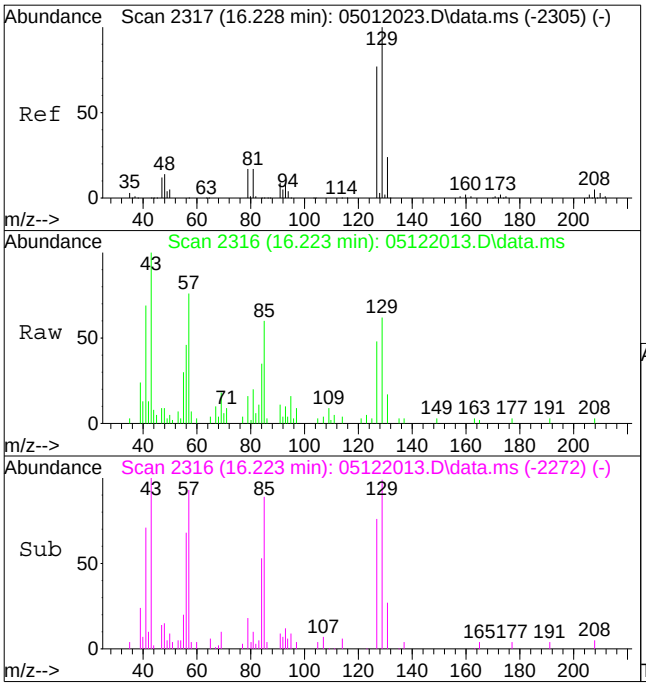


#59
2-Hexanone
Concen: 0.39 ng
RT: 16.07 min Scan# 2288
Delta R.T. 0.005 min
Lab File: 05122013.D
Acq: 12 May 2020 8:42

Tgt Ion: 43 Resp: 25122

Ion	Ratio	Lower	Upper
43	100		
58	33.5	34.5	74.5#

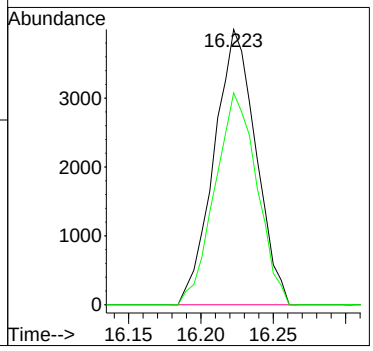


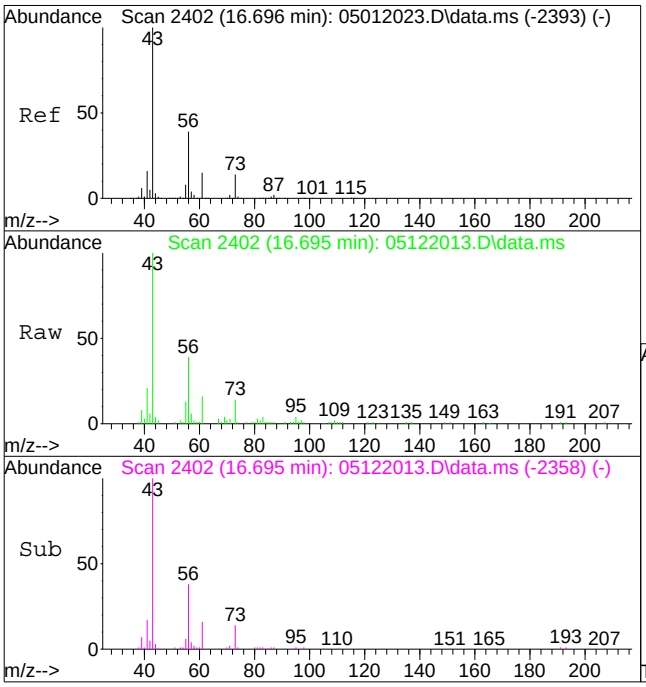


#60
Dibromochloromethane
Concen: 0.24 ng
RT: 16.22 min Scan# 2316
Delta R.T. -0.006 min
Lab File: 05122013.D
Acq: 12 May 2020 8:42

Tgt Ion:129 Resp: 8071

Ion	Ratio	Lower	Upper
129	100		
127	77.1	57.3	97.3

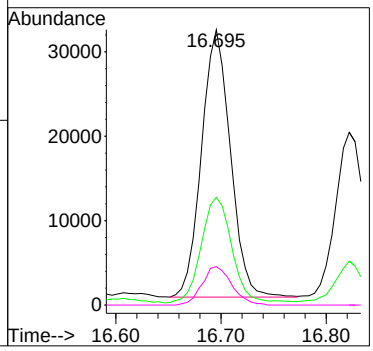


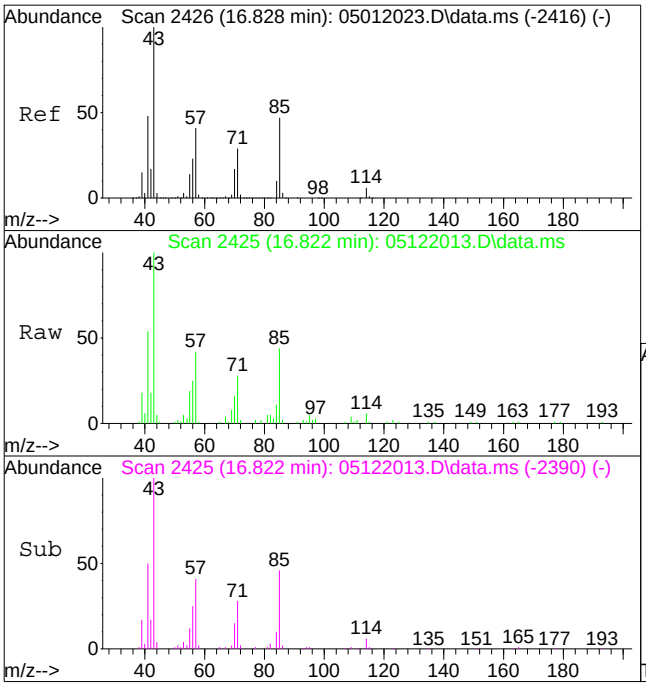


#62
n-Butyl Acetate
Concen: 0.87 ng
RT: 16.70 min Scan# 2402
Delta R.T. -0.006 min
Lab File: 05122013.D
Acq: 12 May 2020 8:42

Tgt Ion: 43 Resp: 60379

Ion	Ratio	Lower	Upper
43	100		
56	41.8	19.2	59.2
73	14.8	0.0	34.4

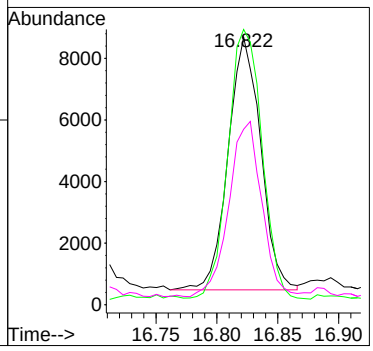


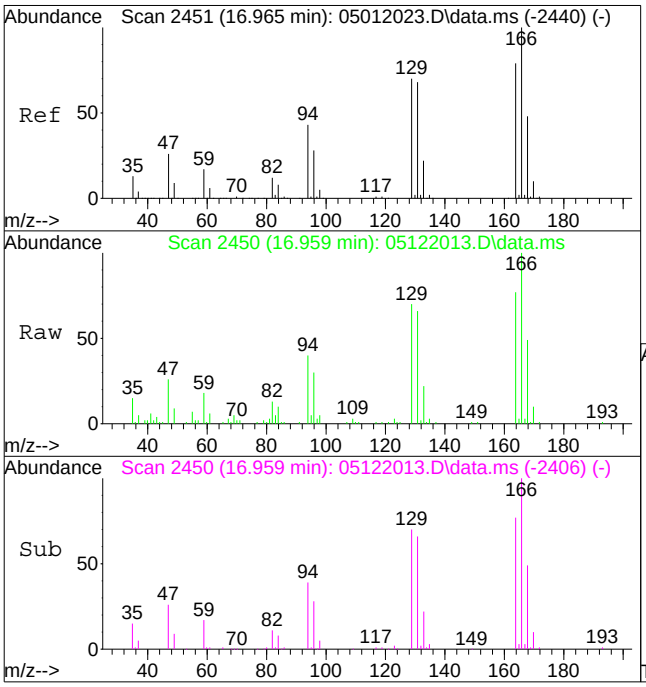


#63
n-Octane
Concen: 0.63 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05122013.D
Acq: 12 May 2020 8:42

Tgt Ion: 57 Resp: 15315

Ion	Ratio	Lower	Upper
57	100		
85	111.5	91.0	136.4
71	69.4	56.2	84.2

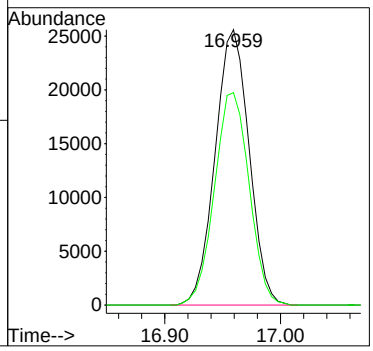


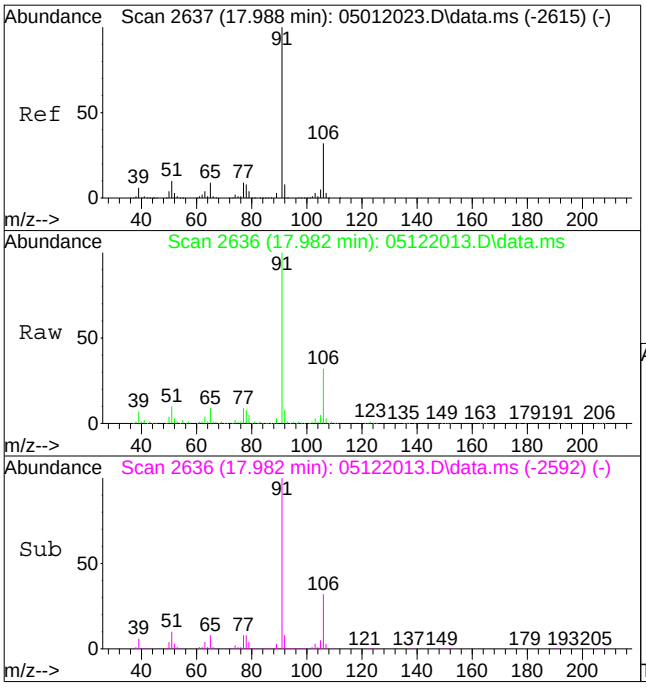


#64
Tetrachloroethene
Concen: 1.59 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05122013.D
Acq: 12 May 2020 8:42

Tgt Ion:166 Resp: 52450

Ion	Ratio	Lower	Upper
166	100		
164	78.7	58.4	98.4

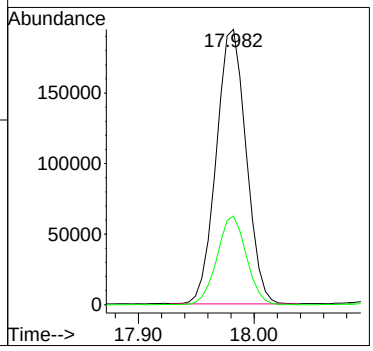


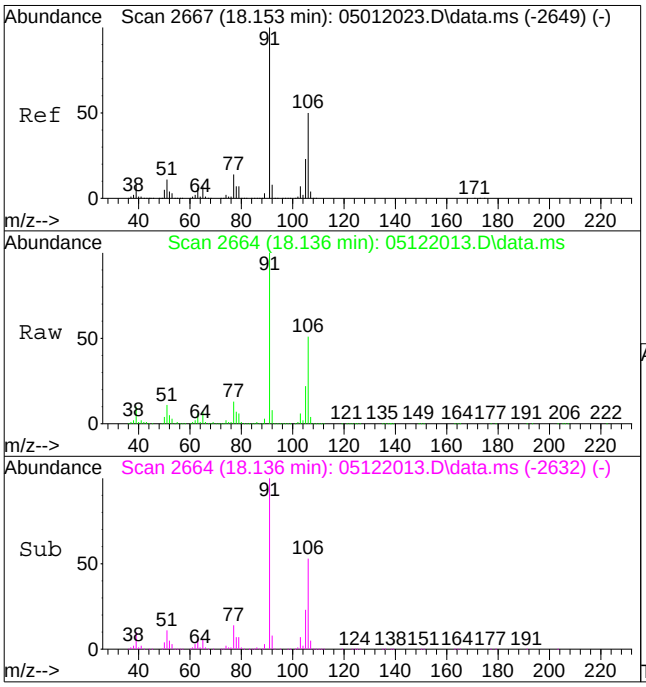


#66
Ethylbenzene
Concen: 2.68 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05122013.D
Acq: 12 May 2020 8:42

Tgt Ion: 91 Resp: 349712

Ion	Ratio	Lower	Upper
91	100		
106	31.8	11.6	51.6

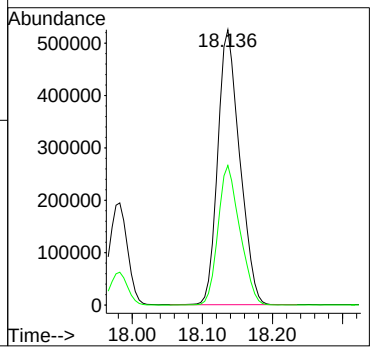


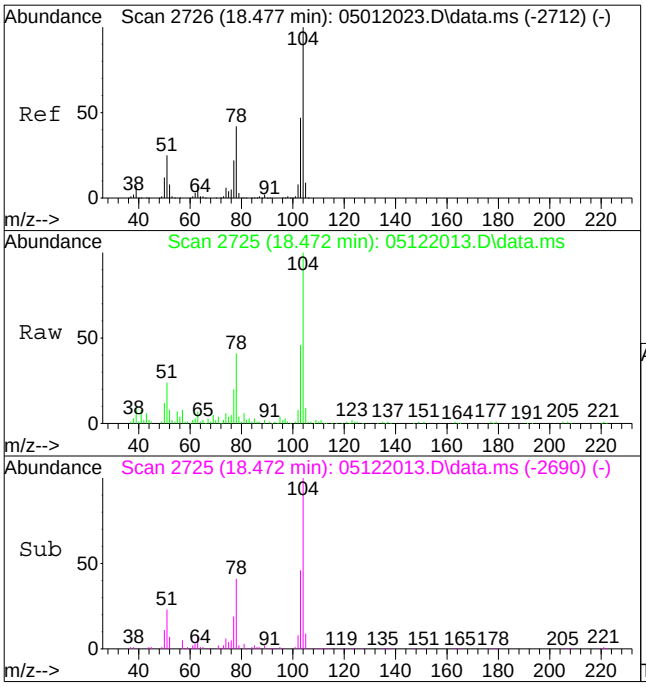


#67
m- & p-Xylenes
Concen: 10.99 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05122013.D
Acq: 12 May 2020 8:42

Tgt Ion: 91 Resp: 1139066

Ion	Ratio	Lower	Upper
91	100		
106	50.6	29.7	69.7

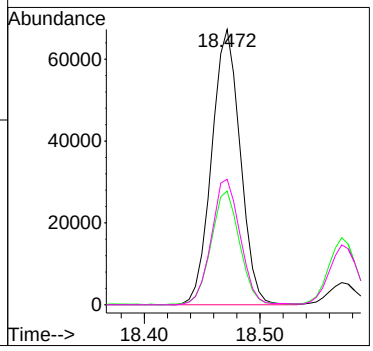


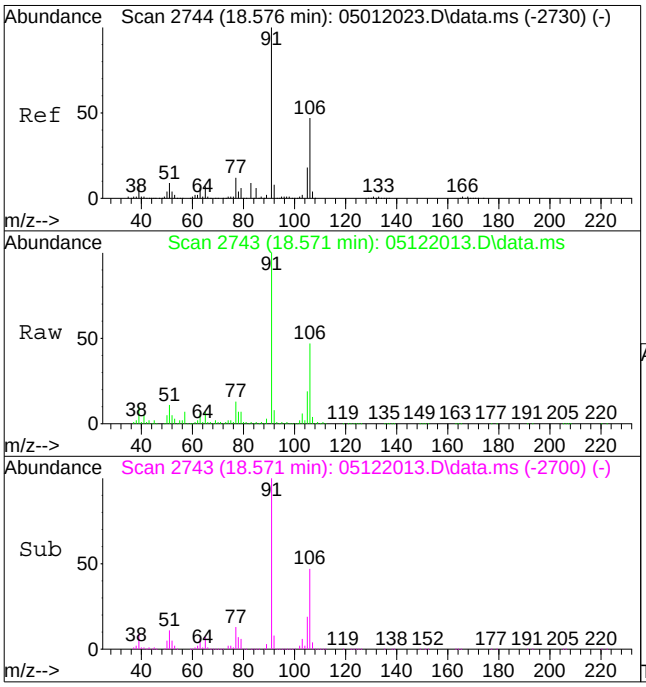


#69
Styrene
Concen: 1.48 ng
RT: 18.47 min Scan# 2725
Delta R.T. -0.006 min
Lab File: 05122013.D
Acq: 12 May 2020 8:42

Tgt Ion:104 Resp: 115264

Ion	Ratio	Lower	Upper
104	100		
78	41.7	22.5	62.5
103	46.1	27.0	67.0

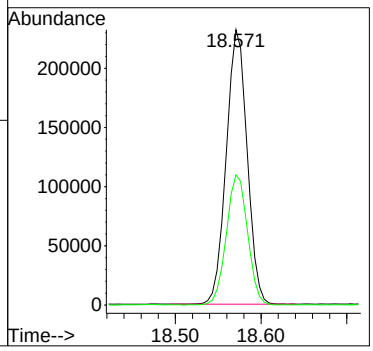


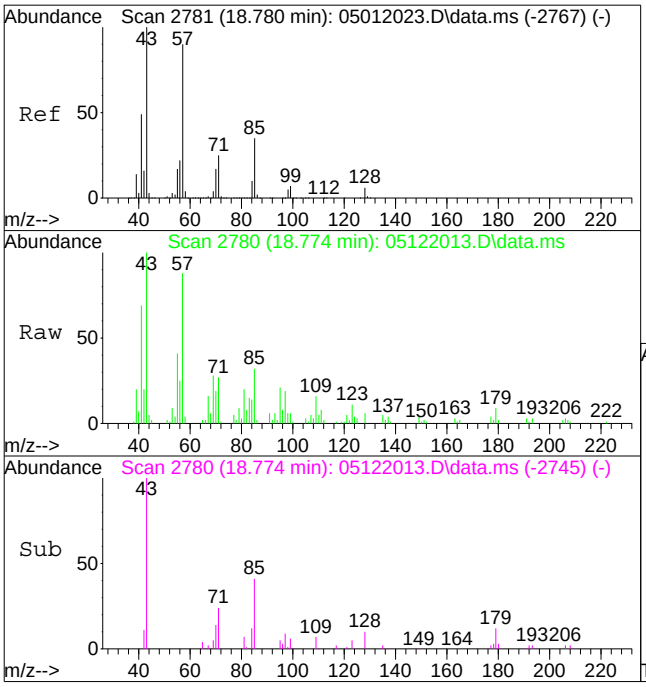


#70
o-Xylene
Concen: 3.73 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05122013.D
Acq: 12 May 2020 8:42

Tgt Ion: 91 Resp: 392504

Ion	Ratio	Lower	Upper
91	100		
106	48.3	27.5	67.5

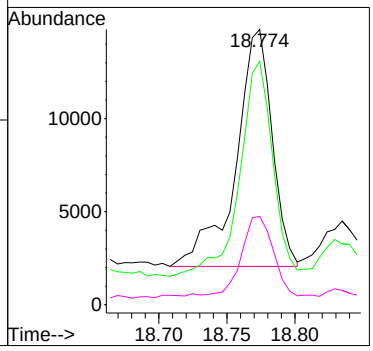


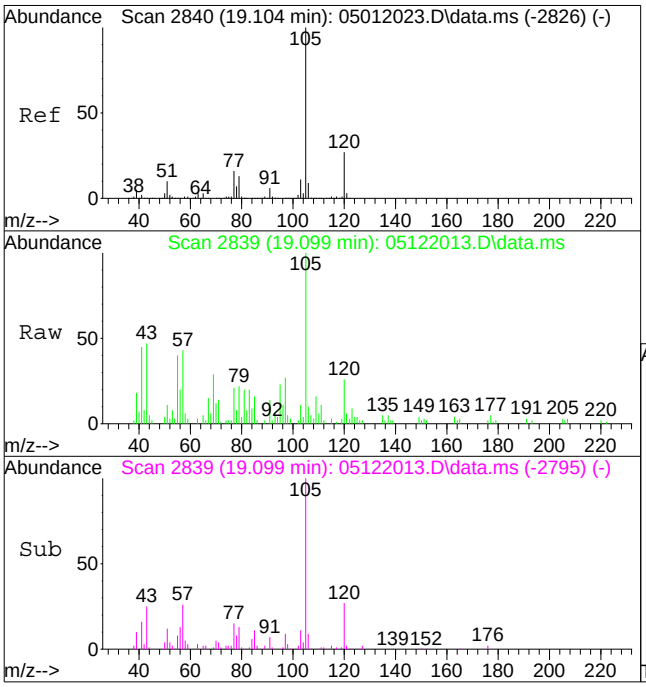


#71
n-Nonane
Concen: 0.43 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05122013.D
Acq: 12 May 2020 8:42

Tgt Ion: 43 Resp: 23769

Ion	Ratio	Lower	Upper
43	100		
57	82.4	69.0	109.0
85	29.1	14.6	54.6

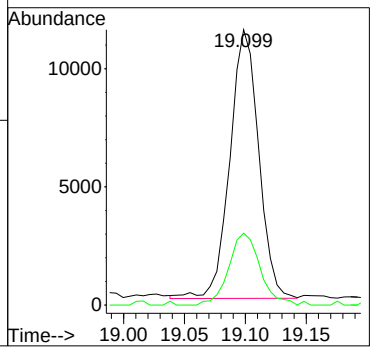


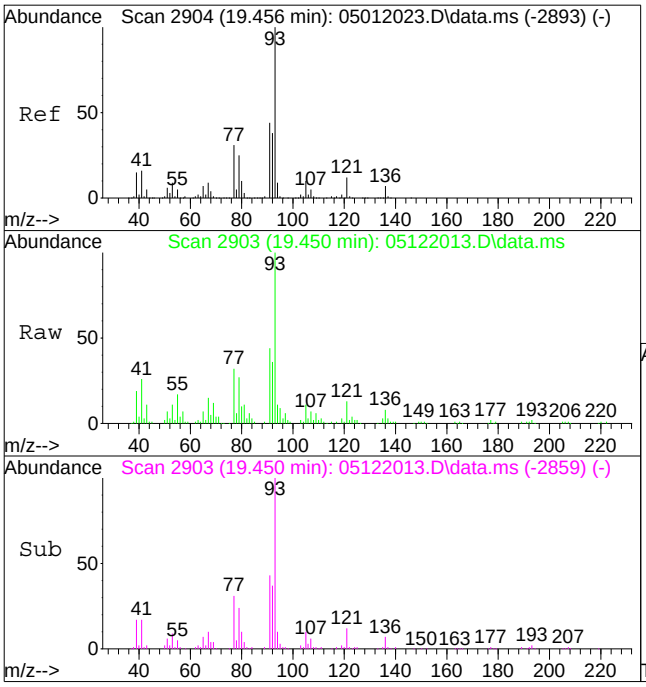


#74
Cumene
Concen: 0.14 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05122013.D
Acq: 12 May 2020 8:42

Tgt Ion:105 Resp: 18670

Ion	Ratio	Lower	Upper
105	100		
120	29.2	6.8	46.8

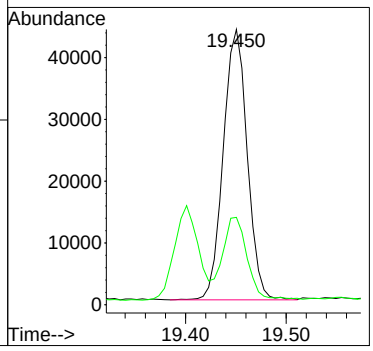


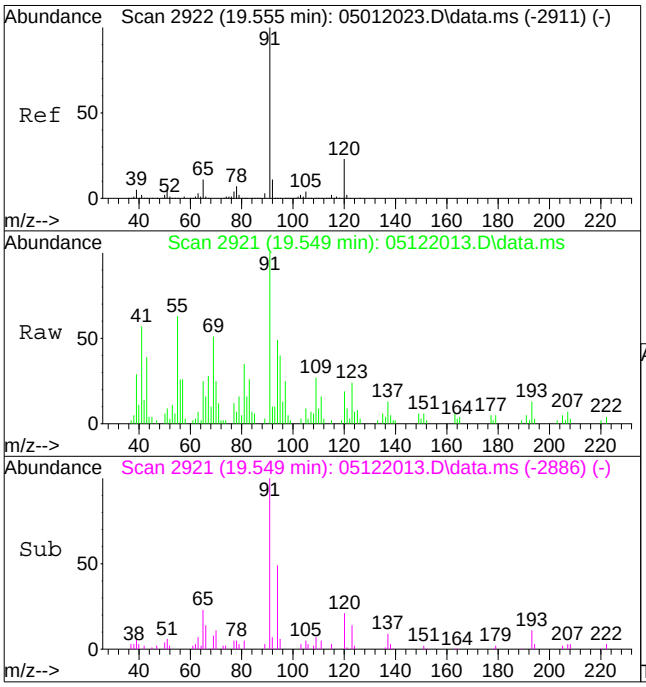


#75
alpha-Pinene
Concen: 1.05 ng
RT: 19.45 min Scan# 2903
Delta R.T. -0.006 min
Lab File: 05122013.D
Acq: 12 May 2020 8:42

Tgt Ion: 93 Resp: 72410

Ion	Ratio	Lower	Upper
93	100		
77	31.3	11.2	51.2

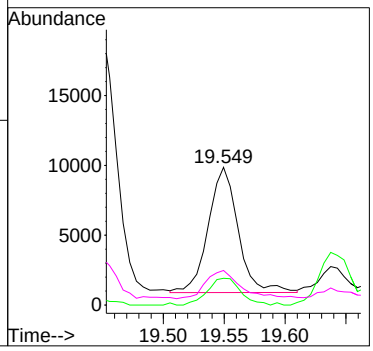


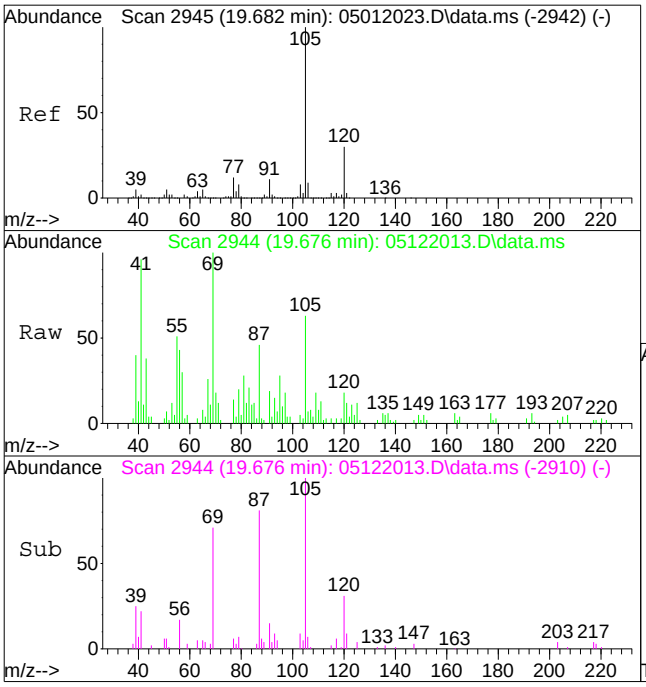


#76
n-Propylbenzene
Concen: 0.10 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05122013.D
Acq: 12 May 2020 8:42

Tgt Ion: 91 Resp: 15340

Ion	Ratio	Lower	Upper
91	100		
120	23.7	3.1	43.1
65	30.2	0.0	30.9

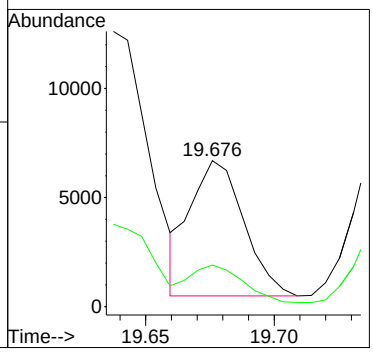


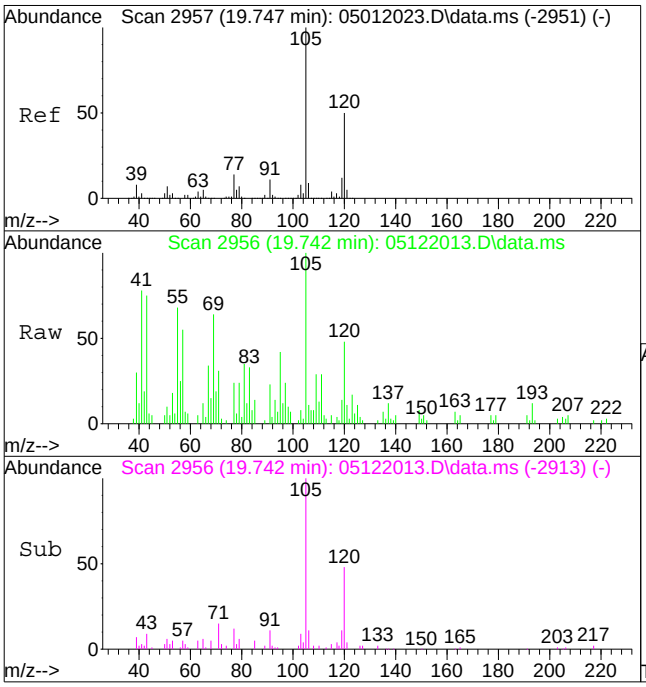


#78
4-Ethyltoluene
Concen: 0.07 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05122013.D
Acq: 12 May 2020 8:42

Tgt Ion:105 Resp: 8995

Ion	Ratio	Lower	Upper
105	100		
120	30.6	10.4	50.4

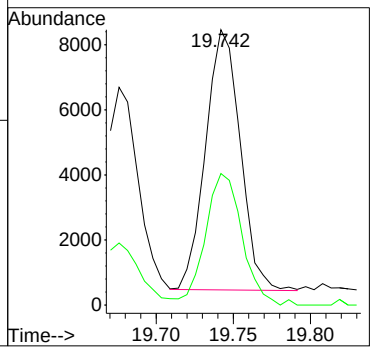


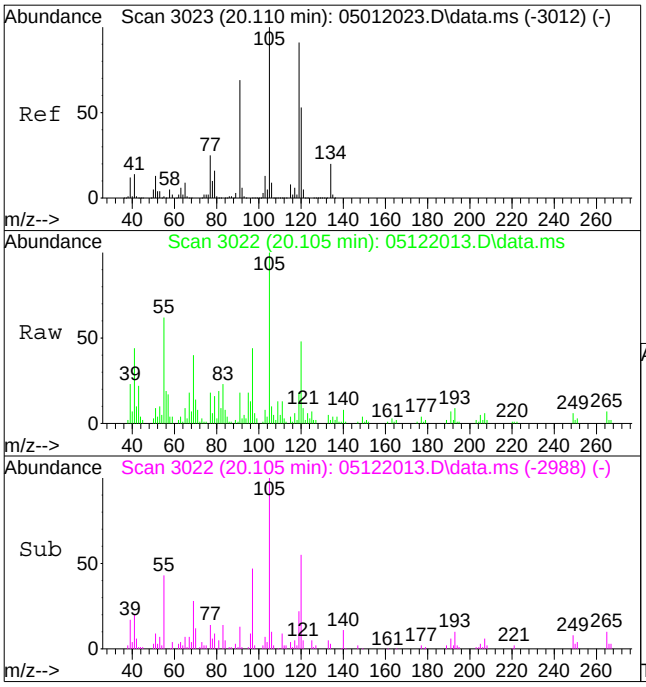


#79
1,3,5-Trimethylbenzene
Concen: 0.12 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05122013.D
Acq: 12 May 2020 8:42

Tgt Ion:105 Resp: 12519

Ion	Ratio	Lower	Upper
105	100		
120	53.1	29.9	69.9

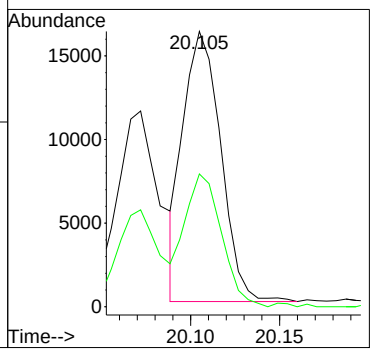


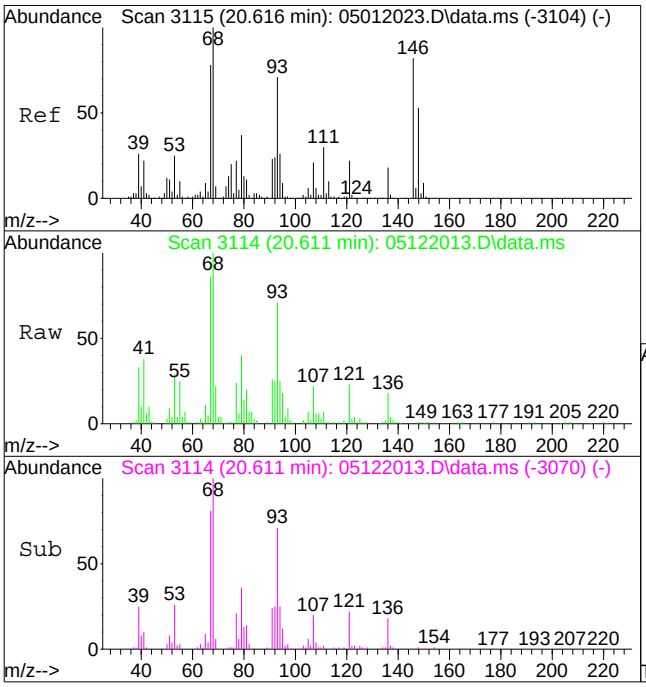


#82
1,2,4-Trimethylbenzene
Concen: 0.22 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05122013.D
Acq: 12 May 2020 8:42

Tgt Ion:105 Resp: 23777

Ion	Ratio	Lower	Upper
105	100		
120	48.4	33.6	73.6

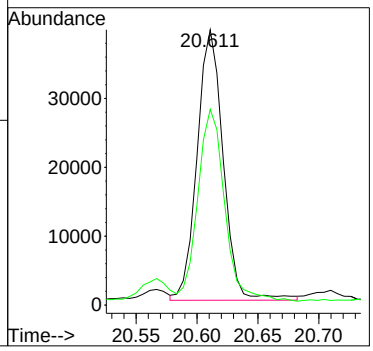


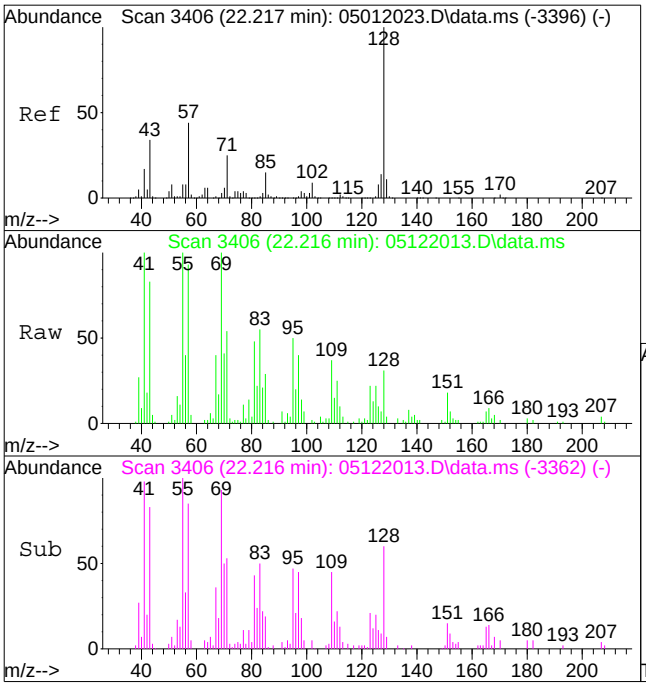


#91
d-Limonene
Concen: 1.40 ng
RT: 20.61 min Scan# 3114
Delta R.T. -0.006 min
Lab File: 05122013.D
Acq: 12 May 2020 8:42

Tgt Ion: 68 Resp: 58525

Ion	Ratio	Lower	Upper
68	100		
93	72.8	51.1	91.1

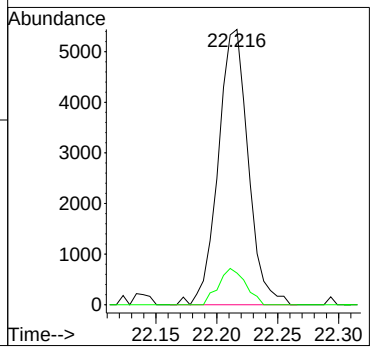




#95
Naphthalene
Concen: 0.07 ng
RT: 22.22 min Scan# 3406
Delta R.T. -0.006 min
Lab File: 05122013.D
Acq: 12 May 2020 8:42

Tgt Ion:128 Resp: 9292

Ion	Ratio	Lower	Upper
128	100		
129	11.9	0.0	31.0



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122026.D Vial: 4
Acq On : 12 May 2020 16:34 Operator: WA
Sample : P2002300-009Dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 17:01:13 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/13/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	288803	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1252777	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	573574	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	465903	11.904	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.20%				
57) Toluene-d8 (SS2)	15.72	98	1219472	12.543	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.32%				
73) Bromofluorobenzene (SS3)	18.97	174	458490	13.106	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.88%				
Target Compounds							Qvalue
2) Propene	4.12	42	4857	0.145	ng	#	84
3) Dichlorodifluoromethan...	4.28	85	2710	N.D.			
4) Chloromethane	4.55	50	682	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.33	45	181324	7.020	ng		100
11) Acetonitrile	6.61	41	1279	N.D.			
12) Acrolein	6.81	56	853	N.D.			
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	7.24	101	1071	N.D.			
15) 2-Propanol (Isopropanol)	7.48	45	1671682	21.383	ng		99
16) Acrylonitrile	7.84	53	318	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	3917	0.117	ng		97
20) 3-Chloro-1-propene (Al...	8.46	41	366	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.68	76	6261	0.052	ng		90
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.47	72	4143	0.188	ng	#	81
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.27	61	27578	2.171	ng		91
31) n-Hexane	11.25	57	3479	0.063	ng	#	13
32) Chloroform	11.30	83	445538	7.750	ng		99
34) Tetrahydrofuran (THF)	11.74	72	7174	0.334	ng		94
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	11.99	62	139	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	4516	N.D.			
42) Carbon Tetrachloride	13.02	117	9652	0.211	ng		100
43) Cyclohexane	13.16	84	5004	0.100	ng		97
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	13.73	63	397	N.D.			
46) Bromodichloromethane	13.91	83	35675	0.786	ng		97
47) Trichloroethene	13.97	130	2142	0.062	ng		94
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.04	57	3208	N.D.			
50) Methyl Methacrylate	14.18	100	1185	0.089	ng		97

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122026.D Vial: 4
Acq On : 12 May 2020 16:34 Operator: WA
Sample : P2002300-009Dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 17:01:13 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

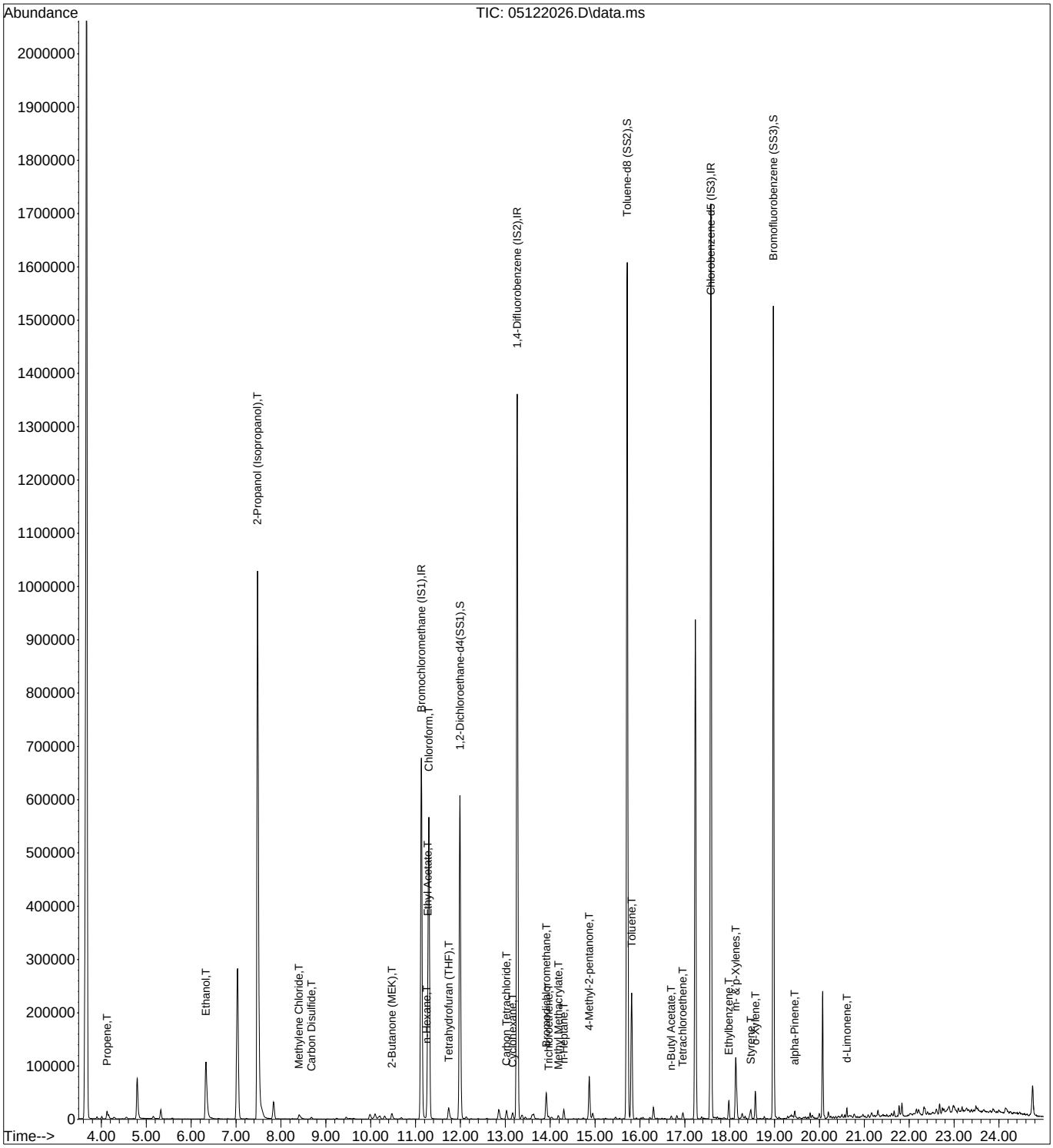
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.30	71	4587	0.146 ng	100
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.87	58	24574	0.821 ng	95
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.82	91	199734	1.594 ng	99
59) 2-Hexanone	16.07	43	2110	N.D.	
60) Dibromochloromethane	16.22	129	505	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.70	43	5022	0.068 ng	96
63) n-Octane	16.82	57	1167	N.D.	
64) Tetrachloroethene	16.95	166	4240	0.120 ng	99
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	17.98	91	27712	0.198 ng	99
67) m- & p-Xylenes	18.14	91	87887	0.793 ng	98
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	8494	0.102 ng	97
70) o-Xylene	18.57	91	30624	0.272 ng	100
71) n-Nonane	18.77	43	2303	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.10	105	1430	N.D.	
75) alpha-Pinene	19.45	93	5248	0.071 ng	97
76) n-Propylbenzene	19.56	91	1976	N.D.	
77) 3-Ethyltoluene	19.64	105	1515	N.D.	
78) 4-Ethyltoluene	19.68	105	797	N.D.	
79) 1,3,5-Trimethylbenzene	19.74	105	995	N.D.	
80) alpha-Methylstyrene	19.88	118	720	N.D.	
81) 2-Ethyltoluene	19.91	105	583	N.D.	
82) 1,2,4-Trimethylbenzene	20.10	105	2023	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.10	91	228	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	20.35	105	102	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	809	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	498	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.61	68	3902	0.087 ng	95
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.30	57	1510	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.22	128	1191	N.D.	
96) n-Dodecane	22.21	57	1865	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.07	119	4538	N.D.	
100) n-Butylbenzene	20.84	91	365	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122026.D Vial: 4
Acq On : 12 May 2020 16:34 Operator: WA
Sample : P2002300-009Dil (40mL) Inst : GCMS-16
Misc : S31-02112001

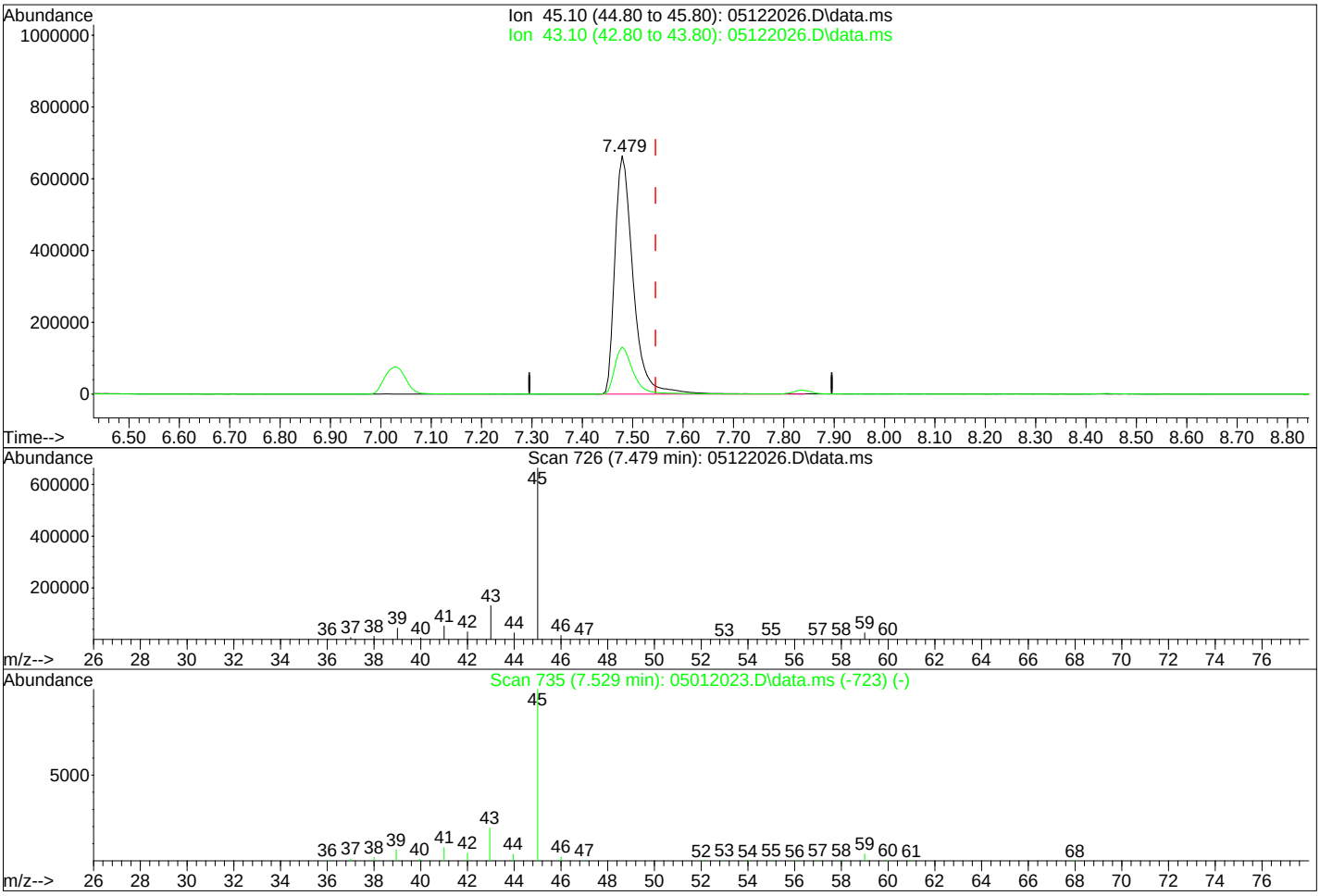
Quant Time: May 13 17:01:13 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\12\05122026.D Vial: 4
Acq On : 12 May 2020 16:34 Operator: WA
Sample : P2002300-009Dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 05:59:26 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05122026.D\data.ms

(15) 2-Propanol (Isopropanol) (T)

7.479min (-0.066) 21.38ng

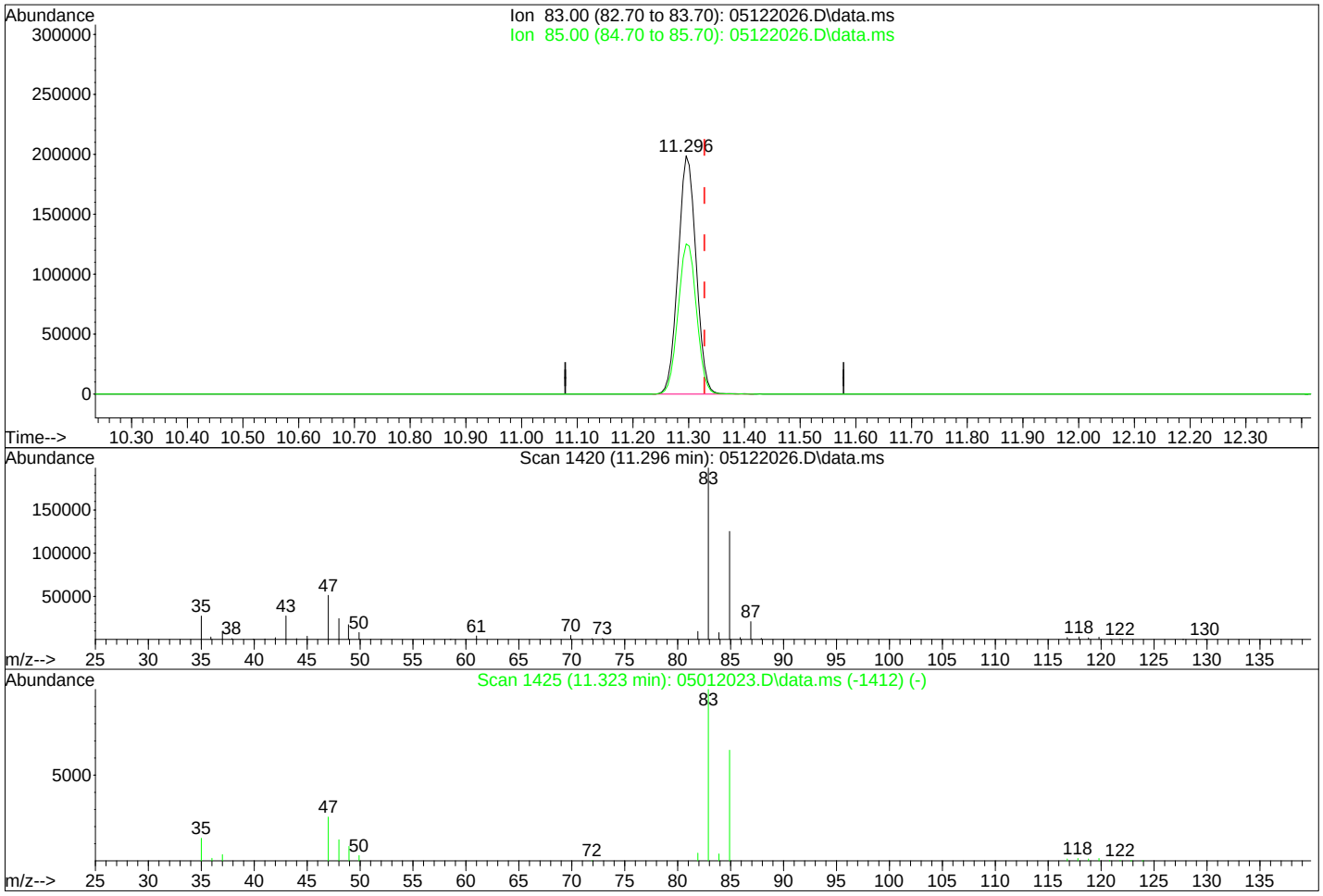
response 1671682

Ion	Exp%	Act%
45.10	100	100
43.10	19.50	19.90
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\12\05122026.D Vial: 4
Acq On : 12 May 2020 16:34 Operator: WA
Sample : P2002300-009Dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 05:59:26 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05122026.D\data.ms

(32) Chloroform (T)

11.296min (-0.033) 7.75ng

response 445538

Ion	Exp%	Act%
83.00	100	100
85.00	65.50	64.54
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122014.D Vial: 4
Acq On : 12 May 2020 9:16 Operator: LH
Sample : P2002300-010 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:30:21 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/13/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	264553	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1146425	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	521347	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	422102	11.773	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.16%				
57) Toluene-d8 (SS2)	15.72	98	1115768	12.626	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.04%				
73) Bromofluorobenzene (SS3)	18.97	174	424222	13.342	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.72%				
Target Compounds							Qvalue
2) Propene	4.12	42	10680	0.349	ng		95
3) Dichlorodifluoromethan...	4.28	85	10696	0.178	ng		99
4) Chloromethane	4.55	50	4644	0.099	ng		97
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	4.96	62	294	N.D.			
7) 1,3-Butadiene	5.22	54	434	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.34	45	71596	3.026	ng		99
11) Acetonitrile	6.60	41	1939	N.D.			
12) Acrolein	6.79	56	4429	0.237	ng		99
13) Acetone	7.00	58	38355	1.621	ng		99
14) Trichlorofluoromethane	7.25	101	15922	0.301	ng		100
15) 2-Propanol (Isopropanol)	7.51	45	57848	0.808	ng		93
16) Acrylonitrile	7.75	53	186	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.44	59	3003	N.D.			
19) Methylene Chloride	8.40	84	345	N.D.			
20) 3-Chloro-1-propene (Al...	8.51	41	287	N.D.			
21) Trichlorotrifluoroethane	8.84	151	1028	N.D.			
22) Carbon Disulfide	8.68	76	141377	1.283	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.09	73	610	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.47	72	11664	0.578	ng	#	87
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	11.26	57	8828	0.175	ng		99
32) Chloroform	11.31	83	193418	3.673	ng		99
34) Tetrahydrofuran (THF)	11.71	72	362946	18.442	ng		99
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	11.99	62	187	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	31128	0.253	ng		99
42) Carbon Tetrachloride	13.03	117	100759	2.409	ng		99
43) Cyclohexane	13.17	84	3805	0.083	ng		95
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	13.91	83	7146	0.172	ng		86
47) Trichloroethene	13.97	130	656	N.D.			
48) 1,4-Dioxane	13.96	88	10536	0.426	ng		99
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122014.D Vial: 4
Acq On : 12 May 2020 9:16 Operator: LH
Sample : P2002300-010 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:30:21 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

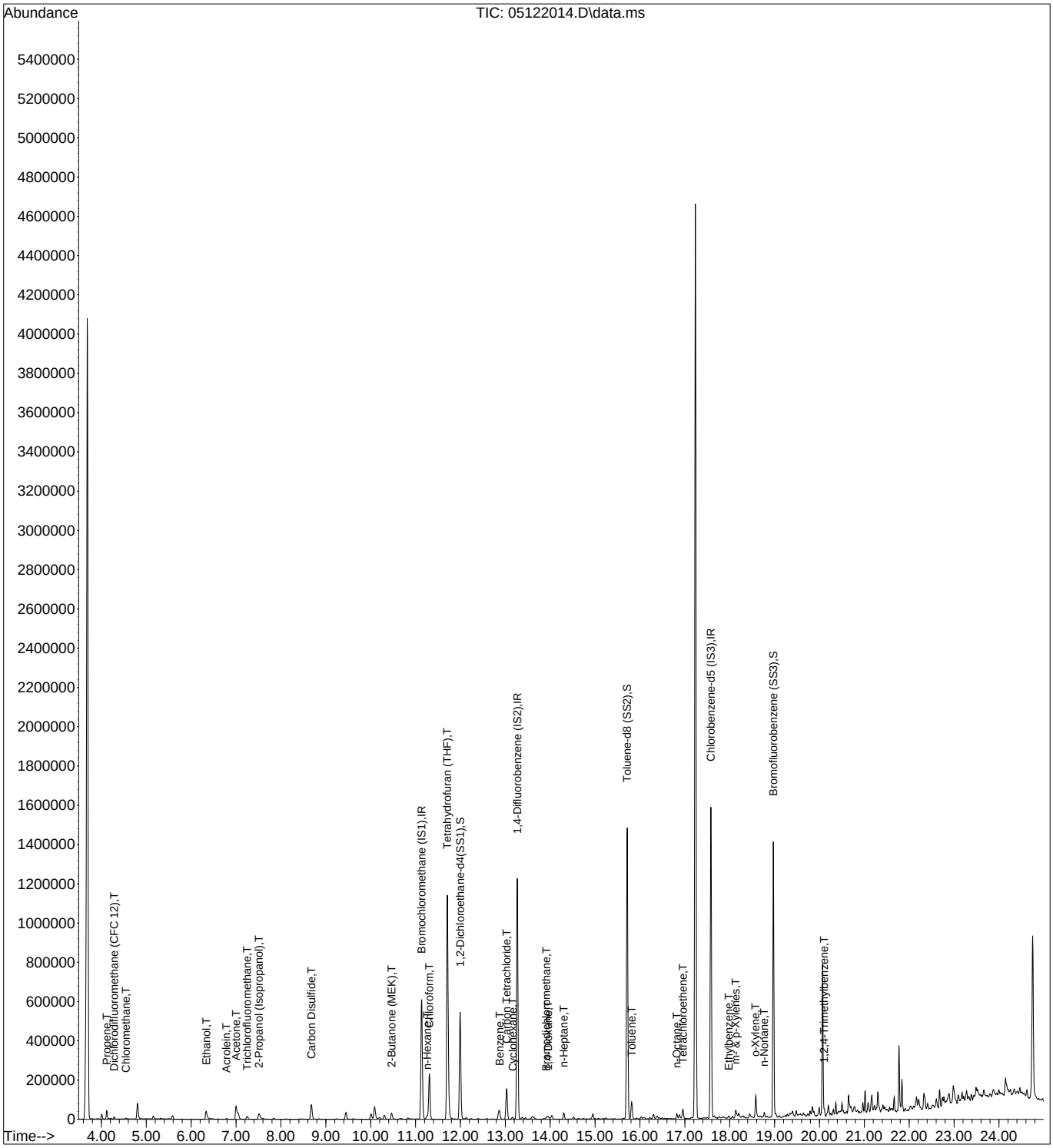
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.30	71	8102	0.282	ng	100
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.88	58	530	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.82	91	70315	0.617	ng	97
59) 2-Hexanone	0.00	43	0	N.D.	d	
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.70	43	725	N.D.		
63) n-Octane	16.82	57	5187	0.220	ng	95
64) Tetrachloroethene	16.96	166	16355	0.508	ng	98
65) Chlorobenzene	17.66	112	1129	N.D.		
66) Ethylbenzene	17.98	91	7587	0.060	ng	99
67) m- & p-Xylenes	18.14	91	29322	0.291	ng	98
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.48	104	1593	N.D.		
70) o-Xylene	18.57	91	10935	0.107	ng	95
71) n-Nonane	18.77	43	9386	0.173	ng	93
72) 1,1,2,2-Tetrachloroethane	18.59	83	195	N.D.		
74) Cumene	19.10	105	1497	N.D.		
75) alpha-Pinene	19.46	93	293	N.D.		
76) n-Propylbenzene	19.55	91	4035	N.D.		
77) 3-Ethyltoluene	19.64	105	5981	N.D.		
78) 4-Ethyltoluene	19.68	105	2224	N.D.		
79) 1,3,5-Trimethylbenzene	19.74	105	4712	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.	d	
81) 2-Ethyltoluene	19.91	105	2558	N.D.		
82) 1,2,4-Trimethylbenzene	20.10	105	8490	0.083	ng	94
83) n-Decane	0.00	57	0	N.D.	d	
84) Benzyl Chloride	20.20	91	715	N.D.		
85) 1,3-Dichlorobenzene	20.24	146	320	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	558	N.D.		
87) sec-Butylbenzene	20.35	105	1651	N.D.		
88) 4-Isopropyltoluene (p-...	20.48	119	1840	N.D.		
89) 1,2,3-Trimethylbenzene	20.48	105	3297	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.62	68	1084	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	22.11	180	451	N.D.		
95) Naphthalene	22.22	128	4264	N.D.		
96) n-Dodecane	0.00	57	0	N.D.	d	
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	0.00	119	0	N.D.	d	
100) n-Butylbenzene	20.85	91	1704	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122014.D Vial: 4
Acq On : 12 May 2020 9:16 Operator: LH
Sample : P2002300-010 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:30:21 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122014.D Vial: 4
Acq On : 12 May 2020 9:16 Operator: LH
Sample : P2002300-010 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:30:21 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/13/20

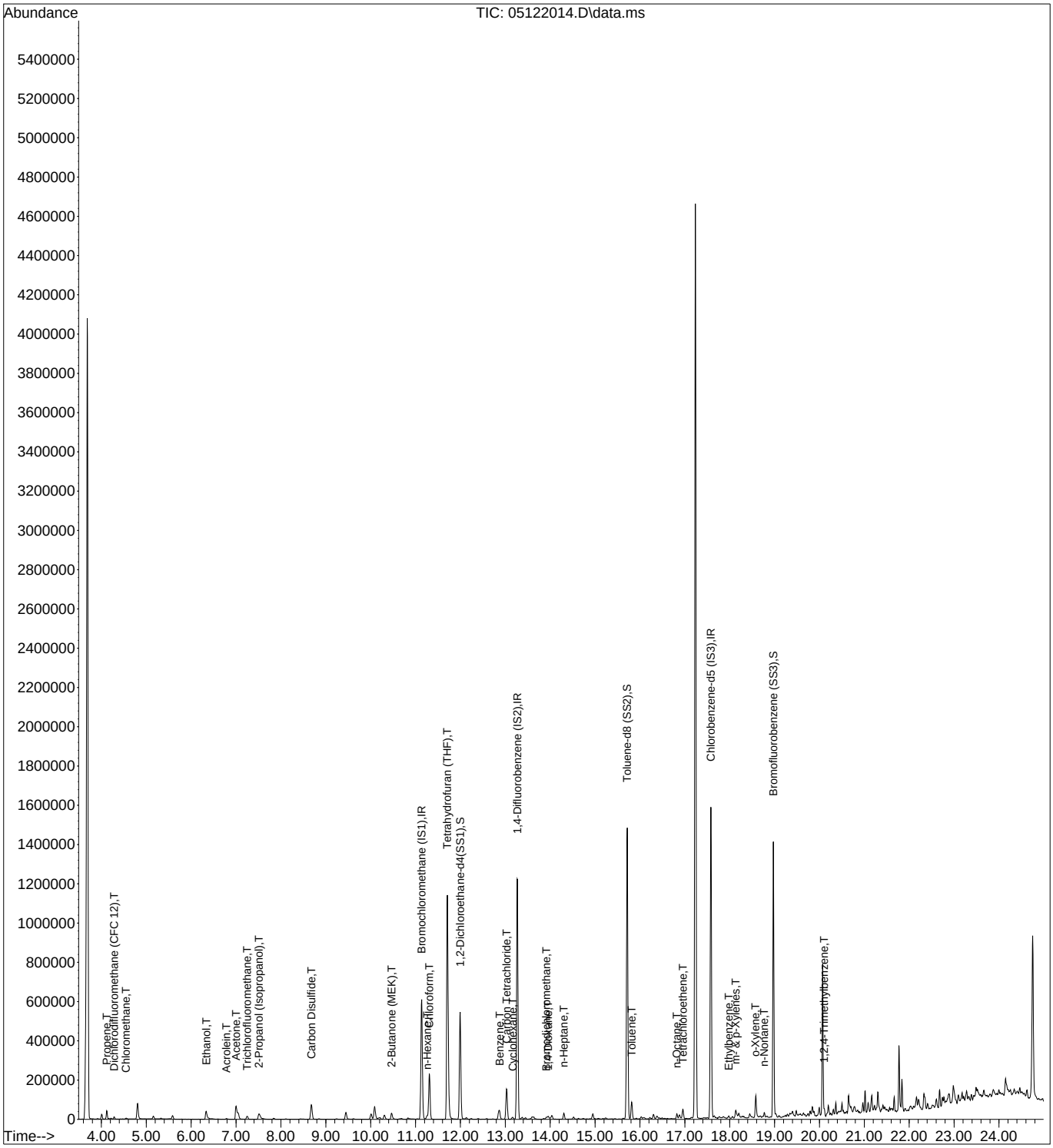
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	264553	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1146425	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	521347	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	422102	11.773	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.16%				
57) Toluene-d8 (SS2)	15.72	98	1115768	12.626	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.04%				
73) Bromofluorobenzene (SS3)	18.97	174	424222	13.342	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.72%				
Target Compounds							Qvalue
2) Propene	4.12	42	10680	0.349	ng		95
3) Dichlorodifluoromethan...	4.28	85	10696	0.178	ng		99
4) Chloromethane	4.55	50	4644	0.099	ng		97
10) Ethanol	6.34	45	71596	3.026	ng		99
12) Acrolein	6.79	56	4429	0.237	ng		99
13) Acetone	7.00	58	38355	1.621	ng		99
14) Trichlorofluoromethane	7.25	101	15922	0.301	ng		100
15) 2-Propanol (Isopropanol)	7.51	45	57848	0.808	ng		93
22) Carbon Disulfide	8.68	76	141377	1.283	ng		99
27) 2-Butanone (MEK)	10.47	72	11664	0.578	ng	#	87
31) n-Hexane	11.26	57	8828	0.175	ng		99
32) Chloroform	11.31	83	193418	3.673	ng		99
34) Tetrahydrofuran (THF)	11.71	72	362946	18.442	ng		99
41) Benzene	12.87	78	31128	0.253	ng		99
42) Carbon Tetrachloride	13.03	117	100759	2.409	ng		99
43) Cyclohexane	13.17	84	3805	0.083	ng		95
46) Bromodichloromethane	13.91	83	7146	0.172	ng		86
48) 1,4-Dioxane	13.96	88	10536	0.426	ng		99
51) n-Heptane	14.30	71	8102	0.282	ng		100
58) Toluene	15.82	91	70315	0.617	ng		97
63) n-Octane	16.82	57	5187	0.220	ng		95
64) Tetrachloroethene	16.96	166	16355	0.508	ng		98
66) Ethylbenzene	17.98	91	7587	0.060	ng		99
67) m- & p-Xylenes	18.14	91	29322	0.291	ng		98
70) o-Xylene	18.57	91	10935	0.107	ng		95
71) n-Nonane	18.77	43	9386	0.173	ng		93
82) 1,2,4-Trimethylbenzene	20.10	105	8490	0.083	ng		94

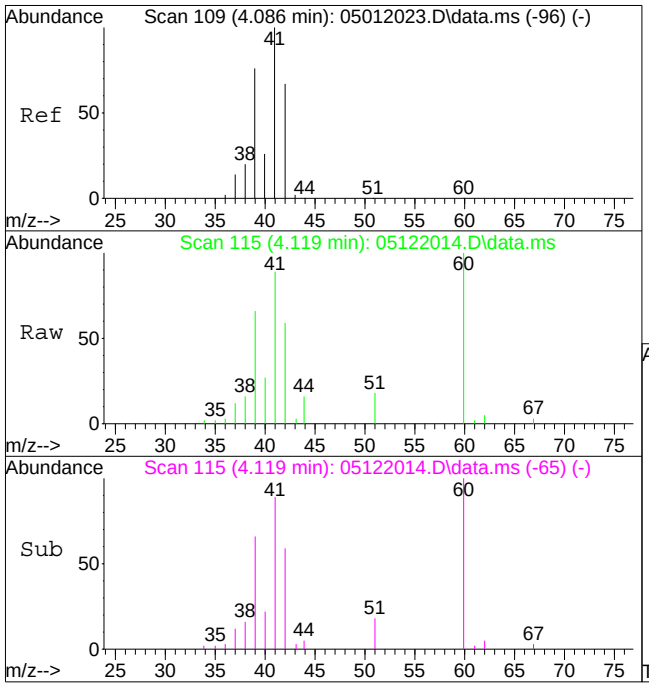
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122014.D Vial: 4
Acq On : 12 May 2020 9:16 Operator: LH
Sample : P2002300-010 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:30:21 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

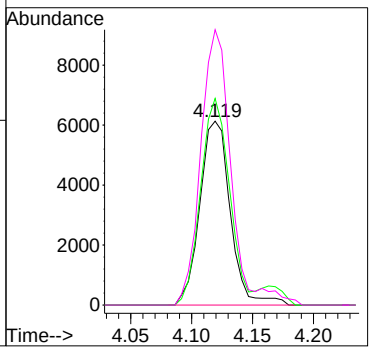


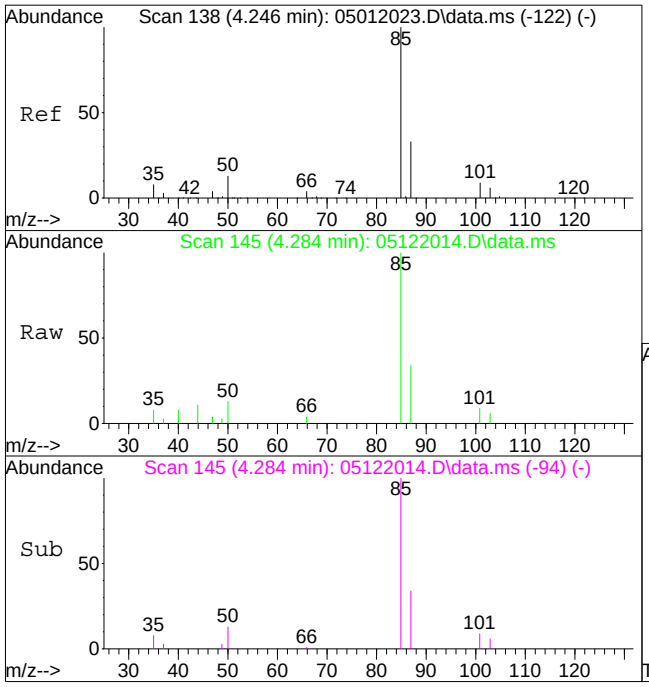


#2
Propene
Concen: 0.35 ng
RT: 4.12 min Scan# 115
Delta R.T. 0.027 min
Lab File: 05122014.D
Acq: 12 May 2020 9:16

Tgt Ion: 42 Resp: 10680

Ion	Ratio	Lower	Upper
42	100		
39	107.8	96.1	136.1
41	148.9	131.9	171.9

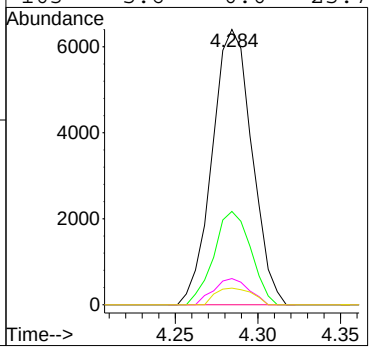


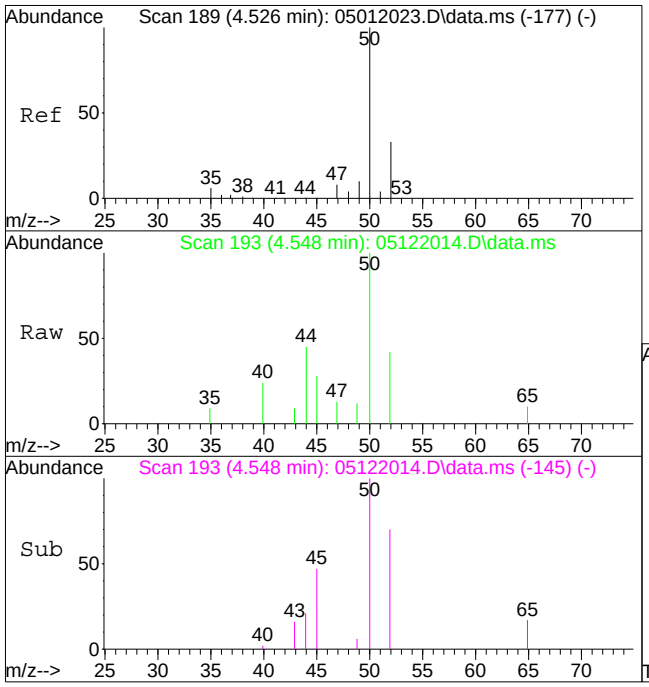


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.18 ng
RT: 4.28 min Scan# 145
Delta R.T. 0.033 min
Lab File: 05122014.D
Acq: 12 May 2020 9:16

Tgt Ion: 85 Resp: 10696

Ion	Ratio	Lower	Upper
85	100		
87	31.6	12.4	52.4
101	8.4	0.0	28.8
103	5.6	0.0	25.7

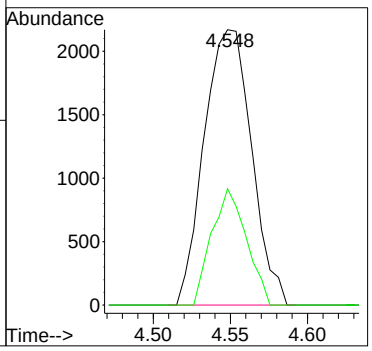


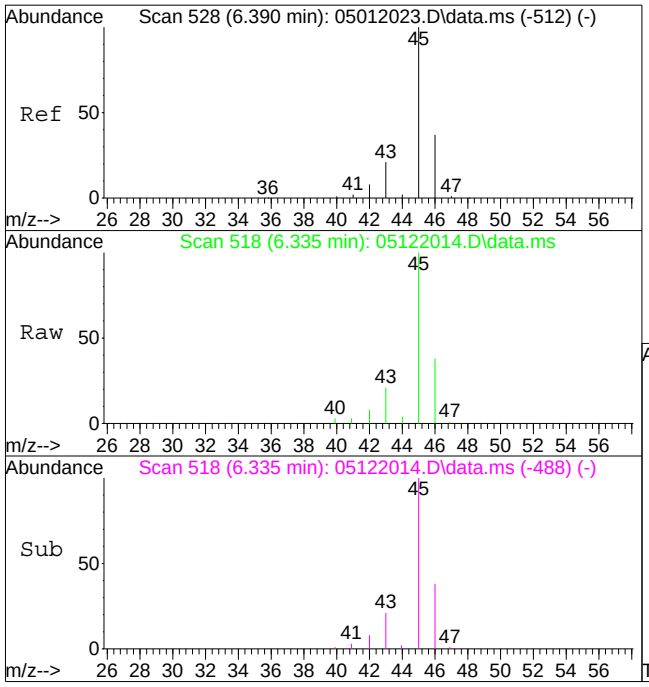


#4
Chloromethane
Concen: 0.10 ng
RT: 4.55 min Scan# 193
Delta R.T. 0.016 min
Lab File: 05122014.D
Acq: 12 May 2020 9:16

Tgt Ion: 50 Resp: 4644

Ion	Ratio	Lower	Upper
50	100		
52	30.9	12.5	52.5

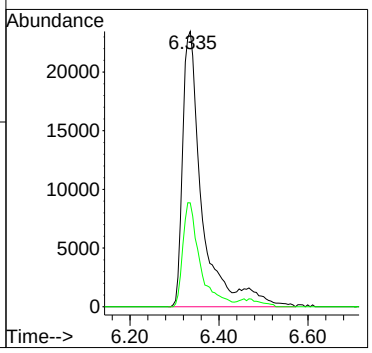


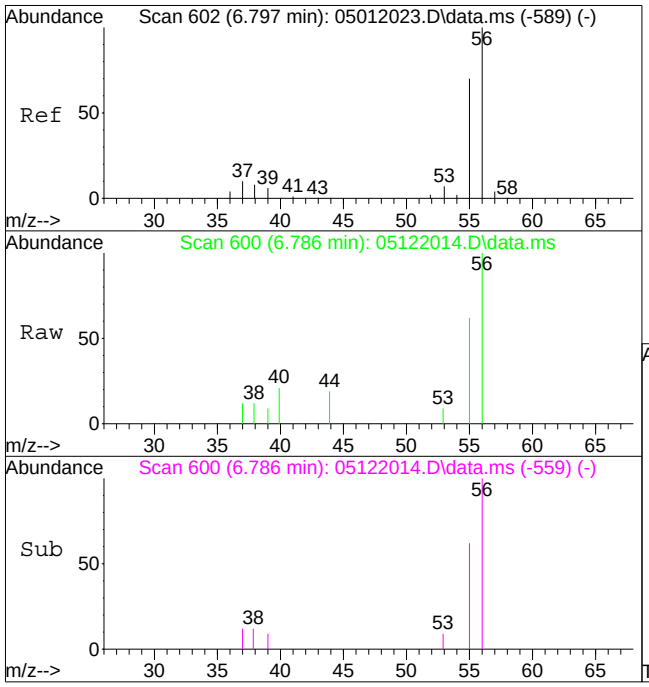


#10
Ethanol
Concen: 3.03 ng
RT: 6.34 min Scan# 518
Delta R.T. -0.083 min
Lab File: 05122014.D
Acq: 12 May 2020 9:16

Tgt Ion: 45 Resp: 71596

Ion	Ratio	Lower	Upper
45	100		
46	36.5	17.2	57.2

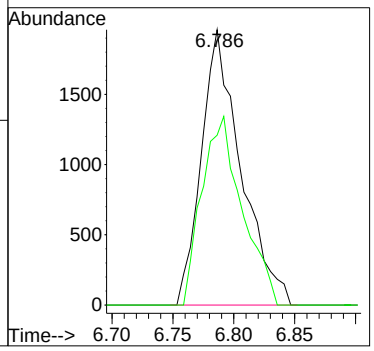


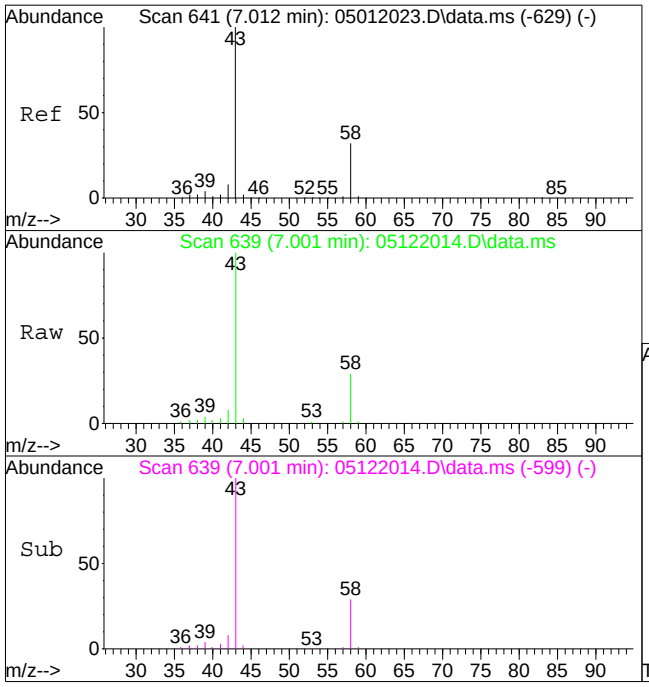


#12
Acrolein
Concen: 0.24 ng
RT: 6.79 min Scan# 600
Delta R.T. -0.022 min
Lab File: 05122014.D
Acq: 12 May 2020 9:16

Tgt Ion: 56 Resp: 4429

Ion	Ratio	Lower	Upper
56	100		
55	69.7	50.2	90.2

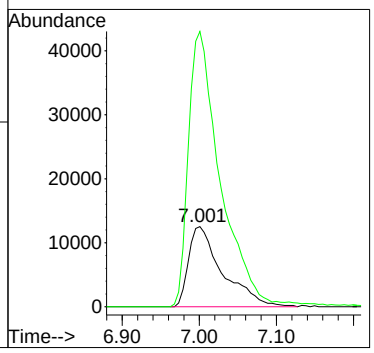


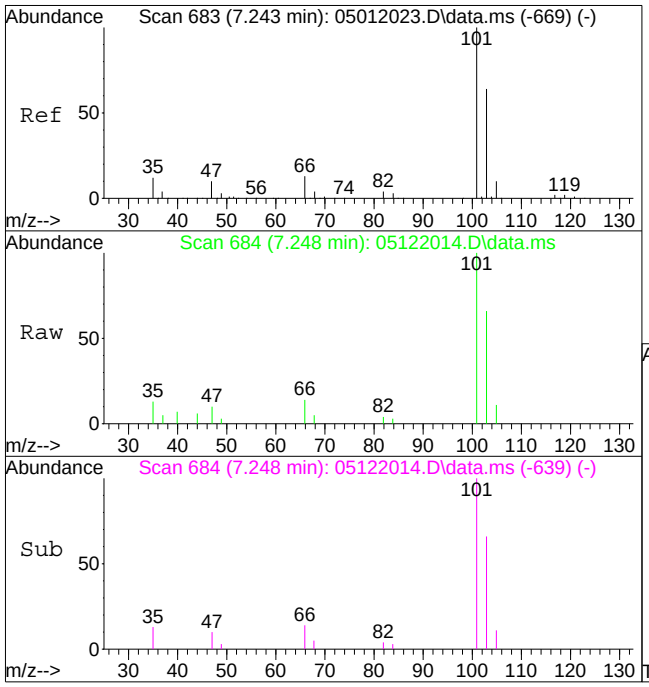


#13
Acetone
Concen: 1.62 ng
RT: 7.00 min Scan# 639
Delta R.T. -0.028 min
Lab File: 05122014.D
Acq: 12 May 2020 9:16

Tgt Ion: 58 Resp: 38355

Ion	Ratio	Lower	Upper
58	100		
43	327.2	294.4	354.4

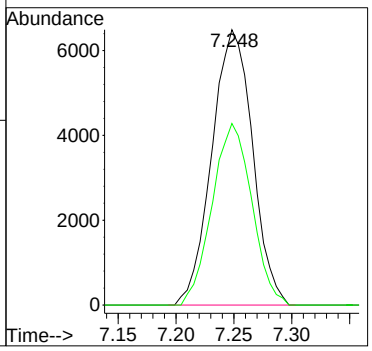


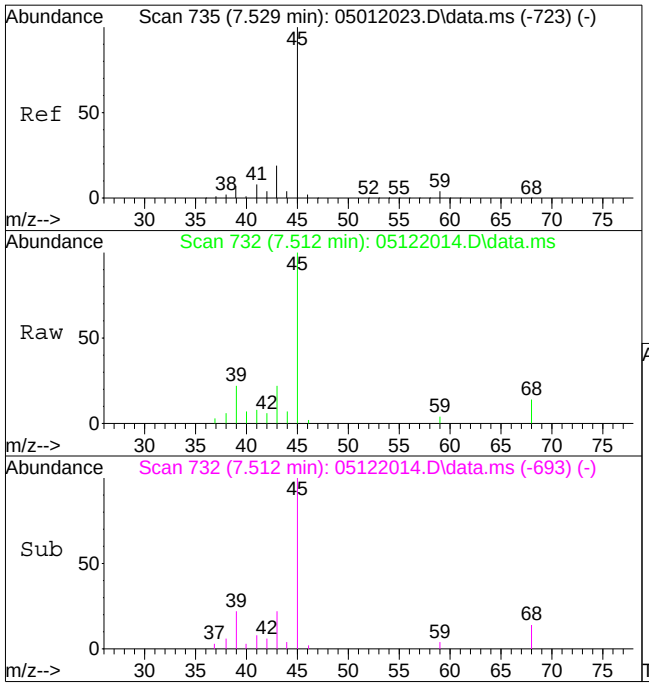


#14
Trichlorofluoromethane
Concen: 0.30 ng
RT: 7.25 min Scan# 684
Delta R.T. -0.000 min
Lab File: 05122014.D
Acq: 12 May 2020 9:16

Tgt Ion:101 Resp: 15922

Ion	Ratio	Lower	Upper
101	100		
103	64.1	44.4	84.4

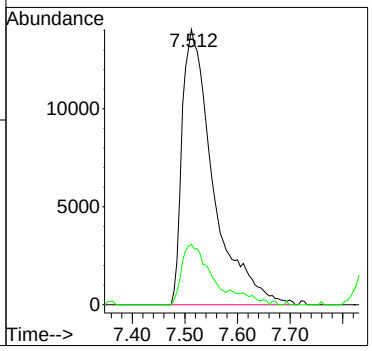


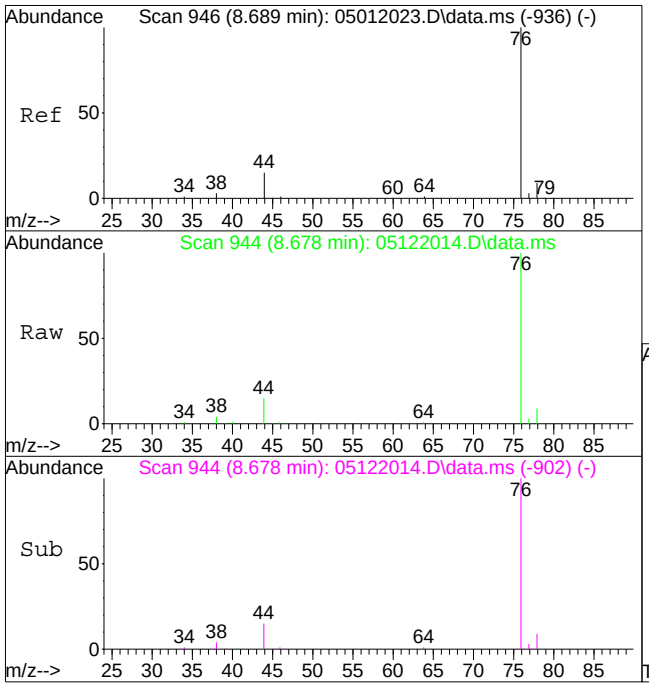


#15
2-Propanol (Isopropanol)
Concen: 0.81 ng
RT: 7.51 min Scan# 732
Delta R.T. -0.033 min
Lab File: 05122014.D
Acq: 12 May 2020 9:16

Tgt Ion: 45 Resp: 57848

Ion	Ratio	Lower	Upper
45	100		
43	22.7	0.0	39.5

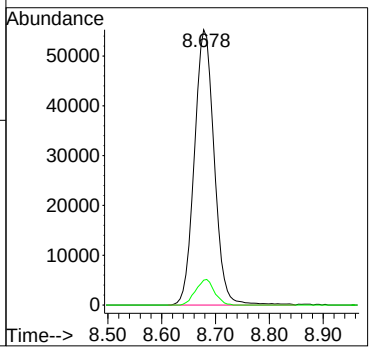


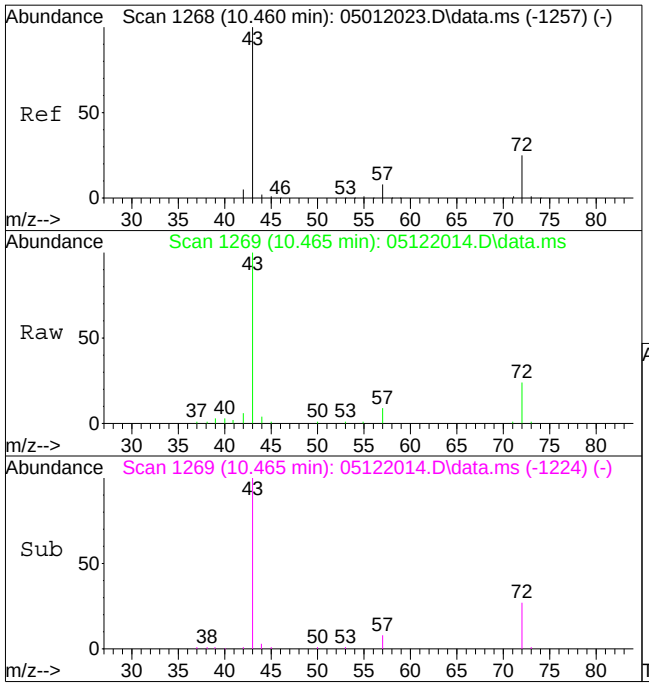


#22
Carbon Disulfide
Concen: 1.28 ng
RT: 8.68 min Scan# 944
Delta R.T. -0.017 min
Lab File: 05122014.D
Acq: 12 May 2020 9:16

Tgt Ion: 76 Resp: 141377

Ion	Ratio	Lower	Upper
76	100		
78	8.8	0.0	29.2

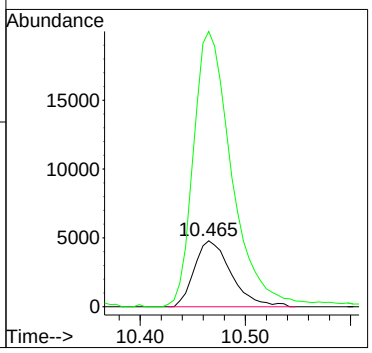


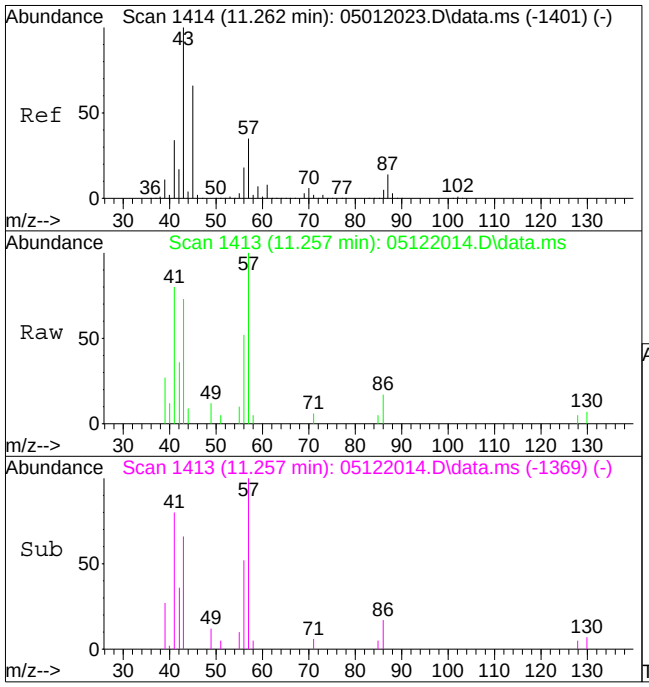


#27
2-Butanone (MEK)
Concen: 0.58 ng
RT: 10.47 min Scan# 1269
Delta R.T. -0.000 min
Lab File: 05122014.D
Acq: 12 May 2020 9:16

Tgt Ion: 72 Resp: 11664

Ion	Ratio	Lower	Upper
72	100		
43	440.7	389.7	429.7#

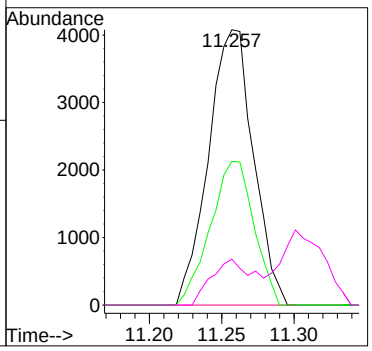


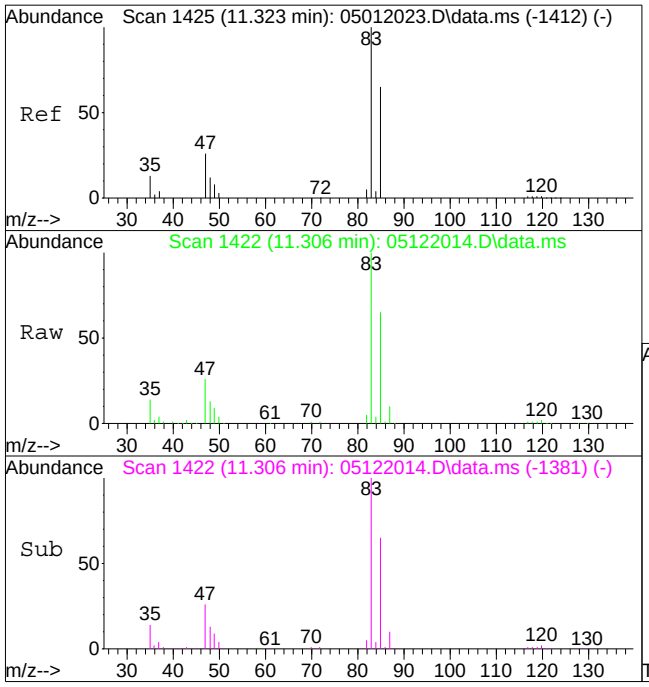


#31
n-Hexane
Concen: 0.17 ng
RT: 11.26 min Scan# 1413
Delta R.T. -0.006 min
Lab File: 05122014.D
Acq: 12 May 2020 9:16

Tgt Ion: 57 Resp: 8828

Ion	Ratio	Lower	Upper
57	100		
56	50.6	41.4	62.0
86	15.8	12.4	18.6

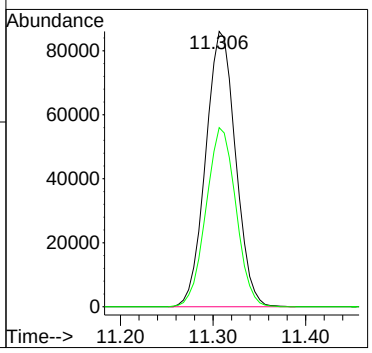


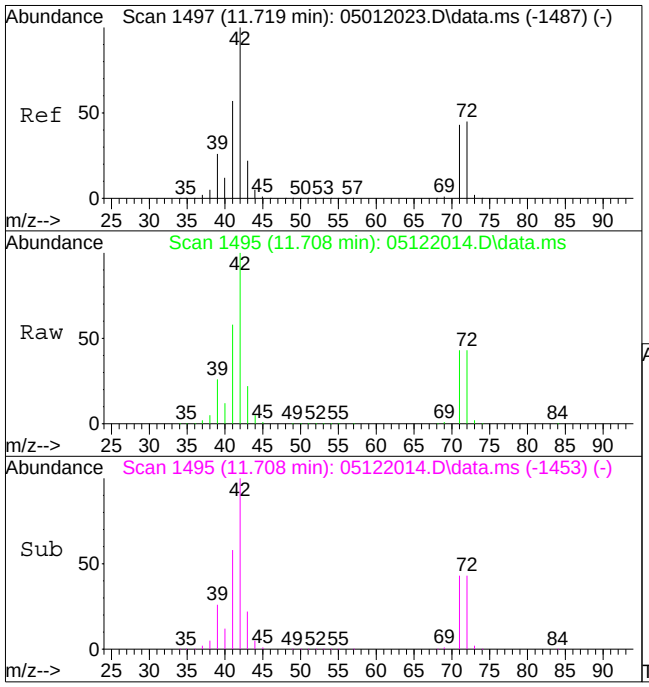


#32
Chloroform
Concen: 3.67 ng
RT: 11.31 min Scan# 1422
Delta R.T. -0.022 min
Lab File: 05122014.D
Acq: 12 May 2020 9:16

Tgt Ion: 83 Resp: 193418

Ion	Ratio	Lower	Upper
83	100		
85	64.8	45.5	85.5

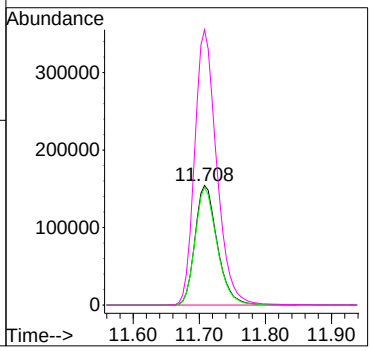


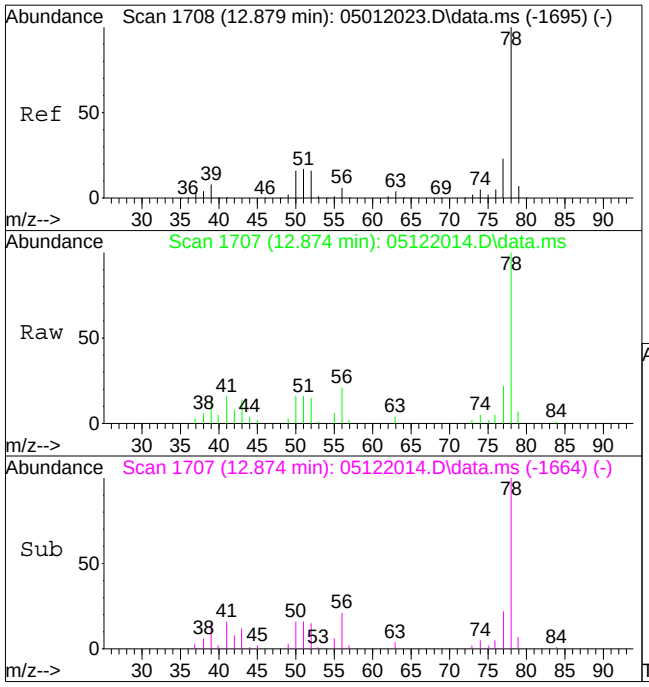


#34
Tetrahydrofuran (THF)
Concen: 18.44 ng
RT: 11.71 min Scan# 1495
Delta R.T. -0.017 min
Lab File: 05122014.D
Acq: 12 May 2020 9:16

Tgt Ion: 72 Resp: 362946

Ion	Ratio	Lower	Upper
72	100		
71	97.0	77.0	117.0
42	227.9	204.6	244.6

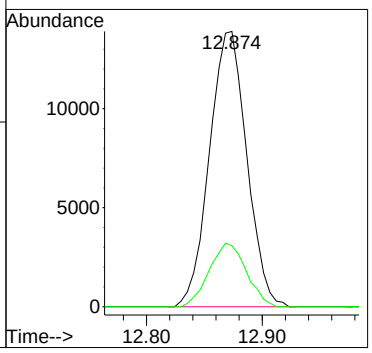


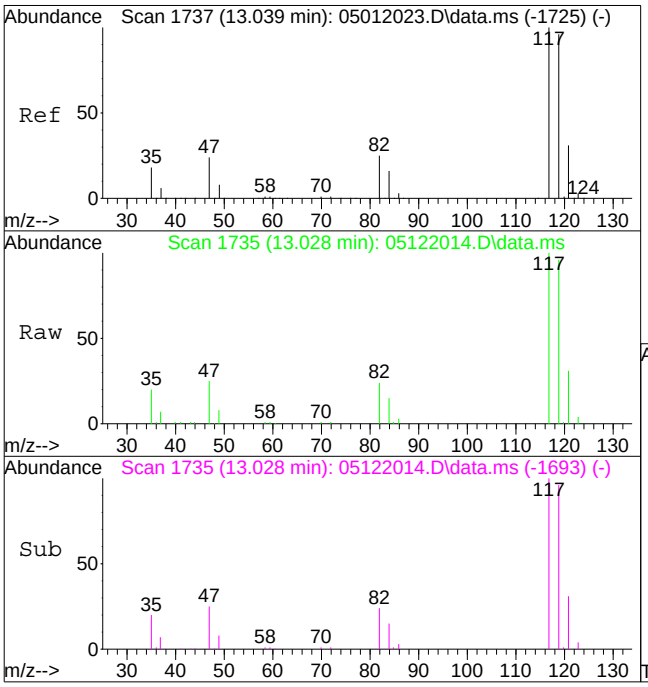


#41
Benzene
Concen: 0.25 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05122014.D
Acq: 12 May 2020 9:16

Tgt Ion: 78 Resp: 31128

Ion	Ratio	Lower	Upper
78	100		
77	23.0	3.4	43.4

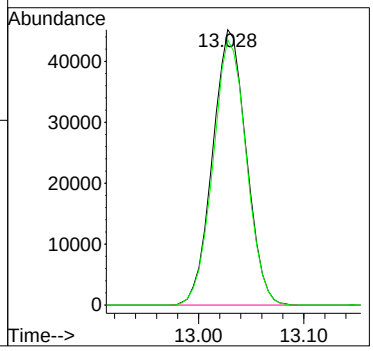


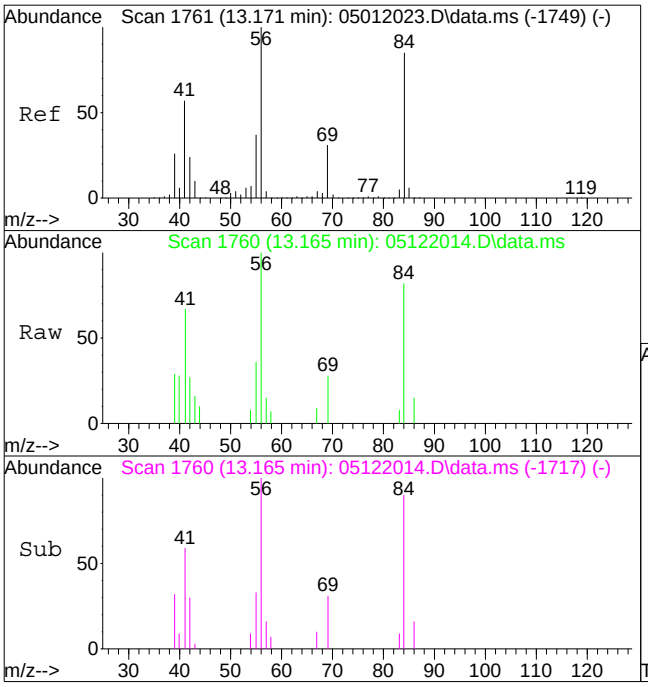


#42
Carbon Tetrachloride
Concen: 2.41 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05122014.D
Acq: 12 May 2020 9:16

Tgt Ion:117 Resp: 100759

Ion	Ratio	Lower	Upper
117	100		
119	95.6	76.2	116.2

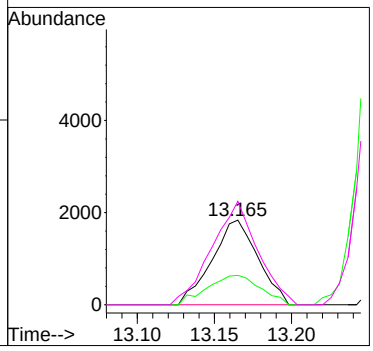


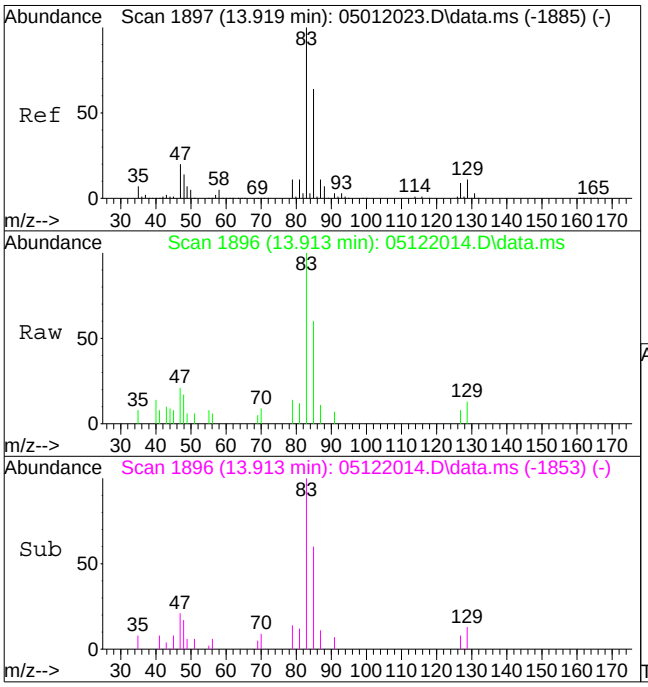


#43
Cyclohexane
Concen: 0.08 ng
RT: 13.17 min Scan# 1760
Delta R.T. -0.011 min
Lab File: 05122014.D
Acq: 12 May 2020 9:16

Tgt Ion: 84 Resp: 3805

Ion	Ratio	Lower	Upper
84	100		
69	40.3	16.5	56.5
56	122.4	97.4	137.4

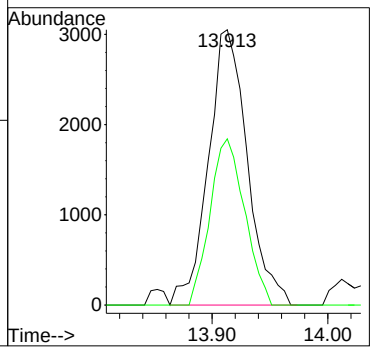


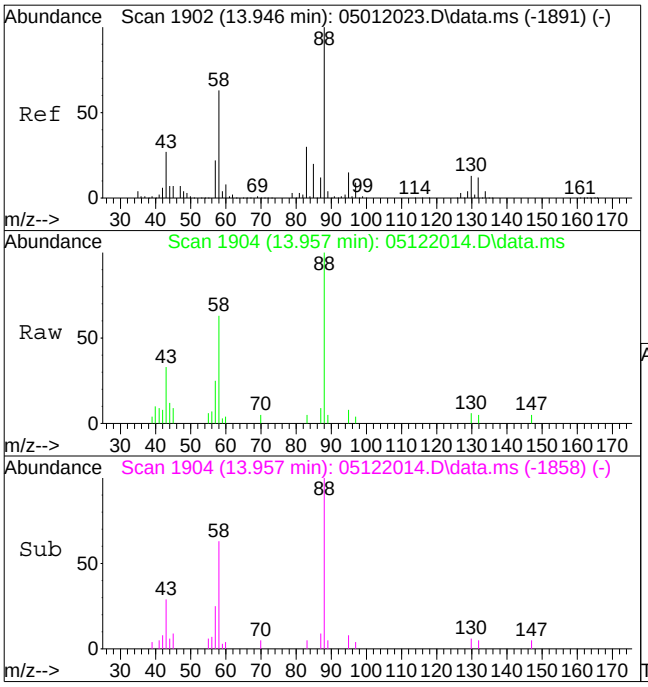


#46
Bromodichloromethane
Concen: 0.17 ng
RT: 13.91 min Scan# 1896
Delta R.T. -0.011 min
Lab File: 05122014.D
Acq: 12 May 2020 9:16

Tgt Ion: 83 Resp: 7146

Ion	Ratio	Lower	Upper
83	100		
85	53.8	44.4	84.4

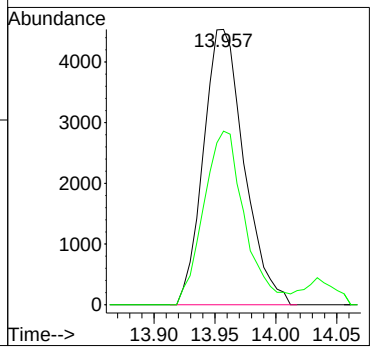


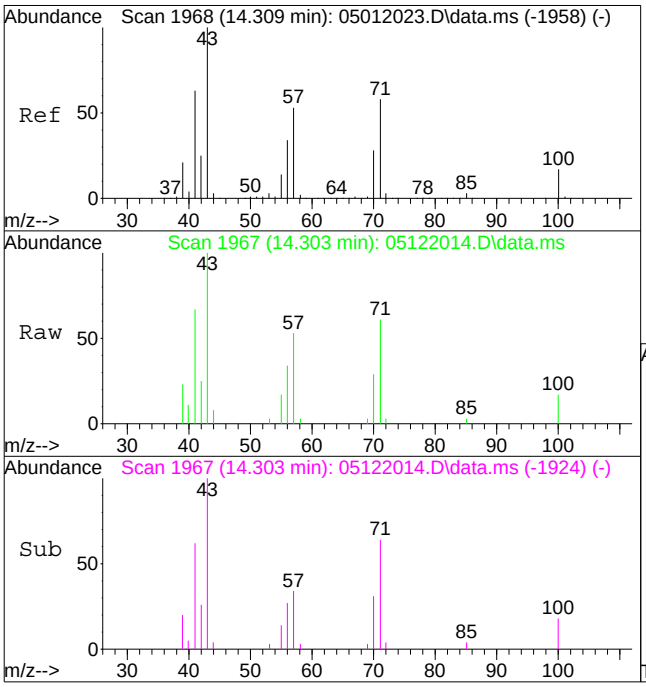


#48
1,4-Dioxane
Concen: 0.43 ng
RT: 13.96 min Scan# 1904
Delta R.T. 0.005 min
Lab File: 05122014.D
Acq: 12 May 2020 9:16

Tgt Ion: 88 Resp: 10536

Ion	Ratio	Lower	Upper
88	100		
58	63.8	42.8	82.8

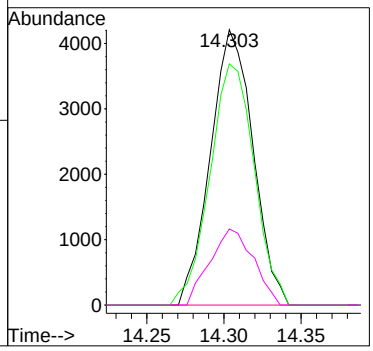


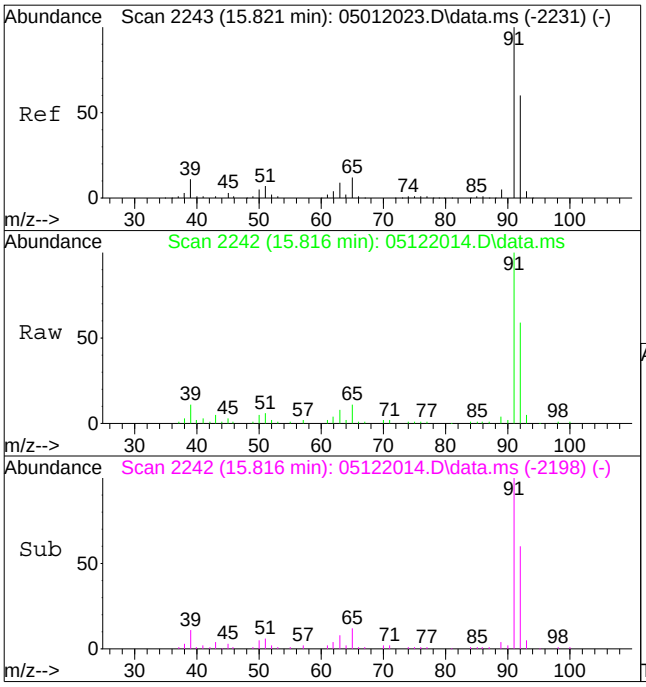


#51
n-Heptane
Concen: 0.28 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05122014.D
Acq: 12 May 2020 9:16

Tgt Ion: 71 Resp: 8102

Ion	Ratio	Lower	Upper
71	100		
57	91.0	71.0	111.0
100	28.1	8.4	48.4

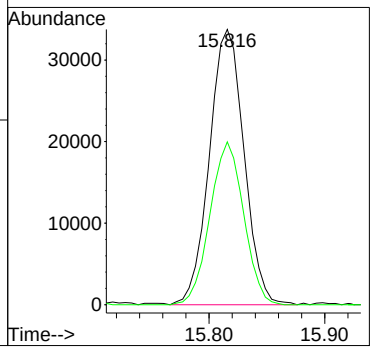


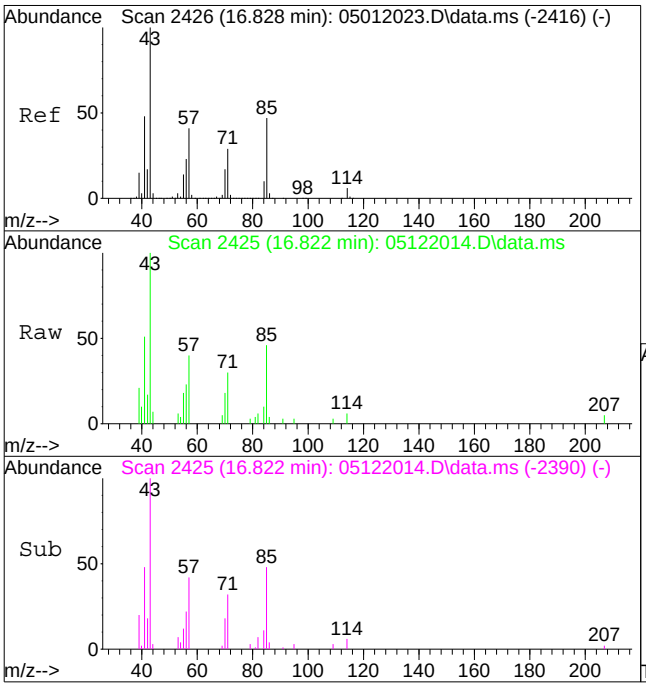


#58
Toluene
Concen: 0.62 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05122014.D
Acq: 12 May 2020 9:16

Tgt Ion: 91 Resp: 70315

Ion	Ratio	Lower	Upper
91	100		
92	57.4	39.4	79.4

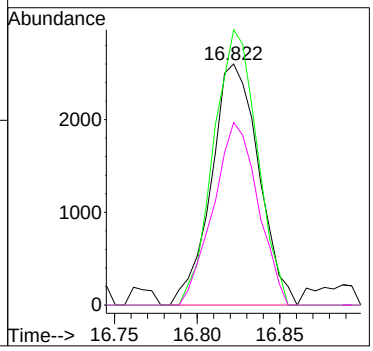


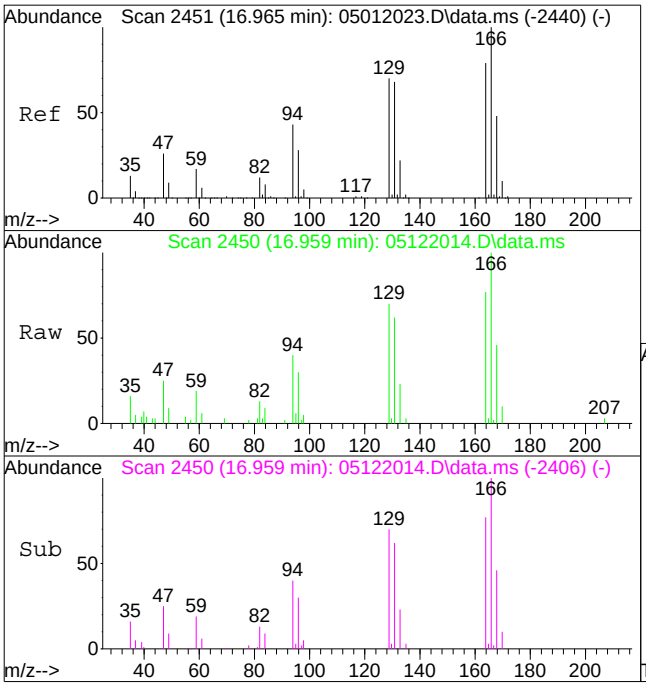


#63
n-Octane
Concen: 0.22 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05122014.D
Acq: 12 May 2020 9:16

Tgt Ion: 57 Resp: 5187

Ion	Ratio	Lower	Upper
57	100		
85	105.1	91.0	136.4
71	71.2	56.2	84.2

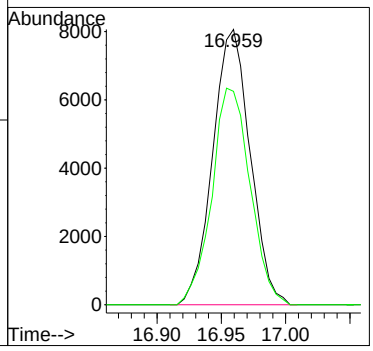


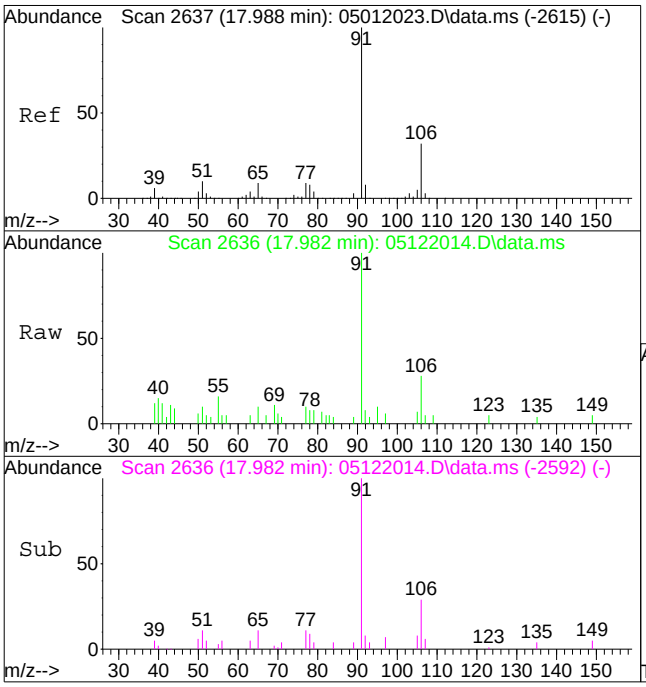


#64
Tetrachloroethene
Concen: 0.51 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05122014.D
Acq: 12 May 2020 9:16

Tgt Ion:166 Resp: 16355

Ion	Ratio	Lower	Upper
166	100		
164	80.2	58.4	98.4

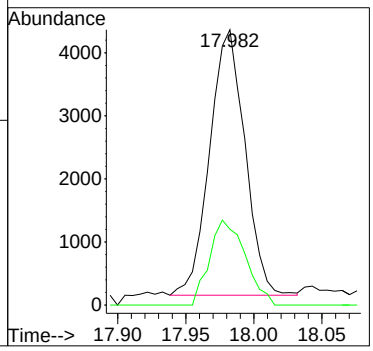


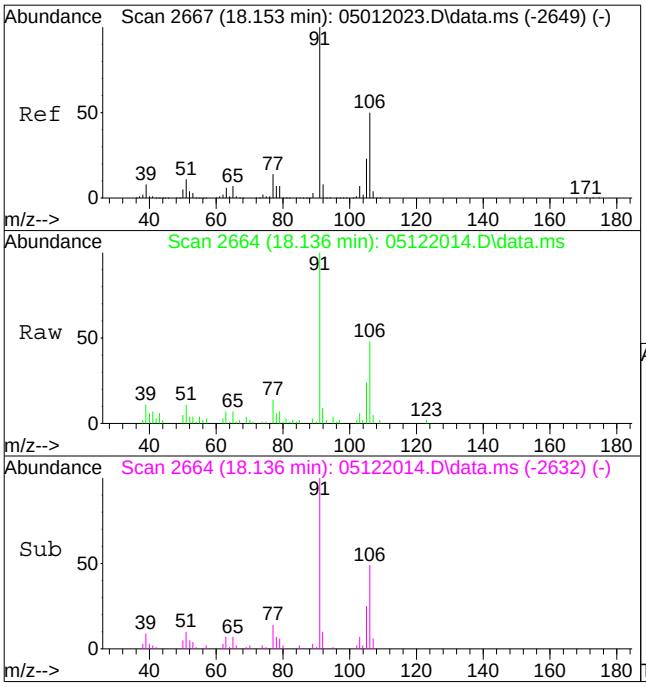


#66
Ethylbenzene
Concen: 0.06 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05122014.D
Acq: 12 May 2020 9:16

Tgt Ion: 91 Resp: 7587

Ion	Ratio	Lower	Upper
91	100		
106	32.3	11.6	51.6

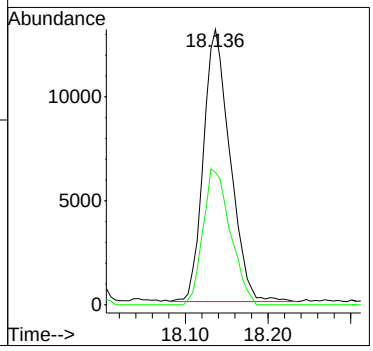


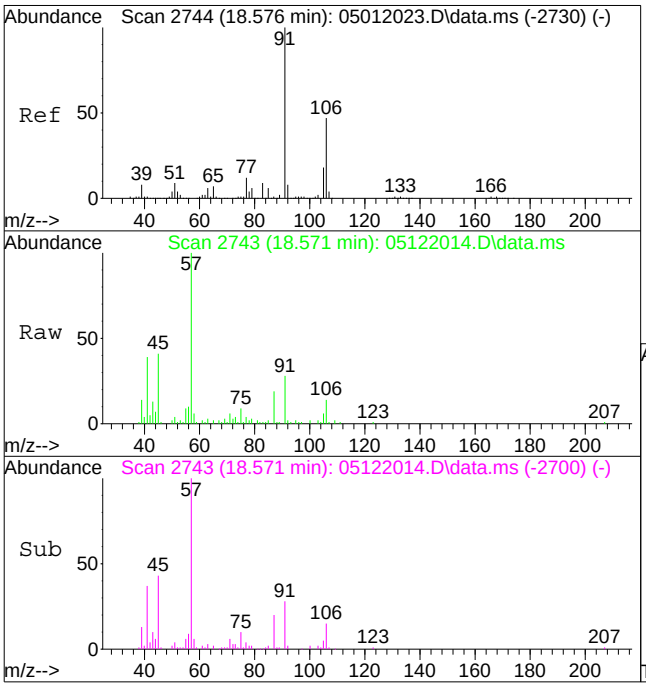


#67
m- & p-Xylenes
Concen: 0.29 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05122014.D
Acq: 12 May 2020 9:16

Tgt Ion: 91 Resp: 29322

Ion	Ratio	Lower	Upper
91	100		
106	51.2	29.7	69.7

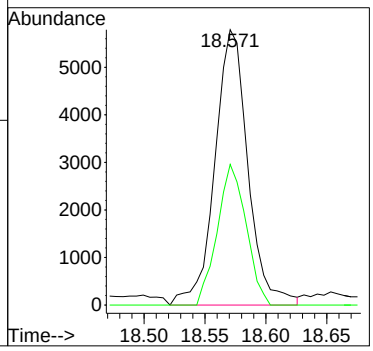


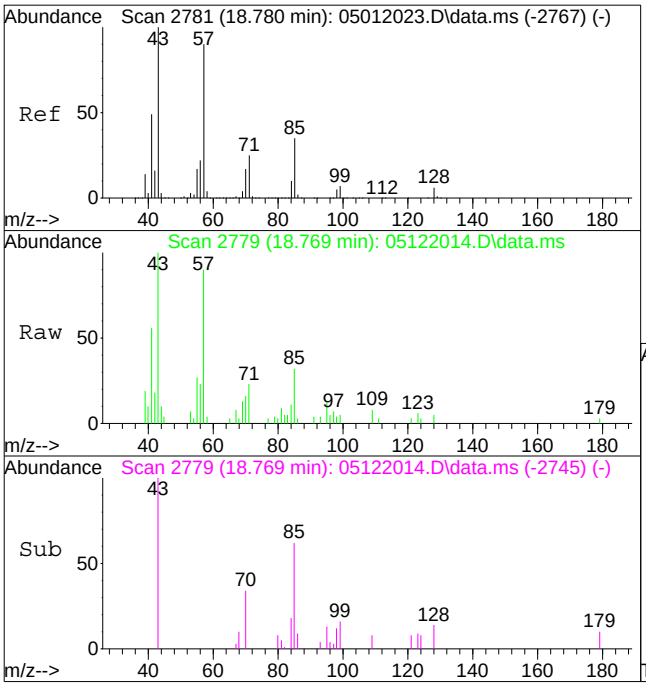


#70
o-Xylene
Concen: 0.11 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05122014.D
Acq: 12 May 2020 9:16

Tgt Ion: 91 Resp: 10935

Ion	Ratio	Lower	Upper
91	100		
106	44.3	27.5	67.5

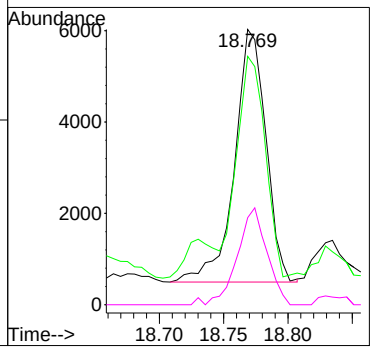


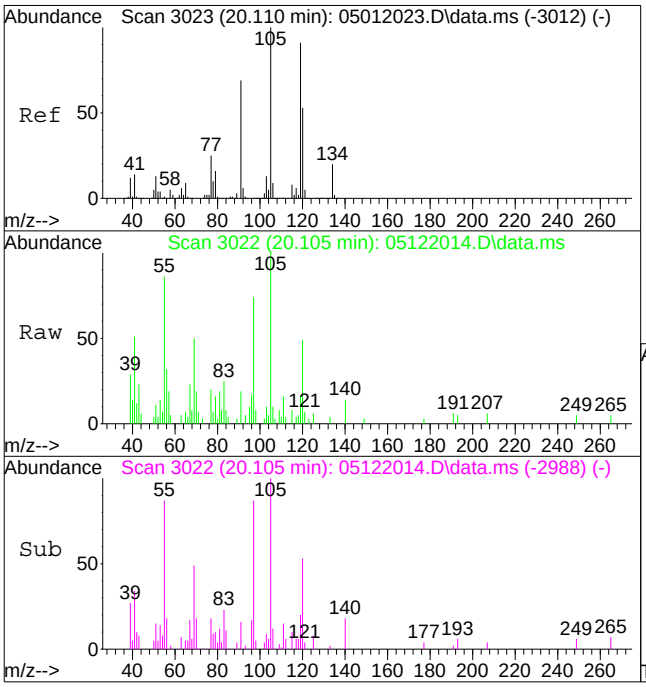


#71
n-Nonane
Concen: 0.17 ng
RT: 18.77 min Scan# 2779
Delta R.T. -0.011 min
Lab File: 05122014.D
Acq: 12 May 2020 9:16

Tgt Ion: 43 Resp: 9386

Ion	Ratio	Lower	Upper
43	100		
57	81.2	69.0	109.0
85	36.2	14.6	54.6

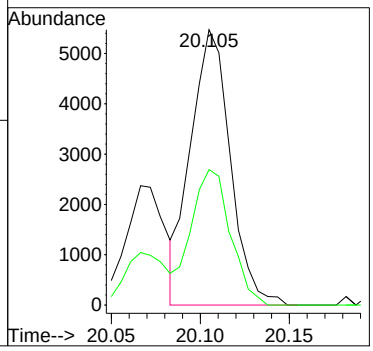




#82
1,2,4-Trimethylbenzene
Concen: 0.08 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05122014.D
Acq: 12 May 2020 9:16

Tgt Ion:105 Resp: 8490

Ion	Ratio	Lower	Upper
105	100		
120	49.0	33.6	73.6



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122015.D Vial: 5
Acq On : 12 May 2020 9:50 Operator: LH
Sample : P2002300-011 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:31:28 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/13/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	267291	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1160340	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	533683	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	429665	11.861	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.88%				
57) Toluene-d8 (SS2)	15.72	98	1136257	12.561	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.48%				
73) Bromofluorobenzene (SS3)	18.97	174	432351	13.283	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.24%				
Target Compounds							Qvalue
2) Propene	4.10	42	7169	0.232	ng		92
3) Dichlorodifluoromethan...	4.27	85	5912	0.098	ng	#	97
4) Chloromethane	4.53	50	7305	0.154	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	4.95	62	556	N.D.			
7) 1,3-Butadiene	5.21	54	485	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.33	45	17227	0.721	ng		93
11) Acetonitrile	6.59	41	8163	0.149	ng		84
12) Acrolein	6.79	56	3394	0.180	ng		97
13) Acetone	7.00	58	38697	1.619	ng	#	85
14) Trichlorofluoromethane	7.24	101	14790	0.276	ng		97
15) 2-Propanol (Isopropanol)	7.53	45	33207	0.459	ng		90
16) Acrylonitrile	7.75	53	993	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.41	84	244	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	8.84	151	625	N.D.			
22) Carbon Disulfide	8.67	76	199415	1.791	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.08	73	3057	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.47	72	11327	0.556	ng	#	89
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.31	87	1074	N.D.			
30) Ethyl Acetate	11.29	61	2555	0.217	ng		93
31) n-Hexane	11.26	57	8299	0.163	ng		98
32) Chloroform	11.31	83	11131	0.209	ng		99
34) Tetrahydrofuran (THF)	11.71	72	373245	18.771	ng		99
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	177	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	35406	0.285	ng		99
42) Carbon Tetrachloride	13.03	117	16281	0.385	ng		99
43) Cyclohexane	13.17	84	3562	0.077	ng		99
44) tert-Amyl Methyl Ether	13.47	73	117	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	13.92	83	809	N.D.			
47) Trichloroethene	13.97	130	541	N.D.			
48) 1,4-Dioxane	13.96	88	3356	0.134	ng		91
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.11	100	187	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122015.D Vial: 5
Acq On : 12 May 2020 9:50 Operator: LH
Sample : P2002300-011 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:31:28 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

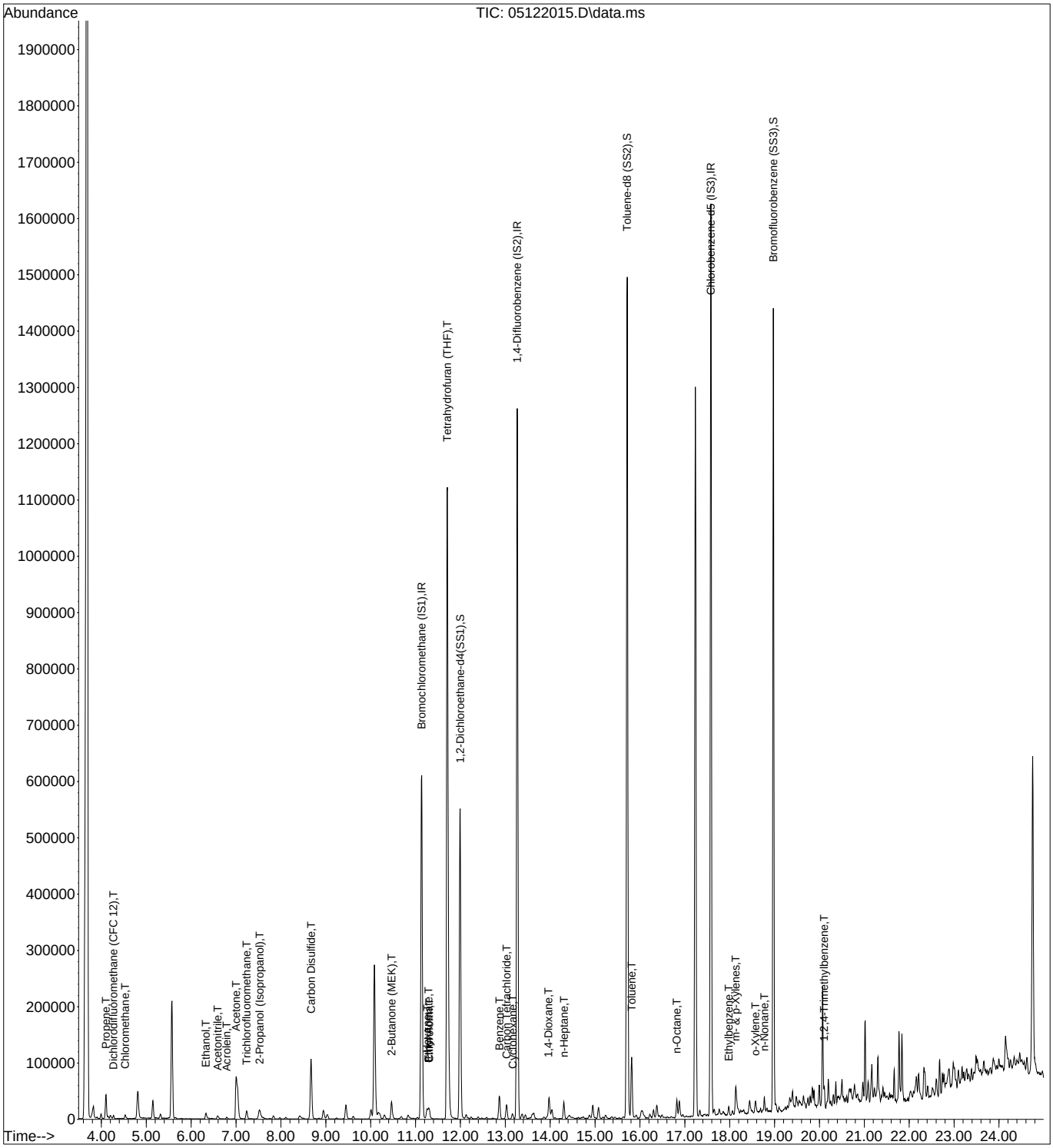
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	7804	0.268 ng	96
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.88	58	1148	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.82	91	88301	0.757 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.69	43	510	N.D.	
63) n-Octane	16.82	57	5229	0.217 ng	91
64) Tetrachloroethene	16.96	166	936	N.D.	
65) Chlorobenzene	17.65	112	1300	N.D.	
66) Ethylbenzene	17.98	91	10842	0.083 ng	100
67) m- & p-Xylenes	18.14	91	35632	0.345 ng	97
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	1896	N.D.	
70) o-Xylene	18.57	91	11898	0.114 ng	99
71) n-Nonane	18.77	43	8982	0.162 ng	98
72) 1,1,2,2-Tetrachloroethane	18.51	83	346	N.D.	
74) Cumene	19.10	105	2079	N.D.	
75) alpha-Pinene	19.46	93	658	N.D.	
76) n-Propylbenzene	19.55	91	3968	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.68	105	2592	N.D.	
79) 1,3,5-Trimethylbenzene	19.74	105	5214	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	19.91	105	3513	N.D.	
82) 1,2,4-Trimethylbenzene	20.10	105	12993	0.123 ng	91
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.23	91	717	N.D.	
85) 1,3-Dichlorobenzene	20.25	146	240	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	240	N.D.	
87) sec-Butylbenzene	20.34	105	1369	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	2870	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	4464	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.61	68	1681	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.11	180	294	N.D.	
95) Naphthalene	22.21	128	5176	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.10	119	1690	N.D.	
100) n-Butylbenzene	20.85	91	3435	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122015.D Vial: 5
Acq On : 12 May 2020 9:50 Operator: LH
Sample : P2002300-011 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:31:28 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



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Data File : I:\MS16\DATA\2020_05\12\05122015.D Vial: 5
Acq On : 12 May 2020 9:50 Operator: LH
Sample : P2002300-011 (400mL) Inst : GCMS-16
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Quant Time: May 13 16:31:28 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/13/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	267291	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1160340	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	533683	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	429665	11.861	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.88%				
57) Toluene-d8 (SS2)	15.72	98	1136257	12.561	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.48%				
73) Bromofluorobenzene (SS3)	18.97	174	432351	13.283	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.24%				
Target Compounds							Qvalue
2) Propene	4.10	42	7169	0.232	ng		92
3) Dichlorodifluoromethan...	4.27	85	5912	0.098	ng	#	97
4) Chloromethane	4.53	50	7305	0.154	ng		99
10) Ethanol	6.33	45	17227	0.721	ng		93
11) Acetonitrile	6.59	41	8163	0.149	ng		84
12) Acrolein	6.79	56	3394	0.180	ng		97
13) Acetone	7.00	58	38697	1.619	ng	#	85
14) Trichlorofluoromethane	7.24	101	14790	0.276	ng		97
15) 2-Propanol (Isopropanol)	7.53	45	33207	0.459	ng		90
22) Carbon Disulfide	8.67	76	199415	1.791	ng		99
27) 2-Butanone (MEK)	10.47	72	11327	0.556	ng	#	89
30) Ethyl Acetate	11.29	61	2555	0.217	ng		93
31) n-Hexane	11.26	57	8299	0.163	ng		98
32) Chloroform	11.31	83	11131	0.209	ng		99
34) Tetrahydrofuran (THF)	11.71	72	373245	18.771	ng		99
41) Benzene	12.87	78	35406	0.285	ng		99
42) Carbon Tetrachloride	13.03	117	16281	0.385	ng		99
43) Cyclohexane	13.17	84	3562	0.077	ng		99
48) 1,4-Dioxane	13.96	88	3356	0.134	ng		91
51) n-Heptane	14.31	71	7804	0.268	ng		96
58) Toluene	15.82	91	88301	0.757	ng		100
63) n-Octane	16.82	57	5229	0.217	ng		91
66) Ethylbenzene	17.98	91	10842	0.083	ng		100
67) m- & p-Xylenes	18.14	91	35632	0.345	ng		97
70) o-Xylene	18.57	91	11898	0.114	ng		99
71) n-Nonane	18.77	43	8982	0.162	ng		98
82) 1,2,4-Trimethylbenzene	20.10	105	12993	0.123	ng		91

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122015.D Vial: 5
Acq On : 12 May 2020 9:50 Operator: LH
Sample : P2002300-011 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:31:28 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
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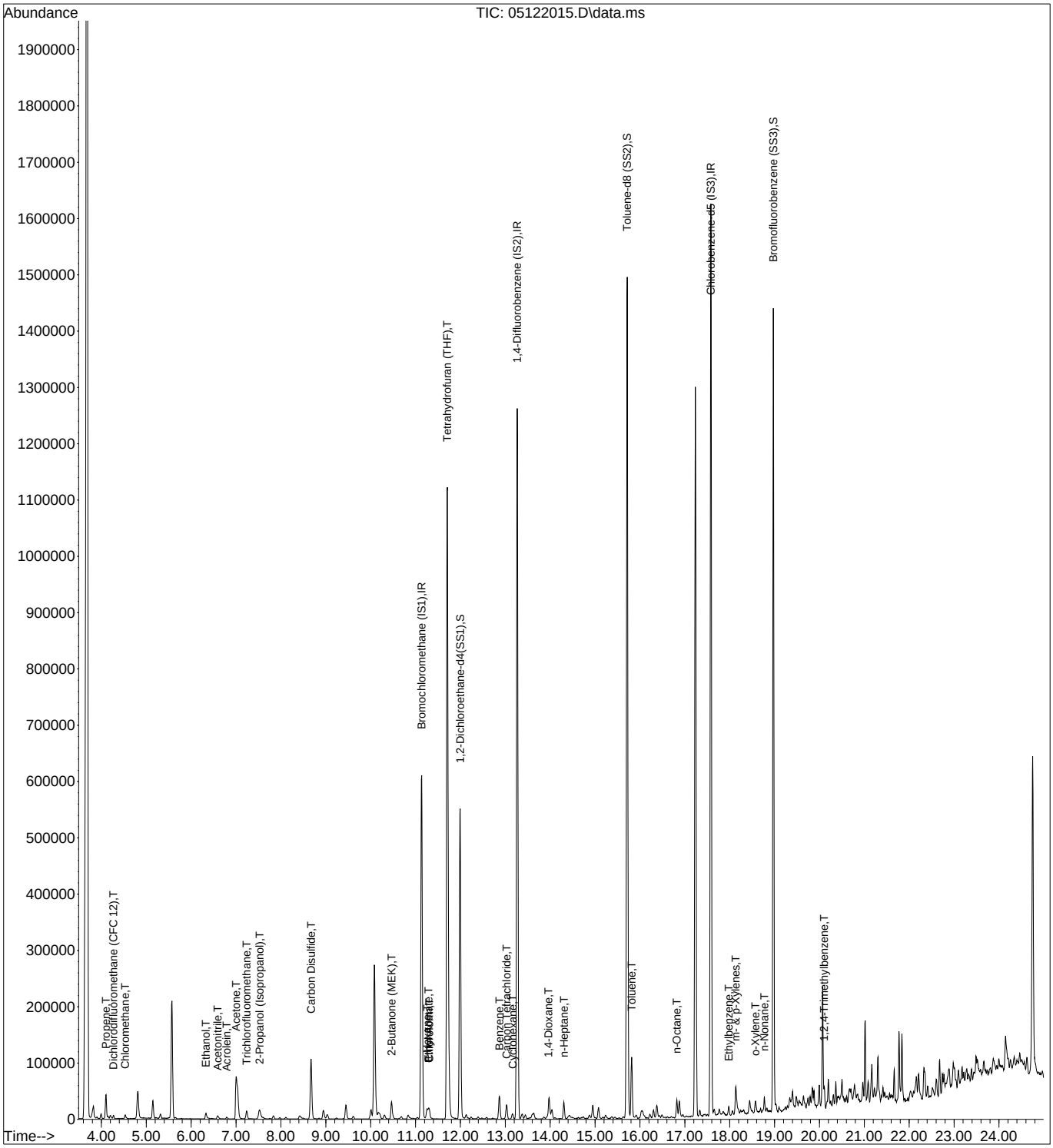
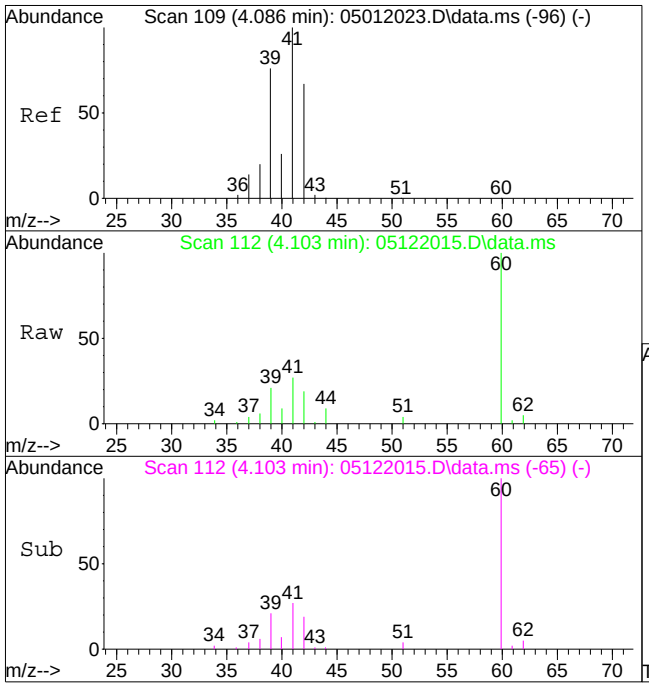
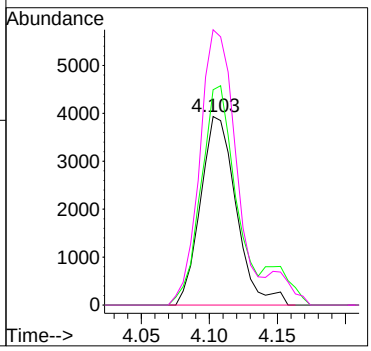


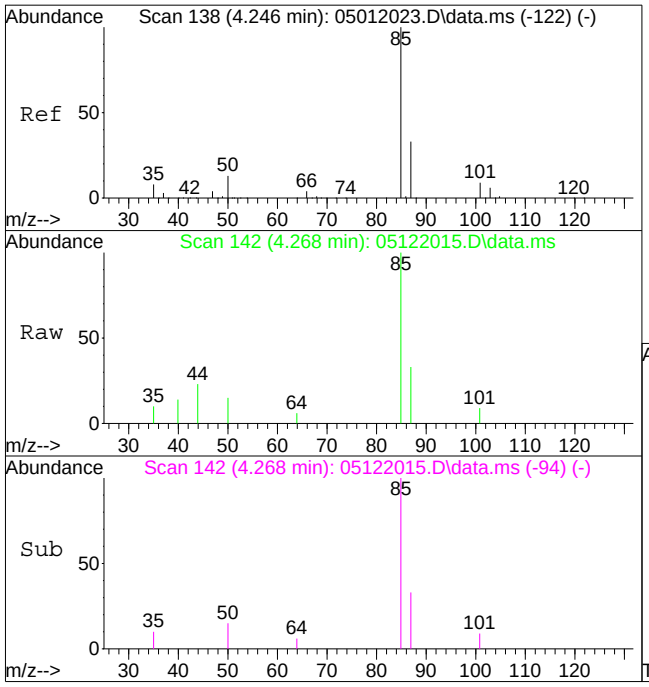


#2
Propene
Concen: 0.23 ng
RT: 4.10 min Scan# 112
Delta R.T. 0.011 min
Lab File: 05122015.D
Acq: 12 May 2020 9:50

Tgt Ion: 42 Resp: 7169

Ion	Ratio	Lower	Upper
42	100		
39	128.5	96.1	136.1
41	159.2	131.9	171.9

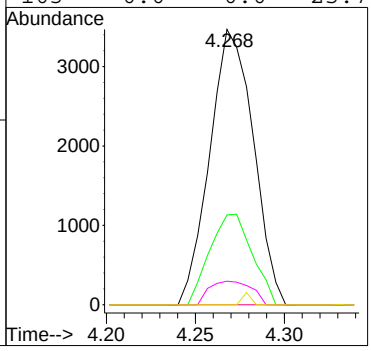


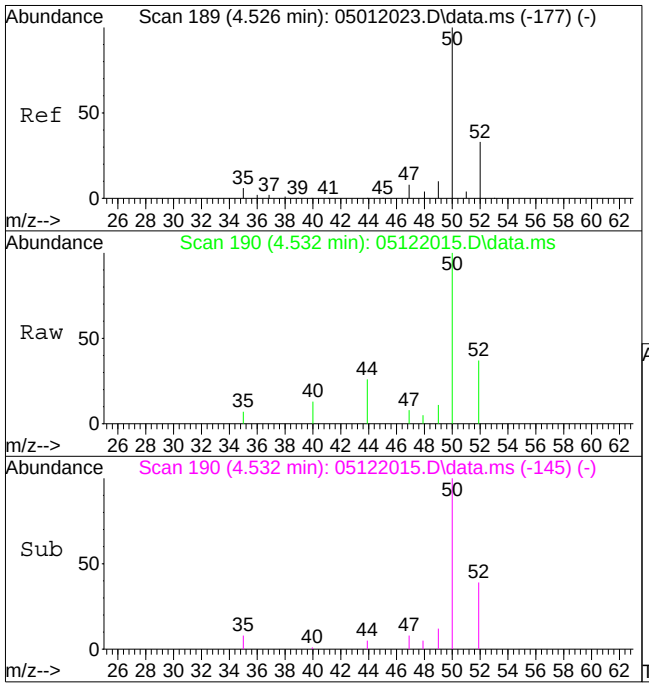


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.10 ng
RT: 4.27 min Scan# 142
Delta R.T. 0.016 min
Lab File: 05122015.D
Acq: 12 May 2020 9:50

Tgt Ion: 85 Resp: 5912

Ion	Ratio	Lower	Upper
85	100		
87	31.9	12.4	52.4
101	8.3	0.0	28.8
103	0.0	0.0	25.7

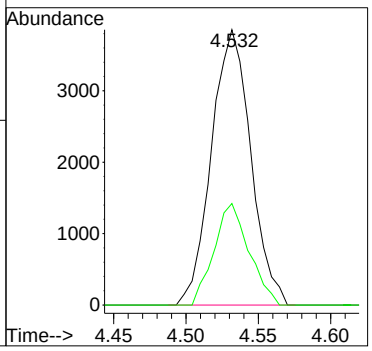


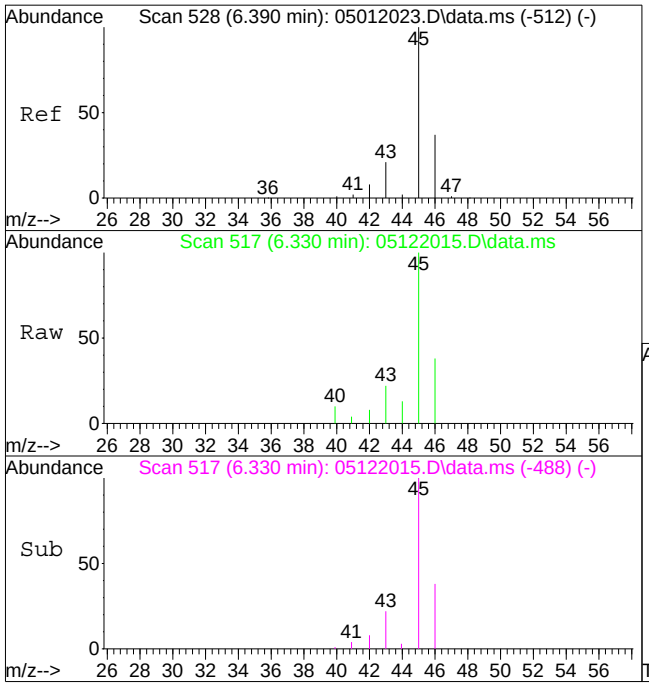


#4
Chloromethane
Concen: 0.15 ng
RT: 4.53 min Scan# 190
Delta R.T. -0.000 min
Lab File: 05122015.D
Acq: 12 May 2020 9:50

Tgt Ion: 50 Resp: 7305

Ion	Ratio	Lower	Upper
50	100		
52	32.8	12.5	52.5

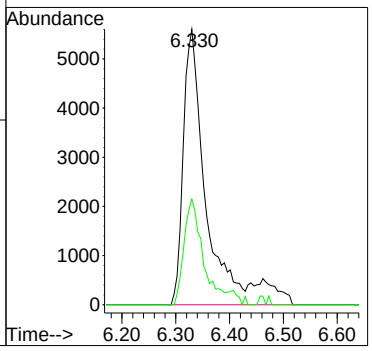


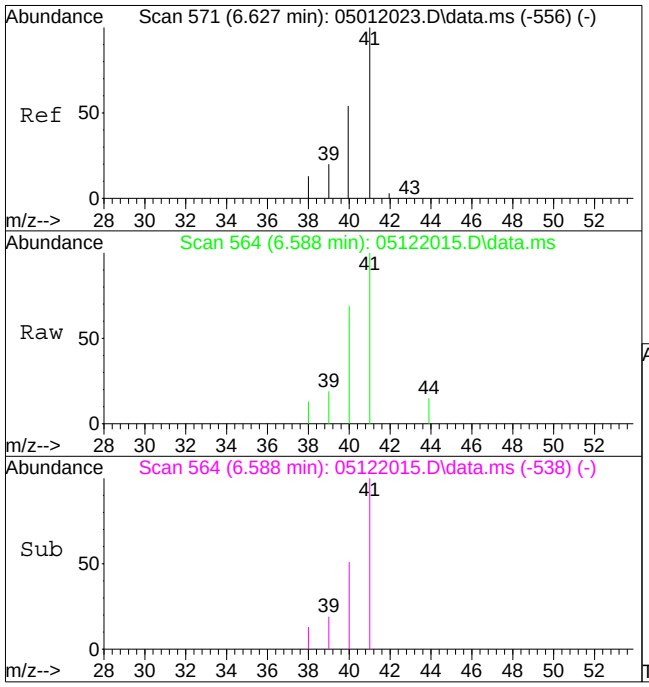


#10
Ethanol
Concen: 0.72 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.088 min
Lab File: 05122015.D
Acq: 12 May 2020 9:50

Tgt Ion: 45 Resp: 17227

Ion	Ratio	Lower	Upper
45	100		
46	32.8	17.2	57.2

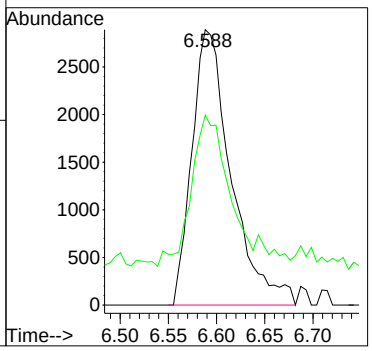


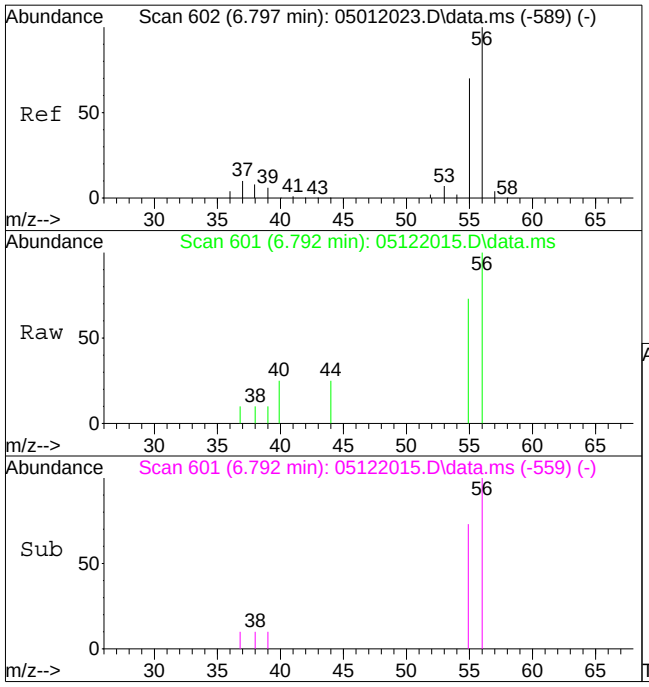


#11
Acetonitrile
Concen: 0.15 ng
RT: 6.59 min Scan# 564
Delta R.T. -0.055 min
Lab File: 05122015.D
Acq: 12 May 2020 9:50

Tgt Ion: 41 Resp: 8163

Ion	Ratio	Lower	Upper
41	100		
40	64.8	33.6	73.6

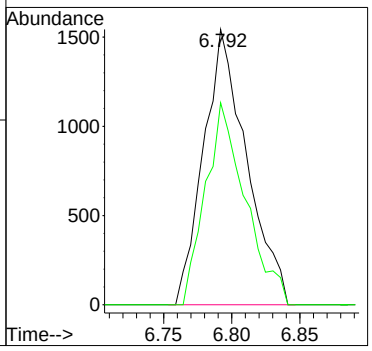


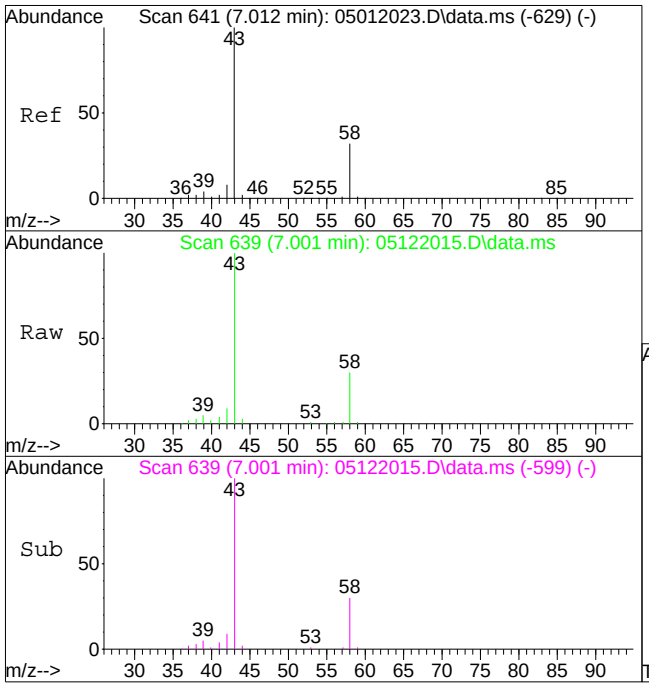


#12
Acrolein
Concen: 0.18 ng
RT: 6.79 min Scan# 601
Delta R.T. -0.017 min
Lab File: 05122015.D
Acq: 12 May 2020 9:50

Tgt Ion: 56 Resp: 3394

Ion	Ratio	Lower	Upper
56	100		
55	68.0	50.2	90.2

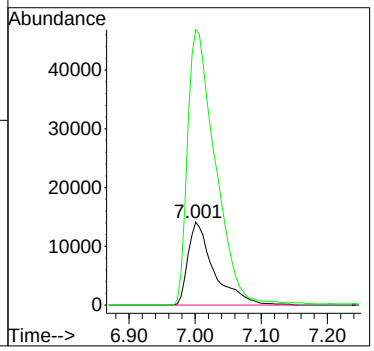


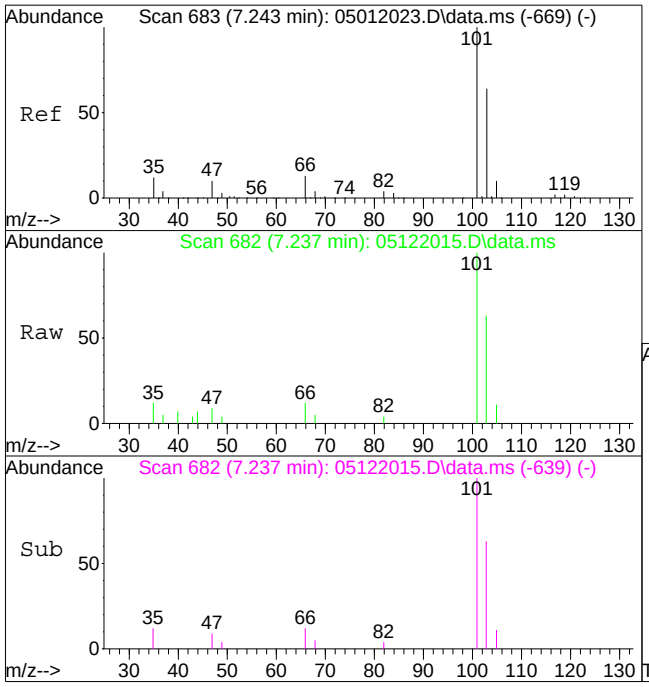


#13
Acetone
Concen: 1.62 ng
RT: 7.00 min Scan# 639
Delta R.T. -0.028 min
Lab File: 05122015.D
Acq: 12 May 2020 9:50

Tgt Ion: 58 Resp: 38697

Ion	Ratio	Lower	Upper
58	100		
43	356.1	294.4	354.4#

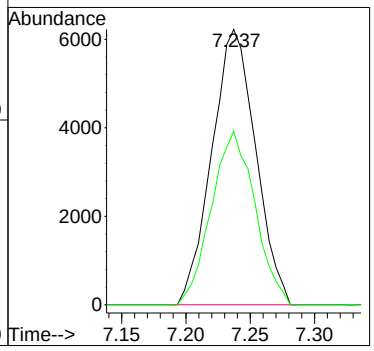


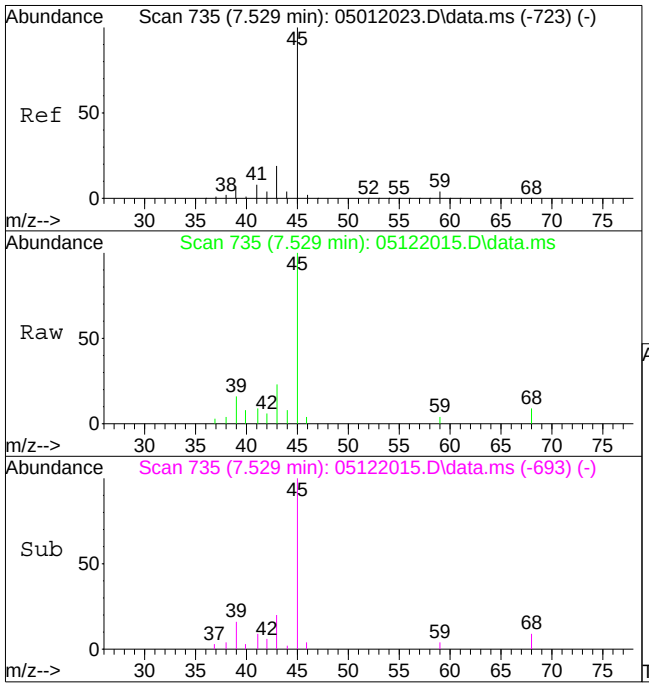


#14
Trichlorofluoromethane
Concen: 0.28 ng
RT: 7.24 min Scan# 682
Delta R.T. -0.011 min
Lab File: 05122015.D
Acq: 12 May 2020 9:50

Tgt Ion:101 Resp: 14790

Ion	Ratio	Lower	Upper
101	100		
103	62.4	44.4	84.4

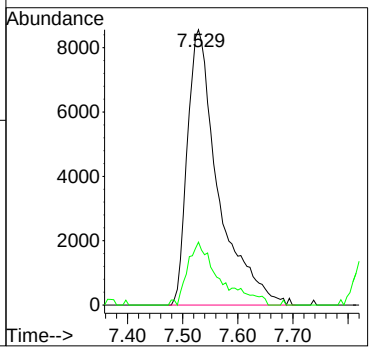


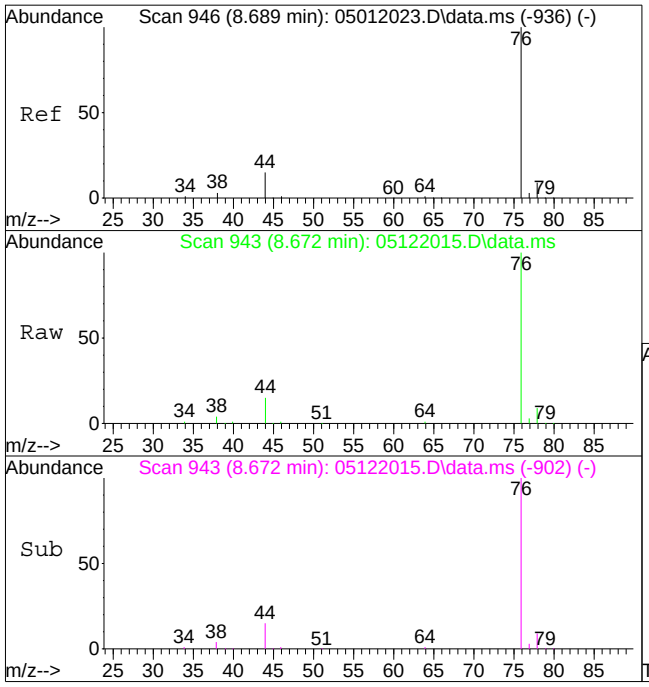


#15
2-Propanol (Isopropanol)
Concen: 0.46 ng
RT: 7.53 min Scan# 735
Delta R.T. -0.017 min
Lab File: 05122015.D
Acq: 12 May 2020 9:50

Tgt Ion: 45 Resp: 33207

Ion	Ratio	Lower	Upper
45	100		
43	23.9	0.0	39.5

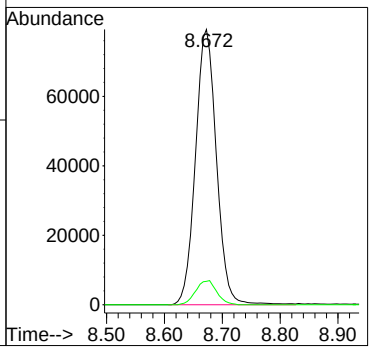


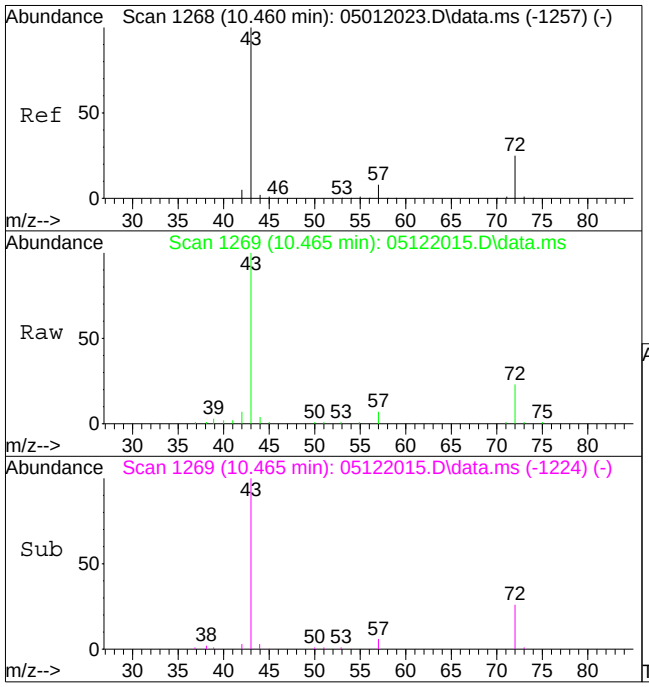


#22
Carbon Disulfide
Concen: 1.79 ng
RT: 8.67 min Scan# 943
Delta R.T. -0.022 min
Lab File: 05122015.D
Acq: 12 May 2020 9:50

Tgt Ion: 76 Resp: 199415

Ion	Ratio	Lower	Upper
76	100		
78	8.8	0.0	29.2

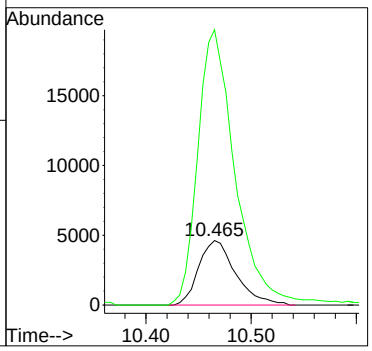


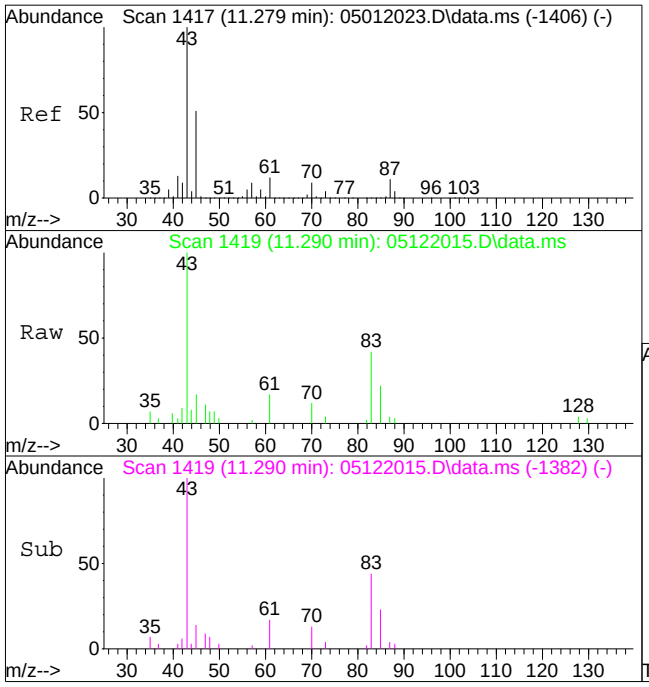


#27
2-Butanone (MEK)
Concen: 0.56 ng
RT: 10.47 min Scan# 1269
Delta R.T. -0.000 min
Lab File: 05122015.D
Acq: 12 May 2020 9:50

Tgt Ion: 72 Resp: 11327

Ion	Ratio	Lower	Upper
72	100		
43	435.1	389.7	429.7#

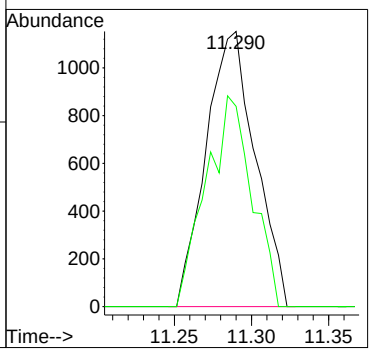


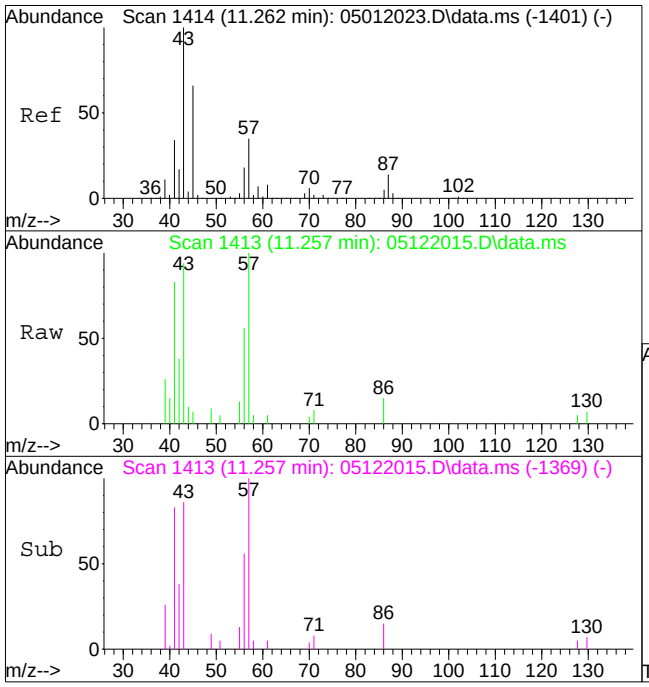


#30
Ethyl Acetate
Concen: 0.22 ng
RT: 11.29 min Scan# 1419
Delta R.T. 0.005 min
Lab File: 05122015.D
Acq: 12 May 2020 9:50

Tgt Ion: 61 Resp: 2555

Ion	Ratio	Lower	Upper
61	100		
70	71.4	57.9	97.9

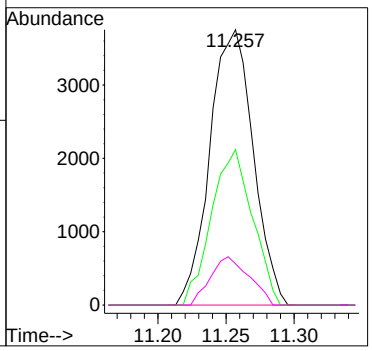


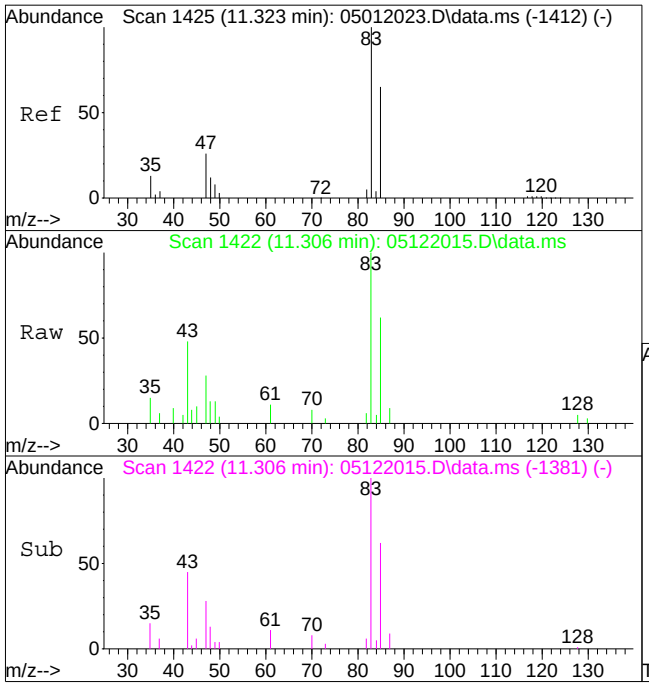


#31
n-Hexane
Concen: 0.16 ng
RT: 11.26 min Scan# 1413
Delta R.T. -0.006 min
Lab File: 05122015.D
Acq: 12 May 2020 9:50

Tgt Ion: 57 Resp: 8299

Ion	Ratio	Lower	Upper
57	100		
56	53.6	41.4	62.0
86	15.7	12.4	18.6

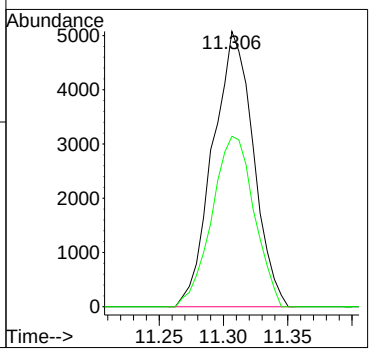


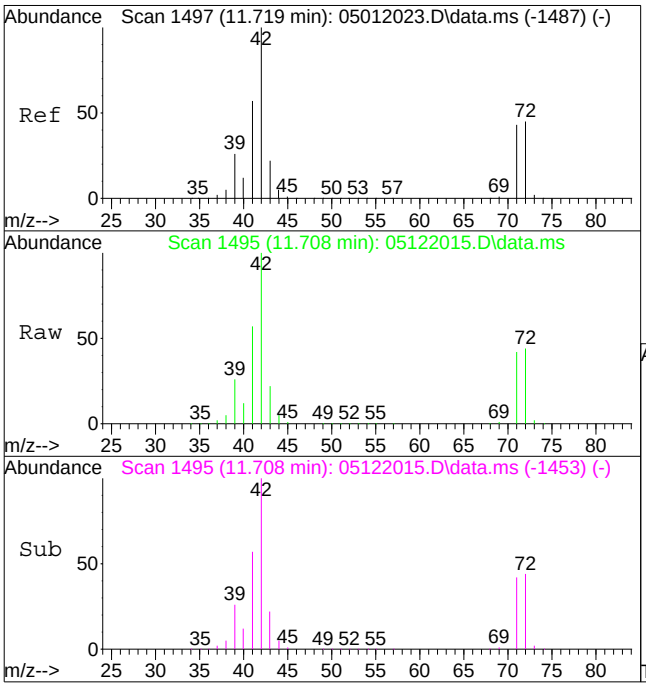


#32
Chloroform
Concen: 0.21 ng
RT: 11.31 min Scan# 1422
Delta R.T. -0.022 min
Lab File: 05122015.D
Acq: 12 May 2020 9:50

Tgt Ion: 83 Resp: 11131

Ion	Ratio	Lower	Upper
83	100		
85	64.3	45.5	85.5

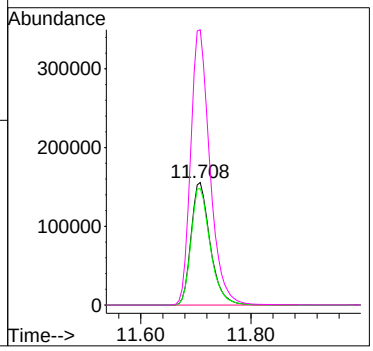


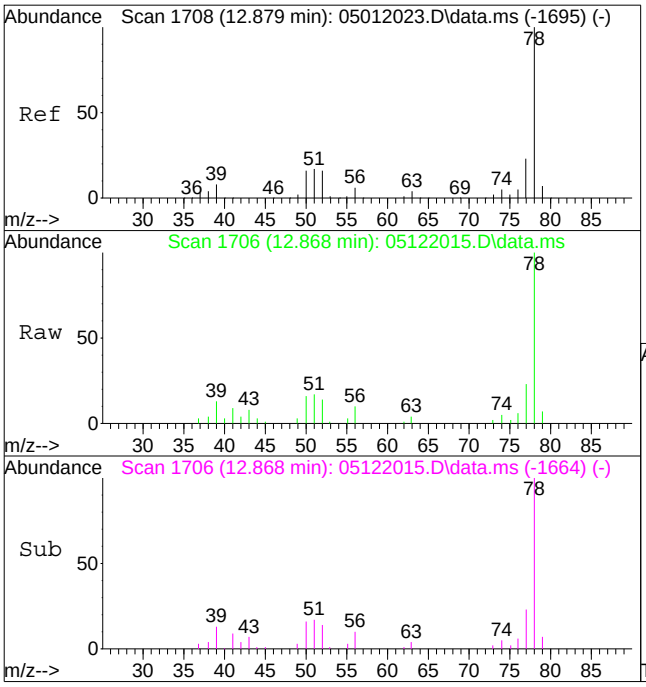


#34
Tetrahydrofuran (THF)
Concen: 18.77 ng
RT: 11.71 min Scan# 1495
Delta R.T. -0.017 min
Lab File: 05122015.D
Acq: 12 May 2020 9:50

Tgt Ion: 72 Resp: 373245

Ion	Ratio	Lower	Upper
72	100		
71	96.1	77.0	117.0
42	227.1	204.6	244.6

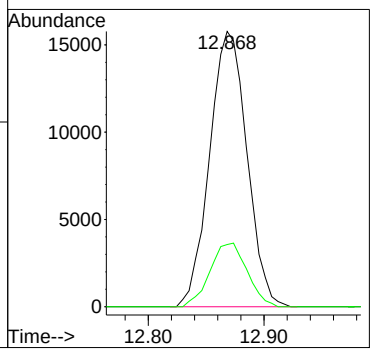


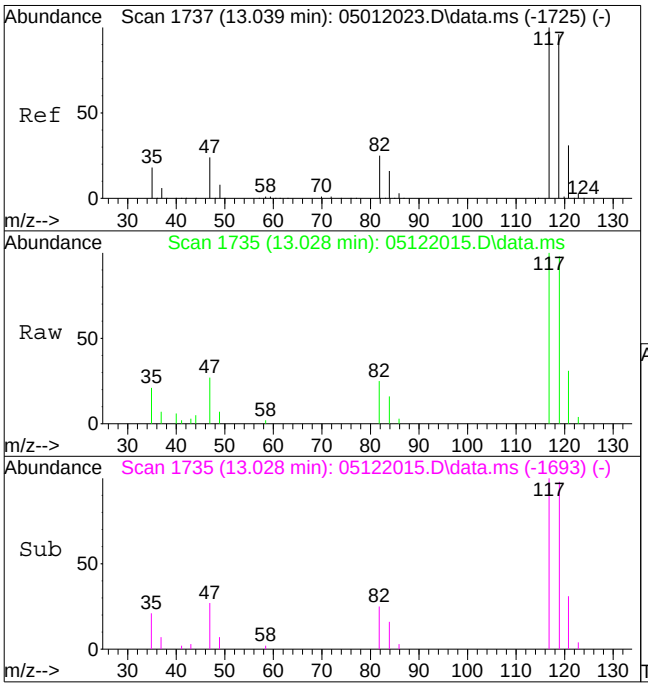


#41
Benzene
Concen: 0.28 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05122015.D
Acq: 12 May 2020 9:50

Tgt Ion: 78 Resp: 35406

Ion	Ratio	Lower	Upper
78	100		
77	23.0	3.4	43.4

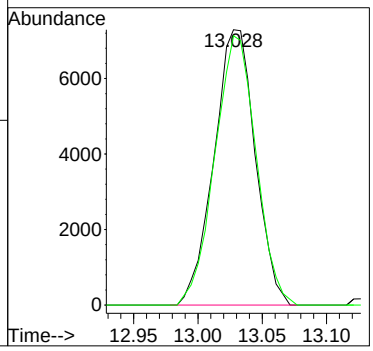


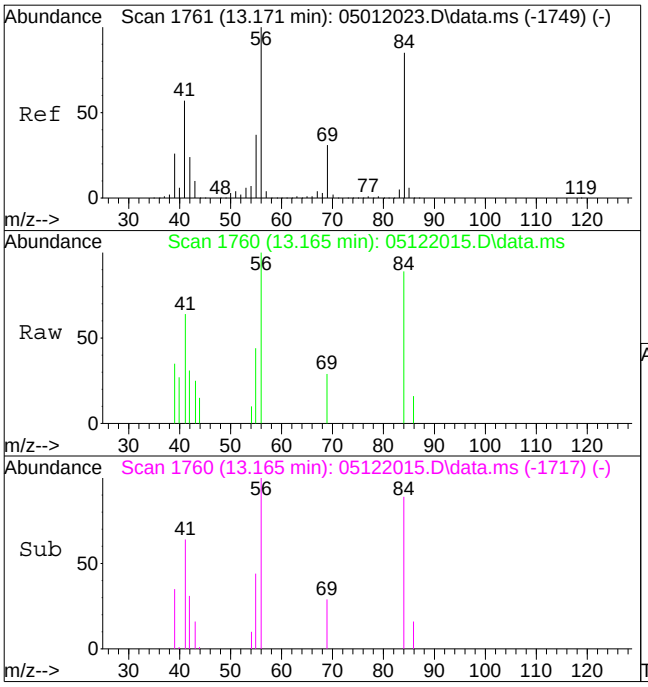


#42
Carbon Tetrachloride
Concen: 0.38 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05122015.D
Acq: 12 May 2020 9:50

Tgt Ion:117 Resp: 16281

Ion	Ratio	Lower	Upper
117	100		
119	97.6	76.2	116.2

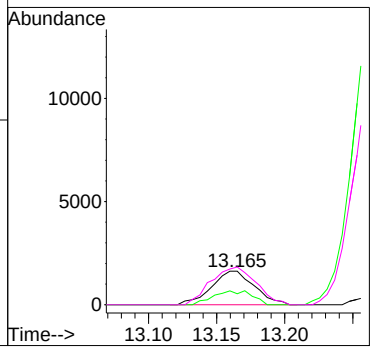


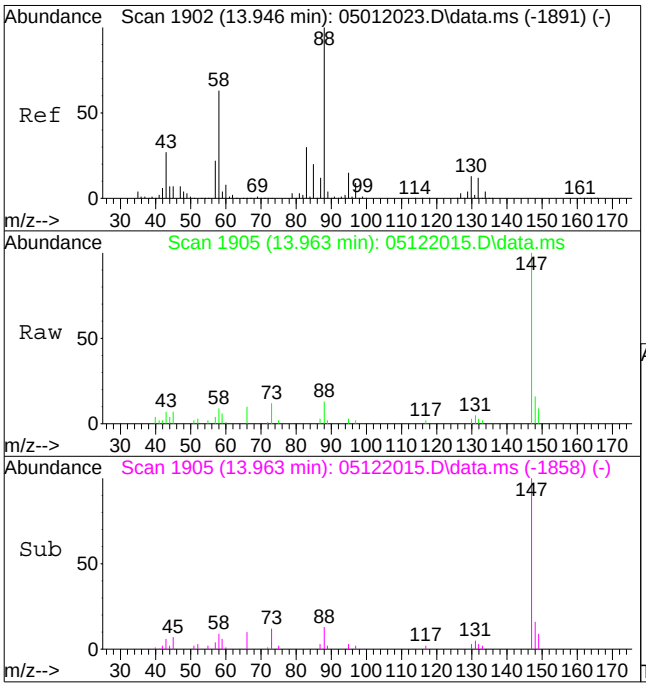


#43
Cyclohexane
Concen: 0.08 ng
RT: 13.17 min Scan# 1760
Delta R.T. -0.011 min
Lab File: 05122015.D
Acq: 12 May 2020 9:50

Tgt Ion: 84 Resp: 3562

Ion	Ratio	Lower	Upper
84	100		
69	37.3	16.5	56.5
56	118.3	97.4	137.4

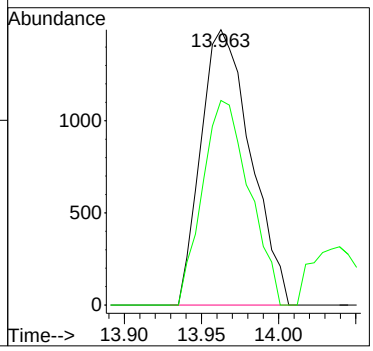


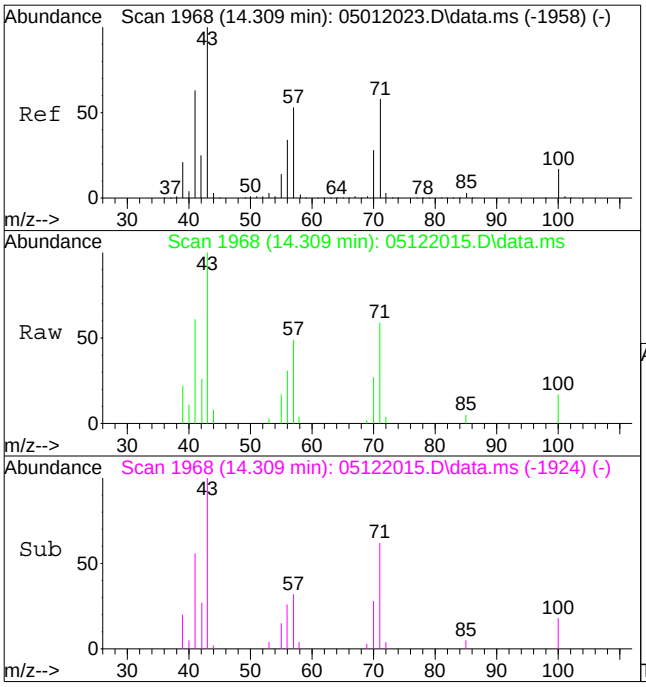


#48
1,4-Dioxane
Concen: 0.13 ng
RT: 13.96 min Scan# 1905
Delta R.T. 0.011 min
Lab File: 05122015.D
Acq: 12 May 2020 9:50

Tgt Ion: 88 Resp: 3356

Ion	Ratio	Lower	Upper
88	100		
58	70.0	42.8	82.8

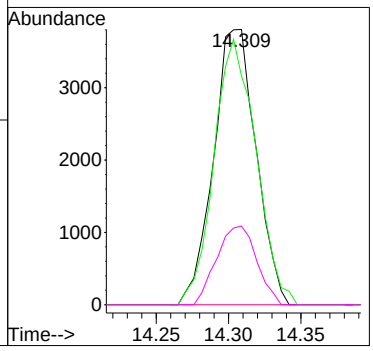


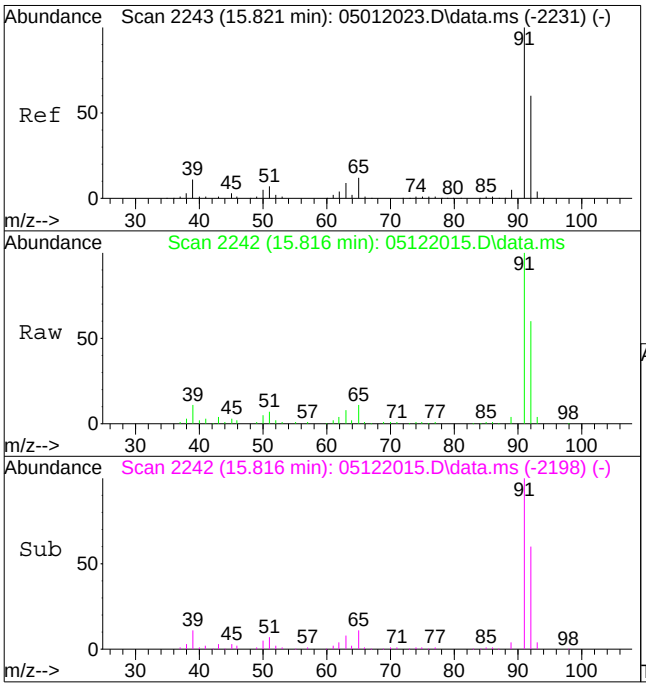


#51
n-Heptane
Concen: 0.27 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05122015.D
Acq: 12 May 2020 9:50

Tgt Ion: 71 Resp: 7804

Ion	Ratio	Lower	Upper
71	100		
57	95.4	71.0	111.0
100	26.8	8.4	48.4

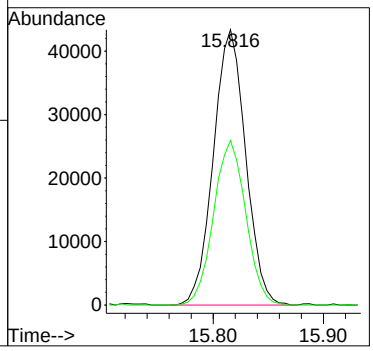


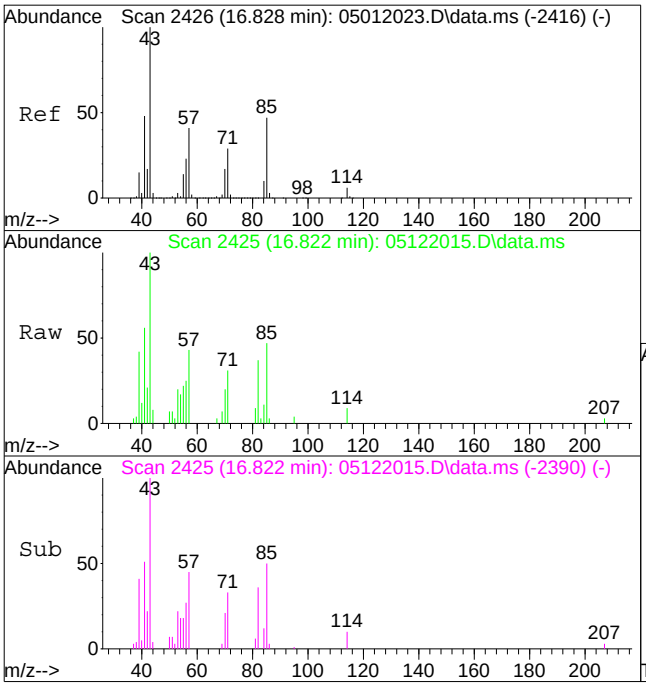


#58
Toluene
Concen: 0.76 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05122015.D
Acq: 12 May 2020 9:50

Tgt Ion: 91 Resp: 88301

Ion	Ratio	Lower	Upper
91	100		
92	59.5	39.4	79.4

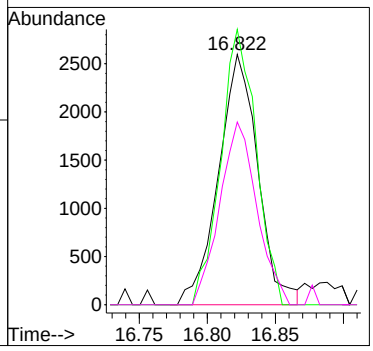


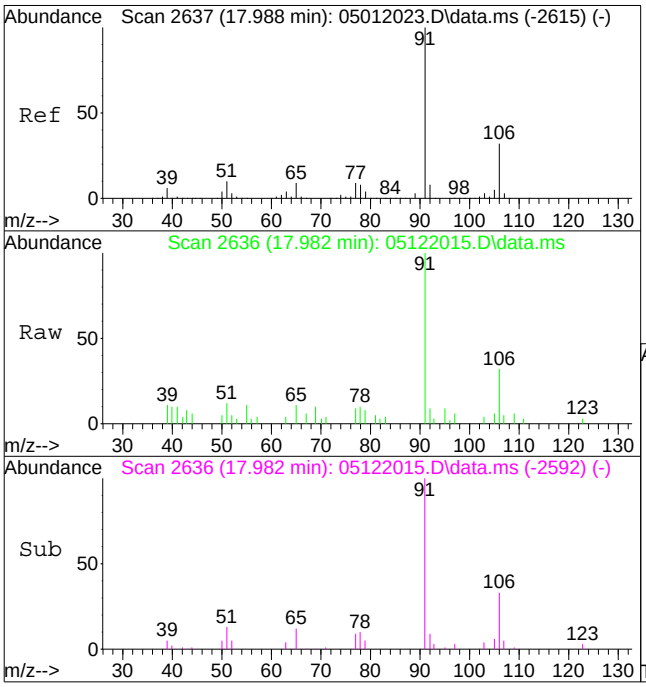


#63
n-Octane
Concen: 0.22 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05122015.D
Acq: 12 May 2020 9:50

Tgt Ion: 57 Resp: 5229

Ion	Ratio	Lower	Upper
57	100		
85	98.8	91.0	136.4
71	68.8	56.2	84.2

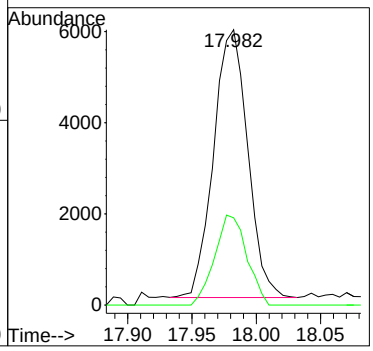


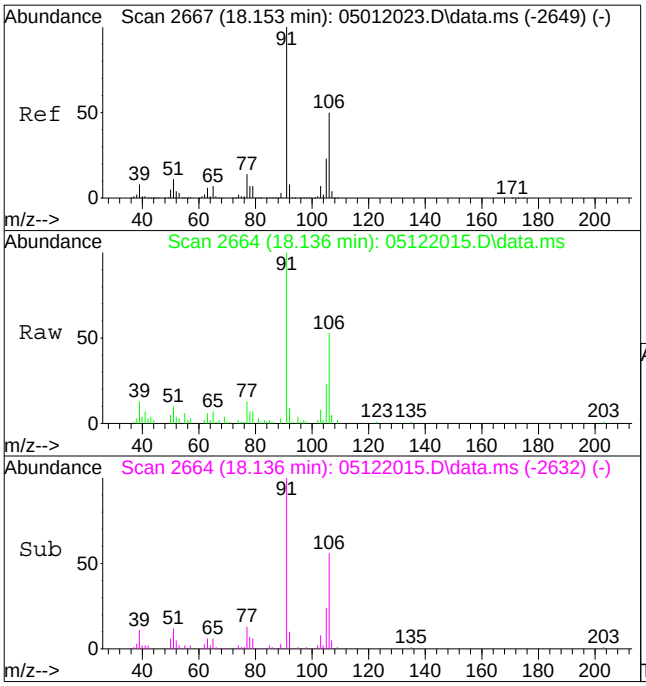


#66
Ethylbenzene
Concen: 0.08 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05122015.D
Acq: 12 May 2020 9:50

Tgt Ion: 91 Resp: 10842

Ion	Ratio	Lower	Upper
91	100		
106	31.5	11.6	51.6

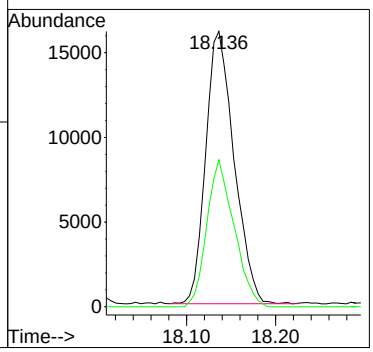


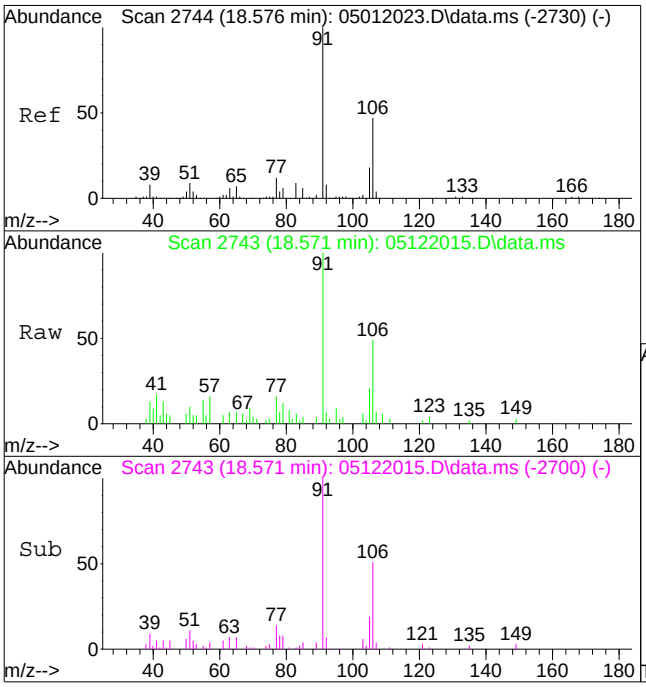


#67
m- & p-Xylenes
Concen: 0.35 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05122015.D
Acq: 12 May 2020 9:50

Tgt Ion: 91 Resp: 35632

Ion	Ratio	Lower	Upper
91	100		
106	51.7	29.7	69.7

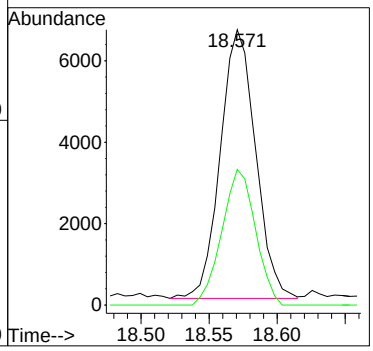


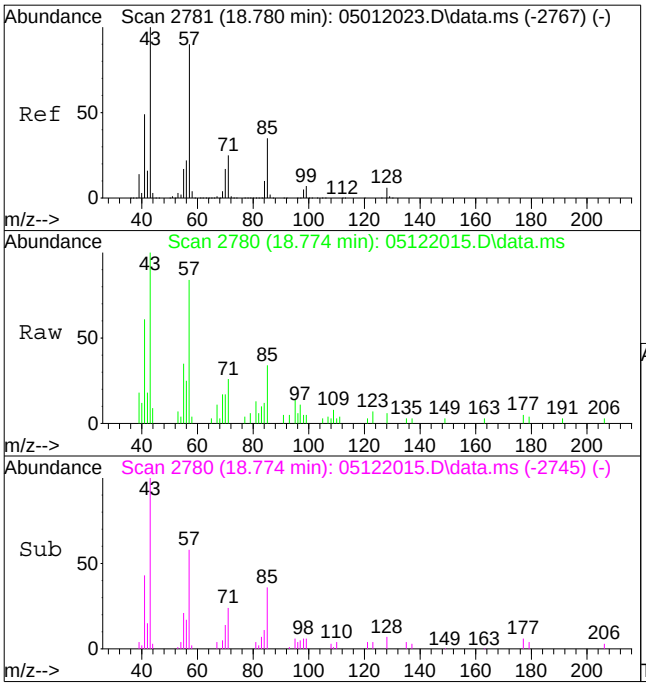


#70
o-Xylene
Concen: 0.11 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05122015.D
Acq: 12 May 2020 9:50

Tgt Ion: 91 Resp: 11898

Ion	Ratio	Lower	Upper
91	100		
106	48.0	27.5	67.5

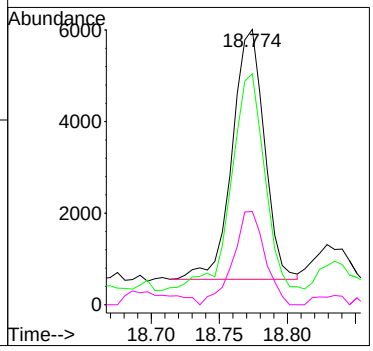


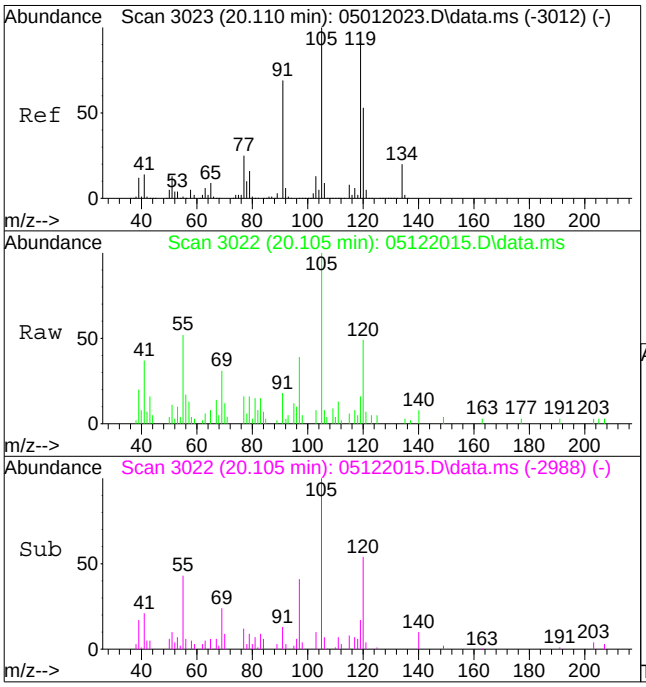


#71
n-Nonane
Concen: 0.16 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05122015.D
Acq: 12 May 2020 9:50

Tgt Ion: 43 Resp: 8982

Ion	Ratio	Lower	Upper
43	100		
57	90.0	69.0	109.0
85	37.0	14.6	54.6

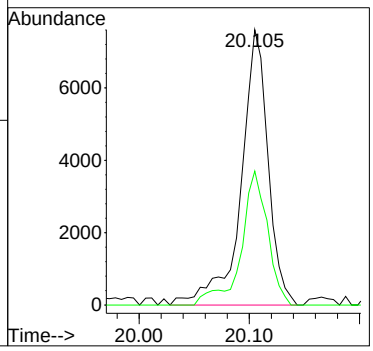




#82
1,2,4-Trimethylbenzene
Concen: 0.12 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05122015.D
Acq: 12 May 2020 9:50

Tgt Ion:105 Resp: 12993

Ion	Ratio	Lower	Upper
105	100		
120	47.4	33.6	73.6



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122024.D Vial: 5
Acq On : 12 May 2020 15:26 Operator: WA
Sample : P2002300-012 (50mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:59:28 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/13/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	298786	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1293153	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	595761	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	479046	11.831	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.64%			
57) Toluene-d8 (SS2)	15.72	98	1259671	12.474	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.76%			
73) Bromofluorobenzene (SS3)	18.97	174	477673	13.146	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.20%			
Target Compounds						Qvalue
2) Propene	4.11	42	13734m	0.397	ng	
3) Dichlorodifluoromethan...	4.27	85	397	N.D.		
4) Chloromethane	4.54	50	373	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	5.31	54	257	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.32	45	12961	0.485	ng	91
11) Acetonitrile	6.56	41	1833	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	7.47	45	402014	4.970	ng	97
16) Acrylonitrile	7.72	53	50	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	8.42	59	2991	N.D.		
19) Methylene Chloride	8.41	84	358	N.D.		
20) 3-Chloro-1-propene (Al...	8.63	41	153	N.D.		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	8.70	76	4792	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.	d	
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	d	
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	10.50	72	582	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	11.29	61	1984	0.151	ng	90
31) n-Hexane	11.27	57	18166	0.319	ng	97
32) Chloroform	11.31	83	337	N.D.		
34) Tetrahydrofuran (THF)	11.78	72	612	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	12.84	61	164	N.D.		
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	12.87	78	27900	0.201	ng	100
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	13.17	84	66558	1.288	ng	100
44) tert-Amyl Methyl Ether	13.38	73	167	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	13.95	83	246	N.D.		
47) Trichloroethene	13.97	130	3235	0.090	ng	99
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	14.30	100	111	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122024.D Vial: 5
Acq On : 12 May 2020 15:26 Operator: WA
Sample : P2002300-012 (50mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:59:28 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

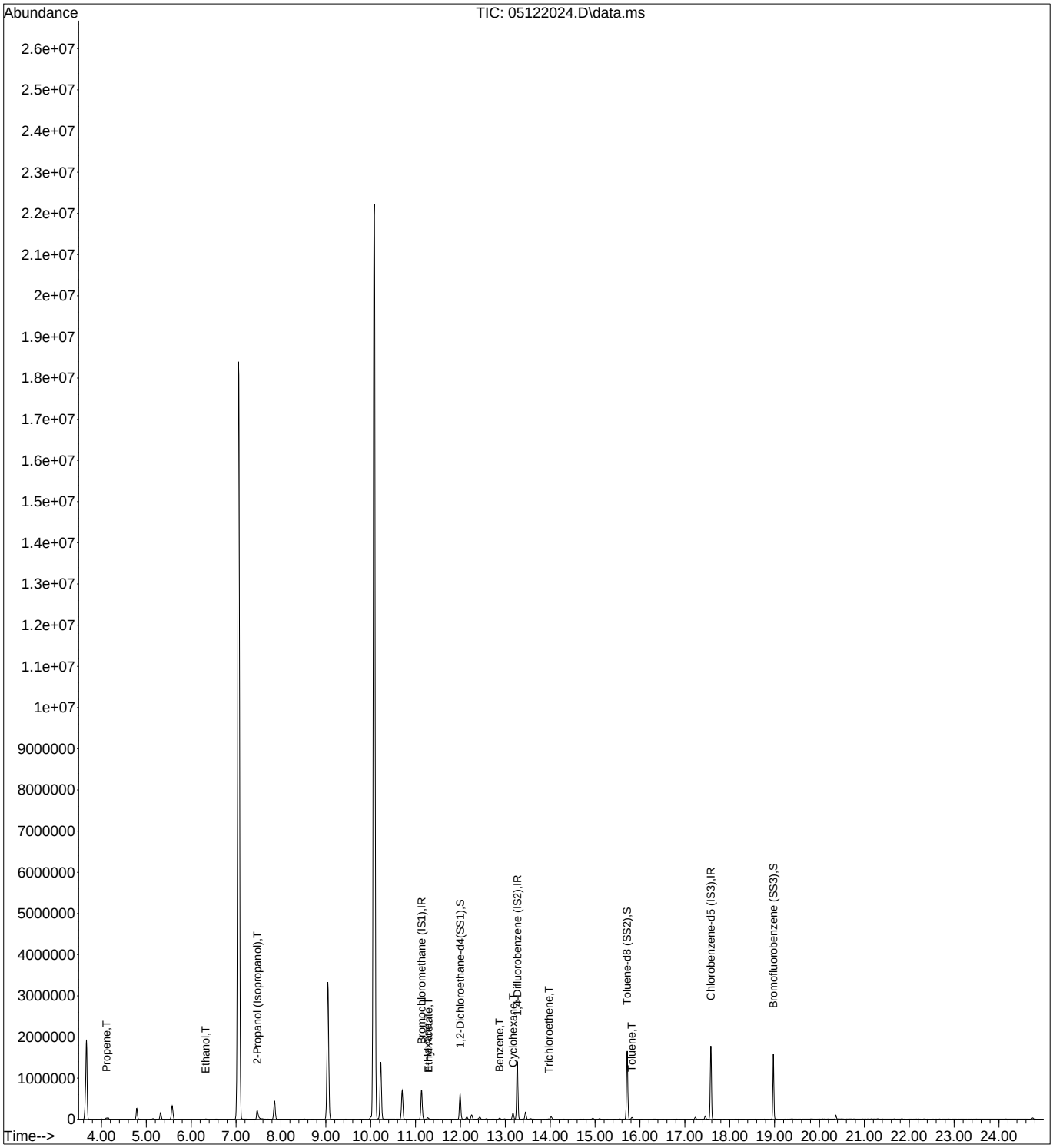
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	1189	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	15.13	75	101	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.82	91	15336	0.118 ng	97
59) 2-Hexanone	16.07	43	1181	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.70	43	336	N.D.	
63) n-Octane	16.82	57	761	N.D.	
64) Tetrachloroethene	16.96	166	288	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	17.98	91	1370	N.D.	
67) m- & p-Xylenes	18.14	91	4691	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	165	N.D.	
70) o-Xylene	18.58	91	1590	N.D.	
71) n-Nonane	18.77	43	1104	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	18.98	105	945	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	19.55	91	393	N.D.	
77) 3-Ethyltoluene	19.64	105	1045	N.D.	
78) 4-Ethyltoluene	19.68	105	291	N.D.	
79) 1,3,5-Trimethylbenzene	19.74	105	636	N.D.	
80) alpha-Methylstyrene	19.88	118	729	N.D.	
81) 2-Ethyltoluene	19.92	105	357	N.D.	
82) 1,2,4-Trimethylbenzene	20.11	105	1415	N.D.	
83) n-Decane	20.19	57	2664	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	20.48	105	423	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	200	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	423	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.62	68	372	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.30	57	1158	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.22	128	1440	N.D.	
96) n-Dodecane	22.21	57	483	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.28	55	1975	N.D.	
99) tert-Butylbenzene	20.11	119	108	N.D.	
100) n-Butylbenzene	20.85	91	345	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122024.D Vial: 5
Acq On : 12 May 2020 15:26 Operator: WA
Sample : P2002300-012 (50mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:59:28 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122024.D Vial: 5
Acq On : 12 May 2020 15:26 Operator: WA
Sample : P2002300-012 (50mL) Inst : GCMS-16
Misc : S31-02112001

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Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/13/20

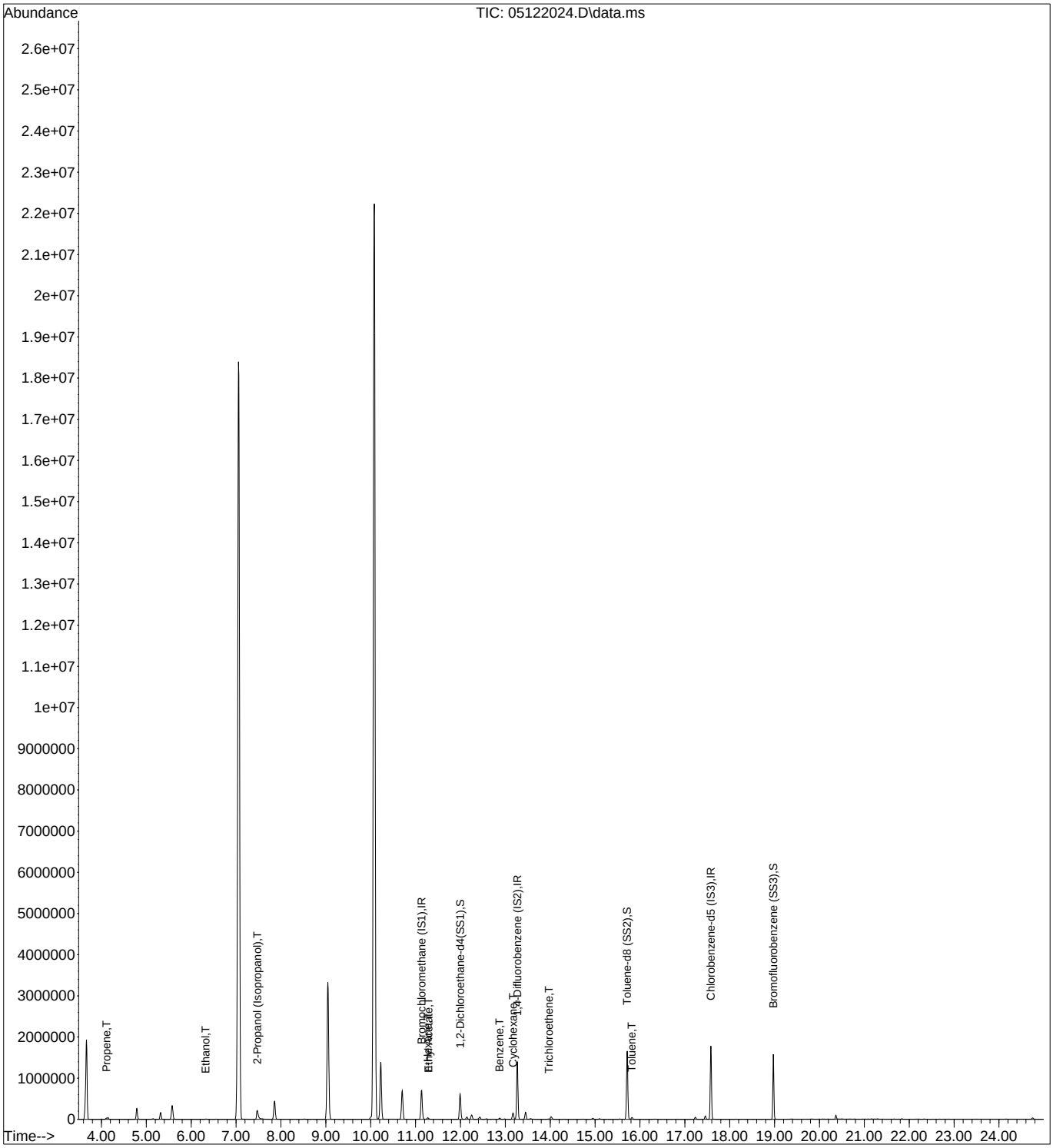
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	298786	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1293153	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	595761	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	479046	11.831	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.64%			
57) Toluene-d8 (SS2)	15.72	98	1259671	12.474	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.76%			
73) Bromofluorobenzene (SS3)	18.97	174	477673	13.146	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.20%			
Target Compounds						Qvalue
2) Propene	4.11	42	13734m	0.397	ng	
10) Ethanol	6.32	45	12961	0.485	ng	91
15) 2-Propanol (Isopropanol)	7.47	45	402014	4.970	ng	97
30) Ethyl Acetate	11.29	61	1984	0.151	ng	90
31) n-Hexane	11.27	57	18166	0.319	ng	97
41) Benzene	12.87	78	27900	0.201	ng	100
43) Cyclohexane	13.17	84	66558	1.288	ng	100
47) Trichloroethene	13.97	130	3235	0.090	ng	99
58) Toluene	15.82	91	15336	0.118	ng	97

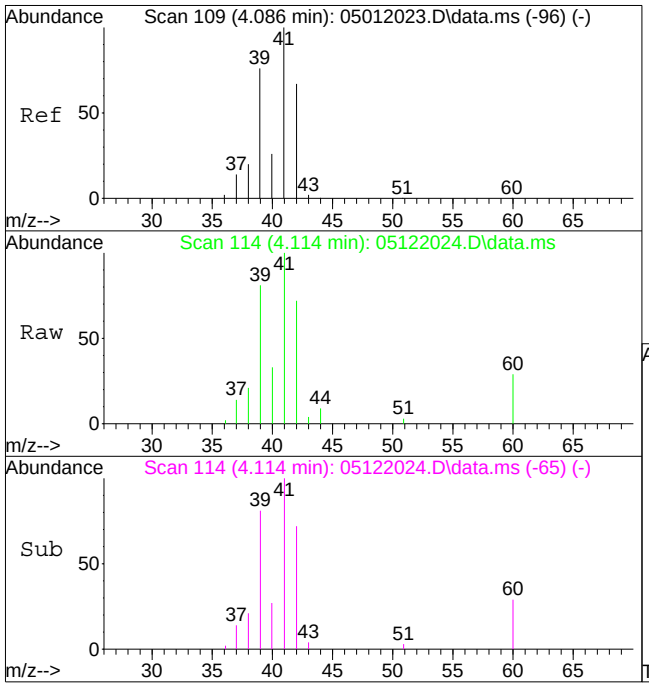
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122024.D Vial: 5
Acq On : 12 May 2020 15:26 Operator: WA
Sample : P2002300-012 (50mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:59:28 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

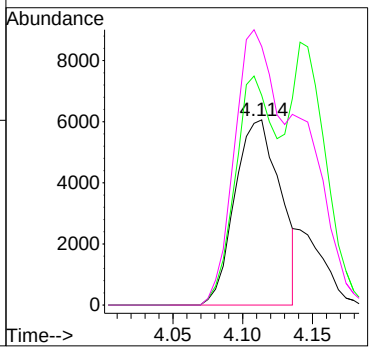


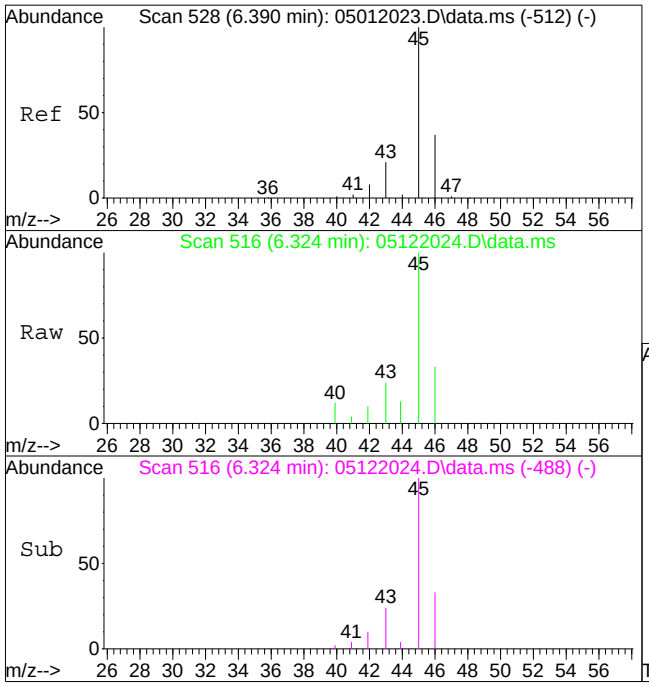


#2
Propene
Concen: 0.40 ng m
RT: 4.11 min Scan# 114
Delta R.T. 0.022 min
Lab File: 05122024.D
Acq: 12 May 2020 15:26

Tgt Ion: 42 Resp: 13734

Ion	Ratio	Lower	Upper
42	100		
39	104.4	96.1	136.1
41	221.2	131.9	171.9#

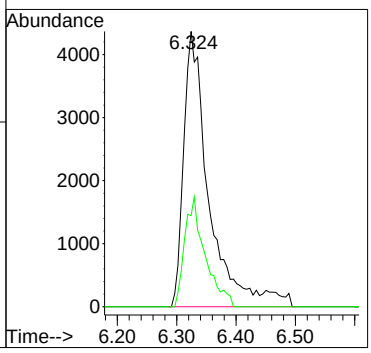


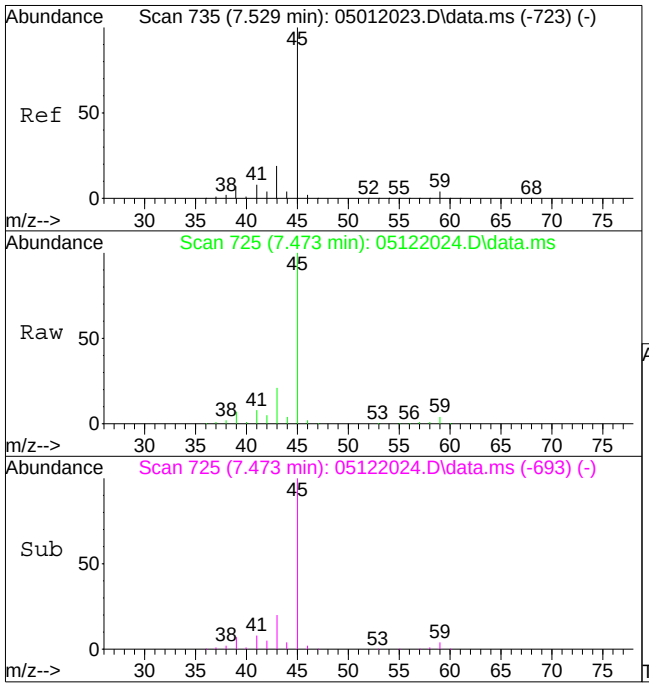


#10
Ethanol
Concen: 0.49 ng
RT: 6.32 min Scan# 516
Delta R.T. -0.094 min
Lab File: 05122024.D
Acq: 12 May 2020 15:26

Tgt Ion: 45 Resp: 12961

Ion	Ratio	Lower	Upper
45	100		
46	32.0	17.2	57.2

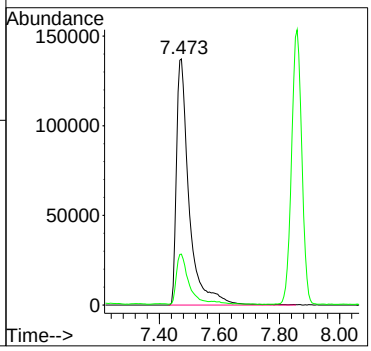


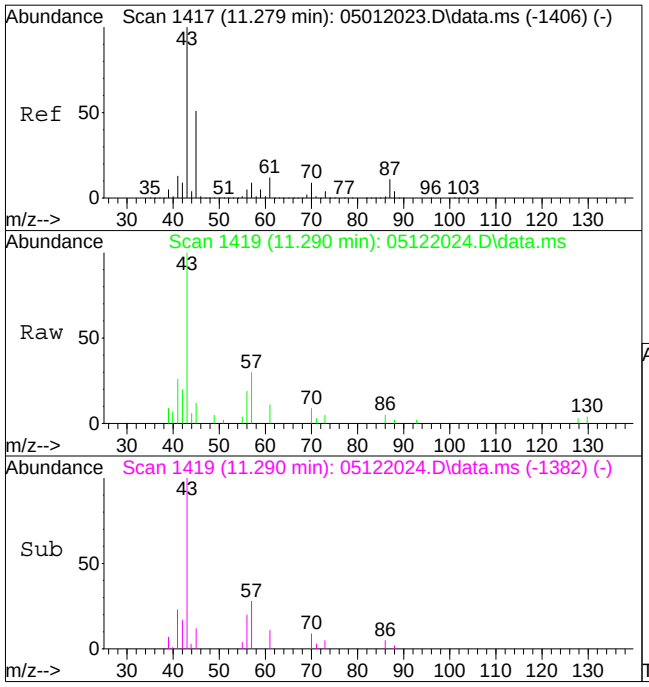


#15
2-Propanol (Isopropanol)
Concen: 4.97 ng
RT: 7.47 min Scan# 725
Delta R.T. -0.072 min
Lab File: 05122024.D
Acq: 12 May 2020 15:26

Tgt Ion: 45 Resp: 402014

Ion	Ratio	Lower	Upper
45	100		
43	20.9	0.0	39.5

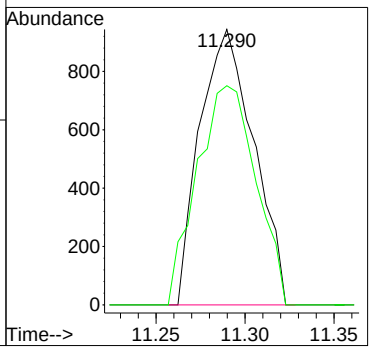


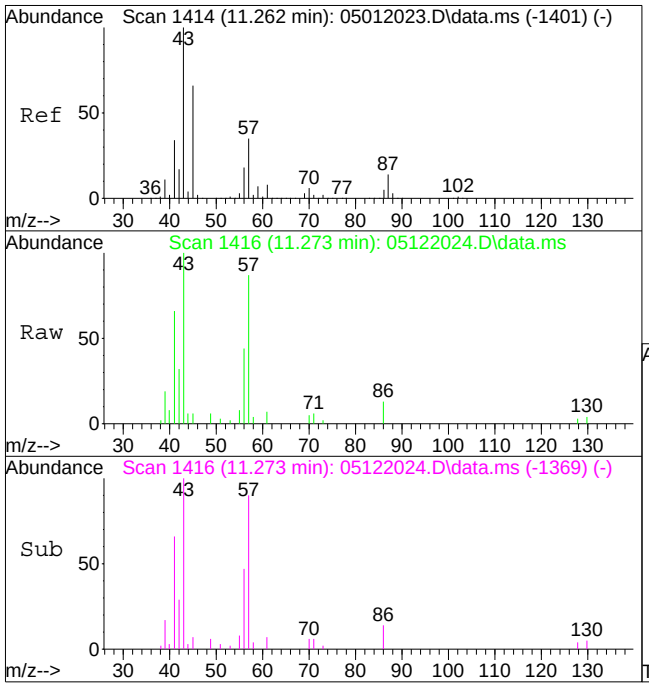


#30
Ethyl Acetate
Concen: 0.15 ng
RT: 11.29 min Scan# 1419
Delta R.T. 0.005 min
Lab File: 05122024.D
Acq: 12 May 2020 15:26

Tgt Ion: 61 Resp: 1984

Ion	Ratio	Lower	Upper
61	100		
70	87.0	57.9	97.9

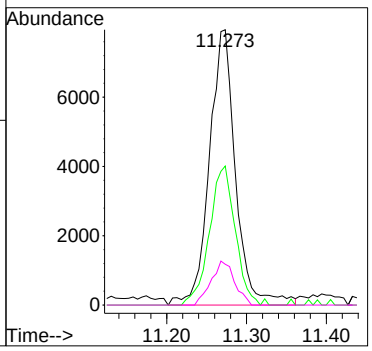


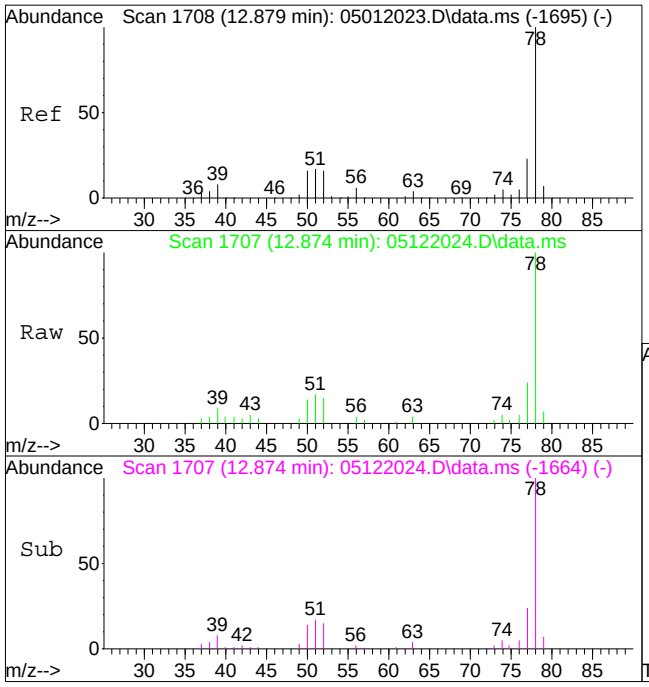


#31
n-Hexane
Concen: 0.32 ng
RT: 11.27 min Scan# 1416
Delta R.T. 0.011 min
Lab File: 05122024.D
Acq: 12 May 2020 15:26

Tgt Ion: 57 Resp: 18166

Ion	Ratio	Lower	Upper
57	100		
56	49.7	41.4	62.0
86	14.2	12.4	18.6

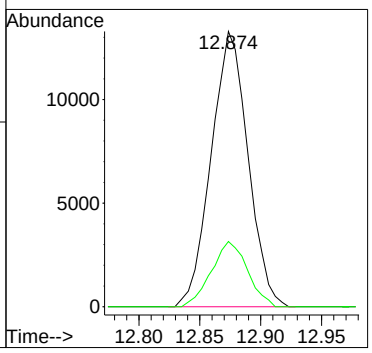


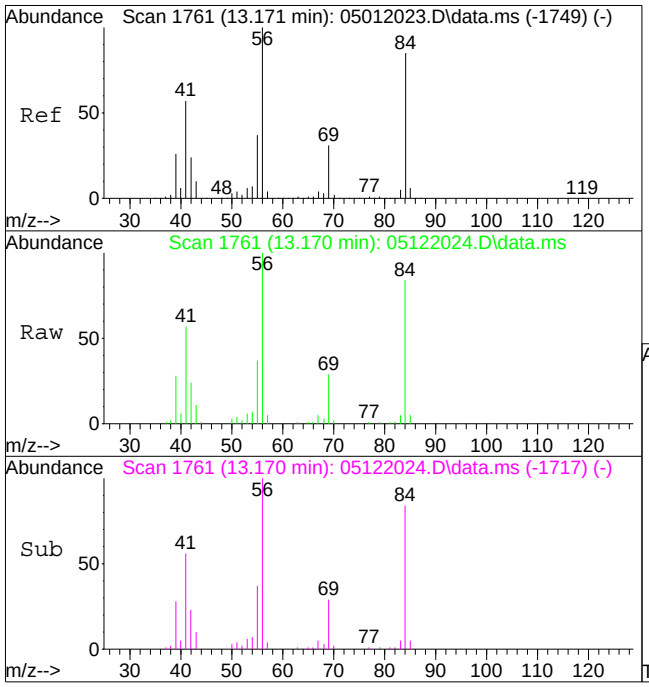


#41
Benzene
Concen: 0.20 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05122024.D
Acq: 12 May 2020 15:26

Tgt Ion: 78 Resp: 27900

Ion	Ratio	Lower	Upper
78	100		
77	23.2	3.4	43.4

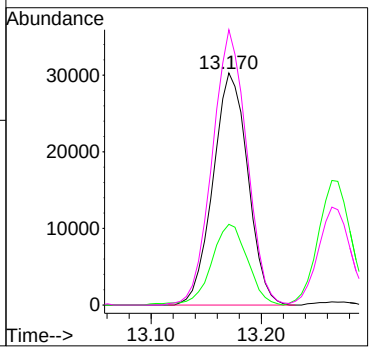


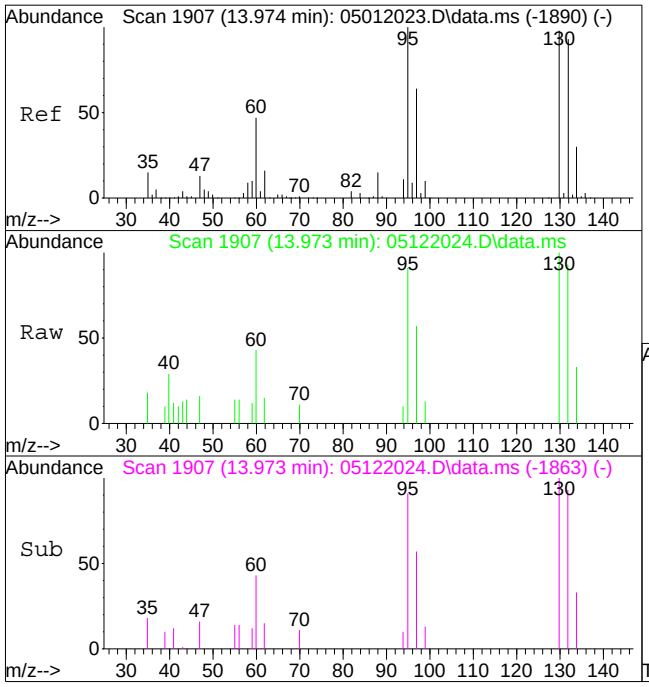


#43
Cyclohexane
Concen: 1.29 ng
RT: 13.17 min Scan# 1761
Delta R.T. -0.006 min
Lab File: 05122024.D
Acq: 12 May 2020 15:26

Tgt Ion: 84 Resp: 66558

Ion	Ratio	Lower	Upper
84	100		
69	36.0	16.5	56.5
56	117.8	97.4	137.4

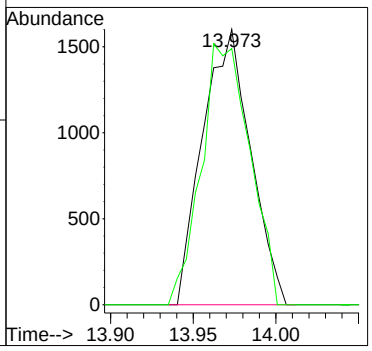


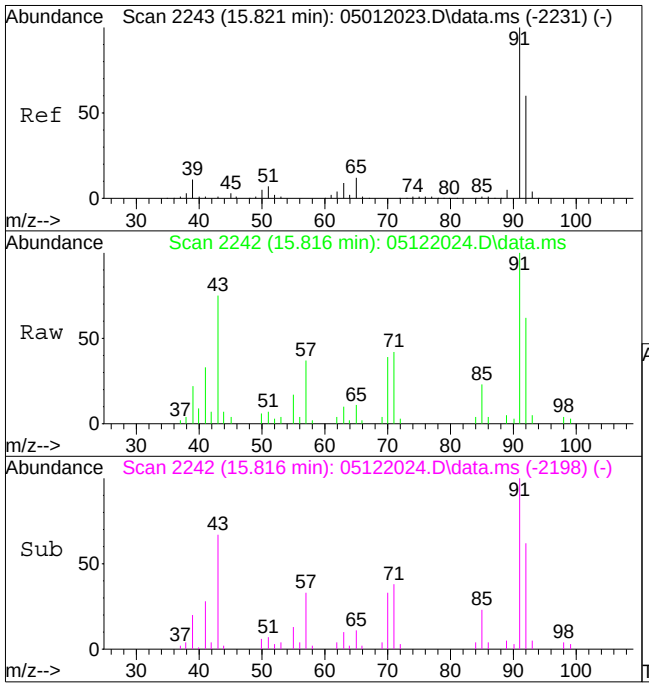


#47
Trichloroethene
Concen: 0.09 ng
RT: 13.97 min Scan# 1907
Delta R.T. -0.006 min
Lab File: 05122024.D
Acq: 12 May 2020 15:26

Tgt Ion:130 Resp: 3235

Ion	Ratio	Lower	Upper
130	100		
132	96.2	74.9	114.9

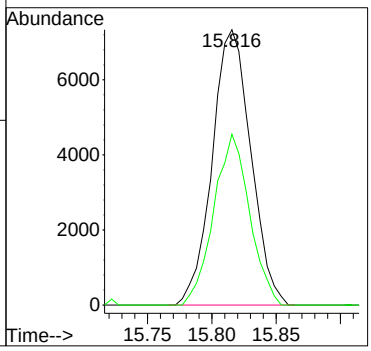




#58
Toluene
Concen: 0.12 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05122024.D
Acq: 12 May 2020 15:26

Tgt Ion: 91 Resp: 15336

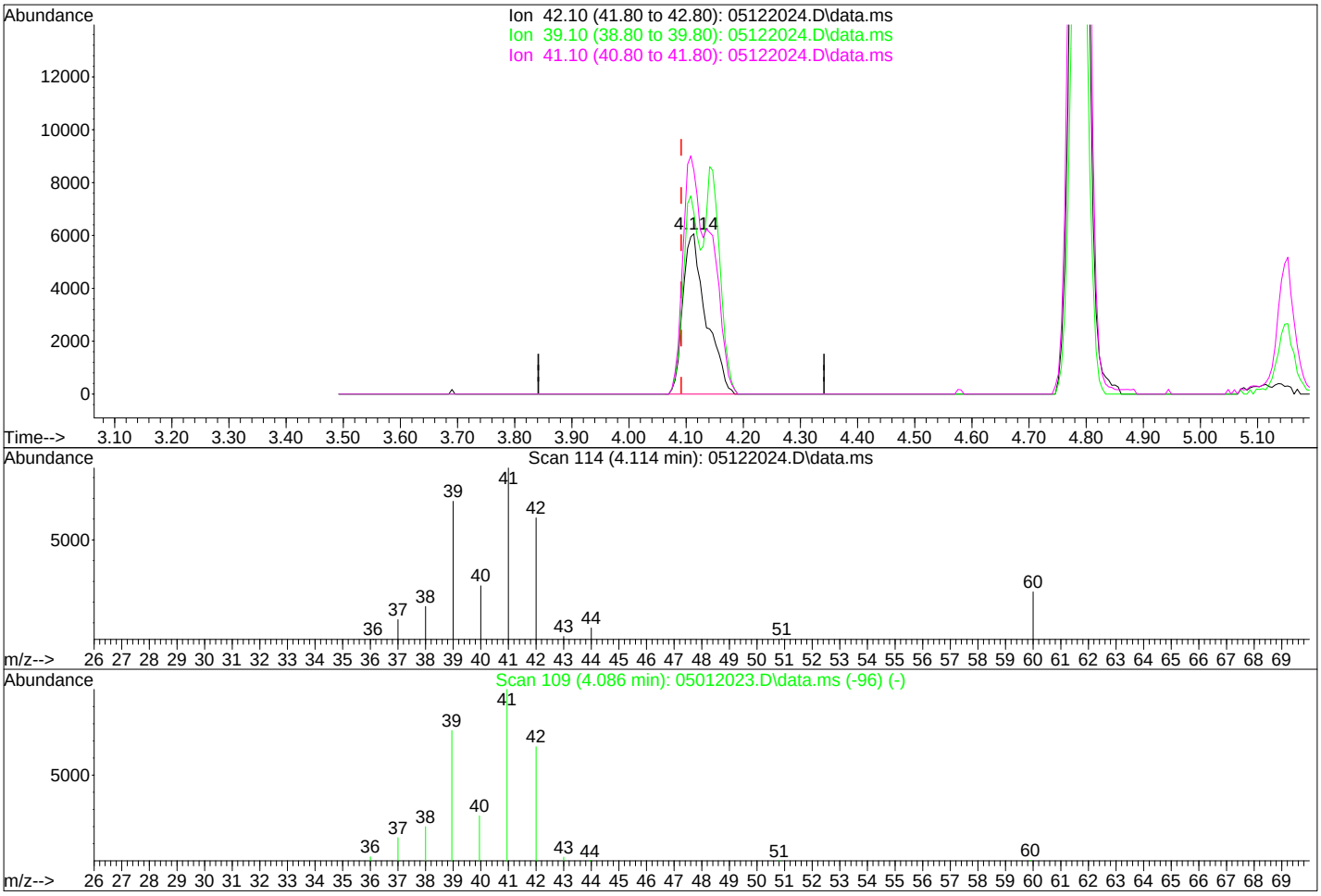
Ion	Ratio	Lower	Upper
91	100		
92	57.4	39.4	79.4



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\12\05122024.D Vial: 5
Acq On : 12 May 2020 15:26 Operator: WA
Sample : P2002300-012 (50mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 05:59:22 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05122024.D\data.ms

(2) Propene (T)

4.114min (+0.022) 0.49ng

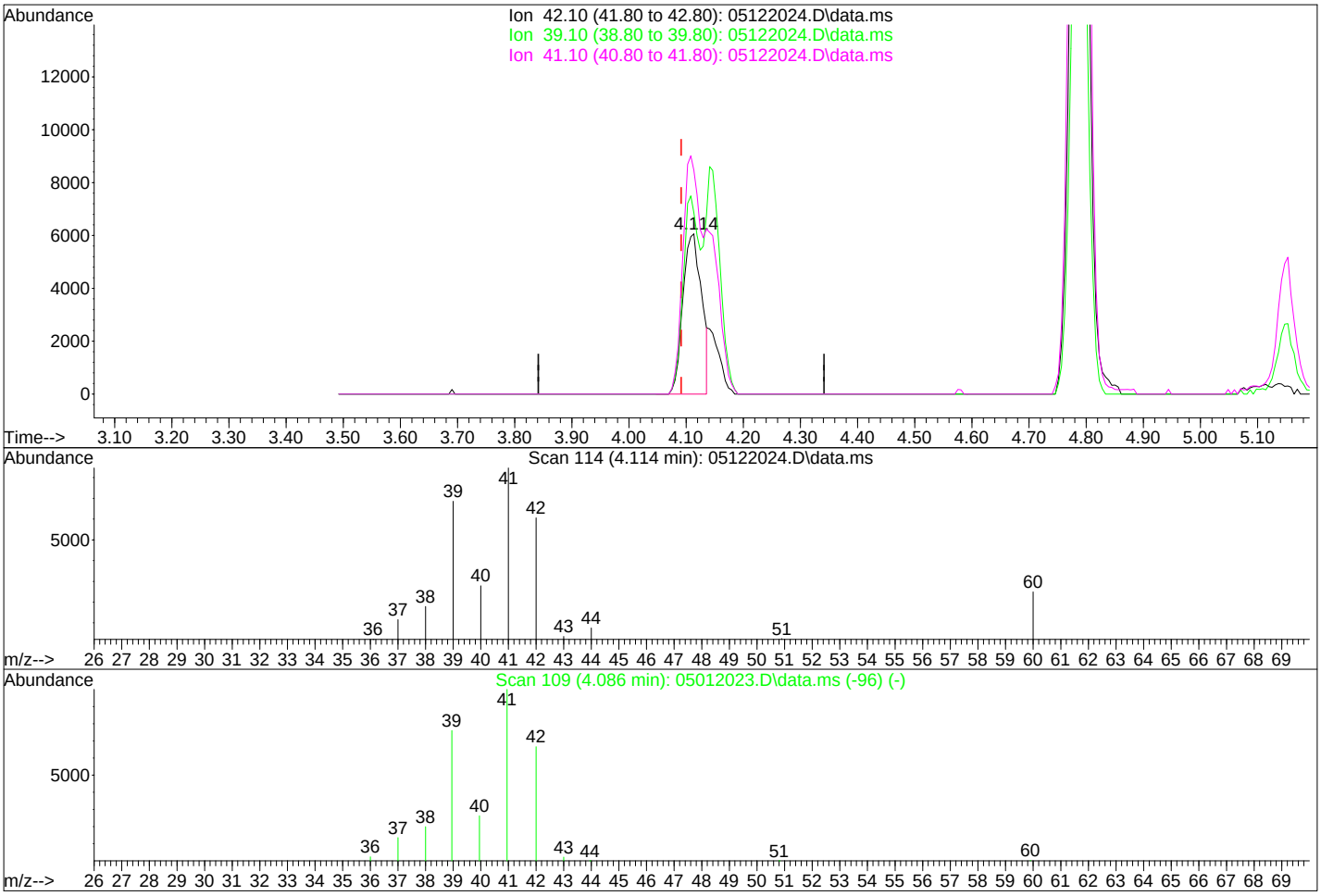
response 17069

Ion	Exp%	Act%
42.10	100	100
39.10	116.10	84.01#
41.10	151.90	177.95#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\12\05122024.D Vial: 5
Acq On : 12 May 2020 15:26 Operator: WA
Sample : P2002300-012 (50mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 05:59:22 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05122024.D\data.ms

(2) Propene (T)

4.114min (+0.022) 0.40ng m

response 13734

Ion	Exp%	Act%
42.10	100	100
39.10	116.10	104.41
41.10	151.90	221.16#
0.00	0.00	0.00

IPC

LH 5/13/20

5/14/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122022.D Vial: 1
Acq On : 12 May 2020 13:48 Operator: WA
Sample : P2002300-013 (1.5mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:56:25 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/13/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	268159	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1160000	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	541823	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	428424	11.789	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.32%			
57) Toluene-d8 (SS2)	15.72	98	1172400	12.766	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.16%			
73) Bromofluorobenzene (SS3)	18.97	174	438167	13.259	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.08%			

Target Compounds						Qvalue
2) Propene	0.00	42	0	N.D.	d	
3) Dichlorodifluoromethan...	0.00	85	0	N.D.		
4) Chloromethane	4.56	50	258	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	5.33	54	184	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.36	45	966	N.D.		
11) Acetonitrile	6.62	41	55	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	7.56	45	643	N.D.		
16) Acrylonitrile	7.72	53	310	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	8.46	59	461	N.D.		
19) Methylene Chloride	0.00	84	0	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d	
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	8.71	76	2185	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	10.00	63	1180	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	d	
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	10.32	72	538	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	11.27	87	772	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	11.27	57	83569	1.634	ng	99
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	11.78	72	113	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.15	62	585	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	12.86	56	359	N.D.		
41) Benzene	12.87	78	8790	0.071	ng	98
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	13.18	84	221863	4.786	ng	100
44) tert-Amyl Methyl Ether	13.46	73	1993	N.D.		
45) 1,2-Dichloropropane	13.63	63	443	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122022.D Vial: 1
Acq On : 12 May 2020 13:48 Operator: WA
Sample : P2002300-013 (1.5mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:56:25 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

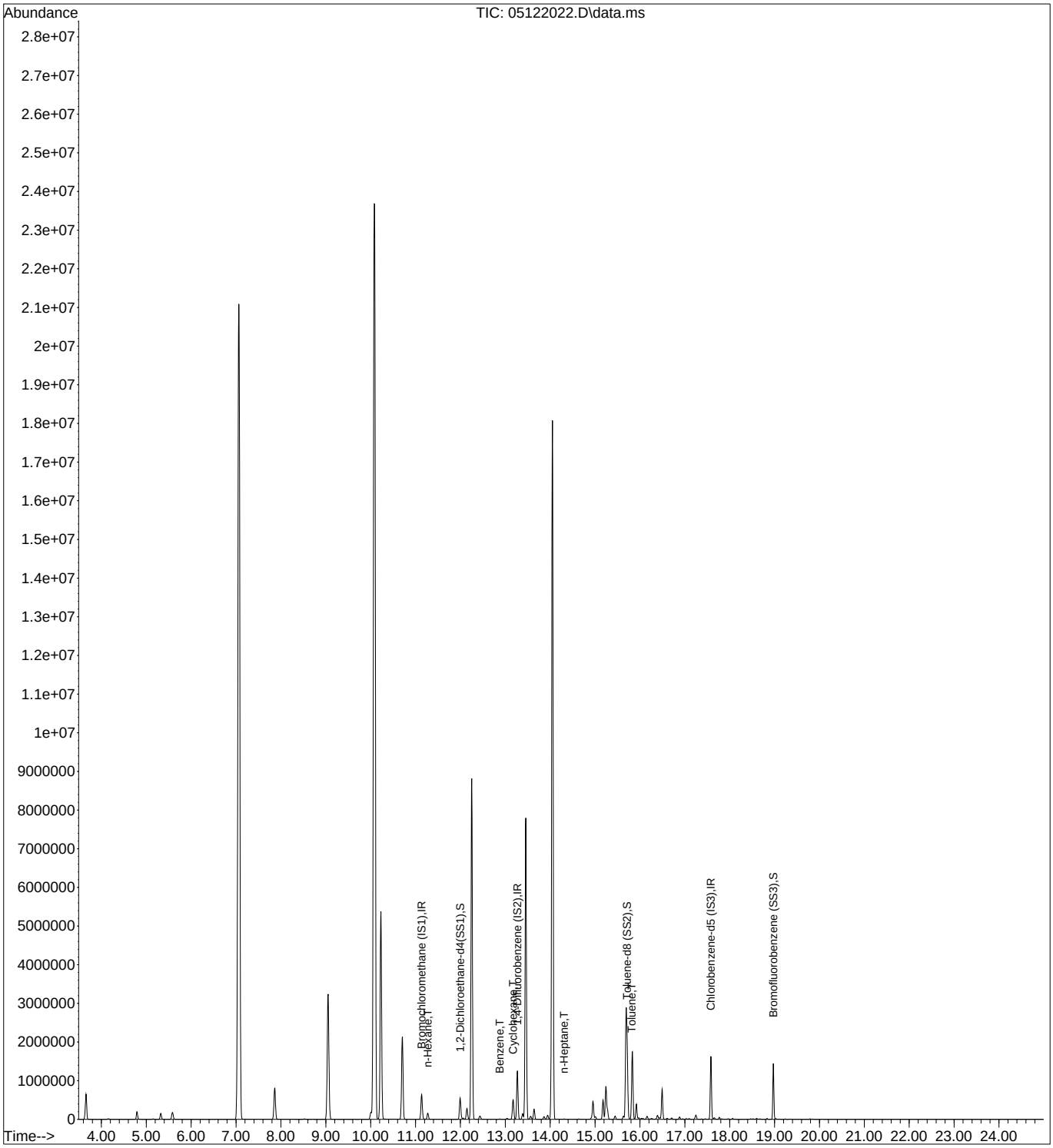
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.31	71	2233	0.077	ng	#	73
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
53) 4-Methyl-2-pentanone	14.92	58	655	N.D.			
54) trans-1,3-Dichloropropene	15.14	75	857	N.D.			
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	d		
58) Toluene	15.82	91	6338	0.054	ng		92
59) 2-Hexanone	0.00	43	0	N.D.	d		
60) Dibromochloromethane	0.00	129	0	N.D.			
61) 1,2-Dibromoethane	0.00	107	0	N.D.			
62) n-Butyl Acetate	16.70	43	2780	N.D.			
63) n-Octane	16.82	57	369	N.D.			
64) Tetrachloroethene	16.95	166	151	N.D.			
65) Chlorobenzene	17.66	112	3606	N.D.			
66) Ethylbenzene	17.98	91	2433	N.D.			
67) m- & p-Xylenes	18.14	91	768	N.D.			
68) Bromoform	0.00	173	0	N.D.			
69) Styrene	0.00	104	0	N.D.			
70) o-Xylene	18.57	91	871	N.D.			
71) n-Nonane	18.77	43	420	N.D.			
72) 1,1,2,2-Tetrachloroethane	18.50	83	866	N.D.			
74) Cumene	19.10	105	1166	N.D.			
75) alpha-Pinene	0.00	93	0	N.D.			
76) n-Propylbenzene	19.54	91	120	N.D.			
77) 3-Ethyltoluene	19.74	105	255	N.D.			
78) 4-Ethyltoluene	19.74	105	255	N.D.			
79) 1,3,5-Trimethylbenzene	19.74	105	255	N.D.			
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	19.74	105	255	N.D.			
82) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.			
83) n-Decane	20.22	57	885	N.D.			
84) Benzyl Chloride	0.00	91	0	N.D.			
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.			
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.			
87) sec-Butylbenzene	0.00	105	0	N.D.			
88) 4-Isopropyltoluene (p-...	20.48	119	127	N.D.			
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.			
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.			
91) d-Limonene	20.61	68	249	N.D.			
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.			
93) n-Undecane	21.31	57	170	N.D.			
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.			
95) Naphthalene	22.21	128	649	N.D.			
96) n-Dodecane	22.13	57	347	N.D.			
97) Hexachlorobutadiene	0.00	225	0	N.D.			
98) Cyclohexanone	18.28	55	943	N.D.			
99) tert-Butylbenzene	0.00	119	0	N.D.			
100) n-Butylbenzene	0.00	91	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122022.D Vial: 1
Acq On : 12 May 2020 13:48 Operator: WA
Sample : P2002300-013 (1.5mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:56:25 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122022.D Vial: 1
Acq On : 12 May 2020 13:48 Operator: WA
Sample : P2002300-013 (1.5mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:56:25 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/13/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

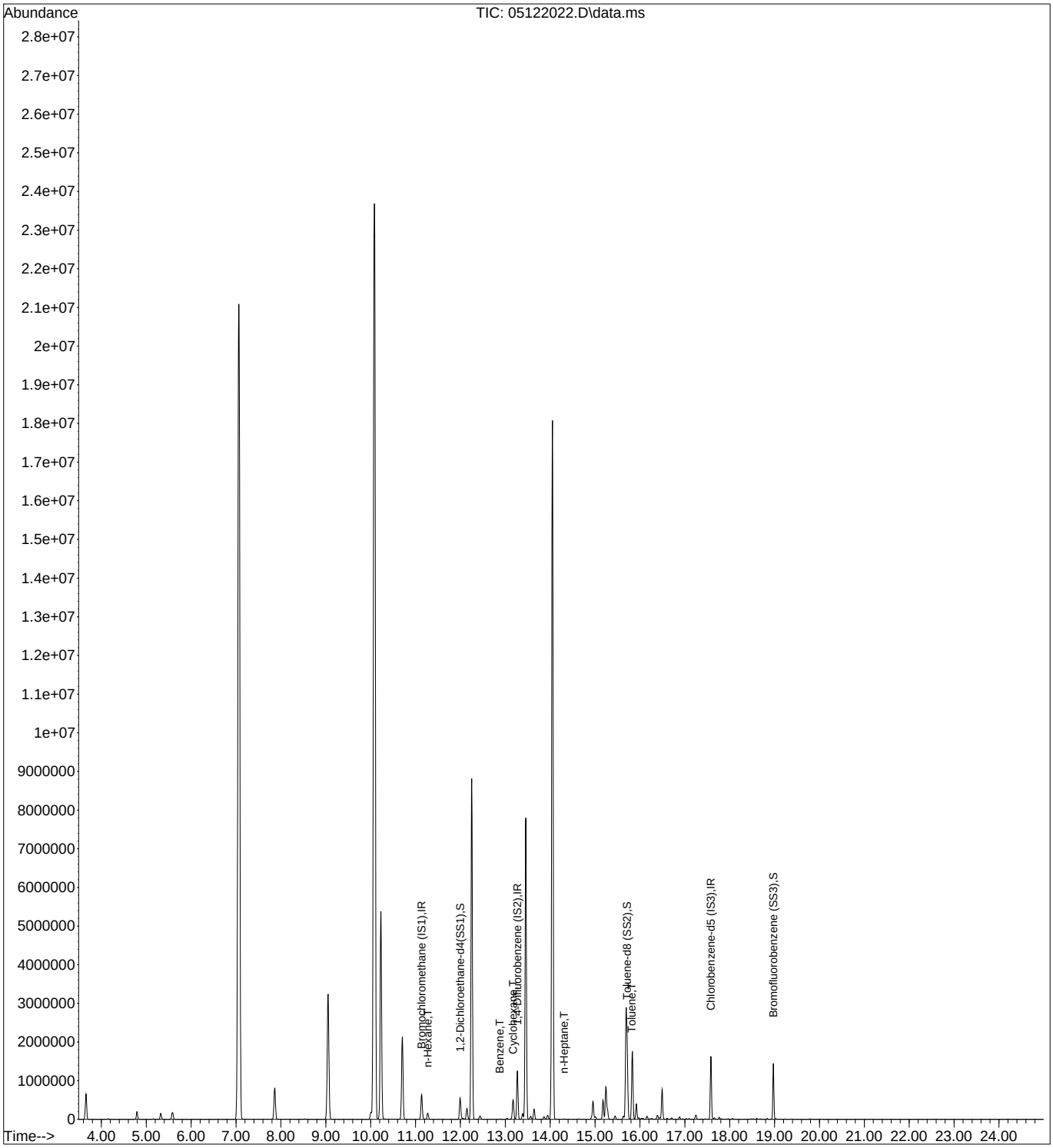
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	268159	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1160000	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	541823	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	428424	11.789	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.32%				
57) Toluene-d8 (SS2)	15.72	98	1172400	12.766	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.16%				
73) Bromofluorobenzene (SS3)	18.97	174	438167	13.259	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.08%				
Target Compounds							Qvalue
31) n-Hexane	11.27	57	83569	1.634	ng		99
41) Benzene	12.87	78	8790	0.071	ng		98
43) Cyclohexane	13.18	84	221863	4.786	ng		100
51) n-Heptane	14.31	71	2233	0.077	ng	#	73
58) Toluene	15.82	91	6338	0.054	ng		92

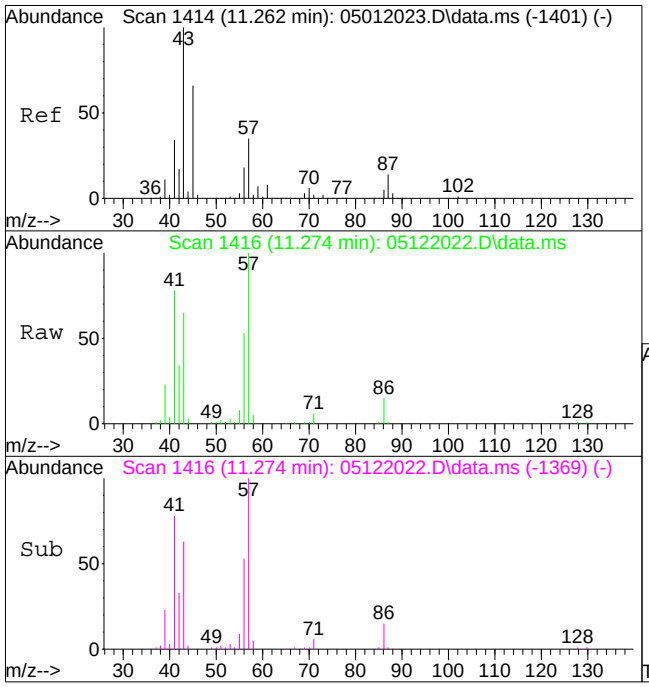
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122022.D Vial: 1
Acq On : 12 May 2020 13:48 Operator: WA
Sample : P2002300-013 (1.5mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:56:25 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

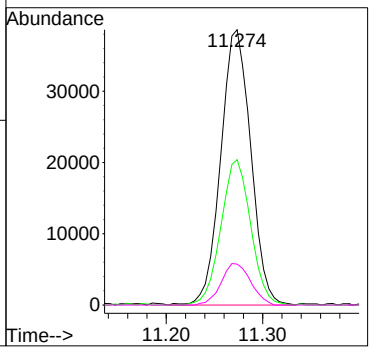


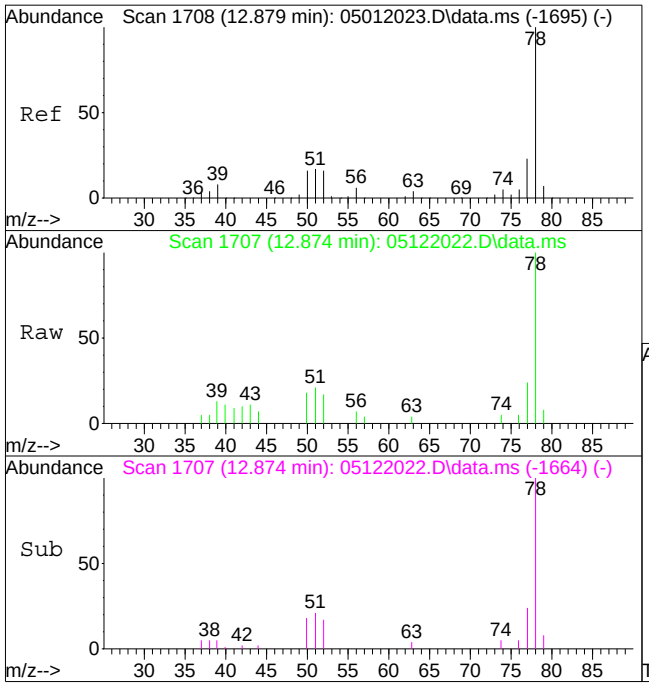


#31
n-Hexane
Concen: 1.63 ng
RT: 11.27 min Scan# 1416
Delta R.T. 0.011 min
Lab File: 05122022.D
Acq: 12 May 2020 13:48

Tgt Ion: 57 Resp: 83569

Ion	Ratio	Lower	Upper
57	100		
56	52.3	41.4	62.0
86	14.9	12.4	18.6

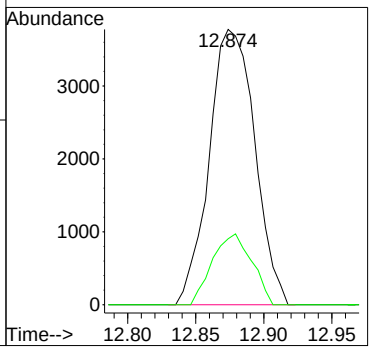


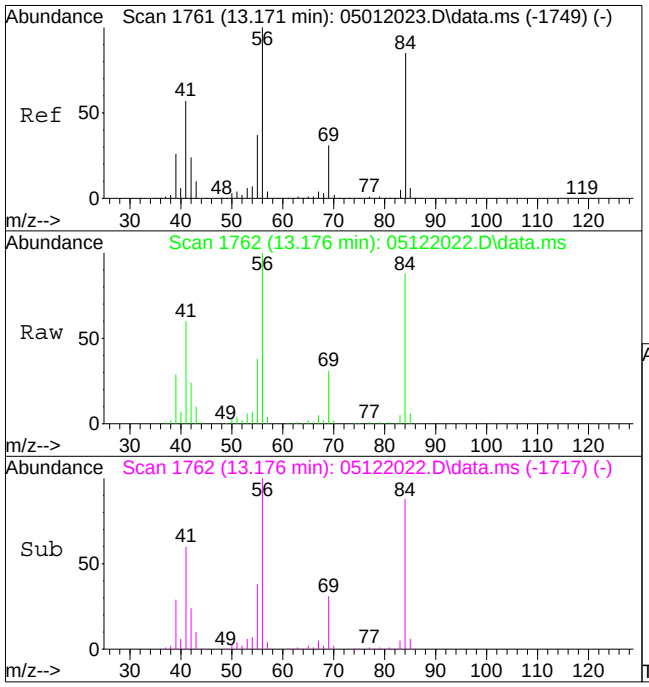


#41
Benzene
Concen: 0.07 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05122022.D
Acq: 12 May 2020 13:48

Tgt Ion: 78 Resp: 8790

Ion	Ratio	Lower	Upper
78	100		
77	22.4	3.4	43.4

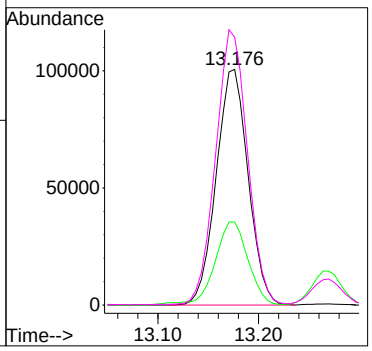


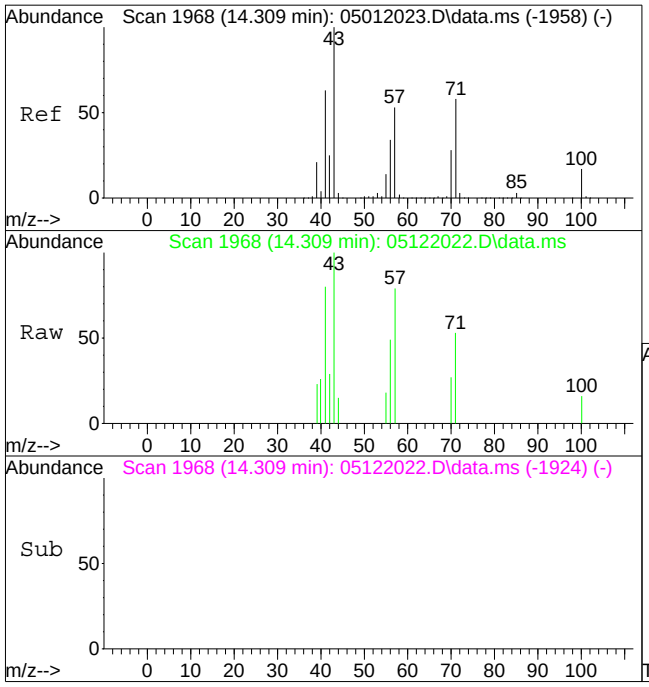


#43
Cyclohexane
Concen: 4.79 ng
RT: 13.18 min Scan# 1762
Delta R.T. -0.000 min
Lab File: 05122022.D
Acq: 12 May 2020 13:48

Tgt Ion: 84 Resp: 221863

Ion	Ratio	Lower	Upper
84	100		
69	36.7	16.5	56.5
56	117.0	97.4	137.4

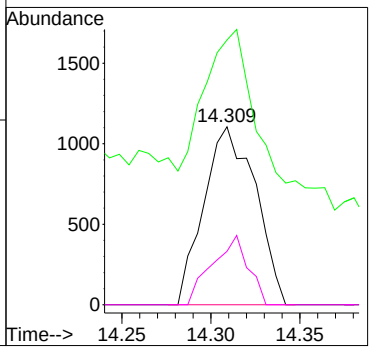


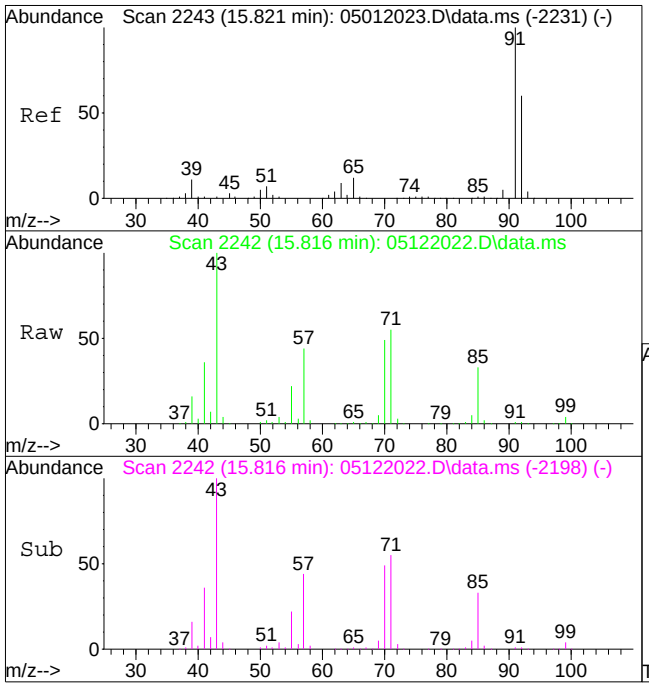


#51
n-Heptane
Concen: 0.08 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05122022.D
Acq: 12 May 2020 13:48

Tgt Ion: 71 Resp: 2233

Ion	Ratio	Lower	Upper
71	100		
57	123.6	71.0	111.0#
100	27.1	8.4	48.4

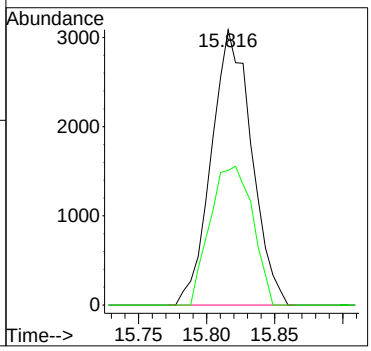




#58
Toluene
Concen: 0.05 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05122022.D
Acq: 12 May 2020 13:48

Tgt Ion: 91 Resp: 6338

Ion	Ratio	Lower	Upper
91	100		
92	53.5	39.4	79.4



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122027.D Vial: 6
Acq On : 12 May 2020 17:08 Operator: WA
Sample : P2002300-014 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 17:02:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/13/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	255942	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1102213	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	507637	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	407874	11.759	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.08%				
57) Toluene-d8 (SS2)	15.72	98	1076776	12.514	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.08%				
73) Bromofluorobenzene (SS3)	18.97	174	413362	13.351	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.80%				
Target Compounds							Qvalue
2) Propene	4.12	42	4567	0.154	ng		99
3) Dichlorodifluoromethan...	4.27	85	35561	0.613	ng		99
4) Chloromethane	4.54	50	1222	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	638	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.32	45	40016	1.748	ng		99
11) Acetonitrile	6.60	41	2296	N.D.			
12) Acrolein	6.80	56	2165	0.120	ng		89
13) Acetone	7.01	58	27832	1.216	ng	#	74
14) Trichlorofluoromethane	7.25	101	10617	0.207	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	22255	0.321	ng		91
16) Acrylonitrile	7.75	53	732	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.44	59	2434	N.D.			
19) Methylene Chloride	8.40	84	1265	N.D.			
20) 3-Chloro-1-propene (Al...	8.50	41	233	N.D.			
21) Trichlorotrifluoroethane	8.85	151	9540	0.394	ng		97
22) Carbon Disulfide	8.68	76	73173	0.686	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.48	72	2601	0.133	ng	#	77
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.31	87	565	N.D.			
30) Ethyl Acetate	11.28	61	2249	0.200	ng		97
31) n-Hexane	11.25	57	10407	0.213	ng		99
32) Chloroform	11.30	83	5740	0.113	ng		100
34) Tetrahydrofuran (THF)	11.74	72	10891	0.572	ng		97
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	33657	0.285	ng		99
42) Carbon Tetrachloride	13.03	117	14973	0.372	ng		99
43) Cyclohexane	13.16	84	5052	0.115	ng		99
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	13.72	63	490	N.D.			
46) Bromodichloromethane	13.93	83	2353	0.059	ng	#	54
47) Trichloroethene	13.96	130	1728	0.057	ng		93
48) 1,4-Dioxane	13.96	88	1272	0.053	ng	#	73
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122027.D Vial: 6
Acq On : 12 May 2020 17:08 Operator: WA
Sample : P2002300-014 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 17:02:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

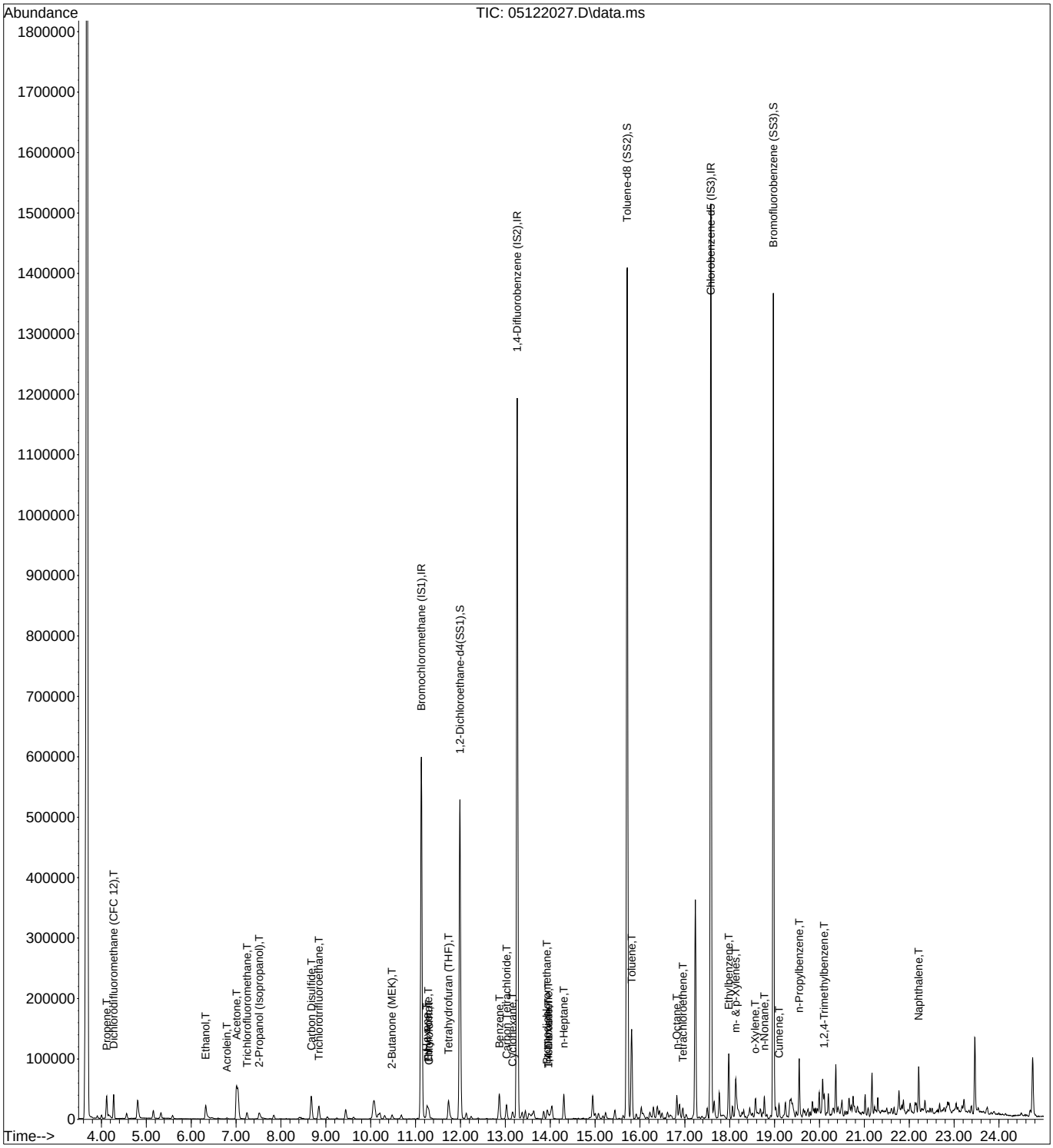
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.30	71	10522	0.381 ng	98
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.88	58	492	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	15.44	97	581	N.D.	
58) Toluene	15.82	91	109021	0.983 ng	99
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.70	43	1045	N.D.	
63) n-Octane	16.82	57	7052	0.307 ng	98
64) Tetrachloroethene	16.96	166	4263	0.136 ng	99
65) Chlorobenzene	17.61	112	233	N.D.	
66) Ethylbenzene	17.98	91	78714	0.636 ng	100
67) m- & p-Xylenes	18.14	91	47792	0.487 ng	100
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	791	N.D.	
70) o-Xylene	18.57	91	15165	0.152 ng	98
71) n-Nonane	18.77	43	12781	0.242 ng	97
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	19.10	105	11304	0.092 ng	100
75) alpha-Pinene	19.46	93	104	N.D.	
76) n-Propylbenzene	19.55	91	69708	0.480 ng	98
77) 3-Ethyltoluene	19.64	105	5631	N.D.	
78) 4-Ethyltoluene	19.68	105	1886	N.D.	
79) 1,3,5-Trimethylbenzene	19.74	105	4108	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	19.91	105	2715	N.D.	
82) 1,2,4-Trimethylbenzene	20.10	105	9936	0.099 ng	89
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.31	91	1532	N.D.	
85) 1,3-Dichlorobenzene	20.30	146	1772	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	1772	N.D.	
87) sec-Butylbenzene	20.35	105	3920	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	1890	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	4280	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.61	68	1734	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.21	128	40917	0.335 ng	96
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.10	119	1481	N.D.	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122027.D Vial: 6
Acq On : 12 May 2020 17:08 Operator: WA
Sample : P2002300-014 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 17:02:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122027.D Vial: 6
Acq On : 12 May 2020 17:08 Operator: WA
Sample : P2002300-014 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 17:02:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/13/20

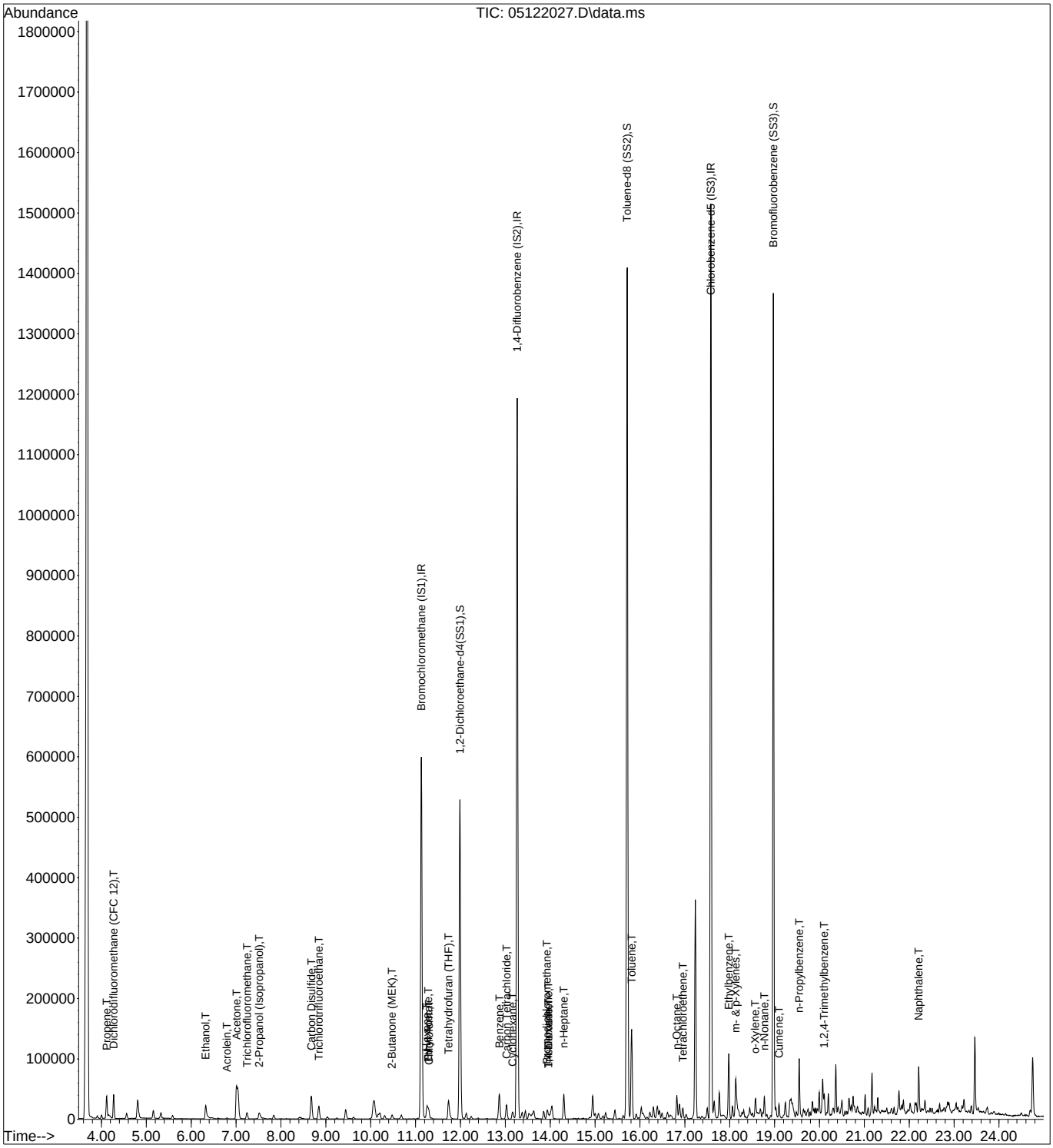
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	255942	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1102213	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	507637	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	407874	11.759	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.08%				
57) Toluene-d8 (SS2)	15.72	98	1076776	12.514	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.08%				
73) Bromofluorobenzene (SS3)	18.97	174	413362	13.351	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.80%				
Target Compounds							Qvalue
2) Propene	4.12	42	4567	0.154	ng		99
3) Dichlorodifluoromethan...	4.27	85	35561	0.613	ng		99
10) Ethanol	6.32	45	40016	1.748	ng		99
12) Acrolein	6.80	56	2165	0.120	ng		89
13) Acetone	7.01	58	27832	1.216	ng	#	74
14) Trichlorofluoromethane	7.25	101	10617	0.207	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	22255	0.321	ng		91
21) Trichlorotrifluoroethane	8.85	151	9540	0.394	ng		97
22) Carbon Disulfide	8.68	76	73173	0.686	ng		99
27) 2-Butanone (MEK)	10.48	72	2601	0.133	ng	#	77
30) Ethyl Acetate	11.28	61	2249	0.200	ng		97
31) n-Hexane	11.25	57	10407	0.213	ng		99
32) Chloroform	11.30	83	5740	0.113	ng		100
34) Tetrahydrofuran (THF)	11.74	72	10891	0.572	ng		97
41) Benzene	12.87	78	33657	0.285	ng		99
42) Carbon Tetrachloride	13.03	117	14973	0.372	ng		99
43) Cyclohexane	13.16	84	5052	0.115	ng		99
46) Bromodichloromethane	13.93	83	2353	0.059	ng	#	54
47) Trichloroethene	13.96	130	1728	0.057	ng		93
48) 1,4-Dioxane	13.96	88	1272	0.053	ng	#	73
51) n-Heptane	14.30	71	10522	0.381	ng		98
58) Toluene	15.82	91	109021	0.983	ng		99
63) n-Octane	16.82	57	7052	0.307	ng		98
64) Tetrachloroethene	16.96	166	4263	0.136	ng		99
66) Ethylbenzene	17.98	91	78714	0.636	ng		100
67) m- & p-Xylenes	18.14	91	47792	0.487	ng		100
70) o-Xylene	18.57	91	15165	0.152	ng		98
71) n-Nonane	18.77	43	12781	0.242	ng		97
74) Cumene	19.10	105	11304	0.092	ng		100
76) n-Propylbenzene	19.55	91	69708	0.480	ng		98
82) 1,2,4-Trimethylbenzene	20.10	105	9936	0.099	ng		89
95) Naphthalene	22.21	128	40917	0.335	ng		96

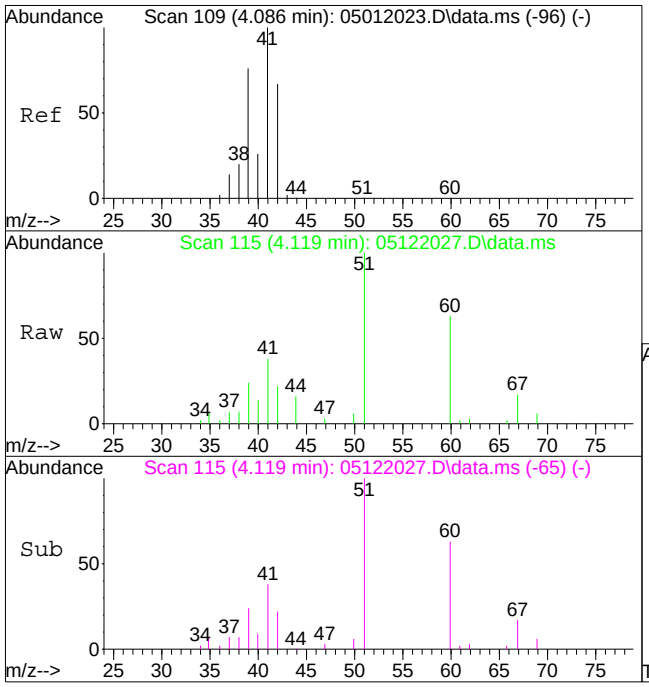
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122027.D Vial: 6
Acq On : 12 May 2020 17:08 Operator: WA
Sample : P2002300-014 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 17:02:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

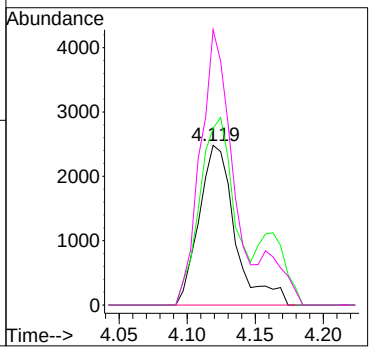


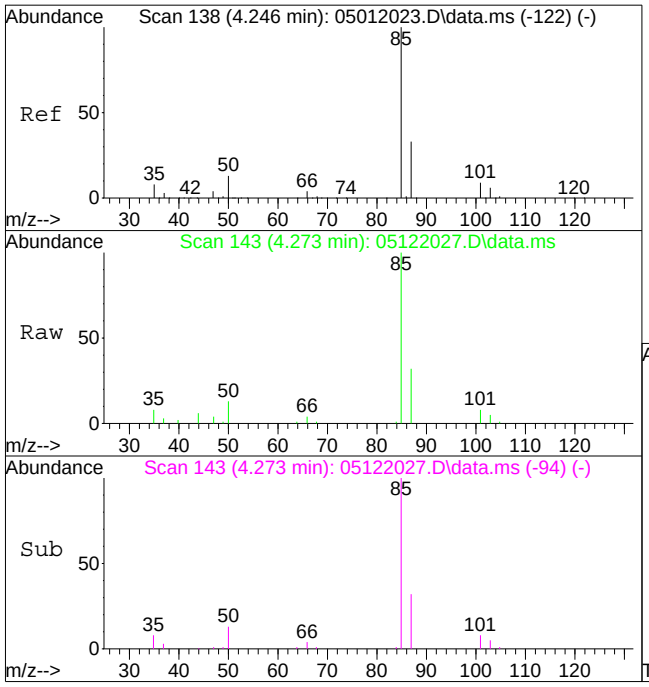


#2
Propene
Concen: 0.15 ng
RT: 4.12 min Scan# 115
Delta R.T. 0.027 min
Lab File: 05122027.D
Acq: 12 May 2020 17:08

Tgt Ion: 42 Resp: 4567

Ion	Ratio	Lower	Upper
42	100		
39	113.6	96.1	136.1
41	152.6	131.9	171.9

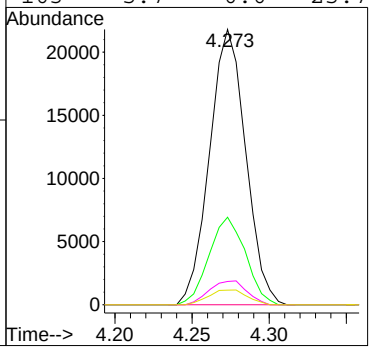


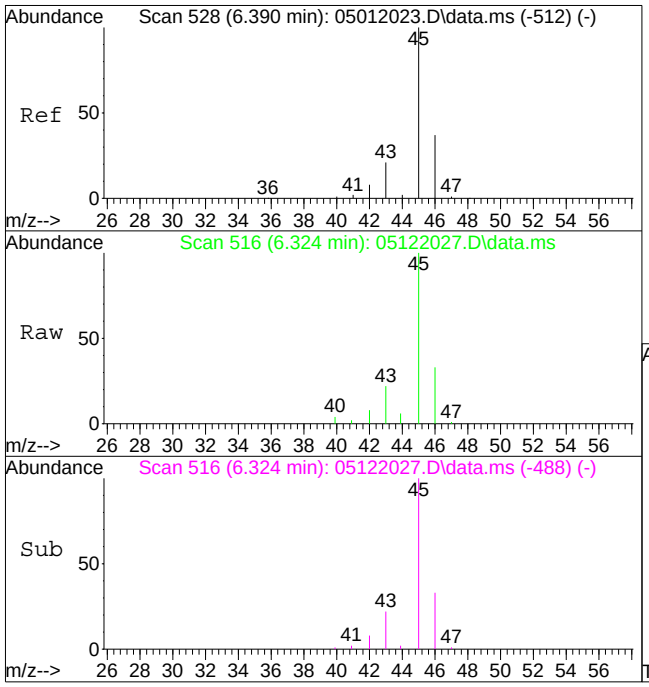


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.61 ng
RT: 4.27 min Scan# 143
Delta R.T. 0.022 min
Lab File: 05122027.D
Acq: 12 May 2020 17:08

Tgt Ion: 85 Resp: 35561

Ion	Ratio	Lower	Upper
85	100		
87	32.1	12.4	52.4
101	9.0	0.0	28.8
103	5.7	0.0	25.7

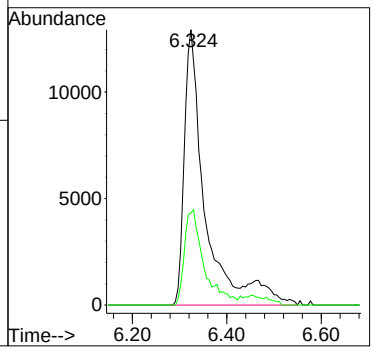


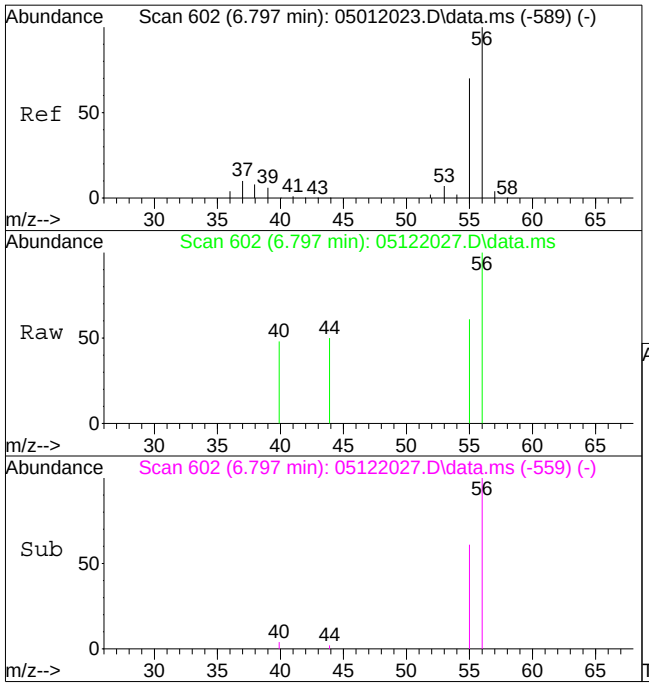


#10
Ethanol
Concen: 1.75 ng
RT: 6.32 min Scan# 516
Delta R.T. -0.094 min
Lab File: 05122027.D
Acq: 12 May 2020 17:08

Tgt Ion: 45 Resp: 40016

Ion	Ratio	Lower	Upper
45	100		
46	36.7	17.2	57.2

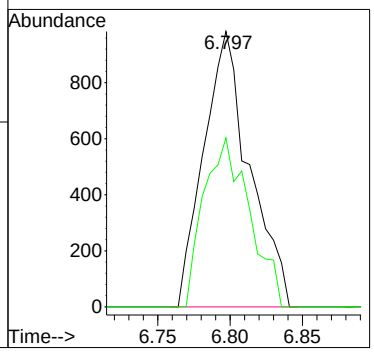


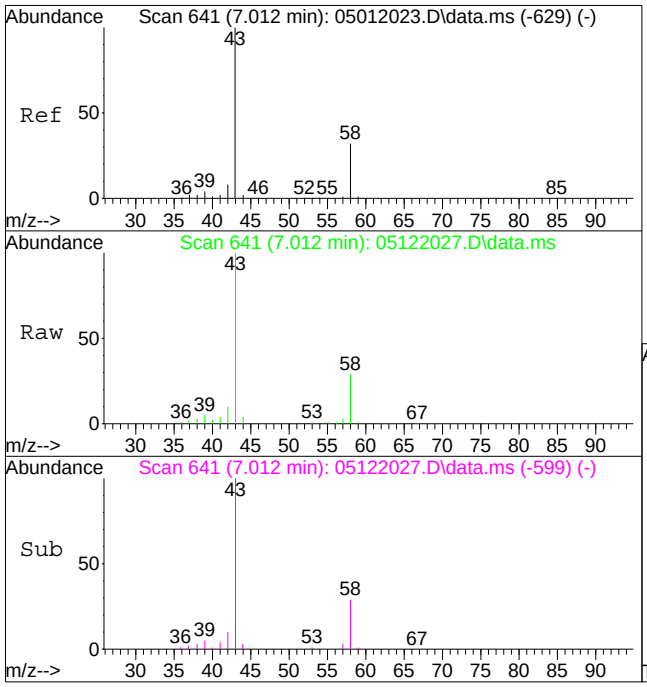


#12
Acrolein
Concen: 0.12 ng
RT: 6.80 min Scan# 602
Delta R.T. -0.011 min
Lab File: 05122027.D
Acq: 12 May 2020 17:08

Tgt Ion: 56 Resp: 2165

Ion	Ratio	Lower	Upper
56	100		
55	61.1	50.2	90.2

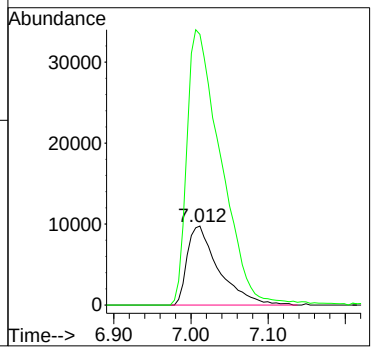


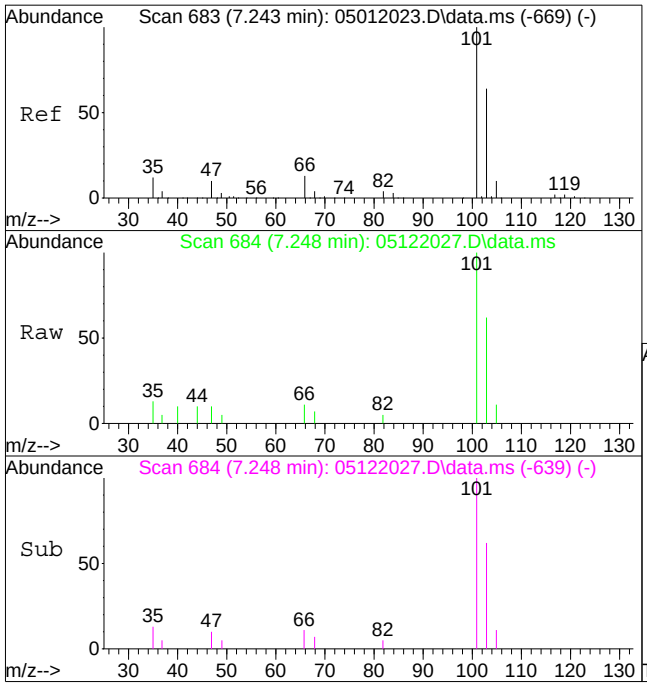


#13
Acetone
Concen: 1.22 ng
RT: 7.01 min Scan# 641
Delta R.T. -0.017 min
Lab File: 05122027.D
Acq: 12 May 2020 17:08

Tgt Ion: 58 Resp: 27832

Ion	Ratio	Lower	Upper
58	100		
43	377.1	294.4	354.4#

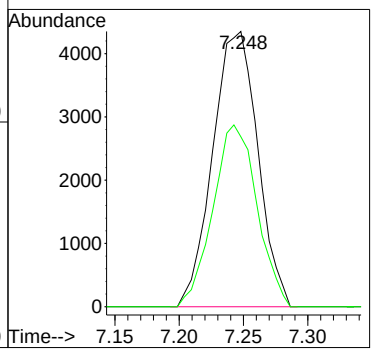


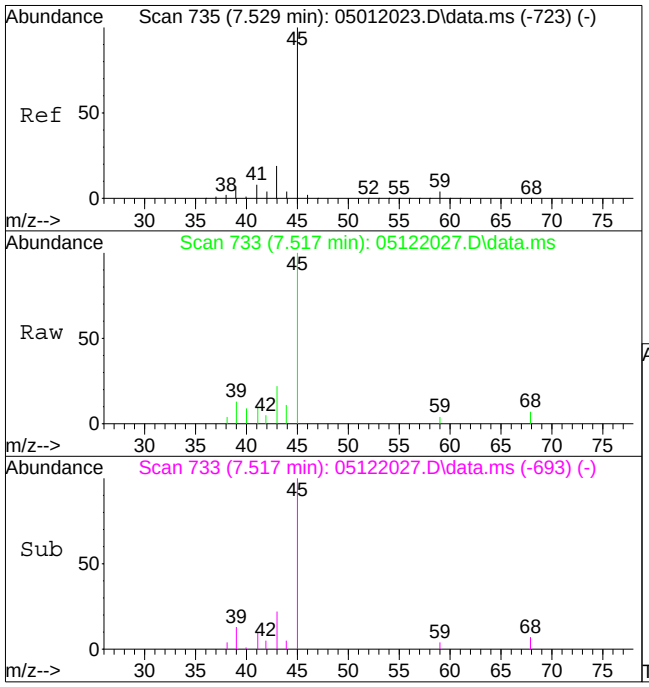


#14
Trichlorofluoromethane
Concen: 0.21 ng
RT: 7.25 min Scan# 684
Delta R.T. -0.000 min
Lab File: 05122027.D
Acq: 12 May 2020 17:08

Tgt Ion:101 Resp: 10617

Ion	Ratio	Lower	Upper
101	100		
103	64.5	44.4	84.4

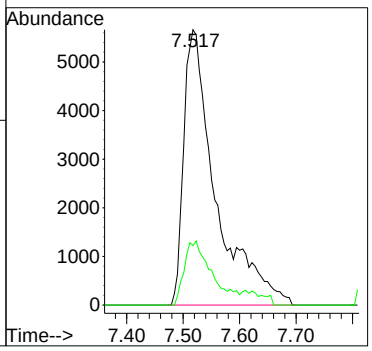


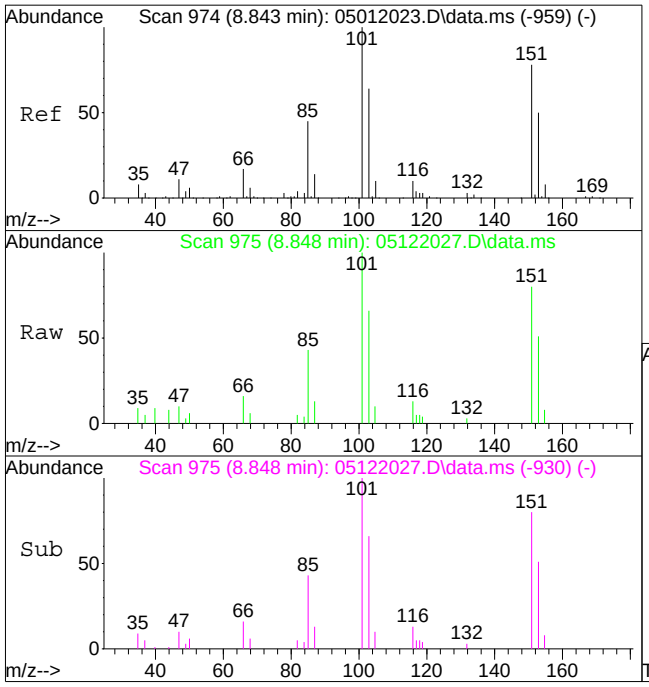


#15
2-Propanol (Isopropanol)
Concen: 0.32 ng
RT: 7.52 min Scan# 733
Delta R.T. -0.028 min
Lab File: 05122027.D
Acq: 12 May 2020 17:08

Tgt Ion: 45 Resp: 22255

Ion	Ratio	Lower	Upper
45	100		
43	23.7	0.0	39.5

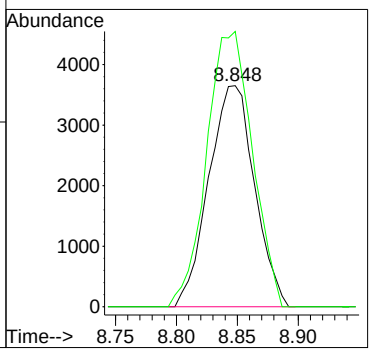


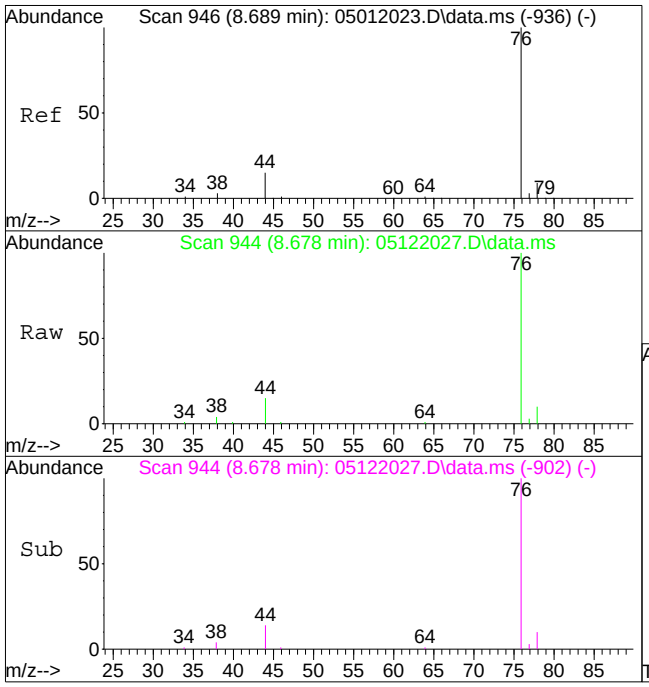


#21
Trichlorotrifluoroethane
Concen: 0.39 ng
RT: 8.85 min Scan# 975
Delta R.T. -0.000 min
Lab File: 05122027.D
Acq: 12 May 2020 17:08

Tgt Ion:151 Resp: 9540

Ion	Ratio	Lower	Upper
151	100		
101	124.2	107.3	147.3

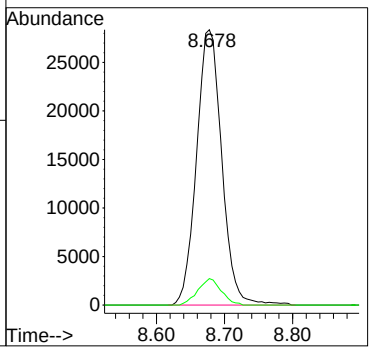


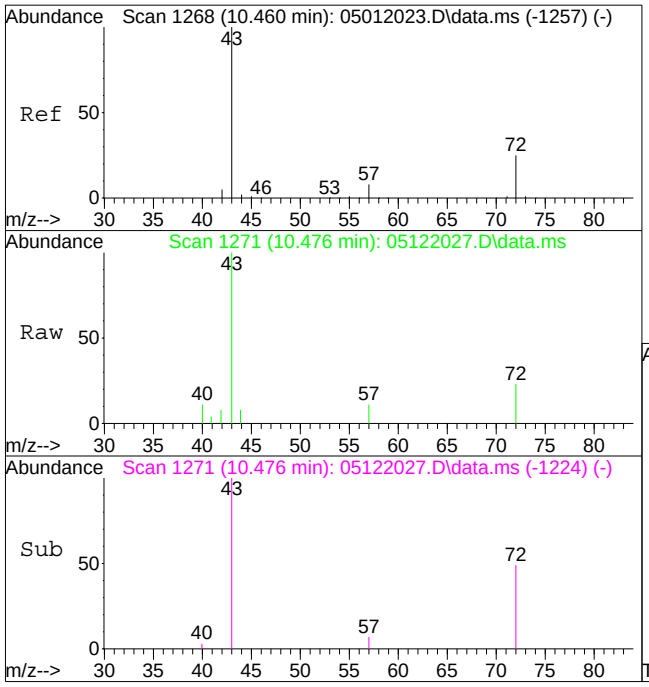


#22
Carbon Disulfide
Concen: 0.69 ng
RT: 8.68 min Scan# 944
Delta R.T. -0.017 min
Lab File: 05122027.D
Acq: 12 May 2020 17:08

Tgt Ion: 76 Resp: 73173

Ion	Ratio	Lower	Upper
76	100		
78	8.9	0.0	29.2

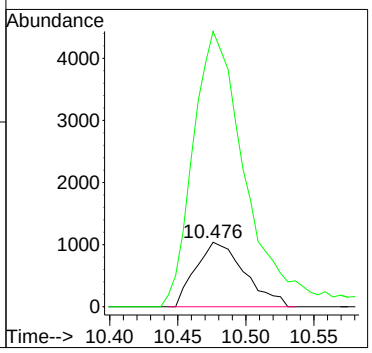


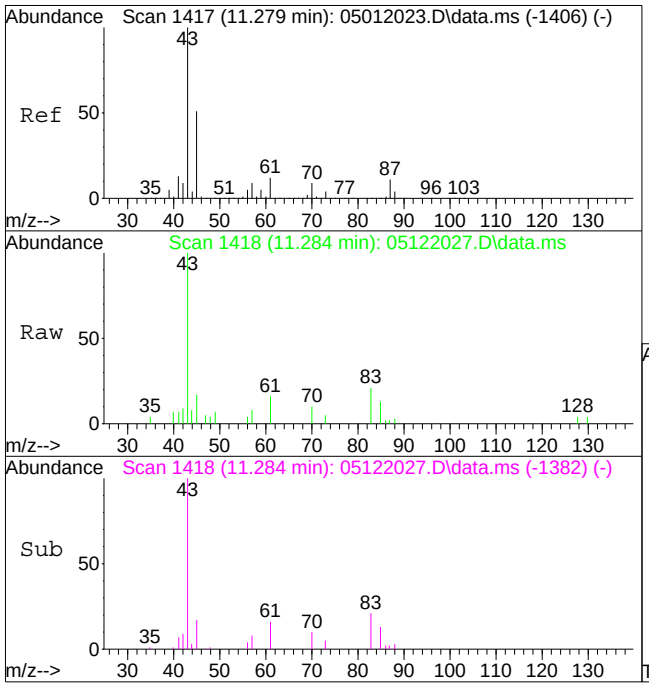


#27
2-Butanone (MEK)
Concen: 0.13 ng
RT: 10.48 min Scan# 1271
Delta R.T. 0.011 min
Lab File: 05122027.D
Acq: 12 May 2020 17:08

Tgt Ion: 72 Resp: 2601

Ion	Ratio	Lower	Upper
72	100		
43	464.5	389.7	429.7#

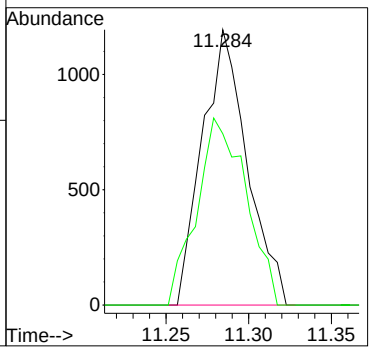


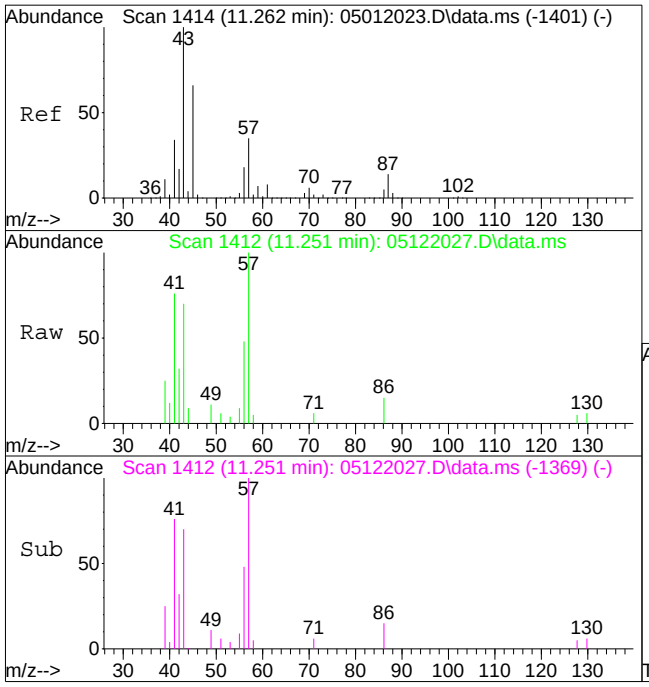


#30
Ethyl Acetate
Concen: 0.20 ng
RT: 11.28 min Scan# 1418
Delta R.T. -0.000 min
Lab File: 05122027.D
Acq: 12 May 2020 17:08

Tgt Ion: 61 Resp: 2249

Ion	Ratio	Lower	Upper
61	100		
70	74.9	57.9	97.9

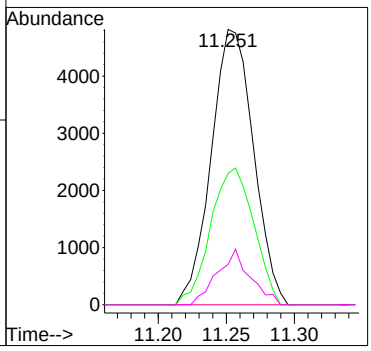


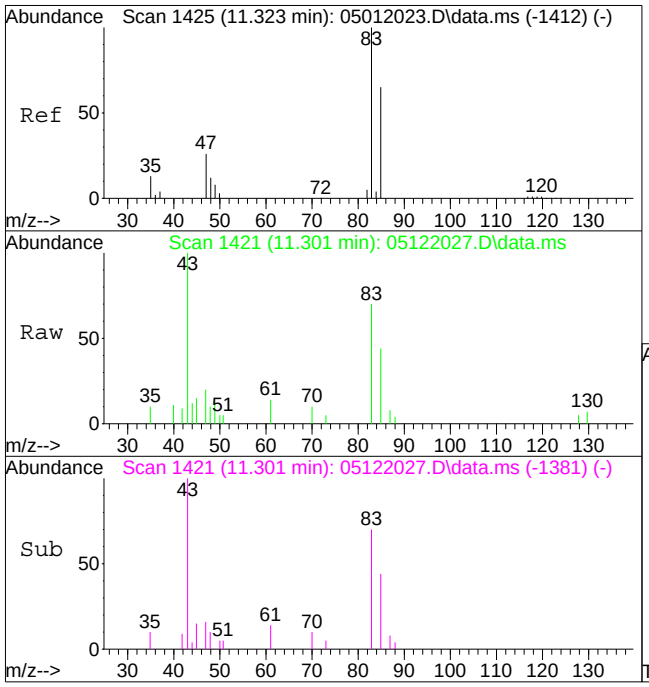


#31
n-Hexane
Concen: 0.21 ng
RT: 11.25 min Scan# 1412
Delta R.T. -0.011 min
Lab File: 05122027.D
Acq: 12 May 2020 17:08

Tgt Ion: 57 Resp: 10407

Ion	Ratio	Lower	Upper
57	100		
56	50.6	41.4	62.0
86	15.7	12.4	18.6

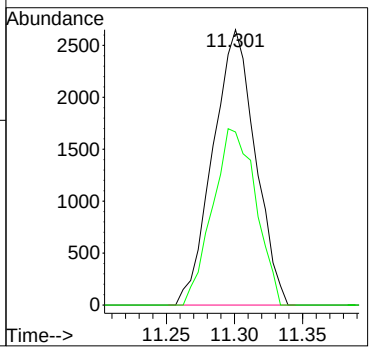


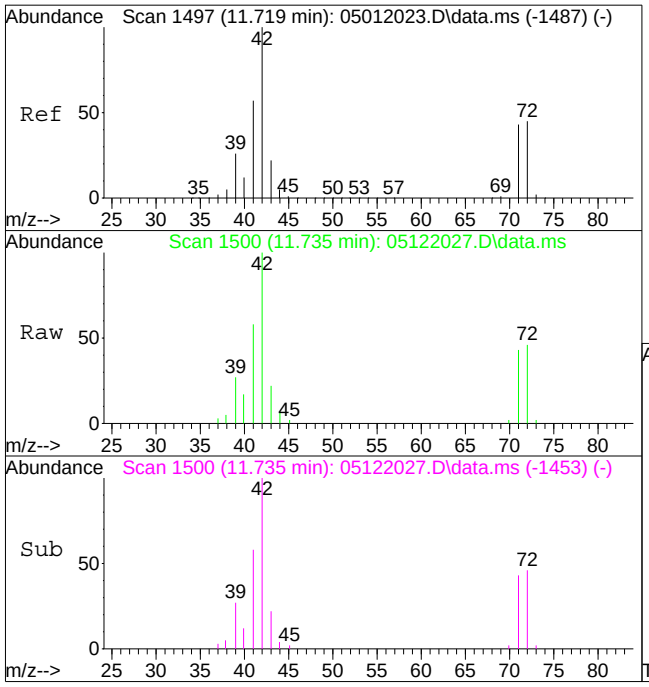


#32
Chloroform
Concen: 0.11 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.028 min
Lab File: 05122027.D
Acq: 12 May 2020 17:08

Tgt Ion: 83 Resp: 5740

Ion	Ratio	Lower	Upper
83	100		
85	65.3	45.5	85.5

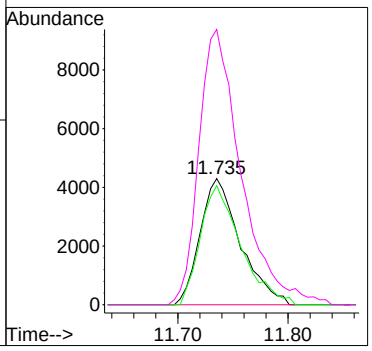


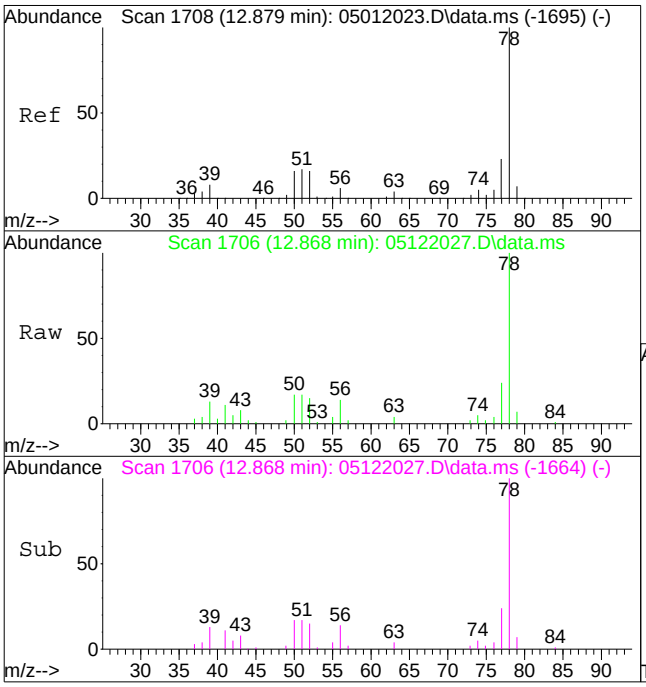


#34
Tetrahydrofuran (THF)
Concen: 0.57 ng
RT: 11.74 min Scan# 1500
Delta R.T. 0.011 min
Lab File: 05122027.D
Acq: 12 May 2020 17:08

Tgt Ion: 72 Resp: 10891

Ion	Ratio	Lower	Upper
72	100		
71	94.6	77.0	117.0
42	230.1	204.6	244.6

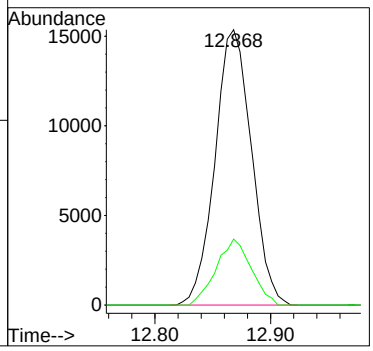


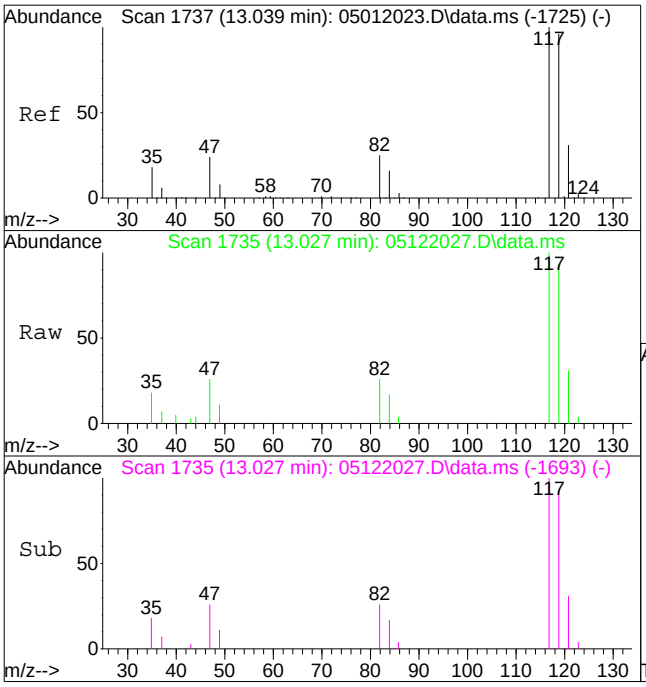


#41
Benzene
Concen: 0.28 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05122027.D
Acq: 12 May 2020 17:08

Tgt Ion: 78 Resp: 33657

Ion	Ratio	Lower	Upper
78	100		
77	23.1	3.4	43.4

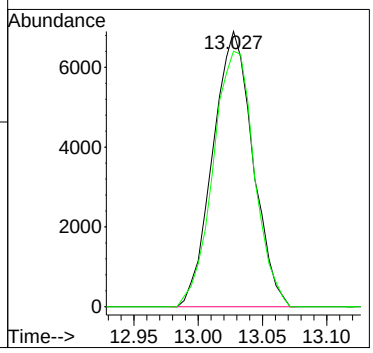


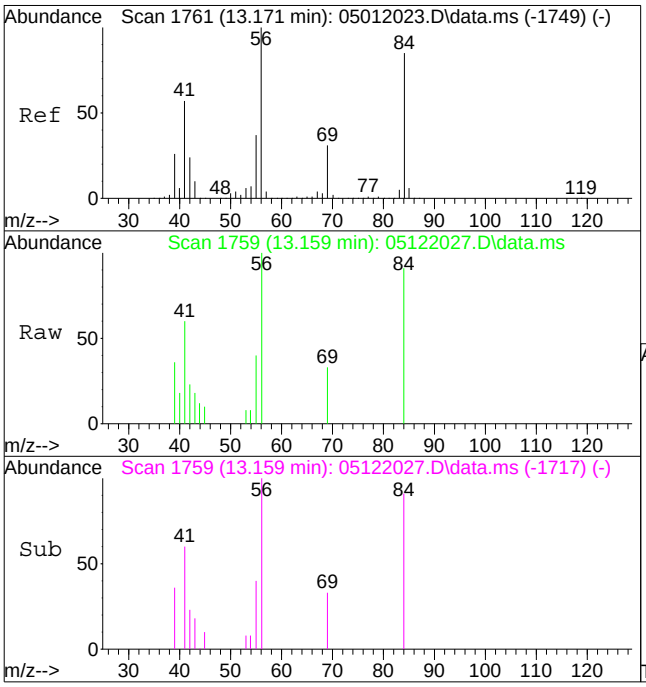


#42
Carbon Tetrachloride
Concen: 0.37 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05122027.D
Acq: 12 May 2020 17:08

Tgt Ion:117 Resp: 14973

Ion	Ratio	Lower	Upper
117	100		
119	95.4	76.2	116.2

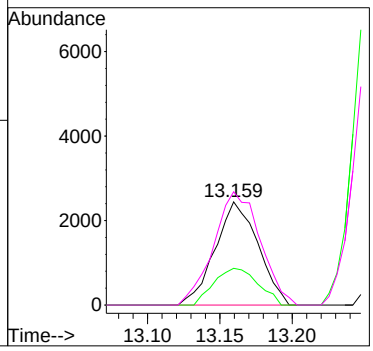


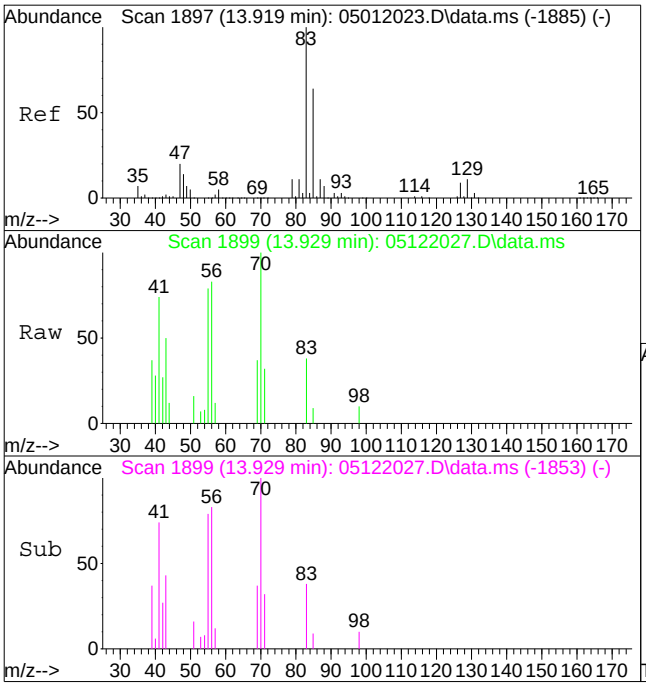


#43
Cyclohexane
Concen: 0.11 ng
RT: 13.16 min Scan# 1759
Delta R.T. -0.017 min
Lab File: 05122027.D
Acq: 12 May 2020 17:08

Tgt Ion: 84 Resp: 5052

Ion	Ratio	Lower	Upper
84	100		
69	36.4	16.5	56.5
56	118.8	97.4	137.4

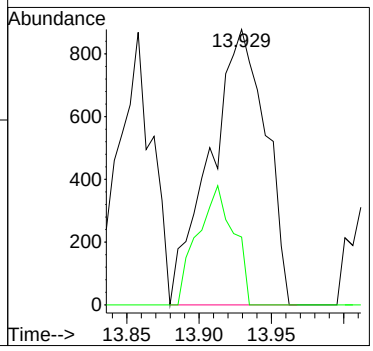


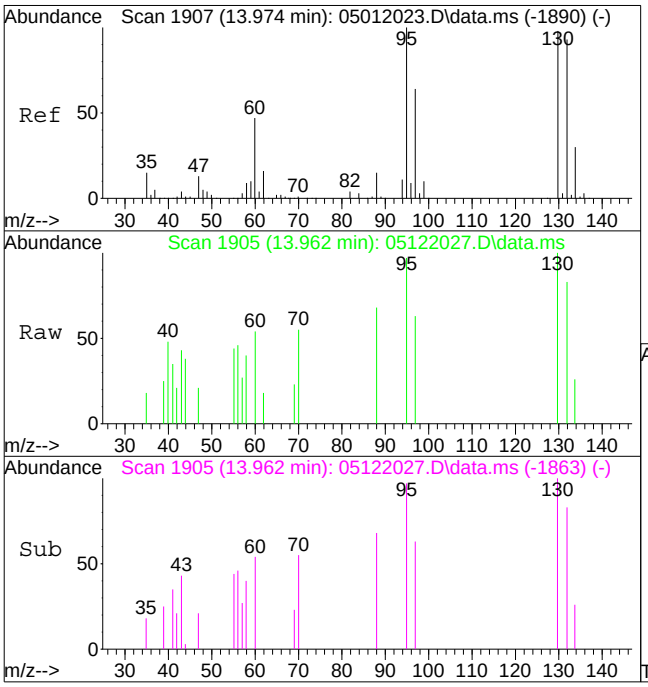


#46
Bromodichloromethane
Concen: 0.06 ng
RT: 13.93 min Scan# 1899
Delta R.T. 0.005 min
Lab File: 05122027.D
Acq: 12 May 2020 17:08

Tgt Ion: 83 Resp: 2353

Ion	Ratio	Lower	Upper
83	100		
85	28.2	44.4	84.4#

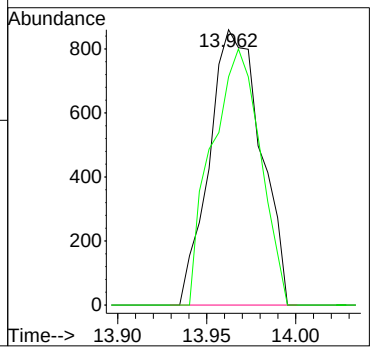


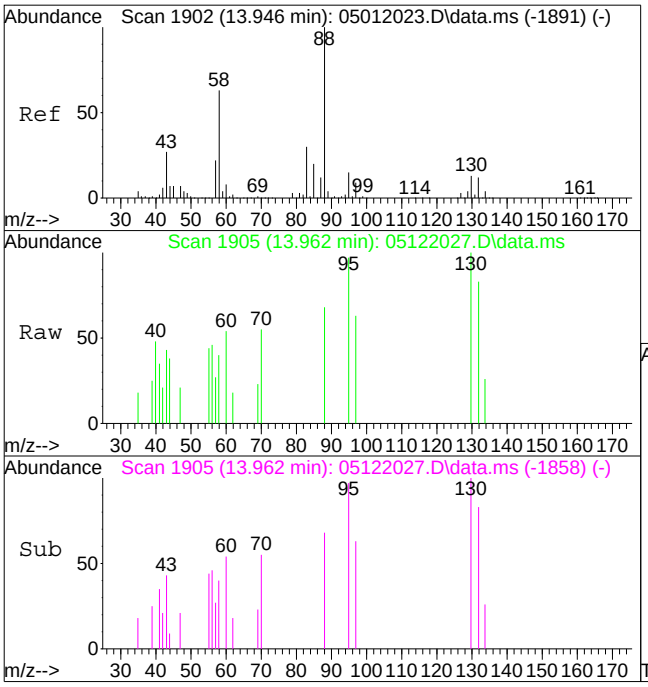


#47
Trichloroethene
Concen: 0.06 ng
RT: 13.96 min Scan# 1905
Delta R.T. -0.017 min
Lab File: 05122027.D
Acq: 12 May 2020 17:08

Tgt Ion:130 Resp: 1728

Ion	Ratio	Lower	Upper
130	100		
132	88.1	74.9	114.9

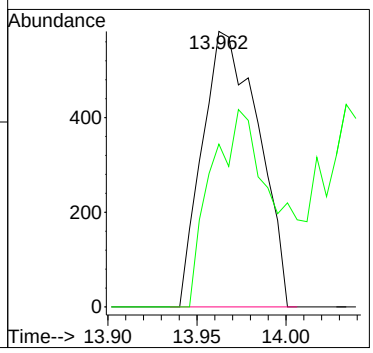


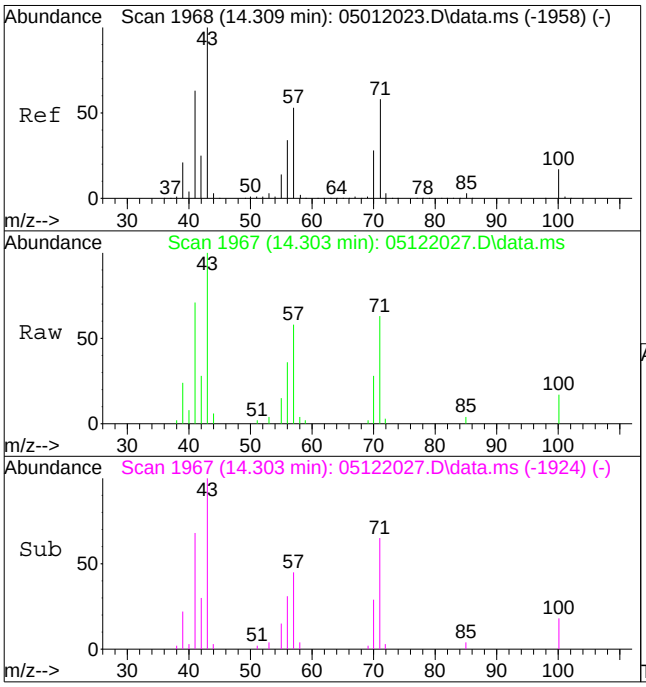


#48
1,4-Dioxane
Concen: 0.05 ng
RT: 13.96 min Scan# 1905
Delta R.T. 0.011 min
Lab File: 05122027.D
Acq: 12 May 2020 17:08

Tgt Ion: 88 Resp: 1272

Ion	Ratio	Lower	Upper
88	100		
58	83.6	42.8	82.8#

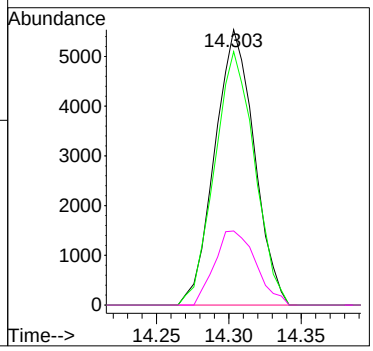


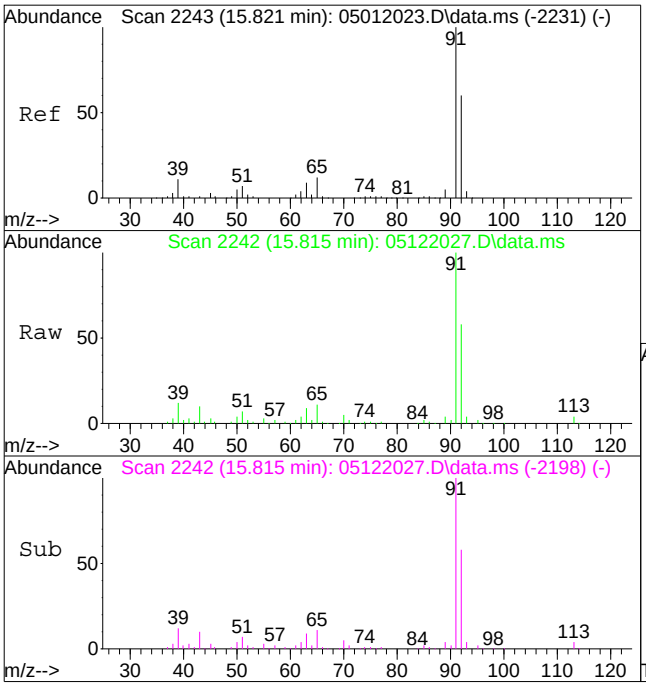


#51
n-Heptane
Concen: 0.38 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05122027.D
Acq: 12 May 2020 17:08

Tgt Ion: 71 Resp: 10522

Ion	Ratio	Lower	Upper
71	100		
57	93.1	71.0	111.0
100	28.1	8.4	48.4

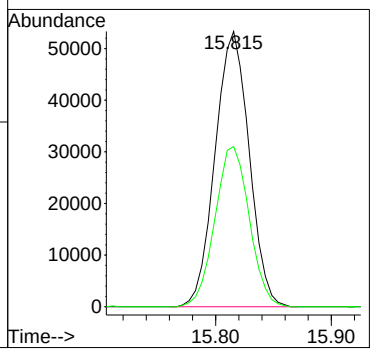


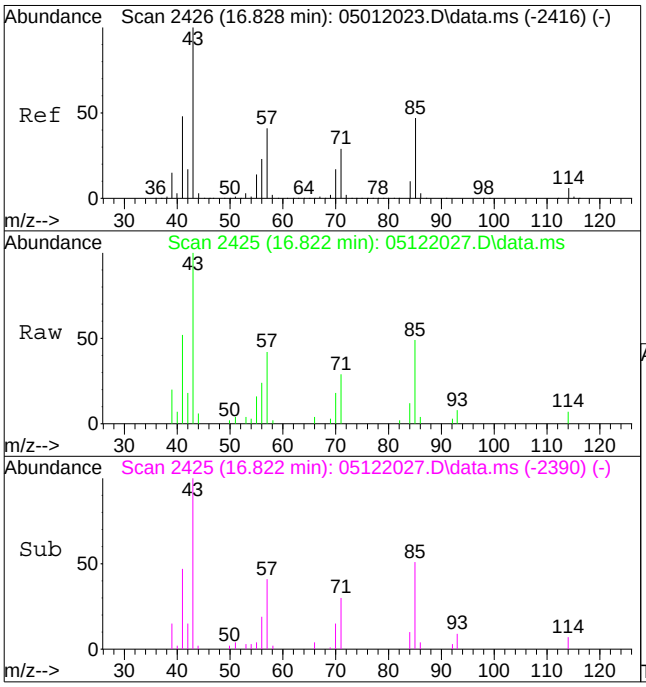


#58
Toluene
Concen: 0.98 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05122027.D
Acq: 12 May 2020 17:08

Tgt Ion: 91 Resp: 109021

Ion	Ratio	Lower	Upper
91	100		
92	58.7	39.4	79.4

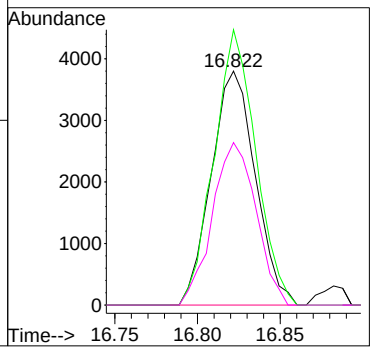


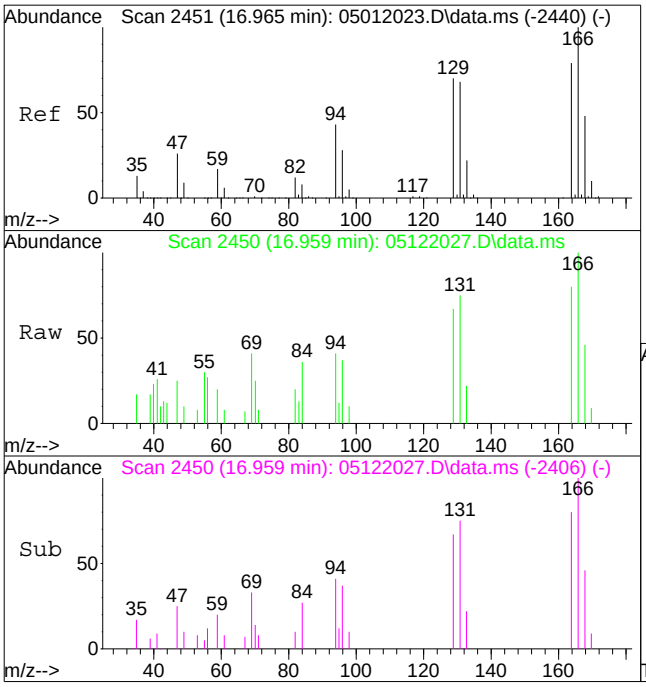


#63
n-Octane
Concen: 0.31 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05122027.D
Acq: 12 May 2020 17:08

Tgt Ion: 57 Resp: 7052

Ion	Ratio	Lower	Upper
57	100		
85	111.3	91.0	136.4
71	68.6	56.2	84.2

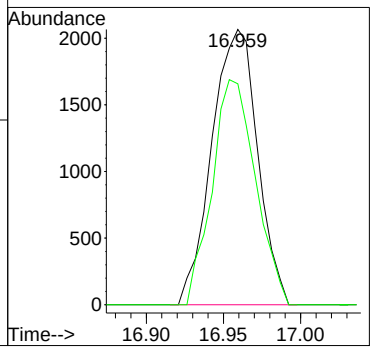


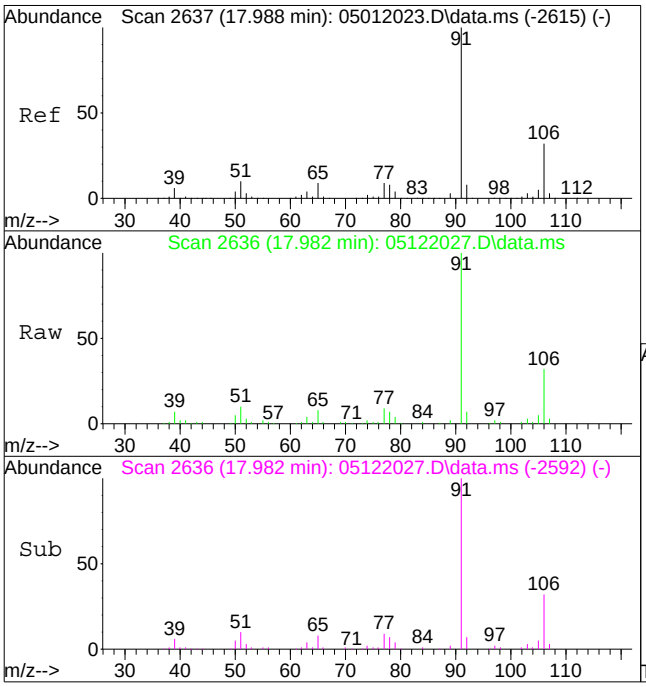


#64
Tetrachloroethene
Concen: 0.14 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05122027.D
Acq: 12 May 2020 17:08

Tgt Ion:166 Resp: 4263

Ion	Ratio	Lower	Upper
166	100		
164	77.5	58.4	98.4

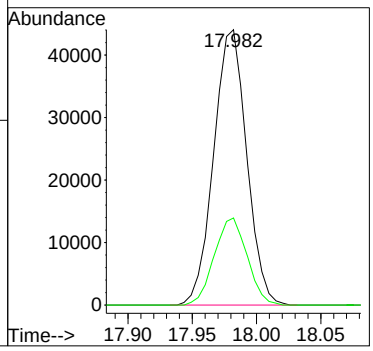


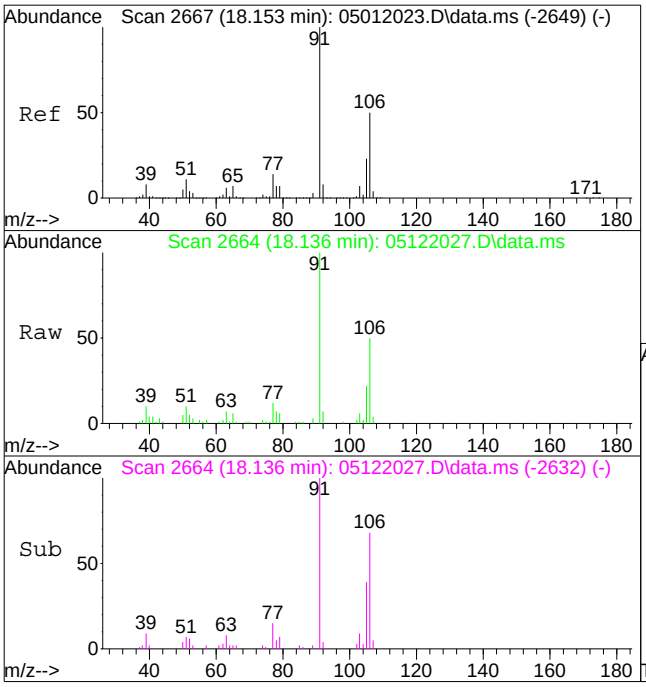


#66
Ethylbenzene
Concen: 0.64 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05122027.D
Acq: 12 May 2020 17:08

Tgt Ion: 91 Resp: 78714

Ion	Ratio	Lower	Upper
91	100		
106	31.4	11.6	51.6

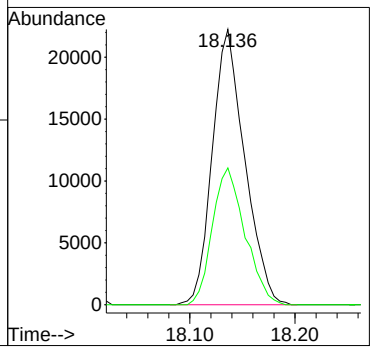


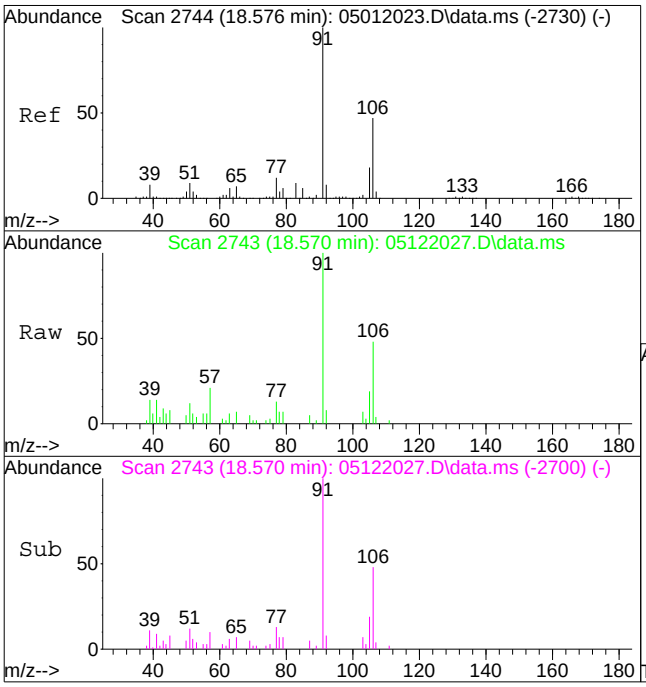


#67
m- & p-Xylenes
Concen: 0.49 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05122027.D
Acq: 12 May 2020 17:08

Tgt Ion: 91 Resp: 47792

Ion	Ratio	Lower	Upper
91	100		
106	49.9	29.7	69.7

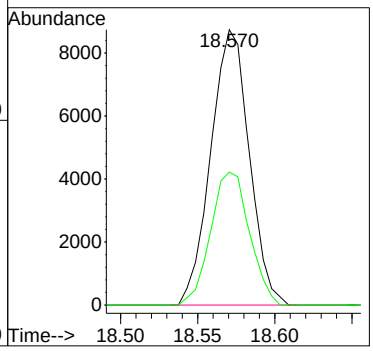


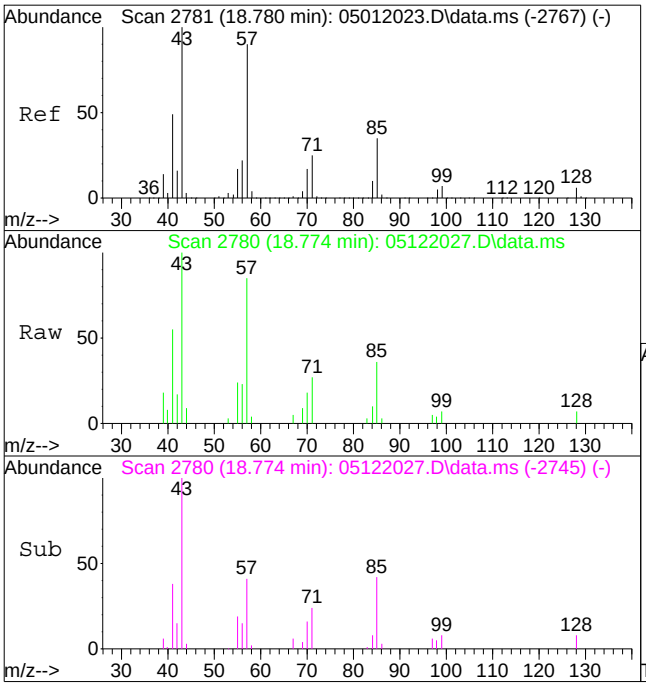


#70
o-Xylene
Concen: 0.15 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05122027.D
Acq: 12 May 2020 17:08

Tgt Ion: 91 Resp: 15165

Ion	Ratio	Lower	Upper
91	100		
106	48.7	27.5	67.5

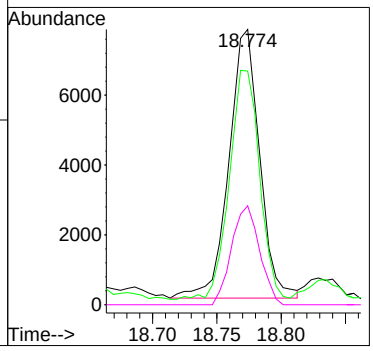


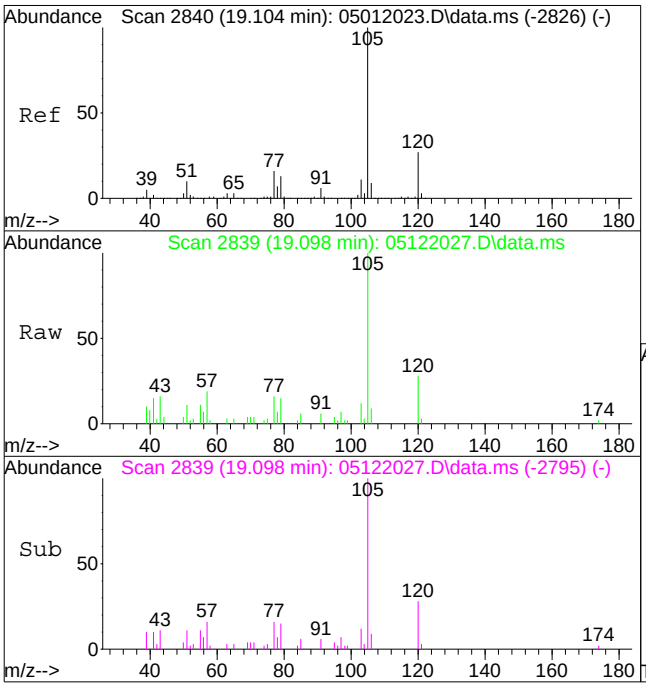


#71
n-Nonane
Concen: 0.24 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05122027.D
Acq: 12 May 2020 17:08

Tgt Ion: 43 Resp: 12781

Ion	Ratio	Lower	Upper
43	100		
57	85.2	69.0	109.0
85	33.5	14.6	54.6

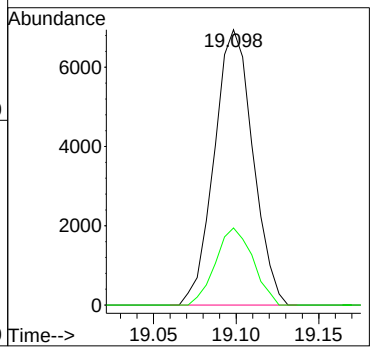


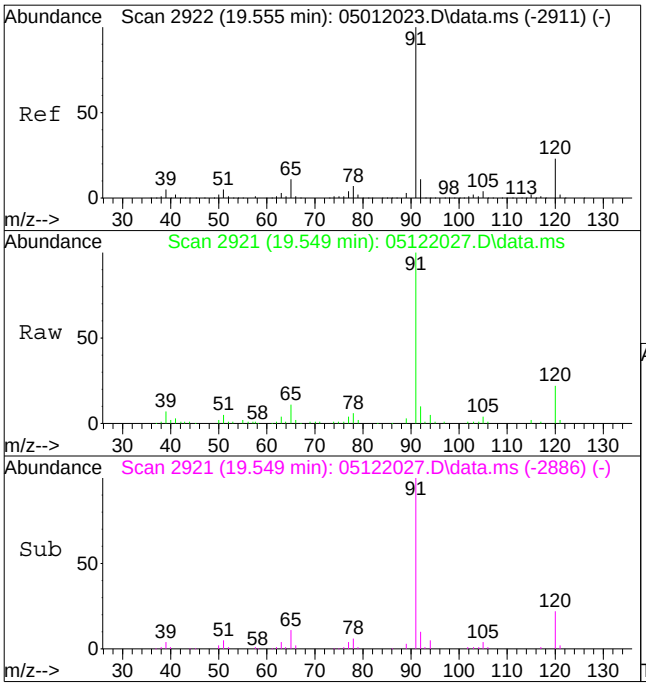


#74
Cumene
Concen: 0.09 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05122027.D
Acq: 12 May 2020 17:08

Tgt Ion:105 Resp: 11304

Ion	Ratio	Lower	Upper
105	100		
120	27.1	6.8	46.8

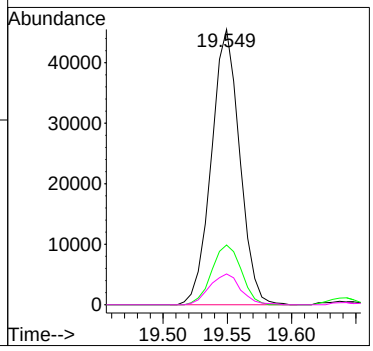


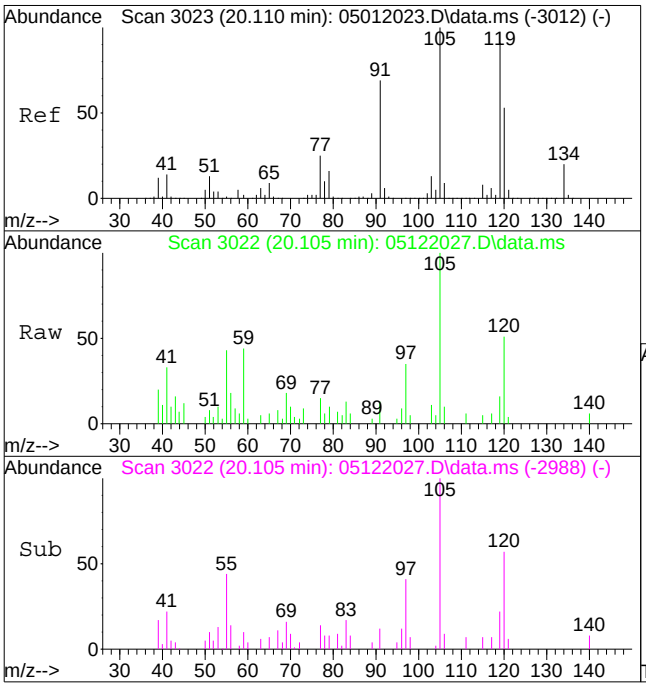


#76
n-Propylbenzene
Concen: 0.48 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05122027.D
Acq: 12 May 2020 17:08

Tgt Ion: 91 Resp: 69708

Ion	Ratio	Lower	Upper
91	100		
120	22.6	3.1	43.1
65	12.2	0.0	30.9

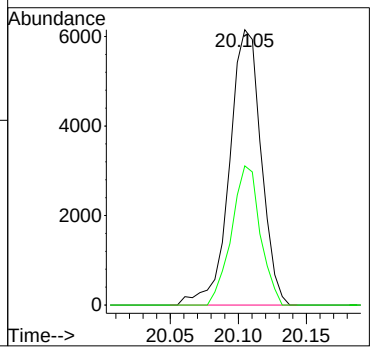


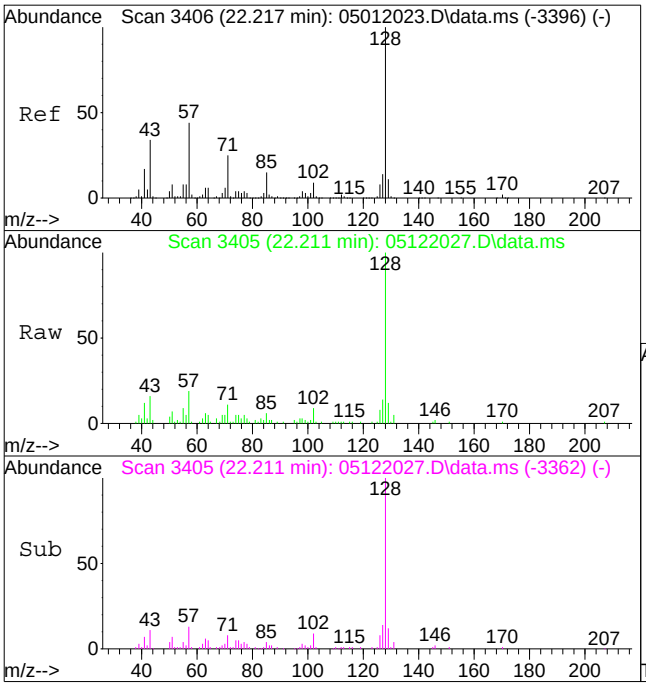


#82
1,2,4-Trimethylbenzene
Concen: 0.10 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05122027.D
Acq: 12 May 2020 17:08

Tgt Ion:105 Resp: 9936

Ion	Ratio	Lower	Upper
105	100		
120	45.8	33.6	73.6

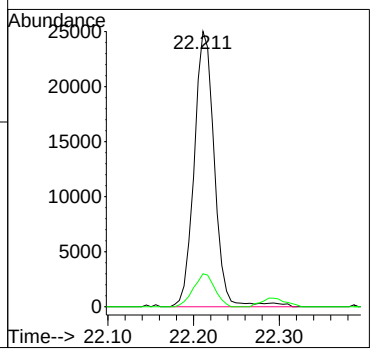




#95
Naphthalene
Concen: 0.33 ng
RT: 22.21 min Scan# 3405
Delta R.T. -0.011 min
Lab File: 05122027.D
Acq: 12 May 2020 17:08

Tgt Ion:128 Resp: 40917

Ion	Ratio	Lower	Upper
128	100		
129	12.7	0.0	31.0



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122028.D Vial: 8
Acq On : 12 May 2020 17:42 Operator: WA
Sample : P2002300-015 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 17:03:25 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/13/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	254620	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1089613	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	508742	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	401472	11.635	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.04%				
57) Toluene-d8 (SS2)	15.71	98	1070804	12.418	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.36%				
73) Bromofluorobenzene (SS3)	18.97	174	409892	13.210	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.68%				
Target Compounds							Qvalue
2) Propene	4.10	42	7221	0.245	ng		96
3) Dichlorodifluoromethan...	4.26	85	42463	0.736	ng		100
4) Chloromethane	4.53	50	2609	0.058	ng		96
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	755	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.15	54	289	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.98	64	102	N.D.			
10) Ethanol	6.32	45	24719	1.086	ng		99
11) Acetonitrile	6.59	41	7596	0.146	ng		85
12) Acrolein	6.79	56	3967	0.220	ng		97
13) Acetone	7.01	58	34324	1.507	ng	#	84
14) Trichlorofluoromethane	7.24	101	11403	0.224	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	38497	0.559	ng		91
16) Acrylonitrile	7.74	53	336	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	356	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	8.85	151	12578	0.523	ng		96
22) Carbon Disulfide	8.67	76	30581	0.288	ng		98
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.10	73	1120	N.D.			
26) Vinyl Acetate	10.17	86	2582	0.364	ng	#	63
27) 2-Butanone (MEK)	10.48	72	4757	0.245	ng	#	87
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.30	87	1064	N.D.			
30) Ethyl Acetate	11.28	61	2381	0.213	ng		90
31) n-Hexane	11.25	57	15070	0.310	ng		98
32) Chloroform	11.30	83	9263	0.183	ng		99
34) Tetrahydrofuran (THF)	11.72	72	26119	1.379	ng		96
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	41737	0.357	ng		99
42) Carbon Tetrachloride	13.03	117	20378	0.513	ng		100
43) Cyclohexane	13.16	84	6439	0.148	ng		97
44) tert-Amyl Methyl Ether	13.56	73	446	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	13.90	83	2174	0.055	ng		77
47) Trichloroethene	13.97	130	1511	0.050	ng		92
48) 1,4-Dioxane	13.97	88	1499	0.064	ng		94
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122028.D Vial: 8
Acq On : 12 May 2020 17:42 Operator: WA
Sample : P2002300-015 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 17:03:25 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

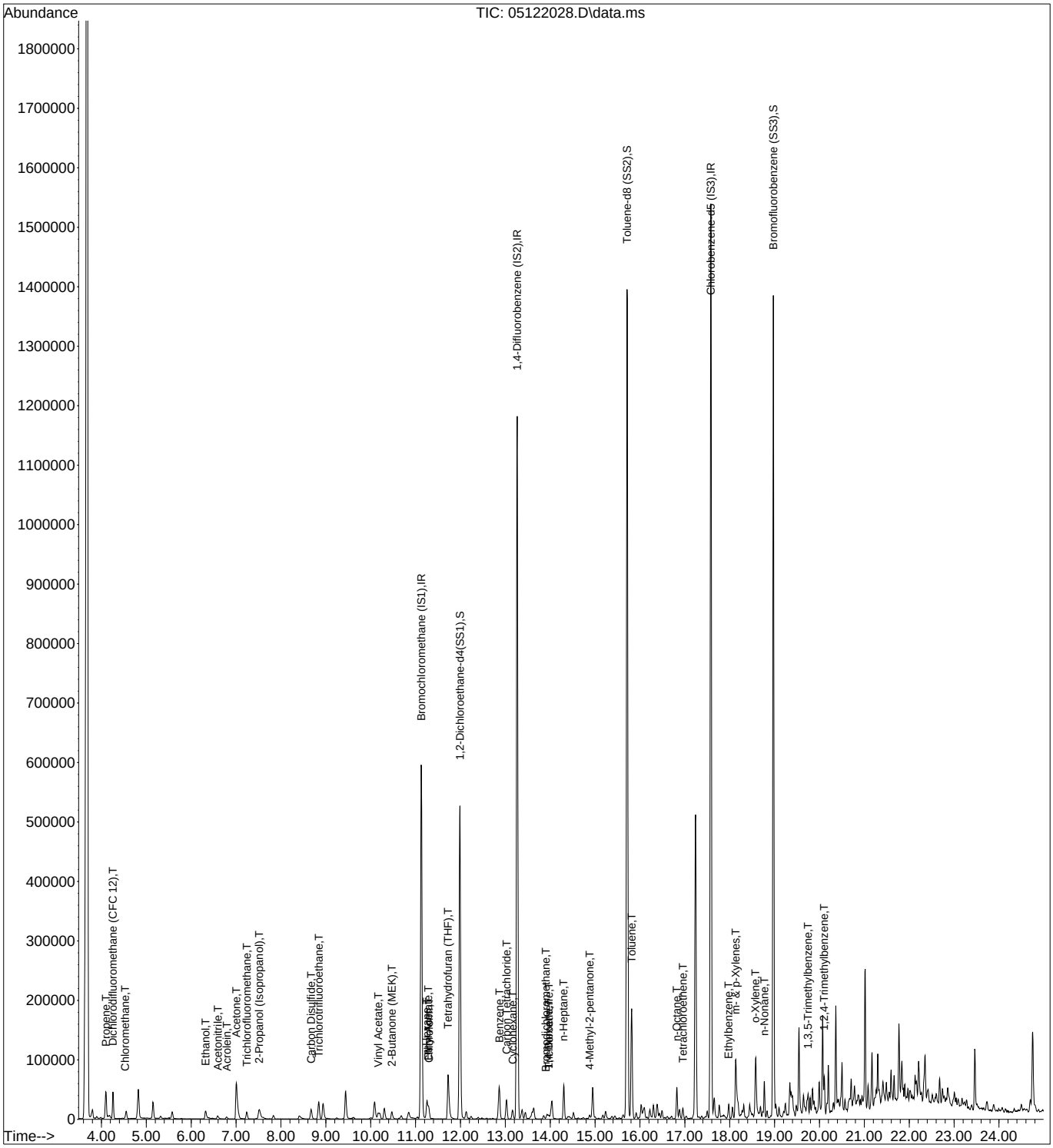
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.30	71	14780	0.541 ng		99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.88	58	1794	0.069 ng	#	66
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.82	91	149379	1.344 ng		100
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.70	43	1317	N.D.		
63) n-Octane	16.82	57	10205	0.443 ng		99
64) Tetrachloroethene	16.96	166	5020	0.160 ng		96
65) Chlorobenzene	17.66	112	3096	N.D.		
66) Ethylbenzene	17.98	91	16008	0.129 ng		100
67) m- & p-Xylenes	18.13	91	68693	0.699 ng		99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	524	N.D.		
70) o-Xylene	18.57	91	23881	0.239 ng		99
71) n-Nonane	18.77	43	22236	0.420 ng		94
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d		
74) Cumene	19.10	105	2581	N.D.		
75) alpha-Pinene	19.53	93	507	N.D.		
76) n-Propylbenzene	19.55	91	6148	N.D.		
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.68	105	2845	N.D.		
79) 1,3,5-Trimethylbenzene	19.74	105	8757	0.088 ng		96
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	19.91	105	4532	N.D.		
82) 1,2,4-Trimethylbenzene	20.10	105	20020	0.199 ng		92
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.21	91	401	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	20.35	105	4207	N.D.		
88) 4-Isopropyltoluene (p-...	20.48	119	2906	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.61	68	1059	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	22.21	128	5298	N.D.		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	20.07	119	3222	N.D.		
100) n-Butylbenzene	20.85	91	3740	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122028.D Vial: 8
Acq On : 12 May 2020 17:42 Operator: WA
Sample : P2002300-015 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 17:03:25 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122028.D Vial: 8
Acq On : 12 May 2020 17:42 Operator: WA
Sample : P2002300-015 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 17:03:25 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/13/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

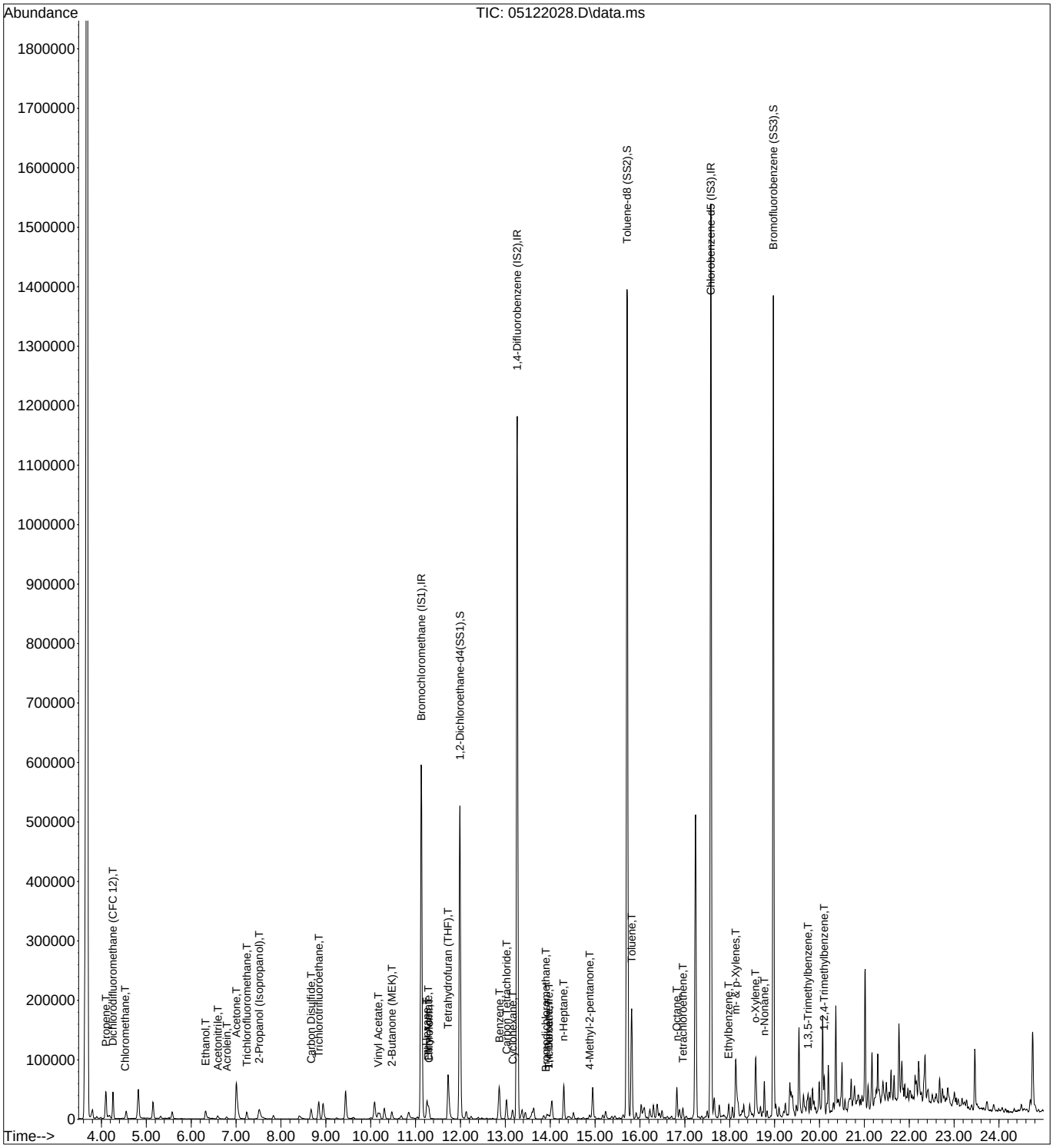
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	254620	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1089613	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	508742	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	401472	11.635	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.04%				
57) Toluene-d8 (SS2)	15.71	98	1070804	12.418	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.36%				
73) Bromofluorobenzene (SS3)	18.97	174	409892	13.210	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.68%				
Target Compounds							Qvalue
2) Propene	4.10	42	7221	0.245	ng		96
3) Dichlorodifluoromethan...	4.26	85	42463	0.736	ng		100
4) Chloromethane	4.53	50	2609	0.058	ng		96
10) Ethanol	6.32	45	24719	1.086	ng		99
11) Acetonitrile	6.59	41	7596	0.146	ng		85
12) Acrolein	6.79	56	3967	0.220	ng		97
13) Acetone	7.01	58	34324	1.507	ng	#	84
14) Trichlorofluoromethane	7.24	101	11403	0.224	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	38497	0.559	ng		91
21) Trichlorotrifluoroethane	8.85	151	12578	0.523	ng		96
22) Carbon Disulfide	8.67	76	30581	0.288	ng		98
26) Vinyl Acetate	10.17	86	2582	0.364	ng	#	63
27) 2-Butanone (MEK)	10.48	72	4757	0.245	ng	#	87
30) Ethyl Acetate	11.28	61	2381	0.213	ng		90
31) n-Hexane	11.25	57	15070	0.310	ng		98
32) Chloroform	11.30	83	9263	0.183	ng		99
34) Tetrahydrofuran (THF)	11.72	72	26119	1.379	ng		96
41) Benzene	12.87	78	41737	0.357	ng		99
42) Carbon Tetrachloride	13.03	117	20378	0.513	ng		100
43) Cyclohexane	13.16	84	6439	0.148	ng		97
46) Bromodichloromethane	13.90	83	2174	0.055	ng		77
47) Trichloroethene	13.97	130	1511	0.050	ng		92
48) 1,4-Dioxane	13.97	88	1499	0.064	ng		94
51) n-Heptane	14.30	71	14780	0.541	ng		99
53) 4-Methyl-2-pentanone	14.88	58	1794	0.069	ng	#	66
58) Toluene	15.82	91	149379	1.344	ng		100
63) n-Octane	16.82	57	10205	0.443	ng		99
64) Tetrachloroethene	16.96	166	5020	0.160	ng		96
66) Ethylbenzene	17.98	91	16008	0.129	ng		100
67) m- & p-Xylenes	18.13	91	68693	0.699	ng		99
70) o-Xylene	18.57	91	23881	0.239	ng		99
71) n-Nonane	18.77	43	22236	0.420	ng		94
79) 1,3,5-Trimethylbenzene	19.74	105	8757	0.088	ng		96
82) 1,2,4-Trimethylbenzene	20.10	105	20020	0.199	ng		92

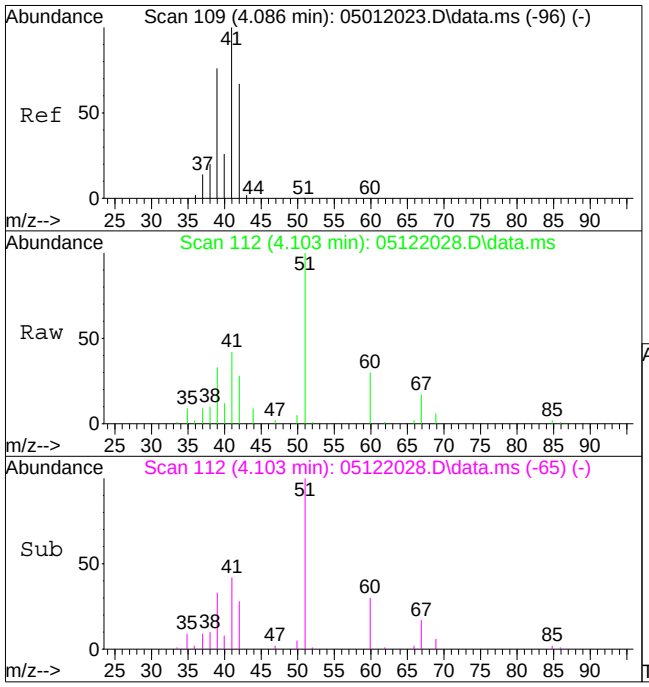
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122028.D Vial: 8
Acq On : 12 May 2020 17:42 Operator: WA
Sample : P2002300-015 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 17:03:25 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

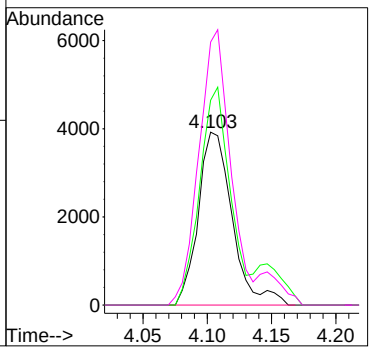


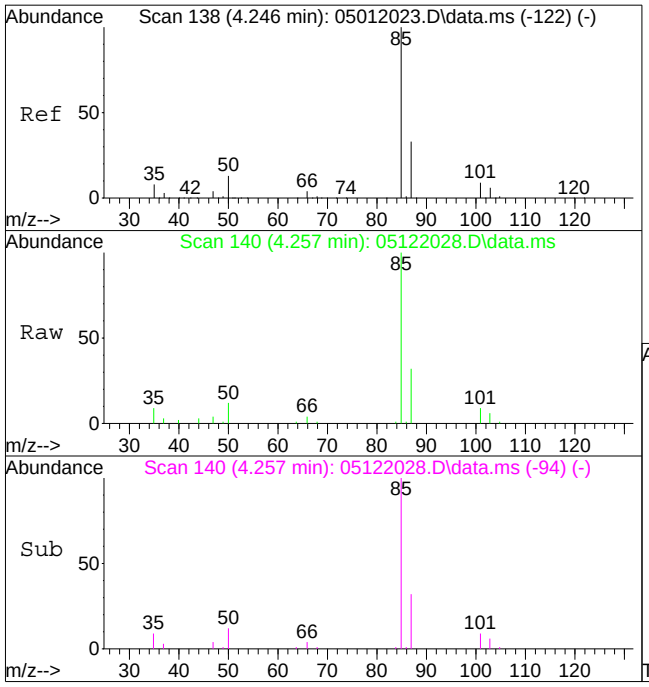


#2
Propene
Concen: 0.24 ng
RT: 4.10 min Scan# 112
Delta R.T. 0.011 min
Lab File: 05122028.D
Acq: 12 May 2020 17:42

Tgt Ion: 42 Resp: 7221

Ion	Ratio	Lower	Upper
42	100		
39	115.0	96.1	136.1
41	160.7	131.9	171.9

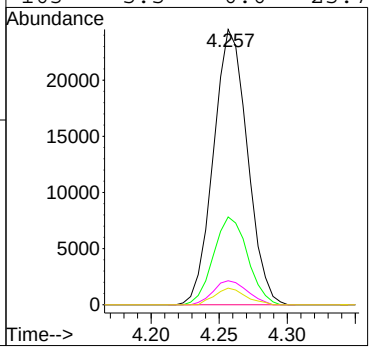


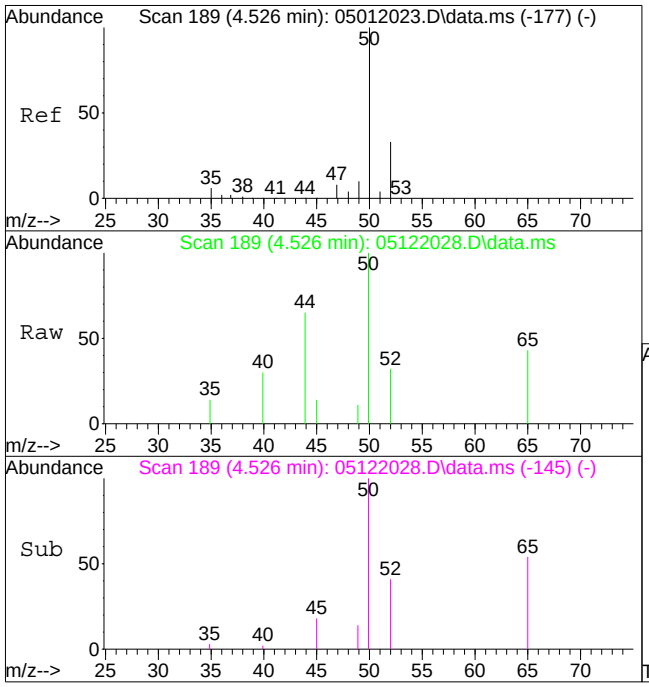


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.74 ng
RT: 4.26 min Scan# 140
Delta R.T. 0.005 min
Lab File: 05122028.D
Acq: 12 May 2020 17:42

Tgt Ion: 85 Resp: 42463

Ion	Ratio	Lower	Upper
85	100		
87	32.1	12.4	52.4
101	8.8	0.0	28.8
103	5.5	0.0	25.7

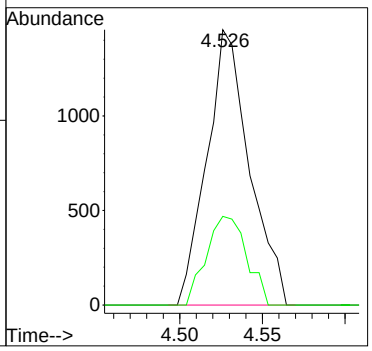


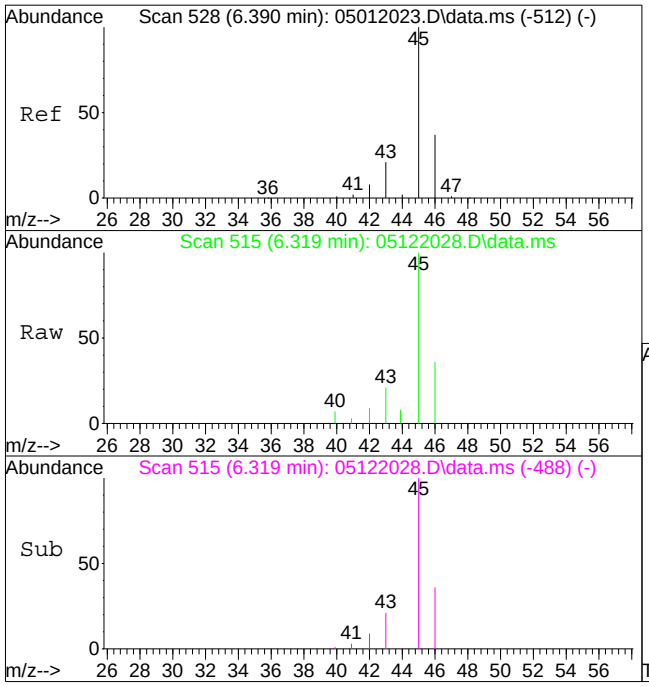


#4
Chloromethane
Concen: 0.06 ng
RT: 4.53 min Scan# 189
Delta R.T. -0.006 min
Lab File: 05122028.D
Acq: 12 May 2020 17:42

Tgt Ion: 50 Resp: 2609

Ion	Ratio	Lower	Upper
50	100		
52	30.5	12.5	52.5

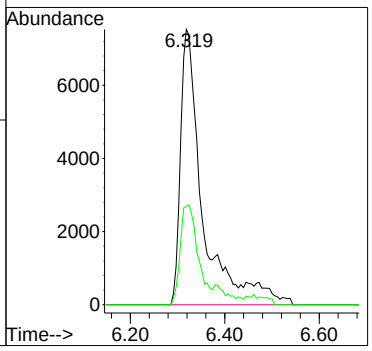


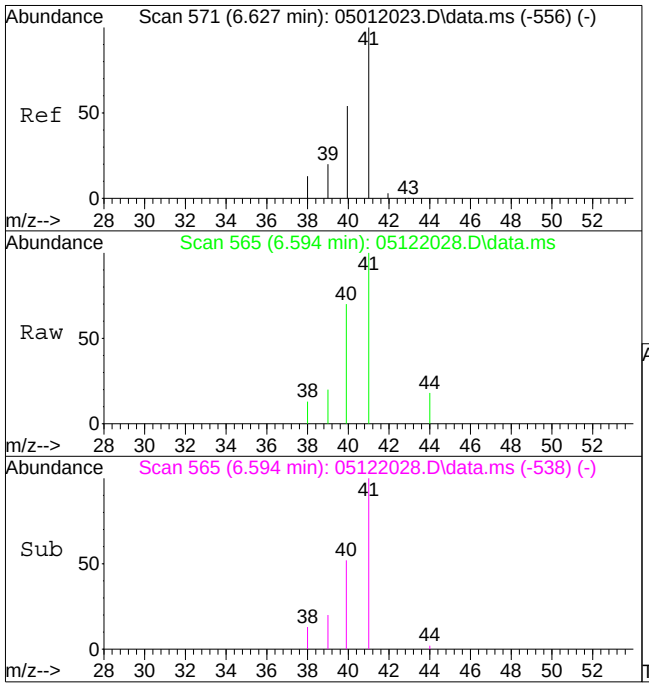


#10
Ethanol
Concen: 1.09 ng
RT: 6.32 min Scan# 515
Delta R.T. -0.099 min
Lab File: 05122028.D
Acq: 12 May 2020 17:42

Tgt Ion: 45 Resp: 24719

Ion	Ratio	Lower	Upper
45	100		
46	36.9	17.2	57.2

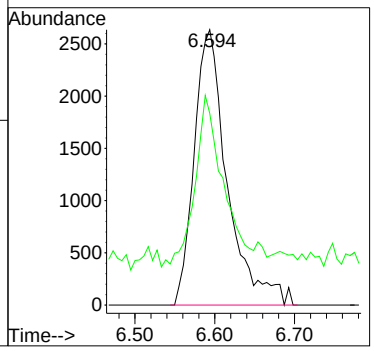


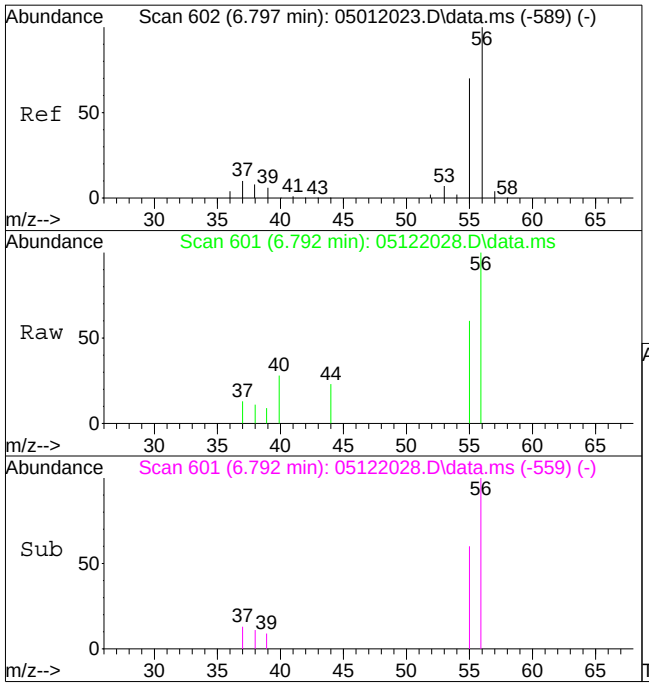


#11
Acetonitrile
Concen: 0.15 ng
RT: 6.59 min Scan# 565
Delta R.T. -0.050 min
Lab File: 05122028.D
Acq: 12 May 2020 17:42

Tgt Ion: 41 Resp: 7596

Ion	Ratio	Lower	Upper
41	100		
40	64.4	33.6	73.6

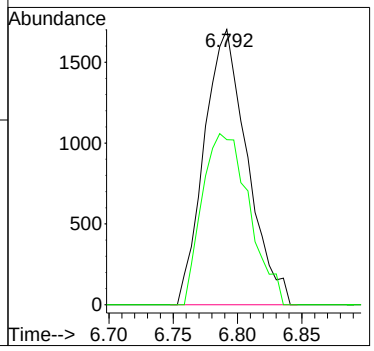


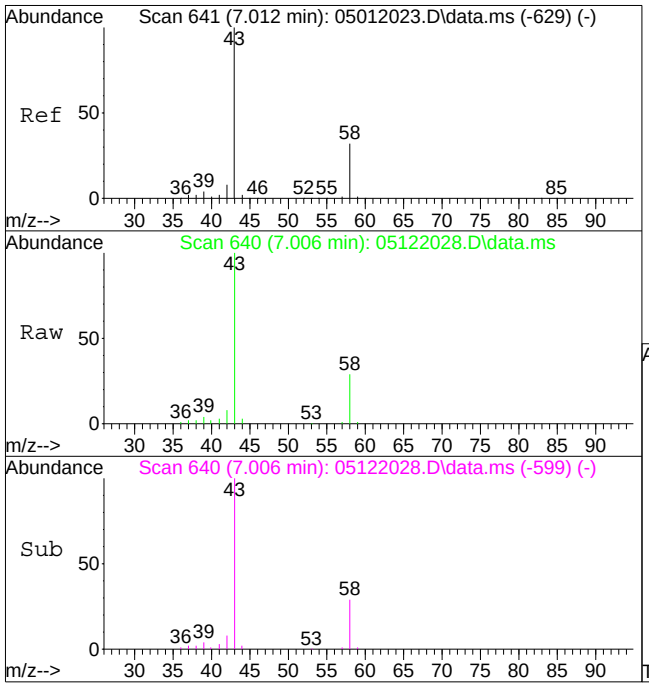


#12
Acrolein
Concen: 0.22 ng
RT: 6.79 min Scan# 601
Delta R.T. -0.017 min
Lab File: 05122028.D
Acq: 12 May 2020 17:42

Tgt Ion: 56 Resp: 3967

Ion	Ratio	Lower	Upper
56	100		
55	67.9	50.2	90.2

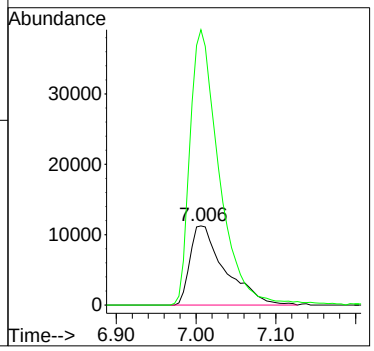


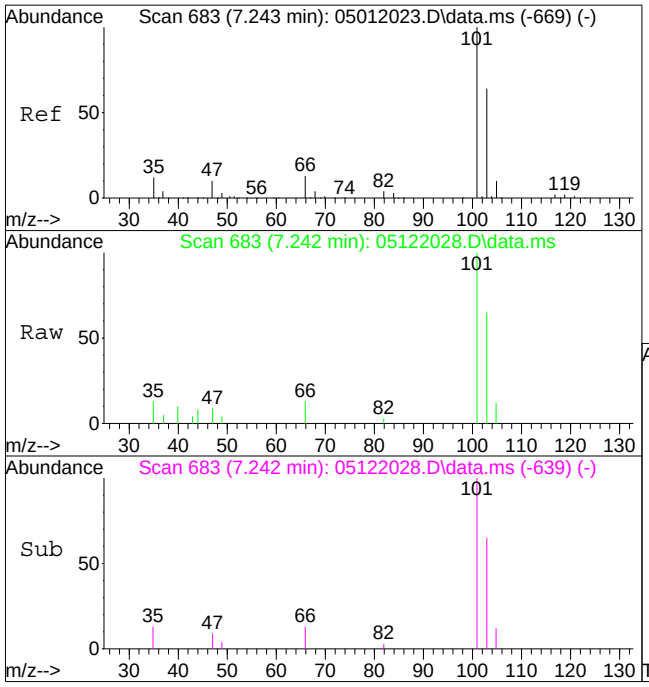


#13
Acetone
Concen: 1.51 ng
RT: 7.01 min Scan# 640
Delta R.T. -0.022 min
Lab File: 05122028.D
Acq: 12 May 2020 17:42

Tgt Ion: 58 Resp: 34324

Ion	Ratio	Lower	Upper
58	100		
43	291.8	294.4	354.4#

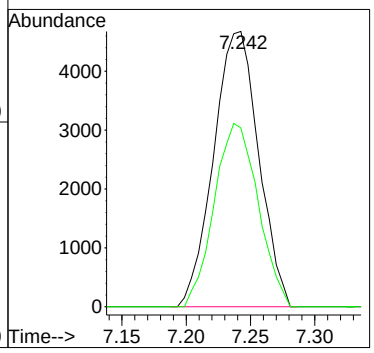


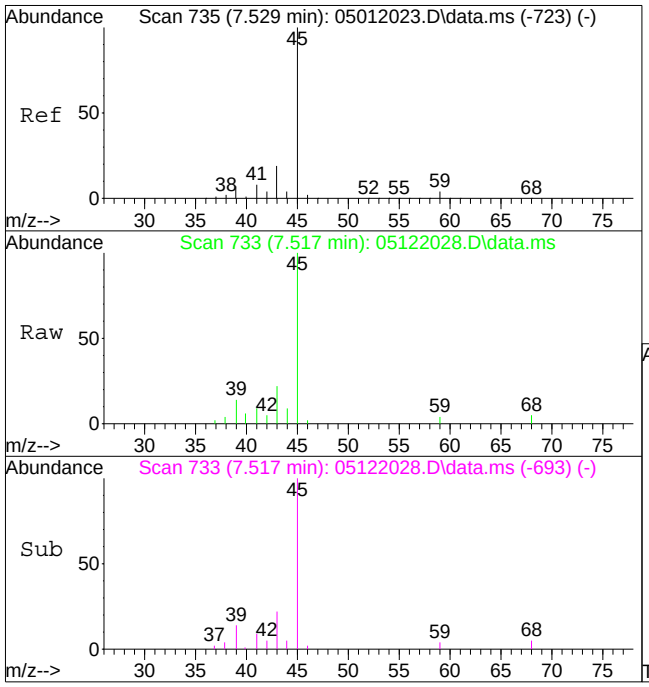


#14
Trichlorofluoromethane
Concen: 0.22 ng
RT: 7.24 min Scan# 683
Delta R.T. -0.006 min
Lab File: 05122028.D
Acq: 12 May 2020 17:42

Tgt Ion:101 Resp: 11403

Ion	Ratio	Lower	Upper
101	100		
103	64.7	44.4	84.4

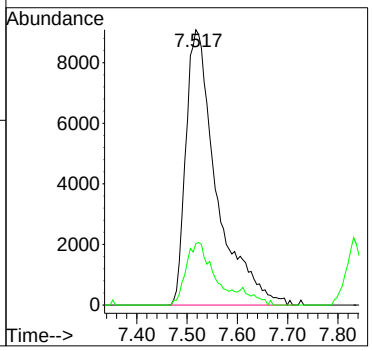


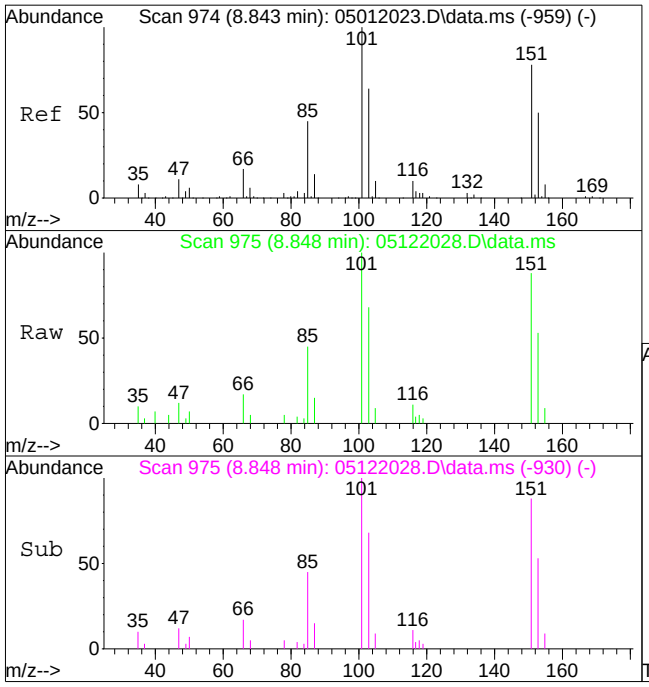


#15
2-Propanol (Isopropanol)
Concen: 0.56 ng
RT: 7.52 min Scan# 733
Delta R.T. -0.028 min
Lab File: 05122028.D
Acq: 12 May 2020 17:42

Tgt Ion: 45 Resp: 38497

Ion	Ratio	Lower	Upper
45	100		
43	23.7	0.0	39.5

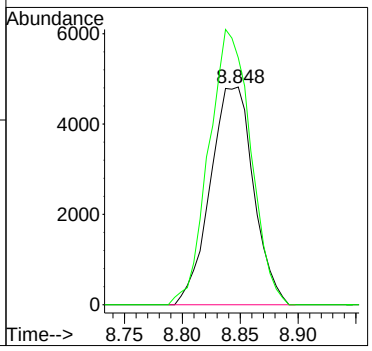


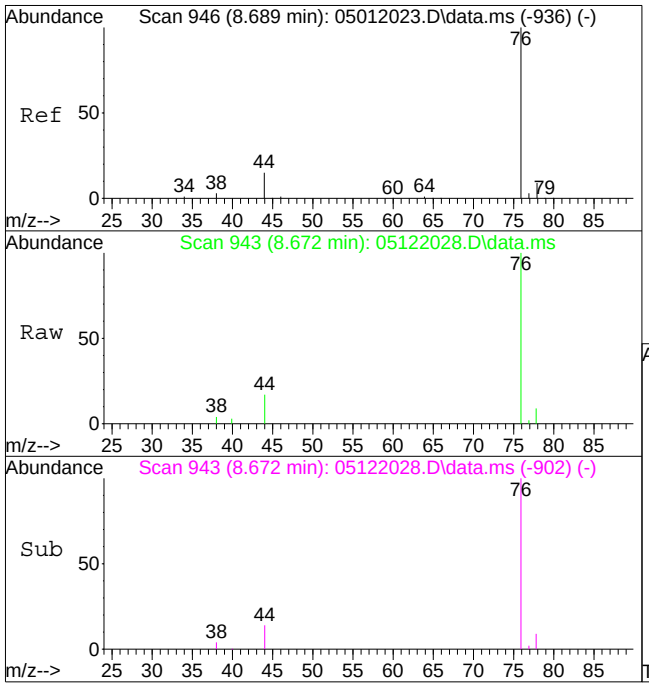


#21
Trichlorotrifluoroethane
Concen: 0.52 ng
RT: 8.85 min Scan# 975
Delta R.T. -0.000 min
Lab File: 05122028.D
Acq: 12 May 2020 17:42

Tgt Ion:151 Resp: 12578

Ion	Ratio	Lower	Upper
151	100		
101	122.1	107.3	147.3

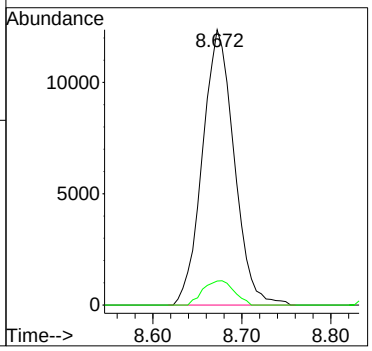


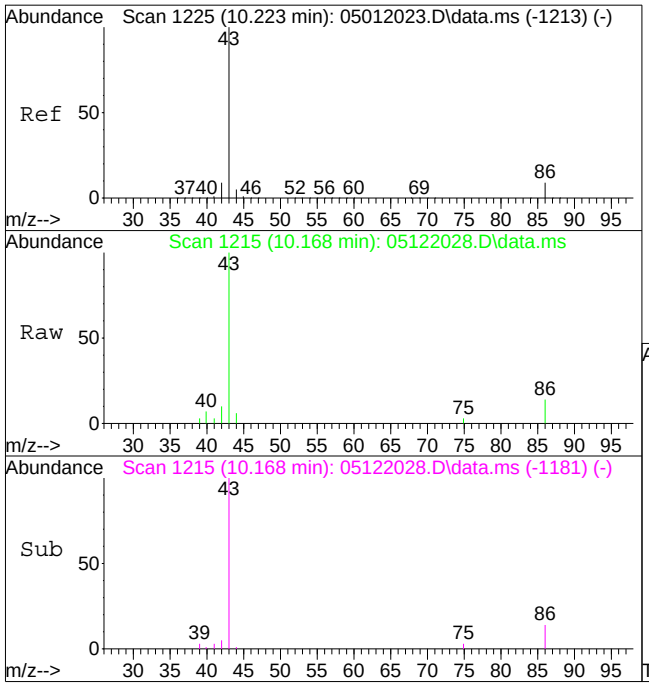


#22
Carbon Disulfide
Concen: 0.29 ng
RT: 8.67 min Scan# 943
Delta R.T. -0.022 min
Lab File: 05122028.D
Acq: 12 May 2020 17:42

Tgt Ion: 76 Resp: 30581

Ion	Ratio	Lower	Upper
76	100		
78	8.6	0.0	29.2

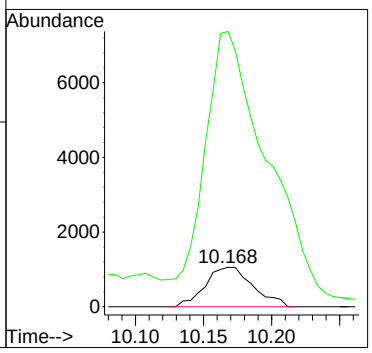


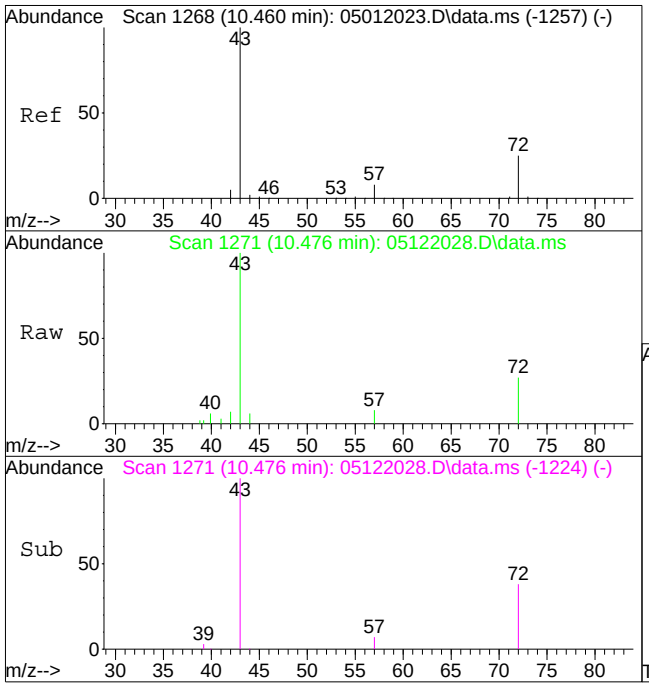


#26
Vinyl Acetate
Concen: 0.36 ng
RT: 10.17 min Scan# 1215
Delta R.T. -0.061 min
Lab File: 05122028.D
Acq: 12 May 2020 17:42

Tgt Ion: 86 Resp: 2582

Ion	Ratio	Lower	Upper
86	100		
43	942.9	1103.0	1143.0#

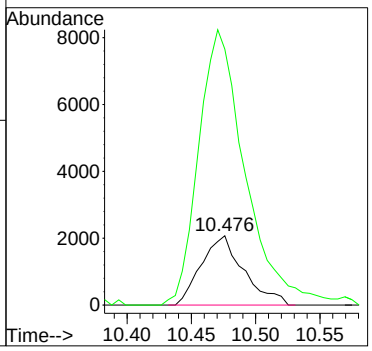


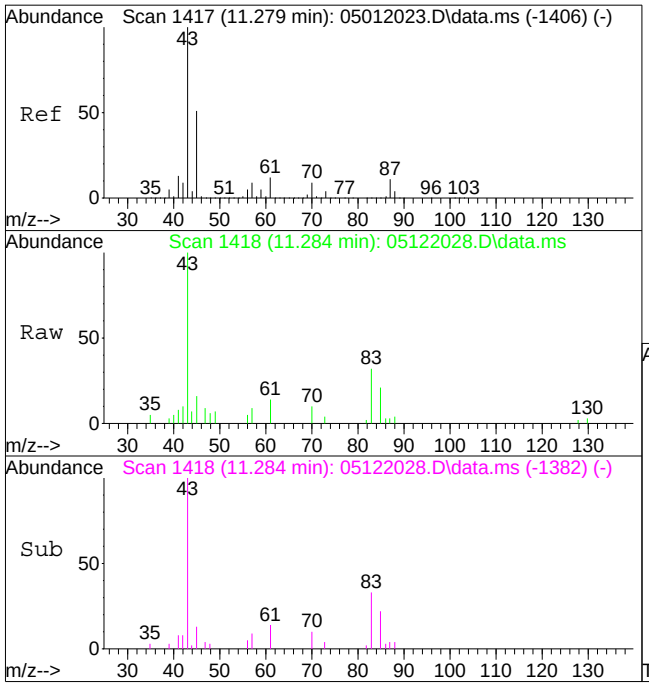


#27
2-Butanone (MEK)
Concen: 0.24 ng
RT: 10.48 min Scan# 1271
Delta R.T. 0.011 min
Lab File: 05122028.D
Acq: 12 May 2020 17:42

Tgt Ion: 72 Resp: 4757

Ion	Ratio	Lower	Upper
72	100		
43	441.1	389.7	429.7#

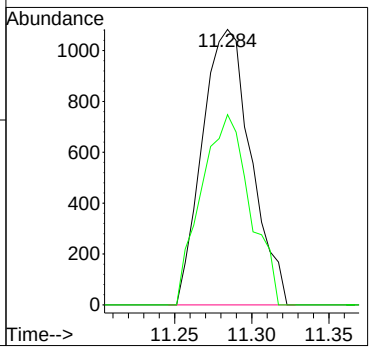


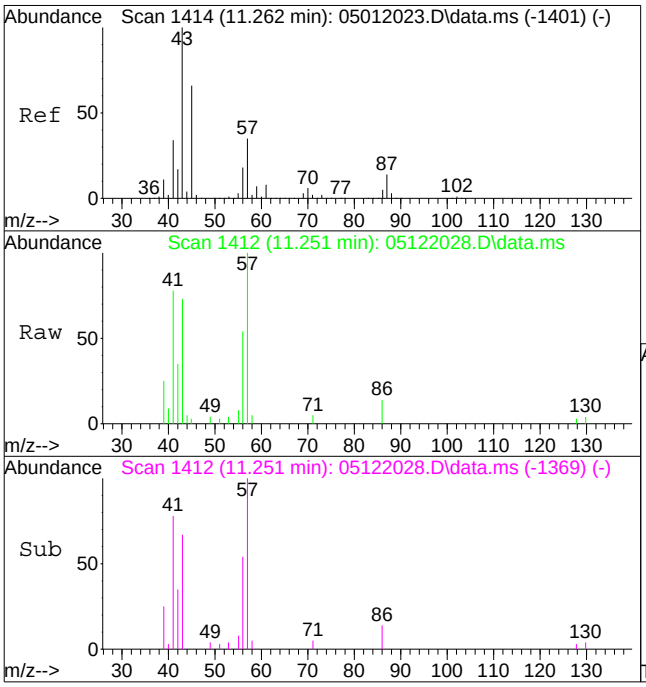


#30
Ethyl Acetate
Concen: 0.21 ng
RT: 11.28 min Scan# 1418
Delta R.T. -0.000 min
Lab File: 05122028.D
Acq: 12 May 2020 17:42

Tgt Ion: 61 Resp: 2381

Ion	Ratio	Lower	Upper
61	100		
70	69.1	57.9	97.9

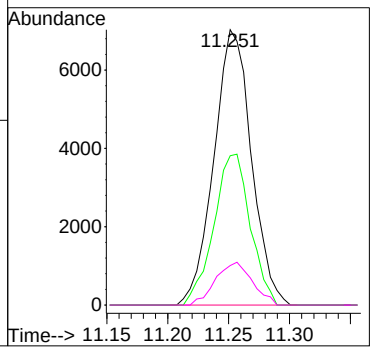


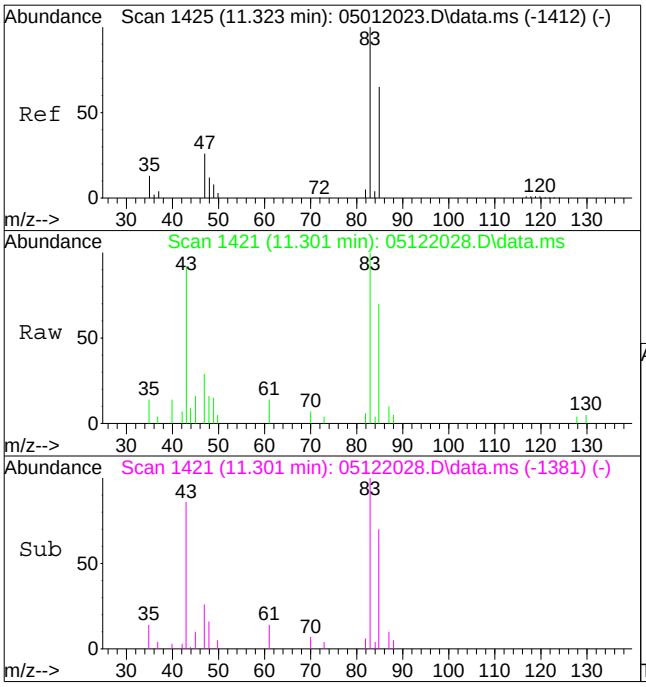


#31
n-Hexane
Concen: 0.31 ng
RT: 11.25 min Scan# 1412
Delta R.T. -0.011 min
Lab File: 05122028.D
Acq: 12 May 2020 17:42

Tgt Ion: 57 Resp: 15070

Ion	Ratio	Lower	Upper
57	100		
56	53.1	41.4	62.0
86	15.2	12.4	18.6

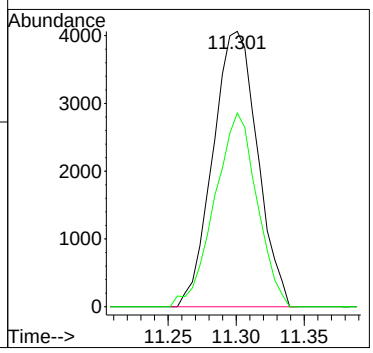


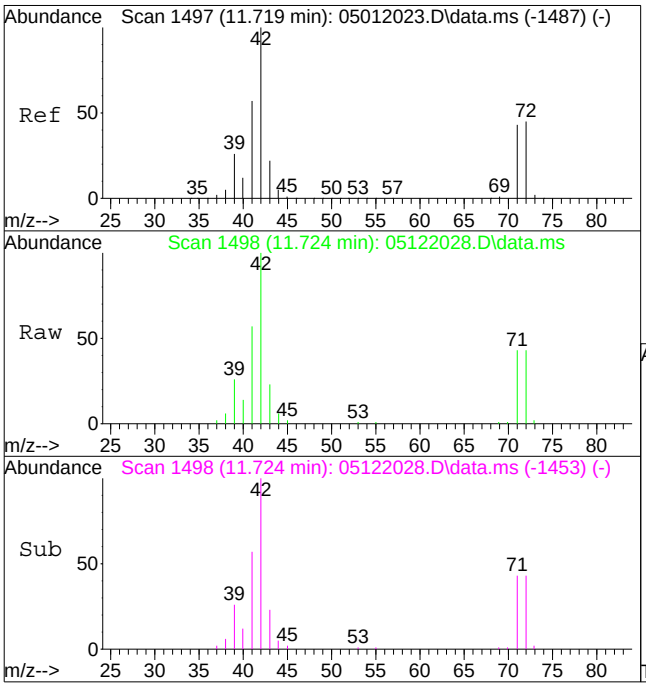


#32
Chloroform
Concen: 0.18 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.028 min
Lab File: 05122028.D
Acq: 12 May 2020 17:42

Tgt Ion: 83 Resp: 9263

Ion	Ratio	Lower	Upper
83	100		
85	66.6	45.5	85.5

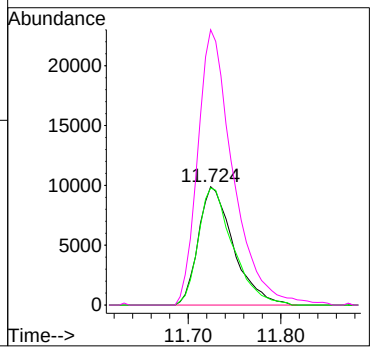


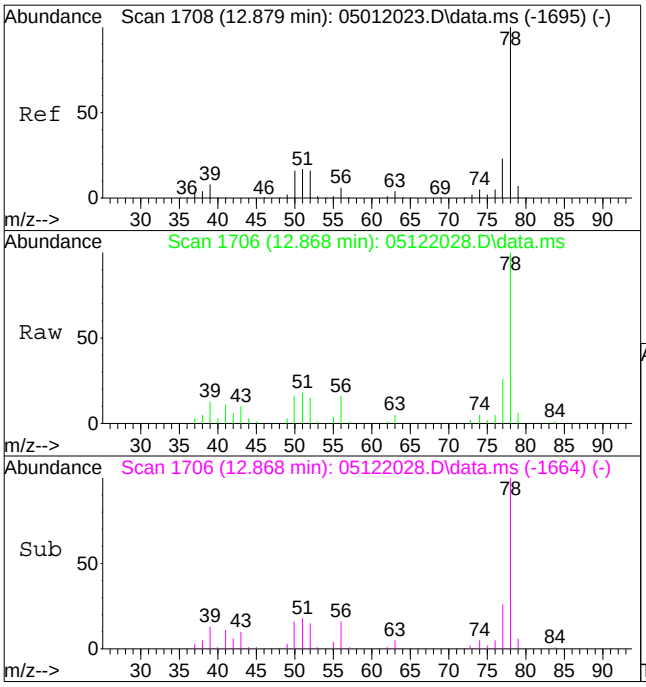


#34
Tetrahydrofuran (THF)
Concen: 1.38 ng
RT: 11.72 min Scan# 1498
Delta R.T. -0.000 min
Lab File: 05122028.D
Acq: 12 May 2020 17:42

Tgt Ion: 72 Resp: 26119

Ion	Ratio	Lower	Upper
72	100		
71	98.0	77.0	117.0
42	234.2	204.6	244.6

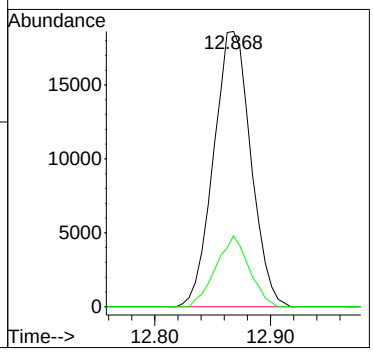


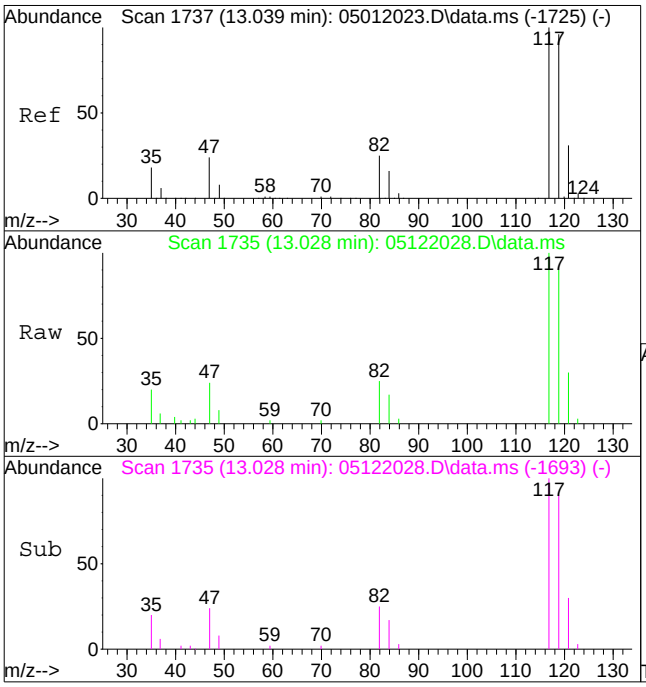


#41
Benzene
Concen: 0.36 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05122028.D
Acq: 12 May 2020 17:42

Tgt Ion: 78 Resp: 41737

Ion	Ratio	Lower	Upper
78	100		
77	23.0	3.4	43.4

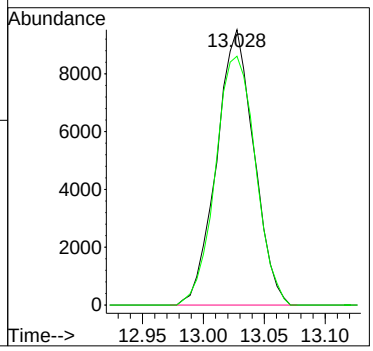


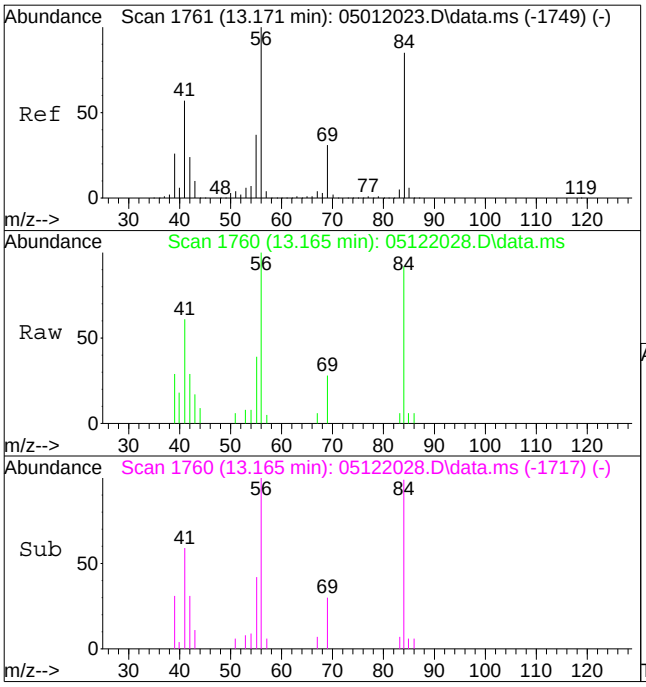


#42
Carbon Tetrachloride
Concen: 0.51 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05122028.D
Acq: 12 May 2020 17:42

Tgt Ion:117 Resp: 20378

Ion	Ratio	Lower	Upper
117	100		
119	96.6	76.2	116.2

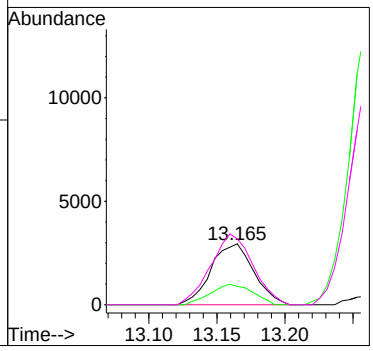


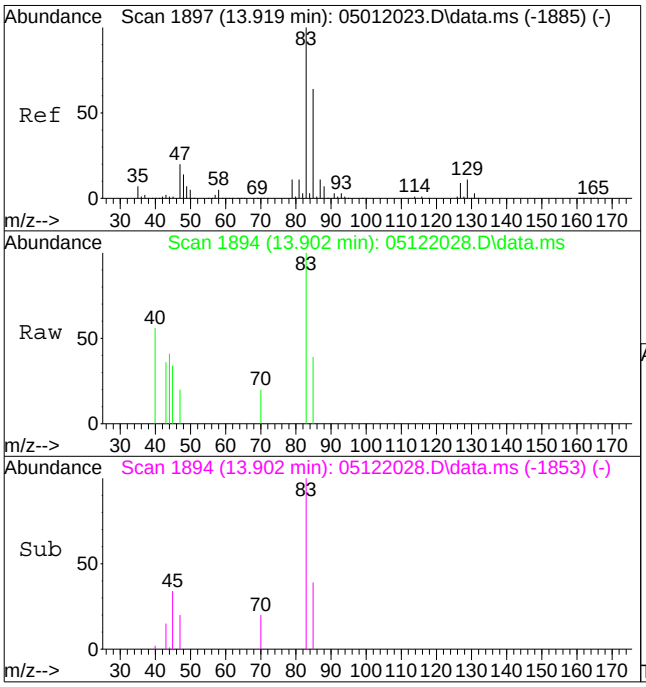


#43
Cyclohexane
Concen: 0.15 ng
RT: 13.16 min Scan# 1760
Delta R.T. -0.011 min
Lab File: 05122028.D
Acq: 12 May 2020 17:42

Tgt Ion: 84 Resp: 6439

Ion	Ratio	Lower	Upper
84	100		
69	32.9	16.5	56.5
56	115.1	97.4	137.4

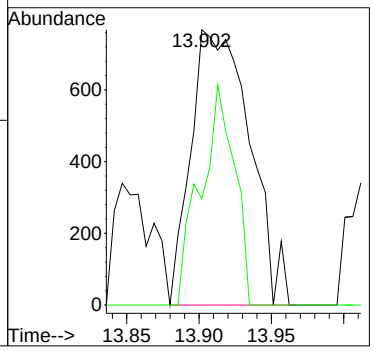


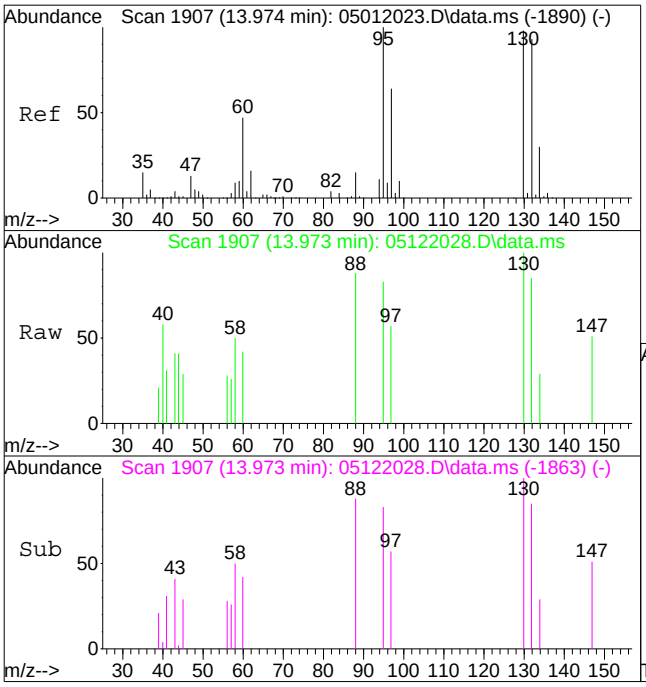


#46
Bromodichloromethane
Concen: 0.06 ng
RT: 13.90 min Scan# 1894
Delta R.T. -0.022 min
Lab File: 05122028.D
Acq: 12 May 2020 17:42

Tgt Ion: 83 Resp: 2174

Ion	Ratio	Lower	Upper
83	100		
85	46.4	44.4	84.4

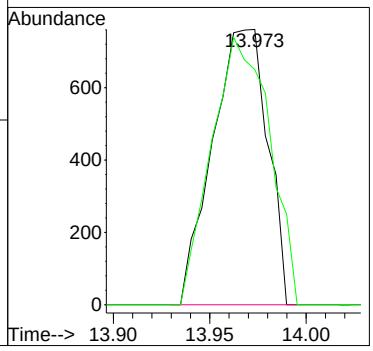


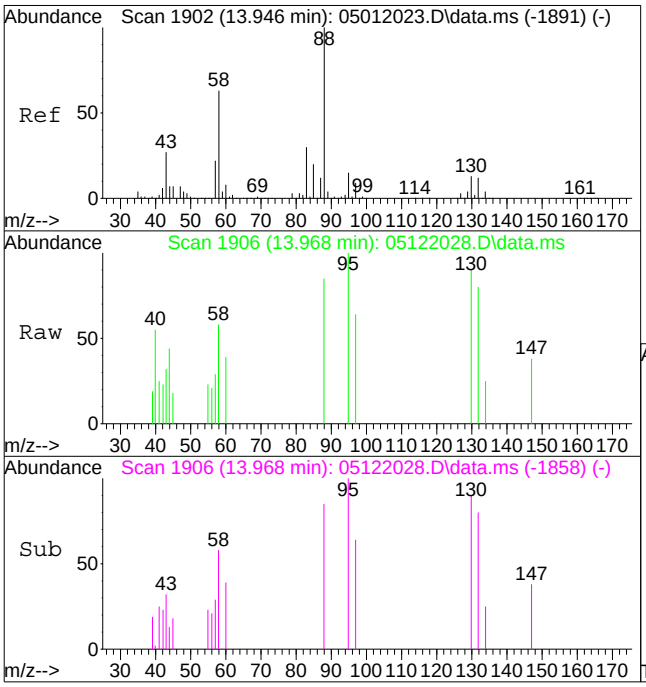


#47
Trichloroethene
Concen: 0.05 ng
RT: 13.97 min Scan# 1907
Delta R.T. -0.006 min
Lab File: 05122028.D
Acq: 12 May 2020 17:42

Tgt Ion:130 Resp: 1511

Ion	Ratio	Lower	Upper
130	100		
132	102.8	74.9	114.9

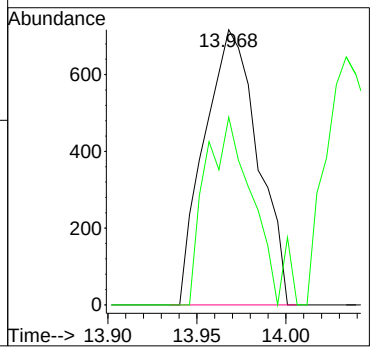


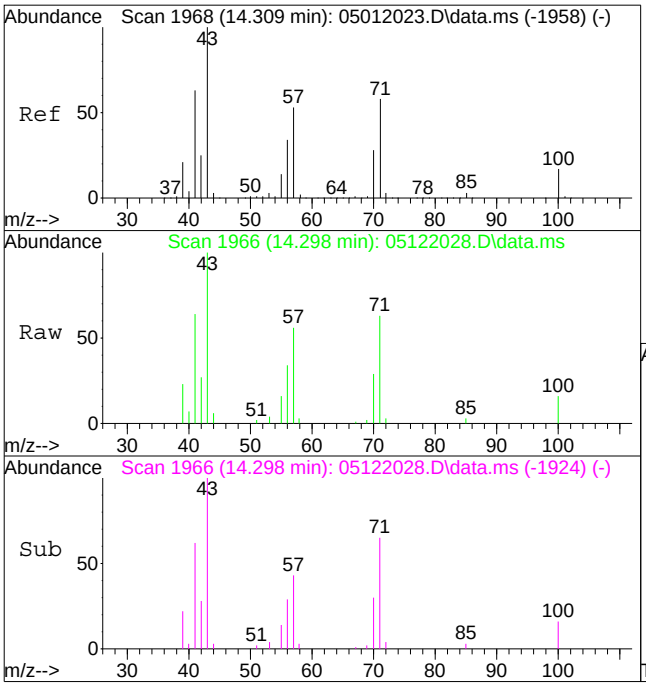


#48
1,4-Dioxane
Concen: 0.06 ng
RT: 13.97 min Scan# 1906
Delta R.T. 0.016 min
Lab File: 05122028.D
Acq: 12 May 2020 17:42

Tgt Ion: 88 Resp: 1499

Ion	Ratio	Lower	Upper
88	100		
58	58.0	42.8	82.8

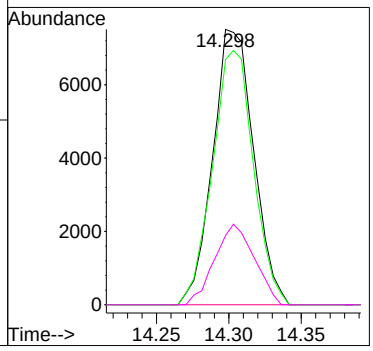


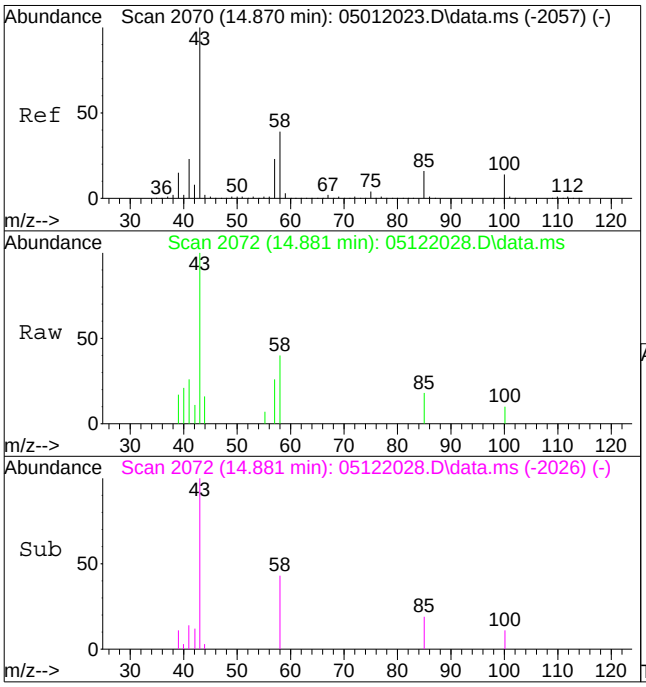


#51
n-Heptane
Concen: 0.54 ng
RT: 14.30 min Scan# 1966
Delta R.T. -0.017 min
Lab File: 05122028.D
Acq: 12 May 2020 17:42

Tgt Ion: 71 Resp: 14780

Ion	Ratio	Lower	Upper
71	100		
57	92.6	71.0	111.0
100	28.3	8.4	48.4

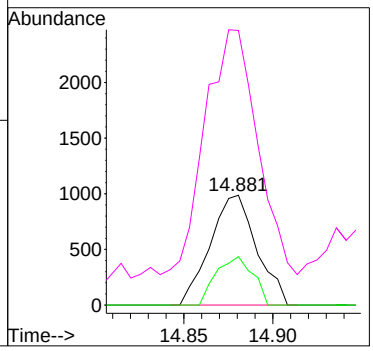


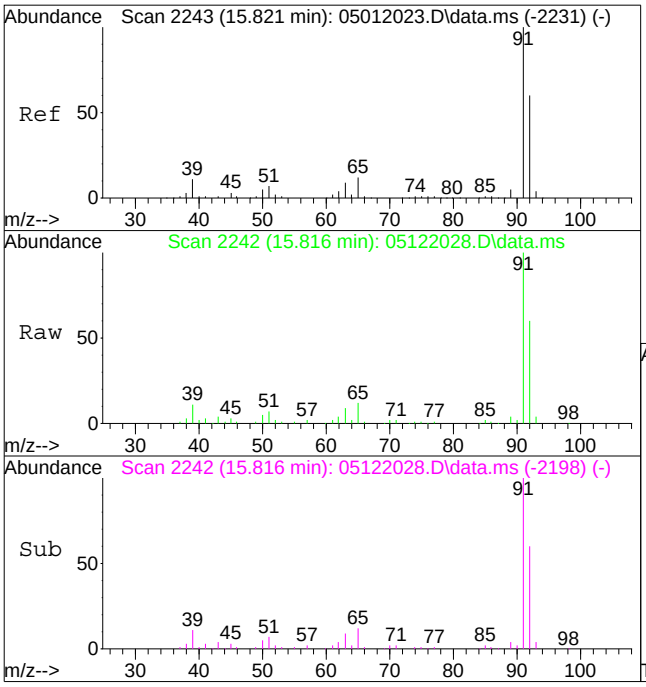


#53
4-Methyl-2-pentanone
Concen: 0.07 ng
RT: 14.88 min Scan# 2072
Delta R.T. 0.005 min
Lab File: 05122028.D
Acq: 12 May 2020 17:42

Tgt Ion: 58 Resp: 1794

Ion	Ratio	Lower	Upper
58	100		
85	34.7	35.4	53.2#
43	319.9	203.3	304.9#

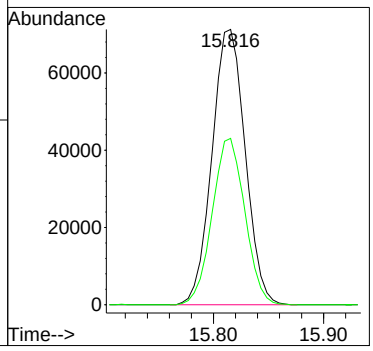


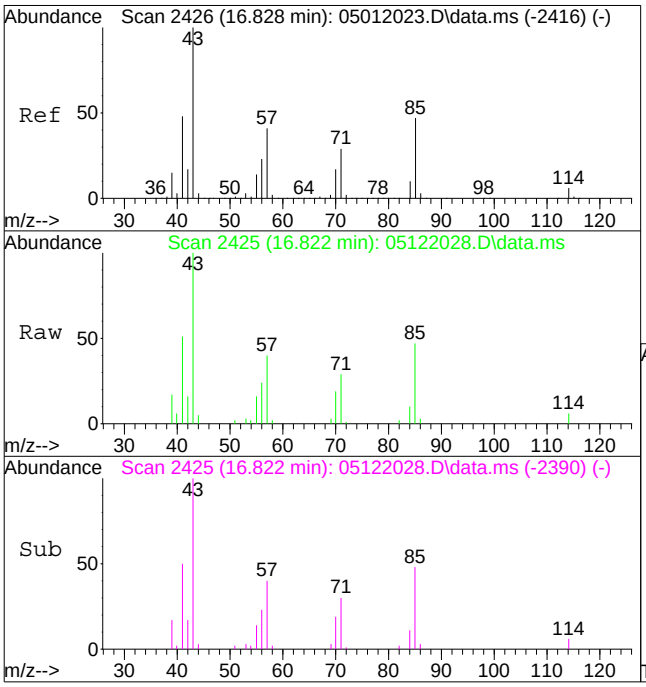


#58
Toluene
Concen: 1.34 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05122028.D
Acq: 12 May 2020 17:42

Tgt Ion: 91 Resp: 149379

Ion	Ratio	Lower	Upper
91	100		
92	59.3	39.4	79.4

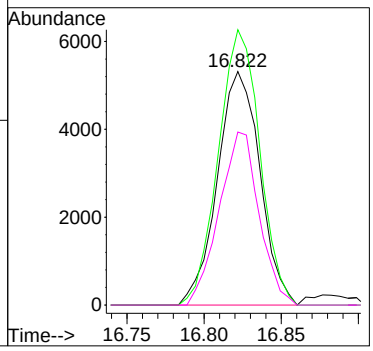


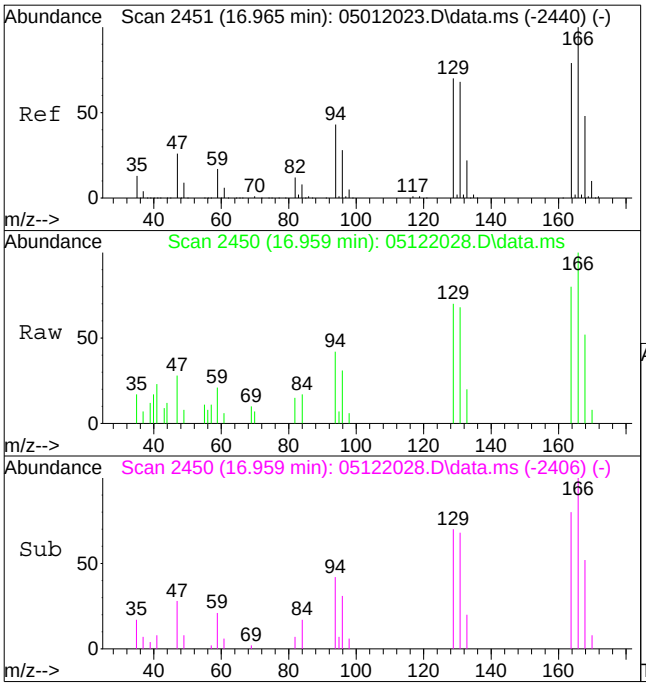


#63
n-Octane
Concen: 0.44 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05122028.D
Acq: 12 May 2020 17:42

Tgt Ion: 57 Resp: 10205

Ion	Ratio	Lower	Upper
57	100		
85	114.6	91.0	136.4
71	69.3	56.2	84.2

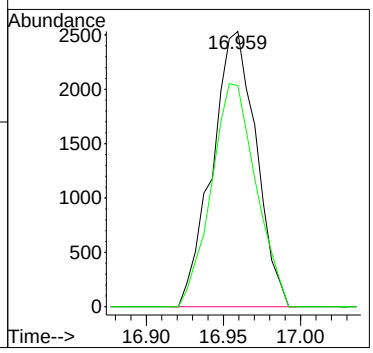


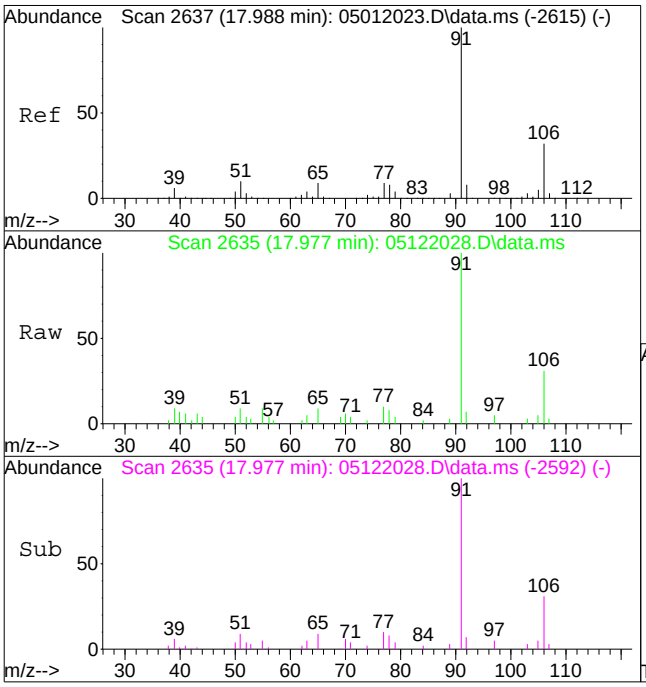


#64
Tetrachloroethene
Concen: 0.16 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05122028.D
Acq: 12 May 2020 17:42

Tgt Ion:166 Resp: 5020

Ion	Ratio	Lower	Upper
166	100		
164	82.3	58.4	98.4

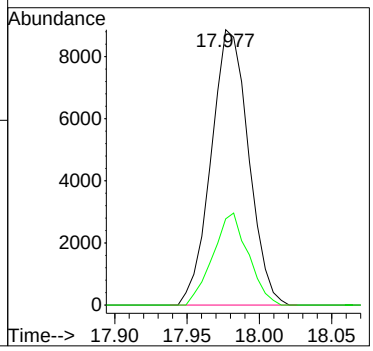


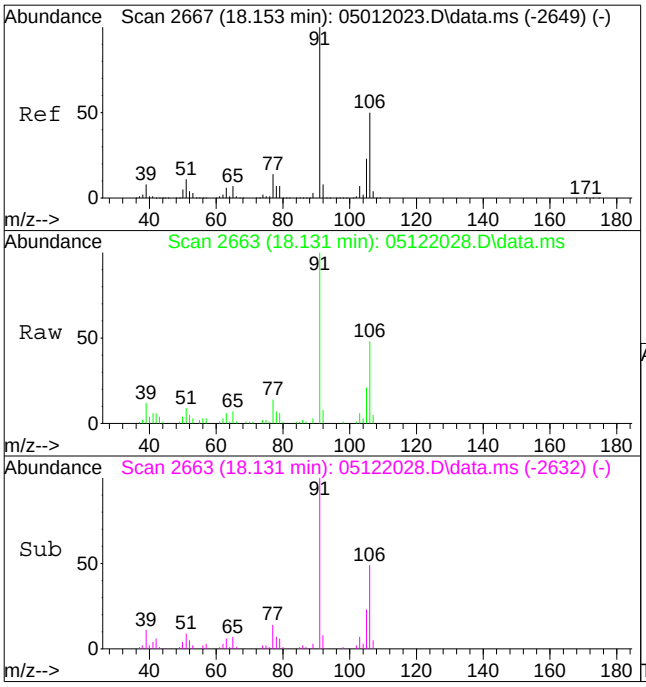


#66
Ethylbenzene
Concen: 0.13 ng
RT: 17.98 min Scan# 2635
Delta R.T. -0.011 min
Lab File: 05122028.D
Acq: 12 May 2020 17:42

Tgt Ion: 91 Resp: 16008

Ion	Ratio	Lower	Upper
91	100		
106	31.5	11.6	51.6

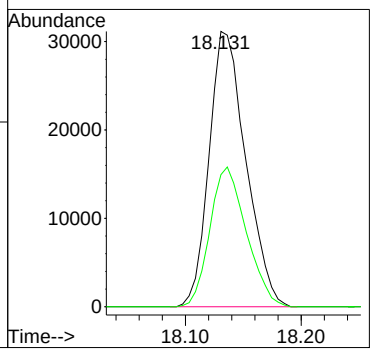


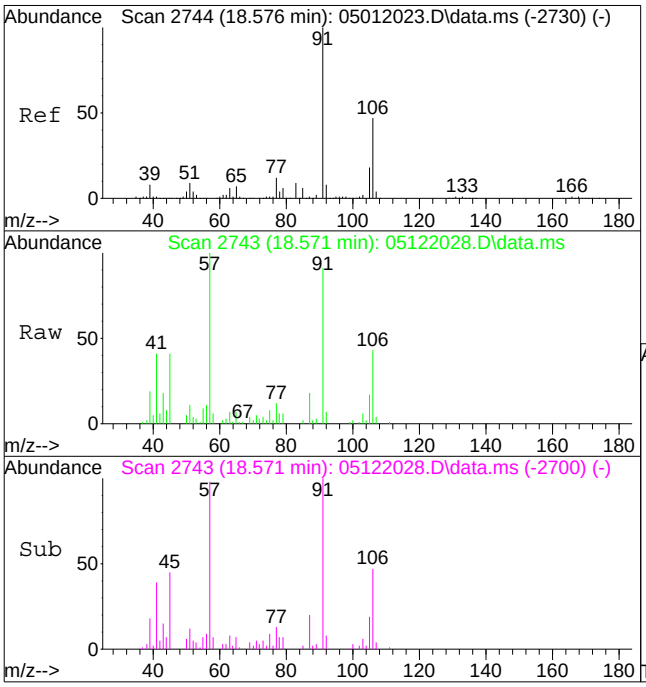


#67
m- & p-Xylenes
Concen: 0.70 ng
RT: 18.13 min Scan# 2663
Delta R.T. -0.028 min
Lab File: 05122028.D
Acq: 12 May 2020 17:42

Tgt Ion: 91 Resp: 68693

Ion	Ratio	Lower	Upper
91	100		
106	50.3	29.7	69.7

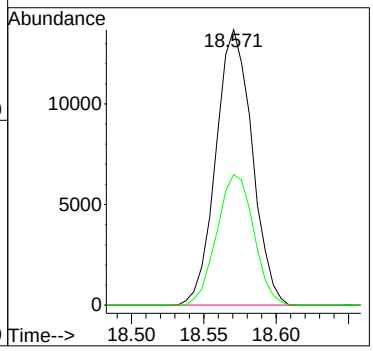


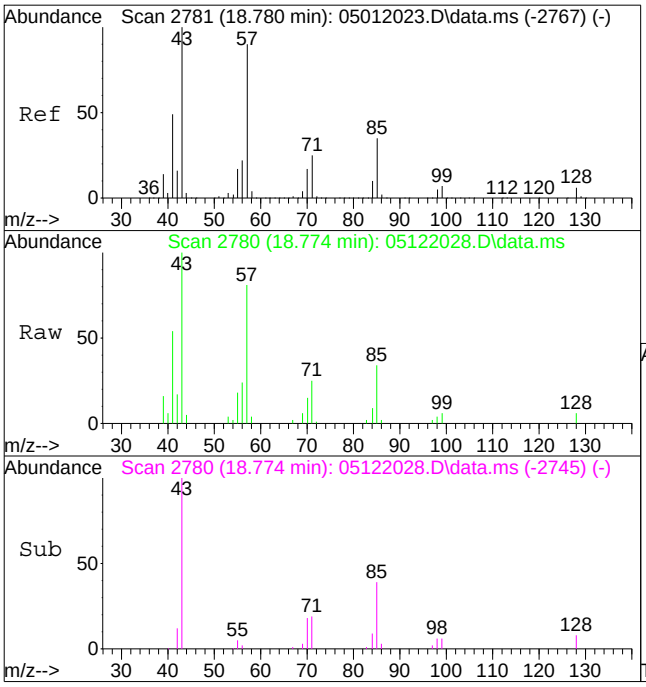


#70
o-Xylene
Concen: 0.24 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05122028.D
Acq: 12 May 2020 17:42

Tgt Ion: 91 Resp: 23881

Ion	Ratio	Lower	Upper
91	100		
106	48.2	27.5	67.5

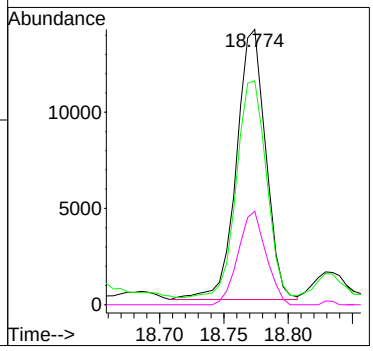


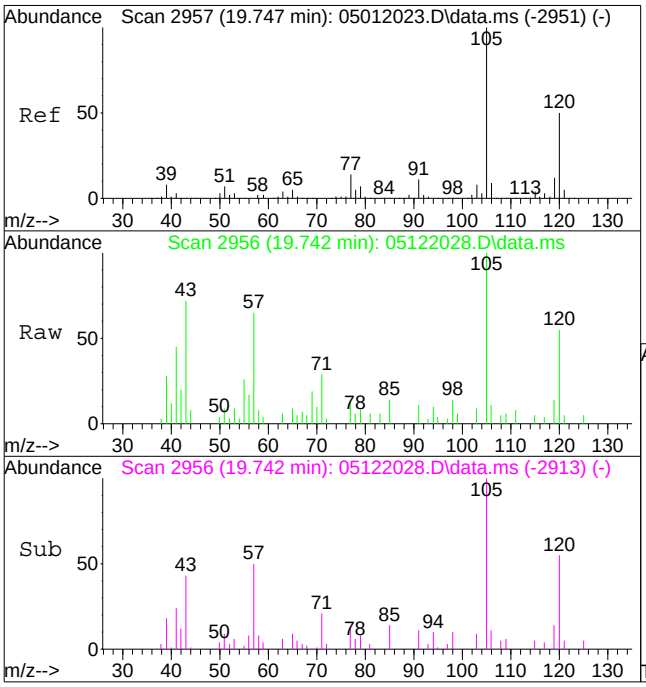


#71
n-Nonane
Concen: 0.42 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05122028.D
Acq: 12 May 2020 17:42

Tgt Ion: 43 Resp: 22236

Ion	Ratio	Lower	Upper
43	100		
57	82.9	69.0	109.0
85	32.8	14.6	54.6

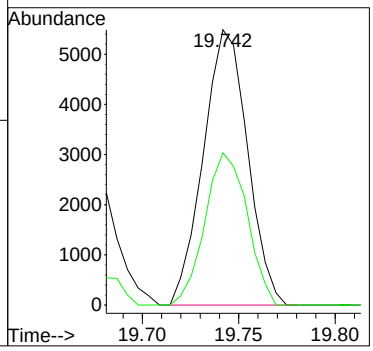


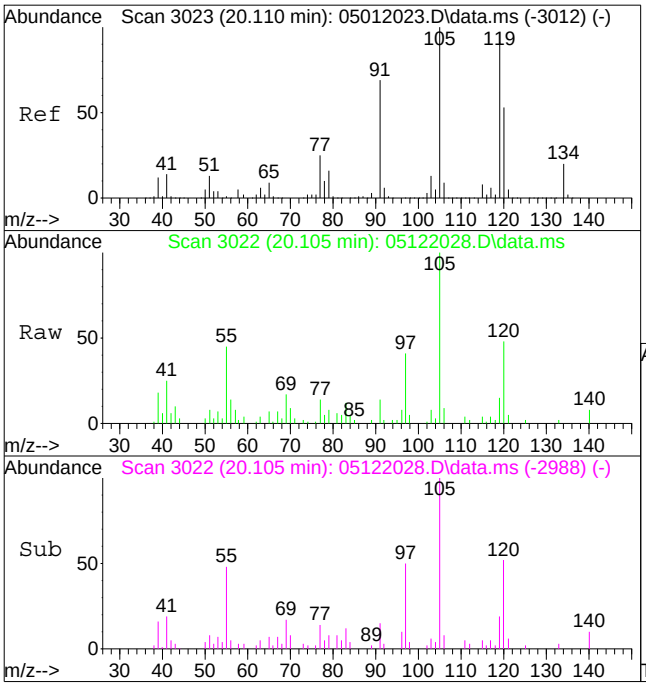


#79
1,3,5-Trimethylbenzene
Concen: 0.09 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05122028.D
Acq: 12 May 2020 17:42

Tgt Ion:105 Resp: 8757

Ion	Ratio	Lower	Upper
105	100		
120	52.8	29.9	69.9

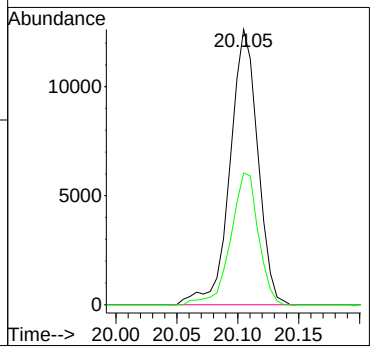




#82
1,2,4-Trimethylbenzene
Concen: 0.20 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05122028.D
Acq: 12 May 2020 17:42

Tgt Ion:105 Resp: 20020

Ion	Ratio	Lower	Upper
105	100		
120	47.9	33.6	73.6



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122029.D Vial: 9
Acq On : 12 May 2020 18:16 Operator: WA
Sample : P2002300-016 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 17:05:02 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/13/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	256394	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1094469	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	514738	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	406050	11.686	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.52%				
57) Toluene-d8 (SS2)	15.72	98	1076580	12.339	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.72%				
73) Bromofluorobenzene (SS3)	18.97	174	421856	13.438	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.52%				
Target Compounds							Qvalue
2) Propene	4.11	42	12580	0.424	ng		96
3) Dichlorodifluoromethan...	4.26	85	43193	0.744	ng		98
4) Chloromethane	4.53	50	3319	0.073	ng		86
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	795	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.22	54	512	N.D.			
8) Bromomethane	5.65	94	1930	0.073	ng		93
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.33	45	38811	1.693	ng		100
11) Acetonitrile	6.60	41	82033	1.566	ng		100
12) Acrolein	6.79	56	5134	0.283	ng		100
13) Acetone	7.00	58	158212	6.899	ng		98
14) Trichlorofluoromethane	7.24	101	11665	0.227	ng		99
15) 2-Propanol (Isopropanol)	7.50	45	44990	0.648	ng		89
16) Acrylonitrile	7.76	53	9807	0.262	ng		98
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.44	59	2410	N.D.			
19) Methylene Chloride	8.40	84	486	N.D.			
20) 3-Chloro-1-propene (Al...	8.58	41	165	N.D.			
21) Trichlorotrifluoroethane	8.85	151	21585	0.891	ng		98
22) Carbon Disulfide	8.68	76	718492	6.726	ng		99
23) trans-1,2-Dichloroethene	9.46	61	113	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.09	73	105	N.D.			
26) Vinyl Acetate	10.17	86	12630	1.768	ng	#	14
27) 2-Butanone (MEK)	10.46	72	20915	1.069	ng		98
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.31	87	1199	N.D.			
30) Ethyl Acetate	11.30	61	7481	0.663	ng	#	28
31) n-Hexane	11.25	57	11780	0.241	ng		99
32) Chloroform	11.31	83	12615	0.247	ng		94
34) Tetrahydrofuran (THF)	11.74	72	12038	0.631	ng		94
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D. d			
40) 1-Butanol	0.00	56	0	N.D. d			
41) Benzene	12.87	78	434908	3.705	ng		100
42) Carbon Tetrachloride	13.03	117	32984	0.826	ng		99
43) Cyclohexane	13.16	84	6535	0.149	ng		94
44) tert-Amyl Methyl Ether	13.53	73	691	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	13.91	83	1373	N.D.			
47) Trichloroethene	13.97	130	14221	0.469	ng		98
48) 1,4-Dioxane	13.97	88	2234	0.095	ng		77
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d			
50) Methyl Methacrylate	0.00	100	0	N.D. d			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122029.D Vial: 9
Acq On : 12 May 2020 18:16 Operator: WA
Sample : P2002300-016 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 17:05:02 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

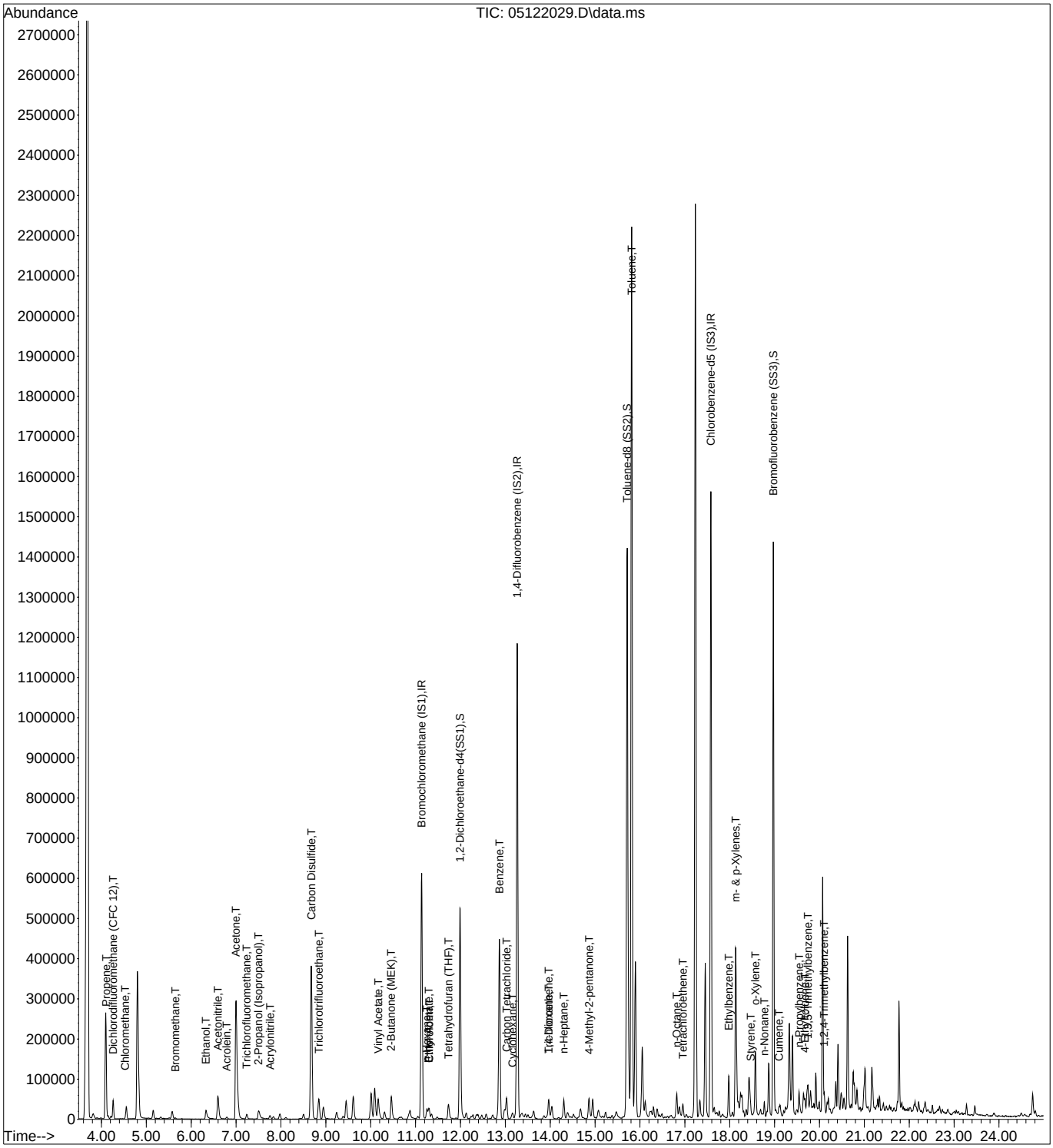
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.30	71	11363	0.414 ng		93
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.87	58	6176	0.236 ng	#	71
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.82	91	1813177	16.122 ng		100
59) 2-Hexanone	16.07	43	2322	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.70	43	1260	N.D.		
63) n-Octane	16.82	57	7921	0.340 ng		97
64) Tetrachloroethene	16.96	166	11013	0.347 ng		98
65) Chlorobenzene	17.65	112	2533	N.D.		
66) Ethylbenzene	17.98	91	80400	0.641 ng		100
67) m- & p-Xylenes	18.13	91	291656	2.932 ng		99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	4085	0.055 ng	#	81
70) o-Xylene	18.57	91	89183	0.883 ng		98
71) n-Nonane	18.77	43	13741	0.256 ng		93
72) 1,1,2,2-Tetrachloroethane	18.59	83	852	N.D.		
74) Cumene	19.10	105	8067	0.065 ng		95
75) alpha-Pinene	19.44	93	387	N.D.		
76) n-Propylbenzene	19.55	91	8458	0.057 ng	#	1
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.68	105	10865	0.093 ng		98
79) 1,3,5-Trimethylbenzene	19.74	105	10879	0.108 ng		94
80) alpha-Methylstyrene	19.88	118	1946	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	20.10	105	24606	0.242 ng		99
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.23	91	615	N.D.		
85) 1,3-Dichlorobenzene	20.08	146	105	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	20.35	105	2610	N.D.		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	0.00	68	0	N.D. d		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	22.22	128	3917	N.D.		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122029.D Vial: 9
Acq On : 12 May 2020 18:16 Operator: WA
Sample : P2002300-016 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 17:05:02 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



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Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/13/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	256394	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1094469	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	514738	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	406050	11.686	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.52%				
57) Toluene-d8 (SS2)	15.72	98	1076580	12.339	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.72%				
73) Bromofluorobenzene (SS3)	18.97	174	421856	13.438	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.52%				
Target Compounds							Qvalue
2) Propene	4.11	42	12580	0.424	ng		96
3) Dichlorodifluoromethan...	4.26	85	43193	0.744	ng		98
4) Chloromethane	4.53	50	3319	0.073	ng		86
8) Bromomethane	5.65	94	1930	0.073	ng		93
10) Ethanol	6.33	45	38811	1.693	ng		100
11) Acetonitrile	6.60	41	82033	1.566	ng		100
12) Acrolein	6.79	56	5134	0.283	ng		100
13) Acetone	7.00	58	158212	6.899	ng		98
14) Trichlorofluoromethane	7.24	101	11665	0.227	ng		99
15) 2-Propanol (Isopropanol)	7.50	45	44990	0.648	ng		89
16) Acrylonitrile	7.76	53	9807	0.262	ng		98
21) Trichlorotrifluoroethane	8.85	151	21585	0.891	ng		98
22) Carbon Disulfide	8.68	76	718492	6.726	ng		99
26) Vinyl Acetate	10.17	86	12630	1.768	ng	#	14
27) 2-Butanone (MEK)	10.46	72	20915	1.069	ng		98
30) Ethyl Acetate	11.30	61	7481	0.663	ng	#	28
31) n-Hexane	11.25	57	11780	0.241	ng		99
32) Chloroform	11.31	83	12615	0.247	ng		94
34) Tetrahydrofuran (THF)	11.74	72	12038	0.631	ng		94
41) Benzene	12.87	78	434908	3.705	ng		100
42) Carbon Tetrachloride	13.03	117	32984	0.826	ng		99
43) Cyclohexane	13.16	84	6535	0.149	ng		94
47) Trichloroethene	13.97	130	14221	0.469	ng		98
48) 1,4-Dioxane	13.97	88	2234	0.095	ng		77
51) n-Heptane	14.30	71	11363	0.414	ng		93
53) 4-Methyl-2-pentanone	14.87	58	6176	0.236	ng	#	71
58) Toluene	15.82	91	1813177	16.122	ng		100
63) n-Octane	16.82	57	7921	0.340	ng		97
64) Tetrachloroethene	16.96	166	11013	0.347	ng		98
66) Ethylbenzene	17.98	91	80400	0.641	ng		100
67) m- & p-Xylenes	18.13	91	291656	2.932	ng		99
69) Styrene	18.47	104	4085	0.055	ng	#	81
70) o-Xylene	18.57	91	89183	0.883	ng		98
71) n-Nonane	18.77	43	13741	0.256	ng		93
74) Cumene	19.10	105	8067	0.065	ng		95
76) n-Propylbenzene	19.55	91	8458	0.057	ng	#	1
78) 4-Ethyltoluene	19.68	105	10865	0.093	ng		98
79) 1,3,5-Trimethylbenzene	19.74	105	10879	0.108	ng		94
82) 1,2,4-Trimethylbenzene	20.10	105	24606	0.242	ng		99

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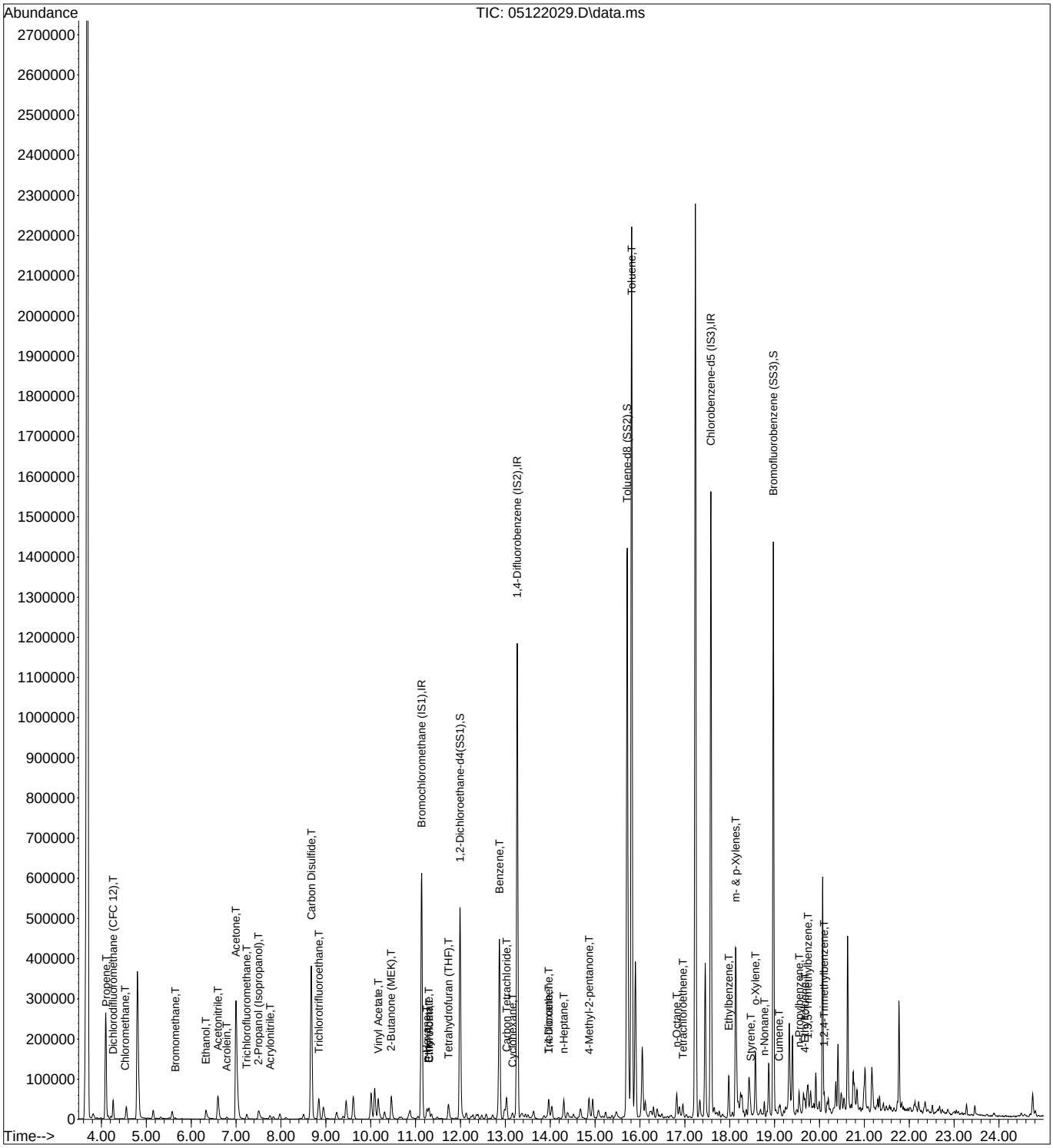
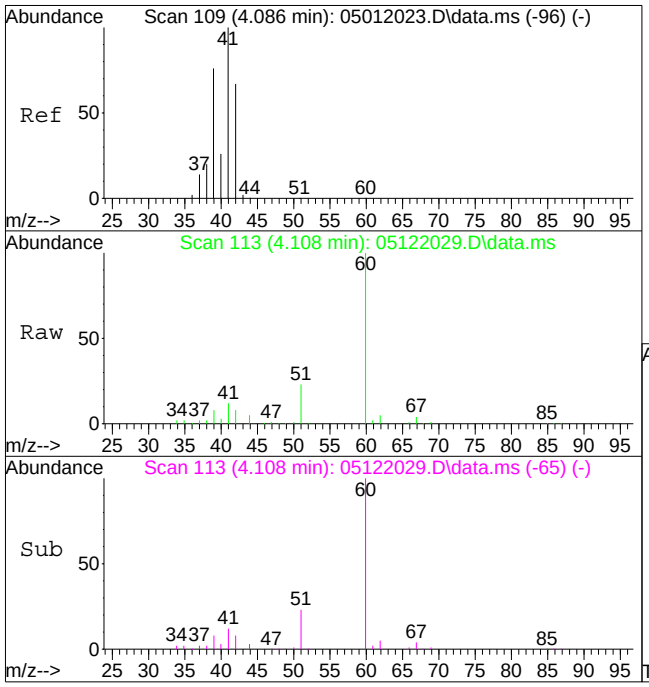
Response via : Initial Calibration
DataAcq Meth:TO15.M

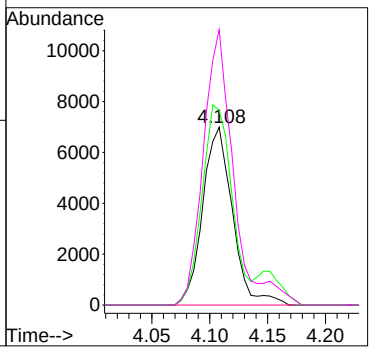


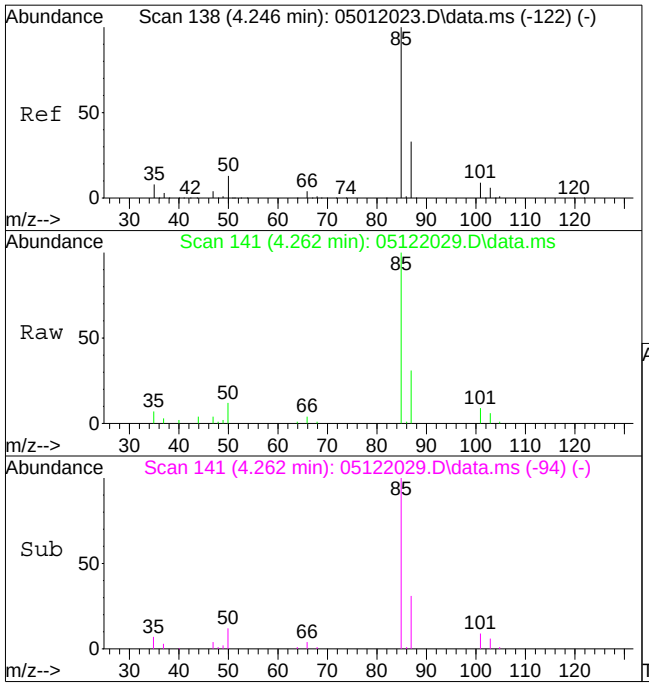


#2
Propene
Concen: 0.42 ng
RT: 4.11 min Scan# 113
Delta R.T. 0.016 min
Lab File: 05122029.D
Acq: 12 May 2020 18:16

Tgt Ion: 42 Resp: 12580

Ion	Ratio	Lower	Upper
42	100		
39	113.1	96.1	136.1
41	157.4	131.9	171.9

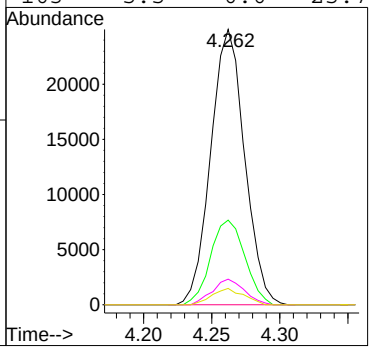


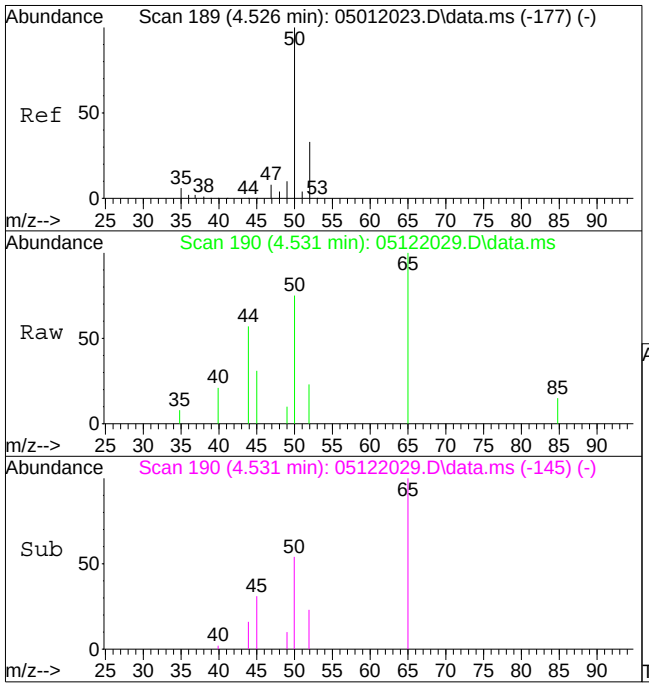


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.74 ng
RT: 4.26 min Scan# 141
Delta R.T. 0.011 min
Lab File: 05122029.D
Acq: 12 May 2020 18:16

Tgt Ion: 85 Resp: 43193

Ion	Ratio	Lower	Upper
85	100		
87	31.1	12.4	52.4
101	8.8	0.0	28.8
103	5.5	0.0	25.7

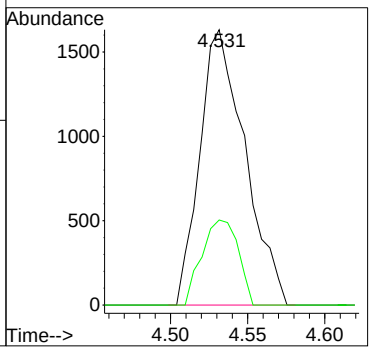


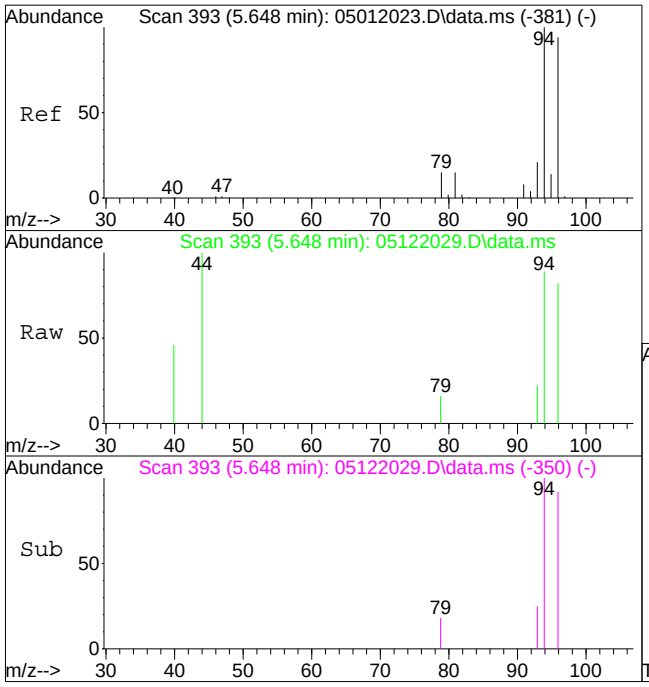


#4
Chloromethane
Concen: 0.07 ng
RT: 4.53 min Scan# 190
Delta R.T. -0.000 min
Lab File: 05122029.D
Acq: 12 May 2020 18:16

Tgt Ion: 50 Resp: 3319

Ion	Ratio	Lower	Upper
50	100		
52	24.9	12.5	52.5

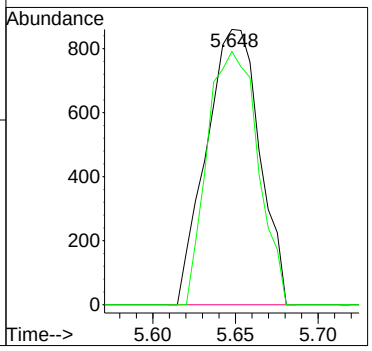


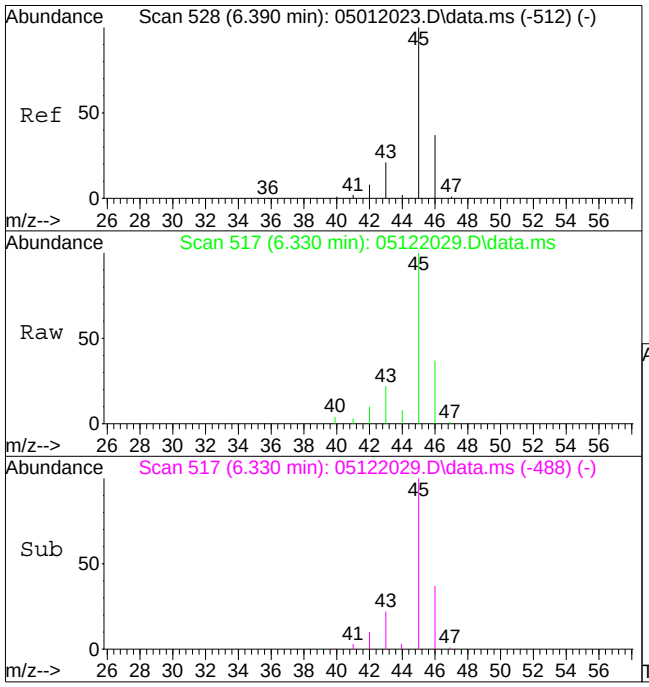


#8
Bromomethane
Concen: 0.07 ng
RT: 5.65 min Scan# 393
Delta R.T. -0.011 min
Lab File: 05122029.D
Acq: 12 May 2020 18:16

Tgt Ion: 94 Resp: 1930

Ion	Ratio	Lower	Upper
94	100		
96	87.2	73.7	113.7

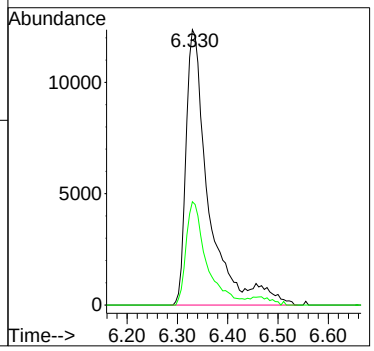


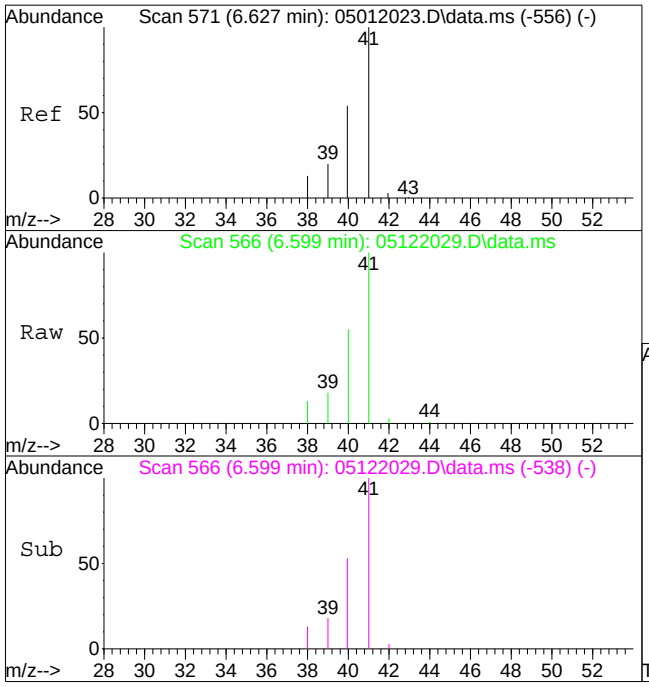


#10
Ethanol
Concen: 1.69 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.088 min
Lab File: 05122029.D
Acq: 12 May 2020 18:16

Tgt Ion: 45 Resp: 38811

Ion	Ratio	Lower	Upper
45	100		
46	37.0	17.2	57.2

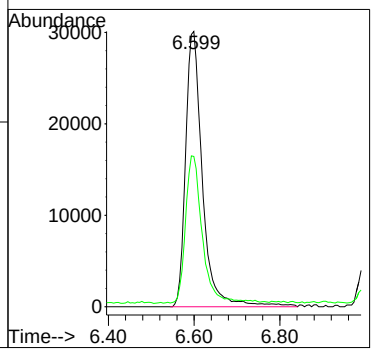


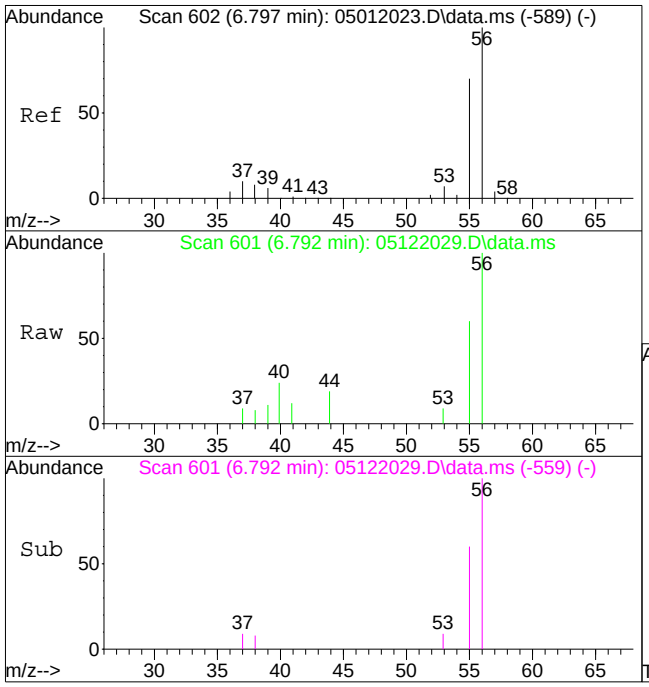


#11
Acetonitrile
Concen: 1.57 ng
RT: 6.60 min Scan# 566
Delta R.T. -0.044 min
Lab File: 05122029.D
Acq: 12 May 2020 18:16

Tgt Ion: 41 Resp: 82033

Ion	Ratio	Lower	Upper
41	100		
40	53.6	33.6	73.6

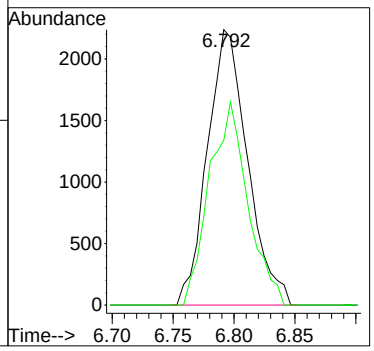


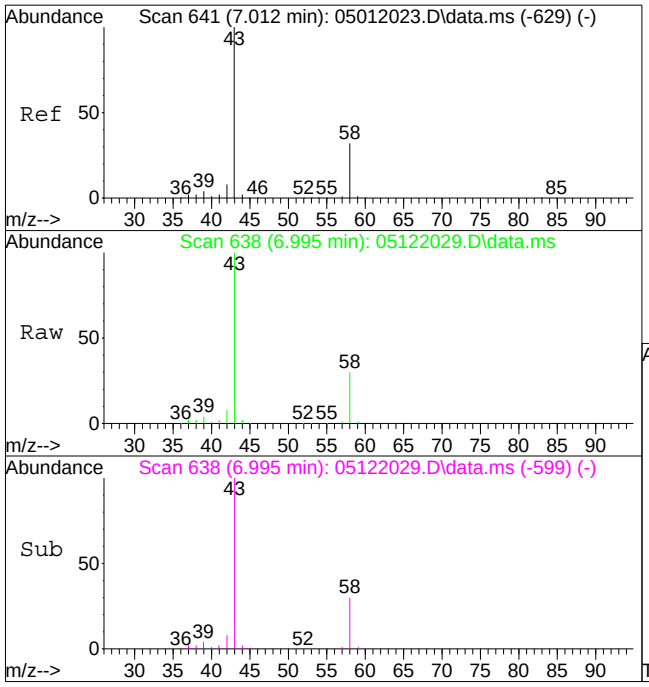


#12
Acrolein
Concen: 0.28 ng
RT: 6.79 min Scan# 601
Delta R.T. -0.017 min
Lab File: 05122029.D
Acq: 12 May 2020 18:16

Tgt Ion: 56 Resp: 5134

Ion	Ratio	Lower	Upper
56	100		
55	70.6	50.2	90.2

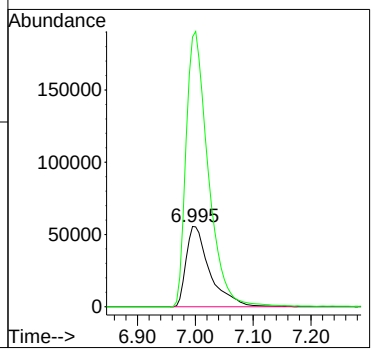


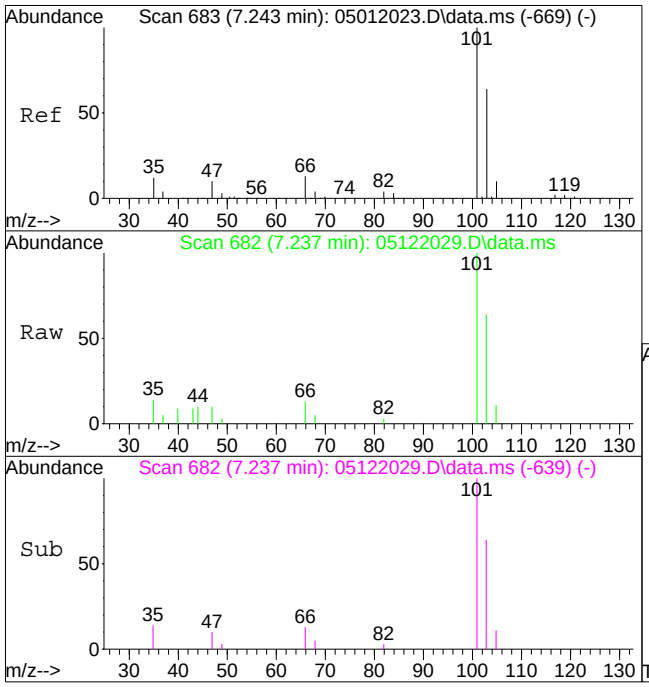


#13
Acetone
Concen: 6.90 ng
RT: 7.00 min Scan# 638
Delta R.T. -0.033 min
Lab File: 05122029.D
Acq: 12 May 2020 18:16

Tgt Ion: 58 Resp: 158212

Ion	Ratio	Lower	Upper
58	100		
43	321.1	294.4	354.4

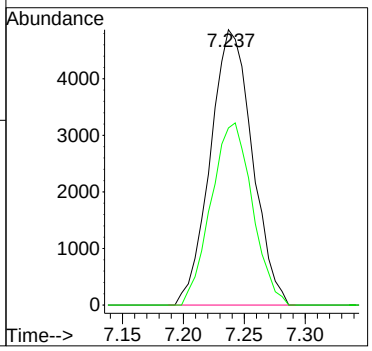


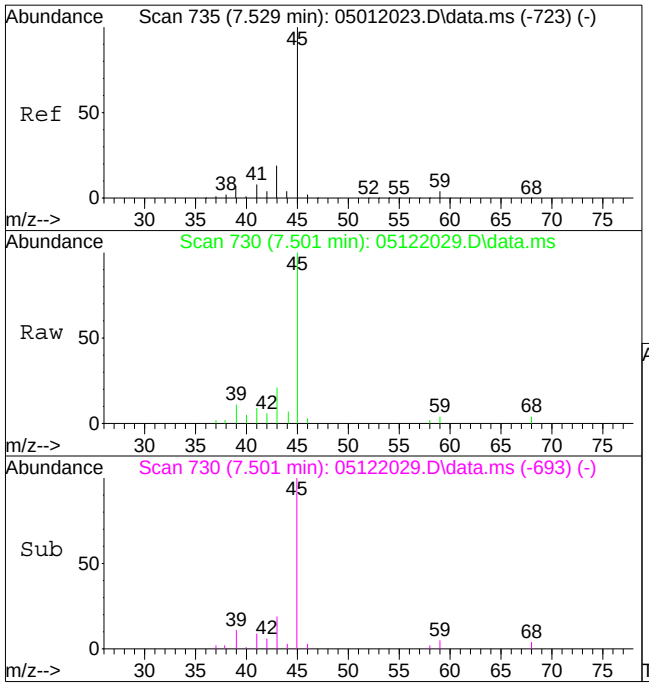


#14
Trichlorofluoromethane
Concen: 0.23 ng
RT: 7.24 min Scan# 682
Delta R.T. -0.011 min
Lab File: 05122029.D
Acq: 12 May 2020 18:16

Tgt Ion:101 Resp: 11665

Ion	Ratio	Lower	Upper
101	100		
103	65.1	44.4	84.4

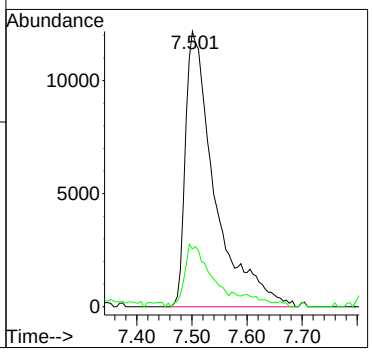


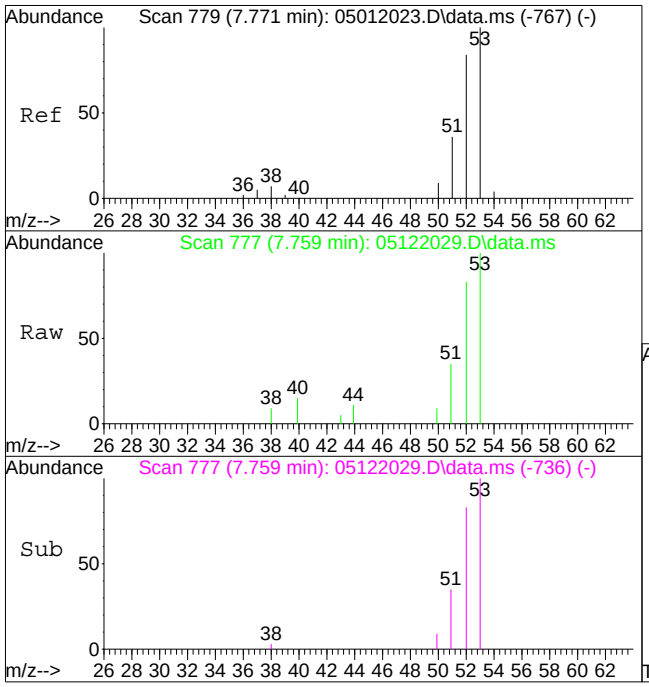


#15
2-Propanol (Isopropanol)
Concen: 0.65 ng
RT: 7.50 min Scan# 730
Delta R.T. -0.044 min
Lab File: 05122029.D
Acq: 12 May 2020 18:16

Tgt Ion: 45 Resp: 44990

Ion	Ratio	Lower	Upper
45	100		
43	24.5	0.0	39.5

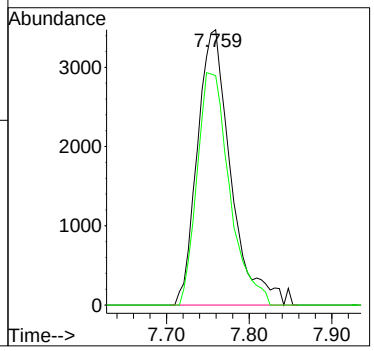


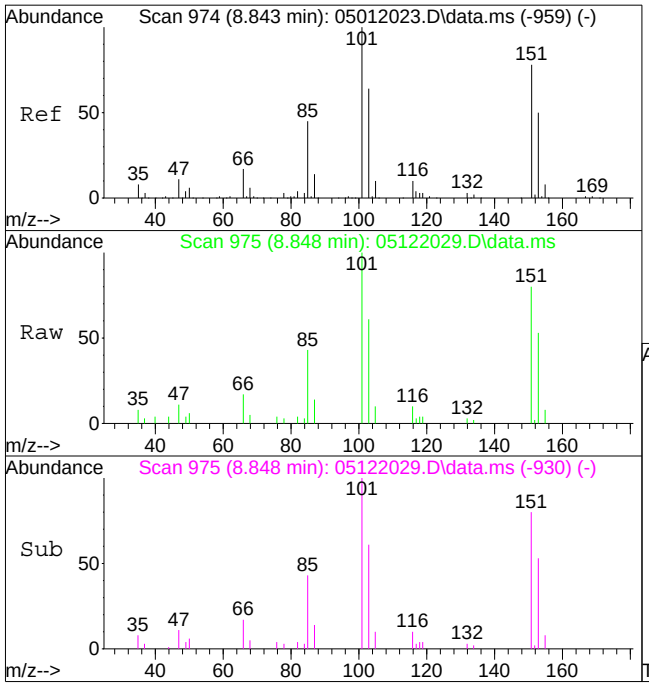


#16
Acrylonitrile
Concen: 0.26 ng
RT: 7.76 min Scan# 777
Delta R.T. -0.022 min
Lab File: 05122029.D
Acq: 12 May 2020 18:16

Tgt Ion: 53 Resp: 9807

Ion	Ratio	Lower	Upper
53	100		
52	81.6	63.7	103.7

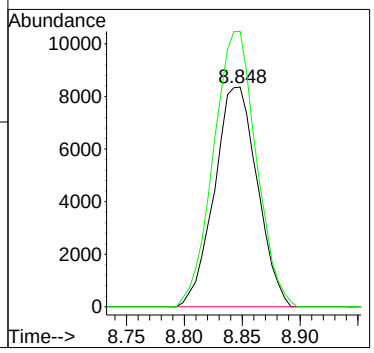


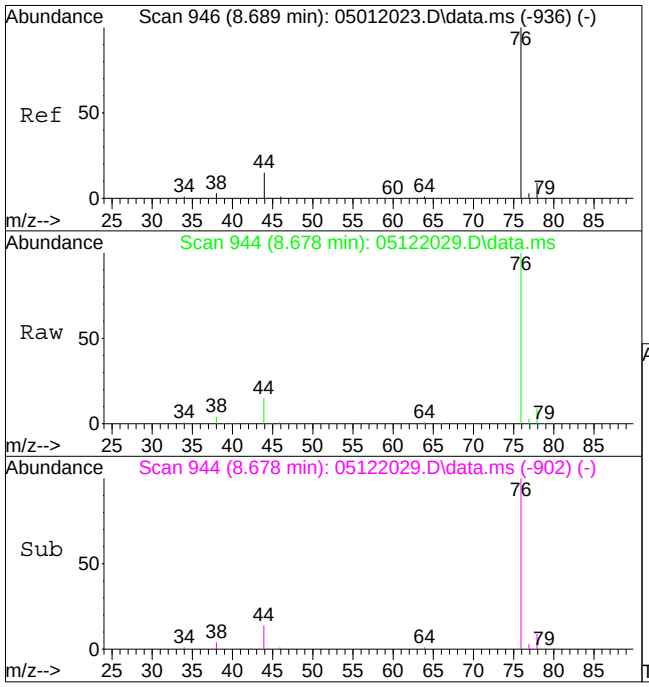


#21
Trichlorotrifluoroethane
Concen: 0.89 ng
RT: 8.85 min Scan# 975
Delta R.T. -0.000 min
Lab File: 05122029.D
Acq: 12 May 2020 18:16

Tgt Ion:151 Resp: 21585

Ion	Ratio	Lower	Upper
151	100		
101	125.1	107.3	147.3

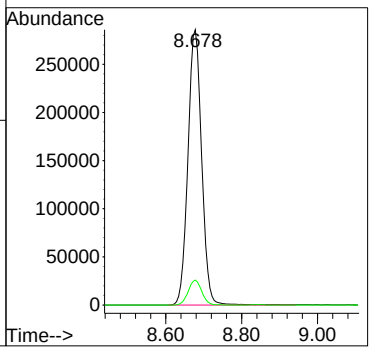


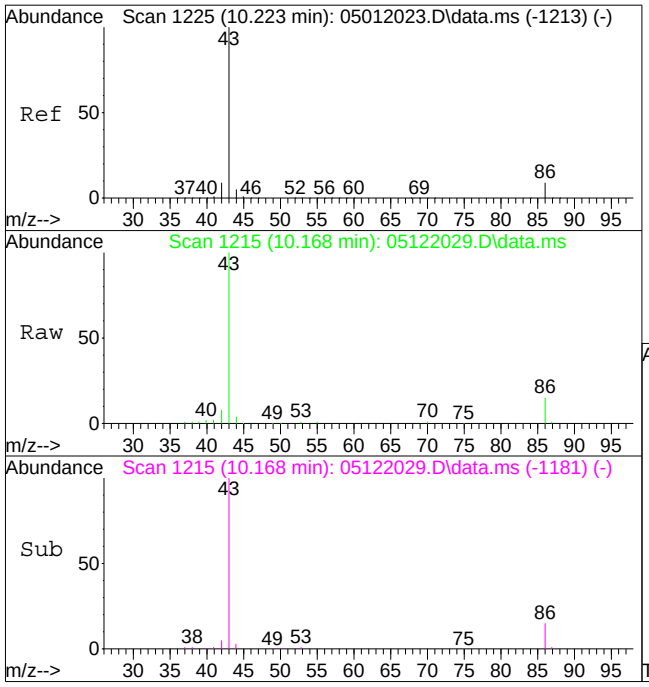


#22
Carbon Disulfide
Concen: 6.73 ng
RT: 8.68 min Scan# 944
Delta R.T. -0.017 min
Lab File: 05122029.D
Acq: 12 May 2020 18:16

Tgt Ion: 76 Resp: 718492

Ion	Ratio	Lower	Upper
76	100		
78	8.9	0.0	29.2

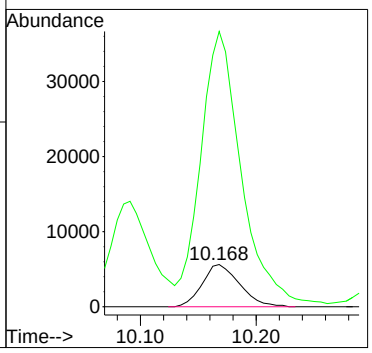


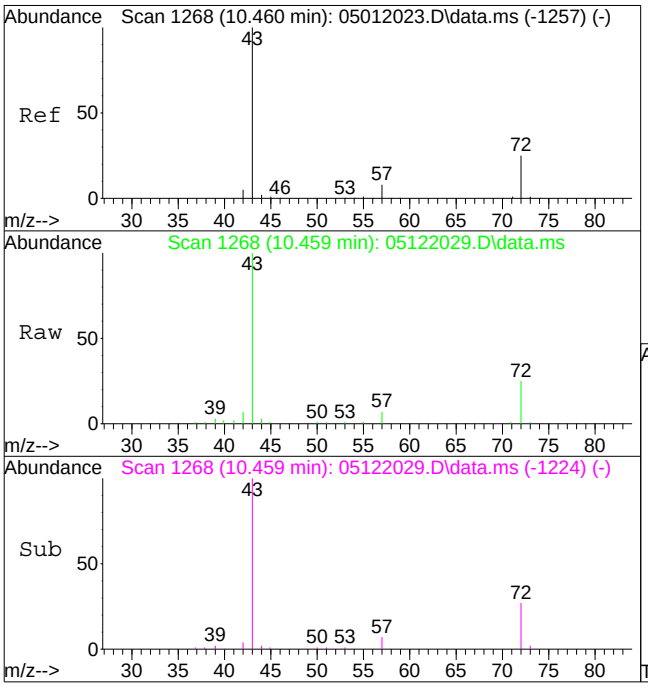


#26
Vinyl Acetate
Concen: 1.77 ng
RT: 10.17 min Scan# 1215
Delta R.T. -0.061 min
Lab File: 05122029.D
Acq: 12 May 2020 18:16

Tgt Ion: 86 Resp: 12630

Ion	Ratio	Lower	Upper
86	100		
43	707.0	1103.0	1143.0#

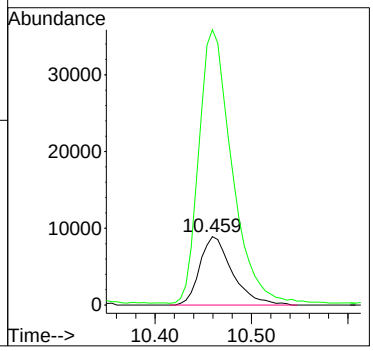


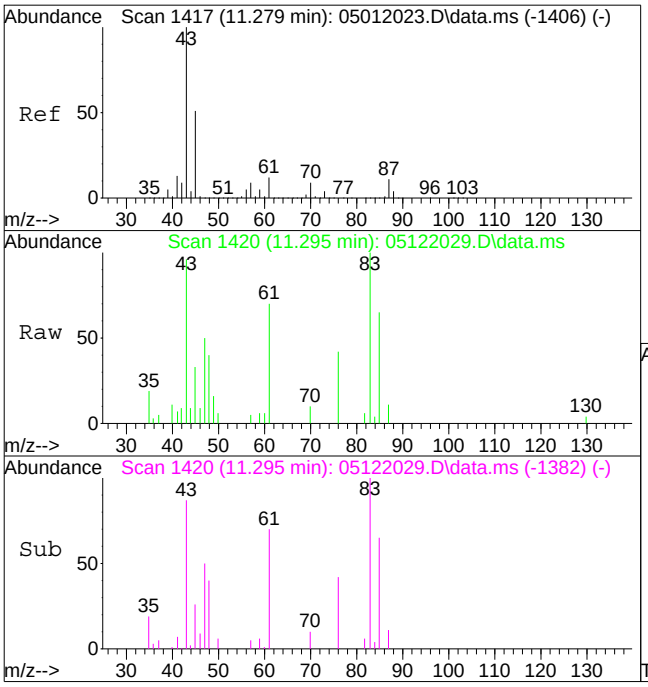


#27
2-Butanone (MEK)
Concen: 1.07 ng
RT: 10.46 min Scan# 1268
Delta R.T. -0.006 min
Lab File: 05122029.D
Acq: 12 May 2020 18:16

Tgt Ion: 72 Resp: 20915

Ion	Ratio	Lower	Upper
72	100		
43	405.3	389.7	429.7

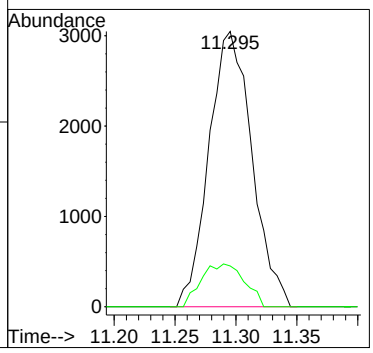


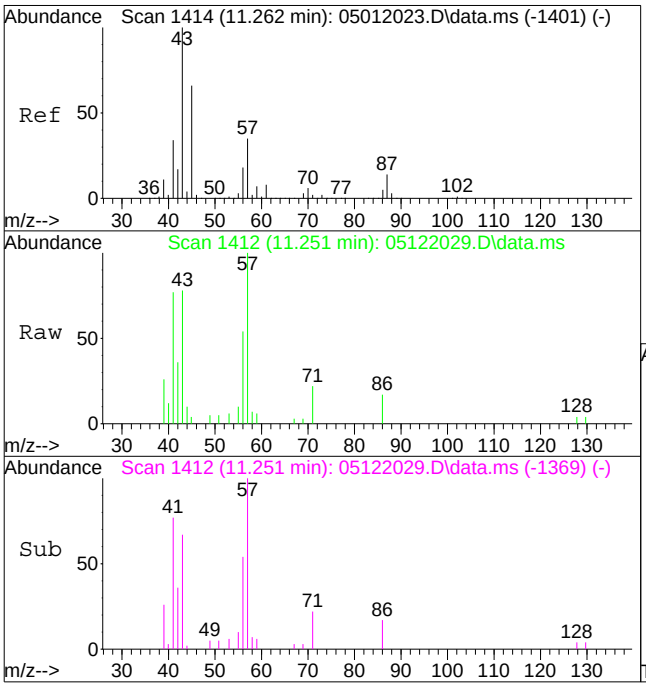


#30
Ethyl Acetate
Concen: 0.66 ng
RT: 11.30 min Scan# 1420
Delta R.T. 0.011 min
Lab File: 05122029.D
Acq: 12 May 2020 18:16

Tgt Ion: 61 Resp: 7481

Ion	Ratio	Lower	Upper
61	100		
70	15.7	57.9	97.9#

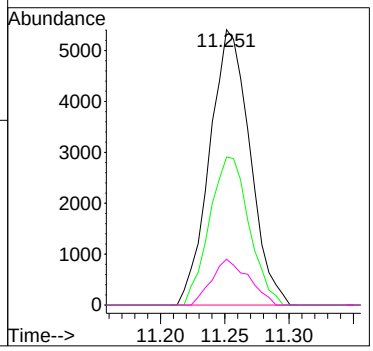


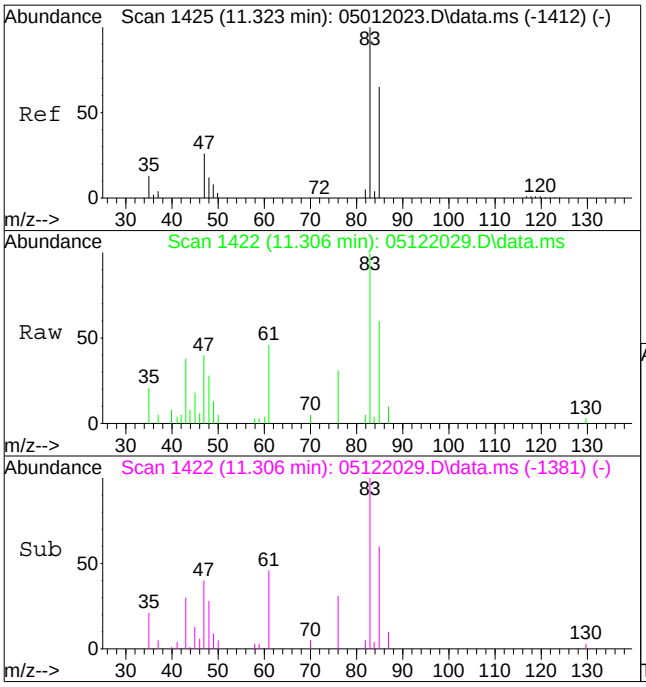


#31
n-Hexane
Concen: 0.24 ng
RT: 11.25 min Scan# 1412
Delta R.T. -0.011 min
Lab File: 05122029.D
Acq: 12 May 2020 18:16

Tgt Ion: 57 Resp: 11780

Ion	Ratio	Lower	Upper
57	100		
56	52.9	41.4	62.0
86	15.3	12.4	18.6

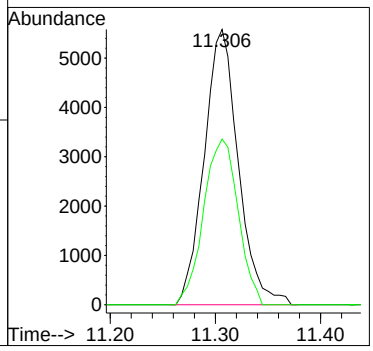


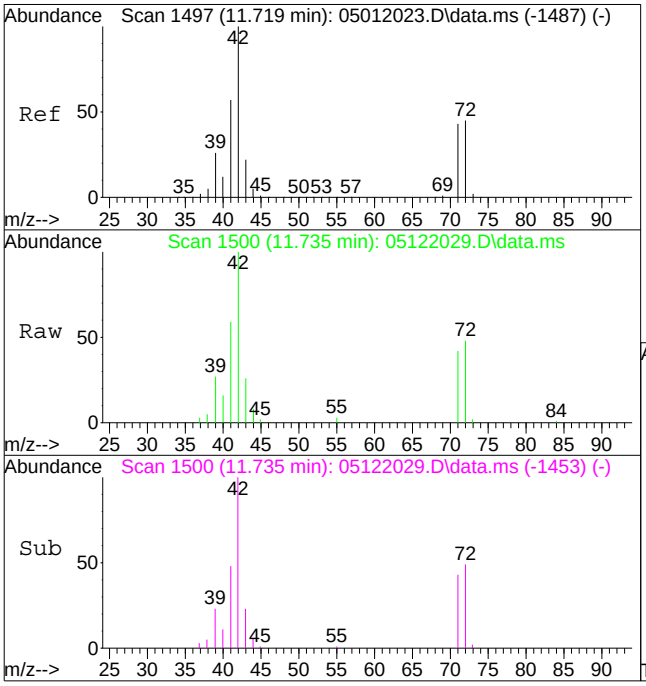


#32
Chloroform
Concen: 0.25 ng
RT: 11.31 min Scan# 1422
Delta R.T. -0.022 min
Lab File: 05122029.D
Acq: 12 May 2020 18:16

Tgt Ion: 83 Resp: 12615

Ion	Ratio	Lower	Upper
83	100		
85	60.8	45.5	85.5

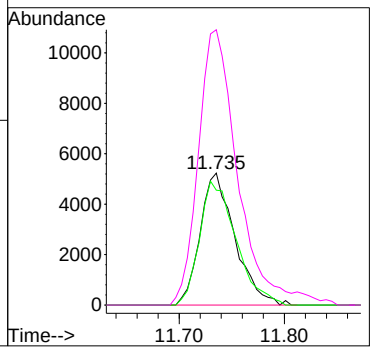


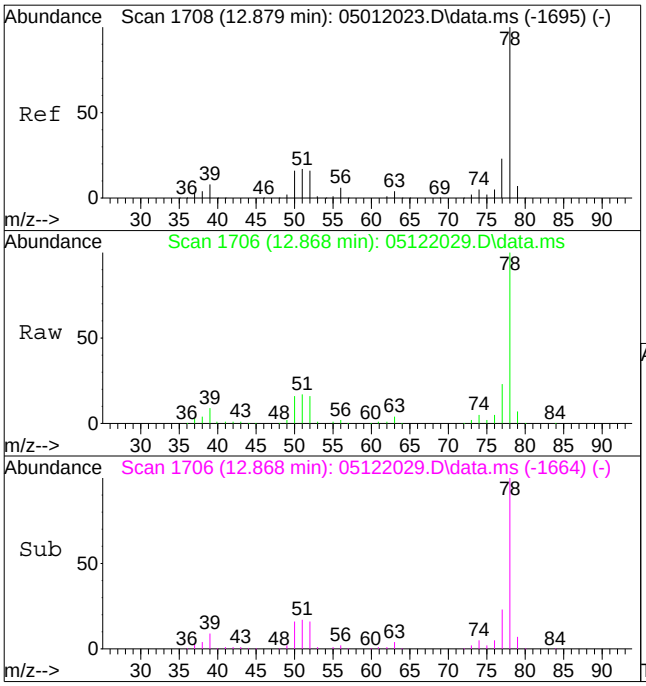


#34
Tetrahydrofuran (THF)
Concen: 0.63 ng
RT: 11.74 min Scan# 1500
Delta R.T. 0.011 min
Lab File: 05122029.D
Acq: 12 May 2020 18:16

Tgt Ion: 72 Resp: 12038

Ion	Ratio	Lower	Upper
72	100		
71	98.5	77.0	117.0
42	237.8	204.6	244.6

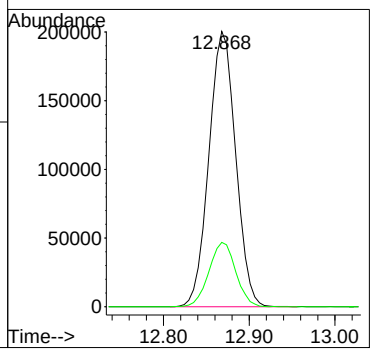


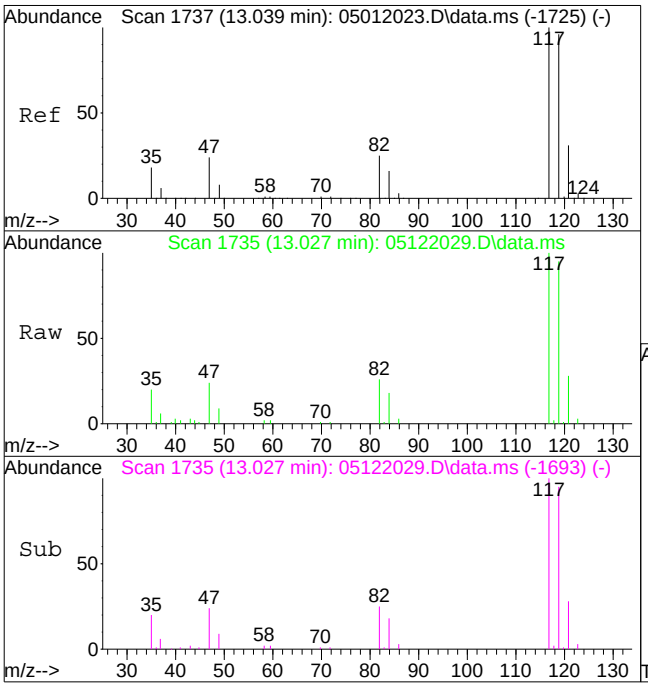


#41
Benzene
Concen: 3.71 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05122029.D
Acq: 12 May 2020 18:16

Tgt Ion: 78 Resp: 434908

Ion	Ratio	Lower	Upper
78	100		
77	23.5	3.4	43.4

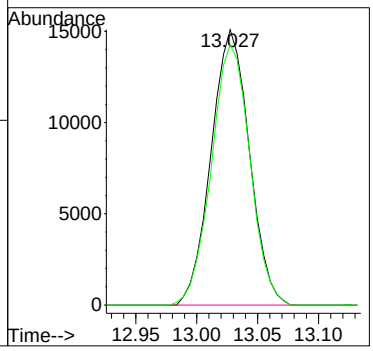


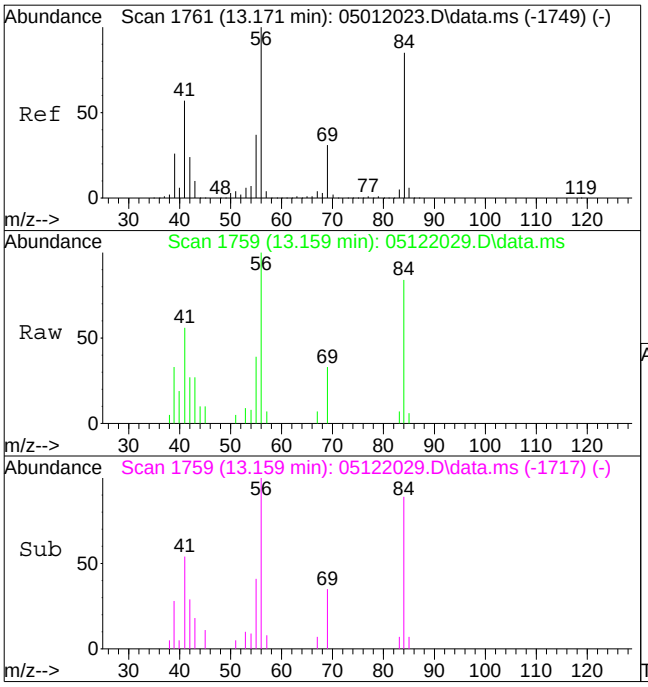


#42
Carbon Tetrachloride
Concen: 0.83 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05122029.D
Acq: 12 May 2020 18:16

Tgt Ion:117 Resp: 32984

Ion	Ratio	Lower	Upper
117	100		
119	95.3	76.2	116.2

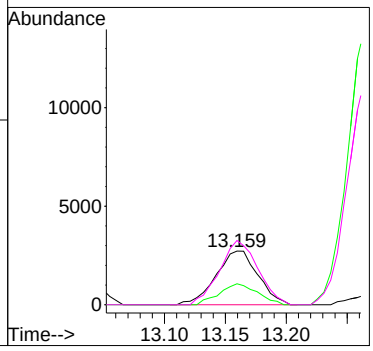


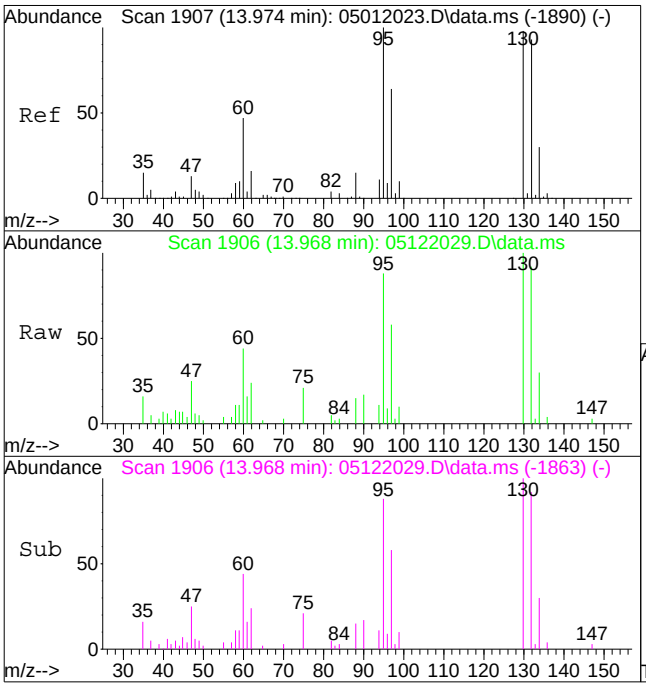


#43
Cyclohexane
Concen: 0.15 ng
RT: 13.16 min Scan# 1759
Delta R.T. -0.017 min
Lab File: 05122029.D
Acq: 12 May 2020 18:16

Tgt Ion: 84 Resp: 6535

Ion	Ratio	Lower	Upper
84	100		
69	35.4	16.5	56.5
56	109.3	97.4	137.4

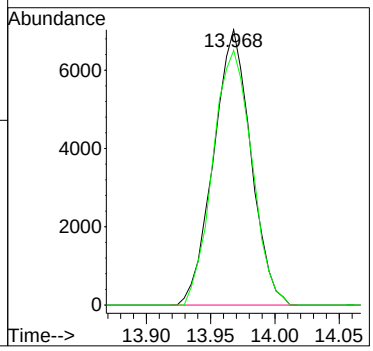


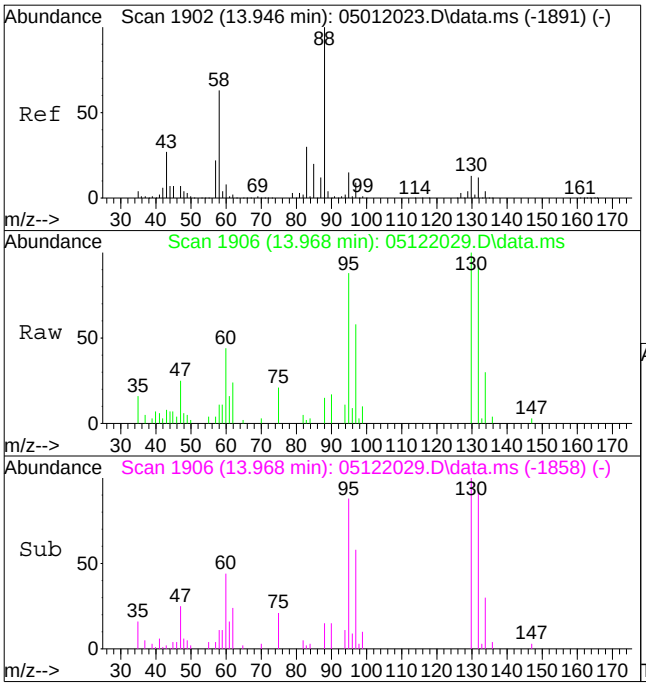


#47
Trichloroethene
Concen: 0.47 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05122029.D
Acq: 12 May 2020 18:16

Tgt Ion:130 Resp: 14221

Ion	Ratio	Lower	Upper
130	100		
132	96.6	74.9	114.9

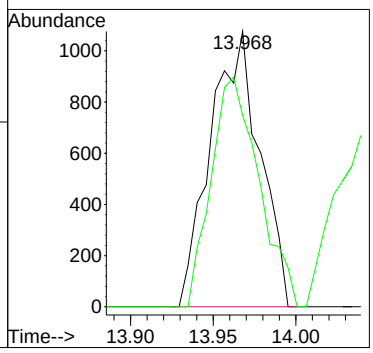


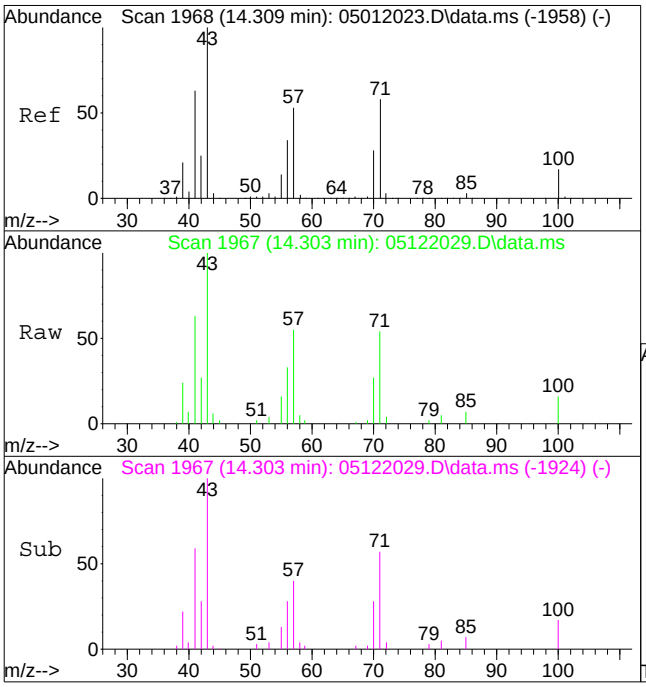


#48
1,4-Dioxane
Concen: 0.09 ng
RT: 13.97 min Scan# 1906
Delta R.T. 0.016 min
Lab File: 05122029.D
Acq: 12 May 2020 18:16

Tgt Ion: 88 Resp: 2234

Ion	Ratio	Lower	Upper
88	100		
58	80.6	42.8	82.8

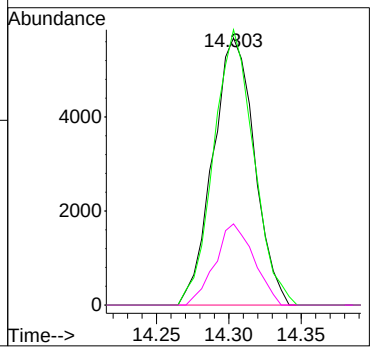


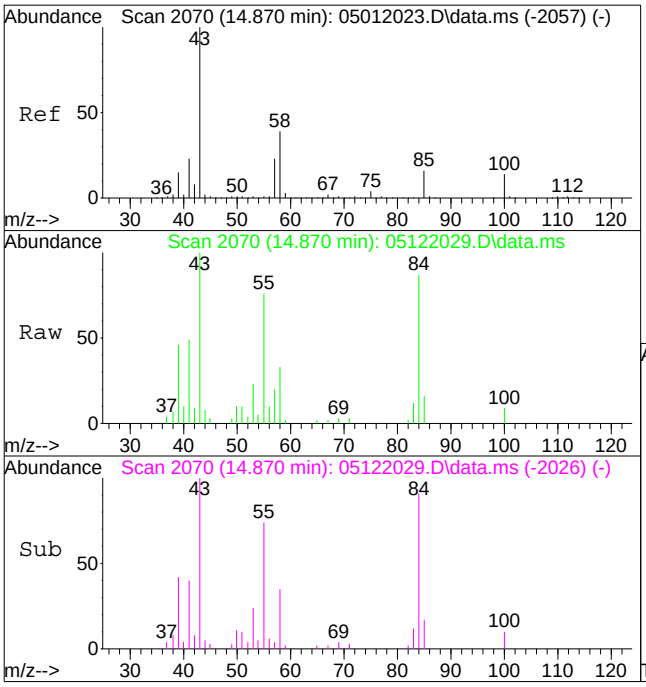


#51
n-Heptane
Concen: 0.41 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05122029.D
Acq: 12 May 2020 18:16

Tgt Ion: 71 Resp: 11363

Ion	Ratio	Lower	Upper
71	100		
57	99.4	71.0	111.0
100	28.3	8.4	48.4

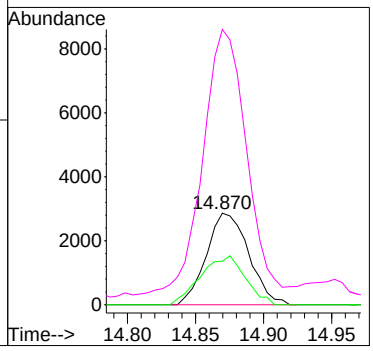


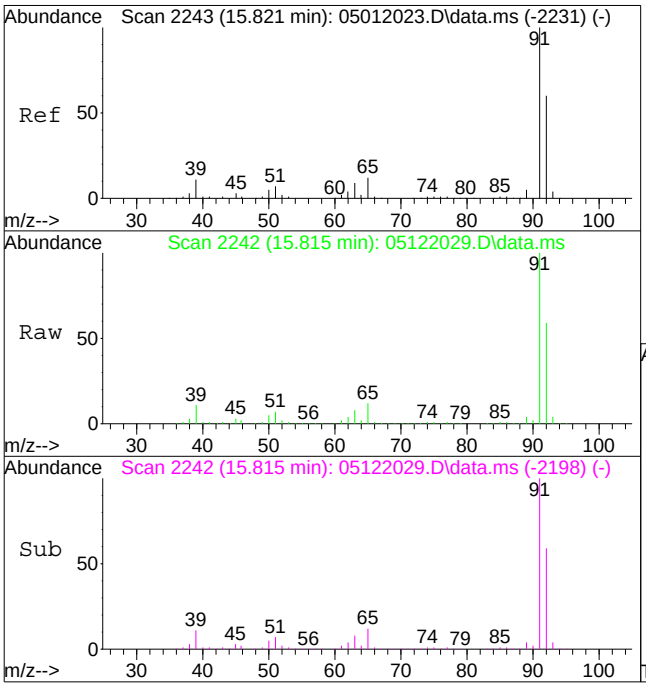


#53
4-Methyl-2-pentanone
Concen: 0.24 ng
RT: 14.87 min Scan# 2070
Delta R.T. -0.006 min
Lab File: 05122029.D
Acq: 12 May 2020 18:16

Tgt Ion: 58 Resp: 6176

Ion	Ratio	Lower	Upper
58	100		
85	56.3	35.4	53.2#
43	307.5	203.3	304.9#

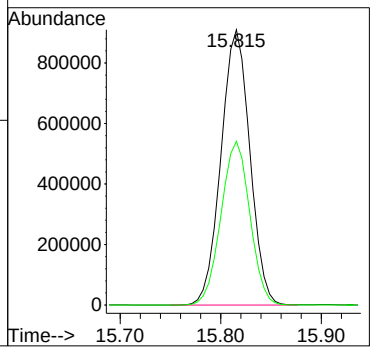


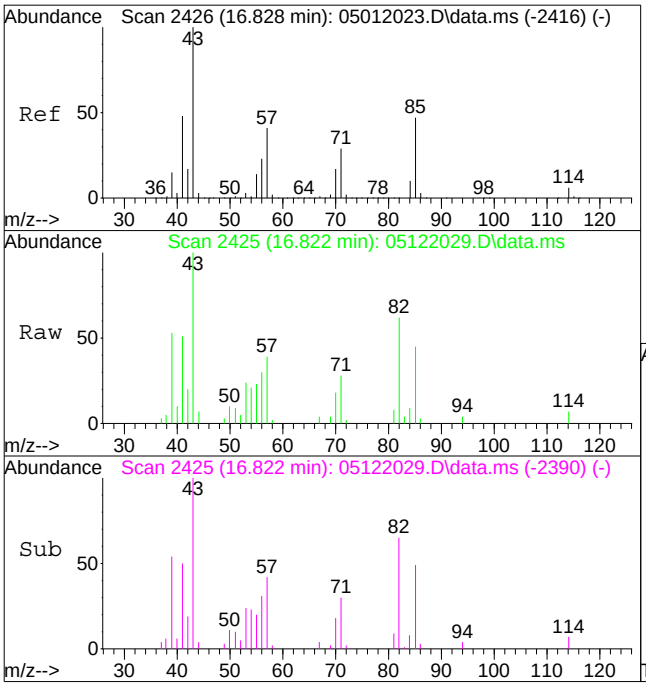


#58
Toluene
Concen: 16.12 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05122029.D
Acq: 12 May 2020 18:16

Tgt Ion: 91 Resp: 1813177

Ion	Ratio	Lower	Upper
91	100		
92	59.5	39.4	79.4

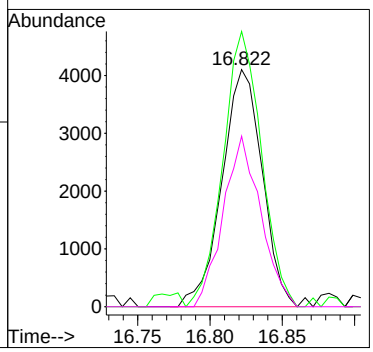


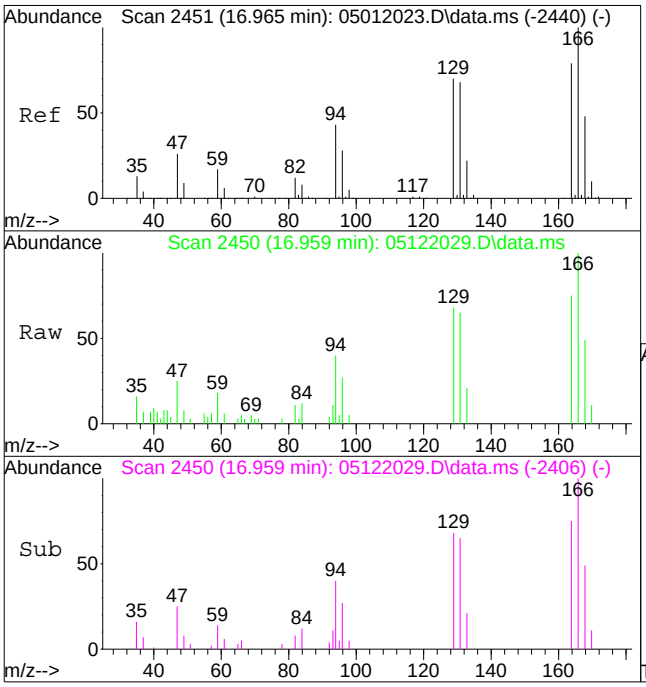


#63
n-Octane
Concen: 0.34 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05122029.D
Acq: 12 May 2020 18:16

Tgt Ion: 57 Resp: 7921

Ion	Ratio	Lower	Upper
57	100		
85	111.1	91.0	136.4
71	67.0	56.2	84.2

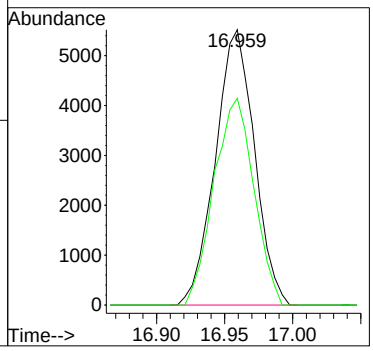


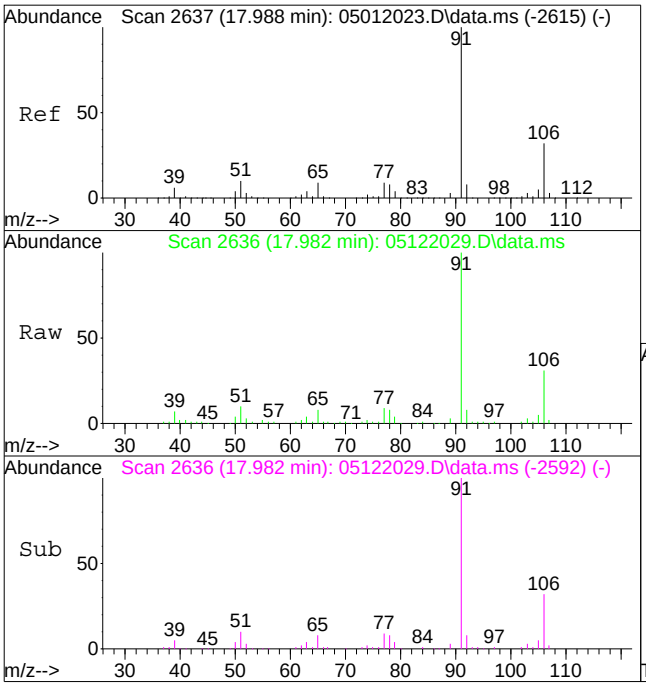


#64
Tetrachloroethene
Concen: 0.35 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05122029.D
Acq: 12 May 2020 18:16

Tgt Ion:166 Resp: 11013

Ion	Ratio	Lower	Upper
166	100		
164	76.8	58.4	98.4

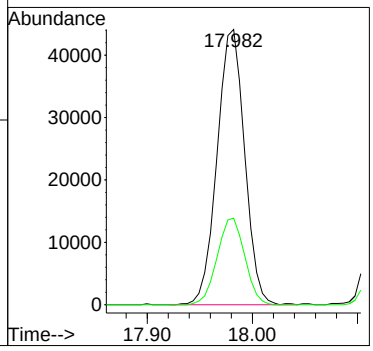


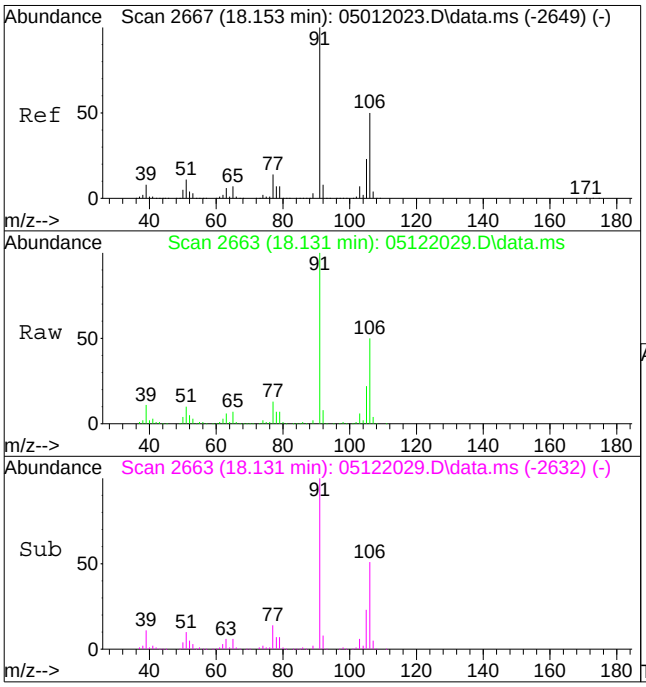


#66
Ethylbenzene
Concen: 0.64 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05122029.D
Acq: 12 May 2020 18:16

Tgt Ion: 91 Resp: 80400

Ion	Ratio	Lower	Upper
91	100		
106	31.4	11.6	51.6

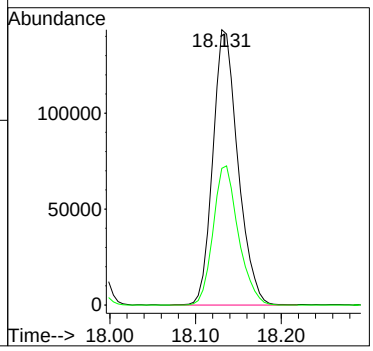


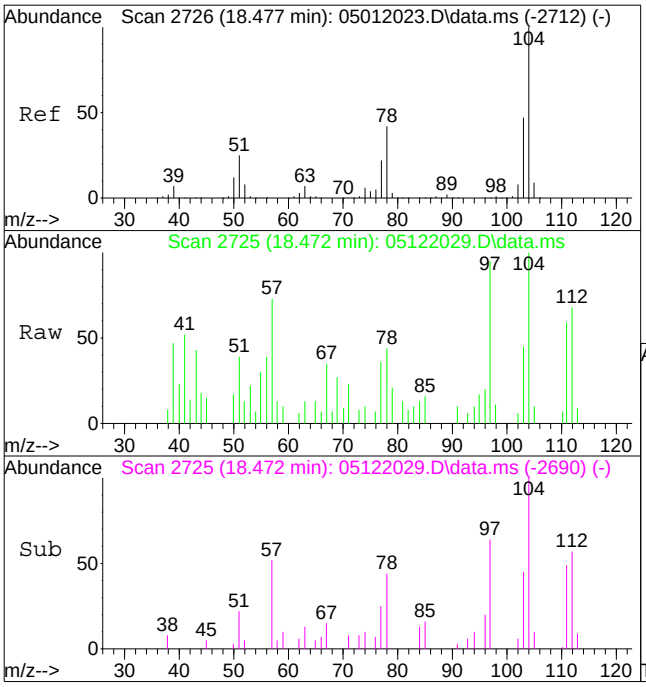


#67
m- & p-Xylenes
Concen: 2.93 ng
RT: 18.13 min Scan# 2663
Delta R.T. -0.028 min
Lab File: 05122029.D
Acq: 12 May 2020 18:16

Tgt Ion: 91 Resp: 291656

Ion	Ratio	Lower	Upper
91	100		
106	50.7	29.7	69.7

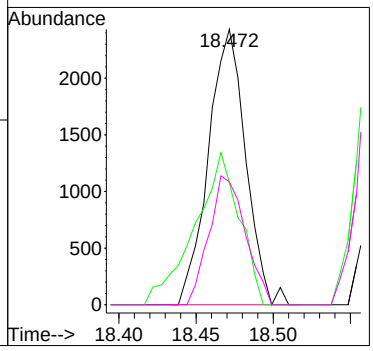


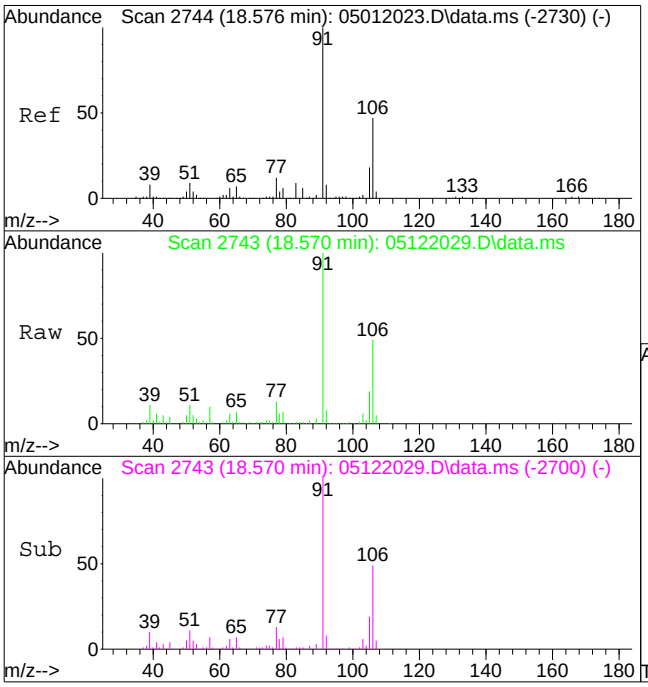


#69
Styrene
Concen: 0.05 ng
RT: 18.47 min Scan# 2725
Delta R.T. -0.006 min
Lab File: 05122029.D
Acq: 12 May 2020 18:16

Tgt Ion:104 Resp: 4085

Ion	Ratio	Lower	Upper
104	100		
78	66.2	22.5	62.5#
103	45.7	27.0	67.0

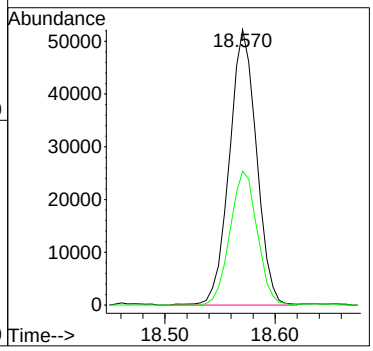


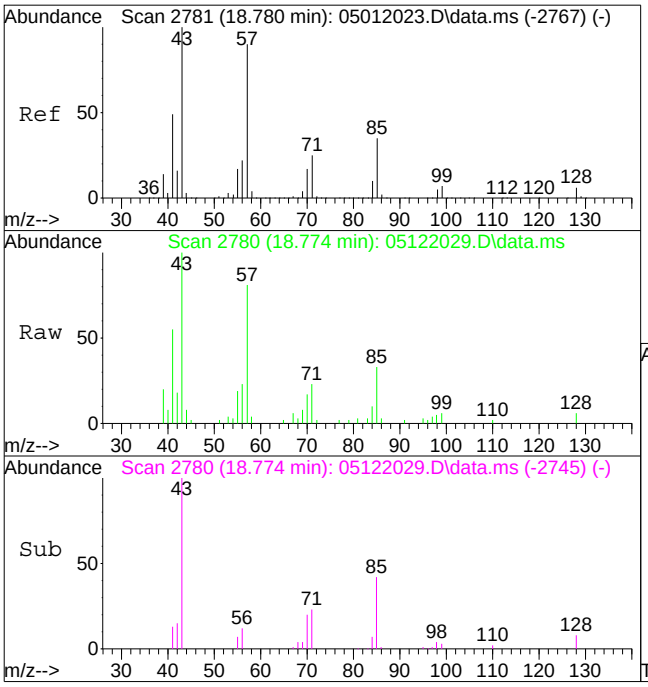


#70
o-Xylene
Concen: 0.88 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05122029.D
Acq: 12 May 2020 18:16

Tgt Ion: 91 Resp: 89183

Ion	Ratio	Lower	Upper
91	100		
106	48.7	27.5	67.5

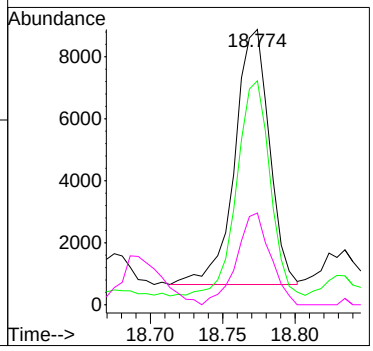


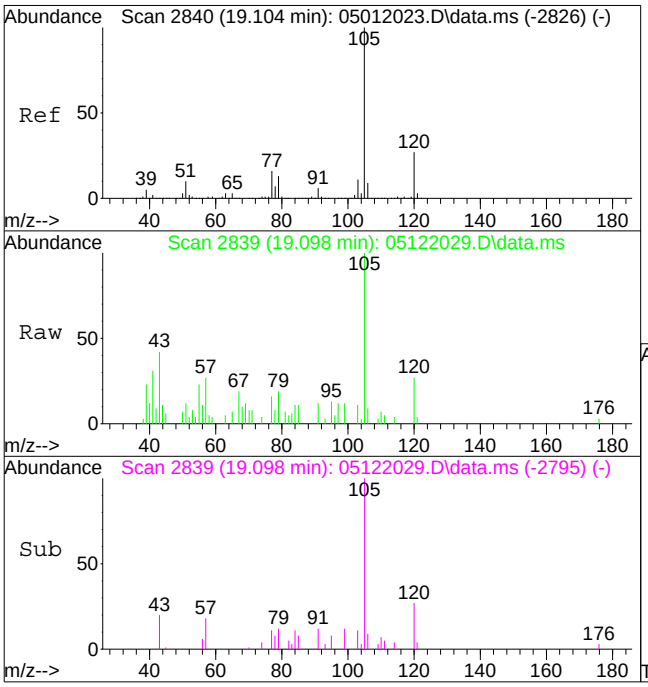


#71
n-Nonane
Concen: 0.26 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05122029.D
Acq: 12 May 2020 18:16

Tgt Ion: 43 Resp: 13741

Ion	Ratio	Lower	Upper
43	100		
57	80.6	69.0	109.0
85	34.8	14.6	54.6

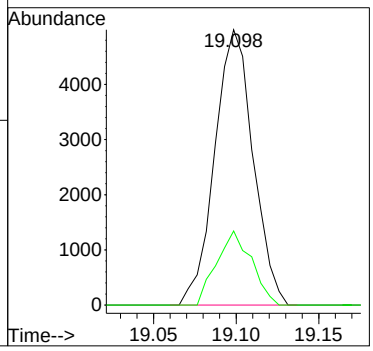


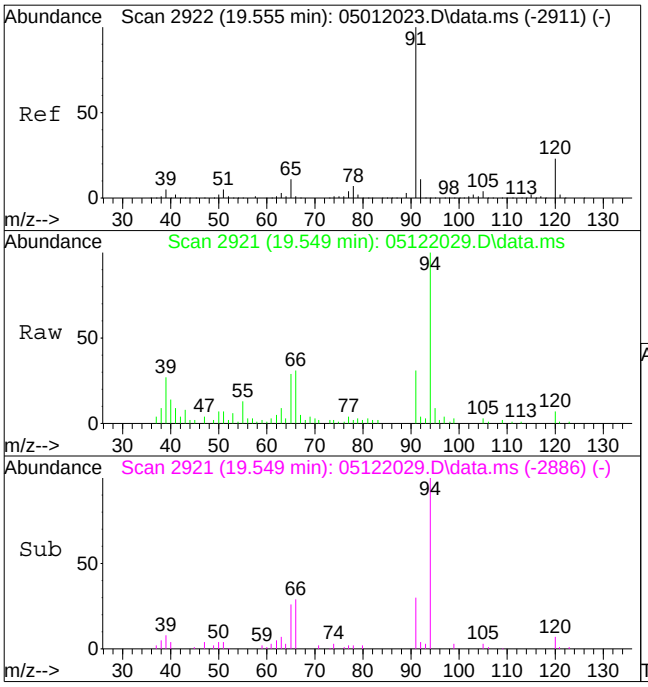


#74
Cumene
Concen: 0.07 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05122029.D
Acq: 12 May 2020 18:16

Tgt Ion:105 Resp: 8067

Ion	Ratio	Lower	Upper
105	100		
120	24.4	6.8	46.8

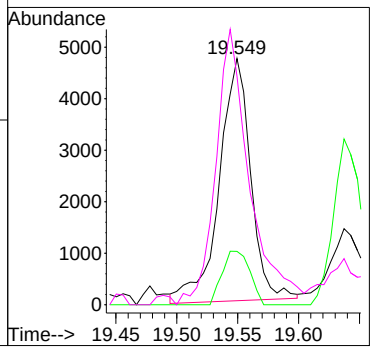


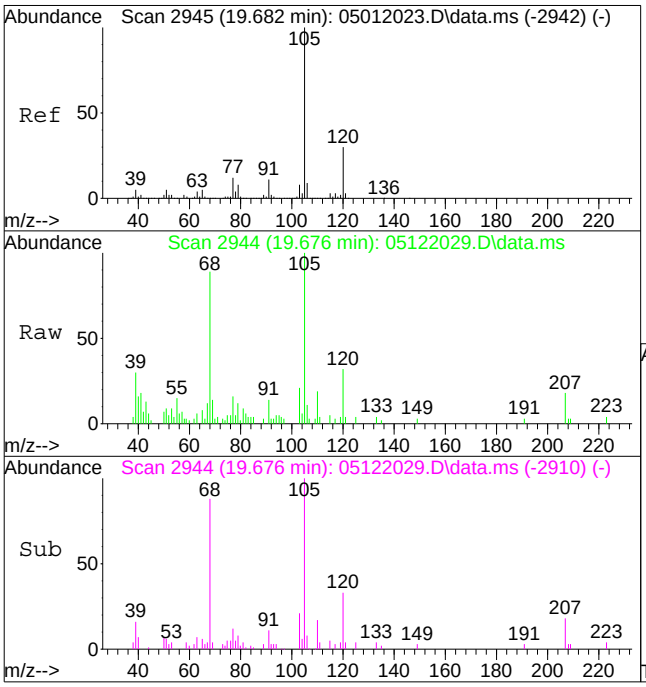


#76
n-Propylbenzene
Concen: 0.06 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05122029.D
Acq: 12 May 2020 18:16

Tgt Ion: 91 Resp: 8458

Ion	Ratio	Lower	Upper
91	100		
120	19.4	3.1	43.1
65	121.9	0.0	30.9#

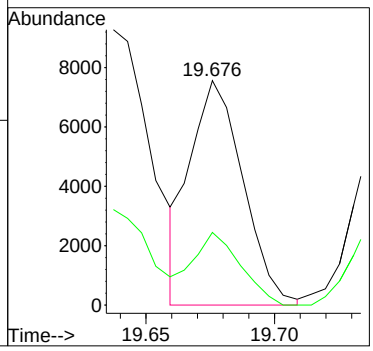


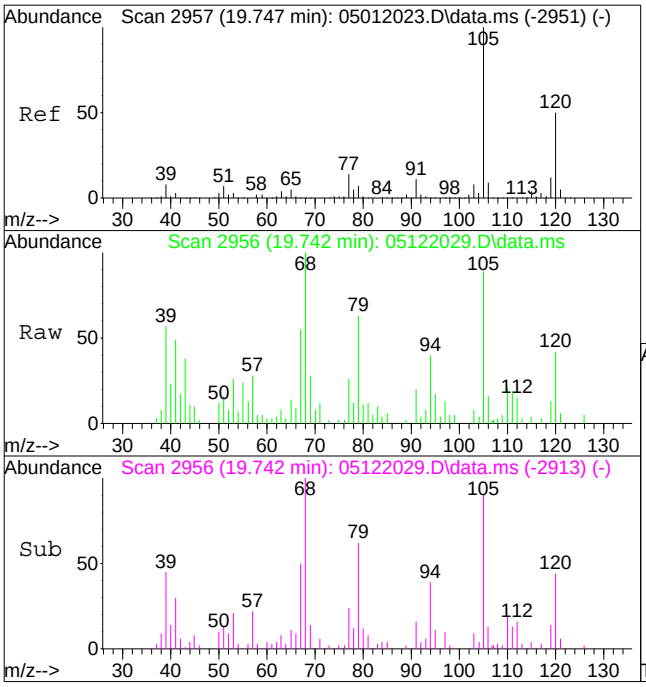


#78
4-Ethyltoluene
Concen: 0.09 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05122029.D
Acq: 12 May 2020 18:16

Tgt Ion:105 Resp: 10865

Ion	Ratio	Lower	Upper
105	100		
120	29.5	10.4	50.4

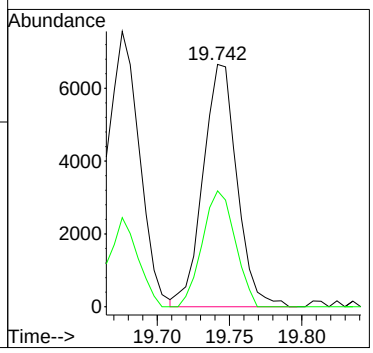


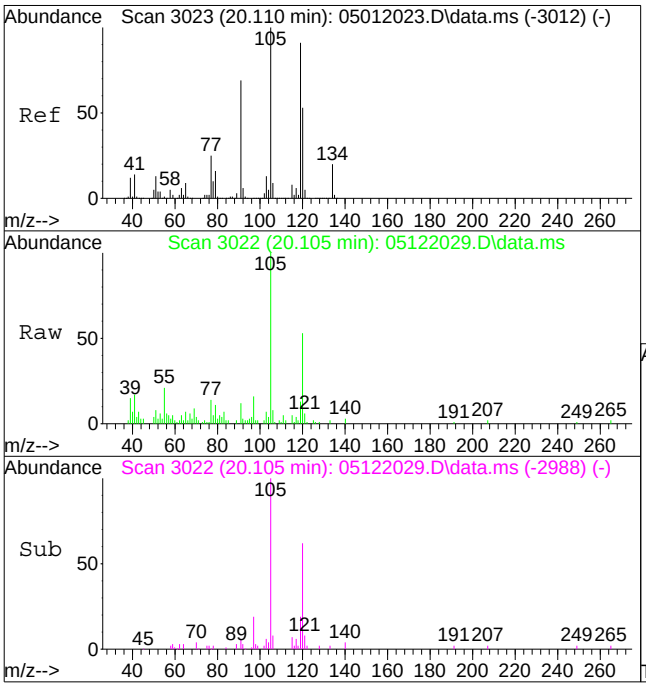


#79
1,3,5-Trimethylbenzene
Concen: 0.11 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05122029.D
Acq: 12 May 2020 18:16

Tgt Ion:105 Resp: 10879

Ion	Ratio	Lower	Upper
105	100		
120	46.1	29.9	69.9

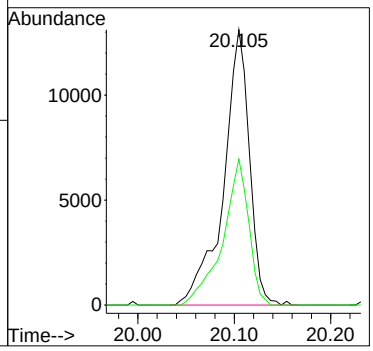




#82
1,2,4-Trimethylbenzene
Concen: 0.24 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05122029.D
Acq: 12 May 2020 18:16

Tgt Ion:105 Resp: 24606

Ion	Ratio	Lower	Upper
105	100		
120	52.7	33.6	73.6



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122030.D Vial: 10
Acq On : 12 May 2020 18:50 Operator: WA
Sample : P2002300-017 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 17:06:34 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/13/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.12	130	255299	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	13.26	114	1101493	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	503745	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.98	65	408223	11.799	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.40%				
57) Toluene-d8 (SS2)	15.71	98	1068741	12.517	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.16%				
73) Bromofluorobenzene (SS3)	18.97	174	411085	13.380	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.04%				
Target Compounds							Qvalue
2) Propene	4.11	42	2763	0.093	ng		96
3) Dichlorodifluoromethan...	4.26	85	38925	0.673	ng		100
4) Chloromethane	4.53	50	1496	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	525	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.31	45	40668	1.781	ng		99
11) Acetonitrile	6.59	41	3277	0.063	ng		75
12) Acrolein	6.78	56	6249	0.346	ng		98
13) Acetone	7.01	58	27465m	1.203	ng		
14) Trichlorofluoromethane	7.24	101	7242	0.142	ng		96
15) 2-Propanol (Isopropanol)	7.52	45	6011	0.087	ng		98
16) Acrylonitrile	7.74	53	104	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.42	59	1951	N.D.			
19) Methylene Chloride	8.40	84	183	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	8.84	151	20973	0.869	ng		96
22) Carbon Disulfide	8.67	76	1129620	10.621	ng		99
23) trans-1,2-Dichloroethene	9.45	61	110	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.07	73	364	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.47	72	3897	0.200	ng		94
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.29	87	164	N.D.			
30) Ethyl Acetate	11.27	61	590	0.053	ng		89
31) n-Hexane	11.25	57	11099	0.228	ng		99
32) Chloroform	11.30	83	7383	0.145	ng		99
34) Tetrahydrofuran (THF)	11.75	72	2781	0.146	ng	#	84
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	12.87	61	265	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	64971	0.550	ng		100
42) Carbon Tetrachloride	13.02	117	21104	0.525	ng		100
43) Cyclohexane	13.17	84	4787	0.109	ng		98
44) tert-Amyl Methyl Ether	13.56	73	380	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	13.96	83	1194	N.D.			
47) Trichloroethene	13.96	130	63300	2.073	ng		99
48) 1,4-Dioxane	13.97	88	905	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122030.D Vial: 10
Acq On : 12 May 2020 18:50 Operator: WA
Sample : P2002300-017 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 17:06:34 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

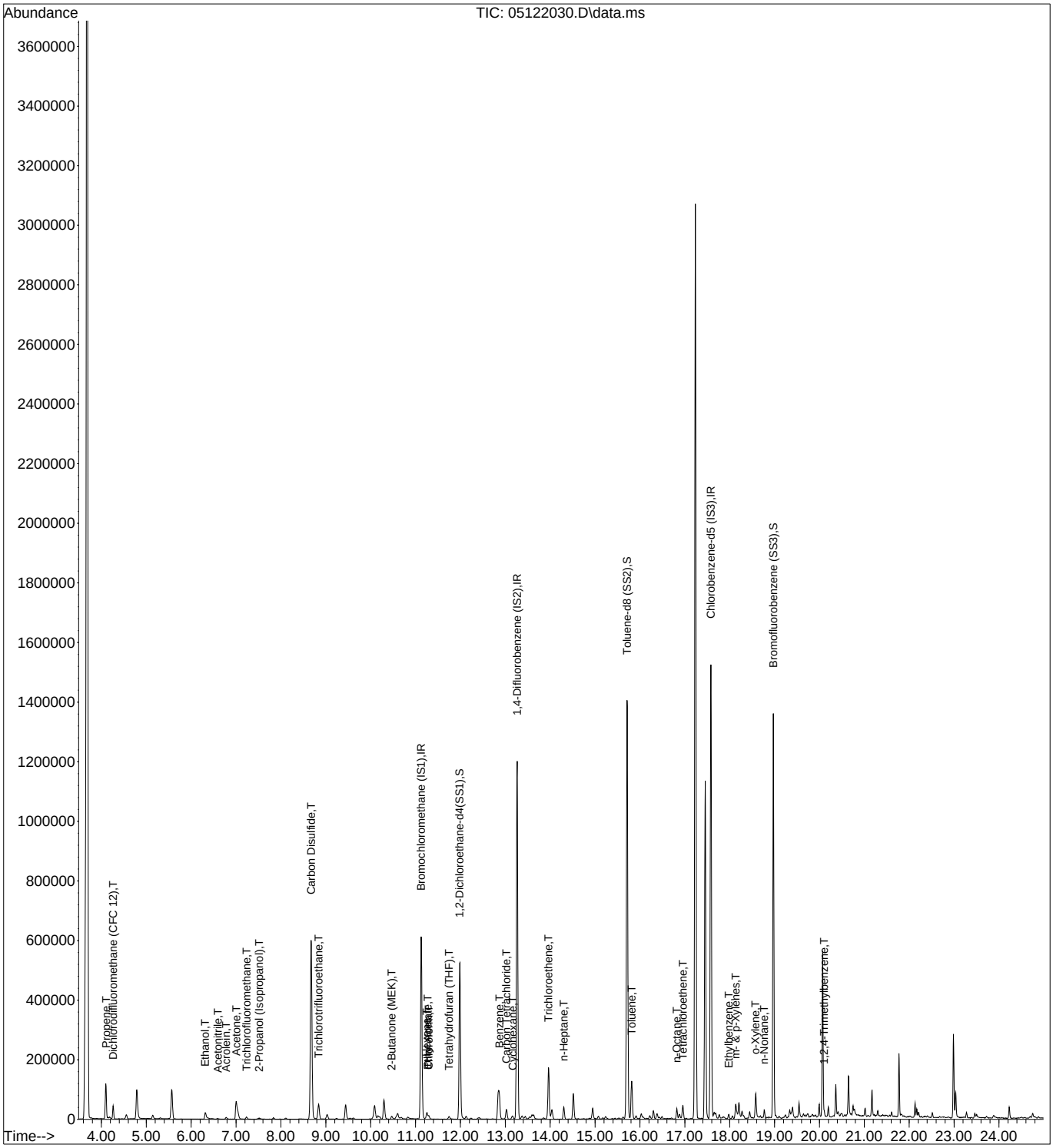
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.30	71	10355	0.375	ng	95
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.88	58	744	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.82	91	90751	0.825	ng	100
59) 2-Hexanone	0.00	43	0	N.D.	d	
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.70	43	1220	N.D.		
63) n-Octane	16.82	57	6629	0.291	ng	97
64) Tetrachloroethene	16.96	166	14915	0.480	ng	100
65) Chlorobenzene	17.66	112	1677	N.D.		
66) Ethylbenzene	17.98	91	10816	0.088	ng	98
67) m- & p-Xylenes	18.14	91	34102	0.350	ng	100
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	603	N.D.		
70) o-Xylene	18.57	91	10410	0.105	ng	99
71) n-Nonane	18.77	43	10147	0.193	ng	97
72) 1,1,2,2-Tetrachloroethane	18.58	83	424	N.D.		
74) Cumene	19.10	105	1401	N.D.		
75) alpha-Pinene	19.45	93	163	N.D.		
76) n-Propylbenzene	19.55	91	4414	N.D.		
77) 3-Ethyltoluene	19.64	105	3899	N.D.		
78) 4-Ethyltoluene	19.68	105	1412	N.D.		
79) 1,3,5-Trimethylbenzene	19.74	105	2757	N.D.		
80) alpha-Methylstyrene	19.87	118	1046	N.D.		
81) 2-Ethyltoluene	19.91	105	1771	N.D.		
82) 1,2,4-Trimethylbenzene	20.10	105	5700	0.057	ng	87
83) n-Decane	0.00	57	0	N.D.	d	
84) Benzyl Chloride	20.23	91	837	N.D.		
85) 1,3-Dichlorobenzene	20.29	146	134	N.D.		
86) 1,4-Dichlorobenzene	20.29	146	134	N.D.		
87) sec-Butylbenzene	20.35	105	1456	N.D.		
88) 4-Isopropyltoluene (p-...	20.48	119	1289	N.D.		
89) 1,2,3-Trimethylbenzene	20.48	105	3993	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.61	68	1756	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	22.22	128	3956	N.D.		
96) n-Dodecane	0.00	57	0	N.D.	d	
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	20.14	119	980	N.D.		
100) n-Butylbenzene	20.84	91	2400	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122030.D Vial: 10
Acq On : 12 May 2020 18:50 Operator: WA
Sample : P2002300-017 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 17:06:34 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122030.D Vial: 10
Acq On : 12 May 2020 18:50 Operator: WA
Sample : P2002300-017 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 17:06:34 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/13/20

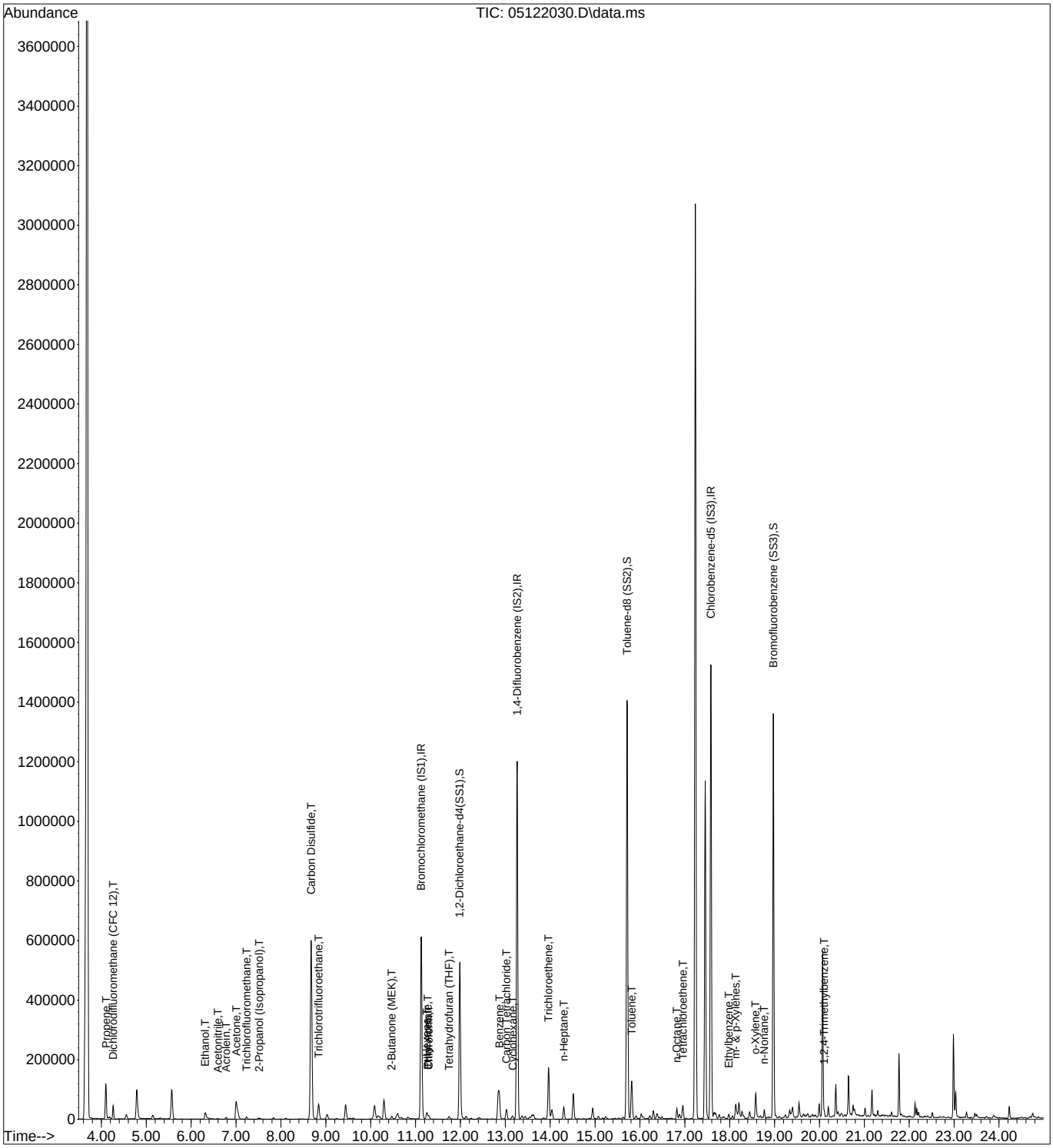
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.12	130	255299	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	13.26	114	1101493	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	503745	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.98	65	408223	11.799	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.40%				
57) Toluene-d8 (SS2)	15.71	98	1068741	12.517	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.16%				
73) Bromofluorobenzene (SS3)	18.97	174	411085	13.380	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.04%				
Target Compounds							Qvalue
2) Propene	4.11	42	2763	0.093	ng		96
3) Dichlorodifluoromethan...	4.26	85	38925	0.673	ng		100
10) Ethanol	6.31	45	40668	1.781	ng		99
11) Acetonitrile	6.59	41	3277	0.063	ng		75
12) Acrolein	6.78	56	6249	0.346	ng		98
13) Acetone	7.01	58	27465m	1.203	ng		
14) Trichlorofluoromethane	7.24	101	7242	0.142	ng		96
15) 2-Propanol (Isopropanol)	7.52	45	6011	0.087	ng		98
21) Trichlorotrifluoroethane	8.84	151	20973	0.869	ng		96
22) Carbon Disulfide	8.67	76	1129620	10.621	ng		99
27) 2-Butanone (MEK)	10.47	72	3897	0.200	ng		94
30) Ethyl Acetate	11.27	61	590	0.053	ng		89
31) n-Hexane	11.25	57	11099	0.228	ng		99
32) Chloroform	11.30	83	7383	0.145	ng		99
34) Tetrahydrofuran (THF)	11.75	72	2781	0.146	ng	#	84
41) Benzene	12.87	78	64971	0.550	ng		100
42) Carbon Tetrachloride	13.02	117	21104	0.525	ng		100
43) Cyclohexane	13.17	84	4787	0.109	ng		98
47) Trichloroethene	13.96	130	63300	2.073	ng		99
51) n-Heptane	14.30	71	10355	0.375	ng		95
58) Toluene	15.82	91	90751	0.825	ng		100
63) n-Octane	16.82	57	6629	0.291	ng		97
64) Tetrachloroethene	16.96	166	14915	0.480	ng		100
66) Ethylbenzene	17.98	91	10816	0.088	ng		98
67) m- & p-Xylenes	18.14	91	34102	0.350	ng		100
70) o-Xylene	18.57	91	10410	0.105	ng		99
71) n-Nonane	18.77	43	10147	0.193	ng		97
82) 1,2,4-Trimethylbenzene	20.10	105	5700	0.057	ng		87

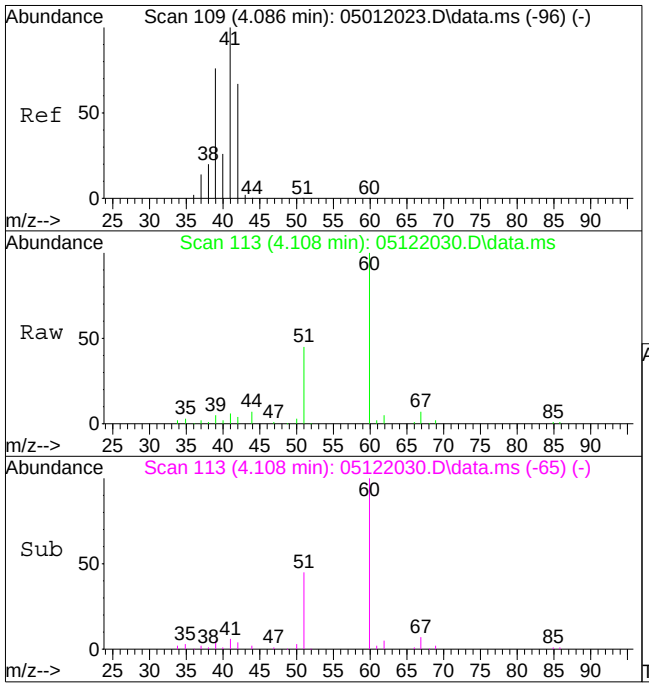
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122030.D Vial: 10
Acq On : 12 May 2020 18:50 Operator: WA
Sample : P2002300-017 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 17:06:34 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

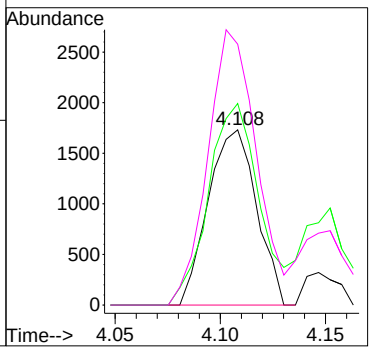


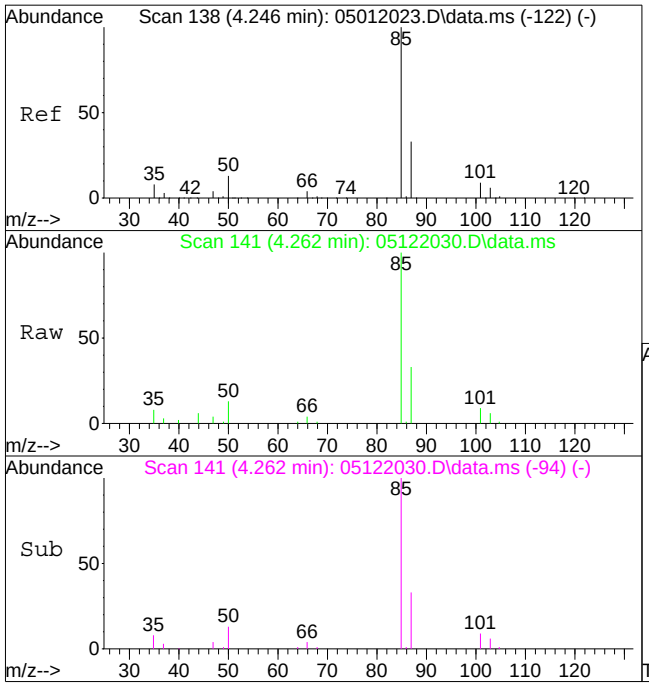


#2
Propene
Concen: 0.09 ng
RT: 4.11 min Scan# 113
Delta R.T. 0.016 min
Lab File: 05122030.D
Acq: 12 May 2020 18:50

Tgt Ion: 42 Resp: 2763

Ion	Ratio	Lower	Upper
42	100		
39	120.3	96.1	136.1
41	157.7	131.9	171.9

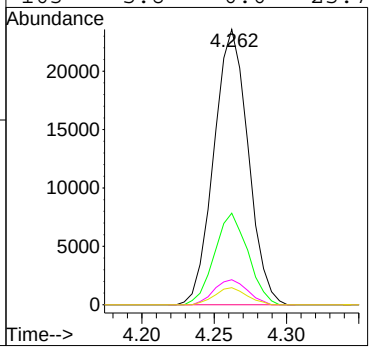


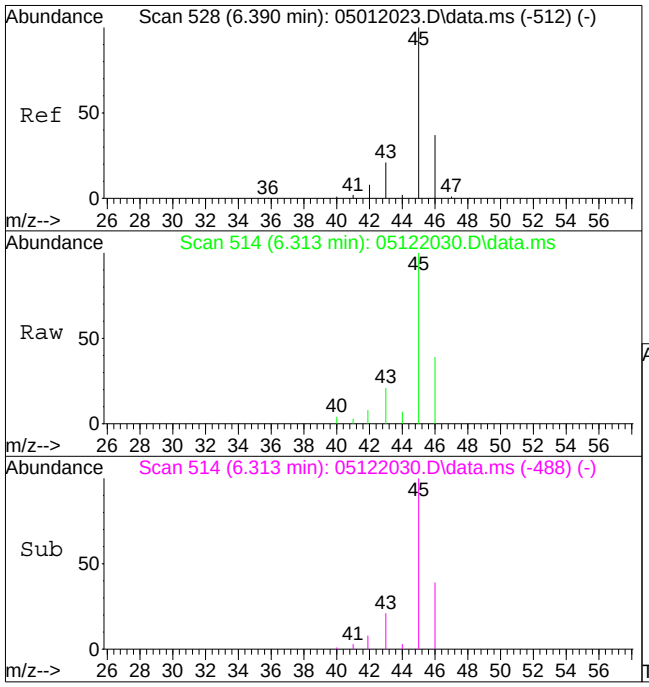


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.67 ng
RT: 4.26 min Scan# 141
Delta R.T. 0.011 min
Lab File: 05122030.D
Acq: 12 May 2020 18:50

Tgt Ion: 85 Resp: 38925

Ion	Ratio	Lower	Upper
85	100		
87	32.5	12.4	52.4
101	8.8	0.0	28.8
103	5.8	0.0	25.7

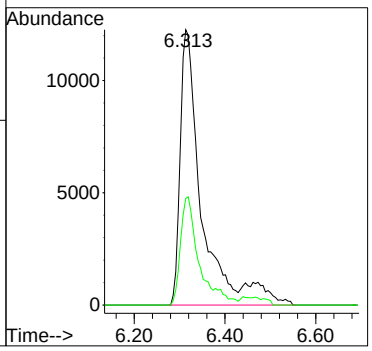


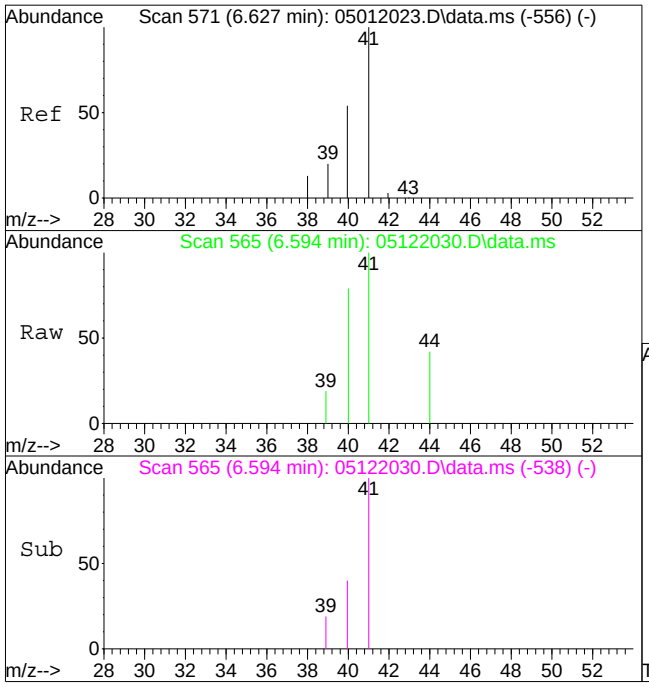


#10
Ethanol
Concen: 1.78 ng
RT: 6.31 min Scan# 514
Delta R.T. -0.105 min
Lab File: 05122030.D
Acq: 12 May 2020 18:50

Tgt Ion: 45 Resp: 40668

Ion	Ratio	Lower	Upper
45	100		
46	36.9	17.2	57.2

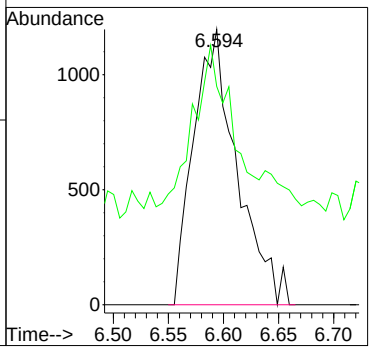


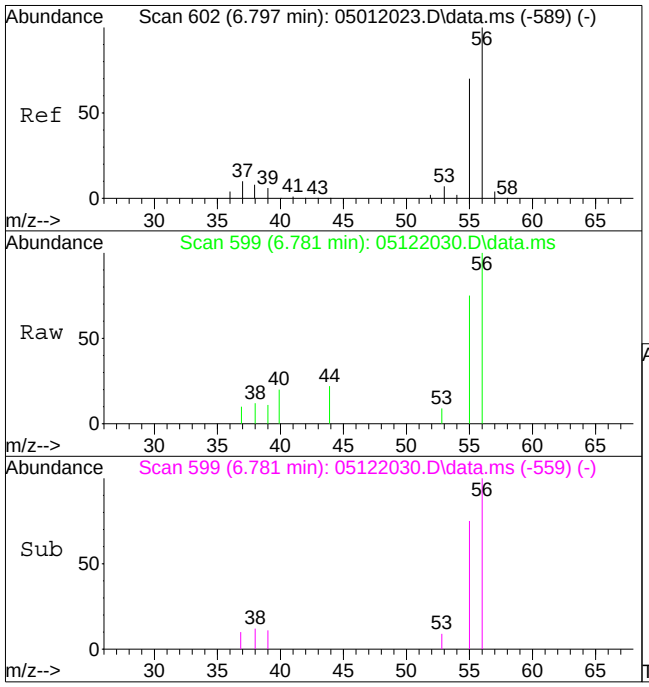


#11
Acetonitrile
Concen: 0.06 ng
RT: 6.59 min Scan# 565
Delta R.T. -0.050 min
Lab File: 05122030.D
Acq: 12 May 2020 18:50

Tgt Ion: 41 Resp: 3277

Ion	Ratio	Lower	Upper
41	100		
40	71.5	33.6	73.6

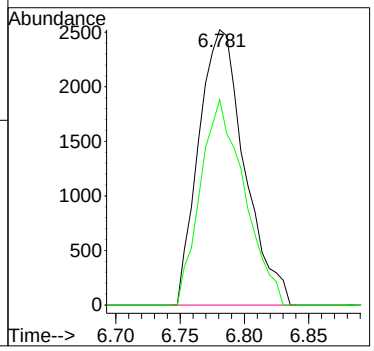


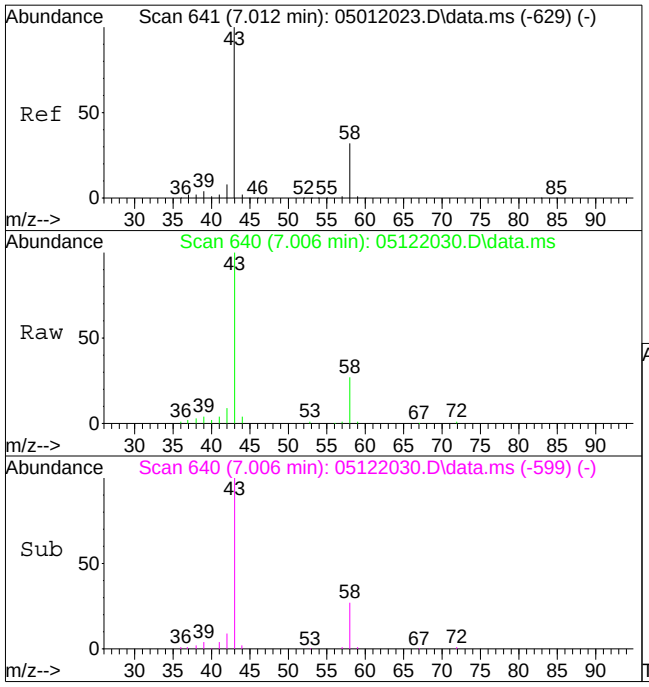


#12
Acrolein
Concen: 0.35 ng
RT: 6.78 min Scan# 599
Delta R.T. -0.028 min
Lab File: 05122030.D
Acq: 12 May 2020 18:50

Tgt Ion: 56 Resp: 6249

Ion	Ratio	Lower	Upper
56	100		
55	71.5	50.2	90.2

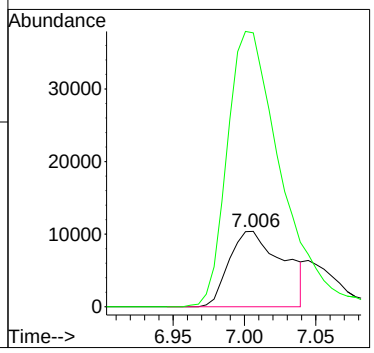


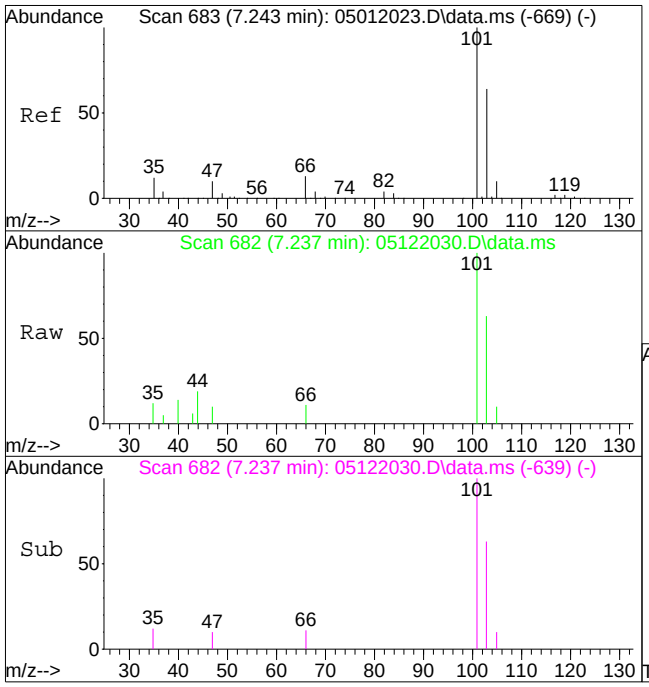


#13
Acetone
Concen: 1.20 ng m
RT: 7.01 min Scan# 640
Delta R.T. -0.022 min
Lab File: 05122030.D
Acq: 12 May 2020 18:50

Tgt Ion: 58 Resp: 27465

Ion	Ratio	Lower	Upper
58	100		
43	368.5	294.4	354.4#

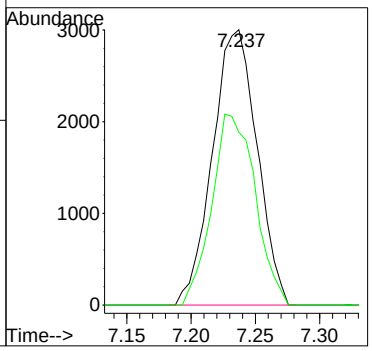


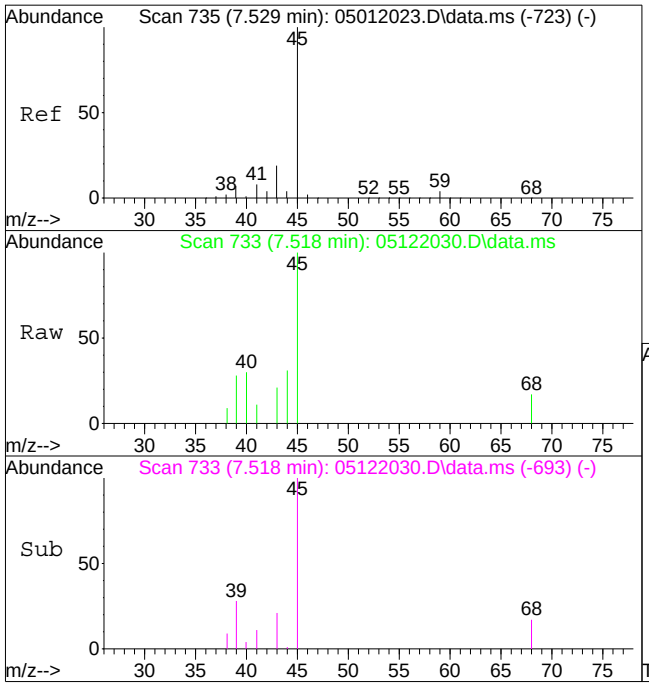


#14
Trichlorofluoromethane
Concen: 0.14 ng
RT: 7.24 min Scan# 682
Delta R.T. -0.011 min
Lab File: 05122030.D
Acq: 12 May 2020 18:50

Tgt Ion:101 Resp: 7242

Ion	Ratio	Lower	Upper
101	100		
103	67.3	44.4	84.4

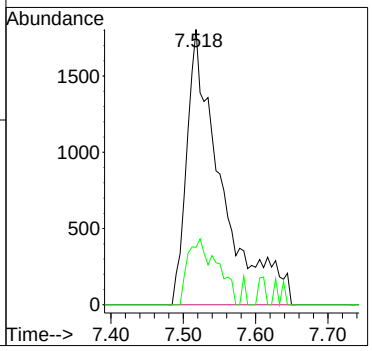


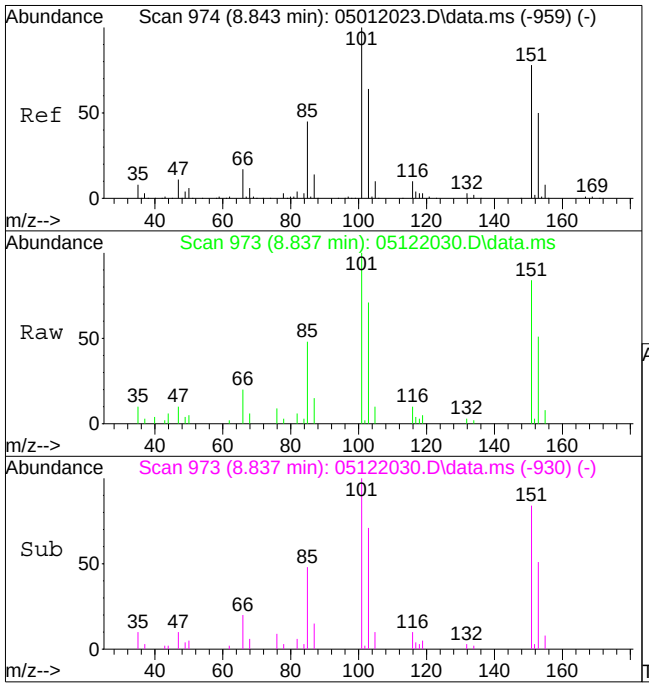


#15
2-Propanol (Isopropanol)
Concen: 0.09 ng
RT: 7.52 min Scan# 733
Delta R.T. -0.028 min
Lab File: 05122030.D
Acq: 12 May 2020 18:50

Tgt Ion: 45 Resp: 6011

Ion	Ratio	Lower	Upper
45	100		
43	20.3	0.0	39.5

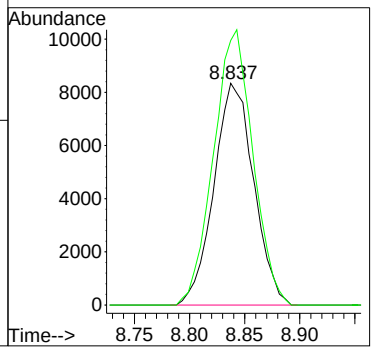


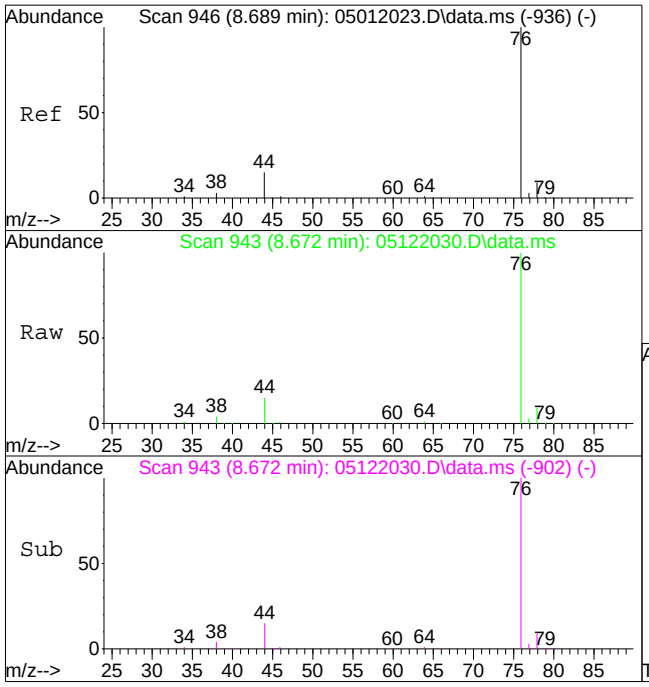


#21
Trichlorotrifluoroethane
Concen: 0.87 ng
RT: 8.84 min Scan# 973
Delta R.T. -0.011 min
Lab File: 05122030.D
Acq: 12 May 2020 18:50

Tgt Ion:151 Resp: 20973

Ion	Ratio	Lower	Upper
151	100		
101	122.9	107.3	147.3

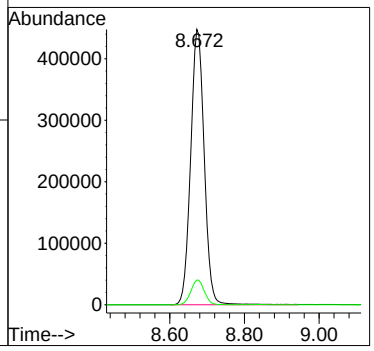


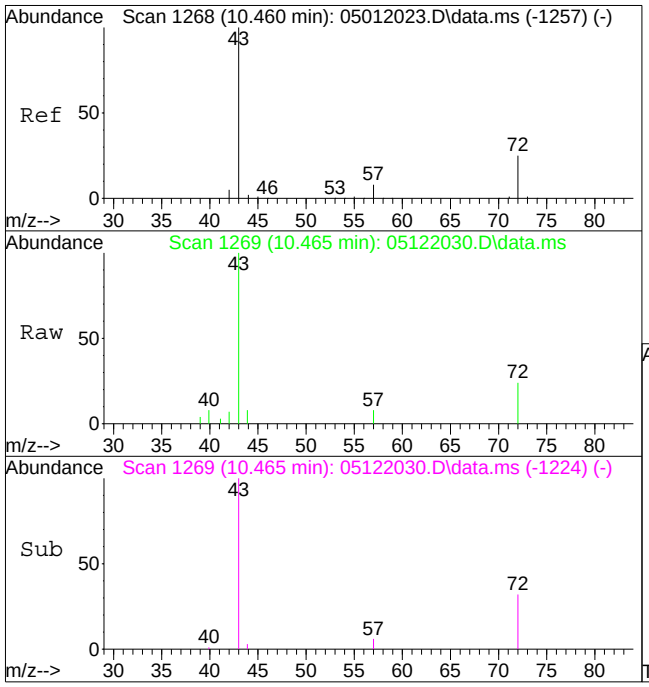


#22
Carbon Disulfide
Concen: 10.62 ng
RT: 8.67 min Scan# 943
Delta R.T. -0.022 min
Lab File: 05122030.D
Acq: 12 May 2020 18:50

Tgt Ion: 76 Resp: 1129620

Ion	Ratio	Lower	Upper
76	100		
78	8.9	0.0	29.2

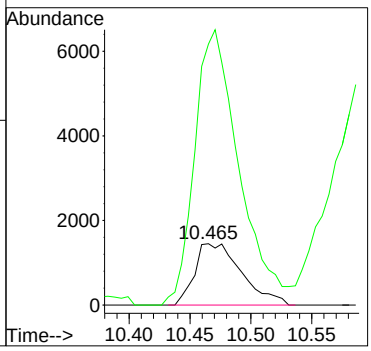


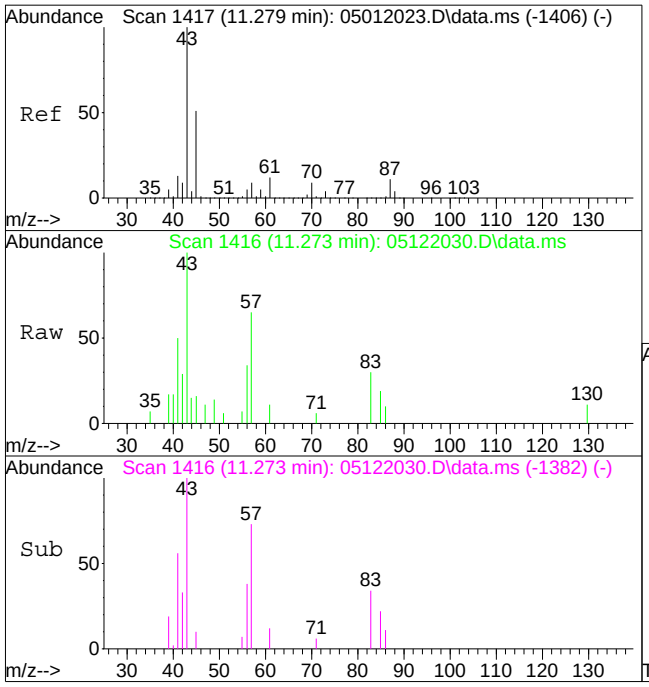


#27
2-Butanone (MEK)
Concen: 0.20 ng
RT: 10.47 min Scan# 1269
Delta R.T. -0.000 min
Lab File: 05122030.D
Acq: 12 May 2020 18:50

Tgt Ion: 72 Resp: 3897

Ion	Ratio	Lower	Upper
72	100		
43	423.2	389.7	429.7

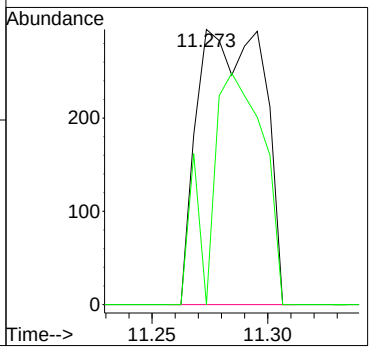


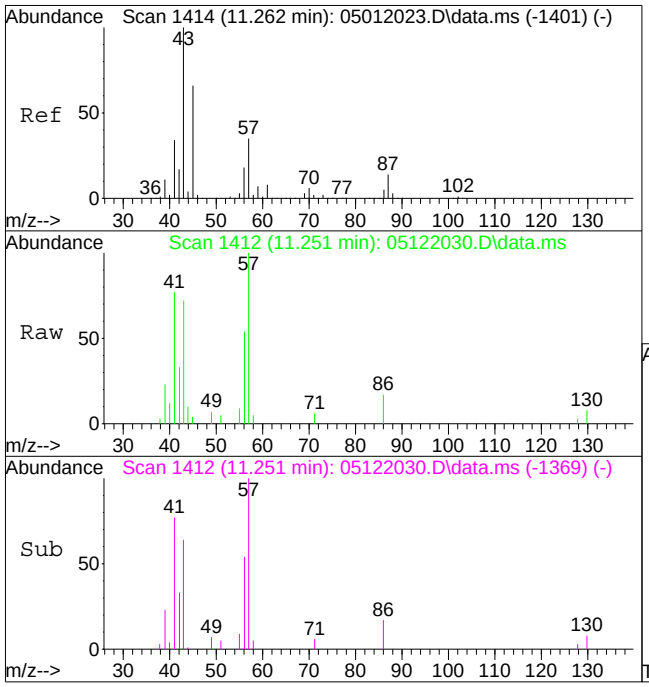


#30
Ethyl Acetate
Concen: 0.05 ng
RT: 11.27 min Scan# 1416
Delta R.T. -0.011 min
Lab File: 05122030.D
Acq: 12 May 2020 18:50

Tgt Ion: 61 Resp: 590

Ion	Ratio	Lower	Upper
61	100		
70	68.1	57.9	97.9

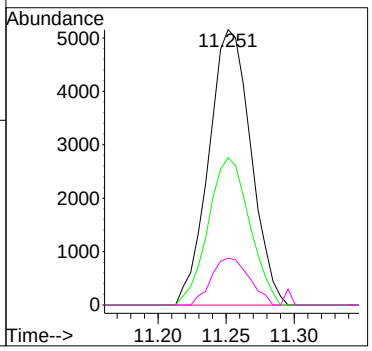


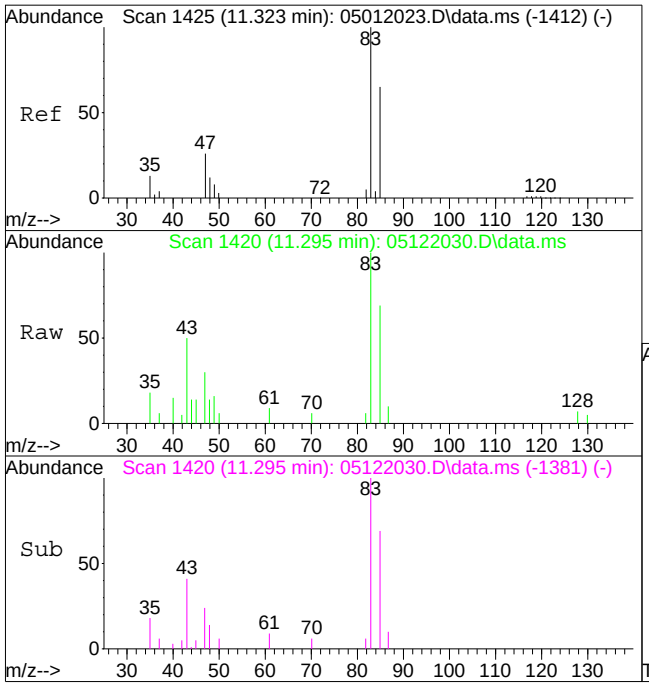


#31
n-Hexane
Concen: 0.23 ng
RT: 11.25 min Scan# 1412
Delta R.T. -0.011 min
Lab File: 05122030.D
Acq: 12 May 2020 18:50

Tgt Ion: 57 Resp: 11099

Ion	Ratio	Lower	Upper
57	100		
56	52.4	41.4	62.0
86	15.4	12.4	18.6

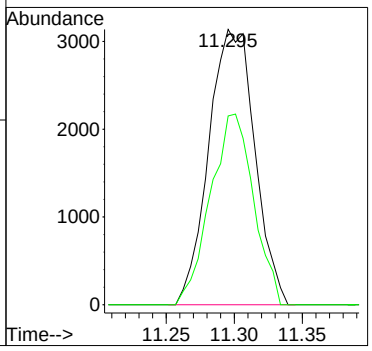


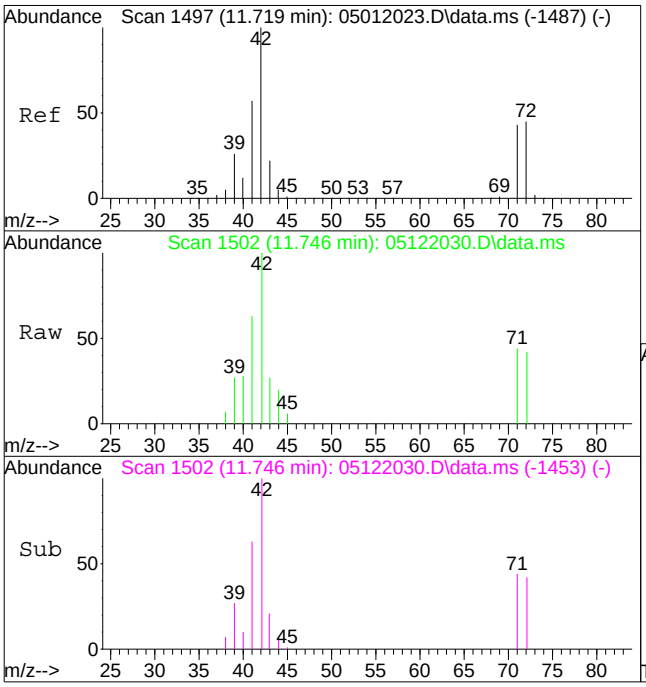


#32
Chloroform
Concen: 0.15 ng
RT: 11.30 min Scan# 1420
Delta R.T. -0.033 min
Lab File: 05122030.D
Acq: 12 May 2020 18:50

Tgt Ion: 83 Resp: 7383

Ion	Ratio	Lower	Upper
83	100		
85	64.7	45.5	85.5

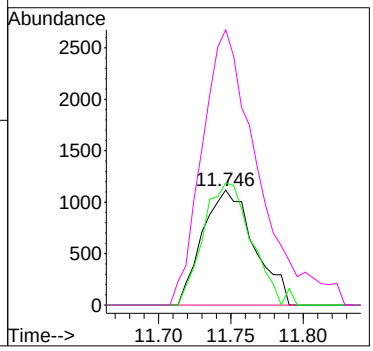


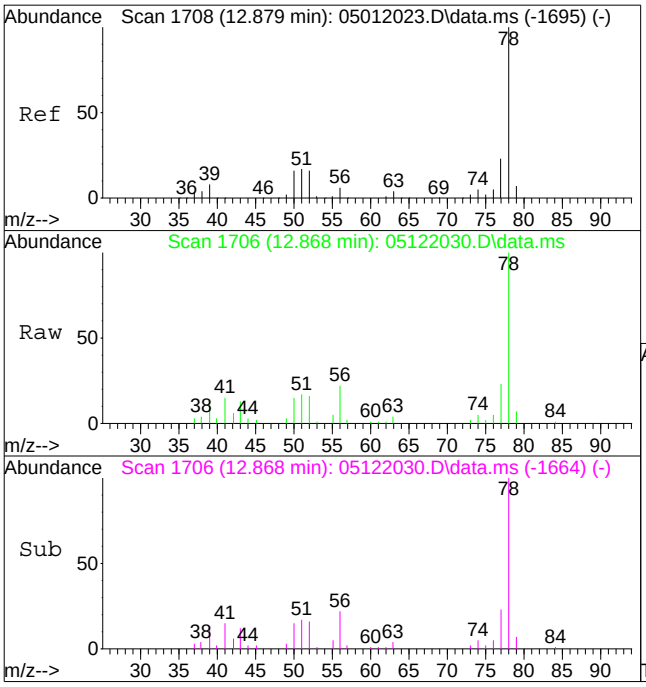


#34
Tetrahydrofuran (THF)
Concen: 0.15 ng
RT: 11.75 min Scan# 1502
Delta R.T. 0.022 min
Lab File: 05122030.D
Acq: 12 May 2020 18:50

Tgt Ion: 72 Resp: 2781

Ion	Ratio	Lower	Upper
72	100		
71	99.6	77.0	117.0
42	260.6	204.6	244.6#

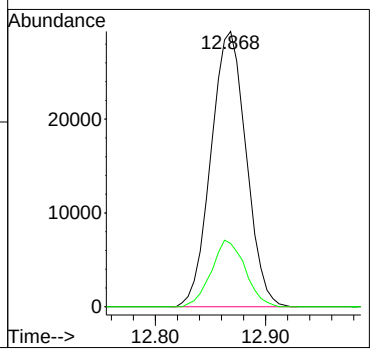


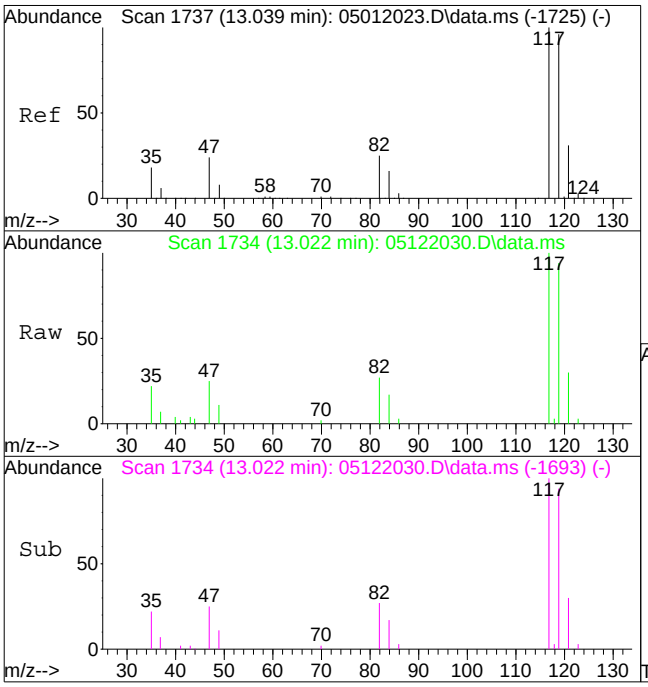


#41
Benzene
Concen: 0.55 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05122030.D
Acq: 12 May 2020 18:50

Tgt Ion: 78 Resp: 64971

Ion	Ratio	Lower	Upper
78	100		
77	23.3	3.4	43.4

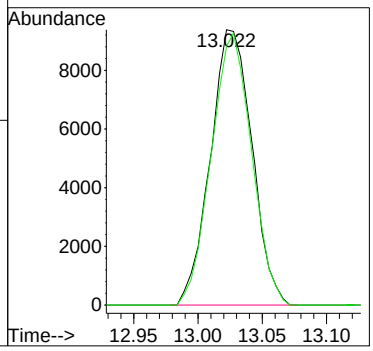


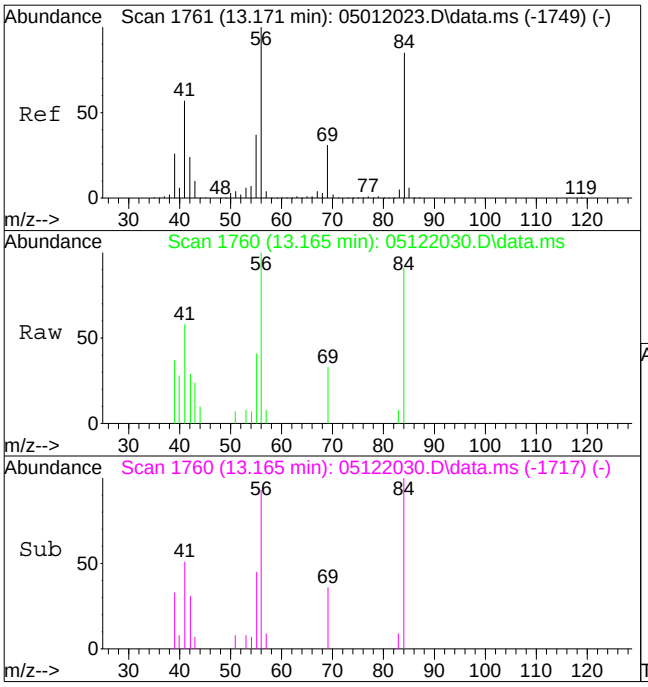


#42
Carbon Tetrachloride
Concen: 0.53 ng
RT: 13.02 min Scan# 1734
Delta R.T. -0.022 min
Lab File: 05122030.D
Acq: 12 May 2020 18:50

Tgt Ion:117 Resp: 21104

Ion	Ratio	Lower	Upper
117	100		
119	95.8	76.2	116.2

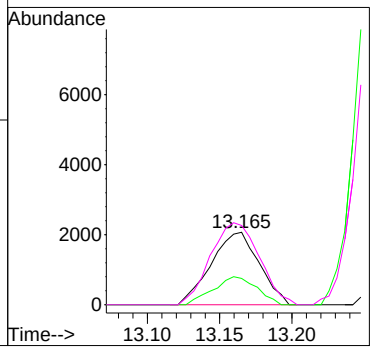


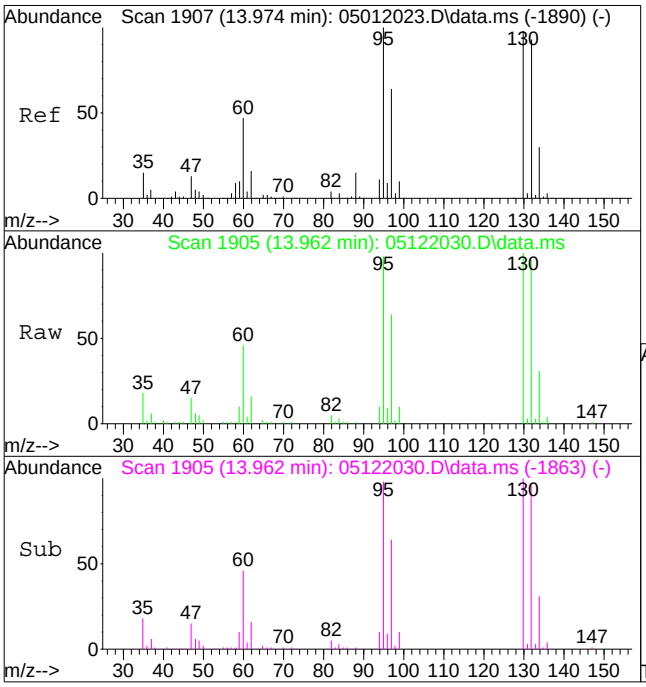


#43
Cyclohexane
Concen: 0.11 ng
RT: 13.17 min Scan# 1760
Delta R.T. -0.011 min
Lab File: 05122030.D
Acq: 12 May 2020 18:50

Tgt Ion: 84 Resp: 4787

Ion	Ratio	Lower	Upper
84	100		
69	34.9	16.5	56.5
56	115.0	97.4	137.4

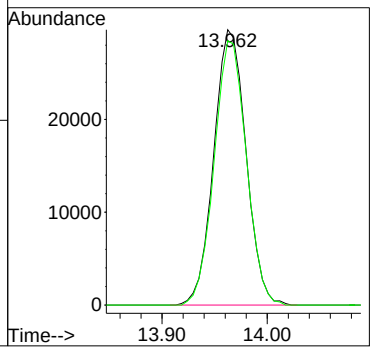


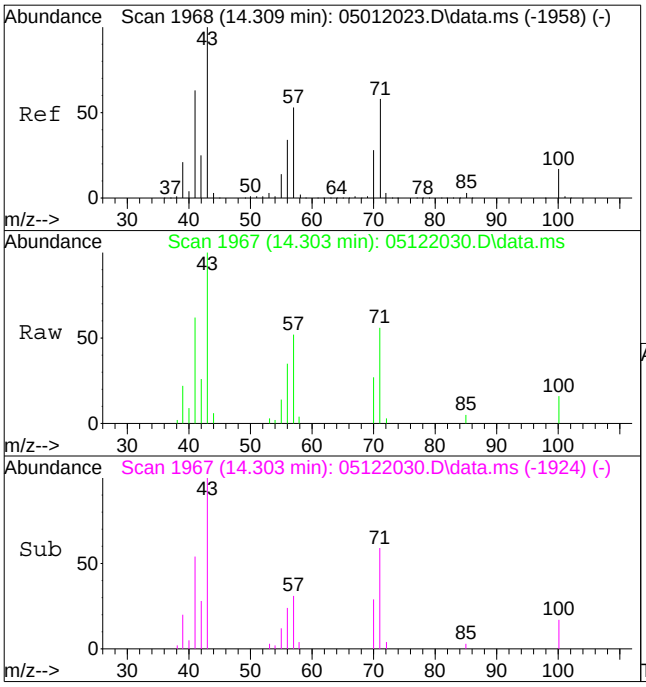


#47
Trichloroethene
Concen: 2.07 ng
RT: 13.96 min Scan# 1905
Delta R.T. -0.017 min
Lab File: 05122030.D
Acq: 12 May 2020 18:50

Tgt Ion:130 Resp: 63300

Ion	Ratio	Lower	Upper
130	100		
132	95.8	74.9	114.9

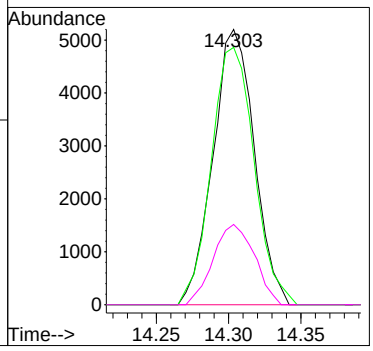


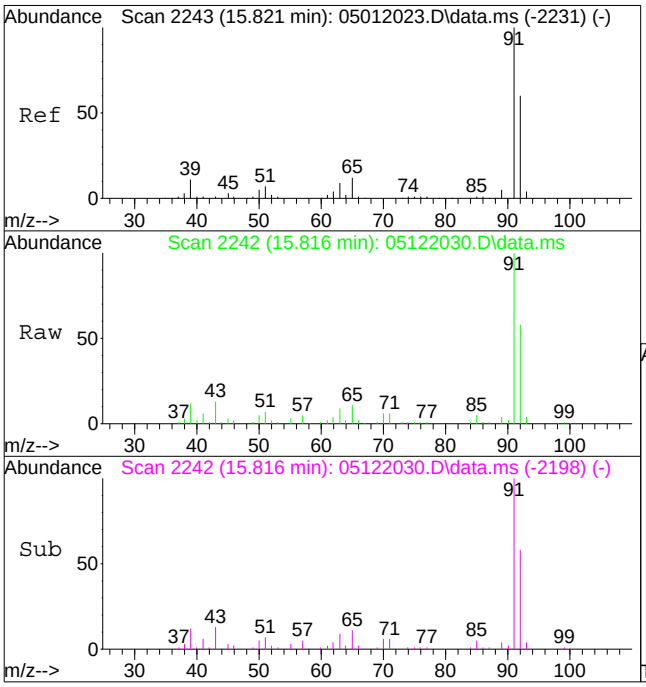


#51
n-Heptane
Concen: 0.37 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05122030.D
Acq: 12 May 2020 18:50

Tgt Ion: 71 Resp: 10355

Ion	Ratio	Lower	Upper
71	100		
57	97.1	71.0	111.0
100	29.1	8.4	48.4

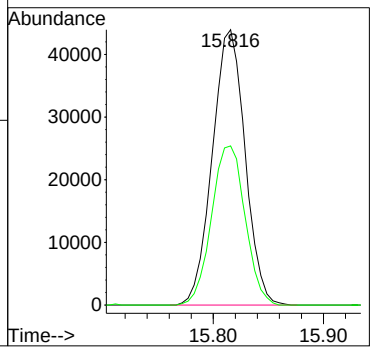


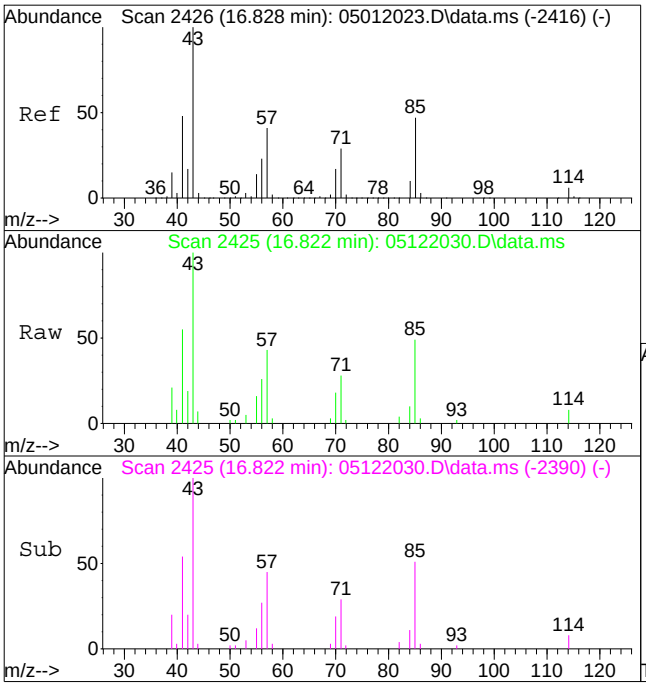


#58
Toluene
Concen: 0.82 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05122030.D
Acq: 12 May 2020 18:50

Tgt Ion: 91 Resp: 90751

Ion	Ratio	Lower	Upper
91	100		
92	59.2	39.4	79.4

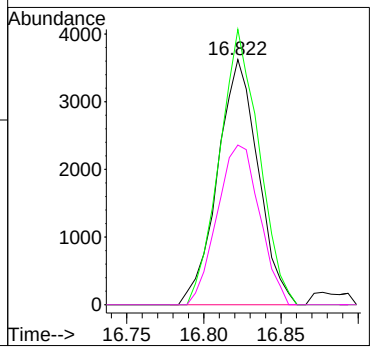


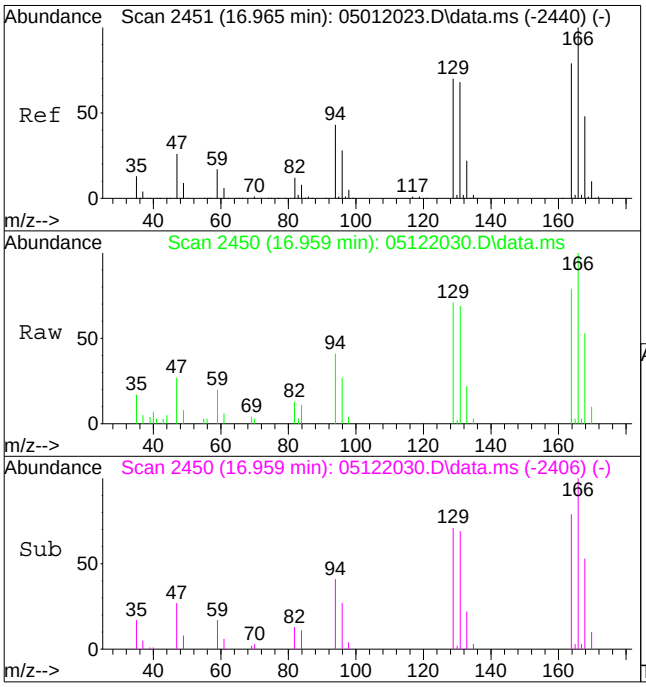


#63
n-Octane
Concen: 0.29 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05122030.D
Acq: 12 May 2020 18:50

Tgt Ion: 57 Resp: 6629

Ion	Ratio	Lower	Upper
57	100		
85	109.4	91.0	136.4
71	68.1	56.2	84.2

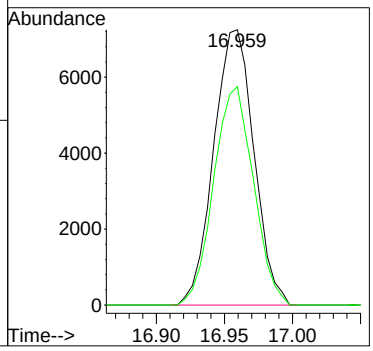


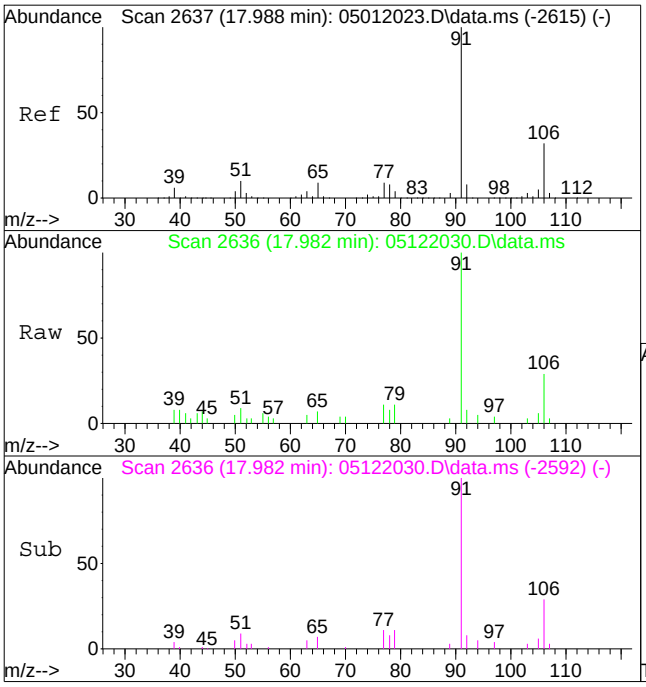


#64
Tetrachloroethene
Concen: 0.48 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05122030.D
Acq: 12 May 2020 18:50

Tgt Ion:166 Resp: 14915

Ion	Ratio	Lower	Upper
166	100		
164	78.3	58.4	98.4

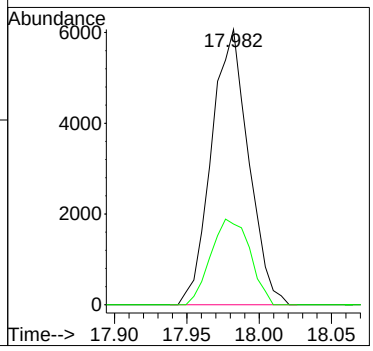


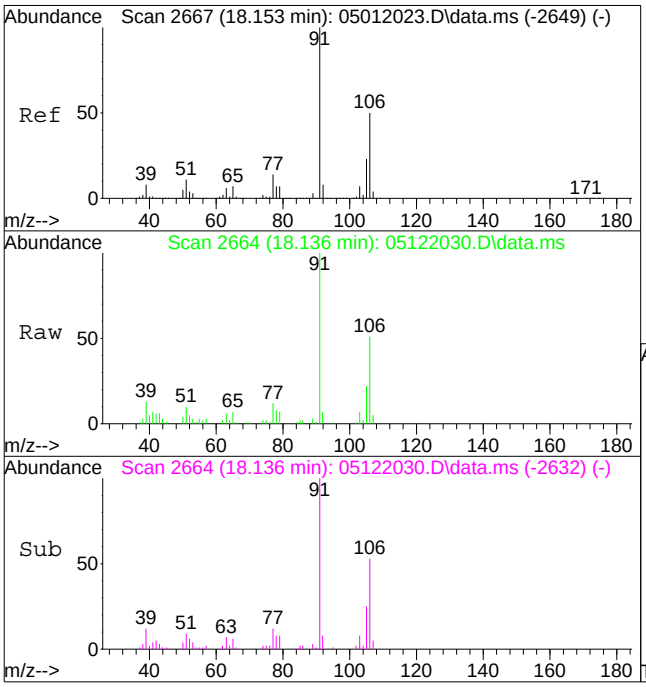


#66
Ethylbenzene
Concen: 0.09 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05122030.D
Acq: 12 May 2020 18:50

Tgt Ion: 91 Resp: 10816

Ion	Ratio	Lower	Upper
91	100		
106	32.8	11.6	51.6

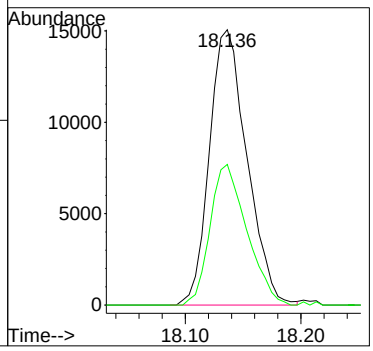


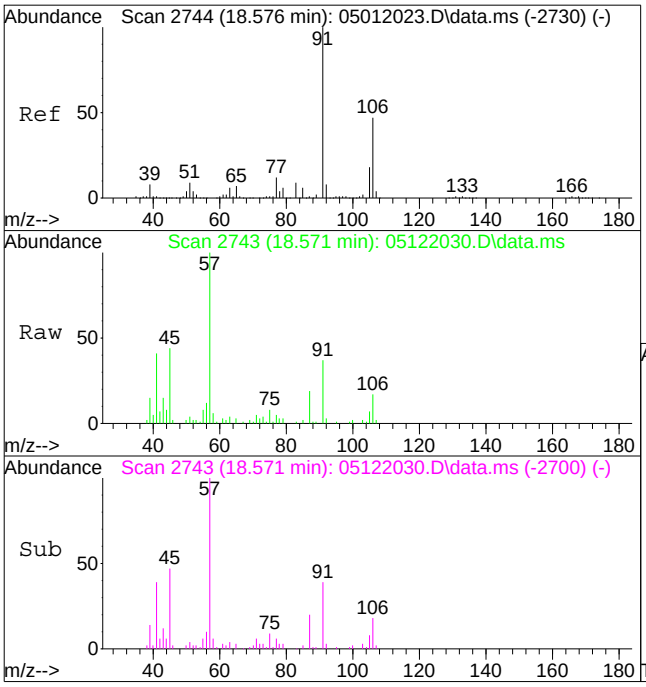


#67
m- & p-Xylenes
Concen: 0.35 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05122030.D
Acq: 12 May 2020 18:50

Tgt Ion: 91 Resp: 34102

Ion	Ratio	Lower	Upper
91	100		
106	49.8	29.7	69.7

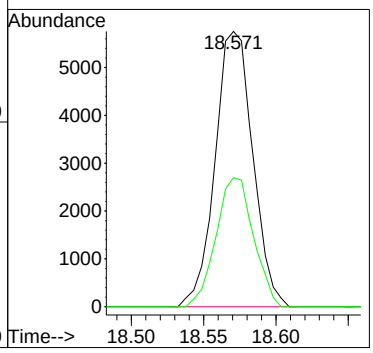


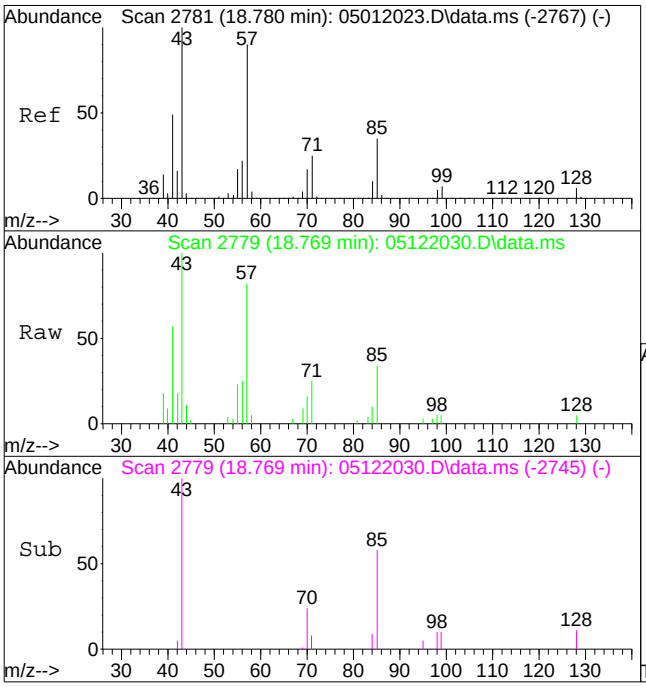


#70
o-Xylene
Concen: 0.11 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05122030.D
Acq: 12 May 2020 18:50

Tgt Ion: 91 Resp: 10410

Ion	Ratio	Lower	Upper
91	100		
106	46.5	27.5	67.5

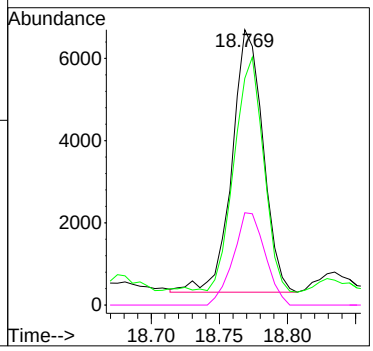


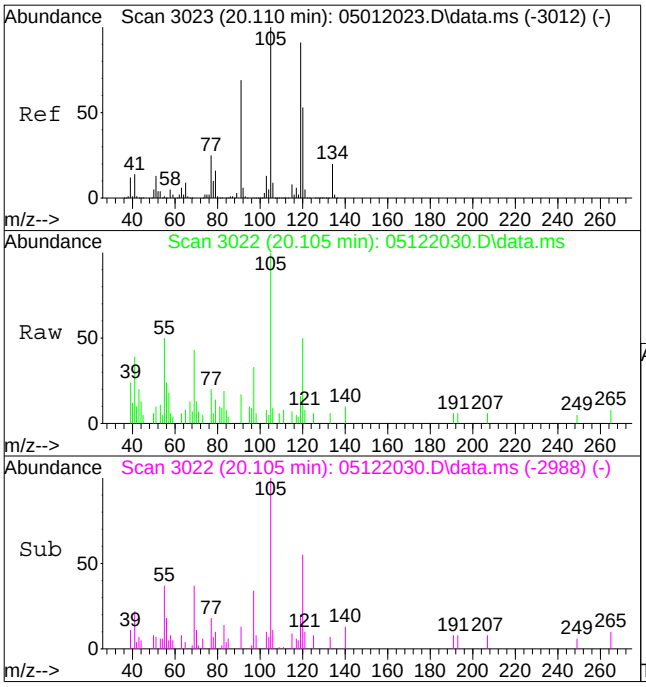


#71
n-Nonane
Concen: 0.19 ng
RT: 18.77 min Scan# 2779
Delta R.T. -0.011 min
Lab File: 05122030.D
Acq: 12 May 2020 18:50

Tgt Ion: 43 Resp: 10147

Ion	Ratio	Lower	Upper
43	100		
57	85.6	69.0	109.0
85	35.7	14.6	54.6

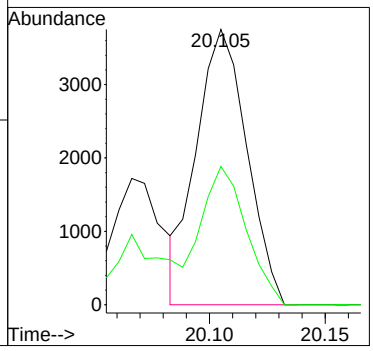




#82
1,2,4-Trimethylbenzene
Concen: 0.06 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05122030.D
Acq: 12 May 2020 18:50

Tgt Ion:105 Resp: 5700

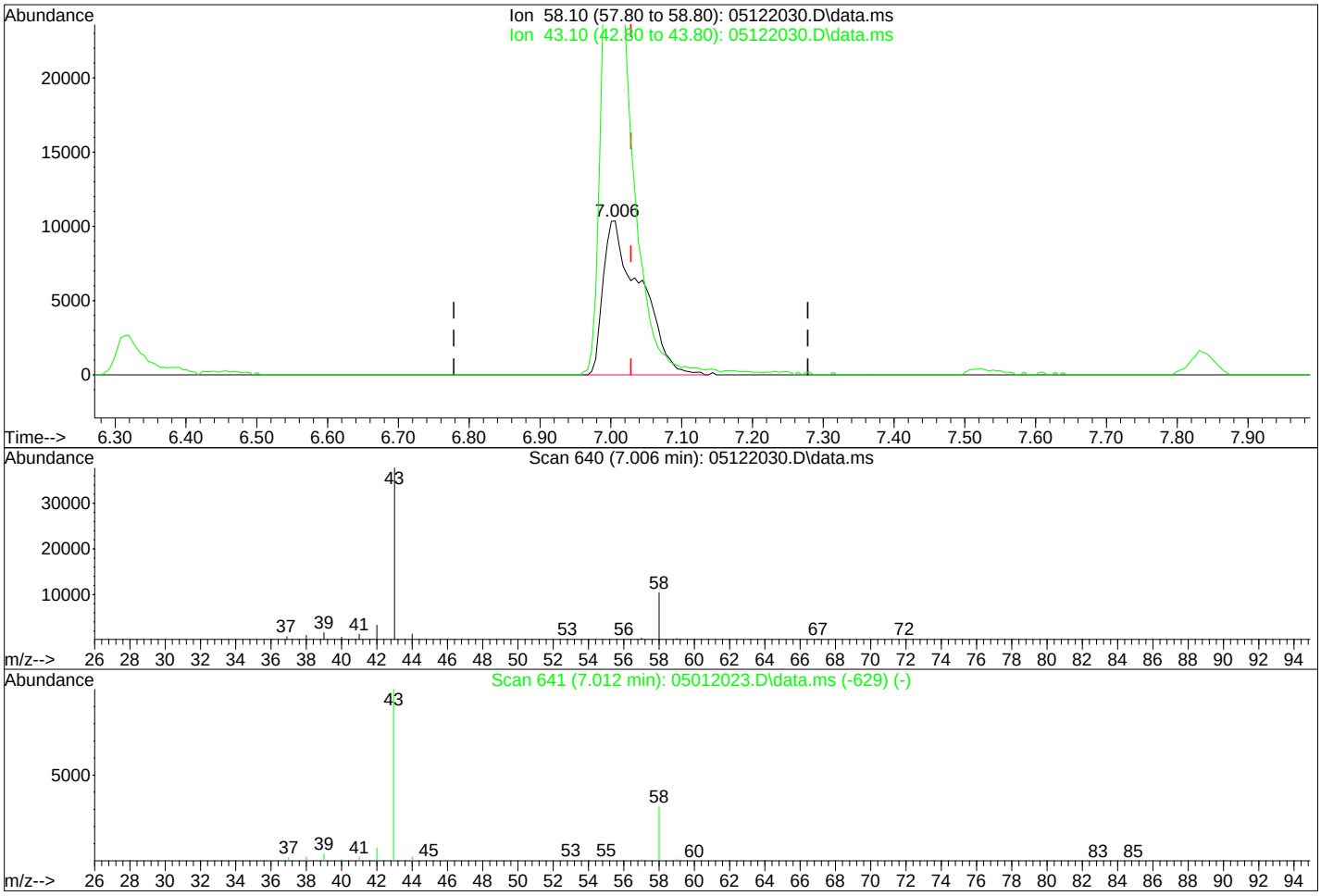
Ion	Ratio	Lower	Upper
105	100		
120	44.3	33.6	73.6



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\12\05122030.D Vial: 10
Acq On : 12 May 2020 18:50 Operator: WA
Sample : P2002300-017 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 05:59:34 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05122030.D\data.ms

(13) Acetone (T)

7.006min (-0.022) 1.66ng

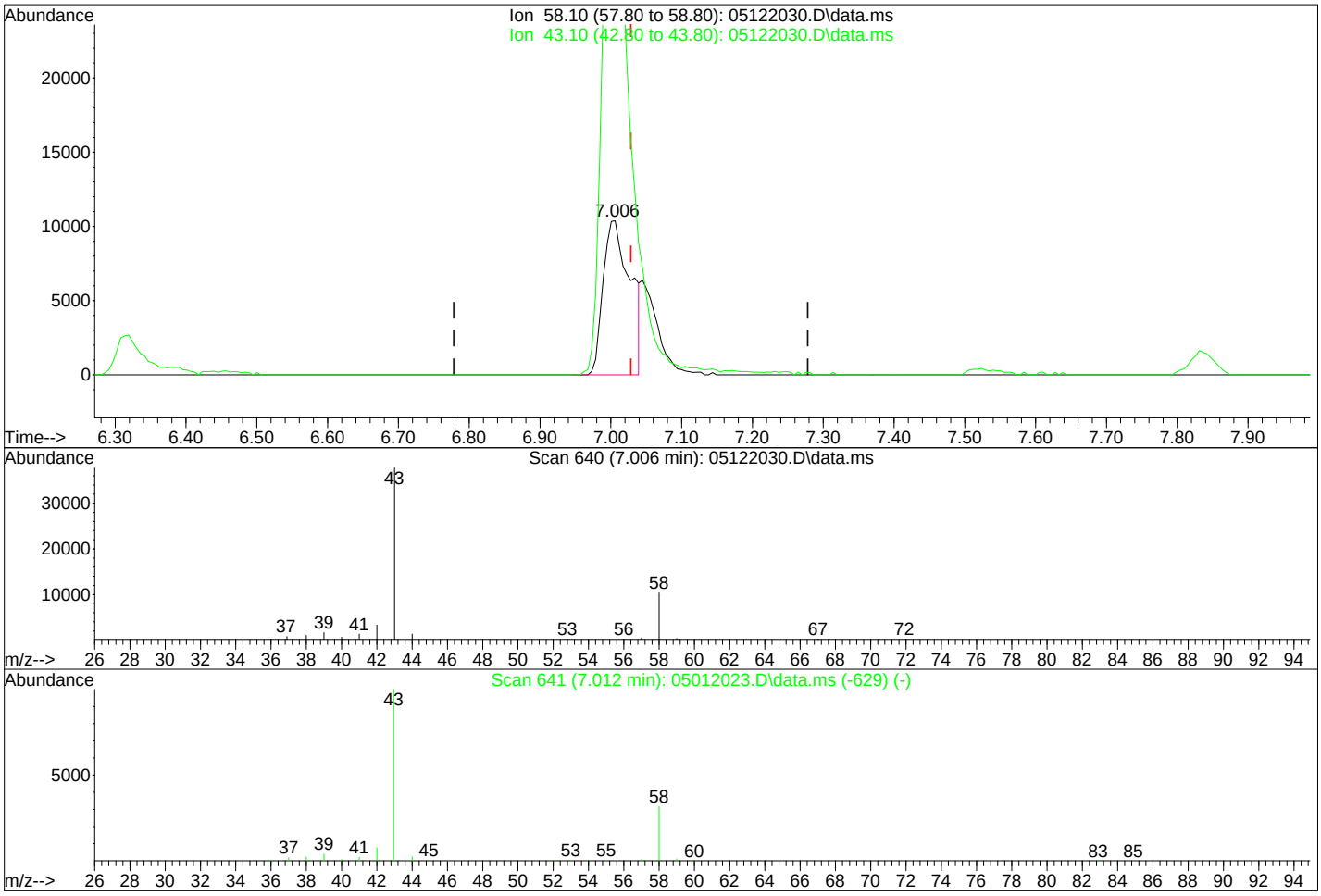
response 37971

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	266.57#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\12\05122030.D Vial: 10
Acq On : 12 May 2020 18:50 Operator: WA
Sample : P2002300-017 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 05:59:34 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05122030.D\data.ms

(13) Acetone (T)

7.006min (-0.022) 1.20ng m

response 27465

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	368.54#
0.00	0.00	0.00
0.00	0.00	0.00

IPC

LH 5/13/20

5/14/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122031.D Vial: 11
Acq On : 12 May 2020 19:25 Operator: WA
Sample : P2002300-018 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 17:10:17 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/13/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	256587	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1118753	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	506502	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	412365	11.859	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.88%				
57) Toluene-d8 (SS2)	15.71	98	1084500	12.632	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.04%				
73) Bromofluorobenzene (SS3)	18.97	174	410539	13.290	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.32%				
Target Compounds							Qvalue
2) Propene	4.10	42	7036	0.237	ng		94
3) Dichlorodifluoromethan...	4.27	85	45647	0.785	ng		99
4) Chloromethane	4.54	50	2614	0.057	ng		93
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	524	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.32	45	15059	0.656	ng		91
11) Acetonitrile	6.60	41	1428	N.D.			
12) Acrolein	6.80	56	1256	0.069	ng		98
13) Acetone	7.02	58	12384	0.540	ng	#	35
14) Trichlorofluoromethane	7.24	101	5458	0.106	ng		95
15) 2-Propanol (Isopropanol)	7.53	45	3377	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.44	59	1420	N.D.			
19) Methylene Chloride	8.39	84	244	N.D.			
20) 3-Chloro-1-propene (Al...	8.44	41	111	N.D.			
21) Trichlorotrifluoroethane	8.84	151	10136	0.418	ng		95
22) Carbon Disulfide	8.67	76	207627	1.942	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.09	73	662	N.D.			
26) Vinyl Acetate	10.17	86	352	N.D.			
27) 2-Butanone (MEK)	10.49	72	1275	0.065	ng	#	73
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.30	87	312	N.D.			
30) Ethyl Acetate	11.28	61	104	N.D.			
31) n-Hexane	11.26	57	8396	0.172	ng		98
32) Chloroform	11.30	83	4786	0.094	ng		100
34) Tetrahydrofuran (THF)	11.75	72	5166	0.271	ng		97
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D. d			
41) Benzene	12.87	78	31828	0.265	ng		99
42) Carbon Tetrachloride	13.03	117	10478	0.257	ng		99
43) Cyclohexane	13.16	84	3325	0.074	ng		97
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D. d			
46) Bromodichloromethane	13.85	83	239	N.D.			
47) Trichloroethene	13.96	130	53359	1.721	ng		100
48) 1,4-Dioxane	13.97	88	186	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d			
50) Methyl Methacrylate	0.00	100	0	N.D. d			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122031.D Vial: 11
Acq On : 12 May 2020 19:25 Operator: WA
Sample : P2002300-018 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 17:10:17 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

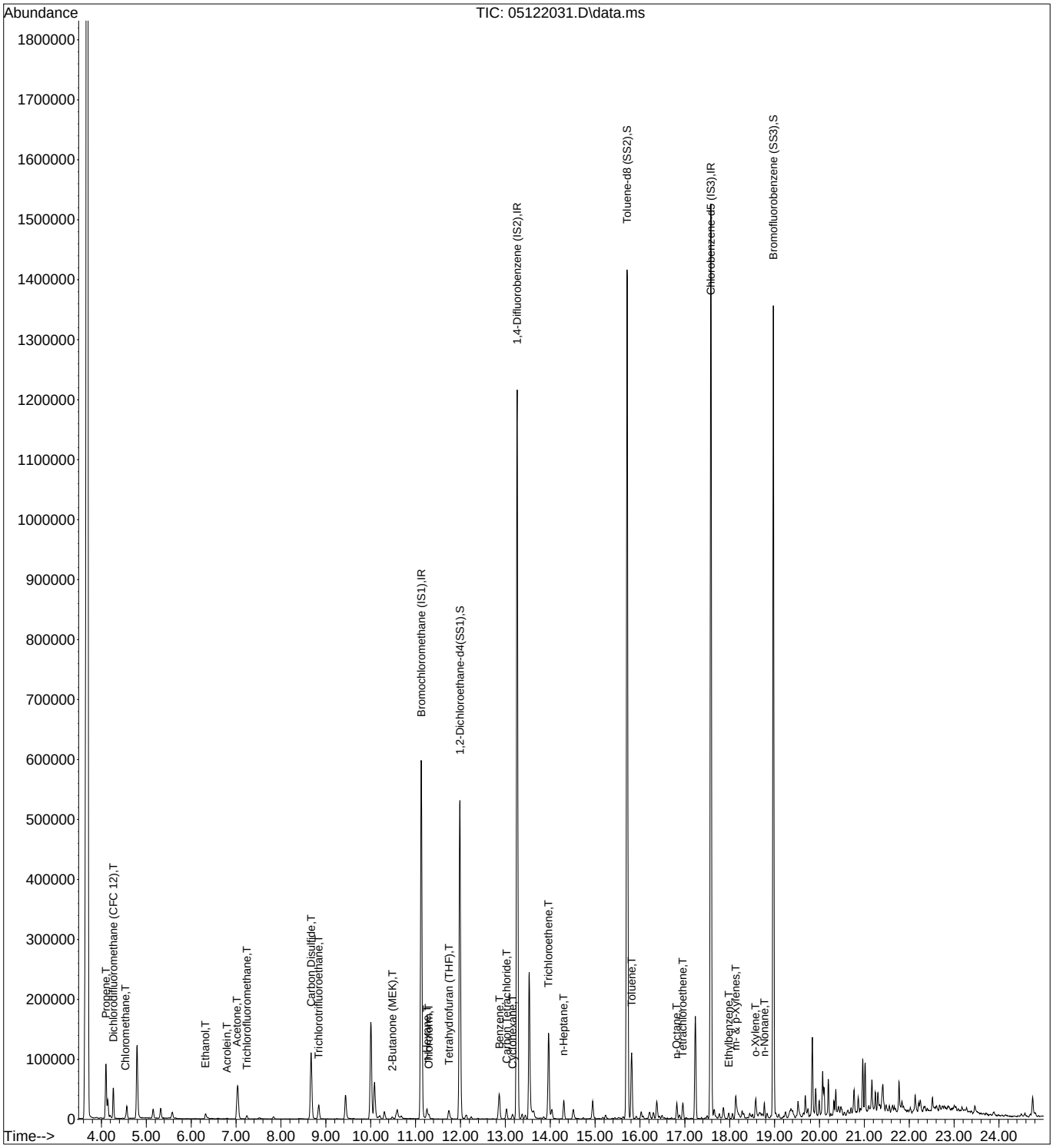
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.30	71	7940	0.283 ng	96
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.82	91	90281	0.816 ng	100
59) 2-Hexanone	16.07	43	2651	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.70	43	949	N.D.	
63) n-Octane	16.82	57	5082	0.222 ng	99
64) Tetrachloroethene	16.95	166	8852	0.283 ng	98
65) Chlorobenzene	17.65	112	1311	N.D.	
66) Ethylbenzene	17.98	91	7264	0.059 ng	97
67) m- & p-Xylenes	18.14	91	27475	0.281 ng	99
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.46	104	431	N.D.	
70) o-Xylene	18.57	91	9139	0.092 ng	99
71) n-Nonane	18.77	43	8925	0.169 ng	98
72) 1,1,2,2-Tetrachloroethane	18.63	83	632	N.D.	
74) Cumene	19.10	105	1274	N.D.	
75) alpha-Pinene	19.53	93	575	N.D.	
76) n-Propylbenzene	19.55	91	3494	N.D.	
77) 3-Ethyltoluene	19.64	105	2897	N.D.	
78) 4-Ethyltoluene	19.68	105	1475	N.D.	
79) 1,3,5-Trimethylbenzene	19.74	105	2340	N.D.	
80) alpha-Methylstyrene	19.88	118	2346	N.D.	
81) 2-Ethyltoluene	19.91	105	1335	N.D.	
82) 1,2,4-Trimethylbenzene	20.10	105	4727	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.20	91	603	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	20.35	105	1076	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	699	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	2318	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.62	68	867	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.24	180	322	N.D.	
95) Naphthalene	22.21	128	2534	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.10	119	692	N.D.	
100) n-Butylbenzene	20.86	91	2375	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122031.D Vial: 11
Acq On : 12 May 2020 19:25 Operator: WA
Sample : P2002300-018 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 17:10:17 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122031.D Vial: 11
Acq On : 12 May 2020 19:25 Operator: WA
Sample : P2002300-018 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 17:10:17 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/13/20

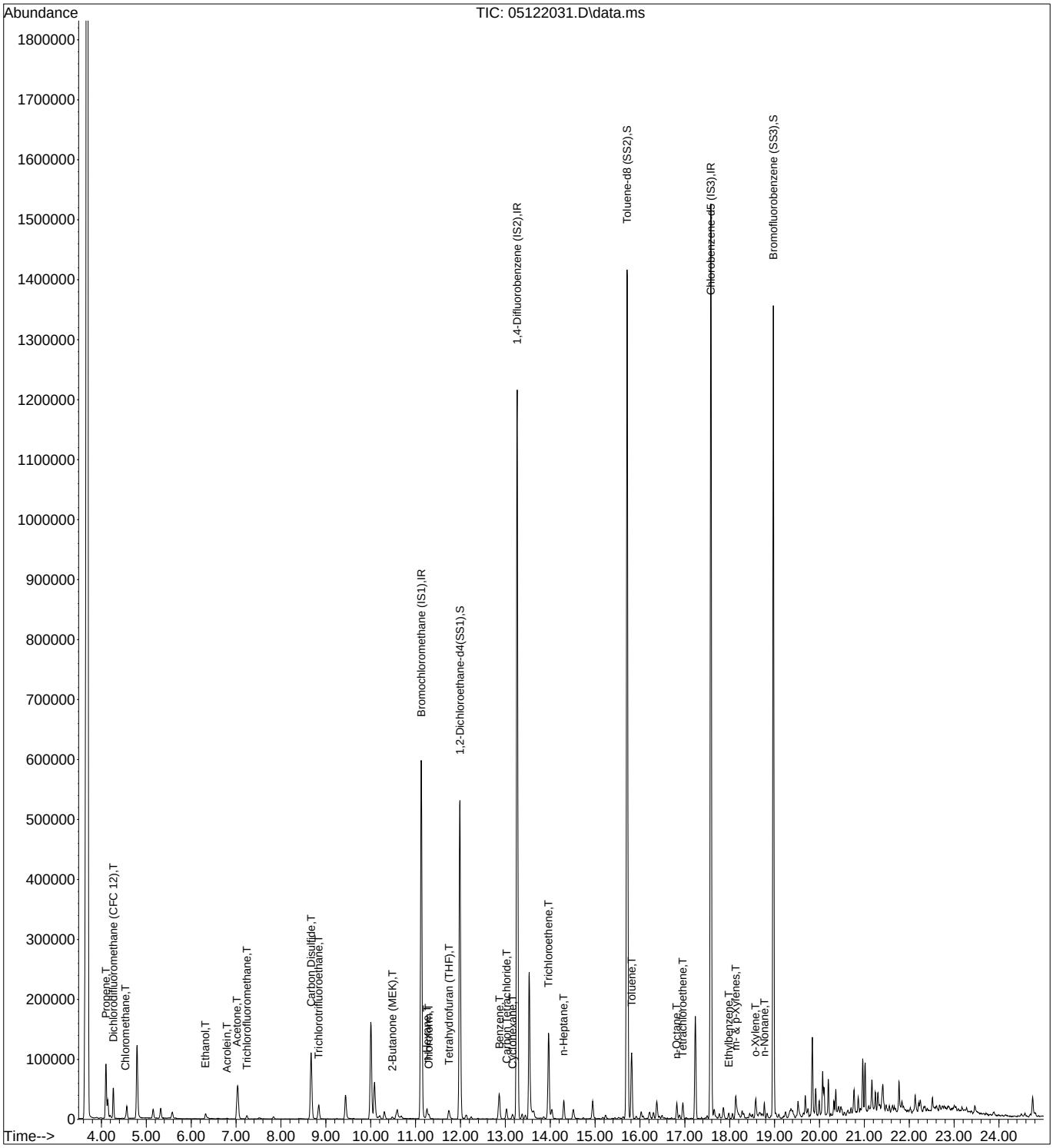
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	256587	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1118753	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	506502	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	412365	11.859	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.88%				
57) Toluene-d8 (SS2)	15.71	98	1084500	12.632	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.04%				
73) Bromofluorobenzene (SS3)	18.97	174	410539	13.290	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.32%				
Target Compounds							Qvalue
2) Propene	4.10	42	7036	0.237	ng		94
3) Dichlorodifluoromethan...	4.27	85	45647	0.785	ng		99
4) Chloromethane	4.54	50	2614	0.057	ng		93
10) Ethanol	6.32	45	15059	0.656	ng		91
12) Acrolein	6.80	56	1256	0.069	ng		98
13) Acetone	7.02	58	12384	0.540	ng	#	35
14) Trichlorofluoromethane	7.24	101	5458	0.106	ng		95
21) Trichlorotrifluoroethane	8.84	151	10136	0.418	ng		95
22) Carbon Disulfide	8.67	76	207627	1.942	ng		99
27) 2-Butanone (MEK)	10.49	72	1275	0.065	ng	#	73
31) n-Hexane	11.26	57	8396	0.172	ng		98
32) Chloroform	11.30	83	4786	0.094	ng		100
34) Tetrahydrofuran (THF)	11.75	72	5166	0.271	ng		97
41) Benzene	12.87	78	31828	0.265	ng		99
42) Carbon Tetrachloride	13.03	117	10478	0.257	ng		99
43) Cyclohexane	13.16	84	3325	0.074	ng		97
47) Trichloroethene	13.96	130	53359	1.721	ng		100
51) n-Heptane	14.30	71	7940	0.283	ng		96
58) Toluene	15.82	91	90281	0.816	ng		100
63) n-Octane	16.82	57	5082	0.222	ng		99
64) Tetrachloroethene	16.95	166	8852	0.283	ng		98
66) Ethylbenzene	17.98	91	7264	0.059	ng		97
67) m- & p-Xylenes	18.14	91	27475	0.281	ng		99
70) o-Xylene	18.57	91	9139	0.092	ng		99
71) n-Nonane	18.77	43	8925	0.169	ng		98

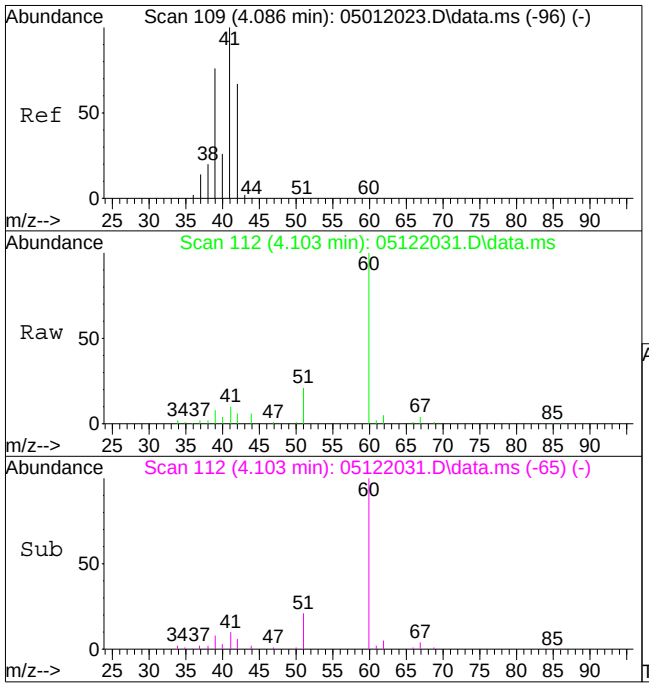
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122031.D Vial: 11
Acq On : 12 May 2020 19:25 Operator: WA
Sample : P2002300-018 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 17:10:17 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

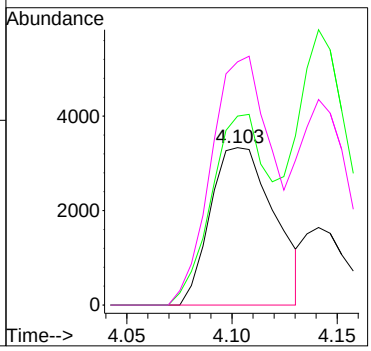


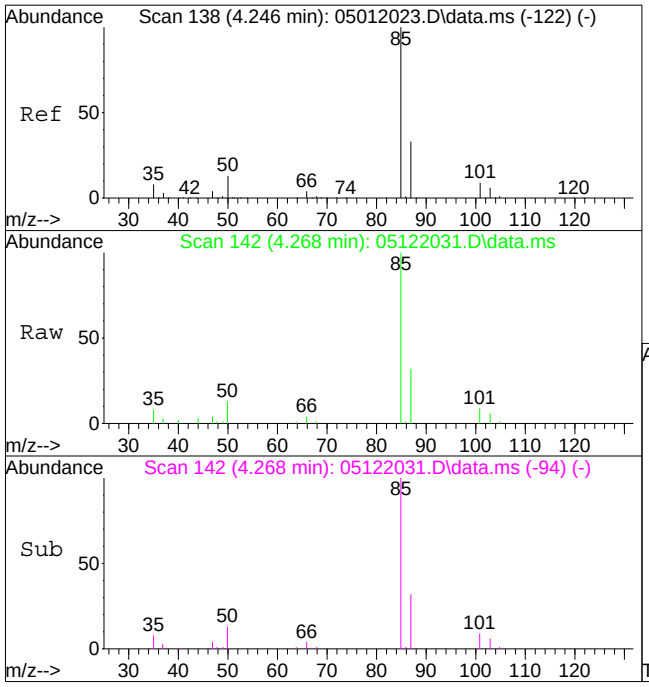


#2
Propene
Concen: 0.24 ng
RT: 4.10 min Scan# 112
Delta R.T. 0.011 min
Lab File: 05122031.D
Acq: 12 May 2020 19:25

Tgt Ion: 42 Resp: 7036

Ion	Ratio	Lower	Upper
42	100		
39	104.6	96.1	136.1
41	148.5	131.9	171.9

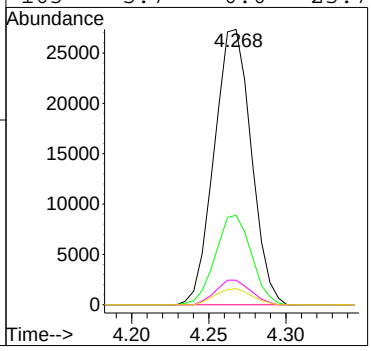


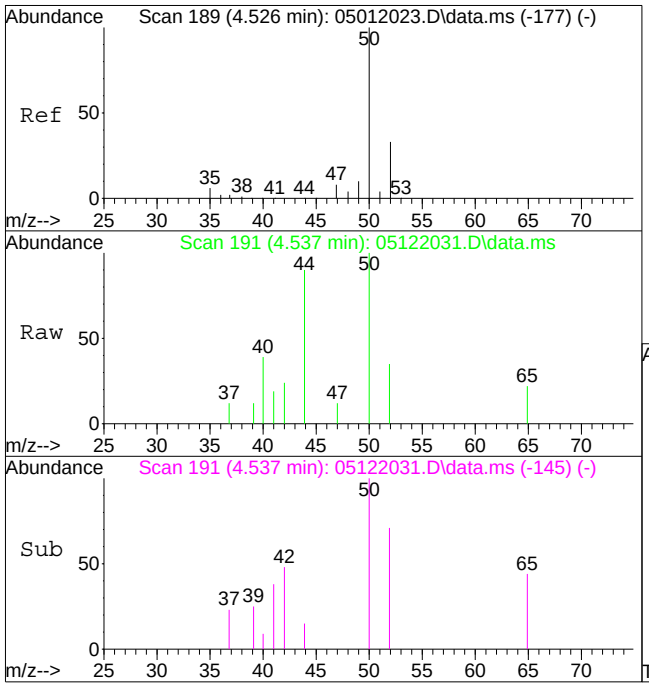


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.79 ng
RT: 4.27 min Scan# 142
Delta R.T. 0.016 min
Lab File: 05122031.D
Acq: 12 May 2020 19:25

Tgt Ion: 85 Resp: 45647

Ion	Ratio	Lower	Upper
85	100		
87	31.7	12.4	52.4
101	8.5	0.0	28.8
103	5.7	0.0	25.7

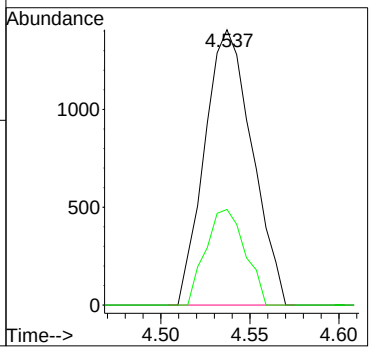


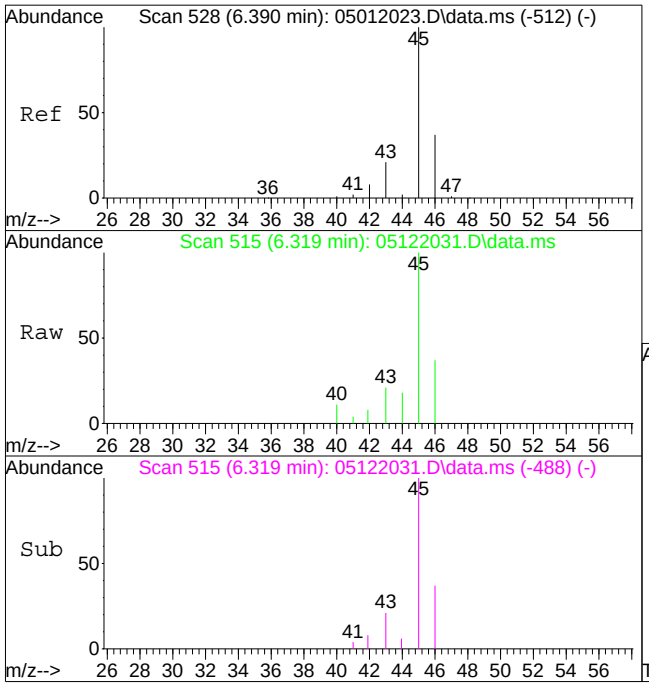


#4
Chloromethane
Concen: 0.06 ng
RT: 4.54 min Scan# 191
Delta R.T. 0.005 min
Lab File: 05122031.D
Acq: 12 May 2020 19:25

Tgt Ion: 50 Resp: 2614

Ion	Ratio	Lower	Upper
50	100		
52	28.8	12.5	52.5

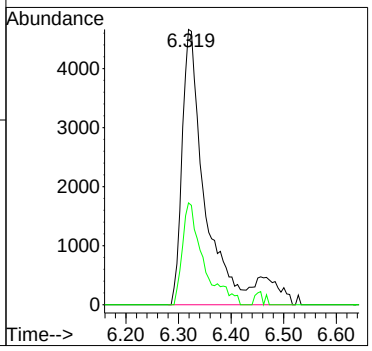


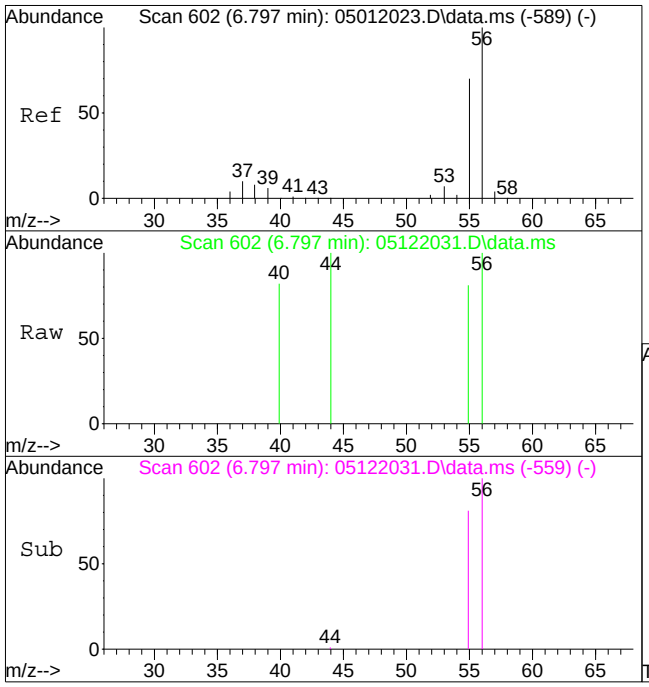


#10
Ethanol
Concen: 0.66 ng
RT: 6.32 min Scan# 515
Delta R.T. -0.099 min
Lab File: 05122031.D
Acq: 12 May 2020 19:25

Tgt Ion: 45 Resp: 15059

Ion	Ratio	Lower	Upper
45	100		
46	31.7	17.2	57.2

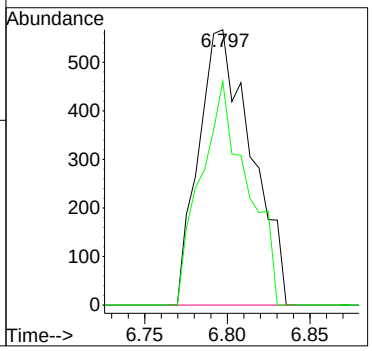


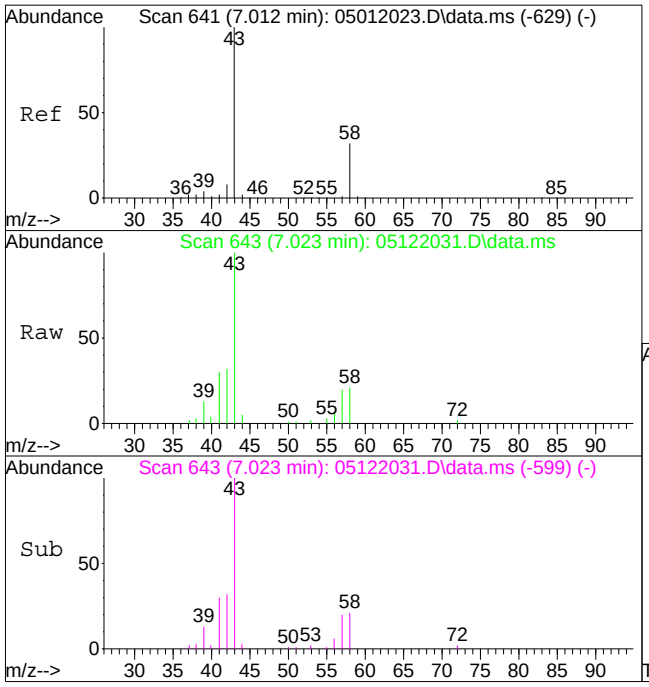


#12
Acrolein
Concen: 0.07 ng
RT: 6.80 min Scan# 602
Delta R.T. -0.011 min
Lab File: 05122031.D
Acq: 12 May 2020 19:25

Tgt Ion: 56 Resp: 1256

Ion	Ratio	Lower	Upper
56	100		
55	71.6	50.2	90.2

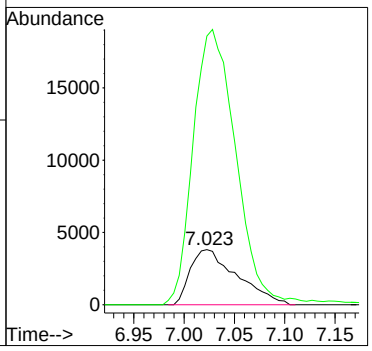


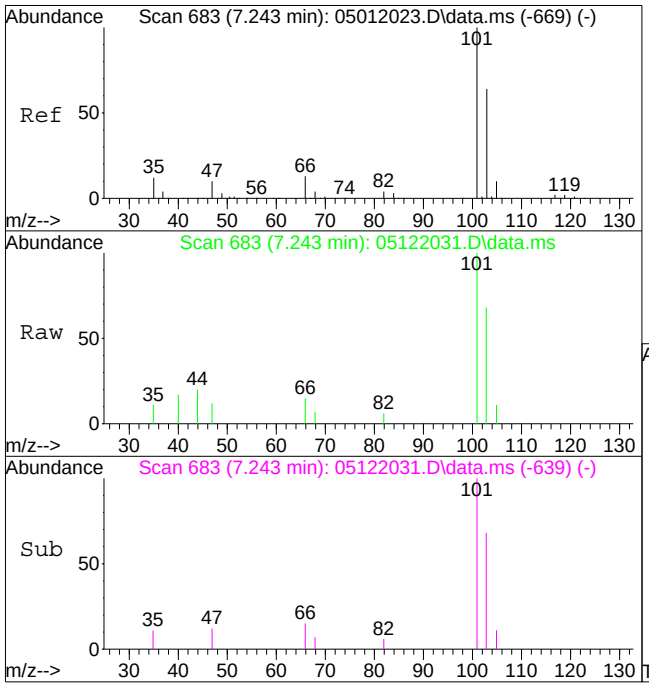


#13
Acetone
Concen: 0.54 ng
RT: 7.02 min Scan# 643
Delta R.T. -0.006 min
Lab File: 05122031.D
Acq: 12 May 2020 19:25

Tgt Ion: 58 Resp: 12384

Ion	Ratio	Lower	Upper
58	100		
43	458.0	294.4	354.4#

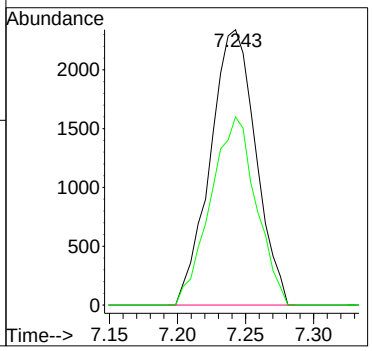


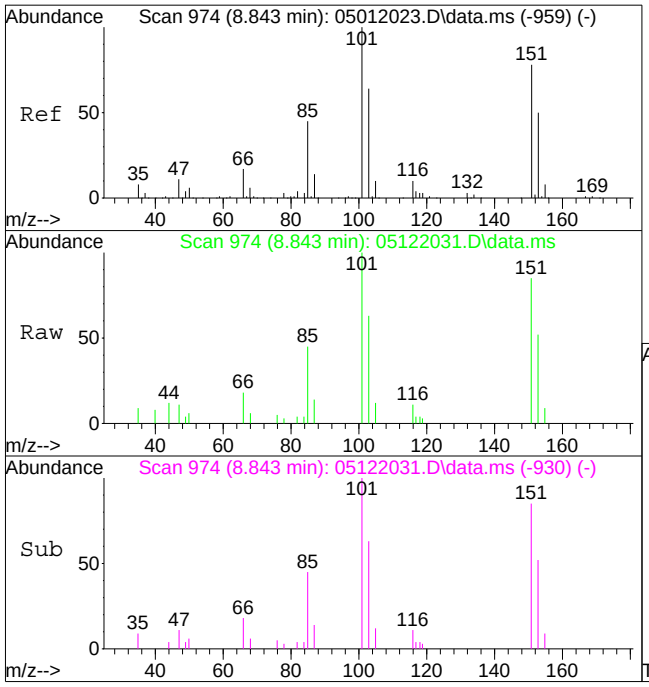


#14
Trichlorofluoromethane
Concen: 0.11 ng
RT: 7.24 min Scan# 683
Delta R.T. -0.006 min
Lab File: 05122031.D
Acq: 12 May 2020 19:25

Tgt Ion:101 Resp: 5458

Ion	Ratio	Lower	Upper
101	100		
103	68.2	44.4	84.4

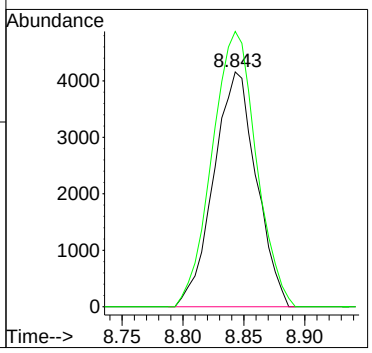


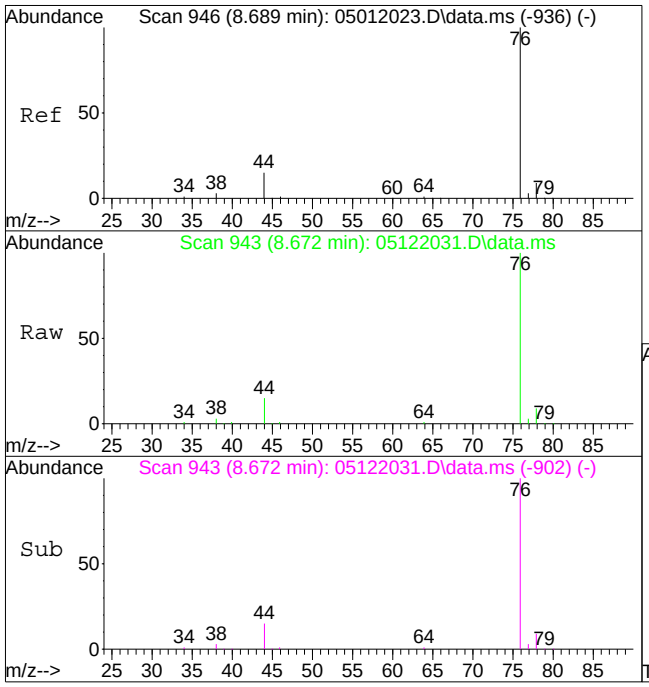


#21
Trichlorotrifluoroethane
Concen: 0.42 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05122031.D
Acq: 12 May 2020 19:25

Tgt Ion:151 Resp: 10136

Ion	Ratio	Lower	Upper
151	100		
101	121.3	107.3	147.3

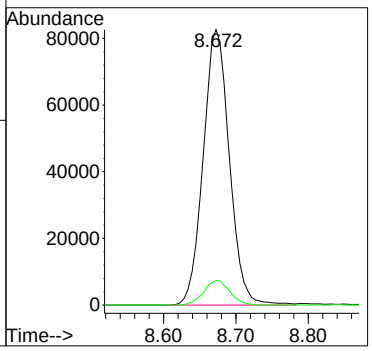


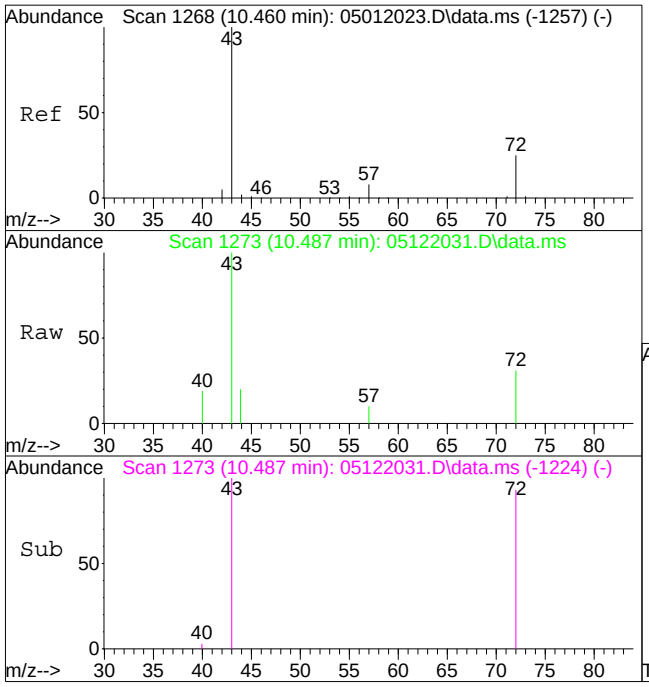


#22
Carbon Disulfide
Concen: 1.94 ng
RT: 8.67 min Scan# 943
Delta R.T. -0.022 min
Lab File: 05122031.D
Acq: 12 May 2020 19:25

Tgt Ion: 76 Resp: 207627

Ion	Ratio	Lower	Upper
76	100		
78	8.8	0.0	29.2

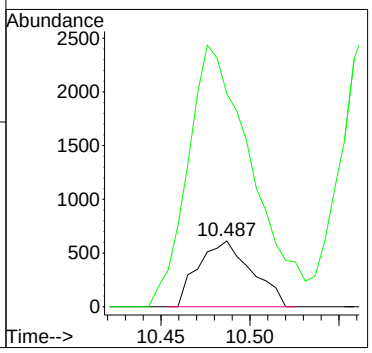


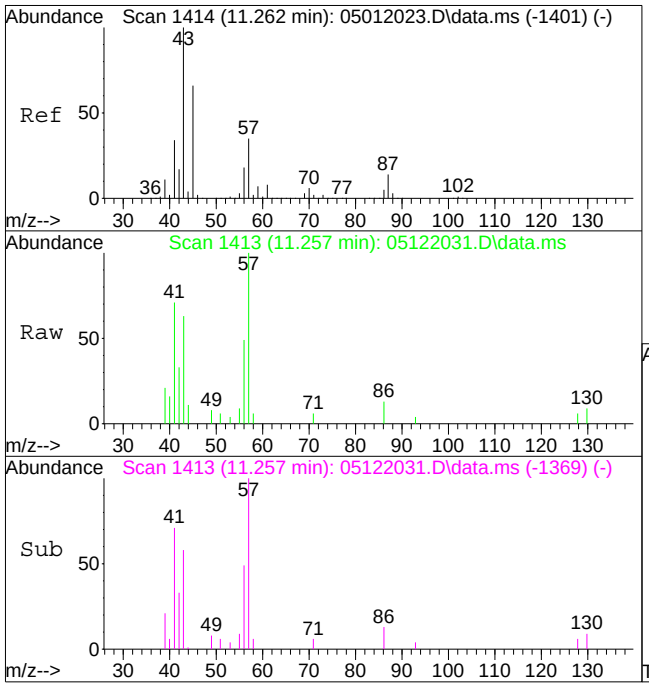


#27
2-Butanone (MEK)
Concen: 0.07 ng
RT: 10.49 min Scan# 1273
Delta R.T. 0.022 min
Lab File: 05122031.D
Acq: 12 May 2020 19:25

Tgt Ion: 72 Resp: 1275

Ion	Ratio	Lower	Upper
72	100		
43	475.2	389.7	429.7#

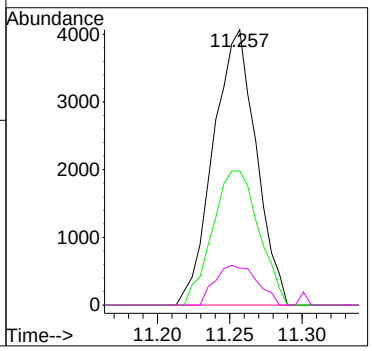


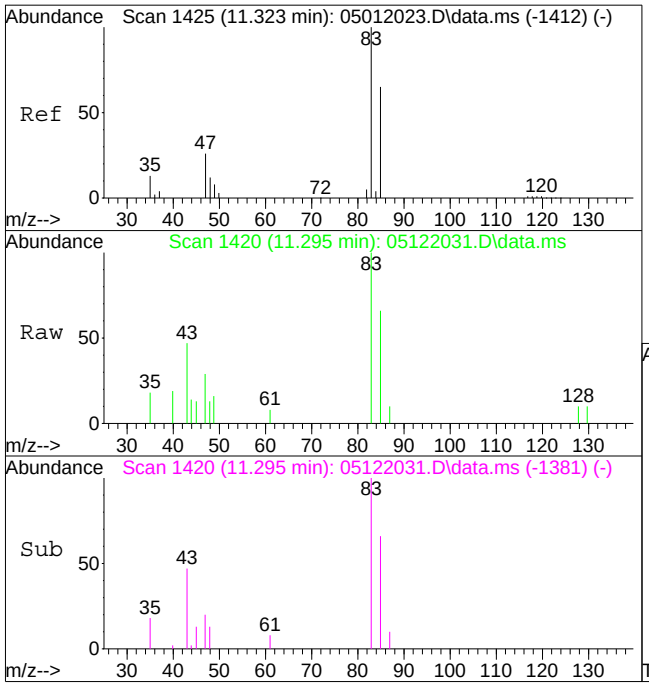


#31
n-Hexane
Concen: 0.17 ng
RT: 11.26 min Scan# 1413
Delta R.T. -0.006 min
Lab File: 05122031.D
Acq: 12 May 2020 19:25

Tgt Ion: 57 Resp: 8396

Ion	Ratio	Lower	Upper
57	100		
56	52.6	41.4	62.0
86	14.2	12.4	18.6

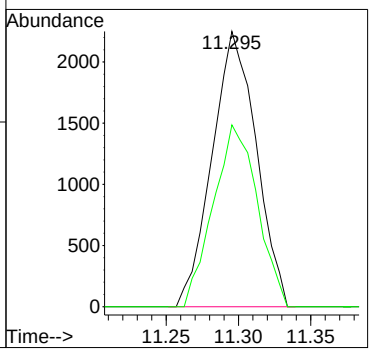


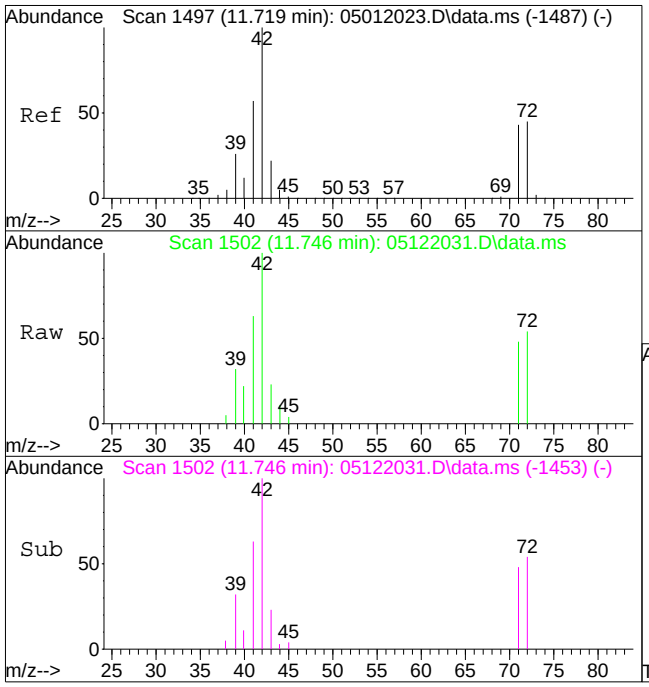


#32
Chloroform
Concen: 0.09 ng
RT: 11.30 min Scan# 1420
Delta R.T. -0.033 min
Lab File: 05122031.D
Acq: 12 May 2020 19:25

Tgt Ion: 83 Resp: 4786

Ion	Ratio	Lower	Upper
83	100		
85	65.8	45.5	85.5

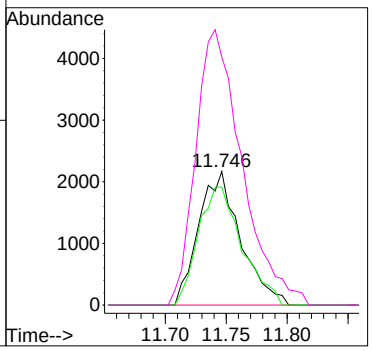


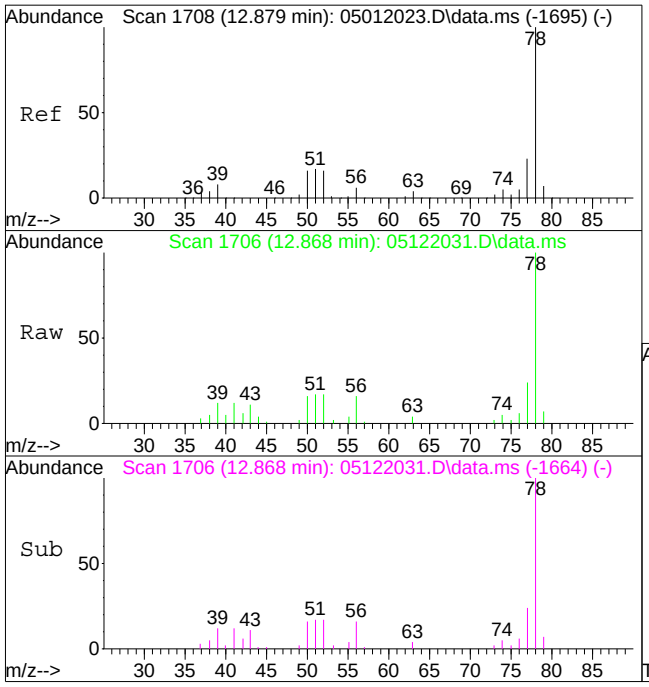


#34
Tetrahydrofuran (THF)
Concen: 0.27 ng
RT: 11.75 min Scan# 1502
Delta R.T. 0.022 min
Lab File: 05122031.D
Acq: 12 May 2020 19:25

Tgt Ion: 72 Resp: 5166

Ion	Ratio	Lower	Upper
72	100		
71	92.6	77.0	117.0
42	228.5	204.6	244.6

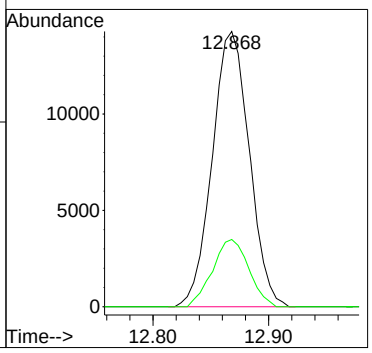


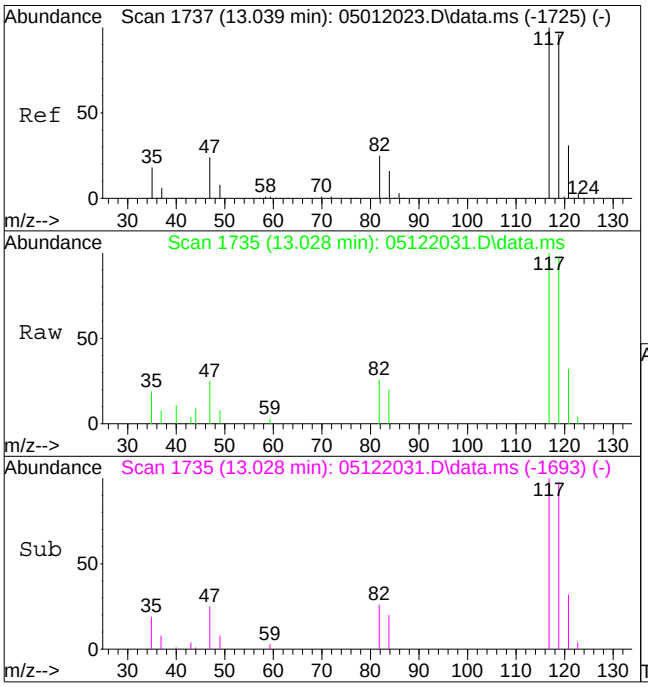


#41
Benzene
Concen: 0.27 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05122031.D
Acq: 12 May 2020 19:25

Tgt Ion: 78 Resp: 31828

Ion	Ratio	Lower	Upper
78	100		
77	23.9	3.4	43.4

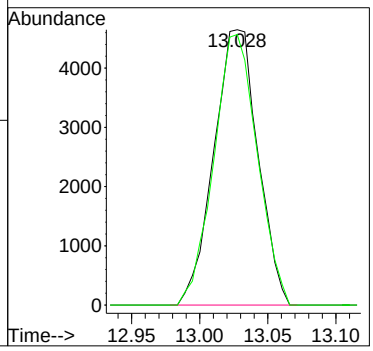


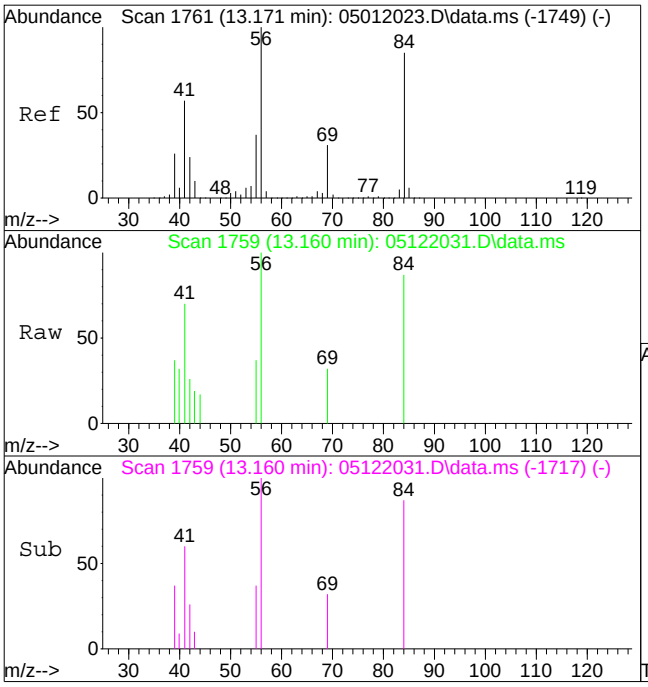


#42
Carbon Tetrachloride
Concen: 0.26 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05122031.D
Acq: 12 May 2020 19:25

Tgt Ion:117 Resp: 10478

Ion	Ratio	Lower	Upper
117	100		
119	96.9	76.2	116.2

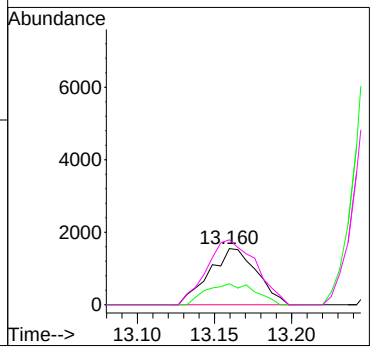


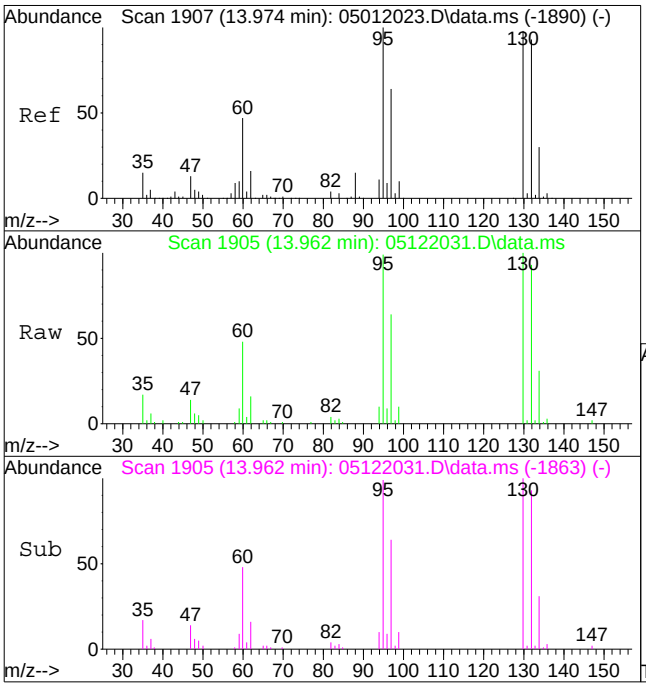


#43
Cyclohexane
Concen: 0.07 ng
RT: 13.16 min Scan# 1759
Delta R.T. -0.017 min
Lab File: 05122031.D
Acq: 12 May 2020 19:25

Tgt Ion: 84 Resp: 3325

Ion	Ratio	Lower	Upper
84	100		
69	38.8	16.5	56.5
56	120.1	97.4	137.4

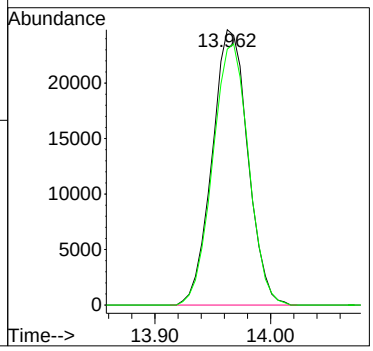


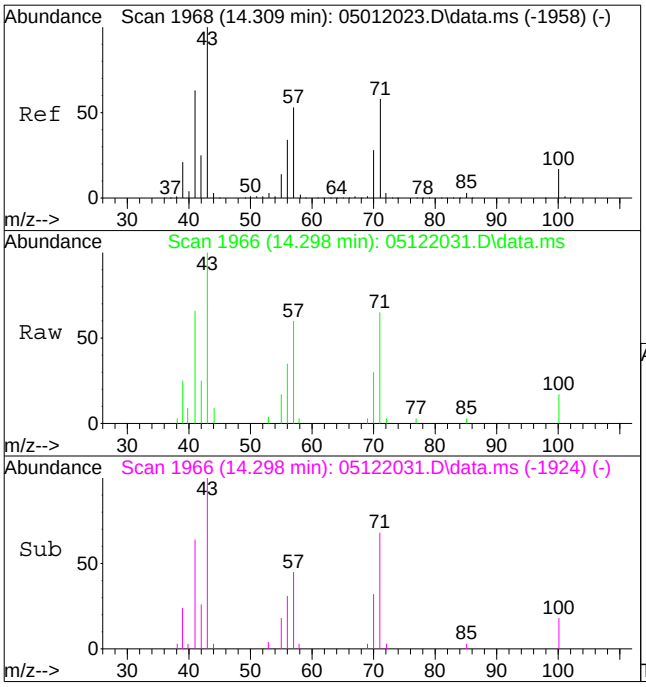


#47
Trichloroethene
Concen: 1.72 ng
RT: 13.96 min Scan# 1905
Delta R.T. -0.017 min
Lab File: 05122031.D
Acq: 12 May 2020 19:25

Tgt Ion:130 Resp: 53359

Ion	Ratio	Lower	Upper
130	100		
132	95.2	74.9	114.9

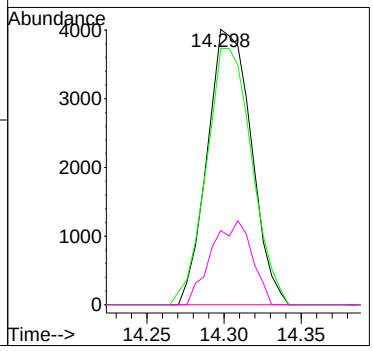


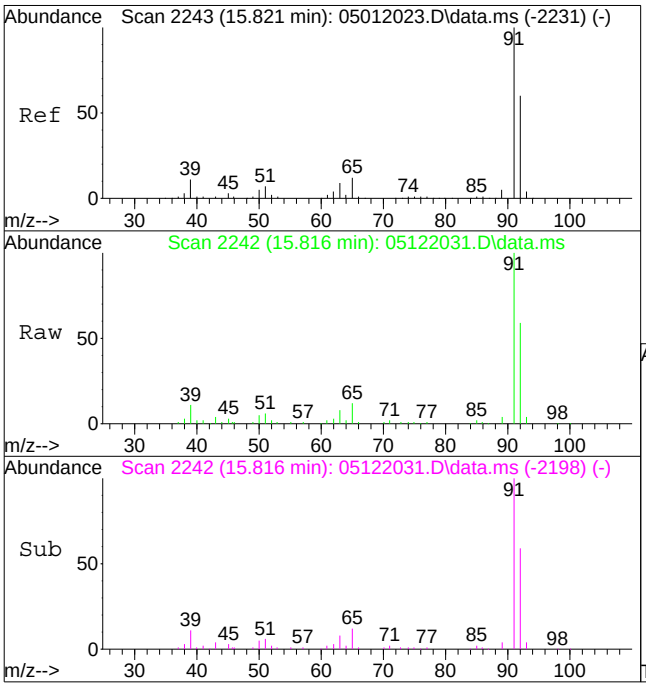


#51
n-Heptane
Concen: 0.28 ng
RT: 14.30 min Scan# 1966
Delta R.T. -0.017 min
Lab File: 05122031.D
Acq: 12 May 2020 19:25

Tgt Ion: 71 Resp: 7940

Ion	Ratio	Lower	Upper
71	100		
57	96.4	71.0	111.0
100	28.2	8.4	48.4

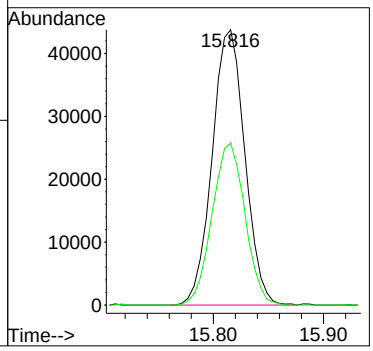


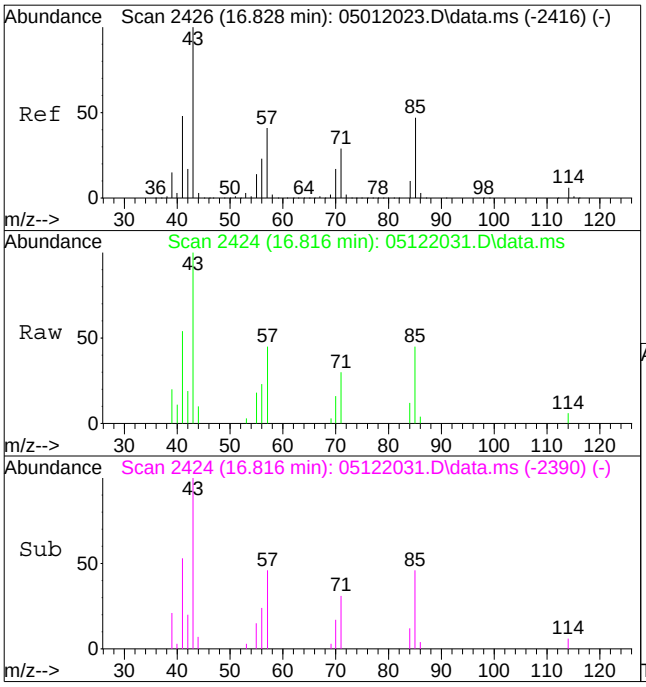


#58
Toluene
Concen: 0.82 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05122031.D
Acq: 12 May 2020 19:25

Tgt Ion: 91 Resp: 90281

Ion	Ratio	Lower	Upper
91	100		
92	59.1	39.4	79.4

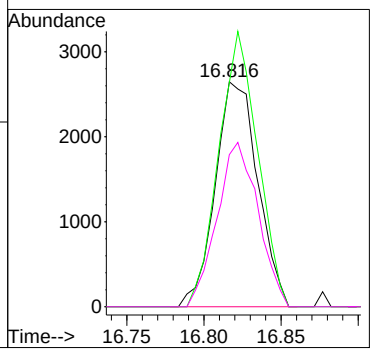


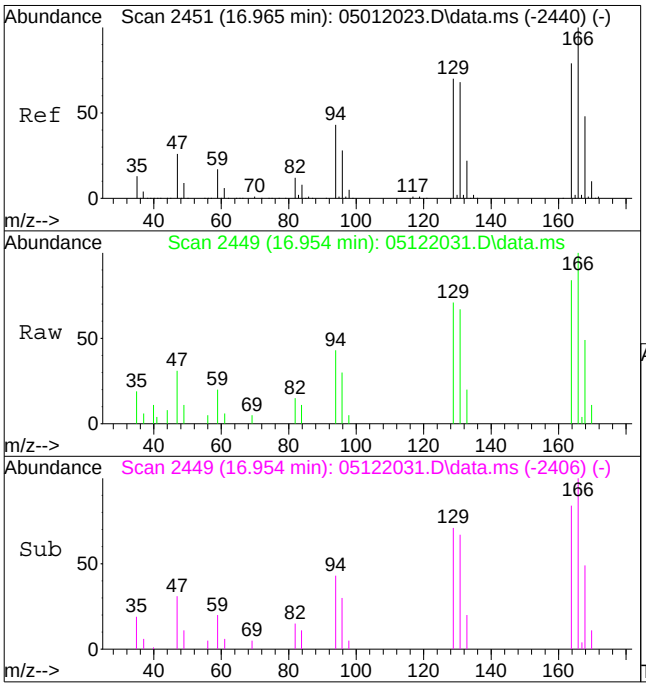


#63
n-Octane
Concen: 0.22 ng
RT: 16.82 min Scan# 2424
Delta R.T. -0.011 min
Lab File: 05122031.D
Acq: 12 May 2020 19:25

Tgt Ion: 57 Resp: 5082

Ion	Ratio	Lower	Upper
57	100		
85	111.5	91.0	136.4
71	70.4	56.2	84.2

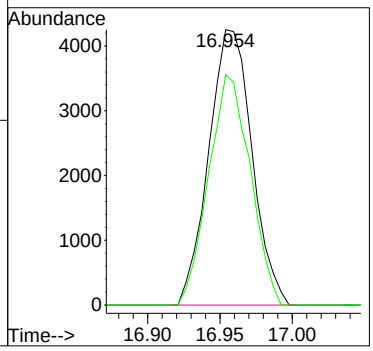


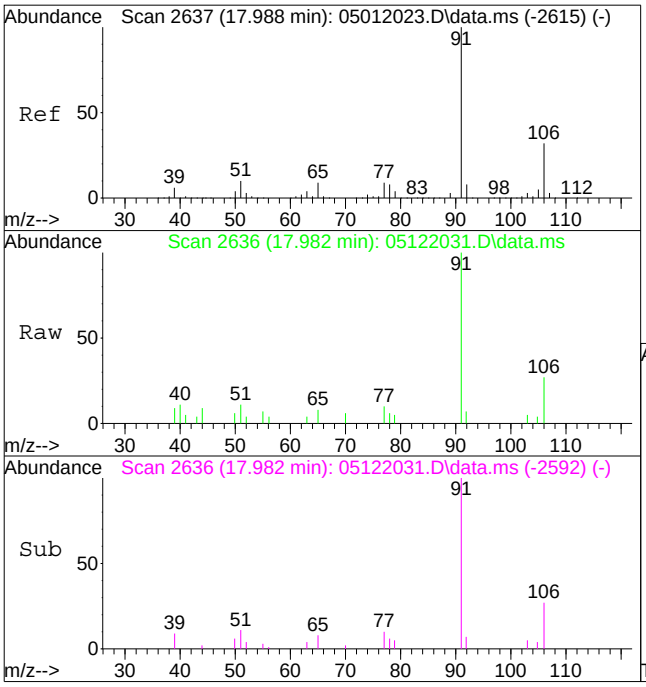


#64
Tetrachloroethene
Concen: 0.28 ng
RT: 16.95 min Scan# 2449
Delta R.T. -0.011 min
Lab File: 05122031.D
Acq: 12 May 2020 19:25

Tgt Ion:166 Resp: 8852

Ion	Ratio	Lower	Upper
166	100		
164	80.5	58.4	98.4

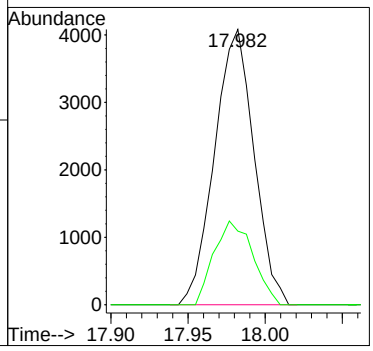


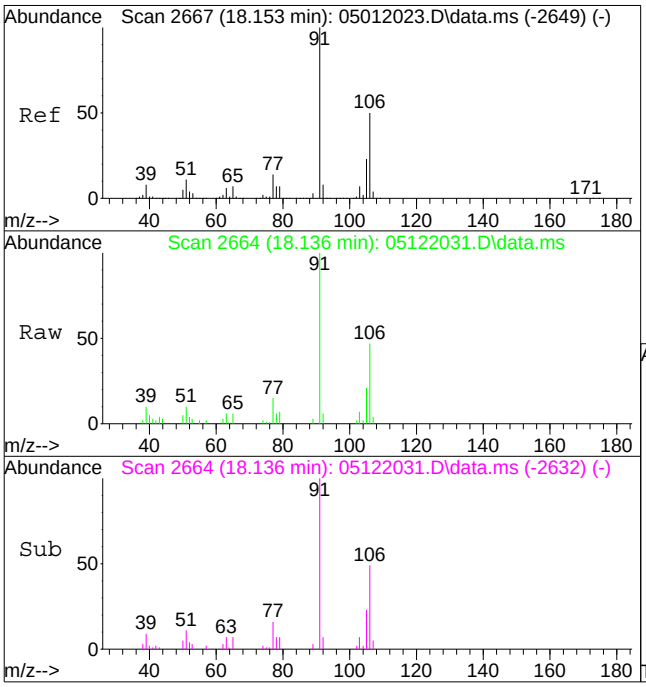


#66
Ethylbenzene
Concen: 0.06 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05122031.D
Acq: 12 May 2020 19:25

Tgt Ion: 91 Resp: 7264

Ion	Ratio	Lower	Upper
91	100		
106	30.0	11.6	51.6

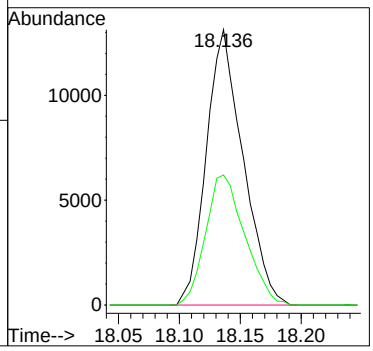


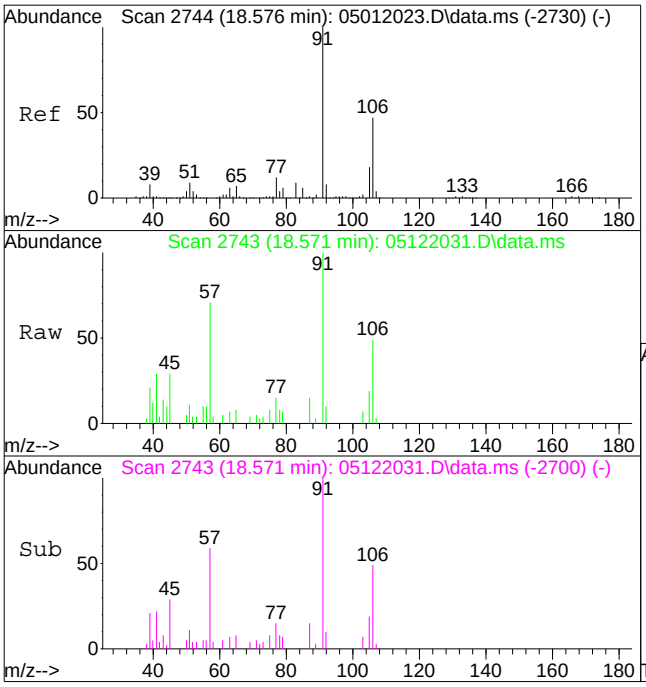


#67
m- & p-Xylenes
Concen: 0.28 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05122031.D
Acq: 12 May 2020 19:25

Tgt Ion: 91 Resp: 27475

Ion	Ratio	Lower	Upper
91	100		
106	50.4	29.7	69.7

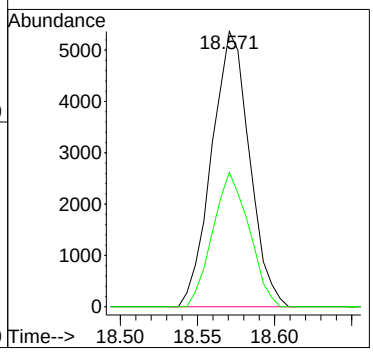


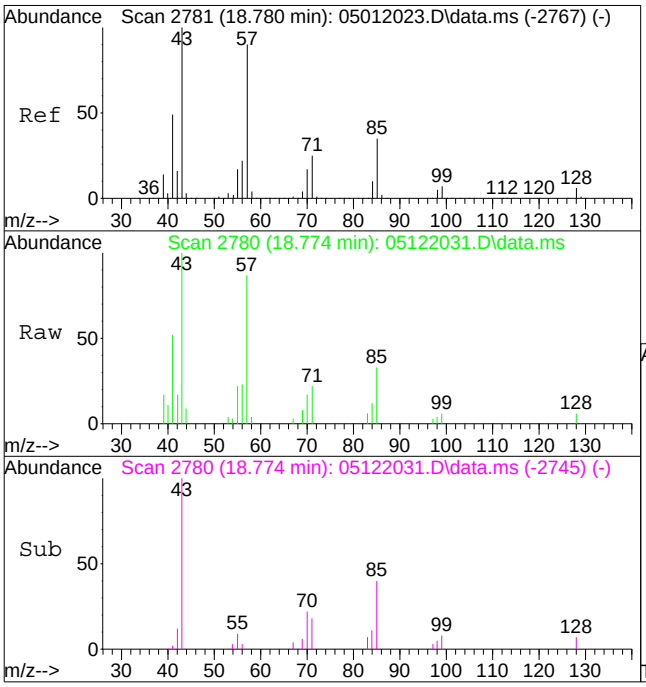


#70
o-Xylene
Concen: 0.09 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05122031.D
Acq: 12 May 2020 19:25

Tgt Ion: 91 Resp: 9139

Ion	Ratio	Lower	Upper
91	100		
106	46.9	27.5	67.5

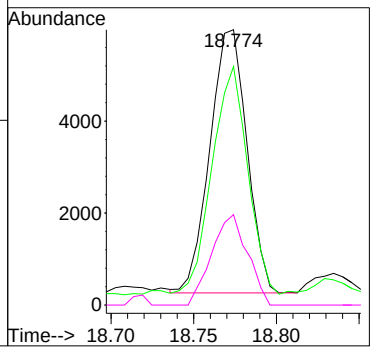




#71
n-Nonane
Concen: 0.17 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05122031.D
Acq: 12 May 2020 19:25

Tgt Ion: 43 Resp: 8925

Ion	Ratio	Lower	Upper
43	100		
57	87.3	69.0	109.0
85	33.1	14.6	54.6



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122023.D Vial: 1
Acq On : 12 May 2020 14:53 Operator: WA
Sample : P2002300-019 (6.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:58:29 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/13/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	270199	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1151776	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	542047	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	424797	11.601	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.80%				
57) Toluene-d8 (SS2)	15.72	98	1174423	12.783	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.24%				
73) Bromofluorobenzene (SS3)	18.98	174	437470	13.233	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.84%				
Target Compounds							Qvalue
2) Propene	4.12	42	15019	0.480	ng	#	82
3) Dichlorodifluoromethan...	4.28	85	1002	N.D.			
4) Chloromethane	4.55	50	6524	0.136	ng		97
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	4.97	62	1221	N.D.			
7) 1,3-Butadiene	5.15	54	985	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.97	64	440	N.D.			
10) Ethanol	6.34	45	2911	0.120	ng		96
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	6.79	56	428	N.D.			
13) Acetone	7.00	58	22037	0.912	ng	#	1
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	7.48	45	43348	0.593	ng		86
16) Acrylonitrile	7.70	53	316	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.41	84	178	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.68	76	75869	0.674	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	9.94	63	672	N.D.			
25) Methyl tert-Butyl Ether	10.07	73	1153	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.46	72	8559	0.415	ng		95
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.26	87	620	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	11.26	57	74369	1.443	ng		99
32) Chloroform	11.30	83	607	N.D.			
34) Tetrahydrofuran (THF)	11.75	72	4195	0.209	ng	#	90
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	1027	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	12.87	56	507	N.D.			
41) Benzene	12.87	78	983419	7.962	ng		100
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	13.17	84	100272	2.179	ng		99
44) tert-Amyl Methyl Ether	13.44	73	394	N.D.			
45) 1,2-Dichloropropane	13.63	63	122	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	13.97	130	1796	0.056	ng		99
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122023.D Vial: 1
Acq On : 12 May 2020 14:53 Operator: WA
Sample : P2002300-019 (6.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:58:29 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

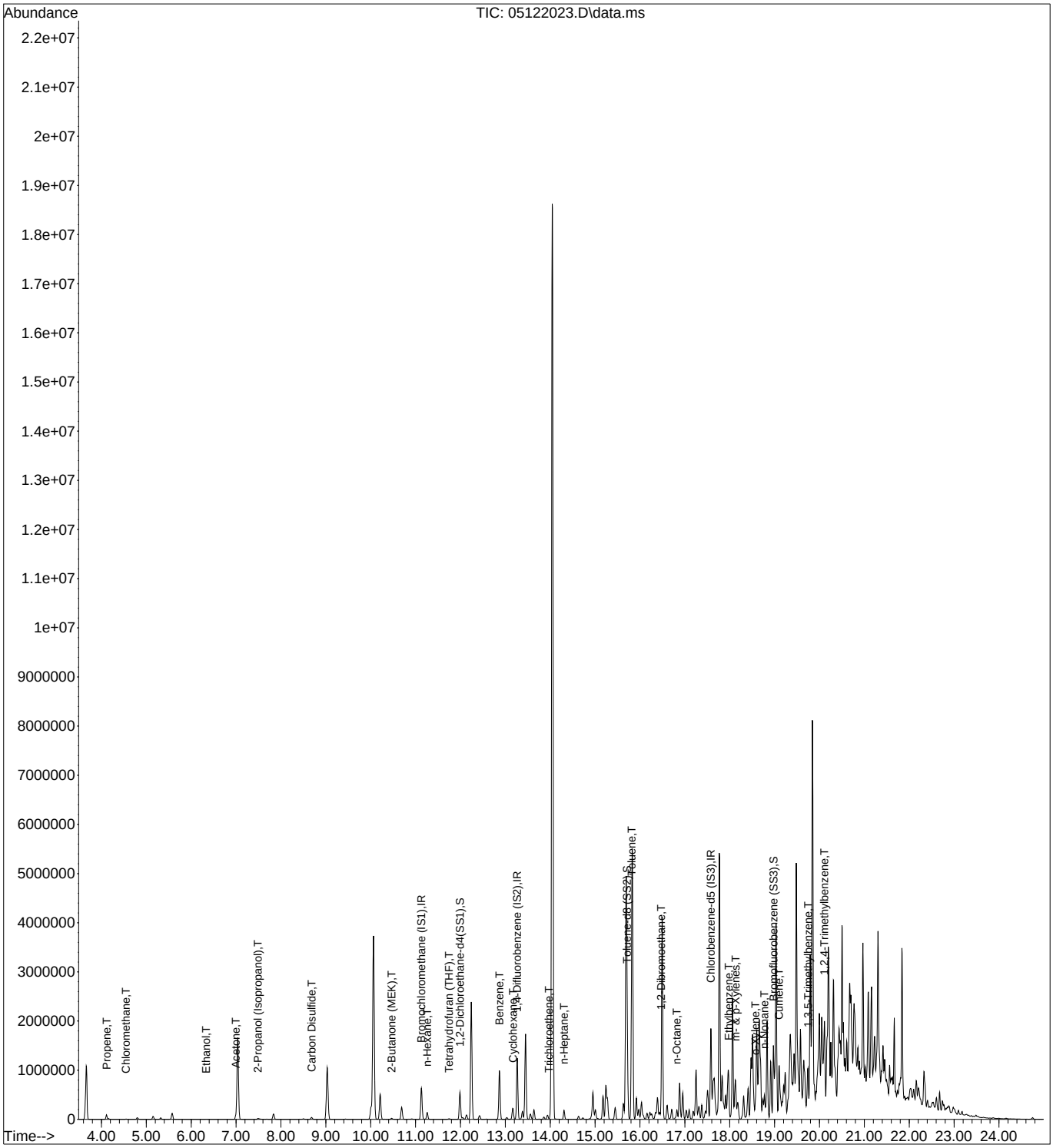
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	46369	1.605 ng	99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	15.13	75	1101	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	15.82	91	1376042	11.619 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	16.48	107	2452	0.075 ng	91
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	16.82	57	36389	1.484 ng	98
64) Tetrachloroethene	16.96	166	111	N.D.	
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	17.98	91	58985	0.447 ng	98
67) m- & p-Xylenes	18.14	91	138086	1.318 ng	100
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	115	N.D.	
70) o-Xylene	18.57	91	114799	1.079 ng	99
71) n-Nonane	18.77	43	149298	2.646 ng	95
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	19.10	105	8355	0.064 ng	96
75) alpha-Pinene	19.43	93	1087	N.D.	
76) n-Propylbenzene	0.00	91	0	N.D. d	
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.68	105	2279	N.D.	
79) 1,3,5-Trimethylbenzene	19.75	105	71395	0.671 ng	98
80) alpha-Methylstyrene	19.88	118	319	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.11	105	11842m	0.111 ng	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	0.00	91	0	N.D. d	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	20.48	119	1257	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.11	180	1480	N.D.	
95) Naphthalene	22.21	128	2789	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	20.80	91	5186	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122023.D Vial: 1
Acq On : 12 May 2020 14:53 Operator: WA
Sample : P2002300-019 (6.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:58:29 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122023.D Vial: 1
Acq On : 12 May 2020 14:53 Operator: WA
Sample : P2002300-019 (6.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:58:29 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/13/20

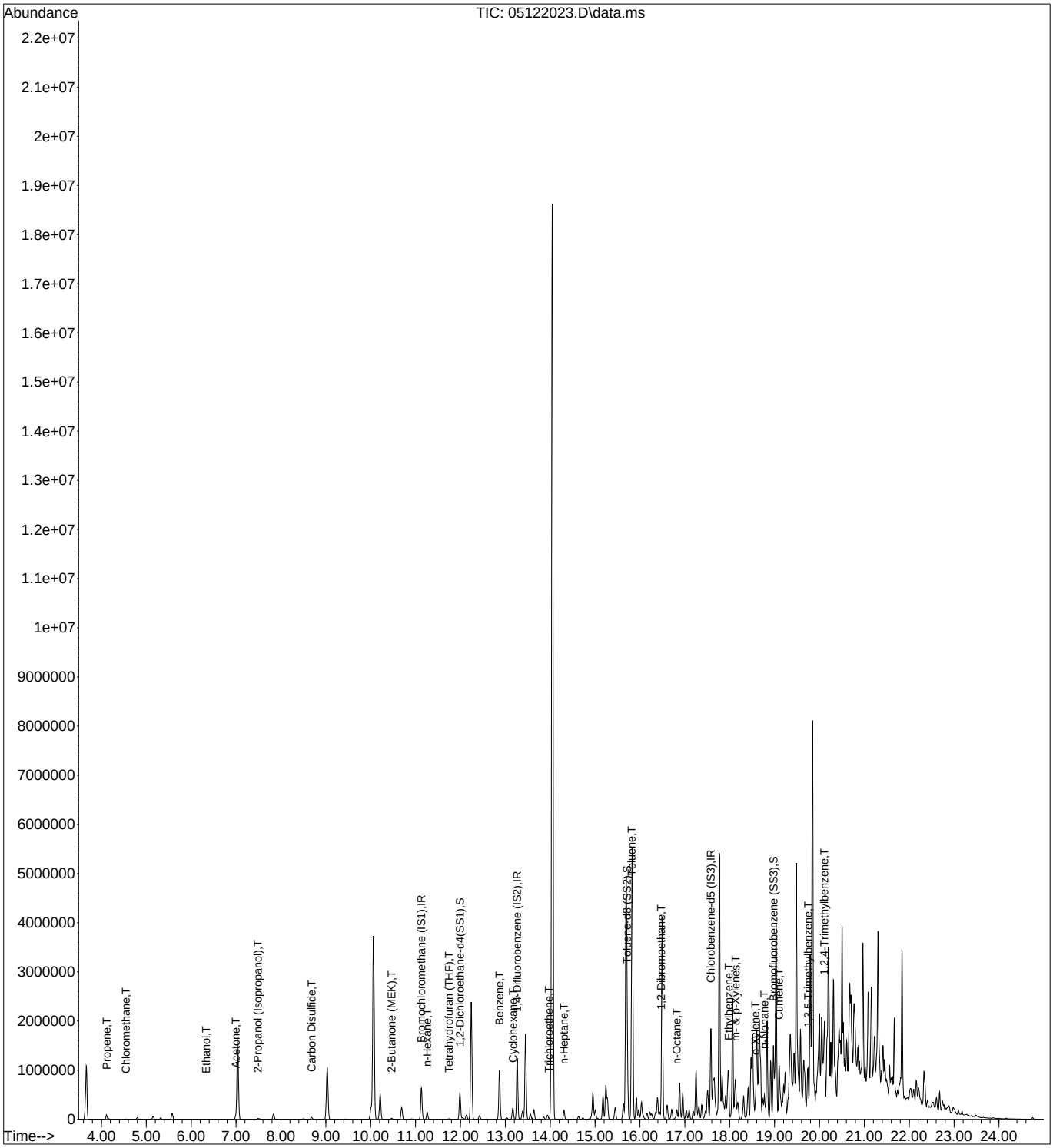
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	270199	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1151776	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	542047	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	424797	11.601	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.80%				
57) Toluene-d8 (SS2)	15.72	98	1174423	12.783	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.24%				
73) Bromofluorobenzene (SS3)	18.98	174	437470	13.233	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.84%				
Target Compounds							Qvalue
2) Propene	4.12	42	15019	0.480	ng	#	82
4) Chloromethane	4.55	50	6524	0.136	ng		97
10) Ethanol	6.34	45	2911	0.120	ng		96
13) Acetone	7.00	58	22037	0.912	ng	#	1
15) 2-Propanol (Isopropanol)	7.48	45	43348	0.593	ng		86
22) Carbon Disulfide	8.68	76	75869	0.674	ng		99
27) 2-Butanone (MEK)	10.46	72	8559	0.415	ng		95
31) n-Hexane	11.26	57	74369	1.443	ng		99
34) Tetrahydrofuran (THF)	11.75	72	4195	0.209	ng	#	90
41) Benzene	12.87	78	983419	7.962	ng		100
43) Cyclohexane	13.17	84	100272	2.179	ng		99
47) Trichloroethene	13.97	130	1796	0.056	ng		99
51) n-Heptane	14.31	71	46369	1.605	ng		99
58) Toluene	15.82	91	1376042	11.619	ng		100
61) 1,2-Dibromoethane	16.48	107	2452	0.075	ng		91
63) n-Octane	16.82	57	36389	1.484	ng		98
66) Ethylbenzene	17.98	91	58985	0.447	ng		98
67) m- & p-Xylenes	18.14	91	138086	1.318	ng		100
70) o-Xylene	18.57	91	114799	1.079	ng		99
71) n-Nonane	18.77	43	149298	2.646	ng		95
74) Cumene	19.10	105	8355	0.064	ng		96
79) 1,3,5-Trimethylbenzene	19.75	105	71395	0.671	ng		98
82) 1,2,4-Trimethylbenzene	20.11	105	11842m	0.111	ng		

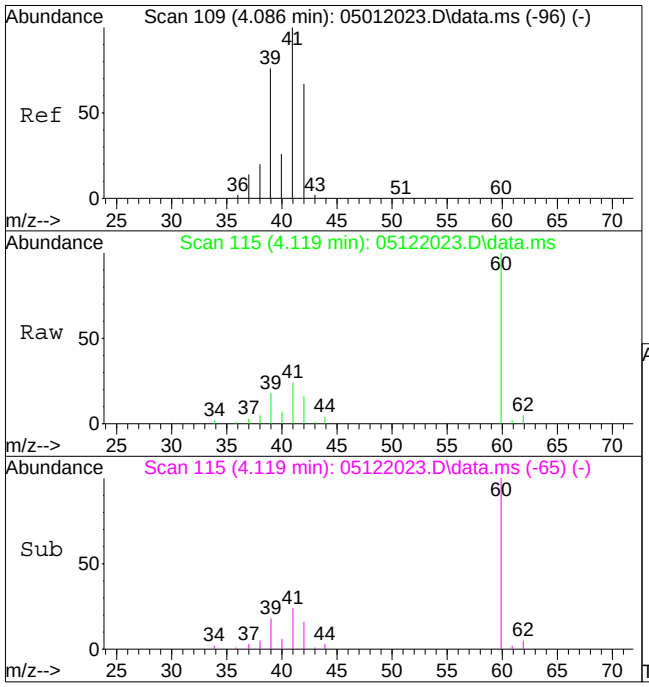
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122023.D Vial: 1
Acq On : 12 May 2020 14:53 Operator: WA
Sample : P2002300-019 (6.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:58:29 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

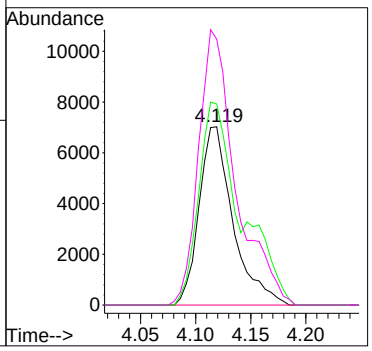


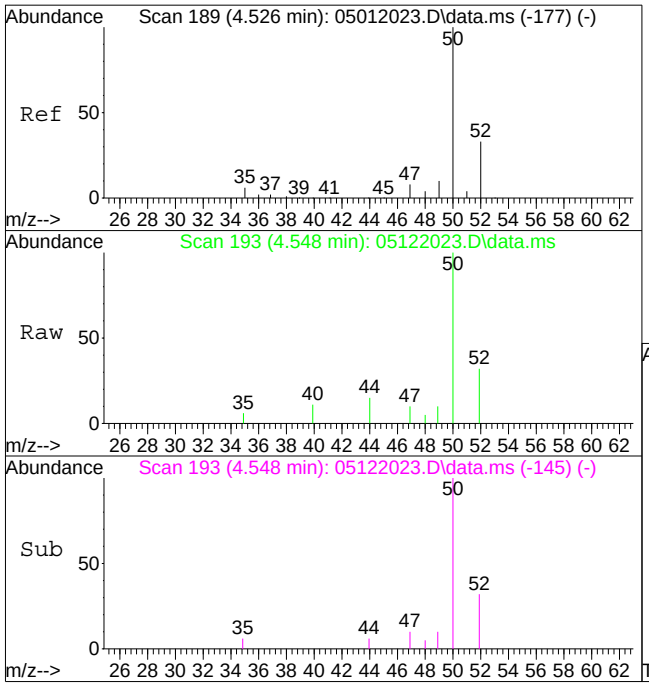


#2
Propene
Concen: 0.48 ng
RT: 4.12 min Scan# 115
Delta R.T. 0.027 min
Lab File: 05122023.D
Acq: 12 May 2020 14:53

Tgt Ion: 42 Resp: 15019

Ion	Ratio	Lower	Upper
42	100		
39	142.8	96.1	136.1#
41	169.6	131.9	171.9

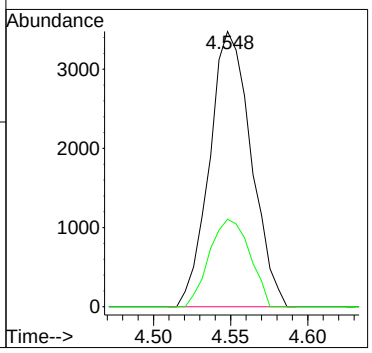


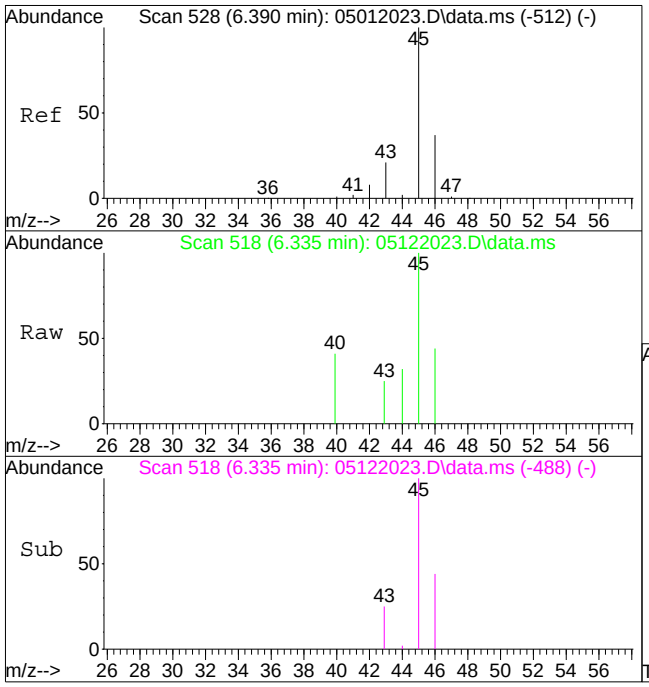


#4
Chloromethane
Concen: 0.14 ng
RT: 4.55 min Scan# 193
Delta R.T. 0.016 min
Lab File: 05122023.D
Acq: 12 May 2020 14:53

Tgt Ion: 50 Resp: 6524

Ion	Ratio	Lower	Upper
50	100		
52	30.9	12.5	52.5

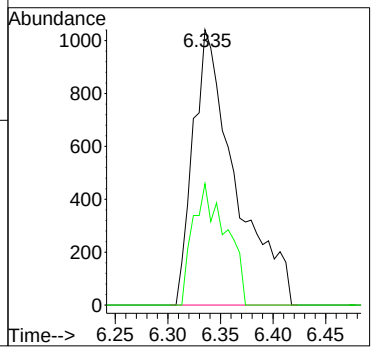


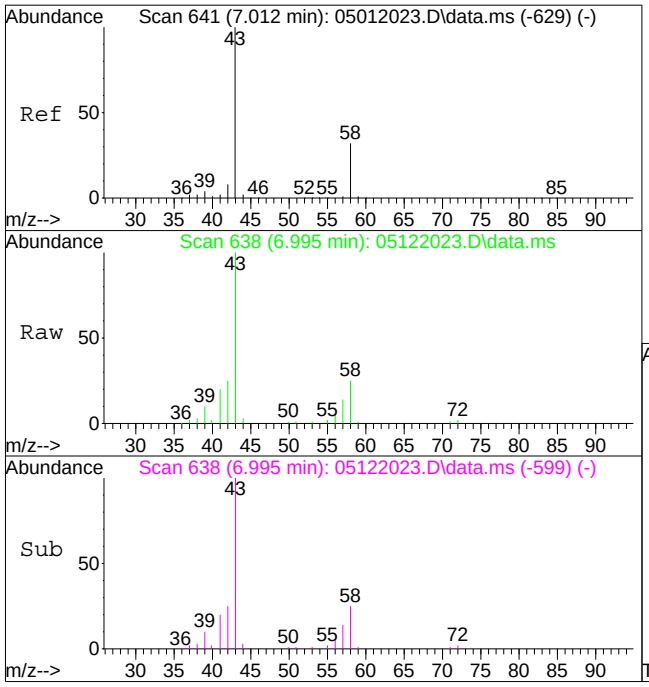


#10
Ethanol
Concen: 0.12 ng
RT: 6.34 min Scan# 518
Delta R.T. -0.083 min
Lab File: 05122023.D
Acq: 12 May 2020 14:53

Tgt Ion: 45 Resp: 2911

Ion	Ratio	Lower	Upper
45	100		
46	34.5	17.2	57.2

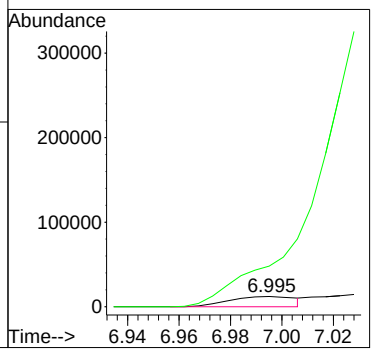


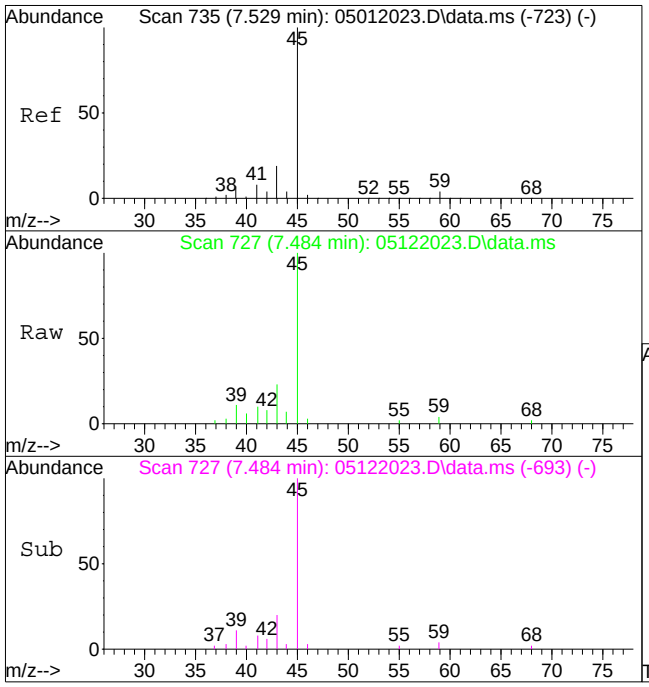


#13
Acetone
Concen: 0.91 ng
RT: 7.00 min Scan# 638
Delta R.T. -0.033 min
Lab File: 05122023.D
Acq: 12 May 2020 14:53

Tgt Ion: 58 Resp: 22037

Ion	Ratio	Lower	Upper
58	100		
43	0.0	294.4	354.4#

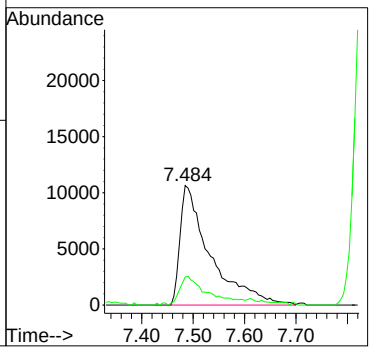


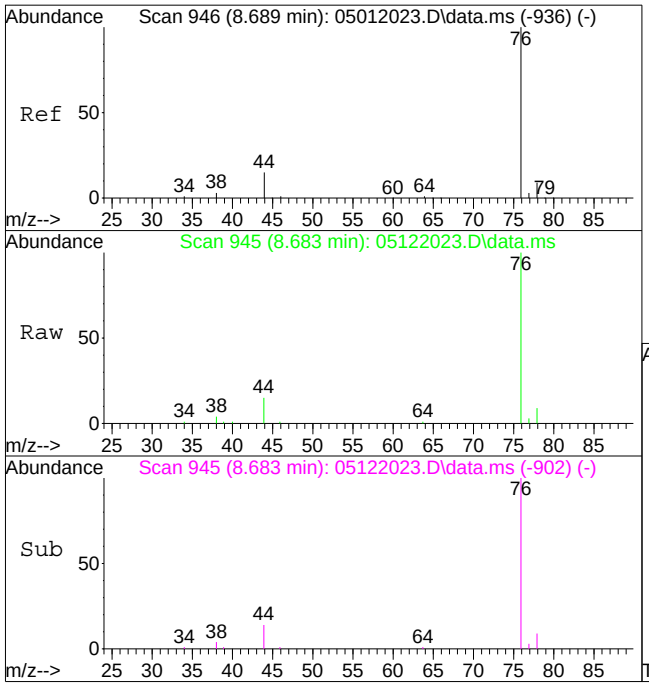


#15
2-Propanol (Isopropanol)
Concen: 0.59 ng
RT: 7.48 min Scan# 727
Delta R.T. -0.061 min
Lab File: 05122023.D
Acq: 12 May 2020 14:53

Tgt Ion: 45 Resp: 43348

Ion	Ratio	Lower	Upper
45	100		
43	25.9	0.0	39.5

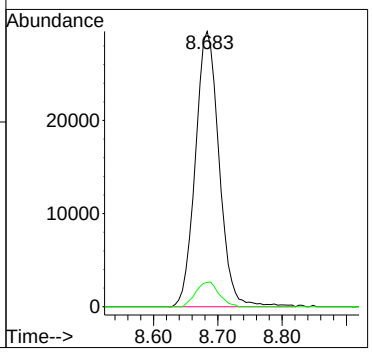


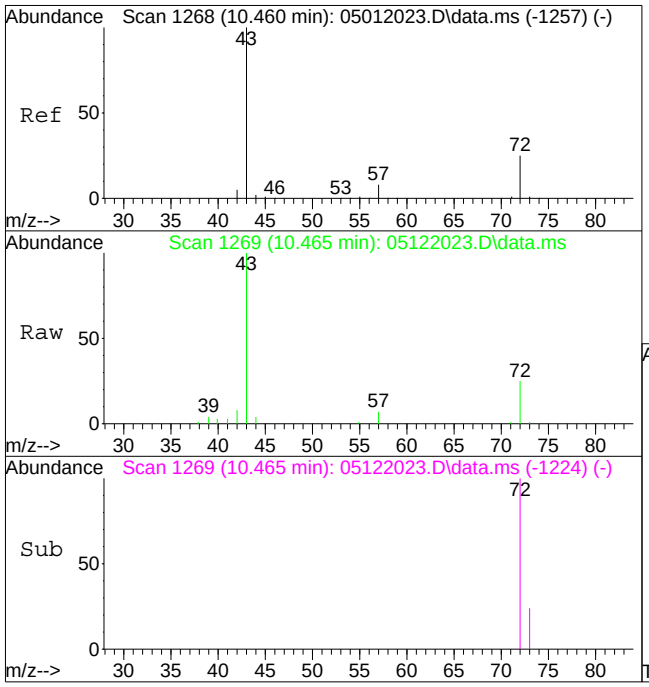


#22
Carbon Disulfide
Concen: 0.67 ng
RT: 8.68 min Scan# 945
Delta R.T. -0.011 min
Lab File: 05122023.D
Acq: 12 May 2020 14:53

Tgt Ion: 76 Resp: 75869

Ion	Ratio	Lower	Upper
76	100		
78	8.8	0.0	29.2

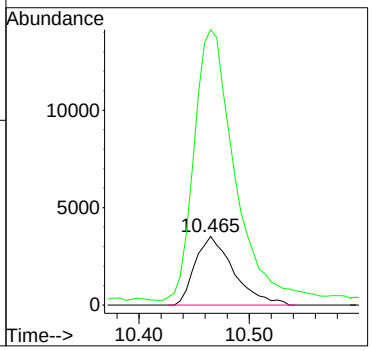


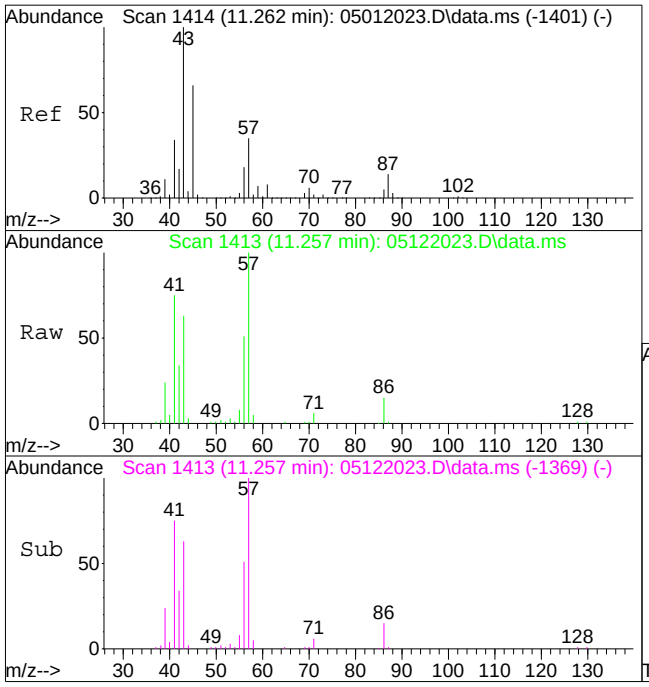


#27
2-Butanone (MEK)
Concen: 0.42 ng
RT: 10.46 min Scan# 1269
Delta R.T. -0.000 min
Lab File: 05122023.D
Acq: 12 May 2020 14:53

Tgt Ion: 72 Resp: 8559

Ion	Ratio	Lower	Upper
72	100		
43	422.0	389.7	429.7

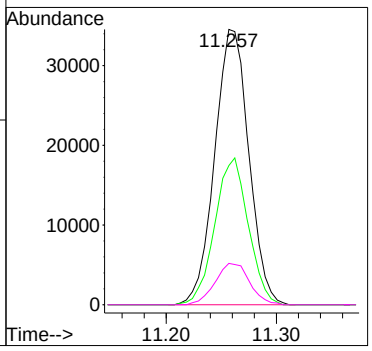


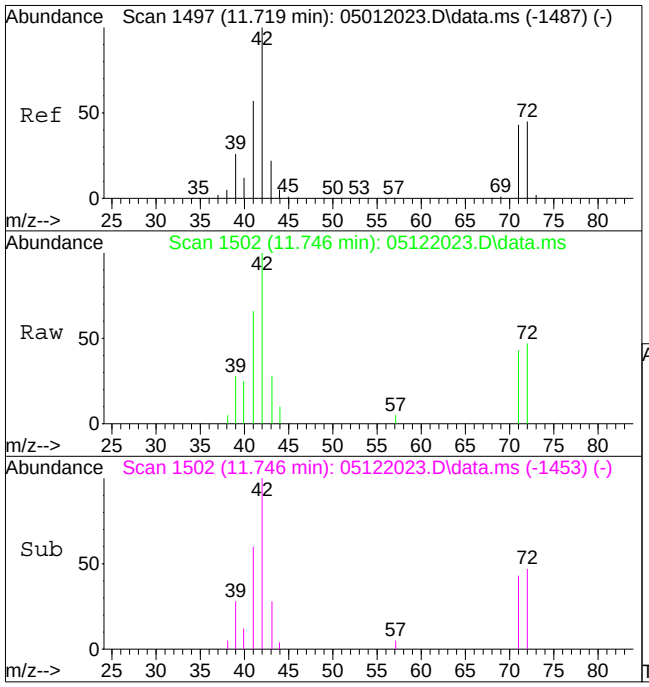


#31
n-Hexane
Concen: 1.44 ng
RT: 11.26 min Scan# 1413
Delta R.T. -0.006 min
Lab File: 05122023.D
Acq: 12 May 2020 14:53

Tgt Ion: 57 Resp: 74369

Ion	Ratio	Lower	Upper
57	100		
56	52.2	41.4	62.0
86	15.2	12.4	18.6

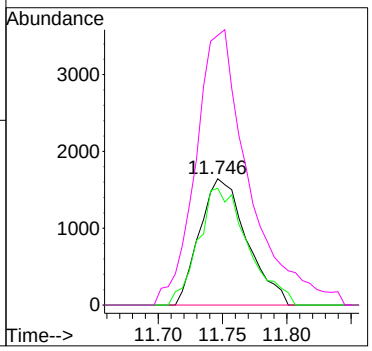


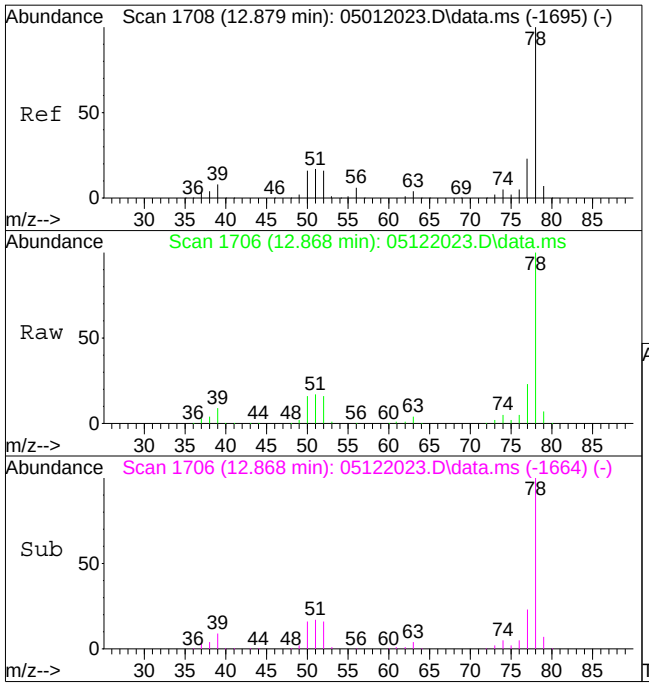


#34
Tetrahydrofuran (THF)
Concen: 0.21 ng
RT: 11.75 min Scan# 1502
Delta R.T. 0.022 min
Lab File: 05122023.D
Acq: 12 May 2020 14:53

Tgt Ion: 72 Resp: 4195

Ion	Ratio	Lower	Upper
72	100		
71	97.1	77.0	117.0
42	247.9	204.6	244.6#

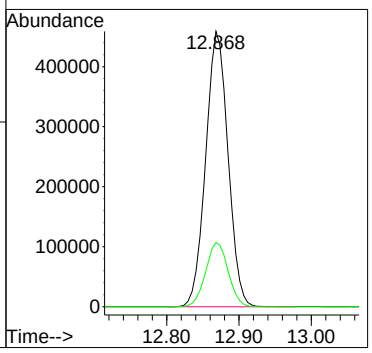


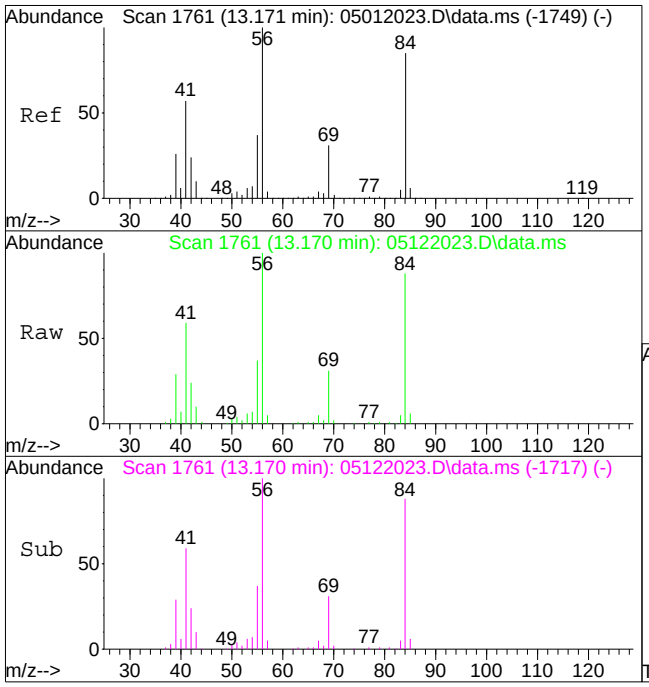


#41
Benzene
Concen: 7.96 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05122023.D
Acq: 12 May 2020 14:53

Tgt Ion: 78 Resp: 983419

Ion	Ratio	Lower	Upper
78	100		
77	23.5	3.4	43.4

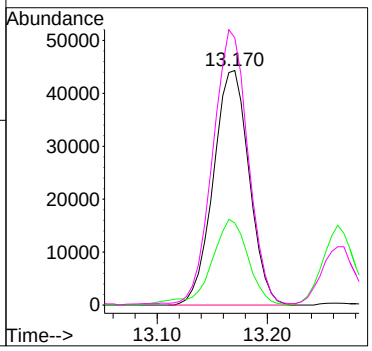


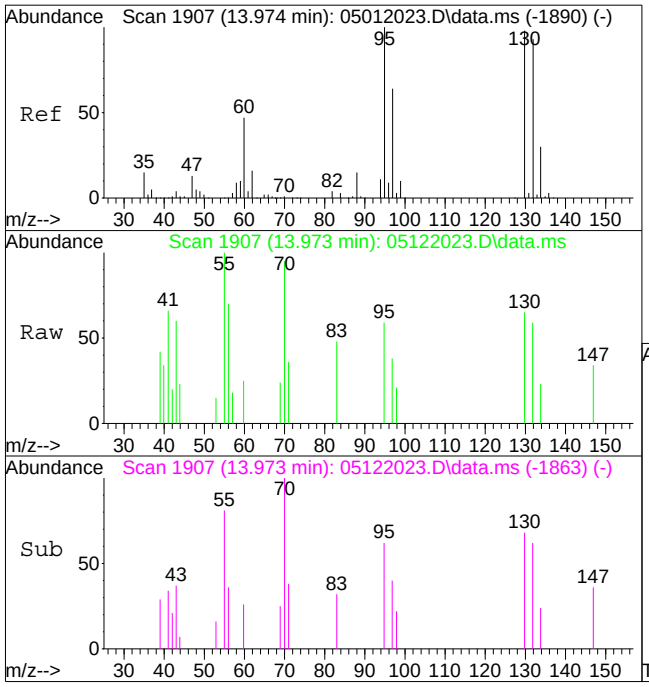


#43
Cyclohexane
Concen: 2.18 ng
RT: 13.17 min Scan# 1761
Delta R.T. -0.006 min
Lab File: 05122023.D
Acq: 12 May 2020 14:53

Tgt Ion: 84 Resp: 100272

Ion	Ratio	Lower	Upper
84	100		
69	37.6	16.5	56.5
56	116.9	97.4	137.4

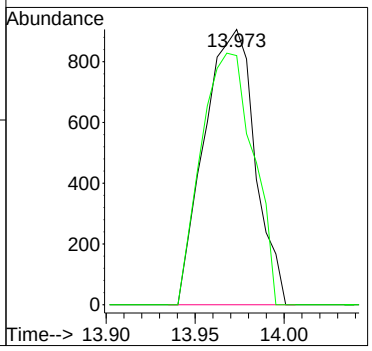


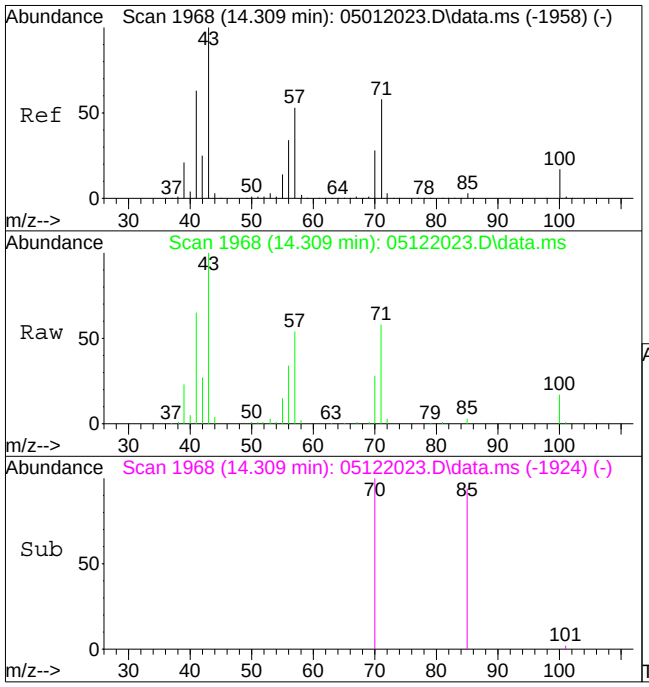


#47
Trichloroethene
Concen: 0.06 ng
RT: 13.97 min Scan# 1907
Delta R.T. -0.006 min
Lab File: 05122023.D
Acq: 12 May 2020 14:53

Tgt Ion:130 Resp: 1796

Ion	Ratio	Lower	Upper
130	100		
132	93.8	74.9	114.9

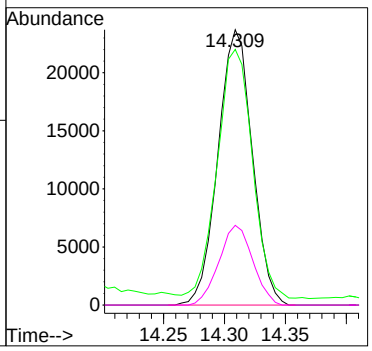


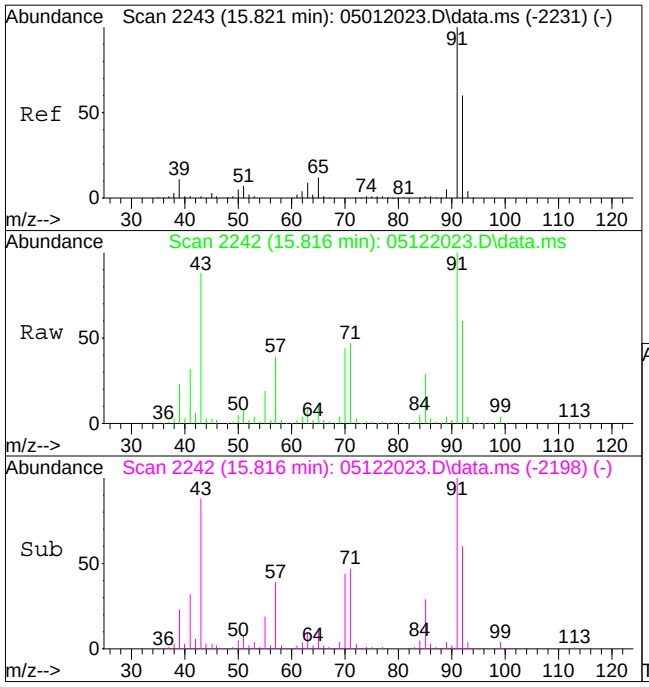


#51
n-Heptane
Concen: 1.61 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05122023.D
Acq: 12 May 2020 14:53

Tgt Ion: 71 Resp: 46369

Ion	Ratio	Lower	Upper
71	100		
57	92.6	71.0	111.0
100	28.5	8.4	48.4

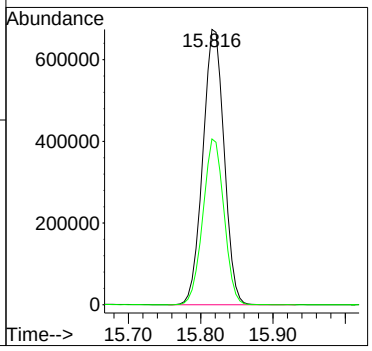


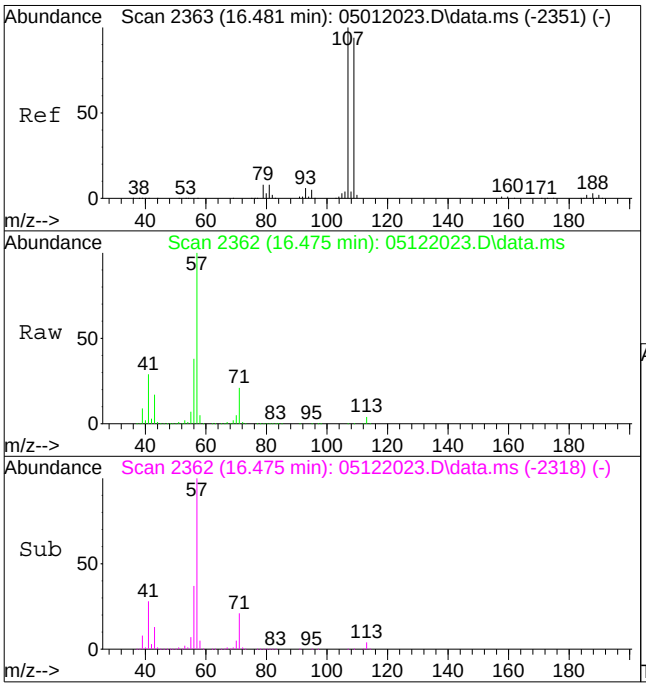


#58
Toluene
Concen: 11.62 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05122023.D
Acq: 12 May 2020 14:53

Tgt Ion: 91 Resp: 1376042

Ion	Ratio	Lower	Upper
91	100		
92	59.6	39.4	79.4

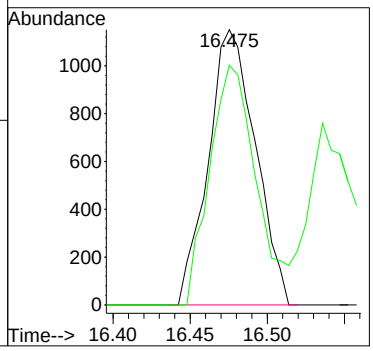


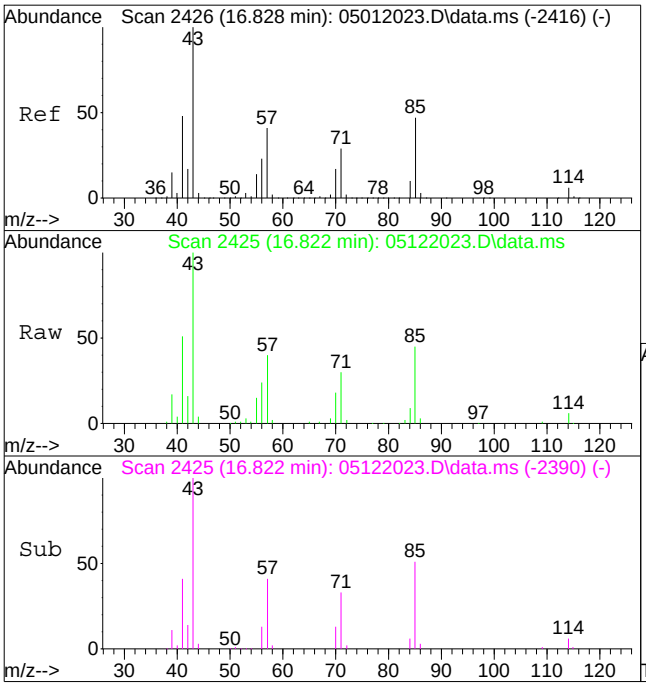


#61
1,2-Dibromoethane
Concen: 0.08 ng
RT: 16.48 min Scan# 2362
Delta R.T. -0.006 min
Lab File: 05122023.D
Acq: 12 May 2020 14:53

Tgt Ion:107 Resp: 2452

Ion	Ratio	Lower	Upper
107	100		
109	86.0	74.5	114.5

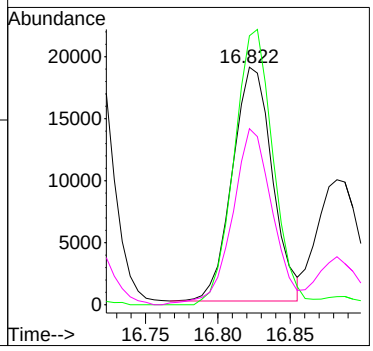


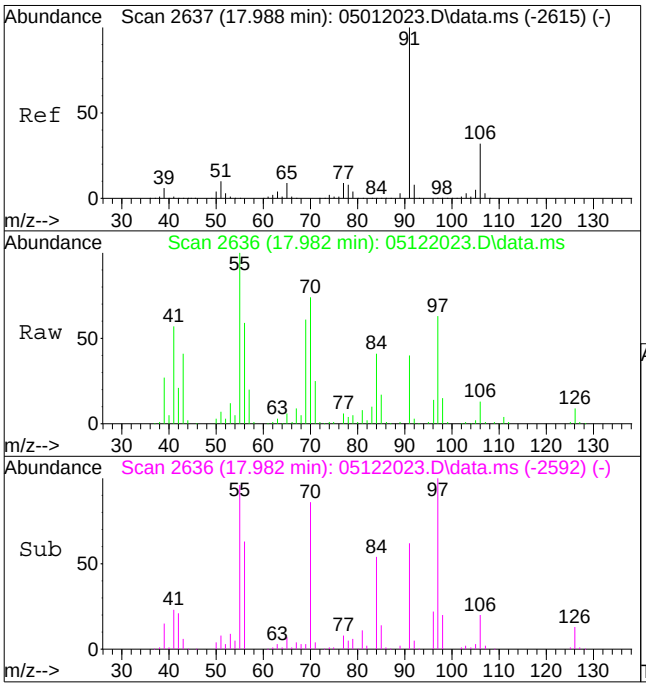


#63
n-Octane
Concen: 1.48 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05122023.D
Acq: 12 May 2020 14:53

Tgt Ion: 57 Resp: 36389

Ion	Ratio	Lower	Upper
57	100		
85	114.0	91.0	136.4
71	74.2	56.2	84.2

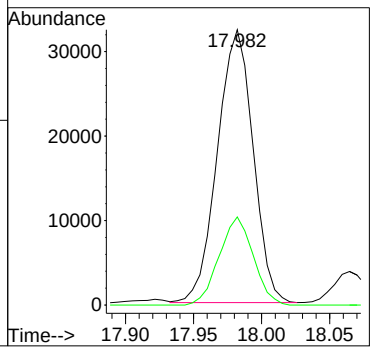


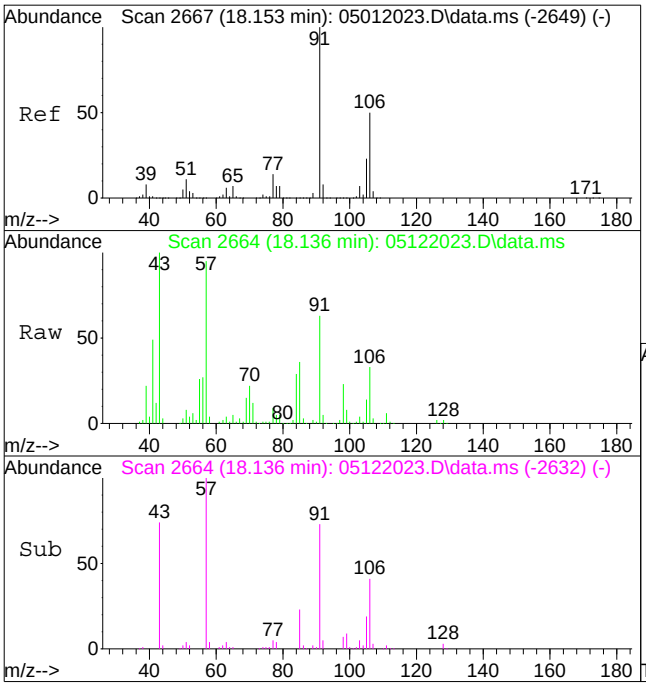


#66
Ethylbenzene
Concen: 0.45 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05122023.D
Acq: 12 May 2020 14:53

Tgt Ion: 91 Resp: 58985

Ion	Ratio	Lower	Upper
91	100		
106	30.7	11.6	51.6

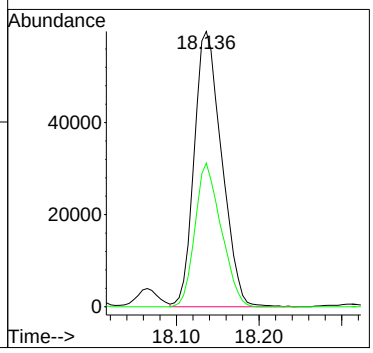


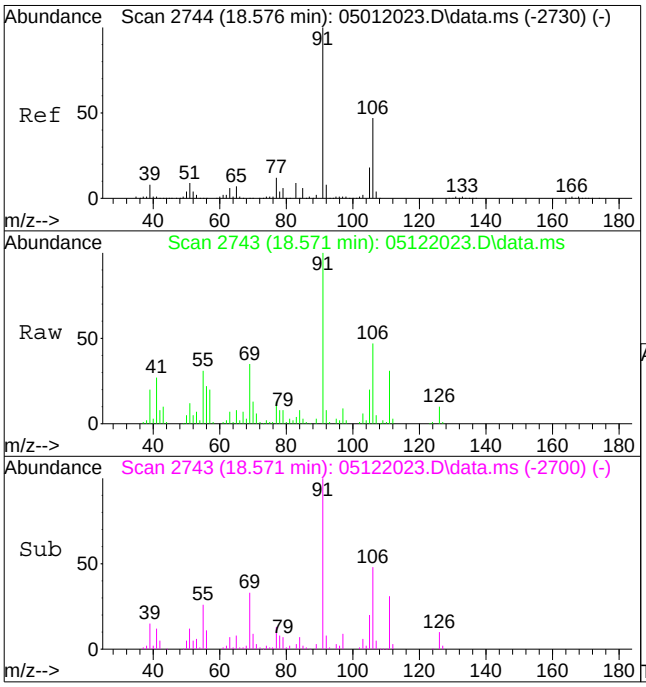


#67
m- & p-Xylenes
Concen: 1.32 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05122023.D
Acq: 12 May 2020 14:53

Tgt Ion: 91 Resp: 138086

Ion	Ratio	Lower	Upper
91	100		
106	49.6	29.7	69.7

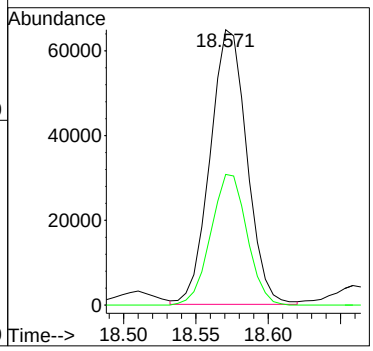


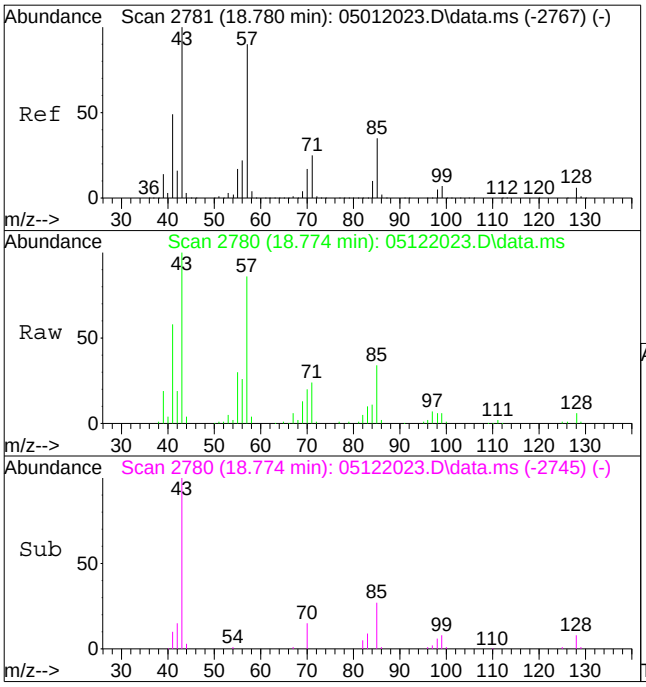


#70
o-Xylene
Concen: 1.08 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05122023.D
Acq: 12 May 2020 14:53

Tgt Ion: 91 Resp: 114799

Ion	Ratio	Lower	Upper
91	100		
106	46.8	27.5	67.5

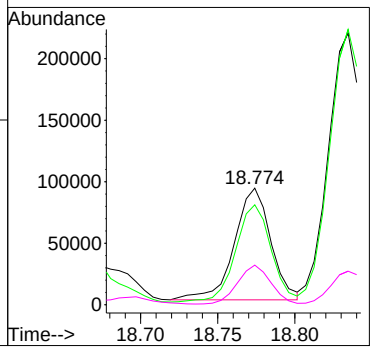


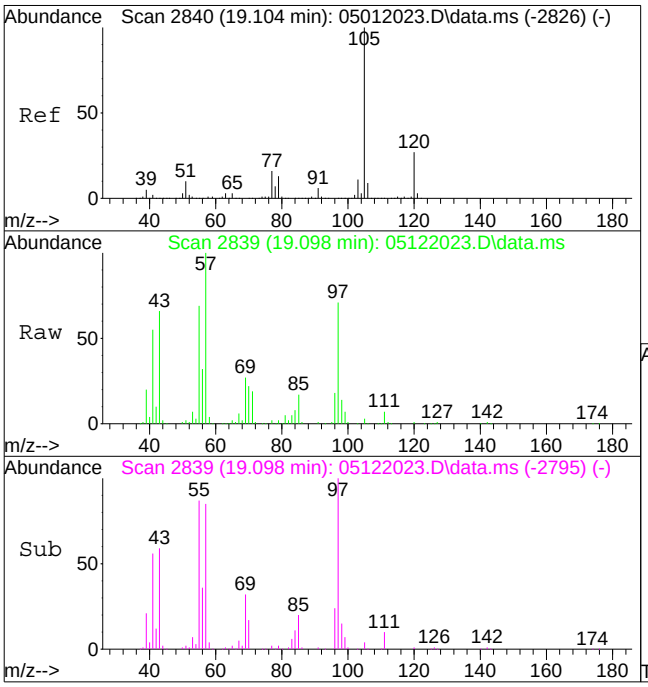


#71
n-Nonane
Concen: 2.65 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05122023.D
Acq: 12 May 2020 14:53

Tgt Ion: 43 Resp: 149298

Ion	Ratio	Lower	Upper
43	100		
57	84.4	69.0	109.0
85	31.5	14.6	54.6

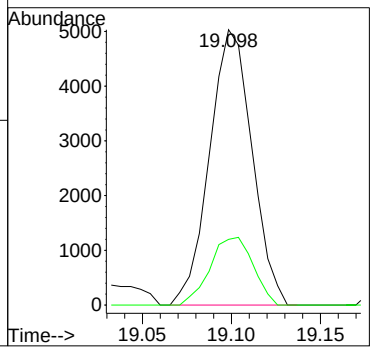


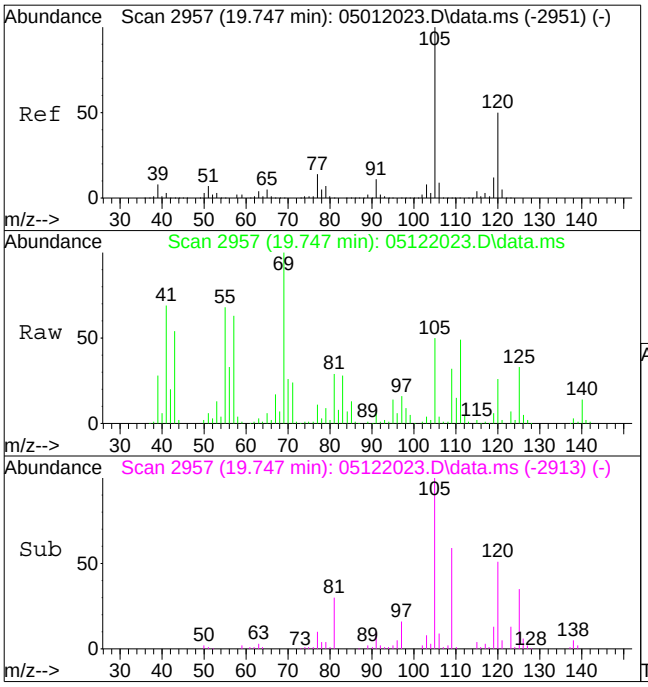


#74
Cumene
Concen: 0.06 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05122023.D
Acq: 12 May 2020 14:53

Tgt Ion:105 Resp: 8355

Ion	Ratio	Lower	Upper
105	100		
120	24.9	6.8	46.8

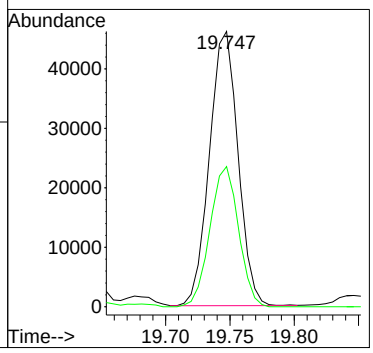


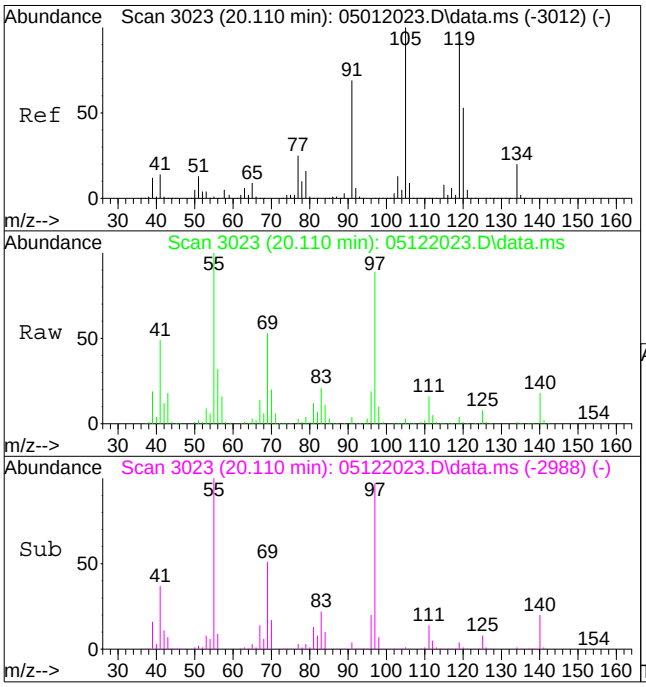


#79
1,3,5-Trimethylbenzene
Concen: 0.67 ng
RT: 19.75 min Scan# 2957
Delta R.T. -0.006 min
Lab File: 05122023.D
Acq: 12 May 2020 14:53

Tgt Ion:105 Resp: 71395

Ion	Ratio	Lower	Upper
105	100		
120	51.1	29.9	69.9

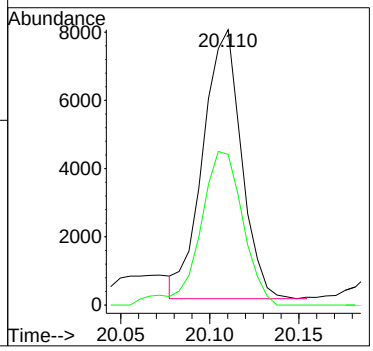




#82
1,2,4-Trimethylbenzene
Concen: 0.11 ng m
RT: 20.11 min Scan# 3023
Delta R.T. -0.006 min
Lab File: 05122023.D
Acq: 12 May 2020 14:53

Tgt Ion:105 Resp: 11842

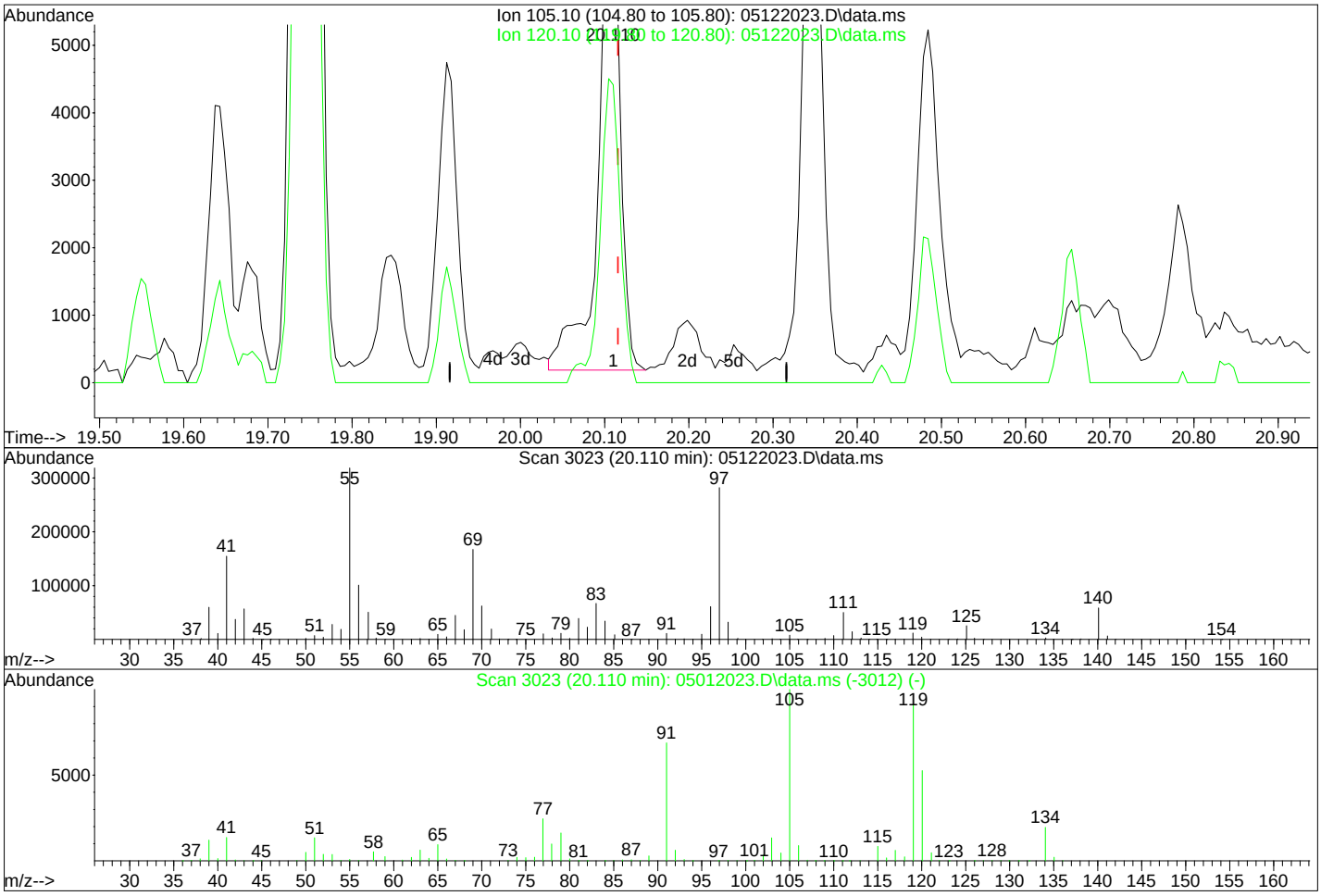
Ion	Ratio	Lower	Upper
105	100		
120	63.6	33.6	73.6



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\12\05122023.D Vial: 1
Acq On : 12 May 2020 14:53 Operator: WA
Sample : P2002300-019 (6.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 05:59:21 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05122023.D\data.ms

(82) 1,2,4-Trimethylbenzene (T)

20.110min (-0.006) 0.12ng

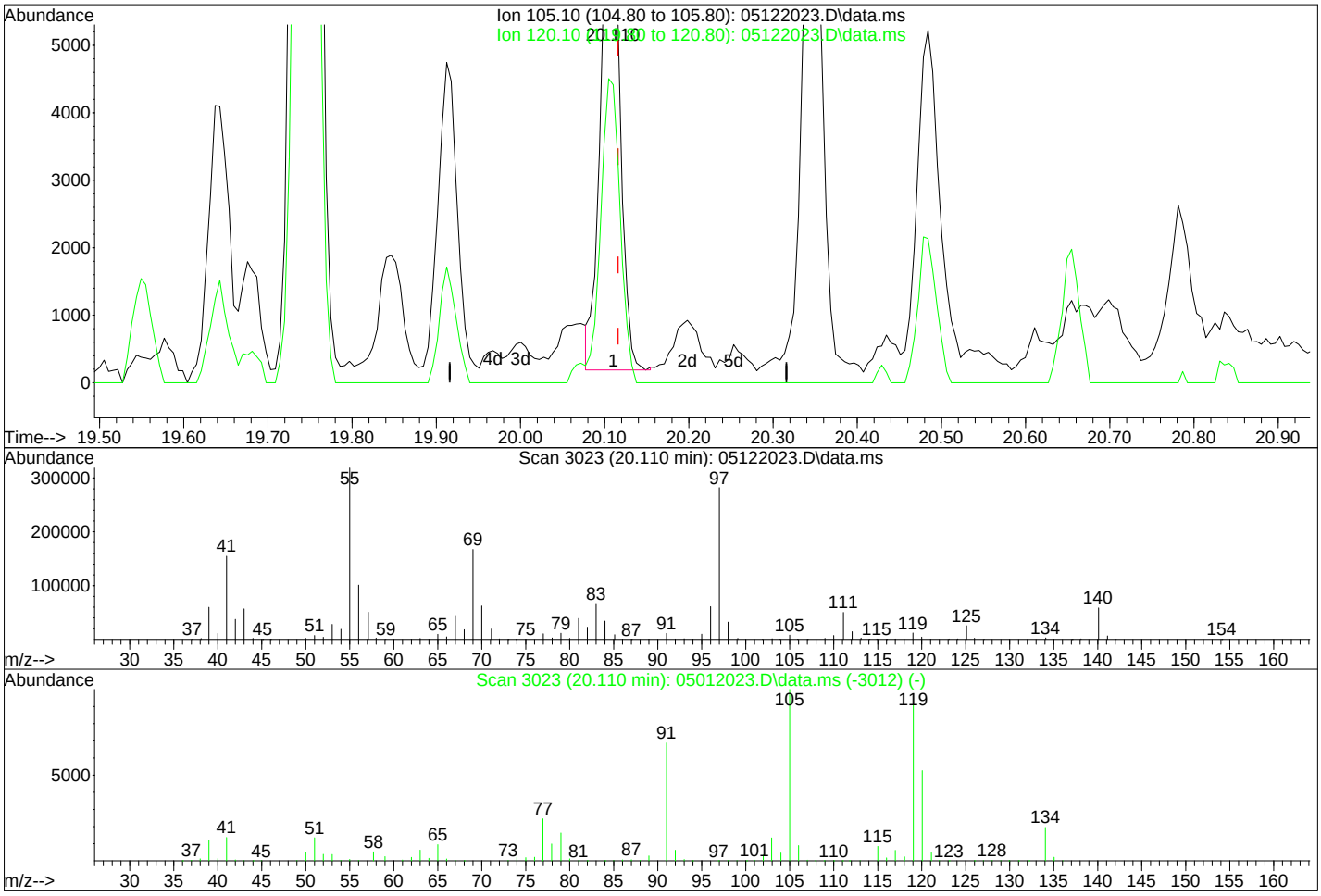
response 13351

Ion	Exp%	Act%
105.10	100	100
120.10	53.60	56.42
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\12\05122023.D Vial: 1
Acq On : 12 May 2020 14:53 Operator: WA
Sample : P2002300-019 (6.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 05:59:21 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05122023.D\data.ms

(82) 1,2,4-Trimethylbenzene (T)

20.110min (-0.006) 0.11ng m

response 11842

Ion	Exp%	Act%
105.10	100	100
120.10	53.60	63.60
0.00	0.00	0.00
0.00	0.00	0.00

IPC

LH 5/13/20

5/14/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122032.D Vial: 12
Acq On : 12 May 2020 19:59 Operator: WA
Sample : P2002300-020 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 17:11:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/13/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	253151	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1088910	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	501930	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	403951	11.774	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.16%				
57) Toluene-d8 (SS2)	15.72	98	1056345	12.416	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.36%				
73) Bromofluorobenzene (SS3)	18.97	174	409684	13.383	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.04%				
Target Compounds							Qvalue
2) Propene	4.12	42	3911	0.133	ng		96
3) Dichlorodifluoromethan...	4.27	85	52385	0.913	ng		100
4) Chloromethane	4.54	50	894	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	622	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.32	45	24170	1.068	ng		92
11) Acetonitrile	6.59	41	3086	0.060	ng	#	45
12) Acrolein	6.79	56	2037	0.114	ng		90
13) Acetone	7.01	58	29035	1.282	ng	#	68
14) Trichlorofluoromethane	7.24	101	13066	0.258	ng		97
15) 2-Propanol (Isopropanol)	7.50	45	29090	0.424	ng		92
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.44	59	1318	N.D.			
19) Methylene Chloride	8.41	84	1008	N.D.			
20) 3-Chloro-1-propene (Al...	8.49	41	156	N.D.			
21) Trichlorotrifluoroethane	8.84	151	26700	1.116	ng		98
22) Carbon Disulfide	8.67	76	460835	4.370	ng		100
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.09	73	1189	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.46	72	4407	0.228	ng		93
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.28	87	184	N.D.			
30) Ethyl Acetate	11.28	61	1345	0.121	ng		85
31) n-Hexane	11.25	57	6105	0.126	ng	#	96
32) Chloroform	11.30	83	9911	0.197	ng		94
34) Tetrahydrofuran (THF)	11.76	72	758	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	20348	0.174	ng		99
42) Carbon Tetrachloride	13.03	117	8961	0.226	ng		97
43) Cyclohexane	13.16	84	13045	0.300	ng		99
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	13.53	63	478	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	13.97	130	31558	1.046	ng		100
48) 1,4-Dioxane	13.97	88	1120	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122032.D Vial: 12
Acq On : 12 May 2020 19:59 Operator: WA
Sample : P2002300-020 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 17:11:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

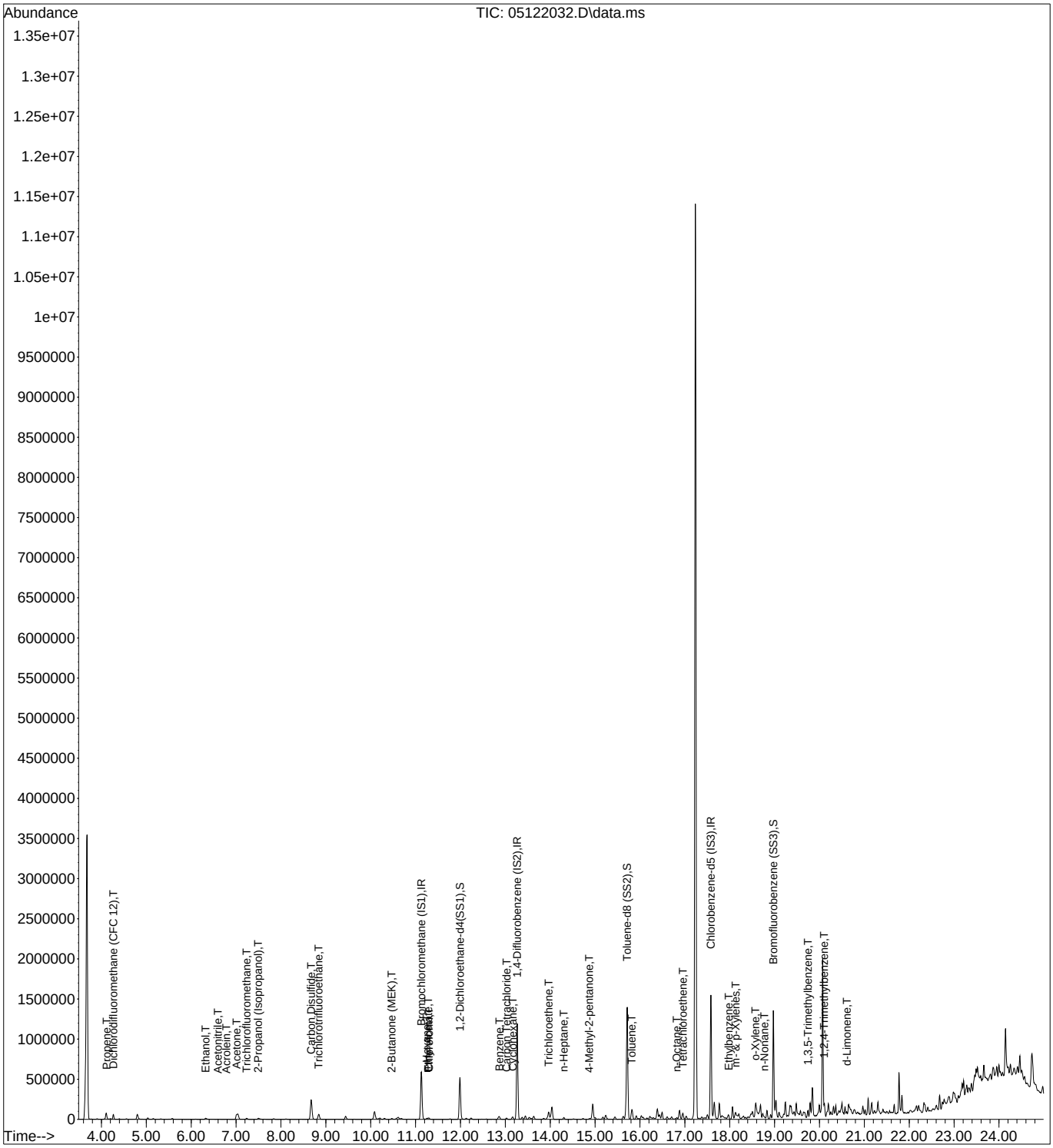
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.30	71	6071	0.222 ng		99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.87	58	2844	0.109 ng		77
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	15.44	97	1170	N.D.		
58) Toluene	15.82	91	49103	0.448 ng		99
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.71	43	1911	N.D.		
63) n-Octane	16.82	57	4337	0.191 ng		94
64) Tetrachloroethene	16.96	166	18513	0.598 ng		97
65) Chlorobenzene	0.00	112	0	N.D. d		
66) Ethylbenzene	17.98	91	6939	0.057 ng		98
67) m- & p-Xylenes	18.14	91	35931	0.370 ng		99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.48	104	832	N.D.		
70) o-Xylene	18.57	91	37980	0.386 ng		100
71) n-Nonane	18.77	43	7023m	0.134 ng		
72) 1,1,2,2-Tetrachloroethane	18.57	83	106	N.D.		
74) Cumene	19.10	105	4979	N.D.		
75) alpha-Pinene	19.44	93	944	N.D.		
76) n-Propylbenzene	19.54	91	4911	N.D.		
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.68	105	2040	N.D.		
79) 1,3,5-Trimethylbenzene	19.74	105	25254	0.256 ng		99
80) alpha-Methylstyrene	19.88	118	1907	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	20.10	105	22027	0.222 ng		92
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.31	91	1759	N.D.		
85) 1,3-Dichlorobenzene	20.30	146	234	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	234	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D. d		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.61	68	3159	0.081 ng	#	67
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.11	180	338	N.D.		
95) Naphthalene	22.22	128	3901	N.D.		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	20.84	91	3146	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122032.D Vial: 12
Acq On : 12 May 2020 19:59 Operator: WA
Sample : P2002300-020 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 17:11:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122032.D Vial: 12
Acq On : 12 May 2020 19:59 Operator: WA
Sample : P2002300-020 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 17:11:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/13/20

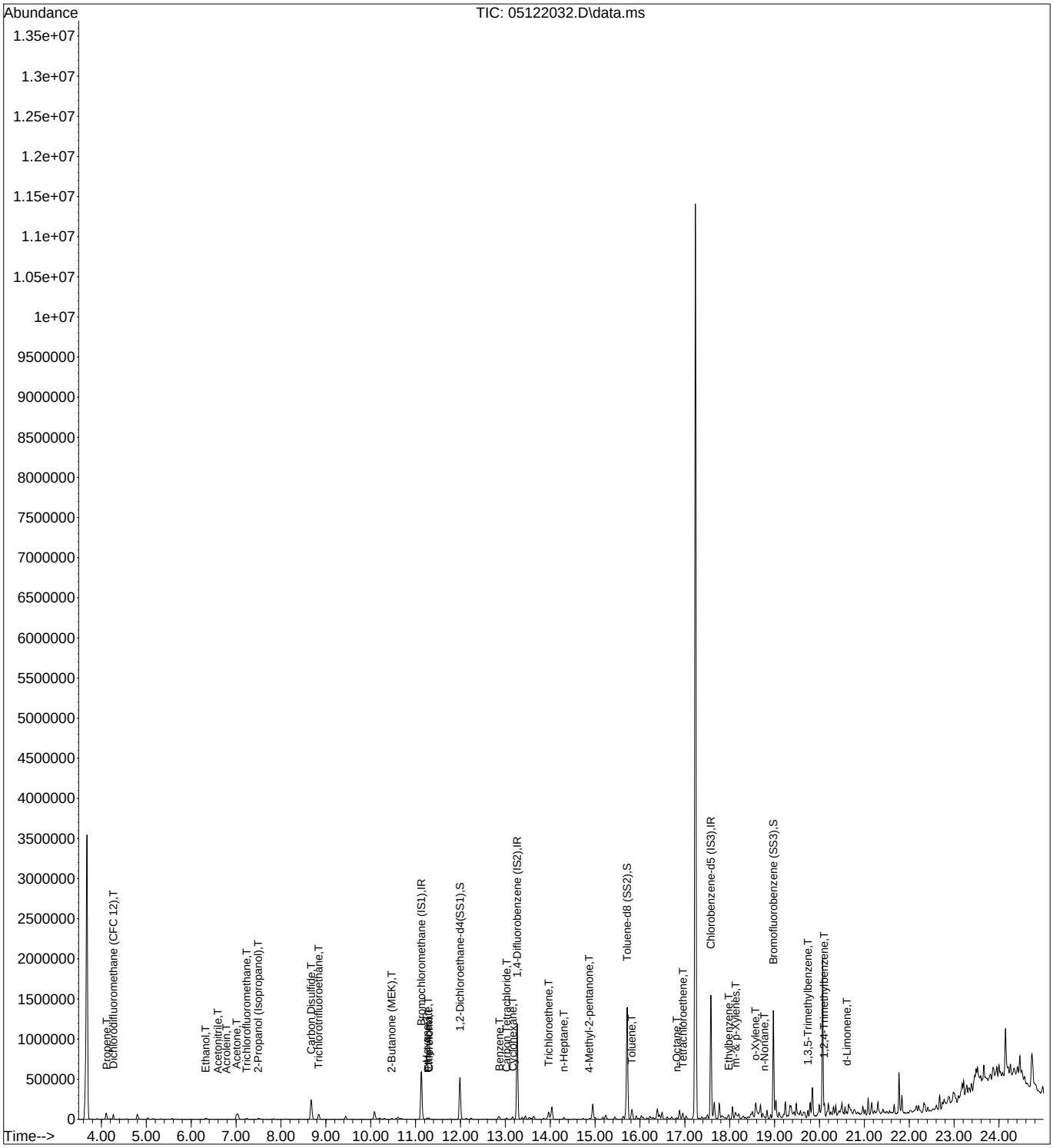
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	253151	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1088910	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	501930	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	403951	11.774	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.16%				
57) Toluene-d8 (SS2)	15.72	98	1056345	12.416	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.36%				
73) Bromofluorobenzene (SS3)	18.97	174	409684	13.383	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.04%				
Target Compounds							Qvalue
2) Propene	4.12	42	3911	0.133	ng		96
3) Dichlorodifluoromethan...	4.27	85	52385	0.913	ng		100
10) Ethanol	6.32	45	24170	1.068	ng		92
11) Acetonitrile	6.59	41	3086	0.060	ng	#	45
12) Acrolein	6.79	56	2037	0.114	ng		90
13) Acetone	7.01	58	29035	1.282	ng	#	68
14) Trichlorofluoromethane	7.24	101	13066	0.258	ng		97
15) 2-Propanol (Isopropanol)	7.50	45	29090	0.424	ng		92
21) Trichlorotrifluoroethane	8.84	151	26700	1.116	ng		98
22) Carbon Disulfide	8.67	76	460835	4.370	ng		100
27) 2-Butanone (MEK)	10.46	72	4407	0.228	ng		93
30) Ethyl Acetate	11.28	61	1345	0.121	ng		85
31) n-Hexane	11.25	57	6105	0.126	ng	#	96
32) Chloroform	11.30	83	9911	0.197	ng		94
41) Benzene	12.87	78	20348	0.174	ng		99
42) Carbon Tetrachloride	13.03	117	8961	0.226	ng		97
43) Cyclohexane	13.16	84	13045	0.300	ng		99
47) Trichloroethene	13.97	130	31558	1.046	ng		100
51) n-Heptane	14.30	71	6071	0.222	ng		99
53) 4-Methyl-2-pentanone	14.87	58	2844	0.109	ng		77
58) Toluene	15.82	91	49103	0.448	ng		99
63) n-Octane	16.82	57	4337	0.191	ng		94
64) Tetrachloroethene	16.96	166	18513	0.598	ng		97
66) Ethylbenzene	17.98	91	6939	0.057	ng		98
67) m- & p-Xylenes	18.14	91	35931	0.370	ng		99
70) o-Xylene	18.57	91	37980	0.386	ng		100
71) n-Nonane	18.77	43	7023m	0.134	ng		
79) 1,3,5-Trimethylbenzene	19.74	105	25254	0.256	ng		99
82) 1,2,4-Trimethylbenzene	20.10	105	22027	0.222	ng		92
91) d-Limonene	20.61	68	3159	0.081	ng	#	67

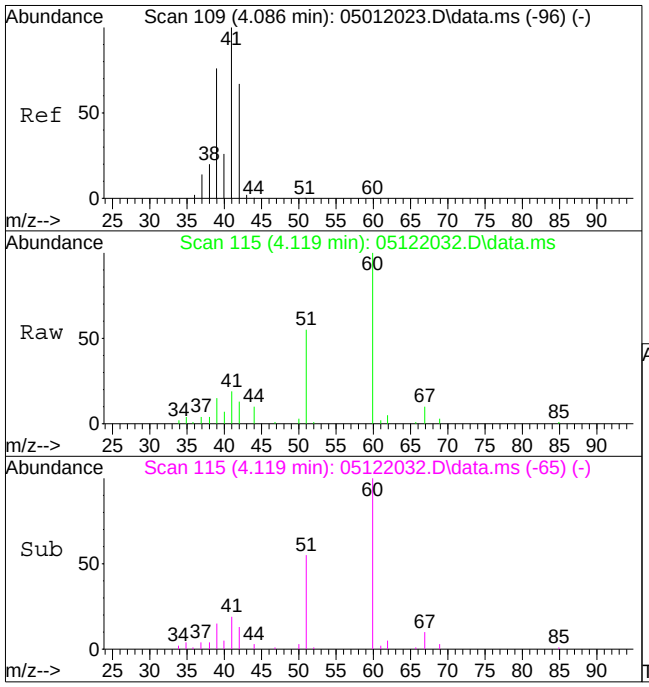
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122032.D Vial: 12
Acq On : 12 May 2020 19:59 Operator: WA
Sample : P2002300-020 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 17:11:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

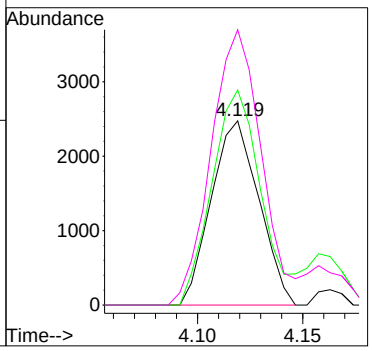


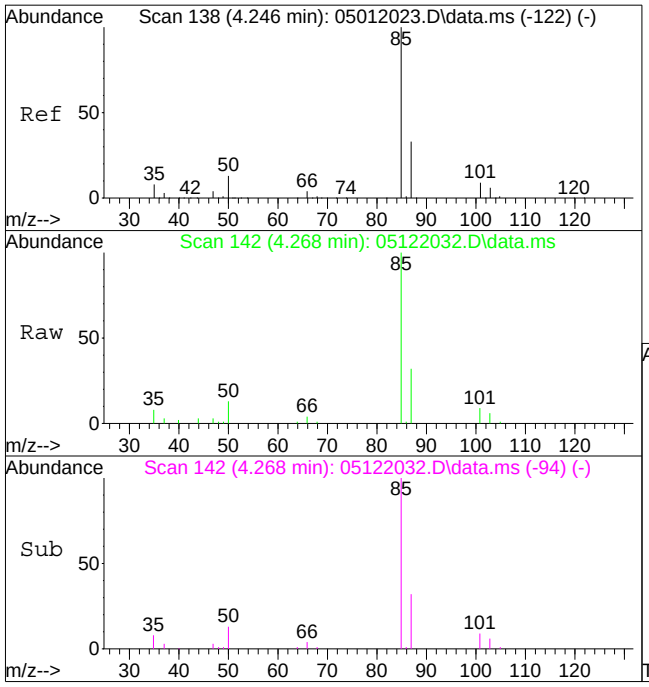


#2
Propene
Concen: 0.13 ng
RT: 4.12 min Scan# 115
Delta R.T. 0.027 min
Lab File: 05122032.D
Acq: 12 May 2020 19:59

Tgt Ion: 42 Resp: 3911

Ion	Ratio	Lower	Upper
42	100		
39	121.0	96.1	136.1
41	157.4	131.9	171.9

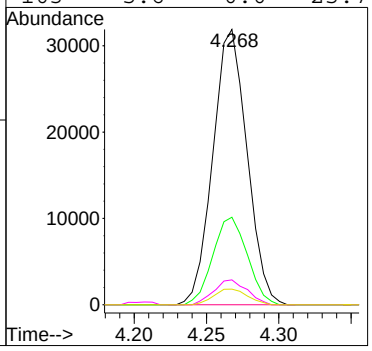


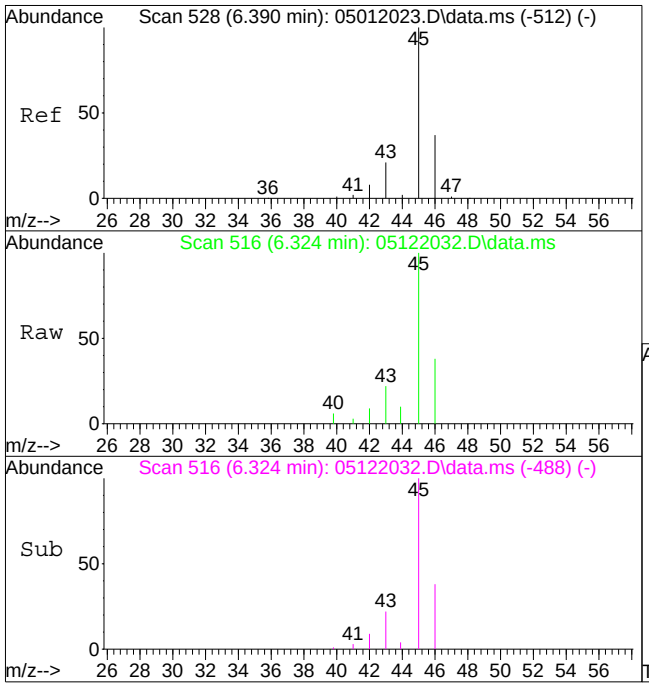


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.91 ng
RT: 4.27 min Scan# 142
Delta R.T. 0.016 min
Lab File: 05122032.D
Acq: 12 May 2020 19:59

Tgt Ion: 85 Resp: 52385

Ion	Ratio	Lower	Upper
85	100		
87	32.1	12.4	52.4
101	8.8	0.0	28.8
103	5.6	0.0	25.7

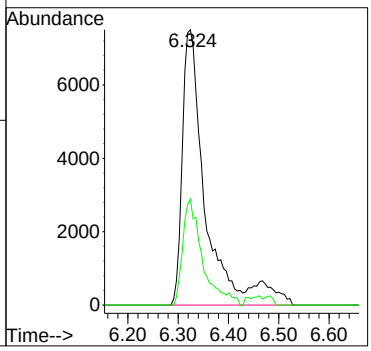


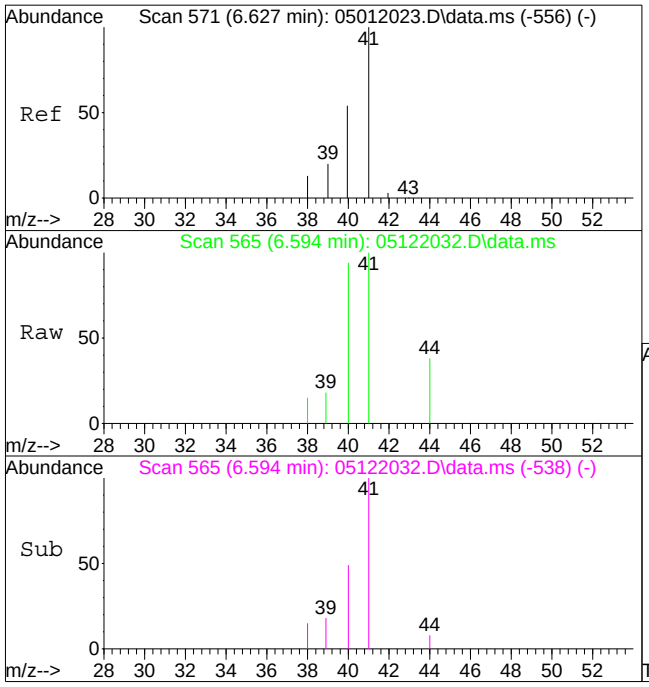


#10
Ethanol
Concen: 1.07 ng
RT: 6.32 min Scan# 516
Delta R.T. -0.094 min
Lab File: 05122032.D
Acq: 12 May 2020 19:59

Tgt Ion: 45 Resp: 24170

Ion	Ratio	Lower	Upper
45	100		
46	32.6	17.2	57.2

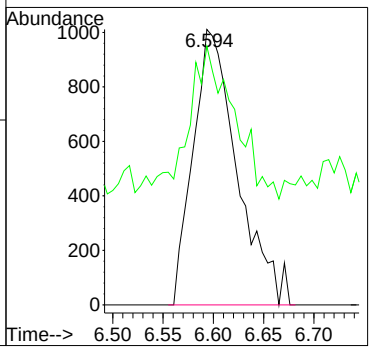


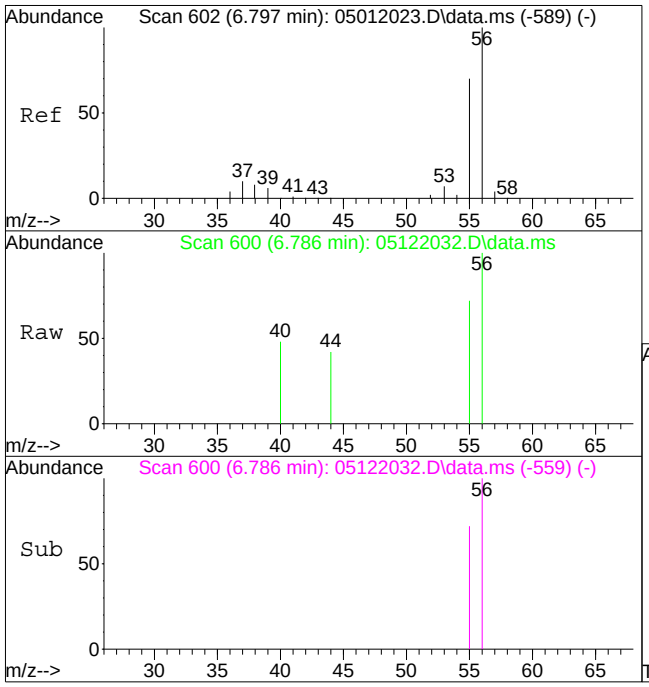


#11
Acetonitrile
Concen: 0.06 ng
RT: 6.59 min Scan# 565
Delta R.T. -0.050 min
Lab File: 05122032.D
Acq: 12 May 2020 19:59

Tgt Ion: 41 Resp: 3086

Ion	Ratio	Lower	Upper
41	100		
40	92.7	33.6	73.6#

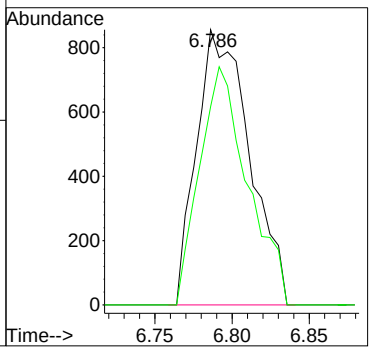


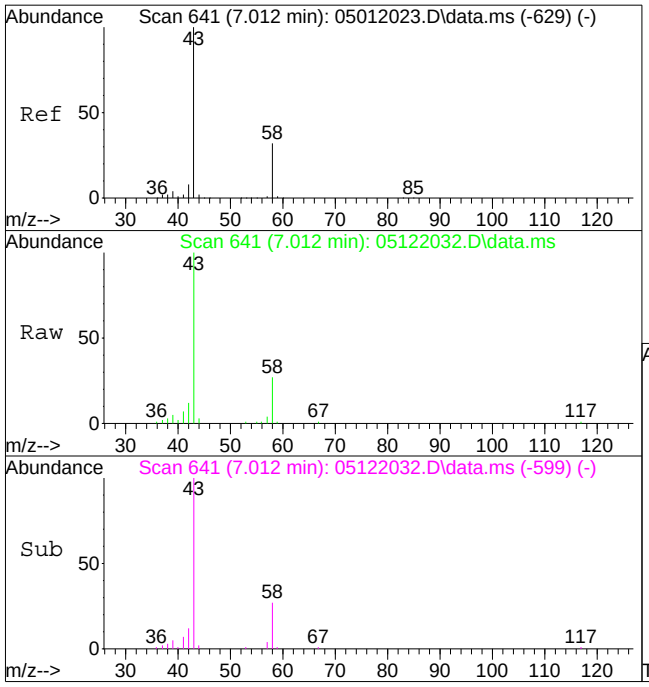


#12
Acrolein
Concen: 0.11 ng
RT: 6.79 min Scan# 600
Delta R.T. -0.022 min
Lab File: 05122032.D
Acq: 12 May 2020 19:59

Tgt Ion: 56 Resp: 2037

Ion	Ratio	Lower	Upper
56	100		
55	78.6	50.2	90.2

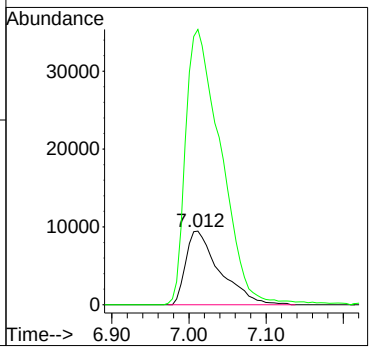


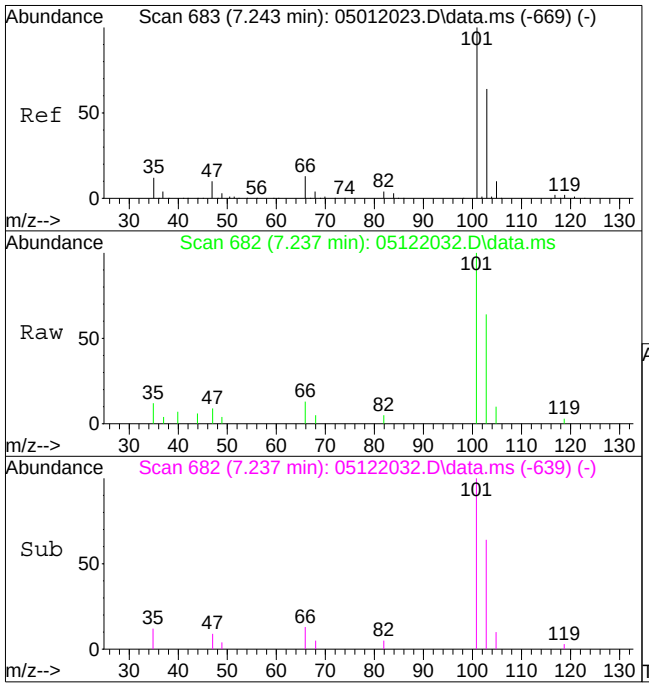


#13
Acetone
Concen: 1.28 ng
RT: 7.01 min Scan# 641
Delta R.T. -0.017 min
Lab File: 05122032.D
Acq: 12 May 2020 19:59

Tgt Ion: 58 Resp: 29035

Ion	Ratio	Lower	Upper
58	100		
43	390.4	294.4	354.4#

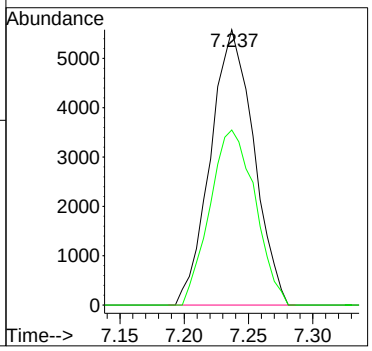


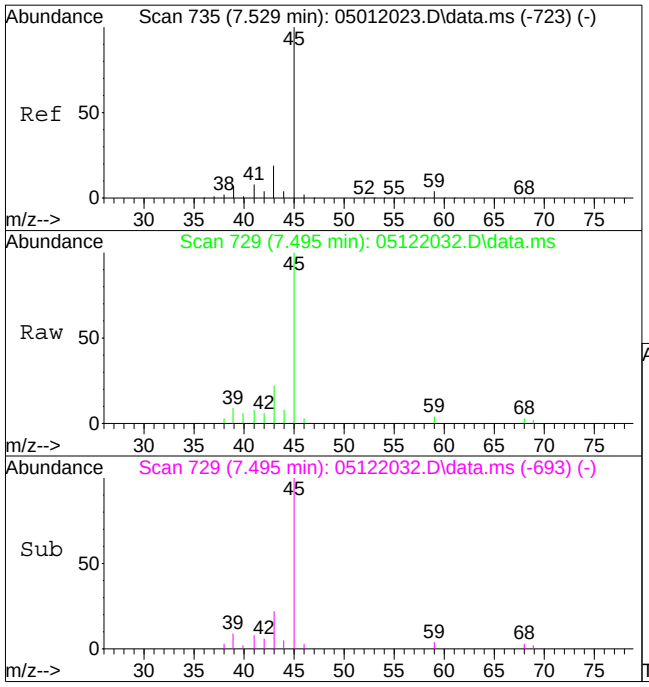


#14
Trichlorofluoromethane
Concen: 0.26 ng
RT: 7.24 min Scan# 682
Delta R.T. -0.011 min
Lab File: 05122032.D
Acq: 12 May 2020 19:59

Tgt Ion:101 Resp: 13066

Ion	Ratio	Lower	Upper
101	100		
103	66.5	44.4	84.4

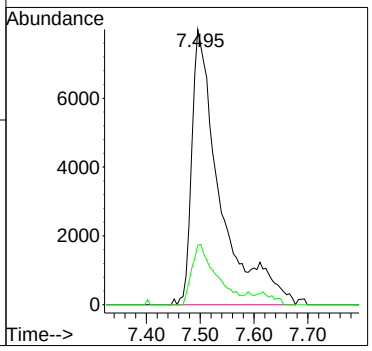


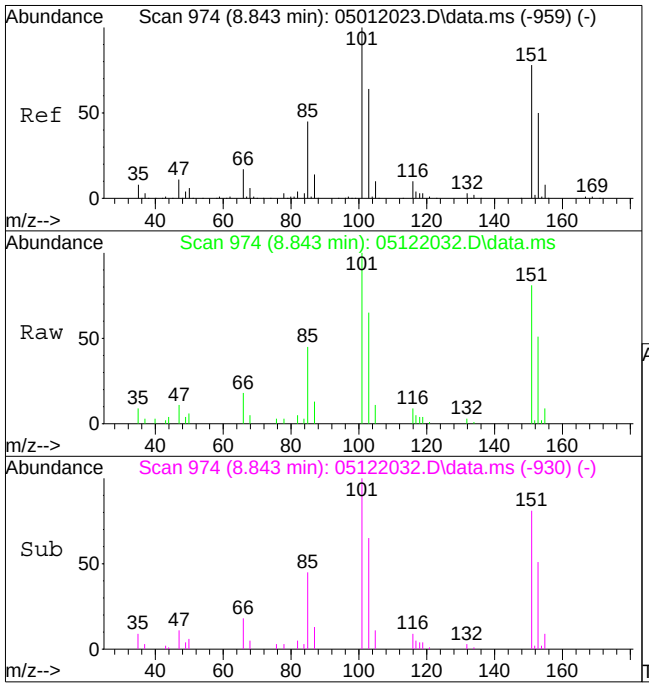


#15
2-Propanol (Isopropanol)
Concen: 0.42 ng
RT: 7.50 min Scan# 729
Delta R.T. -0.050 min
Lab File: 05122032.D
Acq: 12 May 2020 19:59

Tgt Ion: 45 Resp: 29090

Ion	Ratio	Lower	Upper
45	100		
43	23.1	0.0	39.5

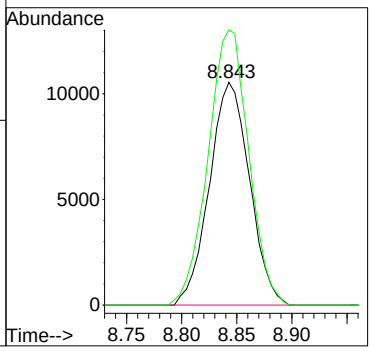


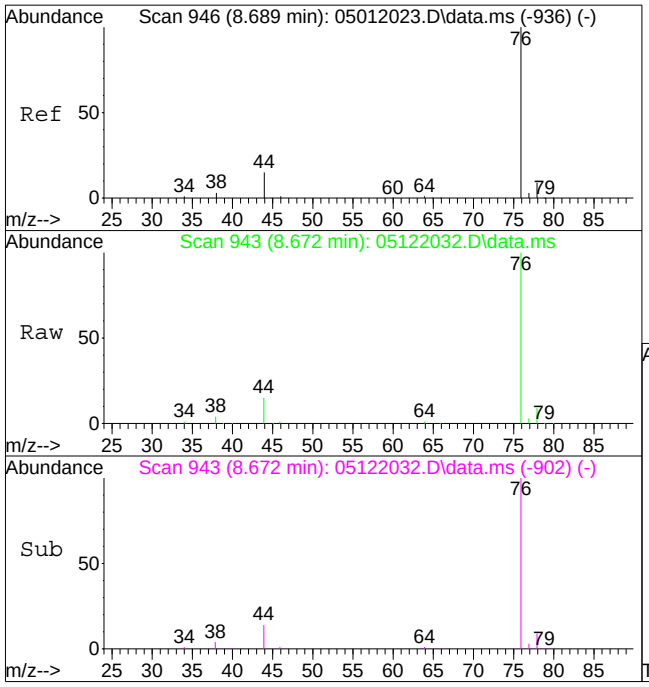


#21
Trichlorotrifluoroethane
Concen: 1.12 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05122032.D
Acq: 12 May 2020 19:59

Tgt Ion:151 Resp: 26700

Ion	Ratio	Lower	Upper
151	100		
101	125.4	107.3	147.3

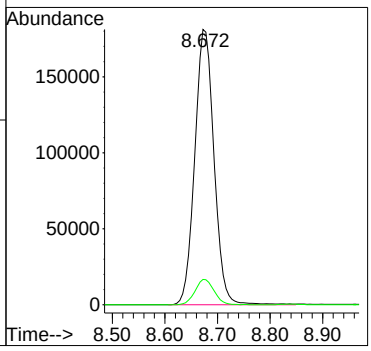


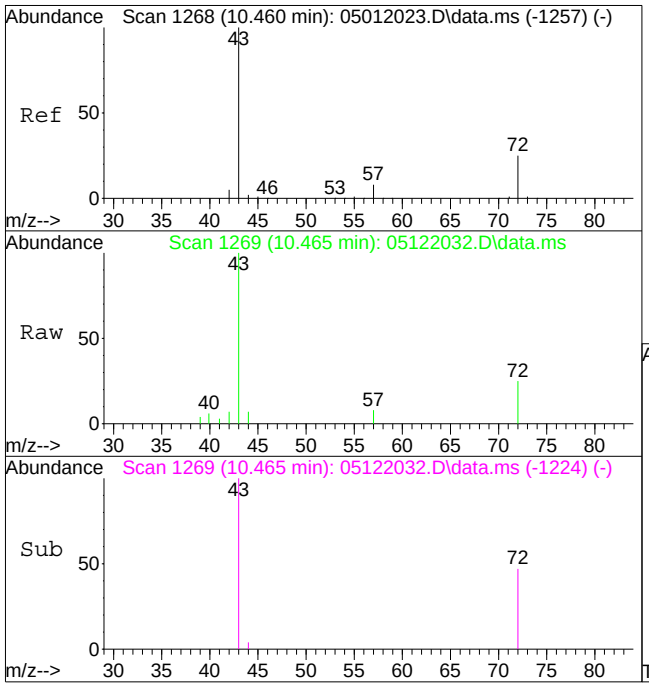


#22
Carbon Disulfide
Concen: 4.37 ng
RT: 8.67 min Scan# 943
Delta R.T. -0.022 min
Lab File: 05122032.D
Acq: 12 May 2020 19:59

Tgt Ion: 76 Resp: 460835

Ion	Ratio	Lower	Upper
76	100		
78	9.1	0.0	29.2

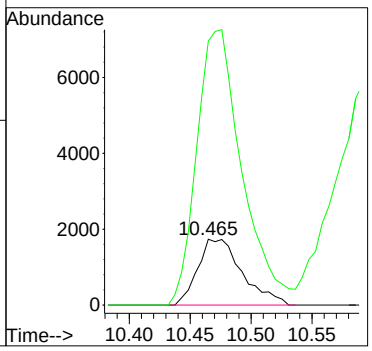


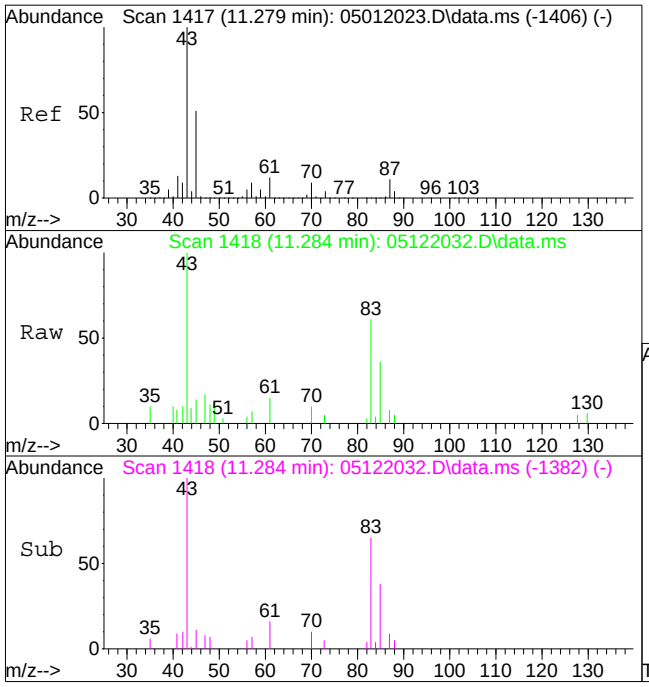


#27
2-Butanone (MEK)
Concen: 0.23 ng
RT: 10.46 min Scan# 1269
Delta R.T. -0.000 min
Lab File: 05122032.D
Acq: 12 May 2020 19:59

Tgt Ion: 72 Resp: 4407

Ion	Ratio	Lower	Upper
72	100		
43	426.6	389.7	429.7

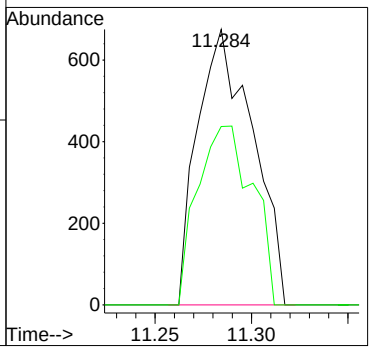


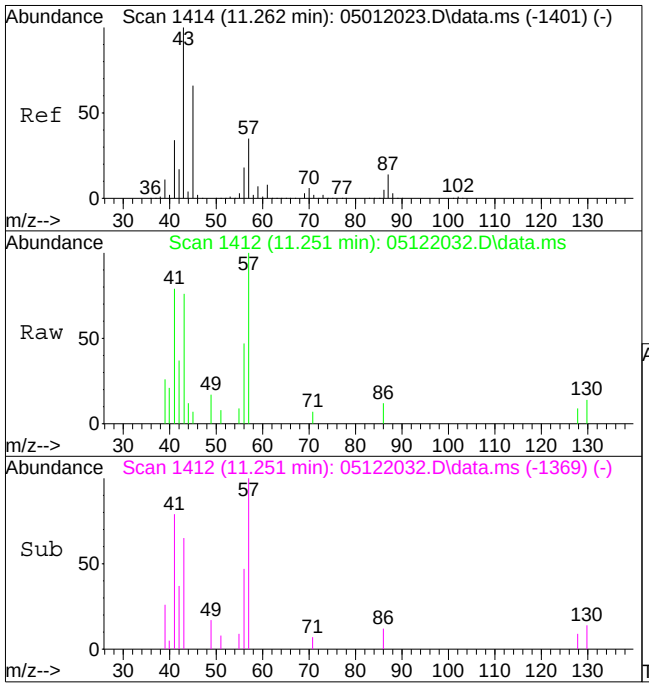


#30
Ethyl Acetate
Concen: 0.12 ng
RT: 11.28 min Scan# 1418
Delta R.T. -0.000 min
Lab File: 05122032.D
Acq: 12 May 2020 19:59

Tgt Ion: 61 Resp: 1345

Ion	Ratio	Lower	Upper
61	100		
70	64.6	57.9	97.9

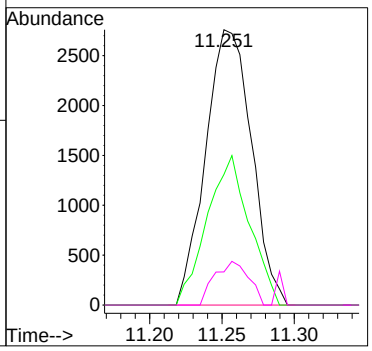


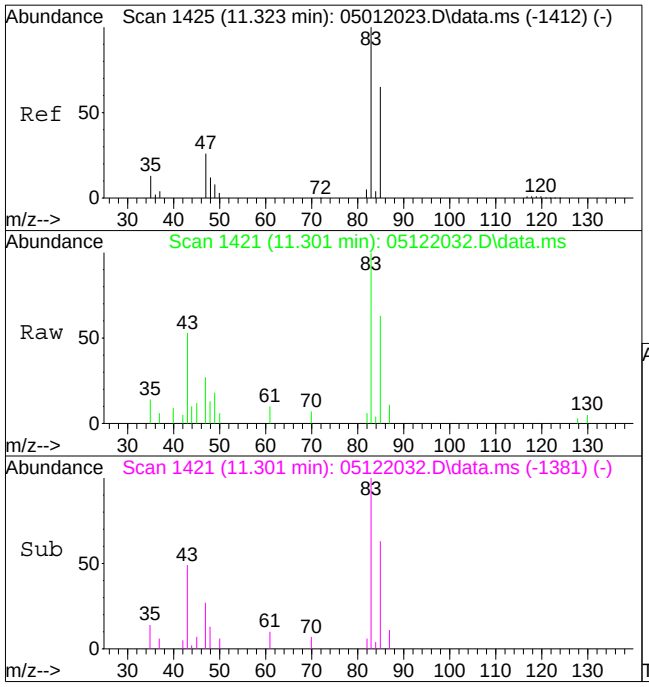


#31
n-Hexane
Concen: 0.13 ng
RT: 11.25 min Scan# 1412
Delta R.T. -0.011 min
Lab File: 05122032.D
Acq: 12 May 2020 19:59

Tgt Ion: 57 Resp: 6105

Ion	Ratio	Lower	Upper
57	100		
56	50.1	41.4	62.0
86	11.8	12.4	18.6#

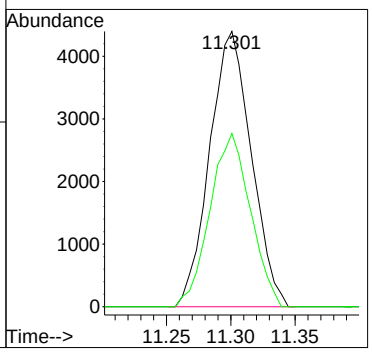


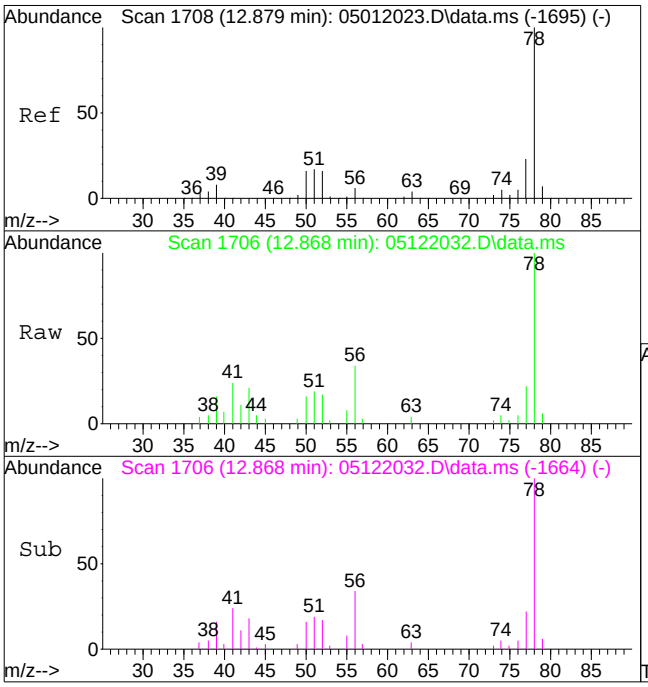


#32
Chloroform
Concen: 0.20 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.028 min
Lab File: 05122032.D
Acq: 12 May 2020 19:59

Tgt Ion: 83 Resp: 9911

Ion	Ratio	Lower	Upper
83	100		
85	61.0	45.5	85.5

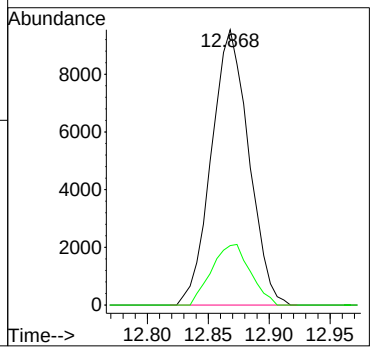


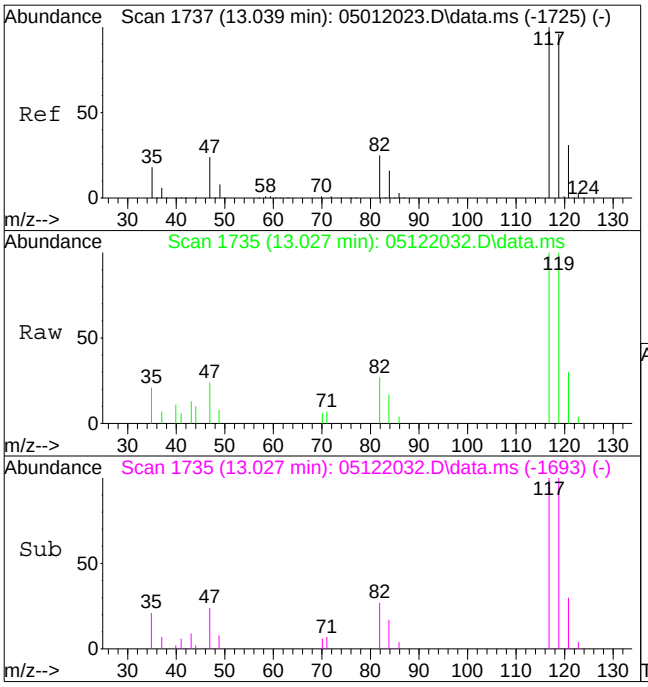


#41
Benzene
Concen: 0.17 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05122032.D
Acq: 12 May 2020 19:59

Tgt Ion: 78 Resp: 20348

Ion	Ratio	Lower	Upper
78	100		
77	22.7	3.4	43.4

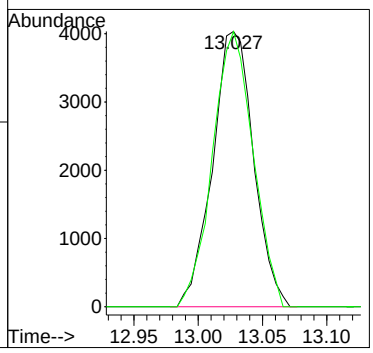


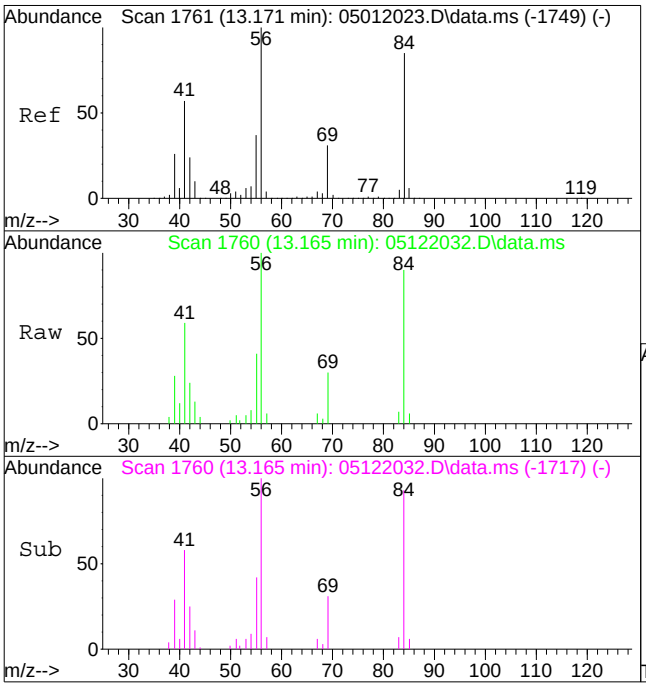


#42
Carbon Tetrachloride
Concen: 0.23 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05122032.D
Acq: 12 May 2020 19:59

Tgt Ion:117 Resp: 8961

Ion	Ratio	Lower	Upper
117	100		
119	98.8	76.2	116.2

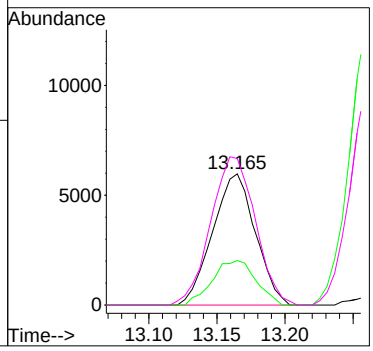


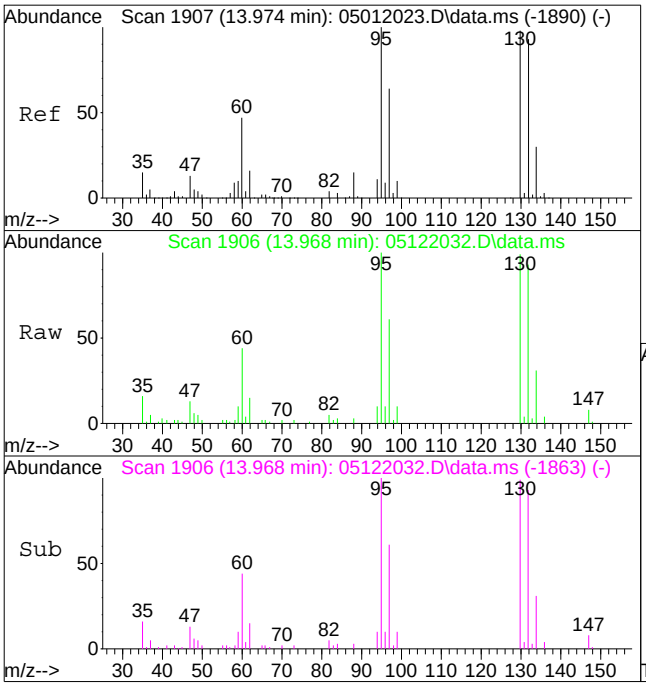


#43
Cyclohexane
Concen: 0.30 ng
RT: 13.16 min Scan# 1760
Delta R.T. -0.011 min
Lab File: 05122032.D
Acq: 12 May 2020 19:59

Tgt Ion: 84 Resp: 13045

Ion	Ratio	Lower	Upper
84	100		
69	34.6	16.5	56.5
56	117.6	97.4	137.4

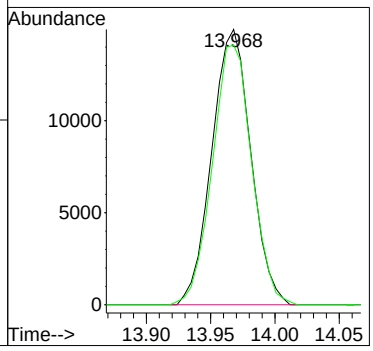


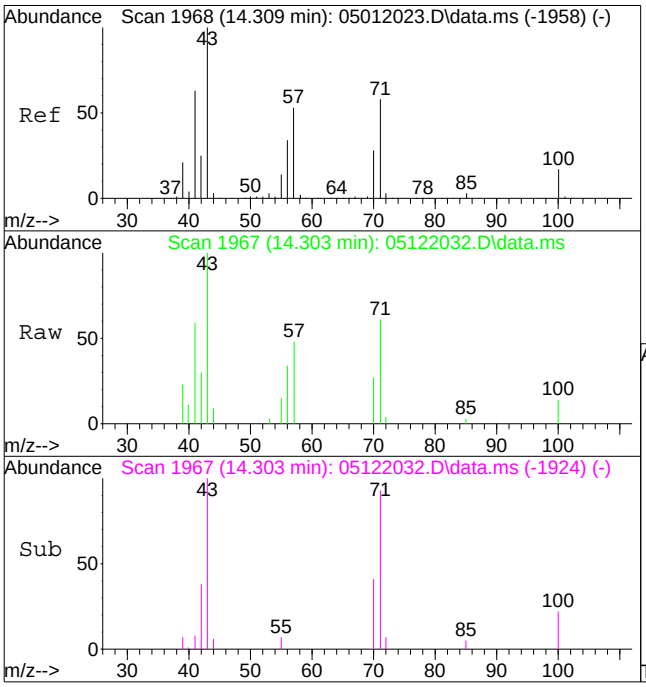


#47
Trichloroethene
Concen: 1.05 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05122032.D
Acq: 12 May 2020 19:59

Tgt Ion:130 Resp: 31558

Ion	Ratio	Lower	Upper
130	100		
132	95.3	74.9	114.9

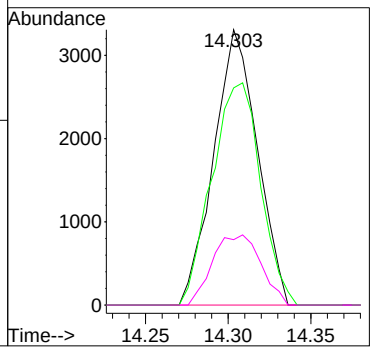


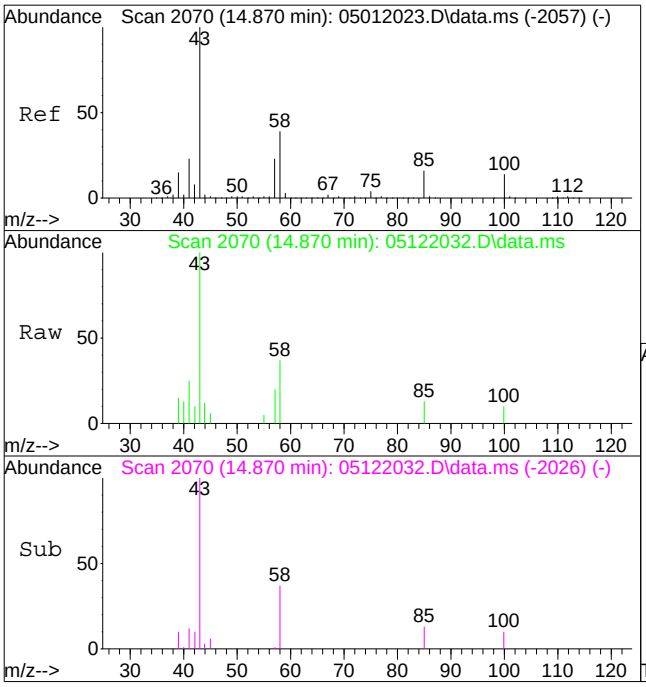


#51
n-Heptane
Concen: 0.22 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05122032.D
Acq: 12 May 2020 19:59

Tgt Ion: 71 Resp: 6071

Ion	Ratio	Lower	Upper
71	100		
57	90.1	71.0	111.0
100	28.3	8.4	48.4

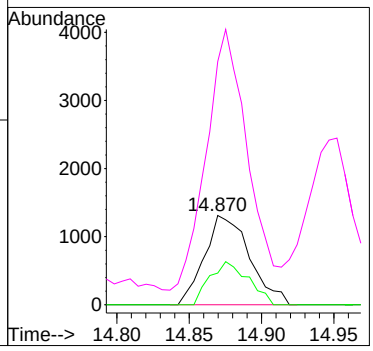


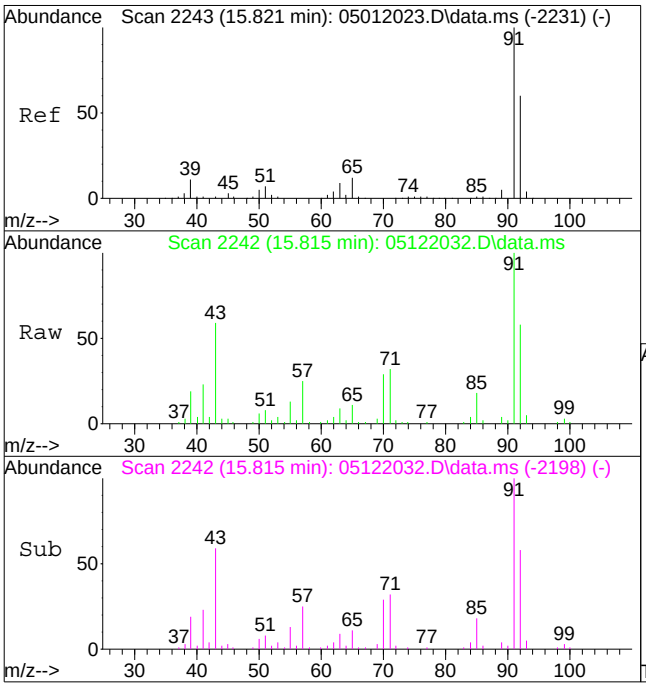


#53
4-Methyl-2-pentanone
Concen: 0.11 ng
RT: 14.87 min Scan# 2070
Delta R.T. -0.006 min
Lab File: 05122032.D
Acq: 12 May 2020 19:59

Tgt Ion: 58 Resp: 2844

Ion	Ratio	Lower	Upper
58	100		
85	41.1	35.4	53.2
43	301.2	203.3	304.9

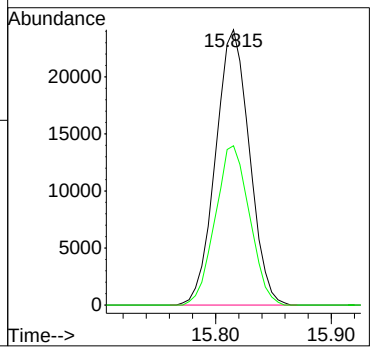


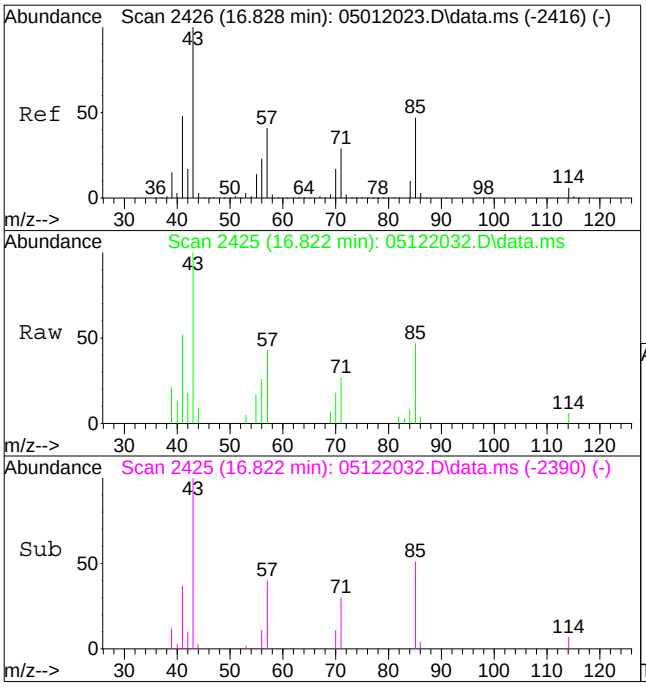


#58
Toluene
Concen: 0.45 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05122032.D
Acq: 12 May 2020 19:59

Tgt Ion: 91 Resp: 49103

Ion	Ratio	Lower	Upper
91	100		
92	58.7	39.4	79.4

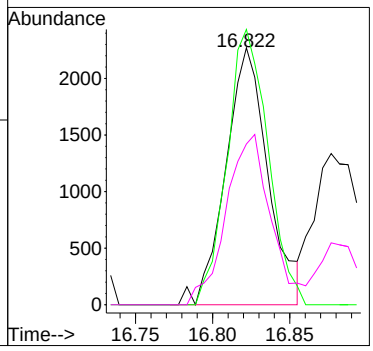


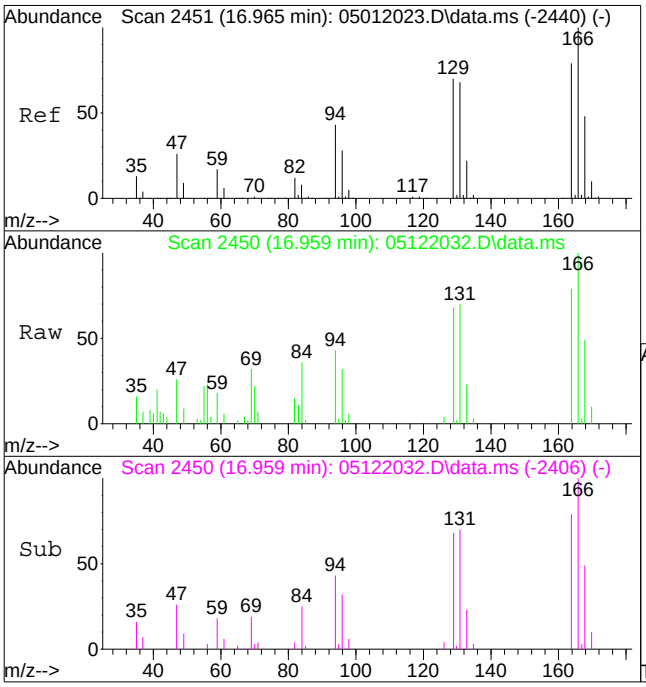


#63
n-Octane
Concen: 0.19 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05122032.D
Acq: 12 May 2020 19:59

Tgt Ion: 57 Resp: 4337

Ion	Ratio	Lower	Upper
57	100		
85	103.8	91.0	136.4
71	70.1	56.2	84.2

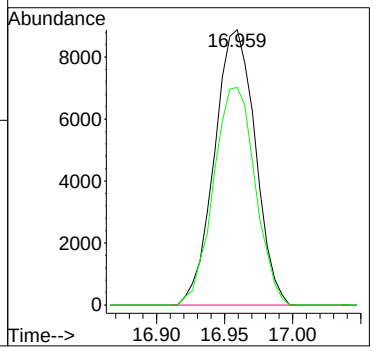


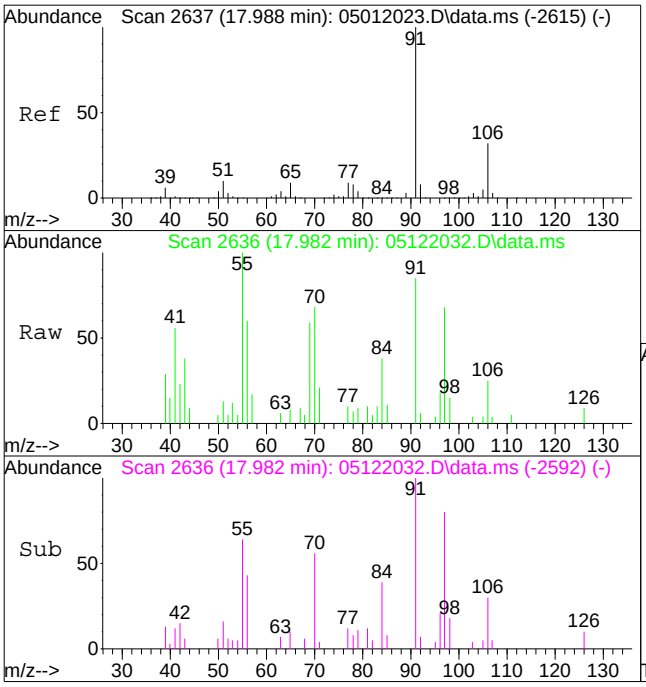


#64
Tetrachloroethene
Concen: 0.60 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05122032.D
Acq: 12 May 2020 19:59

Tgt Ion:166 Resp: 18513

Ion	Ratio	Lower	Upper
166	100		
164	80.6	58.4	98.4

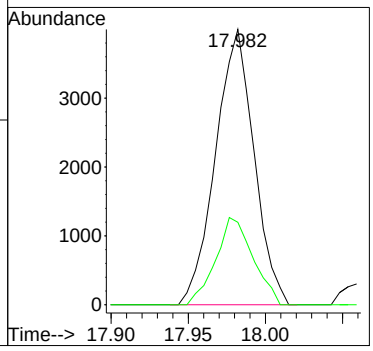


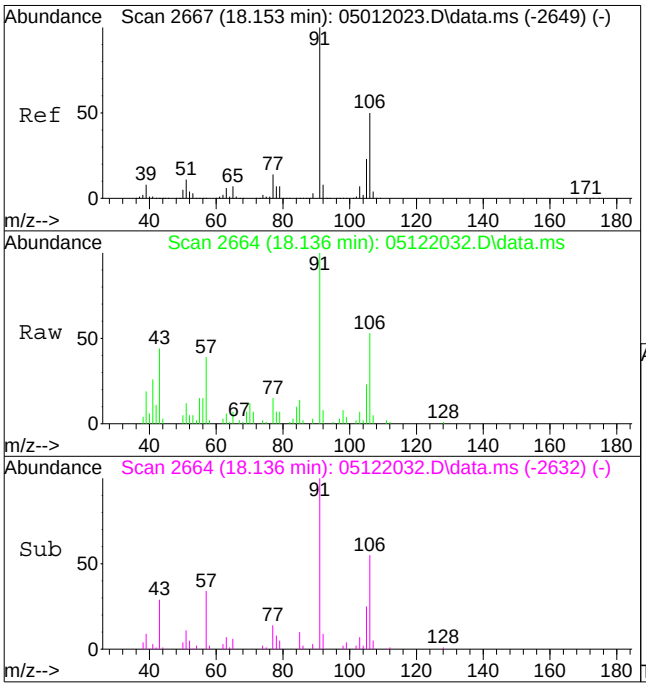


#66
Ethylbenzene
Concen: 0.06 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05122032.D
Acq: 12 May 2020 19:59

Tgt Ion: 91 Resp: 6939

Ion	Ratio	Lower	Upper
91	100		
106	30.7	11.6	51.6

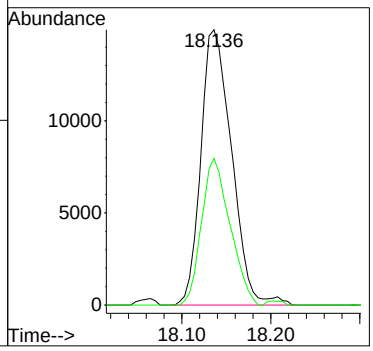


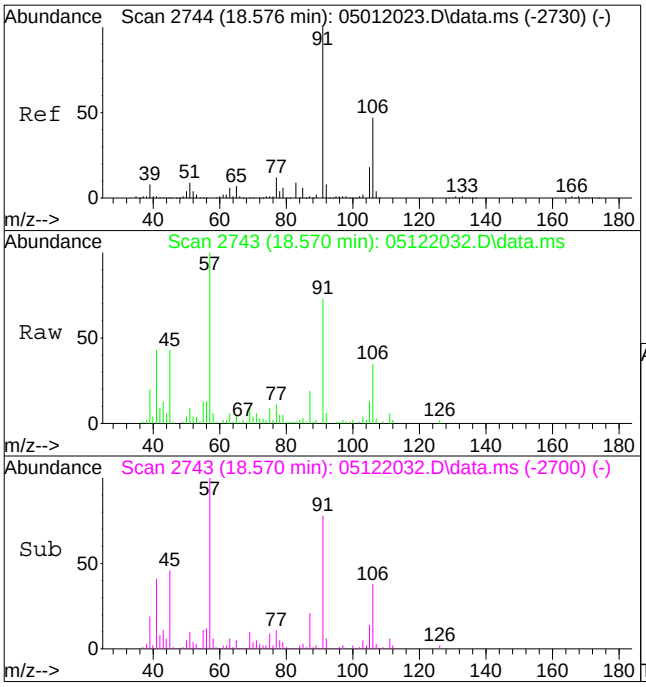


#67
m- & p-Xylenes
Concen: 0.37 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05122032.D
Acq: 12 May 2020 19:59

Tgt Ion: 91 Resp: 35931

Ion	Ratio	Lower	Upper
91	100		
106	49.3	29.7	69.7

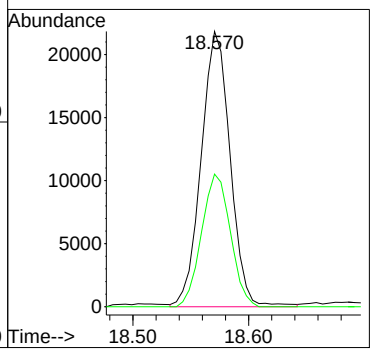


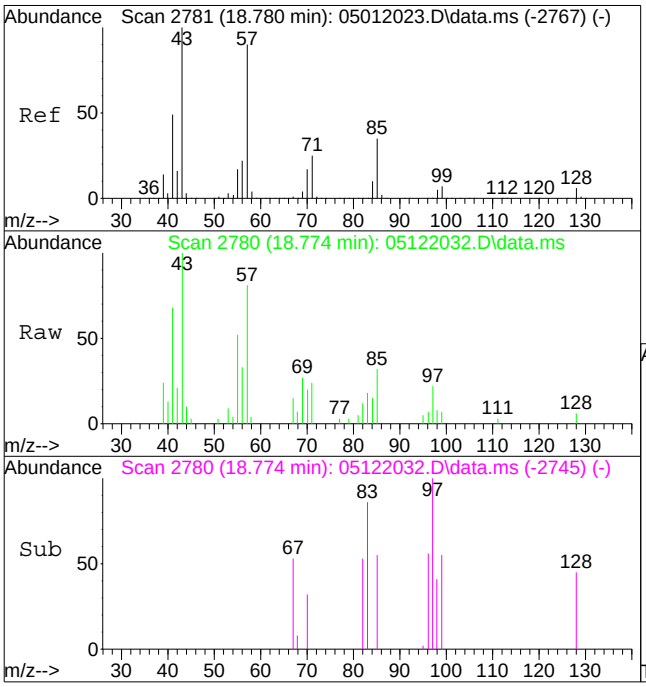


#70
o-Xylene
Concen: 0.39 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05122032.D
Acq: 12 May 2020 19:59

Tgt Ion: 91 Resp: 37980

Ion	Ratio	Lower	Upper
91	100		
106	47.8	27.5	67.5

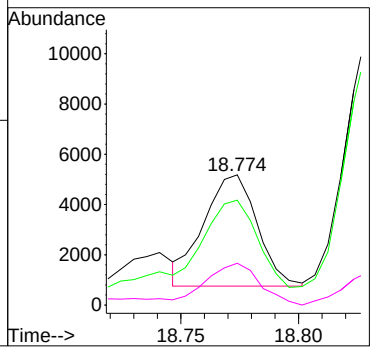


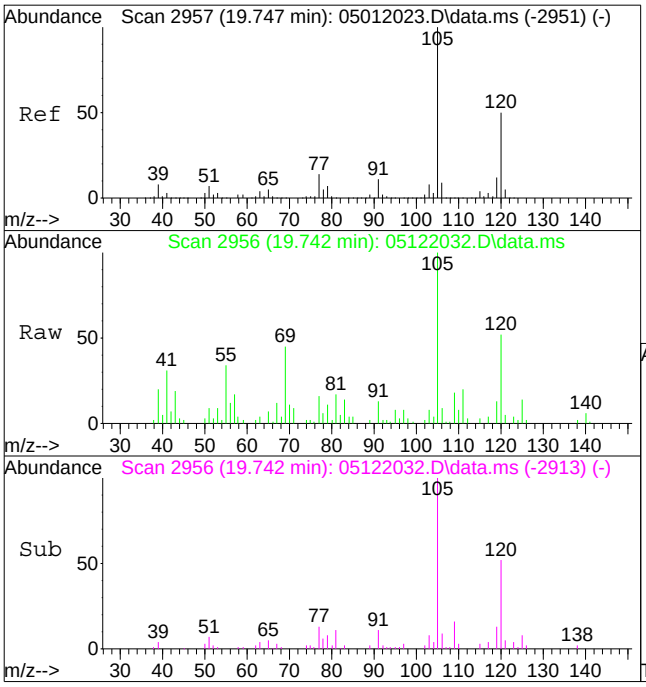


#71
n-Nonane
Concen: 0.13 ng m
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05122032.D
Acq: 12 May 2020 19:59

Tgt Ion: 43 Resp: 7023

Ion	Ratio	Lower	Upper
43	100		
57	91.7	69.0	109.0
85	37.4	14.6	54.6

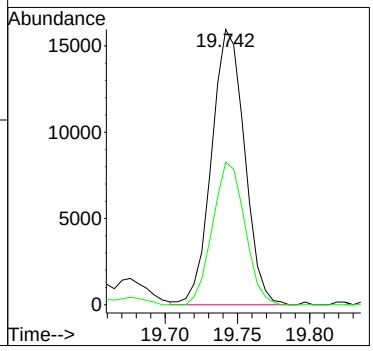


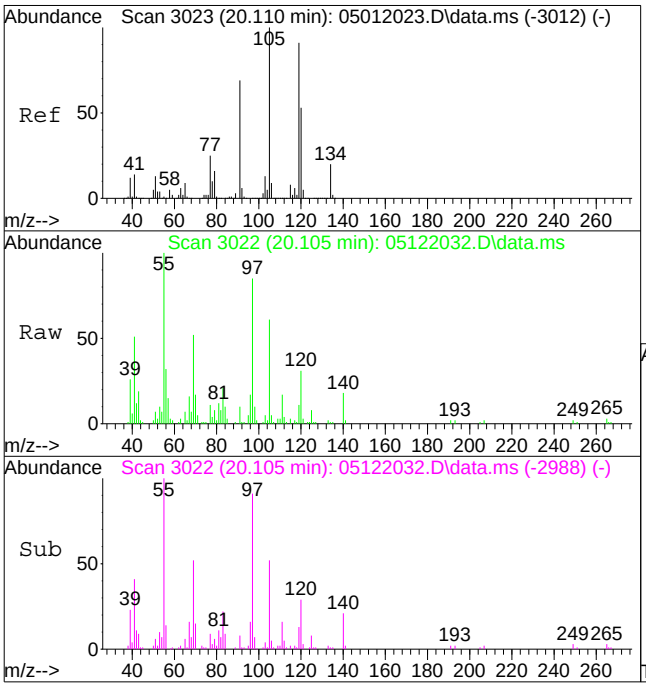


#79
1,3,5-Trimethylbenzene
Concen: 0.26 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05122032.D
Acq: 12 May 2020 19:59

Tgt Ion:105 Resp: 25254

Ion	Ratio	Lower	Upper
105	100		
120	50.7	29.9	69.9

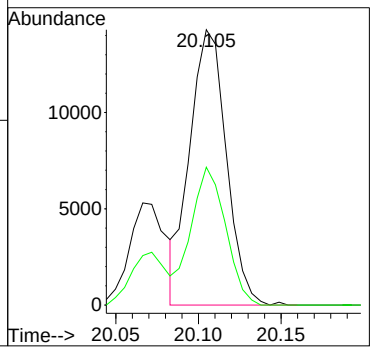


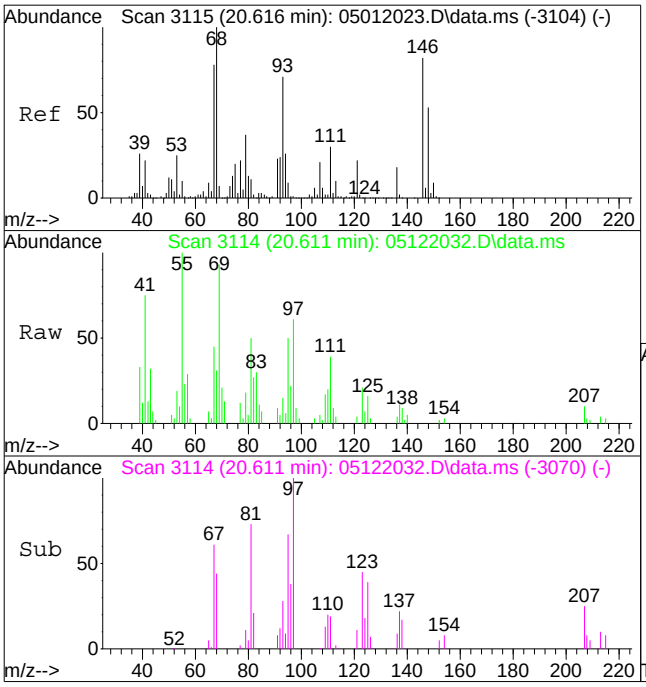


#82
1,2,4-Trimethylbenzene
Concen: 0.22 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05122032.D
Acq: 12 May 2020 19:59

Tgt Ion:105 Resp: 22027

Ion	Ratio	Lower	Upper
105	100		
120	47.7	33.6	73.6

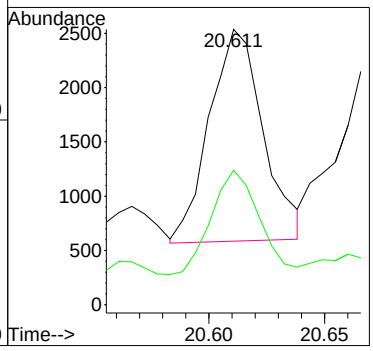




#91
d-Limonene
Concen: 0.08 ng
RT: 20.61 min Scan# 3114
Delta R.T. -0.006 min
Lab File: 05122032.D
Acq: 12 May 2020 19:59

Tgt Ion: 68 Resp: 3159

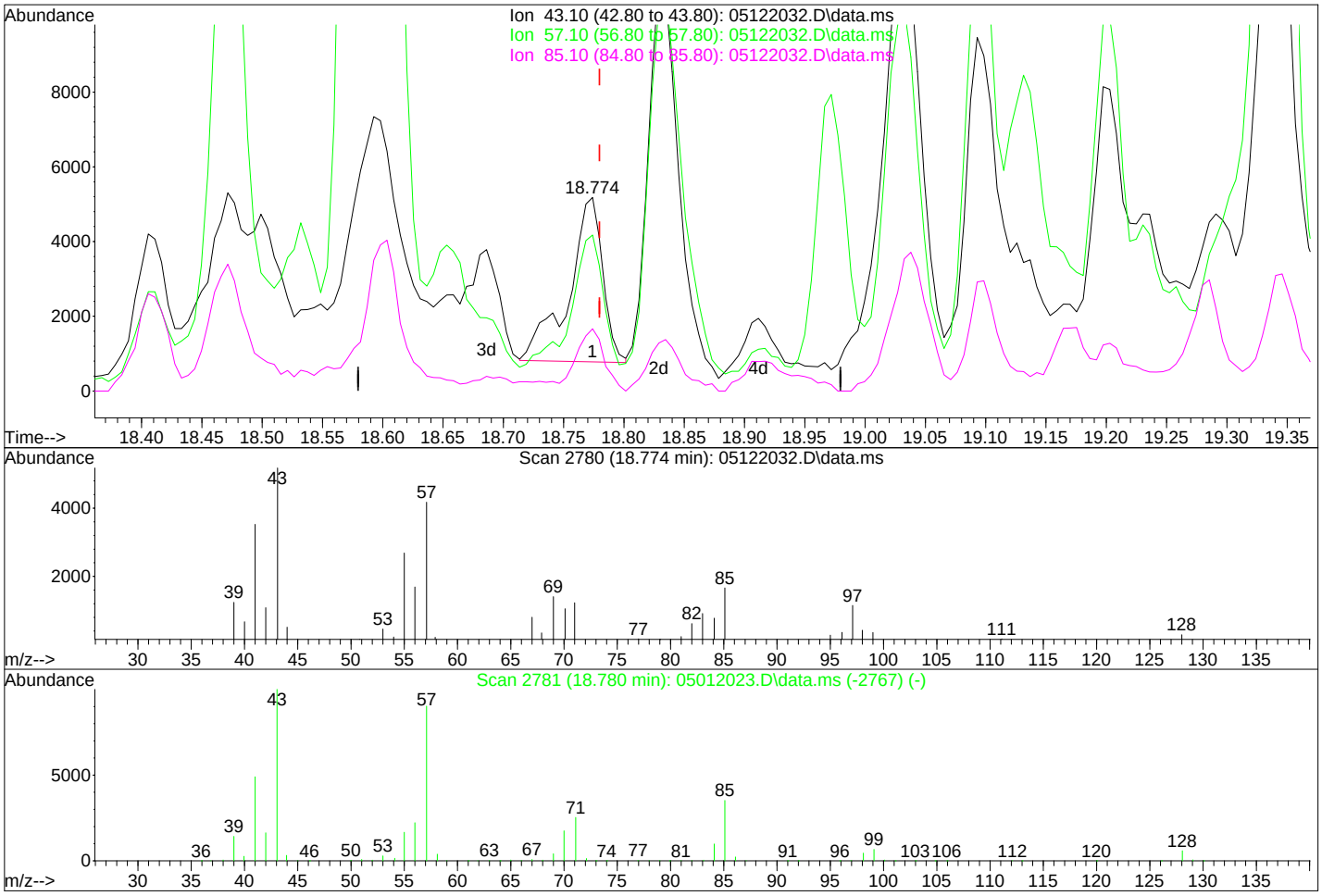
Ion	Ratio	Lower	Upper
68	100		
93	44.0	51.1	91.1#



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\12\05122032.D Vial: 12
Acq On : 12 May 2020 19:59 Operator: WA
Sample : P2002300-020 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 05:59:39 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05122032.D\data.ms

(71) n-Nonane (T)

18.774min (-0.006) 0.17ng

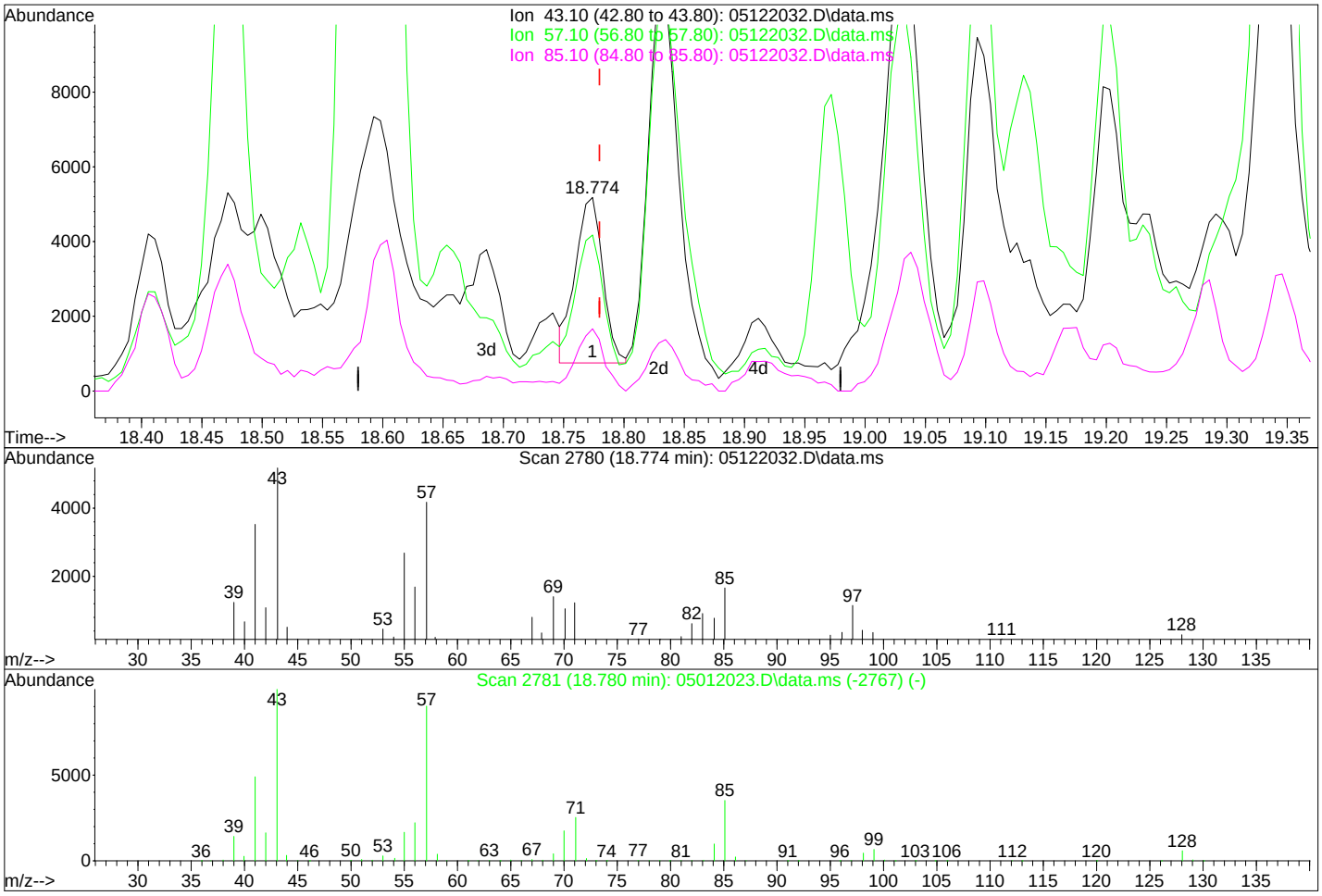
response 8639

Ion	Exp%	Act%
43.10	100	100
57.10	89.00	74.53
85.10	34.60	30.41
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\12\05122032.D Vial: 12
Acq On : 12 May 2020 19:59 Operator: WA
Sample : P2002300-020 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 05:59:39 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05122032.D\data.ms

(71) n-Nonane (T)

18.774min (-0.006) 0.13ng m

response 7023

Ion	Exp%	Act%
43.10	100	100
57.10	89.00	91.68
85.10	34.60	37.41
0.00	0.00	0.00

IPC

LH 5/13/20

5/14/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122004.D Vial: 2
Acq On : 12 May 2020 3:36 Operator: LH
Sample : MB R16051220_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: May 12 10:09:03 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 5/12/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	254103	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	13.26	114	1093988	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	494320	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	399419	11.599	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.80%				
57) Toluene-d8 (SS2)	15.71	98	1061063	12.664	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.28%				
73) Bromofluorobenzene (SS3)	18.97	174	398089	13.204	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.60%				
Target Compounds							Qvalue
2) Propene	4.14	42	329	N.D.			
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.33	45	9511	0.419	ng		88
11) Acetonitrile	6.60	41	4892	0.094	ng	#	37
12) Acrolein	6.80	56	461	N.D.			
13) Acetone	7.04	58	3947	0.174	ng	#	42
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	7.56	45	1669	N.D.			
16) Acrylonitrile	7.75	53	1253	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.69	76	1590	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	10.49	72	110	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	11.26	57	258	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	11.79	72	127	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	12.87	56	1799	0.066	ng	#	70
41) Benzene	12.87	78	1003	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	13.16	84	5012	0.115	ng		99
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	14.02	83	311	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.04	57	20789	0.182	ng		85
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122004.D Vial: 2
Acq On : 12 May 2020 3:36 Operator: LH
Sample : MB R16051220_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: May 12 10:09:03 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

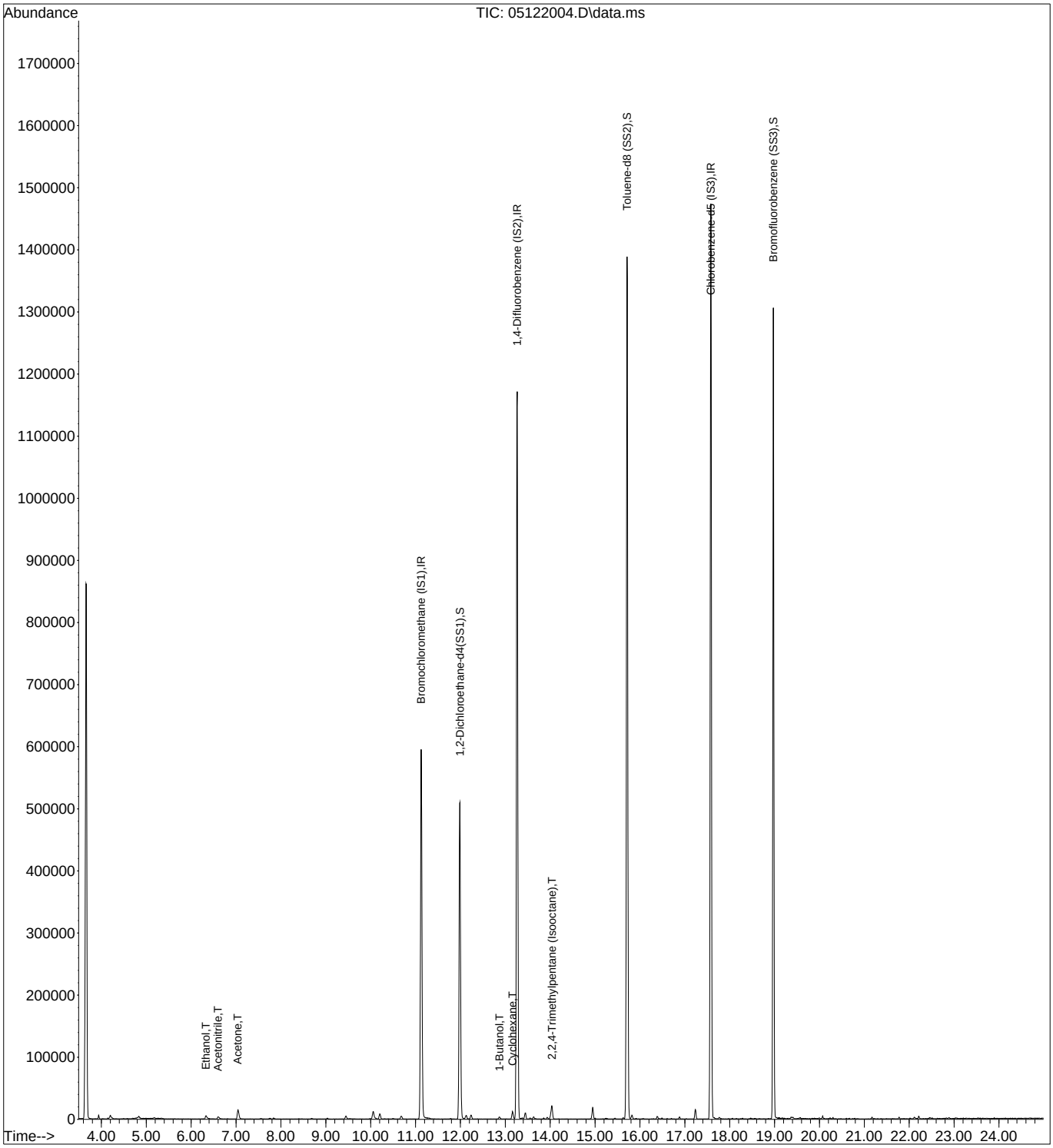
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.82	91	2256	N.D.		
59) 2-Hexanone	16.07	43	828	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.70	43	543	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	17.62	112	365	N.D.		
66) Ethylbenzene	17.98	91	750	N.D.		
67) m- & p-Xylenes	18.15	91	1331	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	429	N.D.		
70) o-Xylene	18.57	91	565	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.10	105	319	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	19.54	91	456	N.D.		
77) 3-Ethyltoluene	19.64	105	386	N.D.		
78) 4-Ethyltoluene	19.67	105	566	N.D.		
79) 1,3,5-Trimethylbenzene	19.73	105	1543	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	19.91	105	1111	N.D.		
82) 1,2,4-Trimethylbenzene	20.11	105	1261	N.D.		
83) n-Decane	20.37	57	312	N.D.		
84) Benzyl Chloride	20.22	91	944	N.D.		
85) 1,3-Dichlorobenzene	20.24	146	879	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	1097	N.D.		
87) sec-Butylbenzene	20.34	105	128	N.D.		
88) 4-Isopropyltoluene (p-...	20.48	119	191	N.D.		
89) 1,2,3-Trimethylbenzene	20.48	105	236	N.D.		
90) 1,2-Dichlorobenzene	20.60	146	469	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.24	57	112	N.D.		
94) 1,2,4-Trichlorobenzene	22.11	180	871	N.D.		
95) Naphthalene	22.21	128	4002	N.D.		
96) n-Dodecane	22.17	57	344	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.28	55	473	N.D.		
99) tert-Butylbenzene	20.07	119	453	N.D.		
100) n-Butylbenzene	20.85	91	466	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122004.D Vial: 2
Acq On : 12 May 2020 3:36 Operator: LH
Sample : MB R16051220_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: May 12 10:09:03 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122005.D Vial: 2
Acq On : 12 May 2020 4:10 Operator: LH
Sample : LCS R16051220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 12 10:09:06 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 5/12/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	271922	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.28	114	1156459	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.58	82	526614	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	426996	11.587	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.72%				
57) Toluene-d8 (SS2)	15.72	98	1118566	12.531	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.24%				
73) Bromofluorobenzene (SS3)	18.98	174	426260	13.272	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.16%				
Target Compounds							Qvalue
2) Propene	4.08	42	778084	24.706	ng		100
3) Dichlorodifluoromethan...	4.24	85	1406826	22.838	ng		100
4) Chloromethane	4.52	50	1056783	21.899	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.79	135	798902	21.708	ng		100
6) Vinyl Chloride	4.94	62	1174979	22.203	ng		99
7) 1,3-Butadiene	5.21	54	994133	22.704	ng		99
8) Bromomethane	5.64	94	628281	22.474	ng		100
9) Chloroethane	5.98	64	471808	22.568	ng		100
10) Ethanol	6.38	45	2713169	111.568	ng		100
11) Acetonitrile	6.62	41	1235470	22.231	ng		100
12) Acrolein	6.79	56	410364	21.356	ng		100
13) Acetone	7.01	58	2863714	117.749	ng		98
14) Trichlorofluoromethane	7.24	101	1233128	22.651	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	3494381	47.472	ng		100
16) Acrylonitrile	7.77	53	911335	22.922	ng		100
17) 1,1-Dichloroethene	8.19	96	675302	23.663	ng		97
18) 2-Methyl-2-Propanol (t...	8.38	59	3032721	44.193	ng		100
19) Methylene Chloride	8.43	84	706362	22.343	ng		100
20) 3-Chloro-1-propene (Al...	8.58	41	989573	22.783	ng		100
21) Trichlorotrifluoroethane	8.84	151	633412	24.644	ng		96
22) Carbon Disulfide	8.68	76	2586212	22.829	ng		100
23) trans-1,2-Dichloroethene	9.70	61	992416	22.838	ng		97
24) 1,1-Dichloroethane	9.96	63	1158247	22.452	ng		100
25) Methyl tert-Butyl Ether	10.05	73	1815512	22.374	ng		100
26) Vinyl Acetate	10.22	86	950977	125.532	ng	#	93
27) 2-Butanone (MEK)	10.45	72	476530	22.976	ng		97
28) cis-1,2-Dichloroethene	10.98	61	962823	22.652	ng		98
29) Diisopropyl Ether	11.27	87	670195	22.843	ng	#	93
30) Ethyl Acetate	11.27	61	622871	52.081	ng		98
31) n-Hexane	11.26	57	1288651	24.842	ng		100
32) Chloroform	11.32	83	1257975	23.241	ng		100
34) Tetrahydrofuran (THF)	11.72	72	468069	23.139	ng		99
35) Ethyl tert-Butyl Ether	11.86	87	849203	23.951	ng		99
36) 1,2-Dichloroethane	12.12	62	959023	22.363	ng		100
38) 1,1,1-Trichloroethane	12.40	97	1129143	24.241	ng		100
39) Isopropyl Acetate	12.83	61	1040742	51.081	ng		95
40) 1-Butanol	12.85	56	1618183	55.824	ng		97
41) Benzene	12.88	78	2892446	23.323	ng		100
42) Carbon Tetrachloride	13.03	117	995507	23.599	ng		100
43) Cyclohexane	13.17	84	2274511	49.216	ng		100
44) tert-Amyl Methyl Ether	13.51	73	2063922	24.818	ng		100
45) 1,2-Dichloropropane	13.73	63	692844	24.122	ng		100
46) Bromodichloromethane	13.92	83	1021358	24.369	ng		100
47) Trichloroethene	13.97	130	788678	24.603	ng		100
48) 1,4-Dioxane	13.94	88	621812	24.895	ng		99
49) 2,2,4-Trimethylpentane...	14.04	57	2911988	24.130	ng		100
50) Methyl Methacrylate	14.18	100	627694	51.018	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122005.D Vial: 2
Acq On : 12 May 2020 4:10 Operator: LH
Sample : LCS R16051220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 12 10:09:06 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

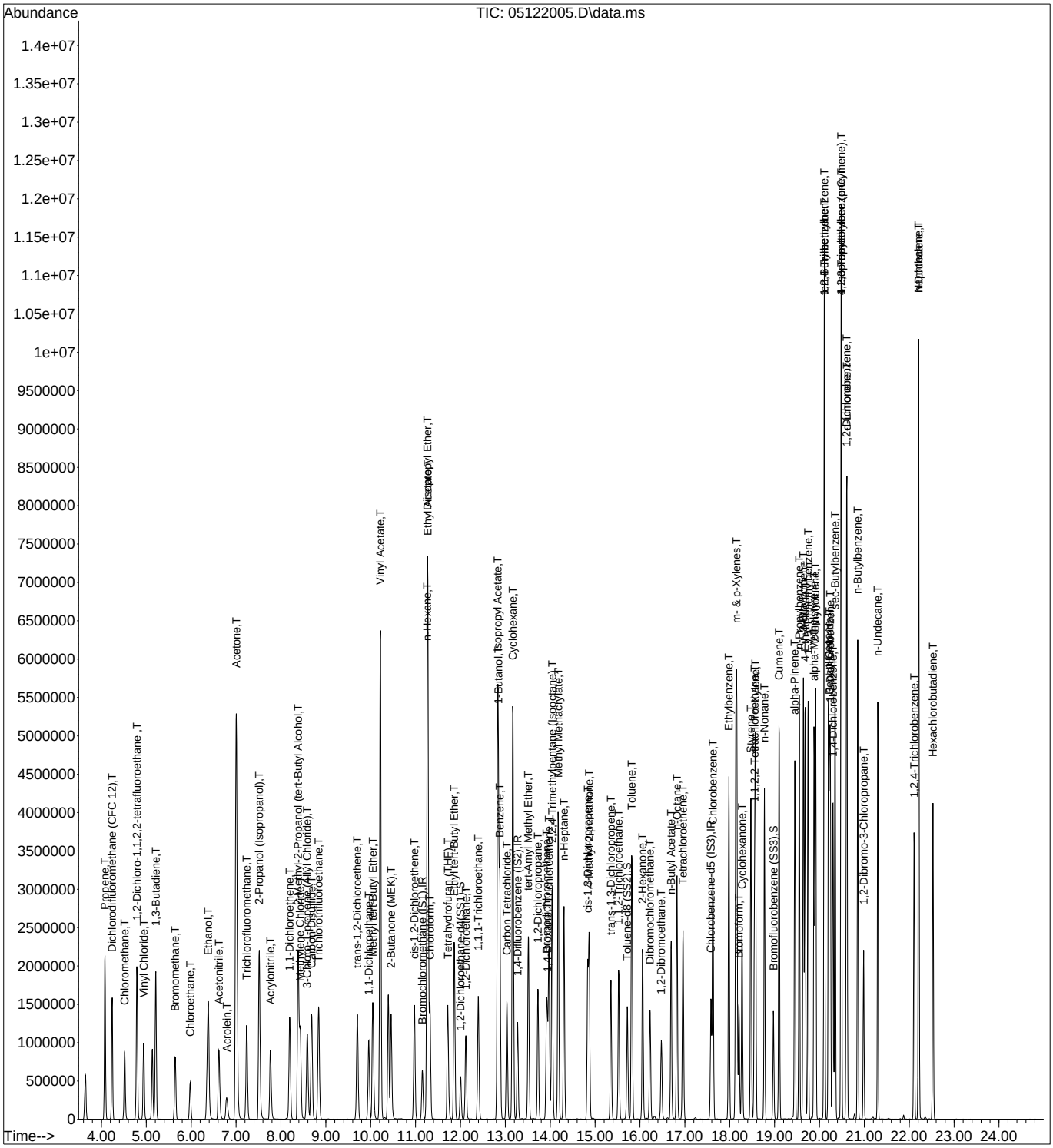
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	690508	23.809	ng	99
52) cis-1,3-Dichloropropene	14.84	75	1251194	25.373	ng	100
53) 4-Methyl-2-pentanone	14.87	58	701341	25.368	ng	98
54) trans-1,3-Dichloropropene	15.35	75	1085902	25.737	ng	100
55) 1,1,2-Trichloroethane	15.52	97	707097	24.825	ng	100
58) Toluene	15.82	91	2854839	24.812	ng	100
59) 2-Hexanone	16.06	43	1723907	27.343	ng	99
60) Dibromochloromethane	16.22	129	885089	26.864	ng	100
61) 1,2-Dibromoethane	16.48	107	824788	26.047	ng	100
62) n-Butyl Acetate	16.70	43	1919569	28.187	ng	100
63) n-Octane	16.83	57	606035	25.442	ng	99
64) Tetrachloroethene	16.96	166	836986	25.754	ng	100
65) Chlorobenzene	17.62	112	1928216	24.356	ng	100
66) Ethylbenzene	17.98	91	3377113	26.322	ng	100
67) m- & p-Xylenes	18.15	91	5472128	53.763	ng	100
68) Bromoform	18.21	173	765379	26.797	ng	100
69) Styrene	18.47	104	2109747	27.559	ng	99
70) o-Xylene	18.58	91	2714919	26.274	ng	100
71) n-Nonane	18.77	43	1472988	26.867	ng	98
72) 1,1,2,2-Tetrachloroethane	18.55	83	1372331	26.771	ng	100
74) Cumene	19.10	105	3390776	26.739	ng	100
75) alpha-Pinene	19.45	93	1769830	26.156	ng	99
76) n-Propylbenzene	19.55	91	4151928	27.560	ng	100
77) 3-Ethyltoluene	19.64	105	3443584	28.056	ng	100
78) 4-Ethyltoluene	19.68	105	3273531	27.486	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	2843054	27.493	ng	100
80) alpha-Methylstyrene	19.88	118	1508112	25.874	ng	99
81) 2-Ethyltoluene	19.91	105	3407903	28.148	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3090454	29.733	ng	100
83) n-Decane	20.20	57	1563923	26.897	ng	99
84) Benzyl Chloride	20.23	91	2619662	27.041	ng	100
85) 1,3-Dichlorobenzene	20.24	146	1730632	28.675	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1701093	28.882	ng	100
87) sec-Butylbenzene	20.35	105	3796050	28.136	ng	100
88) 4-Isopropyltoluene (p-...	20.48	119	3626895	28.387	ng	99
89) 1,2,3-Trimethylbenzene	20.48	105	3033050	27.883	ng	99
90) 1,2-Dichlorobenzene	20.61	146	1701670	29.448	ng	100
91) d-Limonene	20.61	68	1167974	28.452	ng	99
92) 1,2-Dibromo-3-Chloropr...	20.98	157	581886	26.706	ng	98
93) n-Undecane	21.30	57	1539093	28.600	ng	99
94) 1,2,4-Trichlorobenzene	22.11	180	1162112	28.996	ng	100
95) Naphthalene	22.21	128	3821352	30.125	ng	100
96) n-Dodecane	22.21	57	1465359	31.450	ng	99
97) Hexachlorobutadiene	22.53	225	759617	27.400	ng	100
98) Cyclohexanone	18.27	55	1035661	25.715	ng	99
99) tert-Butylbenzene	20.11	119	2895853	28.307	ng	100
100) n-Butylbenzene	20.85	91	3109731	29.385	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122005.D Vial: 2
Acq On : 12 May 2020 4:10 Operator: LH
Sample : LCS R16051220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 12 10:09:06 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122006.D Vial: 2
Acq On : 12 May 2020 4:44 Operator: LH
Sample : LCSD R16051220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 12 10:09:07 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 5/12/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	273665	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.28	114	1172398	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.58	82	530162	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	436211	11.762	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.08%				
57) Toluene-d8 (SS2)	15.72	98	1130030	12.575	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.64%				
73) Bromofluorobenzene (SS3)	18.98	174	432951	13.390	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.12%				
Target Compounds							Qvalue
2) Propene	4.09	42	807439	25.474	ng		100
3) Dichlorodifluoromethan...	4.25	85	1442329	23.266	ng		100
4) Chloromethane	4.53	50	1108173	22.817	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	827512	22.342	ng		100
6) Vinyl Chloride	4.95	62	1217911	22.868	ng		99
7) 1,3-Butadiene	5.22	54	1037711	23.548	ng		99
8) Bromomethane	5.65	94	649172	23.074	ng		100
9) Chloroethane	5.99	64	484978	23.051	ng		100
10) Ethanol	6.39	45	2860698	116.885	ng		100
11) Acetonitrile	6.63	41	1293770	23.132	ng		100
12) Acrolein	6.80	56	429757	22.223	ng		100
13) Acetone	7.01	58	2984046	121.916	ng		99
14) Trichlorofluoromethane	7.25	101	1265647	23.101	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	3639583	49.130	ng		99
16) Acrylonitrile	7.77	53	943337	23.576	ng		100
17) 1,1-Dichloroethene	8.21	96	693524	24.147	ng		98
18) 2-Methyl-2-Propanol (t...	8.39	59	3117733	45.143	ng		100
19) Methylene Chloride	8.44	84	729079	22.914	ng		100
20) 3-Chloro-1-propene (Al...	8.60	41	1047546	23.964	ng		100
21) Trichlorotrifluoroethane	8.85	151	650464	25.146	ng		97
22) Carbon Disulfide	8.69	76	2663290	23.360	ng		100
23) trans-1,2-Dichloroethene	9.71	61	1033421	23.630	ng		98
24) 1,1-Dichloroethane	9.96	63	1201451	23.141	ng		100
25) Methyl tert-Butyl Ether	10.05	73	1885906	23.093	ng		100
26) Vinyl Acetate	10.22	86	977907	128.265	ng	#	92
27) 2-Butanone (MEK)	10.46	72	499914	23.950	ng		96
28) cis-1,2-Dichloroethene	10.98	61	985334	23.034	ng		99
29) Diisopropyl Ether	11.27	87	688714	23.324	ng	#	93
30) Ethyl Acetate	11.28	61	642628	53.391	ng		98
31) n-Hexane	11.26	57	1339836	25.664	ng		100
32) Chloroform	11.32	83	1293272	23.741	ng		100
34) Tetrahydrofuran (THF)	11.72	72	482289	23.690	ng		98
35) Ethyl tert-Butyl Ether	11.87	87	874248	24.501	ng		99
36) 1,2-Dichloroethane	12.12	62	991164	22.965	ng		100
38) 1,1,1-Trichloroethane	12.40	97	1149292	24.339	ng		100
39) Isopropyl Acetate	12.83	61	1086211	52.588	ng		95
40) 1-Butanol	12.85	56	1676973	57.066	ng		97
41) Benzene	12.88	78	2971066	23.631	ng		100
42) Carbon Tetrachloride	13.04	117	1011543	23.653	ng		100
43) Cyclohexane	13.17	84	2335546	49.850	ng		99
44) tert-Amyl Methyl Ether	13.52	73	2143159	25.420	ng		100
45) 1,2-Dichloropropane	13.73	63	717980	24.657	ng		100
46) Bromodichloromethane	13.92	83	1054710	24.822	ng		100
47) Trichloroethene	13.97	130	809841	24.920	ng		100
48) 1,4-Dioxane	13.95	88	636819	25.149	ng		100
49) 2,2,4-Trimethylpentane...	14.05	57	2979702	24.356	ng		100
50) Methyl Methacrylate	14.18	100	645632	51.763	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122006.D Vial: 2
Acq On : 12 May 2020 4:44 Operator: LH
Sample : LCSD R16051220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 12 10:09:07 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

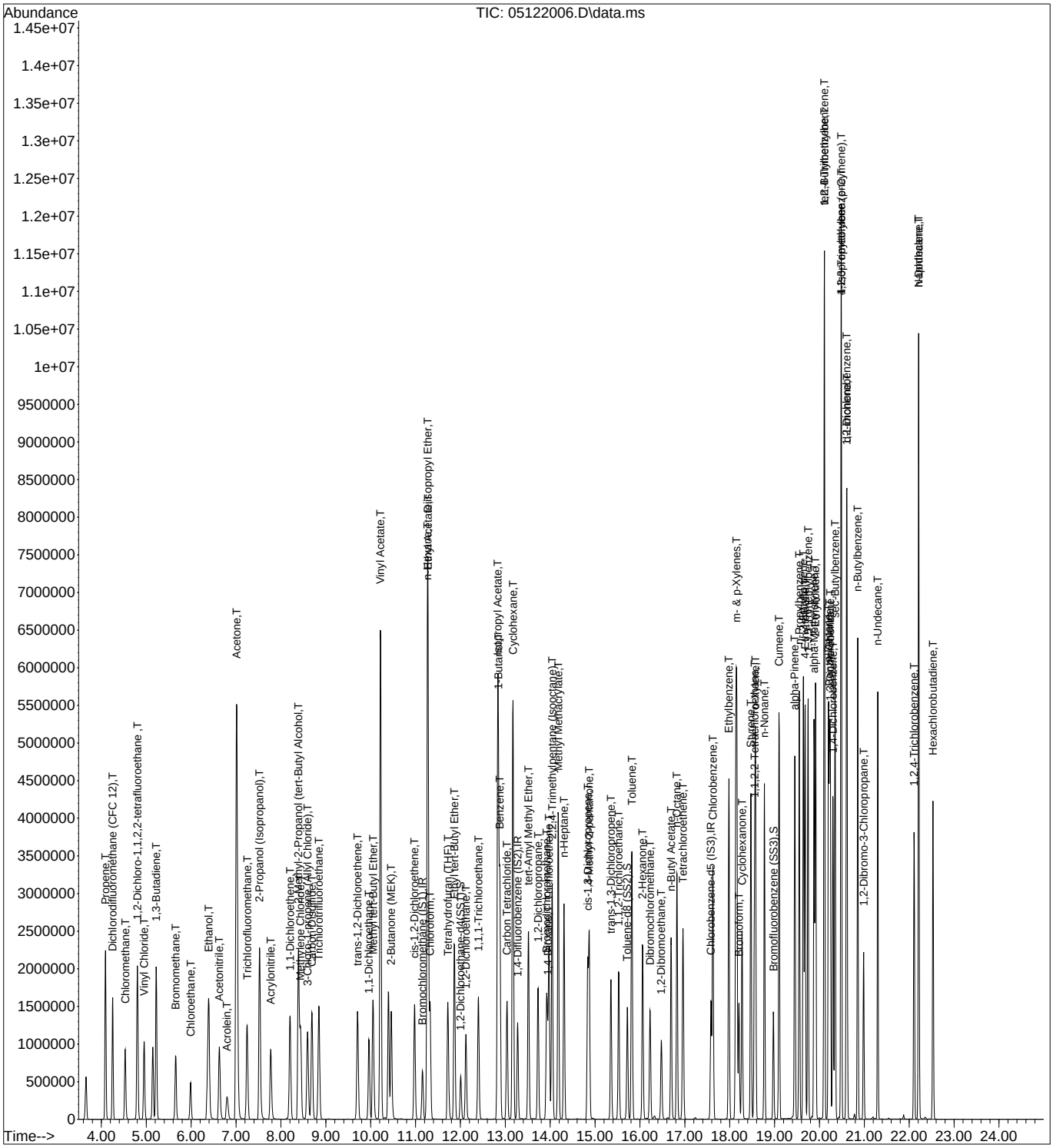
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	712250	24.225	ng	99
52) cis-1,3-Dichloropropene	14.84	75	1295314	25.911	ng	100
53) 4-Methyl-2-pentanone	14.87	58	722088	25.764	ng	98
54) trans-1,3-Dichloropropene	15.35	75	1114364	26.053	ng	100
55) 1,1,2-Trichloroethane	15.52	97	721705	24.993	ng	100
58) Toluene	15.82	91	2950949	25.476	ng	100
59) 2-Hexanone	16.06	43	1786602	28.148	ng	99
60) Dibromochloromethane	16.23	129	900672	27.154	ng	100
61) 1,2-Dibromoethane	16.48	107	841990	26.412	ng	100
62) n-Butyl Acetate	16.70	43	1995057	29.100	ng	99
63) n-Octane	16.82	57	628600	26.213	ng	99
64) Tetrachloroethene	16.96	166	855702	26.154	ng	100
65) Chlorobenzene	17.62	112	1980073	24.843	ng	100
66) Ethylbenzene	17.98	91	3460605	26.793	ng	100
67) m- & p-Xylenes	18.15	91	5734169	55.961	ng	99
68) Bromoform	18.21	173	788312	27.415	ng	100
69) Styrene	18.47	104	2180055	28.287	ng	100
70) o-Xylene	18.58	91	2795744	26.875	ng	100
71) n-Nonane	18.77	43	1524566	27.622	ng	98
72) 1,1,2,2-Tetrachloroethane	18.55	83	1407004	27.264	ng	100
74) Cumene	19.10	105	3499060	27.408	ng	100
75) alpha-Pinene	19.45	93	1823513	26.769	ng	99
76) n-Propylbenzene	19.55	91	4274657	28.185	ng	100
77) 3-Ethyltoluene	19.64	105	3555506	28.774	ng	100
78) 4-Ethyltoluene	19.68	105	3355992	27.990	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	2925838	28.104	ng	100
80) alpha-Methylstyrene	19.88	118	1553548	26.475	ng	99
81) 2-Ethyltoluene	19.91	105	3491425	28.645	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3147440	30.079	ng	99
83) n-Decane	20.20	57	1614527	27.582	ng	99
84) Benzyl Chloride	20.23	91	2716803	27.856	ng	100
85) 1,3-Dichlorobenzene	20.24	146	1775522	29.222	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1740739	29.357	ng	100
87) sec-Butylbenzene	20.35	105	3884849	28.601	ng	100
88) 4-Isopropyltoluene (p-...	20.48	119	3696154	28.736	ng	99
89) 1,2,3-Trimethylbenzene	20.48	105	3099876	28.306	ng	99
90) 1,2-Dichlorobenzene	20.61	146	1727577	29.696	ng	100
91) d-Limonene	20.61	68	1191636	28.834	ng	99
92) 1,2-Dibromo-3-Chloropr...	20.98	157	593482	27.056	ng	98
93) n-Undecane	21.30	57	1590383	29.356	ng	99
94) 1,2,4-Trichlorobenzene	22.11	180	1186415	29.404	ng	100
95) Naphthalene	22.21	128	3899033	30.532	ng	100
96) n-Dodecane	22.21	57	1499537	31.968	ng	99
97) Hexachlorobutadiene	22.53	225	778231	27.884	ng	100
98) Cyclohexanone	18.27	55	1080949	26.659	ng	99
99) tert-Butylbenzene	20.11	119	2954068	28.683	ng	100
100) n-Butylbenzene	20.85	91	3183768	29.884	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122006.D Vial: 2
Acq On : 12 May 2020 4:44 Operator: LH
Sample : LCSD R16051220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 12 10:09:07 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122009.D Vial: 13
Acq On : 12 May 2020 6:26 Operator: LH
Sample : P2002300-001dup (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:19:25 2020
Quant Method : I:\MS16\METHODS\R16050120.M LH 5/13/20
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	297531	12.500 ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1290058	12.500 ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	611482	12.500 ng	0.00
System Monitoring Compounds					
33) 1,2-Dichloroethane-d4(...	11.99	65	474296	11.763 ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.08%		
57) Toluene-d8 (SS2)	15.72	98	1296293	12.507 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.08%		
73) Bromofluorobenzene (SS3)	18.97	174	474700	12.729 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.84%		
Target Compounds					Qvalue
2) Propene	4.11	42	5027m	0.146 ng	
3) Dichlorodifluoromethan...	4.27	85	2094	N.D.	
4) Chloromethane	4.54	50	23984	0.454 ng	99
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.	
6) Vinyl Chloride	4.95	62	5104	0.088 ng	99
7) 1,3-Butadiene	5.21	54	104	N.D.	
8) Bromomethane	0.00	94	0	N.D.	
9) Chloroethane	5.98	64	1706	0.075 ng	91
10) Ethanol	6.34	45	3650	0.137 ng	85
11) Acetonitrile	6.65	41	182	N.D.	
12) Acrolein	6.79	56	951	N.D.	
13) Acetone	0.00	58	0	N.D. d	
14) Trichlorofluoromethane	7.24	101	4184	0.070 ng	99
15) 2-Propanol (Isopropanol)	7.53	45	1553	N.D.	
16) Acrylonitrile	7.75	53	349	N.D.	
17) 1,1-Dichloroethene	0.00	96	0	N.D.	
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d	
19) Methylene Chloride	8.40	84	189	N.D.	
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D. d	
21) Trichlorotrifluoroethane	8.84	151	4165	0.148 ng	91
22) Carbon Disulfide	8.69	76	350645	2.829 ng	99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.	
24) 1,1-Dichloroethane	9.93	63	3338	0.059 ng	88
25) Methyl tert-Butyl Ether	10.07	73	2913	N.D.	
26) Vinyl Acetate	0.00	86	0	N.D. d	
27) 2-Butanone (MEK)	10.48	72	1421	0.063 ng	100
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.	
29) Diisopropyl Ether	0.00	87	0	N.D. d	
30) Ethyl Acetate	0.00	61	0	N.D.	
31) n-Hexane	11.27	57	210593	3.710 ng	100
32) Chloroform	11.30	83	5739	0.097 ng	79
34) Tetrahydrofuran (THF)	11.73	72	17799	0.804 ng	98
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.	
36) 1,2-Dichloroethane	0.00	62	0	N.D. d	
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.	
39) Isopropyl Acetate	12.87	61	947	N.D.	
40) 1-Butanol	0.00	56	0	N.D. d	
41) Benzene	12.87	78	168734	1.220 ng	99
42) Carbon Tetrachloride	13.03	117	35255	0.749 ng	100
43) Cyclohexane	13.17	84	3903388	75.715 ng	99
44) tert-Amyl Methyl Ether	13.46	73	1872	N.D.	
45) 1,2-Dichloropropane	0.00	63	0	N.D. d	
46) Bromodichloromethane	0.00	83	0	N.D. d	
47) Trichloroethene	13.97	130	2101	0.059 ng	99
48) 1,4-Dioxane	0.00	88	0	N.D.	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d	
50) Methyl Methacrylate	0.00	100	0	N.D. d	

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122009.D Vial: 13
Acq On : 12 May 2020 6:26 Operator: LH
Sample : P2002300-001dup (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:19:25 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

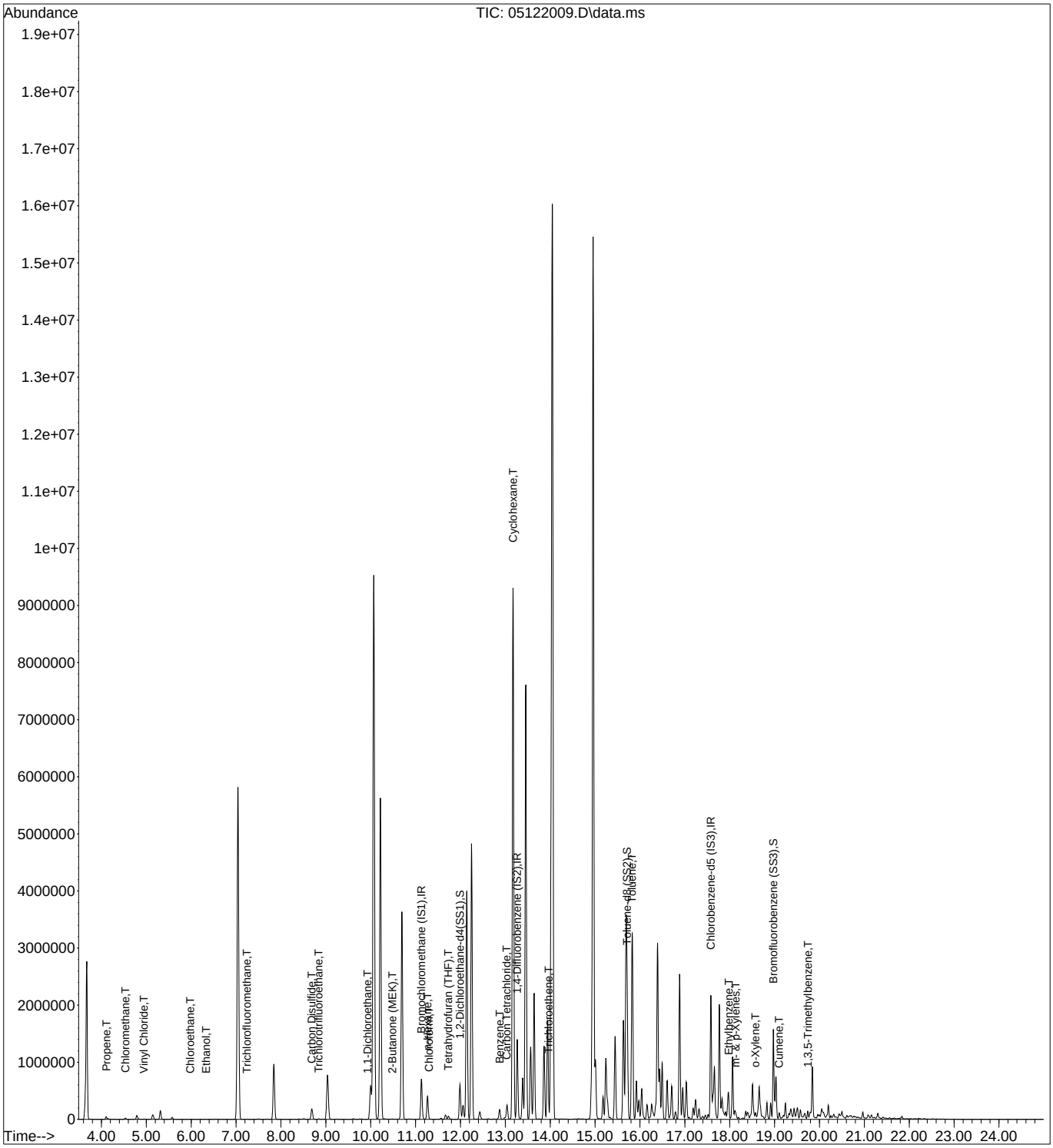
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	519	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	15.14	75	1080	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	15.82	91	731677	5.477 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	0.00	57	0	N.D. d	
64) Tetrachloroethene	16.96	166	955	N.D.	
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	17.98	91	24533	0.165 ng	96
67) m- & p-Xylenes	18.14	91	34387	0.291 ng	99
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.48	104	353	N.D.	
70) o-Xylene	18.57	91	27390	0.228 ng	97
71) n-Nonane	18.77	43	640	N.D.	
72) 1,1,2,2-Tetrachloroethane	18.58	83	651	N.D.	
74) Cumene	19.10	105	19144	0.130 ng	99
75) alpha-Pinene	19.43	93	493	N.D.	
76) n-Propylbenzene	19.55	91	3253	N.D.	
77) 3-Ethyltoluene	19.64	105	3092	N.D.	
78) 4-Ethyltoluene	19.68	105	1612	N.D.	
79) 1,3,5-Trimethylbenzene	19.75	105	11683	0.097 ng	100
80) alpha-Methylstyrene	19.88	118	1594	N.D.	
81) 2-Ethyltoluene	19.91	105	4925	N.D.	
82) 1,2,4-Trimethylbenzene	20.10	105	5771	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.19	91	1254	N.D.	
85) 1,3-Dichlorobenzene	20.24	146	458	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	645	N.D.	
87) sec-Butylbenzene	20.34	105	1436	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	858	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	2955	N.D.	
90) 1,2-Dichlorobenzene	20.61	146	257	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.11	180	813	N.D.	
95) Naphthalene	22.22	128	3500	N.D.	
96) n-Dodecane	22.21	57	2287	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.10	119	1184	N.D.	
100) n-Butylbenzene	20.85	91	1582	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122009.D Vial: 13
Acq On : 12 May 2020 6:26 Operator: LH
Sample : P2002300-001dup (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:19:25 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122009.D Vial: 13
Acq On : 12 May 2020 6:26 Operator: LH
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QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/13/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	297531	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1290058	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	611482	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	474296	11.763	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.08%			
57) Toluene-d8 (SS2)	15.72	98	1296293	12.507	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.08%			
73) Bromofluorobenzene (SS3)	18.97	174	474700	12.729	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.84%			
Target Compounds						Qvalue
2) Propene	4.11	42	5027m	0.146	ng	
4) Chloromethane	4.54	50	23984	0.454	ng	99
6) Vinyl Chloride	4.95	62	5104	0.088	ng	99
9) Chloroethane	5.98	64	1706	0.075	ng	91
10) Ethanol	6.34	45	3650	0.137	ng	85
14) Trichlorofluoromethane	7.24	101	4184	0.070	ng	99
21) Trichlorotrifluoroethane	8.84	151	4165	0.148	ng	91
22) Carbon Disulfide	8.69	76	350645	2.829	ng	99
24) 1,1-Dichloroethane	9.93	63	3338	0.059	ng	88
27) 2-Butanone (MEK)	10.48	72	1421	0.063	ng	100
31) n-Hexane	11.27	57	210593	3.710	ng	100
32) Chloroform	11.30	83	5739	0.097	ng	79
34) Tetrahydrofuran (THF)	11.73	72	17799	0.804	ng	98
41) Benzene	12.87	78	168734	1.220	ng	99
42) Carbon Tetrachloride	13.03	117	35255	0.749	ng	100
43) Cyclohexane	13.17	84	3903388	75.715	ng	99
47) Trichloroethene	13.97	130	2101	0.059	ng	99
58) Toluene	15.82	91	731677	5.477	ng	100
66) Ethylbenzene	17.98	91	24533	0.165	ng	96
67) m- & p-Xylenes	18.14	91	34387	0.291	ng	99
70) o-Xylene	18.57	91	27390	0.228	ng	97
74) Cumene	19.10	105	19144	0.130	ng	99
79) 1,3,5-Trimethylbenzene	19.75	105	11683	0.097	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122009.D Vial: 13
Acq On : 12 May 2020 6:26 Operator: LH
Sample : P2002300-001dup (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 13 16:19:25 2020
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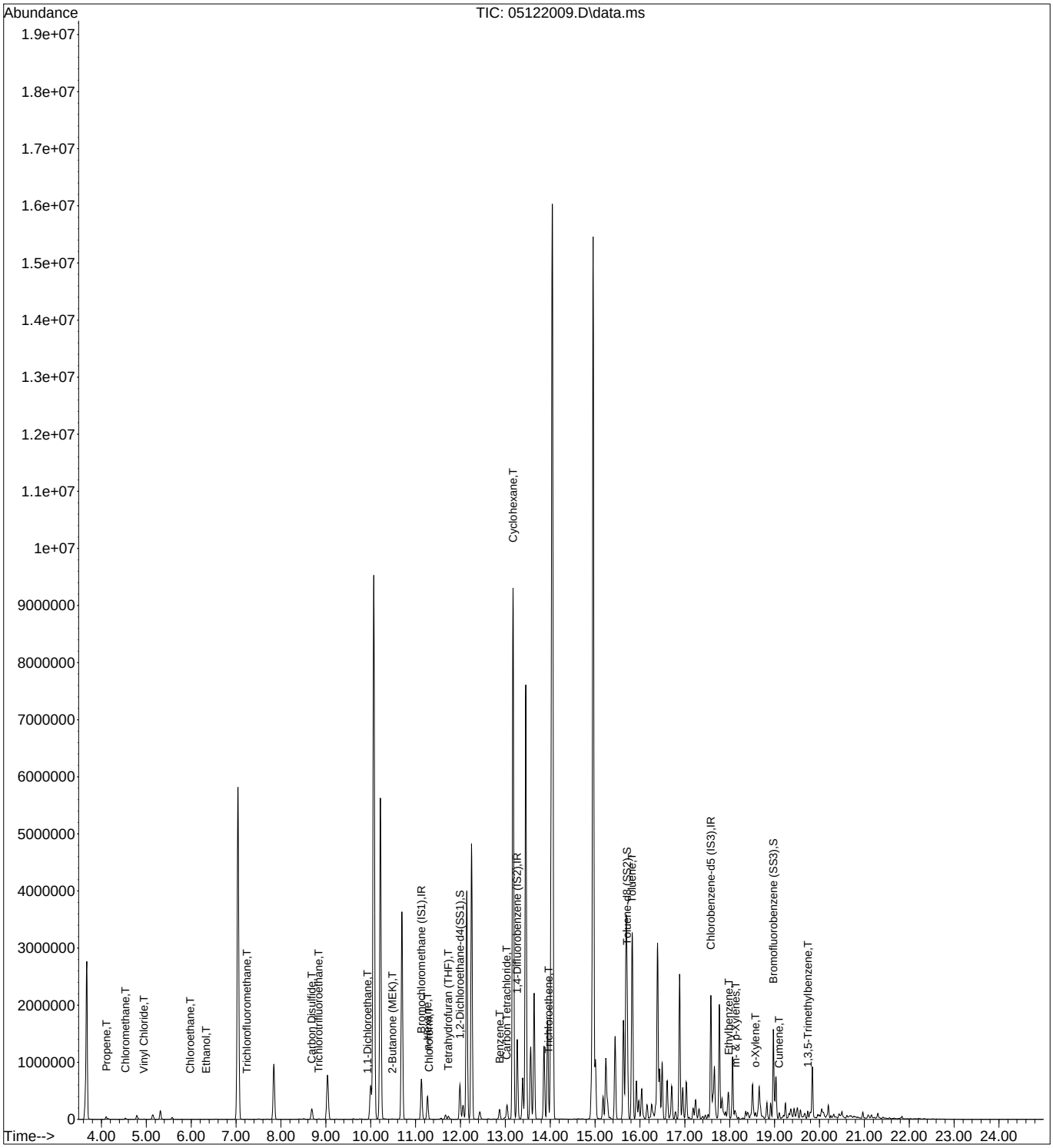
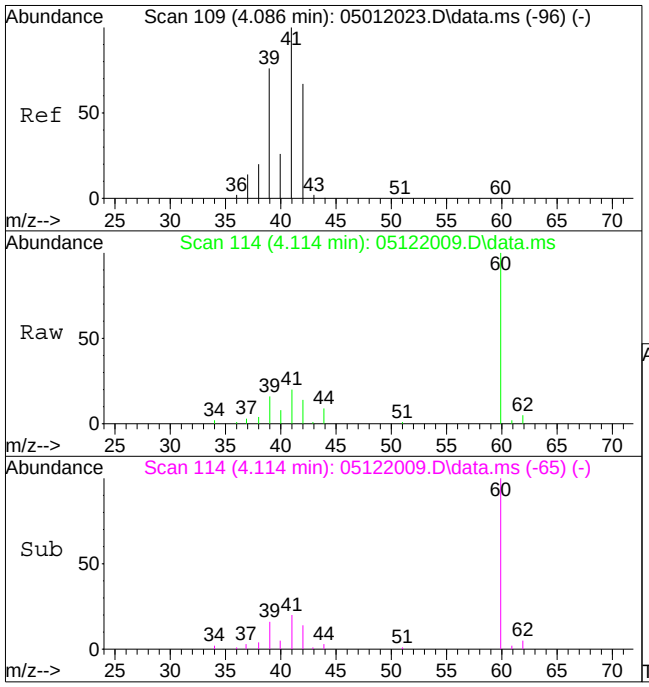
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

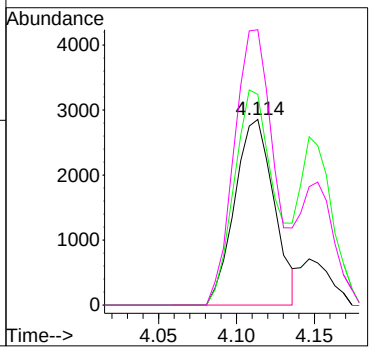


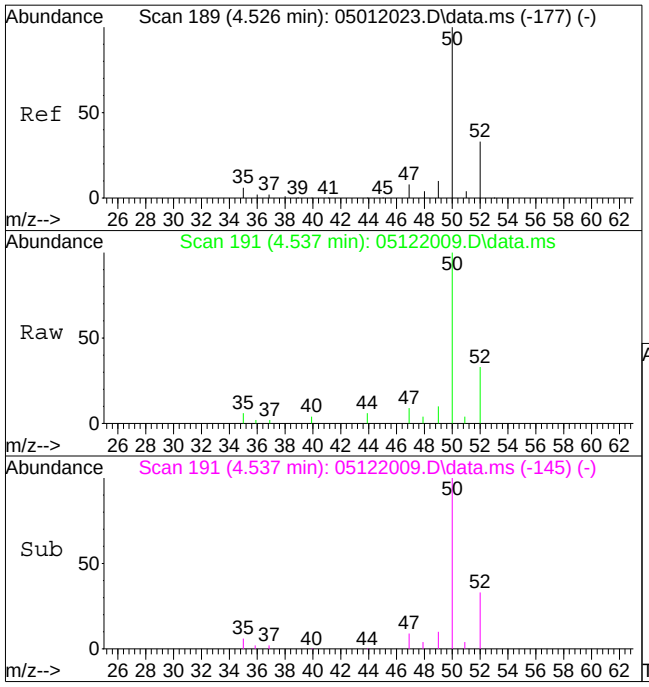


#2
Propene
Concen: 0.15 ng m
RT: 4.11 min Scan# 114
Delta R.T. 0.022 min
Lab File: 05122009.D
Acq: 12 May 2020 6:26

Tgt Ion: 42 Resp: 5027

Ion	Ratio	Lower	Upper
42	100		
39	120.7	96.1	136.1
41	151.0	131.9	171.9

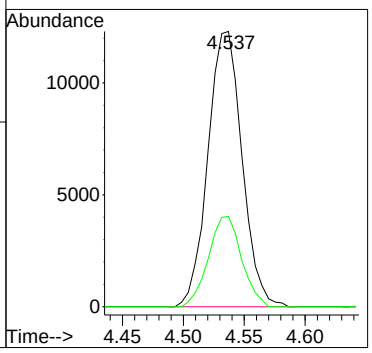


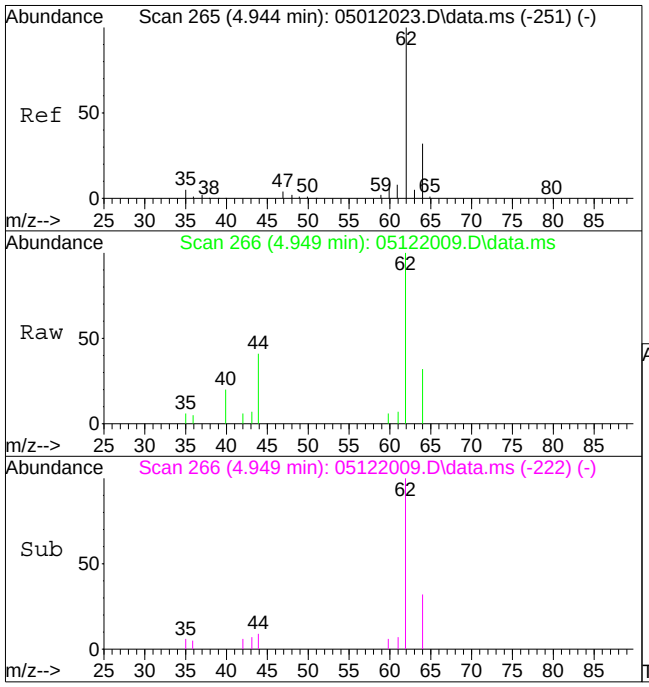


#4
Chloromethane
Concen: 0.45 ng
RT: 4.54 min Scan# 191
Delta R.T. 0.005 min
Lab File: 05122009.D
Acq: 12 May 2020 6:26

Tgt Ion: 50 Resp: 23984

Ion	Ratio	Lower	Upper
50	100		
52	31.8	12.5	52.5

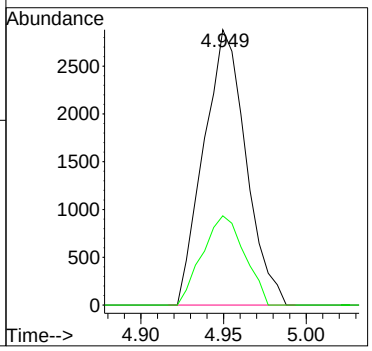


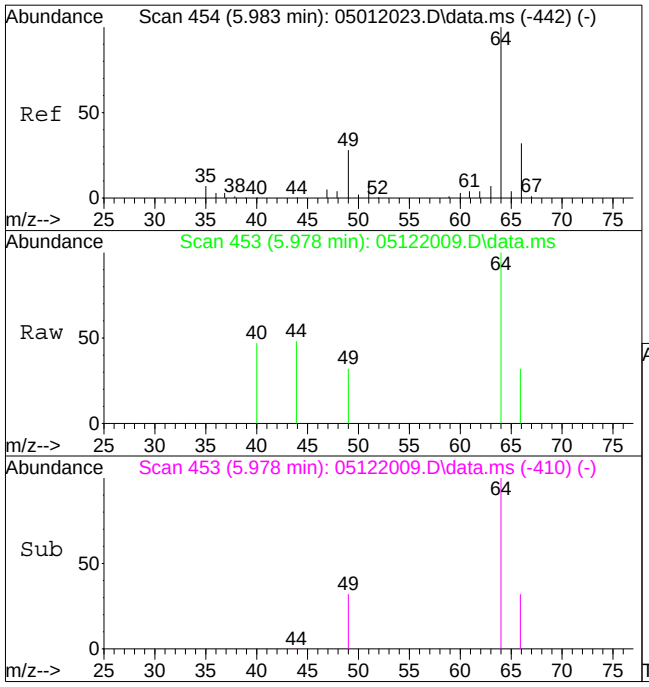


#6
Vinyl Chloride
Concen: 0.09 ng
RT: 4.95 min Scan# 266
Delta R.T. -0.006 min
Lab File: 05122009.D
Acq: 12 May 2020 6:26

Tgt Ion: 62 Resp: 5104

Ion	Ratio	Lower	Upper
62	100		
64	32.4	12.1	52.1

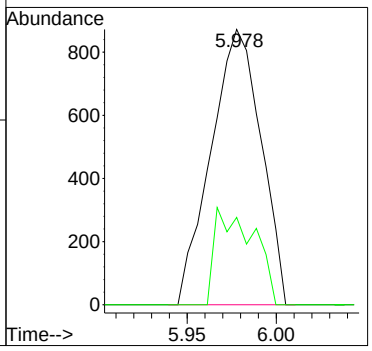


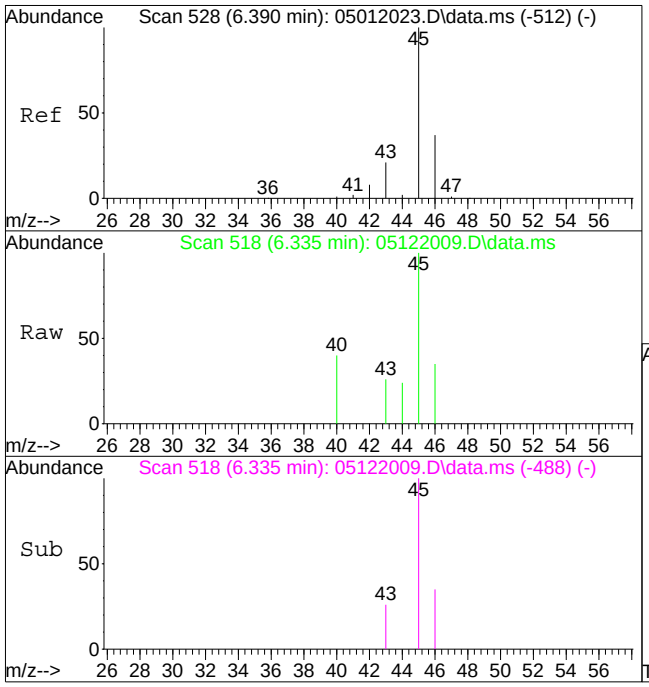


#9
Chloroethane
Concen: 0.07 ng
RT: 5.98 min Scan# 453
Delta R.T. -0.011 min
Lab File: 05122009.D
Acq: 12 May 2020 6:26

Tgt Ion: 64 Resp: 1706

Ion	Ratio	Lower	Upper
64	100		
66	27.3	12.1	52.1

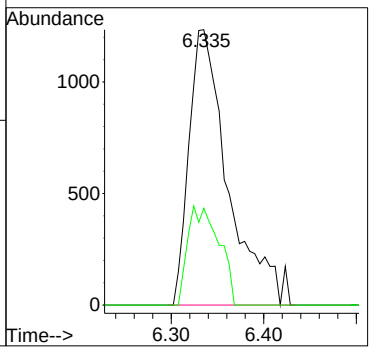


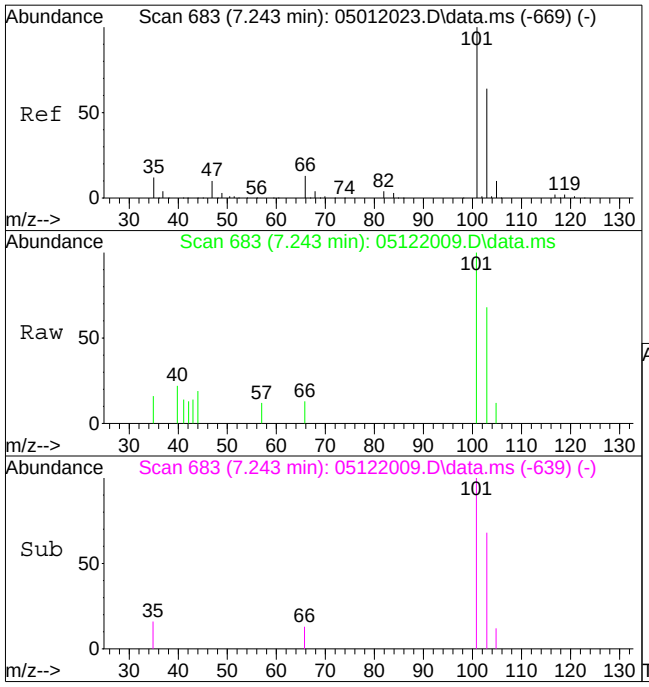


#10
Ethanol
Concen: 0.14 ng
RT: 6.34 min Scan# 518
Delta R.T. -0.083 min
Lab File: 05122009.D
Acq: 12 May 2020 6:26

Tgt Ion: 45 Resp: 3650

Ion	Ratio	Lower	Upper
45	100		
46	28.4	17.2	57.2

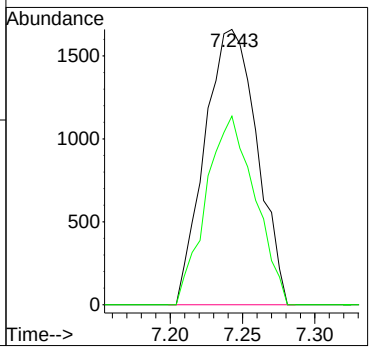


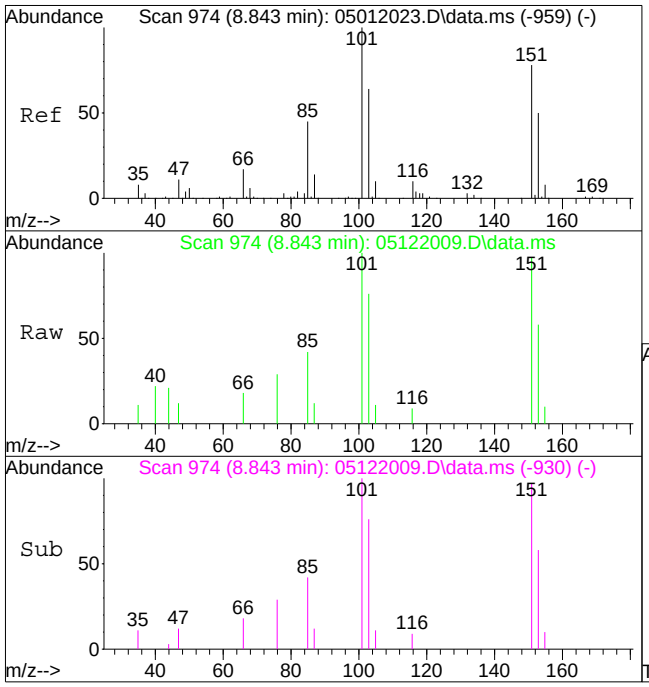


#14
Trichlorofluoromethane
Concen: 0.07 ng
RT: 7.24 min Scan# 683
Delta R.T. -0.006 min
Lab File: 05122009.D
Acq: 12 May 2020 6:26

Tgt Ion:101 Resp: 4184

Ion	Ratio	Lower	Upper
101	100		
103	63.9	44.4	84.4

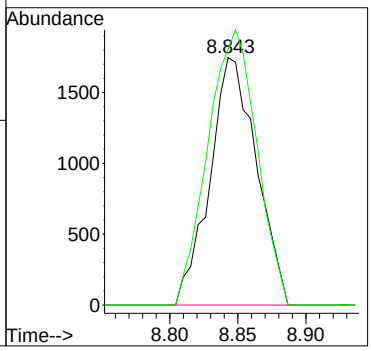


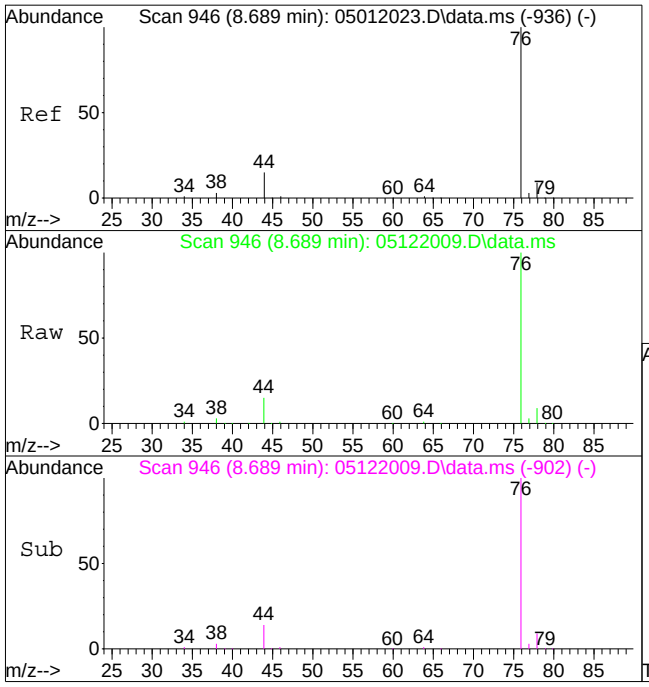


#21
Trichlorotrifluoroethane
Concen: 0.15 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05122009.D
Acq: 12 May 2020 6:26

Tgt Ion:151 Resp: 4165

Ion	Ratio	Lower	Upper
151	100		
101	116.8	107.3	147.3

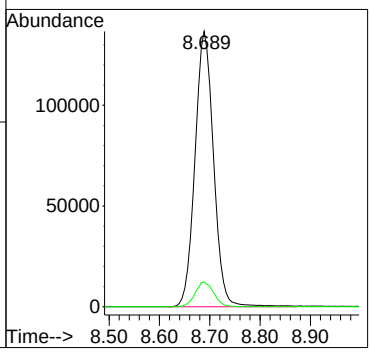


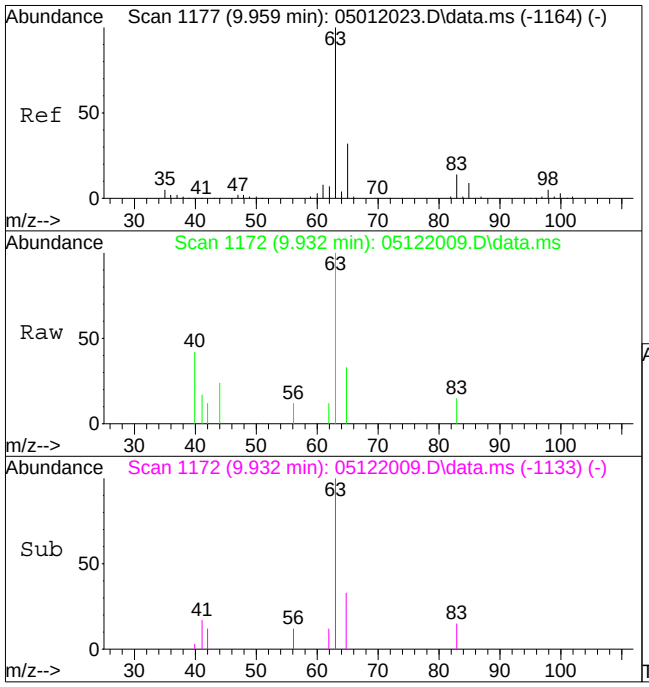


#22
Carbon Disulfide
Concen: 2.83 ng
RT: 8.69 min Scan# 946
Delta R.T. -0.006 min
Lab File: 05122009.D
Acq: 12 May 2020 6:26

Tgt Ion: 76 Resp: 350645

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	29.2

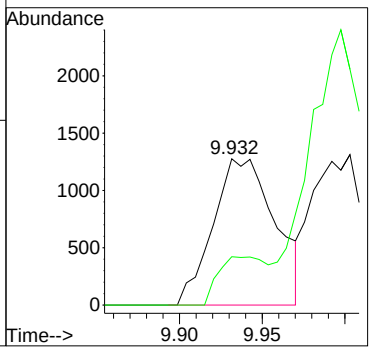


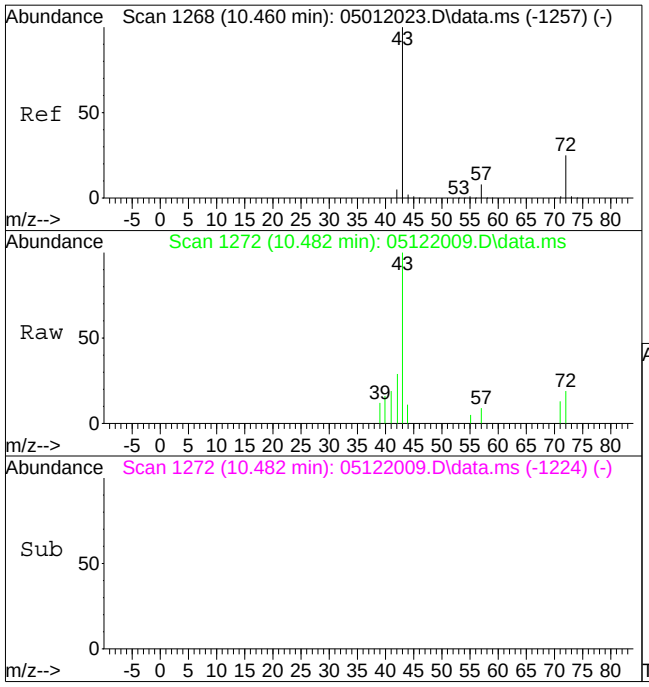


#24
1,1-Dichloroethane
Concen: 0.06 ng
RT: 9.93 min Scan# 1172
Delta R.T. -0.033 min
Lab File: 05122009.D
Acq: 12 May 2020 6:26

Tgt Ion: 63 Resp: 3338

Ion	Ratio	Lower	Upper
63	100		
65	25.3	11.8	51.8

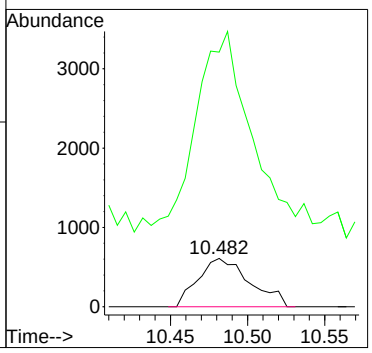


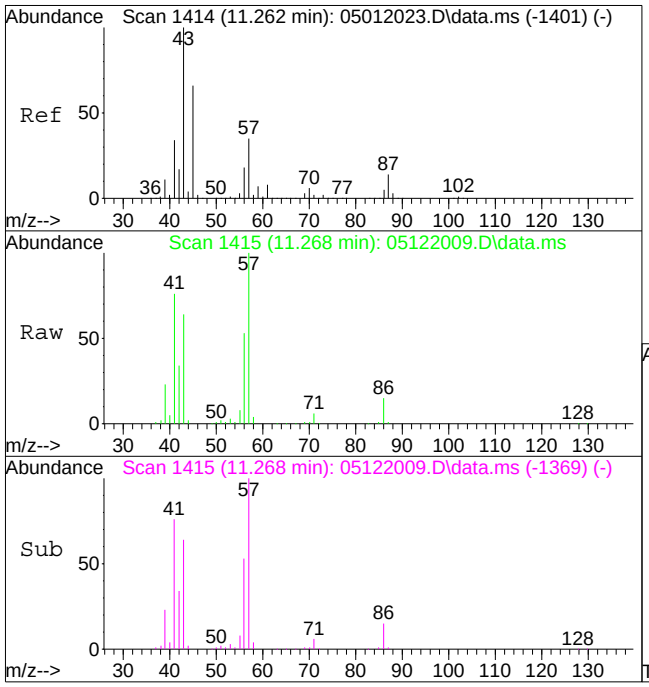


#27
2-Butanone (MEK)
Concen: 0.06 ng
RT: 10.48 min Scan# 1272
Delta R.T. 0.016 min
Lab File: 05122009.D
Acq: 12 May 2020 6:26

Tgt Ion: 72 Resp: 1421

Ion	Ratio	Lower	Upper
72	100		
43	409.1	389.7	429.7

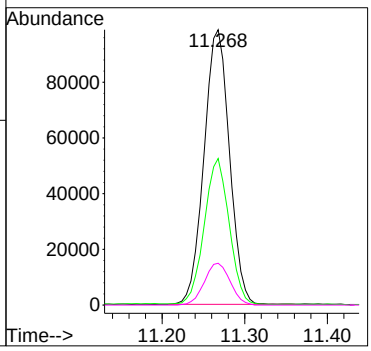


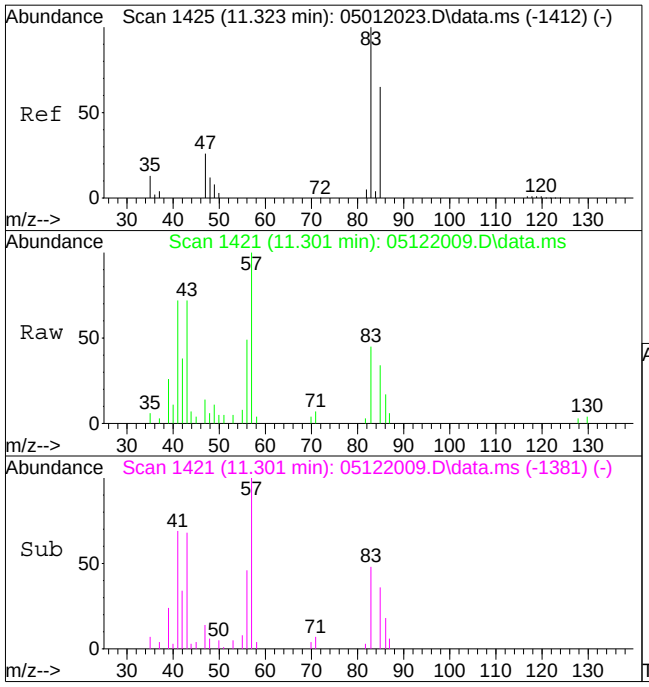


#31
n-Hexane
Concen: 3.71 ng
RT: 11.27 min Scan# 1415
Delta R.T. 0.005 min
Lab File: 05122009.D
Acq: 12 May 2020 6:26

Tgt Ion: 57 Resp: 210593

Ion	Ratio	Lower	Upper
57	100		
56	51.9	41.4	62.0
86	15.5	12.4	18.6

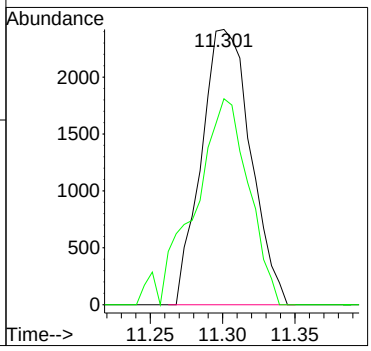


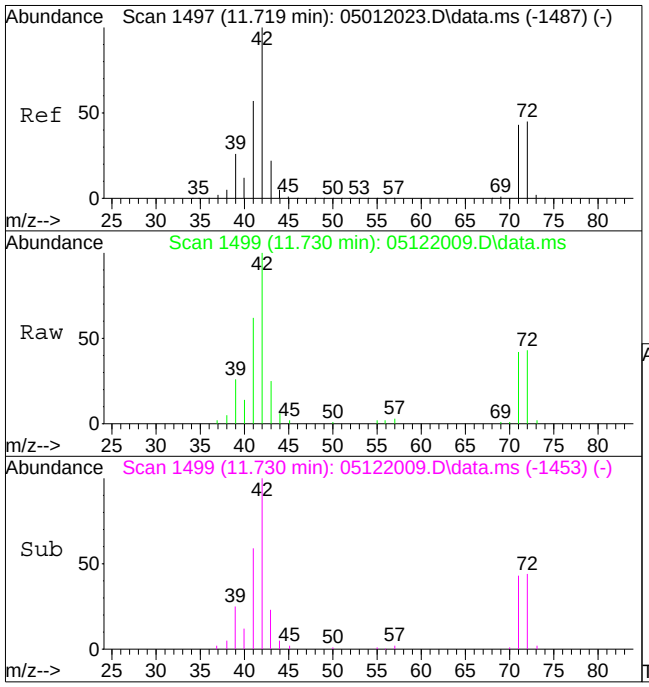


#32
Chloroform
Concen: 0.10 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.028 min
Lab File: 05122009.D
Acq: 12 May 2020 6:26

Tgt Ion: 83 Resp: 5739

Ion	Ratio	Lower	Upper
83	100		
85	82.4	45.5	85.5

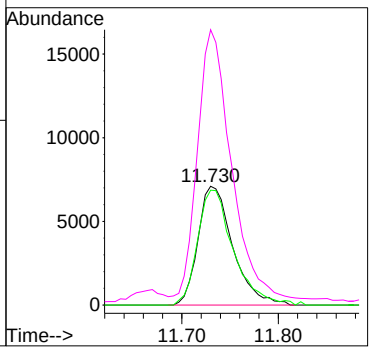


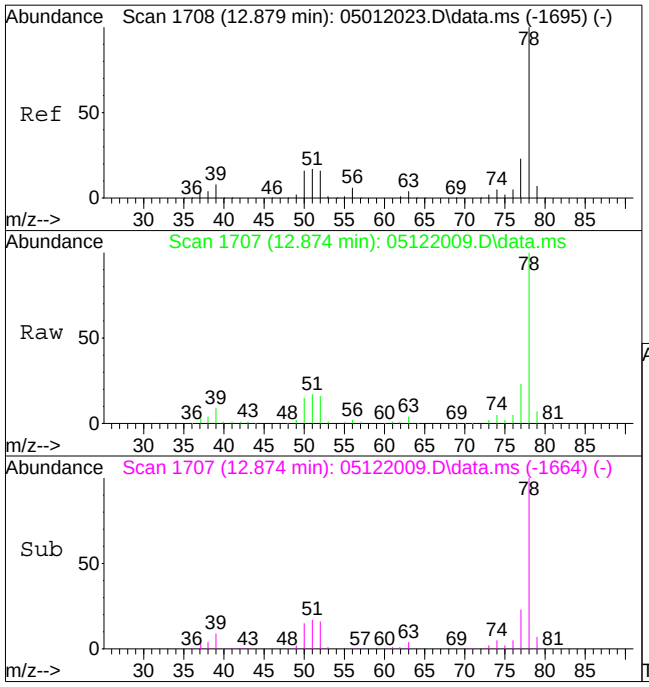


#34
Tetrahydrofuran (THF)
Concen: 0.80 ng
RT: 11.73 min Scan# 1499
Delta R.T. 0.005 min
Lab File: 05122009.D
Acq: 12 May 2020 6:26

Tgt Ion: 72 Resp: 17799

Ion	Ratio	Lower	Upper
72	100		
71	99.9	77.0	117.0
42	227.2	204.6	244.6

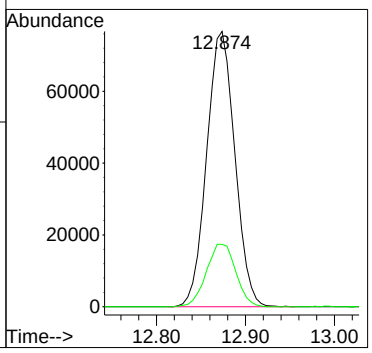


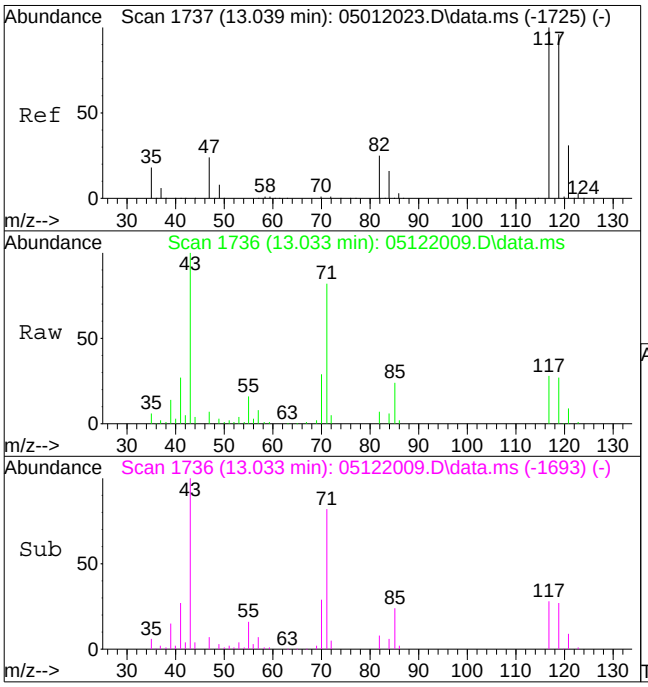


#41
Benzene
Concen: 1.22 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05122009.D
Acq: 12 May 2020 6:26

Tgt Ion: 78 Resp: 168734

Ion	Ratio	Lower	Upper
78	100		
77	23.8	3.4	43.4

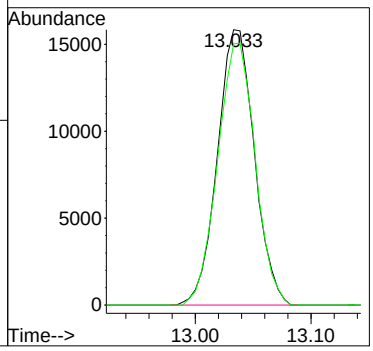


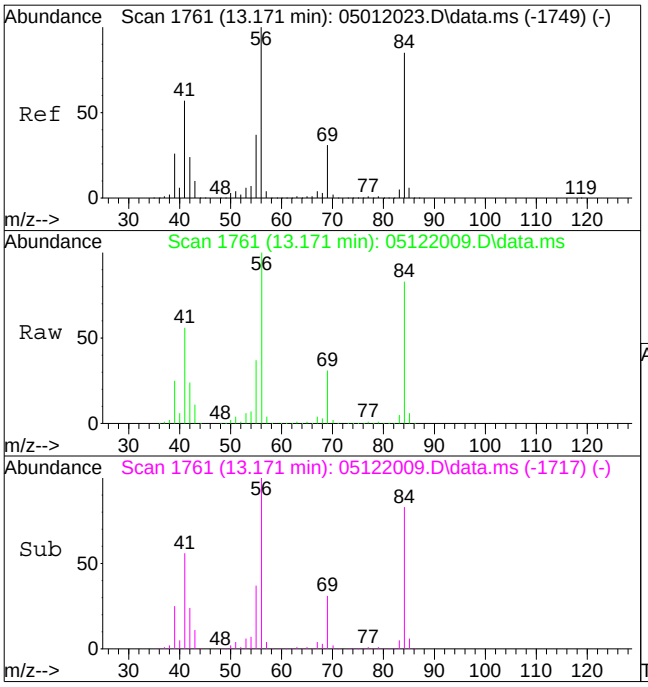


#42
Carbon Tetrachloride
Concen: 0.75 ng
RT: 13.03 min Scan# 1736
Delta R.T. -0.011 min
Lab File: 05122009.D
Acq: 12 May 2020 6:26

Tgt Ion:117 Resp: 35255

Ion	Ratio	Lower	Upper
117	100		
119	96.6	76.2	116.2

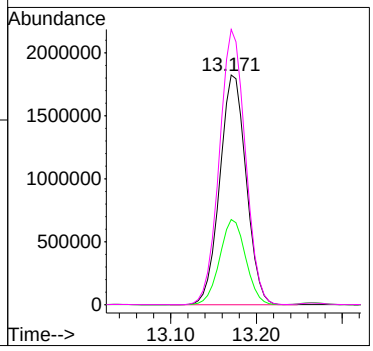


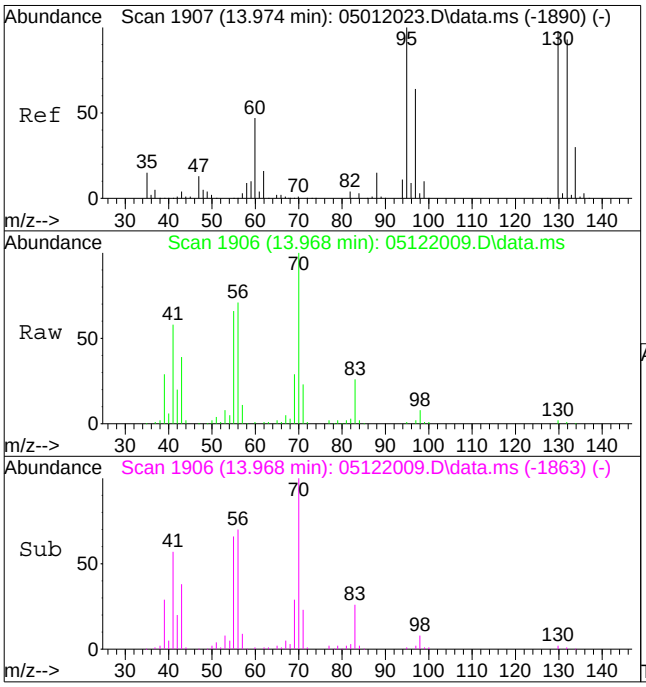


#43
Cyclohexane
Concen: 75.72 ng
RT: 13.17 min Scan# 1761
Delta R.T. -0.006 min
Lab File: 05122009.D
Acq: 12 May 2020 6:26

Tgt Ion: 84 Resp: 3903388

Ion	Ratio	Lower	Upper
84	100		
69	36.6	16.5	56.5
56	118.3	97.4	137.4

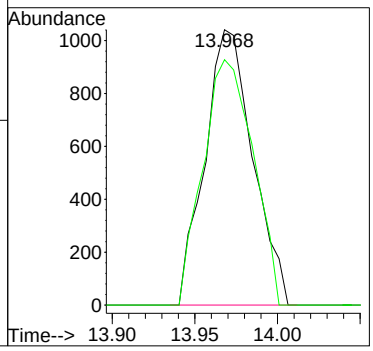


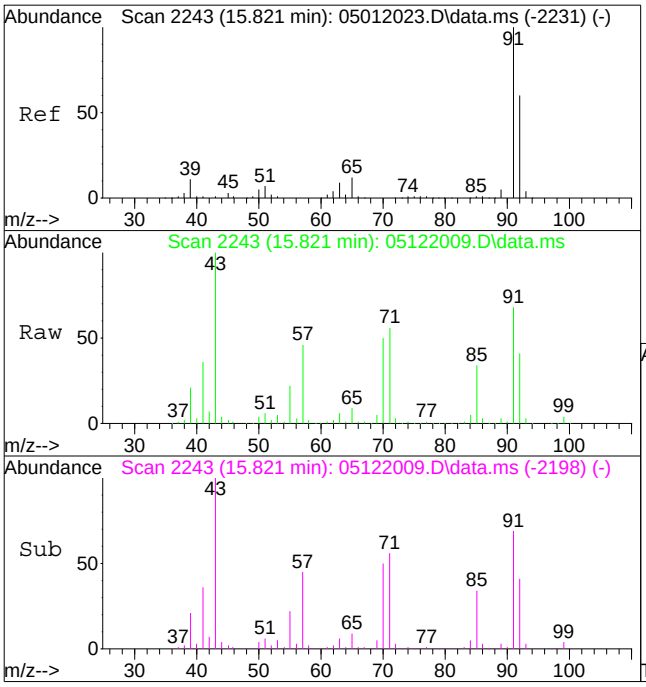


#47
Trichloroethene
Concen: 0.06 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05122009.D
Acq: 12 May 2020 6:26

Tgt Ion:130 Resp: 2101

Ion	Ratio	Lower	Upper
130	100		
132	93.5	74.9	114.9

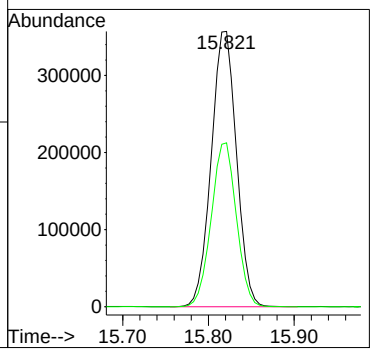


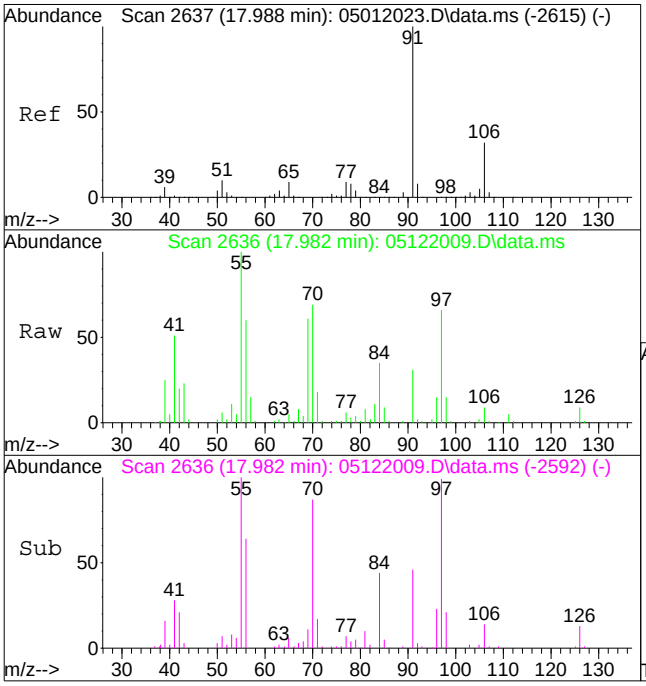


#58
Toluene
Concen: 5.48 ng
RT: 15.82 min Scan# 2243
Delta R.T. -0.000 min
Lab File: 05122009.D
Acq: 12 May 2020 6:26

Tgt Ion: 91 Resp: 731677

Ion	Ratio	Lower	Upper
91	100		
92	59.1	39.4	79.4

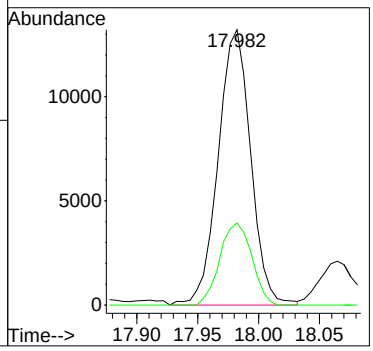


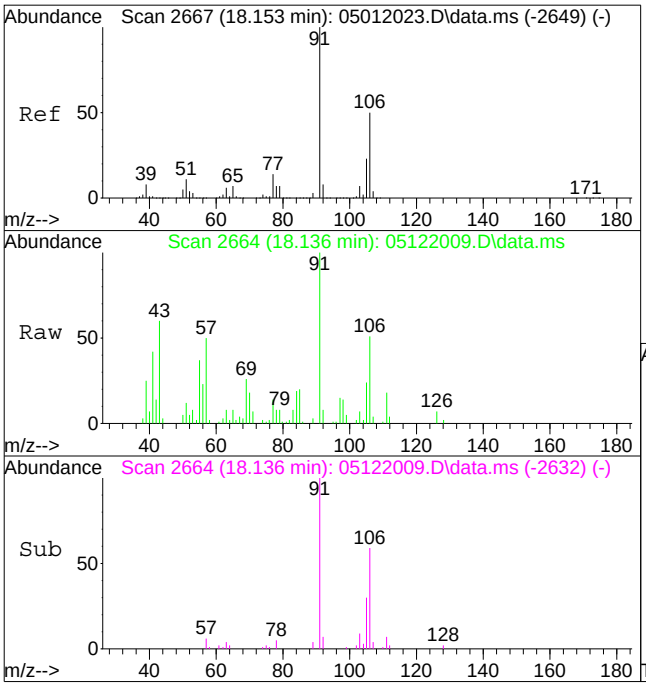


#66
Ethylbenzene
Concen: 0.16 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05122009.D
Acq: 12 May 2020 6:26

Tgt Ion: 91 Resp: 24533

Ion	Ratio	Lower	Upper
91	100		
106	29.2	11.6	51.6

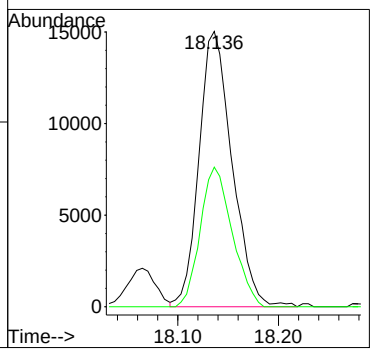


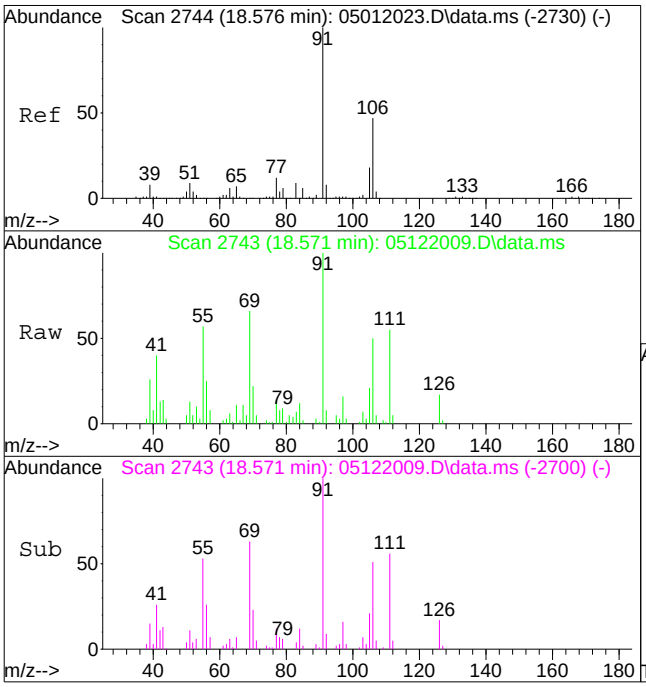


#67
m- & p-Xylenes
Concen: 0.29 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05122009.D
Acq: 12 May 2020 6:26

Tgt Ion: 91 Resp: 34387

Ion	Ratio	Lower	Upper
91	100		
106	48.8	29.7	69.7

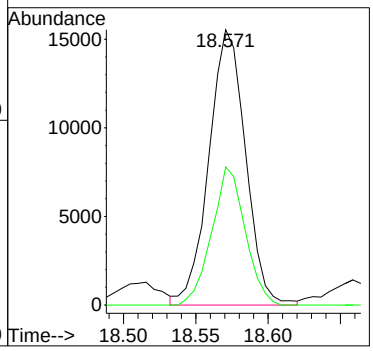


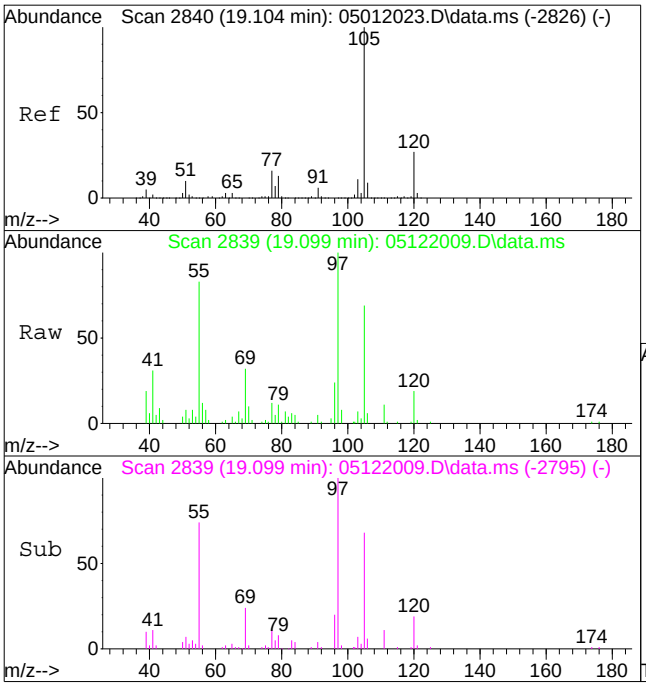


#70
o-Xylene
Concen: 0.23 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05122009.D
Acq: 12 May 2020 6:26

Tgt Ion: 91 Resp: 27390

Ion	Ratio	Lower	Upper
91	100		
106	45.7	27.5	67.5

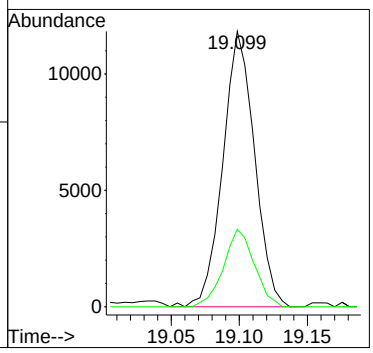


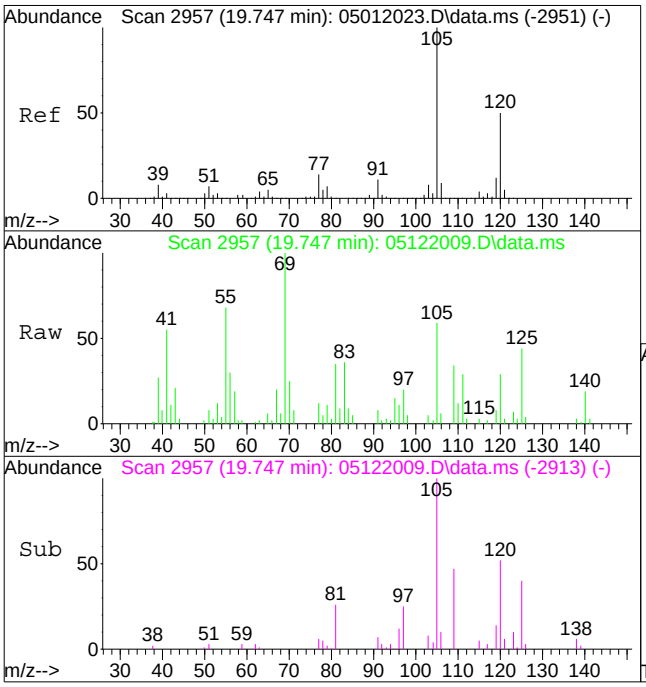


#74
Cumene
Concen: 0.13 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05122009.D
Acq: 12 May 2020 6:26

Tgt Ion:105 Resp: 19144

Ion	Ratio	Lower	Upper
105	100		
120	27.3	6.8	46.8

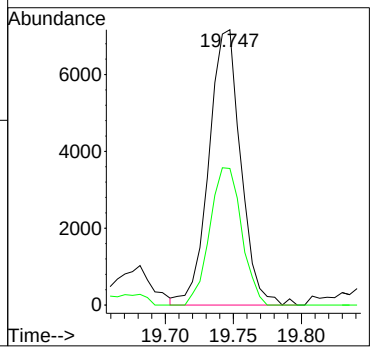




#79
1,3,5-Trimethylbenzene
Concen: 0.10 ng
RT: 19.75 min Scan# 2957
Delta R.T. -0.006 min
Lab File: 05122009.D
Acq: 12 May 2020 6:26

Tgt Ion:105 Resp: 11683

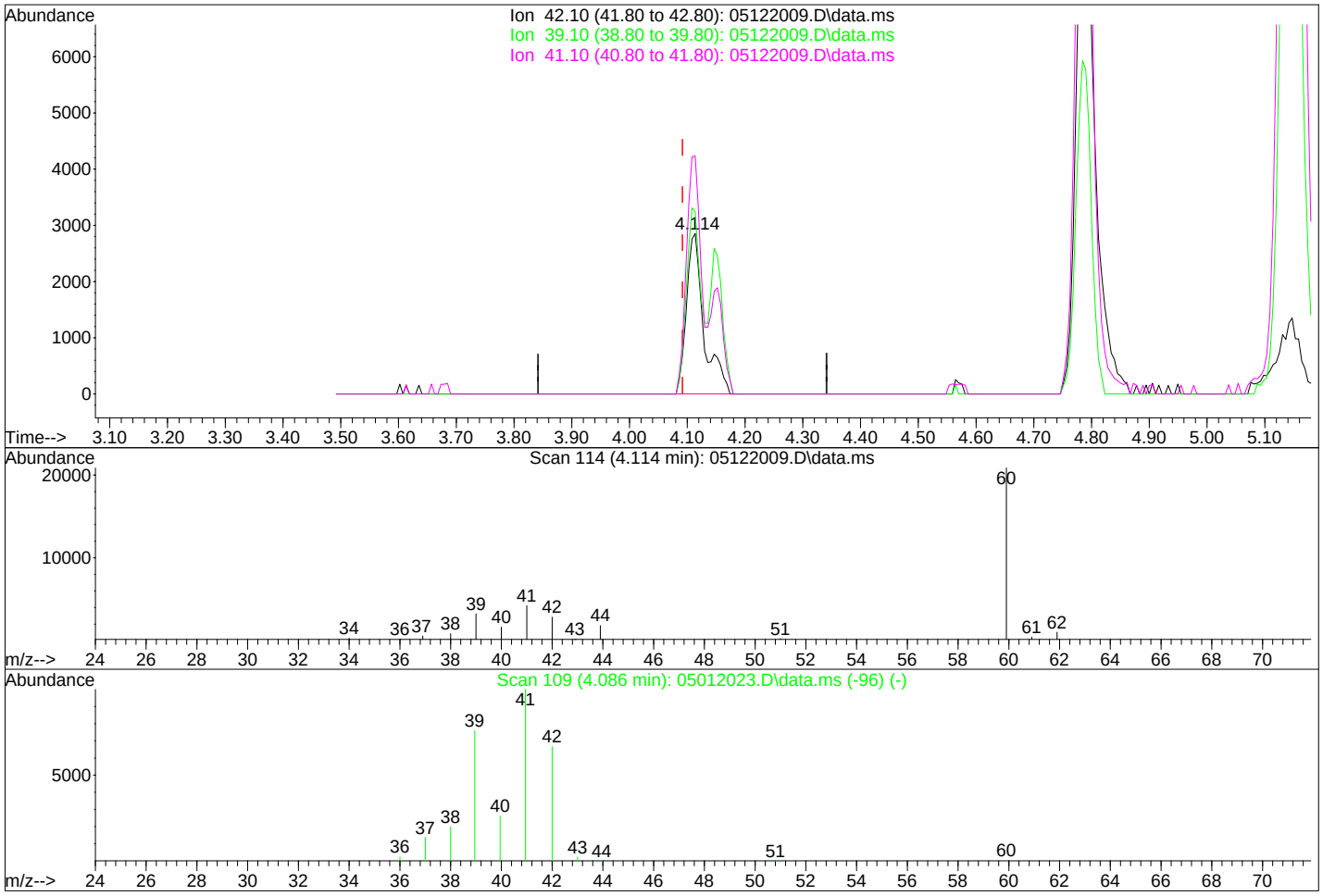
Ion	Ratio	Lower	Upper
105	100		
120	49.7	29.9	69.9



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\12\05122009.D Vial: 13
Acq On : 12 May 2020 6:26 Operator: LH
Sample : P2002300-001dup (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 12 10:09:13 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05122009.D\data.ms

(2) Propene (T)

4.114min (+0.022) 0.17ng

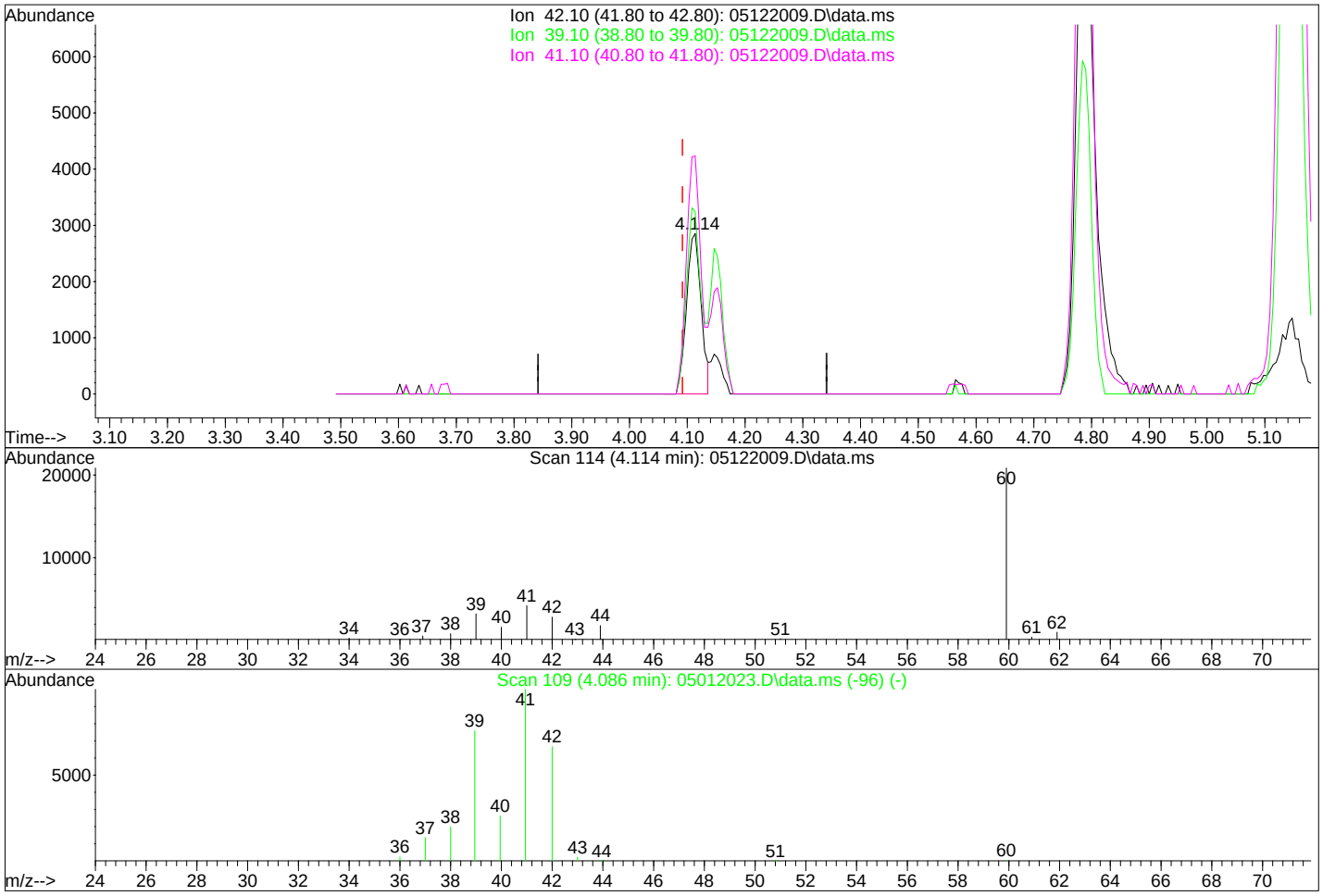
response 5993

Ion	Exp%	Act%
42.10	100	100
39.10	116.10	101.28
41.10	151.90	126.66#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\12\05122009.D Vial: 13
Acq On : 12 May 2020 6:26 Operator: LH
Sample : P2002300-001dup (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 12 10:09:13 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05122009.D\data.ms

(2) Propene (T)

4.114min (+0.022) 0.15ng m

response 5027

Ion	Exp%	Act%
42.10	100	100
39.10	116.10	120.75
41.10	151.90	151.00
0.00	0.00	0.00

IPC

LH 5/13/20

5/14/20

Response Factor Report GCMS-16

Method Path : I:\MS16\METHODS\
Method File : R16050120.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri May 01 18:22:00 2020
Response Via : Initial Calibration

LH 5/1/20

Calibration Files
0.1 =05012018.D 0.2 =05012019.D 0.5 =05012020.D 1.0 =05012021.D 5.0 =05012022.D 25 =05012
100 =03112009.D

		Compound	0.1	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------	ISTD	----------							
2)	T	Propene	1.611	1.539	1.503	1.380	1.499	1.474	1.430	1.147	1.448	9.66
3)	T	Dichlorodifluo...	3.202	3.003	3.068	2.842	3.010	2.737	2.537	2.254	2.832	11.03
4)	T	Chloromethane	2.604	2.435	2.388	2.238	2.356	2.193	2.172	1.361	2.218	16.88
5)	T	1,2-Dichloro-1...	1.897	1.683	1.822	1.625	1.745	1.600	1.555	1.607	1.692	7.08
6)	T	Vinyl Chloride	2.717	2.540	2.556	2.389	2.585	2.348	2.256	2.069	2.433	8.56
7)	T	1,3-Butadiene	2.247	2.061	2.143	1.977	2.145	1.964	1.905	1.660	2.013	9.02
8)	T	Bromomethane	1.419	1.343	1.315	1.211	1.293	1.245	1.264	1.190	1.285	5.79
9)	T	Chloroethane	1.050	0.952	0.985	0.919	0.990	0.943	0.960	0.887	0.961	5.13
10)	T	Ethanol	1.410	1.184	1.009	0.940	1.092	1.112	1.151	1.046	1.118	12.66
11)	T	Acetonitrile	3.482	2.840	2.383	2.251	2.529	2.471	2.438	2.042	2.555	17.16
12)	T	Acrolein	1.059	0.868	0.880	0.829	0.918	0.879	0.863	0.770	0.883	9.44
13)	T	Acetone	1.252	1.110	1.062	0.988	1.109	1.131	1.179	1.113	1.118	6.92
14)	T	Trichlorofluor...	2.713	2.523	2.575	2.359	2.565	2.454	2.411	2.421	2.503	4.58
15)	T	2-Propanol (Is...	3.870	3.534	3.450	3.257	3.738	3.508	3.156	2.557	3.384	12.00
16)	T	Acrylonitrile	2.202	1.897	1.701	1.617	1.893	1.829	1.828	1.654	1.828	10.12
17)	T	1,1-Dichloroet...	1.408	1.288	1.314	1.236	1.342	1.312	1.299	1.297	1.312	3.73
18)	T	2-Methyl-2-Pro...	3.534	3.198	3.325	3.089	3.578	3.200	2.158		3.155	15.06
19)	T	Methylene Chlo...	1.693	1.502	1.403	1.354	1.469	1.431	1.419	1.356	1.453	7.53
20)	T	3-Chloro-1-pro...	2.223	1.929	1.964	1.905	2.142	2.028	2.036	1.746	1.997	7.37
21)	T	Trichlorotrifl...	1.264	1.065	1.154	1.097	1.218	1.201	1.208	1.246	1.182	5.97
22)	T	Carbon Disulfide	6.112	5.388	5.148	4.831	5.368	5.134	5.024	4.656	5.208	8.48
23)	T	trans-1,2-Dich...	2.284	2.004	1.981	1.860	2.050	1.980	1.964	1.858	1.998	6.70
24)	T	1,1-Dichloroet...	2.569	2.334	2.469	2.238	2.450	2.380	2.330	2.202	2.371	5.15
25)	T	Methyl tert-Bu...	4.195	3.994	4.129	3.762	3.968	3.534	3.241	3.018	3.730	11.49
26)	T	Vinyl Acetate			0.280	0.275	0.355	0.375	0.393	0.412	0.348	16.73
27)	T	2-Butanone (MEK)	1.010	0.938	0.937	0.883	1.007	0.953	0.956	0.944	0.953	4.27
28)	T	cis-1,2-Dichlo...	2.186	1.950	1.950	1.831	2.014	1.928	1.927	1.846	1.954	5.66
29)	T	Diisopropyl Ether	1.400	1.264	1.362	1.283	1.461	1.320	1.346	1.353	1.349	4.68
30)	T	Ethyl Acetate	0.528	0.515	0.507	0.480	0.567	0.596	0.638	0.567	0.550	9.48
31)	T	n-Hexane	2.506	2.242	2.328	2.176	2.400	2.485	2.588	2.351	2.385	5.82
32)	T	Chloroform	2.635	2.393	2.541	2.359	2.618	2.470	2.464	2.425	2.488	4.07
33)	S	1,2-Dichloroet...	1.759	1.788	1.757	1.756	1.704	1.635	1.616	1.538	1.694	5.22
34)	T	Tetrahydrofura...	1.068	0.962	0.909	0.857	0.954	0.901	0.903	0.885	0.930	7.02
35)	T	Ethyl tert-But...	1.603	1.564	1.583	1.487	1.688	1.661	1.680	1.772	1.630	5.43
36)	T	1,2-Dichloroet...	2.204	2.065	2.007	1.843	2.020	1.911	1.892	1.830	1.971	6.45
37)	IR	1,4-Difluorobenzen...	----------	ISTD	----------							
38)	T	1,1,1-Trichlor...	0.520	0.477	0.504	0.469	0.521	0.513	0.513	0.511	0.503	3.91
39)	T	Isopropyl Acetate	0.217	0.187	0.204	0.189	0.226	0.238	0.254	0.247	0.220	11.50
40)	T	1-Butanol	0.335	0.286	0.247	0.231	0.307	0.333	0.362	0.405	0.313	18.51
41)	T	Benzene	1.454	1.263	1.288	1.194	1.366	1.343	1.417	1.400	1.340	6.50
42)	T	Carbon Tetrach...	0.446	0.414	0.449	0.410	0.482	0.473	0.477	0.496	0.456	6.99
43)	T	Cyclohexane	0.491	0.450	0.481	0.443	0.512	0.523	0.544	0.553	0.500	8.14
44)	T	tert-Amyl Meth...	0.895	0.829	0.881	0.824	0.950	0.934	0.955	0.923	0.899	5.70
45)	T	1,2-Dichloropr...	0.322	0.296	0.311	0.288	0.327	0.317	0.320	0.303	0.310	4.42
46)	T	Bromodichlorom...	0.443	0.421	0.437	0.406	0.477	0.479	0.482	0.480	0.453	6.69
47)	T	Trichloroethene	0.348	0.318	0.331	0.303	0.355	0.355	0.366	0.396	0.346	8.37
48)	T	1,4-Dioxane	0.278	0.250	0.253	0.238	0.274	0.278	0.286	0.303	0.270	7.97
49)	T	2,2,4-Trimethy...	1.365	1.266	1.317	1.213	1.370	1.328	1.346	1.231	1.304	4.63
50)	T	Methyl Methacr...	0.126	0.113	0.118	0.116	0.138	0.143	0.149	0.161	0.133	13.21
51)	T	n-Heptane	0.325	0.297	0.306	0.286	0.318	0.310	0.324	0.342	0.313	5.60
52)	T	cis-1,3-Dichlo...	0.535	0.486	0.494	0.468	0.562	0.566	0.581	0.572	0.533	8.30
53)	T	4-Methyl-2-pen...	0.303	0.265	0.287	0.296	0.311	0.319	0.318	0.299	7.10	
54)	T	trans-1,3-Dich...	0.418	0.389	0.410	0.399	0.496	0.508	0.521	0.506	0.456	12.35

55)	T	1,1,2-Trichlor...	0.300	0.292	0.301	0.279	0.324	0.321	0.324	0.323	0.308	5.60
56)	IR	Chlorobenzene-d5 (...	----------ISTD----------									
57)	S	Toluene-d8 (SS2)	2.112	2.125	2.110	2.107	2.097	2.123	2.090	2.186	2.119	1.40
58)	T	Toluene	3.003	2.567	2.666	2.473	2.815	2.802	2.780	2.744	2.731	5.97
59)	T	2-Hexanone	1.547	1.361	1.410	1.339	1.614	1.583	1.602	1.515	1.497	7.42
60)	T	Dibromochlorom...	0.735	0.677	0.704	0.667	0.834	0.868	0.864	0.909	0.782	12.37
61)	T	1,2-Dibromoethane	0.757	0.686	0.705	0.663	0.792	0.804	0.797	0.809	0.752	7.82
62)	T	n-Butyl Acetate	1.611	1.401	1.545	1.456	1.756	1.742	1.751	1.671	1.616	8.55
63)	T	n-Octane	0.572	0.504	0.542	0.504	0.578	0.591	0.613	0.620	0.565	7.95
64)	T	Tetrachloroethene	0.764	0.679	0.700	0.653	0.778	0.829	0.838	0.931	0.771	12.10
65)	T	Chlorobenzene	1.873	1.701	1.737	1.609	1.870	1.882	2.340	2.020	1.879	12.02
66)	T	Ethylbenzene	3.030	2.763	2.965	2.768	3.264	3.313	3.301	2.958	3.045	7.41
67)	T	m- & p-Xylenes	2.416	2.101	2.285	2.203	2.562	2.656	2.741	2.363	2.416	9.24
68)	T	Bromoform			0.523	0.502	0.708	0.751	0.755	0.828	0.678	19.74
69)	T	Styrene	1.554	1.405	1.689	1.594	2.029	2.068	2.060	2.138	1.817	15.77
70)	T	o-Xylene	2.442	2.173	2.312	2.170	2.597	2.662	2.680	2.586	2.453	8.61
71)	T	n-Nonane	1.287	1.140	1.243	1.181	1.387	1.412	1.455	1.306	1.301	8.60
72)	T	1,1,2,2-Tetrac...	1.206	1.074	1.114	1.057	1.298	1.323	1.337	1.325	1.217	9.86
73)	S	Bromofluoroben...	0.715	0.714	0.725	0.724	0.787	0.802	0.783	0.849	0.762	6.56
74)	T	Cumene	3.035	2.729	2.906	2.711	3.284	3.320	3.265	2.830	3.010	8.41
75)	T	alpha-Pinene	1.511	1.362	1.446	1.393	1.701	1.785	1.795	1.856	1.606	12.43
76)	T	n-Propylbenzene	3.631	3.223	3.513	3.346	3.994	4.033	3.904	2.964	3.576	10.84
77)	T	3-Ethyltoluene	2.929	2.407	2.714	2.579	3.163	3.387	3.232	2.897	2.913	11.58
78)	T	4-Ethyltoluene	2.513	2.455	2.758	2.630	3.275	3.167	3.181	2.637	2.827	11.64
79)	T	1,3,5-Trimethy...	2.364	2.022	2.272	2.212	2.706	2.770	2.730	2.561	2.455	11.29
80)	T	alpha-Methylst...			1.138	1.116	1.443	1.485	1.469	1.649	1.384	15.29
81)	T	2-Ethyltoluene	2.821	2.480	2.756	2.582	3.185	3.223	3.148	2.796	2.874	9.82
82)	T	1,2,4-Trimethy...	2.215	1.944	2.255	2.185	2.813	3.050	2.878	2.397	2.467	16.03
83)	T	n-Decane			1.125	1.102	1.410	1.517	1.611	1.515	1.380	15.65
84)	T	Benzyl Chloride				1.519	2.279	2.600	2.687	2.413	2.300	20.21
85)	T	1,3-Dichlorobe...	1.252	1.034	1.264	1.221	1.626	1.660	1.639	1.766	1.433	18.79
86)	T	1,4-Dichlorobe...	1.206	1.004	1.283	1.196	1.601	1.620	1.581	1.693	1.398	18.29
87)	T	sec-Butylbenzene	3.179	2.829	3.093	2.947	3.632	3.636	3.486	2.818	3.203	10.67
88)	T	4-Isopropyltol...			2.761	2.656	3.414	3.547	3.227	2.590	3.033	13.68
89)	T	1,2,3-Trimethy...			2.234	2.175	2.830	3.061	2.870	2.323	2.582	14.77
90)	T	1,2-Dichlorobe...	1.199	1.054	1.223	1.173	1.569	1.646	1.594	1.513	1.372	16.90
91)	T	d-Limonene	0.811	0.750	0.867	0.867	1.070	1.169	1.205	1.057	0.974	17.65
92)	T	1,2-Dibromo-3-...			0.388	0.391	0.568	0.581	0.581	0.595	0.517	19.22
93)	T	n-Undecane			0.906	0.866	1.357	1.474	1.565	1.496	1.277	24.32
94)	T	1,2,4-Trichlor...			0.655	0.635	1.013	1.144	1.183	1.078	0.951	25.70
95)	T	Naphthalene			2.173	2.044	3.472	3.864	3.717	2.796	3.011	26.24
96)	T	n-Dodecane			0.500	0.482	1.251	1.474	1.554	1.375	1.106	44.05
97)	T	Hexachlorobuta...			0.463	0.446	0.622	0.725	0.766	0.927	0.658	28.24
98)	T	Cyclohexanone	1.048	0.943	0.832	0.804	0.983	0.979	0.980	1.079	0.956	10.00
99)	T	tert-Butylbenzene	2.363	2.071	2.240	2.164	2.722	2.855	2.658	2.351	2.428	11.70
100)	T	n-Butylbenzene	2.187	1.921	2.417	2.334	2.916	2.966	2.883	2.471	2.512	15.09

(#) = Out of Range

R16050120.M Fri May 01 18:44:38 2020

Primary Source Standards Concentrations (Working & Initial Calibration)

LH 5/1/20

1ng/L Std. ID:		40ng/L Std. ID:	
4ng/L Std. ID:	S34-04272015	200ng/L Std. ID:	S31-04292003
20ng/L Std. ID:	S34-05012002	1000ng/L Std. ID:	

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	200	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.0250	0.050	0.025	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
Propene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Dichlorodifluoromethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Chloromethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Freon-114	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Vinyl Chloride	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3-Butadiene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Bromomethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Chloroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Ethanol	5.21	5210	1042	208.4	104.2	20.84	5.21		0.521	1.042	2.605	5.21	26.05	130.25	260.5	521
Acetonitrile	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Acrolein	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Acetone	5.33	5330	1066	213.2	106.6	21.32	5.33		0.533	1.066	2.665	5.33	26.65	133.25	266.5	533
Trichlorofluoromethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Isopropanol	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
Acrylonitrile	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,1-Dichloroethene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
tert-Butanol	2.16	2160	432	86.4	43.2	8.64	2.16		0.216	0.432	1.080	2.16	10.80	54.00	108.0	216
Methylene Chloride	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Allyl Chloride	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Dichlorotrifluoroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Carbon Disulfide	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
trans-1,2-Dichloroethene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1-Dichloroethane	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
Methyl tert-Butyl Ether	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Vinyl Acetate	5.35	5350	1070	214.0	107.0	21.40	5.35		0.535	1.070	2.675	5.35	26.75	133.75	267.5	535
2-Butanone	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
cis-1,2-Dichloroethene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Diisopropyl Ether	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Ethyl Acetate	2.17	2170	434	86.8	43.4	8.68	2.17		0.217	0.434	1.085	2.17	10.85	54.25	108.5	217
n-Hexane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Chloroform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Tetrahydrofuran	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
Ethyl tert-Butyl Ether	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dichloroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1,1-Trichloroethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Isopropyl Acetate	2.11	2110	422	84.4	42.2	8.44	2.11		0.211	0.422	1.055	2.11	10.55	52.75	105.5	211
1-Butanol	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
Benzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Carbon Tetrachloride	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Cyclohexane	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
tert-Amyl Methyl Ether	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dichloropropane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Bromodichloromethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Trichloroethene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,4-Dioxane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Isooctane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Methyl Methacrylate	2.15	2150	430	86.0	43.0	8.60	2.15		0.215	0.430	1.075	2.15	10.75	53.75	107.5	215
n-Heptane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108

Q:\TO15 Std. Concentrations\MS16 Std. Conc\2020\R16050120\ICAL Conc. (Primary Source)

Date Updated: 04/22/20
Version: 3

LH 5/1/20

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID:
4ng/L Std. ID: S34-04272015
20ng/L Std. ID: S34-05012002
40ng/L Std. ID:
200ng/L Std. ID: S31-04292003
1000ng/L Std. ID:

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	200	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.0250	0.050	0.025	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
cis-1,3-Dichloropropene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
4-Methyl-2-pentanone	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
trans-1,3-Dichloropropene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1,2-Trichloroethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Toluene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
2-Hexanone	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Dibromochloromethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,2-Dibromoethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Butyl Acetate	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
n-Octane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Tetrachloroethene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Chlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Ethylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
m-&p-Xylene	2.14	2140	428	85.6	42.8	8.56	2.14		0.214	0.428	1.070	2.14	10.70	53.50	107.0	214
Bromoform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Styrene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
o-Xylene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Nonane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,1,2,2-Tetrachloroethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Cumene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
alpha-Pinene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Propylbenzene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
3-Ethyltoluene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
4-Ethyltoluene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3,5-Trimethylbenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
alpha-Methylstyrene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
2-Ethyltoluene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2,4-Trimethylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Decane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Benzyl Chloride	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3-Dichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,4-Dichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
sec-Butylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
p-Isopropyltoluene	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
1,2,3-Trimethylbenzene	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
1,2-Dichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
d-Limonene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dibromo-3-chloropropane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
n-Undecane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2,4-Trichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Naphthalene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
n-Dodecane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Hexachloro-1,3-butadiene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Methacrylonitrile	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Cyclohexanone	1.00	1000	200	40.0	20.0	4.00	1.00		0.100	0.200	0.500	1.00	5.00	25.00	50.0	100
tert-Butylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Butylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107

Q:\TO15 Std. Concentrations\MS16 Std. Conc\2020\R16050120\ICAL Conc. (Primary Source)

Calibration Status Report GCMS-16

Method : I:\MS16\METHODS\R16050120.M (RTE Integrator)
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	0.1	0	13	I:\MS16\DATA\2020_05\01\05012018.D
2	0.2	0	13	I:\MS16\DATA\2020_05\01\05012019.D
3	0.5	1	13	I:\MS16\DATA\2020_05\01\05012020.D
4	1.0	1	13	I:\MS16\DATA\2020_05\01\05012021.D
5	5.0	5	13	I:\MS16\DATA\2020_05\01\05012022.D
6	25	27	13	I:\MS16\DATA\2020_05\01\05012023.D
7	50	53	13	I:\MS16\DATA\2020_05\01\05012024.D
8	100	106	13	I:\MS16\DATA\2020_03\11\03112009.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.1	May 01 17:28 2020	May 01 17:26 2020	1 May 2020 14:09
2	0.2	May 01 17:28 2020	May 01 17:26 2020	1 May 2020 14:42
3	0.5	May 01 17:28 2020	May 01 17:26 2020	1 May 2020 15:16
4	1.0	May 01 17:29 2020	May 01 17:26 2020	1 May 2020 15:51
5	5.0	May 01 17:29 2020	May 01 17:26 2020	1 May 2020 16:25
6	25	May 01 17:29 2020	May 01 17:26 2020	1 May 2020 16:59
7	50	May 01 18:22 2020	May 01 18:21 2020	1 May 2020 17:33
8	100	May 01 17:01 2020	Mar 11 10:34 2020	11 Mar 2020 4:52

R16050120.M Fri May 01 18:52:03 2020

LH 5/1/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012018.D Vial: 6
Acq On : 1 May 2020 14:09 Operator: LH
Sample : 0.1ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04272015 (5/26)

Quant Time: May 01 17:26:08 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	289278	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1281029	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	612084	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	508980	12.744	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.92%				
57) Toluene-d8 (SS2)	15.72	98	1292505	11.971	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.76%				
73) Bromofluorobenzene (SS3)	18.98	174	437866	11.415	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.28%				
Target Compounds							Qvalue
2) Propene	4.13	42	3951	0.128	ng		96
3) Dichlorodifluoromethan...	4.28	85	7854	0.120	ng		99
4) Chloromethane	4.55	50	6389	0.124	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.83	135	4609	0.112	ng		98
6) Vinyl Chloride	4.97	62	6791	0.124	ng		98
7) 1,3-Butadiene	5.24	54	5512	0.135	ng		93
8) Bromomethane	5.66	94	3547	0.129	ng		100
9) Chloroethane	5.99	64	2625	0.124	ng		97
10) Ethanol	6.32	45	16999	0.700	ng		96
11) Acetonitrile	6.59	41	8460	0.157	ng		84
12) Acrolein	6.79	56	2525	0.141	ng		97
13) Acetone	7.01	58	15440	0.650	ng	#	85
14) Trichlorofluoromethane	7.25	101	6656	0.116	ng		97
15) 2-Propanol (Isopropanol)	7.50	45	18806	0.266	ng		91
16) Acrylonitrile	7.74	53	5351	0.149	ng		99
17) 1,1-Dichloroethene	8.21	96	3518	0.123	ng		97
18) 2-Methyl-2-Propanol (t...	8.40	59	17666	0.282	ng		93
19) Methylene Chloride	8.40	84	4154	0.134	ng		94
20) 3-Chloro-1-propene (Al...	8.58	41	5555	0.137	ng		88
21) Trichlorotrifluoroethane	8.84	151	3158	0.114	ng		96
22) Carbon Disulfide	8.69	76	15135	0.136	ng		97
23) trans-1,2-Dichloroethene	9.68	61	5709	0.137	ng		99
24) 1,1-Dichloroethane	9.93	63	6480	0.122	ng		98
25) Methyl tert-Butyl Ether	10.09	73	10484	0.124	ng		100
26) Vinyl Acetate	10.21	86	3501	0.438	ng	#	69
27) 2-Butanone (MEK)	10.48	72	2477	0.126	ng	#	74
28) cis-1,2-Dichloroethene	10.95	61	5362	0.125	ng		95
29) Diisopropyl Ether	11.29	87	3500	0.113	ng	#	86
30) Ethyl Acetate	11.28	61	2653	0.229	ng		98
31) n-Hexane	11.26	57	6264	0.117	ng		97
32) Chloroform	11.30	83	6525	0.114	ng		100
34) Tetrahydrofuran (THF)	11.75	72	2693	0.133	ng		91
35) Ethyl tert-Butyl Ether	11.87	87	4007	0.109	ng		93
36) 1,2-Dichloroethane	12.11	62	5509	0.123	ng		98
38) 1,1,1-Trichloroethane	12.39	97	5705	0.113	ng		98
39) Isopropyl Acetate	12.84	61	4697	0.226	ng	#	91
40) 1-Butanol	12.85	56	7144	0.220	ng		93
41) Benzene	12.87	78	15792	0.120	ng		98
42) Carbon Tetrachloride	13.03	117	4803	0.106	ng		98
43) Cyclohexane	13.17	84	10671	0.211	ng		98
44) tert-Amyl Methyl Ether	13.53	73	9904	0.115	ng		97
45) 1,2-Dichloropropane	13.72	63	3569	0.117	ng		99
46) Bromodichloromethane	13.91	83	4900	0.109	ng		98
47) Trichloroethene	13.96	130	3818	0.102	ng		96
48) 1,4-Dioxane	13.96	88	3076	0.120	ng		99
49) 2,2,4-Trimethylpentane...	14.05	57	14967	0.118	ng		97
50) Methyl Methacrylate	14.18	100	2774	0.218	ng		96

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012018.D Vial: 6
Acq On : 1 May 2020 14:09 Operator: LH
Sample : 0.1ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04272015 (5/26)

Quant Time: May 01 17:26:08 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

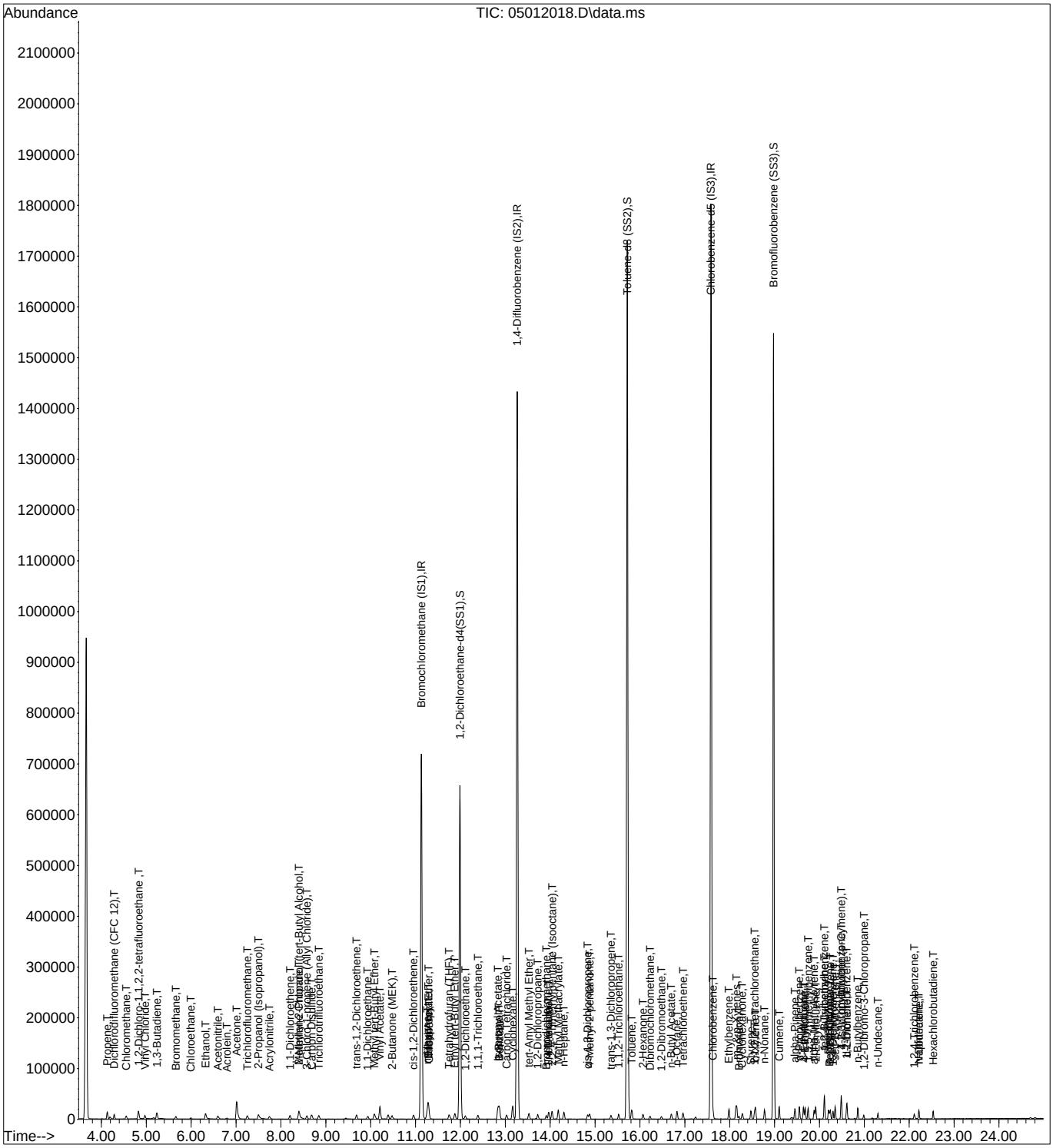
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.30	71	3595	0.117 ng		97
52) cis-1,3-Dichloropropene	14.83	75	5704	0.116 ng		96
53) 4-Methyl-2-pentanone	14.88	58	3296	0.119 ng		93
54) trans-1,3-Dichloropropene	15.35	75	4544	0.099 ng		98
55) 1,1,2-Trichloroethane	15.52	97	3290	0.107 ng		92
58) Toluene	15.82	91	15732	0.118 ng		98
59) 2-Hexanone	16.07	43	8108	0.120 ng		95
60) Dibromochloromethane	16.23	129	3850	0.107 ng		98
61) 1,2-Dibromoethane	16.48	107	3967	0.115 ng		99
62) n-Butyl Acetate	16.70	43	8599	0.119 ng		100
63) n-Octane	16.82	57	3026	0.113 ng		95
64) Tetrachloroethene	16.96	166	3889	0.104 ng		96
65) Chlorobenzene	17.62	112	9815	0.109 ng		97
66) Ethylbenzene	17.98	91	15876	0.108 ng		99
67) m- & p-Xylenes	18.15	91	25313	0.213 ng		97
68) Bromoform	18.21	173	2794	0.087 ng		97
69) Styrene	18.47	104	8068	0.087 ng		98
70) o-Xylene	18.58	91	12796	0.107 ng		97
71) n-Nonane	18.77	43	6742	0.112 ng		94
72) 1,1,2,2-Tetrachloroethane	18.55	83	6321	0.110 ng		99
74) Cumene	19.10	105	16051	0.107 ng		99
75) alpha-Pinene	19.45	93	7915	0.104 ng		98
76) n-Propylbenzene	19.55	91	19200	0.109 ng		96
77) 3-Ethyltoluene	19.64	105	15205	0.102 ng		95
78) 4-Ethyltoluene	19.68	105	13291	0.094 ng		97
79) 1,3,5-Trimethylbenzene	19.75	105	12270	0.097 ng		98
80) alpha-Methylstyrene	19.88	118	5286	0.077 ng		90
81) 2-Ethyltoluene	19.92	105	14918	0.102 ng		98
82) 1,2,4-Trimethylbenzene	20.11	105	11607	0.089 ng		98
83) n-Decane	20.20	57	5622	0.088 ng		96
84) Benzyl Chloride	20.23	91	6198	0.059 ng		94
85) 1,3-Dichlorobenzene	20.24	146	6559	0.093 ng		97
86) 1,4-Dichlorobenzene	20.30	146	6317	0.090 ng		95
87) sec-Butylbenzene	20.35	105	16656	0.102 ng		97
88) 4-Isopropyltoluene (p-...	20.48	119	14335	0.094 ng		98
89) 1,2,3-Trimethylbenzene	20.48	105	11912	0.091 ng		98
90) 1,2-Dichlorobenzene	20.61	146	6284	0.088 ng		97
91) d-Limonene	20.61	68	4287	0.084 ng		100
92) 1,2-Dibromo-3-Chloropr...	20.99	157	1904	0.078 ng	#	68
93) n-Undecane	21.30	57	3299	0.050 ng		96
94) 1,2,4-Trichlorobenzene	22.11	180	2902	0.065 ng		95
95) Naphthalene	22.22	128	9207	0.061 ng		99
96) n-Dodecane	22.22	57	1759	0.027 ng		84
97) Hexachlorobutadiene	22.54	225	2672	0.079 ng		98
98) Cyclohexanone	18.28	55	5130	0.112 ng		96
99) tert-Butylbenzene	20.11	119	12381	0.098 ng		100
100) n-Butylbenzene	20.85	91	11459	0.087 ng		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012018.D Vial: 6
Acq On : 1 May 2020 14:09 Operator: LH
Sample : 0.1ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04272015 (5/26)

Quant Time: May 01 17:26:08 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012019.D Vial: 6
Acq On : 1 May 2020 14:42 Operator: LH
Sample : 0.2ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04272015 (5/26)

Quant Time: May 01 17:26:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	281203	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1265644	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	605249	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	502682	12.948	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.60%				
57) Toluene-d8 (SS2)	15.72	98	1286177	12.047	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.40%				
73) Bromofluorobenzene (SS3)	18.98	174	432138	11.393	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.12%				
Target Compounds							Qvalue
2) Propene	4.12	42	7340	0.244	ng		98
3) Dichlorodifluoromethan...	4.28	85	14321	0.225	ng		98
4) Chloromethane	4.54	50	11611	0.231	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	7949	0.198	ng		100
6) Vinyl Chloride	4.97	62	12344	0.232	ng		98
7) 1,3-Butadiene	5.22	54	9830	0.247	ng		96
8) Bromomethane	5.65	94	6528	0.244	ng		95
9) Chloroethane	5.98	64	4628	0.226	ng		98
10) Ethanol	6.31	45	27749	1.175	ng		96
11) Acetonitrile	6.59	41	13417	0.257	ng		87
12) Acrolein	6.79	56	4024	0.232	ng		98
13) Acetone	7.01	58	26616	1.152	ng		88
14) Trichlorofluoromethane	7.25	101	12031	0.215	ng		96
15) 2-Propanol (Isopropanol)	7.48	45	33389	0.485	ng		93
16) Acrylonitrile	7.74	53	8962	0.257	ng		98
17) 1,1-Dichloroethene	8.20	96	6259	0.225	ng		97
18) 2-Methyl-2-Propanol (t...	8.39	59	31078	0.511	ng		95
19) Methylene Chloride	8.40	84	7162	0.238	ng		95
20) 3-Chloro-1-propene (Al...	8.57	41	9375	0.238	ng		97
21) Trichlorotrifluoroethane	8.85	151	5174	0.193	ng		91
22) Carbon Disulfide	8.68	76	25939	0.240	ng		98
23) trans-1,2-Dichloroethene	9.69	61	9736	0.240	ng		99
24) 1,1-Dichloroethane	9.93	63	11448	0.222	ng		100
25) Methyl tert-Butyl Ether	10.07	73	19408	0.236	ng		100
26) Vinyl Acetate	10.20	86	6257	0.806	ng	#	65
27) 2-Butanone (MEK)	10.47	72	4473	0.235	ng	#	85
28) cis-1,2-Dichloroethene	10.95	61	9299	0.222	ng		95
29) Diisopropyl Ether	11.27	87	6141	0.203	ng	#	89
30) Ethyl Acetate	11.28	61	5026	0.447	ng		94
31) n-Hexane	11.26	57	10892	0.209	ng		100
32) Chloroform	11.30	83	11522	0.207	ng		100
34) Tetrahydrofuran (THF)	11.74	72	4717	0.239	ng		96
35) Ethyl tert-Butyl Ether	11.87	87	7599	0.213	ng		99
36) 1,2-Dichloroethane	12.11	62	10033	0.231	ng		97
38) 1,1,1-Trichloroethane	12.39	97	10336	0.208	ng		99
39) Isopropyl Acetate	12.84	61	8005	0.390	ng	#	82
40) 1-Butanol	12.85	56	12049	0.376	ng		93
41) Benzene	12.87	78	27102	0.208	ng		100
42) Carbon Tetrachloride	13.03	117	8801	0.196	ng		99
43) Cyclohexane	13.17	84	19302	0.386	ng		99
44) tert-Amyl Methyl Ether	13.52	73	18140	0.213	ng		97
45) 1,2-Dichloropropane	13.72	63	6464	0.215	ng		100
46) Bromodichloromethane	13.91	83	9202	0.208	ng		97
47) Trichloroethene	13.97	130	6883	0.185	ng		99
48) 1,4-Dioxane	13.96	88	5469	0.215	ng		98
49) 2,2,4-Trimethylpentane...	14.04	57	27442	0.219	ng		99
50) Methyl Methacrylate	14.18	100	4902	0.390	ng		92

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012019.D Vial: 6
Acq On : 1 May 2020 14:42 Operator: LH
Sample : 0.2ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04272015 (5/26)

Quant Time: May 01 17:26:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

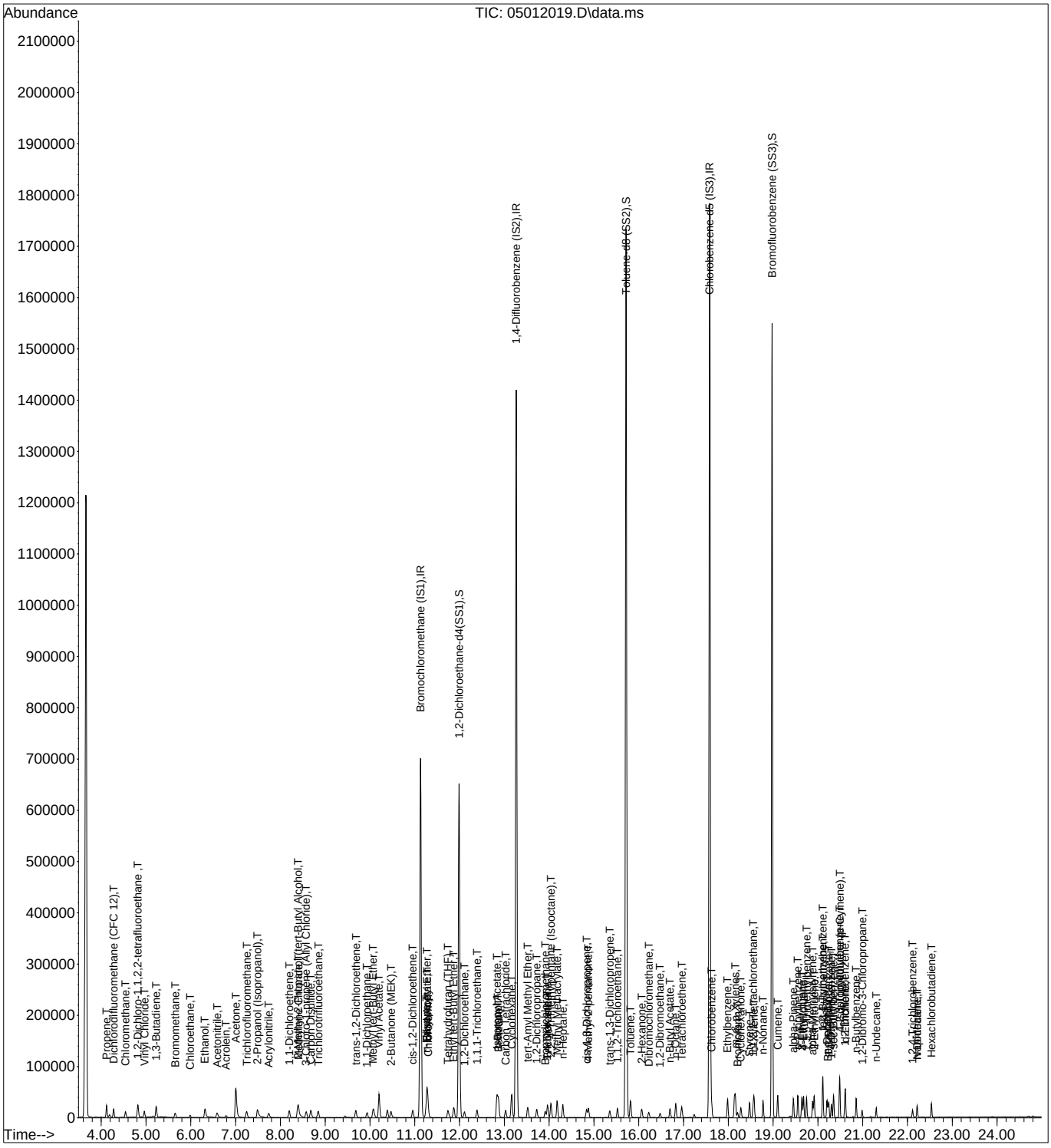
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.31	71	6485	0.213 ng		99
52) cis-1,3-Dichloropropene	14.84	75	10229	0.211 ng		99
53) 4-Methyl-2-pentanone	14.88	58	5691	0.207 ng		91
54) trans-1,3-Dichloropropene	15.35	75	8360	0.185 ng		96
55) 1,1,2-Trichloroethane	15.52	97	6328	0.209 ng		98
58) Toluene	15.82	91	26600	0.201 ng		99
59) 2-Hexanone	16.06	43	14103	0.211 ng		96
60) Dibromochloromethane	16.23	129	7014	0.198 ng		97
61) 1,2-Dibromoethane	16.48	107	7112	0.208 ng		98
62) n-Butyl Acetate	16.70	43	14786	0.207 ng		99
63) n-Octane	16.82	57	5273	0.199 ng		99
64) Tetrachloroethene	16.96	166	6836	0.184 ng		98
65) Chlorobenzene	17.62	112	17628	0.198 ng		99
66) Ethylbenzene	17.98	91	28627	0.197 ng		98
67) m- & p-Xylenes	18.15	91	43549	0.370 ng		100
68) Bromoform	18.21	173	4948	0.156 ng		97
69) Styrene	18.47	104	14427	0.157 ng		98
70) o-Xylene	18.58	91	22519	0.191 ng		99
71) n-Nonane	18.77	43	11811	0.198 ng		96
72) 1,1,2,2-Tetrachloroethane	18.55	83	11124	0.196 ng		98
74) Cumene	19.10	105	28539	0.192 ng		97
75) alpha-Pinene	19.45	93	14109	0.187 ng		97
76) n-Propylbenzene	19.55	91	33704	0.194 ng		96
77) 3-Ethyltoluene	19.64	105	24706	0.167 ng		95
78) 4-Ethyltoluene	19.68	105	25673	0.184 ng		92
79) 1,3,5-Trimethylbenzene	19.75	105	20755	0.166 ng		100
80) alpha-Methylstyrene	19.88	118	9566	0.141 ng		98
81) 2-Ethyltoluene	19.92	105	25934	0.179 ng		98
82) 1,2,4-Trimethylbenzene	20.11	105	20144	0.156 ng		100
83) n-Decane	20.20	57	9540	0.150 ng		99
84) Benzyl Chloride	20.22	91	10864	0.105 ng		96
85) 1,3-Dichlorobenzene	20.24	146	10709	0.154 ng		98
86) 1,4-Dichlorobenzene	20.30	146	10405	0.150 ng		99
87) sec-Butylbenzene	20.35	105	29313	0.182 ng		98
88) 4-Isopropyltoluene (p-...	20.49	119	25509	0.168 ng		98
89) 1,2,3-Trimethylbenzene	20.48	105	20308	0.157 ng		97
90) 1,2-Dichlorobenzene	20.61	146	10926	0.154 ng		99
91) d-Limonene	20.61	68	7844	0.156 ng		98
92) 1,2-Dibromo-3-Chloropr...	20.99	157	3246	0.134 ng	#	68
93) n-Undecane	21.30	57	5419	0.083 ng		99
94) 1,2,4-Trichlorobenzene	22.11	180	4530	0.103 ng		98
95) Naphthalene	22.22	128	12645	0.085 ng		100
96) n-Dodecane	22.22	57	2203	0.035 ng		95
97) Hexachlorobutadiene	22.54	225	4472	0.134 ng		100
98) Cyclohexanone	18.28	55	9134	0.201 ng		98
99) tert-Butylbenzene	20.11	119	21458	0.172 ng		100
100) n-Butylbenzene	20.85	91	19904	0.152 ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012019.D Vial: 6
Acq On : 1 May 2020 14:42 Operator: LH
Sample : 0.2ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04272015 (5/26)

Quant Time: May 01 17:26:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012020.D Vial: 13
Acq On : 1 May 2020 15:16 Operator: LH
Sample : 0.5ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-05012002 (5/30)

Quant Time: May 01 17:26:12 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	282762	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1246042	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	597894	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	496699	12.724	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.76%				
57) Toluene-d8 (SS2)	15.72	98	1261623	11.962	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.68%				
73) Bromofluorobenzene (SS3)	18.98	174	433440	11.568	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.56%				
Target Compounds							Qvalue
2) Propene	4.12	42	18019	0.595	ng		100
3) Dichlorodifluoromethan...	4.27	85	36783	0.574	ng		100
4) Chloromethane	4.54	50	28625	0.567	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	21643	0.536	ng		98
6) Vinyl Chloride	4.96	62	31225	0.584	ng		99
7) 1,3-Butadiene	5.22	54	25691	0.642	ng		97
8) Bromomethane	5.65	94	16060	0.596	ng		100
9) Chloroethane	5.98	64	12037	0.584	ng		100
10) Ethanol	6.32	45	59441	2.504	ng		99
11) Acetonitrile	6.58	41	28303	0.538	ng		92
12) Acrolein	6.78	56	10249	0.587	ng		99
13) Acetone	7.00	58	64034	2.757	ng		90
14) Trichlorofluoromethane	7.24	101	30869	0.549	ng		99
15) 2-Propanol (Isopropanol)	7.49	45	81950	1.184	ng		94
16) Acrylonitrile	7.74	53	20199	0.576	ng		99
17) 1,1-Dichloroethene	8.19	96	16045	0.574	ng		99
18) 2-Methyl-2-Propanol (t...	8.38	59	81236	1.327	ng		97
19) Methylene Chloride	8.40	84	16818	0.555	ng		93
20) 3-Chloro-1-propene (Al...	8.57	41	23985	0.605	ng		100
21) Trichlorotrifluoroethane	8.84	151	14094	0.522	ng		90
22) Carbon Disulfide	8.68	76	62306	0.573	ng		100
23) trans-1,2-Dichloroethene	9.68	61	24198	0.594	ng		98
24) 1,1-Dichloroethane	9.94	63	30445	0.588	ng		98
25) Methyl tert-Butyl Ether	10.06	73	50440	0.609	ng		100
26) Vinyl Acetate	10.20	86	16921	2.167	ng	#	71
27) 2-Butanone (MEK)	10.46	72	11237	0.586	ng	#	91
28) cis-1,2-Dichloroethene	10.95	61	23378	0.555	ng		97
29) Diisopropyl Ether	11.27	87	16633	0.547	ng	#	80
30) Ethyl Acetate	11.28	61	12444	1.100	ng		99
31) n-Hexane	11.26	57	28441	0.542	ng		99
32) Chloroform	11.30	83	30757	0.550	ng		100
34) Tetrahydrofuran (THF)	11.74	72	11211	0.565	ng		97
35) Ethyl tert-Butyl Ether	11.87	87	19341	0.539	ng		95
36) 1,2-Dichloroethane	12.11	62	24513	0.560	ng		98
38) 1,1,1-Trichloroethane	12.39	97	26870	0.549	ng		98
39) Isopropyl Acetate	12.83	61	21414	1.060	ng		94
40) 1-Butanol	12.85	56	25610	0.811	ng		84
41) Benzene	12.87	78	68060	0.531	ng		99
42) Carbon Tetrachloride	13.03	117	23499	0.531	ng		100
43) Cyclohexane	13.17	84	50782	1.030	ng		99
44) tert-Amyl Methyl Ether	13.52	73	47408	0.566	ng		98
45) 1,2-Dichloropropane	13.73	63	16720	0.564	ng		98
46) Bromodichloromethane	13.91	83	23539	0.540	ng		99
47) Trichloroethene	13.97	130	17666	0.483	ng		98
48) 1,4-Dioxane	13.95	88	13607	0.544	ng		98
49) 2,2,4-Trimethylpentane...	14.04	57	70232	0.570	ng		98
50) Methyl Methacrylate	14.18	100	12679	1.026	ng		89

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012020.D Vial: 13
Acq On : 1 May 2020 15:16 Operator: LH
Sample : 0.5ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-05012002 (5/30)

Quant Time: May 01 17:26:12 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

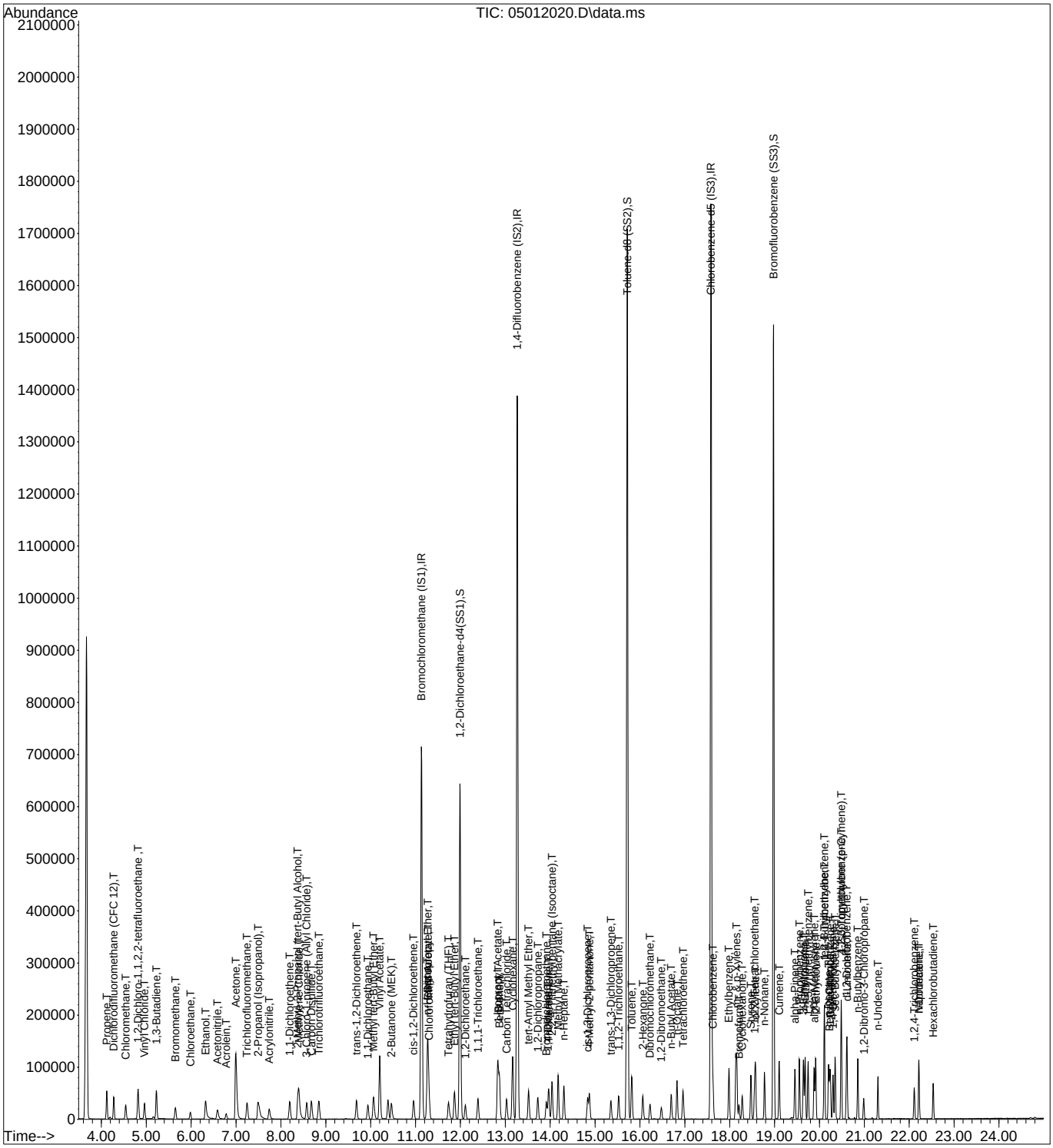
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.30	71	16470	0.549	ng		99
52) cis-1,3-Dichloropropene	14.83	75	25622	0.537	ng		100
53) 4-Methyl-2-pentanone	14.88	58	15185	0.562	ng		96
54) trans-1,3-Dichloropropene	15.35	75	21678	0.488	ng		100
55) 1,1,2-Trichloroethane	15.52	97	16061	0.538	ng		99
58) Toluene	15.82	91	68212	0.522	ng		99
59) 2-Hexanone	16.06	43	36076	0.547	ng		97
60) Dibromochloromethane	16.22	129	18007	0.513	ng		100
61) 1,2-Dibromoethane	16.48	107	18032	0.535	ng		99
62) n-Butyl Acetate	16.70	43	40268	0.571	ng		99
63) n-Octane	16.83	57	14009	0.536	ng		98
64) Tetrachloroethene	16.96	166	17406	0.474	ng		98
65) Chlorobenzene	17.62	112	44455	0.505	ng		99
66) Ethylbenzene	17.98	91	75877	0.529	ng		99
67) m- & p-Xylenes	18.15	91	116955	1.007	ng		99
68) Bromoform	18.21	173	13392	0.426	ng		100
69) Styrene	18.47	104	42807	0.472	ng		99
70) o-Xylene	18.58	91	59151	0.509	ng		98
71) n-Nonane	18.77	43	31809	0.539	ng		98
72) 1,1,2,2-Tetrachloroethane	18.55	83	28515	0.507	ng		100
74) Cumene	19.10	105	75062	0.513	ng		98
75) alpha-Pinene	19.45	93	36992	0.496	ng		98
76) n-Propylbenzene	19.56	91	90744	0.529	ng		97
77) 3-Ethyltoluene	19.64	105	68792	0.472	ng		99
78) 4-Ethyltoluene	19.68	105	71240	0.516	ng		99
79) 1,3,5-Trimethylbenzene	19.75	105	57590	0.466	ng		100
80) alpha-Methylstyrene	19.88	118	29121	0.435	ng		98
81) 2-Ethyltoluene	19.92	105	71176	0.498	ng		98
82) 1,2,4-Trimethylbenzene	20.11	105	57697	0.454	ng		98
83) n-Decane	20.20	57	28801	0.460	ng		98
84) Benzyl Chloride	20.23	91	38679	0.379	ng		97
85) 1,3-Dichlorobenzene	20.24	146	32341	0.470	ng		99
86) 1,4-Dichlorobenzene	20.30	146	32829	0.480	ng		98
87) sec-Butylbenzene	20.35	105	79152	0.499	ng		98
88) 4-Isopropyltoluene (p-...	20.48	119	71971	0.481	ng		98
89) 1,2,3-Trimethylbenzene	20.48	105	58236	0.457	ng		97
90) 1,2-Dichlorobenzene	20.61	146	31295	0.447	ng		100
91) d-Limonene	20.62	68	22394	0.451	ng		99
92) 1,2-Dibromo-3-Chloropr...	20.99	157	9748	0.406	ng	#	80
93) n-Undecane	21.30	57	23411	0.364	ng		98
94) 1,2,4-Trichlorobenzene	22.11	180	16758	0.385	ng		99
95) Naphthalene	22.22	128	53528	0.365	ng		100
96) n-Dodecane	22.22	57	12440	0.198	ng		98
97) Hexachlorobutadiene	22.54	225	11744	0.356	ng		99
98) Cyclohexanone	18.28	55	19899	0.444	ng		97
99) tert-Butylbenzene	20.11	119	57329	0.464	ng		99
100) n-Butylbenzene	20.85	91	61839	0.478	ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012020.D Vial: 13
Acq On : 1 May 2020 15:16 Operator: LH
Sample : 0.5ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-05012002 (5/30)

Quant Time: May 01 17:26:12 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012021.D Vial: 13
Acq On : 1 May 2020 15:51 Operator: LH
Sample : 1.0ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-05012002 (5/30)

Quant Time: May 01 17:26:14 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	283099	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1255557	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	599231	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	497020	12.717	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.76%				
57) Toluene-d8 (SS2)	15.72	98	1262658	11.945	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.60%				
73) Bromofluorobenzene (SS3)	18.98	174	433746	11.550	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.40%				
Target Compounds							Qvalue
2) Propene	4.11	42	33126	1.093	ng		99
3) Dichlorodifluoromethan...	4.27	85	68235	1.064	ng		99
4) Chloromethane	4.53	50	53718	1.062	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	38642	0.956	ng		99
6) Vinyl Chloride	4.96	62	58432	1.092	ng		100
7) 1,3-Butadiene	5.22	54	47465	1.185	ng		98
8) Bromomethane	5.64	94	29630	1.099	ng		100
9) Chloroethane	5.98	64	22473	1.088	ng		99
10) Ethanol	6.32	45	110869	4.665	ng		99
11) Acetonitrile	6.58	41	53541	1.017	ng		100
12) Acrolein	6.78	56	19340	1.106	ng		100
13) Acetone	6.98	58	119315	5.130	ng		90
14) Trichlorofluoromethane	7.24	101	56632	1.006	ng		99
15) 2-Propanol (Isopropanol)	7.48	45	154892	2.235	ng		96
16) Acrylonitrile	7.74	53	38461	1.095	ng		99
17) 1,1-Dichloroethene	8.19	96	30236	1.080	ng		97
18) 2-Methyl-2-Propanol (t...	8.36	59	151128	2.466	ng		98
19) Methylene Chloride	8.40	84	32502	1.072	ng		97
20) 3-Chloro-1-propene (Al...	8.57	41	46601	1.174	ng		98
21) Trichlorotrifluoroethane	8.84	151	26828	0.993	ng		96
22) Carbon Disulfide	8.68	76	117066	1.075	ng		99
23) trans-1,2-Dichloroethene	9.68	61	45490	1.115	ng		97
24) 1,1-Dichloroethane	9.94	63	55243	1.065	ng		99
25) Methyl tert-Butyl Ether	10.06	73	92006	1.109	ng		99
26) Vinyl Acetate	10.20	86	33295	4.258	ng	#	76
27) 2-Butanone (MEK)	10.46	72	21197	1.105	ng		96
28) cis-1,2-Dichloroethene	10.96	61	43960	1.043	ng		97
29) Diisopropyl Ether	11.27	87	31384	1.031	ng	#	79
30) Ethyl Acetate	11.27	61	23578	2.083	ng		97
31) n-Hexane	11.26	57	53227	1.014	ng		99
32) Chloroform	11.30	83	57167	1.020	ng		98
34) Tetrahydrofuran (THF)	11.73	72	21166	1.066	ng		97
35) Ethyl tert-Butyl Ether	11.87	87	36365	1.013	ng		97
36) 1,2-Dichloroethane	12.11	62	45068	1.029	ng		100
38) 1,1,1-Trichloroethane	12.39	97	50409	1.021	ng		98
39) Isopropyl Acetate	12.83	61	40161	1.973	ng	#	92
40) 1-Butanol	12.84	56	48310	1.519	ng		82
41) Benzene	12.87	78	127091	0.984	ng		100
42) Carbon Tetrachloride	13.03	117	43210	0.970	ng		98
43) Cyclohexane	13.17	84	94431	1.902	ng		98
44) tert-Amyl Methyl Ether	13.52	73	89386	1.060	ng		98
45) 1,2-Dichloropropane	13.73	63	31276	1.047	ng		99
46) Bromodichloromethane	13.91	83	44019	1.002	ng		99
47) Trichloroethene	13.97	130	32599	0.885	ng		100
48) 1,4-Dioxane	13.95	88	25788	1.023	ng		99
49) 2,2,4-Trimethylpentane...	14.04	57	130371	1.050	ng		98
50) Methyl Methacrylate	14.18	100	24994	2.007	ng		96

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012021.D Vial: 13
Acq On : 1 May 2020 15:51 Operator: LH
Sample : 1.0ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-05012002 (5/30)

Quant Time: May 01 17:26:14 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

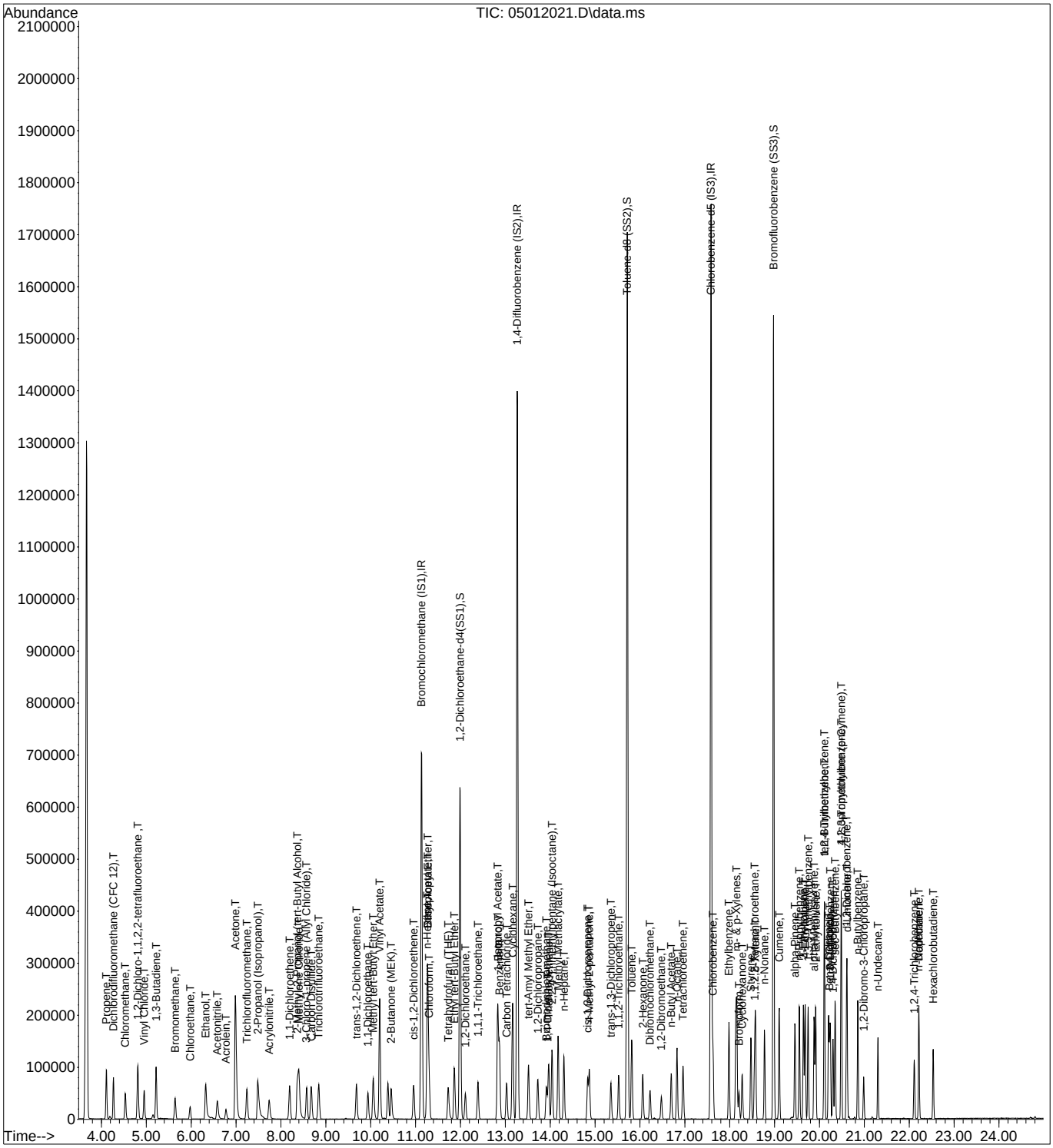
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	31052	1.028	ng	99
52) cis-1,3-Dichloropropene	14.83	75	48884	1.016	ng	100
53) 4-Methyl-2-pentanone	14.87	58	28992	1.064	ng	98
54) trans-1,3-Dichloropropene	15.35	75	42499	0.949	ng	99
55) 1,1,2-Trichloroethane	15.52	97	29976	0.997	ng	99
58) Toluene	15.82	91	126852	0.968	ng	100
59) 2-Hexanone	16.06	43	68688	1.039	ng	98
60) Dibromochloromethane	16.22	129	34198	0.973	ng	100
61) 1,2-Dibromoethane	16.48	107	33986	1.006	ng	99
62) n-Butyl Acetate	16.70	43	76066	1.076	ng	98
63) n-Octane	16.83	57	26077	0.995	ng	99
64) Tetrachloroethene	16.96	166	32577	0.886	ng	100
65) Chlorobenzene	17.62	112	82545	0.935	ng	98
66) Ethylbenzene	17.98	91	142006	0.988	ng	99
67) m- & p-Xylenes	18.15	91	225991	1.941	ng	98
68) Bromoform	18.21	173	25763	0.818	ng	100
69) Styrene	18.47	104	80976	0.891	ng	99
70) o-Xylene	18.58	91	111310	0.955	ng	99
71) n-Nonane	18.77	43	60557	1.023	ng	97
72) 1,1,2,2-Tetrachloroethane	18.55	83	54222	0.963	ng	99
74) Cumene	19.10	105	140371	0.956	ng	99
75) alpha-Pinene	19.45	93	71471	0.956	ng	99
76) n-Propylbenzene	19.55	91	173225	1.008	ng	98
77) 3-Ethyltoluene	19.64	105	131045	0.897	ng	99
78) 4-Ethyltoluene	19.68	105	136161	0.983	ng	99
79) 1,3,5-Trimethylbenzene	19.75	105	112385	0.908	ng	99
80) alpha-Methylstyrene	19.88	118	57239	0.853	ng	99
81) 2-Ethyltoluene	19.92	105	133665	0.933	ng	99
82) 1,2,4-Trimethylbenzene	20.11	105	112073	0.879	ng	99
83) n-Decane	20.20	57	56537	0.900	ng	99
84) Benzyl Chloride	20.23	91	78621	0.769	ng	97
85) 1,3-Dichlorobenzene	20.24	146	62650	0.909	ng	99
86) 1,4-Dichlorobenzene	20.30	146	61324	0.895	ng	100
87) sec-Butylbenzene	20.35	105	151180	0.950	ng	98
88) 4-Isopropyltoluene (p-...	20.48	119	138806	0.925	ng	99
89) 1,2,3-Trimethylbenzene	20.48	105	113653	0.890	ng	99
90) 1,2-Dichlorobenzene	20.61	146	60175	0.857	ng	99
91) d-Limonene	20.62	68	44904	0.903	ng	98
92) 1,2-Dibromo-3-Chloropr...	20.98	157	19657	0.817	ng	85
93) n-Undecane	21.30	57	44833	0.696	ng	99
94) 1,2,4-Trichlorobenzene	22.11	180	32560	0.746	ng	100
95) Naphthalene	22.22	128	100929	0.687	ng	100
96) n-Dodecane	22.21	57	24009	0.380	ng	99
97) Hexachlorobutadiene	22.54	225	22641	0.684	ng	99
98) Cyclohexanone	18.28	55	38554	0.858	ng	99
99) tert-Butylbenzene	20.11	119	111007	0.897	ng	99
100) n-Butylbenzene	20.85	91	119734	0.924	ng	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012021.D Vial: 13
Acq On : 1 May 2020 15:51 Operator: LH
Sample : 1.0ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-05012002 (5/30)

Quant Time: May 01 17:26:14 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012022.D Vial: 2
Acq On : 1 May 2020 16:25 Operator: LH
Sample : 5.0ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 17:26:16 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	303798	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.27	114	1318017	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	623963	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	517657	12.342	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.72%				
57) Toluene-d8 (SS2)	15.72	98	1308528	11.889	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.12%				
73) Bromofluorobenzene (SS3)	18.98	174	490919	12.554	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.40%				
Target Compounds							Qvalue
2) Propene	4.09	42	193048	5.934	ng		100
3) Dichlorodifluoromethan...	4.25	85	387745	5.637	ng		100
4) Chloromethane	4.52	50	303525	5.594	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	222610	5.132	ng		100
6) Vinyl Chloride	4.94	62	339270	5.907	ng		100
7) 1,3-Butadiene	5.21	54	276281	6.430	ng		99
8) Bromomethane	5.64	94	169682	5.863	ng		98
9) Chloroethane	5.97	64	129957	5.865	ng		100
10) Ethanol	6.35	45	691643	27.117	ng		100
11) Acetonitrile	6.60	41	322707	5.712	ng		100
12) Acrolein	6.78	56	114887	6.125	ng		99
13) Acetone	6.99	58	718205	28.778	ng		93
14) Trichlorofluoromethane	7.24	101	330361	5.469	ng		100
15) 2-Propanol (Isopropanol)	7.50	45	953934	12.829	ng		99
16) Acrylonitrile	7.75	53	241513	6.410	ng		100
17) 1,1-Dichloroethene	8.19	96	176135	5.860	ng		97
18) 2-Methyl-2-Propanol (t...	8.36	59	939029	14.278	ng		99
19) Methylene Chloride	8.42	84	189273	5.818	ng		97
20) 3-Chloro-1-propene (Al...	8.58	41	281181	6.602	ng		99
21) Trichlorotrifluoroethane	8.84	151	159827	5.511	ng		97
22) Carbon Disulfide	8.68	76	697922	5.971	ng		100
23) trans-1,2-Dichloroethene	9.70	61	269106	6.148	ng		99
24) 1,1-Dichloroethane	9.95	63	324467	5.829	ng		100
25) Methyl tert-Butyl Ether	10.05	73	520731	5.850	ng		100
26) Vinyl Acetate	10.21	86	230843	27.513	ng	#	86
27) 2-Butanone (MEK)	10.45	72	129697	6.298	ng		97
28) cis-1,2-Dichloroethene	10.97	61	259456	5.737	ng		98
29) Diisopropyl Ether	11.27	87	191800	5.871	ng	#	79
30) Ethyl Acetate	11.27	61	149560	12.310	ng		98
31) n-Hexane	11.26	57	314981	5.592	ng		99
32) Chloroform	11.31	83	340357	5.661	ng		99
34) Tetrahydrofuran (THF)	11.72	72	126370	5.930	ng		99
35) Ethyl tert-Butyl Ether	11.86	87	221593	5.751	ng		97
36) 1,2-Dichloroethane	12.11	62	265122	5.640	ng		100
38) 1,1,1-Trichloroethane	12.40	97	293872	5.672	ng		100
39) Isopropyl Acetate	12.83	61	250912	11.741	ng	#	94
40) 1-Butanol	12.84	56	336318	10.073	ng		93
41) Benzene	12.87	78	763486	5.631	ng		100
42) Carbon Tetrachloride	13.03	117	266893	5.707	ng		100
43) Cyclohexane	13.17	84	572113	10.975	ng		100
44) tert-Amyl Methyl Ether	13.52	73	541195	6.112	ng		99
45) 1,2-Dichloropropane	13.73	63	186128	5.938	ng		99
46) Bromodichloromethane	13.92	83	271708	5.892	ng		100
47) Trichloroethene	13.97	130	200472	5.185	ng		100
48) 1,4-Dioxane	13.95	88	156033	5.899	ng		100
49) 2,2,4-Trimethylpentane...	14.04	57	772648	5.931	ng		99
50) Methyl Methacrylate	14.18	100	156609	11.977	ng		97

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012022.D Vial: 2
Acq On : 1 May 2020 16:25 Operator: LH
Sample : 5.0ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 17:26:16 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

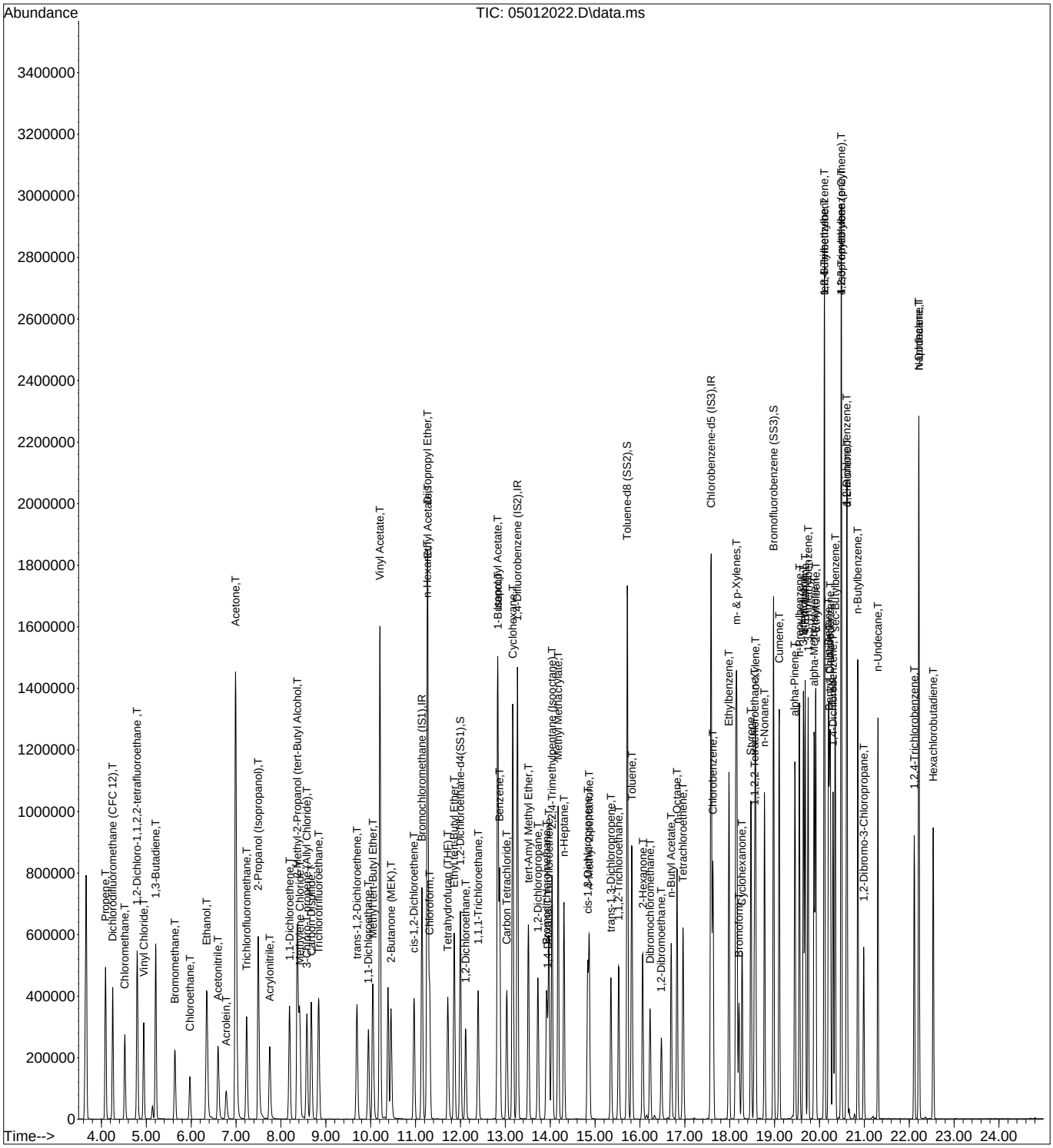
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	180946	5.706	ng	99
52) cis-1,3-Dichloropropene	14.84	75	308293	6.105	ng	100
53) 4-Methyl-2-pentanone	14.87	58	175513	6.138	ng	97
54) trans-1,3-Dichloropropene	15.35	75	277438	5.899	ng	100
55) 1,1,2-Trichloroethane	15.52	97	182608	5.786	ng	99
58) Toluene	15.82	91	751701	5.508	ng	100
59) 2-Hexanone	16.06	43	431067	6.262	ng	99
60) Dibromochloromethane	16.23	129	222764	6.086	ng	99
61) 1,2-Dibromoethane	16.48	107	211443	6.008	ng	100
62) n-Butyl Acetate	16.70	43	477782	6.493	ng	100
63) n-Octane	16.83	57	155673	5.704	ng	100
64) Tetrachloroethene	16.96	166	201840	5.271	ng	100
65) Chlorobenzene	17.62	112	499525	5.435	ng	100
66) Ethylbenzene	17.98	91	871724	5.827	ng	99
67) m- & p-Xylenes	18.15	91	1368621	11.288	ng	100
68) Bromoform	18.21	173	189068	5.768	ng	100
69) Styrene	18.47	104	536906	5.670	ng	100
70) o-Xylene	18.58	91	693423	5.713	ng	100
71) n-Nonane	18.77	43	370451	6.012	ng	98
72) 1,1,2,2-Tetrachloroethane	18.55	83	346585	5.910	ng	100
74) Cumene	19.10	105	885174	5.792	ng	99
75) alpha-Pinene	19.45	93	454351	5.834	ng	100
76) n-Propylbenzene	19.55	91	1076654	6.015	ng	99
77) 3-Ethyltoluene	19.64	105	836770	5.500	ng	95
78) 4-Ethyltoluene	19.68	105	882656	6.121	ng	95
79) 1,3,5-Trimethylbenzene	19.75	105	715909	5.552	ng	99
80) alpha-Methylstyrene	19.88	118	385478	5.515	ng	100
81) 2-Ethyltoluene	19.92	105	858573	5.755	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	751354	5.662	ng	98
83) n-Decane	20.20	57	376639	5.759	ng	99
84) Benzyl Chloride	20.23	91	614231	5.773	ng	99
85) 1,3-Dichlorobenzene	20.24	146	434270	6.049	ng	100
86) 1,4-Dichlorobenzene	20.30	146	427551	5.990	ng	100
87) sec-Butylbenzene	20.35	105	969884	5.855	ng	99
88) 4-Isopropyltoluene (p-...	20.48	119	928906	5.944	ng	98
89) 1,2,3-Trimethylbenzene	20.48	105	769774	5.787	ng	98
90) 1,2-Dichlorobenzene	20.61	146	419115	5.732	ng	100
91) d-Limonene	20.62	68	288464	5.570	ng	99
92) 1,2-Dibromo-3-Chloropr...	20.98	157	148727	5.940	ng	97
93) n-Undecane	21.30	57	365721	5.450	ng	100
94) 1,2,4-Trichlorobenzene	22.11	180	270469	5.951	ng	99
95) Naphthalene	22.22	128	892593	5.833	ng	100
96) n-Dodecane	22.22	57	324655	4.939	ng	99
97) Hexachlorobutadiene	22.54	225	164461	4.774	ng	100
98) Cyclohexanone	18.27	55	245365	5.243	ng	99
99) tert-Butylbenzene	20.11	119	727041	5.643	ng	100
100) n-Butylbenzene	20.85	91	778801	5.771	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012022.D Vial: 2
Acq On : 1 May 2020 16:25 Operator: LH
Sample : 5.0ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 17:26:16 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012023.D Vial: 2
Acq On : 1 May 2020 16:59 Operator: LH
Sample : 25ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 17:26:18 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/1/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	286303	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	13.28	114	1228912	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	571123	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.01	65	468097	11.843	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.72%			
57) Toluene-d8 (SS2)	15.72	98	1212242	12.033	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.24%			
73) Bromofluorobenzene (SS3)	18.98	174	458310	12.805	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.40%			
Target Compounds						Qvalue
2) Propene	4.09	42	894762	29.187	ng	100
3) Dichlorodifluoromethan...	4.25	85	1661240	25.625	ng	100
4) Chloromethane	4.53	50	1331334	26.035	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	962170	23.538	ng	100
6) Vinyl Chloride	4.94	62	1452200	26.828	ng	100
7) 1,3-Butadiene	5.21	54	1192249	29.444	ng	100
8) Bromomethane	5.65	94	769909	28.228	ng	100
9) Chloroethane	5.98	64	583429	27.941	ng	100
10) Ethanol	6.39	45	3316498	137.974	ng	100
11) Acetonitrile	6.63	41	1485800	27.907	ng	100
12) Acrolein	6.80	56	518321	29.321	ng	100
13) Acetone	7.01	58	3451253	146.739	ng	100
14) Trichlorofluoromethane	7.24	101	1489634	26.165	ng	100
15) 2-Propanol (Isopropanol)	7.53	45	4218436	60.200	ng	100
16) Acrylonitrile	7.77	53	1099575	30.969	ng	100
17) 1,1-Dichloroethene	8.20	96	811190	28.639	ng	100
18) 2-Methyl-2-Propanol (t...	8.39	59	3958148	63.861	ng	100
19) Methylene Chloride	8.44	84	868569	28.330	ng	100
20) 3-Chloro-1-propene (Al...	8.59	41	1253954	31.243	ng	100
21) Trichlorotrifluoroethane	8.84	151	743004	27.185	ng	100
22) Carbon Disulfide	8.69	76	3145335	28.555	ng	100
23) trans-1,2-Dichloroethene	9.71	61	1224632	29.687	ng	100
24) 1,1-Dichloroethane	9.96	63	1485162	28.313	ng	100
25) Methyl tert-Butyl Ether	10.05	73	2185564	26.052	ng	100
26) Vinyl Acetate	10.22	86	1147538	145.128	ng	100
27) 2-Butanone (MEK)	10.46	72	578422	29.805	ng	100
28) cis-1,2-Dichloroethene	10.98	61	1170190	27.455	ng	100
29) Diisopropyl Ether	11.27	87	816119	26.509	ng	100
30) Ethyl Acetate	11.28	61	740753	64.696	ng	100
31) n-Hexane	11.26	57	1536846	28.951	ng	100
32) Chloroform	11.32	83	1513438	26.712	ng	100
34) Tetrahydrofuran (THF)	11.72	72	562319	27.999	ng	100
35) Ethyl tert-Butyl Ether	11.87	87	1027494	28.295	ng	100
36) 1,2-Dichloroethane	12.12	62	1181488	26.670	ng	100
38) 1,1,1-Trichloroethane	12.40	97	1349990	27.947	ng	100
39) Isopropyl Acetate	12.84	61	1233560	61.905	ng	100
40) 1-Butanol	12.85	56	1704801	54.762	ng	100
41) Benzene	12.88	78	3498072	27.670	ng	100
42) Carbon Tetrachloride	13.04	117	1221860	28.021	ng	100
43) Cyclohexane	13.17	84	2724355	56.049	ng	100
44) tert-Amyl Methyl Ether	13.52	73	2480433	30.042	ng	100
45) 1,2-Dichloropropane	13.73	63	842781	28.835	ng	100
46) Bromodichloromethane	13.92	83	1270274	29.545	ng	100
47) Trichloroethene	13.97	130	932766	25.873	ng	100
48) 1,4-Dioxane	13.95	88	738598	29.950	ng	100
49) 2,2,4-Trimethylpentane...	14.05	57	3492402	28.751	ng	100
50) Methyl Methacrylate	14.18	100	756519	62.050	ng	100

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012023.D Vial: 2
Acq On : 1 May 2020 16:59 Operator: LH
Sample : 25ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 17:26:18 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

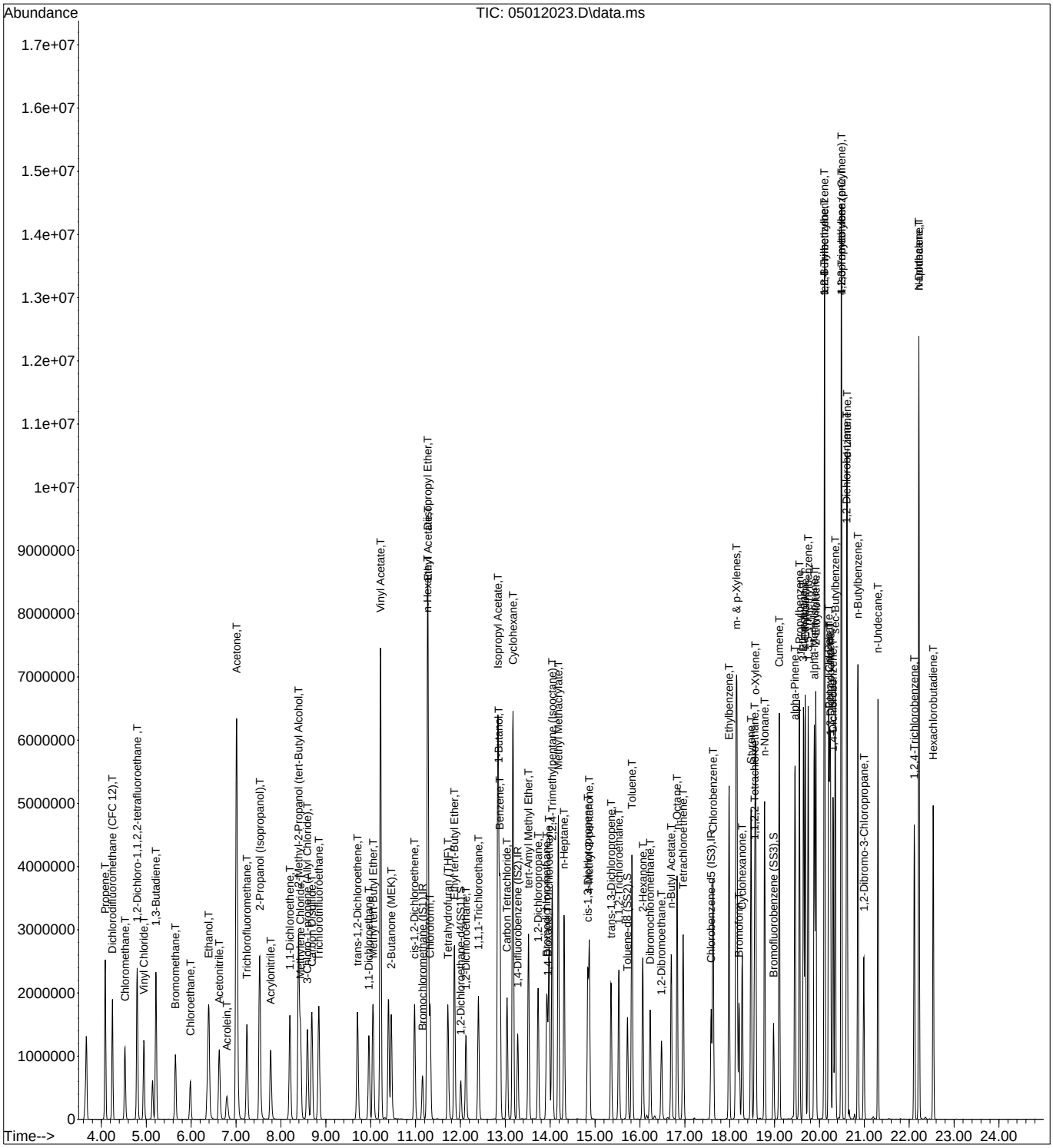
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	823934	27.865	ng	100
52) cis-1,3-Dichloropropene	14.84	75	1447687	30.747	ng	100
53) 4-Methyl-2-pentanone	14.87	58	811075	30.423	ng	100
54) trans-1,3-Dichloropropene	15.36	75	1324553	30.205	ng	100
55) 1,1,2-Trichloroethane	15.53	97	843984	28.682	ng	100
58) Toluene	15.82	91	3424256	27.410	ng	100
59) 2-Hexanone	16.06	43	1935226	30.714	ng	100
60) Dibromochloromethane	16.23	129	1060385	31.652	ng	100
61) 1,2-Dibromoethane	16.48	107	982343	30.496	ng	100
62) n-Butyl Acetate	16.70	43	2168912	32.203	ng	100
63) n-Octane	16.83	57	728475	29.163	ng	100
64) Tetrachloroethene	16.96	166	984776	28.099	ng	100
65) Chlorobenzene	17.63	112	2300188	27.341	ng	100
66) Ethylbenzene	17.99	91	4049520	29.572	ng	100
67) m- & p-Xylenes	18.15	91	6491657	58.495	ng	100
68) Bromoform	18.21	173	917591	30.583	ng	100
69) Styrene	18.48	104	2503836	28.891	ng	100
70) o-Xylene	18.58	91	3253541	29.284	ng	100
71) n-Nonane	18.78	43	1726340	30.608	ng	100
72) 1,1,2,2-Tetrachloroethane	18.55	83	1616722	30.117	ng	100
74) Cumene	19.10	105	4096128	29.280	ng	100
75) alpha-Pinene	19.46	93	2182133	30.613	ng	100
76) n-Propylbenzene	19.56	91	4975591	30.367	ng	100
77) 3-Ethyltoluene	19.64	105	4101218	29.451	ng	100
78) 4-Ethyltoluene	19.68	105	3906607	29.596	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	3353822	28.417	ng	100
80) alpha-Methylstyrene	19.88	118	1815476	28.379	ng	100
81) 2-Ethyltoluene	19.92	105	3976342	29.119	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3727437	30.689	ng	100
83) n-Decane	20.20	57	1854354	30.977	ng	100
84) Benzyl Chloride	20.23	91	3206821	32.930	ng	100
85) 1,3-Dichlorobenzene	20.25	146	2028248	30.866	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1980369	30.311	ng	100
87) sec-Butylbenzene	20.35	105	4443941	29.308	ng	100
88) 4-Isopropyltoluene (p-...	20.49	119	4416603	30.875	ng	100
89) 1,2,3-Trimethylbenzene	20.49	105	3810515	31.296	ng	100
90) 1,2-Dichlorobenzene	20.61	146	2012317	30.068	ng	100
91) d-Limonene	20.62	68	1441613	30.414	ng	100
92) 1,2-Dibromo-3-Chloropr...	20.99	157	697199	30.419	ng	100
93) n-Undecane	21.30	57	1818070	29.597	ng	100
94) 1,2,4-Trichlorobenzene	22.11	180	1398370	33.614	ng	100
95) Naphthalene	22.22	128	4546028	32.455	ng	100
96) n-Dodecane	22.22	57	1750966	29.104	ng	100
97) Hexachlorobutadiene	22.54	225	878145	27.851	ng	100
98) Cyclohexanone	18.28	55	1117925	26.097	ng	100
99) tert-Butylbenzene	20.11	119	3489996	29.594	ng	100
100) n-Butylbenzene	20.86	91	3625532	29.353	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012023.D Vial: 2
Acq On : 1 May 2020 16:59 Operator: LH
Sample : 25ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 17:26:18 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012024.D Vial: 2
Acq On : 1 May 2020 17:33 Operator: LH
Sample : 50ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 18:21:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:29:13 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	296329	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.28	114	1261474	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	593519	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.01	65	478735	11.900	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.20%				
57) Toluene-d8 (SS2)	15.72	98	1240425	12.243	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.92%				
73) Bromofluorobenzene (SS3)	18.98	174	464734	12.717	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.76%				
Target Compounds							Qvalue
2) Propene	4.09	42	1796953	52.860	ng		99
3) Dichlorodifluoromethan...	4.25	85	3187990	47.567	ng		100
4) Chloromethane	4.53	50	2729050	52.530	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	1935925	47.940	ng		100
6) Vinyl Chloride	4.96	62	2887895	50.326	ng		100
7) 1,3-Butadiene	5.22	54	2393303	50.778	ng		99
8) Bromomethane	5.66	94	1618002	53.561	ng		100
9) Chloroethane	5.99	64	1229227	54.539	ng		99
10) Ethanol	6.42	45	7106079	270.958	ng		100
11) Acetonitrile	6.64	41	3034898	50.934	ng		100
12) Acrolein	6.81	56	1054165	50.758	ng		100
13) Acetone	7.03	58	7450473	282.417	ng	#	85
14) Trichlorofluoromethane	7.25	101	3028815	50.994	ng		100
15) 2-Propanol (Isopropanol)	7.55	45	7855441	98.616	ng		99
16) Acrylonitrile	7.78	53	2274854	52.994	ng		100
17) 1,1-Dichloroethene	8.21	96	1662670	53.624	ng		99
18) 2-Methyl-2-Propanol (t...	8.41	59	5524708	78.677	ng		100
19) Methylene Chloride	8.44	84	1782729	52.018	ng		100
20) 3-Chloro-1-propene (Al...	8.60	41	2606826	55.998	ng		100
21) Trichlorotrifluoroethane	8.85	151	1546599	55.362	ng		98
22) Carbon Disulfide	8.69	76	6372275	51.854	ng		100
23) trans-1,2-Dichloroethene	9.71	61	2513808	53.485	ng		99
24) 1,1-Dichloroethane	9.96	63	3010944	53.864	ng		100
25) Methyl tert-Butyl Ether	10.05	73	4149230	46.527	ng		100
26) Vinyl Acetate	10.23	86	2491407	314.423	ng	#	57
27) 2-Butanone (MEK)	10.47	72	1200800	53.091	ng		100
28) cis-1,2-Dichloroethene	10.98	61	2420682	52.524	ng		99
29) Diisopropyl Ether	11.27	87	1723473	53.021	ng	#	93
30) Ethyl Acetate	11.28	61	1642236	125.490	ng		100
31) n-Hexane	11.26	57	3312834	58.268	ng		100
32) Chloroform	11.33	83	3125242	52.888	ng		100
34) Tetrahydrofuran (THF)	11.72	72	1166647	53.025	ng		100
35) Ethyl tert-Butyl Ether	11.87	87	2150206	55.497	ng		100
36) 1,2-Dichloroethane	12.13	62	2421427	51.847	ng		100
38) 1,1,1-Trichloroethane	12.40	97	2767260	54.541	ng		100
39) Isopropyl Acetate	12.84	61	2703577	121.791	ng	#	89
40) 1-Butanol	12.86	56	3801241	117.283	ng		94
41) Benzene	12.88	78	7578608	55.786	ng		100
42) Carbon Tetrachloride	13.04	117	2525594	54.795	ng		100
43) Cyclohexane	13.18	84	5820559	114.692	ng		99
44) tert-Amyl Methyl Ether	13.52	73	5201775	57.533	ng		99
45) 1,2-Dichloropropane	13.73	63	1741280	55.926	ng		99
46) Bromodichloromethane	13.92	83	2627252	57.456	ng		100
47) Trichloroethene	13.98	130	1973429	56.342	ng		100
48) 1,4-Dioxane	13.95	88	1556720	57.092	ng		99
49) 2,2,4-Trimethylpentane...	14.05	57	7264805	55.532	ng		98
50) Methyl Methacrylate	14.19	100	1612357	118.946	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012024.D Vial: 2
Acq On : 1 May 2020 17:33 Operator: LH
Sample : 50ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 18:21:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:29:13 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

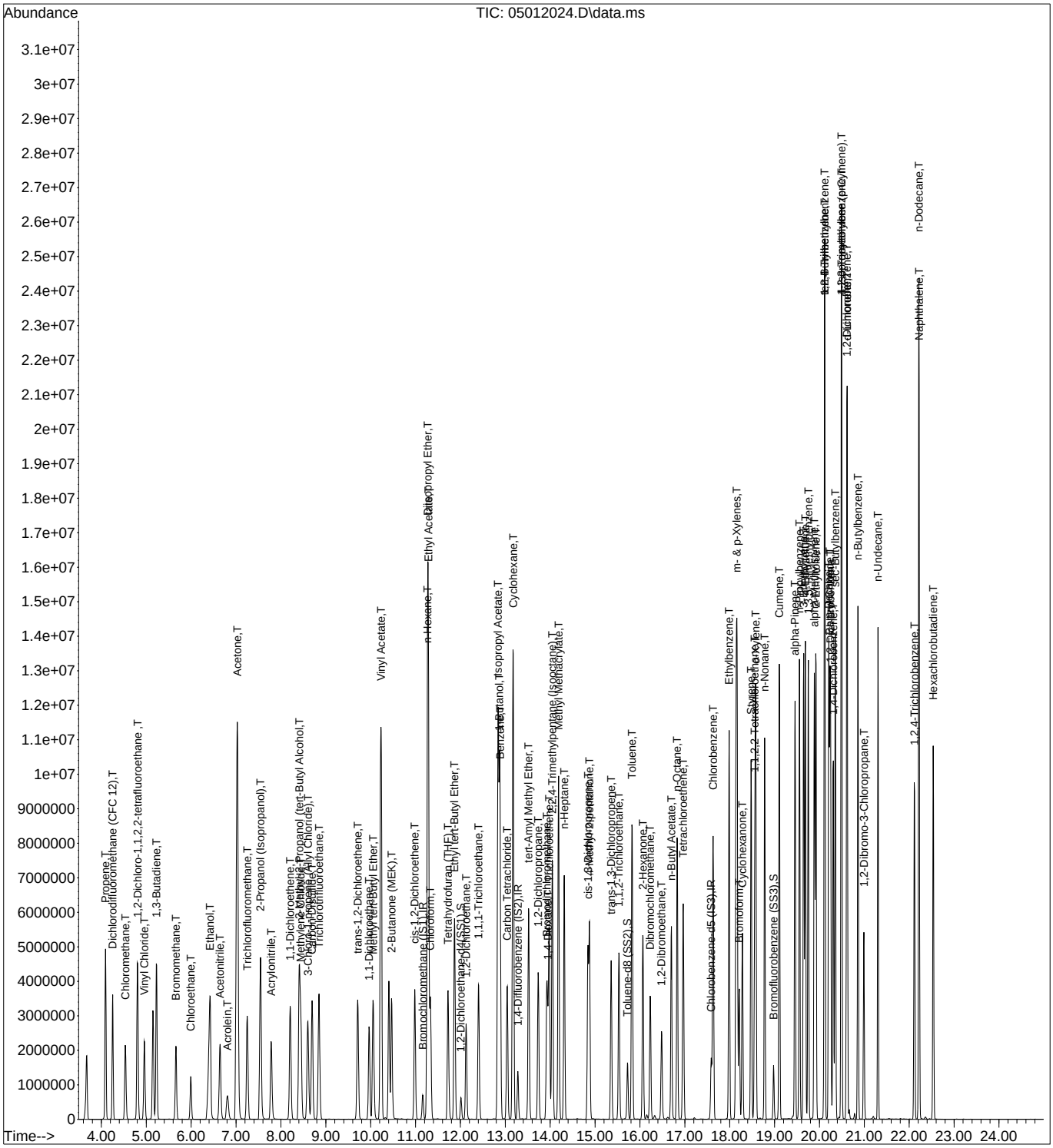
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	1767254	55.726	ng	100
52) cis-1,3-Dichloropropene	14.84	75	3046439	56.787	ng	100
53) 4-Methyl-2-pentanone	14.88	58	1706203	56.697	ng	99
54) trans-1,3-Dichloropropene	15.36	75	2784226	60.799	ng	100
55) 1,1,2-Trichloroethane	15.53	97	1746966	56.334	ng	99
58) Toluene	15.82	91	7061705	54.313	ng	99
59) 2-Hexanone	16.06	43	4070739	57.784	ng	99
60) Dibromochloromethane	16.23	129	2194267	59.071	ng	100
61) 1,2-Dibromoethane	16.48	107	2025699	56.837	ng	100
62) n-Butyl Acetate	16.70	43	4530163	59.421	ng	99
63) n-Octane	16.83	57	1570654	58.903	ng	100
64) Tetrachloroethene	16.97	166	2068921	56.346	ng	100
65) Chlorobenzene	17.63	112	4832830	53.780	ng	100
66) Ethylbenzene	17.99	91	8386382	57.841	ng	99
67) m- & p-Xylenes	18.16	91	13925432	121.021	ng	98
68) Bromoform	18.21	173	1918060	63.108	ng	100
69) Styrene	18.48	104	5183954	59.571	ng	99
70) o-Xylene	18.58	91	6807386	58.156	ng	100
71) n-Nonane	18.78	43	3697140	60.502	ng	98
72) 1,1,2,2-Tetrachloroethane	18.56	83	3397226	58.901	ng	100
74) Cumene	19.10	105	8370559	58.039	ng	99
75) alpha-Pinene	19.46	93	4559119	59.324	ng	99
76) n-Propylbenzene	19.56	91	10009459	58.692	ng	98
77) 3-Ethyltoluene	19.65	105	8132559	58.352	ng	99
78) 4-Ethyltoluene	19.69	105	8156559	59.940	ng	99
79) 1,3,5-Trimethylbenzene	19.75	105	6870991	58.237	ng	99
80) alpha-Methylstyrene	19.89	118	3732298	60.194	ng	98
81) 2-Ethyltoluene	19.92	105	8070320	58.450	ng	99
82) 1,2,4-Trimethylbenzene	20.12	105	7311702	61.264	ng	100
83) n-Decane	20.20	57	4092282	67.333	ng	100
84) Benzyl Chloride	20.23	91	6890327	76.746	ng	99
85) 1,3-Dichlorobenzene	20.25	146	4163439	60.293	ng	100
86) 1,4-Dichlorobenzene	20.31	146	4017198	59.763	ng	100
87) sec-Butylbenzene	20.35	105	8855378	57.530	ng	98
88) 4-Isopropyltoluene (p-...	20.49	119	8351171	59.057	ng	98
89) 1,2,3-Trimethylbenzene	20.49	105	7426933	62.512	ng	99
90) 1,2-Dichlorobenzene	20.61	146	4049033	60.984	ng	100
91) d-Limonene	20.62	68	3089607	66.195	ng	98
92) 1,2-Dibromo-3-Chloropr...	20.99	157	1448206	64.485	ng	98
93) n-Undecane	21.30	57	4012904	76.685	ng	100
94) 1,2,4-Trichlorobenzene	22.12	180	3005308	77.697	ng	99
95) Naphthalene	22.22	128	9089253	72.417	ng	99
96) n-Dodecane	22.22	57	3837089	87.820	ng	99
97) Hexachlorobutadiene	22.54	225	1927632	64.992	ng	100
98) Cyclohexanone	18.28	55	2325790	50.761	ng	99
99) tert-Butylbenzene	20.12	119	6753035	57.139	ng	100
100) n-Butylbenzene	20.86	91	7324522	61.000	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012024.D Vial: 2
Acq On : 1 May 2020 17:33 Operator: LH
Sample : 50ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 18:21:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:29:13 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012025.D Vial: 2
Acq On : 1 May 2020 18:07 Operator: LH
Sample : 100ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 18:32:42 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/1/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	307101	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.29	114	1302649	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	623928	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	496605	11.932	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.44%				
57) Toluene-d8 (SS2)	15.73	98	1277690	12.082	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.64%				
73) Bromofluorobenzene (SS3)	18.98	174	482815	12.688	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.52%				
Target Compounds							Qvalue
2) Propene	4.09	42	2805564	78.878	ng		99
3) Dichlorodifluoromethan...	4.25	85	5430136	78.055	ng		99
4) Chloromethane	4.53	50	5012802	91.976	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	3608284	86.813	ng		100
6) Vinyl Chloride	4.96	62	5582487	93.407	ng		100
7) 1,3-Butadiene	5.24	54	4618053	93.386	ng		97
8) Bromomethane	5.67	94	3307082	104.747	ng		100
9) Chloroethane	6.00	64	2534746	107.357	ng		100
10) Ethanol	6.47	45	15131456	550.944	ng		99
11) Acetonitrile	6.67	41	6424952	102.369	ng		100
12) Acrolein	6.82	56	2202179	101.477	ng		100
13) Acetone	7.05	58	15042025	547.644	ng	#	56
14) Trichlorofluoromethane	7.25	101	6310121	102.633	ng		100
15) 2-Propanol (Isopropanol)	7.58	45	15078880	181.384	ng		98
16) Acrylonitrile	7.80	53	4844904	107.901	ng		100
17) 1,1-Dichloroethene	8.22	96	3526226	109.408	ng		99
18) 2-Methyl-2-Propanol (t...	8.43	59	5971963	83.578	ng		99
19) Methylene Chloride	8.45	84	3794776	106.281	ng		99
20) 3-Chloro-1-propene (Al...	8.61	41	5538474	112.906	ng		99
21) Trichlorotrifluoroethane	8.85	151	3229354	111.251	ng		98
22) Carbon Disulfide	8.71	76	13073755	102.186	ng		99
23) trans-1,2-Dichloroethene	9.72	61	5348726	108.987	ng		100
24) 1,1-Dichloroethane	9.97	63	6355885	109.091	ng		100
25) Methyl tert-Butyl Ether	10.06	73	6522340	71.172	ng		99
26) Vinyl Acetate	10.25	86	4839363	598.679	ng	#	3
27) 2-Butanone (MEK)	10.48	72	2544981	108.649	ng		97
28) cis-1,2-Dichloroethene	10.99	61	5160701	107.507	ng		99
29) Diisopropyl Ether	11.28	87	3334523	100.633	ng	#	74
30) Ethyl Acetate	11.30	61	3181460	235.544	ng		97
31) n-Hexane	11.26	57	6466041	110.371	ng		100
32) Chloroform	11.34	83	6496904	106.280	ng		100
34) Tetrahydrofuran (THF)	11.73	72	2481850	108.635	ng		99
35) Ethyl tert-Butyl Ether	11.87	87	4598768	114.847	ng		98
36) 1,2-Dichloroethane	12.13	62	5046702	104.202	ng		100
38) 1,1,1-Trichloroethane	12.41	97	5801042	110.565	ng		100
39) Isopropyl Acetate	12.85	61	5612819	244.569	ng	#	65
40) 1-Butanol	12.88	56	7686632	235.415	ng		89
41) Benzene	12.89	78	15377837	110.081	ng		99
42) Carbon Tetrachloride	13.04	117	5341272	112.408	ng		99
43) Cyclohexane	13.18	84	11703238	224.817	ng		99
44) tert-Amyl Methyl Ether	13.52	73	10906653	116.431	ng		98
45) 1,2-Dichloropropane	13.74	63	3747744	115.837	ng		100
46) Bromodichloromethane	13.93	83	5488917	116.263	ng		100
47) Trichloroethene	13.98	130	4190784	116.061	ng		99
48) 1,4-Dioxane	13.96	88	3428858	121.871	ng		97
49) 2,2,4-Trimethylpentane...	14.05	57	14950897	109.987	ng		97
50) Methyl Methacrylate	14.19	100	3386785	244.382	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012025.D Vial: 2
Acq On : 1 May 2020 18:07 Operator: LH
Sample : 100ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 18:32:42 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

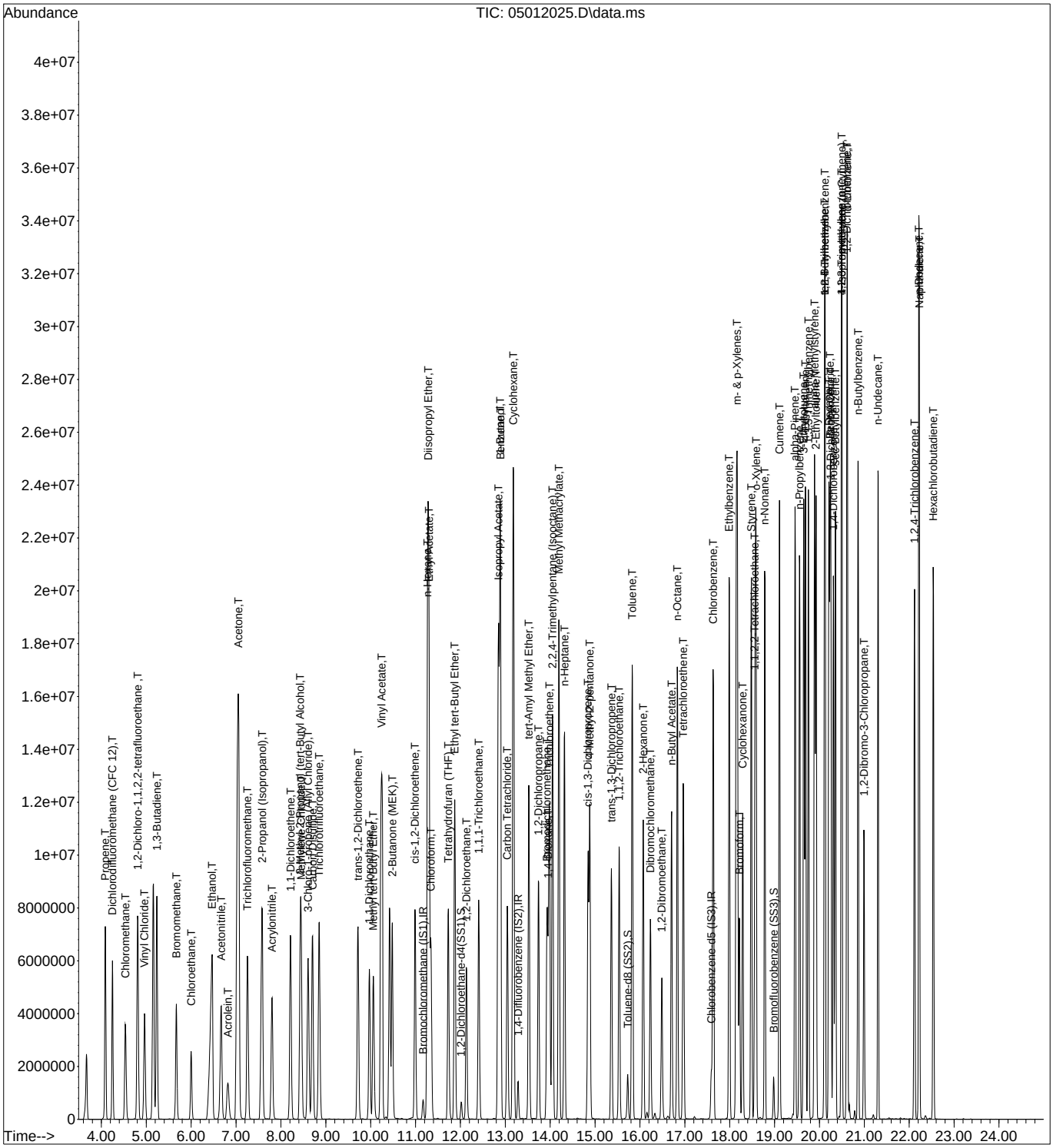
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.32	71	3860770	118.183	ng	99
52) cis-1,3-Dichloropropene	14.84	75	6512364	117.244	ng	99
53) 4-Methyl-2-pentanone	14.88	58	3720592	119.475	ng	94
54) trans-1,3-Dichloropropene	15.36	75	5980136	125.830	ng	100
55) 1,1,2-Trichloroethane	15.54	97	3694486	115.151	ng	98
58) Toluene	15.83	91	14122055	103.594	ng	97
59) 2-Hexanone	16.07	43	8538604	114.309	ng	97
60) Dibromochloromethane	16.23	129	4599117	117.821	ng	98
61) 1,2-Dibromoethane	16.49	107	4236452	112.921	ng	99
62) n-Butyl Acetate	16.71	43	9464801	117.306	ng	97
63) n-Octane	16.83	57	3422153	121.258	ng	99
64) Tetrachloroethene	16.96	166	4251324	110.411	ng	98
65) Chlorobenzene	17.63	112	10058959	107.240	ng	99
66) Ethylbenzene	17.99	91	15775647	103.782	ng	94
67) m- & p-Xylenes	18.16	91	24994911	207.270	ng	97
68) Bromoform	18.22	173	4017610	126.792	ng	100
69) Styrene	18.48	104	10371248	114.347	ng	96
70) o-Xylene	18.59	91	13044798	106.553	ng	98
71) n-Nonane	18.78	43	7415015	114.154	ng	95
72) 1,1,2,2-Tetrachloroethane	18.56	83	6995233	115.177	ng	100
74) Cumene	19.11	105	14928599	99.362	ng	93
75) alpha-Pinene	19.46	93	9103677	113.559	ng	97
76) n-Propylbenzene	19.56	91	16348034	91.592	ng	88
77) 3-Ethyltoluene	19.65	105	15320091	105.349	ng	94
78) 4-Ethyltoluene	19.69	105	13577066	96.220	ng	91
79) 1,3,5-Trimethylbenzene	19.75	105	12866248	105.014	ng	96
80) alpha-Methylstyrene	19.89	118	7332836	114.848	ng	89
81) 2-Ethyltoluene	19.92	105	14549504	101.431	ng	94
82) 1,2,4-Trimethylbenzene	20.12	105	11677289	94.825	ng	99
83) n-Decane	20.21	57	7901549	123.258	ng	99
84) Benzyl Chloride	20.24	91	12745970	134.347	ng	96
85) 1,3-Dichlorobenzene	20.25	146	7870539	110.067	ng	99
86) 1,4-Dichlorobenzene	20.31	146	7896122	113.154	ng	100
87) sec-Butylbenzene	20.36	105	15000490	93.840	ng	91
88) 4-Isopropyltoluene (p-...	20.50	119	12758034	87.765	ng	95
89) 1,2,3-Trimethylbenzene	20.49	105	11655993	95.082	ng	99
90) 1,2-Dichlorobenzene	20.61	146	7018237	102.510	ng	100
91) d-Limonene	20.62	68	5329834	109.584	ng	99
92) 1,2-Dibromo-3-Chloropr...	21.00	157	2996254	126.618	ng	94
93) n-Undecane	21.30	57	7881239	143.443	ng	98
94) 1,2,4-Trichlorobenzene	22.12	180	6156917	147.306	ng	99
95) Naphthalene	22.23	128	14689712	111.271	ng	97
96) n-Dodecane	22.22	57	6472005	144.069	ng	99
97) Hexachlorobutadiene	22.54	225	3985864	130.408	ng	100
98) Cyclohexanone	18.29	55	4951545	103.767	ng	97
99) tert-Butylbenzene	20.12	119	10982141	90.608	ng	99
100) n-Butylbenzene	20.86	91	12973286	103.470	ng	92

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012025.D Vial: 2
Acq On : 1 May 2020 18:07 Operator: LH
Sample : 100ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 18:32:42 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012026.D Vial: 2
Acq On : 1 May 2020 18:41 Operator: LH
Sample : 25ng TO15 ICV STD Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 01 19:07:38 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/1/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	306012	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.28	114	1305280	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	605237	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	502495	12.117	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.96%				
57) Toluene-d8 (SS2)	15.72	98	1272559	12.405	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.20%				
73) Bromofluorobenzene (SS3)	18.98	174	479316	12.985	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.84%				
Target Compounds							Qvalue
2) Propene	4.08	42	966787	27.278	ng		100
3) Dichlorodifluoromethan...	4.23	85	1760370	25.394	ng		100
4) Chloromethane	4.52	50	1357331	24.993	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.79	135	976267	23.572	ng		100
6) Vinyl Chloride	4.94	62	1467519	24.642	ng		99
7) 1,3-Butadiene	5.21	54	1260843	25.588	ng		100
8) Bromomethane	5.64	94	787063	25.018	ng		99
9) Chloroethane	5.97	64	602406	25.605	ng		99
10) Ethanol	6.38	45	3553289	129.837	ng		100
11) Acetonitrile	6.62	41	1622424	25.942	ng		100
12) Acrolein	6.79	56	555653	25.696	ng		100
13) Acetone	7.01	58	3611891	131.968	ng		99
14) Trichlorofluoromethane	7.24	101	1552897	25.347	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	4510536	54.450	ng		99
16) Acrylonitrile	7.77	53	1180769	26.391	ng		100
17) 1,1-Dichloroethene	8.19	96	847883	26.401	ng		100
18) 2-Methyl-2-Propanol (t...	8.39	59	4343249	56.240	ng		99
19) Methylene Chloride	8.43	84	892462	25.084	ng		99
20) 3-Chloro-1-propene (Al...	8.58	41	1276351	26.112	ng		100
21) Trichlorotrifluoroethane	8.84	151	781006	27.001	ng		99
22) Carbon Disulfide	8.68	76	3274656	25.686	ng		100
23) trans-1,2-Dichloroethene	9.70	61	1280278	26.180	ng		100
24) 1,1-Dichloroethane	9.96	63	1484365	25.568	ng		100
25) Methyl tert-Butyl Ether	10.05	73	2264086	24.794	ng		100
26) Vinyl Acetate	10.22	86	1192344	139.859	ng		100
27) 2-Butanone (MEK)	10.45	72	609878	26.129	ng		99
28) cis-1,2-Dichloroethene	10.98	61	1232559	25.768	ng		100
29) Diisopropyl Ether	11.27	87	824575	24.973	ng	#	95
30) Ethyl Acetate	11.27	61	776633	57.704	ng		100
31) n-Hexane	11.26	57	1581365	27.089	ng		100
32) Chloroform	11.32	83	1591321	26.124	ng		100
34) Tetrahydrofuran (THF)	11.72	72	595371	26.153	ng		100
35) Ethyl tert-Butyl Ether	11.86	87	1068978	26.791	ng		99
36) 1,2-Dichloroethane	12.12	62	1234056	25.571	ng		100
38) 1,1,1-Trichloroethane	12.40	97	1423725	27.081	ng		100
39) Isopropyl Acetate	12.83	61	1293737	56.259	ng		97
40) 1-Butanol	12.85	56	2086238	63.765	ng		94
41) Benzene	12.88	78	3590944	25.654	ng		100
42) Carbon Tetrachloride	13.04	117	1259961	26.463	ng		100
43) Cyclohexane	13.17	84	2795016	53.584	ng		99
44) tert-Amyl Methyl Ether	13.52	73	2599327	27.692	ng		100
45) 1,2-Dichloropropane	13.73	63	867296	26.753	ng		99
46) Bromodichloromethane	13.92	83	1295074	27.376	ng		100
47) Trichloroethene	13.97	130	967338	26.736	ng		100
48) 1,4-Dioxane	13.95	88	775383	27.504	ng		100
49) 2,2,4-Trimethylpentane...	14.04	57	3603157	26.453	ng		100
50) Methyl Methacrylate	14.18	100	775781	55.866	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012026.D Vial: 2
Acq On : 1 May 2020 18:41 Operator: LH
Sample : 25ng TO15 ICV STD Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 01 19:07:38 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

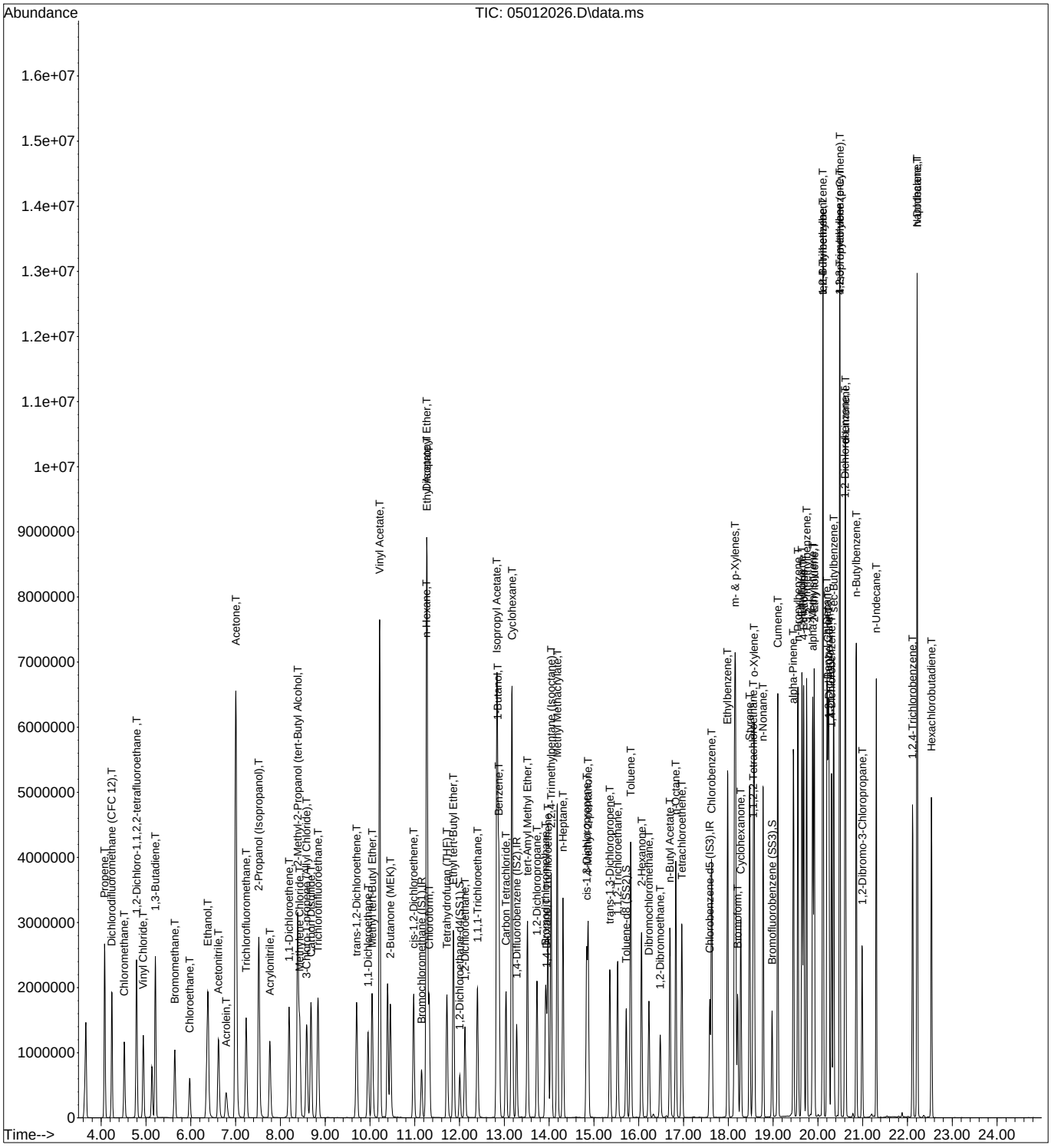
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	851667	26.018	ng	100
52) cis-1,3-Dichloropropene	14.84	75	1585771	28.492	ng	100
53) 4-Methyl-2-pentanone	14.87	58	872253	27.953	ng	100
54) trans-1,3-Dichloropropene	15.35	75	1387054	29.127	ng	100
55) 1,1,2-Trichloroethane	15.53	97	867139	26.973	ng	100
58) Toluene	15.82	91	3509323	26.538	ng	100
59) 2-Hexanone	16.06	43	2142962	29.574	ng	100
60) Dibromochloromethane	16.23	129	1094576	28.907	ng	100
61) 1,2-Dibromoethane	16.48	107	1019112	28.003	ng	100
62) n-Butyl Acetate	16.70	43	2398863	30.649	ng	100
63) n-Octane	16.83	57	741607	27.089	ng	100
64) Tetrachloroethene	16.96	166	1010020	27.041	ng	99
65) Chlorobenzene	17.62	112	2369161	26.038	ng	100
66) Ethylbenzene	17.98	91	4140285	28.079	ng	100
67) m- & p-Xylenes	18.15	91	6646028	56.814	ng	100
68) Bromoform	18.21	173	952116	29.005	ng	100
69) Styrene	18.48	104	2615334	29.726	ng	100
70) o-Xylene	18.58	91	3318680	27.945	ng	100
71) n-Nonane	18.77	43	1768593	28.068	ng	100
72) 1,1,2,2-Tetrachloroethane	18.55	83	1670094	28.347	ng	100
74) Cumene	19.10	105	4140007	28.406	ng	100
75) alpha-Pinene	19.45	93	2192080	28.188	ng	99
76) n-Propylbenzene	19.55	91	5034559	29.078	ng	100
77) 3-Ethyltoluene	19.64	105	4294103	30.440	ng	100
78) 4-Ethyltoluene	19.68	105	3790629	27.694	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	3430468	28.864	ng	100
80) alpha-Methylstyrene	19.88	118	1874877	27.988	ng	100
81) 2-Ethyltoluene	19.92	105	4065181	29.215	ng	99
82) 1,2,4-Trimethylbenzene	20.11	105	3770591	31.564	ng	100
83) n-Decane	20.20	57	1887277	28.242	ng	100
84) Benzyl Chloride	20.23	91	3366173	30.233	ng	100
85) 1,3-Dichlorobenzene	20.25	146	2073075	29.887	ng	100
86) 1,4-Dichlorobenzene	20.30	146	2047327	30.245	ng	100
87) sec-Butylbenzene	20.35	105	4505729	29.057	ng	100
88) 4-Isopropyltoluene (p-...	20.49	119	4352844	29.644	ng	100
89) 1,2,3-Trimethylbenzene	20.48	105	3682695	29.457	ng	100
90) 1,2-Dichlorobenzene	20.61	146	2035560	30.650	ng	100
91) d-Limonene	20.62	68	1446579	30.661	ng	100
92) 1,2-Dibromo-3-Chloropr...	20.99	157	709248	28.322	ng	99
93) n-Undecane	21.30	57	1877490	30.357	ng	99
94) 1,2,4-Trichlorobenzene	22.11	180	1445626	31.384	ng	100
95) Naphthalene	22.22	128	4860431	33.339	ng	100
96) n-Dodecane	22.22	57	1815131	33.896	ng	100
97) Hexachlorobutadiene	22.54	225	900762	28.271	ng	99
98) Cyclohexanone	18.28	55	1308763	28.274	ng	99
99) tert-Butylbenzene	20.11	119	3490399	29.687	ng	100
100) n-Butylbenzene	20.86	91	3725548	30.631	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012026.D Vial: 2
Acq On : 1 May 2020 18:41 Operator: LH
Sample : 25ng TO15 ICV STD Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 01 19:07:38 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



LH 5/1/20

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **05012026.D** Acq. Method File: **TO15.M**
Data File Path: **I:\MS16\DATA\2020_05\01** Sample Name: **25ng TO15 ICV STD**
Operator: **LH** Misc Info: **S31-02112001/S34-04302003 (**
Date Acquired: **5/1/2020 18:41** Instrument Name: **GCMS-16**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
2)	**Propene**	**4.08**	**27.3**	26.25	104	**51**	**133**	*	*
3)	**Dichlorodifluoromethane (CFC 1**	**4.23**	**25.4**	**26.25**	97	**64**	**115**	*	*
4)	**Chloromethane**	**4.52**	**25.0**	**26.50**	94	**49**	**127**	*	*
5)	**1,2-Dichloro-1,1,2,2-tetrafluoroet**	**4.79**	**23.6**	**25.75**	92	**65**	**114**	*	*
6)	**Vinyl Chloride**	**4.94**	**24.6**	**26.50**	93	**61**	**129**	*	*
7)	**1,3-Butadiene**	**5.21**	**25.6**	**26.50**	97	**54**	**140**	*	*
8)	**Bromomethane**	**5.64**	**25.0**	**26.50**	94	**68**	**120**	*	*
9)	**Chloroethane**	**5.97**	**25.6**	**26.75**	96	**63**	**123**	*	*
10)	**Ethanol**	**6.38**	**130**	**132.50**	98	**49**	**134**	*	*
11)	**Acetonitrile**	**6.62**	**25.9**	**26.75**	97	**50**	**137**	*	*
12)	**Acrolein**	**6.79**	**25.7**	**25.75**	100	**62**	**128**	*	*
13)	**Acetone**	**7.01**	**132**	**133.50**	99	**56**	**125**	*	*
14)	**Trichlorofluoromethane**	**7.24**	**25.3**	**26.50**	95	**64**	**115**	*	*
15)	**2-Propanol (Isopropanol)**	**7.52**	**54.5**	**52.75**	103	**57**	**133**	*	*
16)	**Acrylonitrile**	**7.77**	**26.4**	**26.50**	100	**64**	**136**	*	*
17)	**1,1-Dichloroethene**	**8.19**	**26.4**	**26.75**	99	**68**	**115**	*	*
18)	2-Methyl-2-Propanol (tert-Butyl Alc	8.39	56.2	53.75	105	56	132	*	*
19)	**Methylene Chloride**	**8.43**	**25.1**	**26.25**	96	**68**	**114**	*	*
20)	**3-Chloro-1-propene (Allyl Chloric**	**8.58**	**26.1**	**26.75**	98	**55**	**139**	*	*
21)	**Trichlorotrifluoroethane**	**8.84**	**27.0**	**27.00**	100	**65**	**115**	*	*
22)	**Carbon Disulfide**	**8.68**	**25.7**	**26.50**	97	**68**	**113**	*	*
23)	**trans-1,2-Dichloroethene**	**9.70**	**26.2**	**26.75**	98	**65**	**122**	*	*
24)	**1,1-Dichloroethane**	**9.96**	**25.6**	**26.50**	97	**63**	**118**	*	*
25)	**Methyl tert-Butyl Ether**	**10.05**	**24.8**	**26.75**	93	**57**	**131**	*	*
26)	**Vinyl Acetate**	**10.22**	**140**	**133.25**	105	**71**	**128**	*	*
27)	**2-Butanone (MEK)**	**10.45**	**26.1**	**26.50**	98	**67**	**123**	*	*
28)	**cis-1,2-Dichloroethene**	**10.98**	**25.8**	**26.50**	97	**64**	**120**	*	*
29)	Diisopropyl Ether	11.27	25.0	27.00	93	62	121	*	*
30)	**Ethyl Acetate**	**11.27**	**57.7**	**54.00**	107	**64**	**131**	*	*
31)	**n-Hexane**	**11.26**	**27.1**	**27.00**	100	**58**	**125**	*	*
32)	**Chloroform**	**11.32**	**26.1**	**26.75**	98	**65**	**114**	*	*
34)	**Tetrahydrofuran (THF)**	**11.72**	**26.2**	**27.50**	95	**65**	**115**	*	*
35)	Ethyl tert-Butyl Ether	11.86	26.8	26.75	100	61	130	*	*
36)	**1,2-Dichloroethane**	**12.12**	**25.6**	**26.75**	96	**59**	**120**	*	*
38)	**1,1,1-Trichloroethane**	**12.40**	**27.1**	**26.75**	101	**66**	**115**	*	*
39)	Isopropyl Acetate	12.83	56.3	52.50	107	65	129	*	*
40)	1-Butanol	12.85	63.8	53.25	120	58	140	*	*
41)	**Benzene**	**12.88**	**25.7**	**26.25**	98	**66**	**109**	*	*
42)	**Carbon Tetrachloride**	**13.04**	**26.5**	**26.00**	102	**66**	**119**	*	*
43)	**Cyclohexane**	**13.17**	**53.6**	**52.75**	102	**67**	**117**	*	*
44)	tert-Amyl Methyl Ether	13.52	27.7	**26.75**	104	62	133	*	*
45)	**1,2-Dichloropropane**	**13.73**	**26.8**	**26.75**	100	**66**	**119**	*	*
46)	**Bromodichloromethane**	**13.92**	**27.4**	**27.25**	101	**71**	**119**	*	*
47)	**Trichloroethene**	**13.97**	**26.7**	**27.00**	99	**70**	**114**	*	*
48)	**1,4-Dioxane**	**13.95**	**27.5**	**27.00**	102	**71**	**117**	*	*
49)	2,2,4-Trimethylpentane (Isooctane)	14.04	26.5	26.75	99	61	122	*	*

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **05012026.D** **TO15.M**
Data File Path: **I:\MS16\DATA\2020_05\01** Sample Name: **25ng TO15 ICV STD**
Operator: **LH** Misc Info: **S31-02112001/S34-04302003 (**
Date Acquired: **5/1/2020** **18:41** Instrument Name: **GCMS-16**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
50)	**Methyl Methacrylate**	**14.18**	**55.9**	**53.75**	104	**76**	**121**	*	*
51)	**n-Heptane**	**14.31**	**26.0**	**26.75**	97	**66**	**119**	*	*
52)	**cis-1,3-Dichloropropene**	**14.84**	**28.5**	**26.75**	107	**72**	**125**	*	*
53)	**4-Methyl-2-pentanone**	**14.87**	**28.0**	**26.50**	106	**68**	**130**	*	*
54)	**trans-1,3-Dichloropropene**	**15.35**	**29.1**	**26.50**	110	**71**	**132**	*	*
55)	**1,1,2-Trichloroethane**	**15.53**	**27.0**	**26.75**	101	**70**	**117**	*	*
58)	**Toluene**	**15.82**	**26.5**	**26.50**	100	**67**	**113**	*	*
59)	**2-Hexanone**	**16.06**	**29.6**	**27.00**	110	**62**	**135**	*	*
60)	**Dibromochloromethane**	**16.23**	**28.9**	**26.75**	108	**73**	**126**	*	*
61)	**1,2-Dibromoethane**	**16.48**	**28.0**	**26.75**	105	**71**	**122**	*	*
62)	**n-Butyl Acetate**	**16.70**	**30.6**	**27.25**	112	**65**	**134**	*	*
63)	**n-Octane**	**16.83**	**27.1**	**27.00**	100	**63**	**120**	*	*
64)	**Tetrachloroethene**	**16.96**	**27.0**	**26.00**	104	**64**	**120**	*	*
65)	**Chlorobenzene**	**17.62**	**26.0**	**26.75**	97	**65**	**116**	*	*
66)	**Ethylbenzene**	**17.98**	**28.1**	**26.50**	106	**65**	**117**	*	*
67)	**m- & p-Xylenes**	**18.15**	**56.8**	**53.25**	107	**64**	**121**	*	*
68)	**Bromoform**	**18.21**	**29.0**	**26.75**	108	**72**	**130**	*	*
69)	**Styrene**	**18.48**	**29.7**	**26.50**	112	**72**	**126**	*	*
70)	**o-Xylene**	**18.58**	**27.9**	**26.75**	104	**64**	**120**	*	*
71)	**n-Nonane**	**18.77**	**28.1**	**26.75**	105	**56**	**132**	*	*
72)	**1,1,2,2-Tetrachloroethane**	**18.55**	**28.3**	**26.75**	106	**66**	**122**	*	*
74)	**Cumene**	**19.10**	**28.4**	**26.75**	106	**64**	**121**	*	*
75)	**alpha-Pinene**	**19.45**	**28.2**	**26.50**	106	**62**	**136**	*	*
76)	**n-Propylbenzene**	**19.55**	**29.1**	**26.75**	109	**65**	**123**	*	*
77)	3-Ethyltoluene	19.64	30.4	26.75	114	62	123	*	*
78)	**4-Ethyltoluene**	**19.68**	**27.7**	**26.25**	**106**	**71**	**126**	*	*
79)	**1,3,5-Trimethylbenzene**	**19.75**	**28.9**	**26.50**	**109**	**65**	**120**	*	*
80)	alpha-Methylstyrene	19.88	28.0	26.50	**106**	70	132	*	*
81)	2-Ethyltoluene	19.92	29.2	26.75	**109**	66	121	*	*
82)	**1,2,4-Trimethylbenzene**	**20.11**	**31.6**	**26.50**	**119**	**63**	**129**	*	*
83)	n-Decane	20.20	28.2	26.75	**105**	61	131	*	*
84)	**Benzyl Chloride**	**20.23**	**30.2**	**26.75**	**113**	**66**	**138**	*	*
85)	**1,3-Dichlorobenzene**	**20.25**	**29.9**	**26.75**	**112**	**65**	**127**	*	*
86)	**1,4-Dichlorobenzene**	**20.30**	**30.2**	**26.75**	**113**	**66**	**125**	*	*
87)	sec-Butylbenzene	20.35	29.1	26.50	**110**	68	123	*	*
88)	4-Isopropyltoluene (p-Cymene)	20.49	29.6	27.25	**109**	61	129	*	*
89)	1,2,3-Trimethylbenzene	20.48	29.5	27.00	**109**	60	134	*	*
90)	**1,2-Dichlorobenzene**	**20.61**	**30.6**	**26.75**	**114**	**67**	**128**	*	*
91)	**d-Limonene**	**20.62**	**30.7**	**26.50**	**116**	**65**	**136**	*	*
92)	**1,2-Dibromo-3-Chloropropane**	**20.99**	**28.3**	**26.75**	**106**	**73**	**133**	*	*
93)	n-Undecane	21.30	30.4	27.00	**113**	64	131	*	*
94)	**1,2,4-Trichlorobenzene**	**22.11**	**31.4**	**27.00**	**116**	**62**	**140**	*	*
95)	**Naphthalene**	**22.22**	**33.3**	**26.50**	**126**	**57**	**149**	*	*
96)	n-Dodecane	22.22	33.9	26.50	**128**	41	181	*	*
97)	**Hexachlorobutadiene**	**22.54**	**28.3**	**26.75**	**106**	57	129	*	*
98)	Cyclohexanone	18.28	28.3	25.25	112	61	131	*	*
99)	tert-Butylbenzene	20.11	29.7	26.50	112	62	130	*	*
100)	n-Butylbenzene	20.86	30.6	26.75	114	67	124	*	*

Bold = 75 Compound List

 *** = Pass** **I:\MS16\0-Instrument Info\0-Security Certificates\ICV_LCS_2019_10111902.CRT** 5/1/2020 7:08 PM

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\12\05122002.D Vial: 2
Acq On : 12 May 2020 2:28 Operator: LH
Sample : CCV R16051220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 12 10:09:00 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/12/20

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	96	-0.01
2	T	Propene	1.448	1.403	3.1	91	0.00
3	T	Dichlorodifluoromethane (CF	2.832	2.532	10.6	89	0.00
4	T	Chloromethane	2.218	1.991	10.2	87	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.692	1.496	11.6	90	-0.01
6	T	Vinyl Chloride	2.433	2.107	13.4	86	0.00
7	T	1,3-Butadiene	2.013	1.767	12.2	86	0.00
8	T	Bromomethane	1.285	1.155	10.1	89	-0.01
9	T	Chloroethane	0.961	0.857	10.8	87	0.00
10	T	Ethanol	1.118	0.995	11.0	86	-0.04
11	T	Acetonitrile	2.555	2.218	13.2	86	-0.02
12	T	Acrolein	0.883	0.754	14.6	82	-0.01
13	T	Acetone	1.118	1.024	8.4	87	-0.02
14	T	Trichlorofluoromethane	2.503	2.203	12.0	86	0.00
15	T	2-Propanol (Isopropanol)	3.384	3.095	8.5	84	-0.03
16	T	Acrylonitrile	1.828	1.648	9.8	86	-0.02
17	T	1,1-Dichloroethene	1.312	1.196	8.8	87	0.00
18	T	2-Methyl-2-Propanol (tert-B	3.155	2.613	17.2	78	-0.03
19	T	Methylene Chloride	1.453	1.275	12.3	85	0.00
20	T	3-Chloro-1-propene (Allyl C	1.997	1.845	7.6	87	-0.01
21	T	Trichlorotrifluoroethane	1.182	1.122	5.1	89	0.00
22	T	Carbon Disulfide	5.208	4.639	10.9	87	0.00
23	T	trans-1,2-Dichloroethene	1.998	1.751	12.4	85	0.00
24	T	1,1-Dichloroethane	2.371	2.108	11.1	85	0.00
25	T	Methyl tert-Butyl Ether	3.730	3.204	14.1	87	0.00
26	T	Vinyl Acetate	0.348	0.306	12.1	78	-0.01
27	T	2-Butanone (MEK)	0.953	0.858	10.0	86	-0.01
28	T	cis-1,2-Dichloroethene	1.954	1.714	12.3	85	0.00
29	T	Diisopropyl Ether	1.349	1.168	13.4	85	0.00
30	T	Ethyl Acetate	0.550	0.534	2.9	86	-0.01
31	T	n-Hexane	2.385	2.260	5.2	87	0.00
32	T	Chloroform	2.488	2.226	10.5	86	0.00
33	S	1,2-Dichloroethane-d4(SS1)	1.694	1.560	7.9	91	0.00
34	T	Tetrahydrofuran (THF)	0.930	0.810	12.9	86	0.00
35	T	Ethyl tert-Butyl Ether	1.630	1.502	7.9	87	0.00
36	T	1,2-Dichloroethane	1.971	1.685	14.5	84	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	95	0.00
38	T	1,1,1-Trichloroethane	0.503	0.464	7.8	85	0.00
39	T	Isopropyl Acetate	0.220	0.216	1.8	86	0.00
40	T	1-Butanol	0.313	0.283	9.6	80	-0.02
41	T	Benzene	1.340	1.227	8.4	86	0.00
42	T	Carbon Tetrachloride	0.456	0.429	5.9	86	-0.01
43	T	Cyclohexane	0.500	0.478	4.4	86	0.00
44	T	tert-Amyl Methyl Ether	0.899	0.854	5.0	86	0.00
45	T	1,2-Dichloropropane	0.310	0.287	7.4	85	0.00
46	T	Bromodichloromethane	0.453	0.428	5.5	85	0.00
47	T	Trichloroethene	0.346	0.327	5.5	87	0.00
48	T	1,4-Dioxane	0.270	0.250	7.4	85	-0.01
49	T	2,2,4-Trimethylpentane (Iso	1.304	1.214	6.9	86	0.00
50	T	Methyl Methacrylate	0.133	0.129	3.0	85	-0.01
51	T	n-Heptane	0.313	0.288	8.0	88	0.00
52	T	cis-1,3-Dichloropropene	0.533	0.506	5.1	84	0.00
53	T	4-Methyl-2-pentanone	0.299	0.279	6.7	85	0.00
54	T	trans-1,3-Dichloropropene	0.456	0.451	1.1	84	0.00
55	T	1,1,2-Trichloroethane	0.308	0.294	4.5	87	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\12\05122002.D Vial: 2
Acq On : 12 May 2020 2:28 Operator: LH
Sample : CCV R16051220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 12 10:09:00 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	94	0.00
57	S	Toluene-d8 (SS2)	2.119	2.104	0.7	93	0.00
58	T	Toluene	2.731	2.588	5.2	87	0.00
59	T	2-Hexanone	1.497	1.435	4.1	85	0.00
60	T	Dibromochloromethane	0.782	0.799	-2.2	86	0.00
61	T	1,2-Dibromoethane	0.752	0.740	1.6	86	0.00
62	T	n-Butyl Acetate	1.616	1.532	5.2	82	0.00
63	T	n-Octane	0.565	0.545	3.5	86	0.00
64	T	Tetrachloroethene	0.771	0.781	-1.3	88	0.00
65	T	Chlorobenzene	1.879	1.739	7.5	87	0.00
66	T	Ethylbenzene	3.045	3.058	-0.4	86	0.00
67	T	m- & p-Xylenes	2.416	2.514	-4.1	89	-0.01
68	T	Bromoform	0.678	0.693	-2.2	86	0.00
69	T	Styrene	1.817	1.879	-3.4	85	0.00
70	T	o-Xylene	2.453	2.457	-0.2	86	0.00
71	T	n-Nonane	1.301	1.337	-2.8	89	0.00
72	T	1,1,2,2-Tetrachloroethane	1.217	1.220	-0.2	86	-0.01
73	S	Bromofluorobenzene (SS3)	0.762	0.812	-6.6	95	0.00
74	T	Cumene	3.010	3.081	-2.4	87	0.00
75	T	alpha-Pinene	1.606	1.635	-1.8	86	0.00
76	T	n-Propylbenzene	3.576	3.734	-4.4	87	0.00
77	T	3-Ethyltoluene	2.913	3.093	-6.2	86	0.00
78	T	4-Ethyltoluene	2.827	3.009	-6.4	89	0.00
79	T	1,3,5-Trimethylbenzene	2.455	2.570	-4.7	87	0.00
80	T	alpha-Methylstyrene	1.384	1.315	5.0	83	0.00
81	T	2-Ethyltoluene	2.874	3.041	-5.8	88	0.00
82	T	1,2,4-Trimethylbenzene	2.467	2.752	-11.6	84	0.00
83	T	n-Decane	1.380	1.425	-3.3	88	0.00
84	T	Benzyl Chloride	2.300	2.255	2.0	81	-0.01
85	T	1,3-Dichlorobenzene	1.433	1.538	-7.3	87	0.00
86	T	1,4-Dichlorobenzene	1.398	1.496	-7.0	86	0.00
87	T	sec-Butylbenzene	3.203	3.429	-7.1	88	0.00
88	T	4-Isopropyltoluene (p-Cymen	3.033	3.239	-6.8	85	0.00
89	T	1,2,3-Trimethylbenzene	2.582	2.778	-7.6	85	0.00
90	T	1,2-Dichlorobenzene	1.372	1.516	-10.5	86	-0.01
91	T	d-Limonene	0.974	1.042	-7.0	84	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.517	0.532	-2.9	86	0.00
93	T	n-Undecane	1.277	1.372	-7.4	87	0.00
94	T	1,2,4-Trichlorobenzene	0.951	1.030	-8.3	84	-0.01
95	T	Naphthalene	3.011	3.296	-9.5	80	-0.01
96	T	n-Dodecane	1.106	1.311	-18.5	83	0.00
97	T	Hexachlorobutadiene	0.658	0.701	-6.5	91	0.00
98	T	Cyclohexanone	0.956	0.834	12.8	80	-0.01
99	T	tert-Butylbenzene	2.428	2.620	-7.9	86	0.00
100	T	n-Butylbenzene	2.512	2.748	-9.4	87	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122002.D Vial: 2
Acq On : 12 May 2020 2:28 Operator: LH
Sample : CCV R16051220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 12 10:09:00 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

WDA 5/12/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	274186	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.27	114	1162512	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.58	82	534747	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	427809	11.513	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.08%				
57) Toluene-d8 (SS2)	15.72	98	1125253	12.415	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.28%				
73) Bromofluorobenzene (SS3)	18.97	174	434029	13.308	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.48%				
Target Compounds							Qvalue
2) Propene	4.09	42	815301	25.674	ng		100
3) Dichlorodifluoromethan...	4.25	85	1471695	23.694	ng		100
4) Chloromethane	4.53	50	1157154	23.781	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	861470	23.214	ng		100
6) Vinyl Chloride	4.95	62	1248067	23.390	ng		100
7) 1,3-Butadiene	5.22	54	1027164	23.265	ng		99
8) Bromomethane	5.65	94	684035	24.267	ng		99
9) Chloroethane	5.98	64	507805	24.090	ng		100
10) Ethanol	6.38	45	2841352	115.874	ng		100
11) Acetonitrile	6.62	41	1277231	22.793	ng		100
12) Acrolein	6.80	56	426098	21.992	ng		100
13) Acetone	7.01	58	2991557	121.990	ng		99
14) Trichlorofluoromethane	7.24	101	1280588	23.329	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	3564231	48.021	ng		99
16) Acrylonitrile	7.76	53	948651	23.664	ng		100
17) 1,1-Dichloroethene	8.20	96	708052	24.606	ng		97
18) 2-Methyl-2-Propanol (t...	8.38	59	3094959	44.728	ng		100
19) Methylene Chloride	8.44	84	741404	23.257	ng		100
20) 3-Chloro-1-propene (Al...	8.59	41	1092461	24.944	ng		100
21) Trichlorotrifluoroethane	8.84	151	664527	25.641	ng		97
22) Carbon Disulfide	8.69	76	2722116	23.831	ng		100
23) trans-1,2-Dichloroethene	9.71	61	1037053	23.668	ng		98
24) 1,1-Dichloroethane	9.96	63	1259883	24.220	ng		100
25) Methyl tert-Butyl Ether	10.05	73	1897300	23.189	ng		100
26) Vinyl Acetate	10.22	86	896982	117.427	ng	#	92
27) 2-Butanone (MEK)	10.45	72	498966	23.859	ng		97
28) cis-1,2-Dichloroethene	10.98	61	996335	23.247	ng		99
29) Diisopropyl Ether	11.27	87	691789	23.384	ng	#	95
30) Ethyl Acetate	11.27	61	635458	52.695	ng		98
31) n-Hexane	11.26	57	1338171	25.584	ng		100
32) Chloroform	11.32	83	1306373	23.936	ng		100
34) Tetrahydrofuran (THF)	11.72	72	484135	23.735	ng		99
35) Ethyl tert-Butyl Ether	11.86	87	889303	24.875	ng		99
36) 1,2-Dichloroethane	12.12	62	998194	23.084	ng		100
38) 1,1,1-Trichloroethane	12.40	97	1153530	24.636	ng		100
39) Isopropyl Acetate	12.83	61	1057665	51.642	ng		99
40) 1-Butanol	12.85	56	1369650	47.004	ng		97
41) Benzene	12.88	78	3024739	24.262	ng		100
42) Carbon Tetrachloride	13.03	117	1048442	24.724	ng		100
43) Cyclohexane	13.17	84	2356220	50.719	ng		100
44) tert-Amyl Methyl Ether	13.51	73	2144157	25.649	ng		100
45) 1,2-Dichloropropane	13.73	63	720344	24.949	ng		100
46) Bromodichloromethane	13.92	83	1075862	25.535	ng		100
47) Trichloroethene	13.97	130	813650	25.250	ng		100
48) 1,4-Dioxane	13.94	88	627038	24.973	ng		99
49) 2,2,4-Trimethylpentane...	14.04	57	3019376	24.890	ng		100
50) Methyl Methacrylate	14.18	100	644691	52.127	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122002.D Vial: 2
Acq On : 12 May 2020 2:28 Operator: LH
Sample : CCV R16051220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 12 10:09:00 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

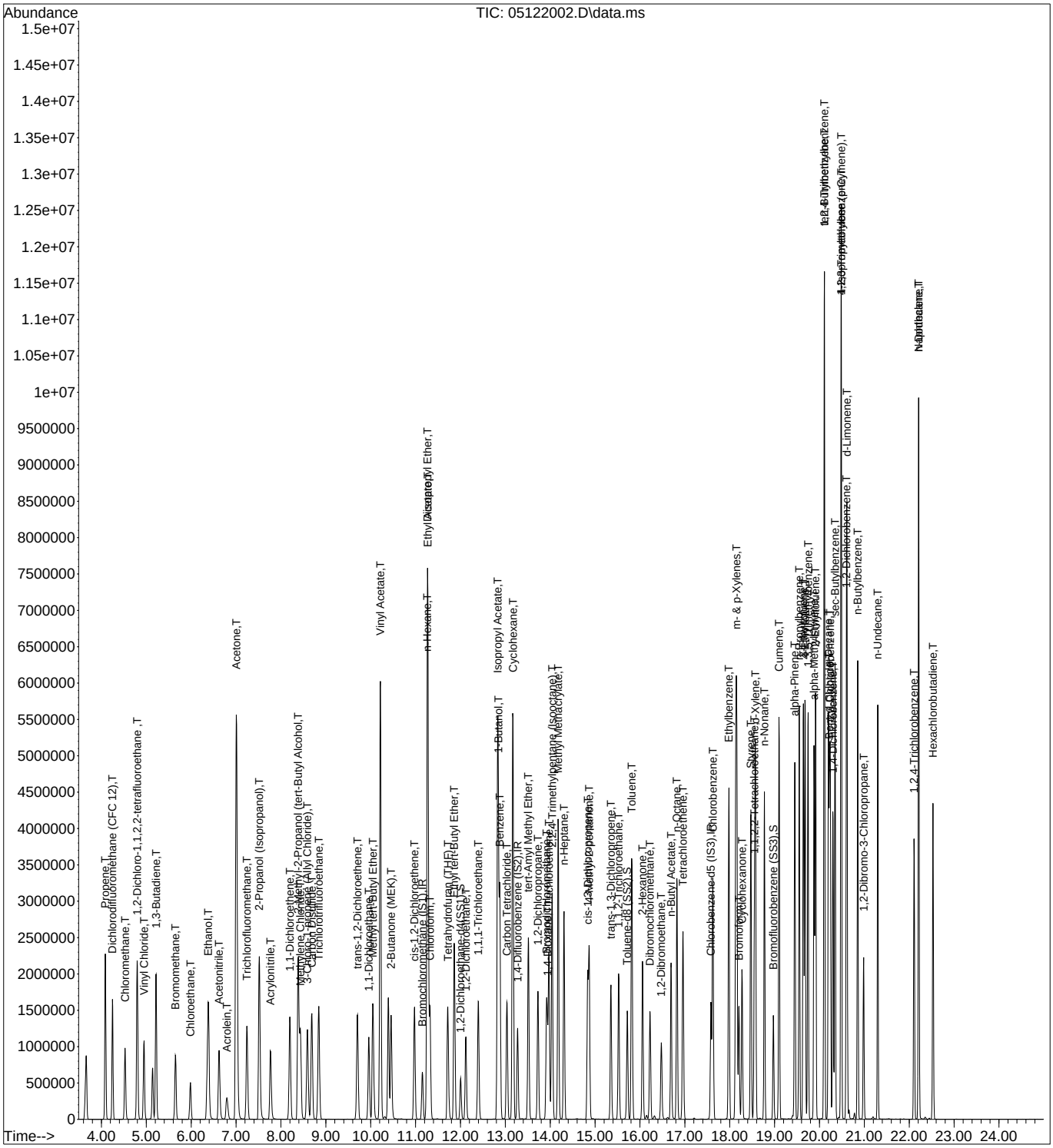
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	722001	24.766	ng	99
52) cis-1,3-Dichloropropene	14.84	75	1222524	24.663	ng	100
53) 4-Methyl-2-pentanone	14.87	58	688222	24.764	ng	99
54) trans-1,3-Dichloropropene	15.35	75	1112309	26.226	ng	100
55) 1,1,2-Trichloroethane	15.52	97	730491	25.513	ng	99
58) Toluene	15.82	91	2962060	25.352	ng	100
59) 2-Hexanone	16.06	43	1642149	25.650	ng	99
60) Dibromochloromethane	16.22	129	913877	27.316	ng	100
61) 1,2-Dibromoethane	16.48	107	846753	26.334	ng	100
62) n-Butyl Acetate	16.70	43	1785627	25.822	ng	100
63) n-Octane	16.82	57	629773	26.036	ng	100
64) Tetrachloroethene	16.96	166	868787	26.326	ng	100
65) Chlorobenzene	17.62	112	1990528	24.761	ng	100
66) Ethylbenzene	17.98	91	3499247	26.859	ng	100
67) m- & p-Xylenes	18.15	91	5754260	55.675	ng	99
68) Bromoform	18.21	173	792582	27.327	ng	100
69) Styrene	18.47	104	2130251	27.404	ng	100
70) o-Xylene	18.58	91	2811601	26.796	ng	100
71) n-Nonane	18.77	43	1529962	27.482	ng	99
72) 1,1,2,2-Tetrachloroethane	18.55	83	1395942	26.817	ng	100
74) Cumene	19.10	105	3558553	27.635	ng	100
75) alpha-Pinene	19.45	93	1870674	27.226	ng	99
76) n-Propylbenzene	19.55	91	4313039	28.194	ng	100
77) 3-Ethyltoluene	19.64	105	3506986	28.138	ng	100
78) 4-Ethyltoluene	19.68	105	3475970	28.742	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	2913808	27.749	ng	99
80) alpha-Methylstyrene	19.88	118	1504538	25.420	ng	99
81) 2-Ethyltoluene	19.91	105	3512482	28.571	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3149010	29.836	ng	99
83) n-Decane	20.20	57	1630518	27.616	ng	99
84) Benzyl Chloride	20.22	91	2604426	26.475	ng	100
85) 1,3-Dichlorobenzene	20.24	146	1759650	28.712	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1711450	28.616	ng	100
87) sec-Butylbenzene	20.35	105	3924234	28.643	ng	100
88) 4-Isopropyltoluene (p-...	20.48	119	3776147	29.106	ng	99
89) 1,2,3-Trimethylbenzene	20.48	105	3237994	29.314	ng	99
90) 1,2-Dichlorobenzene	20.60	146	1734607	29.561	ng	100
91) d-Limonene	20.61	68	1203916	28.881	ng	99
92) 1,2-Dibromo-3-Chloropr...	20.98	157	596878	26.977	ng	98
93) n-Undecane	21.30	57	1584953	29.005	ng	99
94) 1,2,4-Trichlorobenzene	22.11	180	1179082	28.972	ng	100
95) Naphthalene	22.21	128	3630458	28.185	ng	100
96) n-Dodecane	22.21	57	1458486	30.826	ng	99
97) Hexachlorobutadiene	22.53	225	795022	28.241	ng	99
98) Cyclohexanone	18.27	55	892230	21.816	ng	99
99) tert-Butylbenzene	20.11	119	2998122	28.861	ng	100
100) n-Butylbenzene	20.85	91	3144795	29.265	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122002.D Vial: 2
Acq On : 12 May 2020 2:28 Operator: LH
Sample : CCV R16051220_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 12 10:09:00 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\12\05122033.D Vial: 2
Acq On : 12 May 2020 20:33 Operator: WA
Sample : CCVend R16051120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

TD 5/13/20

Quant Time: May 13 05:59:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	95	-0.01
2	T	Propene	1.448	1.451	-0.2	94	-0.01
3	T	Dichlorodifluoromethane (CF	2.832	2.568	9.3	89	0.00
4	T	Chloromethane	2.218	2.048	7.7	89	-0.01
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.692	1.479	12.6	88	-0.01
6	T	Vinyl Chloride	2.433	2.147	11.8	87	-0.01
7	T	1,3-Butadiene	2.013	1.780	11.6	86	-0.01
8	T	Bromomethane	1.285	1.167	9.2	89	-0.01
9	T	Chloroethane	0.961	0.878	8.6	89	0.00
10	T	Ethanol	1.118	1.023	8.5	88	-0.03
11	T	Acetonitrile	2.555	2.280	10.8	88	-0.02
12	T	Acrolein	0.883	0.767	13.1	83	-0.02
13	T	Acetone	1.118	1.046	6.4	88	-0.02
14	T	Trichlorofluoromethane	2.503	2.239	10.5	87	0.00
15	T	2-Propanol (Isopropanol)	3.384	3.182	6.0	86	-0.03
16	T	Acrylonitrile	1.828	1.688	7.7	88	-0.02
17	T	1,1-Dichloroethene	1.312	1.205	8.2	87	0.00
18	T	2-Methyl-2-Propanol (tert-B	3.155	2.622	16.9	78	-0.02
19	T	Methylene Chloride	1.453	1.290	11.2	86	0.00
20	T	3-Chloro-1-propene (Allyl C	1.997	1.888	5.5	89	-0.01
21	T	Trichlorotrifluoroethane	1.182	1.123	5.0	89	0.00
22	T	Carbon Disulfide	5.208	4.692	9.9	87	0.00
23	T	trans-1,2-Dichloroethene	1.998	1.784	10.7	86	0.00
24	T	1,1-Dichloroethane	2.371	2.144	9.6	86	0.00
25	T	Methyl tert-Butyl Ether	3.730	3.294	11.7	89	0.00
26	T	Vinyl Acetate	0.348	0.306	12.1	78	-0.01
27	T	2-Butanone (MEK)	0.953	0.879	7.8	88	-0.01
28	T	cis-1,2-Dichloroethene	1.954	1.748	10.5	86	0.00
29	T	Diisopropyl Ether	1.349	1.168	13.4	84	0.00
30	T	Ethyl Acetate	0.550	0.542	1.5	87	-0.01
31	T	n-Hexane	2.385	2.295	3.8	88	0.00
32	T	Chloroform	2.488	2.249	9.6	87	0.00
33	S	1,2-Dichloroethane-d4(SS1)	1.694	1.608	5.1	94	0.00
34	T	Tetrahydrofuran (THF)	0.930	0.815	12.4	86	0.00
35	T	Ethyl tert-Butyl Ether	1.630	1.504	7.7	86	0.00
36	T	1,2-Dichloroethane	1.971	1.720	12.7	86	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	96	0.00
38	T	1,1,1-Trichloroethane	0.503	0.456	9.3	85	0.00
39	T	Isopropyl Acetate	0.220	0.214	2.7	86	0.00
40	T	1-Butanol	0.313	0.280	10.5	81	-0.02
41	T	Benzene	1.340	1.216	9.3	87	0.00
42	T	Carbon Tetrachloride	0.456	0.419	8.1	85	0.00
43	T	Cyclohexane	0.500	0.473	5.4	87	0.00
44	T	tert-Amyl Methyl Ether	0.899	0.847	5.8	87	0.00
45	T	1,2-Dichloropropane	0.310	0.288	7.1	87	0.00
46	T	Bromodichloromethane	0.453	0.423	6.6	85	0.00
47	T	Trichloroethene	0.346	0.325	6.1	88	0.00
48	T	1,4-Dioxane	0.270	0.246	8.9	85	-0.01
49	T	2,2,4-Trimethylpentane (Iso	1.304	1.208	7.4	87	0.00
50	T	Methyl Methacrylate	0.133	0.127	4.5	85	0.00
51	T	n-Heptane	0.313	0.287	8.3	89	0.00
52	T	cis-1,3-Dichloropropene	0.533	0.505	5.3	86	0.00
53	T	4-Methyl-2-pentanone	0.299	0.276	7.7	85	0.00
54	T	trans-1,3-Dichloropropene	0.456	0.446	2.2	84	0.00
55	T	1,1,2-Trichloroethane	0.308	0.288	6.5	86	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\12\05122033.D Vial: 2
Acq On : 12 May 2020 20:33 Operator: WA
Sample : CCVend R16051120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 13 05:59:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	94	0.00
57	S	Toluene-d8 (SS2)	2.119	2.112	0.3	94	0.00
58	T	Toluene	2.731	2.595	5.0	87	0.00
59	T	2-Hexanone	1.497	1.456	2.7	86	0.00
60	T	Dibromochloromethane	0.782	0.784	-0.3	85	0.00
61	T	1,2-Dibromoethane	0.752	0.735	2.3	86	0.00
62	T	n-Butyl Acetate	1.616	1.549	4.1	84	0.00
63	T	n-Octane	0.565	0.557	1.4	89	0.00
64	T	Tetrachloroethene	0.771	0.774	-0.4	88	0.00
65	T	Chlorobenzene	1.879	1.733	7.8	87	0.00
66	T	Ethylbenzene	3.045	3.061	-0.5	87	0.00
67	T	m- & p-Xylenes	2.416	2.456	-1.7	87	-0.01
68	T	Bromoform	0.678	0.689	-1.6	86	0.00
69	T	Styrene	1.817	1.893	-4.2	86	0.00
70	T	o-Xylene	2.453	2.468	-0.6	87	0.00
71	T	n-Nonane	1.301	1.373	-5.5	91	0.00
72	T	1,1,2,2-Tetrachloroethane	1.217	1.229	-1.0	87	0.00
73	S	Bromofluorobenzene (SS3)	0.762	0.807	-5.9	95	0.00
74	T	Cumene	3.010	3.093	-2.8	88	0.00
75	T	alpha-Pinene	1.606	1.637	-1.9	86	0.00
76	T	n-Propylbenzene	3.576	3.752	-4.9	87	0.00
77	T	3-Ethyltoluene	2.913	3.075	-5.6	85	0.00
78	T	4-Ethyltoluene	2.827	3.041	-7.6	90	0.00
79	T	1,3,5-Trimethylbenzene	2.455	2.581	-5.1	88	0.00
80	T	alpha-Methylstyrene	1.384	1.305	5.7	83	0.00
81	T	2-Ethyltoluene	2.874	3.037	-5.7	89	0.00
82	T	1,2,4-Trimethylbenzene	2.467	2.732	-10.7	84	0.00
83	T	n-Decane	1.380	1.450	-5.1	90	0.00
84	T	Benzyl Chloride	2.300	2.236	2.8	81	-0.01
85	T	1,3-Dichlorobenzene	1.433	1.527	-6.6	87	0.00
86	T	1,4-Dichlorobenzene	1.398	1.490	-6.6	86	0.00
87	T	sec-Butylbenzene	3.203	3.424	-6.9	89	0.00
88	T	4-Isopropyltoluene (p-Cymen	3.033	3.237	-6.7	86	0.00
89	T	1,2,3-Trimethylbenzene	2.582	2.762	-7.0	85	0.00
90	T	1,2-Dichlorobenzene	1.372	1.499	-9.3	86	0.00
91	T	d-Limonene	0.974	1.035	-6.3	83	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.517	0.532	-2.9	86	0.00
93	T	n-Undecane	1.277	1.397	-9.4	89	0.00
94	T	1,2,4-Trichlorobenzene	0.951	1.017	-6.9	84	0.00
95	T	Naphthalene	3.011	3.230	-7.3	79	-0.01
96	T	n-Dodecane	1.106	1.325	-19.8	85	0.00
97	T	Hexachlorobutadiene	0.658	0.692	-5.2	90	0.00
98	T	Cyclohexanone	0.956	0.843	11.8	81	-0.01
99	T	tert-Butylbenzene	2.428	2.611	-7.5	86	0.00
100	T	n-Butylbenzene	2.512	2.760	-9.9	87	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122033.D Vial: 2
Acq On : 12 May 2020 20:33 Operator: WA
Sample : CCVend R16051120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

TD 5/13/20

Quant Time: May 13 05:59:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	272591	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.28	114	1179814	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.58	82	536963	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	438244	11.863	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.88%				
57) Toluene-d8 (SS2)	15.72	98	1133914	12.459	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.68%				
73) Bromofluorobenzene (SS3)	18.98	174	433531	13.238	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.92%				
Target Compounds							Qvalue
2) Propene	4.08	42	838671	26.564	ng		100
3) Dichlorodifluoromethan...	4.25	85	1483921	24.031	ng		100
4) Chloromethane	4.52	50	1183536	24.465	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	846554	22.946	ng		100
6) Vinyl Chloride	4.94	62	1264052	23.828	ng		100
7) 1,3-Butadiene	5.21	54	1028811	23.438	ng		99
8) Bromomethane	5.65	94	687370	24.528	ng		100
9) Chloroethane	5.98	64	517058	24.672	ng		99
10) Ethanol	6.38	45	2906369	119.219	ng		100
11) Acetonitrile	6.62	41	1305193	23.428	ng		100
12) Acrolein	6.79	56	430682	22.358	ng		100
13) Acetone	7.01	58	3039723	124.680	ng		99
14) Trichlorofluoromethane	7.24	101	1294160	23.714	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	3642650	49.365	ng		99
16) Acrylonitrile	7.77	53	966319	24.246	ng		100
17) 1,1-Dichloroethene	8.20	96	709316	24.794	ng		99
18) 2-Methyl-2-Propanol (t...	8.39	59	3087463	44.881	ng		100
19) Methylene Chloride	8.44	84	745282	23.516	ng		98
20) 3-Chloro-1-propene (Al...	8.59	41	1111835	25.535	ng		100
21) Trichlorotrifluoroethane	8.84	151	661481	25.673	ng		97
22) Carbon Disulfide	8.69	76	2737241	24.103	ng		100
23) trans-1,2-Dichloroethene	9.71	61	1050213	24.108	ng		99
24) 1,1-Dichloroethane	9.96	63	1273948	24.634	ng		100
25) Methyl tert-Butyl Ether	10.05	73	1939267	23.840	ng		100
26) Vinyl Acetate	10.22	86	891373	117.375	ng	#	89
27) 2-Butanone (MEK)	10.45	72	508055	24.435	ng		95
28) cis-1,2-Dichloroethene	10.98	61	1009988	23.704	ng		100
29) Diisopropyl Ether	11.27	87	687695	23.381	ng	#	92
30) Ethyl Acetate	11.27	61	641131	53.476	ng		98
31) n-Hexane	11.26	57	1351097	25.982	ng		99
32) Chloroform	11.32	83	1312212	24.184	ng		100
34) Tetrahydrofuran (THF)	11.72	72	484437	23.889	ng		97
35) Ethyl tert-Butyl Ether	11.86	87	885782	24.922	ng		98
36) 1,2-Dichloroethane	12.12	62	1012959	23.563	ng		100
38) 1,1,1-Trichloroethane	12.40	97	1150546	24.212	ng		100
39) Isopropyl Acetate	12.83	61	1065793	51.275	ng		99
40) 1-Butanol	12.85	56	1374105	46.466	ng		96
41) Benzene	12.88	78	3040396	24.030	ng		100
42) Carbon Tetrachloride	13.04	117	1038598	24.133	ng		100
43) Cyclohexane	13.17	84	2366029	50.183	ng		99
44) tert-Amyl Methyl Ether	13.51	73	2158645	25.443	ng		100
45) 1,2-Dichloropropane	13.73	63	733047	25.016	ng		100
46) Bromodichloromethane	13.92	83	1078890	25.232	ng		100
47) Trichloroethene	13.97	130	820236	25.081	ng		100
48) 1,4-Dioxane	13.94	88	626739	24.595	ng		99
49) 2,2,4-Trimethylpentane...	14.04	57	3051146	24.783	ng		99
50) Methyl Methacrylate	14.18	100	646244	51.486	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122033.D Vial: 2
Acq On : 12 May 2020 20:33 Operator: WA
Sample : CCVend R16051120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 13 05:59:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

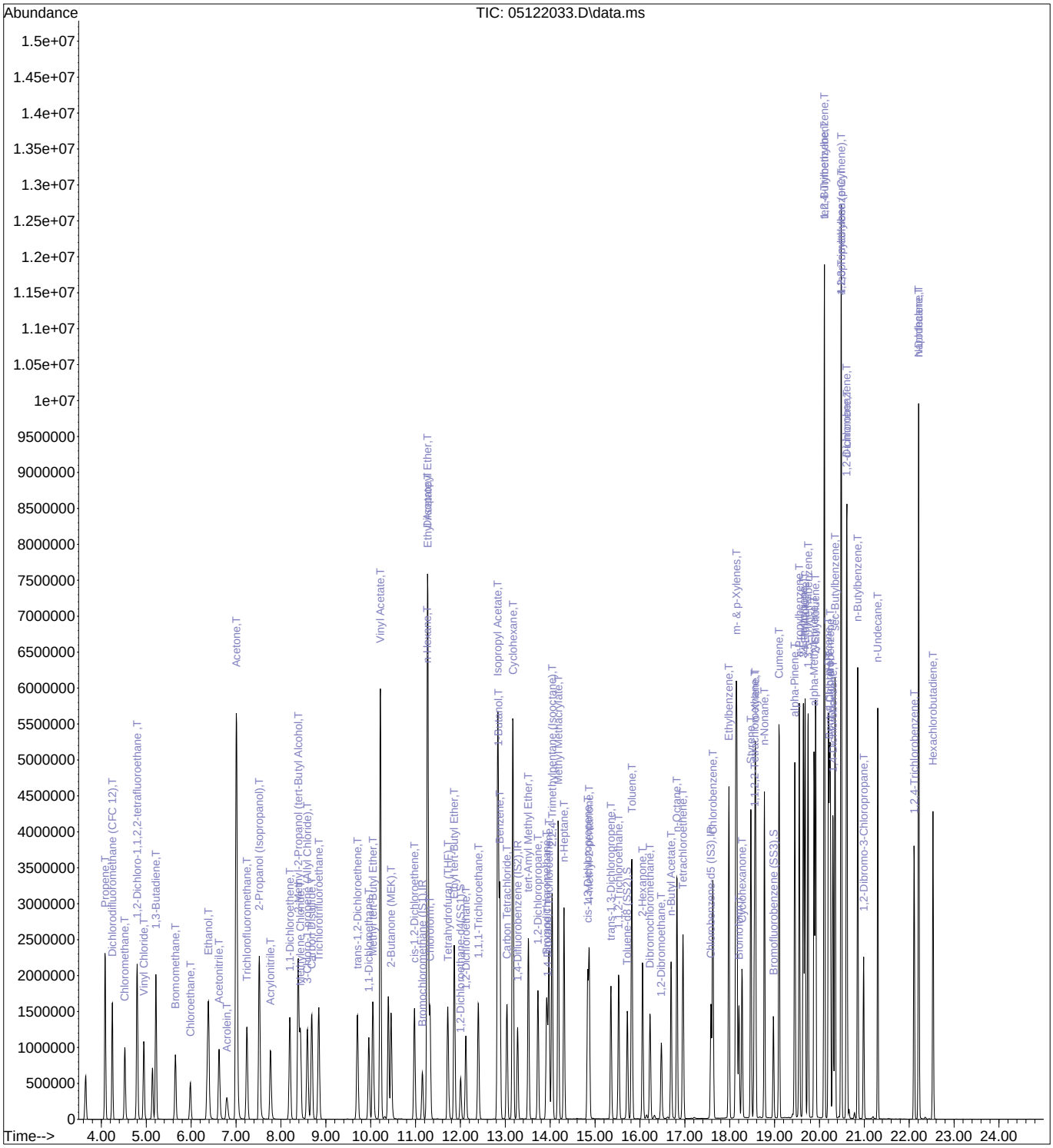
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	731481	24.723	ng	99
52) cis-1,3-Dichloropropene	14.84	75	1239901	24.646	ng	100
53) 4-Methyl-2-pentanone	14.87	58	690392	24.478	ng	97
54) trans-1,3-Dichloropropene	15.35	75	1115913	25.925	ng	100
55) 1,1,2-Trichloroethane	15.52	97	727175	25.025	ng	100
58) Toluene	15.82	91	2981988	25.418	ng	100
59) 2-Hexanone	16.06	43	1673300	26.029	ng	99
60) Dibromochloromethane	16.22	129	901390	26.832	ng	100
61) 1,2-Dibromoethane	16.48	107	844937	26.169	ng	100
62) n-Butyl Acetate	16.70	43	1813398	26.115	ng	99
63) n-Octane	16.82	57	645788	26.588	ng	99
64) Tetrachloroethene	16.96	166	864916	26.101	ng	100
65) Chlorobenzene	17.62	112	1991539	24.671	ng	100
66) Ethylbenzene	17.98	91	3517290	26.887	ng	100
67) m- & p-Xylenes	18.15	91	5644962	54.392	ng	100
68) Bromoform	18.21	173	791880	27.191	ng	100
69) Styrene	18.47	104	2155367	27.613	ng	100
70) o-Xylene	18.58	91	2836388	26.920	ng	100
71) n-Nonane	18.77	43	1577772	28.224	ng	98
72) 1,1,2,2-Tetrachloroethane	18.55	83	1412785	27.029	ng	100
74) Cumene	19.10	105	3587381	27.744	ng	100
75) alpha-Pinene	19.45	93	1880749	27.260	ng	100
76) n-Propylbenzene	19.55	91	4351775	28.330	ng	100
77) 3-Ethyltoluene	19.64	105	3500263	27.968	ng	100
78) 4-Ethyltoluene	19.68	105	3527286	29.046	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	2938483	27.868	ng	100
80) alpha-Methylstyrene	19.88	118	1499502	25.230	ng	99
81) 2-Ethyltoluene	19.91	105	3522562	28.535	ng	99
82) 1,2,4-Trimethylbenzene	20.11	105	3139045	29.619	ng	99
83) n-Decane	20.20	57	1666471	28.109	ng	99
84) Benzyl Chloride	20.22	91	2593829	26.259	ng	100
85) 1,3-Dichlorobenzene	20.24	146	1755054	28.519	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1712277	28.512	ng	100
87) sec-Butylbenzene	20.35	105	3934830	28.602	ng	100
88) 4-Isopropyltoluene (p-...	20.48	119	3789399	29.088	ng	99
89) 1,2,3-Trimethylbenzene	20.48	105	3233051	29.148	ng	99
90) 1,2-Dichlorobenzene	20.61	146	1722536	29.234	ng	100
91) d-Limonene	20.61	68	1200224	28.674	ng	99
92) 1,2-Dibromo-3-Chloropr...	20.98	157	599540	26.986	ng	98
93) n-Undecane	21.30	57	1619799	29.520	ng	99
94) 1,2,4-Trichlorobenzene	22.11	180	1168951	28.605	ng	100
95) Naphthalene	22.21	128	3572370	27.619	ng	100
96) n-Dodecane	22.21	57	1479629	31.144	ng	98
97) Hexachlorobutadiene	22.53	225	787786	27.869	ng	99
98) Cyclohexanone	18.27	55	904962	22.036	ng	99
99) tert-Butylbenzene	20.11	119	2999836	28.759	ng	100
100) n-Butylbenzene	20.85	91	3172031	29.396	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\12\05122033.D Vial: 2
Acq On : 12 May 2020 20:33 Operator: WA
Sample : CCVend R16051120_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 13 05:59:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

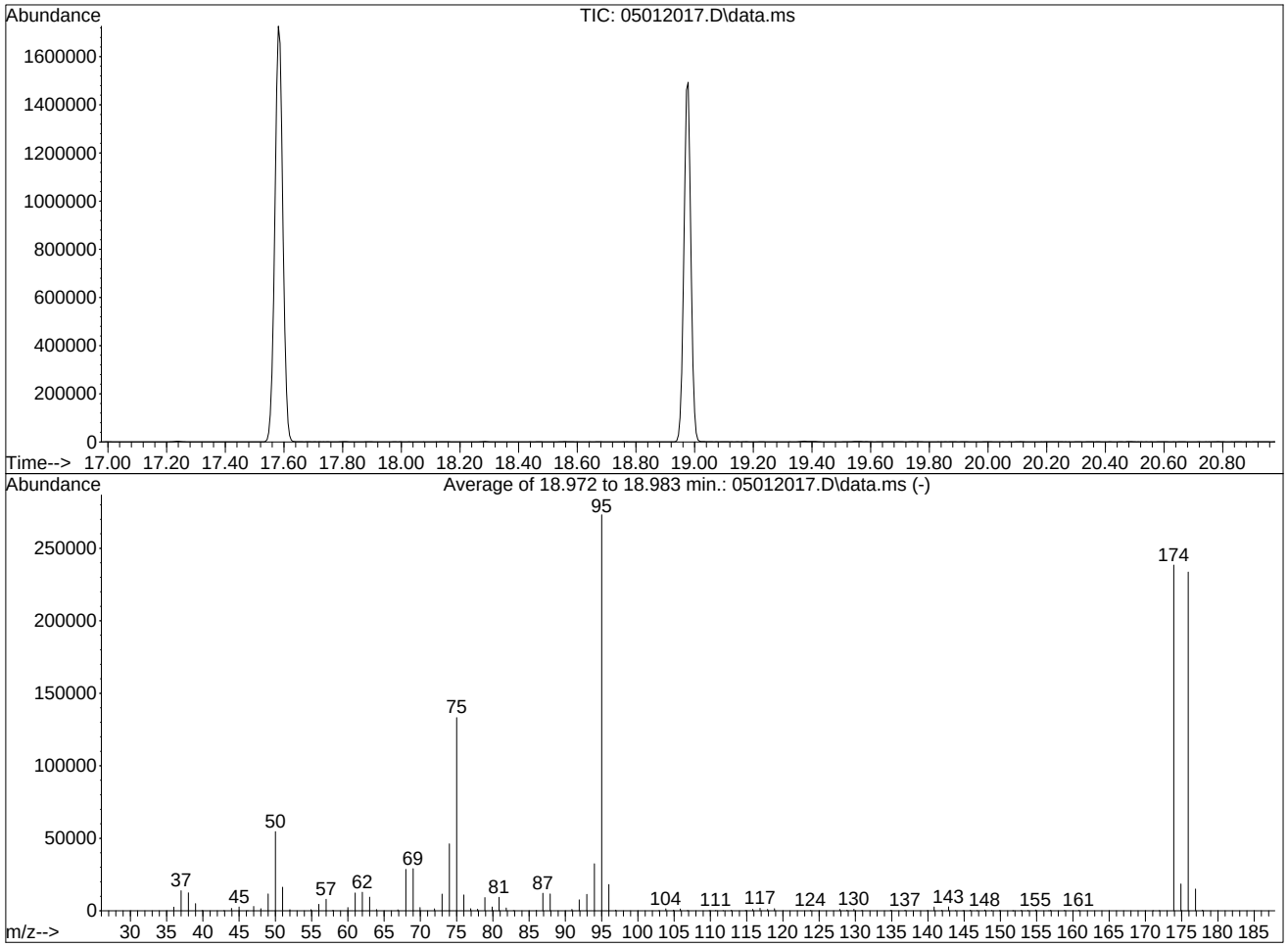


BFB

Data Path : I:\MS16\DATA\2020_05\01\
Data File : 05012017.D
Acq On : 1 May 2020 13:35
Operator : LH
Sample : 12.5ng TO15 BFB
Misc : S31-02112001
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16050120.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri May 01 17:25:50 2020



AutoFind: Scans 2816, 2817, 2818; Background Corrected with Scan 2808

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	20.0	54576	PASS
75	95	30	66	48.8	133227	PASS
95	95	100	100	100.0	273088	PASS
96	95	5	9	6.6	18099	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	87.3	238485	PASS
175	174	4	9	7.8	18527	PASS
176	174	93	101	98.0	233621	PASS
177	176	5	9	6.4	15004	PASS

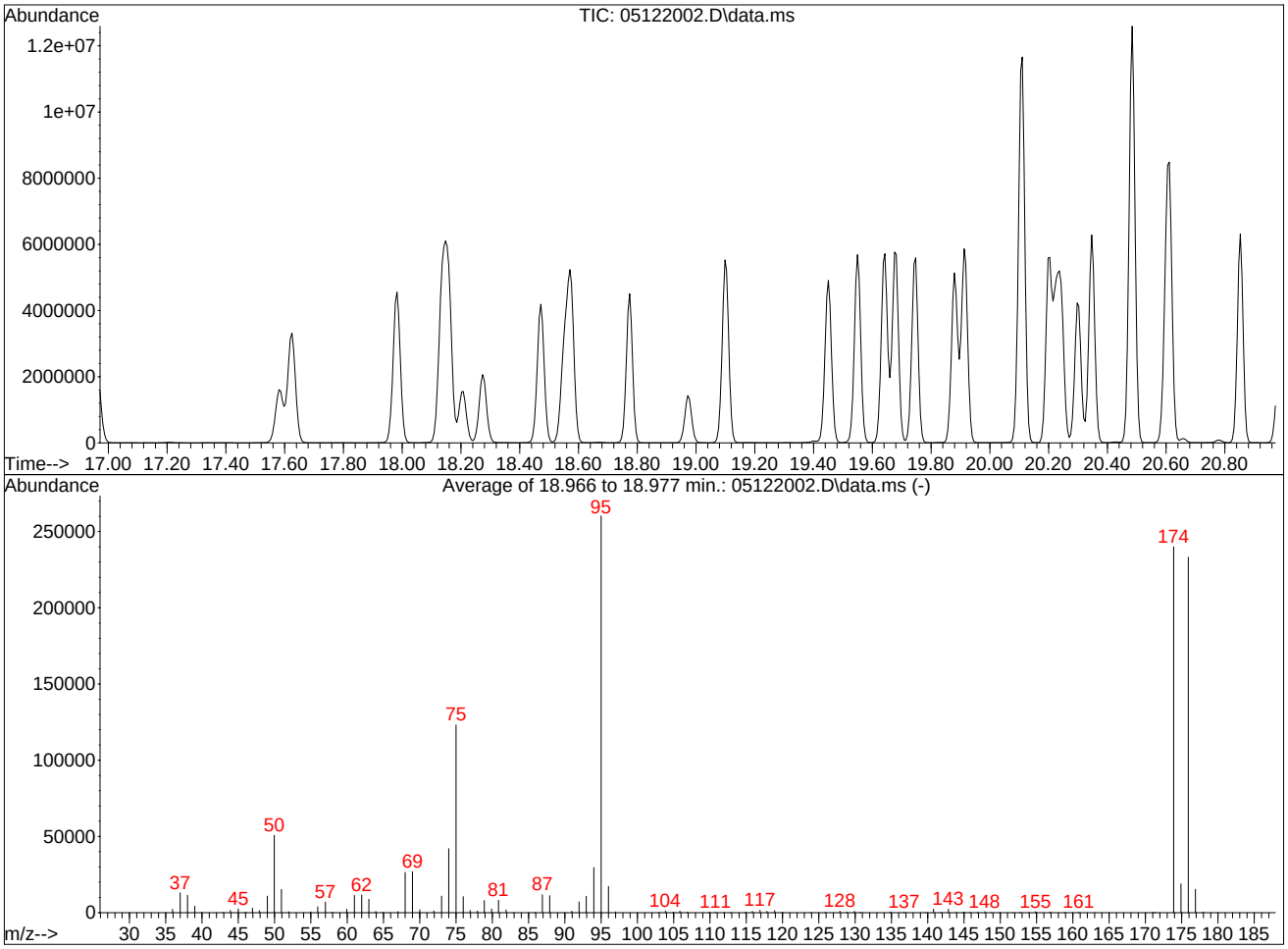
LH 5/1/20

BFB

Data Path : I:\MS16\DATA\2020_05\12\
Data File : 05122002.D
Acq On : 12 May 2020 2:28
Operator : LH
Sample : CCV R16051220_25ng
Misc : S31-02112001/S34-04292003 (5/28)
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16050120.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri May 01 18:22:00 2020



AutoFind: Scans 2815, 2816, 2817; Background Corrected with Scan 2807

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	19.5	50775	PASS
75	95	30	66	47.3	123165	PASS
95	95	100	100	100.0	260267	PASS
96	95	5	9	6.6	17301	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	92.2	239979	PASS
175	174	4	9	7.9	18893	PASS
176	174	93	101	97.2	233216	PASS
177	176	5	9	6.6	15335	PASS

WSA 5/12/20

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
17	5/1/20 13:35	05012017.D	12.5ng TO15 BFB	S31-02112001	LH	2	
18	5/1/20 14:09	05012018.D	0.1ng TO15 ICAL STD	S31-02112001/S34-04272015 (5/26)	LH	6	
19	5/1/20 14:42	05012019.D	0.2ng TO15 ICAL STD	S31-02112001/S34-04272015 (5/26)	LH	6	
20	5/1/20 15:16	05012020.D	0.5ng TO15 ICAL STD	S31-02112001/S34-05012002 (5/30)	LH	13	
21	5/1/20 15:51	05012021.D	1.0ng TO15 ICAL STD	S31-02112001/S34-05012002 (5/30)	LH	13	
22	5/1/20 16:25	05012022.D	5.0ng TO15 ICAL STD	S31-02112001/S34-04292003 (5/28)	LH	2	
23	5/1/20 16:59	05012023.D	25ng TO15 ICAL STD	S31-02112001/S34-04292003 (5/28)	LH	2	
24	5/1/20 17:33	05012024.D	50ng TO15 ICAL STD	S31-02112001/S34-04292003 (5/28)	LH	2	
25	5/1/20 18:07	05012025.D	100ng TO15 ICAL STD	S31-02112001/S34-04292003 (5/28)	LH	2	
26	5/1/20 18:41	05012026.D	25ng TO15 ICV STD	S31-02112001/S34-04302003 (5/29)	LH	2	
	ICAL R16050120.M passed for all compounds 0.1ng-100ng, except: tert butanol 0.1ng-50ng, vinyl acetate 2.5ng-500ng, bromoform,						
	alpha-methylstyrene, n-decane, 4-isopropyltolune, 1,2,3-trtimethylbenzene, 1,2-dibromo-3-chloropropane, n-undecane, 1,2,4-trichlorobenzene,						
	naphthalene, n-dodecane, hexachlorobutadiene 0.5ng-100ng, benzyl chloride 1.0ng-100ng.						

LH 5/4/20

Injection Log

Directory: I:\MS16\DATA\2020_05\12\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	5/12/20 1:53	05122001.D	CCV C16051220_25ng	S31-02112001/S34-04292003 (5/28)	LH	2	not using
2	5/12/20 2:28	05122002.D	CCV R16051220_25ng	S31-02112001/S34-04292003 (5/28)	LH	2	passed
3	5/12/20 3:01	05122003.D	Blank (100mL)	S31-02112001	LH	2	
4	5/12/20 3:36	05122004.D	MB R16051220_1000mL	S31-02112001/AS01319	LH	2	passed
5	5/12/20 4:10	05122005.D	LCS R16051220_25ng	S31-02112001/S34-04302003 (5/29)	LH	2	passed
6	5/12/20 4:44	05122006.D	LCSD R16051220_25ng	S31-02112001/S34-04302003 (5/29)	LH	2	passed
7	5/12/20 5:18	05122007.D	Blank (100mL)	S31-02112001	LH	2	
8	5/12/20 5:52	05122008.D	P2002300-001 (20mL)	S31-02112001	LH	13	
9	5/12/20 6:26	05122009.D	P2002300-001dup (20mL)	S31-02112001	LH	13	passed
10	5/12/20 7:00	05122010.D	P2002300-002 (400mL)	S31-02112001	LH	14	
11	5/12/20 7:34	05122011.D	P2002300-003 (400mL)	S31-02112001	LH	15	
12	5/12/20 8:08	05122012.D	P2002300-008 (400mL)	S31-02112001	LH	16	
13	5/12/20 8:42	05122013.D	P2002300-009 (400mL)	S31-02112001	LH	1	
14	5/12/20 9:16	05122014.D	P2002300-010 (400mL)	S31-02112001	LH	4	
15	5/12/20 9:50	05122015.D	P2002300-011 (400mL)	S31-02112001	LH	5	
16	5/12/20 10:23	05122016.D	P2002300-004 (0.25mL)	S31-02112001	WA	1	
17	5/12/20 10:58	05122017.D	P2002300-005 (0.006mL)	S31-02112001 (1ml/1L; 6mL)	WA	1	over diluted
18	5/12/20 11:32	05122018.D	P2002300-006 (0.20mL)	S31-02112001	WA	1	
19	5/12/20 12:06	05122019.D	P2002300-005 (0.06mL)	S31-02112001	WA	1	
20	5/12/20 12:40	05122020.D	P2002300-007 (2.0mL)	S31-02112001	WA	1	
21	5/12/20 13:15	05122021.D	P2002300-012 (5.0mL)	S31-02112001	WA	1	over diluted
22	5/12/20 13:48	05122022.D	P2002300-013 (1.5mL)	S31-02112001	WA	1	
23	5/12/20 14:53	05122023.D	P2002300-019 (6.0mL)	S31-02112001	WA	1	
24	5/12/20 15:26	05122024.D	P2002300-012 (50mL)	S31-02112001	WA	5	
25	5/12/20 16:00	05122025.D	P2002299-015dil (40mL)	S31-02112001	WA	7	
26	5/12/20 16:34	05122026.D	P2002300-009Dil (40mL)	S31-02112001	WA	4	
27	5/12/20 17:08	05122027.D	P2002300-014 (400mL)	S31-02112001	WA	6	
28	5/12/20 17:42	05122028.D	P2002300-015 (400mL)	S31-02112001	WA	8	
29	5/12/20 18:16	05122029.D	P2002300-016 (400mL)	S31-02112001	WA	9	
30	5/12/20 18:50	05122030.D	P2002300-017 (400mL)	S31-02112001	WA	10	
31	5/12/20 19:25	05122031.D	P2002300-018 (400mL)	S31-02112001	WA	11	
32	5/12/20 19:59	05122032.D	P2002300-020 (400mL)	S31-02112001	WA	12	
33	5/12/20 20:33	05122033.D	CCVend R16051120_25ng	S31-02112001/S34-04292003 (5/28)	WA	2	passed

LH 5/13/20

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PAGE: 1 of 4

Primary

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Propylene	115-07-1	1.00 mg/m3	1.06 mg/m3
Freon-12	75-71-8	1.00 mg/m3	1.06 mg/m3
Chloromethane	74-87-3	1.00 mg/m3	1.06 mg/m3
Freon-114	76-14-2	1.00 mg/m3	1.05 mg/m3
Vinyl Chloride	75-01-4	1.00 mg/m3	1.08 mg/m3
1,3-Butadiene	106-99-0	1.00 mg/m3	1.06 mg/m3
Bromomethane	74-83-9	1.00 mg/m3	1.08 mg/m3
Chloroethane	75-00-3	1.00 mg/m3	1.08 mg/m3
Ethanol	64-17-5	5.00 mg/m3	5.21 mg/m3
Acetonitrile	75-05-8	1.00 mg/m3	1.05 mg/m3
Acrolein	107-02-8	1.00 mg/m3	1.03 mg/m3
Acetone	67-64-1	5.00 mg/m3	5.33 mg/m3
Freon-11	75-69-4	1.00 mg/m3	1.06 mg/m3
Isopropyl Alcohol	67-63-0	2.00 mg/m3	2.10 mg/m3
Acrylonitrile	107-13-1	1.00 mg/m3	1.05 mg/m3
1,1-Dichloroethene	75-35-4	1.00 mg/m3	1.08 mg/m3
Carbon Disulfide	75-15-0	1.00 mg/m3	1.07 mg/m3
Methylene Chloride	75-09-2	1.00 mg/m3	1.06 mg/m3
Tert-Butanol	75-65-0	2.00 mg/m3	2.16 mg/m3
Allyl Chloride	107-05-1	1.00 mg/m3	1.08 mg/m3
Freon-113	76-13-1	1.00 mg/m3	1.08 mg/m3
Trans-1,2-Dichloroethene	156-60-5	1.00 mg/m3	1.08 mg/m3
1,1-Dichloroethane	75-34-3	1.00 mg/m3	1.09 mg/m3
Methyl Tert Butyl Ether	1634-04-4	1.00 mg/m3	1.08 mg/m3
Vinyl Acetate	108-05-4	5.00 mg/m3	5.35 mg/m3
Methacrylonitrile	126-98-7	1.00 mg/m3	1.06 mg/m3
Methyl Ethyl Ketone	78-93-3	1.00 mg/m3	1.06 mg/m3
Cis-1,2-Dichloroethene	156-59-2	1.00 mg/m3	1.06 mg/m3
Hexane	110-54-3	1.00 mg/m3	1.08 mg/m3
Di-isopropyl Ether	108-20-3	1.00 mg/m3	1.08 mg/m3

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PAGE: 2 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chloroform	67-66-3	1.00 mg/m3	1.07 mg/m3
Ethyl Acetate	141-78-6	2.00 mg/m3	2.17 mg/m3
Tetrahydrofuran	109-99-9	1.00 mg/m3	1.09 mg/m3
Ethyl Tert-Butyl Ether	637-92-3	1.00 mg/m3	1.08 mg/m3
1,2-Dichloroethane	107-06-2	1.00 mg/m3	1.08 mg/m3
1,1,1-Trichloroethane	71-55-6	1.00 mg/m3	1.07 mg/m3
Benzene	71-43-2	1.00 mg/m3	1.06 mg/m3
Isopropyl Acetate	108-21-4	2.00 mg/m3	2.11 mg/m3
1-Butanol	71-36-3	2.00 mg/m3	2.08 mg/m3
Carbon Tetrachloride	56-23-5	1.00 mg/m3	1.05 mg/m3
Cyclohexane	110-82-7	2.00 mg/m3	2.12 mg/m3
Tert Amyl Methyl Ether	994-05-8	1.00 mg/m3	1.08 mg/m3
1,2-Dichloropropane	78-87-5	1.00 mg/m3	1.08 mg/m3
Trichloroethylene	79-01-6	1.00 mg/m3	1.07 mg/m3
Bromodichloromethane	75-27-4	1.00 mg/m3	1.08 mg/m3
1,4-Dioxane	123-91-1	1.00 mg/m3	1.08 mg/m3
Isooctane	540-84-1	1.00 mg/m3	1.07 mg/m3
Methyl Methacrylate	80-62-6	2.00 mg/m3	2.15 mg/m3
Heptane	142-82-5	1.00 mg/m3	1.08 mg/m3
Cis-1,3-Dichloropropene	10061-01-5	1.00 mg/m3	1.04 mg/m3
Methyl Isobutyl Ketone	108-10-1	1.00 mg/m3	1.06 mg/m3
Trans-1,3-Dichloropropene	10061-02-6	1.00 mg/m3	1.06 mg/m3
1,1,2-Trichloroethane	79-00-5	1.00 mg/m3	1.07 mg/m3
Toluene	108-88-3	1.00 mg/m3	1.07 mg/m3
Methyl Butyl Ketone	591-78-6	1.00 mg/m3	1.07 mg/m3
Dibromochloromethane	124-48-1	1.00 mg/m3	1.07 mg/m3
1,2-Dibromoethane	106-93-4	1.00 mg/m3	1.07 mg/m3
n-Butyl Acetate	123-86-4	1.00 mg/m3	1.09 mg/m3
n-Octane	111-65-9	1.00 mg/m3	1.08 mg/m3
Tetrachloroethylene	127-18-4	1.00 mg/m3	1.04 mg/m3

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PAGE: 3 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chlorobenzene	108-90-7	1.00 mg/m3	1.07 mg/m3
Ethylbenzene	100-41-4	1.00 mg/m3	1.07 mg/m3
p-xylene	106-42-3	1.00 mg/m3	1.07 mg/m3
m-xylene	108-38-3	1.00 mg/m3	1.07 mg/m3
Bromoform	75-25-2	1.00 mg/m3	1.07 mg/m3
Cyclohexanone	108-94-1	1.00 mg/m3	1.00 mg/m3
Styrene	100-42-5	1.00 mg/m3	1.06 mg/m3
o-xylene	95-47-6	1.00 mg/m3	1.07 mg/m3
1,1,2,2-Tetrachloroethane	79-34-5	1.00 mg/m3	1.07 mg/m3
Nonane	111-84-2	1.00 mg/m3	1.07 mg/m3
Isopropylbenzene	98-82-8	1.00 mg/m3	1.08 mg/m3
alpha-Pinene	80-56-8	1.00 mg/m3	1.07 mg/m3
n-Propylbenzene	103-65-1	1.00 mg/m3	1.08 mg/m3
3-Ethyltoluene	620-14-4	1.00 mg/m3	1.06 mg/m3
4-Ethyltoluene	622-96-8	1.00 mg/m3	1.08 mg/m3
2-Ethyltoluene	611-14-3	1.00 mg/m3	1.08 mg/m3
1,3,5-Trimethylbenzene	108-67-8	1.00 mg/m3	1.06 mg/m3
alpha-Methylstyrene	98-83-9	1.00 mg/m3	1.07 mg/m3
Tert-Butyl Benzene	98-06-6	1.00 mg/m3	1.07 mg/m3
1,2,4-Trimethylbenzene	95-63-6	1.00 mg/m3	1.07 mg/m3
1,3-Dichlorobenzene	541-73-1	1.00 mg/m3	1.07 mg/m3
Benzyl Chloride	100-44-7	1.00 mg/m3	1.08 mg/m3
n-Decane	124-18-5	1.00 mg/m3	1.07 mg/m3
1,4-Dichlorobenzene	106-46-7	1.00 mg/m3	1.07 mg/m3
Sec-Butyl Benzene	135-98-8	1.00 mg/m3	1.07 mg/m3
p-Isopropyltoluene	99-87-6	1.00 mg/m3	1.09 mg/m3
1,2,3-Trimethylbenzene	526-73-8	1.00 mg/m3	1.09 mg/m3
1,2-Dichlorobenzene	95-50-1	1.00 mg/m3	1.07 mg/m3

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PAGE: 4 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
d-Limonene	5989-27-5	1.00 mg/m3	1.08 mg/m3
n-Butyl Benzene	104-51-8	1.00 mg/m3	1.07 mg/m3
1,2-Dibromo-3-Chloropropane	96-12-8	1.00 mg/m3	1.05 mg/m3
n-Undecane	1120-21-4	1.00 mg/m3	1.08 mg/m3
1,2,4-Trichlorobenzene	120-82-1	1.00 mg/m3	1.07 mg/m3
Naphthalene	91-20-3	1.00 mg/m3	1.03 mg/m3
n-Dodecane	112-40-3	1.00 mg/m3	1.04 mg/m3
Hexachloro-1,3-Butadiene	87-68-3	1.00 mg/m3	1.06 mg/m3
Nitrogen	7727-37-9	Balance	Balance

ANALYST: Lou Lorenzetti **DATE:** Sep-24-2019

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PAGE: 1 of 4

Secondary

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Propylene	115-07-1	1.00 mg/m3	1.05 mg/m3
Freon-12	75-71-8	1.00 mg/m3	1.05 mg/m3
Chloromethane	74-87-3	1.00 mg/m3	1.06 mg/m3
Freon-114	76-14-2	1.00 mg/m3	1.03 mg/m3
Vinyl Chloride	75-01-4	1.00 mg/m3	1.06 mg/m3
1,3-Butadiene	106-99-0	1.00 mg/m3	1.06 mg/m3
Bromomethane	74-83-9	1.00 mg/m3	1.06 mg/m3
Chloroethane	75-00-3	1.00 mg/m3	1.07 mg/m3
Ethanol	64-17-5	5.00 mg/m3	5.30 mg/m3
Acetonitrile	75-05-8	1.00 mg/m3	1.07 mg/m3
Acrolein	107-02-8	1.00 mg/m3	1.03 mg/m3
Acetone	67-64-1	5.00 mg/m3	5.34 mg/m3
Freon-11	75-69-4	1.00 mg/m3	1.06 mg/m3
Isopropyl Alcohol	67-63-0	2.00 mg/m3	2.11 mg/m3
Acrylonitrile	107-13-1	1.00 mg/m3	1.06 mg/m3
1,1-Dichloroethene	75-35-4	1.00 mg/m3	1.07 mg/m3
Carbon Disulfide	75-15-0	1.00 mg/m3	1.06 mg/m3
Methylene Chloride	75-09-2	1.00 mg/m3	1.05 mg/m3
Tert-Butanol	75-65-0	2.00 mg/m3	2.15 mg/m3
Allyl Chloride	107-05-1	1.00 mg/m3	1.07 mg/m3
Freon-113	76-13-1	1.00 mg/m3	1.08 mg/m3
Trans-1,2-Dichloroethene	156-60-5	1.00 mg/m3	1.07 mg/m3
1,1-Dichloroethane	75-34-3	1.00 mg/m3	1.06 mg/m3
Methyl Tert Butyl Ether	1634-04-4	1.00 mg/m3	1.07 mg/m3
Vinyl Acetate	108-05-4	5.00 mg/m3	5.33 mg/m3
Methacrylonitrile	126-98-7	1.00 mg/m3	1.06 mg/m3
Methyl Ethyl Ketone	78-93-3	1.00 mg/m3	1.06 mg/m3
Cis-1,2-Dichloroethene	156-59-2	1.00 mg/m3	1.06 mg/m3
Hexane	110-54-3	1.00 mg/m3	1.08 mg/m3
Di-isopropyl Ether	108-20-3	1.00 mg/m3	1.08 mg/m3

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PAGE: 2 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chloroform	67-66-3	1.00 mg/m3	1.07 mg/m3
Ethyl Acetate	141-78-6	2.00 mg/m3	2.16 mg/m3
Tetrahydrofuran	109-99-9	1.00 mg/m3	1.10 mg/m3
Ethyl Tert-Butyl Ether	637-92-3	1.00 mg/m3	1.07 mg/m3
1,2-Dichloroethane	107-06-2	1.00 mg/m3	1.07 mg/m3
1,1,1-Trichloroethane	71-55-6	1.00 mg/m3	1.07 mg/m3
Benzene	71-43-2	1.00 mg/m3	1.05 mg/m3
Isopropyl Acetate	108-21-4	2.00 mg/m3	2.10 mg/m3
1-Butanol	71-36-3	2.00 mg/m3	2.13 mg/m3
Carbon Tetrachloride	56-23-5	1.00 mg/m3	1.04 mg/m3
Cyclohexane	110-82-7	2.00 mg/m3	2.11 mg/m3
Tert Amyl Methyl Ether	994-05-8	1.00 mg/m3	1.07 mg/m3
1,2-Dichloropropane	78-87-5	1.00 mg/m3	1.07 mg/m3
Trichloroethylene	79-01-6	1.00 mg/m3	1.08 mg/m3
Bromodichloromethane	75-27-4	1.00 mg/m3	1.09 mg/m3
1,4-Dioxane	123-91-1	1.00 mg/m3	1.08 mg/m3
Isooctane	540-84-1	1.00 mg/m3	1.07 mg/m3
Methyl Methacrylate	80-62-6	2.00 mg/m3	2.15 mg/m3
Heptane	142-82-5	1.00 mg/m3	1.07 mg/m3
Cis-1,3-Dichloropropene	10061-01-5	1.00 mg/m3	1.07 mg/m3
Methyl Isobutyl Ketone	108-10-1	1.00 mg/m3	1.06 mg/m3
Trans-1,3-Dichloropropene	10061-02-6	1.00 mg/m3	1.06 mg/m3
1,1,2-Trichloroethane	79-00-5	1.00 mg/m3	1.07 mg/m3
Toluene	108-88-3	1.00 mg/m3	1.06 mg/m3
Methyl Butyl Ketone	591-78-6	1.00 mg/m3	1.08 mg/m3
Dibromochloromethane	124-48-1	1.00 mg/m3	1.07 mg/m3
1,2-Dibromoethane	106-93-4	1.00 mg/m3	1.07 mg/m3
n-Butyl Acetate	123-86-4	1.00 mg/m3	1.09 mg/m3
n-Octane	111-65-9	1.00 mg/m3	1.08 mg/m3
Tetrachloroethylene	127-18-4	1.00 mg/m3	1.04 mg/m3

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ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chlorobenzene	108-90-7	1.00 mg/m3	1.07 mg/m3
Ethylbenzene	100-41-4	1.00 mg/m3	1.06 mg/m3
p-xylene	106-42-3	1.00 mg/m3	1.07 mg/m3
m-xylene	108-38-3	1.00 mg/m3	1.06 mg/m3
Bromoform	75-25-2	1.00 mg/m3	1.07 mg/m3
Cyclohexanone	108-94-1	1.00 mg/m3	1.01 mg/m3
Styrene	100-42-5	1.00 mg/m3	1.06 mg/m3
o-xylene	95-47-6	1.00 mg/m3	1.07 mg/m3
1,1,2,2-Tetrachloroethane	79-34-5	1.00 mg/m3	1.07 mg/m3
Nonane	111-84-2	1.00 mg/m3	1.07 mg/m3
Isopropylbenzene	98-82-8	1.00 mg/m3	1.07 mg/m3
alpha-Pinene	80-56-8	1.00 mg/m3	1.06 mg/m3
n-Propylbenzene	103-65-1	1.00 mg/m3	1.07 mg/m3
3-Ethyltoluene	620-14-4	1.00 mg/m3	1.07 mg/m3
4-Ethyltoluene	622-96-8	1.00 mg/m3	1.05 mg/m3
2-Ethyltoluene	611-14-3	1.00 mg/m3	1.07 mg/m3
1,3,5-Trimethylbenzene	108-67-8	1.00 mg/m3	1.06 mg/m3
alpha-Methylstyrene	98-83-9	1.00 mg/m3	1.06 mg/m3
Tert-Butyl Benzene	98-06-6	1.00 mg/m3	1.06 mg/m3
1,2,4-Trimethylbenzene	95-63-6	1.00 mg/m3	1.06 mg/m3
1,3-Dichlorobenzene	541-73-1	1.00 mg/m3	1.07 mg/m3
Benzyl Chloride	100-44-7	1.00 mg/m3	1.07 mg/m3
n-Decane	124-18-5	1.00 mg/m3	1.07 mg/m3
1,4-Dichlorobenzene	106-46-7	1.00 mg/m3	1.07 mg/m3
Sec-Butyl Benzene	135-98-8	1.00 mg/m3	1.06 mg/m3
p-Isopropyltoluene	99-87-6	1.00 mg/m3	1.09 mg/m3
1,2,3-Trimethylbenzene	526-73-8	1.00 mg/m3	1.08 mg/m3
1,2-Dichlorobenzene	95-50-1	1.00 mg/m3	1.07 mg/m3

Linde Gas North America LLC

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ISO 9001:2015 Linde **SPECTRA** Environmental Gases, 80 Industrial Drive, Alpha, NJ 08865

THE LINDE GROUP

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2655 Park Center Dr Ste A Dept 130
Simi Valley, CA 93065

PAGE: 4 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
d-Limonene	5989-27-5	1.00 mg/m3	1.06 mg/m3
n-Butyl Benzene	104-51-8	1.00 mg/m3	1.07 mg/m3
1,2-Dibromo-3-Chloropropane	96-12-8	1.00 mg/m3	1.07 mg/m3
n-Undecane	1120-21-4	1.00 mg/m3	1.08 mg/m3
1,2,4-Trichlorobenzene	120-82-1	1.00 mg/m3	1.08 mg/m3
Naphthalene	91-20-3	1.00 mg/m3	1.06 mg/m3
n-Dodecane	112-40-3	1.00 mg/m3	1.06 mg/m3
Hexachloro-1,3-Butadiene	87-68-3	1.00 mg/m3	1.07 mg/m3
Nitrogen	7727-37-9	Balance	Balance

ANALYST: _____
Lou Lorenzetti

DATE: Sep-24-2019

Linde Gas North America LLC

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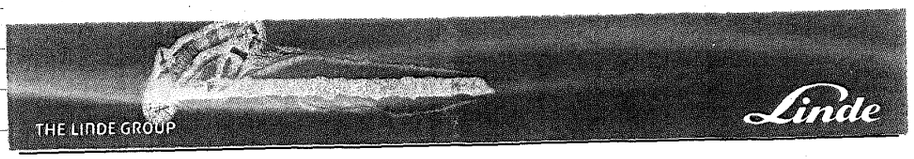
1/6/20 VH

TO-15 MAPH STD				20ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of S31-11061903 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-01062006	20 ng/L	STD00164	1/6/20	3/4/20	LH

1/6/20 S31-01062007 TO-15 IS/SURR STD ~0.5 mg/m³

ISO 9001:2015 Linde **SPECTRA** Environmental Gases, 80 Industrial Drive, Alpha, NJ 08865



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Simi Valley, CA 93065

PAGE: 1 of 1

S31-01062007 **ANALYSIS REPORT** IS/SURR STD.

Sales#:	117350975	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1502527	**Cylinder # :**	CC-430401
Report Date:	Dec-23-2019	**Cylinder Pressure:**	2000 psig
P.O.# :	SM003000	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24086333	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	4000 Liters
Expiration Date:	Dec-23-~~2020~~ 2021	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	10% Relative

VH 1/7/20

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Bromochloromethane	74-97-5	0.50 mg/m3	0.55 mg/m3
1,2-Dichloroethane-d4	17060-07-0	0.50 mg/m3	0.55 mg/m3
1,4-Difluorobenzene	540-36-3	0.50 mg/m3	0.55 mg/m3
Toluene-d8	2037-26-5	0.50 mg/m3	0.55 mg/m3
Chlorobenzene-d5	3114-55-4	0.50 mg/m3	0.55 mg/m3
4-Bromofluorobenzene	460-00-4	0.50 mg/m3	0.53 mg/m3
Nitrogen	7727-37-9	Balance	Balance

1/7/20 VH

EPA 325B STD	BTEX 1° Working Standard	200 µg/mL
S31-01072001	Expires:	1/21/2020
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 2000µg/mL BTEX stock standard S31-11271903 (expires 1/27/20).		

VH

EPA 325B STD	BTEX 2° Working Standard	200 µg/mL
S31-01072002	Expires:	1/21/2020
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 2000µg/mL BTEX stock standard S31-11271904 (expires 1/27/20).		

297

2/5/2020 RVT

		TO-15 STD		4 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S31-01292007**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02052009	4 ng/L	STD00094	2/5/20	3/5/20	RVT

RVT

TO-15 STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111901**

using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02052010	200 ng/L	STD00224	2/5/20	3/5/20	RVT

2/6/2020 RVT

TO-15 STD **20 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S31-02052007**

using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02062001	20 ng/L	STD00064	2/6/20	3/6/20	RVT

RVT

TO-15 ICV/ LCS STD **20 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S31-02052002**

with HZA Lot # 70086915004 using 4700 diluter

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02062002	20 ng/L	STD00113	2/6/20	3/6/2020	RVT

RVT TO15 STD 1000 ng/L

S31-02062003

Filled Can STD00136 w/ S31-10111901 To ~ 5.61 psig

Exp. 3/6/2020

2/7/20 S31-02072001 Toluene-d8 2.0 µg/ml

Spiked 4.2 µl S29-04281601 into 2010 ml glass SDB

purged w/ helium. Exp. 3/7/20.

CV

02/11/20 S31-02112001 TO-15 IS/SURR 500 ng/L

VH FILLED CAN # STD00214 TO ~ 20 PSIG WITH S31-01062007

EXP 08/09/20

4/15/20
RVT

TO-15 STD **4 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S34-04102010**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04152001	4 ng/L	STD00161	4/15/20	**5/14/20**	RVT

TO-15 Custom STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with
HZA Lot # 70086915004 using 4700 diluter

TD 4/16/20

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04162001	200 ng/L	STD00009	4/16/2020	**5/15/2020**	TD
S34-04162002	200 ng/L	STD00124	4/16/2020	**5/15/2020**	TD

4/16/20
RVT

TO-15 STD **4 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of **S34-04102003**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04162003	4 ng/L	STD00227	4/16/20	**5/15/20**	RVT

4/20/20
RVT

TO-15 STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111901**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04202001	200 ng/L	STD00128	4/20/20	**5/19/20**	RVT
S34-04202002	200 ng/L	STD00112	4/20/20	**5/19/20**	RVT
S34-04202003	200 ng/L	STD00105	4/20/20	**5/19/20**	RVT
S34-04202004	200 ng/L	STD00047	4/20/20	**5/19/20**	RVT

TO-15 Custom STD **20 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of S31-06251901 with
HZA Lot # 70086915004 using 4700 diluter

TD 4/21/20

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04212001	20 ng/L	STD00049	4/21/2020	**5/20/2020**	TD

TD 4/21/20

18
4/22/20
RVT
4/27/20
RVT

TO-15 Custom STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272005	200 ng/L	STD00024	4/27/2020	**5/26/2020**	RVT
S34-04272006	200 ng/L	STD00066	4/27/2020	**5/26/2020**	RVT

RVT

TO-15 ICV/LCS STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111902** with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272007	200 ng/L	STD00063	4/27/20	**5/26/20**	RVT
S34-04272008	200 ng/L	STD00072	4/27/20	**5/26/20**	RVT

RVT

TO-15 ICV/ LCS STD				20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04272007** with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272009	20 ng/L	STD00015	4/27/20	**5/26/20**	RVT

RVT

TO-15 STD				20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04202001** using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272010	20 ng/L	STD00026	4/27/20	**5/26/20**	RVT

LH
4/27/20

TO-15 STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-10111901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272011	200 ng/L	STD00028	4/27/2020	**5/26/2020**	LH

LH

TO-15 STD				20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of S34-04272011 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272012	20 ng/L	STD00061	4/27/2020	**5/26/2020**	LH

555 of 558

4/27/20 LH

	TO-15 STD		**20 ng/L**		
Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of S31-10111901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272013	20 ng/L	STD00217	4/27/2020	**5/26/2020**	LH

LH

	TO-15 STD		**4 ng/L**		
Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of S34-04272011 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272014	4 ng/L	STD00131	4/27/2020	**5/26/2020**	LH

LH

	TO-15 STD		**4 ng/L**		
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S34-04272012 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272015	4 ng/L	STD00184	4/27/2020	**5/26/2020**	LH

4/28/20 RVT

	TO-15 Custom STD		**20 ng/L**		
Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04282001	20 ng/L	STD00037	4/28/2020	**5/27/2020**	RVT
S34-04282002	20 ng/L	STD00207	4/28/2020	**5/27/2020**	RVT

RVT

	TO-15 Custom STD		**20 ng/L**		
Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04282003	20 ng/L	STD00086	4/28/2020	**5/27/2020**	RVT

RVT

	TO-15 Custom STD		**200 ng/L**		
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04282004	200 ng/L	STD00102	4/28/2020	**5/27/2020**	RVT
S34-04282005	200 ng/L	STD00121	4/28/2020	**5/27/2020**	RVT
S34-04282006	200 ng/L	STD00192	4/28/2020	**5/27/2020**	RVT
S34-04282007	200 ng/L	STD00017	4/28/2020	**5/27/2020**	RVT

20

4/28/20 RVT

TO-15 Custom STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04282008	200 ng/L	STD00017	4/28/2020	5/27/2020	RVT

RVT

S34-04282009 TO-15 STD 1000 ng/L ICV/LCS

Pressurized can : STD00136 w/ 531-b111902 To 11 psig RVT

EXP: 5/27/2020

MA

EPA 325B STD	BTEX 1° Working Standard	200 µg/mL
S34-04282010	Expires:	5/12/2020
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 2000µg/mL BTEX stock standard S34-03312005 (expires 5/31/20).		

MA

EPA 325B STD	BTEX 2° Working Standard	200 µg/mL
S34-04282011	Expires:	5/12/2020
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 2000µg/mL BTEX stock standard S34-04142001 (expires 6/14/20).		

4/29/20

TO-15 STD				20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of S34-04202001					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04292001	20 ng/L	STD00007	4/29/20	5/28/20	RVT

RVT

TO-15 STD				1 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 20X dilution of S34-04292001					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04292002	1 ng/L	STD00069	4/29/20	5/28/20	RVT

RVT

TO-15 STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-10111901					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04292003	200 ng/L	STD00088	4/29/20	5/28/20	RVT
S34-04292004	200 ng/L	STD00019	4/29/20	5/28/20	RVT

RVT

TD 4/29/20

TO-15 ICV/LCS STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111902** with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04292005	200 ng/L	STD00099	4/29/20	**5/28/20**	TD

4/30/20 RVT

TO-15 ICV/LCS STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111902** with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04302001	200 ng/L	STD00172	4/30/20	**5/29/20**	RVT
S34-04302002	200 ng/L	STD00205	4/30/20	**5/29/20**	RVT
S34-04302003	200 ng/L	STD00194	4/30/20	**5/29/20**	RVT

RVT

TO-15 Custom ICV/LCS				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251902 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04302004	200 ng/L	STD00150	4/30/2020	**5/29/2020**	RVT
S34-04302005	200 ng/L	STD00100	4/30/2020	**5/29/2020**	RVT
S34-04302006	200 ng/L	STD00006	4/30/2020	**5/29/2020**	RVT

5/1/2020 RVT

TO-15 STD				20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04202001** using 4700 diluter HZA Lot #70086915004					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-05012001	20 ng/L	STD00221	5/1/20	**5/30/20**	RVT

RVT

TO-15 STD				20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of **S31-10111901** using 4700 diluter HZA Lot #70086915004					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-05012002	20 ng/L	STD00113	5/1/20	**5/30/20**	RVT

5/4/2020

M.A.

EPA 325B STD	BTEX 1° Working Standard	20 µg/mL
S34-05052001		Expires: 5/19/2020
Into 1mL mininert vial with 990µL B&J P&T methanol, Lot #DL535, added 10µL 2000µg/mL BTEX Stock standard S34-03312005 (expires 5/31/20).		

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LABORATORY REPORT

May 19, 2020

Pamela Moss
EA Engineering, Science, and Technology, Inc.
7995 E. Prentice Ave, Suite 206E
Greenwood Village, CO 80111

RE: Kirtland AFB Bulk Fuels Facility / 62735DM02

Dear Pamela:

Enclosed are the results of the samples submitted to our laboratory on April 28, 2020. For your reference, these analyses have been assigned our service request number P2002301.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

Kate Kaneko
May 19, 2020, 10:55 am

Kate Kaneko
Project Manager

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

Client: EA Engineering, Science, and Technology, Inc. Service Request No: P2002301
Project: Kirtland AFB Bulk Fuels Facility / 62735DM02

CASE NARRATIVE

The samples were received intact under chain of custody on April 28, 2020 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

Manual integrations were performed on the following sample(s) and analyte(s). Refer to the raw data for additional information.

Sample Identification(s)	Analyte(s)
P2002301-004, 006	acetone
P2002301-004, 006	1,2,4-trimethylbenzene
P2002301-009, 010	propene

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.1 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

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www.alsglobal.com

ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1776326
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-007
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272019-10
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: EA Engineering, Science, and Technology, Inc. Service Request: P2002301
Project ID: Kirtland AFB Bulk Fuels Facility / 62735DM02

Date Received: 4/28/2020
Time Received: 10:15

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	TO-15 - VOC Cans
SV130-050-202	P2002301-001	Air	4/22/2020	10:11	1SS00995	-4.52	5.66	X
SV130-150-202	P2002301-002	Air	4/22/2020	10:14	1SS00718	-5.05	5.58	X
SV130-250-202	P2002301-003	Air	4/22/2020	10:18	1SS00938	-4.41	5.80	X
SV130-350-202	P2002301-004	Air	4/22/2020	10:21	1SC00043	-2.74	6.38	X
SV130-450-602	P2002301-005	Air	4/22/2020	10:30	1SS00126	-2.47	5.98	X
SV130-450-202	P2002301-006	Air	4/22/2020	10:30	1SC00130	-3.12	5.47	X
SVE10-410-202	P2002301-007	Air	4/21/2020	11:16	1SC01237	-4.95	6.02	X
SVE10-410-602	P2002301-008	Air	4/21/2020	11:16	1SC00547	-3.17	5.96	X
SVE11-410-202	P2002301-009	Air	4/21/2020	08:20	1SS00207	-4.05	5.81	X
SVE11-410-602	P2002301-010	Air	4/21/2020	08:20	1SS00793	-3.83	5.27	X
SVE13-410-202	P2002301-011	Air	4/21/2020	13:59	1SS00246	-3.89	5.50	X
SV01-050-202	P2002301-012	Air	4/21/2020	09:34	1SS00723	-3.02	6.61	X
SV01-100-202	P2002301-013	Air	4/21/2020	09:37	1SC00588	-3.12	6.67	X
SV01-250-202	P2002301-014	Air	4/21/2020	09:42	1SC00926	-2.70	6.39	X
SV01-300-202	P2002301-015	Air	4/21/2020	09:46	1SC00975	-3.55	5.98	X
SV02-050-202	P2002301-016	Air	4/21/2020	07:58	1SS00911	-3.59	5.67	X
SV02-100-202	P2002301-017	Air	4/21/2020	08:03	1SS00787	-2.90	5.47	X
SV02-150-202	P2002301-018	Air	4/21/2020	08:13	1SS00915	-3.53	5.41	X
SV02-150-602	P2002301-019	Air	4/21/2020	08:13	1SC00978	-2.15	7.89	X
SV05-050-602	P2002301-020	Air	4/21/2020	08:46	1SS01047	-2.95	5.48	X

Air - Chain of Custody Record & Analytical Service Request

Page 1 of 2

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

COC #: **COC-SV202-15**

Requested Turnaround Time in Business Days: 10 Day-Standard

ALS Project No: P002301

Company Name & Address (Reporting Information): EA Engineering, Science, and Technology, Inc., PBC
225 Schilling Circle Suite 400, Hunt Valley, MD
(410) 584-7000

Project Name: Kirtland AFB Bulk Fuels Faciltiy

Project Number: 62735DM02

Project Manager / Project Chemist: Bernie Bockish (505) 234-1105 / Pam Moss (303) 590-9143

P.O. # / Billing Information: 17682

Email Address for Result Reporting:
Tara Lamond: tlamond@eaest.com
Amanda Smith: asmith@eaest.com
Pam Moss: pmoss@eaest.com

Sampler (Print & Sign): Ryan Wolfram

ALS Contact: Kate Kaneko
1 (805) 577-2089

Analysis Method

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg	Sample Volume	TO-15 Project Specific List	Comments e.g. Actual Preservative or specific instructions
SV130-050-202	1	4/22/2020	1011	SS00995	NA	-24.0	-4.0	1L	X	None
SV130-150-202	2	4/22/2020	1014	SS00718	NA	-25.0	-5.0	1L	X	None
SV130-250-202	3	4/22/2020	1018	SS00938	NA	-27.0	-5.0	1L	X	None
SV130-350-202	4	4/22/2020	1021	SC00043	NA	-27.0	-2.0	1L	X	None
SV130-450-602	5	4/22/2020	1030	SS00126	NA	-24.5	0.0	1L	X	None
SV130-450-202	6	4/22/2020	1030	SC00130	NA	-25.0	-2.5	1L	X	None
SVE10-410-202	7	4/21/2020	1116	SC01237	AVG05107	-24.0	-4.5	1L	X	None
SVE10-410-602	8	4/21/2020	1116	SC00547	NA	-26.5	-2.0	1L	X	None
SVE11-410-202	9	4/21/2020	0820	SS00207	NA	-25.0	-4.0	1L	X	None
SVE11-410-602	10	4/21/2020	0820	SS00793	AVG05043	-26.0	-4.5	1L	X	None

FedEX Tracking Number: 1028 3397 0824

Associated with Trip blank: SVTB-202-03

Shipping Information: Box number 3 of 4

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____ Tier III (Results + QC & Calibration Summaries) ____
Tier II (Results + QC Summaries) ____ Tier IV (Data Validation Package) X

EDD required: Yes
Type: ERPIMS / EQuIS

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements: QAPP

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
	4/23/20	0900			
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date: 4-28-20	Time: 1015

Cooler / Blank Temperature NA °C

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

COC #: COC-SV202-15

Requested Turnaround Time In Business Days: 10 Day-Standard

ALS Project No. R2002301

Company Name & Address (Reporting Information): EA Engineering, Science, and Technology, Inc., PBC, 225 Schilling Circle Suite 400, Hunt Valley, MD (410) 584-7000

Project Name: Kirtland AFB Bulk Fuels Facility

Project Number: 62735DM02

P.O. # / Billing Information: 17682

Project Manager / Project Chemist: Bernie Bockish (505) 234-1105 / Pam Moss (303) 590-9143

Email Address for Result Reporting: Tara Lamond: tlamond@eaest.com; Amanda Smith: asmith@eaest.com; Pam Moss: pmoss@eaest.com

Sampler (Print & Sign): Ryan Wortman

ALS Contact: Kate Kaneko 1 (805) 577-2089

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg	Sample Volume	Analysis Method: TO-15 Project Specific List	Comments e.g. Actual Preservative or specific instructions
SVE13-410-202	11	4/21/2020	1359	ISS00246	NA	-25.0	-3.0	1L	X	None
SV01-050-202	12	4/21/2020	0934	ISS00723	NA	-28.0	-4.0	1L	X	None
SV01-100-202	13	4/21/2020	0937	ISC00588	NA	-24.5	-2.0	1L	X	None
SV01-250-202	14	4/21/2020	0942	ISC00926	AVG04735	-26.5	-2.0	1L	X	None
SV01-300-202	15	4/21/2020	0946	ISC00975	NA	-25.0	-2.0	1L	X	None
SV02-050-202	16	4/21/2020	0758	ISS00911	NA	-26.5	-5.0	1L	X	None
SV02-100-202	17	4/21/2020	0803	ISS00787	AVG04242	-26.0	-2.5	1L	X	None
SV02-150-202	18	4/21/2020	0813	ISS00915	NA	-25.5	-3.5	1L	X	None
SV02-150-602	19 20	4/21/2020	0813	ISC00978	AVG0436#	-26.0	-2.5	1L	X	None
SV05-050-602		4/21/2020	0846	ISS01047	NA	-25.0	-2.0	1L	X	None

FedEx Tracking Number: 1028 3397 0824

Associated with Trip blank: SVTB-202-03

Shipping information: Box number 3 of 4

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____ Tier II (Results + QC Summaries) ____ Tier III (Results + QC & Calibration Summaries) ____ Tier IV (Data Validation Package) X

EDD required: Yes
Type: ERPIMS / EQuIS

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements: QAPP

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Ryan	4/23/20	0900			
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
				4-28-20	1018

Cooler / Blank Temperature NA °C

ALS Environmental

Sample Acceptance Check Form

Client: EA Engineering, Science, and Technology, Inc. Work order: P2002301

Project: Kirtland AFB Bulk Fuels Facility / 62735DM02

Sample(s) received on: 04/28/20 Date opened: 04/28/20 by: DENISE.POSADA

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☒	☐	☐
	Location of seal(s)? Box sealing. Sealing Lid?	☒	☐	☐
	Were signature and date included?	☒	☐	☐
	Were seals intact?	☒	☐	☐
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2002301-001.01	1.0 L Source Silonite Canister					
P2002301-002.01	1.0 L Source Silonite Canister					
P2002301-003.01	1.0 L Source Silonite Canister					
P2002301-004.01	1.0 L Source Can					
P2002301-005.01	1.0 L Source Silonite Canister					
P2002301-006.01	1.0 L Source Can					
P2002301-007.01	1.0 L Source Can					
P2002301-008.01	1.0 L Source Can					
P2002301-009.01	1.0 L Source Silonite Canister					
P2002301-010.01	1.0 L Source Silonite Canister					
P2002301-011.01	1.0 L Source Silonite Canister					
P2002301-012.01	1.0 L Source Silonite Canister					
P2002301-013.01	1.0 L Source Can					
P2002301-014.01	1.0 L Source Can					
P2002301-015.01	1.0 L Source Can					

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS Environmental

Sample Acceptance Check Form

Client: EA Engineering, Science, and Technology, Inc. Work order: P2002301

Project: Kirtland AFB Bulk Fuels Facility / 62735DM02

Sample(s) received on: 04/28/20 Date opened: 04/28/20 by: DENISE.POSADA

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2002301-016.01	1.0 L Source Silonite Canister					
P2002301-017.01	1.0 L Source Silonite Canister					
P2002301-018.01	1.0 L Source Silonite Canister					
P2002301-019.01	1.0 L Source Can					
P2002301-020.01	1.0 L Source Silonite Canister					

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV130-050-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-001

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/13/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00995

Initial Pressure (psig): -4.52 Final Pressure (psig): 5.66

Container Dilution Factor: 2.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.93	1.5	0.93	0.38	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.92**	0.54	0.32	0.088	
74-87-3	Chloromethane	0.78	1.3	0.78	0.21	**U**
75-01-4	Vinyl Chloride	0.33	1.1	0.33	0.11	**U**
106-99-0	1,3-Butadiene	0.72	1.2	0.72	0.20	**U**
75-00-3	Chloroethane	0.61	1.0	0.61	0.13	**U**
64-17-5	Ethanol	**2.1**	14	2.2	0.98	**J, B**
67-64-1	Acetone	**5.5**	11	5.7	2.5	**J**
75-69-4	Trichlorofluoromethane	**0.22**	0.47	0.28	0.072	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.49**	4.3	1.3	0.45	**J**
75-09-2	Methylene Chloride	0.46	0.76	0.46	0.22	**U**
76-13-1	Trichlorotrifluoroethane	**0.73**	0.35	0.11	0.050	
75-15-0	Carbon Disulfide	**0.53**	1.8	0.87	0.26	**J**
75-34-3	1,1-Dichloroethane	0.41	0.68	0.41	0.096	**U**
78-93-3	2-Butanone (MEK)	**0.82**	1.9	0.54	0.19	**J**
141-78-6	Ethyl Acetate	0.90	1.5	0.90	0.39	**U**
110-54-3	n-Hexane	**0.37**	0.77	0.45	0.16	**J**
67-66-3	Chloroform	**0.24**	0.55	0.17	0.073	**J**
109-99-9	Tetrahydrofuran (THF)	**22**	0.93	0.29	0.11	
107-06-2	1,2-Dichloroethane	0.21	0.67	0.21	0.073	**U**
71-43-2	Benzene	**0.39**	0.83	0.27	0.12	**J**
56-23-5	Carbon Tetrachloride	**0.19**	0.42	0.14	0.059	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV130-050-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-001

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/13/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00995

Initial Pressure (psig): -4.52 Final Pressure (psig): 5.66

Container Dilution Factor: 2.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**0.35**	1.6	0.49	0.22	**J**
75-27-4	Bromodichloromethane	0.13	0.40	0.13	0.057	**U**
79-01-6	Trichloroethene	**1.1**	0.50	0.16	0.067	
123-91-1	1,4-Dioxane	0.24	0.75	0.24	0.087	**U**
142-82-5	n-Heptane	**0.36**	0.66	0.39	0.10	**J**
108-10-1	4-Methyl-2-pentanone	0.21	0.65	0.21	0.089	**U**
108-88-3	Toluene	**0.55**	0.72	0.23	0.086	**J**
591-78-6	2-Hexanone	0.21	0.66	0.21	0.081	**U**
124-48-1	Dibromochloromethane	0.10	0.32	0.10	0.041	**U**
106-93-4	1,2-Dibromoethane	0.11	0.35	0.11	0.040	**U**
127-18-4	Tetrachloroethene	**0.45**	0.38	0.13	0.051	
100-41-4	Ethylbenzene	0.20	0.62	0.20	0.086	**U**
179601-23-1	m,p-Xylenes	**0.26**	1.3	0.39	0.16	**J**
75-25-2	Bromoform	0.15	0.26	0.15	0.053	**U**
100-42-5	Styrene	0.38	0.62	0.38	0.10	**U**
95-47-6	o-Xylene	**0.20**	0.62	0.20	0.089	**J**
108-67-8	1,3,5-Trimethylbenzene	0.17	0.54	0.17	0.078	**U**
95-63-6	1,2,4-Trimethylbenzene	0.17	0.55	0.17	0.075	**U**
120-82-1	1,2,4-Trichlorobenzene	0.22	0.36	0.22	0.088	**U**
91-20-3	Naphthalene	0.30	0.50	0.30	0.12	**U**
1330-20-7	Xylenes, Total	**0.47**	1.3	0.39	0.16	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV130-150-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-002

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00718

Initial Pressure (psig): -5.05 Final Pressure (psig): 5.58

Container Dilution Factor: 2.10

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.98	1.6	0.98	0.40	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.93**	0.56	0.34	0.092	
74-87-3	Chloromethane	0.81	1.3	0.81	0.22	**U**
75-01-4	Vinyl Chloride	0.35	1.1	0.35	0.12	**U**
106-99-0	1,3-Butadiene	0.76	1.3	0.76	0.21	**U**
75-00-3	Chloroethane	0.64	1.1	0.64	0.13	**U**
64-17-5	Ethanol	**1.7**	14	2.3	1.0	**J, B**
67-64-1	Acetone	**3.2**	12	6.0	2.7	**J**
75-69-4	Trichlorofluoromethane	**0.20**	0.50	0.30	0.076	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.3	4.5	1.3	0.47	**U**
75-09-2	Methylene Chloride	0.48	0.80	0.48	0.23	**U**
76-13-1	Trichlorotrifluoroethane	**0.94**	0.37	0.12	0.052	
75-15-0	Carbon Disulfide	**2.0**	1.9	0.91	0.27	
75-34-3	1,1-Dichloroethane	0.43	0.71	0.43	0.10	**U**
78-93-3	2-Butanone (MEK)	**0.33**	2.0	0.57	0.20	**J**
141-78-6	Ethyl Acetate	0.95	1.6	0.95	0.41	**U**
110-54-3	n-Hexane	**0.68**	0.80	0.48	0.16	**J**
67-66-3	Chloroform	0.18	0.58	0.18	0.076	**U**
109-99-9	Tetrahydrofuran (THF)	**1.9**	0.98	0.30	0.12	
107-06-2	1,2-Dichloroethane	0.22	0.70	0.22	0.077	**U**
71-43-2	Benzene	**0.75**	0.87	0.28	0.13	**J**
56-23-5	Carbon Tetrachloride	**0.17**	0.44	0.14	0.062	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV130-150-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-002

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00718

Initial Pressure (psig): -5.05 Final Pressure (psig): 5.58

Container Dilution Factor: 2.10

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**0.75**	1.7	0.52	0.23	**J**
75-27-4	Bromodichloromethane	0.13	0.42	0.13	0.060	**U**
79-01-6	Trichloroethene	**0.89**	0.53	0.17	0.070	
123-91-1	1,4-Dioxane	0.25	0.79	0.25	0.092	**U**
142-82-5	n-Heptane	**0.69**	0.69	0.41	0.11	**J**
108-10-1	4-Methyl-2-pentanone	0.22	0.68	0.22	0.094	**U**
108-88-3	Toluene	**1.1**	0.75	0.24	0.091	
591-78-6	2-Hexanone	0.22	0.69	0.22	0.085	**U**
124-48-1	Dibromochloromethane	0.10	0.33	0.10	0.043	**U**
106-93-4	1,2-Dibromoethane	0.12	0.37	0.12	0.042	**U**
127-18-4	Tetrachloroethene	**1.3**	0.40	0.13	0.053	
100-41-4	Ethylbenzene	0.21	0.65	0.21	0.091	**U**
179601-23-1	m,p-Xylenes	**0.45**	1.3	0.41	0.17	**J**
75-25-2	Bromoform	0.16	0.27	0.16	0.056	**U**
100-42-5	Styrene	0.39	0.65	0.39	0.11	**U**
95-47-6	o-Xylene	**0.30**	0.65	0.21	0.093	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.096**	0.57	0.18	0.082	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.10**	0.58	0.18	0.079	**J**
120-82-1	1,2,4-Trichlorobenzene	0.23	0.38	0.23	0.092	**U**
91-20-3	Naphthalene	0.31	0.52	0.31	0.13	**U**
1330-20-7	Xylenes, Total	**0.75**	1.3	0.41	0.17	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV130-250-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-003

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00938

Initial Pressure (psig): -4.41 Final Pressure (psig): 5.80

Container Dilution Factor: 1.99

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.93	1.5	0.93	0.38	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.48**	0.53	0.32	0.088	**J**
74-87-3	Chloromethane	0.77	1.3	0.77	0.21	**U**
75-01-4	Vinyl Chloride	0.33	1.1	0.33	0.11	**U**
106-99-0	1,3-Butadiene	0.72	1.2	0.72	0.20	**U**
75-00-3	Chloroethane	0.60	1.0	0.60	0.12	**U**
64-17-5	Ethanol	**2.0**	14	2.2	0.98	**J, B**
67-64-1	Acetone	**2.9**	11	5.7	2.5	**J**
75-69-4	Trichlorofluoromethane	**0.16**	0.47	0.28	0.072	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.3	4.3	1.3	0.45	**U**
75-09-2	Methylene Chloride	0.46	0.76	0.46	0.21	**U**
76-13-1	Trichlorotrifluoroethane	**0.92**	0.35	0.11	0.049	
75-15-0	Carbon Disulfide	**3.0**	1.8	0.86	0.26	
75-34-3	1,1-Dichloroethane	0.41	0.68	0.41	0.096	**U**
78-93-3	2-Butanone (MEK)	0.54	1.9	0.54	0.19	**U**
141-78-6	Ethyl Acetate	0.90	1.5	0.90	0.39	**U**
110-54-3	n-Hexane	0.45	0.76	0.45	0.16	**U**
67-66-3	Chloroform	**0.072**	0.55	0.17	0.072	**J**
109-99-9	Tetrahydrofuran (THF)	**1.4**	0.93	0.29	0.11	
107-06-2	1,2-Dichloroethane	0.21	0.66	0.21	0.073	**U**
71-43-2	Benzene	**0.19**	0.83	0.26	0.12	**J**
56-23-5	Carbon Tetrachloride	**0.22**	0.42	0.13	0.059	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV130-250-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-003

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00938

Initial Pressure (psig): -4.41 Final Pressure (psig): 5.80

Container Dilution Factor: 1.99

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.49	1.6	0.49	0.22	**U**
75-27-4	Bromodichloromethane	0.13	0.40	0.13	0.057	**U**
79-01-6	Trichloroethene	**5.1**	0.50	0.16	0.067	
123-91-1	1,4-Dioxane	0.23	0.75	0.23	0.087	**U**
142-82-5	n-Heptane	**0.11**	0.66	0.39	0.10	**J**
108-10-1	4-Methyl-2-pentanone	0.21	0.64	0.21	0.089	**U**
108-88-3	Toluene	**0.36**	0.71	0.22	0.086	**J**
591-78-6	2-Hexanone	0.21	0.66	0.21	0.080	**U**
124-48-1	Dibromochloromethane	0.099	0.32	0.099	0.041	**U**
106-93-4	1,2-Dibromoethane	0.11	0.35	0.11	0.040	**U**
127-18-4	Tetrachloroethene	**1.4**	0.38	0.12	0.051	
100-41-4	Ethylbenzene	0.19	0.62	0.19	0.086	**U**
179601-23-1	m,p-Xylenes	0.39	1.3	0.39	0.16	**U**
75-25-2	Bromoform	0.15	0.26	0.15	0.053	**U**
100-42-5	Styrene	0.37	0.62	0.37	0.10	**U**
95-47-6	o-Xylene	0.19	0.62	0.19	0.088	**U**
108-67-8	1,3,5-Trimethylbenzene	0.17	0.54	0.17	0.078	**U**
95-63-6	1,2,4-Trimethylbenzene	0.17	0.55	0.17	0.075	**U**
120-82-1	1,2,4-Trichlorobenzene	0.21	0.36	0.21	0.087	**U**
91-20-3	Naphthalene	0.29	0.49	0.29	0.12	**U**
1330-20-7	Xylenes, Total	0.39	1.3	0.39	0.16	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV130-350-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-004

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00043

Initial Pressure (psig): -2.74 Final Pressure (psig): 6.38

Container Dilution Factor: 1.76

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**2.3**	1.4	0.82	0.33	
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.36**	0.47	0.28	0.077	**J**
74-87-3	Chloromethane	**1.5**	1.1	0.68	0.18	
75-01-4	Vinyl Chloride	0.29	0.93	0.29	0.098	**U**
106-99-0	1,3-Butadiene	0.64	1.1	0.64	0.18	**U**
75-00-3	Chloroethane	**0.26**	0.90	0.53	0.11	**J**
64-17-5	Ethanol	**3.8**	12	1.9	0.86	**J, B**
67-64-1	Acetone	**15**	9.8	5.0	2.2	
75-69-4	Trichlorofluoromethane	**0.16**	0.42	0.25	0.063	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**4.2**	3.8	1.1	0.39	
75-09-2	Methylene Chloride	0.41	0.67	0.41	0.19	**U**
76-13-1	Trichlorotrifluoroethane	**0.19**	0.31	0.098	0.044	**J**
75-15-0	Carbon Disulfide	**6.7**	1.6	0.76	0.23	
75-34-3	1,1-Dichloroethane	0.36	0.60	0.36	0.085	**U**
78-93-3	2-Butanone (MEK)	**9.4**	1.6	0.48	0.16	
141-78-6	Ethyl Acetate	**0.89**	1.3	0.79	0.34	**J**
110-54-3	n-Hexane	**0.16**	0.67	0.40	0.14	**J**
67-66-3	Chloroform	**0.29**	0.49	0.15	0.064	**J**
109-99-9	Tetrahydrofuran (THF)	**5.1**	0.82	0.25	0.10	
107-06-2	1,2-Dichloroethane	0.18	0.59	0.18	0.064	**U**
71-43-2	Benzene	**0.45**	0.73	0.23	0.11	**J**
56-23-5	Carbon Tetrachloride	**0.13**	0.37	0.12	0.052	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV130-350-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-004

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00043

Initial Pressure (psig): -2.74 Final Pressure (psig): 6.38

Container Dilution Factor: 1.76

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.43	1.4	0.43	0.19	**U**
75-27-4	Bromodichloromethane	0.11	0.35	0.11	0.051	**U**
79-01-6	Trichloroethene	**0.93**	0.44	0.14	0.059	
123-91-1	1,4-Dioxane	**0.15**	0.66	0.21	0.077	**J**
142-82-5	n-Heptane	**0.15**	0.58	0.34	0.091	**J**
108-10-1	4-Methyl-2-pentanone	**0.24**	0.57	0.18	0.078	**J**
108-88-3	Toluene	**1.2**	0.63	0.20	0.076	
591-78-6	2-Hexanone	**0.38**	0.58	0.18	0.071	**J**
124-48-1	Dibromochloromethane	0.088	0.28	0.088	0.036	**U**
106-93-4	1,2-Dibromoethane	0.097	0.31	0.097	0.036	**U**
127-18-4	Tetrachloroethene	**0.31**	0.34	0.11	0.045	**J**
100-41-4	Ethylbenzene	**0.088**	0.55	0.17	0.076	**J**
179601-23-1	m,p-Xylenes	**0.31**	1.1	0.34	0.14	**J**
75-25-2	Bromoform	0.14	0.23	0.14	0.047	**U**
100-42-5	Styrene	0.33	0.55	0.33	0.089	**U**
95-47-6	o-Xylene	**0.14**	0.55	0.17	0.078	**J**
108-67-8	1,3,5-Trimethylbenzene	0.15	0.47	0.15	0.069	**U**
95-63-6	1,2,4-Trimethylbenzene	**0.082**	0.48	0.15	0.066	**J**
120-82-1	1,2,4-Trichlorobenzene	0.19	0.32	0.19	0.077	**U**
91-20-3	Naphthalene	0.26	0.44	0.26	0.11	**U**
1330-20-7	Xylenes, Total	**0.45**	1.1	0.34	0.14	**J**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV130-450-602** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-005

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SS00126

Initial Pressure (psig): -2.47 Final Pressure (psig): 5.98

Container Dilution Factor: 1.69

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**13**	26	16	6.4	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	5.5	9.1	5.5	1.5	**U**
74-87-3	Chloromethane	**8.0**	22	13	3.5	**J**
75-01-4	Vinyl Chloride	5.6	18	5.6	1.9	**U**
106-99-0	1,3-Butadiene	12	20	12	3.4	**U**
75-00-3	Chloroethane	10	17	10	2.1	**U**
64-17-5	Ethanol	**52**	230	37	17	**J, B**
67-64-1	Acetone	96	190	96	43	**U**
75-69-4	Trichlorofluoromethane	4.8	8.0	4.8	1.2	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	**39**	72	22	7.6	**J**
75-09-2	Methylene Chloride	7.8	13	7.8	3.6	**U**
76-13-1	Trichlorotrifluoroethane	1.9	6.0	1.9	0.84	**U**
75-15-0	Carbon Disulfide	**22**	30	15	4.3	**J**
75-34-3	1,1-Dichloroethane	6.9	11	6.9	1.6	**U**
78-93-3	2-Butanone (MEK)	**15**	32	9.2	3.2	**J**
141-78-6	Ethyl Acetate	15	26	15	6.6	**U**
110-54-3	n-Hexane	**24**	13	7.7	2.6	
67-66-3	Chloroform	2.9	9.3	2.9	1.2	**U**
109-99-9	Tetrahydrofuran (THF)	**3.6**	16	4.9	1.9	**J**
107-06-2	1,2-Dichloroethane	3.6	11	3.6	1.2	**U**
71-43-2	Benzene	**310**	14	4.5	2.0	
56-23-5	Carbon Tetrachloride	2.3	7.1	2.3	0.99	**U**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV130-450-602** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-005

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SS00126

Initial Pressure (psig): -2.47 Final Pressure (psig): 5.98

Container Dilution Factor: 1.69

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**42**	27	8.3	3.7	
75-27-4	Bromodichloromethane	2.1	6.8	2.1	0.97	**U**
79-01-6	Trichloroethene	**2.8**	8.5	2.7	1.1	**J**
123-91-1	1,4-Dioxane	4.0	13	4.0	1.5	**U**
142-82-5	n-Heptane	**9.6**	11	6.6	1.8	**J**
108-10-1	4-Methyl-2-pentanone	**5.3**	11	3.5	1.5	**J**
108-88-3	Toluene	**270**	12	3.8	1.5	
591-78-6	2-Hexanone	3.5	11	3.5	1.4	**U**
124-48-1	Dibromochloromethane	1.7	5.4	1.7	0.69	**U**
106-93-4	1,2-Dibromoethane	1.9	5.9	1.9	0.68	**U**
127-18-4	Tetrachloroethene	2.1	6.5	2.1	0.86	**U**
100-41-4	Ethylbenzene	**9.5**	11	3.3	1.5	**J**
179601-23-1	m,p-Xylenes	**23**	21	6.6	2.7	
75-25-2	Bromoform	2.6	4.4	2.6	0.90	**U**
100-42-5	Styrene	6.4	11	6.4	1.7	**U**
95-47-6	o-Xylene	**7.5**	11	3.3	1.5	**J**
108-67-8	1,3,5-Trimethylbenzene	2.9	9.1	2.9	1.3	**U**
95-63-6	1,2,4-Trimethylbenzene	2.9	9.3	2.9	1.3	**U**
120-82-1	1,2,4-Trichlorobenzene	3.6	6.1	3.6	1.5	**U**
91-20-3	Naphthalene	5.0	8.4	5.0	2.1	**U**
1330-20-7	Xylenes, Total	**30**	21	6.6	2.7	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV130-450-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-006

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SC00130

Initial Pressure (psig): -3.12 Final Pressure (psig): 5.47

Container Dilution Factor: 1.74

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**13**	27	16	6.6	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	5.6	9.3	5.6	1.5	**U**
74-87-3	Chloromethane	**8.3**	22	13	3.6	**J**
75-01-4	Vinyl Chloride	5.8	18	5.8	1.9	**U**
106-99-0	1,3-Butadiene	13	21	13	3.5	**U**
75-00-3	Chloroethane	11	18	11	2.2	**U**
64-17-5	Ethanol	38	240	38	17	**U**
67-64-1	Acetone	99	190	99	44	**U**
75-69-4	Trichlorofluoromethane	5.0	8.2	5.0	1.3	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	**48**	74	22	7.8	**J**
75-09-2	Methylene Chloride	8.0	13	8.0	3.8	**U**
76-13-1	Trichlorotrifluoroethane	1.9	6.1	1.9	0.86	**U**
75-15-0	Carbon Disulfide	**23**	31	15	4.5	**J**
75-34-3	1,1-Dichloroethane	7.1	12	7.1	1.7	**U**
78-93-3	2-Butanone (MEK)	**20**	32	9.4	3.2	**J**
141-78-6	Ethyl Acetate	16	27	16	6.8	**U**
110-54-3	n-Hexane	**25**	13	7.9	2.7	
67-66-3	Chloroform	3.0	9.6	3.0	1.3	**U**
109-99-9	Tetrahydrofuran (THF)	**3.5**	16	5.0	2.0	**J**
107-06-2	1,2-Dichloroethane	3.7	12	3.7	1.3	**U**
71-43-2	Benzene	**320**	14	4.6	2.1	
56-23-5	Carbon Tetrachloride	2.4	7.3	2.4	1.0	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV130-450-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-006

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SC00130

Initial Pressure (psig): -3.12 Final Pressure (psig): 5.47

Container Dilution Factor: 1.74

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**43**	28	8.6	3.8	
75-27-4	Bromodichloromethane	2.2	7.0	2.2	1.0	**U**
79-01-6	Trichloroethene	**2.8**	8.7	2.8	1.2	**J**
123-91-1	1,4-Dioxane	4.1	13	4.1	1.5	**U**
142-82-5	n-Heptane	**13**	11	6.8	1.8	
108-10-1	4-Methyl-2-pentanone	**3.4**	11	3.6	1.6	**J**
108-88-3	Toluene	**280**	12	3.9	1.5	
591-78-6	2-Hexanone	3.6	11	3.6	1.4	**U**
124-48-1	Dibromochloromethane	1.7	5.5	1.7	0.72	**U**
106-93-4	1,2-Dibromoethane	1.9	6.1	1.9	0.70	**U**
127-18-4	Tetrachloroethene	2.2	6.7	2.2	0.89	**U**
100-41-4	Ethylbenzene	**11**	11	3.4	1.5	**J**
179601-23-1	m,p-Xylenes	**26**	22	6.8	2.8	
75-25-2	Bromoform	2.7	4.5	2.7	0.93	**U**
100-42-5	Styrene	6.5	11	6.5	1.8	**U**
95-47-6	o-Xylene	**8.4**	11	3.4	1.5	**J**
108-67-8	1,3,5-Trimethylbenzene	**1.5**	9.4	3.0	1.4	**J**
95-63-6	1,2,4-Trimethylbenzene	**1.8**	9.6	3.0	1.3	**J**
120-82-1	1,2,4-Trichlorobenzene	3.8	6.3	3.8	1.5	**U**
91-20-3	Naphthalene	5.1	8.6	5.1	2.2	**U**
1330-20-7	Xylenes, Total	**34**	22	6.8	2.8	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVE10-410-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-007

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.080 Liter(s)
Test Notes:
Container ID: 1SC01237

Initial Pressure (psig): -4.95 Final Pressure (psig): 6.02

Container Dilution Factor: 2.13

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**8.8**	8.2	5.0	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.7**	2.9	1.7	0.47	**J**
74-87-3	Chloromethane	**25**	6.8	4.1	1.1	
75-01-4	Vinyl Chloride	**1.4**	5.6	1.8	0.59	**J**
106-99-0	1,3-Butadiene	3.9	6.4	3.9	1.1	**U**
75-00-3	Chloroethane	3.2	5.5	3.2	0.67	**U**
64-17-5	Ethanol	12	74	12	5.2	**U**
67-64-1	Acetone	**24**	59	30	13	**J**
75-69-4	Trichlorofluoromethane	**0.45**	2.5	1.5	0.38	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	6.8	23	6.8	2.4	**U**
75-09-2	Methylene Chloride	2.5	4.1	2.5	1.2	**U**
76-13-1	Trichlorotrifluoroethane	**120**	1.9	0.59	0.26	
75-15-0	Carbon Disulfide	**7.4**	9.4	4.6	1.4	**J**
75-34-3	1,1-Dichloroethane	2.2	3.6	2.2	0.51	**U**
78-93-3	2-Butanone (MEK)	**2.1**	9.9	2.9	0.99	**J**
141-78-6	Ethyl Acetate	4.8	8.1	4.8	2.1	**U**
110-54-3	n-Hexane	**37**	4.1	2.4	0.83	
67-66-3	Chloroform	**1.1**	2.9	0.93	0.39	**J**
109-99-9	Tetrahydrofuran (THF)	**83**	5.0	1.5	0.61	
107-06-2	1,2-Dichloroethane	**0.43**	3.6	1.1	0.39	**J**
71-43-2	Benzene	**180**	4.4	1.4	0.64	
56-23-5	Carbon Tetrachloride	**2.1**	2.2	0.72	0.31	**J**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVE10-410-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-007

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.080 Liter(s)
Test Notes:
Container ID: 1SC01237

Initial Pressure (psig): -4.95 Final Pressure (psig): 6.02

Container Dilution Factor: 2.13

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**14**	8.5	2.6	1.2	
75-27-4	Bromodichloromethane	0.68	2.1	0.68	0.31	**U**
79-01-6	Trichloroethene	**7.6**	2.7	0.84	0.36	
123-91-1	1,4-Dioxane	1.3	4.0	1.3	0.47	**U**
142-82-5	n-Heptane	**14**	3.5	2.1	0.55	
108-10-1	4-Methyl-2-pentanone	1.1	3.4	1.1	0.47	**U**
108-88-3	Toluene	**670**	3.8	1.2	0.46	
591-78-6	2-Hexanone	1.1	3.5	1.1	0.43	**U**
124-48-1	Dibromochloromethane	0.53	1.7	0.53	0.22	**U**
106-93-4	1,2-Dibromoethane	0.59	1.9	0.59	0.21	**U**
127-18-4	Tetrachloroethene	**1.9**	2.0	0.67	0.27	**J**
100-41-4	Ethylbenzene	**11**	3.3	1.0	0.46	
179601-23-1	m,p-Xylenes	**40**	6.7	2.1	0.86	
75-25-2	Bromoform	0.82	1.4	0.82	0.28	**U**
100-42-5	Styrene	2.0	3.3	2.0	0.54	**U**
95-47-6	o-Xylene	**10**	3.3	1.0	0.47	
108-67-8	1,3,5-Trimethylbenzene	**1.0**	2.9	0.92	0.42	**J**
95-63-6	1,2,4-Trimethylbenzene	**1.6**	2.9	0.92	0.40	**J**
120-82-1	1,2,4-Trichlorobenzene	1.1	1.9	1.1	0.47	**U**
91-20-3	Naphthalene	1.6	2.6	1.6	0.66	**U**
1330-20-7	Xylenes, Total	**50**	6.7	2.1	0.86	

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVE10-410-602** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-008

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.080 Liter(s)
Test Notes: 0.020 Liter(s)
Container ID: 1SC00547

Initial Pressure (psig): -3.17 Final Pressure (psig): 5.96

Container Dilution Factor: 1.79

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**8.7**	6.9	4.2	1.7	
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.8**	2.4	1.4	0.39	**J**
74-87-3	Chloromethane	**25**	5.7	3.5	0.93	
75-01-4	Vinyl Chloride	**1.6**	4.7	1.5	0.50	**J**
106-99-0	1,3-Butadiene	3.2	5.4	3.2	0.89	**U**
75-00-3	Chloroethane	2.7	4.6	2.7	0.56	**U**
64-17-5	Ethanol	9.9	62	9.9	4.4	**U**
67-64-1	Acetone	**32**	50	25	11	**J**
75-69-4	Trichlorofluoromethane	**0.45**	2.1	1.3	0.32	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	5.7	19	5.7	2.0	**U**
75-09-2	Methylene Chloride	2.1	3.4	2.1	0.97	**U**
76-13-1	Trichlorotrifluoroethane	**120**	1.6	0.50	0.22	
75-15-0	Carbon Disulfide	**7.9**	7.9	3.9	1.2	
75-34-3	1,1-Dichloroethane	1.8	3.0	1.8	0.43	**U**
78-93-3	2-Butanone (MEK)	**2.7**	8.3	2.4	0.83	**J**
141-78-6	Ethyl Acetate	4.0	6.8	4.0	1.7	**U**
110-54-3	n-Hexane	**38**	3.4	2.0	0.70	
67-66-3	Chloroform	**1.1**	2.5	0.78	0.33	**J**
109-99-9	Tetrahydrofuran (THF)	**90**	4.2	1.3	0.51	
107-06-2	1,2-Dichloroethane	**0.46**	3.0	0.94	0.33	**J**
71-43-2	Benzene	**190**	3.7	1.2	0.54	
56-23-5	Carbon Tetrachloride	**2.1**	1.9	0.60	0.26	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVE10-410-602** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-008

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.080 Liter(s)
Test Notes: 0.020 Liter(s)
Container ID: 1SC00547

Initial Pressure (psig): -3.17 Final Pressure (psig): 5.96

Container Dilution Factor: 1.79

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**15**	7.2	2.2	0.98	
75-27-4	Bromodichloromethane	0.57	1.8	0.57	0.26	**U**
79-01-6	Trichloroethene	**7.6**	2.2	0.71	0.30	
123-91-1	1,4-Dioxane	1.1	3.4	1.1	0.39	**U**
142-82-5	n-Heptane	**14**	2.9	1.7	0.46	
108-10-1	4-Methyl-2-pentanone	0.93	2.9	0.93	0.40	**U**
108-88-3	Toluene	**630**	13	4.0	1.5	**D**
591-78-6	2-Hexanone	0.93	3.0	0.93	0.36	**U**
124-48-1	Dibromochloromethane	0.45	1.4	0.45	0.18	**U**
106-93-4	1,2-Dibromoethane	0.50	1.6	0.50	0.18	**U**
127-18-4	Tetrachloroethene	**1.6**	1.7	0.56	0.23	**J**
100-41-4	Ethylbenzene	**11**	2.8	0.88	0.39	
179601-23-1	m,p-Xylenes	**43**	5.7	1.8	0.72	
75-25-2	Bromoform	0.69	1.2	0.69	0.24	**U**
100-42-5	Styrene	1.7	2.8	1.7	0.45	**U**
95-47-6	o-Xylene	**11**	2.8	0.88	0.40	
108-67-8	1,3,5-Trimethylbenzene	**1.7**	2.4	0.77	0.35	**J**
95-63-6	1,2,4-Trimethylbenzene	**4.8**	2.5	0.77	0.34	
120-82-1	1,2,4-Trichlorobenzene	0.96	1.6	0.96	0.39	**U**
91-20-3	Naphthalene	**0.61**	2.2	1.3	0.56	**J**
1330-20-7	Xylenes, Total	**54**	5.7	1.8	0.72	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVE11-410-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-009

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/13/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0040 Liter(s)
Test Notes:
Container ID: 1SS00207

Initial Pressure (psig): -4.05 Final Pressure (psig): 5.81

Container Dilution Factor: 1.93

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**180**	150	90	36	
75-71-8	Dichlorodifluoromethane (CFC 12)	31	52	31	8.5	**U**
74-87-3	Chloromethane	**31**	120	75	20	**J**
75-01-4	Vinyl Chloride	32	100	32	11	**U**
106-99-0	1,3-Butadiene	70	120	70	19	**U**
75-00-3	Chloroethane	59	99	59	12	**U**
64-17-5	Ethanol	**240**	1,300	210	95	**J, B**
67-64-1	Acetone	550	1,100	550	240	**U**
75-69-4	Trichlorofluoromethane	27	46	27	7.0	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	120	410	120	43	**U**
75-09-2	Methylene Chloride	44	74	44	21	**U**
76-13-1	Trichlorotrifluoroethane	11	34	11	4.8	**U**
75-15-0	Carbon Disulfide	84	170	84	25	**U**
75-34-3	1,1-Dichloroethane	39	66	39	9.3	**U**
78-93-3	2-Butanone (MEK)	52	180	52	18	**U**
141-78-6	Ethyl Acetate	87	150	87	38	**U**
110-54-3	n-Hexane	**740**	74	44	15	
67-66-3	Chloroform	17	53	17	7.0	**U**
109-99-9	Tetrahydrofuran (THF)	**45**	90	28	11	**J**
107-06-2	1,2-Dichloroethane	20	64	20	7.0	**U**
71-43-2	Benzene	**2,700**	80	26	12	
56-23-5	Carbon Tetrachloride	13	41	13	5.7	**U**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVE11-410-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-009

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/13/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0040 Liter(s)
Test Notes:
Container ID: 1SS00207

Initial Pressure (psig): -4.05 Final Pressure (psig): 5.81

Container Dilution Factor: 1.93

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**2,800**	150	48	21	
75-27-4	Bromodichloromethane	12	39	12	5.5	**U**
79-01-6	Trichloroethene	**6.7**	49	15	6.5	**J**
123-91-1	1,4-Dioxane	23	72	23	8.4	**U**
142-82-5	n-Heptane	**840**	64	38	10	
108-10-1	4-Methyl-2-pentanone	20	62	20	8.6	**U**
108-88-3	Toluene	**5,400**	69	22	8.3	
591-78-6	2-Hexanone	20	64	20	7.8	**U**
124-48-1	Dibromochloromethane	9.6	31	9.6	4.0	**U**
106-93-4	1,2-Dibromoethane	11	34	11	3.9	**U**
127-18-4	Tetrachloroethene	**6.4**	37	12	4.9	**J**
100-41-4	Ethylbenzene	**260**	60	19	8.3	
179601-23-1	m,p-Xylenes	**2,000**	120	38	16	
75-25-2	Bromoform	15	25	15	5.1	**U**
100-42-5	Styrene	36	60	36	9.7	**U**
95-47-6	o-Xylene	**570**	60	19	8.6	
108-67-8	1,3,5-Trimethylbenzene	**110**	52	17	7.6	
95-63-6	1,2,4-Trimethylbenzene	**74**	53	17	7.3	
120-82-1	1,2,4-Trichlorobenzene	21	35	21	8.5	**U**
91-20-3	Naphthalene	29	48	29	12	**U**
1330-20-7	Xylenes, Total	**2,500**	120	38	16	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVE11-410-602** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-010

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/13/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0040 Liter(s)
Test Notes:
Container ID: 1SS00793

Initial Pressure (psig): -3.83 Final Pressure (psig): 5.27

Container Dilution Factor: 1.84

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**200**	140	86	35	
75-71-8	Dichlorodifluoromethane (CFC 12)	30	49	30	8.1	**U**
74-87-3	Chloromethane	**35**	120	71	19	**J**
75-01-4	Vinyl Chloride	31	97	31	10	**U**
106-99-0	1,3-Butadiene	67	110	67	18	**U**
75-00-3	Chloroethane	56	94	56	12	**U**
64-17-5	Ethanol	**270**	1,300	200	90	**J, B**
67-64-1	Acetone	520	1,000	520	230	**U**
75-69-4	Trichlorofluoromethane	26	43	26	6.6	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	120	390	120	41	**U**
75-09-2	Methylene Chloride	42	70	42	20	**U**
76-13-1	Trichlorotrifluoroethane	**16**	32	10	4.6	**J**
75-15-0	Carbon Disulfide	**31**	160	80	24	**J**
75-34-3	1,1-Dichloroethane	38	63	38	8.9	**U**
78-93-3	2-Butanone (MEK)	**19**	170	50	17	**J**
141-78-6	Ethyl Acetate	83	140	83	36	**U**
110-54-3	n-Hexane	**720**	71	42	14	
67-66-3	Chloroform	16	51	16	6.7	**U**
109-99-9	Tetrahydrofuran (THF)	**56**	86	27	10	**J**
107-06-2	1,2-Dichloroethane	19	61	19	6.7	**U**
71-43-2	Benzene	**2,800**	76	24	11	
56-23-5	Carbon Tetrachloride	12	39	12	5.4	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVE11-410-602** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-010

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/13/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0040 Liter(s)
Test Notes:
Container ID: 1SS00793

Initial Pressure (psig): -3.83 Final Pressure (psig): 5.27

Container Dilution Factor: 1.84

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**2,800**	150	45	20	
75-27-4	Bromodichloromethane	12	37	12	5.3	**U**
79-01-6	Trichloroethene	**17**	46	15	6.2	**J**
123-91-1	1,4-Dioxane	22	69	22	8.0	**U**
142-82-5	n-Heptane	**810**	61	36	9.5	
108-10-1	4-Methyl-2-pentanone	19	60	19	8.2	**U**
108-88-3	Toluene	**5,300**	66	21	7.9	
591-78-6	2-Hexanone	19	61	19	7.4	**U**
124-48-1	Dibromochloromethane	9.2	29	9.2	3.8	**U**
106-93-4	1,2-Dibromoethane	10	32	10	3.7	**U**
127-18-4	Tetrachloroethene	**8.0**	35	12	4.7	**J**
100-41-4	Ethylbenzene	**240**	57	18	7.9	
179601-23-1	m,p-Xylenes	**1,800**	120	36	15	
75-25-2	Bromoform	14	24	14	4.9	**U**
100-42-5	Styrene	35	57	35	9.3	**U**
95-47-6	o-Xylene	**510**	57	18	8.2	
108-67-8	1,3,5-Trimethylbenzene	**90**	50	16	7.2	
95-63-6	1,2,4-Trimethylbenzene	**68**	51	16	6.9	
120-82-1	1,2,4-Trichlorobenzene	20	33	20	8.1	**U**
91-20-3	Naphthalene	27	46	27	11	**U**
1330-20-7	Xylenes, Total	**2,300**	120	36	15	

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVE13-410-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-011

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/13/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00090 Liter(s)
Test Notes:
Container ID: 1SS00246

Initial Pressure (psig): -3.89 Final Pressure (psig): 5.50

Container Dilution Factor: 1.87

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**1,800**	640	390	160	
75-71-8	Dichlorodifluoromethane (CFC 12)	130	220	130	37	**U**
74-87-3	Chloromethane	320	530	320	87	**U**
75-01-4	Vinyl Chloride	140	440	140	46	**U**
106-99-0	1,3-Butadiene	300	500	300	83	**U**
75-00-3	Chloroethane	250	430	250	52	**U**
64-17-5	Ethanol	920	5,700	920	410	**U**
67-64-1	Acetone	2,400	4,600	2,400	1,100	**U**
75-69-4	Trichlorofluoromethane	120	200	120	30	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	530	1,800	530	190	**U**
75-09-2	Methylene Chloride	190	320	190	90	**U**
76-13-1	Trichlorotrifluoroethane	46	150	46	21	**U**
75-15-0	Carbon Disulfide	360	730	360	110	**U**
75-34-3	1,1-Dichloroethane	170	280	170	40	**U**
78-93-3	2-Butanone (MEK)	230	780	230	78	**U**
141-78-6	Ethyl Acetate	370	630	370	160	**U**
110-54-3	n-Hexane	**41,000**	320	190	65	
67-66-3	Chloroform	72	230	72	30	**U**
109-99-9	Tetrahydrofuran (THF)	120	390	120	47	**U**
107-06-2	1,2-Dichloroethane	87	280	87	30	**U**
71-43-2	Benzene	**6,100**	340	110	50	
56-23-5	Carbon Tetrachloride	56	180	56	24	**U**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVE13-410-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-011

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/13/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00090 Liter(s)
Test Notes:
Container ID: 1SS00246

Initial Pressure (psig): -3.89 Final Pressure (psig): 5.50

Container Dilution Factor: 1.87

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**57,000**	660	210	91	
75-27-4	Bromodichloromethane	53	170	53	24	**U**
79-01-6	Trichloroethene	66	210	66	28	**U**
123-91-1	1,4-Dioxane	98	310	98	36	**U**
142-82-5	n-Heptane	**29,000**	270	160	43	
108-10-1	4-Methyl-2-pentanone	86	270	86	37	**U**
108-88-3	Toluene	**1,000**	300	94	36	
591-78-6	2-Hexanone	86	270	86	33	**U**
124-48-1	Dibromochloromethane	41	130	41	17	**U**
106-93-4	1,2-Dibromoethane	46	150	46	17	**U**
127-18-4	Tetrachloroethene	52	160	52	21	**U**
100-41-4	Ethylbenzene	81	260	81	36	**U**
179601-23-1	m,p-Xylenes	160	530	160	67	**U**
75-25-2	Bromoform	64	110	64	22	**U**
100-42-5	Styrene	160	260	160	42	**U**
95-47-6	o-Xylene	**240**	260	81	37	**J**
108-67-8	1,3,5-Trimethylbenzene	**97**	220	72	33	**J**
95-63-6	1,2,4-Trimethylbenzene	72	230	72	31	**U**
120-82-1	1,2,4-Trichlorobenzene	90	150	90	36	**U**
91-20-3	Naphthalene	120	210	120	52	**U**
1330-20-7	Xylenes, Total	**240**	530	160	67	**J**

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV01-050-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-012

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.080 Liter(s)
Test Notes:
Container ID: 1SS00723

Initial Pressure (psig): -3.02 Final Pressure (psig): 6.61

Container Dilution Factor: 1.82

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**3.1**	7.0	4.2	1.7	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.84**	2.4	1.5	0.40	**J**
74-87-3	Chloromethane	3.5	5.8	3.5	0.95	**U**
75-01-4	Vinyl Chloride	1.5	4.8	1.5	0.51	**U**
106-99-0	1,3-Butadiene	3.3	5.5	3.3	0.91	**U**
75-00-3	Chloroethane	2.8	4.7	2.8	0.57	**U**
64-17-5	Ethanol	10	63	10	4.5	**U**
67-64-1	Acetone	26	51	26	11	**U**
75-69-4	Trichlorofluoromethane	**2.7**	2.1	1.3	0.33	
67-63-0	2-Propanol (Isopropyl Alcohol)	5.8	19	5.8	2.0	**U**
75-09-2	Methylene Chloride	2.1	3.5	2.1	0.98	**U**
76-13-1	Trichlorotrifluoroethane	**9.5**	1.6	0.50	0.23	
75-15-0	Carbon Disulfide	3.9	8.0	3.9	1.2	**U**
75-34-3	1,1-Dichloroethane	1.9	3.1	1.9	0.44	**U**
78-93-3	2-Butanone (MEK)	2.5	8.5	2.5	0.85	**U**
141-78-6	Ethyl Acetate	4.1	6.9	4.1	1.8	**U**
110-54-3	n-Hexane	**0.89**	3.5	2.1	0.71	**J**
67-66-3	Chloroform	0.79	2.5	0.79	0.33	**U**
109-99-9	Tetrahydrofuran (THF)	1.3	4.2	1.3	0.52	**U**
107-06-2	1,2-Dichloroethane	0.96	3.0	0.96	0.33	**U**
71-43-2	Benzene	**1.2**	3.8	1.2	0.55	**J**
56-23-5	Carbon Tetrachloride	0.62	1.9	0.62	0.27	**U**

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV01-050-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-012

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.080 Liter(s)
Test Notes:
Container ID: 1SS00723

Initial Pressure (psig): -3.02 Final Pressure (psig): 6.61

Container Dilution Factor: 1.82

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**460**	7.3	2.2	0.99	
75-27-4	Bromodichloromethane	0.58	1.8	0.58	0.26	**U**
79-01-6	Trichloroethene	0.72	2.3	0.72	0.30	**U**
123-91-1	1,4-Dioxane	1.1	3.4	1.1	0.40	**U**
142-82-5	n-Heptane	**2.3**	3.0	1.8	0.47	**J**
108-10-1	4-Methyl-2-pentanone	0.94	2.9	0.94	0.41	**U**
108-88-3	Toluene	**5.7**	3.3	1.0	0.39	
591-78-6	2-Hexanone	0.94	3.0	0.94	0.37	**U**
124-48-1	Dibromochloromethane	0.45	1.4	0.45	0.19	**U**
106-93-4	1,2-Dibromoethane	0.50	1.6	0.50	0.18	**U**
127-18-4	Tetrachloroethene	**0.35**	1.7	0.57	0.23	**J**
100-41-4	Ethylbenzene	**0.47**	2.8	0.89	0.39	**J**
179601-23-1	m,p-Xylenes	**2.7**	5.8	1.8	0.73	**J**
75-25-2	Bromoform	0.70	1.2	0.70	0.24	**U**
100-42-5	Styrene	1.7	2.8	1.7	0.46	**U**
95-47-6	o-Xylene	**0.82**	2.8	0.89	0.40	**J**
108-67-8	1,3,5-Trimethylbenzene	0.79	2.5	0.79	0.36	**U**
95-63-6	1,2,4-Trimethylbenzene	**0.48**	2.5	0.79	0.34	**J**
120-82-1	1,2,4-Trichlorobenzene	0.98	1.7	0.98	0.40	**U**
91-20-3	Naphthalene	1.3	2.3	1.3	0.56	**U**
1330-20-7	Xylenes, Total	**3.5**	5.8	1.8	0.73	**J**

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV01-100-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-013

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.000050 Liter(s)
Test Notes:
Container ID: 1SC00588

Initial Pressure (psig): -3.12 Final Pressure (psig): 6.67

Container Dilution Factor: 1.85

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**3,400**	11,000	6,900	2,800	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	2,400	4,000	2,400	650	**U**
74-87-3	Chloromethane	5,700	9,500	5,700	1,500	**U**
75-01-4	Vinyl Chloride	2,500	7,800	2,500	830	**U**
106-99-0	1,3-Butadiene	5,400	8,900	5,400	1,500	**U**
75-00-3	Chloroethane	4,500	7,600	4,500	930	**U**
64-17-5	Ethanol	16,000	100,000	16,000	7,300	**U**
67-64-1	Acetone	42,000	83,000	42,000	19,000	**U**
75-69-4	Trichlorofluoromethane	2,100	3,500	2,100	530	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	9,500	32,000	9,500	3,300	**U**
75-09-2	Methylene Chloride	3,400	5,600	3,400	1,600	**U**
76-13-1	Trichlorotrifluoroethane	820	2,600	820	370	**U**
75-15-0	Carbon Disulfide	6,400	13,000	6,400	1,900	**U**
75-34-3	1,1-Dichloroethane	3,000	5,000	3,000	710	**U**
78-93-3	2-Butanone (MEK)	4,000	14,000	4,000	1,400	**U**
141-78-6	Ethyl Acetate	6,700	11,000	6,700	2,900	**U**
110-54-3	n-Hexane	**740,000**	5,700	3,400	1,200	
67-66-3	Chloroform	1,300	4,100	1,300	540	**U**
109-99-9	Tetrahydrofuran (THF)	2,100	6,900	2,100	840	**U**
107-06-2	1,2-Dichloroethane	1,600	4,900	1,600	540	**U**
71-43-2	Benzene	**43,000**	6,100	2,000	890	
56-23-5	Carbon Tetrachloride	1,000	3,100	1,000	440	**U**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV01-100-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-013

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.000050 Liter(s)
Test Notes:
Container ID: 1SC00588

Initial Pressure (psig): -3.12 Final Pressure (psig): 6.67

Container Dilution Factor: 1.85

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**530,000**		12,000	3,700	1,600	
75-27-4	Bromodichloromethane		940	3,000	940	430	**U**
79-01-6	Trichloroethene		1,200	3,700	1,200	500	**U**
123-91-1	1,4-Dioxane		1,700	5,500	1,700	650	**U**
142-82-5	n-Heptane	**230,000**		4,900	2,900	770	
108-10-1	4-Methyl-2-pentanone		1,500	4,800	1,500	660	**U**
108-88-3	Toluene	**38,000**		5,300	1,700	640	
591-78-6	2-Hexanone		1,500	4,900	1,500	600	**U**
124-48-1	Dibromochloromethane		740	2,300	740	300	**U**
106-93-4	1,2-Dibromoethane		820	2,600	820	300	**U**
127-18-4	Tetrachloroethene		930	2,800	930	380	**U**
100-41-4	Ethylbenzene	**2,800**		4,600	1,400	640	**J**
179601-23-1	m,p-Xylenes	**12,000**		9,400	2,900	1,200	
75-25-2	Bromoform		1,100	1,900	1,100	390	**U**
100-42-5	Styrene		2,800	4,600	2,800	750	**U**
95-47-6	o-Xylene	**3,800**		4,600	1,400	660	**J**
108-67-8	1,3,5-Trimethylbenzene	**800**		4,000	1,300	580	**J**
95-63-6	1,2,4-Trimethylbenzene	**1,200**		4,100	1,300	560	**J**
120-82-1	1,2,4-Trichlorobenzene		1,600	2,700	1,600	650	**U**
91-20-3	Naphthalene		2,200	3,700	2,200	920	**U**
1330-20-7	Xylenes, Total	**16,000**		9,400	2,900	1,200	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV01-250-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-014

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00020 Liter(s)
Test Notes:
Container ID: 1SC00926

Initial Pressure (psig): -2.70 Final Pressure (psig): 6.39

Container Dilution Factor: 1.76

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**8,900**	2,700	1,600	660	
75-71-8	Dichlorodifluoromethane (CFC 12)	570	940	570	150	**U**
74-87-3	Chloromethane	1,400	2,300	1,400	370	**U**
75-01-4	Vinyl Chloride	590	1,900	590	200	**U**
106-99-0	1,3-Butadiene	1,300	2,100	1,300	350	**U**
75-00-3	Chloroethane	1,100	1,800	1,100	220	**U**
64-17-5	Ethanol	3,900	24,000	3,900	1,700	**U**
67-64-1	Acetone	10,000	20,000	10,000	4,400	**U**
75-69-4	Trichlorofluoromethane	500	830	500	130	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	2,300	7,500	2,300	790	**U**
75-09-2	Methylene Chloride	810	1,300	810	380	**U**
76-13-1	Trichlorotrifluoroethane	200	620	200	87	**U**
75-15-0	Carbon Disulfide	1,500	3,100	1,500	450	**U**
75-34-3	1,1-Dichloroethane	720	1,200	720	170	**U**
78-93-3	2-Butanone (MEK)	960	3,300	960	330	**U**
141-78-6	Ethyl Acetate	1,600	2,700	1,600	680	**U**
110-54-3	n-Hexane	**260,000**	1,300	800	270	
67-66-3	Chloroform	310	970	310	130	**U**
109-99-9	Tetrahydrofuran (THF)	510	1,600	510	200	**U**
107-06-2	1,2-Dichloroethane	370	1,200	370	130	**U**
71-43-2	Benzene	**11,000**	1,500	470	210	
56-23-5	Carbon Tetrachloride	240	740	240	100	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV01-250-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-014

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00020 Liter(s)
Test Notes:
Container ID: 1SC00926

Initial Pressure (psig): -2.70 Final Pressure (psig): 6.39

Container Dilution Factor: 1.76

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**350,000**		2,800	870	380	
75-27-4	Bromodichloromethane		220	710	220	100	**U**
79-01-6	Trichloroethene		280	880	280	120	**U**
123-91-1	1,4-Dioxane		420	1,300	420	150	**U**
142-82-5	n-Heptane	**160,000**		1,200	690	180	
108-10-1	4-Methyl-2-pentanone		370	1,100	370	160	**U**
108-88-3	Toluene	**3,400**		1,300	400	150	
591-78-6	2-Hexanone		370	1,200	370	140	**U**
124-48-1	Dibromochloromethane		180	560	180	72	**U**
106-93-4	1,2-Dibromoethane		190	620	190	71	**U**
127-18-4	Tetrachloroethene		220	680	220	90	**U**
100-41-4	Ethylbenzene	**290**		1,100	340	150	**J**
179601-23-1	m,p-Xylenes		690	2,200	690	280	**U**
75-25-2	Bromoform		270	460	270	94	**U**
100-42-5	Styrene		660	1,100	660	180	**U**
95-47-6	o-Xylene	**600**		1,100	340	160	**J**
108-67-8	1,3,5-Trimethylbenzene		300	950	300	140	**U**
95-63-6	1,2,4-Trimethylbenzene		300	970	300	130	**U**
120-82-1	1,2,4-Trichlorobenzene		380	640	380	150	**U**
91-20-3	Naphthalene		520	870	520	220	**U**
1330-20-7	Xylenes, Total	**600**		2,200	690	280	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV01-300-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-015

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0035 Liter(s)
Test Notes:
Container ID: 1SC00975

Initial Pressure (psig): -3.55 Final Pressure (psig): 5.98

Container Dilution Factor: 1.85

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**180**	160	98	40	
75-71-8	Dichlorodifluoromethane (CFC 12)	34	57	34	9.3	**U**
74-87-3	Chloromethane	82	140	82	22	**U**
75-01-4	Vinyl Chloride	35	110	35	12	**U**
106-99-0	1,3-Butadiene	76	130	76	21	**U**
75-00-3	Chloroethane	64	110	64	13	**U**
64-17-5	Ethanol	230	1,500	230	100	**U**
67-64-1	Acetone	600	1,200	600	270	**U**
75-69-4	Trichlorofluoromethane	30	50	30	7.6	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	140	450	140	47	**U**
75-09-2	Methylene Chloride	49	81	49	23	**U**
76-13-1	Trichlorotrifluoroethane	**150**	37	12	5.2	
75-15-0	Carbon Disulfide	92	190	92	27	**U**
75-34-3	1,1-Dichloroethane	43	72	43	10	**U**
78-93-3	2-Butanone (MEK)	57	200	57	20	**U**
141-78-6	Ethyl Acetate	95	160	95	41	**U**
110-54-3	n-Hexane	**3,100**	81	48	17	
67-66-3	Chloroform	18	58	18	7.7	**U**
109-99-9	Tetrahydrofuran (THF)	30	99	30	12	**U**
107-06-2	1,2-Dichloroethane	22	71	22	7.7	**U**
71-43-2	Benzene	**920**	88	28	13	
56-23-5	Carbon Tetrachloride	14	45	14	6.2	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV01-300-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-015

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0035 Liter(s)
Test Notes:
Container ID: 1SC00975

Initial Pressure (psig): -3.55 Final Pressure (psig): 5.98

Container Dilution Factor: 1.85

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**6,900**	170	52	23	
75-27-4	Bromodichloromethane	13	43	13	6.1	**U**
79-01-6	Trichloroethene	17	53	17	7.1	**U**
123-91-1	1,4-Dioxane	25	79	25	9.2	**U**
142-82-5	n-Heptane	**2,000**	70	41	11	
108-10-1	4-Methyl-2-pentanone	22	68	22	9.4	**U**
108-88-3	Toluene	**28**	76	24	9.1	**J**
591-78-6	2-Hexanone	22	70	22	8.5	**U**
124-48-1	Dibromochloromethane	11	34	11	4.3	**U**
106-93-4	1,2-Dibromoethane	12	37	12	4.3	**U**
127-18-4	Tetrachloroethene	13	41	13	5.4	**U**
100-41-4	Ethylbenzene	21	66	21	9.1	**U**
179601-23-1	m,p-Xylenes	**24**	130	41	17	**J**
75-25-2	Bromoform	16	28	16	5.6	**U**
100-42-5	Styrene	40	66	40	11	**U**
95-47-6	o-Xylene	**15**	66	21	9.4	**J**
108-67-8	1,3,5-Trimethylbenzene	18	57	18	8.3	**U**
95-63-6	1,2,4-Trimethylbenzene	18	58	18	8.0	**U**
120-82-1	1,2,4-Trichlorobenzene	23	38	23	9.3	**U**
91-20-3	Naphthalene	31	52	31	13	**U**
1330-20-7	Xylenes, Total	**38**	130	41	17	**J**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV02-050-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-016

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00015 Liter(s)
Test Notes:
Container ID: 1SS00911

Initial Pressure (psig): -3.59 Final Pressure (psig): 5.67

Container Dilution Factor: 1.83

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	2,300	3,800	2,300	920	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	790	1,300	790	210	**U**
74-87-3	Chloromethane	1,900	3,100	1,900	510	**U**
75-01-4	Vinyl Chloride	810	2,600	810	270	**U**
106-99-0	1,3-Butadiene	1,800	2,900	1,800	490	**U**
75-00-3	Chloroethane	1,500	2,500	1,500	310	**U**
64-17-5	Ethanol	5,400	34,000	5,400	2,400	**U**
67-64-1	Acetone	14,000	27,000	14,000	6,200	**U**
75-69-4	Trichlorofluoromethane	690	1,200	690	180	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	3,100	10,000	3,100	1,100	**U**
75-09-2	Methylene Chloride	1,100	1,900	1,100	530	**U**
76-13-1	Trichlorotrifluoroethane	270	860	270	120	**U**
75-15-0	Carbon Disulfide	2,100	4,300	2,100	630	**U**
75-34-3	1,1-Dichloroethane	1,000	1,700	1,000	240	**U**
78-93-3	2-Butanone (MEK)	1,300	4,600	1,300	460	**U**
141-78-6	Ethyl Acetate	2,200	3,700	2,200	950	**U**
110-54-3	n-Hexane	1,100	1,900	1,100	380	**U**
67-66-3	Chloroform	420	1,300	420	180	**U**
109-99-9	Tetrahydrofuran (THF)	700	2,300	700	280	**U**
107-06-2	1,2-Dichloroethane	510	1,600	510	180	**U**
71-43-2	Benzene	650	2,000	650	290	**U**
56-23-5	Carbon Tetrachloride	330	1,000	330	140	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV02-050-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-016

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00015 Liter(s)
Test Notes:
Container ID: 1SS00911

Initial Pressure (psig): -3.59 Final Pressure (psig): 5.67

Container Dilution Factor: 1.83

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	1,200	3,900	1,200	530	**U**
75-27-4	Bromodichloromethane	310	980	310	140	**U**
79-01-6	Trichloroethene	390	1,200	390	160	**U**
123-91-1	1,4-Dioxane	580	1,800	580	210	**U**
142-82-5	n-Heptane	950	1,600	950	250	**U**
108-10-1	4-Methyl-2-pentanone	510	1,600	510	220	**U**
108-88-3	Toluene	550	1,700	550	210	**U**
591-78-6	2-Hexanone	510	1,600	510	200	**U**
124-48-1	Dibromochloromethane	240	770	240	100	**U**
106-93-4	1,2-Dibromoethane	270	860	270	98	**U**
127-18-4	Tetrachloroethene	310	940	310	120	**U**
100-41-4	Ethylbenzene	480	1,500	480	210	**U**
179601-23-1	m,p-Xylenes	960	3,100	960	390	**U**
75-25-2	Bromoform	380	640	380	130	**U**
100-42-5	Styrene	920	1,500	920	250	**U**
95-47-6	o-Xylene	480	1,500	480	220	**U**
108-67-8	1,3,5-Trimethylbenzene	420	1,300	420	190	**U**
95-63-6	1,2,4-Trimethylbenzene	420	1,300	420	180	**U**
120-82-1	1,2,4-Trichlorobenzene	530	890	530	210	**U**
91-20-3	Naphthalene	720	1,200	720	300	**U**
1330-20-7	Xylenes, Total	960	3,100	960	390	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV02-100-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-017

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.000050 Liter(s)
Test Notes: 0.000025 Liter(s)
Container ID: 1SS00787

Initial Pressure (psig): -2.90 Final Pressure (psig): 5.47

Container Dilution Factor: 1.71

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	6,400	11,000	6,400	2,600	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	2,200	3,700	2,200	600	**U**
74-87-3	Chloromethane	5,300	8,800	5,300	1,400	**U**
75-01-4	Vinyl Chloride	2,300	7,200	2,300	760	**U**
106-99-0	1,3-Butadiene	4,900	8,200	4,900	1,400	**U**
75-00-3	Chloroethane	4,100	7,000	4,100	860	**U**
64-17-5	Ethanol	15,000	94,000	15,000	6,700	**U**
67-64-1	Acetone	39,000	76,000	39,000	17,000	**U**
75-69-4	Trichlorofluoromethane	1,900	3,200	1,900	490	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	8,800	29,000	8,800	3,100	**U**
75-09-2	Methylene Chloride	3,200	5,200	3,200	1,500	**U**
76-13-1	Trichlorotrifluoroethane	760	2,400	760	340	**U**
75-15-0	Carbon Disulfide	5,900	12,000	5,900	1,800	**U**
75-34-3	1,1-Dichloroethane	2,800	4,600	2,800	660	**U**
78-93-3	2-Butanone (MEK)	3,700	13,000	3,700	1,300	**U**
141-78-6	Ethyl Acetate	6,200	10,000	6,200	2,700	**U**
110-54-3	n-Hexane	**750,000**	5,200	3,100	1,100	
67-66-3	Chloroform	1,200	3,800	1,200	500	**U**
109-99-9	Tetrahydrofuran (THF)	2,000	6,400	2,000	780	**U**
107-06-2	1,2-Dichloroethane	1,400	4,600	1,400	500	**U**
71-43-2	Benzene	**200,000**	5,700	1,800	820	
56-23-5	Carbon Tetrachloride	920	2,900	920	400	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV02-100-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-017

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.000050 Liter(s)
Test Notes: 0.000025 Liter(s)
Container ID: 1SS00787

Initial Pressure (psig): -2.90 Final Pressure (psig): 5.47

Container Dilution Factor: 1.71

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**900,000**		11,000	3,400	1,500	
75-27-4	Bromodichloromethane		870	2,800	870	390	**U**
79-01-6	Trichloroethene		1,100	3,400	1,100	460	**U**
123-91-1	1,4-Dioxane		1,600	5,100	1,600	600	**U**
142-82-5	n-Heptane	**1,100,000**		9,000	5,300	1,400	**D**
108-10-1	4-Methyl-2-pentanone		1,400	4,400	1,400	610	**U**
108-88-3	Toluene	**670,000**		4,900	1,500	590	
591-78-6	2-Hexanone		1,400	4,500	1,400	550	**U**
124-48-1	Dibromochloromethane		680	2,200	680	280	**U**
106-93-4	1,2-Dibromoethane	**560**		2,400	760	280	**J**
127-18-4	Tetrachloroethene		860	2,600	860	350	**U**
100-41-4	Ethylbenzene	**14,000**		4,300	1,300	590	
179601-23-1	m,p-Xylenes	**68,000**		8,700	2,700	1,100	
75-25-2	Bromoform		1,100	1,800	1,100	360	**U**
100-42-5	Styrene		2,600	4,300	2,600	690	**U**
95-47-6	o-Xylene	**13,000**		4,300	1,300	610	
108-67-8	1,3,5-Trimethylbenzene	**900**		3,700	1,200	540	**J**
95-63-6	1,2,4-Trimethylbenzene	**1,000**		3,800	1,200	520	**J**
120-82-1	1,2,4-Trichlorobenzene		1,500	2,500	1,500	600	**U**
91-20-3	Naphthalene		2,000	3,400	2,000	850	**U**
1330-20-7	Xylenes, Total	**81,000**		8,700	2,700	1,100	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV02-150-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-018

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.000050 Liter(s)
Test Notes:
Container ID: 1SS00915

Initial Pressure (psig): -3.53 Final Pressure (psig): 5.41

Container Dilution Factor: 1.80

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	6,700	11,000	6,700	2,700	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	2,300	3,900	2,300	630	**U**
74-87-3	Chloromethane	5,600	9,200	5,600	1,500	**U**
75-01-4	Vinyl Chloride	2,400	7,600	2,400	800	**U**
106-99-0	1,3-Butadiene	5,200	8,600	5,200	1,400	**U**
75-00-3	Chloroethane	4,400	7,400	4,400	900	**U**
64-17-5	Ethanol	16,000	99,000	16,000	7,100	**U**
67-64-1	Acetone	41,000	80,000	41,000	18,000	**U**
75-69-4	Trichlorofluoromethane	2,100	3,400	2,100	520	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	9,200	31,000	9,200	3,200	**U**
75-09-2	Methylene Chloride	3,300	5,500	3,300	1,600	**U**
76-13-1	Trichlorotrifluoroethane	800	2,500	800	360	**U**
75-15-0	Carbon Disulfide	6,200	13,000	6,200	1,900	**U**
75-34-3	1,1-Dichloroethane	2,900	4,900	2,900	690	**U**
78-93-3	2-Butanone (MEK)	3,900	13,000	3,900	1,300	**U**
141-78-6	Ethyl Acetate	6,500	11,000	6,500	2,800	**U**
110-54-3	n-Hexane	**700,000**	5,500	3,300	1,100	
67-66-3	Chloroform	1,300	4,000	1,300	520	**U**
109-99-9	Tetrahydrofuran (THF)	2,100	6,700	2,100	820	**U**
107-06-2	1,2-Dichloroethane	1,500	4,800	1,500	520	**U**
71-43-2	Benzene	**170,000**	6,000	1,900	870	
56-23-5	Carbon Tetrachloride	970	3,000	970	420	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV02-150-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-018

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.000050 Liter(s)
Test Notes:
Container ID: 1SS00915

Initial Pressure (psig): -3.53 Final Pressure (psig): 5.41

Container Dilution Factor: 1.80

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**600,000**		12,000	3,600	1,600	
75-27-4	Bromodichloromethane		910	2,900	910	410	**U**
79-01-6	Trichloroethene		1,100	3,600	1,100	480	**U**
123-91-1	1,4-Dioxane		1,700	5,400	1,700	630	**U**
142-82-5	n-Heptane	**560,000**		4,700	2,800	750	
108-10-1	4-Methyl-2-pentanone		1,500	4,700	1,500	640	**U**
108-88-3	Toluene	**280,000**		5,200	1,600	620	
591-78-6	2-Hexanone		1,500	4,700	1,500	580	**U**
124-48-1	Dibromochloromethane		720	2,300	720	300	**U**
106-93-4	1,2-Dibromoethane		800	2,500	800	290	**U**
127-18-4	Tetrachloroethene		900	2,800	900	370	**U**
100-41-4	Ethylbenzene	**12,000**		4,500	1,400	620	
179601-23-1	m,p-Xylenes	**44,000**		9,100	2,800	1,200	
75-25-2	Bromoform		1,100	1,900	1,100	380	**U**
100-42-5	Styrene		2,700	4,500	2,700	730	**U**
95-47-6	o-Xylene	**15,000**		4,500	1,400	640	
108-67-8	1,3,5-Trimethylbenzene	**1,800**		3,900	1,200	560	**J**
95-63-6	1,2,4-Trimethylbenzene	**2,300**		4,000	1,200	540	**J**
120-82-1	1,2,4-Trichlorobenzene		1,600	2,600	1,600	630	**U**
91-20-3	Naphthalene		2,100	3,600	2,100	890	**U**
1330-20-7	Xylenes, Total	**59,000**		9,100	2,800	1,200	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV02-150-602** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-019

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.000050 Liter(s)
Test Notes:
Container ID: 1SC00978

Initial Pressure (psig): -2.15 Final Pressure (psig): 7.89

Container Dilution Factor: 1.80

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	6,700	11,000	6,700	2,700	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	2,300	3,900	2,300	630	**U**
74-87-3	Chloromethane	5,600	9,200	5,600	1,500	**U**
75-01-4	Vinyl Chloride	2,400	7,600	2,400	800	**U**
106-99-0	1,3-Butadiene	5,200	8,600	5,200	1,400	**U**
75-00-3	Chloroethane	4,400	7,400	4,400	900	**U**
64-17-5	Ethanol	16,000	99,000	16,000	7,100	**U**
67-64-1	Acetone	41,000	80,000	41,000	18,000	**U**
75-69-4	Trichlorofluoromethane	2,100	3,400	2,100	520	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	9,200	31,000	9,200	3,200	**U**
75-09-2	Methylene Chloride	3,300	5,500	3,300	1,600	**U**
76-13-1	Trichlorotrifluoroethane	800	2,500	800	360	**U**
75-15-0	Carbon Disulfide	6,200	13,000	6,200	1,900	**U**
75-34-3	1,1-Dichloroethane	2,900	4,900	2,900	690	**U**
78-93-3	2-Butanone (MEK)	3,900	13,000	3,900	1,300	**U**
141-78-6	Ethyl Acetate	6,500	11,000	6,500	2,800	**U**
110-54-3	n-Hexane	**760,000**	5,500	3,300	1,100	
67-66-3	Chloroform	1,300	4,000	1,300	520	**U**
109-99-9	Tetrahydrofuran (THF)	2,100	6,700	2,100	820	**U**
107-06-2	1,2-Dichloroethane	1,500	4,800	1,500	520	**U**
71-43-2	Benzene	**190,000**	6,000	1,900	870	
56-23-5	Carbon Tetrachloride	970	3,000	970	420	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV02-150-602** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-019

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.000050 Liter(s)
Test Notes:
Container ID: 1SC00978

Initial Pressure (psig): -2.15 Final Pressure (psig): 7.89

Container Dilution Factor: 1.80

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**650,000**		12,000	3,600	1,600	
75-27-4	Bromodichloromethane		910	2,900	910	410	**U**
79-01-6	Trichloroethene		1,100	3,600	1,100	480	**U**
123-91-1	1,4-Dioxane		1,700	5,400	1,700	630	**U**
142-82-5	n-Heptane	**600,000**		4,700	2,800	750	
108-10-1	4-Methyl-2-pentanone		1,500	4,700	1,500	640	**U**
108-88-3	Toluene	**300,000**		5,200	1,600	620	
591-78-6	2-Hexanone		1,500	4,700	1,500	580	**U**
124-48-1	Dibromochloromethane		720	2,300	720	300	**U**
106-93-4	1,2-Dibromoethane		800	2,500	800	290	**U**
127-18-4	Tetrachloroethene		900	2,800	900	370	**U**
100-41-4	Ethylbenzene	**13,000**		4,500	1,400	620	
179601-23-1	m,p-Xylenes	**49,000**		9,100	2,800	1,200	
75-25-2	Bromoform		1,100	1,900	1,100	380	**U**
100-42-5	Styrene		2,700	4,500	2,700	730	**U**
95-47-6	o-Xylene	**16,000**		4,500	1,400	640	
108-67-8	1,3,5-Trimethylbenzene	**2,100**		3,900	1,200	560	**J**
95-63-6	1,2,4-Trimethylbenzene	**2,800**		4,000	1,200	540	**J**
120-82-1	1,2,4-Trichlorobenzene		1,600	2,600	1,600	630	**U**
91-20-3	Naphthalene		2,100	3,600	2,100	890	**U**
1330-20-7	Xylenes, Total	**66,000**		9,100	2,800	1,200	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV05-050-602** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-020

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.30 Liter(s)
Test Notes:
Container ID: 1SS01047

Initial Pressure (psig): -2.95 Final Pressure (psig): 5.48

Container Dilution Factor: 1.72

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**2.1**	1.8	1.1	0.43	
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.90**	0.61	0.37	0.10	
74-87-3	Chloromethane	**0.34**	1.5	0.89	0.24	**J**
75-01-4	Vinyl Chloride	0.38	1.2	0.38	0.13	**U**
106-99-0	1,3-Butadiene	0.83	1.4	0.83	0.23	**U**
75-00-3	Chloroethane	0.70	1.2	0.70	0.14	**U**
64-17-5	Ethanol	**4.7**	16	2.5	1.1	**J, B**
67-64-1	Acetone	**9.0**	13	6.5	2.9	**J**
75-69-4	Trichlorofluoromethane	**1.1**	0.54	0.33	0.083	
67-63-0	2-Propanol (Isopropyl Alcohol)	**2.7**	4.9	1.5	0.51	**J**
75-09-2	Methylene Chloride	0.53	0.88	0.53	0.25	**U**
76-13-1	Trichlorotrifluoroethane	**7.8**	0.40	0.13	0.057	
75-15-0	Carbon Disulfide	**2.5**	2.0	0.99	0.29	
75-34-3	1,1-Dichloroethane	0.47	0.78	0.47	0.11	**U**
78-93-3	2-Butanone (MEK)	**0.68**	2.1	0.62	0.21	**J**
141-78-6	Ethyl Acetate	**0.80**	1.8	1.0	0.45	**J**
110-54-3	n-Hexane	**20**	0.88	0.52	0.18	
67-66-3	Chloroform	0.20	0.63	0.20	0.083	**U**
109-99-9	Tetrahydrofuran (THF)	**10**	1.1	0.33	0.13	
107-06-2	1,2-Dichloroethane	0.24	0.77	0.24	0.084	**U**
71-43-2	Benzene	**16**	0.95	0.31	0.14	
56-23-5	Carbon Tetrachloride	**0.13**	0.48	0.16	0.067	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV05-050-602** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-020

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.30 Liter(s)
Test Notes:
Container ID: 1SS01047

Initial Pressure (psig): -2.95 Final Pressure (psig): 5.48

Container Dilution Factor: 1.72

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**23**	1.8	0.57	0.25	
75-27-4	Bromodichloromethane	0.15	0.46	0.15	0.066	**U**
79-01-6	Trichloroethene	0.18	0.58	0.18	0.077	**U**
123-91-1	1,4-Dioxane	0.27	0.86	0.27	0.10	**U**
142-82-5	n-Heptane	**72**	0.76	0.45	0.12	
108-10-1	4-Methyl-2-pentanone	0.24	0.74	0.24	0.10	**U**
108-88-3	Toluene	**130**	0.82	0.26	0.099	
591-78-6	2-Hexanone	0.24	0.76	0.24	0.092	**U**
124-48-1	Dibromochloromethane	0.11	0.36	0.11	0.047	**U**
106-93-4	1,2-Dibromoethane	**0.16**	0.40	0.13	0.046	**J**
127-18-4	Tetrachloroethene	**0.20**	0.44	0.14	0.058	**J**
100-41-4	Ethylbenzene	**10**	0.71	0.22	0.099	
179601-23-1	m,p-Xylenes	**59**	1.5	0.45	0.18	
75-25-2	Bromoform	0.18	0.30	0.18	0.061	**U**
100-42-5	Styrene	0.43	0.71	0.43	0.12	**U**
95-47-6	o-Xylene	**17**	0.71	0.22	0.10	
108-67-8	1,3,5-Trimethylbenzene	**4.4**	0.62	0.20	0.090	
95-63-6	1,2,4-Trimethylbenzene	**8.0**	0.63	0.20	0.086	
120-82-1	1,2,4-Trichlorobenzene	0.25	0.42	0.25	0.10	**U**
91-20-3	Naphthalene	**0.56**	0.57	0.34	0.14	**J**
1330-20-7	Xylenes, Total	**76**	1.5	0.45	0.18	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200513-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/13/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.19	0.31	0.19	0.076	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.065	0.11	0.065	0.018	**U**
74-87-3	Chloromethane	0.16	0.26	0.16	0.042	**U**
75-01-4	Vinyl Chloride	0.067	0.21	0.067	0.022	**U**
106-99-0	1,3-Butadiene	0.14	0.24	0.14	0.040	**U**
75-00-3	Chloroethane	0.12	0.20	0.12	0.025	**U**
64-17-5	Ethanol	**0.43**	2.8	0.44	0.20	**J**
67-64-1	Acetone	1.1	2.2	1.1	0.51	**U**
75-69-4	Trichlorofluoromethane	0.057	0.094	0.057	0.014	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.26	0.85	0.26	0.090	**U**
75-09-2	Methylene Chloride	0.092	0.15	0.092	0.043	**U**
76-13-1	Trichlorotrifluoroethane	0.022	0.070	0.022	0.0099	**U**
75-15-0	Carbon Disulfide	0.17	0.35	0.17	0.051	**U**
75-34-3	1,1-Dichloroethane	0.082	0.14	0.082	0.019	**U**
78-93-3	2-Butanone (MEK)	0.11	0.37	0.11	0.037	**U**
141-78-6	Ethyl Acetate	0.18	0.31	0.18	0.078	**U**
110-54-3	n-Hexane	0.091	0.15	0.091	0.031	**U**
67-66-3	Chloroform	0.035	0.11	0.035	0.015	**U**
109-99-9	Tetrahydrofuran (THF)	0.058	0.19	0.058	0.023	**U**
107-06-2	1,2-Dichloroethane	0.042	0.13	0.042	0.015	**U**
71-43-2	Benzene	0.053	0.17	0.053	0.024	**U**
56-23-5	Carbon Tetrachloride	0.027	0.084	0.027	0.012	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200513-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/13/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.099	0.32	0.099	0.044	**U**
75-27-4	Bromodichloromethane	0.025	0.081	0.025	0.011	**U**
79-01-6	Trichloroethene	0.032	0.10	0.032	0.013	**U**
123-91-1	1,4-Dioxane	0.047	0.15	0.047	0.017	**U**
142-82-5	n-Heptane	0.078	0.13	0.078	0.021	**U**
108-10-1	4-Methyl-2-pentanone	0.041	0.13	0.041	0.018	**U**
108-88-3	Toluene	0.045	0.14	0.045	0.017	**U**
591-78-6	2-Hexanone	0.042	0.13	0.042	0.016	**U**
124-48-1	Dibromochloromethane	0.020	0.063	0.020	0.0082	**U**
106-93-4	1,2-Dibromoethane	0.022	0.070	0.022	0.0081	**U**
127-18-4	Tetrachloroethene	0.025	0.077	0.025	0.010	**U**
100-41-4	Ethylbenzene	0.039	0.12	0.039	0.017	**U**
179601-23-1	m,p-Xylenes	0.078	0.25	0.078	0.032	**U**
75-25-2	Bromoform	0.031	0.052	0.031	0.011	**U**
100-42-5	Styrene	0.075	0.12	0.075	0.020	**U**
95-47-6	o-Xylene	0.039	0.12	0.039	0.018	**U**
108-67-8	1,3,5-Trimethylbenzene	0.035	0.11	0.035	0.016	**U**
95-63-6	1,2,4-Trimethylbenzene	0.035	0.11	0.035	0.015	**U**
120-82-1	1,2,4-Trichlorobenzene	0.043	0.073	0.043	0.018	**U**
91-20-3	Naphthalene	0.059	0.099	0.059	0.025	**U**
1330-20-7	Xylenes, Total	0.078	0.25	0.078	0.032	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200514-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.19	0.31	0.19	0.076	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.065	0.11	0.065	0.018	**U**
74-87-3	Chloromethane	0.16	0.26	0.16	0.042	**U**
75-01-4	Vinyl Chloride	0.067	0.21	0.067	0.022	**U**
106-99-0	1,3-Butadiene	0.14	0.24	0.14	0.040	**U**
75-00-3	Chloroethane	0.12	0.20	0.12	0.025	**U**
64-17-5	Ethanol	**0.25**	2.8	0.44	0.20	**J**
67-64-1	Acetone	1.1	2.2	1.1	0.51	**U**
75-69-4	Trichlorofluoromethane	0.057	0.094	0.057	0.014	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.26	0.85	0.26	0.090	**U**
75-09-2	Methylene Chloride	0.092	0.15	0.092	0.043	**U**
76-13-1	Trichlorotrifluoroethane	0.022	0.070	0.022	0.0099	**U**
75-15-0	Carbon Disulfide	0.17	0.35	0.17	0.051	**U**
75-34-3	1,1-Dichloroethane	0.082	0.14	0.082	0.019	**U**
78-93-3	2-Butanone (MEK)	0.11	0.37	0.11	0.037	**U**
141-78-6	Ethyl Acetate	0.18	0.31	0.18	0.078	**U**
110-54-3	n-Hexane	0.091	0.15	0.091	0.031	**U**
67-66-3	Chloroform	0.035	0.11	0.035	0.015	**U**
109-99-9	Tetrahydrofuran (THF)	0.058	0.19	0.058	0.023	**U**
107-06-2	1,2-Dichloroethane	0.042	0.13	0.042	0.015	**U**
71-43-2	Benzene	0.053	0.17	0.053	0.024	**U**
56-23-5	Carbon Tetrachloride	0.027	0.084	0.027	0.012	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200514-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.099	0.32	0.099	0.044	**U**
75-27-4	Bromodichloromethane	0.025	0.081	0.025	0.011	**U**
79-01-6	Trichloroethene	0.032	0.10	0.032	0.013	**U**
123-91-1	1,4-Dioxane	0.047	0.15	0.047	0.017	**U**
142-82-5	n-Heptane	0.078	0.13	0.078	0.021	**U**
108-10-1	4-Methyl-2-pentanone	0.041	0.13	0.041	0.018	**U**
108-88-3	Toluene	0.045	0.14	0.045	0.017	**U**
591-78-6	2-Hexanone	0.042	0.13	0.042	0.016	**U**
124-48-1	Dibromochloromethane	0.020	0.063	0.020	0.0082	**U**
106-93-4	1,2-Dibromoethane	0.022	0.070	0.022	0.0081	**U**
127-18-4	Tetrachloroethene	0.025	0.077	0.025	0.010	**U**
100-41-4	Ethylbenzene	0.039	0.12	0.039	0.017	**U**
179601-23-1	m,p-Xylenes	0.078	0.25	0.078	0.032	**U**
75-25-2	Bromoform	0.031	0.052	0.031	0.011	**U**
100-42-5	Styrene	0.075	0.12	0.075	0.020	**U**
95-47-6	o-Xylene	0.039	0.12	0.039	0.018	**U**
108-67-8	1,3,5-Trimethylbenzene	0.035	0.11	0.035	0.016	**U**
95-63-6	1,2,4-Trimethylbenzene	0.035	0.11	0.035	0.015	**U**
120-82-1	1,2,4-Trichlorobenzene	0.043	0.073	0.043	0.018	**U**
91-20-3	Naphthalene	0.059	0.099	0.059	0.025	**U**
1330-20-7	Xylenes, Total	0.078	0.25	0.078	0.032	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Project ID: P2002301

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date(s) Collected: 4/21 - 4/22/20
Analyst: Lusine Hakobyan Date(s) Received: 4/28/20
Sampling Media: 1.0 L Silonite Summa Canister(s) / 1.0 L Summa Canister(s) Date(s) Analyzed: 5/13 - 5/14/20
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P200513-MB	**95**	**100**	**105**	70-130	
Method Blank	P200514-MB	**93**	**99**	**107**	70-130	
Lab Control Sample	P200513-LCS	**95**	**98**	**106**	70-130	
Lab Control Sample	P200514-LCS	**94**	**98**	**108**	70-130	
Duplicate Lab Control Sample	P200513-DLCS	**97**	**97**	**106**	70-130	
Duplicate Lab Control Sample	P200514-DLCS	**96**	**98**	**107**	70-130	
SV130-050-202	P2002301-001	**95**	**98**	**106**	70-130	
SV130-150-202	P2002301-002	**94**	**99**	**106**	70-130	
SV130-250-202	P2002301-003	**95**	**98**	**106**	70-130	
SV130-350-202	P2002301-004	**94**	**98**	**106**	70-130	
SV130-450-602	P2002301-005	**96**	**97**	**101**	70-130	
SV130-450-602	P2002301-005DUP	**95**	**97**	**101**	70-130	
SV130-450-202	P2002301-006	**95**	**98**	**103**	70-130	
SVE10-410-202	P2002301-007	**96**	**99**	**105**	70-130	
SVE10-410-602	P2002301-008	**94**	**98**	**106**	70-130	
SVE11-410-202	P2002301-009	**95**	**88**	**95**	70-130	
SVE11-410-602	P2002301-010	**95**	**88**	**93**	70-130	
SVE13-410-202	P2002301-011	**96**	**99**	**101**	70-130	
SV01-050-202	P2002301-012	**95**	**98**	**106**	70-130	
SV01-100-202	P2002301-013	**96**	**98**	**105**	70-130	
SV01-250-202	P2002301-014	**97**	**97**	**101**	70-130	
SV01-300-202	P2002301-015	**95**	**98**	**103**	70-130	
SV02-050-202	P2002301-016	**95**	**102**	**105**	70-130	
SV02-100-202	P2002301-017	**95**	**102**	**102**	70-130	
SV02-150-202	P2002301-018	**97**	**99**	**102**	70-130	
SV02-150-602	P2002301-019	**97**	**98**	**102**	70-130	
SV05-050-602	P2002301-020	**96**	**95**	**100**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200513-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/13/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	122	127	128	**104**	**105**	57-136	1	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	42.5	40.1	40.1	**94**	**94**	59-128	0	25	
74-87-3	Chloromethane	103	97.3	97.4	**94**	**95**	59-132	1	25	
75-01-4	Vinyl Chloride	83.0	75.6	75.2	**91**	**91**	64-127	0	25	
106-99-0	1,3-Butadiene	95.9	89.9	90.2	**94**	**94**	66-134	0	25	
75-00-3	Chloroethane	81.1	76.0	76.3	**94**	**94**	63-127	0	25	
64-17-5	Ethanol	563	534	541	**95**	**96**	59-125	1	25	
67-64-1	Acetone	450	445	445	**99**	**99**	58-128	0	25	
75-69-4	Trichlorofluoromethane	37.7	35.2	35.2	**93**	**93**	62-126	0	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	172	174	175	**101**	**102**	52-125	1	25	
75-09-2	Methylene Chloride	60.5	56.7	57.0	**94**	**94**	62-115	0	25	
76-13-1	Trichlorotrifluoroethane	28.2	27.7	27.6	**98**	**98**	66-126	0	25	
75-15-0	Carbon Disulfide	68.1	64.4	64.6	**95**	**95**	57-134	0	25	
75-34-3	1,1-Dichloroethane	52.4	49.5	49.6	**94**	**95**	68-126	1	25	
78-93-3	2-Butanone (MEK)	71.9	70.3	70.7	**98**	**98**	67-130	0	25	
141-78-6	Ethyl Acetate	120	125	126	**104**	**105**	65-128	1	25	
110-54-3	n-Hexane	61.3	61.1	61.6	**100**	**100**	63-120	0	25	
67-66-3	Chloroform	43.8	41.8	41.8	**95**	**95**	68-123	0	25	
109-99-9	Tetrahydrofuran (THF)	74.6	69.1	69.6	**93**	**93**	64-123	0	25	
107-06-2	1,2-Dichloroethane	52.9	48.9	49.3	**92**	**93**	65-128	1	25	
71-43-2	Benzene	65.8	63.5	63.5	**97**	**97**	69-119	0	25	
56-23-5	Carbon Tetrachloride	33.1	32.3	32.3	**98**	**98**	68-132	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200513-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/13/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	123	123	122	**100**	**99**	70-117	1	25	
75-27-4	Bromodichloromethane	32.6	31.5	31.5	**97**	**97**	72-128	0	25	
79-01-6	Trichloroethene	40.2	39.1	39.1	**97**	**97**	71-123	0	25	
123-91-1	1,4-Dioxane	60.0	59.0	59.0	**98**	**98**	71-122	0	25	
142-82-5	n-Heptane	52.2	50.7	50.9	**97**	**98**	69-123	1	25	
108-10-1	4-Methyl-2-pentanone	51.8	53.2	53.6	**103**	**103**	67-130	0	25	
108-88-3	Toluene	56.3	54.9	54.6	**98**	**97**	66-119	1	25	
591-78-6	2-Hexanone	52.7	55.8	55.9	**106**	**106**	62-128	0	25	
124-48-1	Dibromochloromethane	25.1	25.8	25.6	**103**	**102**	70-130	1	25	
106-93-4	1,2-Dibromoethane	27.9	28.0	27.9	**100**	**100**	74-122	0	25	
127-18-4	Tetrachloroethene	30.7	31.0	30.6	**101**	**100**	66-124	1	25	
100-41-4	Ethylbenzene	48.8	50.5	50.5	**103**	**103**	70-124	0	25	
179601-23-1	m,p-Xylenes	98.1	104	101	**106**	**103**	61-134	3	25	
75-25-2	Bromoform	20.7	21.6	21.5	**104**	**104**	66-139	0	25	
100-42-5	Styrene	49.8	54.5	54.5	**109**	**109**	73-127	0	25	
95-47-6	o-Xylene	49.3	50.0	49.6	**101**	**101**	67-125	0	25	
108-67-8	1,3,5-Trimethylbenzene	43.1	46.5	46.1	**108**	**107**	67-130	0.9	25	
95-63-6	1,2,4-Trimethylbenzene	43.1	49.5	49.1	**115**	**114**	66-132	0.9	25	
120-82-1	1,2,4-Trichlorobenzene	29.1	34.3	34.6	**118**	**119**	55-142	0.8	25	
91-20-3	Naphthalene	40.5	51.5	51.8	**127**	**128**	57-138	0.8	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200514-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	122	124	129	**102**	**106**	57-136	4	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	42.5	40.0	40.1	**94**	**94**	59-128	0	25	
74-87-3	Chloromethane	103	92.2	95.8	**90**	**93**	59-132	3	25	
75-01-4	Vinyl Chloride	83.0	74.7	74.7	**90**	**90**	64-127	0	25	
106-99-0	1,3-Butadiene	95.9	90.0	89.4	**94**	**93**	66-134	1	25	
75-00-3	Chloroethane	81.1	74.5	74.9	**92**	**92**	63-127	0	25	
64-17-5	Ethanol	563	518	535	**92**	**95**	59-125	3	25	
67-64-1	Acetone	450	437	440	**97**	**98**	58-128	1	25	
75-69-4	Trichlorofluoromethane	37.7	34.8	34.6	**92**	**92**	62-126	0	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	172	171	172	**99**	**100**	52-125	1	25	
75-09-2	Methylene Chloride	60.5	56.1	56.7	**93**	**94**	62-115	1	25	
76-13-1	Trichlorotrifluoroethane	28.2	27.6	27.7	**98**	**98**	66-126	0	25	
75-15-0	Carbon Disulfide	68.1	63.7	63.7	**94**	**94**	57-134	0	25	
75-34-3	1,1-Dichloroethane	52.4	48.6	49.1	**93**	**94**	68-126	1	25	
78-93-3	2-Butanone (MEK)	71.9	69.1	70.6	**96**	**98**	67-130	2	25	
141-78-6	Ethyl Acetate	120	124	125	**103**	**104**	65-128	1	25	
110-54-3	n-Hexane	61.3	61.1	61.5	**100**	**100**	63-120	0	25	
67-66-3	Chloroform	43.8	41.5	41.7	**95**	**95**	68-123	0	25	
109-99-9	Tetrahydrofuran (THF)	74.6	68.5	69.1	**92**	**93**	64-123	1	25	
107-06-2	1,2-Dichloroethane	52.9	48.5	49.1	**92**	**93**	65-128	1	25	
71-43-2	Benzene	65.8	63.3	63.2	**96**	**96**	69-119	0	25	
56-23-5	Carbon Tetrachloride	33.1	32.3	31.9	**98**	**96**	68-132	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200514-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	123	123	122	**100**	**99**	70-117	1	25	
75-27-4	Bromodichloromethane	32.6	31.3	31.4	**96**	**96**	72-128	0	25	
79-01-6	Trichloroethene	40.2	39.4	39.2	**98**	**98**	71-123	0	25	
123-91-1	1,4-Dioxane	60.0	58.8	58.7	**98**	**98**	71-122	0	25	
142-82-5	n-Heptane	52.2	50.8	50.6	**97**	**97**	69-123	0	25	
108-10-1	4-Methyl-2-pentanone	51.8	53.1	52.8	**103**	**102**	67-130	1	25	
108-88-3	Toluene	56.3	55.5	55.2	**99**	**98**	66-119	1	25	
591-78-6	2-Hexanone	52.7	56.3	56.1	**107**	**106**	62-128	0.9	25	
124-48-1	Dibromochloromethane	25.1	26.1	25.7	**104**	**102**	70-130	2	25	
106-93-4	1,2-Dibromoethane	27.9	28.3	27.9	**101**	**100**	74-122	1	25	
127-18-4	Tetrachloroethene	30.7	31.5	31.0	**103**	**101**	66-124	2	25	
100-41-4	Ethylbenzene	48.8	51.3	50.6	**105**	**104**	70-124	1	25	
179601-23-1	m,p-Xylenes	98.1	105	102	**107**	**104**	61-134	3	25	
75-25-2	Bromoform	20.7	22.1	21.8	**107**	**105**	66-139	2	25	
100-42-5	Styrene	49.8	56.0	55.5	**112**	**111**	73-127	0.9	25	
95-47-6	o-Xylene	49.3	51.3	50.3	**104**	**102**	67-125	2	25	
108-67-8	1,3,5-Trimethylbenzene	43.1	47.8	46.6	**111**	**108**	67-130	3	25	
95-63-6	1,2,4-Trimethylbenzene	43.1	50.9	49.8	**118**	**116**	66-132	2	25	
120-82-1	1,2,4-Trichlorobenzene	29.1	36.4	35.8	**125**	**123**	55-142	2	25	
91-20-3	Naphthalene	40.5	54.7	53.6	**135**	**132**	57-138	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV130-450-602** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-005DUP

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SS00126

Initial Pressure (psig): -2.47 Final Pressure (psig): 5.98

Container Dilution Factor: 1.69

Compound	Sample Result ppbV	Duplicate Sample Result ppbV	Average ppbV	% RPD	RPD Limit	Data Qualifier
Propene	13	13	13	**0**	25	**J**
Dichlorodifluoromethane (CFC 12)	ND	ND	-	-	25	
Chloromethane	8.0	8.1	8.05	**1**	25	**J**
Vinyl Chloride	ND	ND	-	-	25	
1,3-Butadiene	ND	ND	-	-	25	
Chloroethane	ND	ND	-	-	25	
Ethanol	52	51	51.5	**2**	25	**J, B**
Acetone	ND	ND	-	-	25	
Trichlorofluoromethane	ND	ND	-	-	25	
2-Propanol (Isopropyl Alcohol)	39	38	38.5	**3**	25	**J**
Methylene Chloride	ND	ND	-	-	25	
Trichlorotrifluoroethane	ND	ND	-	-	25	
Carbon Disulfide	22	21	21.5	**5**	25	**J**
1,1-Dichloroethane	ND	ND	-	-	25	
2-Butanone (MEK)	15	15	15	**0**	25	**J**
Ethyl Acetate	ND	ND	-	-	25	
n-Hexane	24	23	23.5	**4**	25	
Chloroform	ND	ND	-	-	25	
Tetrahydrofuran (THF)	3.6	3.5	3.55	**3**	25	**J**
1,2-Dichloroethane	ND	ND	-	-	25	
Benzene	310	310	310	**0**	25	
Carbon Tetrachloride	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV130-450-602** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-005DUP

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SS00126

Initial Pressure (psig): -2.47 Final Pressure (psig): 5.98

Container Dilution Factor: 1.69

Compound	Sample Result ppbV	Duplicate Sample Result ppbV	Average ppbV	% RPD	RPD Limit	Data Qualifier
Cyclohexane	42	41	41.5	**2**	25	
Bromodichloromethane	ND	ND	-	-	25	
Trichloroethene	2.8	2.8	2.8	**0**	25	**J**
1,4-Dioxane	ND	ND	-	-	25	
n-Heptane	9.6	9.7	9.65	**1**	25	**J**
4-Methyl-2-pentanone	5.3	5.2	5.25	**2**	25	**J**
Toluene	270	270	270	**0**	25	
2-Hexanone	ND	ND	-	-	25	
Dibromochloromethane	ND	ND	-	-	25	
1,2-Dibromoethane	ND	ND	-	-	25	
Tetrachloroethene	ND	ND	-	-	25	
Ethylbenzene	9.5	9.6	9.55	**1**	25	**J**
m,p-Xylenes	23	22	22.5	**4**	25	
Bromoform	ND	ND	-	-	25	
Styrene	ND	ND	-	-	25	
o-Xylene	7.5	7.2	7.35	**4**	25	**J**
1,3,5-Trimethylbenzene	ND	ND	-	-	25	
1,2,4-Trimethylbenzene	ND	ND	-	-	25	
1,2,4-Trichlorobenzene	ND	ND	-	-	25	
Naphthalene	ND	ND	-	-	25	
Xylenes, Total	30	30	30	**0**	25	

ND = Compound was analyzed for, but not detected.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV130-050-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-001

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/13/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00995

Initial Pressure (psig): -4.52 Final Pressure (psig): 5.66

Container Dilution Factor: 2.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	1.6	2.7	1.6	0.65	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**4.6**	2.7	1.6	0.44	
74-87-3	Chloromethane	1.6	2.7	1.6	0.43	**U**
75-01-4	Vinyl Chloride	0.85	2.7	0.85	0.29	**U**
106-99-0	1,3-Butadiene	1.6	2.7	1.6	0.44	**U**
75-00-3	Chloroethane	1.6	2.7	1.6	0.33	**U**
64-17-5	Ethanol	**4.0**	26	4.2	1.9	**J, B**
67-64-1	Acetone	**13**	27	14	6.0	**J**
75-69-4	Trichlorofluoromethane	**1.2**	2.7	1.6	0.41	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.2**	11	3.2	1.1	**J**
75-09-2	Methylene Chloride	1.6	2.7	1.6	0.75	**U**
76-13-1	Trichlorotrifluoroethane	**5.6**	2.7	0.85	0.38	
75-15-0	Carbon Disulfide	**1.6**	5.5	2.7	0.80	**J**
75-34-3	1,1-Dichloroethane	1.7	2.8	1.7	0.39	**U**
78-93-3	2-Butanone (MEK)	**2.4**	5.5	1.6	0.55	**J**
141-78-6	Ethyl Acetate	3.3	5.5	3.3	1.4	**U**
110-54-3	n-Hexane	**1.3**	2.7	1.6	0.55	**J**
67-66-3	Chloroform	**1.2**	2.7	0.85	0.36	**J**
109-99-9	Tetrahydrofuran (THF)	**65**	2.8	0.85	0.34	
107-06-2	1,2-Dichloroethane	0.85	2.7	0.85	0.30	**U**
71-43-2	Benzene	**1.2**	2.7	0.85	0.39	**J**
56-23-5	Carbon Tetrachloride	**1.2**	2.7	0.85	0.37	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV130-050-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-001

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/13/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00995

Initial Pressure (psig): -4.52 Final Pressure (psig): 5.66

Container Dilution Factor: 2.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**1.2**	5.5	1.7	0.75	**J**
75-27-4	Bromodichloromethane	0.85	2.7	0.85	0.39	**U**
79-01-6	Trichloroethene	**5.7**	2.7	0.85	0.36	
123-91-1	1,4-Dioxane	0.85	2.7	0.85	0.32	**U**
142-82-5	n-Heptane	**1.5**	2.7	1.6	0.43	**J**
108-10-1	4-Methyl-2-pentanone	0.85	2.7	0.85	0.37	**U**
108-88-3	Toluene	**2.1**	2.7	0.85	0.33	**J**
591-78-6	2-Hexanone	0.85	2.7	0.85	0.33	**U**
124-48-1	Dibromochloromethane	0.85	2.7	0.85	0.35	**U**
106-93-4	1,2-Dibromoethane	0.85	2.7	0.85	0.31	**U**
127-18-4	Tetrachloroethene	**3.0**	2.6	0.85	0.35	
100-41-4	Ethylbenzene	0.85	2.7	0.85	0.38	**U**
179601-23-1	m,p-Xylenes	**1.1**	5.5	1.7	0.70	**J**
75-25-2	Bromoform	1.6	2.7	1.6	0.55	**U**
100-42-5	Styrene	1.6	2.7	1.6	0.43	**U**
95-47-6	o-Xylene	**0.88**	2.7	0.85	0.39	**J**
108-67-8	1,3,5-Trimethylbenzene	0.85	2.7	0.85	0.39	**U**
95-63-6	1,2,4-Trimethylbenzene	0.85	2.7	0.85	0.37	**U**
120-82-1	1,2,4-Trichlorobenzene	1.6	2.7	1.6	0.65	**U**
91-20-3	Naphthalene	1.6	2.6	1.6	0.65	**U**
1330-20-7	Xylenes, Total	**2.0**	5.5	1.7	0.70	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV130-150-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-002

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00718

Initial Pressure (psig): -5.05 Final Pressure (psig): 5.58

Container Dilution Factor: 2.10

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	1.7	2.8	1.7	0.68	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**4.6**	2.8	1.7	0.46	
74-87-3	Chloromethane	1.7	2.8	1.7	0.45	**U**
75-01-4	Vinyl Chloride	0.89	2.8	0.89	0.30	**U**
106-99-0	1,3-Butadiene	1.7	2.8	1.7	0.46	**U**
75-00-3	Chloroethane	1.7	2.8	1.7	0.35	**U**
64-17-5	Ethanol	**3.2**	27	4.4	1.9	**J, B**
67-64-1	Acetone	**7.7**	28	14	6.3	**J**
75-69-4	Trichlorofluoromethane	**1.1**	2.8	1.7	0.43	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	3.3	11	3.3	1.2	**U**
75-09-2	Methylene Chloride	1.7	2.8	1.7	0.79	**U**
76-13-1	Trichlorotrifluoroethane	**7.2**	2.8	0.89	0.40	
75-15-0	Carbon Disulfide	**6.1**	5.8	2.8	0.84	
75-34-3	1,1-Dichloroethane	1.7	2.9	1.7	0.41	**U**
78-93-3	2-Butanone (MEK)	**0.98**	5.8	1.7	0.58	**J**
141-78-6	Ethyl Acetate	3.4	5.8	3.4	1.5	**U**
110-54-3	n-Hexane	**2.4**	2.8	1.7	0.58	**J**
67-66-3	Chloroform	0.89	2.8	0.89	0.37	**U**
109-99-9	Tetrahydrofuran (THF)	**5.6**	2.9	0.89	0.35	
107-06-2	1,2-Dichloroethane	0.89	2.8	0.89	0.31	**U**
71-43-2	Benzene	**2.4**	2.8	0.89	0.40	**J**
56-23-5	Carbon Tetrachloride	**1.0**	2.8	0.89	0.39	**J**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV130-150-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-002

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00718

Initial Pressure (psig): -5.05 Final Pressure (psig): 5.58

Container Dilution Factor: 2.10

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**2.6**	5.8	1.8	0.79	**J**
75-27-4	Bromodichloromethane	0.89	2.8	0.89	0.40	**U**
79-01-6	Trichloroethene	**4.8**	2.8	0.89	0.38	
123-91-1	1,4-Dioxane	0.89	2.8	0.89	0.33	**U**
142-82-5	n-Heptane	**2.8**	2.8	1.7	0.45	**J**
108-10-1	4-Methyl-2-pentanone	0.89	2.8	0.89	0.38	**U**
108-88-3	Toluene	**4.2**	2.8	0.89	0.34	
591-78-6	2-Hexanone	0.89	2.8	0.89	0.35	**U**
124-48-1	Dibromochloromethane	0.89	2.8	0.89	0.37	**U**
106-93-4	1,2-Dibromoethane	0.89	2.8	0.89	0.33	**U**
127-18-4	Tetrachloroethene	**8.6**	2.7	0.89	0.36	
100-41-4	Ethylbenzene	0.89	2.8	0.89	0.39	**U**
179601-23-1	m,p-Xylenes	**1.9**	5.8	1.8	0.74	**J**
75-25-2	Bromoform	1.7	2.8	1.7	0.58	**U**
100-42-5	Styrene	1.7	2.8	1.7	0.45	**U**
95-47-6	o-Xylene	**1.3**	2.8	0.89	0.40	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.47**	2.8	0.89	0.40	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.51**	2.8	0.89	0.39	**J**
120-82-1	1,2,4-Trichlorobenzene	1.7	2.8	1.7	0.68	**U**
91-20-3	Naphthalene	1.6	2.7	1.6	0.68	**U**
1330-20-7	Xylenes, Total	**3.3**	5.8	1.8	0.74	**J**

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV130-250-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-003

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00938

Initial Pressure (psig): -4.41 Final Pressure (psig): 5.80

Container Dilution Factor: 1.99

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	1.6	2.6	1.6	0.65	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.4**	2.6	1.6	0.43	**J**
74-87-3	Chloromethane	1.6	2.6	1.6	0.43	**U**
75-01-4	Vinyl Chloride	0.85	2.7	0.85	0.28	**U**
106-99-0	1,3-Butadiene	1.6	2.6	1.6	0.44	**U**
75-00-3	Chloroethane	1.6	2.7	1.6	0.33	**U**
64-17-5	Ethanol	**3.7**	26	4.1	1.8	**J, B**
67-64-1	Acetone	**6.8**	26	13	6.0	**J**
75-69-4	Trichlorofluoromethane	**0.92**	2.6	1.6	0.40	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	3.1	10	3.1	1.1	**U**
75-09-2	Methylene Chloride	1.6	2.6	1.6	0.75	**U**
76-13-1	Trichlorotrifluoroethane	**7.0**	2.7	0.85	0.38	
75-15-0	Carbon Disulfide	**9.4**	5.5	2.7	0.80	
75-34-3	1,1-Dichloroethane	1.6	2.7	1.6	0.39	**U**
78-93-3	2-Butanone (MEK)	1.6	5.5	1.6	0.55	**U**
141-78-6	Ethyl Acetate	3.2	5.5	3.2	1.4	**U**
110-54-3	n-Hexane	1.6	2.7	1.6	0.55	**U**
67-66-3	Chloroform	**0.35**	2.7	0.85	0.35	**J**
109-99-9	Tetrahydrofuran (THF)	**4.0**	2.7	0.85	0.33	
107-06-2	1,2-Dichloroethane	0.85	2.7	0.85	0.29	**U**
71-43-2	Benzene	**0.61**	2.6	0.85	0.38	**J**
56-23-5	Carbon Tetrachloride	**1.4**	2.6	0.85	0.37	**J**

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B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV130-250-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-003

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00938

Initial Pressure (psig): -4.41 Final Pressure (psig): 5.80

Container Dilution Factor: 1.99

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.7	5.5	1.7	0.75	**U**
75-27-4	Bromodichloromethane	0.85	2.7	0.85	0.38	**U**
79-01-6	Trichloroethene	**28**	2.7	0.85	0.36	
123-91-1	1,4-Dioxane	0.85	2.7	0.85	0.31	**U**
142-82-5	n-Heptane	**0.45**	2.7	1.6	0.42	**J**
108-10-1	4-Methyl-2-pentanone	0.85	2.6	0.85	0.36	**U**
108-88-3	Toluene	**1.4**	2.7	0.85	0.32	**J**
591-78-6	2-Hexanone	0.85	2.7	0.85	0.33	**U**
124-48-1	Dibromochloromethane	0.85	2.7	0.85	0.35	**U**
106-93-4	1,2-Dibromoethane	0.85	2.7	0.85	0.31	**U**
127-18-4	Tetrachloroethene	**9.4**	2.6	0.85	0.34	
100-41-4	Ethylbenzene	0.85	2.7	0.85	0.37	**U**
179601-23-1	m,p-Xylenes	1.7	5.5	1.7	0.70	**U**
75-25-2	Bromoform	1.6	2.7	1.6	0.55	**U**
100-42-5	Styrene	1.6	2.6	1.6	0.43	**U**
95-47-6	o-Xylene	0.85	2.7	0.85	0.38	**U**
108-67-8	1,3,5-Trimethylbenzene	0.85	2.6	0.85	0.38	**U**
95-63-6	1,2,4-Trimethylbenzene	0.85	2.7	0.85	0.37	**U**
120-82-1	1,2,4-Trichlorobenzene	1.6	2.7	1.6	0.65	**U**
91-20-3	Naphthalene	1.5	2.6	1.5	0.65	**U**
1330-20-7	Xylenes, Total	1.7	5.5	1.7	0.70	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV130-350-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-004

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00043

Initial Pressure (psig): -2.74 Final Pressure (psig): 6.38

Container Dilution Factor: 1.76

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**4.0**	2.3	1.4	0.57	
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.8**	2.3	1.4	0.38	**J**
74-87-3	Chloromethane	**3.2**	2.3	1.4	0.38	
75-01-4	Vinyl Chloride	0.75	2.4	0.75	0.25	**U**
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.39	**U**
75-00-3	Chloroethane	**0.69**	2.4	1.4	0.29	**J**
64-17-5	Ethanol	**7.1**	23	3.7	1.6	**J, B**
67-64-1	Acetone	**35**	23	12	5.3	
75-69-4	Trichlorofluoromethane	**0.88**	2.3	1.4	0.36	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**10**	9.2	2.8	0.97	
75-09-2	Methylene Chloride	1.4	2.3	1.4	0.66	**U**
76-13-1	Trichlorotrifluoroethane	**1.4**	2.4	0.75	0.33	**J**
75-15-0	Carbon Disulfide	**21**	4.8	2.4	0.70	
75-34-3	1,1-Dichloroethane	1.5	2.4	1.5	0.34	**U**
78-93-3	2-Butanone (MEK)	**28**	4.8	1.4	0.48	
141-78-6	Ethyl Acetate	**3.2**	4.8	2.9	1.2	**J**
110-54-3	n-Hexane	**0.57**	2.4	1.4	0.48	**J**
67-66-3	Chloroform	**1.4**	2.4	0.75	0.31	**J**
109-99-9	Tetrahydrofuran (THF)	**15**	2.4	0.75	0.29	
107-06-2	1,2-Dichloroethane	0.75	2.4	0.75	0.26	**U**
71-43-2	Benzene	**1.4**	2.3	0.75	0.34	**J**
56-23-5	Carbon Tetrachloride	**0.81**	2.3	0.75	0.33	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV130-350-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-004

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00043

Initial Pressure (psig): -2.74 Final Pressure (psig): 6.38

Container Dilution Factor: 1.76

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	1.5	4.8	1.5	0.66	**U**
75-27-4	Bromodichloromethane	0.75	2.4	0.75	0.34	**U**
79-01-6	Trichloroethene	**5.0**	2.4	0.75	0.32	
123-91-1	1,4-Dioxane	**0.53**	2.4	0.75	0.28	**J**
142-82-5	n-Heptane	**0.60**	2.4	1.4	0.37	**J**
108-10-1	4-Methyl-2-pentanone	**0.99**	2.3	0.75	0.32	**J**
108-88-3	Toluene	**4.6**	2.4	0.75	0.29	
591-78-6	2-Hexanone	**1.6**	2.4	0.75	0.29	**J**
124-48-1	Dibromochloromethane	0.75	2.4	0.75	0.31	**U**
106-93-4	1,2-Dibromoethane	0.75	2.4	0.75	0.27	**U**
127-18-4	Tetrachloroethene	**2.1**	2.3	0.75	0.30	**J**
100-41-4	Ethylbenzene	**0.38**	2.4	0.75	0.33	**J**
179601-23-1	m,p-Xylenes	**1.3**	4.8	1.5	0.62	**J**
75-25-2	Bromoform	1.4	2.4	1.4	0.48	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.38	**U**
95-47-6	o-Xylene	**0.61**	2.4	0.75	0.34	**J**
108-67-8	1,3,5-Trimethylbenzene	0.75	2.3	0.75	0.34	**U**
95-63-6	1,2,4-Trimethylbenzene	**0.40**	2.4	0.75	0.33	**J**
120-82-1	1,2,4-Trichlorobenzene	1.4	2.4	1.4	0.57	**U**
91-20-3	Naphthalene	1.4	2.3	1.4	0.57	**U**
1330-20-7	Xylenes, Total	**2.0**	4.8	1.5	0.62	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV130-450-602** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-005

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SS00126

Initial Pressure (psig): -2.47 Final Pressure (psig): 5.98

Container Dilution Factor: 1.69

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**23**	45	27	11	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	27	45	27	7.4	**U**
74-87-3	Chloromethane	**16**	45	27	7.3	**J**
75-01-4	Vinyl Chloride	14	46	14	4.8	**U**
106-99-0	1,3-Butadiene	27	45	27	7.4	**U**
75-00-3	Chloroethane	27	46	27	5.6	**U**
64-17-5	Ethanol	**98**	440	70	31	**J, B**
67-64-1	Acetone	230	450	230	100	**U**
75-69-4	Trichlorofluoromethane	27	45	27	6.8	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	**95**	180	53	19	**J**
75-09-2	Methylene Chloride	27	45	27	13	**U**
76-13-1	Trichlorotrifluoroethane	14	46	14	6.4	**U**
75-15-0	Carbon Disulfide	**68**	93	46	14	**J**
75-34-3	1,1-Dichloroethane	28	46	28	6.6	**U**
78-93-3	2-Butanone (MEK)	**45**	93	27	9.3	**J**
141-78-6	Ethyl Acetate	55	93	55	24	**U**
110-54-3	n-Hexane	**83**	46	27	9.3	
67-66-3	Chloroform	14	46	14	6.0	**U**
109-99-9	Tetrahydrofuran (THF)	**11**	46	14	5.7	**J**
107-06-2	1,2-Dichloroethane	14	46	14	5.0	**U**
71-43-2	Benzene	**1,000**	45	14	6.5	
56-23-5	Carbon Tetrachloride	14	45	14	6.3	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV130-450-602** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-005

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SS00126

Initial Pressure (psig): -2.47 Final Pressure (psig): 5.98

Container Dilution Factor: 1.69

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**140**	93	29	13	
75-27-4	Bromodichloromethane	14	46	14	6.5	**U**
79-01-6	Trichloroethene	**15**	46	14	6.1	**J**
123-91-1	1,4-Dioxane	14	46	14	5.3	**U**
142-82-5	n-Heptane	**39**	46	27	7.2	**J**
108-10-1	4-Methyl-2-pentanone	**22**	45	14	6.2	**J**
108-88-3	Toluene	**1,000**	46	14	5.5	
591-78-6	2-Hexanone	14	46	14	5.6	**U**
124-48-1	Dibromochloromethane	14	46	14	5.9	**U**
106-93-4	1,2-Dibromoethane	14	46	14	5.2	**U**
127-18-4	Tetrachloroethene	14	44	14	5.8	**U**
100-41-4	Ethylbenzene	**41**	46	14	6.3	**J**
179601-23-1	m,p-Xylenes	**98**	93	29	12	
75-25-2	Bromoform	27	46	27	9.3	**U**
100-42-5	Styrene	27	45	27	7.3	**U**
95-47-6	o-Xylene	**33**	46	14	6.5	**J**
108-67-8	1,3,5-Trimethylbenzene	14	45	14	6.5	**U**
95-63-6	1,2,4-Trimethylbenzene	14	46	14	6.3	**U**
120-82-1	1,2,4-Trichlorobenzene	27	46	27	11	**U**
91-20-3	Naphthalene	26	44	26	11	**U**
1330-20-7	Xylenes, Total	**130**	93	29	12	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV130-450-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-006

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SC00130

Initial Pressure (psig): -3.12 Final Pressure (psig): 5.47

Container Dilution Factor: 1.74

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**22**	46	28	11	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	28	46	28	7.6	**U**
74-87-3	Chloromethane	**17**	46	28	7.5	**J**
75-01-4	Vinyl Chloride	15	47	15	5.0	**U**
106-99-0	1,3-Butadiene	28	46	28	7.7	**U**
75-00-3	Chloroethane	28	47	28	5.7	**U**
64-17-5	Ethanol	72	450	72	32	**U**
67-64-1	Acetone	230	460	230	100	**U**
75-69-4	Trichlorofluoromethane	28	46	28	7.0	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	**120**	180	55	19	**J**
75-09-2	Methylene Chloride	28	46	28	13	**U**
76-13-1	Trichlorotrifluoroethane	15	47	15	6.6	**U**
75-15-0	Carbon Disulfide	**71**	96	47	14	**J**
75-34-3	1,1-Dichloroethane	29	48	29	6.8	**U**
78-93-3	2-Butanone (MEK)	**59**	96	28	9.6	**J**
141-78-6	Ethyl Acetate	57	96	57	24	**U**
110-54-3	n-Hexane	**87**	47	28	9.6	
67-66-3	Chloroform	15	47	15	6.2	**U**
109-99-9	Tetrahydrofuran (THF)	**10**	48	15	5.8	**J**
107-06-2	1,2-Dichloroethane	15	47	15	5.1	**U**
71-43-2	Benzene	**1,000**	46	15	6.7	
56-23-5	Carbon Tetrachloride	15	46	15	6.4	**U**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV130-450-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-006

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SC00130

Initial Pressure (psig): -3.12 Final Pressure (psig): 5.47

Container Dilution Factor: 1.74

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**150**	96	30	13	
75-27-4	Bromodichloromethane	15	47	15	6.7	**U**
79-01-6	Trichloroethene	**15**	47	15	6.3	**J**
123-91-1	1,4-Dioxane	15	47	15	5.5	**U**
142-82-5	n-Heptane	**53**	47	28	7.4	
108-10-1	4-Methyl-2-pentanone	**14**	46	15	6.4	**J**
108-88-3	Toluene	**1,100**	47	15	5.7	
591-78-6	2-Hexanone	15	47	15	5.7	**U**
124-48-1	Dibromochloromethane	15	47	15	6.1	**U**
106-93-4	1,2-Dibromoethane	15	47	15	5.4	**U**
127-18-4	Tetrachloroethene	15	45	15	6.0	**U**
100-41-4	Ethylbenzene	**46**	47	15	6.5	**J**
179601-23-1	m,p-Xylenes	**110**	96	30	12	
75-25-2	Bromoform	28	47	28	9.6	**U**
100-42-5	Styrene	28	46	28	7.5	**U**
95-47-6	o-Xylene	**36**	47	15	6.7	**J**
108-67-8	1,3,5-Trimethylbenzene	**7.4**	46	15	6.7	**J**
95-63-6	1,2,4-Trimethylbenzene	**8.7**	47	15	6.4	**J**
120-82-1	1,2,4-Trichlorobenzene	28	47	28	11	**U**
91-20-3	Naphthalene	27	45	27	11	**U**
1330-20-7	Xylenes, Total	**150**	96	30	12	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVE10-410-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-007

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.080 Liter(s)
Test Notes:
Container ID: 1SC01237

Initial Pressure (psig): -4.95 Final Pressure (psig): 6.02

Container Dilution Factor: 2.13

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**15**	14	8.5	3.5	
75-71-8	Dichlorodifluoromethane (CFC 12)	**8.6**	14	8.5	2.3	**J**
74-87-3	Chloromethane	**51**	14	8.5	2.3	
75-01-4	Vinyl Chloride	**3.6**	14	4.5	1.5	**J**
106-99-0	1,3-Butadiene	8.5	14	8.5	2.3	**U**
75-00-3	Chloroethane	8.5	14	8.5	1.8	**U**
64-17-5	Ethanol	22	140	22	9.9	**U**
67-64-1	Acetone	**57**	140	72	32	**J**
75-69-4	Trichlorofluoromethane	**2.5**	14	8.5	2.2	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	17	56	17	5.9	**U**
75-09-2	Methylene Chloride	8.5	14	8.5	4.0	**U**
76-13-1	Trichlorotrifluoroethane	**890**	14	4.5	2.0	
75-15-0	Carbon Disulfide	**23**	29	14	4.3	**J**
75-34-3	1,1-Dichloroethane	8.8	15	8.8	2.1	**U**
78-93-3	2-Butanone (MEK)	**6.1**	29	8.5	2.9	**J**
141-78-6	Ethyl Acetate	17	29	17	7.5	**U**
110-54-3	n-Hexane	**130**	14	8.5	2.9	
67-66-3	Chloroform	**5.2**	14	4.5	1.9	**J**
109-99-9	Tetrahydrofuran (THF)	**240**	15	4.5	1.8	
107-06-2	1,2-Dichloroethane	**1.7**	14	4.5	1.6	**J**
71-43-2	Benzene	**570**	14	4.5	2.1	
56-23-5	Carbon Tetrachloride	**13**	14	4.5	2.0	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVE10-410-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-007

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.080 Liter(s)
Test Notes:
Container ID: 1SC01237

Initial Pressure (psig): -4.95 Final Pressure (psig): 6.02

Container Dilution Factor: 2.13

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**47**	29	9.1	4.0	
75-27-4	Bromodichloromethane	4.5	14	4.5	2.1	**U**
79-01-6	Trichloroethene	**41**	14	4.5	1.9	
123-91-1	1,4-Dioxane	4.5	14	4.5	1.7	**U**
142-82-5	n-Heptane	**56**	14	8.5	2.3	
108-10-1	4-Methyl-2-pentanone	4.5	14	4.5	1.9	**U**
108-88-3	Toluene	**2,500**	14	4.5	1.7	
591-78-6	2-Hexanone	4.5	14	4.5	1.8	**U**
124-48-1	Dibromochloromethane	4.5	14	4.5	1.9	**U**
106-93-4	1,2-Dibromoethane	4.5	14	4.5	1.7	**U**
127-18-4	Tetrachloroethene	**13**	14	4.5	1.8	**J**
100-41-4	Ethylbenzene	**46**	14	4.5	2.0	
179601-23-1	m,p-Xylenes	**170**	29	9.1	3.7	
75-25-2	Bromoform	8.5	14	8.5	2.9	**U**
100-42-5	Styrene	8.5	14	8.5	2.3	**U**
95-47-6	o-Xylene	**45**	14	4.5	2.1	
108-67-8	1,3,5-Trimethylbenzene	**5.0**	14	4.5	2.1	**J**
95-63-6	1,2,4-Trimethylbenzene	**7.7**	14	4.5	2.0	**J**
120-82-1	1,2,4-Trichlorobenzene	8.5	14	8.5	3.5	**U**
91-20-3	Naphthalene	8.3	14	8.3	3.5	**U**
1330-20-7	Xylenes, Total	**220**	29	9.1	3.7	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVE10-410-602** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-008

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.080 Liter(s)
Test Notes: 0.020 Liter(s)
Container ID: 1SC00547

Initial Pressure (psig): -3.17 Final Pressure (psig): 5.96

Container Dilution Factor: 1.79

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**15**	12	7.2	2.9	
75-71-8	Dichlorodifluoromethane (CFC 12)	**8.8**	12	7.2	1.9	**J**
74-87-3	Chloromethane	**51**	12	7.2	1.9	
75-01-4	Vinyl Chloride	**4.0**	12	3.8	1.3	**J**
106-99-0	1,3-Butadiene	7.2	12	7.2	2.0	**U**
75-00-3	Chloroethane	7.2	12	7.2	1.5	**U**
64-17-5	Ethanol	19	120	19	8.3	**U**
67-64-1	Acetone	**75**	120	60	27	**J**
75-69-4	Trichlorofluoromethane	**2.5**	12	7.2	1.8	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	14	47	14	4.9	**U**
75-09-2	Methylene Chloride	7.2	12	7.2	3.4	**U**
76-13-1	Trichlorotrifluoroethane	**930**	12	3.8	1.7	
75-15-0	Carbon Disulfide	**25**	25	12	3.6	
75-34-3	1,1-Dichloroethane	7.4	12	7.4	1.7	**U**
78-93-3	2-Butanone (MEK)	**8.1**	25	7.2	2.5	**J**
141-78-6	Ethyl Acetate	15	25	15	6.3	**U**
110-54-3	n-Hexane	**130**	12	7.2	2.5	
67-66-3	Chloroform	**5.3**	12	3.8	1.6	**J**
109-99-9	Tetrahydrofuran (THF)	**260**	12	3.8	1.5	
107-06-2	1,2-Dichloroethane	**1.9**	12	3.8	1.3	**J**
71-43-2	Benzene	**600**	12	3.8	1.7	
56-23-5	Carbon Tetrachloride	**13**	12	3.8	1.7	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVE10-410-602** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-008

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.080 Liter(s)
Test Notes: 0.020 Liter(s)
Container ID: 1SC00547

Initial Pressure (psig): -3.17 Final Pressure (psig): 5.96

Container Dilution Factor: 1.79

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**50**	25	7.6	3.4	
75-27-4	Bromodichloromethane	3.8	12	3.8	1.7	**U**
79-01-6	Trichloroethene	**41**	12	3.8	1.6	
123-91-1	1,4-Dioxane	3.8	12	3.8	1.4	**U**
142-82-5	n-Heptane	**58**	12	7.2	1.9	
108-10-1	4-Methyl-2-pentanone	3.8	12	3.8	1.6	**U**
108-88-3	Toluene	**2,400**	48	15	5.8	**D**
591-78-6	2-Hexanone	3.8	12	3.8	1.5	**U**
124-48-1	Dibromochloromethane	3.8	12	3.8	1.6	**U**
106-93-4	1,2-Dibromoethane	3.8	12	3.8	1.4	**U**
127-18-4	Tetrachloroethene	**11**	12	3.8	1.5	**J**
100-41-4	Ethylbenzene	**49**	12	3.8	1.7	
179601-23-1	m,p-Xylenes	**190**	25	7.6	3.1	
75-25-2	Bromoform	7.2	12	7.2	2.5	**U**
100-42-5	Styrene	7.2	12	7.2	1.9	**U**
95-47-6	o-Xylene	**49**	12	3.8	1.7	
108-67-8	1,3,5-Trimethylbenzene	**8.4**	12	3.8	1.7	**J**
95-63-6	1,2,4-Trimethylbenzene	**24**	12	3.8	1.7	
120-82-1	1,2,4-Trichlorobenzene	7.2	12	7.2	2.9	**U**
91-20-3	Naphthalene	**3.2**	12	6.9	2.9	**J**
1330-20-7	Xylenes, Total	**230**	25	7.6	3.1	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVE11-410-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-009

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/13/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0040 Liter(s)
Test Notes:
Container ID: 1SS00207

Initial Pressure (psig): -4.05 Final Pressure (psig): 5.81

Container Dilution Factor: 1.93

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**310**	260	150	63	
75-71-8	Dichlorodifluoromethane (CFC 12)	150	260	150	42	**U**
74-87-3	Chloromethane	**65**	260	150	41	**J**
75-01-4	Vinyl Chloride	82	260	82	28	**U**
106-99-0	1,3-Butadiene	150	260	150	42	**U**
75-00-3	Chloroethane	150	260	150	32	**U**
64-17-5	Ethanol	**450**	2,500	400	180	**J, B**
67-64-1	Acetone	1,300	2,600	1,300	580	**U**
75-69-4	Trichlorofluoromethane	150	260	150	39	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	300	1,000	300	110	**U**
75-09-2	Methylene Chloride	150	260	150	72	**U**
76-13-1	Trichlorotrifluoroethane	82	260	82	37	**U**
75-15-0	Carbon Disulfide	260	530	260	77	**U**
75-34-3	1,1-Dichloroethane	160	270	160	38	**U**
78-93-3	2-Butanone (MEK)	150	530	150	53	**U**
141-78-6	Ethyl Acetate	310	530	310	140	**U**
110-54-3	n-Hexane	**2,600**	260	150	53	
67-66-3	Chloroform	82	260	82	34	**U**
109-99-9	Tetrahydrofuran (THF)	**130**	270	82	32	**J**
107-06-2	1,2-Dichloroethane	82	260	82	28	**U**
71-43-2	Benzene	**8,800**	260	82	37	
56-23-5	Carbon Tetrachloride	82	260	82	36	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVE11-410-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-009

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/13/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0040 Liter(s)
Test Notes:
Container ID: 1SS00207

Initial Pressure (psig): -4.05 Final Pressure (psig): 5.81

Container Dilution Factor: 1.93

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**9,600**	530	160	72	
75-27-4	Bromodichloromethane	82	260	82	37	**U**
79-01-6	Trichloroethene	**36**	260	82	35	**J**
123-91-1	1,4-Dioxane	82	260	82	30	**U**
142-82-5	n-Heptane	**3,400**	260	150	41	
108-10-1	4-Methyl-2-pentanone	82	260	82	35	**U**
108-88-3	Toluene	**21,000**	260	82	31	
591-78-6	2-Hexanone	82	260	82	32	**U**
124-48-1	Dibromochloromethane	82	260	82	34	**U**
106-93-4	1,2-Dibromoethane	82	260	82	30	**U**
127-18-4	Tetrachloroethene	**43**	250	82	33	**J**
100-41-4	Ethylbenzene	**1,100**	260	82	36	
179601-23-1	m,p-Xylenes	**8,500**	530	160	68	
75-25-2	Bromoform	150	260	150	53	**U**
100-42-5	Styrene	150	260	150	41	**U**
95-47-6	o-Xylene	**2,500**	260	82	37	
108-67-8	1,3,5-Trimethylbenzene	**530**	260	82	37	
95-63-6	1,2,4-Trimethylbenzene	**360**	260	82	36	
120-82-1	1,2,4-Trichlorobenzene	150	260	150	63	**U**
91-20-3	Naphthalene	150	250	150	63	**U**
1330-20-7	Xylenes, Total	**11,000**	530	160	68	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVE11-410-602** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-010

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/13/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0040 Liter(s)
Test Notes:
Container ID: 1SS00793

Initial Pressure (psig): -3.83 Final Pressure (psig): 5.27

Container Dilution Factor: 1.84

CAS #	Compound	Result µg/m³		LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**340**		240	150	60	
75-71-8	Dichlorodifluoromethane (CFC 12)		150	240	150	40	**U**
74-87-3	Chloromethane	**72**		240	150	40	**J**
75-01-4	Vinyl Chloride		78	250	78	26	**U**
106-99-0	1,3-Butadiene		150	240	150	40	**U**
75-00-3	Chloroethane		150	250	150	30	**U**
64-17-5	Ethanol	**500**		2,400	380	170	**J, B**
67-64-1	Acetone		1,200	2,400	1,200	550	**U**
75-69-4	Trichlorofluoromethane		150	240	150	37	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)		290	970	290	100	**U**
75-09-2	Methylene Chloride		150	240	150	69	**U**
76-13-1	Trichlorotrifluoroethane	**130**		250	78	35	**J**
75-15-0	Carbon Disulfide	**97**		510	250	74	**J**
75-34-3	1,1-Dichloroethane		150	250	150	36	**U**
78-93-3	2-Butanone (MEK)	**57**		510	150	51	**J**
141-78-6	Ethyl Acetate		300	510	300	130	**U**
110-54-3	n-Hexane	**2,500**		250	150	51	
67-66-3	Chloroform		78	250	78	33	**U**
109-99-9	Tetrahydrofuran (THF)	**170**		250	78	31	**J**
107-06-2	1,2-Dichloroethane		78	250	78	27	**U**
71-43-2	Benzene	**9,000**		240	78	35	
56-23-5	Carbon Tetrachloride		78	240	78	34	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVE11-410-602** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-010

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/13/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0040 Liter(s)
Test Notes:
Container ID: 1SS00793

Initial Pressure (psig): -3.83 Final Pressure (psig): 5.27

Container Dilution Factor: 1.84

CAS #	Compound	Result µg/m³		LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**9,600**		510	160	69	
75-27-4	Bromodichloromethane		78	250	78	35	**U**
79-01-6	Trichloroethene	**94**		250	78	33	**J**
123-91-1	1,4-Dioxane		78	250	78	29	**U**
142-82-5	n-Heptane	**3,300**		250	150	39	
108-10-1	4-Methyl-2-pentanone		78	240	78	34	**U**
108-88-3	Toluene	**20,000**		250	78	30	
591-78-6	2-Hexanone		78	250	78	30	**U**
124-48-1	Dibromochloromethane		78	250	78	32	**U**
106-93-4	1,2-Dibromoethane		78	250	78	29	**U**
127-18-4	Tetrachloroethene	**54**		240	78	32	**J**
100-41-4	Ethylbenzene	**1,100**		250	78	35	
179601-23-1	m,p-Xylenes	**7,700**		510	160	64	
75-25-2	Bromoform		150	250	150	51	**U**
100-42-5	Styrene		150	240	150	40	**U**
95-47-6	o-Xylene	**2,200**		250	78	35	
108-67-8	1,3,5-Trimethylbenzene	**440**		240	78	35	
95-63-6	1,2,4-Trimethylbenzene	**330**		250	78	34	
120-82-1	1,2,4-Trichlorobenzene		150	250	150	60	**U**
91-20-3	Naphthalene		140	240	140	60	**U**
1330-20-7	Xylenes, Total	**9,900**		510	160	64	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVE13-410-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-011

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/13/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00090 Liter(s)
Test Notes:
Container ID: 1SS00246

Initial Pressure (psig): -3.89 Final Pressure (psig): 5.50

Container Dilution Factor: 1.87

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**3,200**	1,100	660	270	
75-71-8	Dichlorodifluoromethane (CFC 12)	660	1,100	660	180	**U**
74-87-3	Chloromethane	660	1,100	660	180	**U**
75-01-4	Vinyl Chloride	350	1,100	350	120	**U**
106-99-0	1,3-Butadiene	660	1,100	660	180	**U**
75-00-3	Chloroethane	660	1,100	660	140	**U**
64-17-5	Ethanol	1,700	11,000	1,700	770	**U**
67-64-1	Acetone	5,600	11,000	5,600	2,500	**U**
75-69-4	Trichlorofluoromethane	660	1,100	660	170	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	1,300	4,400	1,300	460	**U**
75-09-2	Methylene Chloride	660	1,100	660	310	**U**
76-13-1	Trichlorotrifluoroethane	350	1,100	350	160	**U**
75-15-0	Carbon Disulfide	1,100	2,300	1,100	330	**U**
75-34-3	1,1-Dichloroethane	690	1,100	690	160	**U**
78-93-3	2-Butanone (MEK)	660	2,300	660	230	**U**
141-78-6	Ethyl Acetate	1,400	2,300	1,400	580	**U**
110-54-3	n-Hexane	**150,000**	1,100	660	230	
67-66-3	Chloroform	350	1,100	350	150	**U**
109-99-9	Tetrahydrofuran (THF)	350	1,100	350	140	**U**
107-06-2	1,2-Dichloroethane	350	1,100	350	120	**U**
71-43-2	Benzene	**20,000**	1,100	350	160	
56-23-5	Carbon Tetrachloride	350	1,100	350	150	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVE13-410-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-011

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/13/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00090 Liter(s)
Test Notes:
Container ID: 1SS00246

Initial Pressure (psig): -3.89 Final Pressure (psig): 5.50

Container Dilution Factor: 1.87

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**190,000**	2,300	710	310	
75-27-4	Bromodichloromethane	350	1,100	350	160	**U**
79-01-6	Trichloroethene	350	1,100	350	150	**U**
123-91-1	1,4-Dioxane	350	1,100	350	130	**U**
142-82-5	n-Heptane	**120,000**	1,100	660	180	
108-10-1	4-Methyl-2-pentanone	350	1,100	350	150	**U**
108-88-3	Toluene	**3,900**	1,100	350	140	
591-78-6	2-Hexanone	350	1,100	350	140	**U**
124-48-1	Dibromochloromethane	350	1,100	350	150	**U**
106-93-4	1,2-Dibromoethane	350	1,100	350	130	**U**
127-18-4	Tetrachloroethene	350	1,100	350	140	**U**
100-41-4	Ethylbenzene	350	1,100	350	160	**U**
179601-23-1	m,p-Xylenes	710	2,300	710	290	**U**
75-25-2	Bromoform	660	1,100	660	230	**U**
100-42-5	Styrene	660	1,100	660	180	**U**
95-47-6	o-Xylene	**1,100**	1,100	350	160	**J**
108-67-8	1,3,5-Trimethylbenzene	**480**	1,100	350	160	**J**
95-63-6	1,2,4-Trimethylbenzene	350	1,100	350	150	**U**
120-82-1	1,2,4-Trichlorobenzene	660	1,100	660	270	**U**
91-20-3	Naphthalene	640	1,100	640	270	**U**
1330-20-7	Xylenes, Total	**1,100**	2,300	710	290	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV01-050-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-012

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.080 Liter(s)
Test Notes:
Container ID: 1SS00723

Initial Pressure (psig): -3.02 Final Pressure (psig): 6.61

Container Dilution Factor: 1.82

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**5.4**	12	7.3	3.0	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**4.1**	12	7.3	2.0	**J**
74-87-3	Chloromethane	7.3	12	7.3	2.0	**U**
75-01-4	Vinyl Chloride	3.9	12	3.9	1.3	**U**
106-99-0	1,3-Butadiene	7.3	12	7.3	2.0	**U**
75-00-3	Chloroethane	7.3	12	7.3	1.5	**U**
64-17-5	Ethanol	19	120	19	8.4	**U**
67-64-1	Acetone	61	120	61	27	**U**
75-69-4	Trichlorofluoromethane	**15**	12	7.3	1.8	
67-63-0	2-Propanol (Isopropyl Alcohol)	14	48	14	5.0	**U**
75-09-2	Methylene Chloride	7.3	12	7.3	3.4	**U**
76-13-1	Trichlorotrifluoroethane	**73**	12	3.9	1.7	
75-15-0	Carbon Disulfide	12	25	12	3.6	**U**
75-34-3	1,1-Dichloroethane	7.5	13	7.5	1.8	**U**
78-93-3	2-Butanone (MEK)	7.3	25	7.3	2.5	**U**
141-78-6	Ethyl Acetate	15	25	15	6.4	**U**
110-54-3	n-Hexane	**3.1**	12	7.3	2.5	**J**
67-66-3	Chloroform	3.9	12	3.9	1.6	**U**
109-99-9	Tetrahydrofuran (THF)	3.9	13	3.9	1.5	**U**
107-06-2	1,2-Dichloroethane	3.9	12	3.9	1.3	**U**
71-43-2	Benzene	**3.8**	12	3.9	1.8	**J**
56-23-5	Carbon Tetrachloride	3.9	12	3.9	1.7	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV01-050-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-012

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.080 Liter(s)
Test Notes:
Container ID: 1SS00723

Initial Pressure (psig): -3.02 Final Pressure (psig): 6.61

Container Dilution Factor: 1.82

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**1,600**	25	7.7	3.4	
75-27-4	Bromodichloromethane	3.9	12	3.9	1.8	**U**
79-01-6	Trichloroethene	3.9	12	3.9	1.6	**U**
123-91-1	1,4-Dioxane	3.9	12	3.9	1.4	**U**
142-82-5	n-Heptane	**9.3**	12	7.3	1.9	**J**
108-10-1	4-Methyl-2-pentanone	3.9	12	3.9	1.7	**U**
108-88-3	Toluene	**22**	12	3.9	1.5	
591-78-6	2-Hexanone	3.9	12	3.9	1.5	**U**
124-48-1	Dibromochloromethane	3.9	12	3.9	1.6	**U**
106-93-4	1,2-Dibromoethane	3.9	12	3.9	1.4	**U**
127-18-4	Tetrachloroethene	**2.4**	12	3.9	1.6	**J**
100-41-4	Ethylbenzene	**2.0**	12	3.9	1.7	**J**
179601-23-1	m,p-Xylenes	**12**	25	7.7	3.2	**J**
75-25-2	Bromoform	7.3	12	7.3	2.5	**U**
100-42-5	Styrene	7.3	12	7.3	2.0	**U**
95-47-6	o-Xylene	**3.5**	12	3.9	1.8	**J**
108-67-8	1,3,5-Trimethylbenzene	3.9	12	3.9	1.8	**U**
95-63-6	1,2,4-Trimethylbenzene	**2.4**	12	3.9	1.7	**J**
120-82-1	1,2,4-Trichlorobenzene	7.3	12	7.3	3.0	**U**
91-20-3	Naphthalene	7.1	12	7.1	3.0	**U**
1330-20-7	Xylenes, Total	**15**	25	7.7	3.2	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV01-100-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-013

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.000050 Liter(s)
Test Notes:
Container ID: 1SC00588

Initial Pressure (psig): -3.12 Final Pressure (psig): 6.67

Container Dilution Factor: 1.85

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**5,900**	20,000	12,000	4,800	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	12,000	20,000	12,000	3,200	**U**
74-87-3	Chloromethane	12,000	20,000	12,000	3,200	**U**
75-01-4	Vinyl Chloride	6,300	20,000	6,300	2,100	**U**
106-99-0	1,3-Butadiene	12,000	20,000	12,000	3,300	**U**
75-00-3	Chloroethane	12,000	20,000	12,000	2,400	**U**
64-17-5	Ethanol	31,000	190,000	31,000	14,000	**U**
67-64-1	Acetone	100,00	200,000	100,000	44,000	**U**
75-69-4	Trichlorofluoromethane	12,000	20,000	12,000	3,000	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	23,000	78,000	23,000	8,100	**U**
75-09-2	Methylene Chloride	12,000	20,000	12,000	5,600	**U**
76-13-1	Trichlorotrifluoroethane	6,300	20,000	6,300	2,800	**U**
75-15-0	Carbon Disulfide	20,000	41,000	20,000	5,900	**U**
75-34-3	1,1-Dichloroethane	12,000	20,000	12,000	2,900	**U**
78-93-3	2-Butanone (MEK)	12,000	41,000	12,000	4,100	**U**
141-78-6	Ethyl Acetate	24,000	41,000	24,000	10,000	**U**
110-54-3	n-Hexane	**2,600,000**	20,000	12,000	4,100	
67-66-3	Chloroform	6,300	20,000	6,300	2,600	**U**
109-99-9	Tetrahydrofuran (THF)	6,300	20,000	6,300	2,500	**U**
107-06-2	1,2-Dichloroethane	6,300	20,000	6,300	2,200	**U**
71-43-2	Benzene	**140,000**	20,000	6,300	2,800	
56-23-5	Carbon Tetrachloride	6,300	20,000	6,300	2,700	**U**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV01-100-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-013

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.000050 Liter(s)
Test Notes:
Container ID: 1SC00588

Initial Pressure (psig): -3.12 Final Pressure (psig): 6.67

Container Dilution Factor: 1.85

CAS #	Compound	Result µg/m³		LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**1,800,000**		41,000	13,000	5,600	
75-27-4	Bromodichloromethane		6,300	20,000	6,300	2,800	**U**
79-01-6	Trichloroethene		6,300	20,000	6,300	2,700	**U**
123-91-1	1,4-Dioxane		6,300	20,000	6,300	2,300	**U**
142-82-5	n-Heptane	**930,000**		20,000	12,000	3,100	
108-10-1	4-Methyl-2-pentanone		6,300	20,000	6,300	2,700	**U**
108-88-3	Toluene	**140,000**		20,000	6,300	2,400	
591-78-6	2-Hexanone		6,300	20,000	6,300	2,400	**U**
124-48-1	Dibromochloromethane		6,300	20,000	6,300	2,600	**U**
106-93-4	1,2-Dibromoethane		6,300	20,000	6,300	2,300	**U**
127-18-4	Tetrachloroethene		6,300	19,000	6,300	2,600	**U**
100-41-4	Ethylbenzene	**12,000**		20,000	6,300	2,800	**J**
179601-23-1	m,p-Xylenes	**51,000**		41,000	13,000	5,200	
75-25-2	Bromoform		12,000	20,000	12,000	4,100	**U**
100-42-5	Styrene		12,000	20,000	12,000	3,200	**U**
95-47-6	o-Xylene	**17,000**		20,000	6,300	2,800	**J**
108-67-8	1,3,5-Trimethylbenzene	**3,900**		20,000	6,300	2,800	**J**
95-63-6	1,2,4-Trimethylbenzene	**5,700**		20,000	6,300	2,700	**J**
120-82-1	1,2,4-Trichlorobenzene		12,000	20,000	12,000	4,800	**U**
91-20-3	Naphthalene		11,000	19,000	11,000	4,800	**U**
1330-20-7	Xylenes, Total	**68,000**		41,000	13,000	5,200	

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV01-250-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-014

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00020 Liter(s)
Test Notes:
Container ID: 1SC00926

Initial Pressure (psig): -2.70 Final Pressure (psig): 6.39

Container Dilution Factor: 1.76

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**15,000**	4,700	2,800	1,100	
75-71-8	Dichlorodifluoromethane (CFC 12)	2,800	4,700	2,800	770	**U**
74-87-3	Chloromethane	2,800	4,700	2,800	760	**U**
75-01-4	Vinyl Chloride	1,500	4,800	1,500	500	**U**
106-99-0	1,3-Butadiene	2,800	4,700	2,800	770	**U**
75-00-3	Chloroethane	2,800	4,800	2,800	580	**U**
64-17-5	Ethanol	7,300	46,000	7,300	3,300	**U**
67-64-1	Acetone	24,000	47,000	24,000	11,000	**U**
75-69-4	Trichlorofluoromethane	2,800	4,700	2,800	710	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	5,500	18,000	5,500	1,900	**U**
75-09-2	Methylene Chloride	2,800	4,700	2,800	1,300	**U**
76-13-1	Trichlorotrifluoroethane	1,500	4,800	1,500	670	**U**
75-15-0	Carbon Disulfide	4,800	9,700	4,800	1,400	**U**
75-34-3	1,1-Dichloroethane	2,900	4,800	2,900	690	**U**
78-93-3	2-Butanone (MEK)	2,800	9,700	2,800	970	**U**
141-78-6	Ethyl Acetate	5,700	9,700	5,700	2,500	**U**
110-54-3	n-Hexane	**910,000**	4,800	2,800	970	
67-66-3	Chloroform	1,500	4,800	1,500	620	**U**
109-99-9	Tetrahydrofuran (THF)	1,500	4,800	1,500	590	**U**
107-06-2	1,2-Dichloroethane	1,500	4,800	1,500	520	**U**
71-43-2	Benzene	**34,000**	4,700	1,500	680	
56-23-5	Carbon Tetrachloride	1,500	4,700	1,500	650	**U**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV01-250-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-014

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00020 Liter(s)
Test Notes:
Container ID: 1SC00926

Initial Pressure (psig): -2.70 Final Pressure (psig): 6.39

Container Dilution Factor: 1.76

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**1,200,000**	9,700	3,000	1,300	
75-27-4	Bromodichloromethane	1,500	4,800	1,500	680	**U**
79-01-6	Trichloroethene	1,500	4,800	1,500	630	**U**
123-91-1	1,4-Dioxane	1,500	4,800	1,500	550	**U**
142-82-5	n-Heptane	**680,000**	4,800	2,800	750	
108-10-1	4-Methyl-2-pentanone	1,500	4,700	1,500	640	**U**
108-88-3	Toluene	**13,000**	4,800	1,500	570	
591-78-6	2-Hexanone	1,500	4,800	1,500	580	**U**
124-48-1	Dibromochloromethane	1,500	4,800	1,500	620	**U**
106-93-4	1,2-Dibromoethane	1,500	4,800	1,500	550	**U**
127-18-4	Tetrachloroethene	1,500	4,600	1,500	610	**U**
100-41-4	Ethylbenzene	**1,200**	4,800	1,500	660	**J**
179601-23-1	m,p-Xylenes	3,000	9,700	3,000	1,200	**U**
75-25-2	Bromoform	2,800	4,800	2,800	970	**U**
100-42-5	Styrene	2,800	4,700	2,800	760	**U**
95-47-6	o-Xylene	**2,600**	4,800	1,500	680	**J**
108-67-8	1,3,5-Trimethylbenzene	1,500	4,700	1,500	680	**U**
95-63-6	1,2,4-Trimethylbenzene	1,500	4,800	1,500	650	**U**
120-82-1	1,2,4-Trichlorobenzene	2,800	4,800	2,800	1,100	**U**
91-20-3	Naphthalene	2,700	4,600	2,700	1,100	**U**
1330-20-7	Xylenes, Total	**2,600**	9,700	3,000	1,200	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV01-300-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-015

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0035 Liter(s)
Test Notes:
Container ID: 1SC00975

Initial Pressure (psig): -3.55 Final Pressure (psig): 5.98

Container Dilution Factor: 1.85

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**310**	280	170	69	
75-71-8	Dichlorodifluoromethane (CFC 12)	170	280	170	46	**U**
74-87-3	Chloromethane	170	280	170	45	**U**
75-01-4	Vinyl Chloride	90	290	90	30	**U**
106-99-0	1,3-Butadiene	170	280	170	47	**U**
75-00-3	Chloroethane	170	290	170	35	**U**
64-17-5	Ethanol	440	2,700	440	200	**U**
67-64-1	Acetone	1,400	2,800	1,400	630	**U**
75-69-4	Trichlorofluoromethane	170	280	170	43	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	330	1,100	330	120	**U**
75-09-2	Methylene Chloride	170	280	170	79	**U**
76-13-1	Trichlorotrifluoroethane	**1,200**	290	90	40	
75-15-0	Carbon Disulfide	290	580	290	85	**U**
75-34-3	1,1-Dichloroethane	170	290	170	41	**U**
78-93-3	2-Butanone (MEK)	170	580	170	58	**U**
141-78-6	Ethyl Acetate	340	580	340	150	**U**
110-54-3	n-Hexane	**11,000**	290	170	58	
67-66-3	Chloroform	90	290	90	38	**U**
109-99-9	Tetrahydrofuran (THF)	90	290	90	35	**U**
107-06-2	1,2-Dichloroethane	90	290	90	31	**U**
71-43-2	Benzene	**2,900**	280	90	41	
56-23-5	Carbon Tetrachloride	90	280	90	39	**U**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV01-300-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-015

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0035 Liter(s)
Test Notes:
Container ID: 1SC00975

Initial Pressure (psig): -3.55 Final Pressure (psig): 5.98

Container Dilution Factor: 1.85

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**24,000**	580	180	79	
75-27-4	Bromodichloromethane	90	290	90	41	**U**
79-01-6	Trichloroethene	90	290	90	38	**U**
123-91-1	1,4-Dioxane	90	290	90	33	**U**
142-82-5	n-Heptane	**8,100**	290	170	45	
108-10-1	4-Methyl-2-pentanone	90	280	90	39	**U**
108-88-3	Toluene	**110**	290	90	34	**J**
591-78-6	2-Hexanone	90	290	90	35	**U**
124-48-1	Dibromochloromethane	90	290	90	37	**U**
106-93-4	1,2-Dibromoethane	90	290	90	33	**U**
127-18-4	Tetrachloroethene	90	270	90	36	**U**
100-41-4	Ethylbenzene	90	290	90	40	**U**
179601-23-1	m,p-Xylenes	**100**	580	180	74	**J**
75-25-2	Bromoform	170	290	170	58	**U**
100-42-5	Styrene	170	280	170	45	**U**
95-47-6	o-Xylene	**63**	290	90	41	**J**
108-67-8	1,3,5-Trimethylbenzene	90	280	90	41	**U**
95-63-6	1,2,4-Trimethylbenzene	90	290	90	39	**U**
120-82-1	1,2,4-Trichlorobenzene	170	290	170	69	**U**
91-20-3	Naphthalene	160	270	160	69	**U**
1330-20-7	Xylenes, Total	**170**	580	180	74	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV02-050-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-016

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00015 Liter(s)
Test Notes:
Container ID: 1SS00911

Initial Pressure (psig): -3.59 Final Pressure (psig): 5.67

Container Dilution Factor: 1.83

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	3,900	6,500	3,900	1,600	U
75-71-8	Dichlorodifluoromethane (CFC 12)	3,900	6,500	3,900	1,100	U
74-87-3	Chloromethane	3,900	6,500	3,900	1,000	U
75-01-4	Vinyl Chloride	2,100	6,600	2,100	700	U
106-99-0	1,3-Butadiene	3,900	6,500	3,900	1,100	U
75-00-3	Chloroethane	3,900	6,600	3,900	810	U
64-17-5	Ethanol	10,000	63,000	10,000	4,500	U
67-64-1	Acetone	33,000	65,000	33,000	15,000	U
75-69-4	Trichlorofluoromethane	3,900	6,500	3,900	990	U
67-63-0	2-Propanol (Isopropyl Alcohol)	7,700	26,000	7,700	2,700	U
75-09-2	Methylene Chloride	3,900	6,500	3,900	1,800	U
76-13-1	Trichlorotrifluoroethane	2,100	6,600	2,100	930	U
75-15-0	Carbon Disulfide	6,600	13,000	6,600	2,000	U
75-34-3	1,1-Dichloroethane	4,000	6,700	4,000	950	U
78-93-3	2-Butanone (MEK)	3,900	13,000	3,900	1,300	U
141-78-6	Ethyl Acetate	7,900	13,000	7,900	3,400	U
110-54-3	n-Hexane	3,900	6,600	3,900	1,300	U
67-66-3	Chloroform	2,100	6,600	2,100	870	U
109-99-9	Tetrahydrofuran (THF)	2,100	6,700	2,100	820	U
107-06-2	1,2-Dichloroethane	2,100	6,600	2,100	720	U
71-43-2	Benzene	2,100	6,500	2,100	940	U
56-23-5	Carbon Tetrachloride	2,100	6,500	2,100	900	U

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV02-050-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-016

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00015 Liter(s)
Test Notes:
Container ID: 1SS00911

Initial Pressure (psig): -3.59 Final Pressure (psig): 5.67

Container Dilution Factor: 1.83

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	4,100	13,000	4,100	1,800	U
75-27-4	Bromodichloromethane	2,100	6,600	2,100	940	U
79-01-6	Trichloroethene	2,100	6,600	2,100	880	U
123-91-1	1,4-Dioxane	2,100	6,600	2,100	770	U
142-82-5	n-Heptane	3,900	6,600	3,900	1,000	U
108-10-1	4-Methyl-2-pentanone	2,100	6,500	2,100	890	U
108-88-3	Toluene	2,100	6,600	2,100	790	U
591-78-6	2-Hexanone	2,100	6,600	2,100	810	U
124-48-1	Dibromochloromethane	2,100	6,600	2,100	850	U
106-93-4	1,2-Dibromoethane	2,100	6,600	2,100	760	U
127-18-4	Tetrachloroethene	2,100	6,300	2,100	840	U
100-41-4	Ethylbenzene	2,100	6,600	2,100	920	U
179601-23-1	m,p-Xylenes	4,100	13,000	4,100	1,700	U
75-25-2	Bromoform	3,900	6,600	3,900	1,300	U
100-42-5	Styrene	3,900	6,500	3,900	1,000	U
95-47-6	o-Xylene	2,100	6,600	2,100	940	U
108-67-8	1,3,5-Trimethylbenzene	2,100	6,500	2,100	940	U
95-63-6	1,2,4-Trimethylbenzene	2,100	6,600	2,100	900	U
120-82-1	1,2,4-Trichlorobenzene	3,900	6,600	3,900	1,600	U
91-20-3	Naphthalene	3,800	6,300	3,800	1,600	U
1330-20-7	Xylenes, Total	4,100	13,000	4,100	1,700	U

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV02-100-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-017

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.000050 Liter(s)
Test Notes: 0.000025 Liter(s)
Container ID: 1SS00787

Initial Pressure (psig): -2.90 Final Pressure (psig): 5.47

Container Dilution Factor: 1.71

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	11,000	18,000	11,000	4,400	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	11,000	18,000	11,000	3,000	**U**
74-87-3	Chloromethane	11,000	18,000	11,000	2,900	**U**
75-01-4	Vinyl Chloride	5,800	18,000	5,800	1,900	**U**
106-99-0	1,3-Butadiene	11,000	18,000	11,000	3,000	**U**
75-00-3	Chloroethane	11,000	18,000	11,000	2,300	**U**
64-17-5	Ethanol	28,000	180,000	28,000	13,000	**U**
67-64-1	Acetone	92,000	180,000	92,000	41,000	**U**
75-69-4	Trichlorofluoromethane	11,000	18,000	11,000	2,800	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	22,000	72,000	22,000	7,500	**U**
75-09-2	Methylene Chloride	11,000	18,000	11,000	5,100	**U**
76-13-1	Trichlorotrifluoroethane	5,800	18,000	5,800	2,600	**U**
75-15-0	Carbon Disulfide	18,000	38,000	18,000	5,500	**U**
75-34-3	1,1-Dichloroethane	11,000	19,000	11,000	2,700	**U**
78-93-3	2-Butanone (MEK)	11,000	38,000	11,000	3,800	**U**
141-78-6	Ethyl Acetate	22,000	38,000	22,000	9,600	**U**
110-54-3	n-Hexane	**2,600,000**	18,000	11,000	3,800	
67-66-3	Chloroform	5,800	18,000	5,800	2,400	**U**
109-99-9	Tetrahydrofuran (THF)	5,800	19,000	5,800	2,300	**U**
107-06-2	1,2-Dichloroethane	5,800	18,000	5,800	2,000	**U**
71-43-2	Benzene	**630,000**	18,000	5,800	2,600	
56-23-5	Carbon Tetrachloride	5,800	18,000	5,800	2,500	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV02-100-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-017

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.000050 Liter(s)
Test Notes: 0.000025 Liter(s)
Container ID: 1SS00787

Initial Pressure (psig): -2.90 Final Pressure (psig): 5.47

Container Dilution Factor: 1.71

CAS #	Compound	Result µg/m³		LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**3,100,000**		38,000	12,000	5,100	
75-27-4	Bromodichloromethane		5,800	18,000	5,800	2,600	**U**
79-01-6	Trichloroethene		5,800	18,000	5,800	2,500	**U**
123-91-1	1,4-Dioxane		5,800	18,000	5,800	2,200	**U**
142-82-5	n-Heptane	**4,500,000**		37,000	22,000	5,800	**D**
108-10-1	4-Methyl-2-pentanone		5,800	18,000	5,800	2,500	**U**
108-88-3	Toluene	**2,500,000**		18,000	5,800	2,200	
591-78-6	2-Hexanone		5,800	18,000	5,800	2,300	**U**
124-48-1	Dibromochloromethane		5,800	18,000	5,800	2,400	**U**
106-93-4	1,2-Dibromoethane	**4,300**		18,000	5,800	2,100	**J**
127-18-4	Tetrachloroethene		5,800	18,000	5,800	2,400	**U**
100-41-4	Ethylbenzene	**62,000**		18,000	5,800	2,600	
179601-23-1	m,p-Xylenes	**300,000**		38,000	12,000	4,800	
75-25-2	Bromoform		11,000	18,000	11,000	3,800	**U**
100-42-5	Styrene		11,000	18,000	11,000	2,900	**U**
95-47-6	o-Xylene	**56,000**		18,000	5,800	2,600	
108-67-8	1,3,5-Trimethylbenzene	**4,400**		18,000	5,800	2,600	**J**
95-63-6	1,2,4-Trimethylbenzene	**5,100**		18,000	5,800	2,500	**J**
120-82-1	1,2,4-Trichlorobenzene		11,000	18,000	11,000	4,400	**U**
91-20-3	Naphthalene		11,000	18,000	11,000	4,400	**U**
1330-20-7	Xylenes, Total	**350,000**		38,000	12,000	4,800	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV02-150-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-018

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.000050 Liter(s)
Test Notes:
Container ID: 1SS00915

Initial Pressure (psig): -3.53 Final Pressure (psig): 5.41

Container Dilution Factor: 1.80

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	12,000	19,000	12,000	4,700	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	12,000	19,000	12,000	3,100	**U**
74-87-3	Chloromethane	12,000	19,000	12,000	3,100	**U**
75-01-4	Vinyl Chloride	6,100	19,000	6,100	2,100	**U**
106-99-0	1,3-Butadiene	12,000	19,000	12,000	3,200	**U**
75-00-3	Chloroethane	12,000	19,000	12,000	2,400	**U**
64-17-5	Ethanol	30,000	190,000	30,000	13,000	**U**
67-64-1	Acetone	97,000	190,000	97,000	43,000	**U**
75-69-4	Trichlorofluoromethane	12,000	19,000	12,000	2,900	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	23,000	76,000	23,000	7,900	**U**
75-09-2	Methylene Chloride	12,000	19,000	12,000	5,400	**U**
76-13-1	Trichlorotrifluoroethane	6,100	19,000	6,100	2,700	**U**
75-15-0	Carbon Disulfide	19,000	40,000	19,000	5,800	**U**
75-34-3	1,1-Dichloroethane	12,000	20,000	12,000	2,800	**U**
78-93-3	2-Butanone (MEK)	12,000	40,000	12,000	4,000	**U**
141-78-6	Ethyl Acetate	23,000	40,000	23,000	10,000	**U**
110-54-3	n-Hexane	**2,500,000**	19,000	12,000	4,000	
67-66-3	Chloroform	6,100	19,000	6,100	2,600	**U**
109-99-9	Tetrahydrofuran (THF)	6,100	20,000	6,100	2,400	**U**
107-06-2	1,2-Dichloroethane	6,100	19,000	6,100	2,100	**U**
71-43-2	Benzene	**540,000**	19,000	6,100	2,800	
56-23-5	Carbon Tetrachloride	6,100	19,000	6,100	2,700	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV02-150-202** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-018

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.000050 Liter(s)
Test Notes:
Container ID: 1SS00915

Initial Pressure (psig): -3.53 Final Pressure (psig): 5.41

Container Dilution Factor: 1.80

CAS #	Compound	Result µg/m³		LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**2,100,000**		40,000	12,000	5,400	
75-27-4	Bromodichloromethane		6,100	19,000	6,100	2,800	**U**
79-01-6	Trichloroethene		6,100	19,000	6,100	2,600	**U**
123-91-1	1,4-Dioxane		6,100	19,000	6,100	2,300	**U**
142-82-5	n-Heptane	**2,300,000**		19,000	12,000	3,100	
108-10-1	4-Methyl-2-pentanone		6,100	19,000	6,100	2,600	**U**
108-88-3	Toluene	**1,100,000**		19,000	6,100	2,300	
591-78-6	2-Hexanone		6,100	19,000	6,100	2,400	**U**
124-48-1	Dibromochloromethane		6,100	19,000	6,100	2,500	**U**
106-93-4	1,2-Dibromoethane		6,100	19,000	6,100	2,200	**U**
127-18-4	Tetrachloroethene		6,100	19,000	6,100	2,500	**U**
100-41-4	Ethylbenzene	**53,000**		19,000	6,100	2,700	
179601-23-1	m,p-Xylenes	**190,000**		40,000	12,000	5,000	
75-25-2	Bromoform		12,000	19,000	12,000	4,000	**U**
100-42-5	Styrene		12,000	19,000	12,000	3,100	**U**
95-47-6	o-Xylene	**63,000**		19,000	6,100	2,800	
108-67-8	1,3,5-Trimethylbenzene	**8,800**		19,000	6,100	2,800	**J**
95-63-6	1,2,4-Trimethylbenzene	**11,000**		19,000	6,100	2,700	**J**
120-82-1	1,2,4-Trichlorobenzene		12,000	19,000	12,000	4,700	**U**
91-20-3	Naphthalene		11,000	19,000	11,000	4,700	**U**
1330-20-7	Xylenes, Total	**260,000**		40,000	12,000	5,000	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV02-150-602** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-019

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.000050 Liter(s)
Test Notes:
Container ID: 1SC00978

Initial Pressure (psig): -2.15 Final Pressure (psig): 7.89

Container Dilution Factor: 1.80

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	12,000	19,000	12,000	4,700	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	12,000	19,000	12,000	3,100	**U**
74-87-3	Chloromethane	12,000	19,000	12,000	3,100	**U**
75-01-4	Vinyl Chloride	6,100	19,000	6,100	2,100	**U**
106-99-0	1,3-Butadiene	12,000	19,000	12,000	3,200	**U**
75-00-3	Chloroethane	12,000	19,000	12,000	2,400	**U**
64-17-5	Ethanol	30,000	190,000	30,000	13,000	**U**
67-64-1	Acetone	97,000	190,000	97,000	43,000	**U**
75-69-4	Trichlorofluoromethane	12,000	19,000	12,000	2,900	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	23,000	76,000	23,000	7,900	**U**
75-09-2	Methylene Chloride	12,000	19,000	12,000	5,400	**U**
76-13-1	Trichlorotrifluoroethane	6,100	19,000	6,100	2,700	**U**
75-15-0	Carbon Disulfide	19,000	40,000	19,000	5,800	**U**
75-34-3	1,1-Dichloroethane	12,000	20,000	12,000	2,800	**U**
78-93-3	2-Butanone (MEK)	12,000	40,000	12,000	4,000	**U**
141-78-6	Ethyl Acetate	23,000	40,000	23,000	10,000	**U**
110-54-3	n-Hexane	**2,700,000**	19,000	12,000	4,000	
67-66-3	Chloroform	6,100	19,000	6,100	2,600	**U**
109-99-9	Tetrahydrofuran (THF)	6,100	20,000	6,100	2,400	**U**
107-06-2	1,2-Dichloroethane	6,100	19,000	6,100	2,100	**U**
71-43-2	Benzene	**600,000**	19,000	6,100	2,800	
56-23-5	Carbon Tetrachloride	6,100	19,000	6,100	2,700	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV02-150-602** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-019

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.000050 Liter(s)
Test Notes:
Container ID: 1SC00978

Initial Pressure (psig): -2.15 Final Pressure (psig): 7.89

Container Dilution Factor: 1.80

CAS #	Compound	Result µg/m³		LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**2,200,000**		40,000	12,000	5,400	
75-27-4	Bromodichloromethane		6,100	19,000	6,100	2,800	**U**
79-01-6	Trichloroethene		6,100	19,000	6,100	2,600	**U**
123-91-1	1,4-Dioxane		6,100	19,000	6,100	2,300	**U**
142-82-5	n-Heptane	**2,500,000**		19,000	12,000	3,100	
108-10-1	4-Methyl-2-pentanone		6,100	19,000	6,100	2,600	**U**
108-88-3	Toluene	**1,100,000**		19,000	6,100	2,300	
591-78-6	2-Hexanone		6,100	19,000	6,100	2,400	**U**
124-48-1	Dibromochloromethane		6,100	19,000	6,100	2,500	**U**
106-93-4	1,2-Dibromoethane		6,100	19,000	6,100	2,200	**U**
127-18-4	Tetrachloroethene		6,100	19,000	6,100	2,500	**U**
100-41-4	Ethylbenzene	**58,000**		19,000	6,100	2,700	
179601-23-1	m,p-Xylenes	**210,000**		40,000	12,000	5,000	
75-25-2	Bromoform		12,000	19,000	12,000	4,000	**U**
100-42-5	Styrene		12,000	19,000	12,000	3,100	**U**
95-47-6	o-Xylene	**71,000**		19,000	6,100	2,800	
108-67-8	1,3,5-Trimethylbenzene	**10,000**		19,000	6,100	2,800	**J**
95-63-6	1,2,4-Trimethylbenzene	**14,000**		19,000	6,100	2,700	**J**
120-82-1	1,2,4-Trichlorobenzene		12,000	19,000	12,000	4,700	**U**
91-20-3	Naphthalene		11,000	19,000	11,000	4,700	**U**
1330-20-7	Xylenes, Total	**290,000**		40,000	12,000	5,000	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV05-050-602** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-020

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.30 Liter(s)
Test Notes:
Container ID: 1SS01047

Initial Pressure (psig): -2.95 Final Pressure (psig): 5.48

Container Dilution Factor: 1.72

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**3.6**	3.0	1.8	0.75	
75-71-8	Dichlorodifluoromethane (CFC 12)	**4.5**	3.0	1.8	0.50	
74-87-3	Chloromethane	**0.71**	3.0	1.8	0.49	**J**
75-01-4	Vinyl Chloride	0.97	3.1	0.97	0.33	**U**
106-99-0	1,3-Butadiene	1.8	3.0	1.8	0.50	**U**
75-00-3	Chloroethane	1.8	3.1	1.8	0.38	**U**
64-17-5	Ethanol	**8.9**	30	4.8	2.1	**J, B**
67-64-1	Acetone	**21**	30	15	6.9	**J**
75-69-4	Trichlorofluoromethane	**6.0**	3.0	1.8	0.46	
67-63-0	2-Propanol (Isopropyl Alcohol)	**6.6**	12	3.6	1.3	**J**
75-09-2	Methylene Chloride	1.8	3.0	1.8	0.86	**U**
76-13-1	Trichlorotrifluoroethane	**60**	3.1	0.97	0.44	
75-15-0	Carbon Disulfide	**7.7**	6.3	3.1	0.92	
75-34-3	1,1-Dichloroethane	1.9	3.2	1.9	0.45	**U**
78-93-3	2-Butanone (MEK)	**2.0**	6.3	1.8	0.63	**J**
141-78-6	Ethyl Acetate	**2.9**	6.3	3.7	1.6	**J**
110-54-3	n-Hexane	**72**	3.1	1.8	0.63	
67-66-3	Chloroform	0.97	3.1	0.97	0.41	**U**
109-99-9	Tetrahydrofuran (THF)	**30**	3.2	0.97	0.38	
107-06-2	1,2-Dichloroethane	0.97	3.1	0.97	0.34	**U**
71-43-2	Benzene	**52**	3.0	0.97	0.44	
56-23-5	Carbon Tetrachloride	**0.84**	3.0	0.97	0.42	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV05-050-602** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-020

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.30 Liter(s)
Test Notes:
Container ID: 1SS01047

Initial Pressure (psig): -2.95 Final Pressure (psig): 5.48

Container Dilution Factor: 1.72

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**78**	6.3	1.9	0.86	
75-27-4	Bromodichloromethane	0.97	3.1	0.97	0.44	**U**
79-01-6	Trichloroethene	0.97	3.1	0.97	0.41	**U**
123-91-1	1,4-Dioxane	0.97	3.1	0.97	0.36	**U**
142-82-5	n-Heptane	**290**	3.1	1.8	0.49	
108-10-1	4-Methyl-2-pentanone	0.97	3.0	0.97	0.42	**U**
108-88-3	Toluene	**500**	3.1	0.97	0.37	
591-78-6	2-Hexanone	0.97	3.1	0.97	0.38	**U**
124-48-1	Dibromochloromethane	0.97	3.1	0.97	0.40	**U**
106-93-4	1,2-Dibromoethane	**1.2**	3.1	0.97	0.36	**J**
127-18-4	Tetrachloroethene	**1.3**	3.0	0.97	0.40	**J**
100-41-4	Ethylbenzene	**45**	3.1	0.97	0.43	
179601-23-1	m,p-Xylenes	**260**	6.3	1.9	0.80	
75-25-2	Bromoform	1.8	3.1	1.8	0.63	**U**
100-42-5	Styrene	1.8	3.0	1.8	0.49	**U**
95-47-6	o-Xylene	**72**	3.1	0.97	0.44	
108-67-8	1,3,5-Trimethylbenzene	**22**	3.0	0.97	0.44	
95-63-6	1,2,4-Trimethylbenzene	**39**	3.1	0.97	0.42	
120-82-1	1,2,4-Trichlorobenzene	1.8	3.1	1.8	0.75	**U**
91-20-3	Naphthalene	**2.9**	3.0	1.8	0.75	**J**
1330-20-7	Xylenes, Total	**330**	6.3	1.9	0.80	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200513-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/13/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	0.32	0.53	0.32	0.13	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.32	0.53	0.32	0.087	**U**
74-87-3	Chloromethane	0.32	0.53	0.32	0.086	**U**
75-01-4	Vinyl Chloride	0.17	0.54	0.17	0.057	**U**
106-99-0	1,3-Butadiene	0.32	0.53	0.32	0.088	**U**
75-00-3	Chloroethane	0.32	0.54	0.32	0.066	**U**
64-17-5	Ethanol	**0.81**	5.2	0.83	0.37	**J**
67-64-1	Acetone	2.7	5.3	2.7	1.2	**U**
75-69-4	Trichlorofluoromethane	0.32	0.53	0.32	0.081	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.63	2.1	0.63	0.22	**U**
75-09-2	Methylene Chloride	0.32	0.53	0.32	0.15	**U**
76-13-1	Trichlorotrifluoroethane	0.17	0.54	0.17	0.076	**U**
75-15-0	Carbon Disulfide	0.54	1.1	0.54	0.16	**U**
75-34-3	1,1-Dichloroethane	0.33	0.55	0.33	0.078	**U**
78-93-3	2-Butanone (MEK)	0.32	1.1	0.32	0.11	**U**
141-78-6	Ethyl Acetate	0.65	1.1	0.65	0.28	**U**
110-54-3	n-Hexane	0.32	0.54	0.32	0.11	**U**
67-66-3	Chloroform	0.17	0.54	0.17	0.071	**U**
109-99-9	Tetrahydrofuran (THF)	0.17	0.55	0.17	0.067	**U**
107-06-2	1,2-Dichloroethane	0.17	0.54	0.17	0.059	**U**
71-43-2	Benzene	0.17	0.53	0.17	0.077	**U**
56-23-5	Carbon Tetrachloride	0.17	0.53	0.17	0.074	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200513-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/13/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	0.34	1.1	0.34	0.15	U
75-27-4	Bromodichloromethane	0.17	0.54	0.17	0.077	U
79-01-6	Trichloroethene	0.17	0.54	0.17	0.072	U
123-91-1	1,4-Dioxane	0.17	0.54	0.17	0.063	U
142-82-5	n-Heptane	0.32	0.54	0.32	0.085	U
108-10-1	4-Methyl-2-pentanone	0.17	0.53	0.17	0.073	U
108-88-3	Toluene	0.17	0.54	0.17	0.065	U
591-78-6	2-Hexanone	0.17	0.54	0.17	0.066	U
124-48-1	Dibromochloromethane	0.17	0.54	0.17	0.070	U
106-93-4	1,2-Dibromoethane	0.17	0.54	0.17	0.062	U
127-18-4	Tetrachloroethene	0.17	0.52	0.17	0.069	U
100-41-4	Ethylbenzene	0.17	0.54	0.17	0.075	U
179601-23-1	m,p-Xylenes	0.34	1.1	0.34	0.14	U
75-25-2	Bromoform	0.32	0.54	0.32	0.11	U
100-42-5	Styrene	0.32	0.53	0.32	0.086	U
95-47-6	o-Xylene	0.17	0.54	0.17	0.077	U
108-67-8	1,3,5-Trimethylbenzene	0.17	0.53	0.17	0.077	U
95-63-6	1,2,4-Trimethylbenzene	0.17	0.54	0.17	0.074	U
120-82-1	1,2,4-Trichlorobenzene	0.32	0.54	0.32	0.13	U
91-20-3	Naphthalene	0.31	0.52	0.31	0.13	U
1330-20-7	Xylenes, Total	0.34	1.1	0.34	0.14	U

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200514-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	0.32	0.53	0.32	0.13	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.32	0.53	0.32	0.087	**U**
74-87-3	Chloromethane	0.32	0.53	0.32	0.086	**U**
75-01-4	Vinyl Chloride	0.17	0.54	0.17	0.057	**U**
106-99-0	1,3-Butadiene	0.32	0.53	0.32	0.088	**U**
75-00-3	Chloroethane	0.32	0.54	0.32	0.066	**U**
64-17-5	Ethanol	**0.47**	5.2	0.83	0.37	**J**
67-64-1	Acetone	2.7	5.3	2.7	1.2	**U**
75-69-4	Trichlorofluoromethane	0.32	0.53	0.32	0.081	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.63	2.1	0.63	0.22	**U**
75-09-2	Methylene Chloride	0.32	0.53	0.32	0.15	**U**
76-13-1	Trichlorotrifluoroethane	0.17	0.54	0.17	0.076	**U**
75-15-0	Carbon Disulfide	0.54	1.1	0.54	0.16	**U**
75-34-3	1,1-Dichloroethane	0.33	0.55	0.33	0.078	**U**
78-93-3	2-Butanone (MEK)	0.32	1.1	0.32	0.11	**U**
141-78-6	Ethyl Acetate	0.65	1.1	0.65	0.28	**U**
110-54-3	n-Hexane	0.32	0.54	0.32	0.11	**U**
67-66-3	Chloroform	0.17	0.54	0.17	0.071	**U**
109-99-9	Tetrahydrofuran (THF)	0.17	0.55	0.17	0.067	**U**
107-06-2	1,2-Dichloroethane	0.17	0.54	0.17	0.059	**U**
71-43-2	Benzene	0.17	0.53	0.17	0.077	**U**
56-23-5	Carbon Tetrachloride	0.17	0.53	0.17	0.074	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200514-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	0.34	1.1	0.34	0.15	U
75-27-4	Bromodichloromethane	0.17	0.54	0.17	0.077	U
79-01-6	Trichloroethene	0.17	0.54	0.17	0.072	U
123-91-1	1,4-Dioxane	0.17	0.54	0.17	0.063	U
142-82-5	n-Heptane	0.32	0.54	0.32	0.085	U
108-10-1	4-Methyl-2-pentanone	0.17	0.53	0.17	0.073	U
108-88-3	Toluene	0.17	0.54	0.17	0.065	U
591-78-6	2-Hexanone	0.17	0.54	0.17	0.066	U
124-48-1	Dibromochloromethane	0.17	0.54	0.17	0.070	U
106-93-4	1,2-Dibromoethane	0.17	0.54	0.17	0.062	U
127-18-4	Tetrachloroethene	0.17	0.52	0.17	0.069	U
100-41-4	Ethylbenzene	0.17	0.54	0.17	0.075	U
179601-23-1	m,p-Xylenes	0.34	1.1	0.34	0.14	U
75-25-2	Bromoform	0.32	0.54	0.32	0.11	U
100-42-5	Styrene	0.32	0.53	0.32	0.086	U
95-47-6	o-Xylene	0.17	0.54	0.17	0.077	U
108-67-8	1,3,5-Trimethylbenzene	0.17	0.53	0.17	0.077	U
95-63-6	1,2,4-Trimethylbenzene	0.17	0.54	0.17	0.074	U
120-82-1	1,2,4-Trichlorobenzene	0.32	0.54	0.32	0.13	U
91-20-3	Naphthalene	0.31	0.52	0.31	0.13	U
1330-20-7	Xylenes, Total	0.34	1.1	0.34	0.14	U

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Project ID: P2002301

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date(s) Collected: 4/21 - 4/22/20
Analyst: Lusine Hakobyan Date(s) Received: 4/28/20
Sampling Media: 1.0 L Silonite Summa Canister(s) / 1.0 L Summa Canister(s) Date(s) Analyzed: 5/13 - 5/14/20
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P200513-MB	**95**	**100**	**105**	70-130	
Method Blank	P200514-MB	**94**	**99**	**107**	70-130	
Lab Control Sample	P200513-LCS	**95**	**97**	**106**	70-130	
Lab Control Sample	P200514-LCS	**94**	**98**	**108**	70-130	
Duplicate Lab Control Sample	P200513-DLCS	**96**	**97**	**106**	70-130	
Duplicate Lab Control Sample	P200514-DLCS	**96**	**98**	**107**	70-130	
SV130-050-202	P2002301-001	**95**	**98**	**106**	70-130	
SV130-150-202	P2002301-002	**94**	**99**	**106**	70-130	
SV130-250-202	P2002301-003	**95**	**98**	**106**	70-130	
SV130-350-202	P2002301-004	**94**	**97**	**106**	70-130	
SV130-450-602	P2002301-005	**96**	**97**	**101**	70-130	
SV130-450-602	P2002301-005DUP	**95**	**96**	**101**	70-130	
SV130-450-202	P2002301-006	**95**	**98**	**103**	70-130	
SVE10-410-202	P2002301-007	**96**	**99**	**105**	70-130	
SVE10-410-602	P2002301-008	**94**	**99**	**106**	70-130	
SVE11-410-202	P2002301-009	**95**	**88**	**95**	70-130	
SVE11-410-602	P2002301-010	**96**	**88**	**93**	70-130	
SVE13-410-202	P2002301-011	**96**	**99**	**101**	70-130	
SV01-050-202	P2002301-012	**95**	**98**	**106**	70-130	
SV01-100-202	P2002301-013	**96**	**98**	**105**	70-130	
SV01-250-202	P2002301-014	**97**	**97**	**101**	70-130	
SV01-300-202	P2002301-015	**95**	**98**	**103**	70-130	
SV02-050-202	P2002301-016	**95**	**101**	**105**	70-130	
SV02-100-202	P2002301-017	**95**	**102**	**102**	70-130	
SV02-150-202	P2002301-018	**97**	**99**	**102**	70-130	
SV02-150-602	P2002301-019	**97**	**98**	**102**	70-130	
SV05-050-602	P2002301-020	**96**	**95**	**100**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200513-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/13/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	210	218	221	**104**	**105**	57-136	1	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	198	198	**94**	**94**	59-128	0	25	
74-87-3	Chloromethane	212	201	201	**95**	**95**	59-132	0	25	
75-01-4	Vinyl Chloride	212	193	192	**91**	**91**	64-127	0	25	
106-99-0	1,3-Butadiene	212	199	199	**94**	**94**	66-134	0	25	
75-00-3	Chloroethane	214	201	201	**94**	**94**	63-127	0	25	
64-17-5	Ethanol	1,060	1010	1020	**95**	**96**	59-125	1	25	
67-64-1	Acetone	1,070	1060	1060	**99**	**99**	58-128	0	25	
75-69-4	Trichlorofluoromethane	212	198	198	**93**	**93**	62-126	0	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	422	427	429	**101**	**102**	52-125	1	25	
75-09-2	Methylene Chloride	210	197	198	**94**	**94**	62-115	0	25	
76-13-1	Trichlorotrifluoroethane	216	212	211	**98**	**98**	66-126	0	25	
75-15-0	Carbon Disulfide	212	201	201	**95**	**95**	57-134	0	25	
75-34-3	1,1-Dichloroethane	212	200	201	**94**	**95**	68-126	1	25	
78-93-3	2-Butanone (MEK)	212	207	208	**98**	**98**	67-130	0	25	
141-78-6	Ethyl Acetate	432	450	452	**104**	**105**	65-128	1	25	
110-54-3	n-Hexane	216	215	217	**100**	**100**	63-120	0	25	
67-66-3	Chloroform	214	204	204	**95**	**95**	68-123	0	25	
109-99-9	Tetrahydrofuran (THF)	220	204	205	**93**	**93**	64-123	0	25	
107-06-2	1,2-Dichloroethane	214	198	200	**93**	**93**	65-128	0	25	
71-43-2	Benzene	210	203	203	**97**	**97**	69-119	0	25	
56-23-5	Carbon Tetrachloride	208	203	203	**98**	**98**	68-132	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200513-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/13/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	422	422	419	**100**	**99**	70-117	1	25	
75-27-4	Bromodichloromethane	218	211	211	**97**	**97**	72-128	0	25	
79-01-6	Trichloroethene	216	210	210	**97**	**97**	71-123	0	25	
123-91-1	1,4-Dioxane	216	213	213	**99**	**99**	71-122	0	25	
142-82-5	n-Heptane	214	208	208	**97**	**97**	69-123	0	25	
108-10-1	4-Methyl-2-pentanone	212	218	220	**103**	**104**	67-130	1	25	
108-88-3	Toluene	212	207	206	**98**	**97**	66-119	1	25	
591-78-6	2-Hexanone	216	228	229	**106**	**106**	62-128	0	25	
124-48-1	Dibromochloromethane	214	220	218	**103**	**102**	70-130	1	25	
106-93-4	1,2-Dibromoethane	214	215	214	**100**	**100**	74-122	0	25	
127-18-4	Tetrachloroethene	208	210	207	**101**	**100**	66-124	1	25	
100-41-4	Ethylbenzene	212	219	219	**103**	**103**	70-124	0	25	
179601-23-1	m,p-Xylenes	426	453	437	**106**	**103**	61-134	3	25	
75-25-2	Bromoform	214	223	223	**104**	**104**	66-139	0	25	
100-42-5	Styrene	212	232	232	**109**	**109**	73-127	0	25	
95-47-6	o-Xylene	214	217	215	**101**	**100**	67-125	1	25	
108-67-8	1,3,5-Trimethylbenzene	212	228	226	**108**	**107**	67-130	0.9	25	
95-63-6	1,2,4-Trimethylbenzene	212	243	241	**115**	**114**	66-132	0.9	25	
120-82-1	1,2,4-Trichlorobenzene	216	254	257	**118**	**119**	55-142	0.8	25	
91-20-3	Naphthalene	212	270	272	**127**	**128**	57-138	0.8	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200514-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	210	214	221	**102**	**105**	57-136	3	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	198	198	**94**	**94**	59-128	0	25	
74-87-3	Chloromethane	212	190	198	**90**	**93**	59-132	3	25	
75-01-4	Vinyl Chloride	212	191	191	**90**	**90**	64-127	0	25	
106-99-0	1,3-Butadiene	212	199	198	**94**	**93**	66-134	1	25	
75-00-3	Chloroethane	214	197	197	**92**	**92**	63-127	0	25	
64-17-5	Ethanol	1,060	976	1010	**92**	**95**	59-125	3	25	
67-64-1	Acetone	1,070	1040	1050	**97**	**98**	58-128	1	25	
75-69-4	Trichlorofluoromethane	212	196	194	**92**	**92**	62-126	0	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	422	420	422	**100**	**100**	52-125	0	25	
75-09-2	Methylene Chloride	210	195	197	**93**	**94**	62-115	1	25	
76-13-1	Trichlorotrifluoroethane	216	211	212	**98**	**98**	66-126	0	25	
75-15-0	Carbon Disulfide	212	198	198	**93**	**93**	57-134	0	25	
75-34-3	1,1-Dichloroethane	212	196	199	**92**	**94**	68-126	2	25	
78-93-3	2-Butanone (MEK)	212	204	208	**96**	**98**	67-130	2	25	
141-78-6	Ethyl Acetate	432	448	452	**104**	**105**	65-128	1	25	
110-54-3	n-Hexane	216	215	217	**100**	**100**	63-120	0	25	
67-66-3	Chloroform	214	202	203	**94**	**95**	68-123	1	25	
109-99-9	Tetrahydrofuran (THF)	220	202	204	**92**	**93**	64-123	1	25	
107-06-2	1,2-Dichloroethane	214	196	199	**92**	**93**	65-128	1	25	
71-43-2	Benzene	210	202	202	**96**	**96**	69-119	0	25	
56-23-5	Carbon Tetrachloride	208	203	201	**98**	**97**	68-132	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200514-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	422	422	418	**100**	**99**	70-117	1	25	
75-27-4	Bromodichloromethane	218	209	211	**96**	**97**	72-128	1	25	
79-01-6	Trichloroethene	216	212	210	**98**	**97**	71-123	1	25	
123-91-1	1,4-Dioxane	216	212	211	**98**	**98**	71-122	0	25	
142-82-5	n-Heptane	214	208	207	**97**	**97**	69-123	0	25	
108-10-1	4-Methyl-2-pentanone	212	217	216	**102**	**102**	67-130	0	25	
108-88-3	Toluene	212	209	208	**99**	**98**	66-119	1	25	
591-78-6	2-Hexanone	216	231	230	**107**	**106**	62-128	0.9	25	
124-48-1	Dibromochloromethane	214	222	219	**104**	**102**	70-130	2	25	
106-93-4	1,2-Dibromoethane	214	218	215	**102**	**100**	74-122	2	25	
127-18-4	Tetrachloroethene	208	213	210	**102**	**101**	66-124	1	25	
100-41-4	Ethylbenzene	212	223	220	**105**	**104**	70-124	1	25	
179601-23-1	m,p-Xylenes	426	454	445	**107**	**104**	61-134	3	25	
75-25-2	Bromoform	214	228	225	**107**	**105**	66-139	2	25	
100-42-5	Styrene	212	238	236	**112**	**111**	73-127	0.9	25	
95-47-6	o-Xylene	214	223	219	**104**	**102**	67-125	2	25	
108-67-8	1,3,5-Trimethylbenzene	212	235	229	**111**	**108**	67-130	3	25	
95-63-6	1,2,4-Trimethylbenzene	212	250	245	**118**	**116**	66-132	2	25	
120-82-1	1,2,4-Trichlorobenzene	216	270	265	**125**	**123**	55-142	2	25	
91-20-3	Naphthalene	212	287	281	**135**	**133**	57-138	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV130-450-602** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-005DUP

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SS00126

Initial Pressure (psig): -2.47 Final Pressure (psig): 5.98

Container Dilution Factor: 1.69

Compound	Sample Result µg/m³	Duplicate Sample Result µg/m³	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Propene	23	22	22.5	**4**	25	**J**
Dichlorodifluoromethane (CFC 12)	ND	ND	-	-	25	
Chloromethane	16	17	16.5	**6**	25	**J**
Vinyl Chloride	ND	ND	-	-	25	
1,3-Butadiene	ND	ND	-	-	25	
Chloroethane	ND	ND	-	-	25	
Ethanol	98	96	97	**2**	25	**J, B**
Acetone	ND	ND	-	-	25	
Trichlorofluoromethane	ND	ND	-	-	25	
2-Propanol (Isopropyl Alcohol)	95	94	94.5	**1**	25	**J**
Methylene Chloride	ND	ND	-	-	25	
Trichlorotrifluoroethane	ND	ND	-	-	25	
Carbon Disulfide	68	66	67	**3**	25	**J**
1,1-Dichloroethane	ND	ND	-	-	25	
2-Butanone (MEK)	45	43	44	**5**	25	**J**
Ethyl Acetate	ND	ND	-	-	25	
n-Hexane	83	82	82.5	**1**	25	
Chloroform	ND	ND	-	-	25	
Tetrahydrofuran (THF)	11	10	10.5	**10**	25	**J**
1,2-Dichloroethane	ND	ND	-	-	25	
Benzene	1,000	990	995	**1**	25	
Carbon Tetrachloride	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV130-450-602** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002301-005DUP

Test Code: EPA TO-15 Date Collected: 4/22/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SS00126

Initial Pressure (psig): -2.47 Final Pressure (psig): 5.98

Container Dilution Factor: 1.69

Compound	Sample Result µg/m³	Duplicate Sample Result µg/m³	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Cyclohexane	140	140	140	**0**	25	
Bromodichloromethane	ND	ND	-	-	25	
Trichloroethene	15	15	15	**0**	25	**J**
1,4-Dioxane	ND	ND	-	-	25	
n-Heptane	39	40	39.5	**3**	25	**J**
4-Methyl-2-pentanone	22	21	21.5	**5**	25	**J**
Toluene	1,000	1,000	1000	**0**	25	
2-Hexanone	ND	ND	-	-	25	
Dibromochloromethane	ND	ND	-	-	25	
1,2-Dibromoethane	ND	ND	-	-	25	
Tetrachloroethene	ND	ND	-	-	25	
Ethylbenzene	41	42	41.5	**2**	25	**J**
m,p-Xylenes	98	97	97.5	**1**	25	
Bromoform	ND	ND	-	-	25	
Styrene	ND	ND	-	-	25	
o-Xylene	33	31	32	**6**	25	**J**
1,3,5-Trimethylbenzene	ND	ND	-	-	25	
1,2,4-Trimethylbenzene	ND	ND	-	-	25	
1,2,4-Trichlorobenzene	ND	ND	-	-	25	
Naphthalene	ND	ND	-	-	25	
Xylenes, Total	130	130	130	**0**	25	

ND = Compound was analyzed for, but not detected.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: **EA Engineering, Science, and Technology, Inc.** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Lab File ID: 05132001.D
Analyst: Lusine Hakobyan Date Analyzed: 5/13/20
Sampling Media: 1.0 L Silonite Summa Canister(s) Time Analyzed: 18:47
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	283319		11.16	1212000		13.28		572645		17.58	
	Upper Limit	396647		11.49	1696800		13.61		801703		17.91	
	Lower Limit	169991		10.83	727200		12.95		343587		17.25	
	Client Sample ID											
01	Method Blank	286862		11.12	1234664		13.26		564401		17.58	
02	SVE11-410-202	266855		11.13	1159809		13.27		619172		17.58	
03	SVE11-410-602	277152		11.13	1204979		13.27		647879		17.58	
04	SVE13-410-202	274164		11.13	1190492		13.26		582828		17.58	
05	Lab Control Sample	280642		11.15	1202221		13.28		569593		17.58	
06	Duplicate Lab Control Sample	284591		11.15	1222936		13.28		583352		17.58	
07	SV130-050-202	265037		11.13	1149364		13.26		539759		17.58	
08	SV130-150-202	267600		11.12	1151080		13.26		543230		17.58	
09	SV130-250-202	263803		11.12	1143094		13.26		540879		17.58	
10	SV130-350-202	264516		11.13	1128945		13.26		541862		17.58	
11	SV130-450-602	301261		11.13	1293248		13.26		665038		17.58	
12	SV130-450-602 (Lab Duplicate)	309907		11.13	1303184		13.26		669064		17.58	
13	SV130-450-202	309025		11.13	1318630		13.26		670662		17.58	
14	SVE10-410-202	312024		11.14	1354482		13.27		625351		17.58	
15	SVE10-410-602	306319		11.14	1314955		13.27		614446		17.58	
16	SV01-050-202	303502		11.13	1321656		13.26		607487		17.58	
17												
18												
19												
20												

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: **EA Engineering, Science, and Technology, Inc.** ALS Project ID: P2002301
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Lab File ID: 05142002.D
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister(s) Time Analyzed: 09:27
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	277575		11.16	1194548		13.28		554354		17.58	
	Upper Limit	388605		11.49	1672367		13.61		776096		17.91	
	Lower Limit	166545		10.83	716729		12.95		332612		17.25	
	Client Sample ID											
01	Method Blank	264253		11.13	1136265		13.26		529855		17.58	
02	Lab Control Sample	271934		11.16	1167015		13.28		545692		17.58	
03	Duplicate Lab Control Sample	278067		11.16	1197935		13.27		564836		17.58	
04	SV01-100-202	268432		11.13	1179819		13.27		554068		17.58	
05	SV01-250-202	271487		11.14	1185752		13.27		588663		17.58	
06	SV01-300-202	274783		11.14	1189449		13.27		580122		17.58	
07	SV02-050-202	270697		11.13	1167652		13.26		551091		17.58	
08	SV02-100-202	268603		11.13	1169644		13.27		579244		17.58	
09	SV02-100-202 (Dilution)	266698		11.13	1185170		13.27		568646		17.58	
10	SV02-150-202	269671		11.13	1185952		13.27		566263		17.58	
11	SV02-150-602	268732		11.13	1179809		13.27		574585		17.58	
12	SV05-050-602	270369		11.13	1168567		13.26		589716		17.58	
13	SVE10-410-602 (Dilution)	300014		11.13	1299466		13.26		598109		17.58	
14												
15												
16												
17												
18												
19												
20												

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132010.D Vial: 4
Acq On : 13 May 2020 23:53 Operator: LH
Sample : P2002301-001 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:26:00 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/14/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	265037	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1149364	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	539759	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	428114	11.919	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.36%			
57) Toluene-d8 (SS2)	15.71	98	1117121	12.210	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.68%			
73) Bromofluorobenzene (SS3)	18.97	174	437433	13.288	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.32%			
Target Compounds						Qvalue
2) Propene	4.11	42	3777	0.123	ng	95
3) Dichlorodifluoromethan...	4.26	85	54758	0.912	ng	99
4) Chloromethane	4.53	50	1843	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	580	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.32	45	18754	0.791	ng	90
11) Acetonitrile	6.58	41	7028	0.130	ng	94
12) Acrolein	6.78	56	3158	0.169	ng	99
13) Acetone	6.98	58	61860	2.610	ng	98
14) Trichlorofluoromethane	7.24	101	12840	0.242	ng	99
15) 2-Propanol (Isopropanol)	7.52	45	17457	0.243	ng	85
16) Acrylonitrile	7.74	53	2197	0.057	ng	90
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d	
19) Methylene Chloride	8.40	84	1208	N.D.		
20) 3-Chloro-1-propene (Al...	8.50	41	458	N.D.		
21) Trichlorotrifluoroethane	8.84	151	27990	1.117	ng	98
22) Carbon Disulfide	8.68	76	36135	0.327	ng	99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	10.10	73	1091	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	10.46	72	9747	0.482	ng	93
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	11.31	87	1231	N.D.		
30) Ethyl Acetate	11.28	61	2702	0.232	ng	98
31) n-Hexane	11.25	57	13157	0.260	ng	99
32) Chloroform	11.31	83	12181	0.231	ng	99
34) Tetrahydrofuran (THF)	11.71	72	254890	12.928	ng	98
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.11	62	108	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	12.87	78	30633	0.249	ng	100
42) Carbon Tetrachloride	13.03	117	10171	0.243	ng	99
43) Cyclohexane	13.16	84	11122	0.242	ng	99
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	13.52	63	1010	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	13.96	130	36253	1.138	ng	99
48) 1,4-Dioxane	13.98	88	557	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132010.D Vial: 4
Acq On : 13 May 2020 23:53 Operator: LH
Sample : P2002301-001 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:26:00 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

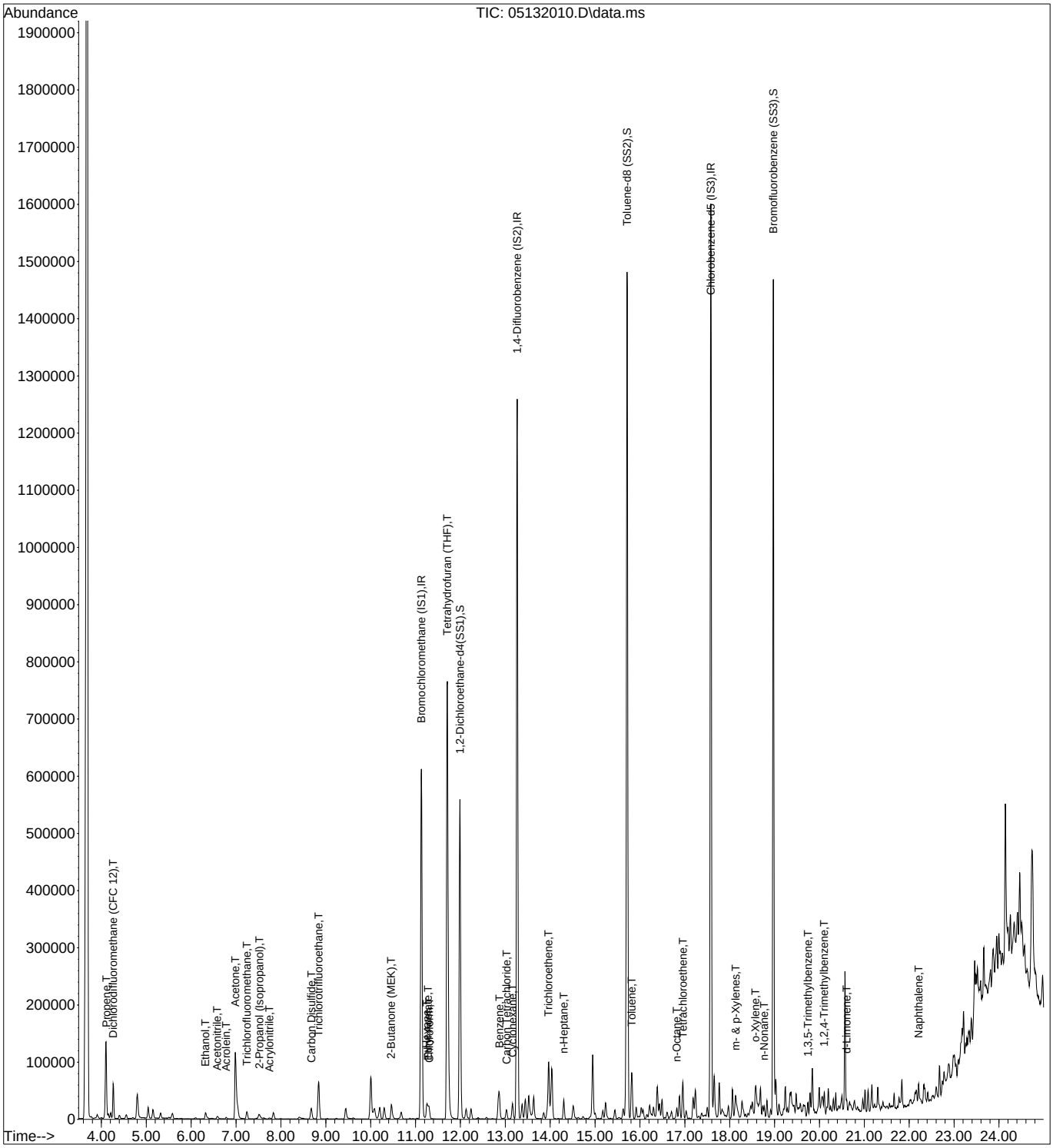
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.30	71	8395	0.291 ng	98
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.88	58	885	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	15.44	97	523	N.D.	
58) Toluene	15.82	91	48459	0.411 ng	98
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.70	43	2788	N.D.	
63) n-Octane	16.82	57	3978	0.163 ng	94
64) Tetrachloroethene	16.96	166	20228	0.607 ng	97
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	17.98	91	5699	N.D.	
67) m- & p-Xylenes	18.14	91	23910	0.229 ng	99
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	1086	N.D.	
70) o-Xylene	18.57	91	18678	0.176 ng	96
71) n-Nonane	18.77	43	6845	0.122 ng	97
72) 1,1,2,2-Tetrachloroethane	18.54	83	197	N.D.	
74) Cumene	19.09	105	2244	N.D.	
75) alpha-Pinene	19.24	93	155	N.D.	
76) n-Propylbenzene	19.55	91	4041	N.D.	
77) 3-Ethyltoluene	19.64	105	3311	N.D.	
78) 4-Ethyltoluene	19.68	105	1605	N.D.	
79) 1,3,5-Trimethylbenzene	19.74	105	6942	0.065 ng	94
80) alpha-Methylstyrene	19.88	118	1369	N.D.	
81) 2-Ethyltoluene	19.91	105	2608	N.D.	
82) 1,2,4-Trimethylbenzene	20.10	105	7520	0.071 ng	88
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.22	91	808	N.D.	
85) 1,3-Dichlorobenzene	20.24	146	1163	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	1643	N.D.	
87) sec-Butylbenzene	20.35	105	2370	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	1394	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	20.59	146	639	N.D.	
91) d-Limonene	20.61	68	3268	0.078 ng	95
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.11	180	1433	N.D.	
95) Naphthalene	22.21	128	8740	0.067 ng	100
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.10	119	995	N.D.	
100) n-Butylbenzene	20.85	91	2265	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132010.D Vial: 4
Acq On : 13 May 2020 23:53 Operator: LH
Sample : P2002301-001 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:26:00 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132010.D Vial: 4
Acq On : 13 May 2020 23:53 Operator: LH
Sample : P2002301-001 (400mL) Inst : GCMS-16
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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
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Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/14/20

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37) 1,4-Difluorobenzene (IS2)	13.26	114	1149364	12.500	ng	-0.02
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System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	428114	11.919	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.36%			
57) Toluene-d8 (SS2)	15.71	98	1117121	12.210	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.68%			
73) Bromofluorobenzene (SS3)	18.97	174	437433	13.288	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.32%			
Target Compounds						Qvalue
2) Propene	4.11	42	3777	0.123	ng	95
3) Dichlorodifluoromethan...	4.26	85	54758	0.912	ng	99
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12) Acrolein	6.78	56	3158	0.169	ng	99
13) Acetone	6.98	58	61860	2.610	ng	98
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15) 2-Propanol (Isopropanol)	7.52	45	17457	0.243	ng	85
16) Acrylonitrile	7.74	53	2197	0.057	ng	90
21) Trichlorotrifluoroethane	8.84	151	27990	1.117	ng	98
22) Carbon Disulfide	8.68	76	36135	0.327	ng	99
27) 2-Butanone (MEK)	10.46	72	9747	0.482	ng	93
30) Ethyl Acetate	11.28	61	2702	0.232	ng	98
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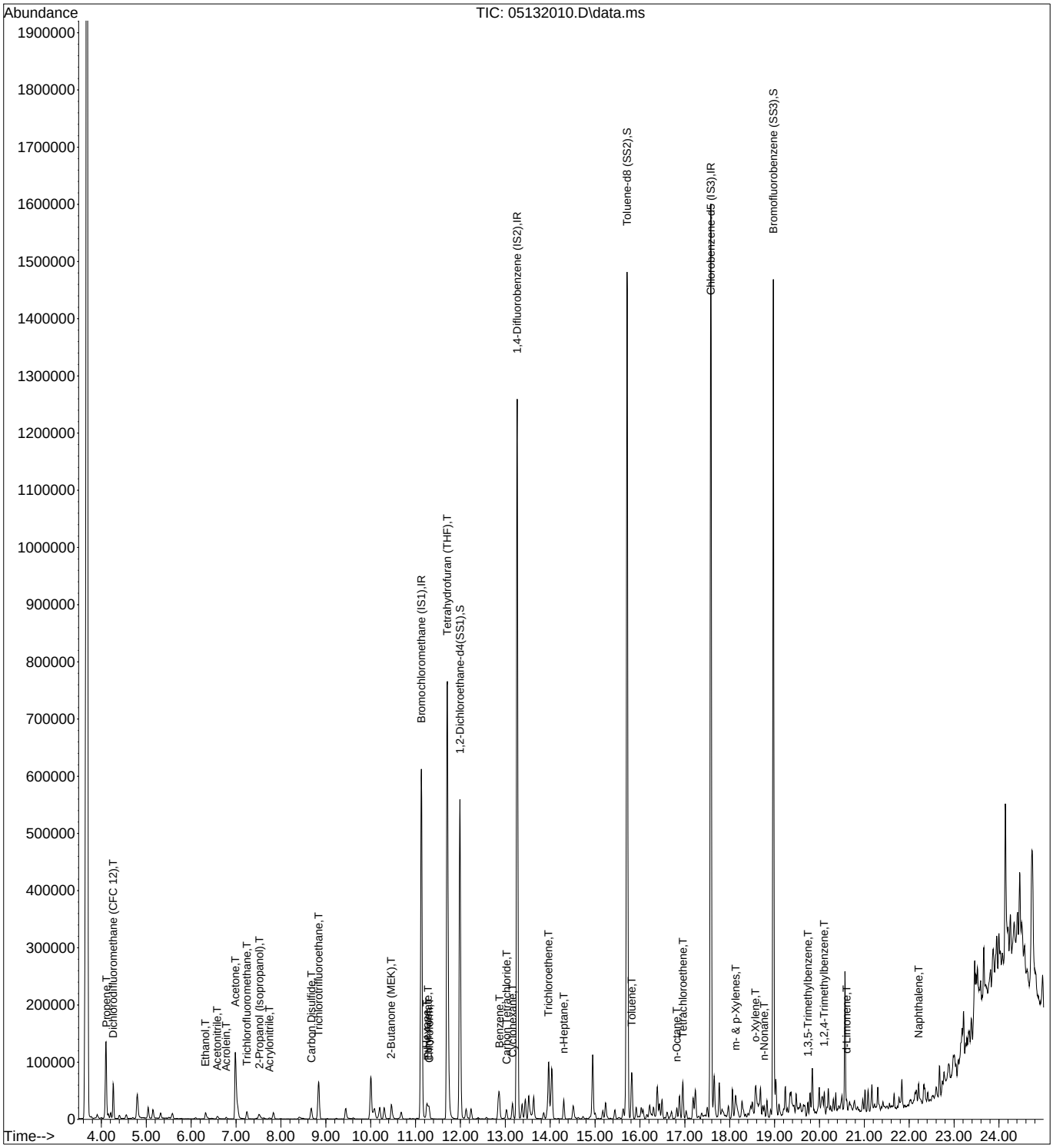
32) Chloroform	11.31	83	12181	0.231	ng	99
34) Tetrahydrofuran (THF)	11.71	72	254890	12.928	ng	98
41) Benzene	12.87	78	30633	0.249	ng	100
42) Carbon Tetrachloride	13.03	117	10171	0.243	ng	99
43) Cyclohexane	13.16	84	11122	0.242	ng	99
47) Trichloroethene	13.96	130	36253	1.138	ng	99
51) n-Heptane	14.30	71	8395	0.291	ng	98
58) Toluene	15.82	91	48459	0.411	ng	98
63) n-Octane	16.82	57	3978	0.163	ng	94
64) Tetrachloroethene	16.96	166	20228	0.607	ng	97
67) m- & p-Xylenes	18.14	91	23910	0.229	ng	99
70) o-Xylene	18.57	91	18678	0.176	ng	96
71) n-Nonane	18.77	43	6845	0.122	ng	97
79) 1,3,5-Trimethylbenzene	19.74	105	6942	0.065	ng	94
82) 1,2,4-Trimethylbenzene	20.10	105	7520	0.071	ng	88
91) d-Limonene	20.61	68	3268	0.078	ng	95
95) Naphthalene	22.21	128	8740	0.067	ng	100

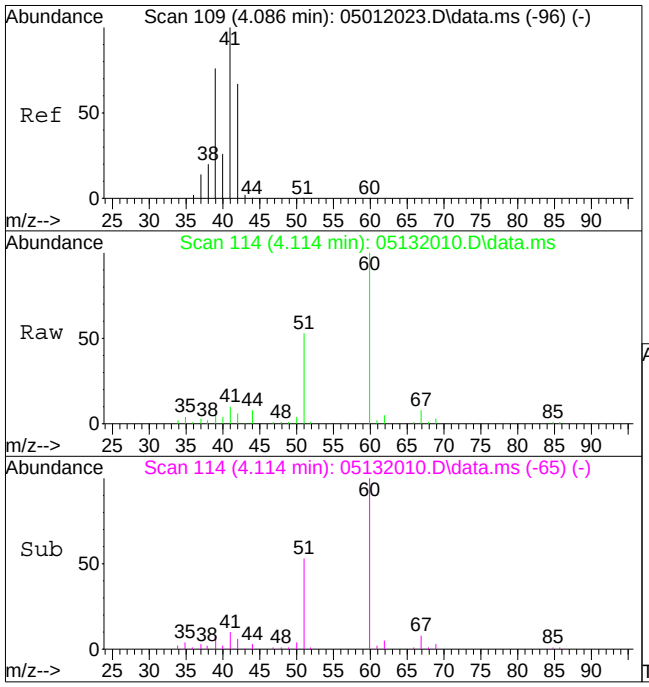
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132010.D Vial: 4
Acq On : 13 May 2020 23:53 Operator: LH
Sample : P2002301-001 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:26:00 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

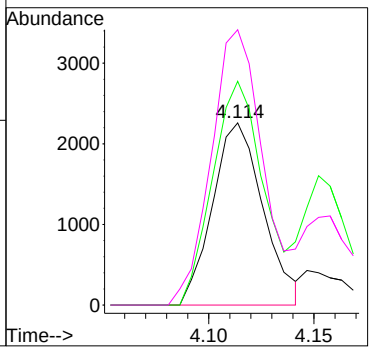


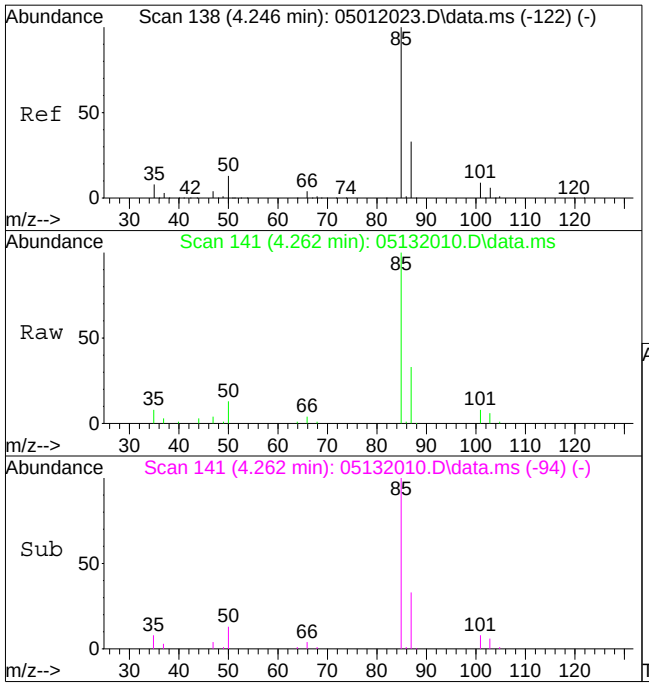


#2
Propene
Concen: 0.12 ng
RT: 4.11 min Scan# 114
Delta R.T. 0.022 min
Lab File: 05132010.D
Acq: 13 May 2020 23:53

Tgt Ion: 42 Resp: 3777

Ion	Ratio	Lower	Upper
42	100		
39	122.5	96.1	136.1
41	157.7	131.9	171.9

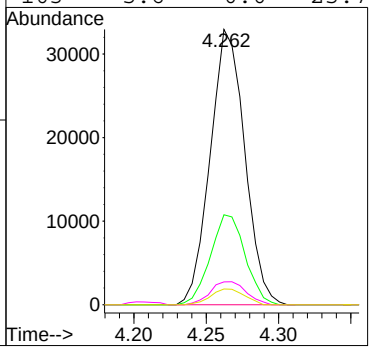


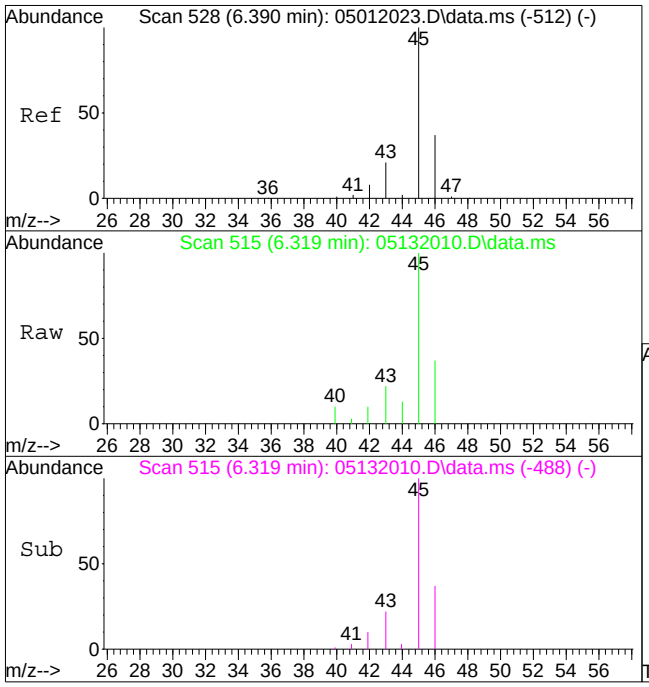


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.91 ng
RT: 4.26 min Scan# 141
Delta R.T. 0.011 min
Lab File: 05132010.D
Acq: 13 May 2020 23:53

Tgt Ion: 85 Resp: 54758

Ion	Ratio	Lower	Upper
85	100		
87	32.9	12.4	52.4
101	8.7	0.0	28.8
103	5.6	0.0	25.7

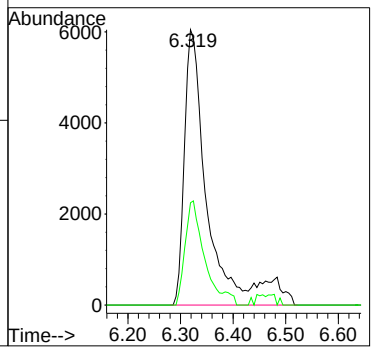


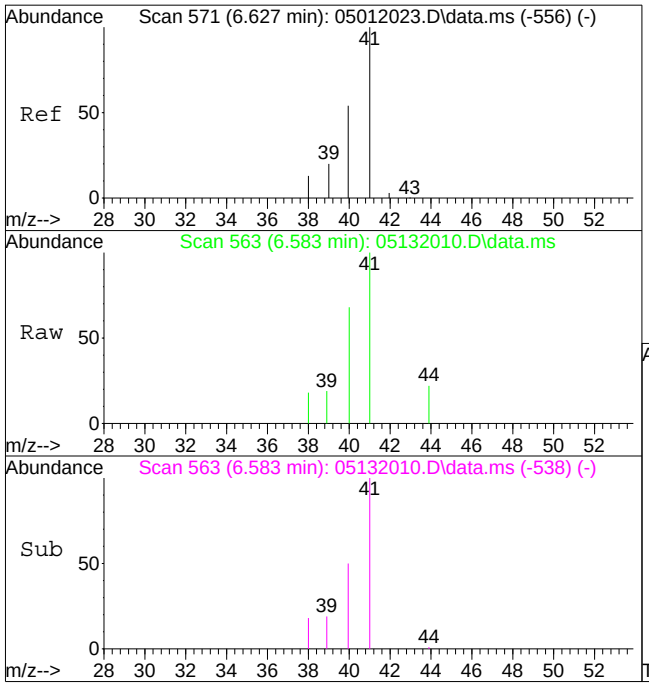


#10
Ethanol
Concen: 0.79 ng
RT: 6.32 min Scan# 515
Delta R.T. -0.099 min
Lab File: 05132010.D
Acq: 13 May 2020 23:53

Tgt Ion: 45 Resp: 18754

Ion	Ratio	Lower	Upper
45	100		
46	31.5	17.2	57.2

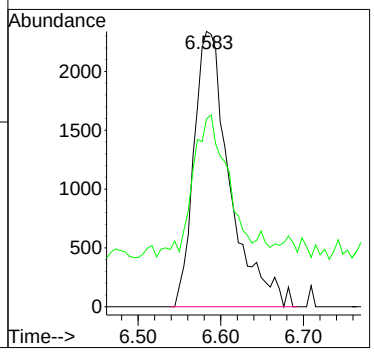


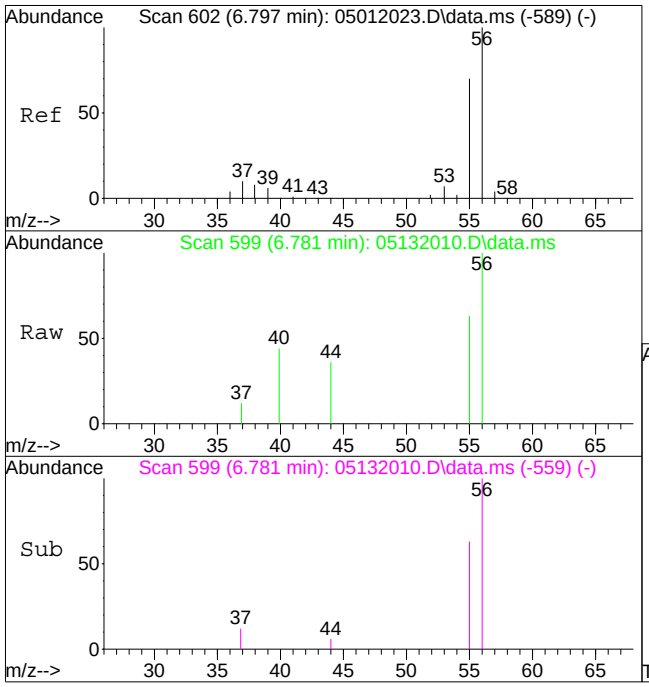


#11
Acetonitrile
Concen: 0.13 ng
RT: 6.58 min Scan# 563
Delta R.T. -0.061 min
Lab File: 05132010.D
Acq: 13 May 2020 23:53

Tgt Ion: 41 Resp: 7028

Ion	Ratio	Lower	Upper
41	100		
40	58.1	33.6	73.6

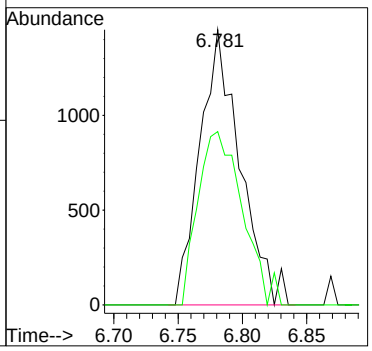


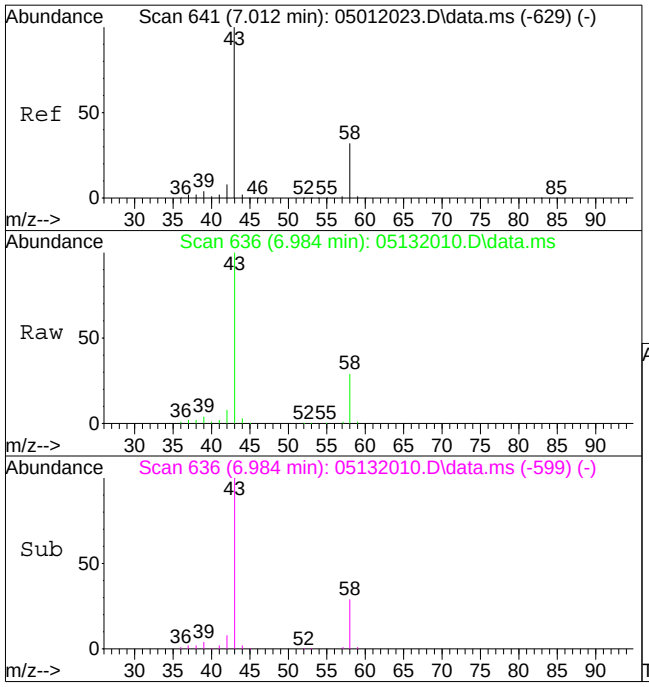


#12
Acrolein
Concen: 0.17 ng
RT: 6.78 min Scan# 599
Delta R.T. -0.028 min
Lab File: 05132010.D
Acq: 13 May 2020 23:53

Tgt Ion: 56 Resp: 3158

Ion	Ratio	Lower	Upper
56	100		
55	69.6	50.2	90.2

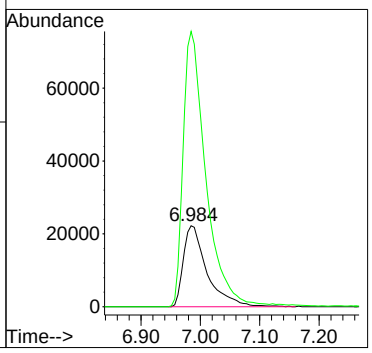


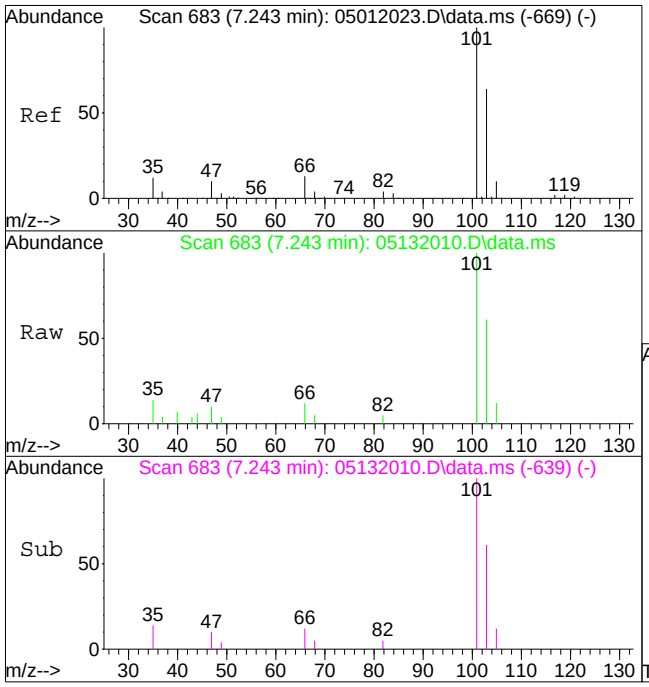


#13
Acetone
Concen: 2.61 ng
RT: 6.98 min Scan# 636
Delta R.T. -0.044 min
Lab File: 05132010.D
Acq: 13 May 2020 23:53

Tgt Ion: 58 Resp: 61860

Ion	Ratio	Lower	Upper
58	100		
43	327.5	294.4	354.4

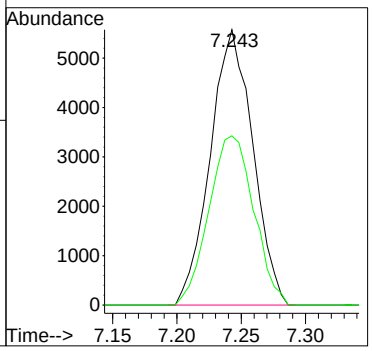


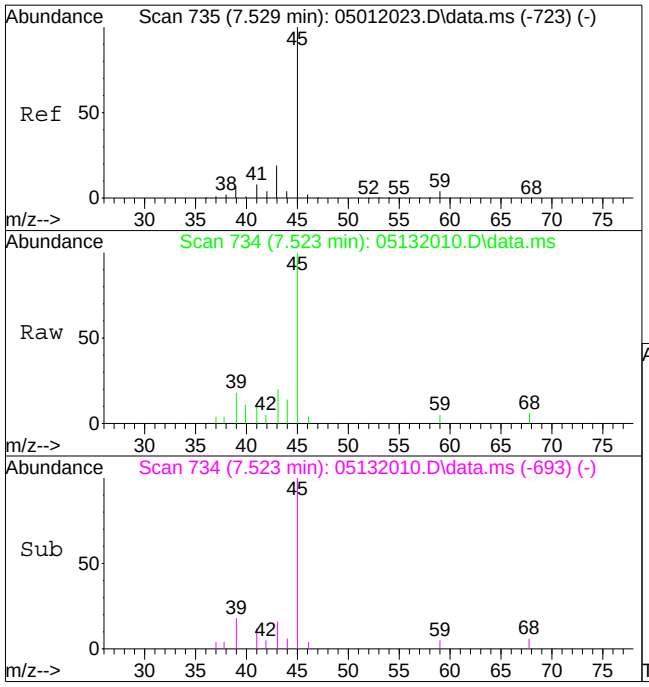


#14
Trichlorofluoromethane
Concen: 0.24 ng
RT: 7.24 min Scan# 683
Delta R.T. -0.006 min
Lab File: 05132010.D
Acq: 13 May 2020 23:53

Tgt Ion:101 Resp: 12840

Ion	Ratio	Lower	Upper
101	100		
103	64.8	44.4	84.4

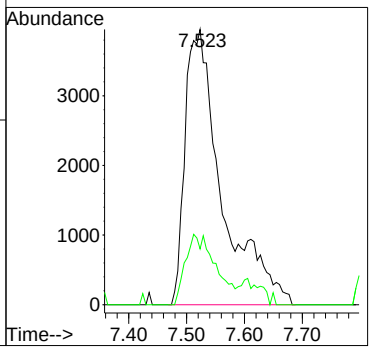


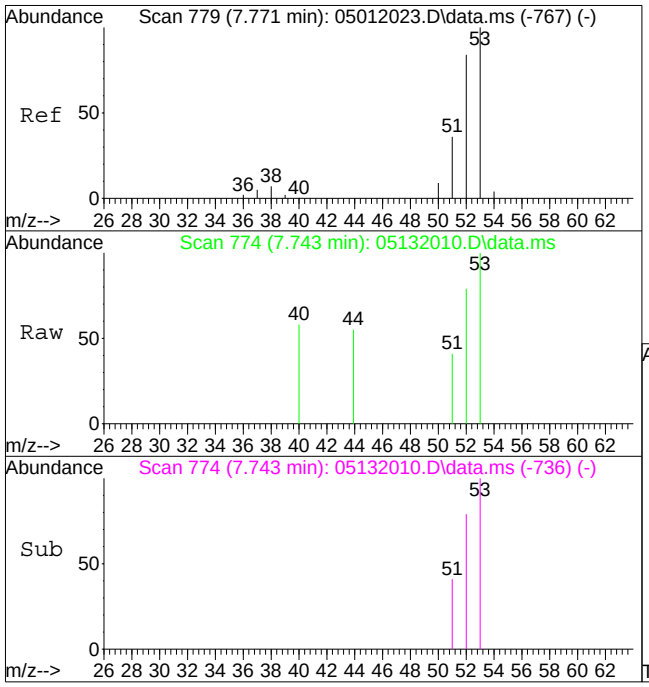


#15
2-Propanol (Isopropanol)
Concen: 0.24 ng
RT: 7.52 min Scan# 734
Delta R.T. -0.022 min
Lab File: 05132010.D
Acq: 13 May 2020 23:53

Tgt Ion: 45 Resp: 17457

Ion	Ratio	Lower	Upper
45	100		
43	26.5	0.0	39.5

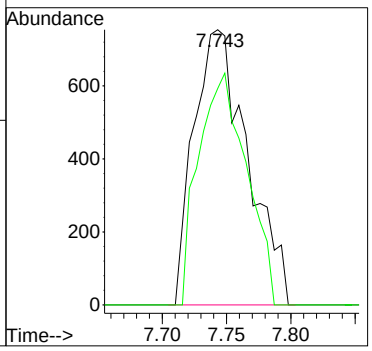


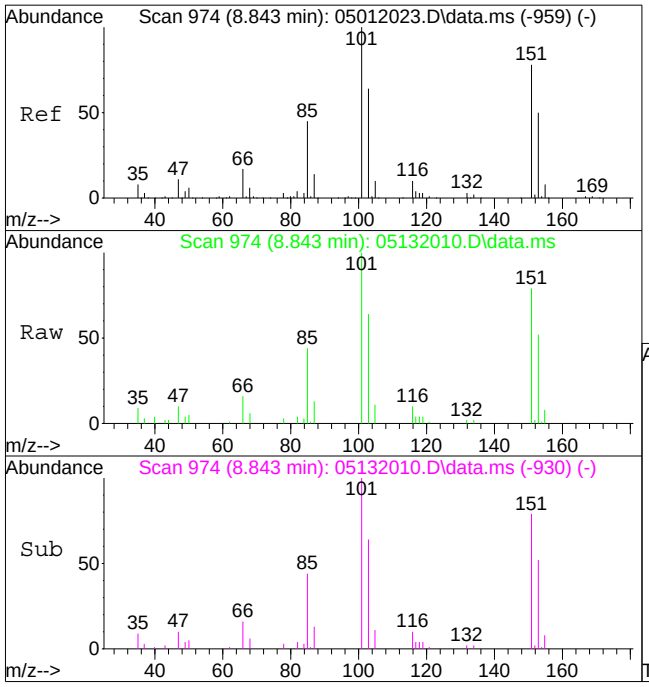


#16
Acrylonitrile
Concen: 0.06 ng
RT: 7.74 min Scan# 774
Delta R.T. -0.039 min
Lab File: 05132010.D
Acq: 13 May 2020 23:53

Tgt Ion: 53 Resp: 2197

Ion	Ratio	Lower	Upper
53	100		
52	75.0	63.7	103.7

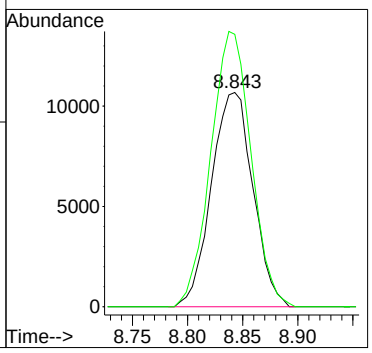


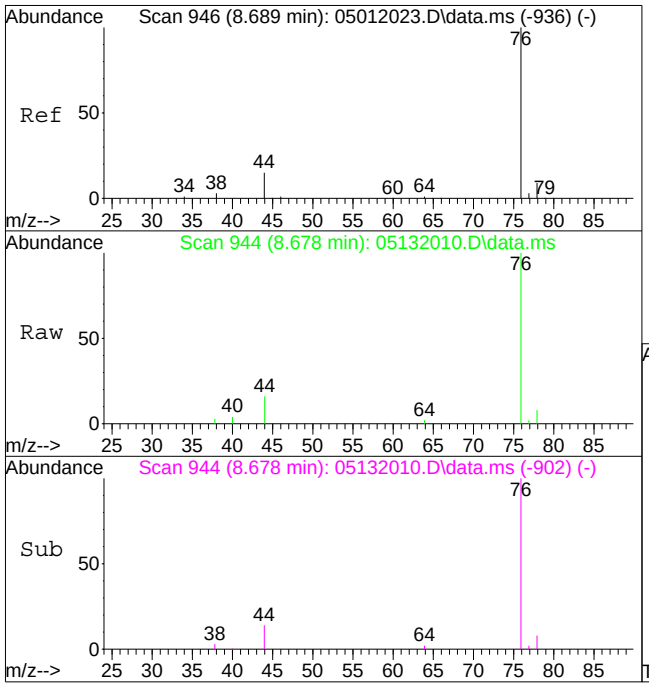


#21
Trichlorotrifluoroethane
Concen: 1.12 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05132010.D
Acq: 13 May 2020 23:53

Tgt Ion:151 Resp: 27990

Ion	Ratio	Lower	Upper
151	100		
101	124.6	107.3	147.3

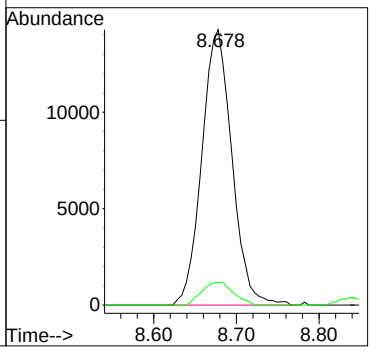


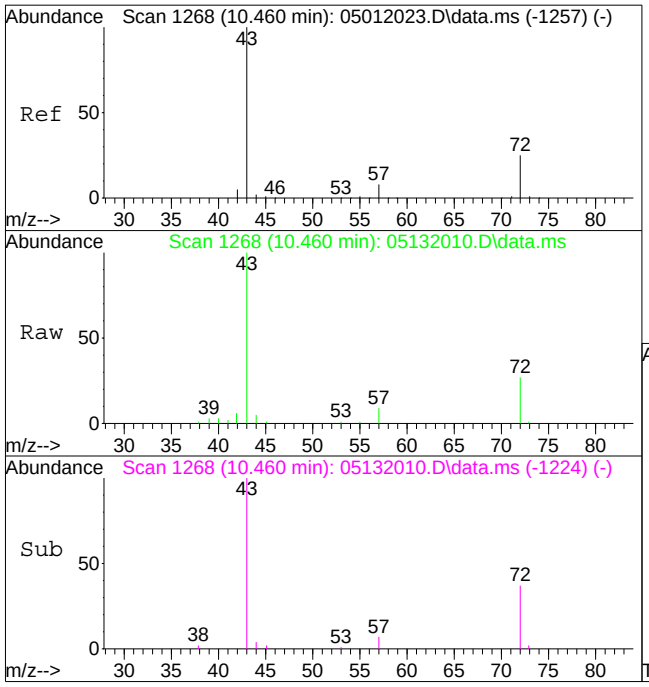


#22
Carbon Disulfide
Concen: 0.33 ng
RT: 8.68 min Scan# 944
Delta R.T. -0.017 min
Lab File: 05132010.D
Acq: 13 May 2020 23:53

Tgt Ion: 76 Resp: 36135

Ion	Ratio	Lower	Upper
76	100		
78	8.7	0.0	29.2

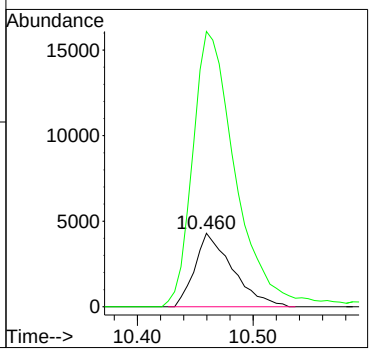


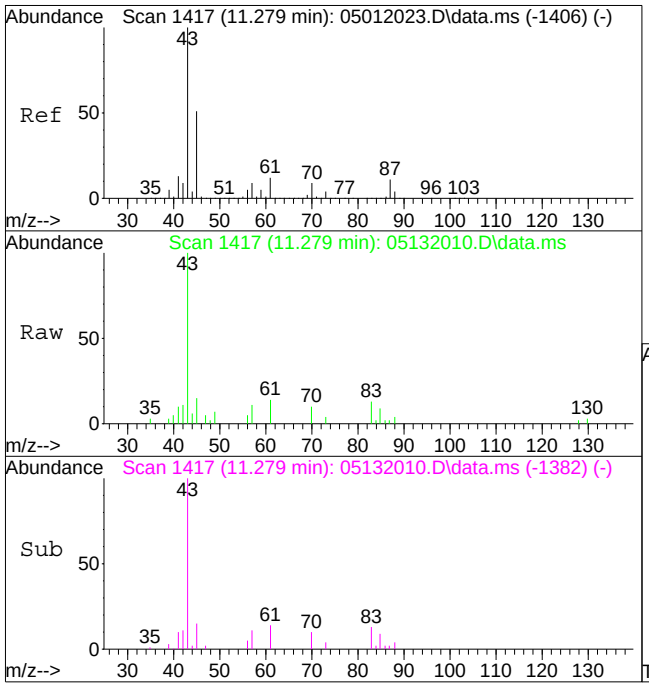


#27
2-Butanone (MEK)
Concen: 0.48 ng
RT: 10.46 min Scan# 1268
Delta R.T. -0.006 min
Lab File: 05132010.D
Acq: 13 May 2020 23:53

Tgt Ion: 72 Resp: 9747

Ion	Ratio	Lower	Upper
72	100		
43	427.2	389.7	429.7

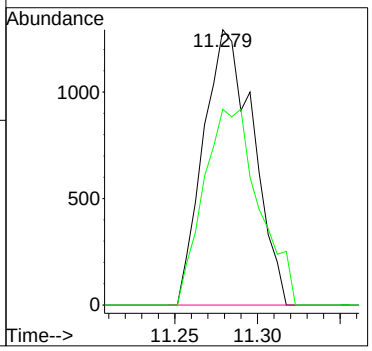


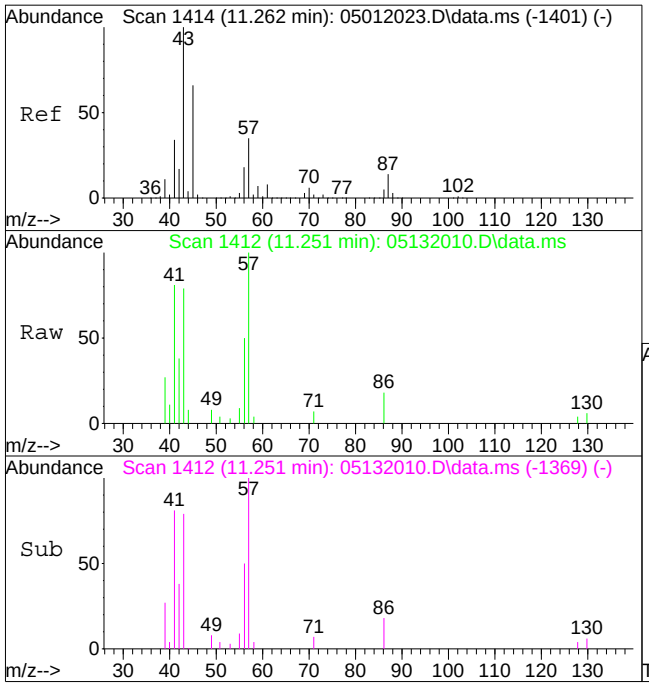


#30
Ethyl Acetate
Concen: 0.23 ng
RT: 11.28 min Scan# 1417
Delta R.T. -0.006 min
Lab File: 05132010.D
Acq: 13 May 2020 23:53

Tgt Ion: 61 Resp: 2702

Ion	Ratio	Lower	Upper
61	100		
70	79.4	57.9	97.9

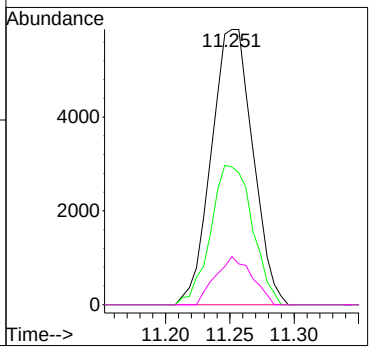


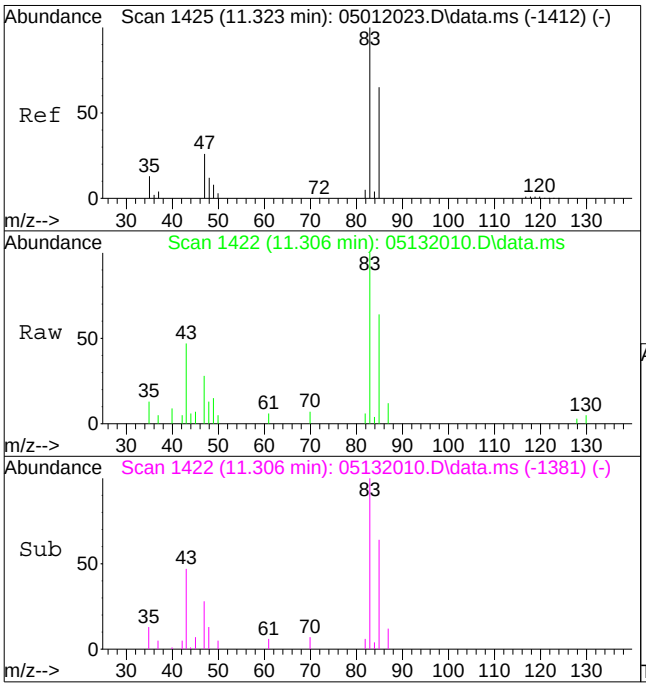


#31
n-Hexane
Concen: 0.26 ng
RT: 11.25 min Scan# 1412
Delta R.T. -0.011 min
Lab File: 05132010.D
Acq: 13 May 2020 23:53

Tgt Ion: 57 Resp: 13157

Ion	Ratio	Lower	Upper
57	100		
56	51.0	41.4	62.0
86	15.4	12.4	18.6

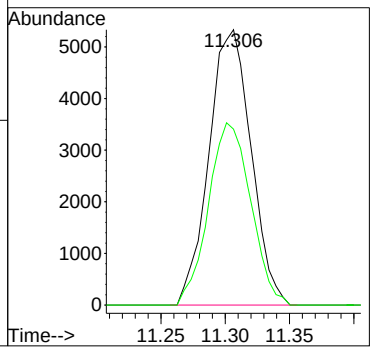


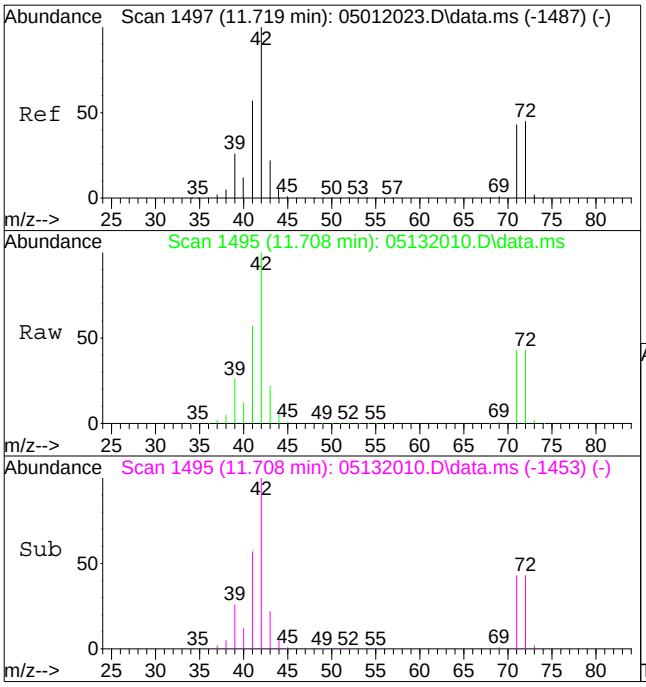


#32
Chloroform
Concen: 0.23 ng
RT: 11.31 min Scan# 1422
Delta R.T. -0.022 min
Lab File: 05132010.D
Acq: 13 May 2020 23:53

Tgt Ion: 83 Resp: 12181

Ion	Ratio	Lower	Upper
83	100		
85	66.3	45.5	85.5

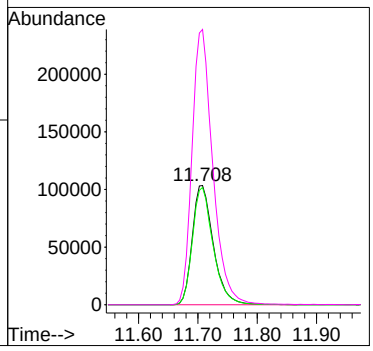


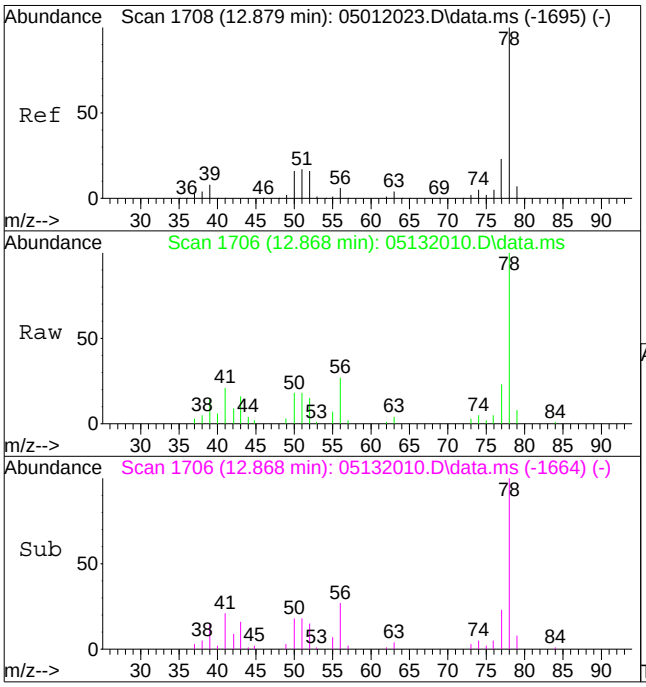


#34
Tetrahydrofuran (THF)
Concen: 12.93 ng
RT: 11.71 min Scan# 1495
Delta R.T. -0.017 min
Lab File: 05132010.D
Acq: 13 May 2020 23:53

Tgt Ion: 72 Resp: 254890

Ion	Ratio	Lower	Upper
72	100		
71	96.5	77.0	117.0
42	228.3	204.6	244.6

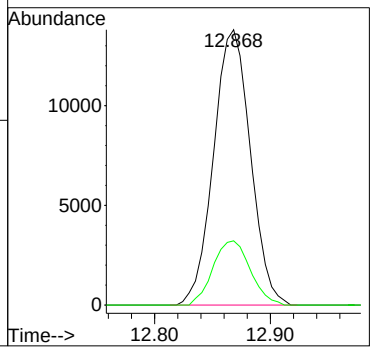


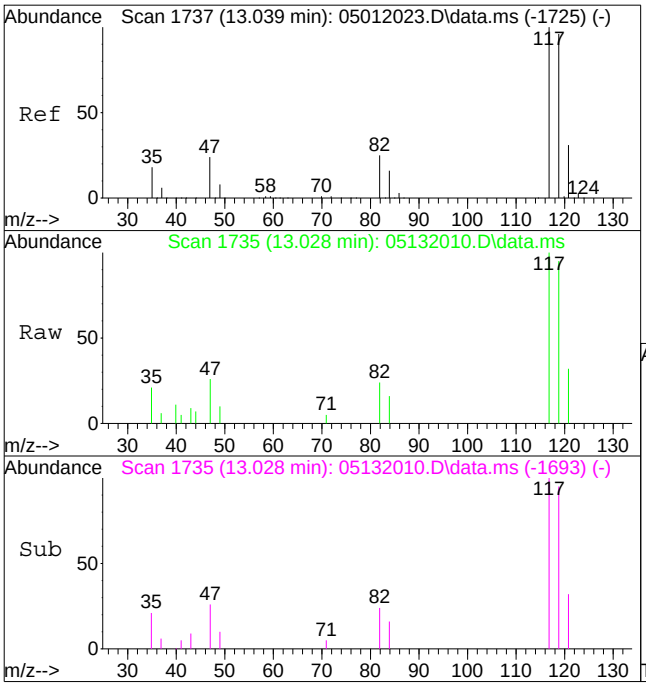


#41
Benzene
Concen: 0.25 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05132010.D
Acq: 13 May 2020 23:53

Tgt Ion: 78 Resp: 30633

Ion	Ratio	Lower	Upper
78	100		
77	23.6	3.4	43.4

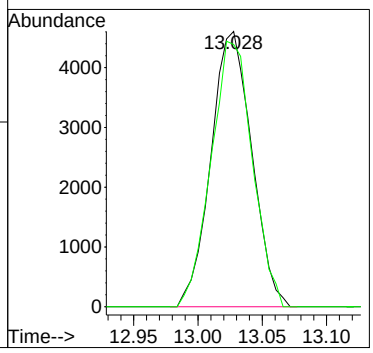


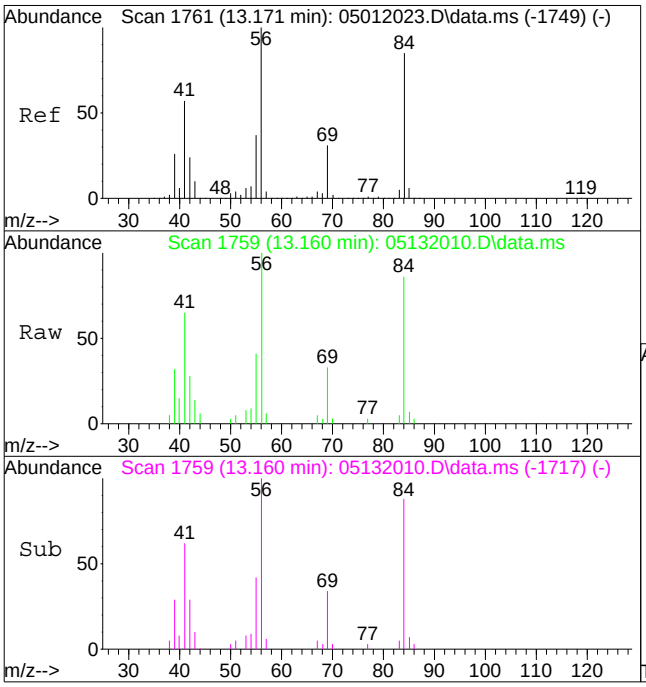


#42
Carbon Tetrachloride
Concen: 0.24 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05132010.D
Acq: 13 May 2020 23:53

Tgt Ion:117 Resp: 10171

Ion	Ratio	Lower	Upper
117	100		
119	97.6	76.2	116.2

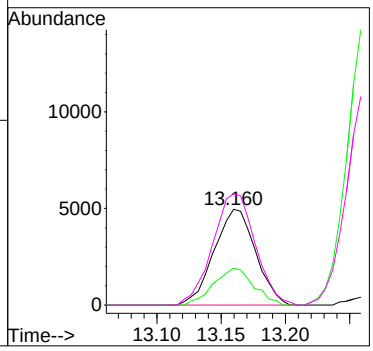


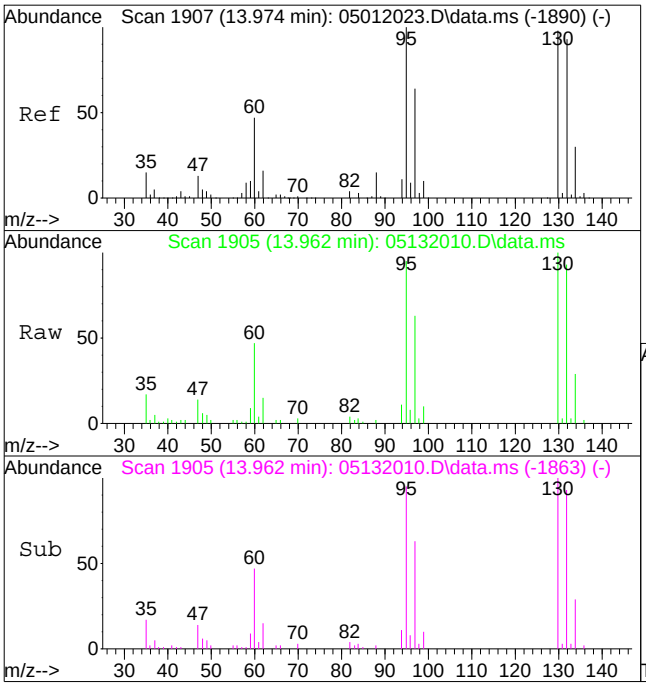


#43
Cyclohexane
Concen: 0.24 ng
RT: 13.16 min Scan# 1759
Delta R.T. -0.017 min
Lab File: 05132010.D
Acq: 13 May 2020 23:53

Tgt Ion: 84 Resp: 11122

Ion	Ratio	Lower	Upper
84	100		
69	37.1	16.5	56.5
56	119.2	97.4	137.4

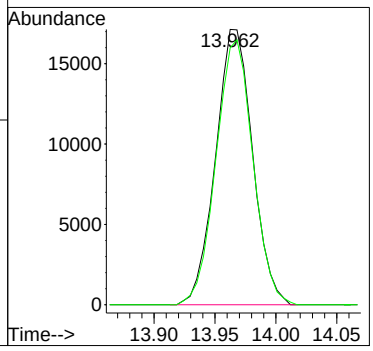


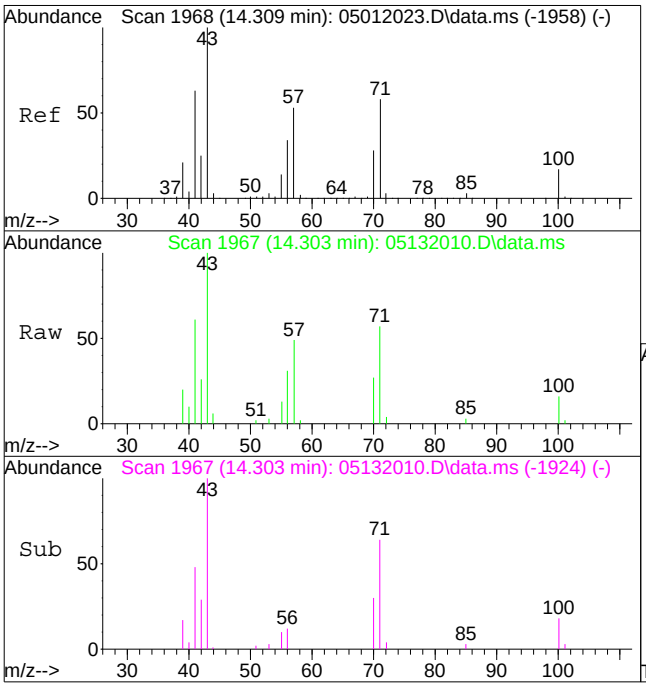


#47
Trichloroethene
Concen: 1.14 ng
RT: 13.96 min Scan# 1905
Delta R.T. -0.017 min
Lab File: 05132010.D
Acq: 13 May 2020 23:53

Tgt Ion:130 Resp: 36253

Ion	Ratio	Lower	Upper
130	100		
132	95.9	74.9	114.9

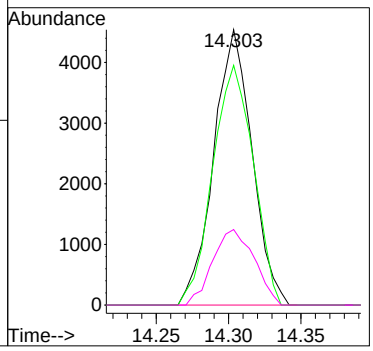


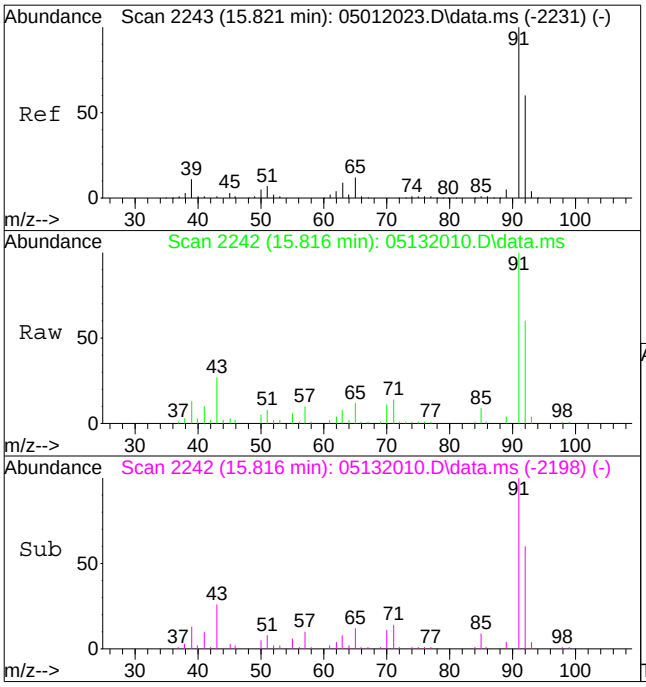


#51
n-Heptane
Concen: 0.29 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05132010.D
Acq: 13 May 2020 23:53

Tgt Ion: 71 Resp: 8395

Ion	Ratio	Lower	Upper
71	100		
57	92.2	71.0	111.0
100	29.7	8.4	48.4

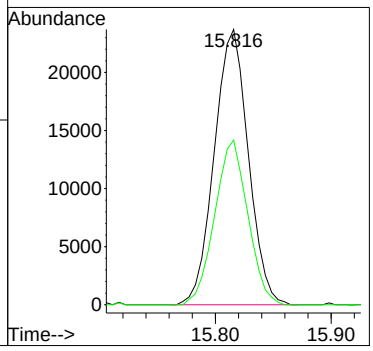


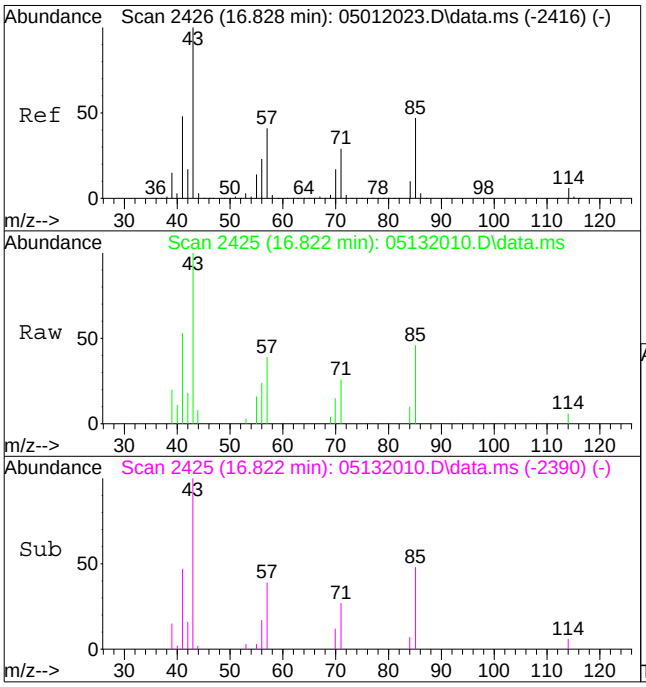


#58
Toluene
Concen: 0.41 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05132010.D
Acq: 13 May 2020 23:53

Tgt Ion: 91 Resp: 48459

Ion	Ratio	Lower	Upper
91	100		
92	57.9	39.4	79.4

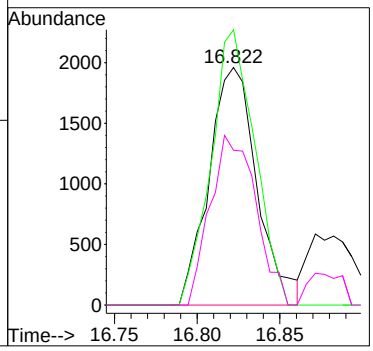


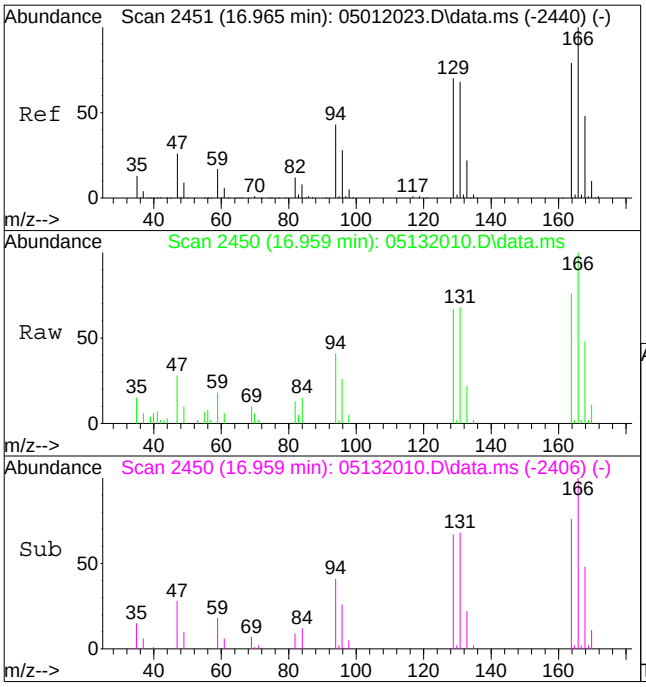


#63
n-Octane
Concen: 0.16 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05132010.D
Acq: 13 May 2020 23:53

Tgt Ion: 57 Resp: 3978

Ion	Ratio	Lower	Upper
57	100		
85	105.3	91.0	136.4
71	67.7	56.2	84.2

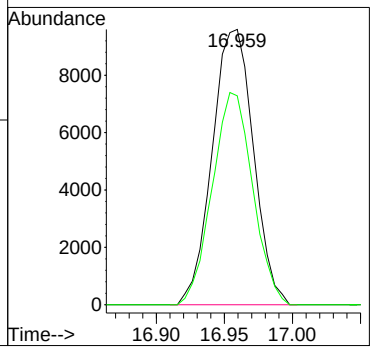


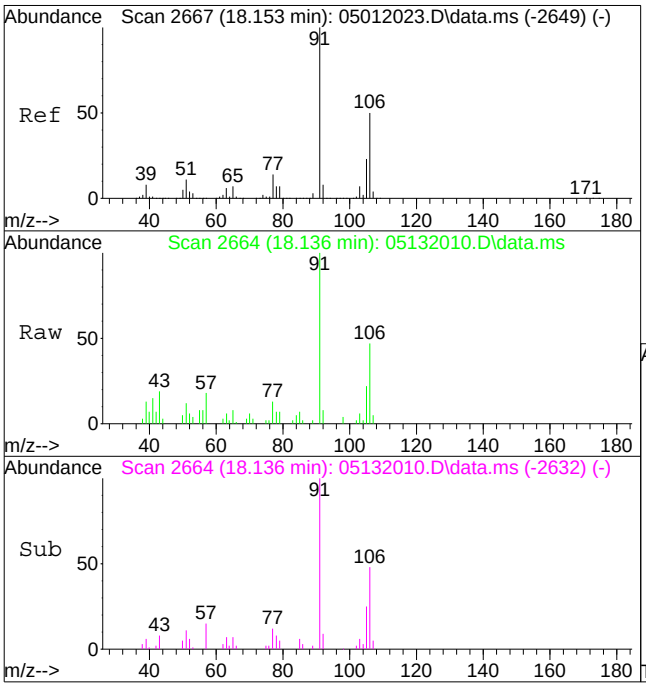


#64
Tetrachloroethene
Concen: 0.61 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05132010.D
Acq: 13 May 2020 23:53

Tgt Ion:166 Resp: 20228

Ion	Ratio	Lower	Upper
166	100		
164	75.5	58.4	98.4

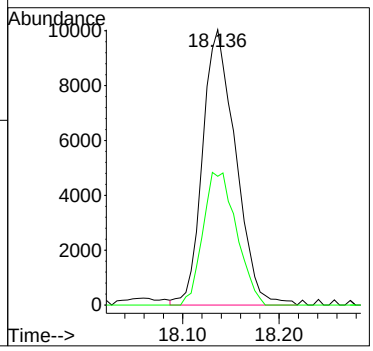


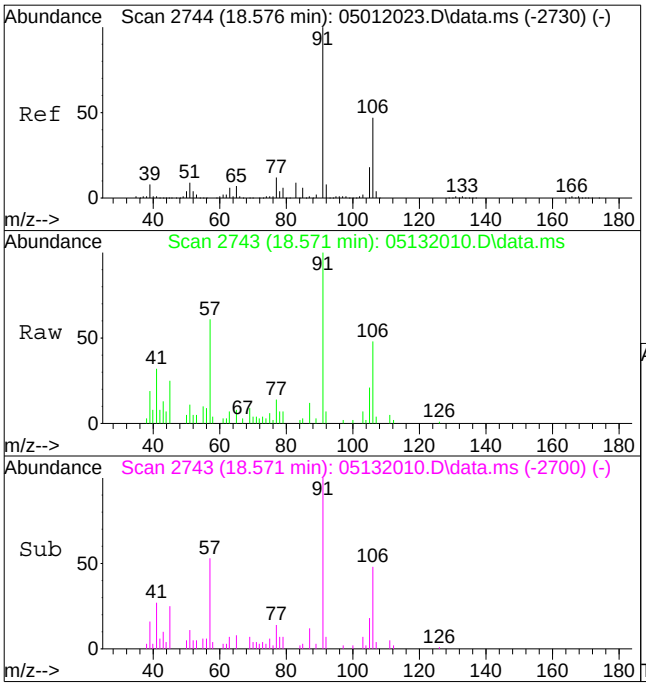


#67
m- & p-Xylenes
Concen: 0.23 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05132010.D
Acq: 13 May 2020 23:53

Tgt Ion: 91 Resp: 23910

Ion	Ratio	Lower	Upper
91	100		
106	49.0	29.7	69.7

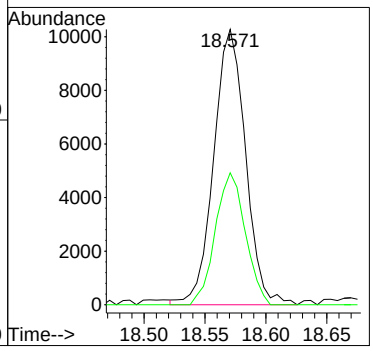


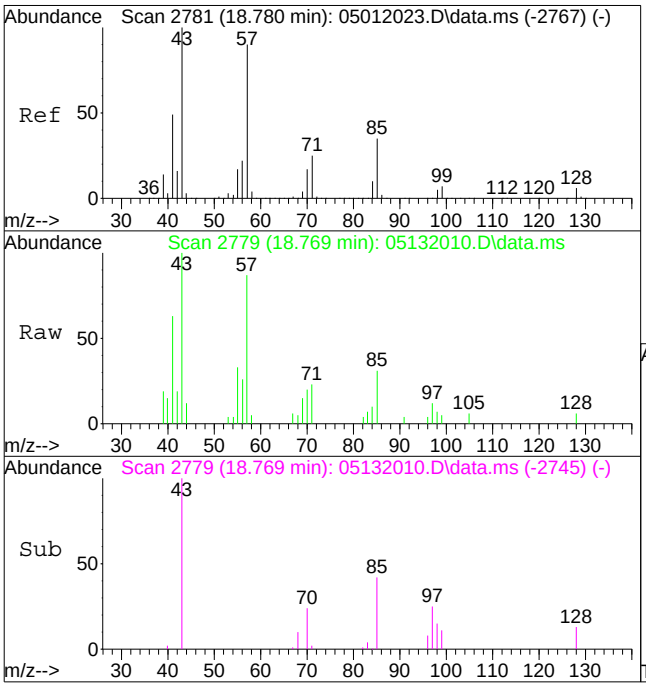


#70
o-Xylene
Concen: 0.18 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05132010.D
Acq: 13 May 2020 23:53

Tgt Ion: 91 Resp: 18678

Ion	Ratio	Lower	Upper
91	100		
106	45.0	27.5	67.5

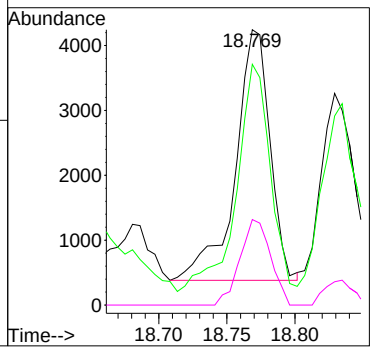


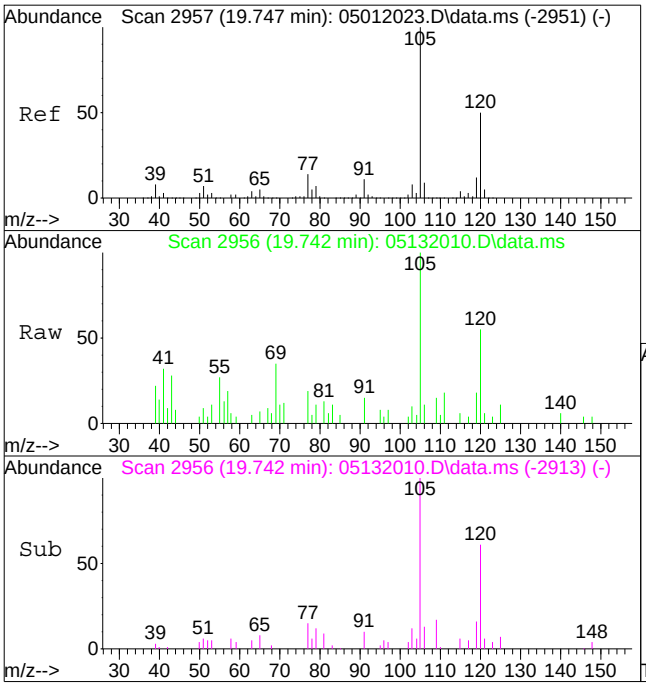


#71
n-Nonane
Concen: 0.12 ng
RT: 18.77 min Scan# 2779
Delta R.T. -0.011 min
Lab File: 05132010.D
Acq: 13 May 2020 23:53

Tgt Ion: 43 Resp: 6845

Ion	Ratio	Lower	Upper
43	100		
57	87.8	69.0	109.0
85	30.1	14.6	54.6

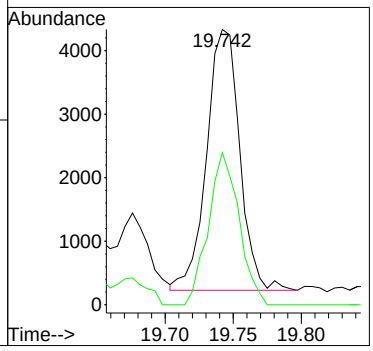


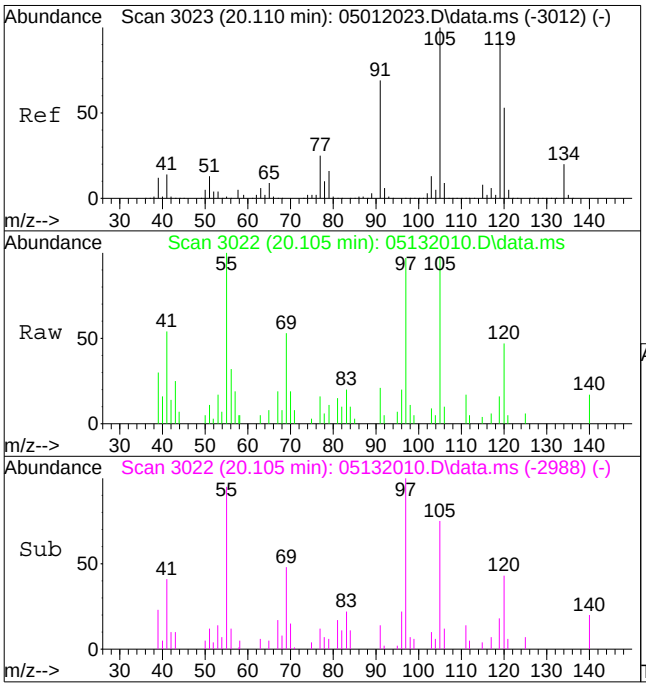


#79
1,3,5-Trimethylbenzene
Concen: 0.07 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05132010.D
Acq: 13 May 2020 23:53

Tgt Ion:105 Resp: 6942

Ion	Ratio	Lower	Upper
105	100		
120	53.9	29.9	69.9

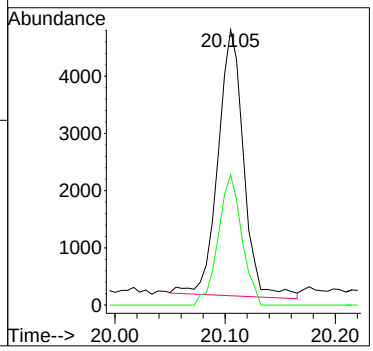


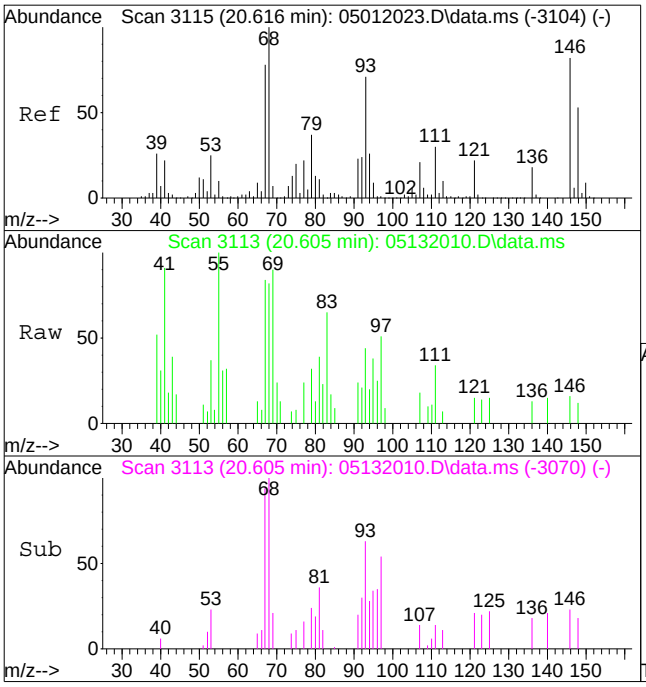


#82
1,2,4-Trimethylbenzene
Concen: 0.07 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05132010.D
Acq: 13 May 2020 23:53

Tgt Ion:105 Resp: 7520

Ion	Ratio	Lower	Upper
105	100		
120	44.9	33.6	73.6

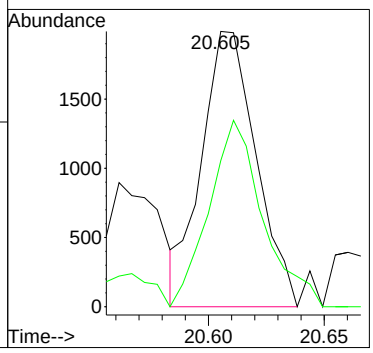


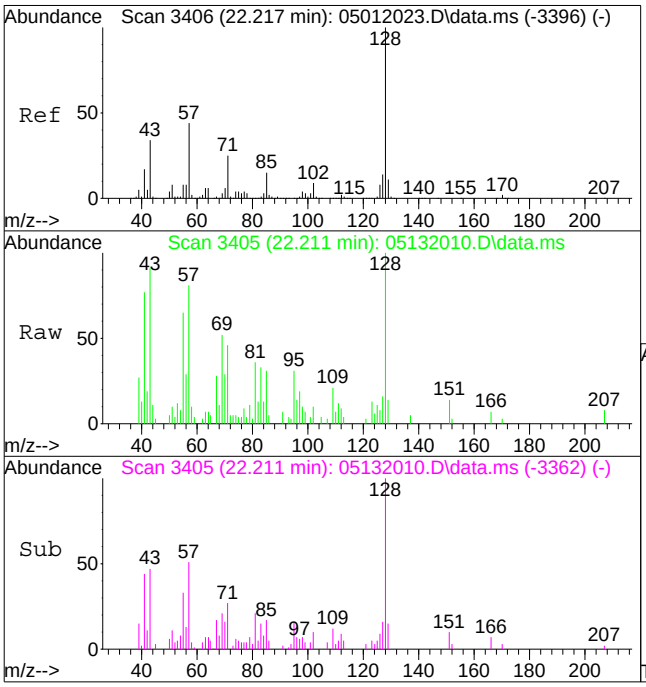


#91
d-Limonene
Concen: 0.08 ng
RT: 20.61 min Scan# 3113
Delta R.T. -0.011 min
Lab File: 05132010.D
Acq: 13 May 2020 23:53

Tgt Ion: 68 Resp: 3268

Ion	Ratio	Lower	Upper
68	100		
93	66.7	51.1	91.1

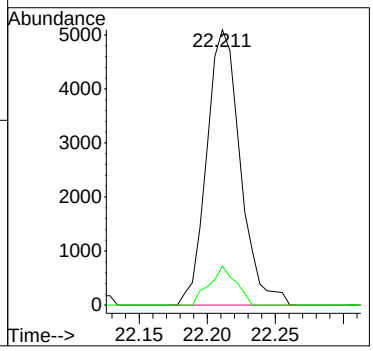




#95
Naphthalene
Concen: 0.07 ng
RT: 22.21 min Scan# 3405
Delta R.T. -0.011 min
Lab File: 05132010.D
Acq: 13 May 2020 23:53

Tgt Ion:128 Resp: 8740

Ion	Ratio	Lower	Upper
128	100		
129	11.1	0.0	31.0



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132011.D Vial: 5
Acq On : 14 May 2020 00:27 Operator: LH
Sample : P2002301-002 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:27:05 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/14/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.12	130	267600	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	13.26	114	1151080	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	543230	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.98	65	428189	11.807	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.48%				
57) Toluene-d8 (SS2)	15.71	98	1143328	12.417	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.36%				
73) Bromofluorobenzene (SS3)	18.97	174	440064	13.282	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.24%				
Target Compounds							Qvalue
2) Propene	4.11	42	3017	0.097	ng	#	89
3) Dichlorodifluoromethan...	4.26	85	52779	0.871	ng		100
4) Chloromethane	4.53	50	2449	0.052	ng		93
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	464	N.D.			
6) Vinyl Chloride	4.96	62	112	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.31	45	14585	0.609	ng		91
11) Acetonitrile	6.59	41	2631	N.D.			
12) Acrolein	6.78	56	2397	0.127	ng		99
13) Acetone	7.00	58	34990	1.462	ng		97
14) Trichlorofluoromethane	7.24	101	11269	0.210	ng		99
15) 2-Propanol (Isopropanol)	7.53	45	5961	0.082	ng		91
16) Acrylonitrile	7.77	53	116	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.44	59	2138	N.D.			
19) Methylene Chloride	8.39	84	558	N.D.			
20) 3-Chloro-1-propene (Al...	8.50	41	220	N.D.			
21) Trichlorotrifluoroethane	8.84	151	34822	1.377	ng		98
22) Carbon Disulfide	8.67	76	129423	1.161	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.47	72	3822	0.187	ng	#	77
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	11.29	61	300	N.D.			
31) n-Hexane	11.25	57	23391	0.458	ng		98
32) Chloroform	11.30	83	807	N.D.			
34) Tetrahydrofuran (THF)	11.72	72	21268	1.068	ng		96
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	12.87	61	236	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	56331	0.456	ng		100
42) Carbon Tetrachloride	13.03	117	8331	0.198	ng		99
43) Cyclohexane	13.16	84	22608	0.491	ng		99
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	13.97	130	28893	0.906	ng		98
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132011.D Vial: 5
Acq On : 14 May 2020 00:27 Operator: LH
Sample : P2002301-002 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:27:05 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

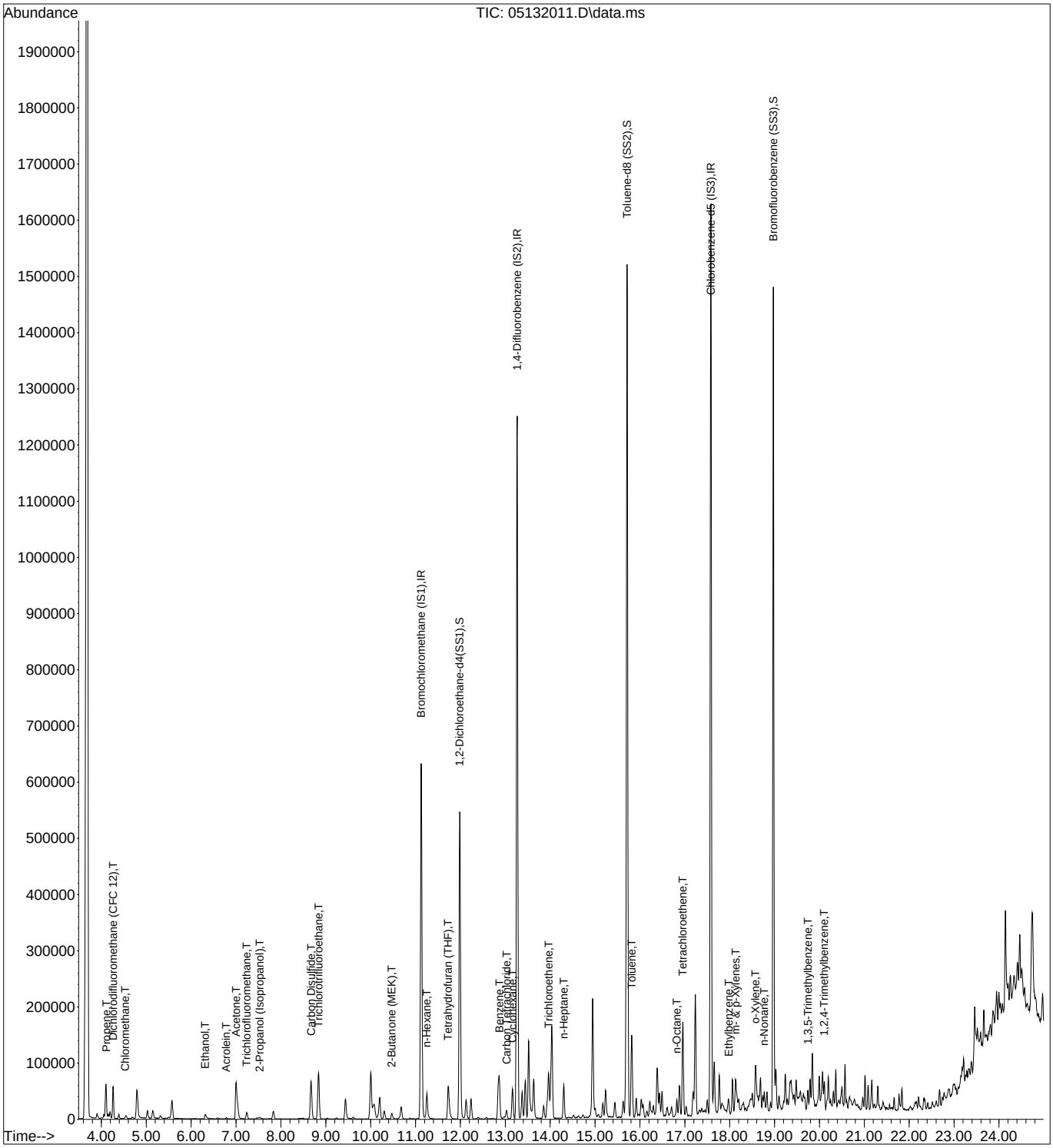
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.30	71	15566	0.539 ng	98
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.88	58	614	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	15.51	97	103	N.D.	
58) Toluene	15.82	91	93867	0.791 ng	99
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.70	43	1995	N.D.	
63) n-Octane	16.82	57	6754	0.275 ng	93
64) Tetrachloroethene	16.95	166	54923	1.638 ng	99
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	17.98	91	7888	0.060 ng	96
67) m- & p-Xylenes	18.14	91	38930	0.371 ng	99
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	915	N.D.	
70) o-Xylene	18.57	91	26903	0.252 ng	99
71) n-Nonane	18.77	43	11057	0.196 ng	95
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	19.10	105	3279	N.D.	
75) alpha-Pinene	19.45	93	229	N.D.	
76) n-Propylbenzene	19.55	91	4032	N.D.	
77) 3-Ethyltoluene	19.64	105	4934	N.D.	
78) 4-Ethyltoluene	19.68	105	1659	N.D.	
79) 1,3,5-Trimethylbenzene	19.74	105	9576	0.090 ng	93
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	19.91	105	3421	N.D.	
82) 1,2,4-Trimethylbenzene	20.10	105	10420	0.097 ng	90
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.23	91	730	N.D.	
85) 1,3-Dichlorobenzene	20.24	146	552	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	854	N.D.	
87) sec-Butylbenzene	20.35	105	2980	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	1589	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	20.59	146	396	N.D.	
91) d-Limonene	20.61	68	1409	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.11	180	751	N.D.	
95) Naphthalene	22.22	128	4924	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.07	119	1427	N.D.	
100) n-Butylbenzene	20.85	91	1802	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132011.D Vial: 5
Acq On : 14 May 2020 00:27 Operator: LH
Sample : P2002301-002 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:27:05 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132011.D Vial: 5
Acq On : 14 May 2020 00:27 Operator: LH
Sample : P2002301-002 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:27:05 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/14/20

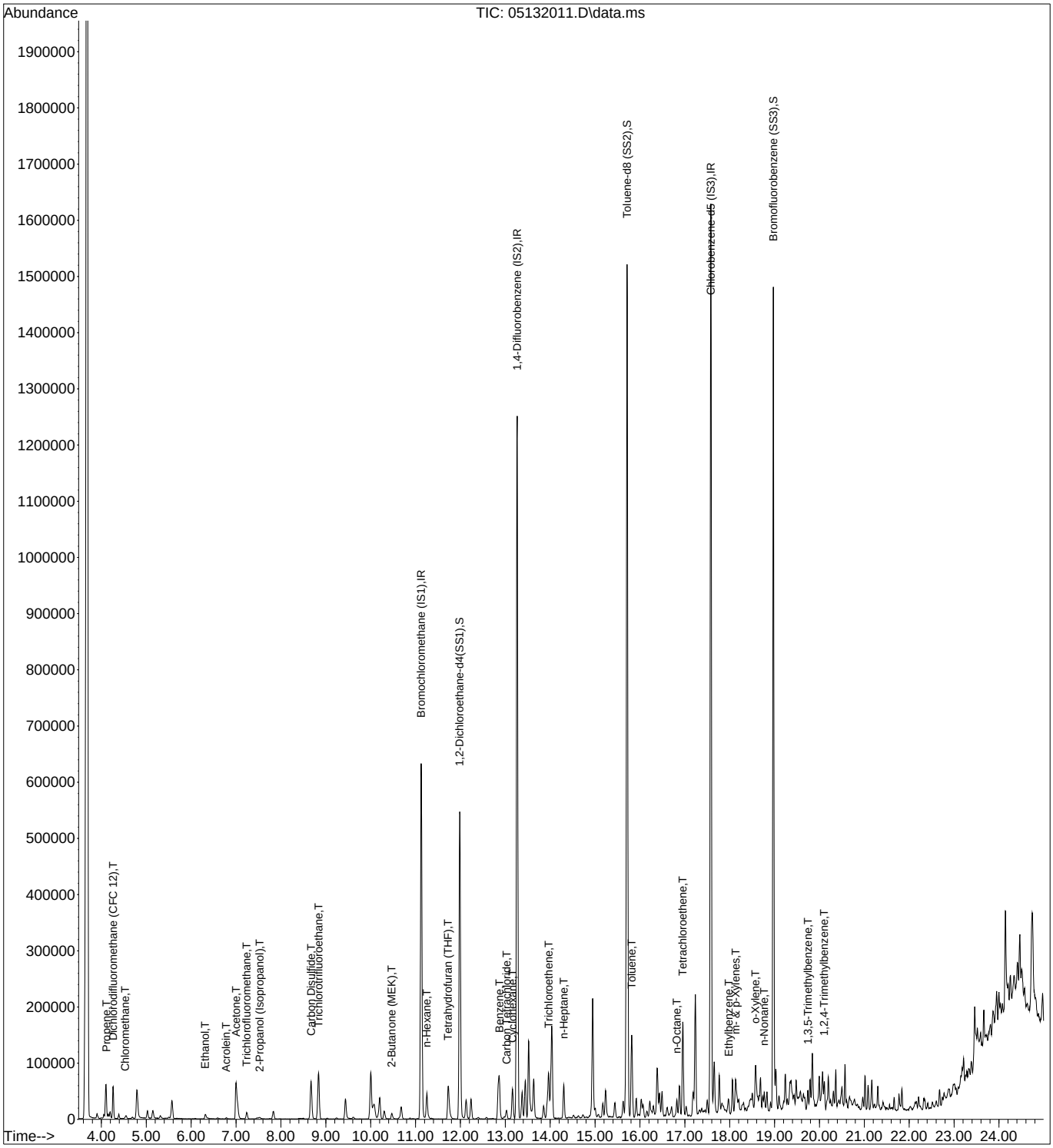
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.12	130	267600	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	13.26	114	1151080	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	543230	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.98	65	428189	11.807	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.48%			
57) Toluene-d8 (SS2)	15.71	98	1143328	12.417	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.36%			
73) Bromofluorobenzene (SS3)	18.97	174	440064	13.282	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.24%			
Target Compounds						Qvalue
2) Propene	4.11	42	3017	0.097	ng	# 89
3) Dichlorodifluoromethan...	4.26	85	52779	0.871	ng	100
4) Chloromethane	4.53	50	2449	0.052	ng	93
10) Ethanol	6.31	45	14585	0.609	ng	91
12) Acrolein	6.78	56	2397	0.127	ng	99
13) Acetone	7.00	58	34990	1.462	ng	97
14) Trichlorofluoromethane	7.24	101	11269	0.210	ng	99
15) 2-Propanol (Isopropanol)	7.53	45	5961	0.082	ng	91
21) Trichlorotrifluoroethane	8.84	151	34822	1.377	ng	98
22) Carbon Disulfide	8.67	76	129423	1.161	ng	99
27) 2-Butanone (MEK)	10.47	72	3822	0.187	ng	# 77
31) n-Hexane	11.25	57	23391	0.458	ng	98
34) Tetrahydrofuran (THF)	11.72	72	21268	1.068	ng	96
41) Benzene	12.87	78	56331	0.456	ng	100
42) Carbon Tetrachloride	13.03	117	8331	0.198	ng	99
43) Cyclohexane	13.16	84	22608	0.491	ng	99
47) Trichloroethene	13.97	130	28893	0.906	ng	98
51) n-Heptane	14.30	71	15566	0.539	ng	98
58) Toluene	15.82	91	93867	0.791	ng	99
63) n-Octane	16.82	57	6754	0.275	ng	93
64) Tetrachloroethene	16.95	166	54923	1.638	ng	99
66) Ethylbenzene	17.98	91	7888	0.060	ng	96
67) m- & p-Xylenes	18.14	91	38930	0.371	ng	99
70) o-Xylene	18.57	91	26903	0.252	ng	99
71) n-Nonane	18.77	43	11057	0.196	ng	95
79) 1,3,5-Trimethylbenzene	19.74	105	9576	0.090	ng	93
82) 1,2,4-Trimethylbenzene	20.10	105	10420	0.097	ng	90

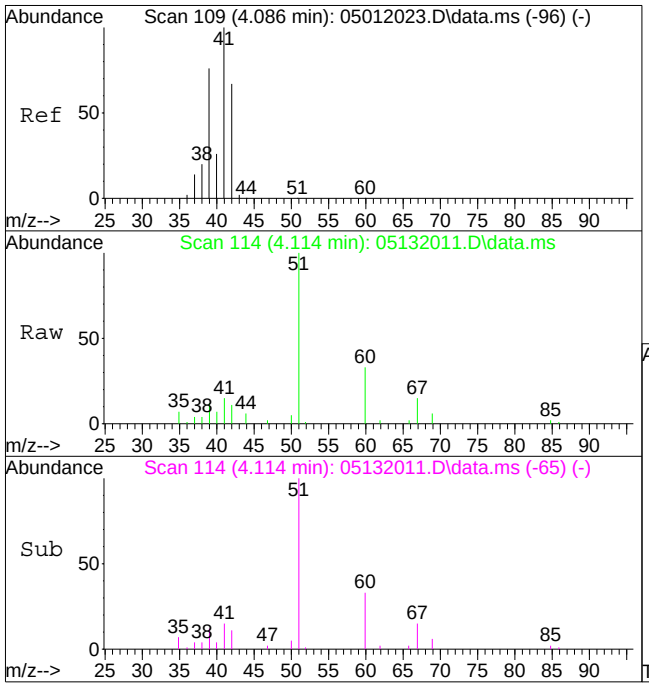
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132011.D Vial: 5
Acq On : 14 May 2020 00:27 Operator: LH
Sample : P2002301-002 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:27:05 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

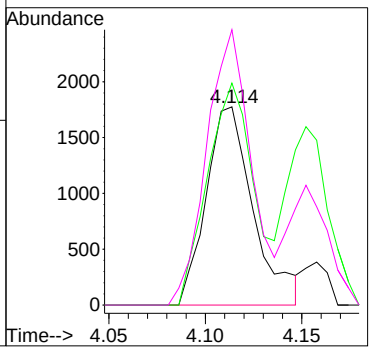


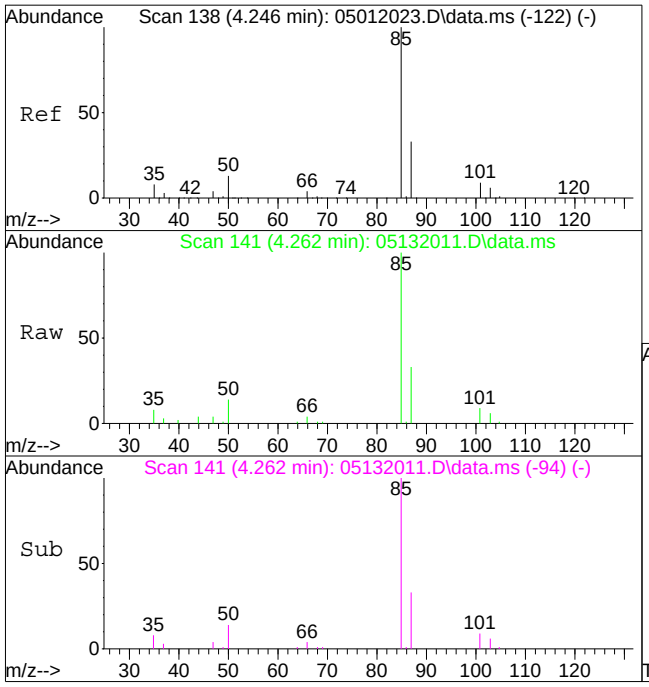


#2
Propene
Concen: 0.10 ng
RT: 4.11 min Scan# 114
Delta R.T. 0.022 min
Lab File: 05132011.D
Acq: 14 May 2020 00:27

Tgt Ion: 42 Resp: 3017

Ion	Ratio	Lower	Upper
42	100		
39	111.7	96.1	136.1
41	130.4	131.9	171.9#

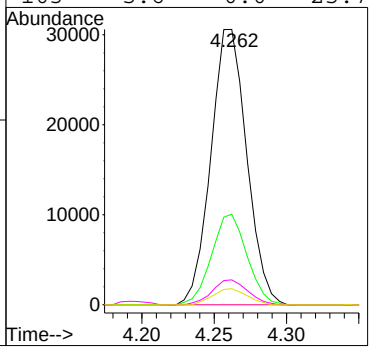


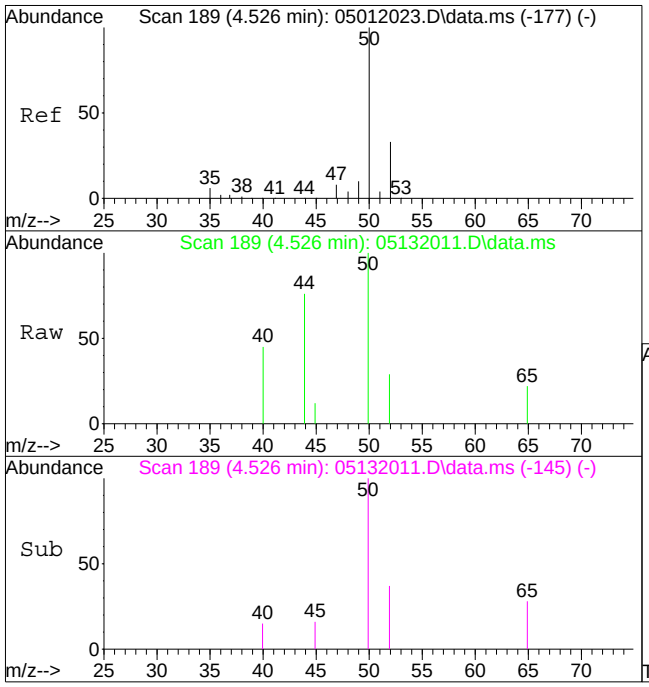


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.87 ng
RT: 4.26 min Scan# 141
Delta R.T. 0.011 min
Lab File: 05132011.D
Acq: 14 May 2020 00:27

Tgt Ion: 85 Resp: 52779

Ion	Ratio	Lower	Upper
85	100		
87	32.5	12.4	52.4
101	9.0	0.0	28.8
103	5.6	0.0	25.7

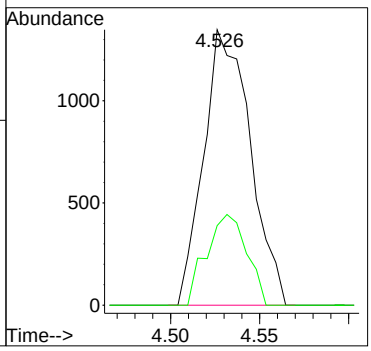


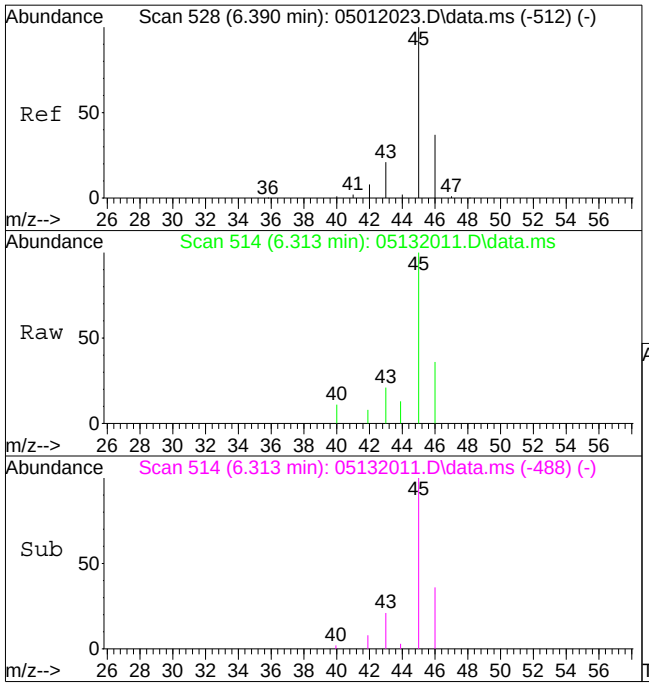


#4
Chloromethane
Concen: 0.05 ng
RT: 4.53 min Scan# 189
Delta R.T. -0.006 min
Lab File: 05132011.D
Acq: 14 May 2020 00:27

Tgt Ion: 50 Resp: 2449

Ion	Ratio	Lower	Upper
50	100		
52	28.6	12.5	52.5

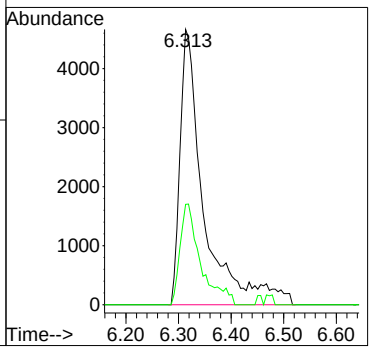


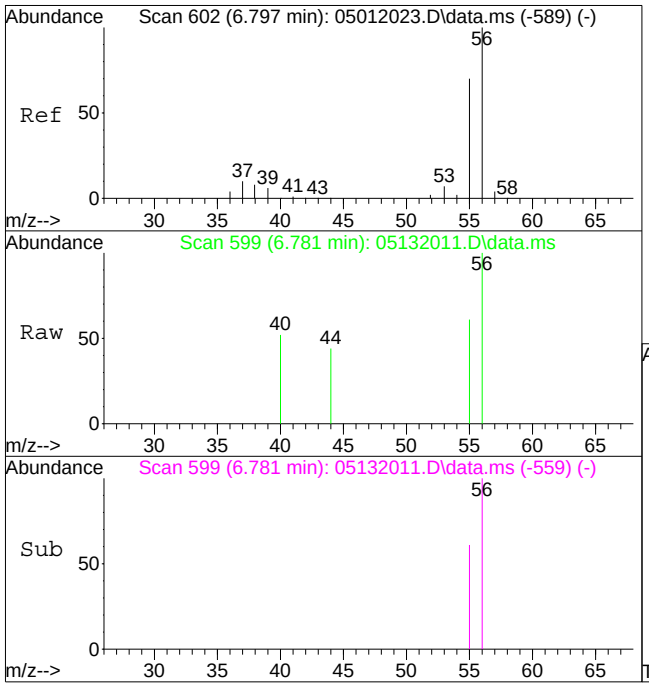


#10
Ethanol
Concen: 0.61 ng
RT: 6.31 min Scan# 514
Delta R.T. -0.105 min
Lab File: 05132011.D
Acq: 14 May 2020 00:27

Tgt Ion: 45 Resp: 14585

Ion	Ratio	Lower	Upper
45	100		
46	31.6	17.2	57.2

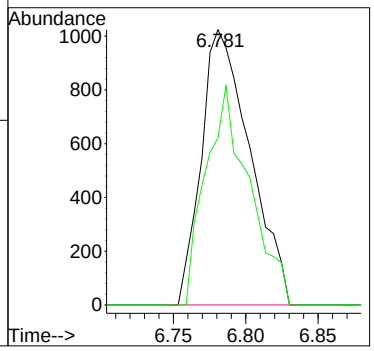


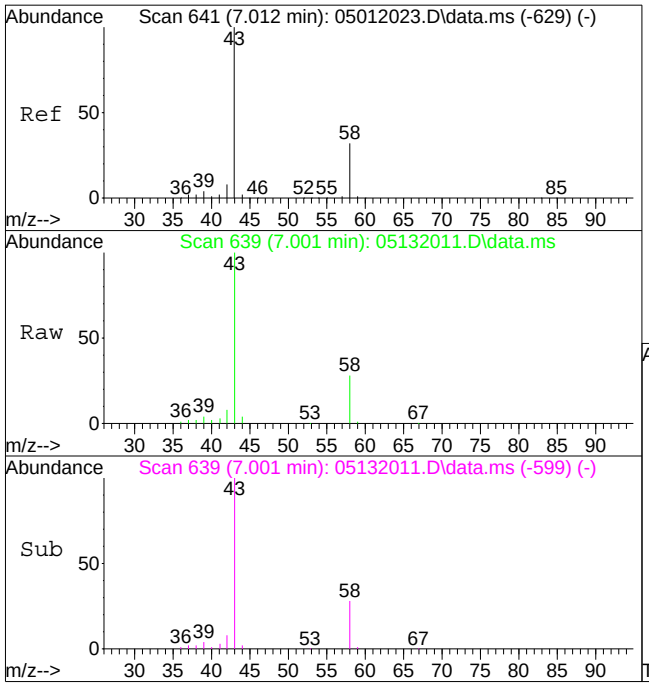


#12
Acrolein
Concen: 0.13 ng
RT: 6.78 min Scan# 599
Delta R.T. -0.028 min
Lab File: 05132011.D
Acq: 14 May 2020 00:27

Tgt Ion: 56 Resp: 2397

Ion	Ratio	Lower	Upper
56	100		
55	71.4	50.2	90.2

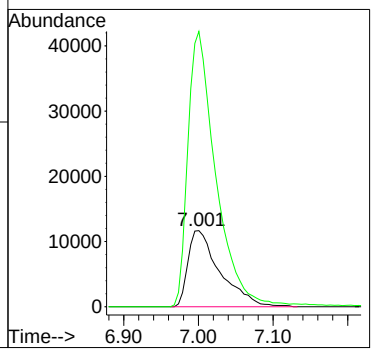


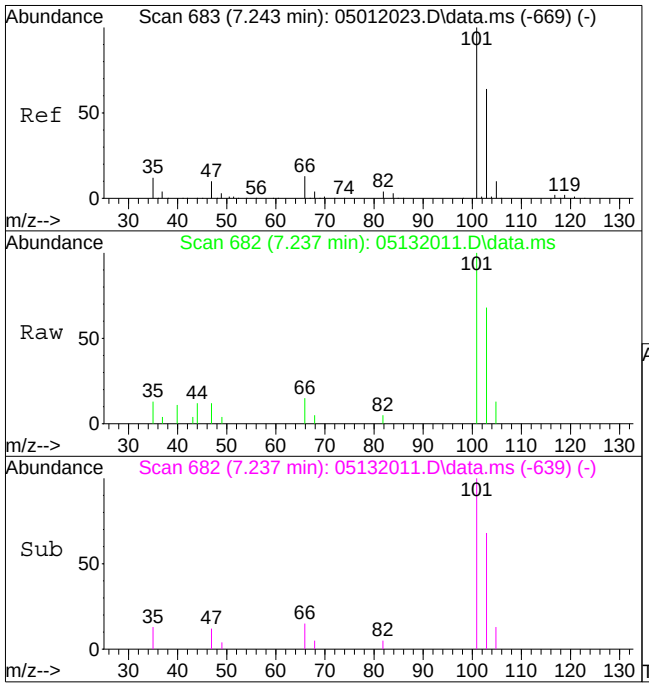


#13
Acetone
Concen: 1.46 ng
RT: 7.00 min Scan# 639
Delta R.T. -0.028 min
Lab File: 05132011.D
Acq: 14 May 2020 00:27

Tgt Ion: 58 Resp: 34990

Ion	Ratio	Lower	Upper
58	100		
43	318.2	294.4	354.4

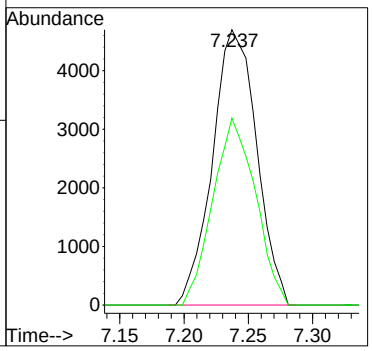


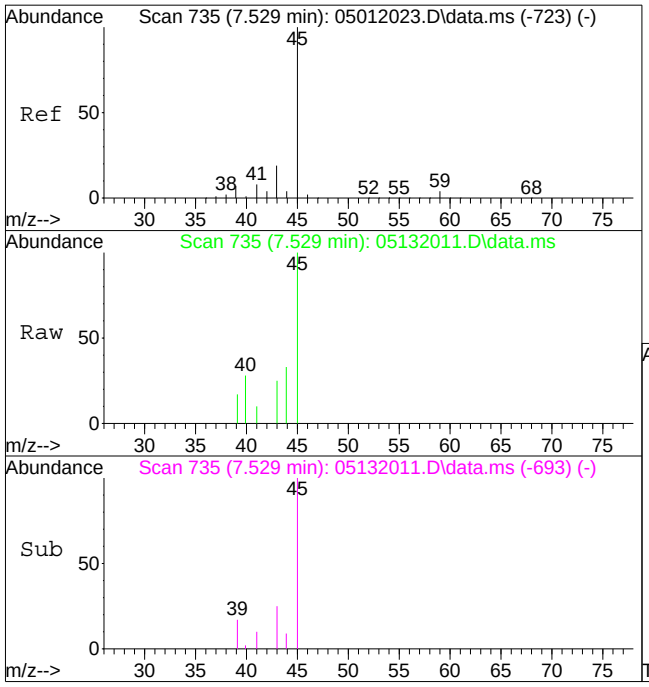


#14
Trichlorofluoromethane
Concen: 0.21 ng
RT: 7.24 min Scan# 682
Delta R.T. -0.011 min
Lab File: 05132011.D
Acq: 14 May 2020 00:27

Tgt Ion:101 Resp: 11269

Ion	Ratio	Lower	Upper
101	100		
103	65.3	44.4	84.4

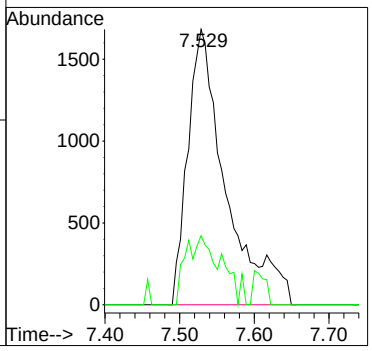


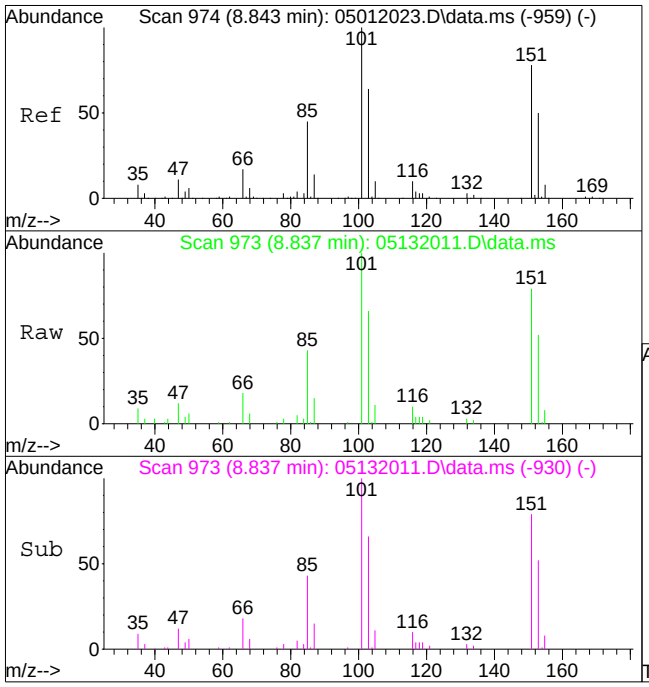


#15
2-Propanol (Isopropanol)
Concen: 0.08 ng
RT: 7.53 min Scan# 735
Delta R.T. -0.017 min
Lab File: 05132011.D
Acq: 14 May 2020 00:27

Tgt Ion: 45 Resp: 5961

Ion	Ratio	Lower	Upper
45	100		
43	23.7	0.0	39.5

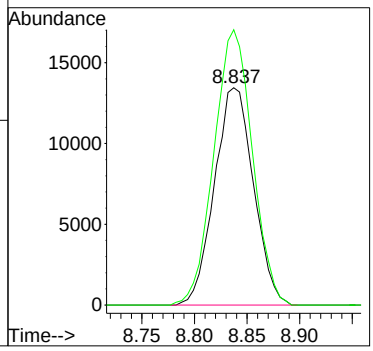


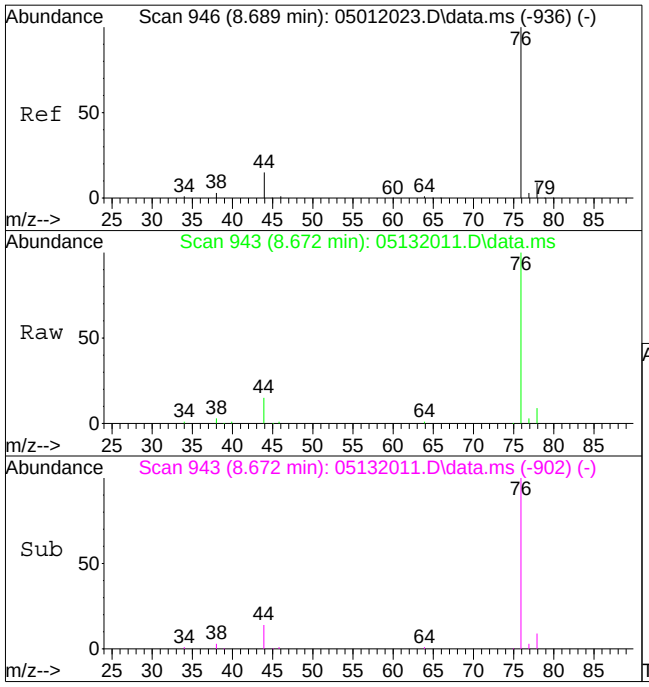


#21
Trichlorotrifluoroethane
Concen: 1.38 ng
RT: 8.84 min Scan# 973
Delta R.T. -0.011 min
Lab File: 05132011.D
Acq: 14 May 2020 00:27

Tgt Ion:151 Resp: 34822

Ion	Ratio	Lower	Upper
151	100		
101	124.8	107.3	147.3

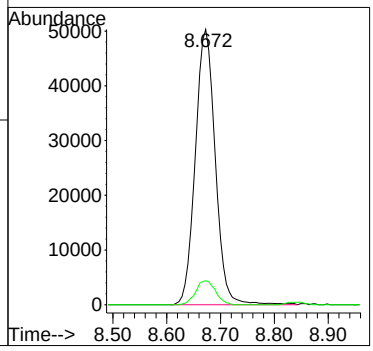


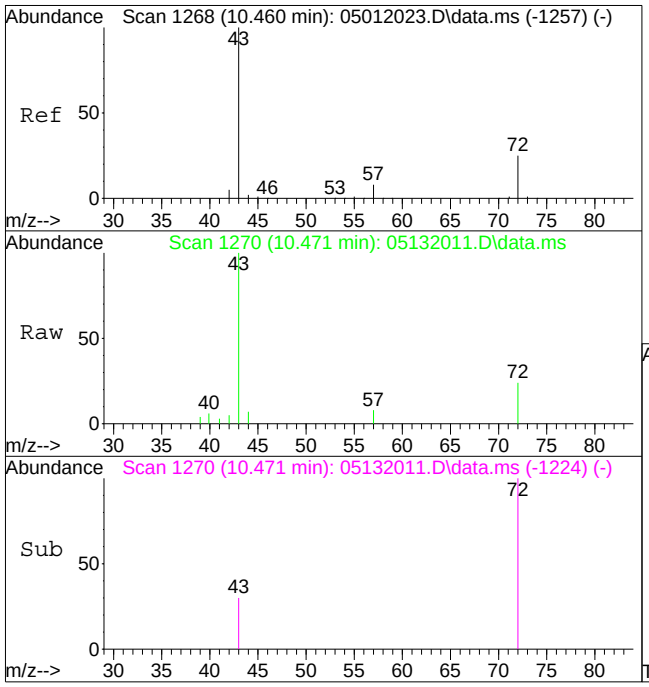


#22
Carbon Disulfide
Concen: 1.16 ng
RT: 8.67 min Scan# 943
Delta R.T. -0.022 min
Lab File: 05132011.D
Acq: 14 May 2020 00:27

Tgt Ion: 76 Resp: 129423

Ion	Ratio	Lower	Upper
76	100		
78	8.7	0.0	29.2

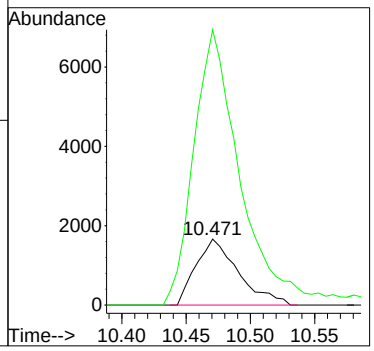


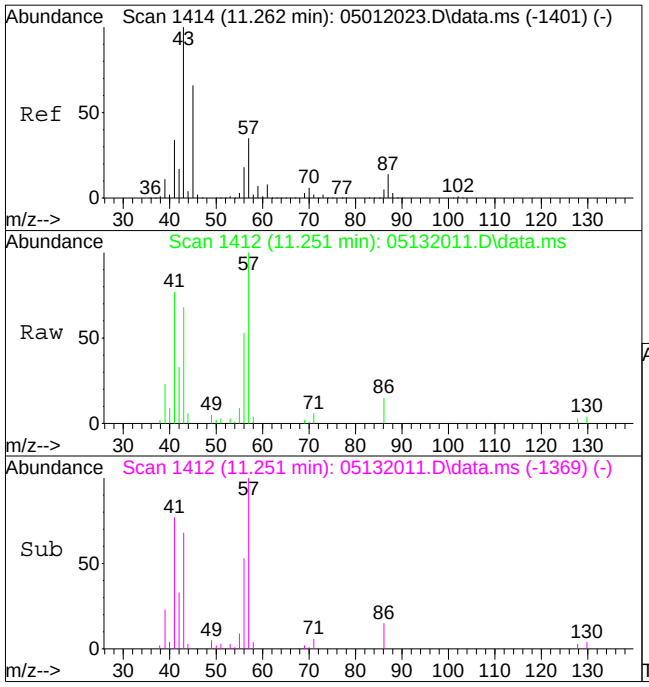


#27
2-Butanone (MEK)
Concen: 0.19 ng
RT: 10.47 min Scan# 1270
Delta R.T. 0.005 min
Lab File: 05132011.D
Acq: 14 May 2020 00:27

Tgt Ion: 72 Resp: 3822

Ion	Ratio	Lower	Upper
72	100		
43	464.4	389.7	429.7#

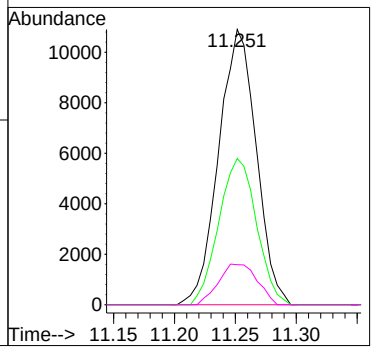


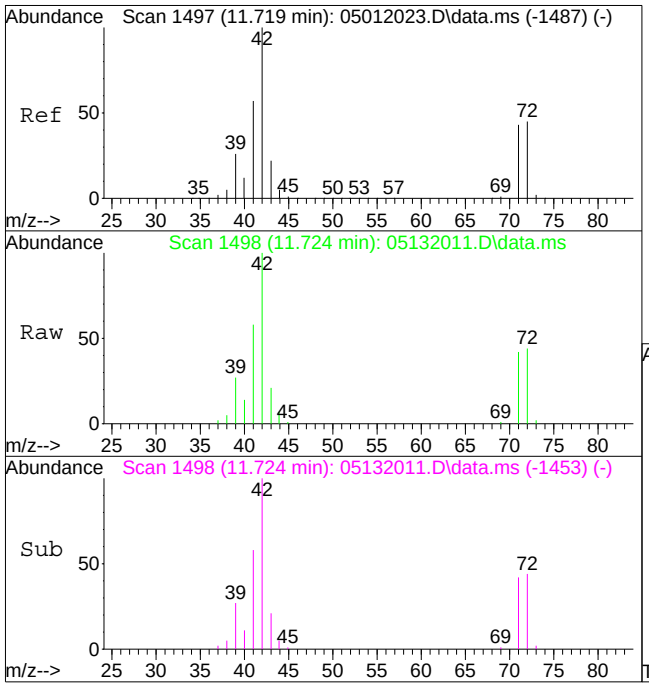


#31
n-Hexane
Concen: 0.46 ng
RT: 11.25 min Scan# 1412
Delta R.T. -0.011 min
Lab File: 05132011.D
Acq: 14 May 2020 00:27

Tgt Ion: 57 Resp: 23391

Ion	Ratio	Lower	Upper
57	100		
56	53.3	41.4	62.0
86	15.1	12.4	18.6

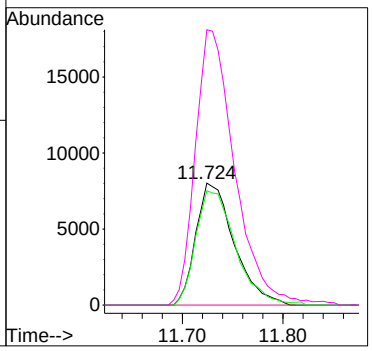


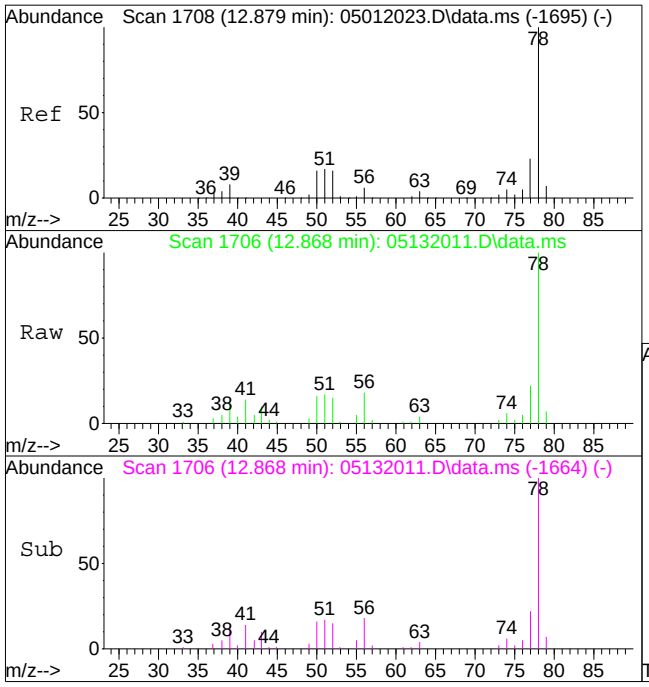


#34
Tetrahydrofuran (THF)
Concen: 1.07 ng
RT: 11.72 min Scan# 1498
Delta R.T. -0.000 min
Lab File: 05132011.D
Acq: 14 May 2020 00:27

Tgt Ion: 72 Resp: 21268

Ion	Ratio	Lower	Upper
72	100		
71	97.8	77.0	117.0
42	232.6	204.6	244.6

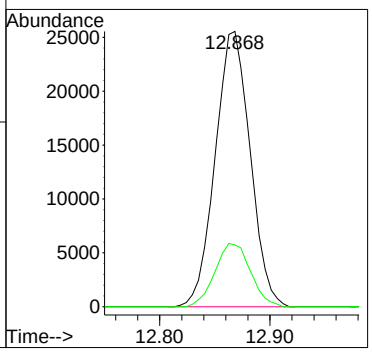


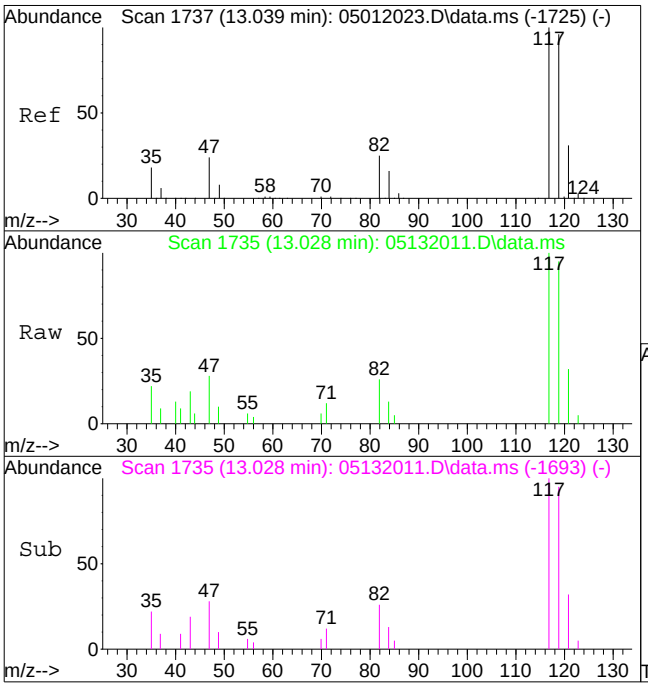


#41
Benzene
Concen: 0.46 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05132011.D
Acq: 14 May 2020 00:27

Tgt Ion: 78 Resp: 56331

Ion	Ratio	Lower	Upper
78	100		
77	23.4	3.4	43.4

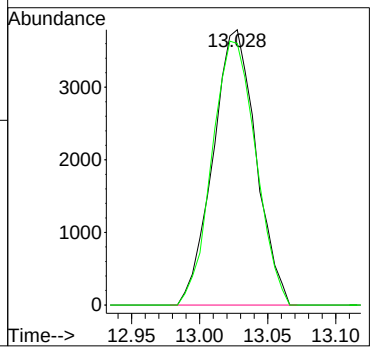


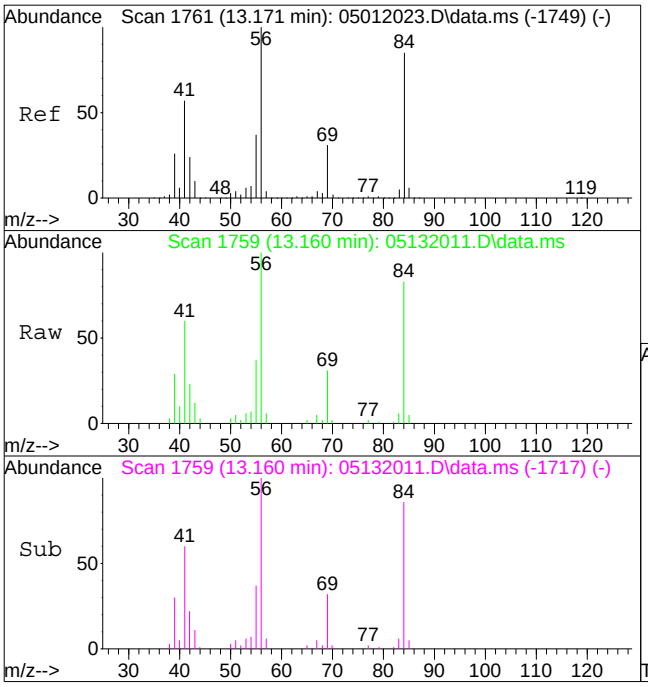


#42
Carbon Tetrachloride
Concen: 0.20 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05132011.D
Acq: 14 May 2020 00:27

Tgt Ion:117 Resp: 8331

Ion	Ratio	Lower	Upper
117	100		
119	97.5	76.2	116.2

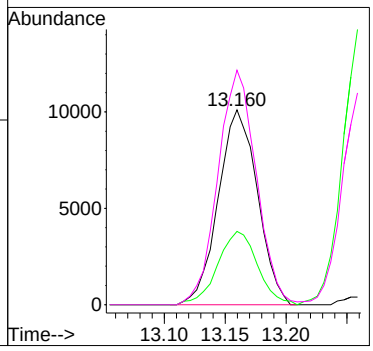


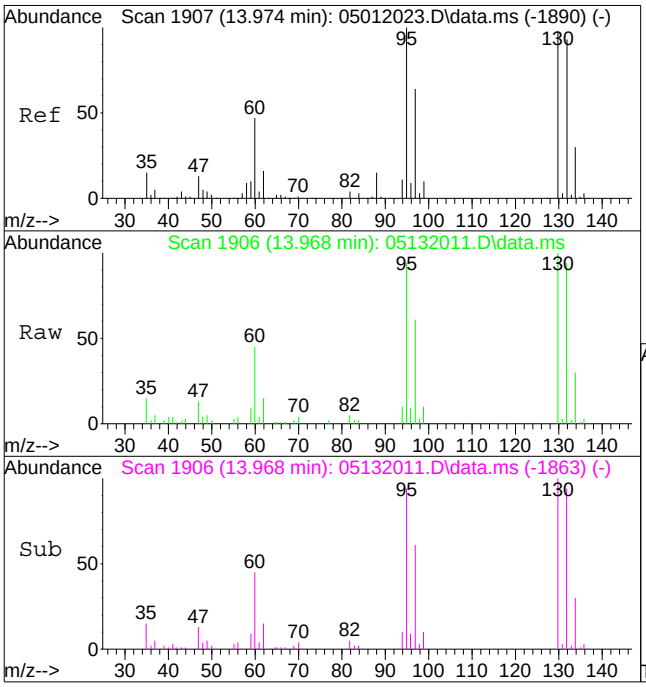


#43
Cyclohexane
Concen: 0.49 ng
RT: 13.16 min Scan# 1759
Delta R.T. -0.017 min
Lab File: 05132011.D
Acq: 14 May 2020 00:27

Tgt Ion: 84 Resp: 22608

Ion	Ratio	Lower	Upper
84	100		
69	38.2	16.5	56.5
56	117.8	97.4	137.4

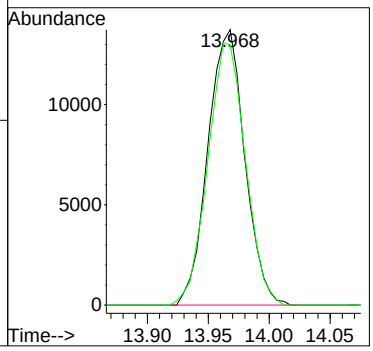


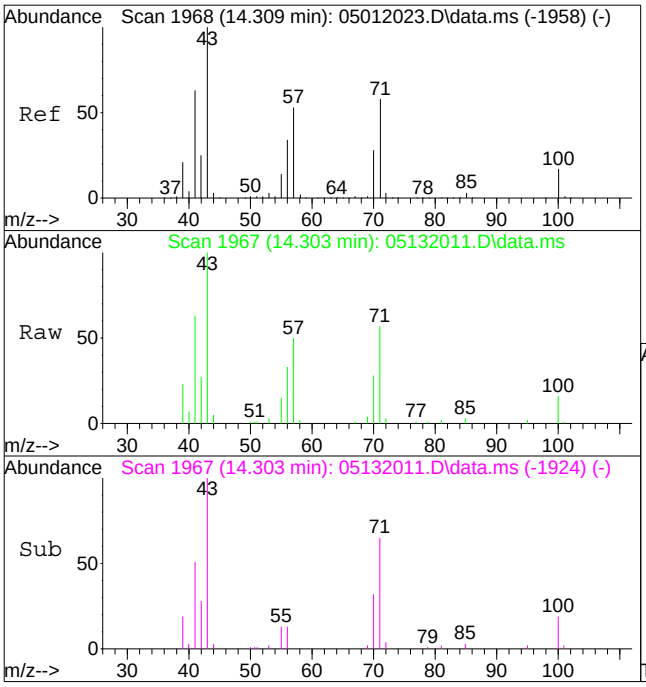


#47
Trichloroethene
Concen: 0.91 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05132011.D
Acq: 14 May 2020 00:27

Tgt Ion:130 Resp: 28893

Ion	Ratio	Lower	Upper
130	100		
132	97.1	74.9	114.9

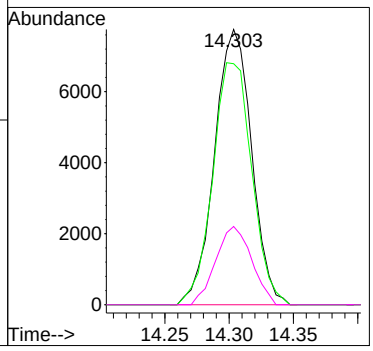


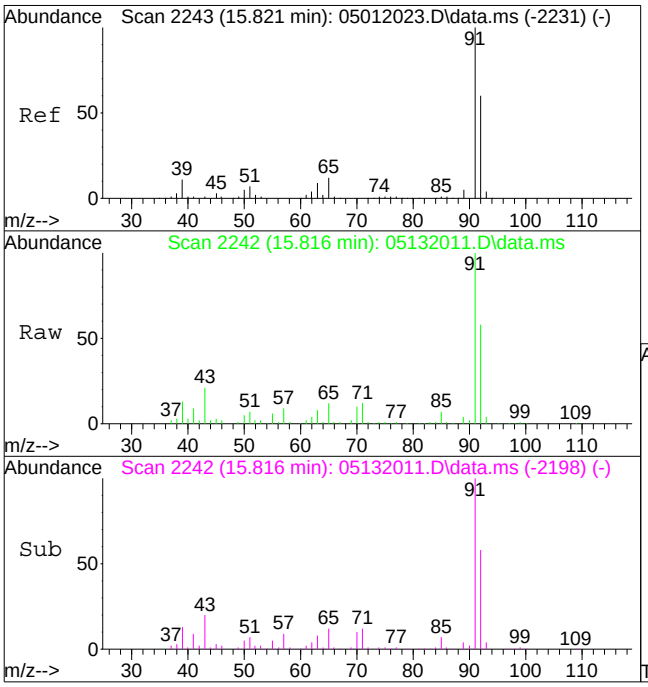


#51
n-Heptane
Concen: 0.54 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05132011.D
Acq: 14 May 2020 00:27

Tgt Ion: 71 Resp: 15566

Ion	Ratio	Lower	Upper
71	100		
57	92.5	71.0	111.0
100	27.4	8.4	48.4

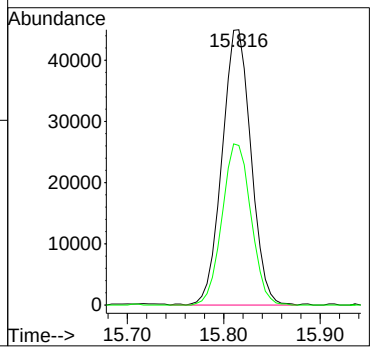


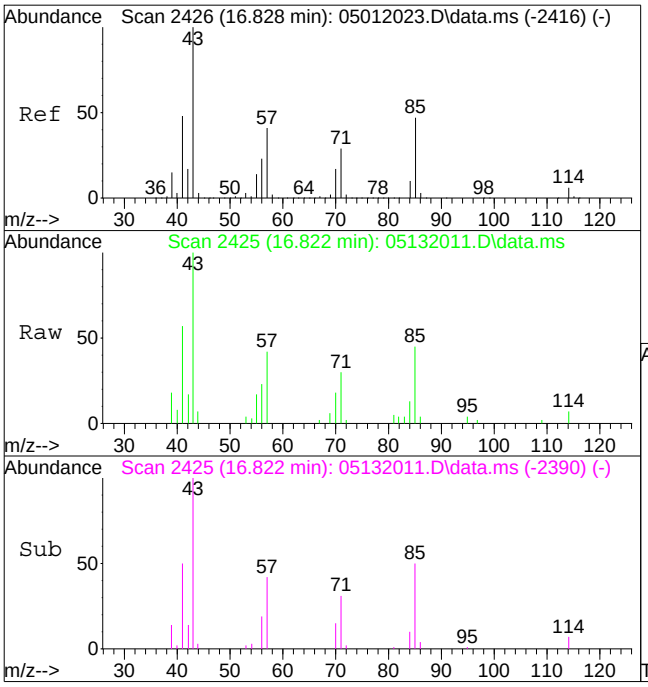


#58
Toluene
Concen: 0.79 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05132011.D
Acq: 14 May 2020 00:27

Tgt Ion: 91 Resp: 93867

Ion	Ratio	Lower	Upper
91	100		
92	58.5	39.4	79.4

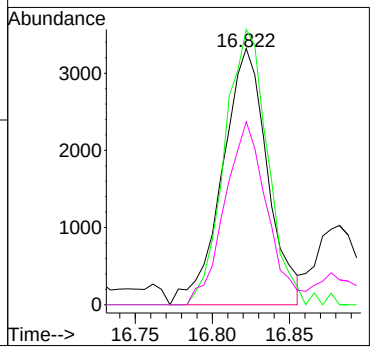


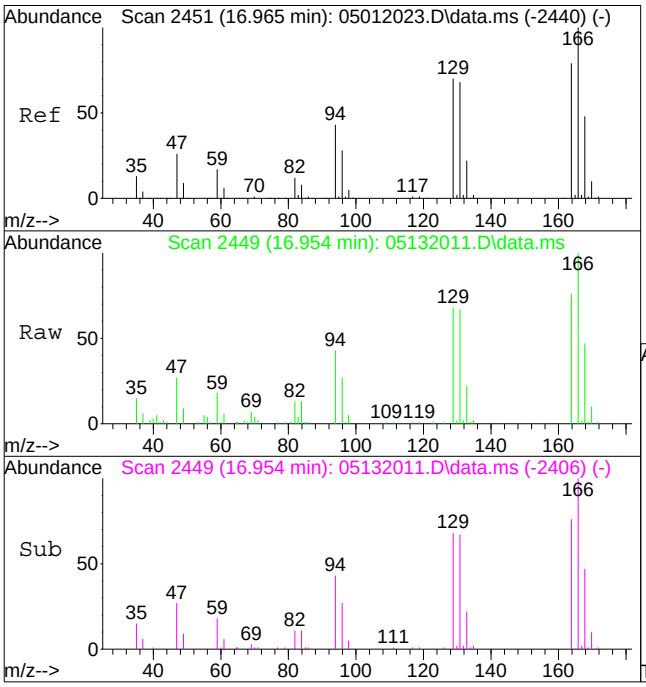


#63
n-Octane
Concen: 0.27 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05132011.D
Acq: 14 May 2020 00:27

Tgt Ion: 57 Resp: 6754

Ion	Ratio	Lower	Upper
57	100		
85	103.3	91.0	136.4
71	67.1	56.2	84.2

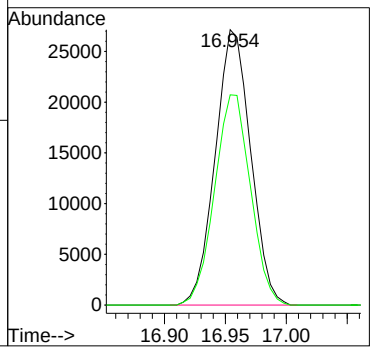


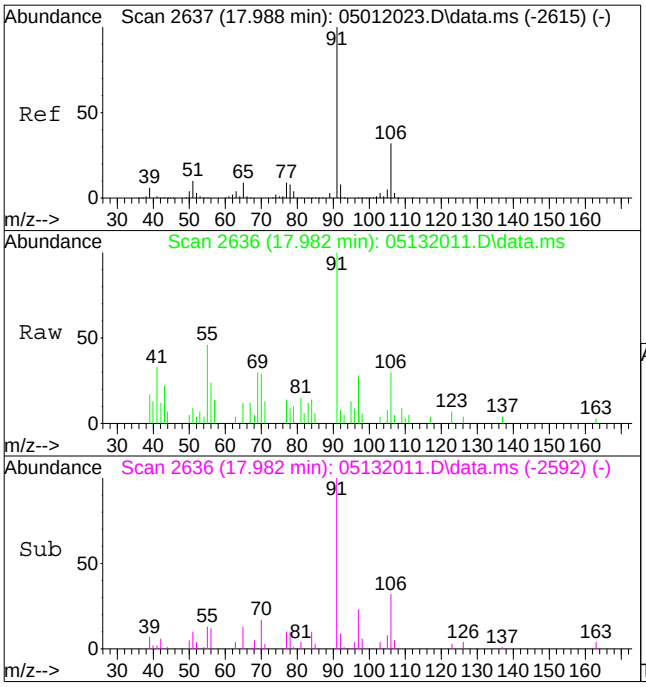


#64
Tetrachloroethene
Concen: 1.64 ng
RT: 16.95 min Scan# 2449
Delta R.T. -0.011 min
Lab File: 05132011.D
Acq: 14 May 2020 00:27

Tgt Ion:166 Resp: 54923

Ion	Ratio	Lower	Upper
166	100		
164	77.4	58.4	98.4

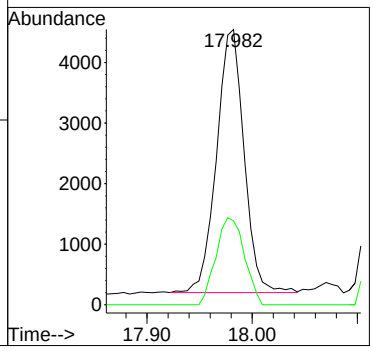


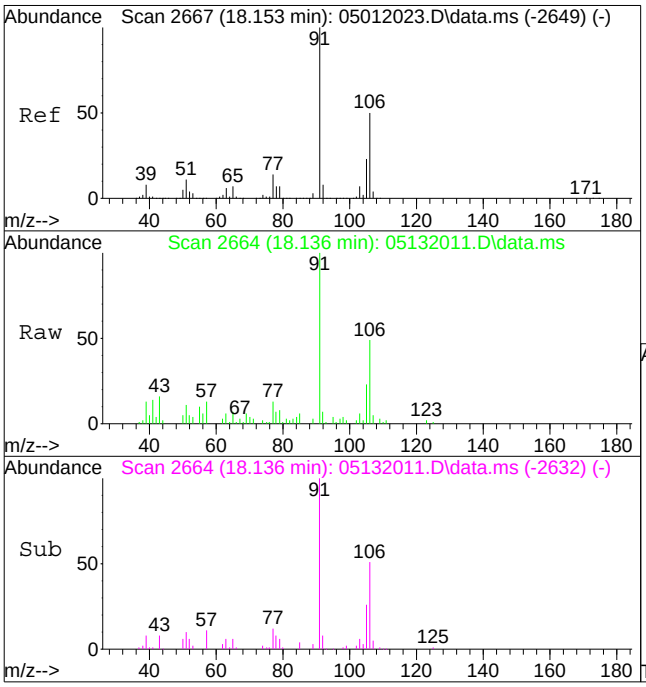


#66
Ethylbenzene
Concen: 0.06 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05132011.D
Acq: 14 May 2020 00:27

Tgt Ion: 91 Resp: 7888

Ion	Ratio	Lower	Upper
91	100		
106	34.1	11.6	51.6

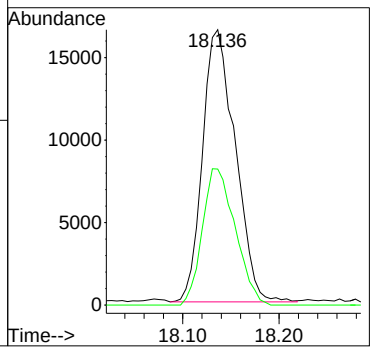


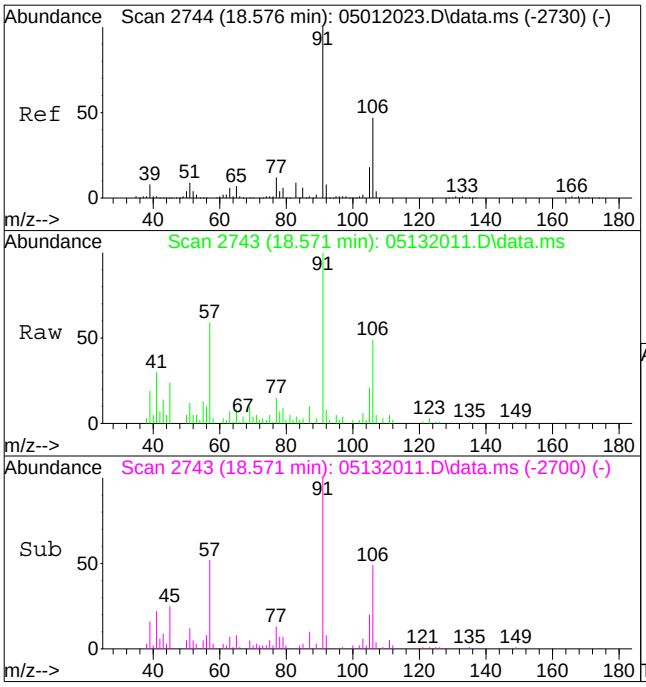


#67
m- & p-Xylenes
Concen: 0.37 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05132011.D
Acq: 14 May 2020 00:27

Tgt Ion: 91 Resp: 38930

Ion	Ratio	Lower	Upper
91	100		
106	50.2	29.7	69.7

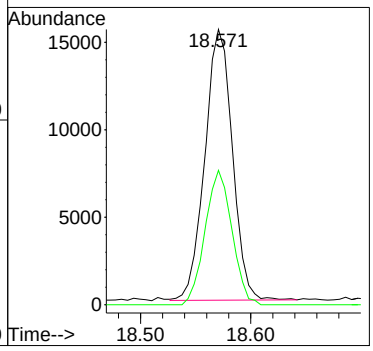


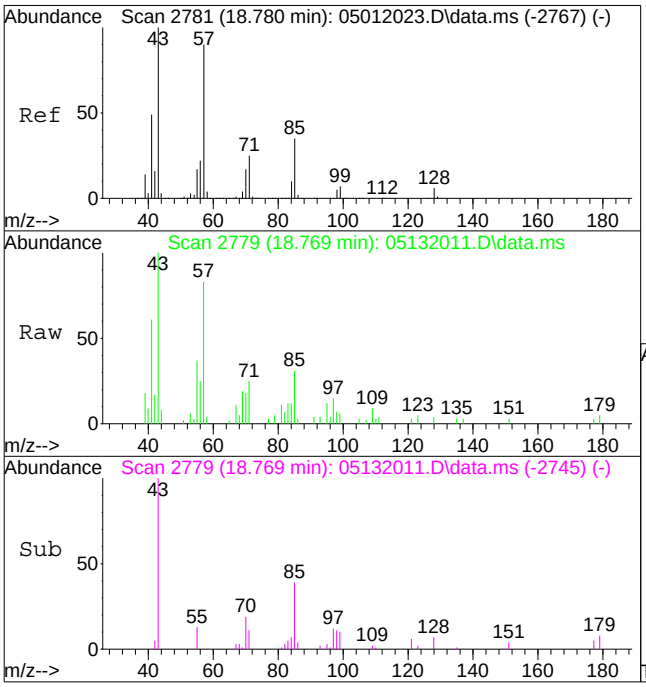


#70
o-Xylene
Concen: 0.25 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05132011.D
Acq: 14 May 2020 00:27

Tgt Ion: 91 Resp: 26903

Ion	Ratio	Lower	Upper
91	100		
106	48.1	27.5	67.5

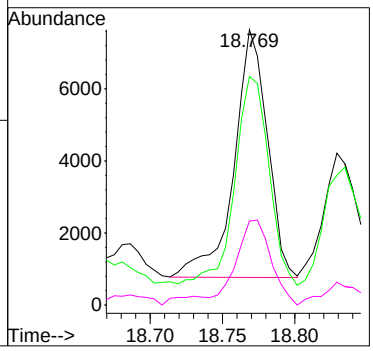


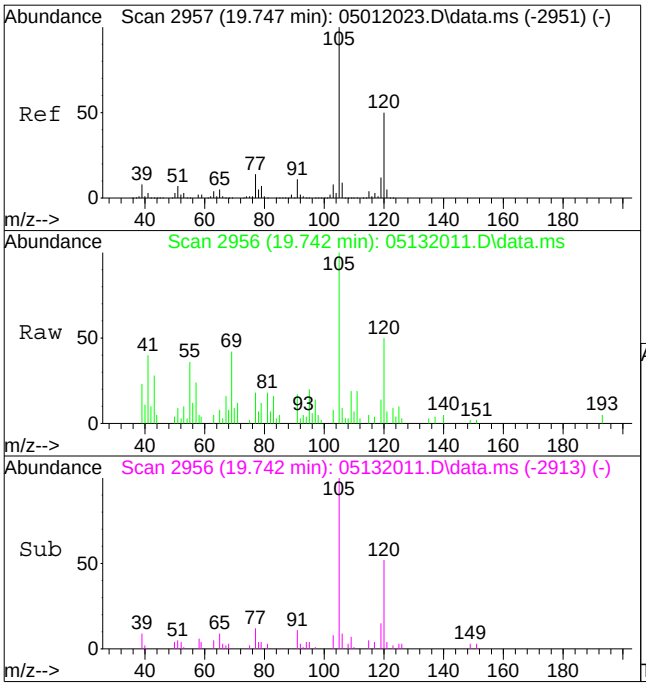


#71
n-Nonane
Concen: 0.20 ng
RT: 18.77 min Scan# 2779
Delta R.T. -0.011 min
Lab File: 05132011.D
Acq: 14 May 2020 00:27

Tgt Ion: 43 Resp: 11057

Ion	Ratio	Lower	Upper
43	100		
57	86.0	69.0	109.0
85	39.4	14.6	54.6

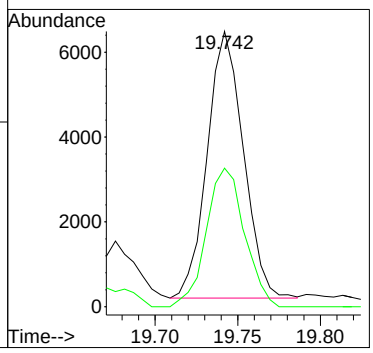


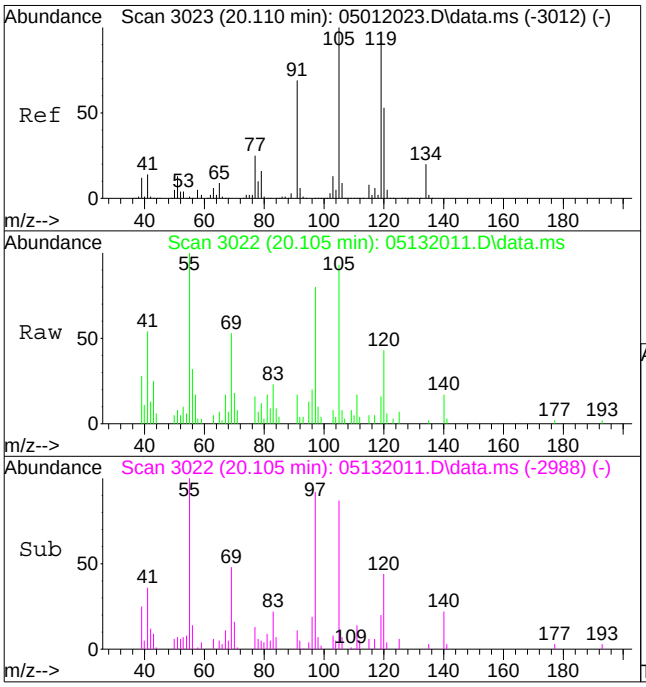


#79
1,3,5-Trimethylbenzene
Concen: 0.09 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05132011.D
Acq: 14 May 2020 00:27

Tgt Ion:105 Resp: 9576

Ion	Ratio	Lower	Upper
105	100		
120	54.7	29.9	69.9

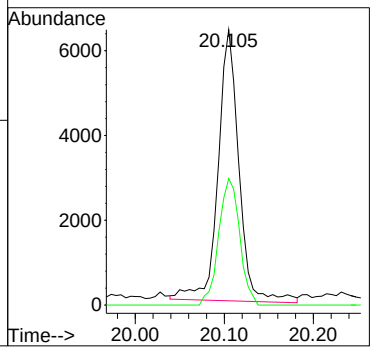




#82
1,2,4-Trimethylbenzene
Concen: 0.10 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05132011.D
Acq: 14 May 2020 00:27

Tgt Ion:105 Resp: 10420

Ion	Ratio	Lower	Upper
105	100		
120	46.7	33.6	73.6



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132012.D Vial: 6
Acq On : 14 May 2020 1:00 Operator: LH
Sample : P2002301-003 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:28:03 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/14/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.12	130	263803	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	13.26	114	1143094	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	540879	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.98	65	426179	11.921	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.36%				
57) Toluene-d8 (SS2)	15.71	98	1124976	12.271	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.16%				
73) Bromofluorobenzene (SS3)	18.97	174	435669	13.207	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.68%				
Target Compounds							Qvalue
2) Propene	4.11	42	2965	0.097	ng		96
3) Dichlorodifluoromethan...	4.26	85	28404	0.475	ng		99
4) Chloromethane	4.53	50	3449	0.074	ng		91
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	206	N.D.			
6) Vinyl Chloride	4.96	62	230	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.32	45	17502	0.742	ng		96
11) Acetonitrile	6.60	41	1506	N.D.			
12) Acrolein	6.80	56	1242	0.067	ng		94
13) Acetone	7.00	58	32432	1.375	ng		97
14) Trichlorofluoromethane	7.24	101	9776	0.185	ng		97
15) 2-Propanol (Isopropanol)	7.52	45	14770	0.207	ng		88
16) Acrylonitrile	7.75	53	382	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.45	59	1626	N.D.			
19) Methylene Chloride	8.40	84	411	N.D.			
20) 3-Chloro-1-propene (Al...	8.43	41	229	N.D.			
21) Trichlorotrifluoroethane	8.84	151	35327	1.417	ng		95
22) Carbon Disulfide	8.67	76	208265	1.895	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.48	72	2106	0.105	ng	#	71
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.30	87	232	N.D.			
30) Ethyl Acetate	11.28	61	2307	0.199	ng		93
31) n-Hexane	11.25	57	3913	0.078	ng	#	97
32) Chloroform	11.29	83	3722	0.071	ng		99
34) Tetrahydrofuran (THF)	11.72	72	15729	0.801	ng		94
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	14924	0.122	ng		100
42) Carbon Tetrachloride	13.03	117	11596	0.278	ng		99
43) Cyclohexane	13.16	84	3244	0.071	ng		89
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	13.53	63	386	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	13.96	130	175917	5.552	ng		99
48) 1,4-Dioxane	13.97	88	175	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132012.D Vial: 6
Acq On : 14 May 2020 1:00 Operator: LH
Sample : P2002301-003 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:28:03 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

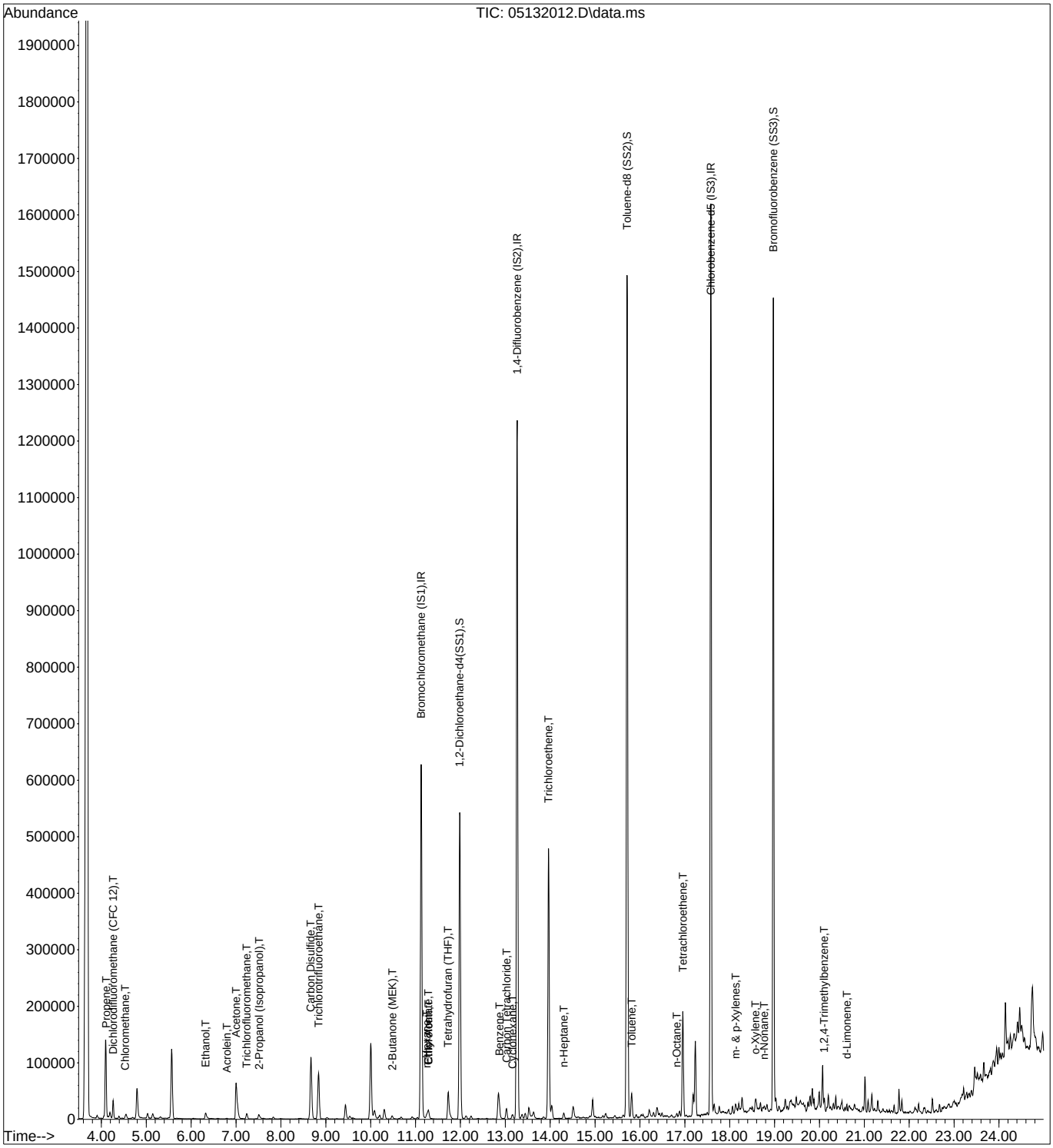
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.30	71	2615	0.091 ng		93
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.88	58	939	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	15.48	97	107	N.D.		
58) Toluene	15.82	91	32133	0.272 ng		98
59) 2-Hexanone	16.07	43	3148	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.70	43	954	N.D.		
63) n-Octane	16.82	57	1336	0.055 ng	#	86
64) Tetrachloroethene	16.96	166	63328	1.897 ng		100
65) Chlorobenzene	17.66	112	1806	N.D.		
66) Ethylbenzene	17.98	91	3799	N.D.		
67) m- & p-Xylenes	18.14	91	12238	0.117 ng		95
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	595	N.D.		
70) o-Xylene	18.57	91	7532	0.071 ng		97
71) n-Nonane	18.77	43	3367	0.060 ng		84
72) 1,1,2,2-Tetrachloroethane	18.59	83	219	N.D.		
74) Cumene	19.10	105	2694	N.D.		
75) alpha-Pinene	19.44	93	531	N.D.		
76) n-Propylbenzene	19.55	91	1857	N.D.		
77) 3-Ethyltoluene	19.64	105	2048	N.D.		
78) 4-Ethyltoluene	19.68	105	943	N.D.		
79) 1,3,5-Trimethylbenzene	19.74	105	4513	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	19.91	105	2142	N.D.		
82) 1,2,4-Trimethylbenzene	20.10	105	5697	0.053 ng		82
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.23	91	1669	N.D.		
85) 1,3-Dichlorobenzene	20.24	146	351	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	612	N.D.		
87) sec-Butylbenzene	20.34	105	1574	N.D.		
88) 4-Isopropyltoluene (p-...	20.48	119	1228	N.D.		
89) 1,2,3-Trimethylbenzene	20.48	105	3740	N.D.		
90) 1,2-Dichlorobenzene	20.61	146	137	N.D.		
91) d-Limonene	20.61	68	2987	0.071 ng		89
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.11	180	675	N.D.		
95) Naphthalene	22.21	128	3739	N.D.		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	20.10	119	929	N.D.		
100) n-Butylbenzene	20.84	91	1264	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132012.D Vial: 6
Acq On : 14 May 2020 1:00 Operator: LH
Sample : P2002301-003 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:28:03 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132012.D Vial: 6
Acq On : 14 May 2020 1:00 Operator: LH
Sample : P2002301-003 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:28:03 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/14/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

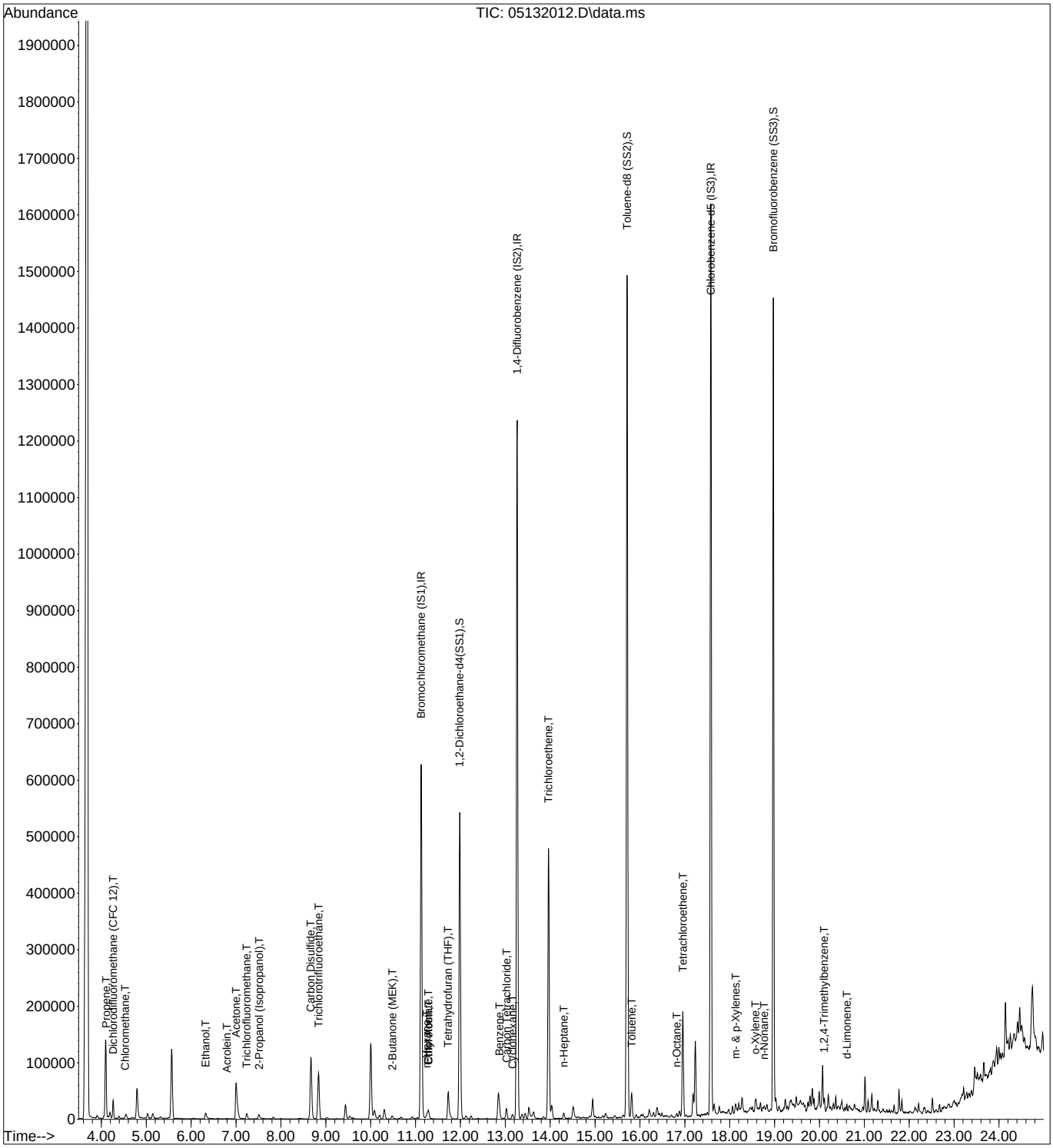
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.12	130	263803	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	13.26	114	1143094	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	540879	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.98	65	426179	11.921	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.36%				
57) Toluene-d8 (SS2)	15.71	98	1124976	12.271	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.16%				
73) Bromofluorobenzene (SS3)	18.97	174	435669	13.207	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.68%				
Target Compounds							Qvalue
2) Propene	4.11	42	2965	0.097	ng		96
3) Dichlorodifluoromethan...	4.26	85	28404	0.475	ng		99
4) Chloromethane	4.53	50	3449	0.074	ng		91
10) Ethanol	6.32	45	17502	0.742	ng		96
12) Acrolein	6.80	56	1242	0.067	ng		94
13) Acetone	7.00	58	32432	1.375	ng		97
14) Trichlorofluoromethane	7.24	101	9776	0.185	ng		97
15) 2-Propanol (Isopropanol)	7.52	45	14770	0.207	ng		88
21) Trichlorotrifluoroethane	8.84	151	35327	1.417	ng		95
22) Carbon Disulfide	8.67	76	208265	1.895	ng		99
27) 2-Butanone (MEK)	10.48	72	2106	0.105	ng	#	71
30) Ethyl Acetate	11.28	61	2307	0.199	ng		93
31) n-Hexane	11.25	57	3913	0.078	ng	#	97
32) Chloroform	11.29	83	3722	0.071	ng		99
34) Tetrahydrofuran (THF)	11.72	72	15729	0.801	ng		94
41) Benzene	12.87	78	14924	0.122	ng		100
42) Carbon Tetrachloride	13.03	117	11596	0.278	ng		99
43) Cyclohexane	13.16	84	3244	0.071	ng		89
47) Trichloroethene	13.96	130	175917	5.552	ng		99
51) n-Heptane	14.30	71	2615	0.091	ng		93
58) Toluene	15.82	91	32133	0.272	ng		98
63) n-Octane	16.82	57	1336	0.055	ng	#	86
64) Tetrachloroethene	16.96	166	63328	1.897	ng		100
67) m- & p-Xylenes	18.14	91	12238	0.117	ng		95
70) o-Xylene	18.57	91	7532	0.071	ng		97
71) n-Nonane	18.77	43	3367	0.060	ng		84
82) 1,2,4-Trimethylbenzene	20.10	105	5697	0.053	ng		82
91) d-Limonene	20.61	68	2987	0.071	ng		89

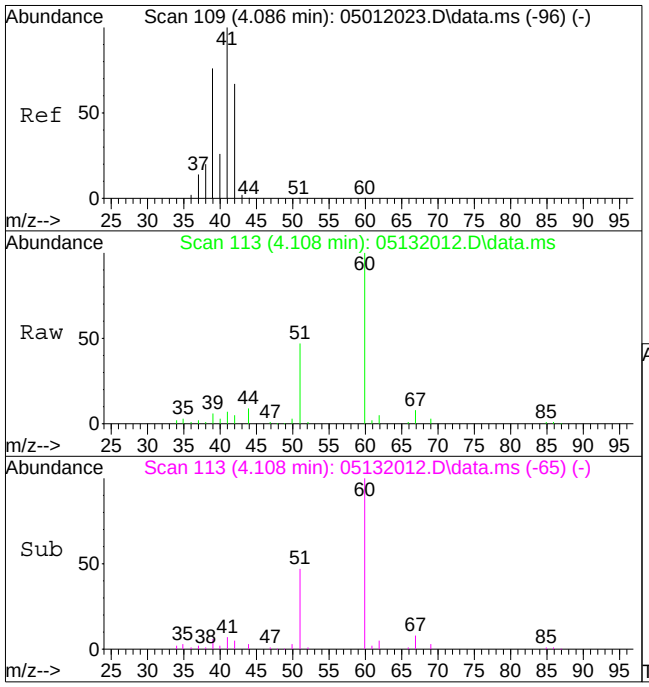
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132012.D Vial: 6
Acq On : 14 May 2020 1:00 Operator: LH
Sample : P2002301-003 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:28:03 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

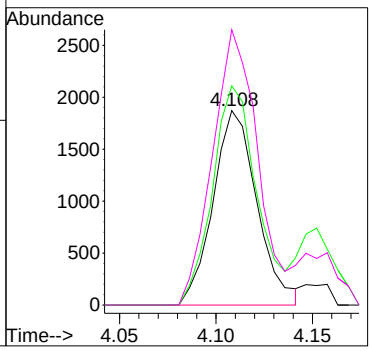


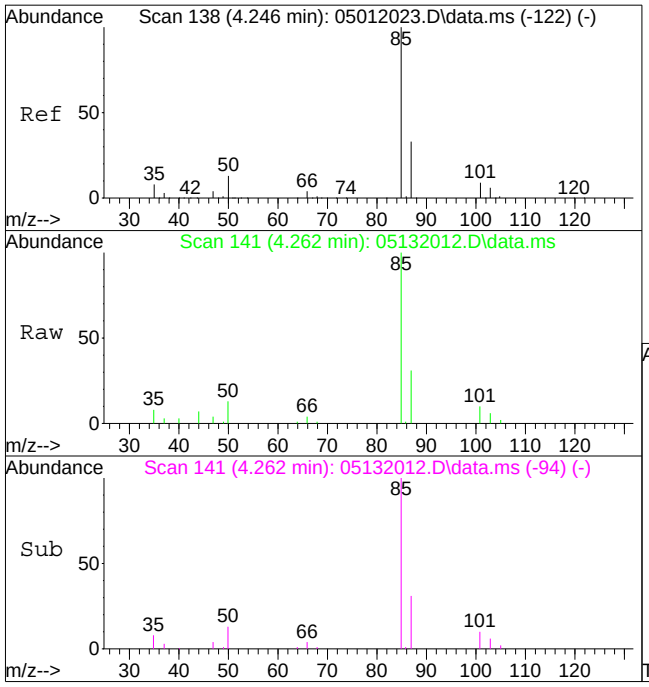


#2
Propene
Concen: 0.10 ng
RT: 4.11 min Scan# 113
Delta R.T. 0.016 min
Lab File: 05132012.D
Acq: 14 May 2020 1:00

Tgt Ion: 42 Resp: 2965

Ion	Ratio	Lower	Upper
42	100		
39	114.0	96.1	136.1
41	144.0	131.9	171.9

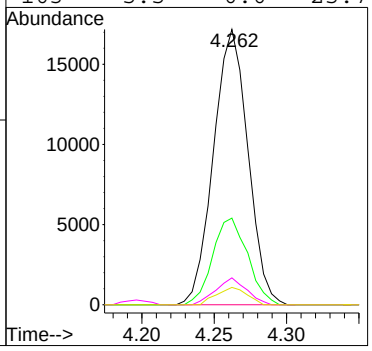


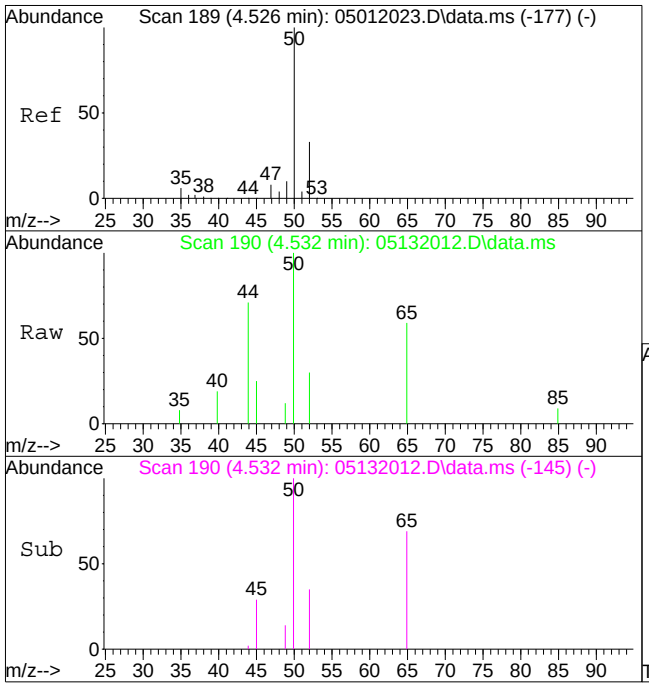


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.48 ng
RT: 4.26 min Scan# 141
Delta R.T. 0.011 min
Lab File: 05132012.D
Acq: 14 May 2020 1:00

Tgt Ion: 85 Resp: 28404

Ion	Ratio	Lower	Upper
85	100		
87	31.9	12.4	52.4
101	8.7	0.0	28.8
103	5.5	0.0	25.7

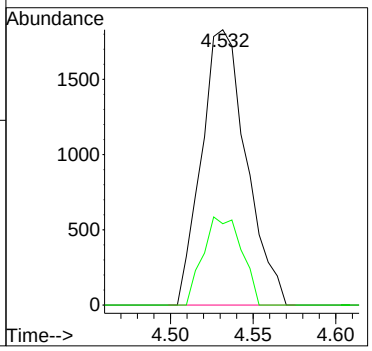


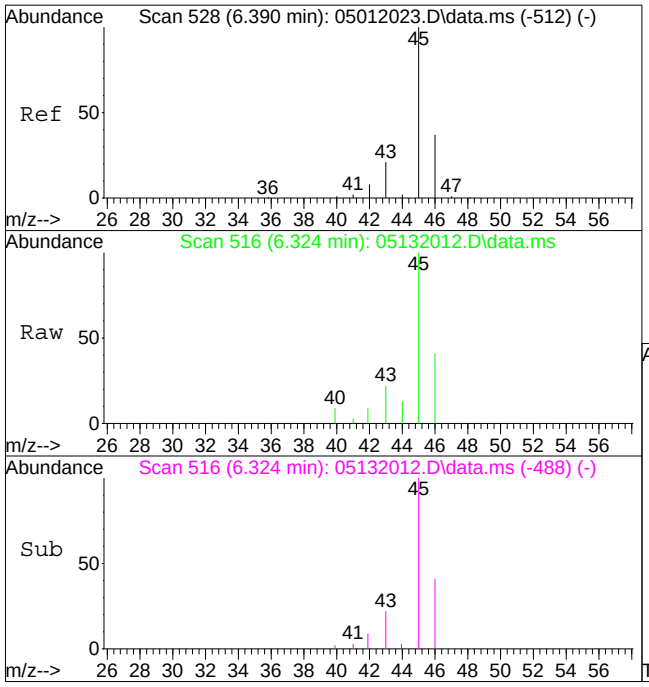


#4
Chloromethane
Concen: 0.07 ng
RT: 4.53 min Scan# 190
Delta R.T. -0.000 min
Lab File: 05132012.D
Acq: 14 May 2020 1:00

Tgt Ion: 50 Resp: 3449

Ion	Ratio	Lower	Upper
50	100		
52	27.5	12.5	52.5

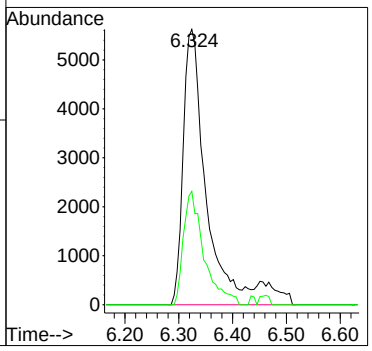


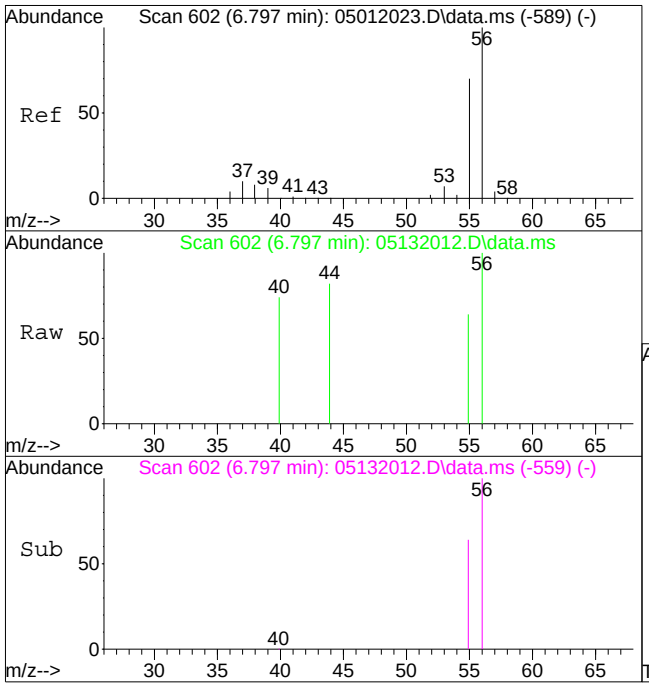


#10
Ethanol
Concen: 0.74 ng
RT: 6.32 min Scan# 516
Delta R.T. -0.094 min
Lab File: 05132012.D
Acq: 14 May 2020 1:00

Tgt Ion: 45 Resp: 17502

Ion	Ratio	Lower	Upper
45	100		
46	35.1	17.2	57.2

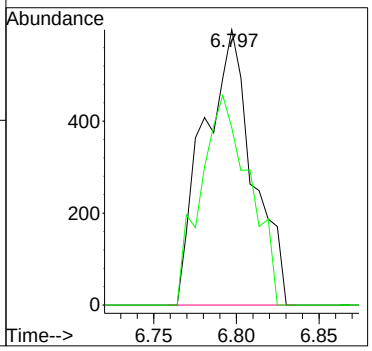


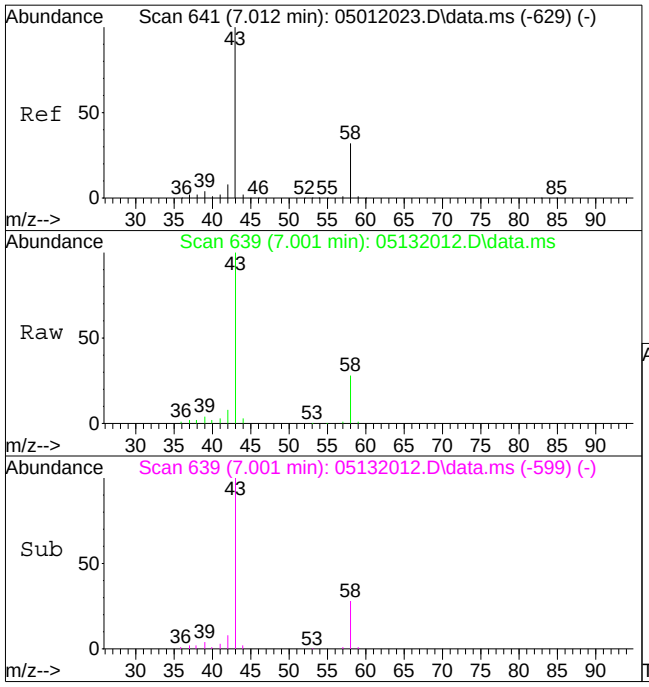


#12
Acrolein
Concen: 0.07 ng
RT: 6.80 min Scan# 602
Delta R.T. -0.011 min
Lab File: 05132012.D
Acq: 14 May 2020 1:00

Tgt Ion: 56 Resp: 1242

Ion	Ratio	Lower	Upper
56	100		
55	75.5	50.2	90.2

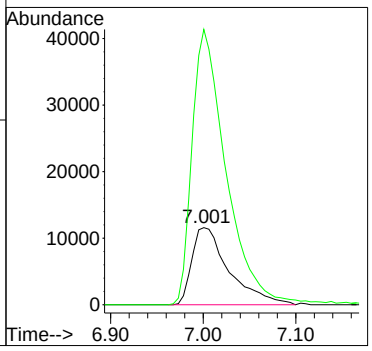


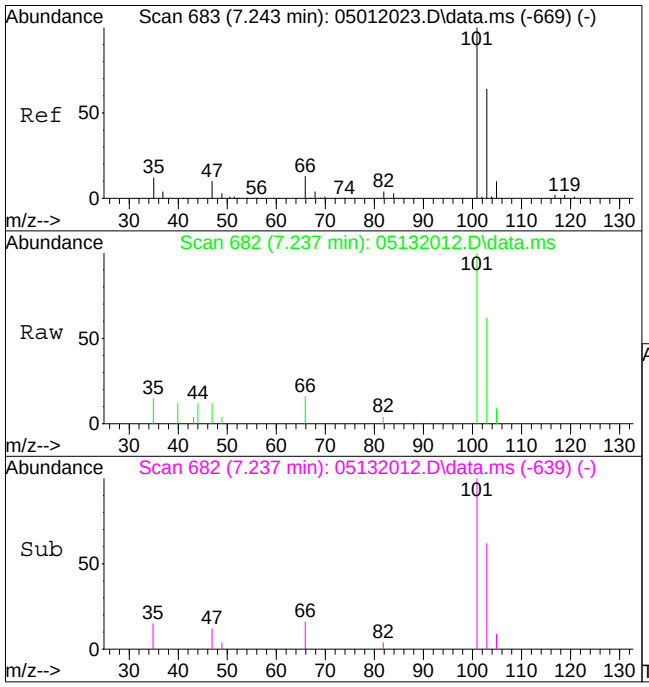


#13
Acetone
Concen: 1.37 ng
RT: 7.00 min Scan# 639
Delta R.T. -0.028 min
Lab File: 05132012.D
Acq: 14 May 2020 1:00

Tgt Ion: 58 Resp: 32432

Ion	Ratio	Lower	Upper
58	100		
43	330.8	294.4	354.4

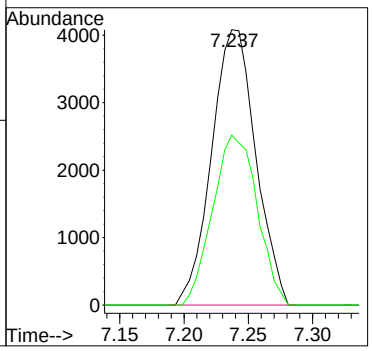


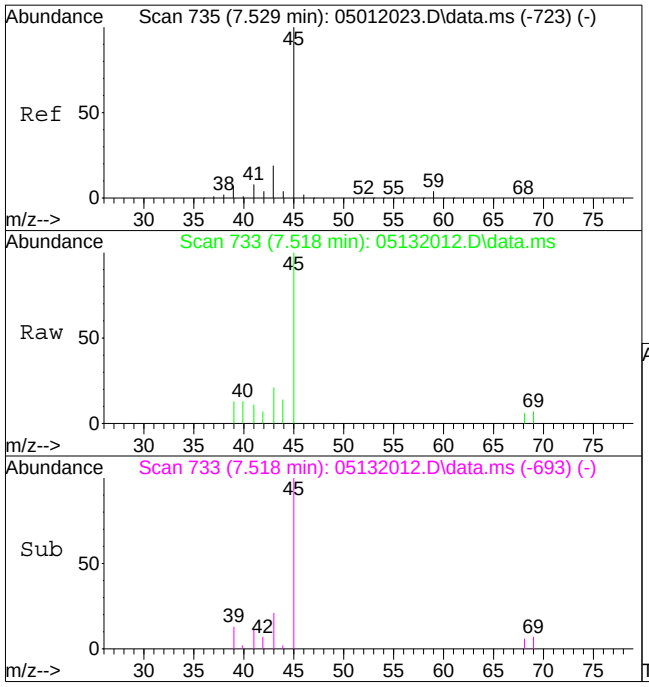


#14
Trichlorofluoromethane
Concen: 0.19 ng
RT: 7.24 min Scan# 682
Delta R.T. -0.011 min
Lab File: 05132012.D
Acq: 14 May 2020 1:00

Tgt Ion:101 Resp: 9776

Ion	Ratio	Lower	Upper
101	100		
103	62.0	44.4	84.4

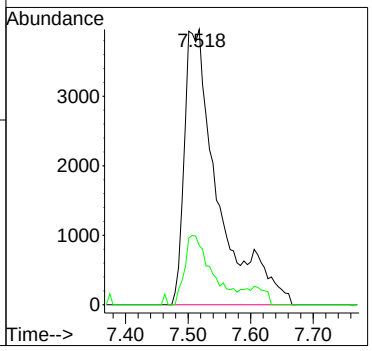


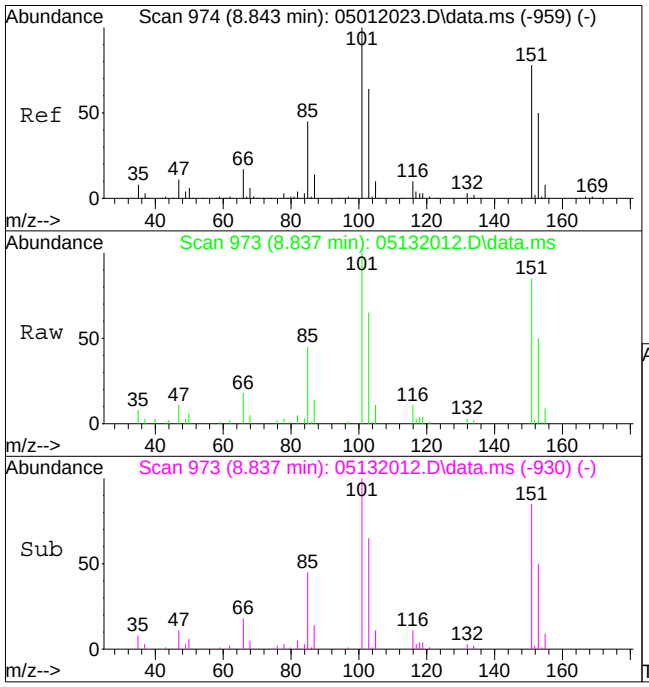


#15
2-Propanol (Isopropanol)
Concen: 0.21 ng
RT: 7.52 min Scan# 733
Delta R.T. -0.028 min
Lab File: 05132012.D
Acq: 14 May 2020 1:00

Tgt Ion: 45 Resp: 14770

Ion	Ratio	Lower	Upper
45	100		
43	24.8	0.0	39.5

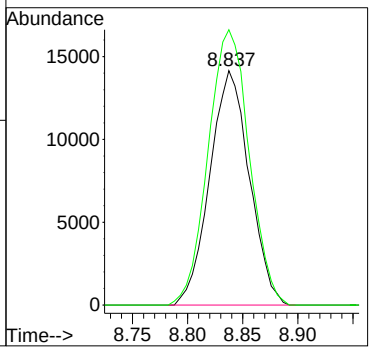


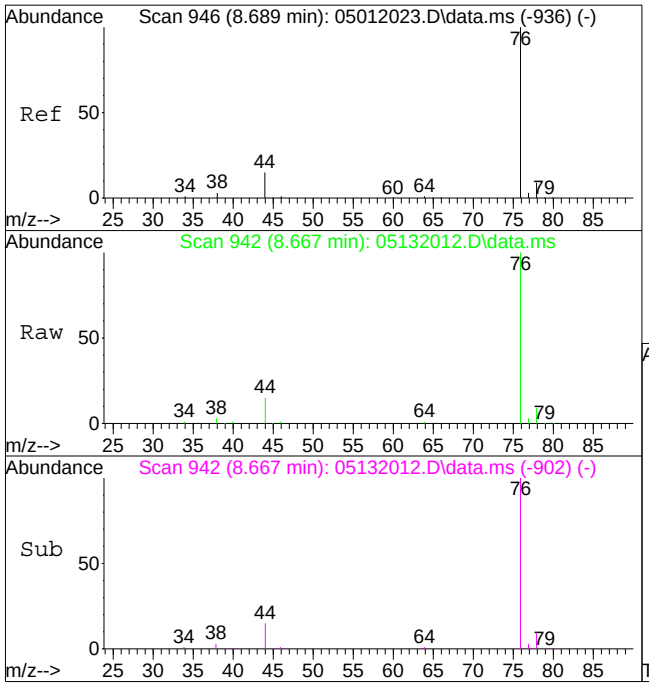


#21
Trichlorotrifluoroethane
Concen: 1.42 ng
RT: 8.84 min Scan# 973
Delta R.T. -0.011 min
Lab File: 05132012.D
Acq: 14 May 2020 1:00

Tgt Ion:151 Resp: 35327

Ion	Ratio	Lower	Upper
151	100		
101	122.0	107.3	147.3

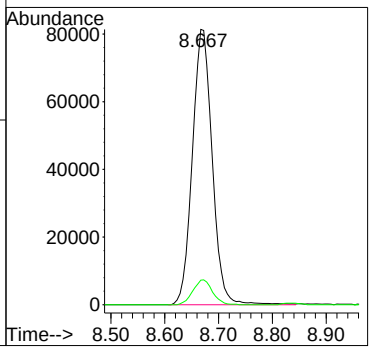


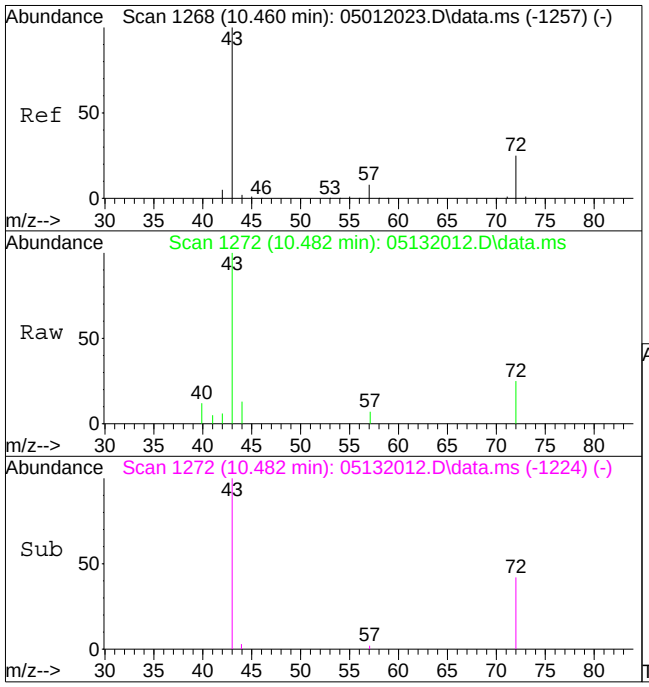


#22
Carbon Disulfide
Concen: 1.90 ng
RT: 8.67 min Scan# 942
Delta R.T. -0.028 min
Lab File: 05132012.D
Acq: 14 May 2020 1:00

Tgt Ion: 76 Resp: 208265

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	29.2

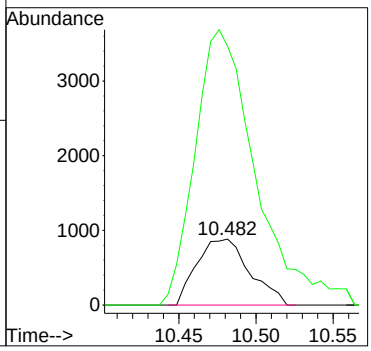


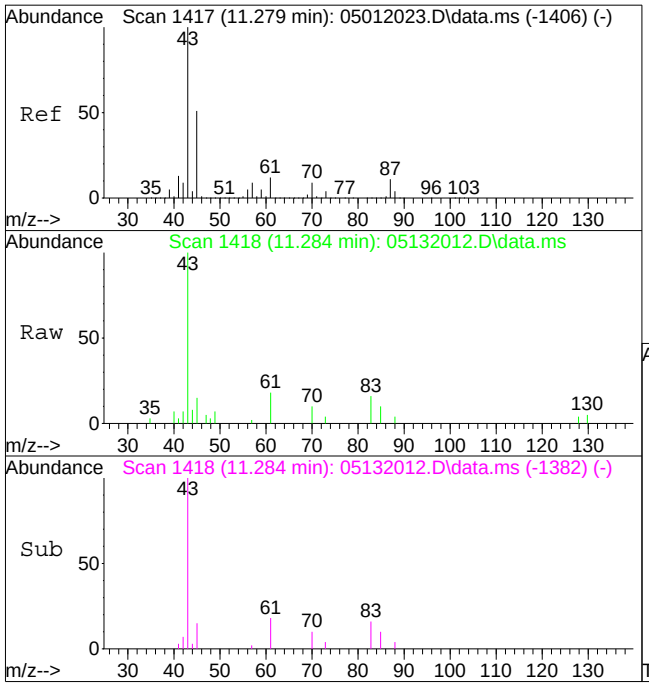


#27
2-Butanone (MEK)
Concen: 0.10 ng
RT: 10.48 min Scan# 1272
Delta R.T. 0.016 min
Lab File: 05132012.D
Acq: 14 May 2020 1:00

Tgt Ion: 72 Resp: 2106

Ion	Ratio	Lower	Upper
72	100		
43	479.5	389.7	429.7#

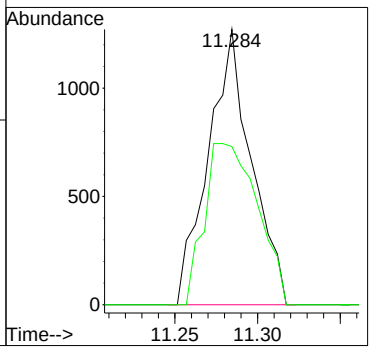


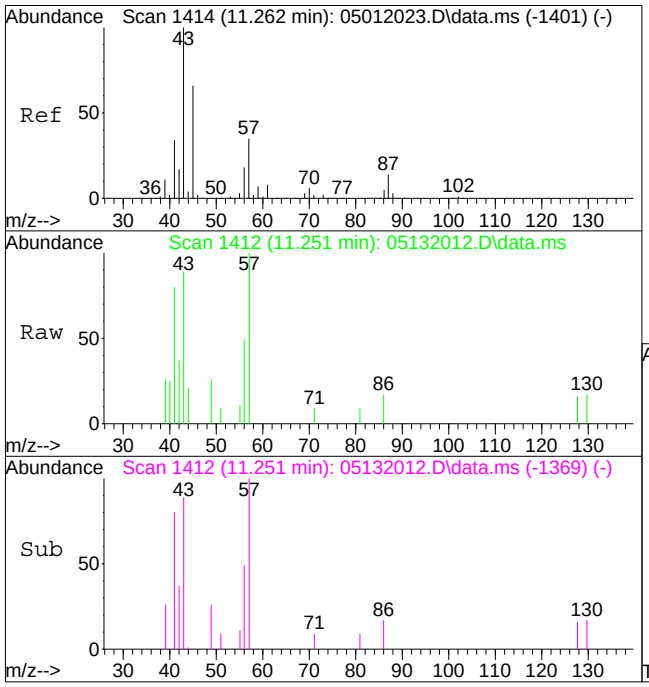


#30
Ethyl Acetate
Concen: 0.20 ng
RT: 11.28 min Scan# 1418
Delta R.T. -0.000 min
Lab File: 05132012.D
Acq: 14 May 2020 1:00

Tgt Ion: 61 Resp: 2307

Ion	Ratio	Lower	Upper
61	100		
70	72.0	57.9	97.9

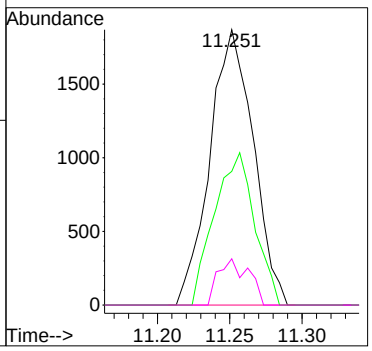


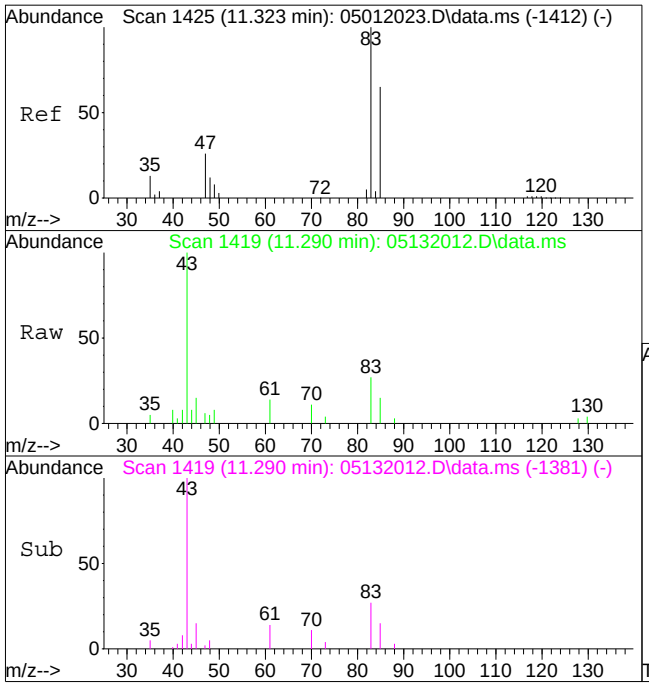


#31
n-Hexane
Concen: 0.08 ng
RT: 11.25 min Scan# 1412
Delta R.T. -0.011 min
Lab File: 05132012.D
Acq: 14 May 2020 1:00

Tgt Ion: 57 Resp: 3913

Ion	Ratio	Lower	Upper
57	100		
56	51.2	41.4	62.0
86	11.8	12.4	18.6#

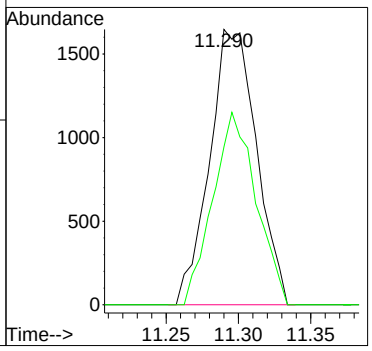


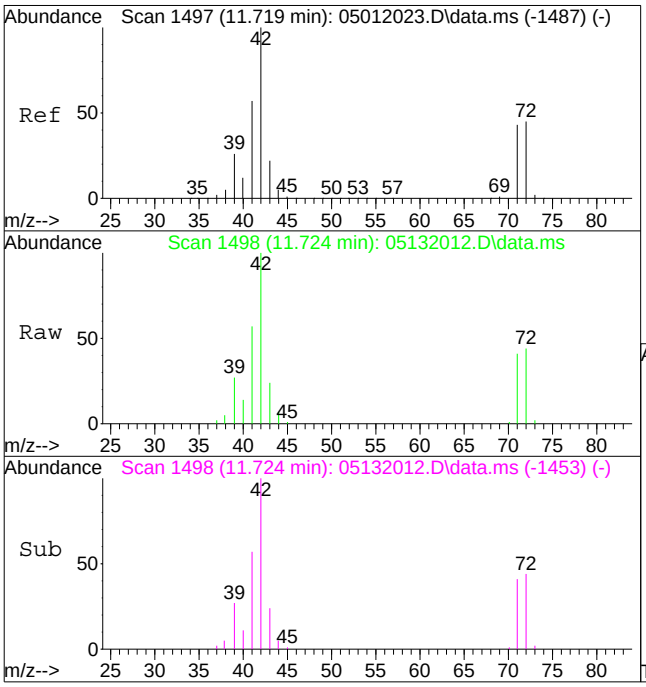


#32
Chloroform
Concen: 0.07 ng
RT: 11.29 min Scan# 1419
Delta R.T. -0.039 min
Lab File: 05132012.D
Acq: 14 May 2020 1:00

Tgt Ion: 83 Resp: 3722

Ion	Ratio	Lower	Upper
83	100		
85	64.5	45.5	85.5

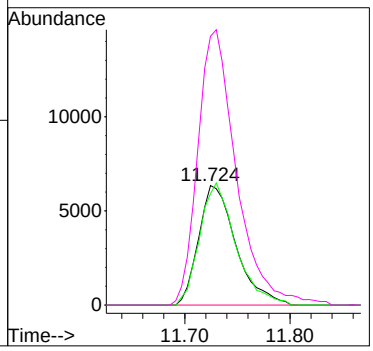


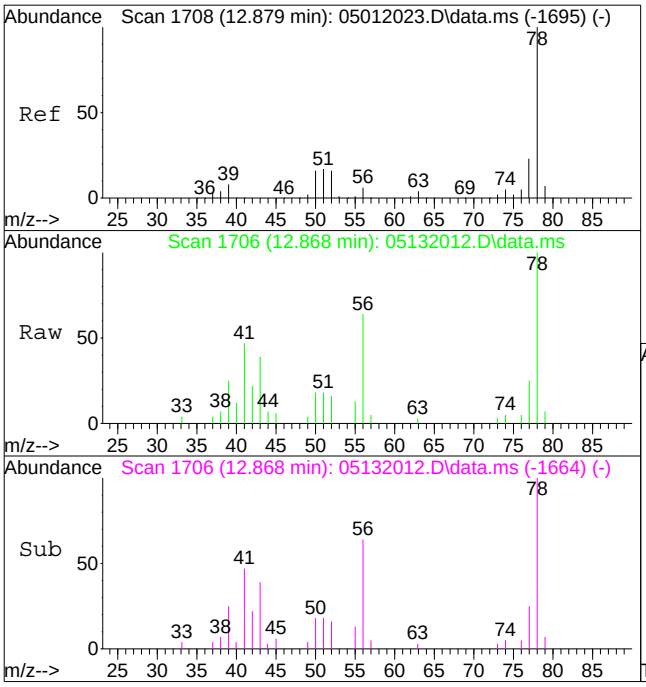


#34
Tetrahydrofuran (THF)
Concen: 0.80 ng
RT: 11.72 min Scan# 1498
Delta R.T. -0.000 min
Lab File: 05132012.D
Acq: 14 May 2020 1:00

Tgt Ion: 72 Resp: 15729

Ion	Ratio	Lower	Upper
72	100		
71	98.6	77.0	117.0
42	237.4	204.6	244.6

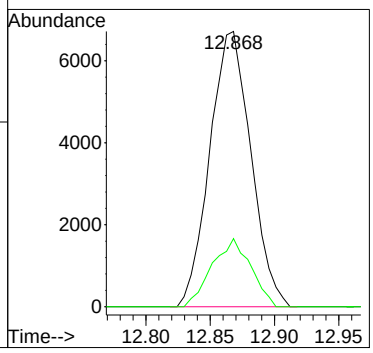


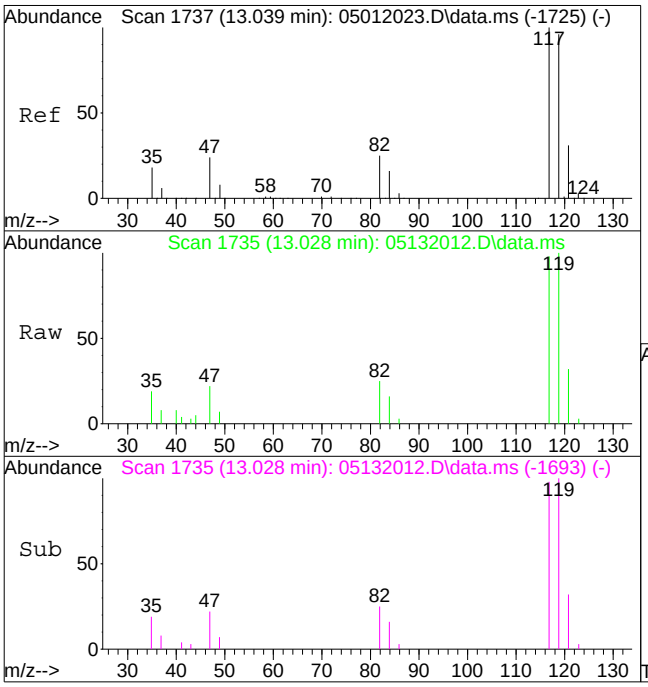


#41
Benzene
Concen: 0.12 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05132012.D
Acq: 14 May 2020 1:00

Tgt Ion: 78 Resp: 14924

Ion	Ratio	Lower	Upper
78	100		
77	23.3	3.4	43.4

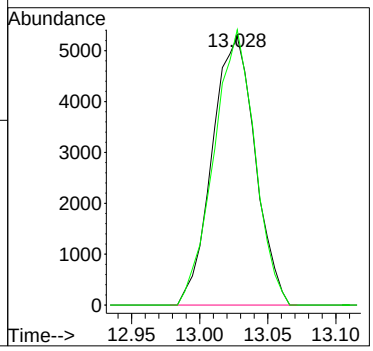


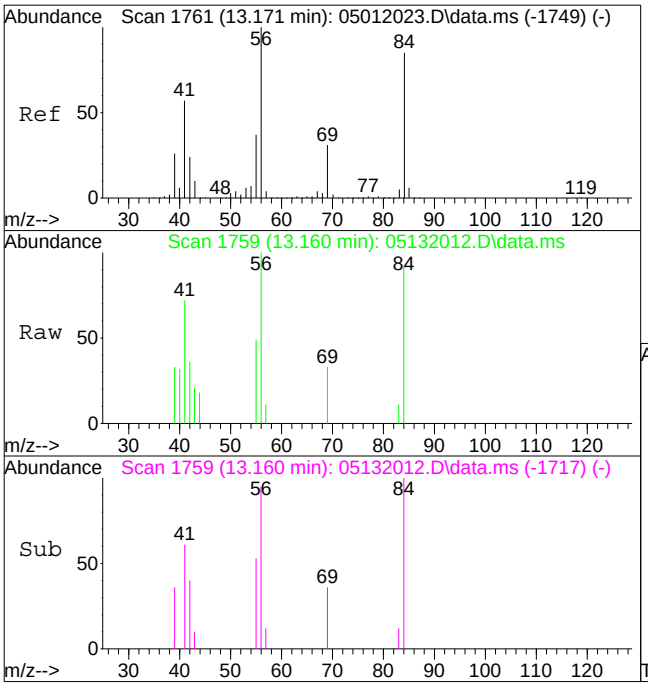


#42
Carbon Tetrachloride
Concen: 0.28 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05132012.D
Acq: 14 May 2020 1:00

Tgt Ion:117 Resp: 11596

Ion	Ratio	Lower	Upper
117	100		
119	97.6	76.2	116.2

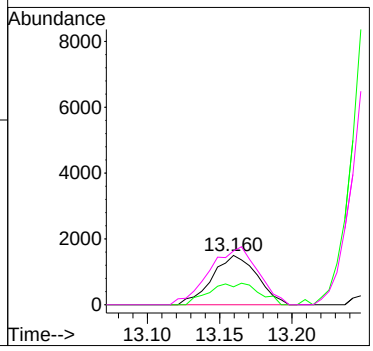


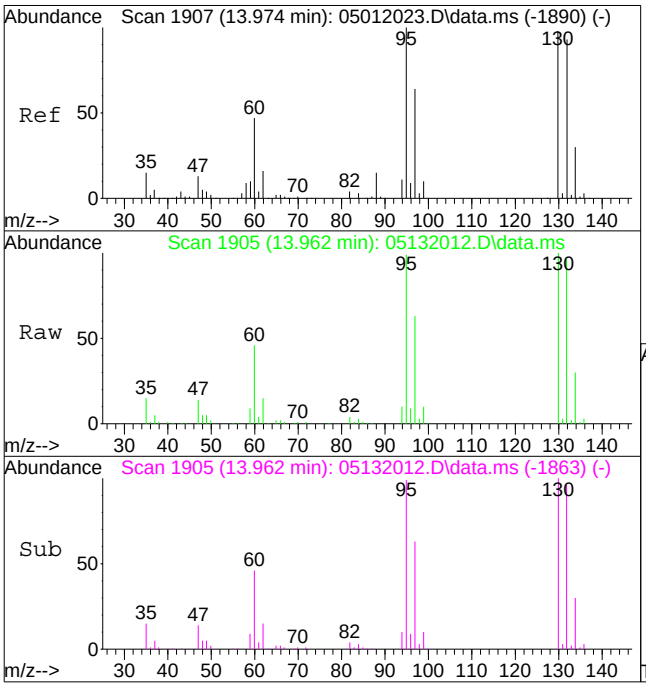


#43
Cyclohexane
Concen: 0.07 ng
RT: 13.16 min Scan# 1759
Delta R.T. -0.017 min
Lab File: 05132012.D
Acq: 14 May 2020 1:00

Tgt Ion: 84 Resp: 3244

Ion	Ratio	Lower	Upper
84	100		
69	48.3	16.5	56.5
56	126.8	97.4	137.4

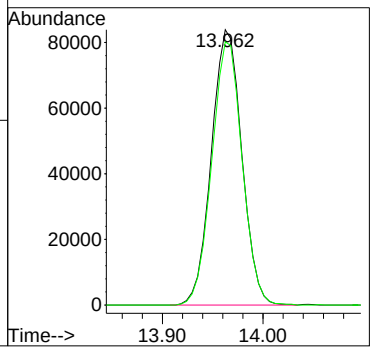


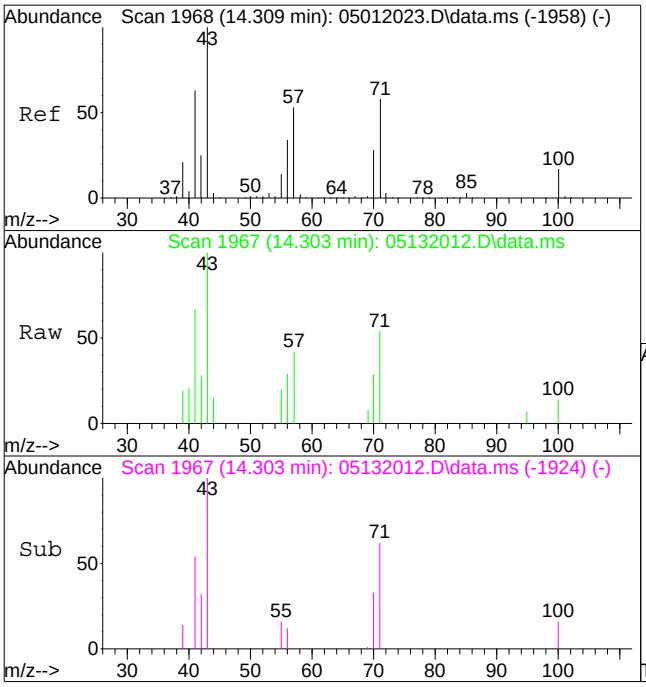


#47
Trichloroethene
Concen: 5.55 ng
RT: 13.96 min Scan# 1905
Delta R.T. -0.017 min
Lab File: 05132012.D
Acq: 14 May 2020 1:00

Tgt Ion:130 Resp: 175917

Ion	Ratio	Lower	Upper
130	100		
132	95.7	74.9	114.9

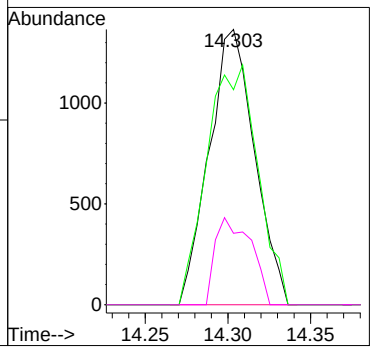


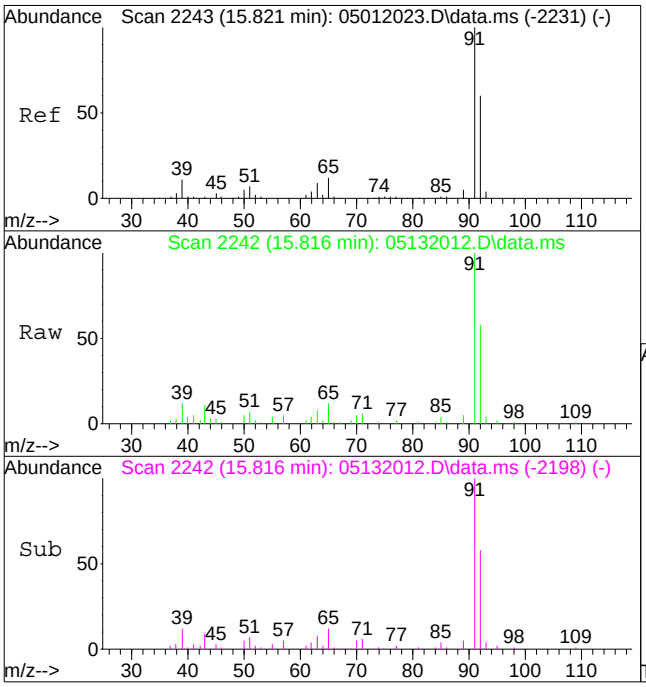


#51
n-Heptane
Concen: 0.09 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05132012.D
Acq: 14 May 2020 1:00

Tgt Ion: 71 Resp: 2615

Ion	Ratio	Lower	Upper
71	100		
57	97.5	71.0	111.0
100	24.8	8.4	48.4

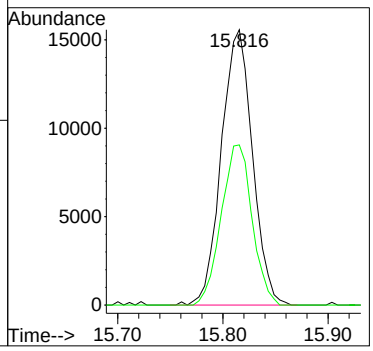


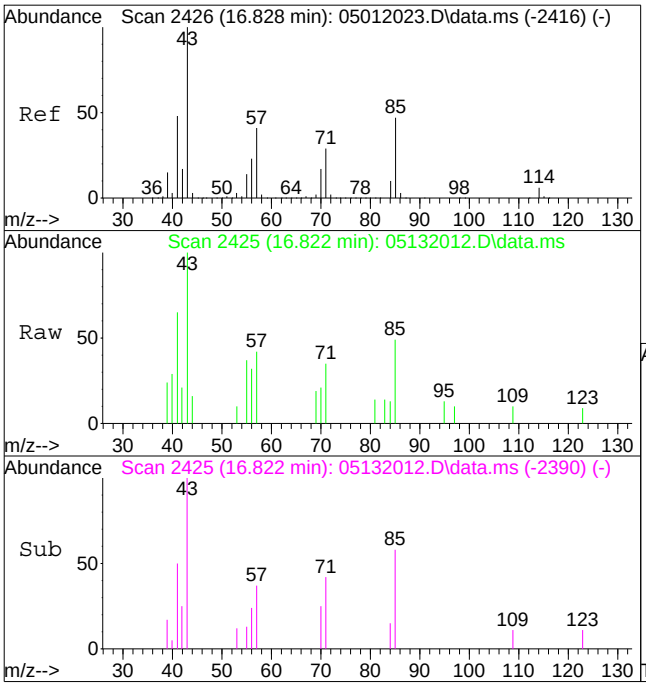


#58
Toluene
Concen: 0.27 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05132012.D
Acq: 14 May 2020 1:00

Tgt Ion: 91 Resp: 32133

Ion	Ratio	Lower	Upper
91	100		
92	57.6	39.4	79.4

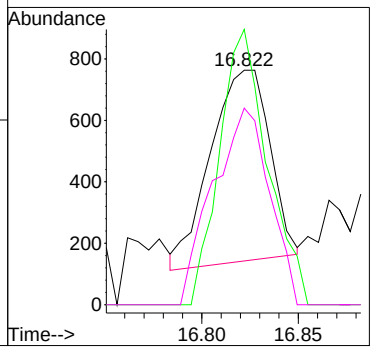


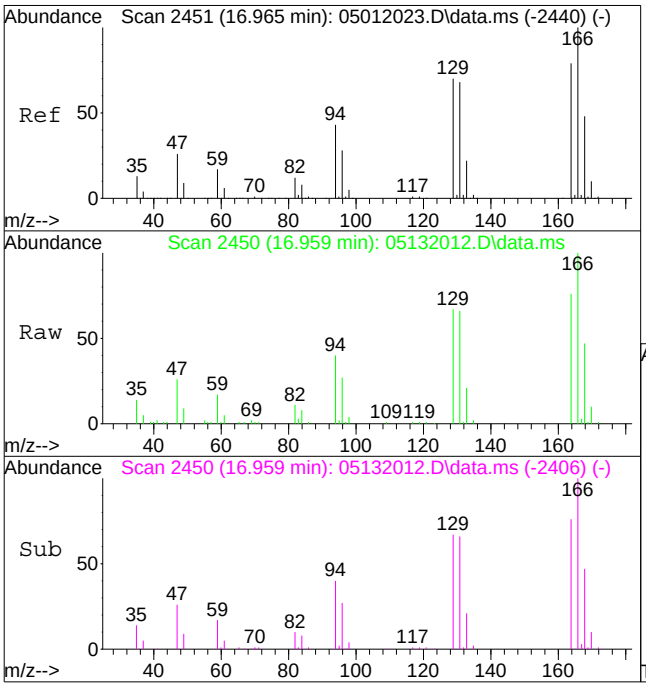


#63
n-Octane
Concen: 0.05 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05132012.D
Acq: 14 May 2020 1:00

Tgt Ion: 57 Resp: 1336

Ion	Ratio	Lower	Upper
57	100		
85	116.1	91.0	136.4
71	97.5	56.2	84.2#

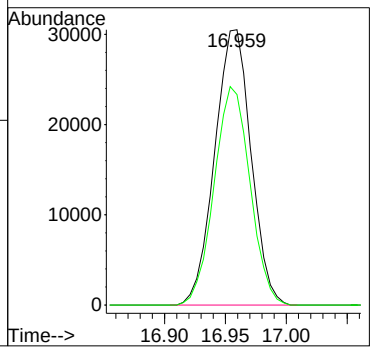


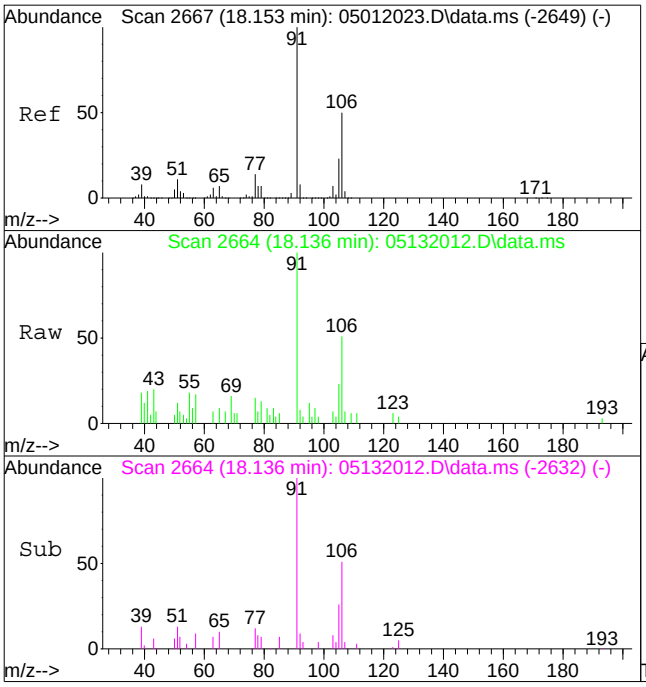


#64
Tetrachloroethene
Concen: 1.90 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05132012.D
Acq: 14 May 2020 1:00

Tgt Ion:166 Resp: 63328

Ion	Ratio	Lower	Upper
166	100		
164	78.3	58.4	98.4

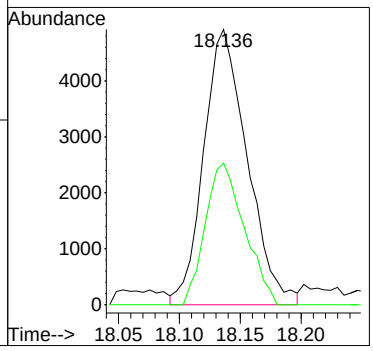


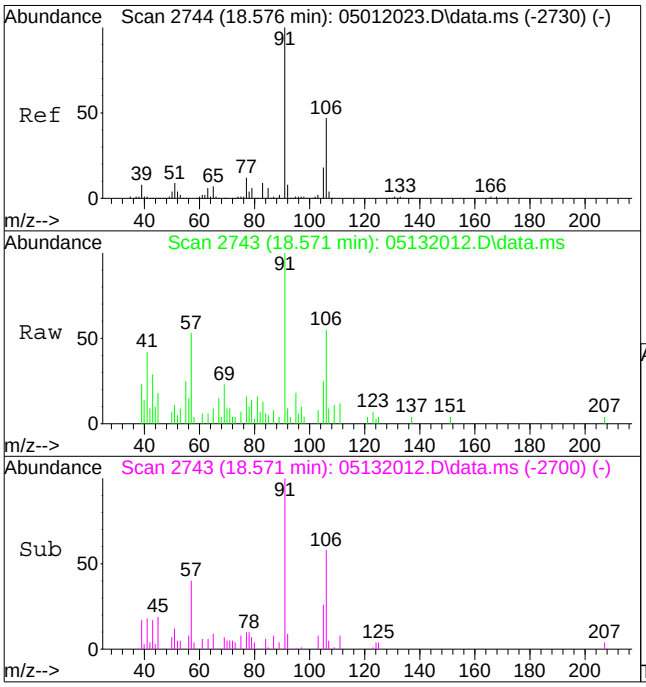


#67
m- & p-Xylenes
Concen: 0.12 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05132012.D
Acq: 14 May 2020 1:00

Tgt Ion: 91 Resp: 12238

Ion	Ratio	Lower	Upper
91	100		
106	46.1	29.7	69.7

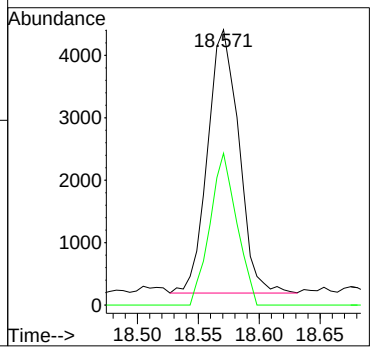


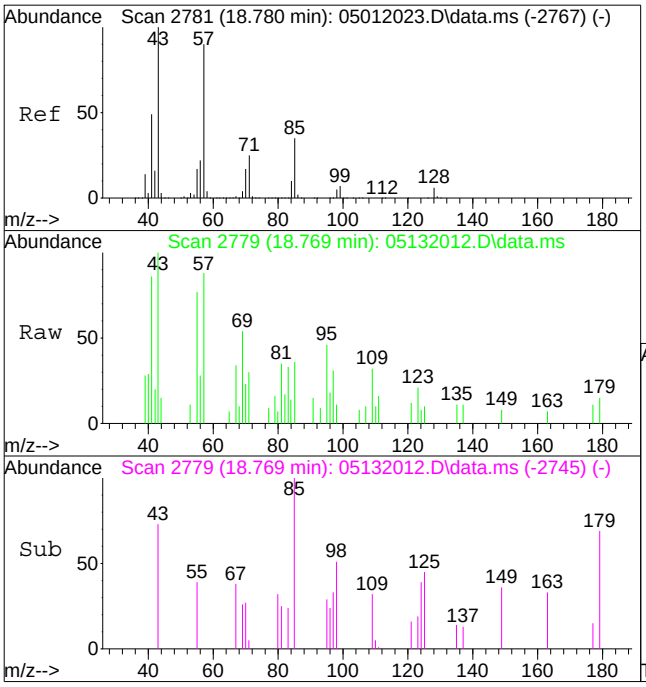


#70
o-Xylene
Concen: 0.07 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05132012.D
Acq: 14 May 2020 1:00

Tgt Ion: 91 Resp: 7532

Ion	Ratio	Lower	Upper
91	100		
106	49.2	27.5	67.5

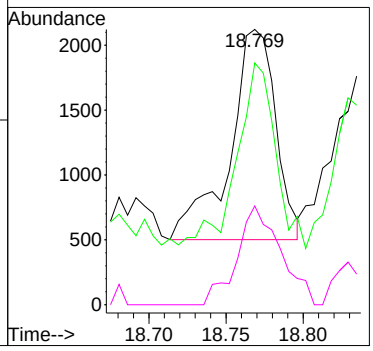


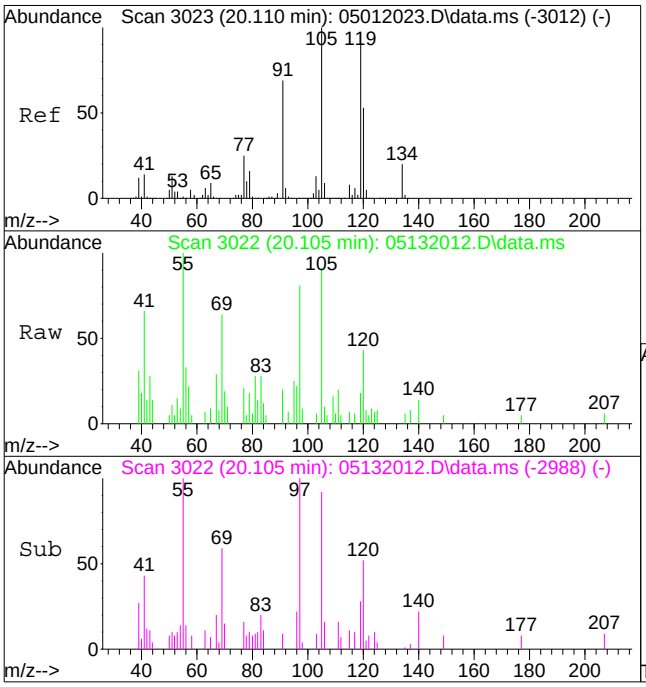


#71
n-Nonane
Concen: 0.06 ng
RT: 18.77 min Scan# 2779
Delta R.T. -0.011 min
Lab File: 05132012.D
Acq: 14 May 2020 1:00

Tgt Ion: 43 Resp: 3367

Ion	Ratio	Lower	Upper
43	100		
57	74.1	69.0	109.0
85	44.3	14.6	54.6

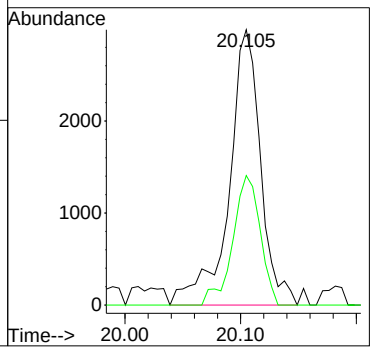


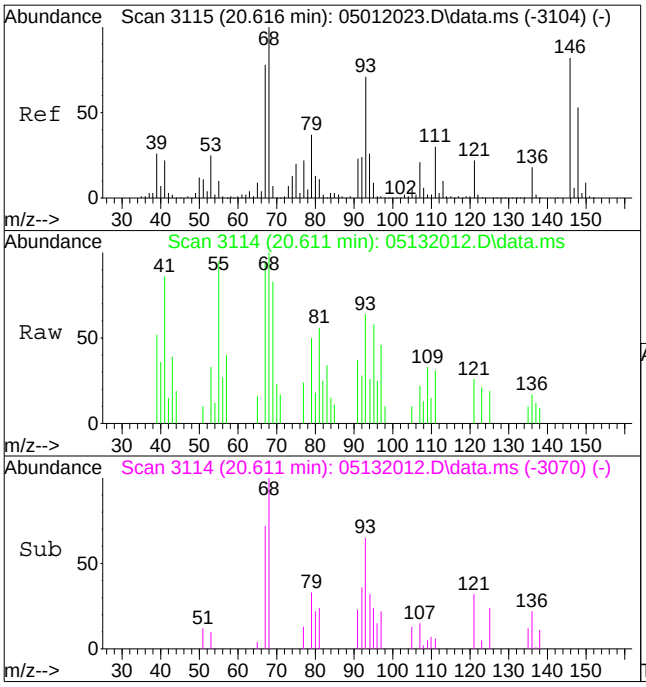


#82
1,2,4-Trimethylbenzene
Concen: 0.05 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05132012.D
Acq: 14 May 2020 1:00

Tgt Ion:105 Resp: 5697

Ion	Ratio	Lower	Upper
105	100		
120	40.8	33.6	73.6

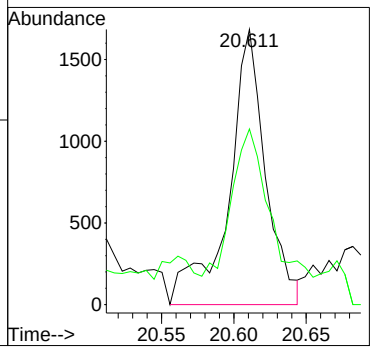




#91
d-Limonene
Concen: 0.07 ng
RT: 20.61 min Scan# 3114
Delta R.T. -0.006 min
Lab File: 05132012.D
Acq: 14 May 2020 1:00

Tgt Ion: 68 Resp: 2987

Ion	Ratio	Lower	Upper
68	100		
93	62.0	51.1	91.1



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132013.D Vial: 7
Acq On : 14 May 2020 1:34 Operator: LH
Sample : P2002301-004 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:31:03 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/14/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	264516	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1128945	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	541862	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	423047	11.801	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.40%				
57) Toluene-d8 (SS2)	15.71	98	1117120	12.163	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.28%				
73) Bromofluorobenzene (SS3)	18.97	174	438627	13.272	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.16%				
Target Compounds							Qvalue
2) Propene	4.09	42	27535	0.899	ng		98
3) Dichlorodifluoromethan...	4.25	85	24025	0.401	ng		99
4) Chloromethane	4.51	50	33802	0.720	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.78	135	165	N.D.			
6) Vinyl Chloride	4.94	62	1604	N.D.			
7) 1,3-Butadiene	5.20	54	408	N.D.			
8) Bromomethane	5.63	94	13548	0.498	ng		98
9) Chloroethane	5.96	64	3188	0.157	ng		96
10) Ethanol	6.32	45	38114	1.611	ng		97
11) Acetonitrile	6.59	41	14319	0.265	ng		92
12) Acrolein	6.79	56	14798	0.792	ng		98
13) Acetone	6.99	58	187720m	7.935	ng		
14) Trichlorofluoromethane	7.23	101	10538	0.199	ng		99
15) 2-Propanol (Isopropanol)	7.47	45	169785	2.371	ng		92
16) Acrylonitrile	7.75	53	779	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	2481	0.081	ng		94
20) 3-Chloro-1-propene (Al...	8.57	41	273	N.D.			
21) Trichlorotrifluoroethane	8.84	151	8106	0.324	ng		99
22) Carbon Disulfide	8.67	76	523643	4.752	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	9.93	63	107	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	d		
26) Vinyl Acetate	10.16	86	19298	2.619	ng	#	13
27) 2-Butanone (MEK)	10.44	72	127055	6.297	ng		97
28) cis-1,2-Dichloroethene	10.88	61	1646	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.27	61	8458	0.727	ng		96
31) n-Hexane	11.25	57	6575	0.130	ng	#	90
32) Chloroform	11.30	83	17040	0.324	ng		98
34) Tetrahydrofuran (THF)	11.71	72	67160	3.413	ng		99
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	982	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	39525	0.326	ng		93
42) Carbon Tetrachloride	13.03	117	7558	0.184	ng		96
43) Cyclohexane	13.16	84	4469	0.099	ng		86
44) tert-Amyl Methyl Ether	13.46	73	172	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	13.97	130	35666	1.140	ng		98
48) 1,4-Dioxane	13.96	88	2926	0.120	ng		81
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132013.D Vial: 7
Acq On : 14 May 2020 1:34 Operator: LH
Sample : P2002301-004 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:31:03 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

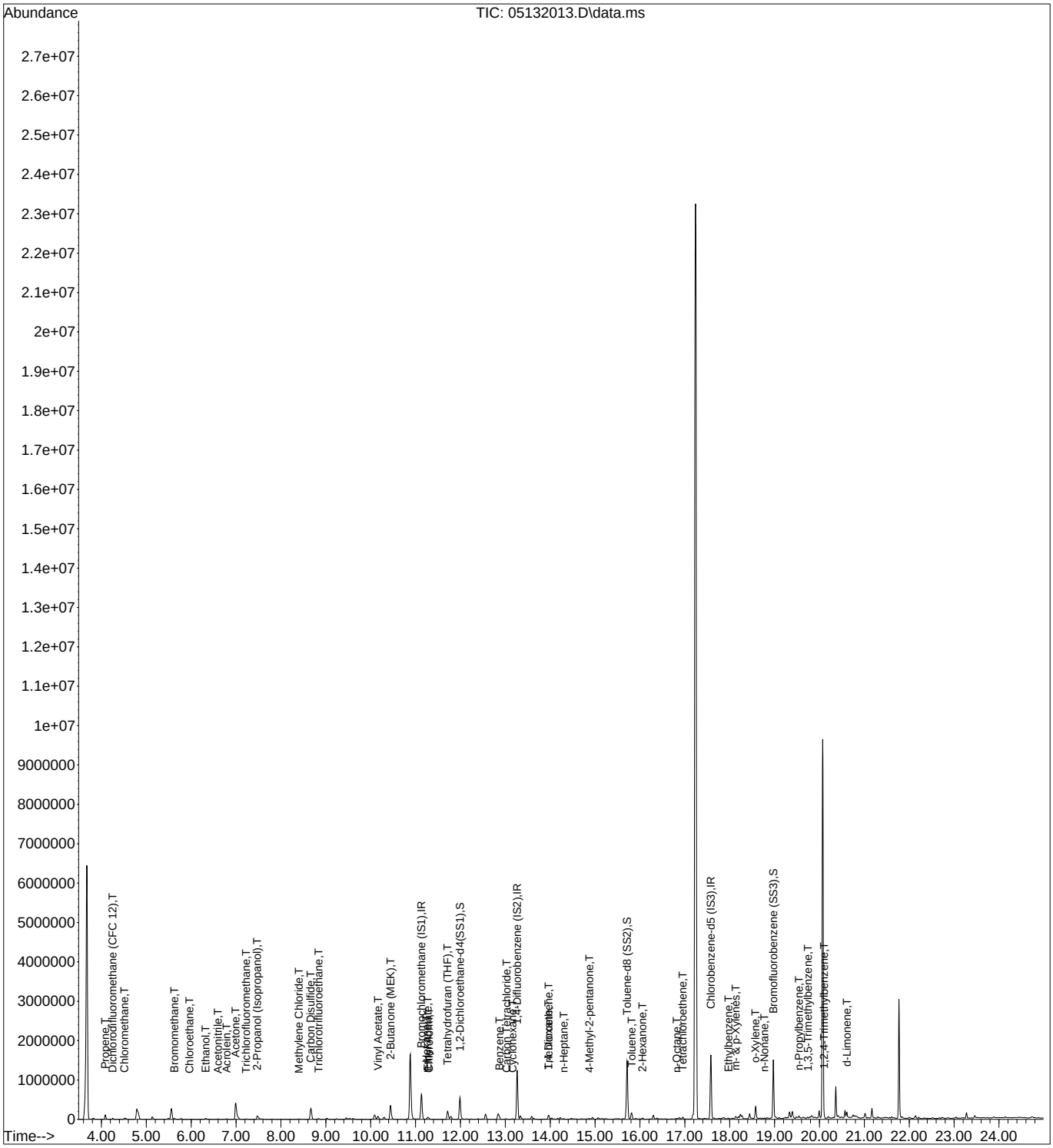
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.30	71	3856	0.136 ng		90
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.88	58	6055	0.224 ng	#	88
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	15.50	97	179	N.D.		
58) Toluene	15.82	91	124051	1.048 ng		99
59) 2-Hexanone	16.06	43	23043	0.355 ng		88
60) Dibromochloromethane	16.22	129	119	N.D.		
61) 1,2-Dibromoethane	16.48	107	549	N.D.		
62) n-Butyl Acetate	16.69	43	2992	N.D.		
63) n-Octane	16.82	57	1819	0.074 ng	#	72
64) Tetrachloroethene	16.95	166	16180	0.484 ng		99
65) Chlorobenzene	17.62	112	700	N.D.		
66) Ethylbenzene	17.98	91	11455	0.087 ng		98
67) m- & p-Xylenes	18.14	91	32046	0.306 ng		97
68) Bromoform	18.20	173	502	N.D.		
69) Styrene	18.47	104	2302	N.D.		
70) o-Xylene	18.57	91	14828	0.139 ng		95
71) n-Nonane	18.77	43	4499	0.080 ng		93
72) 1,1,2,2-Tetrachloroethane	18.59	83	1057	N.D.		
74) Cumene	19.09	105	4027	N.D.		
75) alpha-Pinene	19.44	93	814	N.D.		
76) n-Propylbenzene	19.54	91	8673	0.056 ng	#	59
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.68	105	2994	N.D.		
79) 1,3,5-Trimethylbenzene	19.74	105	6973	0.066 ng		94
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	19.91	105	3869	N.D.		
82) 1,2,4-Trimethylbenzene	20.10	105	9832m	0.092 ng		
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.22	91	3015	N.D.		
85) 1,3-Dichlorobenzene	20.24	146	475	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	1277	N.D.		
87) sec-Butylbenzene	20.34	105	3295	N.D.		
88) 4-Isopropyltoluene (p-...	20.48	119	5211	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	20.60	146	360	N.D.		
91) d-Limonene	20.61	68	28980	0.686 ng		99
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.10	180	635	N.D.		
95) Naphthalene	22.21	128	5644	N.D.		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132013.D Vial: 7
Acq On : 14 May 2020 1:34 Operator: LH
Sample : P2002301-004 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:31:03 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132013.D Vial: 7
Acq On : 14 May 2020 1:34 Operator: LH
Sample : P2002301-004 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:31:03 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/14/20

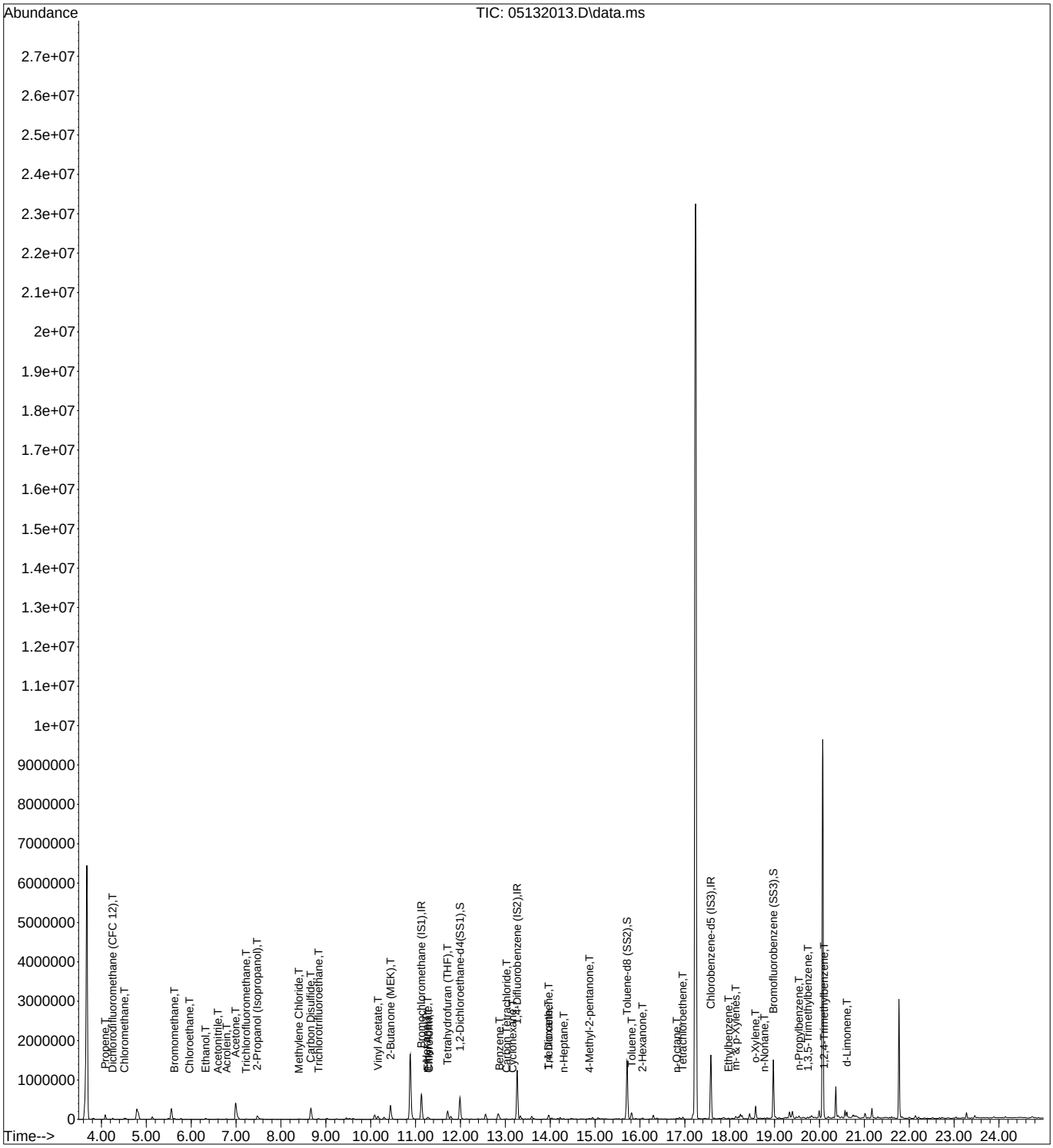
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	264516	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1128945	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	541862	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	423047	11.801	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.40%				
57) Toluene-d8 (SS2)	15.71	98	1117120	12.163	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.28%				
73) Bromofluorobenzene (SS3)	18.97	174	438627	13.272	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.16%				
Target Compounds							Qvalue
2) Propene	4.09	42	27535	0.899	ng		98
3) Dichlorodifluoromethan...	4.25	85	24025	0.401	ng		99
4) Chloromethane	4.51	50	33802	0.720	ng		100
8) Bromomethane	5.63	94	13548	0.498	ng		98
9) Chloroethane	5.96	64	3188	0.157	ng		96
10) Ethanol	6.32	45	38114	1.611	ng		97
11) Acetonitrile	6.59	41	14319	0.265	ng		92
12) Acrolein	6.79	56	14798	0.792	ng		98
13) Acetone	6.99	58	187720m	7.935	ng		
14) Trichlorofluoromethane	7.23	101	10538	0.199	ng		99
15) 2-Propanol (Isopropanol)	7.47	45	169785	2.371	ng		92
19) Methylene Chloride	8.40	84	2481	0.081	ng		94
21) Trichlorotrifluoroethane	8.84	151	8106	0.324	ng		99
22) Carbon Disulfide	8.67	76	523643	4.752	ng		99
26) Vinyl Acetate	10.16	86	19298	2.619	ng	#	13
27) 2-Butanone (MEK)	10.44	72	127055	6.297	ng		97
30) Ethyl Acetate	11.27	61	8458	0.727	ng		96
31) n-Hexane	11.25	57	6575	0.130	ng	#	90
32) Chloroform	11.30	83	17040	0.324	ng		98
34) Tetrahydrofuran (THF)	11.71	72	67160	3.413	ng		99
41) Benzene	12.87	78	39525	0.326	ng		93
42) Carbon Tetrachloride	13.03	117	7558	0.184	ng		96
43) Cyclohexane	13.16	84	4469	0.099	ng		86
47) Trichloroethene	13.97	130	35666	1.140	ng		98
48) 1,4-Dioxane	13.96	88	2926	0.120	ng		81
51) n-Heptane	14.30	71	3856	0.136	ng		90
53) 4-Methyl-2-pentanone	14.88	58	6055	0.224	ng	#	88
58) Toluene	15.82	91	124051	1.048	ng		99
59) 2-Hexanone	16.06	43	23043	0.355	ng		88
63) n-Octane	16.82	57	1819	0.074	ng	#	72
64) Tetrachloroethene	16.95	166	16180	0.484	ng		99
66) Ethylbenzene	17.98	91	11455	0.087	ng		98
67) m- & p-Xylenes	18.14	91	32046	0.306	ng		97
70) o-Xylene	18.57	91	14828	0.139	ng		95
71) n-Nonane	18.77	43	4499	0.080	ng		93
76) n-Propylbenzene	19.54	91	8673	0.056	ng	#	59
79) 1,3,5-Trimethylbenzene	19.74	105	6973	0.066	ng		94
82) 1,2,4-Trimethylbenzene	20.10	105	9832m	0.092	ng		
91) d-Limonene	20.61	68	28980	0.686	ng		99

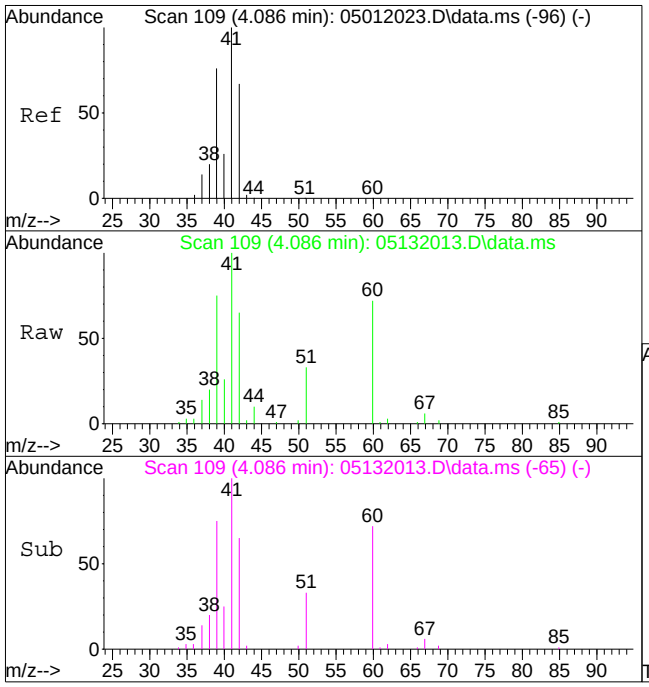
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132013.D Vial: 7
Acq On : 14 May 2020 1:34 Operator: LH
Sample : P2002301-004 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:31:03 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

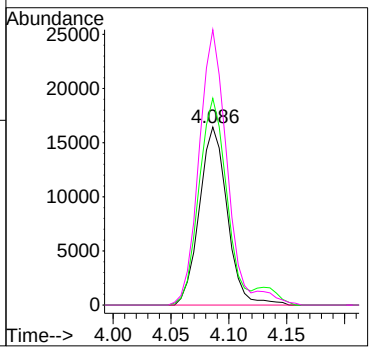


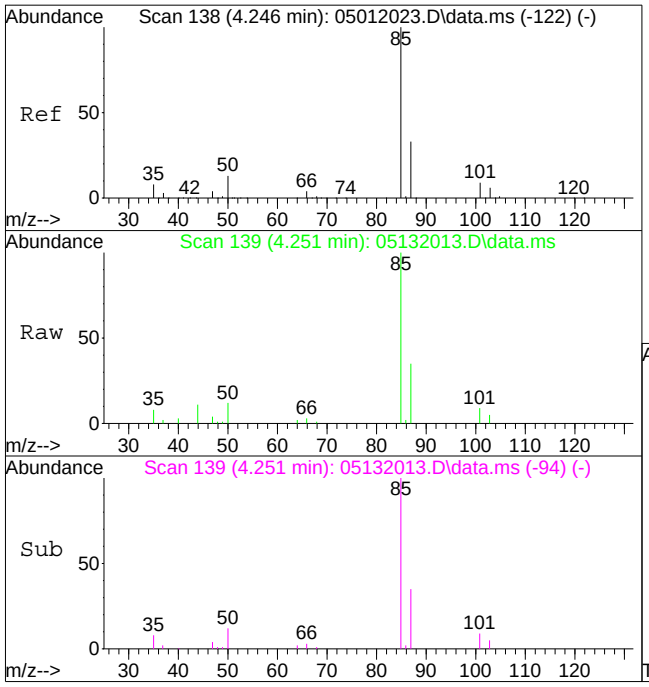


#2
Propene
Concen: 0.90 ng
RT: 4.09 min Scan# 109
Delta R.T. -0.006 min
Lab File: 05132013.D
Acq: 14 May 2020 1:34

Tgt Ion: 42 Resp: 27535

Ion	Ratio	Lower	Upper
42	100		
39	115.8	96.1	136.1
41	156.7	131.9	171.9

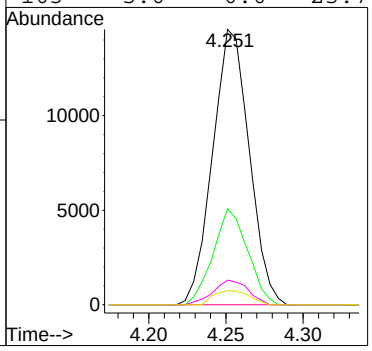


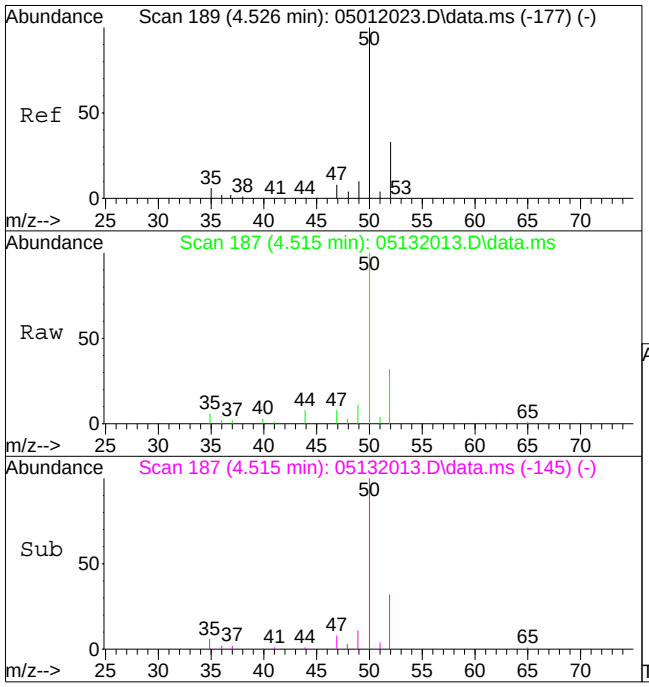


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.40 ng
RT: 4.25 min Scan# 139
Delta R.T. -0.000 min
Lab File: 05132013.D
Acq: 14 May 2020 1:34

Tgt Ion: 85 Resp: 24025

Ion	Ratio	Lower	Upper
85	100		
87	32.7	12.4	52.4
101	8.5	0.0	28.8
103	5.0	0.0	25.7

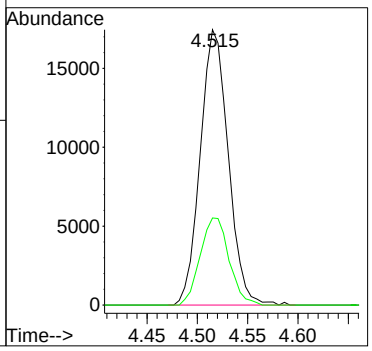


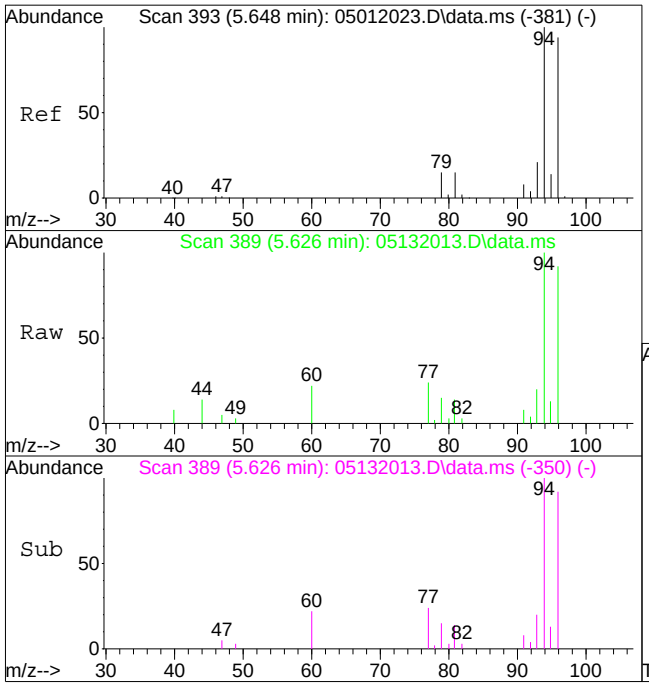


#4
Chloromethane
Concen: 0.72 ng
RT: 4.51 min Scan# 187
Delta R.T. -0.017 min
Lab File: 05132013.D
Acq: 14 May 2020 1:34

Tgt Ion: 50 Resp: 33802

Ion	Ratio	Lower	Upper
50	100		
52	32.5	12.5	52.5

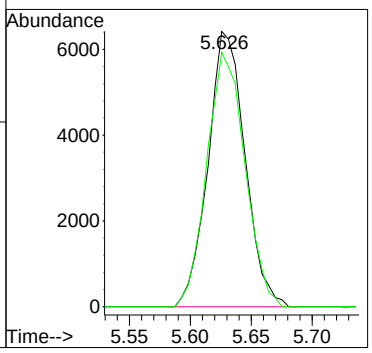


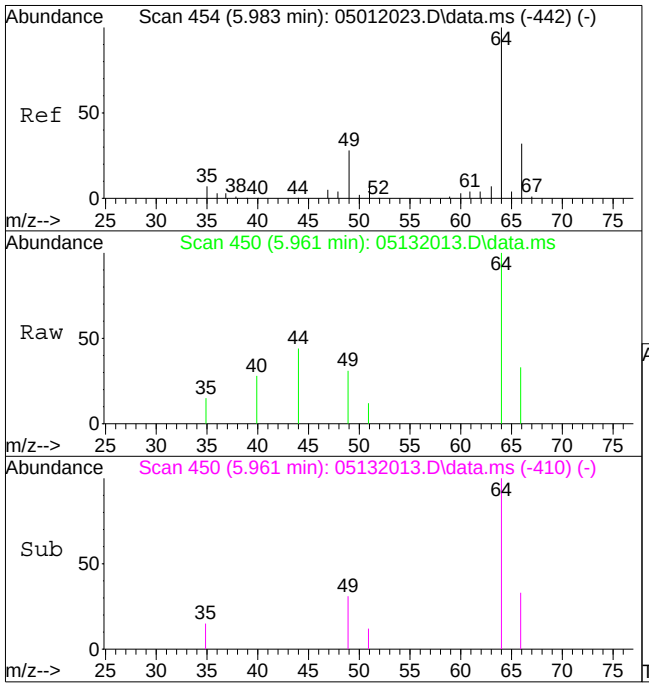


#8
Bromomethane
Concen: 0.50 ng
RT: 5.63 min Scan# 389
Delta R.T. -0.033 min
Lab File: 05132013.D
Acq: 14 May 2020 1:34

Tgt Ion: 94 Resp: 13548

Ion	Ratio	Lower	Upper
94	100		
96	95.2	73.7	113.7

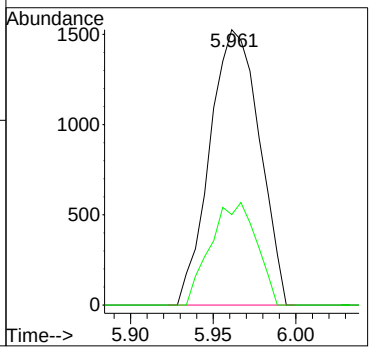


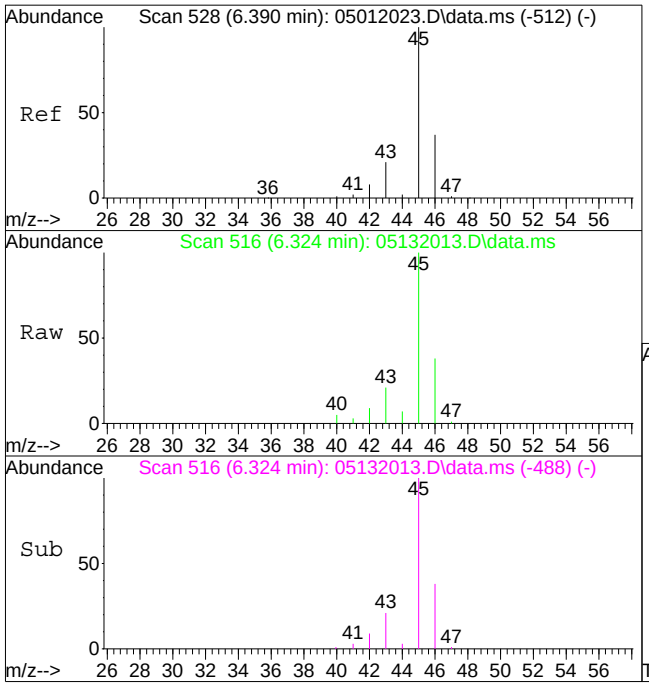


#9
Chloroethane
Concen: 0.16 ng
RT: 5.96 min Scan# 450
Delta R.T. -0.028 min
Lab File: 05132013.D
Acq: 14 May 2020 1:34

Tgt Ion: 64 Resp: 3188

Ion	Ratio	Lower	Upper
64	100		
66	34.4	12.1	52.1

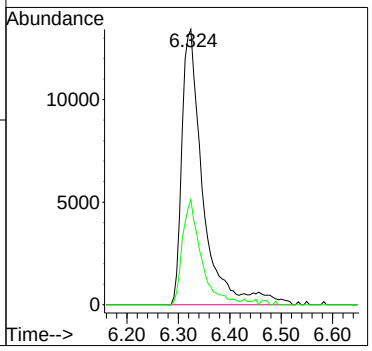


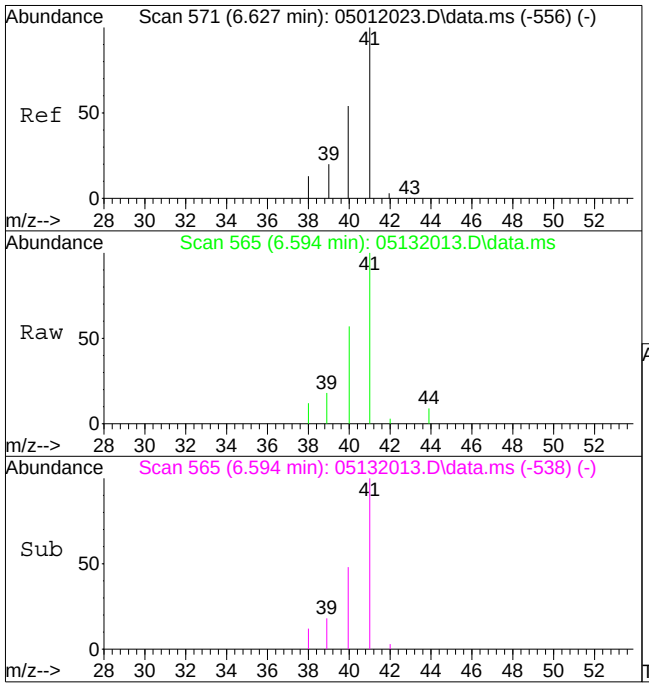


#10
Ethanol
Concen: 1.61 ng
RT: 6.32 min Scan# 516
Delta R.T. -0.094 min
Lab File: 05132013.D
Acq: 14 May 2020 1:34

Tgt Ion: 45 Resp: 38114

Ion	Ratio	Lower	Upper
45	100		
46	35.1	17.2	57.2

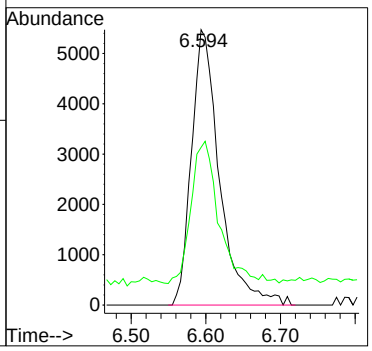


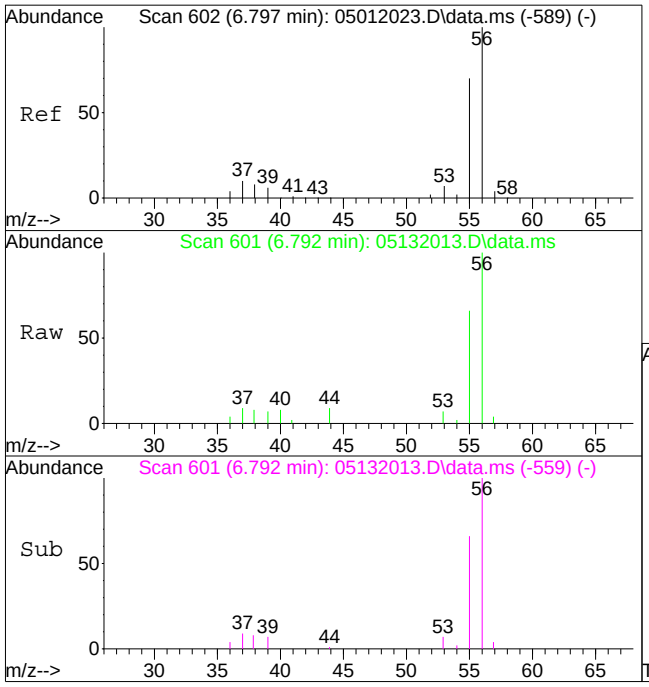


#11
Acetonitrile
Concen: 0.26 ng
RT: 6.59 min Scan# 565
Delta R.T. -0.050 min
Lab File: 05132013.D
Acq: 14 May 2020 1:34

Tgt Ion: 41 Resp: 14319

Ion	Ratio	Lower	Upper
41	100		
40	59.6	33.6	73.6

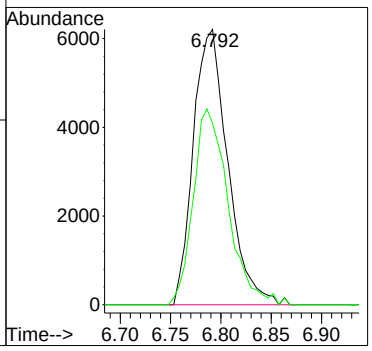


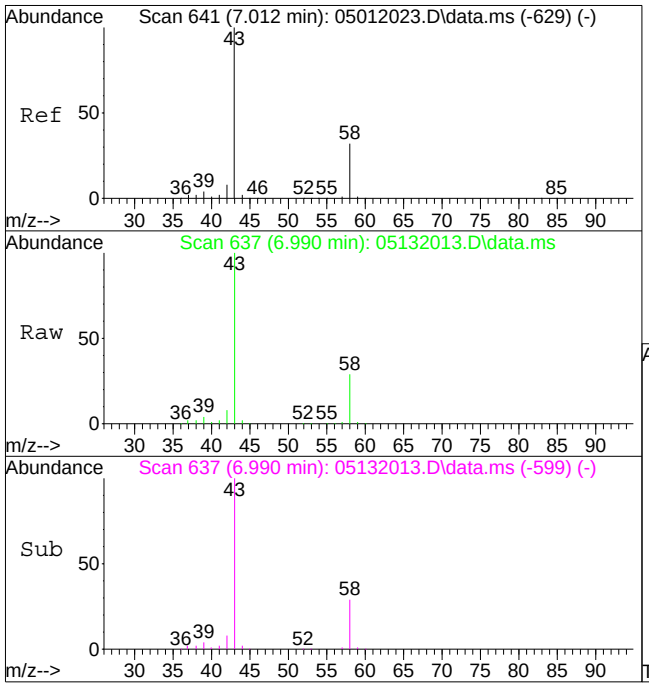


#12
Acrolein
Concen: 0.79 ng
RT: 6.79 min Scan# 601
Delta R.T. -0.017 min
Lab File: 05132013.D
Acq: 14 May 2020 1:34

Tgt Ion: 56 Resp: 14798

Ion	Ratio	Lower	Upper
56	100		
55	72.0	50.2	90.2

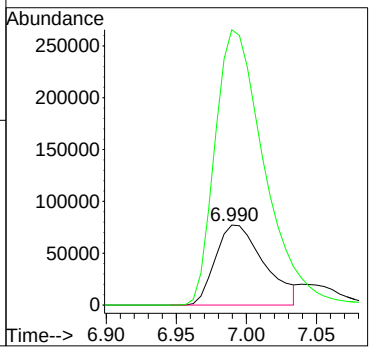


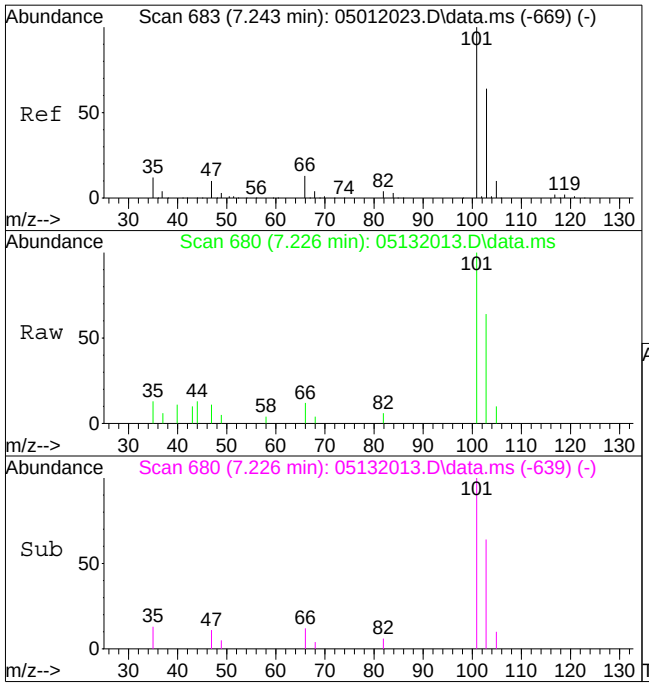


#13
Acetone
Concen: 7.93 ng m
RT: 6.99 min Scan# 637
Delta R.T. -0.039 min
Lab File: 05132013.D
Acq: 14 May 2020 1:34

Tgt Ion: 58 Resp: 187720

Ion	Ratio	Lower	Upper
58	100		
43	350.1	294.4	354.4

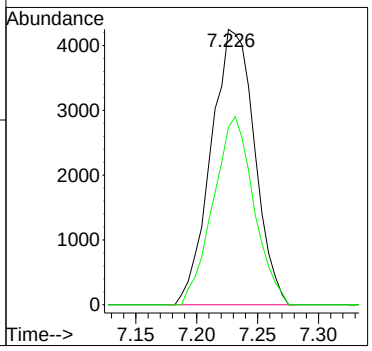


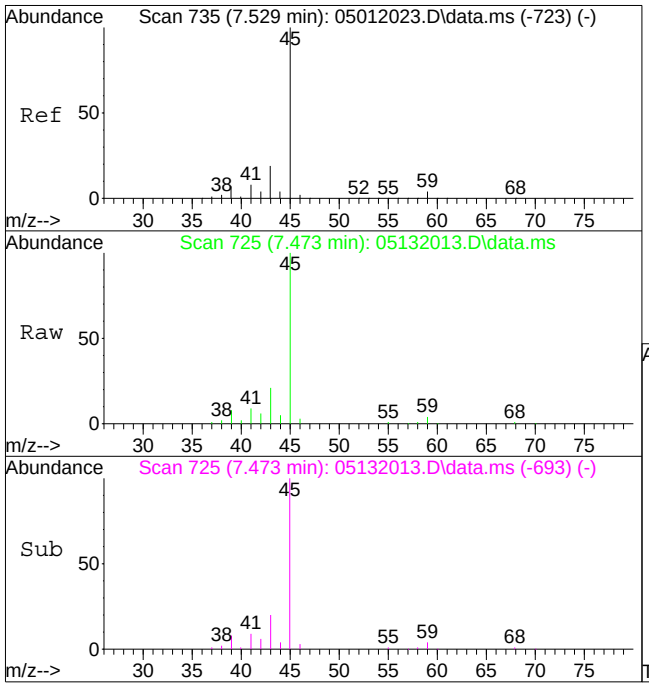


#14
Trichlorofluoromethane
Concen: 0.20 ng
RT: 7.23 min Scan# 680
Delta R.T. -0.022 min
Lab File: 05132013.D
Acq: 14 May 2020 1:34

Tgt Ion:101 Resp: 10538

Ion	Ratio	Lower	Upper
101	100		
103	63.8	44.4	84.4

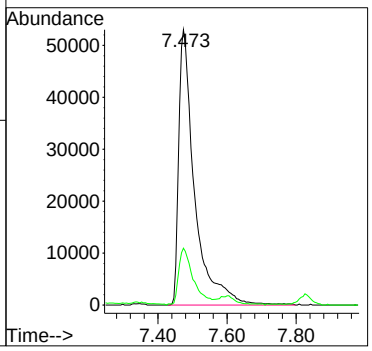


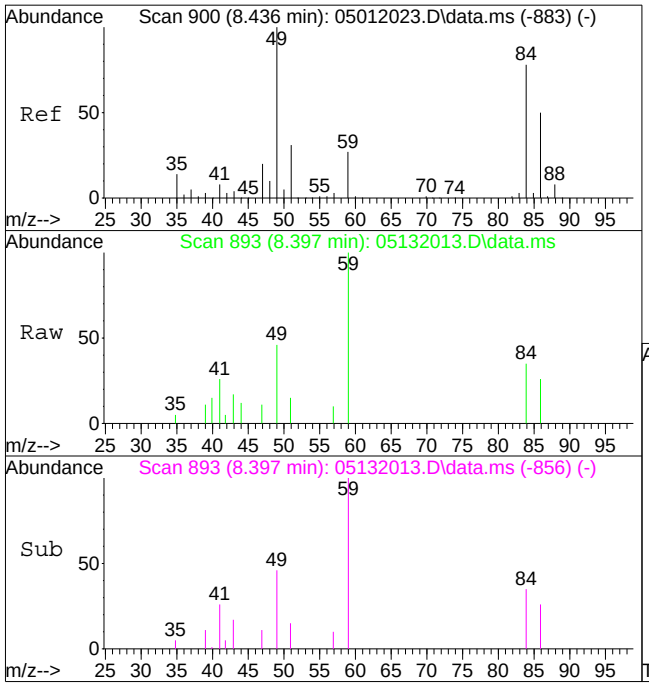


#15
2-Propanol (Isopropanol)
Concen: 2.37 ng
RT: 7.47 min Scan# 725
Delta R.T. -0.072 min
Lab File: 05132013.D
Acq: 14 May 2020 1:34

Tgt Ion: 45 Resp: 169785

Ion	Ratio	Lower	Upper
45	100		
43	23.1	0.0	39.5

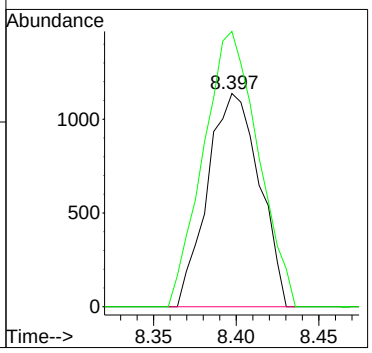


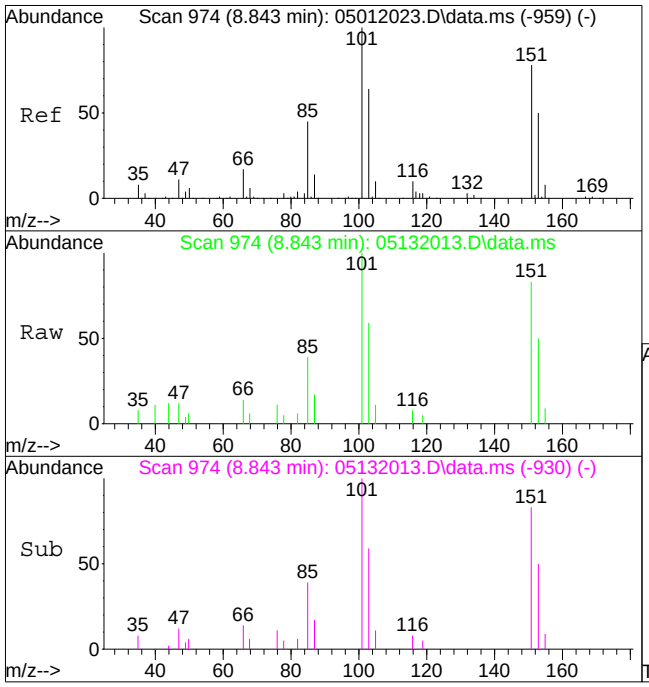


#19
Methylene Chloride
Concen: 0.08 ng
RT: 8.40 min Scan# 893
Delta R.T. -0.044 min
Lab File: 05132013.D
Acq: 14 May 2020 1:34

Tgt Ion: 84 Resp: 2481

Ion	Ratio	Lower	Upper
84	100		
49	136.5	104.8	154.8

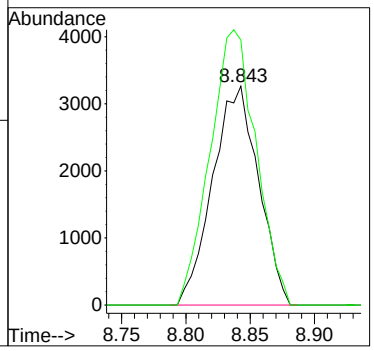


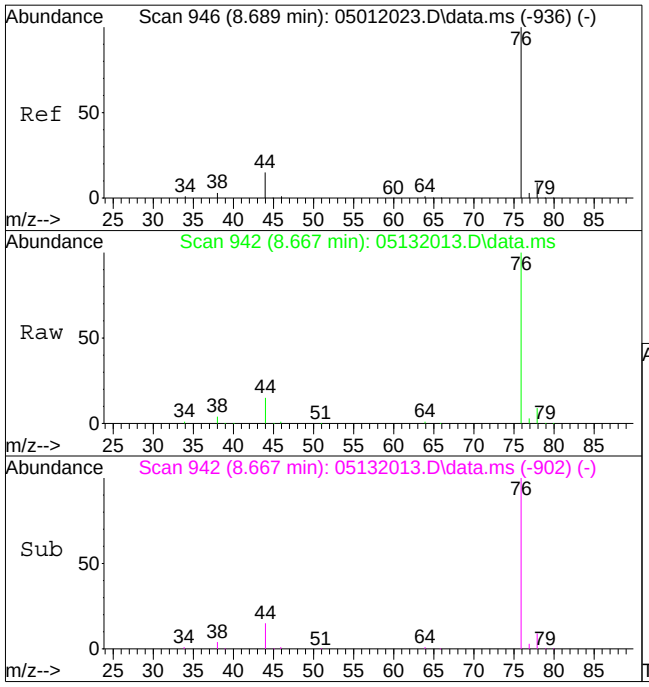


#21
Trichlorotrifluoroethane
Concen: 0.32 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05132013.D
Acq: 14 May 2020 1:34

Tgt Ion:151 Resp: 8106

Ion	Ratio	Lower	Upper
151	100		
101	126.6	107.3	147.3

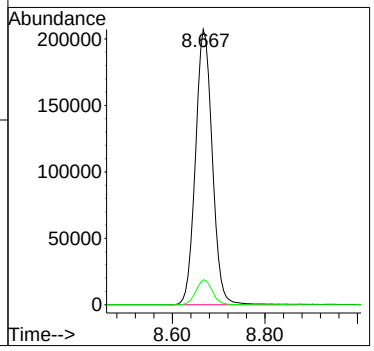


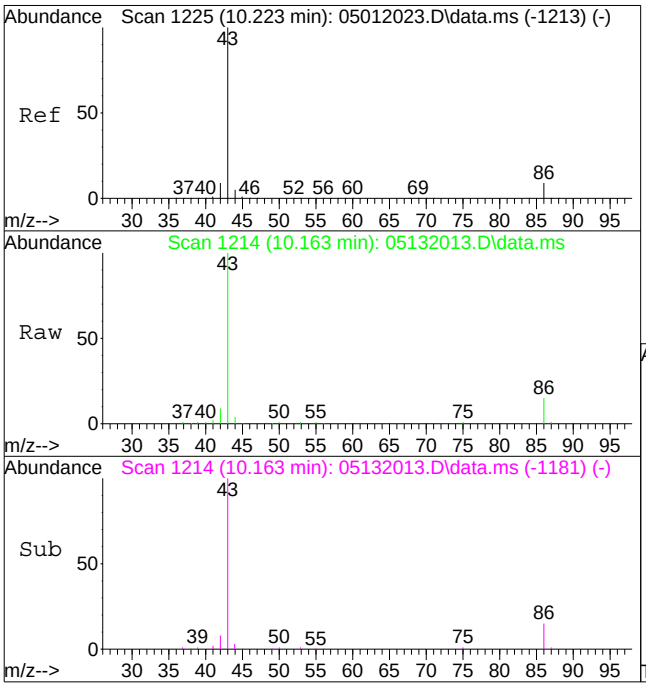


#22
Carbon Disulfide
Concen: 4.75 ng
RT: 8.67 min Scan# 942
Delta R.T. -0.028 min
Lab File: 05132013.D
Acq: 14 May 2020 1:34

Tgt Ion: 76 Resp: 523643

Ion	Ratio	Lower	Upper
76	100		
78	8.9	0.0	29.2

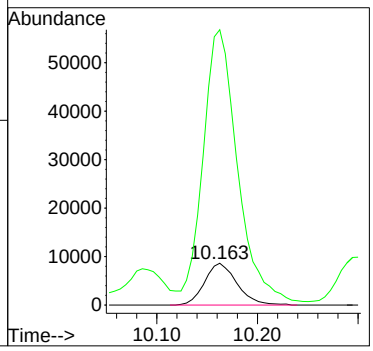


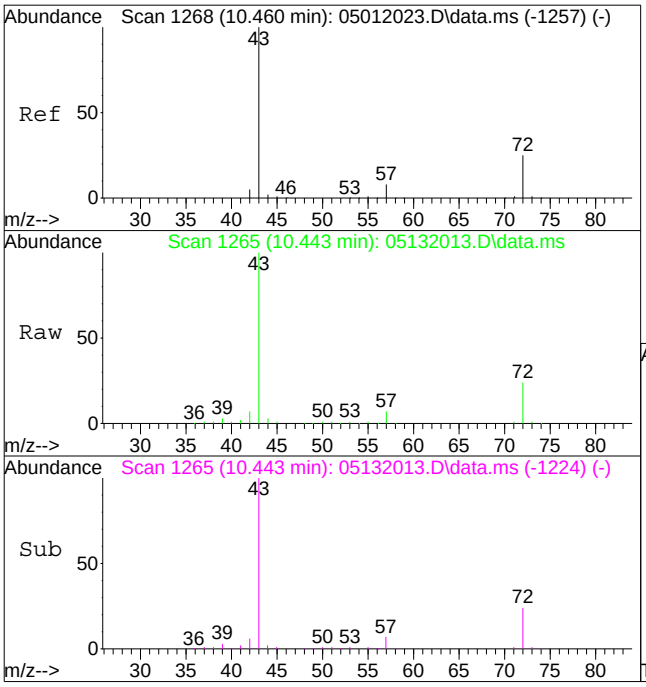


#26
Vinyl Acetate
Concen: 2.62 ng
RT: 10.16 min Scan# 1214
Delta R.T. -0.066 min
Lab File: 05132013.D
Acq: 14 May 2020 1:34

Tgt Ion: 86 Resp: 19298

Ion	Ratio	Lower	Upper
86	100		
43	703.0	1103.0	1143.0#

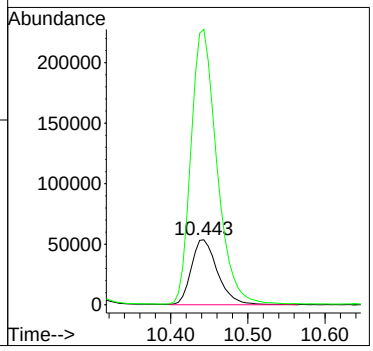


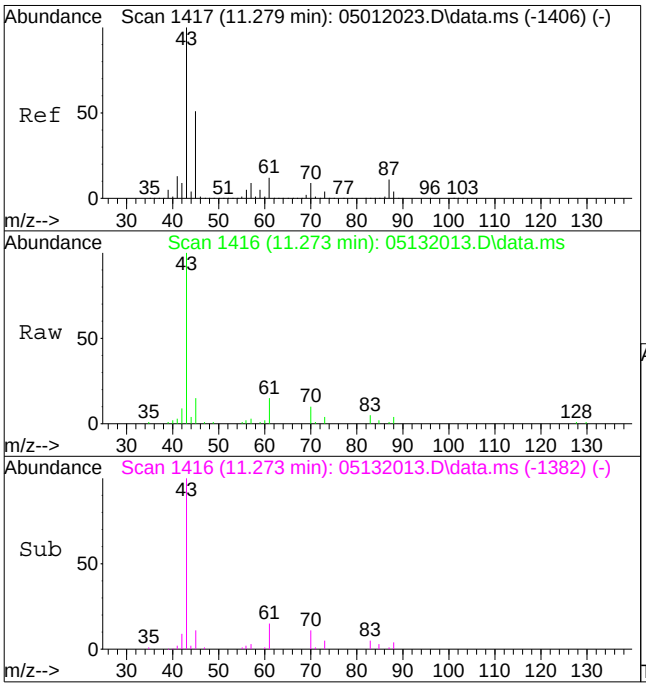


#27
2-Butanone (MEK)
Concen: 6.30 ng
RT: 10.44 min Scan# 1265
Delta R.T. -0.022 min
Lab File: 05132013.D
Acq: 14 May 2020 1:34

Tgt Ion: 72 Resp: 127055

Ion	Ratio	Lower	Upper
72	100		
43	416.7	389.7	429.7

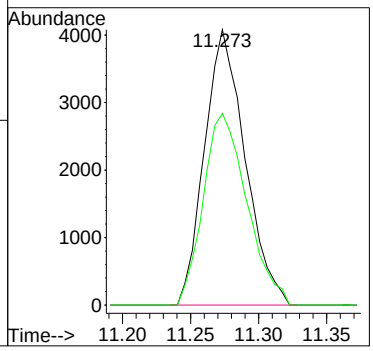


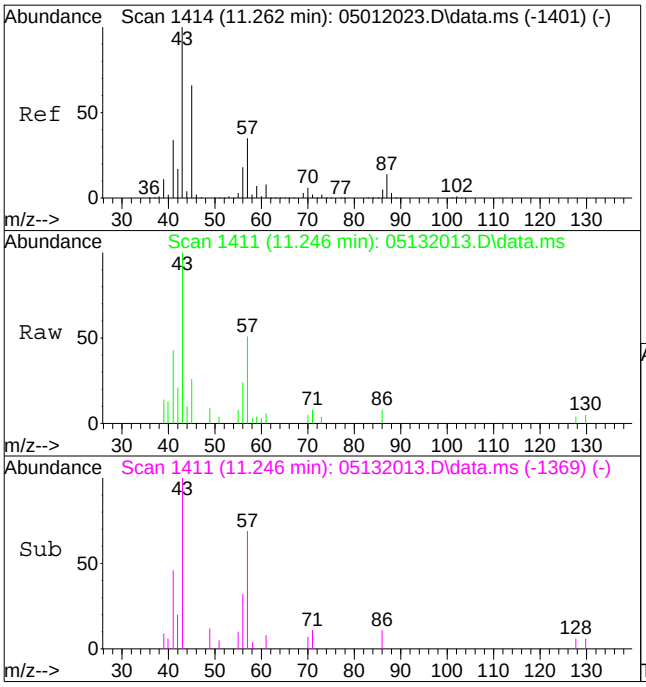


#30
Ethyl Acetate
Concen: 0.73 ng
RT: 11.27 min Scan# 1416
Delta R.T. -0.011 min
Lab File: 05132013.D
Acq: 14 May 2020 1:34

Tgt Ion: 61 Resp: 8458

Ion	Ratio	Lower	Upper
61	100		
70	74.7	57.9	97.9

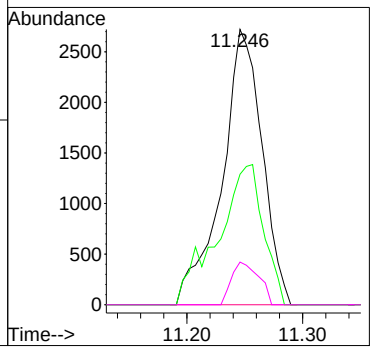


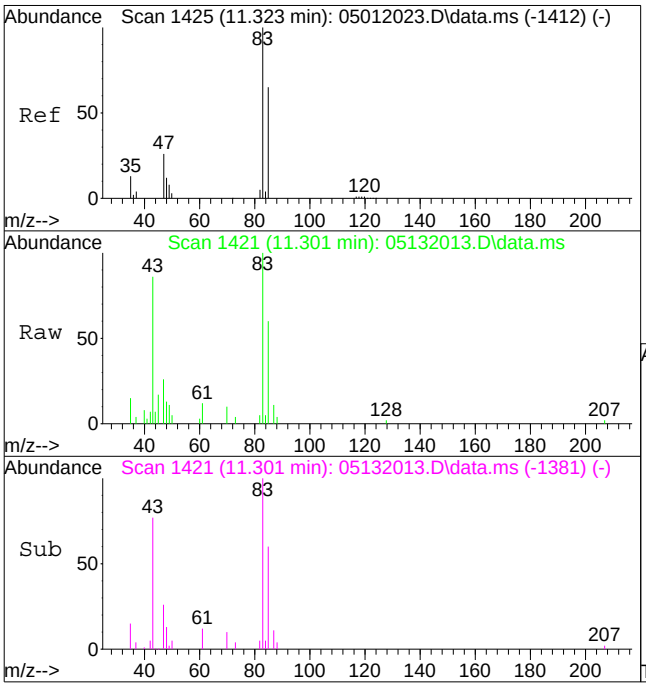


#31
n-Hexane
Concen: 0.13 ng
RT: 11.25 min Scan# 1411
Delta R.T. -0.017 min
Lab File: 05132013.D
Acq: 14 May 2020 1:34

Tgt Ion: 57 Resp: 6575

Ion	Ratio	Lower	Upper
57	100		
56	58.1	41.4	62.0
86	10.6	12.4	18.6#

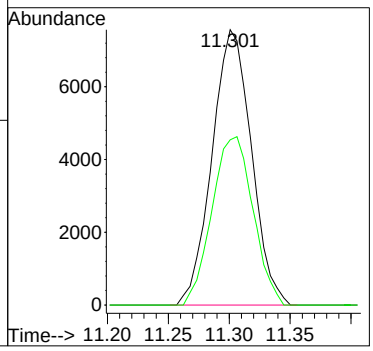


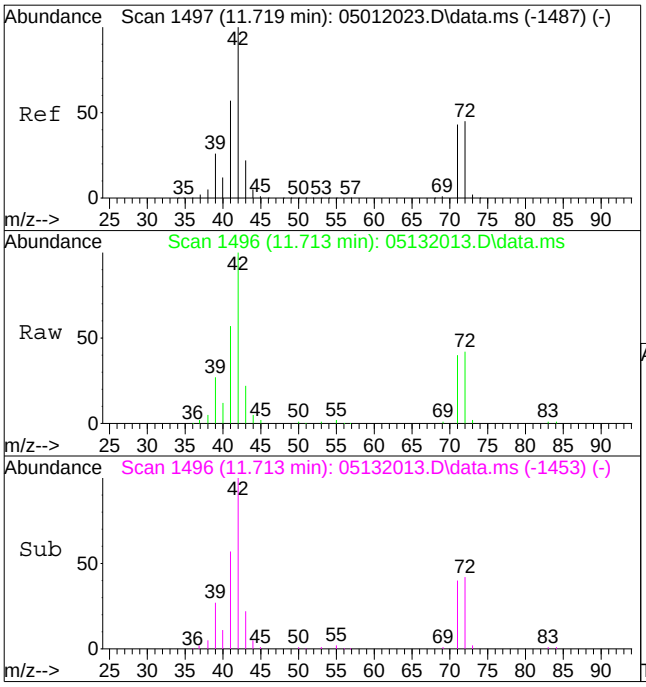


#32
Chloroform
Concen: 0.32 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.028 min
Lab File: 05132013.D
Acq: 14 May 2020 1:34

Tgt Ion: 83 Resp: 17040

Ion	Ratio	Lower	Upper
83	100		
85	63.6	45.5	85.5

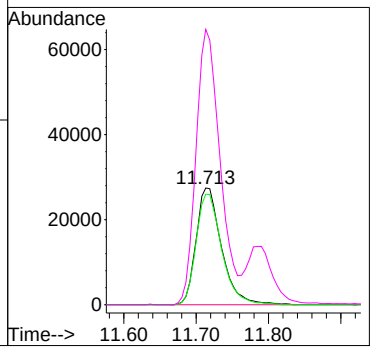


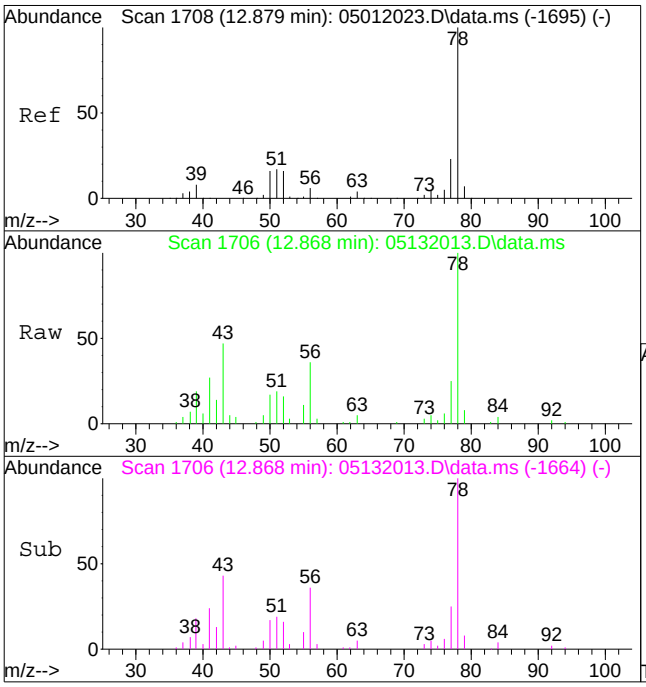


#34
Tetrahydrofuran (THF)
Concen: 3.41 ng
RT: 11.71 min Scan# 1496
Delta R.T. -0.011 min
Lab File: 05132013.D
Acq: 14 May 2020 1:34

Tgt Ion: 72 Resp: 67160

Ion	Ratio	Lower	Upper
72	100		
71	95.1	77.0	117.0
42	224.8	204.6	244.6

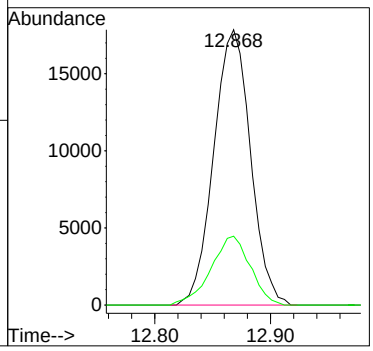


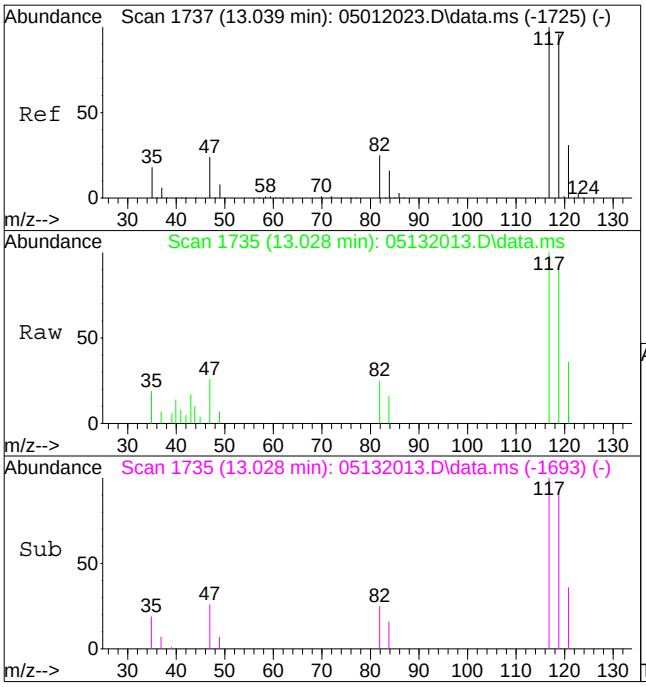


#41
Benzene
Concen: 0.33 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05132013.D
Acq: 14 May 2020 1:34

Tgt Ion: 78 Resp: 39525

Ion	Ratio	Lower	Upper
78	100		
77	26.7	3.4	43.4

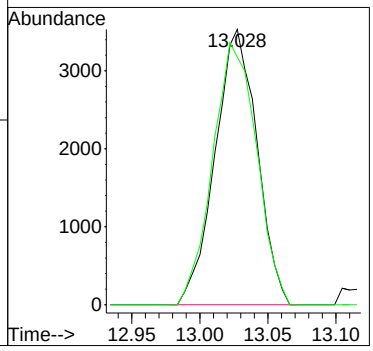


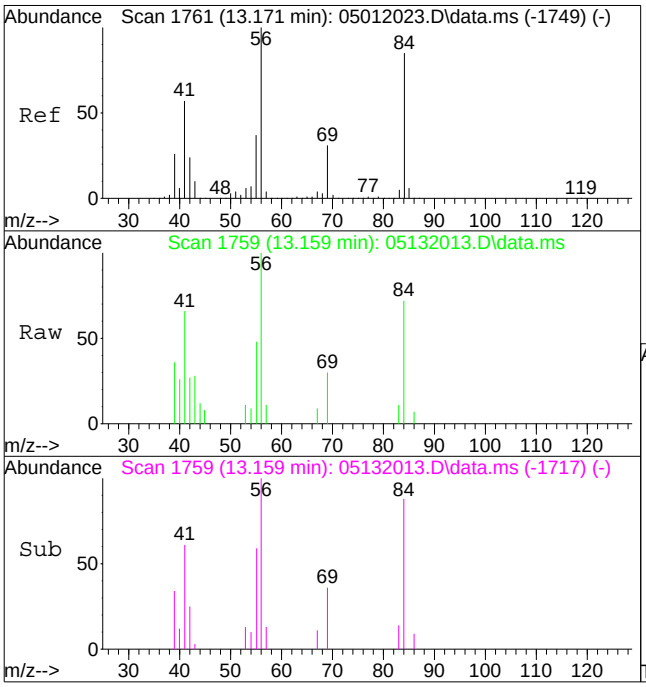


#42
Carbon Tetrachloride
Concen: 0.18 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05132013.D
Acq: 14 May 2020 1:34

Tgt Ion:117 Resp: 7558

Ion	Ratio	Lower	Upper
117	100		
119	99.9	76.2	116.2

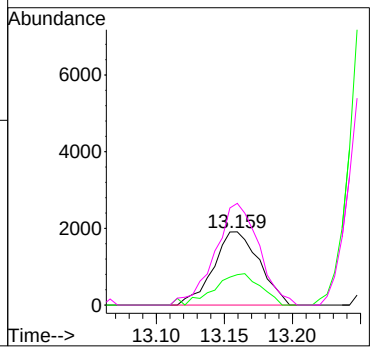


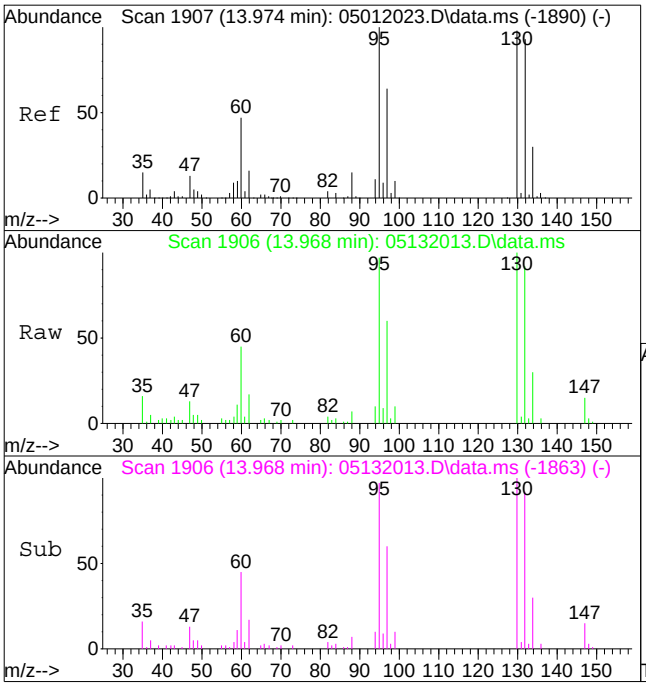


#43
Cyclohexane
Concen: 0.10 ng
RT: 13.16 min Scan# 1759
Delta R.T. -0.017 min
Lab File: 05132013.D
Acq: 14 May 2020 1:34

Tgt Ion: 84 Resp: 4469

Ion	Ratio	Lower	Upper
84	100		
69	43.6	16.5	56.5
56	133.1	97.4	137.4

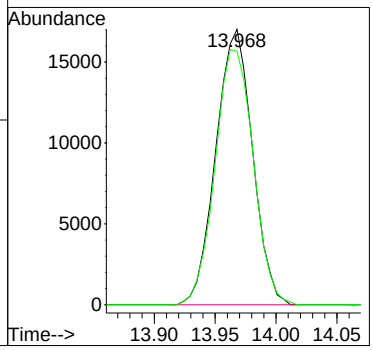


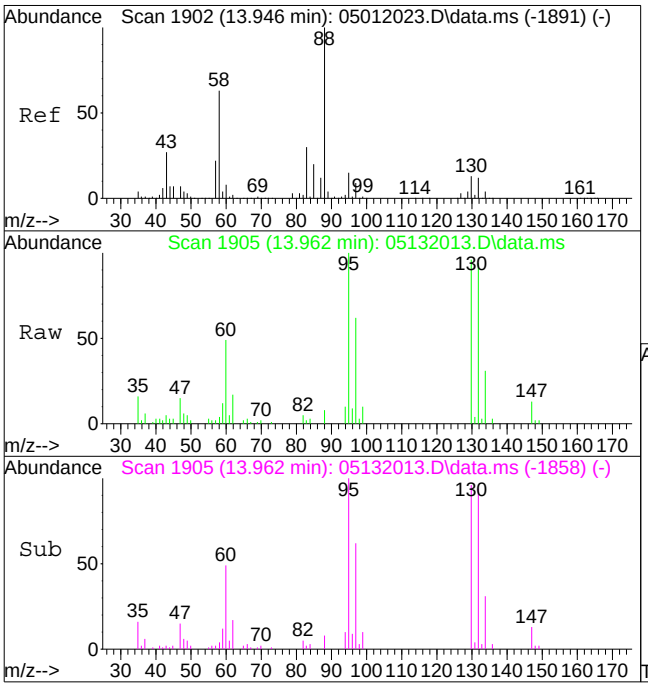


#47
Trichloroethene
Concen: 1.14 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05132013.D
Acq: 14 May 2020 1:34

Tgt Ion:130 Resp: 35666

Ion	Ratio	Lower	Upper
130	100		
132	96.7	74.9	114.9

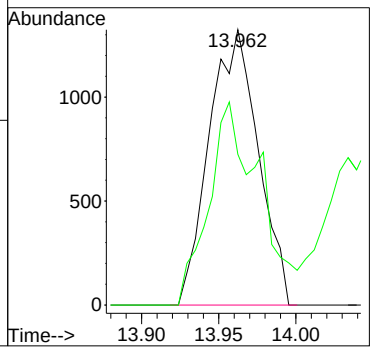


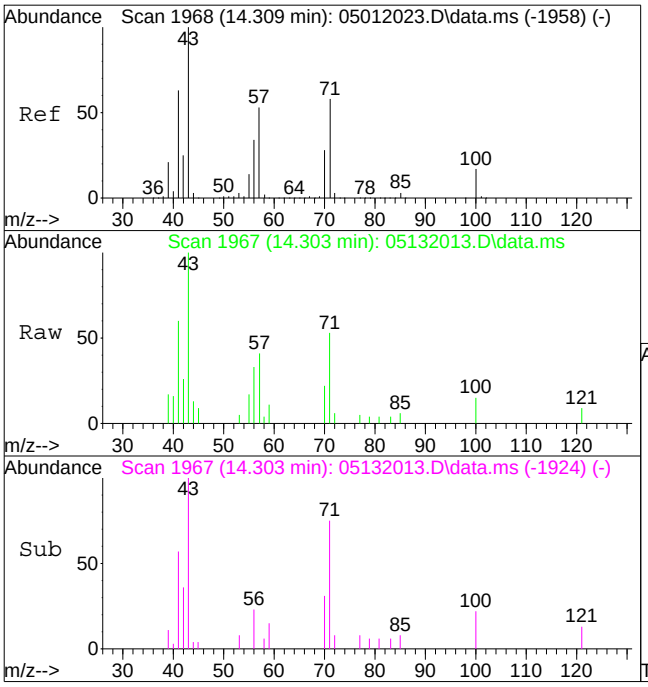


#48
1,4-Dioxane
Concen: 0.12 ng
RT: 13.96 min Scan# 1905
Delta R.T. 0.011 min
Lab File: 05132013.D
Acq: 14 May 2020 1:34

Tgt Ion: 88 Resp: 2926

Ion	Ratio	Lower	Upper
88	100		
58	77.3	42.8	82.8

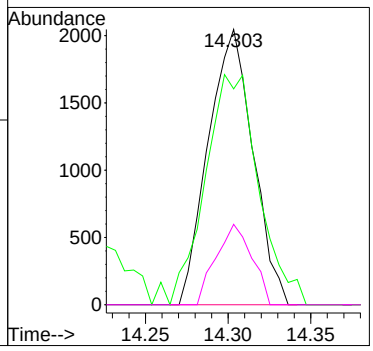


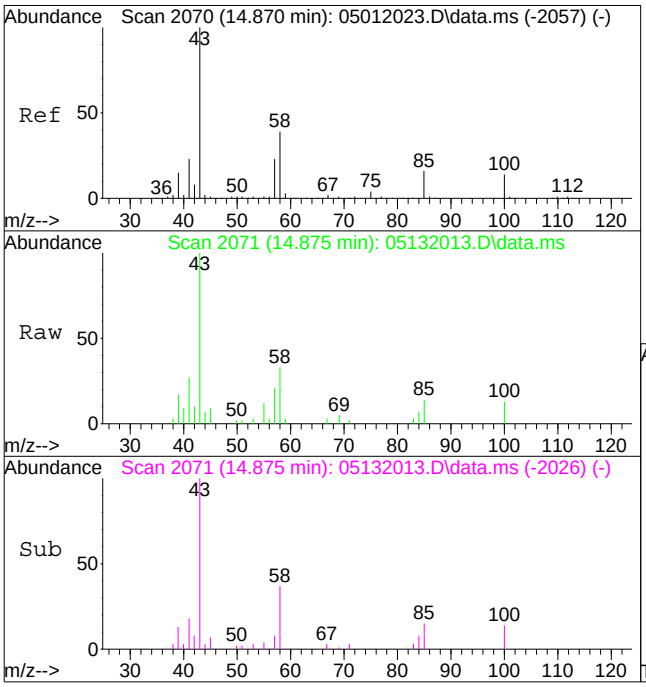


#51
n-Heptane
Concen: 0.14 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05132013.D
Acq: 14 May 2020 1:34

Tgt Ion: 71 Resp: 3856

Ion	Ratio	Lower	Upper
71	100		
57	100.9	71.0	111.0
100	23.4	8.4	48.4

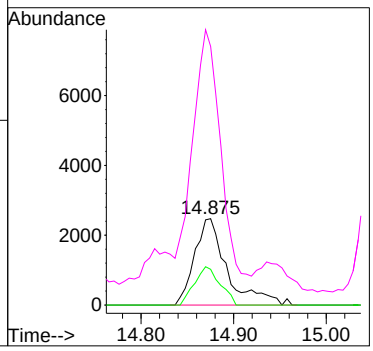


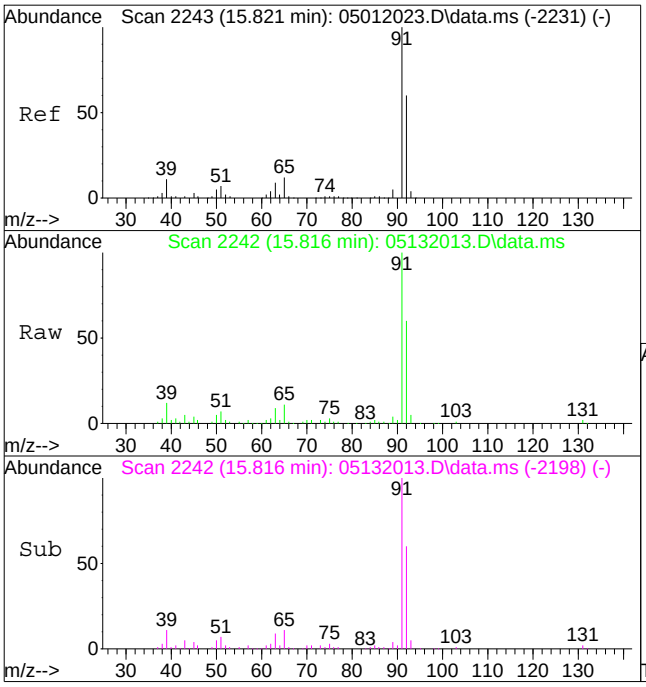


#53
4-Methyl-2-pentanone
Concen: 0.22 ng
RT: 14.88 min Scan# 2071
Delta R.T. -0.000 min
Lab File: 05132013.D
Acq: 14 May 2020 1:34

Tgt Ion: 58 Resp: 6055

Ion	Ratio	Lower	Upper
58	100		
85	34.7	35.4	53.2#
43	233.9	203.3	304.9

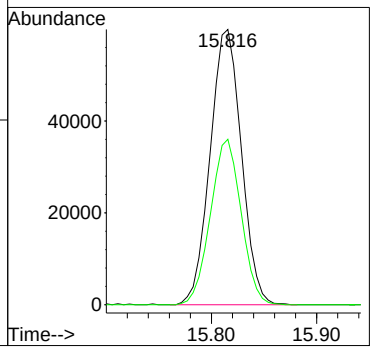


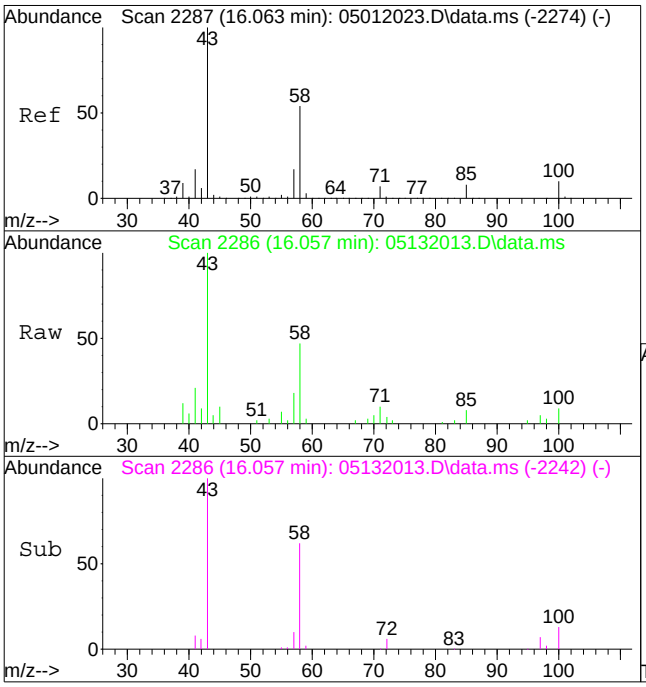


#58
Toluene
Concen: 1.05 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05132013.D
Acq: 14 May 2020 1:34

Tgt Ion: 91 Resp: 124051

Ion	Ratio	Lower	Upper
91	100		
92	58.9	39.4	79.4

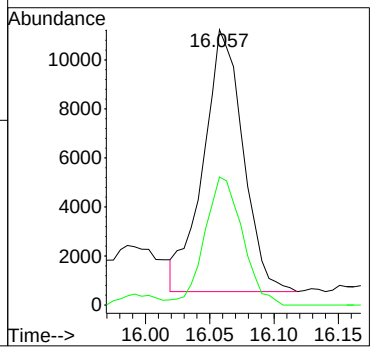


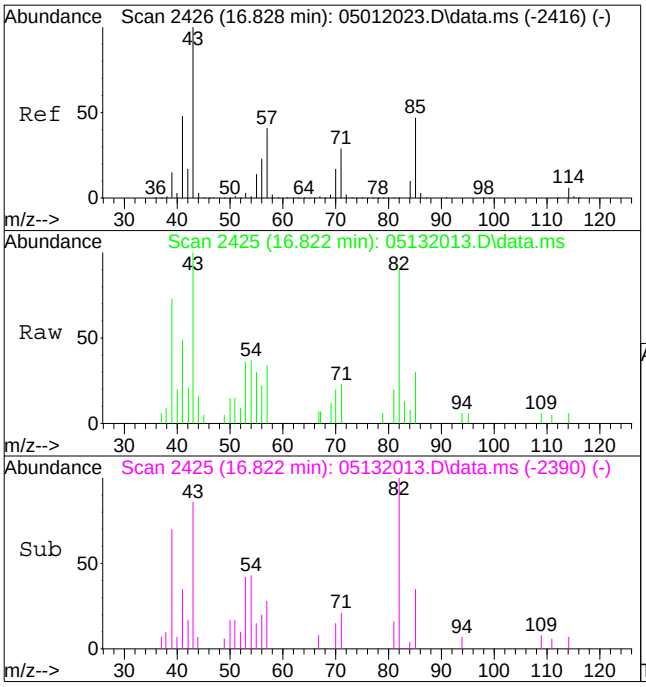


#59
2-Hexanone
Concen: 0.36 ng
RT: 16.06 min Scan# 2286
Delta R.T. -0.006 min
Lab File: 05132013.D
Acq: 14 May 2020 1:34

Tgt Ion: 43 Resp: 23043

Ion	Ratio	Lower	Upper
43	100		
58	46.2	34.5	74.5

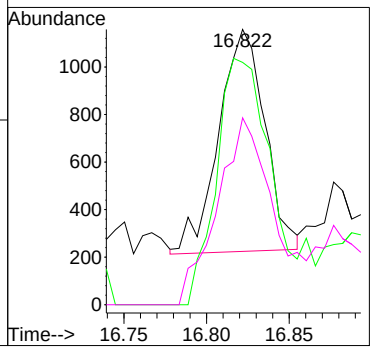


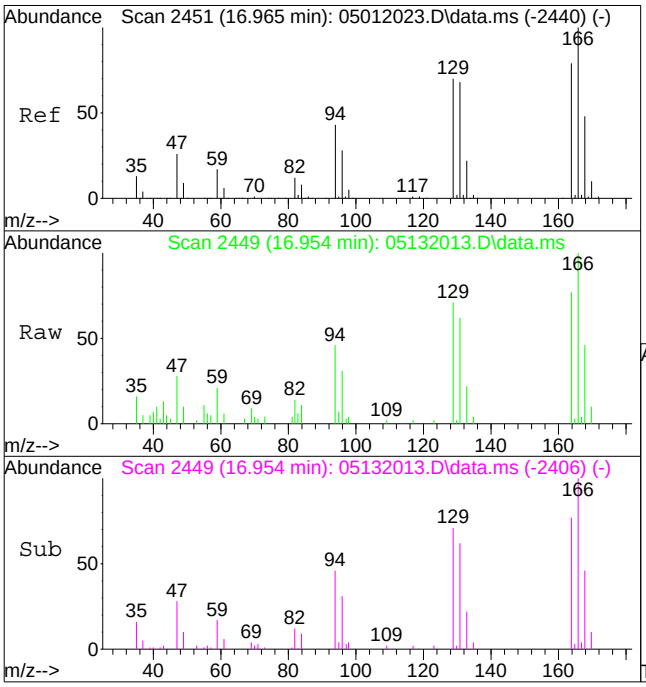


#63
n-Octane
Concen: 0.07 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05132013.D
Acq: 14 May 2020 1:34

Tgt Ion: 57 Resp: 1819

Ion	Ratio	Lower	Upper
57	100		
85	136.3	91.0	136.4
71	101.4	56.2	84.2#

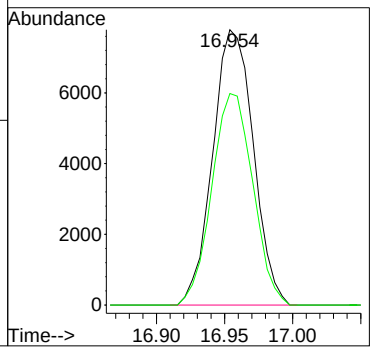


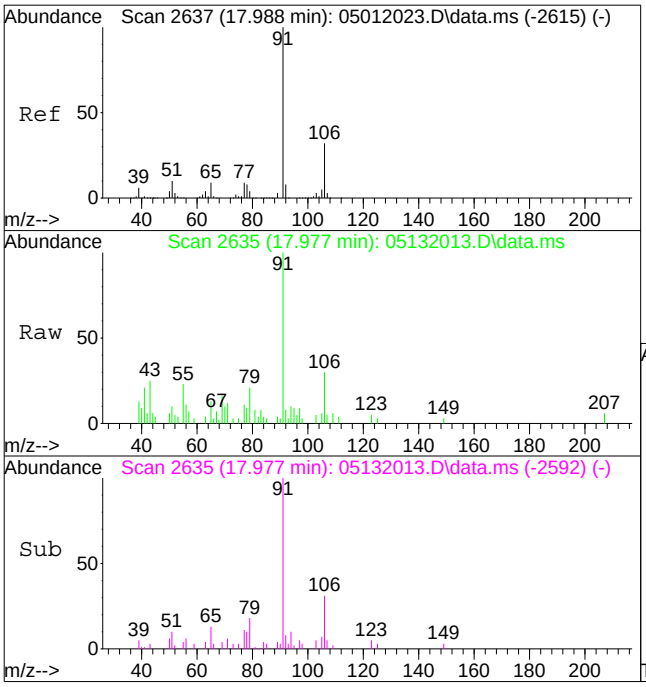


#64
Tetrachloroethene
Concen: 0.48 ng
RT: 16.95 min Scan# 2449
Delta R.T. -0.011 min
Lab File: 05132013.D
Acq: 14 May 2020 1:34

Tgt Ion:166 Resp: 16180

Ion	Ratio	Lower	Upper
166	100		
164	77.3	58.4	98.4

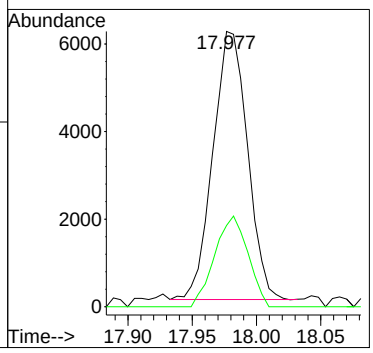


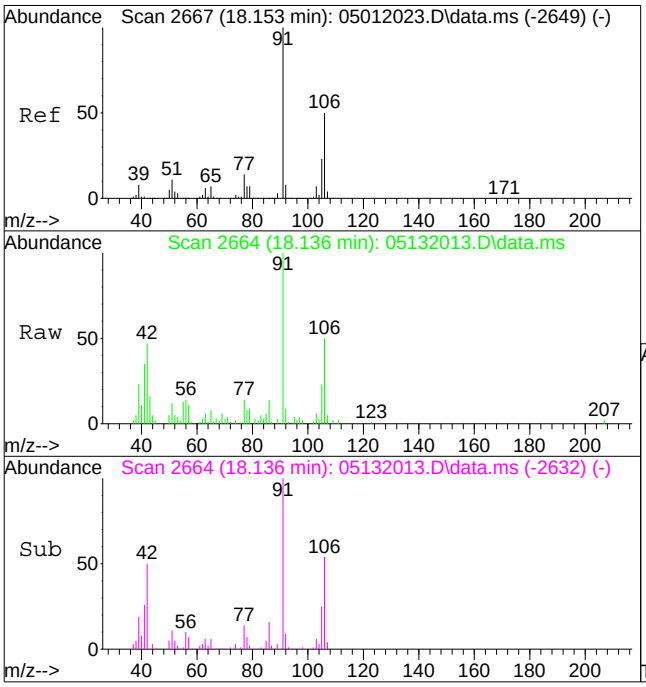


#66
Ethylbenzene
Concen: 0.09 ng
RT: 17.98 min Scan# 2635
Delta R.T. -0.011 min
Lab File: 05132013.D
Acq: 14 May 2020 1:34

Tgt Ion: 91 Resp: 11455

Ion	Ratio	Lower	Upper
91	100		
106	32.4	11.6	51.6

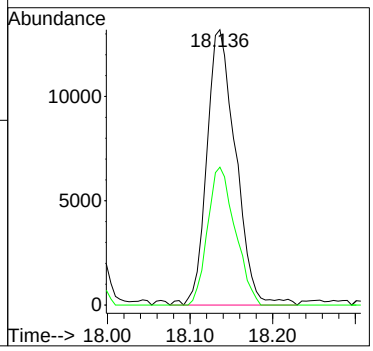


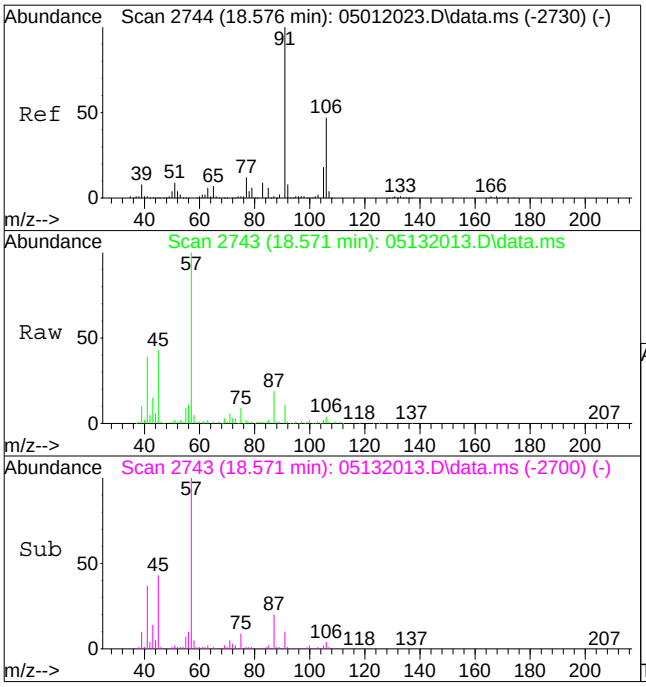


#67
m- & p-Xylenes
Concen: 0.31 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05132013.D
Acq: 14 May 2020 1:34

Tgt Ion: 91 Resp: 32046

Ion	Ratio	Lower	Upper
91	100		
106	47.8	29.7	69.7

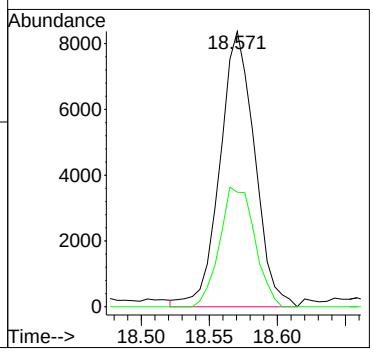


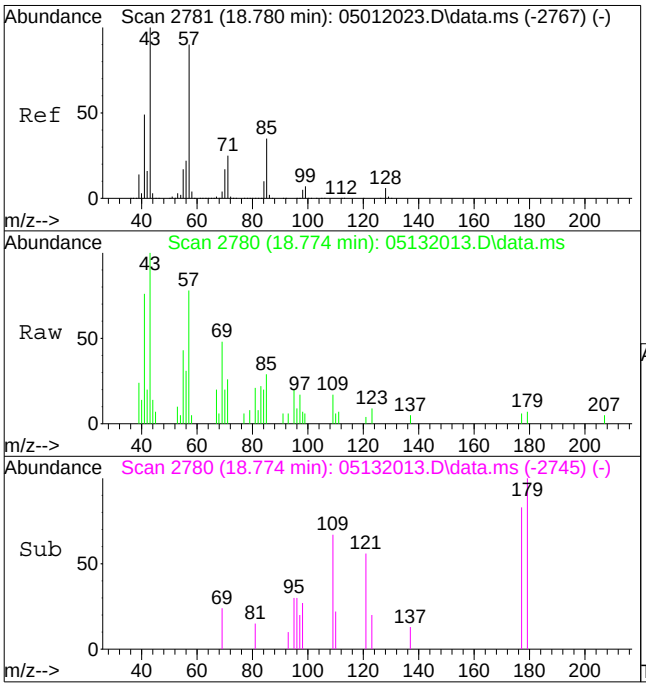


#70
o-Xylene
Concen: 0.14 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05132013.D
Acq: 14 May 2020 1:34

Tgt Ion: 91 Resp: 14828

Ion	Ratio	Lower	Upper
91	100		
106	43.9	27.5	67.5

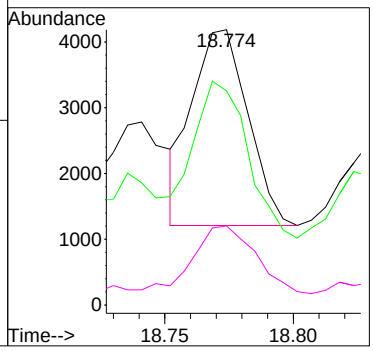


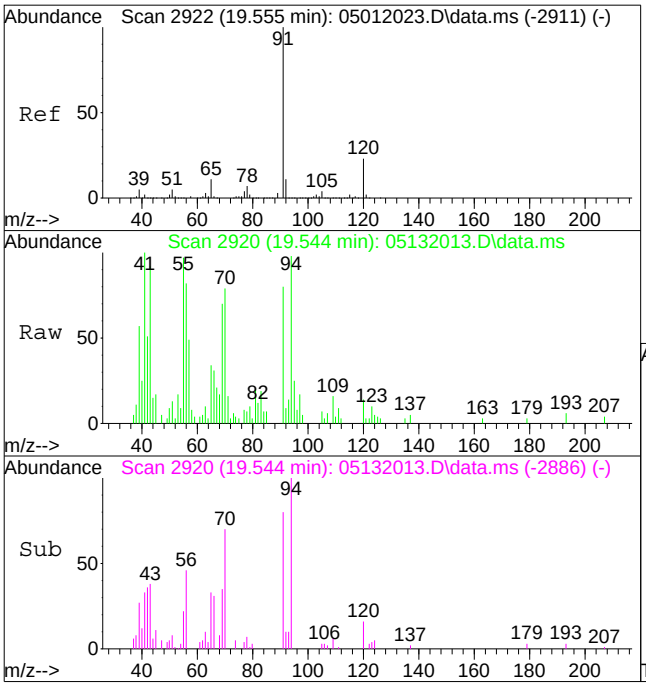


#71
n-Nonane
Concen: 0.08 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05132013.D
Acq: 14 May 2020 1:34

Tgt Ion: 43 Resp: 4499

Ion	Ratio	Lower	Upper
43	100		
57	82.1	69.0	109.0
85	38.7	14.6	54.6

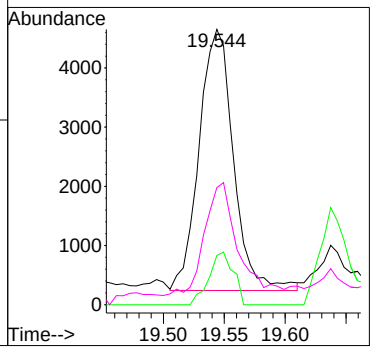


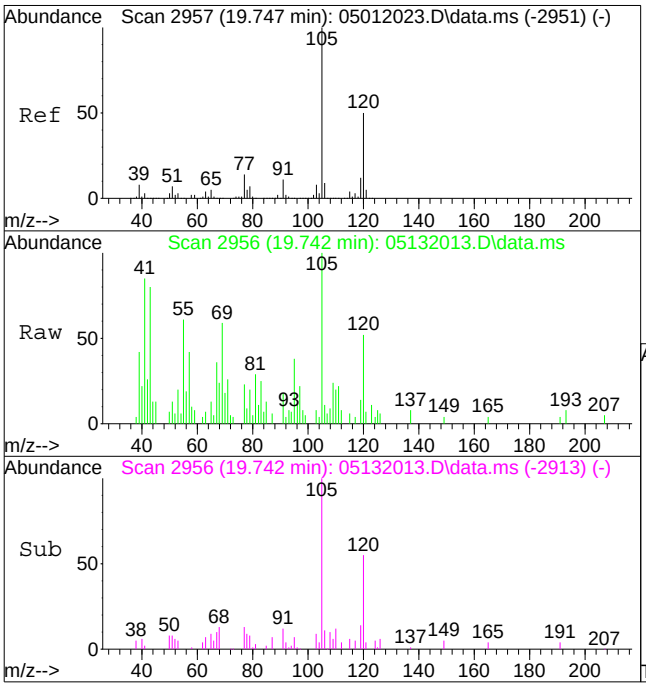


#76
n-Propylbenzene
Concen: 0.06 ng
RT: 19.54 min Scan# 2920
Delta R.T. -0.011 min
Lab File: 05132013.D
Acq: 14 May 2020 1:34

Tgt Ion: 91 Resp: 8673

Ion	Ratio	Lower	Upper
91	100		
120	14.2	3.1	43.1
65	44.1	0.0	30.9#

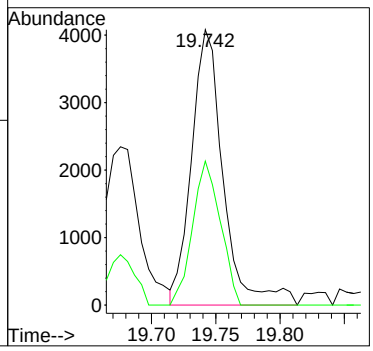


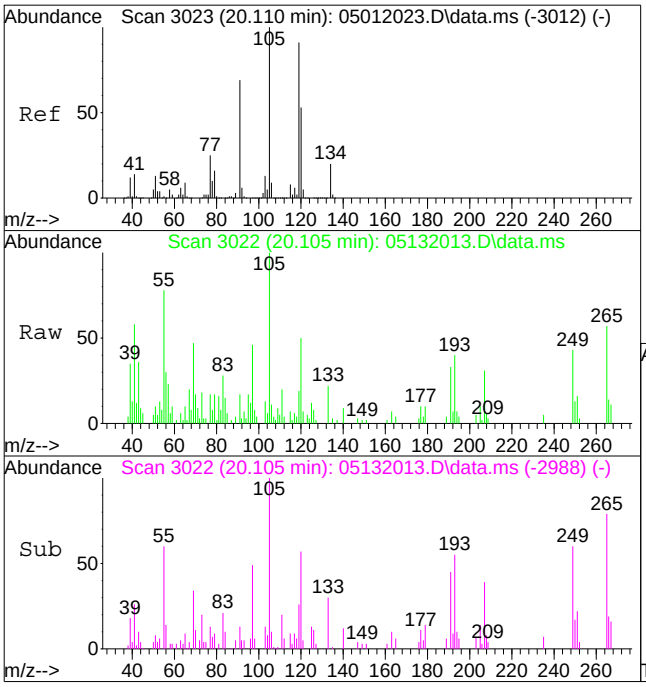


#79
1,3,5-Trimethylbenzene
Concen: 0.07 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05132013.D
Acq: 14 May 2020 1:34

Tgt Ion:105 Resp: 6973

Ion	Ratio	Lower	Upper
105	100		
120	46.0	29.9	69.9

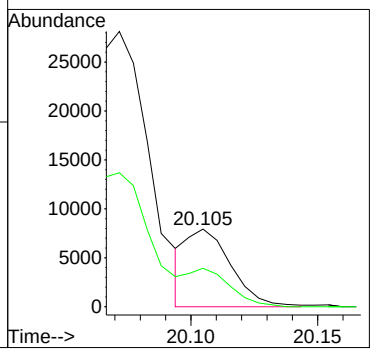


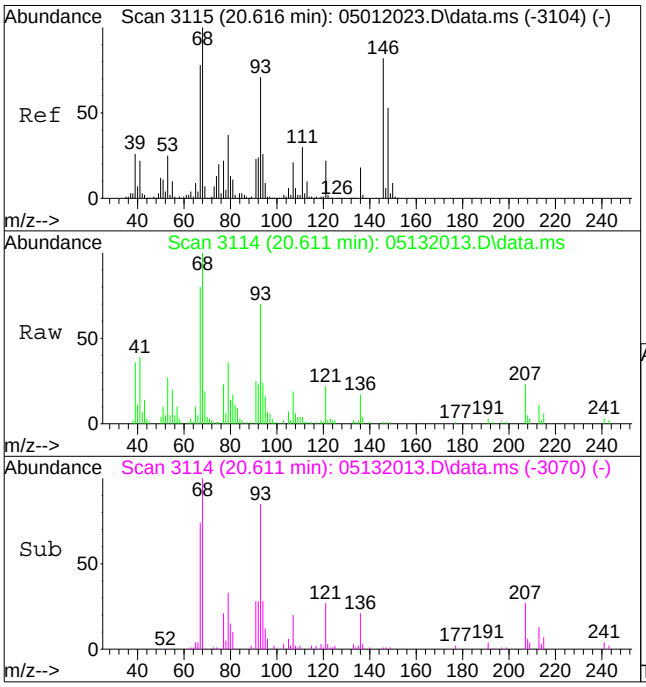


#82
1,2,4-Trimethylbenzene
Concen: 0.09 ng m
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05132013.D
Acq: 14 May 2020 1:34

Tgt Ion:105 Resp: 9832

Ion	Ratio	Lower	Upper
105	100		
120	294.7	33.6	73.6#

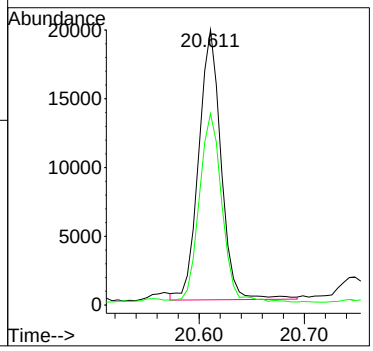




#91
d-Limonene
Concen: 0.69 ng
RT: 20.61 min Scan# 3114
Delta R.T. -0.006 min
Lab File: 05132013.D
Acq: 14 May 2020 1:34

Tgt Ion: 68 Resp: 28980

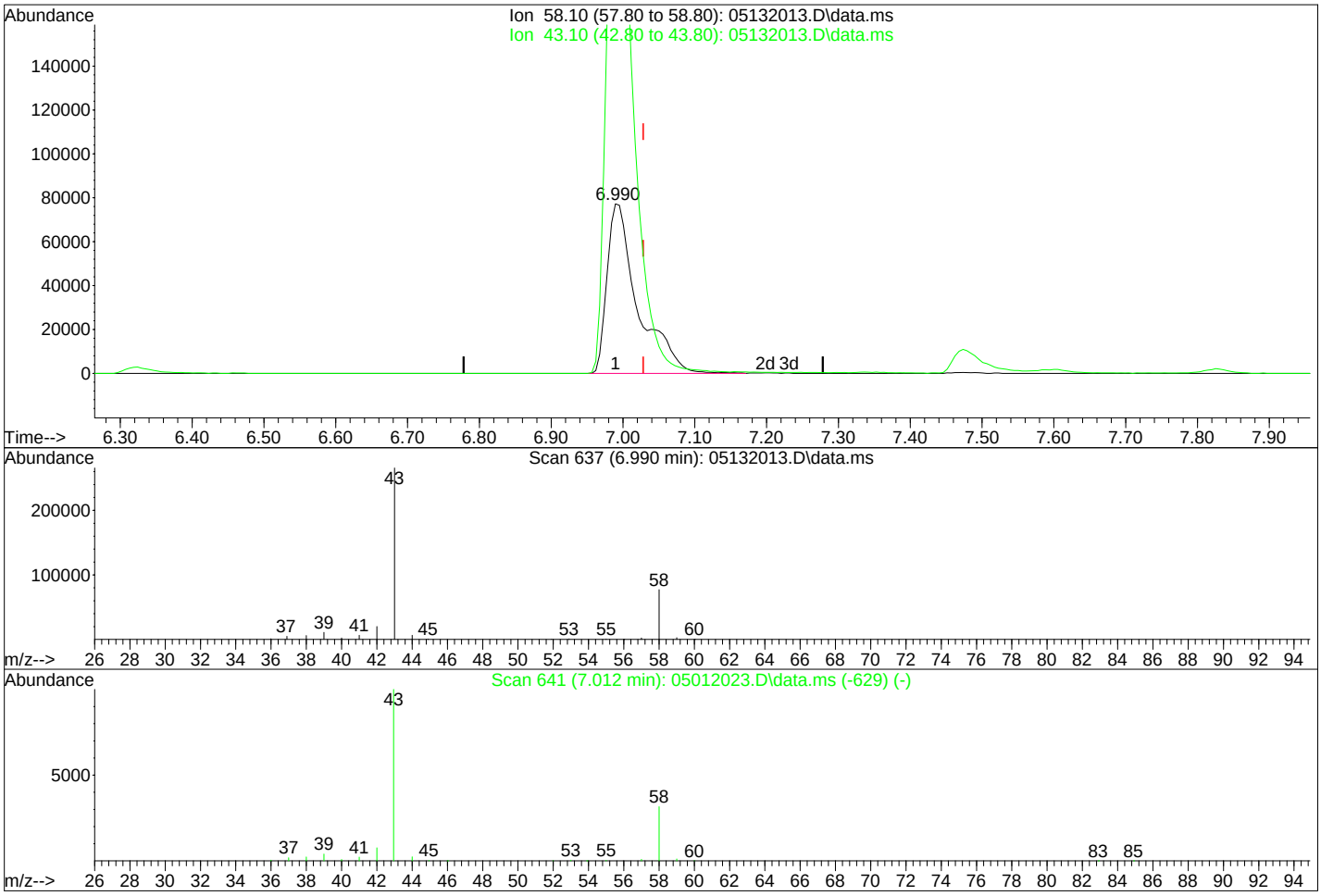
Ion	Ratio	Lower	Upper
68	100		
93	70.6	51.1	91.1



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\13\05132013.D Vial: 7
Acq On : 14 May 2020 1:34 Operator: LH
Sample : P2002301-004 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 13:02:35 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05132013.D\data.ms

(13) Acetone (T)

6.990min (-0.039) 9.73ng

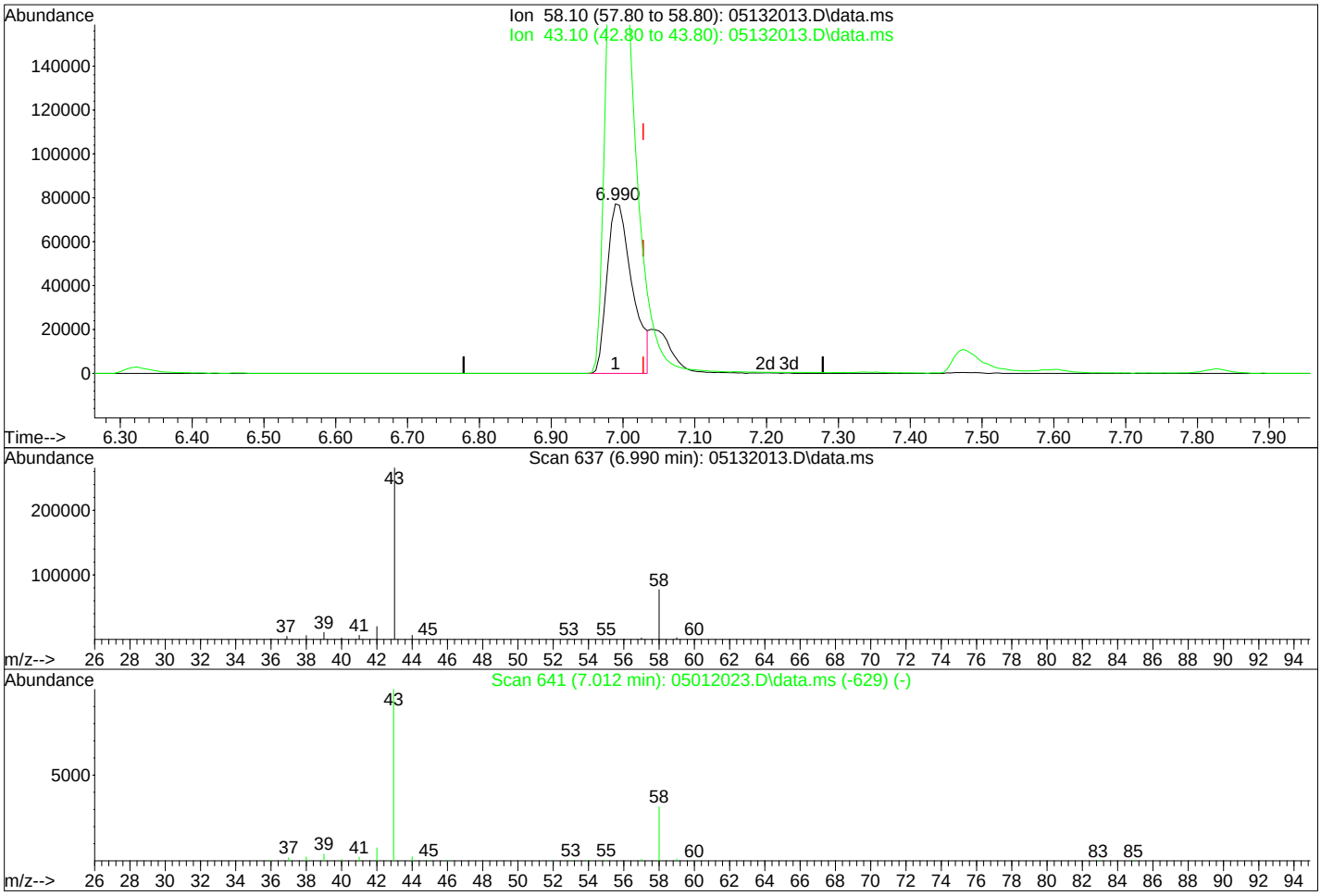
response 230180

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	285.50#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\13\05132013.D Vial: 7
Acq On : 14 May 2020 1:34 Operator: LH
Sample : P2002301-004 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 13:02:35 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05132013.D\data.ms

(13) Acetone (T)

6.990min (-0.039) 7.93ng m

response 187720

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	350.08
0.00	0.00	0.00
0.00	0.00	0.00

IPC

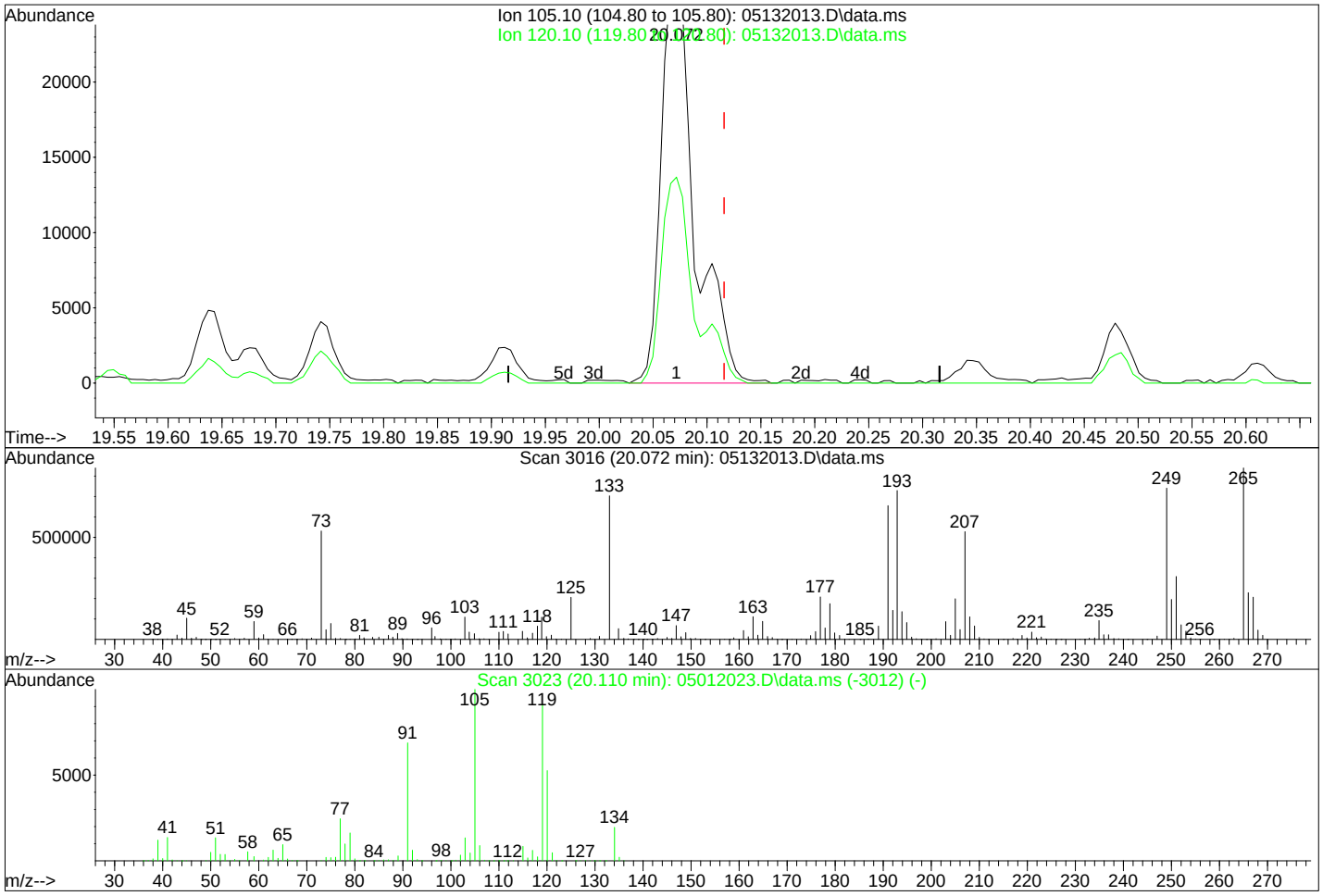
LH 5/14/20

5/15/20

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\13\05132013.D Vial: 7
Acq On : 14 May 2020 1:34 Operator: LH
Sample : P2002301-004 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 13:02:35 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05132013.D\data.ms

(82) 1,2,4-Trimethylbenzene (T)

20.072min (-0.044) 0.55ng

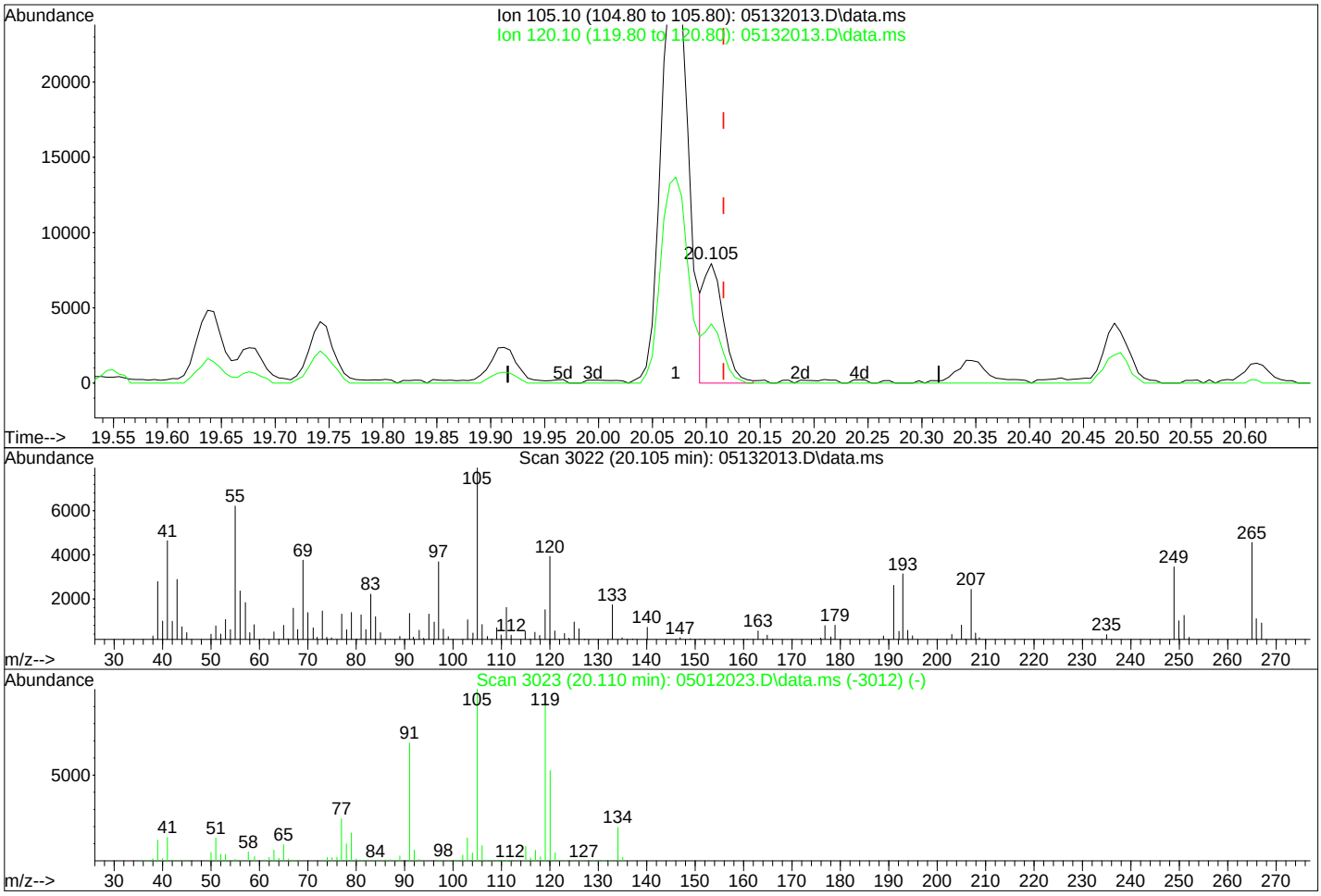
response 58815

Ion	Exp%	Act%
105.10	100	100
120.10	53.60	49.26
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\13\05132013.D Vial: 7
Acq On : 14 May 2020 1:34 Operator: LH
Sample : P2002301-004 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 13:02:35 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05132013.D\data.ms

(82) 1,2,4-Trimethylbenzene (T)

20.105min (-0.011) 0.09ng m

response 9832

Ion	Exp%	Act%
105.10	100	100
120.10	53.60	294.69#
0.00	0.00	0.00
0.00	0.00	0.00

IPC

LH 5/14/20

5/15/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132014.D Vial: 8
Acq On : 14 May 2020 2:07 Operator: LH
Sample : P2002301-005 (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:32:44 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/14/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	301261	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1293248	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	665038	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	490640	12.017	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.16%				
57) Toluene-d8 (SS2)	15.72	98	1364912	12.109	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.88%				
73) Bromofluorobenzene (SS3)	18.98	174	514379	12.682	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.44%				
Target Compounds							Qvalue
2) Propene	4.11	42	9360	0.268	ng	#	86
3) Dichlorodifluoromethan...	4.27	85	1652	N.D.			
4) Chloromethane	4.54	50	10404	0.195	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	4.96	62	2170	N.D.			
7) 1,3-Butadiene	5.15	54	710	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.98	64	705	N.D.			
10) Ethanol	6.31	45	31286	1.161	ng		100
11) Acetonitrile	6.59	41	562	N.D.			
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	7.23	101	490	N.D.			
15) 2-Propanol (Isopropanol)	7.48	45	92103	1.129	ng		93
16) Acrylonitrile	7.83	53	1167	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	986	N.D.			
20) 3-Chloro-1-propene (Al...	8.50	41	854	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.68	76	100722	0.803	ng		100
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	9.93	63	1480	N.D.			
25) Methyl tert-Butyl Ether	10.05	73	657	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.46	72	12157	0.529	ng	#	90
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.25	87	469	N.D.			
30) Ethyl Acetate	11.28	61	3330	0.251	ng		91
31) n-Hexane	11.26	57	56338	0.980	ng		99
32) Chloroform	11.30	83	444	N.D.			
34) Tetrahydrofuran (THF)	11.75	72	2794	0.125	ng	#	68
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	965	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	1644239	11.856	ng		100
42) Carbon Tetrachloride	13.03	117	409	N.D.			
43) Cyclohexane	13.17	84	88324	1.709	ng		98
44) tert-Amyl Methyl Ether	13.45	73	192	N.D.			
45) 1,2-Dichloropropane	13.64	63	214	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	13.97	130	6440	0.180	ng		99
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132014.D Vial: 8
Acq On : 14 May 2020 2:07 Operator: LH
Sample : P2002301-005 (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:32:44 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

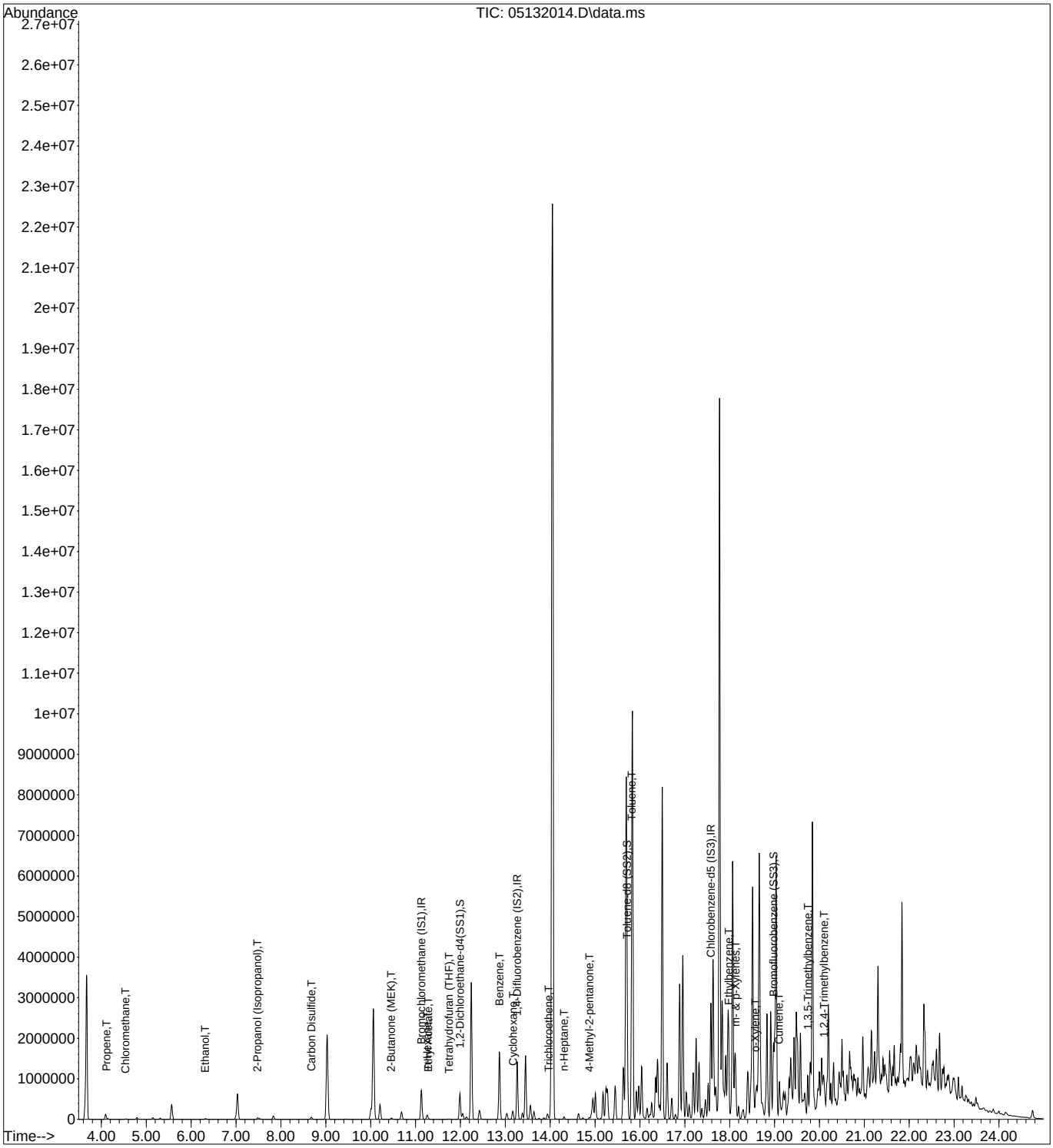
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	15159	0.467 ng	95
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.88	58	7902	0.256 ng	89
54) trans-1,3-Dichloropropene	0.00	75	0	N.D. d	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	15.82	91	1754822	12.077 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	16.49	107	399	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	0.00	57	0	N.D. d	
64) Tetrachloroethene	16.96	166	770	N.D.	
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	17.98	91	79315	0.490 ng	96
67) m- & p-Xylenes	18.14	91	148872	1.158 ng	99
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	1843	N.D.	
70) o-Xylene	18.57	91	50287	0.385 ng	96
71) n-Nonane	0.00	43	0	N.D. d	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	19.10	105	12132	0.076 ng	99
75) alpha-Pinene	19.44	93	3076	N.D.	
76) n-Propylbenzene	0.00	91	0	N.D. d	
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.68	105	2840	N.D.	
79) 1,3,5-Trimethylbenzene	19.74	105	9760	0.075 ng	94
80) alpha-Methylstyrene	19.88	118	1295	N.D.	
81) 2-Ethyltoluene	19.91	105	4128	N.D.	
82) 1,2,4-Trimethylbenzene	20.10	105	7602	0.058 ng	100
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	0.00	91	0	N.D. d	
85) 1,3-Dichlorobenzene	20.24	146	184	N.D.	
86) 1,4-Dichlorobenzene	20.29	146	310	N.D.	
87) sec-Butylbenzene	20.35	105	3205	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	1110	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	4085	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D. d	
95) Naphthalene	22.21	128	4641	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.10	119	2527	N.D.	
100) n-Butylbenzene	20.86	91	6367	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132014.D Vial: 8
Acq On : 14 May 2020 2:07 Operator: LH
Sample : P2002301-005 (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:32:44 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132014.D Vial: 8
Acq On : 14 May 2020 2:07 Operator: LH
Sample : P2002301-005 (20mL) Inst : GCMS-16
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Quant Time: May 14 17:32:44 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/14/20

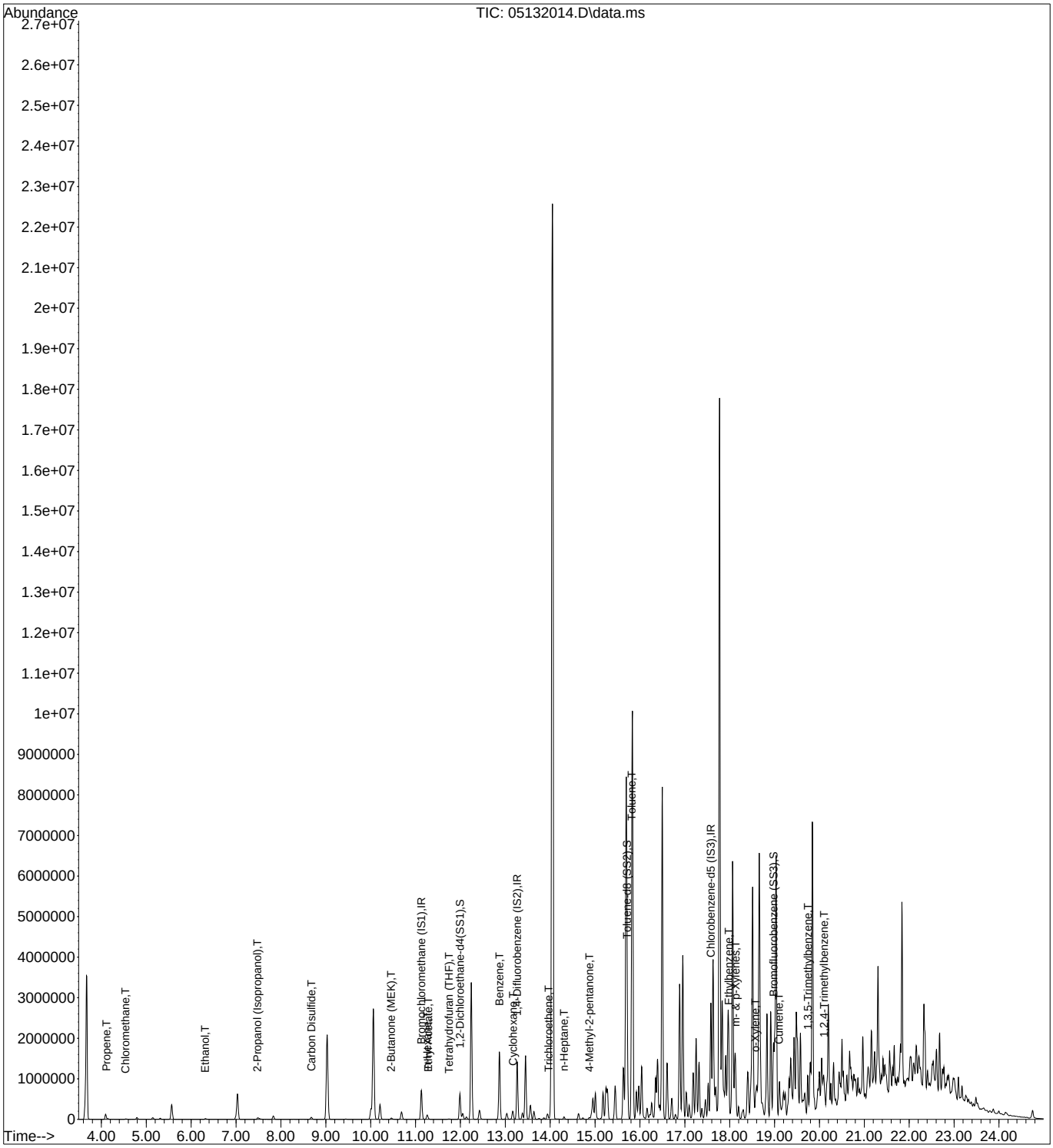
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	301261	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1293248	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	665038	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	490640	12.017	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.16%				
57) Toluene-d8 (SS2)	15.72	98	1364912	12.109	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.88%				
73) Bromofluorobenzene (SS3)	18.98	174	514379	12.682	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.44%				
Target Compounds							Qvalue
2) Propene	4.11	42	9360	0.268	ng	#	86
4) Chloromethane	4.54	50	10404	0.195	ng		100
10) Ethanol	6.31	45	31286	1.161	ng		100
15) 2-Propanol (Isopropanol)	7.48	45	92103	1.129	ng		93
22) Carbon Disulfide	8.68	76	100722	0.803	ng		100
27) 2-Butanone (MEK)	10.46	72	12157	0.529	ng	#	90
30) Ethyl Acetate	11.28	61	3330	0.251	ng		91
31) n-Hexane	11.26	57	56338	0.980	ng		99
34) Tetrahydrofuran (THF)	11.75	72	2794	0.125	ng	#	68
41) Benzene	12.87	78	1644239	11.856	ng		100
43) Cyclohexane	13.17	84	88324	1.709	ng		98
47) Trichloroethene	13.97	130	6440	0.180	ng		99
51) n-Heptane	14.31	71	15159	0.467	ng		95
53) 4-Methyl-2-pentanone	14.88	58	7902	0.256	ng		89
58) Toluene	15.82	91	1754822	12.077	ng		100
66) Ethylbenzene	17.98	91	79315	0.490	ng		96
67) m- & p-Xylenes	18.14	91	148872	1.158	ng		99
70) o-Xylene	18.57	91	50287	0.385	ng		96
74) Cumene	19.10	105	12132	0.076	ng		99
79) 1,3,5-Trimethylbenzene	19.74	105	9760	0.075	ng		94
82) 1,2,4-Trimethylbenzene	20.10	105	7602	0.058	ng		100

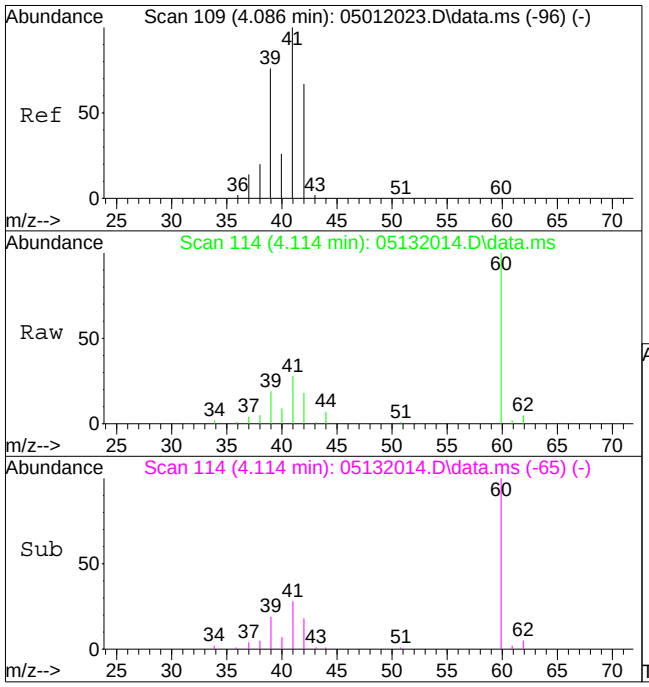
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132014.D Vial: 8
Acq On : 14 May 2020 2:07 Operator: LH
Sample : P2002301-005 (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:32:44 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

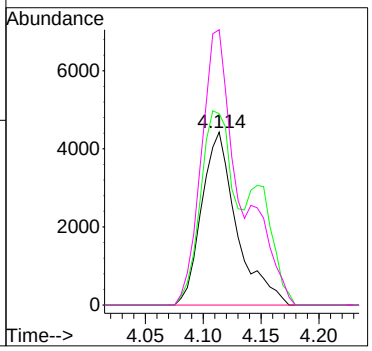


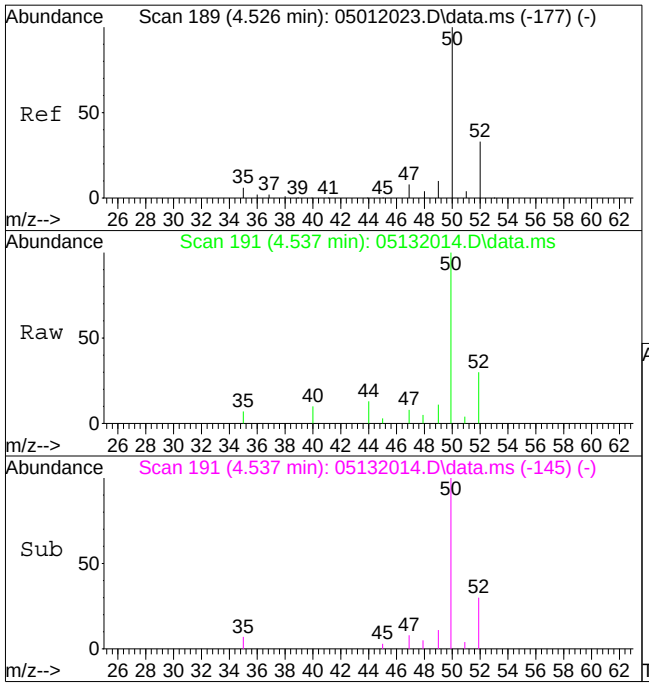


#2
Propene
Concen: 0.27 ng
RT: 4.11 min Scan# 114
Delta R.T. 0.022 min
Lab File: 05132014.D
Acq: 14 May 2020 2:07

Tgt Ion: 42 Resp: 9360

Ion	Ratio	Lower	Upper
42	100		
39	110.5	96.1	136.1
41	177.9	131.9	171.9#

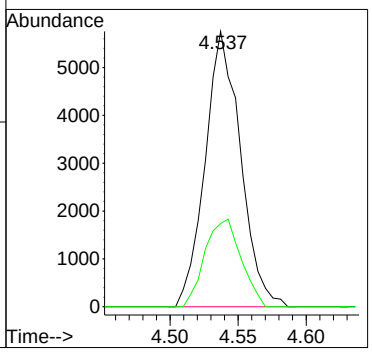


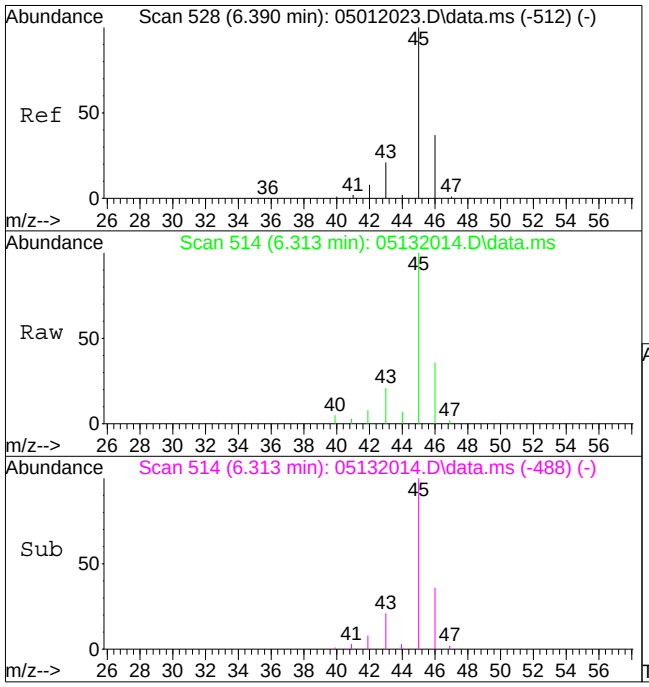


#4
Chloromethane
Concen: 0.19 ng
RT: 4.54 min Scan# 191
Delta R.T. 0.005 min
Lab File: 05132014.D
Acq: 14 May 2020 2:07

Tgt Ion: 50 Resp: 10404

Ion	Ratio	Lower	Upper
50	100		
52	32.5	12.5	52.5

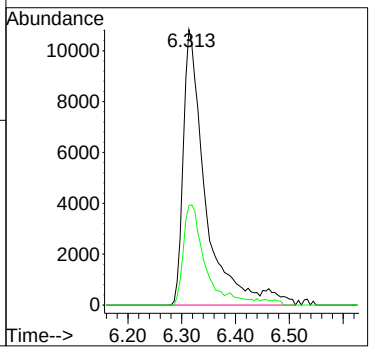


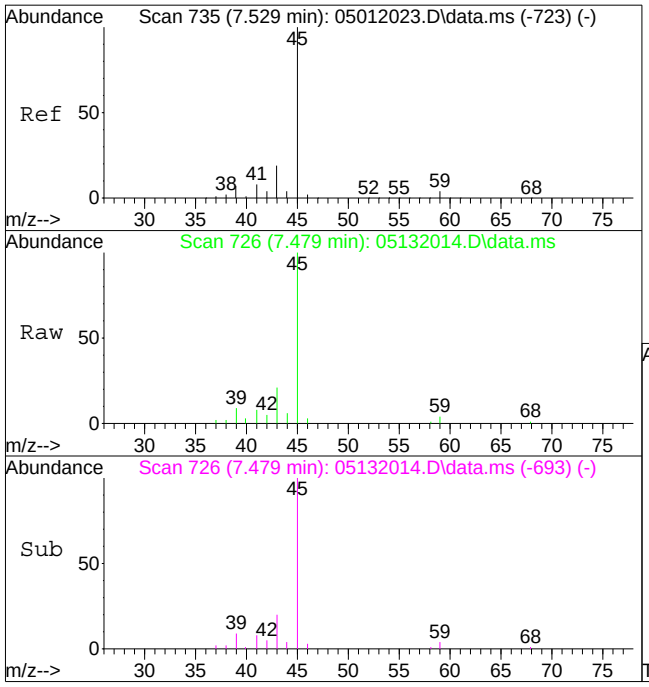


#10
Ethanol
Concen: 1.16 ng
RT: 6.31 min Scan# 514
Delta R.T. -0.105 min
Lab File: 05132014.D
Acq: 14 May 2020 2:07

Tgt Ion: 45 Resp: 31286

Ion	Ratio	Lower	Upper
45	100		
46	37.1	17.2	57.2

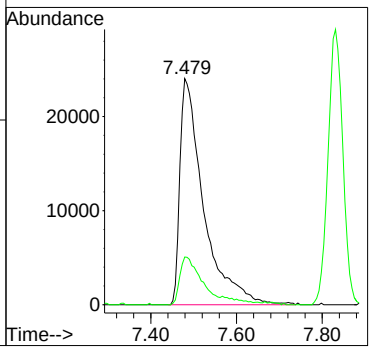


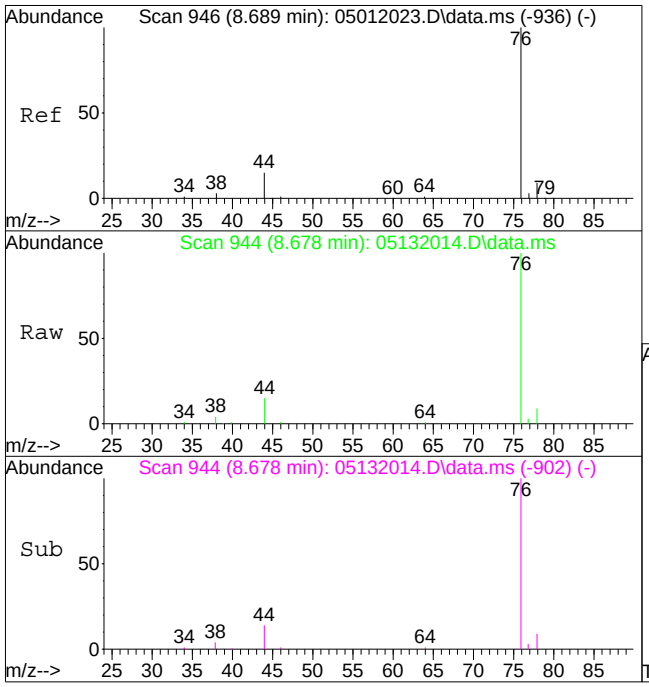


#15
2-Propanol (Isopropanol)
Concen: 1.13 ng
RT: 7.48 min Scan# 726
Delta R.T. -0.066 min
Lab File: 05132014.D
Acq: 14 May 2020 2:07

Tgt Ion: 45 Resp: 92103

Ion	Ratio	Lower	Upper
45	100		
43	22.6	0.0	39.5

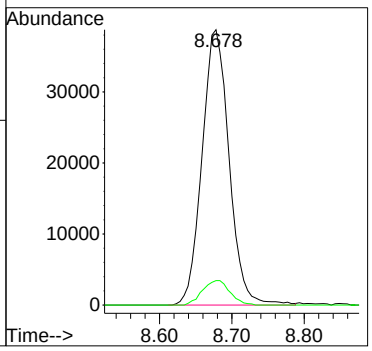


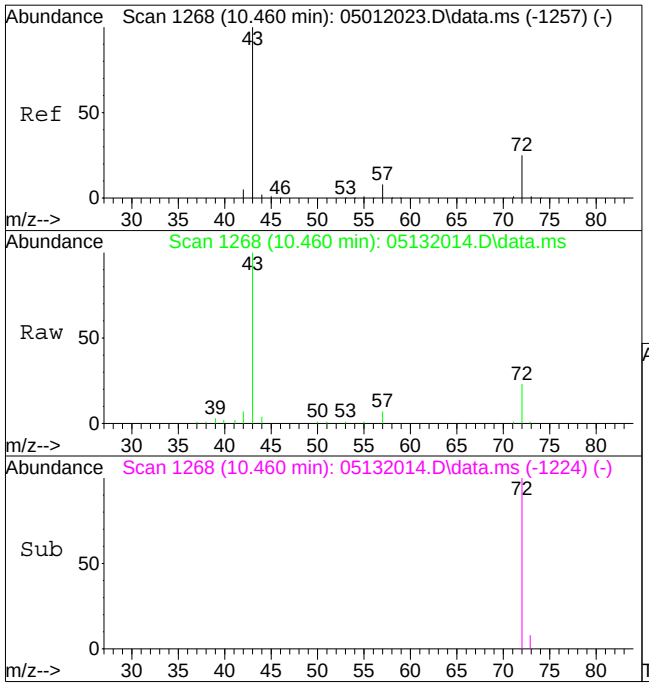


#22
Carbon Disulfide
Concen: 0.80 ng
RT: 8.68 min Scan# 944
Delta R.T. -0.017 min
Lab File: 05132014.D
Acq: 14 May 2020 2:07

Tgt Ion: 76 Resp: 100722

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	29.2

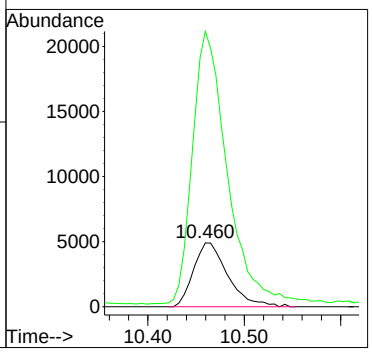


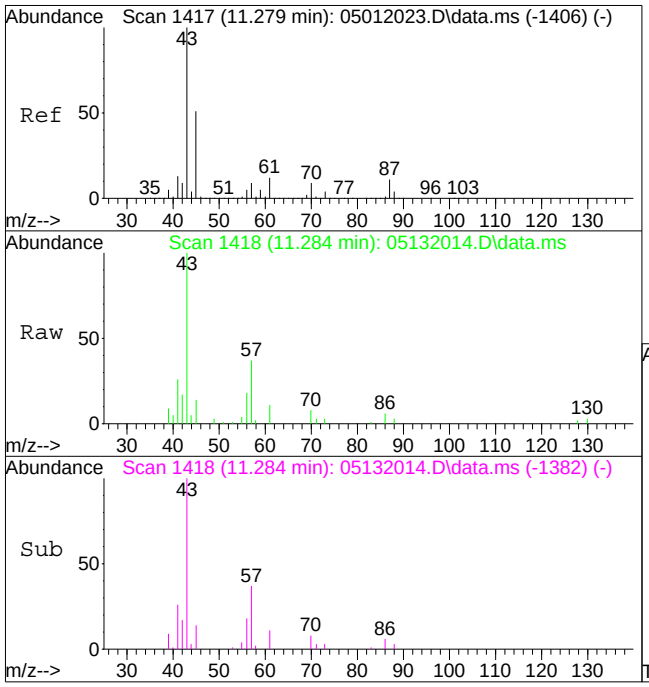


#27
2-Butanone (MEK)
Concen: 0.53 ng
RT: 10.46 min Scan# 1268
Delta R.T. -0.006 min
Lab File: 05132014.D
Acq: 14 May 2020 2:07

Tgt Ion: 72 Resp: 12157

Ion	Ratio	Lower	Upper
72	100		
43	434.9	389.7	429.7#

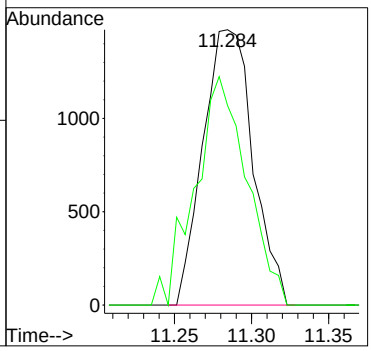


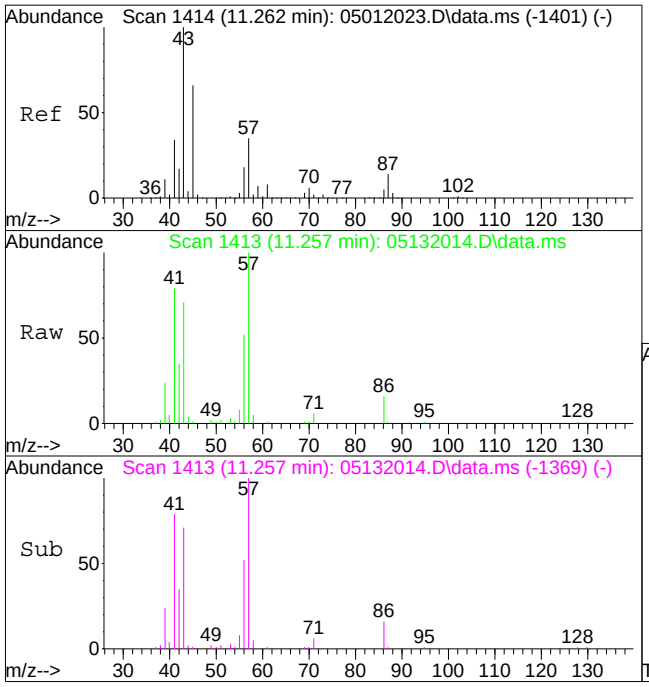


#30
Ethyl Acetate
Concen: 0.25 ng
RT: 11.28 min Scan# 1418
Delta R.T. -0.000 min
Lab File: 05132014.D
Acq: 14 May 2020 2:07

Tgt Ion: 61 Resp: 3330

Ion	Ratio	Lower	Upper
61	100		
70	85.8	57.9	97.9

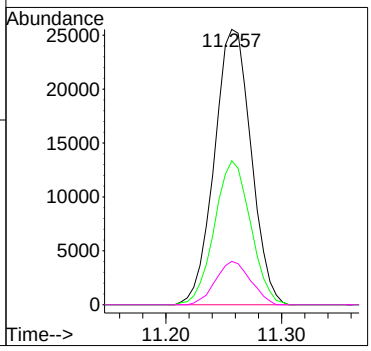


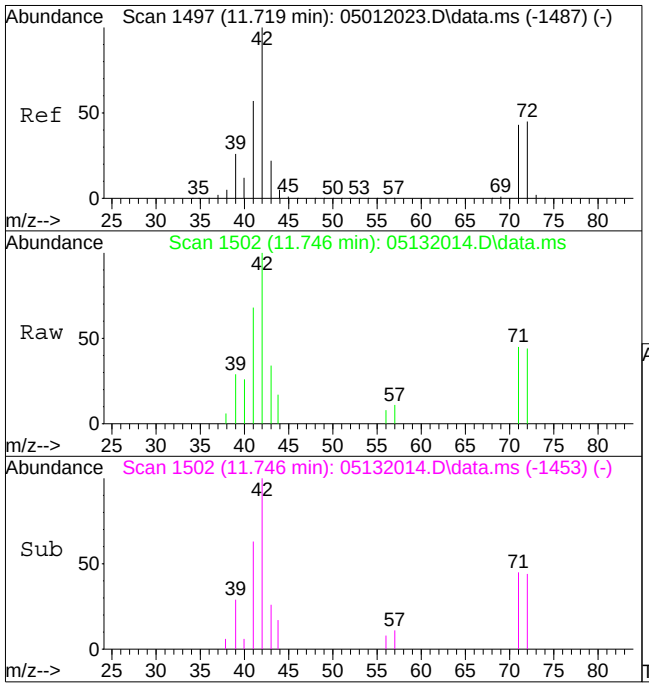


#31
n-Hexane
Concen: 0.98 ng
RT: 11.26 min Scan# 1413
Delta R.T. -0.006 min
Lab File: 05132014.D
Acq: 14 May 2020 2:07

Tgt Ion: 57 Resp: 56338

Ion	Ratio	Lower	Upper
57	100		
56	51.4	41.4	62.0
86	15.0	12.4	18.6

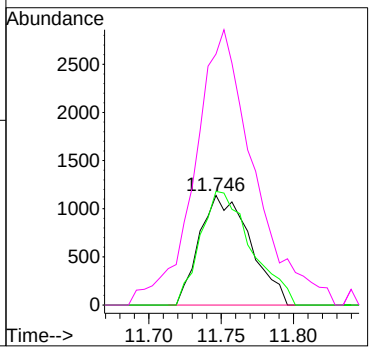


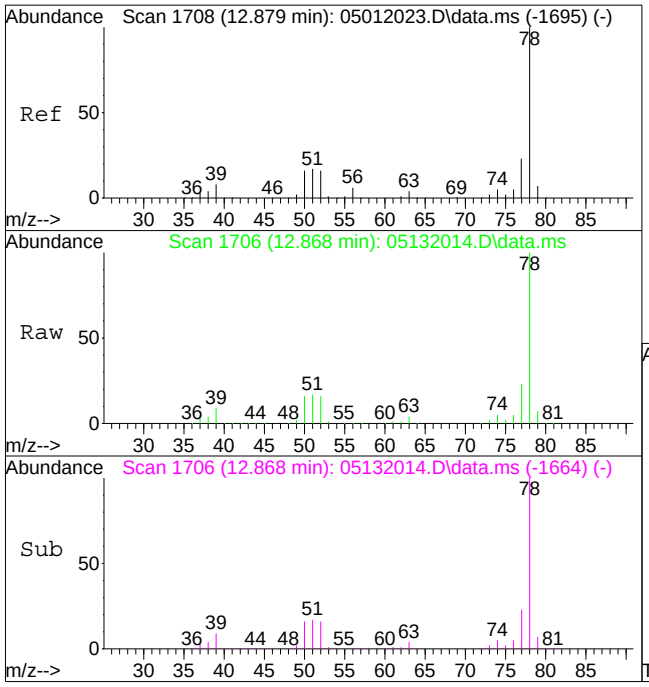


#34
Tetrahydrofuran (THF)
Concen: 0.12 ng
RT: 11.75 min Scan# 1502
Delta R.T. 0.022 min
Lab File: 05132014.D
Acq: 14 May 2020 2:07

Tgt Ion: 72 Resp: 2794

Ion	Ratio	Lower	Upper
72	100		
71	103.7	77.0	117.0
42	294.0	204.6	244.6#

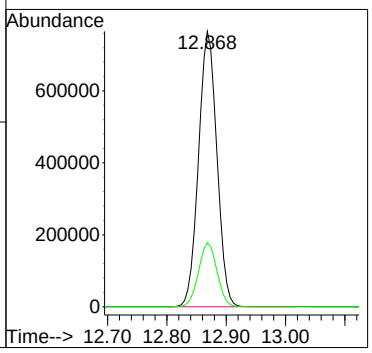


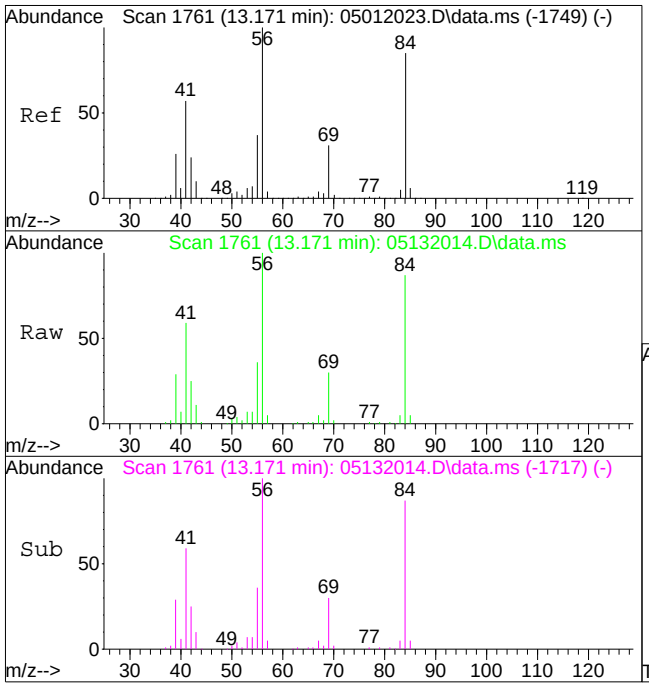


#41
Benzene
Concen: 11.86 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05132014.D
Acq: 14 May 2020 2:07

Tgt Ion: 78 Resp: 1644239

Ion	Ratio	Lower	Upper
78	100		
77	23.4	3.4	43.4

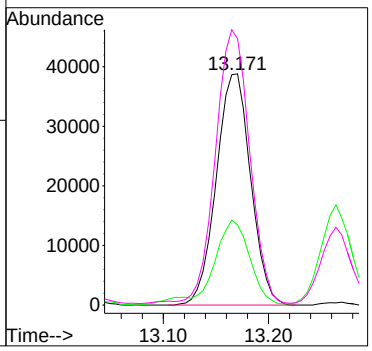


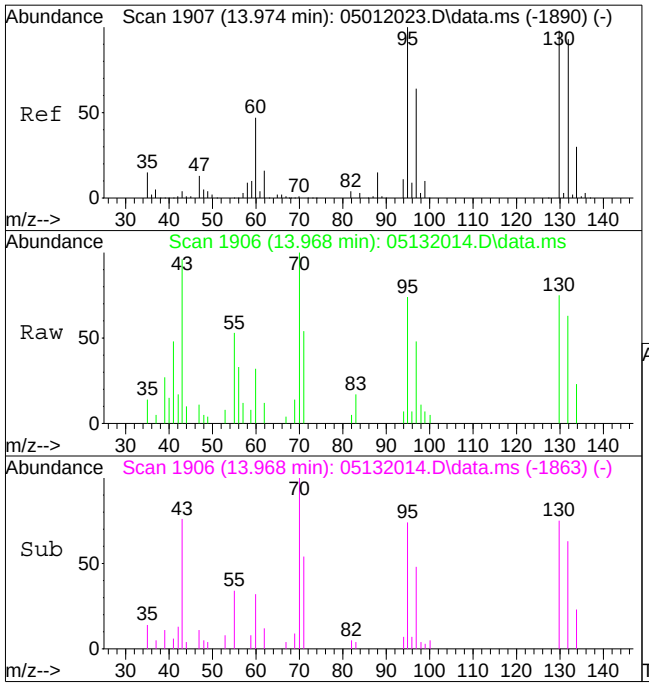


#43
Cyclohexane
Concen: 1.71 ng
RT: 13.17 min Scan# 1761
Delta R.T. -0.006 min
Lab File: 05132014.D
Acq: 14 May 2020 2:07

Tgt Ion: 84 Resp: 88324

Ion	Ratio	Lower	Upper
84	100		
69	39.0	16.5	56.5
56	118.7	97.4	137.4

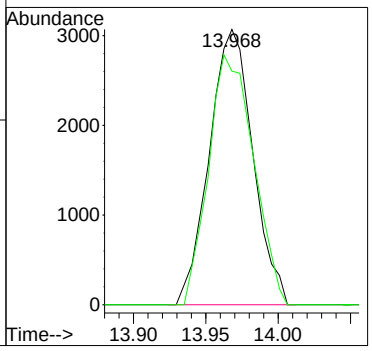


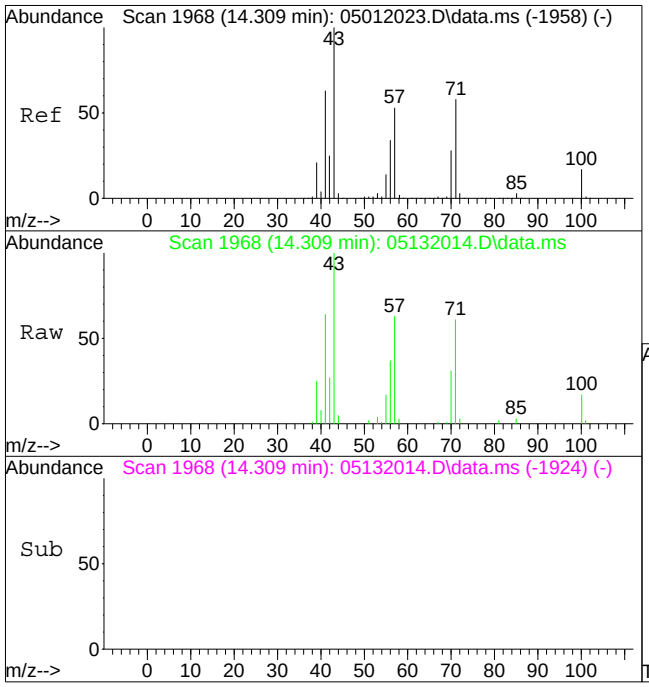


#47
Trichloroethene
Concen: 0.18 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05132014.D
Acq: 14 May 2020 2:07

Tgt Ion:130 Resp: 6440

Ion	Ratio	Lower	Upper
130	100		
132	93.7	74.9	114.9

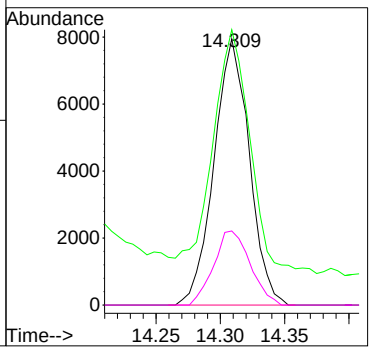


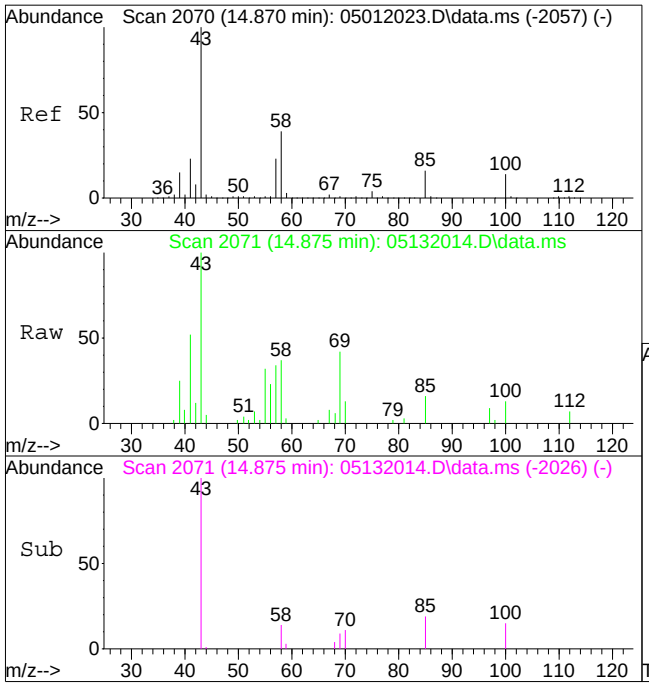


#51
n-Heptane
Concen: 0.47 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05132014.D
Acq: 14 May 2020 2:07

Tgt Ion: 71 Resp: 15159

Ion	Ratio	Lower	Upper
71	100		
57	97.3	71.0	111.0
100	28.8	8.4	48.4

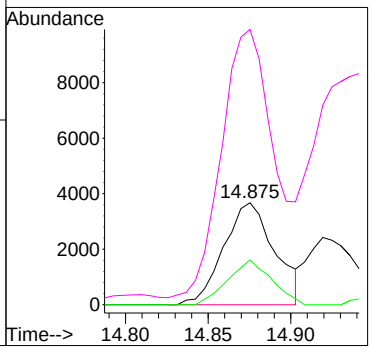


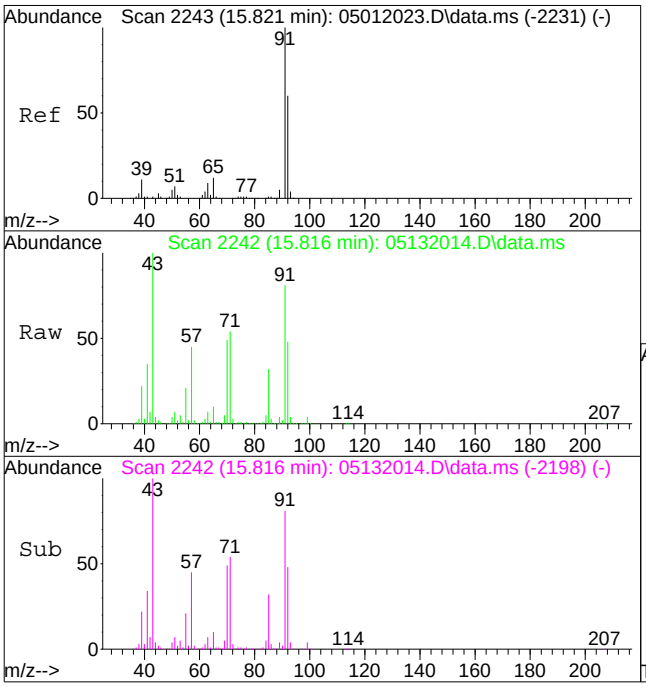


#53
4-Methyl-2-pentanone
Concen: 0.26 ng
RT: 14.88 min Scan# 2071
Delta R.T. -0.000 min
Lab File: 05132014.D
Acq: 14 May 2020 2:07

Tgt Ion: 58 Resp: 7902

Ion	Ratio	Lower	Upper
58	100		
85	37.5	35.4	53.2
43	272.7	203.3	304.9

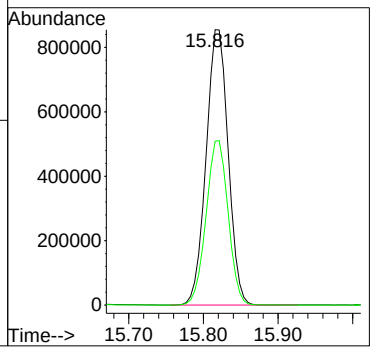


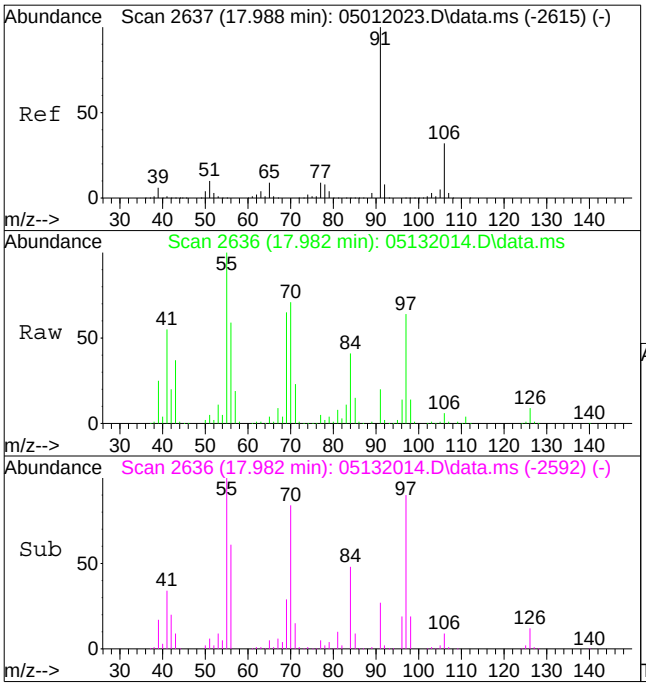


#58
Toluene
Concen: 12.08 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05132014.D
Acq: 14 May 2020 2:07

Tgt Ion: 91 Resp: 1754822

Ion	Ratio	Lower	Upper
91	100		
92	59.6	39.4	79.4

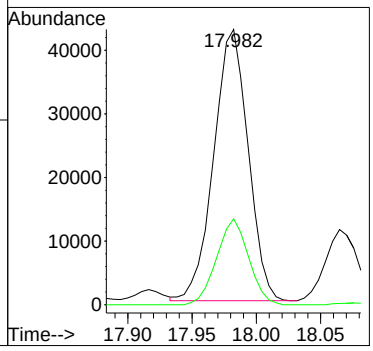


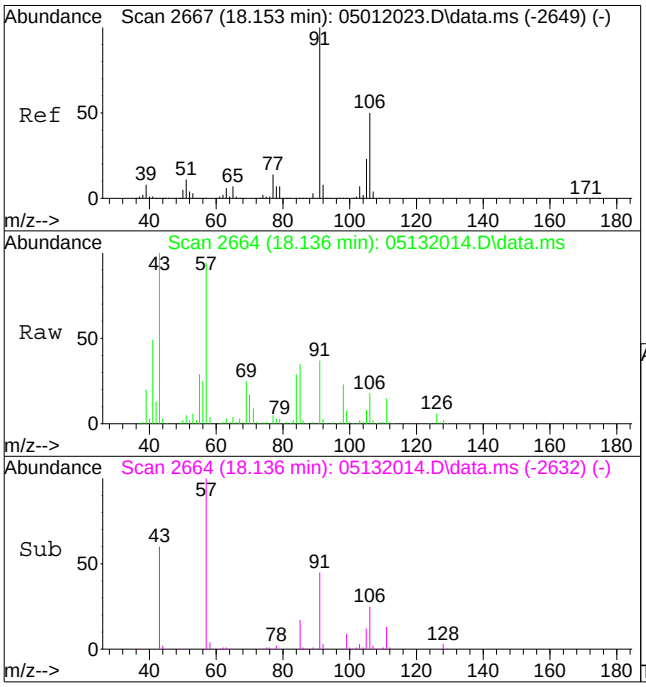


#66
Ethylbenzene
Concen: 0.49 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05132014.D
Acq: 14 May 2020 2:07

Tgt Ion: 91 Resp: 79315

Ion	Ratio	Lower	Upper
91	100		
106	29.3	11.6	51.6

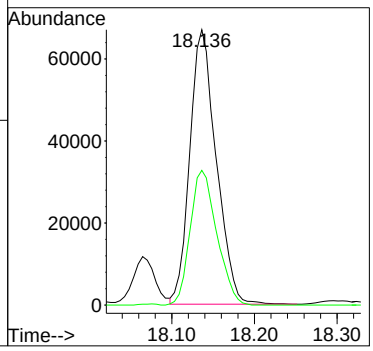


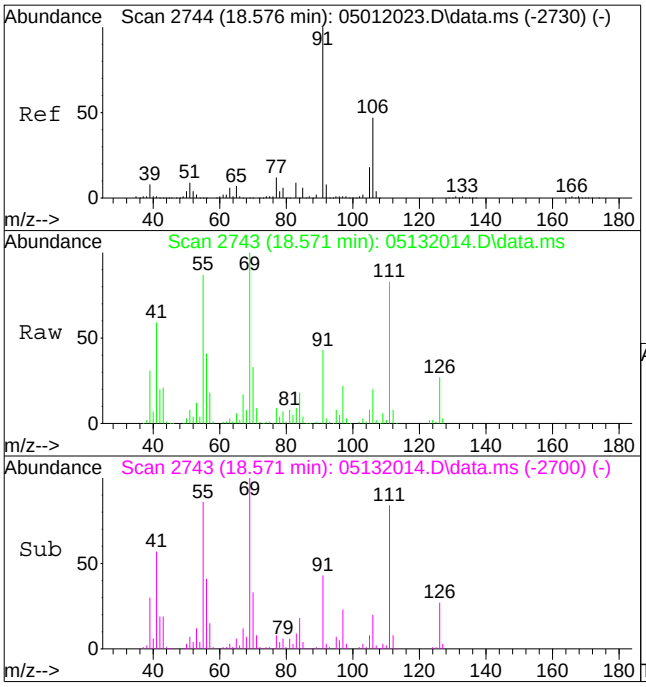


#67
m- & p-Xylenes
Concen: 1.16 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05132014.D
Acq: 14 May 2020 2:07

Tgt Ion: 91 Resp: 148872

Ion	Ratio	Lower	Upper
91	100		
106	49.3	29.7	69.7

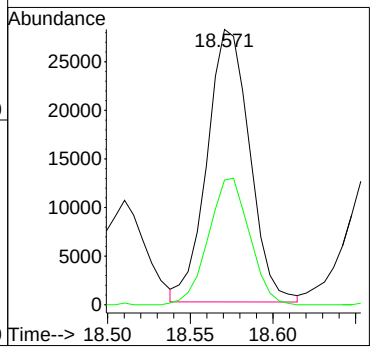


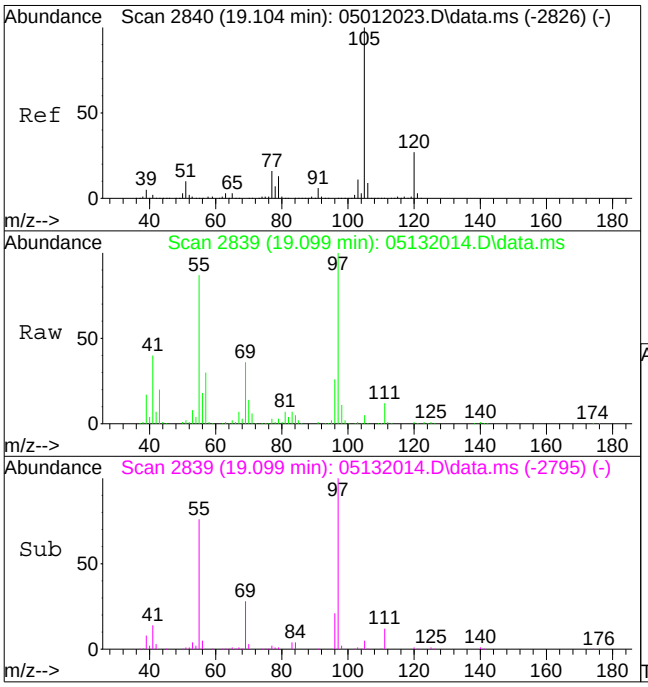


#70
o-Xylene
Concen: 0.39 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05132014.D
Acq: 14 May 2020 2:07

Tgt Ion: 91 Resp: 50287

Ion	Ratio	Lower	Upper
91	100		
106	44.7	27.5	67.5

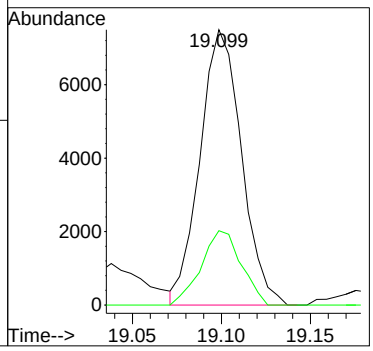


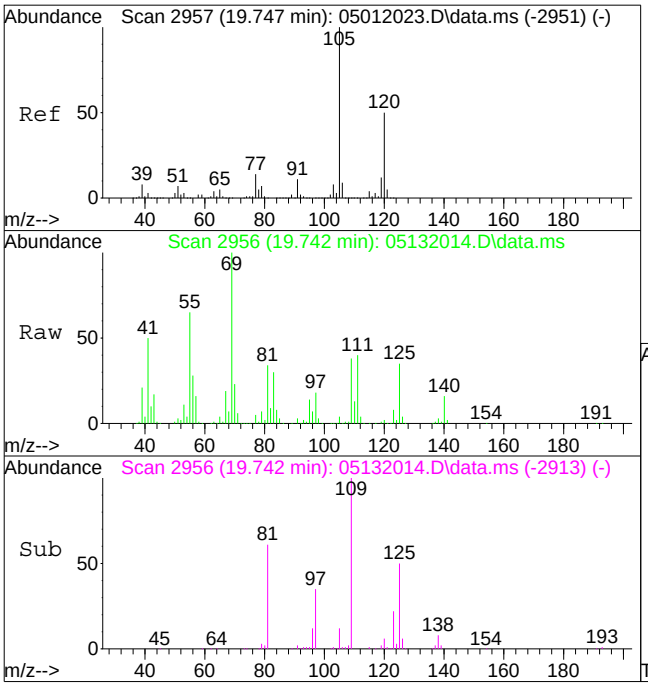


#74
Cumene
Concen: 0.08 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05132014.D
Acq: 14 May 2020 2:07

Tgt Ion:105 Resp: 12132

Ion	Ratio	Lower	Upper
105	100		
120	26.0	6.8	46.8

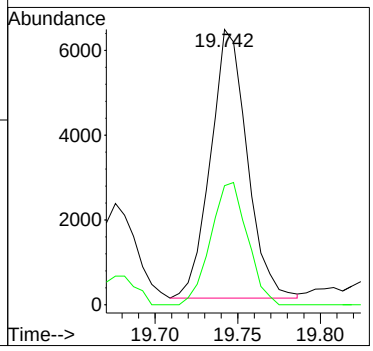


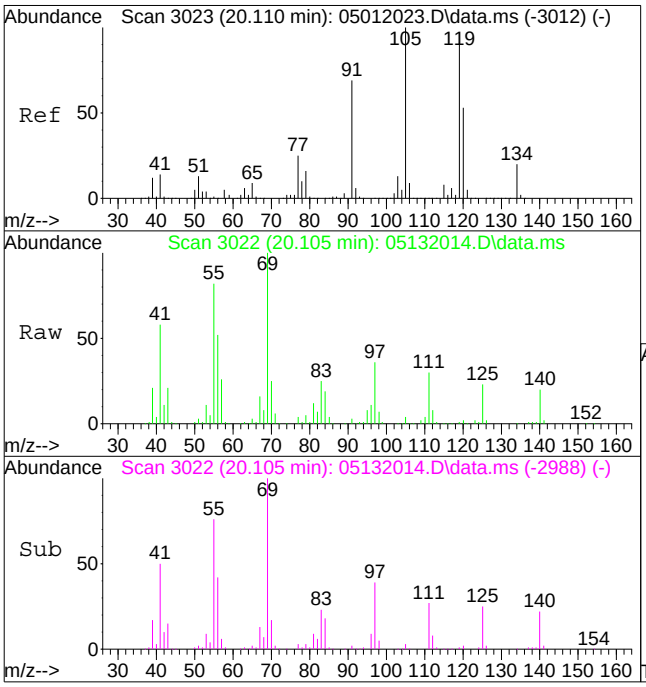


#79
1,3,5-Trimethylbenzene
Concen: 0.07 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05132014.D
Acq: 14 May 2020 2:07

Tgt Ion:105 Resp: 9760

Ion	Ratio	Lower	Upper
105	100		
120	45.5	29.9	69.9

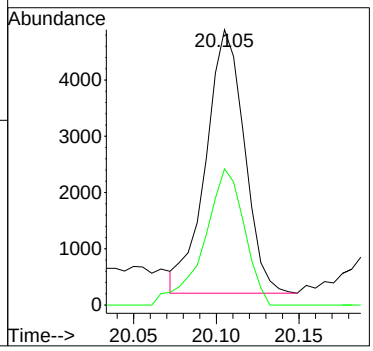




#82
1,2,4-Trimethylbenzene
Concen: 0.06 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05132014.D
Acq: 14 May 2020 2:07

Tgt Ion:105 Resp: 7602

Ion	Ratio	Lower	Upper
105	100		
120	53.6	33.6	73.6



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132016.D Vial: 9
Acq On : 14 May 2020 3:15 Operator: LH
Sample : P2002301-006 (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:37:03 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/14/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	309025	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1318630	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	670662	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	497430	11.878	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.04%				
57) Toluene-d8 (SS2)	15.72	98	1391180	12.238	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.92%				
73) Bromofluorobenzene (SS3)	18.97	174	524449	12.822	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.56%				
Target Compounds							Qvalue
2) Propene	4.11	42	9083	0.254	ng	#	90
3) Dichlorodifluoromethan...	4.27	85	1604	N.D.			
4) Chloromethane	4.54	50	10793	0.197	ng		97
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	4.95	62	1993	N.D.			
7) 1,3-Butadiene	5.15	54	753	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.98	64	611	N.D.			
10) Ethanol	6.33	45	4785	0.173	ng		89
11) Acetonitrile	6.66	41	108	N.D.			
12) Acrolein	6.78	56	64	N.D.			
13) Acetone	6.98	58	25781m	0.933	ng		
14) Trichlorofluoromethane	7.23	101	498	N.D.			
15) 2-Propanol (Isopropanol)	7.48	45	113668	1.359	ng		95
16) Acrylonitrile	7.83	53	1199	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	159	N.D.			
20) 3-Chloro-1-propene (Al...	8.50	41	1434	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.67	76	105497	0.819	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	9.94	63	1608	N.D.			
25) Methyl tert-Butyl Ether	10.06	73	805	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.46	72	16013	0.679	ng	#	90
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.26	87	452	N.D.			
30) Ethyl Acetate	11.29	61	553	N.D.			
31) n-Hexane	11.26	57	59061	1.002	ng		98
32) Chloroform	11.30	83	362	N.D.			
34) Tetrahydrofuran (THF)	11.75	72	2714	0.118	ng	#	69
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	1052	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	1636435	11.572	ng		100
42) Carbon Tetrachloride	13.03	117	383	N.D.			
43) Cyclohexane	13.16	84	90520	1.718	ng		98
44) tert-Amyl Methyl Ether	13.43	73	322	N.D.			
45) 1,2-Dichloropropane	13.64	63	339	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	13.97	130	6409	0.175	ng		95
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132016.D Vial: 9
Acq On : 14 May 2020 3:15 Operator: LH
Sample : P2002301-006 (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:37:03 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

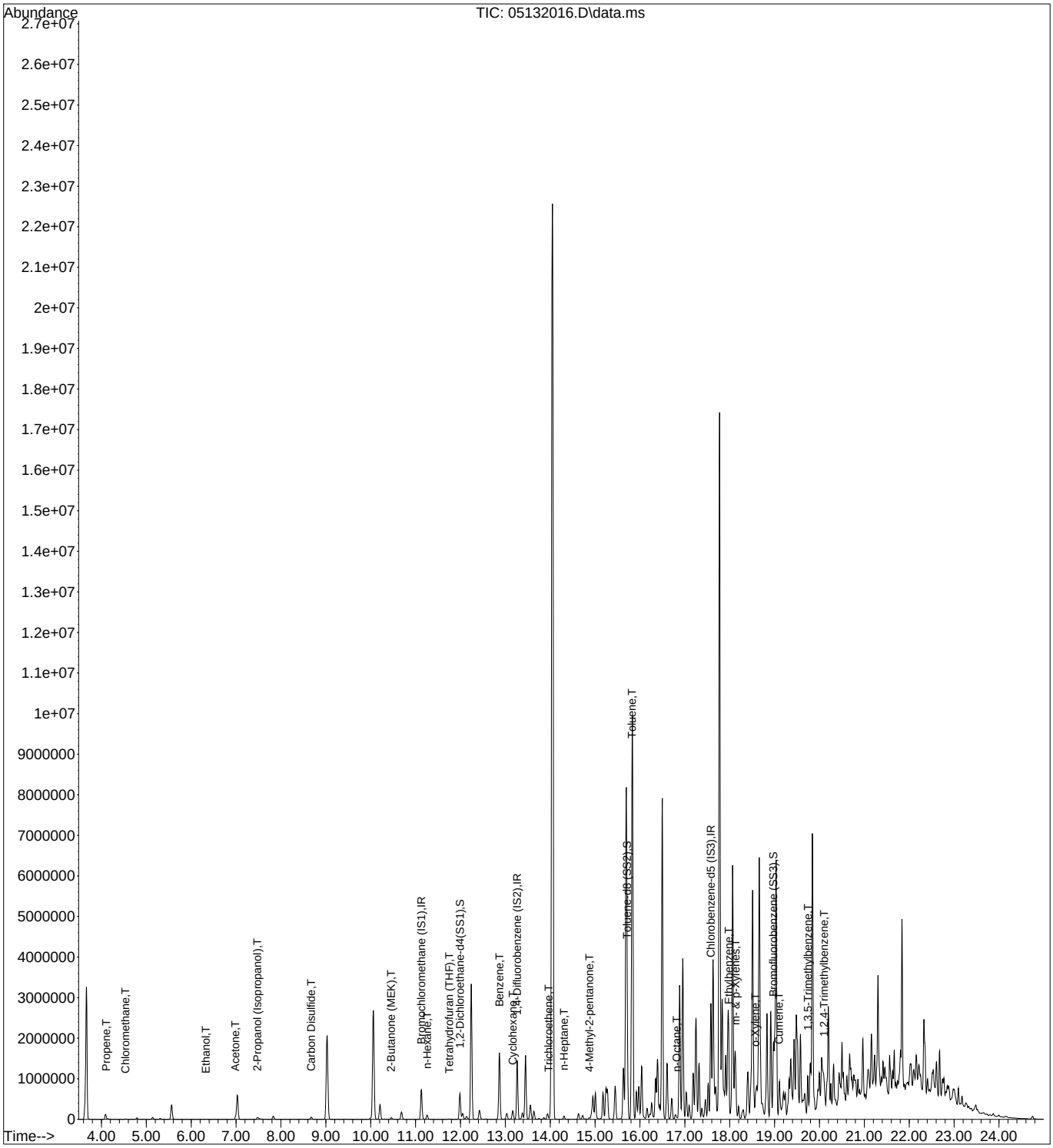
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.31	71	20123	0.609 ng		96
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.88	58	5057	0.160 ng		96
54) trans-1,3-Dichloropropene	0.00	75	0	N.D. d		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d		
58) Toluene	15.82	91	1796547	12.260 ng		100
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	16.48	107	242	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D. d		
63) n-Octane	16.82	57	6126	0.202 ng	#	87
64) Tetrachloroethene	16.95	166	526	N.D.		
65) Chlorobenzene	0.00	112	0	N.D. d		
66) Ethylbenzene	17.98	91	86794	0.531 ng		95
67) m- & p-Xylenes	18.14	91	167856	1.295 ng		99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.48	104	458	N.D.		
70) o-Xylene	18.58	91	54879	0.417 ng		99
71) n-Nonane	0.00	43	0	N.D. d		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d		
74) Cumene	19.10	105	14034	0.087 ng		97
75) alpha-Pinene	19.43	93	2188	N.D.		
76) n-Propylbenzene	0.00	91	0	N.D. d		
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.68	105	4042	N.D.		
79) 1,3,5-Trimethylbenzene	19.74	105	11233	0.085 ng		98
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	19.91	105	5544	N.D.		
82) 1,2,4-Trimethylbenzene	20.10	105	13222m	0.100 ng		
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	0.00	91	0	N.D. d		
85) 1,3-Dichlorobenzene	20.30	146	124	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	124	N.D.		
87) sec-Butylbenzene	20.35	105	4765	N.D.		
88) 4-Isopropyltoluene (p-...	20.48	119	1554	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	0.00	68	0	N.D. d		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D. d		
95) Naphthalene	22.22	128	3590	N.D.		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	20.10	119	3298	N.D.		
100) n-Butylbenzene	20.85	91	3598	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132016.D Vial: 9
Acq On : 14 May 2020 3:15 Operator: LH
Sample : P2002301-006 (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:37:03 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132016.D Vial: 9
Acq On : 14 May 2020 3:15 Operator: LH
Sample : P2002301-006 (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:37:03 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/14/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

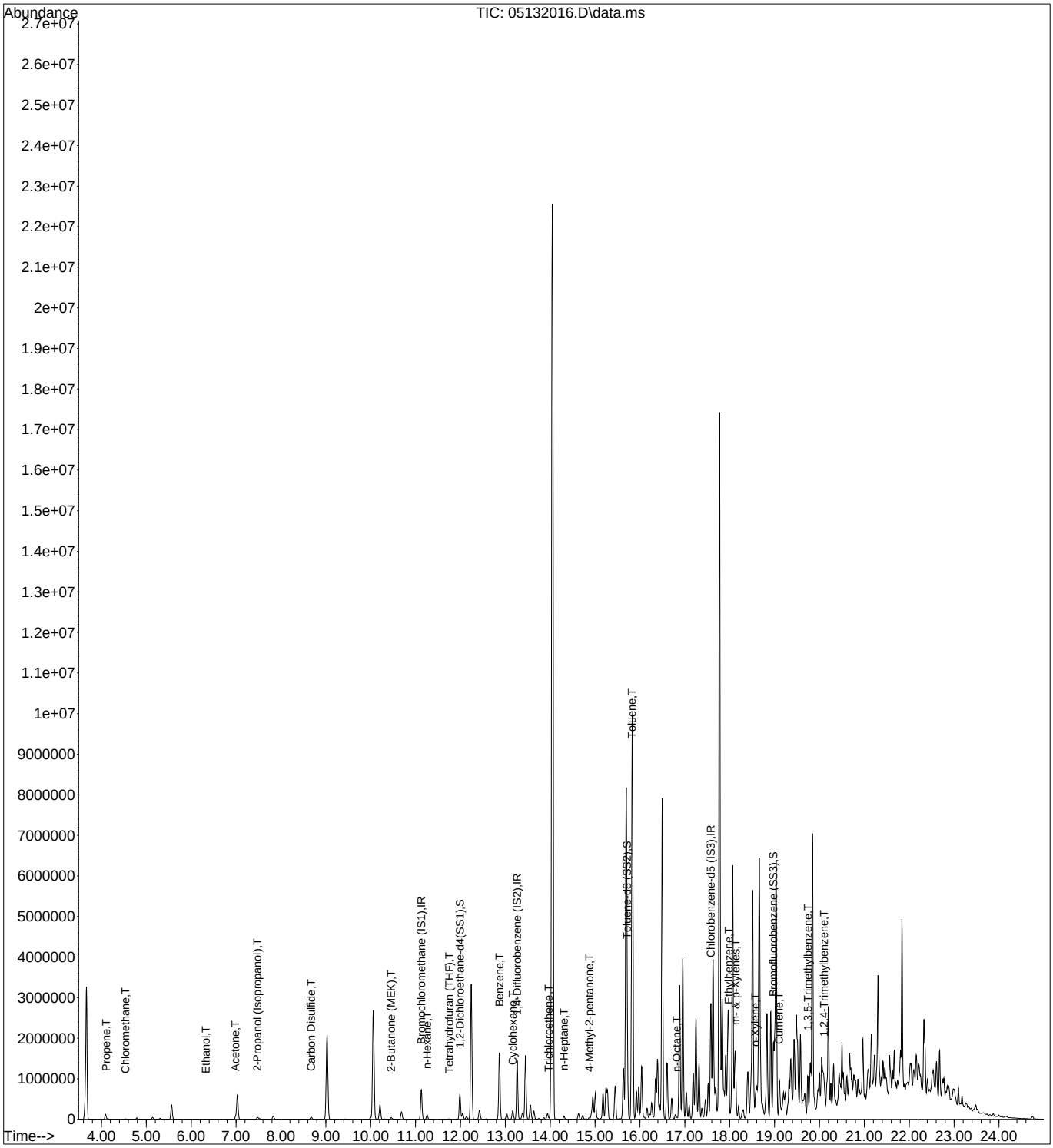
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	309025	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1318630	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	670662	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	497430	11.878	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.04%				
57) Toluene-d8 (SS2)	15.72	98	1391180	12.238	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.92%				
73) Bromofluorobenzene (SS3)	18.97	174	524449	12.822	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.56%				
Target Compounds							Qvalue
2) Propene	4.11	42	9083	0.254	ng	#	90
4) Chloromethane	4.54	50	10793	0.197	ng		97
10) Ethanol	6.33	45	4785	0.173	ng		89
13) Acetone	6.98	58	25781m	0.933	ng		
15) 2-Propanol (Isopropanol)	7.48	45	113668	1.359	ng		95
22) Carbon Disulfide	8.67	76	105497	0.819	ng		99
27) 2-Butanone (MEK)	10.46	72	16013	0.679	ng	#	90
31) n-Hexane	11.26	57	59061	1.002	ng		98
34) Tetrahydrofuran (THF)	11.75	72	2714	0.118	ng	#	69
41) Benzene	12.87	78	1636435	11.572	ng		100
43) Cyclohexane	13.16	84	90520	1.718	ng		98
47) Trichloroethene	13.97	130	6409	0.175	ng		95
51) n-Heptane	14.31	71	20123	0.609	ng		96
53) 4-Methyl-2-pentanone	14.88	58	5057	0.160	ng		96
58) Toluene	15.82	91	1796547	12.260	ng		100
63) n-Octane	16.82	57	6126	0.202	ng	#	87
66) Ethylbenzene	17.98	91	86794	0.531	ng		95
67) m- & p-Xylenes	18.14	91	167856	1.295	ng		99
70) o-Xylene	18.58	91	54879	0.417	ng		99
74) Cumene	19.10	105	14034	0.087	ng		97
79) 1,3,5-Trimethylbenzene	19.74	105	11233	0.085	ng		98
82) 1,2,4-Trimethylbenzene	20.10	105	13222m	0.100	ng		

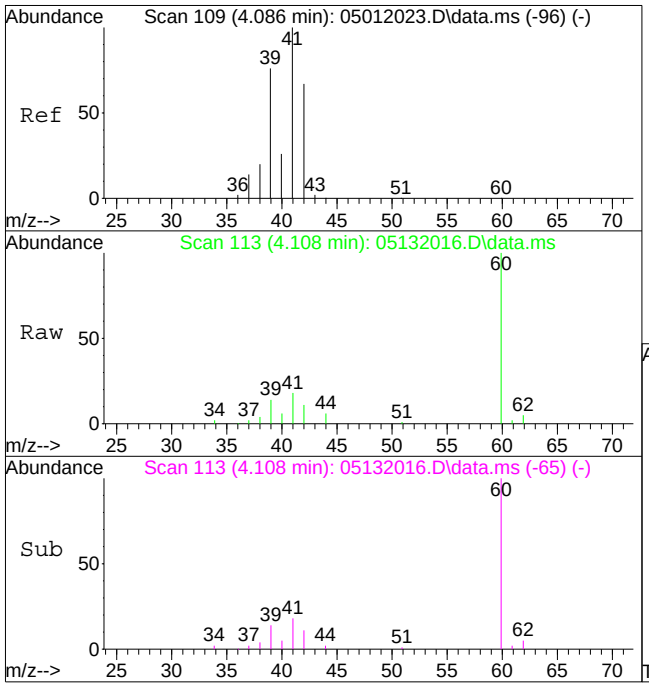
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132016.D Vial: 9
Acq On : 14 May 2020 3:15 Operator: LH
Sample : P2002301-006 (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:37:03 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

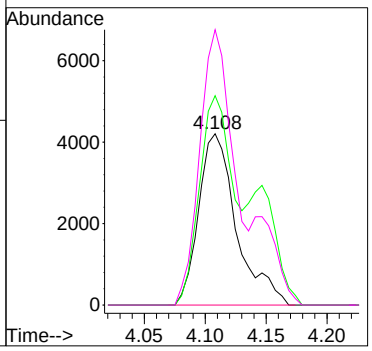


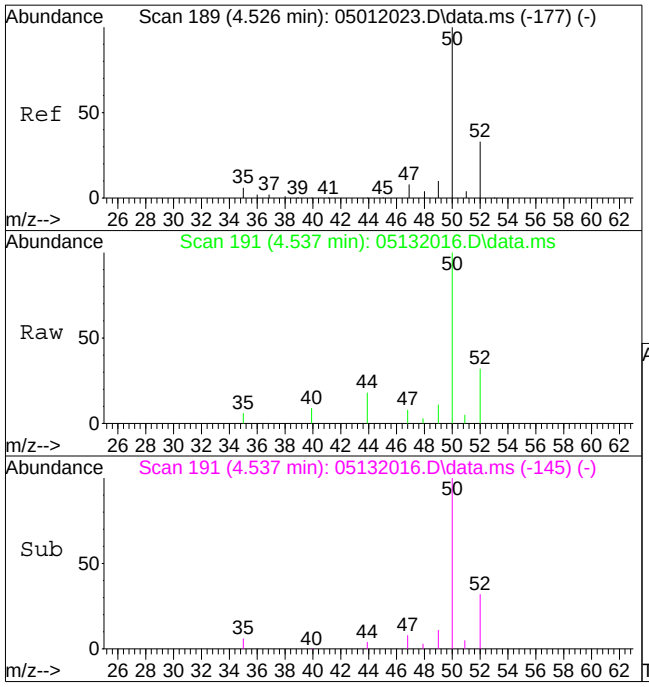


#2
Propene
Concen: 0.25 ng
RT: 4.11 min Scan# 113
Delta R.T. 0.016 min
Lab File: 05132016.D
Acq: 14 May 2020 3:15

Tgt Ion: 42 Resp: 9083

Ion	Ratio	Lower	Upper
42	100		
39	116.4	96.1	136.1
41	174.2	131.9	171.9#

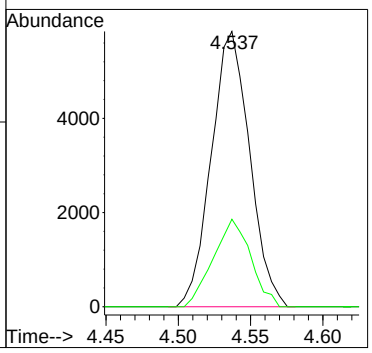


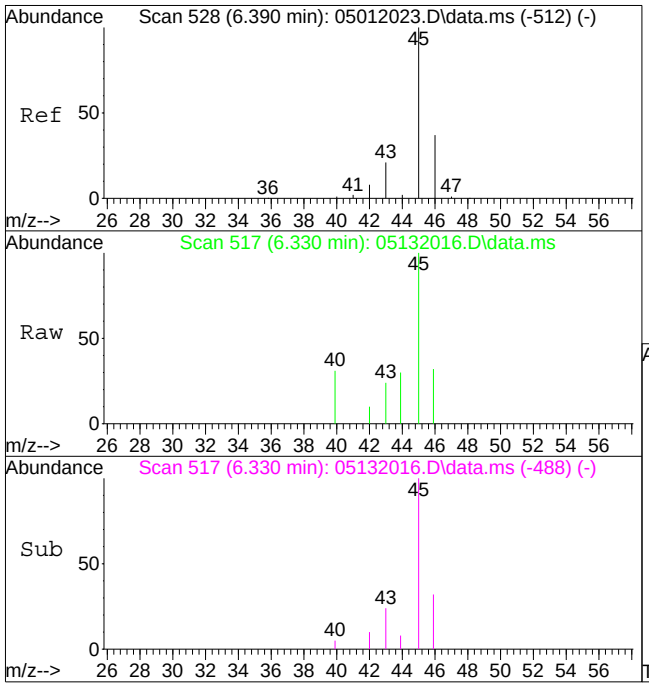


#4
Chloromethane
Concen: 0.20 ng
RT: 4.54 min Scan# 191
Delta R.T. 0.005 min
Lab File: 05132016.D
Acq: 14 May 2020 3:15

Tgt Ion: 50 Resp: 10793

Ion	Ratio	Lower	Upper
50	100		
52	31.1	12.5	52.5

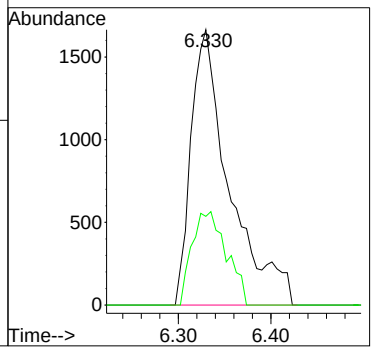


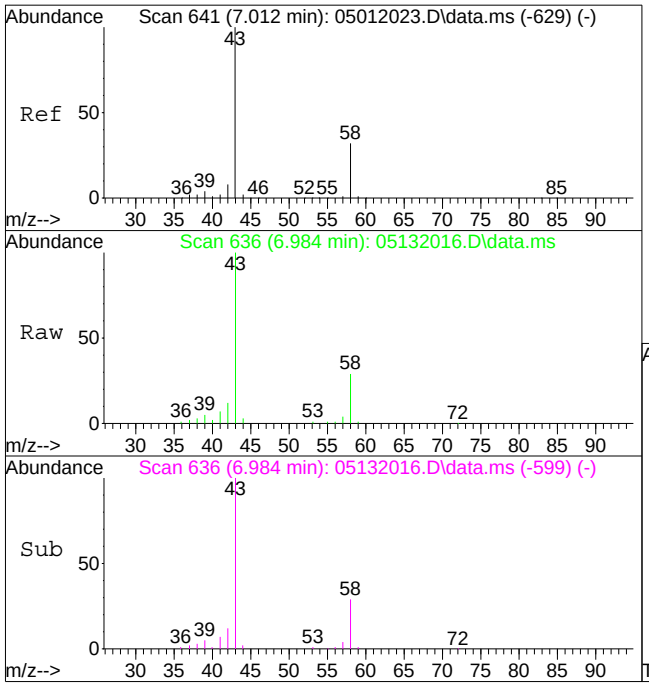


#10
Ethanol
Concen: 0.17 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.088 min
Lab File: 05132016.D
Acq: 14 May 2020 3:15

Tgt Ion: 45 Resp: 4785

Ion	Ratio	Lower	Upper
45	100		
46	30.6	17.2	57.2

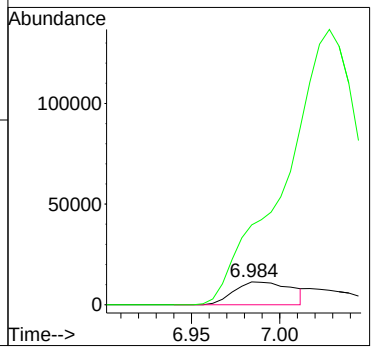


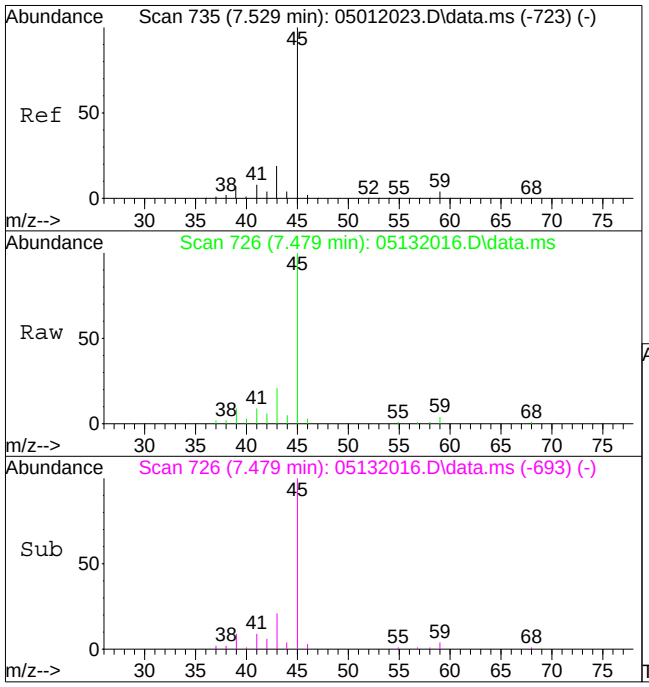


#13
Acetone
Concen: 0.93 ng m
RT: 6.98 min Scan# 636
Delta R.T. -0.044 min
Lab File: 05132016.D
Acq: 14 May 2020 3:15

Tgt Ion: 58 Resp: 25781

Ion	Ratio	Lower	Upper
58	100		
43	1589.7	294.4	354.4#

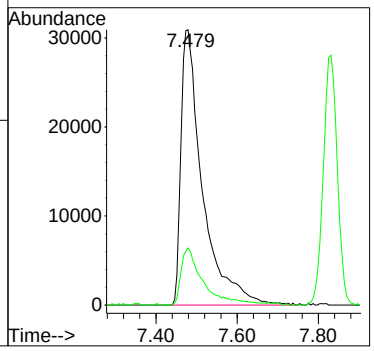


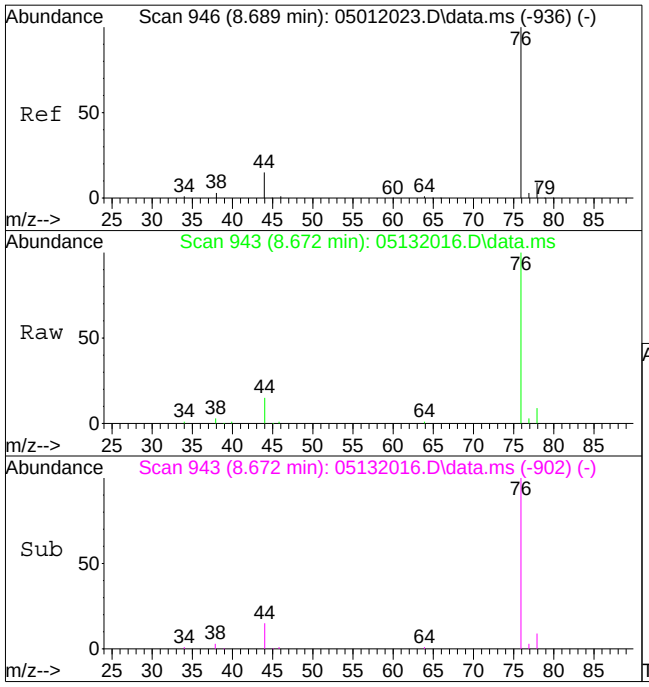


#15
2-Propanol (Isopropanol)
Concen: 1.36 ng
RT: 7.48 min Scan# 726
Delta R.T. -0.066 min
Lab File: 05132016.D
Acq: 14 May 2020 3:15

Tgt Ion: 45 Resp: 113668

Ion	Ratio	Lower	Upper
45	100		
43	21.7	0.0	39.5

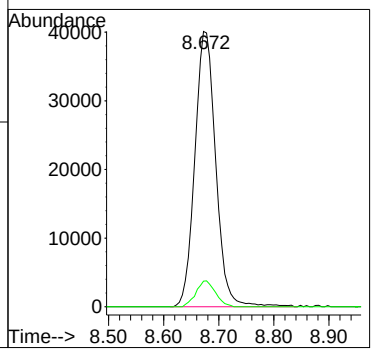


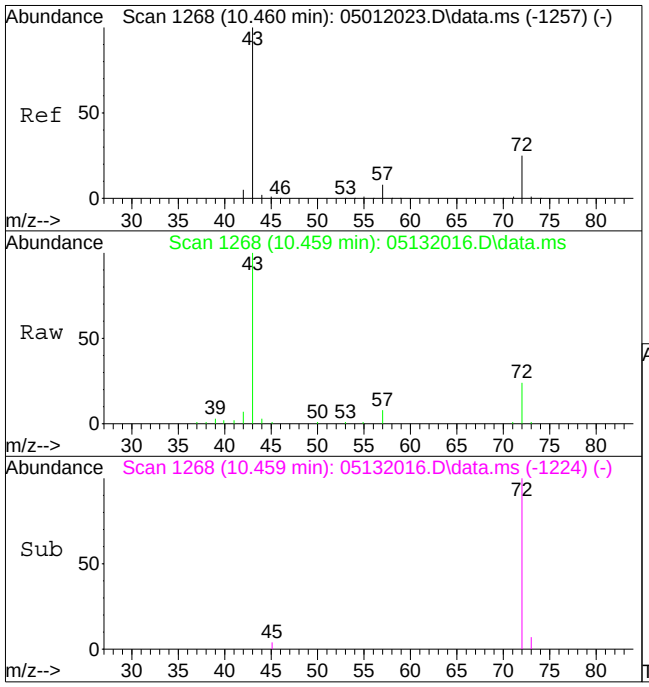


#22
Carbon Disulfide
Concen: 0.82 ng
RT: 8.67 min Scan# 943
Delta R.T. -0.022 min
Lab File: 05132016.D
Acq: 14 May 2020 3:15

Tgt Ion: 76 Resp: 105497

Ion	Ratio	Lower	Upper
76	100		
78	8.8	0.0	29.2

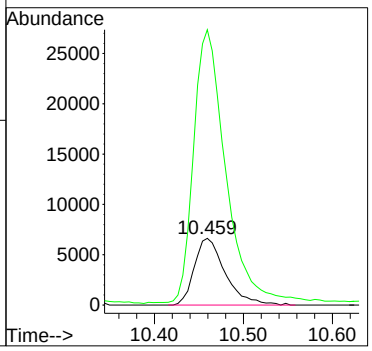


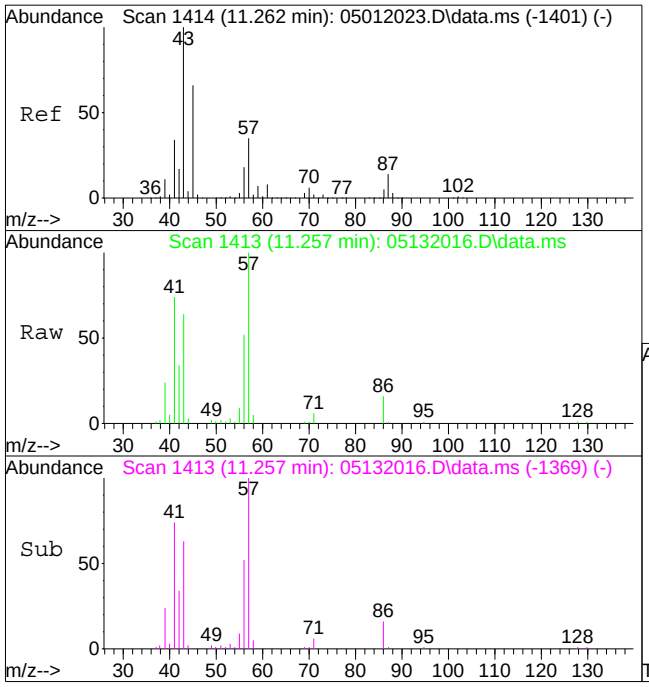


#27
2-Butanone (MEK)
Concen: 0.68 ng
RT: 10.46 min Scan# 1268
Delta R.T. -0.006 min
Lab File: 05132016.D
Acq: 14 May 2020 3:15

Tgt Ion: 72 Resp: 16013

Ion	Ratio	Lower	Upper
72	100		
43	433.4	389.7	429.7#

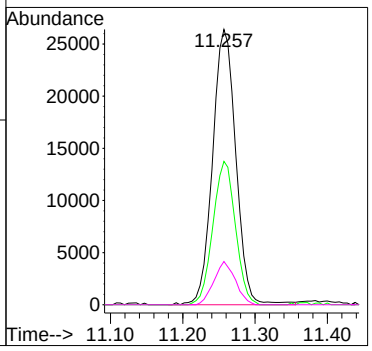


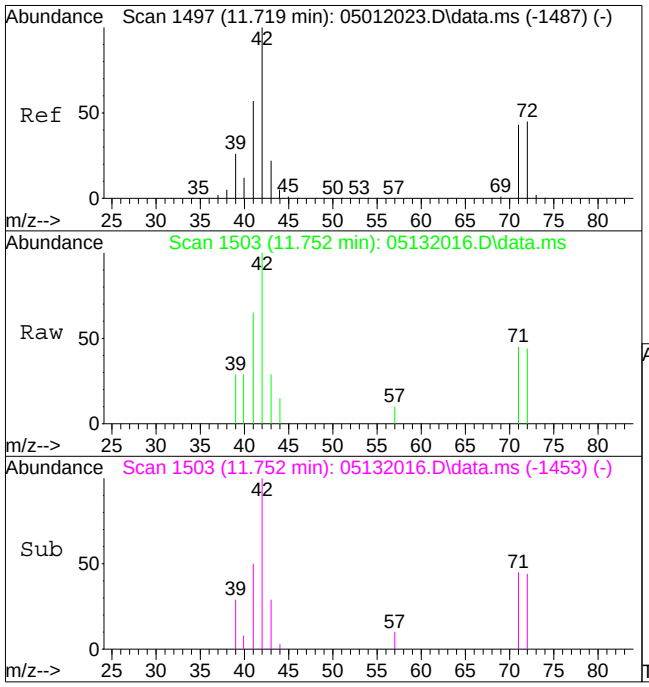


#31
n-Hexane
Concen: 1.00 ng
RT: 11.26 min Scan# 1413
Delta R.T. -0.006 min
Lab File: 05132016.D
Acq: 14 May 2020 3:15

Tgt Ion: 57 Resp: 59061

Ion	Ratio	Lower	Upper
57	100		
56	50.2	41.4	62.0
86	14.4	12.4	18.6

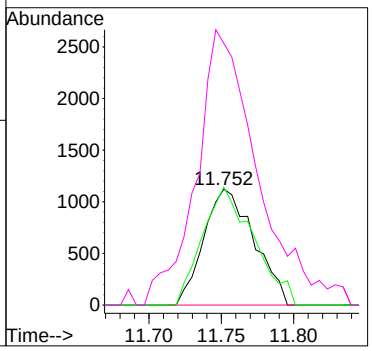


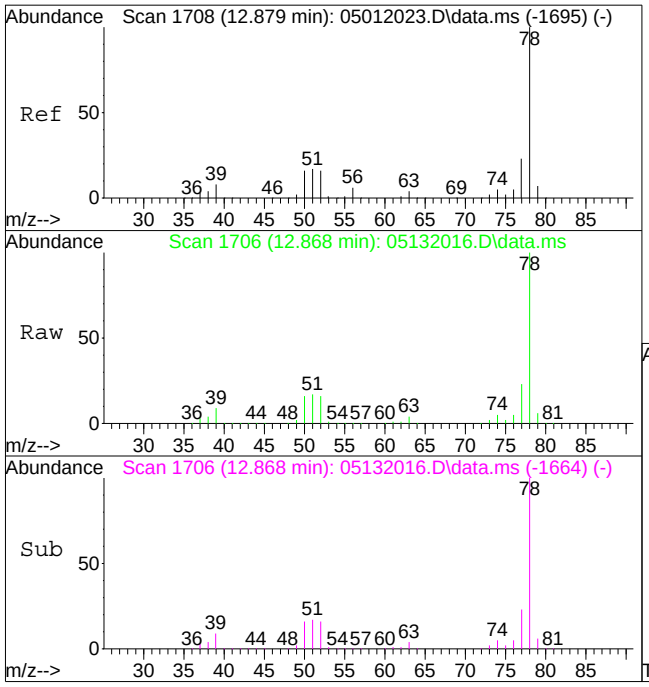


#34
Tetrahydrofuran (THF)
Concen: 0.12 ng
RT: 11.75 min Scan# 1503
Delta R.T. 0.027 min
Lab File: 05132016.D
Acq: 14 May 2020 3:15

Tgt Ion: 72 Resp: 2714

Ion	Ratio	Lower	Upper
72	100		
71	103.8	77.0	117.0
42	291.1	204.6	244.6#

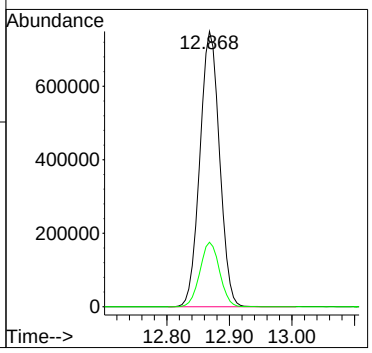


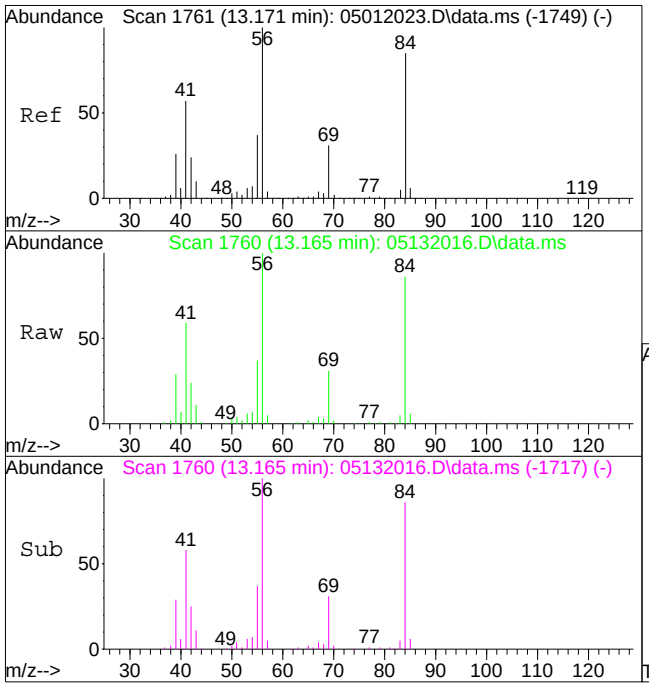


#41
Benzene
Concen: 11.57 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05132016.D
Acq: 14 May 2020 3:15

Tgt Ion: 78 Resp: 1636435

Ion	Ratio	Lower	Upper
78	100		
77	23.4	3.4	43.4

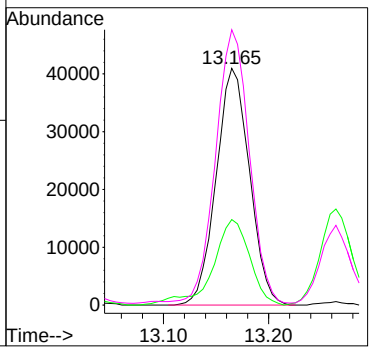


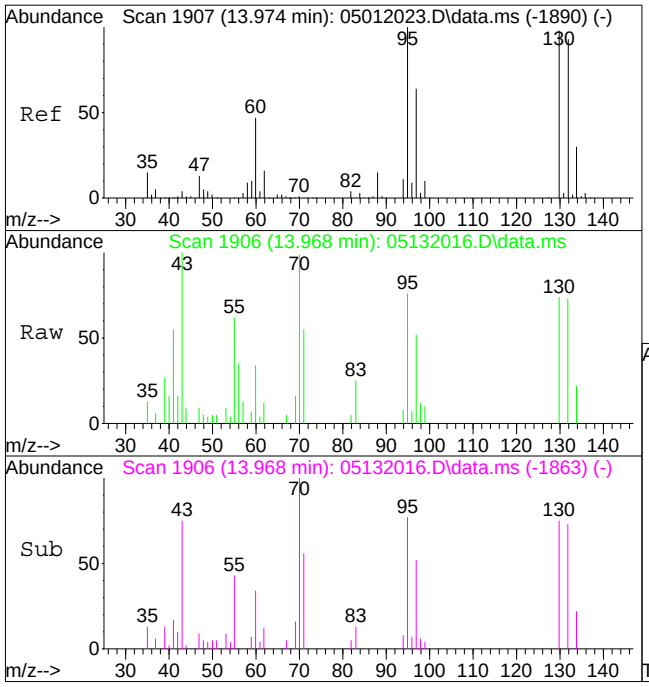


#43
Cyclohexane
Concen: 1.72 ng
RT: 13.16 min Scan# 1760
Delta R.T. -0.011 min
Lab File: 05132016.D
Acq: 14 May 2020 3:15

Tgt Ion: 84 Resp: 90520

Ion	Ratio	Lower	Upper
84	100		
69	39.9	16.5	56.5
56	116.2	97.4	137.4

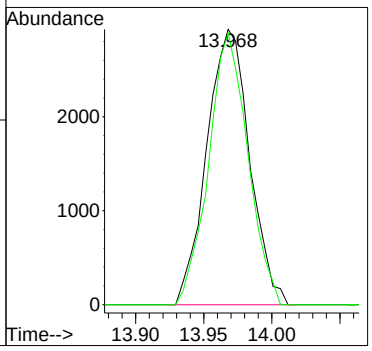


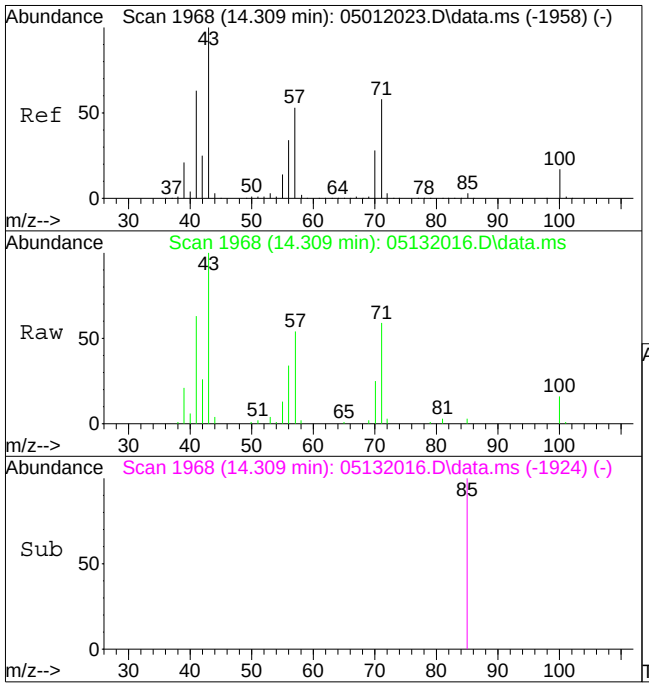


#47
Trichloroethene
Concen: 0.18 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05132016.D
Acq: 14 May 2020 3:15

Tgt Ion:130 Resp: 6409

Ion	Ratio	Lower	Upper
130	100		
132	90.2	74.9	114.9

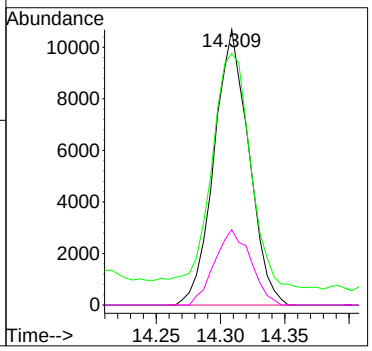


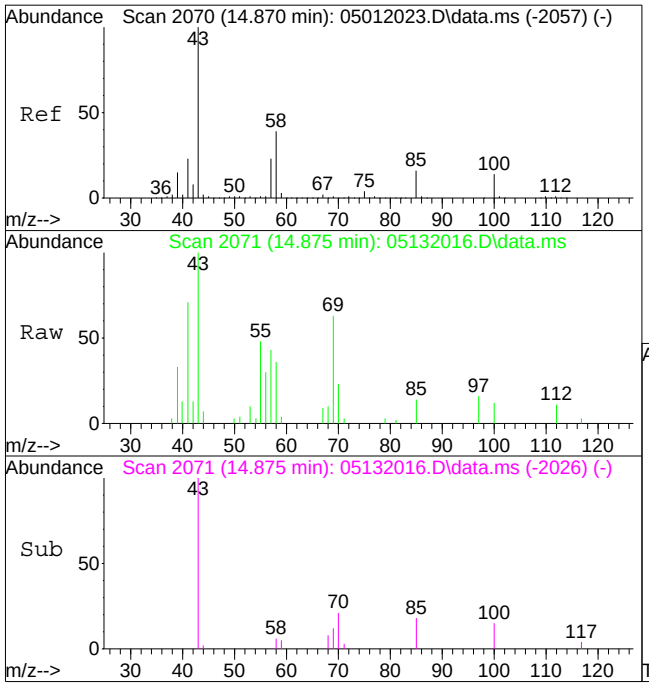


#51
n-Heptane
Concen: 0.61 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05132016.D
Acq: 14 May 2020 3:15

Tgt Ion: 71 Resp: 20123

Ion	Ratio	Lower	Upper
71	100		
57	95.7	71.0	111.0
100	28.4	8.4	48.4

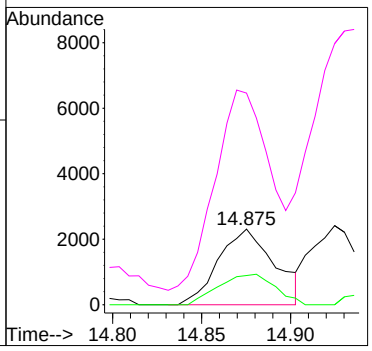


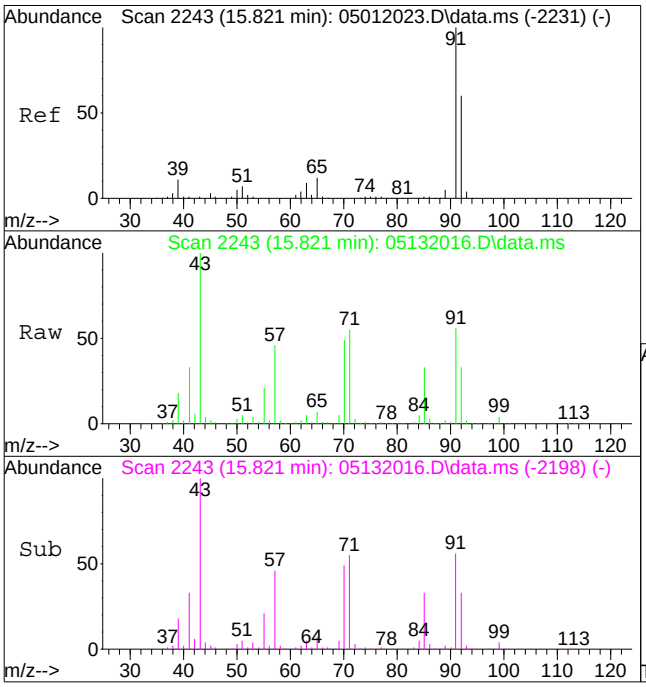


#53
4-Methyl-2-pentanone
Concen: 0.16 ng
RT: 14.88 min Scan# 2071
Delta R.T. -0.000 min
Lab File: 05132016.D
Acq: 14 May 2020 3:15

Tgt Ion: 58 Resp: 5057

Ion	Ratio	Lower	Upper
58	100		
85	40.6	35.4	53.2
43	261.0	203.3	304.9

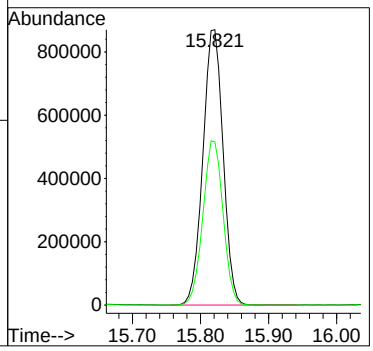


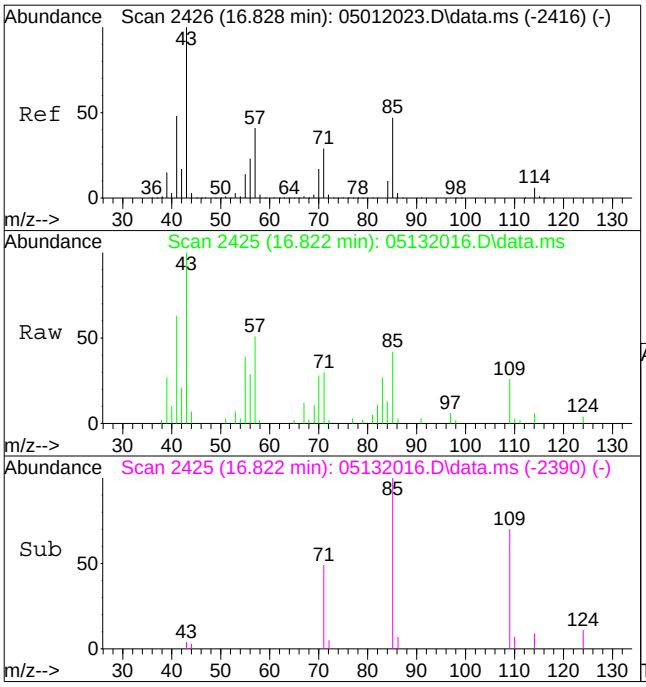


#58
Toluene
Concen: 12.26 ng
RT: 15.82 min Scan# 2243
Delta R.T. -0.000 min
Lab File: 05132016.D
Acq: 14 May 2020 3:15

Tgt Ion: 91 Resp: 1796547

Ion	Ratio	Lower	Upper
91	100		
92	59.6	39.4	79.4

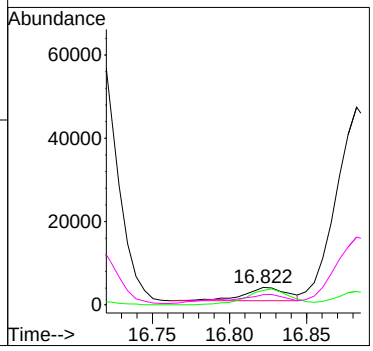


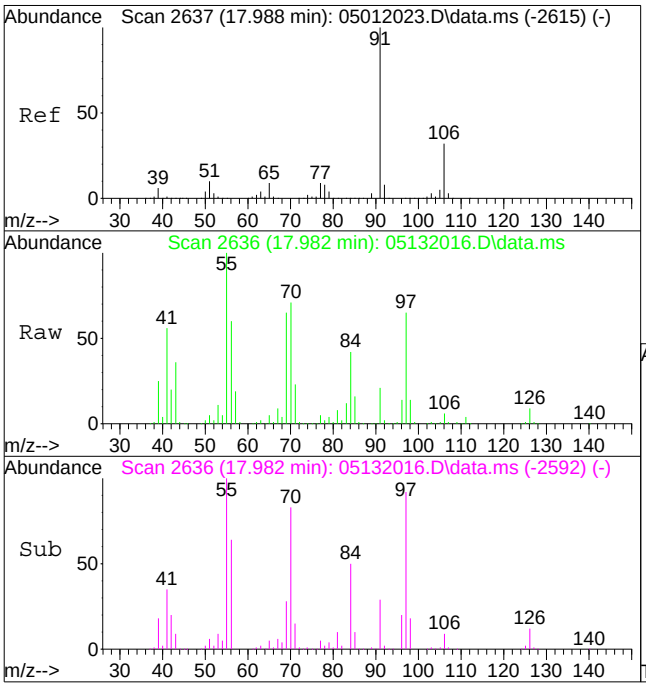


#63
n-Octane
Concen: 0.20 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05132016.D
Acq: 14 May 2020 3:15

Tgt Ion: 57 Resp: 6126

Ion	Ratio	Lower	Upper
57	100		
85	121.1	91.0	136.4
71	89.3	56.2	84.2#

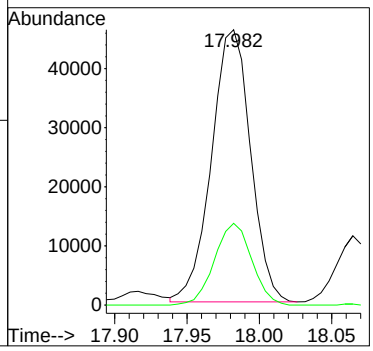


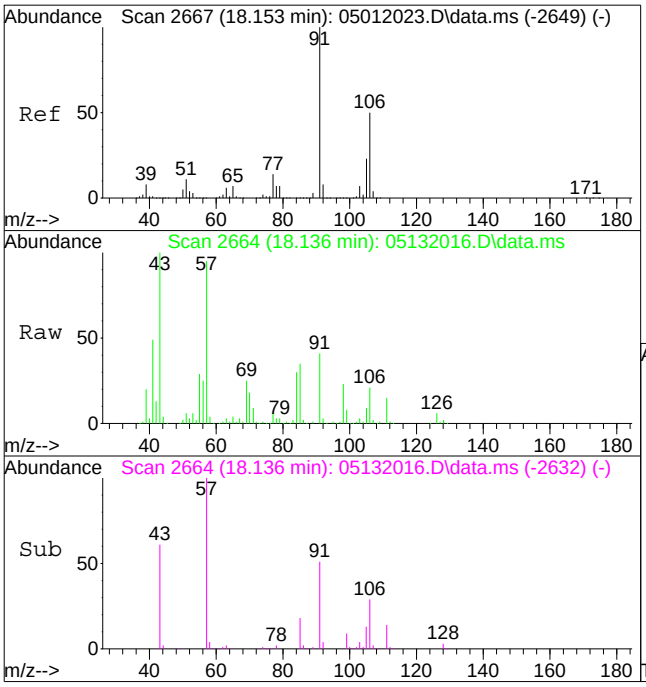


#66
Ethylbenzene
Concen: 0.53 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05132016.D
Acq: 14 May 2020 3:15

Tgt Ion: 91 Resp: 86794

Ion	Ratio	Lower	Upper
91	100		
106	28.6	11.6	51.6

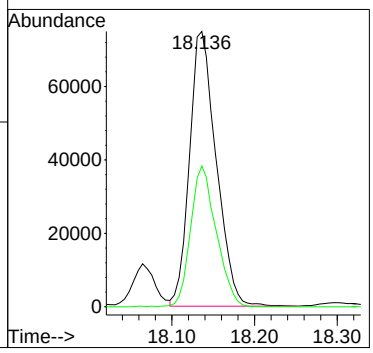


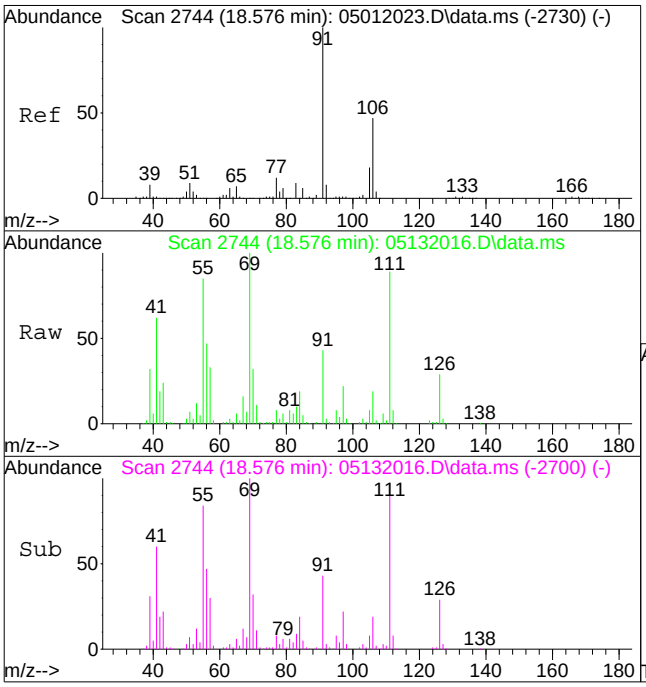


#67
m- & p-Xylenes
Concen: 1.29 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05132016.D
Acq: 14 May 2020 3:15

Tgt Ion: 91 Resp: 167856

Ion	Ratio	Lower	Upper
91	100		
106	49.2	29.7	69.7

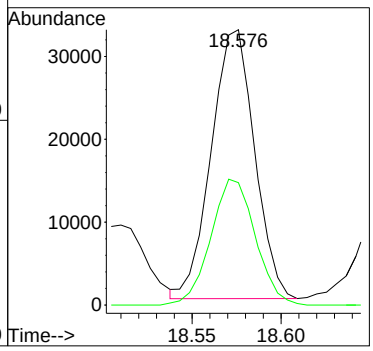


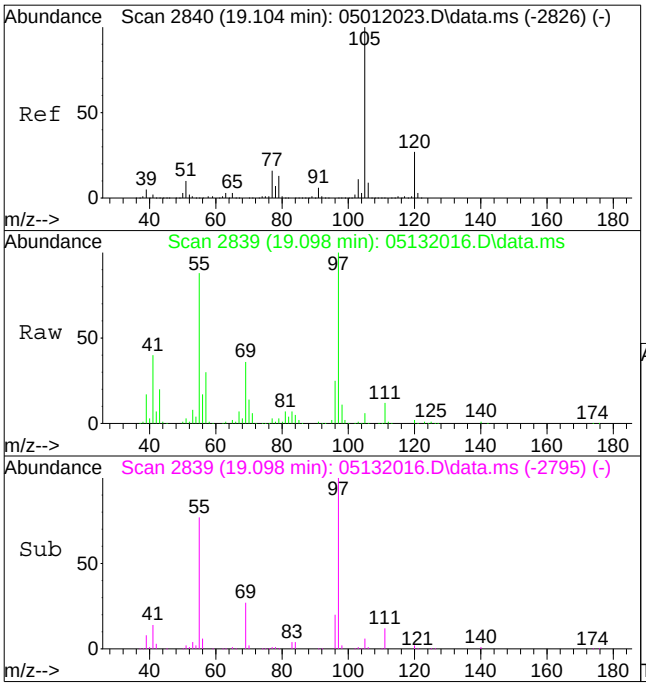


#70
o-Xylene
Concen: 0.42 ng
RT: 18.58 min Scan# 2744
Delta R.T. -0.006 min
Lab File: 05132016.D
Acq: 14 May 2020 3:15

Tgt Ion: 91 Resp: 54879

Ion	Ratio	Lower	Upper
91	100		
106	48.0	27.5	67.5

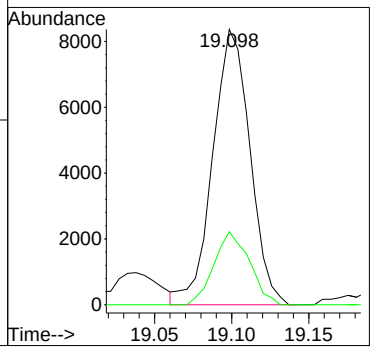


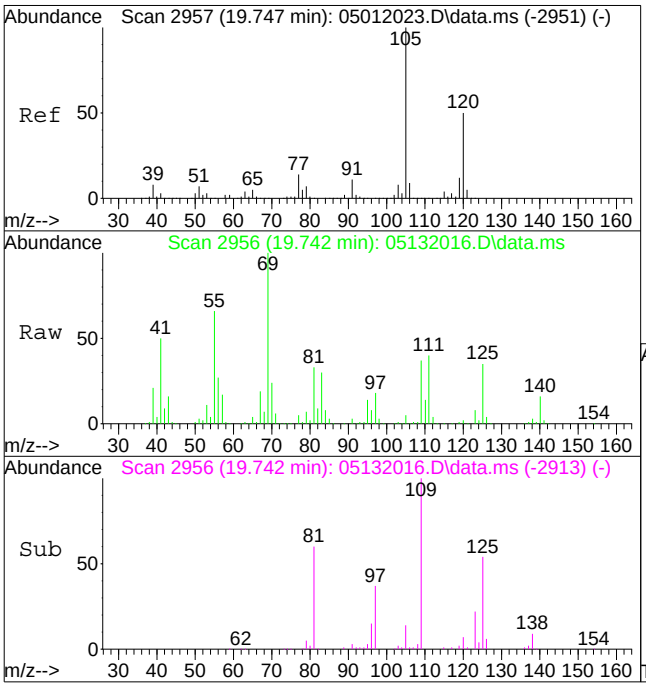


#74
Cumene
Concen: 0.09 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05132016.D
Acq: 14 May 2020 3:15

Tgt Ion:105 Resp: 14034

Ion	Ratio	Lower	Upper
105	100		
120	25.3	6.8	46.8

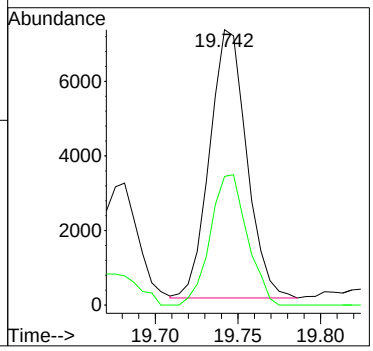


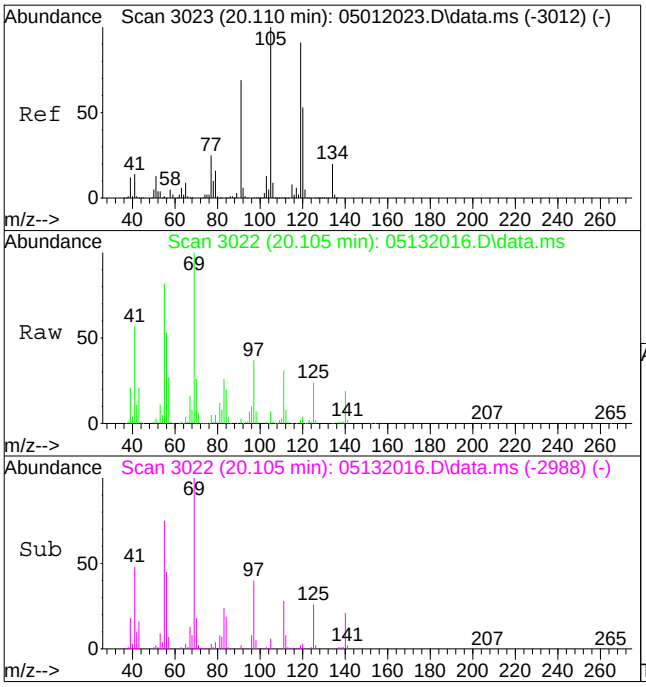


#79
1,3,5-Trimethylbenzene
Concen: 0.09 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05132016.D
Acq: 14 May 2020 3:15

Tgt Ion:105 Resp: 11233

Ion	Ratio	Lower	Upper
105	100		
120	48.2	29.9	69.9

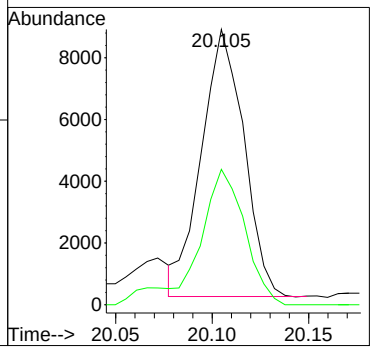




#82
1,2,4-Trimethylbenzene
Concen: 0.10 ng m
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05132016.D
Acq: 14 May 2020 3:15

Tgt Ion:105 Resp: 13222

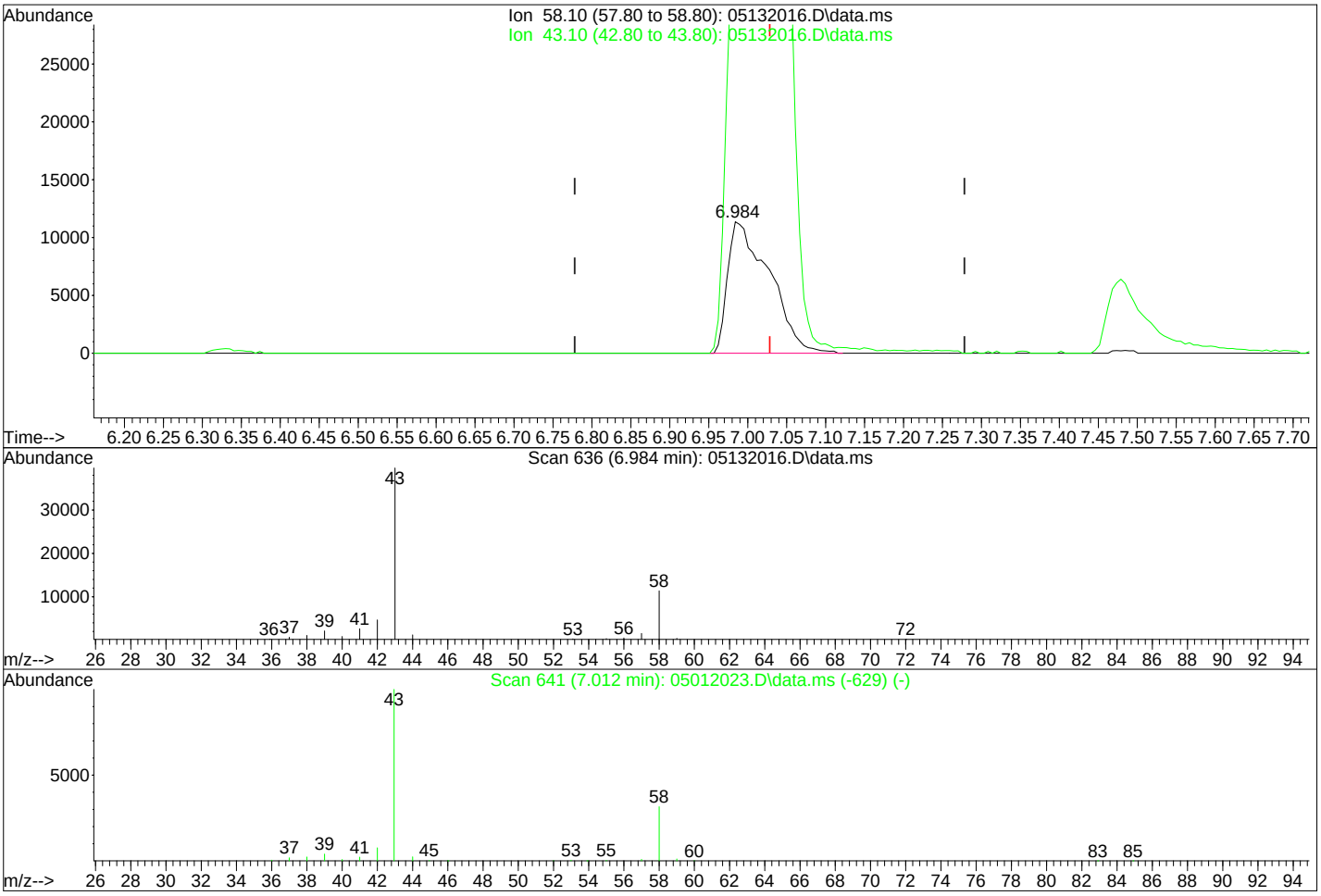
Ion	Ratio	Lower	Upper
105	100		
120	56.4	33.6	73.6



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\13\05132016.D Vial: 9
Acq On : 14 May 2020 3:15 Operator: LH
Sample : P2002301-006 (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 13:02:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05132016.D\data.ms

(13) Acetone (T)

6.984min (-0.044) 1.53ng

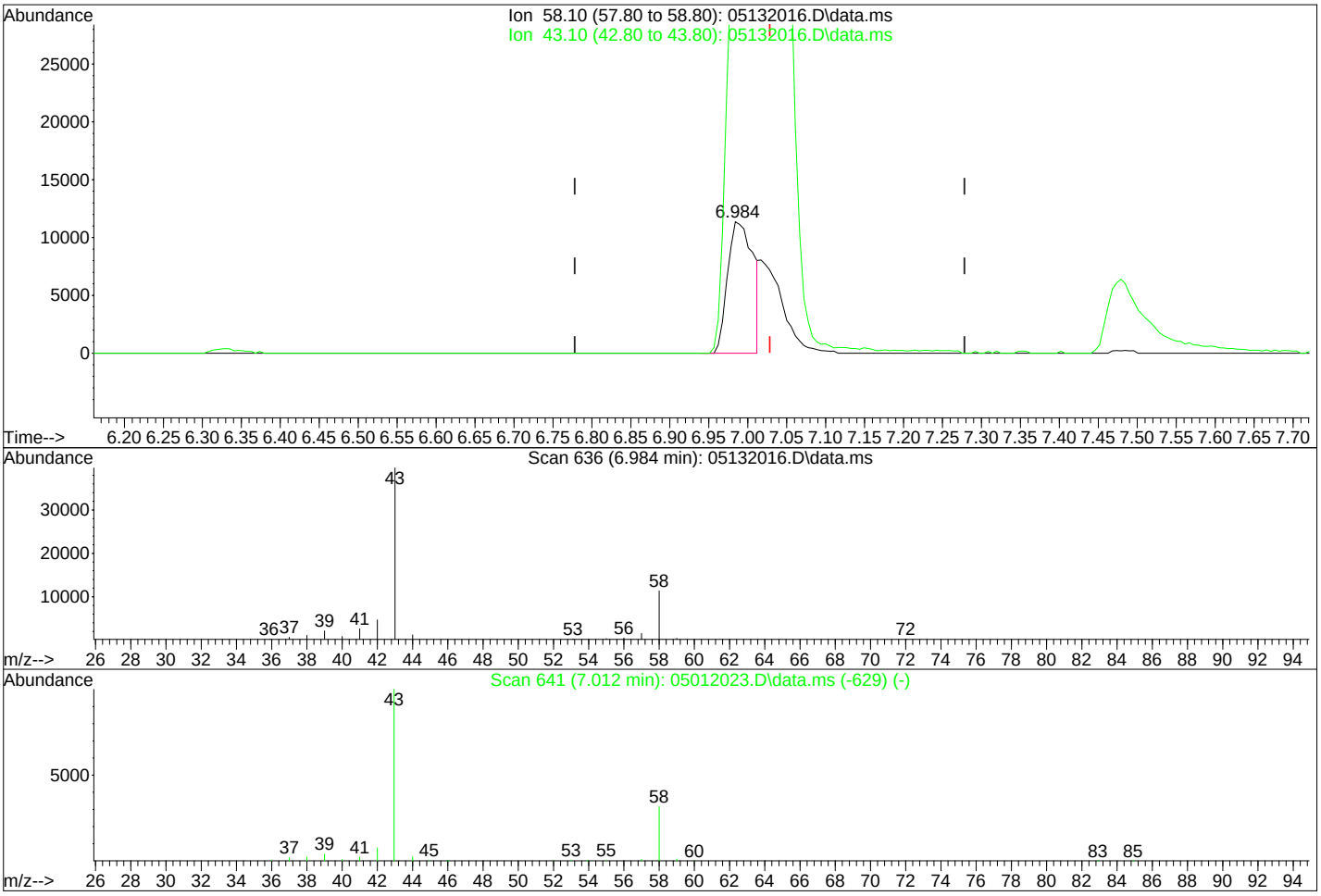
response 42261

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	969.80#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\13\05132016.D Vial: 9
Acq On : 14 May 2020 3:15 Operator: LH
Sample : P2002301-006 (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 13:02:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05132016.D\data.ms

(13) Acetone (T)

6.984min (-0.044) 0.93ng m

response 25781

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	1589.72#
0.00	0.00	0.00
0.00	0.00	0.00

IPC

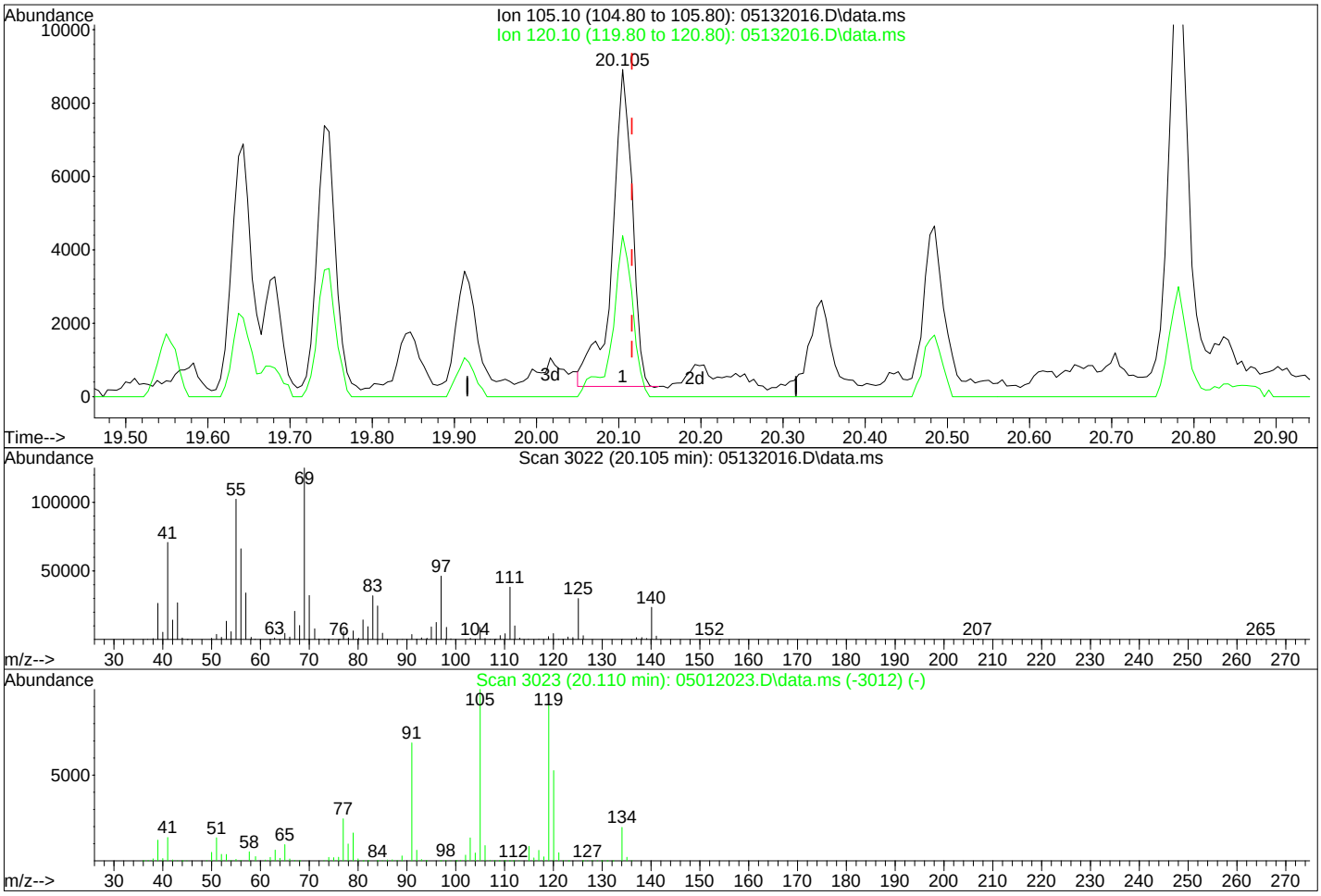
LH 5/14/20

5/15/20

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\13\05132016.D Vial: 9
Acq On : 14 May 2020 3:15 Operator: LH
Sample : P2002301-006 (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 13:02:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05132016.D\data.ms

(82) 1,2,4-Trimethylbenzene (T)

20.105min (-0.011) 0.11ng

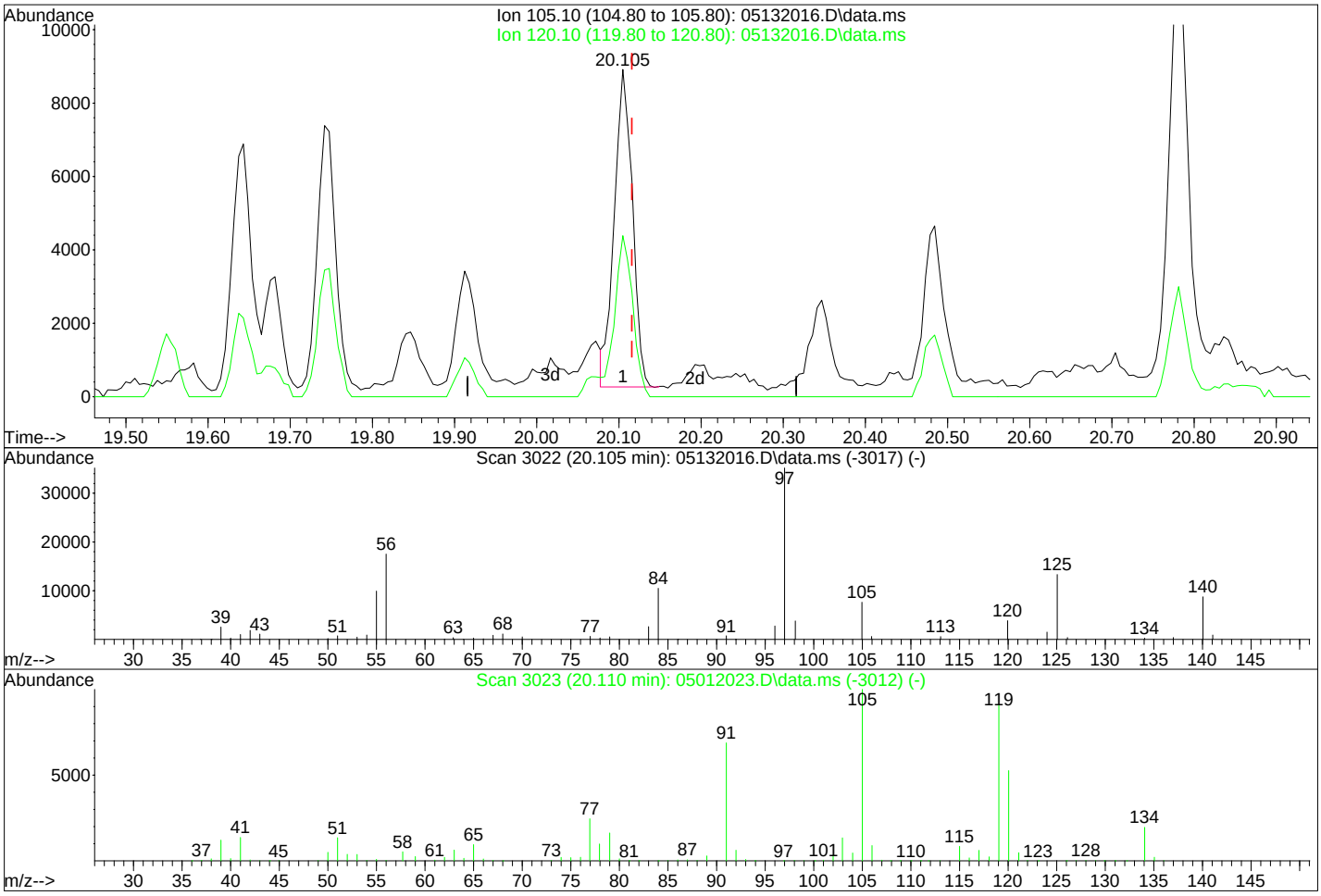
response 14766

Ion	Exp%	Act%
105.10	100	100
120.10	53.60	50.46
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\13\05132016.D Vial: 9
Acq On : 14 May 2020 3:15 Operator: LH
Sample : P2002301-006 (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 13:02:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05132016.D\data.ms

(82) 1,2,4-Trimethylbenzene (T)

20.105min (-0.011) 0.10ng m

response 13222

Ion	Exp%	Act%
105.10	100	100
120.10	53.60	56.35
0.00	0.00	0.00
0.00	0.00	0.00

IPC
LH 5/14/20

5/15/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132017.D Vial: 10
Acq On : 14 May 2020 3:48 Operator: LH
Sample : P2002301-007 (80mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:42:31 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/14/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	312024	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1354482	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	625351	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	506473	11.977	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.84%				
57) Toluene-d8 (SS2)	15.72	98	1317481	12.429	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.44%				
73) Bromofluorobenzene (SS3)	18.97	174	502039	13.163	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.28%				
Target Compounds							Qvalue
2) Propene	4.11	42	20605	0.570	ng		99
3) Dichlorodifluoromethan...	4.25	85	22793	0.322	ng		99
4) Chloromethane	4.53	50	106468	1.923	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	4.96	62	8215	0.135	ng		100
7) 1,3-Butadiene	5.15	54	2043	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.98	64	1153	N.D.			
10) Ethanol	6.46	45	233	N.D.			
11) Acetonitrile	6.60	41	1659	N.D.			
12) Acrolein	6.81	56	929	N.D.			
13) Acetone	7.01	58	59853	2.145	ng	#	1
14) Trichlorofluoromethane	7.24	101	5892	0.094	ng		97
15) 2-Propanol (Isopropanol)	7.52	45	3261	N.D.			
16) Acrylonitrile	7.76	53	456	N.D.			
17) 1,1-Dichloroethene	8.21	96	109	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.41	84	323	N.D.			
20) 3-Chloro-1-propene (Al...	8.58	41	172	N.D.			
21) Trichlorotrifluoroethane	8.84	151	985680	33.421	ng		99
22) Carbon Disulfide	8.68	76	112303	0.864	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	9.99	63	1916	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	10.17	86	28150	3.238	ng	#	92
27) 2-Butanone (MEK)	10.47	72	5464	0.230	ng	#	82
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	11.26	57	293928	4.938	ng		99
32) Chloroform	11.31	83	12050	0.194	ng		100
34) Tetrahydrofuran (THF)	11.71	72	212165	9.140	ng		97
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	3186	0.065	ng		99
38) 1,1,1-Trichloroethane	12.40	97	385	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	3095627	21.312	ng		100
42) Carbon Tetrachloride	13.03	117	24390	0.494	ng		100
43) Cyclohexane	13.17	84	96292	1.779	ng		98
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	13.97	130	57400	1.529	ng		99
48) 1,4-Dioxane	13.97	88	106	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.12	100	230	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132017.D Vial: 10
Acq On : 14 May 2020 3:48 Operator: LH
Sample : P2002301-007 (80mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:42:31 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

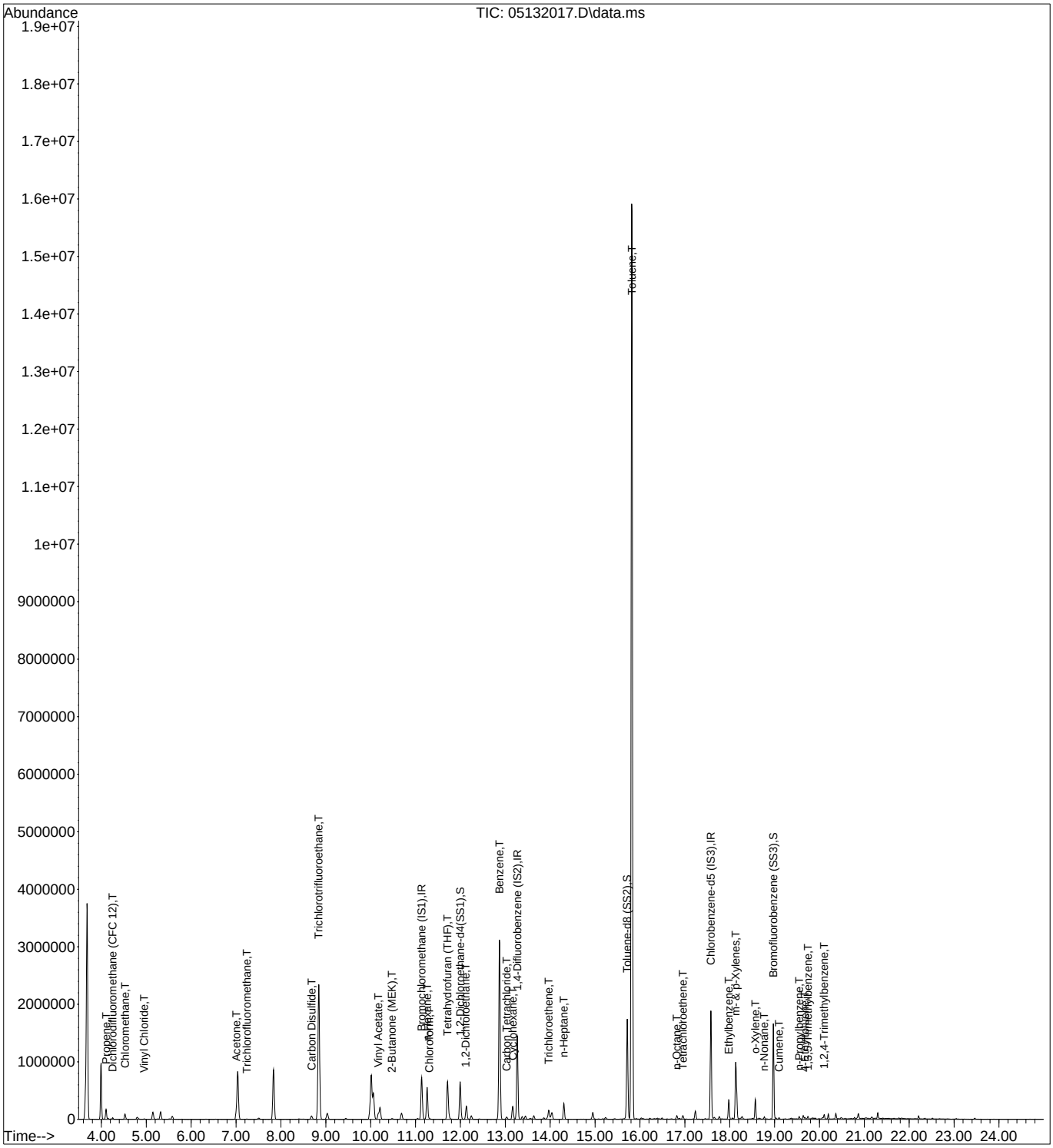
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.30	71	71545	2.106 ng	98
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	15.44	97	308	N.D.	
58) Toluene	15.82	91	13030353	95.368 ng	97
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.70	43	1409	N.D.	
63) n-Octane	16.82	57	12241	0.433 ng	95
64) Tetrachloroethene	16.96	166	18426	0.477 ng	99
65) Chlorobenzene	17.66	112	3358	N.D.	
66) Ethylbenzene	17.98	91	265694	1.744 ng	99
67) m- & p-Xylenes	18.14	91	778810	6.444 ng	99
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	936	N.D.	
70) o-Xylene	18.57	91	208993	1.703 ng	99
71) n-Nonane	18.77	43	14905	0.229 ng	97
72) 1,1,2,2-Tetrachloroethane	18.50	83	1962	N.D.	
74) Cumene	19.10	105	15720	0.104 ng	99
75) alpha-Pinene	19.54	93	226	N.D.	
76) n-Propylbenzene	19.55	91	35696	0.200 ng	97
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.68	105	13599	0.096 ng	97
79) 1,3,5-Trimethylbenzene	19.74	105	23047	0.188 ng	99
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.10	105	35686	0.289 ng	91
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.31	91	933	N.D.	
85) 1,3-Dichlorobenzene	20.30	146	158	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	158	N.D.	
87) sec-Butylbenzene	20.35	105	2270	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	2855	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.61	68	968	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.11	180	127	N.D.	
95) Naphthalene	22.21	128	3910	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.10	119	5120	N.D.	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132017.D Vial: 10
Acq On : 14 May 2020 3:48 Operator: LH
Sample : P2002301-007 (80mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:42:31 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132017.D Vial: 10
Acq On : 14 May 2020 3:48 Operator: LH
Sample : P2002301-007 (80mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:42:31 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/14/20

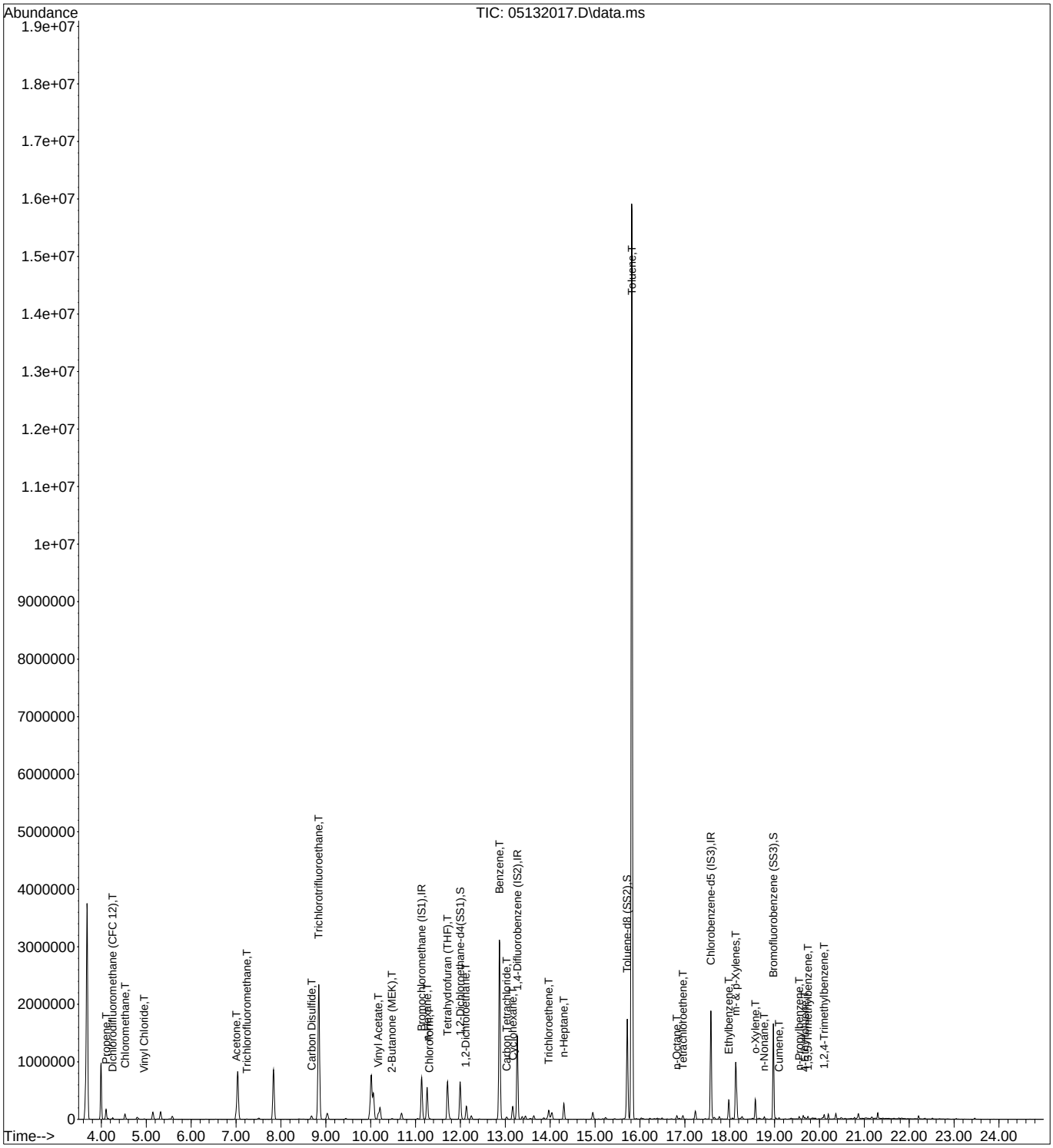
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	312024	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1354482	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	625351	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	506473	11.977	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.84%				
57) Toluene-d8 (SS2)	15.72	98	1317481	12.429	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.44%				
73) Bromofluorobenzene (SS3)	18.97	174	502039	13.163	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.28%				
Target Compounds							Qvalue
2) Propene	4.11	42	20605	0.570	ng		99
3) Dichlorodifluoromethan...	4.25	85	22793	0.322	ng		99
4) Chloromethane	4.53	50	106468	1.923	ng		99
6) Vinyl Chloride	4.96	62	8215	0.135	ng		100
13) Acetone	7.01	58	59853	2.145	ng	#	1
14) Trichlorofluoromethane	7.24	101	5892	0.094	ng		97
21) Trichlorotrifluoroethane	8.84	151	985680	33.421	ng		99
22) Carbon Disulfide	8.68	76	112303	0.864	ng		99
26) Vinyl Acetate	10.17	86	28150	3.238	ng	#	92
27) 2-Butanone (MEK)	10.47	72	5464	0.230	ng	#	82
31) n-Hexane	11.26	57	293928	4.938	ng		99
32) Chloroform	11.31	83	12050	0.194	ng		100
34) Tetrahydrofuran (THF)	11.71	72	212165	9.140	ng		97
36) 1,2-Dichloroethane	12.11	62	3186	0.065	ng		99
41) Benzene	12.87	78	3095627	21.312	ng		100
42) Carbon Tetrachloride	13.03	117	24390	0.494	ng		100
43) Cyclohexane	13.17	84	96292	1.779	ng		98
47) Trichloroethene	13.97	130	57400	1.529	ng		99
51) n-Heptane	14.30	71	71545	2.106	ng		98
58) Toluene	15.82	91	13030353	95.368	ng		97
63) n-Octane	16.82	57	12241	0.433	ng		95
64) Tetrachloroethene	16.96	166	18426	0.477	ng		99
66) Ethylbenzene	17.98	91	265694	1.744	ng		99
67) m- & p-Xylenes	18.14	91	778810	6.444	ng		99
70) o-Xylene	18.57	91	208993	1.703	ng		99
71) n-Nonane	18.77	43	14905	0.229	ng		97
74) Cumene	19.10	105	15720	0.104	ng		99
76) n-Propylbenzene	19.55	91	35696	0.200	ng		97
78) 4-Ethyltoluene	19.68	105	13599	0.096	ng		97
79) 1,3,5-Trimethylbenzene	19.74	105	23047	0.188	ng		99
82) 1,2,4-Trimethylbenzene	20.10	105	35686	0.289	ng		91

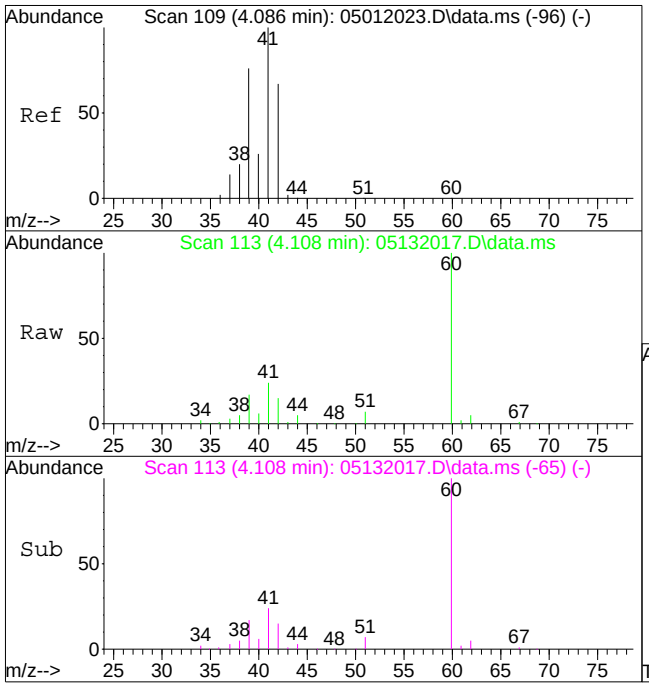
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132017.D Vial: 10
Acq On : 14 May 2020 3:48 Operator: LH
Sample : P2002301-007 (80mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:42:31 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

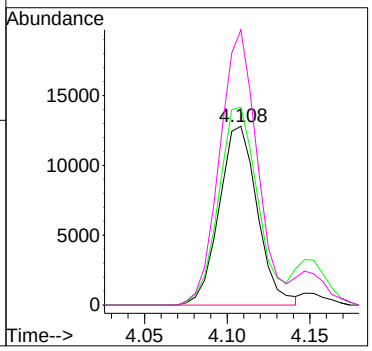


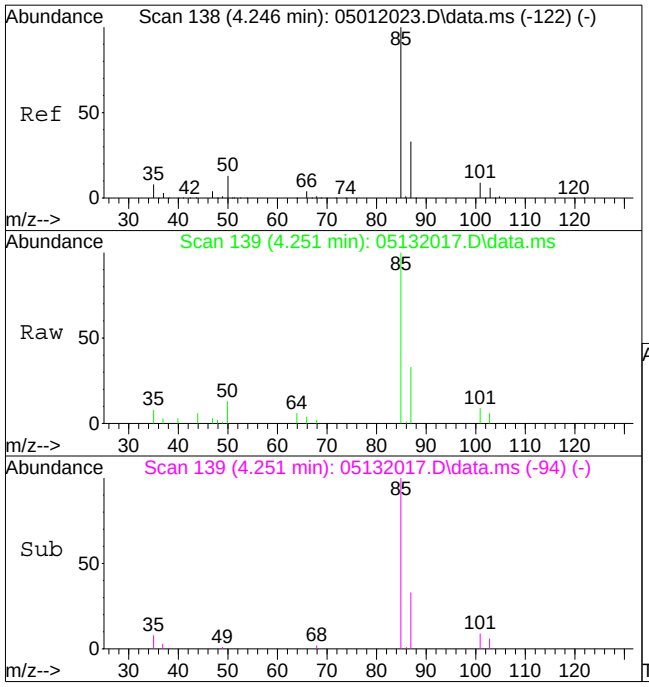


#2
Propene
Concen: 0.57 ng
RT: 4.11 min Scan# 113
Delta R.T. 0.016 min
Lab File: 05132017.D
Acq: 14 May 2020 3:48

Tgt Ion: 42 Resp: 20605

Ion	Ratio	Lower	Upper
42	100		
39	114.2	96.1	136.1
41	150.7	131.9	171.9

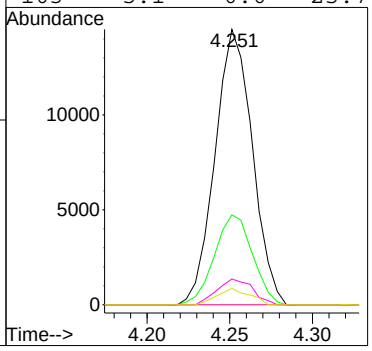


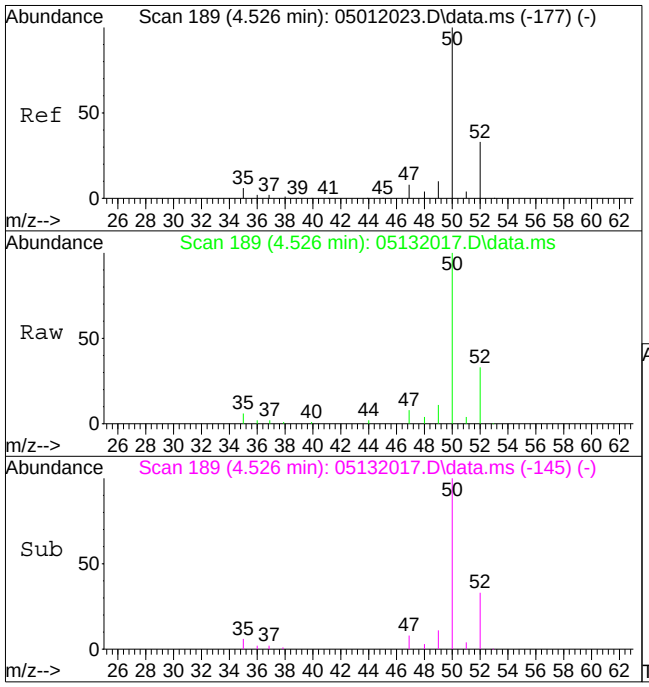


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.32 ng
RT: 4.25 min Scan# 139
Delta R.T. -0.000 min
Lab File: 05132017.D
Acq: 14 May 2020 3:48

Tgt Ion: 85 Resp: 22793

Ion	Ratio	Lower	Upper
85	100		
87	33.2	12.4	52.4
101	8.9	0.0	28.8
103	5.1	0.0	25.7

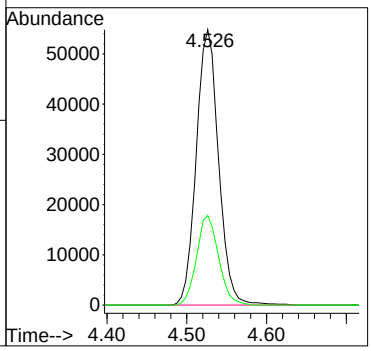


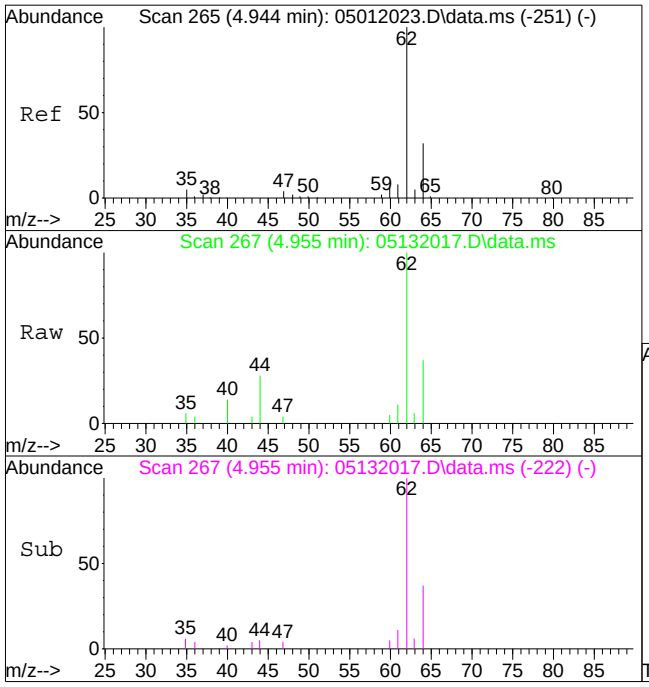


#4
Chloromethane
Concen: 1.92 ng
RT: 4.53 min Scan# 189
Delta R.T. -0.006 min
Lab File: 05132017.D
Acq: 14 May 2020 3:48

Tgt Ion: 50 Resp: 106468

Ion	Ratio	Lower	Upper
50	100		
52	32.0	12.5	52.5

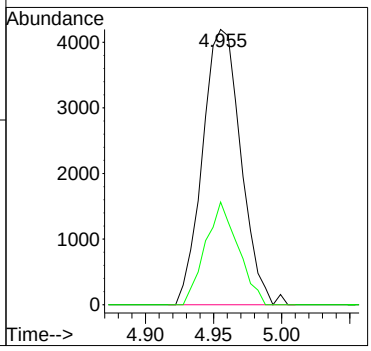


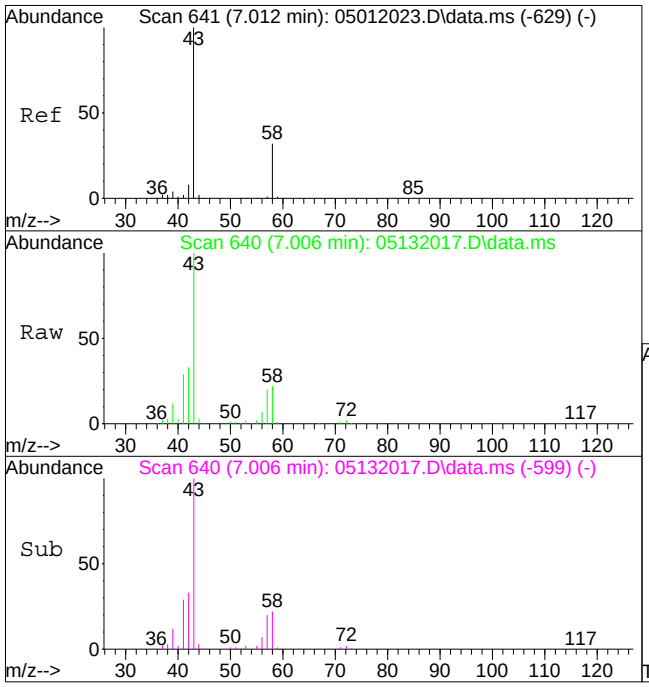


#6
Vinyl Chloride
Concen: 0.14 ng
RT: 4.96 min Scan# 267
Delta R.T. -0.000 min
Lab File: 05132017.D
Acq: 14 May 2020 3:48

Tgt Ion: 62 Resp: 8215

Ion	Ratio	Lower	Upper
62	100		
64	32.0	12.1	52.1

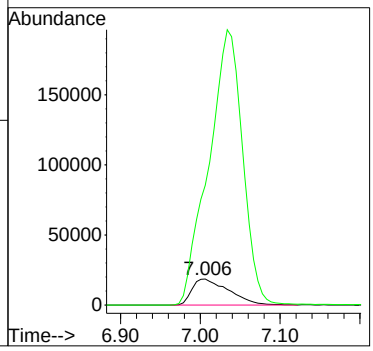


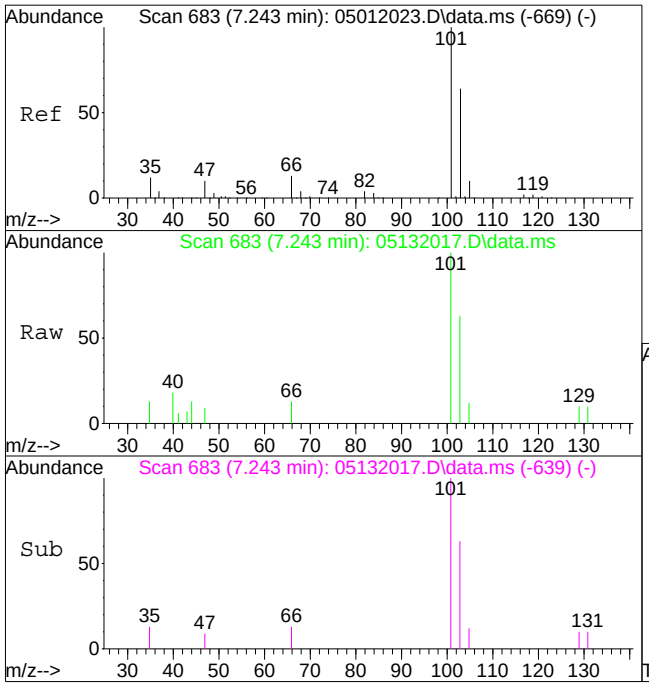


#13
Acetone
Concen: 2.14 ng
RT: 7.01 min Scan# 640
Delta R.T. -0.022 min
Lab File: 05132017.D
Acq: 14 May 2020 3:48

Tgt Ion: 58 Resp: 59853

Ion	Ratio	Lower	Upper
58	100		
43	973.9	294.4	354.4#

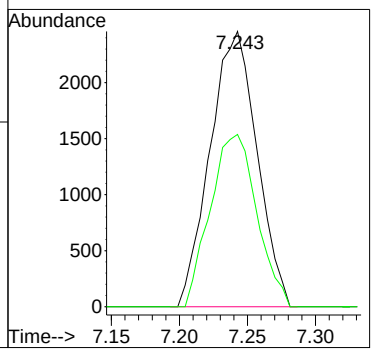


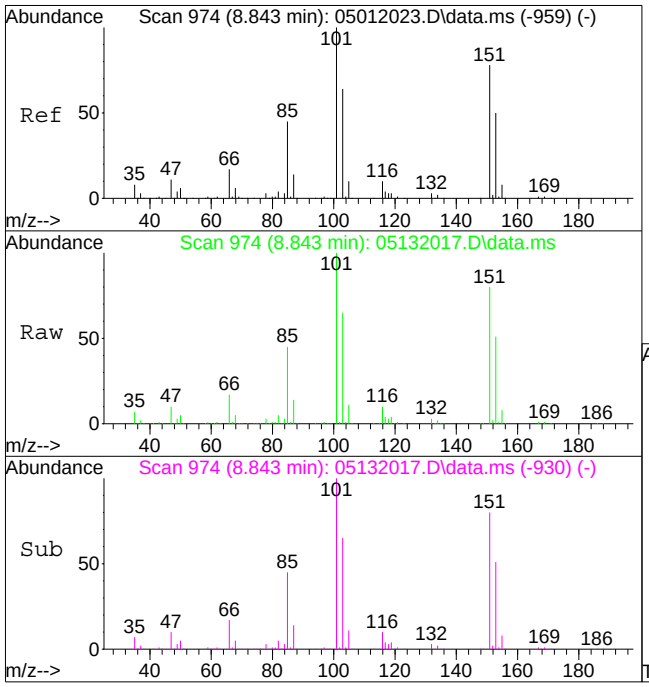


#14
Trichlorofluoromethane
Concen: 0.09 ng
RT: 7.24 min Scan# 683
Delta R.T. -0.006 min
Lab File: 05132017.D
Acq: 14 May 2020 3:48

Tgt Ion:101 Resp: 5892

Ion	Ratio	Lower	Upper
101	100		
103	61.9	44.4	84.4

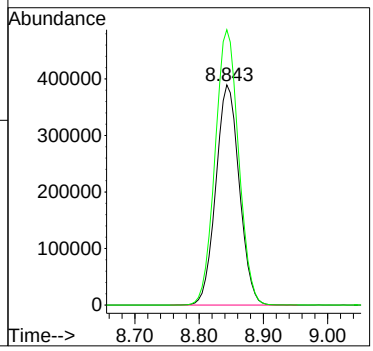


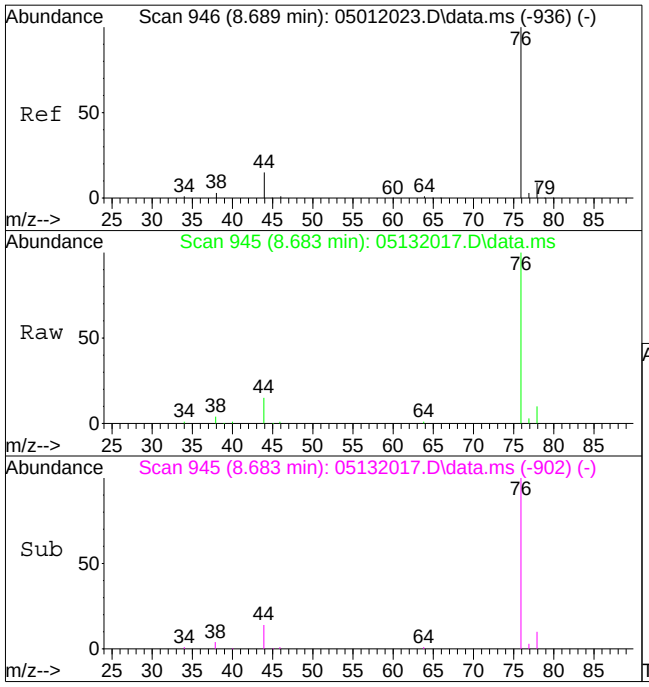


#21
Trichlorotrifluoroethane
Concen: 33.42 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05132017.D
Acq: 14 May 2020 3:48

Tgt Ion:151 Resp: 985680

Ion	Ratio	Lower	Upper
151	100		
101	125.7	107.3	147.3

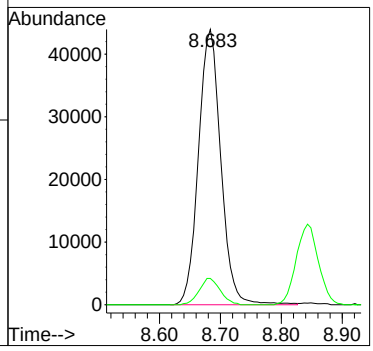


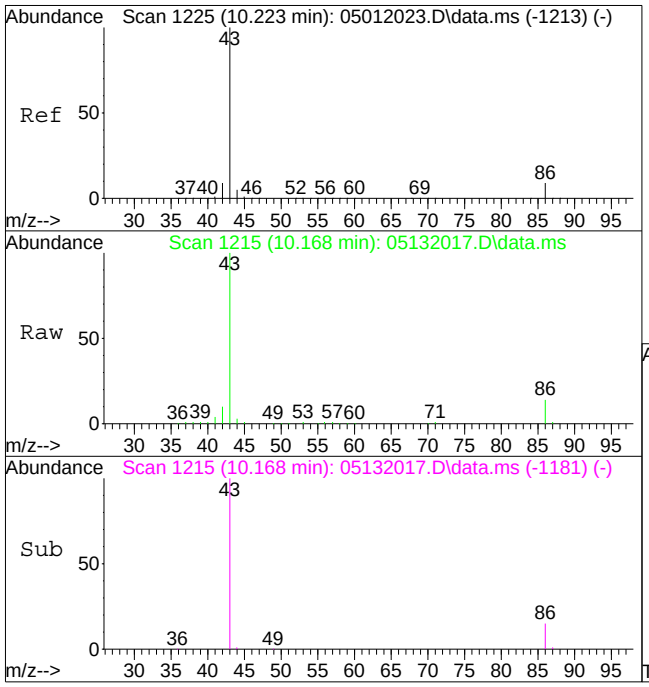


#22
Carbon Disulfide
Concen: 0.86 ng
RT: 8.68 min Scan# 945
Delta R.T. -0.011 min
Lab File: 05132017.D
Acq: 14 May 2020 3:48

Tgt Ion: 76 Resp: 112303

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	29.2

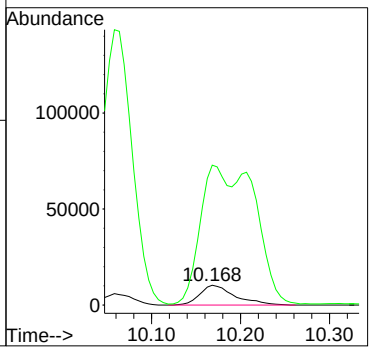


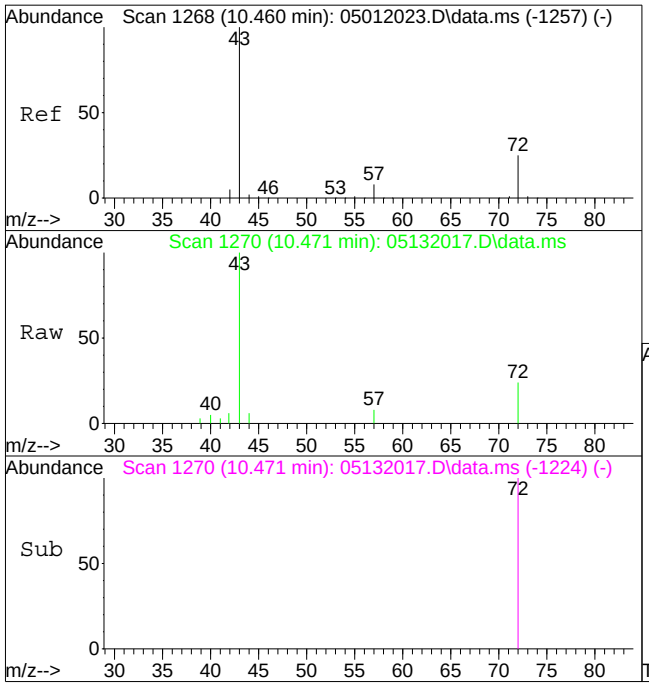


#26
Vinyl Acetate
Concen: 3.24 ng
RT: 10.17 min Scan# 1215
Delta R.T. -0.061 min
Lab File: 05132017.D
Acq: 14 May 2020 3:48

Tgt Ion: 86 Resp: 28150

Ion	Ratio	Lower	Upper
86	100		
43	1085.3	1103.0	1143.0#

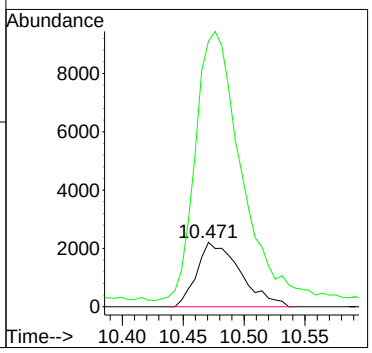


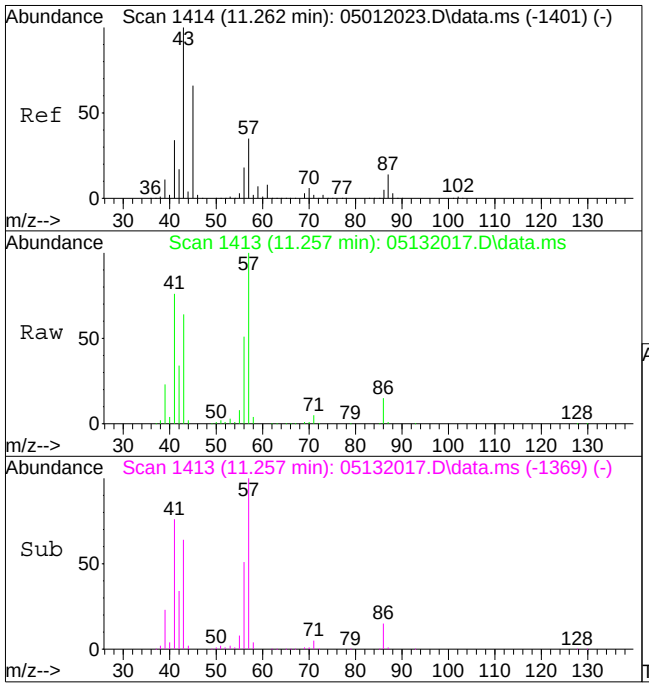


#27
2-Butanone (MEK)
Concen: 0.23 ng
RT: 10.47 min Scan# 1270
Delta R.T. 0.005 min
Lab File: 05132017.D
Acq: 14 May 2020 3:48

Tgt Ion: 72 Resp: 5464

Ion	Ratio	Lower	Upper
72	100		
43	452.7	389.7	429.7#

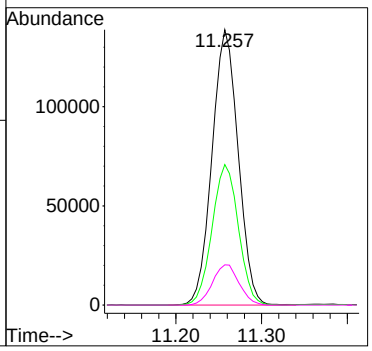


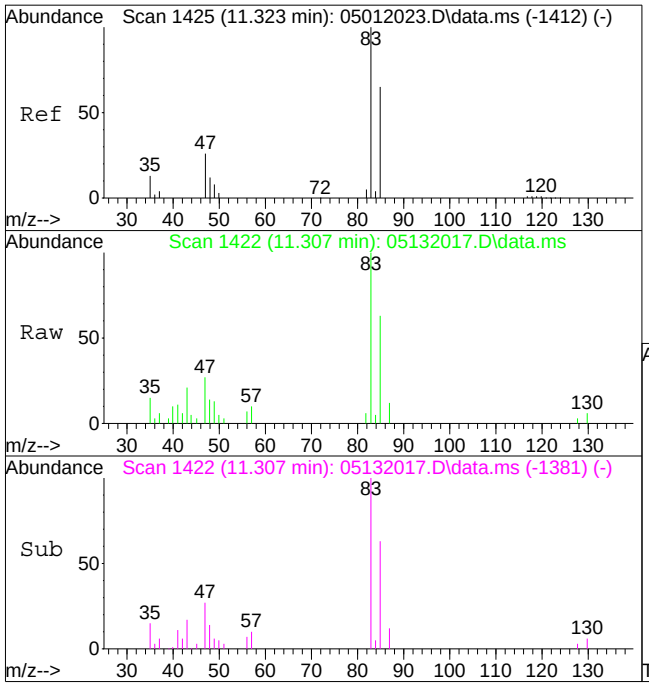


#31
n-Hexane
Concen: 4.94 ng
RT: 11.26 min Scan# 1413
Delta R.T. -0.006 min
Lab File: 05132017.D
Acq: 14 May 2020 3:48

Tgt Ion: 57 Resp: 293928

Ion	Ratio	Lower	Upper
57	100		
56	51.4	41.4	62.0
86	14.9	12.4	18.6

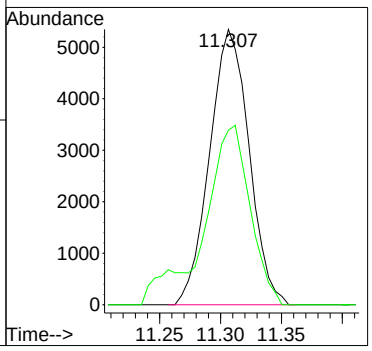


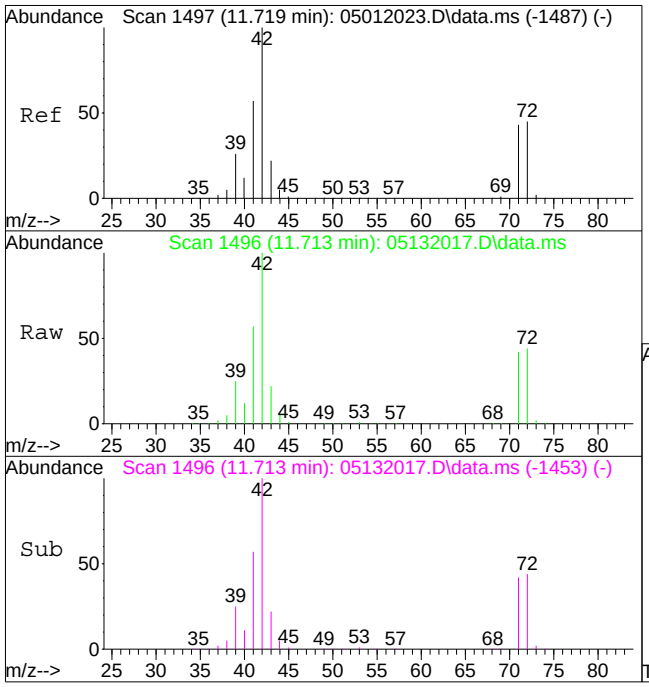


#32
Chloroform
Concen: 0.19 ng
RT: 11.31 min Scan# 1422
Delta R.T. -0.022 min
Lab File: 05132017.D
Acq: 14 May 2020 3:48

Tgt Ion: 83 Resp: 12050

Ion	Ratio	Lower	Upper
83	100		
85	65.5	45.5	85.5

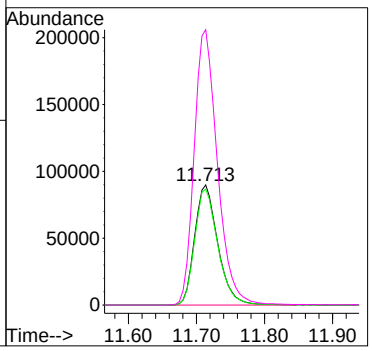


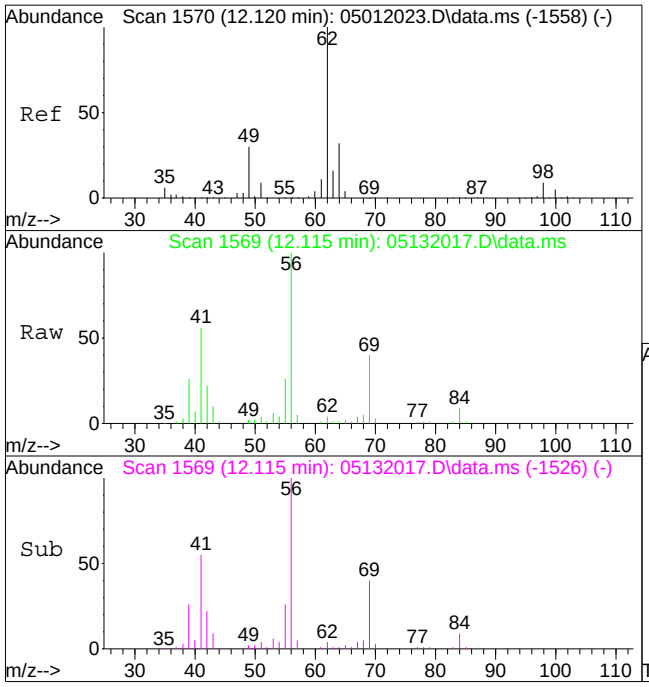


#34
Tetrahydrofuran (THF)
Concen: 9.14 ng
RT: 11.71 min Scan# 1496
Delta R.T. -0.011 min
Lab File: 05132017.D
Acq: 14 May 2020 3:48

Tgt Ion: 72 Resp: 212165

Ion	Ratio	Lower	Upper
72	100		
71	97.0	77.0	117.0
42	231.3	204.6	244.6

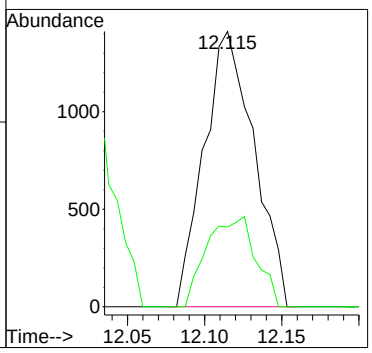


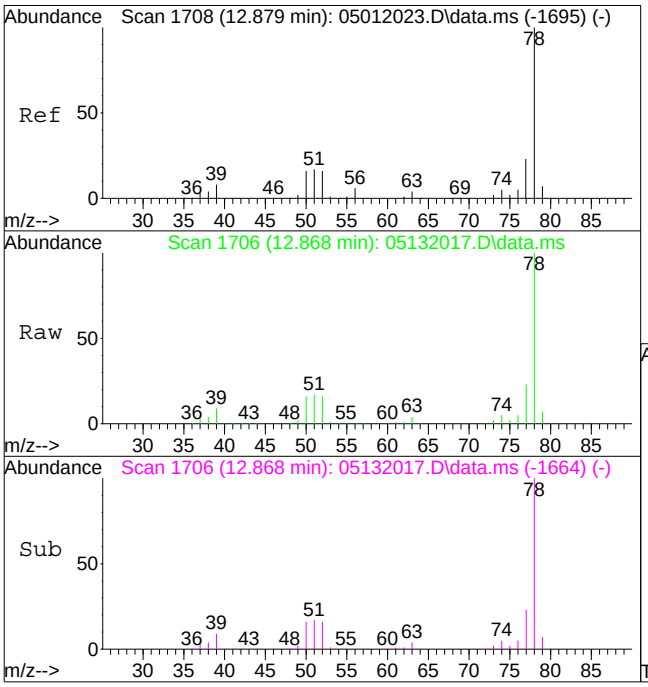


#36
1,2-Dichloroethane
Concen: 0.06 ng
RT: 12.11 min Scan# 1569
Delta R.T. -0.011 min
Lab File: 05132017.D
Acq: 14 May 2020 3:48

Tgt Ion: 62 Resp: 3186

Ion	Ratio	Lower	Upper
62	100		
64	32.1	12.4	52.4

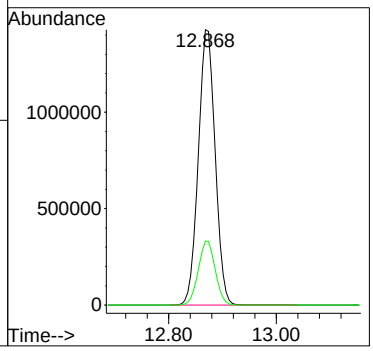


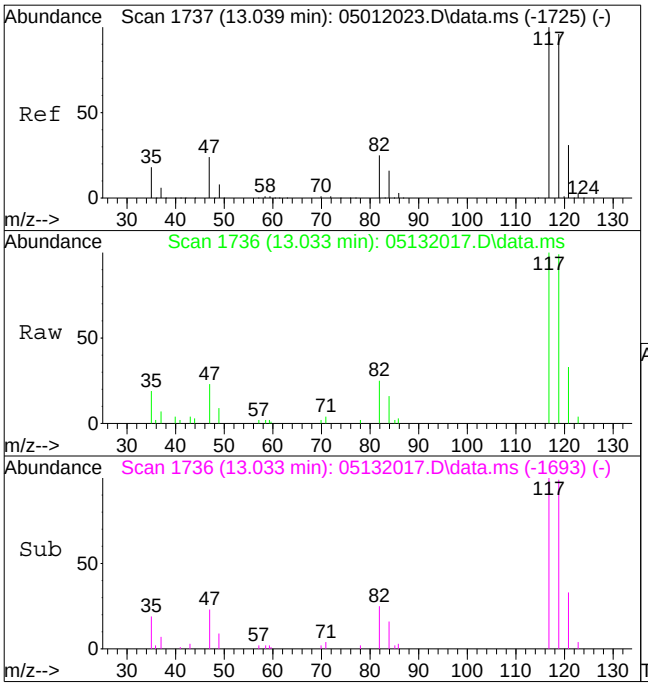


#41
Benzene
Concen: 21.31 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05132017.D
Acq: 14 May 2020 3:48

Tgt Ion: 78 Resp: 3095627

Ion	Ratio	Lower	Upper
78	100		
77	23.3	3.4	43.4

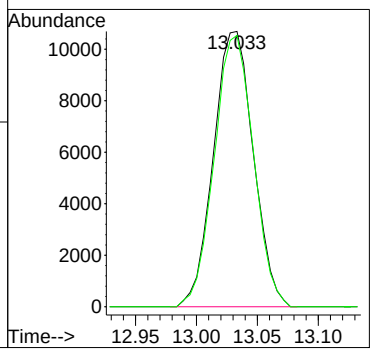


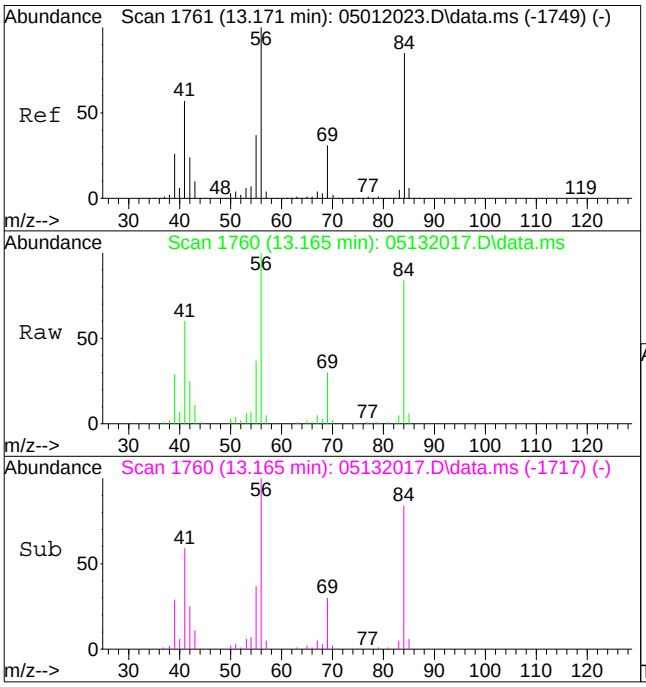


#42
Carbon Tetrachloride
Concen: 0.49 ng
RT: 13.03 min Scan# 1736
Delta R.T. -0.011 min
Lab File: 05132017.D
Acq: 14 May 2020 3:48

Tgt Ion:117 Resp: 24390

Ion	Ratio	Lower	Upper
117	100		
119	96.6	76.2	116.2

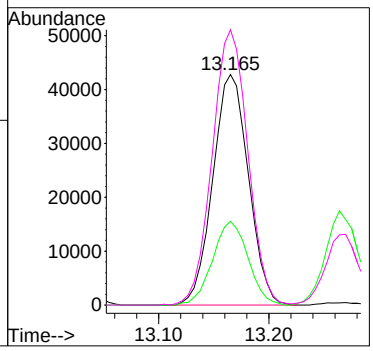


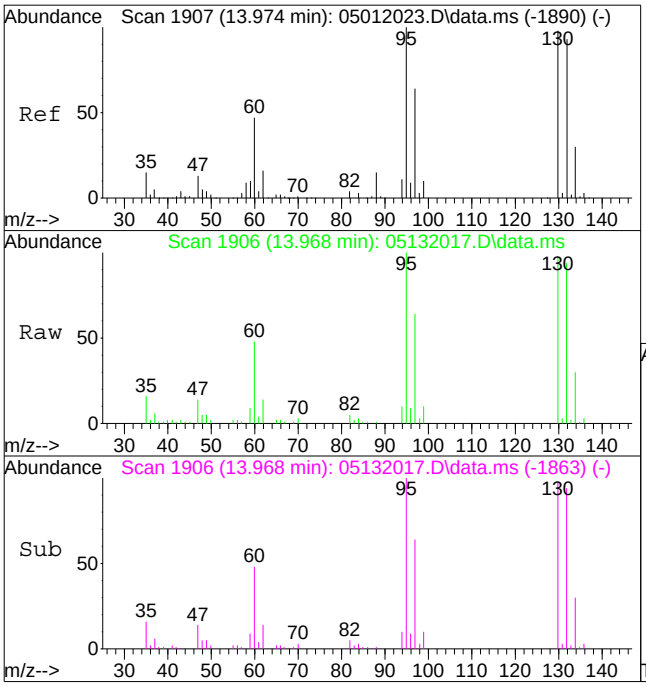


#43
Cyclohexane
Concen: 1.78 ng
RT: 13.17 min Scan# 1760
Delta R.T. -0.011 min
Lab File: 05132017.D
Acq: 14 May 2020 3:48

Tgt Ion: 84 Resp: 96292

Ion	Ratio	Lower	Upper
84	100		
69	36.0	16.5	56.5
56	119.4	97.4	137.4

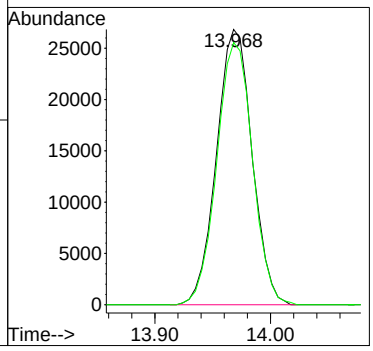


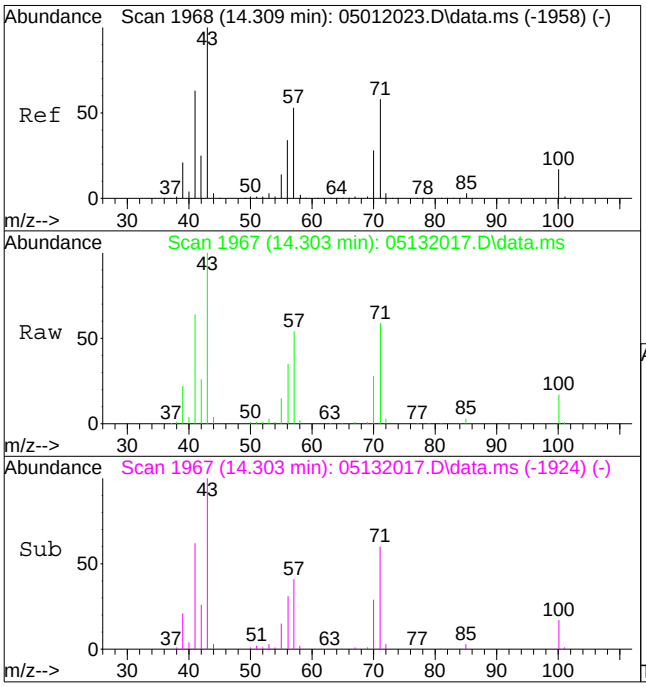


#47
Trichloroethene
Concen: 1.53 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05132017.D
Acq: 14 May 2020 3:48

Tgt Ion:130 Resp: 57400

Ion	Ratio	Lower	Upper
130	100		
132	95.5	74.9	114.9

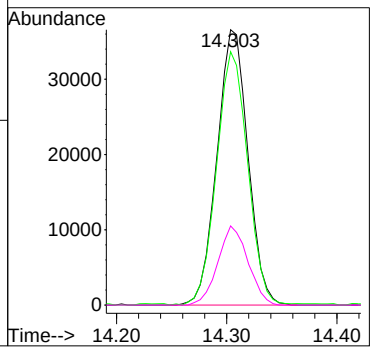


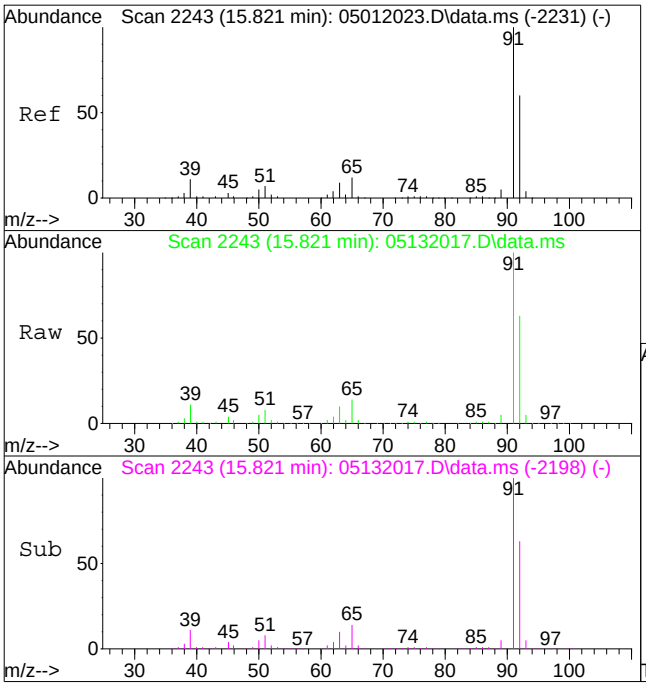


#51
n-Heptane
Concen: 2.11 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05132017.D
Acq: 14 May 2020 3:48

Tgt Ion: 71 Resp: 71545

Ion	Ratio	Lower	Upper
71	100		
57	93.1	71.0	111.0
100	27.9	8.4	48.4

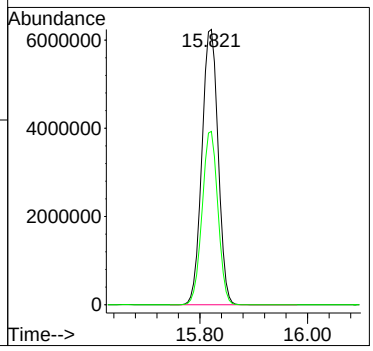


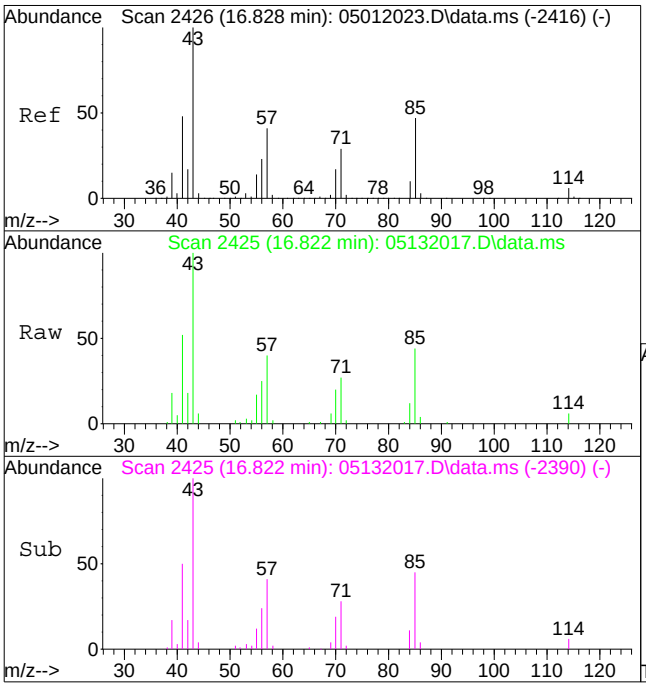


#58
Toluene
Concen: 95.37 ng
RT: 15.82 min Scan# 2243
Delta R.T. -0.000 min
Lab File: 05132017.D
Acq: 14 May 2020 3:48

Tgt Ion: 91 Resp:13030353

Ion	Ratio	Lower	Upper
91	100		
92	61.3	39.4	79.4

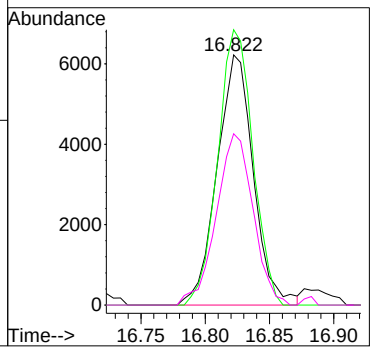


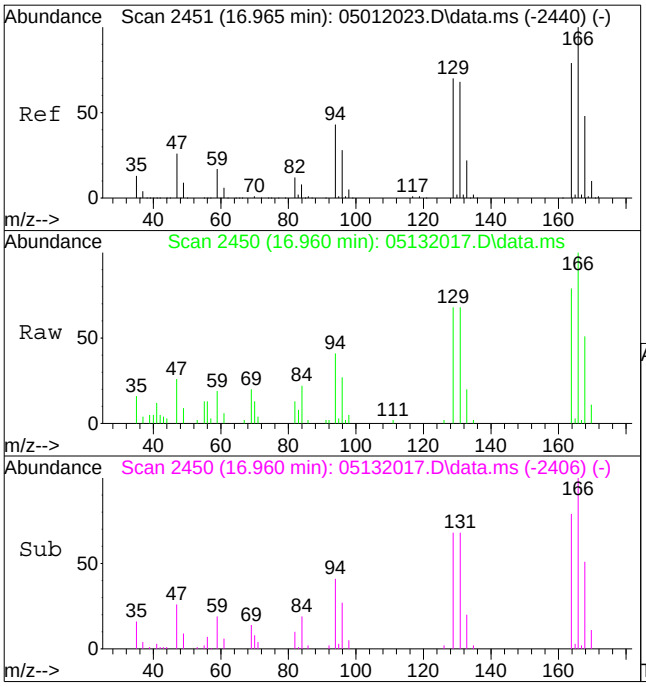


#63
n-Octane
Concen: 0.43 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05132017.D
Acq: 14 May 2020 3:48

Tgt Ion: 57 Resp: 12241

Ion	Ratio	Lower	Upper
57	100		
85	106.0	91.0	136.4
71	69.3	56.2	84.2

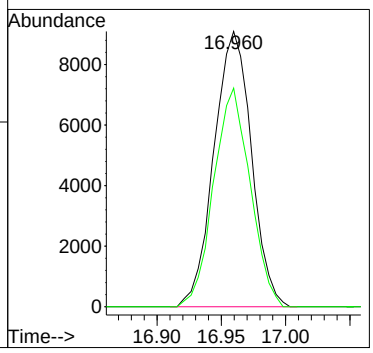


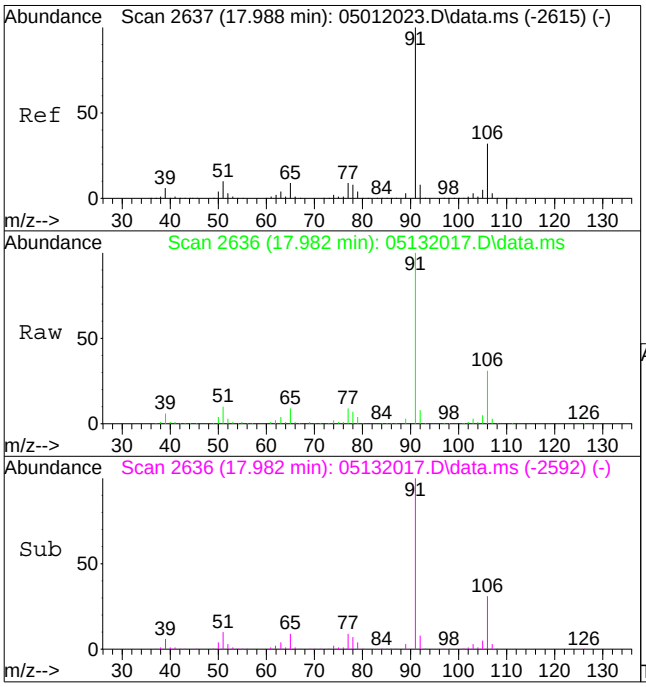


#64
Tetrachloroethene
Concen: 0.48 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05132017.D
Acq: 14 May 2020 3:48

Tgt Ion:166 Resp: 18426

Ion	Ratio	Lower	Upper
166	100		
164	77.1	58.4	98.4

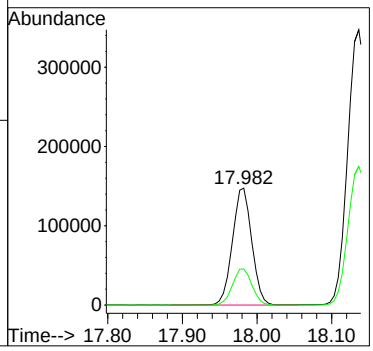


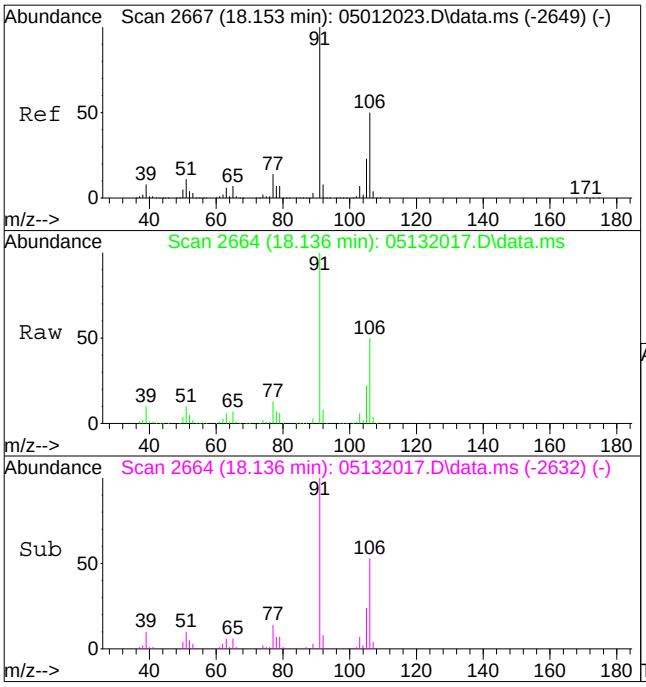


#66
Ethylbenzene
Concen: 1.74 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05132017.D
Acq: 14 May 2020 3:48

Tgt Ion: 91 Resp: 265694

Ion	Ratio	Lower	Upper
91	100		
106	31.1	11.6	51.6

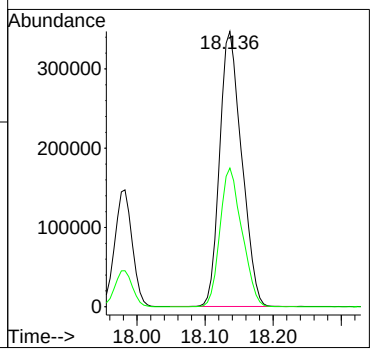


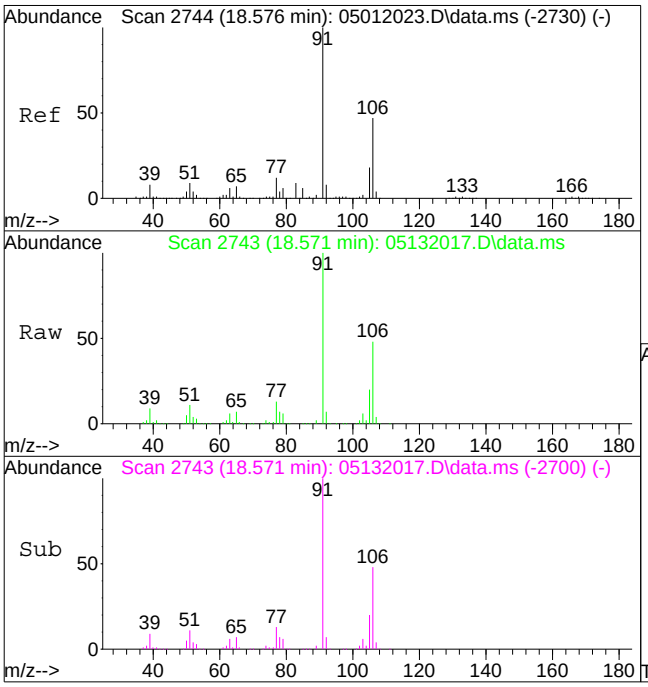


#67
m- & p-Xylenes
Concen: 6.44 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05132017.D
Acq: 14 May 2020 3:48

Tgt Ion: 91 Resp: 778810

Ion	Ratio	Lower	Upper
91	100		
106	50.4	29.7	69.7

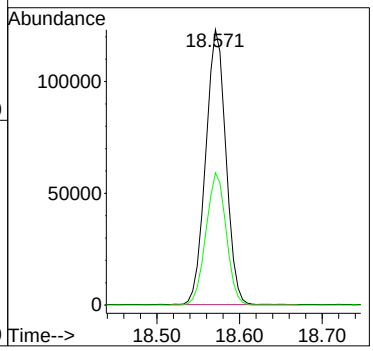


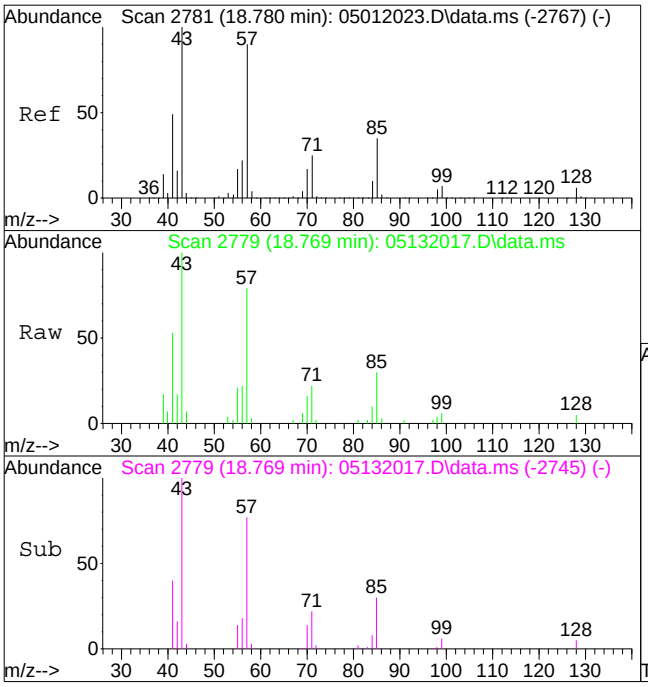


#70
o-Xylene
Concen: 1.70 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05132017.D
Acq: 14 May 2020 3:48

Tgt Ion: 91 Resp: 208993

Ion	Ratio	Lower	Upper
91	100		
106	48.1	27.5	67.5

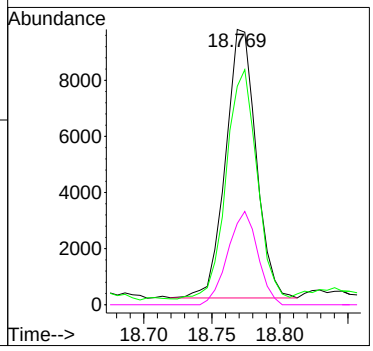


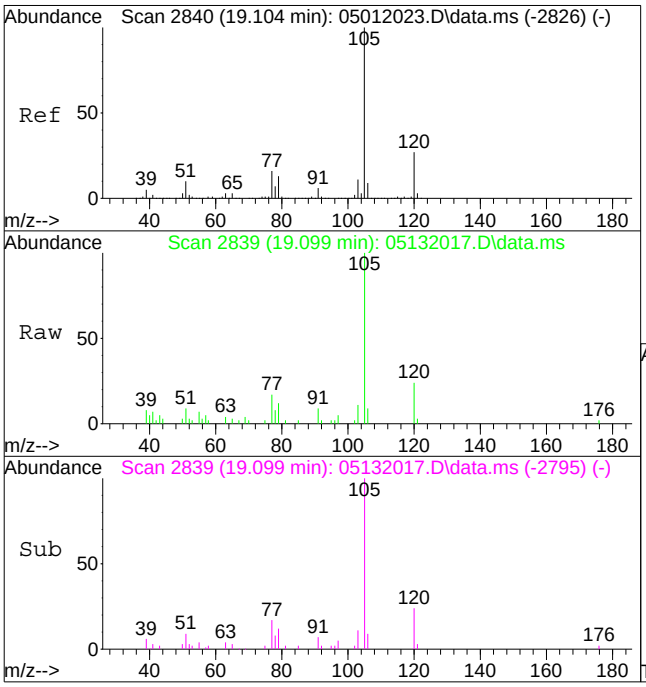


#71
n-Nonane
Concen: 0.23 ng
RT: 18.77 min Scan# 2779
Delta R.T. -0.011 min
Lab File: 05132017.D
Acq: 14 May 2020 3:48

Tgt Ion: 43 Resp: 14905

Ion	Ratio	Lower	Upper
43	100		
57	86.0	69.0	109.0
85	34.0	14.6	54.6

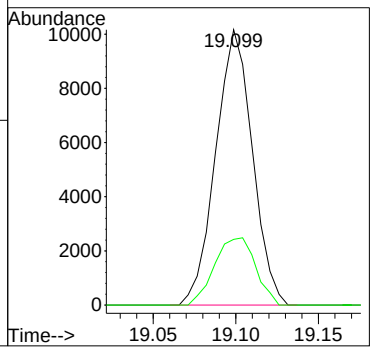


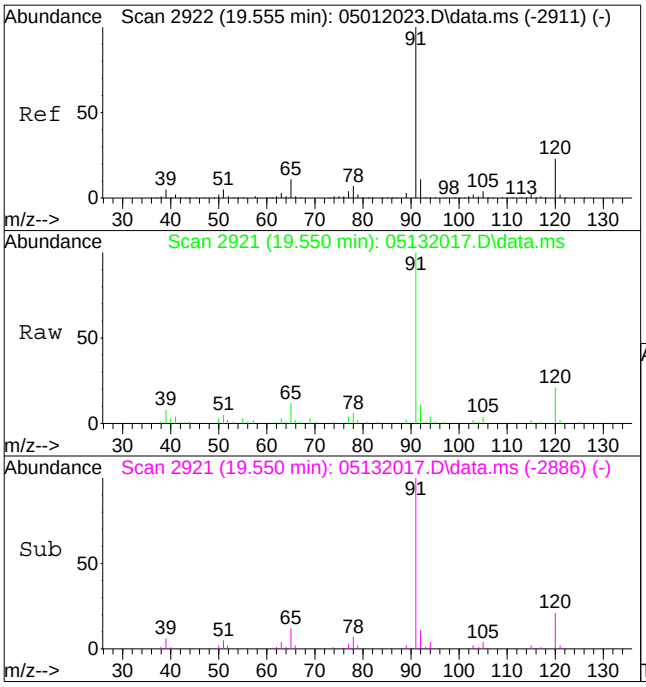


#74
Cumene
Concen: 0.10 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05132017.D
Acq: 14 May 2020 3:48

Tgt Ion:105 Resp: 15720

Ion	Ratio	Lower	Upper
105	100		
120	27.2	6.8	46.8

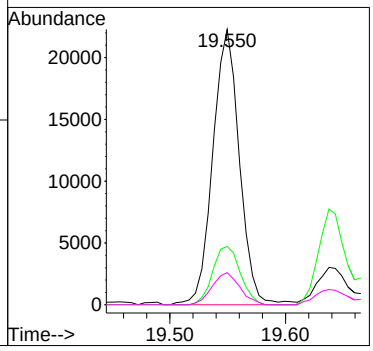


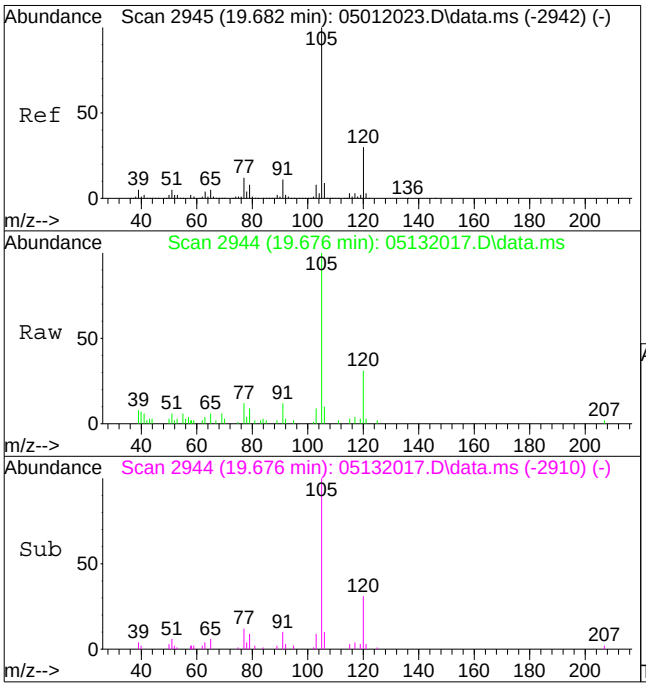


#76
n-Propylbenzene
Concen: 0.20 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05132017.D
Acq: 14 May 2020 3:48

Tgt Ion: 91 Resp: 35696

Ion	Ratio	Lower	Upper
91	100		
120	21.8	3.1	43.1
65	12.1	0.0	30.9

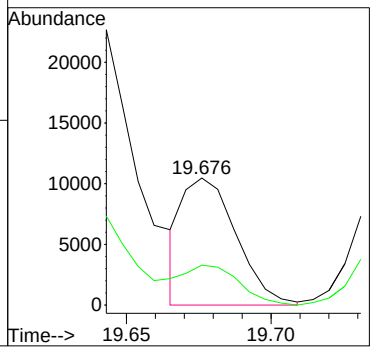


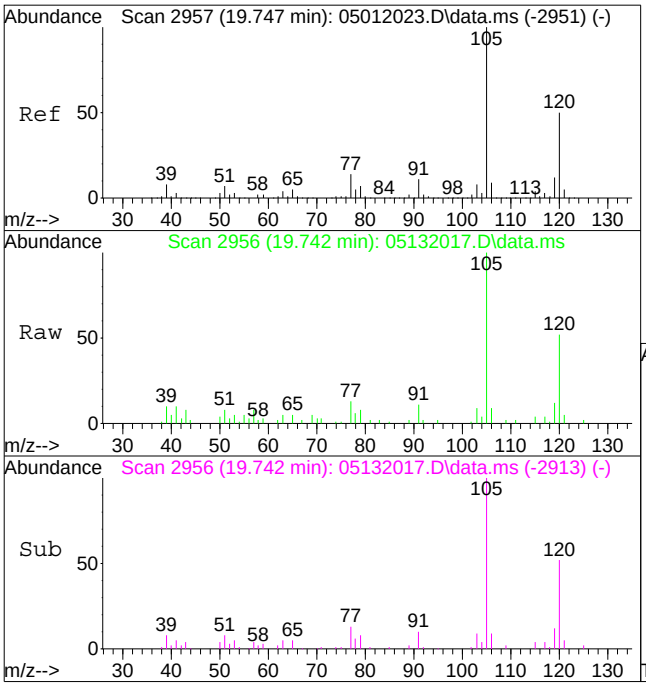


#78
4-Ethyltoluene
Concen: 0.10 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05132017.D
Acq: 14 May 2020 3:48

Tgt Ion:105 Resp: 13599

Ion	Ratio	Lower	Upper
105	100		
120	31.8	10.4	50.4

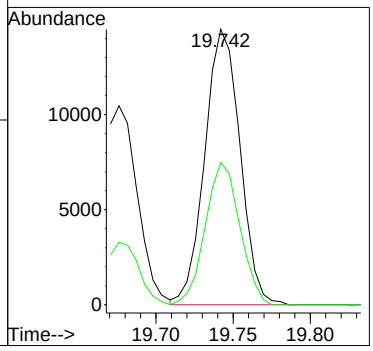


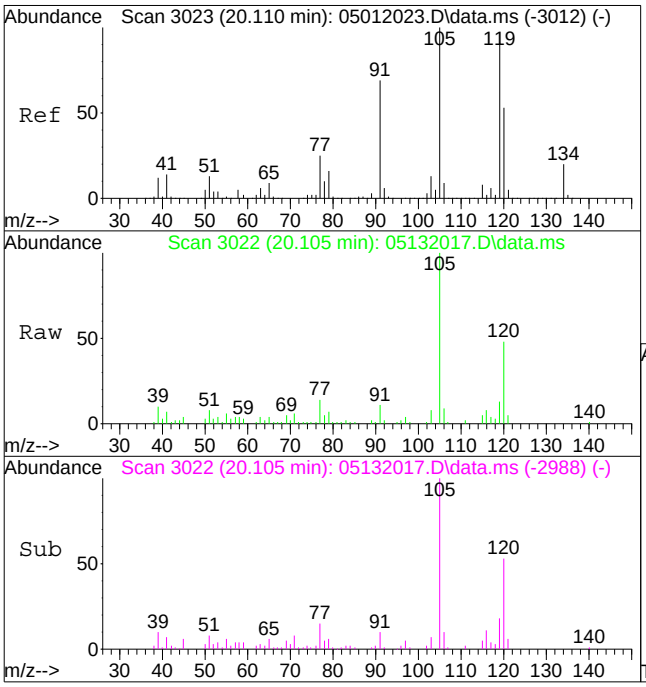


#79
1,3,5-Trimethylbenzene
Concen: 0.19 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05132017.D
Acq: 14 May 2020 3:48

Tgt Ion:105 Resp: 23047

Ion	Ratio	Lower	Upper
105	100		
120	50.4	29.9	69.9

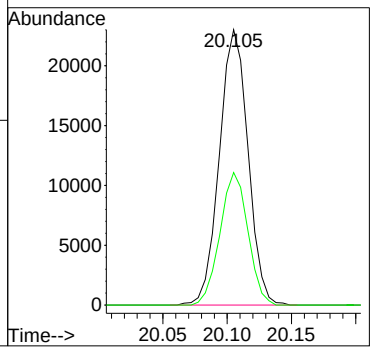




#82
1,2,4-Trimethylbenzene
Concen: 0.29 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05132017.D
Acq: 14 May 2020 3:48

Tgt Ion:105 Resp: 35686

Ion	Ratio	Lower	Upper
105	100		
120	46.9	33.6	73.6



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132018.D Vial: 11
Acq On : 14 May 2020 4:22 Operator: LH
Sample : P2002301-008 (80mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:58:58 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/14/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	306319	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1314955	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	614446	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	488454	11.766	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.16%				
57) Toluene-d8 (SS2)	15.72	98	1283388	12.323	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.56%				
73) Bromofluorobenzene (SS3)	18.97	174	495357	13.218	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.76%				
Target Compounds							Qvalue
2) Propene	4.10	42	23683	0.668	ng		98
3) Dichlorodifluoromethan...	4.25	85	27414	0.395	ng		100
4) Chloromethane	4.53	50	123548	2.273	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	4.95	62	10591	0.178	ng		99
7) 1,3-Butadiene	5.22	54	317	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.98	64	1397	0.059	ng		88
10) Ethanol	6.34	45	7069	0.258	ng		88
11) Acetonitrile	6.60	41	1777	N.D.			
12) Acrolein	6.80	56	1715	0.079	ng		88
13) Acetone	7.00	58	92007	3.358	ng	#	1
14) Trichlorofluoromethane	7.24	101	6914	0.113	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	4183	0.050	ng	#	39
16) Acrylonitrile	7.75	53	1112	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.41	84	430	N.D.			
20) 3-Chloro-1-propene (Al...	8.57	41	353	N.D.			
21) Trichlorotrifluoroethane	8.84	151	1204742	41.609	ng		98
22) Carbon Disulfide	8.68	76	140359	1.100	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	9.99	63	2310	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.47	72	8429	0.361	ng	#	90
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.29	61	234	N.D.			
31) n-Hexane	11.26	57	351088	6.008	ng		100
32) Chloroform	11.31	83	14524	0.238	ng		98
34) Tetrahydrofuran (THF)	11.71	72	269450	11.824	ng		98
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	4004	0.083	ng		97
38) 1,1,1-Trichloroethane	12.39	97	207	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	3763352	26.688	ng		100
42) Carbon Tetrachloride	13.03	117	28456	0.593	ng		100
43) Cyclohexane	13.17	84	117715	2.240	ng		99
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	13.53	63	161	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	13.97	130	66159	1.815	ng		98
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.11	100	249	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132018.D Vial: 11
Acq On : 14 May 2020 4:22 Operator: LH
Sample : P2002301-008 (80mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:58:58 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

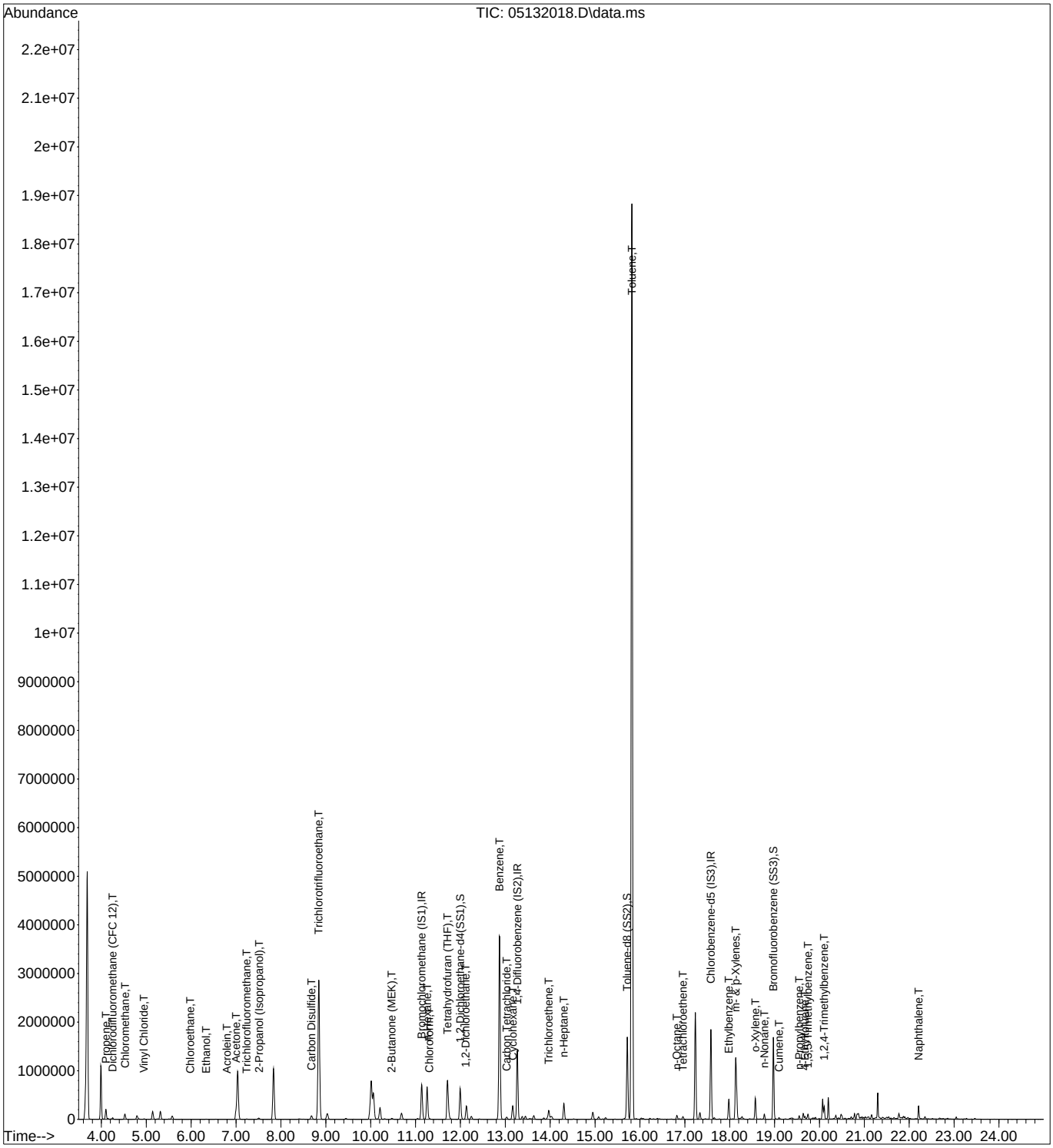
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.30	71	84849	2.573 ng	99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.88	58	285	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.82	91	15453227	115.109 ng	96
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.71	43	1402	N.D.	
63) n-Octane	16.82	57	15413	0.555 ng	99
64) Tetrachloroethene	16.96	166	18692	0.493 ng	100
65) Chlorobenzene	17.66	112	3300	N.D.	
66) Ethylbenzene	17.98	91	327866	2.190 ng	100
67) m- & p-Xylenes	18.14	91	985971	8.302 ng	98
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	1307	N.D.	
70) o-Xylene	18.57	91	264133	2.191 ng	99
71) n-Nonane	18.77	43	39235	0.613 ng	97
72) 1,1,2,2-Tetrachloroethane	18.63	83	1110	N.D.	
74) Cumene	19.10	105	20760	0.140 ng	100
75) alpha-Pinene	19.55	93	305	N.D.	
76) n-Propylbenzene	19.55	91	52542	0.299 ng	99
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.68	105	32508	0.234 ng	93
79) 1,3,5-Trimethylbenzene	19.74	105	45460	0.377 ng	99
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.10	105	128251	1.058 ng	92
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.22	91	1084	N.D.	
85) 1,3-Dichlorobenzene	20.30	146	301	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	301	N.D.	
87) sec-Butylbenzene	20.35	105	7060	N.D.	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.61	68	940	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.21	128	21291	0.144 ng	98
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132018.D Vial: 11
Acq On : 14 May 2020 4:22 Operator: LH
Sample : P2002301-008 (80mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:58:58 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132018.D Vial: 11
Acq On : 14 May 2020 4:22 Operator: LH
Sample : P2002301-008 (80mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:58:58 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/14/20

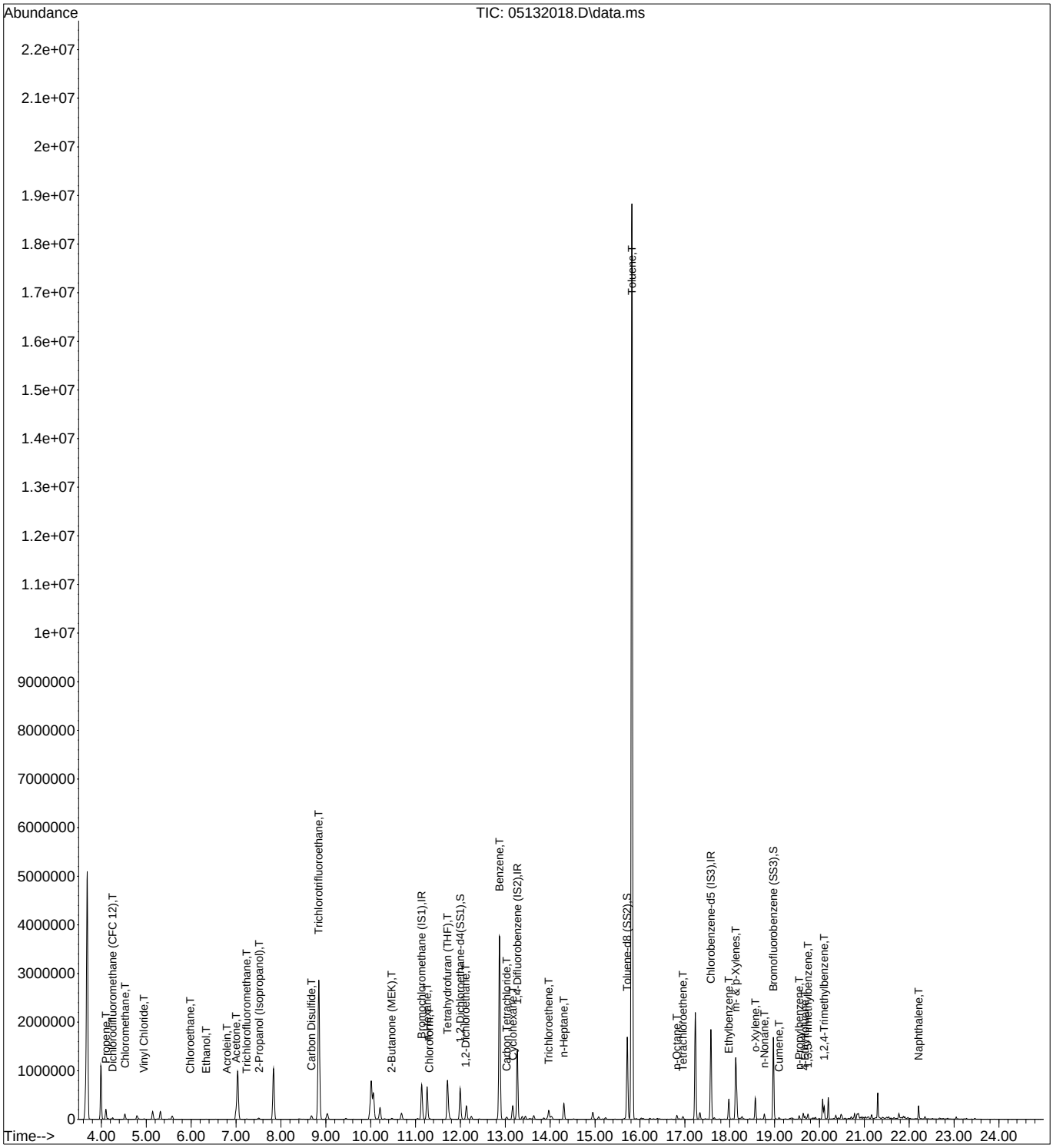
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	306319	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1314955	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	614446	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	488454	11.766	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.16%				
57) Toluene-d8 (SS2)	15.72	98	1283388	12.323	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.56%				
73) Bromofluorobenzene (SS3)	18.97	174	495357	13.218	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.76%				
Target Compounds							Qvalue
2) Propene	4.10	42	23683	0.668	ng		98
3) Dichlorodifluoromethan...	4.25	85	27414	0.395	ng		100
4) Chloromethane	4.53	50	123548	2.273	ng		99
6) Vinyl Chloride	4.95	62	10591	0.178	ng		99
9) Chloroethane	5.98	64	1397	0.059	ng		88
10) Ethanol	6.34	45	7069	0.258	ng		88
12) Acrolein	6.80	56	1715	0.079	ng		88
13) Acetone	7.00	58	92007	3.358	ng	#	1
14) Trichlorofluoromethane	7.24	101	6914	0.113	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	4183	0.050	ng	#	39
21) Trichlorotrifluoroethane	8.84	151	1204742	41.609	ng		98
22) Carbon Disulfide	8.68	76	140359	1.100	ng		99
27) 2-Butanone (MEK)	10.47	72	8429	0.361	ng	#	90
31) n-Hexane	11.26	57	351088	6.008	ng		100
32) Chloroform	11.31	83	14524	0.238	ng		98
34) Tetrahydrofuran (THF)	11.71	72	269450	11.824	ng		98
36) 1,2-Dichloroethane	12.11	62	4004	0.083	ng		97
41) Benzene	12.87	78	3763352	26.688	ng		100
42) Carbon Tetrachloride	13.03	117	28456	0.593	ng		100
43) Cyclohexane	13.17	84	117715	2.240	ng		99
47) Trichloroethene	13.97	130	66159	1.815	ng		98
51) n-Heptane	14.30	71	84849	2.573	ng		99
58) Toluene	15.82	91	15453227	115.109	ng		96
63) n-Octane	16.82	57	15413	0.555	ng		99
64) Tetrachloroethene	16.96	166	18692	0.493	ng		100
66) Ethylbenzene	17.98	91	327866	2.190	ng		100
67) m- & p-Xylenes	18.14	91	985971	8.302	ng		98
70) o-Xylene	18.57	91	264133	2.191	ng		99
71) n-Nonane	18.77	43	39235	0.613	ng		97
74) Cumene	19.10	105	20760	0.140	ng		100
76) n-Propylbenzene	19.55	91	52542	0.299	ng		99
78) 4-Ethyltoluene	19.68	105	32508	0.234	ng		93
79) 1,3,5-Trimethylbenzene	19.74	105	45460	0.377	ng		99
82) 1,2,4-Trimethylbenzene	20.10	105	128251	1.058	ng		92
95) Naphthalene	22.21	128	21291	0.144	ng		98

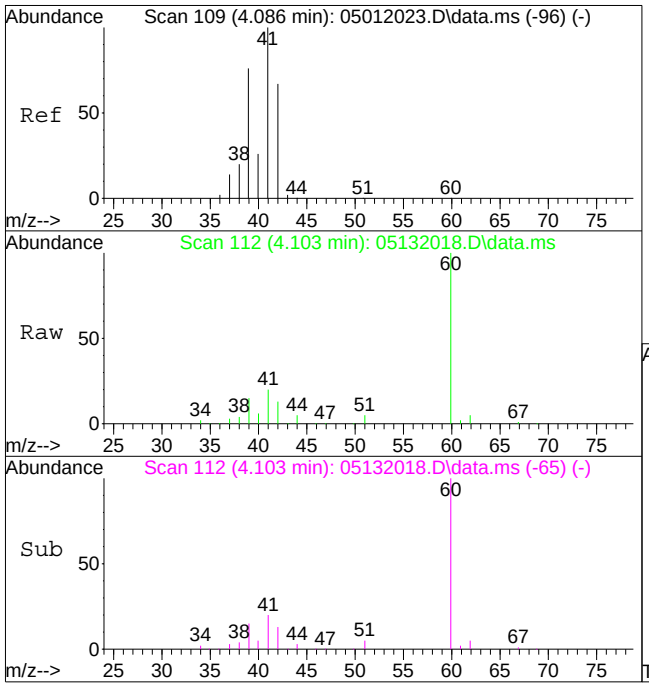
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132018.D Vial: 11
Acq On : 14 May 2020 4:22 Operator: LH
Sample : P2002301-008 (80mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:58:58 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

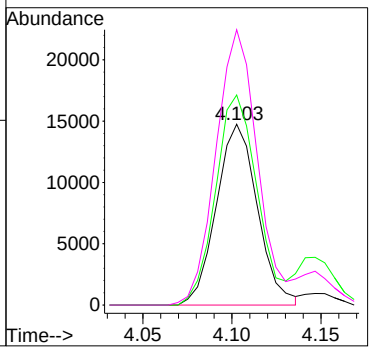


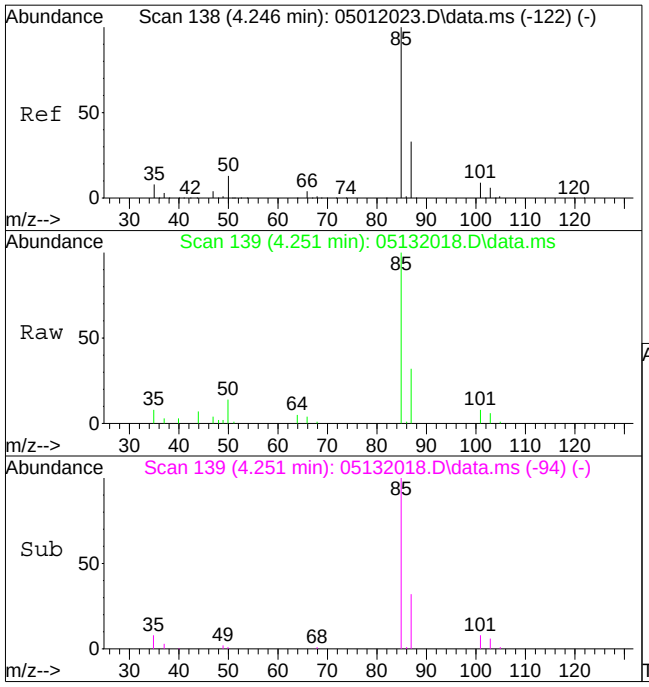


#2
Propene
Concen: 0.67 ng
RT: 4.10 min Scan# 112
Delta R.T. 0.011 min
Lab File: 05132018.D
Acq: 14 May 2020 4:22

Tgt Ion: 42 Resp: 23683

Ion	Ratio	Lower	Upper
42	100		
39	118.0	96.1	136.1
41	155.6	131.9	171.9

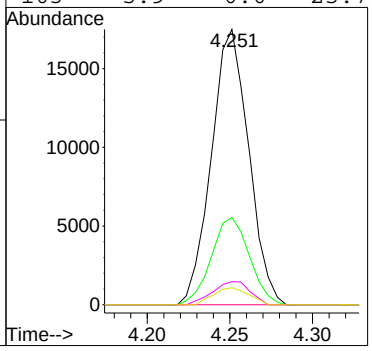


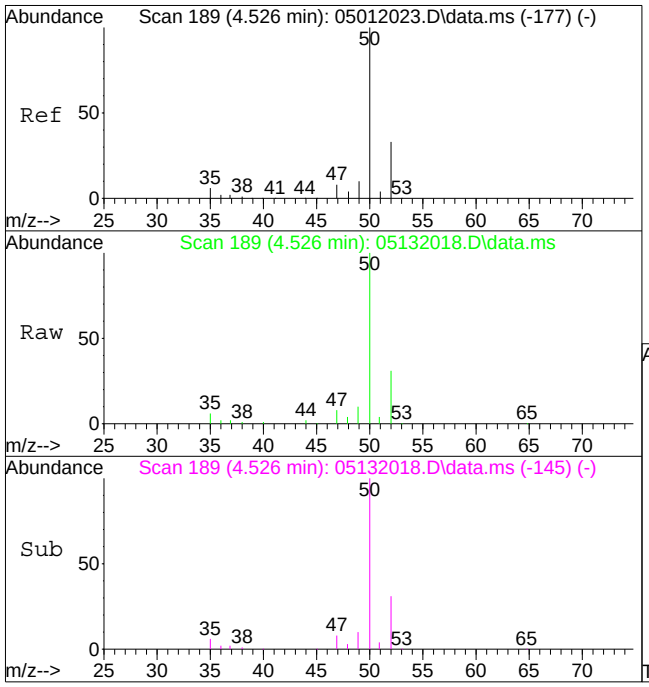


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.40 ng
RT: 4.25 min Scan# 139
Delta R.T. -0.000 min
Lab File: 05132018.D
Acq: 14 May 2020 4:22

Tgt Ion: 85 Resp: 27414

Ion	Ratio	Lower	Upper
85	100		
87	32.3	12.4	52.4
101	8.4	0.0	28.8
103	5.9	0.0	25.7

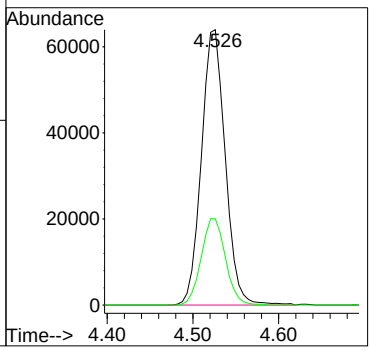


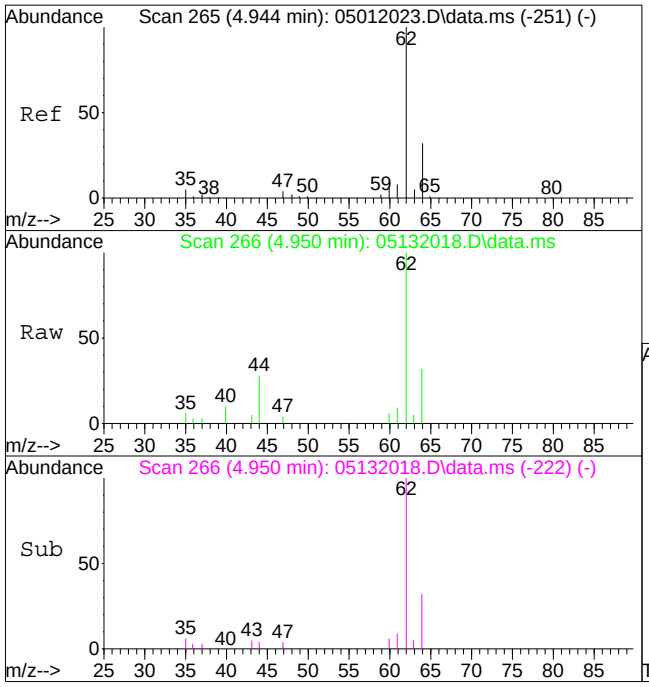


#4
Chloromethane
Concen: 2.27 ng
RT: 4.53 min Scan# 189
Delta R.T. -0.006 min
Lab File: 05132018.D
Acq: 14 May 2020 4:22

Tgt Ion: 50 Resp: 123548

Ion	Ratio	Lower	Upper
50	100		
52	32.0	12.5	52.5

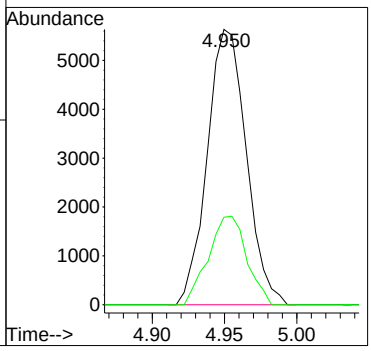


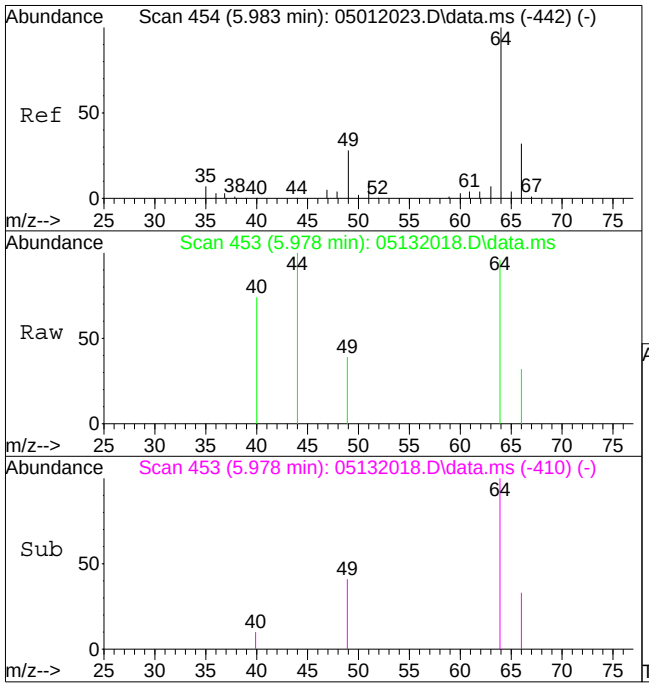


#6
Vinyl Chloride
Concen: 0.18 ng
RT: 4.95 min Scan# 266
Delta R.T. -0.006 min
Lab File: 05132018.D
Acq: 14 May 2020 4:22

Tgt Ion: 62 Resp: 10591

Ion	Ratio	Lower	Upper
62	100		
64	31.5	12.1	52.1

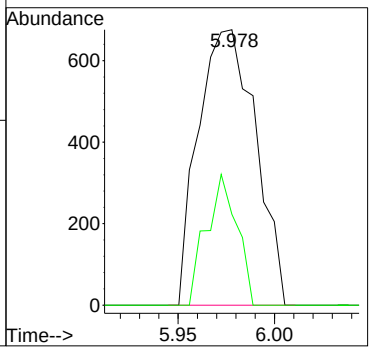


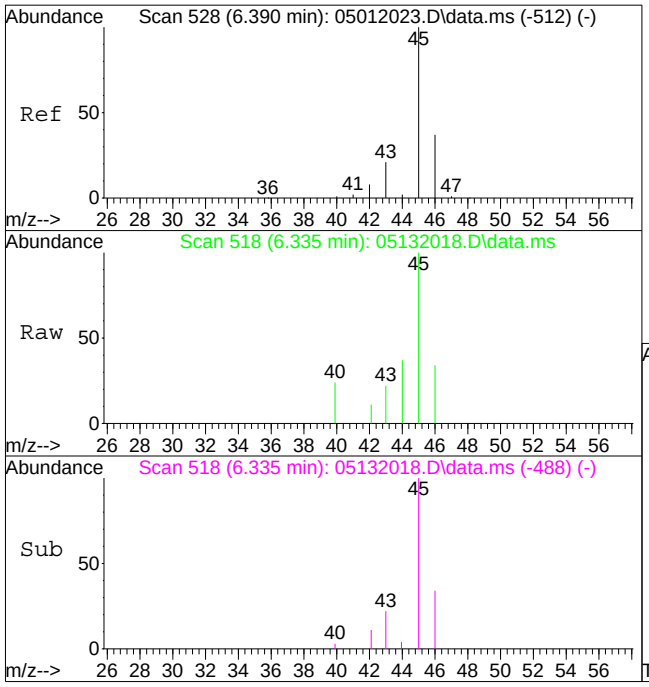


#9
Chloroethane
Concen: 0.06 ng
RT: 5.98 min Scan# 453
Delta R.T. -0.011 min
Lab File: 05132018.D
Acq: 14 May 2020 4:22

Tgt Ion: 64 Resp: 1397

Ion	Ratio	Lower	Upper
64	100		
66	25.4	12.1	52.1

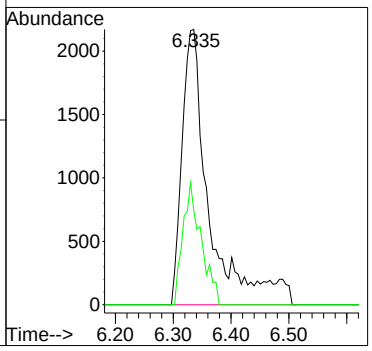


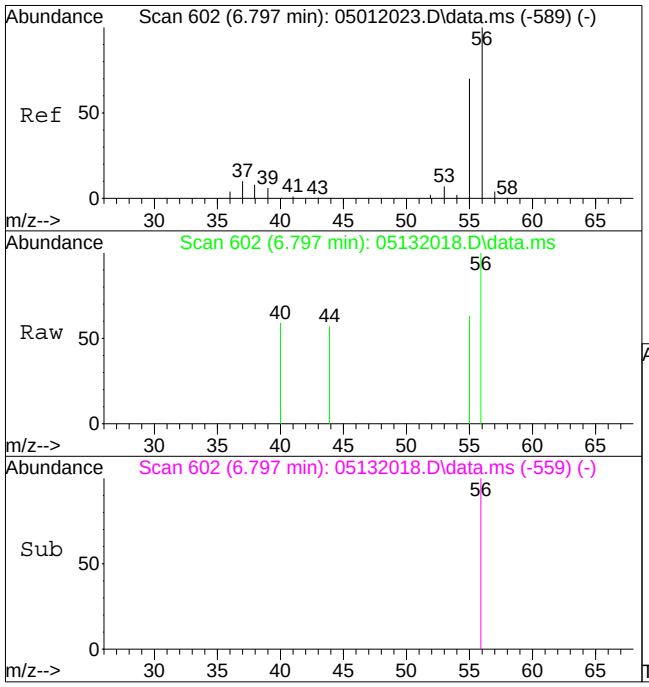


#10
Ethanol
Concen: 0.26 ng
RT: 6.34 min Scan# 518
Delta R.T. -0.083 min
Lab File: 05132018.D
Acq: 14 May 2020 4:22

Tgt Ion: 45 Resp: 7069

Ion	Ratio	Lower	Upper
45	100		
46	29.9	17.2	57.2

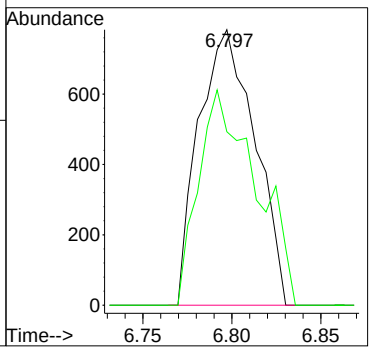


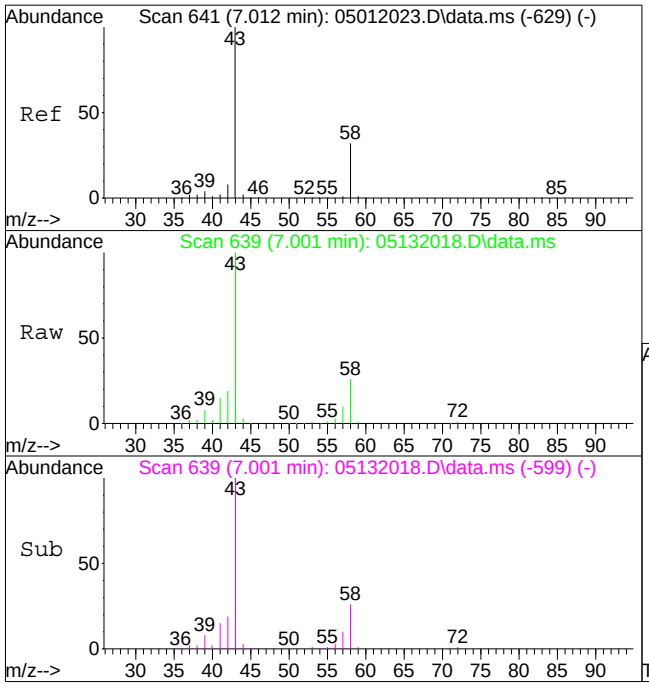


#12
Acrolein
Concen: 0.08 ng
RT: 6.80 min Scan# 602
Delta R.T. -0.011 min
Lab File: 05132018.D
Acq: 14 May 2020 4:22

Tgt Ion: 56 Resp: 1715

Ion	Ratio	Lower	Upper
56	100		
55	80.1	50.2	90.2

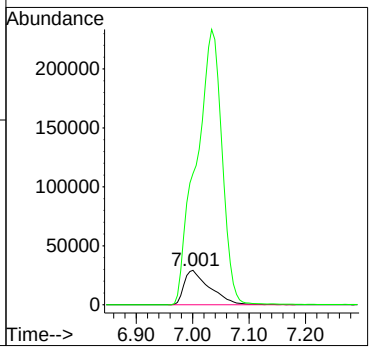


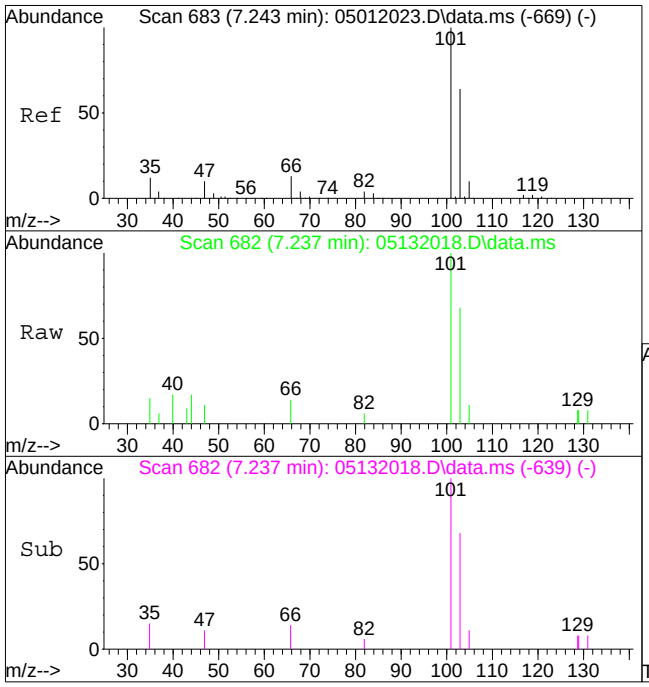


#13
Acetone
Concen: 3.36 ng
RT: 7.00 min Scan# 639
Delta R.T. -0.028 min
Lab File: 05132018.D
Acq: 14 May 2020 4:22

Tgt Ion: 58 Resp: 92007

Ion	Ratio	Lower	Upper
58	100		
43	810.0	294.4	354.4#

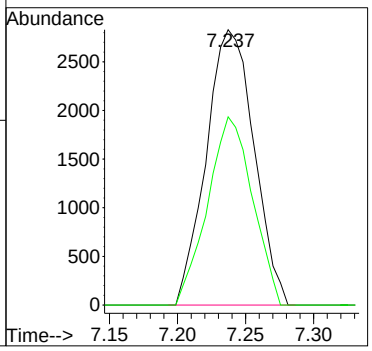


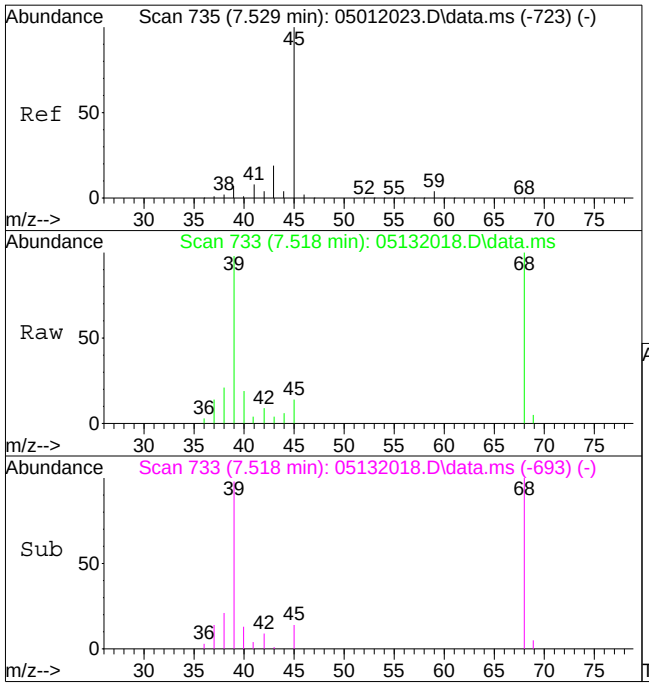


#14
Trichlorofluoromethane
Concen: 0.11 ng
RT: 7.24 min Scan# 682
Delta R.T. -0.011 min
Lab File: 05132018.D
Acq: 14 May 2020 4:22

Tgt Ion:101 Resp: 6914

Ion	Ratio	Lower	Upper
101	100		
103	64.1	44.4	84.4

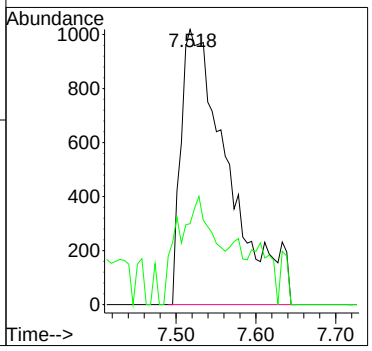


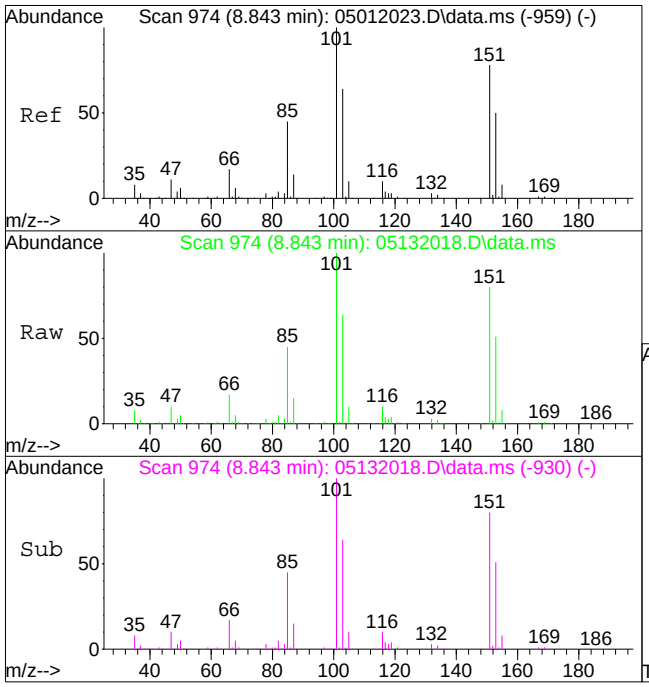


#15
2-Propanol (Isopropanol)
Concen: 0.05 ng
RT: 7.52 min Scan# 733
Delta R.T. -0.028 min
Lab File: 05132018.D
Acq: 14 May 2020 4:22

Tgt Ion: 45 Resp: 4183

Ion	Ratio	Lower	Upper
45	100		
43	47.3	0.0	39.5#

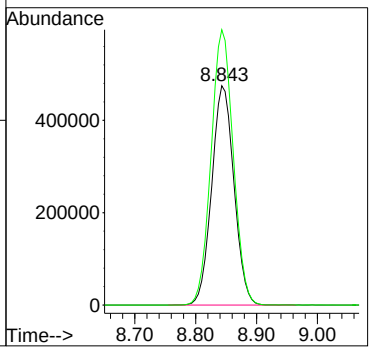


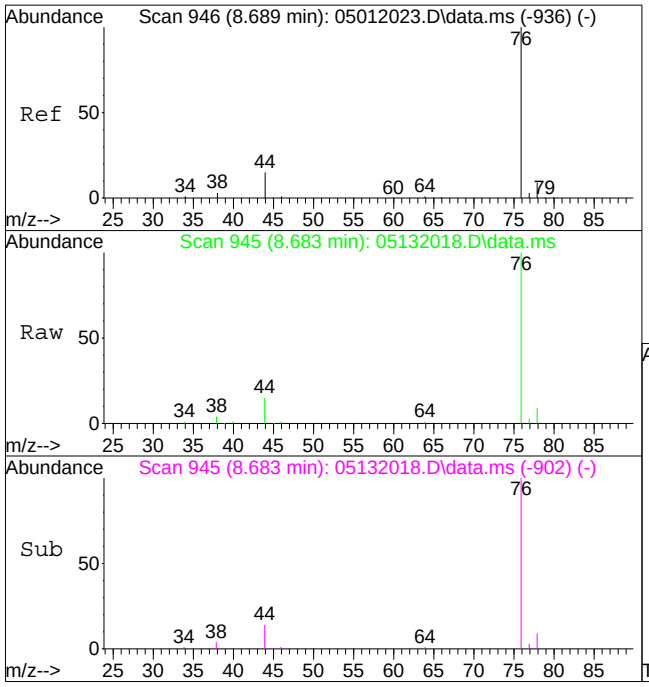


#21
Trichlorotrifluoroethane
Concen: 41.61 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05132018.D
Acq: 14 May 2020 4:22

Tgt Ion:151 Resp: 1204742

Ion	Ratio	Lower	Upper
151	100		
101	125.1	107.3	147.3

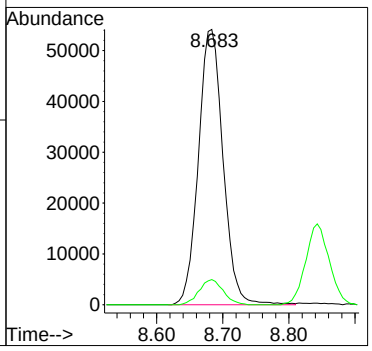


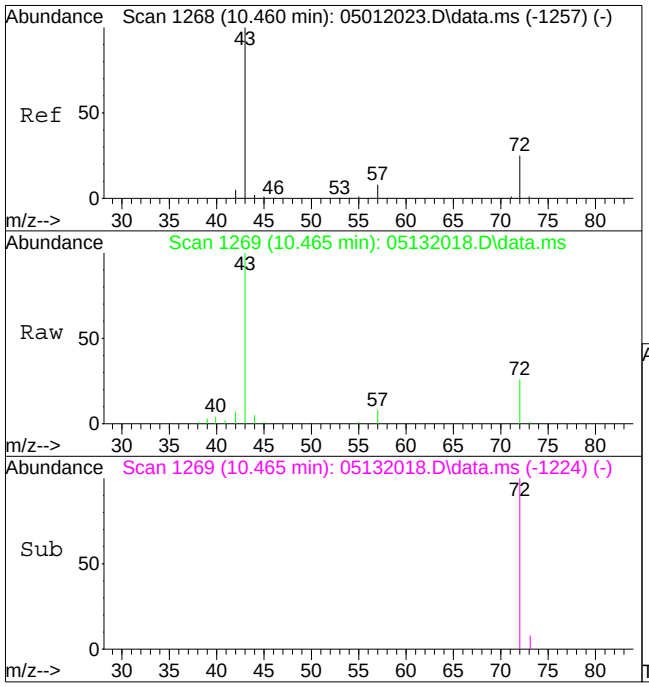


#22
Carbon Disulfide
Concen: 1.10 ng
RT: 8.68 min Scan# 945
Delta R.T. -0.011 min
Lab File: 05132018.D
Acq: 14 May 2020 4:22

Tgt Ion: 76 Resp: 140359

Ion	Ratio	Lower	Upper
76	100		
78	8.9	0.0	29.2

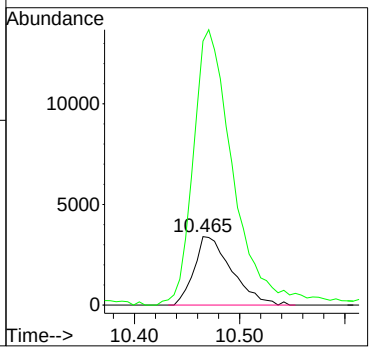


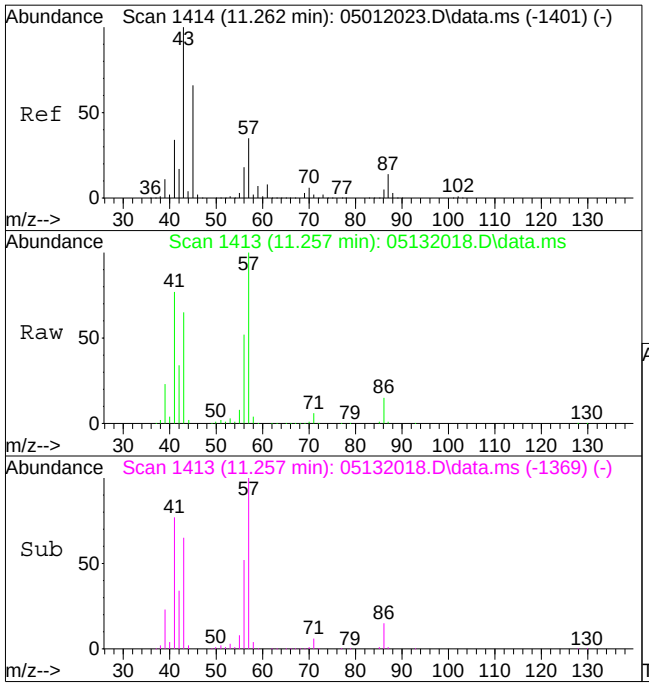


#27
2-Butanone (MEK)
Concen: 0.36 ng
RT: 10.47 min Scan# 1269
Delta R.T. -0.000 min
Lab File: 05132018.D
Acq: 14 May 2020 4:22

Tgt Ion: 72 Resp: 8429

Ion	Ratio	Lower	Upper
72	100		
43	432.6	389.7	429.7#

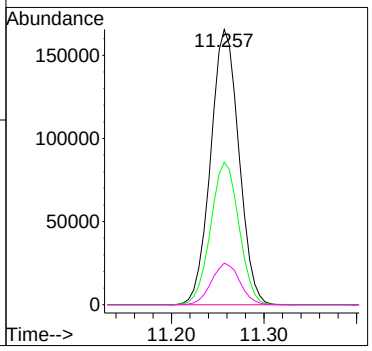


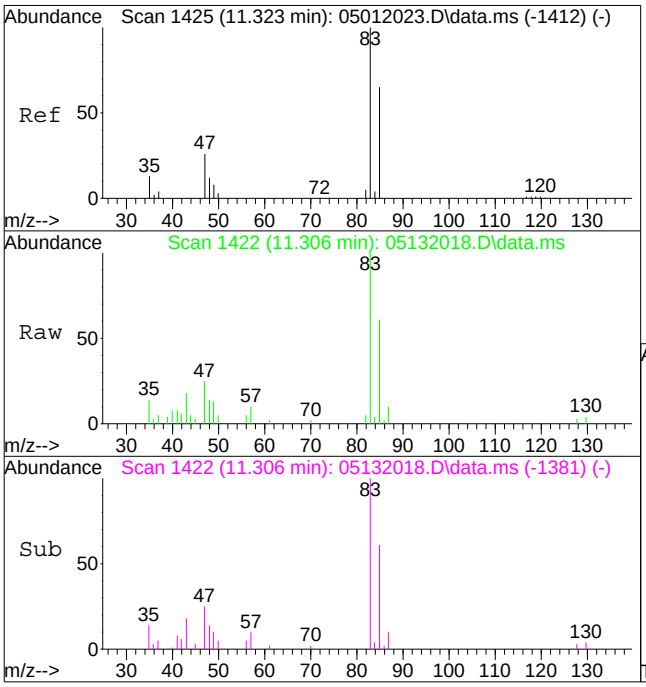


#31
n-Hexane
Concen: 6.01 ng
RT: 11.26 min Scan# 1413
Delta R.T. -0.006 min
Lab File: 05132018.D
Acq: 14 May 2020 4:22

Tgt Ion: 57 Resp: 351088

Ion	Ratio	Lower	Upper
57	100		
56	51.9	41.4	62.0
86	15.1	12.4	18.6

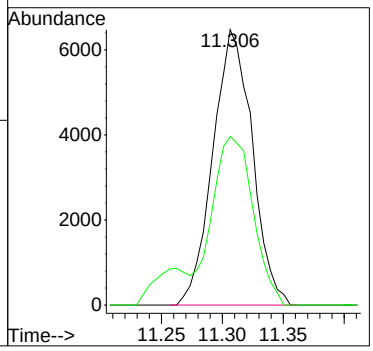


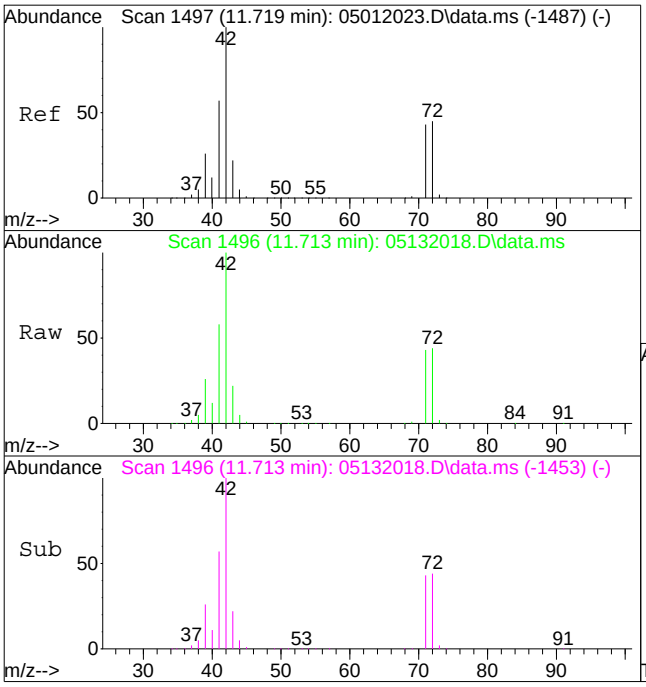


#32
Chloroform
Concen: 0.24 ng
RT: 11.31 min Scan# 1422
Delta R.T. -0.022 min
Lab File: 05132018.D
Acq: 14 May 2020 4:22

Tgt Ion: 83 Resp: 14524

Ion	Ratio	Lower	Upper
83	100		
85	63.8	45.5	85.5

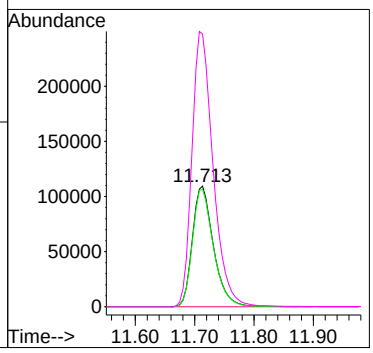


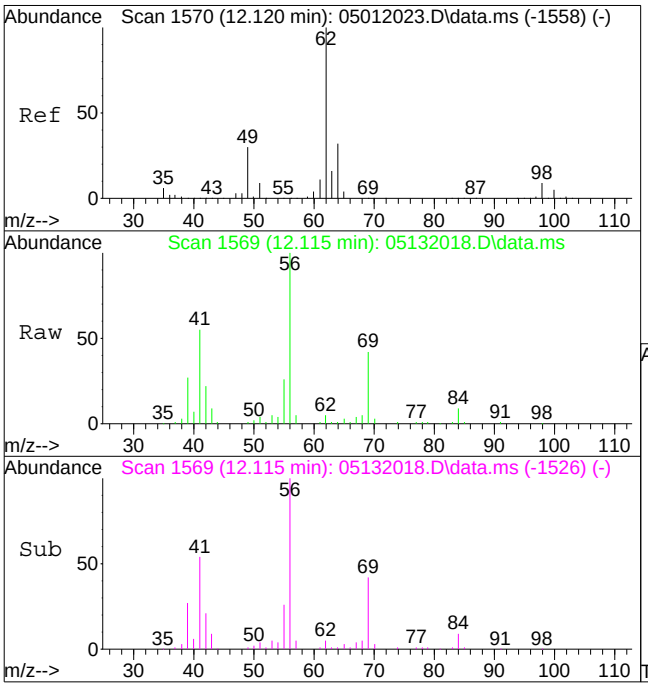


#34
Tetrahydrofuran (THF)
Concen: 11.82 ng
RT: 11.71 min Scan# 1496
Delta R.T. -0.011 min
Lab File: 05132018.D
Acq: 14 May 2020 4:22

Tgt Ion: 72 Resp: 269450

Ion	Ratio	Lower	Upper
72	100		
71	97.3	77.0	117.0
42	230.1	204.6	244.6

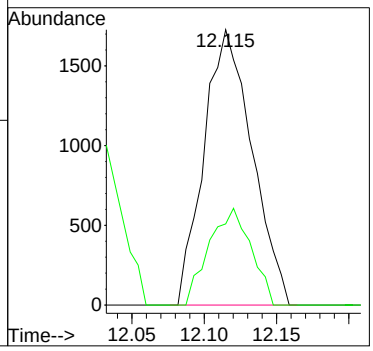


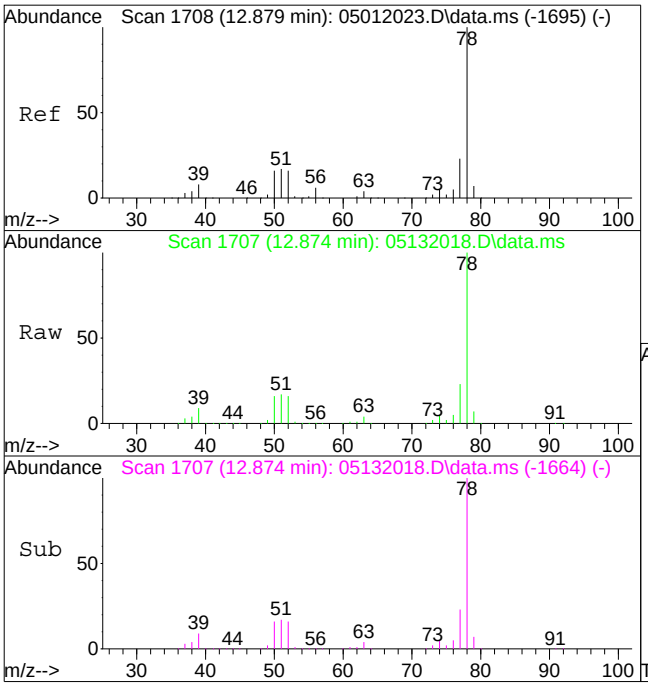


#36
1,2-Dichloroethane
Concen: 0.08 ng
RT: 12.11 min Scan# 1569
Delta R.T. -0.011 min
Lab File: 05132018.D
Acq: 14 May 2020 4:22

Tgt Ion: 62 Resp: 4004

Ion	Ratio	Lower	Upper
62	100		
64	30.7	12.4	52.4

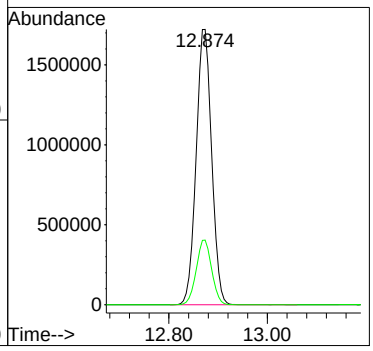


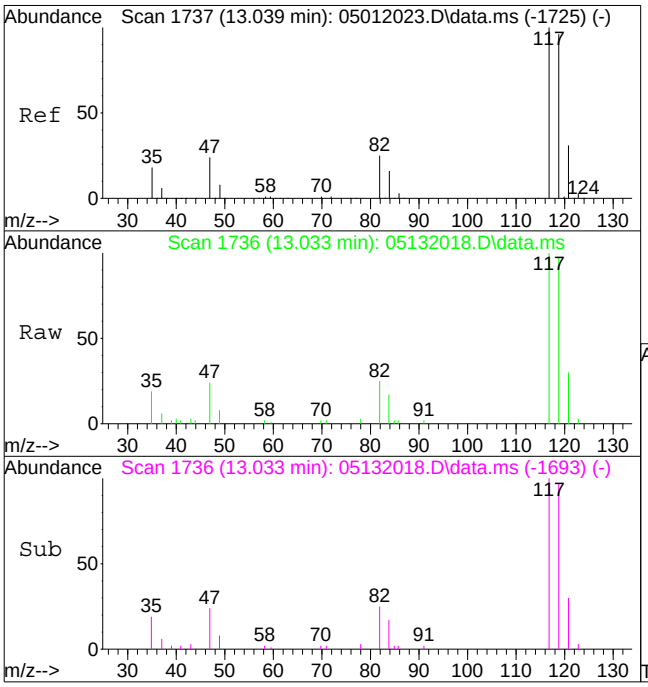


#41
Benzene
Concen: 26.69 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05132018.D
Acq: 14 May 2020 4:22

Tgt Ion: 78 Resp: 3763352

Ion	Ratio	Lower	Upper
78	100		
77	23.4	3.4	43.4

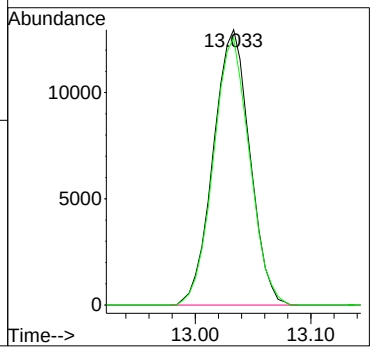


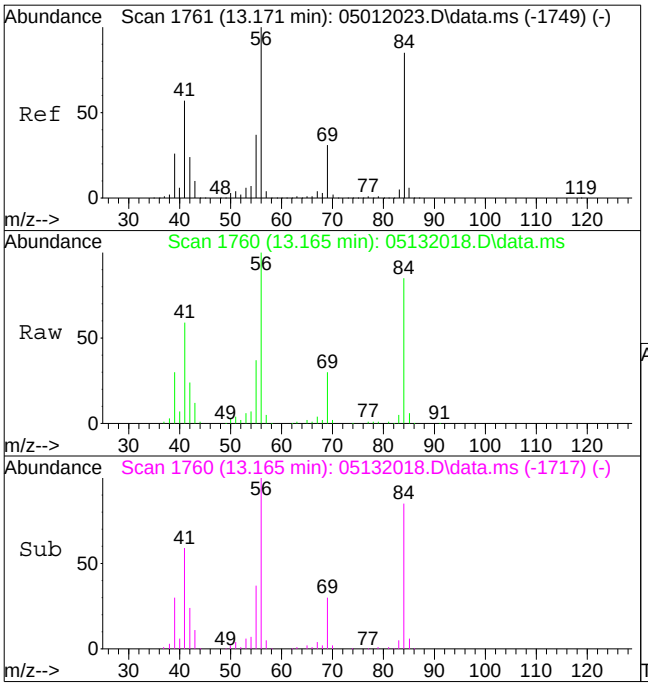


#42
Carbon Tetrachloride
Concen: 0.59 ng
RT: 13.03 min Scan# 1736
Delta R.T. -0.011 min
Lab File: 05132018.D
Acq: 14 May 2020 4:22

Tgt Ion:117 Resp: 28456

Ion	Ratio	Lower	Upper
117	100		
119	96.1	76.2	116.2

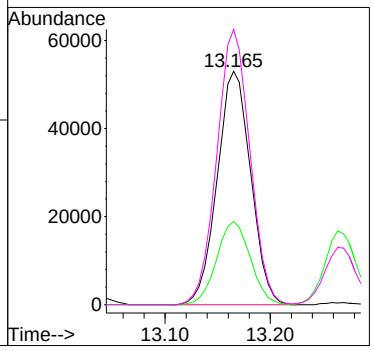


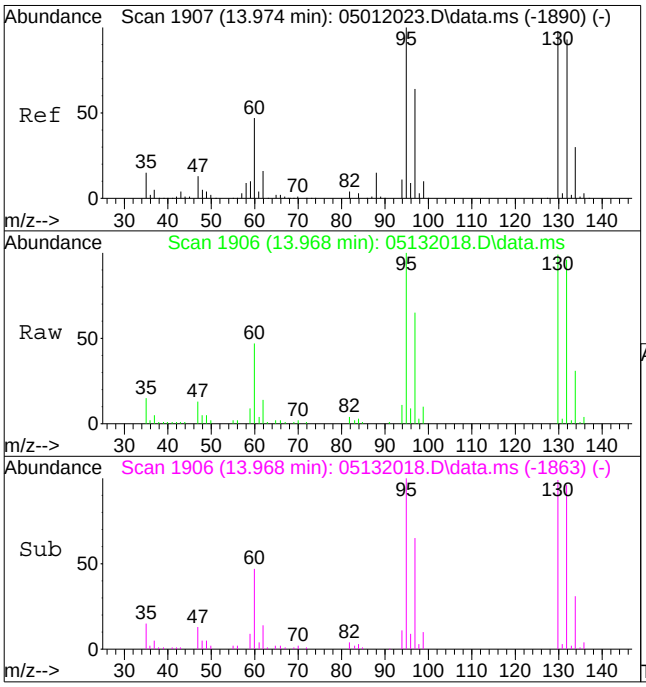


#43
Cyclohexane
Concen: 2.24 ng
RT: 13.17 min Scan# 1760
Delta R.T. -0.011 min
Lab File: 05132018.D
Acq: 14 May 2020 4:22

Tgt Ion: 84 Resp: 117715

Ion	Ratio	Lower	Upper
84	100		
69	35.8	16.5	56.5
56	116.8	97.4	137.4

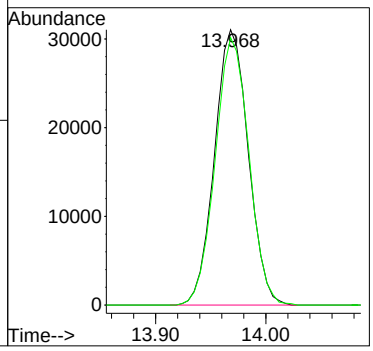


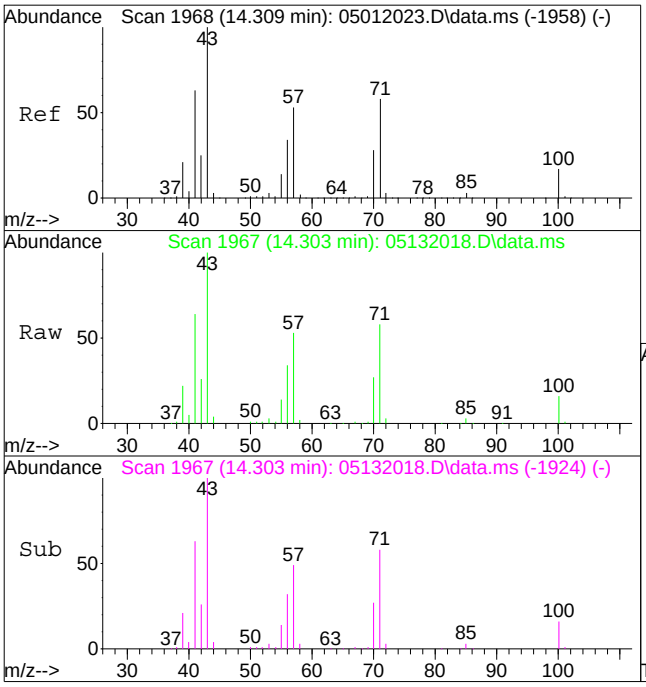


#47
Trichloroethene
Concen: 1.82 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05132018.D
Acq: 14 May 2020 4:22

Tgt Ion:130 Resp: 66159

Ion	Ratio	Lower	Upper
130	100		
132	96.9	74.9	114.9

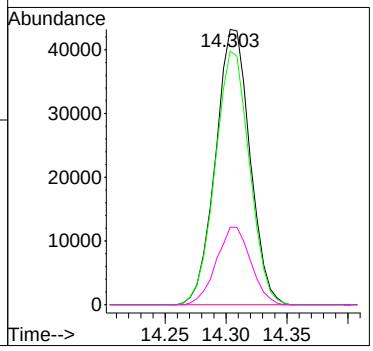


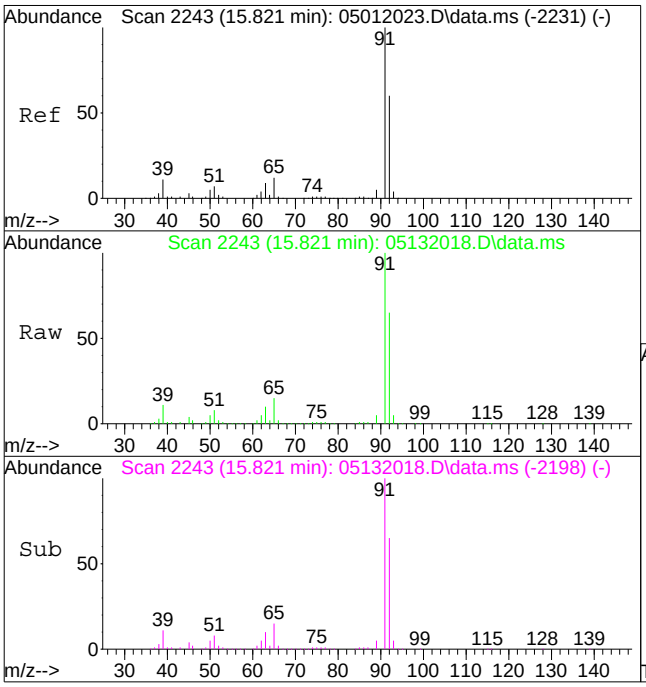


#51
n-Heptane
Concen: 2.57 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05132018.D
Acq: 14 May 2020 4:22

Tgt Ion: 71 Resp: 84849

Ion	Ratio	Lower	Upper
71	100		
57	91.8	71.0	111.0
100	28.2	8.4	48.4

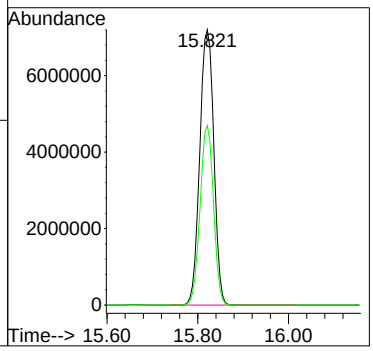


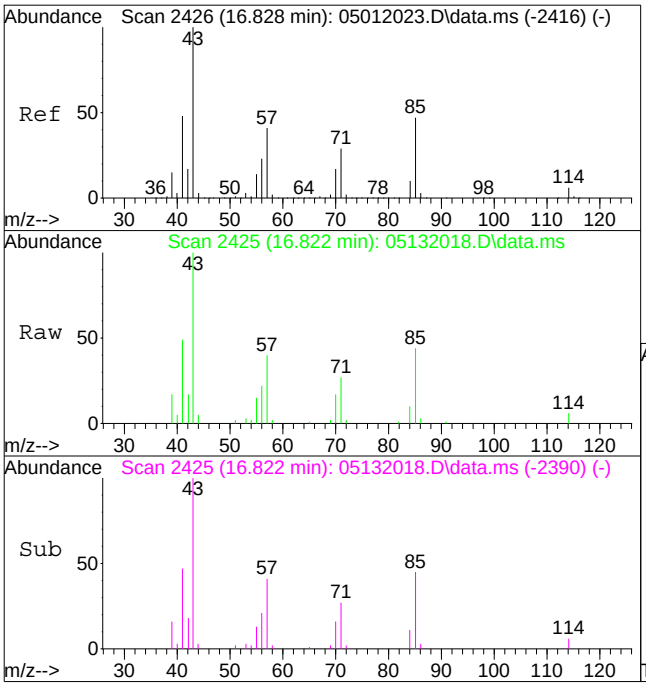


#58
Toluene
Concen: 115.11 ng
RT: 15.82 min Scan# 2243
Delta R.T. -0.000 min
Lab File: 05132018.D
Acq: 14 May 2020 4:22

Tgt Ion: 91 Resp:15453227

Ion	Ratio	Lower	Upper
91	100		
92	62.5	39.4	79.4

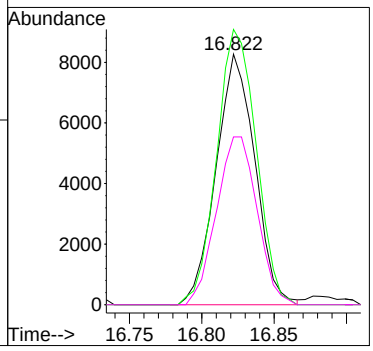


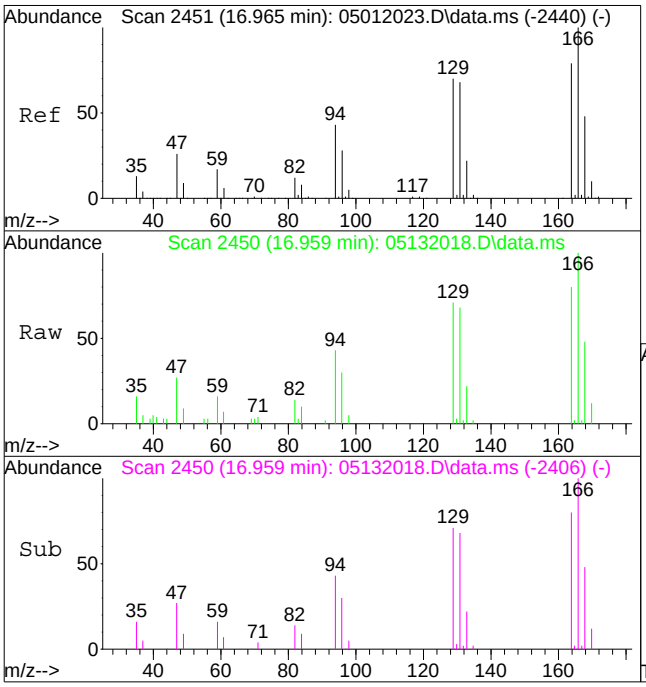


#63
n-Octane
Concen: 0.55 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05132018.D
Acq: 14 May 2020 4:22

Tgt Ion: 57 Resp: 15413

Ion	Ratio	Lower	Upper
57	100		
85	111.6	91.0	136.4
71	70.1	56.2	84.2

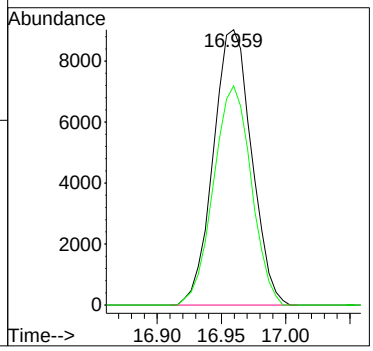


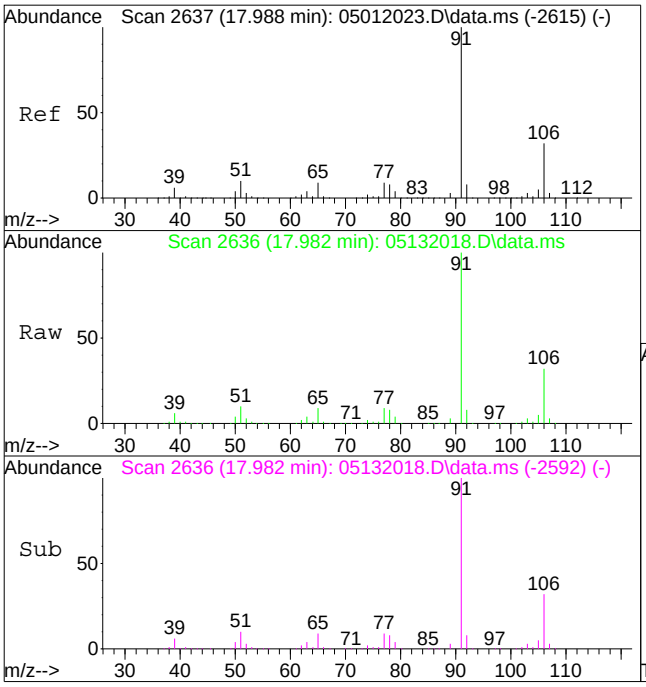


#64
Tetrachloroethene
Concen: 0.49 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05132018.D
Acq: 14 May 2020 4:22

Tgt Ion:166 Resp: 18692

Ion	Ratio	Lower	Upper
166	100		
164	78.4	58.4	98.4

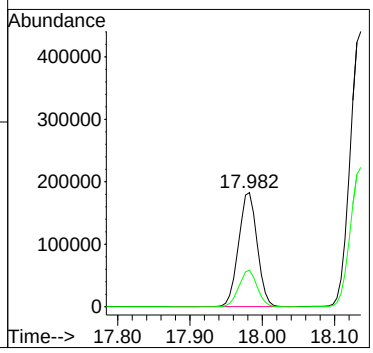


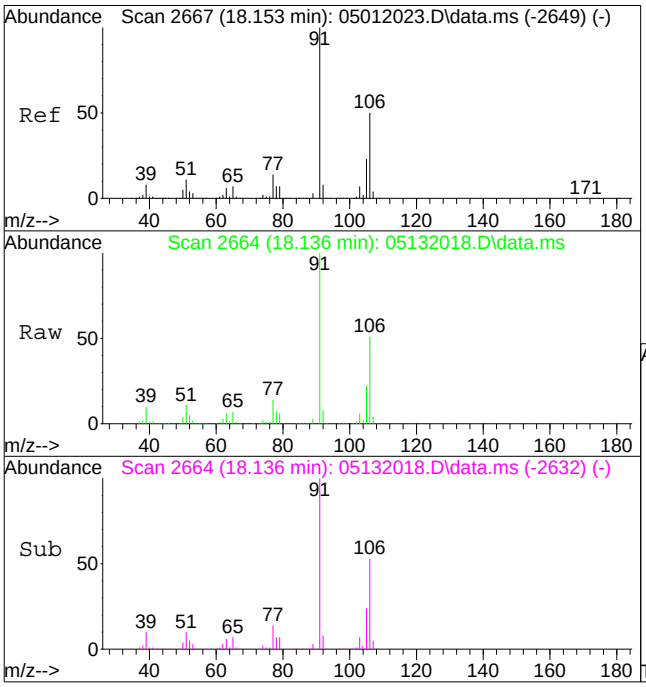


#66
Ethylbenzene
Concen: 2.19 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05132018.D
Acq: 14 May 2020 4:22

Tgt Ion: 91 Resp: 327866

Ion	Ratio	Lower	Upper
91	100		
106	31.4	11.6	51.6

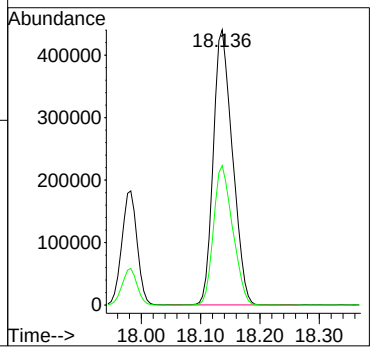


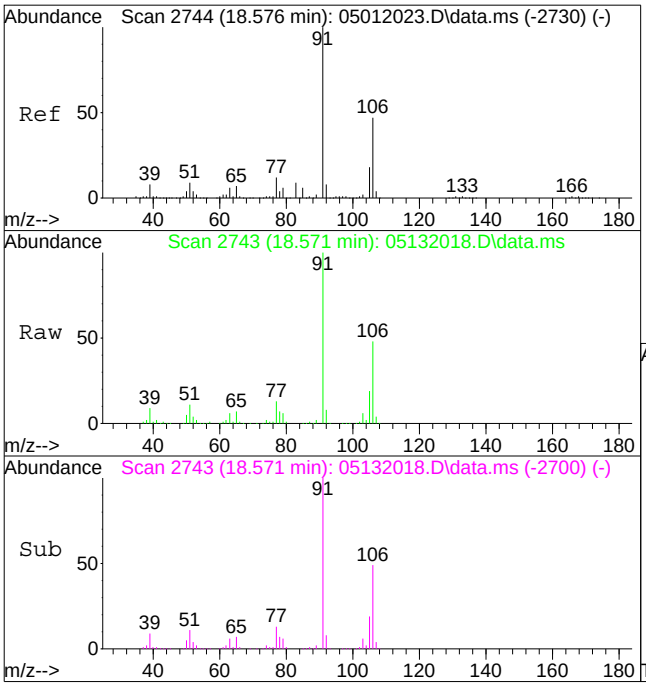


#67
m- & p-Xylenes
Concen: 8.30 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05132018.D
Acq: 14 May 2020 4:22

Tgt Ion: 91 Resp: 985971

Ion	Ratio	Lower	Upper
91	100		
106	50.8	29.7	69.7

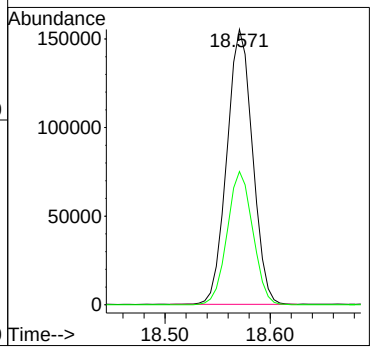


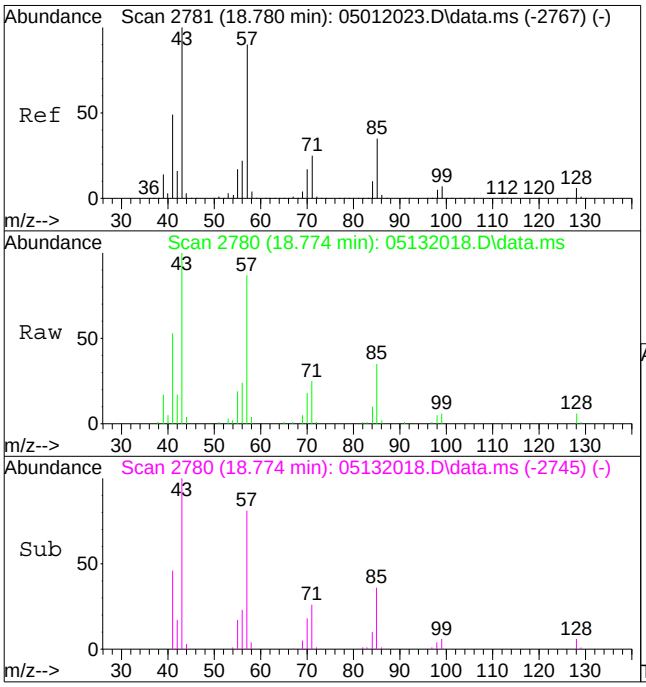


#70
o-Xylene
Concen: 2.19 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05132018.D
Acq: 14 May 2020 4:22

Tgt Ion: 91 Resp: 264133

Ion	Ratio	Lower	Upper
91	100		
106	48.2	27.5	67.5

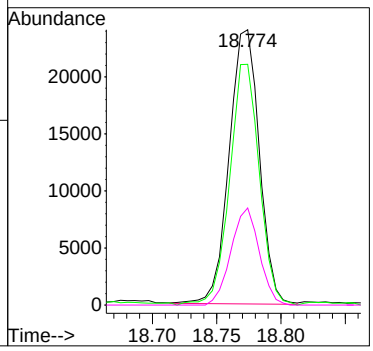


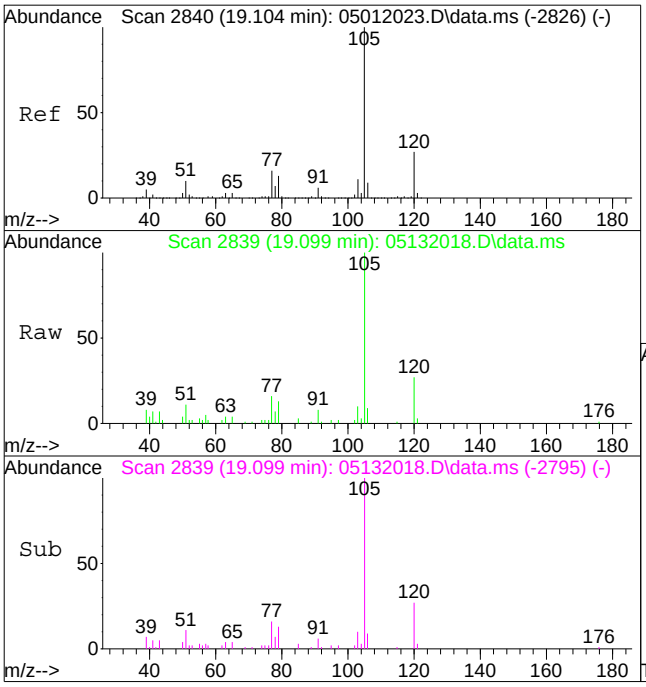


#71
n-Nonane
Concen: 0.61 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05132018.D
Acq: 14 May 2020 4:22

Tgt Ion: 43 Resp: 39235

Ion	Ratio	Lower	Upper
43	100		
57	86.4	69.0	109.0
85	33.1	14.6	54.6

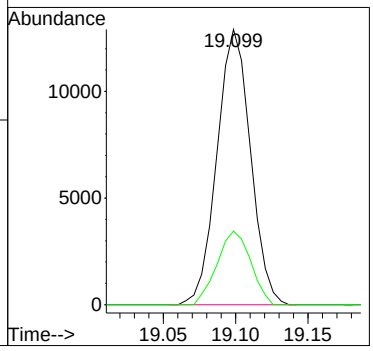


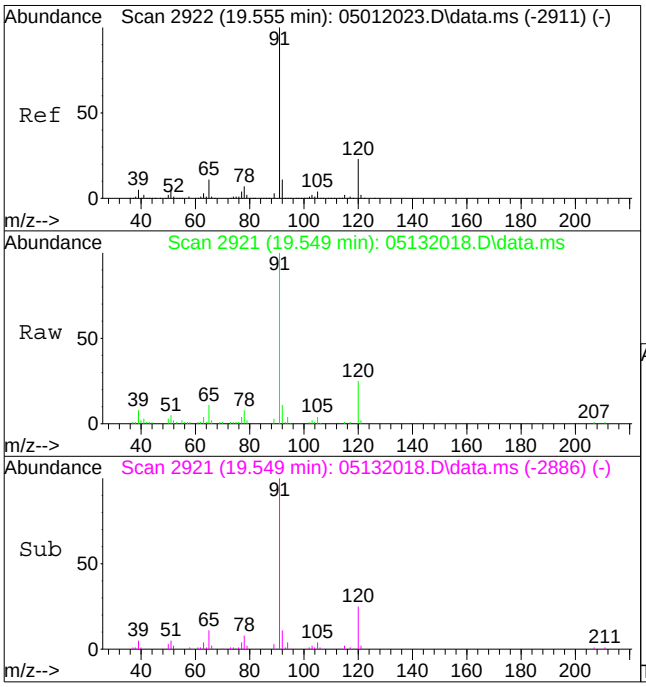


#74
Cumene
Concen: 0.14 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05132018.D
Acq: 14 May 2020 4:22

Tgt Ion:105 Resp: 20760

Ion	Ratio	Lower	Upper
105	100		
120	26.8	6.8	46.8

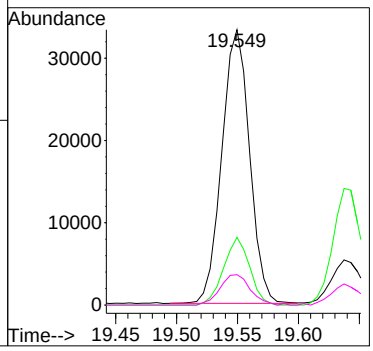


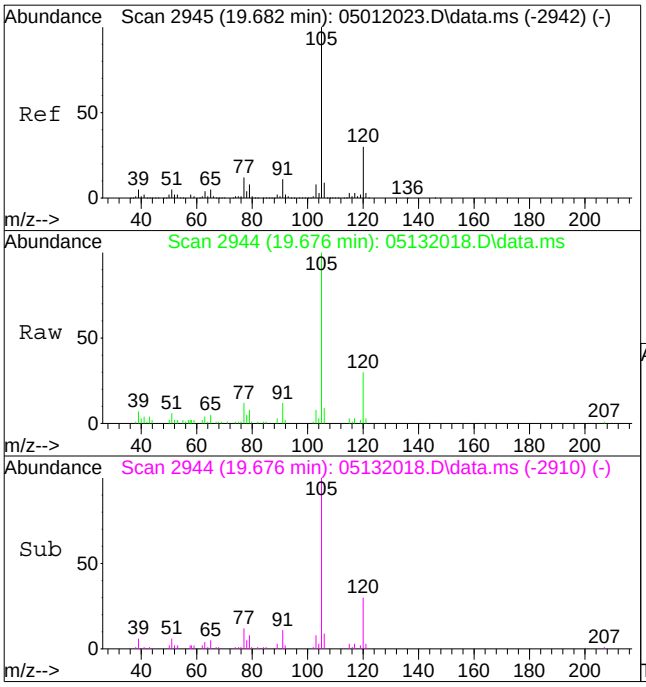


#76
n-Propylbenzene
Concen: 0.30 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05132018.D
Acq: 14 May 2020 4:22

Tgt Ion: 91 Resp: 52542

Ion	Ratio	Lower	Upper
91	100		
120	23.1	3.1	43.1
65	12.2	0.0	30.9

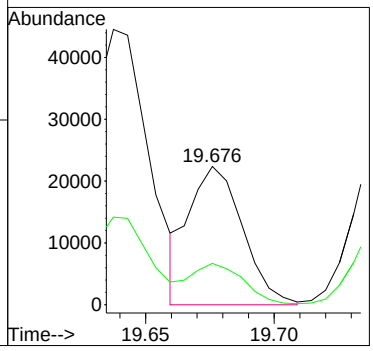


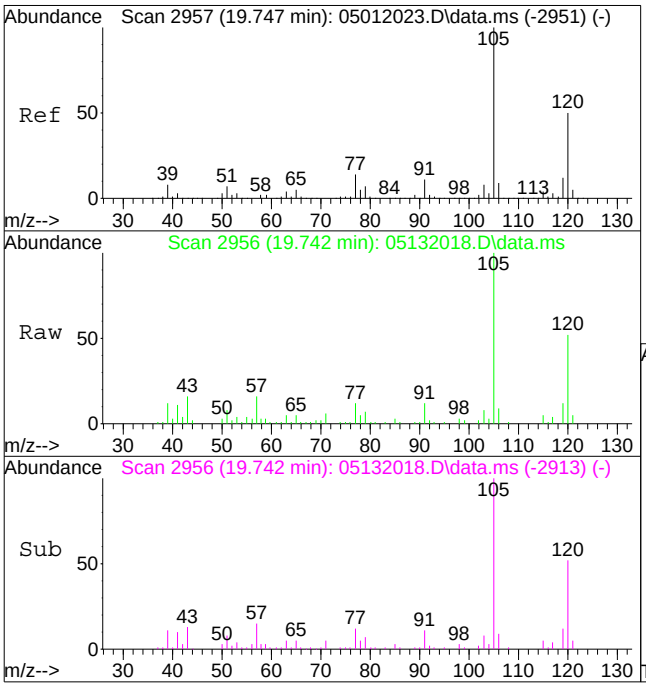


#78
4-Ethyltoluene
Concen: 0.23 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05132018.D
Acq: 14 May 2020 4:22

Tgt Ion:105 Resp: 32508

Ion	Ratio	Lower	Upper
105	100		
120	26.5	10.4	50.4

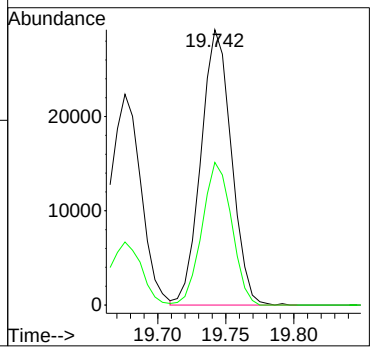


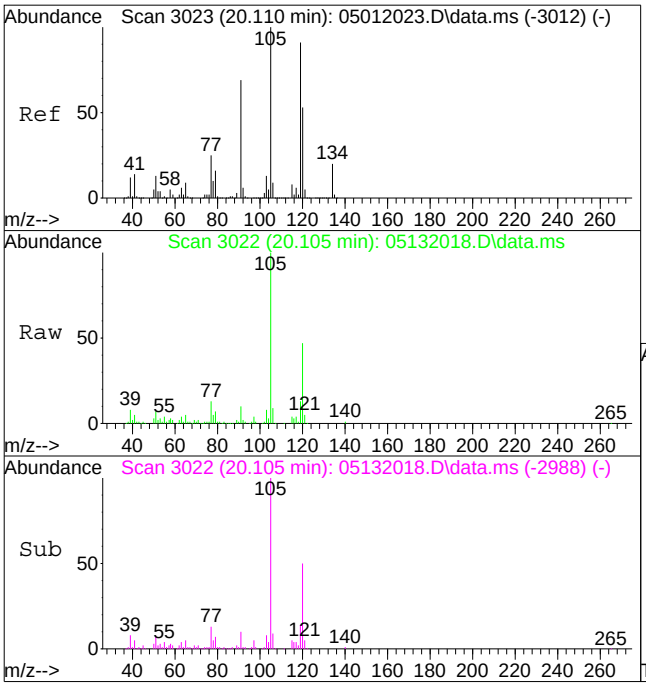


#79
1,3,5-Trimethylbenzene
Concen: 0.38 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05132018.D
Acq: 14 May 2020 4:22

Tgt Ion:105 Resp: 45460

Ion	Ratio	Lower	Upper
105	100		
120	50.4	29.9	69.9

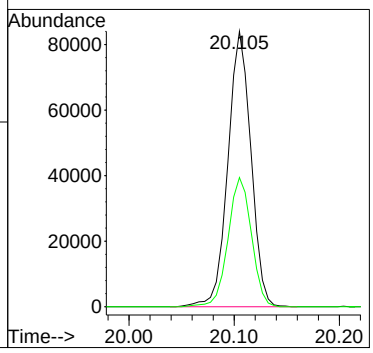


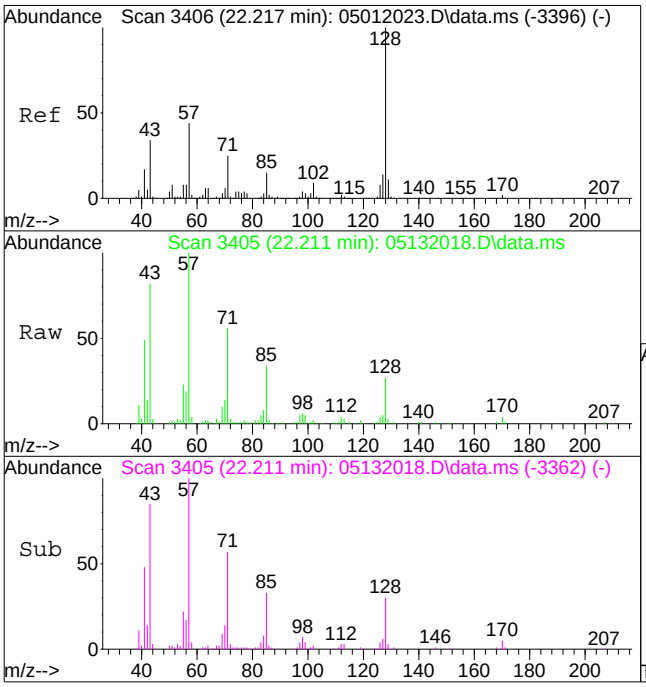


#82
1,2,4-Trimethylbenzene
Concen: 1.06 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05132018.D
Acq: 14 May 2020 4:22

Tgt Ion:105 Resp: 128251

Ion	Ratio	Lower	Upper
105	100		
120	47.7	33.6	73.6

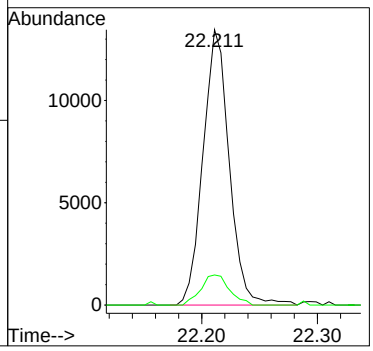




#95
Naphthalene
Concen: 0.14 ng
RT: 22.21 min Scan# 3405
Delta R.T. -0.011 min
Lab File: 05132018.D
Acq: 14 May 2020 4:22

Tgt Ion:128 Resp: 21291

Ion	Ratio	Lower	Upper
128	100		
129	11.9	0.0	31.0



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142022.D Vial: 3
Acq On : 14 May 2020 21:03 Operator: LH
Sample : P2002301-008dil (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 21:29:25 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/14/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	300014	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1299466	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	598109	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	488141	12.006	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.08%				
57) Toluene-d8 (SS2)	15.71	98	1262159	12.450	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.60%				
73) Bromofluorobenzene (SS3)	18.97	174	471139	12.916	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.36%				
Target Compounds							Qvalue
2) Propene	4.10	42	7547	0.217	ng		98
3) Dichlorodifluoromethan...	4.27	85	10325	0.152	ng		97
4) Chloromethane	4.52	50	30791	0.578	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	4.96	62	5520	0.095	ng		99
7) 1,3-Butadiene	5.14	54	565	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.97	64	256	N.D.			
10) Ethanol	6.32	45	32012	1.193	ng		100
11) Acetonitrile	6.60	41	4712	0.077	ng		87
12) Acrolein	6.78	56	1852	0.087	ng		92
13) Acetone	6.99	58	89195	3.324	ng	#	36
14) Trichlorofluoromethane	7.23	101	3294	0.055	ng		95
15) 2-Propanol (Isopropanol)	7.52	45	8351	0.103	ng		74
16) Acrylonitrile	7.75	53	364	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	3019	0.087	ng		99
20) 3-Chloro-1-propene (Al...	8.49	41	528	N.D.			
21) Trichlorotrifluoroethane	8.84	151	264655	9.333	ng		99
22) Carbon Disulfide	8.67	76	34641	0.277	ng		98
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	10.00	63	777	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.48	72	2898	0.127	ng	#	81
28) cis-1,2-Dichloroethene	10.95	61	394	N.D.			
29) Diisopropyl Ether	11.25	87	768	N.D.			
30) Ethyl Acetate	11.28	61	266	N.D.			
31) n-Hexane	11.25	57	81007	1.415	ng		100
32) Chloroform	11.30	83	3512	0.059	ng		97
34) Tetrahydrofuran (THF)	11.72	72	60175	2.696	ng		98
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	960	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	834793	5.990	ng		100
42) Carbon Tetrachloride	13.03	117	6966	0.147	ng		100
43) Cyclohexane	13.16	84	32271	0.621	ng		99
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	13.93	83	1108	N.D.			
47) Trichloroethene	13.97	130	18696	0.519	ng		97
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142022.D Vial: 3
Acq On : 14 May 2020 21:03 Operator: LH
Sample : P2002301-008dil (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 21:29:25 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

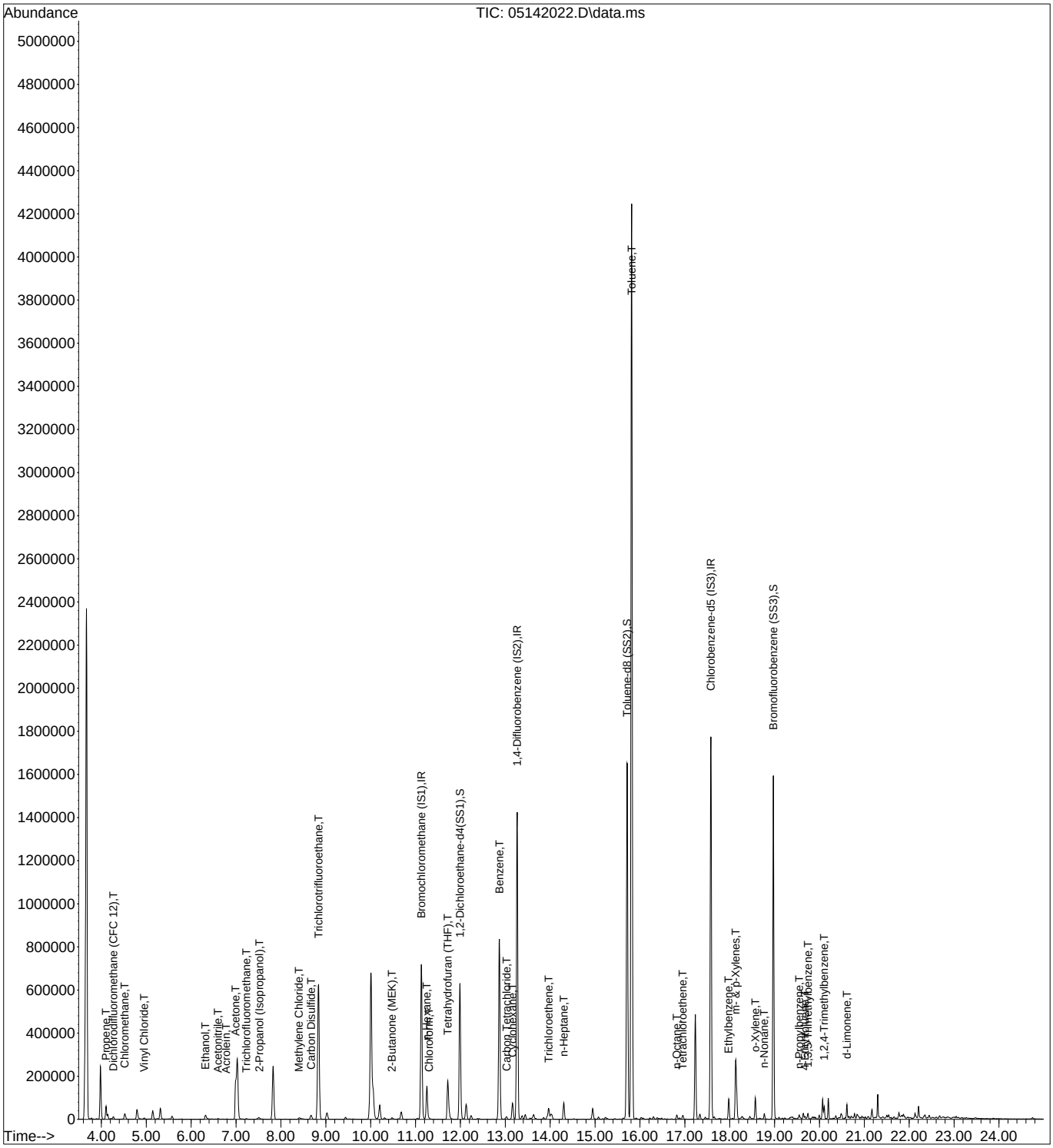
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.30	71	19666	0.603 ng	97
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.82	91	3486670	26.681 ng	100
59) 2-Hexanone	16.07	43	3387	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	16.47	107	267	N.D.	
62) n-Butyl Acetate	16.71	43	772	N.D.	
63) n-Octane	16.82	57	3881	0.143 ng	98
64) Tetrachloroethene	16.95	166	5984	0.162 ng	99
65) Chlorobenzene	17.65	112	1206	N.D.	
66) Ethylbenzene	17.98	91	73694	0.506 ng	99
67) m- & p-Xylenes	18.14	91	217721	1.883 ng	98
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.48	104	813	N.D.	
70) o-Xylene	18.57	91	58544	0.499 ng	99
71) n-Nonane	18.77	43	10356	0.166 ng	90
72) 1,1,2,2-Tetrachloroethane	18.63	83	132	N.D.	
74) Cumene	19.10	105	4885	N.D.	
75) alpha-Pinene	19.45	93	1253	N.D.	
76) n-Propylbenzene	19.55	91	17692	0.103 ng	85
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.68	105	7523	0.056 ng	97
79) 1,3,5-Trimethylbenzene	19.74	105	10106	0.086 ng	99
80) alpha-Methylstyrene	19.88	118	1885	N.D.	
81) 2-Ethyltoluene	19.91	105	4912	N.D.	
82) 1,2,4-Trimethylbenzene	20.10	105	28358	0.240 ng	90
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.22	91	279	N.D.	
85) 1,3-Dichlorobenzene	20.24	146	220	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	748	N.D.	
87) sec-Butylbenzene	20.35	105	1815	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	4121	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	20.60	146	316	N.D.	
91) d-Limonene	20.61	68	14130	0.303 ng	97
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.10	180	333	N.D.	
95) Naphthalene	22.21	128	5596	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.11	119	3505	N.D.	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142022.D Vial: 3
Acq On : 14 May 2020 21:03 Operator: LH
Sample : P2002301-008dil (20mL) Inst : GCMS-16
Misc : S31-02112001

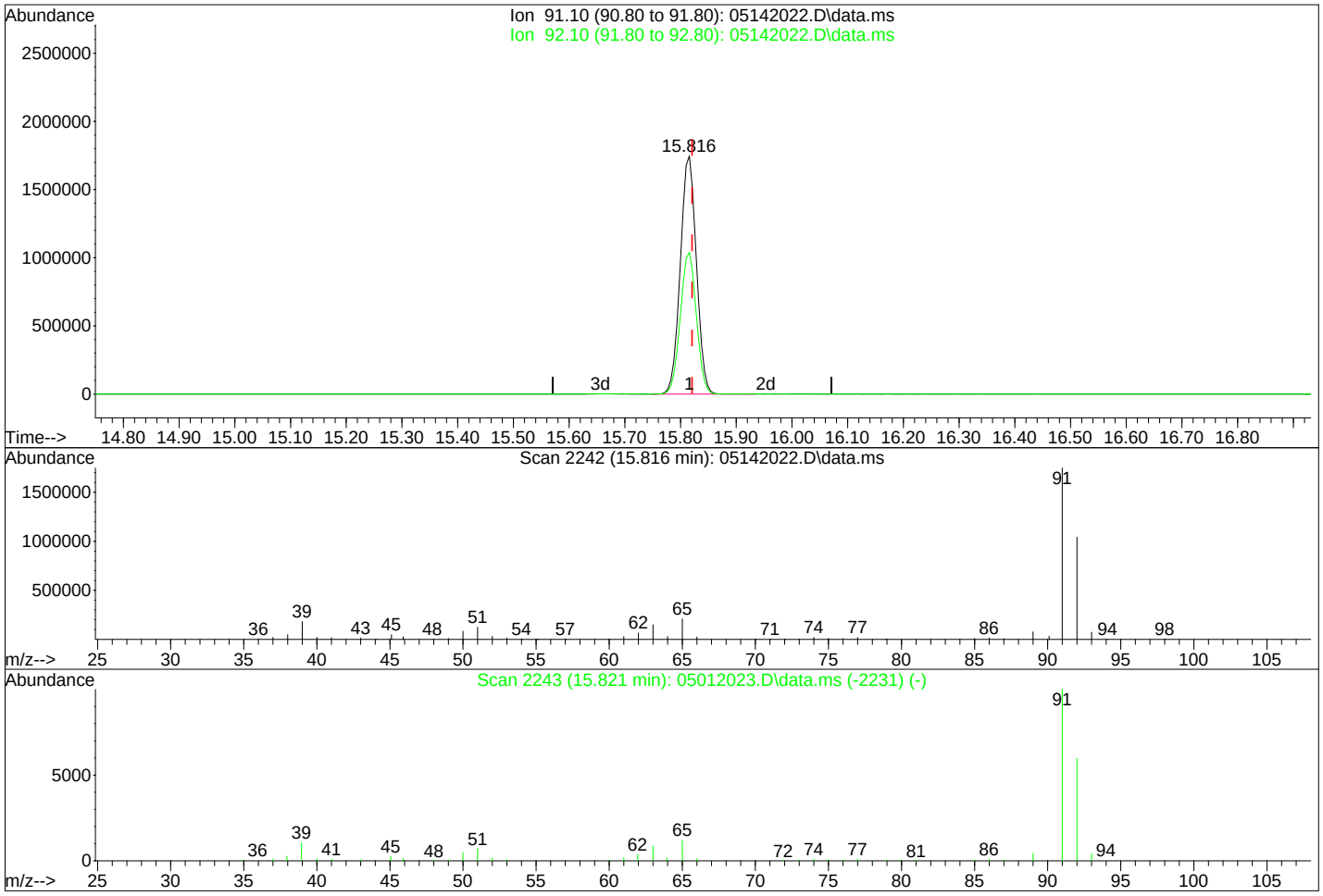
Quant Time: May 14 21:29:25 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\14\05142022.D Vial: 3
Acq On : 14 May 2020 21:03 Operator: LH
Sample : P2002301-008dil (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 21:28:35 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05142022.D\data.ms

(58) Toluene (T)

15.816min (-0.006) 26.68ng

response 3486670

Ion	Exp%	Act%
91.10	100	100
92.10	59.40	59.43
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132004.D Vial: 1
Acq On : 13 May 2020 20:31 Operator: LH
Sample : P2002301-009 (4.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:21:40 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/14/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	266855	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1159809	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	619172	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	429155	11.867	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.96%				
57) Toluene-d8 (SS2)	15.72	98	1153415	10.990	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.92%				
73) Bromofluorobenzene (SS3)	18.98	174	448635	11.880	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.04%				
Target Compounds							Qvalue
2) Propene	4.11	42	19601m	0.634	ng		
3) Dichlorodifluoromethan...	4.28	85	2194	N.D.			
4) Chloromethane	4.54	50	6341	0.134	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	4.97	62	446	N.D.			
7) 1,3-Butadiene	5.15	54	1486	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.33	45	22224	0.931	ng		93
11) Acetonitrile	6.59	41	5082	0.093	ng	#	33
12) Acrolein	6.80	56	1355	0.072	ng		93
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	7.25	101	953	N.D.			
15) 2-Propanol (Isopropanol)	7.53	45	6743	0.093	ng		89
16) Acrylonitrile	7.76	53	171	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	2432	0.078	ng		93
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	8.84	151	922	N.D.			
22) Carbon Disulfide	8.69	76	10610	0.095	ng		95
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	9.99	63	1731	N.D.			
25) Methyl tert-Butyl Ether	10.05	73	188	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.49	72	973	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	11.26	57	273567	5.374	ng		100
32) Chloroform	11.30	83	121	N.D.			
34) Tetrahydrofuran (THF)	11.75	72	5511	0.278	ng	#	90
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	2260820	18.177	ng		100
42) Carbon Tetrachloride	13.03	117	264	N.D.			
43) Cyclohexane	13.17	84	924690	19.951	ng		100
44) tert-Amyl Methyl Ether	13.45	73	301	N.D.			
45) 1,2-Dichloropropane	13.64	63	1337	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	13.97	130	2406	0.075	ng		99
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132004.D Vial: 1
Acq On : 13 May 2020 20:31 Operator: LH
Sample : P2002301-009 (4.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:21:40 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

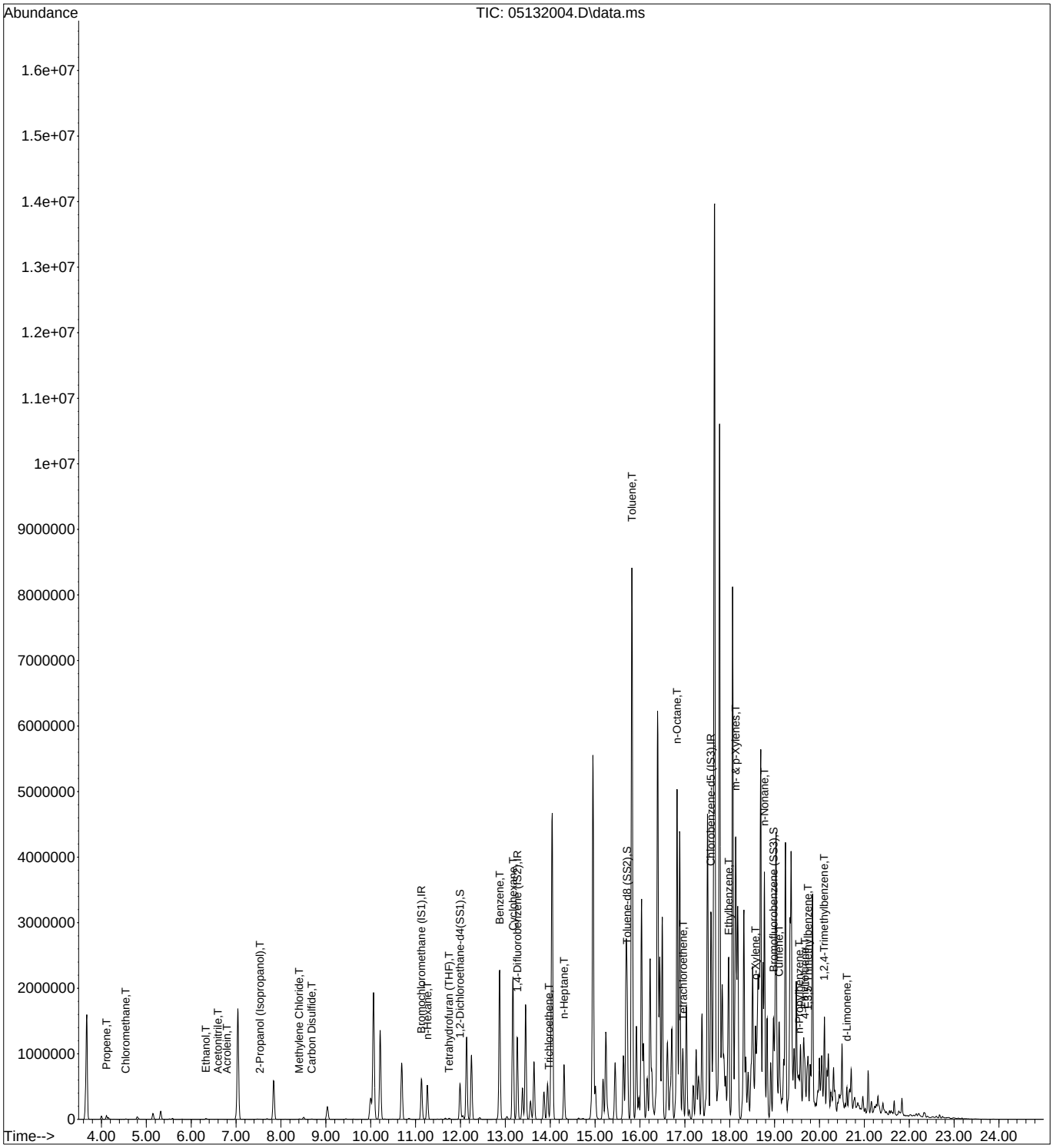
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	207797	7.144 ng	99
52) cis-1,3-Dichloropropene	14.95	75	1123	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	15.14	75	459	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	15.82	91	5752428	42.522 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	16.47	107	151	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	16.83	57	965753	34.482 ng	99
64) Tetrachloroethene	16.96	166	3434	0.090 ng	95
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	17.98	91	354152	2.348 ng	99
67) m- & p-Xylenes	18.14	91	2106363	17.601 ng	99
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.48	104	1015	N.D.	
70) o-Xylene	18.58	91	624020	5.136 ng	99
71) n-Nonane	18.77	43	1202074	18.648 ng	97
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	19.10	105	118443	0.794 ng	99
75) alpha-Pinene	19.45	93	2142	N.D.	
76) n-Propylbenzene	19.55	91	148737	0.840 ng	92
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.68	105	32917	0.235 ng	99
79) 1,3,5-Trimethylbenzene	19.74	105	133864	1.101 ng	99
80) alpha-Methylstyrene	19.88	118	1030	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.10	105	91730	0.751 ng	92
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	0.00	91	0	N.D. d	
85) 1,3-Dichlorobenzene	20.24	146	320	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	810	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	20.61	146	196	N.D.	
91) d-Limonene	20.61	68	56401	1.169 ng	93
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.11	180	446	N.D.	
95) Naphthalene	22.21	128	3075	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132004.D Vial: 1
Acq On : 13 May 2020 20:31 Operator: LH
Sample : P2002301-009 (4.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:21:40 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132004.D Vial: 1
Acq On : 13 May 2020 20:31 Operator: LH
Sample : P2002301-009 (4.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:21:40 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/14/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

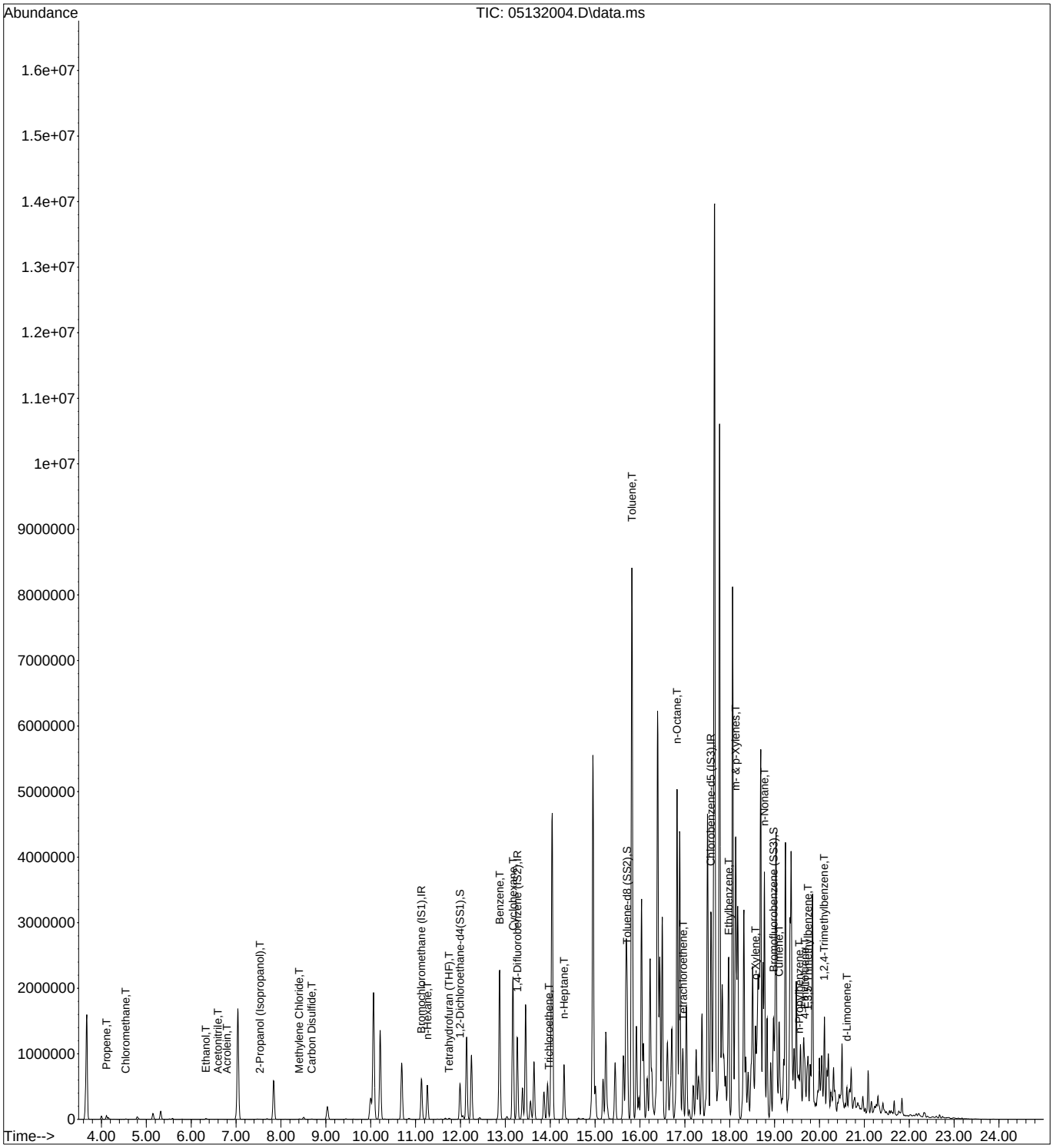
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	266855	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1159809	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	619172	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	429155	11.867	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.96%				
57) Toluene-d8 (SS2)	15.72	98	1153415	10.990	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.92%				
73) Bromofluorobenzene (SS3)	18.98	174	448635	11.880	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.04%				
Target Compounds							Qvalue
2) Propene	4.11	42	19601m	0.634	ng		
4) Chloromethane	4.54	50	6341	0.134	ng		98
10) Ethanol	6.33	45	22224	0.931	ng		93
11) Acetonitrile	6.59	41	5082	0.093	ng	#	33
12) Acrolein	6.80	56	1355	0.072	ng		93
15) 2-Propanol (Isopropanol)	7.53	45	6743	0.093	ng		89
19) Methylene Chloride	8.40	84	2432	0.078	ng		93
22) Carbon Disulfide	8.69	76	10610	0.095	ng		95
31) n-Hexane	11.26	57	273567	5.374	ng		100
34) Tetrahydrofuran (THF)	11.75	72	5511	0.278	ng	#	90
41) Benzene	12.87	78	2260820	18.177	ng		100
43) Cyclohexane	13.17	84	924690	19.951	ng		100
47) Trichloroethene	13.97	130	2406	0.075	ng		99
51) n-Heptane	14.31	71	207797	7.144	ng		99
58) Toluene	15.82	91	5752428	42.522	ng		100
63) n-Octane	16.83	57	965753	34.482	ng		99
64) Tetrachloroethene	16.96	166	3434	0.090	ng		95
66) Ethylbenzene	17.98	91	354152	2.348	ng		99
67) m- & p-Xylenes	18.14	91	2106363	17.601	ng		99
70) o-Xylene	18.58	91	624020	5.136	ng		99
71) n-Nonane	18.77	43	1202074	18.648	ng		97
74) Cumene	19.10	105	118443	0.794	ng		99
76) n-Propylbenzene	19.55	91	148737	0.840	ng		92
78) 4-Ethyltoluene	19.68	105	32917	0.235	ng		99
79) 1,3,5-Trimethylbenzene	19.74	105	133864	1.101	ng		99
82) 1,2,4-Trimethylbenzene	20.10	105	91730	0.751	ng		92
91) d-Limonene	20.61	68	56401	1.169	ng		93

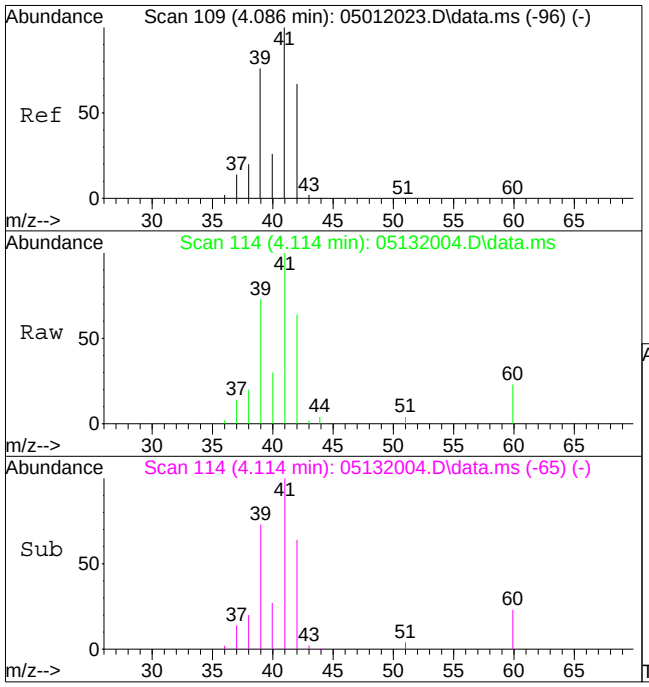
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132004.D Vial: 1
Acq On : 13 May 2020 20:31 Operator: LH
Sample : P2002301-009 (4.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:21:40 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

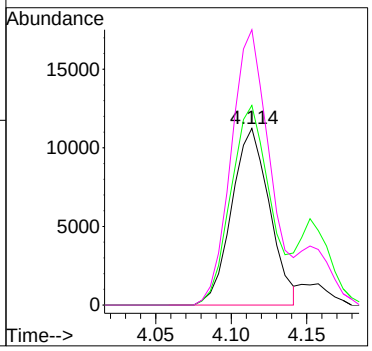


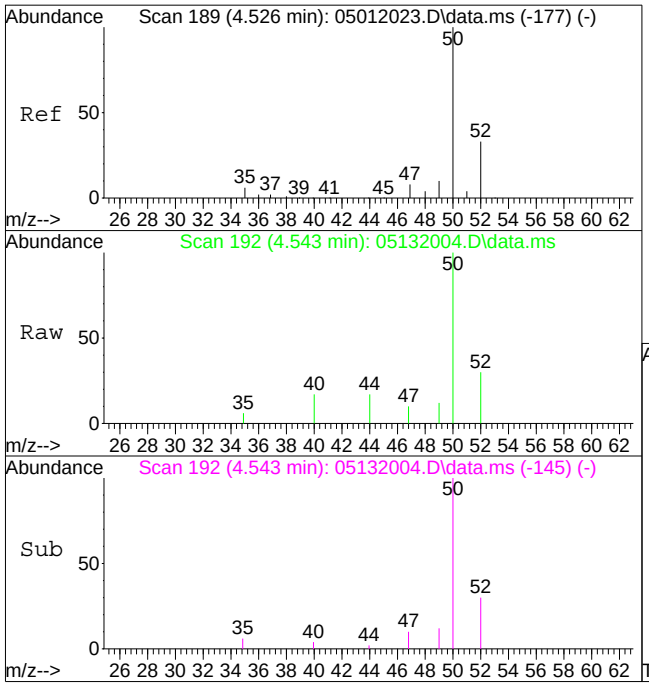


#2
Propene
Concen: 0.63 ng m
RT: 4.11 min Scan# 114
Delta R.T. 0.022 min
Lab File: 05132004.D
Acq: 13 May 2020 20:31

Tgt Ion: 42 Resp: 19601

Ion	Ratio	Lower	Upper
42	100		
39	115.0	96.1	136.1
41	186.1	131.9	171.9#

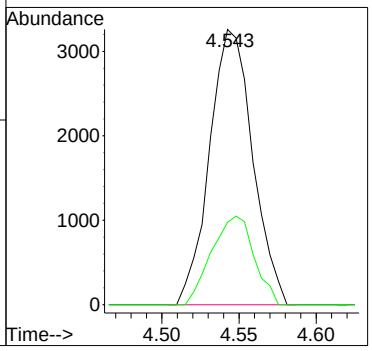


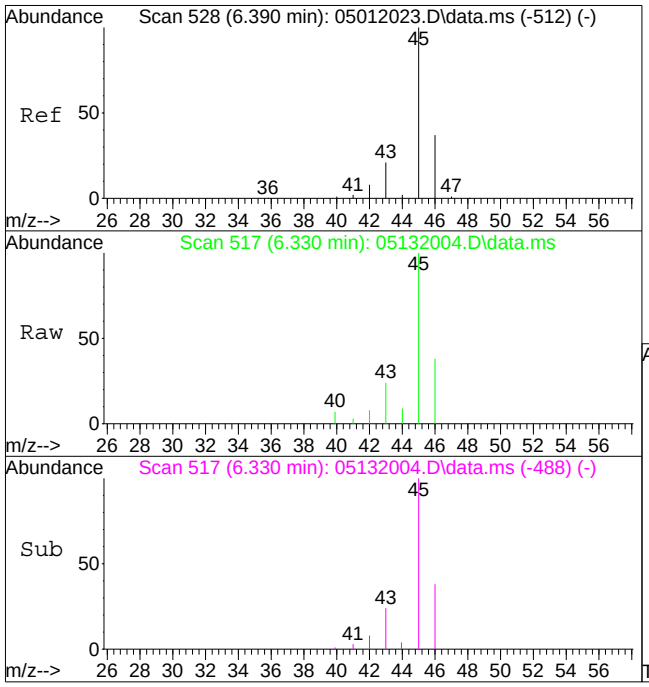


#4
Chloromethane
Concen: 0.13 ng
RT: 4.54 min Scan# 192
Delta R.T. 0.011 min
Lab File: 05132004.D
Acq: 13 May 2020 20:31

Tgt Ion: 50 Resp: 6341

Ion	Ratio	Lower	Upper
50	100		
52	31.6	12.5	52.5

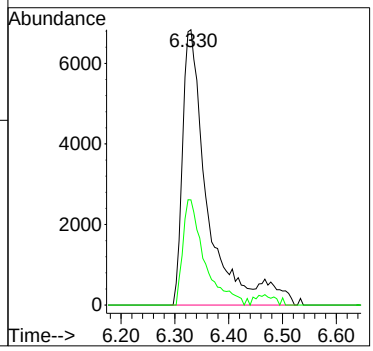


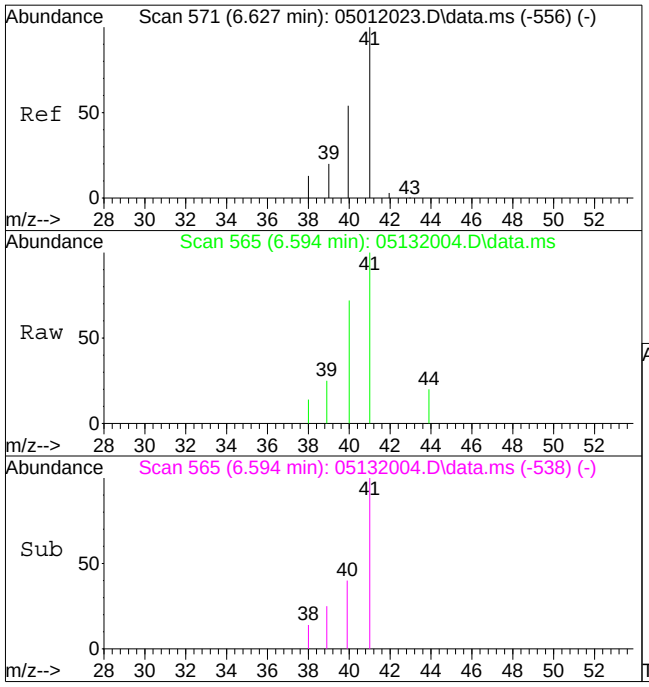


#10
Ethanol
Concen: 0.93 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.088 min
Lab File: 05132004.D
Acq: 13 May 2020 20:31

Tgt Ion: 45 Resp: 22224

Ion	Ratio	Lower	Upper
45	100		
46	32.8	17.2	57.2

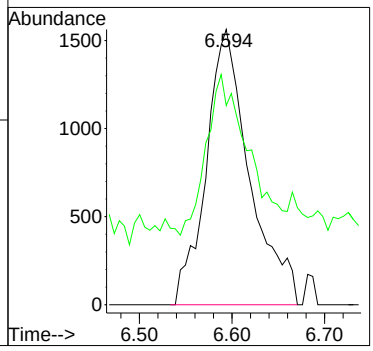


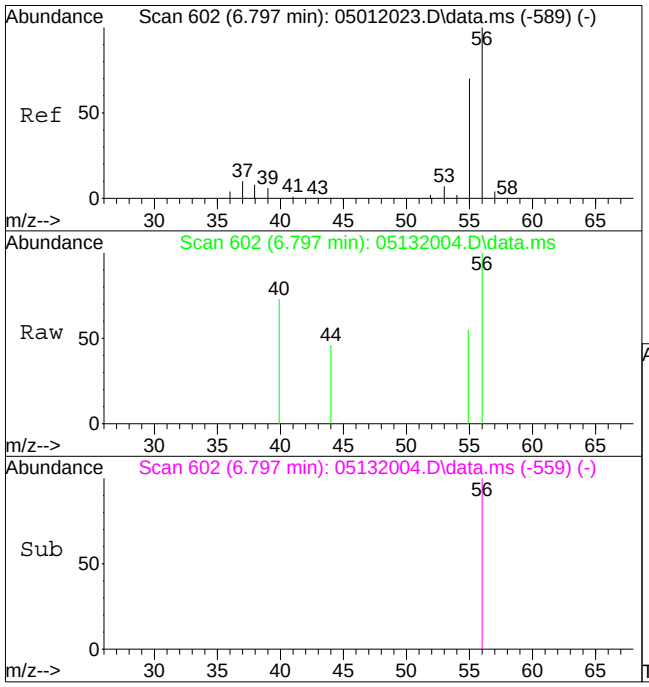


#11
Acetonitrile
Concen: 0.09 ng
RT: 6.59 min Scan# 565
Delta R.T. -0.050 min
Lab File: 05132004.D
Acq: 13 May 2020 20:31

Tgt Ion: 41 Resp: 5082

Ion	Ratio	Lower	Upper
41	100		
40	101.7	33.6	73.6#

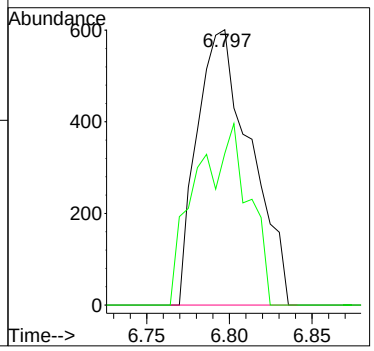


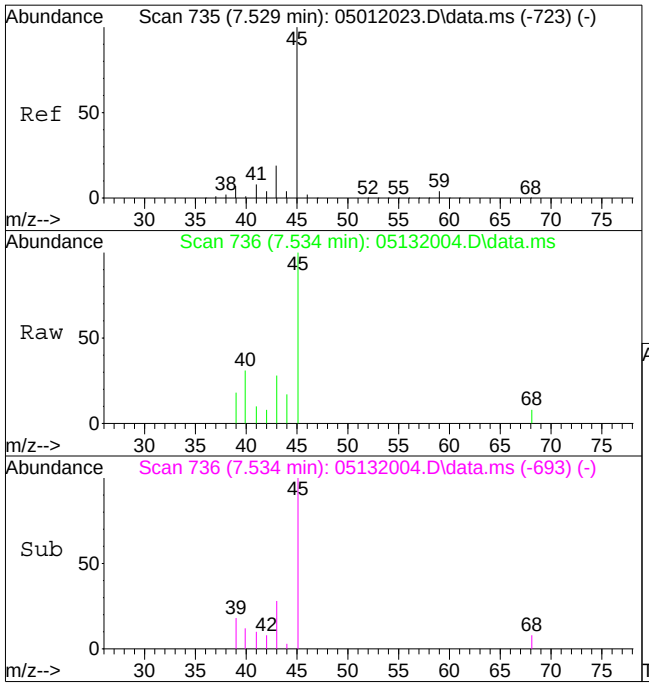


#12
Acrolein
Concen: 0.07 ng
RT: 6.80 min Scan# 602
Delta R.T. -0.011 min
Lab File: 05132004.D
Acq: 13 May 2020 20:31

Tgt Ion: 56 Resp: 1355

Ion	Ratio	Lower	Upper
56	100		
55	64.7	50.2	90.2

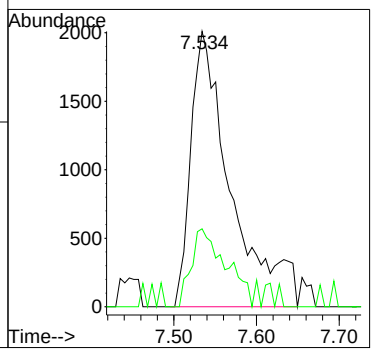


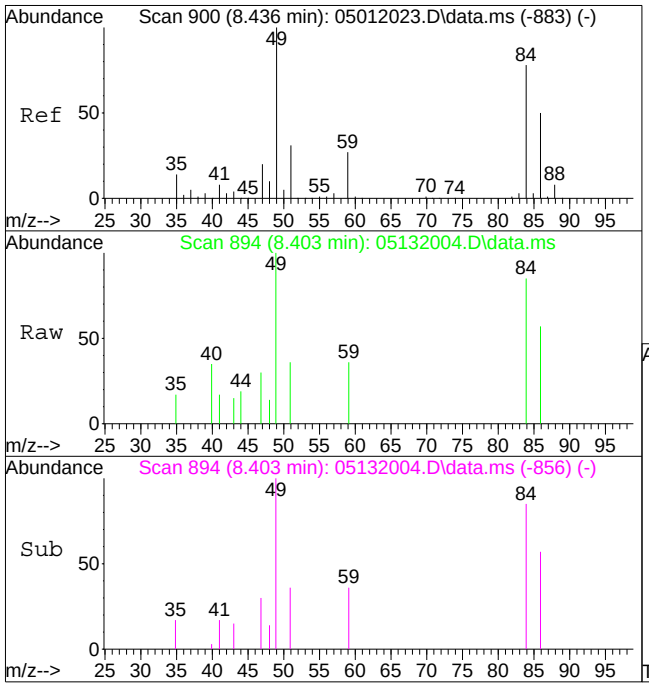


#15
2-Propanol (Isopropanol)
Concen: 0.09 ng
RT: 7.53 min Scan# 736
Delta R.T. -0.011 min
Lab File: 05132004.D
Acq: 13 May 2020 20:31

Tgt Ion: 45 Resp: 6743

Ion	Ratio	Lower	Upper
45	100		
43	24.6	0.0	39.5

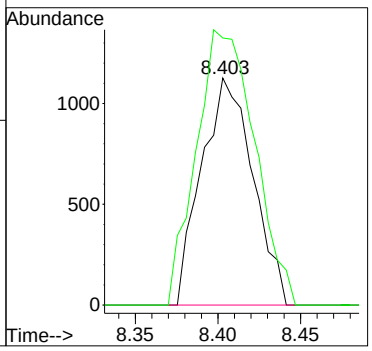


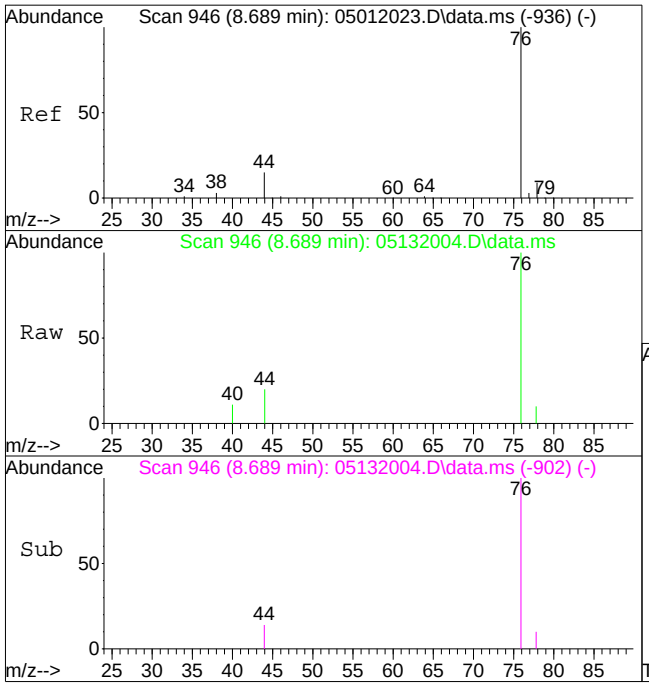


#19
Methylene Chloride
Concen: 0.08 ng
RT: 8.40 min Scan# 894
Delta R.T. -0.039 min
Lab File: 05132004.D
Acq: 13 May 2020 20:31

Tgt Ion: 84 Resp: 2432

Ion	Ratio	Lower	Upper
84	100		
49	137.7	104.8	154.8

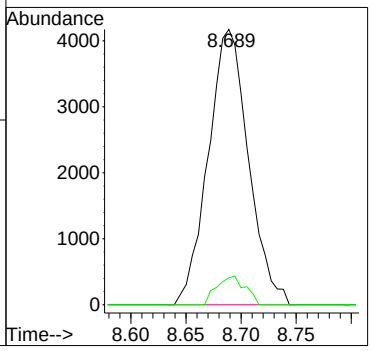


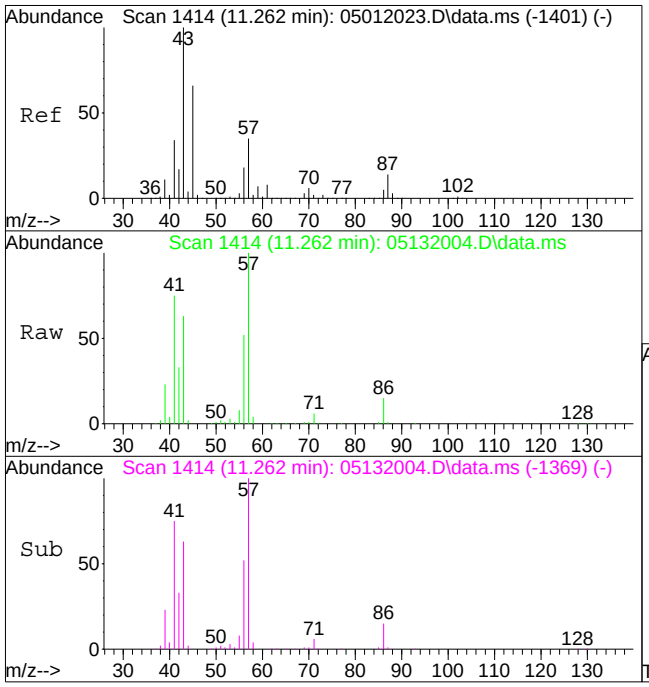


#22
Carbon Disulfide
Concen: 0.10 ng
RT: 8.69 min Scan# 946
Delta R.T. -0.006 min
Lab File: 05132004.D
Acq: 13 May 2020 20:31

Tgt Ion: 76 Resp: 10610

Ion	Ratio	Lower	Upper
76	100		
78	7.4	0.0	29.2

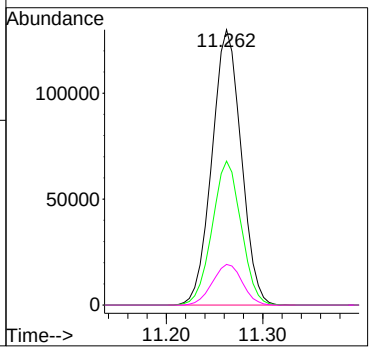


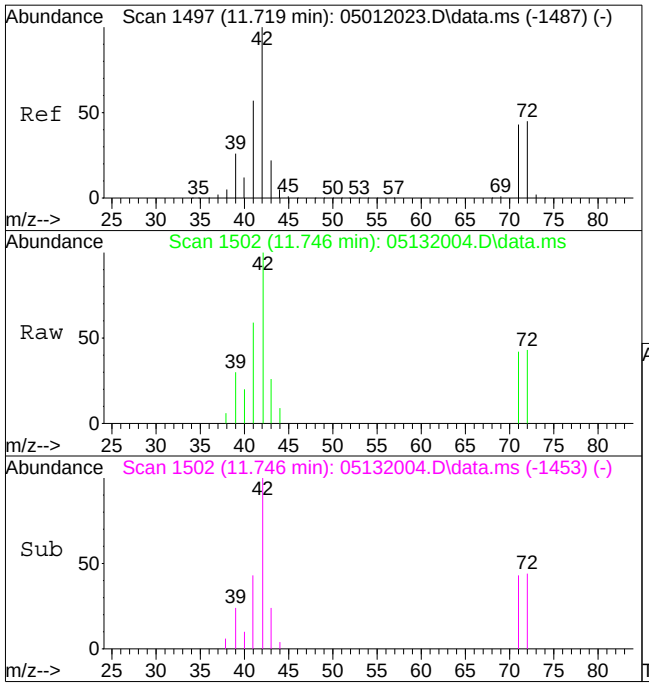


#31
n-Hexane
Concen: 5.37 ng
RT: 11.26 min Scan# 1414
Delta R.T. -0.000 min
Lab File: 05132004.D
Acq: 13 May 2020 20:31

Tgt Ion: 57 Resp: 273567

Ion	Ratio	Lower	Upper
57	100		
56	51.9	41.4	62.0
86	15.1	12.4	18.6

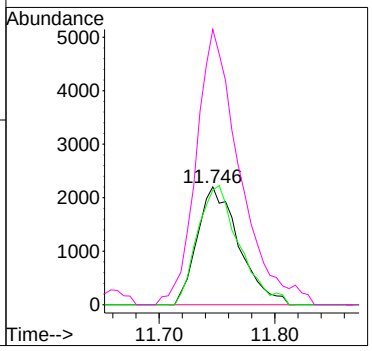


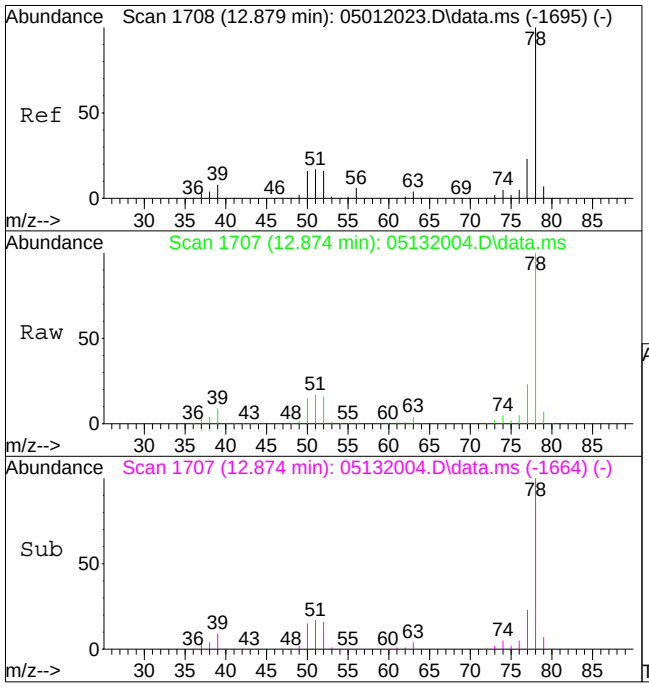


#34
Tetrahydrofuran (THF)
Concen: 0.28 ng
RT: 11.75 min Scan# 1502
Delta R.T. 0.022 min
Lab File: 05132004.D
Acq: 13 May 2020 20:31

Tgt Ion: 72 Resp: 5511

Ion	Ratio	Lower	Upper
72	100		
71	101.6	77.0	117.0
42	244.8	204.6	244.6#

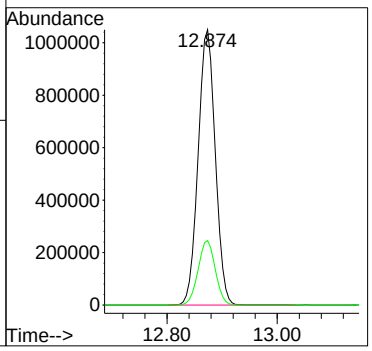


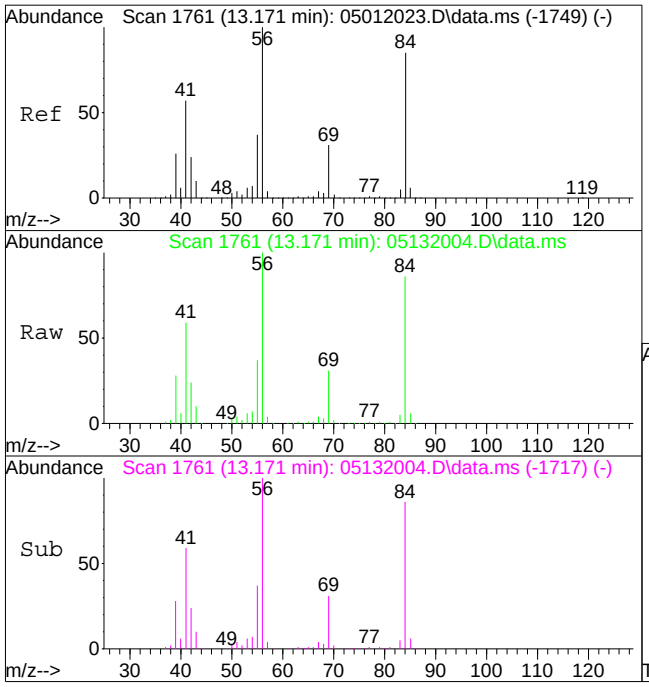


#41
Benzene
Concen: 18.18 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05132004.D
Acq: 13 May 2020 20:31

Tgt Ion: 78 Resp: 2260820

Ion	Ratio	Lower	Upper
78	100		
77	23.4	3.4	43.4

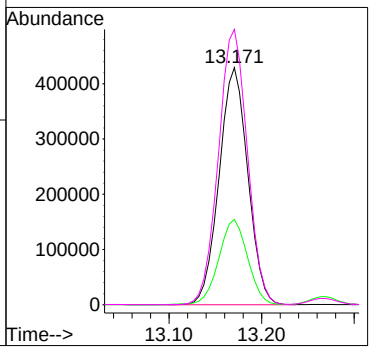


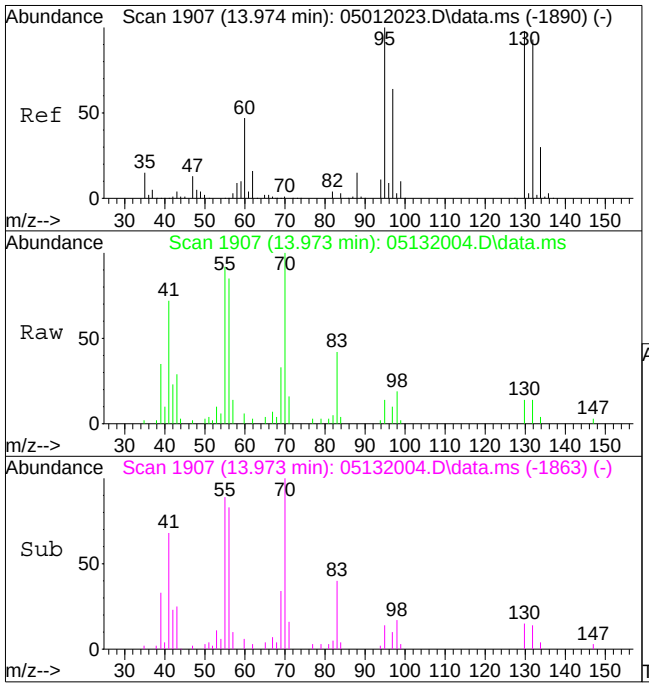


#43
Cyclohexane
Concen: 19.95 ng
RT: 13.17 min Scan# 1761
Delta R.T. -0.006 min
Lab File: 05132004.D
Acq: 13 May 2020 20:31

Tgt Ion: 84 Resp: 924690

Ion	Ratio	Lower	Upper
84	100		
69	36.3	16.5	56.5
56	117.2	97.4	137.4

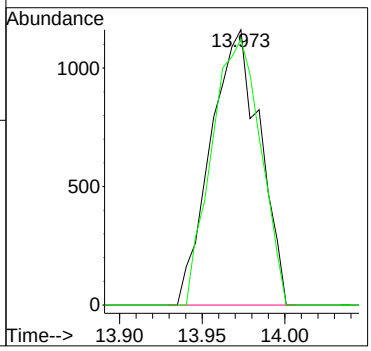


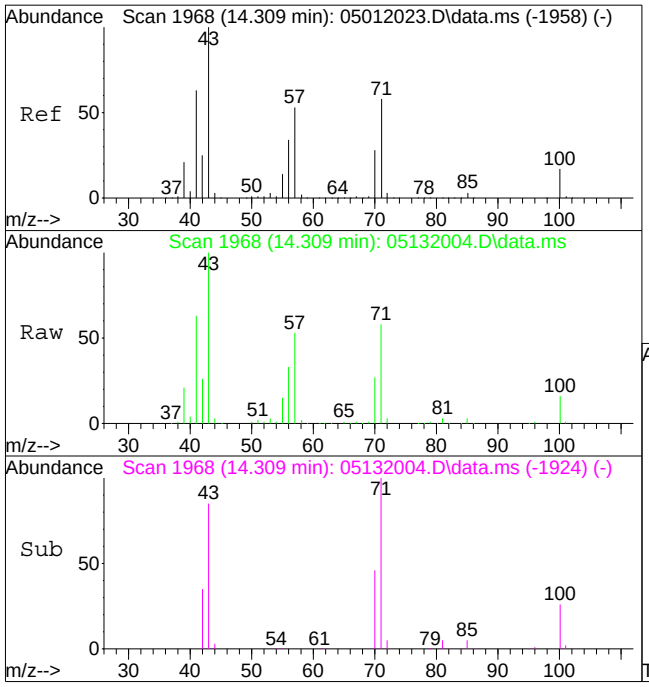


#47
Trichloroethene
Concen: 0.07 ng
RT: 13.97 min Scan# 1907
Delta R.T. -0.006 min
Lab File: 05132004.D
Acq: 13 May 2020 20:31

Tgt Ion:130 Resp: 2406

Ion	Ratio	Lower	Upper
130	100		
132	95.9	74.9	114.9

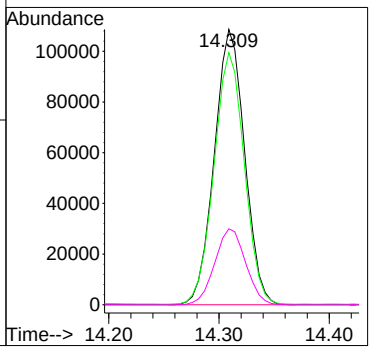


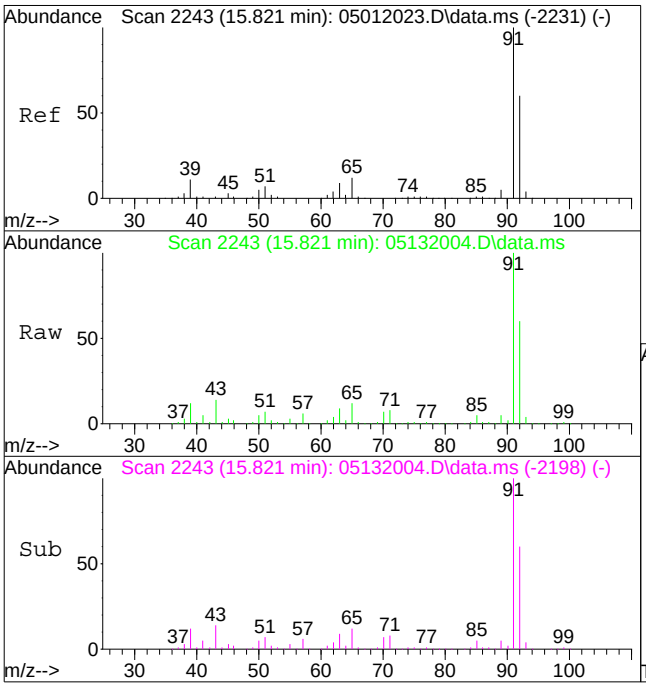


#51
n-Heptane
Concen: 7.14 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05132004.D
Acq: 13 May 2020 20:31

Tgt Ion: 71 Resp: 207797

Ion	Ratio	Lower	Upper
71	100		
57	91.6	71.0	111.0
100	28.1	8.4	48.4

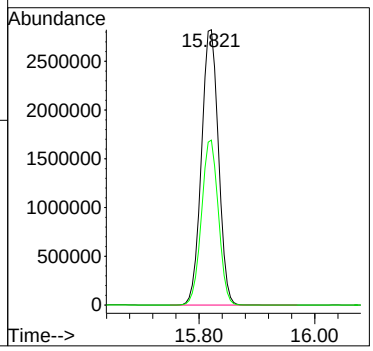


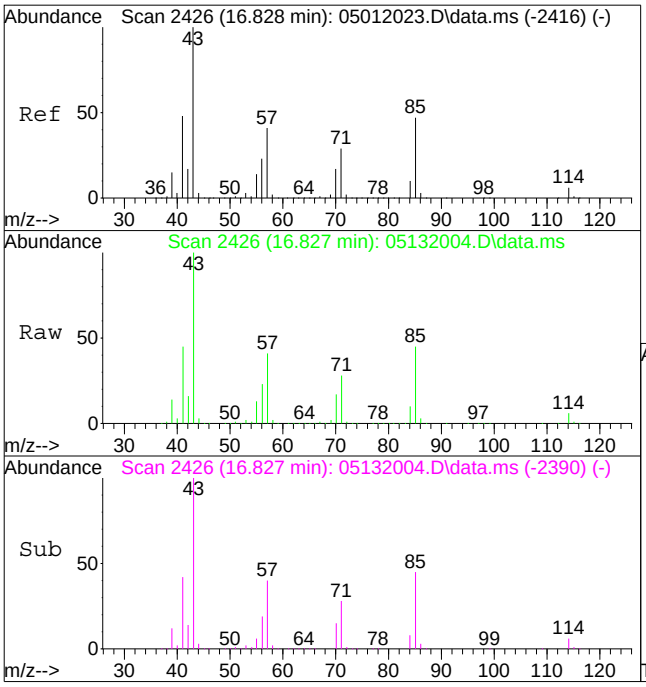


#58
Toluene
Concen: 42.52 ng
RT: 15.82 min Scan# 2243
Delta R.T. -0.000 min
Lab File: 05132004.D
Acq: 13 May 2020 20:31

Tgt Ion: 91 Resp: 5752428

Ion	Ratio	Lower	Upper
91	100		
92	59.6	39.4	79.4

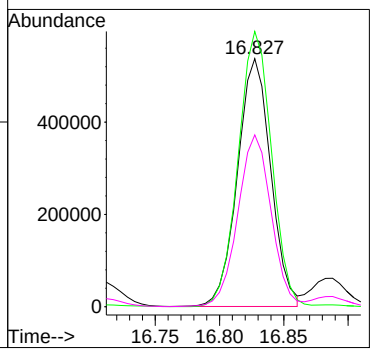


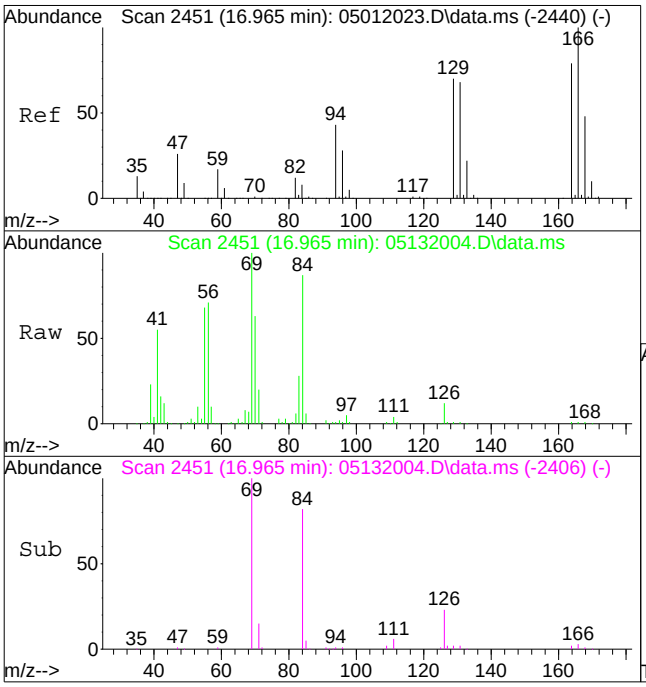


#63
n-Octane
Concen: 34.48 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05132004.D
Acq: 13 May 2020 20:31

Tgt Ion: 57 Resp: 965753

Ion	Ratio	Lower	Upper
57	100		
85	111.9	91.0	136.4
71	69.6	56.2	84.2

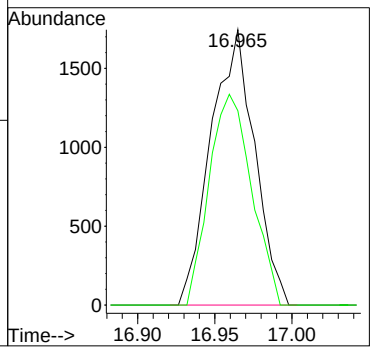


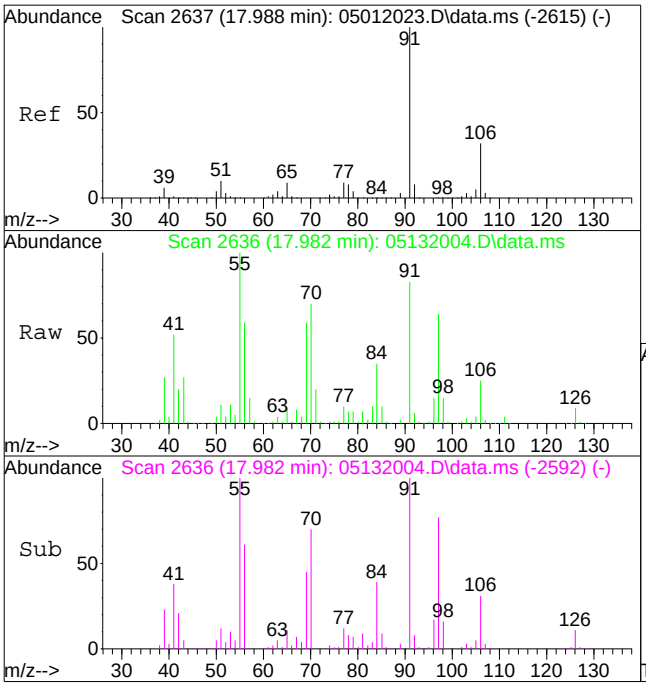


#64
Tetrachloroethene
Concen: 0.09 ng
RT: 16.96 min Scan# 2451
Delta R.T. -0.000 min
Lab File: 05132004.D
Acq: 13 May 2020 20:31

Tgt Ion:166 Resp: 3434

Ion	Ratio	Lower	Upper
166	100		
164	74.4	58.4	98.4

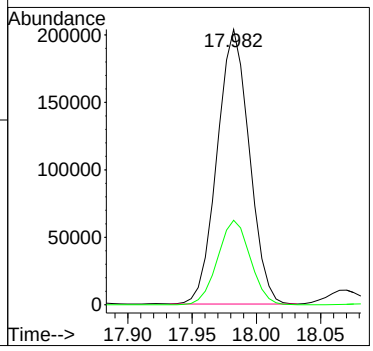


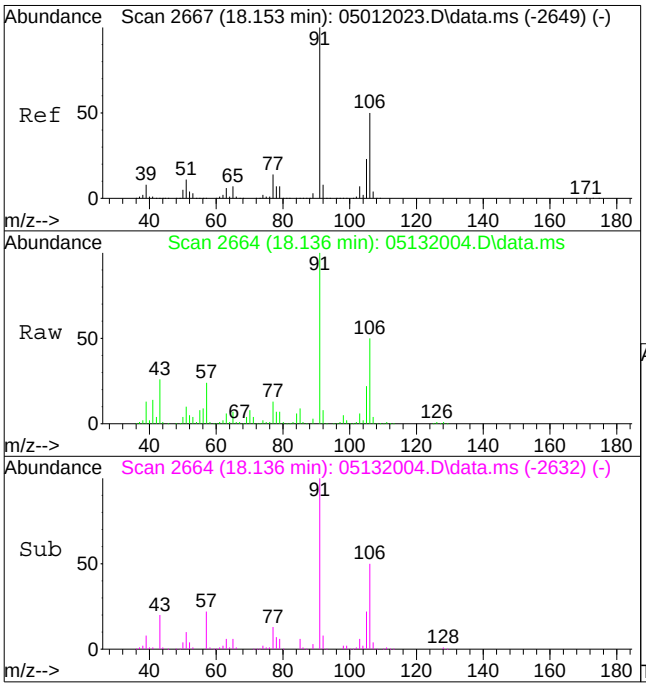


#66
Ethylbenzene
Concen: 2.35 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05132004.D
Acq: 13 May 2020 20:31

Tgt Ion: 91 Resp: 354152

Ion	Ratio	Lower	Upper
91	100		
106	31.1	11.6	51.6

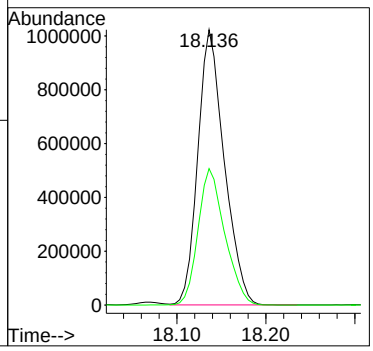


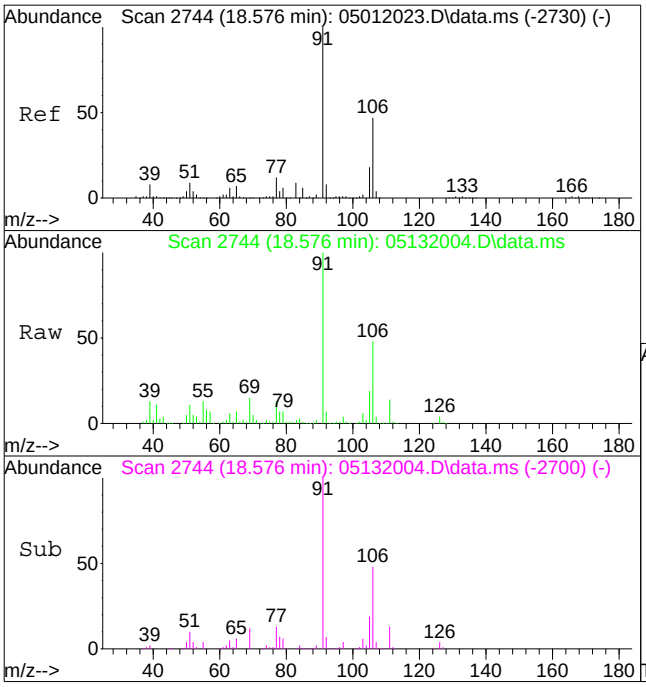


#67
m- & p-Xylenes
Concen: 17.60 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05132004.D
Acq: 13 May 2020 20:31

Tgt Ion: 91 Resp: 2106363

Ion	Ratio	Lower	Upper
91	100		
106	50.2	29.7	69.7

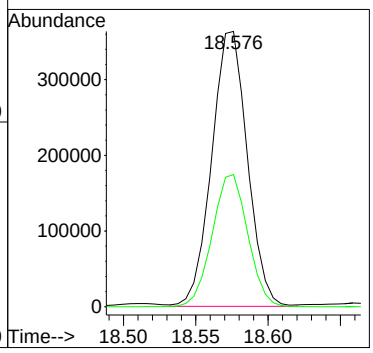


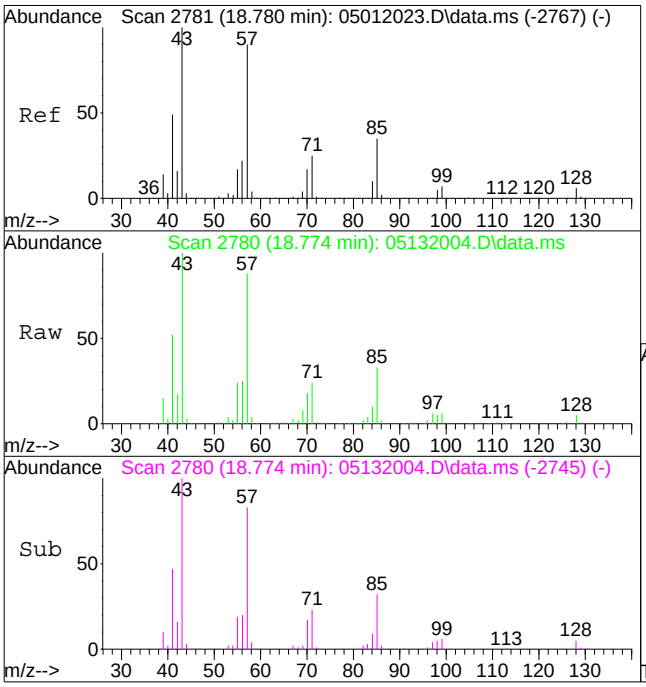


#70
o-Xylene
Concen: 5.14 ng
RT: 18.58 min Scan# 2744
Delta R.T. -0.006 min
Lab File: 05132004.D
Acq: 13 May 2020 20:31

Tgt Ion: 91 Resp: 624020

Ion	Ratio	Lower	Upper
91	100		
106	48.0	27.5	67.5

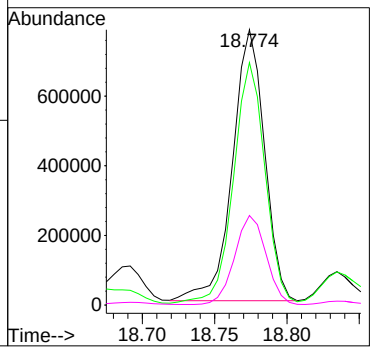


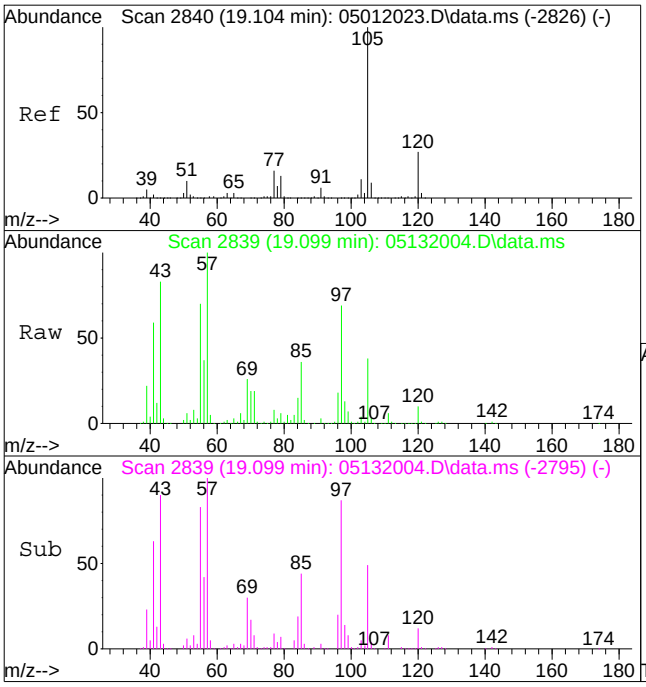


#71
n-Nonane
Concen: 18.65 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05132004.D
Acq: 13 May 2020 20:31

Tgt Ion: 43 Resp: 1202074

Ion	Ratio	Lower	Upper
43	100		
57	86.7	69.0	109.0
85	32.0	14.6	54.6

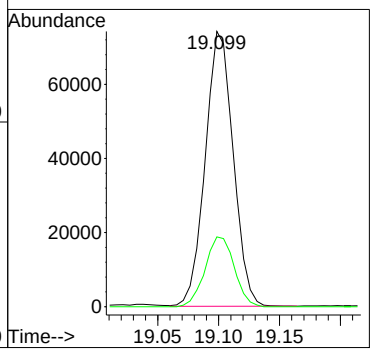


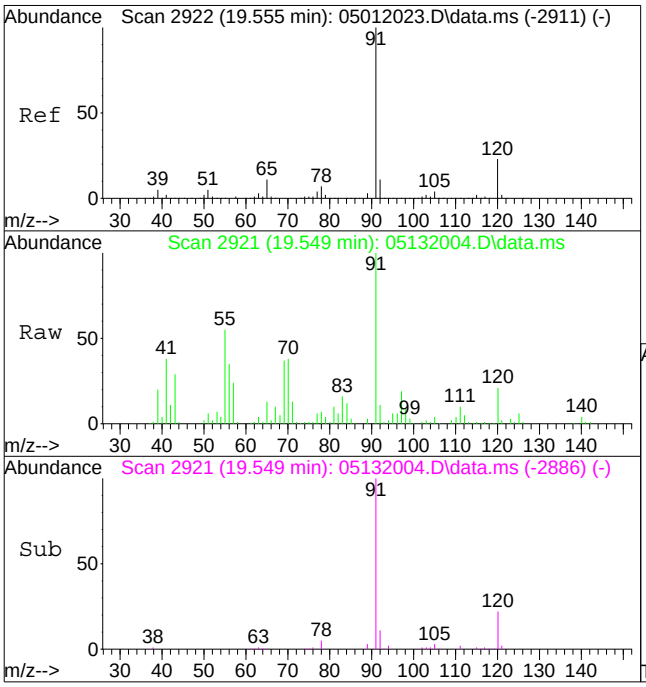


#74
Cumene
Concen: 0.79 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05132004.D
Acq: 13 May 2020 20:31

Tgt Ion:105 Resp: 118443

Ion	Ratio	Lower	Upper
105	100		
120	26.5	6.8	46.8

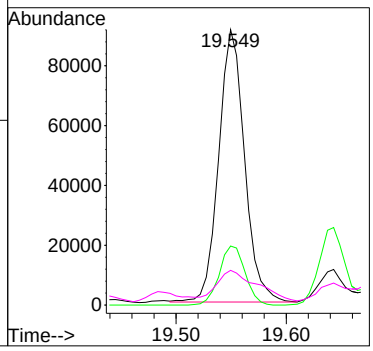


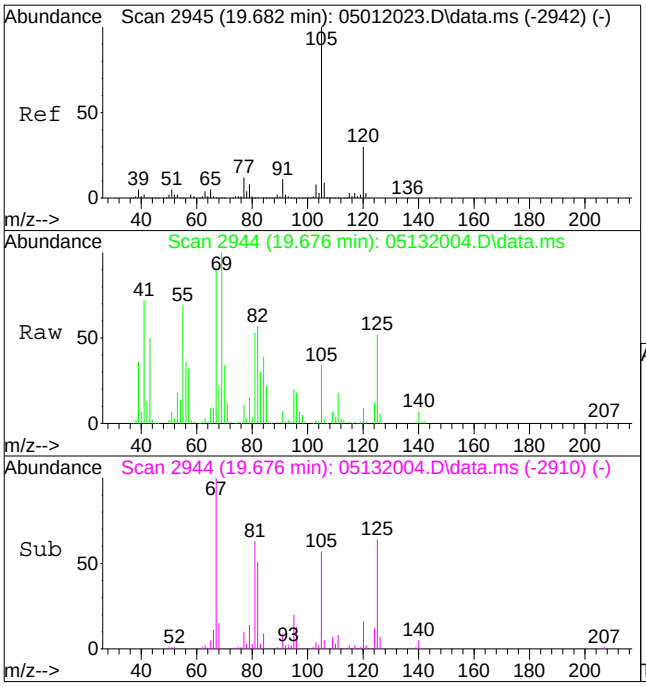


#76
n-Propylbenzene
Concen: 0.84 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05132004.D
Acq: 13 May 2020 20:31

Tgt Ion: 91 Resp: 148737

Ion	Ratio	Lower	Upper
91	100		
120	21.5	3.1	43.1
65	17.2	0.0	30.9

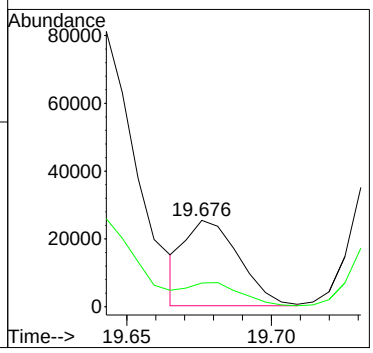


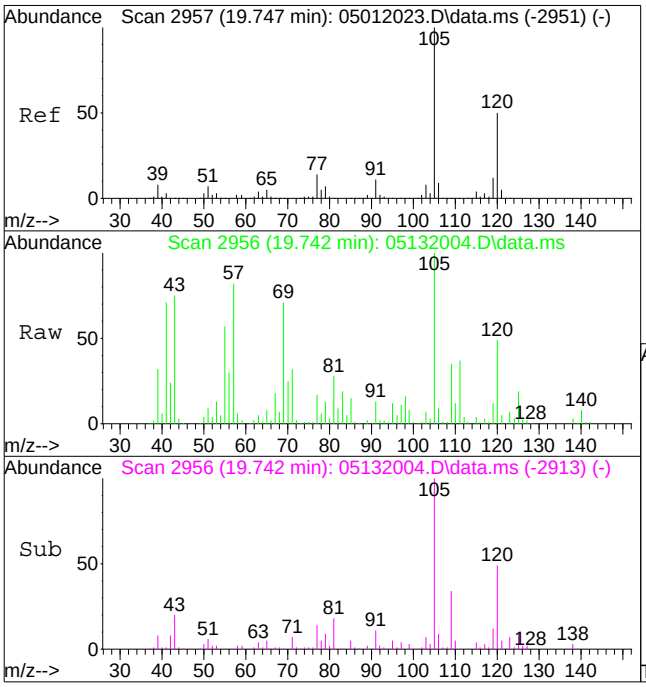


#78
4-Ethyltoluene
Concen: 0.24 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05132004.D
Acq: 13 May 2020 20:31

Tgt Ion:105 Resp: 32917

Ion	Ratio	Lower	Upper
105	100		
120	29.8	10.4	50.4

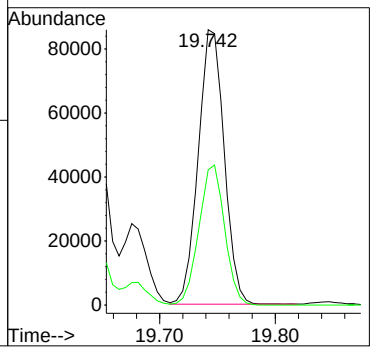


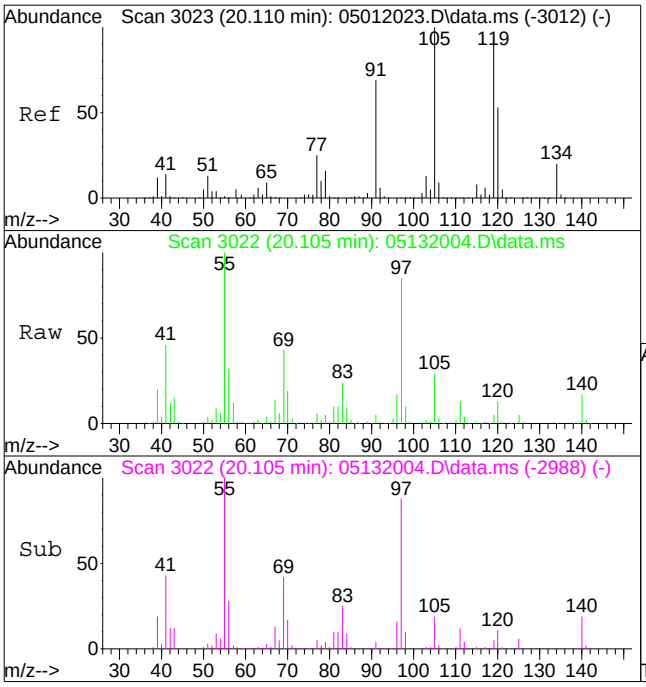


#79
1,3,5-Trimethylbenzene
Concen: 1.10 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05132004.D
Acq: 13 May 2020 20:31

Tgt Ion:105 Resp: 133864

Ion	Ratio	Lower	Upper
105	100		
120	50.5	29.9	69.9

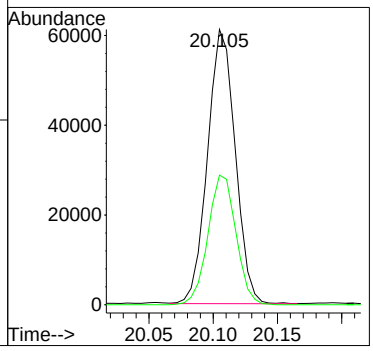


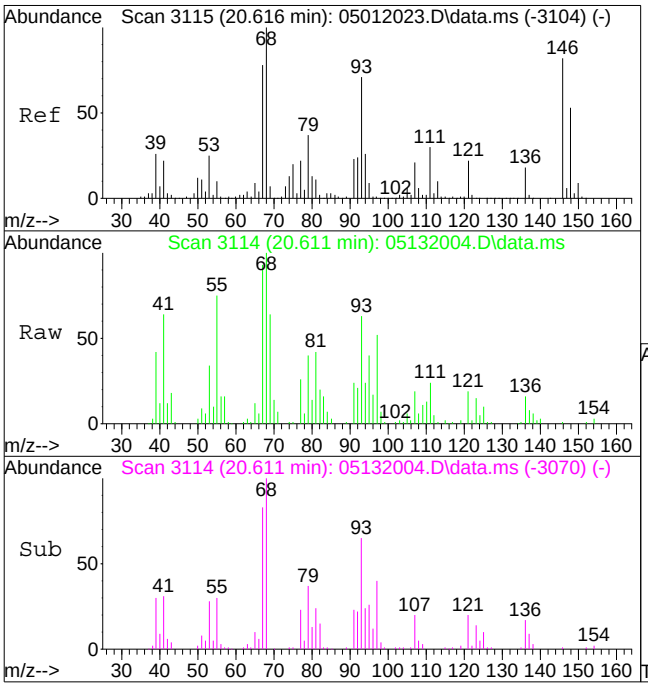


#82
1,2,4-Trimethylbenzene
Concen: 0.75 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05132004.D
Acq: 13 May 2020 20:31

Tgt Ion:105 Resp: 91730

Ion	Ratio	Lower	Upper
105	100		
120	47.7	33.6	73.6

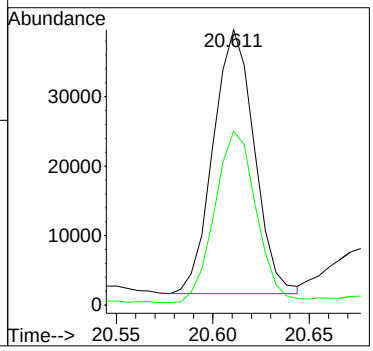




#91
d-Limonene
Concen: 1.17 ng
RT: 20.61 min Scan# 3114
Delta R.T. -0.006 min
Lab File: 05132004.D
Acq: 13 May 2020 20:31

Tgt Ion: 68 Resp: 56401

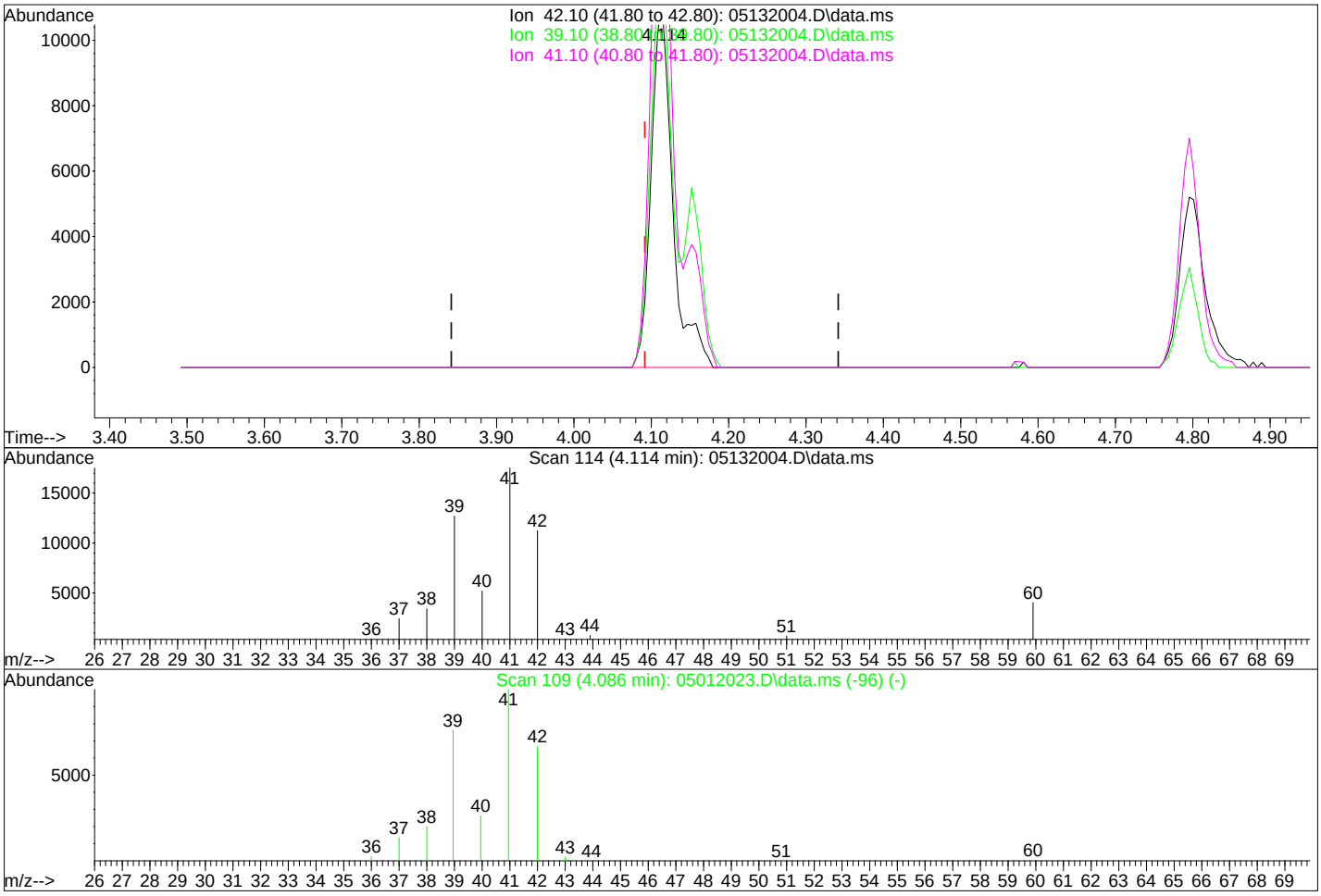
Ion	Ratio	Lower	Upper
68	100		
93	65.5	51.1	91.1



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\13\05132004.D Vial: 1
Acq On : 13 May 2020 20:31 Operator: LH
Sample : P2002301-009 (4.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 13:02:17 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05132004.D\data.ms

(2) Propene (T)

4.114min (+0.022) 0.69ng

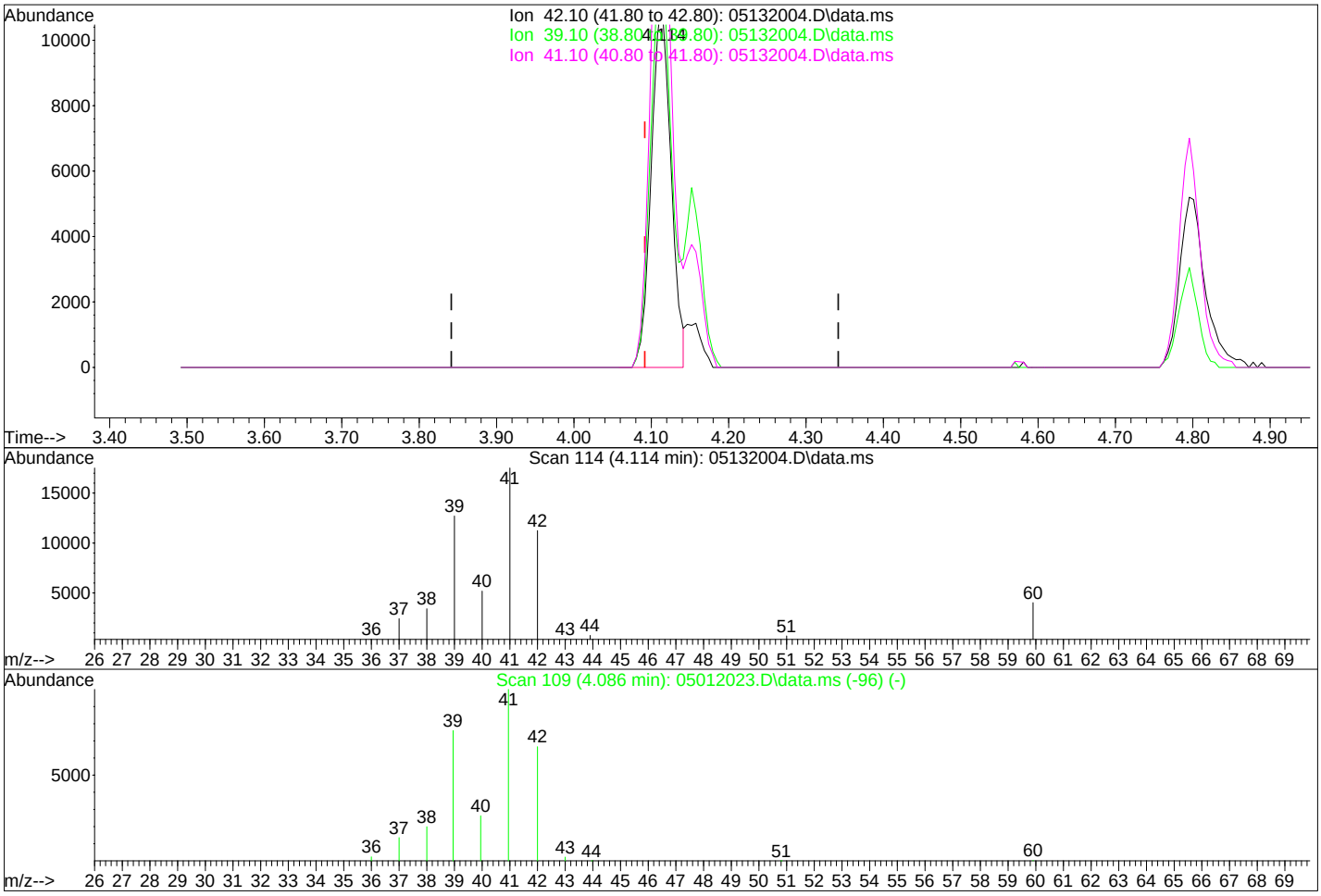
response 21467

Ion	Exp%	Act%
42.10	100	100
39.10	116.10	105.04
41.10	151.90	169.94
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\13\05132004.D Vial: 1
Acq On : 13 May 2020 20:31 Operator: LH
Sample : P2002301-009 (4.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 13:02:17 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05132004.D\data.ms

(2) Propene (T)

4.114min (+0.022) 0.63ng m

response 19601

Ion	Exp%	Act%
42.10	100	100
39.10	116.10	115.04
41.10	151.90	186.11#
0.00	0.00	0.00

IPC

LH 5/14/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132005.D Vial: 1
Acq On : 13 May 2020 21:04 Operator: LH
Sample : P2002301-010 (4.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:23:32 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/14/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	277152	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1204979	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	647879	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	448435	11.939	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.52%				
57) Toluene-d8 (SS2)	15.72	98	1207781	10.998	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.00%				
73) Bromofluorobenzene (SS3)	18.98	174	461498	11.679	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.44%				
Target Compounds							Qvalue
2) Propene	4.10	42	23453m	0.731	ng		
3) Dichlorodifluoromethan...	4.27	85	3524	0.056	ng	#	94
4) Chloromethane	4.53	50	7682	0.156	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	4.95	62	762	N.D.			
7) 1,3-Butadiene	5.22	54	179	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.32	45	27072	1.092	ng		93
11) Acetonitrile	6.59	41	5648	0.100	ng		99
12) Acrolein	6.79	56	2197	0.112	ng		100
13) Acetone	7.00	58	24704	0.997	ng	#	1
14) Trichlorofluoromethane	7.24	101	1928	N.D.			
15) 2-Propanol (Isopropanol)	7.52	45	12445	0.166	ng		76
16) Acrylonitrile	7.74	53	50	N.D.			
17) 1,1-Dichloroethene	8.20	96	133	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	2169	0.067	ng		98
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	8.84	151	7121	0.272	ng		99
22) Carbon Disulfide	8.68	76	24410	0.211	ng		100
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	9.99	63	1991	N.D.			
25) Methyl tert-Butyl Ether	10.07	73	880	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.48	72	2596	0.123	ng	#	80
28) cis-1,2-Dichloroethene	10.95	61	975	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.30	61	359	N.D.			
31) n-Hexane	11.26	57	292531	5.533	ng		99
32) Chloroform	11.30	83	480	N.D.			
34) Tetrahydrofuran (THF)	11.75	72	7397	0.359	ng	#	88
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	2529277	19.573	ng		100
42) Carbon Tetrachloride	13.03	117	636	N.D.			
43) Cyclohexane	13.17	84	1008641	20.946	ng		99
44) tert-Amyl Methyl Ether	13.45	73	390	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	13.97	130	6823	0.204	ng		99
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132005.D Vial: 1
Acq On : 13 May 2020 21:04 Operator: LH
Sample : P2002301-010 (4.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:23:32 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

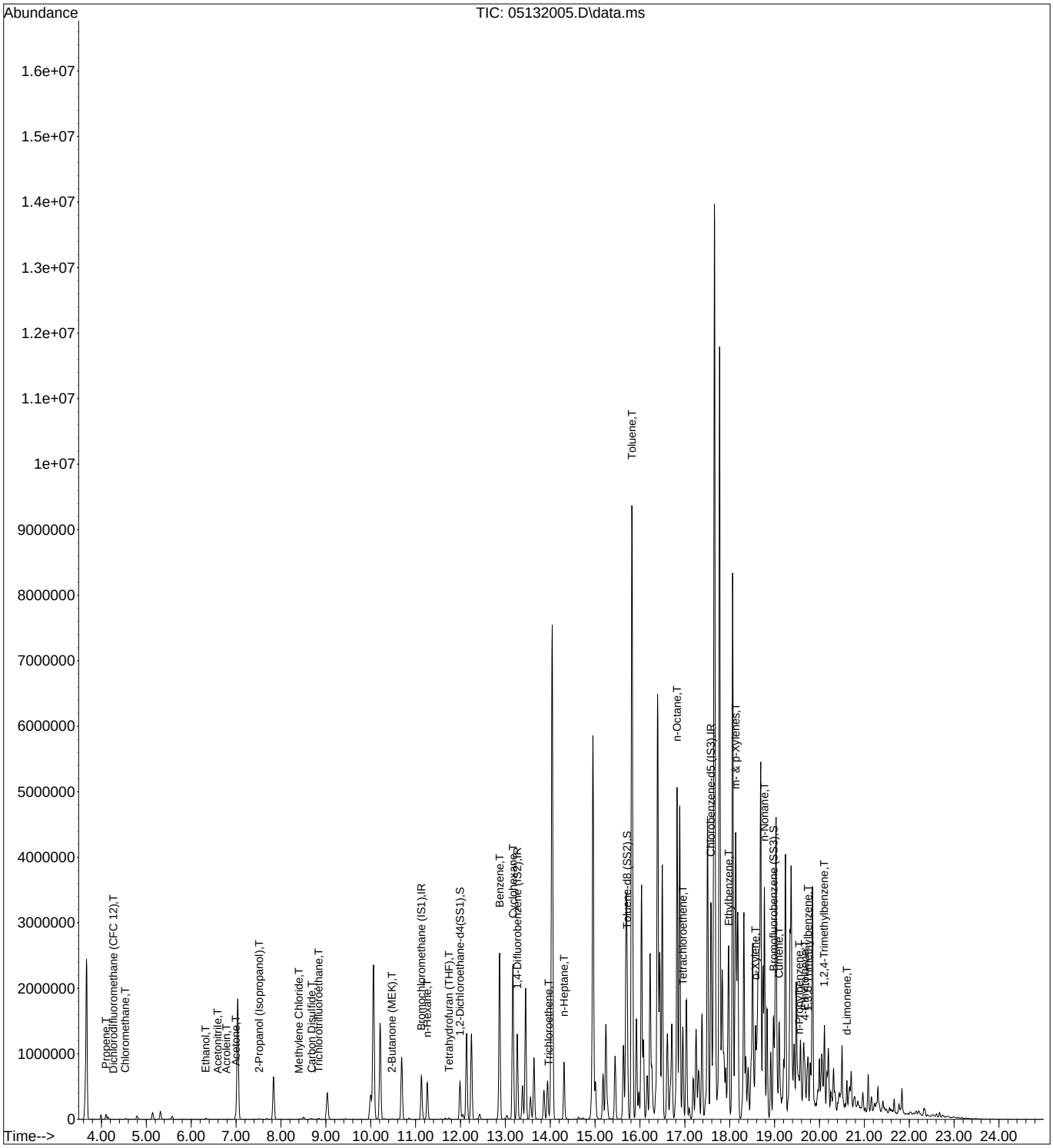
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	217417	7.195 ng	99
52) cis-1,3-Dichloropropene	14.96	75	1293	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	15.14	75	621	N.D.	
55) 1,1,2-Trichloroethane	15.51	97	122	N.D.	
58) Toluene	15.82	91	6138929	43.368 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	16.48	107	441	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	16.83	57	966838	32.992 ng	99
64) Tetrachloroethene	16.96	166	4720	0.118 ng	99
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	17.98	91	362501	2.297 ng	99
67) m- & p-Xylenes	18.14	91	2087959	16.674 ng	99
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.48	104	1891	N.D.	
70) o-Xylene	18.58	91	615396	4.841 ng	99
71) n-Nonane	18.77	43	1129575	16.747 ng	96
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	19.10	105	113655	0.729 ng	99
75) alpha-Pinene	19.45	93	2584	N.D.	
76) n-Propylbenzene	19.55	91	153772	0.830 ng	89
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.68	105	31464	0.215 ng	99
79) 1,3,5-Trimethylbenzene	19.74	105	122074	0.960 ng	100
80) alpha-Methylstyrene	19.88	118	1143	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.10	105	92520	0.724 ng	91
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	0.00	91	0	N.D. d	
85) 1,3-Dichlorobenzene	20.24	146	363	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	842	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	20.60	146	261	N.D.	
91) d-Limonene	20.61	68	72446	1.434 ng	95
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.11	180	620	N.D.	
95) Naphthalene	22.22	128	3785	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132005.D Vial: 1
Acq On : 13 May 2020 21:04 Operator: LH
Sample : P2002301-010 (4.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:23:32 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132005.D Vial: 1
Acq On : 13 May 2020 21:04 Operator: LH
Sample : P2002301-010 (4.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:23:32 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/14/20

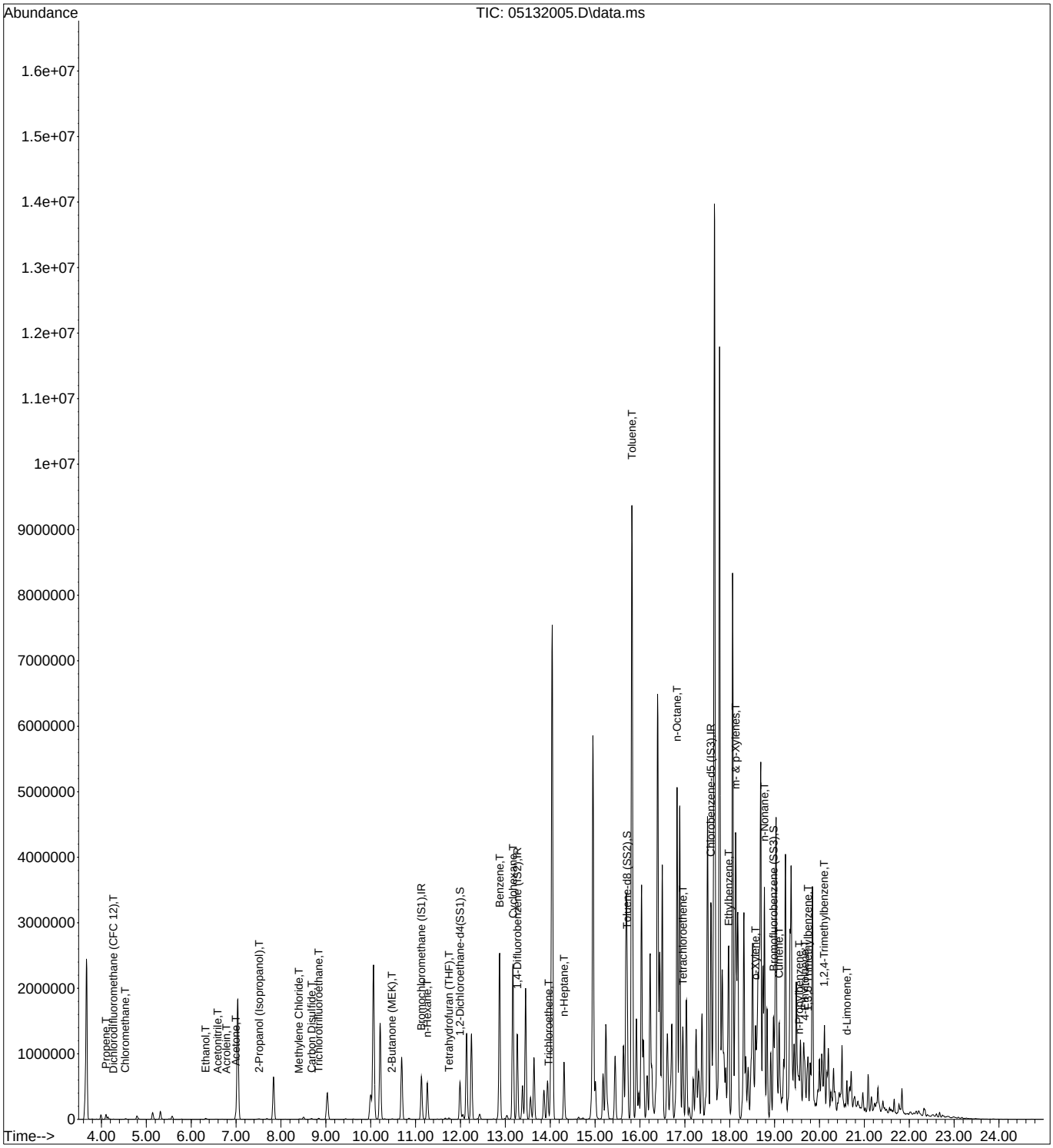
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	277152	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1204979	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	647879	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	448435	11.939	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.52%				
57) Toluene-d8 (SS2)	15.72	98	1207781	10.998	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.00%				
73) Bromofluorobenzene (SS3)	18.98	174	461498	11.679	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.44%				
Target Compounds							Qvalue
2) Propene	4.10	42	23453m	0.731	ng		
3) Dichlorodifluoromethan...	4.27	85	3524	0.056	ng	#	94
4) Chloromethane	4.53	50	7682	0.156	ng		98
10) Ethanol	6.32	45	27072	1.092	ng		93
11) Acetonitrile	6.59	41	5648	0.100	ng		99
12) Acrolein	6.79	56	2197	0.112	ng		100
13) Acetone	7.00	58	24704	0.997	ng	#	1
15) 2-Propanol (Isopropanol)	7.52	45	12445	0.166	ng		76
19) Methylene Chloride	8.40	84	2169	0.067	ng		98
21) Trichlorotrifluoroethane	8.84	151	7121	0.272	ng		99
22) Carbon Disulfide	8.68	76	24410	0.211	ng		100
27) 2-Butanone (MEK)	10.48	72	2596	0.123	ng	#	80
31) n-Hexane	11.26	57	292531	5.533	ng		99
34) Tetrahydrofuran (THF)	11.75	72	7397	0.359	ng	#	88
41) Benzene	12.87	78	2529277	19.573	ng		100
43) Cyclohexane	13.17	84	1008641	20.946	ng		99
47) Trichloroethene	13.97	130	6823	0.204	ng		99
51) n-Heptane	14.31	71	217417	7.195	ng		99
58) Toluene	15.82	91	6138929	43.368	ng		100
63) n-Octane	16.83	57	966838	32.992	ng		99
64) Tetrachloroethene	16.96	166	4720	0.118	ng		99
66) Ethylbenzene	17.98	91	362501	2.297	ng		99
67) m- & p-Xylenes	18.14	91	2087959	16.674	ng		99
70) o-Xylene	18.58	91	615396	4.841	ng		99
71) n-Nonane	18.77	43	1129575	16.747	ng		96
74) Cumene	19.10	105	113655	0.729	ng		99
76) n-Propylbenzene	19.55	91	153772	0.830	ng		89
78) 4-Ethyltoluene	19.68	105	31464	0.215	ng		99
79) 1,3,5-Trimethylbenzene	19.74	105	122074	0.960	ng		100
82) 1,2,4-Trimethylbenzene	20.10	105	92520	0.724	ng		91
91) d-Limonene	20.61	68	72446	1.434	ng		95

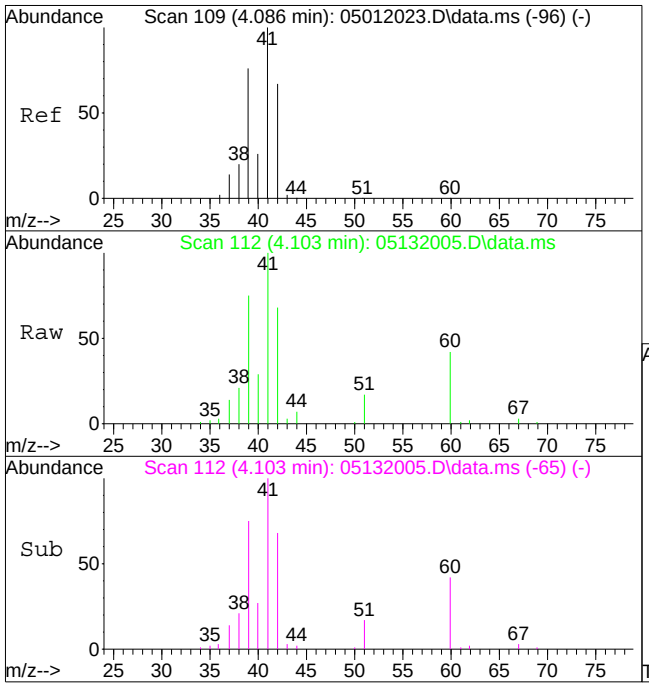
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132005.D Vial: 1
Acq On : 13 May 2020 21:04 Operator: LH
Sample : P2002301-010 (4.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:23:32 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

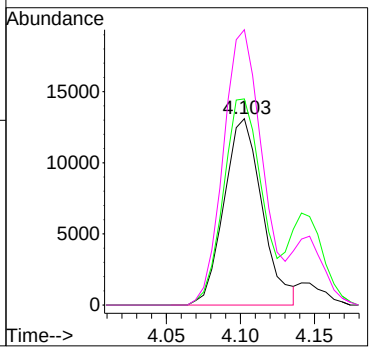


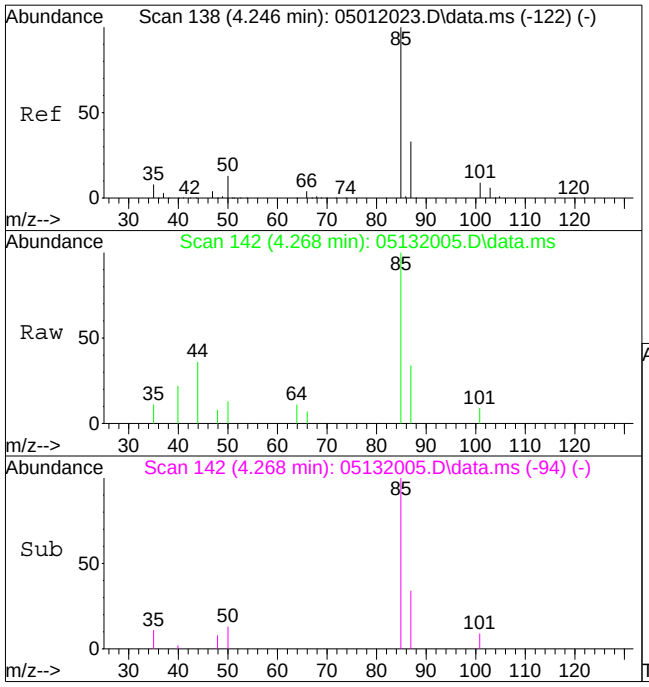


#2
Propene
Concen: 0.73 ng m
RT: 4.10 min Scan# 112
Delta R.T. 0.011 min
Lab File: 05132005.D
Acq: 13 May 2020 21:04

Tgt Ion: 42 Resp: 23453

Ion	Ratio	Lower	Upper
42	100		
39	111.1	96.1	136.1
41	150.9	131.9	171.9

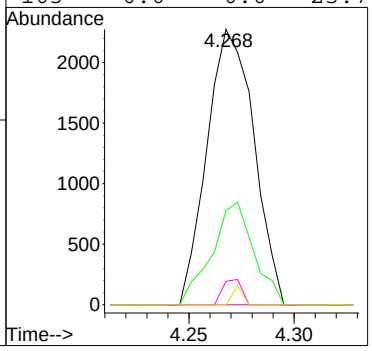


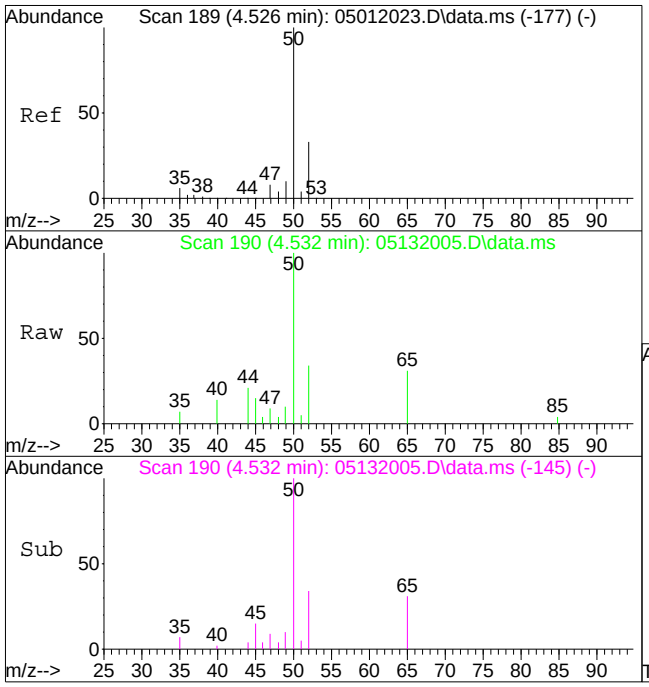


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.06 ng
RT: 4.27 min Scan# 142
Delta R.T. 0.016 min
Lab File: 05132005.D
Acq: 13 May 2020 21:04

Tgt Ion: 85 Resp: 3524

Ion	Ratio	Lower	Upper
85	100		
87	33.3	12.4	52.4
101	3.8	0.0	28.8
103	0.0	0.0	25.7

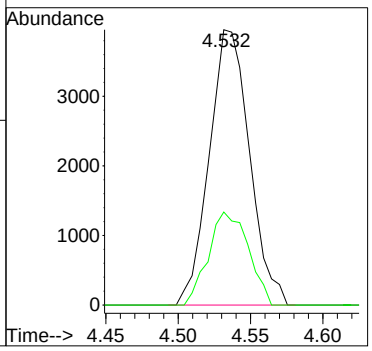


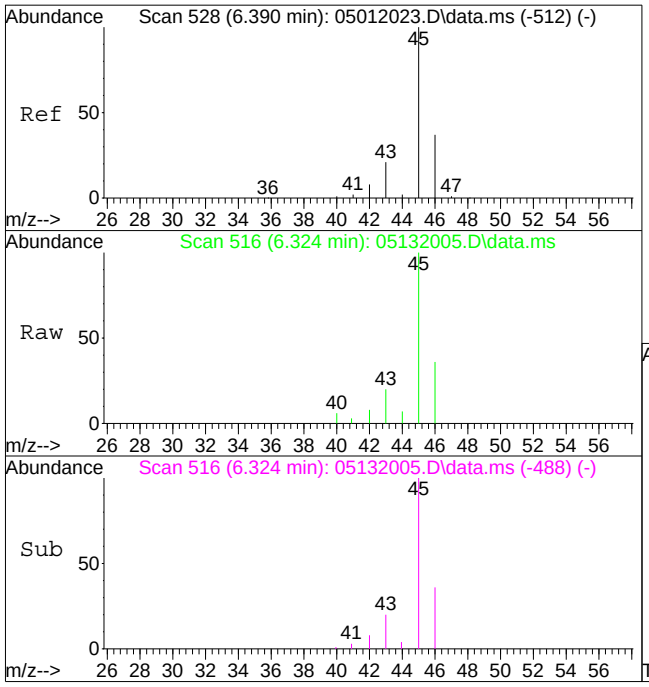


#4
Chloromethane
Concen: 0.16 ng
RT: 4.53 min Scan# 190
Delta R.T. -0.000 min
Lab File: 05132005.D
Acq: 13 May 2020 21:04

Tgt Ion: 50 Resp: 7682

Ion	Ratio	Lower	Upper
50	100		
52	33.5	12.5	52.5

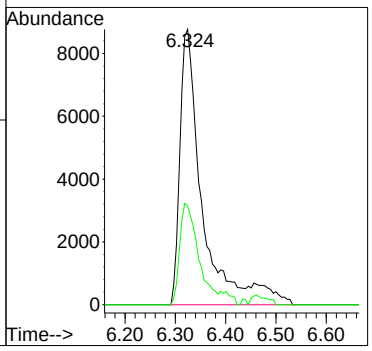


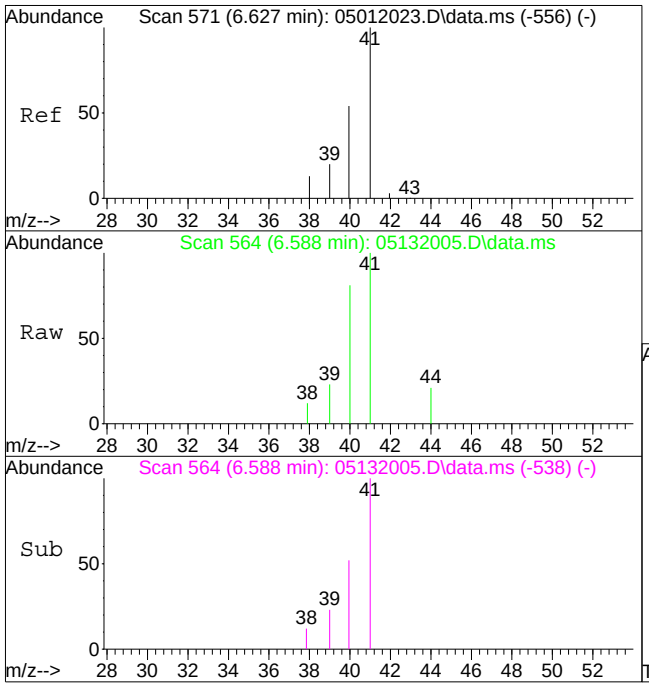


#10
Ethanol
Concen: 1.09 ng
RT: 6.32 min Scan# 516
Delta R.T. -0.094 min
Lab File: 05132005.D
Acq: 13 May 2020 21:04

Tgt Ion: 45 Resp: 27072

Ion	Ratio	Lower	Upper
45	100		
46	33.1	17.2	57.2

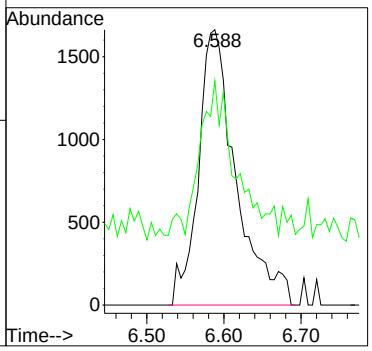


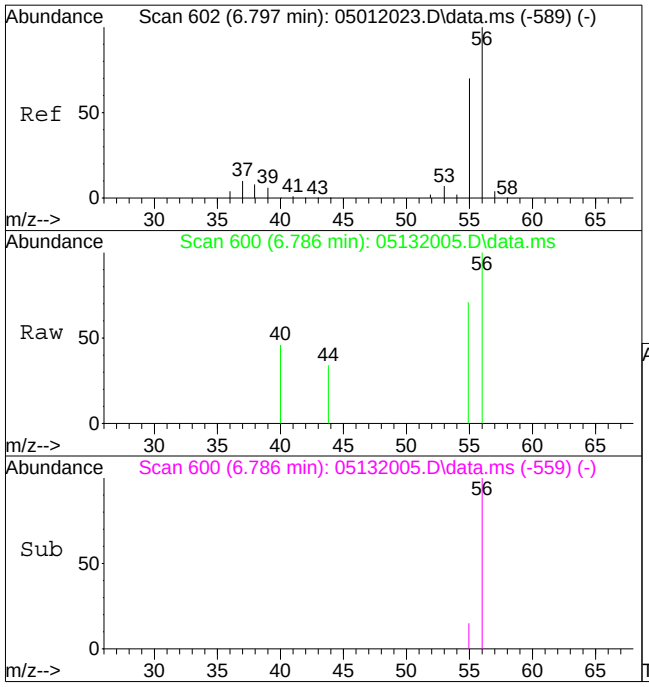


#11
Acetonitrile
Concen: 0.10 ng
RT: 6.59 min Scan# 564
Delta R.T. -0.055 min
Lab File: 05132005.D
Acq: 13 May 2020 21:04

Tgt Ion: 41 Resp: 5648

Ion	Ratio	Lower	Upper
41	100		
40	52.5	33.6	73.6

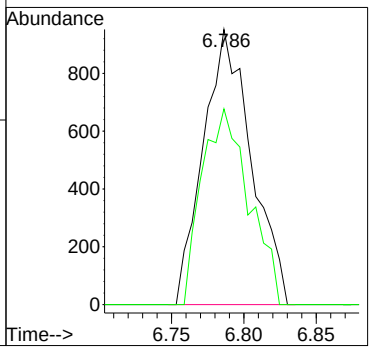


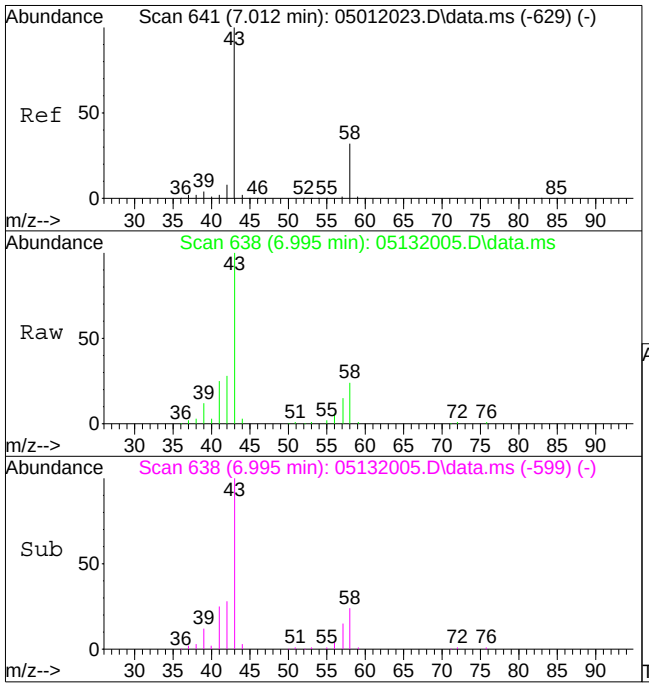


#12
Acrolein
Concen: 0.11 ng
RT: 6.79 min Scan# 600
Delta R.T. -0.022 min
Lab File: 05132005.D
Acq: 13 May 2020 21:04

Tgt Ion: 56 Resp: 2197

Ion	Ratio	Lower	Upper
56	100		
55	70.0	50.2	90.2

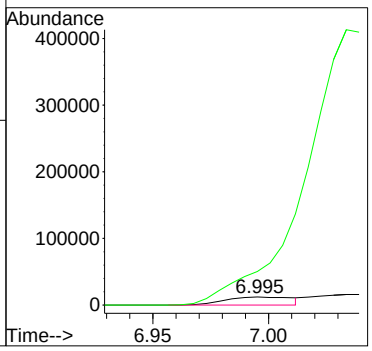


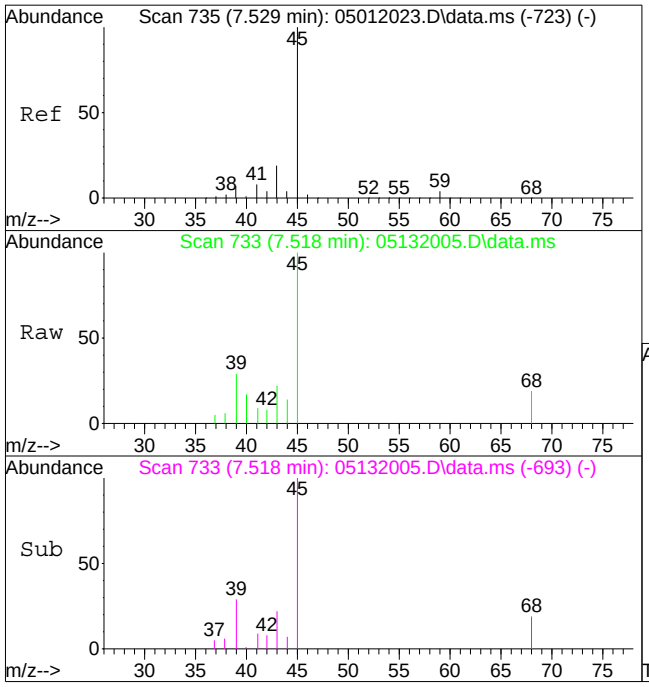


#13
Acetone
Concen: 1.00 ng
RT: 7.00 min Scan# 638
Delta R.T. -0.033 min
Lab File: 05132005.D
Acq: 13 May 2020 21:04

Tgt Ion: 58 Resp: 24704

Ion	Ratio	Lower	Upper
58	100		
43	0.0	294.4	354.4#

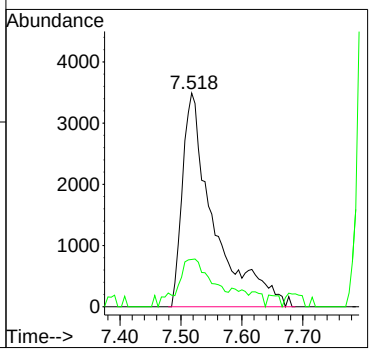


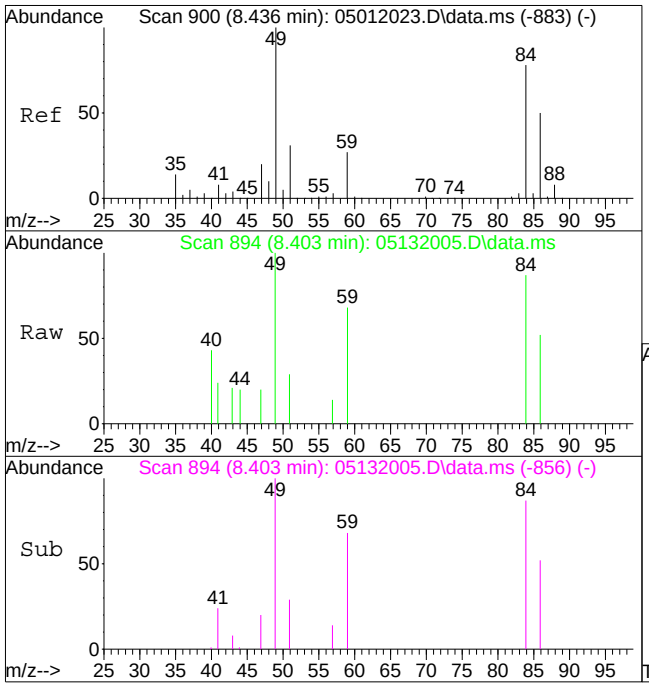


#15
2-Propanol (Isopropanol)
Concen: 0.17 ng
RT: 7.52 min Scan# 733
Delta R.T. -0.028 min
Lab File: 05132005.D
Acq: 13 May 2020 21:04

Tgt Ion: 45 Resp: 12445

Ion	Ratio	Lower	Upper
45	100		
43	30.5	0.0	39.5

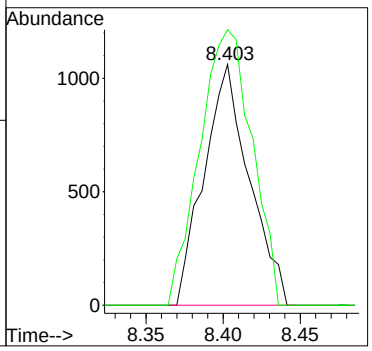


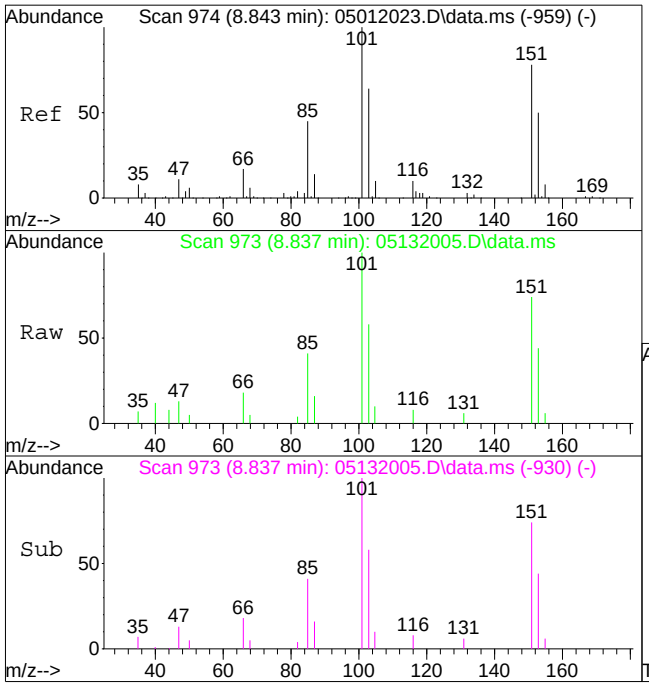


#19
Methylene Chloride
Concen: 0.07 ng
RT: 8.40 min Scan# 894
Delta R.T. -0.039 min
Lab File: 05132005.D
Acq: 13 May 2020 21:04

Tgt Ion: 84 Resp: 2169

Ion	Ratio	Lower	Upper
84	100		
49	132.0	104.8	154.8

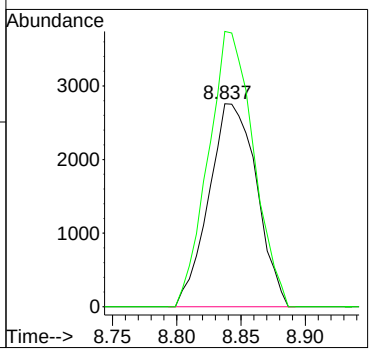


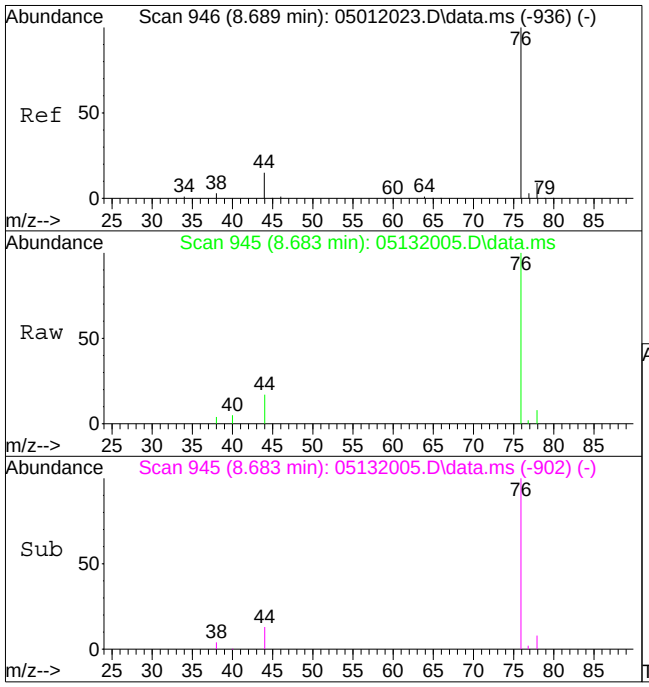


#21
Trichlorotrifluoroethane
Concen: 0.27 ng
RT: 8.84 min Scan# 973
Delta R.T. -0.011 min
Lab File: 05132005.D
Acq: 13 May 2020 21:04

Tgt Ion:151 Resp: 7121

Ion	Ratio	Lower	Upper
151	100		
101	128.8	107.3	147.3

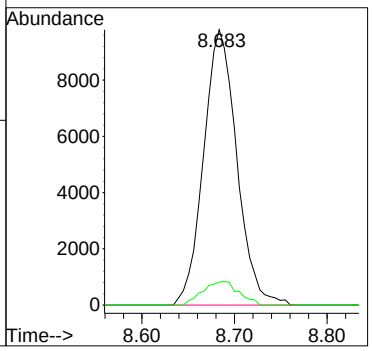


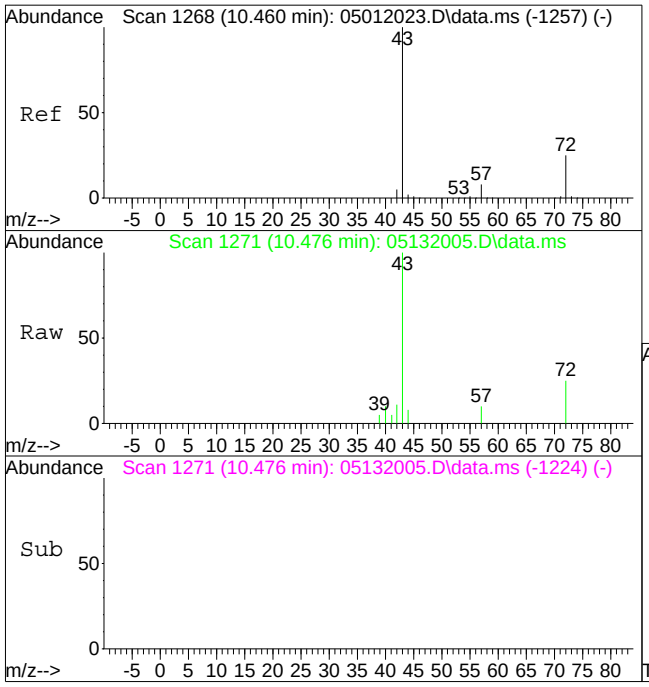


#22
Carbon Disulfide
Concen: 0.21 ng
RT: 8.68 min Scan# 945
Delta R.T. -0.011 min
Lab File: 05132005.D
Acq: 13 May 2020 21:04

Tgt Ion: 76 Resp: 24410

Ion	Ratio	Lower	Upper
76	100		
78	9.2	0.0	29.2

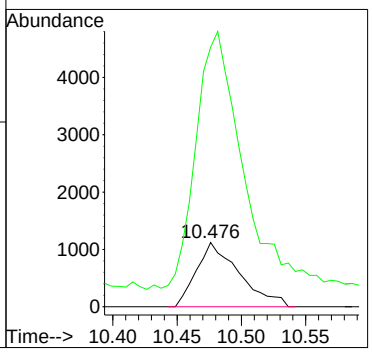


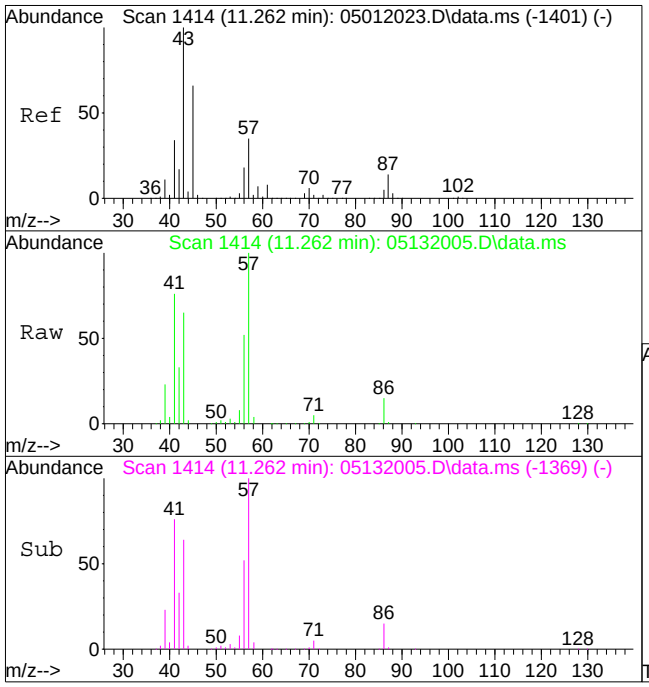


#27
2-Butanone (MEK)
Concen: 0.12 ng
RT: 10.48 min Scan# 1271
Delta R.T. 0.011 min
Lab File: 05132005.D
Acq: 13 May 2020 21:04

Tgt Ion: 72 Resp: 2596

Ion	Ratio	Lower	Upper
72	100		
43	456.7	389.7	429.7#

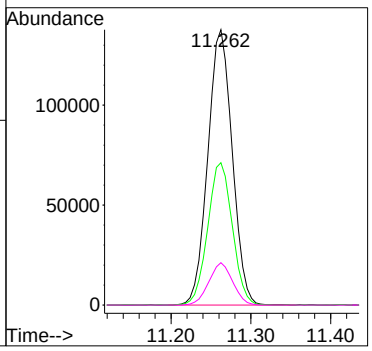


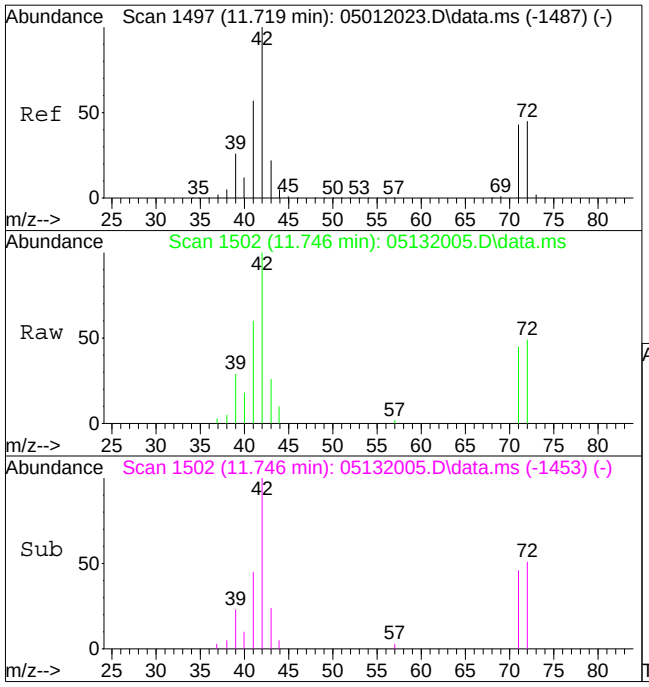


#31
n-Hexane
Concen: 5.53 ng
RT: 11.26 min Scan# 1414
Delta R.T. -0.000 min
Lab File: 05132005.D
Acq: 13 May 2020 21:04

Tgt Ion: 57 Resp: 292531

Ion	Ratio	Lower	Upper
57	100		
56	52.1	41.4	62.0
86	15.0	12.4	18.6

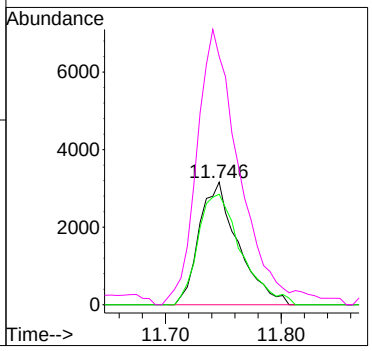


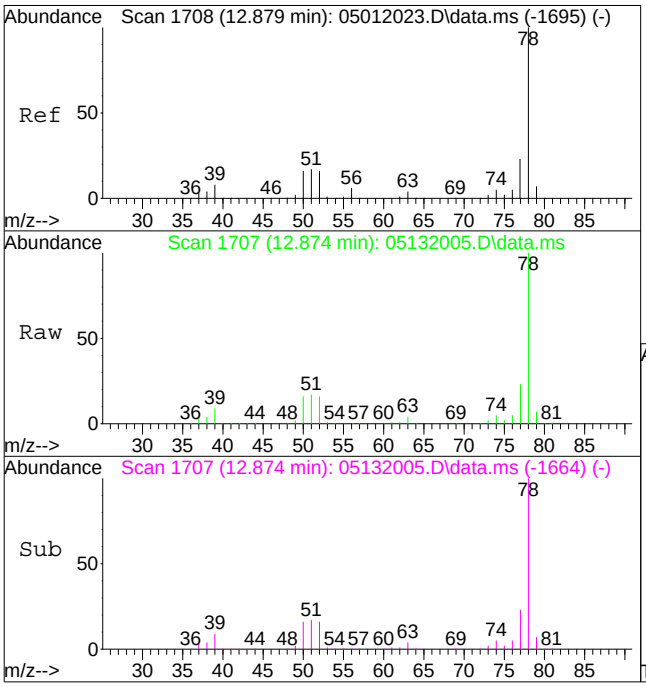


#34
Tetrahydrofuran (THF)
Concen: 0.36 ng
RT: 11.75 min Scan# 1502
Delta R.T. 0.022 min
Lab File: 05132005.D
Acq: 13 May 2020 21:04

Tgt Ion: 72 Resp: 7397

Ion	Ratio	Lower	Upper
72	100		
71	100.0	77.0	117.0
42	249.4	204.6	244.6#

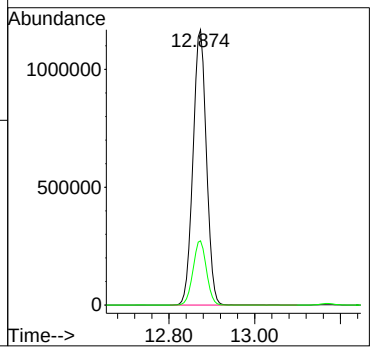


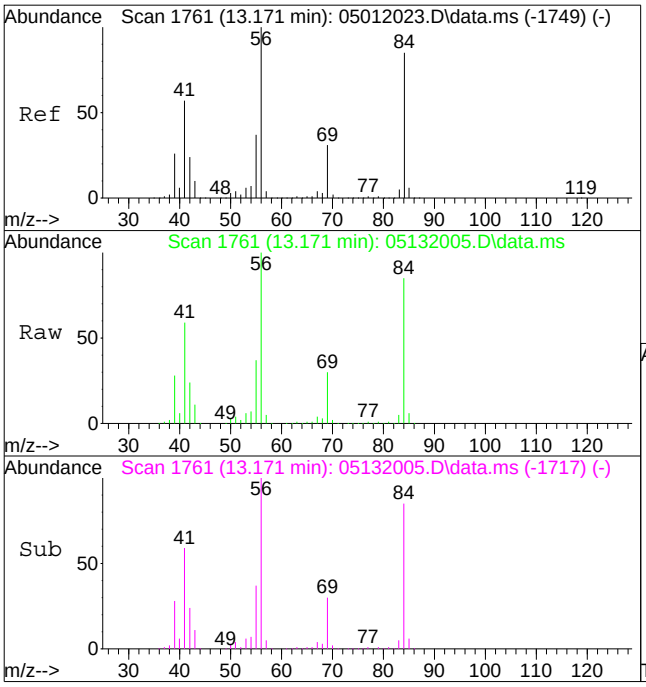


#41
Benzene
Concen: 19.57 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05132005.D
Acq: 13 May 2020 21:04

Tgt Ion: 78 Resp: 2529277

Ion	Ratio	Lower	Upper
78	100		
77	23.4	3.4	43.4

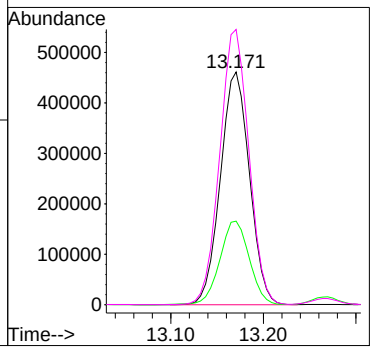


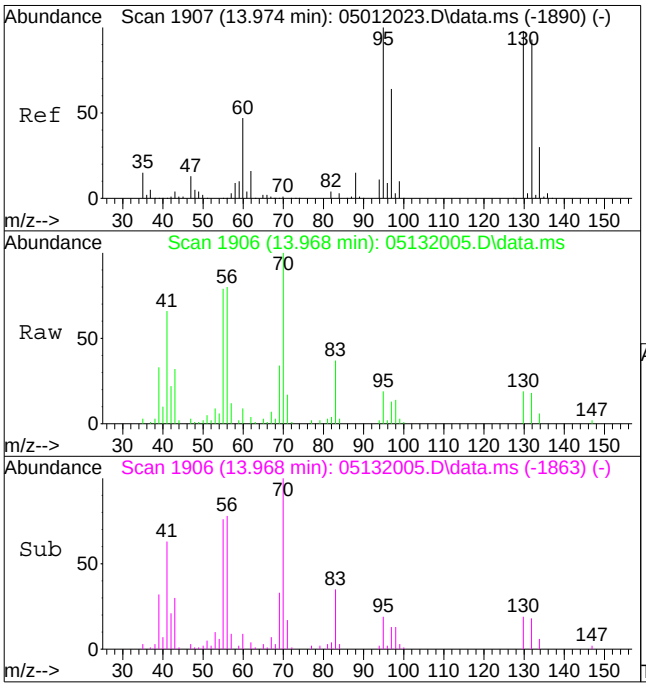


#43
Cyclohexane
Concen: 20.95 ng
RT: 13.17 min Scan# 1761
Delta R.T. -0.006 min
Lab File: 05132005.D
Acq: 13 May 2020 21:04

Tgt Ion: 84 Resp: 1008641

Ion	Ratio	Lower	Upper
84	100		
69	36.5	16.5	56.5
56	118.2	97.4	137.4

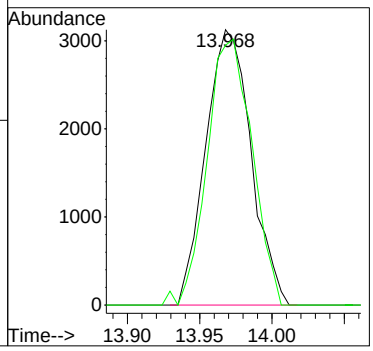


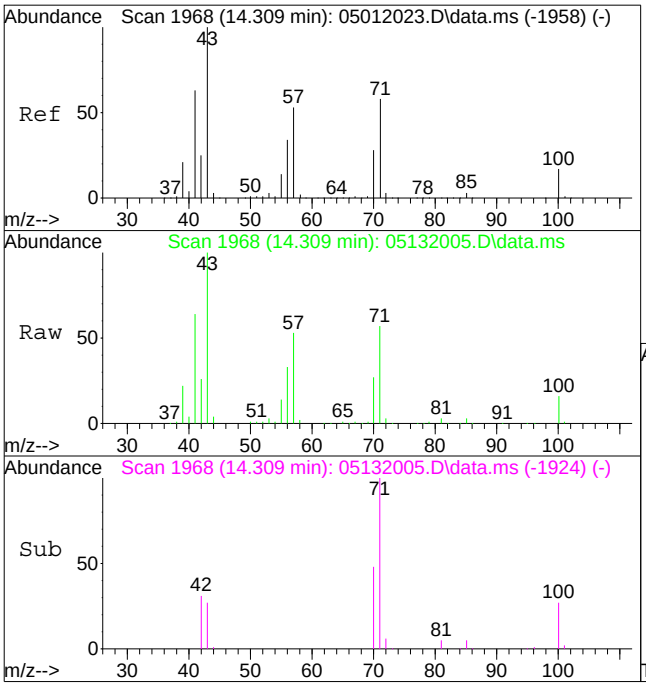


#47
Trichloroethene
Concen: 0.20 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05132005.D
Acq: 13 May 2020 21:04

Tgt Ion:130 Resp: 6823

Ion	Ratio	Lower	Upper
130	100		
132	95.7	74.9	114.9

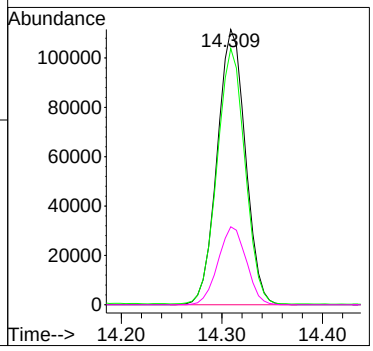


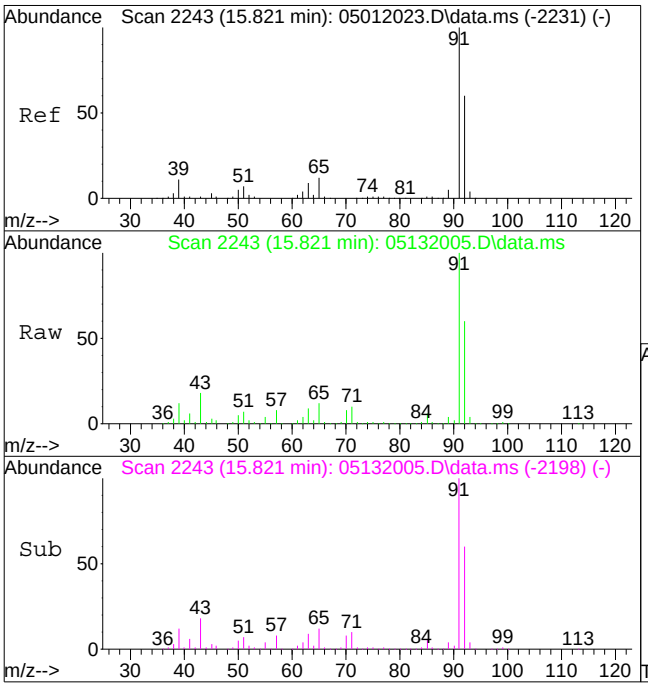


#51
n-Heptane
Concen: 7.19 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05132005.D
Acq: 13 May 2020 21:04

Tgt Ion: 71 Resp: 217417

Ion	Ratio	Lower	Upper
71	100		
57	91.9	71.0	111.0
100	28.2	8.4	48.4

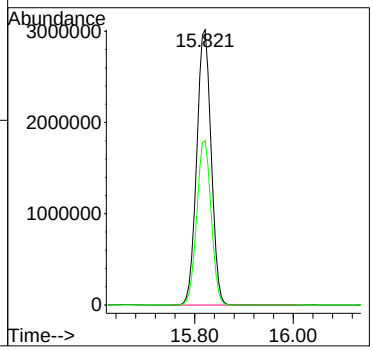


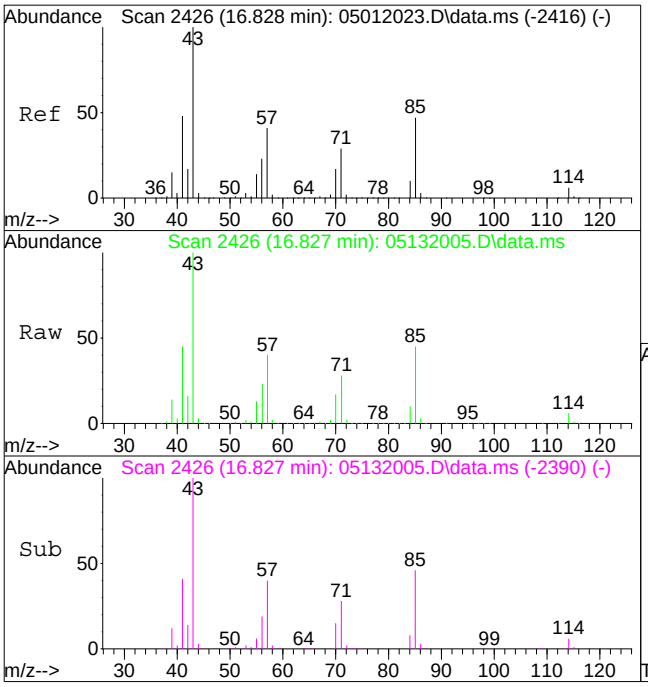


#58
Toluene
Concen: 43.37 ng
RT: 15.82 min Scan# 2243
Delta R.T. -0.000 min
Lab File: 05132005.D
Acq: 13 May 2020 21:04

Tgt Ion: 91 Resp: 6138929

Ion	Ratio	Lower	Upper
91	100		
92	59.8	39.4	79.4

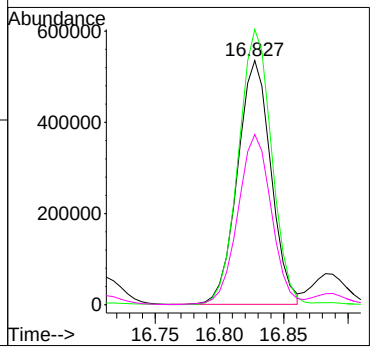


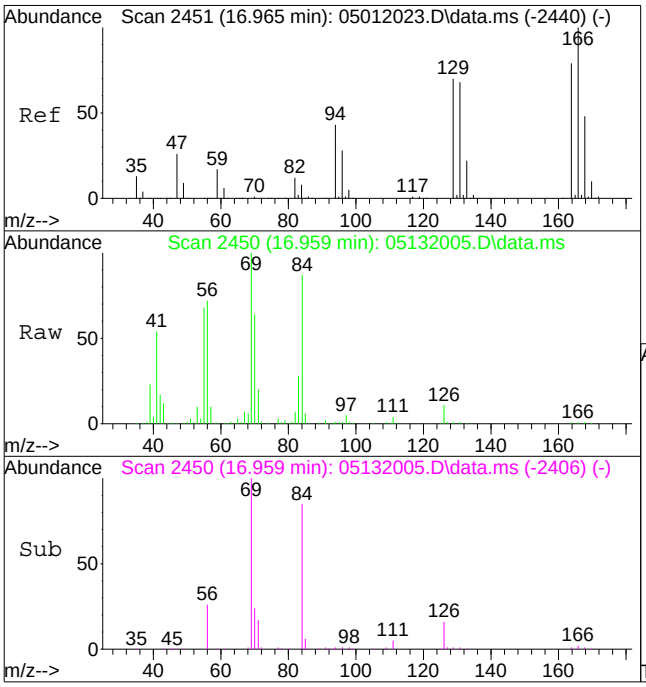


#63
n-Octane
Concen: 32.99 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05132005.D
Acq: 13 May 2020 21:04

Tgt Ion: 57 Resp: 966838

Ion	Ratio	Lower	Upper
57	100		
85	112.6	91.0	136.4
71	69.9	56.2	84.2

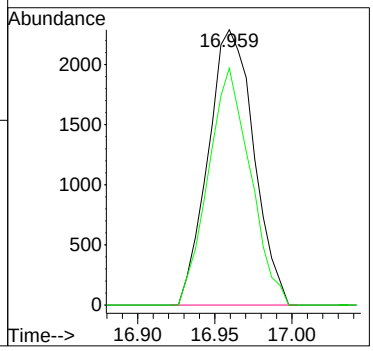


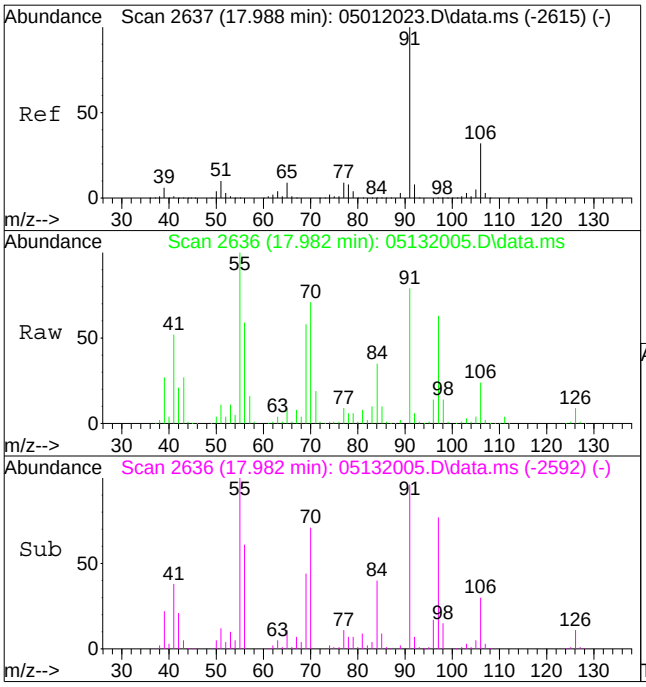


#64
Tetrachloroethene
Concen: 0.12 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05132005.D
Acq: 13 May 2020 21:04

Tgt Ion:166 Resp: 4720

Ion	Ratio	Lower	Upper
166	100		
164	79.0	58.4	98.4

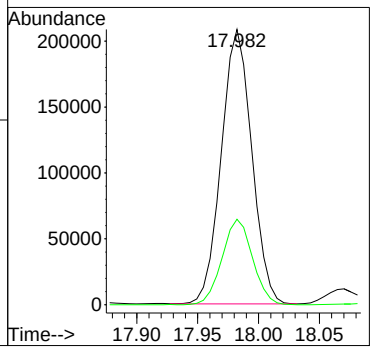


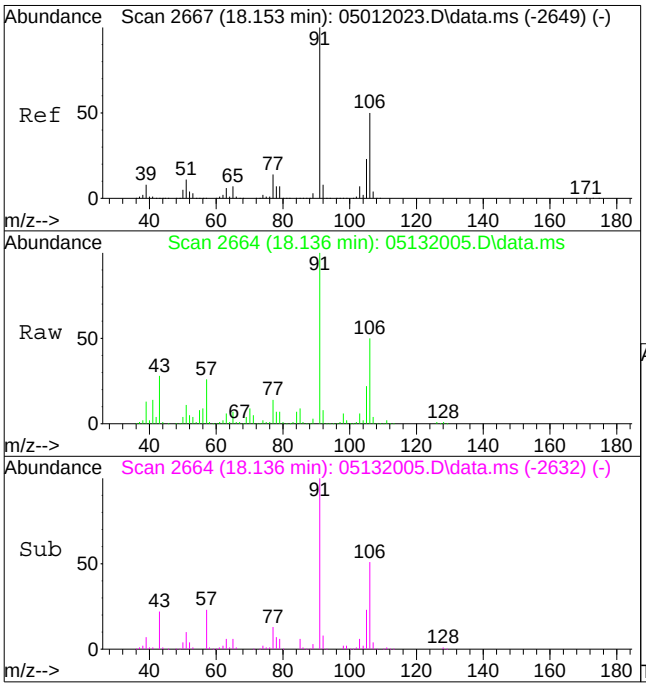


#66
Ethylbenzene
Concen: 2.30 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05132005.D
Acq: 13 May 2020 21:04

Tgt Ion: 91 Resp: 362501

Ion	Ratio	Lower	Upper
91	100		
106	31.1	11.6	51.6

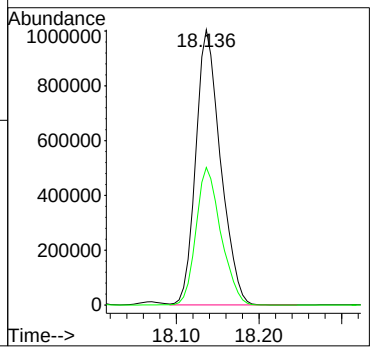


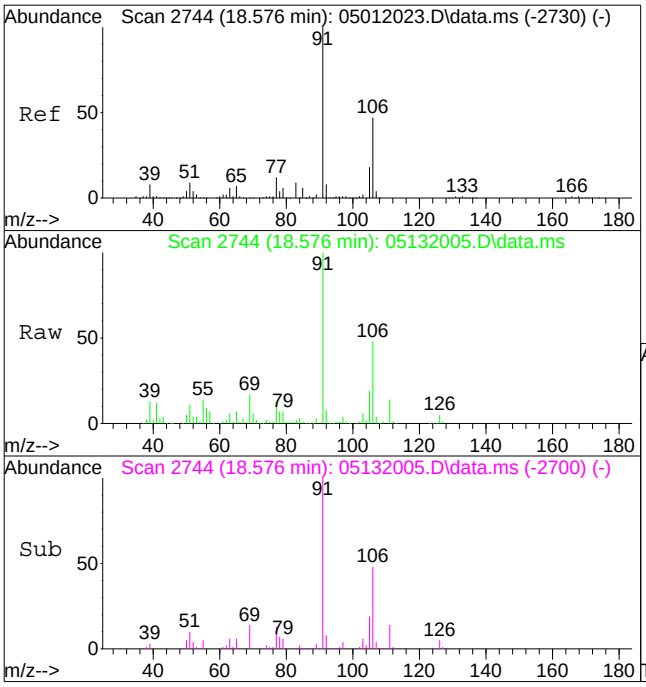


#67
m- & p-Xylenes
Concen: 16.67 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05132005.D
Acq: 13 May 2020 21:04

Tgt Ion: 91 Resp: 2087959

Ion	Ratio	Lower	Upper
91	100		
106	50.3	29.7	69.7

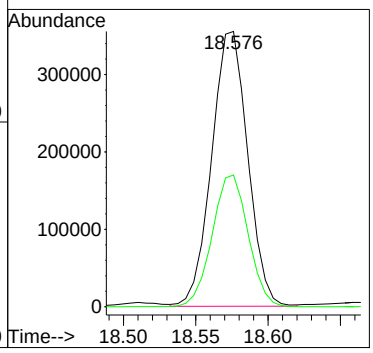


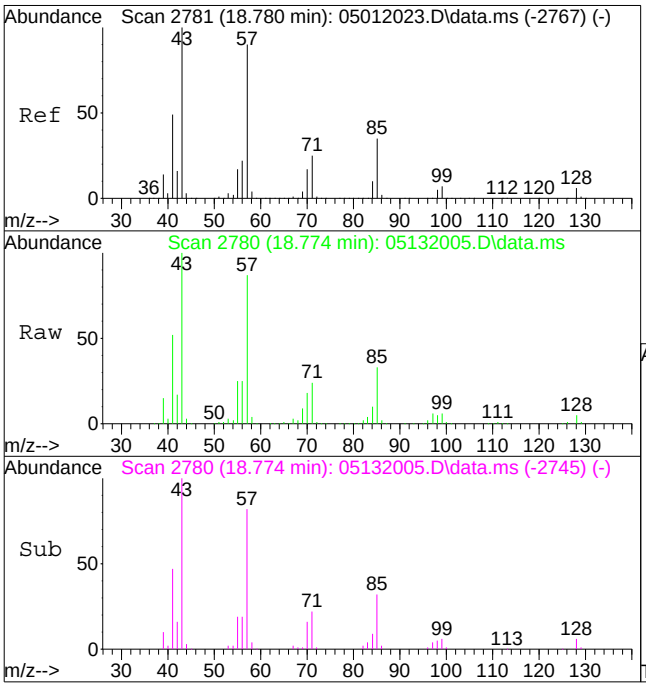


#70
o-Xylene
Concen: 4.84 ng
RT: 18.58 min Scan# 2744
Delta R.T. -0.006 min
Lab File: 05132005.D
Acq: 13 May 2020 21:04

Tgt Ion: 91 Resp: 615396

Ion	Ratio	Lower	Upper
91	100		
106	47.9	27.5	67.5

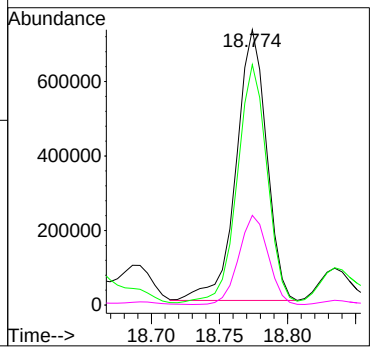


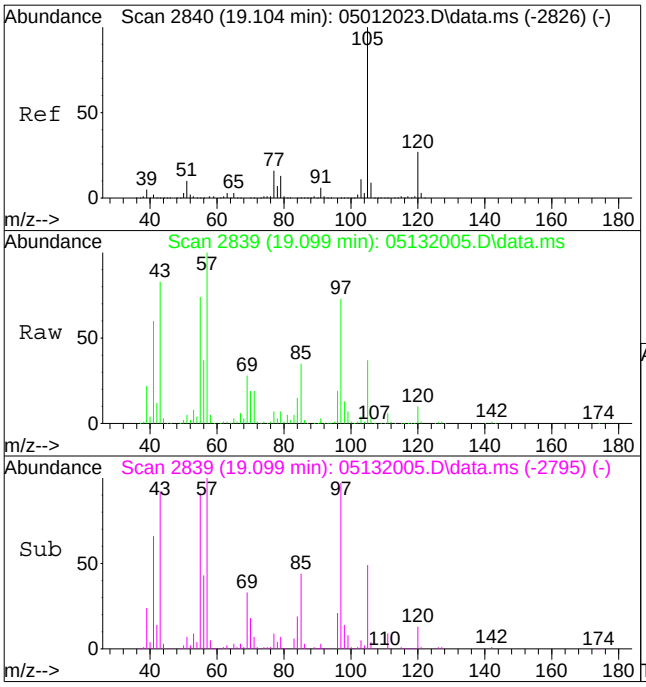


#71
n-Nonane
Concen: 16.75 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05132005.D
Acq: 13 May 2020 21:04

Tgt Ion: 43 Resp: 1129575

Ion	Ratio	Lower	Upper
43	100		
57	85.9	69.0	109.0
85	31.6	14.6	54.6

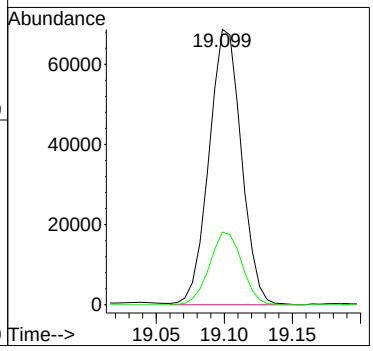


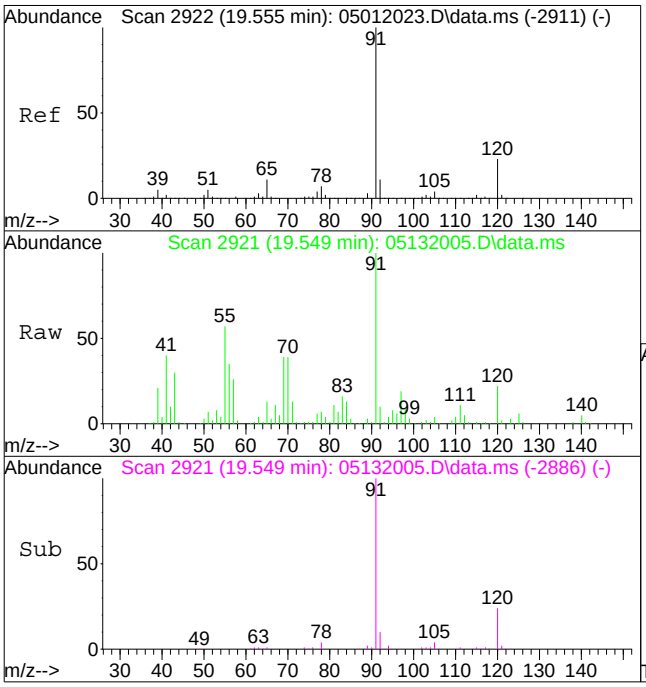


#74
Cumene
Concen: 0.73 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05132005.D
Acq: 13 May 2020 21:04

Tgt Ion:105 Resp: 113655

Ion	Ratio	Lower	Upper
105	100		
120	26.4	6.8	46.8

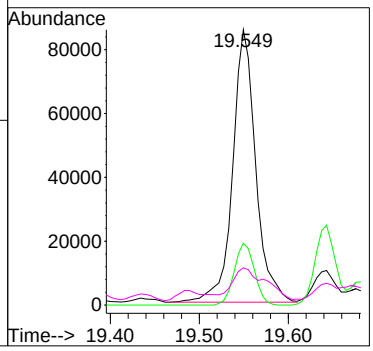


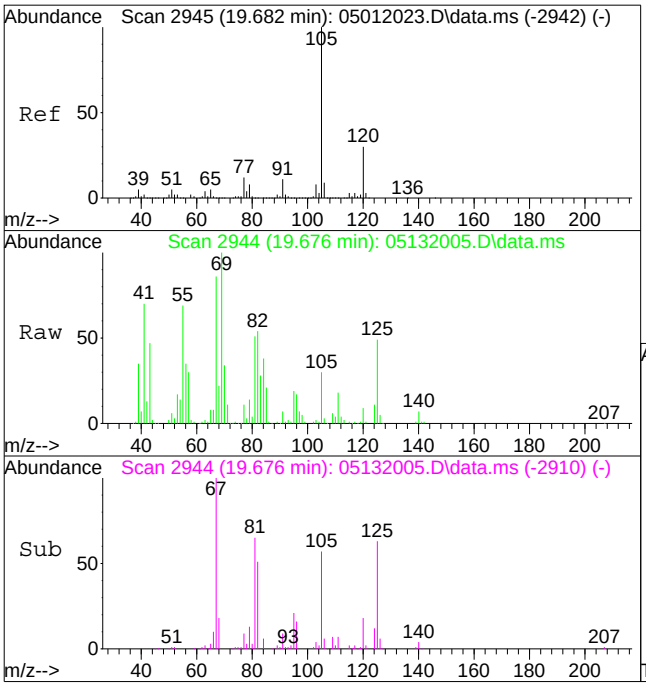


#76
n-Propylbenzene
Concen: 0.83 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05132005.D
Acq: 13 May 2020 21:04

Tgt Ion: 91 Resp: 153772

Ion	Ratio	Lower	Upper
91	100		
120	19.8	3.1	43.1
65	18.5	0.0	30.9

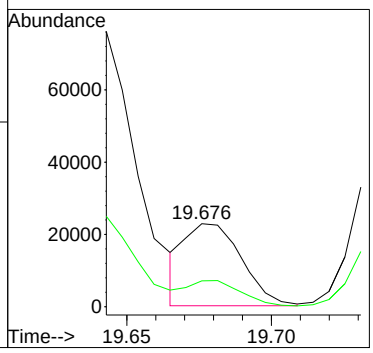


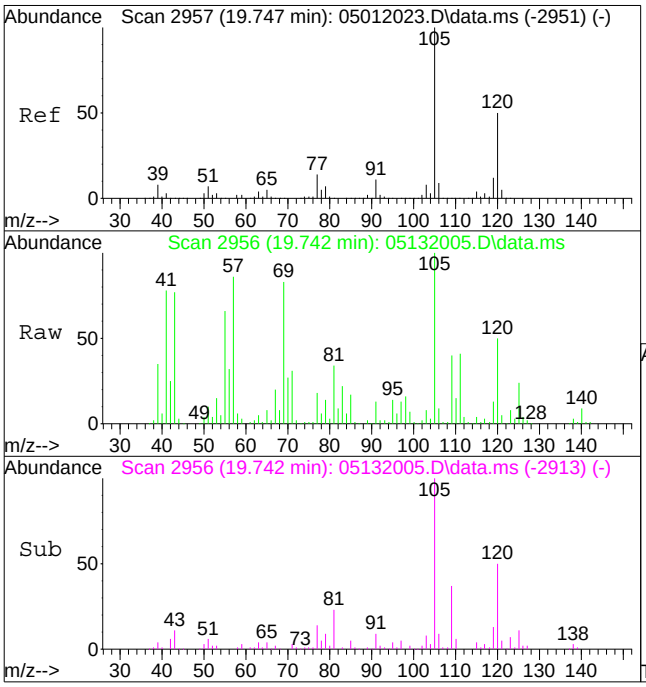


#78
4-Ethyltoluene
Concen: 0.21 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05132005.D
Acq: 13 May 2020 21:04

Tgt Ion:105 Resp: 31464

Ion	Ratio	Lower	Upper
105	100		
120	31.1	10.4	50.4

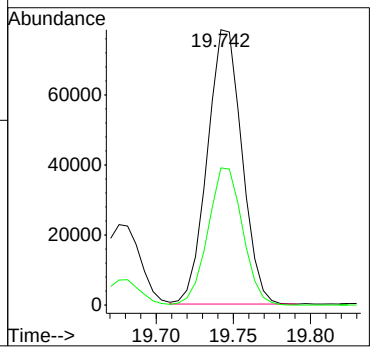


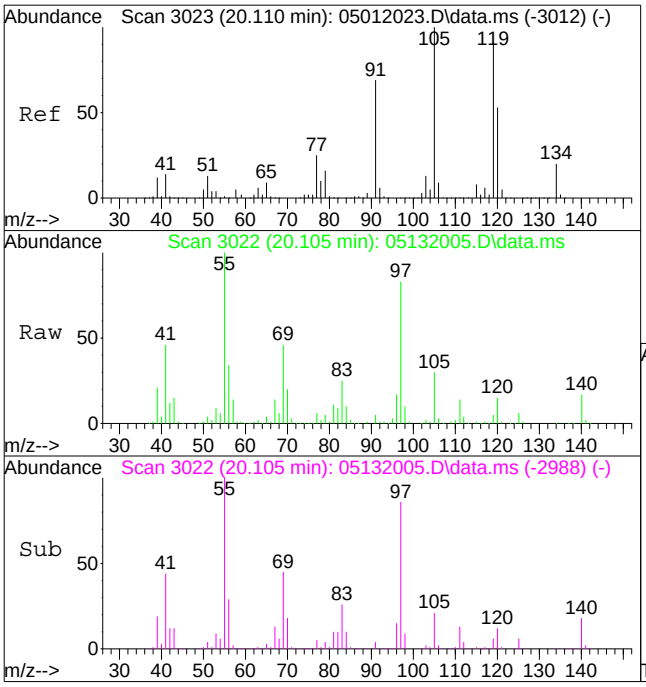


#79
1,3,5-Trimethylbenzene
Concen: 0.96 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05132005.D
Acq: 13 May 2020 21:04

Tgt Ion:105 Resp: 122074

Ion	Ratio	Lower	Upper
105	100		
120	50.2	29.9	69.9

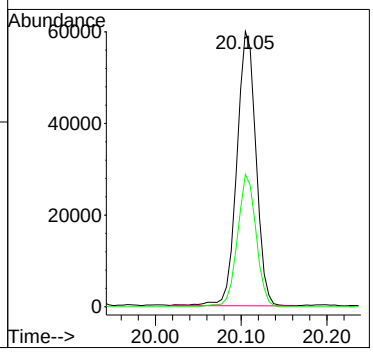


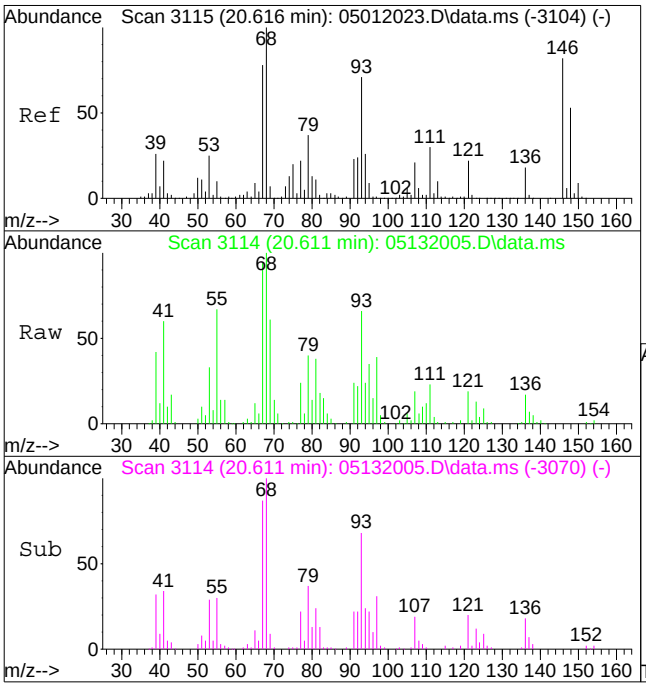


#82
1,2,4-Trimethylbenzene
Concen: 0.72 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05132005.D
Acq: 13 May 2020 21:04

Tgt Ion:105 Resp: 92520

Ion	Ratio	Lower	Upper
105	100		
120	47.0	33.6	73.6

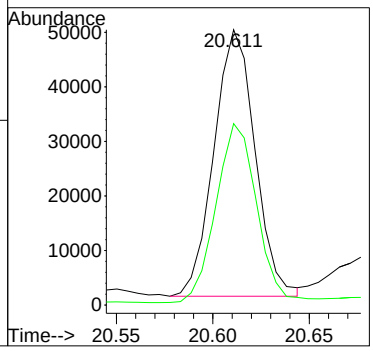




#91
d-Limonene
Concen: 1.43 ng
RT: 20.61 min Scan# 3114
Delta R.T. -0.006 min
Lab File: 05132005.D
Acq: 13 May 2020 21:04

Tgt Ion: 68 Resp: 72446

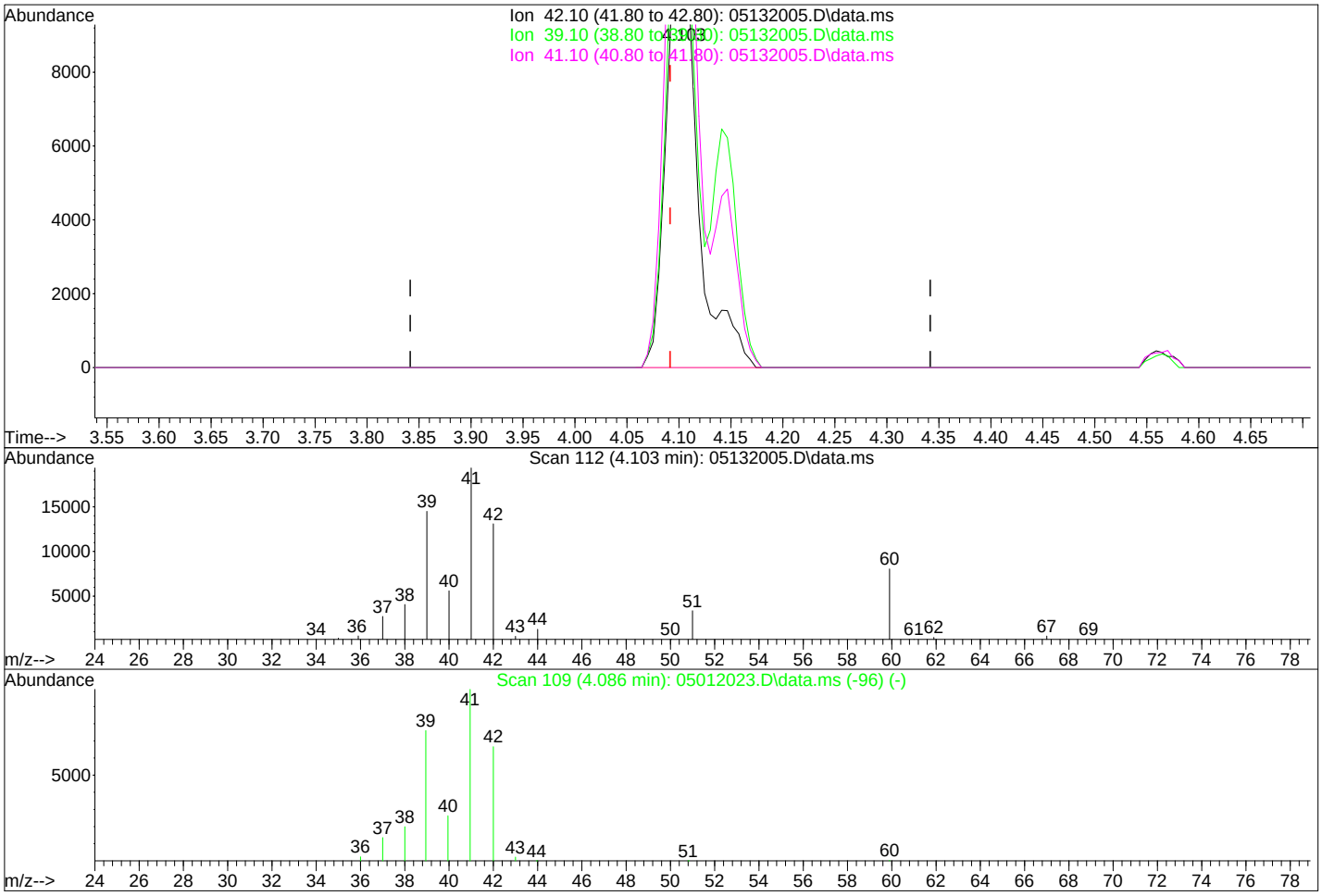
Ion	Ratio	Lower	Upper
68	100		
93	67.2	51.1	91.1



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\13\05132005.D Vial: 1
Acq On : 13 May 2020 21:04 Operator: LH
Sample : P2002301-010 (4.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 13:02:19 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05132005.D\data.ms

(2) Propene (T)

4.103min (+0.011) 0.79ng

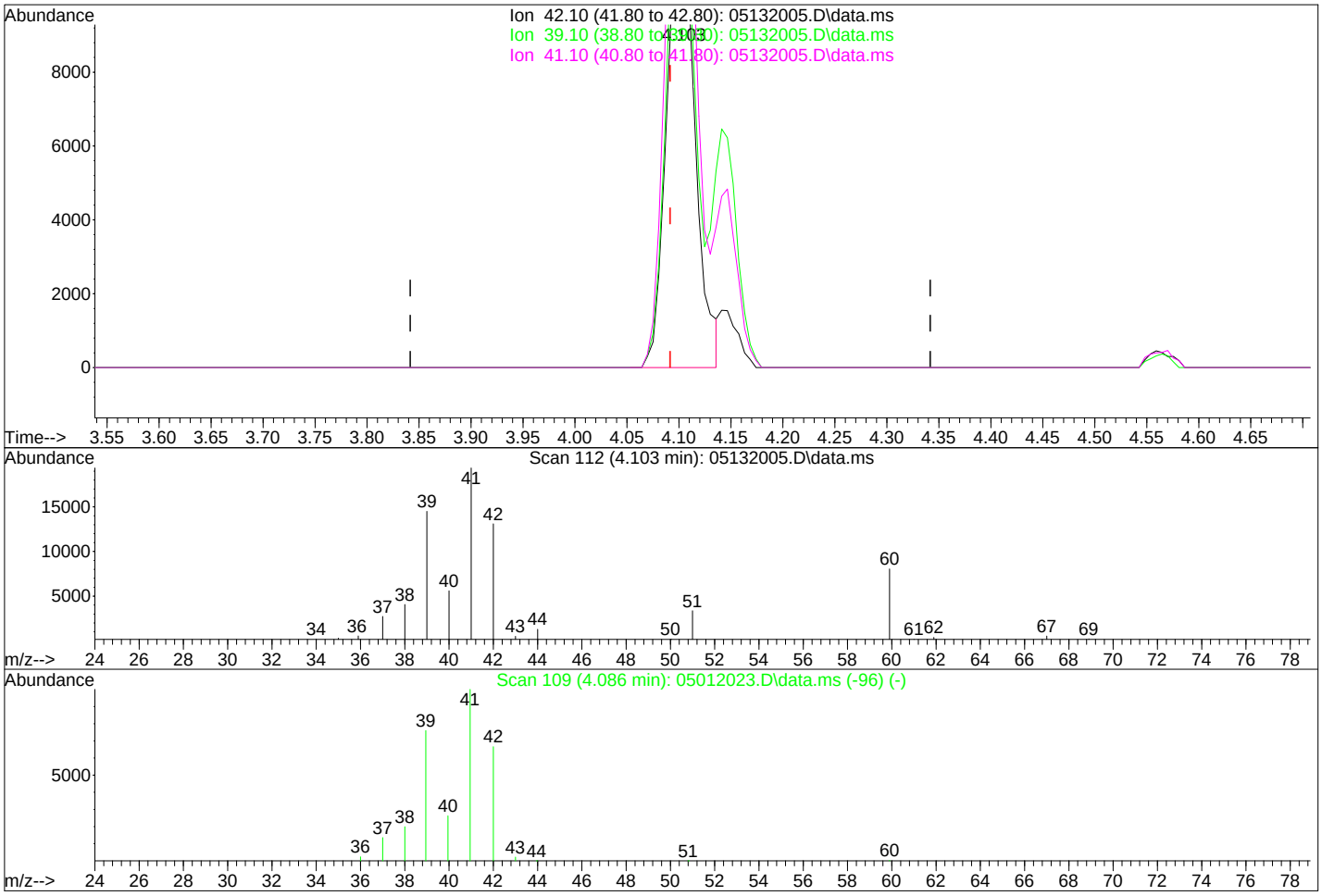
response 25344

Ion	Exp%	Act%
42.10	100	100
39.10	116.10	102.83
41.10	151.90	139.64
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\13\05132005.D Vial: 1
Acq On : 13 May 2020 21:04 Operator: LH
Sample : P2002301-010 (4.0mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 13:02:19 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05132005.D\data.ms

(2) Propene (T)

4.103min (+0.011) 0.73ng m

response 23453

Ion	Exp%	Act%
42.10	100	100
39.10	116.10	111.12
41.10	151.90	150.90
0.00	0.00	0.00

IPC

LH 5/14/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132006.D Vial: 1
Acq On : 13 May 2020 21:38 Operator: LH
Sample : P2002301-011 (0.9mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:24:53 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/14/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	274164	12.500 ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1190492	12.500 ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	582828	12.500 ng	0.00
System Monitoring Compounds					
33) 1,2-Dichloroethane-d4(...	11.99	65	445742	11.997 ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.00%		
57) Toluene-d8 (SS2)	15.72	98	1219132	12.341 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.72%		
73) Bromofluorobenzene (SS3)	18.97	174	449369	12.642 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.12%		
Target Compounds					Qvalue
2) Propene	4.09	42	48456	1.526 ng	# 85
3) Dichlorodifluoromethan...	4.27	85	2424	N.D.	
4) Chloromethane	4.55	50	634	N.D.	
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.	
6) Vinyl Chloride	0.00	62	0	N.D.	
7) 1,3-Butadiene	0.00	54	0	N.D. d	
8) Bromomethane	0.00	94	0	N.D.	
9) Chloroethane	0.00	64	0	N.D.	
10) Ethanol	6.41	45	110	N.D.	
11) Acetonitrile	6.61	41	124	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) Acetone	0.00	58	0	N.D. d	
14) Trichlorofluoromethane	0.00	101	0	N.D.	
15) 2-Propanol (Isopropanol)	7.57	45	612	N.D.	
16) Acrylonitrile	7.69	53	1341	N.D.	
17) 1,1-Dichloroethene	0.00	96	0	N.D.	
18) 2-Methyl-2-Propanol (t...	8.45	59	2273	N.D.	
19) Methylene Chloride	0.00	84	0	N.D.	
20) 3-Chloro-1-propene (Al...	8.58	41	235	N.D.	
21) Trichlorotrifluoroethane	0.00	151	0	N.D.	
22) Carbon Disulfide	8.69	76	1425	N.D.	
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.	
24) 1,1-Dichloroethane	0.00	63	0	N.D. d	
25) Methyl tert-Butyl Ether	10.06	73	1633	N.D.	
26) Vinyl Acetate	0.00	86	0	N.D. d	
27) 2-Butanone (MEK)	10.32	72	188	N.D.	
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.	
29) Diisopropyl Ether	0.00	87	0	N.D. d	
30) Ethyl Acetate	0.00	61	0	N.D. d	
31) n-Hexane	11.27	57	3659433	69.968 ng	100
32) Chloroform	0.00	83	0	N.D.	
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.	
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.	
36) 1,2-Dichloroethane	0.00	62	0	N.D. d	
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.	
39) Isopropyl Acetate	0.00	61	0	N.D. d	
40) 1-Butanol	12.88	56	632	N.D.	
41) Benzene	12.87	78	1204795	9.437 ng	100
42) Carbon Tetrachloride	0.00	117	0	N.D.	
43) Cyclohexane	13.18	84	4453379	93.608 ng	98
44) tert-Amyl Methyl Ether	13.45	73	1682	N.D.	
45) 1,2-Dichloropropane	0.00	63	0	N.D. d	
46) Bromodichloromethane	0.00	83	0	N.D. d	
47) Trichloroethene	13.97	130	1185	N.D.	
48) 1,4-Dioxane	0.00	88	0	N.D.	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d	
50) Methyl Methacrylate	0.00	100	0	N.D. d	

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132006.D Vial: 1
Acq On : 13 May 2020 21:38 Operator: LH
Sample : P2002301-011 (0.9mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:24:53 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

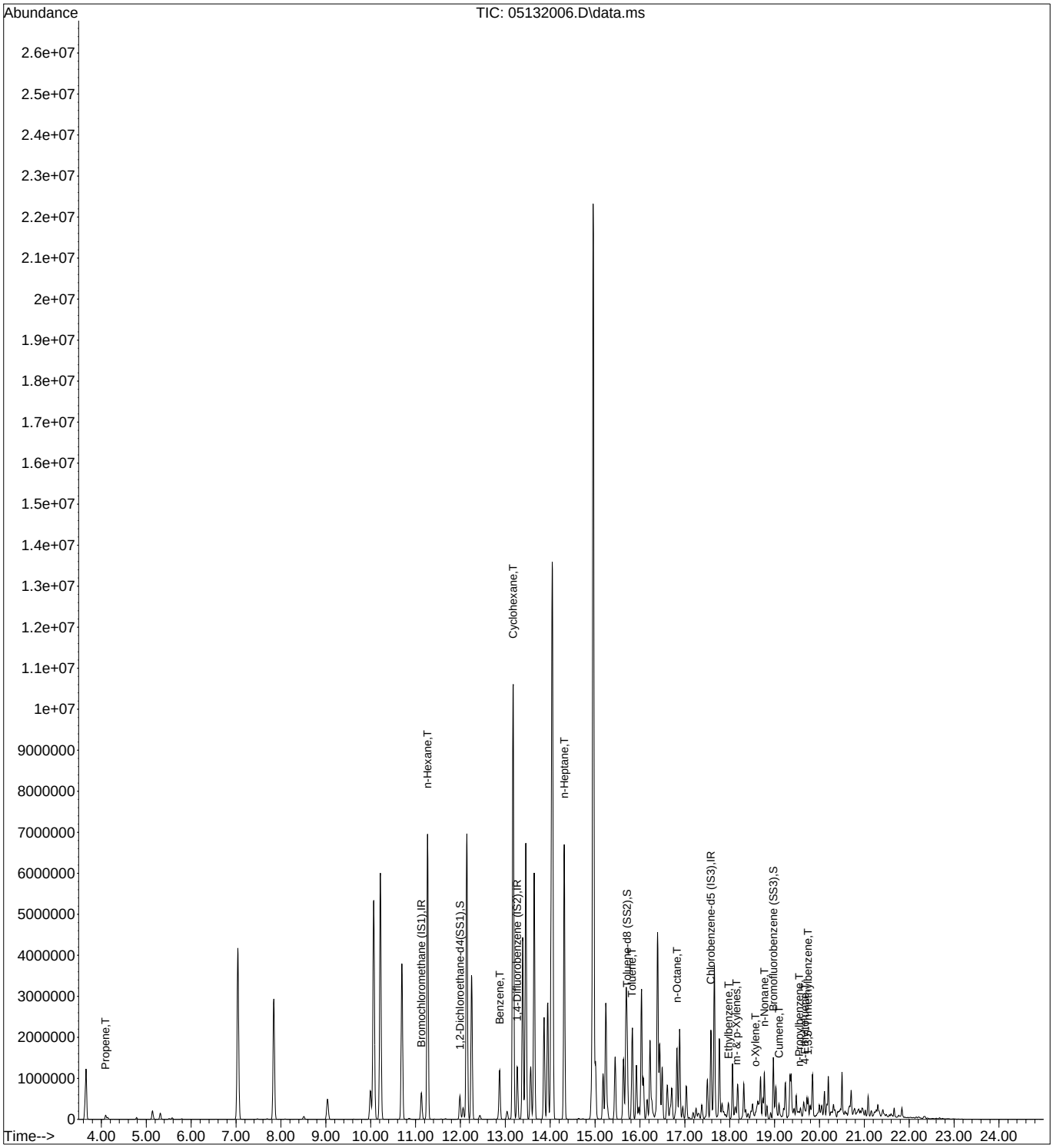
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	1689744	56.598 ng	99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	15.25	75	159	N.D.	
55) 1,1,2-Trichloroethane	15.51	97	178	N.D.	
58) Toluene	15.82	91	239891	1.884 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	16.47	107	350	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	16.83	57	340764	12.926 ng	98
64) Tetrachloroethene	16.96	166	561	N.D.	
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	17.98	91	10287	0.072 ng	89
67) m- & p-Xylenes	18.15	91	12289	0.109 ng	94
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	235	N.D.	
70) o-Xylene	18.57	91	58076	0.508 ng	99
71) n-Nonane	18.77	43	382646	6.306 ng	97
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	19.10	105	24749	0.176 ng	98
75) alpha-Pinene	19.43	93	400	N.D.	
76) n-Propylbenzene	19.55	91	38853	0.233 ng	92
77) 3-Ethyltoluene	19.64	105	1388	N.D.	
78) 4-Ethyltoluene	19.68	105	6937	0.053 ng	95
79) 1,3,5-Trimethylbenzene	19.74	105	26273	0.230 ng	99
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	19.91	105	3335	N.D.	
82) 1,2,4-Trimethylbenzene	20.11	105	1261	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.19	91	1915	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	20.48	119	2586	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.21	128	1026	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.11	119	2462	N.D.	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132006.D Vial: 1
Acq On : 13 May 2020 21:38 Operator: LH
Sample : P2002301-011 (0.9mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:24:53 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132006.D Vial: 1
Acq On : 13 May 2020 21:38 Operator: LH
Sample : P2002301-011 (0.9mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:24:53 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/14/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

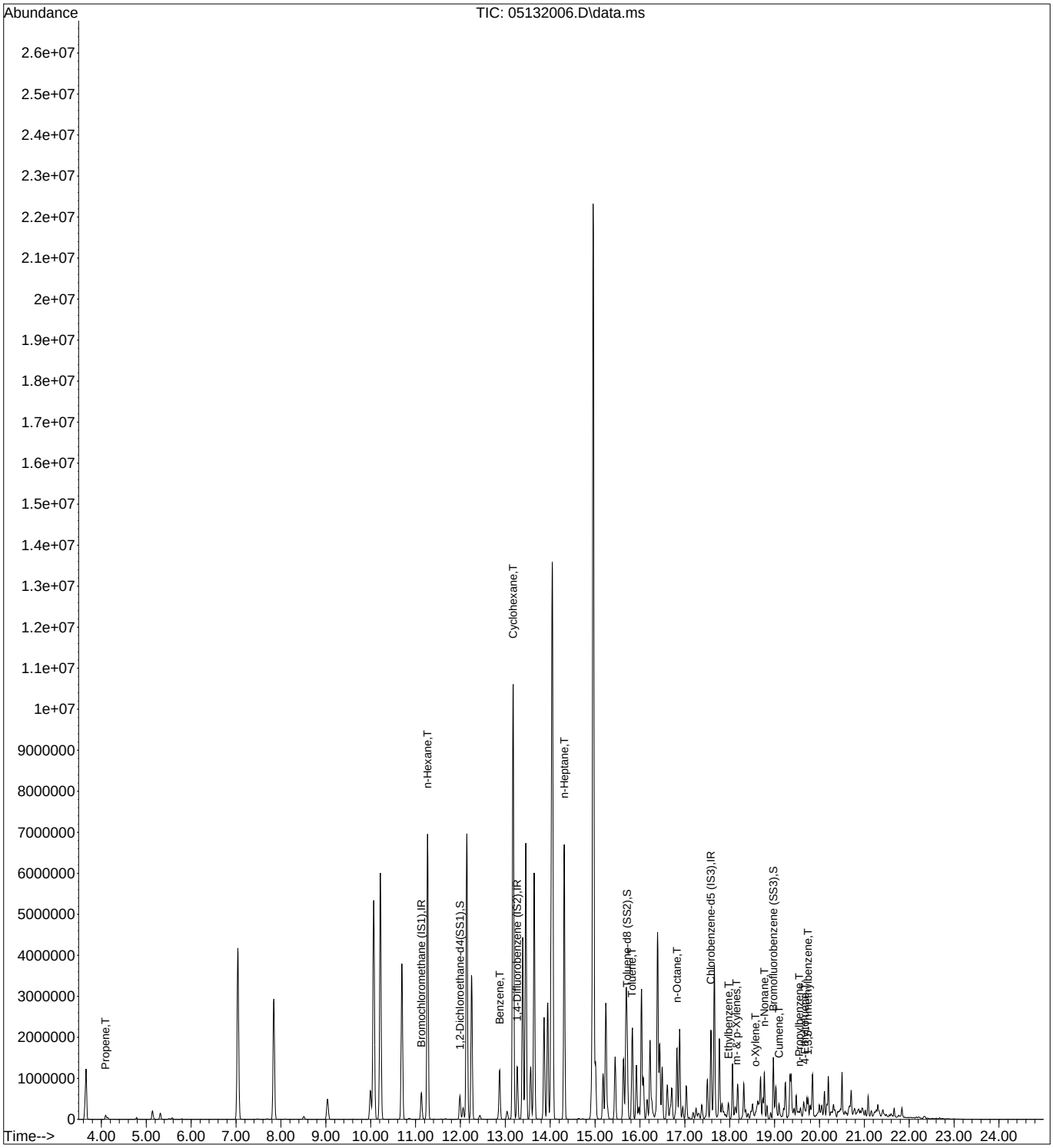
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	274164	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1190492	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	582828	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	445742	11.997	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.00%			
57) Toluene-d8 (SS2)	15.72	98	1219132	12.341	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.72%			
73) Bromofluorobenzene (SS3)	18.97	174	449369	12.642	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.12%			
Target Compounds						Qvalue
2) Propene	4.09	42	48456	1.526	ng	# 85
31) n-Hexane	11.27	57	3659433	69.968	ng	100
41) Benzene	12.87	78	1204795	9.437	ng	100
43) Cyclohexane	13.18	84	4453379	93.608	ng	98
51) n-Heptane	14.31	71	1689744	56.598	ng	99
58) Toluene	15.82	91	239891	1.884	ng	100
63) n-Octane	16.83	57	340764	12.926	ng	98
66) Ethylbenzene	17.98	91	10287	0.072	ng	89
67) m- & p-Xylenes	18.15	91	12289	0.109	ng	94
70) o-Xylene	18.57	91	58076	0.508	ng	99
71) n-Nonane	18.77	43	382646	6.306	ng	97
74) Cumene	19.10	105	24749	0.176	ng	98
76) n-Propylbenzene	19.55	91	38853	0.233	ng	92
78) 4-Ethyltoluene	19.68	105	6937	0.053	ng	95
79) 1,3,5-Trimethylbenzene	19.74	105	26273	0.230	ng	99

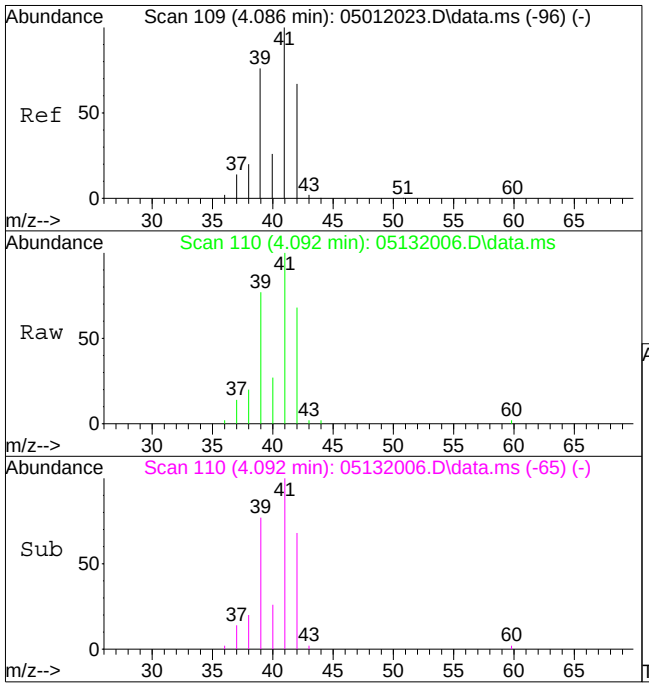
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132006.D Vial: 1
Acq On : 13 May 2020 21:38 Operator: LH
Sample : P2002301-011 (0.9mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:24:53 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

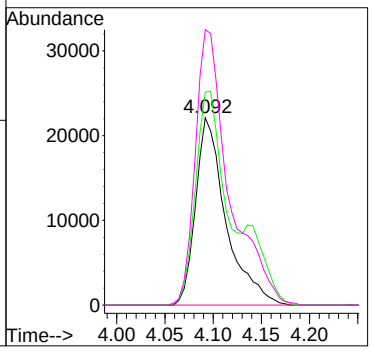


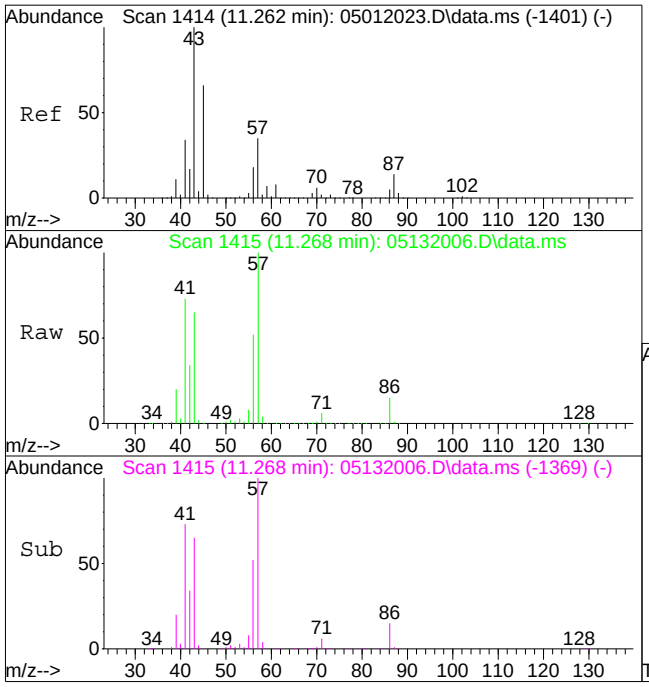


#2
Propene
Concen: 1.53 ng
RT: 4.09 min Scan# 110
Delta R.T. 0.000 min
Lab File: 05132006.D
Acq: 13 May 2020 21:38

Tgt Ion: 42 Resp: 48456

Ion	Ratio	Lower	Upper
42	100		
39	140.4	96.1	136.1#
41	164.3	131.9	171.9

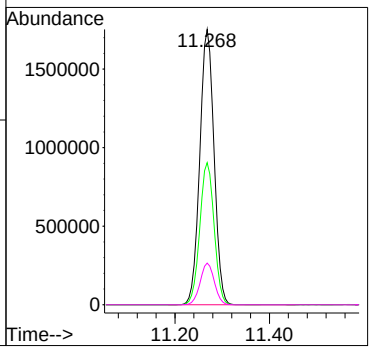


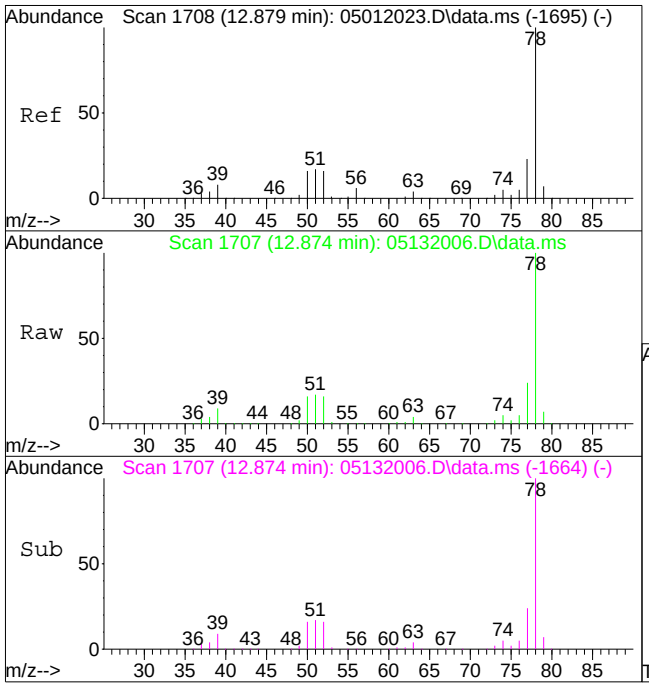


#31
n-Hexane
Concen: 69.97 ng
RT: 11.27 min Scan# 1415
Delta R.T. 0.006 min
Lab File: 05132006.D
Acq: 13 May 2020 21:38

Tgt Ion: 57 Resp: 3659433

Ion	Ratio	Lower	Upper
57	100		
56	51.8	41.4	62.0
86	15.0	12.4	18.6

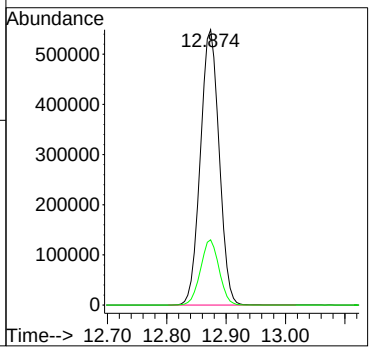


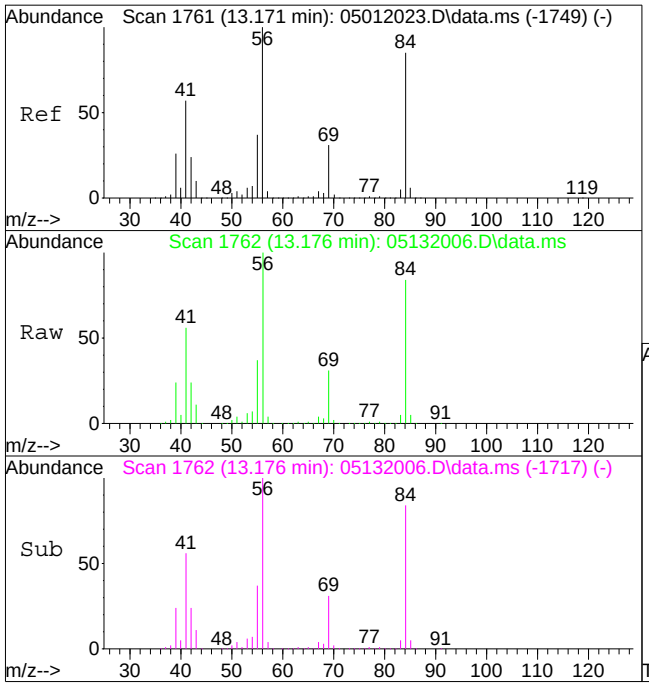


#41
Benzene
Concen: 9.44 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05132006.D
Acq: 13 May 2020 21:38

Tgt Ion: 78 Resp: 1204795

Ion	Ratio	Lower	Upper
78	100		
77	23.4	3.4	43.4

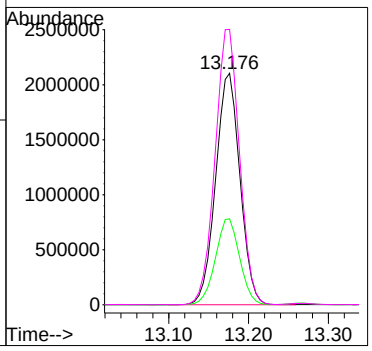


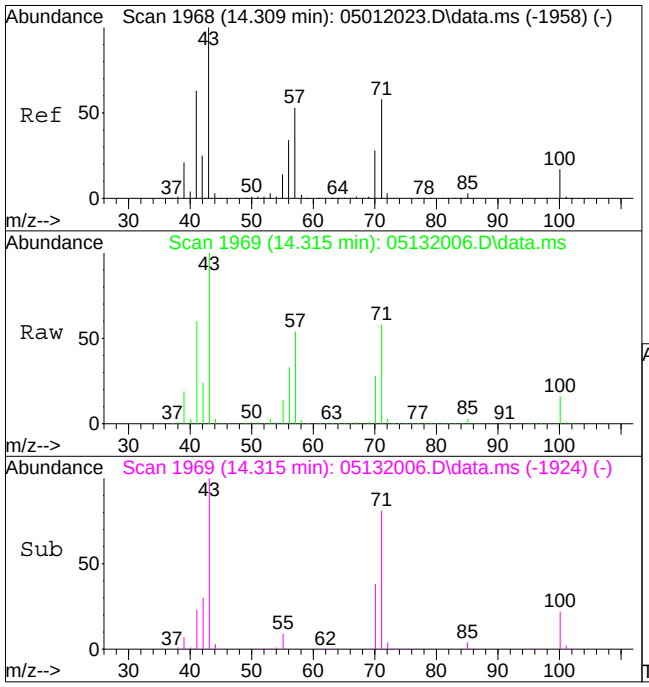


#43
Cyclohexane
Concen: 93.61 ng
RT: 13.18 min Scan# 1762
Delta R.T. 0.000 min
Lab File: 05132006.D
Acq: 13 May 2020 21:38

Tgt Ion: 84 Resp: 4453379

Ion	Ratio	Lower	Upper
84	100		
69	37.1	16.5	56.5
56	119.5	97.4	137.4

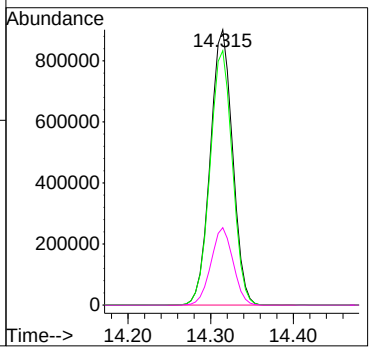


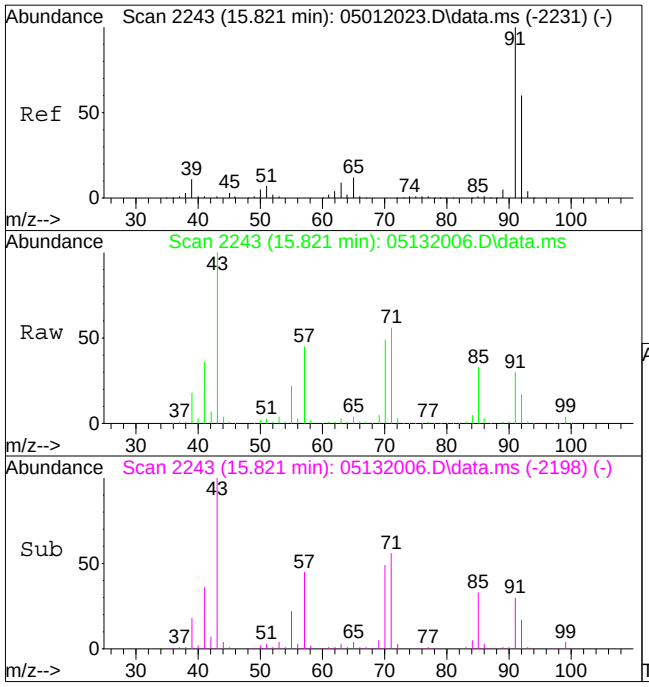


#51
n-Heptane
Concen: 56.60 ng
RT: 14.31 min Scan# 1969
Delta R.T. 0.000 min
Lab File: 05132006.D
Acq: 13 May 2020 21:38

Tgt Ion: 71 Resp: 1689744

Ion	Ratio	Lower	Upper
71	100		
57	92.3	71.0	111.0
100	27.8	8.4	48.4

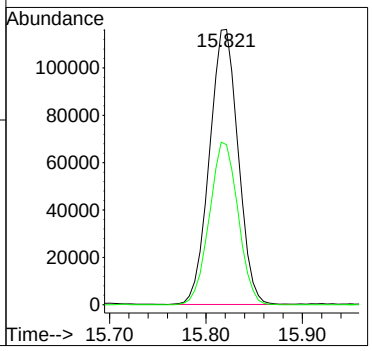


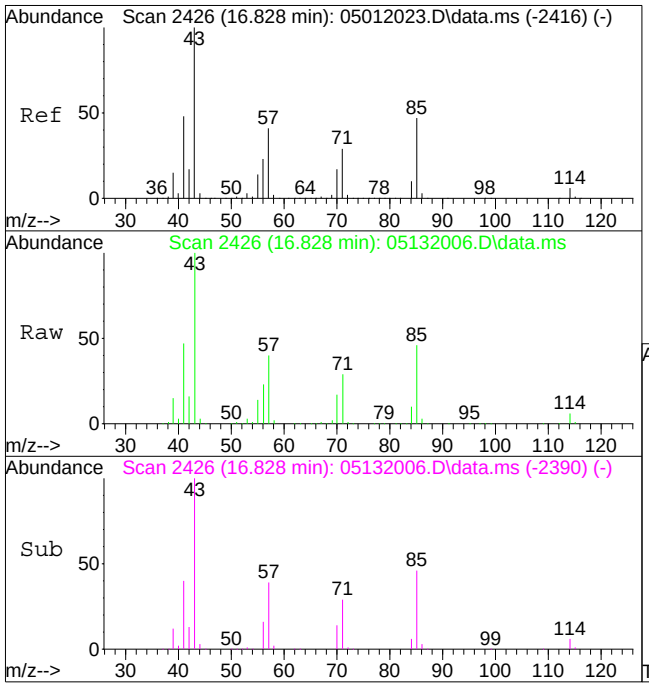


#58
Toluene
Concen: 1.88 ng
RT: 15.82 min Scan# 2243
Delta R.T. 0.000 min
Lab File: 05132006.D
Acq: 13 May 2020 21:38

Tgt Ion: 91 Resp: 239891

Ion	Ratio	Lower	Upper
91	100		
92	59.1	39.4	79.4

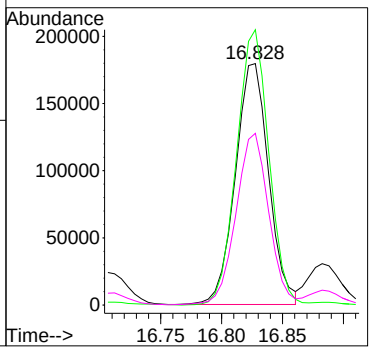


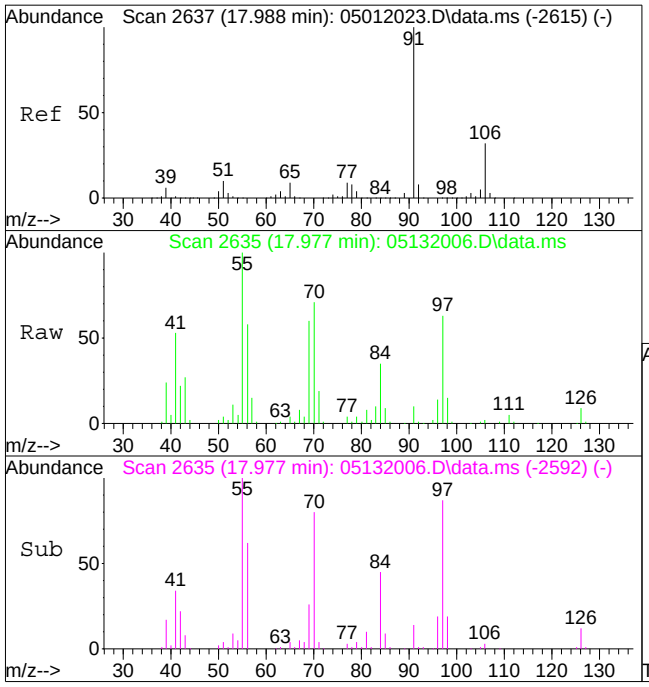


#63
n-Octane
Concen: 12.93 ng
RT: 16.83 min Scan# 2426
Delta R.T. 0.000 min
Lab File: 05132006.D
Acq: 13 May 2020 21:38

Tgt Ion: 57 Resp: 340764

Ion	Ratio	Lower	Upper
57	100		
85	110.7	91.0	136.4
71	69.5	56.2	84.2

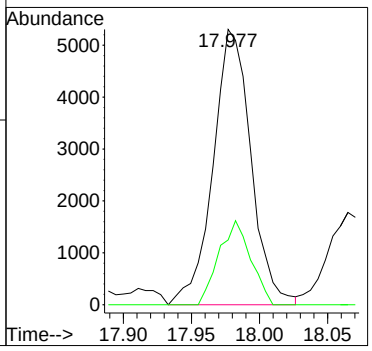


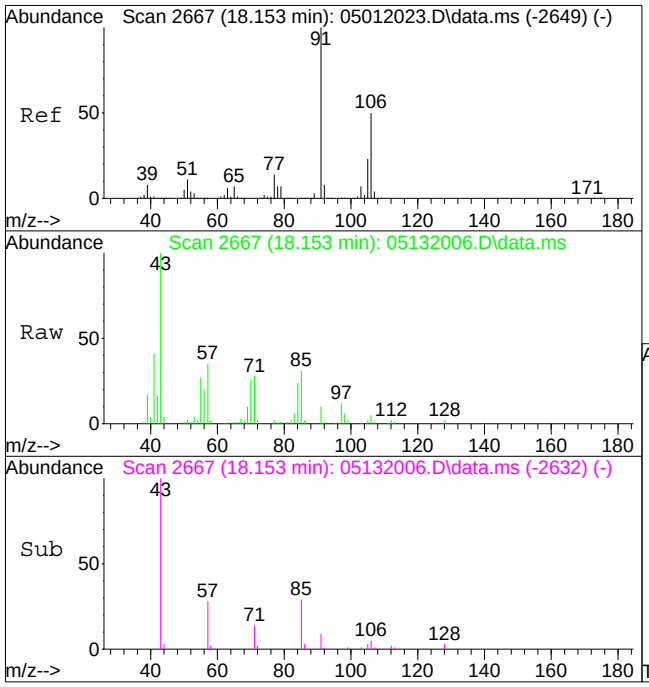


#66
Ethylbenzene
Concen: 0.07 ng
RT: 17.98 min Scan# 2635
Delta R.T. -0.011 min
Lab File: 05132006.D
Acq: 13 May 2020 21:38

Tgt Ion: 91 Resp: 10287

Ion	Ratio	Lower	Upper
91	100		
106	25.5	11.6	51.6

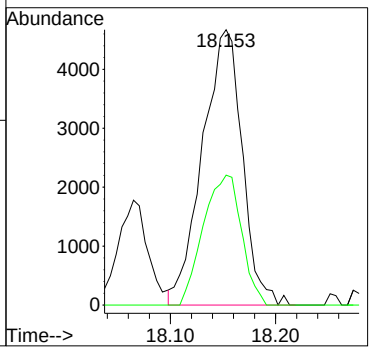


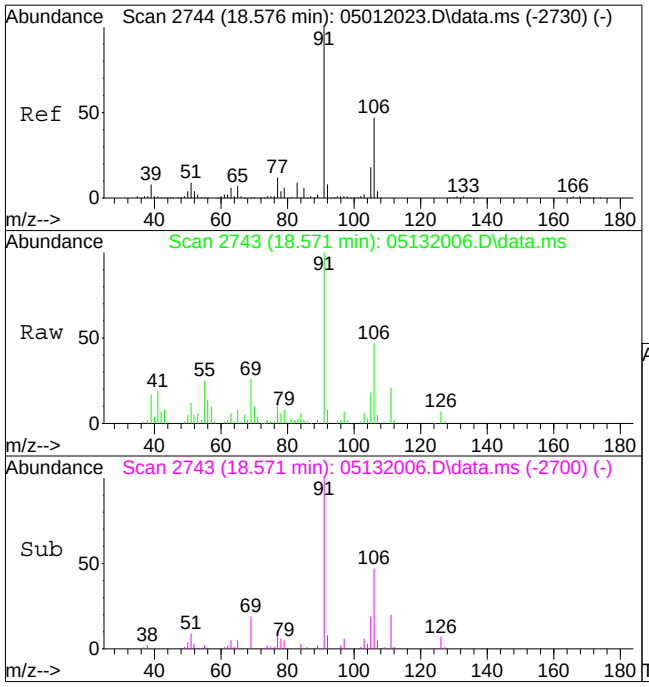


#67
m- & p-Xylenes
Concen: 0.11 ng
RT: 18.15 min Scan# 2667
Delta R.T. -0.005 min
Lab File: 05132006.D
Acq: 13 May 2020 21:38

Tgt Ion: 91 Resp: 12289

Ion	Ratio	Lower	Upper
91	100		
106	45.2	29.7	69.7

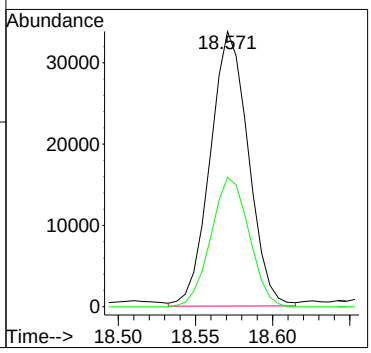


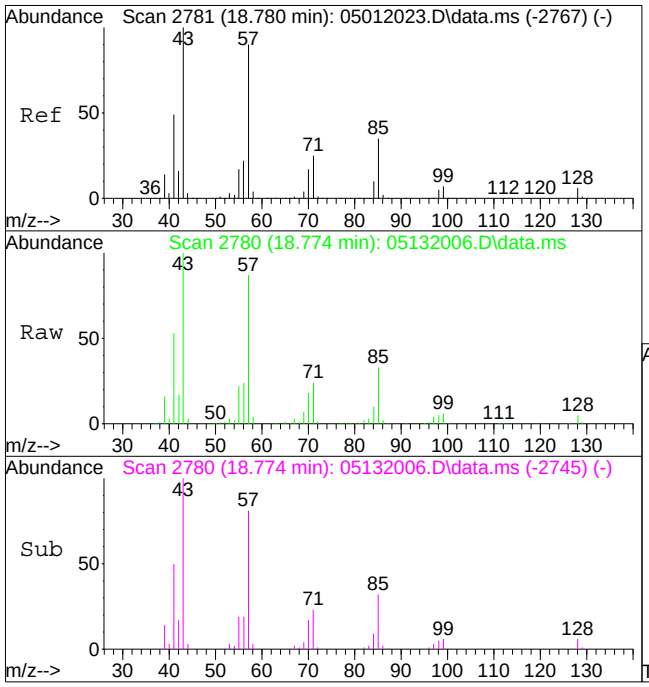


#70
o-Xylene
Concen: 0.51 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05132006.D
Acq: 13 May 2020 21:38

Tgt Ion: 91 Resp: 58076

Ion	Ratio	Lower	Upper
91	100		
106	47.1	27.5	67.5

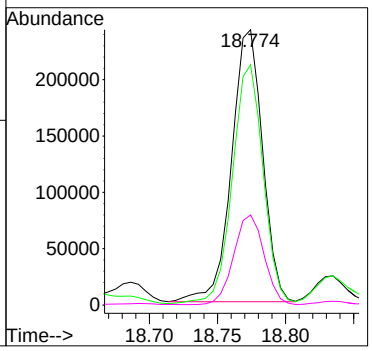


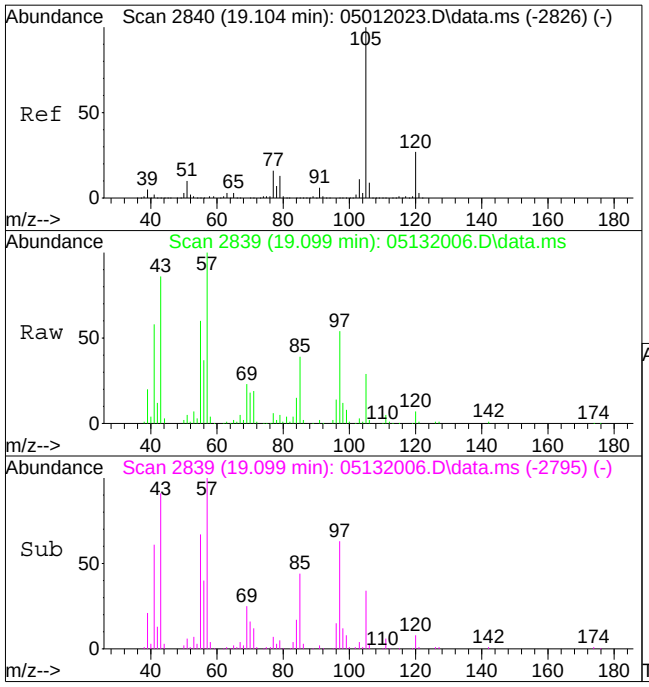


#71
n-Nonane
Concen: 6.31 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.005 min
Lab File: 05132006.D
Acq: 13 May 2020 21:38

Tgt Ion: 43 Resp: 382646

Ion	Ratio	Lower	Upper
43	100		
57	86.6	69.0	109.0
85	32.1	14.6	54.6

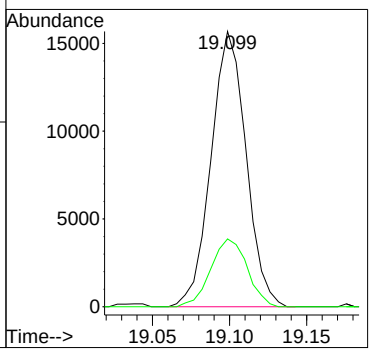


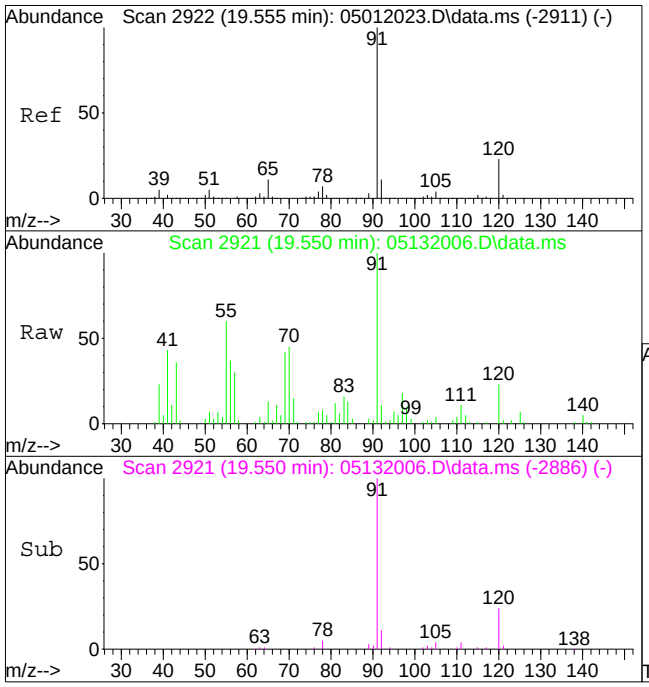


#74
Cumene
Concen: 0.18 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.005 min
Lab File: 05132006.D
Acq: 13 May 2020 21:38

Tgt Ion:105 Resp: 24749

Ion	Ratio	Lower	Upper
105	100		
120	25.6	6.8	46.8

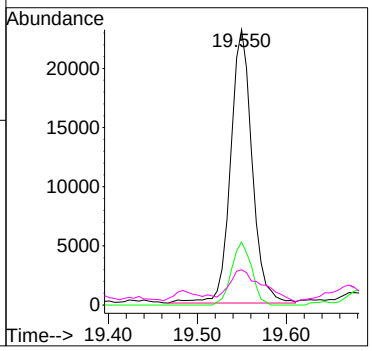


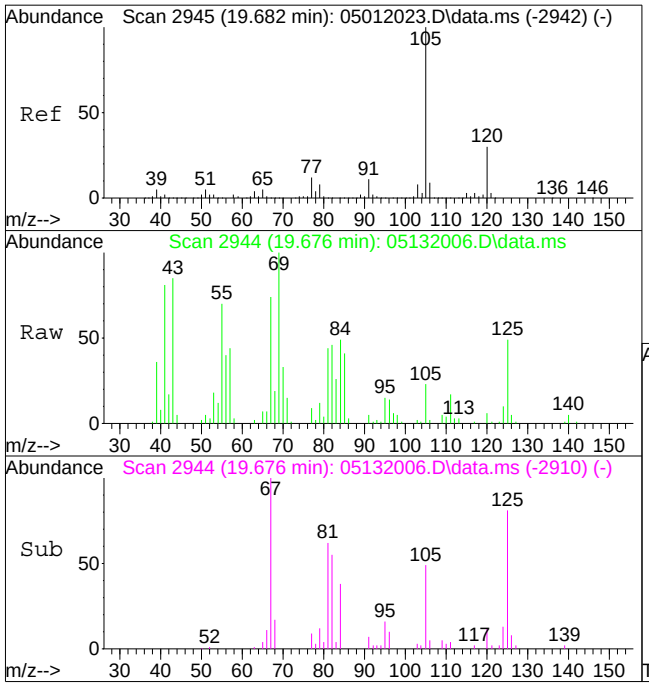


#76
n-Propylbenzene
Concen: 0.23 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.005 min
Lab File: 05132006.D
Acq: 13 May 2020 21:38

Tgt Ion: 91 Resp: 38853

Ion	Ratio	Lower	Upper
91	100		
120	21.4	3.1	43.1
65	17.6	0.0	30.9

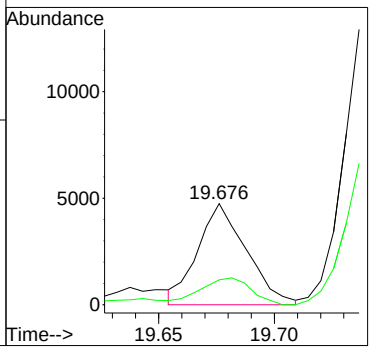


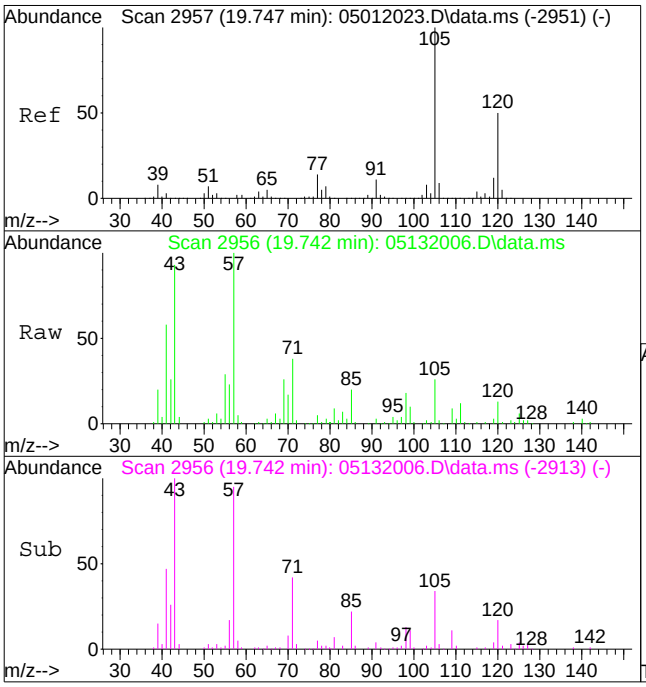


#78
4-Ethyltoluene
Concen: 0.05 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05132006.D
Acq: 13 May 2020 21:38

Tgt Ion:105 Resp: 6937

Ion	Ratio	Lower	Upper
105	100		
120	27.6	10.4	50.4

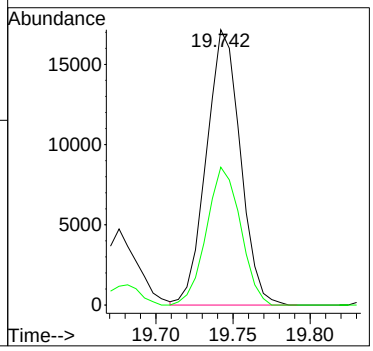




#79
1,3,5-Trimethylbenzene
Concen: 0.23 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05132006.D
Acq: 13 May 2020 21:38

Tgt Ion:105 Resp: 26273

Ion	Ratio	Lower	Upper
105	100		
120	50.4	29.9	69.9



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132019.D Vial: 12
Acq On : 14 May 2020 4:55 Operator: LH
Sample : P2002301-012 (80mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 18:00:36 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/14/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	303502	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1321656	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	607487	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	490364	11.922	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.36%				
57) Toluene-d8 (SS2)	15.72	98	1261057	12.247	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.00%				
73) Bromofluorobenzene (SS3)	18.97	174	489150	13.202	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.60%				
Target Compounds							Qvalue
2) Propene	4.11	42	8289	0.236	ng		96
3) Dichlorodifluoromethan...	4.28	85	12484	0.182	ng		99
4) Chloromethane	4.55	50	1090	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.16	54	281	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.35	45	2076	0.076	ng		78
11) Acetonitrile	6.59	41	1072	N.D.			
12) Acrolein	6.80	56	656	N.D.			
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	7.24	101	40368	0.664	ng		99
15) 2-Propanol (Isopropanol)	7.54	45	1946	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.44	59	2125	N.D.			
19) Methylene Chloride	8.41	84	113	N.D.			
20) 3-Chloro-1-propene (Al...	8.45	41	109	N.D.			
21) Trichlorotrifluoroethane	8.84	151	92040	3.208	ng		98
22) Carbon Disulfide	8.69	76	12283	0.097	ng		97
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.	d		
25) Methyl tert-Butyl Ether	10.07	73	3217	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.49	72	1043	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	11.27	57	7996	0.138	ng		97
32) Chloroform	11.30	83	222	N.D.			
34) Tetrahydrofuran (THF)	11.77	72	1158	0.051	ng	#	6
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.14	62	687	N.D.			
38) 1,1,1-Trichloroethane	12.40	97	3486	0.065	ng	#	57
39) Isopropyl Acetate	12.84	61	557	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	23665	0.167	ng	#	1
42) Carbon Tetrachloride	13.03	117	876	N.D.			
43) Cyclohexane	13.17	84	3654161	69.186	ng		98
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	13.64	63	662	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	13.98	130	913	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132019.D Vial: 12
Acq On : 14 May 2020 4:55 Operator: LH
Sample : P2002301-012 (80mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 18:00:36 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	13549	0.409 ng	95
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	15.44	97	1466	N.D.	
58) Toluene	15.82	91	126313	0.952 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.70	43	1398	N.D.	
63) n-Octane	16.82	57	13078	0.476 ng	92
64) Tetrachloroethene	16.96	166	3898	0.104 ng	100
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	17.98	91	13329	0.090 ng	100
67) m- & p-Xylenes	18.13	91	60064	0.512 ng	99
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	123	N.D.	
70) o-Xylene	18.57	91	18634	0.156 ng	100
71) n-Nonane	18.77	43	20679	0.327 ng	98
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	19.10	105	2116	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	19.54	91	3781	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.68	105	1879	N.D.	
79) 1,3,5-Trimethylbenzene	19.74	105	6386	0.054 ng	99
80) alpha-Methylstyrene	19.88	118	1235	N.D.	
81) 2-Ethyltoluene	19.91	105	2993	N.D.	
82) 1,2,4-Trimethylbenzene	20.10	105	12512	0.104 ng	90
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.21	91	511	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	20.35	105	2800	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	1381	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	4777	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.61	68	1196	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.21	128	3284	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.10	119	1582	N.D.	
100) n-Butylbenzene	20.85	91	1873	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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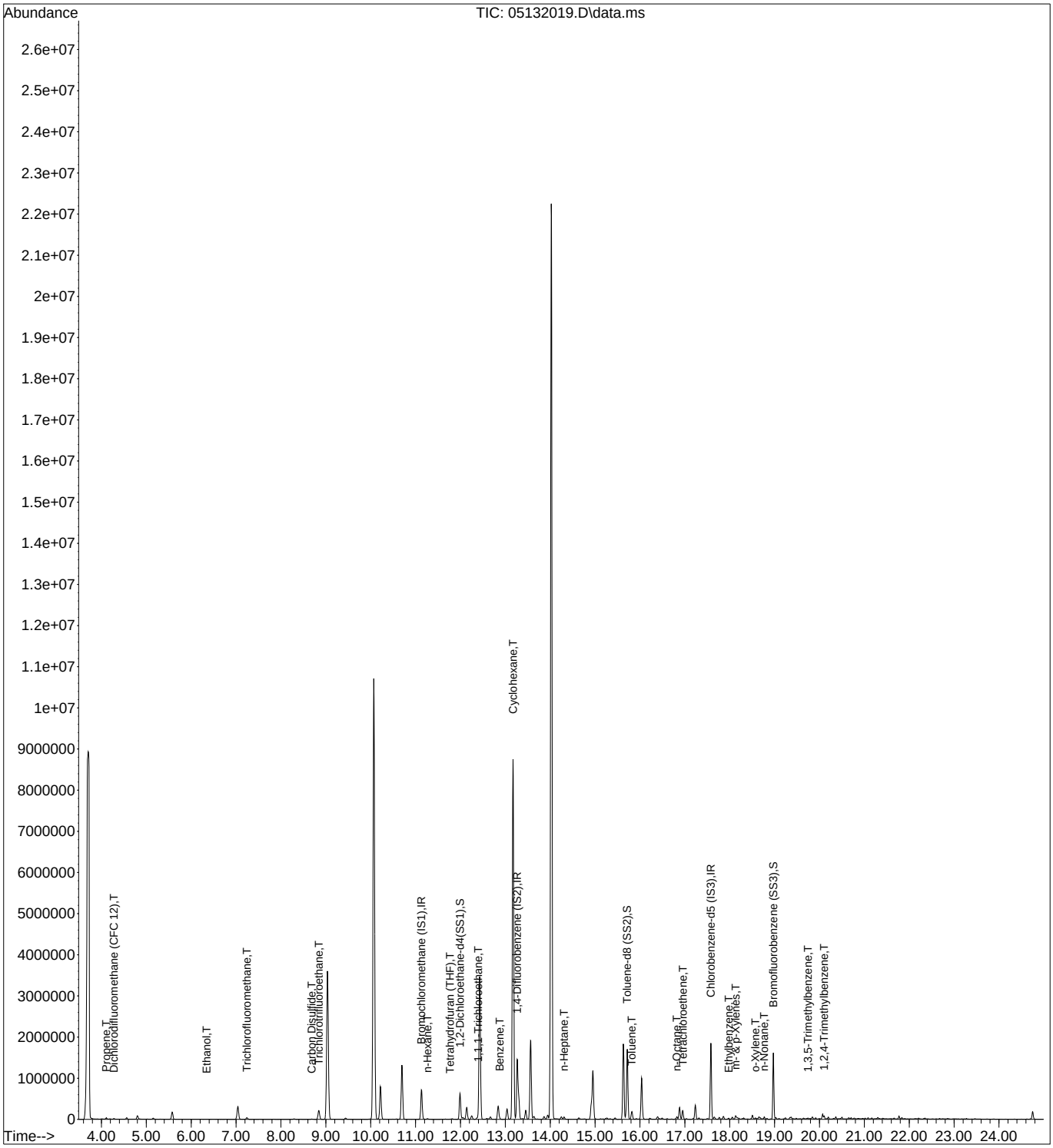
Acq On : 14 May 2020 4:55 Operator: LH
Sample : P2002301-012 (80mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 18:00:36 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132019.D Vial: 12
Acq On : 14 May 2020 4:55 Operator: LH
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Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/14/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	303502	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1321656	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	607487	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	490364	11.922	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.36%				
57) Toluene-d8 (SS2)	15.72	98	1261057	12.247	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.00%				
73) Bromofluorobenzene (SS3)	18.97	174	489150	13.202	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.60%				
Target Compounds							Qvalue
2) Propene	4.11	42	8289	0.236	ng		96
3) Dichlorodifluoromethan...	4.28	85	12484	0.182	ng		99
10) Ethanol	6.35	45	2076	0.076	ng		78
14) Trichlorofluoromethane	7.24	101	40368	0.664	ng		99
21) Trichlorotrifluoroethane	8.84	151	92040	3.208	ng		98
22) Carbon Disulfide	8.69	76	12283	0.097	ng		97
31) n-Hexane	11.27	57	7996	0.138	ng		97
34) Tetrahydrofuran (THF)	11.77	72	1158	0.051	ng	#	6
38) 1,1,1-Trichloroethane	12.40	97	3486	0.065	ng	#	57
41) Benzene	12.87	78	23665	0.167	ng	#	1
43) Cyclohexane	13.17	84	3654161	69.186	ng		98
51) n-Heptane	14.31	71	13549	0.409	ng		95
58) Toluene	15.82	91	126313	0.952	ng		100
63) n-Octane	16.82	57	13078	0.476	ng		92
64) Tetrachloroethene	16.96	166	3898	0.104	ng		100
66) Ethylbenzene	17.98	91	13329	0.090	ng		100
67) m- & p-Xylenes	18.13	91	60064	0.512	ng		99
70) o-Xylene	18.57	91	18634	0.156	ng		100
71) n-Nonane	18.77	43	20679	0.327	ng		98
79) 1,3,5-Trimethylbenzene	19.74	105	6386	0.054	ng		99
82) 1,2,4-Trimethylbenzene	20.10	105	12512	0.104	ng		90

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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Sample : P2002301-012 (80mL) Inst : GCMS-16
Misc : S31-02112001

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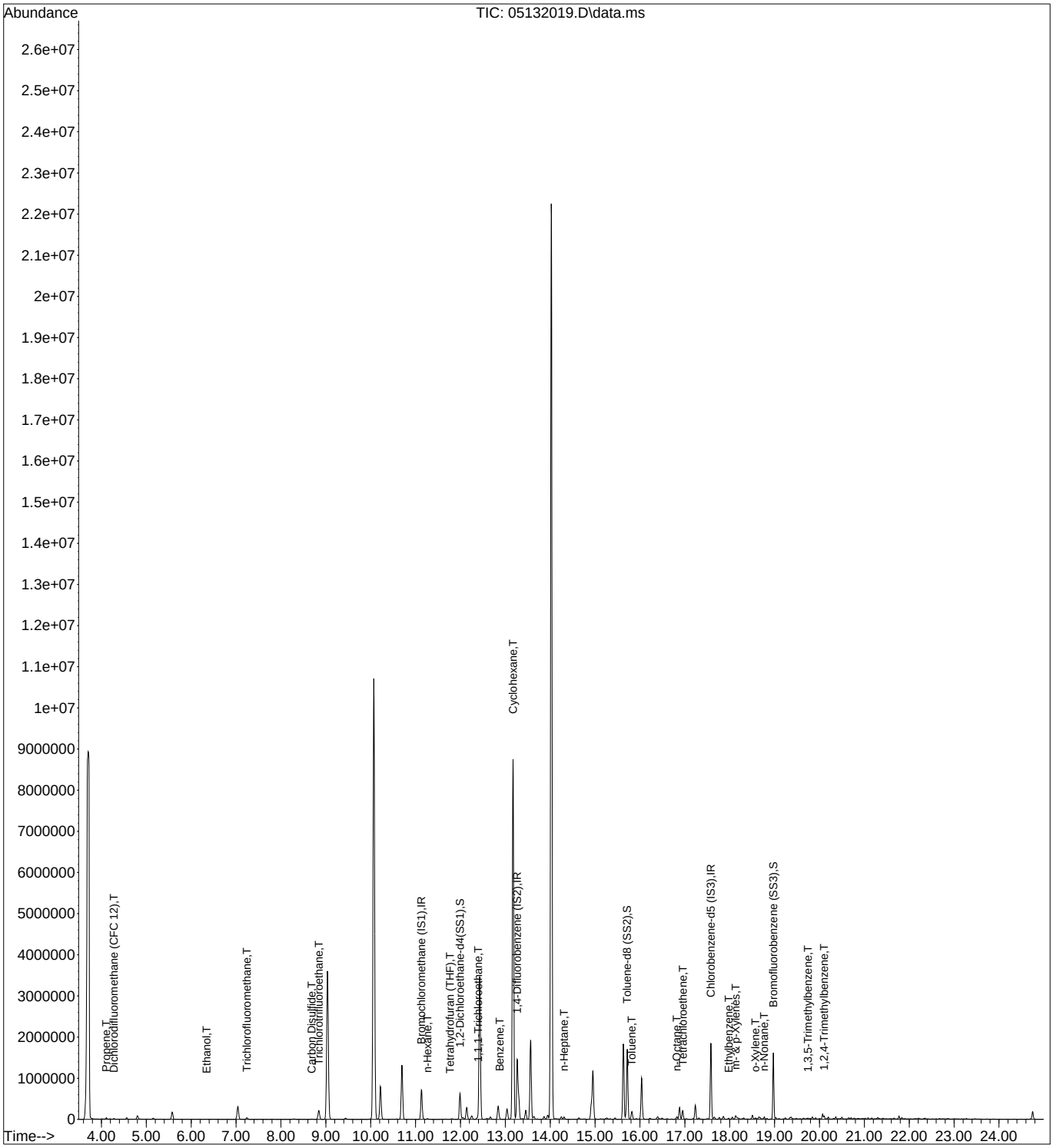
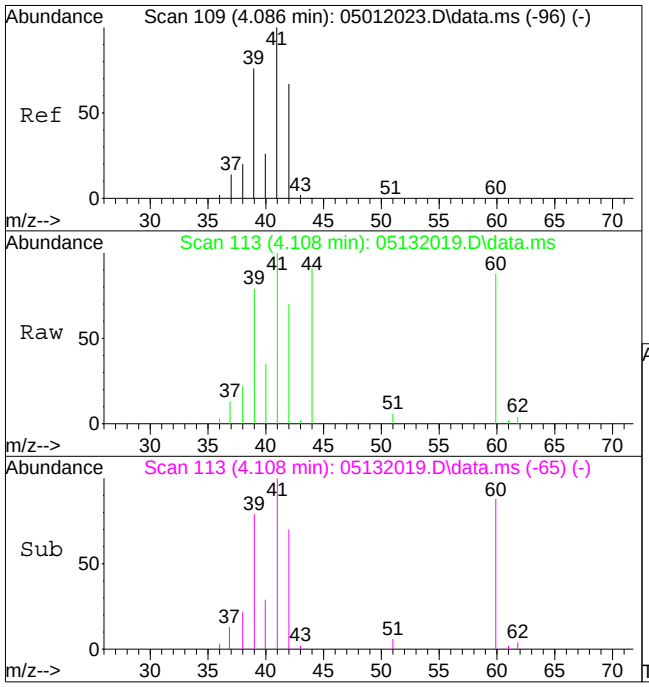
Response via : Initial Calibration
DataAcq Meth:TO15.M

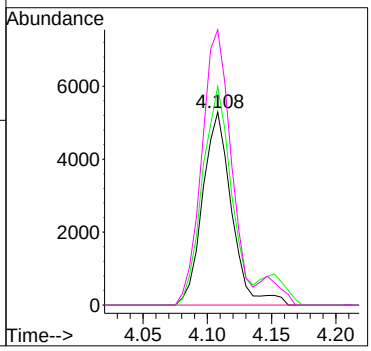


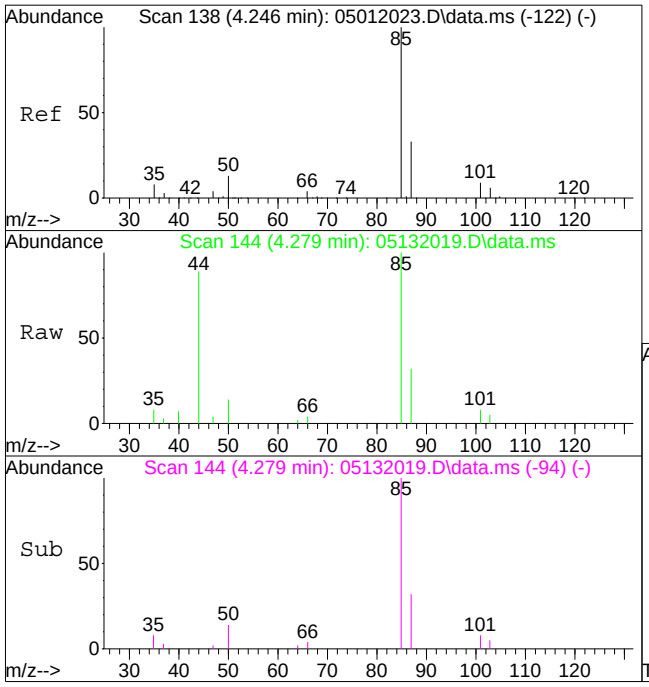


#2
Propene
Concen: 0.24 ng
RT: 4.11 min Scan# 113
Delta R.T. 0.016 min
Lab File: 05132019.D
Acq: 14 May 2020 4:55

Tgt Ion: 42 Resp: 8289

Ion	Ratio	Lower	Upper
42	100		
39	113.6	96.1	136.1
41	144.1	131.9	171.9

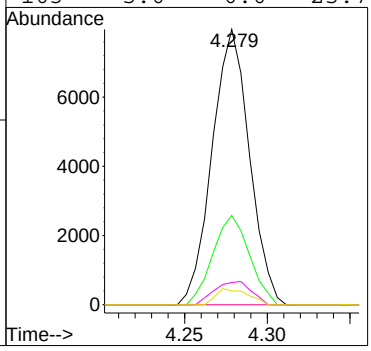


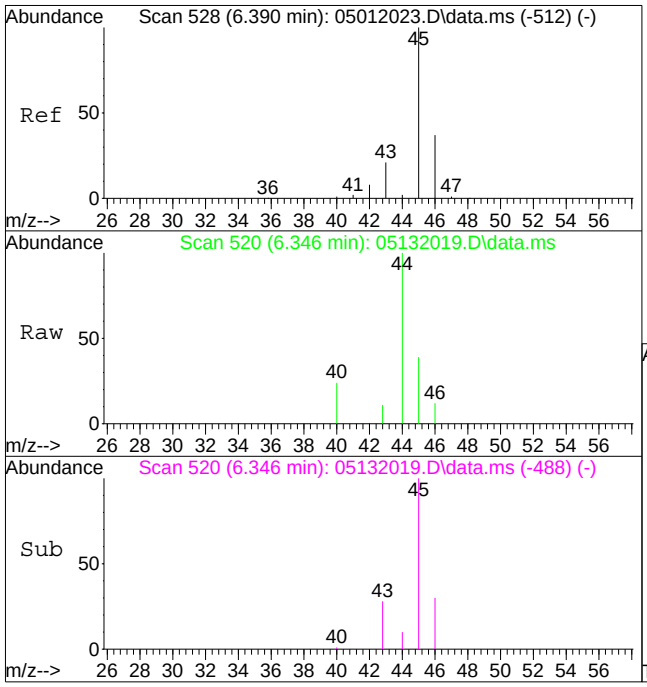


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.18 ng
RT: 4.28 min Scan# 144
Delta R.T. 0.027 min
Lab File: 05132019.D
Acq: 14 May 2020 4:55

Tgt Ion: 85 Resp: 12484

Ion	Ratio	Lower	Upper
85	100		
87	31.7	12.4	52.4
101	8.3	0.0	28.8
103	5.0	0.0	25.7

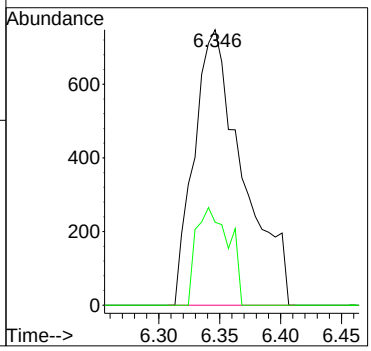


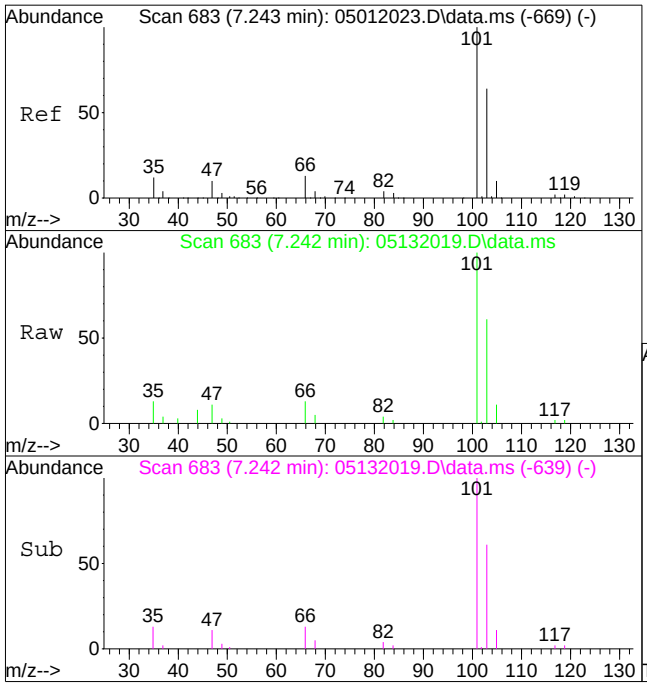


#10
Ethanol
Concen: 0.08 ng
RT: 6.35 min Scan# 520
Delta R.T. -0.072 min
Lab File: 05132019.D
Acq: 14 May 2020 4:55

Tgt Ion: 45 Resp: 2076

Ion	Ratio	Lower	Upper
45	100		
46	23.9	17.2	57.2

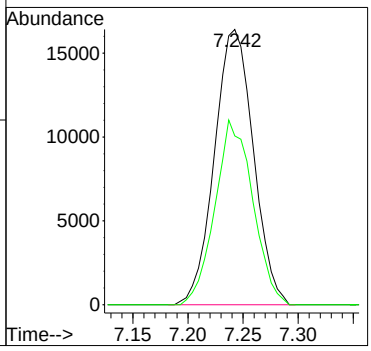


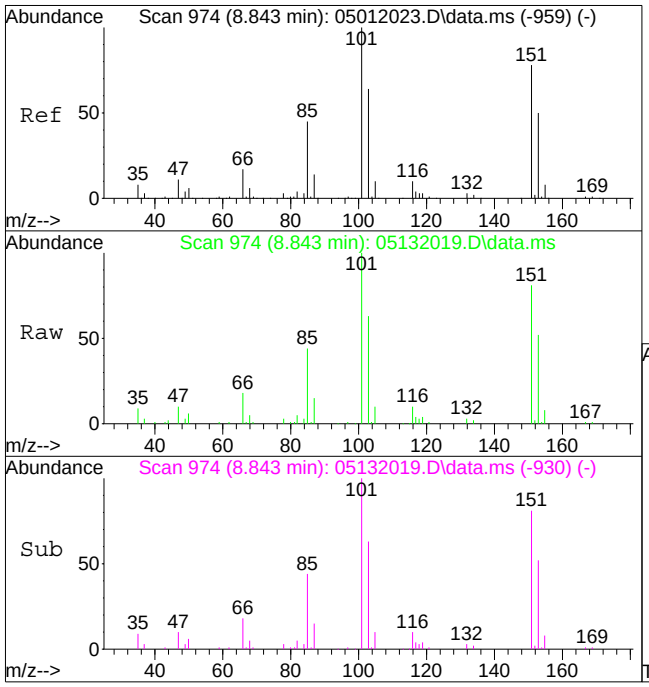


#14
Trichlorofluoromethane
Concen: 0.66 ng
RT: 7.24 min Scan# 683
Delta R.T. -0.006 min
Lab File: 05132019.D
Acq: 14 May 2020 4:55

Tgt Ion:101 Resp: 40368

Ion	Ratio	Lower	Upper
101	100		
103	64.9	44.4	84.4

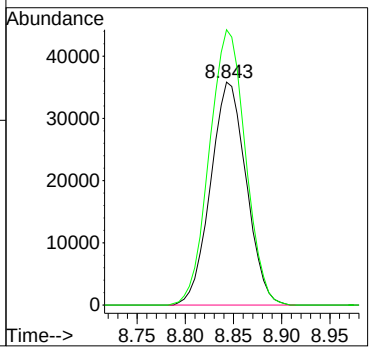


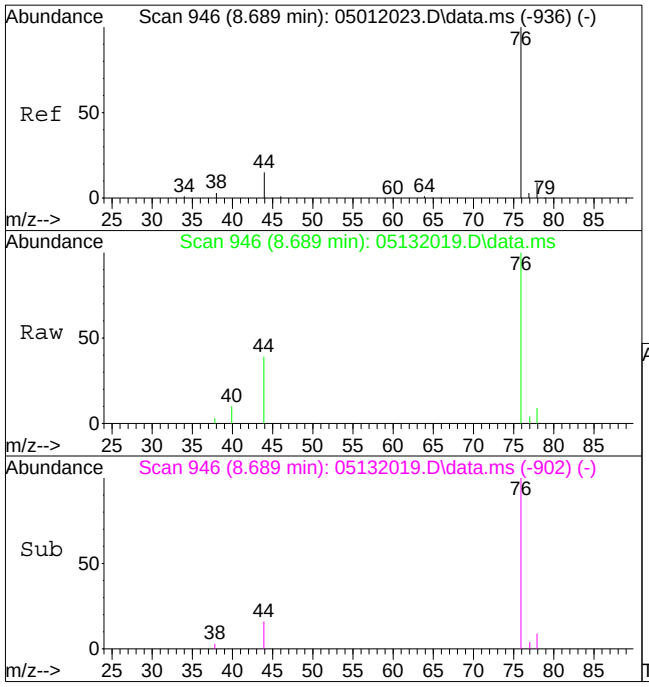


#21
Trichlorotrifluoroethane
Concen: 3.21 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05132019.D
Acq: 14 May 2020 4:55

Tgt Ion:151 Resp: 92040

Ion	Ratio	Lower	Upper
151	100		
101	125.0	107.3	147.3

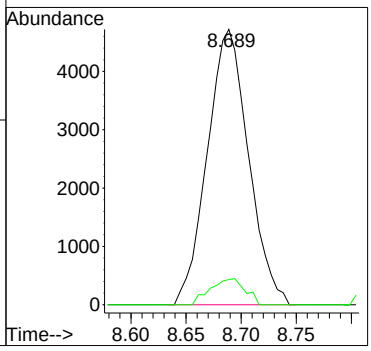


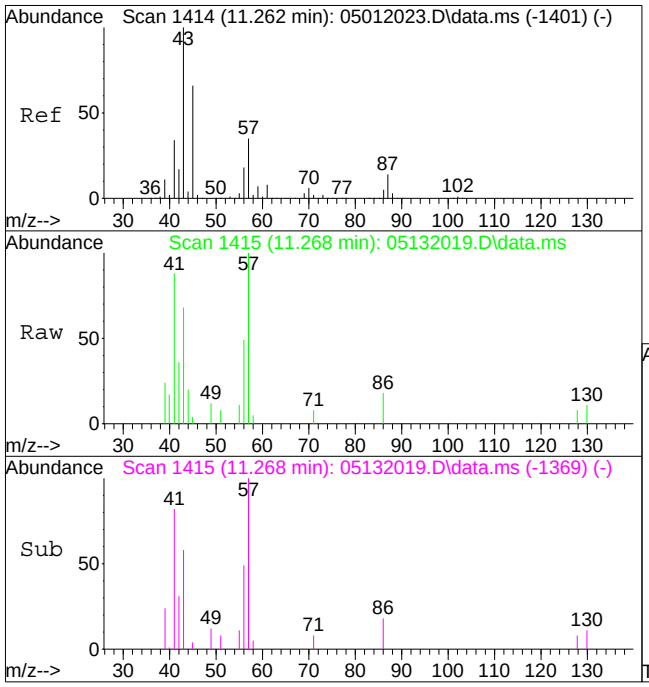


#22
Carbon Disulfide
Concen: 0.10 ng
RT: 8.69 min Scan# 946
Delta R.T. -0.006 min
Lab File: 05132019.D
Acq: 14 May 2020 4:55

Tgt Ion: 76 Resp: 12283

Ion	Ratio	Lower	Upper
76	100		
78	8.0	0.0	29.2

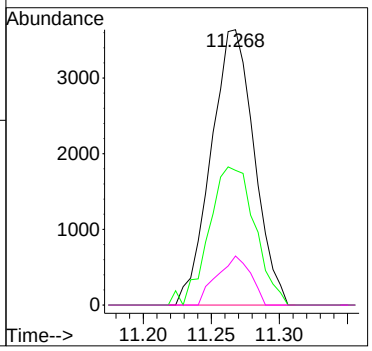


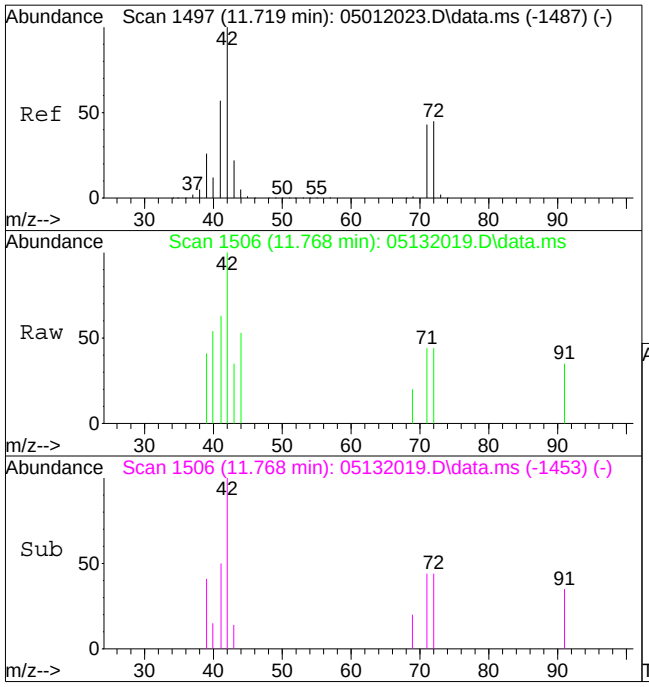


#31
n-Hexane
Concen: 0.14 ng
RT: 11.27 min Scan# 1415
Delta R.T. 0.005 min
Lab File: 05132019.D
Acq: 14 May 2020 4:55

Tgt Ion: 57 Resp: 7996

Ion	Ratio	Lower	Upper
57	100		
56	53.6	41.4	62.0
86	13.9	12.4	18.6

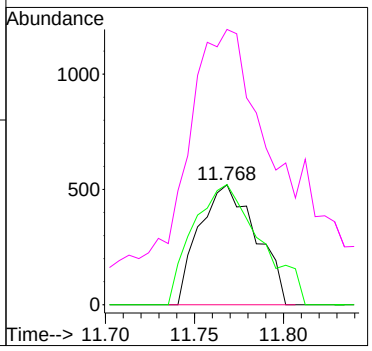


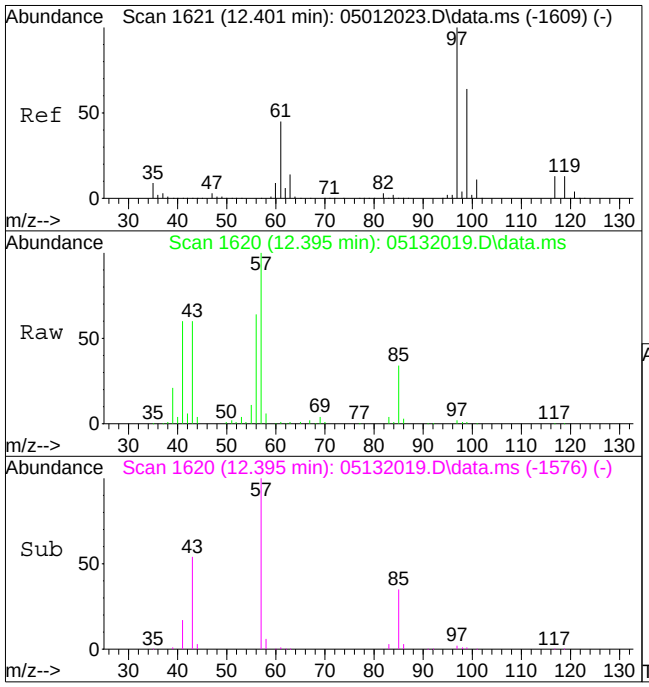


#34
Tetrahydrofuran (THF)
Concen: 0.05 ng
RT: 11.77 min Scan# 1506
Delta R.T. 0.044 min
Lab File: 05132019.D
Acq: 14 May 2020 4:55

Tgt Ion: 72 Resp: 1158

Ion	Ratio	Lower	Upper
72	100		
71	118.6	77.0	117.0#
42	427.5	204.6	244.6#

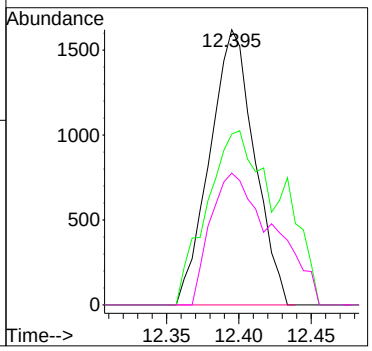


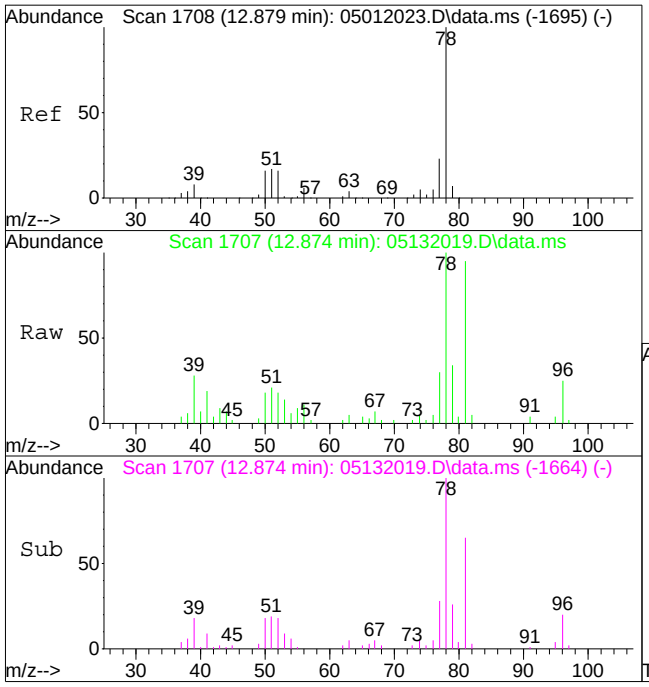


#38
1,1,1-Trichloroethane
Concen: 0.07 ng
RT: 12.40 min Scan# 1620
Delta R.T. -0.006 min
Lab File: 05132019.D
Acq: 14 May 2020 4:55

Tgt Ion: 97 Resp: 3486

Ion	Ratio	Lower	Upper
97	100		
99	102.6	44.5	84.5#
61	67.3	24.7	64.7#

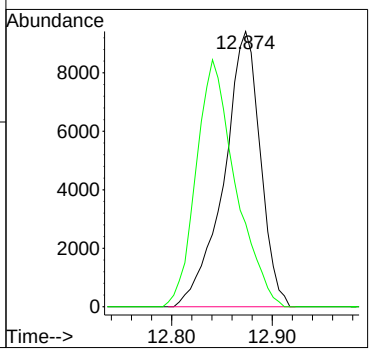


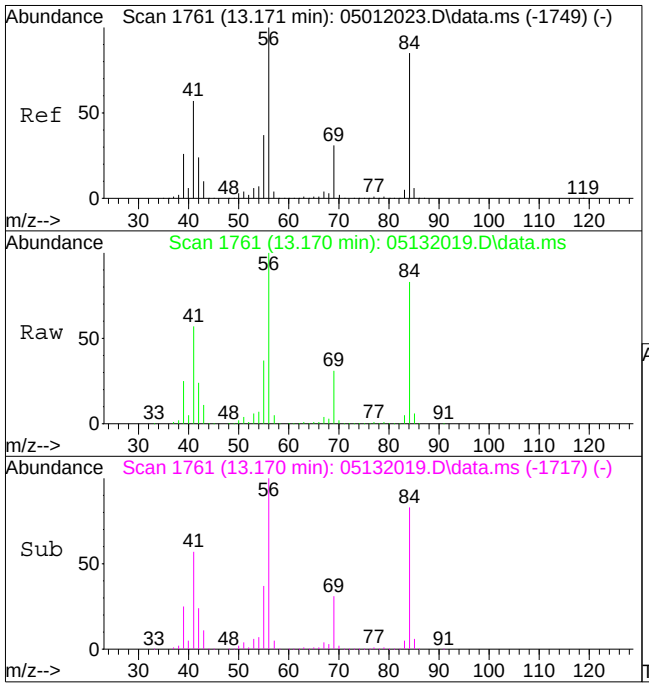


#41
Benzene
Concen: 0.17 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05132019.D
Acq: 14 May 2020 4:55

Tgt Ion: 78 Resp: 23665

Ion	Ratio	Lower	Upper
78	100		
77	96.9	3.4	43.4#

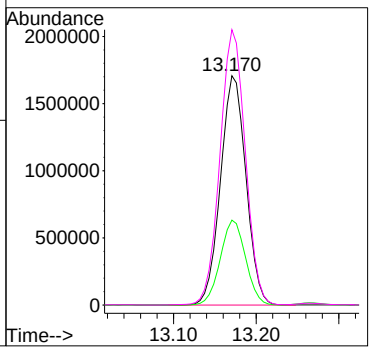


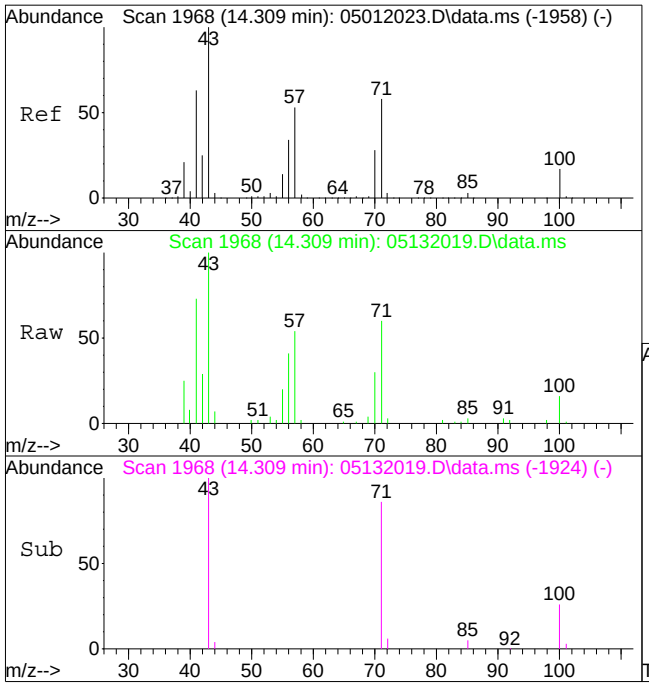


#43
Cyclohexane
Concen: 69.19 ng
RT: 13.17 min Scan# 1761
Delta R.T. -0.006 min
Lab File: 05132019.D
Acq: 14 May 2020 4:55

Tgt Ion: 84 Resp: 3654161

Ion	Ratio	Lower	Upper
84	100		
69	36.8	16.5	56.5
56	119.5	97.4	137.4

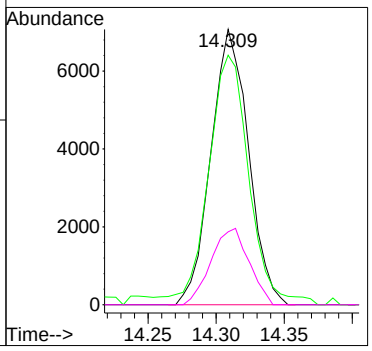


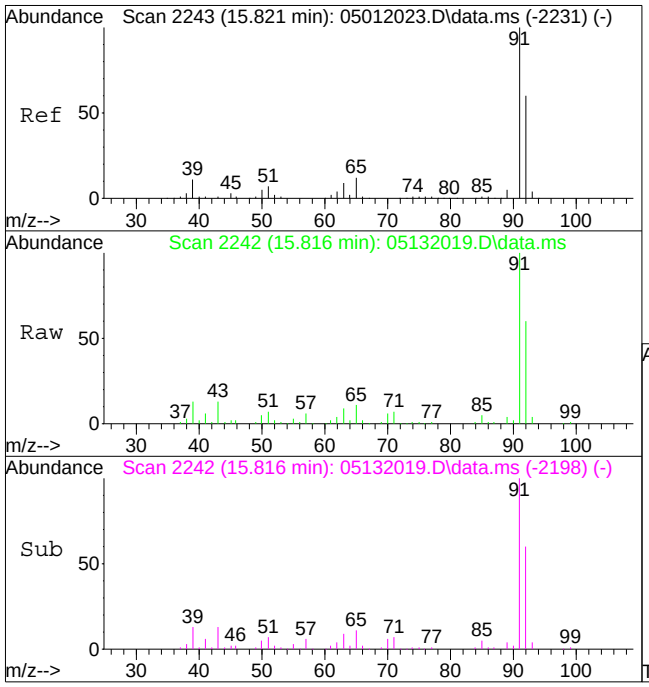


#51
n-Heptane
Concen: 0.41 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05132019.D
Acq: 14 May 2020 4:55

Tgt Ion: 71 Resp: 13549

Ion	Ratio	Lower	Upper
71	100		
57	97.5	71.0	111.0
100	28.0	8.4	48.4

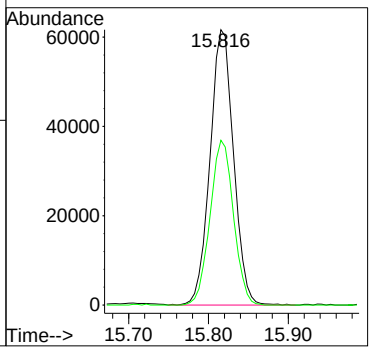


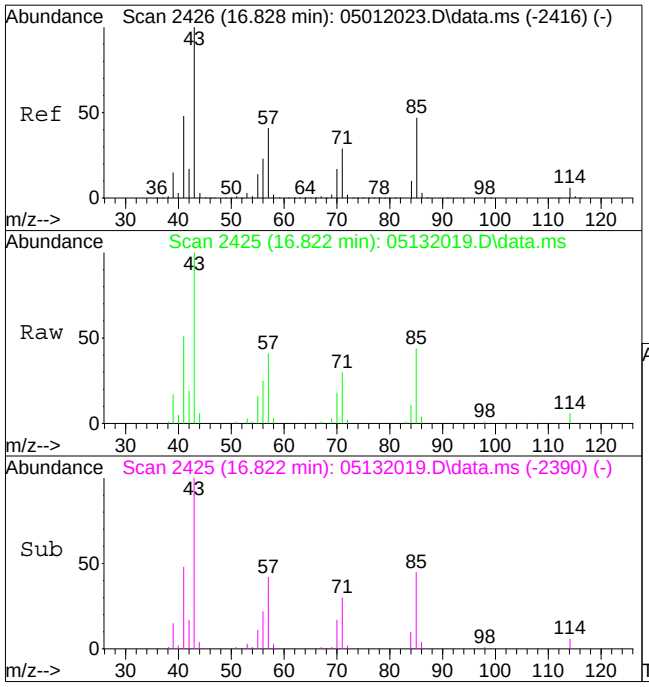


#58
Toluene
Concen: 0.95 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05132019.D
Acq: 14 May 2020 4:55

Tgt Ion: 91 Resp: 126313

Ion	Ratio	Lower	Upper
91	100		
92	59.5	39.4	79.4

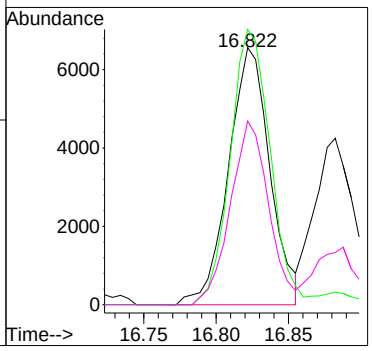


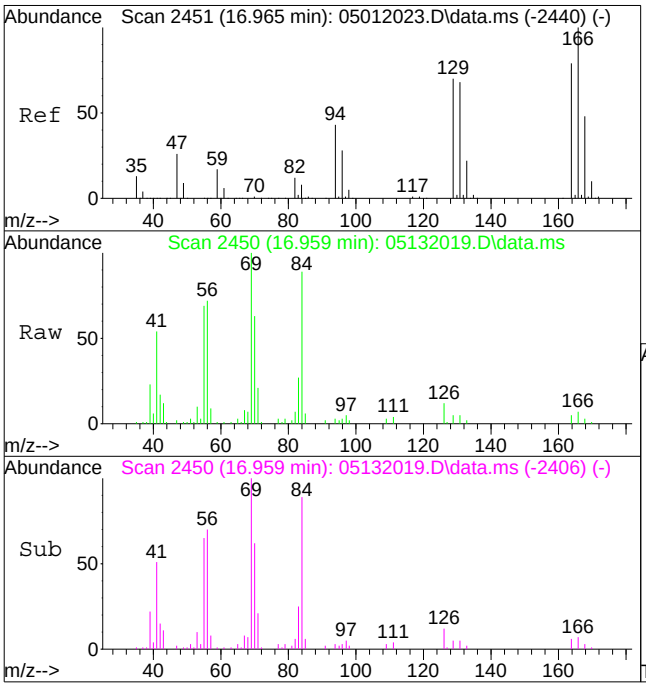


#63
n-Octane
Concen: 0.48 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05132019.D
Acq: 14 May 2020 4:55

Tgt Ion: 57 Resp: 13078

Ion	Ratio	Lower	Upper
57	100		
85	103.3	91.0	136.4
71	66.0	56.2	84.2

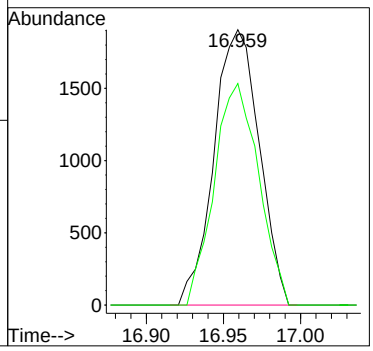


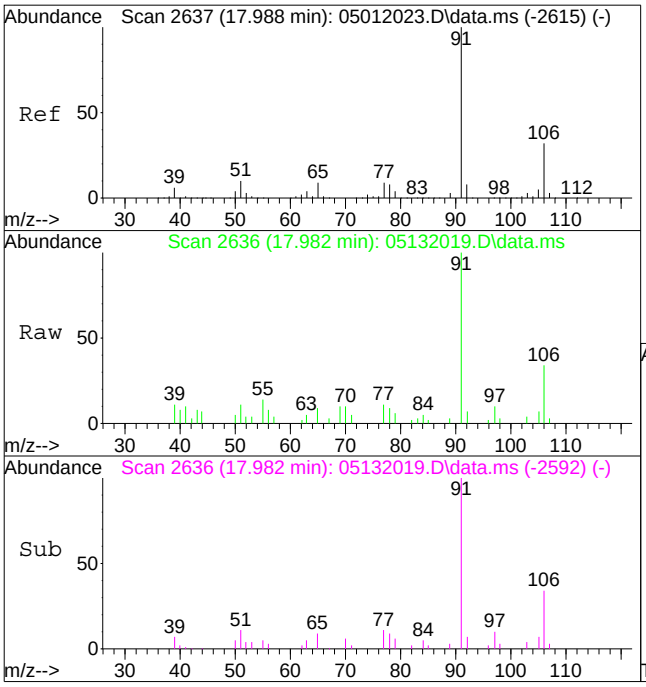


#64
Tetrachloroethene
Concen: 0.10 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05132019.D
Acq: 14 May 2020 4:55

Tgt Ion:166 Resp: 3898

Ion	Ratio	Lower	Upper
166	100		
164	78.8	58.4	98.4

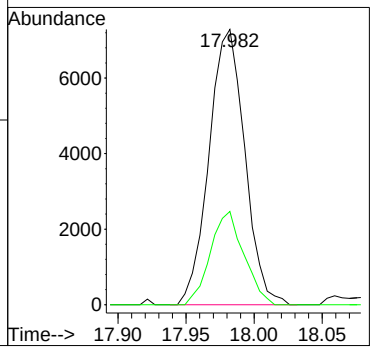


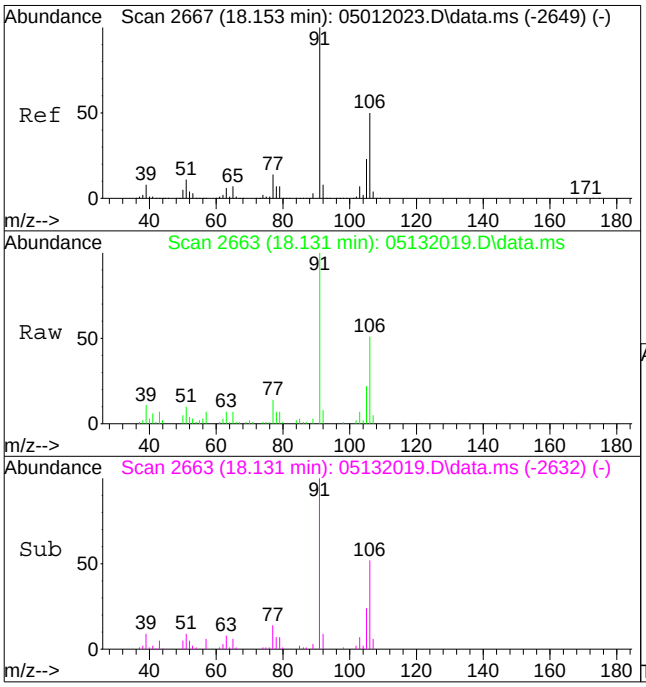


#66
Ethylbenzene
Concen: 0.09 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05132019.D
Acq: 14 May 2020 4:55

Tgt Ion: 91 Resp: 13329

Ion	Ratio	Lower	Upper
91	100		
106	31.7	11.6	51.6

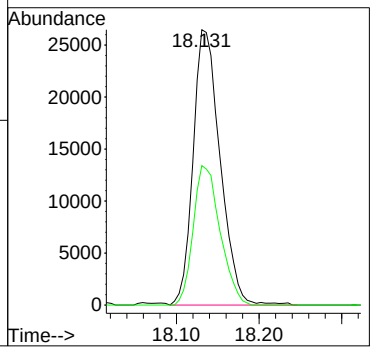


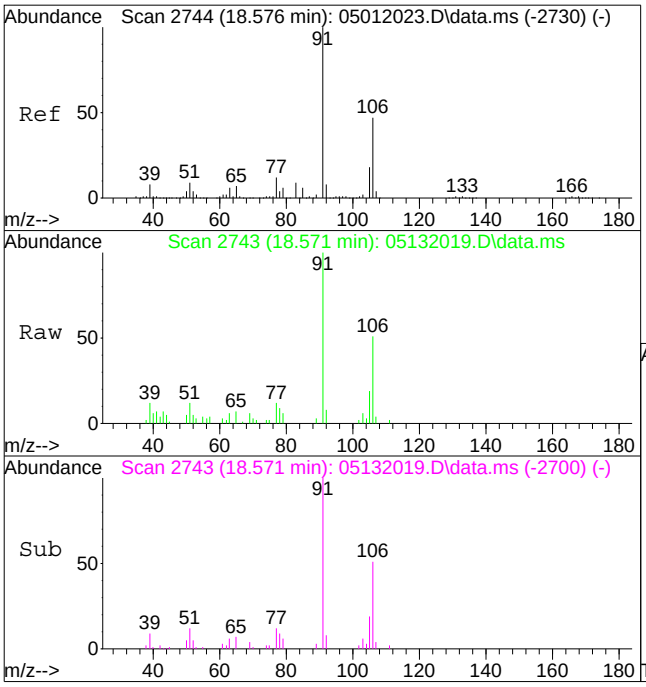


#67
m- & p-Xylenes
Concen: 0.51 ng
RT: 18.13 min Scan# 2663
Delta R.T. -0.028 min
Lab File: 05132019.D
Acq: 14 May 2020 4:55

Tgt Ion: 91 Resp: 60064

Ion	Ratio	Lower	Upper
91	100		
106	50.1	29.7	69.7

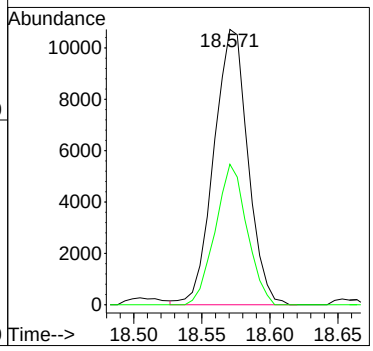


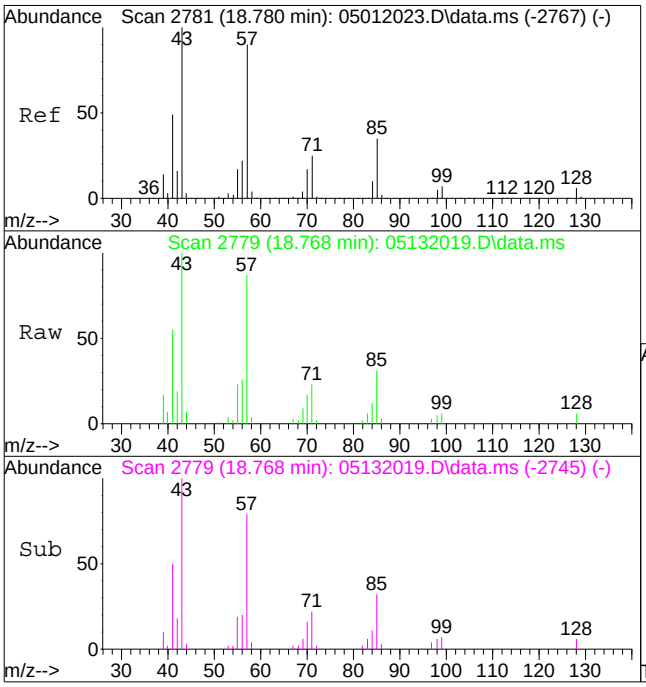


#70
o-Xylene
Concen: 0.16 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05132019.D
Acq: 14 May 2020 4:55

Tgt Ion: 91 Resp: 18634

Ion	Ratio	Lower	Upper
91	100		
106	47.3	27.5	67.5

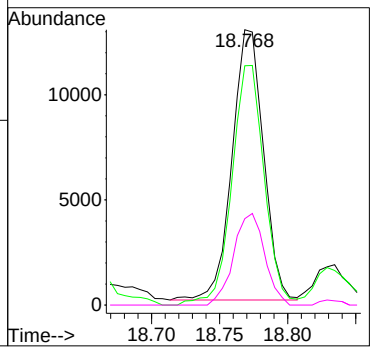


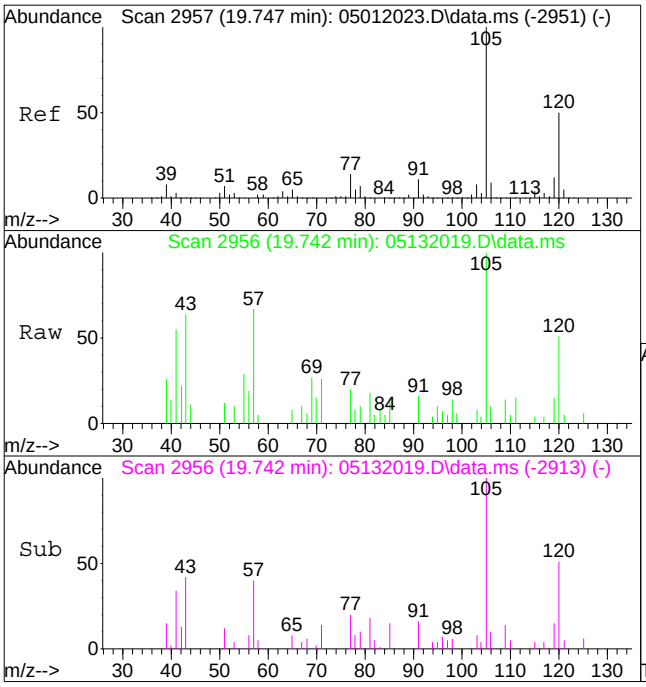


#71
n-Nonane
Concen: 0.33 ng
RT: 18.77 min Scan# 2779
Delta R.T. -0.011 min
Lab File: 05132019.D
Acq: 14 May 2020 4:55

Tgt Ion: 43 Resp: 20679

Ion	Ratio	Lower	Upper
43	100		
57	91.2	69.0	109.0
85	33.4	14.6	54.6

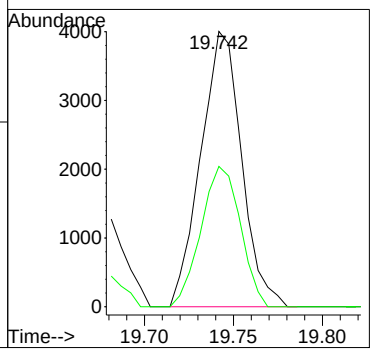


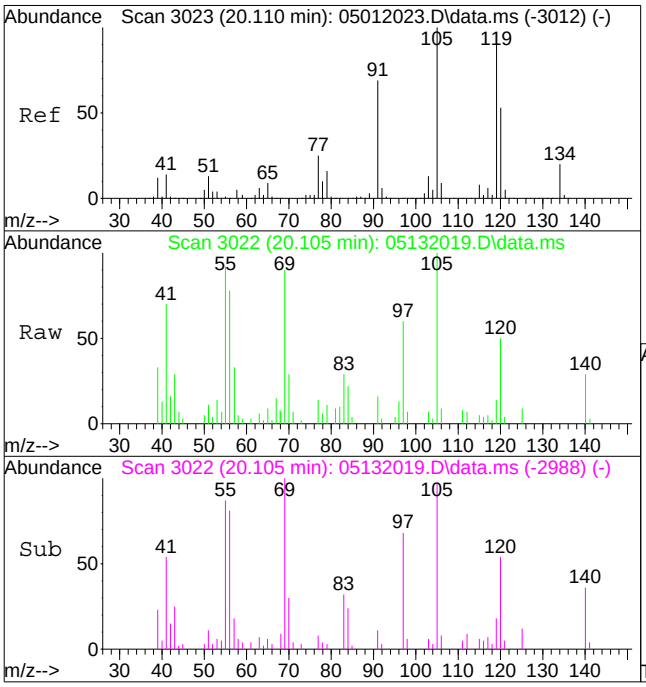


#79
1,3,5-Trimethylbenzene
Concen: 0.05 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05132019.D
Acq: 14 May 2020 4:55

Tgt Ion:105 Resp: 6386

Ion	Ratio	Lower	Upper
105	100		
120	49.1	29.9	69.9

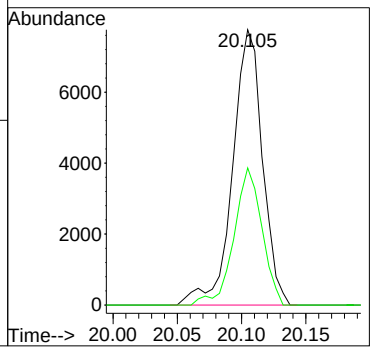




#82
1,2,4-Trimethylbenzene
Concen: 0.10 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05132019.D
Acq: 14 May 2020 4:55

Tgt Ion:105 Resp: 12512

Ion	Ratio	Lower	Upper
105	100		
120	46.7	33.6	73.6



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142008.D Vial: 1
Acq On : 14 May 2020 12:51 Operator: LH
Sample : P2002301-013 (0.05mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 18:16:39 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/14/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	268432	12.500 ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1179819	12.500 ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	554068	12.500 ng	0.00
System Monitoring Compounds					
33) 1,2-Dichloroethane-d4(...	11.99	65	435932	11.983 ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.84%		
57) Toluene-d8 (SS2)	15.72	98	1148947	12.234 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.84%		
73) Bromofluorobenzene (SS3)	18.97	174	445213	13.175 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.36%		
Target Compounds					Qvalue
2) Propene	4.13	42	4984	0.160 ng	92
3) Dichlorodifluoromethan...	0.00	85	0	N.D.	
4) Chloromethane	0.00	50	0	N.D.	
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.	
6) Vinyl Chloride	0.00	62	0	N.D.	
7) 1,3-Butadiene	5.16	54	389	N.D.	
8) Bromomethane	0.00	94	0	N.D.	
9) Chloroethane	0.00	64	0	N.D.	
10) Ethanol	6.35	45	4700	0.196 ng	93
11) Acetonitrile	6.61	41	2406	N.D.	
12) Acrolein	6.81	56	514	N.D.	
13) Acetone	0.00	58	0	N.D. d	
14) Trichlorofluoromethane	0.00	101	0	N.D.	
15) 2-Propanol (Isopropanol)	7.57	45	1269	N.D.	
16) Acrylonitrile	7.77	53	631	N.D.	
17) 1,1-Dichloroethene	0.00	96	0	N.D.	
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	
19) Methylene Chloride	0.00	84	0	N.D.	
20) 3-Chloro-1-propene (Al...	8.51	41	1765	N.D.	
21) Trichlorotrifluoroethane	0.00	151	0	N.D.	
22) Carbon Disulfide	8.69	76	940	N.D.	
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.	
24) 1,1-Dichloroethane	10.00	63	1998	N.D.	
25) Methyl tert-Butyl Ether	10.21	73	1775	N.D.	
26) Vinyl Acetate	0.00	86	0	N.D. d	
27) 2-Butanone (MEK)	10.32	72	182	N.D.	
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.	
29) Diisopropyl Ether	0.00	87	0	N.D. d	
30) Ethyl Acetate	0.00	61	0	N.D. d	
31) n-Hexane	11.27	57	3601236	70.326 ng	100
32) Chloroform	0.00	83	0	N.D.	
34) Tetrahydrofuran (THF)	11.78	72	342	N.D.	
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.	
36) 1,2-Dichloroethane	0.00	62	0	N.D. d	
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.	
39) Isopropyl Acetate	0.00	61	0	N.D. d	
40) 1-Butanol	0.00	56	0	N.D. d	
41) Benzene	12.87	78	473997	3.746 ng	100
42) Carbon Tetrachloride	0.00	117	0	N.D.	
43) Cyclohexane	13.18	84	2336288	49.552 ng	99
44) tert-Amyl Methyl Ether	13.64	73	1024	N.D.	
45) 1,2-Dichloropropane	0.00	63	0	N.D. d	
46) Bromodichloromethane	0.00	83	0	N.D. d	
47) Trichloroethene	0.00	130	0	N.D.	
48) 1,4-Dioxane	0.00	88	0	N.D.	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d	
50) Methyl Methacrylate	0.00	100	0	N.D. d	

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142008.D Vial: 1
Acq On : 14 May 2020 12:51 Operator: LH
Sample : P2002301-013 (0.05mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 18:16:39 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

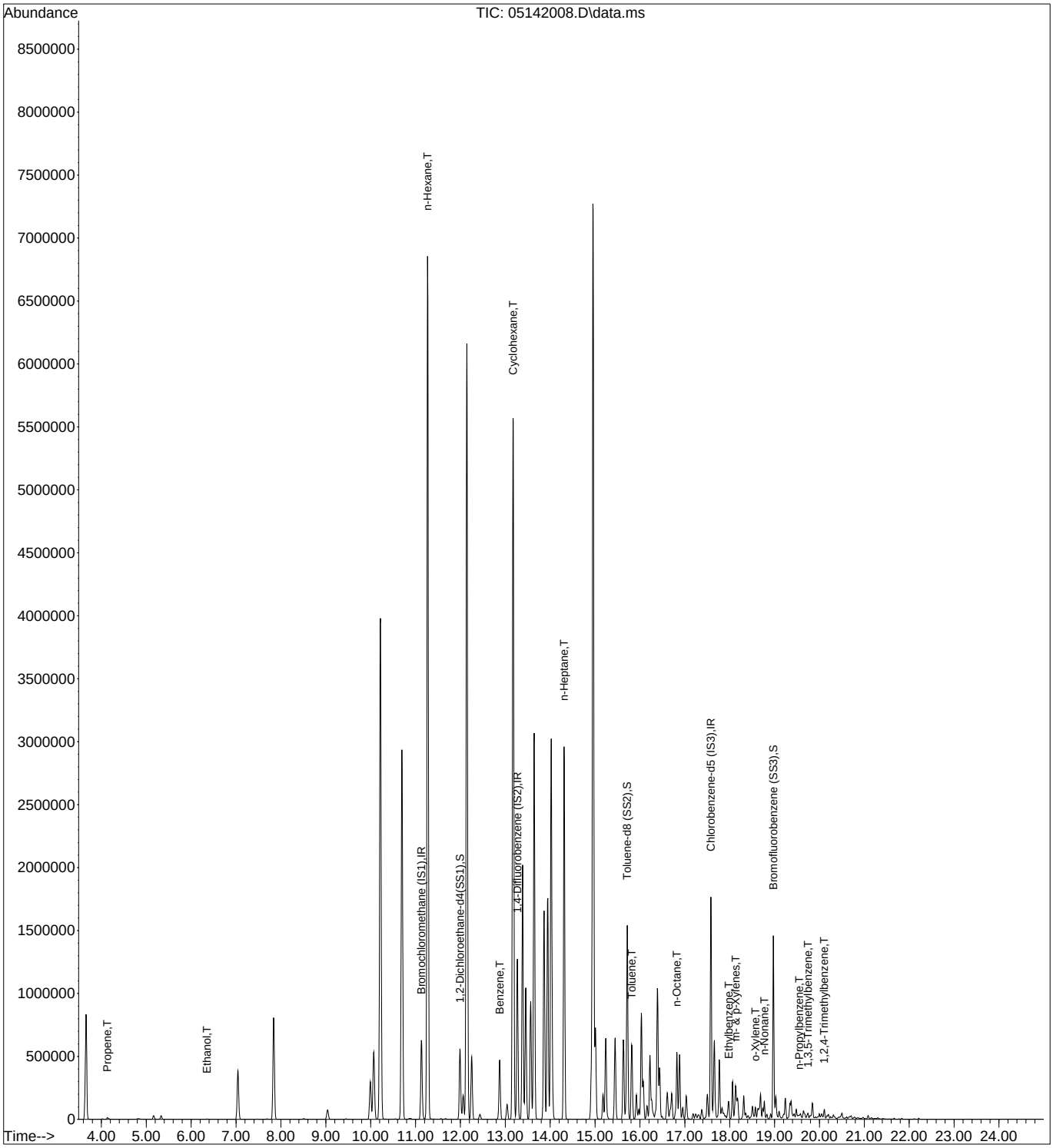
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	741622	25.065 ng	99
52) cis-1,3-Dichloropropene	14.96	75	1725	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	15.82	91	473781	3.914 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	16.82	57	103149	4.116 ng	98
64) Tetrachloroethene	16.96	166	510	N.D.	
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	17.98	91	44480	0.330 ng	98
67) m- & p-Xylenes	18.14	91	148525	1.387 ng	99
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	860	N.D.	
70) o-Xylene	18.57	91	48718	0.448 ng	99
71) n-Nonane	18.77	43	46879	0.813 ng	96
72) 1,1,2,2-Tetrachloroethane	18.58	83	129	N.D.	
74) Cumene	19.10	105	5914	N.D.	
75) alpha-Pinene	19.57	93	136	N.D.	
76) n-Propylbenzene	19.55	91	9487	0.060 ng	83
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.68	105	3983	N.D.	
79) 1,3,5-Trimethylbenzene	19.74	105	11522	0.106 ng	98
80) alpha-Methylstyrene	19.88	118	311	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.10	105	16877	0.154 ng	90
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.22	91	526	N.D.	
85) 1,3-Dichlorobenzene	20.24	146	1062	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	1500	N.D.	
87) sec-Butylbenzene	20.35	105	3954	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	1729	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	20.60	146	765	N.D.	
91) d-Limonene	20.61	68	1530	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.30	57	655	N.D.	
94) 1,2,4-Trichlorobenzene	22.11	180	1354	N.D.	
95) Naphthalene	22.21	128	6537	N.D.	
96) n-Dodecane	22.21	57	274	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.10	119	3061	N.D.	
100) n-Butylbenzene	20.85	91	1791	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142008.D Vial: 1
Acq On : 14 May 2020 12:51 Operator: LH
Sample : P2002301-013 (0.05mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 18:16:39 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142008.D Vial: 1
Acq On : 14 May 2020 12:51 Operator: LH
Sample : P2002301-013 (0.05mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 18:16:39 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/14/20

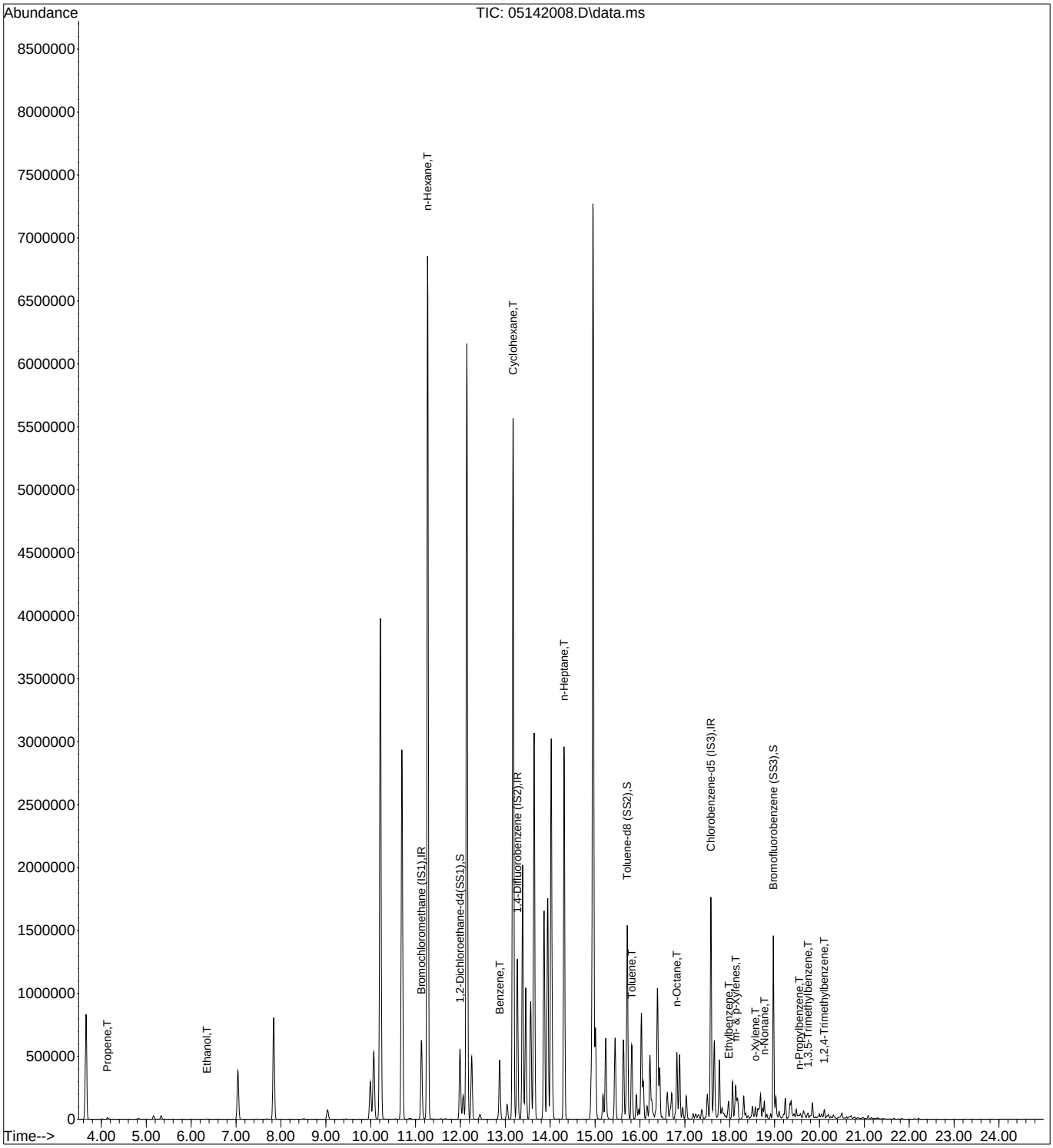
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	268432	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1179819	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	554068	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	435932	11.983	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.84%			
57) Toluene-d8 (SS2)	15.72	98	1148947	12.234	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.84%			
73) Bromofluorobenzene (SS3)	18.97	174	445213	13.175	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.36%			
Target Compounds						Qvalue
2) Propene	4.13	42	4984	0.160	ng	92
10) Ethanol	6.35	45	4700	0.196	ng	93
31) n-Hexane	11.27	57	3601236	70.326	ng	100
41) Benzene	12.87	78	473997	3.746	ng	100
43) Cyclohexane	13.18	84	2336288	49.552	ng	99
51) n-Heptane	14.31	71	741622	25.065	ng	99
58) Toluene	15.82	91	473781	3.914	ng	100
63) n-Octane	16.82	57	103149	4.116	ng	98
66) Ethylbenzene	17.98	91	44480	0.330	ng	98
67) m- & p-Xylenes	18.14	91	148525	1.387	ng	99
70) o-Xylene	18.57	91	48718	0.448	ng	99
71) n-Nonane	18.77	43	46879	0.813	ng	96
76) n-Propylbenzene	19.55	91	9487	0.060	ng	83
79) 1,3,5-Trimethylbenzene	19.74	105	11522	0.106	ng	98
82) 1,2,4-Trimethylbenzene	20.10	105	16877	0.154	ng	90

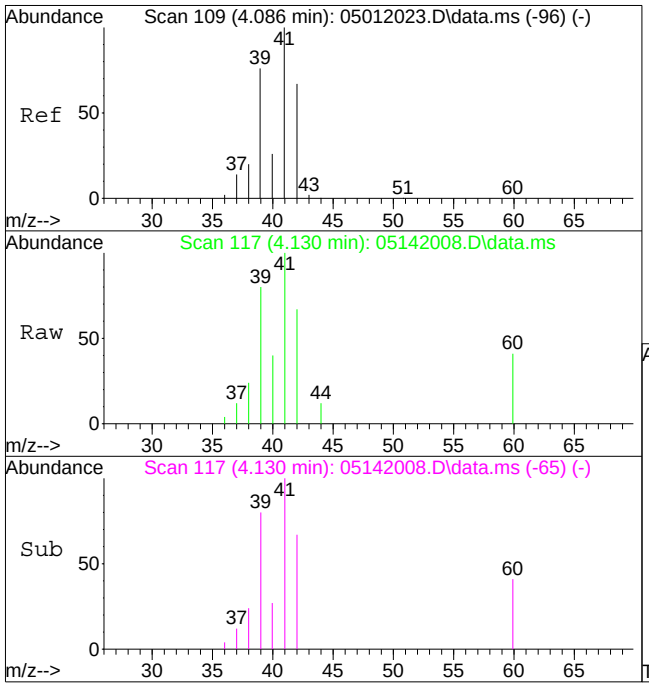
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142008.D Vial: 1
Acq On : 14 May 2020 12:51 Operator: LH
Sample : P2002301-013 (0.05mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 18:16:39 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

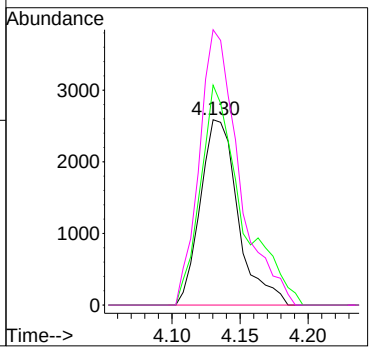


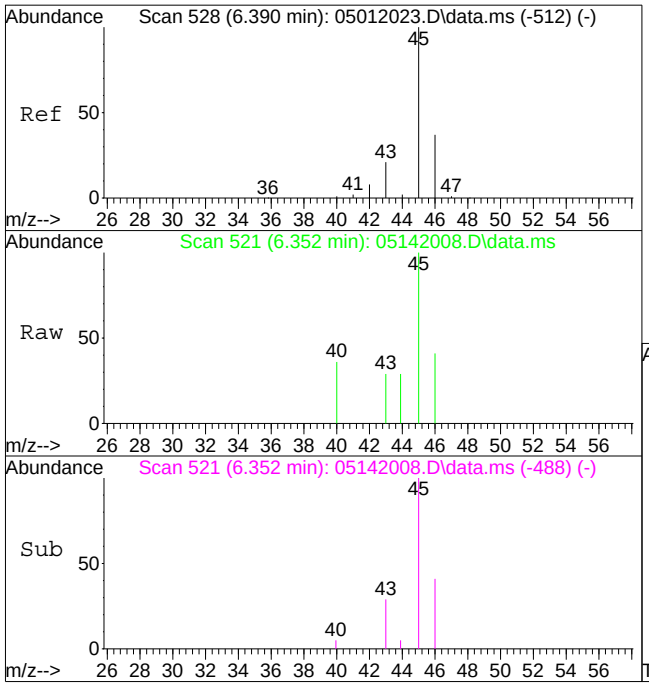


#2
Propene
Concen: 0.16 ng
RT: 4.13 min Scan# 117
Delta R.T. 0.038 min
Lab File: 05142008.D
Acq: 14 May 2020 12:51

Tgt Ion: 42 Resp: 4984

Ion	Ratio	Lower	Upper
42	100		
39	130.6	96.1	136.1
41	156.8	131.9	171.9

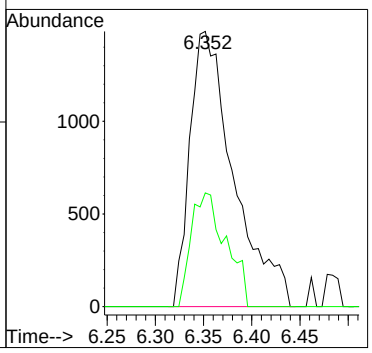


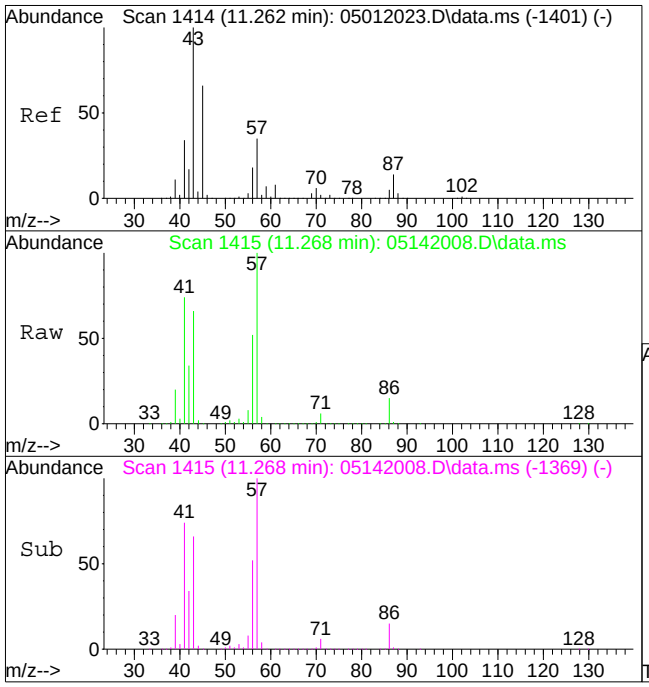


#10
Ethanol
Concen: 0.20 ng
RT: 6.35 min Scan# 521
Delta R.T. -0.066 min
Lab File: 05142008.D
Acq: 14 May 2020 12:51

Tgt Ion: 45 Resp: 4700

Ion	Ratio	Lower	Upper
45	100		
46	32.8	17.2	57.2

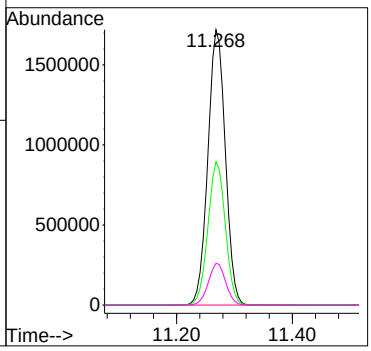


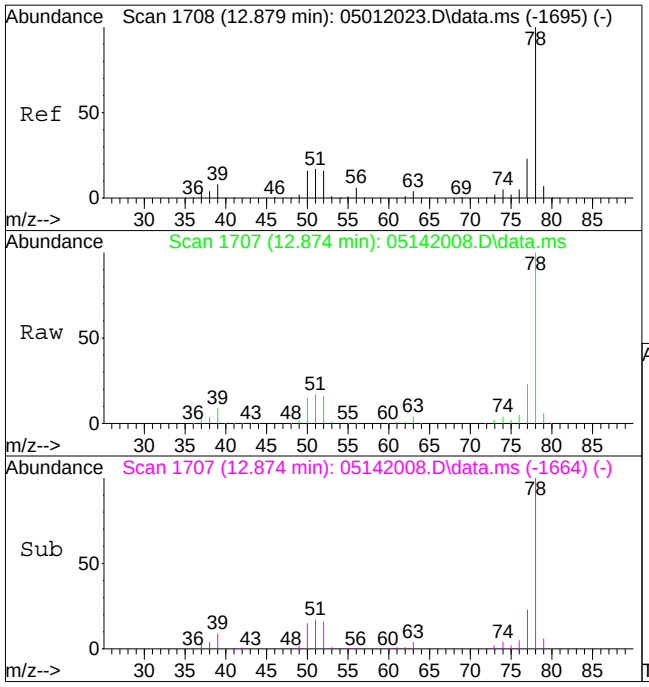


#31
n-Hexane
Concen: 70.33 ng
RT: 11.27 min Scan# 1415
Delta R.T. 0.005 min
Lab File: 05142008.D
Acq: 14 May 2020 12:51

Tgt Ion: 57 Resp: 3601236

Ion	Ratio	Lower	Upper
57	100		
56	51.8	41.4	62.0
86	15.1	12.4	18.6

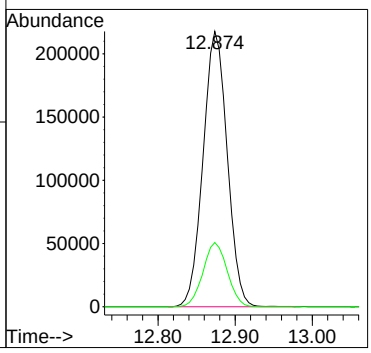


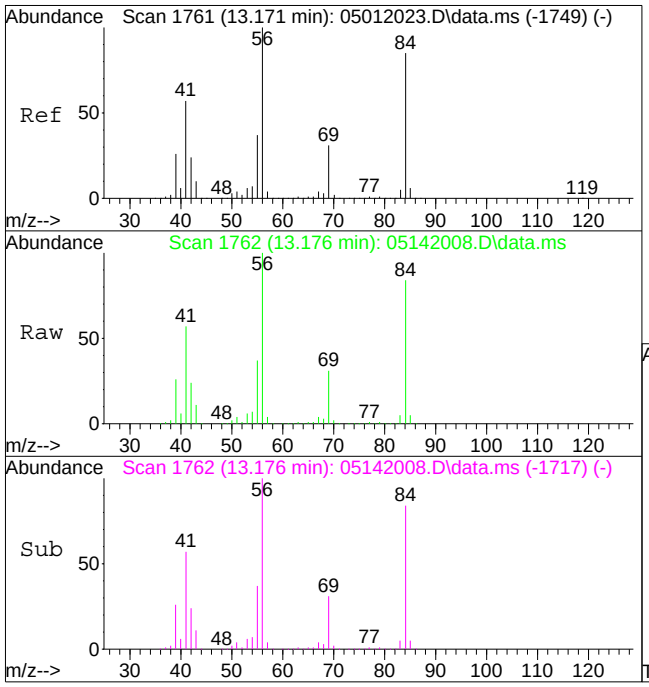


#41
Benzene
Concen: 3.75 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05142008.D
Acq: 14 May 2020 12:51

Tgt Ion: 78 Resp: 473997

Ion	Ratio	Lower	Upper
78	100		
77	23.4	3.4	43.4

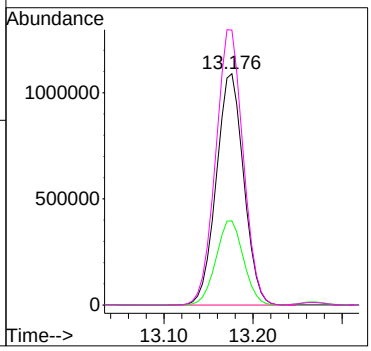


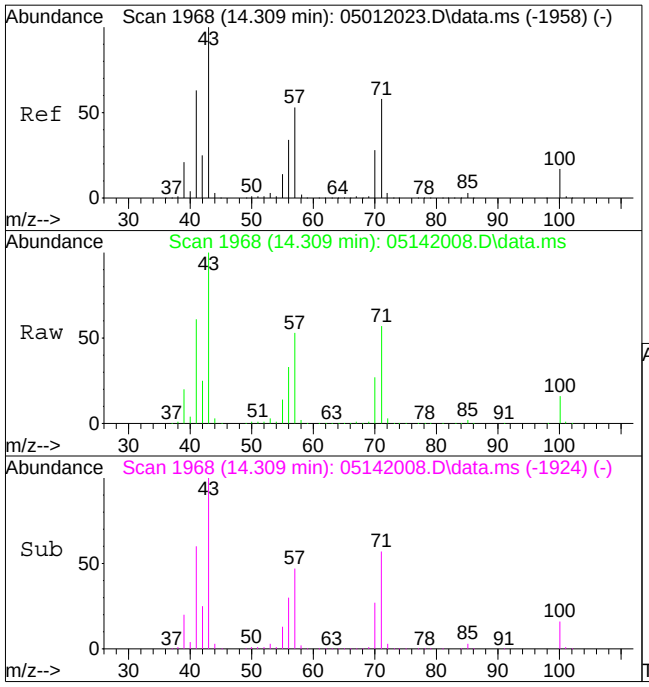


#43
Cyclohexane
Concen: 49.55 ng
RT: 13.18 min Scan# 1762
Delta R.T. -0.000 min
Lab File: 05142008.D
Acq: 14 May 2020 12:51

Tgt Ion: 84 Resp: 2336288

Ion	Ratio	Lower	Upper
84	100		
69	36.5	16.5	56.5
56	119.2	97.4	137.4

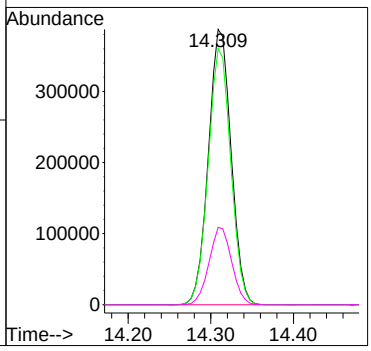


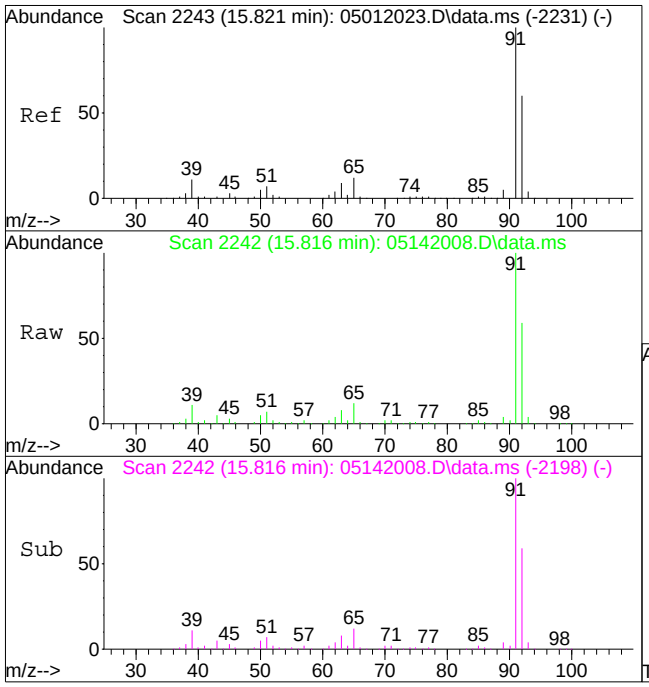


#51
n-Heptane
Concen: 25.07 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05142008.D
Acq: 14 May 2020 12:51

Tgt Ion: 71 Resp: 741622

Ion	Ratio	Lower	Upper
71	100		
57	92.5	71.0	111.0
100	28.0	8.4	48.4

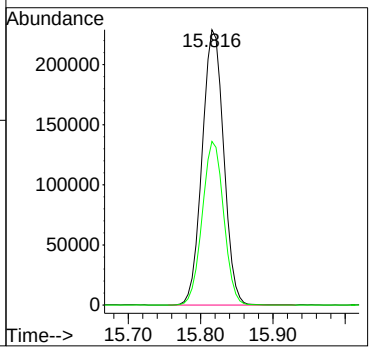


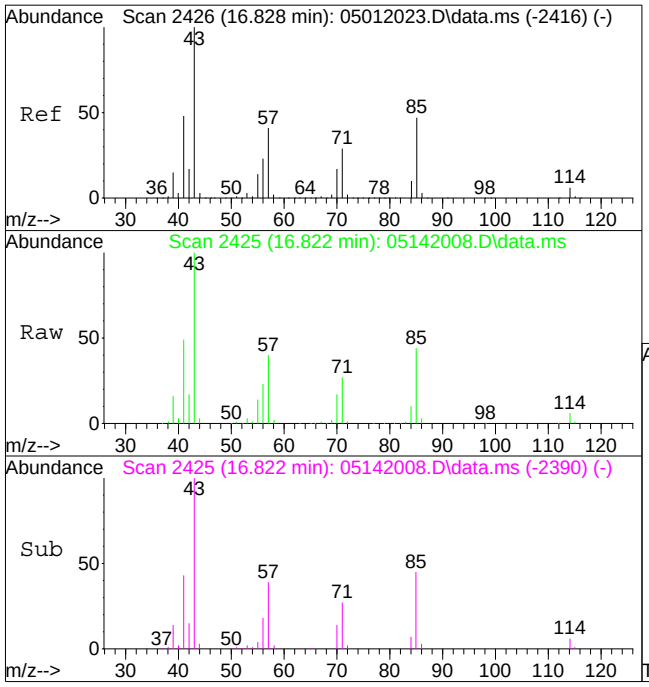


#58
Toluene
Concen: 3.91 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05142008.D
Acq: 14 May 2020 12:51

Tgt Ion: 91 Resp: 473781

Ion	Ratio	Lower	Upper
91	100		
92	59.1	39.4	79.4

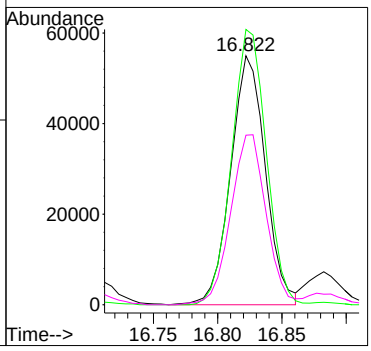


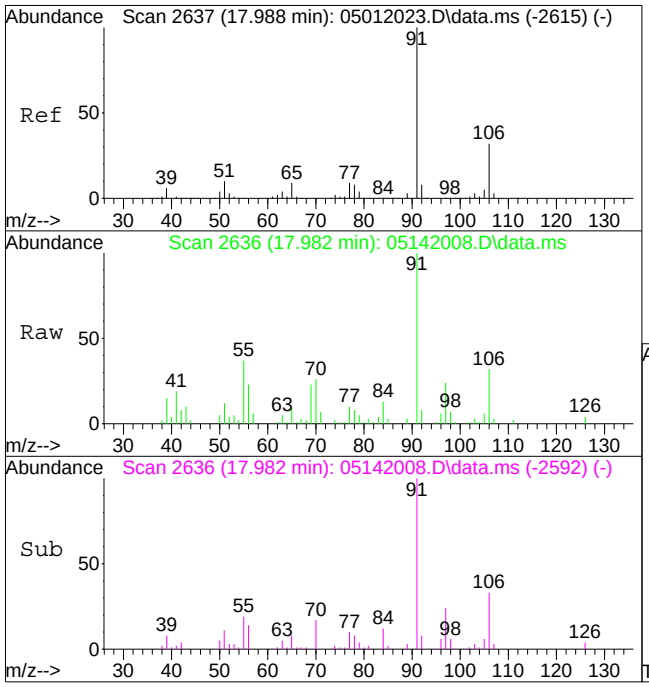


#63
n-Octane
Concen: 4.12 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05142008.D
Acq: 14 May 2020 12:51

Tgt Ion: 57 Resp: 103149

Ion	Ratio	Lower	Upper
57	100		
85	110.0	91.0	136.4
71	69.4	56.2	84.2

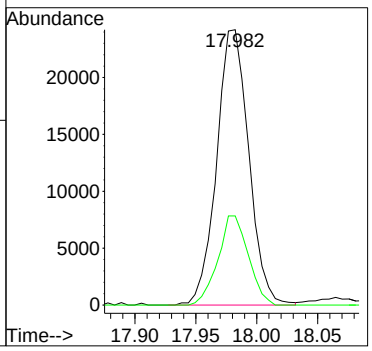


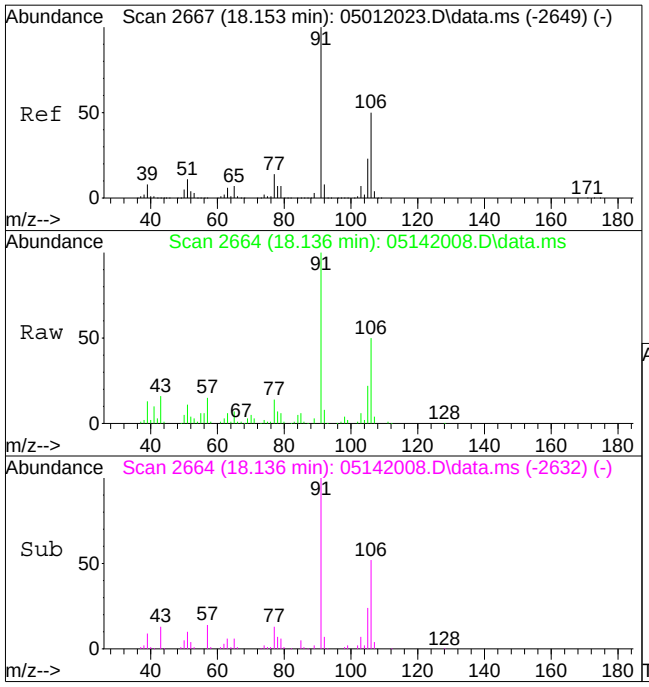


#66
Ethylbenzene
Concen: 0.33 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05142008.D
Acq: 14 May 2020 12:51

Tgt Ion: 91 Resp: 44480

Ion	Ratio	Lower	Upper
91	100		
106	30.5	11.6	51.6

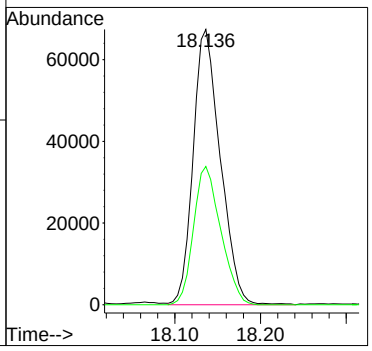


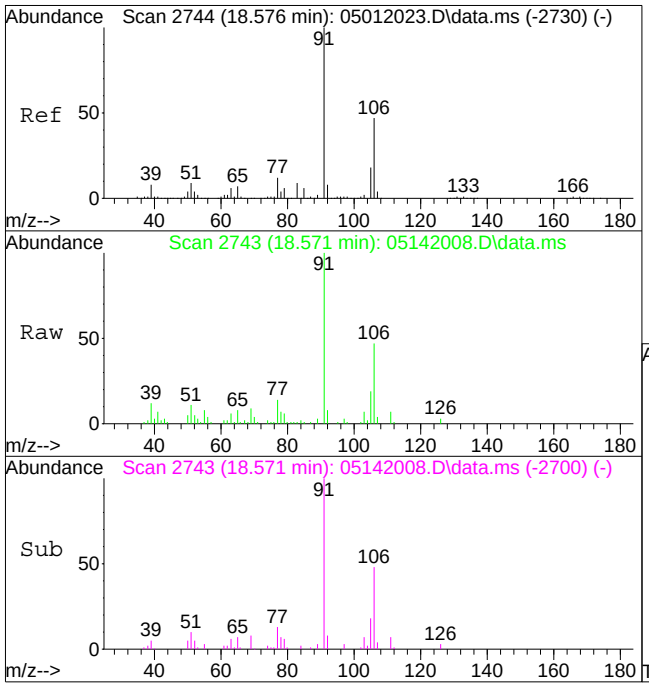


#67
m- & p-Xylenes
Concen: 1.39 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05142008.D
Acq: 14 May 2020 12:51

Tgt Ion: 91 Resp: 148525

Ion	Ratio	Lower	Upper
91	100		
106	50.3	29.7	69.7

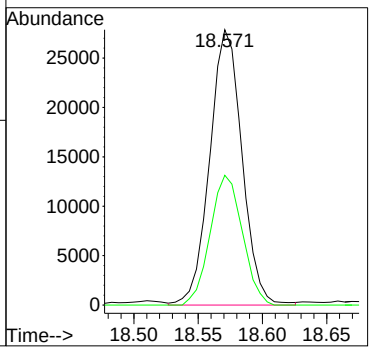


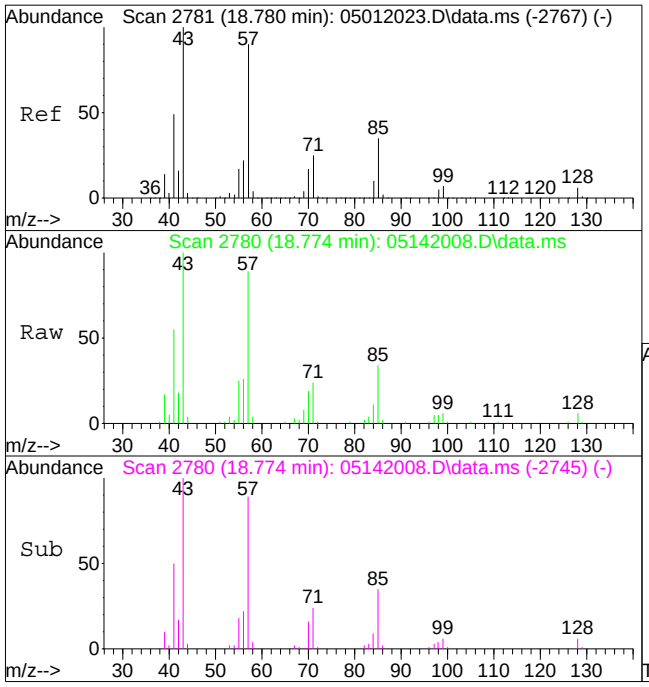


#70
o-Xylene
Concen: 0.45 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05142008.D
Acq: 14 May 2020 12:51

Tgt Ion: 91 Resp: 48718

Ion	Ratio	Lower	Upper
91	100		
106	46.9	27.5	67.5

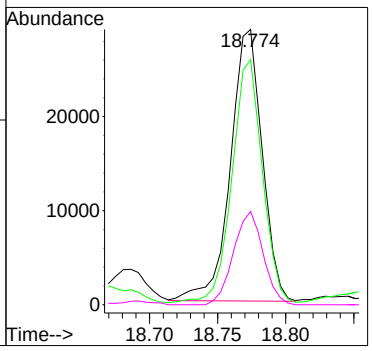


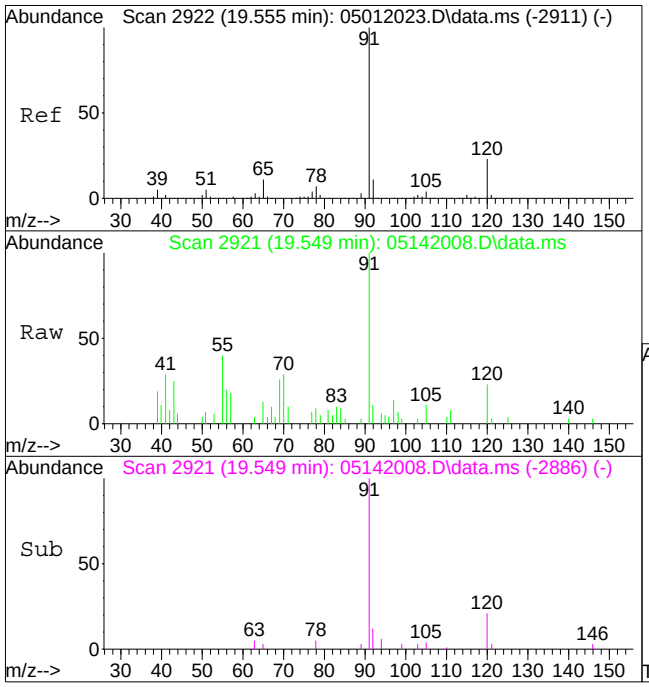


#71
n-Nonane
Concen: 0.81 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05142008.D
Acq: 14 May 2020 12:51

Tgt Ion: 43 Resp: 46879

Ion	Ratio	Lower	Upper
43	100		
57	84.9	69.0	109.0
85	32.0	14.6	54.6

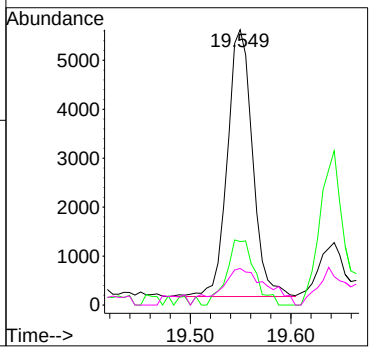


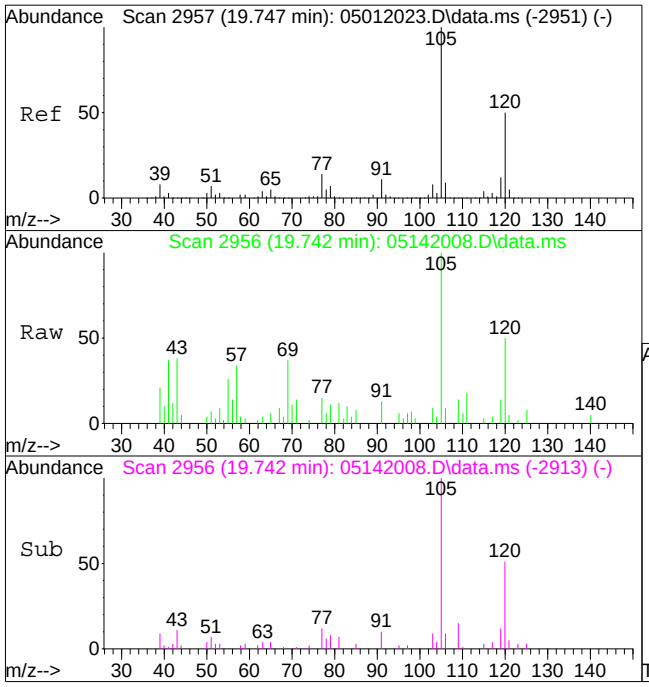


#76
n-Propylbenzene
Concen: 0.06 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05142008.D
Acq: 14 May 2020 12:51

Tgt Ion: 91 Resp: 9487

Ion	Ratio	Lower	Upper
91	100		
120	27.0	3.1	43.1
65	24.9	0.0	30.9

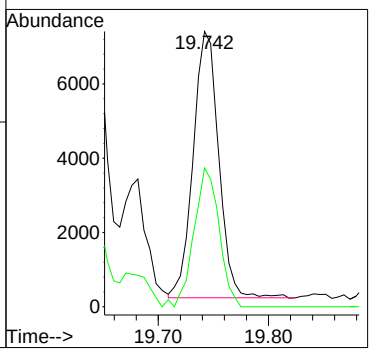


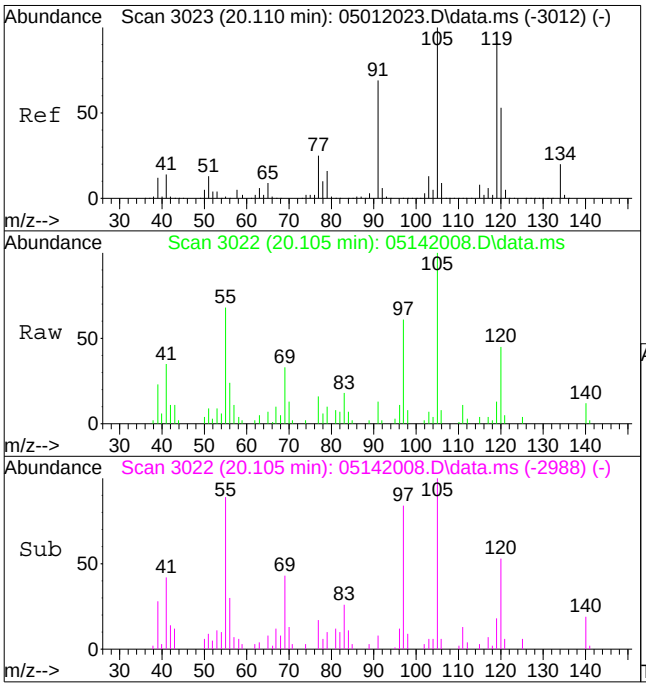


#79
1,3,5-Trimethylbenzene
Concen: 0.11 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05142008.D
Acq: 14 May 2020 12:51

Tgt Ion:105 Resp: 11522

Ion	Ratio	Lower	Upper
105	100		
120	51.2	29.9	69.9

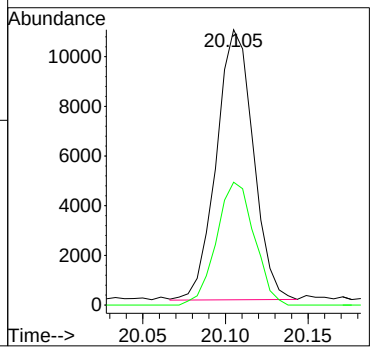




#82
1,2,4-Trimethylbenzene
Concen: 0.15 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05142008.D
Acq: 14 May 2020 12:51

Tgt Ion:105 Resp: 16877

Ion	Ratio	Lower	Upper
105	100		
120	46.5	33.6	73.6



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142009.D Vial: 1
Acq On : 14 May 2020 13:25 Operator: LH
Sample : P2002301-014 (0.2mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 18:17:44 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/14/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	271487	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1185752	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	588663	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	445279	12.102	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.80%			
57) Toluene-d8 (SS2)	15.72	98	1203780	12.065	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.48%			
73) Bromofluorobenzene (SS3)	18.97	174	454287	12.653	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.20%			
Target Compounds						Qvalue
2) Propene	4.10	42	54670	1.739	ng	88
3) Dichlorodifluoromethan...	0.00	85	0	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.	d	
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.36	45	2673	0.110	ng	87
11) Acetonitrile	6.62	41	2128	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	7.56	45	776	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.	d	
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	8.47	59	71	N.D.		
19) Methylene Chloride	0.00	84	0	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d	
21) Trichlorotrifluoroethane	8.86	151	497	N.D.		
22) Carbon Disulfide	8.70	76	878	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.	d	
25) Methyl tert-Butyl Ether	10.08	73	773	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	10.33	72	324	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	0.00	61	0	N.D.	d	
31) n-Hexane	11.27	57	5337450	103.058	ng	100
32) Chloroform	11.27	83	133	N.D.		
34) Tetrahydrofuran (THF)	11.78	72	217	N.D.		
35) Ethyl tert-Butyl Ether	12.06	87	114	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d	
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.	d	
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	12.87	78	493207	3.879	ng	100
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	13.18	84	6438969	135.886	ng	97
44) tert-Amyl Methyl Ether	13.46	73	1311	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d	
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142009.D Vial: 1
Acq On : 14 May 2020 13:25 Operator: LH
Sample : P2002301-014 (0.2mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 18:17:44 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

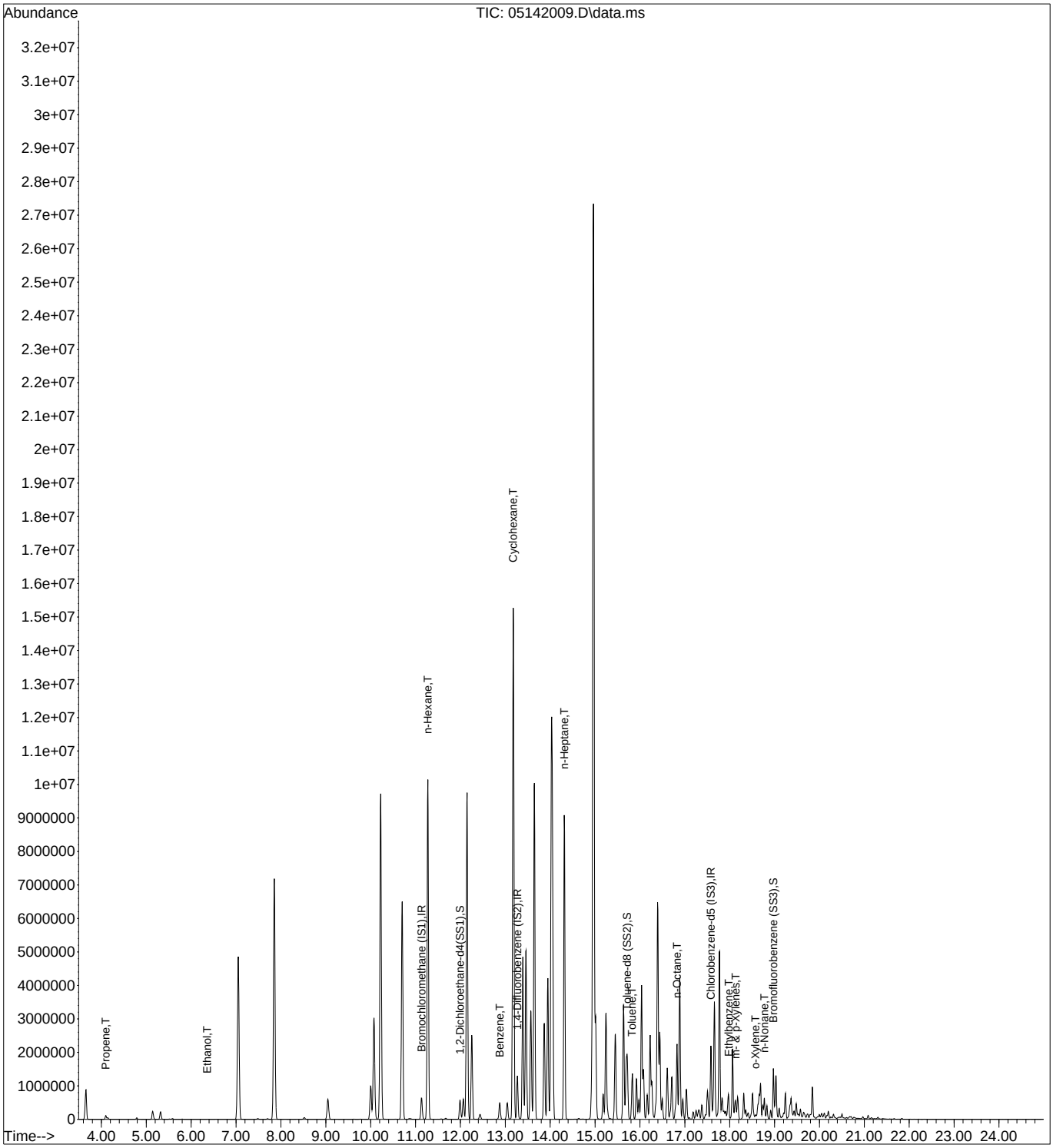
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	2283963	76.807 ng	98
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	15.44	75	288	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	15.82	91	186433	1.450 ng	99
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	16.83	57	435725	16.364 ng	98
64) Tetrachloroethene	16.97	166	567	N.D.	
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	17.98	91	20165	0.141 ng	91
67) m- & p-Xylenes	18.14	91	14789	0.130 ng	94
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	459	N.D.	
70) o-Xylene	18.57	91	34043	0.295 ng	98
71) n-Nonane	18.77	43	209952	3.426 ng	95
72) 1,1,2,2-Tetrachloroethane	18.58	83	542	N.D.	
74) Cumene	19.10	105	4076	N.D.	
75) alpha-Pinene	19.42	93	434	N.D.	
76) n-Propylbenzene	19.55	91	7823	N.D.	
77) 3-Ethyltoluene	19.64	105	1207	N.D.	
78) 4-Ethyltoluene	19.68	105	703	N.D.	
79) 1,3,5-Trimethylbenzene	19.74	105	1239	N.D.	
80) alpha-Methylstyrene	19.87	118	134	N.D.	
81) 2-Ethyltoluene	19.91	105	1268	N.D.	
82) 1,2,4-Trimethylbenzene	20.10	105	2048	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.20	91	888	N.D.	
85) 1,3-Dichlorobenzene	20.25	146	539	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	867	N.D.	
87) sec-Butylbenzene	20.35	105	3907	N.D.	
88) 4-Isopropyltoluene (p-...	20.49	119	547	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	919	N.D.	
90) 1,2-Dichlorobenzene	20.60	146	368	N.D.	
91) d-Limonene	20.61	68	2226	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.11	180	775	N.D.	
95) Naphthalene	22.21	128	3902	N.D.	
96) n-Dodecane	22.21	57	846	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.10	119	2093	N.D.	
100) n-Butylbenzene	20.86	91	915	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142009.D Vial: 1
Acq On : 14 May 2020 13:25 Operator: LH
Sample : P2002301-014 (0.2mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 18:17:44 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142009.D Vial: 1
Acq On : 14 May 2020 13:25 Operator: LH
Sample : P2002301-014 (0.2mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 18:17:44 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/14/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

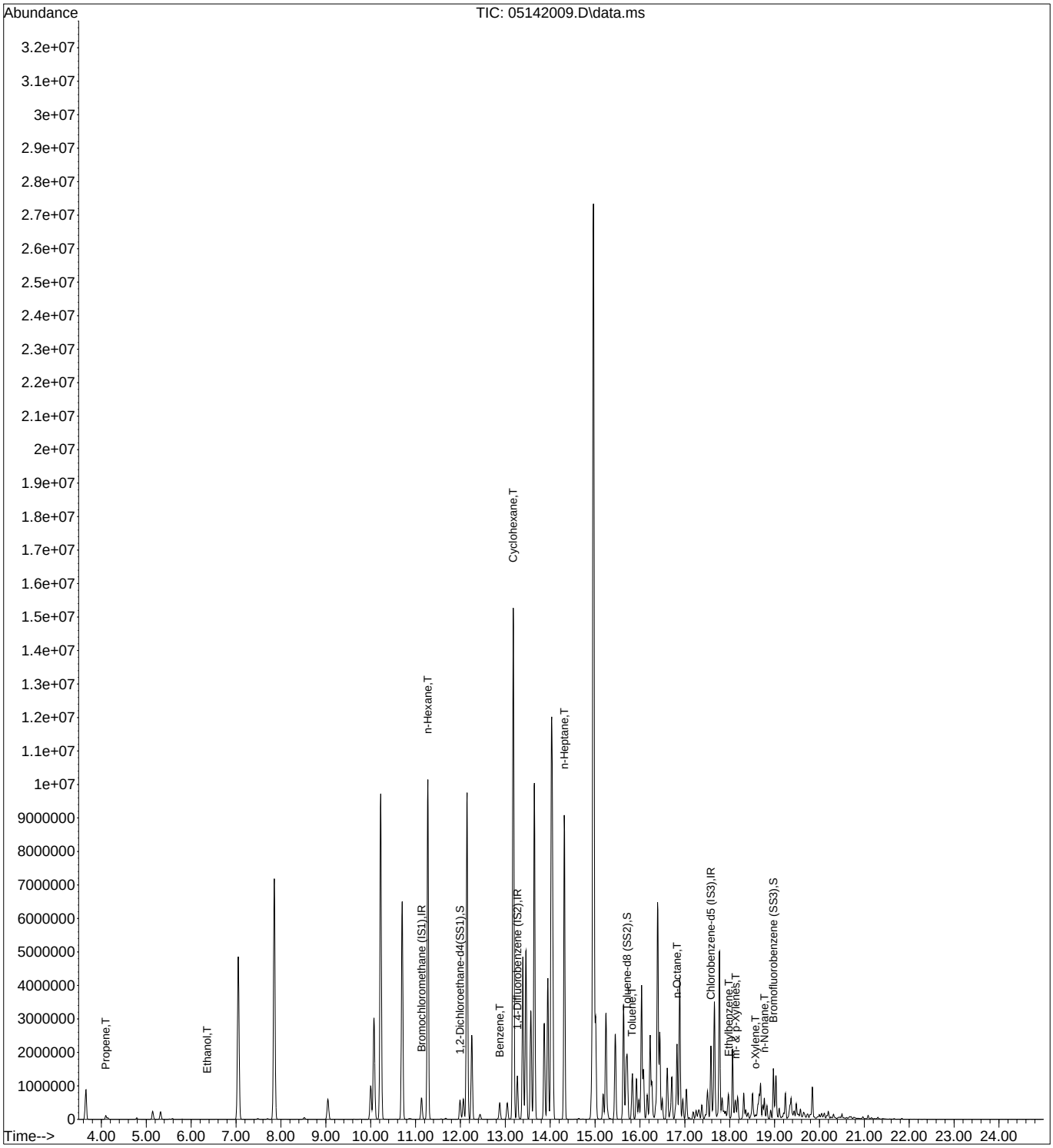
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	271487	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1185752	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	588663	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	445279	12.102	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.80%			
57) Toluene-d8 (SS2)	15.72	98	1203780	12.065	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.48%			
73) Bromofluorobenzene (SS3)	18.97	174	454287	12.653	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.20%			
Target Compounds						Qvalue
2) Propene	4.10	42	54670	1.739	ng	88
10) Ethanol	6.36	45	2673	0.110	ng	87
31) n-Hexane	11.27	57	5337450	103.058	ng	100
41) Benzene	12.87	78	493207	3.879	ng	100
43) Cyclohexane	13.18	84	6438969	135.886	ng	97
51) n-Heptane	14.31	71	2283963	76.807	ng	98
58) Toluene	15.82	91	186433	1.450	ng	99
63) n-Octane	16.83	57	435725	16.364	ng	98
66) Ethylbenzene	17.98	91	20165	0.141	ng	91
67) m- & p-Xylenes	18.14	91	14789	0.130	ng	94
70) o-Xylene	18.57	91	34043	0.295	ng	98
71) n-Nonane	18.77	43	209952	3.426	ng	95

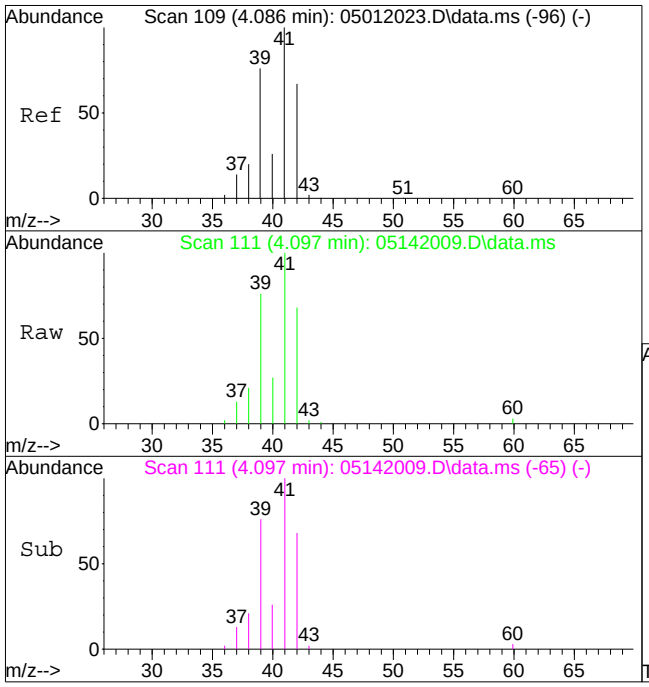
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142009.D Vial: 1
Acq On : 14 May 2020 13:25 Operator: LH
Sample : P2002301-014 (0.2mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 18:17:44 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

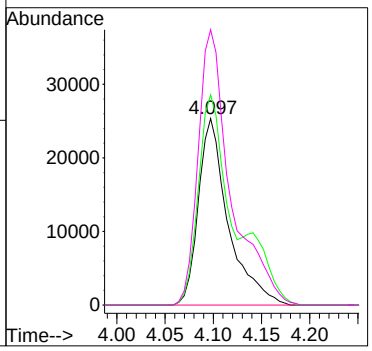


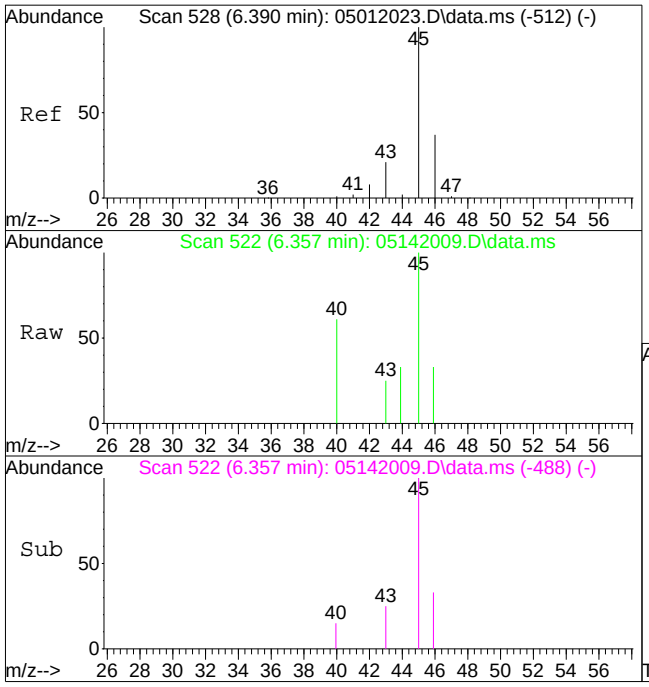


#2
Propene
Concen: 1.74 ng
RT: 4.10 min Scan# 111
Delta R.T. 0.005 min
Lab File: 05142009.D
Acq: 14 May 2020 13:25

Tgt Ion: 42 Resp: 54670

Ion	Ratio	Lower	Upper
42	100		
39	136.1	96.1	136.1
41	161.8	131.9	171.9

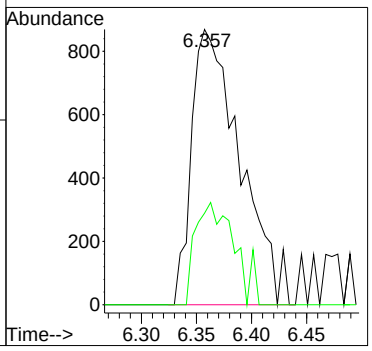


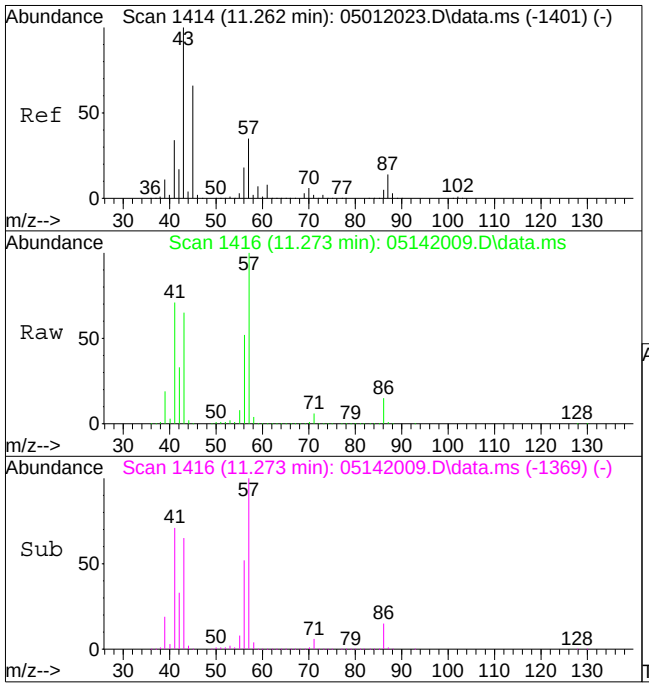


#10
Ethanol
Concen: 0.11 ng
RT: 6.36 min Scan# 522
Delta R.T. -0.061 min
Lab File: 05142009.D
Acq: 14 May 2020 13:25

Tgt Ion: 45 Resp: 2673

Ion	Ratio	Lower	Upper
45	100		
46	29.7	17.2	57.2

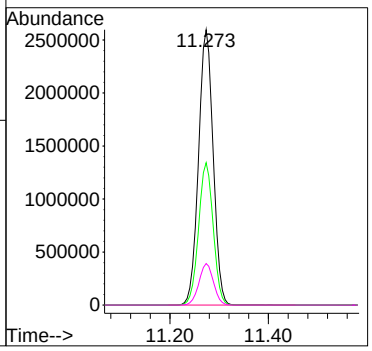


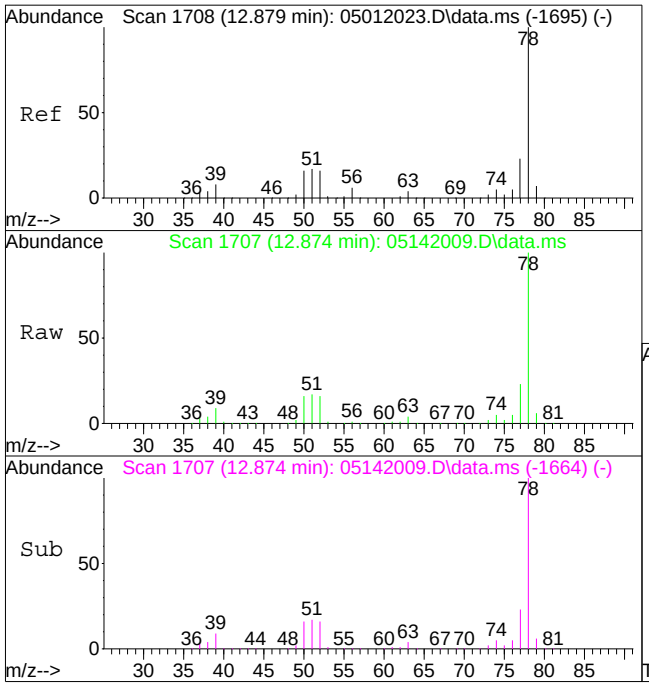


#31
n-Hexane
Concen: 103.06 ng
RT: 11.27 min Scan# 1416
Delta R.T. 0.011 min
Lab File: 05142009.D
Acq: 14 May 2020 13:25

Tgt Ion: 57 Resp: 5337450

Ion	Ratio	Lower	Upper
57	100		
56	51.6	41.4	62.0
86	15.0	12.4	18.6

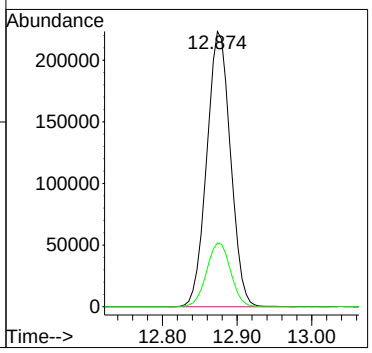


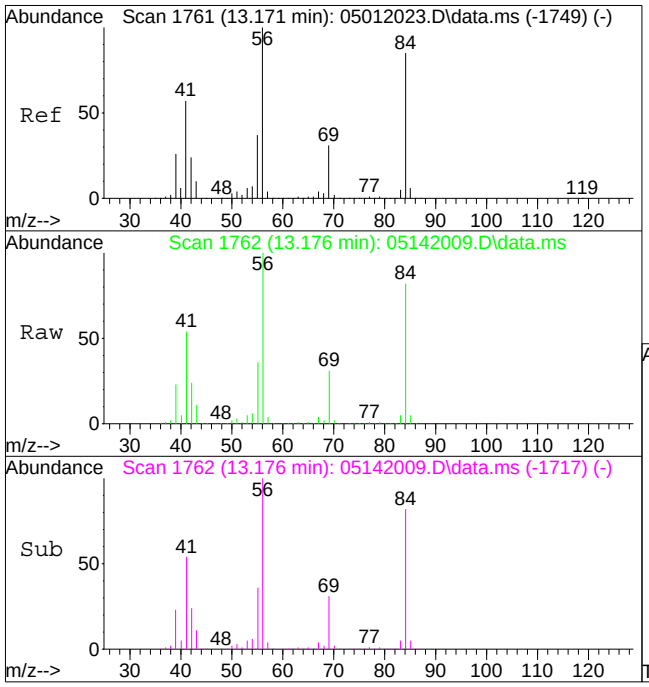


#41
Benzene
Concen: 3.88 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05142009.D
Acq: 14 May 2020 13:25

Tgt Ion: 78 Resp: 493207

Ion	Ratio	Lower	Upper
78	100		
77	23.5	3.4	43.4

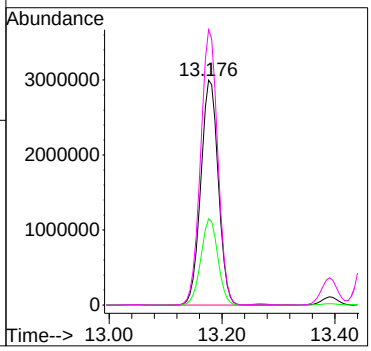


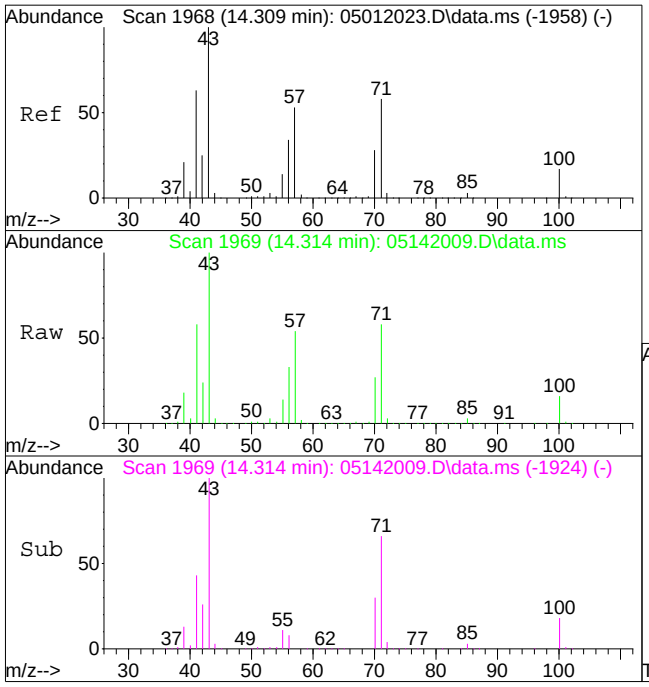


#43
Cyclohexane
Concen: 135.89 ng
RT: 13.18 min Scan# 1762
Delta R.T. -0.000 min
Lab File: 05142009.D
Acq: 14 May 2020 13:25

Tgt Ion: 84 Resp: 6438969

Ion	Ratio	Lower	Upper
84	100		
69	37.4	16.5	56.5
56	120.5	97.4	137.4

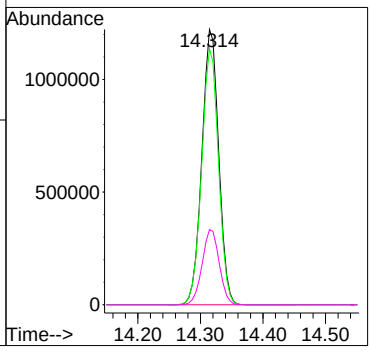


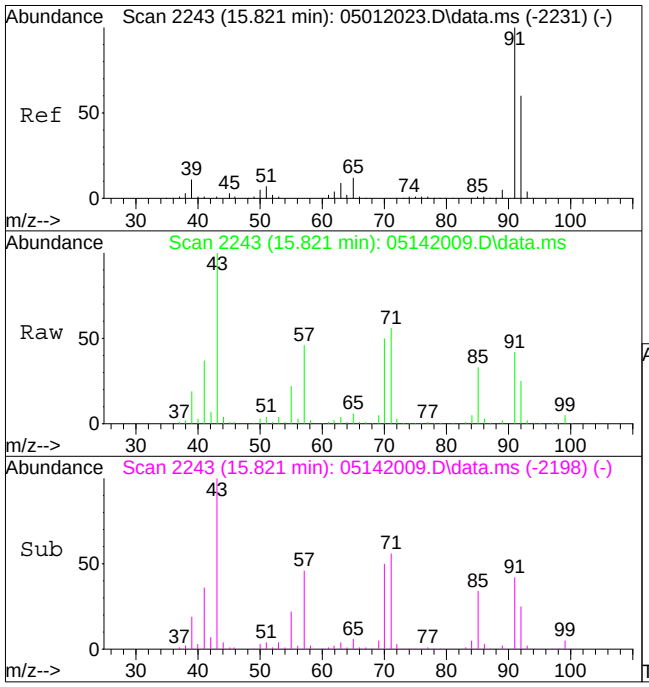


#51
n-Heptane
Concen: 76.81 ng
RT: 14.31 min Scan# 1969
Delta R.T. -0.000 min
Lab File: 05142009.D
Acq: 14 May 2020 13:25

Tgt Ion: 71 Resp: 2283963

Ion	Ratio	Lower	Upper
71	100		
57	92.9	71.0	111.0
100	27.7	8.4	48.4

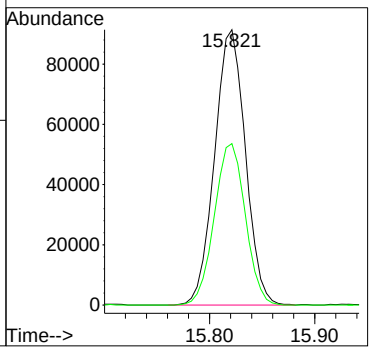


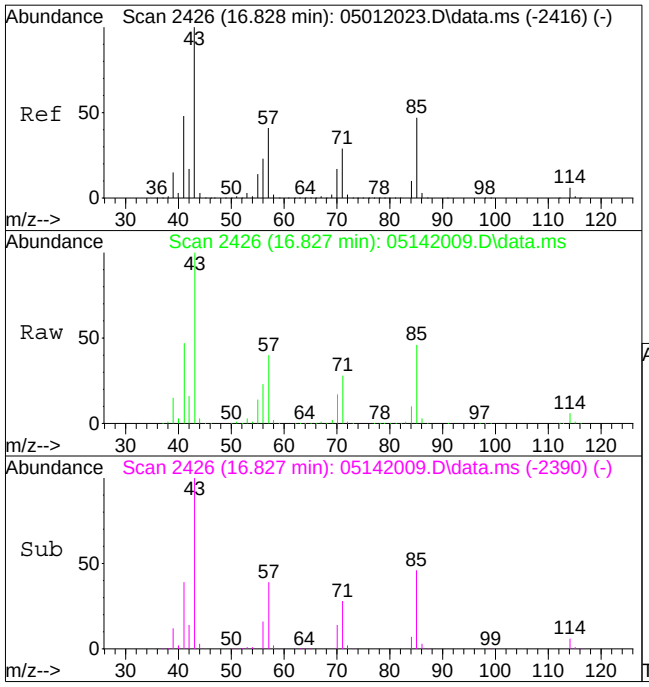


#58
Toluene
Concen: 1.45 ng
RT: 15.82 min Scan# 2243
Delta R.T. -0.000 min
Lab File: 05142009.D
Acq: 14 May 2020 13:25

Tgt Ion: 91 Resp: 186433

Ion	Ratio	Lower	Upper
91	100		
92	58.9	39.4	79.4

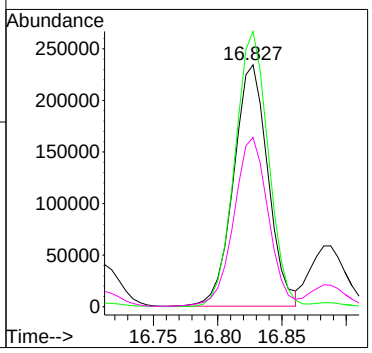


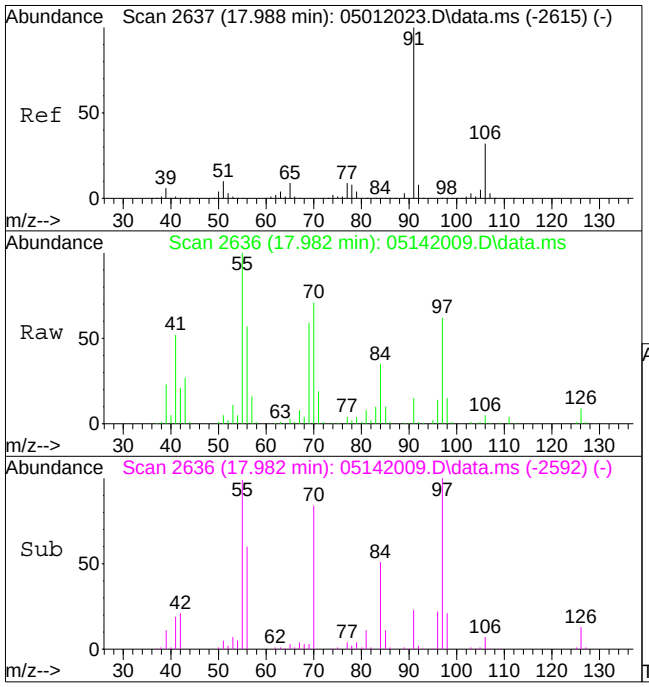


#63
n-Octane
Concen: 16.36 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05142009.D
Acq: 14 May 2020 13:25

Tgt Ion: 57 Resp: 435725

Ion	Ratio	Lower	Upper
57	100		
85	111.1	91.0	136.4
71	69.6	56.2	84.2

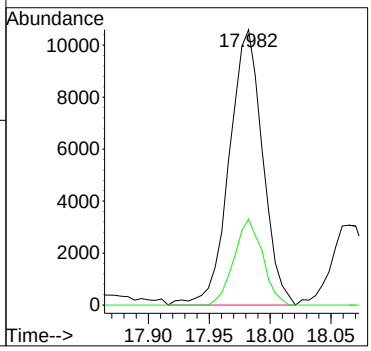


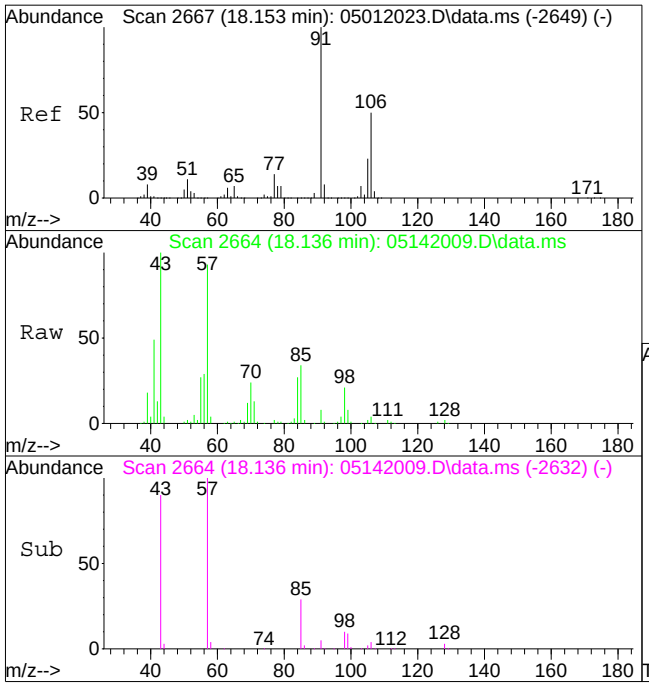


#66
Ethylbenzene
Concen: 0.14 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05142009.D
Acq: 14 May 2020 13:25

Tgt Ion: 91 Resp: 20165

Ion	Ratio	Lower	Upper
91	100		
106	26.8	11.6	51.6

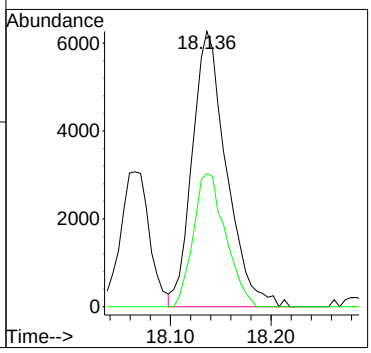


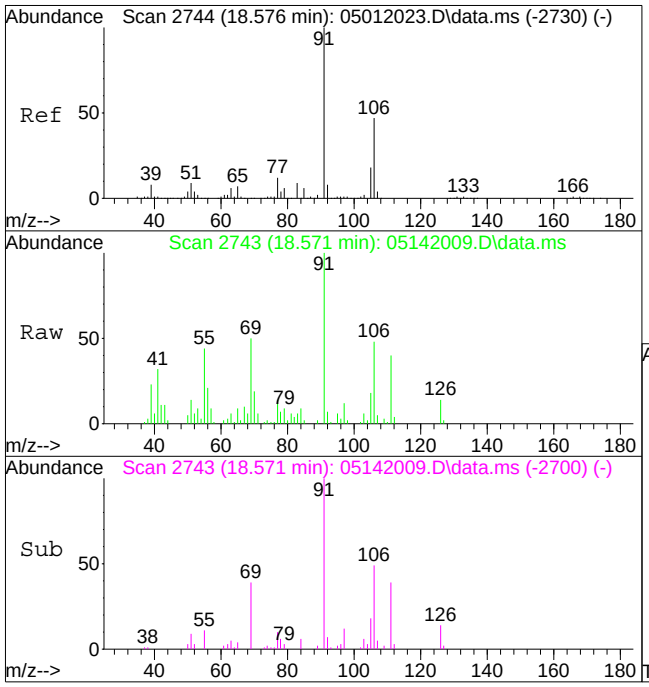


#67
m- & p-Xylenes
Concen: 0.13 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05142009.D
Acq: 14 May 2020 13:25

Tgt Ion: 91 Resp: 14789

Ion	Ratio	Lower	Upper
91	100		
106	45.6	29.7	69.7

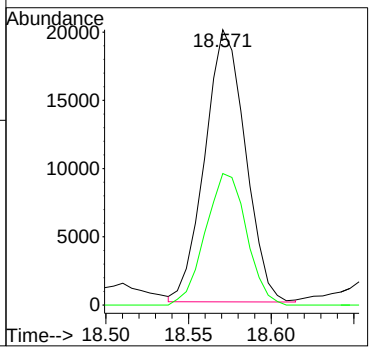


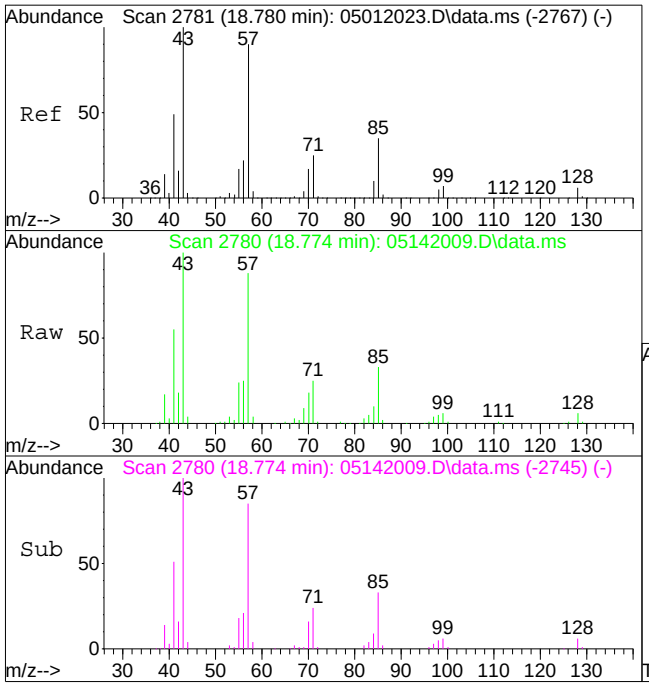


#70
o-Xylene
Concen: 0.29 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05142009.D
Acq: 14 May 2020 13:25

Tgt Ion: 91 Resp: 34043

Ion	Ratio	Lower	Upper
91	100		
106	48.9	27.5	67.5

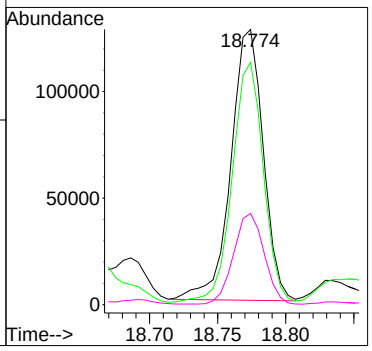




#71
n-Nonane
Concen: 3.43 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05142009.D
Acq: 14 May 2020 13:25

Tgt Ion: 43 Resp: 209952

Ion	Ratio	Lower	Upper
43	100		
57	84.9	69.0	109.0
85	31.5	14.6	54.6



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142010.D Vial: 1
Acq On : 14 May 2020 13:59 Operator: LH
Sample : P2002301-015 (3.5mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 18:18:58 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/14/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	274783	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1189449	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	580122	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	441224	11.848	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.80%			
57) Toluene-d8 (SS2)	15.72	98	1199481	12.199	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.60%			
73) Bromofluorobenzene (SS3)	18.97	174	453484	12.817	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.56%			
Target Compounds						Qvalue
2) Propene	4.12	42	18511	0.582	ng	# 75
3) Dichlorodifluoromethan...	4.28	85	1834	N.D.		
4) Chloromethane	4.55	50	184	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	5.15	54	1729	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.36	45	3092	0.126	ng	87
11) Acetonitrile	6.62	41	1200	N.D.		
12) Acrolein	6.82	56	664	N.D.		
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	7.25	101	658	N.D.		
15) 2-Propanol (Isopropanol)	7.56	45	952	N.D.		
16) Acrylonitrile	7.76	53	58	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	8.47	59	131	N.D.		
19) Methylene Chloride	0.00	84	0	N.D.		
20) 3-Chloro-1-propene (Al...	8.60	41	169	N.D.		
21) Trichlorotrifluoroethane	8.85	151	56713	2.184	ng	97
22) Carbon Disulfide	8.69	76	1671	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	10.00	63	2582	N.D.		
25) Methyl tert-Butyl Ether	10.08	73	1074	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	10.50	72	285	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	0.00	61	0	N.D.	d	
31) n-Hexane	11.27	57	1069965	20.412	ng	100
32) Chloroform	11.31	83	902	N.D.		
34) Tetrahydrofuran (THF)	11.79	72	117	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d	
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.	d	
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	12.87	78	710113	5.567	ng	100
42) Carbon Tetrachloride	13.04	117	2733	0.063	ng	99
43) Cyclohexane	13.17	84	2133853	44.892	ng	99
44) tert-Amyl Methyl Ether	13.46	73	1069	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d	
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	13.97	130	1845	0.056	ng	96
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142010.D Vial: 1
Acq On : 14 May 2020 13:59 Operator: LH
Sample : P2002301-015 (3.5mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 18:18:58 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

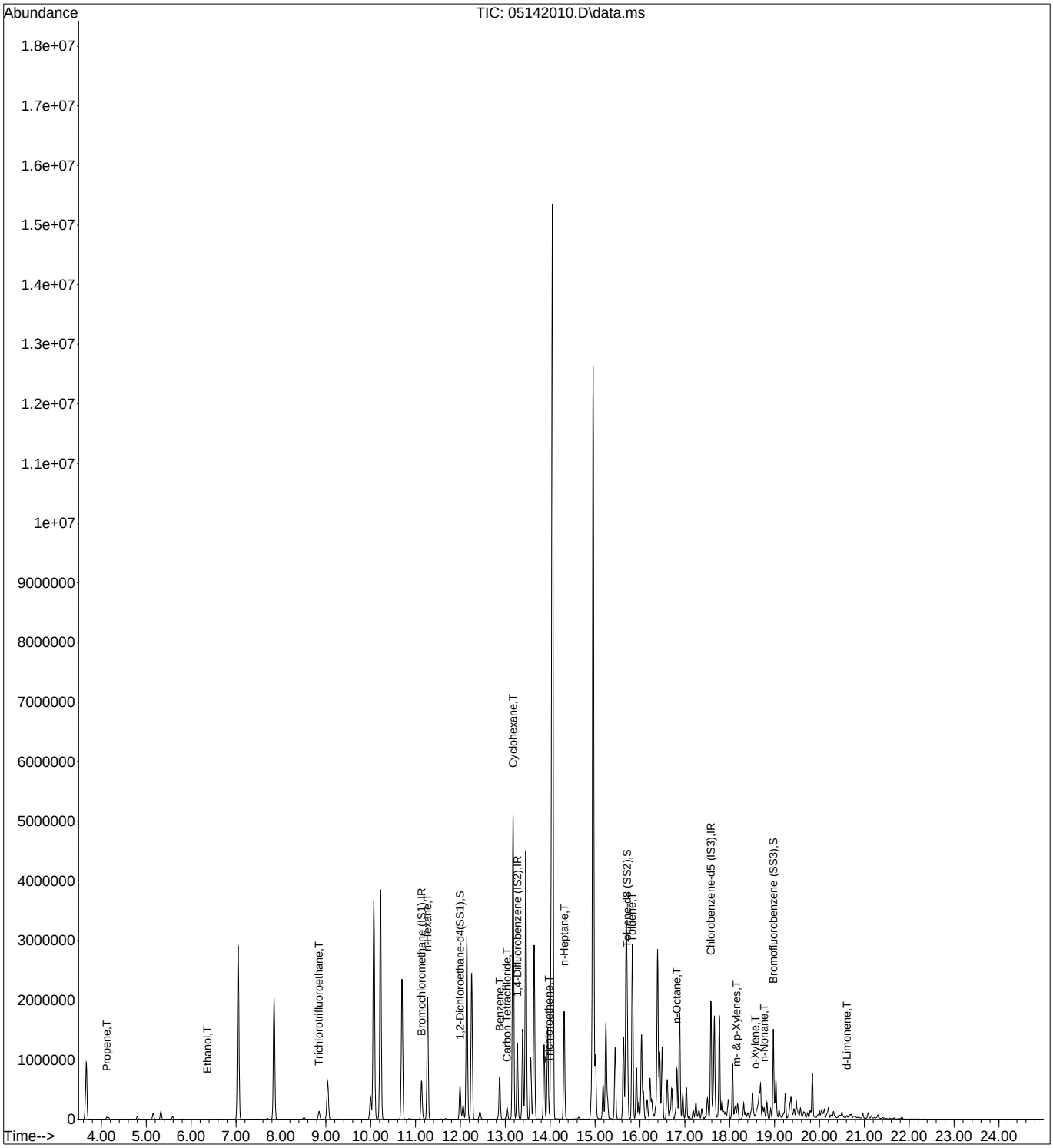
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	456595	15.307 ng	98
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	15.14	75	297	N.D.	
55) 1,1,2-Trichloroethane	15.51	97	263	N.D.	
58) Toluene	15.82	91	25205	0.199 ng	98
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	16.82	57	164502	6.269 ng	98
64) Tetrachloroethene	16.97	166	1226	N.D.	
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	17.98	91	2680	N.D.	
67) m- & p-Xylenes	18.15	91	21706	0.194 ng	97
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.48	104	357	N.D.	
70) o-Xylene	18.57	91	13605	0.120 ng	99
71) n-Nonane	18.77	43	58176	0.963 ng	93
72) 1,1,2,2-Tetrachloroethane	18.58	83	445	N.D.	
74) Cumene	19.10	105	1260	N.D.	
75) alpha-Pinene	19.45	93	257	N.D.	
76) n-Propylbenzene	19.58	91	2942	N.D.	
77) 3-Ethyltoluene	19.64	105	1177	N.D.	
78) 4-Ethyltoluene	19.68	105	1150	N.D.	
79) 1,3,5-Trimethylbenzene	19.75	105	3299	N.D.	
80) alpha-Methylstyrene	20.07	118	292	N.D.	
81) 2-Ethyltoluene	19.91	105	715	N.D.	
82) 1,2,4-Trimethylbenzene	20.11	105	4057	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.19	91	1043	N.D.	
85) 1,3-Dichlorobenzene	20.24	146	327	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	621	N.D.	
87) sec-Butylbenzene	20.34	105	1284	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	559	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	2999	N.D.	
90) 1,2-Dichlorobenzene	20.60	146	301	N.D.	
91) d-Limonene	20.61	68	3303	0.073 ng	84
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.11	180	575	N.D.	
95) Naphthalene	22.21	128	3060	N.D.	
96) n-Dodecane	22.21	57	517	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.11	119	648	N.D.	
100) n-Butylbenzene	20.85	91	1105	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142010.D Vial: 1
Acq On : 14 May 2020 13:59 Operator: LH
Sample : P2002301-015 (3.5mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 18:18:58 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142010.D Vial: 1
Acq On : 14 May 2020 13:59 Operator: LH
Sample : P2002301-015 (3.5mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 18:18:58 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/14/20

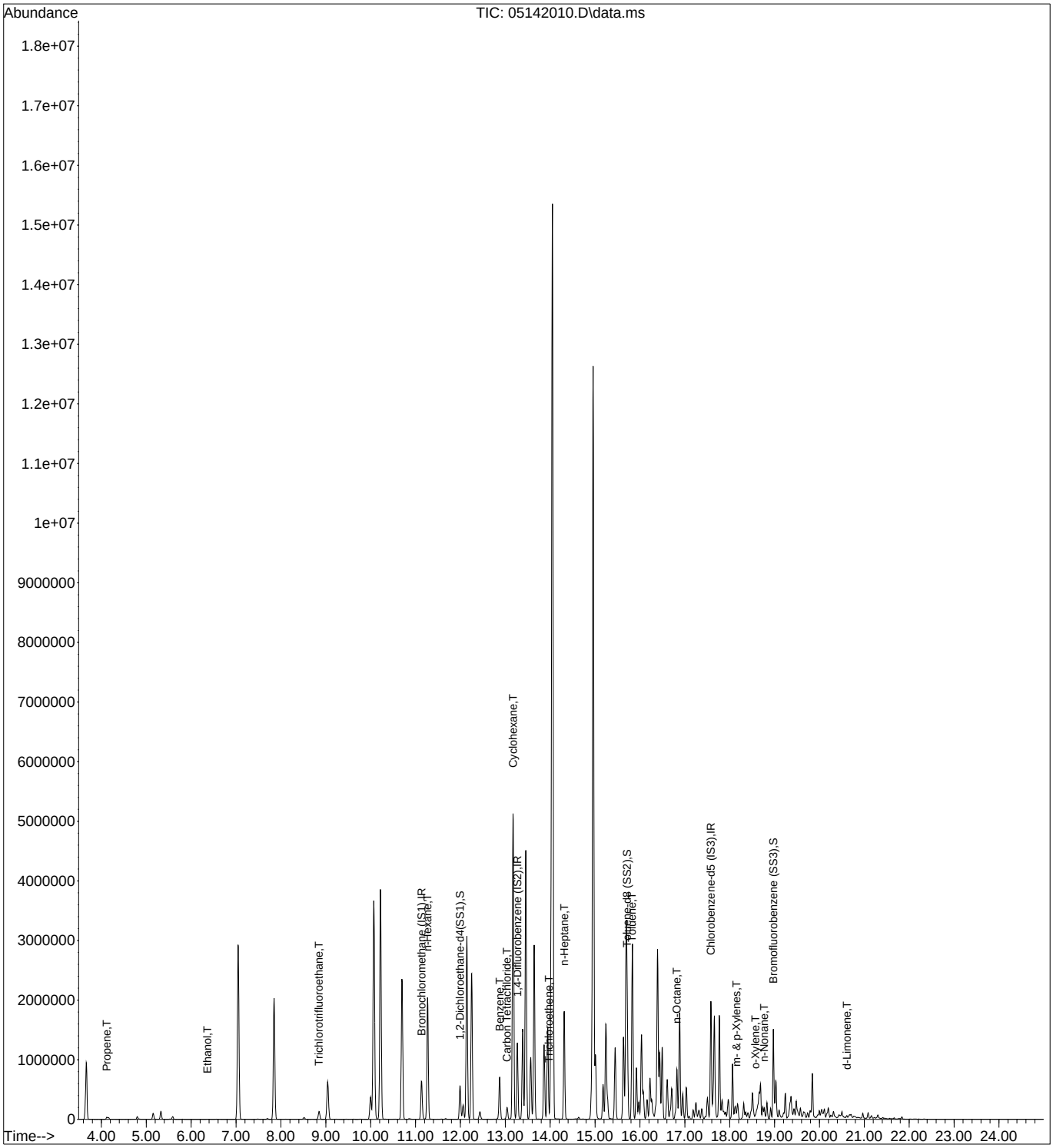
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	274783	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1189449	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	580122	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	441224	11.848	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.80%			
57) Toluene-d8 (SS2)	15.72	98	1199481	12.199	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.60%			
73) Bromofluorobenzene (SS3)	18.97	174	453484	12.817	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.56%			
Target Compounds						Qvalue
2) Propene	4.12	42	18511	0.582	ng	# 75
10) Ethanol	6.36	45	3092	0.126	ng	87
21) Trichlorotrifluoroethane	8.85	151	56713	2.184	ng	97
31) n-Hexane	11.27	57	1069965	20.412	ng	100
41) Benzene	12.87	78	710113	5.567	ng	100
42) Carbon Tetrachloride	13.04	117	2733	0.063	ng	99
43) Cyclohexane	13.17	84	2133853	44.892	ng	99
47) Trichloroethene	13.97	130	1845	0.056	ng	96
51) n-Heptane	14.31	71	456595	15.307	ng	98
58) Toluene	15.82	91	25205	0.199	ng	98
63) n-Octane	16.82	57	164502	6.269	ng	98
67) m- & p-Xylenes	18.15	91	21706	0.194	ng	97
70) o-Xylene	18.57	91	13605	0.120	ng	99
71) n-Nonane	18.77	43	58176	0.963	ng	93
91) d-Limonene	20.61	68	3303	0.073	ng	84

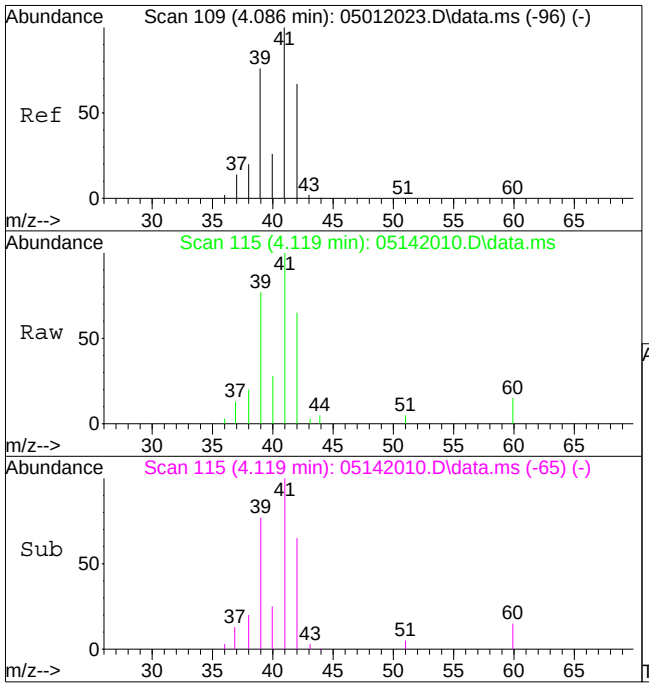
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142010.D Vial: 1
Acq On : 14 May 2020 13:59 Operator: LH
Sample : P2002301-015 (3.5mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 18:18:58 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

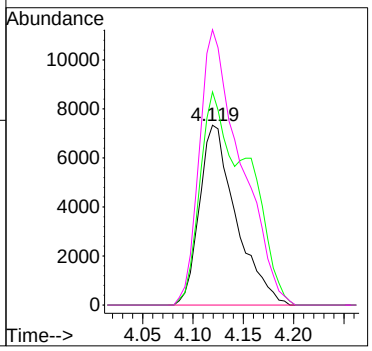


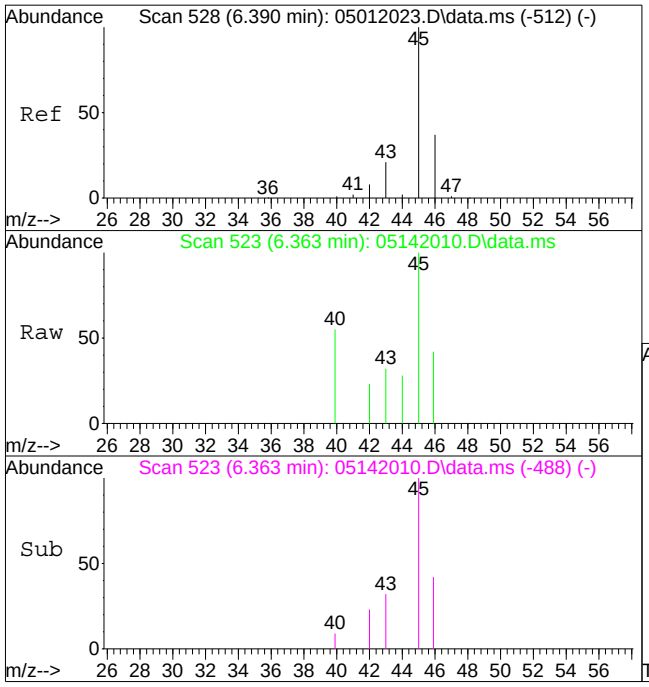


#2
Propene
Concen: 0.58 ng
RT: 4.12 min Scan# 115
Delta R.T. 0.027 min
Lab File: 05142010.D
Acq: 14 May 2020 13:59

Tgt Ion: 42 Resp: 18511

Ion	Ratio	Lower	Upper
42	100		
39	154.8	96.1	136.1#
41	173.8	131.9	171.9#

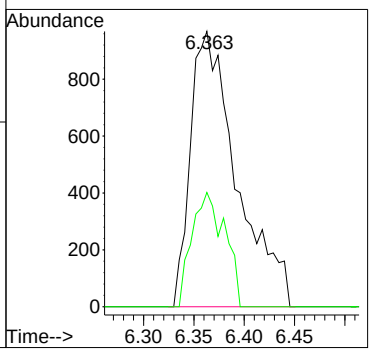


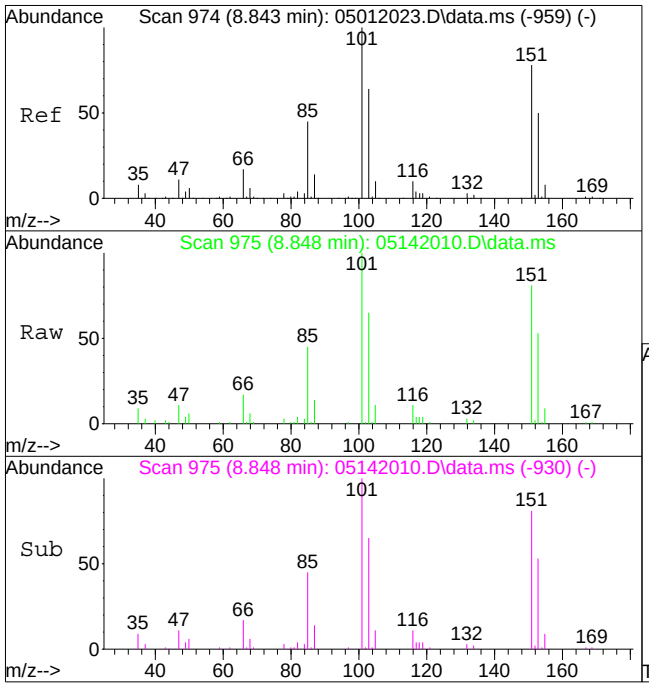


#10
Ethanol
Concen: 0.13 ng
RT: 6.36 min Scan# 523
Delta R.T. -0.055 min
Lab File: 05142010.D
Acq: 14 May 2020 13:59

Tgt Ion: 45 Resp: 3092

Ion	Ratio	Lower	Upper
45	100		
46	29.6	17.2	57.2

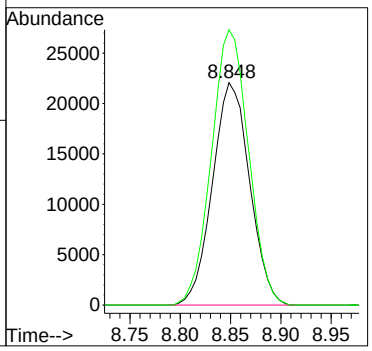


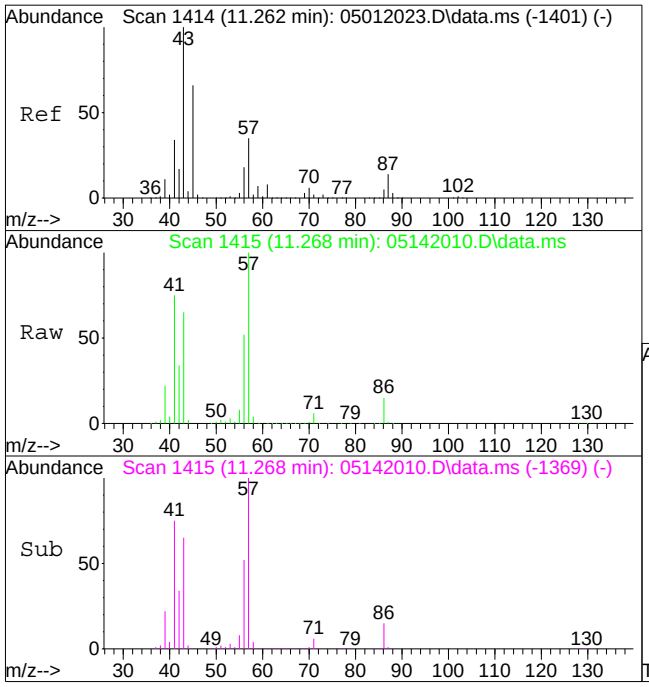


#21
Trichlorotrifluoroethane
Concen: 2.18 ng
RT: 8.85 min Scan# 975
Delta R.T. 0.000 min
Lab File: 05142010.D
Acq: 14 May 2020 13:59

Tgt Ion:151 Resp: 56713

Ion	Ratio	Lower	Upper
151	100		
101	123.7	107.3	147.3

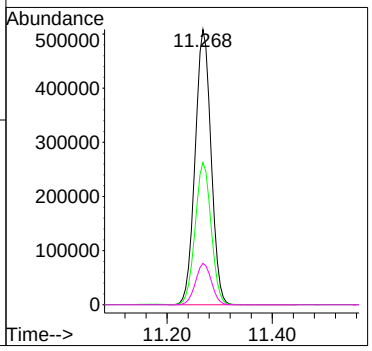


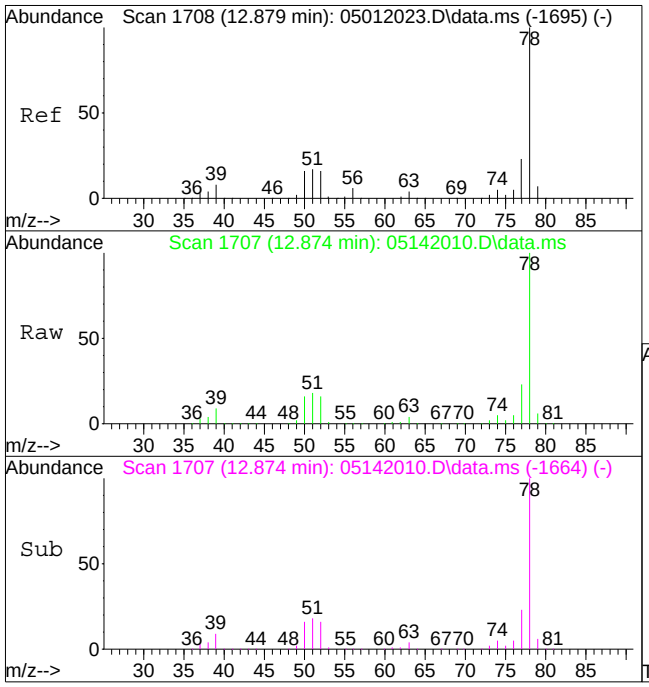


#31
n-Hexane
Concen: 20.41 ng
RT: 11.27 min Scan# 1415
Delta R.T. 0.006 min
Lab File: 05142010.D
Acq: 14 May 2020 13:59

Tgt Ion: 57 Resp: 1069965

Ion	Ratio	Lower	Upper
57	100		
56	51.6	41.4	62.0
86	15.0	12.4	18.6

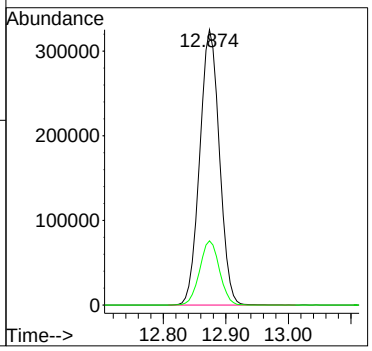


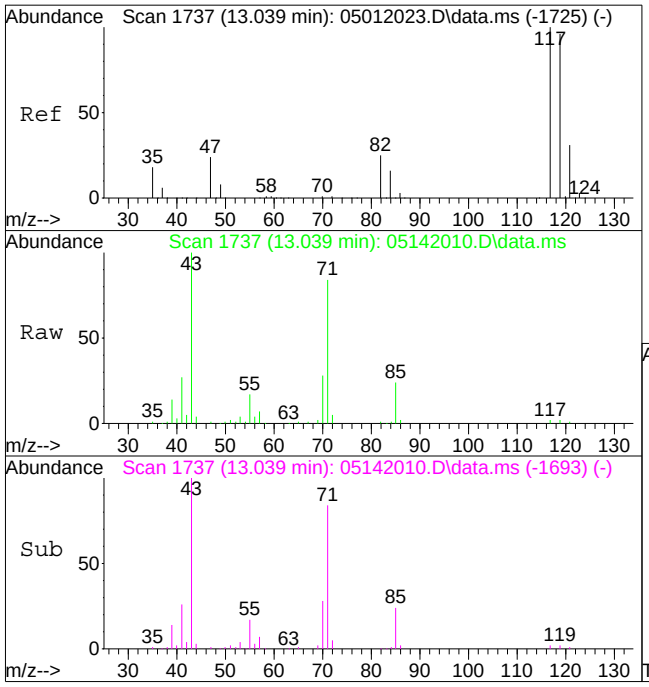


#41
Benzene
Concen: 5.57 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05142010.D
Acq: 14 May 2020 13:59

Tgt Ion: 78 Resp: 710113

Ion	Ratio	Lower	Upper
78	100		
77	23.5	3.4	43.4

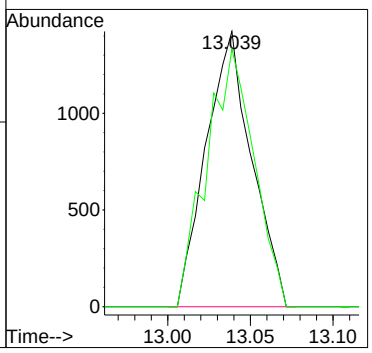


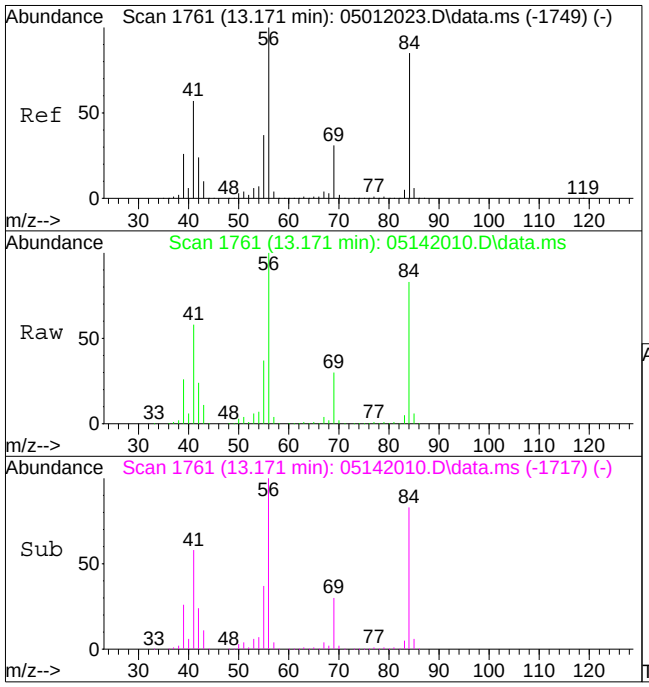


#42
Carbon Tetrachloride
Concen: 0.06 ng
RT: 13.04 min Scan# 1737
Delta R.T. -0.005 min
Lab File: 05142010.D
Acq: 14 May 2020 13:59

Tgt Ion:117 Resp: 2733

Ion	Ratio	Lower	Upper
117	100		
119	97.4	76.2	116.2

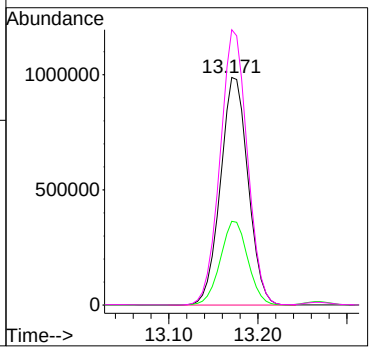


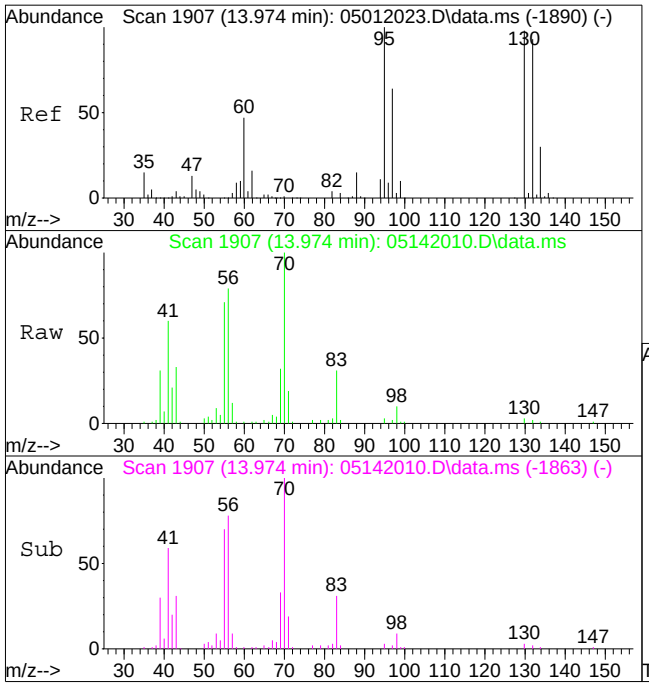


#43
Cyclohexane
Concen: 44.89 ng
RT: 13.17 min Scan# 1761
Delta R.T. -0.005 min
Lab File: 05142010.D
Acq: 14 May 2020 13:59

Tgt Ion: 84 Resp: 2133853

Ion	Ratio	Lower	Upper
84	100		
69	36.7	16.5	56.5
56	119.3	97.4	137.4

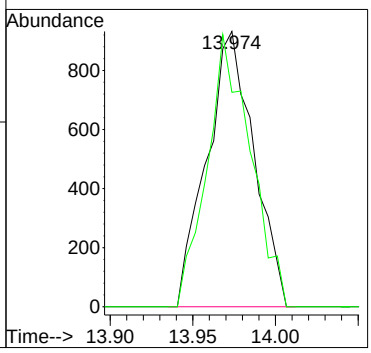


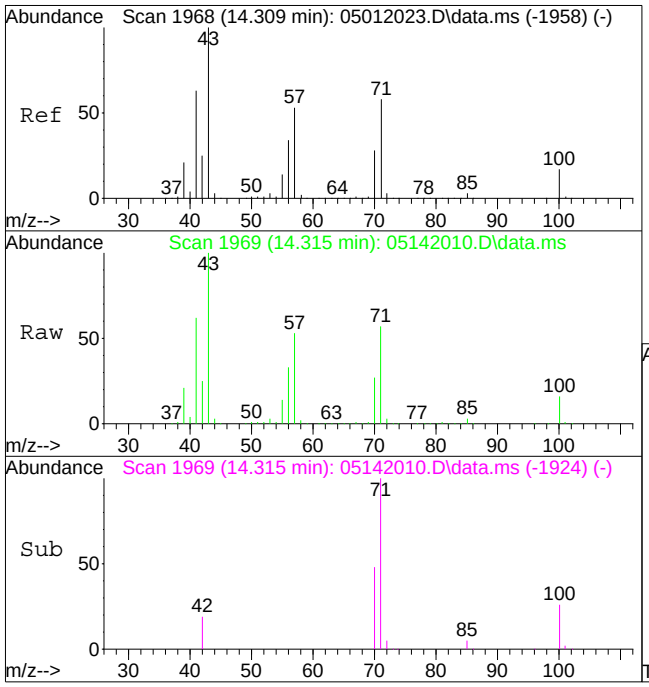


#47
Trichloroethene
Concen: 0.06 ng
RT: 13.97 min Scan# 1907
Delta R.T. -0.005 min
Lab File: 05142010.D
Acq: 14 May 2020 13:59

Tgt Ion:130 Resp: 1845

Ion	Ratio	Lower	Upper
130	100		
132	91.2	74.9	114.9

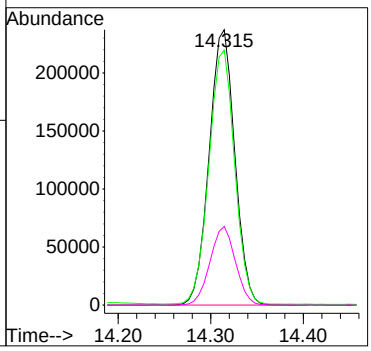


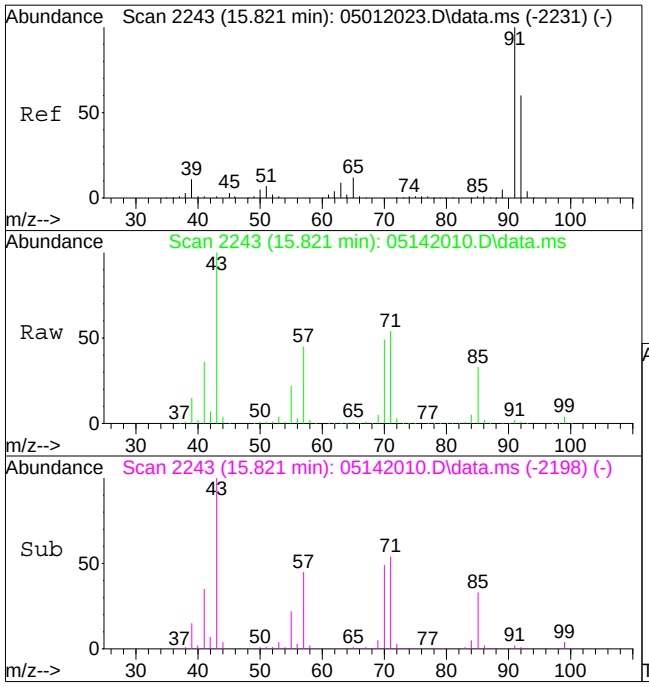


#51
n-Heptane
Concen: 15.31 ng
RT: 14.31 min Scan# 1969
Delta R.T. 0.000 min
Lab File: 05142010.D
Acq: 14 May 2020 13:59

Tgt Ion: 71 Resp: 456595

Ion	Ratio	Lower	Upper
71	100		
57	92.8	71.0	111.0
100	28.2	8.4	48.4

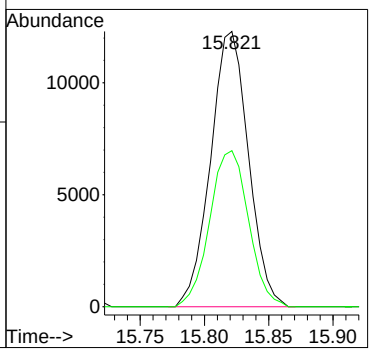


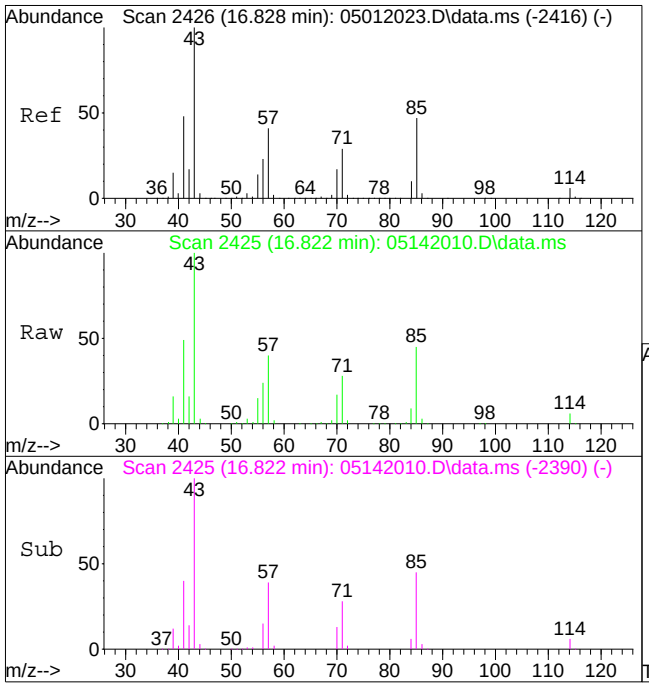


#58
Toluene
Concen: 0.20 ng
RT: 15.82 min Scan# 2243
Delta R.T. 0.000 min
Lab File: 05142010.D
Acq: 14 May 2020 13:59

Tgt Ion: 91 Resp: 25205

Ion	Ratio	Lower	Upper
91	100		
92	58.1	39.4	79.4

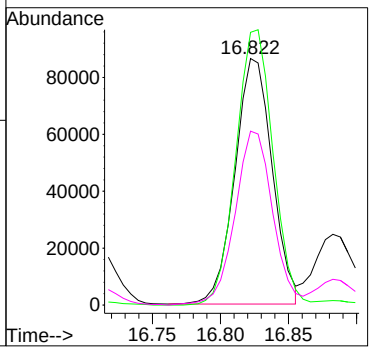


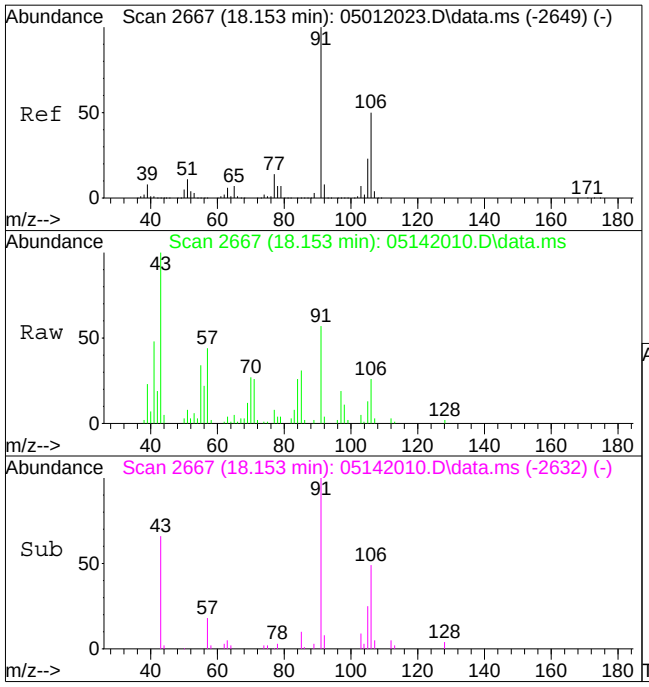


#63
n-Octane
Concen: 6.27 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.005 min
Lab File: 05142010.D
Acq: 14 May 2020 13:59

Tgt Ion: 57 Resp: 164502

Ion	Ratio	Lower	Upper
57	100		
85	111.9	91.0	136.4
71	71.3	56.2	84.2

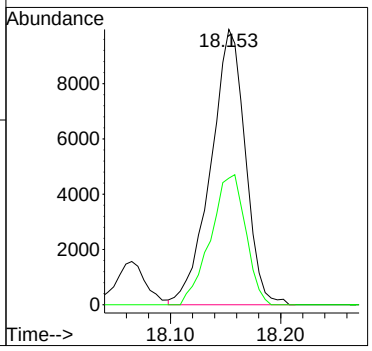


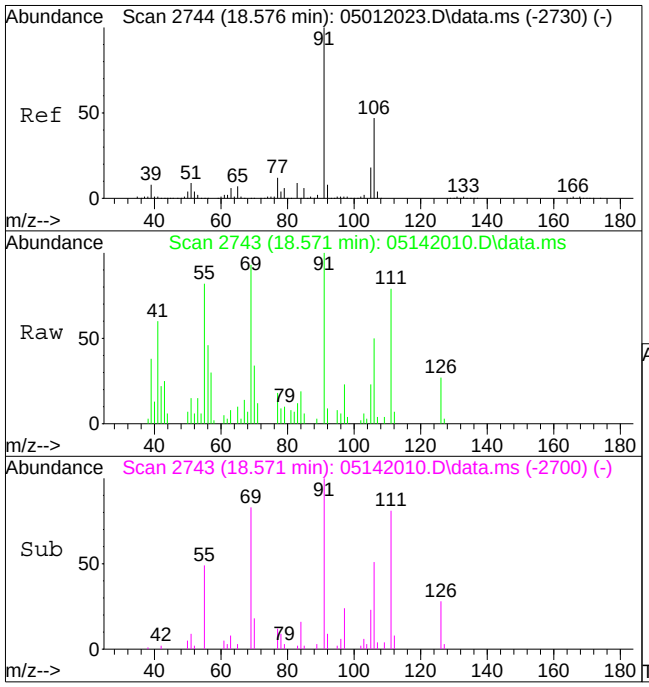


#67
m- & p-Xylenes
Concen: 0.19 ng
RT: 18.15 min Scan# 2667
Delta R.T. -0.005 min
Lab File: 05142010.D
Acq: 14 May 2020 13:59

Tgt Ion: 91 Resp: 21706

Ion	Ratio	Lower	Upper
91	100		
106	47.9	29.7	69.7

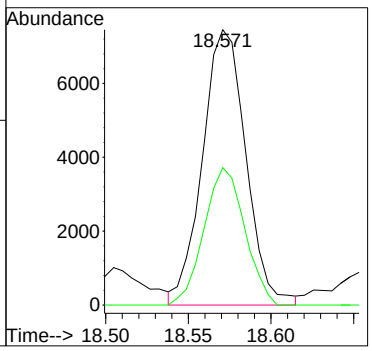


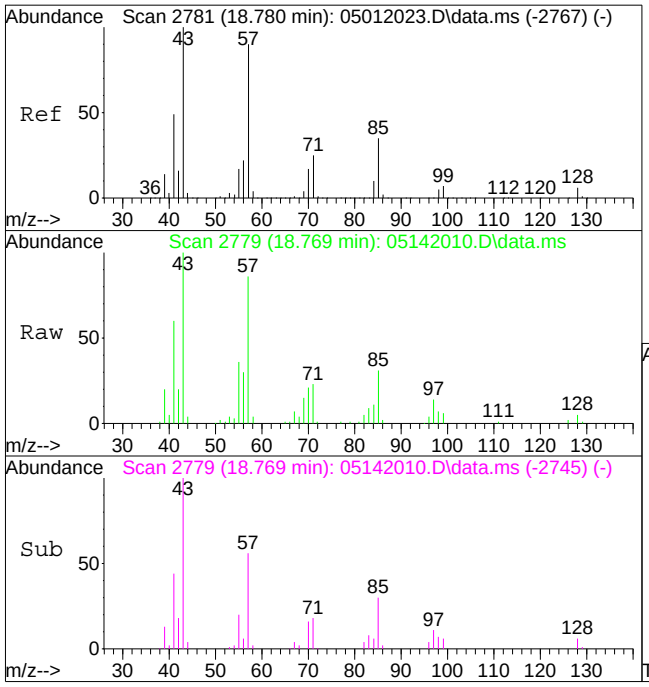


#70
o-Xylene
Concen: 0.12 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05142010.D
Acq: 14 May 2020 13:59

Tgt Ion: 91 Resp: 13605

Ion	Ratio	Lower	Upper
91	100		
106	46.7	27.5	67.5

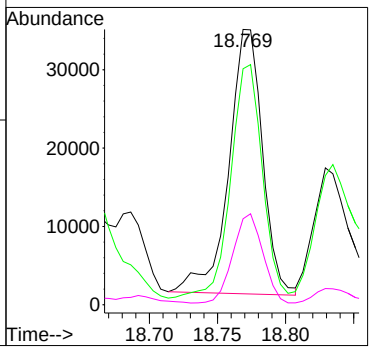


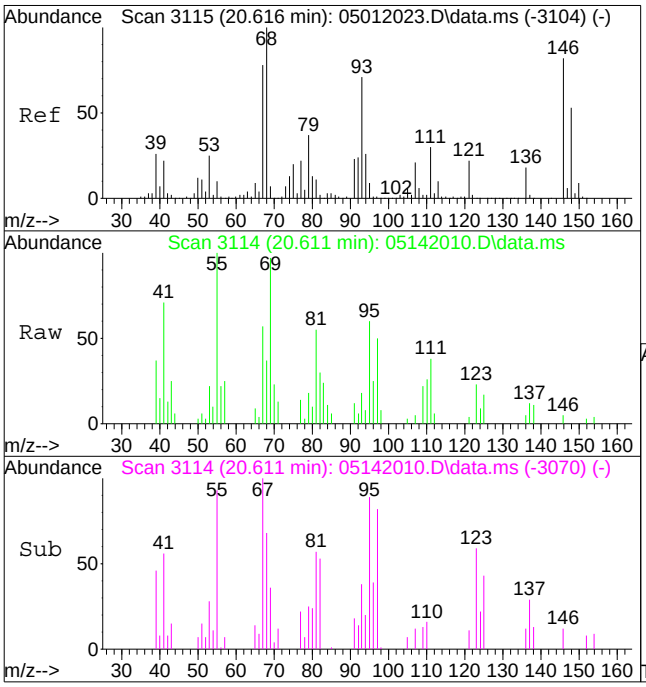


#71
n-Nonane
Concen: 0.96 ng
RT: 18.77 min Scan# 2779
Delta R.T. -0.011 min
Lab File: 05142010.D
Acq: 14 May 2020 13:59

Tgt Ion: 43 Resp: 58176

Ion	Ratio	Lower	Upper
43	100		
57	82.4	69.0	109.0
85	29.8	14.6	54.6

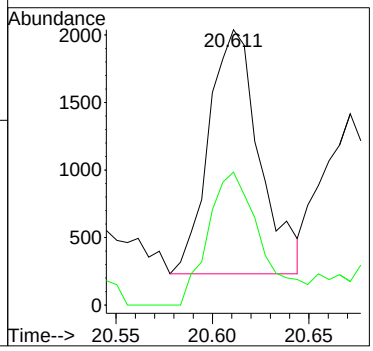




#91
d-Limonene
Concen: 0.07 ng
RT: 20.61 min Scan# 3114
Delta R.T. -0.005 min
Lab File: 05142010.D
Acq: 14 May 2020 13:59

Tgt Ion: 68 Resp: 3303

Ion	Ratio	Lower	Upper
68	100		
93	57.5	51.1	91.1



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142011.D Vial: 1
Acq On : 14 May 2020 14:33 Operator: LH
Sample : P2002301-016 (0.15mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 18:20:43 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/14/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	270697	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1167652	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	551091	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	437910	11.937	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.52%			
57) Toluene-d8 (SS2)	15.72	98	1181770	12.652	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.20%			
73) Bromofluorobenzene (SS3)	18.97	174	440682	13.111	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.88%			
Target Compounds						Qvalue
2) Propene	4.15	42	286	N.D.		
3) Dichlorodifluoromethan...	0.00	85	0	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.42	45	161	N.D.		
11) Acetonitrile	6.62	41	528	N.D.		
12) Acrolein	6.82	56	368	N.D.		
13) Acetone	7.06	58	2454	0.101	ng #	81
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	7.56	45	447	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	0.00	84	0	N.D.		
20) 3-Chloro-1-propene (Al...	8.51	41	172	N.D.		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	8.69	76	711	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	0.00	72	0	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	11.26	57	1919	N.D.		
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.00	62	120	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	12.87	78	1399	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	13.17	84	1418	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142011.D Vial: 1
Acq On : 14 May 2020 14:33 Operator: LH
Sample : P2002301-016 (0.15mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 18:20:43 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

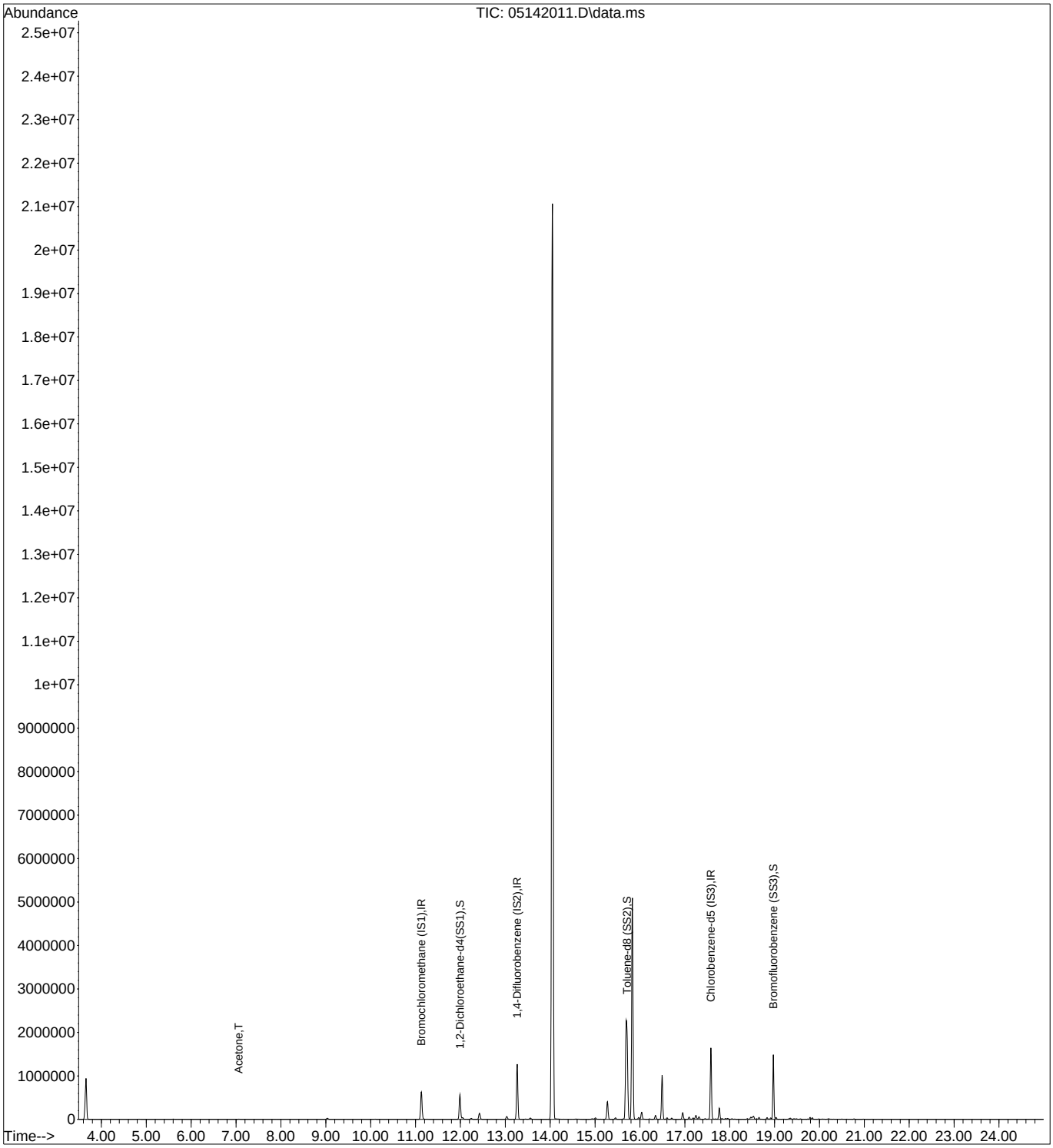
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.30	71	285	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.93	58	311	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	15.46	97	119	N.D.		
58) Toluene	15.82	91	1940	N.D.		
59) 2-Hexanone	0.00	43	0	N.D.	d	
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.71	43	3248	N.D.		
63) n-Octane	16.83	57	389	N.D.		
64) Tetrachloroethene	16.96	166	522	N.D.		
65) Chlorobenzene	17.62	112	420	N.D.		
66) Ethylbenzene	17.98	91	267	N.D.		
67) m- & p-Xylenes	18.16	91	254	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	18.57	91	257	N.D.		
71) n-Nonane	18.77	43	270	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	d	
74) Cumene	18.97	105	828	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	19.55	91	245	N.D.		
77) 3-Ethyltoluene	19.64	105	253	N.D.		
78) 4-Ethyltoluene	19.68	105	306	N.D.		
79) 1,3,5-Trimethylbenzene	19.74	105	174	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	19.91	105	174	N.D.		
82) 1,2,4-Trimethylbenzene	20.11	105	308	N.D.		
83) n-Decane	0.00	57	0	N.D.	d	
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	20.24	146	144	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	289	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D.		
88) 4-Isopropyltoluene (p-...	20.48	119	184	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	20.59	146	114	N.D.		
91) d-Limonene	20.61	68	977	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.30	57	337	N.D.		
94) 1,2,4-Trichlorobenzene	22.11	180	216	N.D.		
95) Naphthalene	22.21	128	1852	N.D.		
96) n-Dodecane	22.21	57	117	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.29	55	700	N.D.		
99) tert-Butylbenzene	0.00	119	0	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142011.D Vial: 1
Acq On : 14 May 2020 14:33 Operator: LH
Sample : P2002301-016 (0.15mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 18:20:43 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142011.D Vial: 1
Acq On : 14 May 2020 14:33 Operator: LH
Sample : P2002301-016 (0.15mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 18:20:43 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/14/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

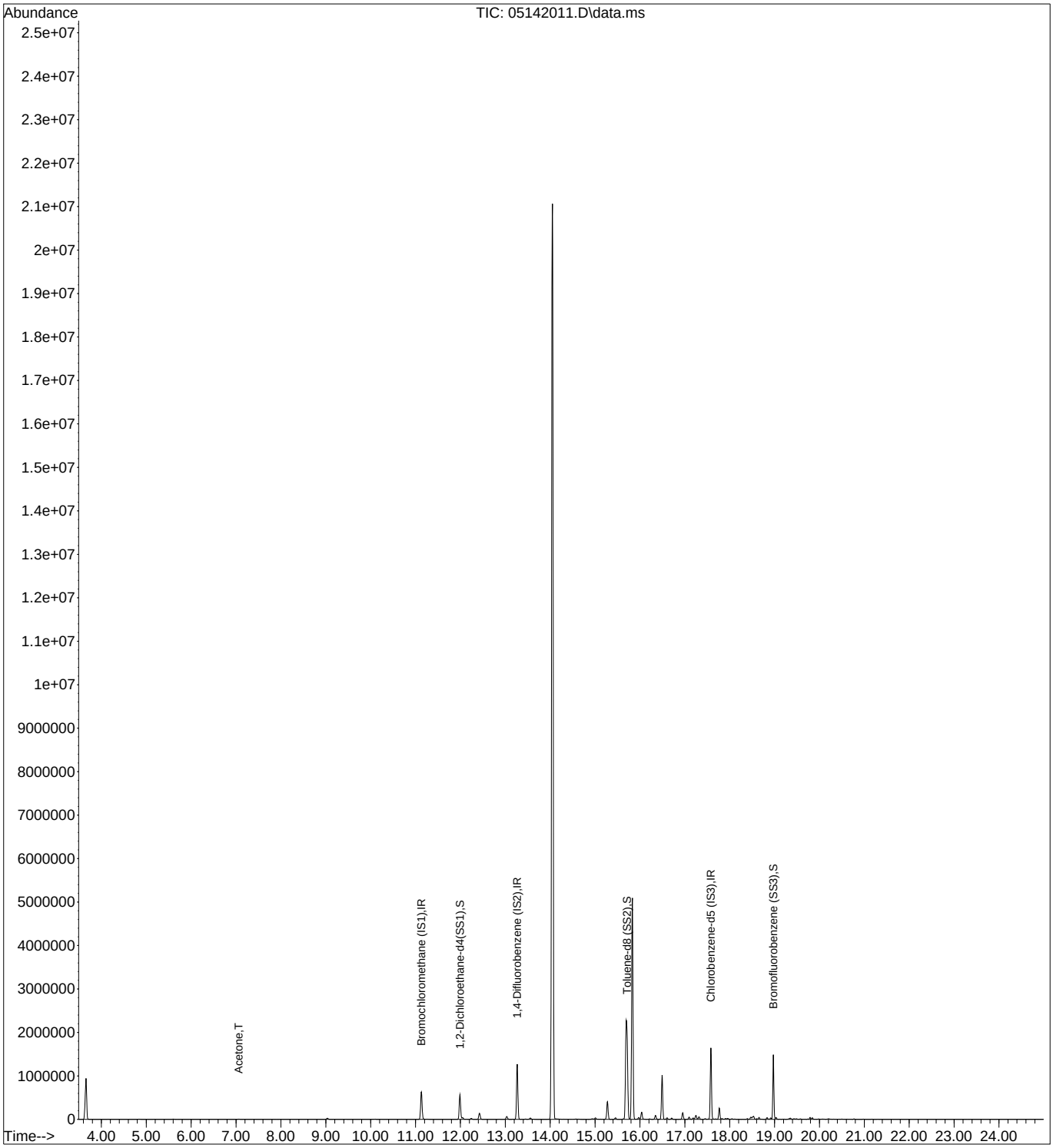
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	270697	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1167652	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	551091	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	437910	11.937	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.52%			
57) Toluene-d8 (SS2)	15.72	98	1181770	12.652	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.20%			
73) Bromofluorobenzene (SS3)	18.97	174	440682	13.111	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.88%			
Target Compounds						Qvalue
13) Acetone	7.06	58	2454	0.101	ng	# 81

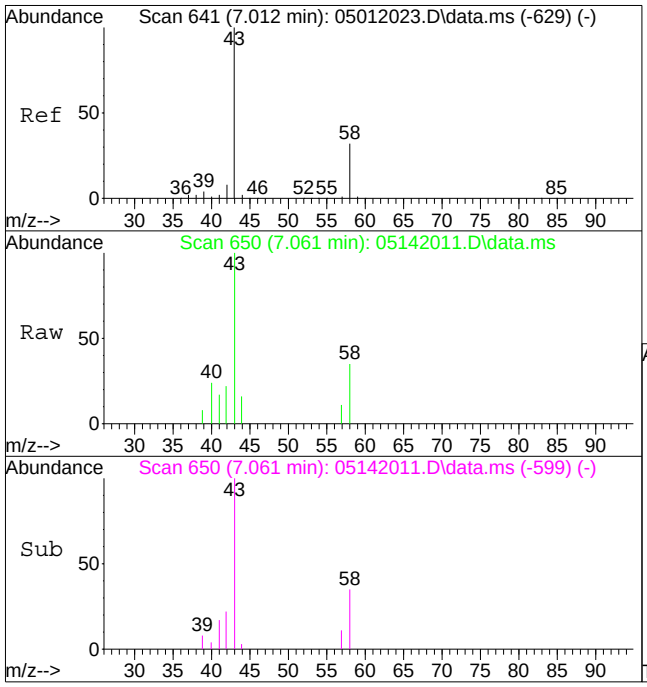
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142011.D Vial: 1
Acq On : 14 May 2020 14:33 Operator: LH
Sample : P2002301-016 (0.15mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 18:20:43 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

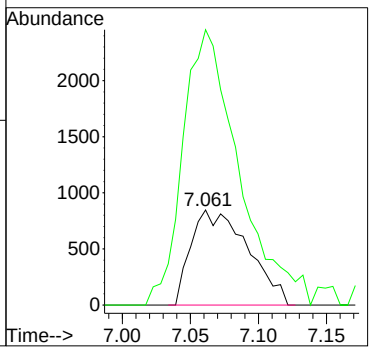




#13
Acetone
Concen: 0.10 ng
RT: 7.06 min Scan# 650
Delta R.T. 0.033 min
Lab File: 05142011.D
Acq: 14 May 2020 14:33

Tgt Ion: 58 Resp: 2454

Ion	Ratio	Lower	Upper
58	100		
43	286.2	294.4	354.4#



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142012.D Vial: 1
Acq On : 14 May 2020 15:07 Operator: LH
Sample : P2002301-017 (0.05mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 18:21:45 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/14/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	268603	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1169644	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	579244	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	432753	11.888	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.12%			
57) Toluene-d8 (SS2)	15.72	98	1256034	12.793	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.32%			
73) Bromofluorobenzene (SS3)	18.97	174	449755	12.731	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.84%			
Target Compounds						Qvalue
2) Propene	4.15	42	1593	0.051	ng	# 74
3) Dichlorodifluoromethan...	0.00	85	0	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.36	45	1219	0.051	ng	97
11) Acetonitrile	6.63	41	240	N.D.		
12) Acrolein	6.83	56	225	N.D.		
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	7.57	45	868	N.D.		
16) Acrylonitrile	7.69	53	161	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	8.45	59	1714	N.D.		
19) Methylene Chloride	0.00	84	0	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d	
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	8.69	76	744	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	10.00	63	2181	N.D.		
25) Methyl tert-Butyl Ether	10.21	73	1340	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	10.32	72	104	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	0.00	61	0	N.D.	d	
31) n-Hexane	11.27	57	3958342	77.250	ng	100
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d	
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.	d	
40) 1-Butanol	12.87	56	863	N.D.		
41) Benzene	12.87	78	2326189	18.545	ng	100
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	13.18	84	4213251	90.139	ng	98
44) tert-Amyl Methyl Ether	13.46	73	2615	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d	
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142012.D Vial: 1
Acq On : 14 May 2020 15:07 Operator: LH
Sample : P2002301-017 (0.05mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 18:21:45 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

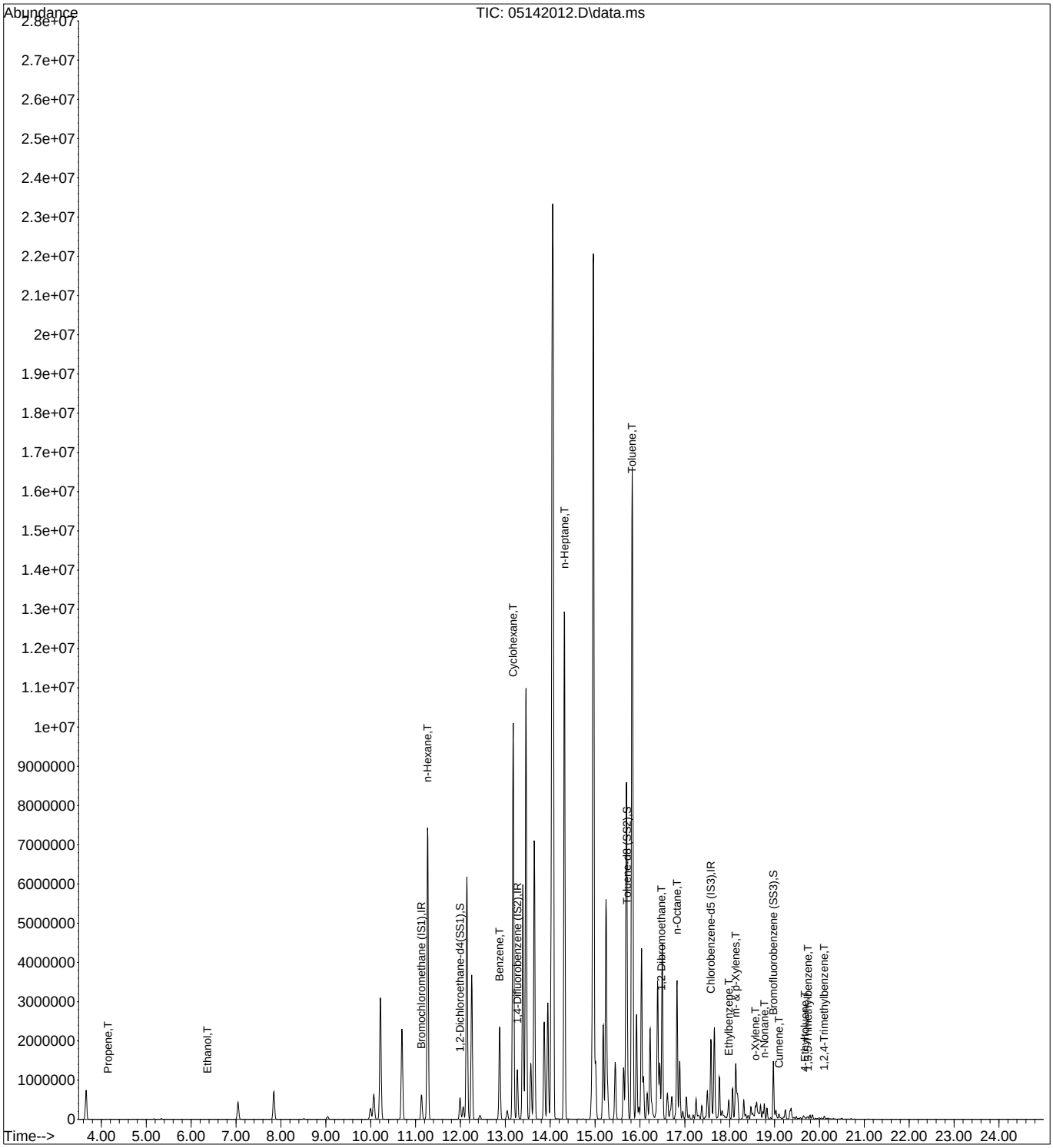
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.32	71	3367968	114.821 ng	98
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	15.24	75	390	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	15.82	91	9347131	73.857 ng	99
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	16.48	107	4361	0.125 ng	96
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	16.83	57	682139	26.035 ng	98
64) Tetrachloroethene	16.96	166	397	N.D.	
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	17.98	91	257541	1.825 ng	99
67) m- & p-Xylenes	18.14	91	965899	8.628 ng	99
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	301	N.D.	
70) o-Xylene	18.57	91	184612	1.624 ng	100
71) n-Nonane	18.77	43	131530	2.181 ng	96
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	19.10	105	7672	0.055 ng	97
75) alpha-Pinene	19.37	93	248	N.D.	
76) n-Propylbenzene	19.55	91	3770	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.68	105	7139	0.054 ng	99
79) 1,3,5-Trimethylbenzene	19.74	105	14769	0.130 ng	97
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.10	105	16877	0.148 ng	93
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.20	91	727	N.D.	
85) 1,3-Dichlorobenzene	20.24	146	128	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	305	N.D.	
87) sec-Butylbenzene	20.34	105	852	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	1355	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	4057	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.61	68	1170	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.30	57	454	N.D.	
94) 1,2,4-Trichlorobenzene	22.11	180	197	N.D.	
95) Naphthalene	22.21	128	1580	N.D.	
96) n-Dodecane	22.13	57	251	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.10	119	2495	N.D.	
100) n-Butylbenzene	20.85	91	636	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142012.D Vial: 1
Acq On : 14 May 2020 15:07 Operator: LH
Sample : P2002301-017 (0.05mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 18:21:45 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142012.D Vial: 1
Acq On : 14 May 2020 15:07 Operator: LH
Sample : P2002301-017 (0.05mL) Inst : GCMS-16
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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/14/20

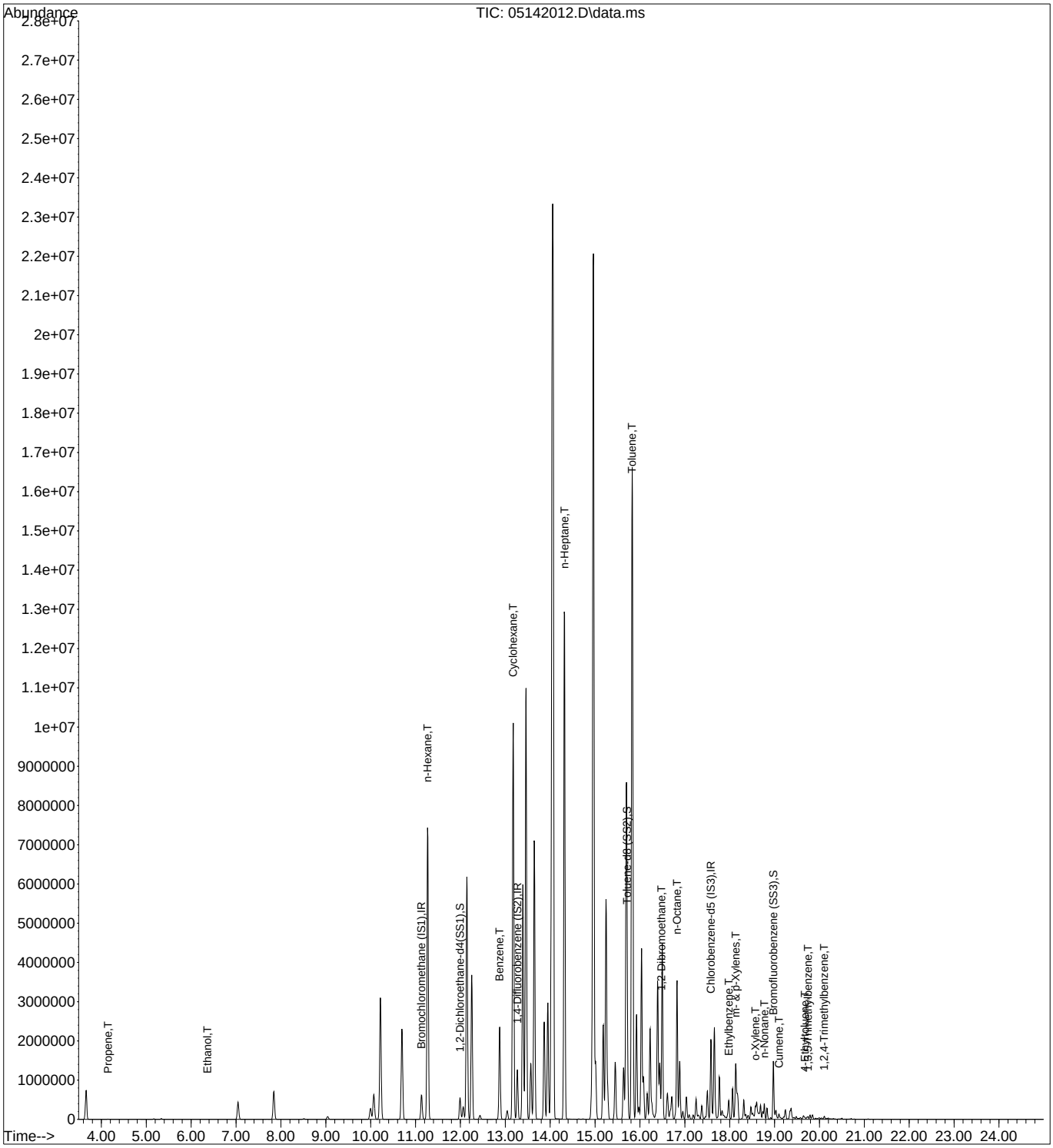
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	268603	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1169644	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	579244	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	432753	11.888	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.12%			
57) Toluene-d8 (SS2)	15.72	98	1256034	12.793	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.32%			
73) Bromofluorobenzene (SS3)	18.97	174	449755	12.731	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.84%			
Target Compounds						Qvalue
2) Propene	4.15	42	1593	0.051	ng	# 74
10) Ethanol	6.36	45	1219	0.051	ng	97
31) n-Hexane	11.27	57	3958342	77.250	ng	100
41) Benzene	12.87	78	2326189	18.545	ng	100
43) Cyclohexane	13.18	84	4213251	90.139	ng	98
51) n-Heptane	14.32	71	3367968	114.821	ng	98
58) Toluene	15.82	91	9347131	73.857	ng	99
61) 1,2-Dibromoethane	16.48	107	4361	0.125	ng	96
63) n-Octane	16.83	57	682139	26.035	ng	98
66) Ethylbenzene	17.98	91	257541	1.825	ng	99
67) m- & p-Xylenes	18.14	91	965899	8.628	ng	99
70) o-Xylene	18.57	91	184612	1.624	ng	100
71) n-Nonane	18.77	43	131530	2.181	ng	96
74) Cumene	19.10	105	7672	0.055	ng	97
78) 4-Ethyltoluene	19.68	105	7139	0.054	ng	99
79) 1,3,5-Trimethylbenzene	19.74	105	14769	0.130	ng	97
82) 1,2,4-Trimethylbenzene	20.10	105	16877	0.148	ng	93

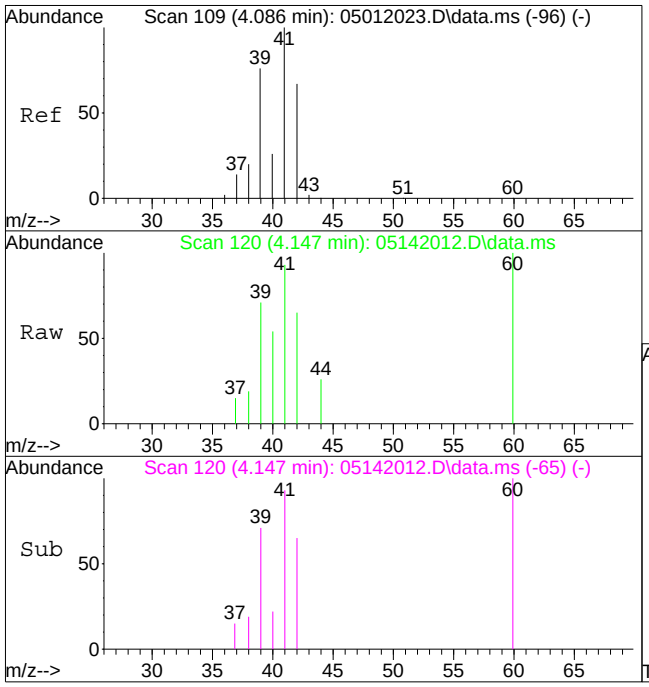
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142012.D Vial: 1
Acq On : 14 May 2020 15:07 Operator: LH
Sample : P2002301-017 (0.05mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 18:21:45 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

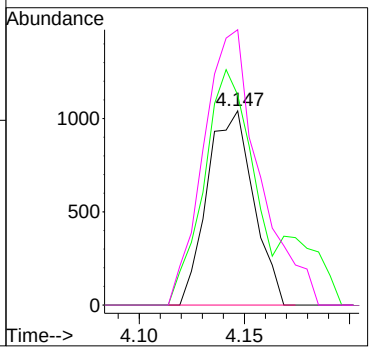


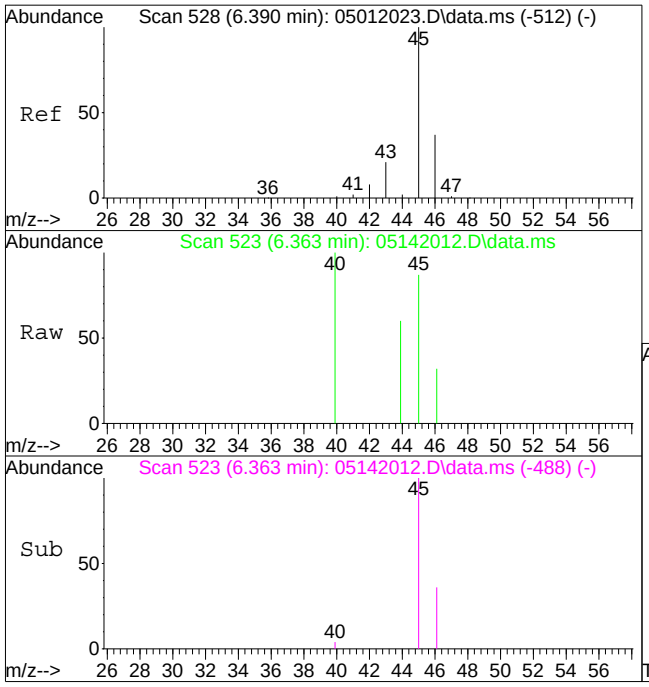


#2
Propene
Concen: 0.05 ng
RT: 4.15 min Scan# 120
Delta R.T. 0.055 min
Lab File: 05142012.D
Acq: 14 May 2020 15:07

Tgt Ion: 42 Resp: 1593

Ion	Ratio	Lower	Upper
42	100		
39	159.3	96.1	136.1#
41	171.9	131.9	171.9#

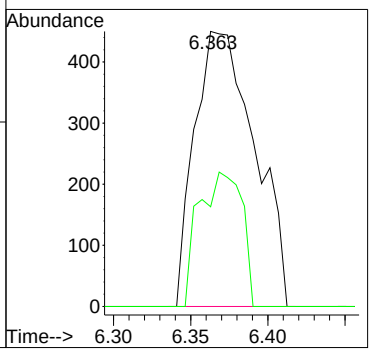


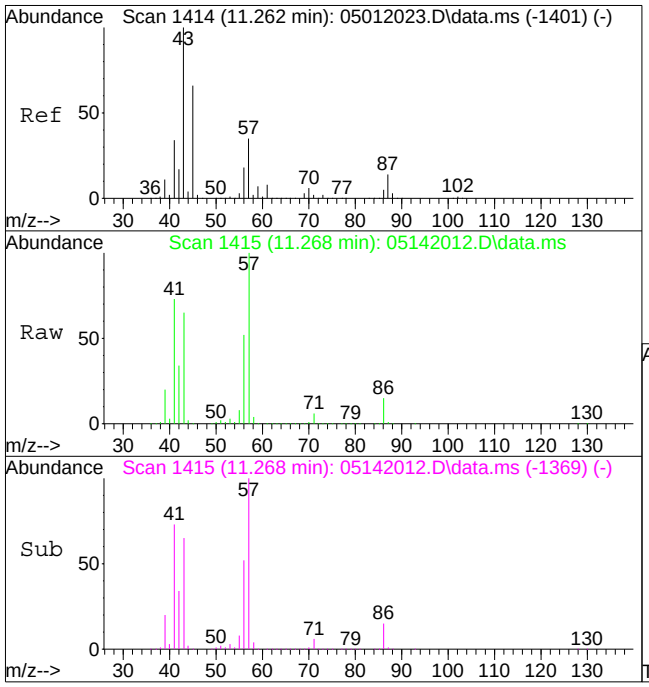


#10
Ethanol
Concen: 0.05 ng
RT: 6.36 min Scan# 523
Delta R.T. -0.055 min
Lab File: 05142012.D
Acq: 14 May 2020 15:07

Tgt Ion: 45 Resp: 1219

Ion	Ratio	Lower	Upper
45	100		
46	35.1	17.2	57.2

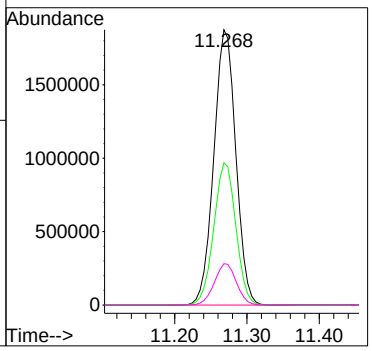


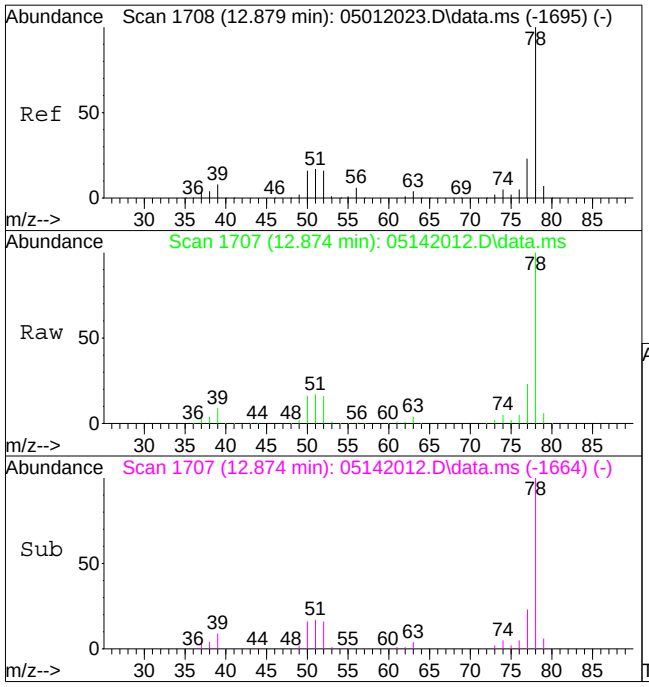


#31
n-Hexane
Concen: 77.25 ng
RT: 11.27 min Scan# 1415
Delta R.T. 0.005 min
Lab File: 05142012.D
Acq: 14 May 2020 15:07

Tgt Ion: 57 Resp: 3958342

Ion	Ratio	Lower	Upper
57	100		
56	51.9	41.4	62.0
86	15.1	12.4	18.6

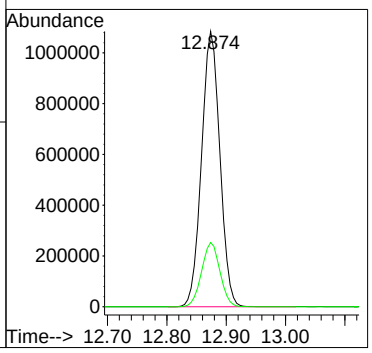


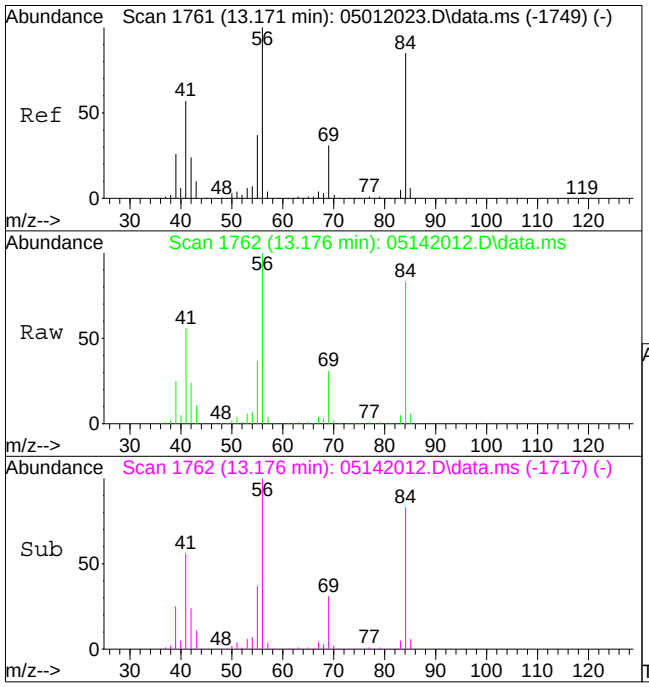


#41
Benzene
Concen: 18.55 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05142012.D
Acq: 14 May 2020 15:07

Tgt Ion: 78 Resp: 2326189

Ion	Ratio	Lower	Upper
78	100		
77	23.3	3.4	43.4

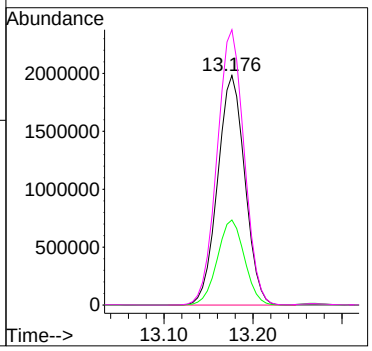


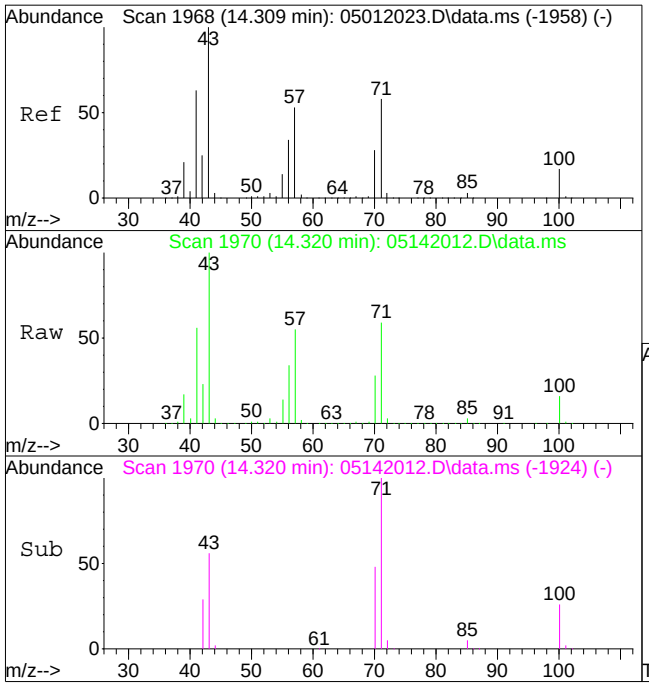


#43
Cyclohexane
Concen: 90.14 ng
RT: 13.18 min Scan# 1762
Delta R.T. -0.000 min
Lab File: 05142012.D
Acq: 14 May 2020 15:07

Tgt Ion: 84 Resp: 4213251

Ion	Ratio	Lower	Upper
84	100		
69	36.9	16.5	56.5
56	119.7	97.4	137.4

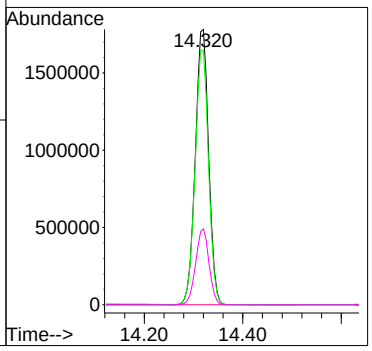


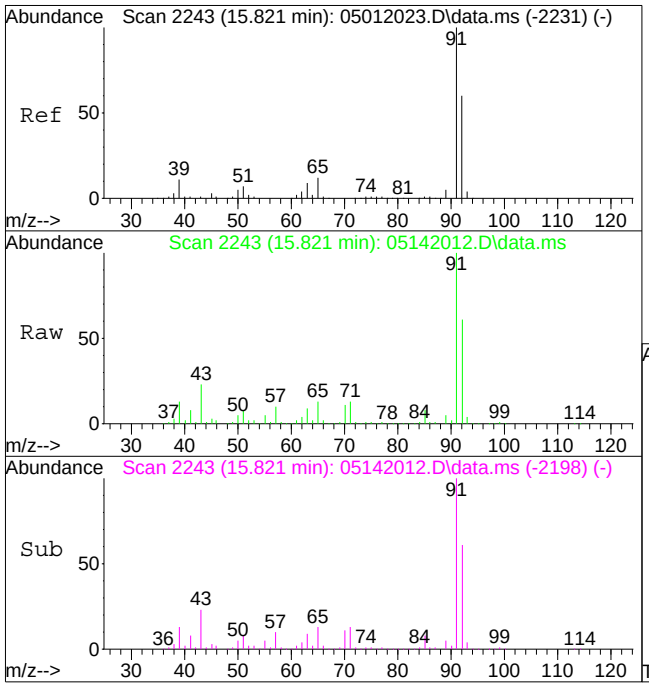


#51
n-Heptane
Concen: 114.82 ng
RT: 14.32 min Scan# 1970
Delta R.T. 0.005 min
Lab File: 05142012.D
Acq: 14 May 2020 15:07

Tgt Ion: 71 Resp: 3367968

Ion	Ratio	Lower	Upper
71	100		
57	93.0	71.0	111.0
100	27.5	8.4	48.4

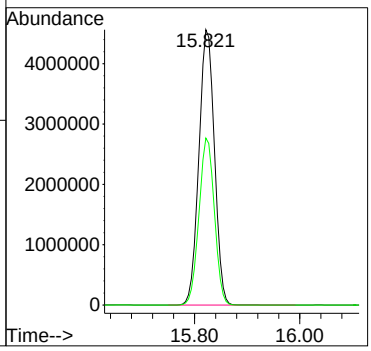


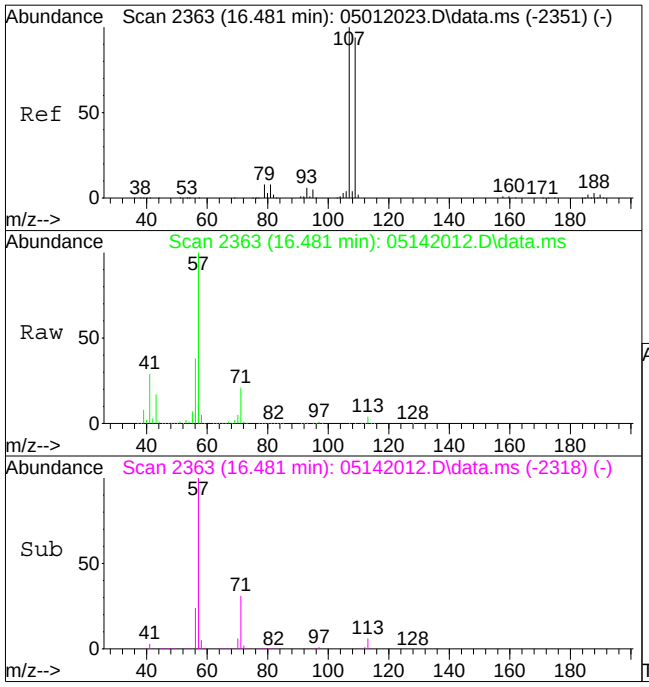


#58
Toluene
Concen: 73.86 ng
RT: 15.82 min Scan# 2243
Delta R.T. -0.000 min
Lab File: 05142012.D
Acq: 14 May 2020 15:07

Tgt Ion: 91 Resp: 9347131

Ion	Ratio	Lower	Upper
91	100		
92	60.2	39.4	79.4

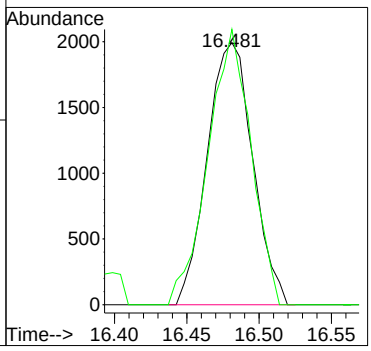


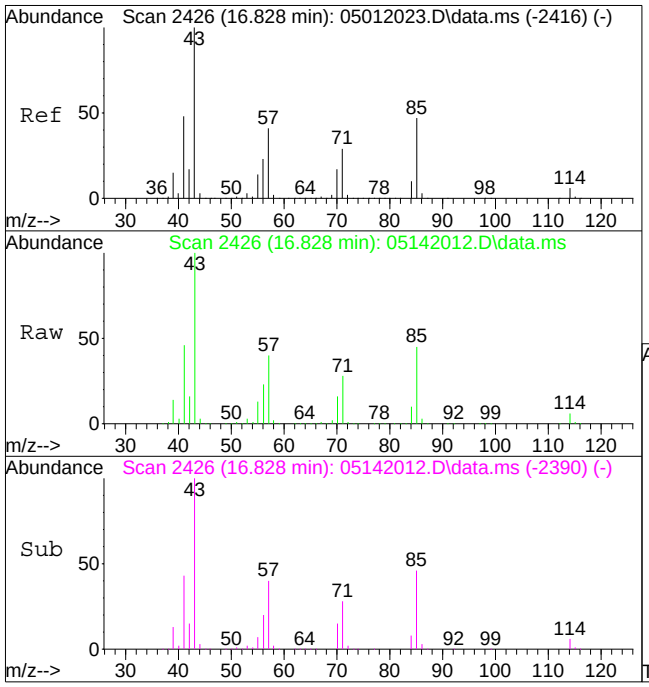


#61
1,2-Dibromoethane
Concen: 0.13 ng
RT: 16.48 min Scan# 2363
Delta R.T. -0.000 min
Lab File: 05142012.D
Acq: 14 May 2020 15:07

Tgt Ion:107 Resp: 4361

Ion	Ratio	Lower	Upper
107	100		
109	98.9	74.5	114.5

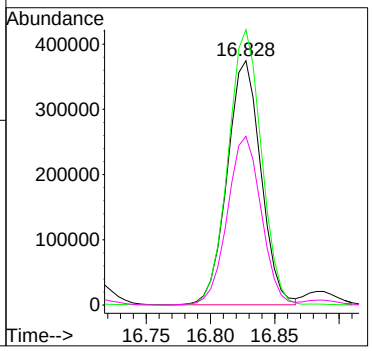


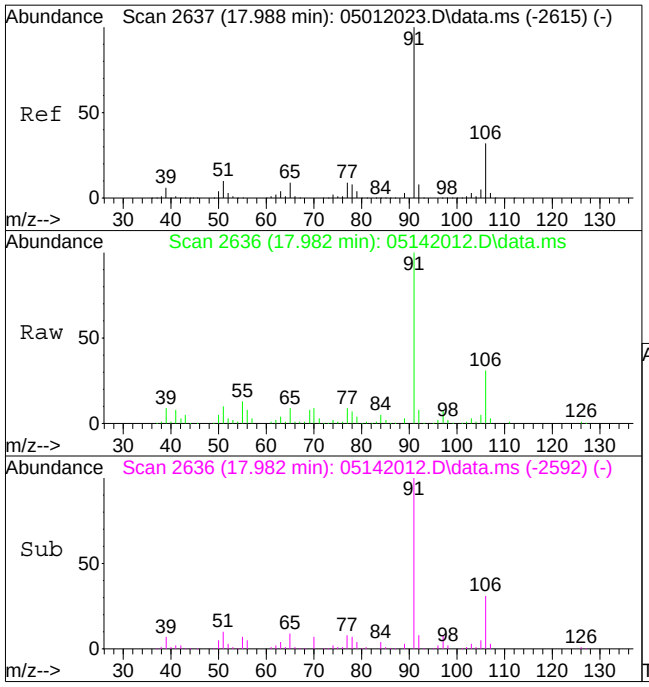


#63
n-Octane
Concen: 26.03 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05142012.D
Acq: 14 May 2020 15:07

Tgt Ion: 57 Resp: 682139

Ion	Ratio	Lower	Upper
57	100		
85	111.7	91.0	136.4
71	69.2	56.2	84.2

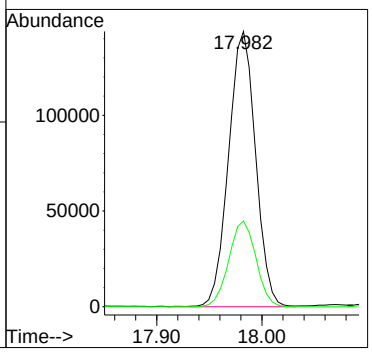


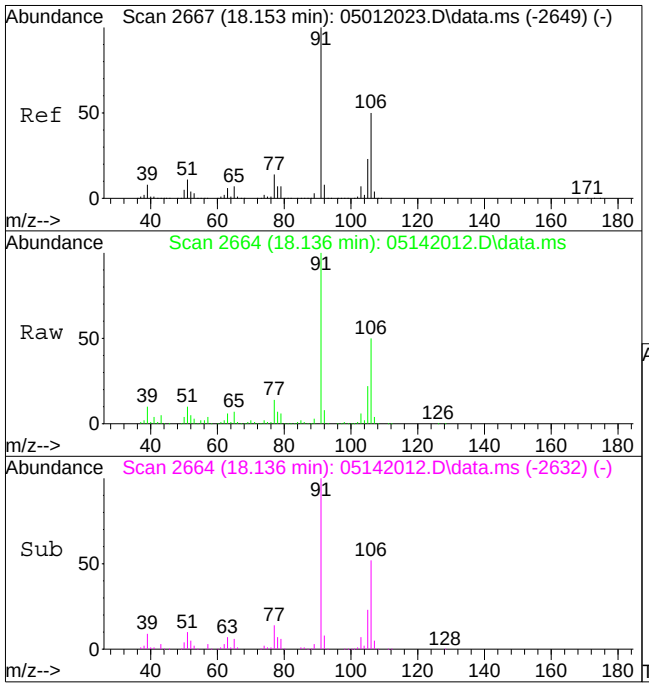


#66
Ethylbenzene
Concen: 1.82 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05142012.D
Acq: 14 May 2020 15:07

Tgt Ion: 91 Resp: 257541

Ion	Ratio	Lower	Upper
91	100		
106	31.2	11.6	51.6

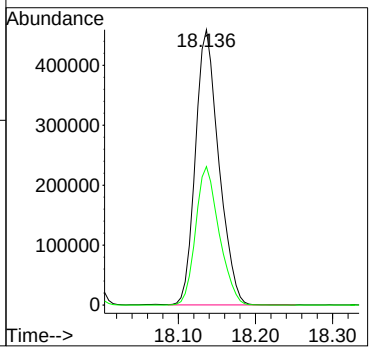


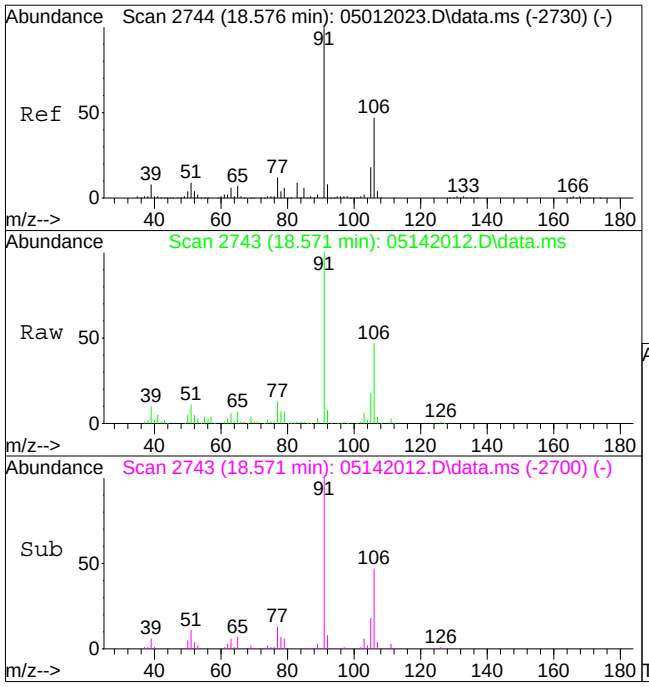


#67
m- & p-Xylenes
Concen: 8.63 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05142012.D
Acq: 14 May 2020 15:07

Tgt Ion: 91 Resp: 965899

Ion	Ratio	Lower	Upper
91	100		
106	50.5	29.7	69.7

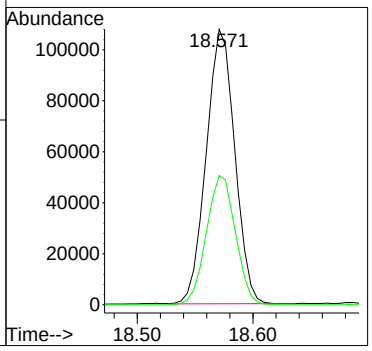


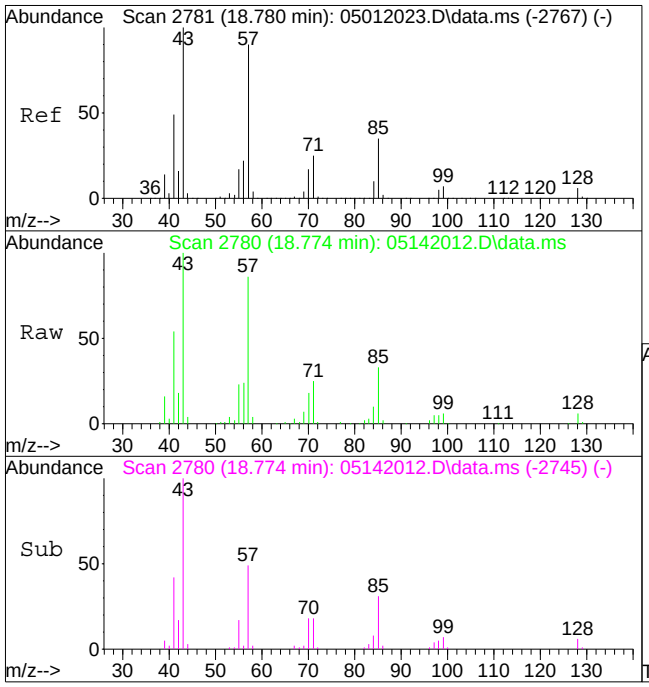


#70
o-Xylene
Concen: 1.62 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05142012.D
Acq: 14 May 2020 15:07

Tgt Ion: 91 Resp: 184612

Ion	Ratio	Lower	Upper
91	100		
106	47.8	27.5	67.5

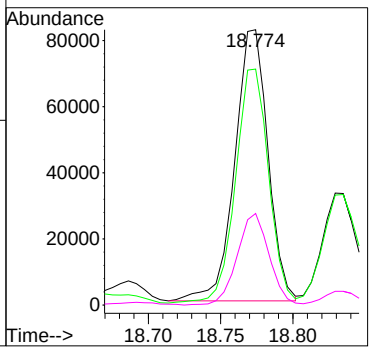


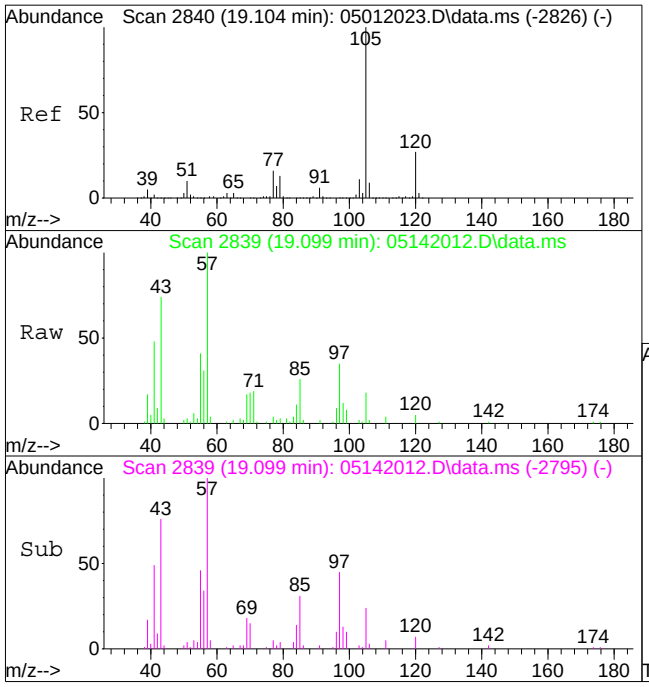


#71
n-Nonane
Concen: 2.18 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05142012.D
Acq: 14 May 2020 15:07

Tgt Ion: 43 Resp: 131530

Ion	Ratio	Lower	Upper
43	100		
57	85.7	69.0	109.0
85	32.4	14.6	54.6

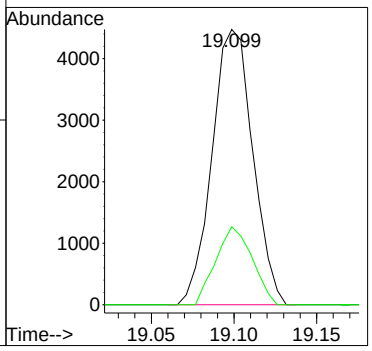


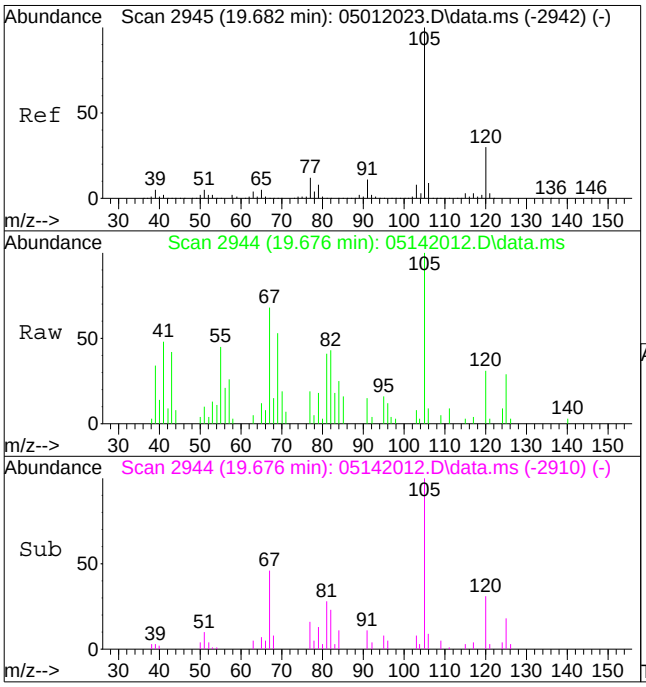


#74
Cumene
Concen: 0.06 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05142012.D
Acq: 14 May 2020 15:07

Tgt Ion:105 Resp: 7672

Ion	Ratio	Lower	Upper
105	100		
120	25.3	6.8	46.8

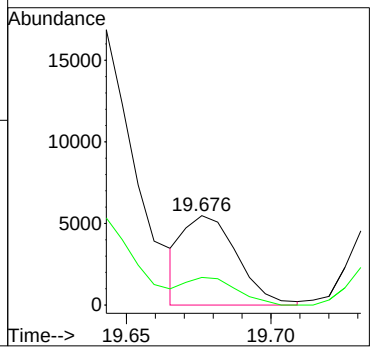


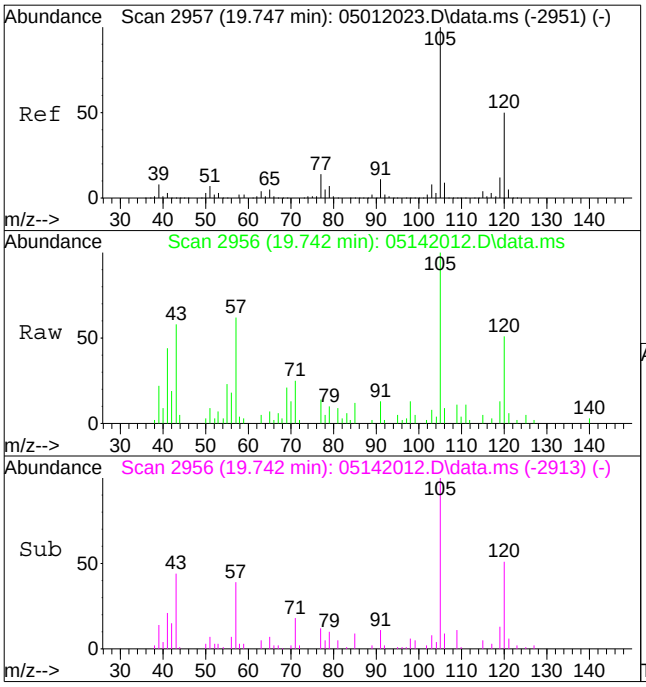


#78
4-Ethyltoluene
Concen: 0.05 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05142012.D
Acq: 14 May 2020 15:07

Tgt Ion:105 Resp: 7139

Ion	Ratio	Lower	Upper
105	100		
120	30.1	10.4	50.4

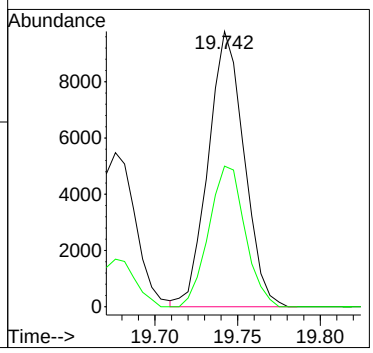


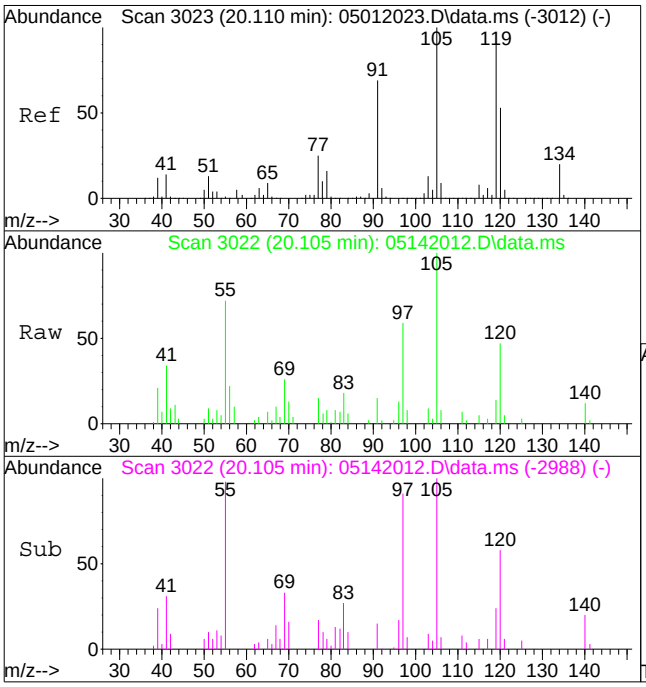


#79
1,3,5-Trimethylbenzene
Concen: 0.13 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05142012.D
Acq: 14 May 2020 15:07

Tgt Ion:105 Resp: 14769

Ion	Ratio	Lower	Upper
105	100		
120	51.7	29.9	69.9

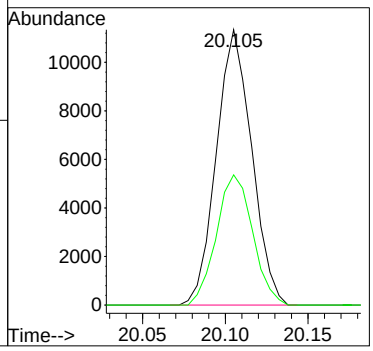




#82
1,2,4-Trimethylbenzene
Concen: 0.15 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05142012.D
Acq: 14 May 2020 15:07

Tgt Ion:105 Resp: 16877

Ion	Ratio	Lower	Upper
105	100		
120	48.4	33.6	73.6



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142015.D Vial: 1
Acq On : 14 May 2020 16:48 Operator: LH
Sample : P2002301-017dil (0.025mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 18:23:14 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/14/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	266698	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1185170	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	568646	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	441984	12.229	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.84%			
57) Toluene-d8 (SS2)	15.72	98	1224256	12.702	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.60%			
73) Bromofluorobenzene (SS3)	18.97	174	439592	12.675	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.44%			
Target Compounds						Qvalue
2) Propene	4.14	42	1149	N.D.		
3) Dichlorodifluoromethan...	0.00	85	0	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.36	45	980	N.D.		
11) Acetonitrile	6.63	41	397	N.D.		
12) Acrolein	6.80	56	167	N.D.		
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	7.56	45	688	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.	d	
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	8.45	59	1141	N.D.		
19) Methylene Chloride	0.00	84	0	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d	
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	8.68	76	782	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	9.99	63	1180	N.D.		
25) Methyl tert-Butyl Ether	10.21	73	725	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	10.32	72	157	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	0.00	61	0	N.D.	d	
31) n-Hexane	11.26	57	2251817	44.260	ng	100
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d	
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.	d	
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	12.87	78	1385210	10.899	ng	100
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	13.17	84	2415348	50.998	ng	99
44) tert-Amyl Methyl Ether	13.46	73	1562	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d	
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142015.D Vial: 1
Acq On : 14 May 2020 16:48 Operator: LH
Sample : P2002301-017dil (0.025mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 18:23:14 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

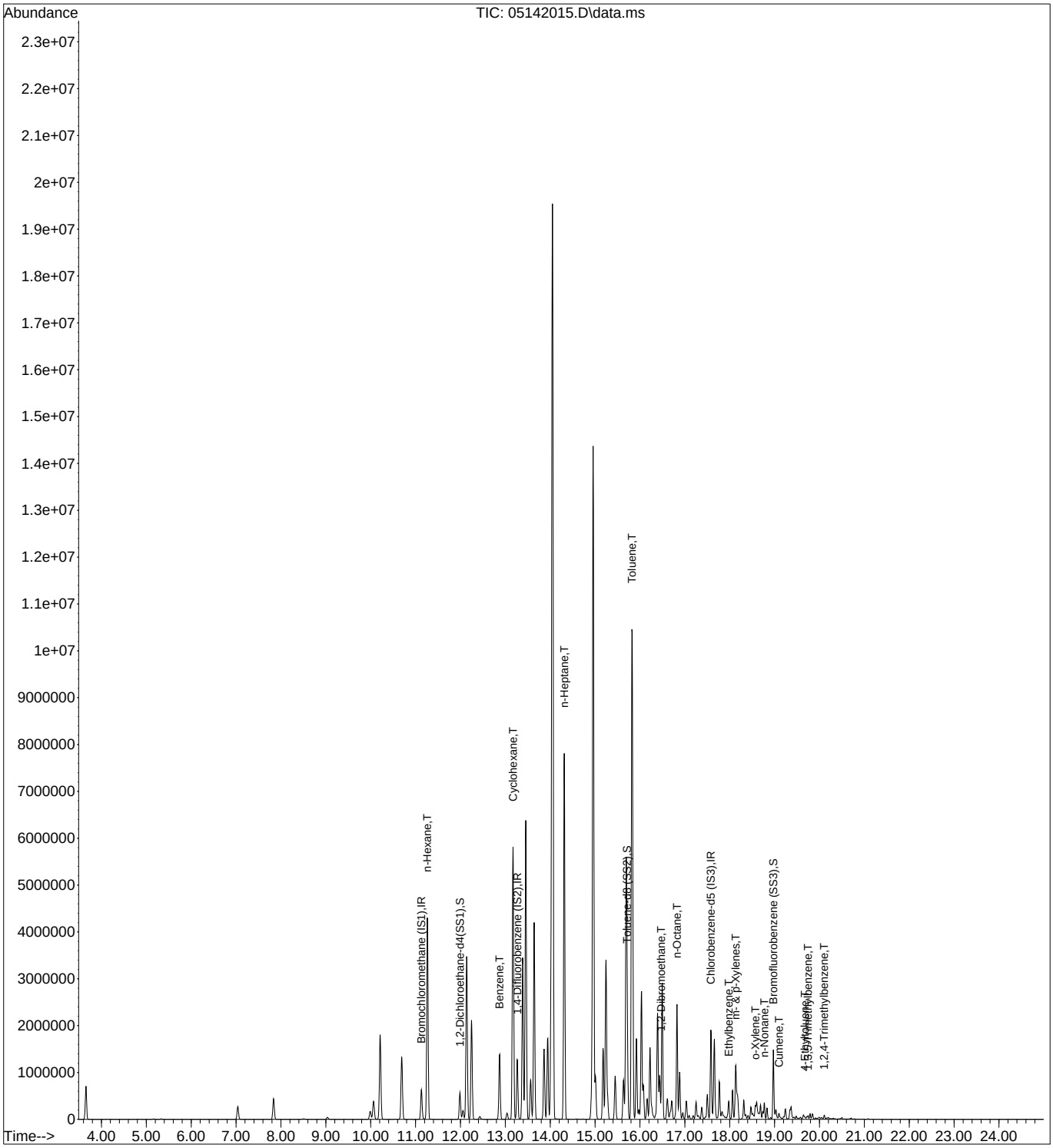
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	1948720	65.566	ng	98
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	d	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	d	
54) trans-1,3-Dichloropropene	15.13	75	450	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	d	
58) Toluene	15.82	91	6025667	48.499	ng	99
59) 2-Hexanone	0.00	43	0	N.D.	d	
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	16.48	107	2985	0.087	ng	96
62) n-Butyl Acetate	0.00	43	0	N.D.	d	
63) n-Octane	16.83	57	474221	18.437	ng	98
64) Tetrachloroethene	16.96	166	539	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.	d	
66) Ethylbenzene	17.98	91	206901	1.493	ng	98
67) m- & p-Xylenes	18.14	91	796623	7.248	ng	99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	199	N.D.		
70) o-Xylene	18.57	91	162310	1.455	ng	100
71) n-Nonane	18.77	43	120337	2.033	ng	96
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	d	
74) Cumene	19.10	105	7283	0.053	ng	97
75) alpha-Pinene	19.37	93	122	N.D.		
76) n-Propylbenzene	19.55	91	4483	N.D.		
77) 3-Ethyltoluene	0.00	105	0	N.D.	d	
78) 4-Ethyltoluene	19.68	105	7588	0.059	ng	98
79) 1,3,5-Trimethylbenzene	19.74	105	16455	0.147	ng	99
80) alpha-Methylstyrene	19.65	118	112	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D.	d	
82) 1,2,4-Trimethylbenzene	20.10	105	19527	0.174	ng	94
83) n-Decane	0.00	57	0	N.D.	d	
84) Benzyl Chloride	20.31	91	504	N.D.		
85) 1,3-Dichlorobenzene	20.30	146	115	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	115	N.D.		
87) sec-Butylbenzene	20.35	105	981	N.D.		
88) 4-Isopropyltoluene (p-...	20.48	119	1592	N.D.		
89) 1,2,3-Trimethylbenzene	20.48	105	4764	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.61	68	1385	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.30	57	844	N.D.		
94) 1,2,4-Trichlorobenzene	22.12	180	121	N.D.		
95) Naphthalene	22.22	128	1232	N.D.		
96) n-Dodecane	0.00	57	0	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	20.10	119	2837	N.D.		
100) n-Butylbenzene	20.85	91	564	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142015.D Vial: 1
Acq On : 14 May 2020 16:48 Operator: LH
Sample : P2002301-017dil (0.025mL) Inst : GCMS-16
Misc : S31-02112001

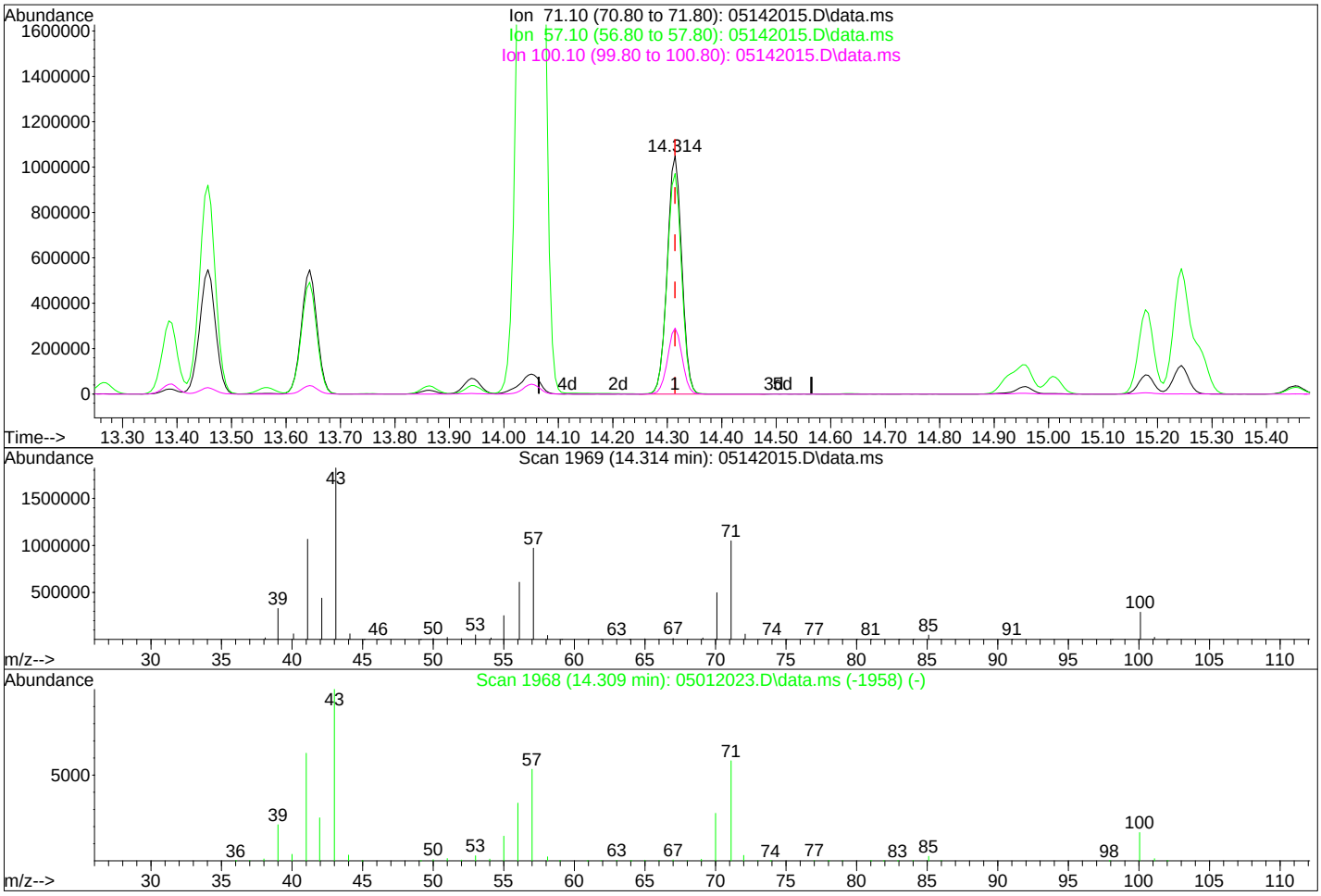
Quant Time: May 14 18:23:14 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\14\05142015.D Vial: 1
Acq On : 14 May 2020 16:48 Operator: LH
Sample : P2002301-017dil (0.025mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 18:22:25 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05142015.D\data.ms

(51) n-Heptane (T)

14.314min (-0.000) 65.57ng

response 1948720

Ion	Exp%	Act%
71.10	100	100
57.10	91.00	93.09
100.10	28.40	27.63
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142016.D Vial: 1
Acq On : 14 May 2020 17:21 Operator: LH
Sample : P2002301-018 (0.05mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 18:24:40 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/14/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	269671	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1185952	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	566263	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	443305	12.130	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.04%			
57) Toluene-d8 (SS2)	15.72	98	1188133	12.379	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.04%			
73) Bromofluorobenzene (SS3)	18.97	174	441586	12.786	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.32%			
Target Compounds						Qvalue
2) Propene	4.14	42	640	N.D.		
3) Dichlorodifluoromethan...	0.00	85	0	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.37	45	749	N.D.		
11) Acetonitrile	0.00	41	0	N.D.		
12) Acrolein	6.82	56	65	N.D.		
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	7.57	45	511	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.	d	
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	0.00	84	0	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d	
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	8.68	76	792	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.	d	
25) Methyl tert-Butyl Ether	10.07	73	642	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	0.00	72	0	N.D.	d	
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	0.00	61	0	N.D.	d	
31) n-Hexane	11.27	57	3501478	68.064	ng	100
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d	
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.	d	
40) 1-Butanol	12.84	56	315	N.D.		
41) Benzene	12.87	78	1925257	15.138	ng	100
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	13.18	84	2703699	57.048	ng	99
44) tert-Amyl Methyl Ether	13.45	73	1508	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d	
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142016.D Vial: 1
Acq On : 14 May 2020 17:21 Operator: LH
Sample : P2002301-018 (0.05mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 18:24:40 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

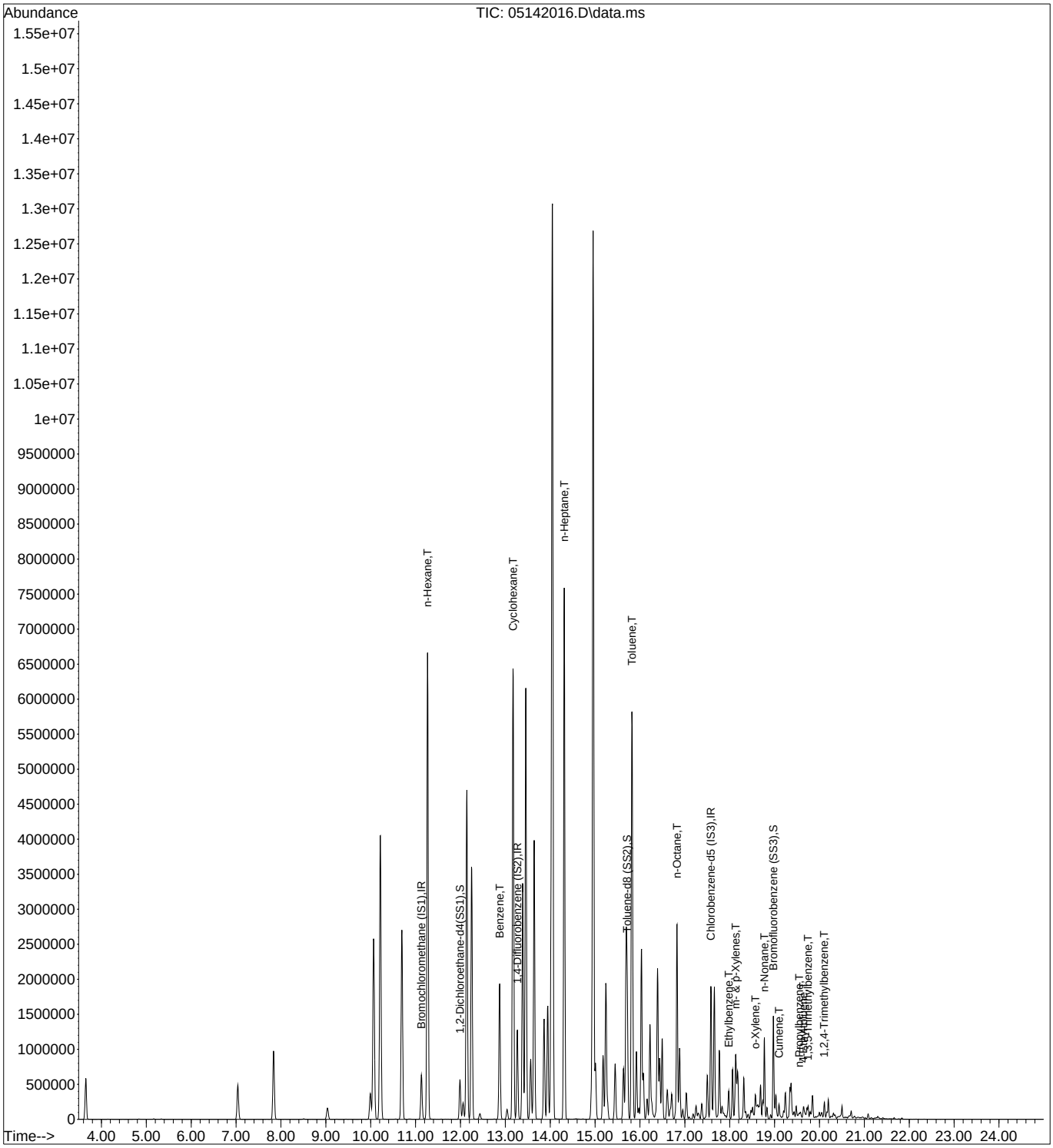
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	1888495	63.497	ng	98
52) cis-1,3-Dichloropropene	14.96	75	2527	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	d	
54) trans-1,3-Dichloropropene	15.13	75	257	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	d	
58) Toluene	15.82	91	3677203	29.722	ng	100
59) 2-Hexanone	0.00	43	0	N.D.	d	
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	16.48	107	842	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D.	d	
63) n-Octane	16.83	57	545034	21.279	ng	98
64) Tetrachloroethene	16.97	166	363	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.	d	
66) Ethylbenzene	17.98	91	202998	1.471	ng	99
67) m- & p-Xylenes	18.14	91	586623	5.360	ng	99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	182	N.D.		
70) o-Xylene	18.57	91	194408	1.750	ng	100
71) n-Nonane	18.77	43	404861	6.868	ng	96
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	d	
74) Cumene	19.10	105	31083	0.228	ng	100
75) alpha-Pinene	19.36	93	428	N.D.		
76) n-Propylbenzene	19.55	91	37127	0.229	ng	95
77) 3-Ethyltoluene	0.00	105	0	N.D.	d	
78) 4-Ethyltoluene	19.64	105	28726	0.224	ng	95
79) 1,3,5-Trimethylbenzene	19.74	105	27260	0.245	ng	99
80) alpha-Methylstyrene	19.74	118	129	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D.	d	
82) 1,2,4-Trimethylbenzene	20.10	105	34389	0.308	ng	93
83) n-Decane	0.00	57	0	N.D.	d	
84) Benzyl Chloride	20.19	91	1290	N.D.		
85) 1,3-Dichlorobenzene	20.30	146	124	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	124	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D.	d	
88) 4-Isopropyltoluene (p-...	20.48	119	2326	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	0.00	68	0	N.D.	d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	22.22	128	1387	N.D.		
96) n-Dodecane	22.21	57	262	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	20.10	119	5363	N.D.		
100) n-Butylbenzene	20.85	91	2223	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142016.D Vial: 1
Acq On : 14 May 2020 17:21 Operator: LH
Sample : P2002301-018 (0.05mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 18:24:40 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142016.D Vial: 1
Acq On : 14 May 2020 17:21 Operator: LH
Sample : P2002301-018 (0.05mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 18:24:40 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/14/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

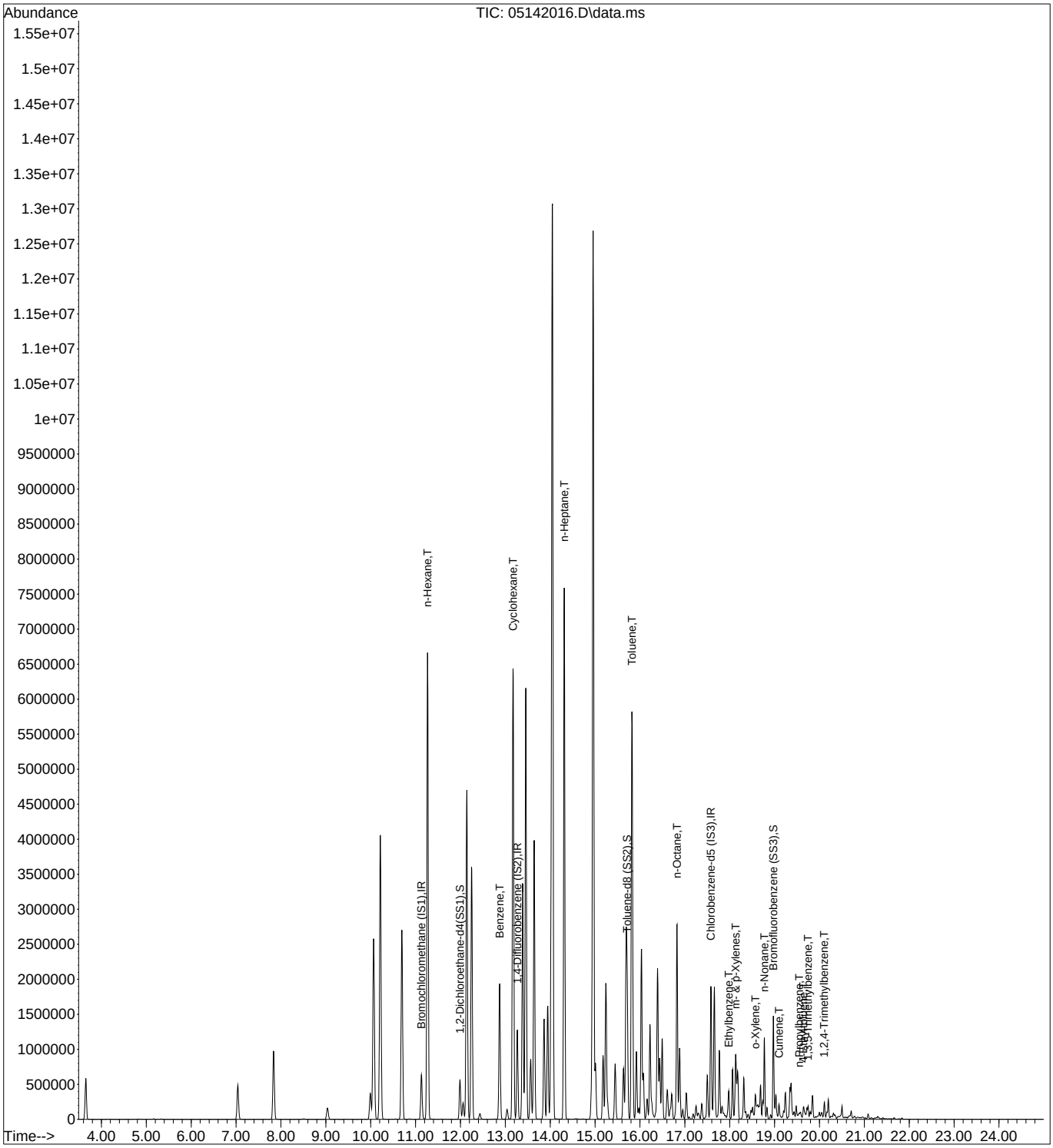
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	269671	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1185952	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	566263	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	443305	12.130	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.04%			
57) Toluene-d8 (SS2)	15.72	98	1188133	12.379	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.04%			
73) Bromofluorobenzene (SS3)	18.97	174	441586	12.786	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.32%			
Target Compounds						Qvalue
31) n-Hexane	11.27	57	3501478	68.064	ng	100
41) Benzene	12.87	78	1925257	15.138	ng	100
43) Cyclohexane	13.18	84	2703699	57.048	ng	99
51) n-Heptane	14.31	71	1888495	63.497	ng	98
58) Toluene	15.82	91	3677203	29.722	ng	100
63) n-Octane	16.83	57	545034	21.279	ng	98
66) Ethylbenzene	17.98	91	202998	1.471	ng	99
67) m- & p-Xylenes	18.14	91	586623	5.360	ng	99
70) o-Xylene	18.57	91	194408	1.750	ng	100
71) n-Nonane	18.77	43	404861	6.868	ng	96
74) Cumene	19.10	105	31083	0.228	ng	100
76) n-Propylbenzene	19.55	91	37127	0.229	ng	95
78) 4-Ethyltoluene	19.64	105	28726	0.224	ng	95
79) 1,3,5-Trimethylbenzene	19.74	105	27260	0.245	ng	99
82) 1,2,4-Trimethylbenzene	20.10	105	34389	0.308	ng	93

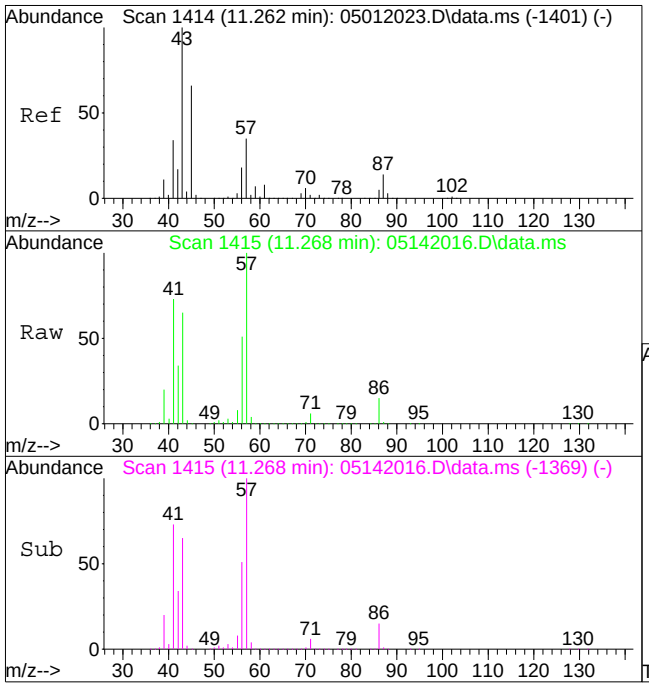
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142016.D Vial: 1
Acq On : 14 May 2020 17:21 Operator: LH
Sample : P2002301-018 (0.05mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 18:24:40 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

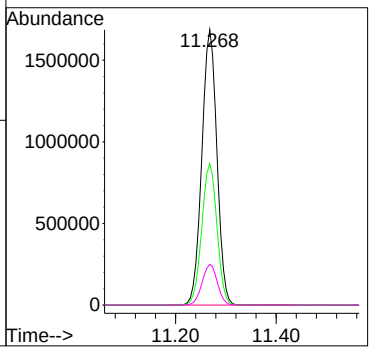


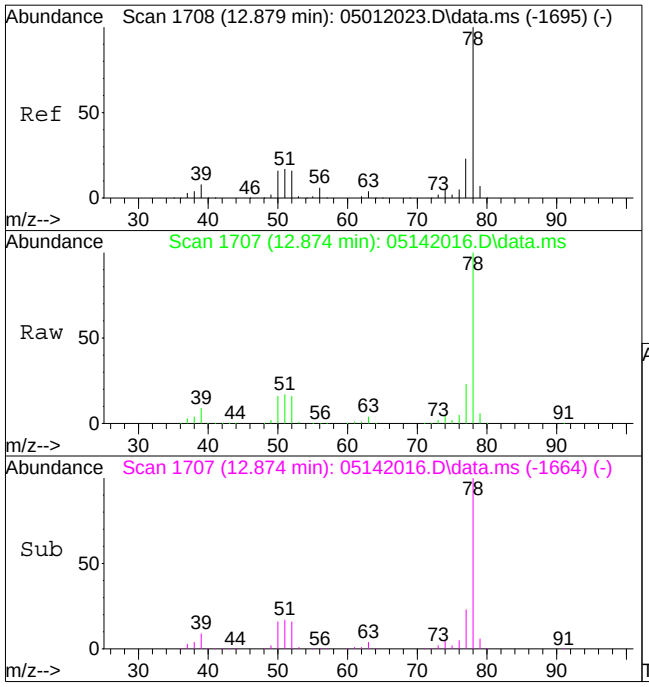


#31
n-Hexane
Concen: 68.06 ng
RT: 11.27 min Scan# 1415
Delta R.T. 0.005 min
Lab File: 05142016.D
Acq: 14 May 2020 17:21

Tgt Ion: 57 Resp: 3501478

Ion	Ratio	Lower	Upper
57	100		
56	51.7	41.4	62.0
86	14.9	12.4	18.6

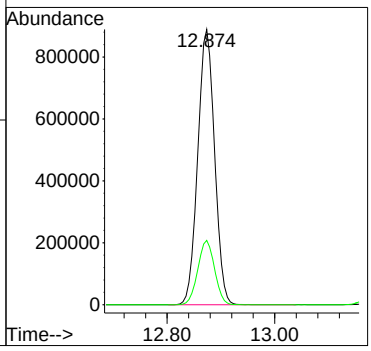


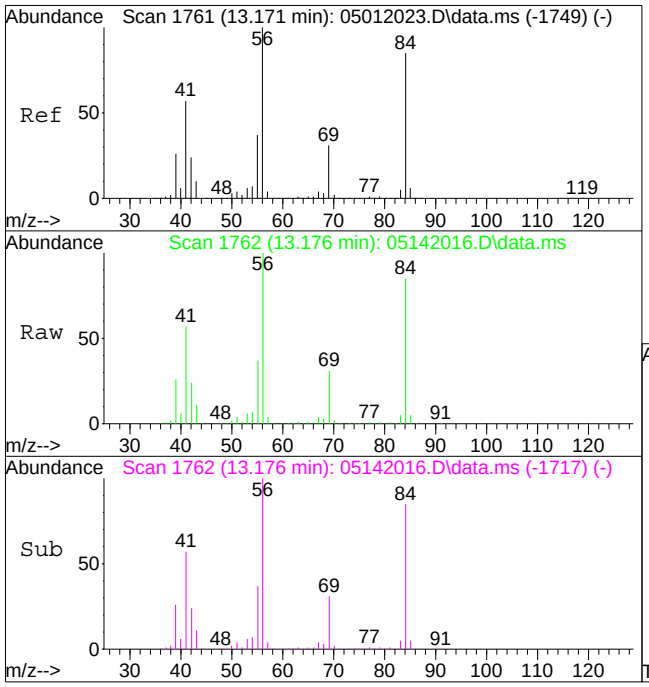


#41
Benzene
Concen: 15.14 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05142016.D
Acq: 14 May 2020 17:21

Tgt Ion: 78 Resp: 1925257

Ion	Ratio	Lower	Upper
78	100		
77	23.3	3.4	43.4

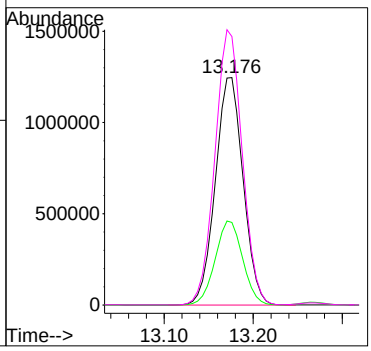


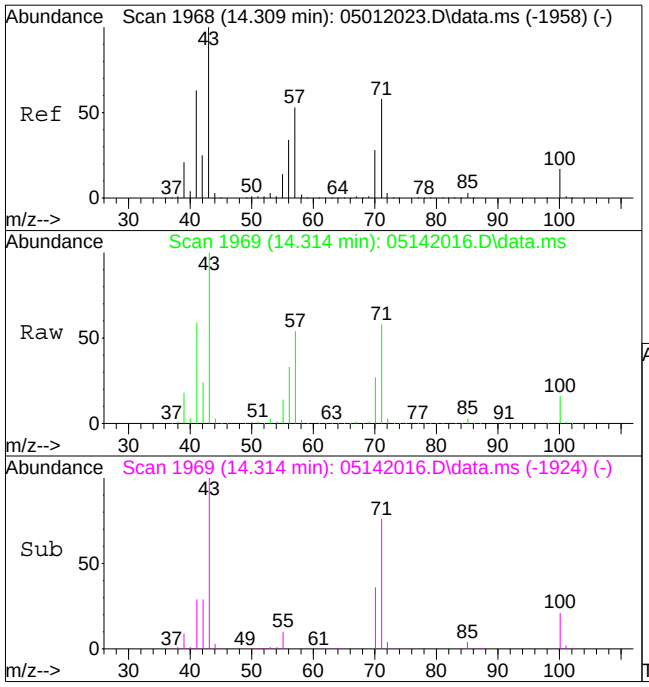


#43
Cyclohexane
Concen: 57.05 ng
RT: 13.18 min Scan# 1762
Delta R.T. -0.000 min
Lab File: 05142016.D
Acq: 14 May 2020 17:21

Tgt Ion: 84 Resp: 2703699

Ion	Ratio	Lower	Upper
84	100		
69	36.5	16.5	56.5
56	119.1	97.4	137.4

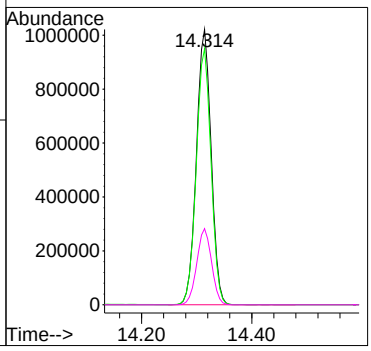


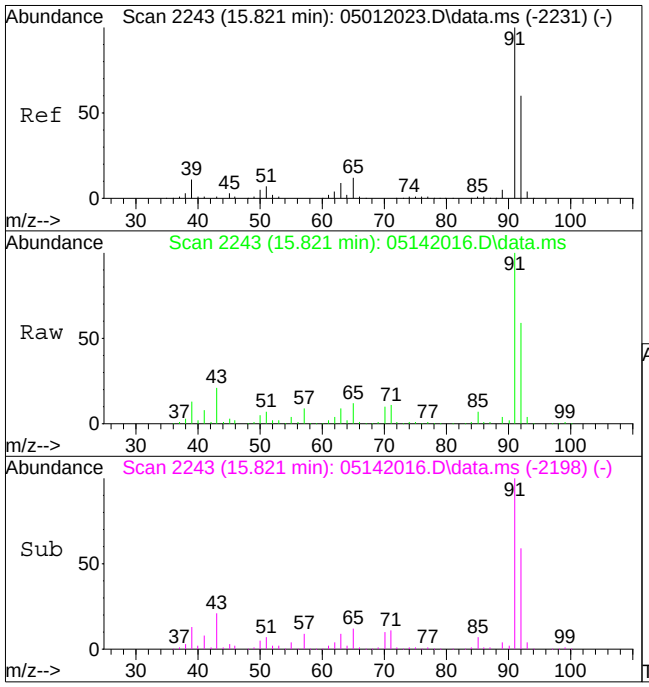


#51
n-Heptane
Concen: 63.50 ng
RT: 14.31 min Scan# 1969
Delta R.T. -0.000 min
Lab File: 05142016.D
Acq: 14 May 2020 17:21

Tgt Ion: 71 Resp: 1888495

Ion	Ratio	Lower	Upper
71	100		
57	93.1	71.0	111.0
100	27.7	8.4	48.4

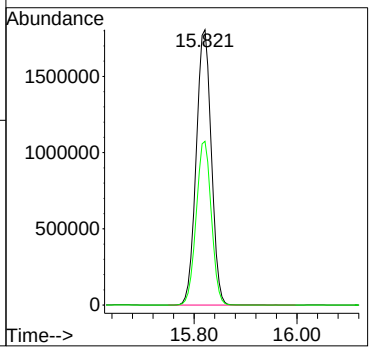


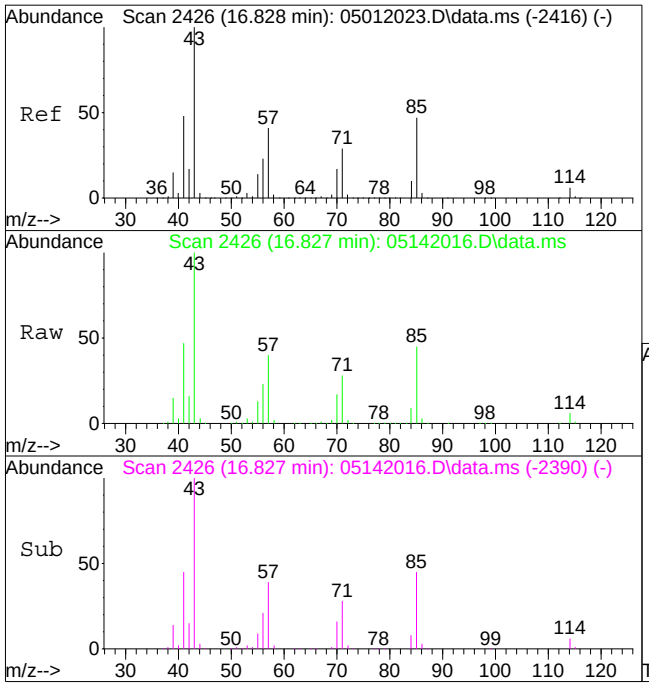


#58
Toluene
Concen: 29.72 ng
RT: 15.82 min Scan# 2243
Delta R.T. -0.000 min
Lab File: 05142016.D
Acq: 14 May 2020 17:21

Tgt Ion: 91 Resp: 3677203

Ion	Ratio	Lower	Upper
91	100		
92	59.6	39.4	79.4

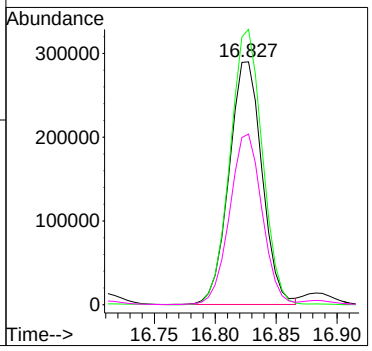


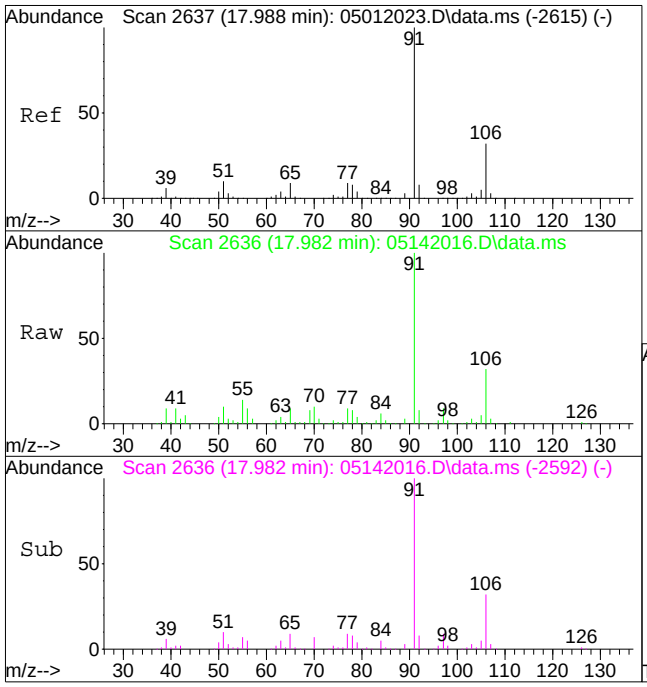


#63
n-Octane
Concen: 21.28 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05142016.D
Acq: 14 May 2020 17:21

Tgt Ion: 57 Resp: 545034

Ion	Ratio	Lower	Upper
57	100		
85	111.1	91.0	136.4
71	69.1	56.2	84.2

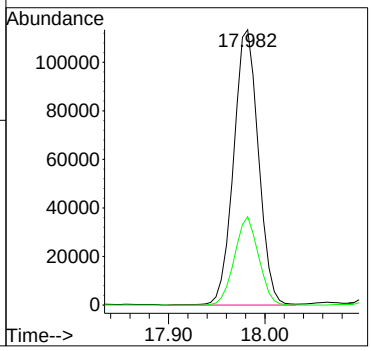


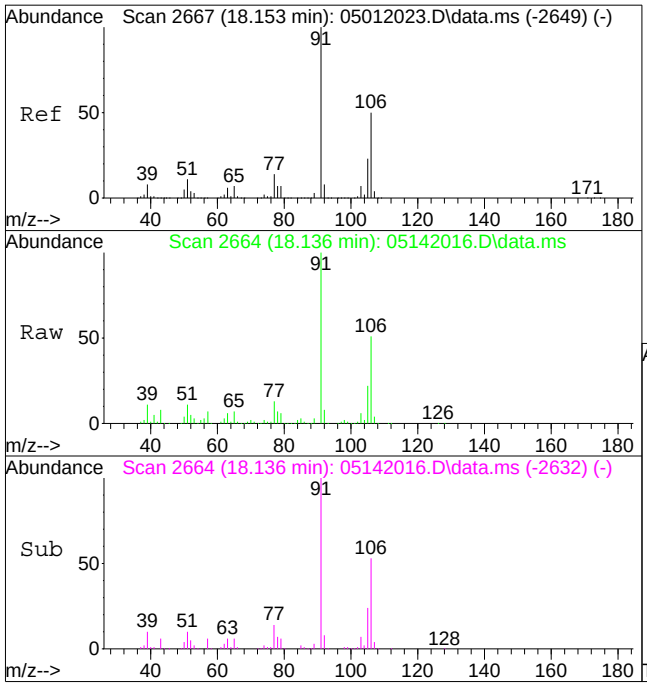


#66
Ethylbenzene
Concen: 1.47 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05142016.D
Acq: 14 May 2020 17:21

Tgt Ion: 91 Resp: 202998

Ion	Ratio	Lower	Upper
91	100		
106	31.0	11.6	51.6

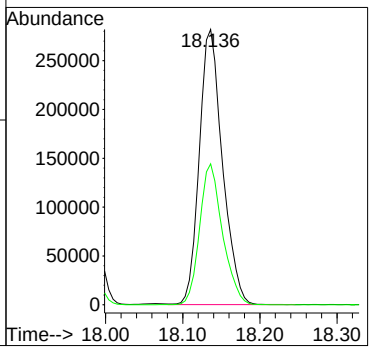


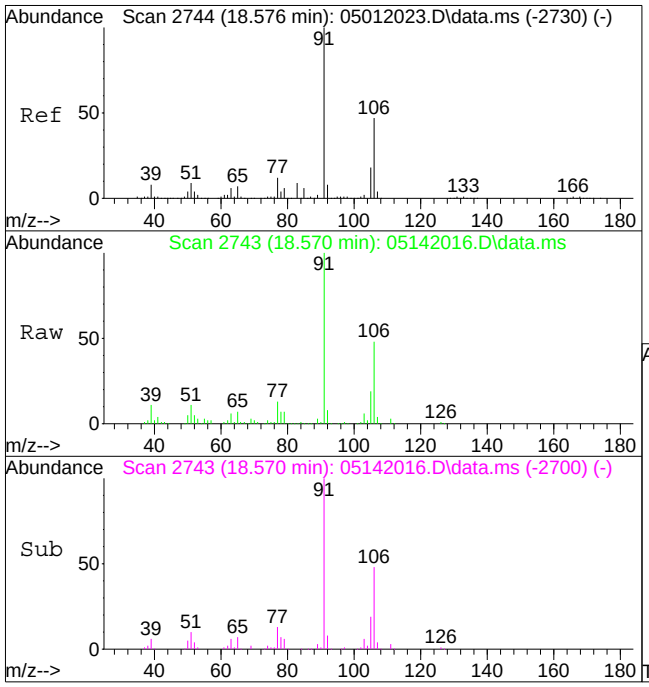


#67
m- & p-Xylenes
Concen: 5.36 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05142016.D
Acq: 14 May 2020 17:21

Tgt Ion: 91 Resp: 586623

Ion	Ratio	Lower	Upper
91	100		
106	50.7	29.7	69.7

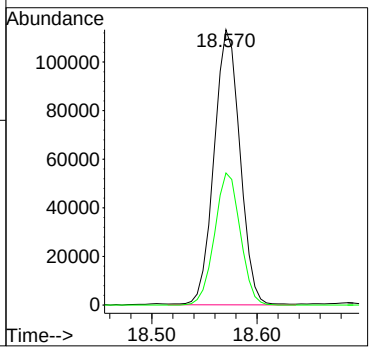


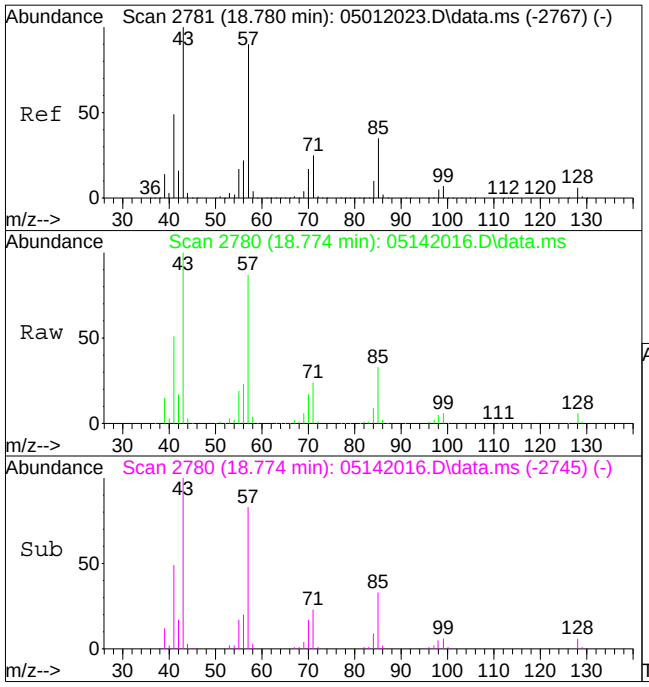


#70
o-Xylene
Concen: 1.75 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05142016.D
Acq: 14 May 2020 17:21

Tgt Ion: 91 Resp: 194408

Ion	Ratio	Lower	Upper
91	100		
106	47.5	27.5	67.5

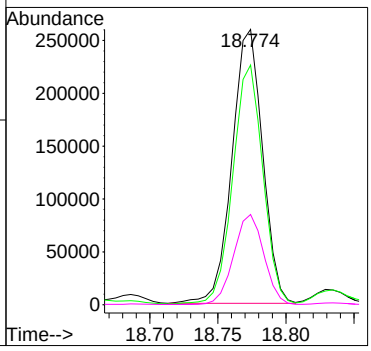


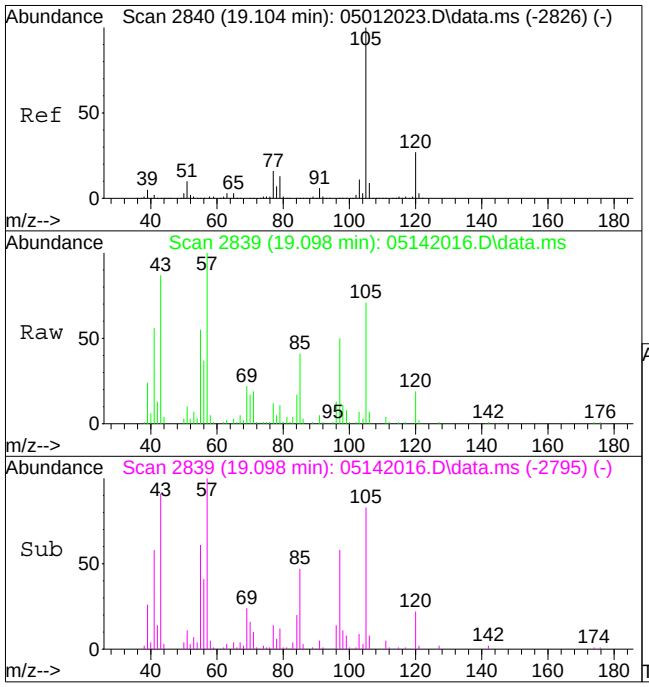


#71
n-Nonane
Concen: 6.87 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05142016.D
Acq: 14 May 2020 17:21

Tgt Ion: 43 Resp: 404861

Ion	Ratio	Lower	Upper
43	100		
57	85.5	69.0	109.0
85	32.5	14.6	54.6

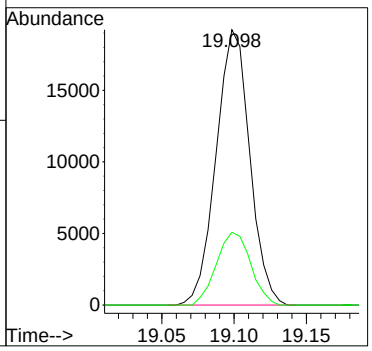


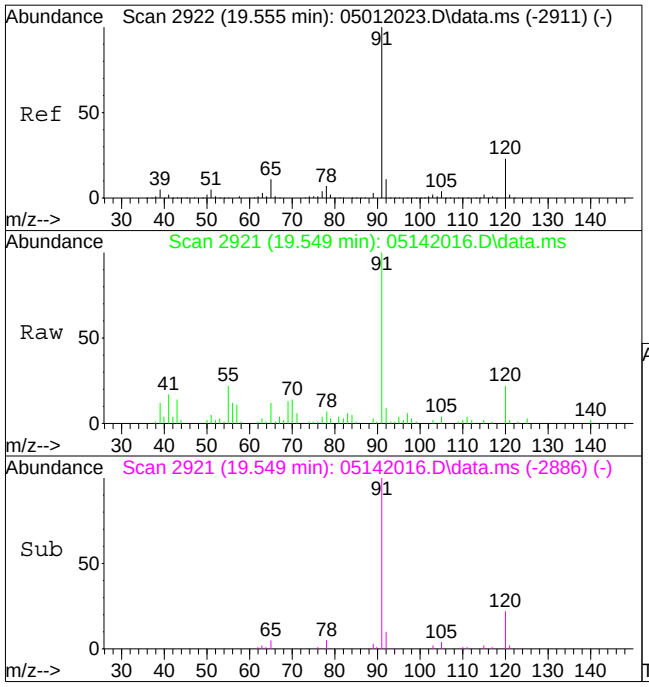


#74
Cumene
Concen: 0.23 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05142016.D
Acq: 14 May 2020 17:21

Tgt Ion:105 Resp: 31083

Ion	Ratio	Lower	Upper
105	100		
120	26.9	6.8	46.8

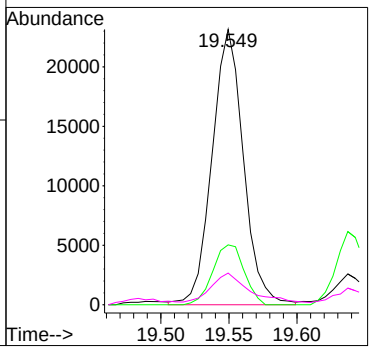


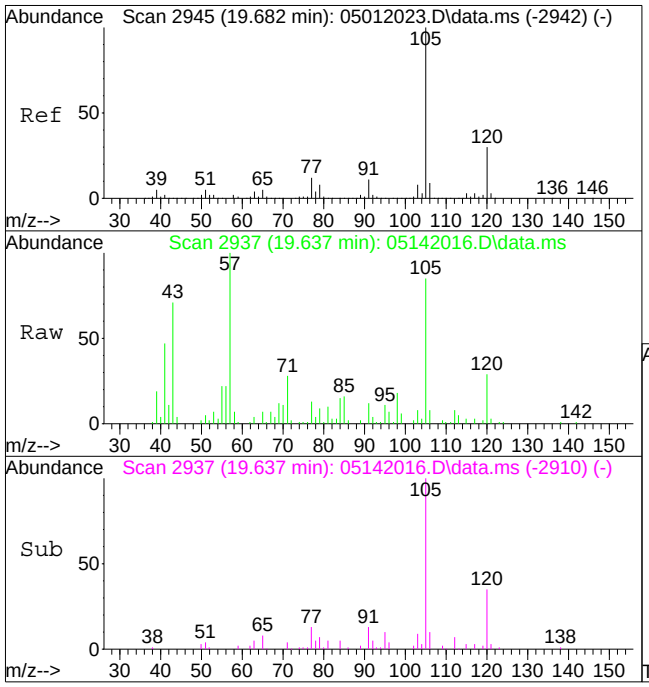


#76
n-Propylbenzene
Concen: 0.23 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05142016.D
Acq: 14 May 2020 17:21

Tgt Ion: 91 Resp: 37127

Ion	Ratio	Lower	Upper
91	100		
120	21.7	3.1	43.1
65	14.0	0.0	30.9

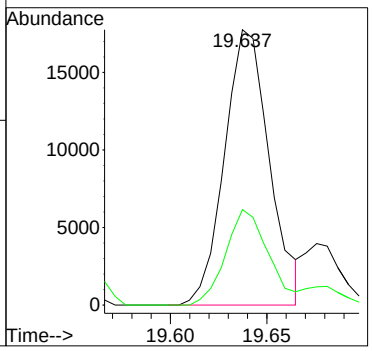


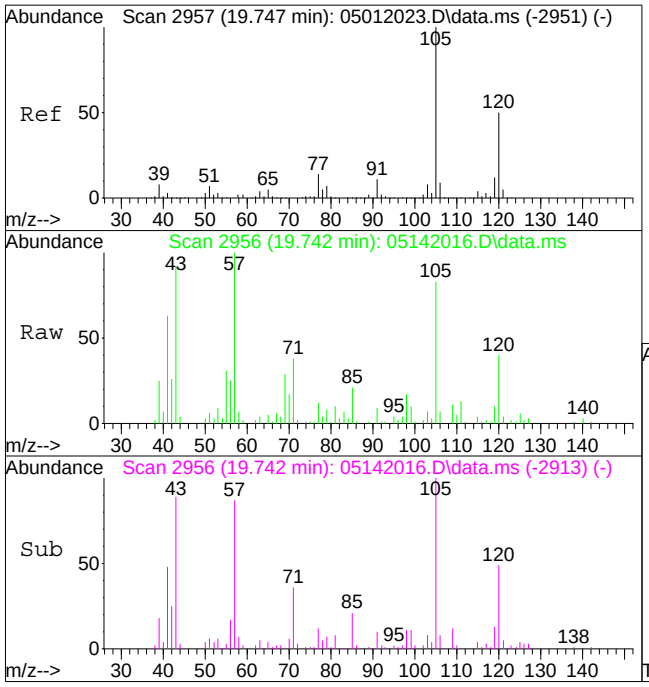


#78
4-Ethyltoluene
Concen: 0.22 ng
RT: 19.64 min Scan# 2937
Delta R.T. -0.050 min
Lab File: 05142016.D
Acq: 14 May 2020 17:21

Tgt Ion:105 Resp: 28726

Ion	Ratio	Lower	Upper
105	100		
120	32.9	10.4	50.4

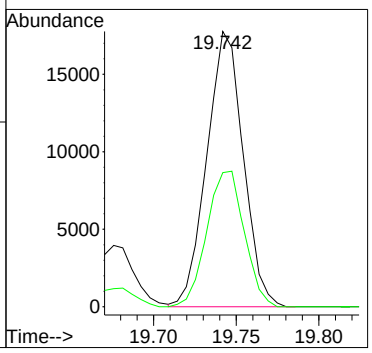


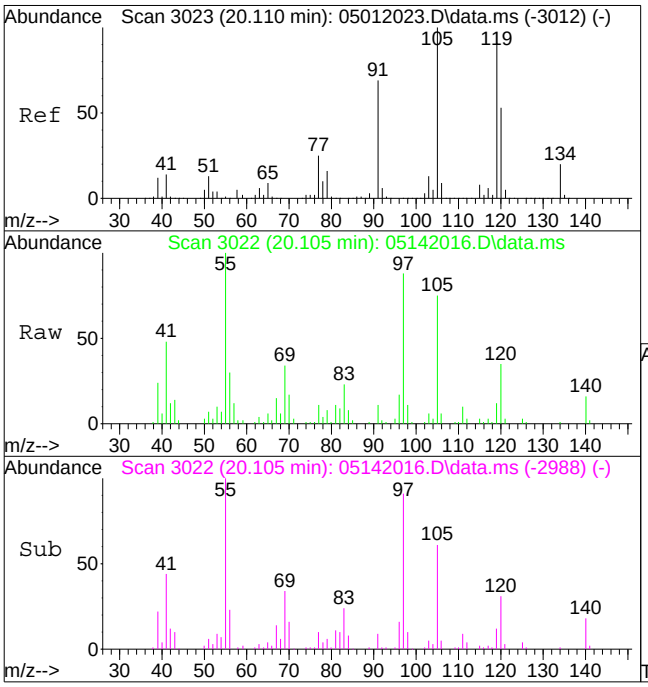


#79
1,3,5-Trimethylbenzene
Concen: 0.25 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05142016.D
Acq: 14 May 2020 17:21

Tgt Ion:105 Resp: 27260

Ion	Ratio	Lower	Upper
105	100		
120	50.5	29.9	69.9

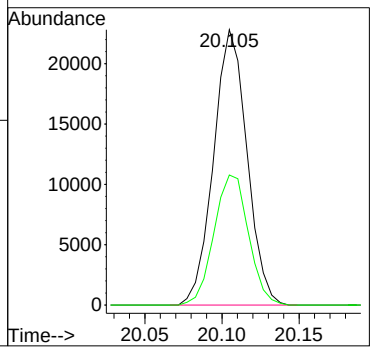




#82
1,2,4-Trimethylbenzene
Concen: 0.31 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05142016.D
Acq: 14 May 2020 17:21

Tgt Ion:105 Resp: 34389

Ion	Ratio	Lower	Upper
105	100		
120	48.7	33.6	73.6



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142017.D Vial: 1
Acq On : 14 May 2020 17:54 Operator: LH
Sample : P2002301-019 (0.05mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 20:08:32 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/14/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	268732	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1179809	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	574585	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	440952	12.108	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.88%			
57) Toluene-d8 (SS2)	15.72	98	1195894	12.279	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.24%			
73) Bromofluorobenzene (SS3)	18.97	174	446830	12.751	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.00%			
Target Compounds						Qvalue
2) Propene	4.14	42	1188	N.D.		
3) Dichlorodifluoromethan...	4.29	85	635	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.34	45	6480	0.270	ng	85
11) Acetonitrile	6.64	41	307	N.D.		
12) Acrolein	6.81	56	363	N.D.		
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	7.56	45	1247	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.	d	
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	8.47	59	50	N.D.		
19) Methylene Chloride	8.40	84	849	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d	
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	8.69	76	774	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.	d	
25) Methyl tert-Butyl Ether	10.06	73	804	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	10.33	72	313	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	11.27	61	2269	0.192	ng #	1
31) n-Hexane	11.27	57	3804236	74.207	ng	100
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d	
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.	d	
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	12.87	78	2107078	16.654	ng	100
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	13.18	84	2925834	62.057	ng	98
44) tert-Amyl Methyl Ether	13.45	73	1517	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d	
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	13.97	130	162	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142017.D Vial: 1
Acq On : 14 May 2020 17:54 Operator: LH
Sample : P2002301-019 (0.05mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 20:08:32 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

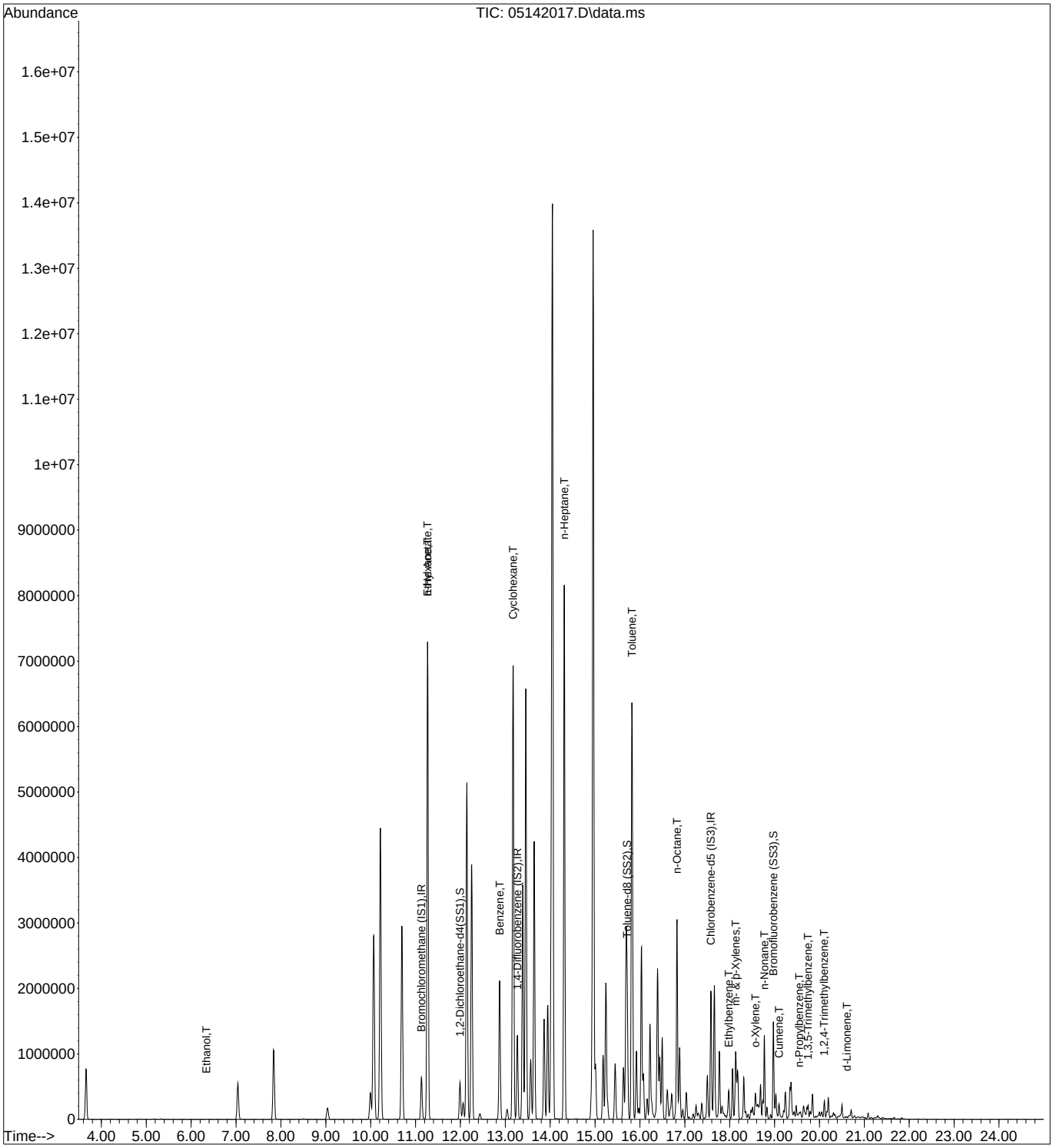
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	2025893	68.472 ng	98
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	15.14	75	293	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	15.82	91	3997145	31.840 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	16.48	107	852	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	16.83	57	586940	22.583 ng	98
64) Tetrachloroethene	16.96	166	402	N.D.	
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	17.98	91	223805	1.599 ng	100
67) m- & p-Xylenes	18.14	91	660648	5.949 ng	99
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	231	N.D.	
70) o-Xylene	18.57	91	222864	1.977 ng	100
71) n-Nonane	18.77	43	440968	7.372 ng	97
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	19.10	105	36365	0.263 ng	99
75) alpha-Pinene	19.45	93	254	N.D.	
76) n-Propylbenzene	19.55	91	43631	0.265 ng	96
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	0.00	105	0	N.D. d	
79) 1,3,5-Trimethylbenzene	19.74	105	32765	0.290 ng	99
80) alpha-Methylstyrene	19.75	118	125	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.10	105	43723	0.386 ng	91
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	0.00	91	0	N.D. d	
85) 1,3-Dichlorobenzene	20.30	146	158	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	158	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	20.48	119	3216	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.61	68	3160	0.071 ng	97
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.21	128	1102	N.D.	
96) n-Dodecane	22.21	57	747	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	20.85	91	2968	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142017.D Vial: 1
Acq On : 14 May 2020 17:54 Operator: LH
Sample : P2002301-019 (0.05mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 20:08:32 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142017.D Vial: 1
Acq On : 14 May 2020 17:54 Operator: LH
Sample : P2002301-019 (0.05mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 20:08:32 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/14/20

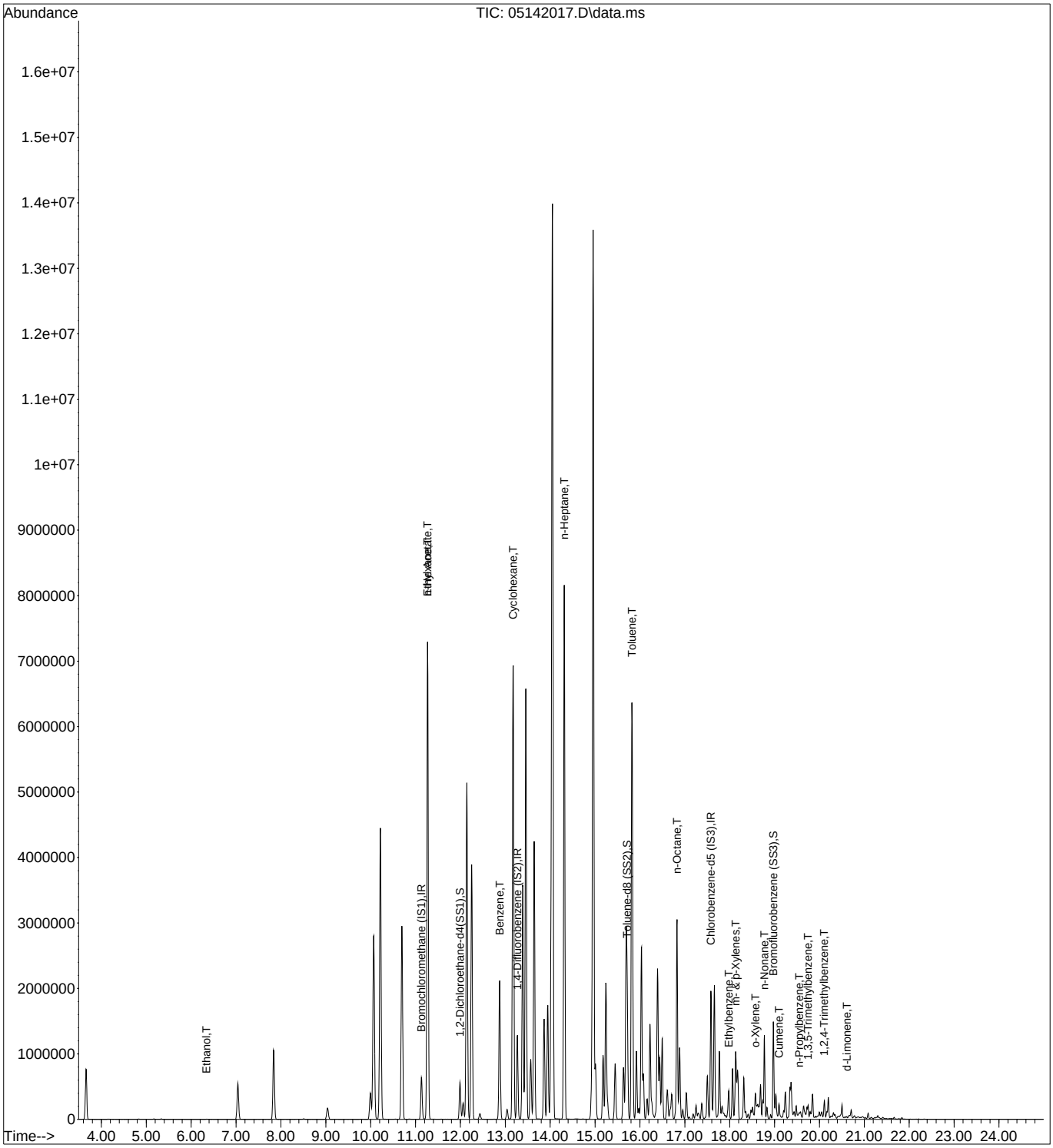
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	268732	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1179809	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	574585	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	440952	12.108	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.88%				
57) Toluene-d8 (SS2)	15.72	98	1195894	12.279	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.24%				
73) Bromofluorobenzene (SS3)	18.97	174	446830	12.751	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.00%				
Target Compounds							Qvalue
10) Ethanol	6.34	45	6480	0.270	ng		85
30) Ethyl Acetate	11.27	61	2269	0.192	ng	#	1
31) n-Hexane	11.27	57	3804236	74.207	ng		100
41) Benzene	12.87	78	2107078	16.654	ng		100
43) Cyclohexane	13.18	84	2925834	62.057	ng		98
51) n-Heptane	14.31	71	2025893	68.472	ng		98
58) Toluene	15.82	91	3997145	31.840	ng		100
63) n-Octane	16.83	57	586940	22.583	ng		98
66) Ethylbenzene	17.98	91	223805	1.599	ng		100
67) m- & p-Xylenes	18.14	91	660648	5.949	ng		99
70) o-Xylene	18.57	91	222864	1.977	ng		100
71) n-Nonane	18.77	43	440968	7.372	ng		97
74) Cumene	19.10	105	36365	0.263	ng		99
76) n-Propylbenzene	19.55	91	43631	0.265	ng		96
79) 1,3,5-Trimethylbenzene	19.74	105	32765	0.290	ng		99
82) 1,2,4-Trimethylbenzene	20.10	105	43723	0.386	ng		91
91) d-Limonene	20.61	68	3160	0.071	ng		97

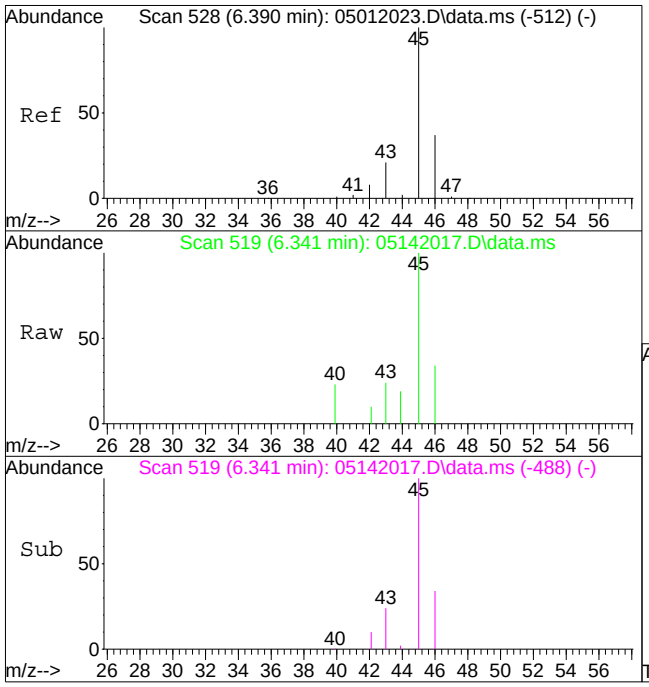
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142017.D Vial: 1
Acq On : 14 May 2020 17:54 Operator: LH
Sample : P2002301-019 (0.05mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 20:08:32 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

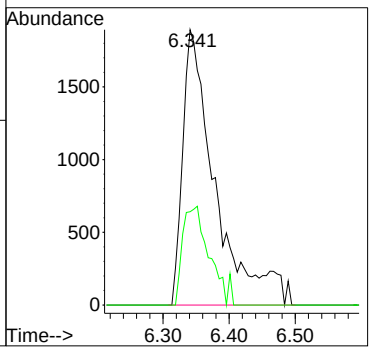


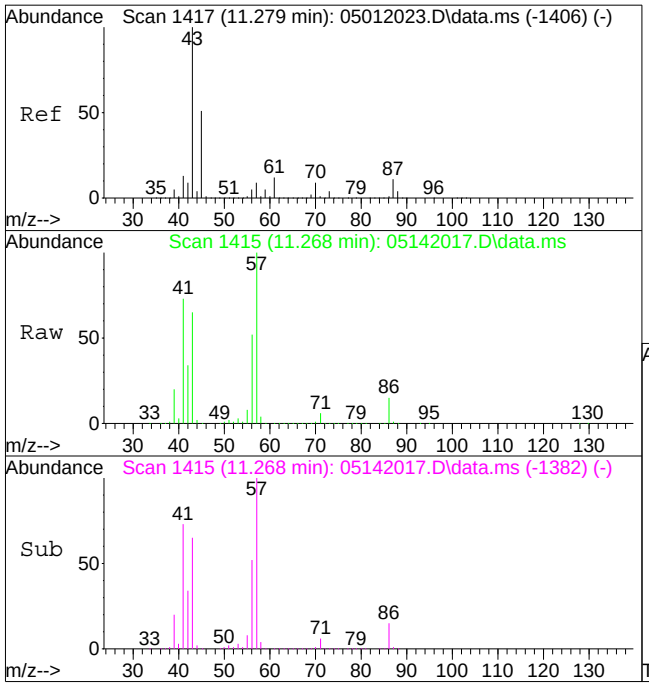


#10
Ethanol
Concen: 0.27 ng
RT: 6.34 min Scan# 519
Delta R.T. -0.077 min
Lab File: 05142017.D
Acq: 14 May 2020 17:54

Tgt Ion: 45 Resp: 6480

Ion	Ratio	Lower	Upper
45	100		
46	28.2	17.2	57.2

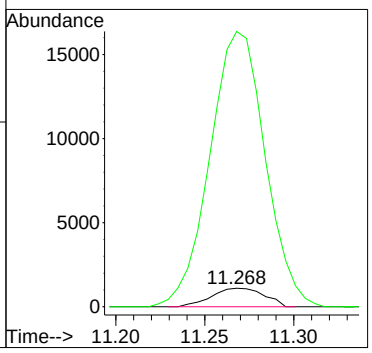


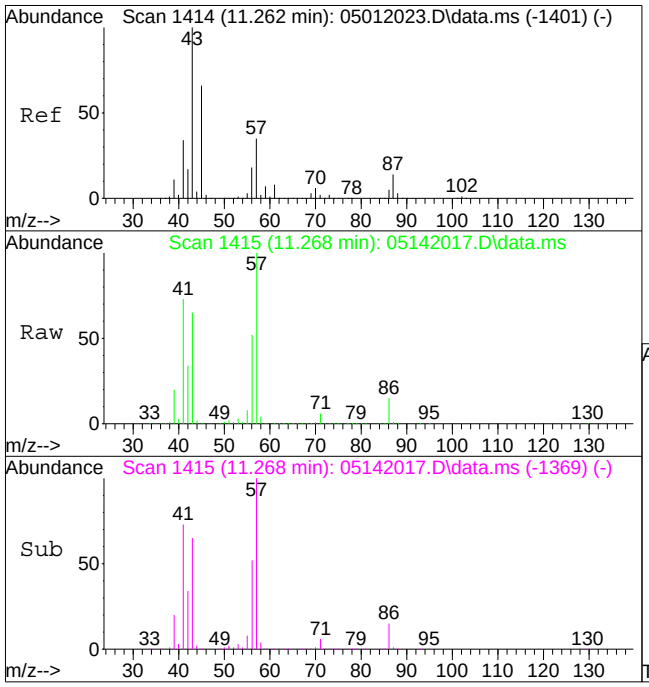


#30
Ethyl Acetate
Concen: 0.19 ng
RT: 11.27 min Scan# 1415
Delta R.T. -0.017 min
Lab File: 05142017.D
Acq: 14 May 2020 17:54

Tgt Ion: 61 Resp: 2269

Ion	Ratio	Lower	Upper
61	100		
70	1559.3	57.9	97.9#

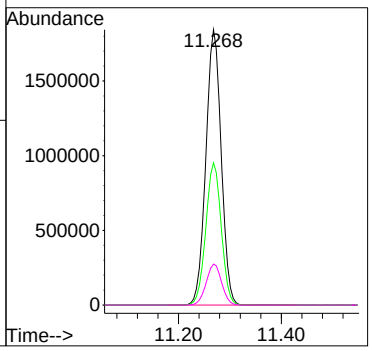


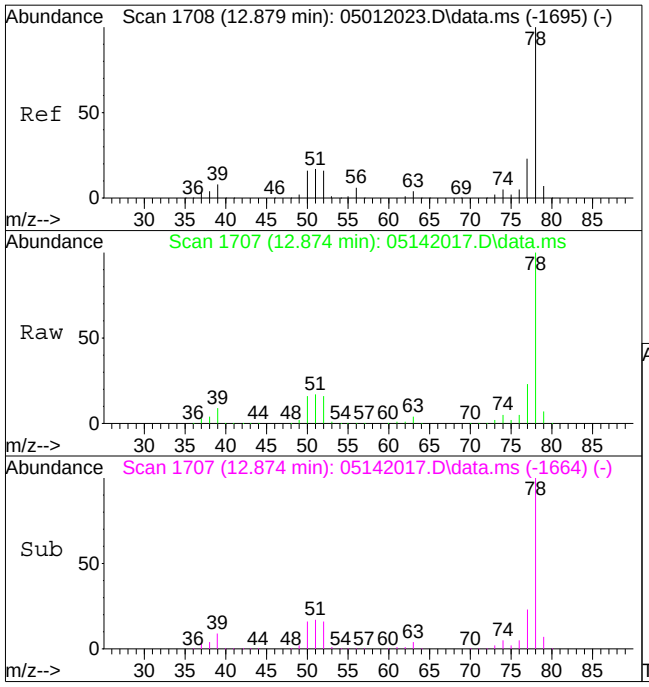


#31
n-Hexane
Concen: 74.21 ng
RT: 11.27 min Scan# 1415
Delta R.T. 0.005 min
Lab File: 05142017.D
Acq: 14 May 2020 17:54

Tgt Ion: 57 Resp: 3804236

Ion	Ratio	Lower	Upper
57	100		
56	51.9	41.4	62.0
86	15.0	12.4	18.6

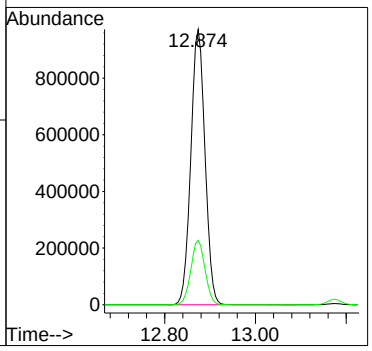


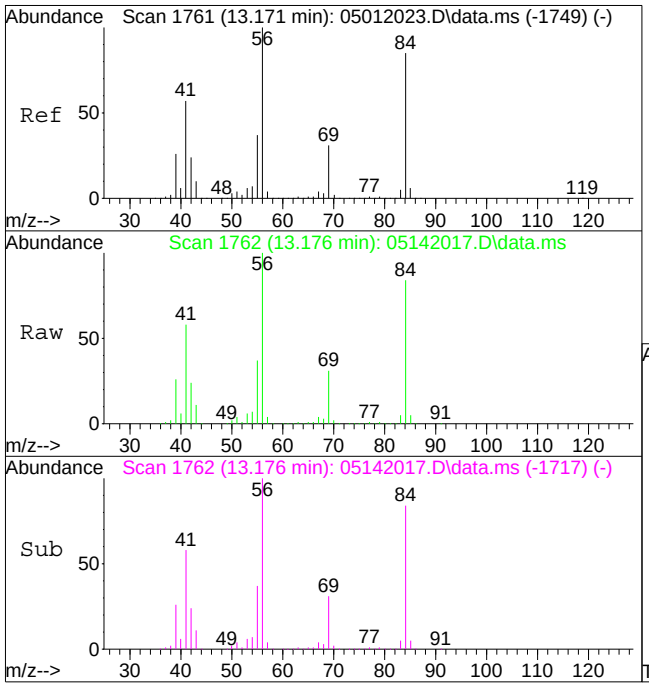


#41
Benzene
Concen: 16.65 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05142017.D
Acq: 14 May 2020 17:54

Tgt Ion: 78 Resp: 2107078

Ion	Ratio	Lower	Upper
78	100		
77	23.3	3.4	43.4

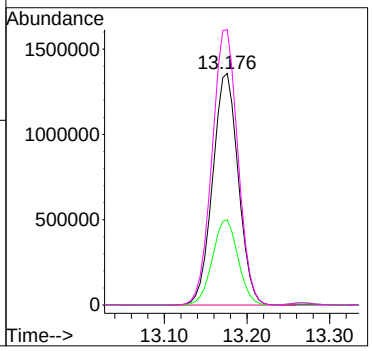


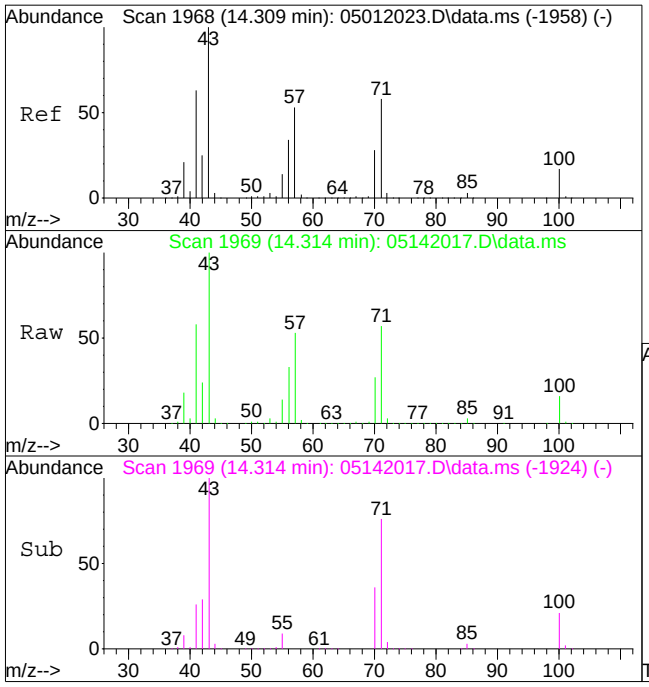


#43
Cyclohexane
Concen: 62.06 ng
RT: 13.18 min Scan# 1762
Delta R.T. -0.000 min
Lab File: 05142017.D
Acq: 14 May 2020 17:54

Tgt Ion: 84 Resp: 2925834

Ion	Ratio	Lower	Upper
84	100		
69	36.8	16.5	56.5
56	119.8	97.4	137.4

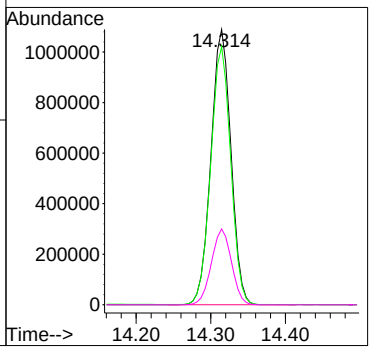


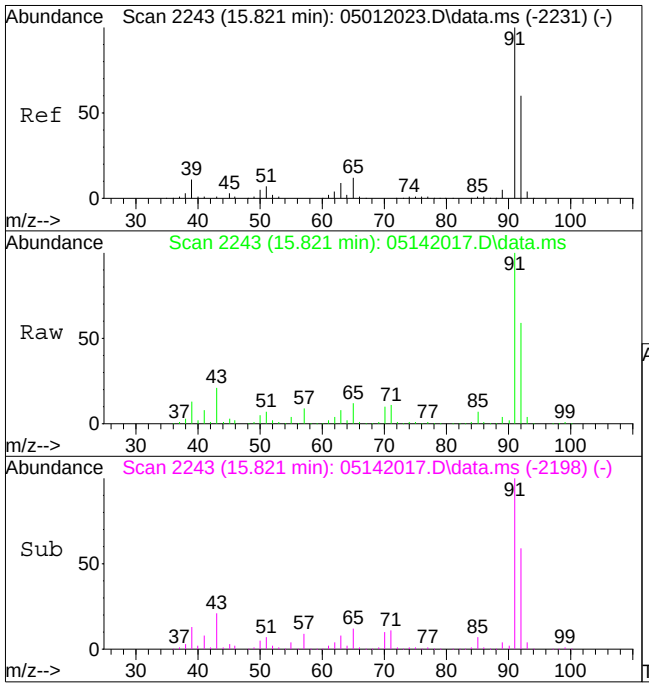


#51
n-Heptane
Concen: 68.47 ng
RT: 14.31 min Scan# 1969
Delta R.T. -0.000 min
Lab File: 05142017.D
Acq: 14 May 2020 17:54

Tgt Ion: 71 Resp: 2025893

Ion	Ratio	Lower	Upper
71	100		
57	93.5	71.0	111.0
100	27.7	8.4	48.4

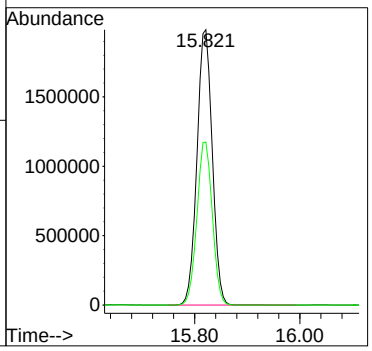


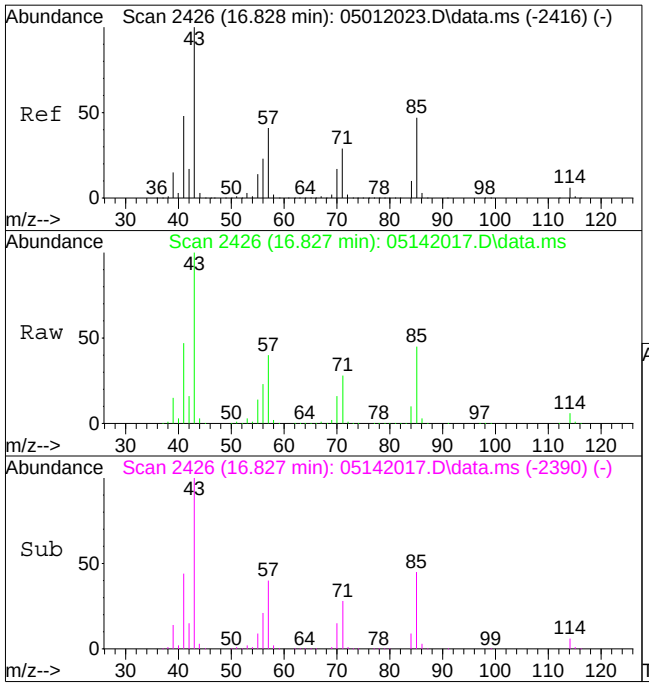


#58
Toluene
Concen: 31.84 ng
RT: 15.82 min Scan# 2243
Delta R.T. -0.000 min
Lab File: 05142017.D
Acq: 14 May 2020 17:54

Tgt Ion: 91 Resp: 3997145

Ion	Ratio	Lower	Upper
91	100		
92	59.6	39.4	79.4

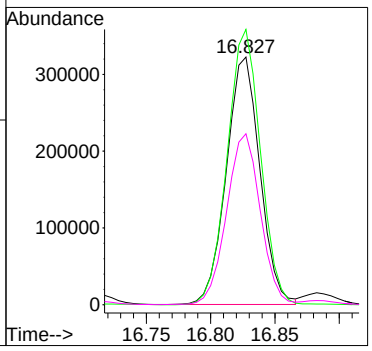


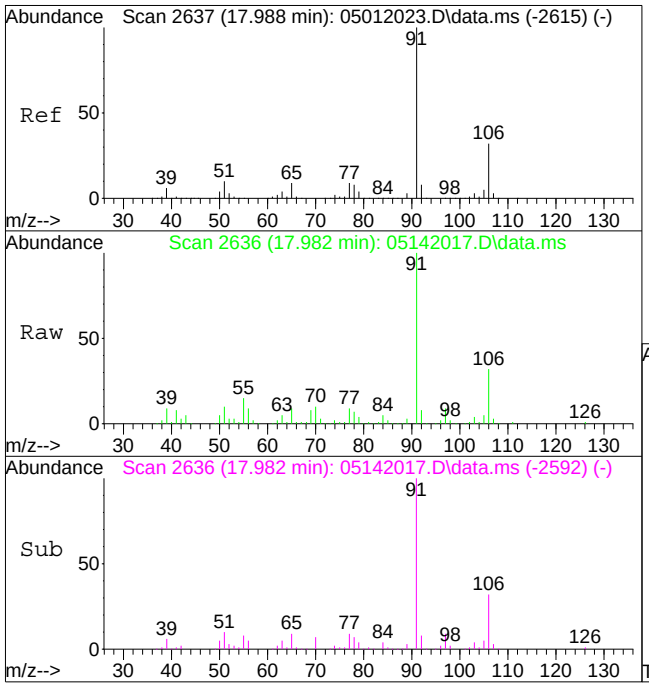


#63
n-Octane
Concen: 22.58 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05142017.D
Acq: 14 May 2020 17:54

Tgt Ion: 57 Resp: 586940

Ion	Ratio	Lower	Upper
57	100		
85	110.4	91.0	136.4
71	69.1	56.2	84.2

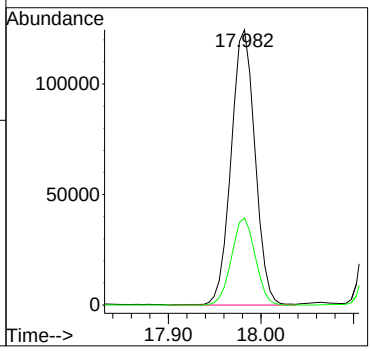


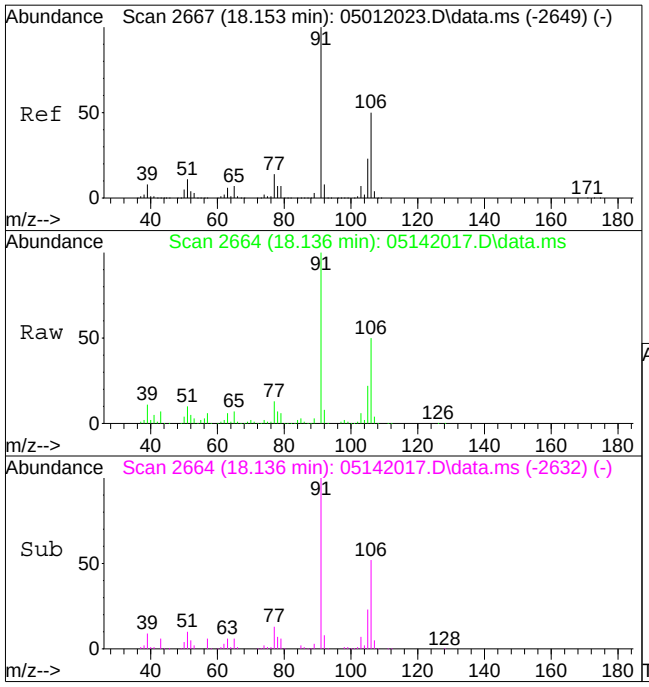


#66
Ethylbenzene
Concen: 1.60 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05142017.D
Acq: 14 May 2020 17:54

Tgt Ion: 91 Resp: 223805

Ion	Ratio	Lower	Upper
91	100		
106	31.4	11.6	51.6

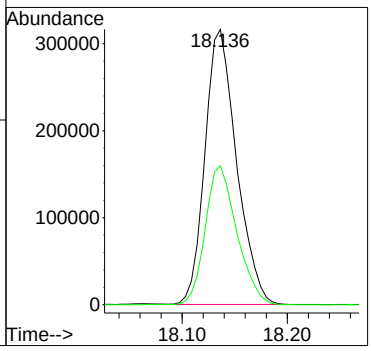


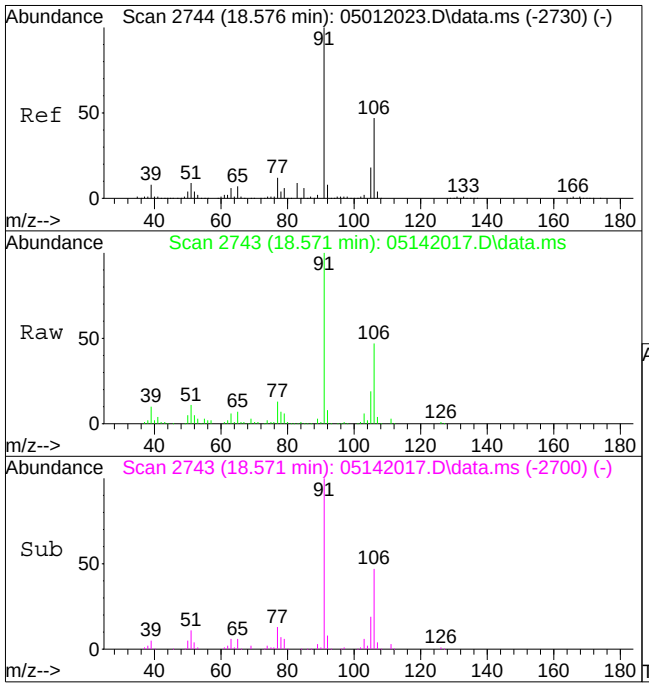


#67
m- & p-Xylenes
Concen: 5.95 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05142017.D
Acq: 14 May 2020 17:54

Tgt Ion: 91 Resp: 660648

Ion	Ratio	Lower	Upper
91	100		
106	50.5	29.7	69.7

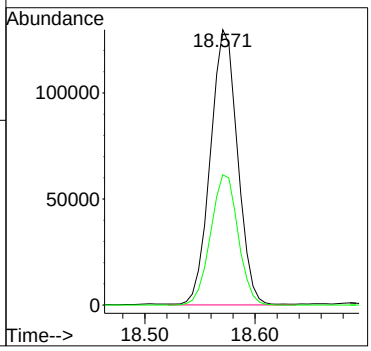


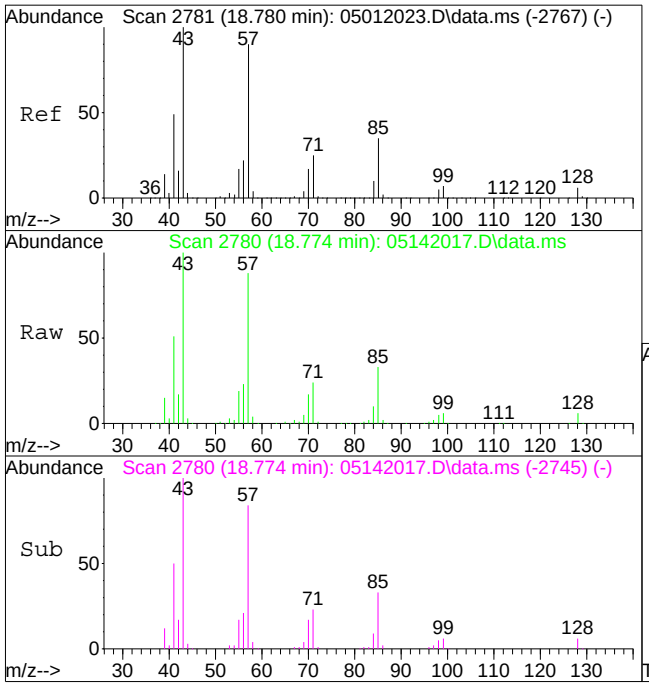


#70
o-Xylene
Concen: 1.98 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05142017.D
Acq: 14 May 2020 17:54

Tgt Ion: 91 Resp: 222864

Ion	Ratio	Lower	Upper
91	100		
106	47.8	27.5	67.5

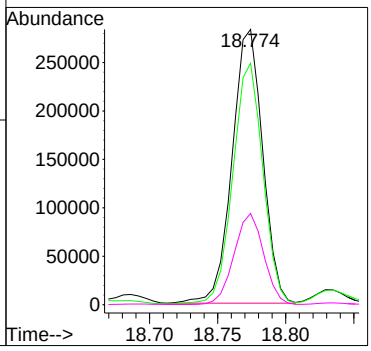


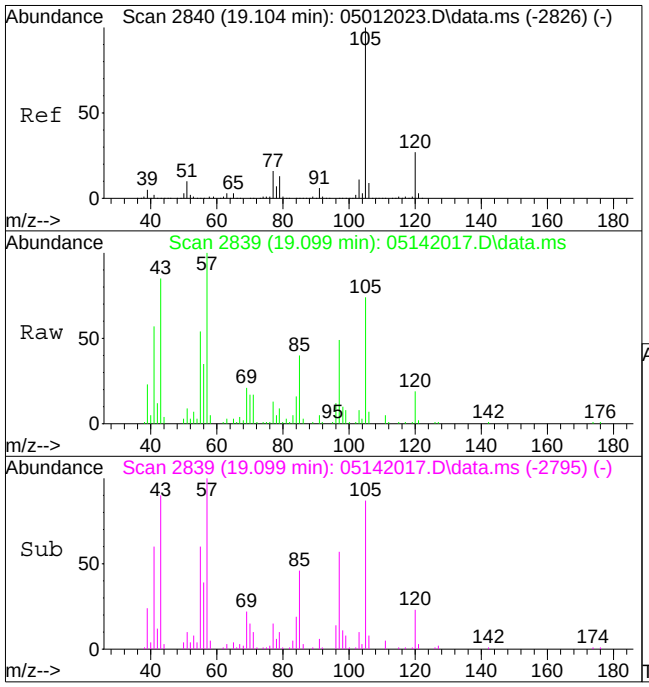


#71
n-Nonane
Concen: 7.37 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05142017.D
Acq: 14 May 2020 17:54

Tgt Ion: 43 Resp: 440968

Ion	Ratio	Lower	Upper
43	100		
57	86.4	69.0	109.0
85	32.4	14.6	54.6

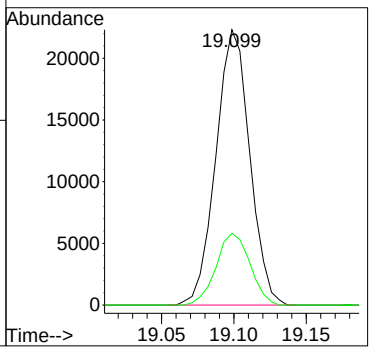


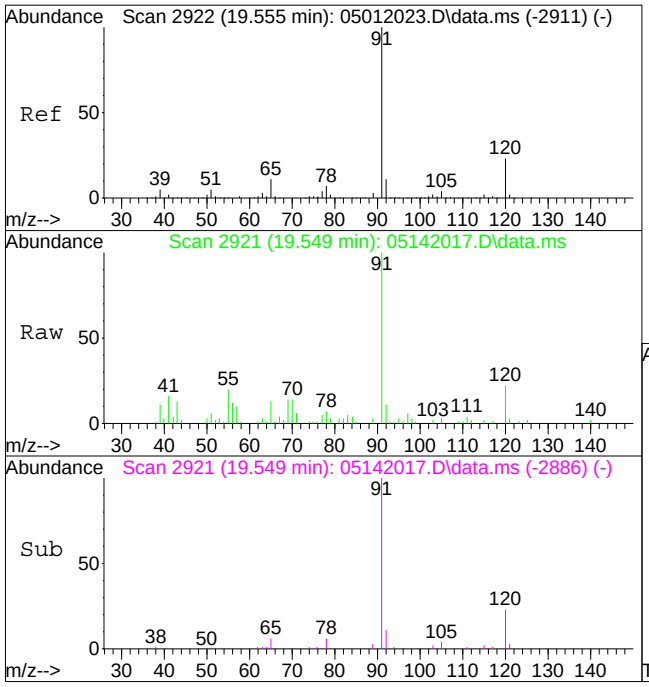


#74
Cumene
Concen: 0.26 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05142017.D
Acq: 14 May 2020 17:54

Tgt Ion:105 Resp: 36365

Ion	Ratio	Lower	Upper
105	100		
120	26.1	6.8	46.8

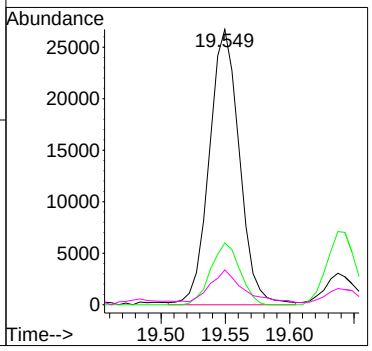


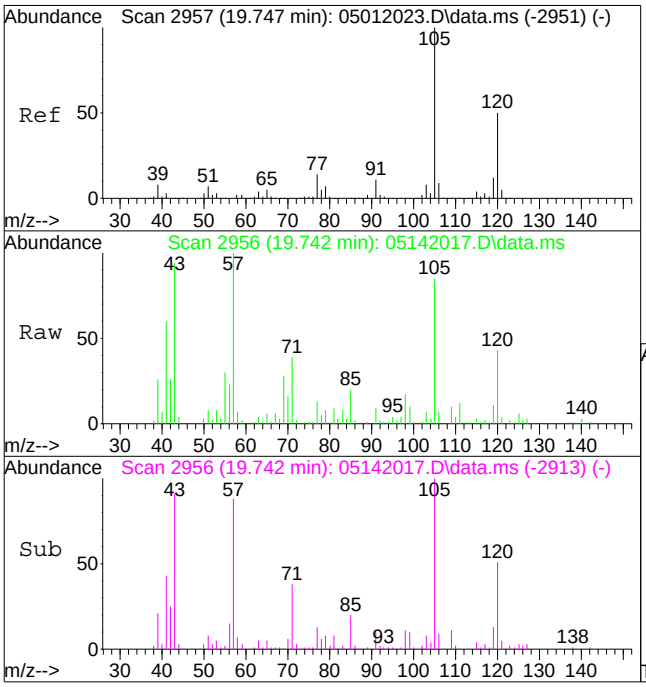


#76
n-Propylbenzene
Concen: 0.27 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05142017.D
Acq: 14 May 2020 17:54

Tgt Ion: 91 Resp: 43631

Ion	Ratio	Lower	Upper
91	100		
120	21.7	3.1	43.1
65	12.8	0.0	30.9

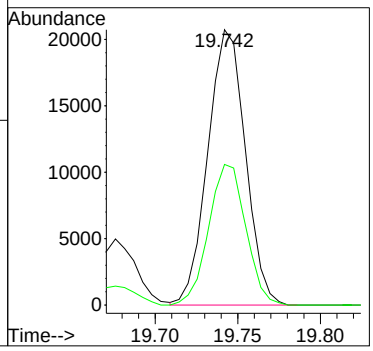


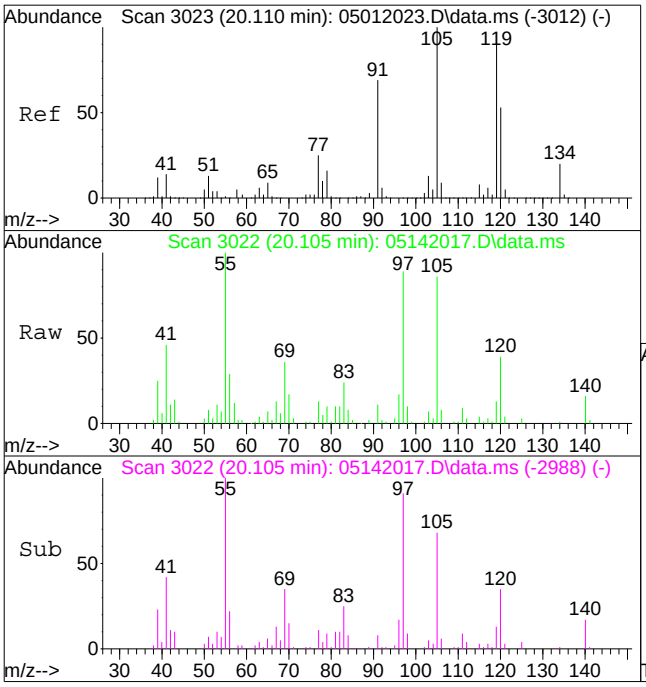


#79
1,3,5-Trimethylbenzene
Concen: 0.29 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05142017.D
Acq: 14 May 2020 17:54

Tgt Ion:105 Resp: 32765

Ion	Ratio	Lower	Upper
105	100		
120	50.4	29.9	69.9

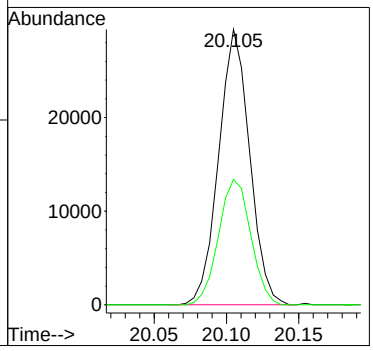


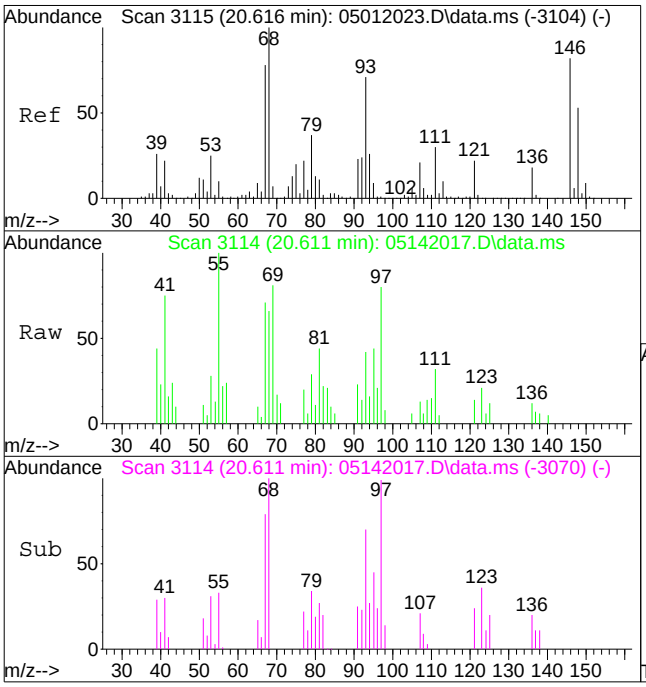


#82
1,2,4-Trimethylbenzene
Concen: 0.39 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05142017.D
Acq: 14 May 2020 17:54

Tgt Ion:105 Resp: 43723

Ion	Ratio	Lower	Upper
105	100		
120	47.4	33.6	73.6

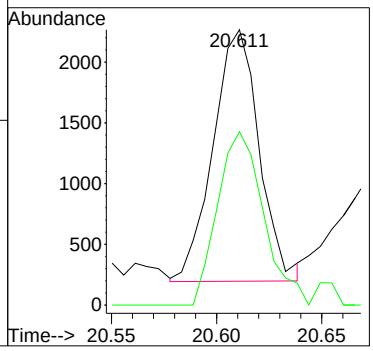




#91
d-Limonene
Concen: 0.07 ng
RT: 20.61 min Scan# 3114
Delta R.T. -0.006 min
Lab File: 05142017.D
Acq: 14 May 2020 17:54

Tgt Ion: 68 Resp: 3160

Ion	Ratio	Lower	Upper
68	100		
93	68.7	51.1	91.1



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142018.D Vial: 13
Acq On : 14 May 2020 18:28 Operator: LH
Sample : P2002301-020 (300mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 20:10:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/14/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	270369	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1168567	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	589716	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	439781	12.002	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.00%				
57) Toluene-d8 (SS2)	15.72	98	1188652	11.892	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.12%				
73) Bromofluorobenzene (SS3)	18.98	174	450329	12.521	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.16%				
Target Compounds							Qvalue
2) Propene	4.09	42	19729	0.630	ng		98
3) Dichlorodifluoromethan...	4.25	85	47771	0.780	ng		99
4) Chloromethane	4.52	50	5926	0.124	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.79	135	809	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.20	54	169	N.D.			
8) Bromomethane	5.63	94	109	N.D.			
9) Chloroethane	5.97	64	287	N.D.			
10) Ethanol	6.33	45	37645	1.557	ng		99
11) Acetonitrile	6.59	41	3721	0.067	ng		89
12) Acrolein	6.78	56	2746	0.144	ng		90
13) Acetone	6.98	58	90123	3.727	ng	#	81
14) Trichlorofluoromethane	7.23	101	56893	1.051	ng		100
15) 2-Propanol (Isopropanol)	7.49	45	84621	1.156	ng		90
16) Acrylonitrile	7.82	53	1263	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	815	N.D.			
20) 3-Chloro-1-propene (Al...	8.58	41	110	N.D.			
21) Trichlorotrifluoroethane	8.84	151	266464	10.427	ng		98
22) Carbon Disulfide	8.67	76	151632	1.346	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.07	73	730	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.47	72	7170	0.348	ng	#	85
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.28	61	6003	0.505	ng	#	1
31) n-Hexane	11.26	57	644052	12.487	ng		100
32) Chloroform	11.31	83	761	N.D.			
34) Tetrahydrofuran (THF)	11.71	72	103967	5.169	ng		97
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.13	62	2068	N.D.			
38) 1,1,1-Trichloroethane	12.40	97	912	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	1132552	9.038	ng		100
42) Carbon Tetrachloride	13.03	117	6210	0.146	ng		100
43) Cyclohexane	13.17	84	636139	13.622	ng		100
44) tert-Amyl Methyl Ether	13.45	73	384	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	13.97	130	360	N.D.			
48) 1,4-Dioxane	13.96	88	489	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142018.D Vial: 13
Acq On : 14 May 2020 18:28 Operator: LH
Sample : P2002301-020 (300mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 20:10:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

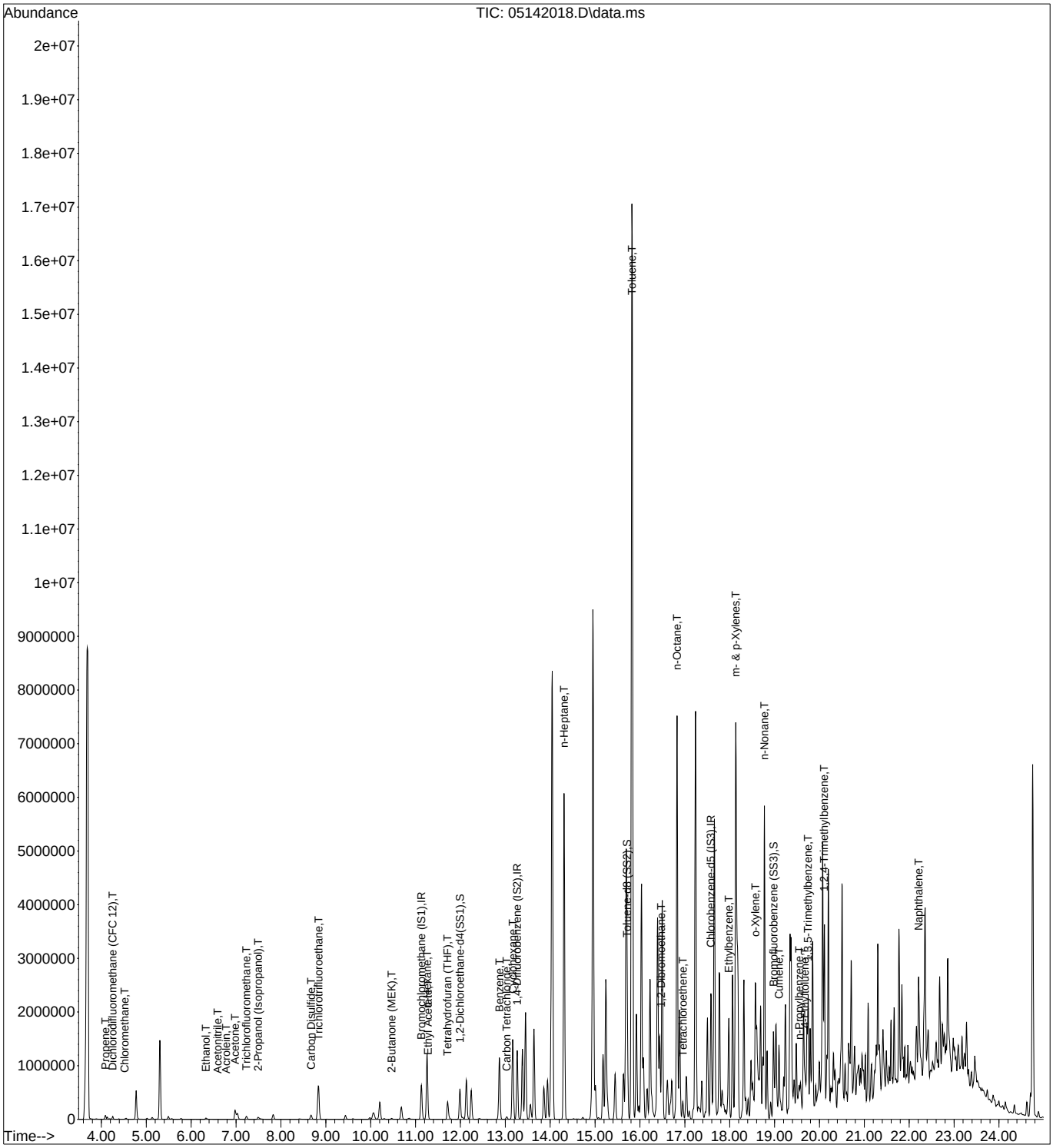
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.31	71	1506133	51.395	ng		98
52) cis-1,3-Dichloropropene	14.95	75	1995	N.D.			
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	d		
54) trans-1,3-Dichloropropene	15.14	75	495	N.D.			
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	d		
58) Toluene	15.82	91	11311074	87.788	ng		98
59) 2-Hexanone	0.00	43	0	N.D.	d		
60) Dibromochloromethane	0.00	129	0	N.D.			
61) 1,2-Dibromoethane	16.48	107	7598	0.214	ng		98
62) n-Butyl Acetate	0.00	43	0	N.D.	d		
63) n-Octane	16.83	57	1444869	54.166	ng		97
64) Tetrachloroethene	16.96	166	8540	0.235	ng		95
65) Chlorobenzene	0.00	112	0	N.D.	d		
66) Ethylbenzene	17.98	91	1126222	7.839	ng		99
67) m- & p-Xylenes	18.14	91	5099544	44.741	ng		100
68) Bromoform	0.00	173	0	N.D.			
69) Styrene	18.47	104	1807	N.D.			
70) o-Xylene	18.57	91	1451170	12.541	ng		100
71) n-Nonane	18.77	43	2009733	32.735	ng		97
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	d		
74) Cumene	19.10	105	167499	1.180	ng		99
75) alpha-Pinene	19.44	93	550	N.D.			
76) n-Propylbenzene	19.55	91	261093	1.548	ng		97
77) 3-Ethyltoluene	0.00	105	0	N.D.	d		
78) 4-Ethyltoluene	19.68	105	104347	0.782	ng	#	44
79) 1,3,5-Trimethylbenzene	19.74	105	440540	3.804	ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D.	d		
81) 2-Ethyltoluene	0.00	105	0	N.D.	d		
82) 1,2,4-Trimethylbenzene	20.10	105	794417	6.825	ng		91
83) n-Decane	0.00	57	0	N.D.	d		
84) Benzyl Chloride	20.20	91	5403	N.D.			
85) 1,3-Dichlorobenzene	20.30	146	517	N.D.			
86) 1,4-Dichlorobenzene	20.30	146	517	N.D.			
87) sec-Butylbenzene	0.00	105	0	N.D.	d		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.	d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d		
90) 1,2-Dichlorobenzene	20.64	146	190	N.D.			
91) d-Limonene	0.00	68	0	N.D.	d		
92) 1,2-Dibromo-3-Chloropr...	21.02	157	122	N.D.			
93) n-Undecane	0.00	57	0	N.D.	d		
94) 1,2,4-Trichlorobenzene	22.11	180	1728	N.D.			
95) Naphthalene	22.21	128	72160	0.508	ng		99
96) n-Dodecane	0.00	57	0	N.D.	d		
97) Hexachlorobutadiene	0.00	225	0	N.D.			
98) Cyclohexanone	0.00	55	0	N.D.	d		
99) tert-Butylbenzene	0.00	119	0	N.D.	d		
100) n-Butylbenzene	0.00	91	0	N.D.	d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142018.D Vial: 13
Acq On : 14 May 2020 18:28 Operator: LH
Sample : P2002301-020 (300mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 20:10:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

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Acq On : 14 May 2020 18:28 Operator: LH
Sample : P2002301-020 (300mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 20:10:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/14/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	270369	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1168567	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	589716	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	439781	12.002	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.00%				
57) Toluene-d8 (SS2)	15.72	98	1188652	11.892	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.12%				
73) Bromofluorobenzene (SS3)	18.98	174	450329	12.521	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.16%				
Target Compounds							Qvalue
2) Propene	4.09	42	19729	0.630	ng		98
3) Dichlorodifluoromethan...	4.25	85	47771	0.780	ng		99
4) Chloromethane	4.52	50	5926	0.124	ng		98
10) Ethanol	6.33	45	37645	1.557	ng		99
11) Acetonitrile	6.59	41	3721	0.067	ng		89
12) Acrolein	6.78	56	2746	0.144	ng		90
13) Acetone	6.98	58	90123	3.727	ng	#	81
14) Trichlorofluoromethane	7.23	101	56893	1.051	ng		100
15) 2-Propanol (Isopropanol)	7.49	45	84621	1.156	ng		90
21) Trichlorotrifluoroethane	8.84	151	266464	10.427	ng		98
22) Carbon Disulfide	8.67	76	151632	1.346	ng		99
27) 2-Butanone (MEK)	10.47	72	7170	0.348	ng	#	85
30) Ethyl Acetate	11.28	61	6003	0.505	ng	#	1
31) n-Hexane	11.26	57	644052	12.487	ng		100
34) Tetrahydrofuran (THF)	11.71	72	103967	5.169	ng		97
41) Benzene	12.87	78	1132552	9.038	ng		100
42) Carbon Tetrachloride	13.03	117	6210	0.146	ng		100
43) Cyclohexane	13.17	84	636139	13.622	ng		100
51) n-Heptane	14.31	71	1506133	51.395	ng		98
58) Toluene	15.82	91	11311074	87.788	ng		98
61) 1,2-Dibromoethane	16.48	107	7598	0.214	ng		98
63) n-Octane	16.83	57	1444869	54.166	ng		97
64) Tetrachloroethene	16.96	166	8540	0.235	ng		95
66) Ethylbenzene	17.98	91	1126222	7.839	ng		99
67) m- & p-Xylenes	18.14	91	5099544	44.741	ng		100
70) o-Xylene	18.57	91	1451170	12.541	ng		100
71) n-Nonane	18.77	43	2009733	32.735	ng		97
74) Cumene	19.10	105	167499	1.180	ng		99
76) n-Propylbenzene	19.55	91	261093	1.548	ng		97
78) 4-Ethyltoluene	19.68	105	104347	0.782	ng	#	44
79) 1,3,5-Trimethylbenzene	19.74	105	440540	3.804	ng		99
82) 1,2,4-Trimethylbenzene	20.10	105	794417	6.825	ng		91
95) Naphthalene	22.21	128	72160	0.508	ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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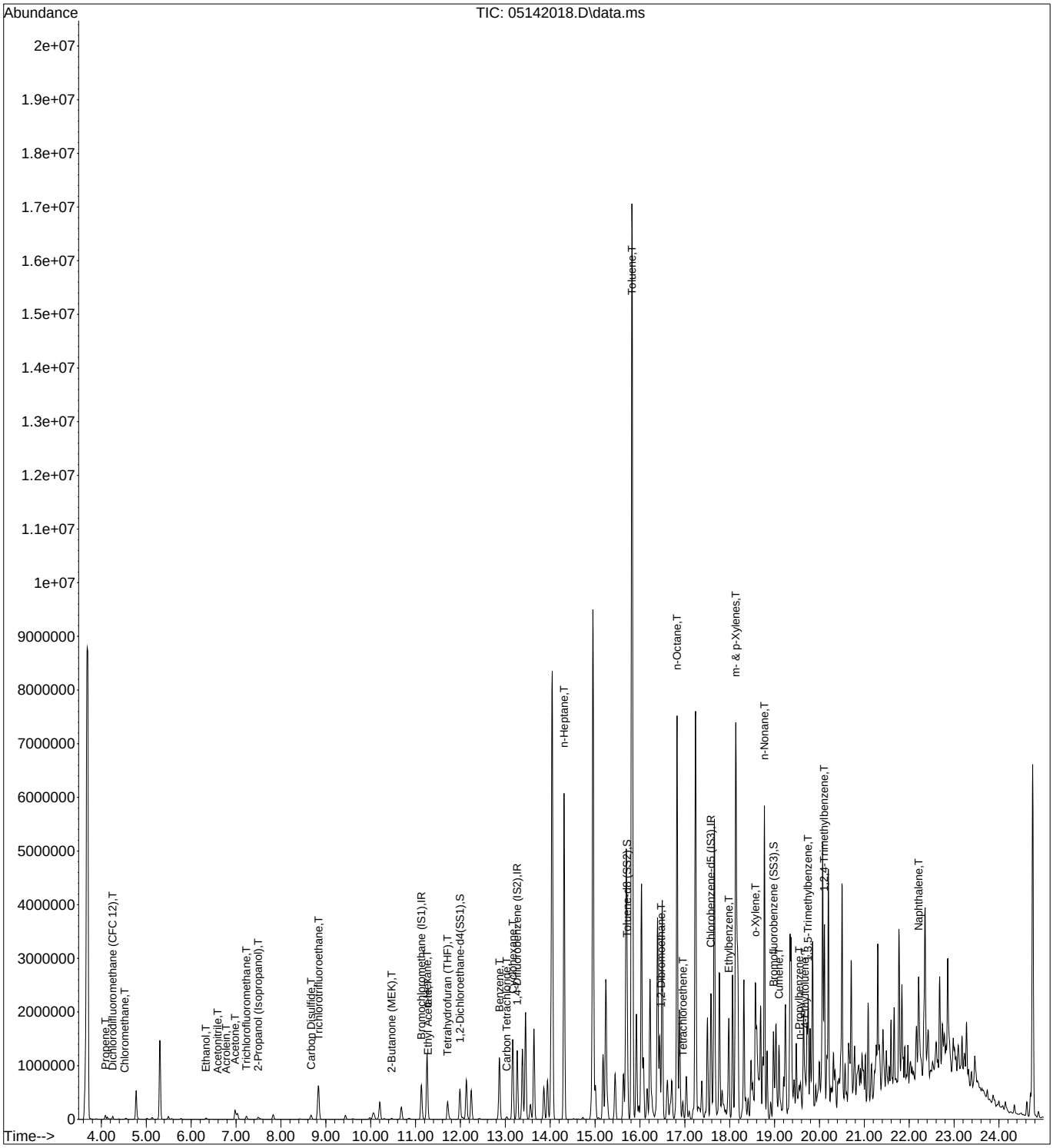
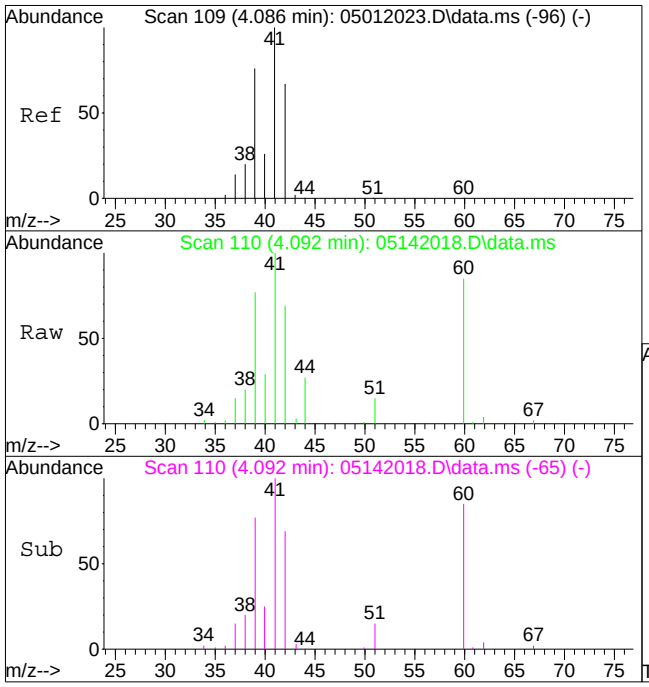
Response via : Initial Calibration
DataAcq Meth:TO15.M

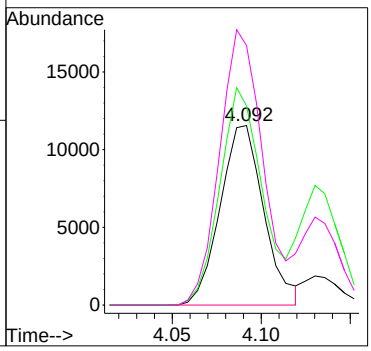


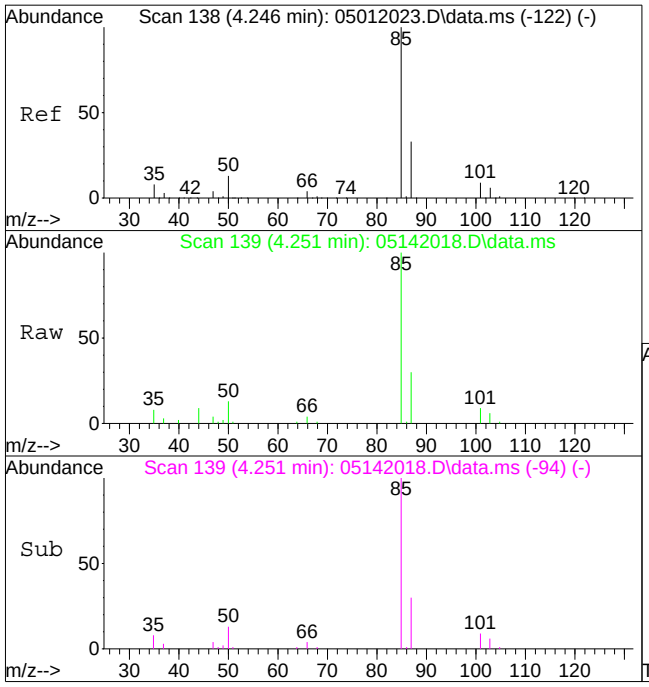


#2
Propene
Concen: 0.63 ng
RT: 4.09 min Scan# 110
Delta R.T. -0.000 min
Lab File: 05142018.D
Acq: 14 May 2020 18:28

Tgt Ion: 42 Resp: 19729

Ion	Ratio	Lower	Upper
42	100		
39	118.3	96.1	136.1
41	150.1	131.9	171.9

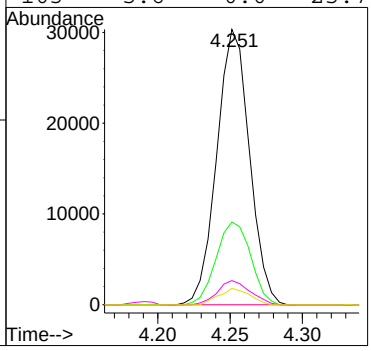


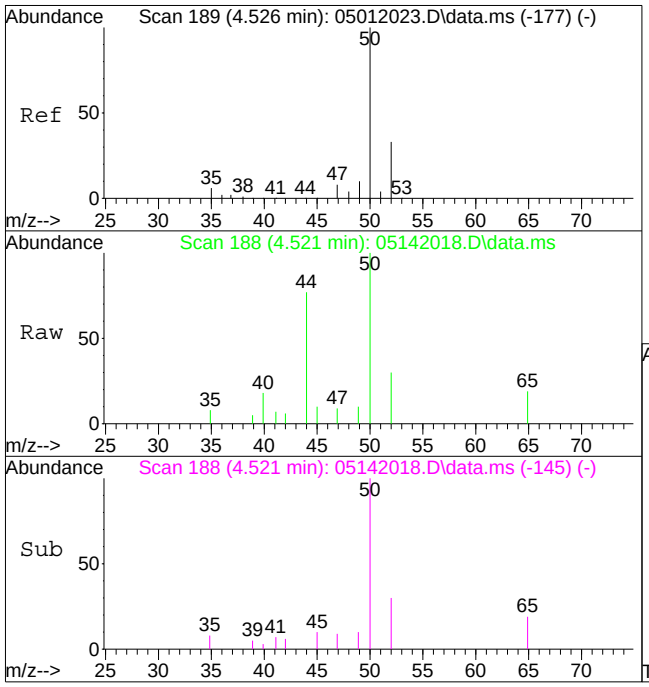


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.78 ng
RT: 4.25 min Scan# 139
Delta R.T. -0.000 min
Lab File: 05142018.D
Acq: 14 May 2020 18:28

Tgt Ion: 85 Resp: 47771

Ion	Ratio	Lower	Upper
85	100		
87	31.8	12.4	52.4
101	8.7	0.0	28.8
103	5.6	0.0	25.7

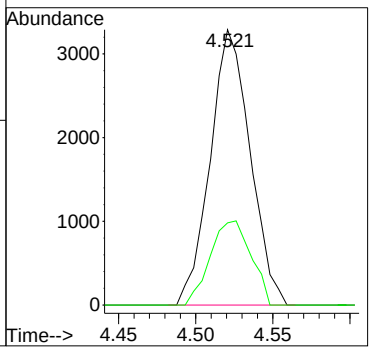


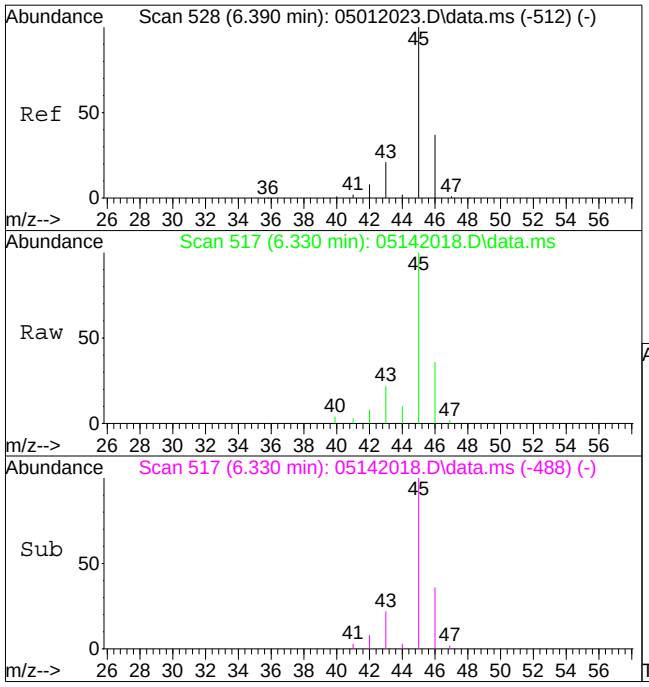


#4
Chloromethane
Concen: 0.12 ng
RT: 4.52 min Scan# 188
Delta R.T. -0.011 min
Lab File: 05142018.D
Acq: 14 May 2020 18:28

Tgt Ion: 50 Resp: 5926

Ion	Ratio	Lower	Upper
50	100		
52	31.1	12.5	52.5

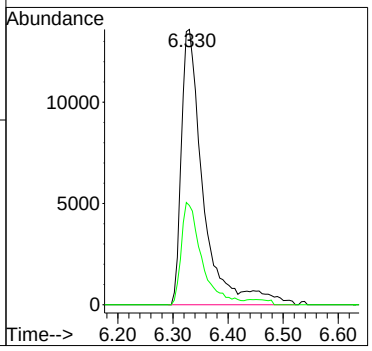


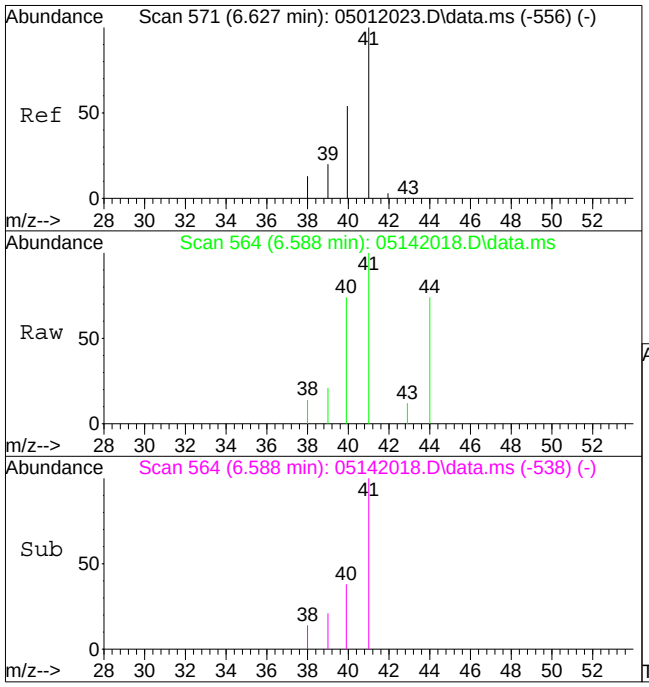


#10
Ethanol
Concen: 1.56 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.088 min
Lab File: 05142018.D
Acq: 14 May 2020 18:28

Tgt Ion: 45 Resp: 37645

Ion	Ratio	Lower	Upper
45	100		
46	36.7	17.2	57.2

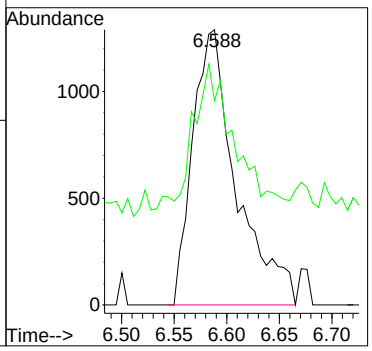


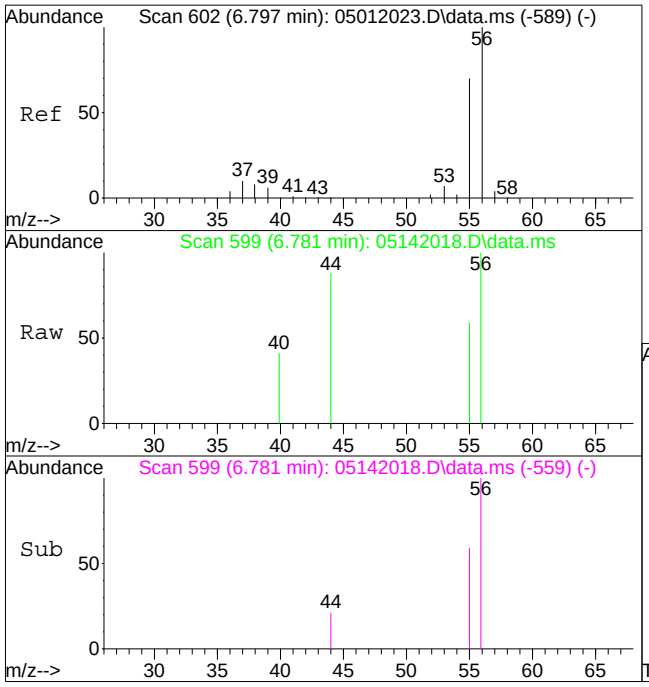


#11
Acetonitrile
Concen: 0.07 ng
RT: 6.59 min Scan# 564
Delta R.T. -0.055 min
Lab File: 05142018.D
Acq: 14 May 2020 18:28

Tgt Ion: 41 Resp: 3721

Ion	Ratio	Lower	Upper
41	100		
40	61.1	33.6	73.6

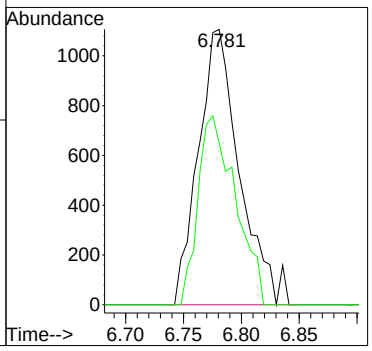


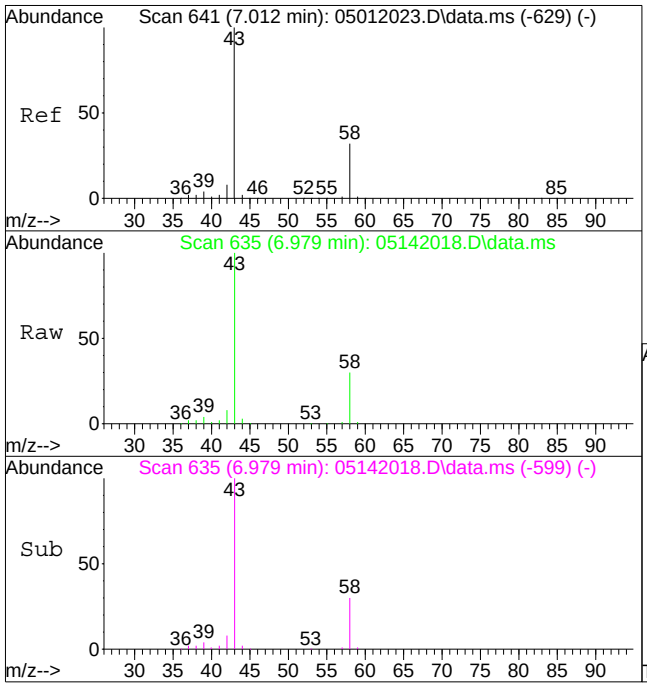


#12
Acrolein
Concen: 0.14 ng
RT: 6.78 min Scan# 599
Delta R.T. -0.028 min
Lab File: 05142018.D
Acq: 14 May 2020 18:28

Tgt Ion: 56 Resp: 2746

Ion	Ratio	Lower	Upper
56	100		
55	62.2	50.2	90.2

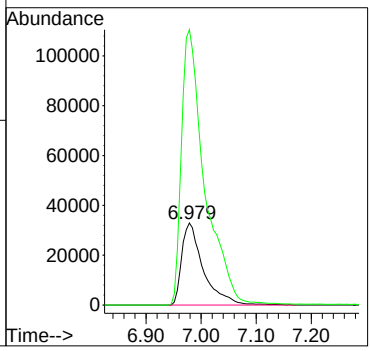


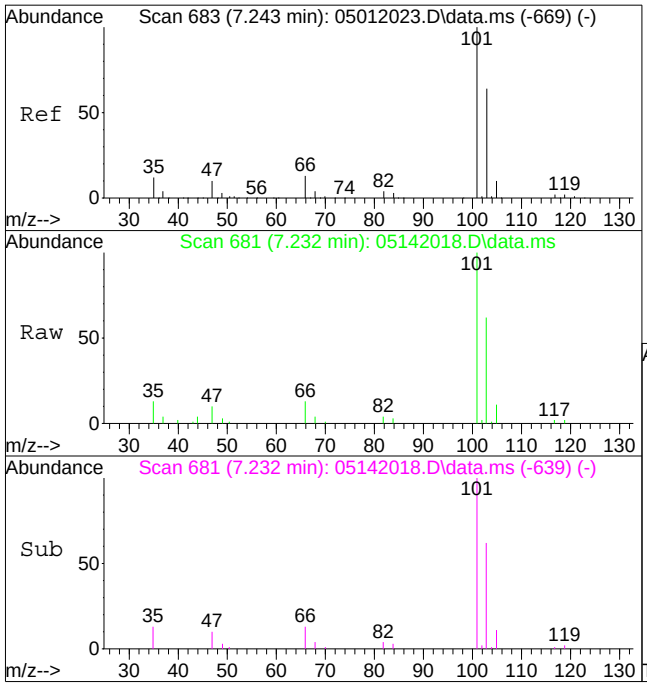


#13
Acetone
Concen: 3.73 ng
RT: 6.98 min Scan# 635
Delta R.T. -0.050 min
Lab File: 05142018.D
Acq: 14 May 2020 18:28

Tgt Ion: 58 Resp: 90123

Ion	Ratio	Lower	Upper
58	100		
43	363.4	294.4	354.4#

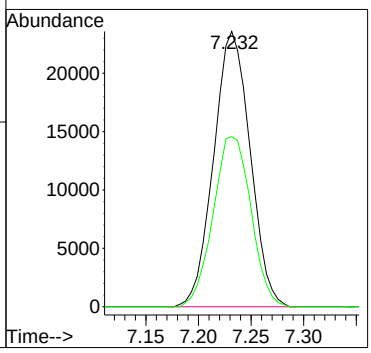


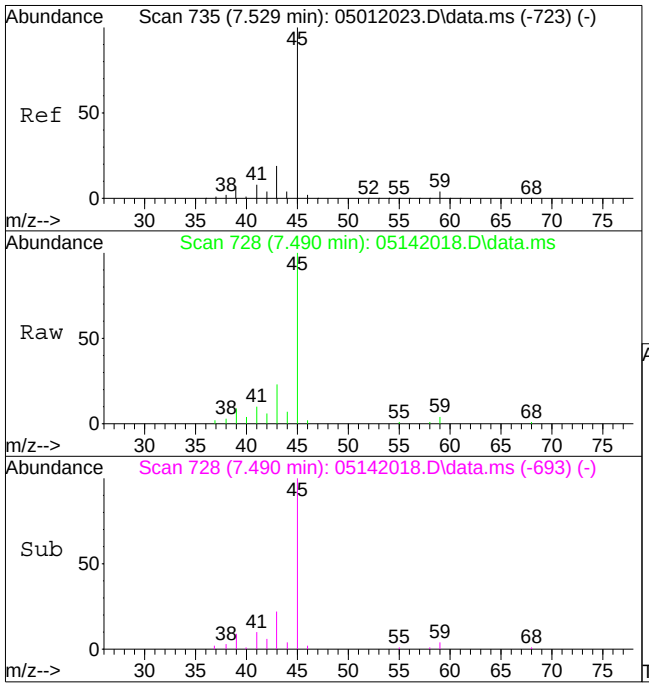


#14
Trichlorofluoromethane
Concen: 1.05 ng
RT: 7.23 min Scan# 681
Delta R.T. -0.017 min
Lab File: 05142018.D
Acq: 14 May 2020 18:28

Tgt Ion:101 Resp: 56893

Ion	Ratio	Lower	Upper
101	100		
103	64.1	44.4	84.4

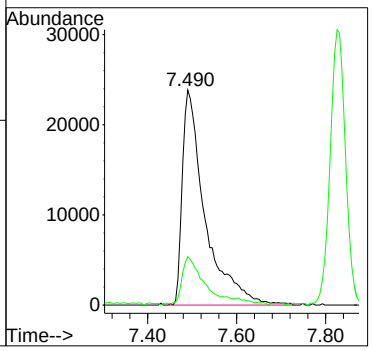


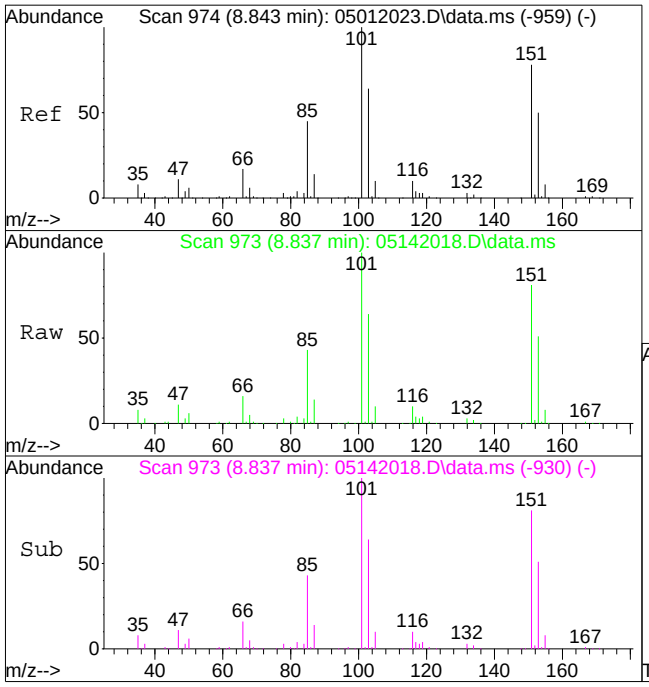


#15
2-Propanol (Isopropanol)
Concen: 1.16 ng
RT: 7.49 min Scan# 728
Delta R.T. -0.055 min
Lab File: 05142018.D
Acq: 14 May 2020 18:28

Tgt Ion: 45 Resp: 84621

Ion	Ratio	Lower	Upper
45	100		
43	24.0	0.0	39.5

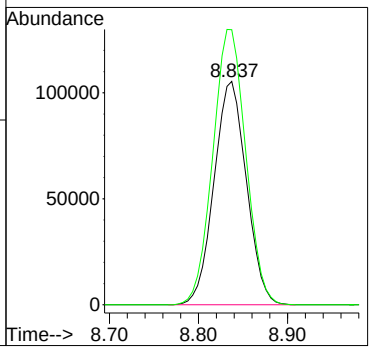


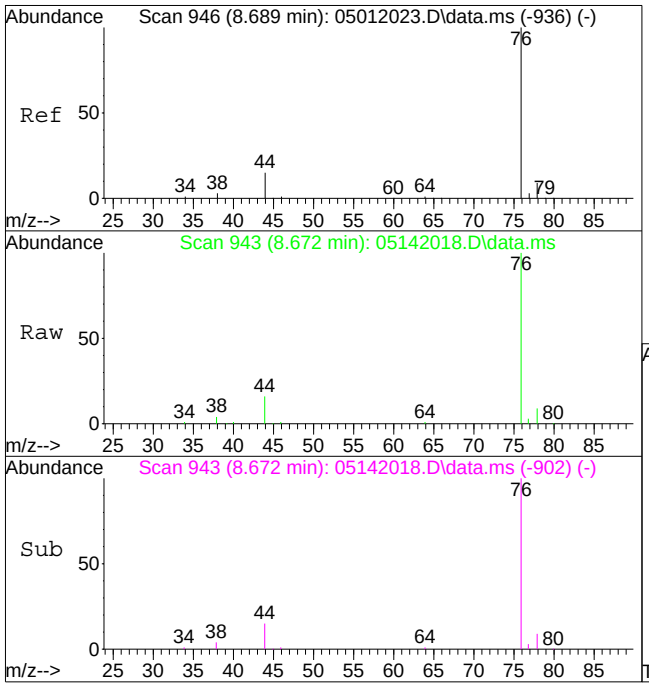


#21
Trichlorotrifluoroethane
Concen: 10.43 ng
RT: 8.84 min Scan# 973
Delta R.T. -0.011 min
Lab File: 05142018.D
Acq: 14 May 2020 18:28

Tgt Ion:151 Resp: 266464

Ion	Ratio	Lower	Upper
151	100		
101	125.5	107.3	147.3

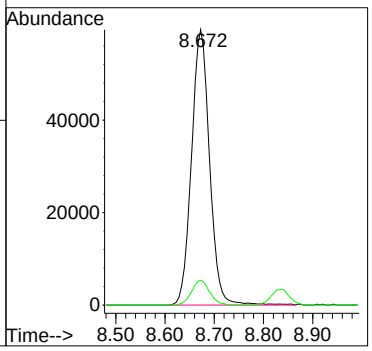


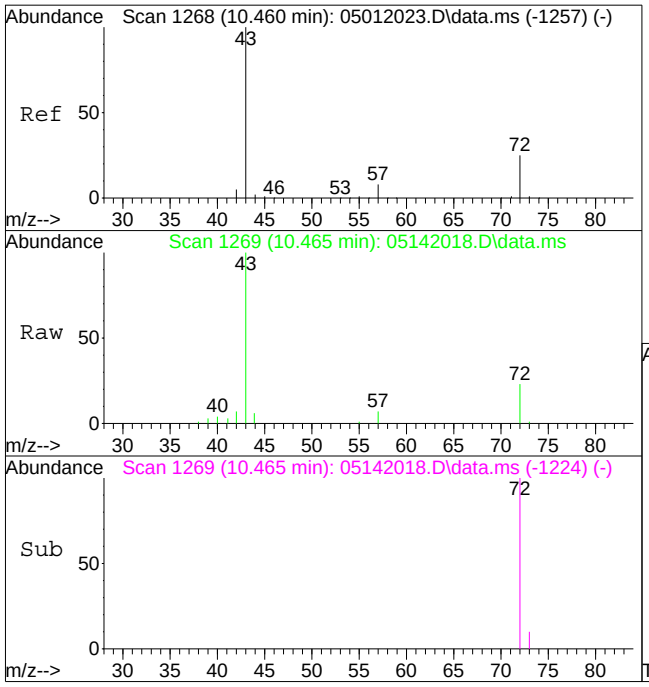


#22
Carbon Disulfide
Concen: 1.35 ng
RT: 8.67 min Scan# 943
Delta R.T. -0.022 min
Lab File: 05142018.D
Acq: 14 May 2020 18:28

Tgt Ion: 76 Resp: 151632

Ion	Ratio	Lower	Upper
76	100		
78	8.9	0.0	29.2

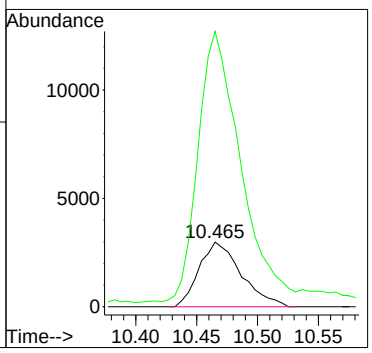


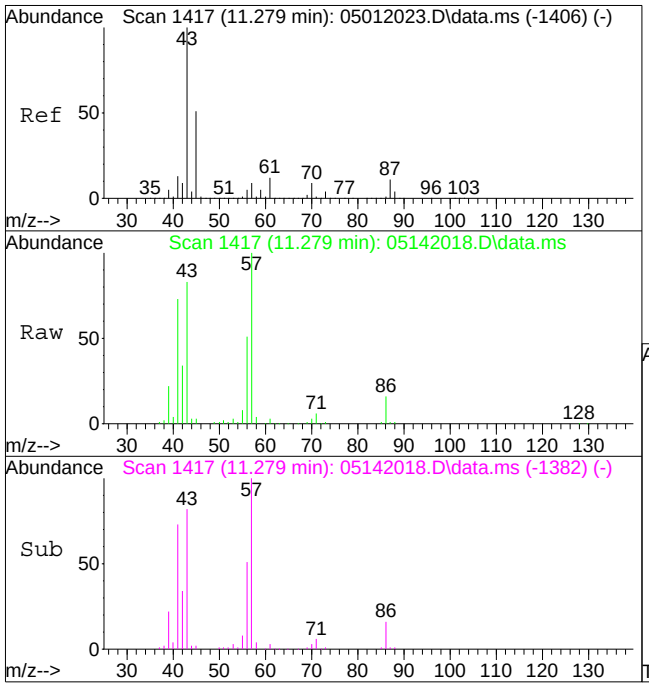


#27
2-Butanone (MEK)
Concen: 0.35 ng
RT: 10.47 min Scan# 1269
Delta R.T. -0.000 min
Lab File: 05142018.D
Acq: 14 May 2020 18:28

Tgt Ion: 72 Resp: 7170

Ion	Ratio	Lower	Upper
72	100		
43	446.0	389.7	429.7#

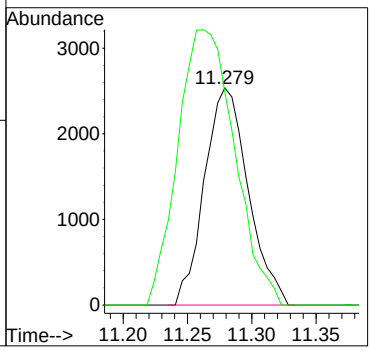


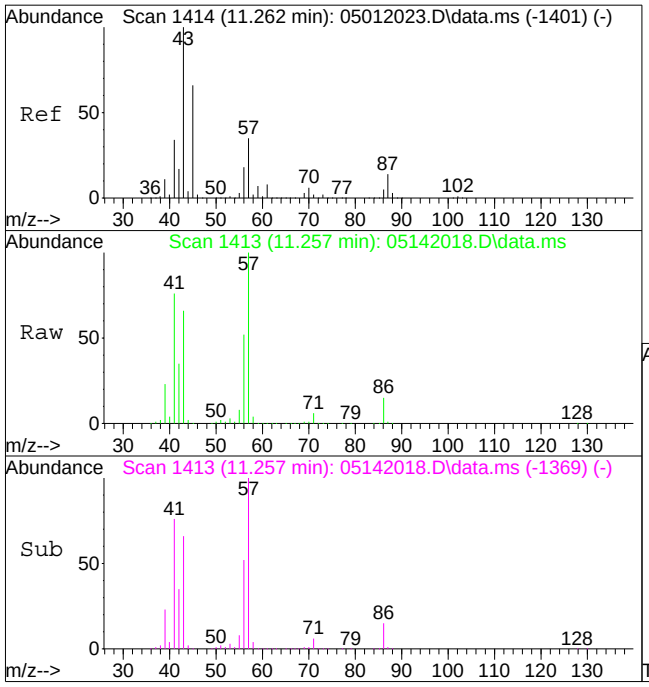


#30
Ethyl Acetate
Concen: 0.50 ng
RT: 11.28 min Scan# 1417
Delta R.T. -0.006 min
Lab File: 05142018.D
Acq: 14 May 2020 18:28

Tgt Ion: 61 Resp: 6003

Ion	Ratio	Lower	Upper
61	100		
70	164.6	57.9	97.9#

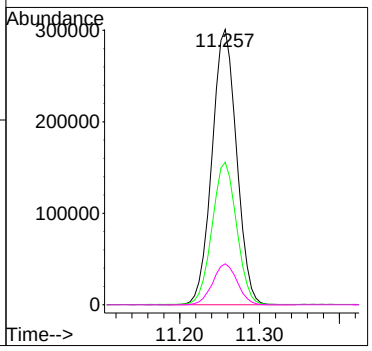


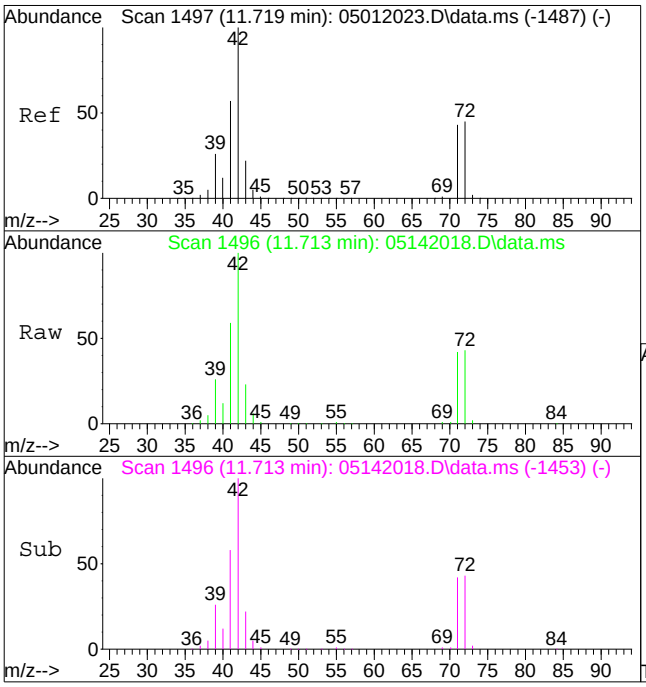


#31
n-Hexane
Concen: 12.49 ng
RT: 11.26 min Scan# 1413
Delta R.T. -0.006 min
Lab File: 05142018.D
Acq: 14 May 2020 18:28

Tgt Ion: 57 Resp: 644052

Ion	Ratio	Lower	Upper
57	100		
56	51.7	41.4	62.0
86	14.8	12.4	18.6

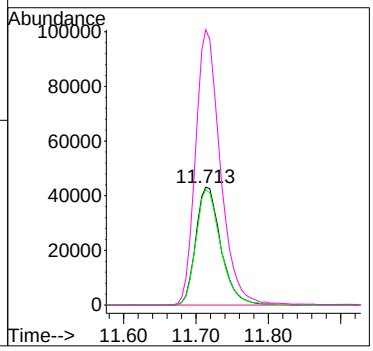


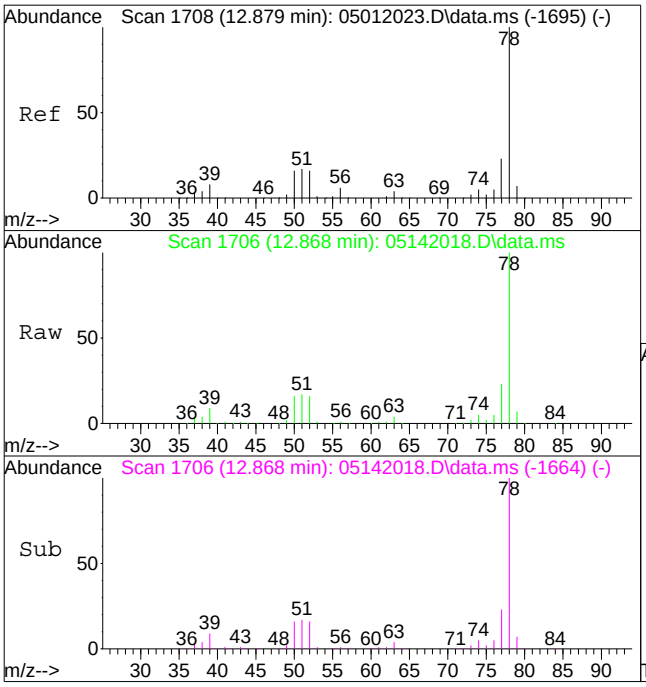


#34
Tetrahydrofuran (THF)
Concen: 5.17 ng
RT: 11.71 min Scan# 1496
Delta R.T. -0.011 min
Lab File: 05142018.D
Acq: 14 May 2020 18:28

Tgt Ion: 72 Resp: 103967

Ion	Ratio	Lower	Upper
72	100		
71	97.1	77.0	117.0
42	232.4	204.6	244.6

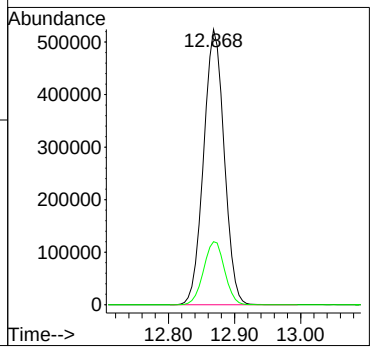


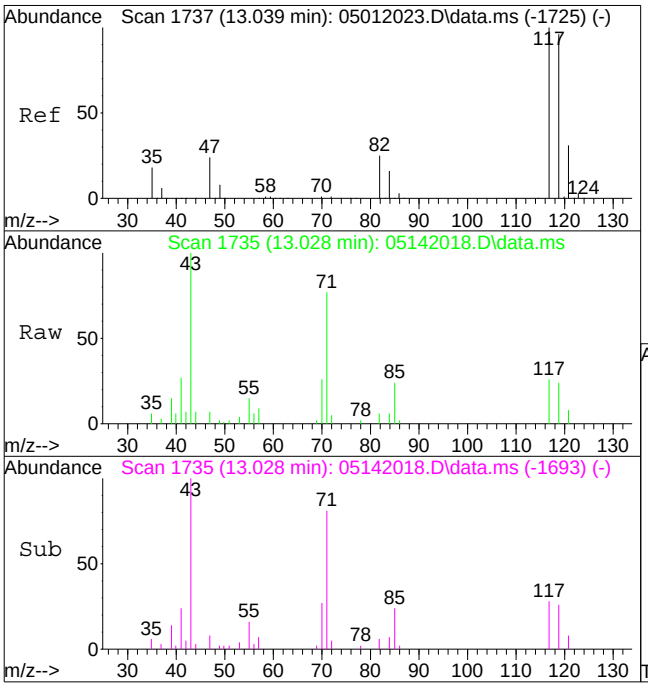


#41
Benzene
Concen: 9.04 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05142018.D
Acq: 14 May 2020 18:28

Tgt Ion: 78 Resp: 1132552

Ion	Ratio	Lower	Upper
78	100		
77	23.3	3.4	43.4

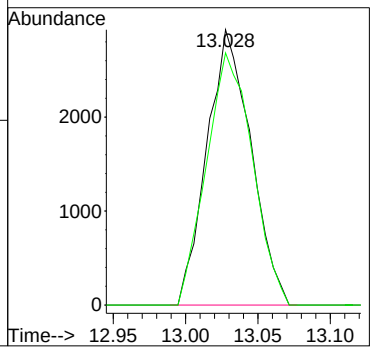


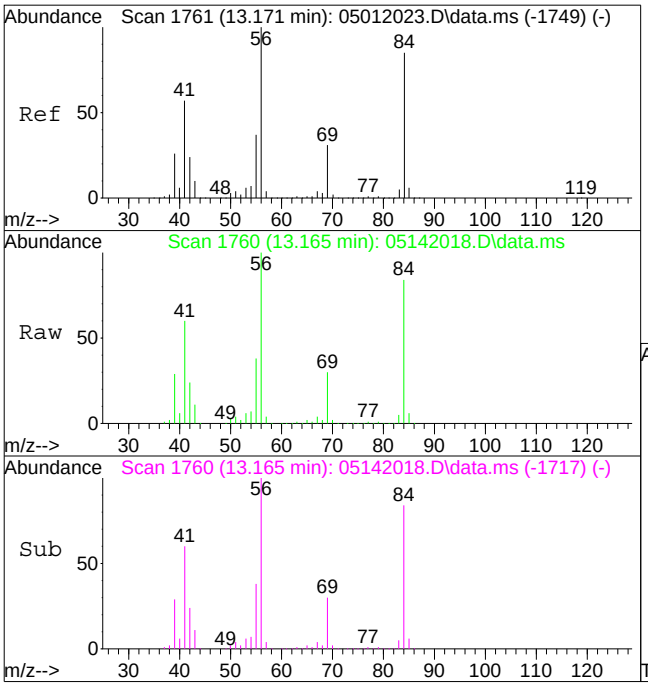


#42
Carbon Tetrachloride
Concen: 0.15 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05142018.D
Acq: 14 May 2020 18:28

Tgt Ion:117 Resp: 6210

Ion	Ratio	Lower	Upper
117	100		
119	95.7	76.2	116.2

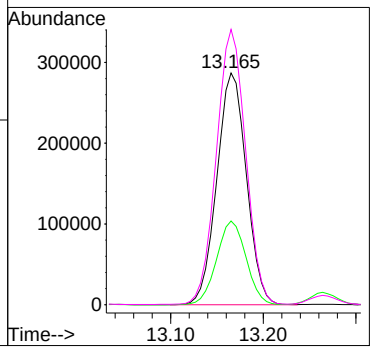


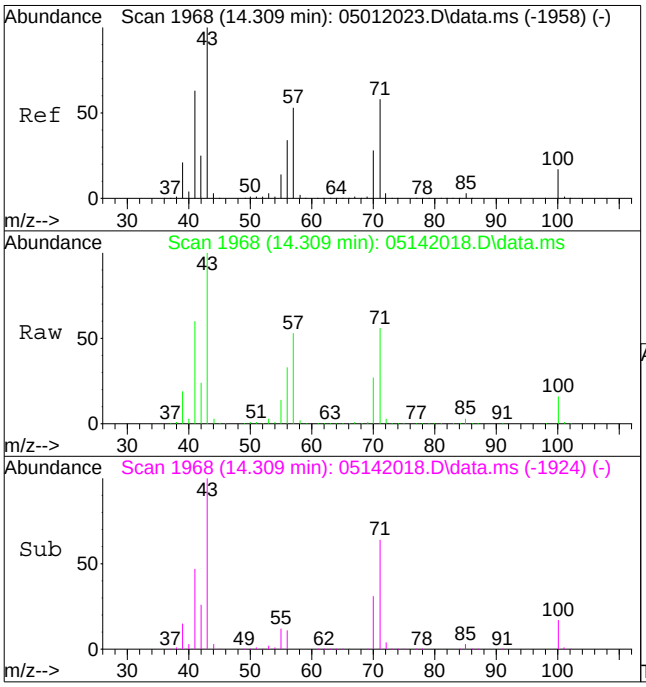


#43
Cyclohexane
Concen: 13.62 ng
RT: 13.17 min Scan# 1760
Delta R.T. -0.011 min
Lab File: 05142018.D
Acq: 14 May 2020 18:28

Tgt Ion: 84 Resp: 636139

Ion	Ratio	Lower	Upper
84	100		
69	36.0	16.5	56.5
56	117.8	97.4	137.4

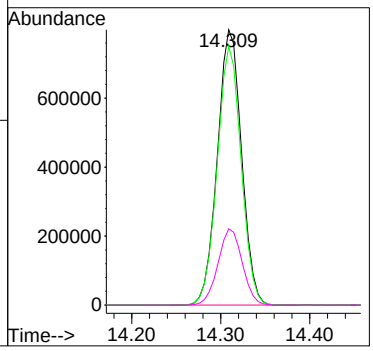


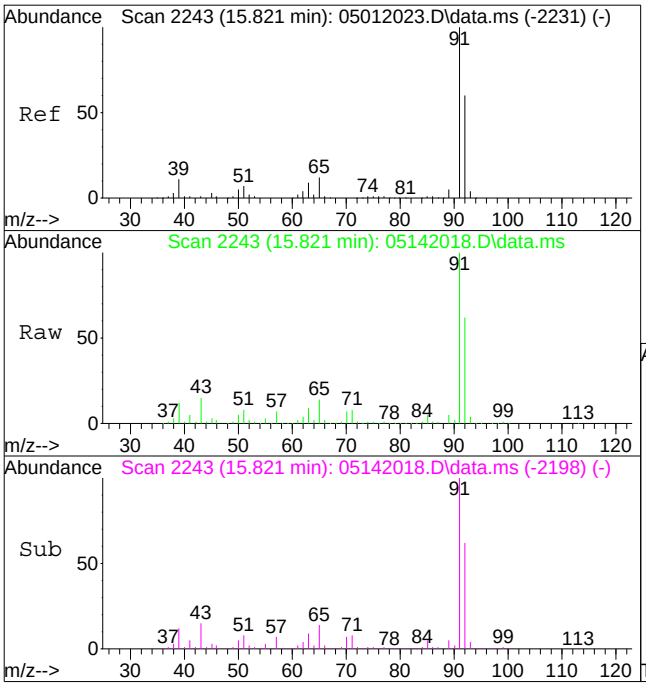


#51
n-Heptane
Concen: 51.39 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05142018.D
Acq: 14 May 2020 18:28

Tgt Ion: 71 Resp: 1506133

Ion	Ratio	Lower	Upper
71	100		
57	93.1	71.0	111.0
100	27.7	8.4	48.4

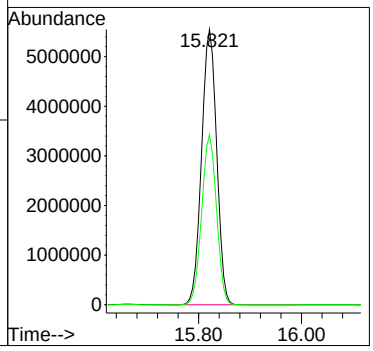


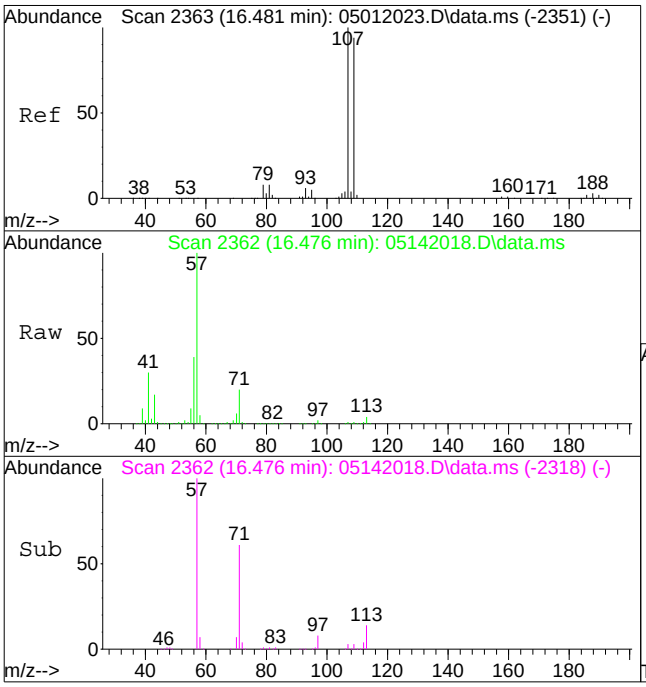


#58
Toluene
Concen: 87.79 ng
RT: 15.82 min Scan# 2243
Delta R.T. -0.000 min
Lab File: 05142018.D
Acq: 14 May 2020 18:28

Tgt Ion: 91 Resp:11311074

Ion	Ratio	Lower	Upper
91	100		
92	60.6	39.4	79.4

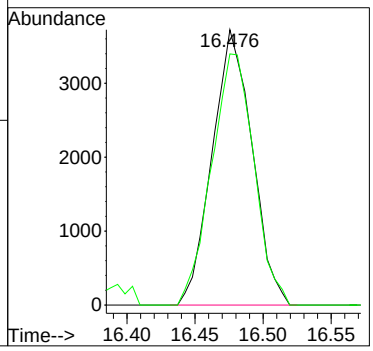


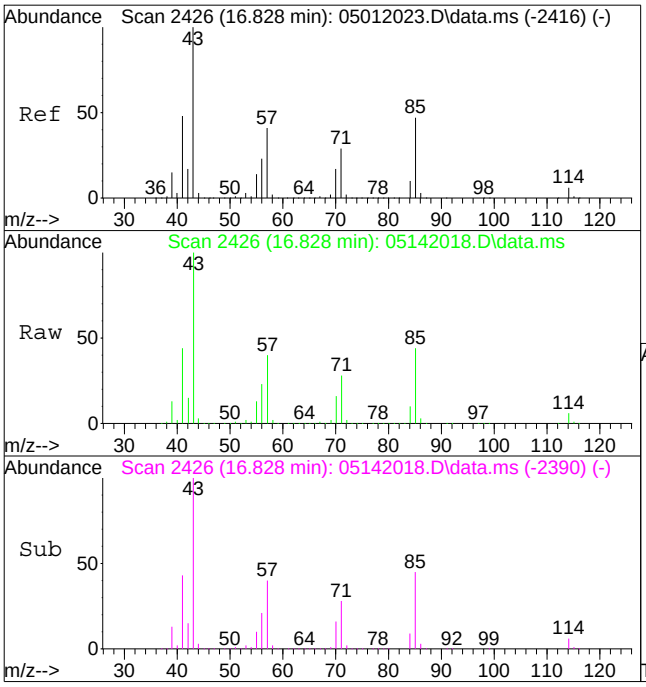


#61
1,2-Dibromoethane
Concen: 0.21 ng
RT: 16.48 min Scan# 2362
Delta R.T. -0.006 min
Lab File: 05142018.D
Acq: 14 May 2020 18:28

Tgt Ion:107 Resp: 7598

Ion	Ratio	Lower	Upper
107	100		
109	96.9	74.5	114.5

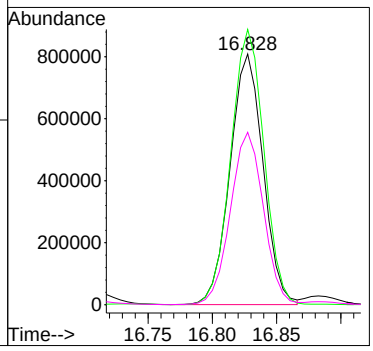


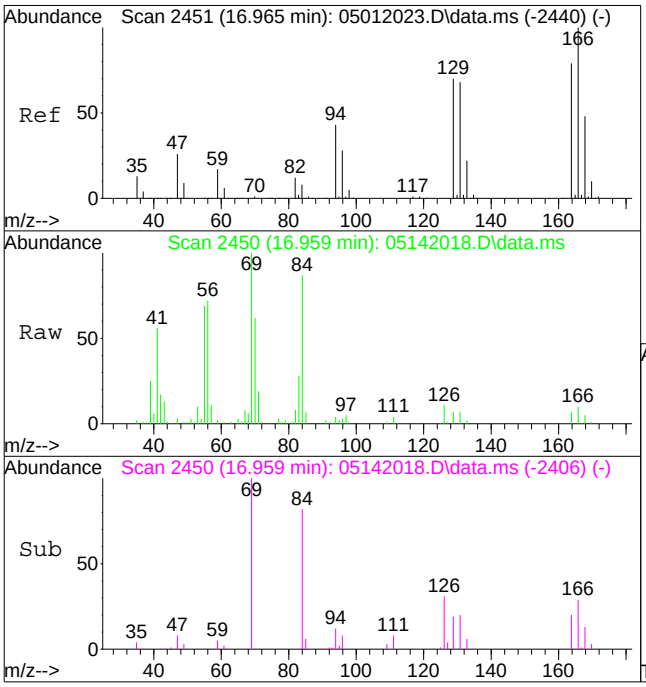


#63
n-Octane
Concen: 54.17 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05142018.D
Acq: 14 May 2020 18:28

Tgt Ion: 57 Resp: 1444869

Ion	Ratio	Lower	Upper
57	100		
85	110.1	91.0	136.4
71	68.9	56.2	84.2

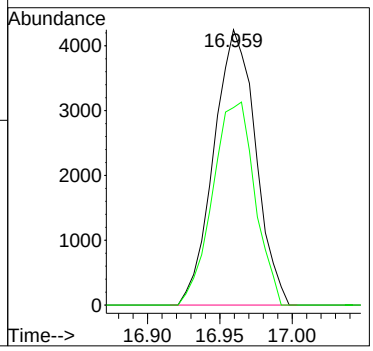


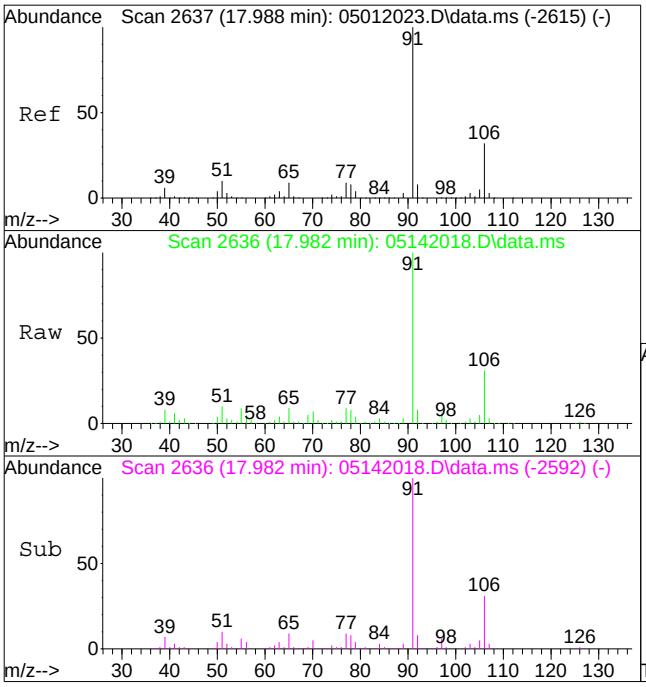


#64
Tetrachloroethene
Concen: 0.23 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05142018.D
Acq: 14 May 2020 18:28

Tgt Ion:166 Resp: 8540

Ion	Ratio	Lower	Upper
166	100		
164	74.4	58.4	98.4

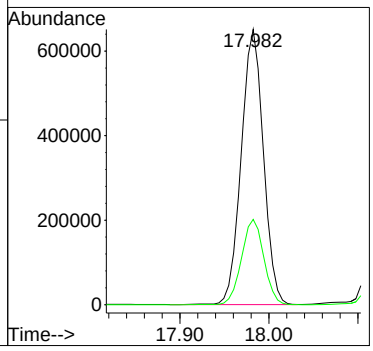


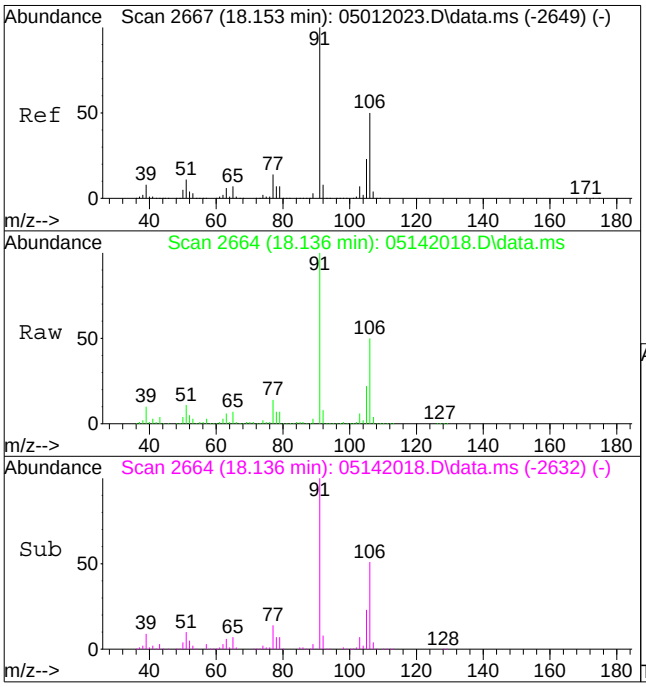


#66
Ethylbenzene
Concen: 7.84 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05142018.D
Acq: 14 May 2020 18:28

Tgt Ion: 91 Resp: 1126222

Ion	Ratio	Lower	Upper
91	100		
106	31.3	11.6	51.6

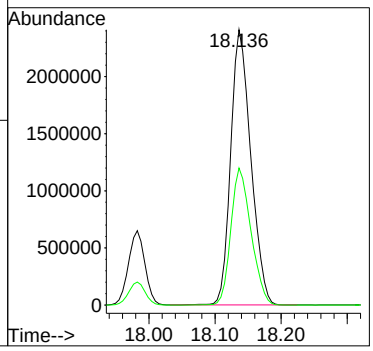


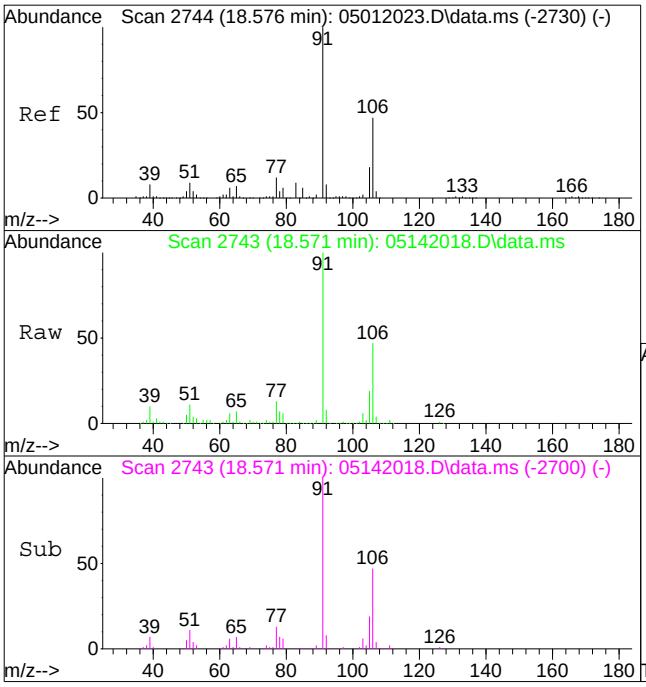


#67
m- & p-Xylenes
Concen: 44.74 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05142018.D
Acq: 14 May 2020 18:28

Tgt Ion: 91 Resp: 5099544

Ion	Ratio	Lower	Upper
91	100		
106	49.8	29.7	69.7

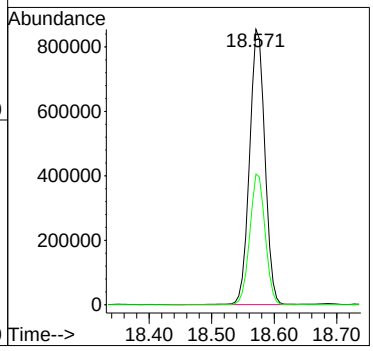


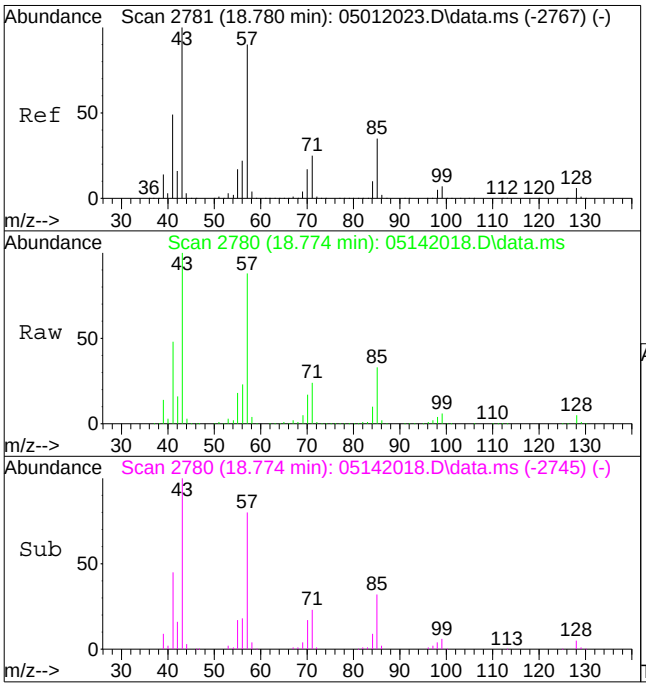


#70
o-Xylene
Concen: 12.54 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05142018.D
Acq: 14 May 2020 18:28

Tgt Ion: 91 Resp: 1451170

Ion	Ratio	Lower	Upper
91	100		
106	47.6	27.5	67.5

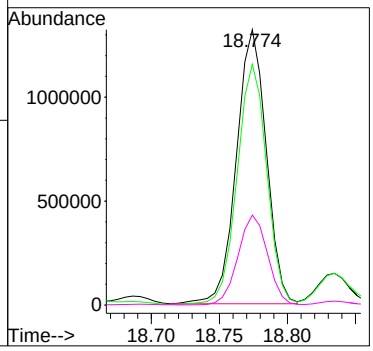


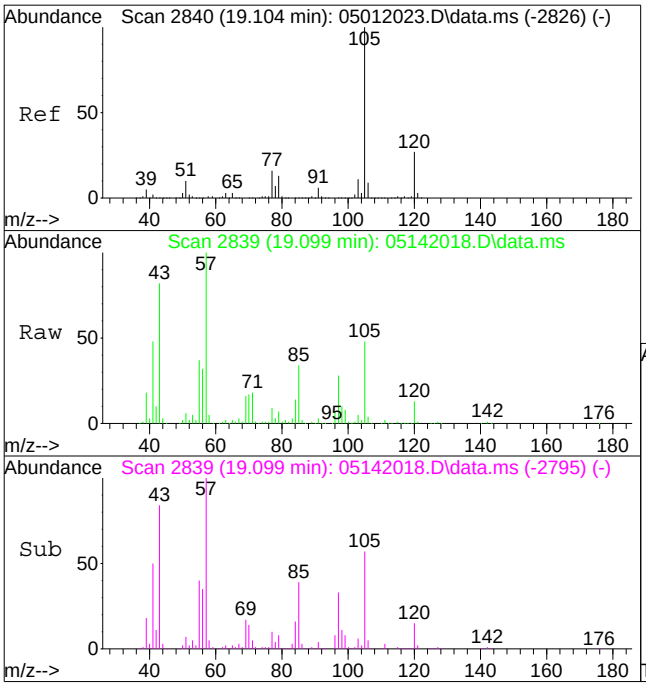


#71
n-Nonane
Concen: 32.73 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05142018.D
Acq: 14 May 2020 18:28

Tgt Ion: 43 Resp: 2009733

Ion	Ratio	Lower	Upper
43	100		
57	87.1	69.0	109.0
85	32.4	14.6	54.6

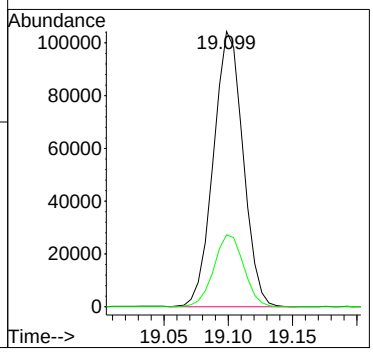


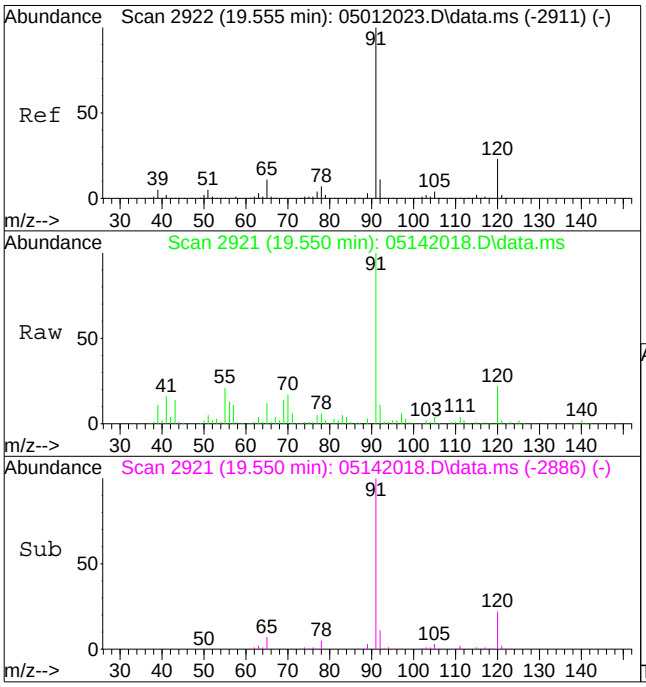


#74
Cumene
Concen: 1.18 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05142018.D
Acq: 14 May 2020 18:28

Tgt Ion:105 Resp: 167499

Ion	Ratio	Lower	Upper
105	100		
120	26.3	6.8	46.8

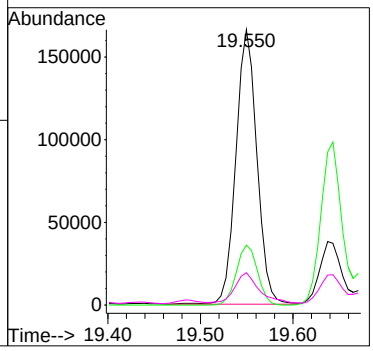


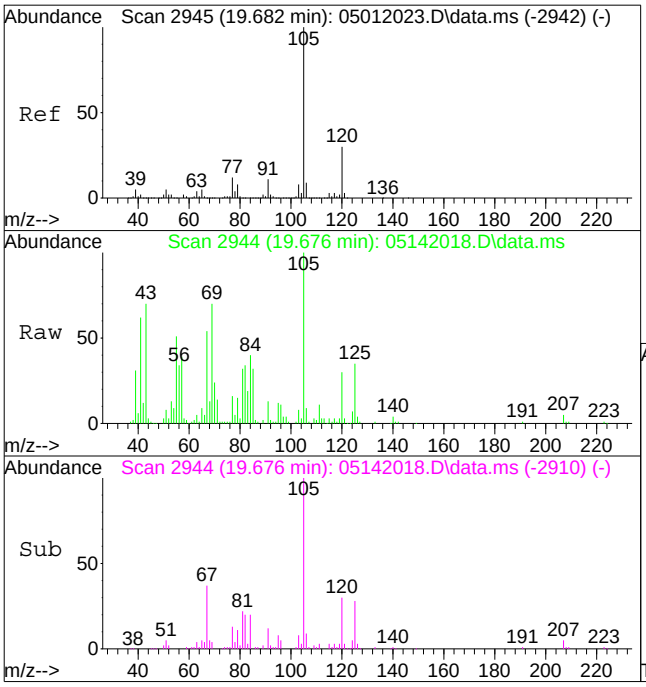


#76
n-Propylbenzene
Concen: 1.55 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05142018.D
Acq: 14 May 2020 18:28

Tgt Ion: 91 Resp: 261093

Ion	Ratio	Lower	Upper
91	100		
120	22.0	3.1	43.1
65	12.8	0.0	30.9

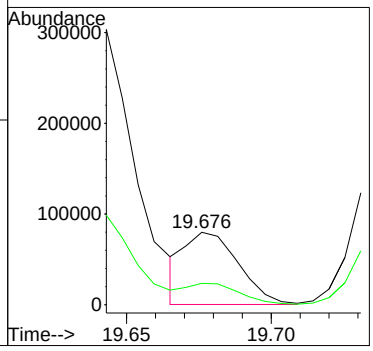


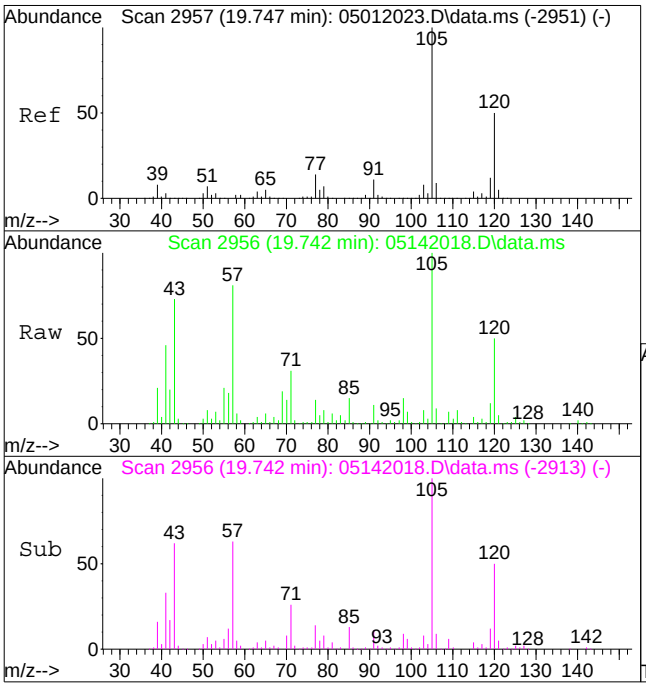


#78
4-Ethyltoluene
Concen: 0.78 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05142018.D
Acq: 14 May 2020 18:28

Tgt Ion:105 Resp: 104347

Ion	Ratio	Lower	Upper
105	100		
120	0.0	10.4	50.4#

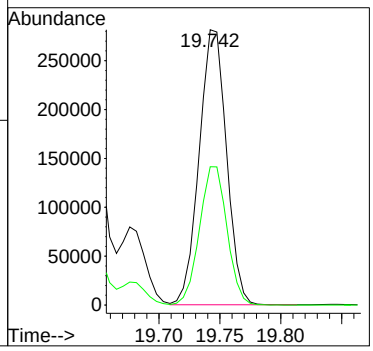


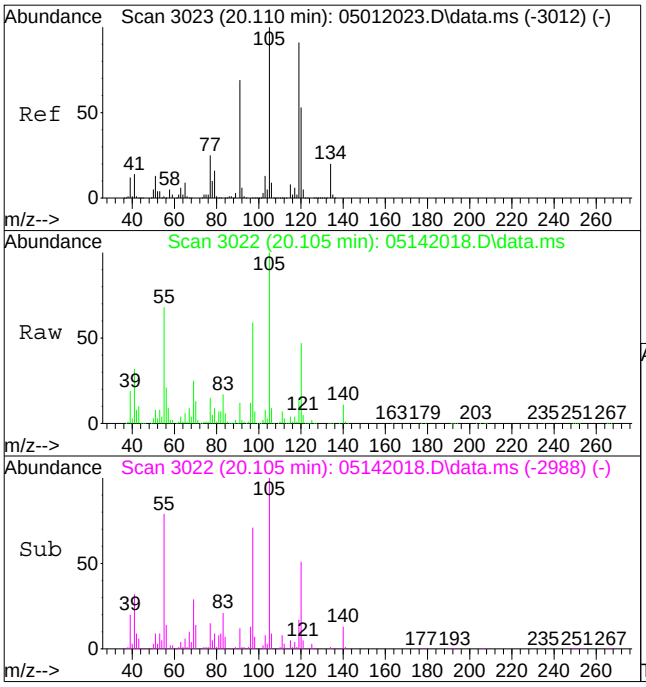


#79
1,3,5-Trimethylbenzene
Concen: 3.80 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05142018.D
Acq: 14 May 2020 18:28

Tgt Ion:105 Resp: 440540

Ion	Ratio	Lower	Upper
105	100		
120	50.6	29.9	69.9

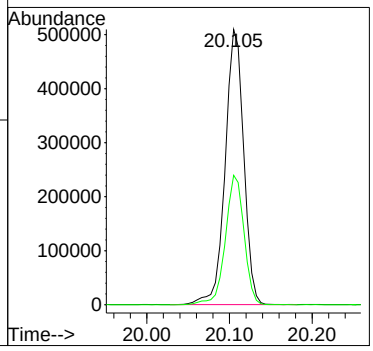


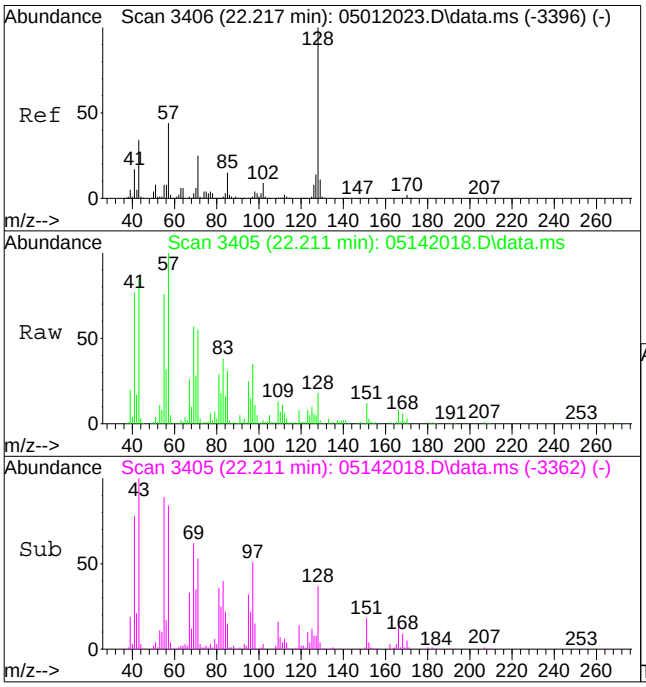


#82
1,2,4-Trimethylbenzene
Concen: 6.83 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05142018.D
Acq: 14 May 2020 18:28

Tgt Ion:105 Resp: 794417

Ion	Ratio	Lower	Upper
105	100		
120	47.3	33.6	73.6

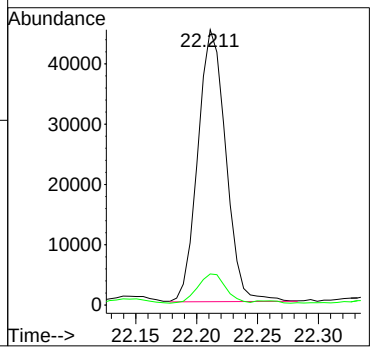




#95
Naphthalene
Concen: 0.51 ng
RT: 22.21 min Scan# 3405
Delta R.T. -0.011 min
Lab File: 05142018.D
Acq: 14 May 2020 18:28

Tgt Ion:128 Resp: 72160

Ion	Ratio	Lower	Upper
128	100		
129	11.4	0.0	31.0



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132002.D Vial: 2
Acq On : 13 May 2020 19:23 Operator: LH
Sample : MB R16051320_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: May 13 21:26:30 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/13/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.12	130	286862	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	13.26	114	1234664	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	564401	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	463760	11.929	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.44%				
57) Toluene-d8 (SS2)	15.71	98	1198710	12.530	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.24%				
73) Bromofluorobenzene (SS3)	18.97	174	452572	13.148	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.20%				
Target Compounds							Qvalue
2) Propene	4.12	42	1032	N.D.			
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.32	45	20852	0.813	ng		94
11) Acetonitrile	6.59	41	10394	0.177	ng		97
12) Acrolein	6.81	56	1094	0.054	ng		77
13) Acetone	7.03	58	7066	0.275	ng	#	83
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	7.54	45	3591	N.D.			
16) Acrylonitrile	7.74	53	2475	0.059	ng		94
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.69	76	1228	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	10.49	72	343	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	11.30	61	422	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	11.98	62	118	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	12.87	56	3221	0.104	ng	#	81
41) Benzene	12.88	78	1465	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	13.26	84	780	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132002.D Vial: 2
Acq On : 13 May 2020 19:23 Operator: LH
Sample : MB R16051320_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: May 13 21:26:30 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

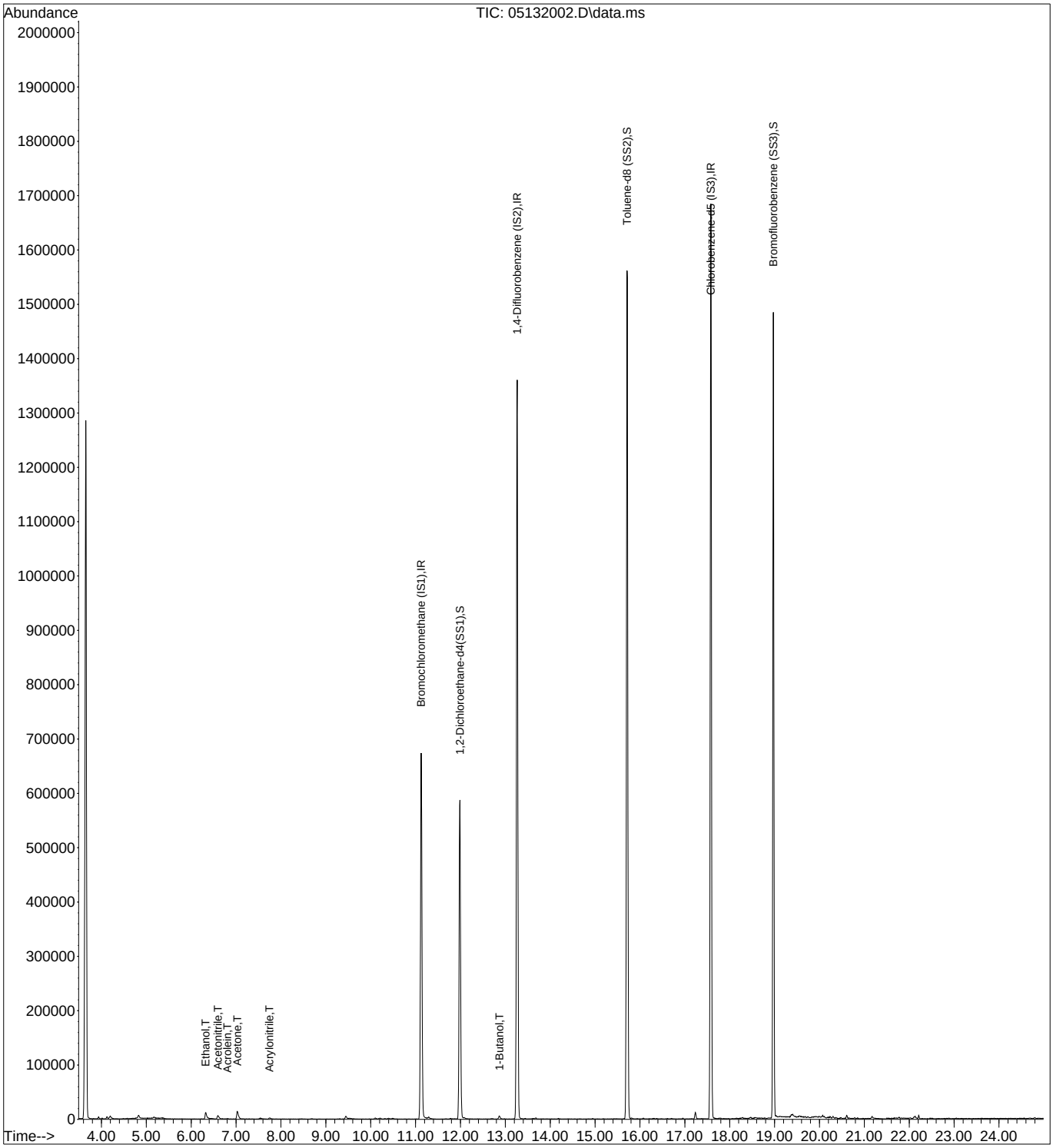
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.82	91	1551	N.D.		
59) 2-Hexanone	16.08	43	1525	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.70	43	1225	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	16.96	166	456	N.D.		
65) Chlorobenzene	17.62	112	325	N.D.		
66) Ethylbenzene	17.99	91	487	N.D.		
67) m- & p-Xylenes	18.14	91	1384	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	644	N.D.		
70) o-Xylene	18.57	91	506	N.D.		
71) n-Nonane	18.79	43	117	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.10	105	407	N.D.		
75) alpha-Pinene	19.40	93	691	N.D.		
76) n-Propylbenzene	19.56	91	1053	N.D.		
77) 3-Ethyltoluene	19.64	105	640	N.D.		
78) 4-Ethyltoluene	19.67	105	1086	N.D.		
79) 1,3,5-Trimethylbenzene	19.75	105	724	N.D.		
80) alpha-Methylstyrene	19.88	118	193	N.D.		
81) 2-Ethyltoluene	19.91	105	1169	N.D.		
82) 1,2,4-Trimethylbenzene	20.10	105	1336	N.D.		
83) n-Decane	20.17	57	406	N.D.		
84) Benzyl Chloride	20.21	91	1158	N.D.		
85) 1,3-Dichlorobenzene	20.24	146	1230	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	1727	N.D.		
87) sec-Butylbenzene	20.32	105	1961	N.D.		
88) 4-Isopropyltoluene (p-...	20.49	119	488	N.D.		
89) 1,2,3-Trimethylbenzene	20.48	105	743	N.D.		
90) 1,2-Dichlorobenzene	20.60	146	597	N.D.		
91) d-Limonene	20.61	68	1189	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.30	57	230	N.D.		
94) 1,2,4-Trichlorobenzene	22.11	180	956	N.D.		
95) Naphthalene	22.21	128	5042	N.D.		
96) n-Dodecane	22.21	57	273	N.D.		
97) Hexachlorobutadiene	22.47	225	478	N.D.		
98) Cyclohexanone	18.29	55	648	N.D.		
99) tert-Butylbenzene	20.10	119	184	N.D.		
100) n-Butylbenzene	20.86	91	971	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132002.D Vial: 2
Acq On : 13 May 2020 19:23 Operator: LH
Sample : MB R16051320_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: May 13 21:26:30 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142004.D Vial: 2
Acq On : 14 May 2020 10:35 Operator: LH
Sample : MB R16051420_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: May 14 13:03:07 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 5/14/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	264253	12.500 ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1136265	12.500 ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	529855	12.500 ng	0.00
System Monitoring Compounds					
33) 1,2-Dichloroethane-d4(...	11.99	65	419641	11.718 ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.76%		
57) Toluene-d8 (SS2)	15.72	98	1116859	12.436 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.52%		
73) Bromofluorobenzene (SS3)	18.97	174	430369	13.318 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.56%		
Target Compounds					Qvalue
2) Propene	4.14	42	535	N.D.	
3) Dichlorodifluoromethan...	0.00	85	0	N.D.	
4) Chloromethane	0.00	50	0	N.D.	
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.	
6) Vinyl Chloride	0.00	62	0	N.D.	
7) 1,3-Butadiene	0.00	54	0	N.D.	
8) Bromomethane	0.00	94	0	N.D.	
9) Chloroethane	0.00	64	0	N.D.	
10) Ethanol	6.34	45	11125	0.471 ng	91
11) Acetonitrile	6.62	41	4572	0.085 ng	92
12) Acrolein	6.82	56	270	N.D.	
13) Acetone	7.05	58	3867	0.164 ng	88
14) Trichlorofluoromethane	0.00	101	0	N.D.	
15) 2-Propanol (Isopropanol)	7.56	45	1953	N.D.	
16) Acrylonitrile	7.76	53	1333	N.D.	
17) 1,1-Dichloroethene	0.00	96	0	N.D.	
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	
19) Methylene Chloride	0.00	84	0	N.D.	
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	
21) Trichlorotrifluoroethane	0.00	151	0	N.D.	
22) Carbon Disulfide	8.69	76	1200	N.D.	
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.	
24) 1,1-Dichloroethane	0.00	63	0	N.D.	
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	
26) Vinyl Acetate	0.00	86	0	N.D.	
27) 2-Butanone (MEK)	10.51	72	123	N.D.	
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.	
29) Diisopropyl Ether	0.00	87	0	N.D.	
30) Ethyl Acetate	0.00	61	0	N.D.	
31) n-Hexane	0.00	57	0	N.D.	
32) Chloroform	0.00	83	0	N.D.	
34) Tetrahydrofuran (THF)	11.78	72	177	N.D.	
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.	
36) 1,2-Dichloroethane	0.00	62	0	N.D.	
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.	
39) Isopropyl Acetate	0.00	61	0	N.D.	
40) 1-Butanol	12.87	56	1817	0.064 ng #	70
41) Benzene	12.86	78	1415	N.D.	
42) Carbon Tetrachloride	0.00	117	0	N.D.	
43) Cyclohexane	13.26	84	736	N.D.	
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.	
45) 1,2-Dichloropropane	0.00	63	0	N.D.	
46) Bromodichloromethane	0.00	83	0	N.D.	
47) Trichloroethene	0.00	130	0	N.D.	
48) 1,4-Dioxane	0.00	88	0	N.D.	
49) 2,2,4-Trimethylpentane...	14.04	57	3837	N.D.	
50) Methyl Methacrylate	0.00	100	0	N.D.	

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142004.D Vial: 2
Acq On : 14 May 2020 10:35 Operator: LH
Sample : MB R16051420_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: May 14 13:03:07 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

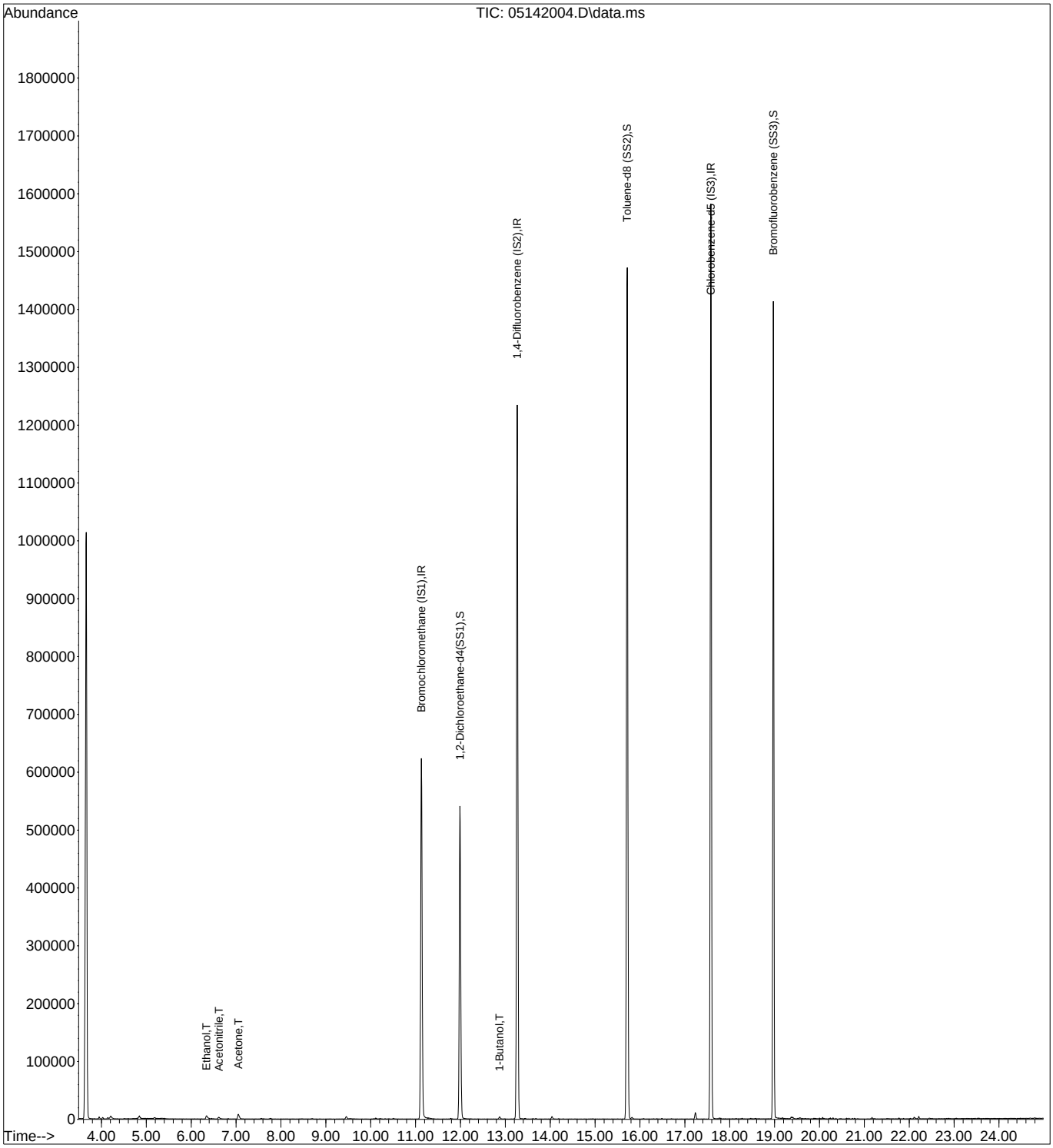
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.82	91	1879	N.D.		
59) 2-Hexanone	16.08	43	961	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.71	43	584	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	17.62	112	270	N.D.		
66) Ethylbenzene	17.98	91	649	N.D.		
67) m- & p-Xylenes	18.15	91	1455	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	430	N.D.		
70) o-Xylene	18.58	91	639	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.10	105	325	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	19.55	91	560	N.D.		
77) 3-Ethyltoluene	19.64	105	660	N.D.		
78) 4-Ethyltoluene	19.68	105	576	N.D.		
79) 1,3,5-Trimethylbenzene	19.74	105	302	N.D.		
80) alpha-Methylstyrene	19.88	118	113	N.D.		
81) 2-Ethyltoluene	19.91	105	1297	N.D.		
82) 1,2,4-Trimethylbenzene	20.10	105	1197	N.D.		
83) n-Decane	20.37	57	310	N.D.		
84) Benzyl Chloride	20.21	91	799	N.D.		
85) 1,3-Dichlorobenzene	20.23	146	828	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	1131	N.D.		
87) sec-Butylbenzene	20.24	105	212	N.D.		
88) 4-Isopropyltoluene (p-...	20.48	119	202	N.D.		
89) 1,2,3-Trimethylbenzene	20.48	105	205	N.D.		
90) 1,2-Dichlorobenzene	20.59	146	419	N.D.		
91) d-Limonene	20.61	68	158	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.23	57	206	N.D.		
94) 1,2,4-Trichlorobenzene	22.11	180	1057	N.D.		
95) Naphthalene	22.22	128	4275	N.D.		
96) n-Dodecane	22.22	57	114	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.28	55	439	N.D.		
99) tert-Butylbenzene	20.10	119	244	N.D.		
100) n-Butylbenzene	20.85	91	513	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142004.D Vial: 2
Acq On : 14 May 2020 10:35 Operator: LH
Sample : MB R16051420_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: May 14 13:03:07 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132007.D Vial: 2
Acq On : 13 May 2020 22:12 Operator: LH
Sample : LCS R16051320_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292005 (5/28)

Quant Time: May 14 13:02:23 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/14/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	280642	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.28	114	1202221	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.58	82	569593	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	453046	11.912	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.28%				
57) Toluene-d8 (SS2)	15.72	98	1171596	12.135	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.12%				
73) Bromofluorobenzene (SS3)	18.97	174	459889	13.238	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.92%				
Target Compounds							Qvalue
2) Propene	4.09	42	886654	27.278	ng		100
3) Dichlorodifluoromethan...	4.25	85	1575317	24.779	ng		100
4) Chloromethane	4.53	50	1249998	25.098	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	882885	23.244	ng		100
6) Vinyl Chloride	4.95	62	1319382	24.158	ng		99
7) 1,3-Butadiene	5.22	54	1122938	24.849	ng		99
8) Bromomethane	5.65	94	711927	24.675	ng		99
9) Chloroethane	5.98	64	540800	25.065	ng		99
10) Ethanol	6.39	45	3153373	125.641	ng		100
11) Acetonitrile	6.63	41	1448939	25.263	ng		100
12) Acrolein	6.80	56	493440	24.882	ng		100
13) Acetone	7.01	58	3314056	132.032	ng		100
14) Trichlorofluoromethane	7.24	101	1387460	24.694	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	4052901	53.349	ng		100
16) Acrylonitrile	7.77	53	1057459	25.771	ng		100
17) 1,1-Dichloroethene	8.20	96	761488	25.854	ng		99
18) 2-Methyl-2-Propanol (t...	8.39	59	3844416	54.281	ng		99
19) Methylene Chloride	8.44	84	803428	24.623	ng		98
20) 3-Chloro-1-propene (Al...	8.60	41	1169279	26.084	ng		98
21) Trichlorotrifluoroethane	8.84	151	702892	26.497	ng		98
22) Carbon Disulfide	8.69	76	2931643	25.074	ng		100
23) trans-1,2-Dichloroethene	9.71	61	1139868	25.416	ng		99
24) 1,1-Dichloroethane	9.96	63	1333763	25.051	ng		100
25) Methyl tert-Butyl Ether	10.05	73	2053884	24.525	ng		99
26) Vinyl Acetate	10.22	86	1044792	133.631	ng	#	92
27) 2-Butanone (MEK)	10.46	72	554203	25.890	ng		95
28) cis-1,2-Dichloroethene	10.98	61	1111997	25.349	ng		99
29) Diisopropyl Ether	11.27	87	725777	23.968	ng	#	87
30) Ethyl Acetate	11.28	61	694001	56.226	ng		98
31) n-Hexane	11.26	57	1440335	26.903	ng		99
32) Chloroform	11.32	83	1423581	25.483	ng		100
34) Tetrahydrofuran (THF)	11.72	72	531325	25.450	ng		97
35) Ethyl tert-Butyl Ether	11.86	87	958504	26.194	ng		98
36) 1,2-Dichloroethane	12.12	62	1094638	24.732	ng		100
38) 1,1,1-Trichloroethane	12.40	97	1261350	26.049	ng		100
39) Isopropyl Acetate	12.83	61	1157325	54.641	ng		95
40) 1-Butanol	12.85	56	1764656	58.560	ng		97
41) Benzene	12.88	78	3268508	25.352	ng		100
42) Carbon Tetrachloride	13.04	117	1113635	25.394	ng		100
43) Cyclohexane	13.17	84	2534225	52.749	ng		99
44) tert-Amyl Methyl Ether	13.52	73	2326103	26.906	ng		100
45) 1,2-Dichloropropane	13.73	63	788940	26.422	ng		99
46) Bromodichloromethane	13.92	83	1147269	26.331	ng		100
47) Trichloroethene	13.97	130	874918	26.254	ng		100
48) 1,4-Dioxane	13.95	88	690043	26.575	ng		100
49) 2,2,4-Trimethylpentane...	14.04	57	3320252	26.466	ng		99
50) Methyl Methacrylate	14.18	100	702450	54.921	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132007.D Vial: 2
Acq On : 13 May 2020 22:12 Operator: LH
Sample : LCS R16051320_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292005 (5/28)

Quant Time: May 14 13:02:23 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

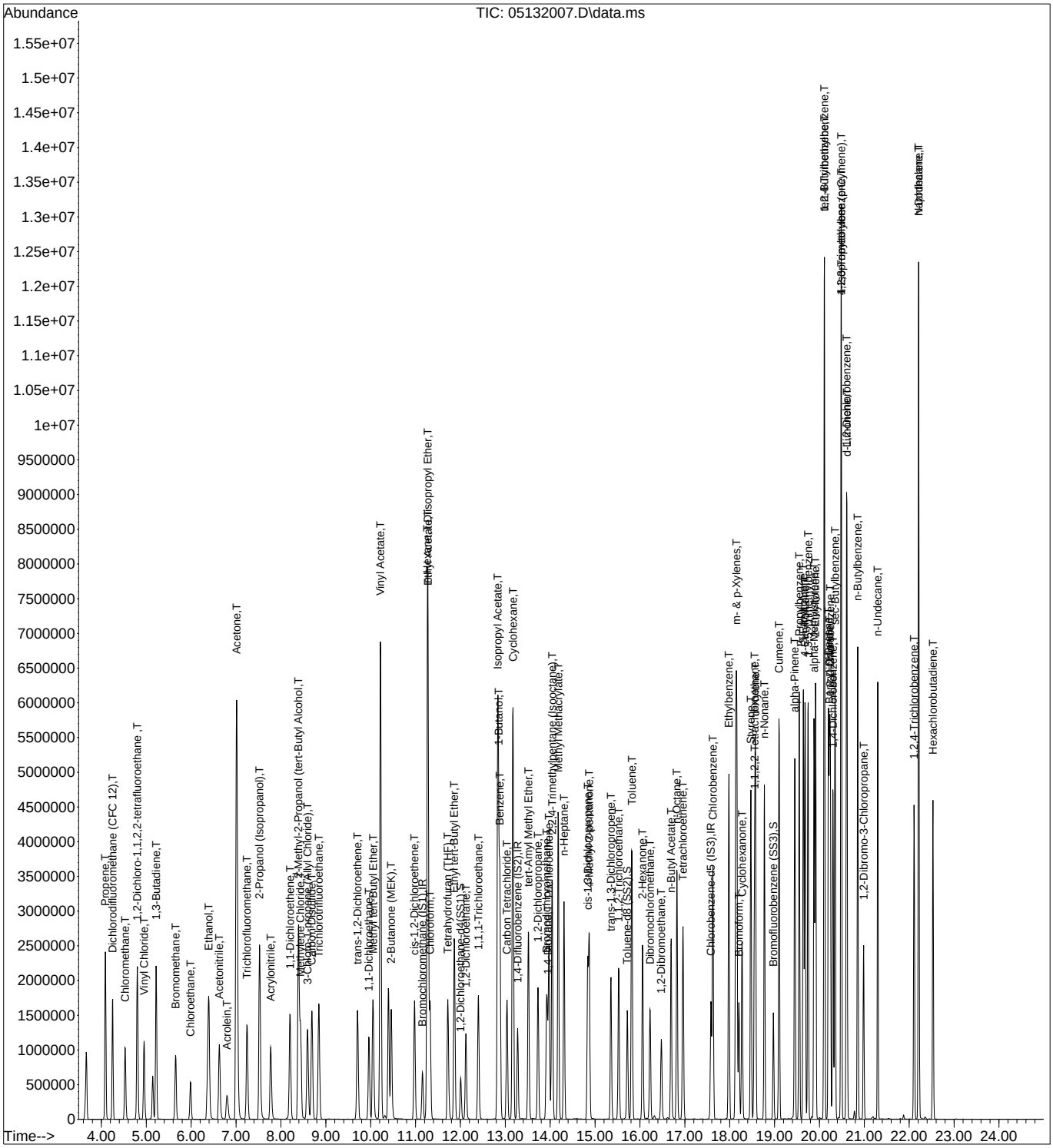
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	782357	25.949	ng	99
52) cis-1,3-Dichloropropene	14.84	75	1426789	27.833	ng	100
53) 4-Methyl-2-pentanone	14.87	58	782769	27.236	ng	98
54) trans-1,3-Dichloropropene	15.35	75	1238354	28.233	ng	100
55) 1,1,2-Trichloroethane	15.52	97	788304	26.623	ng	99
58) Toluene	15.82	91	3218787	25.864	ng	100
59) 2-Hexanone	16.06	43	1946072	28.538	ng	99
60) Dibromochloromethane	16.23	129	978810	27.467	ng	100
61) 1,2-Dibromoethane	16.48	107	921438	26.904	ng	100
62) n-Butyl Acetate	16.70	43	2156713	29.280	ng	99
63) n-Octane	16.82	57	689488	26.761	ng	99
64) Tetrachloroethene	16.96	166	921809	26.224	ng	100
65) Chlorobenzene	17.62	112	2181559	25.477	ng	100
66) Ethylbenzene	17.98	91	3805097	27.420	ng	100
67) m- & p-Xylenes	18.15	91	6236451	56.649	ng	98
68) Bromoform	18.21	173	861516	27.887	ng	100
69) Styrene	18.47	104	2401108	28.999	ng	100
70) o-Xylene	18.58	91	3030445	27.115	ng	100
71) n-Nonane	18.77	43	1683367	28.387	ng	98
72) 1,1,2,2-Tetrachloroethane	18.55	83	1559053	28.119	ng	100
74) Cumene	19.10	105	3812256	27.794	ng	100
75) alpha-Pinene	19.45	93	2000198	27.330	ng	99
76) n-Propylbenzene	19.55	91	4708271	28.895	ng	100
77) 3-Ethyltoluene	19.64	105	3890253	29.303	ng	100
78) 4-Ethyltoluene	19.68	105	3664903	28.451	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	3191939	28.538	ng	100
80) alpha-Methylstyrene	19.88	118	1684888	26.726	ng	92
81) 2-Ethyltoluene	19.91	105	3822678	29.192	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3414928	30.376	ng	100
83) n-Decane	20.20	57	1770359	28.150	ng	99
84) Benzyl Chloride	20.22	91	3061012	29.213	ng	100
85) 1,3-Dichlorobenzene	20.24	146	1952648	29.912	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1948287	30.583	ng	100
87) sec-Butylbenzene	20.35	105	4239800	29.053	ng	100
88) 4-Isopropyltoluene (p-...	20.48	119	3968662	28.719	ng	100
89) 1,2,3-Trimethylbenzene	20.48	105	3352488	28.494	ng	100
90) 1,2-Dichlorobenzene	20.61	146	1877014	30.031	ng	100
91) d-Limonene	20.61	68	1265521	28.502	ng	99
92) 1,2-Dibromo-3-Chloropr...	20.98	157	671027	28.473	ng	99
93) n-Undecane	21.30	57	1789920	30.752	ng	99
94) 1,2,4-Trichlorobenzene	22.11	180	1378493	31.800	ng	100
95) Naphthalene	22.21	128	4631537	33.757	ng	100
96) n-Dodecane	22.21	57	1828806	36.288	ng	99
97) Hexachlorobutadiene	22.53	225	847729	28.271	ng	99
98) Cyclohexanone	18.27	55	1117754	25.659	ng	99
99) tert-Butylbenzene	20.11	119	3183210	28.768	ng	100
100) n-Butylbenzene	20.85	91	3512687	30.688	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132007.D Vial: 2
Acq On : 13 May 2020 22:12 Operator: LH
Sample : LCS R16051320_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292005 (5/28)

Quant Time: May 14 13:02:23 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132008.D Vial: 2
Acq On : 13 May 2020 22:45 Operator: LH
Sample : LCSD R16051320_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292005 (5/28)

Quant Time: May 14 13:02:26 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 5/14/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	284591	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.28	114	1222936	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.58	82	583352	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	465031	12.057	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.48%				
57) Toluene-d8 (SS2)	15.72	98	1193794	12.073	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.56%				
73) Bromofluorobenzene (SS3)	18.97	174	472812	13.289	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.32%				
Target Compounds							Qvalue
2) Propene	4.09	42	910004	27.608	ng		99
3) Dichlorodifluoromethan...	4.25	85	1597788	24.784	ng		100
4) Chloromethane	4.53	50	1269633	25.138	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	885686	22.994	ng		100
6) Vinyl Chloride	4.95	62	1330373	24.021	ng		100
7) 1,3-Butadiene	5.22	54	1142127	24.923	ng		99
8) Bromomethane	5.65	94	714128	24.408	ng		99
9) Chloroethane	5.98	64	550315	25.152	ng		100
10) Ethanol	6.39	45	3243292	127.430	ng		100
11) Acetonitrile	6.63	41	1491430	25.643	ng		100
12) Acrolein	6.80	56	506095	25.166	ng		100
13) Acetone	7.01	58	3361167	132.051	ng		100
14) Trichlorofluoromethane	7.24	101	1409166	24.733	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	4132398	53.640	ng		99
16) Acrylonitrile	7.77	53	1093449	26.278	ng		100
17) 1,1-Dichloroethene	8.20	96	774431	25.929	ng		99
18) 2-Methyl-2-Propanol (t...	8.39	59	3856402	53.695	ng		100
19) Methylene Chloride	8.44	84	819285	24.761	ng		98
20) 3-Chloro-1-propene (Al...	8.59	41	1204504	26.497	ng		98
21) Trichlorotrifluoroethane	8.84	151	710881	26.427	ng		98
22) Carbon Disulfide	8.69	76	2982002	25.151	ng		100
23) trans-1,2-Dichloroethene	9.71	61	1167649	25.674	ng		100
24) 1,1-Dichloroethane	9.96	63	1354643	25.090	ng		100
25) Methyl tert-Butyl Ether	10.05	73	2089198	24.601	ng		100
26) Vinyl Acetate	10.22	86	1055309	133.103	ng	#	91
27) 2-Butanone (MEK)	10.46	72	565668	26.059	ng		94
28) cis-1,2-Dichloroethene	10.98	61	1134642	25.506	ng		98
29) Diisopropyl Ether	11.27	87	735461	23.951	ng	#	86
30) Ethyl Acetate	11.28	61	707500	56.524	ng		98
31) n-Hexane	11.26	57	1472514	27.123	ng		99
32) Chloroform	11.32	83	1445352	25.514	ng		100
34) Tetrahydrofuran (THF)	11.72	72	543245	25.660	ng		96
35) Ethyl tert-Butyl Ether	11.86	87	976690	26.321	ng		97
36) 1,2-Dichloroethane	12.12	62	1119458	24.942	ng		100
38) 1,1,1-Trichloroethane	12.40	97	1283773	26.063	ng		100
39) Isopropyl Acetate	12.83	61	1172668	54.428	ng		95
40) 1-Butanol	12.85	56	1797216	58.630	ng		97
41) Benzene	12.88	78	3322492	25.334	ng		100
42) Carbon Tetrachloride	13.04	117	1131228	25.359	ng		100
43) Cyclohexane	13.17	84	2559739	52.377	ng		98
44) tert-Amyl Methyl Ether	13.51	73	2383115	27.098	ng		100
45) 1,2-Dichloropropane	13.73	63	804160	26.476	ng		99
46) Bromodichloromethane	13.92	83	1167304	26.337	ng		100
47) Trichloroethene	13.97	130	890014	26.255	ng		100
48) 1,4-Dioxane	13.95	88	702190	26.585	ng		99
49) 2,2,4-Trimethylpentane...	14.04	57	3374048	26.439	ng		99
50) Methyl Methacrylate	14.18	100	716447	55.067	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132008.D Vial: 2
Acq On : 13 May 2020 22:45 Operator: LH
Sample : LCSD R16051320_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292005 (5/28)

Quant Time: May 14 13:02:26 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

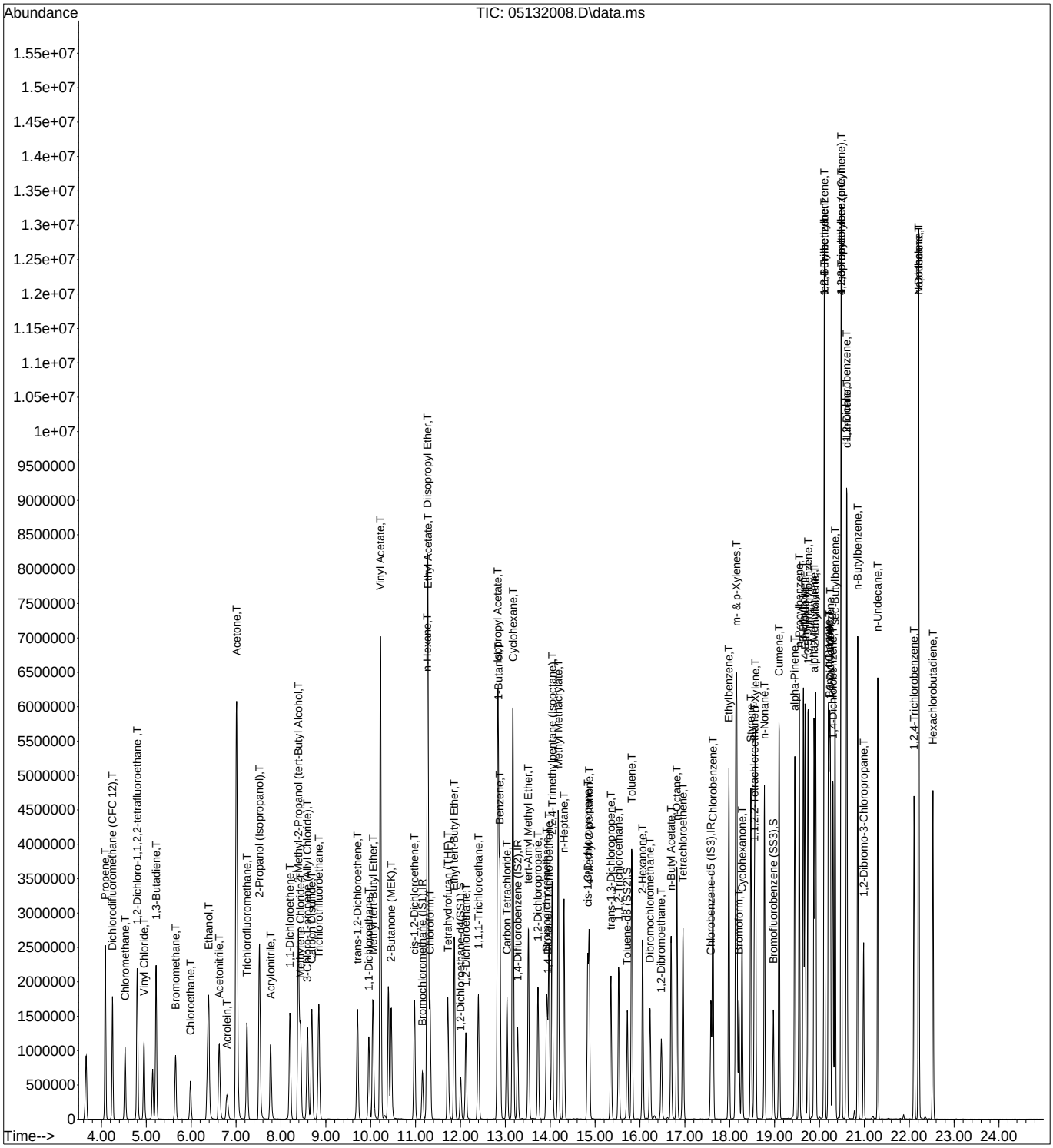
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	798756	26.045	ng	99
52) cis-1,3-Dichloropropene	14.84	75	1452458	27.853	ng	100
53) 4-Methyl-2-pentanone	14.87	58	802934	27.464	ng	97
54) trans-1,3-Dichloropropene	15.35	75	1264961	28.351	ng	100
55) 1,1,2-Trichloroethane	15.52	97	801655	26.615	ng	100
58) Toluene	15.82	91	3275829	25.702	ng	100
59) 2-Hexanone	16.06	43	1998945	28.622	ng	99
60) Dibromochloromethane	16.22	129	995595	27.279	ng	100
61) 1,2-Dibromoethane	16.48	107	938563	26.757	ng	100
62) n-Butyl Acetate	16.70	43	2217926	29.401	ng	99
63) n-Octane	16.82	57	708688	26.858	ng	98
64) Tetrachloroethene	16.96	166	932950	25.915	ng	100
65) Chlorobenzene	17.62	112	2209642	25.196	ng	100
66) Ethylbenzene	17.98	91	3891868	27.384	ng	100
67) m- & p-Xylenes	18.15	91	6151843	54.563	ng	100
68) Bromoform	18.21	173	880003	27.814	ng	100
69) Styrene	18.47	104	2457347	28.978	ng	100
70) o-Xylene	18.58	91	3082720	26.932	ng	100
71) n-Nonane	18.77	43	1720191	28.324	ng	98
72) 1,1,2,2-Tetrachloroethane	18.55	83	1581527	27.851	ng	100
74) Cumene	19.10	105	3874743	27.583	ng	100
75) alpha-Pinene	19.45	93	2045966	27.296	ng	99
76) n-Propylbenzene	19.55	91	4768863	28.576	ng	100
77) 3-Ethyltoluene	19.64	105	3950967	29.059	ng	100
78) 4-Ethyltoluene	19.68	105	3721558	28.209	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	3241598	28.298	ng	100
80) alpha-Methylstyrene	19.88	118	1720336	26.644	ng	92
81) 2-Ethyltoluene	19.91	105	3857022	28.759	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3474438	30.176	ng	100
83) n-Decane	20.20	57	1793036	27.839	ng	99
84) Benzyl Chloride	20.22	91	3105342	28.937	ng	100
85) 1,3-Dichlorobenzene	20.24	146	1960424	29.323	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1990516	30.509	ng	100
87) sec-Butylbenzene	20.35	105	4283580	28.661	ng	100
88) 4-Isopropyltoluene (p-...	20.48	119	4013667	28.359	ng	100
89) 1,2,3-Trimethylbenzene	20.48	105	3402204	28.234	ng	100
90) 1,2-Dichlorobenzene	20.61	146	1907179	29.794	ng	100
91) d-Limonene	20.61	68	1291881	28.409	ng	99
92) 1,2-Dibromo-3-Chloropr...	20.98	157	689201	28.554	ng	99
93) n-Undecane	21.30	57	1842074	30.901	ng	98
94) 1,2,4-Trichlorobenzene	22.11	180	1426802	32.138	ng	100
95) Naphthalene	22.21	128	4770578	33.950	ng	100
96) n-Dodecane	22.21	57	1930169	37.396	ng	99
97) Hexachlorobutadiene	22.53	225	877274	28.566	ng	100
98) Cyclohexanone	18.27	55	1154697	25.882	ng	99
99) tert-Butylbenzene	20.11	119	3228833	28.492	ng	100
100) n-Butylbenzene	20.85	91	3562879	30.393	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132008.D Vial: 2
Acq On : 13 May 2020 22:45 Operator: LH
Sample : LCSD R16051320_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292005 (5/28)

Quant Time: May 14 13:02:26 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142005.D Vial: 2
Acq On : 14 May 2020 11:09 Operator: LH
Sample : LCS R16051420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292005 (5/28)

Quant Time: May 14 13:03:09 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/14/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	271934	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.28	114	1167015	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.58	82	545692	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.01	65	435196	11.809	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.48%				
57) Toluene-d8 (SS2)	15.72	98	1131540	12.234	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.84%				
73) Bromofluorobenzene (SS3)	18.98	174	447769	13.454	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.60%				
Target Compounds							Qvalue
2) Propene	4.09	42	842220	26.741	ng		100
3) Dichlorodifluoromethan...	4.25	85	1522969	24.723	ng		100
4) Chloromethane	4.53	50	1147510	23.778	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	852686	23.168	ng		100
6) Vinyl Chloride	4.96	62	1262607	23.858	ng		99
7) 1,3-Butadiene	5.22	54	1089883	24.890	ng		99
8) Bromomethane	5.66	94	677144	24.221	ng		99
9) Chloroethane	5.99	64	513796	24.576	ng		99
10) Ethanol	6.40	45	2968109	122.046	ng		100
11) Acetonitrile	6.64	41	1363697	24.538	ng		100
12) Acrolein	6.81	56	463923	24.142	ng		100
13) Acetone	7.02	58	3151525	129.578	ng		99
14) Trichlorofluoromethane	7.25	101	1331273	24.453	ng		100
15) 2-Propanol (Isopropanol)	7.53	45	3868458	52.552	ng		100
16) Acrylonitrile	7.78	53	999111	25.129	ng		100
17) 1,1-Dichloroethene	8.20	96	730027	25.580	ng		98
18) 2-Methyl-2-Propanol (t...	8.40	59	3679282	53.613	ng		100
19) Methylene Chloride	8.44	84	769493	24.338	ng		99
20) 3-Chloro-1-propene (Al...	8.60	41	1102990	25.393	ng		99
21) Trichlorotrifluoroethane	8.85	151	678731	26.406	ng		97
22) Carbon Disulfide	8.69	76	2806671	24.774	ng		100
23) trans-1,2-Dichloroethene	9.71	61	1082909	24.919	ng		98
24) 1,1-Dichloroethane	9.96	63	1266885	24.557	ng		100
25) Methyl tert-Butyl Ether	10.05	73	1969197	24.267	ng		100
26) Vinyl Acetate	10.22	86	1010389	133.369	ng	#	91
27) 2-Butanone (MEK)	10.47	72	527786	25.446	ng		95
28) cis-1,2-Dichloroethene	10.98	61	1060172	24.941	ng		100
29) Diisopropyl Ether	11.27	87	711272	24.242	ng	#	90
30) Ethyl Acetate	11.28	61	669039	55.939	ng		98
31) n-Hexane	11.26	57	1395830	26.907	ng		100
32) Chloroform	11.33	83	1369070	25.292	ng		100
34) Tetrahydrofuran (THF)	11.72	72	510728	25.247	ng		98
35) Ethyl tert-Butyl Ether	11.87	87	921058	25.977	ng		98
36) 1,2-Dichloroethane	12.13	62	1051571	24.520	ng		100
38) 1,1,1-Trichloroethane	12.40	97	1219199	25.938	ng		100
39) Isopropyl Acetate	12.83	61	1122726	54.607	ng		95
40) 1-Butanol	12.85	56	1711480	58.509	ng		97
41) Benzene	12.88	78	3162420	25.269	ng		100
42) Carbon Tetrachloride	13.04	117	1080370	25.379	ng		100
43) Cyclohexane	13.17	84	2461639	52.784	ng		99
44) tert-Amyl Methyl Ether	13.52	73	2232100	26.597	ng		100
45) 1,2-Dichloropropane	13.73	63	760483	26.237	ng		100
46) Bromodichloromethane	13.92	83	1107319	26.181	ng		100
47) Trichloroethene	13.97	130	855769	26.455	ng		100
48) 1,4-Dioxane	13.95	88	667489	26.482	ng		99
49) 2,2,4-Trimethylpentane...	14.04	57	3204815	26.316	ng		99
50) Methyl Methacrylate	14.18	100	680856	54.839	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142005.D Vial: 2
Acq On : 14 May 2020 11:09 Operator: LH
Sample : LCS R16051420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292005 (5/28)

Quant Time: May 14 13:03:09 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

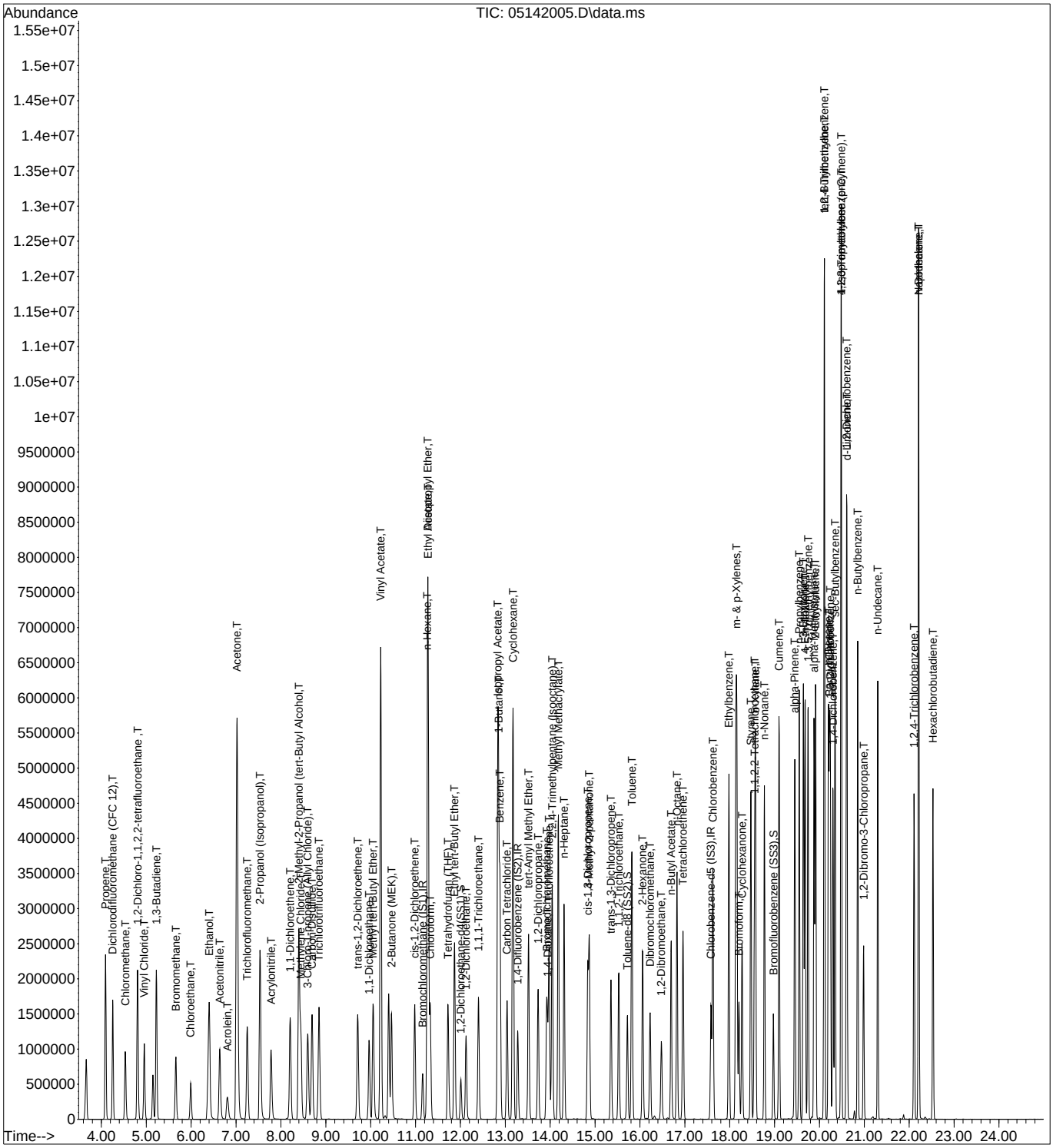
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	761479	26.019	ng	99
52) cis-1,3-Dichloropropene	14.84	75	1371402	27.559	ng	100
53) 4-Methyl-2-pentanone	14.87	58	758040	27.171	ng	98
54) trans-1,3-Dichloropropene	15.35	75	1193385	28.029	ng	100
55) 1,1,2-Trichloroethane	15.53	97	762403	26.525	ng	100
58) Toluene	15.82	91	3116223	26.137	ng	100
59) 2-Hexanone	16.06	43	1882464	28.814	ng	99
60) Dibromochloromethane	16.23	129	948784	27.791	ng	100
61) 1,2-Dibromoethane	16.48	107	893215	27.222	ng	100
62) n-Butyl Acetate	16.70	43	2091812	29.643	ng	99
63) n-Octane	16.83	57	672399	27.241	ng	99
64) Tetrachloroethene	16.96	166	897866	26.662	ng	100
65) Chlorobenzene	17.62	112	2122870	25.877	ng	100
66) Ethylbenzene	17.98	91	3702898	27.853	ng	100
67) m- & p-Xylenes	18.15	91	5990651	56.800	ng	100
68) Bromoform	18.21	173	843308	28.493	ng	100
69) Styrene	18.47	104	2362439	29.781	ng	100
70) o-Xylene	18.58	91	2980860	27.839	ng	100
71) n-Nonane	18.77	43	1650296	29.049	ng	98
72) 1,1,2,2-Tetrachloroethane	18.55	83	1525565	28.720	ng	100
74) Cumene	19.10	105	3740294	28.464	ng	100
75) alpha-Pinene	19.45	93	1949000	27.797	ng	99
76) n-Propylbenzene	19.55	91	4606452	29.508	ng	100
77) 3-Ethyltoluene	19.64	105	3830597	30.118	ng	100
78) 4-Ethyltoluene	19.68	105	3624313	29.368	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	3143769	29.338	ng	100
80) alpha-Methylstyrene	19.88	118	1662511	27.526	ng	91
81) 2-Ethyltoluene	19.91	105	3756429	29.942	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3364895	31.242	ng	99
83) n-Decane	20.20	57	1772919	29.426	ng	99
84) Benzyl Chloride	20.22	91	3032427	30.208	ng	100
85) 1,3-Dichlorobenzene	20.24	146	1929325	30.849	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1928582	31.600	ng	100
87) sec-Butylbenzene	20.35	105	4202308	30.058	ng	100
88) 4-Isopropyltoluene (p-...	20.48	119	3952095	29.851	ng	99
89) 1,2,3-Trimethylbenzene	20.48	105	3308593	29.352	ng	99
90) 1,2-Dichlorobenzene	20.61	146	1854921	30.978	ng	100
91) d-Limonene	20.61	68	1245234	29.273	ng	98
92) 1,2-Dibromo-3-Chloropr...	20.98	157	672320	29.777	ng	98
93) n-Undecane	21.30	57	1802325	32.321	ng	98
94) 1,2,4-Trichlorobenzene	22.11	180	1402478	33.770	ng	100
95) Naphthalene	22.21	128	4712971	35.855	ng	100
96) n-Dodecane	22.21	57	1888277	39.109	ng	99
97) Hexachlorobutadiene	22.53	225	862518	30.024	ng	99
98) Cyclohexanone	18.27	55	1079257	25.860	ng	99
99) tert-Butylbenzene	20.11	119	3143930	29.658	ng	100
100) n-Butylbenzene	20.85	91	3497966	31.898	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142005.D Vial: 2
Acq On : 14 May 2020 11:09 Operator: LH
Sample : LCS R16051420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292005 (5/28)

Quant Time: May 14 13:03:09 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142006.D Vial: 2
Acq On : 14 May 2020 11:43 Operator: LH
Sample : LCSD R16051420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292005 (5/28)

Quant Time: May 14 13:03:11 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 5/14/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	278067	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.27	114	1197935	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.58	82	564836	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	451425	11.979	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.84%				
57) Toluene-d8 (SS2)	15.72	98	1168590	12.206	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.68%				
73) Bromofluorobenzene (SS3)	18.97	174	461179	13.387	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.12%				
Target Compounds							Qvalue
2) Propene	4.09	42	890378	27.646	ng		99
3) Dichlorodifluoromethan...	4.25	85	1560966	24.781	ng		100
4) Chloromethane	4.53	50	1219221	24.706	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	868161	23.068	ng		100
6) Vinyl Chloride	4.95	62	1291996	23.875	ng		99
7) 1,3-Butadiene	5.22	54	1106485	24.712	ng		99
8) Bromomethane	5.65	94	691589	24.192	ng		100
9) Chloroethane	5.98	64	527688	24.684	ng		99
10) Ethanol	6.40	45	3134477	126.044	ng		100
11) Acetonitrile	6.63	41	1436944	25.285	ng		100
12) Acrolein	6.80	56	488161	24.843	ng		100
13) Acetone	7.02	58	3250729	130.709	ng		100
14) Trichlorofluoromethane	7.25	101	1351553	24.278	ng		100
15) 2-Propanol (Isopropanol)	7.53	45	3973119	52.783	ng		99
16) Acrylonitrile	7.78	53	1045494	25.716	ng		100
17) 1,1-Dichloroethene	8.20	96	743408	25.474	ng		99
18) 2-Methyl-2-Propanol (t...	8.39	59	3661288	52.174	ng		100
19) Methylene Chloride	8.44	84	795776	24.614	ng		98
20) 3-Chloro-1-propene (Al...	8.60	41	1160039	26.117	ng		99
21) Trichlorotrifluoroethane	8.85	151	696880	26.514	ng		98
22) Carbon Disulfide	8.69	76	2871736	24.790	ng		100
23) trans-1,2-Dichloroethene	9.71	61	1129860	25.426	ng		100
24) 1,1-Dichloroethane	9.96	63	1309968	24.832	ng		100
25) Methyl tert-Butyl Ether	10.05	73	2027305	24.432	ng		100
26) Vinyl Acetate	10.22	86	1032092	133.229	ng	#	91
27) 2-Butanone (MEK)	10.46	72	551517	26.003	ng		94
28) cis-1,2-Dichloroethene	10.98	61	1093548	25.159	ng		99
29) Diisopropyl Ether	11.27	87	729722	24.322	ng	#	90
30) Ethyl Acetate	11.28	61	690452	56.456	ng		98
31) n-Hexane	11.26	57	1437444	27.098	ng		100
32) Chloroform	11.32	83	1407661	25.432	ng		100
34) Tetrahydrofuran (THF)	11.72	72	526566	25.455	ng		97
35) Ethyl tert-Butyl Ether	11.87	87	947308	26.128	ng		97
36) 1,2-Dichloroethane	12.12	62	1089932	24.854	ng		99
38) 1,1,1-Trichloroethane	12.40	97	1242402	25.749	ng		100
39) Isopropyl Acetate	12.83	61	1151304	54.551	ng		95
40) 1-Butanol	12.85	56	1756184	58.487	ng		98
41) Benzene	12.88	78	3243150	25.245	ng		100
42) Carbon Tetrachloride	13.04	117	1096081	25.084	ng		100
43) Cyclohexane	13.17	84	2501930	52.263	ng		99
44) tert-Amyl Methyl Ether	13.52	73	2323935	26.977	ng		100
45) 1,2-Dichloropropane	13.73	63	785493	26.401	ng		100
46) Bromodichloromethane	13.92	83	1142751	26.321	ng		100
47) Trichloroethene	13.97	130	873020	26.291	ng		100
48) 1,4-Dioxane	13.95	88	683374	26.412	ng		99
49) 2,2,4-Trimethylpentane...	14.04	57	3280254	26.241	ng		99
50) Methyl Methacrylate	14.18	100	699678	54.900	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142006.D Vial: 2
Acq On : 14 May 2020 11:43 Operator: LH
Sample : LCSD R16051420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292005 (5/28)

Quant Time: May 14 13:03:11 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

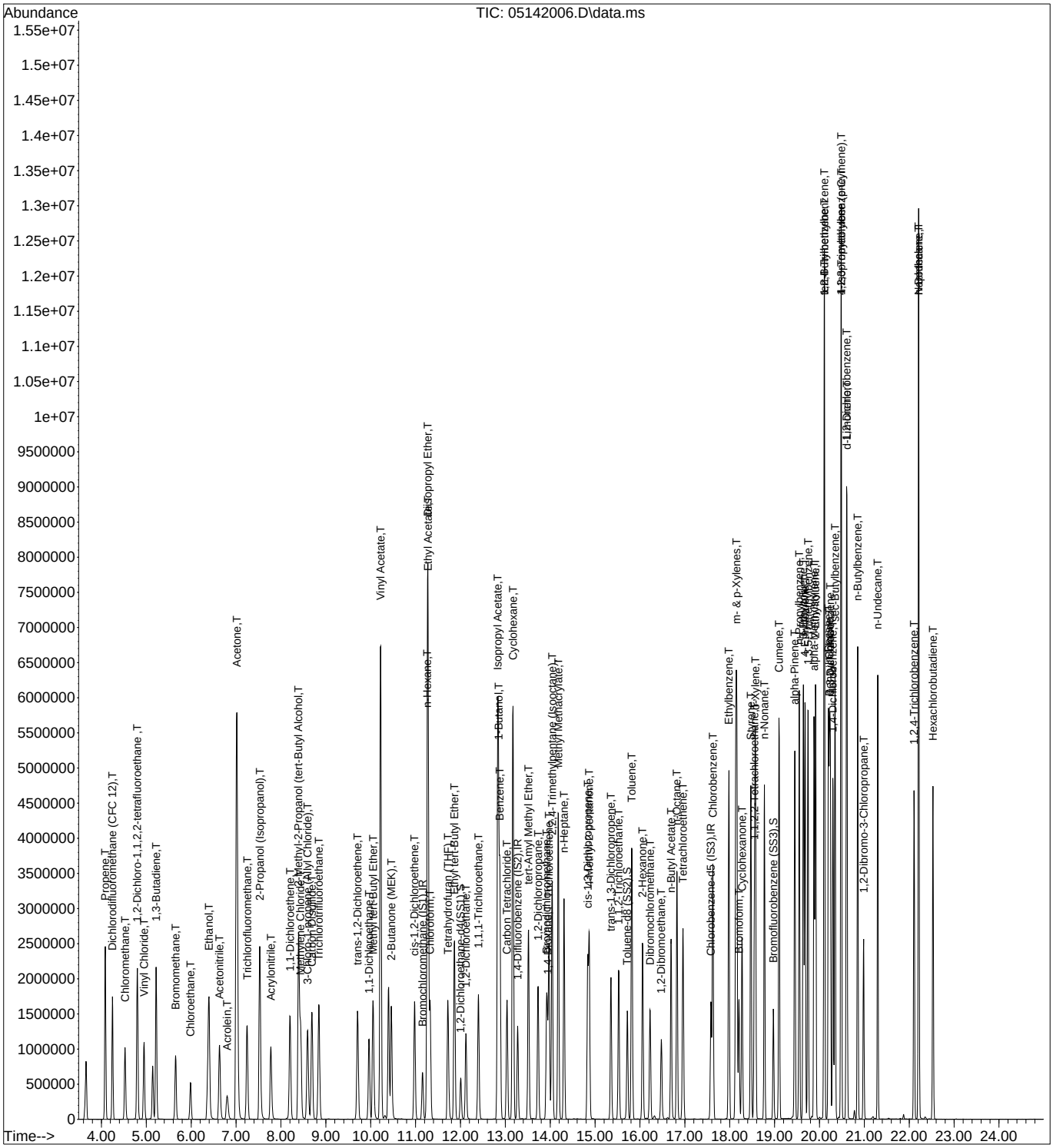
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	779144	25.935	ng	99
52) cis-1,3-Dichloropropene	14.84	75	1417761	27.756	ng	100
53) 4-Methyl-2-pentanone	14.87	58	774081	27.030	ng	97
54) trans-1,3-Dichloropropene	15.35	75	1228746	28.114	ng	100
55) 1,1,2-Trichloroethane	15.52	97	775898	26.297	ng	100
58) Toluene	15.82	91	3205616	25.975	ng	100
59) 2-Hexanone	16.06	43	1941890	28.716	ng	99
60) Dibromochloromethane	16.23	129	967142	27.368	ng	100
61) 1,2-Dibromoethane	16.48	107	911251	26.830	ng	100
62) n-Butyl Acetate	16.70	43	2153172	29.478	ng	99
63) n-Octane	16.82	57	690634	27.031	ng	98
64) Tetrachloroethene	16.96	166	916040	26.279	ng	100
65) Chlorobenzene	17.62	112	2153421	25.360	ng	100
66) Ethylbenzene	17.98	91	3782509	27.487	ng	100
67) m- & p-Xylenes	18.15	91	6066235	55.567	ng	100
68) Bromoform	18.21	173	860949	28.103	ng	100
69) Styrene	18.47	104	2425014	29.534	ng	100
70) o-Xylene	18.58	91	3027398	27.315	ng	100
71) n-Nonane	18.77	43	1681940	28.602	ng	98
72) 1,1,2,2-Tetrachloroethane	18.55	83	1556639	28.311	ng	100
74) Cumene	19.10	105	3790381	27.867	ng	100
75) alpha-Pinene	19.45	93	1998934	27.543	ng	99
76) n-Propylbenzene	19.55	91	4704816	29.117	ng	100
77) 3-Ethyltoluene	19.64	105	3896021	29.594	ng	100
78) 4-Ethyltoluene	19.68	105	3632400	28.436	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	3176324	28.637	ng	100
80) alpha-Methylstyrene	19.88	118	1692073	27.066	ng	92
81) 2-Ethyltoluene	19.91	105	3803559	29.290	ng	99
82) 1,2,4-Trimethylbenzene	20.11	105	3410575	30.593	ng	100
83) n-Decane	20.20	57	1758730	28.201	ng	99
84) Benzyl Chloride	20.22	91	3067864	29.525	ng	100
85) 1,3-Dichlorobenzene	20.24	146	1942451	30.006	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1962202	31.061	ng	100
87) sec-Butylbenzene	20.35	105	4199842	29.022	ng	100
88) 4-Isopropyltoluene (p-...	20.48	119	3951486	28.835	ng	100
89) 1,2,3-Trimethylbenzene	20.48	105	3324724	28.496	ng	99
90) 1,2-Dichlorobenzene	20.61	146	1874225	30.239	ng	100
91) d-Limonene	20.61	68	1256590	28.539	ng	99
92) 1,2-Dibromo-3-Chloropr...	20.98	157	683409	29.243	ng	99
93) n-Undecane	21.30	57	1817845	31.494	ng	98
94) 1,2,4-Trichlorobenzene	22.11	180	1426247	33.178	ng	100
95) Naphthalene	22.21	128	4778769	35.123	ng	100
96) n-Dodecane	22.21	57	1934077	38.700	ng	99
97) Hexachlorobutadiene	22.53	225	872018	29.326	ng	100
98) Cyclohexanone	18.27	55	1120055	25.928	ng	99
99) tert-Butylbenzene	20.11	119	3172646	28.914	ng	100
100) n-Butylbenzene	20.85	91	3531369	31.111	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142006.D Vial: 2
Acq On : 14 May 2020 11:43 Operator: LH
Sample : LCSD R16051420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292005 (5/28)

Quant Time: May 14 13:03:11 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132015.D Vial: 8
Acq On : 14 May 2020 2:41 Operator: LH
Sample : P2002301-005dup (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:34:00 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/14/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	309907	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1303184	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	669064	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	499879	11.902	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.20%				
57) Toluene-d8 (SS2)	15.72	98	1366695	12.051	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.40%				
73) Bromofluorobenzene (SS3)	18.97	174	517265	12.676	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.44%				
Target Compounds							Qvalue
2) Propene	4.11	42	9424	0.263	ng	#	75
3) Dichlorodifluoromethan...	4.27	85	1585	N.D.			
4) Chloromethane	4.54	50	10817	0.197	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	4.95	62	2049	N.D.			
7) 1,3-Butadiene	5.15	54	757	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.98	64	648	N.D.			
10) Ethanol	6.31	45	31594	1.140	ng		99
11) Acetonitrile	6.60	41	585	N.D.			
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	7.23	101	561	N.D.			
15) 2-Propanol (Isopropanol)	7.48	45	92843	1.107	ng		94
16) Acrylonitrile	7.84	53	1334	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.39	84	813	N.D.			
20) 3-Chloro-1-propene (Al...	8.50	41	1012	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.67	76	100310	0.777	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	9.93	63	1412	N.D.			
25) Methyl tert-Butyl Ether	10.06	73	670	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.46	72	12157	0.514	ng		93
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.26	87	417	N.D.			
30) Ethyl Acetate	11.28	61	3222	0.236	ng		87
31) n-Hexane	11.26	57	57124	0.966	ng		99
32) Chloroform	11.30	83	351	N.D.			
34) Tetrahydrofuran (THF)	11.75	72	2803	0.122	ng	#	68
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	1013	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	1634214	11.694	ng		100
42) Carbon Tetrachloride	13.03	117	281	N.D.			
43) Cyclohexane	13.16	84	87640	1.683	ng		99
44) tert-Amyl Methyl Ether	13.45	73	297	N.D.			
45) 1,2-Dichloropropane	13.64	63	118	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	13.97	130	6418	0.178	ng		100
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132015.D Vial: 8
Acq On : 14 May 2020 2:41 Operator: LH
Sample : P2002301-005dup (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:34:00 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

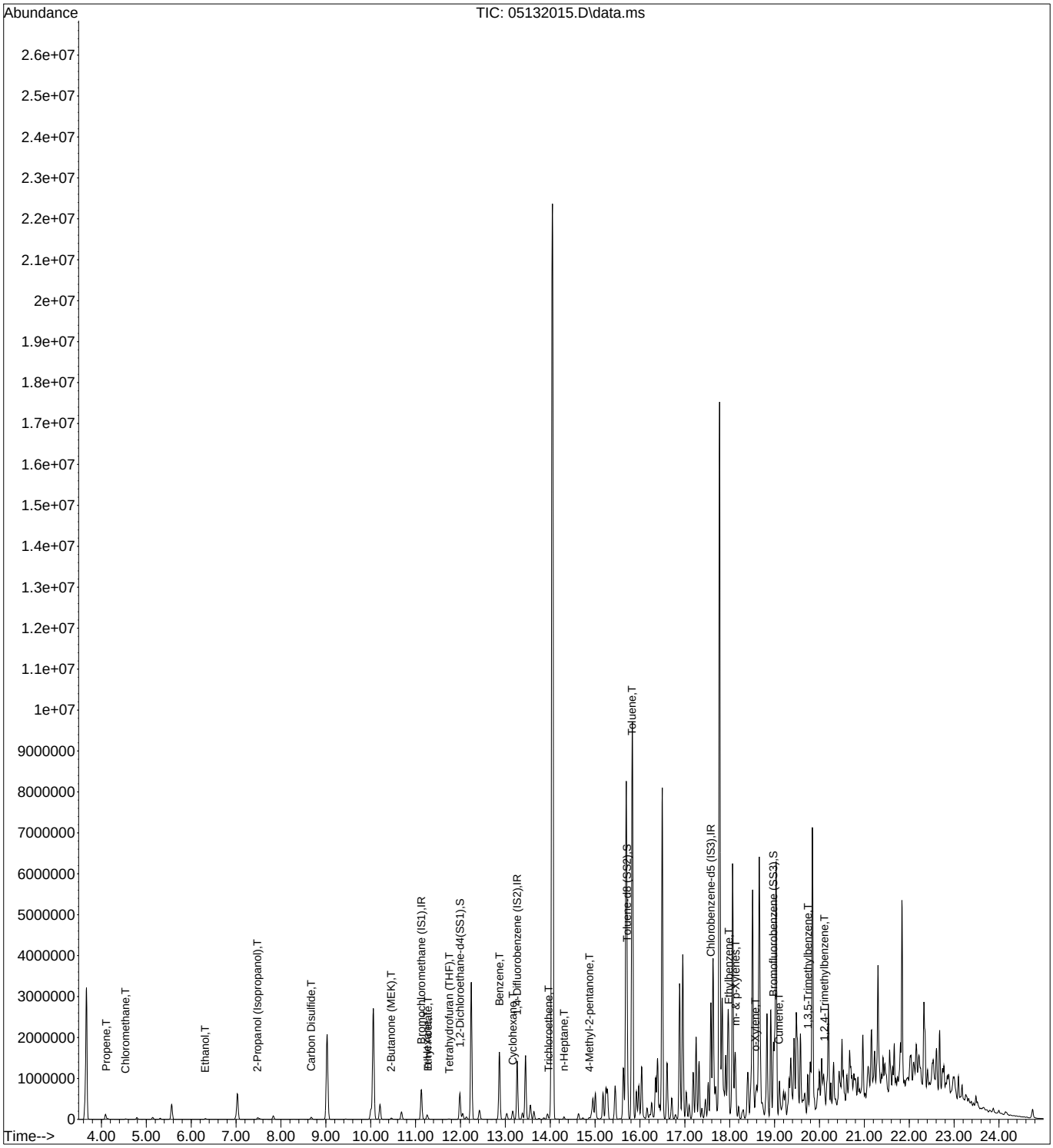
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	15399	0.471 ng	94
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.88	58	7887	0.253 ng	91
54) trans-1,3-Dichloropropene	0.00	75	0	N.D. d	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	15.82	91	1733782	11.860 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	16.48	107	255	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	16.82	57	1243	N.D.	
64) Tetrachloroethene	16.96	166	593	N.D.	
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	17.98	91	80597	0.494 ng	94
67) m- & p-Xylenes	18.14	91	148776	1.150 ng	100
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.48	104	1581	N.D.	
70) o-Xylene	18.57	91	48511	0.370 ng	99
71) n-Nonane	0.00	43	0	N.D. d	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	19.10	105	11974	0.074 ng	100
75) alpha-Pinene	19.43	93	2935	N.D.	
76) n-Propylbenzene	0.00	91	0	N.D. d	
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.68	105	2854	N.D.	
79) 1,3,5-Trimethylbenzene	19.74	105	9186	0.070 ng	98
80) alpha-Methylstyrene	19.87	118	1174	N.D.	
81) 2-Ethyltoluene	19.91	105	3875	N.D.	
82) 1,2,4-Trimethylbenzene	20.11	105	7596	0.058 ng	98
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	0.00	91	0	N.D. d	
85) 1,3-Dichlorobenzene	20.30	146	204	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	204	N.D.	
87) sec-Butylbenzene	20.35	105	3454	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	1042	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	3847	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D. d	
95) Naphthalene	22.21	128	3195	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.10	119	2478	N.D.	
100) n-Butylbenzene	20.86	91	3824	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132015.D Vial: 8
Acq On : 14 May 2020 2:41 Operator: LH
Sample : P2002301-005dup (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:34:00 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132015.D Vial: 8
Acq On : 14 May 2020 2:41 Operator: LH
Sample : P2002301-005dup (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:34:00 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/14/20

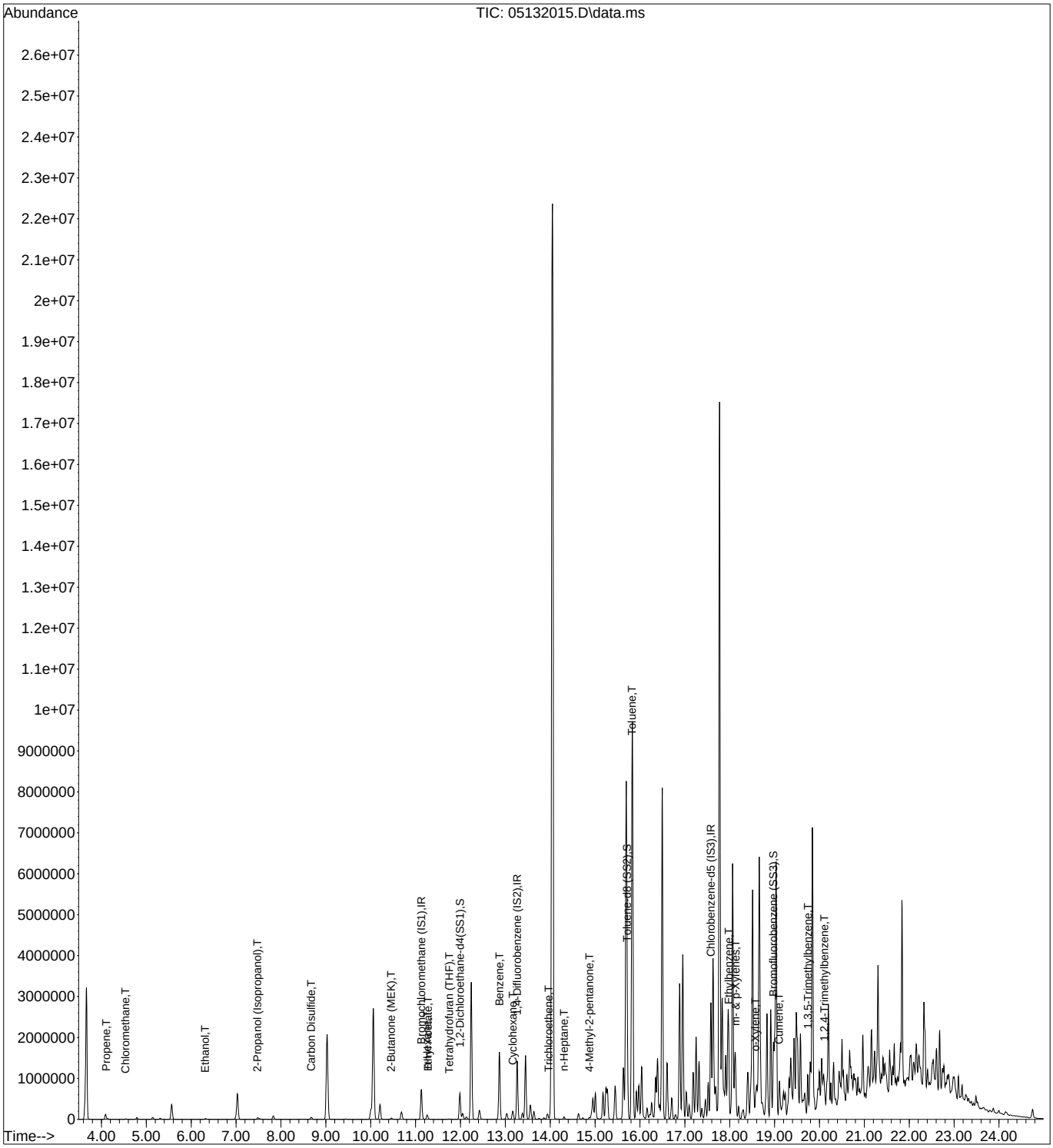
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	309907	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1303184	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	669064	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	499879	11.902	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.20%				
57) Toluene-d8 (SS2)	15.72	98	1366695	12.051	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.40%				
73) Bromofluorobenzene (SS3)	18.97	174	517265	12.676	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.44%				
Target Compounds							Qvalue
2) Propene	4.11	42	9424	0.263	ng	#	75
4) Chloromethane	4.54	50	10817	0.197	ng		100
10) Ethanol	6.31	45	31594	1.140	ng		99
15) 2-Propanol (Isopropanol)	7.48	45	92843	1.107	ng		94
22) Carbon Disulfide	8.67	76	100310	0.777	ng		99
27) 2-Butanone (MEK)	10.46	72	12157	0.514	ng		93
30) Ethyl Acetate	11.28	61	3222	0.236	ng		87
31) n-Hexane	11.26	57	57124	0.966	ng		99
34) Tetrahydrofuran (THF)	11.75	72	2803	0.122	ng	#	68
41) Benzene	12.87	78	1634214	11.694	ng		100
43) Cyclohexane	13.16	84	87640	1.683	ng		99
47) Trichloroethene	13.97	130	6418	0.178	ng		100
51) n-Heptane	14.31	71	15399	0.471	ng		94
53) 4-Methyl-2-pentanone	14.88	58	7887	0.253	ng		91
58) Toluene	15.82	91	1733782	11.860	ng		100
66) Ethylbenzene	17.98	91	80597	0.494	ng		94
67) m- & p-Xylenes	18.14	91	148776	1.150	ng		100
70) o-Xylene	18.57	91	48511	0.370	ng		99
74) Cumene	19.10	105	11974	0.074	ng		100
79) 1,3,5-Trimethylbenzene	19.74	105	9186	0.070	ng		98
82) 1,2,4-Trimethylbenzene	20.11	105	7596	0.058	ng		98

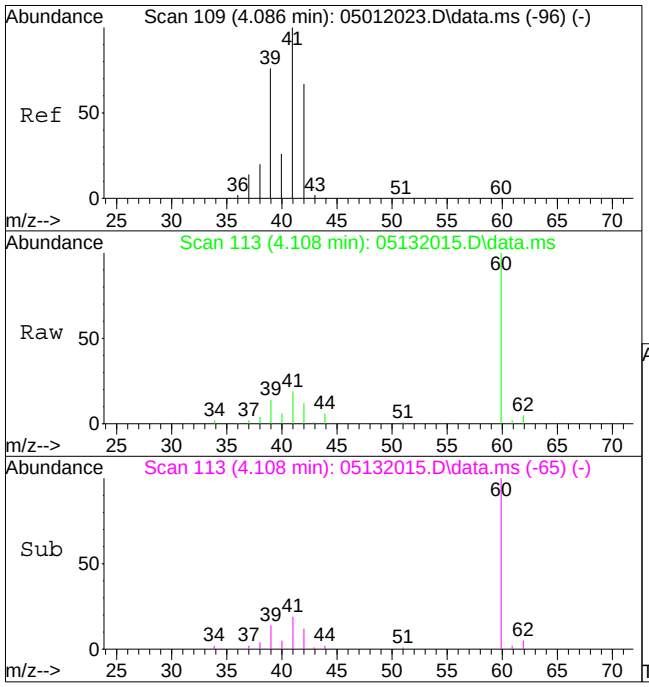
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132015.D Vial: 8
Acq On : 14 May 2020 2:41 Operator: LH
Sample : P2002301-005dup (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 17:34:00 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

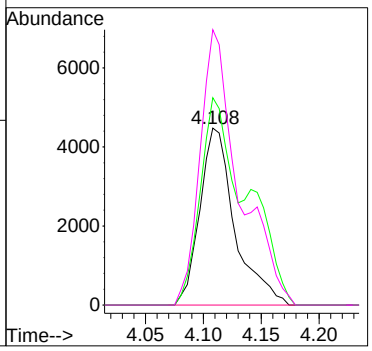


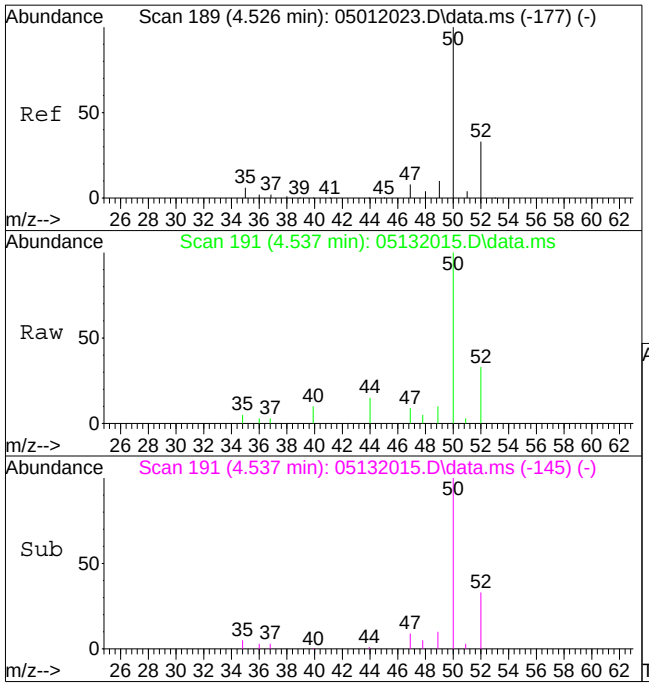


#2
Propene
Concen: 0.26 ng
RT: 4.11 min Scan# 113
Delta R.T. 0.016 min
Lab File: 05132015.D
Acq: 14 May 2020 2:41

Tgt Ion: 42 Resp: 9424

Ion	Ratio	Lower	Upper
42	100		
39	154.3	96.1	136.1#
41	173.6	131.9	171.9#

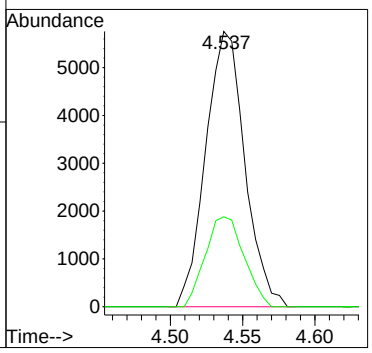


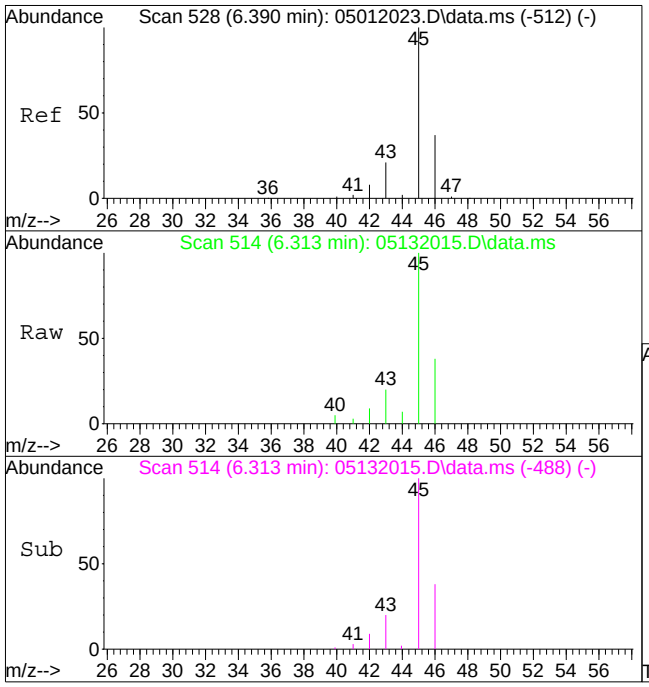


#4
Chloromethane
Concen: 0.20 ng
RT: 4.54 min Scan# 191
Delta R.T. 0.005 min
Lab File: 05132015.D
Acq: 14 May 2020 2:41

Tgt Ion: 50 Resp: 10817

Ion	Ratio	Lower	Upper
50	100		
52	32.3	12.5	52.5

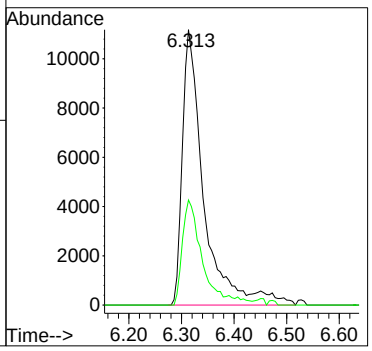


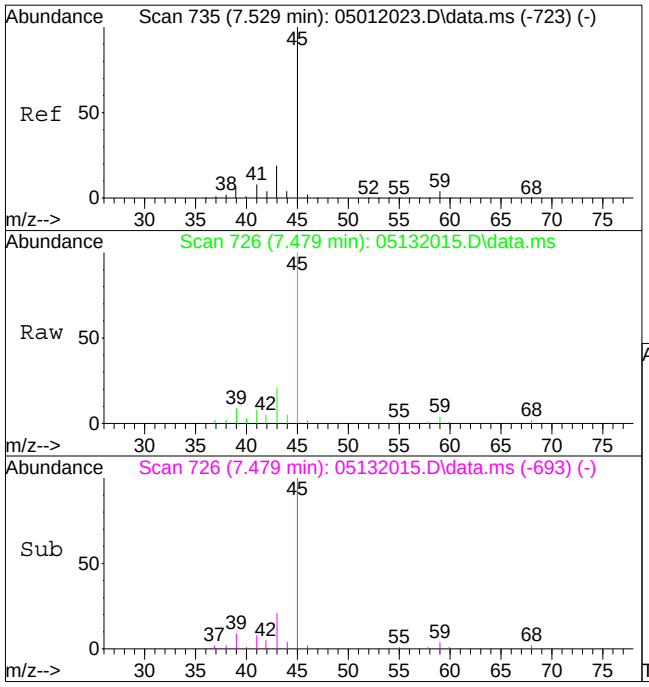


#10
Ethanol
Concen: 1.14 ng
RT: 6.31 min Scan# 514
Delta R.T. -0.105 min
Lab File: 05132015.D
Acq: 14 May 2020 2:41

Tgt Ion: 45 Resp: 31594

Ion	Ratio	Lower	Upper
45	100		
46	36.9	17.2	57.2

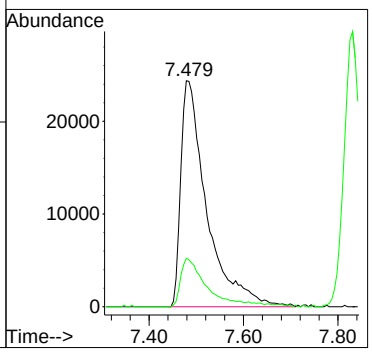


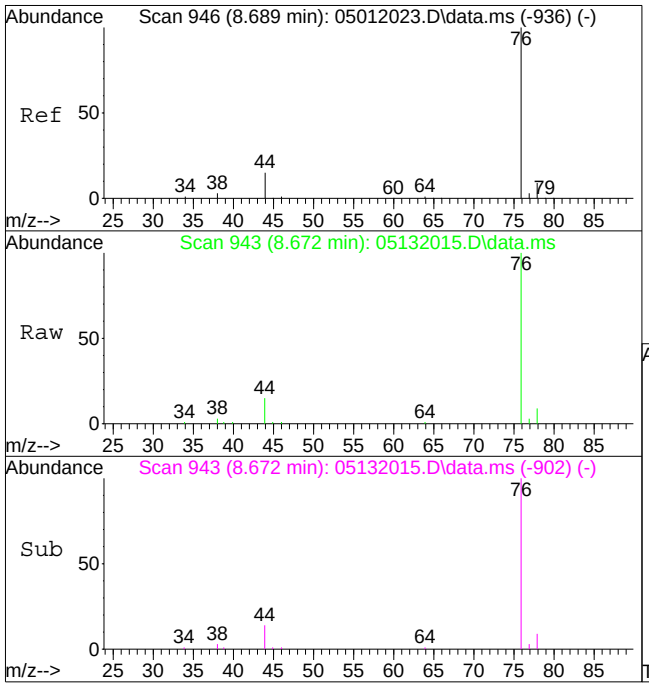


#15
2-Propanol (Isopropanol)
Concen: 1.11 ng
RT: 7.48 min Scan# 726
Delta R.T. -0.066 min
Lab File: 05132015.D
Acq: 14 May 2020 2:41

Tgt Ion: 45 Resp: 92843

Ion	Ratio	Lower	Upper
45	100		
43	22.4	0.0	39.5

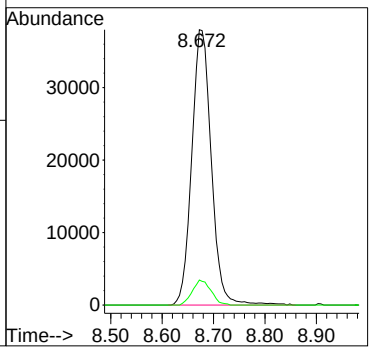


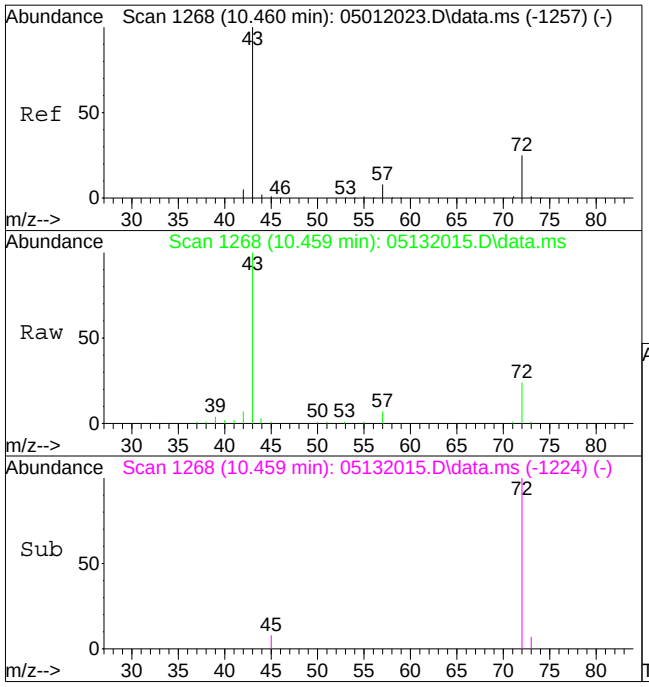


#22
Carbon Disulfide
Concen: 0.78 ng
RT: 8.67 min Scan# 943
Delta R.T. -0.022 min
Lab File: 05132015.D
Acq: 14 May 2020 2:41

Tgt Ion: 76 Resp: 100310

Ion	Ratio	Lower	Upper
76	100		
78	8.7	0.0	29.2

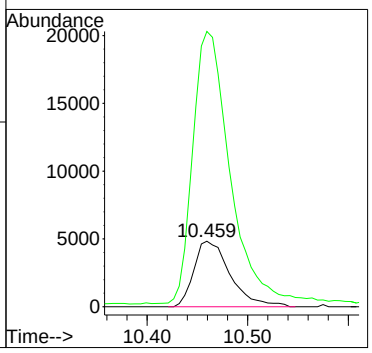


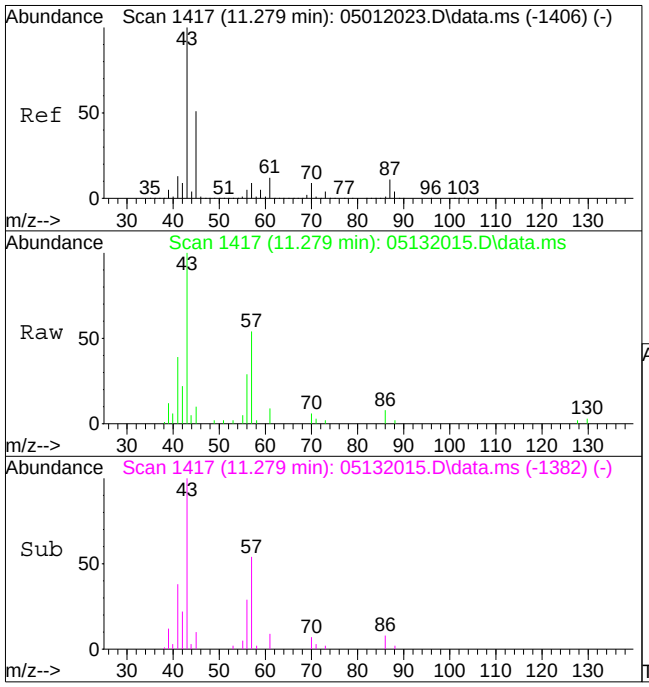


#27
2-Butanone (MEK)
Concen: 0.51 ng
RT: 10.46 min Scan# 1268
Delta R.T. -0.006 min
Lab File: 05132015.D
Acq: 14 May 2020 2:41

Tgt Ion: 72 Resp: 12157

Ion	Ratio	Lower	Upper
72	100		
43	427.6	389.7	429.7

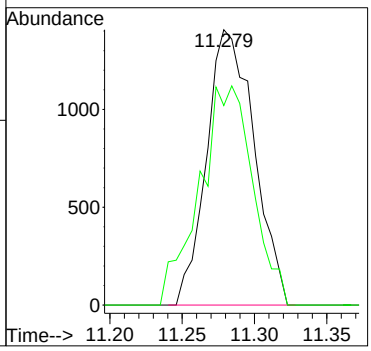


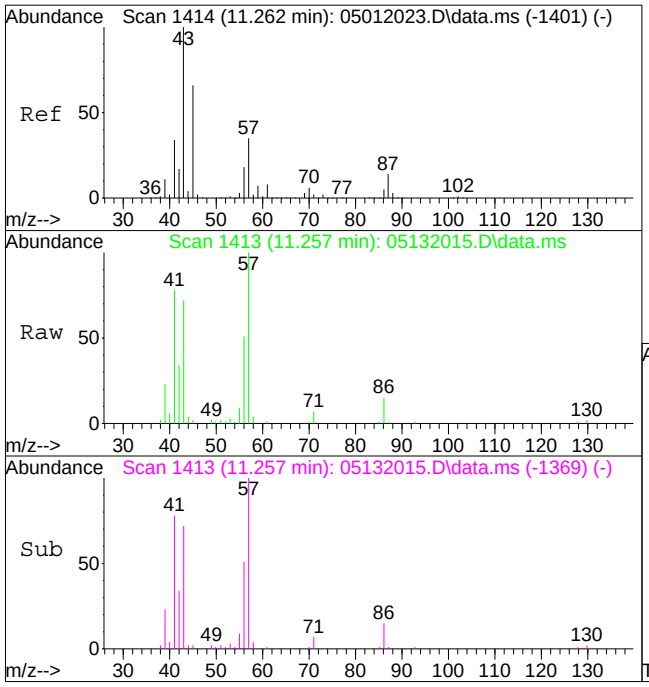


#30
Ethyl Acetate
Concen: 0.24 ng
RT: 11.28 min Scan# 1417
Delta R.T. -0.006 min
Lab File: 05132015.D
Acq: 14 May 2020 2:41

Tgt Ion: 61 Resp: 3222

Ion	Ratio	Lower	Upper
61	100		
70	89.4	57.9	97.9

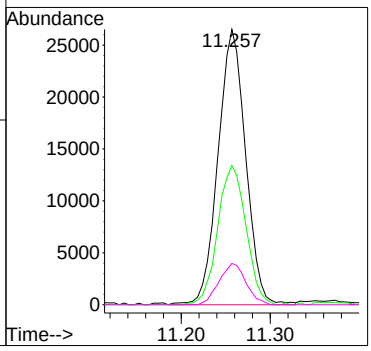


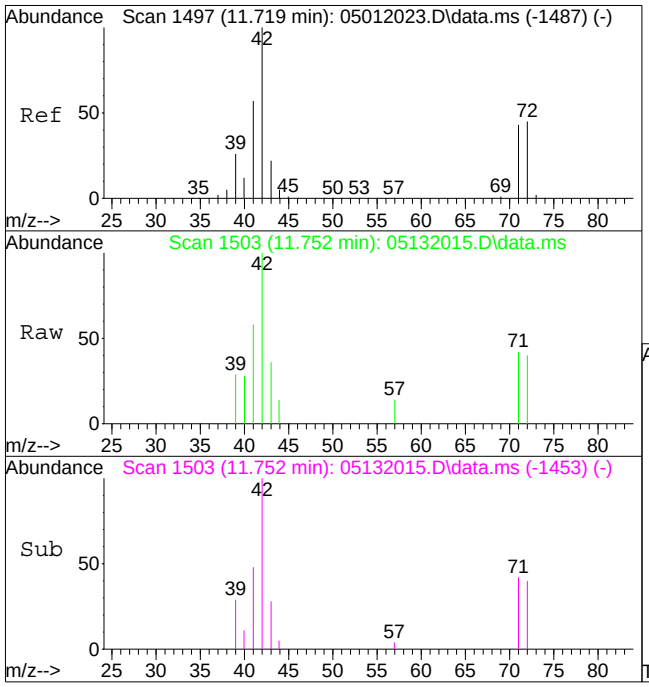


#31
n-Hexane
Concen: 0.97 ng
RT: 11.26 min Scan# 1413
Delta R.T. -0.006 min
Lab File: 05132015.D
Acq: 14 May 2020 2:41

Tgt Ion: 57 Resp: 57124

Ion	Ratio	Lower	Upper
57	100		
56	51.7	41.4	62.0
86	14.6	12.4	18.6

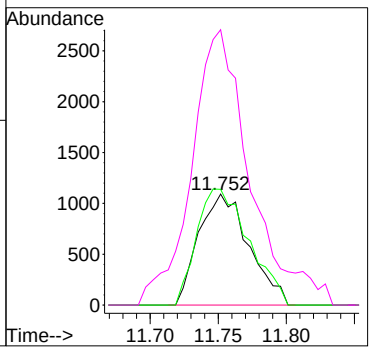


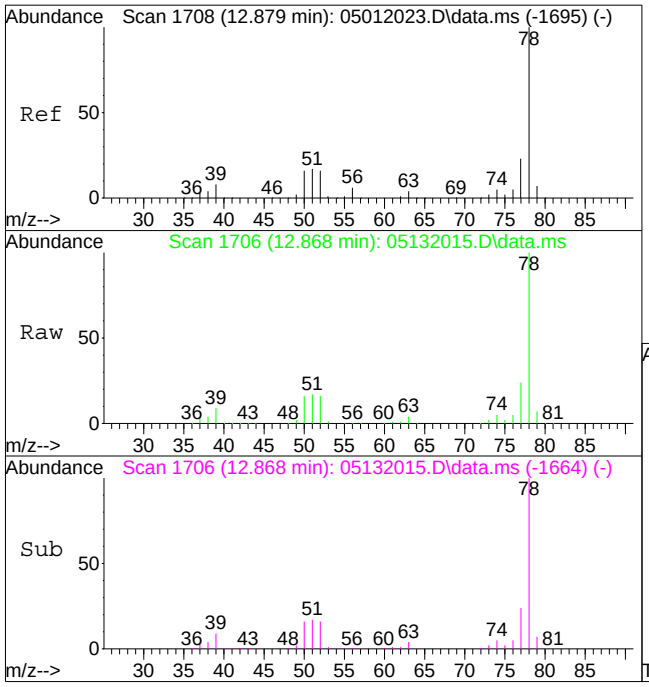


#34
Tetrahydrofuran (THF)
Concen: 0.12 ng
RT: 11.75 min Scan# 1503
Delta R.T. 0.027 min
Lab File: 05132015.D
Acq: 14 May 2020 2:41

Tgt Ion: 72 Resp: 2803

Ion	Ratio	Lower	Upper
72	100		
71	108.6	77.0	117.0
42	289.9	204.6	244.6#

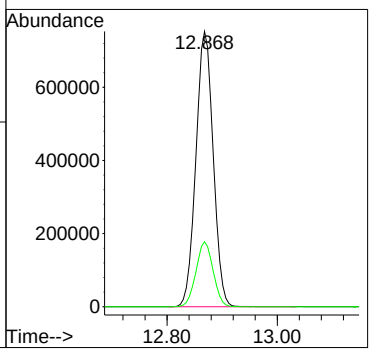


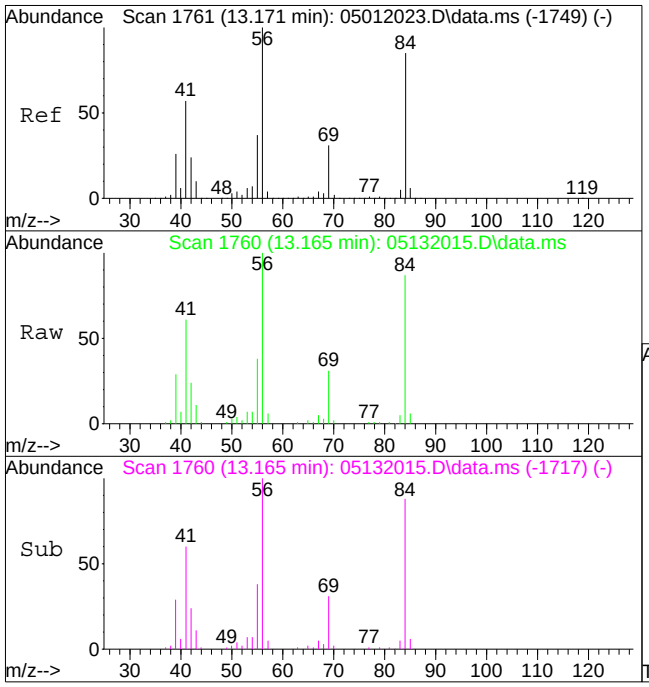


#41
Benzene
Concen: 11.69 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05132015.D
Acq: 14 May 2020 2:41

Tgt Ion: 78 Resp: 1634214

Ion	Ratio	Lower	Upper
78	100		
77	23.4	3.4	43.4

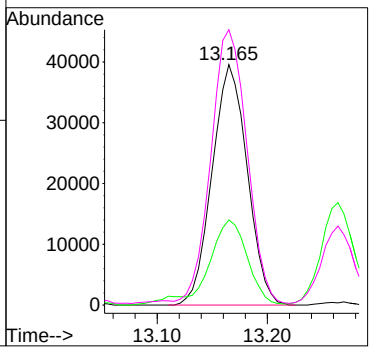


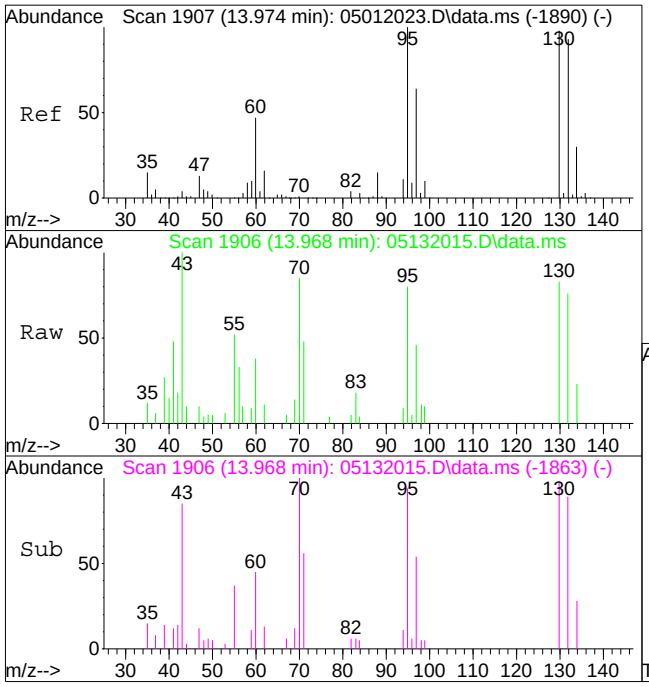


#43
Cyclohexane
Concen: 1.68 ng
RT: 13.16 min Scan# 1760
Delta R.T. -0.011 min
Lab File: 05132015.D
Acq: 14 May 2020 2:41

Tgt Ion: 84 Resp: 87640

Ion	Ratio	Lower	Upper
84	100		
69	39.4	16.5	56.5
56	117.5	97.4	137.4

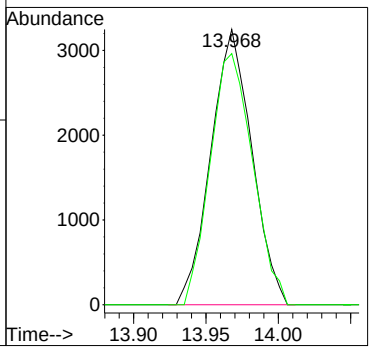


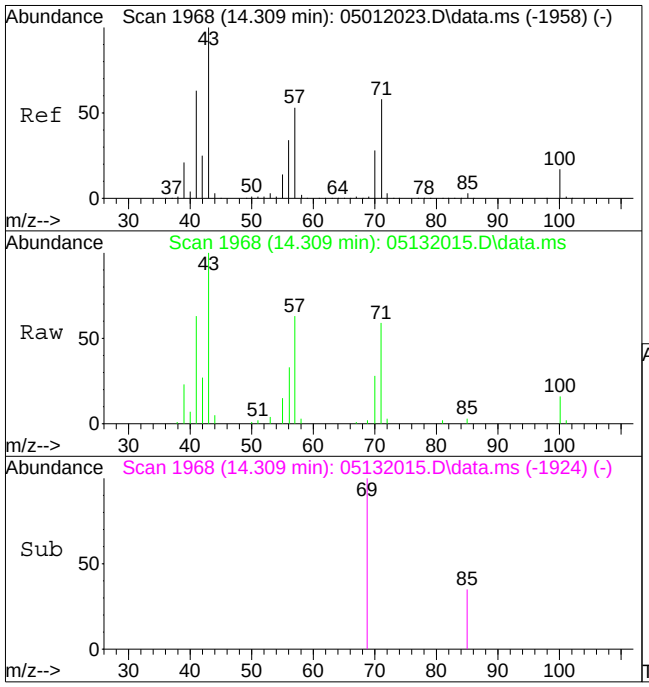


#47
Trichloroethene
Concen: 0.18 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05132015.D
Acq: 14 May 2020 2:41

Tgt Ion:130 Resp: 6418

Ion	Ratio	Lower	Upper
130	100		
132	94.7	74.9	114.9

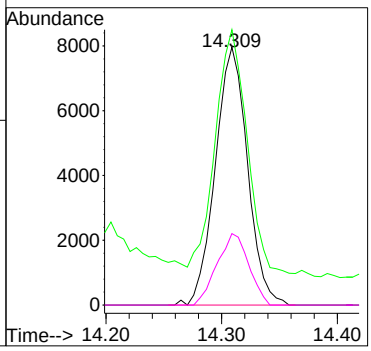


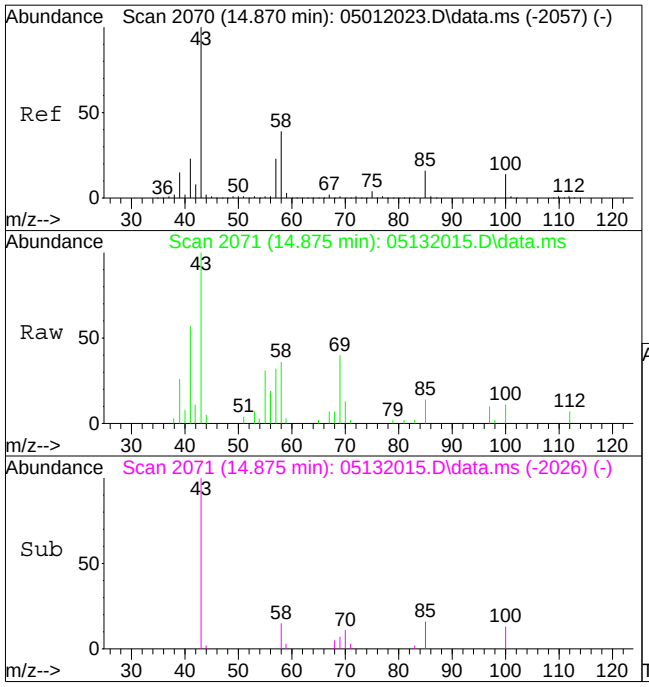


#51
n-Heptane
Concen: 0.47 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05132015.D
Acq: 14 May 2020 2:41

Tgt Ion: 71 Resp: 15399

Ion	Ratio	Lower	Upper
71	100		
57	97.3	71.0	111.0
100	27.2	8.4	48.4

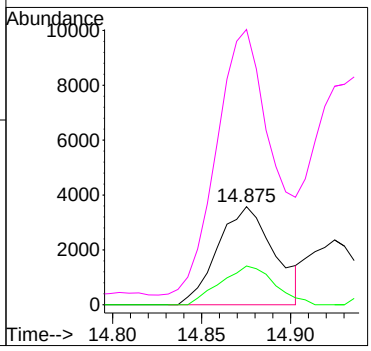


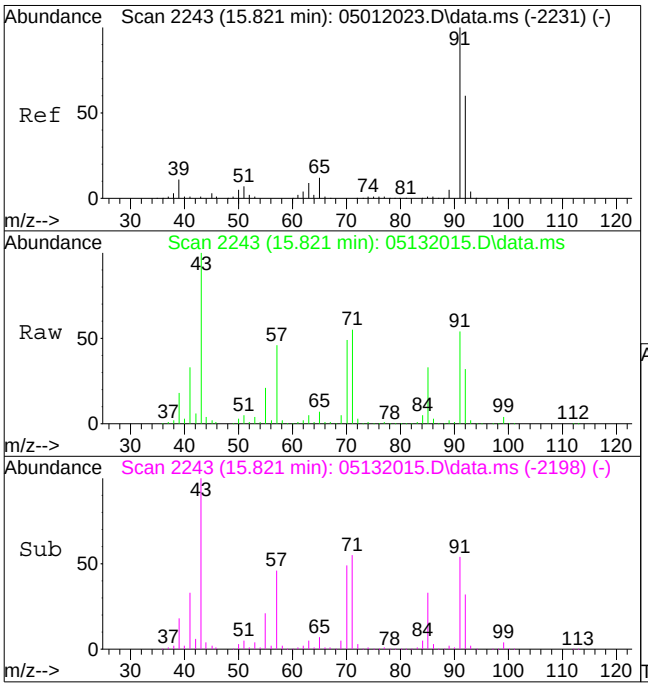


#53
4-Methyl-2-pentanone
Concen: 0.25 ng
RT: 14.88 min Scan# 2071
Delta R.T. -0.000 min
Lab File: 05132015.D
Acq: 14 May 2020 2:41

Tgt Ion: 58 Resp: 7887

Ion	Ratio	Lower	Upper
58	100		
85	37.7	35.4	53.2
43	269.9	203.3	304.9

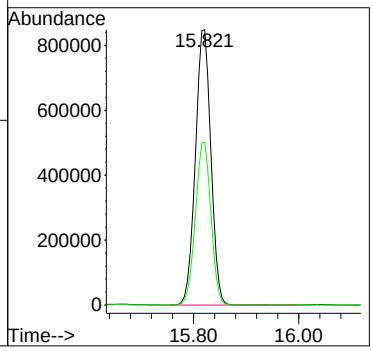


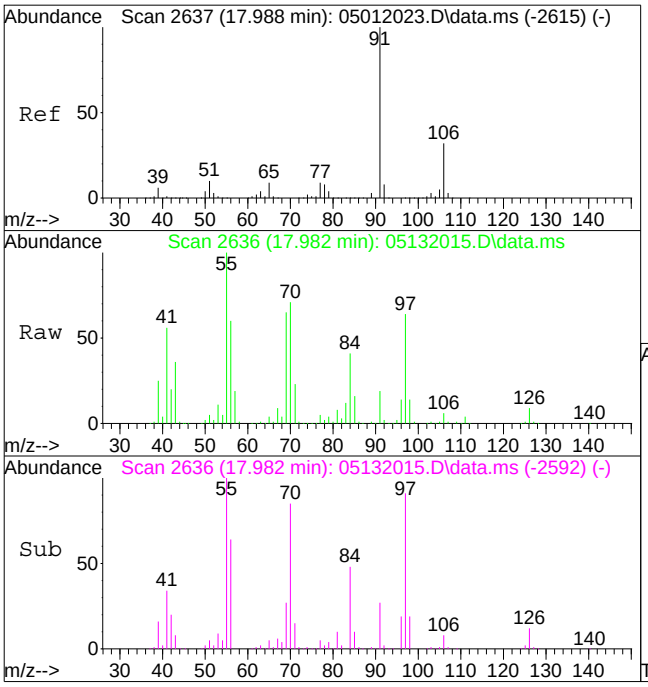


#58
Toluene
Concen: 11.86 ng
RT: 15.82 min Scan# 2243
Delta R.T. -0.000 min
Lab File: 05132015.D
Acq: 14 May 2020 2:41

Tgt Ion: 91 Resp: 1733782

Ion	Ratio	Lower	Upper
91	100		
92	59.4	39.4	79.4

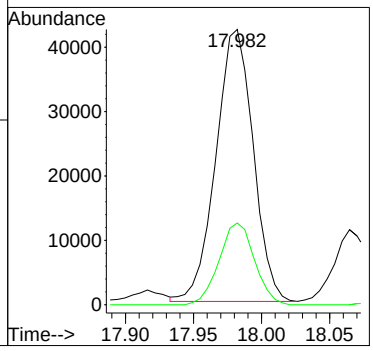


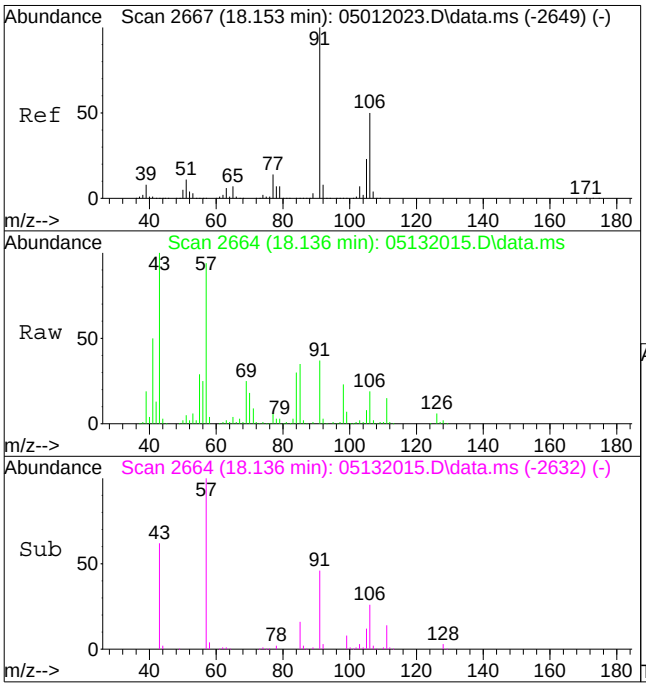


#66
Ethylbenzene
Concen: 0.49 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05132015.D
Acq: 14 May 2020 2:41

Tgt Ion: 91 Resp: 80597

Ion	Ratio	Lower	Upper
91	100		
106	28.5	11.6	51.6

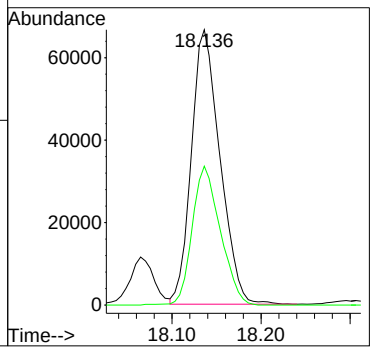


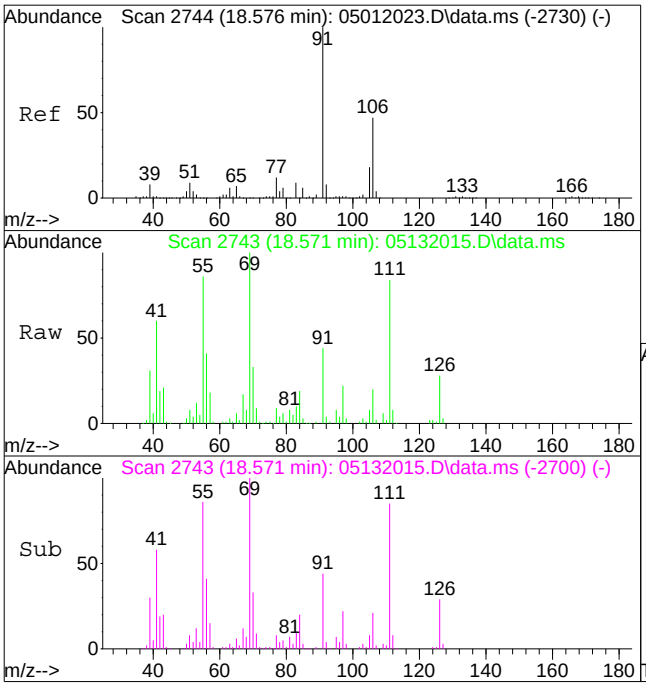


#67
m- & p-Xylenes
Concen: 1.15 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05132015.D
Acq: 14 May 2020 2:41

Tgt Ion: 91 Resp: 148776

Ion	Ratio	Lower	Upper
91	100		
106	49.6	29.7	69.7

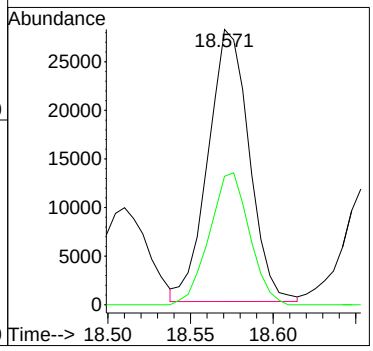


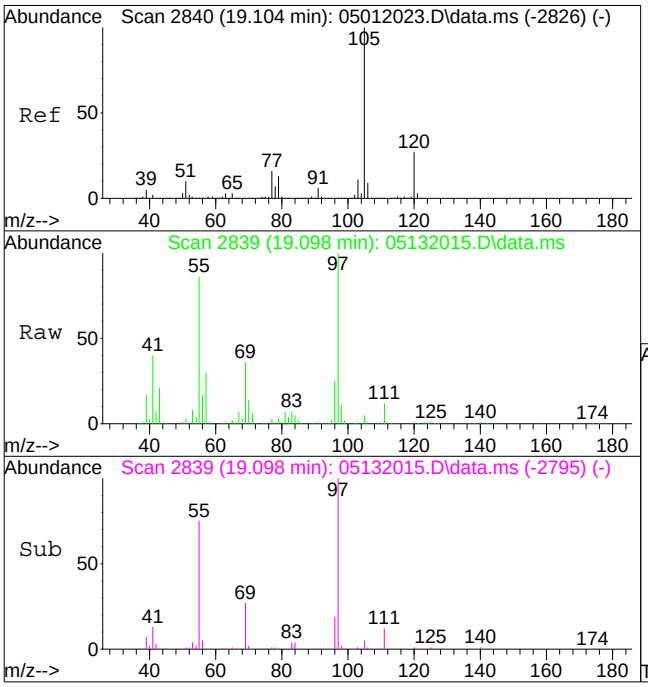


#70
o-Xylene
Concen: 0.37 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05132015.D
Acq: 14 May 2020 2:41

Tgt Ion: 91 Resp: 48511

Ion	Ratio	Lower	Upper
91	100		
106	47.1	27.5	67.5

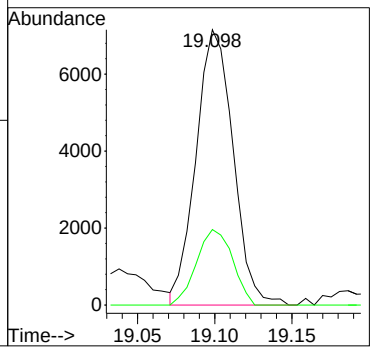


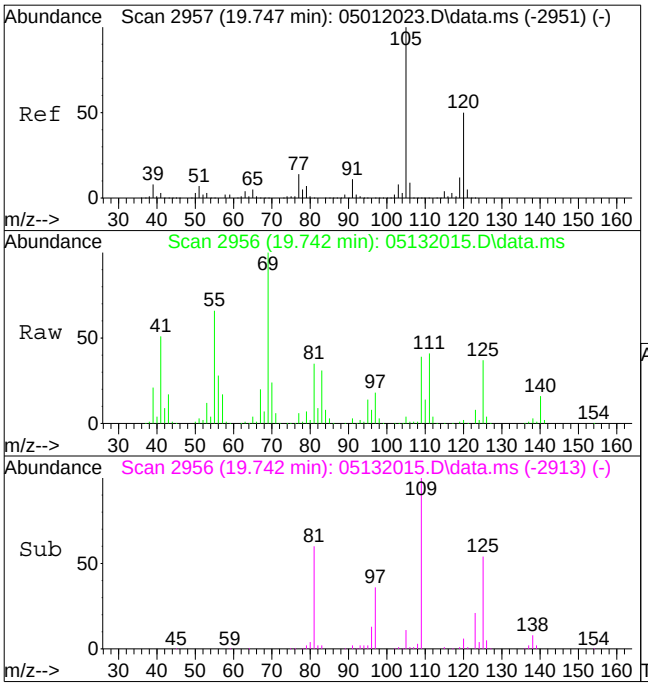


#74
Cumene
Concen: 0.07 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05132015.D
Acq: 14 May 2020 2:41

Tgt Ion:105 Resp: 11974

Ion	Ratio	Lower	Upper
105	100		
120	26.6	6.8	46.8

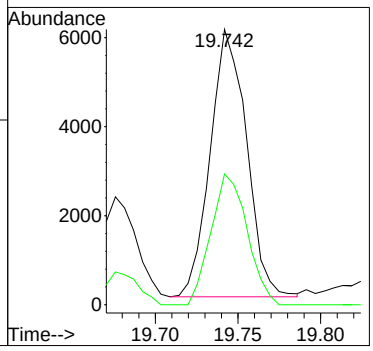


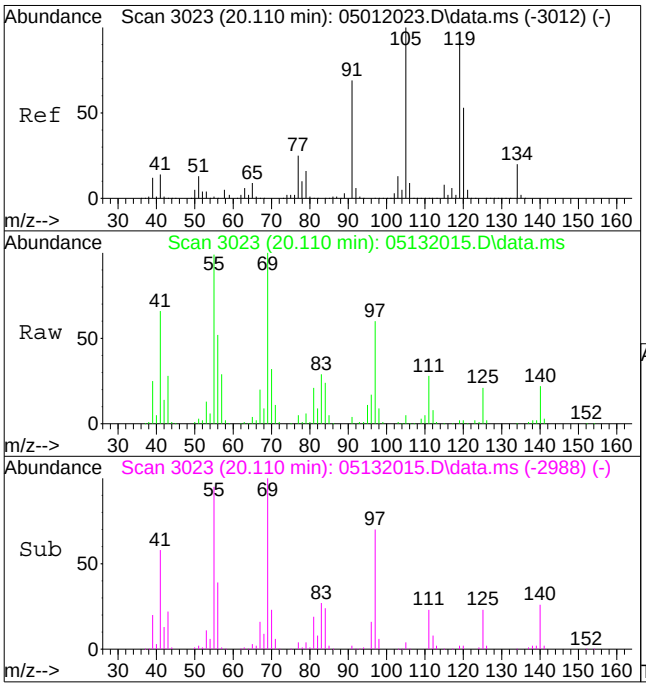


#79
1,3,5-Trimethylbenzene
Concen: 0.07 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05132015.D
Acq: 14 May 2020 2:41

Tgt Ion:105 Resp: 9186

Ion	Ratio	Lower	Upper
105	100		
120	48.6	29.9	69.9

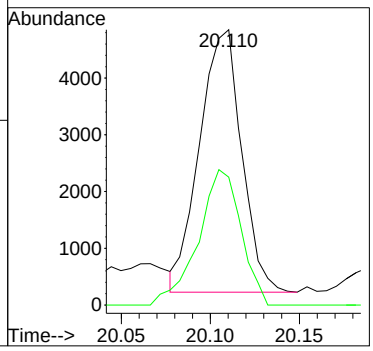




#82
1,2,4-Trimethylbenzene
Concen: 0.06 ng
RT: 20.11 min Scan# 3023
Delta R.T. -0.006 min
Lab File: 05132015.D
Acq: 14 May 2020 2:41

Tgt Ion:105 Resp: 7596

Ion	Ratio	Lower	Upper
105	100		
120	52.3	33.6	73.6



Response Factor Report GCMS-16

Method Path : I:\MS16\METHODS\
Method File : R16050120.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri May 01 18:22:00 2020
Response Via : Initial Calibration

LH 5/1/20

Calibration Files
0.1 =05012018.D 0.2 =05012019.D 0.5 =05012020.D 1.0 =05012021.D 5.0 =05012022.D 25 =05012
100 =03112009.D

		Compound	0.1	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------ISTD----------									
2)	T	Propene	1.611	1.539	1.503	1.380	1.499	1.474	1.430	1.147	1.448	9.66
3)	T	Dichlorodifluo...	3.202	3.003	3.068	2.842	3.010	2.737	2.537	2.254	2.832	11.03
4)	T	Chloromethane	2.604	2.435	2.388	2.238	2.356	2.193	2.172	1.361	2.218	16.88
5)	T	1,2-Dichloro-1...	1.897	1.683	1.822	1.625	1.745	1.600	1.555	1.607	1.692	7.08
6)	T	Vinyl Chloride	2.717	2.540	2.556	2.389	2.585	2.348	2.256	2.069	2.433	8.56
7)	T	1,3-Butadiene	2.247	2.061	2.143	1.977	2.145	1.964	1.905	1.660	2.013	9.02
8)	T	Bromomethane	1.419	1.343	1.315	1.211	1.293	1.245	1.264	1.190	1.285	5.79
9)	T	Chloroethane	1.050	0.952	0.985	0.919	0.990	0.943	0.960	0.887	0.961	5.13
10)	T	Ethanol	1.410	1.184	1.009	0.940	1.092	1.112	1.151	1.046	1.118	12.66
11)	T	Acetonitrile	3.482	2.840	2.383	2.251	2.529	2.471	2.438	2.042	2.555	17.16
12)	T	Acrolein	1.059	0.868	0.880	0.829	0.918	0.879	0.863	0.770	0.883	9.44
13)	T	Acetone	1.252	1.110	1.062	0.988	1.109	1.131	1.179	1.113	1.118	6.92
14)	T	Trichlorofluor...	2.713	2.523	2.575	2.359	2.565	2.454	2.411	2.421	2.503	4.58
15)	T	2-Propanol (Is...	3.870	3.534	3.450	3.257	3.738	3.508	3.156	2.557	3.384	12.00
16)	T	Acrylonitrile	2.202	1.897	1.701	1.617	1.893	1.829	1.828	1.654	1.828	10.12
17)	T	1,1-Dichloroet...	1.408	1.288	1.314	1.236	1.342	1.312	1.299	1.297	1.312	3.73
18)	T	2-Methyl-2-Pro...	3.534	3.198	3.325	3.089	3.578	3.200	2.158		3.155	15.06
19)	T	Methylene Chlo...	1.693	1.502	1.403	1.354	1.469	1.431	1.419	1.356	1.453	7.53
20)	T	3-Chloro-1-pro...	2.223	1.929	1.964	1.905	2.142	2.028	2.036	1.746	1.997	7.37
21)	T	Trichlorotrifl...	1.264	1.065	1.154	1.097	1.218	1.201	1.208	1.246	1.182	5.97
22)	T	Carbon Disulfide	6.112	5.388	5.148	4.831	5.368	5.134	5.024	4.656	5.208	8.48
23)	T	trans-1,2-Dich...	2.284	2.004	1.981	1.860	2.050	1.980	1.964	1.858	1.998	6.70
24)	T	1,1-Dichloroet...	2.569	2.334	2.469	2.238	2.450	2.380	2.330	2.202	2.371	5.15
25)	T	Methyl tert-Bu...	4.195	3.994	4.129	3.762	3.968	3.534	3.241	3.018	3.730	11.49
26)	T	Vinyl Acetate			0.280	0.275	0.355	0.375	0.393	0.412	0.348	16.73
27)	T	2-Butanone (MEK)	1.010	0.938	0.937	0.883	1.007	0.953	0.956	0.944	0.953	4.27
28)	T	cis-1,2-Dichlo...	2.186	1.950	1.950	1.831	2.014	1.928	1.927	1.846	1.954	5.66
29)	T	Diisopropyl Ether	1.400	1.264	1.362	1.283	1.461	1.320	1.346	1.353	1.349	4.68
30)	T	Ethyl Acetate	0.528	0.515	0.507	0.480	0.567	0.596	0.638	0.567	0.550	9.48
31)	T	n-Hexane	2.506	2.242	2.328	2.176	2.400	2.485	2.588	2.351	2.385	5.82
32)	T	Chloroform	2.635	2.393	2.541	2.359	2.618	2.470	2.464	2.425	2.488	4.07
33)	S	1,2-Dichloroet...	1.759	1.788	1.757	1.756	1.704	1.635	1.616	1.538	1.694	5.22
34)	T	Tetrahydrofura...	1.068	0.962	0.909	0.857	0.954	0.901	0.903	0.885	0.930	7.02
35)	T	Ethyl tert-But...	1.603	1.564	1.583	1.487	1.688	1.661	1.680	1.772	1.630	5.43
36)	T	1,2-Dichloroet...	2.204	2.065	2.007	1.843	2.020	1.911	1.892	1.830	1.971	6.45
37)	IR	1,4-Difluorobenzen...	----------ISTD----------									
38)	T	1,1,1-Trichlor...	0.520	0.477	0.504	0.469	0.521	0.513	0.513	0.511	0.503	3.91
39)	T	Isopropyl Acetate	0.217	0.187	0.204	0.189	0.226	0.238	0.254	0.247	0.220	11.50
40)	T	1-Butanol	0.335	0.286	0.247	0.231	0.307	0.333	0.362	0.405	0.313	18.51
41)	T	Benzene	1.454	1.263	1.288	1.194	1.366	1.343	1.417	1.400	1.340	6.50
42)	T	Carbon Tetrach...	0.446	0.414	0.449	0.410	0.482	0.473	0.477	0.496	0.456	6.99
43)	T	Cyclohexane	0.491	0.450	0.481	0.443	0.512	0.523	0.544	0.553	0.500	8.14
44)	T	tert-Amyl Meth...	0.895	0.829	0.881	0.824	0.950	0.934	0.955	0.923	0.899	5.70
45)	T	1,2-Dichloropr...	0.322	0.296	0.311	0.288	0.327	0.317	0.320	0.303	0.310	4.42
46)	T	Bromodichlorom...	0.443	0.421	0.437	0.406	0.477	0.479	0.482	0.480	0.453	6.69
47)	T	Trichloroethene	0.348	0.318	0.331	0.303	0.355	0.355	0.366	0.396	0.346	8.37
48)	T	1,4-Dioxane	0.278	0.250	0.253	0.238	0.274	0.278	0.286	0.303	0.270	7.97
49)	T	2,2,4-Trimethy...	1.365	1.266	1.317	1.213	1.370	1.328	1.346	1.231	1.304	4.63
50)	T	Methyl Methacr...	0.126	0.113	0.118	0.116	0.138	0.143	0.149	0.161	0.133	13.21
51)	T	n-Heptane	0.325	0.297	0.306	0.286	0.318	0.310	0.324	0.342	0.313	5.60
52)	T	cis-1,3-Dichlo...	0.535	0.486	0.494	0.468	0.562	0.566	0.581	0.572	0.533	8.30
53)	T	4-Methyl-2-pen...	0.303	0.265	0.287	0.272	0.316	0.311	0.319	0.318	0.299	7.10
54)	T	trans-1,3-Dich...	0.418	0.389	0.410	0.399	0.496	0.508	0.521	0.506	0.456	12.35

55)	T	1,1,2-Trichlor...	0.300	0.292	0.301	0.279	0.324	0.321	0.324	0.323	0.308	5.60
56)	IR	Chlorobenzene-d5 (...	----------ISTD----------									
57)	S	Toluene-d8 (SS2)	2.112	2.125	2.110	2.107	2.097	2.123	2.090	2.186	2.119	1.40
58)	T	Toluene	3.003	2.567	2.666	2.473	2.815	2.802	2.780	2.744	2.731	5.97
59)	T	2-Hexanone	1.547	1.361	1.410	1.339	1.614	1.583	1.602	1.515	1.497	7.42
60)	T	Dibromochlorom...	0.735	0.677	0.704	0.667	0.834	0.868	0.864	0.909	0.782	12.37
61)	T	1,2-Dibromoethane	0.757	0.686	0.705	0.663	0.792	0.804	0.797	0.809	0.752	7.82
62)	T	n-Butyl Acetate	1.611	1.401	1.545	1.456	1.756	1.742	1.751	1.671	1.616	8.55
63)	T	n-Octane	0.572	0.504	0.542	0.504	0.578	0.591	0.613	0.620	0.565	7.95
64)	T	Tetrachloroethene	0.764	0.679	0.700	0.653	0.778	0.829	0.838	0.931	0.771	12.10
65)	T	Chlorobenzene	1.873	1.701	1.737	1.609	1.870	1.882	2.340	2.020	1.879	12.02
66)	T	Ethylbenzene	3.030	2.763	2.965	2.768	3.264	3.313	3.301	2.958	3.045	7.41
67)	T	m- & p-Xylenes	2.416	2.101	2.285	2.203	2.562	2.656	2.741	2.363	2.416	9.24
68)	T	Bromoform			0.523	0.502	0.708	0.751	0.755	0.828	0.678	19.74
69)	T	Styrene	1.554	1.405	1.689	1.594	2.029	2.068	2.060	2.138	1.817	15.77
70)	T	o-Xylene	2.442	2.173	2.312	2.170	2.597	2.662	2.680	2.586	2.453	8.61
71)	T	n-Nonane	1.287	1.140	1.243	1.181	1.387	1.412	1.455	1.306	1.301	8.60
72)	T	1,1,2,2-Tetrac...	1.206	1.074	1.114	1.057	1.298	1.323	1.337	1.325	1.217	9.86
73)	S	Bromofluoroben...	0.715	0.714	0.725	0.724	0.787	0.802	0.783	0.849	0.762	6.56
74)	T	Cumene	3.035	2.729	2.906	2.711	3.284	3.320	3.265	2.830	3.010	8.41
75)	T	alpha-Pinene	1.511	1.362	1.446	1.393	1.701	1.785	1.795	1.856	1.606	12.43
76)	T	n-Propylbenzene	3.631	3.223	3.513	3.346	3.994	4.033	3.904	2.964	3.576	10.84
77)	T	3-Ethyltoluene	2.929	2.407	2.714	2.579	3.163	3.387	3.232	2.897	2.913	11.58
78)	T	4-Ethyltoluene	2.513	2.455	2.758	2.630	3.275	3.167	3.181	2.637	2.827	11.64
79)	T	1,3,5-Trimethy...	2.364	2.022	2.272	2.212	2.706	2.770	2.730	2.561	2.455	11.29
80)	T	alpha-Methylst...			1.138	1.116	1.443	1.485	1.469	1.649	1.384	15.29
81)	T	2-Ethyltoluene	2.821	2.480	2.756	2.582	3.185	3.223	3.148	2.796	2.874	9.82
82)	T	1,2,4-Trimethy...	2.215	1.944	2.255	2.185	2.813	3.050	2.878	2.397	2.467	16.03
83)	T	n-Decane			1.125	1.102	1.410	1.517	1.611	1.515	1.380	15.65
84)	T	Benzyl Chloride				1.519	2.279	2.600	2.687	2.413	2.300	20.21
85)	T	1,3-Dichlorobe...	1.252	1.034	1.264	1.221	1.626	1.660	1.639	1.766	1.433	18.79
86)	T	1,4-Dichlorobe...	1.206	1.004	1.283	1.196	1.601	1.620	1.581	1.693	1.398	18.29
87)	T	sec-Butylbenzene	3.179	2.829	3.093	2.947	3.632	3.636	3.486	2.818	3.203	10.67
88)	T	4-Isopropyltol...			2.761	2.656	3.414	3.547	3.227	2.590	3.033	13.68
89)	T	1,2,3-Trimethy...			2.234	2.175	2.830	3.061	2.870	2.323	2.582	14.77
90)	T	1,2-Dichlorobe...	1.199	1.054	1.223	1.173	1.569	1.646	1.594	1.513	1.372	16.90
91)	T	d-Limonene	0.811	0.750	0.867	0.867	1.070	1.169	1.205	1.057	0.974	17.65
92)	T	1,2-Dibromo-3-...			0.388	0.391	0.568	0.581	0.581	0.595	0.517	19.22
93)	T	n-Undecane			0.906	0.866	1.357	1.474	1.565	1.496	1.277	24.32
94)	T	1,2,4-Trichlor...			0.655	0.635	1.013	1.144	1.183	1.078	0.951	25.70
95)	T	Naphthalene			2.173	2.044	3.472	3.864	3.717	2.796	3.011	26.24
96)	T	n-Dodecane			0.500	0.482	1.251	1.474	1.554	1.375	1.106	44.05
97)	T	Hexachlorobuta...			0.463	0.446	0.622	0.725	0.766	0.927	0.658	28.24
98)	T	Cyclohexanone	1.048	0.943	0.832	0.804	0.983	0.979	0.980	1.079	0.956	10.00
99)	T	tert-Butylbenzene	2.363	2.071	2.240	2.164	2.722	2.855	2.658	2.351	2.428	11.70
100)	T	n-Butylbenzene	2.187	1.921	2.417	2.334	2.916	2.966	2.883	2.471	2.512	15.09

(#) = Out of Range

R16050120.M Fri May 01 18:44:38 2020

Primary Source Standards Concentrations (Working & Initial Calibration)

LH 5/1/20

1ng/L Std. ID:
4ng/L Std. ID: S34-04272015
20ng/L Std. ID: S34-05012002
40ng/L Std. ID:
200ng/L Std. ID: S31-04292003
1000ng/L Std. ID:

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	200	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.0250	0.050	0.025	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
Propene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Dichlorodifluoromethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Chloromethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Freon-114	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Vinyl Chloride	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3-Butadiene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Bromomethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Chloroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Ethanol	5.21	5210	1042	208.4	104.2	20.84	5.21		0.521	1.042	2.605	5.21	26.05	130.25	260.5	521
Acetonitrile	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Acrolein	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Acetone	5.33	5330	1066	213.2	106.6	21.32	5.33		0.533	1.066	2.665	5.33	26.65	133.25	266.5	533
Trichlorofluoromethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Isopropanol	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
Acrylonitrile	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,1-Dichloroethene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
tert-Butanol	2.16	2160	432	86.4	43.2	8.64	2.16		0.216	0.432	1.080	2.16	10.80	54.00	108.0	216
Methylene Chloride	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Allyl Chloride	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Dichlorotrifluoroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Carbon Disulfide	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
trans-1,2-Dichloroethene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1-Dichloroethane	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
Methyl tert-Butyl Ether	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Vinyl Acetate	5.35	5350	1070	214.0	107.0	21.40	5.35		0.535	1.070	2.675	5.35	26.75	133.75	267.5	535
2-Butanone	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
cis-1,2-Dichloroethene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Diisopropyl Ether	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Ethyl Acetate	2.17	2170	434	86.8	43.4	8.68	2.17		0.217	0.434	1.085	2.17	10.85	54.25	108.5	217
n-Hexane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Chloroform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Tetrahydrofuran	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
Ethyl tert-Butyl Ether	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dichloroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1,1-Trichloroethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Isopropyl Acetate	2.11	2110	422	84.4	42.2	8.44	2.11		0.211	0.422	1.055	2.11	10.55	52.75	105.5	211
1-Butanol	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
Benzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Carbon Tetrachloride	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Cyclohexane	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
tert-Amyl Methyl Ether	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dichloropropane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Bromodichloromethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Trichloroethene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,4-Dioxane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Isooctane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Methyl Methacrylate	2.15	2150	430	86.0	43.0	8.60	2.15		0.215	0.430	1.075	2.15	10.75	53.75	107.5	215
n-Heptane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108

Q:\TO15 Std. Concentrations\MS16 Std. Conc\2020\R16050120\ICAL Conc. (Primary Source)

Date Updated: 04/22/20
Version: 3

LH 5/1/20

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID:
4ng/L Std. ID: S34-04272015
20ng/L Std. ID: S34-05012002
40ng/L Std. ID:
200ng/L Std. ID: S31-04292003
1000ng/L Std. ID:

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	200	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.0250	0.050	0.025	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
cis-1,3-Dichloropropene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
4-Methyl-2-pentanone	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
trans-1,3-Dichloropropene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1,2-Trichloroethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Toluene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
2-Hexanone	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Dibromochloromethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,2-Dibromoethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Butyl Acetate	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
n-Octane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Tetrachloroethene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Chlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Ethylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
m-&p-Xylene	2.14	2140	428	85.6	42.8	8.56	2.14		0.214	0.428	1.070	2.14	10.70	53.50	107.0	214
Bromoform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Styrene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
o-Xylene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Nonane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,1,2,2-Tetrachloroethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Cumene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
alpha-Pinene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Propylbenzene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
3-Ethyltoluene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
4-Ethyltoluene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3,5-Trimethylbenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
alpha-Methylstyrene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
2-Ethyltoluene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2,4-Trimethylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Decane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Benzyl Chloride	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3-Dichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,4-Dichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
sec-Butylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
p-Isopropyltoluene	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
1,2,3-Trimethylbenzene	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
1,2-Dichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
d-Limonene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dibromo-3-chloropropane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
n-Undecane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2,4-Trichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Naphthalene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
n-Dodecane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Hexachloro-1,3-butadiene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Methacrylonitrile	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Cyclohexanone	1.00	1000	200	40.0	20.0	4.00	1.00		0.100	0.200	0.500	1.00	5.00	25.00	50.0	100
tert-Butylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Butylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107

Q:\TO15 Std. Concentrations\MS16 Std. Conc\2020\R16050120\ICAL Conc. (Primary Source)

Calibration Status Report GCMS-16

Method : I:\MS16\METHODS\R16050120.M (RTE Integrator)
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	0.1	0	13	I:\MS16\DATA\2020_05\01\05012018.D
2	0.2	0	13	I:\MS16\DATA\2020_05\01\05012019.D
3	0.5	1	13	I:\MS16\DATA\2020_05\01\05012020.D
4	1.0	1	13	I:\MS16\DATA\2020_05\01\05012021.D
5	5.0	5	13	I:\MS16\DATA\2020_05\01\05012022.D
6	25	27	13	I:\MS16\DATA\2020_05\01\05012023.D
7	50	53	13	I:\MS16\DATA\2020_05\01\05012024.D
8	100	106	13	I:\MS16\DATA\2020_03\11\03112009.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.1	May 01 17:28 2020	May 01 17:26 2020	1 May 2020 14:09
2	0.2	May 01 17:28 2020	May 01 17:26 2020	1 May 2020 14:42
3	0.5	May 01 17:28 2020	May 01 17:26 2020	1 May 2020 15:16
4	1.0	May 01 17:29 2020	May 01 17:26 2020	1 May 2020 15:51
5	5.0	May 01 17:29 2020	May 01 17:26 2020	1 May 2020 16:25
6	25	May 01 17:29 2020	May 01 17:26 2020	1 May 2020 16:59
7	50	May 01 18:22 2020	May 01 18:21 2020	1 May 2020 17:33
8	100	May 01 17:01 2020	Mar 11 10:34 2020	11 Mar 2020 4:52

R16050120.M Fri May 01 18:52:03 2020

LH 5/1/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012018.D Vial: 6
Acq On : 1 May 2020 14:09 Operator: LH
Sample : 0.1ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04272015 (5/26)

Quant Time: May 01 17:26:08 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	289278	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1281029	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	612084	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	508980	12.744	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.92%				
57) Toluene-d8 (SS2)	15.72	98	1292505	11.971	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.76%				
73) Bromofluorobenzene (SS3)	18.98	174	437866	11.415	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.28%				
Target Compounds							Qvalue
2) Propene	4.13	42	3951	0.128	ng		96
3) Dichlorodifluoromethan...	4.28	85	7854	0.120	ng		99
4) Chloromethane	4.55	50	6389	0.124	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.83	135	4609	0.112	ng		98
6) Vinyl Chloride	4.97	62	6791	0.124	ng		98
7) 1,3-Butadiene	5.24	54	5512	0.135	ng		93
8) Bromomethane	5.66	94	3547	0.129	ng		100
9) Chloroethane	5.99	64	2625	0.124	ng		97
10) Ethanol	6.32	45	16999	0.700	ng		96
11) Acetonitrile	6.59	41	8460	0.157	ng		84
12) Acrolein	6.79	56	2525	0.141	ng		97
13) Acetone	7.01	58	15440	0.650	ng	#	85
14) Trichlorofluoromethane	7.25	101	6656	0.116	ng		97
15) 2-Propanol (Isopropanol)	7.50	45	18806	0.266	ng		91
16) Acrylonitrile	7.74	53	5351	0.149	ng		99
17) 1,1-Dichloroethene	8.21	96	3518	0.123	ng		97
18) 2-Methyl-2-Propanol (t...	8.40	59	17666	0.282	ng		93
19) Methylene Chloride	8.40	84	4154	0.134	ng		94
20) 3-Chloro-1-propene (Al...	8.58	41	5555	0.137	ng		88
21) Trichlorotrifluoroethane	8.84	151	3158	0.114	ng		96
22) Carbon Disulfide	8.69	76	15135	0.136	ng		97
23) trans-1,2-Dichloroethene	9.68	61	5709	0.137	ng		99
24) 1,1-Dichloroethane	9.93	63	6480	0.122	ng		98
25) Methyl tert-Butyl Ether	10.09	73	10484	0.124	ng		100
26) Vinyl Acetate	10.21	86	3501	0.438	ng	#	69
27) 2-Butanone (MEK)	10.48	72	2477	0.126	ng	#	74
28) cis-1,2-Dichloroethene	10.95	61	5362	0.125	ng		95
29) Diisopropyl Ether	11.29	87	3500	0.113	ng	#	86
30) Ethyl Acetate	11.28	61	2653	0.229	ng		98
31) n-Hexane	11.26	57	6264	0.117	ng		97
32) Chloroform	11.30	83	6525	0.114	ng		100
34) Tetrahydrofuran (THF)	11.75	72	2693	0.133	ng		91
35) Ethyl tert-Butyl Ether	11.87	87	4007	0.109	ng		93
36) 1,2-Dichloroethane	12.11	62	5509	0.123	ng		98
38) 1,1,1-Trichloroethane	12.39	97	5705	0.113	ng		98
39) Isopropyl Acetate	12.84	61	4697	0.226	ng	#	91
40) 1-Butanol	12.85	56	7144	0.220	ng		93
41) Benzene	12.87	78	15792	0.120	ng		98
42) Carbon Tetrachloride	13.03	117	4803	0.106	ng		98
43) Cyclohexane	13.17	84	10671	0.211	ng		98
44) tert-Amyl Methyl Ether	13.53	73	9904	0.115	ng		97
45) 1,2-Dichloropropane	13.72	63	3569	0.117	ng		99
46) Bromodichloromethane	13.91	83	4900	0.109	ng		98
47) Trichloroethene	13.96	130	3818	0.102	ng		96
48) 1,4-Dioxane	13.96	88	3076	0.120	ng		99
49) 2,2,4-Trimethylpentane...	14.05	57	14967	0.118	ng		97
50) Methyl Methacrylate	14.18	100	2774	0.218	ng		96

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012018.D Vial: 6
Acq On : 1 May 2020 14:09 Operator: LH
Sample : 0.1ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04272015 (5/26)

Quant Time: May 01 17:26:08 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

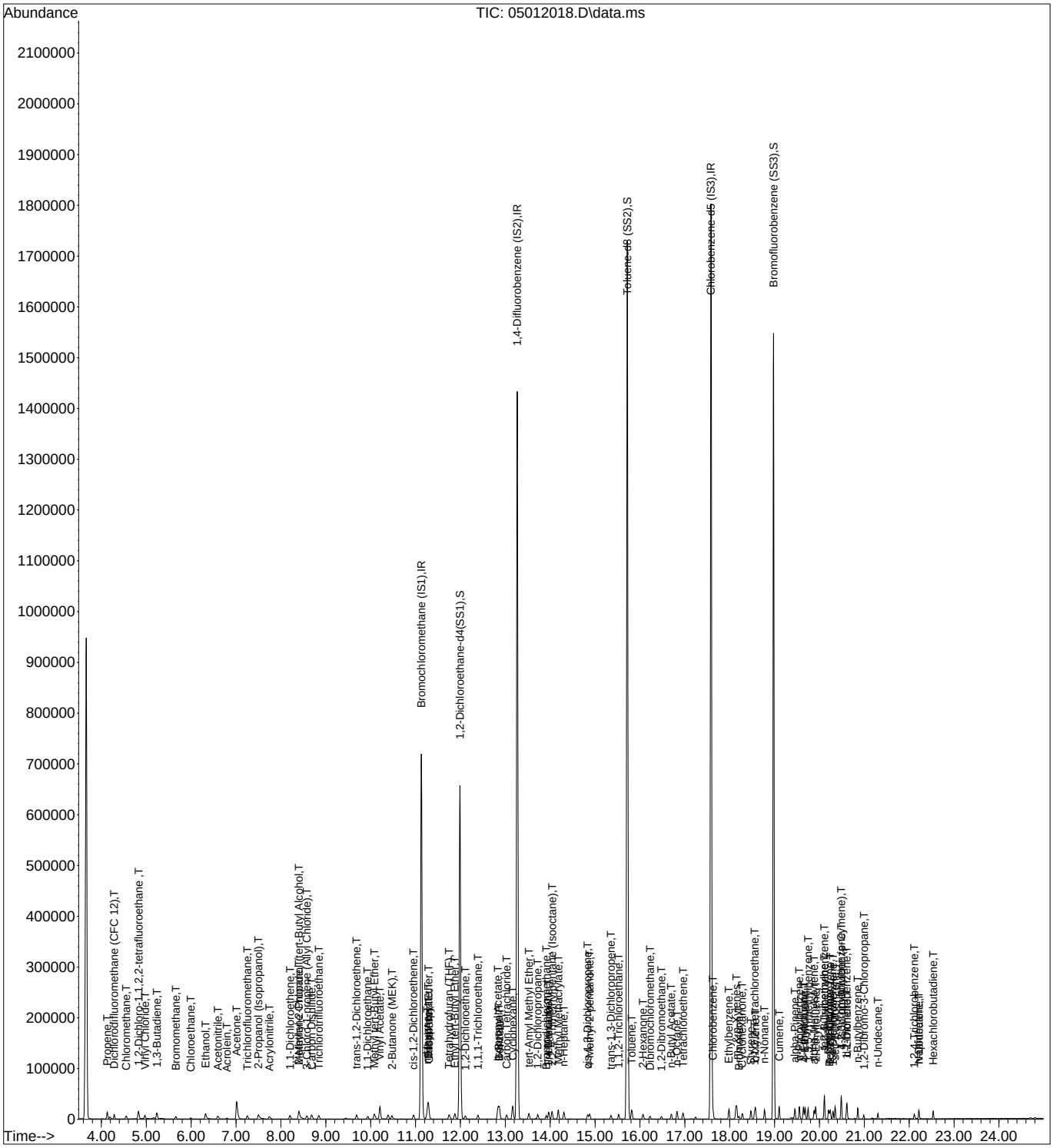
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.30	71	3595	0.117	ng		97
52) cis-1,3-Dichloropropene	14.83	75	5704	0.116	ng		96
53) 4-Methyl-2-pentanone	14.88	58	3296	0.119	ng		93
54) trans-1,3-Dichloropropene	15.35	75	4544	0.099	ng		98
55) 1,1,2-Trichloroethane	15.52	97	3290	0.107	ng		92
58) Toluene	15.82	91	15732	0.118	ng		98
59) 2-Hexanone	16.07	43	8108	0.120	ng		95
60) Dibromochloromethane	16.23	129	3850	0.107	ng		98
61) 1,2-Dibromoethane	16.48	107	3967	0.115	ng		99
62) n-Butyl Acetate	16.70	43	8599	0.119	ng		100
63) n-Octane	16.82	57	3026	0.113	ng		95
64) Tetrachloroethene	16.96	166	3889	0.104	ng		96
65) Chlorobenzene	17.62	112	9815	0.109	ng		97
66) Ethylbenzene	17.98	91	15876	0.108	ng		99
67) m- & p-Xylenes	18.15	91	25313	0.213	ng		97
68) Bromoform	18.21	173	2794	0.087	ng		97
69) Styrene	18.47	104	8068	0.087	ng		98
70) o-Xylene	18.58	91	12796	0.107	ng		97
71) n-Nonane	18.77	43	6742	0.112	ng		94
72) 1,1,2,2-Tetrachloroethane	18.55	83	6321	0.110	ng		99
74) Cumene	19.10	105	16051	0.107	ng		99
75) alpha-Pinene	19.45	93	7915	0.104	ng		98
76) n-Propylbenzene	19.55	91	19200	0.109	ng		96
77) 3-Ethyltoluene	19.64	105	15205	0.102	ng		95
78) 4-Ethyltoluene	19.68	105	13291	0.094	ng		97
79) 1,3,5-Trimethylbenzene	19.75	105	12270	0.097	ng		98
80) alpha-Methylstyrene	19.88	118	5286	0.077	ng		90
81) 2-Ethyltoluene	19.92	105	14918	0.102	ng		98
82) 1,2,4-Trimethylbenzene	20.11	105	11607	0.089	ng		98
83) n-Decane	20.20	57	5622	0.088	ng		96
84) Benzyl Chloride	20.23	91	6198	0.059	ng		94
85) 1,3-Dichlorobenzene	20.24	146	6559	0.093	ng		97
86) 1,4-Dichlorobenzene	20.30	146	6317	0.090	ng		95
87) sec-Butylbenzene	20.35	105	16656	0.102	ng		97
88) 4-Isopropyltoluene (p-...	20.48	119	14335	0.094	ng		98
89) 1,2,3-Trimethylbenzene	20.48	105	11912	0.091	ng		98
90) 1,2-Dichlorobenzene	20.61	146	6284	0.088	ng		97
91) d-Limonene	20.61	68	4287	0.084	ng		100
92) 1,2-Dibromo-3-Chloropr...	20.99	157	1904	0.078	ng	#	68
93) n-Undecane	21.30	57	3299	0.050	ng		96
94) 1,2,4-Trichlorobenzene	22.11	180	2902	0.065	ng		95
95) Naphthalene	22.22	128	9207	0.061	ng		99
96) n-Dodecane	22.22	57	1759	0.027	ng		84
97) Hexachlorobutadiene	22.54	225	2672	0.079	ng		98
98) Cyclohexanone	18.28	55	5130	0.112	ng		96
99) tert-Butylbenzene	20.11	119	12381	0.098	ng		100
100) n-Butylbenzene	20.85	91	11459	0.087	ng		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012018.D Vial: 6
Acq On : 1 May 2020 14:09 Operator: LH
Sample : 0.1ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04272015 (5/26)

Quant Time: May 01 17:26:08 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012019.D Vial: 6
Acq On : 1 May 2020 14:42 Operator: LH
Sample : 0.2ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04272015 (5/26)

Quant Time: May 01 17:26:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	281203	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1265644	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	605249	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	502682	12.948	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.60%				
57) Toluene-d8 (SS2)	15.72	98	1286177	12.047	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.40%				
73) Bromofluorobenzene (SS3)	18.98	174	432138	11.393	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.12%				
Target Compounds							Qvalue
2) Propene	4.12	42	7340	0.244	ng		98
3) Dichlorodifluoromethan...	4.28	85	14321	0.225	ng		98
4) Chloromethane	4.54	50	11611	0.231	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	7949	0.198	ng		100
6) Vinyl Chloride	4.97	62	12344	0.232	ng		98
7) 1,3-Butadiene	5.22	54	9830	0.247	ng		96
8) Bromomethane	5.65	94	6528	0.244	ng		95
9) Chloroethane	5.98	64	4628	0.226	ng		98
10) Ethanol	6.31	45	27749	1.175	ng		96
11) Acetonitrile	6.59	41	13417	0.257	ng		87
12) Acrolein	6.79	56	4024	0.232	ng		98
13) Acetone	7.01	58	26616	1.152	ng		88
14) Trichlorofluoromethane	7.25	101	12031	0.215	ng		96
15) 2-Propanol (Isopropanol)	7.48	45	33389	0.485	ng		93
16) Acrylonitrile	7.74	53	8962	0.257	ng		98
17) 1,1-Dichloroethene	8.20	96	6259	0.225	ng		97
18) 2-Methyl-2-Propanol (t...	8.39	59	31078	0.511	ng		95
19) Methylene Chloride	8.40	84	7162	0.238	ng		95
20) 3-Chloro-1-propene (Al...	8.57	41	9375	0.238	ng		97
21) Trichlorotrifluoroethane	8.85	151	5174	0.193	ng		91
22) Carbon Disulfide	8.68	76	25939	0.240	ng		98
23) trans-1,2-Dichloroethene	9.69	61	9736	0.240	ng		99
24) 1,1-Dichloroethane	9.93	63	11448	0.222	ng		100
25) Methyl tert-Butyl Ether	10.07	73	19408	0.236	ng		100
26) Vinyl Acetate	10.20	86	6257	0.806	ng	#	65
27) 2-Butanone (MEK)	10.47	72	4473	0.235	ng	#	85
28) cis-1,2-Dichloroethene	10.95	61	9299	0.222	ng		95
29) Diisopropyl Ether	11.27	87	6141	0.203	ng	#	89
30) Ethyl Acetate	11.28	61	5026	0.447	ng		94
31) n-Hexane	11.26	57	10892	0.209	ng		100
32) Chloroform	11.30	83	11522	0.207	ng		100
34) Tetrahydrofuran (THF)	11.74	72	4717	0.239	ng		96
35) Ethyl tert-Butyl Ether	11.87	87	7599	0.213	ng		99
36) 1,2-Dichloroethane	12.11	62	10033	0.231	ng		97
38) 1,1,1-Trichloroethane	12.39	97	10336	0.208	ng		99
39) Isopropyl Acetate	12.84	61	8005	0.390	ng	#	82
40) 1-Butanol	12.85	56	12049	0.376	ng		93
41) Benzene	12.87	78	27102	0.208	ng		100
42) Carbon Tetrachloride	13.03	117	8801	0.196	ng		99
43) Cyclohexane	13.17	84	19302	0.386	ng		99
44) tert-Amyl Methyl Ether	13.52	73	18140	0.213	ng		97
45) 1,2-Dichloropropane	13.72	63	6464	0.215	ng		100
46) Bromodichloromethane	13.91	83	9202	0.208	ng		97
47) Trichloroethene	13.97	130	6883	0.185	ng		99
48) 1,4-Dioxane	13.96	88	5469	0.215	ng		98
49) 2,2,4-Trimethylpentane...	14.04	57	27442	0.219	ng		99
50) Methyl Methacrylate	14.18	100	4902	0.390	ng		92

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012019.D Vial: 6
Acq On : 1 May 2020 14:42 Operator: LH
Sample : 0.2ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04272015 (5/26)

Quant Time: May 01 17:26:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

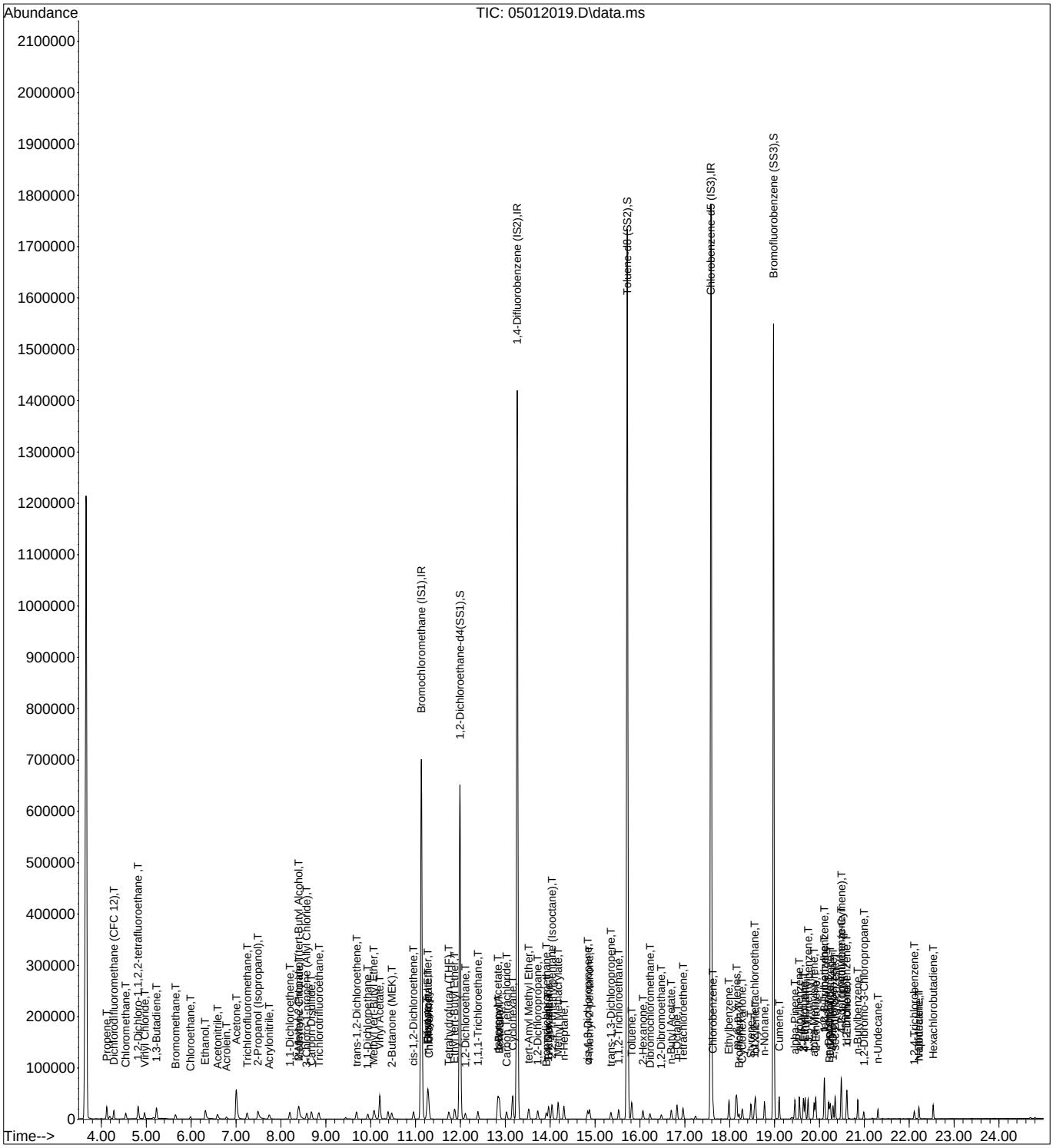
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.31	71	6485	0.213 ng		99
52) cis-1,3-Dichloropropene	14.84	75	10229	0.211 ng		99
53) 4-Methyl-2-pentanone	14.88	58	5691	0.207 ng		91
54) trans-1,3-Dichloropropene	15.35	75	8360	0.185 ng		96
55) 1,1,2-Trichloroethane	15.52	97	6328	0.209 ng		98
58) Toluene	15.82	91	26600	0.201 ng		99
59) 2-Hexanone	16.06	43	14103	0.211 ng		96
60) Dibromochloromethane	16.23	129	7014	0.198 ng		97
61) 1,2-Dibromoethane	16.48	107	7112	0.208 ng		98
62) n-Butyl Acetate	16.70	43	14786	0.207 ng		99
63) n-Octane	16.82	57	5273	0.199 ng		99
64) Tetrachloroethene	16.96	166	6836	0.184 ng		98
65) Chlorobenzene	17.62	112	17628	0.198 ng		99
66) Ethylbenzene	17.98	91	28627	0.197 ng		98
67) m- & p-Xylenes	18.15	91	43549	0.370 ng		100
68) Bromoform	18.21	173	4948	0.156 ng		97
69) Styrene	18.47	104	14427	0.157 ng		98
70) o-Xylene	18.58	91	22519	0.191 ng		99
71) n-Nonane	18.77	43	11811	0.198 ng		96
72) 1,1,2,2-Tetrachloroethane	18.55	83	11124	0.196 ng		98
74) Cumene	19.10	105	28539	0.192 ng		97
75) alpha-Pinene	19.45	93	14109	0.187 ng		97
76) n-Propylbenzene	19.55	91	33704	0.194 ng		96
77) 3-Ethyltoluene	19.64	105	24706	0.167 ng		95
78) 4-Ethyltoluene	19.68	105	25673	0.184 ng		92
79) 1,3,5-Trimethylbenzene	19.75	105	20755	0.166 ng		100
80) alpha-Methylstyrene	19.88	118	9566	0.141 ng		98
81) 2-Ethyltoluene	19.92	105	25934	0.179 ng		98
82) 1,2,4-Trimethylbenzene	20.11	105	20144	0.156 ng		100
83) n-Decane	20.20	57	9540	0.150 ng		99
84) Benzyl Chloride	20.22	91	10864	0.105 ng		96
85) 1,3-Dichlorobenzene	20.24	146	10709	0.154 ng		98
86) 1,4-Dichlorobenzene	20.30	146	10405	0.150 ng		99
87) sec-Butylbenzene	20.35	105	29313	0.182 ng		98
88) 4-Isopropyltoluene (p-...	20.49	119	25509	0.168 ng		98
89) 1,2,3-Trimethylbenzene	20.48	105	20308	0.157 ng		97
90) 1,2-Dichlorobenzene	20.61	146	10926	0.154 ng		99
91) d-Limonene	20.61	68	7844	0.156 ng		98
92) 1,2-Dibromo-3-Chloropr...	20.99	157	3246	0.134 ng	#	68
93) n-Undecane	21.30	57	5419	0.083 ng		99
94) 1,2,4-Trichlorobenzene	22.11	180	4530	0.103 ng		98
95) Naphthalene	22.22	128	12645	0.085 ng		100
96) n-Dodecane	22.22	57	2203	0.035 ng		95
97) Hexachlorobutadiene	22.54	225	4472	0.134 ng		100
98) Cyclohexanone	18.28	55	9134	0.201 ng		98
99) tert-Butylbenzene	20.11	119	21458	0.172 ng		100
100) n-Butylbenzene	20.85	91	19904	0.152 ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012019.D Vial: 6
Acq On : 1 May 2020 14:42 Operator: LH
Sample : 0.2ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04272015 (5/26)

Quant Time: May 01 17:26:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012020.D Vial: 13
Acq On : 1 May 2020 15:16 Operator: LH
Sample : 0.5ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-05012002 (5/30)

Quant Time: May 01 17:26:12 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	282762	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1246042	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	597894	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	496699	12.724	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.76%				
57) Toluene-d8 (SS2)	15.72	98	1261623	11.962	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.68%				
73) Bromofluorobenzene (SS3)	18.98	174	433440	11.568	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.56%				
Target Compounds							Qvalue
2) Propene	4.12	42	18019	0.595	ng		100
3) Dichlorodifluoromethan...	4.27	85	36783	0.574	ng		100
4) Chloromethane	4.54	50	28625	0.567	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	21643	0.536	ng		98
6) Vinyl Chloride	4.96	62	31225	0.584	ng		99
7) 1,3-Butadiene	5.22	54	25691	0.642	ng		97
8) Bromomethane	5.65	94	16060	0.596	ng		100
9) Chloroethane	5.98	64	12037	0.584	ng		100
10) Ethanol	6.32	45	59441	2.504	ng		99
11) Acetonitrile	6.58	41	28303	0.538	ng		92
12) Acrolein	6.78	56	10249	0.587	ng		99
13) Acetone	7.00	58	64034	2.757	ng		90
14) Trichlorofluoromethane	7.24	101	30869	0.549	ng		99
15) 2-Propanol (Isopropanol)	7.49	45	81950	1.184	ng		94
16) Acrylonitrile	7.74	53	20199	0.576	ng		99
17) 1,1-Dichloroethene	8.19	96	16045	0.574	ng		99
18) 2-Methyl-2-Propanol (t...	8.38	59	81236	1.327	ng		97
19) Methylene Chloride	8.40	84	16818	0.555	ng		93
20) 3-Chloro-1-propene (Al...	8.57	41	23985	0.605	ng		100
21) Trichlorotrifluoroethane	8.84	151	14094	0.522	ng		90
22) Carbon Disulfide	8.68	76	62306	0.573	ng		100
23) trans-1,2-Dichloroethene	9.68	61	24198	0.594	ng		98
24) 1,1-Dichloroethane	9.94	63	30445	0.588	ng		98
25) Methyl tert-Butyl Ether	10.06	73	50440	0.609	ng		100
26) Vinyl Acetate	10.20	86	16921	2.167	ng	#	71
27) 2-Butanone (MEK)	10.46	72	11237	0.586	ng	#	91
28) cis-1,2-Dichloroethene	10.95	61	23378	0.555	ng		97
29) Diisopropyl Ether	11.27	87	16633	0.547	ng	#	80
30) Ethyl Acetate	11.28	61	12444	1.100	ng		99
31) n-Hexane	11.26	57	28441	0.542	ng		99
32) Chloroform	11.30	83	30757	0.550	ng		100
34) Tetrahydrofuran (THF)	11.74	72	11211	0.565	ng		97
35) Ethyl tert-Butyl Ether	11.87	87	19341	0.539	ng		95
36) 1,2-Dichloroethane	12.11	62	24513	0.560	ng		98
38) 1,1,1-Trichloroethane	12.39	97	26870	0.549	ng		98
39) Isopropyl Acetate	12.83	61	21414	1.060	ng		94
40) 1-Butanol	12.85	56	25610	0.811	ng		84
41) Benzene	12.87	78	68060	0.531	ng		99
42) Carbon Tetrachloride	13.03	117	23499	0.531	ng		100
43) Cyclohexane	13.17	84	50782	1.030	ng		99
44) tert-Amyl Methyl Ether	13.52	73	47408	0.566	ng		98
45) 1,2-Dichloropropane	13.73	63	16720	0.564	ng		98
46) Bromodichloromethane	13.91	83	23539	0.540	ng		99
47) Trichloroethene	13.97	130	17666	0.483	ng		98
48) 1,4-Dioxane	13.95	88	13607	0.544	ng		98
49) 2,2,4-Trimethylpentane...	14.04	57	70232	0.570	ng		98
50) Methyl Methacrylate	14.18	100	12679	1.026	ng		89

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012020.D Vial: 13
Acq On : 1 May 2020 15:16 Operator: LH
Sample : 0.5ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-05012002 (5/30)

Quant Time: May 01 17:26:12 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

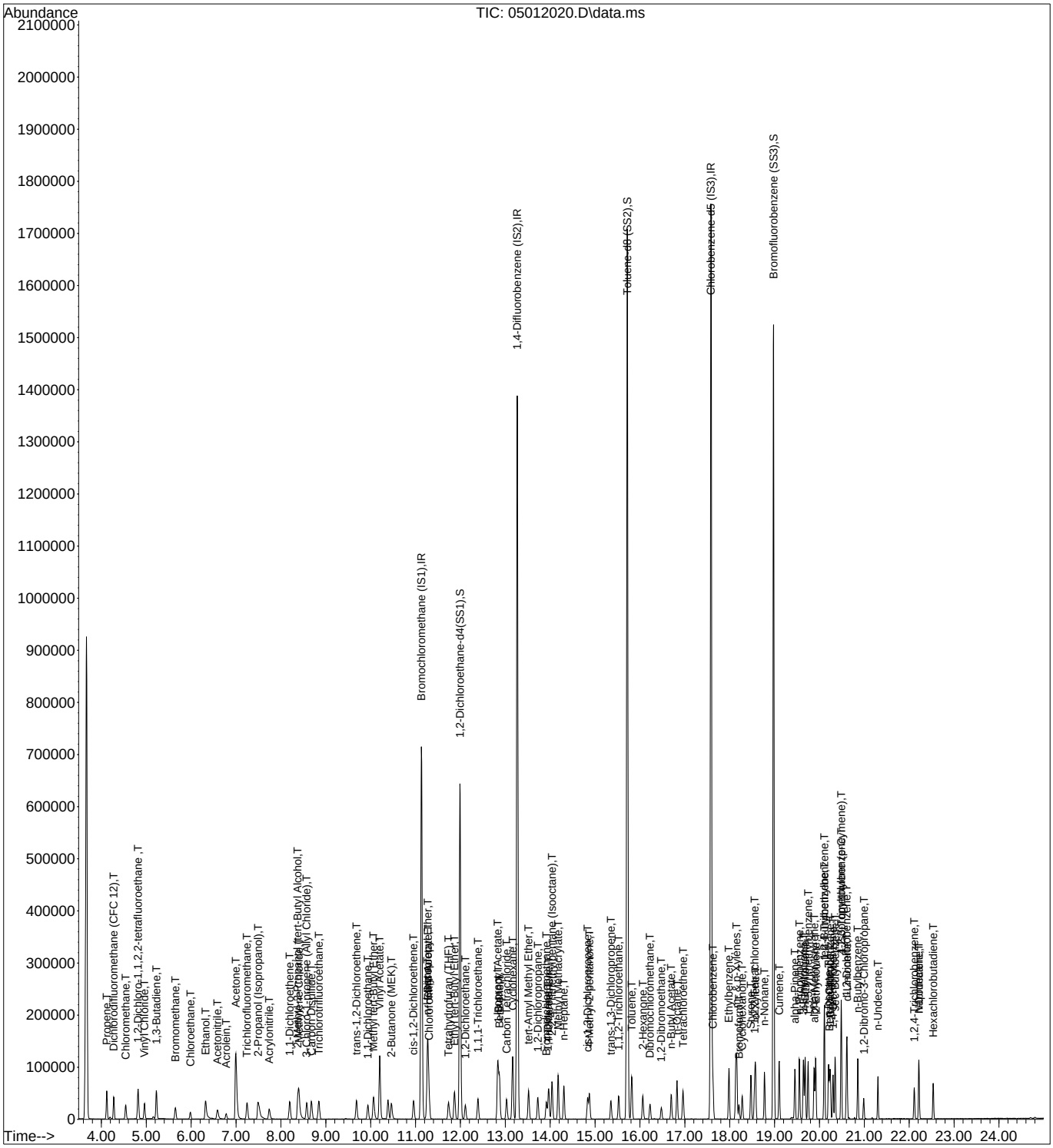
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.30	71	16470	0.549	ng		99
52) cis-1,3-Dichloropropene	14.83	75	25622	0.537	ng		100
53) 4-Methyl-2-pentanone	14.88	58	15185	0.562	ng		96
54) trans-1,3-Dichloropropene	15.35	75	21678	0.488	ng		100
55) 1,1,2-Trichloroethane	15.52	97	16061	0.538	ng		99
58) Toluene	15.82	91	68212	0.522	ng		99
59) 2-Hexanone	16.06	43	36076	0.547	ng		97
60) Dibromochloromethane	16.22	129	18007	0.513	ng		100
61) 1,2-Dibromoethane	16.48	107	18032	0.535	ng		99
62) n-Butyl Acetate	16.70	43	40268	0.571	ng		99
63) n-Octane	16.83	57	14009	0.536	ng		98
64) Tetrachloroethene	16.96	166	17406	0.474	ng		98
65) Chlorobenzene	17.62	112	44455	0.505	ng		99
66) Ethylbenzene	17.98	91	75877	0.529	ng		99
67) m- & p-Xylenes	18.15	91	116955	1.007	ng		99
68) Bromoform	18.21	173	13392	0.426	ng		100
69) Styrene	18.47	104	42807	0.472	ng		99
70) o-Xylene	18.58	91	59151	0.509	ng		98
71) n-Nonane	18.77	43	31809	0.539	ng		98
72) 1,1,2,2-Tetrachloroethane	18.55	83	28515	0.507	ng		100
74) Cumene	19.10	105	75062	0.513	ng		98
75) alpha-Pinene	19.45	93	36992	0.496	ng		98
76) n-Propylbenzene	19.56	91	90744	0.529	ng		97
77) 3-Ethyltoluene	19.64	105	68792	0.472	ng		99
78) 4-Ethyltoluene	19.68	105	71240	0.516	ng		99
79) 1,3,5-Trimethylbenzene	19.75	105	57590	0.466	ng		100
80) alpha-Methylstyrene	19.88	118	29121	0.435	ng		98
81) 2-Ethyltoluene	19.92	105	71176	0.498	ng		98
82) 1,2,4-Trimethylbenzene	20.11	105	57697	0.454	ng		98
83) n-Decane	20.20	57	28801	0.460	ng		98
84) Benzyl Chloride	20.23	91	38679	0.379	ng		97
85) 1,3-Dichlorobenzene	20.24	146	32341	0.470	ng		99
86) 1,4-Dichlorobenzene	20.30	146	32829	0.480	ng		98
87) sec-Butylbenzene	20.35	105	79152	0.499	ng		98
88) 4-Isopropyltoluene (p-...	20.48	119	71971	0.481	ng		98
89) 1,2,3-Trimethylbenzene	20.48	105	58236	0.457	ng		97
90) 1,2-Dichlorobenzene	20.61	146	31295	0.447	ng		100
91) d-Limonene	20.62	68	22394	0.451	ng		99
92) 1,2-Dibromo-3-Chloropr...	20.99	157	9748	0.406	ng	#	80
93) n-Undecane	21.30	57	23411	0.364	ng		98
94) 1,2,4-Trichlorobenzene	22.11	180	16758	0.385	ng		99
95) Naphthalene	22.22	128	53528	0.365	ng		100
96) n-Dodecane	22.22	57	12440	0.198	ng		98
97) Hexachlorobutadiene	22.54	225	11744	0.356	ng		99
98) Cyclohexanone	18.28	55	19899	0.444	ng		97
99) tert-Butylbenzene	20.11	119	57329	0.464	ng		99
100) n-Butylbenzene	20.85	91	61839	0.478	ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012020.D Vial: 13
Acq On : 1 May 2020 15:16 Operator: LH
Sample : 0.5ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-05012002 (5/30)

Quant Time: May 01 17:26:12 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012021.D Vial: 13
Acq On : 1 May 2020 15:51 Operator: LH
Sample : 1.0ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-05012002 (5/30)

Quant Time: May 01 17:26:14 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	283099	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1255557	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	599231	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	497020	12.717	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.76%				
57) Toluene-d8 (SS2)	15.72	98	1262658	11.945	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.60%				
73) Bromofluorobenzene (SS3)	18.98	174	433746	11.550	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.40%				
Target Compounds							Qvalue
2) Propene	4.11	42	33126	1.093	ng		99
3) Dichlorodifluoromethan...	4.27	85	68235	1.064	ng		99
4) Chloromethane	4.53	50	53718	1.062	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	38642	0.956	ng		99
6) Vinyl Chloride	4.96	62	58432	1.092	ng		100
7) 1,3-Butadiene	5.22	54	47465	1.185	ng		98
8) Bromomethane	5.64	94	29630	1.099	ng		100
9) Chloroethane	5.98	64	22473	1.088	ng		99
10) Ethanol	6.32	45	110869	4.665	ng		99
11) Acetonitrile	6.58	41	53541	1.017	ng		100
12) Acrolein	6.78	56	19340	1.106	ng		100
13) Acetone	6.98	58	119315	5.130	ng		90
14) Trichlorofluoromethane	7.24	101	56632	1.006	ng		99
15) 2-Propanol (Isopropanol)	7.48	45	154892	2.235	ng		96
16) Acrylonitrile	7.74	53	38461	1.095	ng		99
17) 1,1-Dichloroethene	8.19	96	30236	1.080	ng		97
18) 2-Methyl-2-Propanol (t...	8.36	59	151128	2.466	ng		98
19) Methylene Chloride	8.40	84	32502	1.072	ng		97
20) 3-Chloro-1-propene (Al...	8.57	41	46601	1.174	ng		98
21) Trichlorotrifluoroethane	8.84	151	26828	0.993	ng		96
22) Carbon Disulfide	8.68	76	117066	1.075	ng		99
23) trans-1,2-Dichloroethene	9.68	61	45490	1.115	ng		97
24) 1,1-Dichloroethane	9.94	63	55243	1.065	ng		99
25) Methyl tert-Butyl Ether	10.06	73	92006	1.109	ng		99
26) Vinyl Acetate	10.20	86	33295	4.258	ng	#	76
27) 2-Butanone (MEK)	10.46	72	21197	1.105	ng		96
28) cis-1,2-Dichloroethene	10.96	61	43960	1.043	ng		97
29) Diisopropyl Ether	11.27	87	31384	1.031	ng	#	79
30) Ethyl Acetate	11.27	61	23578	2.083	ng		97
31) n-Hexane	11.26	57	53227	1.014	ng		99
32) Chloroform	11.30	83	57167	1.020	ng		98
34) Tetrahydrofuran (THF)	11.73	72	21166	1.066	ng		97
35) Ethyl tert-Butyl Ether	11.87	87	36365	1.013	ng		97
36) 1,2-Dichloroethane	12.11	62	45068	1.029	ng		100
38) 1,1,1-Trichloroethane	12.39	97	50409	1.021	ng		98
39) Isopropyl Acetate	12.83	61	40161	1.973	ng	#	92
40) 1-Butanol	12.84	56	48310	1.519	ng		82
41) Benzene	12.87	78	127091	0.984	ng		100
42) Carbon Tetrachloride	13.03	117	43210	0.970	ng		98
43) Cyclohexane	13.17	84	94431	1.902	ng		98
44) tert-Amyl Methyl Ether	13.52	73	89386	1.060	ng		98
45) 1,2-Dichloropropane	13.73	63	31276	1.047	ng		99
46) Bromodichloromethane	13.91	83	44019	1.002	ng		99
47) Trichloroethene	13.97	130	32599	0.885	ng		100
48) 1,4-Dioxane	13.95	88	25788	1.023	ng		99
49) 2,2,4-Trimethylpentane...	14.04	57	130371	1.050	ng		98
50) Methyl Methacrylate	14.18	100	24994	2.007	ng		96

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012021.D Vial: 13
Acq On : 1 May 2020 15:51 Operator: LH
Sample : 1.0ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-05012002 (5/30)

Quant Time: May 01 17:26:14 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

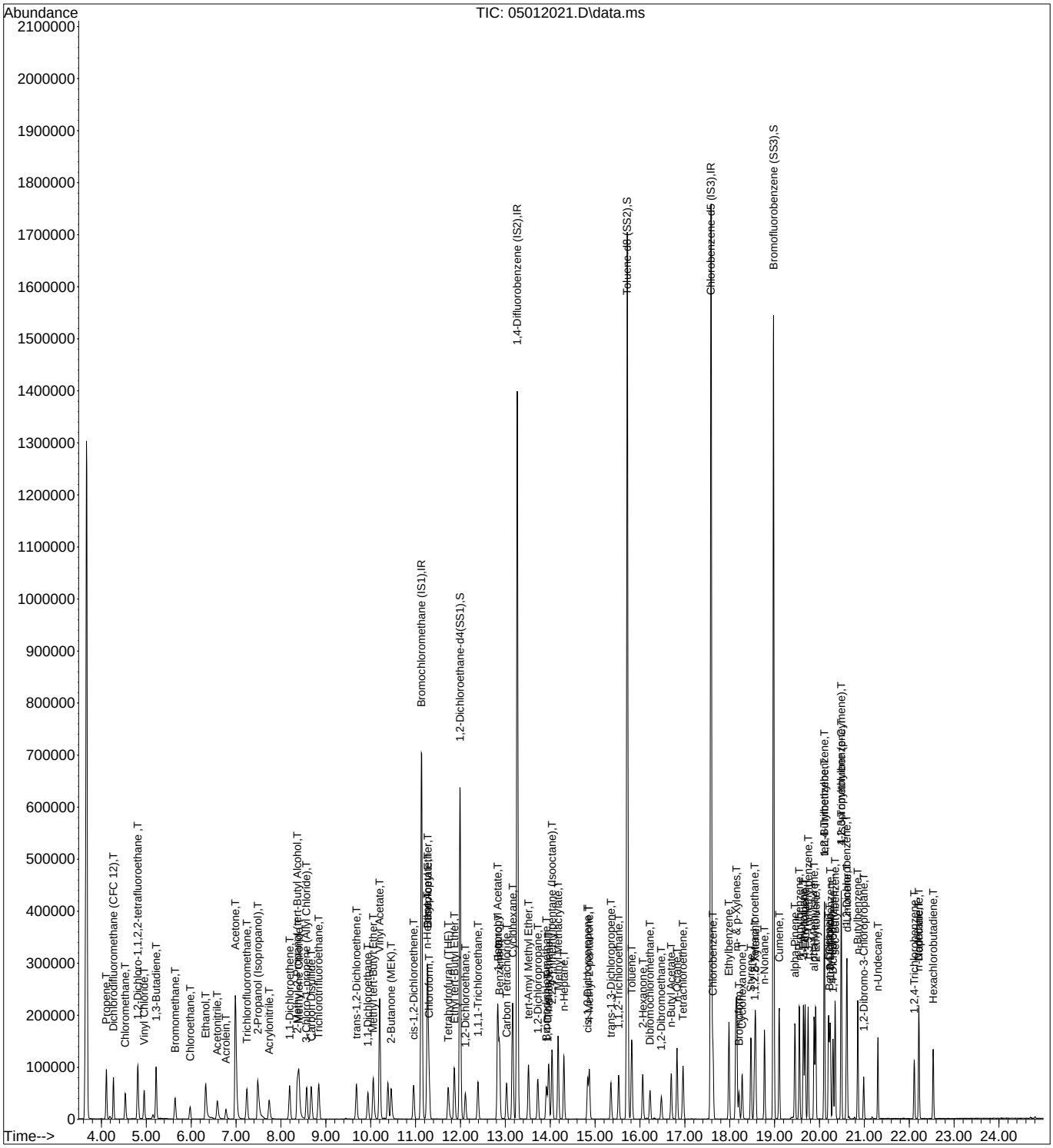
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	31052	1.028	ng	99
52) cis-1,3-Dichloropropene	14.83	75	48884	1.016	ng	100
53) 4-Methyl-2-pentanone	14.87	58	28992	1.064	ng	98
54) trans-1,3-Dichloropropene	15.35	75	42499	0.949	ng	99
55) 1,1,2-Trichloroethane	15.52	97	29976	0.997	ng	99
58) Toluene	15.82	91	126852	0.968	ng	100
59) 2-Hexanone	16.06	43	68688	1.039	ng	98
60) Dibromochloromethane	16.22	129	34198	0.973	ng	100
61) 1,2-Dibromoethane	16.48	107	33986	1.006	ng	99
62) n-Butyl Acetate	16.70	43	76066	1.076	ng	98
63) n-Octane	16.83	57	26077	0.995	ng	99
64) Tetrachloroethene	16.96	166	32577	0.886	ng	100
65) Chlorobenzene	17.62	112	82545	0.935	ng	98
66) Ethylbenzene	17.98	91	142006	0.988	ng	99
67) m- & p-Xylenes	18.15	91	225991	1.941	ng	98
68) Bromoform	18.21	173	25763	0.818	ng	100
69) Styrene	18.47	104	80976	0.891	ng	99
70) o-Xylene	18.58	91	111310	0.955	ng	99
71) n-Nonane	18.77	43	60557	1.023	ng	97
72) 1,1,2,2-Tetrachloroethane	18.55	83	54222	0.963	ng	99
74) Cumene	19.10	105	140371	0.956	ng	99
75) alpha-Pinene	19.45	93	71471	0.956	ng	99
76) n-Propylbenzene	19.55	91	173225	1.008	ng	98
77) 3-Ethyltoluene	19.64	105	131045	0.897	ng	99
78) 4-Ethyltoluene	19.68	105	136161	0.983	ng	99
79) 1,3,5-Trimethylbenzene	19.75	105	112385	0.908	ng	99
80) alpha-Methylstyrene	19.88	118	57239	0.853	ng	99
81) 2-Ethyltoluene	19.92	105	133665	0.933	ng	99
82) 1,2,4-Trimethylbenzene	20.11	105	112073	0.879	ng	99
83) n-Decane	20.20	57	56537	0.900	ng	99
84) Benzyl Chloride	20.23	91	78621	0.769	ng	97
85) 1,3-Dichlorobenzene	20.24	146	62650	0.909	ng	99
86) 1,4-Dichlorobenzene	20.30	146	61324	0.895	ng	100
87) sec-Butylbenzene	20.35	105	151180	0.950	ng	98
88) 4-Isopropyltoluene (p-...	20.48	119	138806	0.925	ng	99
89) 1,2,3-Trimethylbenzene	20.48	105	113653	0.890	ng	99
90) 1,2-Dichlorobenzene	20.61	146	60175	0.857	ng	99
91) d-Limonene	20.62	68	44904	0.903	ng	98
92) 1,2-Dibromo-3-Chloropr...	20.98	157	19657	0.817	ng	85
93) n-Undecane	21.30	57	44833	0.696	ng	99
94) 1,2,4-Trichlorobenzene	22.11	180	32560	0.746	ng	100
95) Naphthalene	22.22	128	100929	0.687	ng	100
96) n-Dodecane	22.21	57	24009	0.380	ng	99
97) Hexachlorobutadiene	22.54	225	22641	0.684	ng	99
98) Cyclohexanone	18.28	55	38554	0.858	ng	99
99) tert-Butylbenzene	20.11	119	111007	0.897	ng	99
100) n-Butylbenzene	20.85	91	119734	0.924	ng	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012021.D Vial: 13
Acq On : 1 May 2020 15:51 Operator: LH
Sample : 1.0ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-05012002 (5/30)

Quant Time: May 01 17:26:14 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012022.D Vial: 2
Acq On : 1 May 2020 16:25 Operator: LH
Sample : 5.0ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 17:26:16 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	303798	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.27	114	1318017	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	623963	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	517657	12.342	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.72%				
57) Toluene-d8 (SS2)	15.72	98	1308528	11.889	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.12%				
73) Bromofluorobenzene (SS3)	18.98	174	490919	12.554	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.40%				
Target Compounds							Qvalue
2) Propene	4.09	42	193048	5.934	ng		100
3) Dichlorodifluoromethan...	4.25	85	387745	5.637	ng		100
4) Chloromethane	4.52	50	303525	5.594	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	222610	5.132	ng		100
6) Vinyl Chloride	4.94	62	339270	5.907	ng		100
7) 1,3-Butadiene	5.21	54	276281	6.430	ng		99
8) Bromomethane	5.64	94	169682	5.863	ng		98
9) Chloroethane	5.97	64	129957	5.865	ng		100
10) Ethanol	6.35	45	691643	27.117	ng		100
11) Acetonitrile	6.60	41	322707	5.712	ng		100
12) Acrolein	6.78	56	114887	6.125	ng		99
13) Acetone	6.99	58	718205	28.778	ng		93
14) Trichlorofluoromethane	7.24	101	330361	5.469	ng		100
15) 2-Propanol (Isopropanol)	7.50	45	953934	12.829	ng		99
16) Acrylonitrile	7.75	53	241513	6.410	ng		100
17) 1,1-Dichloroethene	8.19	96	176135	5.860	ng		97
18) 2-Methyl-2-Propanol (t...	8.36	59	939029	14.278	ng		99
19) Methylene Chloride	8.42	84	189273	5.818	ng		97
20) 3-Chloro-1-propene (Al...	8.58	41	281181	6.602	ng		99
21) Trichlorotrifluoroethane	8.84	151	159827	5.511	ng		97
22) Carbon Disulfide	8.68	76	697922	5.971	ng		100
23) trans-1,2-Dichloroethene	9.70	61	269106	6.148	ng		99
24) 1,1-Dichloroethane	9.95	63	324467	5.829	ng		100
25) Methyl tert-Butyl Ether	10.05	73	520731	5.850	ng		100
26) Vinyl Acetate	10.21	86	230843	27.513	ng	#	86
27) 2-Butanone (MEK)	10.45	72	129697	6.298	ng		97
28) cis-1,2-Dichloroethene	10.97	61	259456	5.737	ng		98
29) Diisopropyl Ether	11.27	87	191800	5.871	ng	#	79
30) Ethyl Acetate	11.27	61	149560	12.310	ng		98
31) n-Hexane	11.26	57	314981	5.592	ng		99
32) Chloroform	11.31	83	340357	5.661	ng		99
34) Tetrahydrofuran (THF)	11.72	72	126370	5.930	ng		99
35) Ethyl tert-Butyl Ether	11.86	87	221593	5.751	ng		97
36) 1,2-Dichloroethane	12.11	62	265122	5.640	ng		100
38) 1,1,1-Trichloroethane	12.40	97	293872	5.672	ng		100
39) Isopropyl Acetate	12.83	61	250912	11.741	ng	#	94
40) 1-Butanol	12.84	56	336318	10.073	ng		93
41) Benzene	12.87	78	763486	5.631	ng		100
42) Carbon Tetrachloride	13.03	117	266893	5.707	ng		100
43) Cyclohexane	13.17	84	572113	10.975	ng		100
44) tert-Amyl Methyl Ether	13.52	73	541195	6.112	ng		99
45) 1,2-Dichloropropane	13.73	63	186128	5.938	ng		99
46) Bromodichloromethane	13.92	83	271708	5.892	ng		100
47) Trichloroethene	13.97	130	200472	5.185	ng		100
48) 1,4-Dioxane	13.95	88	156033	5.899	ng		100
49) 2,2,4-Trimethylpentane...	14.04	57	772648	5.931	ng		99
50) Methyl Methacrylate	14.18	100	156609	11.977	ng		97

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012022.D Vial: 2
Acq On : 1 May 2020 16:25 Operator: LH
Sample : 5.0ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 17:26:16 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

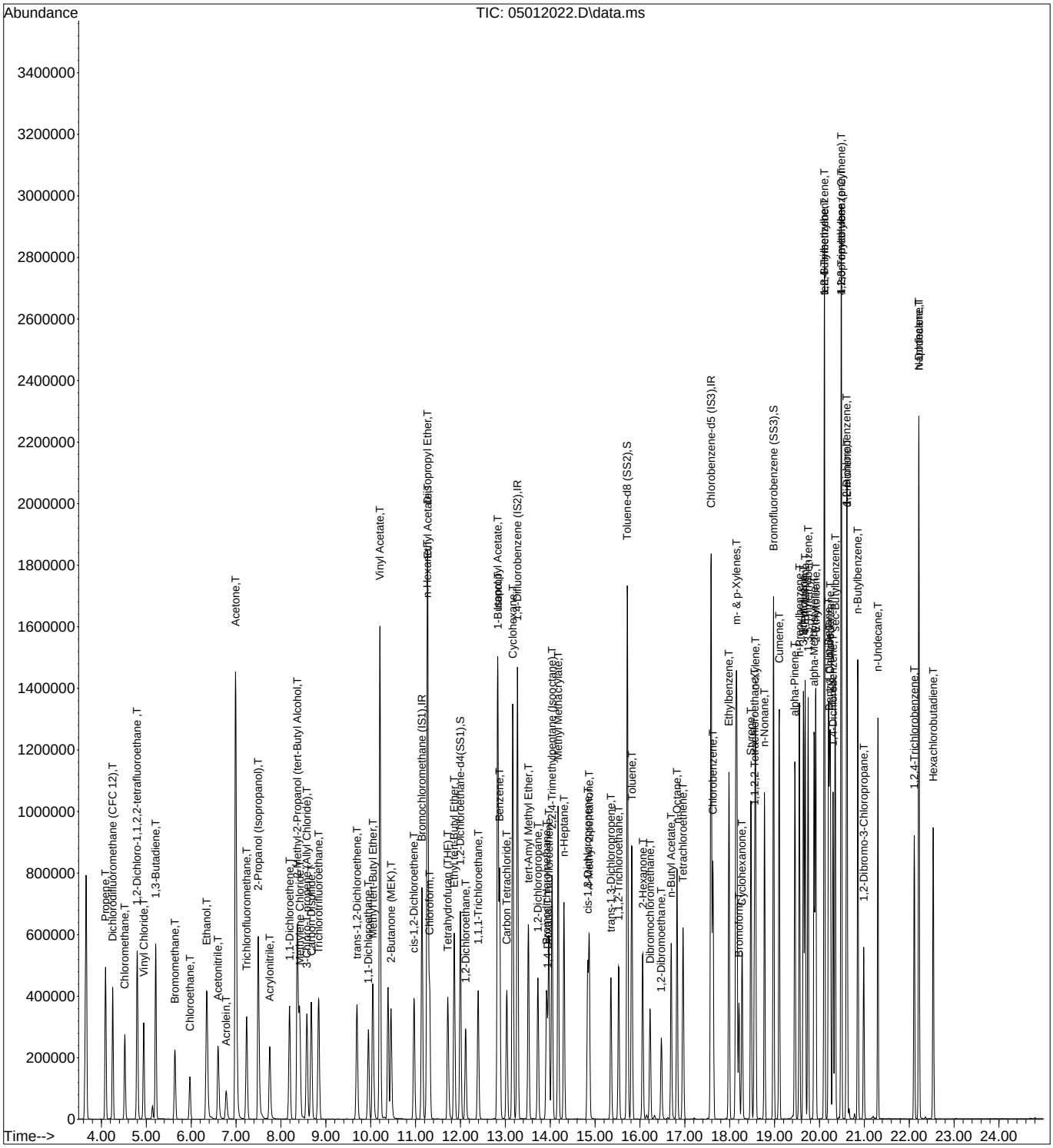
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	180946	5.706	ng	99
52) cis-1,3-Dichloropropene	14.84	75	308293	6.105	ng	100
53) 4-Methyl-2-pentanone	14.87	58	175513	6.138	ng	97
54) trans-1,3-Dichloropropene	15.35	75	277438	5.899	ng	100
55) 1,1,2-Trichloroethane	15.52	97	182608	5.786	ng	99
58) Toluene	15.82	91	751701	5.508	ng	100
59) 2-Hexanone	16.06	43	431067	6.262	ng	99
60) Dibromochloromethane	16.23	129	222764	6.086	ng	99
61) 1,2-Dibromoethane	16.48	107	211443	6.008	ng	100
62) n-Butyl Acetate	16.70	43	477782	6.493	ng	100
63) n-Octane	16.83	57	155673	5.704	ng	100
64) Tetrachloroethene	16.96	166	201840	5.271	ng	100
65) Chlorobenzene	17.62	112	499525	5.435	ng	100
66) Ethylbenzene	17.98	91	871724	5.827	ng	99
67) m- & p-Xylenes	18.15	91	1368621	11.288	ng	100
68) Bromoform	18.21	173	189068	5.768	ng	100
69) Styrene	18.47	104	536906	5.670	ng	100
70) o-Xylene	18.58	91	693423	5.713	ng	100
71) n-Nonane	18.77	43	370451	6.012	ng	98
72) 1,1,2,2-Tetrachloroethane	18.55	83	346585	5.910	ng	100
74) Cumene	19.10	105	885174	5.792	ng	99
75) alpha-Pinene	19.45	93	454351	5.834	ng	100
76) n-Propylbenzene	19.55	91	1076654	6.015	ng	99
77) 3-Ethyltoluene	19.64	105	836770	5.500	ng	95
78) 4-Ethyltoluene	19.68	105	882656	6.121	ng	95
79) 1,3,5-Trimethylbenzene	19.75	105	715909	5.552	ng	99
80) alpha-Methylstyrene	19.88	118	385478	5.515	ng	100
81) 2-Ethyltoluene	19.92	105	858573	5.755	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	751354	5.662	ng	98
83) n-Decane	20.20	57	376639	5.759	ng	99
84) Benzyl Chloride	20.23	91	614231	5.773	ng	99
85) 1,3-Dichlorobenzene	20.24	146	434270	6.049	ng	100
86) 1,4-Dichlorobenzene	20.30	146	427551	5.990	ng	100
87) sec-Butylbenzene	20.35	105	969884	5.855	ng	99
88) 4-Isopropyltoluene (p-...	20.48	119	928906	5.944	ng	98
89) 1,2,3-Trimethylbenzene	20.48	105	769774	5.787	ng	98
90) 1,2-Dichlorobenzene	20.61	146	419115	5.732	ng	100
91) d-Limonene	20.62	68	288464	5.570	ng	99
92) 1,2-Dibromo-3-Chloropr...	20.98	157	148727	5.940	ng	97
93) n-Undecane	21.30	57	365721	5.450	ng	100
94) 1,2,4-Trichlorobenzene	22.11	180	270469	5.951	ng	99
95) Naphthalene	22.22	128	892593	5.833	ng	100
96) n-Dodecane	22.22	57	324655	4.939	ng	99
97) Hexachlorobutadiene	22.54	225	164461	4.774	ng	100
98) Cyclohexanone	18.27	55	245365	5.243	ng	99
99) tert-Butylbenzene	20.11	119	727041	5.643	ng	100
100) n-Butylbenzene	20.85	91	778801	5.771	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012022.D Vial: 2
Acq On : 1 May 2020 16:25 Operator: LH
Sample : 5.0ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 17:26:16 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012023.D Vial: 2
Acq On : 1 May 2020 16:59 Operator: LH
Sample : 25ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 17:26:18 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	286303	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	13.28	114	1228912	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	571123	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.01	65	468097	11.843	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.72%			
57) Toluene-d8 (SS2)	15.72	98	1212242	12.033	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.24%			
73) Bromofluorobenzene (SS3)	18.98	174	458310	12.805	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.40%			
Target Compounds						Qvalue
2) Propene	4.09	42	894762	29.187	ng	100
3) Dichlorodifluoromethan...	4.25	85	1661240	25.625	ng	100
4) Chloromethane	4.53	50	1331334	26.035	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	962170	23.538	ng	100
6) Vinyl Chloride	4.94	62	1452200	26.828	ng	100
7) 1,3-Butadiene	5.21	54	1192249	29.444	ng	100
8) Bromomethane	5.65	94	769909	28.228	ng	100
9) Chloroethane	5.98	64	583429	27.941	ng	100
10) Ethanol	6.39	45	3316498	137.974	ng	100
11) Acetonitrile	6.63	41	1485800	27.907	ng	100
12) Acrolein	6.80	56	518321	29.321	ng	100
13) Acetone	7.01	58	3451253	146.739	ng	100
14) Trichlorofluoromethane	7.24	101	1489634	26.165	ng	100
15) 2-Propanol (Isopropanol)	7.53	45	4218436	60.200	ng	100
16) Acrylonitrile	7.77	53	1099575	30.969	ng	100
17) 1,1-Dichloroethene	8.20	96	811190	28.639	ng	100
18) 2-Methyl-2-Propanol (t...	8.39	59	3958148	63.861	ng	100
19) Methylene Chloride	8.44	84	868569	28.330	ng	100
20) 3-Chloro-1-propene (Al...	8.59	41	1253954	31.243	ng	100
21) Trichlorotrifluoroethane	8.84	151	743004	27.185	ng	100
22) Carbon Disulfide	8.69	76	3145335	28.555	ng	100
23) trans-1,2-Dichloroethene	9.71	61	1224632	29.687	ng	100
24) 1,1-Dichloroethane	9.96	63	1485162	28.313	ng	100
25) Methyl tert-Butyl Ether	10.05	73	2185564	26.052	ng	100
26) Vinyl Acetate	10.22	86	1147538	145.128	ng	100
27) 2-Butanone (MEK)	10.46	72	578422	29.805	ng	100
28) cis-1,2-Dichloroethene	10.98	61	1170190	27.455	ng	100
29) Diisopropyl Ether	11.27	87	816119	26.509	ng	100
30) Ethyl Acetate	11.28	61	740753	64.696	ng	100
31) n-Hexane	11.26	57	1536846	28.951	ng	100
32) Chloroform	11.32	83	1513438	26.712	ng	100
34) Tetrahydrofuran (THF)	11.72	72	562319	27.999	ng	100
35) Ethyl tert-Butyl Ether	11.87	87	1027494	28.295	ng	100
36) 1,2-Dichloroethane	12.12	62	1181488	26.670	ng	100
38) 1,1,1-Trichloroethane	12.40	97	1349990	27.947	ng	100
39) Isopropyl Acetate	12.84	61	1233560	61.905	ng	100
40) 1-Butanol	12.85	56	1704801	54.762	ng	100
41) Benzene	12.88	78	3498072	27.670	ng	100
42) Carbon Tetrachloride	13.04	117	1221860	28.021	ng	100
43) Cyclohexane	13.17	84	2724355	56.049	ng	100
44) tert-Amyl Methyl Ether	13.52	73	2480433	30.042	ng	100
45) 1,2-Dichloropropane	13.73	63	842781	28.835	ng	100
46) Bromodichloromethane	13.92	83	1270274	29.545	ng	100
47) Trichloroethene	13.97	130	932766	25.873	ng	100
48) 1,4-Dioxane	13.95	88	738598	29.950	ng	100
49) 2,2,4-Trimethylpentane...	14.05	57	3492402	28.751	ng	100
50) Methyl Methacrylate	14.18	100	756519	62.050	ng	100

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012023.D Vial: 2
Acq On : 1 May 2020 16:59 Operator: LH
Sample : 25ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 17:26:18 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

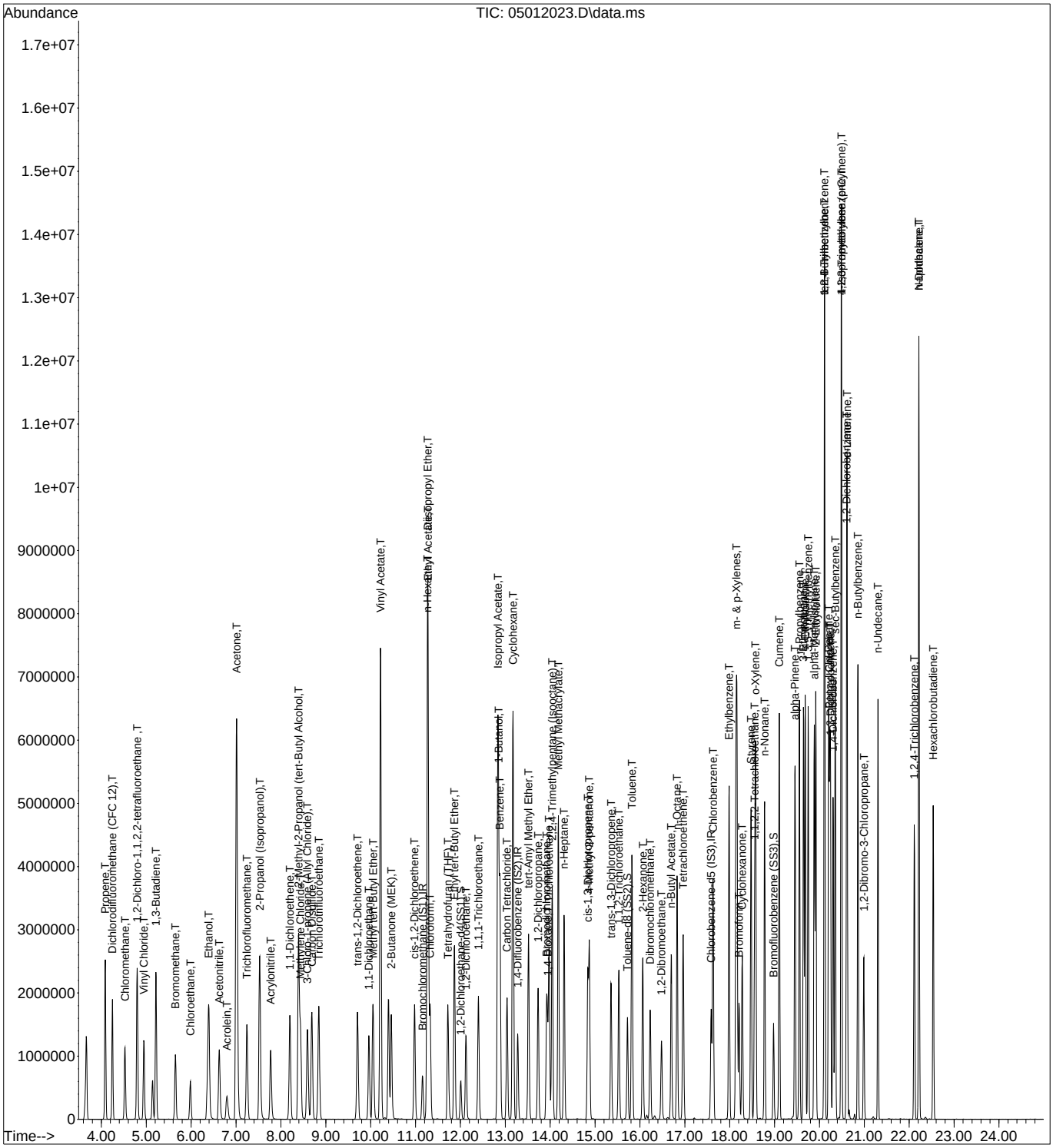
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	823934	27.865	ng	100
52) cis-1,3-Dichloropropene	14.84	75	1447687	30.747	ng	100
53) 4-Methyl-2-pentanone	14.87	58	811075	30.423	ng	100
54) trans-1,3-Dichloropropene	15.36	75	1324553	30.205	ng	100
55) 1,1,2-Trichloroethane	15.53	97	843984	28.682	ng	100
58) Toluene	15.82	91	3424256	27.410	ng	100
59) 2-Hexanone	16.06	43	1935226	30.714	ng	100
60) Dibromochloromethane	16.23	129	1060385	31.652	ng	100
61) 1,2-Dibromoethane	16.48	107	982343	30.496	ng	100
62) n-Butyl Acetate	16.70	43	2168912	32.203	ng	100
63) n-Octane	16.83	57	728475	29.163	ng	100
64) Tetrachloroethene	16.96	166	984776	28.099	ng	100
65) Chlorobenzene	17.63	112	2300188	27.341	ng	100
66) Ethylbenzene	17.99	91	4049520	29.572	ng	100
67) m- & p-Xylenes	18.15	91	6491657	58.495	ng	100
68) Bromoform	18.21	173	917591	30.583	ng	100
69) Styrene	18.48	104	2503836	28.891	ng	100
70) o-Xylene	18.58	91	3253541	29.284	ng	100
71) n-Nonane	18.78	43	1726340	30.608	ng	100
72) 1,1,2,2-Tetrachloroethane	18.55	83	1616722	30.117	ng	100
74) Cumene	19.10	105	4096128	29.280	ng	100
75) alpha-Pinene	19.46	93	2182133	30.613	ng	100
76) n-Propylbenzene	19.56	91	4975591	30.367	ng	100
77) 3-Ethyltoluene	19.64	105	4101218	29.451	ng	100
78) 4-Ethyltoluene	19.68	105	3906607	29.596	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	3353822	28.417	ng	100
80) alpha-Methylstyrene	19.88	118	1815476	28.379	ng	100
81) 2-Ethyltoluene	19.92	105	3976342	29.119	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3727437	30.689	ng	100
83) n-Decane	20.20	57	1854354	30.977	ng	100
84) Benzyl Chloride	20.23	91	3206821	32.930	ng	100
85) 1,3-Dichlorobenzene	20.25	146	2028248	30.866	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1980369	30.311	ng	100
87) sec-Butylbenzene	20.35	105	4443941	29.308	ng	100
88) 4-Isopropyltoluene (p-...	20.49	119	4416603	30.875	ng	100
89) 1,2,3-Trimethylbenzene	20.49	105	3810515	31.296	ng	100
90) 1,2-Dichlorobenzene	20.61	146	2012317	30.068	ng	100
91) d-Limonene	20.62	68	1441613	30.414	ng	100
92) 1,2-Dibromo-3-Chloropr...	20.99	157	697199	30.419	ng	100
93) n-Undecane	21.30	57	1818070	29.597	ng	100
94) 1,2,4-Trichlorobenzene	22.11	180	1398370	33.614	ng	100
95) Naphthalene	22.22	128	4546028	32.455	ng	100
96) n-Dodecane	22.22	57	1750966	29.104	ng	100
97) Hexachlorobutadiene	22.54	225	878145	27.851	ng	100
98) Cyclohexanone	18.28	55	1117925	26.097	ng	100
99) tert-Butylbenzene	20.11	119	3489996	29.594	ng	100
100) n-Butylbenzene	20.86	91	3625532	29.353	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012023.D Vial: 2
Acq On : 1 May 2020 16:59 Operator: LH
Sample : 25ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 17:26:18 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012024.D Vial: 2
Acq On : 1 May 2020 17:33 Operator: LH
Sample : 50ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 18:21:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:29:13 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	296329	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.28	114	1261474	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	593519	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.01	65	478735	11.900	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.20%				
57) Toluene-d8 (SS2)	15.72	98	1240425	12.243	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.92%				
73) Bromofluorobenzene (SS3)	18.98	174	464734	12.717	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.76%				
Target Compounds							Qvalue
2) Propene	4.09	42	1796953	52.860	ng		99
3) Dichlorodifluoromethan...	4.25	85	3187990	47.567	ng		100
4) Chloromethane	4.53	50	2729050	52.530	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	1935925	47.940	ng		100
6) Vinyl Chloride	4.96	62	2887895	50.326	ng		100
7) 1,3-Butadiene	5.22	54	2393303	50.778	ng		99
8) Bromomethane	5.66	94	1618002	53.561	ng		100
9) Chloroethane	5.99	64	1229227	54.539	ng		99
10) Ethanol	6.42	45	7106079	270.958	ng		100
11) Acetonitrile	6.64	41	3034898	50.934	ng		100
12) Acrolein	6.81	56	1054165	50.758	ng		100
13) Acetone	7.03	58	7450473	282.417	ng	#	85
14) Trichlorofluoromethane	7.25	101	3028815	50.994	ng		100
15) 2-Propanol (Isopropanol)	7.55	45	7855441	98.616	ng		99
16) Acrylonitrile	7.78	53	2274854	52.994	ng		100
17) 1,1-Dichloroethene	8.21	96	1662670	53.624	ng		99
18) 2-Methyl-2-Propanol (t...	8.41	59	5524708	78.677	ng		100
19) Methylene Chloride	8.44	84	1782729	52.018	ng		100
20) 3-Chloro-1-propene (Al...	8.60	41	2606826	55.998	ng		100
21) Trichlorotrifluoroethane	8.85	151	1546599	55.362	ng		98
22) Carbon Disulfide	8.69	76	6372275	51.854	ng		100
23) trans-1,2-Dichloroethene	9.71	61	2513808	53.485	ng		99
24) 1,1-Dichloroethane	9.96	63	3010944	53.864	ng		100
25) Methyl tert-Butyl Ether	10.05	73	4149230	46.527	ng		100
26) Vinyl Acetate	10.23	86	2491407	314.423	ng	#	57
27) 2-Butanone (MEK)	10.47	72	1200800	53.091	ng		100
28) cis-1,2-Dichloroethene	10.98	61	2420682	52.524	ng		99
29) Diisopropyl Ether	11.27	87	1723473	53.021	ng	#	93
30) Ethyl Acetate	11.28	61	1642236	125.490	ng		100
31) n-Hexane	11.26	57	3312834	58.268	ng		100
32) Chloroform	11.33	83	3125242	52.888	ng		100
34) Tetrahydrofuran (THF)	11.72	72	1166647	53.025	ng		100
35) Ethyl tert-Butyl Ether	11.87	87	2150206	55.497	ng		100
36) 1,2-Dichloroethane	12.13	62	2421427	51.847	ng		100
38) 1,1,1-Trichloroethane	12.40	97	2767260	54.541	ng		100
39) Isopropyl Acetate	12.84	61	2703577	121.791	ng	#	89
40) 1-Butanol	12.86	56	3801241	117.283	ng		94
41) Benzene	12.88	78	7578608	55.786	ng		100
42) Carbon Tetrachloride	13.04	117	2525594	54.795	ng		100
43) Cyclohexane	13.18	84	5820559	114.692	ng		99
44) tert-Amyl Methyl Ether	13.52	73	5201775	57.533	ng		99
45) 1,2-Dichloropropane	13.73	63	1741280	55.926	ng		99
46) Bromodichloromethane	13.92	83	2627252	57.456	ng		100
47) Trichloroethene	13.98	130	1973429	56.342	ng		100
48) 1,4-Dioxane	13.95	88	1556720	57.092	ng		99
49) 2,2,4-Trimethylpentane...	14.05	57	7264805	55.532	ng		98
50) Methyl Methacrylate	14.19	100	1612357	118.946	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012024.D Vial: 2
Acq On : 1 May 2020 17:33 Operator: LH
Sample : 50ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 18:21:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:29:13 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

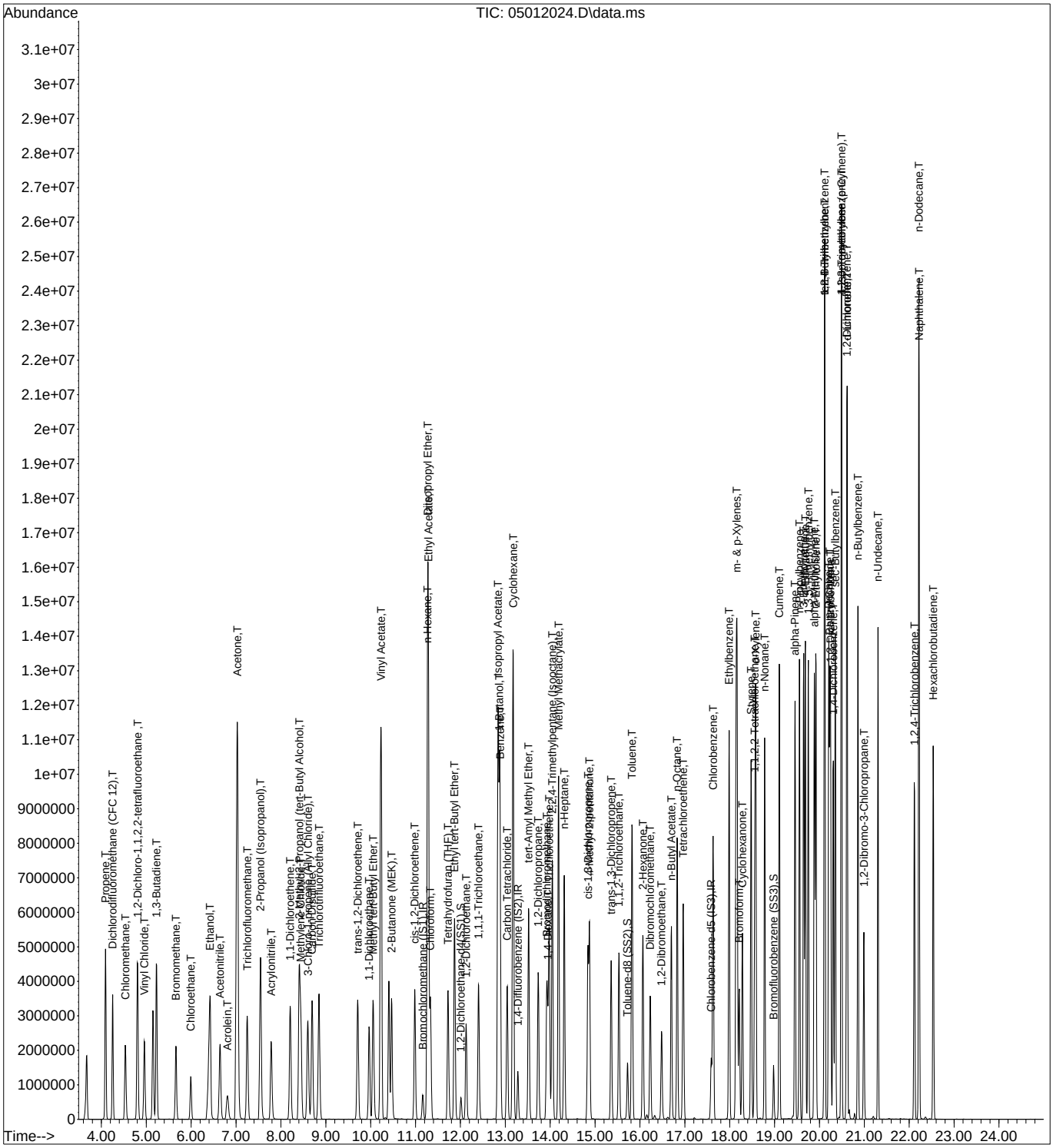
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	1767254	55.726	ng	100
52) cis-1,3-Dichloropropene	14.84	75	3046439	56.787	ng	100
53) 4-Methyl-2-pentanone	14.88	58	1706203	56.697	ng	99
54) trans-1,3-Dichloropropene	15.36	75	2784226	60.799	ng	100
55) 1,1,2-Trichloroethane	15.53	97	1746966	56.334	ng	99
58) Toluene	15.82	91	7061705	54.313	ng	99
59) 2-Hexanone	16.06	43	4070739	57.784	ng	99
60) Dibromochloromethane	16.23	129	2194267	59.071	ng	100
61) 1,2-Dibromoethane	16.48	107	2025699	56.837	ng	100
62) n-Butyl Acetate	16.70	43	4530163	59.421	ng	99
63) n-Octane	16.83	57	1570654	58.903	ng	100
64) Tetrachloroethene	16.97	166	2068921	56.346	ng	100
65) Chlorobenzene	17.63	112	4832830	53.780	ng	100
66) Ethylbenzene	17.99	91	8386382	57.841	ng	99
67) m- & p-Xylenes	18.16	91	13925432	121.021	ng	98
68) Bromoform	18.21	173	1918060	63.108	ng	100
69) Styrene	18.48	104	5183954	59.571	ng	99
70) o-Xylene	18.58	91	6807386	58.156	ng	100
71) n-Nonane	18.78	43	3697140	60.502	ng	98
72) 1,1,2,2-Tetrachloroethane	18.56	83	3397226	58.901	ng	100
74) Cumene	19.10	105	8370559	58.039	ng	99
75) alpha-Pinene	19.46	93	4559119	59.324	ng	99
76) n-Propylbenzene	19.56	91	10009459	58.692	ng	98
77) 3-Ethyltoluene	19.65	105	8132559	58.352	ng	99
78) 4-Ethyltoluene	19.69	105	8156559	59.940	ng	99
79) 1,3,5-Trimethylbenzene	19.75	105	6870991	58.237	ng	99
80) alpha-Methylstyrene	19.89	118	3732298	60.194	ng	98
81) 2-Ethyltoluene	19.92	105	8070320	58.450	ng	99
82) 1,2,4-Trimethylbenzene	20.12	105	7311702	61.264	ng	100
83) n-Decane	20.20	57	4092282	67.333	ng	100
84) Benzyl Chloride	20.23	91	6890327	76.746	ng	99
85) 1,3-Dichlorobenzene	20.25	146	4163439	60.293	ng	100
86) 1,4-Dichlorobenzene	20.31	146	4017198	59.763	ng	100
87) sec-Butylbenzene	20.35	105	8855378	57.530	ng	98
88) 4-Isopropyltoluene (p-...	20.49	119	8351171	59.057	ng	98
89) 1,2,3-Trimethylbenzene	20.49	105	7426933	62.512	ng	99
90) 1,2-Dichlorobenzene	20.61	146	4049033	60.984	ng	100
91) d-Limonene	20.62	68	3089607	66.195	ng	98
92) 1,2-Dibromo-3-Chloropr...	20.99	157	1448206	64.485	ng	98
93) n-Undecane	21.30	57	4012904	76.685	ng	100
94) 1,2,4-Trichlorobenzene	22.12	180	3005308	77.697	ng	99
95) Naphthalene	22.22	128	9089253	72.417	ng	99
96) n-Dodecane	22.22	57	3837089	87.820	ng	99
97) Hexachlorobutadiene	22.54	225	1927632	64.992	ng	100
98) Cyclohexanone	18.28	55	2325790	50.761	ng	99
99) tert-Butylbenzene	20.12	119	6753035	57.139	ng	100
100) n-Butylbenzene	20.86	91	7324522	61.000	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012024.D Vial: 2
Acq On : 1 May 2020 17:33 Operator: LH
Sample : 50ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 18:21:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:29:13 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012025.D Vial: 2
Acq On : 1 May 2020 18:07 Operator: LH
Sample : 100ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 18:32:42 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/1/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	307101	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.29	114	1302649	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	623928	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	496605	11.932	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.44%				
57) Toluene-d8 (SS2)	15.73	98	1277690	12.082	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.64%				
73) Bromofluorobenzene (SS3)	18.98	174	482815	12.688	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.52%				
Target Compounds							Qvalue
2) Propene	4.09	42	2805564	78.878	ng		99
3) Dichlorodifluoromethan...	4.25	85	5430136	78.055	ng		99
4) Chloromethane	4.53	50	5012802	91.976	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	3608284	86.813	ng		100
6) Vinyl Chloride	4.96	62	5582487	93.407	ng		100
7) 1,3-Butadiene	5.24	54	4618053	93.386	ng		97
8) Bromomethane	5.67	94	3307082	104.747	ng		100
9) Chloroethane	6.00	64	2534746	107.357	ng		100
10) Ethanol	6.47	45	15131456	550.944	ng		99
11) Acetonitrile	6.67	41	6424952	102.369	ng		100
12) Acrolein	6.82	56	2202179	101.477	ng		100
13) Acetone	7.05	58	15042025	547.644	ng	#	56
14) Trichlorofluoromethane	7.25	101	6310121	102.633	ng		100
15) 2-Propanol (Isopropanol)	7.58	45	15078880	181.384	ng		98
16) Acrylonitrile	7.80	53	4844904	107.901	ng		100
17) 1,1-Dichloroethene	8.22	96	3526226	109.408	ng		99
18) 2-Methyl-2-Propanol (t...	8.43	59	5971963	83.578	ng		99
19) Methylene Chloride	8.45	84	3794776	106.281	ng		99
20) 3-Chloro-1-propene (Al...	8.61	41	5538474	112.906	ng		99
21) Trichlorotrifluoroethane	8.85	151	3229354	111.251	ng		98
22) Carbon Disulfide	8.71	76	13073755	102.186	ng		99
23) trans-1,2-Dichloroethene	9.72	61	5348726	108.987	ng		100
24) 1,1-Dichloroethane	9.97	63	6355885	109.091	ng		100
25) Methyl tert-Butyl Ether	10.06	73	6522340	71.172	ng		99
26) Vinyl Acetate	10.25	86	4839363	598.679	ng	#	3
27) 2-Butanone (MEK)	10.48	72	2544981	108.649	ng		97
28) cis-1,2-Dichloroethene	10.99	61	5160701	107.507	ng		99
29) Diisopropyl Ether	11.28	87	3334523	100.633	ng	#	74
30) Ethyl Acetate	11.30	61	3181460	235.544	ng		97
31) n-Hexane	11.26	57	6466041	110.371	ng		100
32) Chloroform	11.34	83	6496904	106.280	ng		100
34) Tetrahydrofuran (THF)	11.73	72	2481850	108.635	ng		99
35) Ethyl tert-Butyl Ether	11.87	87	4598768	114.847	ng		98
36) 1,2-Dichloroethane	12.13	62	5046702	104.202	ng		100
38) 1,1,1-Trichloroethane	12.41	97	5801042	110.565	ng		100
39) Isopropyl Acetate	12.85	61	5612819	244.569	ng	#	65
40) 1-Butanol	12.88	56	7686632	235.415	ng		89
41) Benzene	12.89	78	15377837	110.081	ng		99
42) Carbon Tetrachloride	13.04	117	5341272	112.408	ng		99
43) Cyclohexane	13.18	84	11703238	224.817	ng		99
44) tert-Amyl Methyl Ether	13.52	73	10906653	116.431	ng		98
45) 1,2-Dichloropropane	13.74	63	3747744	115.837	ng		100
46) Bromodichloromethane	13.93	83	5488917	116.263	ng		100
47) Trichloroethene	13.98	130	4190784	116.061	ng		99
48) 1,4-Dioxane	13.96	88	3428858	121.871	ng		97
49) 2,2,4-Trimethylpentane...	14.05	57	14950897	109.987	ng		97
50) Methyl Methacrylate	14.19	100	3386785	244.382	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012025.D Vial: 2
Acq On : 1 May 2020 18:07 Operator: LH
Sample : 100ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 18:32:42 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

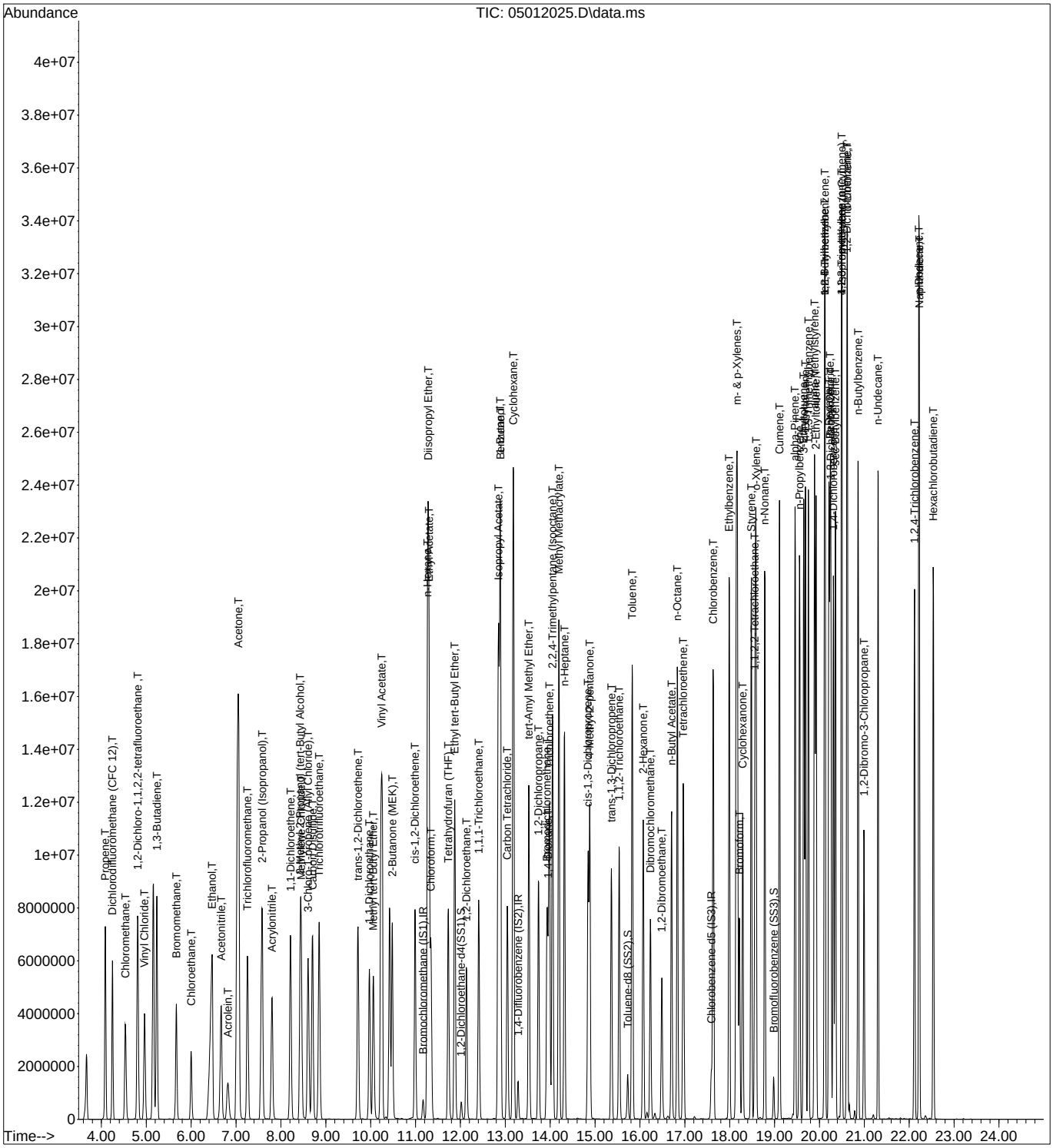
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.32	71	3860770	118.183 ng	99
52) cis-1,3-Dichloropropene	14.84	75	6512364	117.244 ng	99
53) 4-Methyl-2-pentanone	14.88	58	3720592	119.475 ng	94
54) trans-1,3-Dichloropropene	15.36	75	5980136	125.830 ng	100
55) 1,1,2-Trichloroethane	15.54	97	3694486	115.151 ng	98
58) Toluene	15.83	91	14122055	103.594 ng	97
59) 2-Hexanone	16.07	43	8538604	114.309 ng	97
60) Dibromochloromethane	16.23	129	4599117	117.821 ng	98
61) 1,2-Dibromoethane	16.49	107	4236452	112.921 ng	99
62) n-Butyl Acetate	16.71	43	9464801	117.306 ng	97
63) n-Octane	16.83	57	3422153	121.258 ng	99
64) Tetrachloroethene	16.96	166	4251324	110.411 ng	98
65) Chlorobenzene	17.63	112	10058959	107.240 ng	99
66) Ethylbenzene	17.99	91	15775647	103.782 ng	94
67) m- & p-Xylenes	18.16	91	24994911	207.270 ng	97
68) Bromoform	18.22	173	4017610	126.792 ng	100
69) Styrene	18.48	104	10371248	114.347 ng	96
70) o-Xylene	18.59	91	13044798	106.553 ng	98
71) n-Nonane	18.78	43	7415015	114.154 ng	95
72) 1,1,2,2-Tetrachloroethane	18.56	83	6995233	115.177 ng	100
74) Cumene	19.11	105	14928599	99.362 ng	93
75) alpha-Pinene	19.46	93	9103677	113.559 ng	97
76) n-Propylbenzene	19.56	91	16348034	91.592 ng	88
77) 3-Ethyltoluene	19.65	105	15320091	105.349 ng	94
78) 4-Ethyltoluene	19.69	105	13577066	96.220 ng	91
79) 1,3,5-Trimethylbenzene	19.75	105	12866248	105.014 ng	96
80) alpha-Methylstyrene	19.89	118	7332836	114.848 ng	89
81) 2-Ethyltoluene	19.92	105	14549504	101.431 ng	94
82) 1,2,4-Trimethylbenzene	20.12	105	11677289	94.825 ng	99
83) n-Decane	20.21	57	7901549	123.258 ng	99
84) Benzyl Chloride	20.24	91	12745970	134.347 ng	96
85) 1,3-Dichlorobenzene	20.25	146	7870539	110.067 ng	99
86) 1,4-Dichlorobenzene	20.31	146	7896122	113.154 ng	100
87) sec-Butylbenzene	20.36	105	15000490	93.840 ng	91
88) 4-Isopropyltoluene (p-...	20.50	119	12758034	87.765 ng	95
89) 1,2,3-Trimethylbenzene	20.49	105	11655993	95.082 ng	99
90) 1,2-Dichlorobenzene	20.61	146	7018237	102.510 ng	100
91) d-Limonene	20.62	68	5329834	109.584 ng	99
92) 1,2-Dibromo-3-Chloropr...	21.00	157	2996254	126.618 ng	94
93) n-Undecane	21.30	57	7881239	143.443 ng	98
94) 1,2,4-Trichlorobenzene	22.12	180	6156917	147.306 ng	99
95) Naphthalene	22.23	128	14689712	111.271 ng	97
96) n-Dodecane	22.22	57	6472005	144.069 ng	99
97) Hexachlorobutadiene	22.54	225	3985864	130.408 ng	100
98) Cyclohexanone	18.29	55	4951545	103.767 ng	97
99) tert-Butylbenzene	20.12	119	10982141	90.608 ng	99
100) n-Butylbenzene	20.86	91	12973286	103.470 ng	92

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012025.D Vial: 2
Acq On : 1 May 2020 18:07 Operator: LH
Sample : 100ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 18:32:42 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012026.D Vial: 2
Acq On : 1 May 2020 18:41 Operator: LH
Sample : 25ng TO15 ICV STD Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 01 19:07:38 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/1/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	306012	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.28	114	1305280	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	605237	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	502495	12.117	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.96%				
57) Toluene-d8 (SS2)	15.72	98	1272559	12.405	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.20%				
73) Bromofluorobenzene (SS3)	18.98	174	479316	12.985	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.84%				
Target Compounds							Qvalue
2) Propene	4.08	42	966787	27.278	ng		100
3) Dichlorodifluoromethan...	4.23	85	1760370	25.394	ng		100
4) Chloromethane	4.52	50	1357331	24.993	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.79	135	976267	23.572	ng		100
6) Vinyl Chloride	4.94	62	1467519	24.642	ng		99
7) 1,3-Butadiene	5.21	54	1260843	25.588	ng		100
8) Bromomethane	5.64	94	787063	25.018	ng		99
9) Chloroethane	5.97	64	602406	25.605	ng		99
10) Ethanol	6.38	45	3553289	129.837	ng		100
11) Acetonitrile	6.62	41	1622424	25.942	ng		100
12) Acrolein	6.79	56	555653	25.696	ng		100
13) Acetone	7.01	58	3611891	131.968	ng		99
14) Trichlorofluoromethane	7.24	101	1552897	25.347	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	4510536	54.450	ng		99
16) Acrylonitrile	7.77	53	1180769	26.391	ng		100
17) 1,1-Dichloroethene	8.19	96	847883	26.401	ng		100
18) 2-Methyl-2-Propanol (t...	8.39	59	4343249	56.240	ng		99
19) Methylene Chloride	8.43	84	892462	25.084	ng		99
20) 3-Chloro-1-propene (Al...	8.58	41	1276351	26.112	ng		100
21) Trichlorotrifluoroethane	8.84	151	781006	27.001	ng		99
22) Carbon Disulfide	8.68	76	3274656	25.686	ng		100
23) trans-1,2-Dichloroethene	9.70	61	1280278	26.180	ng		100
24) 1,1-Dichloroethane	9.96	63	1484365	25.568	ng		100
25) Methyl tert-Butyl Ether	10.05	73	2264086	24.794	ng		100
26) Vinyl Acetate	10.22	86	1192344	139.859	ng		100
27) 2-Butanone (MEK)	10.45	72	609878	26.129	ng		99
28) cis-1,2-Dichloroethene	10.98	61	1232559	25.768	ng		100
29) Diisopropyl Ether	11.27	87	824575	24.973	ng	#	95
30) Ethyl Acetate	11.27	61	776633	57.704	ng		100
31) n-Hexane	11.26	57	1581365	27.089	ng		100
32) Chloroform	11.32	83	1591321	26.124	ng		100
34) Tetrahydrofuran (THF)	11.72	72	595371	26.153	ng		100
35) Ethyl tert-Butyl Ether	11.86	87	1068978	26.791	ng		99
36) 1,2-Dichloroethane	12.12	62	1234056	25.571	ng		100
38) 1,1,1-Trichloroethane	12.40	97	1423725	27.081	ng		100
39) Isopropyl Acetate	12.83	61	1293737	56.259	ng		97
40) 1-Butanol	12.85	56	2086238	63.765	ng		94
41) Benzene	12.88	78	3590944	25.654	ng		100
42) Carbon Tetrachloride	13.04	117	1259961	26.463	ng		100
43) Cyclohexane	13.17	84	2795016	53.584	ng		99
44) tert-Amyl Methyl Ether	13.52	73	2599327	27.692	ng		100
45) 1,2-Dichloropropane	13.73	63	867296	26.753	ng		99
46) Bromodichloromethane	13.92	83	1295074	27.376	ng		100
47) Trichloroethene	13.97	130	967338	26.736	ng		100
48) 1,4-Dioxane	13.95	88	775383	27.504	ng		100
49) 2,2,4-Trimethylpentane...	14.04	57	3603157	26.453	ng		100
50) Methyl Methacrylate	14.18	100	775781	55.866	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012026.D Vial: 2
Acq On : 1 May 2020 18:41 Operator: LH
Sample : 25ng TO15 ICV STD Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 01 19:07:38 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

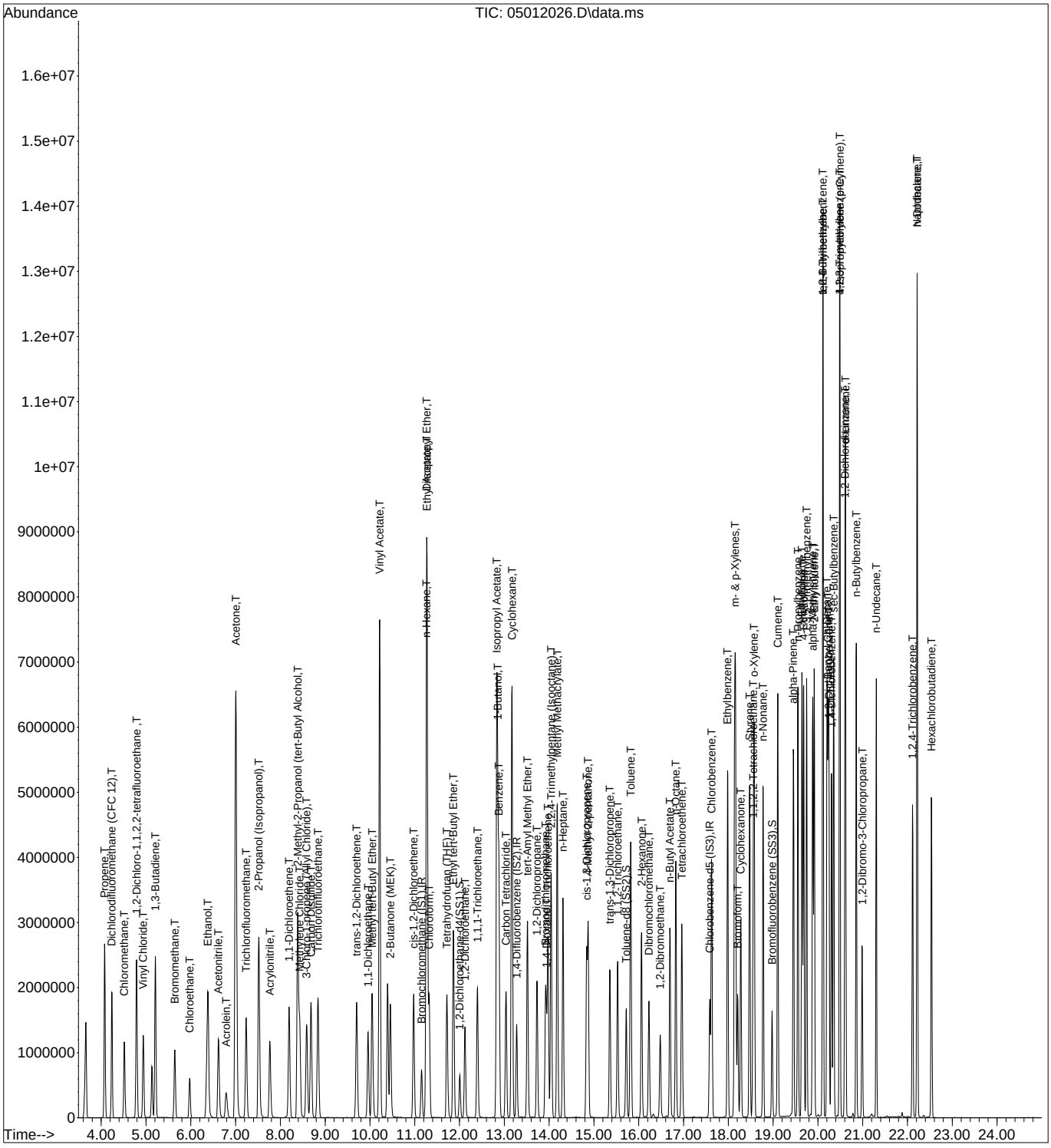
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	851667	26.018	ng	100
52) cis-1,3-Dichloropropene	14.84	75	1585771	28.492	ng	100
53) 4-Methyl-2-pentanone	14.87	58	872253	27.953	ng	100
54) trans-1,3-Dichloropropene	15.35	75	1387054	29.127	ng	100
55) 1,1,2-Trichloroethane	15.53	97	867139	26.973	ng	100
58) Toluene	15.82	91	3509323	26.538	ng	100
59) 2-Hexanone	16.06	43	2142962	29.574	ng	100
60) Dibromochloromethane	16.23	129	1094576	28.907	ng	100
61) 1,2-Dibromoethane	16.48	107	1019112	28.003	ng	100
62) n-Butyl Acetate	16.70	43	2398863	30.649	ng	100
63) n-Octane	16.83	57	741607	27.089	ng	100
64) Tetrachloroethene	16.96	166	1010020	27.041	ng	99
65) Chlorobenzene	17.62	112	2369161	26.038	ng	100
66) Ethylbenzene	17.98	91	4140285	28.079	ng	100
67) m- & p-Xylenes	18.15	91	6646028	56.814	ng	100
68) Bromoform	18.21	173	952116	29.005	ng	100
69) Styrene	18.48	104	2615334	29.726	ng	100
70) o-Xylene	18.58	91	3318680	27.945	ng	100
71) n-Nonane	18.77	43	1768593	28.068	ng	100
72) 1,1,2,2-Tetrachloroethane	18.55	83	1670094	28.347	ng	100
74) Cumene	19.10	105	4140007	28.406	ng	100
75) alpha-Pinene	19.45	93	2192080	28.188	ng	99
76) n-Propylbenzene	19.55	91	5034559	29.078	ng	100
77) 3-Ethyltoluene	19.64	105	4294103	30.440	ng	100
78) 4-Ethyltoluene	19.68	105	3790629	27.694	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	3430468	28.864	ng	100
80) alpha-Methylstyrene	19.88	118	1874877	27.988	ng	100
81) 2-Ethyltoluene	19.92	105	4065181	29.215	ng	99
82) 1,2,4-Trimethylbenzene	20.11	105	3770591	31.564	ng	100
83) n-Decane	20.20	57	1887277	28.242	ng	100
84) Benzyl Chloride	20.23	91	3366173	30.233	ng	100
85) 1,3-Dichlorobenzene	20.25	146	2073075	29.887	ng	100
86) 1,4-Dichlorobenzene	20.30	146	2047327	30.245	ng	100
87) sec-Butylbenzene	20.35	105	4505729	29.057	ng	100
88) 4-Isopropyltoluene (p-...	20.49	119	4352844	29.644	ng	100
89) 1,2,3-Trimethylbenzene	20.48	105	3682695	29.457	ng	100
90) 1,2-Dichlorobenzene	20.61	146	2035560	30.650	ng	100
91) d-Limonene	20.62	68	1446579	30.661	ng	100
92) 1,2-Dibromo-3-Chloropr...	20.99	157	709248	28.322	ng	99
93) n-Undecane	21.30	57	1877490	30.357	ng	99
94) 1,2,4-Trichlorobenzene	22.11	180	1445626	31.384	ng	100
95) Naphthalene	22.22	128	4860431	33.339	ng	100
96) n-Dodecane	22.22	57	1815131	33.896	ng	100
97) Hexachlorobutadiene	22.54	225	900762	28.271	ng	99
98) Cyclohexanone	18.28	55	1308763	28.274	ng	99
99) tert-Butylbenzene	20.11	119	3490399	29.687	ng	100
100) n-Butylbenzene	20.86	91	3725548	30.631	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012026.D Vial: 2
Acq On : 1 May 2020 18:41 Operator: LH
Sample : 25ng TO15 ICV STD Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 01 19:07:38 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



LH 5/1/20

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **05012026.D**
Data File Path: **I:\MS16\DATA\2020_05\01**
Operator: **LH**
Date Acquired: **5/1/2020** **18:41**

Acq. Method File: **TO15.M**
Sample Name: **25ng TO15 ICV STD**
Misc Info: **S31-02112001/S34-04302003 (**
Instrument Name: **GCMS-16**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
2)	**Propene**	**4.08**	**27.3**	26.25	104	**51**	**133**	*	*
3)	**Dichlorodifluoromethane (CFC 1**	**4.23**	**25.4**	**26.25**	97	**64**	**115**	*	*
4)	**Chloromethane**	**4.52**	**25.0**	**26.50**	94	**49**	**127**	*	*
5)	**1,2-Dichloro-1,1,2,2-tetrafluoroet**	**4.79**	**23.6**	**25.75**	92	**65**	**114**	*	*
6)	**Vinyl Chloride**	**4.94**	**24.6**	**26.50**	93	**61**	**129**	*	*
7)	**1,3-Butadiene**	**5.21**	**25.6**	**26.50**	97	**54**	**140**	*	*
8)	**Bromomethane**	**5.64**	**25.0**	**26.50**	94	**68**	**120**	*	*
9)	**Chloroethane**	**5.97**	**25.6**	**26.75**	96	**63**	**123**	*	*
10)	**Ethanol**	**6.38**	**130**	**132.50**	98	**49**	**134**	*	*
11)	**Acetonitrile**	**6.62**	**25.9**	**26.75**	97	**50**	**137**	*	*
12)	**Acrolein**	**6.79**	**25.7**	**25.75**	100	**62**	**128**	*	*
13)	**Acetone**	**7.01**	**132**	**133.50**	99	**56**	**125**	*	*
14)	**Trichlorofluoromethane**	**7.24**	**25.3**	**26.50**	95	**64**	**115**	*	*
15)	**2-Propanol (Isopropanol)**	**7.52**	**54.5**	**52.75**	103	**57**	**133**	*	*
16)	**Acrylonitrile**	**7.77**	**26.4**	**26.50**	100	**64**	**136**	*	*
17)	**1,1-Dichloroethene**	**8.19**	**26.4**	**26.75**	99	**68**	**115**	*	*
18)	2-Methyl-2-Propanol (tert-Butyl Alc	8.39	56.2	53.75	105	56	132	*	*
19)	**Methylene Chloride**	**8.43**	**25.1**	**26.25**	96	**68**	**114**	*	*
20)	**3-Chloro-1-propene (Allyl Chloric**	**8.58**	**26.1**	**26.75**	98	**55**	**139**	*	*
21)	**Trichlorotrifluoroethane**	**8.84**	**27.0**	**27.00**	100	**65**	**115**	*	*
22)	**Carbon Disulfide**	**8.68**	**25.7**	**26.50**	97	**68**	**113**	*	*
23)	**trans-1,2-Dichloroethene**	**9.70**	**26.2**	**26.75**	98	**65**	**122**	*	*
24)	**1,1-Dichloroethane**	**9.96**	**25.6**	**26.50**	97	**63**	**118**	*	*
25)	**Methyl tert-Butyl Ether**	**10.05**	**24.8**	**26.75**	93	**57**	**131**	*	*
26)	**Vinyl Acetate**	**10.22**	**140**	**133.25**	105	**71**	**128**	*	*
27)	**2-Butanone (MEK)**	**10.45**	**26.1**	**26.50**	98	**67**	**123**	*	*
28)	**cis-1,2-Dichloroethene**	**10.98**	**25.8**	**26.50**	97	**64**	**120**	*	*
29)	Diisopropyl Ether	11.27	25.0	27.00	93	62	121	*	*
30)	**Ethyl Acetate**	**11.27**	**57.7**	**54.00**	107	**64**	**131**	*	*
31)	**n-Hexane**	**11.26**	**27.1**	**27.00**	100	**58**	**125**	*	*
32)	**Chloroform**	**11.32**	**26.1**	**26.75**	98	**65**	**114**	*	*
34)	**Tetrahydrofuran (THF)**	**11.72**	**26.2**	**27.50**	95	**65**	**115**	*	*
35)	Ethyl tert-Butyl Ether	11.86	26.8	26.75	100	61	130	*	*
36)	**1,2-Dichloroethane**	**12.12**	**25.6**	**26.75**	96	**59**	**120**	*	*
38)	**1,1,1-Trichloroethane**	**12.40**	**27.1**	**26.75**	101	**66**	**115**	*	*
39)	Isopropyl Acetate	12.83	56.3	52.50	107	65	129	*	*
40)	1-Butanol	12.85	63.8	53.25	120	58	140	*	*
41)	**Benzene**	**12.88**	**25.7**	**26.25**	98	**66**	**109**	*	*
42)	**Carbon Tetrachloride**	**13.04**	**26.5**	**26.00**	102	**66**	**119**	*	*
43)	**Cyclohexane**	**13.17**	**53.6**	**52.75**	102	**67**	**117**	*	*
44)	tert-Amyl Methyl Ether	13.52	27.7	**26.75**	104	62	133	*	*
45)	**1,2-Dichloropropane**	**13.73**	**26.8**	**26.75**	100	**66**	**119**	*	*
46)	**Bromodichloromethane**	**13.92**	**27.4**	**27.25**	101	**71**	**119**	*	*
47)	**Trichloroethene**	**13.97**	**26.7**	**27.00**	99	**70**	**114**	*	*
48)	**1,4-Dioxane**	**13.95**	**27.5**	**27.00**	102	**71**	**117**	*	*
49)	2,2,4-Trimethylpentane (Isooctane)	14.04	26.5	26.75	99	61	122	*	*

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **05012026.D** **TO15.M**
Data File Path: **I:\MS16\DATA\2020_05\01** Sample Name: **25ng TO15 ICV STD**
Operator: **LH** Misc Info: **S31-02112001/S34-04302003 (**
Date Acquired: **5/1/2020** **18:41** Instrument Name: **GCMS-16**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
50)	**Methyl Methacrylate**	**14.18**	**55.9**	**53.75**	104	**76**	**121**	*	*
51)	**n-Heptane**	**14.31**	**26.0**	**26.75**	97	**66**	**119**	*	*
52)	**cis-1,3-Dichloropropene**	**14.84**	**28.5**	**26.75**	107	**72**	**125**	*	*
53)	**4-Methyl-2-pentanone**	**14.87**	**28.0**	**26.50**	106	**68**	**130**	*	*
54)	**trans-1,3-Dichloropropene**	**15.35**	**29.1**	**26.50**	110	**71**	**132**	*	*
55)	**1,1,2-Trichloroethane**	**15.53**	**27.0**	**26.75**	101	**70**	**117**	*	*
58)	**Toluene**	**15.82**	**26.5**	**26.50**	100	**67**	**113**	*	*
59)	**2-Hexanone**	**16.06**	**29.6**	**27.00**	110	**62**	**135**	*	*
60)	**Dibromochloromethane**	**16.23**	**28.9**	**26.75**	108	**73**	**126**	*	*
61)	**1,2-Dibromoethane**	**16.48**	**28.0**	**26.75**	105	**71**	**122**	*	*
62)	**n-Butyl Acetate**	**16.70**	**30.6**	**27.25**	112	**65**	**134**	*	*
63)	**n-Octane**	**16.83**	**27.1**	**27.00**	100	**63**	**120**	*	*
64)	**Tetrachloroethene**	**16.96**	**27.0**	**26.00**	104	**64**	**120**	*	*
65)	**Chlorobenzene**	**17.62**	**26.0**	**26.75**	97	**65**	**116**	*	*
66)	**Ethylbenzene**	**17.98**	**28.1**	**26.50**	106	**65**	**117**	*	*
67)	**m- & p-Xylenes**	**18.15**	**56.8**	**53.25**	107	**64**	**121**	*	*
68)	**Bromoform**	**18.21**	**29.0**	**26.75**	108	**72**	**130**	*	*
69)	**Styrene**	**18.48**	**29.7**	**26.50**	112	**72**	**126**	*	*
70)	**o-Xylene**	**18.58**	**27.9**	**26.75**	104	**64**	**120**	*	*
71)	**n-Nonane**	**18.77**	**28.1**	**26.75**	105	**56**	**132**	*	*
72)	**1,1,2,2-Tetrachloroethane**	**18.55**	**28.3**	**26.75**	106	**66**	**122**	*	*
74)	**Cumene**	**19.10**	**28.4**	**26.75**	106	**64**	**121**	*	*
75)	**alpha-Pinene**	**19.45**	**28.2**	**26.50**	106	**62**	**136**	*	*
76)	**n-Propylbenzene**	**19.55**	**29.1**	**26.75**	109	**65**	**123**	*	*
77)	3-Ethyltoluene	19.64	30.4	26.75	114	62	123	*	*
78)	**4-Ethyltoluene**	**19.68**	**27.7**	**26.25**	**106**	**71**	**126**	*	*
79)	**1,3,5-Trimethylbenzene**	**19.75**	**28.9**	**26.50**	**109**	**65**	**120**	*	*
80)	alpha-Methylstyrene	19.88	28.0	26.50	**106**	70	132	*	*
81)	2-Ethyltoluene	19.92	29.2	26.75	**109**	66	121	*	*
82)	**1,2,4-Trimethylbenzene**	**20.11**	**31.6**	**26.50**	**119**	**63**	**129**	*	*
83)	n-Decane	20.20	28.2	26.75	**105**	61	131	*	*
84)	**Benzyl Chloride**	**20.23**	**30.2**	**26.75**	**113**	**66**	**138**	*	*
85)	**1,3-Dichlorobenzene**	**20.25**	**29.9**	**26.75**	**112**	**65**	**127**	*	*
86)	**1,4-Dichlorobenzene**	**20.30**	**30.2**	**26.75**	**113**	**66**	**125**	*	*
87)	sec-Butylbenzene	20.35	29.1	26.50	**110**	68	123	*	*
88)	4-Isopropyltoluene (p-Cymene)	20.49	29.6	27.25	**109**	61	129	*	*
89)	1,2,3-Trimethylbenzene	20.48	29.5	27.00	**109**	60	134	*	*
90)	**1,2-Dichlorobenzene**	**20.61**	**30.6**	**26.75**	**114**	**67**	**128**	*	*
91)	**d-Limonene**	**20.62**	**30.7**	**26.50**	**116**	**65**	**136**	*	*
92)	**1,2-Dibromo-3-Chloropropane**	**20.99**	**28.3**	**26.75**	**106**	**73**	**133**	*	*
93)	n-Undecane	21.30	30.4	27.00	**113**	64	131	*	*
94)	**1,2,4-Trichlorobenzene**	**22.11**	**31.4**	**27.00**	**116**	**62**	**140**	*	*
95)	**Naphthalene**	**22.22**	**33.3**	**26.50**	**126**	**57**	**149**	*	*
96)	n-Dodecane	22.22	33.9	26.50	**128**	41	181	*	*
97)	**Hexachlorobutadiene**	**22.54**	**28.3**	**26.75**	**106**	57	129	*	*
98)	Cyclohexanone	18.28	28.3	25.25	112	61	131	*	*
99)	tert-Butylbenzene	20.11	29.7	26.50	112	62	130	*	*
100)	n-Butylbenzene	20.86	30.6	26.75	114	67	124	*	*

Bold = 75 Compound List

 *** = Pass** **I:\MS16\0-Instrument Info\0-Security Certificates\ICV_LCS_2019_10111902.CRT** 5/1/2020 7:08 PM

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\13\05132001.D Vial: 2
Acq On : 13 May 2020 18:47 Operator: LH
Sample : CCV R16051320_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 13 21:25:55 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/13/20

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	99	0.00
2	T	Propene	1.448	1.437	0.8	96	0.00
3	T	Dichlorodifluoromethane (CF	2.832	2.526	10.8	91	0.00
4	T	Chloromethane	2.218	2.004	9.6	90	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.692	1.452	14.2	90	0.00
6	T	Vinyl Chloride	2.433	2.089	14.1	88	0.00
7	T	1,3-Butadiene	2.013	1.774	11.9	89	0.00
8	T	Bromomethane	1.285	1.157	10.0	92	0.00
9	T	Chloroethane	0.961	0.862	10.3	90	0.00
10	T	Ethanol	1.118	1.003	10.3	89	-0.03
11	T	Acetonitrile	2.555	2.246	12.1	90	-0.02
12	T	Acrolein	0.883	0.759	14.0	86	0.00
13	T	Acetone	1.118	1.026	8.2	90	-0.01
14	T	Trichlorofluoromethane	2.503	2.191	12.5	88	0.00
15	T	2-Propanol (Isopropanol)	3.384	3.105	8.2	88	-0.02
16	T	Acrylonitrile	1.828	1.657	9.4	90	0.00
17	T	1,1-Dichloroethene	1.312	1.177	10.3	89	0.00
18	T	2-Methyl-2-Propanol (tert-B	3.155	2.656	15.8	82	-0.02
19	T	Methylene Chloride	1.453	1.267	12.8	88	0.00
20	T	3-Chloro-1-propene (Allyl C	1.997	1.877	6.0	92	0.00
21	T	Trichlorotrifluoroethane	1.182	1.101	6.9	91	0.00
22	T	Carbon Disulfide	5.208	4.598	11.7	89	0.00
23	T	trans-1,2-Dichloroethene	1.998	1.748	12.5	87	0.00
24	T	1,1-Dichloroethane	2.371	2.089	11.9	87	0.00
25	T	Methyl tert-Butyl Ether	3.730	3.205	14.1	90	0.00
26	T	Vinyl Acetate	0.348	0.293	15.8	77	0.00
27	T	2-Butanone (MEK)	0.953	0.866	9.1	90	0.00
28	T	cis-1,2-Dichloroethene	1.954	1.705	12.7	88	0.00
29	T	Diisopropyl Ether	1.349	1.142	15.3	86	0.00
30	T	Ethyl Acetate	0.550	0.526	4.4	87	0.00
31	T	n-Hexane	2.385	2.241	6.0	89	0.00
32	T	Chloroform	2.488	2.201	11.5	88	0.00
33	S	1,2-Dichloroethane-d4(SS1)	1.694	1.605	5.3	97	0.00
34	T	Tetrahydrofuran (THF)	0.930	0.801	13.9	88	0.00
35	T	Ethyl tert-Butyl Ether	1.630	1.487	8.8	89	0.00
36	T	1,2-Dichloroethane	1.971	1.688	14.4	87	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	99	0.00
38	T	1,1,1-Trichloroethane	0.503	0.452	10.1	87	0.00
39	T	Isopropyl Acetate	0.220	0.211	4.1	88	0.00
40	T	1-Butanol	0.313	0.273	12.8	81	-0.02
41	T	Benzene	1.340	1.207	9.9	89	0.00
42	T	Carbon Tetrachloride	0.456	0.415	9.0	86	0.00
43	T	Cyclohexane	0.500	0.463	7.4	87	0.00
44	T	tert-Amyl Methyl Ether	0.899	0.848	5.7	90	0.00
45	T	1,2-Dichloropropane	0.310	0.286	7.7	89	0.00
46	T	Bromodichloromethane	0.453	0.418	7.7	86	0.00
47	T	Trichloroethene	0.346	0.319	7.8	89	0.00
48	T	1,4-Dioxane	0.270	0.245	9.3	87	0.00
49	T	2,2,4-Trimethylpentane (Iso	1.304	1.198	8.1	89	0.00
50	T	Methyl Methacrylate	0.133	0.128	3.8	88	0.00
51	T	n-Heptane	0.313	0.285	8.9	91	0.00
52	T	cis-1,3-Dichloropropene	0.533	0.500	6.2	87	0.00
53	T	4-Methyl-2-pentanone	0.299	0.279	6.7	88	0.00
54	T	trans-1,3-Dichloropropene	0.456	0.444	2.6	86	0.00
55	T	1,1,2-Trichloroethane	0.308	0.288	6.5	89	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\13\05132001.D Vial: 2
Acq On : 13 May 2020 18:47 Operator: LH
Sample : CCV R16051320_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 13 21:25:55 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	100	0.00
57	S	Toluene-d8 (SS2)	2.119	2.069	2.4	98	0.00
58	T	Toluene	2.731	2.498	8.5	89	0.00
59	T	2-Hexanone	1.497	1.395	6.8	88	0.00
60	T	Dibromochloromethane	0.782	0.762	2.6	88	0.00
61	T	1,2-Dibromoethane	0.752	0.706	6.1	88	0.00
62	T	n-Butyl Acetate	1.616	1.473	8.8	85	0.00
63	T	n-Octane	0.565	0.537	5.0	91	0.00
64	T	Tetrachloroethene	0.771	0.745	3.4	90	0.00
65	T	Chlorobenzene	1.879	1.669	11.2	89	0.00
66	T	Ethylbenzene	3.045	2.940	3.4	89	0.00
67	T	m- & p-Xylenes	2.416	2.357	2.4	89	0.00
68	T	Bromoform	0.678	0.658	2.9	88	0.00
69	T	Styrene	1.817	1.809	0.4	88	0.00
70	T	o-Xylene	2.453	2.354	4.0	89	0.00
71	T	n-Nonane	1.301	1.307	-0.5	93	0.00
72	T	1,1,2,2-Tetrachloroethane	1.217	1.172	3.7	89	0.00
73	S	Bromofluorobenzene (SS3)	0.762	0.807	-5.9	101	0.00
74	T	Cumene	3.010	2.953	1.9	89	0.00
75	T	alpha-Pinene	1.606	1.569	2.3	88	0.00
76	T	n-Propylbenzene	3.576	3.602	-0.7	90	0.00
77	T	3-Ethyltoluene	2.913	2.939	-0.9	87	0.00
78	T	4-Ethyltoluene	2.827	2.902	-2.7	92	0.00
79	T	1,3,5-Trimethylbenzene	2.455	2.471	-0.7	89	0.00
80	T	alpha-Methylstyrene	1.384	1.249	9.8	84	0.00
81	T	2-Ethyltoluene	2.874	2.912	-1.3	91	0.00
82	T	1,2,4-Trimethylbenzene	2.467	2.594	-5.1	85	0.00
83	T	n-Decane	1.380	1.377	0.2	91	0.00
84	T	Benzyl Chloride	2.300	2.125	7.6	82	-0.01
85	T	1,3-Dichlorobenzene	1.433	1.457	-1.7	88	0.00
86	T	1,4-Dichlorobenzene	1.398	1.427	-2.1	88	0.00
87	T	sec-Butylbenzene	3.203	3.266	-2.0	90	0.00
88	T	4-Isopropyltoluene (p-Cymen	3.033	3.040	-0.2	86	0.00
89	T	1,2,3-Trimethylbenzene	2.582	2.598	-0.6	85	0.00
90	T	1,2-Dichlorobenzene	1.372	1.407	-2.6	86	0.00
91	T	d-Limonene	0.974	0.980	-0.6	84	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.517	0.507	1.9	87	0.00
93	T	n-Undecane	1.277	1.332	-4.3	91	0.00
94	T	1,2,4-Trichlorobenzene	0.951	0.964	-1.4	84	-0.01
95	T	Naphthalene	3.011	3.041	-1.0	79	-0.01
96	T	n-Dodecane	1.106	1.262	-14.1	86	0.00
97	T	Hexachlorobutadiene	0.658	0.656	0.3	91	0.00
98	T	Cyclohexanone	0.956	0.802	16.1	82	-0.01
99	T	tert-Butylbenzene	2.428	2.464	-1.5	87	0.00
100	T	n-Butylbenzene	2.512	2.626	-4.5	89	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132001.D Vial: 2
Acq On : 13 May 2020 18:47 Operator: LH
Sample : CCV R16051320_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 13 21:25:55 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/13/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	283319	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.28	114	1212000	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.58	82	572645	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	454645	11.841	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.72%				
57) Toluene-d8 (SS2)	15.72	98	1184633	12.205	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.60%				
73) Bromofluorobenzene (SS3)	18.98	174	461902	13.225	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.84%				
Target Compounds							Qvalue
2) Propene	4.09	42	863323	26.309	ng		100
3) Dichlorodifluoromethan...	4.25	85	1516962	23.636	ng		100
4) Chloromethane	4.53	50	1203546	23.937	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	864048	22.533	ng		100
6) Vinyl Chloride	4.95	62	1278168	23.182	ng		100
7) 1,3-Butadiene	5.22	54	1065439	23.354	ng		99
8) Bromomethane	5.65	94	707861	24.302	ng		99
9) Chloroethane	5.99	64	527779	24.230	ng		100
10) Ethanol	6.39	45	2961739	116.890	ng		100
11) Acetonitrile	6.63	41	1336095	23.075	ng		100
12) Acrolein	6.80	56	443185	22.136	ng		100
13) Acetone	7.02	58	3099462	122.316	ng		99
14) Trichlorofluoromethane	7.25	101	1315847	23.198	ng		100
15) 2-Propanol (Isopropanol)	7.53	45	3694437	48.171	ng		99
16) Acrylonitrile	7.78	53	985916	23.801	ng		100
17) 1,1-Dichloroethene	8.20	96	720231	24.222	ng		99
18) 2-Methyl-2-Propanol (t...	8.39	59	3250696	45.464	ng		100
19) Methylene Chloride	8.44	84	760990	23.102	ng		99
20) 3-Chloro-1-propene (Al...	8.60	41	1148928	25.388	ng		99
21) Trichlorotrifluoroethane	8.85	151	673898	25.164	ng		98
22) Carbon Disulfide	8.69	76	2787837	23.619	ng		100
23) trans-1,2-Dichloroethene	9.71	61	1069719	23.626	ng		99
24) 1,1-Dichloroethane	9.96	63	1290378	24.007	ng		100
25) Methyl tert-Butyl Ether	10.05	73	1961290	23.198	ng		100
26) Vinyl Acetate	10.22	86	887988	112.502	ng	#	89
27) 2-Butanone (MEK)	10.46	72	520105	24.068	ng		95
28) cis-1,2-Dichloroethene	10.98	61	1024380	23.131	ng		100
29) Diisopropyl Ether	11.27	87	698889	22.862	ng	#	92
30) Ethyl Acetate	11.28	61	646226	51.860	ng		98
31) n-Hexane	11.26	57	1371625	25.378	ng		100
32) Chloroform	11.32	83	1334609	23.665	ng		100
34) Tetrahydrofuran (THF)	11.72	72	494871	23.480	ng		97
35) Ethyl tert-Butyl Ether	11.87	87	909731	24.626	ng		98
36) 1,2-Dichloroethane	12.12	62	1032918	23.117	ng		100
38) 1,1,1-Trichloroethane	12.40	97	1173610	24.041	ng		100
39) Isopropyl Acetate	12.83	61	1081472	50.648	ng		99
40) 1-Butanol	12.85	56	1375304	45.271	ng		96
41) Benzene	12.88	78	3101044	23.859	ng		100
42) Carbon Tetrachloride	13.04	117	1056103	23.888	ng		100
43) Cyclohexane	13.17	84	2381485	49.170	ng		98
44) tert-Amyl Methyl Ether	13.52	73	2221000	25.483	ng		100
45) 1,2-Dichloropropane	13.73	63	748972	24.881	ng		100
46) Bromodichloromethane	13.92	83	1093412	24.892	ng		100
47) Trichloroethene	13.97	130	827442	24.629	ng		100
48) 1,4-Dioxane	13.95	88	640154	24.455	ng		100
49) 2,2,4-Trimethylpentane...	14.04	57	3107973	24.574	ng		99
50) Methyl Methacrylate	14.18	100	664608	51.543	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132001.D Vial: 2
Acq On : 13 May 2020 18:47 Operator: LH
Sample : CCV R16051320_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 13 21:25:55 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

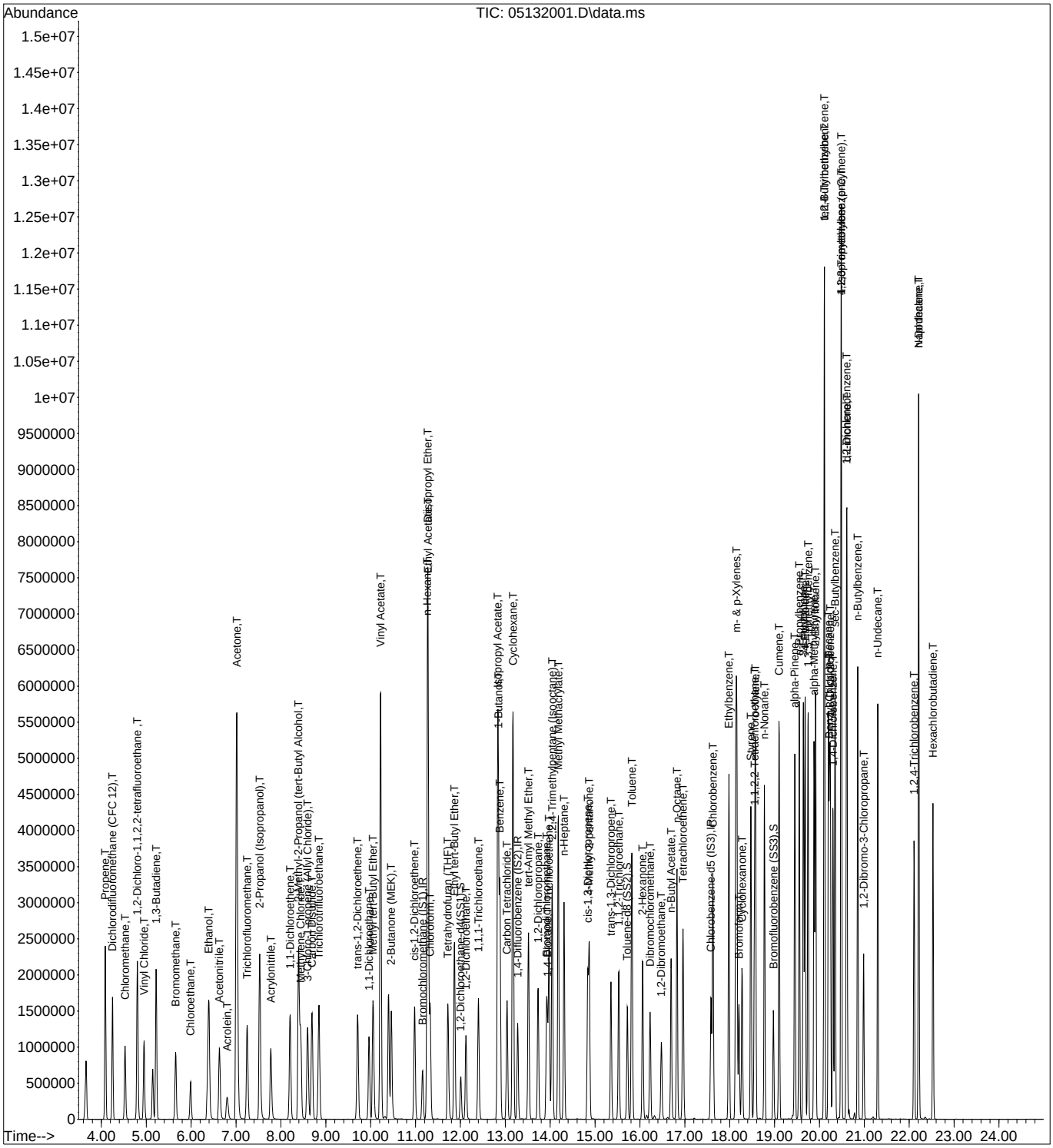
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	747223	24.584	ng	98
52) cis-1,3-Dichloropropene	14.84	75	1261205	24.404	ng	100
53) 4-Methyl-2-pentanone	14.87	58	716257	24.721	ng	98
54) trans-1,3-Dichloropropene	15.35	75	1141123	25.807	ng	100
55) 1,1,2-Trichloroethane	15.53	97	748104	25.061	ng	100
58) Toluene	15.82	91	3061510	24.469	ng	100
59) 2-Hexanone	16.06	43	1709900	24.941	ng	99
60) Dibromochloromethane	16.23	129	933798	26.064	ng	100
61) 1,2-Dibromoethane	16.48	107	864665	25.111	ng	100
62) n-Butyl Acetate	16.70	43	1839241	24.837	ng	99
63) n-Octane	16.83	57	663865	25.629	ng	98
64) Tetrachloroethene	16.96	166	887033	25.100	ng	100
65) Chlorobenzene	17.62	112	2045324	23.758	ng	100
66) Ethylbenzene	17.98	91	3602500	25.822	ng	100
67) m- & p-Xylenes	18.15	91	5777584	52.201	ng	100
68) Bromoform	18.21	173	806351	25.962	ng	100
69) Styrene	18.47	104	2196173	26.382	ng	100
70) o-Xylene	18.58	91	2884123	25.668	ng	100
71) n-Nonane	18.77	43	1601518	26.863	ng	98
72) 1,1,2,2-Tetrachloroethane	18.55	83	1435788	25.757	ng	100
74) Cumene	19.10	105	3652737	26.489	ng	100
75) alpha-Pinene	19.45	93	1922392	26.127	ng	100
76) n-Propylbenzene	19.55	91	4454866	27.194	ng	100
77) 3-Ethyltoluene	19.64	105	3567555	26.729	ng	100
78) 4-Ethyltoluene	19.68	105	3590012	27.721	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	3000146	26.680	ng	100
80) alpha-Methylstyrene	19.88	118	1530278	24.144	ng	91
81) 2-Ethyltoluene	19.91	105	3602280	27.362	ng	99
82) 1,2,4-Trimethylbenzene	20.11	105	3178420	28.122	ng	99
83) n-Decane	20.20	57	1686951	26.681	ng	99
84) Benzyl Chloride	20.22	91	2628013	24.947	ng	100
85) 1,3-Dichlorobenzene	20.24	146	1785129	27.200	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1748255	27.297	ng	100
87) sec-Butylbenzene	20.35	105	4001841	27.277	ng	100
88) 4-Isopropyltoluene (p-...	20.48	119	3795436	27.319	ng	99
89) 1,2,3-Trimethylbenzene	20.48	105	3243738	27.423	ng	99
90) 1,2-Dichlorobenzene	20.61	146	1724455	27.443	ng	100
91) d-Limonene	20.61	68	1212096	27.153	ng	99
92) 1,2-Dibromo-3-Chloropr...	20.98	157	609389	25.720	ng	99
93) n-Undecane	21.30	57	1647047	28.146	ng	99
94) 1,2,4-Trichlorobenzene	22.11	180	1181380	27.107	ng	100
95) Naphthalene	22.21	128	3587086	26.005	ng	100
96) n-Dodecane	22.21	57	1502642	29.657	ng	98
97) Hexachlorobutadiene	22.53	225	795975	26.404	ng	100
98) Cyclohexanone	18.27	55	917993	20.961	ng	99
99) tert-Butylbenzene	20.11	119	3019709	27.145	ng	100
100) n-Butylbenzene	20.85	91	3218399	27.968	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132001.D Vial: 2
Acq On : 13 May 2020 18:47 Operator: LH
Sample : CCV R16051320_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 13 21:25:55 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\13\05132025.D Vial: 2
Acq On : 14 May 2020 8:19 Operator: LH
Sample : CCVend R16051320_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 14 13:02:59 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/14/20

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	97	-0.01
2	T	Propene	1.448	1.410	2.6	93	-0.01
3	T	Dichlorodifluoromethane (CF	2.832	2.536	10.5	90	-0.01
4	T	Chloromethane	2.218	1.993	10.1	88	-0.01
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.692	1.452	14.2	88	-0.01
6	T	Vinyl Chloride	2.433	2.083	14.4	86	-0.01
7	T	1,3-Butadiene	2.013	1.757	12.7	87	-0.01
8	T	Bromomethane	1.285	1.150	10.5	89	-0.01
9	T	Chloroethane	0.961	0.860	10.5	88	0.00
10	T	Ethanol	1.118	0.987	11.7	86	-0.03
11	T	Acetonitrile	2.555	2.214	13.3	87	-0.02
12	T	Acrolein	0.883	0.748	15.3	82	-0.01
13	T	Acetone	1.118	1.020	8.8	87	-0.02
14	T	Trichlorofluoromethane	2.503	2.176	13.1	86	0.00
15	T	2-Propanol (Isopropanol)	3.384	3.103	8.3	86	-0.03
16	T	Acrylonitrile	1.828	1.638	10.4	87	-0.01
17	T	1,1-Dichloroethene	1.312	1.166	11.1	86	0.00
18	T	2-Methyl-2-Propanol (tert-B	3.155	2.641	16.3	80	-0.02
19	T	Methylene Chloride	1.453	1.255	13.6	85	0.00
20	T	3-Chloro-1-propene (Allyl C	1.997	1.847	7.5	88	-0.01
21	T	Trichlorotrifluoroethane	1.182	1.091	7.7	88	0.00
22	T	Carbon Disulfide	5.208	4.541	12.8	86	0.00
23	T	trans-1,2-Dichloroethene	1.998	1.745	12.7	85	0.00
24	T	1,1-Dichloroethane	2.371	2.104	11.3	85	0.00
25	T	Methyl tert-Butyl Ether	3.730	3.249	12.9	89	0.00
26	T	Vinyl Acetate	0.348	0.291	16.4	75	-0.01
27	T	2-Butanone (MEK)	0.953	0.860	9.8	87	-0.01
28	T	cis-1,2-Dichloroethene	1.954	1.707	12.6	86	0.00
29	T	Diisopropyl Ether	1.349	1.129	16.3	83	0.00
30	T	Ethyl Acetate	0.550	0.526	4.4	85	-0.01
31	T	n-Hexane	2.385	2.232	6.4	87	0.00
32	T	Chloroform	2.488	2.193	11.9	86	0.00
33	S	1,2-Dichloroethane-d4(SS1)	1.694	1.623	4.2	96	0.00
34	T	Tetrahydrofuran (THF)	0.930	0.795	14.5	85	0.00
35	T	Ethyl tert-Butyl Ether	1.630	1.469	9.9	85	0.00
36	T	1,2-Dichloroethane	1.971	1.683	14.6	85	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	97	0.00
38	T	1,1,1-Trichloroethane	0.503	0.446	11.3	85	0.00
39	T	Isopropyl Acetate	0.220	0.209	5.0	86	0.00
40	T	1-Butanol	0.313	0.268	14.4	78	-0.02
41	T	Benzene	1.340	1.189	11.3	86	0.00
42	T	Carbon Tetrachloride	0.456	0.409	10.3	84	-0.01
43	T	Cyclohexane	0.500	0.462	7.6	86	0.00
44	T	tert-Amyl Methyl Ether	0.899	0.833	7.3	87	0.00
45	T	1,2-Dichloropropane	0.310	0.281	9.4	86	0.00
46	T	Bromodichloromethane	0.453	0.414	8.6	84	0.00
47	T	Trichloroethene	0.346	0.316	8.7	87	0.00
48	T	1,4-Dioxane	0.270	0.239	11.5	84	-0.01
49	T	2,2,4-Trimethylpentane (Iso	1.304	1.183	9.3	87	0.00
50	T	Methyl Methacrylate	0.133	0.125	6.0	85	-0.01
51	T	n-Heptane	0.313	0.280	10.5	88	0.00
52	T	cis-1,3-Dichloropropene	0.533	0.495	7.1	85	0.00
53	T	4-Methyl-2-pentanone	0.299	0.272	9.0	85	0.00
54	T	trans-1,3-Dichloropropene	0.456	0.438	3.9	84	0.00
55	T	1,1,2-Trichloroethane	0.308	0.283	8.1	86	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\13\05132025.D Vial: 2
Acq On : 14 May 2020 8:19 Operator: LH
Sample : CCVend R16051320_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 14 13:02:59 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	98	0.00
57	S	Toluene-d8 (SS2)	2.119	2.090	1.4	96	0.00
58	T	Toluene	2.731	2.493	8.7	87	0.00
59	T	2-Hexanone	1.497	1.387	7.3	86	0.00
60	T	Dibromochloromethane	0.782	0.753	3.7	85	0.00
61	T	1,2-Dibromoethane	0.752	0.706	6.1	86	0.00
62	T	n-Butyl Acetate	1.616	1.462	9.5	82	0.00
63	T	n-Octane	0.565	0.535	5.3	89	0.00
64	T	Tetrachloroethene	0.771	0.746	3.2	88	0.00
65	T	Chlorobenzene	1.879	1.671	11.1	87	0.00
66	T	Ethylbenzene	3.045	2.931	3.7	86	0.00
67	T	m- & p-Xylenes	2.416	2.410	0.2	89	-0.01
68	T	Bromoform	0.678	0.664	2.1	86	0.00
69	T	Styrene	1.817	1.815	0.1	86	0.00
70	T	o-Xylene	2.453	2.370	3.4	87	0.00
71	T	n-Nonane	1.301	1.317	-1.2	91	0.00
72	T	1,1,2,2-Tetrachloroethane	1.217	1.173	3.6	87	-0.01
73	S	Bromofluorobenzene (SS3)	0.762	0.815	-7.0	99	0.00
74	T	Cumene	3.010	2.963	1.6	87	0.00
75	T	alpha-Pinene	1.606	1.566	2.5	86	0.00
76	T	n-Propylbenzene	3.576	3.609	-0.9	87	0.00
77	T	3-Ethyltoluene	2.913	2.983	-2.4	86	0.00
78	T	4-Ethyltoluene	2.827	2.888	-2.2	89	0.00
79	T	1,3,5-Trimethylbenzene	2.455	2.483	-1.1	88	0.00
80	T	alpha-Methylstyrene	1.384	1.248	9.8	82	0.00
81	T	2-Ethyltoluene	2.874	2.925	-1.8	89	0.00
82	T	1,2,4-Trimethylbenzene	2.467	2.601	-5.4	83	0.00
83	T	n-Decane	1.380	1.393	-0.9	90	0.00
84	T	Benzyl Chloride	2.300	2.130	7.4	80	-0.01
85	T	1,3-Dichlorobenzene	1.433	1.473	-2.8	87	0.00
86	T	1,4-Dichlorobenzene	1.398	1.433	-2.5	86	0.00
87	T	sec-Butylbenzene	3.203	3.306	-3.2	89	0.00
88	T	4-Isopropyltoluene (p-Cymen	3.033	3.074	-1.4	85	0.00
89	T	1,2,3-Trimethylbenzene	2.582	2.614	-1.2	83	0.00
90	T	1,2-Dichlorobenzene	1.372	1.422	-3.6	84	-0.01
91	T	d-Limonene	0.974	0.989	-1.5	83	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.517	0.509	1.5	86	0.00
93	T	n-Undecane	1.277	1.339	-4.9	89	0.00
94	T	1,2,4-Trichlorobenzene	0.951	0.969	-1.9	83	-0.01
95	T	Naphthalene	3.011	3.045	-1.1	77	-0.01
96	T	n-Dodecane	1.106	1.260	-13.9	83	-0.01
97	T	Hexachlorobutadiene	0.658	0.662	-0.6	89	0.00
98	T	Cyclohexanone	0.956	0.794	16.9	79	-0.01
99	T	tert-Butylbenzene	2.428	2.485	-2.3	85	0.00
100	T	n-Butylbenzene	2.512	2.656	-5.7	87	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132025.D Vial: 2
Acq On : 14 May 2020 8:19 Operator: LH
Sample : CCVend R16051320_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 14 13:02:59 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 5/14/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	276866	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.27	114	1196754	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.58	82	557649	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	449219	11.972	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.76%				
57) Toluene-d8 (SS2)	15.72	98	1165305	12.329	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.64%				
73) Bromofluorobenzene (SS3)	18.97	174	454365	13.359	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.88%				
Target Compounds							Qvalue
2) Propene	4.08	42	827837	25.816	ng		100
3) Dichlorodifluoromethan...	4.24	85	1488592	23.734	ng		100
4) Chloromethane	4.52	50	1169675	23.805	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	844215	22.529	ng		100
6) Vinyl Chloride	4.94	62	1245832	23.122	ng		100
7) 1,3-Butadiene	5.21	54	1031565	23.138	ng		99
8) Bromomethane	5.65	94	687991	24.171	ng		100
9) Chloroethane	5.98	64	514535	24.173	ng		100
10) Ethanol	6.38	45	2848383	115.037	ng		100
11) Acetonitrile	6.62	41	1287484	22.754	ng		100
12) Acrolein	6.80	56	426460	21.797	ng		100
13) Acetone	7.01	58	3009008	121.514	ng		99
14) Trichlorofluoromethane	7.24	101	1277132	23.041	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	3608707	48.150	ng		99
16) Acrylonitrile	7.77	53	952531	23.531	ng		100
17) 1,1-Dichloroethene	8.20	96	697563	24.007	ng		99
18) 2-Methyl-2-Propanol (t...	8.39	59	3158791	45.208	ng		100
19) Methylene Chloride	8.44	84	736719	22.887	ng		98
20) 3-Chloro-1-propene (Al...	8.59	41	1104296	24.970	ng		99
21) Trichlorotrifluoroethane	8.84	151	652688	24.940	ng		97
22) Carbon Disulfide	8.69	76	2690582	23.327	ng		100
23) trans-1,2-Dichloroethene	9.71	61	1043639	23.588	ng		99
24) 1,1-Dichloroethane	9.96	63	1269647	24.172	ng		100
25) Methyl tert-Butyl Ether	10.05	73	1943187	23.520	ng		100
26) Vinyl Acetate	10.22	86	860597	111.573	ng	#	89
27) 2-Butanone (MEK)	10.45	72	504921	23.910	ng		95
28) cis-1,2-Dichloroethene	10.98	61	1002174	23.157	ng		99
29) Diisopropyl Ether	11.27	87	675463	22.611	ng	#	90
30) Ethyl Acetate	11.27	61	632273	51.923	ng		98
31) n-Hexane	11.26	57	1334703	25.270	ng		99
32) Chloroform	11.32	83	1299359	23.577	ng		100
34) Tetrahydrofuran (THF)	11.72	72	480108	23.310	ng		97
35) Ethyl tert-Butyl Ether	11.86	87	878467	24.334	ng		98
36) 1,2-Dichloroethane	12.12	62	1006300	23.047	ng		100
38) 1,1,1-Trichloroethane	12.40	97	1142257	23.697	ng		100
39) Isopropyl Acetate	12.83	61	1057172	50.141	ng		100
40) 1-Butanol	12.85	56	1335867	44.533	ng		95
41) Benzene	12.88	78	3016436	23.504	ng		100
42) Carbon Tetrachloride	13.03	117	1028549	23.561	ng		100
43) Cyclohexane	13.17	84	2343323	48.998	ng		99
44) tert-Amyl Methyl Ether	13.51	73	2152708	25.014	ng		100
45) 1,2-Dichloropropane	13.73	63	726915	24.456	ng		100
46) Bromodichloromethane	13.92	83	1070421	24.679	ng		100
47) Trichloroethene	13.97	130	810467	24.432	ng		100
48) 1,4-Dioxane	13.94	88	618801	23.940	ng		99
49) 2,2,4-Trimethylpentane...	14.04	57	3029915	24.262	ng		99
50) Methyl Methacrylate	14.18	100	645095	50.667	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132025.D Vial: 2
Acq On : 14 May 2020 8:19 Operator: LH
Sample : CCVend R16051320_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 14 13:02:59 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

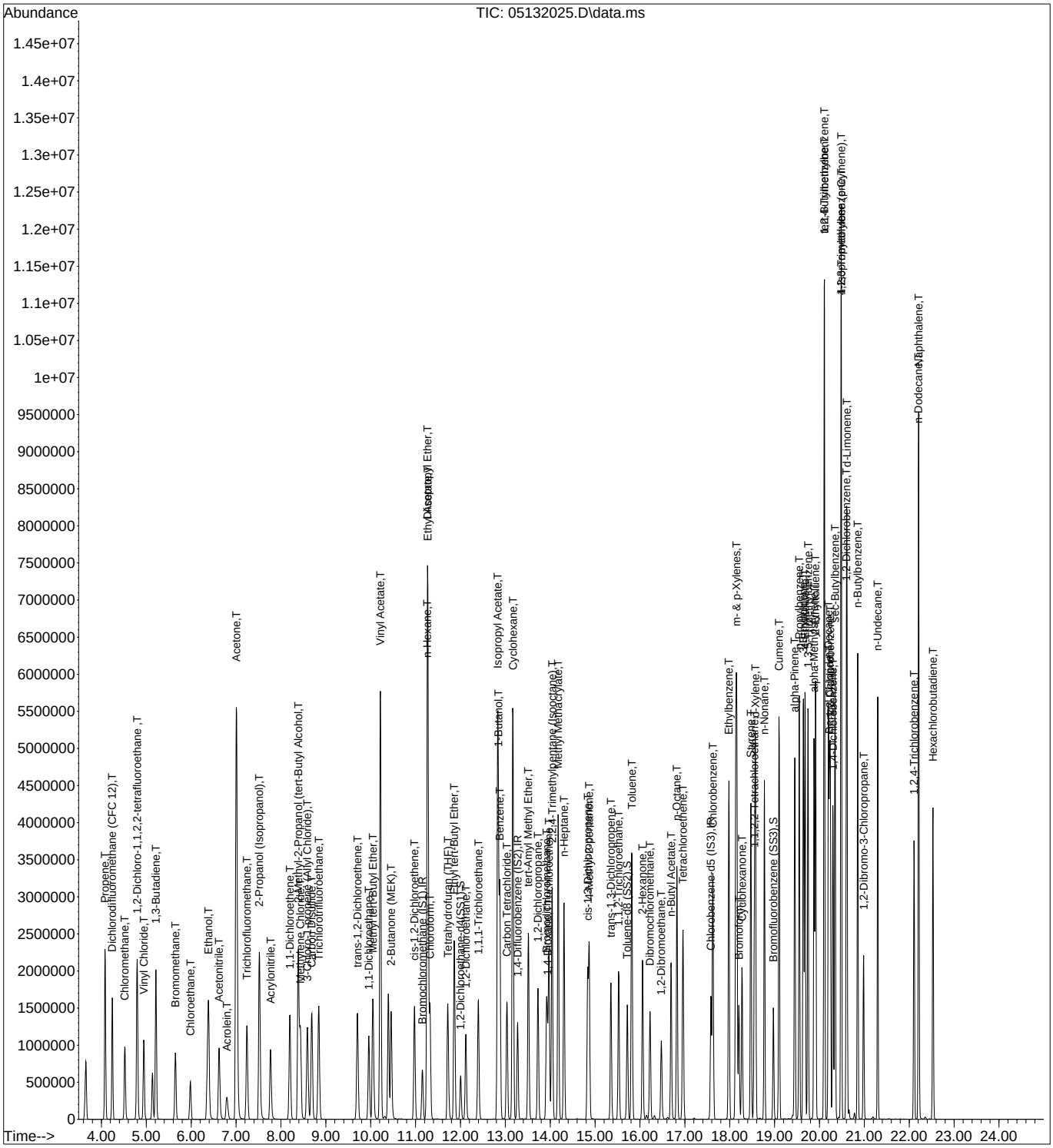
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	724554	24.142	ng	98
52) cis-1,3-Dichloropropene	14.84	75	1232741	24.157	ng	100
53) 4-Methyl-2-pentanone	14.87	58	690431	24.133	ng	98
54) trans-1,3-Dichloropropene	15.35	75	1111041	25.446	ng	100
55) 1,1,2-Trichloroethane	15.52	97	725110	24.600	ng	100
58) Toluene	15.82	91	2975123	24.418	ng	100
59) 2-Hexanone	16.06	43	1655476	24.796	ng	99
60) Dibromochloromethane	16.22	129	899198	25.774	ng	100
61) 1,2-Dibromoethane	16.48	107	842825	25.135	ng	100
62) n-Butyl Acetate	16.70	43	1777295	24.646	ng	99
63) n-Octane	16.82	57	644874	25.566	ng	99
64) Tetrachloroethene	16.96	166	865392	25.146	ng	100
65) Chlorobenzene	17.62	112	1994467	23.791	ng	100
66) Ethylbenzene	17.98	91	3497739	25.745	ng	100
67) m- & p-Xylenes	18.15	91	5753025	53.377	ng	98
68) Bromoform	18.21	173	792152	26.191	ng	100
69) Styrene	18.47	104	2145618	26.468	ng	100
70) o-Xylene	18.58	91	2828517	25.850	ng	100
71) n-Nonane	18.77	43	1572014	27.077	ng	98
72) 1,1,2,2-Tetrachloroethane	18.55	83	1399568	25.783	ng	100
74) Cumene	19.10	105	3569558	26.582	ng	100
75) alpha-Pinene	19.45	93	1868512	26.078	ng	100
76) n-Propylbenzene	19.55	91	4346842	27.248	ng	100
77) 3-Ethyltoluene	19.64	105	3526208	27.130	ng	100
78) 4-Ethyltoluene	19.68	105	3478883	27.585	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	2935781	26.810	ng	100
80) alpha-Methylstyrene	19.88	118	1488927	24.123	ng	99
81) 2-Ethyltoluene	19.91	105	3523095	27.480	ng	99
82) 1,2,4-Trimethylbenzene	20.11	105	3103964	28.201	ng	99
83) n-Decane	20.20	57	1662597	27.003	ng	99
84) Benzyl Chloride	20.22	91	2565425	25.008	ng	100
85) 1,3-Dichlorobenzene	20.24	146	1757321	27.496	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1710315	27.422	ng	100
87) sec-Butylbenzene	20.35	105	3945406	27.615	ng	100
88) 4-Isopropyltoluene (p-...	20.48	119	3736648	27.619	ng	99
89) 1,2,3-Trimethylbenzene	20.48	105	3177432	27.584	ng	99
90) 1,2-Dichlorobenzene	20.60	146	1697531	27.741	ng	100
91) d-Limonene	20.61	68	1190917	27.396	ng	99
92) 1,2-Dibromo-3-Chloropr...	20.98	157	596530	25.854	ng	98
93) n-Undecane	21.30	57	1612294	28.293	ng	99
94) 1,2,4-Trichlorobenzene	22.11	180	1156463	27.249	ng	100
95) Naphthalene	22.21	128	3497808	26.040	ng	100
96) n-Dodecane	22.21	57	1461393	29.619	ng	99
97) Hexachlorobutadiene	22.53	225	783038	26.673	ng	100
98) Cyclohexanone	18.27	55	885232	20.756	ng	99
99) tert-Butylbenzene	20.11	119	2965381	27.374	ng	100
100) n-Butylbenzene	20.85	91	3169371	28.282	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\13\05132025.D Vial: 2
Acq On : 14 May 2020 8:19 Operator: LH
Sample : CCVend R16051320_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 14 13:02:59 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\14\05142002.D Vial: 2
Acq On : 14 May 2020 9:27 Operator: LH
Sample : CCV R16051420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 14 13:03:03 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/14/20

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	97	0.00
2	T	Propene	1.448	1.375	5.0	90	0.00
3	T	Dichlorodifluoromethane (CF	2.832	2.499	11.8	89	0.00
4	T	Chloromethane	2.218	1.971	11.1	87	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.692	1.452	14.2	88	0.00
6	T	Vinyl Chloride	2.433	2.078	14.6	86	0.00
7	T	1,3-Butadiene	2.013	1.740	13.6	86	0.00
8	T	Bromomethane	1.285	1.145	10.9	89	0.00
9	T	Chloroethane	0.961	0.859	10.6	88	0.00
10	T	Ethanol	1.118	0.980	12.3	86	-0.03
11	T	Acetonitrile	2.555	2.208	13.6	87	-0.02
12	T	Acrolein	0.883	0.747	15.4	82	-0.01
13	T	Acetone	1.118	1.020	8.8	87	-0.02
14	T	Trichlorofluoromethane	2.503	2.177	13.0	86	0.00
15	T	2-Propanol (Isopropanol)	3.384	3.064	9.5	85	-0.02
16	T	Acrylonitrile	1.828	1.646	10.0	87	-0.01
17	T	1,1-Dichloroethene	1.312	1.162	11.4	86	0.00
18	T	2-Methyl-2-Propanol (tert-B	3.155	2.565	18.7	78	-0.02
19	T	Methylene Chloride	1.453	1.257	13.5	85	0.00
20	T	3-Chloro-1-propene (Allyl C	1.997	1.860	6.9	89	-0.01
21	T	Trichlorotrifluoroethane	1.182	1.096	7.3	88	0.00
22	T	Carbon Disulfide	5.208	4.538	12.9	86	0.00
23	T	trans-1,2-Dichloroethene	1.998	1.747	12.6	86	0.00
24	T	1,1-Dichloroethane	2.371	2.096	11.6	85	0.00
25	T	Methyl tert-Butyl Ether	3.730	3.217	13.8	88	0.00
26	T	Vinyl Acetate	0.348	0.291	16.4	75	-0.01
27	T	2-Butanone (MEK)	0.953	0.863	9.4	88	0.00
28	T	cis-1,2-Dichloroethene	1.954	1.713	12.3	86	0.00
29	T	Diisopropyl Ether	1.349	1.145	15.1	84	0.00
30	T	Ethyl Acetate	0.550	0.524	4.7	85	0.00
31	T	n-Hexane	2.385	2.228	6.6	87	0.00
32	T	Chloroform	2.488	2.202	11.5	86	0.00
33	S	1,2-Dichloroethane-d4(SS1)	1.694	1.627	4.0	96	0.00
34	T	Tetrahydrofuran (THF)	0.930	0.800	14.0	86	0.00
35	T	Ethyl tert-Butyl Ether	1.630	1.481	9.1	86	0.00
36	T	1,2-Dichloroethane	1.971	1.686	14.5	86	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	97	0.00
38	T	1,1,1-Trichloroethane	0.503	0.449	10.7	85	0.00
39	T	Isopropyl Acetate	0.220	0.209	5.0	85	0.00
40	T	1-Butanol	0.313	0.268	14.4	78	-0.02
41	T	Benzene	1.340	1.200	10.4	87	0.00
42	T	Carbon Tetrachloride	0.456	0.412	9.6	85	0.00
43	T	Cyclohexane	0.500	0.462	7.6	86	0.00
44	T	tert-Amyl Methyl Ether	0.899	0.837	6.9	87	0.00
45	T	1,2-Dichloropropane	0.310	0.283	8.7	87	0.00
46	T	Bromodichloromethane	0.453	0.413	8.8	84	0.00
47	T	Trichloroethene	0.346	0.319	7.8	87	0.00
48	T	1,4-Dioxane	0.270	0.239	11.5	84	0.00
49	T	2,2,4-Trimethylpentane (Iso	1.304	1.197	8.2	88	0.00
50	T	Methyl Methacrylate	0.133	0.125	6.0	85	0.00
51	T	n-Heptane	0.313	0.285	8.9	89	0.00
52	T	cis-1,3-Dichloropropene	0.533	0.495	7.1	85	0.00
53	T	4-Methyl-2-pentanone	0.299	0.273	8.7	85	0.00
54	T	trans-1,3-Dichloropropene	0.456	0.441	3.3	84	0.00
55	T	1,1,2-Trichloroethane	0.308	0.283	8.1	86	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\14\05142002.D Vial: 2
Acq On : 14 May 2020 9:27 Operator: LH
Sample : CCV R16051420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 14 13:03:03 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	97	0.00
57	S	Toluene-d8 (SS2)	2.119	2.103	0.8	96	0.00
58	T	Toluene	2.731	2.512	8.0	87	0.00
59	T	2-Hexanone	1.497	1.401	6.4	86	0.00
60	T	Dibromochloromethane	0.782	0.762	2.6	85	0.00
61	T	1,2-Dibromoethane	0.752	0.709	5.7	86	0.00
62	T	n-Butyl Acetate	1.616	1.480	8.4	82	0.00
63	T	n-Octane	0.565	0.539	4.6	89	0.00
64	T	Tetrachloroethene	0.771	0.747	3.1	87	0.00
65	T	Chlorobenzene	1.879	1.681	10.5	87	0.00
66	T	Ethylbenzene	3.045	2.967	2.6	87	0.00
67	T	m- & p-Xylenes	2.416	2.368	2.0	87	-0.01
68	T	Bromoform	0.678	0.669	1.3	86	0.00
69	T	Styrene	1.817	1.832	-0.8	86	0.00
70	T	o-Xylene	2.453	2.386	2.7	87	0.00
71	T	n-Nonane	1.301	1.325	-1.8	91	0.00
72	T	1,1,2,2-Tetrachloroethane	1.217	1.187	2.5	87	0.00
73	S	Bromofluorobenzene (SS3)	0.762	0.816	-7.1	99	0.00
74	T	Cumene	3.010	2.984	0.9	87	0.00
75	T	alpha-Pinene	1.606	1.583	1.4	86	0.00
76	T	n-Propylbenzene	3.576	3.647	-2.0	88	0.00
77	T	3-Ethyltoluene	2.913	2.992	-2.7	86	0.00
78	T	4-Ethyltoluene	2.827	2.928	-3.6	90	0.00
79	T	1,3,5-Trimethylbenzene	2.455	2.495	-1.6	87	0.00
80	T	alpha-Methylstyrene	1.384	1.258	9.1	82	0.00
81	T	2-Ethyltoluene	2.874	2.947	-2.5	89	0.00
82	T	1,2,4-Trimethylbenzene	2.467	2.626	-6.4	84	0.00
83	T	n-Decane	1.380	1.403	-1.7	90	0.00
84	T	Benzyl Chloride	2.300	2.147	6.7	80	-0.01
85	T	1,3-Dichlorobenzene	1.433	1.481	-3.3	87	0.00
86	T	1,4-Dichlorobenzene	1.398	1.448	-3.6	87	0.00
87	T	sec-Butylbenzene	3.203	3.315	-3.5	89	0.00
88	T	4-Isopropyltoluene (p-Cymen	3.033	3.085	-1.7	84	0.00
89	T	1,2,3-Trimethylbenzene	2.582	2.640	-2.2	84	0.00
90	T	1,2-Dichlorobenzene	1.372	1.435	-4.6	85	-0.01
91	T	d-Limonene	0.974	0.991	-1.7	82	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.517	0.515	0.4	86	0.00
93	T	n-Undecane	1.277	1.355	-6.1	89	0.00
94	T	1,2,4-Trichlorobenzene	0.951	0.981	-3.2	83	-0.01
95	T	Naphthalene	3.011	3.042	-1.0	76	-0.01
96	T	n-Dodecane	1.106	1.259	-13.8	83	-0.01
97	T	Hexachlorobutadiene	0.658	0.665	-1.1	89	0.00
98	T	Cyclohexanone	0.956	0.800	16.3	79	-0.01
99	T	tert-Butylbenzene	2.428	2.499	-2.9	85	0.00
100	T	n-Butylbenzene	2.512	2.670	-6.3	87	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142002.D Vial: 2
Acq On : 14 May 2020 9:27 Operator: LH
Sample : CCV R16051420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 14 13:03:03 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 5/14/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	277575	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.28	114	1194548	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.58	82	554354	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	451637	12.006	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.08%				
57) Toluene-d8 (SS2)	15.72	98	1166018	12.409	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.28%				
73) Bromofluorobenzene (SS3)	18.98	174	452373	13.380	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.04%				
Target Compounds							Qvalue
2) Propene	4.09	42	809133	25.168	ng		100
3) Dichlorodifluoromethan...	4.25	85	1470825	23.391	ng		100
4) Chloromethane	4.53	50	1159912	23.546	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	846272	22.526	ng		100
6) Vinyl Chloride	4.95	62	1246015	23.066	ng		100
7) 1,3-Butadiene	5.22	54	1024060	22.911	ng		99
8) Bromomethane	5.65	94	686655	24.062	ng		100
9) Chloroethane	5.99	64	515052	24.135	ng		100
10) Ethanol	6.39	45	2835928	114.241	ng		100
11) Acetonitrile	6.63	41	1287333	22.693	ng		100
12) Acrolein	6.80	56	427310	21.785	ng		100
13) Acetone	7.01	58	3016900	121.522	ng		100
14) Trichlorofluoromethane	7.25	101	1280829	23.048	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	3572178	47.541	ng		99
16) Acrylonitrile	7.77	53	959344	23.638	ng		100
17) 1,1-Dichloroethene	8.20	96	696720	23.917	ng		99
18) 2-Methyl-2-Propanol (t...	8.39	59	3075812	43.908	ng		100
19) Methylene Chloride	8.44	84	739463	22.913	ng		98
20) 3-Chloro-1-propene (Al...	8.59	41	1115187	25.152	ng		99
21) Trichlorotrifluoroethane	8.85	151	656922	25.038	ng		98
22) Carbon Disulfide	8.69	76	2695329	23.308	ng		100
23) trans-1,2-Dichloroethene	9.71	61	1047565	23.616	ng		99
24) 1,1-Dichloroethane	9.96	63	1268284	24.084	ng		100
25) Methyl tert-Butyl Ether	10.05	73	1928681	23.284	ng		100
26) Vinyl Acetate	10.22	86	863951	111.722	ng	#	90
27) 2-Butanone (MEK)	10.46	72	508075	23.998	ng		95
28) cis-1,2-Dichloroethene	10.98	61	1007987	23.232	ng		100
29) Diisopropyl Ether	11.27	87	686236	22.913	ng	#	93
30) Ethyl Acetate	11.28	61	631013	51.687	ng		98
31) n-Hexane	11.26	57	1336085	25.232	ng		100
32) Chloroform	11.32	83	1307944	23.672	ng		100
34) Tetrahydrofuran (THF)	11.72	72	484229	23.450	ng		97
35) Ethyl tert-Butyl Ether	11.87	87	887745	24.528	ng		98
36) 1,2-Dichloroethane	12.12	62	1010581	23.086	ng		100
38) 1,1,1-Trichloroethane	12.40	97	1147096	23.842	ng		100
39) Isopropyl Acetate	12.83	61	1052092	49.992	ng		100
40) 1-Butanol	12.85	56	1330950	44.451	ng		96
41) Benzene	12.88	78	3039477	23.727	ng		100
42) Carbon Tetrachloride	13.04	117	1033635	23.722	ng		100
43) Cyclohexane	13.17	84	2342023	49.061	ng		99
44) tert-Amyl Methyl Ether	13.52	73	2160414	25.150	ng		100
45) 1,2-Dichloropropane	13.73	63	730950	24.637	ng		100
46) Bromodichloromethane	13.92	83	1065412	24.609	ng		100
47) Trichloroethene	13.97	130	814460	24.597	ng		100
48) 1,4-Dioxane	13.95	88	617805	23.946	ng		100
49) 2,2,4-Trimethylpentane...	14.04	57	3059759	24.546	ng		99
50) Methyl Methacrylate	14.18	100	643352	50.624	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142002.D Vial: 2
Acq On : 14 May 2020 9:27 Operator: LH
Sample : CCV R16051420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 14 13:03:03 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

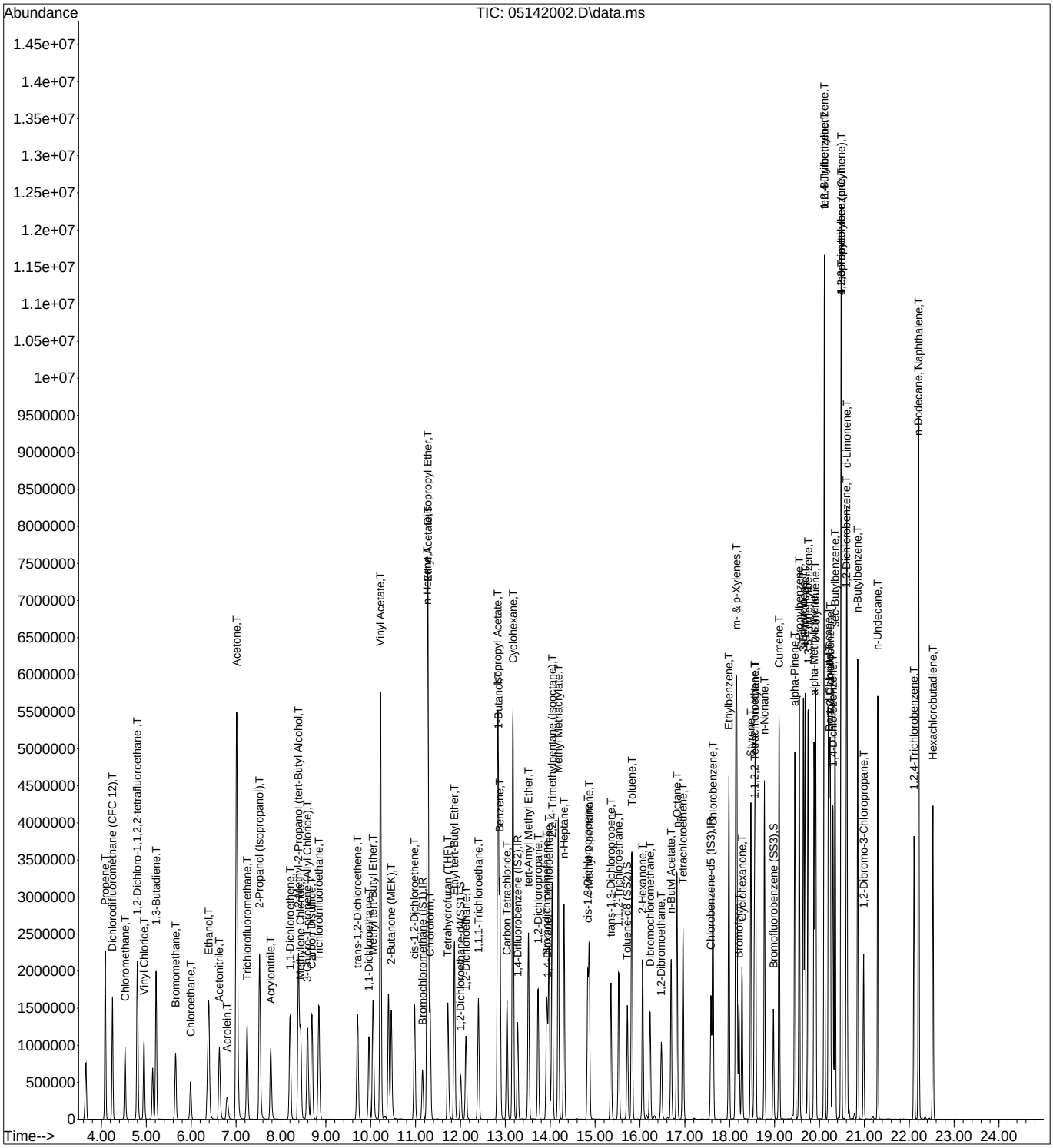
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	734647	24.524	ng	99
52) cis-1,3-Dichloropropene	14.84	75	1228985	24.128	ng	100
53) 4-Methyl-2-pentanone	14.87	58	690462	24.178	ng	98
54) trans-1,3-Dichloropropene	15.35	75	1115978	25.607	ng	100
55) 1,1,2-Trichloroethane	15.52	97	722244	24.548	ng	100
58) Toluene	15.82	91	2980091	24.604	ng	100
59) 2-Hexanone	16.06	43	1662115	25.044	ng	99
60) Dibromochloromethane	16.23	129	903674	26.056	ng	100
61) 1,2-Dibromoethane	16.48	107	841010	25.230	ng	100
62) n-Butyl Acetate	16.70	43	1788637	24.950	ng	99
63) n-Octane	16.83	57	644941	25.720	ng	99
64) Tetrachloroethene	16.96	166	861660	25.187	ng	100
65) Chlorobenzene	17.62	112	1993654	23.922	ng	100
66) Ethylbenzene	17.98	91	3519890	26.062	ng	100
67) m- & p-Xylenes	18.15	91	5617434	52.429	ng	100
68) Bromoform	18.21	173	793107	26.378	ng	100
69) Styrene	18.47	104	2153358	26.721	ng	100
70) o-Xylene	18.58	91	2831079	26.027	ng	100
71) n-Nonane	18.77	43	1571661	27.232	ng	98
72) 1,1,2,2-Tetrachloroethane	18.55	83	1408535	26.102	ng	100
74) Cumene	19.10	105	3572687	26.764	ng	100
75) alpha-Pinene	19.45	93	1877920	26.365	ng	100
76) n-Propylbenzene	19.55	91	4367236	27.539	ng	99
77) 3-Ethyltoluene	19.64	105	3516539	27.216	ng	100
78) 4-Ethyltoluene	19.68	105	3506044	27.966	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	2932718	26.941	ng	99
80) alpha-Methylstyrene	19.88	118	1492679	24.328	ng	99
81) 2-Ethyltoluene	19.91	105	3529239	27.692	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3115213	28.472	ng	99
83) n-Decane	20.20	57	1663970	27.186	ng	99
84) Benzyl Chloride	20.22	91	2571387	25.215	ng	100
85) 1,3-Dichlorobenzene	20.24	146	1756844	27.652	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1717401	27.700	ng	100
87) sec-Butylbenzene	20.35	105	3932949	27.692	ng	100
88) 4-Isopropyltoluene (p-...	20.48	119	3728469	27.722	ng	99
89) 1,2,3-Trimethylbenzene	20.48	105	3190261	27.860	ng	100
90) 1,2-Dichlorobenzene	20.60	146	1702142	27.982	ng	100
91) d-Limonene	20.61	68	1187132	27.471	ng	99
92) 1,2-Dibromo-3-Chloropr...	20.98	157	599513	26.138	ng	98
93) n-Undecane	21.30	57	1622374	28.639	ng	98
94) 1,2,4-Trichlorobenzene	22.11	180	1163904	27.588	ng	99
95) Naphthalene	22.21	128	3473725	26.014	ng	100
96) n-Dodecane	22.21	57	1451521	29.594	ng	99
97) Hexachlorobutadiene	22.53	225	781278	26.771	ng	100
98) Cyclohexanone	18.27	55	886835	20.917	ng	99
99) tert-Butylbenzene	20.11	119	2964730	27.530	ng	100
100) n-Butylbenzene	20.85	91	3167883	28.437	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142002.D Vial: 2
Acq On : 14 May 2020 9:27 Operator: LH
Sample : CCV R16051420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 14 13:03:03 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\14\05142033.D Vial: 2
Acq On : 15 May 2020 3:13 Operator: LH
Sample : CCVend R16051420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 15 09:29:05 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration LH 5/15/20
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	96	-0.01
2	T	Propene	1.448	1.361	6.0	89	0.00
3	T	Dichlorodifluoromethane (CF	2.832	2.499	11.8	88	0.00
4	T	Chloromethane	2.218	1.979	10.8	87	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.692	1.443	14.7	87	-0.01
6	T	Vinyl Chloride	2.433	2.091	14.1	86	-0.01
7	T	1,3-Butadiene	2.013	1.728	14.2	85	-0.01
8	T	Bromomethane	1.285	1.139	11.4	88	-0.01
9	T	Chloroethane	0.961	0.850	11.6	87	0.00
10	T	Ethanol	1.118	0.980	12.3	85	-0.03
11	T	Acetonitrile	2.555	2.210	13.5	86	-0.02
12	T	Acrolein	0.883	0.741	16.1	81	-0.02
13	T	Acetone	1.118	1.011	9.6	86	-0.02
14	T	Trichlorofluoromethane	2.503	2.167	13.4	85	0.00
15	T	2-Propanol (Isopropanol)	3.384	3.072	9.2	84	-0.03
16	T	Acrylonitrile	1.828	1.635	10.6	86	-0.01
17	T	1,1-Dichloroethene	1.312	1.165	11.2	86	0.00
18	T	2-Methyl-2-Propanol (tert-B	3.155	2.584	18.1	78	-0.02
19	T	Methylene Chloride	1.453	1.251	13.9	84	0.00
20	T	3-Chloro-1-propene (Allyl C	1.997	1.837	8.0	87	-0.01
21	T	Trichlorotrifluoroethane	1.182	1.082	8.5	87	0.00
22	T	Carbon Disulfide	5.208	4.528	13.1	85	0.00
23	T	trans-1,2-Dichloroethene	1.998	1.735	13.2	85	0.00
24	T	1,1-Dichloroethane	2.371	2.085	12.1	85	0.00
25	T	Methyl tert-Butyl Ether	3.730	3.251	12.8	89	0.00
26	T	Vinyl Acetate	0.348	0.285	18.1	73	-0.01
27	T	2-Butanone (MEK)	0.953	0.856	10.2	87	-0.01
28	T	cis-1,2-Dichloroethene	1.954	1.702	12.9	85	0.00
29	T	Diisopropyl Ether	1.349	1.126	16.5	82	0.00
30	T	Ethyl Acetate	0.550	0.522	5.1	84	0.00
31	T	n-Hexane	2.385	2.221	6.9	86	0.00
32	T	Chloroform	2.488	2.189	12.0	85	0.00
33	S	1,2-Dichloroethane-d4(SS1)	1.694	1.606	5.2	95	0.00
34	T	Tetrahydrofuran (THF)	0.930	0.797	14.3	85	0.00
35	T	Ethyl tert-Butyl Ether	1.630	1.467	10.0	85	0.00
36	T	1,2-Dichloroethane	1.971	1.676	15.0	85	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	97	0.00
38	T	1,1,1-Trichloroethane	0.503	0.447	11.1	84	0.00
39	T	Isopropyl Acetate	0.220	0.209	5.0	85	0.00
40	T	1-Butanol	0.313	0.267	14.7	77	-0.02
41	T	Benzene	1.340	1.195	10.8	86	0.00
42	T	Carbon Tetrachloride	0.456	0.411	9.9	84	0.00
43	T	Cyclohexane	0.500	0.461	7.8	85	0.00
44	T	tert-Amyl Methyl Ether	0.899	0.833	7.3	86	0.00
45	T	1,2-Dichloropropane	0.310	0.283	8.7	86	0.00
46	T	Bromodichloromethane	0.453	0.412	9.1	83	0.00
47	T	Trichloroethene	0.346	0.318	8.1	87	0.00
48	T	1,4-Dioxane	0.270	0.239	11.5	83	0.00
49	T	2,2,4-Trimethylpentane (Iso	1.304	1.192	8.6	87	0.00
50	T	Methyl Methacrylate	0.133	0.125	6.0	84	0.00
51	T	n-Heptane	0.313	0.284	9.3	88	0.00
52	T	cis-1,3-Dichloropropene	0.533	0.494	7.3	84	0.00
53	T	4-Methyl-2-pentanone	0.299	0.272	9.0	84	0.00
54	T	trans-1,3-Dichloropropene	0.456	0.435	4.6	83	0.00
55	T	1,1,2-Trichloroethane	0.308	0.282	8.4	85	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\14\05142033.D Vial: 2
Acq On : 15 May 2020 3:13 Operator: LH
Sample : CCVend R16051420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 15 09:29:05 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	98	0.00
57	S	Toluene-d8 (SS2)	2.119	2.067	2.5	96	0.00
58	T	Toluene	2.731	2.464	9.8	86	0.00
59	T	2-Hexanone	1.497	1.375	8.1	85	0.00
60	T	Dibromochloromethane	0.782	0.749	4.2	85	0.00
61	T	1,2-Dibromoethane	0.752	0.696	7.4	85	0.00
62	T	n-Butyl Acetate	1.616	1.448	10.4	82	0.00
63	T	n-Octane	0.565	0.529	6.4	88	0.00
64	T	Tetrachloroethene	0.771	0.735	4.7	87	0.00
65	T	Chlorobenzene	1.879	1.644	12.5	86	0.00
66	T	Ethylbenzene	3.045	2.917	4.2	86	0.00
67	T	m- & p-Xylenes	2.416	2.399	0.7	89	-0.01
68	T	Bromoform	0.678	0.652	3.8	85	0.00
69	T	Styrene	1.817	1.798	1.0	85	0.00
70	T	o-Xylene	2.453	2.354	4.0	87	-0.01
71	T	n-Nonane	1.301	1.302	-0.1	90	0.00
72	T	1,1,2,2-Tetrachloroethane	1.217	1.169	3.9	87	-0.01
73	S	Bromofluorobenzene (SS3)	0.762	0.820	-7.6	100	0.00
74	T	Cumene	3.010	2.941	2.3	87	0.00
75	T	alpha-Pinene	1.606	1.561	2.8	86	0.00
76	T	n-Propylbenzene	3.576	3.599	-0.6	88	0.00
77	T	3-Ethyltoluene	2.913	2.961	-1.6	86	0.00
78	T	4-Ethyltoluene	2.827	2.897	-2.5	90	-0.01
79	T	1,3,5-Trimethylbenzene	2.455	2.465	-0.4	87	0.00
80	T	alpha-Methylstyrene	1.384	1.239	10.5	82	0.00
81	T	2-Ethyltoluene	2.874	2.917	-1.5	89	0.00
82	T	1,2,4-Trimethylbenzene	2.467	2.588	-4.9	83	0.00
83	T	n-Decane	1.380	1.375	0.4	89	0.00
84	T	Benzyl Chloride	2.300	2.097	8.8	79	-0.01
85	T	1,3-Dichlorobenzene	1.433	1.461	-2.0	86	0.00
86	T	1,4-Dichlorobenzene	1.398	1.424	-1.9	86	-0.01
87	T	sec-Butylbenzene	3.203	3.285	-2.6	89	0.00
88	T	4-Isopropyltoluene (p-Cymen	3.033	3.035	-0.1	84	0.00
89	T	1,2,3-Trimethylbenzene	2.582	2.601	-0.7	83	0.00
90	T	1,2-Dichlorobenzene	1.372	1.415	-3.1	84	0.00
91	T	d-Limonene	0.974	0.980	-0.6	82	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.517	0.502	2.9	85	0.00
93	T	n-Undecane	1.277	1.323	-3.6	88	0.00
94	T	1,2,4-Trichlorobenzene	0.951	0.954	-0.3	82	-0.01
95	T	Naphthalene	3.011	3.006	0.2	76	-0.01
96	T	n-Dodecane	1.106	1.256	-13.6	84	-0.01
97	T	Hexachlorobutadiene	0.658	0.655	0.5	89	0.00
98	T	Cyclohexanone	0.956	0.781	18.3	78	-0.01
99	T	tert-Butylbenzene	2.428	2.454	-1.1	84	0.00
100	T	n-Butylbenzene	2.512	2.640	-5.1	87	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142033.D Vial: 2
Acq On : 15 May 2020 3:13 Operator: LH
Sample : CCVend R16051420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 15 09:29:05 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/15/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	276209	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.27	114	1187517	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.58	82	560230	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	443591	11.850	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.80%				
57) Toluene-d8 (SS2)	15.72	98	1157800	12.193	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.52%				
73) Bromofluorobenzene (SS3)	18.97	174	459246	13.441	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.52%				
Target Compounds							Qvalue
2) Propene	4.09	42	797087	24.916	ng		100
3) Dichlorodifluoromethan...	4.25	85	1463420	23.388	ng		100
4) Chloromethane	4.53	50	1158565	23.635	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	837229	22.396	ng		100
6) Vinyl Chloride	4.94	62	1247396	23.206	ng		100
7) 1,3-Butadiene	5.21	54	1011981	22.753	ng		99
8) Bromomethane	5.65	94	679799	23.940	ng		99
9) Chloroethane	5.98	64	506896	23.870	ng		100
10) Ethanol	6.38	45	2819215	114.130	ng		100
11) Acetonitrile	6.62	41	1281707	22.705	ng		100
12) Acrolein	6.79	56	421882	21.615	ng		100
13) Acetone	7.01	58	2977960	120.546	ng		99
14) Trichlorofluoromethane	7.24	101	1269205	22.952	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	3564216	47.669	ng		99
16) Acrylonitrile	7.77	53	948285	23.481	ng		100
17) 1,1-Dichloroethene	8.20	96	695061	23.978	ng		99
18) 2-Methyl-2-Propanol (t...	8.39	59	3082827	44.226	ng		100
19) Methylene Chloride	8.44	84	732527	22.810	ng		98
20) 3-Chloro-1-propene (Al...	8.59	41	1095833	24.838	ng		99
21) Trichlorotrifluoroethane	8.84	151	645613	24.729	ng		98
22) Carbon Disulfide	8.69	76	2676365	23.258	ng		100
23) trans-1,2-Dichloroethene	9.71	61	1034883	23.445	ng		100
24) 1,1-Dichloroethane	9.96	63	1255714	23.963	ng		100
25) Methyl tert-Butyl Ether	10.05	73	1939842	23.535	ng		100
26) Vinyl Acetate	10.22	86	842794	109.525	ng	#	88
27) 2-Butanone (MEK)	10.45	72	501185	23.789	ng		95
28) cis-1,2-Dichloroethene	10.98	61	996750	23.086	ng		100
29) Diisopropyl Ether	11.27	87	671809	22.542	ng	#	90
30) Ethyl Acetate	11.28	61	625603	51.498	ng		98
31) n-Hexane	11.26	57	1325147	25.149	ng		100
32) Chloroform	11.32	83	1293889	23.533	ng		100
34) Tetrahydrofuran (THF)	11.72	72	479681	23.345	ng		97
35) Ethyl tert-Butyl Ether	11.86	87	875033	24.297	ng		98
36) 1,2-Dichloroethane	12.12	62	999799	22.952	ng		100
38) 1,1,1-Trichloroethane	12.40	97	1135718	23.745	ng		100
39) Isopropyl Acetate	12.83	61	1048980	50.139	ng		100
40) 1-Butanol	12.85	56	1318336	44.291	ng		95
41) Benzene	12.88	78	3007265	23.614	ng		100
42) Carbon Tetrachloride	13.04	117	1024390	23.649	ng		100
43) Cyclohexane	13.17	84	2323129	48.954	ng		99
44) tert-Amyl Methyl Ether	13.51	73	2136641	25.020	ng		100
45) 1,2-Dichloropropane	13.73	63	727057	24.651	ng		100
46) Bromodichloromethane	13.92	83	1057244	24.565	ng		100
47) Trichloroethene	13.97	130	807783	24.540	ng		100
48) 1,4-Dioxane	13.95	88	612913	23.897	ng		100
49) 2,2,4-Trimethylpentane...	14.04	57	3029501	24.447	ng		99
50) Methyl Methacrylate	14.18	100	636780	50.403	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142033.D Vial: 2
Acq On : 15 May 2020 3:13 Operator: LH
Sample : CCVend R16051420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 15 09:29:05 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

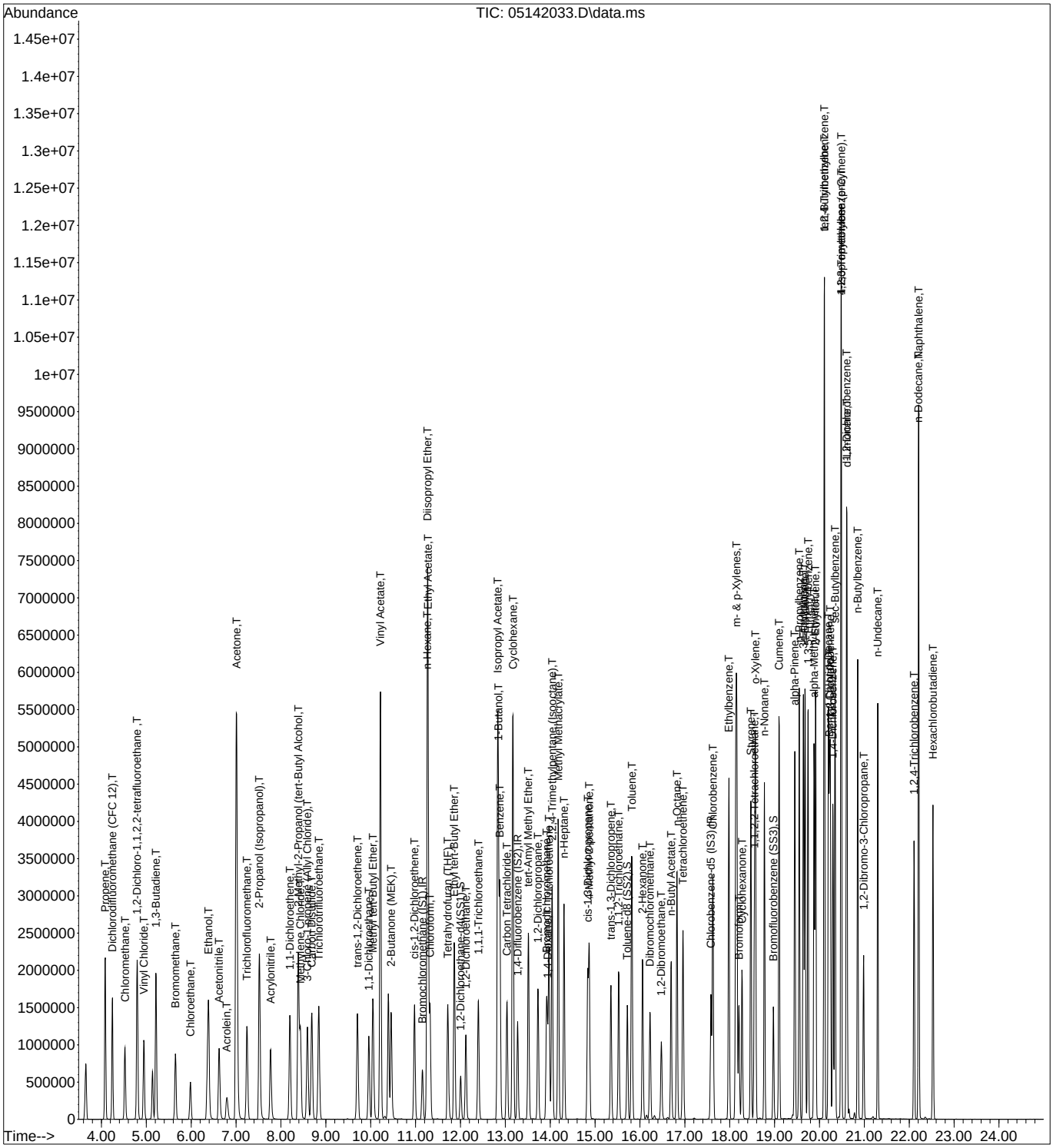
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	727354	24.424	ng	99
52) cis-1,3-Dichloropropene	14.84	75	1219695	24.087	ng	100
53) 4-Methyl-2-pentanone	14.87	58	685267	24.139	ng	98
54) trans-1,3-Dichloropropene	15.35	75	1094014	25.251	ng	100
55) 1,1,2-Trichloroethane	15.52	97	716490	24.497	ng	100
58) Toluene	15.82	91	2954265	24.135	ng	100
59) 2-Hexanone	16.06	43	1648222	24.574	ng	99
60) Dibromochloromethane	16.22	129	898484	25.635	ng	100
61) 1,2-Dibromoethane	16.48	107	834325	24.767	ng	100
62) n-Butyl Acetate	16.70	43	1767964	24.403	ng	99
63) n-Octane	16.83	57	640202	25.264	ng	98
64) Tetrachloroethene	16.96	166	856201	24.765	ng	100
65) Chlorobenzene	17.62	112	1971169	23.404	ng	100
66) Ethylbenzene	17.98	91	3497467	25.625	ng	100
67) m- & p-Xylenes	18.15	91	5752178	53.123	ng	99
68) Bromoform	18.21	173	781950	25.735	ng	100
69) Styrene	18.47	104	2135960	26.227	ng	100
70) o-Xylene	18.57	91	2821724	25.669	ng	100
71) n-Nonane	18.77	43	1561096	26.766	ng	98
72) 1,1,2,2-Tetrachloroethane	18.55	83	1401872	25.706	ng	100
74) Cumene	19.10	105	3559131	26.382	ng	100
75) alpha-Pinene	19.45	93	1872046	26.007	ng	99
76) n-Propylbenzene	19.55	91	4354721	27.172	ng	100
77) 3-Ethyltoluene	19.64	105	3517142	26.936	ng	100
78) 4-Ethyltoluene	19.68	105	3505173	27.665	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	2928195	26.617	ng	99
80) alpha-Methylstyrene	19.88	118	1484928	23.947	ng	99
81) 2-Ethyltoluene	19.91	105	3529388	27.402	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3102196	28.055	ng	100
83) n-Decane	20.20	57	1648100	26.644	ng	99
84) Benzyl Chloride	20.22	91	2537109	24.618	ng	100
85) 1,3-Dichlorobenzene	20.24	146	1751914	27.286	ng	99
86) 1,4-Dichlorobenzene	20.30	146	1707227	27.247	ng	100
87) sec-Butylbenzene	20.35	105	3937915	27.436	ng	99
88) 4-Isopropyltoluene (p-...	20.48	119	3706558	27.270	ng	99
89) 1,2,3-Trimethylbenzene	20.48	105	3176652	27.451	ng	100
90) 1,2-Dichlorobenzene	20.61	146	1695905	27.587	ng	100
91) d-Limonene	20.61	68	1186208	27.162	ng	99
92) 1,2-Dibromo-3-Chloropr...	20.98	157	591096	25.501	ng	98
93) n-Undecane	21.30	57	1600513	27.957	ng	99
94) 1,2,4-Trichlorobenzene	22.11	180	1144066	26.833	ng	100
95) Naphthalene	22.21	128	3469702	25.711	ng	100
96) n-Dodecane	22.21	57	1463272	29.520	ng	98
97) Hexachlorobutadiene	22.53	225	777597	26.366	ng	100
98) Cyclohexanone	18.27	55	874651	20.414	ng	99
99) tert-Butylbenzene	20.11	119	2942633	27.039	ng	100
100) n-Butylbenzene	20.85	91	3165403	28.117	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142033.D Vial: 2
Acq On : 15 May 2020 3:13 Operator: LH
Sample : CCVend R16051420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 15 09:29:05 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

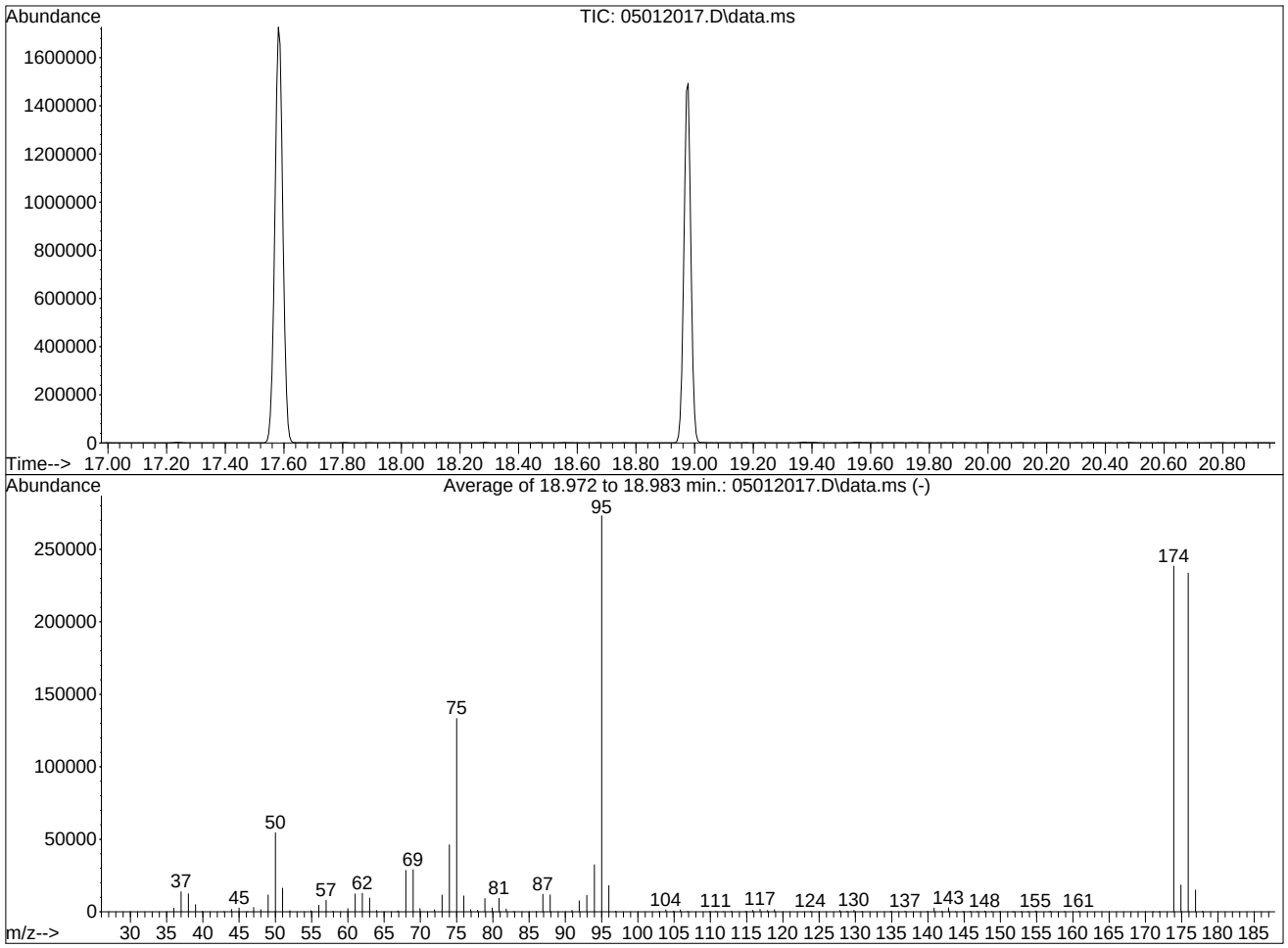


BFB

Data Path : I:\MS16\DATA\2020_05\01\
Data File : 05012017.D
Acq On : 1 May 2020 13:35
Operator : LH
Sample : 12.5ng TO15 BFB
Misc : S31-02112001
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16050120.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri May 01 17:25:50 2020



AutoFind: Scans 2816, 2817, 2818; Background Corrected with Scan 2808

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	20.0	54576	PASS
75	95	30	66	48.8	133227	PASS
95	95	100	100	100.0	273088	PASS
96	95	5	9	6.6	18099	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	87.3	238485	PASS
175	174	4	9	7.8	18527	PASS
176	174	93	101	98.0	233621	PASS
177	176	5	9	6.4	15004	PASS

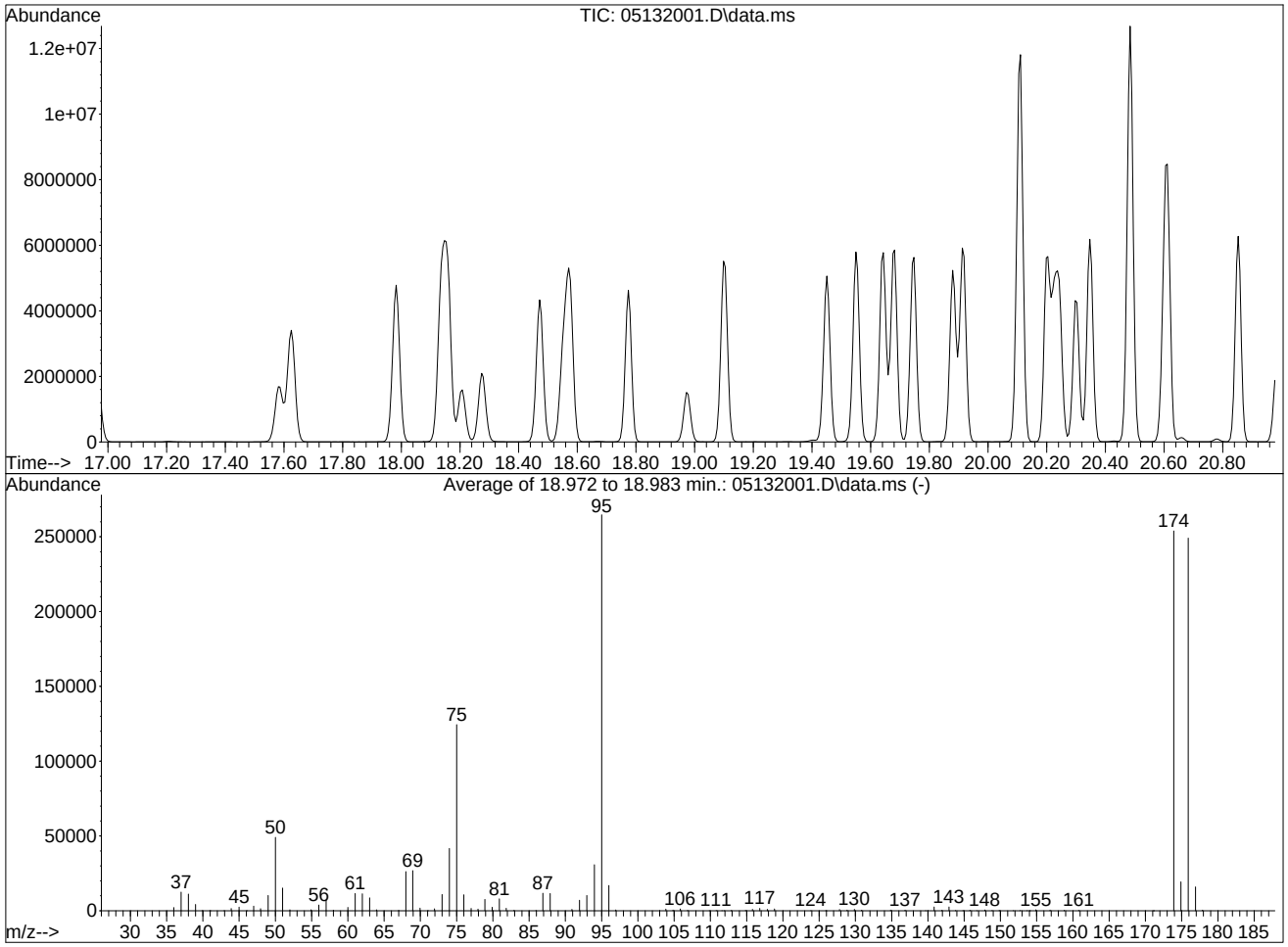
LH 5/1/20

BFB

Data Path : I:\MS16\DATA\2020_05\13\
Data File : 05132001.D
Acq On : 13 May 2020 18:47
Operator : LH
Sample : CCV R16051320_25ng
Misc : S31-02112001/S34-04292003 (5/28)
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16050120.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri May 01 18:22:00 2020



AutoFind: Scans 2816, 2817, 2818; Background Corrected with Scan 2807

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	18.5	49029	PASS
75	95	30	66	47.0	124357	PASS
95	95	100	100	100.0	264640	PASS
96	95	5	9	6.4	16897	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	95.9	253845	PASS
175	174	4	9	7.6	19352	PASS
176	174	93	101	98.1	249131	PASS
177	176	5	9	6.4	15941	PASS

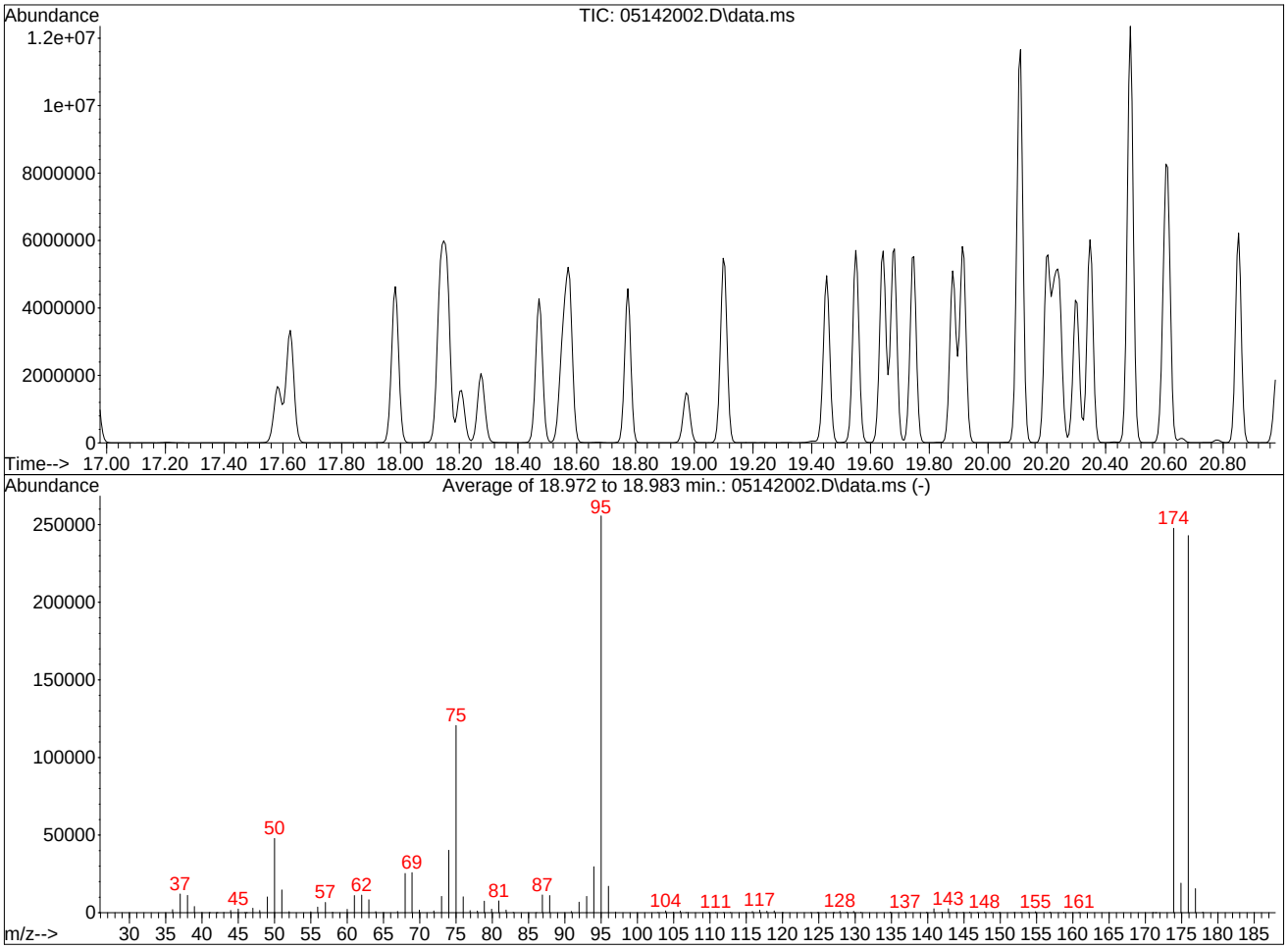
LH 5/13/20

BFB

Data Path : I:\MS16\DATA\2020_05\14\
Data File : 05142002.D
Acq On : 14 May 2020 9:27
Operator : LH
Sample : CCV R16051420_25ng
Misc : S31-02112001/S34-04292003 (5/28)
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16050120.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri May 01 18:22:00 2020



AutoFind: Scans 2816, 2817, 2818; Background Corrected with Scan 2807

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	18.7	47856	PASS
75	95	30	66	47.2	120616	PASS
95	95	100	100	100.0	255637	PASS
96	95	5	9	6.7	17020	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	96.9	247723	PASS
175	174	4	9	7.7	19071	PASS
176	174	93	101	98.1	242987	PASS
177	176	5	9	6.4	15532	PASS

5/14/20

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
17	5/1/20 13:35	05012017.D	12.5ng TO15 BFB	S31-02112001	LH	2	
18	5/1/20 14:09	05012018.D	0.1ng TO15 ICAL STD	S31-02112001/S34-04272015 (5/26)	LH	6	
19	5/1/20 14:42	05012019.D	0.2ng TO15 ICAL STD	S31-02112001/S34-04272015 (5/26)	LH	6	
20	5/1/20 15:16	05012020.D	0.5ng TO15 ICAL STD	S31-02112001/S34-05012002 (5/30)	LH	13	
21	5/1/20 15:51	05012021.D	1.0ng TO15 ICAL STD	S31-02112001/S34-05012002 (5/30)	LH	13	
22	5/1/20 16:25	05012022.D	5.0ng TO15 ICAL STD	S31-02112001/S34-04292003 (5/28)	LH	2	
23	5/1/20 16:59	05012023.D	25ng TO15 ICAL STD	S31-02112001/S34-04292003 (5/28)	LH	2	
24	5/1/20 17:33	05012024.D	50ng TO15 ICAL STD	S31-02112001/S34-04292003 (5/28)	LH	2	
25	5/1/20 18:07	05012025.D	100ng TO15 ICAL STD	S31-02112001/S34-04292003 (5/28)	LH	2	
26	5/1/20 18:41	05012026.D	25ng TO15 ICV STD	S31-02112001/S34-04302003 (5/29)	LH	2	
	ICAL R16050120.M passed for all compounds 0.1ng-100ng, except: tert butanol 0.1ng-50ng, vinyl acetate 2.5ng-500ng, bromoform,						
	alpha-methylstyrene, n-decane, 4-isopropyltolune, 1,2,3-trtimethylbenzene, 1,2-dibromo-3-chloropropane, n-undecane, 1,2,4-trichlorobenzene,						
	naphthalene, n-dodecane, hexachlorobutadiene 0.5ng-100ng, benzyl chloride 1.0ng-100ng.						

LH 5/4/20

Injection Log

Directory: I:\MS16\DATA\2020_05\13\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	5/13/20 18:47	05132001.D	CCV R16051320_25ng	S31-02112001/S34-04292003 (5/28)	LH	2	Passed
2	5/13/20 19:23	05132002.D	MB R16051320_1000mL	S31-02112001/AS01319	LH	2	Passed
3	5/13/20 19:57	05132003.D	P2002301-009 (1.0mL)	S31-02112001	LH	1	
4	5/13/20 20:31	05132004.D	P2002301-009 (4.0mL)	S31-02112001	LH	1	
5	5/13/20 21:04	05132005.D	P2002301-010 (4.0mL)	S31-02112001	LH	1	
6	5/13/20 21:38	05132006.D	P2002301-011 (0.9mL)	S31-02112001	LH	1	
7	5/13/20 22:12	05132007.D	LCS R16051320_25ng	S31-02112001/S34-04292005 (5/28)	LH	2	Passed
8	5/13/20 22:45	05132008.D	LCSD R16051320_25ng	S31-02112001/S34-04292005 (5/28)	LH	2	Passed
9	5/13/20 23:19	05132009.D	Blank (100mL)	S31-02112001	LH	1	
10	5/13/20 23:53	05132010.D	P2002301-001 (400mL)	S31-02112001	LH	4	
11	5/14/20 0:27	05132011.D	P2002301-002 (400mL)	S31-02112001	LH	5	
12	5/14/20 1:00	05132012.D	P2002301-003 (400mL)	S31-02112001	LH	6	
13	5/14/20 1:34	05132013.D	P2002301-004 (400mL)	S31-02112001	LH	7	
14	5/14/20 2:07	05132014.D	P2002301-005 (20mL)	S31-02112001	LH	8	
15	5/14/20 2:41	05132015.D	P2002301-005dup (20mL)	S31-02112001	LH	8	Passed
16	5/14/20 3:15	05132016.D	P2002301-006 (20mL)	S31-02112001	LH	9	
17	5/14/20 3:48	05132017.D	P2002301-007 (80mL)	S31-02112001	LH	10	
18	5/14/20 4:22	05132018.D	P2002301-008 (80mL)	S31-02112001	LH	11	
19	5/14/20 4:55	05132019.D	P2002301-012 (80mL)	S31-02112001	LH	12	
20	5/14/20 5:29	05132020.D	P2002301-020 (20mL)	S31-02112001	LH	13	
21	5/14/20 6:03	05132021.D	Blank (100mL)	S31-02112001	LH	2	
22	5/14/20 6:37	05132022.D	P2002451-001 (1000mL)	S31-02112001	LH	14	
23	5/14/20 7:11	05132023.D	P2002451-002 (1000mL)	S31-02112001	LH	15	
24	5/14/20 7:44	05132024.D	P2002451-003 (1000mL)	S31-02112001	LH	16	
25	5/14/20 8:19	05132025.D	CCVend R16051320_25ng	S31-02112001/S34-04292003 (5/28)	LH	2	Passed
							5/14/20

Injection Log

Directory: I:\MS16\DATA\2020_05\14\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	5/14/20 8:53	05142001.D	CCV C16051420_25ng	S31-02112001/S34-04292003 (5/28)	LH	3	Passed
2	5/14/20 9:27	05142002.D	CCV R16051420_25ng	S31-02112001/S34-04292003 (5/28)	LH	2	Passed
3	5/14/20 10:01	05142003.D	Blank (100mL)	S31-02112001	LH	2	
4	5/14/20 10:35	05142004.D	MB R16051420_1000mL	S31-02112001/AS01319	LH	2	Passed
5	5/14/20 11:09	05142005.D	LCS R16051420_25ng	S31-02112001/S34-04292005 (5/28)	LH	2	Passed
6	5/14/20 11:43	05142006.D	LCSD R16051420_25ng	S31-02112001/S34-04292005 (5/28)	LH	2	Passed
7	5/14/20 12:17	05142007.D	Blank (100mL)	S31-02112001	LH	2	
8	5/14/20 12:51	05142008.D	P2002301-013 (0.05mL)	S31-02112001	LH	1	
9	5/14/20 13:25	05142009.D	P2002301-014 (0.2mL)	S31-02112001	LH	1	
10	5/14/20 13:59	05142010.D	P2002301-015 (3.5mL)	S31-02112001	LH	1	
11	5/14/20 14:33	05142011.D	P2002301-016 (0.15mL)	S31-02112001	LH	1	
12	5/14/20 15:07	05142012.D	P2002301-017 (0.05mL)	S31-02112001	LH	1	
13	5/14/20 15:40	05142013.D	P2002301-018 (0.07mL)	S31-02112001	LH	1	
14	5/14/20 16:14	05142014.D	P2002301-019 (0.07mL)	S31-02112001	LH	1	
15	5/14/20 16:48	05142015.D	P2002301-017dil (0.025mL)	S31-02112001	LH	1	
16	5/14/20 17:21	05142016.D	P2002301-018 (0.05mL)	S31-02112001	LH	1	
17	5/14/20 17:54	05142017.D	P2002301-019 (0.05mL)	S31-02112001	LH	1	
18	5/14/20 18:28	05142018.D	P2002301-020 (300mL)	S31-02112001	LH	13	
19	5/14/20 19:20	05142019.D	P2002302-003 (0.2mL)	S31-02112001	LH	1	
20	5/14/20 19:54	05142020.D	P2002302-008 (0.5mL)	S31-02112001	LH	1	
21	5/14/20 20:27	05142021.D	P2002302-014 (0.1mL)	S31-02112001	LH	1	
22	5/14/20 21:03	05142022.D	P2002301-008dil (20mL)	S31-02112001	LH	3	
23	5/14/20 21:36	05142023.D	P2002302-014 (1.5mL)	S31-02112001	LH	1	
24	5/14/20 22:10	05142024.D	P2002302-001 (300mL)	S31-02112001	LH	4	
25	5/14/20 22:43	05142025.D	P2002302-002 (150mL)	S31-02112001	LH	5	
26	5/14/20 23:17	05142026.D	P2002302-004 (70mL)	S31-02112001	LH	6	
27	5/14/20 23:50	05142027.D	P2002302-004dup (70mL)	S31-02112001	LH	6	Passed
28	5/15/20 0:24	05142028.D	P2002302-005 (400mL)	S31-02112001	LH	7	
29	5/15/20 0:58	05142029.D	P2002302-006 (400mL)	S31-02112001	LH	8	
30	5/15/20 1:31	05142030.D	P2002302-007 (400mL)	S31-02112001	LH	9	
31	5/15/20 2:05	05142031.D	P2002302-009 (20mL)	S31-02112001	LH	10	
32	5/15/20 2:39	05142032.D	P2002302-010 (400mL)	S31-02112001	LH	11	
33	5/15/20 3:13	05142033.D	CCVend R16051420_25ng	S31-02112001/S34-04292003 (5/28)	LH	2	Passed

LDA 5/15/20

ISO 9001:2015 Linde **SPECTRA** Environmental Gases, 80 Industrial Drive, Alpha, NJ 08865

S31-1011901

THE LINDE GROUP

SHIPPED TO: ALS Group USA Corp.
2655 Park Center Dr Ste A Dept 130
Simi Valley, CA 93065

PAGE: 1 of 4

Primary

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Propylene	115-07-1	1.00 mg/m3	1.06 mg/m3
Freon-12	75-71-8	1.00 mg/m3	1.06 mg/m3
Chloromethane	74-87-3	1.00 mg/m3	1.06 mg/m3
Freon-114	76-14-2	1.00 mg/m3	1.05 mg/m3
Vinyl Chloride	75-01-4	1.00 mg/m3	1.08 mg/m3
1,3-Butadiene	106-99-0	1.00 mg/m3	1.06 mg/m3
Bromomethane	74-83-9	1.00 mg/m3	1.08 mg/m3
Chloroethane	75-00-3	1.00 mg/m3	1.08 mg/m3
Ethanol	64-17-5	5.00 mg/m3	5.21 mg/m3
Acetonitrile	75-05-8	1.00 mg/m3	1.05 mg/m3
Acrolein	107-02-8	1.00 mg/m3	1.03 mg/m3
Acetone	67-64-1	5.00 mg/m3	5.33 mg/m3
Freon-11	75-69-4	1.00 mg/m3	1.06 mg/m3
Isopropyl Alcohol	67-63-0	2.00 mg/m3	2.10 mg/m3
Acrylonitrile	107-13-1	1.00 mg/m3	1.05 mg/m3
1,1-Dichloroethene	75-35-4	1.00 mg/m3	1.08 mg/m3
Carbon Disulfide	75-15-0	1.00 mg/m3	1.07 mg/m3
Methylene Chloride	75-09-2	1.00 mg/m3	1.06 mg/m3
Tert-Butanol	75-65-0	2.00 mg/m3	2.16 mg/m3
Allyl Chloride	107-05-1	1.00 mg/m3	1.08 mg/m3
Freon-113	76-13-1	1.00 mg/m3	1.08 mg/m3
Trans-1,2-Dichloroethene	156-60-5	1.00 mg/m3	1.08 mg/m3
1,1-Dichloroethane	75-34-3	1.00 mg/m3	1.09 mg/m3
Methyl Tert Butyl Ether	1634-04-4	1.00 mg/m3	1.08 mg/m3
Vinyl Acetate	108-05-4	5.00 mg/m3	5.35 mg/m3
Methacrylonitrile	126-98-7	1.00 mg/m3	1.06 mg/m3
Methyl Ethyl Ketone	78-93-3	1.00 mg/m3	1.06 mg/m3
Cis-1,2-Dichloroethene	156-59-2	1.00 mg/m3	1.06 mg/m3
Hexane	110-54-3	1.00 mg/m3	1.08 mg/m3
Di-isopropyl Ether	108-20-3	1.00 mg/m3	1.08 mg/m3

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PAGE: 2 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chloroform	67-66-3	1.00 mg/m3	1.07 mg/m3
Ethyl Acetate	141-78-6	2.00 mg/m3	2.17 mg/m3
Tetrahydrofuran	109-99-9	1.00 mg/m3	1.09 mg/m3
Ethyl Tert-Butyl Ether	637-92-3	1.00 mg/m3	1.08 mg/m3
1,2-Dichloroethane	107-06-2	1.00 mg/m3	1.08 mg/m3
1,1,1-Trichloroethane	71-55-6	1.00 mg/m3	1.07 mg/m3
Benzene	71-43-2	1.00 mg/m3	1.06 mg/m3
Isopropyl Acetate	108-21-4	2.00 mg/m3	2.11 mg/m3
1-Butanol	71-36-3	2.00 mg/m3	2.08 mg/m3
Carbon Tetrachloride	56-23-5	1.00 mg/m3	1.05 mg/m3
Cyclohexane	110-82-7	2.00 mg/m3	2.12 mg/m3
Tert Amyl Methyl Ether	994-05-8	1.00 mg/m3	1.08 mg/m3
1,2-Dichloropropane	78-87-5	1.00 mg/m3	1.08 mg/m3
Trichloroethylene	79-01-6	1.00 mg/m3	1.07 mg/m3
Bromodichloromethane	75-27-4	1.00 mg/m3	1.08 mg/m3
1,4-Dioxane	123-91-1	1.00 mg/m3	1.08 mg/m3
Isooctane	540-84-1	1.00 mg/m3	1.07 mg/m3
Methyl Methacrylate	80-62-6	2.00 mg/m3	2.15 mg/m3
Heptane	142-82-5	1.00 mg/m3	1.08 mg/m3
Cis-1,3-Dichloropropene	10061-01-5	1.00 mg/m3	1.04 mg/m3
Methyl Isobutyl Ketone	108-10-1	1.00 mg/m3	1.06 mg/m3
Trans-1,3-Dichloropropene	10061-02-6	1.00 mg/m3	1.06 mg/m3
1,1,2-Trichloroethane	79-00-5	1.00 mg/m3	1.07 mg/m3
Toluene	108-88-3	1.00 mg/m3	1.07 mg/m3
Methyl Butyl Ketone	591-78-6	1.00 mg/m3	1.07 mg/m3
Dibromochloromethane	124-48-1	1.00 mg/m3	1.07 mg/m3
1,2-Dibromoethane	106-93-4	1.00 mg/m3	1.07 mg/m3
n-Butyl Acetate	123-86-4	1.00 mg/m3	1.09 mg/m3
n-Octane	111-65-9	1.00 mg/m3	1.08 mg/m3
Tetrachloroethylene	127-18-4	1.00 mg/m3	1.04 mg/m3

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PAGE: 3 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chlorobenzene	108-90-7	1.00 mg/m3	1.07 mg/m3
Ethylbenzene	100-41-4	1.00 mg/m3	1.07 mg/m3
p-xylene	106-42-3	1.00 mg/m3	1.07 mg/m3
m-xylene	108-38-3	1.00 mg/m3	1.07 mg/m3
Bromoform	75-25-2	1.00 mg/m3	1.07 mg/m3
Cyclohexanone	108-94-1	1.00 mg/m3	1.00 mg/m3
Styrene	100-42-5	1.00 mg/m3	1.06 mg/m3
o-xylene	95-47-6	1.00 mg/m3	1.07 mg/m3
1,1,2,2-Tetrachloroethane	79-34-5	1.00 mg/m3	1.07 mg/m3
Nonane	111-84-2	1.00 mg/m3	1.07 mg/m3
Isopropylbenzene	98-82-8	1.00 mg/m3	1.08 mg/m3
alpha-Pinene	80-56-8	1.00 mg/m3	1.07 mg/m3
n-Propylbenzene	103-65-1	1.00 mg/m3	1.08 mg/m3
3-Ethyltoluene	620-14-4	1.00 mg/m3	1.06 mg/m3
4-Ethyltoluene	622-96-8	1.00 mg/m3	1.08 mg/m3
2-Ethyltoluene	611-14-3	1.00 mg/m3	1.08 mg/m3
1,3,5-Trimethylbenzene	108-67-8	1.00 mg/m3	1.06 mg/m3
alpha-Methylstyrene	98-83-9	1.00 mg/m3	1.07 mg/m3
Tert-Butyl Benzene	98-06-6	1.00 mg/m3	1.07 mg/m3
1,2,4-Trimethylbenzene	95-63-6	1.00 mg/m3	1.07 mg/m3
1,3-Dichlorobenzene	541-73-1	1.00 mg/m3	1.07 mg/m3
Benzyl Chloride	100-44-7	1.00 mg/m3	1.08 mg/m3
n-Decane	124-18-5	1.00 mg/m3	1.07 mg/m3
1,4-Dichlorobenzene	106-46-7	1.00 mg/m3	1.07 mg/m3
Sec-Butyl Benzene	135-98-8	1.00 mg/m3	1.07 mg/m3
p-Isopropyltoluene	99-87-6	1.00 mg/m3	1.09 mg/m3
1,2,3-Trimethylbenzene	526-73-8	1.00 mg/m3	1.09 mg/m3
1,2-Dichlorobenzene	95-50-1	1.00 mg/m3	1.07 mg/m3

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PAGE: 4 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
d-Limonene	5989-27-5	1.00 mg/m3	1.08 mg/m3
n-Butyl Benzene	104-51-8	1.00 mg/m3	1.07 mg/m3
1,2-Dibromo-3-Chloropropane	96-12-8	1.00 mg/m3	1.05 mg/m3
n-Undecane	1120-21-4	1.00 mg/m3	1.08 mg/m3
1,2,4-Trichlorobenzene	120-82-1	1.00 mg/m3	1.07 mg/m3
Naphthalene	91-20-3	1.00 mg/m3	1.03 mg/m3
n-Dodecane	112-40-3	1.00 mg/m3	1.04 mg/m3
Hexachloro-1,3-Butadiene	87-68-3	1.00 mg/m3	1.06 mg/m3
Nitrogen	7727-37-9	Balance	Balance

ANALYST: Lou Lorenzetti **DATE:** Sep-24-2019

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PAGE: 1 of 4

Secondary

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Propylene	115-07-1	1.00 mg/m3	1.05 mg/m3
Freon-12	75-71-8	1.00 mg/m3	1.05 mg/m3
Chloromethane	74-87-3	1.00 mg/m3	1.06 mg/m3
Freon-114	76-14-2	1.00 mg/m3	1.03 mg/m3
Vinyl Chloride	75-01-4	1.00 mg/m3	1.06 mg/m3
1,3-Butadiene	106-99-0	1.00 mg/m3	1.06 mg/m3
Bromomethane	74-83-9	1.00 mg/m3	1.06 mg/m3
Chloroethane	75-00-3	1.00 mg/m3	1.07 mg/m3
Ethanol	64-17-5	5.00 mg/m3	5.30 mg/m3
Acetonitrile	75-05-8	1.00 mg/m3	1.07 mg/m3
Acrolein	107-02-8	1.00 mg/m3	1.03 mg/m3
Acetone	67-64-1	5.00 mg/m3	5.34 mg/m3
Freon-11	75-69-4	1.00 mg/m3	1.06 mg/m3
Isopropyl Alcohol	67-63-0	2.00 mg/m3	2.11 mg/m3
Acrylonitrile	107-13-1	1.00 mg/m3	1.06 mg/m3
1,1-Dichloroethene	75-35-4	1.00 mg/m3	1.07 mg/m3
Carbon Disulfide	75-15-0	1.00 mg/m3	1.06 mg/m3
Methylene Chloride	75-09-2	1.00 mg/m3	1.05 mg/m3
Tert-Butanol	75-65-0	2.00 mg/m3	2.15 mg/m3
Allyl Chloride	107-05-1	1.00 mg/m3	1.07 mg/m3
Freon-113	76-13-1	1.00 mg/m3	1.08 mg/m3
Trans-1,2-Dichloroethene	156-60-5	1.00 mg/m3	1.07 mg/m3
1,1-Dichloroethane	75-34-3	1.00 mg/m3	1.06 mg/m3
Methyl Tert Butyl Ether	1634-04-4	1.00 mg/m3	1.07 mg/m3
Vinyl Acetate	108-05-4	5.00 mg/m3	5.33 mg/m3
Methacrylonitrile	126-98-7	1.00 mg/m3	1.06 mg/m3
Methyl Ethyl Ketone	78-93-3	1.00 mg/m3	1.06 mg/m3
Cis-1,2-Dichloroethene	156-59-2	1.00 mg/m3	1.06 mg/m3
Hexane	110-54-3	1.00 mg/m3	1.08 mg/m3
Di-isopropyl Ether	108-20-3	1.00 mg/m3	1.08 mg/m3

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PAGE: 2 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chloroform	67-66-3	1.00 mg/m3	1.07 mg/m3
Ethyl Acetate	141-78-6	2.00 mg/m3	2.16 mg/m3
Tetrahydrofuran	109-99-9	1.00 mg/m3	1.10 mg/m3
Ethyl Tert-Butyl Ether	637-92-3	1.00 mg/m3	1.07 mg/m3
1,2-Dichloroethane	107-06-2	1.00 mg/m3	1.07 mg/m3
1,1,1-Trichloroethane	71-55-6	1.00 mg/m3	1.07 mg/m3
Benzene	71-43-2	1.00 mg/m3	1.05 mg/m3
Isopropyl Acetate	108-21-4	2.00 mg/m3	2.10 mg/m3
1-Butanol	71-36-3	2.00 mg/m3	2.13 mg/m3
Carbon Tetrachloride	56-23-5	1.00 mg/m3	1.04 mg/m3
Cyclohexane	110-82-7	2.00 mg/m3	2.11 mg/m3
Tert Amyl Methyl Ether	994-05-8	1.00 mg/m3	1.07 mg/m3
1,2-Dichloropropane	78-87-5	1.00 mg/m3	1.07 mg/m3
Trichloroethylene	79-01-6	1.00 mg/m3	1.08 mg/m3
Bromodichloromethane	75-27-4	1.00 mg/m3	1.09 mg/m3
1,4-Dioxane	123-91-1	1.00 mg/m3	1.08 mg/m3
Isooctane	540-84-1	1.00 mg/m3	1.07 mg/m3
Methyl Methacrylate	80-62-6	2.00 mg/m3	2.15 mg/m3
Heptane	142-82-5	1.00 mg/m3	1.07 mg/m3
Cis-1,3-Dichloropropene	10061-01-5	1.00 mg/m3	1.07 mg/m3
Methyl Isobutyl Ketone	108-10-1	1.00 mg/m3	1.06 mg/m3
Trans-1,3-Dichloropropene	10061-02-6	1.00 mg/m3	1.06 mg/m3
1,1,2-Trichloroethane	79-00-5	1.00 mg/m3	1.07 mg/m3
Toluene	108-88-3	1.00 mg/m3	1.06 mg/m3
Methyl Butyl Ketone	591-78-6	1.00 mg/m3	1.08 mg/m3
Dibromochloromethane	124-48-1	1.00 mg/m3	1.07 mg/m3
1,2-Dibromoethane	106-93-4	1.00 mg/m3	1.07 mg/m3
n-Butyl Acetate	123-86-4	1.00 mg/m3	1.09 mg/m3
n-Octane	111-65-9	1.00 mg/m3	1.08 mg/m3
Tetrachloroethylene	127-18-4	1.00 mg/m3	1.04 mg/m3

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Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chlorobenzene	108-90-7	1.00 mg/m3	1.07 mg/m3
Ethylbenzene	100-41-4	1.00 mg/m3	1.06 mg/m3
p-xylene	106-42-3	1.00 mg/m3	1.07 mg/m3
m-xylene	108-38-3	1.00 mg/m3	1.06 mg/m3
Bromoform	75-25-2	1.00 mg/m3	1.07 mg/m3
Cyclohexanone	108-94-1	1.00 mg/m3	1.01 mg/m3
Styrene	100-42-5	1.00 mg/m3	1.06 mg/m3
o-xylene	95-47-6	1.00 mg/m3	1.07 mg/m3
1,1,2,2-Tetrachloroethane	79-34-5	1.00 mg/m3	1.07 mg/m3
Nonane	111-84-2	1.00 mg/m3	1.07 mg/m3
Isopropylbenzene	98-82-8	1.00 mg/m3	1.07 mg/m3
alpha-Pinene	80-56-8	1.00 mg/m3	1.06 mg/m3
n-Propylbenzene	103-65-1	1.00 mg/m3	1.07 mg/m3
3-Ethyltoluene	620-14-4	1.00 mg/m3	1.07 mg/m3
4-Ethyltoluene	622-96-8	1.00 mg/m3	1.05 mg/m3
2-Ethyltoluene	611-14-3	1.00 mg/m3	1.07 mg/m3
1,3,5-Trimethylbenzene	108-67-8	1.00 mg/m3	1.06 mg/m3
alpha-Methylstyrene	98-83-9	1.00 mg/m3	1.06 mg/m3
Tert-Butyl Benzene	98-06-6	1.00 mg/m3	1.06 mg/m3
1,2,4-Trimethylbenzene	95-63-6	1.00 mg/m3	1.06 mg/m3
1,3-Dichlorobenzene	541-73-1	1.00 mg/m3	1.07 mg/m3
Benzyl Chloride	100-44-7	1.00 mg/m3	1.07 mg/m3
n-Decane	124-18-5	1.00 mg/m3	1.07 mg/m3
1,4-Dichlorobenzene	106-46-7	1.00 mg/m3	1.07 mg/m3
Sec-Butyl Benzene	135-98-8	1.00 mg/m3	1.06 mg/m3
p-Isopropyltoluene	99-87-6	1.00 mg/m3	1.09 mg/m3
1,2,3-Trimethylbenzene	526-73-8	1.00 mg/m3	1.08 mg/m3
1,2-Dichlorobenzene	95-50-1	1.00 mg/m3	1.07 mg/m3

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PAGE: 4 of 4

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Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
d-Limonene	5989-27-5	1.00 mg/m3	1.06 mg/m3
n-Butyl Benzene	104-51-8	1.00 mg/m3	1.07 mg/m3
1,2-Dibromo-3-Chloropropane	96-12-8	1.00 mg/m3	1.07 mg/m3
n-Undecane	1120-21-4	1.00 mg/m3	1.08 mg/m3
1,2,4-Trichlorobenzene	120-82-1	1.00 mg/m3	1.08 mg/m3
Naphthalene	91-20-3	1.00 mg/m3	1.06 mg/m3
n-Dodecane	112-40-3	1.00 mg/m3	1.06 mg/m3
Hexachloro-1,3-Butadiene	87-68-3	1.00 mg/m3	1.07 mg/m3
Nitrogen	7727-37-9	Balance	Balance

ANALYST: _____
Lou Lorenzetti

DATE: Sep-24-2019

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1/6/20 VH

TO-15 MAPH STD				20ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of S31-11061903 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-01062006	20 ng/L	STD00164	1/6/20	3/4/20	LH

1/6/20 S31-01062007 TO-15 IS/SURR STD ~0.5 mg/m³

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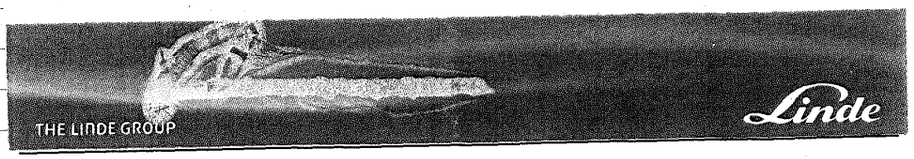

SHIPPED TO: ALS Group USA Corp
2655 Park Center Dr Ste A Dept 130
Simi Valley, CA 93065

PAGE: 1 of 1

S31-01062007 **ANALYSIS REPORT** IS/SURR STD.

Sales#:	117350975	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1502527	**Cylinder # :**	CC-430401
Report Date:	Dec-23-2019	**Cylinder Pressure:**	2000 psig
P.O.# :	SM003000	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24086333	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	4000 Liters
Expiration Date:	Dec-23-~~2020~~ 2021	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	10% Relative

VH 1/7/20

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Bromochloromethane	74-97-5	0.50 mg/m3	0.55 mg/m3
1,2-Dichloroethane-d4	17060-07-0	0.50 mg/m3	0.55 mg/m3
1,4-Difluorobenzene	540-36-3	0.50 mg/m3	0.55 mg/m3
Toluene-d8	2037-26-5	0.50 mg/m3	0.55 mg/m3
Chlorobenzene-d5	3114-55-4	0.50 mg/m3	0.55 mg/m3
4-Bromofluorobenzene	460-00-4	0.50 mg/m3	0.53 mg/m3
Nitrogen	7727-37-9	Balance	Balance

1/7/20 MH

EPA 325B STD	BTEX 1° Working Standard	200 µg/mL
S31-01072001	Expires:	1/21/2020
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 2000µg/mL BTEX stock standard S31-11271903 (expires 1/27/20).		

MH

EPA 325B STD	BTEX 2° Working Standard	200 µg/mL
S31-01072002	Expires:	1/21/2020
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 2000µg/mL BTEX stock standard S31-11271904 (expires 1/27/20).		

2/5/2020
RVT

		TO-15 STD		4 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S31-01292007**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02052009	4 ng/L	STD00094	2/5/20	3/5/20	RVT

RVT

TO-15 STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111901**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02052010	200 ng/L	STD00224	2/5/20	3/5/20	RVT

2/6/2020
RVT

TO-15 STD **20 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S31-02052007**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02062001	20 ng/L	STD00064	2/6/20	3/6/20	RVT

RVT

TO-15 ICV/ LCS STD **20 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S31-02052002**
with HZA Lot # 70086915004 using 4700 diluter

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02062002	20 ng/L	STD00113	2/6/20	3/6/2020	RVT

RVT

TO15 STD 1000 ng/L
S31-02062003
Filled Can STD00136 w/ S31-10111901 To ~ 5.61 psig
Exp. 3/6/2020

2/7/20 (CV)

S31-02072001 Toluene-d8 2.0 µg/ml
Spiked 4.2 µl S29-04281601 into 2010 ml glass SDB
purged w/ helium. Exp. 3/7/20.

02/11/20
VH

S31-02112001 TO-15 IS/SURR 500 ng/L
FILLED CAN # STD00214 TO ~ 20 PSIG WITH S31-01062007
EXP 08/09/20

4/15/20
RVT

TO-15 STD **4 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S34-04102010**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04152001	4 ng/L	STD00161	4/15/20	**5/14/20**	RVT

TO-15 Custom STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with
HZA Lot # 70086915004 using 4700 diluter

TD 4/16/20

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04162001	200 ng/L	STD00009	4/16/2020	**5/15/2020**	TD
S34-04162002	200 ng/L	STD00124	4/16/2020	**5/15/2020**	TD

4/16/20
RVT

TO-15 STD **4 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of **S34-04102003**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04162003	4 ng/L	STD00227	4/16/20	**5/15/20**	RVT

4/20/20
RVT

TO-15 STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111901**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04202001	200 ng/L	STD00128	4/20/20	**5/19/20**	RVT
S34-04202002	200 ng/L	STD00112	4/20/20	**5/19/20**	RVT
S34-04202003	200 ng/L	STD00105	4/20/20	**5/19/20**	RVT
S34-04202004	200 ng/L	STD00047	4/20/20	**5/19/20**	RVT

TO-15 Custom STD **20 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of S31-06251901 with
HZA Lot # 70086915004 using 4700 diluter

TD 4/21/20

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04212001	20 ng/L	STD00049	4/21/2020	**5/20/2020**	TD

TD 4/2/20

18
4/22/20
RVT
4/27/20
RVT

		TO-15 Custom STD		200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272005	200 ng/L	STD00024	4/27/2020	**5/26/2020**	RVT
S34-04272006	200 ng/L	STD00066	4/27/2020	**5/26/2020**	RVT

RVT

		TO-15 ICV/LCS STD		200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111902** with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272007	200 ng/L	STD00063	4/27/20	**5/26/20**	RVT
S34-04272008	200 ng/L	STD00072	4/27/20	**5/26/20**	RVT

RVT

		TO-15 ICV/ LCS STD		20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04272007** with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272009	20 ng/L	STD00015	4/27/20	**5/26/20**	RVT

RVT

		TO-15 STD		20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04202001** using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272010	20 ng/L	STD00026	4/27/20	**5/26/20**	RVT

LH
4/27/20

		TO-15 STD		200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-10111901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272011	200 ng/L	STD00028	4/27/2020	**5/26/2020**	LH

LH

		TO-15 STD		20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of S34-04272011 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272012	20 ng/L	STD00061	4/27/2020	**5/26/2020**	LH

4/27/20 LH

	TO-15 STD		**20 ng/L**		
Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of S31-10111901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272013	20 ng/L	STD00217	4/27/2020	**5/26/2020**	LH

LH

	TO-15 STD		**4 ng/L**		
Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of S34-04272011 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272014	4 ng/L	STD00131	4/27/2020	**5/26/2020**	LH

LH

	TO-15 STD		**4 ng/L**		
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S34-04272012 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272015	4 ng/L	STD00184	4/27/2020	**5/26/2020**	LH

4/28/20 RVT

	TO-15 Custom STD		**20 ng/L**		
Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04282001	20 ng/L	STD00037	4/28/2020	**5/27/2020**	RVT
S34-04282002	20 ng/L	STD00207	4/28/2020	**5/27/2020**	RVT

RVT

	TO-15 Custom STD		**20 ng/L**		
Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04282003	20 ng/L	STD00086	4/28/2020	**5/27/2020**	RVT

RVT

	TO-15 Custom STD		**200 ng/L**		
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04282004	200 ng/L	STD00102	4/28/2020	**5/27/2020**	RVT
S34-04282005	200 ng/L	STD00121	4/28/2020	**5/27/2020**	RVT
S34-04282006	200 ng/L	STD00192	4/28/2020	**5/27/2020**	RVT
S34-04282007	200 ng/L	STD00017	4/28/2020	**5/27/2020**	RVT

20

4/28/20
RVT

TO-15 Custom STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04282008	200 ng/L	STD00017	4/28/2020	**5/27/2020**	RVT

RVT

S34-04282009 TO-15 STD 1000 ng/L
ICV/LCS
Pressurized can: STD00136 w/ 531-b111902 To 11 psig
RVT
EXP: 5/27/2020

MA

EPA 325B STD	BTEX 1° Working Standard	200 µg/mL
S34-04282010	Expires:	5/12/2020
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 2000µg/mL BTEX stock standard S34-03312005 (expires 5/31/20).		

MA

EPA 325B STD	BTEX 2° Working Standard	200 µg/mL
S34-04282011	Expires:	5/12/2020
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 2000µg/mL BTEX stock standard S34-04142001 (expires 6/14/20).		

4/29/20

RVT

TO-15 STD				20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04202001**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04292001	20 ng/L	STD00007	4/29/20	**5/28/20**	RVT

RVT

TO-15 STD				1 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 20X dilution of **S34-04292001**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04292002	1 ng/L	STD00069	4/29/20	**5/28/20**	RVT

RVT

TO-15 STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111901**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04292003	200 ng/L	STD00088	4/29/20	**5/28/20**	RVT
S34-04292004	200 ng/L	STD00019	4/29/20	**5/28/20**	RVT

TD 4/29/20

TO-15 ICV/LCS STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111902** with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04292005	200 ng/L	STD00099	4/29/20	**5/28/20**	TD

4/30/20 RVT

TO-15 ICV/LCS STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111902** with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04302001	200 ng/L	STD00172	4/30/20	**5/29/20**	RVT
S34-04302002	200 ng/L	STD00205	4/30/20	**5/29/20**	RVT
S34-04302003	200 ng/L	STD00194	4/30/20	**5/29/20**	RVT

RVT

TO-15 Custom ICV/LCS				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251902 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04302004	200 ng/L	STD00150	4/30/2020	**5/29/2020**	RVT
S34-04302005	200 ng/L	STD00100	4/30/2020	**5/29/2020**	RVT
S34-04302006	200 ng/L	STD00006	4/30/2020	**5/29/2020**	RVT

5/1/2020 RVT

TO-15 STD				20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04202001** using 4700 diluter HZA Lot #70086915004					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-05012001	20 ng/L	STD00221	5/1/20	**5/30/20**	RVT

RVT

TO-15 STD				20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of **S31-10111901** using 4700 diluter HZA Lot #70086915004					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-05012002	20 ng/L	STD00113	5/1/20	**5/30/20**	RVT

5/14/2020

M.A.

EPA 325B STD	BTEX 1° Working Standard	20 µg/mL
S34-05052001	Expires:	**5/19/2020**
Into 1mL mininert vial with 990µL B&J P&T methanol, Lot #DL535, added 10µL 2000µg/mL BTEX Stock standard S34-03312005 (expires 5/31/20).		

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
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www.alsglobal.com

LABORATORY REPORT

May 19, 2020

Pamela Moss
EA Engineering, Science, and Technology, Inc.
7995 E. Prentice Ave, Suite 206E
Greenwood Village, CO 80111

RE: Kirtland AFB Bulk Fuels Facility / 62735DM02

Dear Pamela:

Enclosed are the results of the samples submitted to our laboratory on April 28, 2020. For your reference, these analyses have been assigned our service request number P2002302.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

Kate Kaneko
May 19, 2020, 1:37 pm

Kate Kaneko
Project Manager

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
www.alsglobal.com

Client: EA Engineering, Science, and Technology, Inc. Service Request No: P2002302
Project: Kirtland AFB Bulk Fuels Facility / 62735DM02

CASE NARRATIVE

The samples were received intact under chain of custody on April 28, 2020 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

Manual integrations were performed on the following samples and analytes. Refer to the raw data for additional information.

Sample Identifications	Analytes
P2002302-001,005,019	Acetone
P2002302-004, 004dup, 009dil, 011, 013	Propene
P2002302-005	4-Methyl-2-pentanone
P2002302-012	1,1-Dichloroethane
P2002302-017	1,2-Dichloroethane

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.1 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

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ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1776326
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-007
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA016272019-10
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: EA Engineering, Science, and Technology, Inc. Service Request: P2002302
Project ID: Kirtland AFB Bulk Fuels Facility / 62735DM02

Date Received: 4/28/2020
Time Received: 10:15

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	TO-15 - VOC Cans
SV05-050-202	P2002302-001	Air	4/21/2020	08:46	1SC00581	-2.69	5.71	X
SV05-100-202	P2002302-002	Air	4/21/2020	08:51	1SS00836	-2.58	5.29	X
SV05-230-202	P2002302-003	Air	4/21/2020	08:55	1SC00185	-2.77	5.73	X
SV05-290-202	P2002302-004	Air	4/21/2020	09:00	1SS00755	-4.24	6.11	X
SV06-050-202	P2002302-005	Air	4/21/2020	10:11	1SC00456	-2.97	5.58	X
SV06-100-202	P2002302-006	Air	4/21/2020	10:15	1SC01190	-3.93	5.55	X
SV06-100-602	P2002302-007	Air	4/21/2020	10:15	1SS00050	-3.31	5.96	X
SV06-252-202	P2002302-008	Air	4/21/2020	10:25	1SS00837	-4.33	5.56	X
SV06-302-202	P2002302-009	Air	4/21/2020	10:29	1SS00843	-3.75	5.43	X
SV12-150-202	P2002302-010	Air	4/21/2020	11:00	1SS00695	-3.93	6.65	X
SV12-250-202	P2002302-011	Air	4/21/2020	11:03	1SS00124	-3.60	5.94	X
SV12-350-202	P2002302-012	Air	4/21/2020	11:06	1SC00940	-3.60	6.54	X
SV12-450-202	P2002302-013	Air	4/21/2020	11:09	1SC00220	-3.64	5.46	X
SV13-150-202	P2002302-014	Air	4/21/2020	07:55	1SS00691	-2.45	3.81	X
SV13-250-202	P2002302-015	Air	4/21/2020	08:01	1SC00495	-2.67	6.46	X
SV13-350-202	P2002302-016	Air	4/21/2020	08:04	1SS00885	-3.24	6.03	X
SV13-450-202	P2002302-017	Air	4/21/2020	08:12	1SS00169	-3.14	5.62	X
SV15-150-202	P2002302-018	Air	4/21/2020	13:41	1SC01260	-3.68	6.00	X
SV15-250-202	P2002302-019	Air	4/21/2020	13:43	1SS00967	-4.52	5.97	X
SV15-350-202	P2002302-020	Air	4/21/2020	13:47	1SC00697	-3.15	6.39	X
SV15-450-202	P2002302-021	Air	4/21/2020	13:50	1SC00521	-2.69	5.59	X
SVTB-202-03	P2002302-022	Air	4/23/2020	08:00	1SS00903	-14.25	5.55	X

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

COC #: **COC-SV202-16**

Requested Turnaround Time in Business Days: 10 Day-Standard

ALS Project No: R2002302

Company Name & Address (Reporting Information):
EA Engineering, Science, and Technology, Inc., PBC
225 Schilling Circle Suite 400, Hunt Valley, MD
(410) 584-7000

Project Name: Kirtland AFB Bulk Fuels Facility

Project Number: 62735DM02

Project Manager / Project Chemist: Bernie Bockish (505) 234-1105 / Pam Moss (303) 590-9143

P.O. # / Billing Information: 17682

Email Address for Result Reporting:
Tara Lamond: tlamond@eaest.com
Amanda Smith: asmith@eaest.com
Pam Moss: pmoss@eaest.com

Sampler (Print & Sign): Ryan Workman

ALS Contact: Kate Kaneko
1 (805) 577-2089

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - SC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg	Sample Volume	Analysis Method: TO-15 Project Specific List	Comments e.g. Actual Preservative or specific instructions
SV05-050-202		4/21/2020	0846	1SC00581	NA	-26.0	-1.0	1L	X	None
SV05-100-202		4/21/2020	0851	1SS00836	NA	-26.0	-2.0	1L	X	None
SV05-230-202		4/21/2020	0855	1SC00185	AVG04535	-25.0	-1.0	1L	X	None
SV05-290-202		4/21/2020	0900	1SS00755	NA	-25.5	-3.5	1L	X	None
SV06-050-202		4/21/2020	1011	1SC00456	NA	-25.0	-0.5	1L	X	None
SV06-100-202		4/21/2020	1015	1SC01190	NA	-25.0	-2.0	1L	X	None
SV06-100-602		4/21/2020	1015	1SS00050	NA	-25.5	-2.0	1L	X	None
SV06-252-202		4/21/2020	1025	1SS00837	NA	-25.5	-4.0	1L	X	None
SV06-302-202		4/21/2020	1029	1SS00843	NA	-25.5	-2.0	1L	X	None
SV12-150-202		4/21/2020	1100	1SS00695	NA	-26.0	-4.0	1L	X	None

FedEX Tracking Number: 1028 3396 9820

Associated with Trip blank: SVTB-202-03

Shipping information: Box number 4 of 4

Report Tier Levels - please select

Tier I - Results (Default if not specified) _____
Tier II (Results + QC Summaries) _____
Tier III (Results + QC & Calibration Summaries) _____
Tier IV (Data Validation Package) X

EDD required: Yes
Type: ERPIMS / EQuIS

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements: QAPP

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Ryan Workman	4/23/20	0900			
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
				4-28-20	1015

Cooler / Blank Temperature NA °C

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

COC #: COC-SV202-16

Requested Turnaround Time in Business Days: 10 Day-Standard

ALS Project No: R2002302

Company Name & Address (Reporting Information): EA Engineering, Science, and Technology, Inc., PBC, 225 Schilling Circle Suite 400, Hunt Valley, MD (410) 584-7000

Project Name: Kirtland AFB Bulk Fuels Facility

Project Number: 62735DM02

P.O. # / Billing Information: 17682

Project Manager / Project Chemist: Bernie Bockish (505) 234-1105 / Pam Moss (303) 590-9143

Email Address for Result Reporting: Tara Lamond: tlamond@eaest.com; Amanda Smith: asmith@eaest.com; Pam Moss: pmoss@eaest.com

Sampler (Print & Sign): Ryan Wortman

ALS Contact: Kate Kaneko 1 (805) 577-2089

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - C, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg	Sample Volume	Analysis Method: TO-15 Project Specific List	Comments e.g. Actual Preservative or specific instructions
SV12-250-202		4/21/2020	1103	SS00124	AVG01048	-26.0	-3.0	1L	X	None
SV12-350-202		4/21/2020	1106	SC00940	NA	-26.0	-3.5	1L	X	None
SV12-450-202		4/21/2020	1109	SC00220	NA	-26.5	-2.0	1L	X	None
SV13-150-202		4/21/2020	0755	SS00691	NA	-25.5	-2.0	1L	X	None
SV13-250-202		4/21/2020	0801	SC00495	NA	-24.5	-1.0	1L	X	None
SV13-350-202		4/21/2020	0804	SS00885	NA	-25.5	-1.0	1L	X	None
SV13-450-202		4/21/2020	0812	SS00169	NA	-26.0	-3.0	1L	X	None
SV15-150-202		4/21/2020	1341	SC01260	NA	-27.0	-3.5	1L	X	None
SV15-250-202		4/21/2020	1343	SS00967	NA	-24.5	-4.5	1L	X	None
SV15-350-202		4/21/2020	1347	SC00697	AVG04###	-24.0	-1.0	1L	X	None
SV15-450-202		4/21/2020	1350	SC00521	NA	-24.0	-1.0	1L	X	None
SVTB-202-03		4/23/2020	0800	SS00903	NA	-26.0	-26.0	1L	X	None

FedEX Tracking Number: 1028 3396 9820

Associated with Trip blank: SVTB-202-03

Shipping information: Box number 4 of 4

Report Tier Levels - please select

Tier I - Results (Default if not specified) ____ Tier III (Results + QC & Calibration Summaries) ____
Tier II (Results + QC Summaries) ____ Tier IV (Data Validation Package) X

EDD required: Yes
Type: ERPIMS / EQuIS

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements: QAPP

Relinquished by: (Signature) Ryan	Date: 4/23/20	Time: 0900	Received by: (Signature)
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)

Received by: (Signature) Date: 4-28-20 Time: 1014

Cooler / Blank Temperature NA °C

ALS Environmental

Sample Acceptance Check Form

Client: EA Engineering, Science, and Technology, Inc. Work order: P2002302

Project: Kirtland AFB Bulk Fuels Facility / 62735DM02

Sample(s) received on: 04/28/20 Date opened: 04/28/20 by: DENISE.POSADA

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☒	☐	☐
	Location of seal(s)? Box sealing. Sealing Lid?	☒	☐	☐
	Were signature and date included?	☒	☐	☐
	Were seals intact?	☒	☐	☐
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2002302-001.01	1.0 L Source Can					
P2002302-002.01	1.0 L Source Silonite Canister					
P2002302-003.01	1.0 L Source Can					
P2002302-004.01	1.0 L Source Silonite Canister					
P2002302-005.01	1.0 L Source Can					
P2002302-006.01	1.0 L Source Can					
P2002302-007.01	1.0 L Source Silonite Canister					
P2002302-008.01	1.0 L Source Silonite Canister					
P2002302-009.01	1.0 L Source Silonite Canister					
P2002302-010.01	1.0 L Source Silonite Canister					
P2002302-011.01	1.0 L Source Silonite Canister					
P2002302-012.01	1.0 L Source Can					
P2002302-013.01	1.0 L Source Can					
P2002302-014.01	1.0 L Source Silonite Canister					
P2002302-015.01	1.0 L Source Can					

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS Environmental

Sample Acceptance Check Form

Client: EA Engineering, Science, and Technology, Inc. Work order: P2002302

Project: Kirtland AFB Bulk Fuels Facility / 62735DM02

Sample(s) received on: 04/28/20 Date opened: 04/28/20 by: DENISE.POSADA

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2002302-016.01	1.0 L Source Silonite Canister					
P2002302-017.01	1.0 L Source Silonite Canister					
P2002302-018.01	1.0 L Source Can					
P2002302-019.01	1.0 L Source Silonite Canister					
P2002302-020.01	1.0 L Source Can					
P2002302-021.01	1.0 L Source Can					
P2002302-022.01	1.0 L Source Silonite Canister					

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV05-050-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-001

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.30 Liter(s)
Test Notes:
Container ID: 1SC00581

Initial Pressure (psig): -2.69 Final Pressure (psig): 5.71

Container Dilution Factor: 1.70

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**1.1**	1.7	1.1	0.43	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.91**	0.61	0.37	0.10	
74-87-3	Chloromethane	**0.30**	1.5	0.88	0.24	**J**
75-01-4	Vinyl Chloride	0.38	1.2	0.38	0.13	**U**
106-99-0	1,3-Butadiene	0.82	1.4	0.82	0.23	**U**
75-00-3	Chloroethane	0.69	1.2	0.69	0.14	**U**
64-17-5	Ethanol	**3.6**	16	2.5	1.1	**J, B**
67-64-1	Acetone	**7.9**	13	6.4	2.9	**J**
75-69-4	Trichlorofluoromethane	**1.1**	0.53	0.32	0.082	
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.1**	4.8	1.5	0.51	**J**
75-09-2	Methylene Chloride	0.52	0.86	0.52	0.24	**U**
76-13-1	Trichlorotrifluoroethane	**8.0**	0.40	0.13	0.056	
75-15-0	Carbon Disulfide	**0.39**	2.0	0.98	0.29	**J**
75-34-3	1,1-Dichloroethane	0.46	0.77	0.46	0.11	**U**
78-93-3	2-Butanone (MEK)	**1.4**	2.1	0.62	0.21	**J**
141-78-6	Ethyl Acetate	1.0	1.7	1.0	0.44	**U**
110-54-3	n-Hexane	**5.3**	0.87	0.51	0.18	
67-66-3	Chloroform	0.20	0.63	0.20	0.082	**U**
109-99-9	Tetrahydrofuran (THF)	**6.8**	1.1	0.33	0.13	
107-06-2	1,2-Dichloroethane	0.24	0.76	0.24	0.083	**U**
71-43-2	Benzene	**4.6**	0.94	0.30	0.14	
56-23-5	Carbon Tetrachloride	**0.13**	0.48	0.15	0.067	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV05-050-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-001

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.30 Liter(s)
Test Notes:
Container ID: 1SC00581

Initial Pressure (psig): -2.69 Final Pressure (psig): 5.71

Container Dilution Factor: 1.70

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**7.3**	1.8	0.56	0.25	
75-27-4	Bromodichloromethane	0.14	0.46	0.14	0.065	**U**
79-01-6	Trichloroethene	0.18	0.57	0.18	0.076	**U**
123-91-1	1,4-Dioxane	0.27	0.85	0.27	0.099	**U**
142-82-5	n-Heptane	**23**	0.75	0.44	0.12	
108-10-1	4-Methyl-2-pentanone	**0.11**	0.73	0.24	0.10	**J**
108-88-3	Toluene	**50**	0.81	0.26	0.098	
591-78-6	2-Hexanone	0.24	0.75	0.24	0.091	**U**
124-48-1	Dibromochloromethane	0.11	0.36	0.11	0.047	**U**
106-93-4	1,2-Dibromoethane	**0.066**	0.40	0.13	0.046	**J**
127-18-4	Tetrachloroethene	**0.19**	0.43	0.14	0.058	**J**
100-41-4	Ethylbenzene	**5.4**	0.70	0.22	0.098	
179601-23-1	m,p-Xylenes	**29**	1.4	0.44	0.18	
75-25-2	Bromoform	0.18	0.30	0.18	0.060	**U**
100-42-5	Styrene	0.43	0.71	0.43	0.11	**U**
95-47-6	o-Xylene	**8.9**	0.70	0.22	0.10	
108-67-8	1,3,5-Trimethylbenzene	**2.7**	0.61	0.20	0.089	
95-63-6	1,2,4-Trimethylbenzene	**4.1**	0.62	0.20	0.085	
120-82-1	1,2,4-Trichlorobenzene	0.24	0.41	0.24	0.099	**U**
91-20-3	Naphthalene	0.34	0.56	0.34	0.14	**U**
1330-20-7	Xylenes, Total	**37**	1.4	0.44	0.18	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV05-100-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-002

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.15 Liter(s)
Test Notes:
Container ID: 1SS00836

Initial Pressure (psig): -2.58 Final Pressure (psig): 5.29

Container Dilution Factor: 1.65

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**3.3**	3.4	2.0	0.83	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.5**	1.2	0.71	0.19	
74-87-3	Chloromethane	1.7	2.8	1.7	0.46	**U**
75-01-4	Vinyl Chloride	0.73	2.3	0.73	0.25	**U**
106-99-0	1,3-Butadiene	1.6	2.6	1.6	0.44	**U**
75-00-3	Chloroethane	1.3	2.3	1.3	0.28	**U**
64-17-5	Ethanol	4.8	30	4.8	2.2	**U**
67-64-1	Acetone	13	25	13	5.6	**U**
75-69-4	Trichlorofluoromethane	**0.60**	1.0	0.63	0.16	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	2.8	9.4	2.8	0.98	**U**
75-09-2	Methylene Chloride	1.0	1.7	1.0	0.48	**U**
76-13-1	Trichlorotrifluoroethane	**13**	0.78	0.24	0.11	
75-15-0	Carbon Disulfide	1.9	3.9	1.9	0.57	**U**
75-34-3	1,1-Dichloroethane	0.90	1.5	0.90	0.21	**U**
78-93-3	2-Butanone (MEK)	1.2	4.1	1.2	0.41	**U**
141-78-6	Ethyl Acetate	2.0	3.4	2.0	0.86	**U**
110-54-3	n-Hexane	**58**	1.7	1.0	0.34	
67-66-3	Chloroform	0.38	1.2	0.38	0.16	**U**
109-99-9	Tetrahydrofuran (THF)	**0.55**	2.1	0.63	0.25	**J**
107-06-2	1,2-Dichloroethane	0.46	1.5	0.46	0.16	**U**
71-43-2	Benzene	**7.7**	1.8	0.59	0.27	
56-23-5	Carbon Tetrachloride	**0.16**	0.93	0.30	0.13	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV05-100-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-002

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.15 Liter(s)
Test Notes:
Container ID: 1SS00836

Initial Pressure (psig): -2.58 Final Pressure (psig): 5.29

Container Dilution Factor: 1.65

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**200**	3.5	1.1	0.48	
75-27-4	Bromodichloromethane	0.28	0.89	0.28	0.13	**U**
79-01-6	Trichloroethene	0.35	1.1	0.35	0.15	**U**
123-91-1	1,4-Dioxane	0.52	1.6	0.52	0.19	**U**
142-82-5	n-Heptane	**27**	1.5	0.86	0.23	
108-10-1	4-Methyl-2-pentanone	0.46	1.4	0.46	0.20	**U**
108-88-3	Toluene	**53**	1.6	0.50	0.19	
591-78-6	2-Hexanone	0.46	1.5	0.46	0.18	**U**
124-48-1	Dibromochloromethane	0.22	0.70	0.22	0.090	**U**
106-93-4	1,2-Dibromoethane	0.24	0.77	0.24	0.089	**U**
127-18-4	Tetrachloroethene	**0.32**	0.84	0.28	0.11	**J**
100-41-4	Ethylbenzene	**4.1**	1.4	0.43	0.19	
179601-23-1	m,p-Xylenes	**22**	2.8	0.86	0.35	
75-25-2	Bromoform	0.34	0.57	0.34	0.12	**U**
100-42-5	Styrene	0.83	1.4	0.83	0.22	**U**
95-47-6	o-Xylene	**6.2**	1.4	0.43	0.20	
108-67-8	1,3,5-Trimethylbenzene	**2.0**	1.2	0.38	0.17	
95-63-6	1,2,4-Trimethylbenzene	**2.7**	1.2	0.38	0.17	
120-82-1	1,2,4-Trichlorobenzene	0.47	0.80	0.47	0.19	**U**
91-20-3	Naphthalene	0.65	1.1	0.65	0.27	**U**
1330-20-7	Xylenes, Total	**28**	2.8	0.86	0.35	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV05-230-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-003

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00020 Liter(s)
Test Notes:
Container ID: 1SC00185

Initial Pressure (psig): -2.77 Final Pressure (psig): 5.73

Container Dilution Factor: 1.71

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**8,300**	2,600	1,600	650	
75-71-8	Dichlorodifluoromethane (CFC 12)	550	920	550	150	**U**
74-87-3	Chloromethane	1,300	2,200	1,300	360	**U**
75-01-4	Vinyl Chloride	570	1,800	570	190	**U**
106-99-0	1,3-Butadiene	1,200	2,000	1,200	340	**U**
75-00-3	Chloroethane	1,000	1,800	1,000	210	**U**
64-17-5	Ethanol	3,800	24,000	3,800	1,700	**U**
67-64-1	Acetone	9,700	19,000	9,700	4,300	**U**
75-69-4	Trichlorofluoromethane	490	810	490	120	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	2,200	7,300	2,200	770	**U**
75-09-2	Methylene Chloride	790	1,300	790	370	**U**
76-13-1	Trichlorotrifluoroethane	190	600	190	85	**U**
75-15-0	Carbon Disulfide	1,500	3,000	1,500	440	**U**
75-34-3	1,1-Dichloroethane	700	1,200	700	160	**U**
78-93-3	2-Butanone (MEK)	930	3,200	930	320	**U**
141-78-6	Ethyl Acetate	1,500	2,600	1,500	660	**U**
110-54-3	n-Hexane	**210,000**	1,300	780	270	
67-66-3	Chloroform	300	950	300	120	**U**
109-99-9	Tetrahydrofuran (THF)	490	1,600	490	190	**U**
107-06-2	1,2-Dichloroethane	360	1,100	360	120	**U**
71-43-2	Benzene	**3,000**	1,400	460	210	
56-23-5	Carbon Tetrachloride	230	720	230	100	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV05-230-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-003

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00020 Liter(s)
Test Notes:
Container ID: 1SC00185

Initial Pressure (psig): -2.77 Final Pressure (psig): 5.73

Container Dilution Factor: 1.71

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**230,000**		2,700	840	370	
75-27-4	Bromodichloromethane		220	690	220	98	**U**
79-01-6	Trichloroethene		270	860	270	110	**U**
123-91-1	1,4-Dioxane		400	1,300	400	150	**U**
142-82-5	n-Heptane	**210,000**		1,100	670	180	
108-10-1	4-Methyl-2-pentanone		350	1,100	350	150	**U**
108-88-3	Toluene	**4,400**		1,200	390	150	
591-78-6	2-Hexanone		350	1,100	350	140	**U**
124-48-1	Dibromochloromethane		170	540	170	70	**U**
106-93-4	1,2-Dibromoethane		190	600	190	69	**U**
127-18-4	Tetrachloroethene		210	660	210	87	**U**
100-41-4	Ethylbenzene		330	1,100	330	150	**U**
179601-23-1	m,p-Xylenes	**510**		2,200	670	280	**J**
75-25-2	Bromoform		260	450	260	91	**U**
100-42-5	Styrene		640	1,100	640	170	**U**
95-47-6	o-Xylene	**190**		1,100	330	150	**J**
108-67-8	1,3,5-Trimethylbenzene		300	920	300	130	**U**
95-63-6	1,2,4-Trimethylbenzene		300	940	300	130	**U**
120-82-1	1,2,4-Trichlorobenzene		370	620	370	150	**U**
91-20-3	Naphthalene		510	850	510	210	**U**
1330-20-7	Xylenes, Total	**710**		2,200	670	280	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV05-290-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-004

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.070 Liter(s)
Test Notes:
Container ID: 1SS00755

Initial Pressure (psig): -4.24 Final Pressure (psig): 6.11

Container Dilution Factor: 1.99

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**8.3**	8.8	5.3	2.1	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**4.6**	3.0	1.8	0.50	
74-87-3	Chloromethane	4.4	7.3	4.4	1.2	**U**
75-01-4	Vinyl Chloride	1.9	6.0	1.9	0.63	**U**
106-99-0	1,3-Butadiene	4.1	6.8	4.1	1.1	**U**
75-00-3	Chloroethane	3.4	5.8	3.4	0.71	**U**
64-17-5	Ethanol	**7.3**	78	13	5.6	**J, B**
67-64-1	Acetone	32	63	32	14	**U**
75-69-4	Trichlorofluoromethane	**0.71**	2.7	1.6	0.41	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	7.3	24	7.3	2.5	**U**
75-09-2	Methylene Chloride	2.6	4.3	2.6	1.2	**U**
76-13-1	Trichlorotrifluoroethane	**100**	2.0	0.63	0.28	
75-15-0	Carbon Disulfide	4.9	10	4.9	1.5	**U**
75-34-3	1,1-Dichloroethane	2.3	3.9	2.3	0.55	**U**
78-93-3	2-Butanone (MEK)	3.1	11	3.1	1.1	**U**
141-78-6	Ethyl Acetate	5.1	8.7	5.1	2.2	**U**
110-54-3	n-Hexane	**580**	4.4	2.6	0.89	
67-66-3	Chloroform	0.99	3.1	0.99	0.41	**U**
109-99-9	Tetrahydrofuran (THF)	1.6	5.3	1.6	0.65	**U**
107-06-2	1,2-Dichloroethane	1.2	3.8	1.2	0.41	**U**
71-43-2	Benzene	**4.8**	4.7	1.5	0.69	
56-23-5	Carbon Tetrachloride	**5.0**	2.4	0.77	0.33	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV05-290-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-004

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.070 Liter(s)
Test Notes:
Container ID: 1SS00755

Initial Pressure (psig): -4.24 Final Pressure (psig): 6.11

Container Dilution Factor: 1.99

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**790**	9.1	2.8	1.2	
75-27-4	Bromodichloromethane	0.72	2.3	0.72	0.33	**U**
79-01-6	Trichloroethene	**0.97**	2.9	0.90	0.38	**J**
123-91-1	1,4-Dioxane	1.3	4.3	1.3	0.50	**U**
142-82-5	n-Heptane	**240**	3.7	2.2	0.59	
108-10-1	4-Methyl-2-pentanone	1.2	3.7	1.2	0.51	**U**
108-88-3	Toluene	**14**	4.1	1.3	0.49	
591-78-6	2-Hexanone	1.2	3.7	1.2	0.46	**U**
124-48-1	Dibromochloromethane	0.57	1.8	0.57	0.23	**U**
106-93-4	1,2-Dibromoethane	0.63	2.0	0.63	0.23	**U**
127-18-4	Tetrachloroethene	**1.9**	2.2	0.71	0.29	**J**
100-41-4	Ethylbenzene	**1.2**	3.5	1.1	0.49	**J**
179601-23-1	m,p-Xylenes	**6.2**	7.2	2.2	0.92	**J**
75-25-2	Bromoform	0.88	1.5	0.88	0.30	**U**
100-42-5	Styrene	2.1	3.5	2.1	0.57	**U**
95-47-6	o-Xylene	**2.1**	3.5	1.1	0.50	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.68**	3.1	0.98	0.45	**J**
95-63-6	1,2,4-Trimethylbenzene	**1.0**	3.1	0.98	0.43	**J**
120-82-1	1,2,4-Trichlorobenzene	1.2	2.1	1.2	0.50	**U**
91-20-3	Naphthalene	1.7	2.8	1.7	0.71	**U**
1330-20-7	Xylenes, Total	**8.4**	7.2	2.2	0.92	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV06-050-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-005

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00456

Initial Pressure (psig): -2.97 Final Pressure (psig): 5.58

Container Dilution Factor: 1.73

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**3.8**	1.3	0.80	0.33	
75-71-8	Dichlorodifluoromethane (CFC 12)	**3.4**	0.46	0.28	0.076	
74-87-3	Chloromethane	**1.8**	1.1	0.67	0.18	
75-01-4	Vinyl Chloride	0.29	0.91	0.29	0.096	**U**
106-99-0	1,3-Butadiene	0.63	1.0	0.63	0.17	**U**
75-00-3	Chloroethane	**0.30**	0.89	0.52	0.11	**J**
64-17-5	Ethanol	**6.4**	12	1.9	0.85	**J, B**
67-64-1	Acetone	**18**	9.7	4.9	2.2	
75-69-4	Trichlorofluoromethane	**0.72**	0.41	0.25	0.062	
67-63-0	2-Propanol (Isopropyl Alcohol)	**8.2**	3.7	1.1	0.39	
75-09-2	Methylene Chloride	0.40	0.66	0.40	0.19	**U**
76-13-1	Trichlorotrifluoroethane	**4.2**	0.30	0.096	0.043	
75-15-0	Carbon Disulfide	**1.6**	1.5	0.75	0.22	
75-34-3	1,1-Dichloroethane	0.35	0.59	0.35	0.083	**U**
78-93-3	2-Butanone (MEK)	**2.3**	1.6	0.47	0.16	
141-78-6	Ethyl Acetate	**1.2**	1.3	0.78	0.34	**J**
110-54-3	n-Hexane	**2.1**	0.66	0.39	0.14	
67-66-3	Chloroform	0.15	0.48	0.15	0.063	**U**
109-99-9	Tetrahydrofuran (THF)	**0.33**	0.81	0.25	0.098	**J**
107-06-2	1,2-Dichloroethane	0.18	0.58	0.18	0.063	**U**
71-43-2	Benzene	**0.79**	0.72	0.23	0.10	
56-23-5	Carbon Tetrachloride	**2.0**	0.36	0.12	0.051	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV06-050-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-005

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00456

Initial Pressure (psig): -2.97 Final Pressure (psig): 5.58

Container Dilution Factor: 1.73

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**1.6**	1.4	0.43	0.19	
75-27-4	Bromodichloromethane	0.11	0.35	0.11	0.050	**U**
79-01-6	Trichloroethene	**0.32**	0.43	0.14	0.058	**J**
123-91-1	1,4-Dioxane	**0.12**	0.65	0.20	0.076	**J**
142-82-5	n-Heptane	**2.7**	0.57	0.34	0.090	
108-10-1	4-Methyl-2-pentanone	**0.16**	0.56	0.18	0.077	**J**
108-88-3	Toluene	**3.8**	0.62	0.20	0.075	
591-78-6	2-Hexanone	0.18	0.57	0.18	0.070	**U**
124-48-1	Dibromochloromethane	0.086	0.27	0.086	0.036	**U**
106-93-4	1,2-Dibromoethane	0.096	0.30	0.096	0.035	**U**
127-18-4	Tetrachloroethene	**0.64**	0.33	0.11	0.044	
100-41-4	Ethylbenzene	**0.32**	0.54	0.17	0.075	**J**
179601-23-1	m,p-Xylenes	**1.7**	1.1	0.34	0.14	
75-25-2	Bromoform	0.13	0.23	0.13	0.046	**U**
100-42-5	Styrene	0.33	0.54	0.33	0.087	**U**
95-47-6	o-Xylene	**0.62**	0.54	0.17	0.077	
108-67-8	1,3,5-Trimethylbenzene	**0.17**	0.47	0.15	0.068	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.32**	0.48	0.15	0.065	**J**
120-82-1	1,2,4-Trichlorobenzene	0.19	0.31	0.19	0.076	**U**
91-20-3	Naphthalene	0.26	0.43	0.26	0.11	**U**
1330-20-7	Xylenes, Total	**2.4**	1.1	0.34	0.14	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV06-100-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-006

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01190

Initial Pressure (psig): -3.93 Final Pressure (psig): 5.55

Container Dilution Factor: 1.88

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.45**	1.4	0.87	0.36	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**3.7**	0.50	0.30	0.083	
74-87-3	Chloromethane	**0.20**	1.2	0.73	0.20	**J**
75-01-4	Vinyl Chloride	0.31	0.99	0.31	0.10	**U**
106-99-0	1,3-Butadiene	0.68	1.1	0.68	0.19	**U**
75-00-3	Chloroethane	0.57	0.96	0.57	0.12	**U**
64-17-5	Ethanol	**1.0**	13	2.1	0.92	**J, B**
67-64-1	Acetone	**4.7**	10	5.3	2.4	**J**
75-69-4	Trichlorofluoromethane	**0.72**	0.44	0.27	0.068	
67-63-0	2-Propanol (Isopropyl Alcohol)	1.2	4.0	1.2	0.42	**U**
75-09-2	Methylene Chloride	0.43	0.72	0.43	0.20	**U**
76-13-1	Trichlorotrifluoroethane	**4.0**	0.33	0.10	0.047	
75-15-0	Carbon Disulfide	**0.62**	1.7	0.82	0.24	**J**
75-34-3	1,1-Dichloroethane	0.38	0.64	0.38	0.091	**U**
78-93-3	2-Butanone (MEK)	**0.66**	1.8	0.51	0.18	**J**
141-78-6	Ethyl Acetate	0.85	1.4	0.85	0.37	**U**
110-54-3	n-Hexane	**2.5**	0.72	0.43	0.15	
67-66-3	Chloroform	**0.69**	0.52	0.16	0.068	
109-99-9	Tetrahydrofuran (THF)	**0.18**	0.88	0.27	0.11	**J**
107-06-2	1,2-Dichloroethane	0.20	0.63	0.20	0.069	**U**
71-43-2	Benzene	**0.88**	0.78	0.25	0.11	
56-23-5	Carbon Tetrachloride	**1.9**	0.40	0.13	0.055	

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV06-100-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-006

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01190

Initial Pressure (psig): -3.93 Final Pressure (psig): 5.55

Container Dilution Factor: 1.88

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**2.3**	1.5	0.46	0.20	
75-27-4	Bromodichloromethane	0.12	0.38	0.12	0.054	**U**
79-01-6	Trichloroethene	0.15	0.47	0.15	0.063	**U**
123-91-1	1,4-Dioxane	**0.18**	0.70	0.22	0.082	**J**
142-82-5	n-Heptane	**4.5**	0.62	0.37	0.098	
108-10-1	4-Methyl-2-pentanone	0.20	0.61	0.20	0.084	**U**
108-88-3	Toluene	**5.0**	0.67	0.21	0.081	
591-78-6	2-Hexanone	0.20	0.62	0.20	0.076	**U**
124-48-1	Dibromochloromethane	0.094	0.30	0.094	0.039	**U**
106-93-4	1,2-Dibromoethane	0.10	0.33	0.10	0.038	**U**
127-18-4	Tetrachloroethene	**0.24**	0.36	0.12	0.048	**J**
100-41-4	Ethylbenzene	**0.44**	0.58	0.18	0.081	**J**
179601-23-1	m,p-Xylenes	**2.4**	1.2	0.37	0.15	
75-25-2	Bromoform	0.15	0.25	0.15	0.050	**U**
100-42-5	Styrene	0.35	0.59	0.35	0.095	**U**
95-47-6	o-Xylene	**0.73**	0.58	0.18	0.083	
108-67-8	1,3,5-Trimethylbenzene	**0.21**	0.51	0.16	0.074	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.40**	0.52	0.16	0.071	**J**
120-82-1	1,2,4-Trichlorobenzene	0.20	0.34	0.20	0.082	**U**
91-20-3	Naphthalene	0.28	0.47	0.28	0.12	**U**
1330-20-7	Xylenes, Total	**3.1**	1.2	0.37	0.15	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV06-100-602** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-007

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00050

Initial Pressure (psig): -3.31 Final Pressure (psig): 5.96

Container Dilution Factor: 1.81

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**2.9**	1.4	0.84	0.34	
75-71-8	Dichlorodifluoromethane (CFC 12)	**3.6**	0.49	0.29	0.080	
74-87-3	Chloromethane	0.70	1.2	0.70	0.19	**U**
75-01-4	Vinyl Chloride	0.30	0.96	0.30	0.10	**U**
106-99-0	1,3-Butadiene	0.65	1.1	0.65	0.18	**U**
75-00-3	Chloroethane	0.55	0.93	0.55	0.11	**U**
64-17-5	Ethanol	**1.3**	12	2.0	0.89	**J, B**
67-64-1	Acetone	**3.8**	10	5.1	2.3	**J**
75-69-4	Trichlorofluoromethane	**0.69**	0.43	0.26	0.065	
67-63-0	2-Propanol (Isopropyl Alcohol)	**7.2**	3.9	1.2	0.41	
75-09-2	Methylene Chloride	0.42	0.69	0.42	0.20	**U**
76-13-1	Trichlorotrifluoroethane	**3.9**	0.32	0.10	0.045	
75-15-0	Carbon Disulfide	**0.45**	1.6	0.78	0.23	**J**
75-34-3	1,1-Dichloroethane	0.37	0.62	0.37	0.087	**U**
78-93-3	2-Butanone (MEK)	**0.57**	1.7	0.49	0.17	**J**
141-78-6	Ethyl Acetate	**0.54**	1.4	0.82	0.35	**J**
110-54-3	n-Hexane	**5.9**	0.69	0.41	0.14	
67-66-3	Chloroform	**0.68**	0.50	0.16	0.066	
109-99-9	Tetrahydrofuran (THF)	**0.27**	0.84	0.26	0.10	**J**
107-06-2	1,2-Dichloroethane	0.19	0.60	0.19	0.066	**U**
71-43-2	Benzene	**2.0**	0.75	0.24	0.11	
56-23-5	Carbon Tetrachloride	**1.9**	0.38	0.12	0.053	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV06-100-602** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-007

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00050

Initial Pressure (psig): -3.31 Final Pressure (psig): 5.96

Container Dilution Factor: 1.81

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**4.8**	1.4	0.45	0.20	
75-27-4	Bromodichloromethane	0.11	0.36	0.11	0.052	**U**
79-01-6	Trichloroethene	0.14	0.45	0.14	0.061	**U**
123-91-1	1,4-Dioxane	0.21	0.68	0.21	0.079	**U**
142-82-5	n-Heptane	**10**	0.60	0.35	0.094	
108-10-1	4-Methyl-2-pentanone	0.19	0.59	0.19	0.081	**U**
108-88-3	Toluene	**11**	0.65	0.20	0.078	
591-78-6	2-Hexanone	0.19	0.60	0.19	0.073	**U**
124-48-1	Dibromochloromethane	0.090	0.29	0.090	0.037	**U**
106-93-4	1,2-Dibromoethane	0.10	0.32	0.10	0.037	**U**
127-18-4	Tetrachloroethene	**0.23**	0.35	0.11	0.046	**J**
100-41-4	Ethylbenzene	**0.86**	0.56	0.18	0.078	
179601-23-1	m,p-Xylenes	**4.5**	1.1	0.35	0.15	
75-25-2	Bromoform	0.14	0.24	0.14	0.048	**U**
100-42-5	Styrene	0.34	0.56	0.34	0.091	**U**
95-47-6	o-Xylene	**1.3**	0.56	0.18	0.080	
108-67-8	1,3,5-Trimethylbenzene	**0.35**	0.49	0.16	0.071	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.68**	0.50	0.16	0.068	
120-82-1	1,2,4-Trichlorobenzene	0.20	0.33	0.20	0.079	**U**
91-20-3	Naphthalene	**0.14**	0.45	0.27	0.11	**J**
1330-20-7	Xylenes, Total	**5.8**	1.1	0.35	0.15	

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV06-252-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-008

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00050 Liter(s)
Test Notes:
Container ID: 1SS00837

Initial Pressure (psig): -4.33 Final Pressure (psig): 5.56

Container Dilution Factor: 1.95

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	730	1,200	730	290	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	250	420	250	69	**U**
74-87-3	Chloromethane	600	1,000	600	160	**U**
75-01-4	Vinyl Chloride	260	820	260	87	**U**
106-99-0	1,3-Butadiene	560	930	560	160	**U**
75-00-3	Chloroethane	470	800	470	98	**U**
64-17-5	Ethanol	1,700	11,000	1,700	770	**U**
67-64-1	Acetone	4,400	8,700	4,400	2,000	**U**
75-69-4	Trichlorofluoromethane	220	370	220	56	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	1,000	3,300	1,000	350	**U**
75-09-2	Methylene Chloride	360	600	360	170	**U**
76-13-1	Trichlorotrifluoroethane	87	270	87	39	**U**
75-15-0	Carbon Disulfide	680	1,400	680	200	**U**
75-34-3	1,1-Dichloroethane	320	530	320	75	**U**
78-93-3	2-Butanone (MEK)	420	1,500	420	150	**U**
141-78-6	Ethyl Acetate	700	1,200	700	300	**U**
110-54-3	n-Hexane	**3,100**	600	350	120	
67-66-3	Chloroform	140	430	140	57	**U**
109-99-9	Tetrahydrofuran (THF)	220	730	220	89	**U**
107-06-2	1,2-Dichloroethane	**160**	520	160	57	**J**
71-43-2	Benzene	**95,000**	650	210	94	
56-23-5	Carbon Tetrachloride	110	330	110	46	**U**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV06-252-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-008

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00050 Liter(s)
Test Notes:
Container ID: 1SS00837

Initial Pressure (psig): -4.33 Final Pressure (psig): 5.56

Container Dilution Factor: 1.95

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**21,000**	1,200	390	170	
75-27-4	Bromodichloromethane	99	310	99	45	**U**
79-01-6	Trichloroethene	120	390	120	52	**U**
123-91-1	1,4-Dioxane	180	580	180	68	**U**
142-82-5	n-Heptane	**160**	510	300	81	**J**
108-10-1	4-Methyl-2-pentanone	160	500	160	69	**U**
108-88-3	Toluene	**3,000**	560	180	67	
591-78-6	2-Hexanone	160	510	160	63	**U**
124-48-1	Dibromochloromethane	78	250	78	32	**U**
106-93-4	1,2-Dibromoethane	86	270	86	31	**U**
127-18-4	Tetrachloroethene	98	300	98	40	**U**
100-41-4	Ethylbenzene	150	490	150	67	**U**
179601-23-1	m,p-Xylenes	**400**	990	310	130	**J**
75-25-2	Bromoform	120	200	120	42	**U**
100-42-5	Styrene	290	490	290	79	**U**
95-47-6	o-Xylene	**900**	490	150	69	
108-67-8	1,3,5-Trimethylbenzene	130	420	130	61	**U**
95-63-6	1,2,4-Trimethylbenzene	130	430	130	59	**U**
120-82-1	1,2,4-Trichlorobenzene	170	280	170	68	**U**
91-20-3	Naphthalene	230	390	230	97	**U**
1330-20-7	Xylenes, Total	**1,300**	990	310	130	

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV06-302-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-009

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.17 Liter(s)
Test Notes: 0.020 Liter(s)
Container ID: 1SS00843

Initial Pressure (psig): -3.75 Final Pressure (psig): 5.43

Container Dilution Factor: 1.84

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**31**	3.3	2.0	0.82	
75-71-8	Dichlorodifluoromethane (CFC 12)	**4.4**	1.2	0.70	0.19	
74-87-3	Chloromethane	1.7	2.8	1.7	0.45	**U**
75-01-4	Vinyl Chloride	0.72	2.3	0.72	0.24	**U**
106-99-0	1,3-Butadiene	1.6	2.6	1.6	0.43	**U**
75-00-3	Chloroethane	1.3	2.2	1.3	0.27	**U**
64-17-5	Ethanol	4.8	30	4.8	2.1	**U**
67-64-1	Acetone	12	24	12	5.5	**U**
75-69-4	Trichlorofluoromethane	**1.8**	1.0	0.62	0.16	
67-63-0	2-Propanol (Isopropyl Alcohol)	2.8	9.3	2.8	0.97	**U**
75-09-2	Methylene Chloride	1.0	1.7	1.0	0.47	**U**
76-13-1	Trichlorotrifluoroethane	**9.3**	0.76	0.24	0.11	
75-15-0	Carbon Disulfide	**0.56**	3.8	1.9	0.56	**J**
75-34-3	1,1-Dichloroethane	0.88	1.5	0.88	0.21	**U**
78-93-3	2-Butanone (MEK)	**0.46**	4.0	1.2	0.40	**J**
141-78-6	Ethyl Acetate	2.0	3.3	2.0	0.84	**U**
110-54-3	n-Hexane	**28**	1.7	0.98	0.34	
67-66-3	Chloroform	**1.6**	1.2	0.38	0.16	
109-99-9	Tetrahydrofuran (THF)	**0.71**	2.0	0.62	0.25	**J**
107-06-2	1,2-Dichloroethane	**6.1**	1.4	0.45	0.16	
71-43-2	Benzene	**20**	1.8	0.58	0.26	
56-23-5	Carbon Tetrachloride	**6.1**	0.91	0.29	0.13	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV06-302-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-009

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.17 Liter(s)
Test Notes: 0.020 Liter(s)
Container ID: 1SS00843

Initial Pressure (psig): -3.75 Final Pressure (psig): 5.43

Container Dilution Factor: 1.84

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**520**		29	9.1	4.0	**D**
75-27-4	Bromodichloromethane		0.27	0.87	0.27	0.12	**U**
79-01-6	Trichloroethene	**0.37**		1.1	0.34	0.15	**J**
123-91-1	1,4-Dioxane		0.51	1.6	0.51	0.19	**U**
142-82-5	n-Heptane	**2.1**		1.4	0.85	0.22	
108-10-1	4-Methyl-2-pentanone		0.45	1.4	0.45	0.19	**U**
108-88-3	Toluene	**5.6**		1.6	0.49	0.19	
591-78-6	2-Hexanone		0.45	1.4	0.45	0.17	**U**
124-48-1	Dibromochloromethane		0.22	0.69	0.22	0.089	**U**
106-93-4	1,2-Dibromoethane	**11**		0.76	0.24	0.087	
127-18-4	Tetrachloroethene	**0.27**		0.83	0.27	0.11	**J**
100-41-4	Ethylbenzene	**0.35**		1.3	0.42	0.19	**J**
179601-23-1	m,p-Xylenes	**2.5**		2.7	0.85	0.35	**J**
75-25-2	Bromoform		0.34	0.57	0.34	0.12	**U**
100-42-5	Styrene		0.81	1.3	0.81	0.22	**U**
95-47-6	o-Xylene	**2.9**		1.3	0.42	0.19	
108-67-8	1,3,5-Trimethylbenzene	**0.64**		1.2	0.37	0.17	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.35**		1.2	0.37	0.16	**J**
120-82-1	1,2,4-Trichlorobenzene		0.47	0.79	0.47	0.19	**U**
91-20-3	Naphthalene		0.64	1.1	0.64	0.27	**U**
1330-20-7	Xylenes, Total	**5.3**		2.7	0.85	0.35	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV12-150-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-010

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00695

Initial Pressure (psig): -3.93 Final Pressure (psig): 6.65

Container Dilution Factor: 1.98

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.89**	1.5	0.92	0.37	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**6.6**	0.53	0.32	0.087	
74-87-3	Chloromethane	0.77	1.3	0.77	0.21	**U**
75-01-4	Vinyl Chloride	**4.2**	1.0	0.33	0.11	
106-99-0	1,3-Butadiene	0.72	1.2	0.72	0.20	**U**
75-00-3	Chloroethane	0.60	1.0	0.60	0.12	**U**
64-17-5	Ethanol	**2.8**	14	2.2	0.97	**J, B**
67-64-1	Acetone	**2.6**	11	5.6	2.5	**J**
75-69-4	Trichlorofluoromethane	**0.92**	0.47	0.28	0.071	
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.62**	4.2	1.3	0.44	**J**
75-09-2	Methylene Chloride	0.46	0.76	0.46	0.21	**U**
76-13-1	Trichlorotrifluoroethane	**66**	3.5	1.1	0.49	**D**
75-15-0	Carbon Disulfide	**0.65**	1.7	0.86	0.25	**J**
75-34-3	1,1-Dichloroethane	0.40	0.67	0.40	0.095	**U**
78-93-3	2-Butanone (MEK)	**0.24**	1.8	0.54	0.18	**J**
141-78-6	Ethyl Acetate	0.89	1.5	0.89	0.38	**U**
110-54-3	n-Hexane	0.45	0.76	0.45	0.15	**U**
67-66-3	Chloroform	**1.1**	0.55	0.17	0.072	
109-99-9	Tetrahydrofuran (THF)	**1.2**	0.92	0.29	0.11	
107-06-2	1,2-Dichloroethane	0.21	0.66	0.21	0.072	**U**
71-43-2	Benzene	**0.30**	0.82	0.26	0.12	**J**
56-23-5	Carbon Tetrachloride	**5.5**	0.42	0.13	0.058	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV12-150-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-010

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00695

Initial Pressure (psig): -3.93 Final Pressure (psig): 6.65

Container Dilution Factor: 1.98

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**0.80**	1.6	0.49	0.22	**J**
75-27-4	Bromodichloromethane	0.13	0.40	0.13	0.057	**U**
79-01-6	Trichloroethene	**29**	0.50	0.16	0.066	
123-91-1	1,4-Dioxane	0.23	0.74	0.23	0.087	**U**
142-82-5	n-Heptane	0.39	0.65	0.39	0.10	**U**
108-10-1	4-Methyl-2-pentanone	0.21	0.64	0.21	0.088	**U**
108-88-3	Toluene	**0.29**	0.71	0.22	0.085	**J**
591-78-6	2-Hexanone	0.21	0.65	0.21	0.080	**U**
124-48-1	Dibromochloromethane	0.099	0.31	0.099	0.041	**U**
106-93-4	1,2-Dibromoethane	0.11	0.35	0.11	0.040	**U**
127-18-4	Tetrachloroethene	**2.7**	0.38	0.12	0.050	
100-41-4	Ethylbenzene	0.19	0.62	0.19	0.086	**U**
179601-23-1	m,p-Xylenes	**0.28**	1.3	0.39	0.16	**J**
75-25-2	Bromoform	0.15	0.26	0.15	0.053	**U**
100-42-5	Styrene	0.37	0.62	0.37	0.10	**U**
95-47-6	o-Xylene	**0.089**	0.62	0.19	0.088	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.14**	0.53	0.17	0.078	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.76**	0.54	0.17	0.075	
120-82-1	1,2,4-Trichlorobenzene	0.21	0.36	0.21	0.087	**U**
91-20-3	Naphthalene	**0.21**	0.49	0.29	0.12	**J**
1330-20-7	Xylenes, Total	**0.37**	1.3	0.39	0.16	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV12-250-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-011

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.020 Liter(s)
Container ID: 1SS00124

Initial Pressure (psig): -3.60 Final Pressure (psig): 5.94

Container Dilution Factor: 1.86

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**5.5**	1.4	0.86	0.35	
75-71-8	Dichlorodifluoromethane (CFC 12)	**3.4**	0.50	0.30	0.082	
74-87-3	Chloromethane	**0.35**	1.2	0.72	0.19	**J**
75-01-4	Vinyl Chloride	**620**	20	6.2	2.1	**D**
106-99-0	1,3-Butadiene	0.67	1.1	0.67	0.19	**U**
75-00-3	Chloroethane	0.56	0.95	0.56	0.12	**U**
64-17-5	Ethanol	**3.0**	13	2.0	0.91	**J, B**
67-64-1	Acetone	**2.9**	10	5.3	2.3	**J**
75-69-4	Trichlorofluoromethane	**0.83**	0.44	0.26	0.067	
67-63-0	2-Propanol (Isopropyl Alcohol)	1.2	4.0	1.2	0.42	**U**
75-09-2	Methylene Chloride	0.43	0.71	0.43	0.20	**U**
76-13-1	Trichlorotrifluoroethane	**120**	6.6	2.1	0.92	**D**
75-15-0	Carbon Disulfide	**16**	1.6	0.81	0.24	
75-34-3	1,1-Dichloroethane	**0.15**	0.63	0.38	0.090	**J**
78-93-3	2-Butanone (MEK)	**0.44**	1.7	0.50	0.17	**J**
141-78-6	Ethyl Acetate	0.84	1.4	0.84	0.36	**U**
110-54-3	n-Hexane	**0.49**	0.71	0.42	0.15	**J**
67-66-3	Chloroform	**1.5**	0.51	0.16	0.068	
109-99-9	Tetrahydrofuran (THF)	**1.9**	0.87	0.27	0.11	
107-06-2	1,2-Dichloroethane	**1.3**	0.62	0.20	0.068	
71-43-2	Benzene	**0.67**	0.77	0.25	0.11	**J**
56-23-5	Carbon Tetrachloride	**3.9**	0.39	0.13	0.055	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV12-250-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-011

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.020 Liter(s)
Container ID: 1SS00124

Initial Pressure (psig): -3.60 Final Pressure (psig): 5.94

Container Dilution Factor: 1.86

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**38**	1.5	0.46	0.20	
75-27-4	Bromodichloromethane	0.12	0.37	0.12	0.053	**U**
79-01-6	Trichloroethene	**14**	0.47	0.15	0.062	
123-91-1	1,4-Dioxane	0.22	0.70	0.22	0.081	**U**
142-82-5	n-Heptane	0.36	0.61	0.36	0.096	**U**
108-10-1	4-Methyl-2-pentanone	0.19	0.60	0.19	0.083	**U**
108-88-3	Toluene	**0.56**	0.67	0.21	0.080	**J**
591-78-6	2-Hexanone	**0.12**	0.61	0.19	0.075	**J**
124-48-1	Dibromochloromethane	0.093	0.29	0.093	0.038	**U**
106-93-4	1,2-Dibromoethane	0.10	0.33	0.10	0.038	**U**
127-18-4	Tetrachloroethene	**1.6**	0.36	0.12	0.047	
100-41-4	Ethylbenzene	0.18	0.58	0.18	0.080	**U**
179601-23-1	m,p-Xylenes	**0.57**	1.2	0.36	0.15	**J**
75-25-2	Bromoform	0.14	0.24	0.14	0.049	**U**
100-42-5	Styrene	0.35	0.58	0.35	0.094	**U**
95-47-6	o-Xylene	**0.16**	0.58	0.18	0.082	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.20**	0.50	0.16	0.073	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.87**	0.51	0.16	0.070	
120-82-1	1,2,4-Trichlorobenzene	0.20	0.34	0.20	0.081	**U**
91-20-3	Naphthalene	**0.29**	0.46	0.28	0.12	**J**
1330-20-7	Xylenes, Total	**0.73**	1.2	0.36	0.15	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV12-350-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-012

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00940

Initial Pressure (psig): -3.60 Final Pressure (psig): 6.54

Container Dilution Factor: 1.91

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**9.3**	1.5	0.89	0.36	
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.20**	0.51	0.31	0.084	**J**
74-87-3	Chloromethane	**1.4**	1.2	0.74	0.20	
75-01-4	Vinyl Chloride	**250**	10	3.2	1.1	**D**
106-99-0	1,3-Butadiene	0.69	1.1	0.69	0.19	**U**
75-00-3	Chloroethane	**11**	0.98	0.58	0.12	
64-17-5	Ethanol	**8.5**	13	2.1	0.94	**J, B**
67-64-1	Acetone	**19**	11	5.4	2.4	
75-69-4	Trichlorofluoromethane	0.27	0.45	0.27	0.069	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.2	4.1	1.2	0.43	**U**
75-09-2	Methylene Chloride	0.44	0.73	0.44	0.21	**U**
76-13-1	Trichlorotrifluoroethane	**1.6**	0.34	0.11	0.047	
75-15-0	Carbon Disulfide	**9.9**	1.7	0.83	0.25	
75-34-3	1,1-Dichloroethane	**0.12**	0.65	0.39	0.092	**J**
78-93-3	2-Butanone (MEK)	**3.2**	1.8	0.52	0.18	
141-78-6	Ethyl Acetate	0.86	1.5	0.86	0.37	**U**
110-54-3	n-Hexane	**0.67**	0.73	0.43	0.15	**J**
67-66-3	Chloroform	**0.10**	0.53	0.17	0.069	**J**
109-99-9	Tetrahydrofuran (THF)	**0.73**	0.89	0.28	0.11	**J**
107-06-2	1,2-Dichloroethane	**0.64**	0.64	0.20	0.070	
71-43-2	Benzene	**1.4**	0.79	0.25	0.12	
56-23-5	Carbon Tetrachloride	**0.54**	0.40	0.13	0.056	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV12-350-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-012

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00940

Initial Pressure (psig): -3.60 Final Pressure (psig): 6.54

Container Dilution Factor: 1.91

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**2.6**	1.5	0.47	0.21	
75-27-4	Bromodichloromethane	0.12	0.39	0.12	0.055	**U**
79-01-6	Trichloroethene	**0.34**	0.48	0.15	0.064	**J**
123-91-1	1,4-Dioxane	**0.093**	0.72	0.23	0.084	**J**
142-82-5	n-Heptane	**0.17**	0.63	0.37	0.099	**J**
108-10-1	4-Methyl-2-pentanone	**0.12**	0.62	0.20	0.085	**J**
108-88-3	Toluene	**0.55**	0.68	0.22	0.082	**J**
591-78-6	2-Hexanone	**0.40**	0.63	0.20	0.077	**J**
124-48-1	Dibromochloromethane	0.095	0.30	0.095	0.039	**U**
106-93-4	1,2-Dibromoethane	0.11	0.34	0.11	0.039	**U**
127-18-4	Tetrachloroethene	**0.30**	0.37	0.12	0.049	**J**
100-41-4	Ethylbenzene	**0.10**	0.59	0.19	0.082	**J**
179601-23-1	m,p-Xylenes	**0.57**	1.2	0.37	0.15	**J**
75-25-2	Bromoform	0.15	0.25	0.15	0.051	**U**
100-42-5	Styrene	0.36	0.59	0.36	0.096	**U**
95-47-6	o-Xylene	**0.15**	0.59	0.19	0.085	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.27**	0.51	0.17	0.075	**J**
95-63-6	1,2,4-Trimethylbenzene	**1.2**	0.52	0.17	0.072	
120-82-1	1,2,4-Trichlorobenzene	0.21	0.35	0.21	0.084	**U**
91-20-3	Naphthalene	**0.36**	0.47	0.28	0.12	**J**
1330-20-7	Xylenes, Total	**0.72**	1.2	0.37	0.15	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV12-450-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-013

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00220

Initial Pressure (psig): -3.64 Final Pressure (psig): 5.46

Container Dilution Factor: 1.82

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**3.2**	1.4	0.85	0.34	
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.6**	0.49	0.29	0.080	
74-87-3	Chloromethane	**1.8**	1.2	0.71	0.19	
75-01-4	Vinyl Chloride	**81**	0.96	0.30	0.10	
106-99-0	1,3-Butadiene	0.66	1.1	0.66	0.18	**U**
75-00-3	Chloroethane	**1.0**	0.93	0.55	0.11	
64-17-5	Ethanol	**120**	13	2.0	0.89	**B**
67-64-1	Acetone	**15**	10	5.2	2.3	
75-69-4	Trichlorofluoromethane	**0.63**	0.43	0.26	0.066	
67-63-0	2-Propanol (Isopropyl Alcohol)	**3.7**	3.9	1.2	0.41	**J**
75-09-2	Methylene Chloride	0.42	0.69	0.42	0.20	**U**
76-13-1	Trichlorotrifluoroethane	**130**	3.2	1.0	0.45	**D**
75-15-0	Carbon Disulfide	**11**	1.6	0.79	0.23	
75-34-3	1,1-Dichloroethane	0.37	0.62	0.37	0.088	**U**
78-93-3	2-Butanone (MEK)	**1.9**	1.7	0.49	0.17	
141-78-6	Ethyl Acetate	**1.4**	1.4	0.82	0.35	
110-54-3	n-Hexane	**6.3**	0.70	0.41	0.14	
67-66-3	Chloroform	**0.75**	0.50	0.16	0.066	
109-99-9	Tetrahydrofuran (THF)	**4.3**	0.85	0.26	0.10	
107-06-2	1,2-Dichloroethane	**0.21**	0.61	0.19	0.066	**J**
71-43-2	Benzene	**5.8**	0.76	0.24	0.11	
56-23-5	Carbon Tetrachloride	**2.8**	0.38	0.12	0.054	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV12-450-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-013

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00220

Initial Pressure (psig): -3.64 Final Pressure (psig): 5.46

Container Dilution Factor: 1.82

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**2.8**	1.5	0.45	0.20	
75-27-4	Bromodichloromethane	0.12	0.37	0.12	0.052	**U**
79-01-6	Trichloroethene	**6.6**	0.46	0.14	0.061	
123-91-1	1,4-Dioxane	0.21	0.68	0.21	0.080	**U**
142-82-5	n-Heptane	**0.82**	0.60	0.36	0.094	
108-10-1	4-Methyl-2-pentanone	**0.13**	0.59	0.19	0.081	**J**
108-88-3	Toluene	**11**	0.65	0.21	0.079	
591-78-6	2-Hexanone	**0.13**	0.60	0.19	0.073	**J**
124-48-1	Dibromochloromethane	0.091	0.29	0.091	0.037	**U**
106-93-4	1,2-Dibromoethane	0.10	0.32	0.10	0.037	**U**
127-18-4	Tetrachloroethene	**1.6**	0.35	0.11	0.046	
100-41-4	Ethylbenzene	**0.26**	0.57	0.18	0.079	**J**
179601-23-1	m,p-Xylenes	**0.16**	1.2	0.36	0.15	**J**
75-25-2	Bromoform	0.14	0.24	0.14	0.048	**U**
100-42-5	Styrene	0.34	0.57	0.34	0.092	**U**
95-47-6	o-Xylene	0.18	0.57	0.18	0.081	**U**
108-67-8	1,3,5-Trimethylbenzene	0.16	0.49	0.16	0.071	**U**
95-63-6	1,2,4-Trimethylbenzene	0.16	0.50	0.16	0.069	**U**
120-82-1	1,2,4-Trichlorobenzene	0.20	0.33	0.20	0.080	**U**
91-20-3	Naphthalene	0.27	0.45	0.27	0.11	**U**
1330-20-7	Xylenes, Total	**0.16**	1.2	0.36	0.15	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV13-150-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-014

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0015 Liter(s)
Test Notes:
Container ID: 1SS00691

Initial Pressure (psig): -2.45 Final Pressure (psig): 3.81

Container Dilution Factor: 1.51

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**400**	310	190	76	
75-71-8	Dichlorodifluoromethane (CFC 12)	65	110	65	18	**U**
74-87-3	Chloromethane	160	260	160	42	**U**
75-01-4	Vinyl Chloride	**1,600**	210	67	22	
106-99-0	1,3-Butadiene	150	240	150	40	**U**
75-00-3	Chloroethane	**28**	210	120	25	**J**
64-17-5	Ethanol	**320**	2,800	440	200	**J, B**
67-64-1	Acetone	1,100	2,200	1,100	510	**U**
75-69-4	Trichlorofluoromethane	57	95	57	15	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	260	860	260	90	**U**
75-09-2	Methylene Chloride	93	150	93	43	**U**
76-13-1	Trichlorotrifluoroethane	**240**	71	22	10	
75-15-0	Carbon Disulfide	170	360	170	52	**U**
75-34-3	1,1-Dichloroethane	82	140	82	19	**U**
78-93-3	2-Butanone (MEK)	110	380	110	38	**U**
141-78-6	Ethyl Acetate	180	310	180	78	**U**
110-54-3	n-Hexane	**720**	150	91	31	
67-66-3	Chloroform	35	110	35	15	**U**
109-99-9	Tetrahydrofuran (THF)	**160**	190	58	23	**J**
107-06-2	1,2-Dichloroethane	42	130	42	15	**U**
71-43-2	Benzene	**330**	170	54	24	
56-23-5	Carbon Tetrachloride	27	85	27	12	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV13-150-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-014

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0015 Liter(s)
Test Notes:
Container ID: 1SS00691

Initial Pressure (psig): -2.45 Final Pressure (psig): 3.81

Container Dilution Factor: 1.51

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**7,200**	320	99	44	
75-27-4	Bromodichloromethane	26	81	26	12	**U**
79-01-6	Trichloroethene	**24**	100	32	13	**J**
123-91-1	1,4-Dioxane	48	150	48	18	**U**
142-82-5	n-Heptane	**380**	130	79	21	
108-10-1	4-Methyl-2-pentanone	42	130	42	18	**U**
108-88-3	Toluene	**220**	140	45	17	
591-78-6	2-Hexanone	42	130	42	16	**U**
124-48-1	Dibromochloromethane	20	64	20	8.3	**U**
106-93-4	1,2-Dibromoethane	**10**	71	22	8.1	**J**
127-18-4	Tetrachloroethene	25	77	25	10	**U**
100-41-4	Ethylbenzene	**22**	130	39	17	**J**
179601-23-1	m,p-Xylenes	**590**	260	79	32	
75-25-2	Bromoform	31	53	31	11	**U**
100-42-5	Styrene	76	130	76	20	**U**
95-47-6	o-Xylene	**55**	130	39	18	**J**
108-67-8	1,3,5-Trimethylbenzene	**250**	110	35	16	
95-63-6	1,2,4-Trimethylbenzene	**220**	110	35	15	
120-82-1	1,2,4-Trichlorobenzene	43	73	43	18	**U**
91-20-3	Naphthalene	60	100	60	25	**U**
1330-20-7	Xylenes, Total	**650**	260	79	32	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV13-250-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-015

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00495

Initial Pressure (psig): -2.67 Final Pressure (psig): 6.46

Container Dilution Factor: 1.76

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.57**	1.4	0.82	0.33	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.6**	0.47	0.28	0.077	
74-87-3	Chloromethane	**0.20**	1.1	0.68	0.18	**J**
75-01-4	Vinyl Chloride	**3.5**	0.93	0.29	0.098	
106-99-0	1,3-Butadiene	0.64	1.1	0.64	0.18	**U**
75-00-3	Chloroethane	0.53	0.90	0.53	0.11	**U**
64-17-5	Ethanol	**51**	12	1.9	0.86	**B**
67-64-1	Acetone	**9.3**	9.8	5.0	2.2	**J**
75-69-4	Trichlorofluoromethane	**0.23**	0.42	0.25	0.063	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.3**	3.8	1.1	0.39	**J**
75-09-2	Methylene Chloride	0.41	0.67	0.41	0.19	**U**
76-13-1	Trichlorotrifluoroethane	**0.51**	0.31	0.098	0.044	
75-15-0	Carbon Disulfide	**4.4**	1.6	0.76	0.23	
75-34-3	1,1-Dichloroethane	0.36	0.60	0.36	0.085	**U**
78-93-3	2-Butanone (MEK)	**1.5**	1.6	0.48	0.16	**J**
141-78-6	Ethyl Acetate	0.79	1.3	0.79	0.34	**U**
110-54-3	n-Hexane	0.40	0.67	0.40	0.14	**U**
67-66-3	Chloroform	0.15	0.49	0.15	0.064	**U**
109-99-9	Tetrahydrofuran (THF)	**3.5**	0.82	0.25	0.10	
107-06-2	1,2-Dichloroethane	0.18	0.59	0.18	0.064	**U**
71-43-2	Benzene	**0.49**	0.73	0.23	0.11	**J**
56-23-5	Carbon Tetrachloride	**0.073**	0.37	0.12	0.052	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV13-250-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-015

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00495

Initial Pressure (psig): -2.67 Final Pressure (psig): 6.46

Container Dilution Factor: 1.76

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**0.43**	1.4	0.43	0.19	**J**
75-27-4	Bromodichloromethane	0.11	0.35	0.11	0.051	**U**
79-01-6	Trichloroethene	0.14	0.44	0.14	0.059	**U**
123-91-1	1,4-Dioxane	**0.083**	0.66	0.21	0.077	**J**
142-82-5	n-Heptane	**0.17**	0.58	0.34	0.091	**J**
108-10-1	4-Methyl-2-pentanone	**0.16**	0.57	0.18	0.078	**J**
108-88-3	Toluene	**1.7**	0.63	0.20	0.076	
591-78-6	2-Hexanone	0.18	0.58	0.18	0.071	**U**
124-48-1	Dibromochloromethane	0.088	0.28	0.088	0.036	**U**
106-93-4	1,2-Dibromoethane	0.097	0.31	0.097	0.036	**U**
127-18-4	Tetrachloroethene	**0.22**	0.34	0.11	0.045	**J**
100-41-4	Ethylbenzene	**0.23**	0.55	0.17	0.076	**J**
179601-23-1	m,p-Xylenes	**1.4**	1.1	0.34	0.14	
75-25-2	Bromoform	0.14	0.23	0.14	0.047	**U**
100-42-5	Styrene	0.33	0.55	0.33	0.089	**U**
95-47-6	o-Xylene	**0.50**	0.55	0.17	0.078	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.98**	0.47	0.15	0.069	
95-63-6	1,2,4-Trimethylbenzene	**2.6**	0.48	0.15	0.066	
120-82-1	1,2,4-Trichlorobenzene	0.19	0.32	0.19	0.077	**U**
91-20-3	Naphthalene	**0.46**	0.44	0.26	0.11	
1330-20-7	Xylenes, Total	**1.9**	1.1	0.34	0.14	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV13-350-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-016

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00885

Initial Pressure (psig): -3.24 Final Pressure (psig): 6.03

Container Dilution Factor: 1.81

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**5.0**	1.4	0.84	0.34	
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.85**	0.49	0.29	0.080	
74-87-3	Chloromethane	**14**	1.2	0.70	0.19	
75-01-4	Vinyl Chloride	**480**	9.6	3.0	1.0	**D**
106-99-0	1,3-Butadiene	0.65	1.1	0.65	0.18	**U**
75-00-3	Chloroethane	**10**	0.93	0.55	0.11	
64-17-5	Ethanol	**7.0**	12	2.0	0.89	**J, B**
67-64-1	Acetone	5.1	10	5.1	2.3	**U**
75-69-4	Trichlorofluoromethane	**0.32**	0.43	0.26	0.065	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**2.7**	3.9	1.2	0.41	**J**
75-09-2	Methylene Chloride	0.42	0.69	0.42	0.20	**U**
76-13-1	Trichlorotrifluoroethane	**0.38**	0.32	0.10	0.045	
75-15-0	Carbon Disulfide	**14**	1.6	0.78	0.23	
75-34-3	1,1-Dichloroethane	**0.17**	0.62	0.37	0.087	**J**
78-93-3	2-Butanone (MEK)	**0.32**	1.7	0.49	0.17	**J**
141-78-6	Ethyl Acetate	**2.2**	1.4	0.82	0.35	
110-54-3	n-Hexane	**1.8**	0.69	0.41	0.14	
67-66-3	Chloroform	**0.091**	0.50	0.16	0.066	**J**
109-99-9	Tetrahydrofuran (THF)	**47**	0.84	0.26	0.10	
107-06-2	1,2-Dichloroethane	**1.1**	0.60	0.19	0.066	
71-43-2	Benzene	**18**	0.75	0.24	0.11	
56-23-5	Carbon Tetrachloride	**0.41**	0.38	0.12	0.053	

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV13-350-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-016

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00885

Initial Pressure (psig): -3.24 Final Pressure (psig): 6.03

Container Dilution Factor: 1.81

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**5.2**	1.4	0.45	0.20	
75-27-4	Bromodichloromethane	0.11	0.36	0.11	0.052	**U**
79-01-6	Trichloroethene	0.14	0.45	0.14	0.061	**U**
123-91-1	1,4-Dioxane	**0.11**	0.68	0.21	0.079	**J**
142-82-5	n-Heptane	**0.27**	0.60	0.35	0.094	**J**
108-10-1	4-Methyl-2-pentanone	**0.16**	0.59	0.19	0.081	**J**
108-88-3	Toluene	**18**	0.65	0.20	0.078	
591-78-6	2-Hexanone	0.19	0.60	0.19	0.073	**U**
124-48-1	Dibromochloromethane	0.090	0.29	0.090	0.037	**U**
106-93-4	1,2-Dibromoethane	**0.12**	0.32	0.10	0.037	**J**
127-18-4	Tetrachloroethene	**0.22**	0.35	0.11	0.046	**J**
100-41-4	Ethylbenzene	**0.71**	0.56	0.18	0.078	
179601-23-1	m,p-Xylenes	**4.3**	1.1	0.35	0.15	
75-25-2	Bromoform	0.14	0.24	0.14	0.048	**U**
100-42-5	Styrene	0.34	0.56	0.34	0.091	**U**
95-47-6	o-Xylene	**1.7**	0.56	0.18	0.080	
108-67-8	1,3,5-Trimethylbenzene	**0.74**	0.49	0.16	0.071	
95-63-6	1,2,4-Trimethylbenzene	**2.0**	0.50	0.16	0.068	
120-82-1	1,2,4-Trichlorobenzene	0.20	0.33	0.20	0.079	**U**
91-20-3	Naphthalene	**0.40**	0.45	0.27	0.11	**J**
1330-20-7	Xylenes, Total	**6.0**	1.1	0.35	0.15	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV13-450-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-017

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00169

Initial Pressure (psig): -3.14 Final Pressure (psig): 5.62

Container Dilution Factor: 1.76

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**22**	1.4	0.82	0.33	
75-71-8	Dichlorodifluoromethane (CFC 12)	**0.63**	0.47	0.28	0.077	
74-87-3	Chloromethane	**0.55**	1.1	0.68	0.18	**J**
75-01-4	Vinyl Chloride	**17**	0.93	0.29	0.098	
106-99-0	1,3-Butadiene	0.64	1.1	0.64	0.18	**U**
75-00-3	Chloroethane	**0.37**	0.90	0.53	0.11	**J**
64-17-5	Ethanol	**2.1**	12	1.9	0.86	**J, B**
67-64-1	Acetone	**2.4**	9.8	5.0	2.2	**J**
75-69-4	Trichlorofluoromethane	**0.37**	0.42	0.25	0.063	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.40**	3.8	1.1	0.39	**J**
75-09-2	Methylene Chloride	0.41	0.67	0.41	0.19	**U**
76-13-1	Trichlorotrifluoroethane	**0.19**	0.31	0.098	0.044	**J**
75-15-0	Carbon Disulfide	**8.0**	1.6	0.76	0.23	
75-34-3	1,1-Dichloroethane	0.36	0.60	0.36	0.085	**U**
78-93-3	2-Butanone (MEK)	**0.36**	1.6	0.48	0.16	**J**
141-78-6	Ethyl Acetate	**0.72**	1.3	0.79	0.34	**J**
110-54-3	n-Hexane	**6.9**	0.67	0.40	0.14	
67-66-3	Chloroform	**0.076**	0.49	0.15	0.064	**J**
109-99-9	Tetrahydrofuran (THF)	**0.85**	0.82	0.25	0.10	
107-06-2	1,2-Dichloroethane	**0.34**	0.59	0.18	0.064	**J**
71-43-2	Benzene	**2.6**	0.73	0.23	0.11	
56-23-5	Carbon Tetrachloride	**0.41**	0.37	0.12	0.052	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV13-450-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-017

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00169

Initial Pressure (psig): -3.14 Final Pressure (psig): 5.62

Container Dilution Factor: 1.76

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**170**		1.4	0.43	0.19	
75-27-4	Bromodichloromethane		0.11	0.35	0.11	0.051	**U**
79-01-6	Trichloroethene	**0.12**		0.44	0.14	0.059	**J**
123-91-1	1,4-Dioxane	**0.24**		0.66	0.21	0.077	**J**
142-82-5	n-Heptane	**0.18**		0.58	0.34	0.091	**J**
108-10-1	4-Methyl-2-pentanone		0.18	0.57	0.18	0.078	**U**
108-88-3	Toluene	**3.8**		0.63	0.20	0.076	
591-78-6	2-Hexanone		0.18	0.58	0.18	0.071	**U**
124-48-1	Dibromochloromethane		0.088	0.28	0.088	0.036	**U**
106-93-4	1,2-Dibromoethane		0.097	0.31	0.097	0.036	**U**
127-18-4	Tetrachloroethene	**0.13**		0.34	0.11	0.045	**J**
100-41-4	Ethylbenzene	**0.32**		0.55	0.17	0.076	**J**
179601-23-1	m,p-Xylenes	**0.93**		1.1	0.34	0.14	**J**
75-25-2	Bromoform		0.14	0.23	0.14	0.047	**U**
100-42-5	Styrene		0.33	0.55	0.33	0.089	**U**
95-47-6	o-Xylene	**0.42**		0.55	0.17	0.078	**J**
108-67-8	1,3,5-Trimethylbenzene	**1.3**		0.47	0.15	0.069	
95-63-6	1,2,4-Trimethylbenzene	**2.0**		0.48	0.15	0.066	
120-82-1	1,2,4-Trichlorobenzene		0.19	0.32	0.19	0.077	**U**
91-20-3	Naphthalene	**0.21**		0.44	0.26	0.11	**J**
1330-20-7	Xylenes, Total	**1.4**		1.1	0.34	0.14	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV15-150-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-018

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01260

Initial Pressure (psig): -3.68 Final Pressure (psig): 6.00

Container Dilution Factor: 1.88

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**0.39**	1.4	0.87	0.36	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.2**	0.50	0.30	0.083	
74-87-3	Chloromethane	**0.54**	1.2	0.73	0.20	**J**
75-01-4	Vinyl Chloride	0.31	0.99	0.31	0.10	**U**
106-99-0	1,3-Butadiene	0.68	1.1	0.68	0.19	**U**
75-00-3	Chloroethane	0.57	0.96	0.57	0.12	**U**
64-17-5	Ethanol	**3.2**	13	2.1	0.92	**J, B**
67-64-1	Acetone	**5.8**	10	5.3	2.4	**J**
75-69-4	Trichlorofluoromethane	**0.22**	0.44	0.27	0.068	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.2	4.0	1.2	0.42	**U**
75-09-2	Methylene Chloride	0.43	0.72	0.43	0.20	**U**
76-13-1	Trichlorotrifluoroethane	**1.0**	0.33	0.10	0.047	
75-15-0	Carbon Disulfide	**0.95**	1.7	0.82	0.24	**J**
75-34-3	1,1-Dichloroethane	0.38	0.64	0.38	0.091	**U**
78-93-3	2-Butanone (MEK)	**0.93**	1.8	0.51	0.18	**J**
141-78-6	Ethyl Acetate	0.85	1.4	0.85	0.37	**U**
110-54-3	n-Hexane	**0.37**	0.72	0.43	0.15	**J**
67-66-3	Chloroform	**0.14**	0.52	0.16	0.068	**J**
109-99-9	Tetrahydrofuran (THF)	**14**	0.88	0.27	0.11	
107-06-2	1,2-Dichloroethane	0.20	0.63	0.20	0.069	**U**
71-43-2	Benzene	**1.6**	0.78	0.25	0.11	
56-23-5	Carbon Tetrachloride	**0.29**	0.40	0.13	0.055	**J**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV15-150-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-018

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01260

Initial Pressure (psig): -3.68 Final Pressure (psig): 6.00

Container Dilution Factor: 1.88

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**0.45**	1.5	0.46	0.20	**J**
75-27-4	Bromodichloromethane	0.12	0.38	0.12	0.054	**U**
79-01-6	Trichloroethene	0.15	0.47	0.15	0.063	**U**
123-91-1	1,4-Dioxane	**0.087**	0.70	0.22	0.082	**J**
142-82-5	n-Heptane	**0.38**	0.62	0.37	0.098	**J**
108-10-1	4-Methyl-2-pentanone	0.20	0.61	0.20	0.084	**U**
108-88-3	Toluene	**2.9**	0.67	0.21	0.081	
591-78-6	2-Hexanone	0.20	0.62	0.20	0.076	**U**
124-48-1	Dibromochloromethane	0.094	0.30	0.094	0.039	**U**
106-93-4	1,2-Dibromoethane	0.10	0.33	0.10	0.038	**U**
127-18-4	Tetrachloroethene	**0.42**	0.36	0.12	0.048	
100-41-4	Ethylbenzene	**0.28**	0.58	0.18	0.081	**J**
179601-23-1	m,p-Xylenes	**0.89**	1.2	0.37	0.15	**J**
75-25-2	Bromoform	0.15	0.25	0.15	0.050	**U**
100-42-5	Styrene	0.35	0.59	0.35	0.095	**U**
95-47-6	o-Xylene	**0.47**	0.58	0.18	0.083	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.29**	0.51	0.16	0.074	**J**
95-63-6	1,2,4-Trimethylbenzene	**0.75**	0.52	0.16	0.071	
120-82-1	1,2,4-Trichlorobenzene	0.20	0.34	0.20	0.082	**U**
91-20-3	Naphthalene	0.28	0.47	0.28	0.12	**U**
1330-20-7	Xylenes, Total	**1.4**	1.2	0.37	0.15	

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV15-250-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-019

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00967

Initial Pressure (psig): -4.52 Final Pressure (psig): 5.97

Container Dilution Factor: 2.03

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**9.4**	1.6	0.94	0.38	
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.1**	0.54	0.33	0.089	
74-87-3	Chloromethane	**5.2**	1.3	0.79	0.21	
75-01-4	Vinyl Chloride	**170**	11	3.4	1.1	**D**
106-99-0	1,3-Butadiene	0.73	1.2	0.73	0.20	**U**
75-00-3	Chloroethane	**4.3**	1.0	0.62	0.13	
64-17-5	Ethanol	**1.8**	14	2.2	1.0	**J, B**
67-64-1	Acetone	**7.4**	11	5.8	2.6	**J**
75-69-4	Trichlorofluoromethane	**0.20**	0.48	0.29	0.073	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.3	4.3	1.3	0.45	**U**
75-09-2	Methylene Chloride	0.47	0.77	0.47	0.22	**U**
76-13-1	Trichlorotrifluoroethane	**1.4**	0.36	0.11	0.050	
75-15-0	Carbon Disulfide	**3.8**	1.8	0.88	0.26	
75-34-3	1,1-Dichloroethane	**0.12**	0.69	0.41	0.098	**J**
78-93-3	2-Butanone (MEK)	**0.29**	1.9	0.55	0.19	**J**
141-78-6	Ethyl Acetate	0.92	1.5	0.92	0.39	**U**
110-54-3	n-Hexane	**0.47**	0.78	0.46	0.16	**J**
67-66-3	Chloroform	**0.12**	0.56	0.18	0.074	**J**
109-99-9	Tetrahydrofuran (THF)	**2.9**	0.95	0.29	0.12	
107-06-2	1,2-Dichloroethane	**0.41**	0.68	0.21	0.074	**J**
71-43-2	Benzene	**2.2**	0.84	0.27	0.12	
56-23-5	Carbon Tetrachloride	**0.48**	0.43	0.14	0.060	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV15-250-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-019

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00967

Initial Pressure (psig): -4.52 Final Pressure (psig): 5.97

Container Dilution Factor: 2.03

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**4.7**	1.6	0.50	0.22	
75-27-4	Bromodichloromethane	0.13	0.41	0.13	0.058	**U**
79-01-6	Trichloroethene	0.16	0.51	0.16	0.068	**U**
123-91-1	1,4-Dioxane	0.24	0.76	0.24	0.089	**U**
142-82-5	n-Heptane	**0.27**	0.67	0.40	0.11	**J**
108-10-1	4-Methyl-2-pentanone	0.21	0.66	0.21	0.090	**U**
108-88-3	Toluene	**5.1**	0.73	0.23	0.088	
591-78-6	2-Hexanone	0.21	0.67	0.21	0.082	**U**
124-48-1	Dibromochloromethane	0.10	0.32	0.10	0.042	**U**
106-93-4	1,2-Dibromoethane	0.11	0.36	0.11	0.041	**U**
127-18-4	Tetrachloroethene	**0.45**	0.39	0.13	0.052	
100-41-4	Ethylbenzene	**0.50**	0.63	0.20	0.088	**J**
179601-23-1	m,p-Xylenes	**0.85**	1.3	0.40	0.16	**J**
75-25-2	Bromoform	0.16	0.27	0.16	0.054	**U**
100-42-5	Styrene	0.38	0.63	0.38	0.10	**U**
95-47-6	o-Xylene	**0.44**	0.63	0.20	0.090	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.36**	0.55	0.18	0.080	**J**
95-63-6	1,2,4-Trimethylbenzene	**1.0**	0.56	0.18	0.076	
120-82-1	1,2,4-Trichlorobenzene	0.22	0.37	0.22	0.089	**U**
91-20-3	Naphthalene	**0.31**	0.50	0.30	0.13	**J**
1330-20-7	Xylenes, Total	**1.3**	1.3	0.40	0.16	

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV15-350-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-020

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SC00697

Initial Pressure (psig): -3.15 Final Pressure (psig): 6.39

Container Dilution Factor: 1.83

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**70**	28	17	6.9	
75-71-8	Dichlorodifluoromethane (CFC 12)	**6.8**	9.8	5.9	1.6	**J**
74-87-3	Chloromethane	**16**	23	14	3.8	**J**
75-01-4	Vinyl Chloride	**60**	19	6.1	2.0	
106-99-0	1,3-Butadiene	13	22	13	3.6	**U**
75-00-3	Chloroethane	11	19	11	2.3	**U**
64-17-5	Ethanol	40	250	40	18	**U**
67-64-1	Acetone	100	200	100	46	**U**
75-69-4	Trichlorofluoromethane	5.2	8.6	5.2	1.3	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	23	78	23	8.2	**U**
75-09-2	Methylene Chloride	8.4	14	8.4	4.0	**U**
76-13-1	Trichlorotrifluoroethane	2.0	6.4	2.0	0.91	**U**
75-15-0	Carbon Disulfide	16	32	16	4.7	**U**
75-34-3	1,1-Dichloroethane	7.5	12	7.5	1.8	**U**
78-93-3	2-Butanone (MEK)	9.9	34	9.9	3.4	**U**
141-78-6	Ethyl Acetate	17	28	17	7.1	**U**
110-54-3	n-Hexane	**350**	14	8.3	2.9	
67-66-3	Chloroform	3.2	10	3.2	1.3	**U**
109-99-9	Tetrahydrofuran (THF)	**4.0**	17	5.3	2.1	**J**
107-06-2	1,2-Dichloroethane	3.8	12	3.8	1.3	**U**
71-43-2	Benzene	4.9	15	4.9	2.2	**U**
56-23-5	Carbon Tetrachloride	2.5	7.7	2.5	1.1	**U**

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV15-350-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-020

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SC00697

Initial Pressure (psig): -3.15 Final Pressure (psig): 6.39

Container Dilution Factor: 1.83

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**5,500**	29	9.0	4.0	
75-27-4	Bromodichloromethane	2.3	7.4	2.3	1.1	**U**
79-01-6	Trichloroethene	**6.3**	9.2	2.9	1.2	**J**
123-91-1	1,4-Dioxane	4.3	14	4.3	1.6	**U**
142-82-5	n-Heptane	7.1	12	7.1	1.9	**U**
108-10-1	4-Methyl-2-pentanone	3.8	12	3.8	1.6	**U**
108-88-3	Toluene	**2.2**	13	4.1	1.6	**J**
591-78-6	2-Hexanone	3.8	12	3.8	1.5	**U**
124-48-1	Dibromochloromethane	1.8	5.8	1.8	0.75	**U**
106-93-4	1,2-Dibromoethane	**1.7**	6.4	2.0	0.74	**J**
127-18-4	Tetrachloroethene	2.3	7.0	2.3	0.93	**U**
100-41-4	Ethylbenzene	3.6	11	3.6	1.6	**U**
179601-23-1	m,p-Xylenes	7.2	23	7.2	3.0	**U**
75-25-2	Bromoform	2.8	4.8	2.8	0.97	**U**
100-42-5	Styrene	6.9	11	6.9	1.8	**U**
95-47-6	o-Xylene	3.6	11	3.6	1.6	**U**
108-67-8	1,3,5-Trimethylbenzene	3.2	9.9	3.2	1.4	**U**
95-63-6	1,2,4-Trimethylbenzene	3.2	10	3.2	1.4	**U**
120-82-1	1,2,4-Trichlorobenzene	3.9	6.7	3.9	1.6	**U**
91-20-3	Naphthalene	5.4	9.1	5.4	2.3	**U**
1330-20-7	Xylenes, Total	7.2	23	7.2	3.0	**U**

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV15-450-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-021

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00050 Liter(s)
Test Notes: 0.00010 Liter(s)
Container ID: 1SC00521

Initial Pressure (psig): -2.69 Final Pressure (psig): 5.59

Container Dilution Factor: 1.69

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**5,600**	1,000	630	260	
75-71-8	Dichlorodifluoromethane (CFC 12)	220	360	220	59	**U**
74-87-3	Chloromethane	520	870	520	140	**U**
75-01-4	Vinyl Chloride	220	710	220	75	**U**
106-99-0	1,3-Butadiene	490	810	490	130	**U**
75-00-3	Chloroethane	410	690	410	85	**U**
64-17-5	Ethanol	**3,400**	9,300	1,500	660	**J, B**
67-64-1	Acetone	**3,900**	7,500	3,800	1,700	**J**
75-69-4	Trichlorofluoromethane	190	320	190	49	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	870	2,900	870	300	**U**
75-09-2	Methylene Chloride	310	520	310	150	**U**
76-13-1	Trichlorotrifluoroethane	75	240	75	34	**U**
75-15-0	Carbon Disulfide	590	1,200	590	170	**U**
75-34-3	1,1-Dichloroethane	280	460	280	65	**U**
78-93-3	2-Butanone (MEK)	370	1,300	370	130	**U**
141-78-6	Ethyl Acetate	610	1,000	610	260	**U**
110-54-3	n-Hexane	**140,000**	2,600	1,500	530	**D**
67-66-3	Chloroform	120	370	120	49	**U**
109-99-9	Tetrahydrofuran (THF)	**84**	630	190	77	**J**
107-06-2	1,2-Dichloroethane	140	450	140	49	**U**
71-43-2	Benzene	**20,000**	560	180	81	
56-23-5	Carbon Tetrachloride	91	280	91	40	**U**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV15-450-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-021

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00050 Liter(s)
Test Notes: 0.00010 Liter(s)
Container ID: 1SC00521

Initial Pressure (psig): -2.69 Final Pressure (psig): 5.59

Container Dilution Factor: 1.69

CAS #	Compound	Result ppbV		LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	**170,000**		1,100	330	150	
75-27-4	Bromodichloromethane		86	270	86	39	**U**
79-01-6	Trichloroethene		110	340	110	45	**U**
123-91-1	1,4-Dioxane		160	510	160	59	**U**
142-82-5	n-Heptane	**100,000**		2,200	1,300	350	**D**
108-10-1	4-Methyl-2-pentanone		140	440	140	60	**U**
108-88-3	Toluene	**7,400**		480	150	58	
591-78-6	2-Hexanone		140	450	140	54	**U**
124-48-1	Dibromochloromethane		67	210	67	28	**U**
106-93-4	1,2-Dibromoethane		75	240	75	27	**U**
127-18-4	Tetrachloroethene		85	260	85	34	**U**
100-41-4	Ethylbenzene	**160**		420	130	58	**J**
179601-23-1	m,p-Xylenes	**1,200**		860	260	110	
75-25-2	Bromoform		100	180	100	36	**U**
100-42-5	Styrene		250	420	250	68	**U**
95-47-6	o-Xylene	**720**		420	130	60	
108-67-8	1,3,5-Trimethylbenzene	**220**		360	120	53	**J**
95-63-6	1,2,4-Trimethylbenzene	**120**		370	120	51	**J**
120-82-1	1,2,4-Trichlorobenzene		150	250	150	59	**U**
91-20-3	Naphthalene		200	340	200	84	**U**
1330-20-7	Xylenes, Total	**2,000**		860	260	110	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVTB-202-03** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-022

Test Code: EPA TO-15 Date Collected: 4/23/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00903

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.47	0.77	0.47	0.19	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.16	0.27	0.16	0.044	**U**
74-87-3	Chloromethane	0.39	0.64	0.39	0.10	**U**
75-01-4	Vinyl Chloride	0.17	0.53	0.17	0.056	**U**
106-99-0	1,3-Butadiene	0.36	0.60	0.36	0.099	**U**
75-00-3	Chloroethane	0.30	0.51	0.30	0.063	**U**
64-17-5	Ethanol	1.1	6.9	1.1	0.49	**U**
67-64-1	Acetone	2.8	5.6	2.8	1.3	**U**
75-69-4	Trichlorofluoromethane	0.14	0.24	0.14	0.036	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.64	2.1	0.64	0.22	**U**
75-09-2	Methylene Chloride	0.23	0.38	0.23	0.11	**U**
76-13-1	Trichlorotrifluoroethane	0.055	0.18	0.055	0.025	**U**
75-15-0	Carbon Disulfide	0.43	0.88	0.43	0.13	**U**
75-34-3	1,1-Dichloroethane	0.20	0.34	0.20	0.048	**U**
78-93-3	2-Butanone (MEK)	0.27	0.93	0.27	0.093	**U**
141-78-6	Ethyl Acetate	0.45	0.76	0.45	0.19	**U**
110-54-3	n-Hexane	0.23	0.38	0.23	0.078	**U**
67-66-3	Chloroform	0.087	0.28	0.087	0.036	**U**
109-99-9	Tetrahydrofuran (THF)	0.14	0.47	0.14	0.057	**U**
107-06-2	1,2-Dichloroethane	0.11	0.33	0.11	0.036	**U**
71-43-2	Benzene	0.13	0.41	0.13	0.060	**U**
56-23-5	Carbon Tetrachloride	0.068	0.21	0.068	0.029	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVTB-202-03** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-022

Test Code: EPA TO-15 Date Collected: 4/23/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00903

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.25	0.80	0.25	0.11	**U**
75-27-4	Bromodichloromethane	0.063	0.20	0.063	0.029	**U**
79-01-6	Trichloroethene	0.079	0.25	0.079	0.034	**U**
123-91-1	1,4-Dioxane	0.12	0.37	0.12	0.044	**U**
142-82-5	n-Heptane	0.20	0.33	0.20	0.052	**U**
108-10-1	4-Methyl-2-pentanone	0.10	0.32	0.10	0.045	**U**
108-88-3	Toluene	0.11	0.36	0.11	0.043	**U**
591-78-6	2-Hexanone	0.10	0.33	0.10	0.040	**U**
124-48-1	Dibromochloromethane	0.050	0.16	0.050	0.021	**U**
106-93-4	1,2-Dibromoethane	0.055	0.18	0.055	0.020	**U**
127-18-4	Tetrachloroethene	0.063	0.19	0.063	0.025	**U**
100-41-4	Ethylbenzene	0.098	0.31	0.098	0.043	**U**
179601-23-1	m,p-Xylenes	0.20	0.63	0.20	0.081	**U**
75-25-2	Bromoform	0.077	0.13	0.077	0.027	**U**
100-42-5	Styrene	0.19	0.31	0.19	0.051	**U**
95-47-6	o-Xylene	0.098	0.31	0.098	0.044	**U**
108-67-8	1,3,5-Trimethylbenzene	0.086	0.27	0.086	0.039	**U**
95-63-6	1,2,4-Trimethylbenzene	0.086	0.27	0.086	0.038	**U**
120-82-1	1,2,4-Trichlorobenzene	0.11	0.18	0.11	0.044	**U**
91-20-3	Naphthalene	0.15	0.25	0.15	0.062	**U**
1330-20-7	Xylenes, Total	0.20	0.63	0.20	0.081	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200514-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.19	0.31	0.19	0.076	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.065	0.11	0.065	0.018	**U**
74-87-3	Chloromethane	0.16	0.26	0.16	0.042	**U**
75-01-4	Vinyl Chloride	0.067	0.21	0.067	0.022	**U**
106-99-0	1,3-Butadiene	0.14	0.24	0.14	0.040	**U**
75-00-3	Chloroethane	0.12	0.20	0.12	0.025	**U**
64-17-5	Ethanol	**0.25**	2.8	0.44	0.20	**J**
67-64-1	Acetone	1.1	2.2	1.1	0.51	**U**
75-69-4	Trichlorofluoromethane	0.057	0.094	0.057	0.014	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.26	0.85	0.26	0.090	**U**
75-09-2	Methylene Chloride	0.092	0.15	0.092	0.043	**U**
76-13-1	Trichlorotrifluoroethane	0.022	0.070	0.022	0.0099	**U**
75-15-0	Carbon Disulfide	0.17	0.35	0.17	0.051	**U**
75-34-3	1,1-Dichloroethane	0.082	0.14	0.082	0.019	**U**
78-93-3	2-Butanone (MEK)	0.11	0.37	0.11	0.037	**U**
141-78-6	Ethyl Acetate	0.18	0.31	0.18	0.078	**U**
110-54-3	n-Hexane	0.091	0.15	0.091	0.031	**U**
67-66-3	Chloroform	0.035	0.11	0.035	0.015	**U**
109-99-9	Tetrahydrofuran (THF)	0.058	0.19	0.058	0.023	**U**
107-06-2	1,2-Dichloroethane	0.042	0.13	0.042	0.015	**U**
71-43-2	Benzene	0.053	0.17	0.053	0.024	**U**
56-23-5	Carbon Tetrachloride	0.027	0.084	0.027	0.012	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200514-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.099	0.32	0.099	0.044	**U**
75-27-4	Bromodichloromethane	0.025	0.081	0.025	0.011	**U**
79-01-6	Trichloroethene	0.032	0.10	0.032	0.013	**U**
123-91-1	1,4-Dioxane	0.047	0.15	0.047	0.017	**U**
142-82-5	n-Heptane	0.078	0.13	0.078	0.021	**U**
108-10-1	4-Methyl-2-pentanone	0.041	0.13	0.041	0.018	**U**
108-88-3	Toluene	0.045	0.14	0.045	0.017	**U**
591-78-6	2-Hexanone	0.042	0.13	0.042	0.016	**U**
124-48-1	Dibromochloromethane	0.020	0.063	0.020	0.0082	**U**
106-93-4	1,2-Dibromoethane	0.022	0.070	0.022	0.0081	**U**
127-18-4	Tetrachloroethene	0.025	0.077	0.025	0.010	**U**
100-41-4	Ethylbenzene	0.039	0.12	0.039	0.017	**U**
179601-23-1	m,p-Xylenes	0.078	0.25	0.078	0.032	**U**
75-25-2	Bromoform	0.031	0.052	0.031	0.011	**U**
100-42-5	Styrene	0.075	0.12	0.075	0.020	**U**
95-47-6	o-Xylene	0.039	0.12	0.039	0.018	**U**
108-67-8	1,3,5-Trimethylbenzene	0.035	0.11	0.035	0.016	**U**
95-63-6	1,2,4-Trimethylbenzene	0.035	0.11	0.035	0.015	**U**
120-82-1	1,2,4-Trichlorobenzene	0.043	0.073	0.043	0.018	**U**
91-20-3	Naphthalene	0.059	0.099	0.059	0.025	**U**
1330-20-7	Xylenes, Total	0.078	0.25	0.078	0.032	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200515-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.19	0.31	0.19	0.076	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.065	0.11	0.065	0.018	**U**
74-87-3	Chloromethane	0.16	0.26	0.16	0.042	**U**
75-01-4	Vinyl Chloride	0.067	0.21	0.067	0.022	**U**
106-99-0	1,3-Butadiene	0.14	0.24	0.14	0.040	**U**
75-00-3	Chloroethane	0.12	0.20	0.12	0.025	**U**
64-17-5	Ethanol	**0.28**	2.8	0.44	0.20	**J**
67-64-1	Acetone	1.1	2.2	1.1	0.51	**U**
75-69-4	Trichlorofluoromethane	0.057	0.094	0.057	0.014	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.26	0.85	0.26	0.090	**U**
75-09-2	Methylene Chloride	0.092	0.15	0.092	0.043	**U**
76-13-1	Trichlorotrifluoroethane	0.022	0.070	0.022	0.0099	**U**
75-15-0	Carbon Disulfide	0.17	0.35	0.17	0.051	**U**
75-34-3	1,1-Dichloroethane	0.082	0.14	0.082	0.019	**U**
78-93-3	2-Butanone (MEK)	0.11	0.37	0.11	0.037	**U**
141-78-6	Ethyl Acetate	0.18	0.31	0.18	0.078	**U**
110-54-3	n-Hexane	0.091	0.15	0.091	0.031	**U**
67-66-3	Chloroform	0.035	0.11	0.035	0.015	**U**
109-99-9	Tetrahydrofuran (THF)	0.058	0.19	0.058	0.023	**U**
107-06-2	1,2-Dichloroethane	0.042	0.13	0.042	0.015	**U**
71-43-2	Benzene	0.053	0.17	0.053	0.024	**U**
56-23-5	Carbon Tetrachloride	0.027	0.084	0.027	0.012	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200515-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
110-82-7	Cyclohexane	0.099	0.32	0.099	0.044	**U**
75-27-4	Bromodichloromethane	0.025	0.081	0.025	0.011	**U**
79-01-6	Trichloroethene	0.032	0.10	0.032	0.013	**U**
123-91-1	1,4-Dioxane	0.047	0.15	0.047	0.017	**U**
142-82-5	n-Heptane	0.078	0.13	0.078	0.021	**U**
108-10-1	4-Methyl-2-pentanone	0.041	0.13	0.041	0.018	**U**
108-88-3	Toluene	0.045	0.14	0.045	0.017	**U**
591-78-6	2-Hexanone	0.042	0.13	0.042	0.016	**U**
124-48-1	Dibromochloromethane	0.020	0.063	0.020	0.0082	**U**
106-93-4	1,2-Dibromoethane	0.022	0.070	0.022	0.0081	**U**
127-18-4	Tetrachloroethene	0.025	0.077	0.025	0.010	**U**
100-41-4	Ethylbenzene	0.039	0.12	0.039	0.017	**U**
179601-23-1	m,p-Xylenes	0.078	0.25	0.078	0.032	**U**
75-25-2	Bromoform	0.031	0.052	0.031	0.011	**U**
100-42-5	Styrene	0.075	0.12	0.075	0.020	**U**
95-47-6	o-Xylene	0.039	0.12	0.039	0.018	**U**
108-67-8	1,3,5-Trimethylbenzene	0.035	0.11	0.035	0.016	**U**
95-63-6	1,2,4-Trimethylbenzene	0.035	0.11	0.035	0.015	**U**
120-82-1	1,2,4-Trichlorobenzene	0.043	0.073	0.043	0.018	**U**
91-20-3	Naphthalene	0.059	0.099	0.059	0.025	**U**
1330-20-7	Xylenes, Total	0.078	0.25	0.078	0.032	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Project ID: P2002302

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date(s) Collected: 4/21/20
Analyst: Lusine Hakobyan Date(s) Received: 4/28/20
Sampling Media: 1.0 L Summa Canister(s) / 1.0 L Silonite Summa Canister(s) Date(s) Analyzed: 5/14 - 5/15/20
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P200514-MB	**93**	**99**	**107**	70-130	
Method Blank	P200515-MB	**95**	**98**	**106**	70-130	
Lab Control Sample	P200514-LCS	**94**	**98**	**108**	70-130	
Lab Control Sample	P200515-LCS	**94**	**98**	**107**	70-130	
Duplicate Lab Control Sample	P200514-DLCS	**96**	**98**	**107**	70-130	
Duplicate Lab Control Sample	P200515-DLCS	**96**	**98**	**106**	70-130	
SV05-050-202	P2002302-001	**96**	**94**	**102**	70-130	
SV05-100-202	P2002302-002	**96**	**88**	**94**	70-130	
SV05-230-202	P2002302-003	**97**	**95**	**98**	70-130	
SV05-290-202	P2002302-004	**98**	**93**	**101**	70-130	
SV05-290-202	P2002302-004DUP	**96**	**93**	**101**	70-130	
SV06-050-202	P2002302-005	**96**	**98**	**107**	70-130	
SV06-100-202	P2002302-006	**94**	**98**	**107**	70-130	
SV06-100-602	P2002302-007	**94**	**98**	**106**	70-130	
SV06-252-202	P2002302-008	**97**	**102**	**102**	70-130	
SV06-302-202	P2002302-009	**94**	**98**	**103**	70-130	
SV12-150-202	P2002302-010	**95**	**98**	**107**	70-130	
SV12-250-202	P2002302-011	**94**	**100**	**105**	70-130	
SV12-350-202	P2002302-012	**95**	**100**	**105**	70-130	
SV12-450-202	P2002302-013	**94**	**98**	**106**	70-130	
SV13-150-202	P2002302-014	**95**	**85**	**93**	70-130	
SV13-250-202	P2002302-015	**95**	**99**	**107**	70-130	
SV13-350-202	P2002302-016	**95**	**97**	**104**	70-130	
SV13-450-202	P2002302-017	**94**	**73**	**80**	70-130	
SV15-150-202	P2002302-018	**94**	**99**	**105**	70-130	
SV15-250-202	P2002302-019	**95**	**98**	**105**	70-130	
SV15-350-202	P2002302-020	**95**	**99**	**98**	70-130	
SV15-450-202	P2002302-021	**96**	**99**	**103**	70-130	
SVTB-202-03	P2002302-022	**93**	**99**	**105**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200514-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	122	124	129	**102**	**106**	57-136	4	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	42.5	40.0	40.1	**94**	**94**	59-128	0	25	
74-87-3	Chloromethane	103	92.2	95.8	**90**	**93**	59-132	3	25	
75-01-4	Vinyl Chloride	83.0	74.7	74.7	**90**	**90**	64-127	0	25	
106-99-0	1,3-Butadiene	95.9	90.0	89.4	**94**	**93**	66-134	1	25	
75-00-3	Chloroethane	81.1	74.5	74.9	**92**	**92**	63-127	0	25	
64-17-5	Ethanol	563	518	535	**92**	**95**	59-125	3	25	
67-64-1	Acetone	450	437	440	**97**	**98**	58-128	1	25	
75-69-4	Trichlorofluoromethane	37.7	34.8	34.6	**92**	**92**	62-126	0	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	172	171	172	**99**	**100**	52-125	1	25	
75-09-2	Methylene Chloride	60.5	56.1	56.7	**93**	**94**	62-115	1	25	
76-13-1	Trichlorotrifluoroethane	28.2	27.6	27.7	**98**	**98**	66-126	0	25	
75-15-0	Carbon Disulfide	68.1	63.7	63.7	**94**	**94**	57-134	0	25	
75-34-3	1,1-Dichloroethane	52.4	48.6	49.1	**93**	**94**	68-126	1	25	
78-93-3	2-Butanone (MEK)	71.9	69.1	70.6	**96**	**98**	67-130	2	25	
141-78-6	Ethyl Acetate	120	124	125	**103**	**104**	65-128	1	25	
110-54-3	n-Hexane	61.3	61.1	61.5	**100**	**100**	63-120	0	25	
67-66-3	Chloroform	43.8	41.5	41.7	**95**	**95**	68-123	0	25	
109-99-9	Tetrahydrofuran (THF)	74.6	68.5	69.1	**92**	**93**	64-123	1	25	
107-06-2	1,2-Dichloroethane	52.9	48.5	49.1	**92**	**93**	65-128	1	25	
71-43-2	Benzene	65.8	63.3	63.2	**96**	**96**	69-119	0	25	
56-23-5	Carbon Tetrachloride	33.1	32.3	31.9	**98**	**96**	68-132	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200514-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	123	123	122	**100**	**99**	70-117	1	25	
75-27-4	Bromodichloromethane	32.6	31.3	31.4	**96**	**96**	72-128	0	25	
79-01-6	Trichloroethene	40.2	39.4	39.2	**98**	**98**	71-123	0	25	
123-91-1	1,4-Dioxane	60.0	58.8	58.7	**98**	**98**	71-122	0	25	
142-82-5	n-Heptane	52.2	50.8	50.6	**97**	**97**	69-123	0	25	
108-10-1	4-Methyl-2-pentanone	51.8	53.1	52.8	**103**	**102**	67-130	1	25	
108-88-3	Toluene	56.3	55.5	55.2	**99**	**98**	66-119	1	25	
591-78-6	2-Hexanone	52.7	56.3	56.1	**107**	**106**	62-128	0.9	25	
124-48-1	Dibromochloromethane	25.1	26.1	25.7	**104**	**102**	70-130	2	25	
106-93-4	1,2-Dibromoethane	27.9	28.3	27.9	**101**	**100**	74-122	1	25	
127-18-4	Tetrachloroethene	30.7	31.5	31.0	**103**	**101**	66-124	2	25	
100-41-4	Ethylbenzene	48.8	51.3	50.6	**105**	**104**	70-124	1	25	
179601-23-1	m,p-Xylenes	98.1	105	102	**107**	**104**	61-134	3	25	
75-25-2	Bromoform	20.7	22.1	21.8	**107**	**105**	66-139	2	25	
100-42-5	Styrene	49.8	56.0	55.5	**112**	**111**	73-127	0.9	25	
95-47-6	o-Xylene	49.3	51.3	50.3	**104**	**102**	67-125	2	25	
108-67-8	1,3,5-Trimethylbenzene	43.1	47.8	46.6	**111**	**108**	67-130	3	25	
95-63-6	1,2,4-Trimethylbenzene	43.1	50.9	49.8	**118**	**116**	66-132	2	25	
120-82-1	1,2,4-Trichlorobenzene	29.1	36.4	35.8	**125**	**123**	55-142	2	25	
91-20-3	Naphthalene	40.5	54.7	53.6	**135**	**132**	57-138	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200515-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	122	128	125	**105**	**102**	57-136	3	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	42.5	39.9	39.1	**94**	**92**	59-128	2	25	
74-87-3	Chloromethane	103	93.6	94.5	**91**	**92**	59-132	1	25	
75-01-4	Vinyl Chloride	83.0	75.7	73.7	**91**	**89**	64-127	2	25	
106-99-0	1,3-Butadiene	95.9	88.9	87.6	**93**	**91**	66-134	2	25	
75-00-3	Chloroethane	81.1	74.8	74.2	**92**	**91**	63-127	1	25	
64-17-5	Ethanol	563	521	529	**93**	**94**	59-125	1	25	
67-64-1	Acetone	450	440	436	**98**	**97**	58-128	1	25	
75-69-4	Trichlorofluoromethane	37.7	34.9	34.2	**93**	**91**	62-126	2	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	172	169	172	**98**	**100**	52-125	2	25	
75-09-2	Methylene Chloride	60.5	56.2	56.0	**93**	**93**	62-115	0	25	
76-13-1	Trichlorotrifluoroethane	28.2	27.8	27.3	**99**	**97**	66-126	2	25	
75-15-0	Carbon Disulfide	68.1	64.1	63.4	**94**	**93**	57-134	1	25	
75-34-3	1,1-Dichloroethane	52.4	49.1	48.5	**94**	**93**	68-126	1	25	
78-93-3	2-Butanone (MEK)	71.9	68.8	69.7	**96**	**97**	67-130	1	25	
141-78-6	Ethyl Acetate	120	125	123	**104**	**103**	65-128	1	25	
110-54-3	n-Hexane	61.3	61.6	60.1	**100**	**98**	63-120	2	25	
67-66-3	Chloroform	43.8	41.5	41.1	**95**	**94**	68-123	1	25	
109-99-9	Tetrahydrofuran (THF)	74.6	68.5	67.9	**92**	**91**	64-123	1	25	
107-06-2	1,2-Dichloroethane	52.9	48.6	48.1	**92**	**91**	65-128	1	25	
71-43-2	Benzene	65.8	63.6	62.5	**97**	**95**	69-119	2	25	
56-23-5	Carbon Tetrachloride	33.1	32.3	31.7	**98**	**96**	68-132	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200515-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	123	123	120	**100**	**98**	70-117	2	25	
75-27-4	Bromodichloromethane	32.6	31.5	30.8	**97**	**94**	72-128	3	25	
79-01-6	Trichloroethene	40.2	39.0	38.3	**97**	**95**	71-123	2	25	
123-91-1	1,4-Dioxane	60.0	58.9	58.0	**98**	**97**	71-122	1	25	
142-82-5	n-Heptane	52.2	50.8	49.9	**97**	**96**	69-123	1	25	
108-10-1	4-Methyl-2-pentanone	51.8	53.6	52.6	**103**	**102**	67-130	1	25	
108-88-3	Toluene	56.3	55.2	55.0	**98**	**98**	66-119	0	25	
591-78-6	2-Hexanone	52.7	56.2	56.1	**107**	**106**	62-128	0.9	25	
124-48-1	Dibromochloromethane	25.1	26.1	25.8	**104**	**103**	70-130	1	25	
106-93-4	1,2-Dibromoethane	27.9	28.3	27.9	**101**	**100**	74-122	1	25	
127-18-4	Tetrachloroethene	30.7	31.3	30.8	**102**	**100**	66-124	2	25	
100-41-4	Ethylbenzene	48.8	51.4	50.8	**105**	**104**	70-124	1	25	
179601-23-1	m,p-Xylenes	98.1	107	104	**109**	**106**	61-134	3	25	
75-25-2	Bromoform	20.7	21.9	21.7	**106**	**105**	66-139	0.9	25	
100-42-5	Styrene	49.8	55.8	55.1	**112**	**111**	73-127	0.9	25	
95-47-6	o-Xylene	49.3	51.3	50.0	**104**	**101**	67-125	3	25	
108-67-8	1,3,5-Trimethylbenzene	43.1	47.8	46.4	**111**	**108**	67-130	3	25	
95-63-6	1,2,4-Trimethylbenzene	43.1	50.7	49.6	**118**	**115**	66-132	3	25	
120-82-1	1,2,4-Trichlorobenzene	29.1	36.2	35.6	**124**	**122**	55-142	2	25	
91-20-3	Naphthalene	40.5	54.6	53.3	**135**	**132**	57-138	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV05-290-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-004DUP

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.070 Liter(s)
Test Notes:
Container ID: 1SS00755

Initial Pressure (psig): -4.24 Final Pressure (psig): 6.11

Container Dilution Factor: 1.99

Compound	Sample Result ppbV	**Duplicate Sample Result** ppbV	Average ppbV	**% RPD**	RPD Limit	**Data Qualifier**
Propene	8.3	7.8	8.05	**6**	25	**J**
Dichlorodifluoromethane (CFC 12)	4.6	4.4	4.5	**4**	25	
Chloromethane	ND	ND	-	-	25	
Vinyl Chloride	ND	ND	-	-	25	
1,3-Butadiene	ND	ND	-	-	25	
Chloroethane	ND	ND	-	-	25	
Ethanol	7.3	6.9	7.1	**6**	25	**J, B**
Acetone	ND	ND	-	-	25	
Trichlorofluoromethane	0.71	0.71	0.71	**0**	25	**J**
2-Propanol (Isopropyl Alcohol)	ND	ND	-	-	25	
Methylene Chloride	ND	ND	-	-	25	
Trichlorotrifluoroethane	100	100	100	**0**	25	
Carbon Disulfide	ND	ND	-	-	25	
1,1-Dichloroethane	ND	ND	-	-	25	
2-Butanone (MEK)	ND	ND	-	-	25	
Ethyl Acetate	ND	ND	-	-	25	
n-Hexane	580	550	565	**5**	25	
Chloroform	ND	ND	-	-	25	
Tetrahydrofuran (THF)	ND	ND	-	-	25	
1,2-Dichloroethane	ND	ND	-	-	25	
Benzene	4.8	4.6	4.7	**4**	25	**J**
Carbon Tetrachloride	5.0	5.0	5	**0**	25	

ND = Compound was analyzed for, but not detected.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV05-290-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-004DUP

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.070 Liter(s)
Test Notes:
Container ID: 1SS00755

Initial Pressure (psig): -4.24 Final Pressure (psig): 6.11

Container Dilution Factor: 1.99

Compound	Sample Result ppbV	Duplicate Sample Result ppbV	Average ppbV	% RPD	RPD Limit	Data Qualifier
Cyclohexane	790	770	780	**3**	25	
Bromodichloromethane	ND	ND	-	-	25	
Trichloroethene	0.97	0.94	0.955	**3**	25	**J**
1,4-Dioxane	ND	ND	-	-	25	
n-Heptane	240	230	235	**4**	25	
4-Methyl-2-pentanone	ND	ND	-	-	25	
Toluene	14	14	14	**0**	25	
2-Hexanone	ND	ND	-	-	25	
Dibromochloromethane	ND	ND	-	-	25	
1,2-Dibromoethane	ND	ND	-	-	25	
Tetrachloroethene	1.9	1.9	1.9	**0**	25	**J**
Ethylbenzene	1.2	1.1	1.15	**9**	25	**J**
m,p-Xylenes	6.2	6.0	6.1	**3**	25	**J**
Bromoform	ND	ND	-	-	25	
Styrene	ND	ND	-	-	25	
o-Xylene	2.1	2.1	2.1	**0**	25	**J**
1,3,5-Trimethylbenzene	0.68	0.68	0.68	**0**	25	**J**
1,2,4-Trimethylbenzene	1.0	0.95	0.975	**5**	25	**J**
1,2,4-Trichlorobenzene	ND	ND	-	-	25	
Naphthalene	ND	ND	-	-	25	
Xylenes, Total	8.4	8.1	8.25	**4**	25	

ND = Compound was analyzed for, but not detected.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: **EA Engineering, Science, and Technology, Inc.** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Lab File ID: 05142002.D
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister(s) Time Analyzed: 09:27
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	277575		11.16	1194548		13.28		554354		17.58	
	Upper Limit	388605		11.49	1672367		13.61		776096		17.91	
	Lower Limit	166545		10.83	716729		12.95		332612		17.25	
	Client Sample ID											
01	Method Blank	264253		11.13	1136265		13.26		529855		17.58	
02	Lab Control Sample	271934		11.16	1167015		13.28		545692		17.58	
03	Duplicate Lab Control Sample	278067		11.16	1197935		13.27		564836		17.58	
04	SV05-230-202	288237		11.13	1257067		13.26		627672		17.58	
05	SV06-252-202	271903		11.13	1190286		13.27		543163		17.58	
06	SV13-150-202	268636		11.13	1145519		13.26		639266		17.58	
07	SV05-050-202	269088		11.13	1152572		13.26		574254		17.58	
08	SV05-100-202	273462		11.14	1171801		13.27		669101		17.58	
09	SV05-290-202	306995		11.13	1342851		13.27		695163		17.58	
10	SV05-290-202 (Lab Duplicate)	314355		11.13	1348932		13.27		695087		17.58	
11	SV06-050-202	279122		11.14	1190702		13.26		573777		17.58	
12	SV06-100-202	273935		11.13	1172124		13.26		556082		17.58	
13	SV06-100-602	279058		11.13	1184827		13.26		569233		17.58	
14	SV06-302-202 (Dilution)	305559		11.13	1313604		13.26		618769		17.58	
15	SV12-150-202	269483		11.13	1166738		13.26		543872		17.58	
16												
17												
18												
19												
20												

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: **EA Engineering, Science, and Technology, Inc.** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Lab File ID: 05152001.D
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Silonite Summa Canister(s) Time Analyzed: 03:47
Test Notes:

		IS1 (BCM)			IS2 (DFB)			IS3 (CBZ)		
		AREA	#	RT	AREA	#	RT	#	AREA	#	RT	#
	24 Hour Standard	281389		11.15	1209030		13.28		569598		17.58	
	Upper Limit	393945		11.48	1692642		13.61		797437		17.91	
	Lower Limit	168833		10.82	725418		12.95		341759		17.25	
	Client Sample ID											
01	Method Blank	261228		11.13	1130654		13.26		524655		17.58	
02	Lab Control Sample	270586		11.15	1163358		13.28		547018		17.58	
03	Duplicate Lab Control Sample	282048		11.15	1213055		13.27		564583		17.58	
04	SV12-250-202	270461		11.14	1166969		13.26		535548		17.58	
05	SV12-350-202	267729		11.14	1148685		13.26		530334		17.58	
06	SV12-450-202	267751		11.14	1146853		13.27		534449		17.58	
07	SV13-250-202	260290		11.13	1132821		13.26		526596		17.58	
08	SV13-350-202	269663		11.15	1157225		13.27		549235		17.58	
09	SV13-350-202 (Dilution)	309384		11.14	1308293		13.26		607734		17.58	
10	SV06-302-202	278468		11.14	1194352		13.27		581458		17.58	
11	SV12-150-202 (Dilution)	301539		11.13	1295400		13.26		603381		17.58	
12	SV12-250-202 (Dilution)	295930		11.13	1272545		13.26		590431		17.58	
13	SV12-350-202 (Dilution)	293675		11.13	1271079		13.26		586906		17.58	
14	SV12-450-202 (Dilution)	292393		11.13	1258371		13.26		585252		17.58	
15	SV13-450-202	259474		11.14	1114846		13.27		727800		17.58	
16	SV15-450-202	275999		11.14	1188751		13.27		596274		17.58	
17	SV15-150-202	268640		11.13	1148118		13.26		528993		17.58	
18	SV15-250-202	264910		11.13	1138470		13.26		538331		17.58	
19	SV15-350-202	302990		11.14	1315831		13.27		642118		17.58	
20	SV15-250-202 (Dilution)	315669		11.13	1358824		13.26		616276		17.58	
21	SV15-450-202 (Dilution)	272547		11.13	1175447		13.26		551418		17.58	
22	SVTB-202-03	264623		11.13	1126816		13.26		521079		17.58	

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the specified limits.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV05-050-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-001

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.30 Liter(s)
Test Notes:
Container ID: 1SC00581

Initial Pressure (psig): -2.69 Final Pressure (psig): 5.71

Container Dilution Factor: 1.70

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**2.0**	3.0	1.8	0.74	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**4.5**	3.0	1.8	0.49	
74-87-3	Chloromethane	**0.61**	3.0	1.8	0.49	**J**
75-01-4	Vinyl Chloride	0.96	3.1	0.96	0.32	**U**
106-99-0	1,3-Butadiene	1.8	3.0	1.8	0.50	**U**
75-00-3	Chloroethane	1.8	3.1	1.8	0.37	**U**
64-17-5	Ethanol	**6.7**	29	4.7	2.1	**J, B**
67-64-1	Acetone	**19**	30	15	6.8	**J**
75-69-4	Trichlorofluoromethane	**6.2**	3.0	1.8	0.46	
67-63-0	2-Propanol (Isopropyl Alcohol)	**2.6**	12	3.6	1.2	**J**
75-09-2	Methylene Chloride	1.8	3.0	1.8	0.85	**U**
76-13-1	Trichlorotrifluoroethane	**61**	3.1	0.96	0.43	
75-15-0	Carbon Disulfide	**1.2**	6.2	3.1	0.91	**J**
75-34-3	1,1-Dichloroethane	1.9	3.1	1.9	0.44	**U**
78-93-3	2-Butanone (MEK)	**4.2**	6.2	1.8	0.62	**J**
141-78-6	Ethyl Acetate	3.7	6.2	3.7	1.6	**U**
110-54-3	n-Hexane	**19**	3.1	1.8	0.62	
67-66-3	Chloroform	0.96	3.1	0.96	0.40	**U**
109-99-9	Tetrahydrofuran (THF)	**20**	3.1	0.96	0.38	
107-06-2	1,2-Dichloroethane	0.96	3.1	0.96	0.33	**U**
71-43-2	Benzene	**15**	3.0	0.96	0.44	
56-23-5	Carbon Tetrachloride	**0.82**	3.0	0.96	0.42	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV05-050-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-001

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.30 Liter(s)
Test Notes:
Container ID: 1SC00581

Initial Pressure (psig): -2.69 Final Pressure (psig): 5.71

Container Dilution Factor: 1.70

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**25**	6.2	1.9	0.85	
75-27-4	Bromodichloromethane	0.96	3.1	0.96	0.44	**U**
79-01-6	Trichloroethene	0.96	3.1	0.96	0.41	**U**
123-91-1	1,4-Dioxane	0.96	3.1	0.96	0.36	**U**
142-82-5	n-Heptane	**93**	3.1	1.8	0.48	
108-10-1	4-Methyl-2-pentanone	**0.46**	3.0	0.96	0.41	**J**
108-88-3	Toluene	**190**	3.1	0.96	0.37	
591-78-6	2-Hexanone	0.96	3.1	0.96	0.37	**U**
124-48-1	Dibromochloromethane	0.96	3.1	0.96	0.40	**U**
106-93-4	1,2-Dibromoethane	**0.50**	3.1	0.96	0.35	**J**
127-18-4	Tetrachloroethene	**1.3**	2.9	0.96	0.39	**J**
100-41-4	Ethylbenzene	**23**	3.1	0.96	0.43	
179601-23-1	m,p-Xylenes	**120**	6.2	1.9	0.79	
75-25-2	Bromoform	1.8	3.1	1.8	0.62	**U**
100-42-5	Styrene	1.8	3.0	1.8	0.49	**U**
95-47-6	o-Xylene	**39**	3.1	0.96	0.44	
108-67-8	1,3,5-Trimethylbenzene	**13**	3.0	0.96	0.44	
95-63-6	1,2,4-Trimethylbenzene	**20**	3.1	0.96	0.42	
120-82-1	1,2,4-Trichlorobenzene	1.8	3.1	1.8	0.74	**U**
91-20-3	Naphthalene	1.8	2.9	1.8	0.74	**U**
1330-20-7	Xylenes, Total	**160**	6.2	1.9	0.79	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV05-100-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-002

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.15 Liter(s)
Test Notes:
Container ID: 1SS00836

Initial Pressure (psig): -2.58 Final Pressure (psig): 5.29

Container Dilution Factor: 1.65

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**5.7**	5.8	3.5	1.4	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**7.2**	5.8	3.5	0.96	
74-87-3	Chloromethane	3.5	5.8	3.5	0.95	**U**
75-01-4	Vinyl Chloride	1.9	5.9	1.9	0.63	**U**
106-99-0	1,3-Butadiene	3.5	5.8	3.5	0.97	**U**
75-00-3	Chloroethane	3.5	5.9	3.5	0.73	**U**
64-17-5	Ethanol	9.1	57	9.1	4.1	**U**
67-64-1	Acetone	30	58	30	13	**U**
75-69-4	Trichlorofluoromethane	**3.4**	5.8	3.5	0.89	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	6.9	23	6.9	2.4	**U**
75-09-2	Methylene Chloride	3.5	5.8	3.5	1.7	**U**
76-13-1	Trichlorotrifluoroethane	**96**	5.9	1.9	0.84	
75-15-0	Carbon Disulfide	5.9	12	5.9	1.8	**U**
75-34-3	1,1-Dichloroethane	3.6	6.1	3.6	0.86	**U**
78-93-3	2-Butanone (MEK)	3.5	12	3.5	1.2	**U**
141-78-6	Ethyl Acetate	7.2	12	7.2	3.1	**U**
110-54-3	n-Hexane	**210**	5.9	3.5	1.2	
67-66-3	Chloroform	1.9	5.9	1.9	0.78	**U**
109-99-9	Tetrahydrofuran (THF)	**1.6**	6.1	1.9	0.74	**J**
107-06-2	1,2-Dichloroethane	1.9	5.9	1.9	0.65	**U**
71-43-2	Benzene	**25**	5.8	1.9	0.85	
56-23-5	Carbon Tetrachloride	**1.0**	5.8	1.9	0.81	**J**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV05-100-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-002

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.15 Liter(s)
Test Notes:
Container ID: 1SS00836

Initial Pressure (psig): -2.58 Final Pressure (psig): 5.29

Container Dilution Factor: 1.65

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**680**	12	3.7	1.7	
75-27-4	Bromodichloromethane	1.9	5.9	1.9	0.85	**U**
79-01-6	Trichloroethene	1.9	5.9	1.9	0.79	**U**
123-91-1	1,4-Dioxane	1.9	5.9	1.9	0.69	**U**
142-82-5	n-Heptane	**110**	5.9	3.5	0.94	
108-10-1	4-Methyl-2-pentanone	1.9	5.8	1.9	0.80	**U**
108-88-3	Toluene	**200**	5.9	1.9	0.72	
591-78-6	2-Hexanone	1.9	5.9	1.9	0.73	**U**
124-48-1	Dibromochloromethane	1.9	5.9	1.9	0.77	**U**
106-93-4	1,2-Dibromoethane	1.9	5.9	1.9	0.68	**U**
127-18-4	Tetrachloroethene	**2.1**	5.7	1.9	0.76	**J**
100-41-4	Ethylbenzene	**18**	5.9	1.9	0.83	
179601-23-1	m,p-Xylenes	**95**	12	3.7	1.5	
75-25-2	Bromoform	3.5	5.9	3.5	1.2	**U**
100-42-5	Styrene	3.5	5.8	3.5	0.95	**U**
95-47-6	o-Xylene	**27**	5.9	1.9	0.85	
108-67-8	1,3,5-Trimethylbenzene	**9.7**	5.8	1.9	0.85	
95-63-6	1,2,4-Trimethylbenzene	**13**	5.9	1.9	0.81	
120-82-1	1,2,4-Trichlorobenzene	3.5	5.9	3.5	1.4	**U**
91-20-3	Naphthalene	3.4	5.7	3.4	1.4	**U**
1330-20-7	Xylenes, Total	**120**	12	3.7	1.5	

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV05-230-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-003

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00020 Liter(s)
Test Notes:
Container ID: 1SC00185

Initial Pressure (psig): -2.77 Final Pressure (psig): 5.73

Container Dilution Factor: 1.71

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**14,000**	4,500	2,700	1,100	
75-71-8	Dichlorodifluoromethane (CFC 12)	2,700	4,500	2,700	740	**U**
74-87-3	Chloromethane	2,700	4,500	2,700	740	**U**
75-01-4	Vinyl Chloride	1,500	4,600	1,500	490	**U**
106-99-0	1,3-Butadiene	2,700	4,500	2,700	750	**U**
75-00-3	Chloroethane	2,700	4,600	2,700	560	**U**
64-17-5	Ethanol	7,100	44,000	7,100	3,200	**U**
67-64-1	Acetone	23,000	45,000	23,000	10,000	**U**
75-69-4	Trichlorofluoromethane	2,700	4,500	2,700	690	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	5,400	18,000	5,400	1,900	**U**
75-09-2	Methylene Chloride	2,700	4,500	2,700	1,300	**U**
76-13-1	Trichlorotrifluoroethane	1,500	4,600	1,500	650	**U**
75-15-0	Carbon Disulfide	4,600	9,400	4,600	1,400	**U**
75-34-3	1,1-Dichloroethane	2,800	4,700	2,800	670	**U**
78-93-3	2-Butanone (MEK)	2,700	9,400	2,700	940	**U**
141-78-6	Ethyl Acetate	5,600	9,400	5,600	2,400	**U**
110-54-3	n-Hexane	**750,000**	4,600	2,700	940	
67-66-3	Chloroform	1,500	4,600	1,500	610	**U**
109-99-9	Tetrahydrofuran (THF)	1,500	4,700	1,500	570	**U**
107-06-2	1,2-Dichloroethane	1,500	4,600	1,500	500	**U**
71-43-2	Benzene	**9,500**	4,500	1,500	660	
56-23-5	Carbon Tetrachloride	1,500	4,500	1,500	630	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV05-230-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-003

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00020 Liter(s)
Test Notes:
Container ID: 1SC00185

Initial Pressure (psig): -2.77 Final Pressure (psig): 5.73

Container Dilution Factor: 1.71

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**770,000**	9,400	2,900	1,300	
75-27-4	Bromodichloromethane	1,500	4,600	1,500	660	**U**
79-01-6	Trichloroethene	1,500	4,600	1,500	620	**U**
123-91-1	1,4-Dioxane	1,500	4,600	1,500	540	**U**
142-82-5	n-Heptane	**850,000**	4,600	2,700	730	
108-10-1	4-Methyl-2-pentanone	1,500	4,500	1,500	620	**U**
108-88-3	Toluene	**17,000**	4,600	1,500	560	
591-78-6	2-Hexanone	1,500	4,600	1,500	560	**U**
124-48-1	Dibromochloromethane	1,500	4,600	1,500	600	**U**
106-93-4	1,2-Dibromoethane	1,500	4,600	1,500	530	**U**
127-18-4	Tetrachloroethene	1,500	4,400	1,500	590	**U**
100-41-4	Ethylbenzene	1,500	4,600	1,500	640	**U**
179601-23-1	m,p-Xylenes	**2,200**	9,400	2,900	1,200	**J**
75-25-2	Bromoform	2,700	4,600	2,700	940	**U**
100-42-5	Styrene	2,700	4,500	2,700	740	**U**
95-47-6	o-Xylene	**840**	4,600	1,500	660	**J**
108-67-8	1,3,5-Trimethylbenzene	1,500	4,500	1,500	660	**U**
95-63-6	1,2,4-Trimethylbenzene	1,500	4,600	1,500	630	**U**
120-82-1	1,2,4-Trichlorobenzene	2,700	4,600	2,700	1,100	**U**
91-20-3	Naphthalene	2,700	4,400	2,700	1,100	**U**
1330-20-7	Xylenes, Total	**3,100**	9,400	2,900	1,200	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV05-290-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-004

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.070 Liter(s)
Test Notes:
Container ID: 1SS00755

Initial Pressure (psig): -4.24 Final Pressure (psig): 6.11

Container Dilution Factor: 1.99

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**14**	15	9.1	3.7	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**23**	15	9.1	2.5	
74-87-3	Chloromethane	9.1	15	9.1	2.4	**U**
75-01-4	Vinyl Chloride	4.8	15	4.8	1.6	**U**
106-99-0	1,3-Butadiene	9.1	15	9.1	2.5	**U**
75-00-3	Chloroethane	9.1	15	9.1	1.9	**U**
64-17-5	Ethanol	**14**	150	24	11	**J, B**
67-64-1	Acetone	77	150	77	34	**U**
75-69-4	Trichlorofluoromethane	**4.0**	15	9.1	2.3	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	18	60	18	6.3	**U**
75-09-2	Methylene Chloride	9.1	15	9.1	4.3	**U**
76-13-1	Trichlorotrifluoroethane	**800**	15	4.8	2.2	
75-15-0	Carbon Disulfide	15	31	15	4.5	**U**
75-34-3	1,1-Dichloroethane	9.4	16	9.4	2.2	**U**
78-93-3	2-Butanone (MEK)	9.1	31	9.1	3.1	**U**
141-78-6	Ethyl Acetate	18	31	18	8.0	**U**
110-54-3	n-Hexane	**2,000**	15	9.1	3.1	
67-66-3	Chloroform	4.8	15	4.8	2.0	**U**
109-99-9	Tetrahydrofuran (THF)	4.8	16	4.8	1.9	**U**
107-06-2	1,2-Dichloroethane	4.8	15	4.8	1.7	**U**
71-43-2	Benzene	**15**	15	4.8	2.2	
56-23-5	Carbon Tetrachloride	**31**	15	4.8	2.1	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV05-290-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-004

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.070 Liter(s)
Test Notes:
Container ID: 1SS00755

Initial Pressure (psig): -4.24 Final Pressure (psig): 6.11

Container Dilution Factor: 1.99

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**2,700**	31	9.7	4.3	
75-27-4	Bromodichloromethane	4.8	15	4.8	2.2	**U**
79-01-6	Trichloroethene	**5.2**	15	4.8	2.0	**J**
123-91-1	1,4-Dioxane	4.8	15	4.8	1.8	**U**
142-82-5	n-Heptane	**970**	15	9.1	2.4	
108-10-1	4-Methyl-2-pentanone	4.8	15	4.8	2.1	**U**
108-88-3	Toluene	**54**	15	4.8	1.8	
591-78-6	2-Hexanone	4.8	15	4.8	1.9	**U**
124-48-1	Dibromochloromethane	4.8	15	4.8	2.0	**U**
106-93-4	1,2-Dibromoethane	4.8	15	4.8	1.8	**U**
127-18-4	Tetrachloroethene	**13**	15	4.8	2.0	**J**
100-41-4	Ethylbenzene	**5.0**	15	4.8	2.1	**J**
179601-23-1	m,p-Xylenes	**27**	31	9.7	4.0	**J**
75-25-2	Bromoform	9.1	15	9.1	3.1	**U**
100-42-5	Styrene	9.1	15	9.1	2.4	**U**
95-47-6	o-Xylene	**9.2**	15	4.8	2.2	**J**
108-67-8	1,3,5-Trimethylbenzene	**3.4**	15	4.8	2.2	**J**
95-63-6	1,2,4-Trimethylbenzene	**5.0**	15	4.8	2.1	**J**
120-82-1	1,2,4-Trichlorobenzene	9.1	15	9.1	3.7	**U**
91-20-3	Naphthalene	8.8	15	8.8	3.7	**U**
1330-20-7	Xylenes, Total	**36**	31	9.7	4.0	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV06-050-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-005

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00456

Initial Pressure (psig): -2.97 Final Pressure (psig): 5.58

Container Dilution Factor: 1.73

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**6.6**	2.3	1.4	0.56	
75-71-8	Dichlorodifluoromethane (CFC 12)	**17**	2.3	1.4	0.38	
74-87-3	Chloromethane	**3.7**	2.3	1.4	0.37	
75-01-4	Vinyl Chloride	0.74	2.3	0.74	0.25	**U**
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.38	**U**
75-00-3	Chloroethane	**0.79**	2.3	1.4	0.29	**J**
64-17-5	Ethanol	**12**	22	3.6	1.6	**J, B**
67-64-1	Acetone	**44**	23	12	5.2	
75-69-4	Trichlorofluoromethane	**4.1**	2.3	1.4	0.35	
67-63-0	2-Propanol (Isopropyl Alcohol)	**20**	9.1	2.7	0.95	
75-09-2	Methylene Chloride	1.4	2.3	1.4	0.65	**U**
76-13-1	Trichlorotrifluoroethane	**32**	2.3	0.74	0.33	
75-15-0	Carbon Disulfide	**5.1**	4.8	2.3	0.69	
75-34-3	1,1-Dichloroethane	1.4	2.4	1.4	0.34	**U**
78-93-3	2-Butanone (MEK)	**6.7**	4.8	1.4	0.48	
141-78-6	Ethyl Acetate	**4.3**	4.8	2.8	1.2	**J**
110-54-3	n-Hexane	**7.3**	2.3	1.4	0.48	
67-66-3	Chloroform	0.74	2.3	0.74	0.31	**U**
109-99-9	Tetrahydrofuran (THF)	**0.97**	2.4	0.74	0.29	**J**
107-06-2	1,2-Dichloroethane	0.74	2.3	0.74	0.26	**U**
71-43-2	Benzene	**2.5**	2.3	0.74	0.33	
56-23-5	Carbon Tetrachloride	**13**	2.3	0.74	0.32	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV06-050-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-005

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00456

Initial Pressure (psig): -2.97 Final Pressure (psig): 5.58

Container Dilution Factor: 1.73

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**5.5**	4.8	1.5	0.65	
75-27-4	Bromodichloromethane	0.74	2.3	0.74	0.33	**U**
79-01-6	Trichloroethene	**1.7**	2.3	0.74	0.31	**J**
123-91-1	1,4-Dioxane	**0.42**	2.3	0.74	0.27	**J**
142-82-5	n-Heptane	**11**	2.3	1.4	0.37	
108-10-1	4-Methyl-2-pentanone	**0.66**	2.3	0.74	0.32	**J**
108-88-3	Toluene	**14**	2.3	0.74	0.28	
591-78-6	2-Hexanone	0.74	2.3	0.74	0.29	**U**
124-48-1	Dibromochloromethane	0.74	2.3	0.74	0.30	**U**
106-93-4	1,2-Dibromoethane	0.74	2.3	0.74	0.27	**U**
127-18-4	Tetrachloroethene	**4.4**	2.2	0.74	0.30	
100-41-4	Ethylbenzene	**1.4**	2.3	0.74	0.32	**J**
179601-23-1	m,p-Xylenes	**7.6**	4.8	1.5	0.61	
75-25-2	Bromoform	1.4	2.3	1.4	0.48	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.37	**U**
95-47-6	o-Xylene	**2.7**	2.3	0.74	0.33	
108-67-8	1,3,5-Trimethylbenzene	**0.84**	2.3	0.74	0.33	**J**
95-63-6	1,2,4-Trimethylbenzene	**1.6**	2.3	0.74	0.32	**J**
120-82-1	1,2,4-Trichlorobenzene	1.4	2.3	1.4	0.56	**U**
91-20-3	Naphthalene	1.3	2.2	1.3	0.56	**U**
1330-20-7	Xylenes, Total	**10**	4.8	1.5	0.61	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV06-100-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-006

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01190

Initial Pressure (psig): -3.93 Final Pressure (psig): 5.55

Container Dilution Factor: 1.88

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**0.78**	2.5	1.5	0.61	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**18**	2.5	1.5	0.41	
74-87-3	Chloromethane	**0.40**	2.5	1.5	0.40	**J**
75-01-4	Vinyl Chloride	0.80	2.5	0.80	0.27	**U**
106-99-0	1,3-Butadiene	1.5	2.5	1.5	0.41	**U**
75-00-3	Chloroethane	1.5	2.5	1.5	0.31	**U**
64-17-5	Ethanol	**1.9**	24	3.9	1.7	**J, B**
67-64-1	Acetone	**11**	25	13	5.6	**J**
75-69-4	Trichlorofluoromethane	**4.0**	2.5	1.5	0.38	
67-63-0	2-Propanol (Isopropyl Alcohol)	3.0	9.9	3.0	1.0	**U**
75-09-2	Methylene Chloride	1.5	2.5	1.5	0.71	**U**
76-13-1	Trichlorotrifluoroethane	**30**	2.5	0.80	0.36	
75-15-0	Carbon Disulfide	**1.9**	5.2	2.5	0.75	**J**
75-34-3	1,1-Dichloroethane	1.6	2.6	1.6	0.37	**U**
78-93-3	2-Butanone (MEK)	**1.9**	5.2	1.5	0.52	**J**
141-78-6	Ethyl Acetate	3.1	5.2	3.1	1.3	**U**
110-54-3	n-Hexane	**8.9**	2.5	1.5	0.52	
67-66-3	Chloroform	**3.4**	2.5	0.80	0.33	
109-99-9	Tetrahydrofuran (THF)	**0.54**	2.6	0.80	0.31	**J**
107-06-2	1,2-Dichloroethane	0.80	2.5	0.80	0.28	**U**
71-43-2	Benzene	**2.8**	2.5	0.80	0.36	
56-23-5	Carbon Tetrachloride	**12**	2.5	0.80	0.35	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV06-100-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-006

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01190

Initial Pressure (psig): -3.93 Final Pressure (psig): 5.55

Container Dilution Factor: 1.88

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**8.1**	5.2	1.6	0.71	
75-27-4	Bromodichloromethane	0.80	2.5	0.80	0.36	**U**
79-01-6	Trichloroethene	0.80	2.5	0.80	0.34	**U**
123-91-1	1,4-Dioxane	**0.63**	2.5	0.80	0.30	**J**
142-82-5	n-Heptane	**19**	2.5	1.5	0.40	
108-10-1	4-Methyl-2-pentanone	0.80	2.5	0.80	0.34	**U**
108-88-3	Toluene	**19**	2.5	0.80	0.31	
591-78-6	2-Hexanone	0.80	2.5	0.80	0.31	**U**
124-48-1	Dibromochloromethane	0.80	2.5	0.80	0.33	**U**
106-93-4	1,2-Dibromoethane	0.80	2.5	0.80	0.29	**U**
127-18-4	Tetrachloroethene	**1.6**	2.4	0.80	0.32	**J**
100-41-4	Ethylbenzene	**1.9**	2.5	0.80	0.35	**J**
179601-23-1	m,p-Xylenes	**10**	5.2	1.6	0.66	
75-25-2	Bromoform	1.5	2.5	1.5	0.52	**U**
100-42-5	Styrene	1.5	2.5	1.5	0.40	**U**
95-47-6	o-Xylene	**3.2**	2.5	0.80	0.36	
108-67-8	1,3,5-Trimethylbenzene	**1.0**	2.5	0.80	0.36	**J**
95-63-6	1,2,4-Trimethylbenzene	**2.0**	2.5	0.80	0.35	**J**
120-82-1	1,2,4-Trichlorobenzene	1.5	2.5	1.5	0.61	**U**
91-20-3	Naphthalene	1.5	2.4	1.5	0.61	**U**
1330-20-7	Xylenes, Total	**13**	5.2	1.6	0.66	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV06-100-602** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-007

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00050

Initial Pressure (psig): -3.31 Final Pressure (psig): 5.96

Container Dilution Factor: 1.81

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**5.0**	2.4	1.4	0.59	
75-71-8	Dichlorodifluoromethane (CFC 12)	**18**	2.4	1.4	0.39	
74-87-3	Chloromethane	1.4	2.4	1.4	0.39	**U**
75-01-4	Vinyl Chloride	0.77	2.4	0.77	0.26	**U**
106-99-0	1,3-Butadiene	1.4	2.4	1.4	0.40	**U**
75-00-3	Chloroethane	1.4	2.4	1.4	0.30	**U**
64-17-5	Ethanol	**2.5**	24	3.8	1.7	**J, B**
67-64-1	Acetone	**9.0**	24	12	5.4	**J**
75-69-4	Trichlorofluoromethane	**3.9**	2.4	1.4	0.37	
67-63-0	2-Propanol (Isopropyl Alcohol)	**18**	9.5	2.9	1.0	
75-09-2	Methylene Chloride	1.4	2.4	1.4	0.68	**U**
76-13-1	Trichlorotrifluoroethane	**30**	2.4	0.77	0.34	
75-15-0	Carbon Disulfide	**1.4**	5.0	2.4	0.72	**J**
75-34-3	1,1-Dichloroethane	1.5	2.5	1.5	0.35	**U**
78-93-3	2-Butanone (MEK)	**1.7**	5.0	1.4	0.50	**J**
141-78-6	Ethyl Acetate	**1.9**	5.0	2.9	1.3	**J**
110-54-3	n-Hexane	**21**	2.4	1.4	0.50	
67-66-3	Chloroform	**3.3**	2.4	0.77	0.32	
109-99-9	Tetrahydrofuran (THF)	**0.81**	2.5	0.77	0.30	**J**
107-06-2	1,2-Dichloroethane	0.77	2.4	0.77	0.27	**U**
71-43-2	Benzene	**6.4**	2.4	0.77	0.35	
56-23-5	Carbon Tetrachloride	**12**	2.4	0.77	0.33	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV06-100-602** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-007

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00050

Initial Pressure (psig): -3.31 Final Pressure (psig): 5.96

Container Dilution Factor: 1.81

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**17**	5.0	1.5	0.68	
75-27-4	Bromodichloromethane	0.77	2.4	0.77	0.35	**U**
79-01-6	Trichloroethene	0.77	2.4	0.77	0.33	**U**
123-91-1	1,4-Dioxane	0.77	2.4	0.77	0.29	**U**
142-82-5	n-Heptane	**41**	2.4	1.4	0.38	
108-10-1	4-Methyl-2-pentanone	0.77	2.4	0.77	0.33	**U**
108-88-3	Toluene	**42**	2.4	0.77	0.29	
591-78-6	2-Hexanone	0.77	2.4	0.77	0.30	**U**
124-48-1	Dibromochloromethane	0.77	2.4	0.77	0.32	**U**
106-93-4	1,2-Dibromoethane	0.77	2.4	0.77	0.28	**U**
127-18-4	Tetrachloroethene	**1.5**	2.4	0.77	0.31	**J**
100-41-4	Ethylbenzene	**3.7**	2.4	0.77	0.34	
179601-23-1	m,p-Xylenes	**20**	5.0	1.5	0.63	
75-25-2	Bromoform	1.4	2.4	1.4	0.50	**U**
100-42-5	Styrene	1.4	2.4	1.4	0.39	**U**
95-47-6	o-Xylene	**5.6**	2.4	0.77	0.35	
108-67-8	1,3,5-Trimethylbenzene	**1.7**	2.4	0.77	0.35	**J**
95-63-6	1,2,4-Trimethylbenzene	**3.3**	2.4	0.77	0.33	
120-82-1	1,2,4-Trichlorobenzene	1.4	2.4	1.4	0.59	**U**
91-20-3	Naphthalene	**0.73**	2.4	1.4	0.59	**J**
1330-20-7	Xylenes, Total	**25**	5.0	1.5	0.63	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV06-252-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-008

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00050 Liter(s)
Test Notes:
Container ID: 1SS00837

Initial Pressure (psig): -4.33 Final Pressure (psig): 5.56

Container Dilution Factor: 1.95

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	1,200	2,100	1,200	510	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	1,200	2,100	1,200	340	**U**
74-87-3	Chloromethane	1,200	2,100	1,200	340	**U**
75-01-4	Vinyl Chloride	660	2,100	660	220	**U**
106-99-0	1,3-Butadiene	1,200	2,100	1,200	340	**U**
75-00-3	Chloroethane	1,200	2,100	1,200	260	**U**
64-17-5	Ethanol	3,200	20,000	3,200	1,400	**U**
67-64-1	Acetone	11,000	21,000	11,000	4,700	**U**
75-69-4	Trichlorofluoromethane	1,200	2,100	1,200	320	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	2,500	8,200	2,500	860	**U**
75-09-2	Methylene Chloride	1,200	2,100	1,200	590	**U**
76-13-1	Trichlorotrifluoroethane	660	2,100	660	300	**U**
75-15-0	Carbon Disulfide	2,100	4,300	2,100	620	**U**
75-34-3	1,1-Dichloroethane	1,300	2,100	1,300	300	**U**
78-93-3	2-Butanone (MEK)	1,200	4,300	1,200	430	**U**
141-78-6	Ethyl Acetate	2,500	4,300	2,500	1,100	**U**
110-54-3	n-Hexane	**11,000**	2,100	1,200	430	
67-66-3	Chloroform	660	2,100	660	280	**U**
109-99-9	Tetrahydrofuran (THF)	660	2,100	660	260	**U**
107-06-2	1,2-Dichloroethane	**660**	2,100	660	230	**J**
71-43-2	Benzene	**300,000**	2,100	660	300	
56-23-5	Carbon Tetrachloride	660	2,100	660	290	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV06-252-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-008

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00050 Liter(s)
Test Notes:
Container ID: 1SS00837

Initial Pressure (psig): -4.33 Final Pressure (psig): 5.56

Container Dilution Factor: 1.95

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**73,000**	4,300	1,300	590	
75-27-4	Bromodichloromethane	660	2,100	660	300	**U**
79-01-6	Trichloroethene	660	2,100	660	280	**U**
123-91-1	1,4-Dioxane	660	2,100	660	250	**U**
142-82-5	n-Heptane	**660**	2,100	1,200	330	**J**
108-10-1	4-Methyl-2-pentanone	660	2,100	660	280	**U**
108-88-3	Toluene	**11,000**	2,100	660	250	
591-78-6	2-Hexanone	660	2,100	660	260	**U**
124-48-1	Dibromochloromethane	660	2,100	660	270	**U**
106-93-4	1,2-Dibromoethane	660	2,100	660	240	**U**
127-18-4	Tetrachloroethene	660	2,000	660	270	**U**
100-41-4	Ethylbenzene	660	2,100	660	290	**U**
179601-23-1	m,p-Xylenes	**1,700**	4,300	1,300	550	**J**
75-25-2	Bromoform	1,200	2,100	1,200	430	**U**
100-42-5	Styrene	1,200	2,100	1,200	340	**U**
95-47-6	o-Xylene	**3,900**	2,100	660	300	
108-67-8	1,3,5-Trimethylbenzene	660	2,100	660	300	**U**
95-63-6	1,2,4-Trimethylbenzene	660	2,100	660	290	**U**
120-82-1	1,2,4-Trichlorobenzene	1,200	2,100	1,200	510	**U**
91-20-3	Naphthalene	1,200	2,000	1,200	510	**U**
1330-20-7	Xylenes, Total	**5,600**	4,300	1,300	550	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV06-302-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-009

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.17 Liter(s)
Test Notes: 0.020 Liter(s)
Container ID: 1SS00843

Initial Pressure (psig): -3.75 Final Pressure (psig): 5.43

Container Dilution Factor: 1.84

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**54**	5.7	3.5	1.4	
75-71-8	Dichlorodifluoromethane (CFC 12)	**22**	5.7	3.5	0.94	
74-87-3	Chloromethane	3.5	5.7	3.5	0.93	**U**
75-01-4	Vinyl Chloride	1.8	5.8	1.8	0.62	**U**
106-99-0	1,3-Butadiene	3.5	5.7	3.5	0.95	**U**
75-00-3	Chloroethane	3.5	5.8	3.5	0.71	**U**
64-17-5	Ethanol	9.0	56	9.0	4.0	**U**
67-64-1	Acetone	29	57	29	13	**U**
75-69-4	Trichlorofluoromethane	**10**	5.7	3.5	0.88	
67-63-0	2-Propanol (Isopropyl Alcohol)	6.8	23	6.8	2.4	**U**
75-09-2	Methylene Chloride	3.5	5.7	3.5	1.6	**U**
76-13-1	Trichlorotrifluoroethane	**71**	5.8	1.8	0.82	
75-15-0	Carbon Disulfide	**1.7**	12	5.8	1.7	**J**
75-34-3	1,1-Dichloroethane	3.6	6.0	3.6	0.84	**U**
78-93-3	2-Butanone (MEK)	**1.4**	12	3.5	1.2	**J**
141-78-6	Ethyl Acetate	7.0	12	7.0	3.0	**U**
110-54-3	n-Hexane	**99**	5.8	3.5	1.2	
67-66-3	Chloroform	**7.7**	5.8	1.8	0.77	
109-99-9	Tetrahydrofuran (THF)	**2.1**	6.0	1.8	0.73	**J**
107-06-2	1,2-Dichloroethane	**25**	5.8	1.8	0.64	
71-43-2	Benzene	**65**	5.7	1.8	0.83	
56-23-5	Carbon Tetrachloride	**38**	5.7	1.8	0.80	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV06-302-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-009

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.17 Liter(s)
Test Notes: 0.020 Liter(s)
Container ID: 1SS00843

Initial Pressure (psig): -3.75 Final Pressure (psig): 5.43

Container Dilution Factor: 1.84

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**1,800**	100	31	14	**D**
75-27-4	Bromodichloromethane	1.8	5.8	1.8	0.83	**U**
79-01-6	Trichloroethene	**2.0**	5.8	1.8	0.78	**J**
123-91-1	1,4-Dioxane	1.8	5.8	1.8	0.68	**U**
142-82-5	n-Heptane	**8.6**	5.8	3.5	0.92	
108-10-1	4-Methyl-2-pentanone	1.8	5.7	1.8	0.79	**U**
108-88-3	Toluene	**21**	5.8	1.8	0.70	
591-78-6	2-Hexanone	1.8	5.8	1.8	0.71	**U**
124-48-1	Dibromochloromethane	1.8	5.8	1.8	0.76	**U**
106-93-4	1,2-Dibromoethane	**83**	5.8	1.8	0.67	
127-18-4	Tetrachloroethene	**1.8**	5.6	1.8	0.75	**J**
100-41-4	Ethylbenzene	**1.5**	5.8	1.8	0.81	**J**
179601-23-1	m,p-Xylenes	**11**	12	3.7	1.5	**J**
75-25-2	Bromoform	3.5	5.8	3.5	1.2	**U**
100-42-5	Styrene	3.5	5.7	3.5	0.93	**U**
95-47-6	o-Xylene	**12**	5.8	1.8	0.83	
108-67-8	1,3,5-Trimethylbenzene	**3.1**	5.7	1.8	0.83	**J**
95-63-6	1,2,4-Trimethylbenzene	**1.7**	5.8	1.8	0.80	**J**
120-82-1	1,2,4-Trichlorobenzene	3.5	5.8	3.5	1.4	**U**
91-20-3	Naphthalene	3.4	5.6	3.4	1.4	**U**
1330-20-7	Xylenes, Total	**23**	12	3.7	1.5	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV12-150-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-010

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00695

Initial Pressure (psig): -3.93 Final Pressure (psig): 6.65

Container Dilution Factor: 1.98

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**1.5**	2.6	1.6	0.64	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**33**	2.6	1.6	0.43	
74-87-3	Chloromethane	1.6	2.6	1.6	0.43	**U**
75-01-4	Vinyl Chloride	**11**	2.7	0.84	0.28	
106-99-0	1,3-Butadiene	1.6	2.6	1.6	0.44	**U**
75-00-3	Chloroethane	1.6	2.7	1.6	0.33	**U**
64-17-5	Ethanol	**5.3**	26	4.1	1.8	**J, B**
67-64-1	Acetone	**6.3**	26	13	5.9	**J**
75-69-4	Trichlorofluoromethane	**5.1**	2.6	1.6	0.40	
67-63-0	2-Propanol (Isopropyl Alcohol)	**1.5**	10	3.1	1.1	**J**
75-09-2	Methylene Chloride	1.6	2.6	1.6	0.74	**U**
76-13-1	Trichlorotrifluoroethane	**510**	27	8.4	3.8	**D**
75-15-0	Carbon Disulfide	**2.0**	5.4	2.7	0.79	**J**
75-34-3	1,1-Dichloroethane	1.6	2.7	1.6	0.39	**U**
78-93-3	2-Butanone (MEK)	**0.71**	5.4	1.6	0.54	**J**
141-78-6	Ethyl Acetate	3.2	5.4	3.2	1.4	**U**
110-54-3	n-Hexane	1.6	2.7	1.6	0.54	**U**
67-66-3	Chloroform	**5.2**	2.7	0.84	0.35	
109-99-9	Tetrahydrofuran (THF)	**3.5**	2.7	0.84	0.33	
107-06-2	1,2-Dichloroethane	0.84	2.7	0.84	0.29	**U**
71-43-2	Benzene	**0.96**	2.6	0.84	0.38	**J**
56-23-5	Carbon Tetrachloride	**34**	2.6	0.84	0.37	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV12-150-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-010

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00695

Initial Pressure (psig): -3.93 Final Pressure (psig): 6.65

Container Dilution Factor: 1.98

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**2.7**	5.4	1.7	0.74	**J**
75-27-4	Bromodichloromethane	0.84	2.7	0.84	0.38	**U**
79-01-6	Trichloroethene	**160**	2.7	0.84	0.36	
123-91-1	1,4-Dioxane	0.84	2.7	0.84	0.31	**U**
142-82-5	n-Heptane	1.6	2.7	1.6	0.42	**U**
108-10-1	4-Methyl-2-pentanone	0.84	2.6	0.84	0.36	**U**
108-88-3	Toluene	**1.1**	2.7	0.84	0.32	**J**
591-78-6	2-Hexanone	0.84	2.7	0.84	0.33	**U**
124-48-1	Dibromochloromethane	0.84	2.7	0.84	0.35	**U**
106-93-4	1,2-Dibromoethane	0.84	2.7	0.84	0.31	**U**
127-18-4	Tetrachloroethene	**18**	2.6	0.84	0.34	
100-41-4	Ethylbenzene	0.84	2.7	0.84	0.37	**U**
179601-23-1	m,p-Xylenes	**1.2**	5.4	1.7	0.69	**J**
75-25-2	Bromoform	1.6	2.7	1.6	0.54	**U**
100-42-5	Styrene	1.6	2.6	1.6	0.43	**U**
95-47-6	o-Xylene	**0.39**	2.7	0.84	0.38	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.70**	2.6	0.84	0.38	**J**
95-63-6	1,2,4-Trimethylbenzene	**3.7**	2.7	0.84	0.37	
120-82-1	1,2,4-Trichlorobenzene	1.6	2.7	1.6	0.64	**U**
91-20-3	Naphthalene	**1.1**	2.6	1.5	0.64	**J**
1330-20-7	Xylenes, Total	**1.6**	5.4	1.7	0.69	**J**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV12-250-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-011

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.020 Liter(s)
Container ID: 1SS00124

Initial Pressure (psig): -3.60 Final Pressure (psig): 5.94

Container Dilution Factor: 1.86

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**9.4**	2.5	1.5	0.60	
75-71-8	Dichlorodifluoromethane (CFC 12)	**17**	2.5	1.5	0.40	
74-87-3	Chloromethane	**0.72**	2.5	1.5	0.40	**J**
75-01-4	Vinyl Chloride	**1,600**	50	16	5.3	**D**
106-99-0	1,3-Butadiene	1.5	2.5	1.5	0.41	**U**
75-00-3	Chloroethane	1.5	2.5	1.5	0.31	**U**
64-17-5	Ethanol	**5.7**	24	3.9	1.7	**J, B**
67-64-1	Acetone	**6.9**	25	13	5.6	**J**
75-69-4	Trichlorofluoromethane	**4.6**	2.5	1.5	0.38	
67-63-0	2-Propanol (Isopropyl Alcohol)	2.9	9.8	2.9	1.0	**U**
75-09-2	Methylene Chloride	1.5	2.5	1.5	0.70	**U**
76-13-1	Trichlorotrifluoroethane	**930**	50	16	7.1	**D**
75-15-0	Carbon Disulfide	**49**	5.1	2.5	0.74	
75-34-3	1,1-Dichloroethane	**0.60**	2.6	1.5	0.36	**J**
78-93-3	2-Butanone (MEK)	**1.3**	5.1	1.5	0.51	**J**
141-78-6	Ethyl Acetate	3.0	5.1	3.0	1.3	**U**
110-54-3	n-Hexane	**1.7**	2.5	1.5	0.51	**J**
67-66-3	Chloroform	**7.4**	2.5	0.79	0.33	
109-99-9	Tetrahydrofuran (THF)	**5.5**	2.6	0.79	0.31	
107-06-2	1,2-Dichloroethane	**5.2**	2.5	0.79	0.27	
71-43-2	Benzene	**2.1**	2.5	0.79	0.36	**J**
56-23-5	Carbon Tetrachloride	**25**	2.5	0.79	0.34	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV12-250-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-011

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.020 Liter(s)
Container ID: 1SS00124

Initial Pressure (psig): -3.60 Final Pressure (psig): 5.94

Container Dilution Factor: 1.86

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**130**	5.1	1.6	0.70	
75-27-4	Bromodichloromethane	0.79	2.5	0.79	0.36	**U**
79-01-6	Trichloroethene	**73**	2.5	0.79	0.33	
123-91-1	1,4-Dioxane	0.79	2.5	0.79	0.29	**U**
142-82-5	n-Heptane	1.5	2.5	1.5	0.40	**U**
108-10-1	4-Methyl-2-pentanone	0.79	2.5	0.79	0.34	**U**
108-88-3	Toluene	**2.1**	2.5	0.79	0.30	**J**
591-78-6	2-Hexanone	**0.51**	2.5	0.79	0.31	**J**
124-48-1	Dibromochloromethane	0.79	2.5	0.79	0.33	**U**
106-93-4	1,2-Dibromoethane	0.79	2.5	0.79	0.29	**U**
127-18-4	Tetrachloroethene	**11**	2.4	0.79	0.32	
100-41-4	Ethylbenzene	0.79	2.5	0.79	0.35	**U**
179601-23-1	m,p-Xylenes	**2.5**	5.1	1.6	0.65	**J**
75-25-2	Bromoform	1.5	2.5	1.5	0.51	**U**
100-42-5	Styrene	1.5	2.5	1.5	0.40	**U**
95-47-6	o-Xylene	**0.70**	2.5	0.79	0.36	**J**
108-67-8	1,3,5-Trimethylbenzene	**1.0**	2.5	0.79	0.36	**J**
95-63-6	1,2,4-Trimethylbenzene	**4.3**	2.5	0.79	0.34	
120-82-1	1,2,4-Trichlorobenzene	1.5	2.5	1.5	0.60	**U**
91-20-3	Naphthalene	**1.5**	2.4	1.4	0.60	**J**
1330-20-7	Xylenes, Total	**3.2**	5.1	1.6	0.65	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV12-350-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-012

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00940

Initial Pressure (psig): -3.60 Final Pressure (psig): 6.54

Container Dilution Factor: 1.91

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**16**	2.5	1.5	0.62	
75-71-8	Dichlorodifluoromethane (CFC 12)	**1.0**	2.5	1.5	0.42	**J**
74-87-3	Chloromethane	**2.9**	2.5	1.5	0.41	
75-01-4	Vinyl Chloride	**640**	26	8.1	2.7	**D**
106-99-0	1,3-Butadiene	1.5	2.5	1.5	0.42	**U**
75-00-3	Chloroethane	**29**	2.6	1.5	0.32	
64-17-5	Ethanol	**16**	25	4.0	1.8	**J, B**
67-64-1	Acetone	**46**	25	13	5.7	
75-69-4	Trichlorofluoromethane	1.5	2.5	1.5	0.39	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	3.0	10	3.0	1.1	**U**
75-09-2	Methylene Chloride	1.5	2.5	1.5	0.72	**U**
76-13-1	Trichlorotrifluoroethane	**12**	2.6	0.81	0.36	
75-15-0	Carbon Disulfide	**31**	5.3	2.6	0.76	
75-34-3	1,1-Dichloroethane	**0.47**	2.6	1.6	0.37	**J**
78-93-3	2-Butanone (MEK)	**9.5**	5.3	1.5	0.53	
141-78-6	Ethyl Acetate	3.1	5.3	3.1	1.3	**U**
110-54-3	n-Hexane	**2.3**	2.6	1.5	0.53	**J**
67-66-3	Chloroform	**0.50**	2.6	0.81	0.34	**J**
109-99-9	Tetrahydrofuran (THF)	**2.1**	2.6	0.81	0.32	**J**
107-06-2	1,2-Dichloroethane	**2.6**	2.6	0.81	0.28	
71-43-2	Benzene	**4.5**	2.5	0.81	0.37	
56-23-5	Carbon Tetrachloride	**3.4**	2.5	0.81	0.35	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV12-350-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-012

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00940

Initial Pressure (psig): -3.60 Final Pressure (psig): 6.54

Container Dilution Factor: 1.91

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**8.8**	5.3	1.6	0.72	
75-27-4	Bromodichloromethane	0.81	2.6	0.81	0.37	**U**
79-01-6	Trichloroethene	**1.8**	2.6	0.81	0.34	**J**
123-91-1	1,4-Dioxane	**0.33**	2.6	0.81	0.30	**J**
142-82-5	n-Heptane	**0.68**	2.6	1.5	0.41	**J**
108-10-1	4-Methyl-2-pentanone	**0.51**	2.5	0.81	0.35	**J**
108-88-3	Toluene	**2.1**	2.6	0.81	0.31	**J**
591-78-6	2-Hexanone	**1.7**	2.6	0.81	0.32	**J**
124-48-1	Dibromochloromethane	0.81	2.6	0.81	0.33	**U**
106-93-4	1,2-Dibromoethane	0.81	2.6	0.81	0.30	**U**
127-18-4	Tetrachloroethene	**2.0**	2.5	0.81	0.33	**J**
100-41-4	Ethylbenzene	**0.44**	2.6	0.81	0.36	**J**
179601-23-1	m,p-Xylenes	**2.5**	5.3	1.6	0.67	**J**
75-25-2	Bromoform	1.5	2.6	1.5	0.53	**U**
100-42-5	Styrene	1.5	2.5	1.5	0.41	**U**
95-47-6	o-Xylene	**0.66**	2.6	0.81	0.37	**J**
108-67-8	1,3,5-Trimethylbenzene	**1.3**	2.5	0.81	0.37	**J**
95-63-6	1,2,4-Trimethylbenzene	**6.1**	2.6	0.81	0.35	
120-82-1	1,2,4-Trichlorobenzene	1.5	2.6	1.5	0.62	**U**
91-20-3	Naphthalene	**1.9**	2.5	1.5	0.62	**J**
1330-20-7	Xylenes, Total	**3.1**	5.3	1.6	0.67	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV12-450-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-013

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00220

Initial Pressure (psig): -3.64 Final Pressure (psig): 5.46

Container Dilution Factor: 1.82

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**5.5**	2.4	1.5	0.59	
75-71-8	Dichlorodifluoromethane (CFC 12)	**7.7**	2.4	1.5	0.40	
74-87-3	Chloromethane	**3.7**	2.4	1.5	0.39	
75-01-4	Vinyl Chloride	**210**	2.5	0.77	0.26	
106-99-0	1,3-Butadiene	1.5	2.4	1.5	0.40	**U**
75-00-3	Chloroethane	**2.7**	2.5	1.5	0.30	
64-17-5	Ethanol	**230**	24	3.8	1.7	**B**
67-64-1	Acetone	**36**	24	12	5.5	
75-69-4	Trichlorofluoromethane	**3.5**	2.4	1.5	0.37	
67-63-0	2-Propanol (Isopropyl Alcohol)	**9.0**	9.6	2.9	1.0	**J**
75-09-2	Methylene Chloride	1.5	2.4	1.5	0.68	**U**
76-13-1	Trichlorotrifluoroethane	**1,000**	25	7.7	3.5	**D**
75-15-0	Carbon Disulfide	**36**	5.0	2.5	0.73	
75-34-3	1,1-Dichloroethane	1.5	2.5	1.5	0.35	**U**
78-93-3	2-Butanone (MEK)	**5.6**	5.0	1.5	0.50	
141-78-6	Ethyl Acetate	**5.2**	5.0	3.0	1.3	
110-54-3	n-Hexane	**22**	2.5	1.5	0.50	
67-66-3	Chloroform	**3.6**	2.5	0.77	0.32	
109-99-9	Tetrahydrofuran (THF)	**13**	2.5	0.77	0.30	
107-06-2	1,2-Dichloroethane	**0.84**	2.5	0.77	0.27	**J**
71-43-2	Benzene	**19**	2.4	0.77	0.35	
56-23-5	Carbon Tetrachloride	**18**	2.4	0.77	0.34	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV12-450-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-013

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00220

Initial Pressure (psig): -3.64 Final Pressure (psig): 5.46

Container Dilution Factor: 1.82

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**9.6**	5.0	1.5	0.68	
75-27-4	Bromodichloromethane	0.77	2.5	0.77	0.35	**U**
79-01-6	Trichloroethene	**36**	2.5	0.77	0.33	
123-91-1	1,4-Dioxane	0.77	2.5	0.77	0.29	**U**
142-82-5	n-Heptane	**3.4**	2.5	1.5	0.39	
108-10-1	4-Methyl-2-pentanone	**0.53**	2.4	0.77	0.33	**J**
108-88-3	Toluene	**41**	2.5	0.77	0.30	
591-78-6	2-Hexanone	**0.54**	2.5	0.77	0.30	**J**
124-48-1	Dibromochloromethane	0.77	2.5	0.77	0.32	**U**
106-93-4	1,2-Dibromoethane	0.77	2.5	0.77	0.28	**U**
127-18-4	Tetrachloroethene	**11**	2.4	0.77	0.31	
100-41-4	Ethylbenzene	**1.1**	2.5	0.77	0.34	**J**
179601-23-1	m,p-Xylenes	**0.71**	5.0	1.5	0.64	**J**
75-25-2	Bromoform	1.5	2.5	1.5	0.50	**U**
100-42-5	Styrene	1.5	2.4	1.5	0.39	**U**
95-47-6	o-Xylene	0.77	2.5	0.77	0.35	**U**
108-67-8	1,3,5-Trimethylbenzene	0.77	2.4	0.77	0.35	**U**
95-63-6	1,2,4-Trimethylbenzene	0.77	2.5	0.77	0.34	**U**
120-82-1	1,2,4-Trichlorobenzene	1.5	2.5	1.5	0.59	**U**
91-20-3	Naphthalene	1.4	2.4	1.4	0.59	**U**
1330-20-7	Xylenes, Total	**0.71**	5.0	1.5	0.64	**J**

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV13-150-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-014

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0015 Liter(s)
Test Notes:
Container ID: 1SS00691

Initial Pressure (psig): -2.45 Final Pressure (psig): 3.81

Container Dilution Factor: 1.51

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**690**	530	320	130	
75-71-8	Dichlorodifluoromethane (CFC 12)	320	530	320	88	**U**
74-87-3	Chloromethane	320	530	320	87	**U**
75-01-4	Vinyl Chloride	**4,100**	540	170	57	
106-99-0	1,3-Butadiene	320	530	320	89	**U**
75-00-3	Chloroethane	**73**	540	320	66	**J**
64-17-5	Ethanol	**600**	5,200	840	370	**J, B**
67-64-1	Acetone	2,700	5,300	2,700	1,200	**U**
75-69-4	Trichlorofluoromethane	320	530	320	82	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	630	2,100	630	220	**U**
75-09-2	Methylene Chloride	320	530	320	150	**U**
76-13-1	Trichlorotrifluoroethane	**1,800**	540	170	77	
75-15-0	Carbon Disulfide	540	1,100	540	160	**U**
75-34-3	1,1-Dichloroethane	330	550	330	79	**U**
78-93-3	2-Butanone (MEK)	320	1,100	320	110	**U**
141-78-6	Ethyl Acetate	650	1,100	650	280	**U**
110-54-3	n-Hexane	**2,500**	540	320	110	
67-66-3	Chloroform	170	540	170	71	**U**
109-99-9	Tetrahydrofuran (THF)	**480**	550	170	67	**J**
107-06-2	1,2-Dichloroethane	170	540	170	59	**U**
71-43-2	Benzene	**1,100**	530	170	78	
56-23-5	Carbon Tetrachloride	170	530	170	74	**U**

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV13-150-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-014

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0015 Liter(s)
Test Notes:
Container ID: 1SS00691

Initial Pressure (psig): -2.45 Final Pressure (psig): 3.81

Container Dilution Factor: 1.51

CAS #	Compound	Result µg/m³		LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**25,000**		1,100	340	150	
75-27-4	Bromodichloromethane		170	540	170	78	**U**
79-01-6	Trichloroethene	**130**		540	170	72	**J**
123-91-1	1,4-Dioxane		170	540	170	63	**U**
142-82-5	n-Heptane	**1,600**		540	320	86	
108-10-1	4-Methyl-2-pentanone		170	530	170	73	**U**
108-88-3	Toluene	**830**		540	170	65	
591-78-6	2-Hexanone		170	540	170	66	**U**
124-48-1	Dibromochloromethane		170	540	170	70	**U**
106-93-4	1,2-Dibromoethane	**81**		540	170	62	**J**
127-18-4	Tetrachloroethene		170	520	170	69	**U**
100-41-4	Ethylbenzene	**94**		540	170	76	**J**
179601-23-1	m,p-Xylenes	**2,600**		1,100	340	140	
75-25-2	Bromoform		320	540	320	110	**U**
100-42-5	Styrene		320	530	320	87	**U**
95-47-6	o-Xylene	**240**		540	170	78	**J**
108-67-8	1,3,5-Trimethylbenzene	**1,200**		530	170	78	
95-63-6	1,2,4-Trimethylbenzene	**1,100**		540	170	74	
120-82-1	1,2,4-Trichlorobenzene		320	540	320	130	**U**
91-20-3	Naphthalene		310	520	310	130	**U**
1330-20-7	Xylenes, Total	**2,800**		1,100	340	140	

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ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV13-250-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-015

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00495

Initial Pressure (psig): -2.67 Final Pressure (psig): 6.46

Container Dilution Factor: 1.76

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**0.99**	2.3	1.4	0.57	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**7.8**	2.3	1.4	0.38	
74-87-3	Chloromethane	**0.42**	2.3	1.4	0.38	**J**
75-01-4	Vinyl Chloride	**9.0**	2.4	0.75	0.25	
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.39	**U**
75-00-3	Chloroethane	1.4	2.4	1.4	0.29	**U**
64-17-5	Ethanol	**96**	23	3.7	1.6	**B**
67-64-1	Acetone	**22**	23	12	5.3	**J**
75-69-4	Trichlorofluoromethane	**1.3**	2.3	1.4	0.36	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**3.1**	9.2	2.8	0.97	**J**
75-09-2	Methylene Chloride	1.4	2.3	1.4	0.66	**U**
76-13-1	Trichlorotrifluoroethane	**3.9**	2.4	0.75	0.33	
75-15-0	Carbon Disulfide	**14**	4.8	2.4	0.70	
75-34-3	1,1-Dichloroethane	1.5	2.4	1.5	0.34	**U**
78-93-3	2-Butanone (MEK)	**4.3**	4.8	1.4	0.48	**J**
141-78-6	Ethyl Acetate	2.9	4.8	2.9	1.2	**U**
110-54-3	n-Hexane	1.4	2.4	1.4	0.48	**U**
67-66-3	Chloroform	0.75	2.4	0.75	0.31	**U**
109-99-9	Tetrahydrofuran (THF)	**10**	2.4	0.75	0.29	
107-06-2	1,2-Dichloroethane	0.75	2.4	0.75	0.26	**U**
71-43-2	Benzene	**1.6**	2.3	0.75	0.34	**J**
56-23-5	Carbon Tetrachloride	**0.46**	2.3	0.75	0.33	**J**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV13-250-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-015

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00495

Initial Pressure (psig): -2.67 Final Pressure (psig): 6.46

Container Dilution Factor: 1.76

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**1.5**	4.8	1.5	0.66	**J**
75-27-4	Bromodichloromethane	0.75	2.4	0.75	0.34	**U**
79-01-6	Trichloroethene	0.75	2.4	0.75	0.32	**U**
123-91-1	1,4-Dioxane	**0.30**	2.4	0.75	0.28	**J**
142-82-5	n-Heptane	**0.71**	2.4	1.4	0.37	**J**
108-10-1	4-Methyl-2-pentanone	**0.67**	2.3	0.75	0.32	**J**
108-88-3	Toluene	**6.5**	2.4	0.75	0.29	
591-78-6	2-Hexanone	0.75	2.4	0.75	0.29	**U**
124-48-1	Dibromochloromethane	0.75	2.4	0.75	0.31	**U**
106-93-4	1,2-Dibromoethane	0.75	2.4	0.75	0.27	**U**
127-18-4	Tetrachloroethene	**1.5**	2.3	0.75	0.30	**J**
100-41-4	Ethylbenzene	**1.0**	2.4	0.75	0.33	**J**
179601-23-1	m,p-Xylenes	**6.2**	4.8	1.5	0.62	
75-25-2	Bromoform	1.4	2.4	1.4	0.48	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.38	**U**
95-47-6	o-Xylene	**2.2**	2.4	0.75	0.34	**J**
108-67-8	1,3,5-Trimethylbenzene	**4.8**	2.3	0.75	0.34	
95-63-6	1,2,4-Trimethylbenzene	**13**	2.4	0.75	0.33	
120-82-1	1,2,4-Trichlorobenzene	1.4	2.4	1.4	0.57	**U**
91-20-3	Naphthalene	**2.4**	2.3	1.4	0.57	
1330-20-7	Xylenes, Total	**8.4**	4.8	1.5	0.62	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV13-350-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-016

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00885

Initial Pressure (psig): -3.24 Final Pressure (psig): 6.03

Container Dilution Factor: 1.81

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**8.7**	2.4	1.4	0.59	
75-71-8	Dichlorodifluoromethane (CFC 12)	**4.2**	2.4	1.4	0.39	
74-87-3	Chloromethane	**29**	2.4	1.4	0.39	
75-01-4	Vinyl Chloride	**1,200**	24	7.7	2.6	**D**
106-99-0	1,3-Butadiene	1.4	2.4	1.4	0.40	**U**
75-00-3	Chloroethane	**27**	2.4	1.4	0.30	
64-17-5	Ethanol	**13**	24	3.8	1.7	**J, B**
67-64-1	Acetone	12	24	12	5.4	**U**
75-69-4	Trichlorofluoromethane	**1.8**	2.4	1.4	0.37	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**6.7**	9.5	2.9	1.0	**J**
75-09-2	Methylene Chloride	1.4	2.4	1.4	0.68	**U**
76-13-1	Trichlorotrifluoroethane	**2.9**	2.4	0.77	0.34	
75-15-0	Carbon Disulfide	**42**	5.0	2.4	0.72	
75-34-3	1,1-Dichloroethane	**0.70**	2.5	1.5	0.35	**J**
78-93-3	2-Butanone (MEK)	**0.94**	5.0	1.4	0.50	**J**
141-78-6	Ethyl Acetate	**7.9**	5.0	2.9	1.3	
110-54-3	n-Hexane	**6.5**	2.4	1.4	0.50	
67-66-3	Chloroform	**0.44**	2.4	0.77	0.32	**J**
109-99-9	Tetrahydrofuran (THF)	**140**	2.5	0.77	0.30	
107-06-2	1,2-Dichloroethane	**4.3**	2.4	0.77	0.27	
71-43-2	Benzene	**59**	2.4	0.77	0.35	
56-23-5	Carbon Tetrachloride	**2.6**	2.4	0.77	0.33	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV13-350-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-016

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00885

Initial Pressure (psig): -3.24 Final Pressure (psig): 6.03

Container Dilution Factor: 1.81

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**18**	5.0	1.5	0.68	
75-27-4	Bromodichloromethane	0.77	2.4	0.77	0.35	**U**
79-01-6	Trichloroethene	0.77	2.4	0.77	0.33	**U**
123-91-1	1,4-Dioxane	**0.38**	2.4	0.77	0.29	**J**
142-82-5	n-Heptane	**1.1**	2.4	1.4	0.38	**J**
108-10-1	4-Methyl-2-pentanone	**0.66**	2.4	0.77	0.33	**J**
108-88-3	Toluene	**67**	2.4	0.77	0.29	
591-78-6	2-Hexanone	0.77	2.4	0.77	0.30	**U**
124-48-1	Dibromochloromethane	0.77	2.4	0.77	0.32	**U**
106-93-4	1,2-Dibromoethane	**0.92**	2.4	0.77	0.28	**J**
127-18-4	Tetrachloroethene	**1.5**	2.4	0.77	0.31	**J**
100-41-4	Ethylbenzene	**3.1**	2.4	0.77	0.34	
179601-23-1	m,p-Xylenes	**19**	5.0	1.5	0.63	
75-25-2	Bromoform	1.4	2.4	1.4	0.50	**U**
100-42-5	Styrene	1.4	2.4	1.4	0.39	**U**
95-47-6	o-Xylene	**7.3**	2.4	0.77	0.35	
108-67-8	1,3,5-Trimethylbenzene	**3.6**	2.4	0.77	0.35	
95-63-6	1,2,4-Trimethylbenzene	**10**	2.4	0.77	0.33	
120-82-1	1,2,4-Trichlorobenzene	1.4	2.4	1.4	0.59	**U**
91-20-3	Naphthalene	**2.1**	2.4	1.4	0.59	**J**
1330-20-7	Xylenes, Total	**26**	5.0	1.5	0.63	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV13-450-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-017

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00169

Initial Pressure (psig): -3.14 Final Pressure (psig): 5.62

Container Dilution Factor: 1.76

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**38**	2.3	1.4	0.57	
75-71-8	Dichlorodifluoromethane (CFC 12)	**3.1**	2.3	1.4	0.38	
74-87-3	Chloromethane	**1.1**	2.3	1.4	0.38	**J**
75-01-4	Vinyl Chloride	**44**	2.4	0.75	0.25	
106-99-0	1,3-Butadiene	1.4	2.3	1.4	0.39	**U**
75-00-3	Chloroethane	**0.98**	2.4	1.4	0.29	**J**
64-17-5	Ethanol	**4.0**	23	3.7	1.6	**J, B**
67-64-1	Acetone	**5.7**	23	12	5.3	**J**
75-69-4	Trichlorofluoromethane	**2.1**	2.3	1.4	0.36	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	**0.99**	9.2	2.8	0.97	**J**
75-09-2	Methylene Chloride	1.4	2.3	1.4	0.66	**U**
76-13-1	Trichlorotrifluoroethane	**1.4**	2.4	0.75	0.33	**J**
75-15-0	Carbon Disulfide	**25**	4.8	2.4	0.70	
75-34-3	1,1-Dichloroethane	1.5	2.4	1.5	0.34	**U**
78-93-3	2-Butanone (MEK)	**1.1**	4.8	1.4	0.48	**J**
141-78-6	Ethyl Acetate	**2.6**	4.8	2.9	1.2	**J**
110-54-3	n-Hexane	**24**	2.4	1.4	0.48	
67-66-3	Chloroform	**0.37**	2.4	0.75	0.31	**J**
109-99-9	Tetrahydrofuran (THF)	**2.5**	2.4	0.75	0.29	
107-06-2	1,2-Dichloroethane	**1.4**	2.4	0.75	0.26	**J**
71-43-2	Benzene	**8.3**	2.3	0.75	0.34	
56-23-5	Carbon Tetrachloride	**2.6**	2.3	0.75	0.33	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV13-450-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-017

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00169

Initial Pressure (psig): -3.14 Final Pressure (psig): 5.62

Container Dilution Factor: 1.76

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**590**	4.8	1.5	0.66	
75-27-4	Bromodichloromethane	0.75	2.4	0.75	0.34	**U**
79-01-6	Trichloroethene	**0.66**	2.4	0.75	0.32	**J**
123-91-1	1,4-Dioxane	**0.85**	2.4	0.75	0.28	**J**
142-82-5	n-Heptane	**0.73**	2.4	1.4	0.37	**J**
108-10-1	4-Methyl-2-pentanone	0.75	2.3	0.75	0.32	**U**
108-88-3	Toluene	**14**	2.4	0.75	0.29	
591-78-6	2-Hexanone	0.75	2.4	0.75	0.29	**U**
124-48-1	Dibromochloromethane	0.75	2.4	0.75	0.31	**U**
106-93-4	1,2-Dibromoethane	0.75	2.4	0.75	0.27	**U**
127-18-4	Tetrachloroethene	**0.89**	2.3	0.75	0.30	**J**
100-41-4	Ethylbenzene	**1.4**	2.4	0.75	0.33	**J**
179601-23-1	m,p-Xylenes	**4.0**	4.8	1.5	0.62	**J**
75-25-2	Bromoform	1.4	2.4	1.4	0.48	**U**
100-42-5	Styrene	1.4	2.3	1.4	0.38	**U**
95-47-6	o-Xylene	**1.8**	2.4	0.75	0.34	**J**
108-67-8	1,3,5-Trimethylbenzene	**6.2**	2.3	0.75	0.34	
95-63-6	1,2,4-Trimethylbenzene	**9.8**	2.4	0.75	0.33	
120-82-1	1,2,4-Trichlorobenzene	1.4	2.4	1.4	0.57	**U**
91-20-3	Naphthalene	**1.1**	2.3	1.4	0.57	**J**
1330-20-7	Xylenes, Total	**5.9**	4.8	1.5	0.62	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV15-150-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-018

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01260

Initial Pressure (psig): -3.68 Final Pressure (psig): 6.00

Container Dilution Factor: 1.88

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**0.68**	2.5	1.5	0.61	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	**6.0**	2.5	1.5	0.41	
74-87-3	Chloromethane	**1.1**	2.5	1.5	0.40	**J**
75-01-4	Vinyl Chloride	0.80	2.5	0.80	0.27	**U**
106-99-0	1,3-Butadiene	1.5	2.5	1.5	0.41	**U**
75-00-3	Chloroethane	1.5	2.5	1.5	0.31	**U**
64-17-5	Ethanol	**6.1**	24	3.9	1.7	**J, B**
67-64-1	Acetone	**14**	25	13	5.6	**J**
75-69-4	Trichlorofluoromethane	**1.3**	2.5	1.5	0.38	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	3.0	9.9	3.0	1.0	**U**
75-09-2	Methylene Chloride	1.5	2.5	1.5	0.71	**U**
76-13-1	Trichlorotrifluoroethane	**7.9**	2.5	0.80	0.36	
75-15-0	Carbon Disulfide	**3.0**	5.2	2.5	0.75	**J**
75-34-3	1,1-Dichloroethane	1.6	2.6	1.6	0.37	**U**
78-93-3	2-Butanone (MEK)	**2.7**	5.2	1.5	0.52	**J**
141-78-6	Ethyl Acetate	3.1	5.2	3.1	1.3	**U**
110-54-3	n-Hexane	**1.3**	2.5	1.5	0.52	**J**
67-66-3	Chloroform	**0.70**	2.5	0.80	0.33	**J**
109-99-9	Tetrahydrofuran (THF)	**41**	2.6	0.80	0.31	
107-06-2	1,2-Dichloroethane	0.80	2.5	0.80	0.28	**U**
71-43-2	Benzene	**5.0**	2.5	0.80	0.36	
56-23-5	Carbon Tetrachloride	**1.8**	2.5	0.80	0.35	**J**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV15-150-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-018

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01260

Initial Pressure (psig): -3.68 Final Pressure (psig): 6.00

Container Dilution Factor: 1.88

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**1.5**	5.2	1.6	0.71	**J**
75-27-4	Bromodichloromethane	0.80	2.5	0.80	0.36	**U**
79-01-6	Trichloroethene	0.80	2.5	0.80	0.34	**U**
123-91-1	1,4-Dioxane	**0.31**	2.5	0.80	0.30	**J**
142-82-5	n-Heptane	**1.5**	2.5	1.5	0.40	**J**
108-10-1	4-Methyl-2-pentanone	0.80	2.5	0.80	0.34	**U**
108-88-3	Toluene	**11**	2.5	0.80	0.31	
591-78-6	2-Hexanone	0.80	2.5	0.80	0.31	**U**
124-48-1	Dibromochloromethane	0.80	2.5	0.80	0.33	**U**
106-93-4	1,2-Dibromoethane	0.80	2.5	0.80	0.29	**U**
127-18-4	Tetrachloroethene	**2.9**	2.4	0.80	0.32	
100-41-4	Ethylbenzene	**1.2**	2.5	0.80	0.35	**J**
179601-23-1	m,p-Xylenes	**3.9**	5.2	1.6	0.66	**J**
75-25-2	Bromoform	1.5	2.5	1.5	0.52	**U**
100-42-5	Styrene	1.5	2.5	1.5	0.40	**U**
95-47-6	o-Xylene	**2.0**	2.5	0.80	0.36	**J**
108-67-8	1,3,5-Trimethylbenzene	**1.4**	2.5	0.80	0.36	**J**
95-63-6	1,2,4-Trimethylbenzene	**3.7**	2.5	0.80	0.35	
120-82-1	1,2,4-Trichlorobenzene	1.5	2.5	1.5	0.61	**U**
91-20-3	Naphthalene	1.5	2.4	1.5	0.61	**U**
1330-20-7	Xylenes, Total	**5.9**	5.2	1.6	0.66	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV15-250-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-019

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00967

Initial Pressure (psig): -4.52 Final Pressure (psig): 5.97

Container Dilution Factor: 2.03

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**16**	2.7	1.6	0.66	
75-71-8	Dichlorodifluoromethane (CFC 12)	**5.3**	2.7	1.6	0.44	
74-87-3	Chloromethane	**11**	2.7	1.6	0.44	
75-01-4	Vinyl Chloride	**450**	27	8.6	2.9	**D**
106-99-0	1,3-Butadiene	1.6	2.7	1.6	0.45	**U**
75-00-3	Chloroethane	**11**	2.7	1.6	0.33	
64-17-5	Ethanol	**3.3**	26	4.2	1.9	**J, B**
67-64-1	Acetone	**17**	27	14	6.1	**J**
75-69-4	Trichlorofluoromethane	**1.1**	2.7	1.6	0.41	**J**
67-63-0	2-Propanol (Isopropyl Alcohol)	3.2	11	3.2	1.1	**U**
75-09-2	Methylene Chloride	1.6	2.7	1.6	0.76	**U**
76-13-1	Trichlorotrifluoroethane	**10**	2.7	0.86	0.39	
75-15-0	Carbon Disulfide	**12**	5.6	2.7	0.81	
75-34-3	1,1-Dichloroethane	**0.48**	2.8	1.7	0.40	**J**
78-93-3	2-Butanone (MEK)	**0.85**	5.6	1.6	0.56	**J**
141-78-6	Ethyl Acetate	3.3	5.6	3.3	1.4	**U**
110-54-3	n-Hexane	**1.6**	2.7	1.6	0.56	**J**
67-66-3	Chloroform	**0.57**	2.7	0.86	0.36	**J**
109-99-9	Tetrahydrofuran (THF)	**8.6**	2.8	0.86	0.34	
107-06-2	1,2-Dichloroethane	**1.6**	2.7	0.86	0.30	**J**
71-43-2	Benzene	**7.1**	2.7	0.86	0.39	
56-23-5	Carbon Tetrachloride	**3.0**	2.7	0.86	0.38	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV15-250-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-019

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00967

Initial Pressure (psig): -4.52 Final Pressure (psig): 5.97

Container Dilution Factor: 2.03

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**16**	5.6	1.7	0.76	
75-27-4	Bromodichloromethane	0.86	2.7	0.86	0.39	**U**
79-01-6	Trichloroethene	0.86	2.7	0.86	0.37	**U**
123-91-1	1,4-Dioxane	0.86	2.7	0.86	0.32	**U**
142-82-5	n-Heptane	**1.1**	2.7	1.6	0.43	**J**
108-10-1	4-Methyl-2-pentanone	0.86	2.7	0.86	0.37	**U**
108-88-3	Toluene	**19**	2.7	0.86	0.33	
591-78-6	2-Hexanone	0.86	2.7	0.86	0.33	**U**
124-48-1	Dibromochloromethane	0.86	2.7	0.86	0.36	**U**
106-93-4	1,2-Dibromoethane	0.86	2.7	0.86	0.31	**U**
127-18-4	Tetrachloroethene	**3.0**	2.6	0.86	0.35	
100-41-4	Ethylbenzene	**2.2**	2.7	0.86	0.38	**J**
179601-23-1	m,p-Xylenes	**3.7**	5.6	1.7	0.71	**J**
75-25-2	Bromoform	1.6	2.7	1.6	0.56	**U**
100-42-5	Styrene	1.6	2.7	1.6	0.44	**U**
95-47-6	o-Xylene	**1.9**	2.7	0.86	0.39	**J**
108-67-8	1,3,5-Trimethylbenzene	**1.8**	2.7	0.86	0.39	**J**
95-63-6	1,2,4-Trimethylbenzene	**5.0**	2.7	0.86	0.38	
120-82-1	1,2,4-Trichlorobenzene	1.6	2.7	1.6	0.66	**U**
91-20-3	Naphthalene	**1.6**	2.6	1.6	0.66	**J**
1330-20-7	Xylenes, Total	**5.6**	5.6	1.7	0.71	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV15-350-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-020

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SC00697

Initial Pressure (psig): -3.15 Final Pressure (psig): 6.39

Container Dilution Factor: 1.83

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**120**	48	29	12	
75-71-8	Dichlorodifluoromethane (CFC 12)	**33**	48	29	8.0	**J**
74-87-3	Chloromethane	**32**	48	29	7.9	**J**
75-01-4	Vinyl Chloride	**150**	49	16	5.2	
106-99-0	1,3-Butadiene	29	48	29	8.1	**U**
75-00-3	Chloroethane	29	49	29	6.0	**U**
64-17-5	Ethanol	76	480	76	34	**U**
67-64-1	Acetone	250	480	250	110	**U**
75-69-4	Trichlorofluoromethane	29	48	29	7.4	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	58	190	58	20	**U**
75-09-2	Methylene Chloride	29	48	29	14	**U**
76-13-1	Trichlorotrifluoroethane	16	49	16	7.0	**U**
75-15-0	Carbon Disulfide	49	100	49	15	**U**
75-34-3	1,1-Dichloroethane	30	50	30	7.1	**U**
78-93-3	2-Butanone (MEK)	29	100	29	10	**U**
141-78-6	Ethyl Acetate	59	100	59	26	**U**
110-54-3	n-Hexane	**1,200**	49	29	10	
67-66-3	Chloroform	16	49	16	6.5	**U**
109-99-9	Tetrahydrofuran (THF)	**12**	50	16	6.1	**J**
107-06-2	1,2-Dichloroethane	16	49	16	5.4	**U**
71-43-2	Benzene	16	48	16	7.0	**U**
56-23-5	Carbon Tetrachloride	16	48	16	6.8	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV15-350-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-020

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SC00697

Initial Pressure (psig): -3.15 Final Pressure (psig): 6.39

Container Dilution Factor: 1.83

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**19,000**	100	31	14	
75-27-4	Bromodichloromethane	16	49	16	7.0	**U**
79-01-6	Trichloroethene	**34**	49	16	6.6	**J**
123-91-1	1,4-Dioxane	16	49	16	5.8	**U**
142-82-5	n-Heptane	29	49	29	7.8	**U**
108-10-1	4-Methyl-2-pentanone	16	48	16	6.7	**U**
108-88-3	Toluene	**8.2**	49	16	5.9	**J**
591-78-6	2-Hexanone	16	49	16	6.0	**U**
124-48-1	Dibromochloromethane	16	49	16	6.4	**U**
106-93-4	1,2-Dibromoethane	**13**	49	16	5.7	**J**
127-18-4	Tetrachloroethene	16	48	16	6.3	**U**
100-41-4	Ethylbenzene	16	49	16	6.9	**U**
179601-23-1	m,p-Xylenes	31	100	31	13	**U**
75-25-2	Bromoform	29	49	29	10	**U**
100-42-5	Styrene	29	48	29	7.9	**U**
95-47-6	o-Xylene	16	49	16	7.0	**U**
108-67-8	1,3,5-Trimethylbenzene	16	48	16	7.0	**U**
95-63-6	1,2,4-Trimethylbenzene	16	49	16	6.8	**U**
120-82-1	1,2,4-Trichlorobenzene	29	49	29	12	**U**
91-20-3	Naphthalene	28	48	28	12	**U**
1330-20-7	Xylenes, Total	31	100	31	13	**U**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV15-450-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-021

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00050 Liter(s)
Test Notes: 0.00010 Liter(s)
Container ID: 1SC00521

Initial Pressure (psig): -2.69 Final Pressure (psig): 5.59

Container Dilution Factor: 1.69

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	**9,600**	1,800	1,100	440	
75-71-8	Dichlorodifluoromethane (CFC 12)	1,100	1,800	1,100	290	**U**
74-87-3	Chloromethane	1,100	1,800	1,100	290	**U**
75-01-4	Vinyl Chloride	570	1,800	570	190	**U**
106-99-0	1,3-Butadiene	1,100	1,800	1,100	300	**U**
75-00-3	Chloroethane	1,100	1,800	1,100	220	**U**
64-17-5	Ethanol	**6,300**	18,000	2,800	1,300	**J, B**
67-64-1	Acetone	**9,300**	18,000	9,100	4,100	**J**
75-69-4	Trichlorofluoromethane	1,100	1,800	1,100	270	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	2,100	7,100	2,100	740	**U**
75-09-2	Methylene Chloride	1,100	1,800	1,100	510	**U**
76-13-1	Trichlorotrifluoroethane	570	1,800	570	260	**U**
75-15-0	Carbon Disulfide	1,800	3,700	1,800	540	**U**
75-34-3	1,1-Dichloroethane	1,100	1,900	1,100	260	**U**
78-93-3	2-Butanone (MEK)	1,100	3,700	1,100	370	**U**
141-78-6	Ethyl Acetate	2,200	3,700	2,200	950	**U**
110-54-3	n-Hexane	**510,000**	9,100	5,400	1,900	**D**
67-66-3	Chloroform	570	1,800	570	240	**U**
109-99-9	Tetrahydrofuran (THF)	**250**	1,900	570	230	**J**
107-06-2	1,2-Dichloroethane	570	1,800	570	200	**U**
71-43-2	Benzene	**64,000**	1,800	570	260	
56-23-5	Carbon Tetrachloride	570	1,800	570	250	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV15-450-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-021

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.00050 Liter(s)
Test Notes: 0.00010 Liter(s)
Container ID: 1SC00521

Initial Pressure (psig): -2.69 Final Pressure (psig): 5.59

Container Dilution Factor: 1.69

CAS #	Compound	Result µg/m³		LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	**590,000**		3,700	1,100	510	
75-27-4	Bromodichloromethane		570	1,800	570	260	**U**
79-01-6	Trichloroethene		570	1,800	570	240	**U**
123-91-1	1,4-Dioxane		570	1,800	570	210	**U**
142-82-5	n-Heptane	**420,000**		9,100	5,400	1,400	**D**
108-10-1	4-Methyl-2-pentanone		570	1,800	570	250	**U**
108-88-3	Toluene	**28,000**		1,800	570	220	
591-78-6	2-Hexanone		570	1,800	570	220	**U**
124-48-1	Dibromochloromethane		570	1,800	570	240	**U**
106-93-4	1,2-Dibromoethane		570	1,800	570	210	**U**
127-18-4	Tetrachloroethene		570	1,800	570	230	**U**
100-41-4	Ethylbenzene	**700**		1,800	570	250	**J**
179601-23-1	m,p-Xylenes	**5,400**		3,700	1,100	470	
75-25-2	Bromoform		1,100	1,800	1,100	370	**U**
100-42-5	Styrene		1,100	1,800	1,100	290	**U**
95-47-6	o-Xylene	**3,100**		1,800	570	260	
108-67-8	1,3,5-Trimethylbenzene	**1,100**		1,800	570	260	**J**
95-63-6	1,2,4-Trimethylbenzene	**580**		1,800	570	250	**J**
120-82-1	1,2,4-Trichlorobenzene		1,100	1,800	1,100	440	**U**
91-20-3	Naphthalene		1,000	1,800	1,000	440	**U**
1330-20-7	Xylenes, Total	**8,500**		3,700	1,100	470	

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVTB-202-03** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-022

Test Code: EPA TO-15 Date Collected: 4/23/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00903

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	0.80	1.3	0.80	0.33	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.80	1.3	0.80	0.22	**U**
74-87-3	Chloromethane	0.80	1.3	0.80	0.22	**U**
75-01-4	Vinyl Chloride	0.43	1.4	0.43	0.14	**U**
106-99-0	1,3-Butadiene	0.80	1.3	0.80	0.22	**U**
75-00-3	Chloroethane	0.80	1.4	0.80	0.17	**U**
64-17-5	Ethanol	2.1	13	2.1	0.93	**U**
67-64-1	Acetone	6.8	13	6.8	3.0	**U**
75-69-4	Trichlorofluoromethane	0.80	1.3	0.80	0.20	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	1.6	5.3	1.6	0.55	**U**
75-09-2	Methylene Chloride	0.80	1.3	0.80	0.38	**U**
76-13-1	Trichlorotrifluoroethane	0.43	1.4	0.43	0.19	**U**
75-15-0	Carbon Disulfide	1.4	2.8	1.4	0.40	**U**
75-34-3	1,1-Dichloroethane	0.83	1.4	0.83	0.20	**U**
78-93-3	2-Butanone (MEK)	0.80	2.8	0.80	0.28	**U**
141-78-6	Ethyl Acetate	1.6	2.8	1.6	0.70	**U**
110-54-3	n-Hexane	0.80	1.4	0.80	0.28	**U**
67-66-3	Chloroform	0.43	1.4	0.43	0.18	**U**
109-99-9	Tetrahydrofuran (THF)	0.43	1.4	0.43	0.17	**U**
107-06-2	1,2-Dichloroethane	0.43	1.4	0.43	0.15	**U**
71-43-2	Benzene	0.43	1.3	0.43	0.19	**U**
56-23-5	Carbon Tetrachloride	0.43	1.3	0.43	0.19	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SVTB-202-03** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-022

Test Code: EPA TO-15 Date Collected: 4/23/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00903

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	0.85	2.8	0.85	0.38	**U**
75-27-4	Bromodichloromethane	0.43	1.4	0.43	0.19	**U**
79-01-6	Trichloroethene	0.43	1.4	0.43	0.18	**U**
123-91-1	1,4-Dioxane	0.43	1.4	0.43	0.16	**U**
142-82-5	n-Heptane	0.80	1.4	0.80	0.21	**U**
108-10-1	4-Methyl-2-pentanone	0.43	1.3	0.43	0.18	**U**
108-88-3	Toluene	0.43	1.4	0.43	0.16	**U**
591-78-6	2-Hexanone	0.43	1.4	0.43	0.17	**U**
124-48-1	Dibromochloromethane	0.43	1.4	0.43	0.18	**U**
106-93-4	1,2-Dibromoethane	0.43	1.4	0.43	0.16	**U**
127-18-4	Tetrachloroethene	0.43	1.3	0.43	0.17	**U**
100-41-4	Ethylbenzene	0.43	1.4	0.43	0.19	**U**
179601-23-1	m,p-Xylenes	0.85	2.8	0.85	0.35	**U**
75-25-2	Bromoform	0.80	1.4	0.80	0.28	**U**
100-42-5	Styrene	0.80	1.3	0.80	0.22	**U**
95-47-6	o-Xylene	0.43	1.4	0.43	0.19	**U**
108-67-8	1,3,5-Trimethylbenzene	0.43	1.3	0.43	0.19	**U**
95-63-6	1,2,4-Trimethylbenzene	0.43	1.4	0.43	0.19	**U**
120-82-1	1,2,4-Trichlorobenzene	0.80	1.4	0.80	0.33	**U**
91-20-3	Naphthalene	0.78	1.3	0.78	0.33	**U**
1330-20-7	Xylenes, Total	0.85	2.8	0.85	0.35	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200514-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	0.32	0.53	0.32	0.13	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.32	0.53	0.32	0.087	**U**
74-87-3	Chloromethane	0.32	0.53	0.32	0.086	**U**
75-01-4	Vinyl Chloride	0.17	0.54	0.17	0.057	**U**
106-99-0	1,3-Butadiene	0.32	0.53	0.32	0.088	**U**
75-00-3	Chloroethane	0.32	0.54	0.32	0.066	**U**
64-17-5	Ethanol	**0.47**	5.2	0.83	0.37	**J**
67-64-1	Acetone	2.7	5.3	2.7	1.2	**U**
75-69-4	Trichlorofluoromethane	0.32	0.53	0.32	0.081	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.63	2.1	0.63	0.22	**U**
75-09-2	Methylene Chloride	0.32	0.53	0.32	0.15	**U**
76-13-1	Trichlorotrifluoroethane	0.17	0.54	0.17	0.076	**U**
75-15-0	Carbon Disulfide	0.54	1.1	0.54	0.16	**U**
75-34-3	1,1-Dichloroethane	0.33	0.55	0.33	0.078	**U**
78-93-3	2-Butanone (MEK)	0.32	1.1	0.32	0.11	**U**
141-78-6	Ethyl Acetate	0.65	1.1	0.65	0.28	**U**
110-54-3	n-Hexane	0.32	0.54	0.32	0.11	**U**
67-66-3	Chloroform	0.17	0.54	0.17	0.071	**U**
109-99-9	Tetrahydrofuran (THF)	0.17	0.55	0.17	0.067	**U**
107-06-2	1,2-Dichloroethane	0.17	0.54	0.17	0.059	**U**
71-43-2	Benzene	0.17	0.53	0.17	0.077	**U**
56-23-5	Carbon Tetrachloride	0.17	0.53	0.17	0.074	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200514-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	0.34	1.1	0.34	0.15	U
75-27-4	Bromodichloromethane	0.17	0.54	0.17	0.077	U
79-01-6	Trichloroethene	0.17	0.54	0.17	0.072	U
123-91-1	1,4-Dioxane	0.17	0.54	0.17	0.063	U
142-82-5	n-Heptane	0.32	0.54	0.32	0.085	U
108-10-1	4-Methyl-2-pentanone	0.17	0.53	0.17	0.073	U
108-88-3	Toluene	0.17	0.54	0.17	0.065	U
591-78-6	2-Hexanone	0.17	0.54	0.17	0.066	U
124-48-1	Dibromochloromethane	0.17	0.54	0.17	0.070	U
106-93-4	1,2-Dibromoethane	0.17	0.54	0.17	0.062	U
127-18-4	Tetrachloroethene	0.17	0.52	0.17	0.069	U
100-41-4	Ethylbenzene	0.17	0.54	0.17	0.075	U
179601-23-1	m,p-Xylenes	0.34	1.1	0.34	0.14	U
75-25-2	Bromoform	0.32	0.54	0.32	0.11	U
100-42-5	Styrene	0.32	0.53	0.32	0.086	U
95-47-6	o-Xylene	0.17	0.54	0.17	0.077	U
108-67-8	1,3,5-Trimethylbenzene	0.17	0.53	0.17	0.077	U
95-63-6	1,2,4-Trimethylbenzene	0.17	0.54	0.17	0.074	U
120-82-1	1,2,4-Trichlorobenzene	0.32	0.54	0.32	0.13	U
91-20-3	Naphthalene	0.31	0.52	0.31	0.13	U
1330-20-7	Xylenes, Total	0.34	1.1	0.34	0.14	U

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200515-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
115-07-1	Propene	0.32	0.53	0.32	0.13	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.32	0.53	0.32	0.087	**U**
74-87-3	Chloromethane	0.32	0.53	0.32	0.086	**U**
75-01-4	Vinyl Chloride	0.17	0.54	0.17	0.057	**U**
106-99-0	1,3-Butadiene	0.32	0.53	0.32	0.088	**U**
75-00-3	Chloroethane	0.32	0.54	0.32	0.066	**U**
64-17-5	Ethanol	**0.52**	5.2	0.83	0.37	**J**
67-64-1	Acetone	2.7	5.3	2.7	1.2	**U**
75-69-4	Trichlorofluoromethane	0.32	0.53	0.32	0.081	**U**
67-63-0	2-Propanol (Isopropyl Alcohol)	0.63	2.1	0.63	0.22	**U**
75-09-2	Methylene Chloride	0.32	0.53	0.32	0.15	**U**
76-13-1	Trichlorotrifluoroethane	0.17	0.54	0.17	0.076	**U**
75-15-0	Carbon Disulfide	0.54	1.1	0.54	0.16	**U**
75-34-3	1,1-Dichloroethane	0.33	0.55	0.33	0.078	**U**
78-93-3	2-Butanone (MEK)	0.32	1.1	0.32	0.11	**U**
141-78-6	Ethyl Acetate	0.65	1.1	0.65	0.28	**U**
110-54-3	n-Hexane	0.32	0.54	0.32	0.11	**U**
67-66-3	Chloroform	0.17	0.54	0.17	0.071	**U**
109-99-9	Tetrahydrofuran (THF)	0.17	0.55	0.17	0.067	**U**
107-06-2	1,2-Dichloroethane	0.17	0.54	0.17	0.059	**U**
71-43-2	Benzene	0.17	0.53	0.17	0.077	**U**
56-23-5	Carbon Tetrachloride	0.17	0.53	0.17	0.074	**U**

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 2

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200515-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	LOQ µg/m³	LOD µg/m³	MDL µg/m³	Data Qualifier
110-82-7	Cyclohexane	0.34	1.1	0.34	0.15	U
75-27-4	Bromodichloromethane	0.17	0.54	0.17	0.077	U
79-01-6	Trichloroethene	0.17	0.54	0.17	0.072	U
123-91-1	1,4-Dioxane	0.17	0.54	0.17	0.063	U
142-82-5	n-Heptane	0.32	0.54	0.32	0.085	U
108-10-1	4-Methyl-2-pentanone	0.17	0.53	0.17	0.073	U
108-88-3	Toluene	0.17	0.54	0.17	0.065	U
591-78-6	2-Hexanone	0.17	0.54	0.17	0.066	U
124-48-1	Dibromochloromethane	0.17	0.54	0.17	0.070	U
106-93-4	1,2-Dibromoethane	0.17	0.54	0.17	0.062	U
127-18-4	Tetrachloroethene	0.17	0.52	0.17	0.069	U
100-41-4	Ethylbenzene	0.17	0.54	0.17	0.075	U
179601-23-1	m,p-Xylenes	0.34	1.1	0.34	0.14	U
75-25-2	Bromoform	0.32	0.54	0.32	0.11	U
100-42-5	Styrene	0.32	0.53	0.32	0.086	U
95-47-6	o-Xylene	0.17	0.54	0.17	0.077	U
108-67-8	1,3,5-Trimethylbenzene	0.17	0.53	0.17	0.077	U
95-63-6	1,2,4-Trimethylbenzene	0.17	0.54	0.17	0.074	U
120-82-1	1,2,4-Trichlorobenzene	0.32	0.54	0.32	0.13	U
91-20-3	Naphthalene	0.31	0.52	0.31	0.13	U
1330-20-7	Xylenes, Total	0.34	1.1	0.34	0.14	U

U = Undetected at the limit of detection: The associated data value is the limit of detection, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Project ID: P2002302

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date(s) Collected: 4/21/20
Analyst: Lusine Hakobyan Date(s) Received: 4/28/20
Sampling Media: 1.0 L Summa Canister(s) / 1.0 L Silonite Summa Canister(s) Date(s) Analyzed: 5/14 - 5/15/20
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P200514-MB	**94**	**99**	**107**	70-130	
Method Blank	P200515-MB	**95**	**98**	**106**	70-130	
Lab Control Sample	P200514-LCS	**94**	**98**	**108**	70-130	
Lab Control Sample	P200515-LCS	**94**	**98**	**107**	70-130	
Duplicate Lab Control Sample	P200514-DLCS	**96**	**98**	**107**	70-130	
Duplicate Lab Control Sample	P200515-DLCS	**96**	**98**	**106**	70-130	
SV05-050-202	P2002302-001	**96**	**94**	**102**	70-130	
SV05-100-202	P2002302-002	**96**	**88**	**94**	70-130	
SV05-230-202	P2002302-003	**97**	**95**	**98**	70-130	
SV05-290-202	P2002302-004	**98**	**93**	**101**	70-130	
SV05-290-202	P2002302-004DUP	**96**	**93**	**101**	70-130	
SV06-050-202	P2002302-005	**96**	**97**	**107**	70-130	
SV06-100-202	P2002302-006	**94**	**98**	**107**	70-130	
SV06-100-602	P2002302-007	**94**	**98**	**106**	70-130	
SV06-252-202	P2002302-008	**97**	**101**	**102**	70-130	
SV06-302-202	P2002302-009	**94**	**99**	**103**	70-130	
SV12-150-202	P2002302-010	**95**	**98**	**107**	70-130	
SV12-250-202	P2002302-011	**95**	**100**	**105**	70-130	
SV12-350-202	P2002302-012	**95**	**100**	**105**	70-130	
SV12-450-202	P2002302-013	**94**	**98**	**106**	70-130	
SV13-150-202	P2002302-014	**95**	**85**	**93**	70-130	
SV13-250-202	P2002302-015	**95**	**99**	**107**	70-130	
SV13-350-202	P2002302-016	**95**	**96**	**104**	70-130	
SV13-450-202	P2002302-017	**94**	**73**	**80**	70-130	
SV15-150-202	P2002302-018	**94**	**99**	**105**	70-130	
SV15-250-202	P2002302-019	**95**	**98**	**105**	70-130	
SV15-350-202	P2002302-020	**95**	**99**	**98**	70-130	
SV15-450-202	P2002302-021	**96**	**99**	**103**	70-130	
SVTB-202-03	P2002302-022	**94**	**99**	**105**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200514-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	210	214	221	**102**	**105**	57-136	3	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	198	198	**94**	**94**	59-128	0	25	
74-87-3	Chloromethane	212	190	198	**90**	**93**	59-132	3	25	
75-01-4	Vinyl Chloride	212	191	191	**90**	**90**	64-127	0	25	
106-99-0	1,3-Butadiene	212	199	198	**94**	**93**	66-134	1	25	
75-00-3	Chloroethane	214	197	197	**92**	**92**	63-127	0	25	
64-17-5	Ethanol	1,060	976	1010	**92**	**95**	59-125	3	25	
67-64-1	Acetone	1,070	1040	1050	**97**	**98**	58-128	1	25	
75-69-4	Trichlorofluoromethane	212	196	194	**92**	**92**	62-126	0	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	422	420	422	**100**	**100**	52-125	0	25	
75-09-2	Methylene Chloride	210	195	197	**93**	**94**	62-115	1	25	
76-13-1	Trichlorotrifluoroethane	216	211	212	**98**	**98**	66-126	0	25	
75-15-0	Carbon Disulfide	212	198	198	**93**	**93**	57-134	0	25	
75-34-3	1,1-Dichloroethane	212	196	199	**92**	**94**	68-126	2	25	
78-93-3	2-Butanone (MEK)	212	204	208	**96**	**98**	67-130	2	25	
141-78-6	Ethyl Acetate	432	448	452	**104**	**105**	65-128	1	25	
110-54-3	n-Hexane	216	215	217	**100**	**100**	63-120	0	25	
67-66-3	Chloroform	214	202	203	**94**	**95**	68-123	1	25	
109-99-9	Tetrahydrofuran (THF)	220	202	204	**92**	**93**	64-123	1	25	
107-06-2	1,2-Dichloroethane	214	196	199	**92**	**93**	65-128	1	25	
71-43-2	Benzene	210	202	202	**96**	**96**	69-119	0	25	
56-23-5	Carbon Tetrachloride	208	203	201	**98**	**97**	68-132	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200514-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	422	422	418	**100**	**99**	70-117	1	25	
75-27-4	Bromodichloromethane	218	209	211	**96**	**97**	72-128	1	25	
79-01-6	Trichloroethene	216	212	210	**98**	**97**	71-123	1	25	
123-91-1	1,4-Dioxane	216	212	211	**98**	**98**	71-122	0	25	
142-82-5	n-Heptane	214	208	207	**97**	**97**	69-123	0	25	
108-10-1	4-Methyl-2-pentanone	212	217	216	**102**	**102**	67-130	0	25	
108-88-3	Toluene	212	209	208	**99**	**98**	66-119	1	25	
591-78-6	2-Hexanone	216	231	230	**107**	**106**	62-128	0.9	25	
124-48-1	Dibromochloromethane	214	222	219	**104**	**102**	70-130	2	25	
106-93-4	1,2-Dibromoethane	214	218	215	**102**	**100**	74-122	2	25	
127-18-4	Tetrachloroethene	208	213	210	**102**	**101**	66-124	1	25	
100-41-4	Ethylbenzene	212	223	220	**105**	**104**	70-124	1	25	
179601-23-1	m,p-Xylenes	426	454	445	**107**	**104**	61-134	3	25	
75-25-2	Bromoform	214	228	225	**107**	**105**	66-139	2	25	
100-42-5	Styrene	212	238	236	**112**	**111**	73-127	0.9	25	
95-47-6	o-Xylene	214	223	219	**104**	**102**	67-125	2	25	
108-67-8	1,3,5-Trimethylbenzene	212	235	229	**111**	**108**	67-130	3	25	
95-63-6	1,2,4-Trimethylbenzene	212	250	245	**118**	**116**	66-132	2	25	
120-82-1	1,2,4-Trichlorobenzene	216	270	265	**125**	**123**	55-142	2	25	
91-20-3	Naphthalene	212	287	281	**135**	**133**	57-138	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200515-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
115-07-1	Propene	210	220	215	**105**	**102**	57-136	3	25	
75-71-8	Dichlorodifluoromethane (CFC 12)	210	197	193	**94**	**92**	59-128	2	25	
74-87-3	Chloromethane	212	193	195	**91**	**92**	59-132	1	25	
75-01-4	Vinyl Chloride	212	194	188	**92**	**89**	64-127	3	25	
106-99-0	1,3-Butadiene	212	197	194	**93**	**92**	66-134	1	25	
75-00-3	Chloroethane	214	197	196	**92**	**92**	63-127	0	25	
64-17-5	Ethanol	1,060	982	997	**93**	**94**	59-125	1	25	
67-64-1	Acetone	1,070	1040	1030	**97**	**96**	58-128	1	25	
75-69-4	Trichlorofluoromethane	212	196	192	**92**	**91**	62-126	1	25	
67-63-0	2-Propanol (Isopropyl Alcohol)	422	416	423	**99**	**100**	52-125	1	25	
75-09-2	Methylene Chloride	210	195	194	**93**	**92**	62-115	1	25	
76-13-1	Trichlorotrifluoroethane	216	213	209	**99**	**97**	66-126	2	25	
75-15-0	Carbon Disulfide	212	200	197	**94**	**93**	57-134	1	25	
75-34-3	1,1-Dichloroethane	212	199	196	**94**	**92**	68-126	2	25	
78-93-3	2-Butanone (MEK)	212	203	205	**96**	**97**	67-130	1	25	
141-78-6	Ethyl Acetate	432	451	444	**104**	**103**	65-128	1	25	
110-54-3	n-Hexane	216	217	212	**100**	**98**	63-120	2	25	
67-66-3	Chloroform	214	203	201	**95**	**94**	68-123	1	25	
109-99-9	Tetrahydrofuran (THF)	220	202	200	**92**	**91**	64-123	1	25	
107-06-2	1,2-Dichloroethane	214	197	195	**92**	**91**	65-128	1	25	
71-43-2	Benzene	210	203	200	**97**	**95**	69-119	2	25	
56-23-5	Carbon Tetrachloride	208	203	200	**98**	**96**	68-132	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P200515-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 5/15/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	DOD Acceptance Limits	RPD	RPD Limit	Data Qualifier
110-82-7	Cyclohexane	422	425	413	**101**	**98**	70-117	3	25	
75-27-4	Bromodichloromethane	218	211	206	**97**	**94**	72-128	3	25	
79-01-6	Trichloroethene	216	210	206	**97**	**95**	71-123	2	25	
123-91-1	1,4-Dioxane	216	212	209	**98**	**97**	71-122	1	25	
142-82-5	n-Heptane	214	208	204	**97**	**95**	69-123	2	25	
108-10-1	4-Methyl-2-pentanone	212	220	215	**104**	**101**	67-130	3	25	
108-88-3	Toluene	212	208	207	**98**	**98**	66-119	0	25	
591-78-6	2-Hexanone	216	230	230	**106**	**106**	62-128	0	25	
124-48-1	Dibromochloromethane	214	222	220	**104**	**103**	70-130	1	25	
106-93-4	1,2-Dibromoethane	214	217	214	**101**	**100**	74-122	1	25	
127-18-4	Tetrachloroethene	208	212	209	**102**	**100**	66-124	2	25	
100-41-4	Ethylbenzene	212	223	220	**105**	**104**	70-124	1	25	
179601-23-1	m,p-Xylenes	426	464	451	**109**	**106**	61-134	3	25	
75-25-2	Bromoform	214	227	224	**106**	**105**	66-139	0.9	25	
100-42-5	Styrene	212	237	234	**112**	**110**	73-127	2	25	
95-47-6	o-Xylene	214	223	217	**104**	**101**	67-125	3	25	
108-67-8	1,3,5-Trimethylbenzene	212	235	228	**111**	**108**	67-130	3	25	
95-63-6	1,2,4-Trimethylbenzene	212	249	244	**117**	**115**	66-132	2	25	
120-82-1	1,2,4-Trichlorobenzene	216	268	264	**124**	**122**	55-142	2	25	
91-20-3	Naphthalene	212	286	279	**135**	**132**	57-138	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV05-290-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-004DUP

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.070 Liter(s)
Test Notes:
Container ID: 1SS00755

Initial Pressure (psig): -4.24 Final Pressure (psig): 6.11

Container Dilution Factor: 1.99

Compound	Sample Result µg/m³	Duplicate Sample Result µg/m³	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Propene	14	13	13.5	**7**	25	**J**
Dichlorodifluoromethane (CFC 12)	23	22	22.5	**4**	25	
Chloromethane	ND	ND	-	-	25	
Vinyl Chloride	ND	ND	-	-	25	
1,3-Butadiene	ND	ND	-	-	25	
Chloroethane	ND	ND	-	-	25	
Ethanol	14	13	13.5	**7**	25	**J, B**
Acetone	ND	ND	-	-	25	
Trichlorofluoromethane	4.0	4.0	4	**0**	25	**J**
2-Propanol (Isopropyl Alcohol)	ND	ND	-	-	25	
Methylene Chloride	ND	ND	-	-	25	
Trichlorotrifluoroethane	800	780	790	**3**	25	
Carbon Disulfide	ND	ND	-	-	25	
1,1-Dichloroethane	ND	ND	-	-	25	
2-Butanone (MEK)	ND	ND	-	-	25	
Ethyl Acetate	ND	ND	-	-	25	
n-Hexane	2,000	2,000	2000	**0**	25	
Chloroform	ND	ND	-	-	25	
Tetrahydrofuran (THF)	ND	ND	-	-	25	
1,2-Dichloroethane	ND	ND	-	-	25	
Benzene	15	15	15	**0**	25	
Carbon Tetrachloride	31	31	31	**0**	25	

ND = Compound was analyzed for, but not detected.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **EA Engineering, Science, and Technology, Inc.**
Client Sample ID: **SV05-290-202** ALS Project ID: P2002302
Client Project ID: **Kirtland AFB Bulk Fuels Facility / 62735DM02** ALS Sample ID: P2002302-004DUP

Test Code: EPA TO-15 Date Collected: 4/21/20
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 4/28/20
Analyst: Lusine Hakobyan Date Analyzed: 5/14/20
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.070 Liter(s)
Test Notes:
Container ID: 1SS00755

Initial Pressure (psig): -4.24 Final Pressure (psig): 6.11

Container Dilution Factor: 1.99

Compound	Sample Result µg/m³	Duplicate Sample Result µg/m³	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Cyclohexane	2,700	2,600	2650	**4**	25	
Bromodichloromethane	ND	ND	-	-	25	
Trichloroethene	5.2	5.0	5.1	**4**	25	**J**
1,4-Dioxane	ND	ND	-	-	25	
n-Heptane	970	950	960	**2**	25	
4-Methyl-2-pentanone	ND	ND	-	-	25	
Toluene	54	53	53.5	**2**	25	
2-Hexanone	ND	ND	-	-	25	
Dibromochloromethane	ND	ND	-	-	25	
1,2-Dibromoethane	ND	ND	-	-	25	
Tetrachloroethene	13	13	13	**0**	25	**J**
Ethylbenzene	5.0	4.7	4.85	**6**	25	**J**
m,p-Xylenes	27	26	26.5	**4**	25	**J**
Bromoform	ND	ND	-	-	25	
Styrene	ND	ND	-	-	25	
o-Xylene	9.2	9.3	9.25	**1**	25	**J**
1,3,5-Trimethylbenzene	3.4	3.3	3.35	**3**	25	**J**
1,2,4-Trimethylbenzene	5.0	4.7	4.85	**6**	25	**J**
1,2,4-Trichlorobenzene	ND	ND	-	-	25	
Naphthalene	ND	ND	-	-	25	
Xylenes, Total	36	35	35.5	**3**	25	

ND = Compound was analyzed for, but not detected.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142024.D Vial: 4
Acq On : 14 May 2020 22:10 Operator: LH
Sample : P2002302-001 (300mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 15:15:30 2020
Quant Method : I:\MS16\METHODS\R16050120.M LH 5/15/20
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	269088	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1152572	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	574254	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	436573	11.972	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.76%				
57) Toluene-d8 (SS2)	15.72	98	1148182	11.796	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.40%				
73) Bromofluorobenzene (SS3)	18.97	174	447688	12.783	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.24%				
Target Compounds							Qvalue
2) Propene	4.10	42	10798	0.346	ng		96
3) Dichlorodifluoromethan...	4.27	85	48297	0.792	ng		100
4) Chloromethane	4.54	50	5179	0.108	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	696	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.22	54	199	N.D.			
8) Bromomethane	5.64	94	449	N.D.			
9) Chloroethane	5.97	64	386	N.D.			
10) Ethanol	6.32	45	28452	1.182	ng		99
11) Acetonitrile	6.58	41	6398	0.116	ng		72
12) Acrolein	6.78	56	8098	0.426	ng		94
13) Acetone	6.98	58	79864m	3.318	ng		
14) Trichlorofluoromethane	7.24	101	59181	1.099	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	33367	0.458	ng		83
16) Acrylonitrile	7.76	53	100	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	702	N.D.			
20) 3-Chloro-1-propene (Al...	8.57	41	110	N.D.			
21) Trichlorotrifluoroethane	8.84	151	274281	10.784	ng		99
22) Carbon Disulfide	8.67	76	23798	0.212	ng		100
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.08	73	222	N.D.			
26) Vinyl Acetate	10.17	86	8078	1.078	ng	#	57
27) 2-Butanone (MEK)	10.46	72	15335	0.747	ng		96
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	11.26	57	168078	3.274	ng		99
32) Chloroform	11.30	83	591	N.D.			
34) Tetrahydrofuran (THF)	11.72	72	70466	3.520	ng		95
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.12	62	578	N.D.			
38) 1,1,1-Trichloroethane	12.40	97	922	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	317781	2.571	ng		100
42) Carbon Tetrachloride	13.03	117	6037	0.144	ng		96
43) Cyclohexane	13.17	84	205346	4.458	ng		99
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	13.64	63	782	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	13.96	130	294	N.D.			
48) 1,4-Dioxane	13.97	88	1499	0.060	ng	#	63
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142024.D Vial: 4
Acq On : 14 May 2020 22:10 Operator: LH
Sample : P2002302-001 (300mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 15:15:30 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

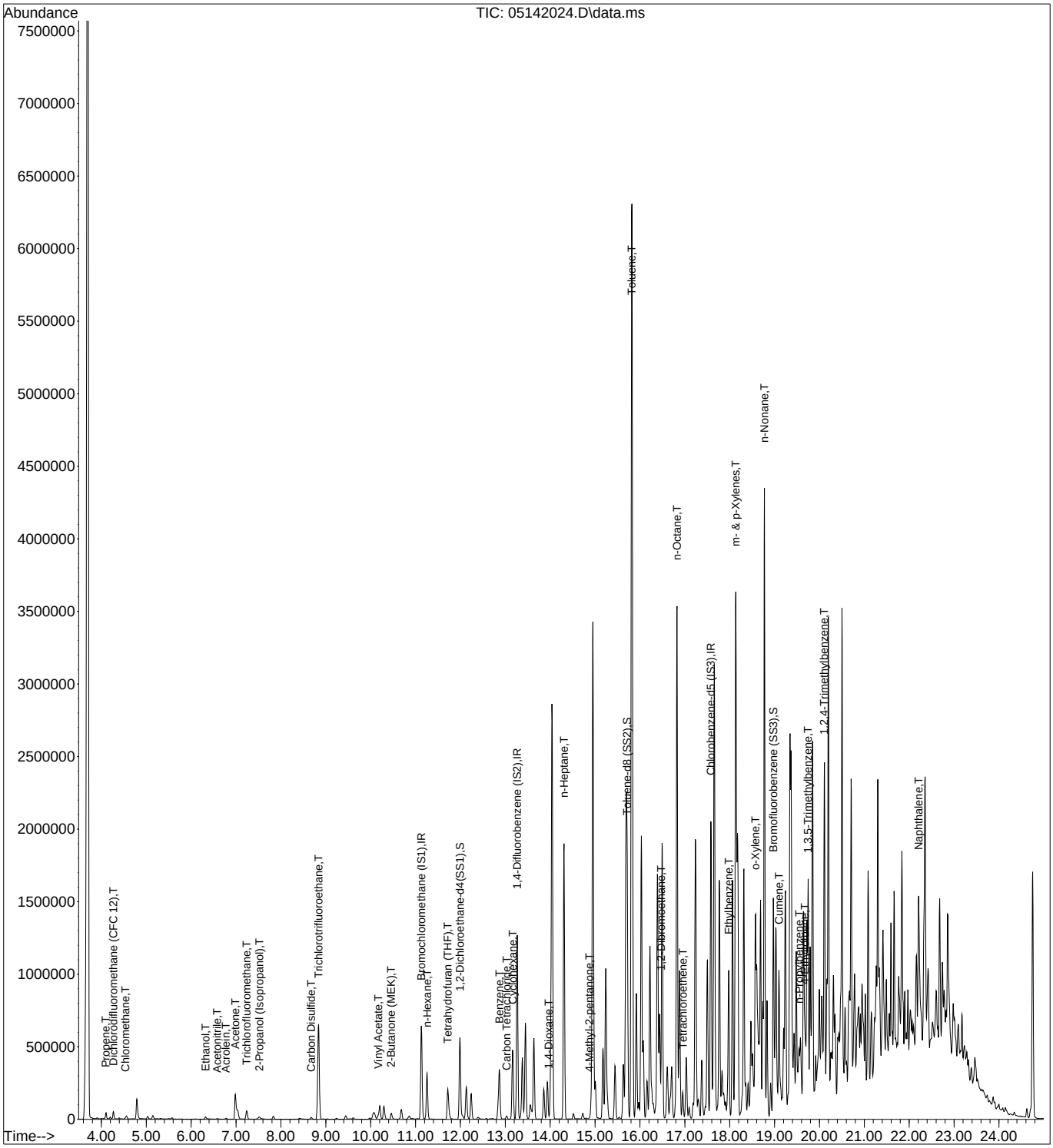
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.31	71	476229	16.476 ng		98
52) cis-1,3-Dichloropropene	14.95	75	738	N.D.		
53) 4-Methyl-2-pentanone	14.88	58	2236	0.081 ng		85
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d		
58) Toluene	15.82	91	4166689	33.209 ng		100
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	16.48	107	3067	0.089 ng		98
62) n-Butyl Acetate	0.00	43	0	N.D. d		
63) n-Octane	16.83	57	686240	26.419 ng		97
64) Tetrachloroethene	16.96	166	7969	0.225 ng		97
65) Chlorobenzene	0.00	112	0	N.D. d		
66) Ethylbenzene	17.98	91	576435	4.120 ng		99
67) m- & p-Xylenes	18.14	91	2430810	21.901 ng		100
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	1111	N.D.		
70) o-Xylene	18.57	91	767491	6.811 ng		100
71) n-Nonane	18.77	43	1487159	24.875 ng		96
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d		
74) Cumene	19.10	105	123217	0.891 ng		100
75) alpha-Pinene	19.44	93	1087	N.D.		
76) n-Propylbenzene	19.55	91	182111	1.109 ng		97
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.68	105	59332	0.457 ng	#	44
79) 1,3,5-Trimethylbenzene	19.74	105	267985	2.376 ng		99
80) alpha-Methylstyrene	19.88	118	2657	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	20.10	105	405401	3.577 ng		92
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.20	91	4772	N.D.		
85) 1,3-Dichlorobenzene	20.30	146	322	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	322	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D. d		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	0.00	68	0	N.D. d		
92) 1,2-Dibromo-3-Chloropr...	20.87	157	179	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.10	180	1637	N.D.		
95) Naphthalene	22.21	128	8124	0.059 ng		87
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142024.D Vial: 4
Acq On : 14 May 2020 22:10 Operator: LH
Sample : P2002302-001 (300mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 15:15:30 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142024.D Vial: 4
Acq On : 14 May 2020 22:10 Operator: LH
Sample : P2002302-001 (300mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 15:15:30 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/15/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

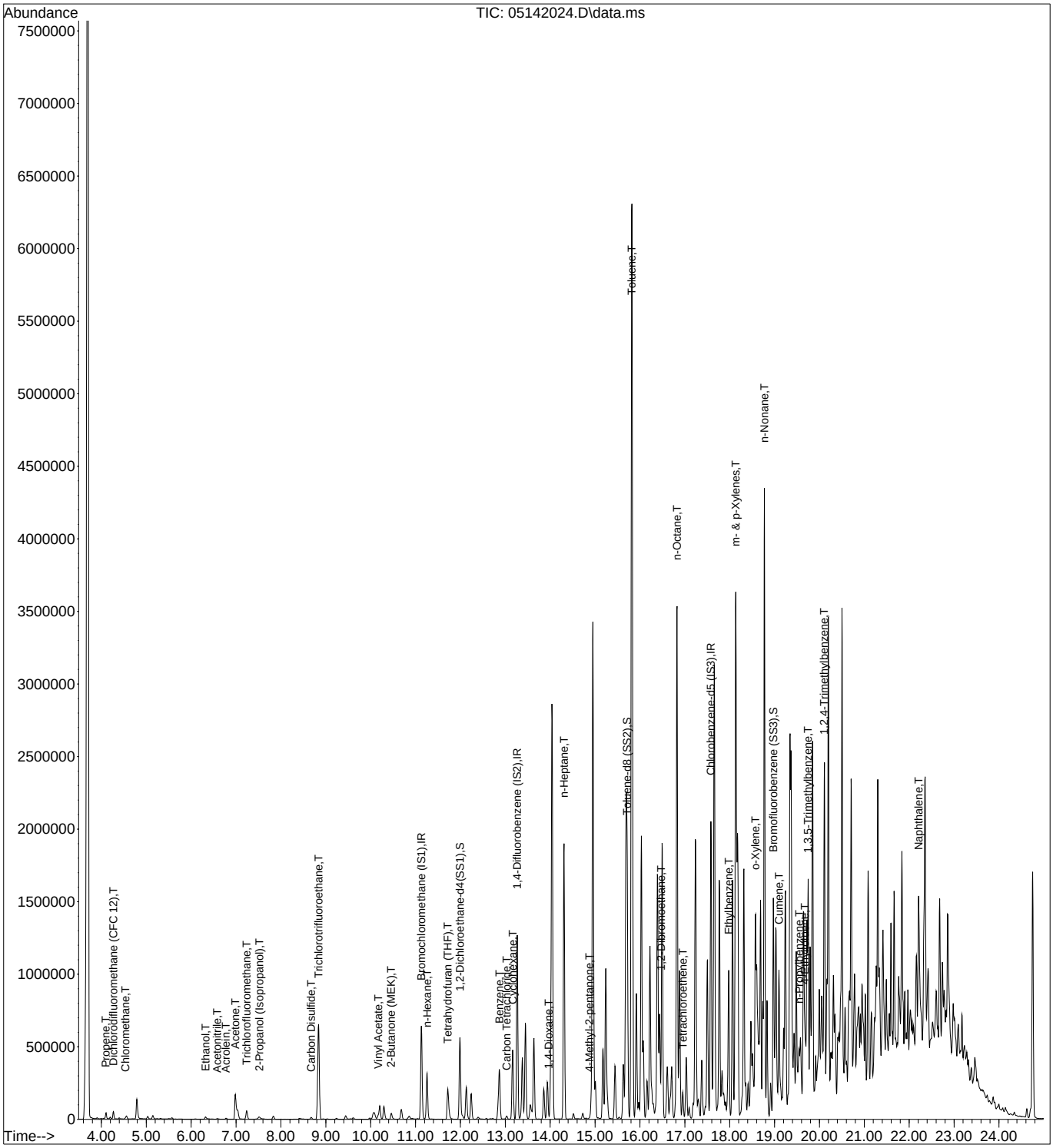
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	269088	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1152572	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	574254	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	436573	11.972	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.76%				
57) Toluene-d8 (SS2)	15.72	98	1148182	11.796	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.40%				
73) Bromofluorobenzene (SS3)	18.97	174	447688	12.783	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.24%				
Target Compounds							Qvalue
2) Propene	4.10	42	10798	0.346	ng		96
3) Dichlorodifluoromethan...	4.27	85	48297	0.792	ng		100
4) Chloromethane	4.54	50	5179	0.108	ng		98
10) Ethanol	6.32	45	28452	1.182	ng		99
11) Acetonitrile	6.58	41	6398	0.116	ng		72
12) Acrolein	6.78	56	8098	0.426	ng		94
13) Acetone	6.98	58	79864m	3.318	ng		
14) Trichlorofluoromethane	7.24	101	59181	1.099	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	33367	0.458	ng		83
21) Trichlorotrifluoroethane	8.84	151	274281	10.784	ng		99
22) Carbon Disulfide	8.67	76	23798	0.212	ng		100
26) Vinyl Acetate	10.17	86	8078	1.078	ng	#	57
27) 2-Butanone (MEK)	10.46	72	15335	0.747	ng		96
31) n-Hexane	11.26	57	168078	3.274	ng		99
34) Tetrahydrofuran (THF)	11.72	72	70466	3.520	ng		95
41) Benzene	12.87	78	317781	2.571	ng		100
42) Carbon Tetrachloride	13.03	117	6037	0.144	ng		96
43) Cyclohexane	13.17	84	205346	4.458	ng		99
48) 1,4-Dioxane	13.97	88	1499	0.060	ng	#	63
51) n-Heptane	14.31	71	476229	16.476	ng		98
53) 4-Methyl-2-pentanone	14.88	58	2236	0.081	ng		85
58) Toluene	15.82	91	4166689	33.209	ng		100
61) 1,2-Dibromoethane	16.48	107	3067	0.089	ng		98
63) n-Octane	16.83	57	686240	26.419	ng		97
64) Tetrachloroethene	16.96	166	7969	0.225	ng		97
66) Ethylbenzene	17.98	91	576435	4.120	ng		99
67) m- & p-Xylenes	18.14	91	2430810	21.901	ng		100
70) o-Xylene	18.57	91	767491	6.811	ng		100
71) n-Nonane	18.77	43	1487159	24.875	ng		96
74) Cumene	19.10	105	123217	0.891	ng		100
76) n-Propylbenzene	19.55	91	182111	1.109	ng		97
78) 4-Ethyltoluene	19.68	105	59332	0.457	ng	#	44
79) 1,3,5-Trimethylbenzene	19.74	105	267985	2.376	ng		99
82) 1,2,4-Trimethylbenzene	20.10	105	405401	3.577	ng		92
95) Naphthalene	22.21	128	8124	0.059	ng		87

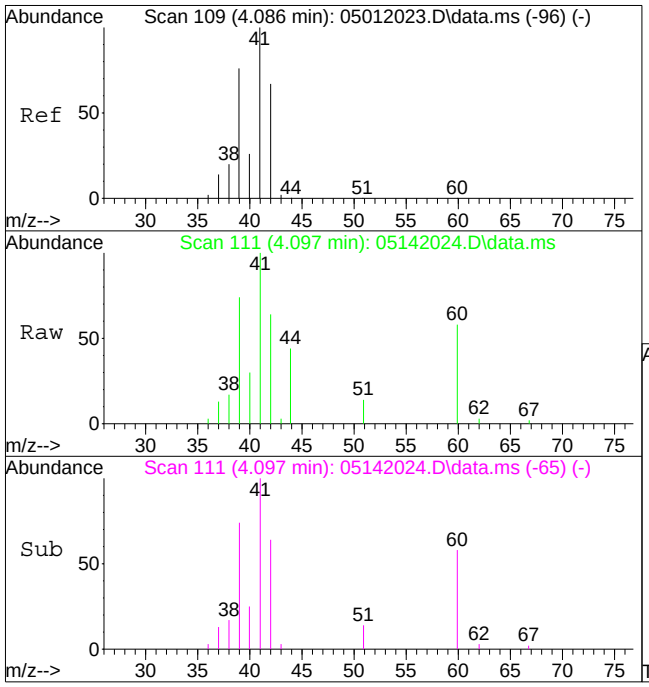
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142024.D Vial: 4
Acq On : 14 May 2020 22:10 Operator: LH
Sample : P2002302-001 (300mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 15:15:30 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

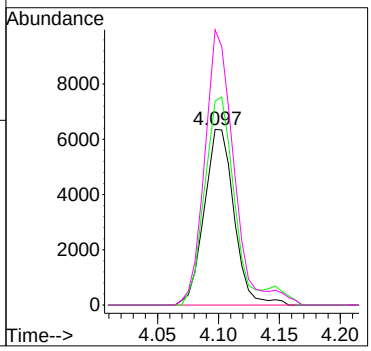


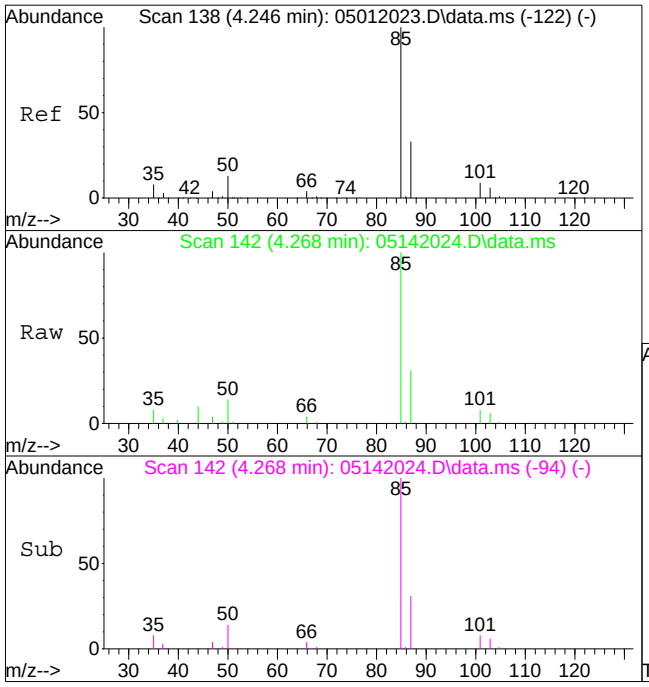


#2
Propene
Concen: 0.35 ng
RT: 4.10 min Scan# 111
Delta R.T. 0.005 min
Lab File: 05142024.D
Acq: 14 May 2020 22:10

Tgt Ion: 42 Resp: 10798

Ion	Ratio	Lower	Upper
42	100		
39	123.8	96.1	136.1
41	154.4	131.9	171.9

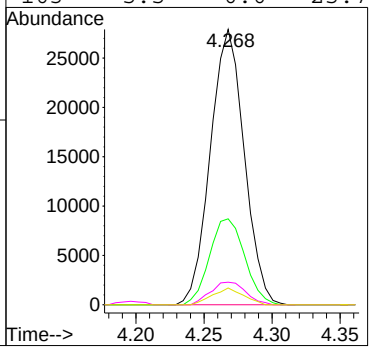


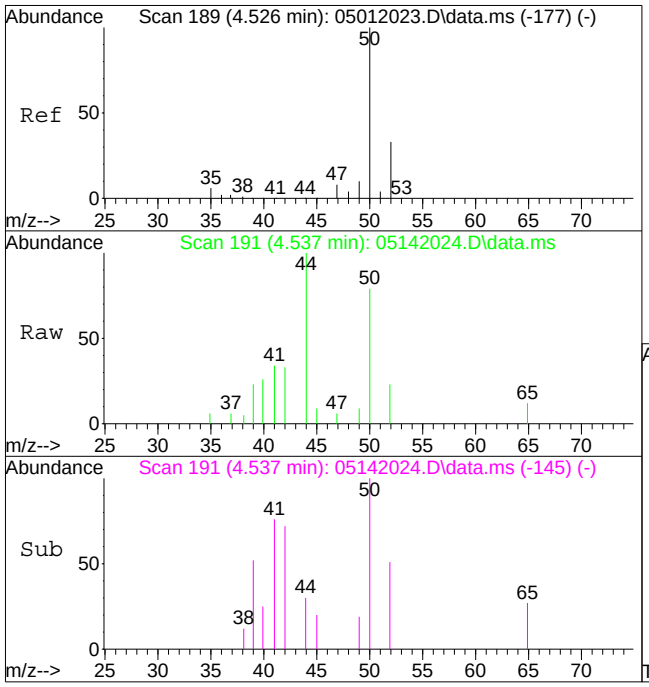


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.79 ng
RT: 4.27 min Scan# 142
Delta R.T. 0.016 min
Lab File: 05142024.D
Acq: 14 May 2020 22:10

Tgt Ion: 85 Resp: 48297

Ion	Ratio	Lower	Upper
85	100		
87	32.4	12.4	52.4
101	8.6	0.0	28.8
103	5.5	0.0	25.7

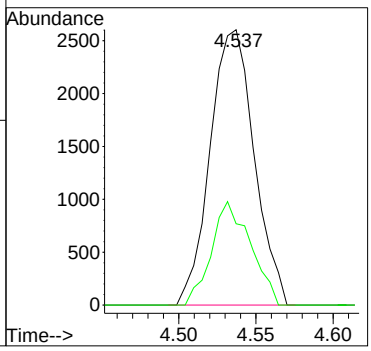


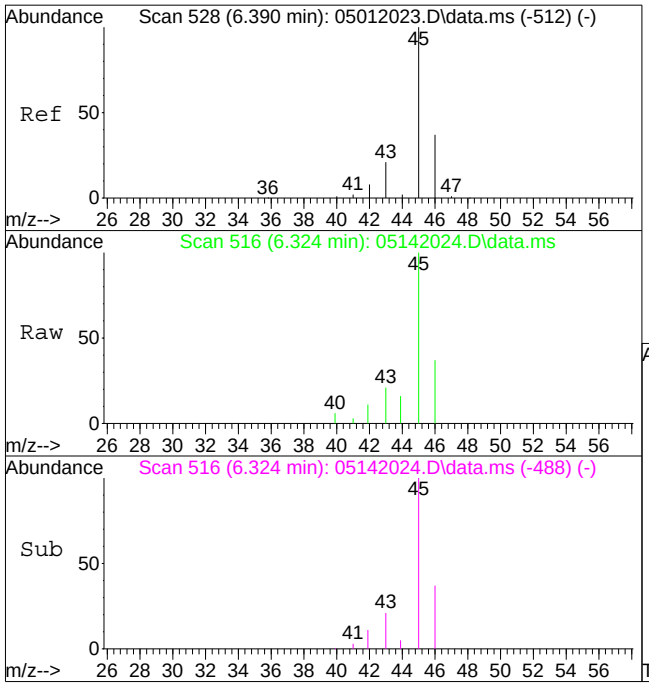


#4
Chloromethane
Concen: 0.11 ng
RT: 4.54 min Scan# 191
Delta R.T. 0.005 min
Lab File: 05142024.D
Acq: 14 May 2020 22:10

Tgt Ion: 50 Resp: 5179

Ion	Ratio	Lower	Upper
50	100		
52	33.4	12.5	52.5

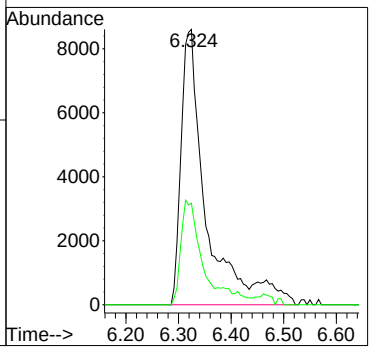


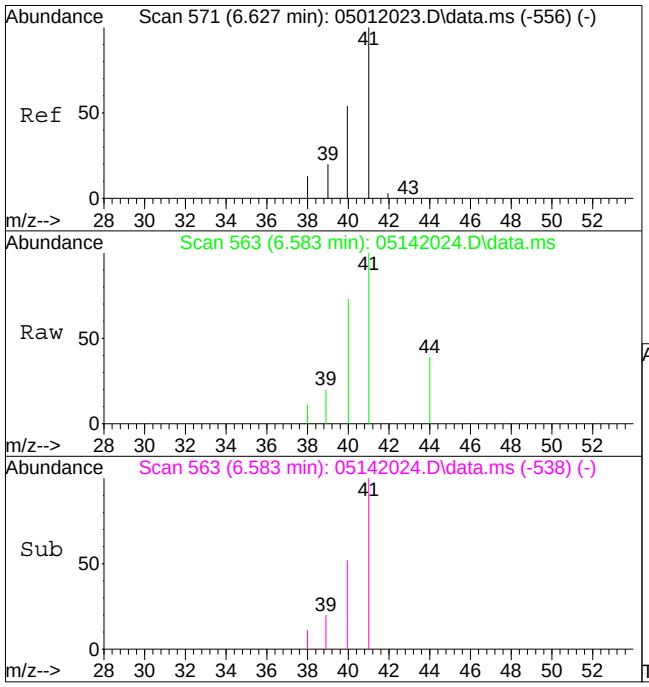


#10
Ethanol
Concen: 1.18 ng
RT: 6.32 min Scan# 516
Delta R.T. -0.094 min
Lab File: 05142024.D
Acq: 14 May 2020 22:10

Tgt Ion: 45 Resp: 28452

Ion	Ratio	Lower	Upper
45	100		
46	36.4	17.2	57.2

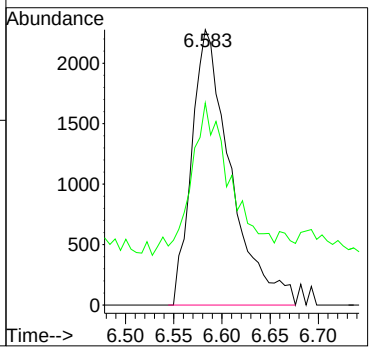


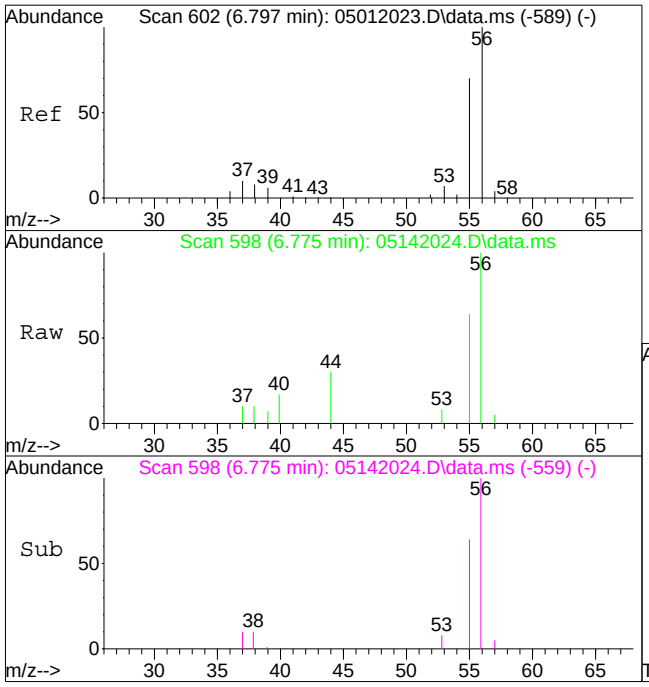


#11
Acetonitrile
Concen: 0.12 ng
RT: 6.58 min Scan# 563
Delta R.T. -0.061 min
Lab File: 05142024.D
Acq: 14 May 2020 22:10

Tgt Ion: 41 Resp: 6398

Ion	Ratio	Lower	Upper
41	100		
40	73.2	33.6	73.6

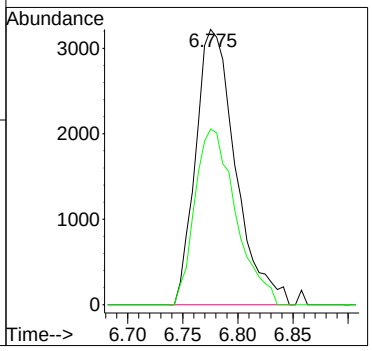


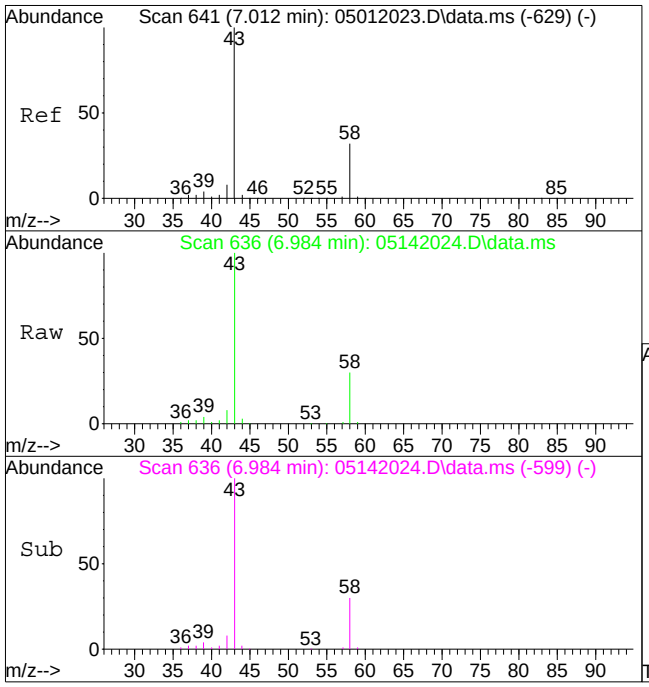


#12
Acrolein
Concen: 0.43 ng
RT: 6.78 min Scan# 598
Delta R.T. -0.033 min
Lab File: 05142024.D
Acq: 14 May 2020 22:10

Tgt Ion: 56 Resp: 8098

Ion	Ratio	Lower	Upper
56	100		
55	65.5	50.2	90.2

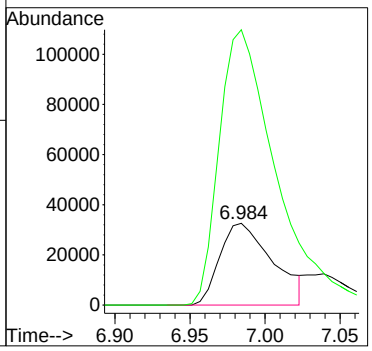


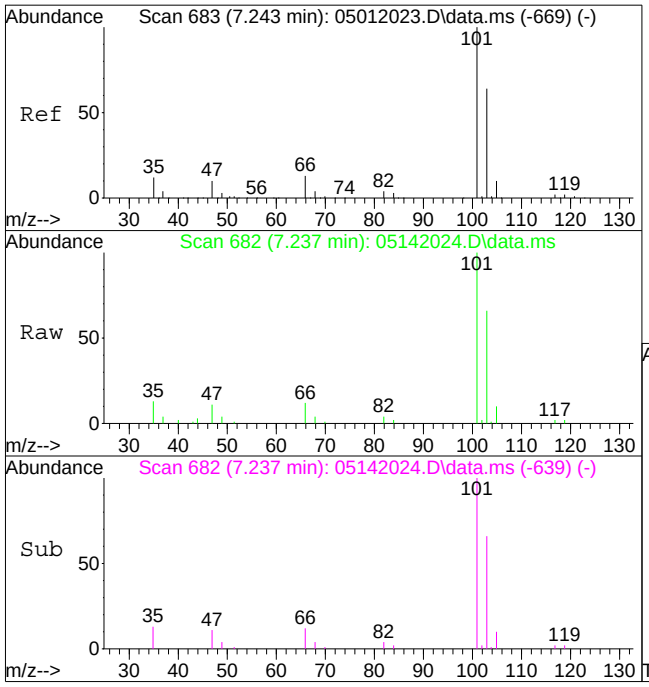


#13
Acetone
Concen: 3.32 ng m
RT: 6.98 min Scan# 636
Delta R.T. -0.044 min
Lab File: 05142024.D
Acq: 14 May 2020 22:10

Tgt Ion: 58 Resp: 79864

Ion	Ratio	Lower	Upper
58	100		
43	371.3	294.4	354.4#

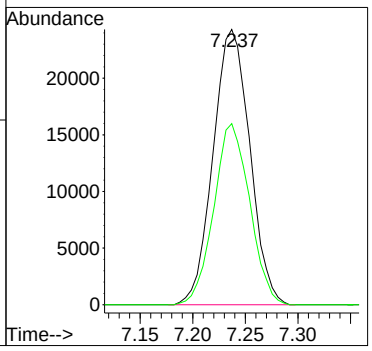


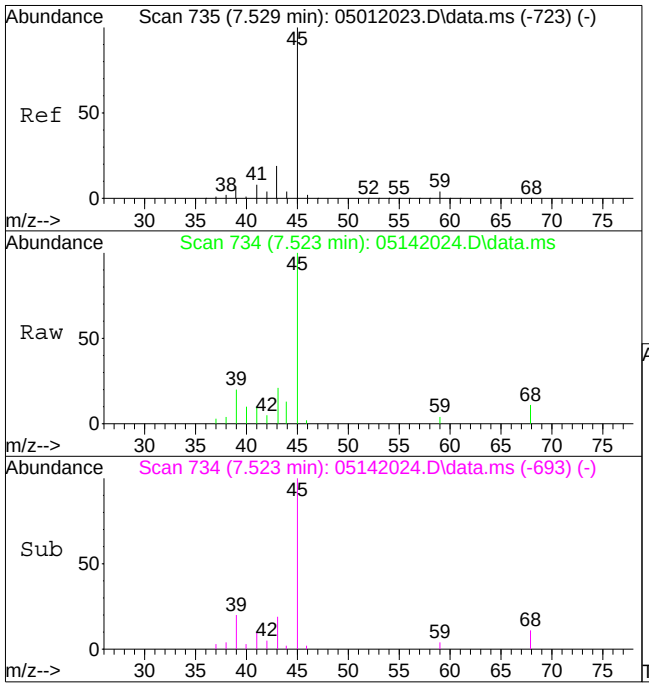


#14
Trichlorofluoromethane
Concen: 1.10 ng
RT: 7.24 min Scan# 682
Delta R.T. -0.011 min
Lab File: 05142024.D
Acq: 14 May 2020 22:10

Tgt Ion:101 Resp: 59181

Ion	Ratio	Lower	Upper
101	100		
103	64.2	44.4	84.4

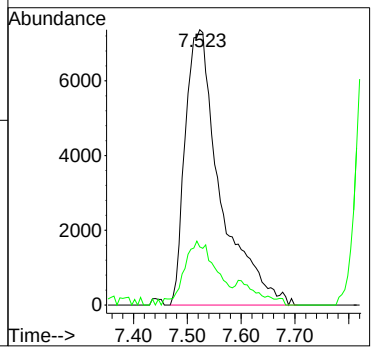


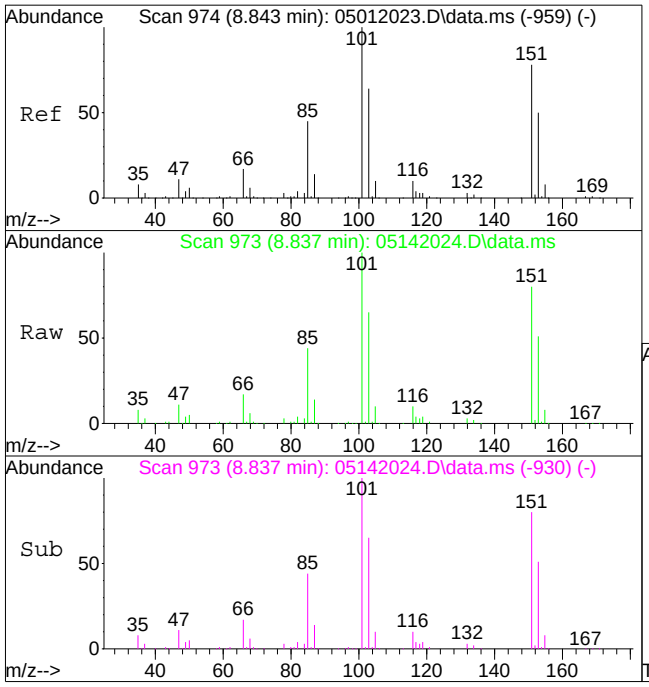


#15
2-Propanol (Isopropanol)
Concen: 0.46 ng
RT: 7.52 min Scan# 734
Delta R.T. -0.022 min
Lab File: 05142024.D
Acq: 14 May 2020 22:10

Tgt Ion: 45 Resp: 33367

Ion	Ratio	Lower	Upper
45	100		
43	27.1	0.0	39.5

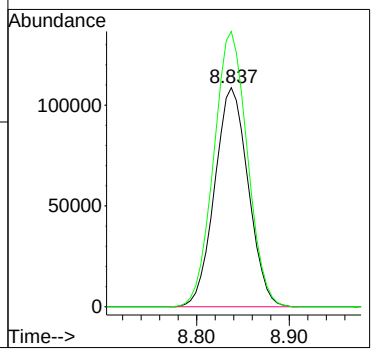


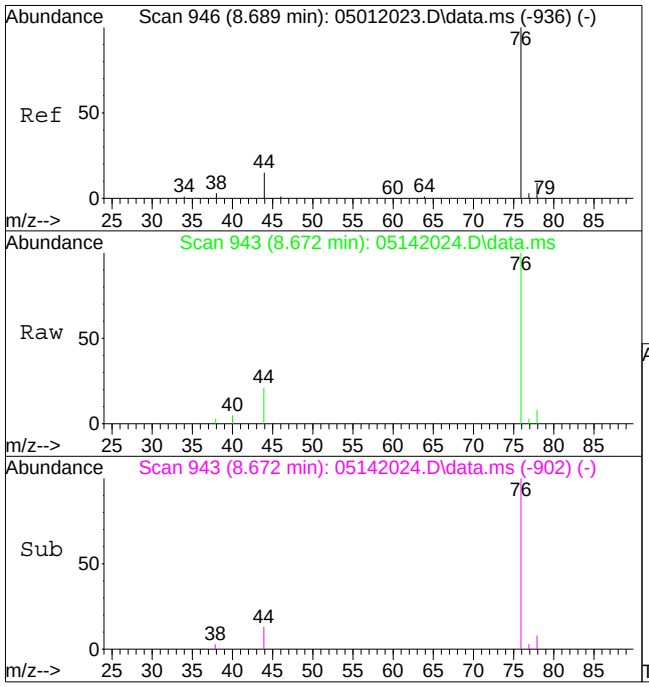


#21
Trichlorotrifluoroethane
Concen: 10.78 ng
RT: 8.84 min Scan# 973
Delta R.T. -0.011 min
Lab File: 05142024.D
Acq: 14 May 2020 22:10

Tgt Ion:151 Resp: 274281

Ion	Ratio	Lower	Upper
151	100		
101	125.8	107.3	147.3

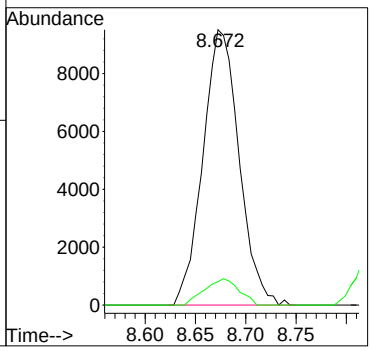


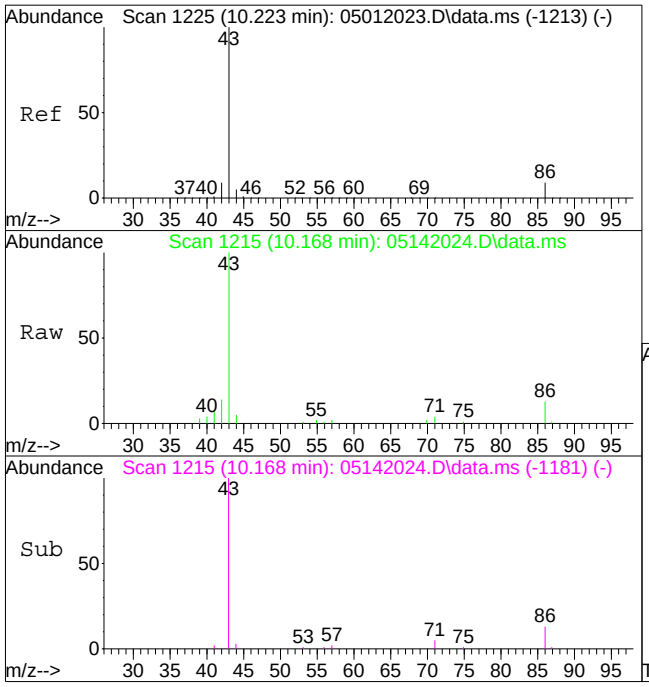


#22
Carbon Disulfide
Concen: 0.21 ng
RT: 8.67 min Scan# 943
Delta R.T. -0.022 min
Lab File: 05142024.D
Acq: 14 May 2020 22:10

Tgt Ion: 76 Resp: 23798

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	29.2

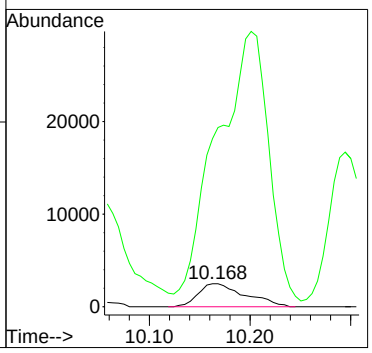


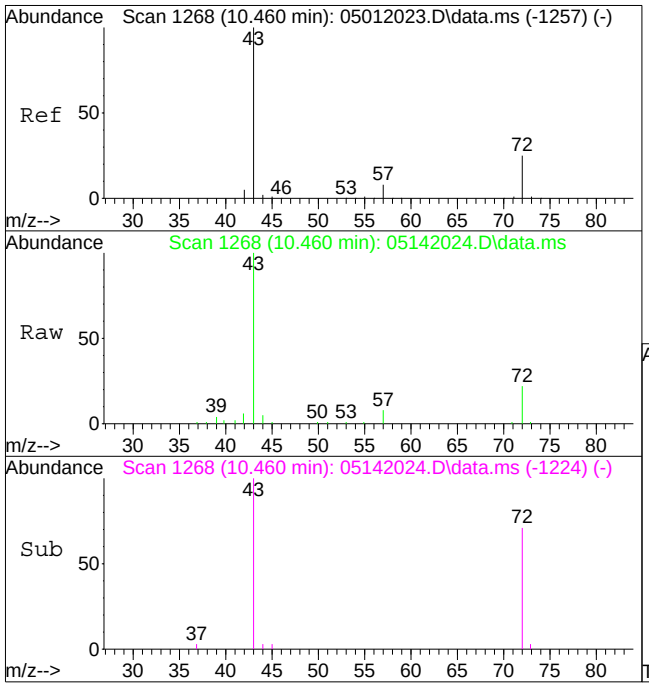


#26
Vinyl Acetate
Concen: 1.08 ng
RT: 10.17 min Scan# 1215
Delta R.T. -0.061 min
Lab File: 05142024.D
Acq: 14 May 2020 22:10

Tgt Ion: 86 Resp: 8078

Ion	Ratio	Lower	Upper
86	100		
43	1333.4	1103.0	1143.0#

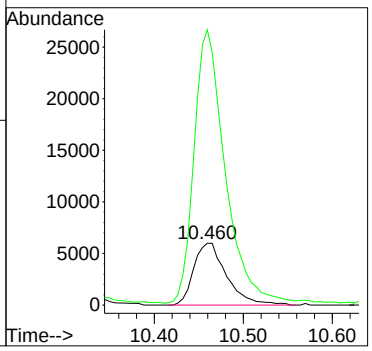


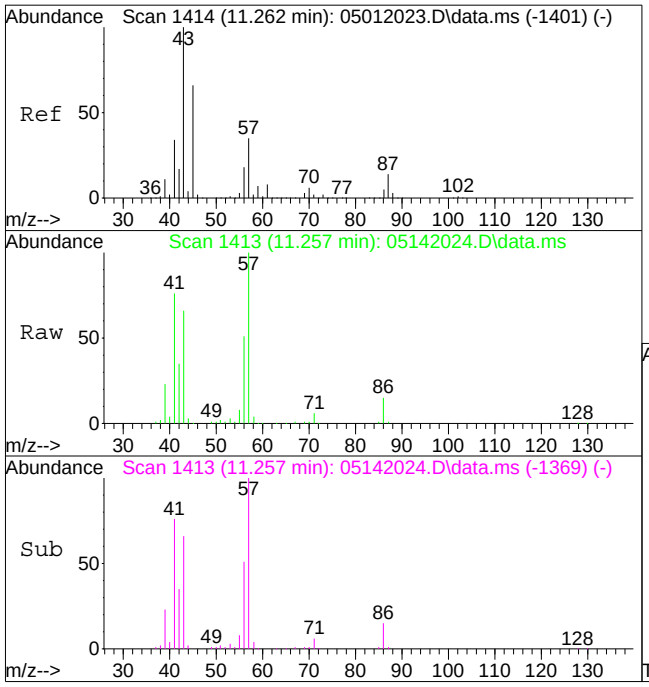


#27
2-Butanone (MEK)
Concen: 0.75 ng
RT: 10.46 min Scan# 1268
Delta R.T. -0.006 min
Lab File: 05142024.D
Acq: 14 May 2020 22:10

Tgt Ion: 72 Resp: 15335

Ion	Ratio	Lower	Upper
72	100		
43	420.2	389.7	429.7

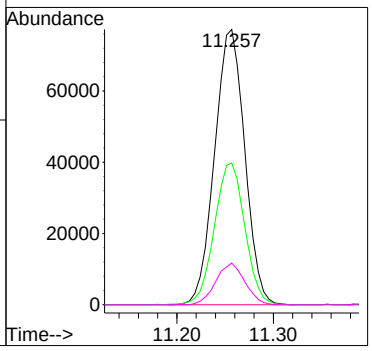


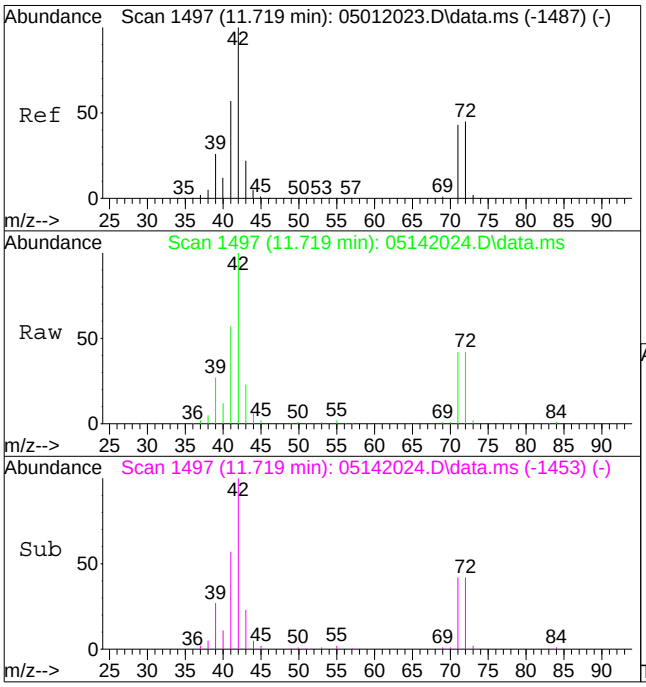


#31
n-Hexane
Concen: 3.27 ng
RT: 11.26 min Scan# 1413
Delta R.T. -0.006 min
Lab File: 05142024.D
Acq: 14 May 2020 22:10

Tgt Ion: 57 Resp: 168078

Ion	Ratio	Lower	Upper
57	100		
56	51.9	41.4	62.0
86	14.5	12.4	18.6

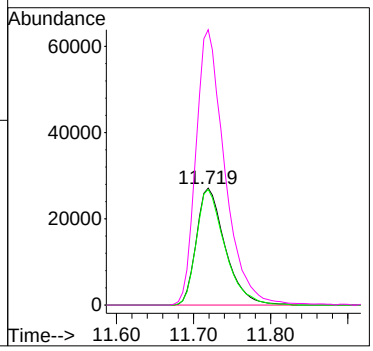


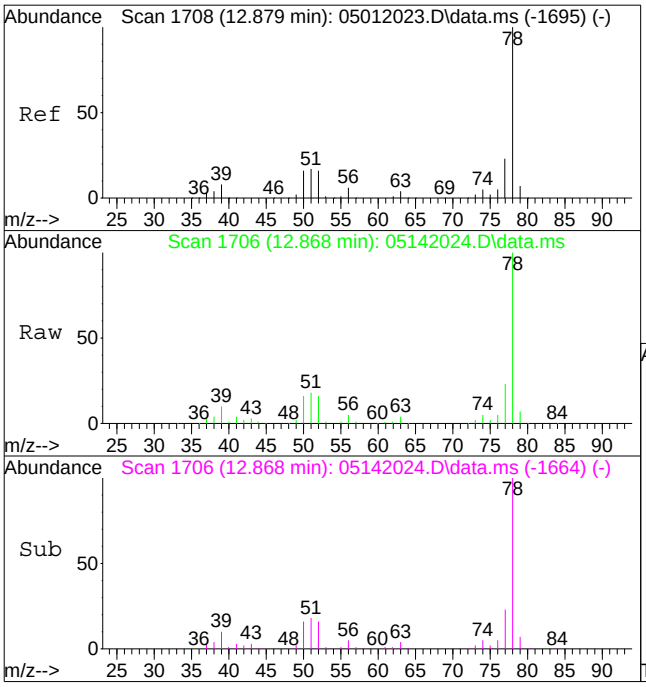


#34
Tetrahydrofuran (THF)
Concen: 3.52 ng
RT: 11.72 min Scan# 1497
Delta R.T. -0.006 min
Lab File: 05142024.D
Acq: 14 May 2020 22:10

Tgt Ion: 72 Resp: 70466

Ion	Ratio	Lower	Upper
72	100		
71	97.9	77.0	117.0
42	236.4	204.6	244.6

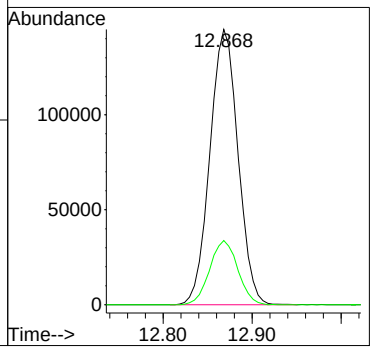


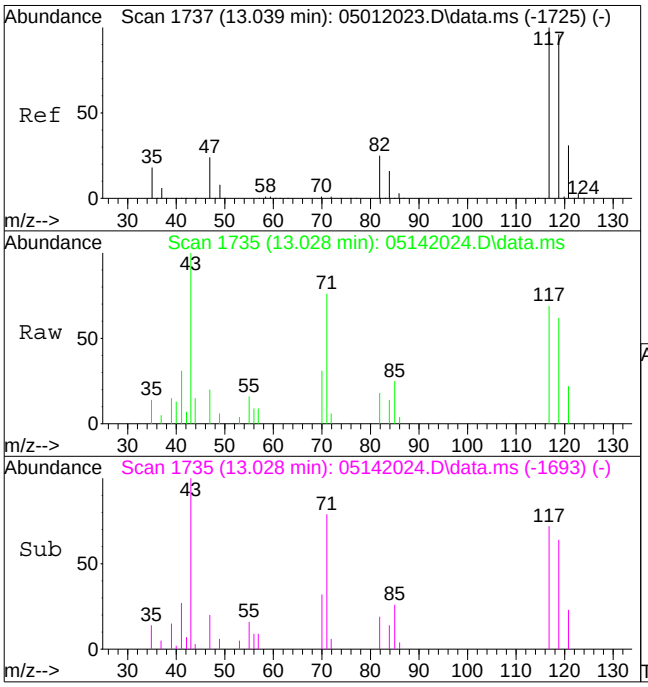


#41
Benzene
Concen: 2.57 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05142024.D
Acq: 14 May 2020 22:10

Tgt Ion: 78 Resp: 317781

Ion	Ratio	Lower	Upper
78	100		
77	23.3	3.4	43.4

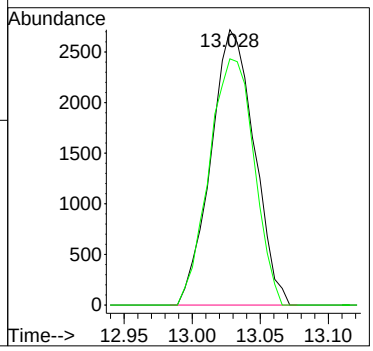


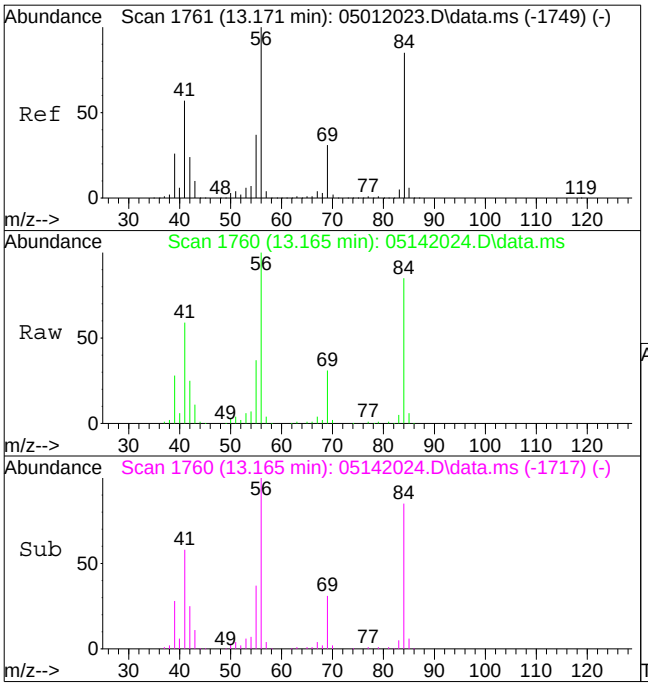


#42
Carbon Tetrachloride
Concen: 0.14 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05142024.D
Acq: 14 May 2020 22:10

Tgt Ion:117 Resp: 6037

Ion	Ratio	Lower	Upper
117	100		
119	92.3	76.2	116.2

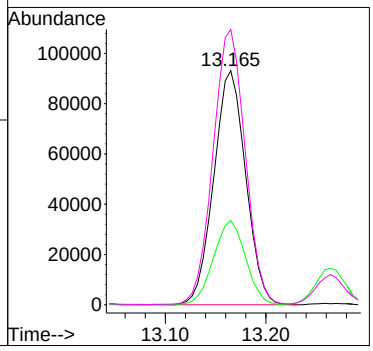


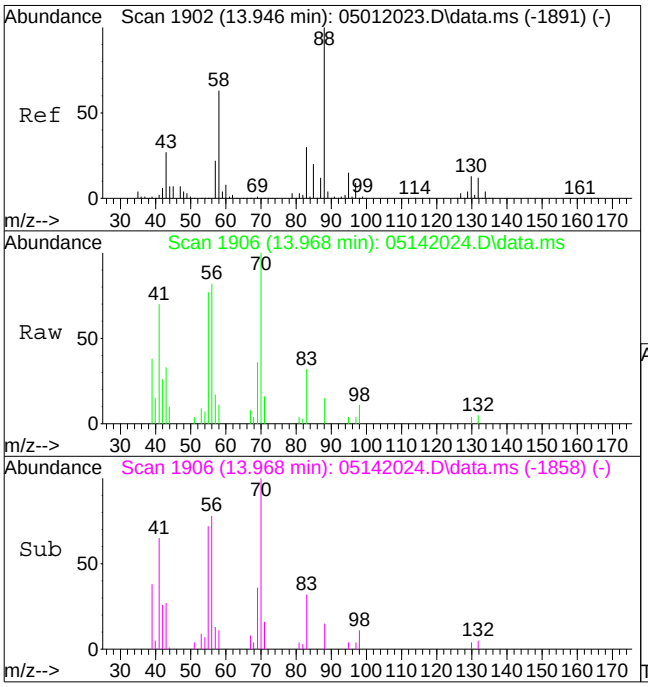


#43
Cyclohexane
Concen: 4.46 ng
RT: 13.17 min Scan# 1760
Delta R.T. -0.011 min
Lab File: 05142024.D
Acq: 14 May 2020 22:10

Tgt Ion: 84 Resp: 205346

Ion	Ratio	Lower	Upper
84	100		
69	36.2	16.5	56.5
56	118.7	97.4	137.4

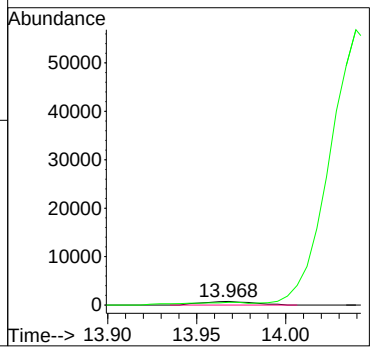


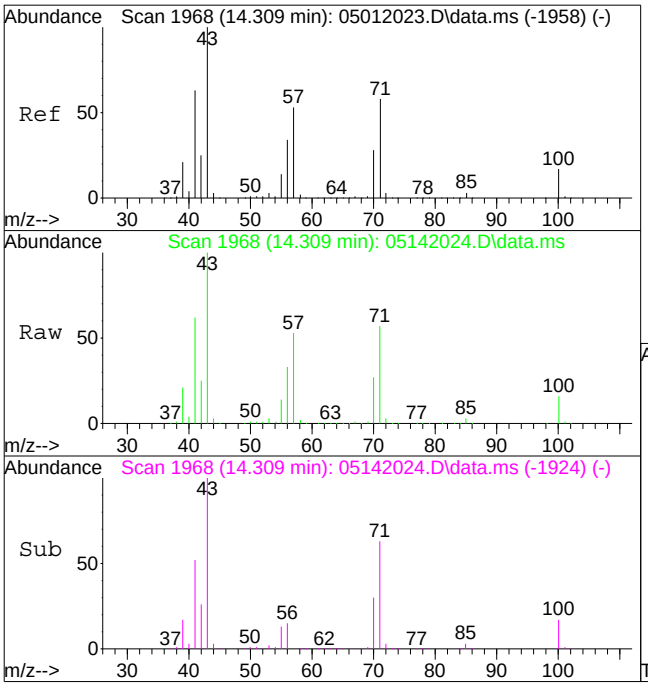


#48
1,4-Dioxane
Concen: 0.06 ng
RT: 13.97 min Scan# 1906
Delta R.T. 0.016 min
Lab File: 05142024.D
Acq: 14 May 2020 22:10

Tgt Ion: 88 Resp: 1499

Ion	Ratio	Lower	Upper
88	100		
58	91.5	42.8	82.8#

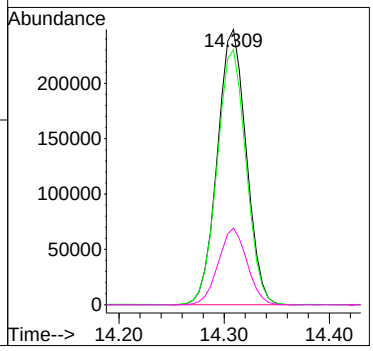


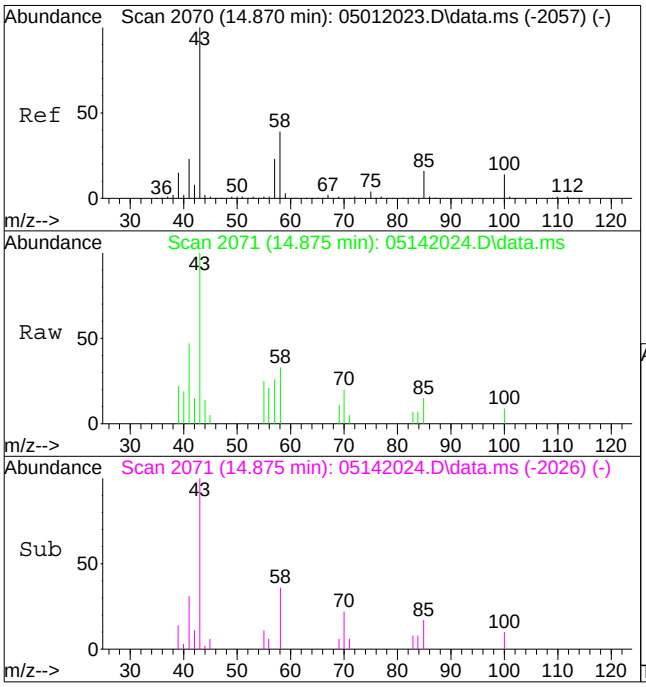


#51
n-Heptane
Concen: 16.48 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05142024.D
Acq: 14 May 2020 22:10

Tgt Ion: 71 Resp: 476229

Ion	Ratio	Lower	Upper
71	100		
57	92.8	71.0	111.0
100	27.5	8.4	48.4

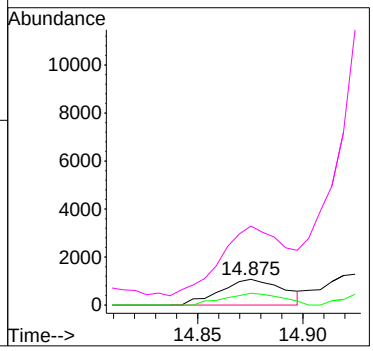


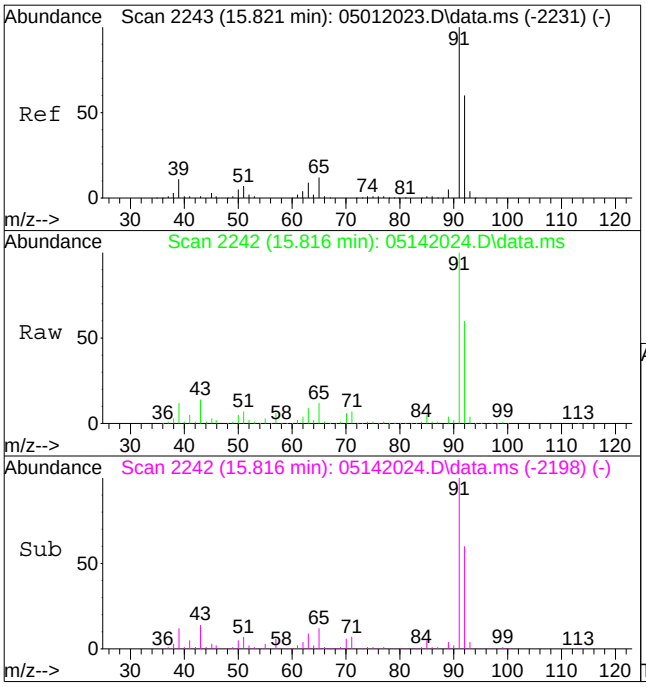


#53
4-Methyl-2-pentanone
Concen: 0.08 ng
RT: 14.88 min Scan# 2071
Delta R.T. -0.000 min
Lab File: 05142024.D
Acq: 14 May 2020 22:10

Tgt Ion: 58 Resp: 2236

Ion	Ratio	Lower	Upper
58	100		
85	41.4	35.4	53.2
43	283.4	203.3	304.9

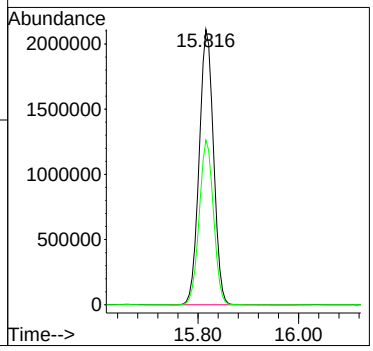


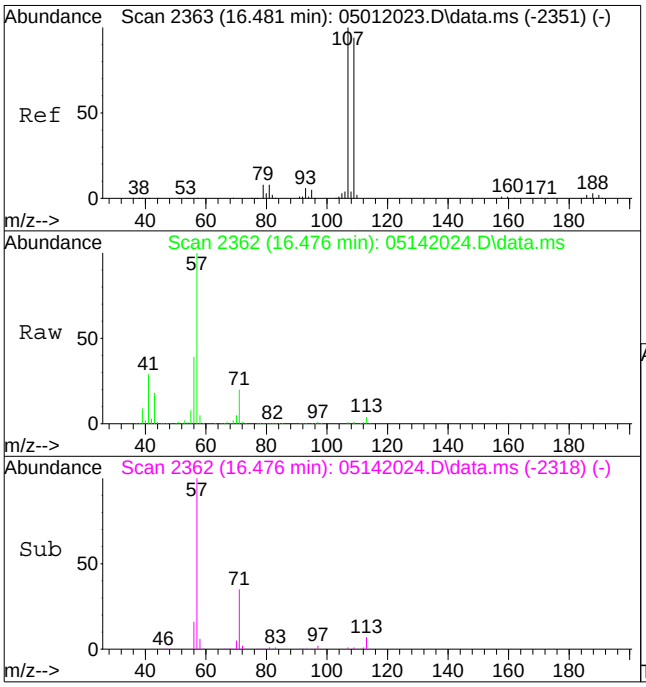


#58
Toluene
Concen: 33.21 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05142024.D
Acq: 14 May 2020 22:10

Tgt Ion: 91 Resp: 4166689

Ion	Ratio	Lower	Upper
91	100		
92	59.6	39.4	79.4

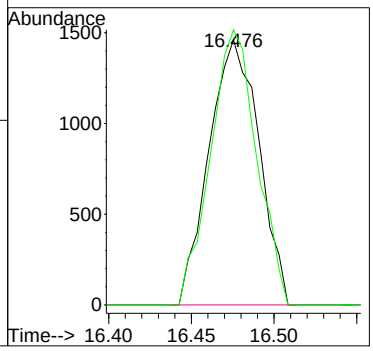


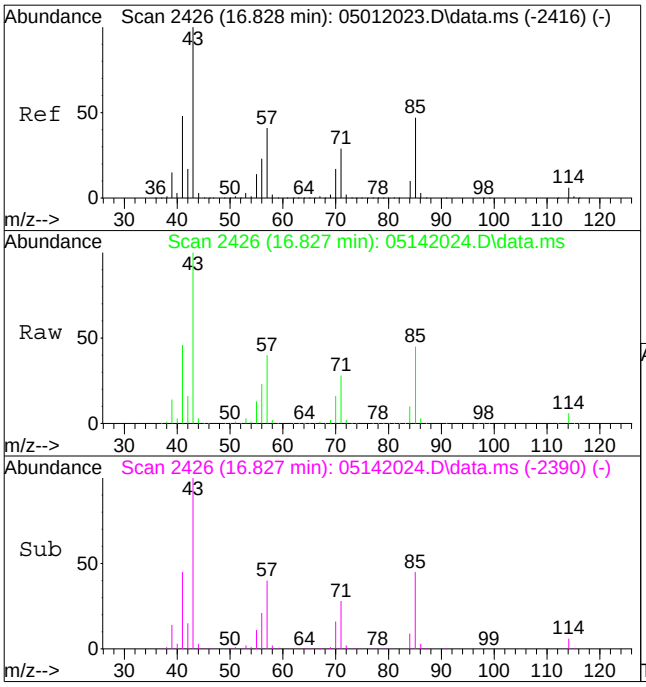


#61
1,2-Dibromoethane
Concen: 0.09 ng
RT: 16.48 min Scan# 2362
Delta R.T. -0.006 min
Lab File: 05142024.D
Acq: 14 May 2020 22:10

Tgt Ion:107 Resp: 3067

Ion	Ratio	Lower	Upper
107	100		
109	96.2	74.5	114.5

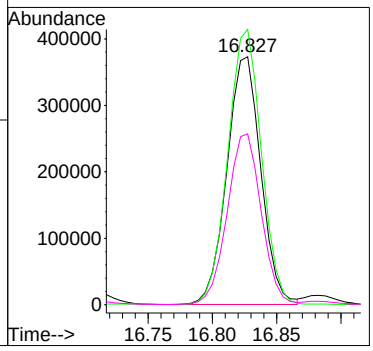


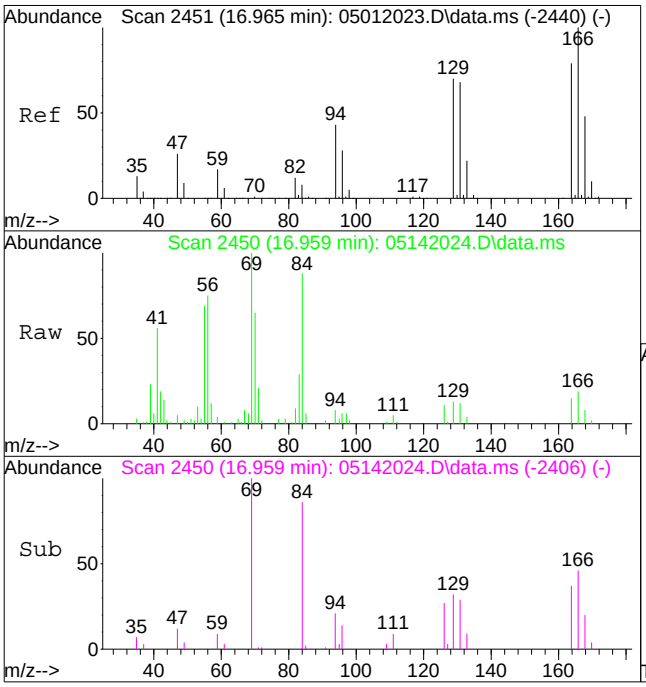


#63
n-Octane
Concen: 26.42 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05142024.D
Acq: 14 May 2020 22:10

Tgt Ion: 57 Resp: 686240

Ion	Ratio	Lower	Upper
57	100		
85	110.0	91.0	136.4
71	68.8	56.2	84.2

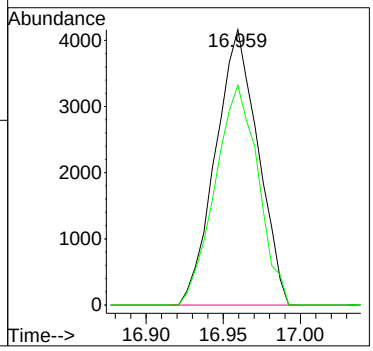


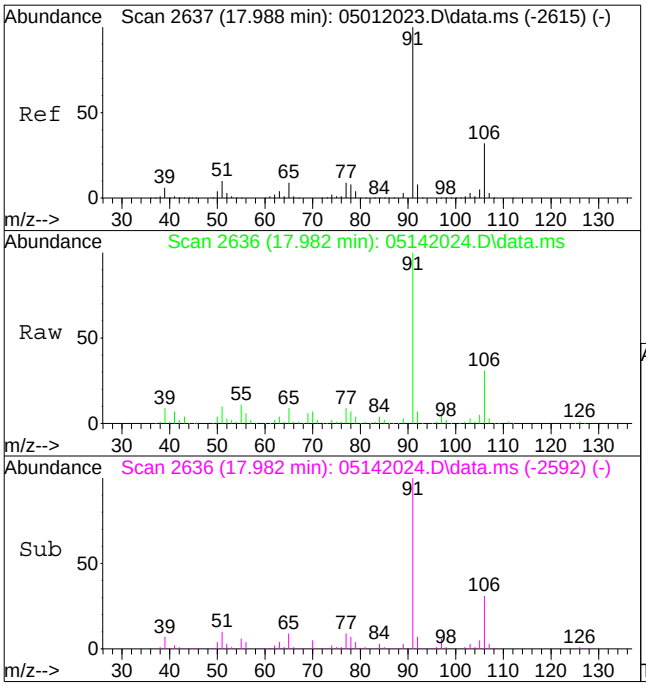


#64
Tetrachloroethene
Concen: 0.22 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05142024.D
Acq: 14 May 2020 22:10

Tgt Ion:166 Resp: 7969

Ion	Ratio	Lower	Upper
166	100		
164	81.0	58.4	98.4

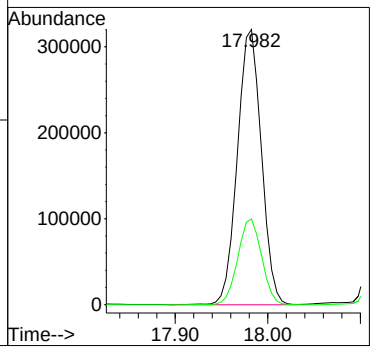


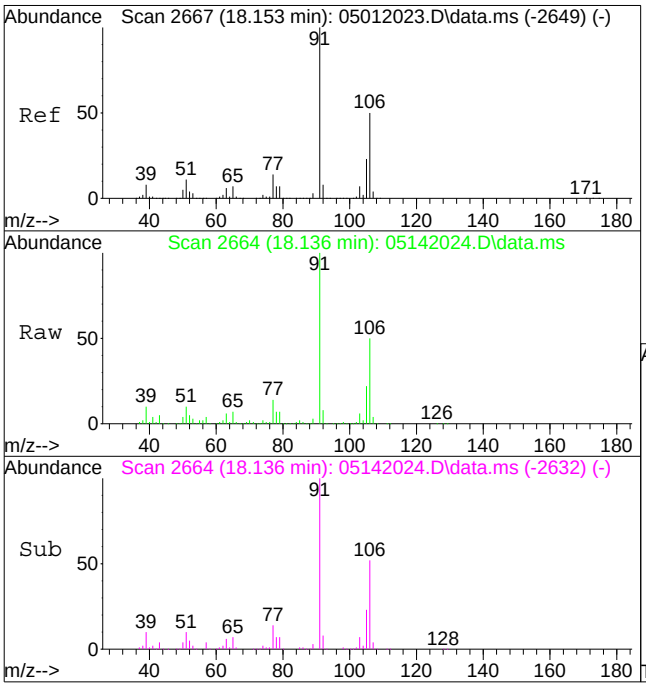


#66
Ethylbenzene
Concen: 4.12 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05142024.D
Acq: 14 May 2020 22:10

Tgt Ion: 91 Resp: 576435

Ion	Ratio	Lower	Upper
91	100		
106	31.0	11.6	51.6

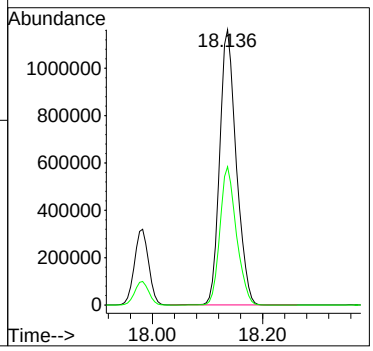


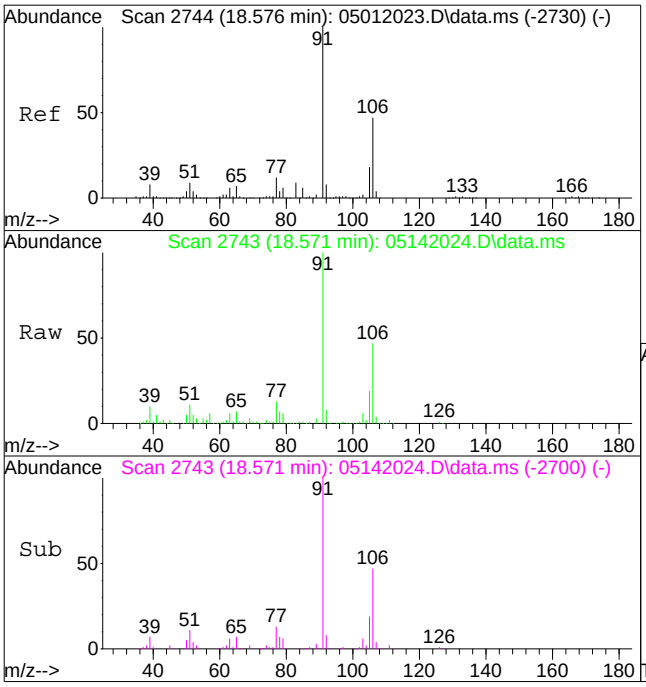


#67
m- & p-Xylenes
Concen: 21.90 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05142024.D
Acq: 14 May 2020 22:10

Tgt Ion: 91 Resp: 2430810

Ion	Ratio	Lower	Upper
91	100		
106	49.9	29.7	69.7

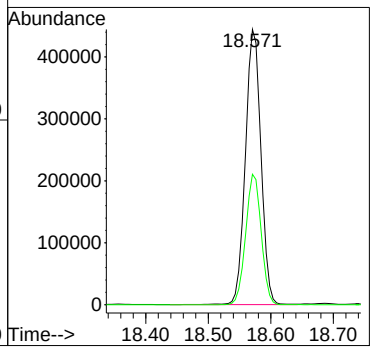


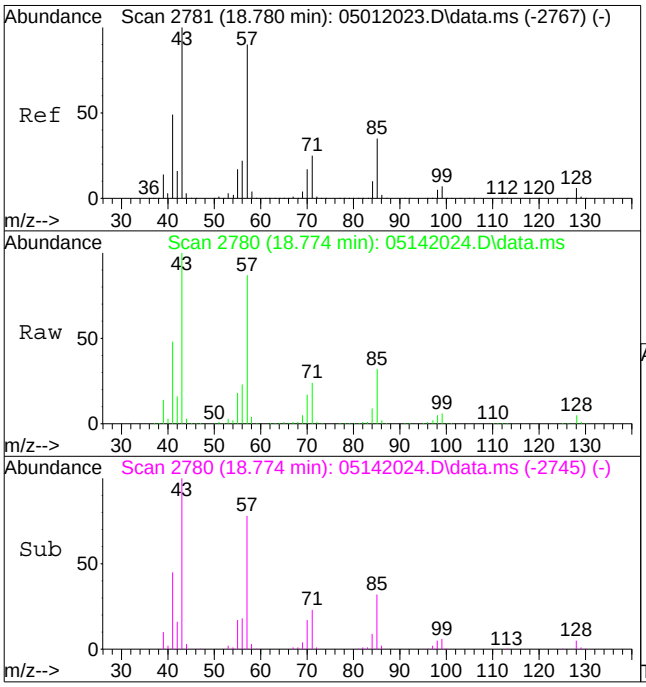


#70
o-Xylene
Concen: 6.81 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05142024.D
Acq: 14 May 2020 22:10

Tgt Ion: 91 Resp: 767491

Ion	Ratio	Lower	Upper
91	100		
106	47.4	27.5	67.5

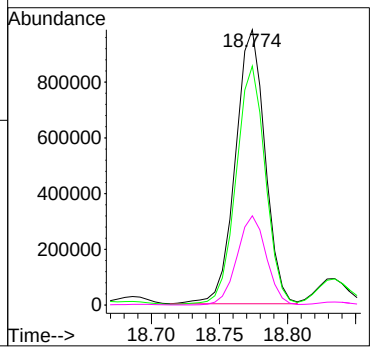


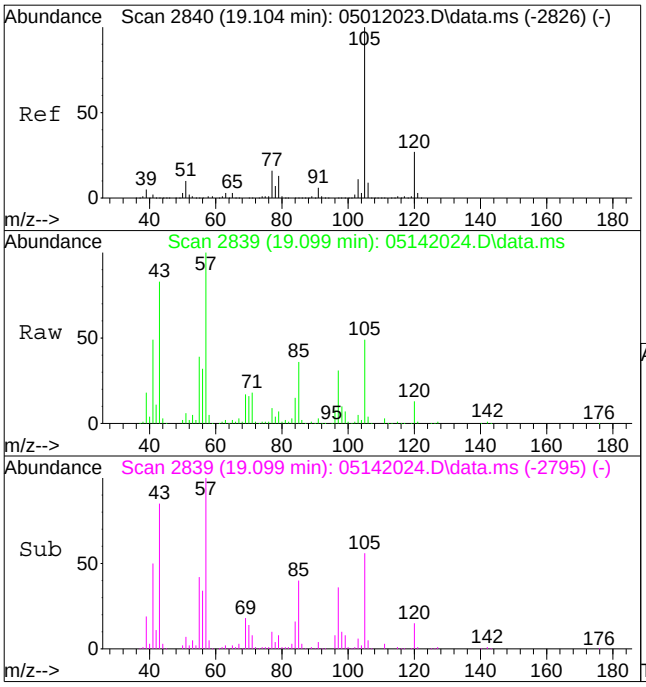


#71
n-Nonane
Concen: 24.88 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05142024.D
Acq: 14 May 2020 22:10

Tgt Ion: 43 Resp: 1487159

Ion	Ratio	Lower	Upper
43	100		
57	85.9	69.0	109.0
85	32.0	14.6	54.6

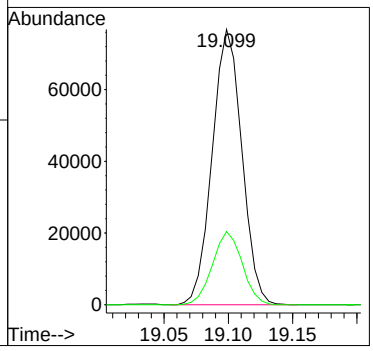


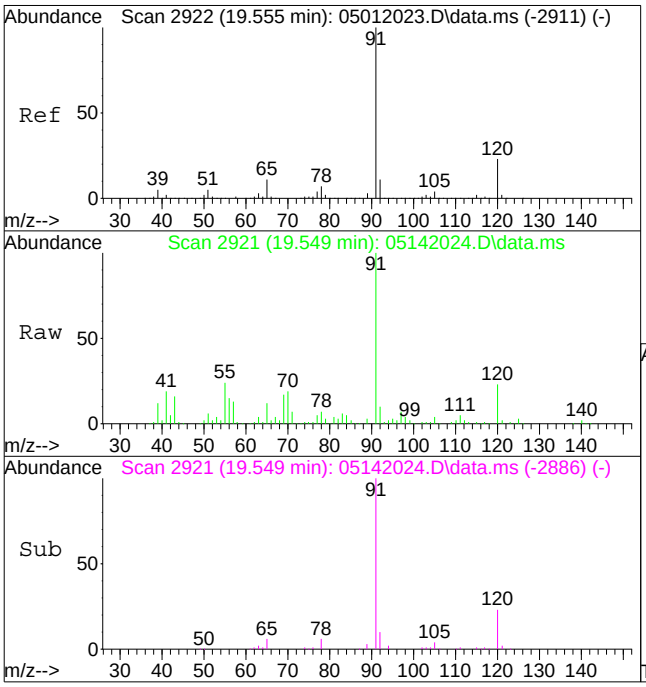


#74
Cumene
Concen: 0.89 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05142024.D
Acq: 14 May 2020 22:10

Tgt Ion:105 Resp: 123217

Ion	Ratio	Lower	Upper
105	100		
120	26.6	6.8	46.8

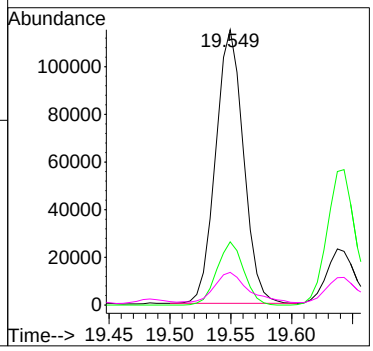


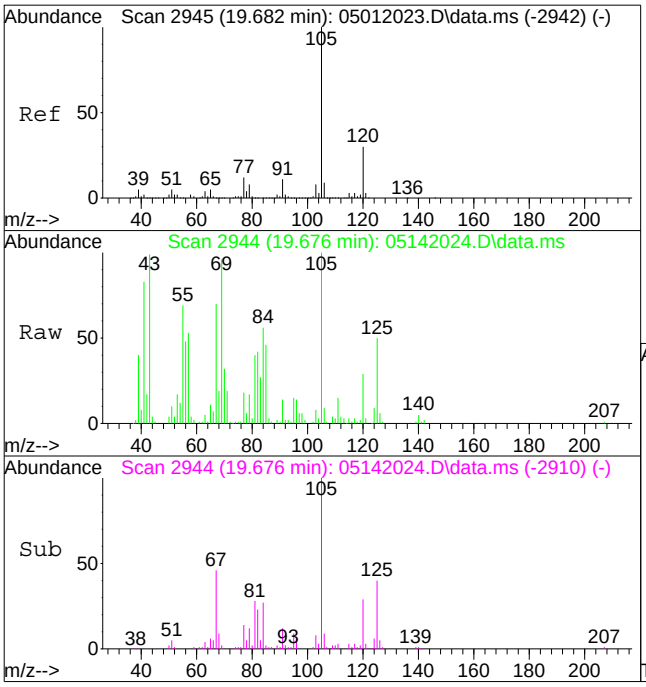


#76
n-Propylbenzene
Concen: 1.11 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05142024.D
Acq: 14 May 2020 22:10

Tgt Ion: 91 Resp: 182111

Ion	Ratio	Lower	Upper
91	100		
120	22.3	3.1	43.1
65	13.6	0.0	30.9

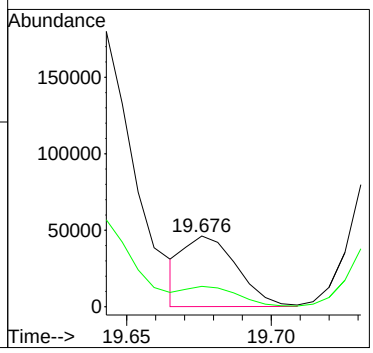


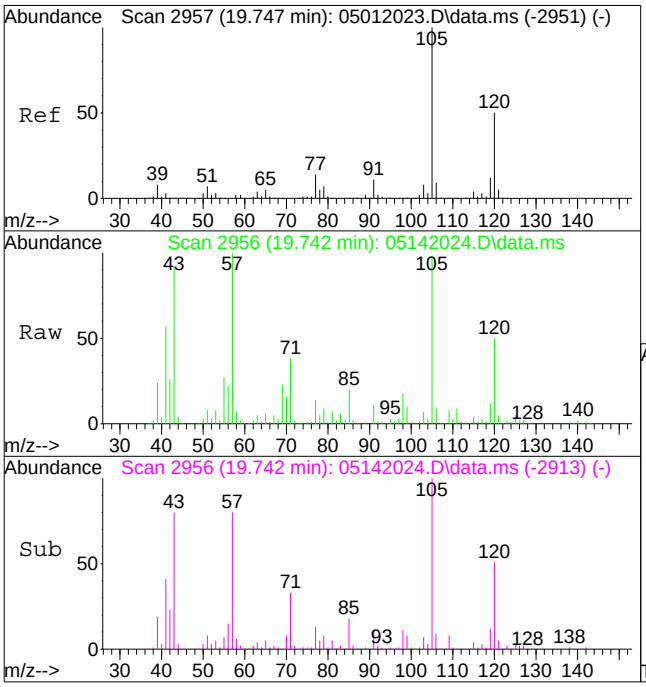


#78
4-Ethyltoluene
Concen: 0.46 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05142024.D
Acq: 14 May 2020 22:10

Tgt Ion:105 Resp: 59332

Ion	Ratio	Lower	Upper
105	100		
120	0.0	10.4	50.4#

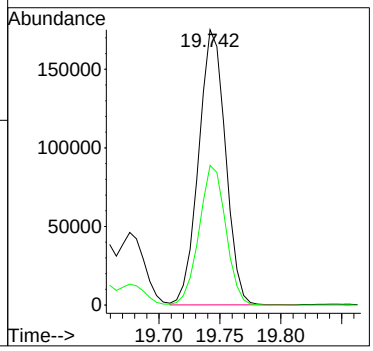


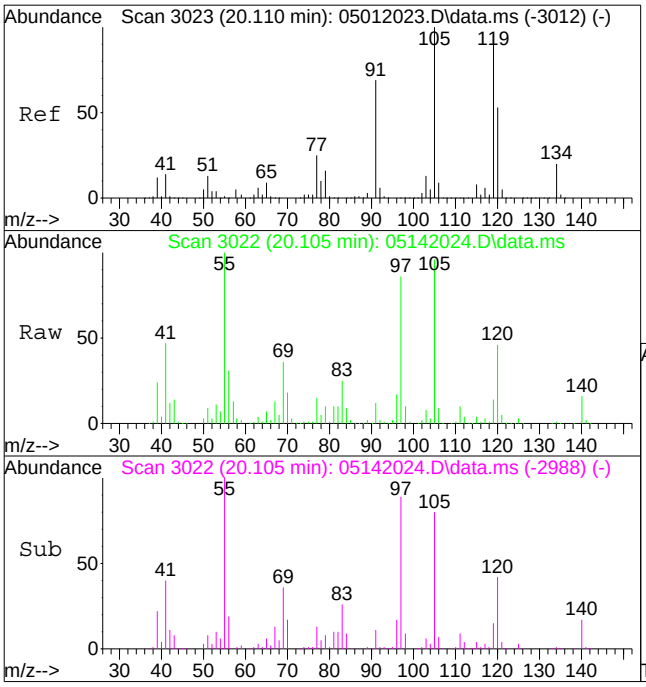


#79
1,3,5-Trimethylbenzene
Concen: 2.38 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05142024.D
Acq: 14 May 2020 22:10

Tgt Ion:105 Resp: 267985

Ion	Ratio	Lower	Upper
105	100		
120	50.4	29.9	69.9

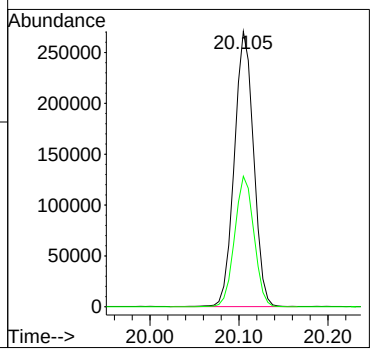


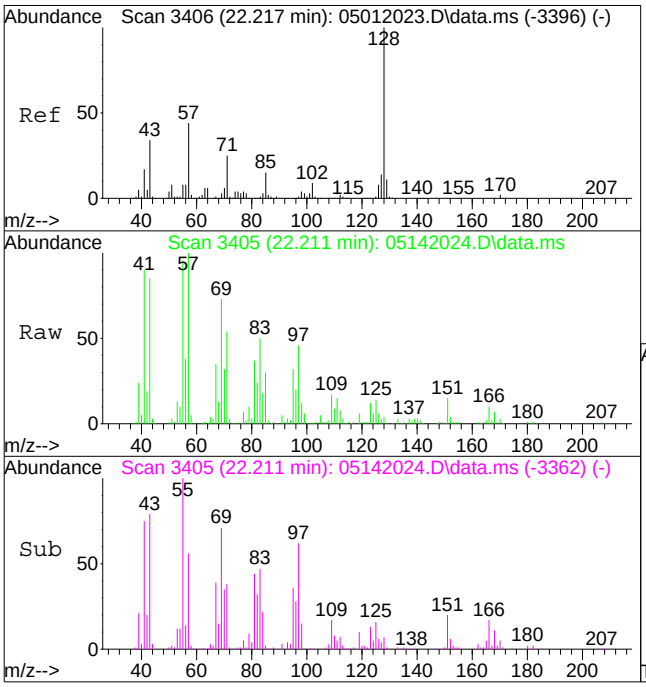


#82
1,2,4-Trimethylbenzene
Concen: 3.58 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05142024.D
Acq: 14 May 2020 22:10

Tgt Ion:105 Resp: 405401

Ion	Ratio	Lower	Upper
105	100		
120	47.6	33.6	73.6

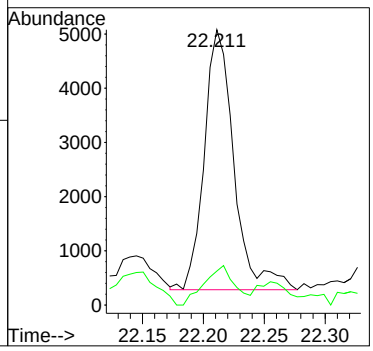




#95
Naphthalene
Concen: 0.06 ng
RT: 22.21 min Scan# 3405
Delta R.T. -0.011 min
Lab File: 05142024.D
Acq: 14 May 2020 22:10

Tgt Ion:128 Resp: 8124

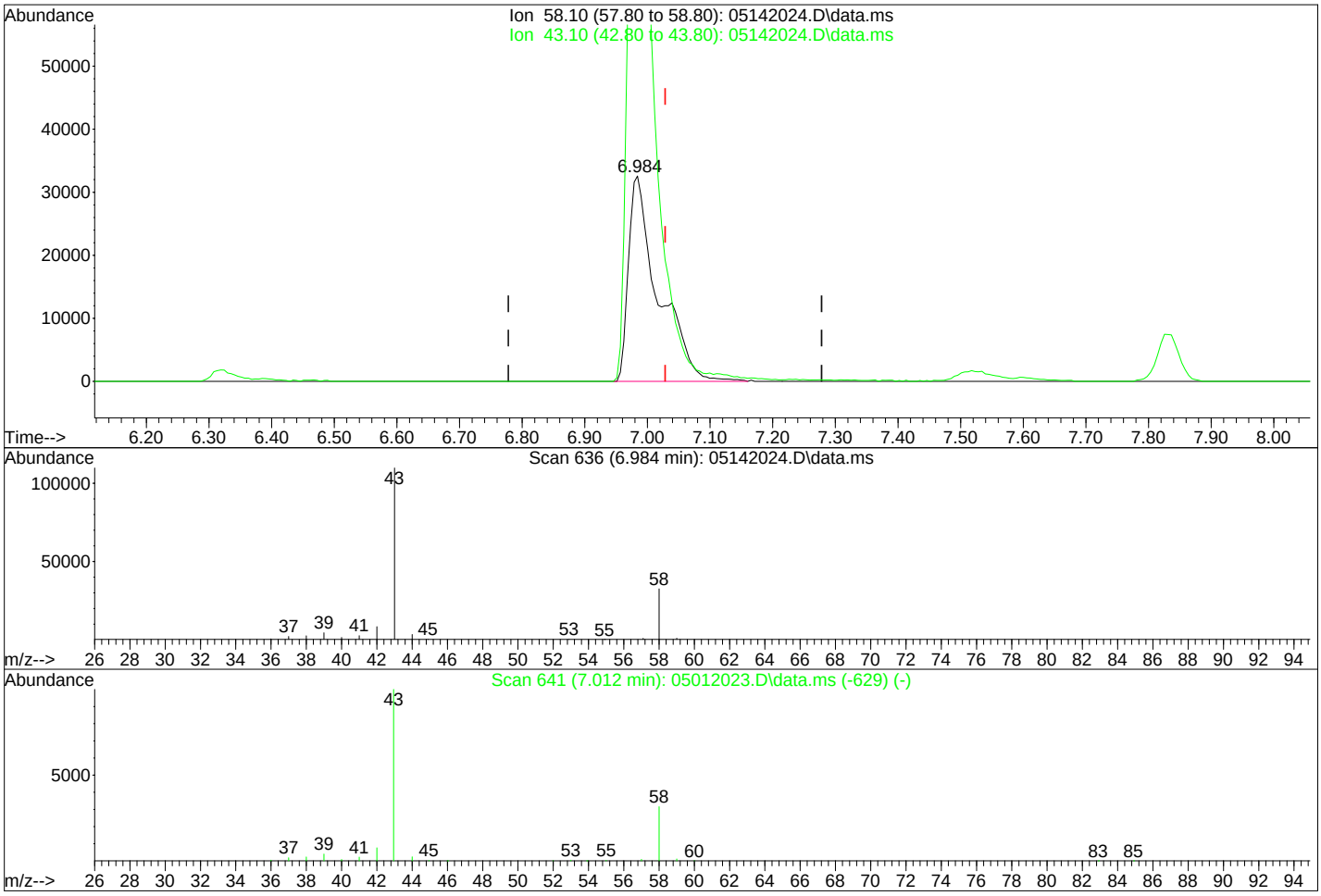
Ion	Ratio	Lower	Upper
128	100		
129	15.8	0.0	31.0



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\14\05142024.D Vial: 4
Acq On : 14 May 2020 22:10 Operator: LH
Sample : P2002302-001 (300mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 09:28:47 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05142024.D\data.ms

(13) Acetone (T)

6.984min (-0.044) 4.46ng

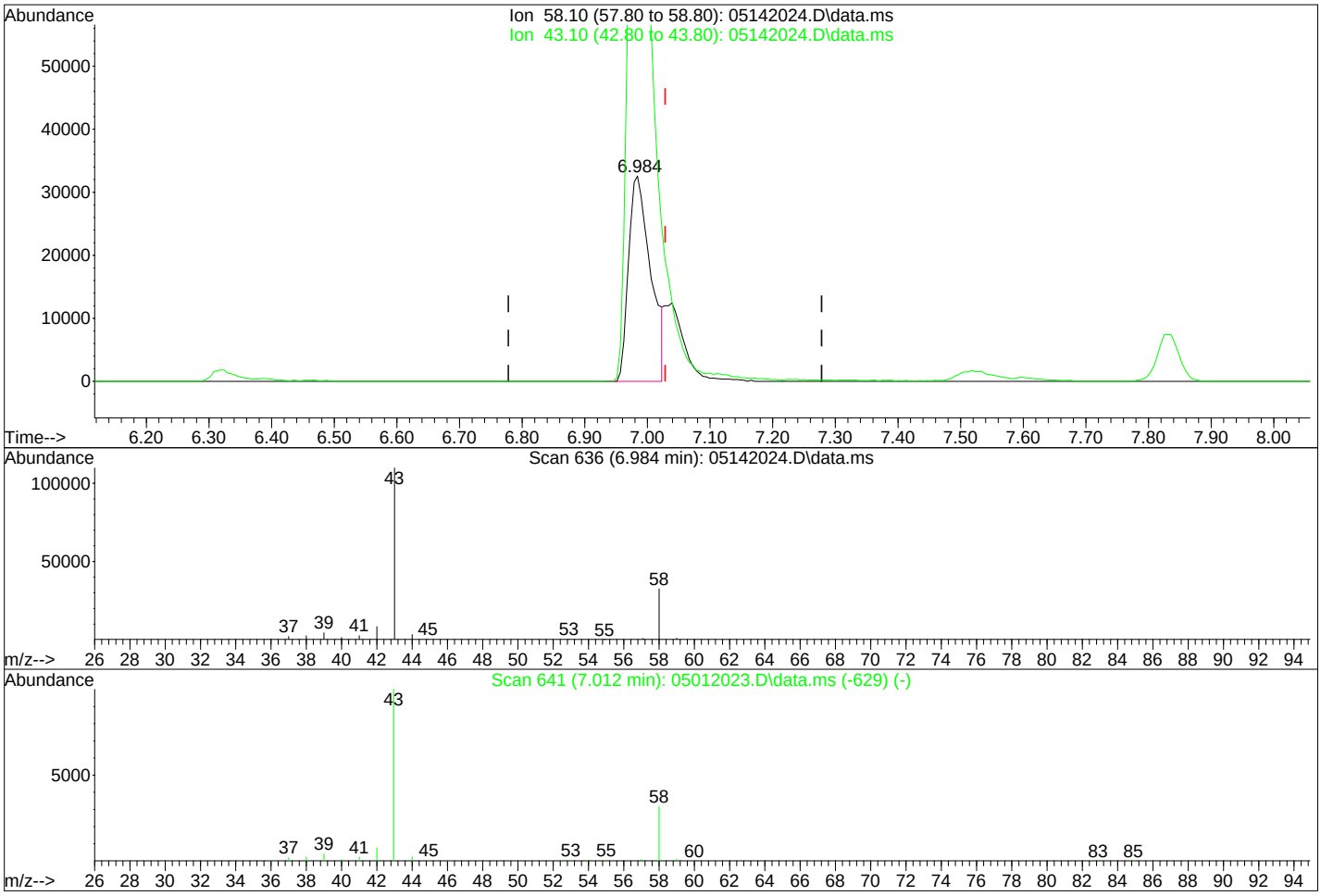
response 107427

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	276.02#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\14\05142024.D Vial: 4
Acq On : 14 May 2020 22:10 Operator: LH
Sample : P2002302-001 (300mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 09:28:47 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05142024.D\data.ms

(13) Acetone (T)

6.984min (-0.044) 3.32ng m

response 79864

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	371.28#
0.00	0.00	0.00
0.00	0.00	0.00

IPC

LH 5/15/20

5/17/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142025.D Vial: 5
Acq On : 14 May 2020 22:43 Operator: LH
Sample : P2002302-002 (150mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 15:28:19 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/15/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	273462	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1171801	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	669101	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	444461	11.993	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.92%				
57) Toluene-d8 (SS2)	15.72	98	1242697	10.957	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.68%				
73) Bromofluorobenzene (SS3)	18.97	174	477468	11.700	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.60%				
Target Compounds							Qvalue
2) Propene	4.10	42	16284	0.514	ng		98
3) Dichlorodifluoromethan...	4.27	85	40672	0.657	ng		100
4) Chloromethane	4.54	50	984	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	256	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.16	54	150	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.34	45	4715	0.193	ng		91
11) Acetonitrile	6.60	41	1210	N.D.			
12) Acrolein	6.79	56	568	N.D.			
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	7.24	101	16765	0.306	ng		99
15) 2-Propanol (Isopropanol)	7.54	45	2166	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.41	84	153	N.D.			
20) 3-Chloro-1-propene (Al...	8.51	41	1258	N.D.			
21) Trichlorotrifluoroethane	8.85	151	225915	8.740	ng		98
22) Carbon Disulfide	8.69	76	3269	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.	d		
25) Methyl tert-Butyl Ether	10.07	73	2993	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.49	72	1861	0.089	ng	#	59
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	11.27	57	976880	18.726	ng		100
32) Chloroform	11.31	83	636	N.D.			
34) Tetrahydrofuran (THF)	11.76	72	3004	0.148	ng	#	60
35) Ethyl tert-Butyl Ether	12.05	87	1331	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d		
38) 1,1,1-Trichloroethane	12.40	97	3207	0.068	ng	#	70
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	280232	2.230	ng		90
42) Carbon Tetrachloride	13.04	117	4028	0.094	ng		98
43) Cyclohexane	13.18	84	2899133	61.911	ng		97
44) tert-Amyl Methyl Ether	13.47	73	2954	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	13.98	130	221	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142025.D Vial: 5
Acq On : 14 May 2020 22:43 Operator: LH
Sample : P2002302-002 (150mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 15:28:19 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	293428	9.985 ng	99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	15.45	75	1352	N.D.	
55) 1,1,2-Trichloroethane	15.56	97	403	N.D.	
58) Toluene	15.82	91	2629544	17.987 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	16.48	107	1611	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	16.83	57	294987	9.747 ng	97
64) Tetrachloroethene	16.96	166	8045	0.195 ng	98
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	17.98	91	263644	1.617 ng	99
67) m- & p-Xylenes	18.14	91	1115127	8.623 ng	99
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.48	104	388	N.D.	
70) o-Xylene	18.57	91	323709	2.466 ng	100
71) n-Nonane	18.77	43	428375	6.150 ng	97
72) 1,1,2,2-Tetrachloroethane	18.58	83	1898	N.D.	
74) Cumene	19.10	105	39374	0.244 ng	99
75) alpha-Pinene	19.43	93	1532	N.D.	
76) n-Propylbenzene	19.55	91	69063	0.361 ng	90
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.68	105	22768	0.150 ng	98
79) 1,3,5-Trimethylbenzene	19.74	105	115401	0.878 ng	100
80) alpha-Methylstyrene	19.88	118	1535	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.10	105	161740	1.225 ng	91
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	0.00	91	0	N.D. d	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.11	180	1320	N.D.	
95) Naphthalene	22.21	128	19162	0.119 ng	100
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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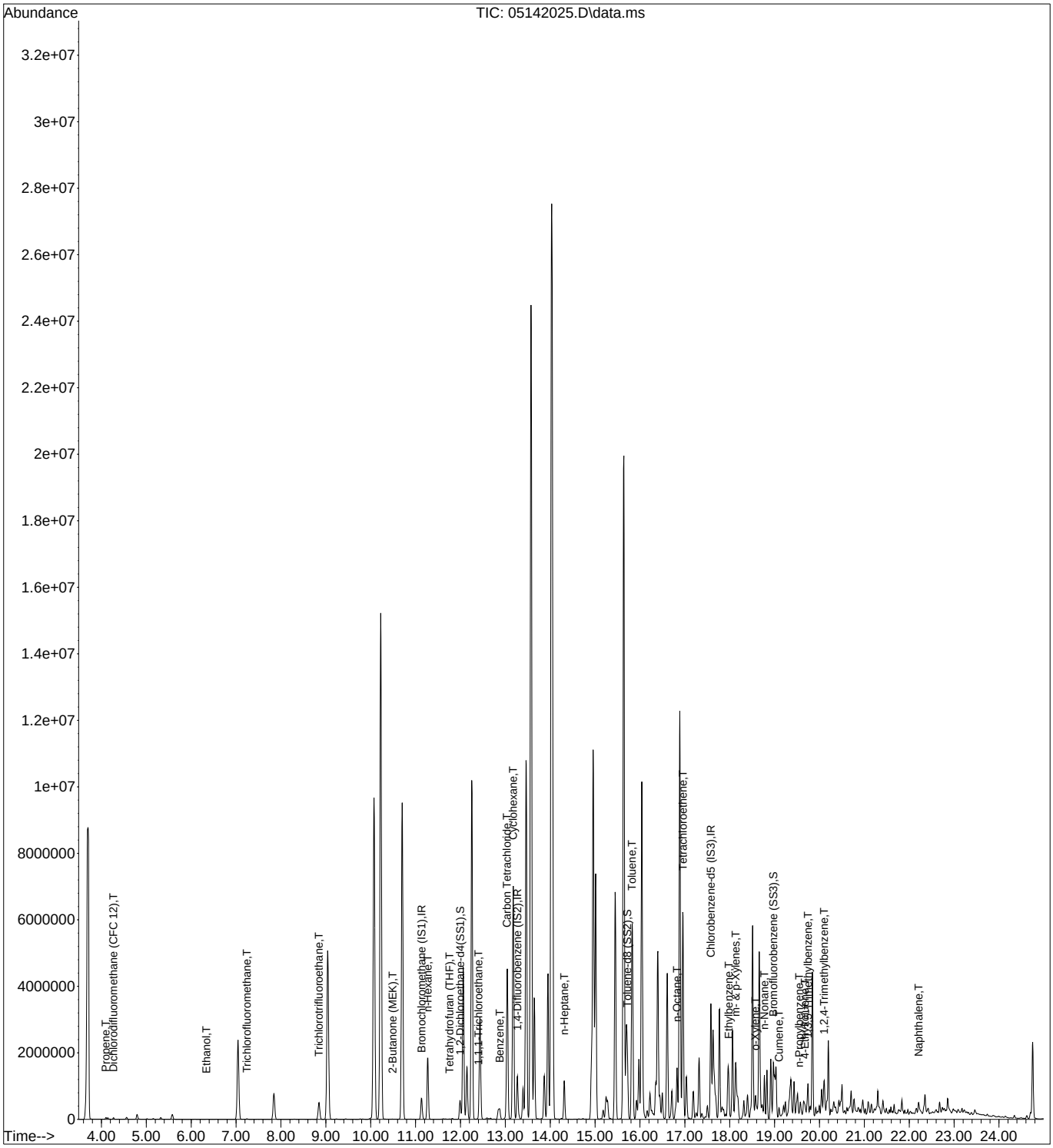
Acq On : 14 May 2020 22:43 Operator: LH
Sample : P2002302-002 (150mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 15:28:19 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



R16050120.M Fri May 15 15:47:39 2020 Page: 3

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142025.D Vial: 5
Acq On : 14 May 2020 22:43 Operator: LH
Sample : P2002302-002 (150mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 15:28:19 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/15/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	273462	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1171801	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	669101	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	444461	11.993	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.92%				
57) Toluene-d8 (SS2)	15.72	98	1242697	10.957	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.68%				
73) Bromofluorobenzene (SS3)	18.97	174	477468	11.700	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.60%				
Target Compounds							Qvalue
2) Propene	4.10	42	16284	0.514	ng		98
3) Dichlorodifluoromethan...	4.27	85	40672	0.657	ng		100
10) Ethanol	6.34	45	4715	0.193	ng		91
14) Trichlorofluoromethane	7.24	101	16765	0.306	ng		99
21) Trichlorotrifluoroethane	8.85	151	225915	8.740	ng		98
27) 2-Butanone (MEK)	10.49	72	1861	0.089	ng	#	59
31) n-Hexane	11.27	57	976880	18.726	ng		100
34) Tetrahydrofuran (THF)	11.76	72	3004	0.148	ng	#	60
38) 1,1,1-Trichloroethane	12.40	97	3207	0.068	ng	#	70
41) Benzene	12.87	78	280232	2.230	ng		90
42) Carbon Tetrachloride	13.04	117	4028	0.094	ng		98
43) Cyclohexane	13.18	84	2899133	61.911	ng		97
51) n-Heptane	14.31	71	293428	9.985	ng		99
58) Toluene	15.82	91	2629544	17.987	ng		100
63) n-Octane	16.83	57	294987	9.747	ng		97
64) Tetrachloroethene	16.96	166	8045	0.195	ng		98
66) Ethylbenzene	17.98	91	263644	1.617	ng		99
67) m- & p-Xylenes	18.14	91	1115127	8.623	ng		99
70) o-Xylene	18.57	91	323709	2.466	ng		100
71) n-Nonane	18.77	43	428375	6.150	ng		97
74) Cumene	19.10	105	39374	0.244	ng		99
76) n-Propylbenzene	19.55	91	69063	0.361	ng		90
78) 4-Ethyltoluene	19.68	105	22768	0.150	ng		98
79) 1,3,5-Trimethylbenzene	19.74	105	115401	0.878	ng		100
82) 1,2,4-Trimethylbenzene	20.10	105	161740	1.225	ng		91
95) Naphthalene	22.21	128	19162	0.119	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

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Data File : I:\MS16\DATA\2020_05\14\05142025.D Vial: 5
Acq On : 14 May 2020 22:43 Operator: LH
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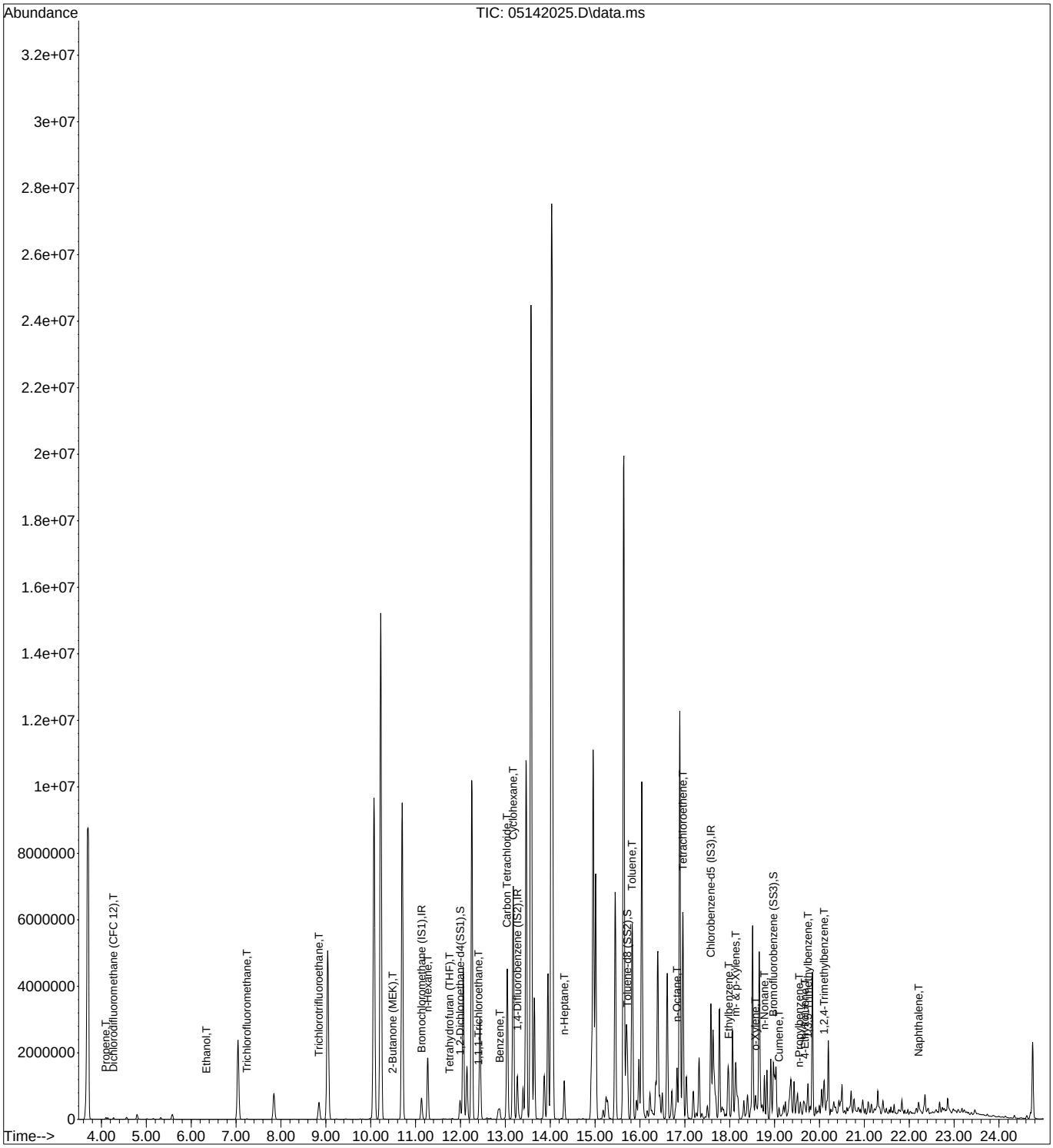
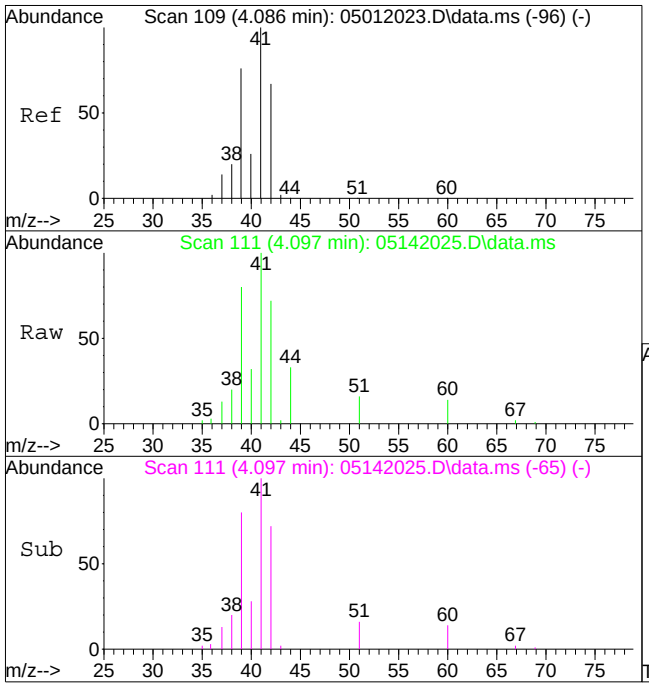
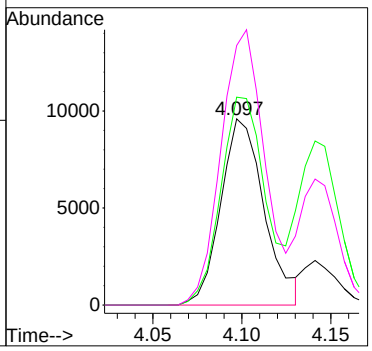


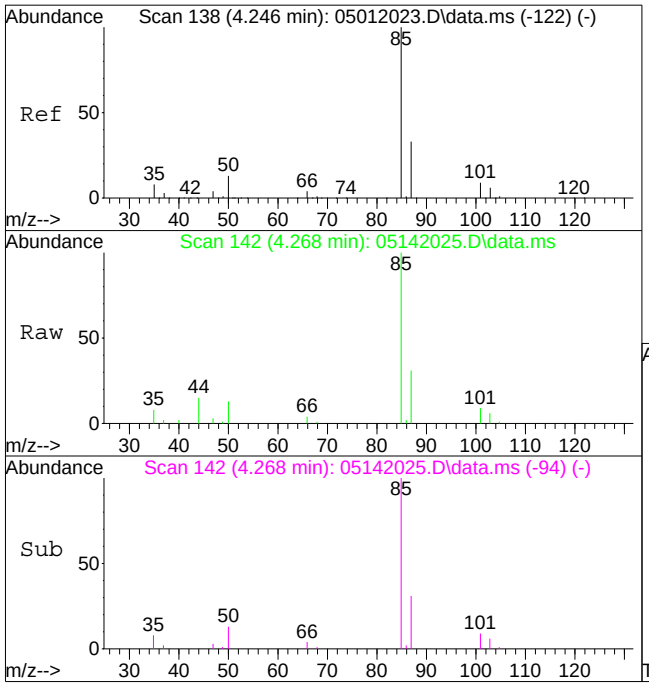


#2
Propene
Concen: 0.51 ng
RT: 4.10 min Scan# 111
Delta R.T. 0.005 min
Lab File: 05142025.D
Acq: 14 May 2020 22:43

Tgt Ion: 42 Resp: 16284

Ion	Ratio	Lower	Upper
42	100		
39	116.0	96.1	136.1
41	148.3	131.9	171.9

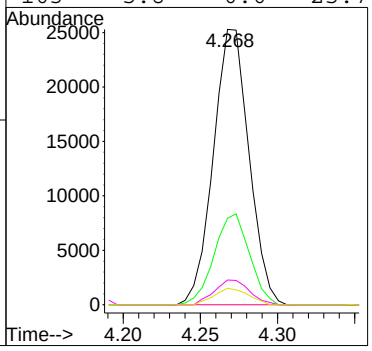


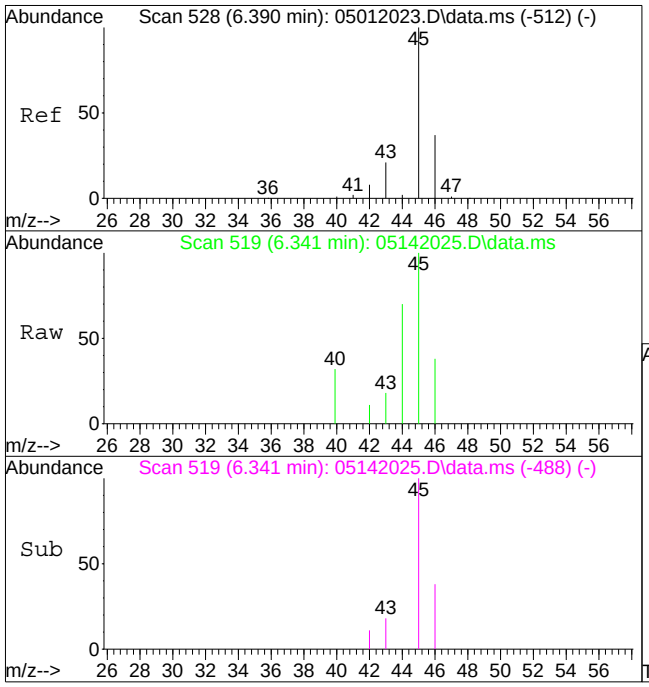


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.66 ng
RT: 4.27 min Scan# 142
Delta R.T. 0.016 min
Lab File: 05142025.D
Acq: 14 May 2020 22:43

Tgt Ion: 85 Resp: 40672

Ion	Ratio	Lower	Upper
85	100		
87	32.6	12.4	52.4
101	8.8	0.0	28.8
103	5.8	0.0	25.7

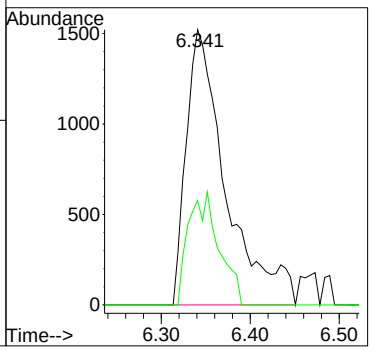


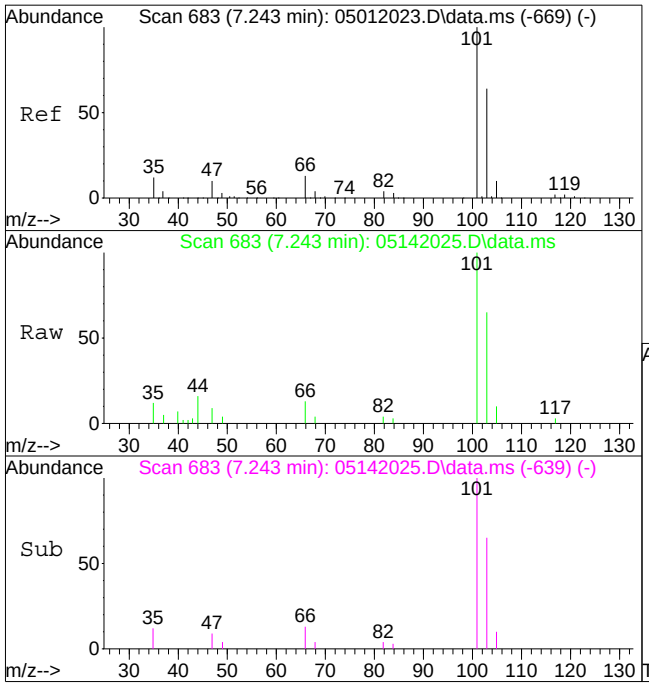


#10
Ethanol
Concen: 0.19 ng
RT: 6.34 min Scan# 519
Delta R.T. -0.077 min
Lab File: 05142025.D
Acq: 14 May 2020 22:43

Tgt Ion: 45 Resp: 4715

Ion	Ratio	Lower	Upper
45	100		
46	31.6	17.2	57.2

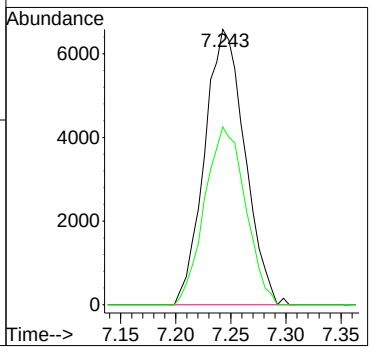


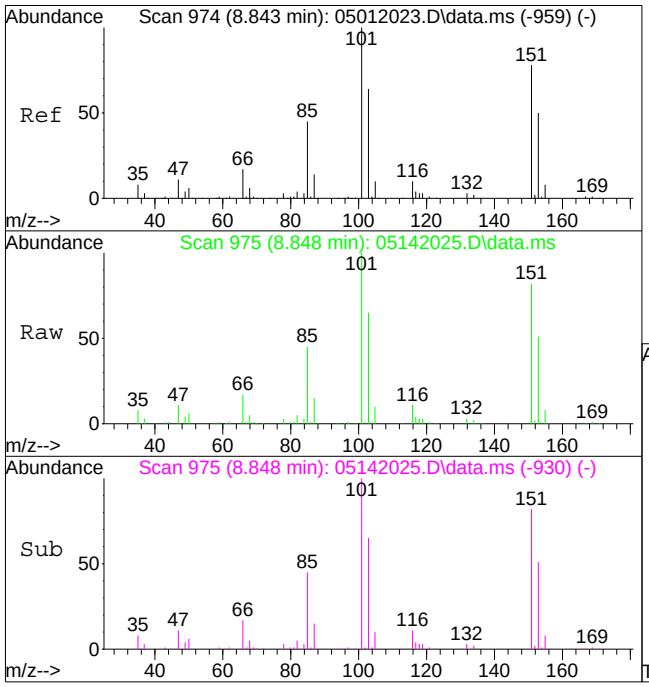


#14
Trichlorofluoromethane
Concen: 0.31 ng
RT: 7.24 min Scan# 683
Delta R.T. -0.006 min
Lab File: 05142025.D
Acq: 14 May 2020 22:43

Tgt Ion:101 Resp: 16765

Ion	Ratio	Lower	Upper
101	100		
103	65.1	44.4	84.4

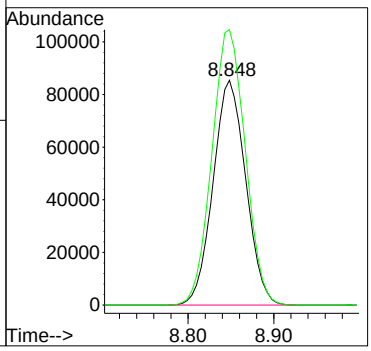


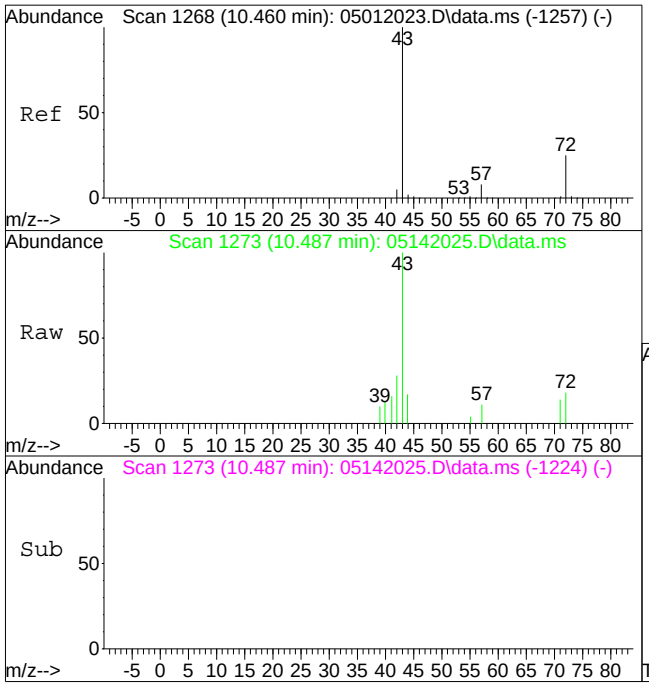


#21
Trichlorotrifluoroethane
Concen: 8.74 ng
RT: 8.85 min Scan# 975
Delta R.T. -0.000 min
Lab File: 05142025.D
Acq: 14 May 2020 22:43

Tgt Ion:151 Resp: 225915

Ion	Ratio	Lower	Upper
151	100		
101	125.3	107.3	147.3

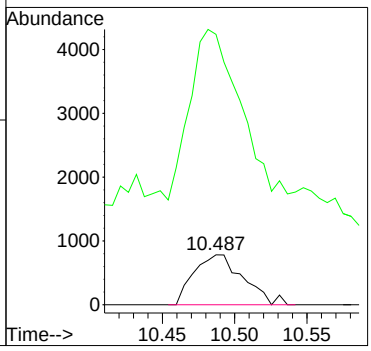


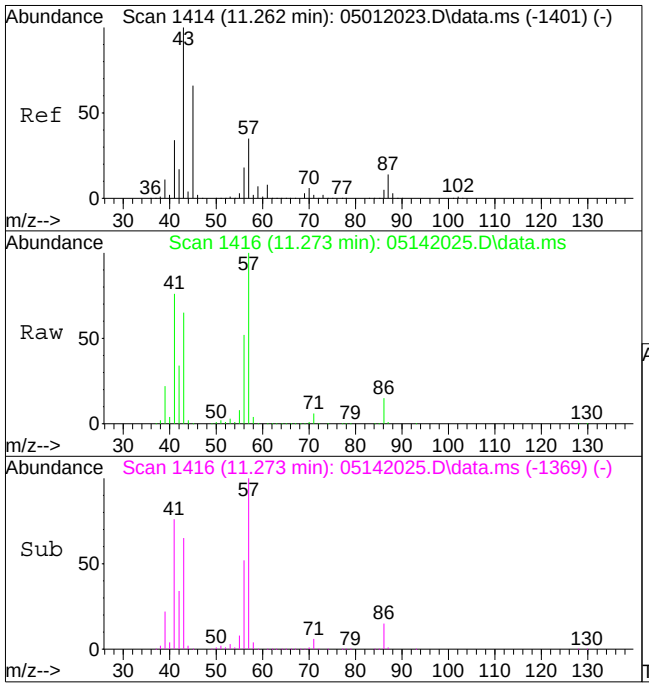


#27
2-Butanone (MEK)
Concen: 0.09 ng
RT: 10.49 min Scan# 1273
Delta R.T. 0.022 min
Lab File: 05142025.D
Acq: 14 May 2020 22:43

Tgt Ion: 72 Resp: 1861

Ion	Ratio	Lower	Upper
72	100		
43	509.7	389.7	429.7#

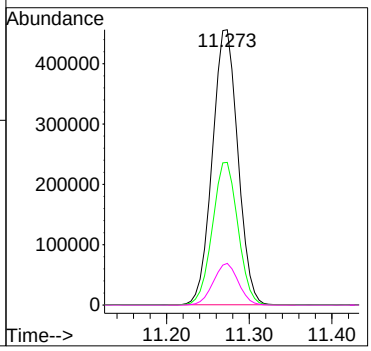


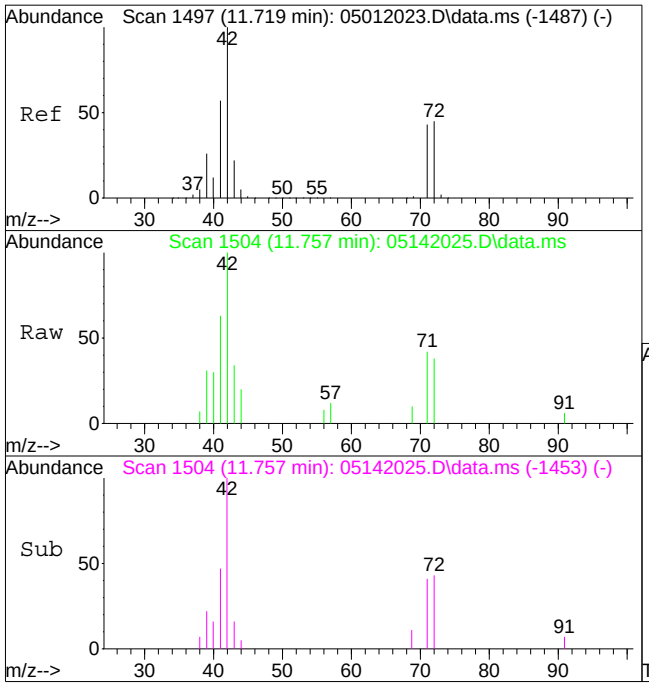


#31
n-Hexane
Concen: 18.73 ng
RT: 11.27 min Scan# 1416
Delta R.T. 0.011 min
Lab File: 05142025.D
Acq: 14 May 2020 22:43

Tgt Ion: 57 Resp: 976880

Ion	Ratio	Lower	Upper
57	100		
56	51.8	41.4	62.0
86	14.9	12.4	18.6

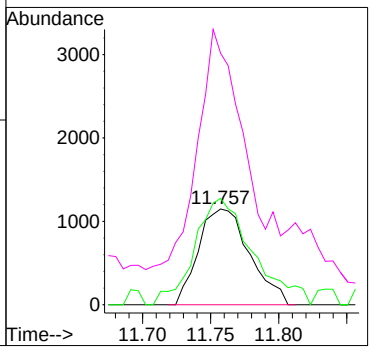


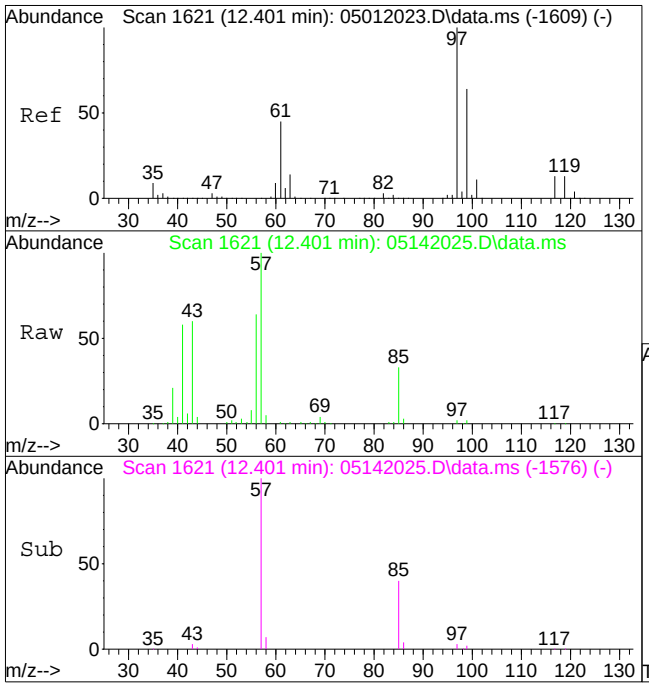


#34
Tetrahydrofuran (THF)
Concen: 0.15 ng
RT: 11.76 min Scan# 1504
Delta R.T. 0.033 min
Lab File: 05142025.D
Acq: 14 May 2020 22:43

Tgt Ion: 72 Resp: 3004

Ion	Ratio	Lower	Upper
72	100		
71	126.7	77.0	117.0#
42	295.7	204.6	244.6#

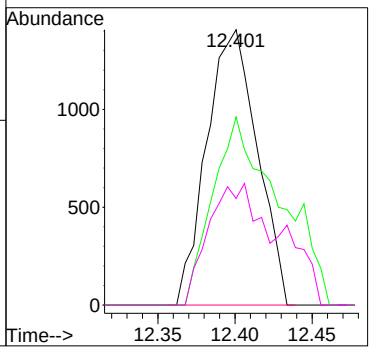


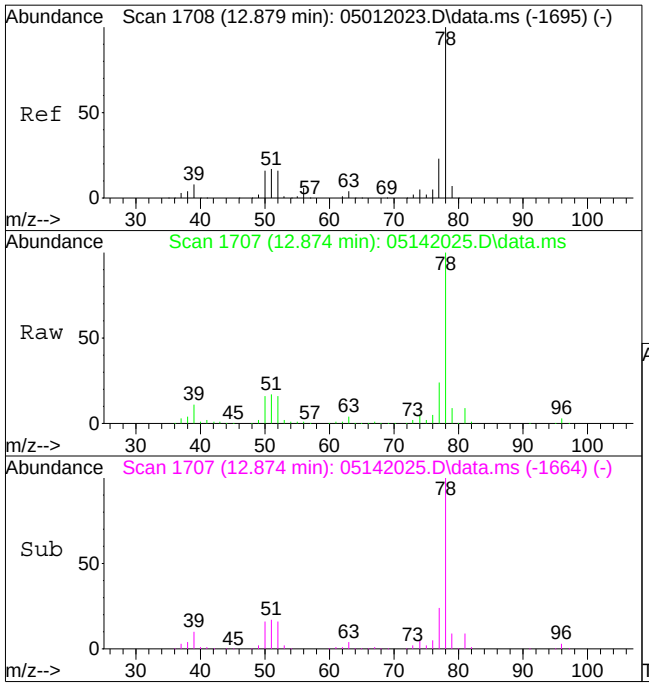


#38
1,1,1-Trichloroethane
Concen: 0.07 ng
RT: 12.40 min Scan# 1621
Delta R.T. -0.000 min
Lab File: 05142025.D
Acq: 14 May 2020 22:43

Tgt Ion: 97 Resp: 3207

Ion	Ratio	Lower	Upper
97	100		
99	90.1	44.5	84.5#
61	61.1	24.7	64.7

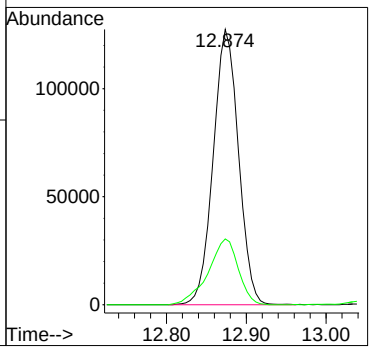


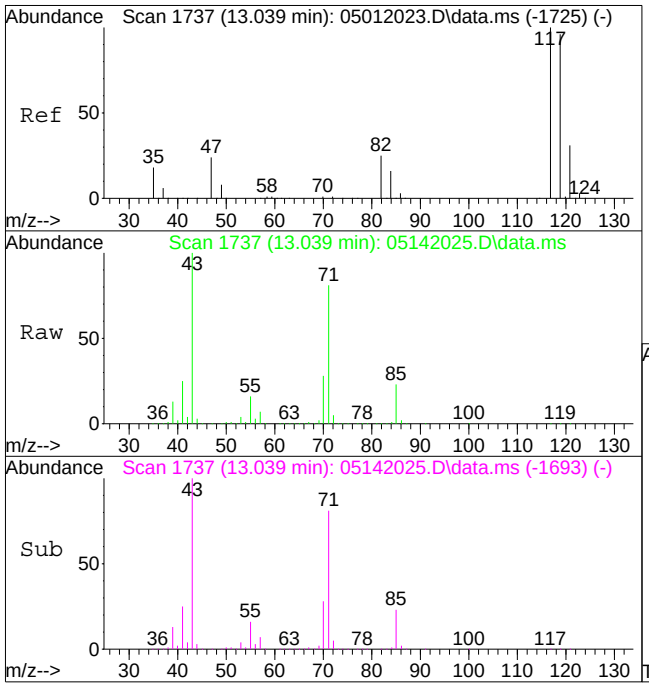


#41
Benzene
Concen: 2.23 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05142025.D
Acq: 14 May 2020 22:43

Tgt Ion: 78 Resp: 280232

Ion	Ratio	Lower	Upper
78	100		
77	28.5	3.4	43.4

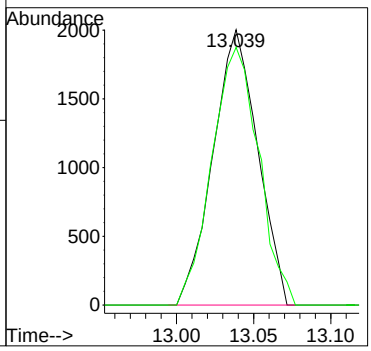


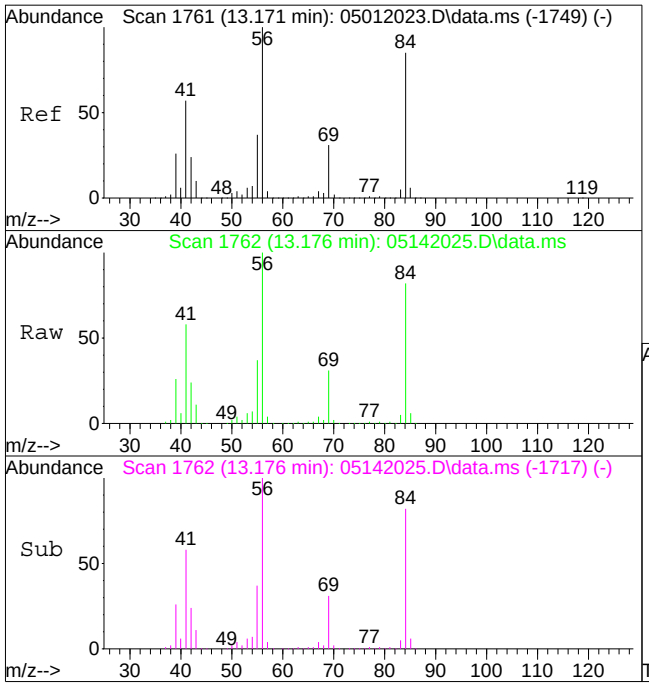


#42
Carbon Tetrachloride
Concen: 0.09 ng
RT: 13.04 min Scan# 1737
Delta R.T. -0.006 min
Lab File: 05142025.D
Acq: 14 May 2020 22:43

Tgt Ion:117 Resp: 4028

Ion	Ratio	Lower	Upper
117	100		
119	98.1	76.2	116.2

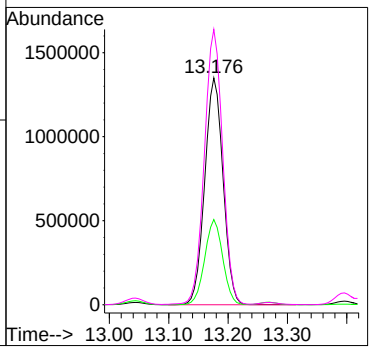


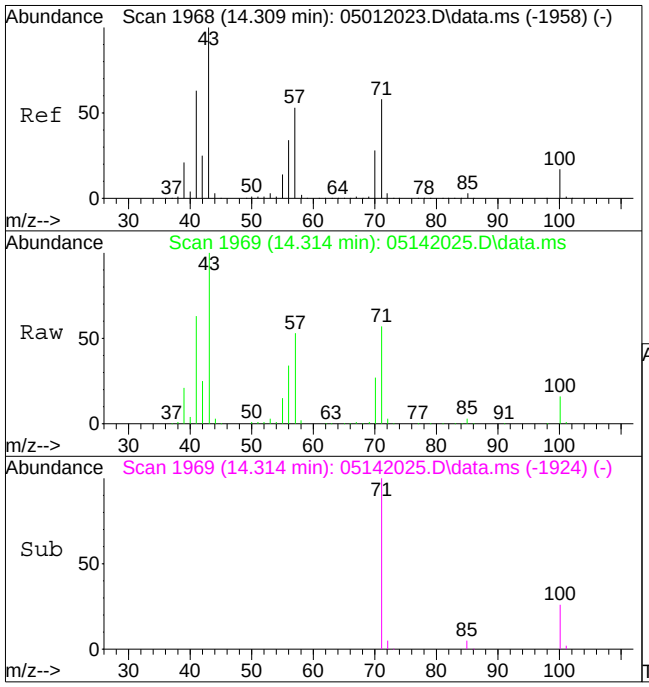


#43
Cyclohexane
Concen: 61.91 ng
RT: 13.18 min Scan# 1762
Delta R.T. -0.000 min
Lab File: 05142025.D
Acq: 14 May 2020 22:43

Tgt Ion: 84 Resp: 2899133

Ion	Ratio	Lower	Upper
84	100		
69	36.9	16.5	56.5
56	121.1	97.4	137.4

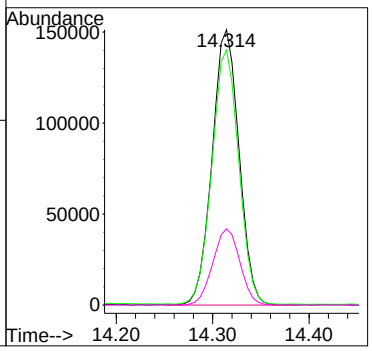


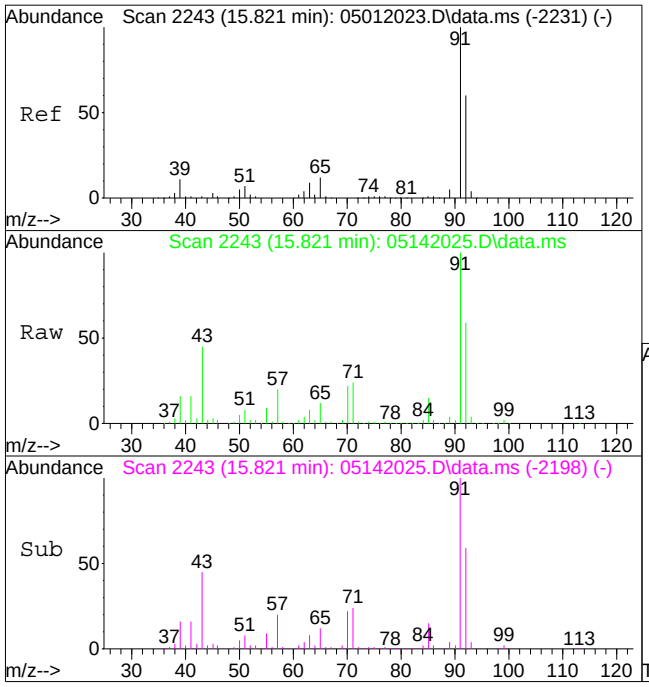


#51
n-Heptane
Concen: 9.99 ng
RT: 14.31 min Scan# 1969
Delta R.T. -0.000 min
Lab File: 05142025.D
Acq: 14 May 2020 22:43

Tgt Ion: 71 Resp: 293428

Ion	Ratio	Lower	Upper
71	100		
57	92.3	71.0	111.0
100	27.8	8.4	48.4

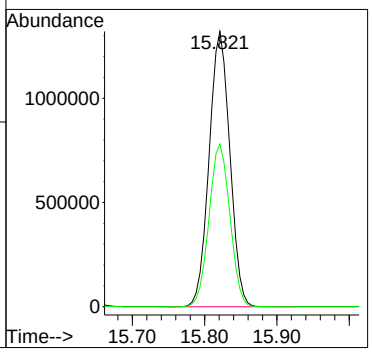


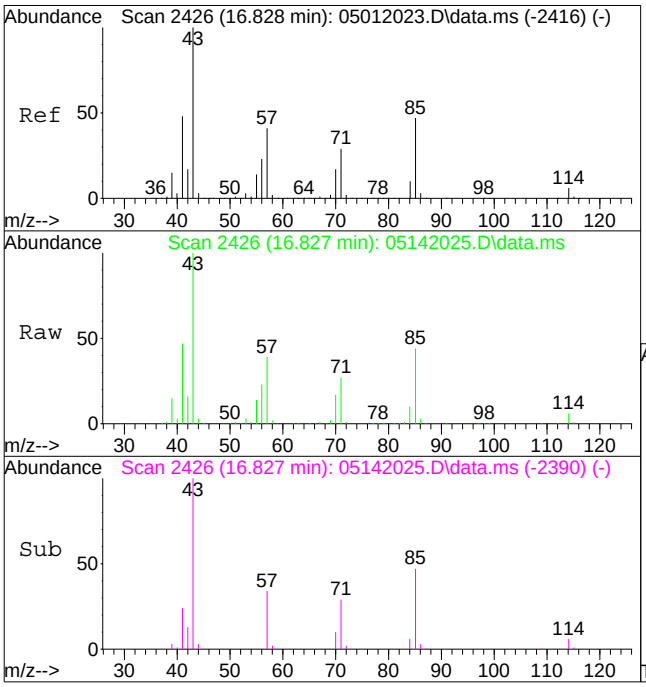


#58
Toluene
Concen: 17.99 ng
RT: 15.82 min Scan# 2243
Delta R.T. -0.000 min
Lab File: 05142025.D
Acq: 14 May 2020 22:43

Tgt Ion: 91 Resp: 2629544

Ion	Ratio	Lower	Upper
91	100		
92	59.5	39.4	79.4

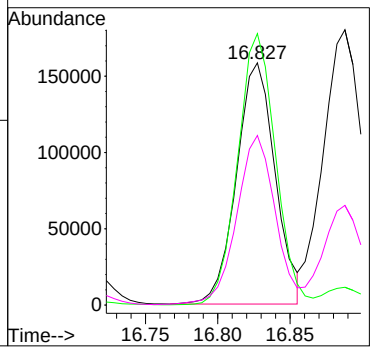


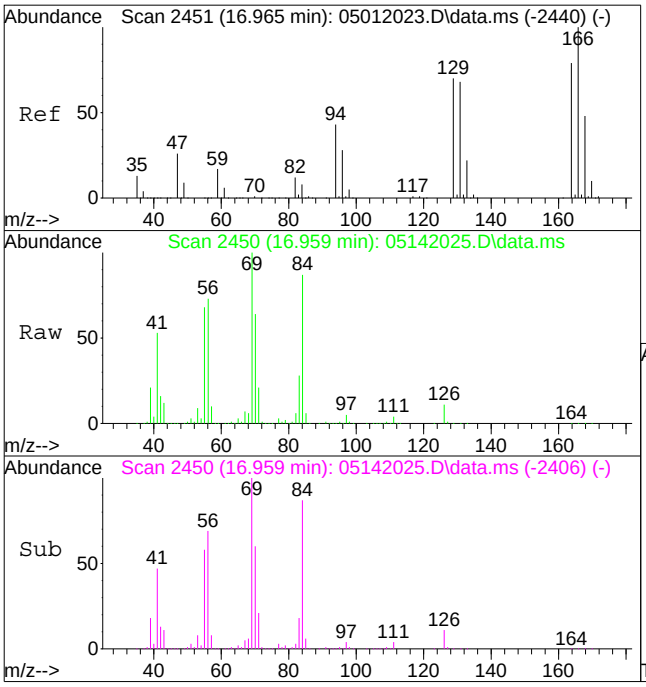


#63
n-Octane
Concen: 9.75 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05142025.D
Acq: 14 May 2020 22:43

Tgt Ion: 57 Resp: 294987

Ion	Ratio	Lower	Upper
57	100		
85	109.7	91.0	136.4
71	69.3	56.2	84.2

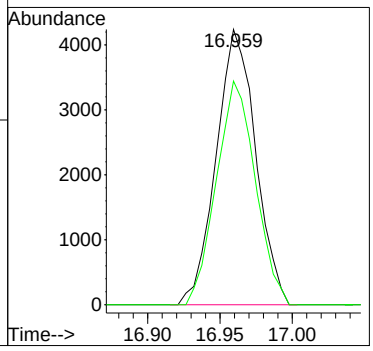


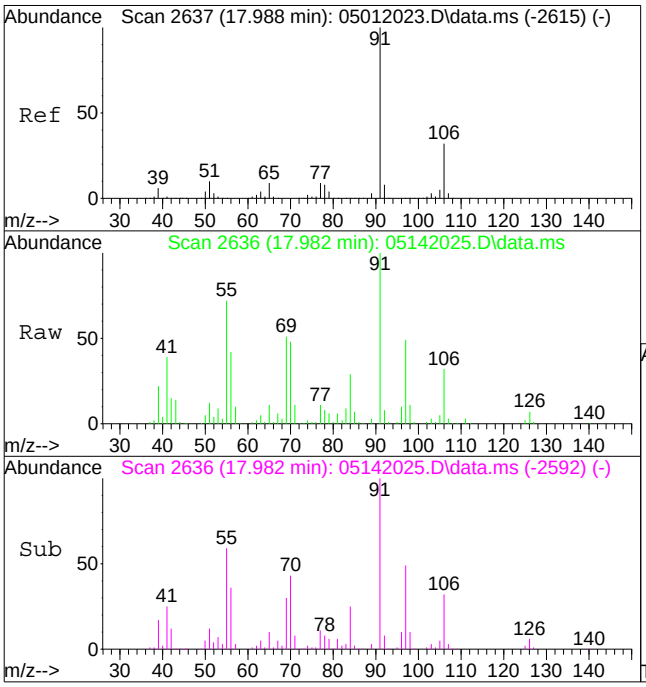


#64
Tetrachloroethene
Concen: 0.19 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05142025.D
Acq: 14 May 2020 22:43

Tgt Ion:166 Resp: 8045

Ion	Ratio	Lower	Upper
166	100		
164	80.3	58.4	98.4

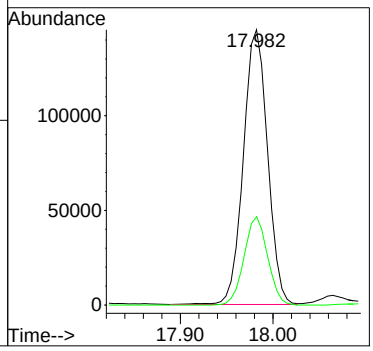


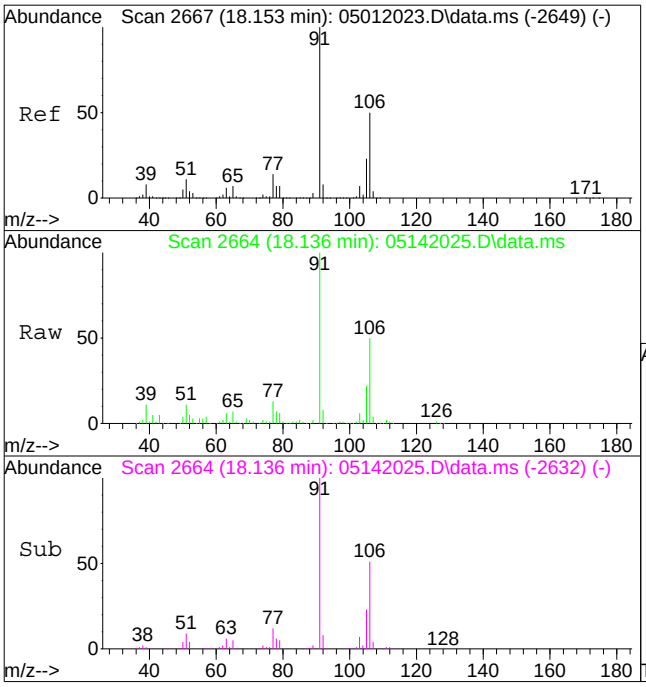


#66
Ethylbenzene
Concen: 1.62 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05142025.D
Acq: 14 May 2020 22:43

Tgt Ion: 91 Resp: 263644

Ion	Ratio	Lower	Upper
91	100		
106	31.2	11.6	51.6

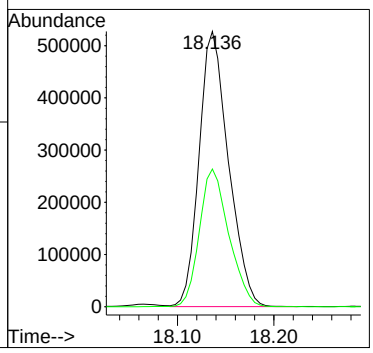


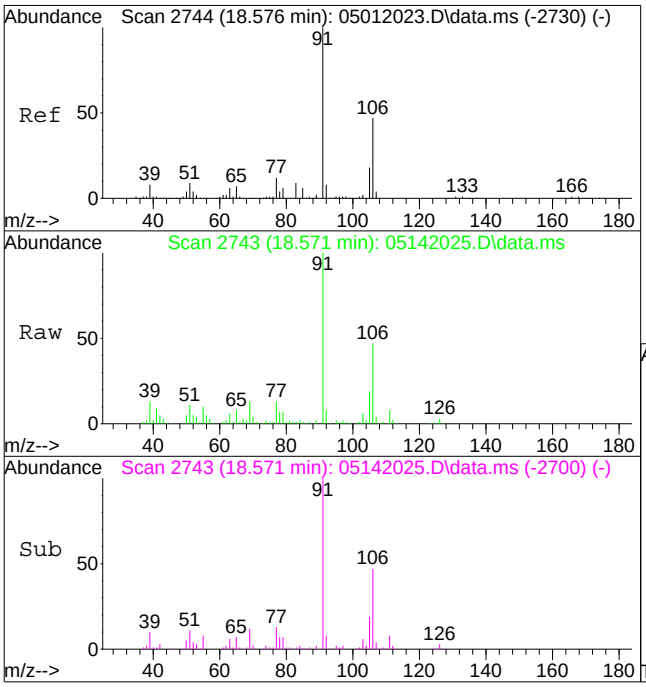


#67
m- & p-Xylenes
Concen: 8.62 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05142025.D
Acq: 14 May 2020 22:43

Tgt Ion: 91 Resp: 1115127

Ion	Ratio	Lower	Upper
91	100		
106	50.2	29.7	69.7

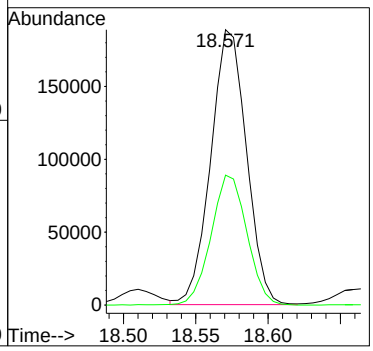


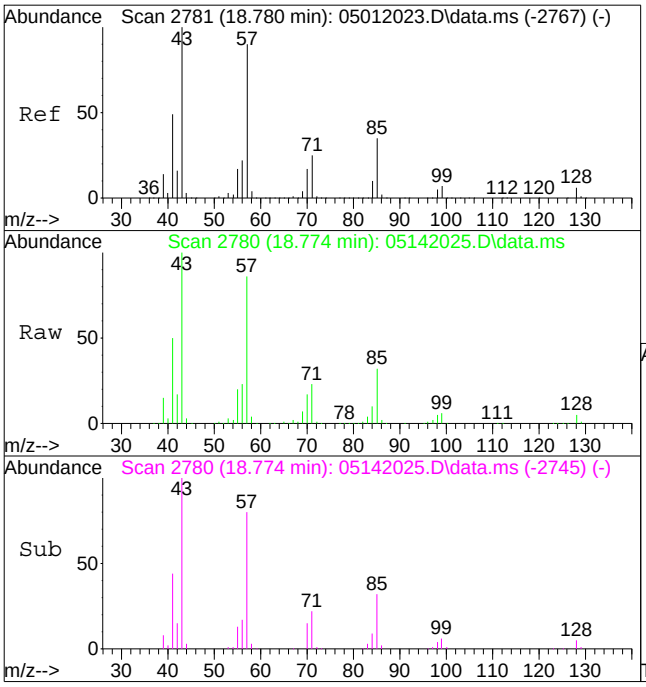


#70
o-Xylene
Concen: 2.47 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05142025.D
Acq: 14 May 2020 22:43

Tgt Ion: 91 Resp: 323709

Ion	Ratio	Lower	Upper
91	100		
106	47.5	27.5	67.5

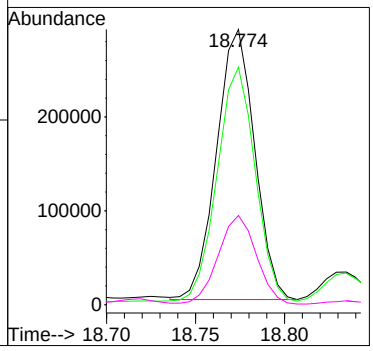


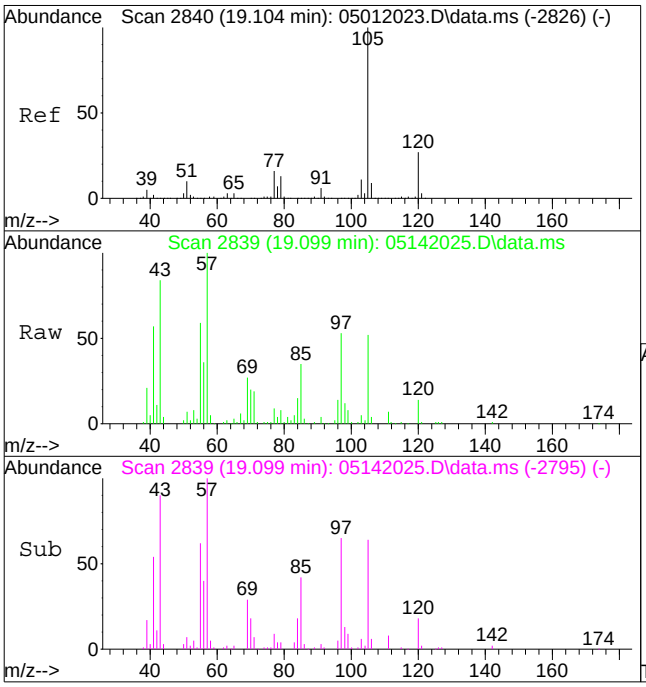


#71
n-Nonane
Concen: 6.15 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05142025.D
Acq: 14 May 2020 22:43

Tgt Ion: 43 Resp: 428375

Ion	Ratio	Lower	Upper
43	100		
57	86.7	69.0	109.0
85	32.6	14.6	54.6

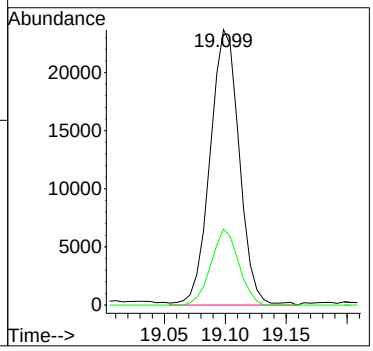


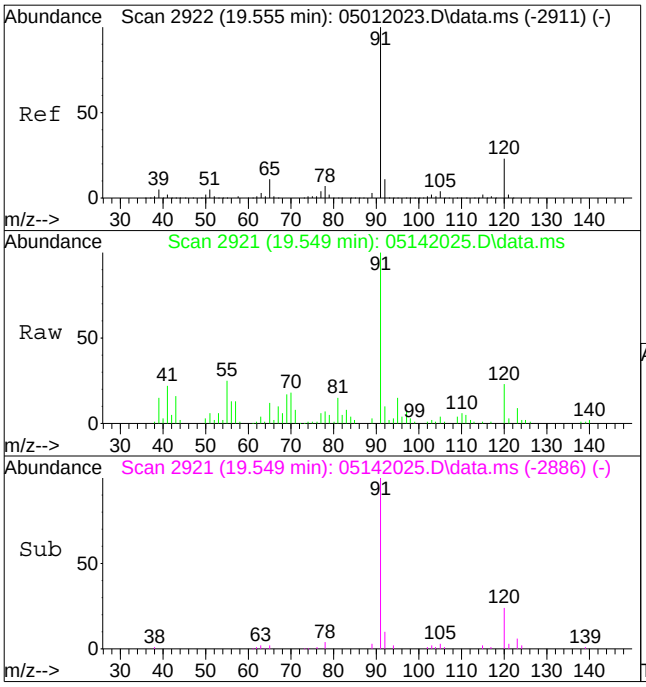


#74
Cumene
Concen: 0.24 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05142025.D
Acq: 14 May 2020 22:43

Tgt Ion:105 Resp: 39374

Ion	Ratio	Lower	Upper
105	100		
120	26.1	6.8	46.8

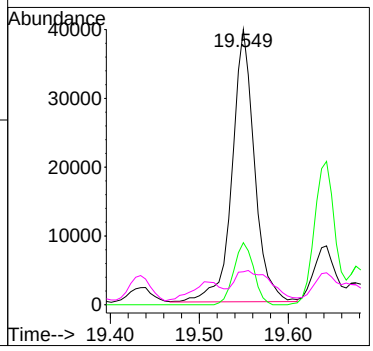


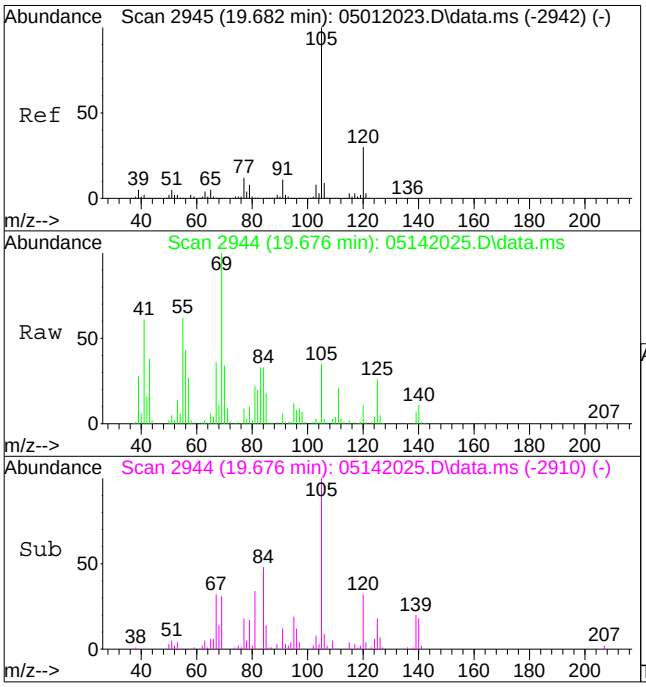


#76
n-Propylbenzene
Concen: 0.36 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05142025.D
Acq: 14 May 2020 22:43

Tgt Ion: 91 Resp: 69063

Ion	Ratio	Lower	Upper
91	100		
120	20.3	3.1	43.1
65	18.3	0.0	30.9

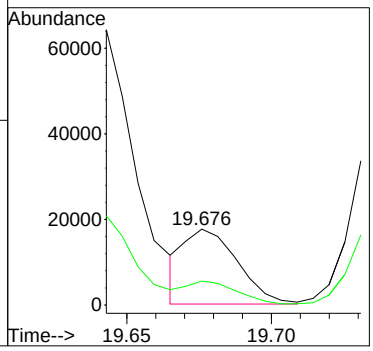


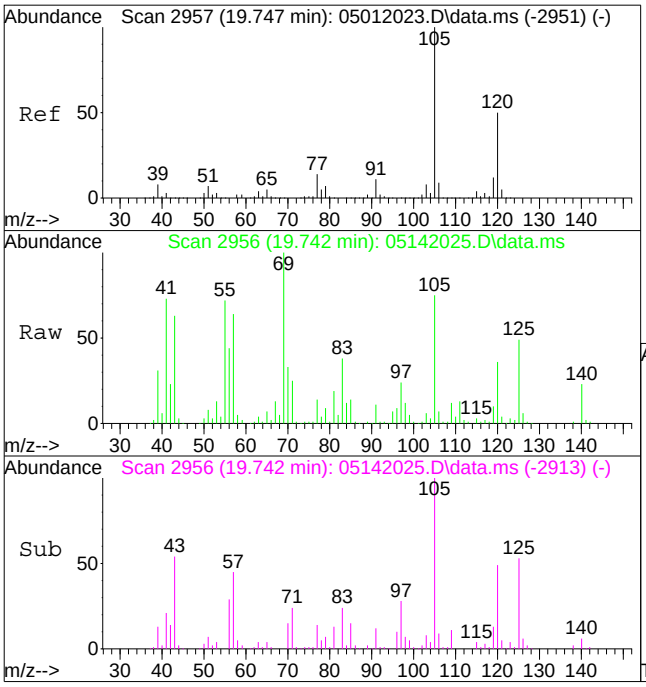


#78
4-Ethyltoluene
Concen: 0.15 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05142025.D
Acq: 14 May 2020 22:43

Tgt Ion:105 Resp: 22768

Ion	Ratio	Lower	Upper
105	100		
120	31.7	10.4	50.4

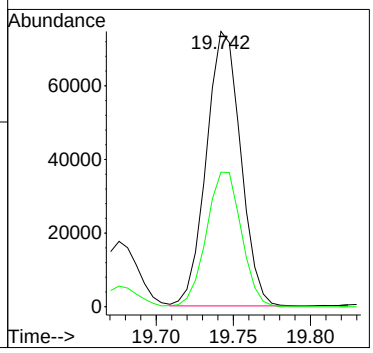


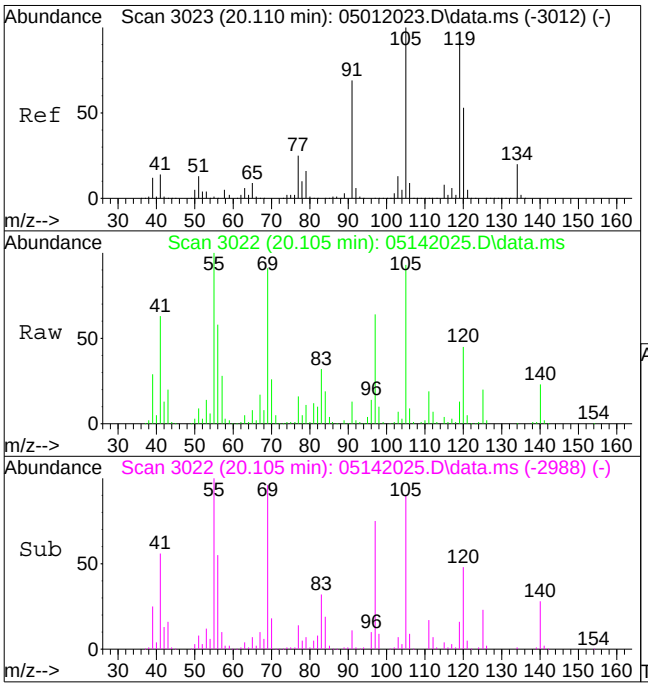


#79
1,3,5-Trimethylbenzene
Concen: 0.88 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05142025.D
Acq: 14 May 2020 22:43

Tgt Ion:105 Resp: 115401

Ion	Ratio	Lower	Upper
105	100		
120	50.1	29.9	69.9

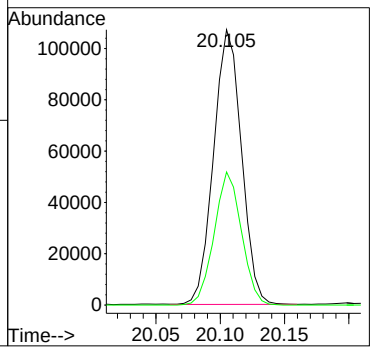


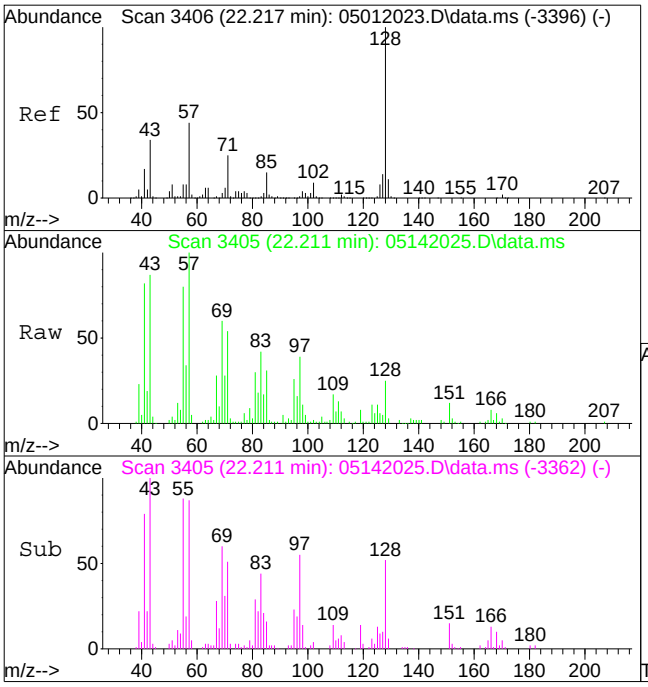


#82
1,2,4-Trimethylbenzene
Concen: 1.22 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05142025.D
Acq: 14 May 2020 22:43

Tgt Ion:105 Resp: 161740

Ion	Ratio	Lower	Upper
105	100		
120	47.3	33.6	73.6

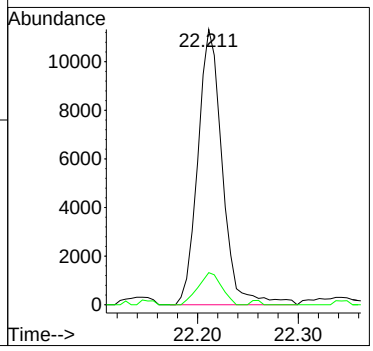




#95
Naphthalene
Concen: 0.12 ng
RT: 22.21 min Scan# 3405
Delta R.T. -0.011 min
Lab File: 05142025.D
Acq: 14 May 2020 22:43

Tgt Ion:128 Resp: 19162

Ion	Ratio	Lower	Upper
128	100		
129	11.2	0.0	31.0



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142019.D Vial: 1
Acq On : 14 May 2020 19:20 Operator: LH
Sample : P2002302-003 (0.2mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 20:49:51 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/14/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	288237	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1257067	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	627672	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	475541	12.174	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.36%			
57) Toluene-d8 (SS2)	15.72	98	1265761	11.897	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.20%			
73) Bromofluorobenzene (SS3)	18.97	174	469870	12.274	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.16%			
Target Compounds						Qvalue
2) Propene	4.10	42	55863	1.673	ng	# 87
3) Dichlorodifluoromethan...	4.27	85	179	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.	d	
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.37	45	1037	N.D.		
11) Acetonitrile	6.62	41	58	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	7.56	45	623	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.	d	
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	8.47	59	55	N.D.		
19) Methylene Chloride	0.00	84	0	N.D.		
20) 3-Chloro-1-propene (Al...	8.60	41	851	N.D.		
21) Trichlorotrifluoroethane	8.85	151	493	N.D.		
22) Carbon Disulfide	8.69	76	1109	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.	d	
25) Methyl tert-Butyl Ether	10.06	73	406	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	10.32	72	106	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	0.00	61	0	N.D.	d	
31) n-Hexane	11.27	57	4830441	87.849	ng	100
32) Chloroform	11.26	83	134	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.06	62	124	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	12.87	61	825	N.D.		
40) 1-Butanol	12.89	56	1278	N.D.		
41) Benzene	12.87	78	149352	1.108	ng	100
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	13.18	84	4551140	90.597	ng	97
44) tert-Amyl Methyl Ether	13.46	73	842	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d	
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142019.D Vial: 1
Acq On : 14 May 2020 19:20 Operator: LH
Sample : P2002302-003 (0.2mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 20:49:51 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

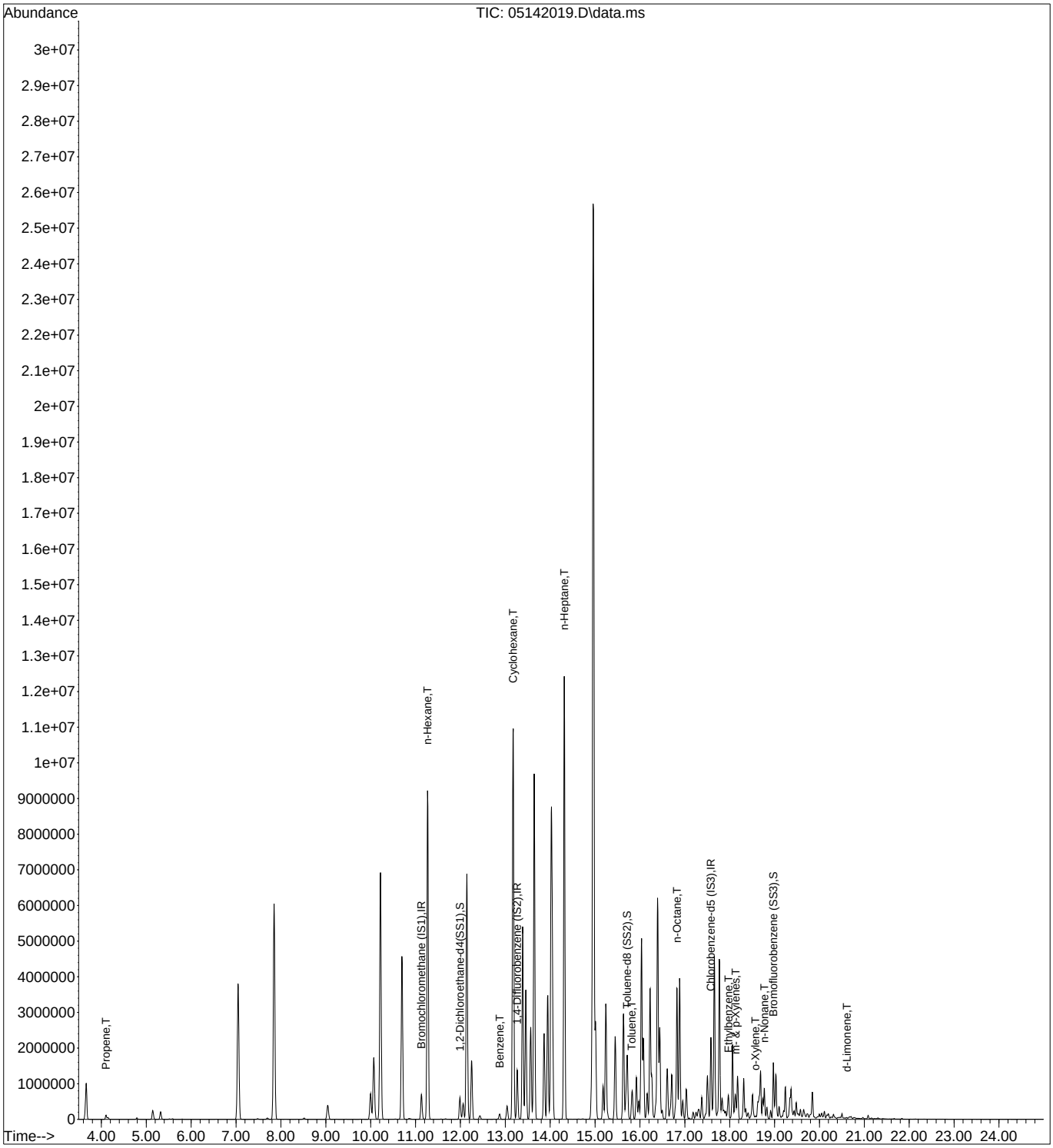
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	3125710	99.151 ng	98
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	15.23	75	175	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	15.82	91	266701	1.945 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	16.83	57	723175	25.472 ng	97
64) Tetrachloroethene	16.96	166	370	N.D.	
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	17.98	91	9448	0.062 ng	87
67) m- & p-Xylenes	18.14	91	31635	0.261 ng	97
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.58	104	135	N.D.	
70) o-Xylene	18.58	91	12093	0.098 ng	100
71) n-Nonane	18.77	43	298977	4.575 ng	94
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	19.10	105	1563	N.D.	
75) alpha-Pinene	19.44	93	447	N.D.	
76) n-Propylbenzene	19.54	91	4202	N.D.	
77) 3-Ethyltoluene	19.63	105	1016	N.D.	
78) 4-Ethyltoluene	19.67	105	483	N.D.	
79) 1,3,5-Trimethylbenzene	19.75	105	1902	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	19.91	105	490	N.D.	
82) 1,2,4-Trimethylbenzene	20.10	105	746	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.19	91	759	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	20.34	105	1780	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	436	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	466	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.61	68	2486	0.051 ng	91
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.30	57	2090	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.22	128	662	N.D.	
96) n-Dodecane	22.29	57	293	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.11	119	809	N.D.	
100) n-Butylbenzene	20.85	91	601	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142019.D Vial: 1
Acq On : 14 May 2020 19:20 Operator: LH
Sample : P2002302-003 (0.2mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 20:49:51 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142019.D Vial: 1
Acq On : 14 May 2020 19:20 Operator: LH
Sample : P2002302-003 (0.2mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 20:49:51 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/14/20

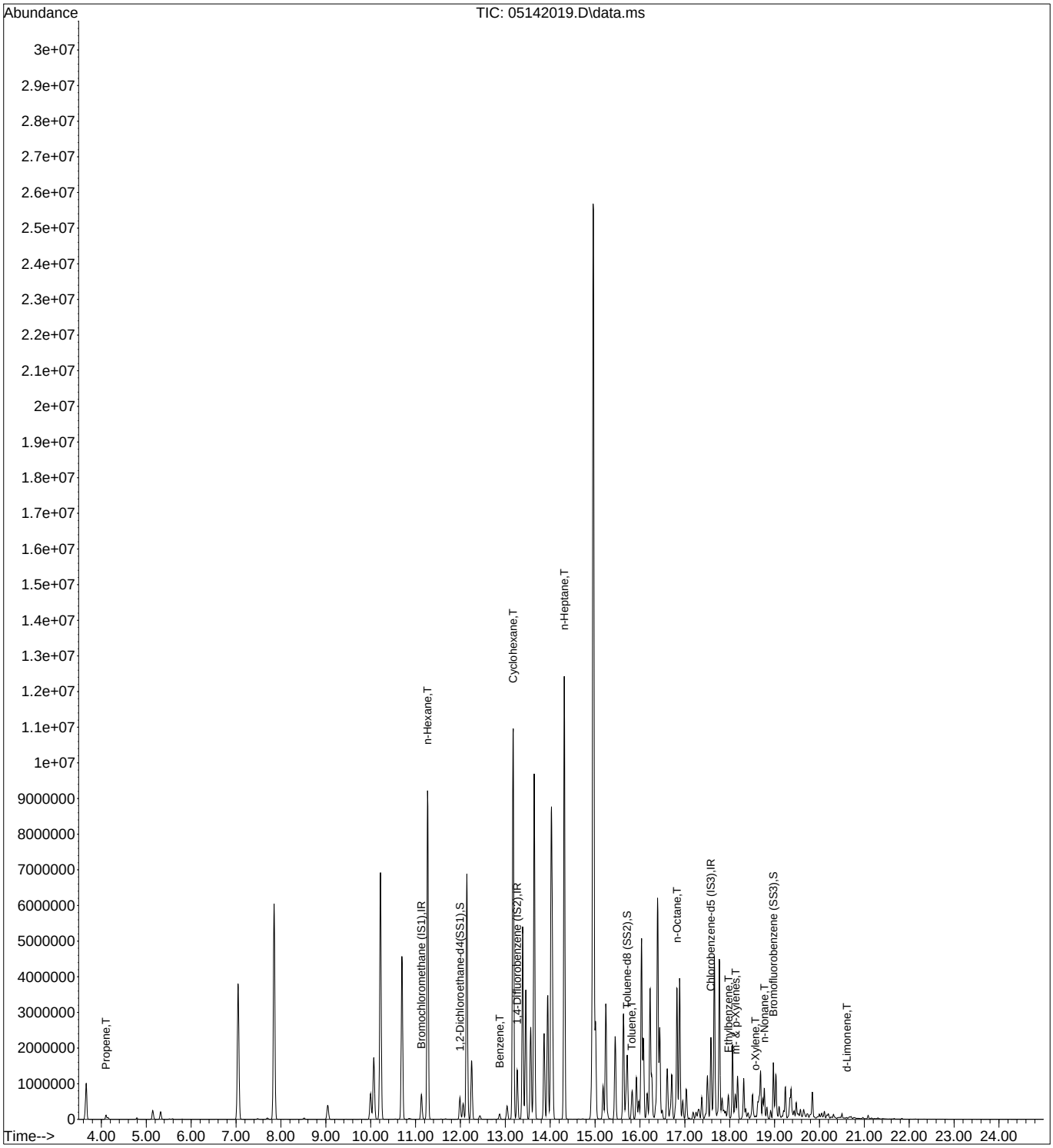
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	288237	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1257067	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	627672	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	475541	12.174	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.36%			
57) Toluene-d8 (SS2)	15.72	98	1265761	11.897	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.20%			
73) Bromofluorobenzene (SS3)	18.97	174	469870	12.274	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.16%			
Target Compounds						Qvalue
2) Propene	4.10	42	55863	1.673	ng	# 87
31) n-Hexane	11.27	57	4830441	87.849	ng	100
41) Benzene	12.87	78	149352	1.108	ng	100
43) Cyclohexane	13.18	84	4551140	90.597	ng	97
51) n-Heptane	14.31	71	3125710	99.151	ng	98
58) Toluene	15.82	91	266701	1.945	ng	100
63) n-Octane	16.83	57	723175	25.472	ng	97
66) Ethylbenzene	17.98	91	9448	0.062	ng	87
67) m- & p-Xylenes	18.14	91	31635	0.261	ng	97
70) o-Xylene	18.58	91	12093	0.098	ng	100
71) n-Nonane	18.77	43	298977	4.575	ng	94
91) d-Limonene	20.61	68	2486	0.051	ng	91

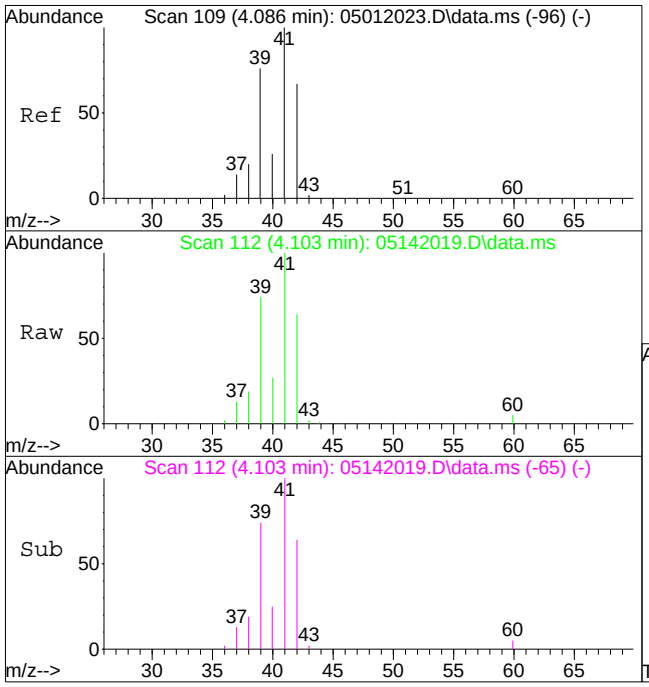
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142019.D Vial: 1
Acq On : 14 May 2020 19:20 Operator: LH
Sample : P2002302-003 (0.2mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 20:49:51 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

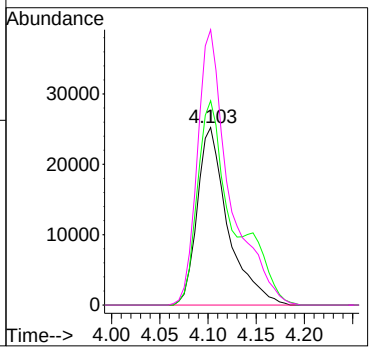


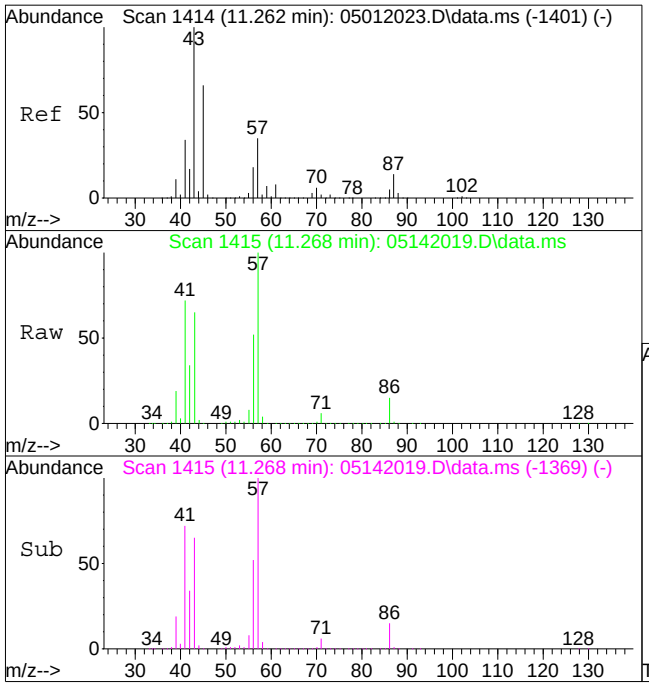


#2
Propene
Concen: 1.67 ng
RT: 4.10 min Scan# 112
Delta R.T. 0.011 min
Lab File: 05142019.D
Acq: 14 May 2020 19:20

Tgt Ion: 42 Resp: 55863

Ion	Ratio	Lower	Upper
42	100		
39	136.6	96.1	136.1#
41	163.5	131.9	171.9

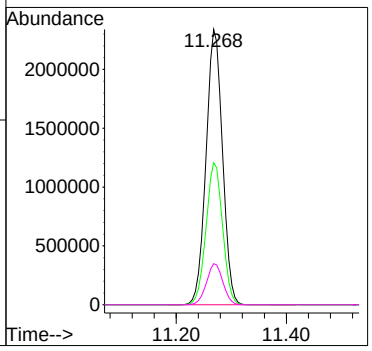


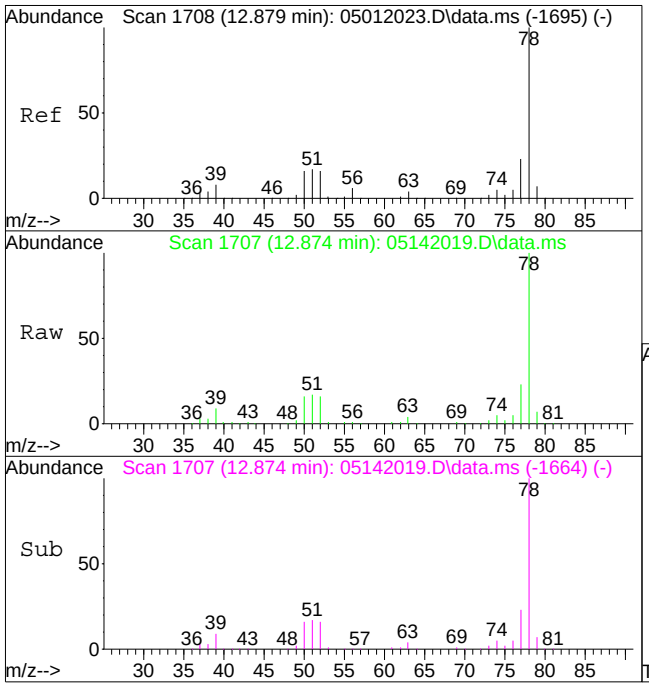


#31
n-Hexane
Concen: 87.85 ng
RT: 11.27 min Scan# 1415
Delta R.T. 0.005 min
Lab File: 05142019.D
Acq: 14 May 2020 19:20

Tgt Ion: 57 Resp: 4830441

Ion	Ratio	Lower	Upper
57	100		
56	51.8	41.4	62.0
86	14.9	12.4	18.6

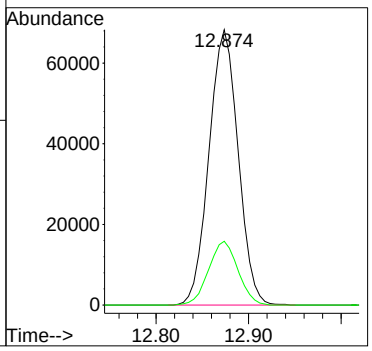


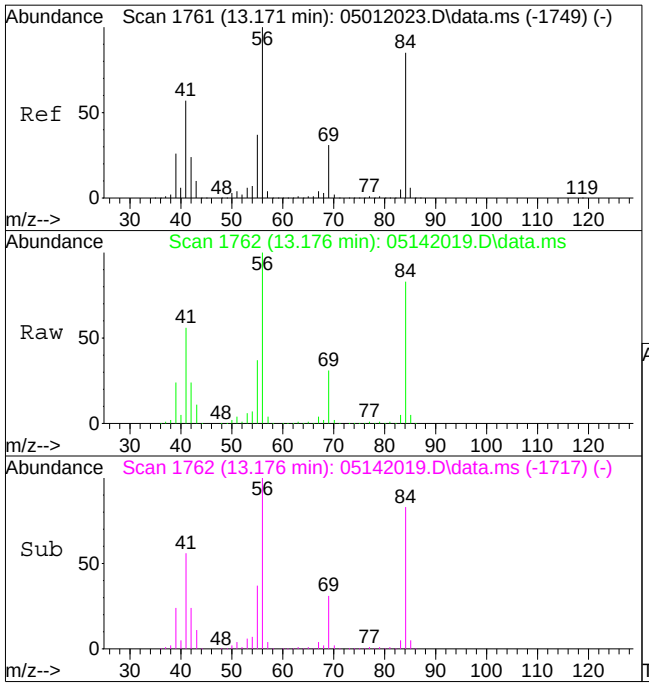


#41
Benzene
Concen: 1.11 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05142019.D
Acq: 14 May 2020 19:20

Tgt Ion: 78 Resp: 149352

Ion	Ratio	Lower	Upper
78	100		
77	23.3	3.4	43.4

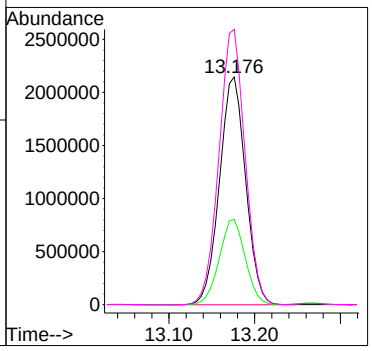


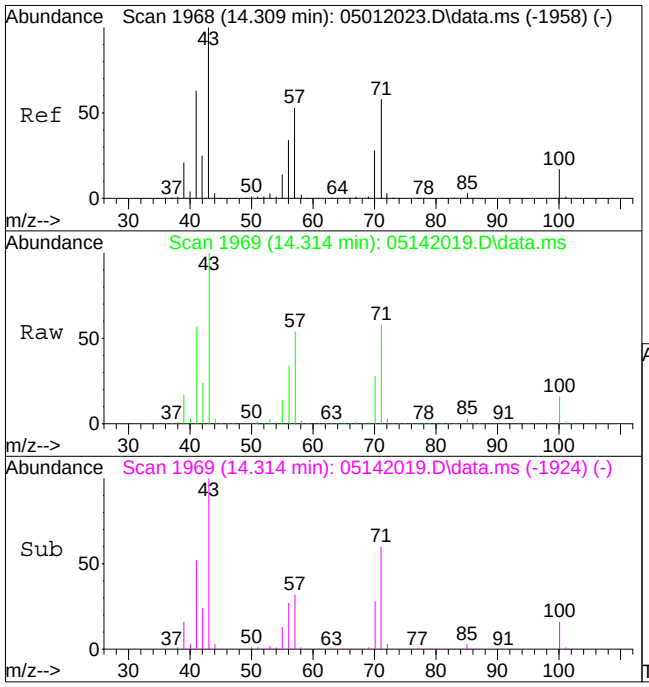


#43
Cyclohexane
Concen: 90.60 ng
RT: 13.18 min Scan# 1762
Delta R.T. -0.000 min
Lab File: 05142019.D
Acq: 14 May 2020 19:20

Tgt Ion: 84 Resp: 4551140

Ion	Ratio	Lower	Upper
84	100		
69	37.3	16.5	56.5
56	120.7	97.4	137.4

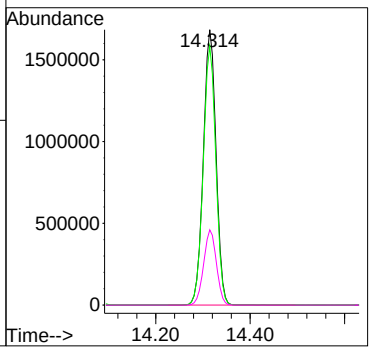


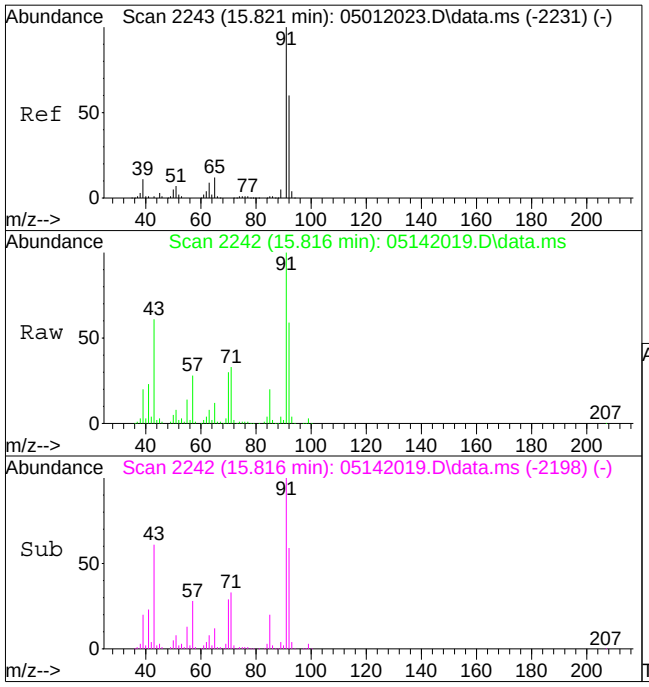


#51
n-Heptane
Concen: 99.15 ng
RT: 14.31 min Scan# 1969
Delta R.T. -0.000 min
Lab File: 05142019.D
Acq: 14 May 2020 19:20

Tgt Ion: 71 Resp: 3125710

Ion	Ratio	Lower	Upper
71	100		
57	93.3	71.0	111.0
100	27.5	8.4	48.4

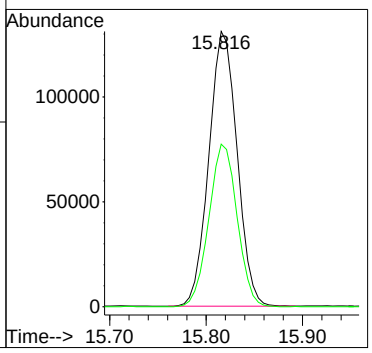


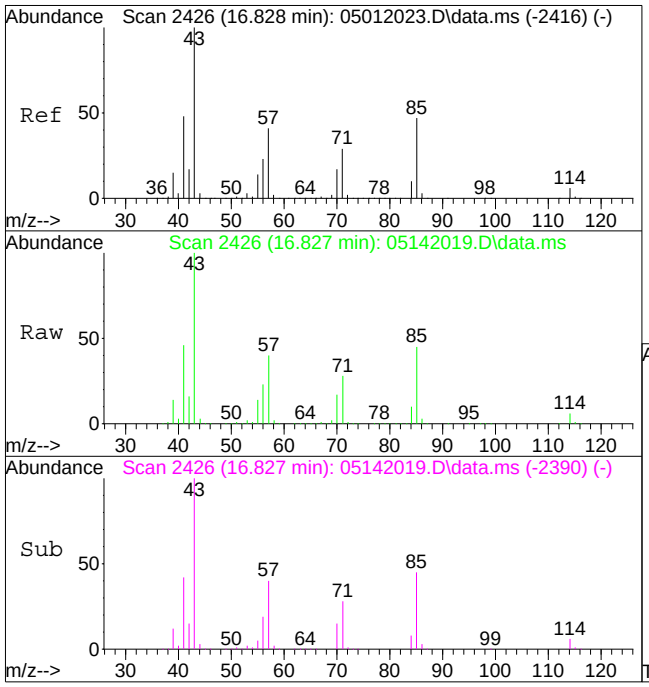


#58
Toluene
Concen: 1.94 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05142019.D
Acq: 14 May 2020 19:20

Tgt Ion: 91 Resp: 266701

Ion	Ratio	Lower	Upper
91	100		
92	59.2	39.4	79.4

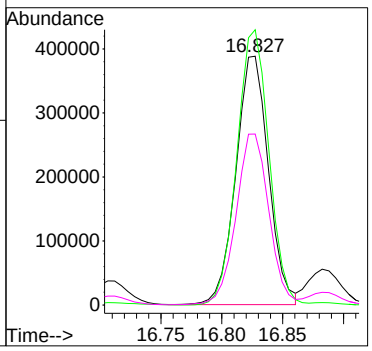


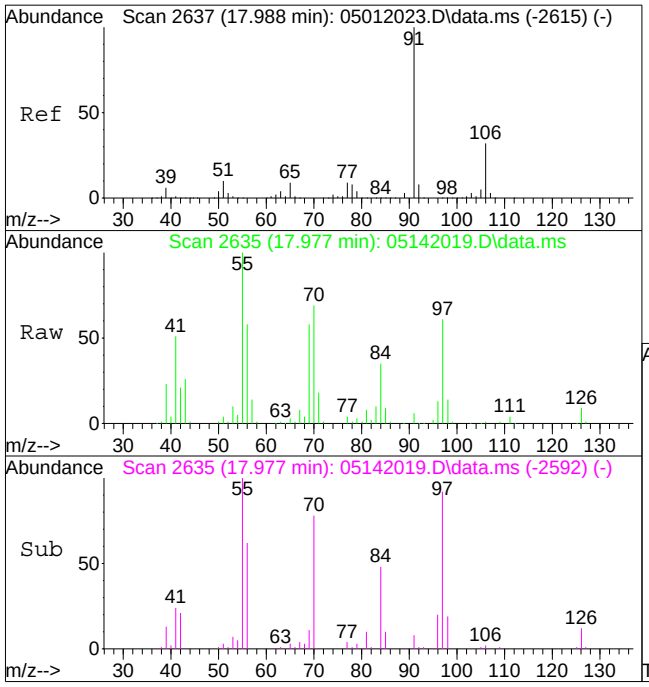


#63
n-Octane
Concen: 25.47 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05142019.D
Acq: 14 May 2020 19:20

Tgt Ion: 57 Resp: 723175

Ion	Ratio	Lower	Upper
57	100		
85	109.6	91.0	136.4
71	69.2	56.2	84.2

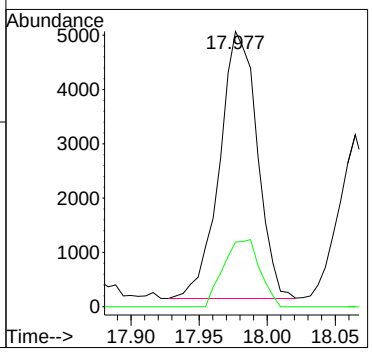


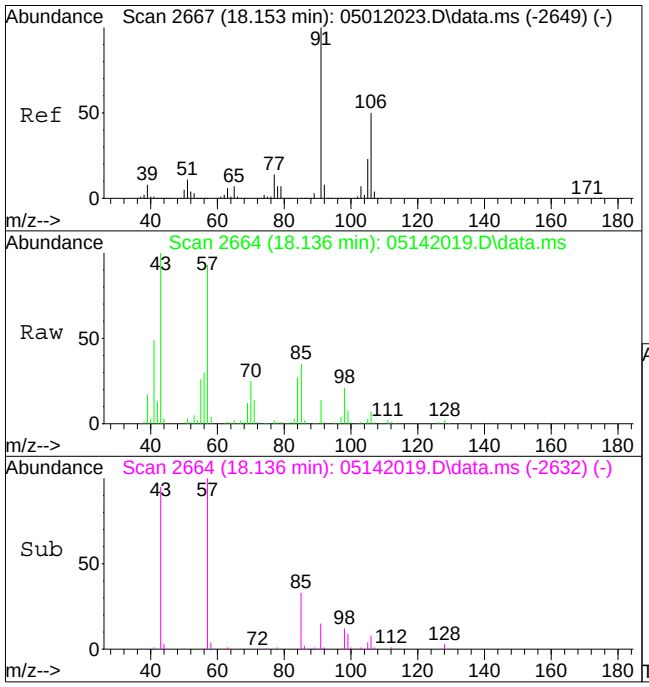


#66
Ethylbenzene
Concen: 0.06 ng
RT: 17.98 min Scan# 2635
Delta R.T. -0.011 min
Lab File: 05142019.D
Acq: 14 May 2020 19:20

Tgt Ion: 91 Resp: 9448

Ion	Ratio	Lower	Upper
91	100		
106	24.3	11.6	51.6

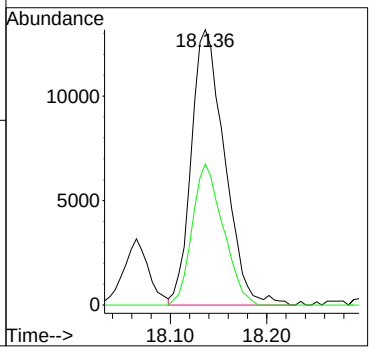


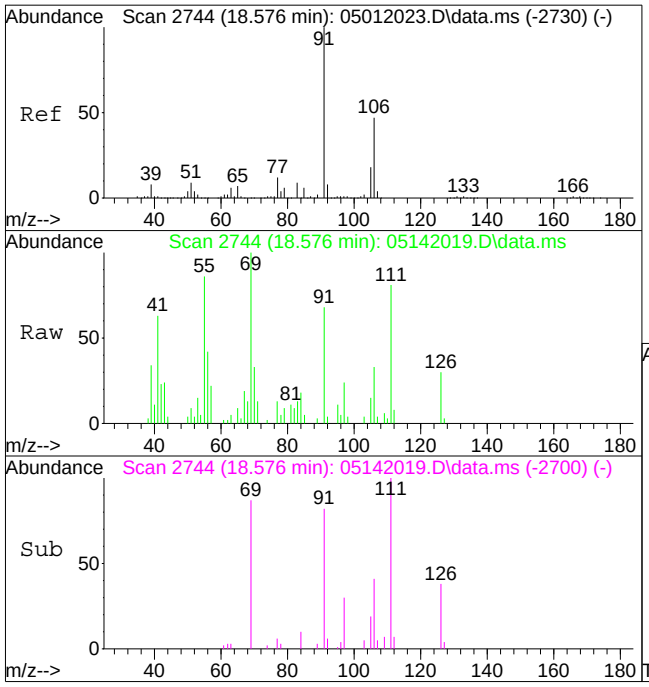


#67
m- & p-Xylenes
Concen: 0.26 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05142019.D
Acq: 14 May 2020 19:20

Tgt Ion: 91 Resp: 31635

Ion	Ratio	Lower	Upper
91	100		
106	47.6	29.7	69.7

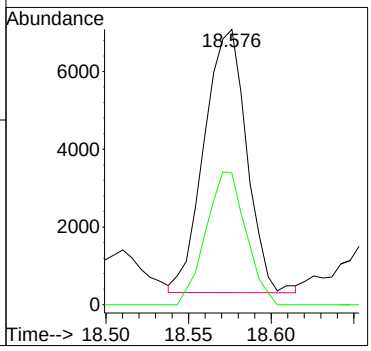


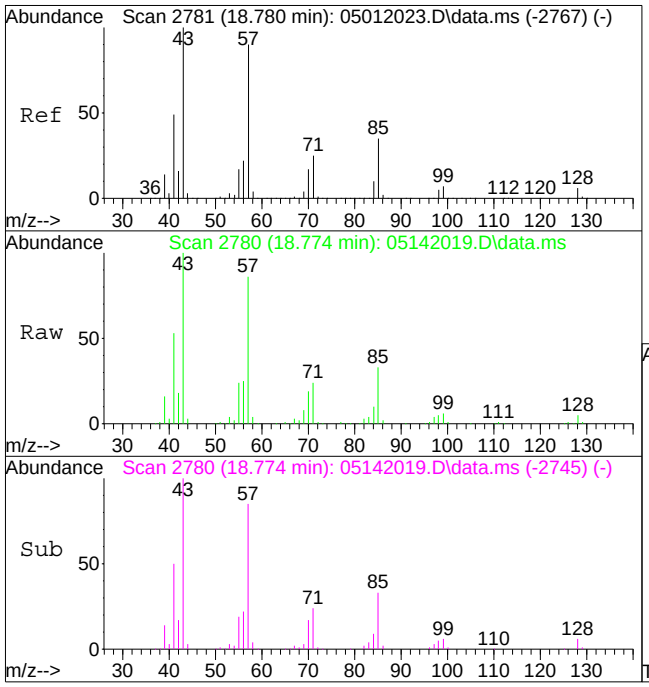


#70
o-Xylene
Concen: 0.10 ng
RT: 18.58 min Scan# 2744
Delta R.T. -0.006 min
Lab File: 05142019.D
Acq: 14 May 2020 19:20

Tgt Ion: 91 Resp: 12093

Ion	Ratio	Lower	Upper
91	100		
106	47.4	27.5	67.5

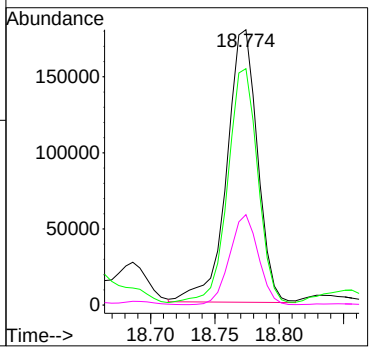


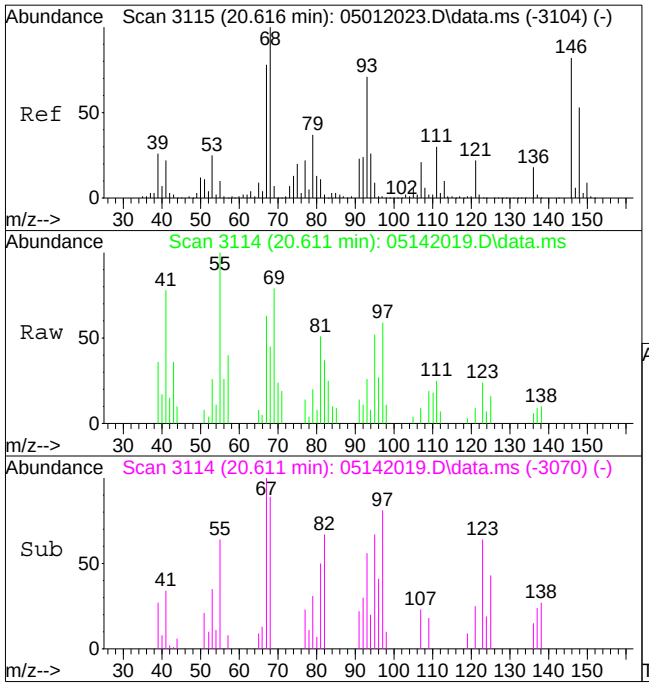


#71
n-Nonane
Concen: 4.58 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05142019.D
Acq: 14 May 2020 19:20

Tgt Ion: 43 Resp: 298977

Ion	Ratio	Lower	Upper
43	100		
57	83.1	69.0	109.0
85	30.5	14.6	54.6

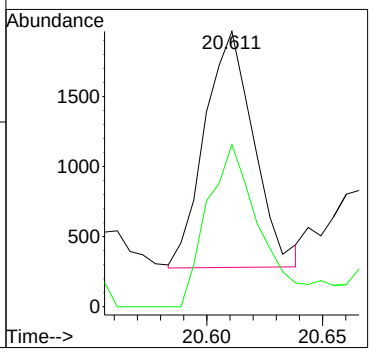




#91
d-Limonene
Concen: 0.05 ng
RT: 20.61 min Scan# 3114
Delta R.T. -0.006 min
Lab File: 05142019.D
Acq: 14 May 2020 19:20

Tgt Ion: 68 Resp: 2486

Ion	Ratio	Lower	Upper
68	100		
93	78.4	51.1	91.1



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142026.D Vial: 6
Acq On : 14 May 2020 23:17 Operator: LH
Sample : P2002302-004 (70mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 15:31:00 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/15/20

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	306995	12.500 ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1342851	12.500 ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	695163	12.500 ng		0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	512076	12.308 ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.48%			
57) Toluene-d8 (SS2)	15.72	98	1367638	11.607 ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.88%			
73) Bromofluorobenzene (SS3)	18.97	174	536373	12.651 ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.20%			
Target Compounds						Qvalue
2) Propene	4.10	42	17767m	0.500 ng		
3) Dichlorodifluoromethan...	4.27	85	55315	0.795 ng		99
4) Chloromethane	4.54	50	480	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	235	N.D.		
6) Vinyl Chloride	4.95	62	106	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D. d		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.32	45	13224	0.482 ng		92
11) Acetonitrile	0.00	41	0	N.D. d		
12) Acrolein	6.80	56	531	N.D.		
13) Acetone	0.00	58	0	N.D. d		
14) Trichlorofluoromethane	7.24	101	8586	0.140 ng		96
15) 2-Propanol (Isopropanol)	7.54	45	2939	N.D.		
16) Acrylonitrile	0.00	53	0	N.D. d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	8.44	59	2301	N.D.		
19) Methylene Chloride	8.40	84	154	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D. d		
21) Trichlorotrifluoroethane	8.85	151	817994	28.190 ng		99
22) Carbon Disulfide	8.69	76	7223	0.056 ng		97
23) trans-1,2-Dichloroethene	9.68	61	3164	0.064 ng		98
24) 1,1-Dichloroethane	0.00	63	0	N.D. d		
25) Methyl tert-Butyl Ether	10.06	73	927	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D. d		
27) 2-Butanone (MEK)	10.49	72	1367	0.058 ng	#	70
28) cis-1,2-Dichloroethene	10.95	61	18966	0.395 ng		96
29) Diisopropyl Ether	0.00	87	0	N.D. d		
30) Ethyl Acetate	0.00	61	0	N.D. d		
31) n-Hexane	11.27	57	4180411	71.381 ng		99
32) Chloroform	11.30	83	2907	N.D.		
34) Tetrahydrofuran (THF)	11.77	72	518	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D. d		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	12.87	61	456	N.D.		
40) 1-Butanol	0.00	56	0	N.D. d		
41) Benzene	12.87	78	77059	0.535 ng		99
42) Carbon Tetrachloride	13.04	117	53875	1.100 ng		98
43) Cyclohexane	13.18	84	5108012	95.186 ng		97
44) tert-Amyl Methyl Ether	13.45	73	946	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D. d		
46) Bromodichloromethane	0.00	83	0	N.D. d		
47) Trichloroethene	13.97	130	6850	0.184 ng		100
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d		
50) Methyl Methacrylate	0.00	100	0	N.D. d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142026.D Vial: 6
Acq On : 14 May 2020 23:17 Operator: LH
Sample : P2002302-004 (70mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 15:31:00 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

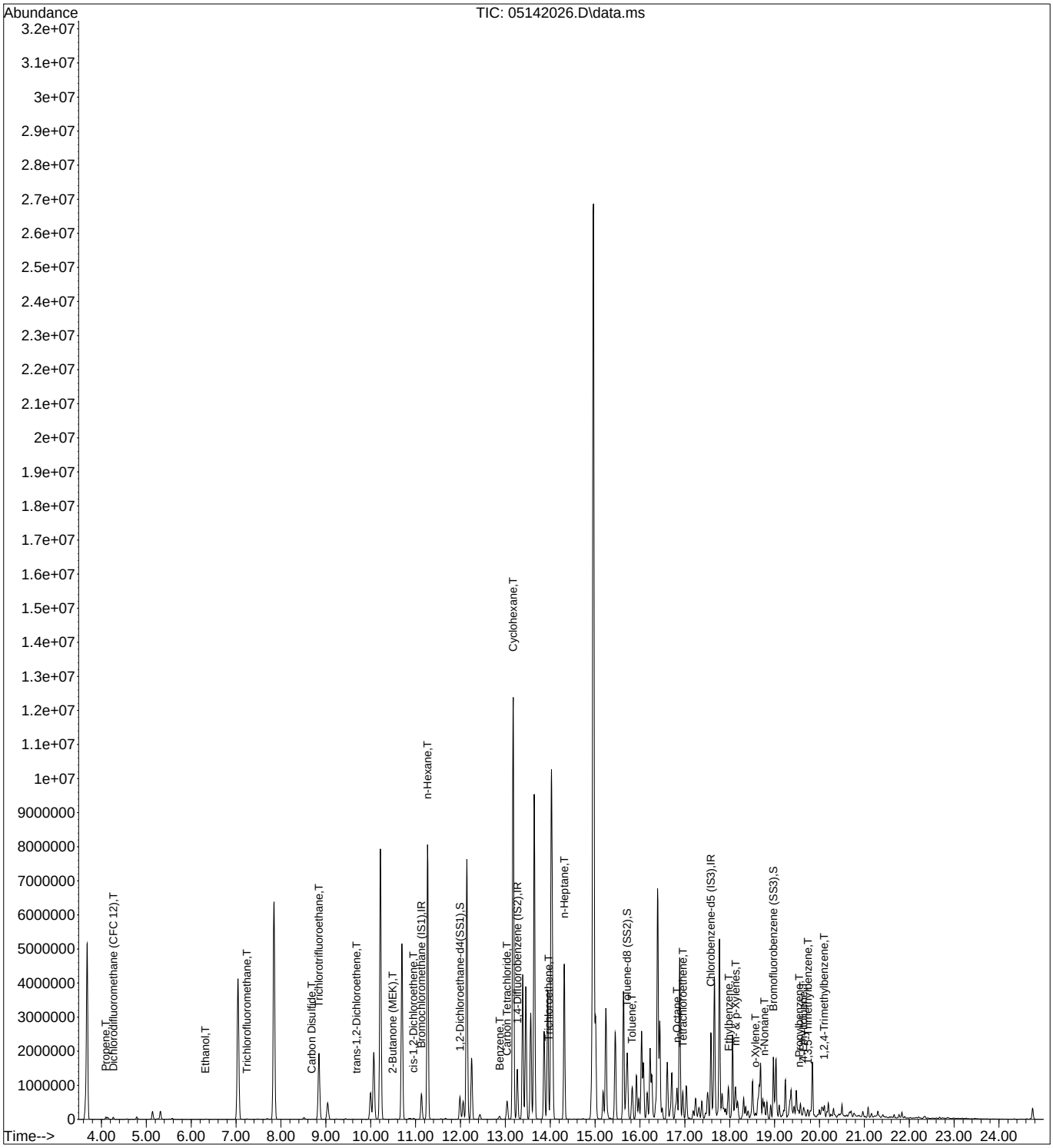
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.31	71	1143819	33.965	ng		98
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	d		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	d		
54) trans-1,3-Dichloropropene	15.45	75	290	N.D.			
55) 1,1,2-Trichloroethane	15.53	97	141	N.D.			
58) Toluene	15.82	91	287270	1.891	ng		99
59) 2-Hexanone	0.00	43	0	N.D.	d		
60) Dibromochloromethane	0.00	129	0	N.D.			
61) 1,2-Dibromoethane	0.00	107	0	N.D.			
62) n-Butyl Acetate	0.00	43	0	N.D.	d		
63) n-Octane	16.83	57	180854	5.752	ng		96
64) Tetrachloroethene	16.96	166	19889	0.464	ng		99
65) Chlorobenzene	0.00	112	0	N.D.	d		
66) Ethylbenzene	17.98	91	29732	0.176	ng		96
67) m- & p-Xylenes	18.14	91	128163	0.954	ng		100
68) Bromoform	0.00	173	0	N.D.			
69) Styrene	18.47	104	202	N.D.			
70) o-Xylene	18.57	91	44307	0.325	ng		98
71) n-Nonane	18.77	43	163583	2.260	ng		91
72) 1,1,2,2-Tetrachloroethane	18.57	83	633	N.D.			
74) Cumene	19.10	105	5907	N.D.			
75) alpha-Pinene	19.43	93	931	N.D.			
76) n-Propylbenzene	19.55	91	13880	0.070	ng	#	60
77) 3-Ethyltoluene	0.00	105	0	N.D.	d		
78) 4-Ethyltoluene	19.64	105	13688	0.087	ng		98
79) 1,3,5-Trimethylbenzene	19.74	105	16109	0.118	ng		100
80) alpha-Methylstyrene	19.88	118	702	N.D.			
81) 2-Ethyltoluene	19.91	105	6375	N.D.			
82) 1,2,4-Trimethylbenzene	20.10	105	24021	0.175	ng		88
83) n-Decane	0.00	57	0	N.D.	d		
84) Benzyl Chloride	20.20	91	1468	N.D.			
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.			
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.			
87) sec-Butylbenzene	0.00	105	0	N.D.	d		
88) 4-Isopropyltoluene (p-...	20.48	119	2509	N.D.			
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.			
91) d-Limonene	0.00	68	0	N.D.	d		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.			
93) n-Undecane	0.00	57	0	N.D.	d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.			
95) Naphthalene	22.21	128	2505	N.D.			
96) n-Dodecane	0.00	57	0	N.D.	d		
97) Hexachlorobutadiene	0.00	225	0	N.D.			
98) Cyclohexanone	0.00	55	0	N.D.	d		
99) tert-Butylbenzene	20.10	119	3783	N.D.			
100) n-Butylbenzene	20.85	91	2335	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142026.D Vial: 6
Acq On : 14 May 2020 23:17 Operator: LH
Sample : P2002302-004 (70mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 15:31:00 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142026.D Vial: 6
Acq On : 14 May 2020 23:17 Operator: LH
Sample : P2002302-004 (70mL) Inst : GCMS-16
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Quant Time: May 15 15:31:00 2020
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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/15/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	306995	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1342851	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	695163	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	512076	12.308	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.48%				
57) Toluene-d8 (SS2)	15.72	98	1367638	11.607	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.88%				
73) Bromofluorobenzene (SS3)	18.97	174	536373	12.651	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.20%				
Target Compounds							Qvalue
2) Propene	4.10	42	17767m	0.500	ng		
3) Dichlorodifluoromethan...	4.27	85	55315	0.795	ng		99
10) Ethanol	6.32	45	13224	0.482	ng		92
14) Trichlorofluoromethane	7.24	101	8586	0.140	ng		96
21) Trichlorotrifluoroethane	8.85	151	817994	28.190	ng		99
22) Carbon Disulfide	8.69	76	7223	0.056	ng		97
23) trans-1,2-Dichloroethene	9.68	61	3164	0.064	ng		98
27) 2-Butanone (MEK)	10.49	72	1367	0.058	ng	#	70
28) cis-1,2-Dichloroethene	10.95	61	18966	0.395	ng		96
31) n-Hexane	11.27	57	4180411	71.381	ng		99
41) Benzene	12.87	78	77059	0.535	ng		99
42) Carbon Tetrachloride	13.04	117	53875	1.100	ng		98
43) Cyclohexane	13.18	84	5108012	95.186	ng		97
47) Trichloroethene	13.97	130	6850	0.184	ng		100
51) n-Heptane	14.31	71	1143819	33.965	ng		98
58) Toluene	15.82	91	287270	1.891	ng		99
63) n-Octane	16.83	57	180854	5.752	ng		96
64) Tetrachloroethene	16.96	166	19889	0.464	ng		99
66) Ethylbenzene	17.98	91	29732	0.176	ng		96
67) m- & p-Xylenes	18.14	91	128163	0.954	ng		100
70) o-Xylene	18.57	91	44307	0.325	ng		98
71) n-Nonane	18.77	43	163583	2.260	ng		91
76) n-Propylbenzene	19.55	91	13880	0.070	ng	#	60
78) 4-Ethyltoluene	19.64	105	13688	0.087	ng		98
79) 1,3,5-Trimethylbenzene	19.74	105	16109	0.118	ng		100
82) 1,2,4-Trimethylbenzene	20.10	105	24021	0.175	ng		88

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142026.D Vial: 6
Acq On : 14 May 2020 23:17 Operator: LH
Sample : P2002302-004 (70mL) Inst : GCMS-16
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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
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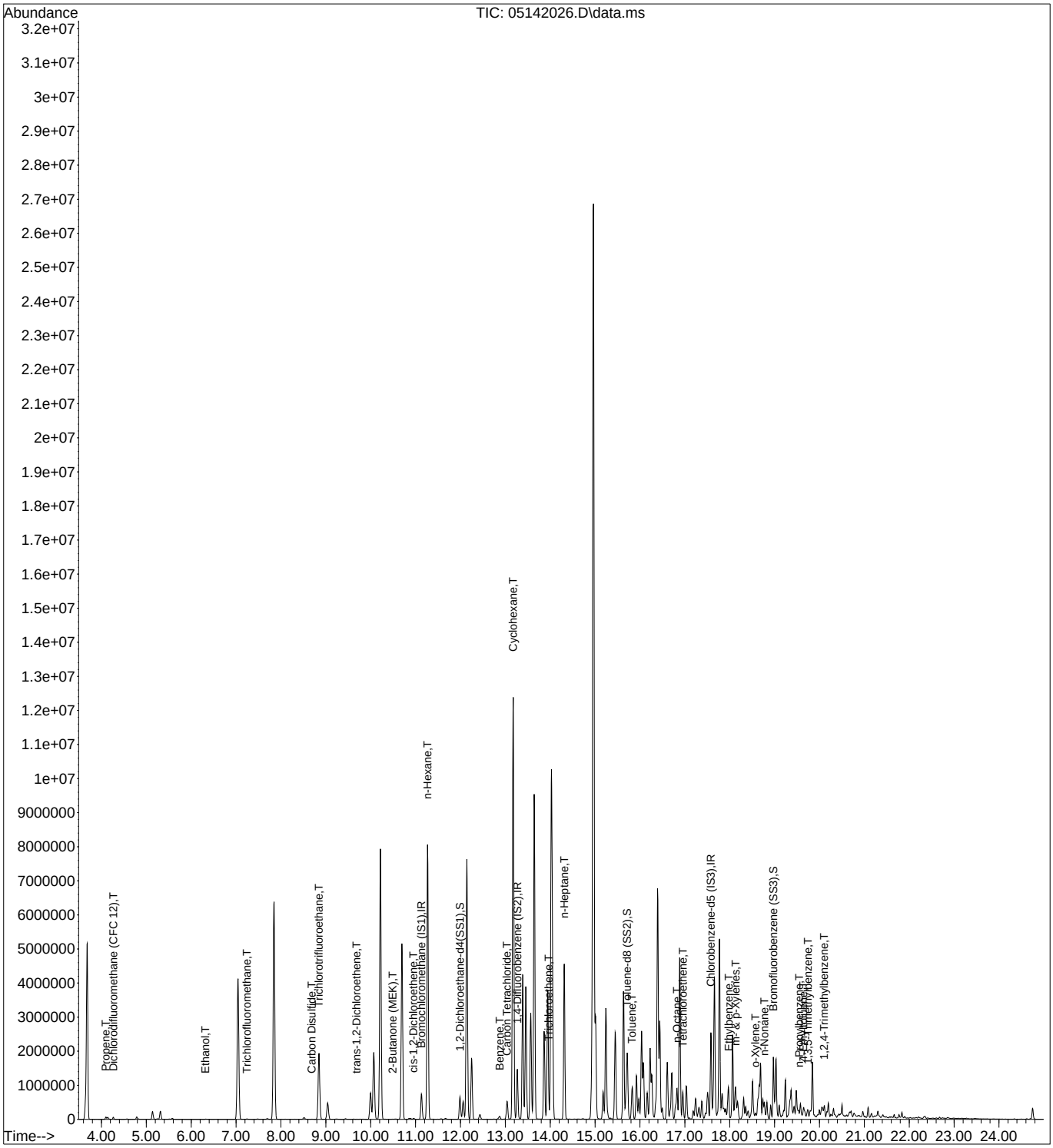
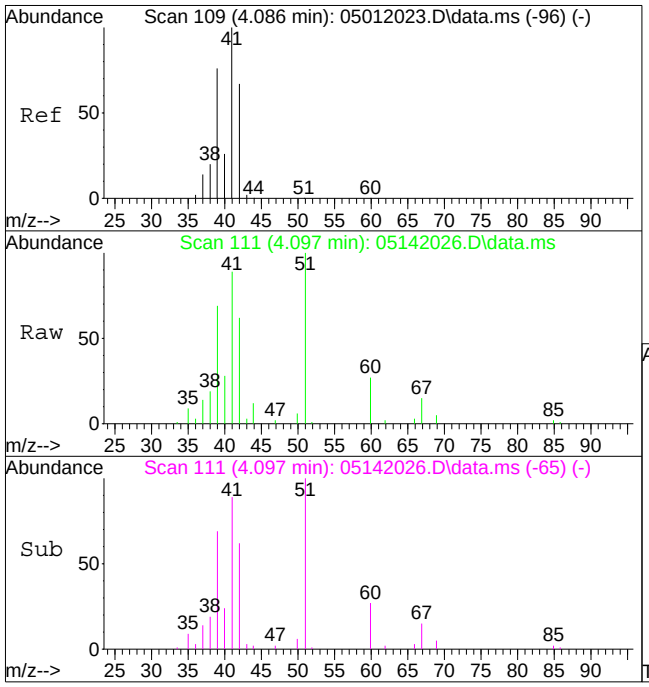
Response via : Initial Calibration
DataAcq Meth:TO15.M

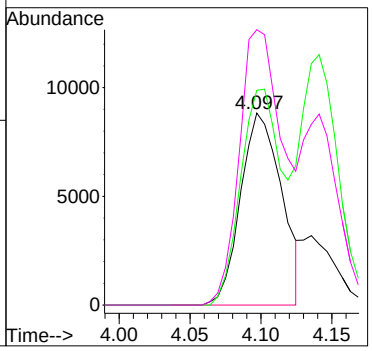


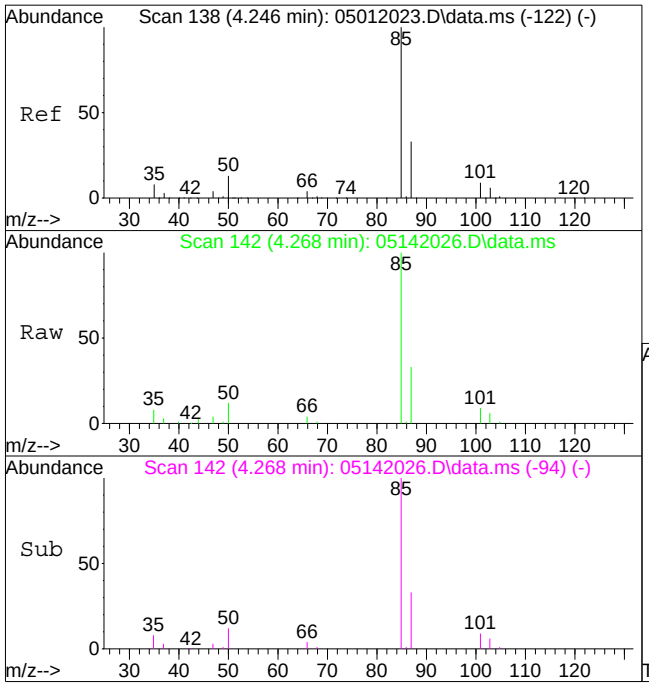


#2
Propene
Concen: 0.50 ng m
RT: 4.10 min Scan# 111
Delta R.T. 0.005 min
Lab File: 05142026.D
Acq: 14 May 2020 23:17

Tgt Ion: 42 Resp: 17767

Ion	Ratio	Lower	Upper
42	100		
39	110.7	96.1	136.1
41	152.9	131.9	171.9

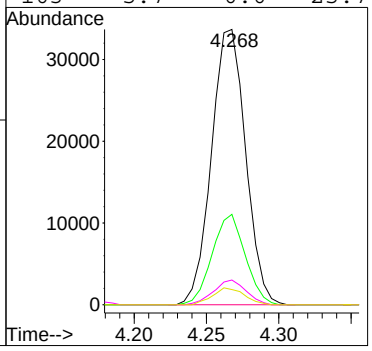


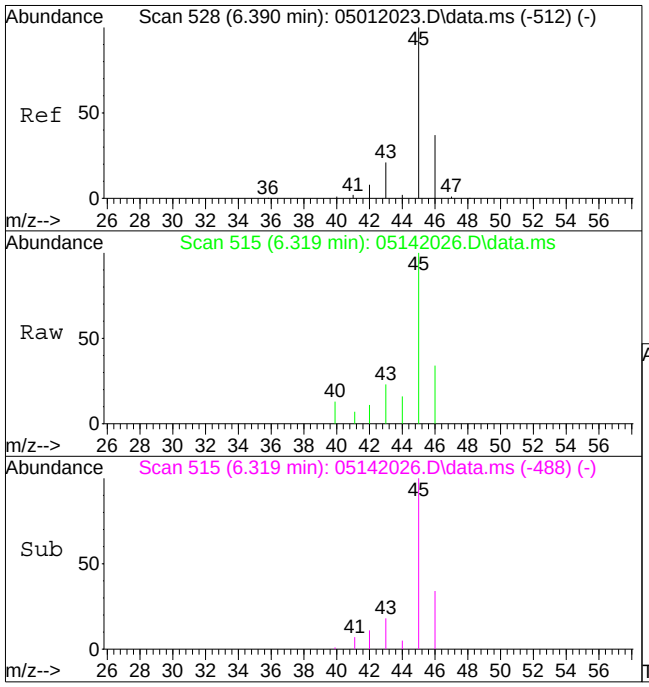


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.80 ng
RT: 4.27 min Scan# 142
Delta R.T. 0.016 min
Lab File: 05142026.D
Acq: 14 May 2020 23:17

Tgt Ion: 85 Resp: 55315

Ion	Ratio	Lower	Upper
85	100		
87	31.7	12.4	52.4
101	8.6	0.0	28.8
103	5.7	0.0	25.7

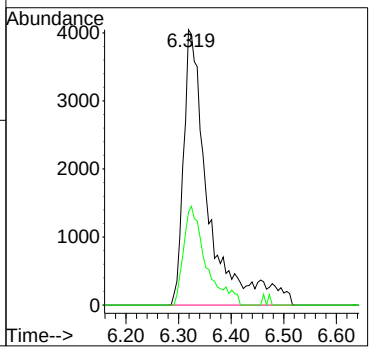


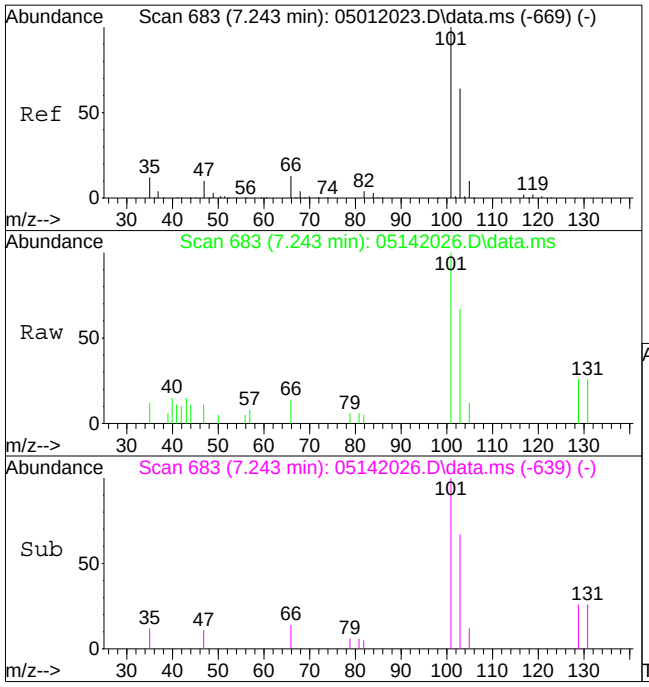


#10
Ethanol
Concen: 0.48 ng
RT: 6.32 min Scan# 515
Delta R.T. -0.099 min
Lab File: 05142026.D
Acq: 14 May 2020 23:17

Tgt Ion: 45 Resp: 13224

Ion	Ratio	Lower	Upper
45	100		
46	32.3	17.2	57.2

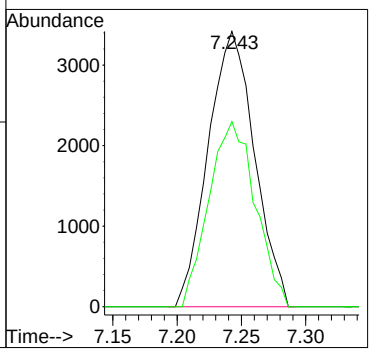


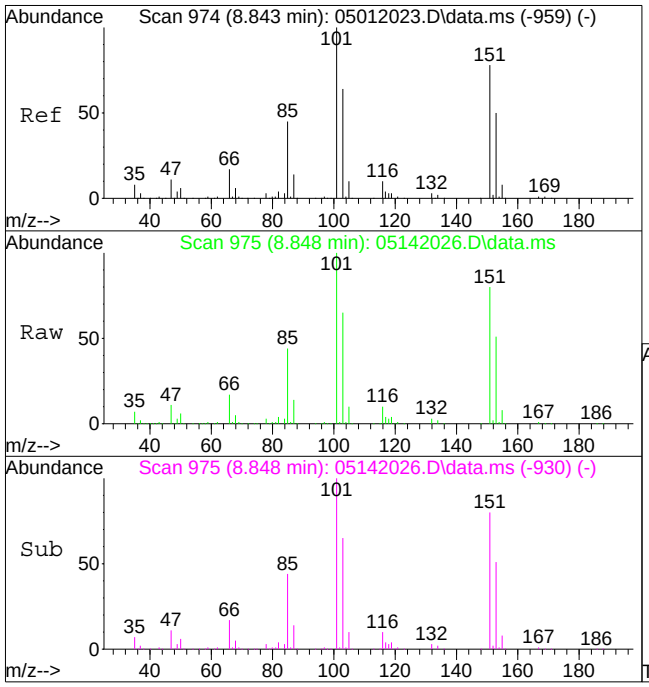


#14
Trichlorofluoromethane
Concen: 0.14 ng
RT: 7.24 min Scan# 683
Delta R.T. -0.006 min
Lab File: 05142026.D
Acq: 14 May 2020 23:17

Tgt Ion:101 Resp: 8586

Ion	Ratio	Lower	Upper
101	100		
103	67.3	44.4	84.4

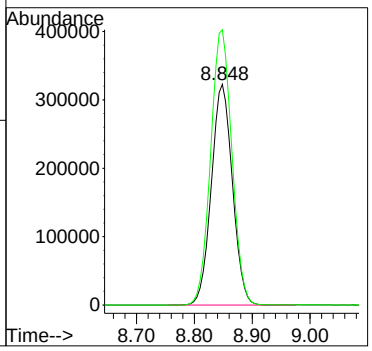


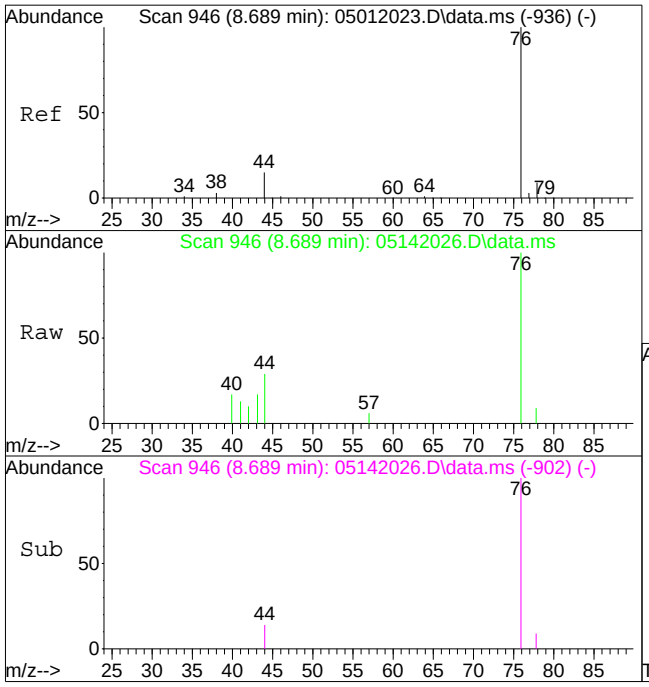


#21
Trichlorotrifluoroethane
Concen: 28.19 ng
RT: 8.85 min Scan# 975
Delta R.T. -0.000 min
Lab File: 05142026.D
Acq: 14 May 2020 23:17

Tgt Ion:151 Resp: 817994

Ion	Ratio	Lower	Upper
151	100		
101	126.0	107.3	147.3

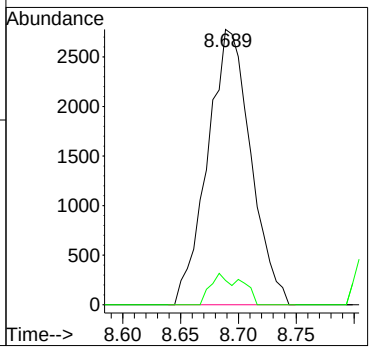


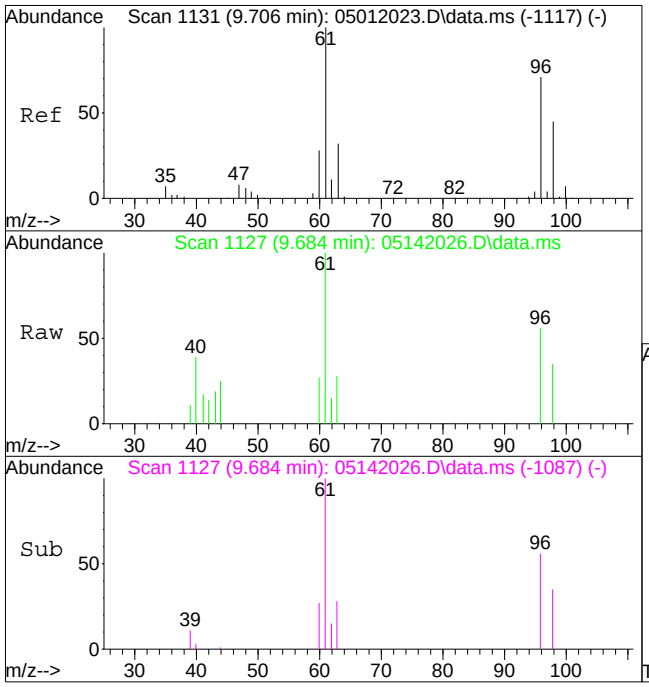


#22
Carbon Disulfide
Concen: 0.06 ng
RT: 8.69 min Scan# 946
Delta R.T. -0.006 min
Lab File: 05142026.D
Acq: 14 May 2020 23:17

Tgt Ion: 76 Resp: 7223

Ion	Ratio	Lower	Upper
76	100		
78	8.1	0.0	29.2

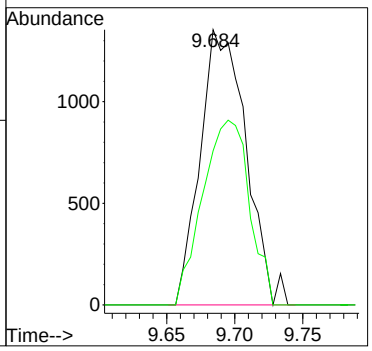


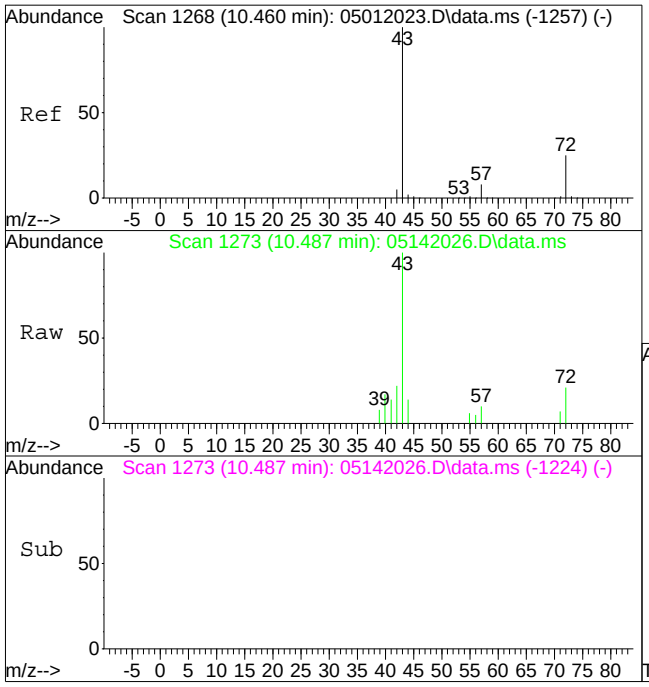


#23
trans-1,2-Dichloroethene
Concen: 0.06 ng
RT: 9.68 min Scan# 1127
Delta R.T. -0.028 min
Lab File: 05142026.D
Acq: 14 May 2020 23:17

Tgt Ion: 61 Resp: 3164

Ion	Ratio	Lower	Upper
61	100		
96	68.6	50.3	90.3

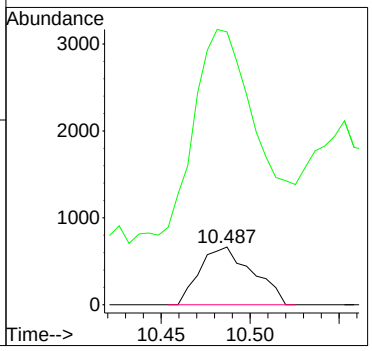


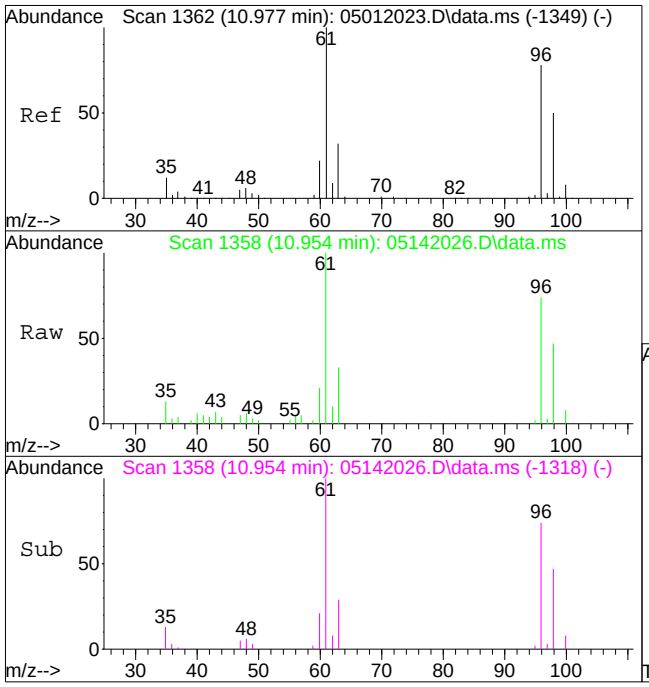


#27
2-Butanone (MEK)
Concen: 0.06 ng
RT: 10.49 min Scan# 1273
Delta R.T. 0.022 min
Lab File: 05142026.D
Acq: 14 May 2020 23:17

Tgt Ion: 72 Resp: 1367

Ion	Ratio	Lower	Upper
72	100		
43	483.2	389.7	429.7#

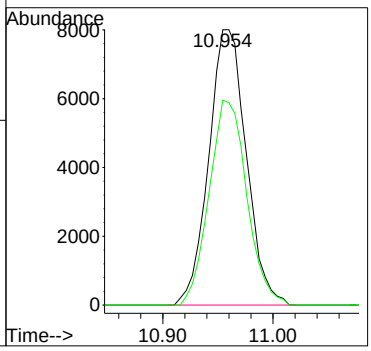


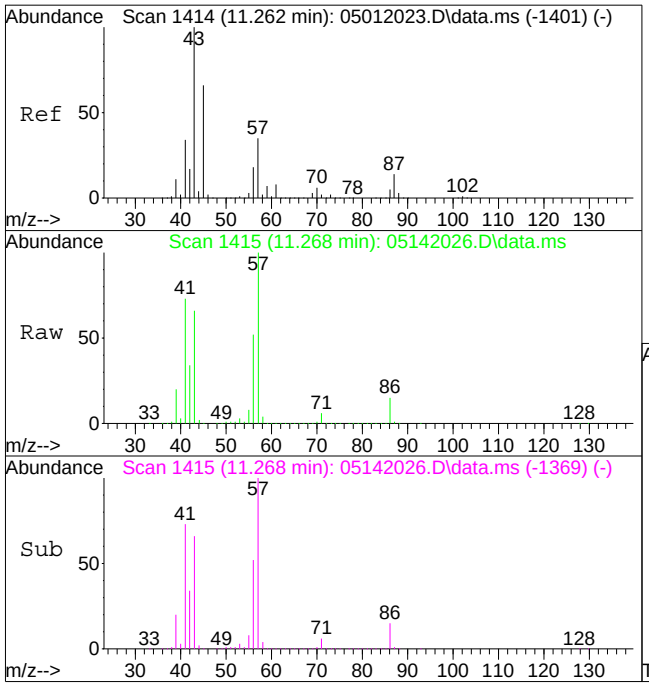


#28
cis-1,2-Dichloroethene
Concen: 0.40 ng
RT: 10.95 min Scan# 1358
Delta R.T. -0.028 min
Lab File: 05142026.D
Acq: 14 May 2020 23:17

Tgt Ion: 61 Resp: 18966

Ion	Ratio	Lower	Upper
61	100		
96	74.5	57.6	97.6

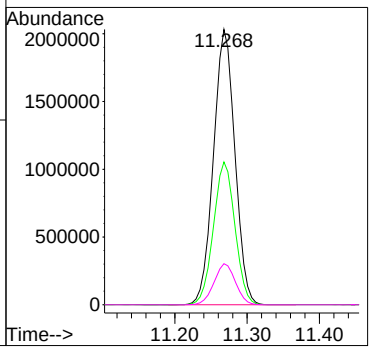


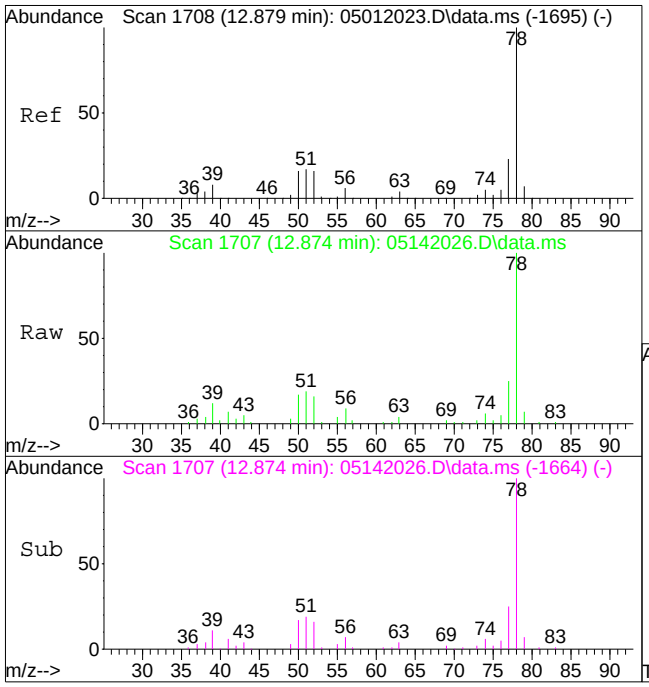


#31
n-Hexane
Concen: 71.38 ng
RT: 11.27 min Scan# 1415
Delta R.T. 0.005 min
Lab File: 05142026.D
Acq: 14 May 2020 23:17

Tgt Ion: 57 Resp: 4180411

Ion	Ratio	Lower	Upper
57	100		
56	51.9	41.4	62.0
86	14.9	12.4	18.6

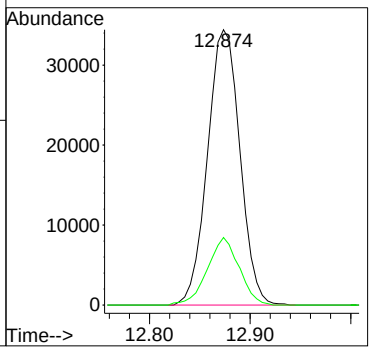


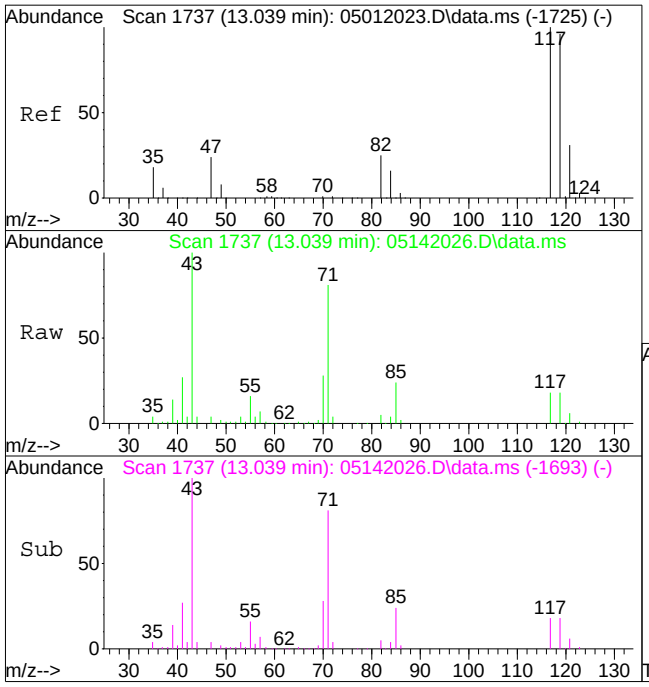


#41
Benzene
Concen: 0.54 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05142026.D
Acq: 14 May 2020 23:17

Tgt Ion: 78 Resp: 77059

Ion	Ratio	Lower	Upper
78	100		
77	24.1	3.4	43.4

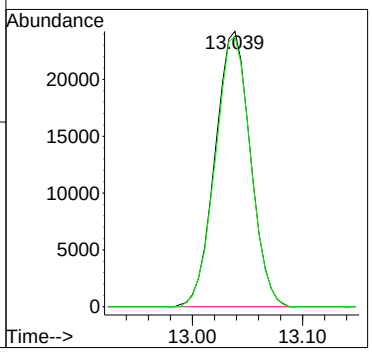


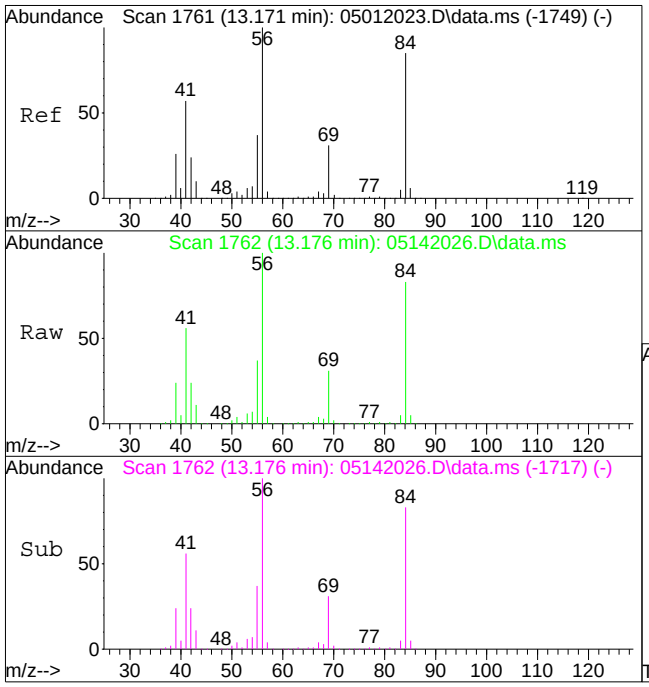


#42
Carbon Tetrachloride
Concen: 1.10 ng
RT: 13.04 min Scan# 1737
Delta R.T. -0.006 min
Lab File: 05142026.D
Acq: 14 May 2020 23:17

Tgt Ion:117 Resp: 53875

Ion	Ratio	Lower	Upper
117	100		
119	97.9	76.2	116.2

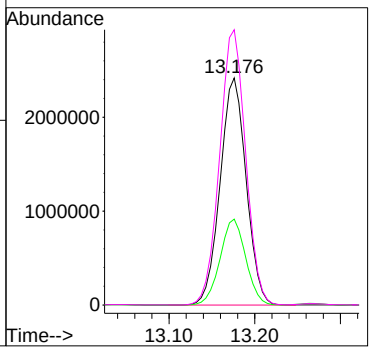


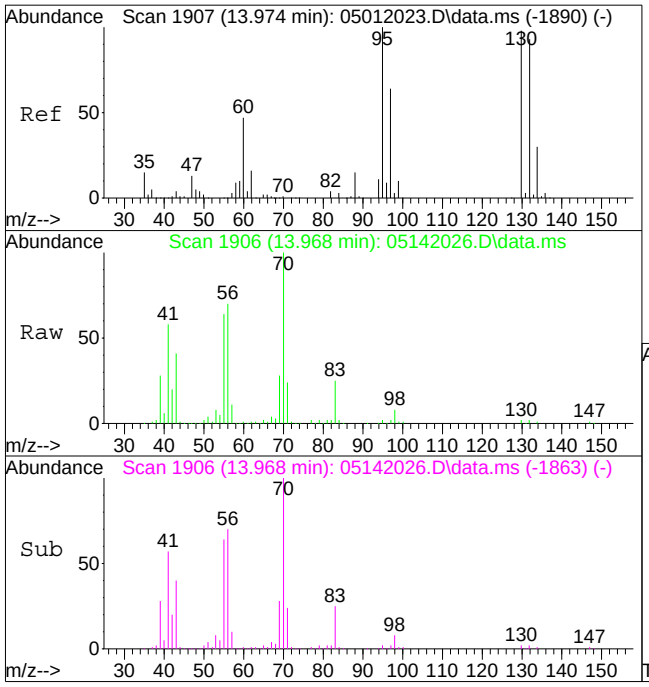


#43
Cyclohexane
Concen: 95.19 ng
RT: 13.18 min Scan# 1762
Delta R.T. -0.000 min
Lab File: 05142026.D
Acq: 14 May 2020 23:17

Tgt Ion: 84 Resp: 5108012

Ion	Ratio	Lower	Upper
84	100		
69	37.4	16.5	56.5
56	121.1	97.4	137.4

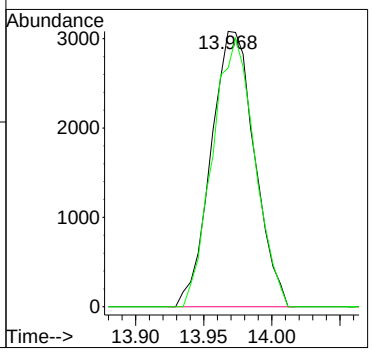


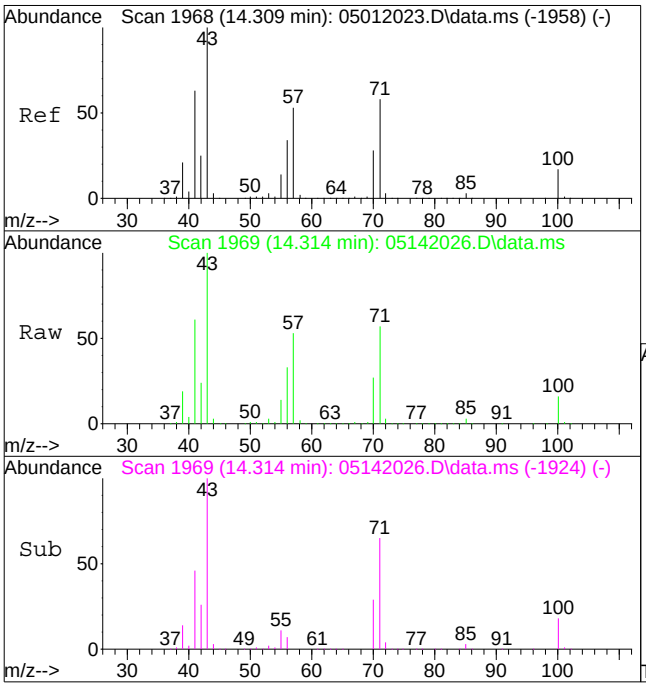


#47
Trichloroethene
Concen: 0.18 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05142026.D
Acq: 14 May 2020 23:17

Tgt Ion:130 Resp: 6850

Ion	Ratio	Lower	Upper
130	100		
132	95.0	74.9	114.9

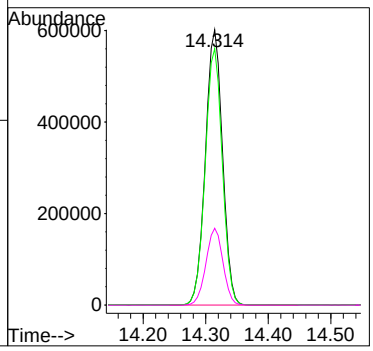


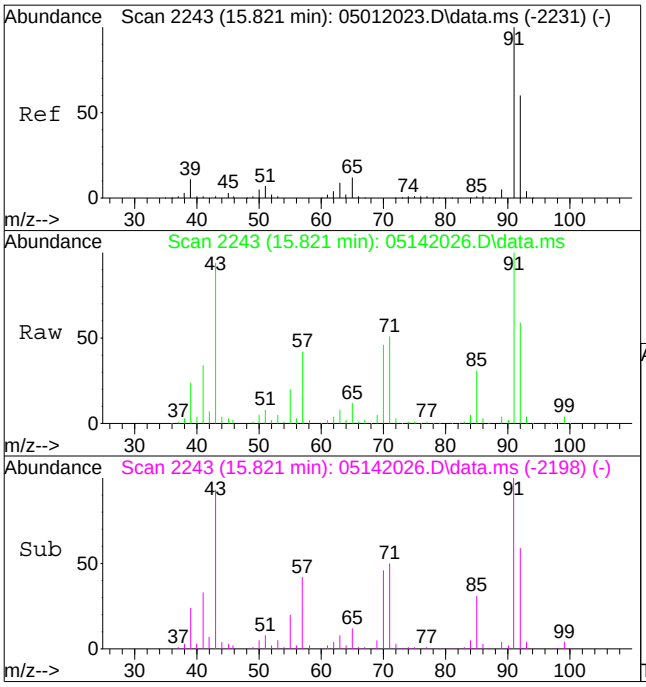


#51
n-Heptane
Concen: 33.97 ng
RT: 14.31 min Scan# 1969
Delta R.T. -0.000 min
Lab File: 05142026.D
Acq: 14 May 2020 23:17

Tgt Ion: 71 Resp: 1143819

Ion	Ratio	Lower	Upper
71	100		
57	92.9	71.0	111.0
100	27.8	8.4	48.4

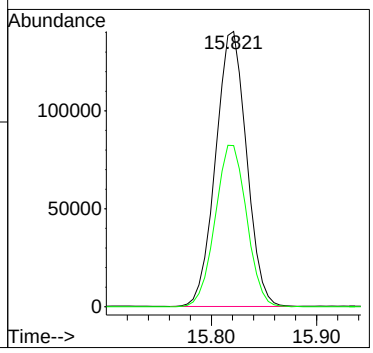


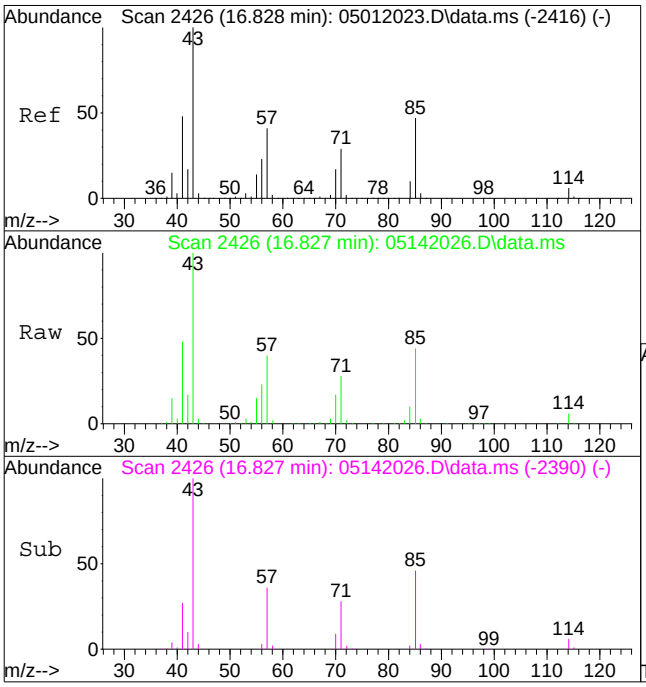


#58
Toluene
Concen: 1.89 ng
RT: 15.82 min Scan# 2243
Delta R.T. -0.000 min
Lab File: 05142026.D
Acq: 14 May 2020 23:17

Tgt Ion: 91 Resp: 287270

Ion	Ratio	Lower	Upper
91	100		
92	59.8	39.4	79.4

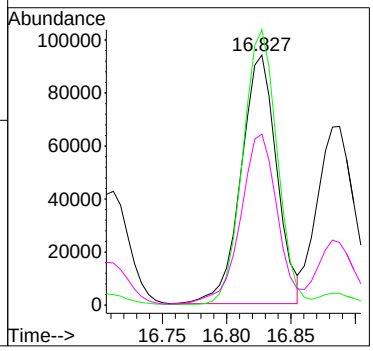


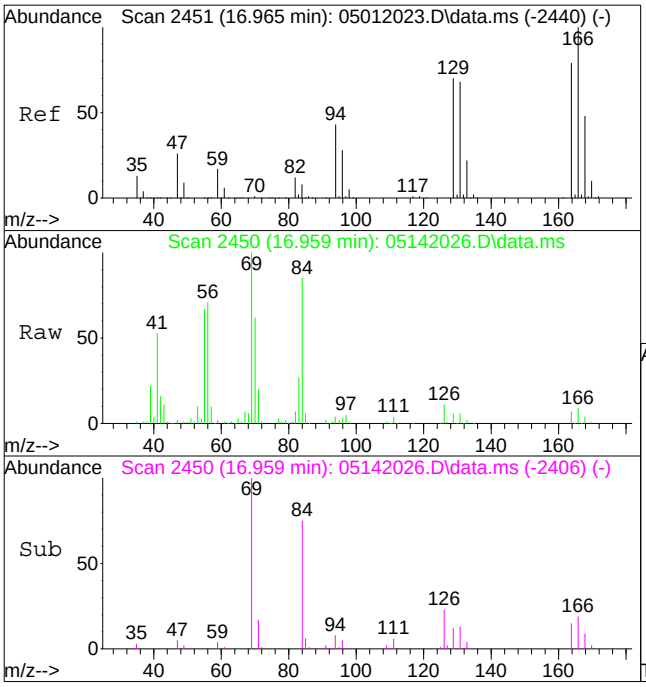


#63
n-Octane
Concen: 5.75 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05142026.D
Acq: 14 May 2020 23:17

Tgt Ion: 57 Resp: 180854

Ion	Ratio	Lower	Upper
57	100		
85	106.7	91.0	136.4
71	70.3	56.2	84.2

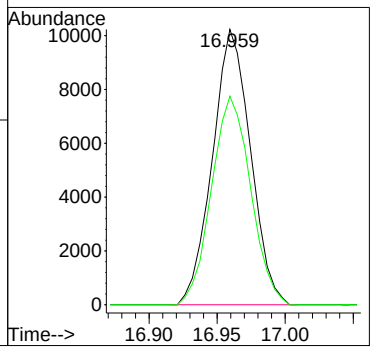


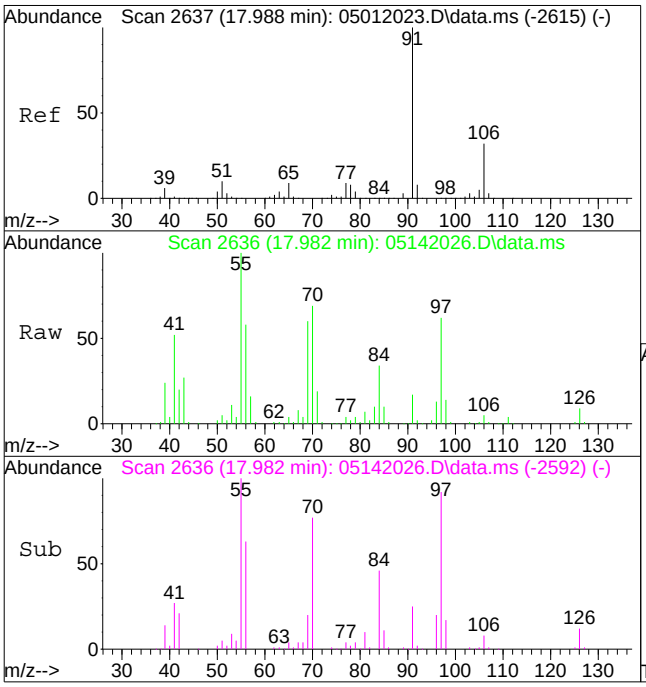


#64
Tetrachloroethene
Concen: 0.46 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05142026.D
Acq: 14 May 2020 23:17

Tgt Ion:166 Resp: 19889

Ion	Ratio	Lower	Upper
166	100		
164	77.8	58.4	98.4

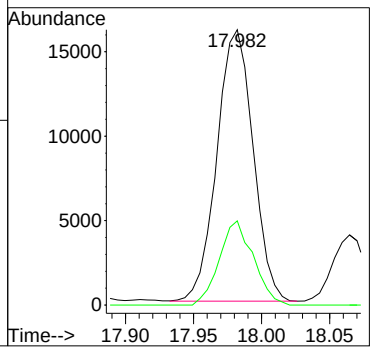


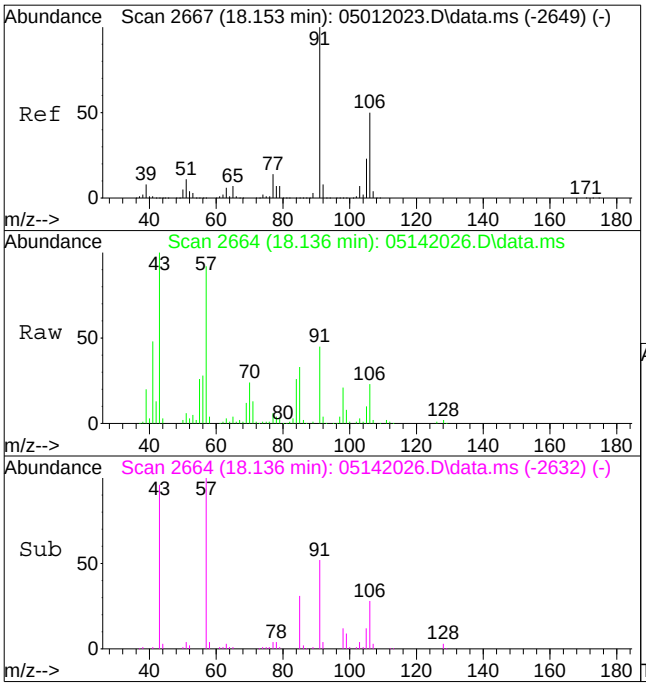


#66
Ethylbenzene
Concen: 0.18 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05142026.D
Acq: 14 May 2020 23:17

Tgt Ion: 91 Resp: 29732

Ion	Ratio	Lower	Upper
91	100		
106	29.1	11.6	51.6

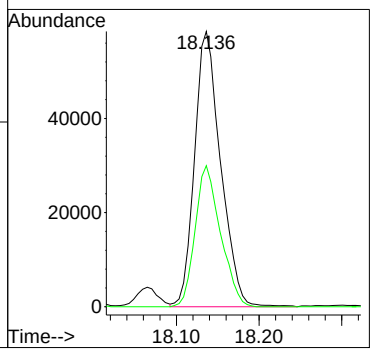


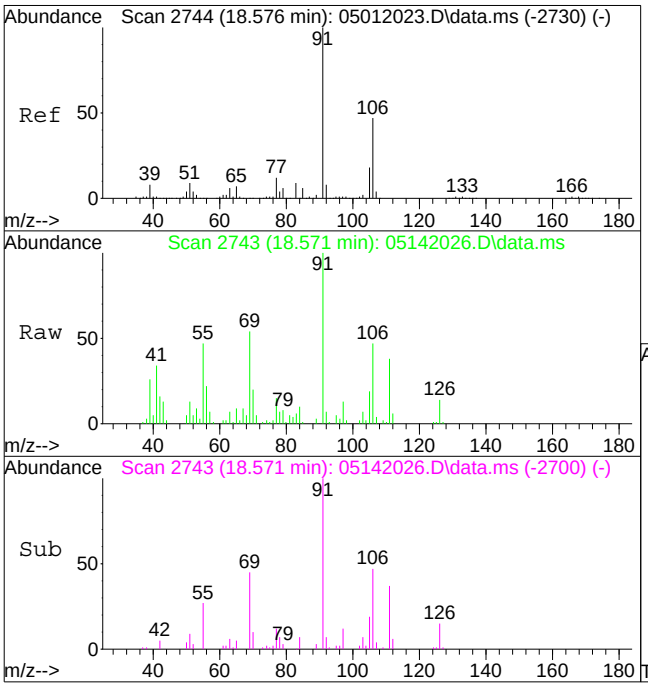


#67
m- & p-Xylenes
Concen: 0.95 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05142026.D
Acq: 14 May 2020 23:17

Tgt Ion: 91 Resp: 128163

Ion	Ratio	Lower	Upper
91	100		
106	49.7	29.7	69.7

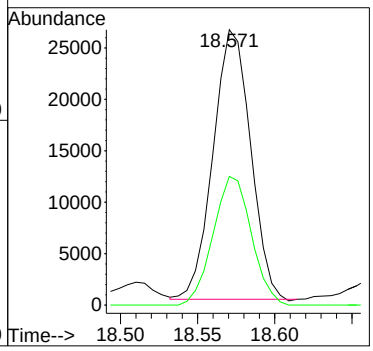


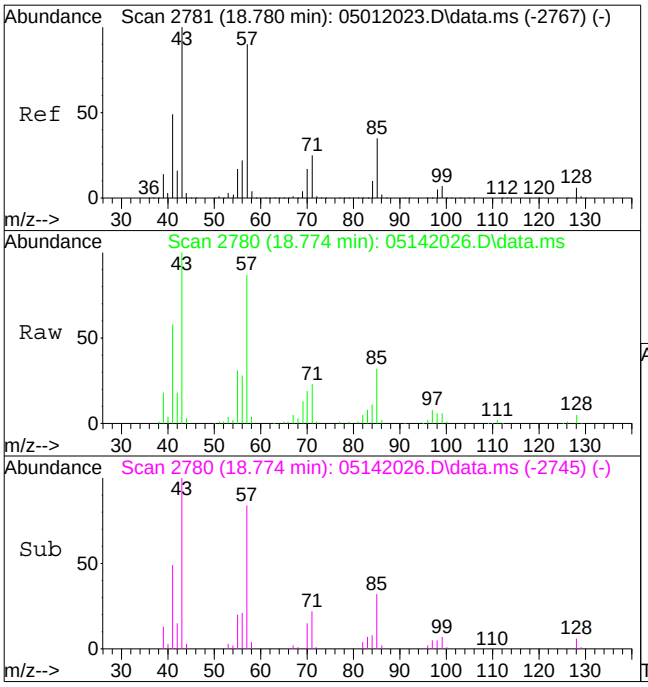


#70
o-Xylene
Concen: 0.32 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05142026.D
Acq: 14 May 2020 23:17

Tgt Ion: 91 Resp: 44307

Ion	Ratio	Lower	Upper
91	100		
106	48.6	27.5	67.5

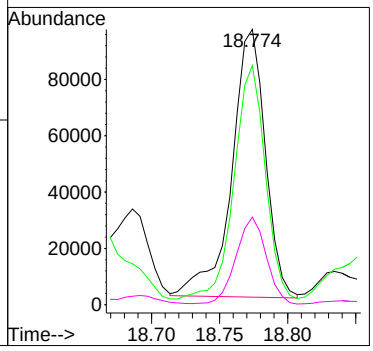


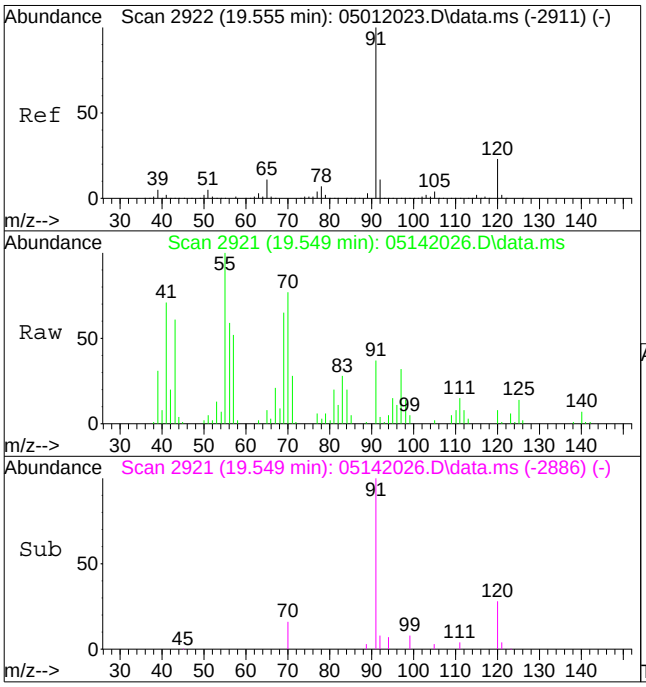


#71
n-Nonane
Concen: 2.26 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05142026.D
Acq: 14 May 2020 23:17

Tgt Ion: 43 Resp: 163583

Ion	Ratio	Lower	Upper
43	100		
57	80.3	69.0	109.0
85	29.1	14.6	54.6

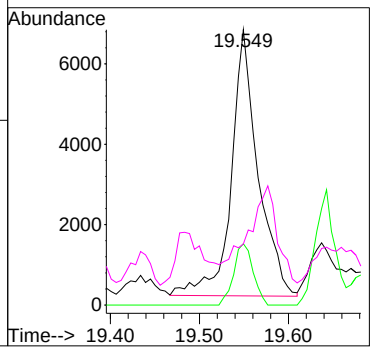


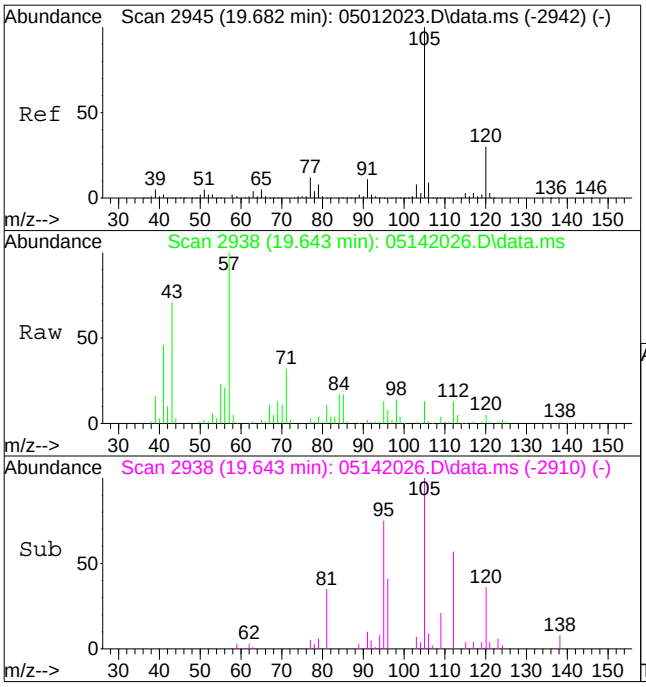


#76
n-Propylbenzene
Concen: 0.07 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05142026.D
Acq: 14 May 2020 23:17

Tgt Ion: 91 Resp: 13880

Ion	Ratio	Lower	Upper
91	100		
120	16.6	3.1	43.1
65	47.0	0.0	30.9#

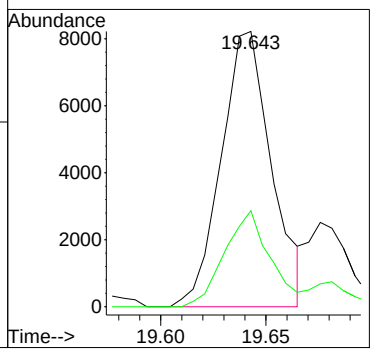


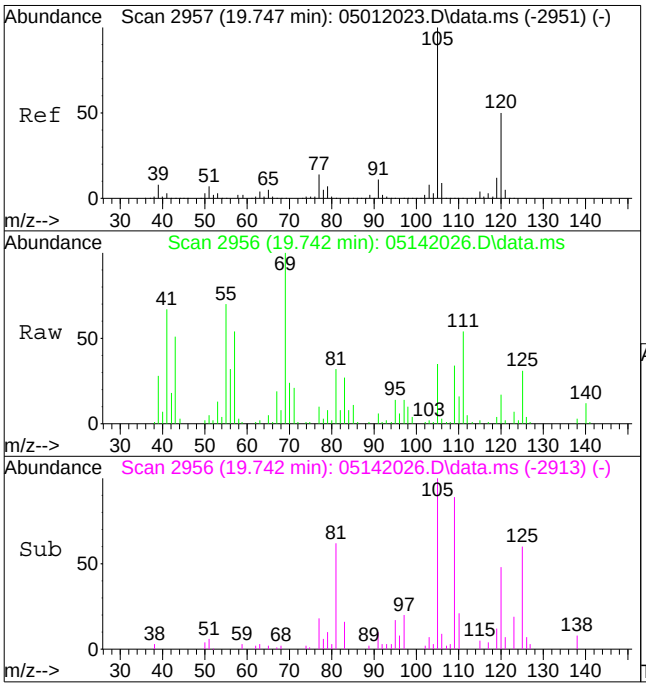


#78
4-Ethyltoluene
Concen: 0.09 ng
RT: 19.64 min Scan# 2938
Delta R.T. -0.044 min
Lab File: 05142026.D
Acq: 14 May 2020 23:17

Tgt Ion:105 Resp: 13688

Ion	Ratio	Lower	Upper
105	100		
120	31.4	10.4	50.4

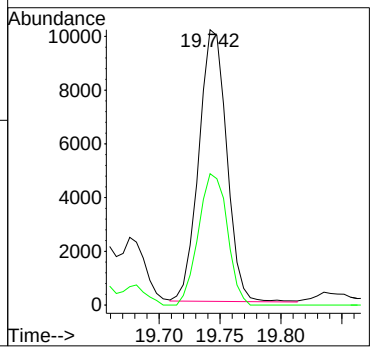


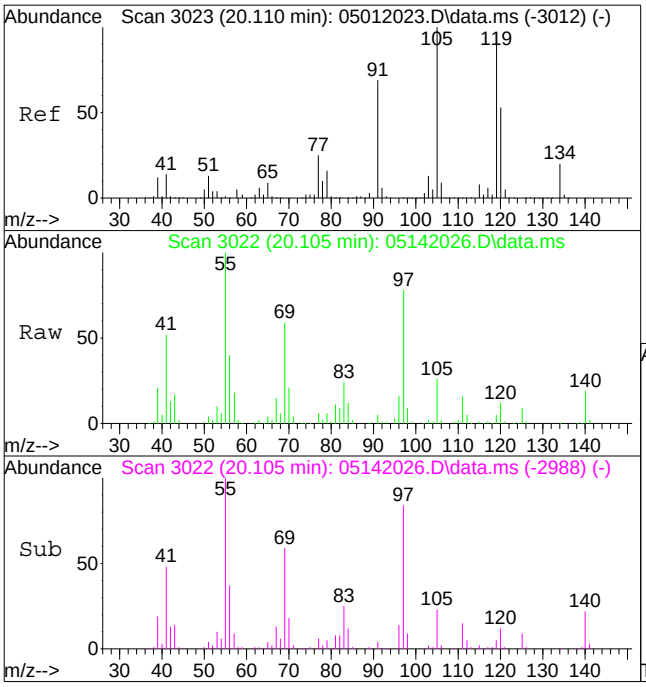


#79
1,3,5-Trimethylbenzene
Concen: 0.12 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05142026.D
Acq: 14 May 2020 23:17

Tgt Ion:105 Resp: 16109

Ion	Ratio	Lower	Upper
105	100		
120	50.0	29.9	69.9

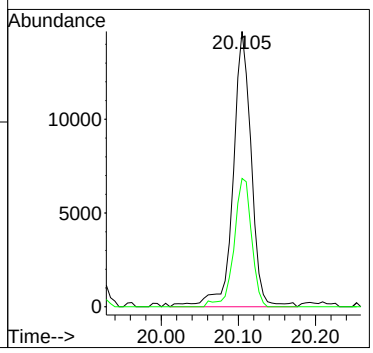




#82
1,2,4-Trimethylbenzene
Concen: 0.18 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05142026.D
Acq: 14 May 2020 23:17

Tgt Ion:105 Resp: 24021

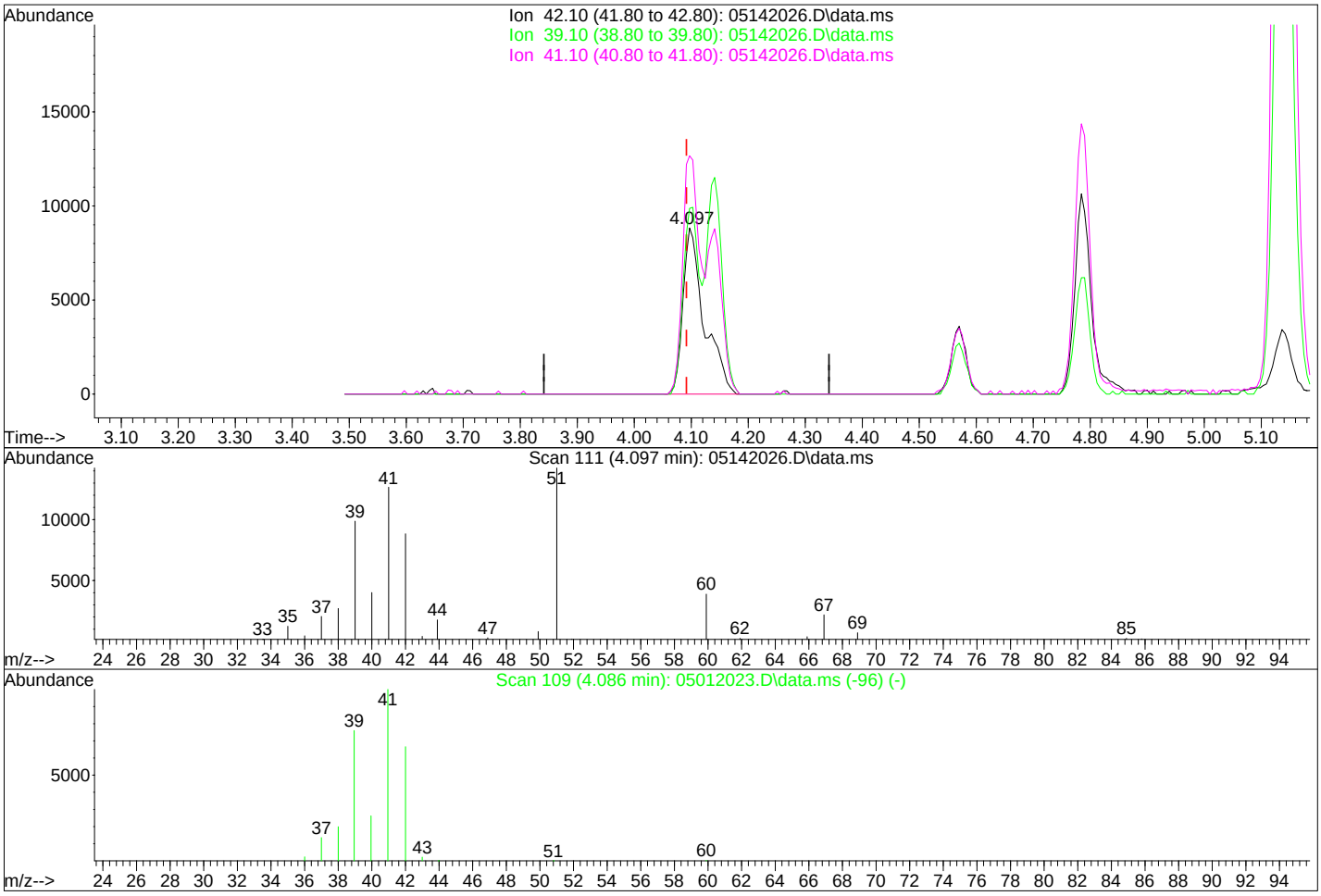
Ion	Ratio	Lower	Upper
105	100		
120	44.9	33.6	73.6



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\14\05142026.D Vial: 6
Acq On : 14 May 2020 23:17 Operator: LH
Sample : P2002302-004 (70mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 09:28:51 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05142026.D\data.ms

(2) Propene (T)

4.097min (+0.005) 0.65ng

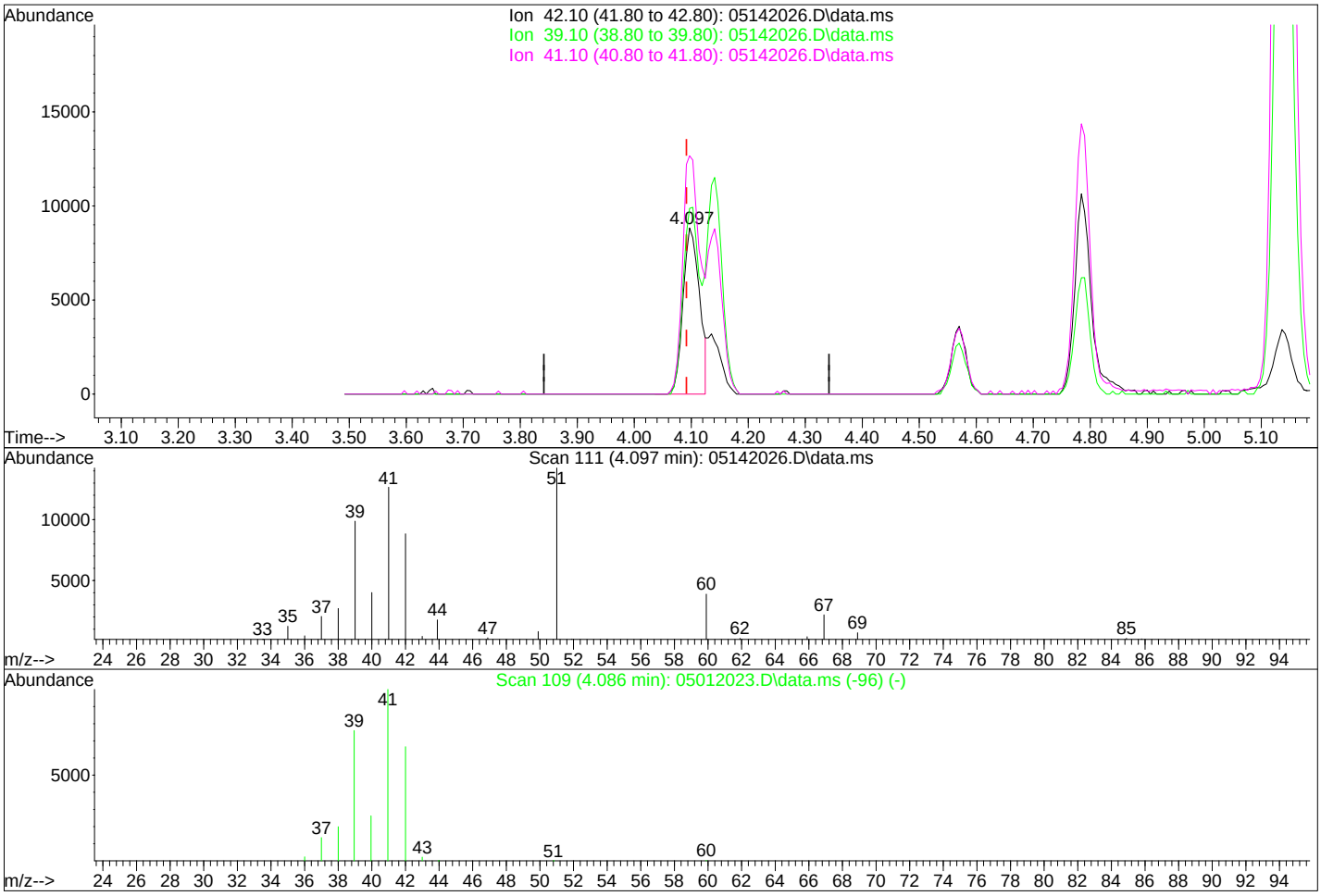
response 22951

Ion	Exp%	Act%
42.10	100	100
39.10	116.10	85.69#
41.10	151.90	118.38#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\14\05142026.D Vial: 6
Acq On : 14 May 2020 23:17 Operator: LH
Sample : P2002302-004 (70mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 09:28:51 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05142026.D\data.ms

(2) Propene (T)

4.097min (+0.005) 0.50ng m

response 17767

Ion	Exp%	Act%
42.10	100	100
39.10	116.10	110.69
41.10	151.90	152.92
0.00	0.00	0.00

IPC

LH 5/15/20

5/17/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142028.D Vial: 7
Acq On : 15 May 2020 00:24 Operator: LH
Sample : P2002302-005 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 15:37:06 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/15/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	279122	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1190702	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	573777	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	453004	11.976	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.84%				
57) Toluene-d8 (SS2)	15.72	98	1182116	12.155	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.20%				
73) Bromofluorobenzene (SS3)	18.97	174	467385	13.356	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.88%				
Target Compounds							Qvalue
2) Propene	4.09	42	49488	1.531	ng		97
3) Dichlorodifluoromethan...	4.25	85	248242	3.926	ng		100
4) Chloromethane	4.52	50	42369	0.855	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	3722	0.099	ng		93
6) Vinyl Chloride	4.96	62	402	N.D.			
7) 1,3-Butadiene	5.21	54	366	N.D.			
8) Bromomethane	5.64	94	2903	0.101	ng		97
9) Chloroethane	5.97	64	3918	0.183	ng		97
10) Ethanol	6.33	45	69370	2.779	ng		99
11) Acetonitrile	6.60	41	23727	0.416	ng		94
12) Acrolein	6.78	56	36629	1.857	ng		98
13) Acetone	6.99	58	252304m	10.107	ng		
14) Trichlorofluoromethane	7.24	101	52356	0.937	ng		100
15) 2-Propanol (Isopropanol)	7.48	45	353512	4.679	ng		96
16) Acrylonitrile	7.75	53	421	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	3862	0.119	ng		98
20) 3-Chloro-1-propene (Al...	8.56	41	1418	N.D.			
21) Trichlorotrifluoroethane	8.84	151	195557	7.412	ng		99
22) Carbon Disulfide	8.67	76	137017	1.178	ng		100
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.09	73	746	N.D.			
26) Vinyl Acetate	10.16	86	23185	2.982	ng	#	44
27) 2-Butanone (MEK)	10.45	72	33004	1.550	ng		97
28) cis-1,2-Dichloroethene	10.94	61	1753	N.D.			
29) Diisopropyl Ether	11.25	87	939	N.D.			
30) Ethyl Acetate	11.27	61	12118	0.987	ng		98
31) n-Hexane	11.25	57	89669	1.684	ng		96
32) Chloroform	11.31	83	2095	N.D.			
34) Tetrahydrofuran (THF)	11.75	72	4662	0.225	ng	#	52
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	349	N.D.			
38) 1,1,1-Trichloroethane	12.39	97	112	N.D.			
39) Isopropyl Acetate	12.87	61	713	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	74064	0.580	ng		96
42) Carbon Tetrachloride	13.03	117	127131	2.927	ng		98
43) Cyclohexane	13.16	84	59979	1.261	ng		98
44) tert-Amyl Methyl Ether	13.58	73	2880	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	13.97	130	13087	0.397	ng		97
48) 1,4-Dioxane	13.96	88	2491	0.097	ng		87
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142028.D Vial: 7
Acq On : 15 May 2020 00:24 Operator: LH
Sample : P2002302-005 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 15:37:06 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

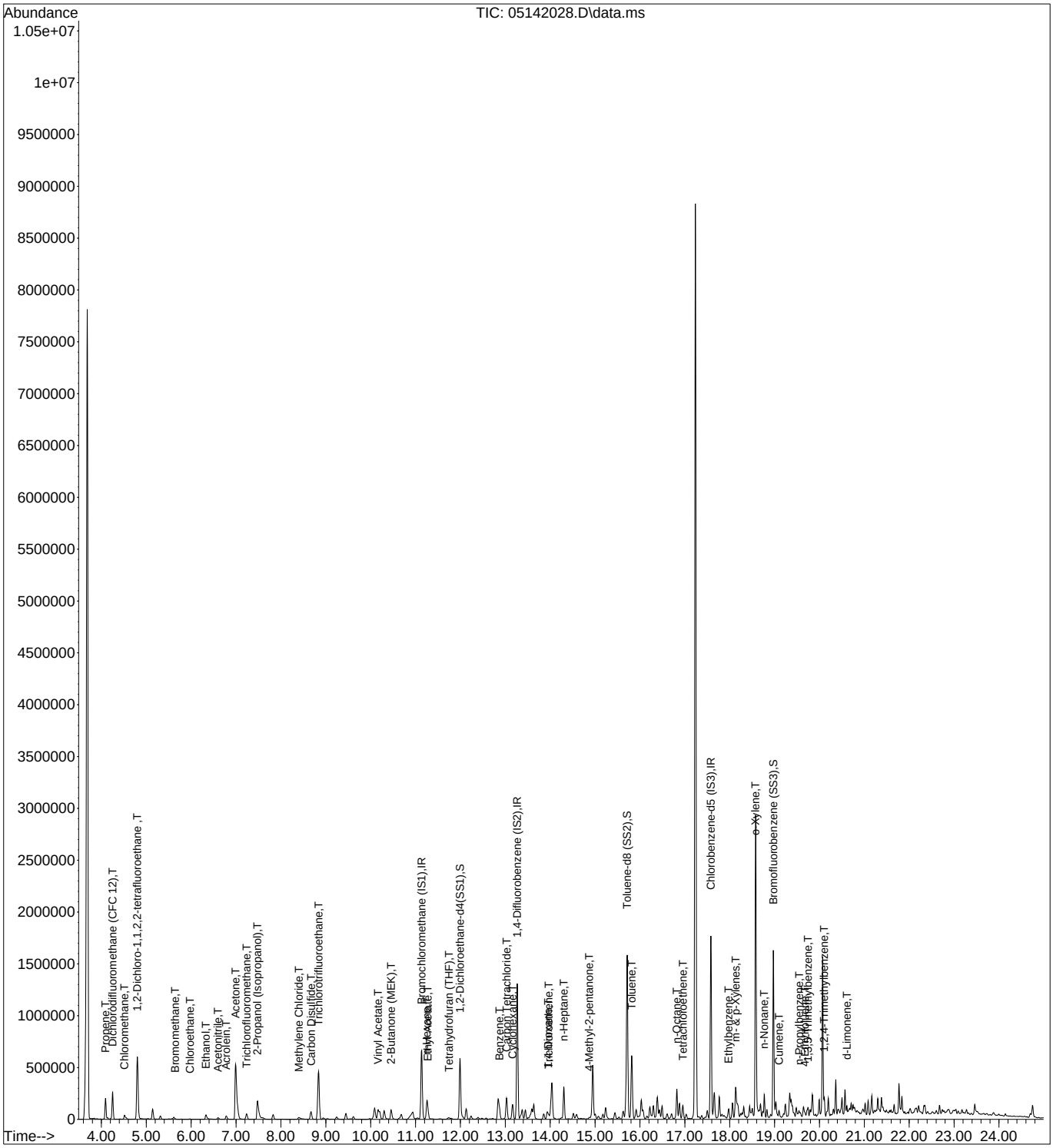
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.30	71	77473	2.595 ng	98
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.87	58	4328m	0.152 ng	
54) trans-1,3-Dichloropropene	15.31	75	115	N.D.	
55) 1,1,2-Trichloroethane	15.52	97	875	N.D.	
58) Toluene	15.82	91	414054	3.303 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	16.48	107	410	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	16.82	57	54114	2.085 ng	96
64) Tetrachloroethene	16.96	166	35679	1.008 ng	99
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	17.98	91	44725	0.320 ng	100
67) m- & p-Xylenes	18.14	91	193870	1.748 ng	99
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	2274	N.D.	
70) o-Xylene	18.57	91	69750	0.620 ng	98
71) n-Nonane	18.77	43	79906	1.338 ng	95
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	19.10	105	7934	0.057 ng	95
75) alpha-Pinene	19.45	93	820	N.D.	
76) n-Propylbenzene	19.55	91	16058	0.098 ng	79
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.68	105	6655	0.051 ng	100
79) 1,3,5-Trimethylbenzene	19.74	105	21948	0.195 ng	99
80) alpha-Methylstyrene	19.88	118	2490	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.10	105	41367	0.365 ng	91
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.22	91	2021	N.D.	
85) 1,3-Dichlorobenzene	20.24	146	245	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	688	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	20.48	119	6282	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	20.61	146	350	N.D.	
91) d-Limonene	20.61	68	14393	0.322 ng	86
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.11	180	290	N.D.	
95) Naphthalene	22.21	128	4372	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142028.D Vial: 7
Acq On : 15 May 2020 00:24 Operator: LH
Sample : P2002302-005 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 15:37:06 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142028.D Vial: 7
Acq On : 15 May 2020 00:24 Operator: LH
Sample : P2002302-005 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 15:37:06 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/15/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	279122	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1190702	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	573777	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	453004	11.976	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.84%				
57) Toluene-d8 (SS2)	15.72	98	1182116	12.155	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.20%				
73) Bromofluorobenzene (SS3)	18.97	174	467385	13.356	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.88%				
Target Compounds							Qvalue
2) Propene	4.09	42	49488	1.531	ng		97
3) Dichlorodifluoromethan...	4.25	85	248242	3.926	ng		100
4) Chloromethane	4.52	50	42369	0.855	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	3722	0.099	ng		93
8) Bromomethane	5.64	94	2903	0.101	ng		97
9) Chloroethane	5.97	64	3918	0.183	ng		97
10) Ethanol	6.33	45	69370	2.779	ng		99
11) Acetonitrile	6.60	41	23727	0.416	ng		94
12) Acrolein	6.78	56	36629	1.857	ng		98
13) Acetone	6.99	58	252304m	10.107	ng		
14) Trichlorofluoromethane	7.24	101	52356	0.937	ng		100
15) 2-Propanol (Isopropanol)	7.48	45	353512	4.679	ng		96
19) Methylene Chloride	8.40	84	3862	0.119	ng		98
21) Trichlorotrifluoroethane	8.84	151	195557	7.412	ng		99
22) Carbon Disulfide	8.67	76	137017	1.178	ng		100
26) Vinyl Acetate	10.16	86	23185	2.982	ng	#	44
27) 2-Butanone (MEK)	10.45	72	33004	1.550	ng		97
30) Ethyl Acetate	11.27	61	12118	0.987	ng		98
31) n-Hexane	11.25	57	89669	1.684	ng		96
34) Tetrahydrofuran (THF)	11.75	72	4662	0.225	ng	#	52
41) Benzene	12.87	78	74064	0.580	ng		96
42) Carbon Tetrachloride	13.03	117	127131	2.927	ng		98
43) Cyclohexane	13.16	84	59979	1.261	ng		98
47) Trichloroethene	13.97	130	13087	0.397	ng		97
48) 1,4-Dioxane	13.96	88	2491	0.097	ng		87
51) n-Heptane	14.30	71	77473	2.595	ng		98
53) 4-Methyl-2-pentanone	14.87	58	4328m	0.152	ng		
58) Toluene	15.82	91	414054	3.303	ng		100
63) n-Octane	16.82	57	54114	2.085	ng		96
64) Tetrachloroethene	16.96	166	35679	1.008	ng		99
66) Ethylbenzene	17.98	91	44725	0.320	ng		100
67) m- & p-Xylenes	18.14	91	193870	1.748	ng		99
70) o-Xylene	18.57	91	69750	0.620	ng		98
71) n-Nonane	18.77	43	79906	1.338	ng		95
74) Cumene	19.10	105	7934	0.057	ng		95
76) n-Propylbenzene	19.55	91	16058	0.098	ng		79
78) 4-Ethyltoluene	19.68	105	6655	0.051	ng		100
79) 1,3,5-Trimethylbenzene	19.74	105	21948	0.195	ng		99
82) 1,2,4-Trimethylbenzene	20.10	105	41367	0.365	ng		91
91) d-Limonene	20.61	68	14393	0.322	ng		86

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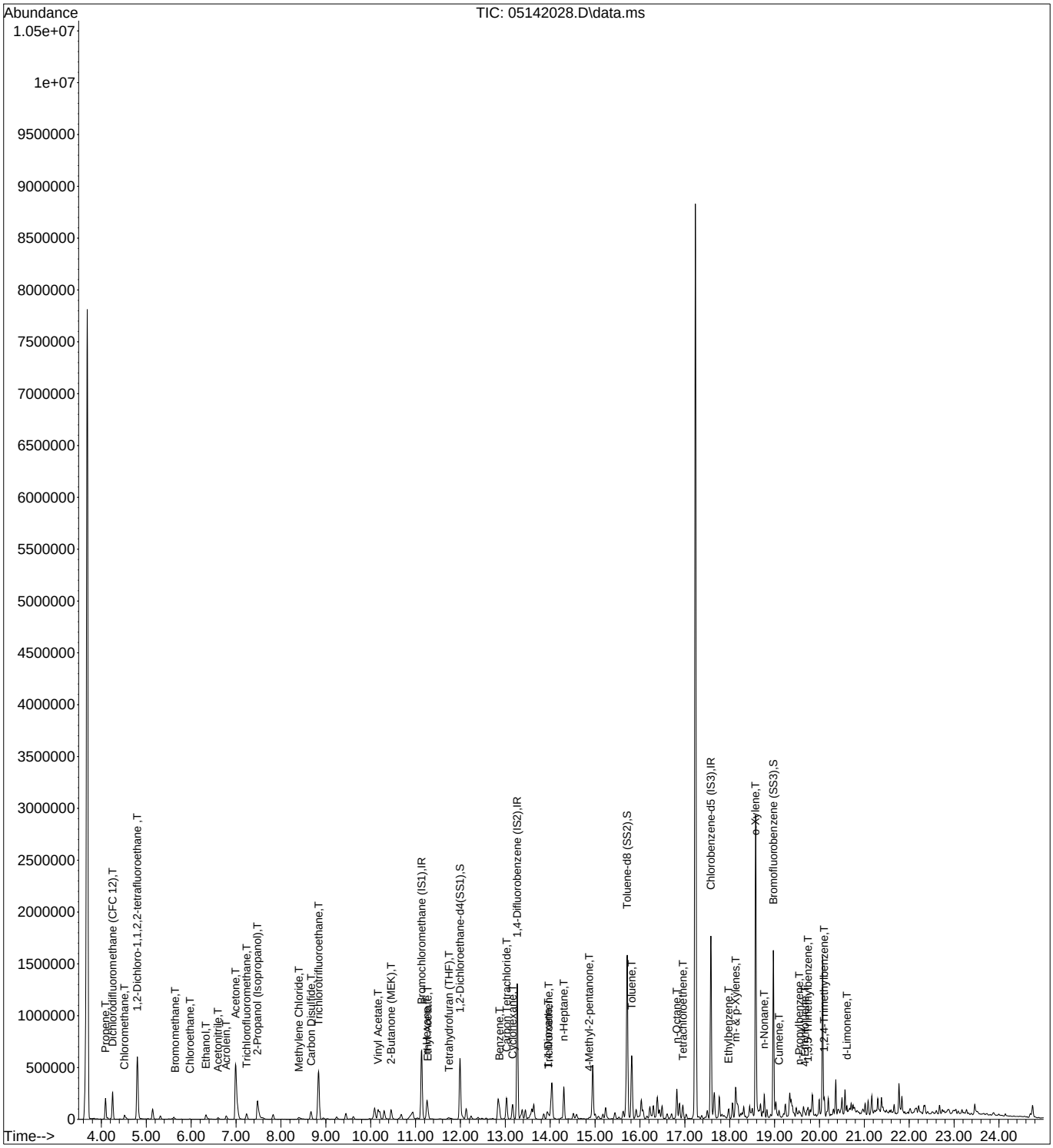
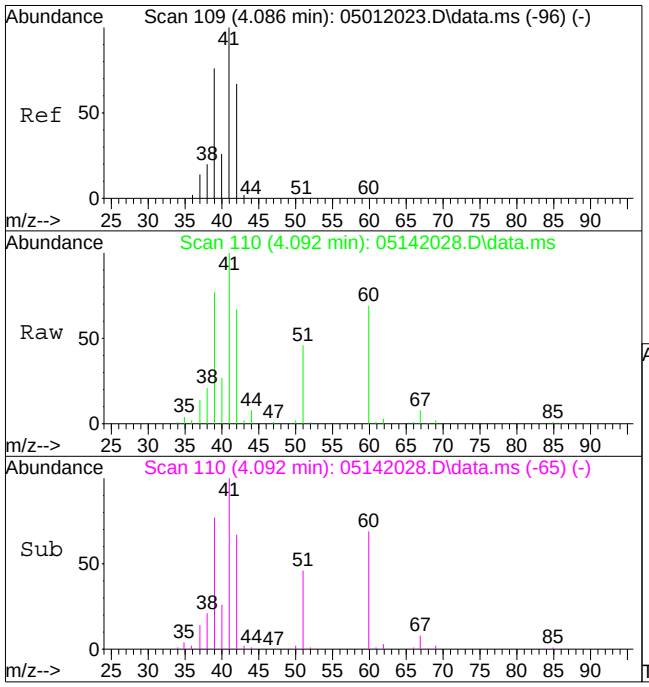
Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142028.D Vial: 7
Acq On : 15 May 2020 00:24 Operator: LH
Sample : P2002302-005 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 15:37:06 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

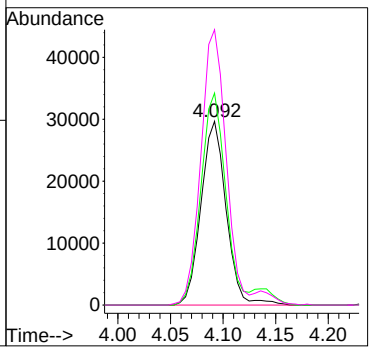


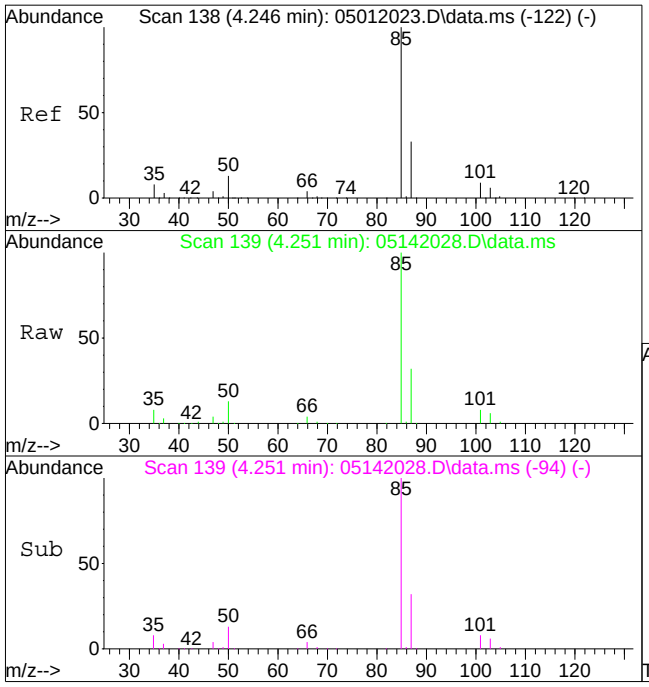


#2
Propene
Concen: 1.53 ng
RT: 4.09 min Scan# 110
Delta R.T. -0.000 min
Lab File: 05142028.D
Acq: 15 May 2020 00:24

Tgt Ion: 42 Resp: 49488

Ion	Ratio	Lower	Upper
42	100		
39	114.3	96.1	136.1
41	155.9	131.9	171.9

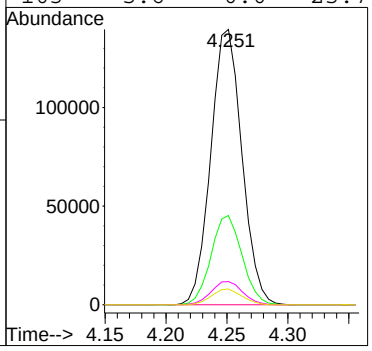


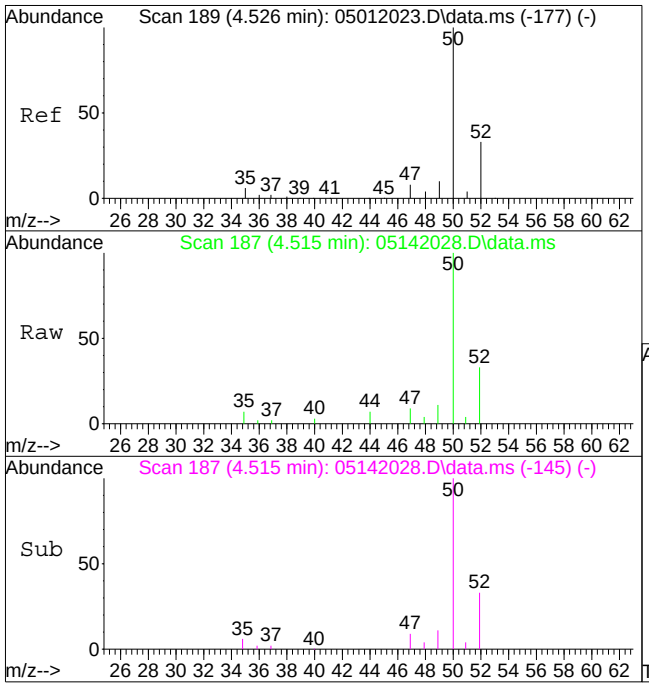


#3
Dichlorodifluoromethane (CFC 12)
Concen: 3.93 ng
RT: 4.25 min Scan# 139
Delta R.T. -0.000 min
Lab File: 05142028.D
Acq: 15 May 2020 00:24

Tgt Ion: 85 Resp: 248242

Ion	Ratio	Lower	Upper
85	100		
87	32.2	12.4	52.4
101	8.6	0.0	28.8
103	5.6	0.0	25.7

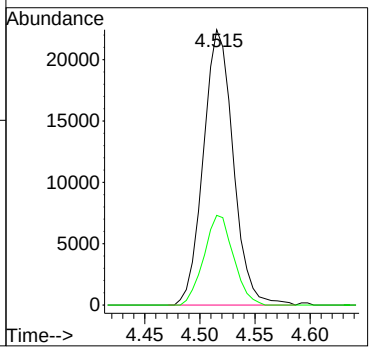


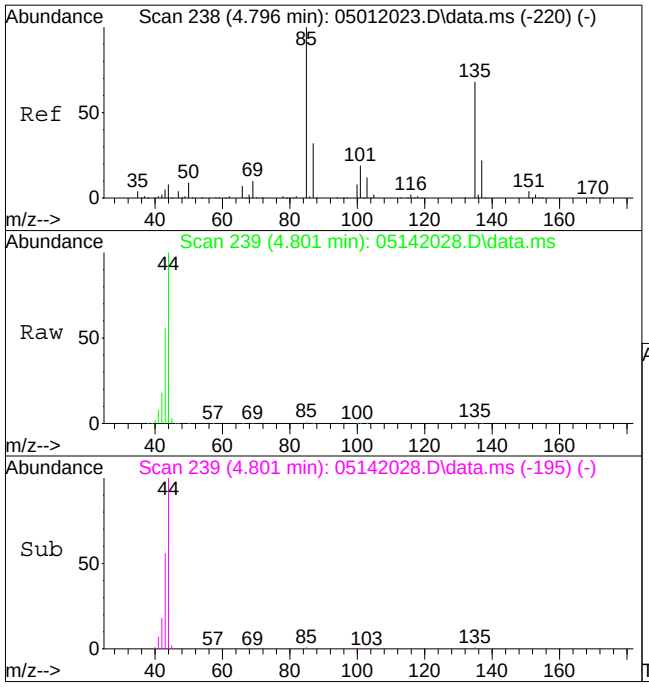


#4
Chloromethane
Concen: 0.86 ng
RT: 4.52 min Scan# 187
Delta R.T. -0.017 min
Lab File: 05142028.D
Acq: 15 May 2020 00:24

Tgt Ion: 50 Resp: 42369

Ion	Ratio	Lower	Upper
50	100		
52	32.2	12.5	52.5

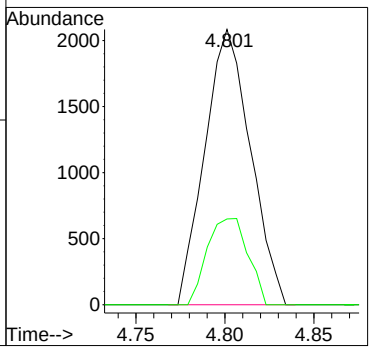


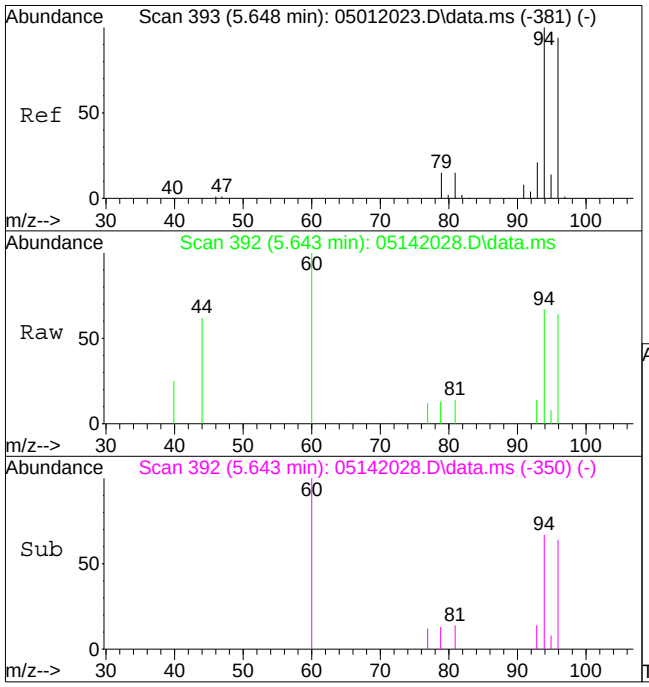


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 0.10 ng
RT: 4.80 min Scan# 239
Delta R.T. -0.006 min
Lab File: 05142028.D
Acq: 15 May 2020 00:24

Tgt Ion:135 Resp: 3722

Ion	Ratio	Lower	Upper
135	100		
137	27.9	12.1	52.1

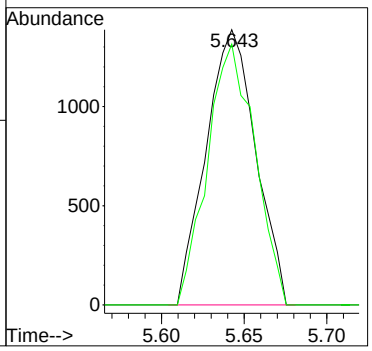


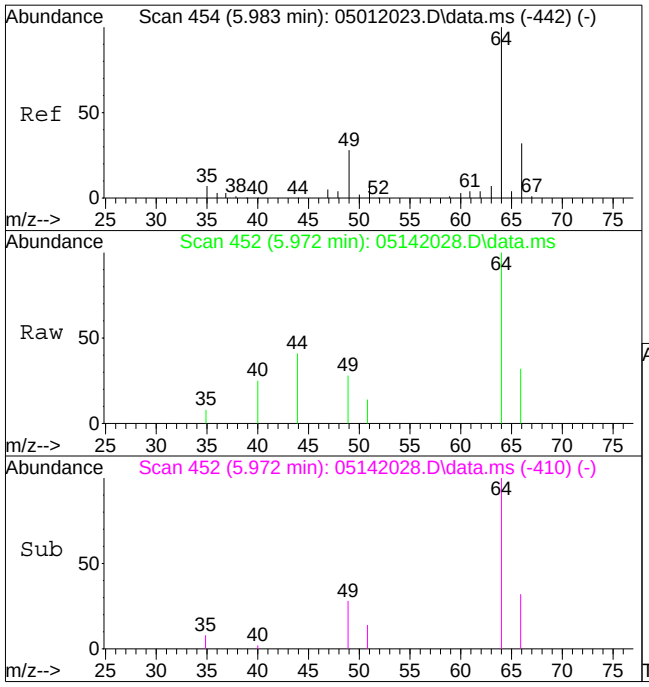


#8
Bromomethane
Concen: 0.10 ng
RT: 5.64 min Scan# 392
Delta R.T. -0.017 min
Lab File: 05142028.D
Acq: 15 May 2020 00:24

Tgt Ion: 94 Resp: 2903

Ion	Ratio	Lower	Upper
94	100		
96	90.5	73.7	113.7

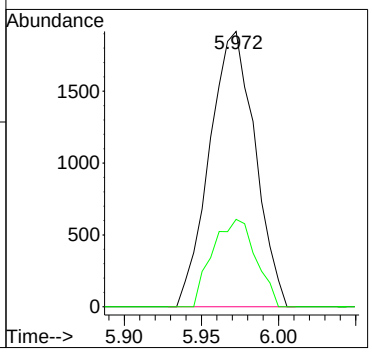


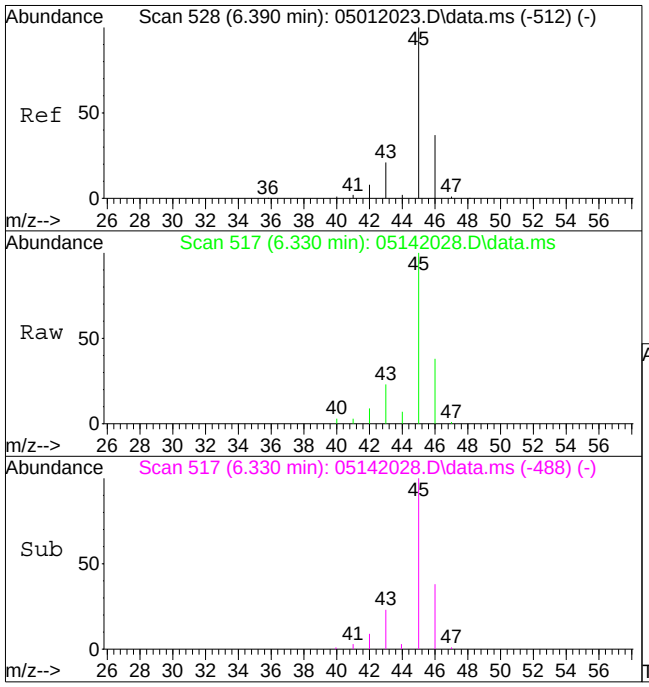


#9
Chloroethane
Concen: 0.18 ng
RT: 5.97 min Scan# 452
Delta R.T. -0.017 min
Lab File: 05142028.D
Acq: 15 May 2020 00:24

Tgt Ion: 64 Resp: 3918

Ion	Ratio	Lower	Upper
64	100		
66	30.4	12.1	52.1

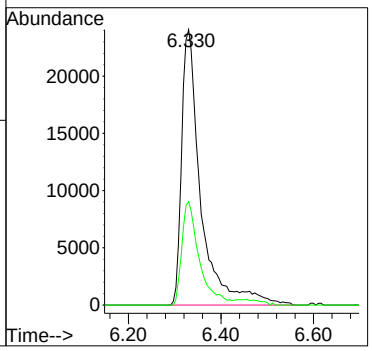


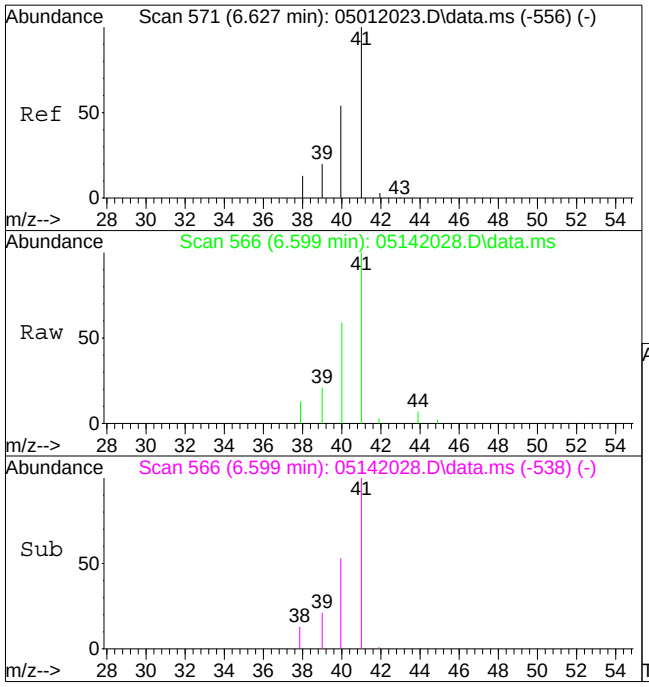


#10
Ethanol
Concen: 2.78 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.088 min
Lab File: 05142028.D
Acq: 15 May 2020 00:24

Tgt Ion: 45 Resp: 69370

Ion	Ratio	Lower	Upper
45	100		
46	36.8	17.2	57.2

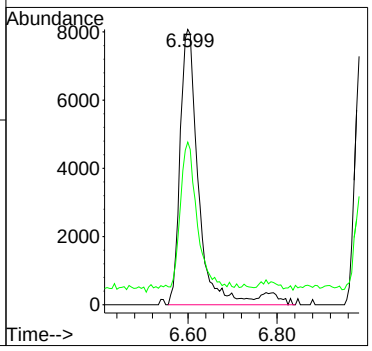


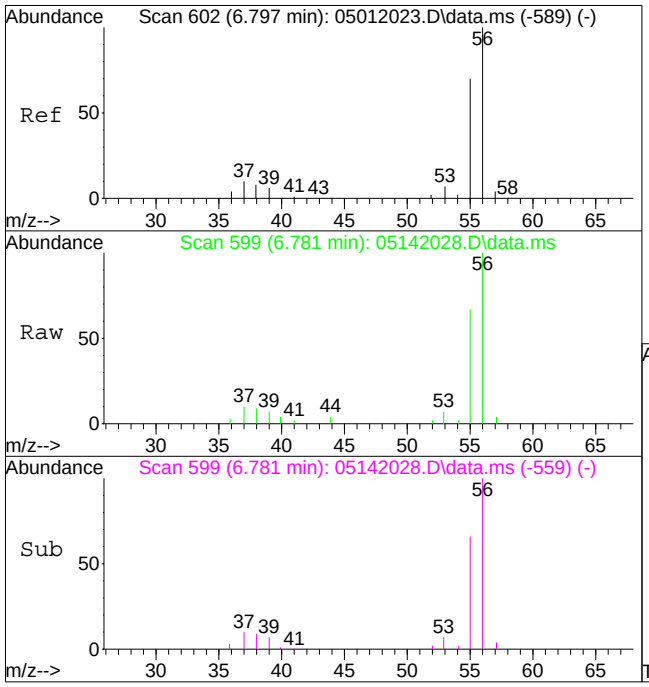


#11
Acetonitrile
Concen: 0.42 ng
RT: 6.60 min Scan# 566
Delta R.T. -0.044 min
Lab File: 05142028.D
Acq: 15 May 2020 00:24

Tgt Ion: 41 Resp: 23727

Ion	Ratio	Lower	Upper
41	100		
40	57.8	33.6	73.6

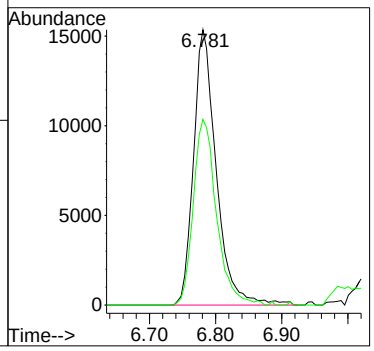


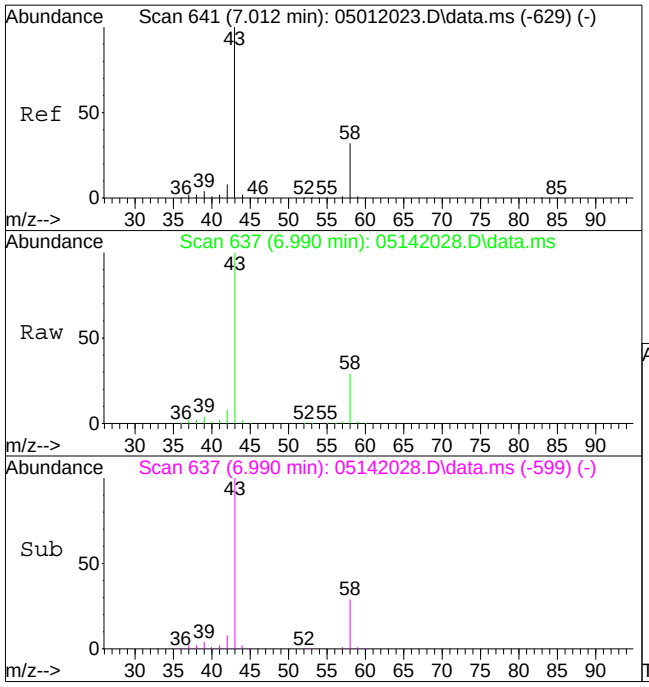


#12
Acrolein
Concen: 1.86 ng
RT: 6.78 min Scan# 599
Delta R.T. -0.028 min
Lab File: 05142028.D
Acq: 15 May 2020 00:24

Tgt Ion: 56 Resp: 36629

Ion	Ratio	Lower	Upper
56	100		
55	68.8	50.2	90.2

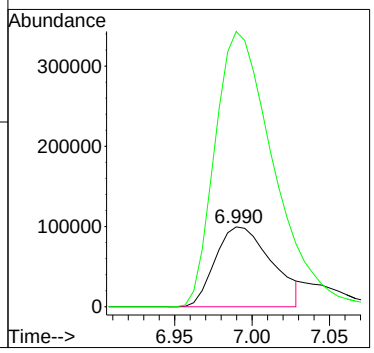


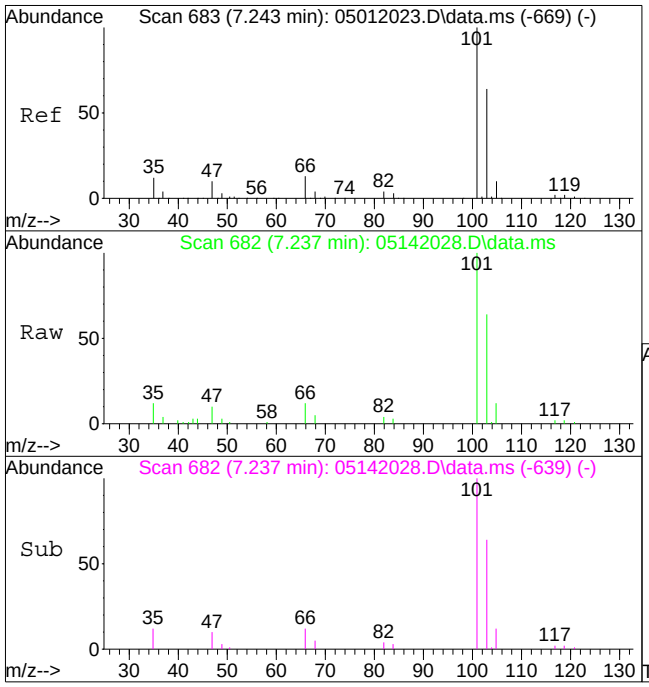


#13
Acetone
Concen: 10.11 ng m
RT: 6.99 min Scan# 637
Delta R.T. -0.039 min
Lab File: 05142028.D
Acq: 15 May 2020 00:24

Tgt Ion: 58 Resp: 252304

Ion	Ratio	Lower	Upper
58	100		
43	364.5	294.4	354.4#

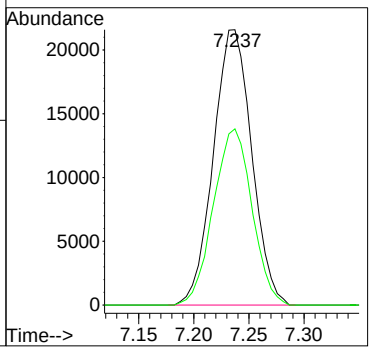


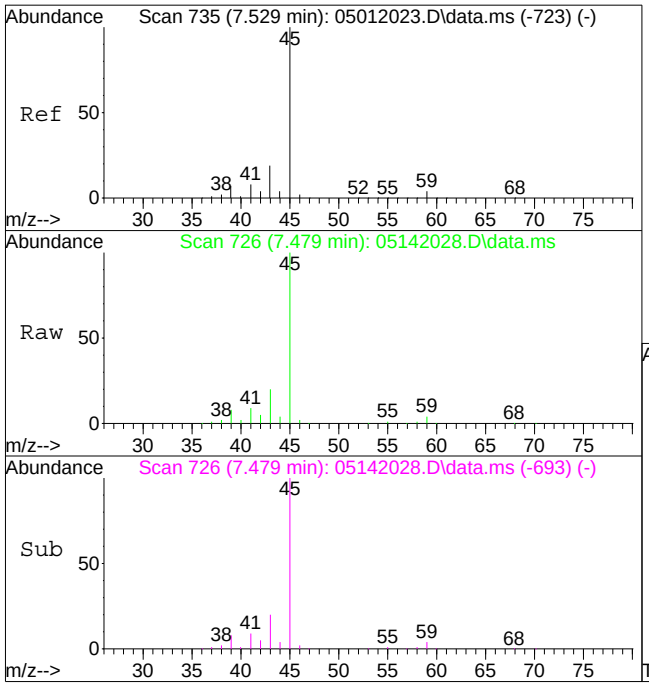


#14
Trichlorofluoromethane
Concen: 0.94 ng
RT: 7.24 min Scan# 682
Delta R.T. -0.011 min
Lab File: 05142028.D
Acq: 15 May 2020 00:24

Tgt Ion:101 Resp: 52356

Ion	Ratio	Lower	Upper
101	100		
103	64.2	44.4	84.4

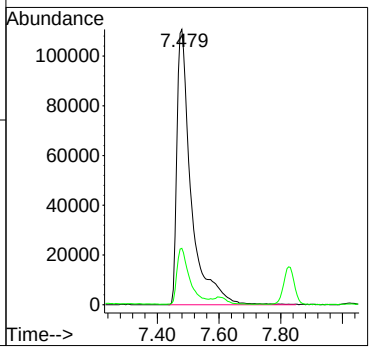


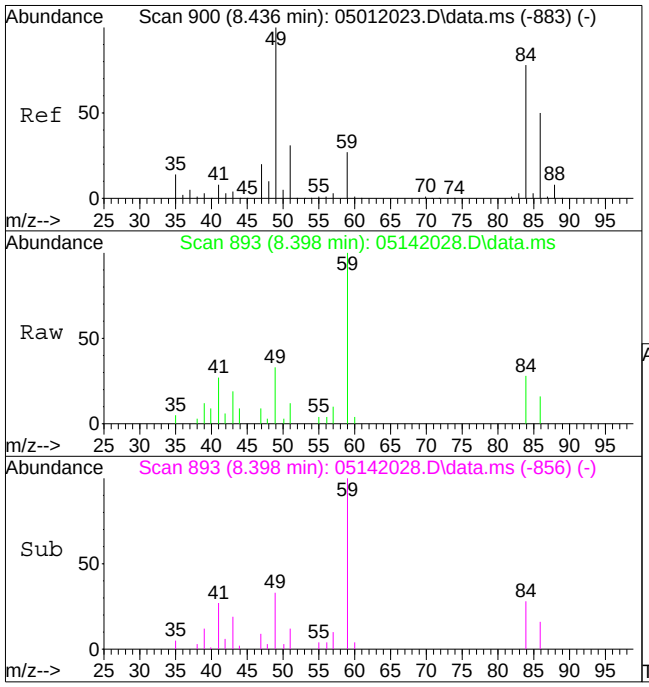


#15
2-Propanol (Isopropanol)
Concen: 4.68 ng
RT: 7.48 min Scan# 726
Delta R.T. -0.066 min
Lab File: 05142028.D
Acq: 15 May 2020 00:24

Tgt Ion: 45 Resp: 353512

Ion	Ratio	Lower	Upper
45	100		
43	21.2	0.0	39.5

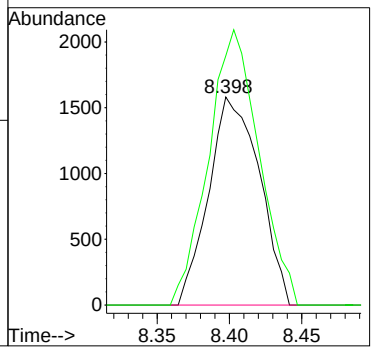


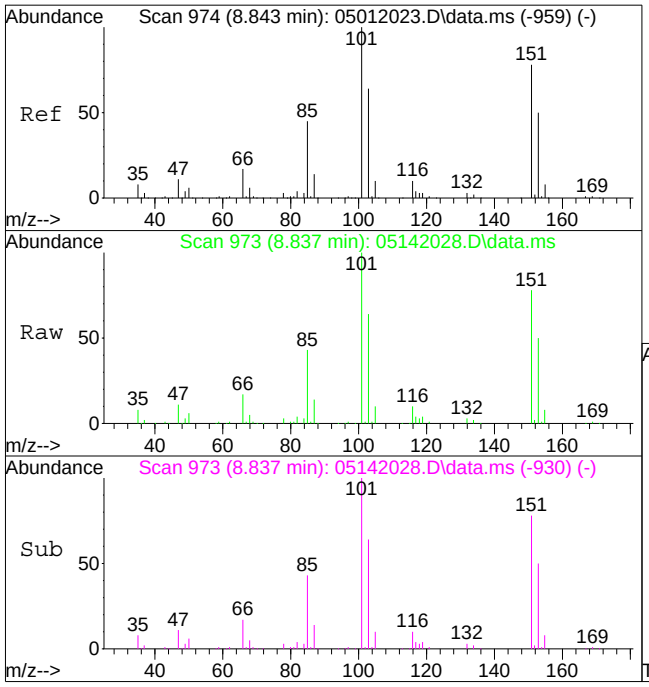


#19
Methylene Chloride
Concen: 0.12 ng
RT: 8.40 min Scan# 893
Delta R.T. -0.044 min
Lab File: 05142028.D
Acq: 15 May 2020 00:24

Tgt Ion: 84 Resp: 3862

Ion	Ratio	Lower	Upper
84	100		
49	132.0	104.8	154.8

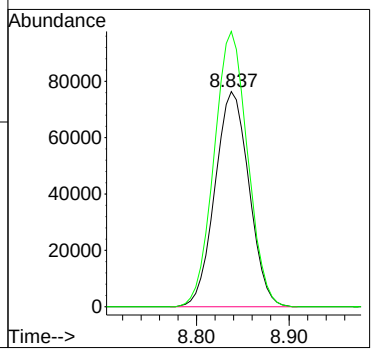


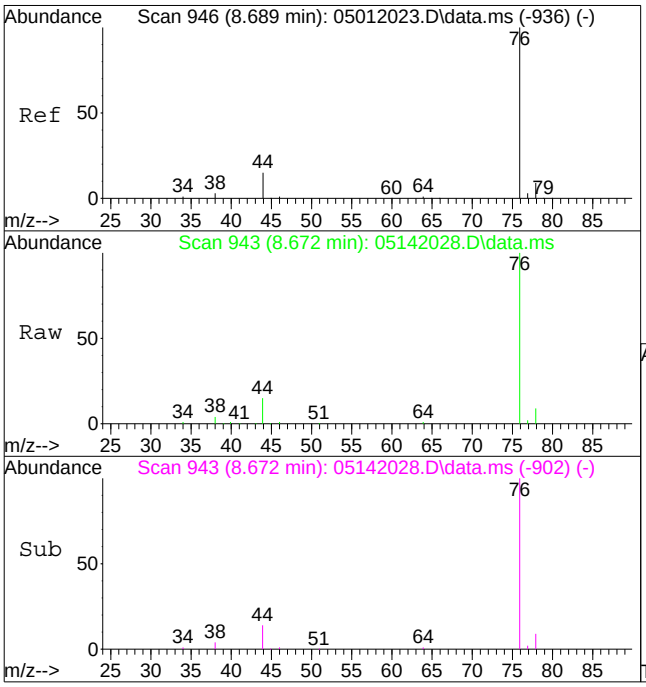


#21
Trichlorotrifluoroethane
Concen: 7.41 ng
RT: 8.84 min Scan# 973
Delta R.T. -0.011 min
Lab File: 05142028.D
Acq: 15 May 2020 00:24

Tgt Ion:151 Resp: 195557

Ion	Ratio	Lower	Upper
151	100		
101	125.9	107.3	147.3

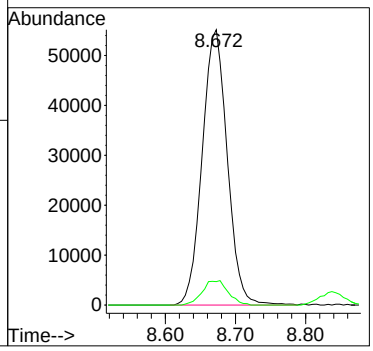


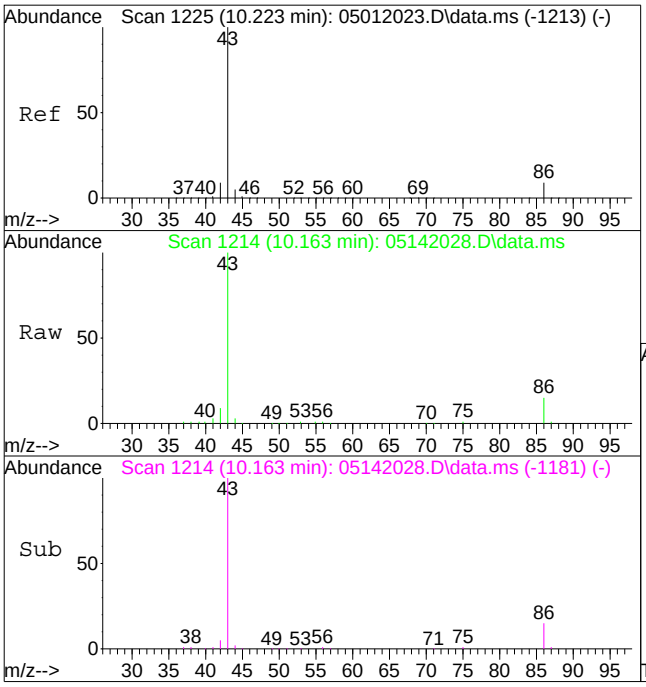


#22
Carbon Disulfide
Concen: 1.18 ng
RT: 8.67 min Scan# 943
Delta R.T. -0.022 min
Lab File: 05142028.D
Acq: 15 May 2020 00:24

Tgt Ion: 76 Resp: 137017

Ion	Ratio	Lower	Upper
76	100		
78	9.1	0.0	29.2

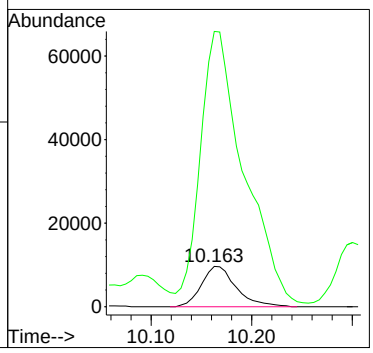


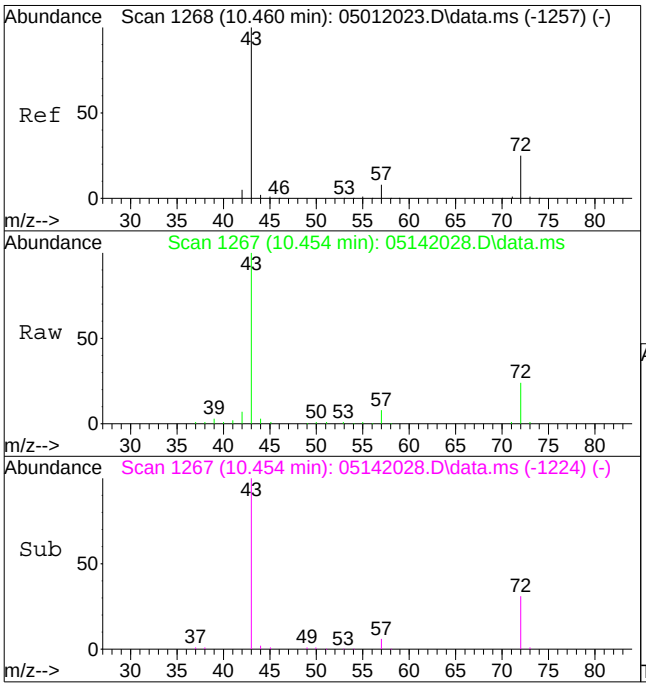


#26
Vinyl Acetate
Concen: 2.98 ng
RT: 10.16 min Scan# 1214
Delta R.T. -0.066 min
Lab File: 05142028.D
Acq: 15 May 2020 00:24

Tgt Ion: 86 Resp: 23185

Ion	Ratio	Lower	Upper
86	100		
43	853.6	1103.0	1143.0#

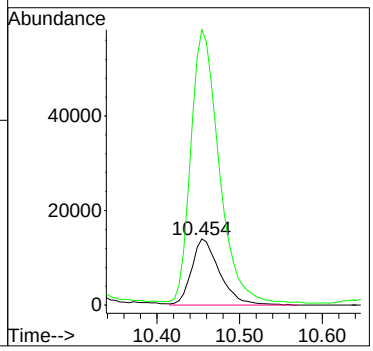


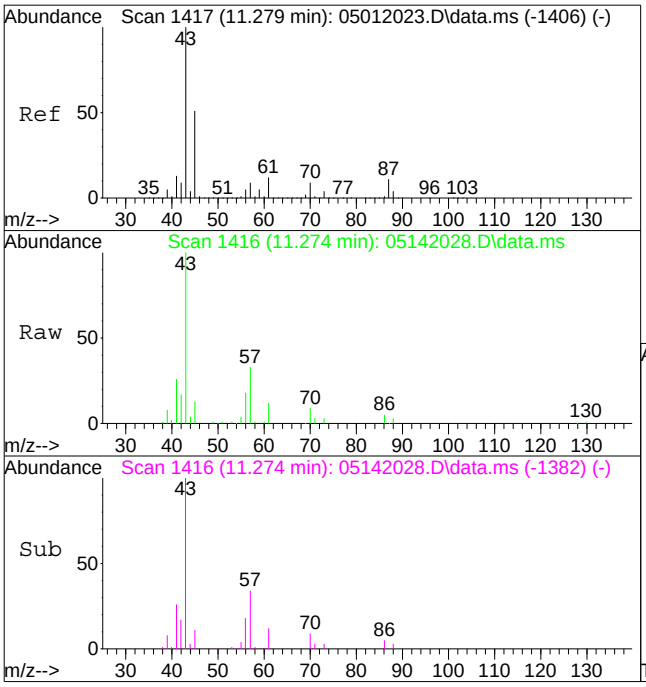


#27
2-Butanone (MEK)
Concen: 1.55 ng
RT: 10.45 min Scan# 1267
Delta R.T. -0.011 min
Lab File: 05142028.D
Acq: 15 May 2020 00:24

Tgt Ion: 72 Resp: 33004

Ion	Ratio	Lower	Upper
72	100		
43	416.1	389.7	429.7

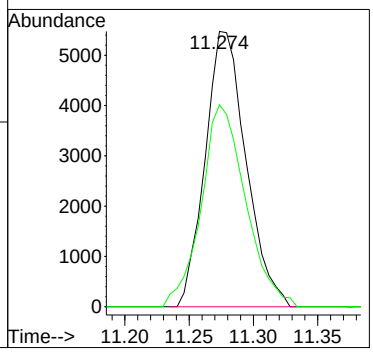


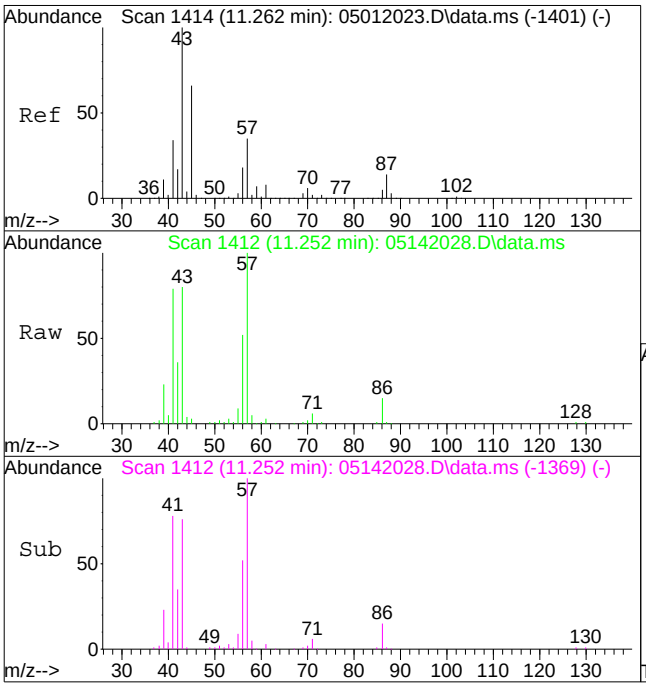


#30
Ethyl Acetate
Concen: 0.99 ng
RT: 11.27 min Scan# 1416
Delta R.T. -0.011 min
Lab File: 05142028.D
Acq: 15 May 2020 00:24

Tgt Ion: 61 Resp: 12118

Ion	Ratio	Lower	Upper
61	100		
70	79.4	57.9	97.9

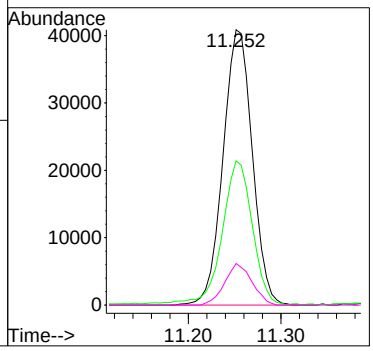


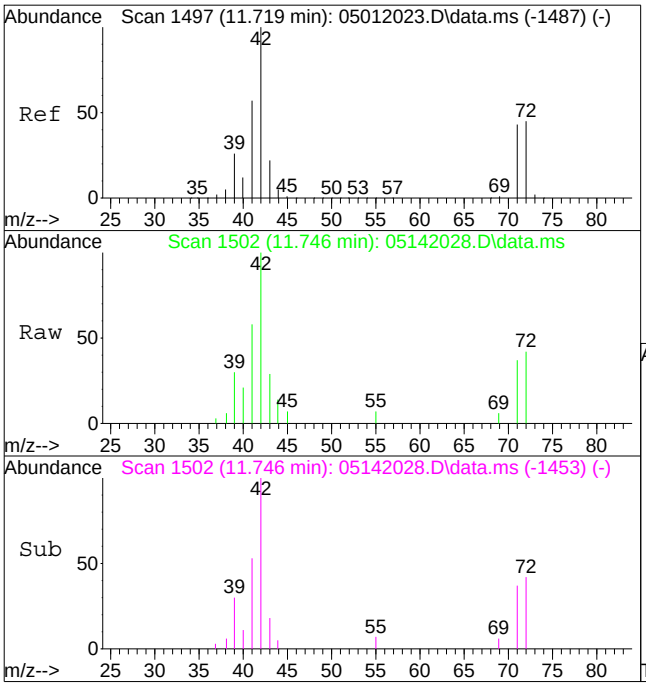


#31
n-Hexane
Concen: 1.68 ng
RT: 11.25 min Scan# 1412
Delta R.T. -0.011 min
Lab File: 05142028.D
Acq: 15 May 2020 00:24

Tgt Ion: 57 Resp: 89669

Ion	Ratio	Lower	Upper
57	100		
56	54.6	41.4	62.0
86	14.0	12.4	18.6

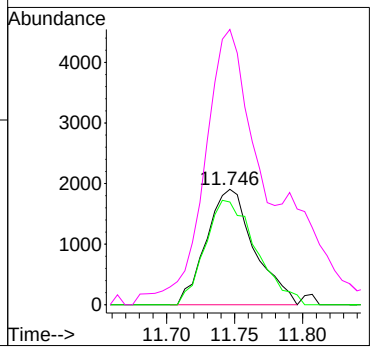


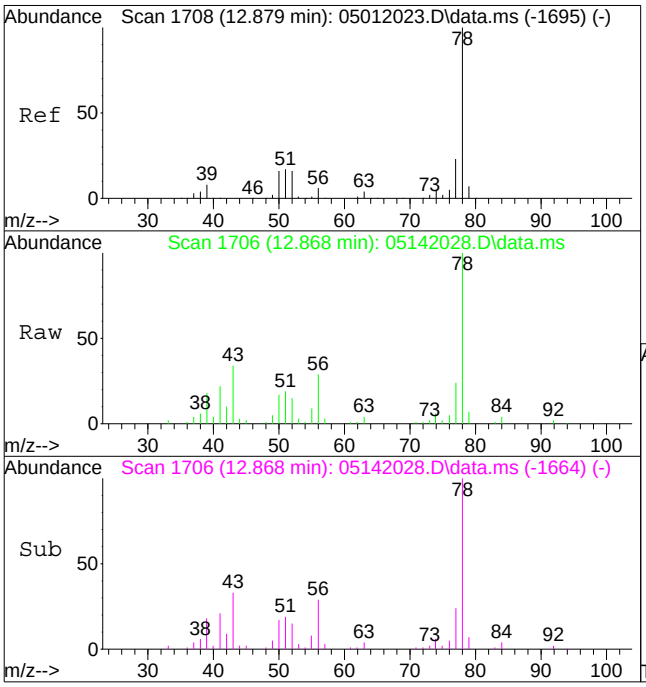


#34
Tetrahydrofuran (THF)
Concen: 0.22 ng
RT: 11.75 min Scan# 1502
Delta R.T. 0.022 min
Lab File: 05142028.D
Acq: 15 May 2020 00:24

Tgt Ion: 72 Resp: 4662

Ion	Ratio	Lower	Upper
72	100		
71	96.5	77.0	117.0
42	335.7	204.6	244.6#

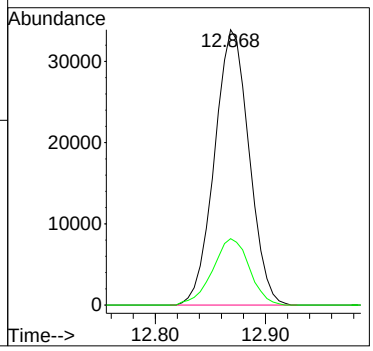


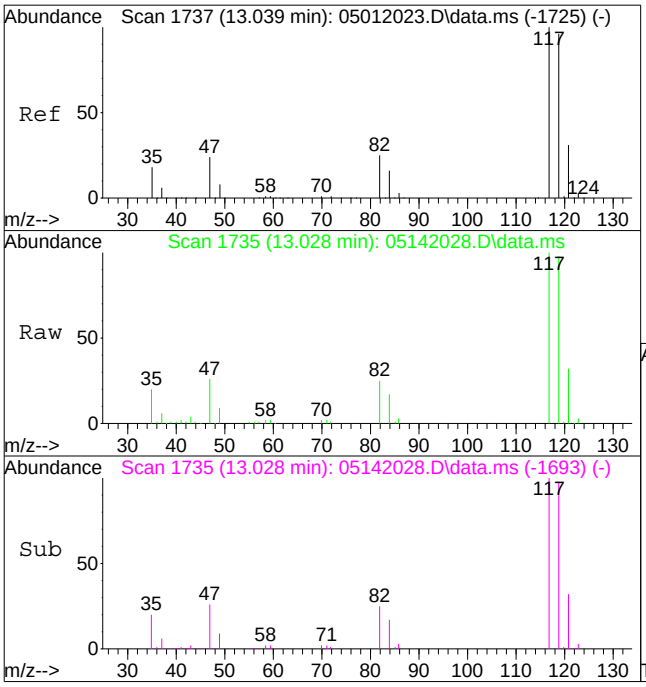


#41
Benzene
Concen: 0.58 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05142028.D
Acq: 15 May 2020 00:24

Tgt Ion: 78 Resp: 74064

Ion	Ratio	Lower	Upper
78	100		
77	25.6	3.4	43.4

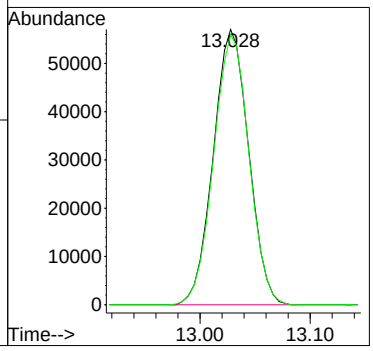


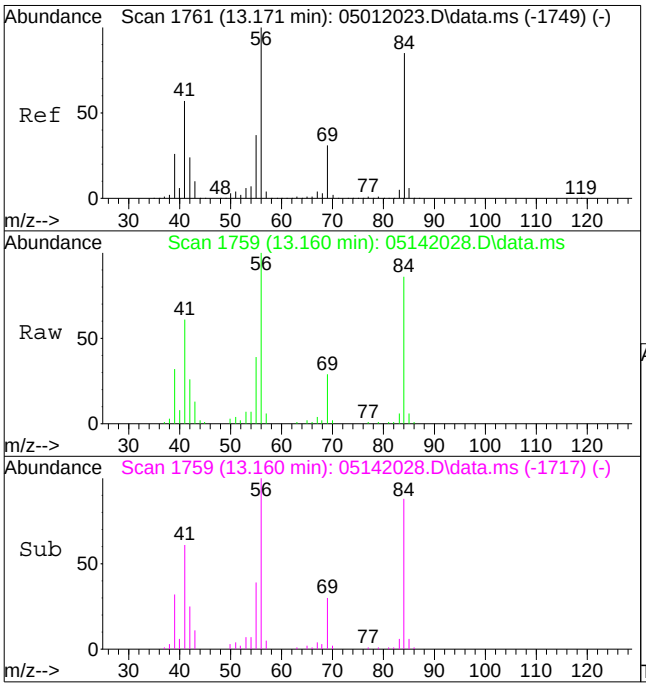


#42
Carbon Tetrachloride
Concen: 2.93 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05142028.D
Acq: 15 May 2020 00:24

Tgt Ion:117 Resp: 127131

Ion	Ratio	Lower	Upper
117	100		
119	98.0	76.2	116.2

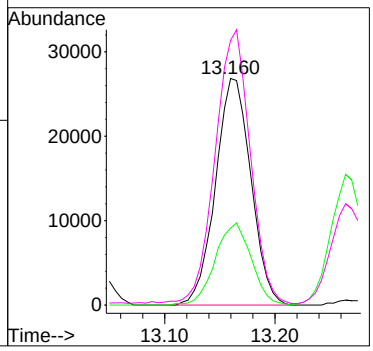


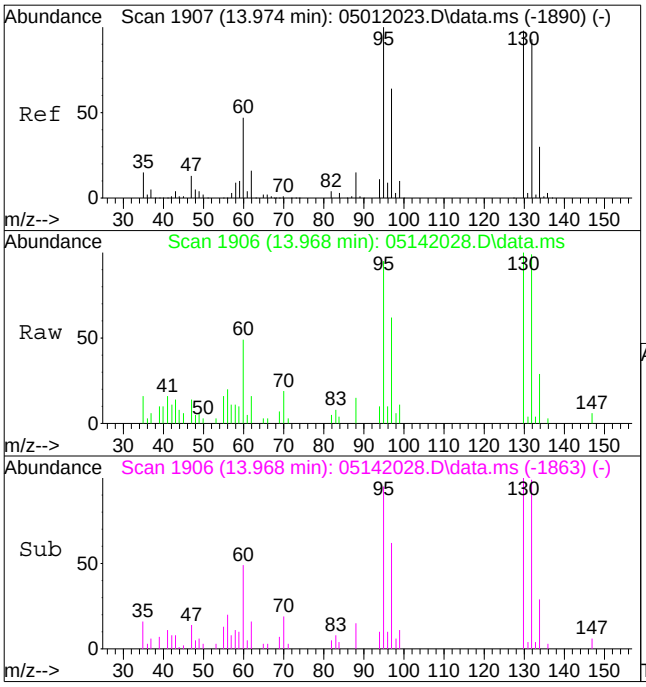


#43
Cyclohexane
Concen: 1.26 ng
RT: 13.16 min Scan# 1759
Delta R.T. -0.017 min
Lab File: 05142028.D
Acq: 15 May 2020 00:24

Tgt Ion: 84 Resp: 59979

Ion	Ratio	Lower	Upper
84	100		
69	36.8	16.5	56.5
56	120.1	97.4	137.4

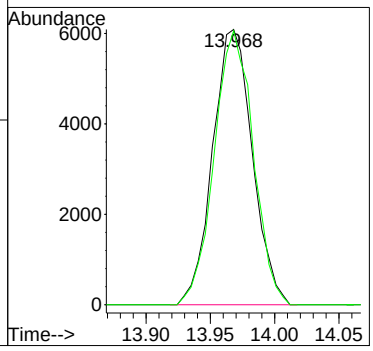


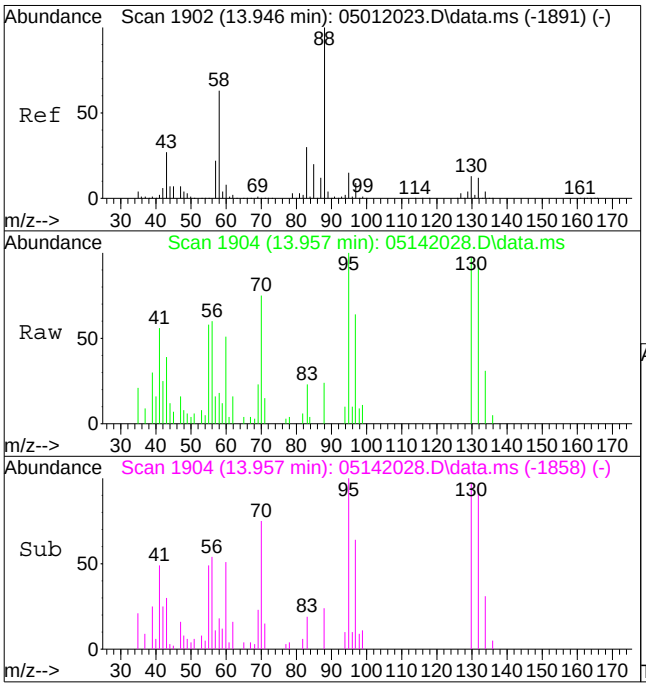


#47
Trichloroethene
Concen: 0.40 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05142028.D
Acq: 15 May 2020 00:24

Tgt Ion:130 Resp: 13087

Ion	Ratio	Lower	Upper
130	100		
132	97.8	74.9	114.9

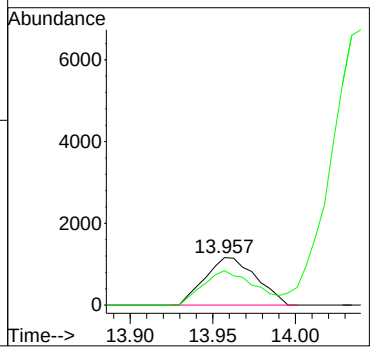


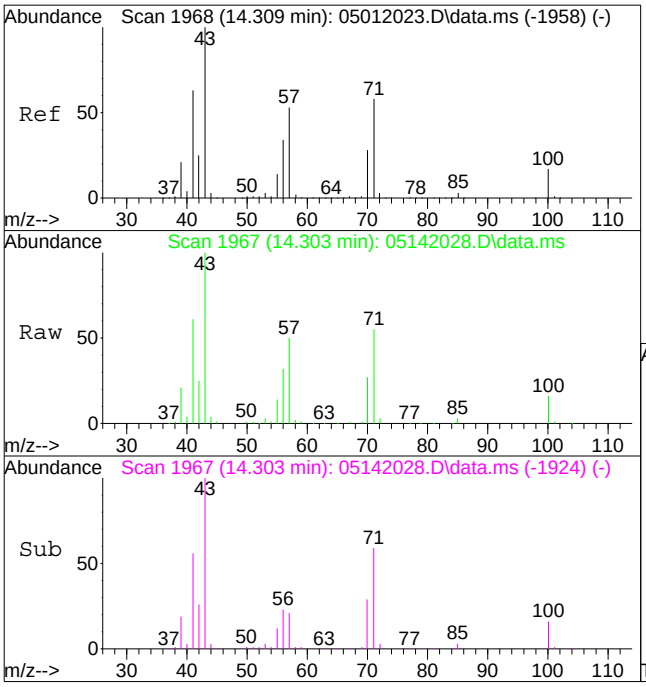


#48
1,4-Dioxane
Concen: 0.10 ng
RT: 13.96 min Scan# 1904
Delta R.T. 0.005 min
Lab File: 05142028.D
Acq: 15 May 2020 00:24

Tgt Ion: 88 Resp: 2491

Ion	Ratio	Lower	Upper
88	100		
58	73.2	42.8	82.8

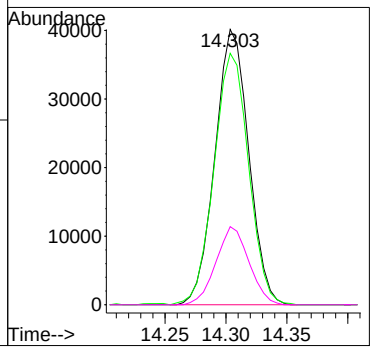


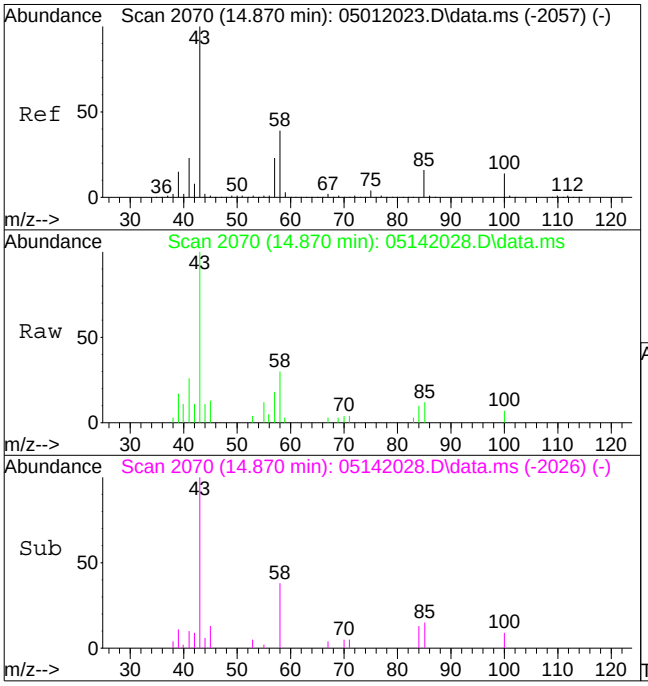


#51
n-Heptane
Concen: 2.59 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05142028.D
Acq: 15 May 2020 00:24

Tgt Ion: 71 Resp: 77473

Ion	Ratio	Lower	Upper
71	100		
57	93.5	71.0	111.0
100	27.7	8.4	48.4

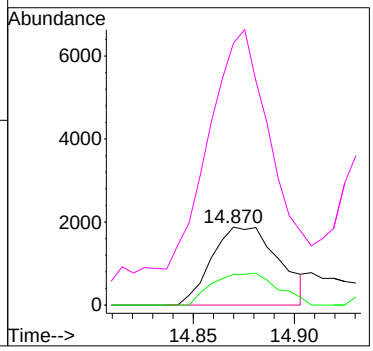


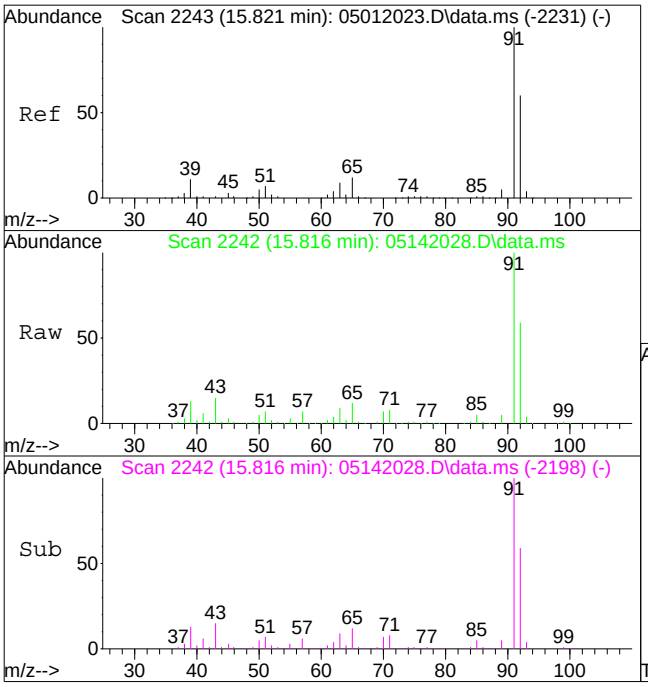


#53
4-Methyl-2-pentanone
Concen: 0.15 ng m
RT: 14.87 min Scan# 2070
Delta R.T. -0.006 min
Lab File: 05142028.D
Acq: 15 May 2020 00:24

Tgt Ion: 58 Resp: 4328

Ion	Ratio	Lower	Upper
58	100		
85	39.5	35.4	53.2
43	323.4	203.3	304.9#

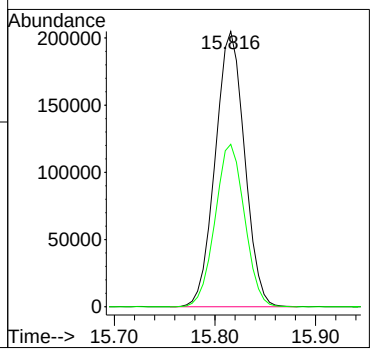


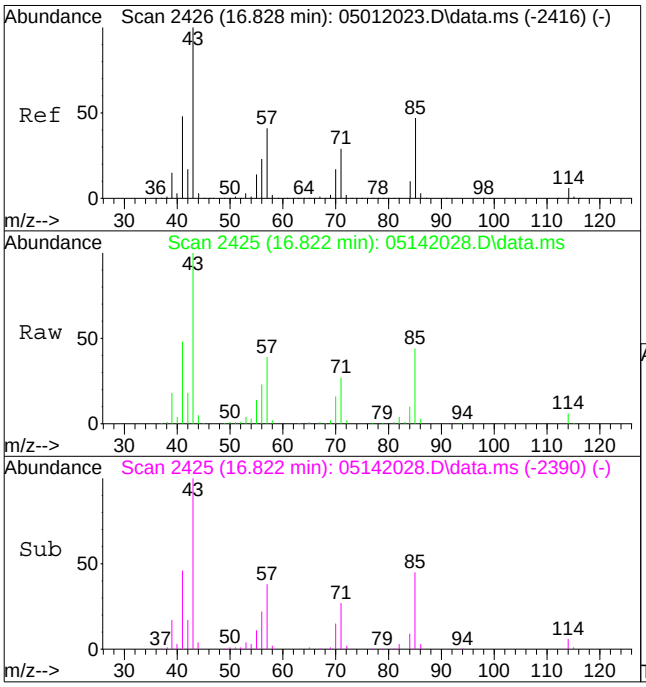


#58
Toluene
Concen: 3.30 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05142028.D
Acq: 15 May 2020 00:24

Tgt Ion: 91 Resp: 414054

Ion	Ratio	Lower	Upper
91	100		
92	59.3	39.4	79.4

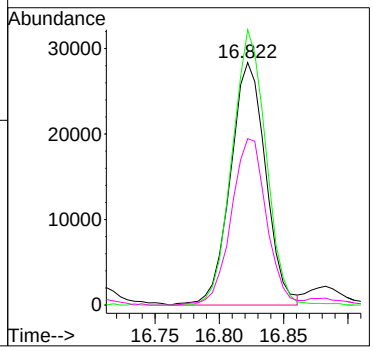


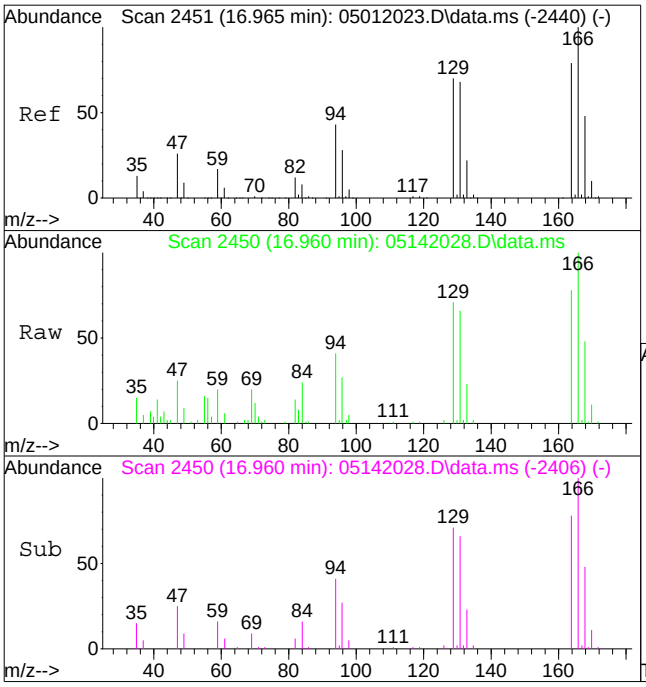


#63
n-Octane
Concen: 2.09 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05142028.D
Acq: 15 May 2020 00:24

Tgt Ion: 57 Resp: 54114

Ion	Ratio	Lower	Upper
57	100		
85	108.9	91.0	136.4
71	68.4	56.2	84.2

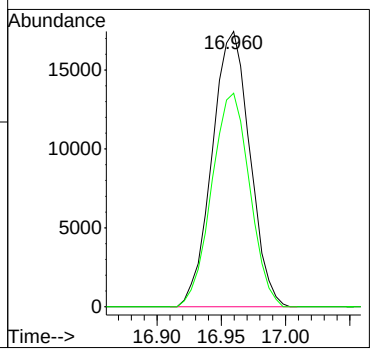


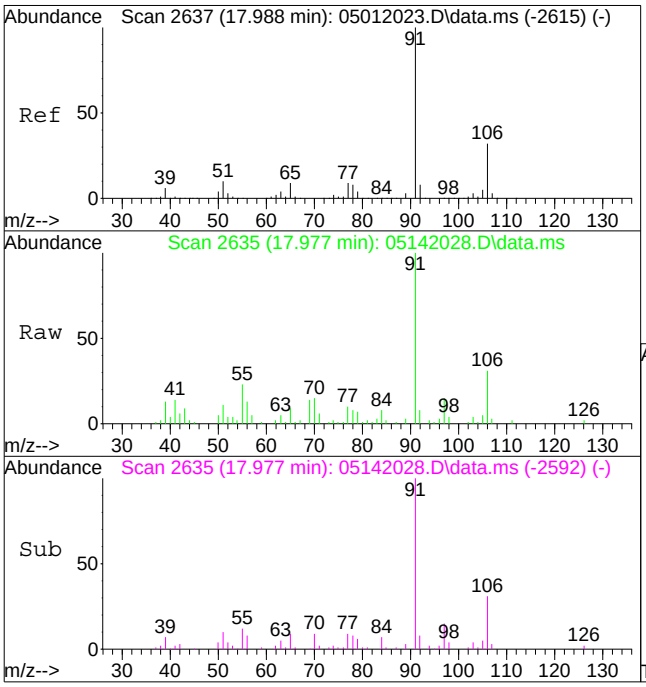


#64
Tetrachloroethene
Concen: 1.01 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05142028.D
Acq: 15 May 2020 00:24

Tgt Ion:166 Resp: 35679

Ion	Ratio	Lower	Upper
166	100		
164	77.9	58.4	98.4

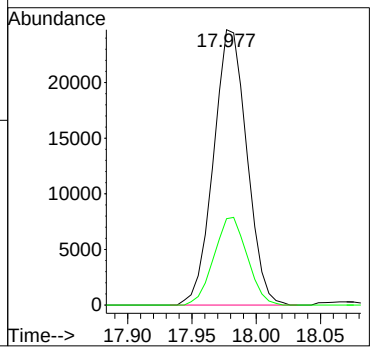


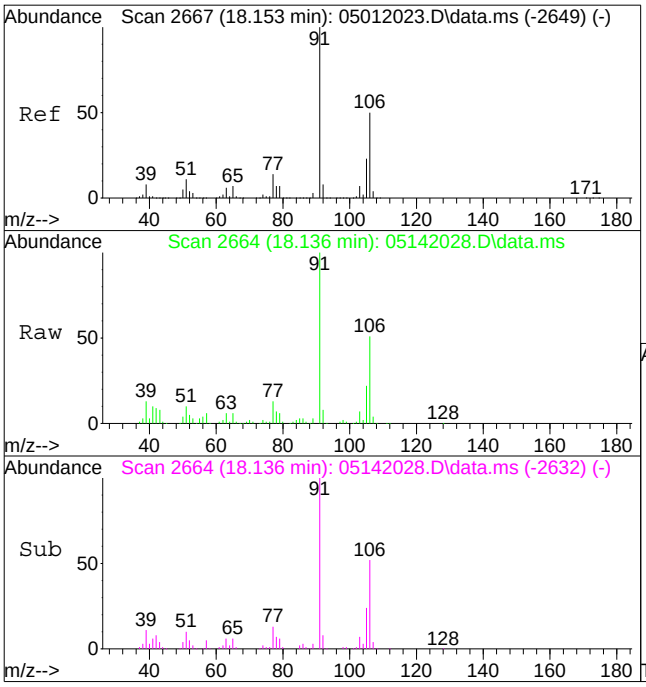


#66
Ethylbenzene
Concen: 0.32 ng
RT: 17.98 min Scan# 2635
Delta R.T. -0.011 min
Lab File: 05142028.D
Acq: 15 May 2020 00:24

Tgt Ion: 91 Resp: 44725

Ion	Ratio	Lower	Upper
91	100		
106	31.7	11.6	51.6

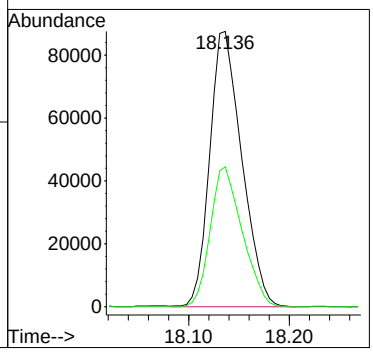


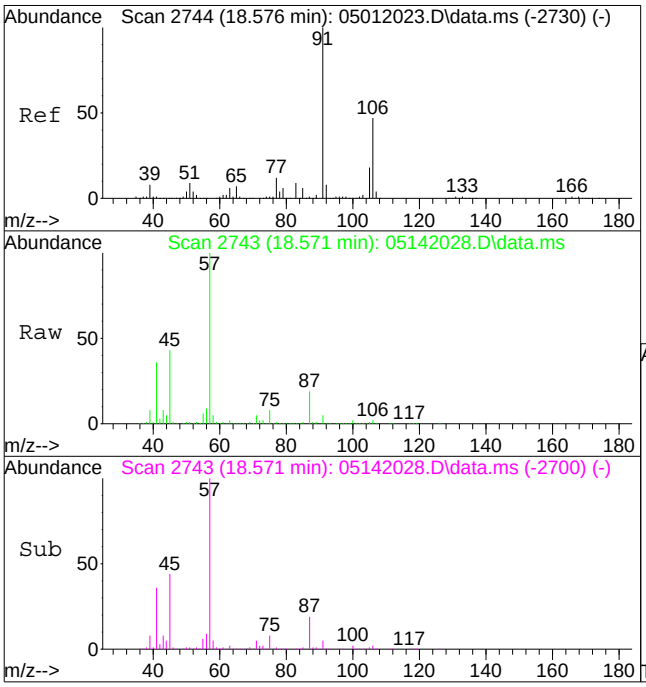


#67
m- & p-Xylenes
Concen: 1.75 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05142028.D
Acq: 15 May 2020 00:24

Tgt Ion: 91 Resp: 193870

Ion	Ratio	Lower	Upper
91	100		
106	50.5	29.7	69.7

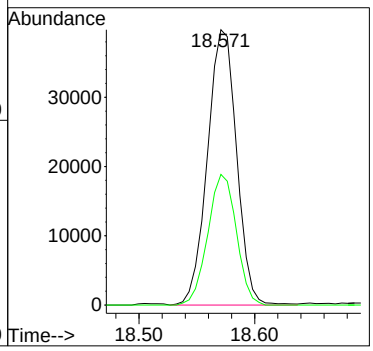


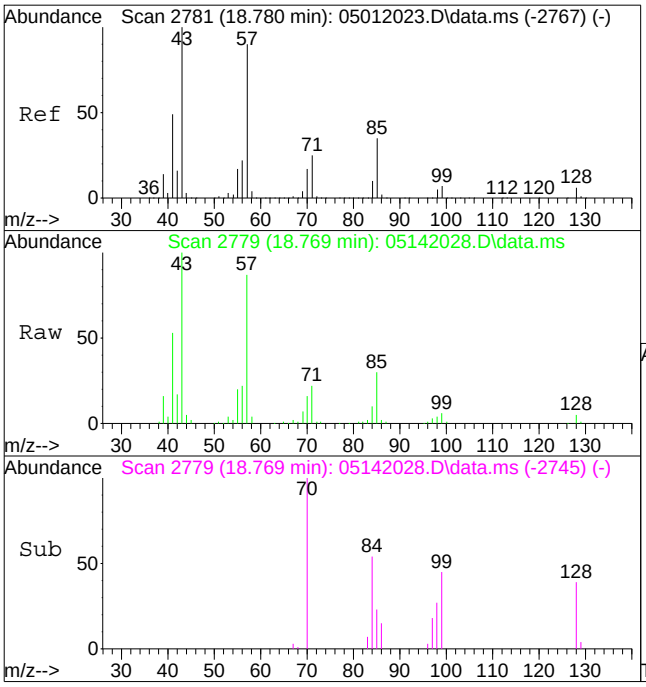


#70
o-Xylene
Concen: 0.62 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05142028.D
Acq: 15 May 2020 00:24

Tgt Ion: 91 Resp: 69750

Ion	Ratio	Lower	Upper
91	100		
106	46.4	27.5	67.5

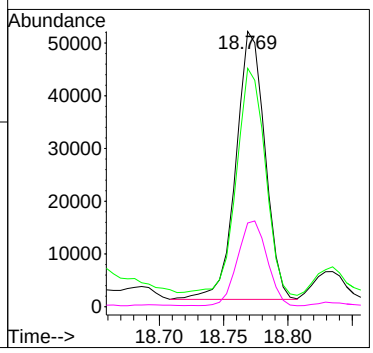


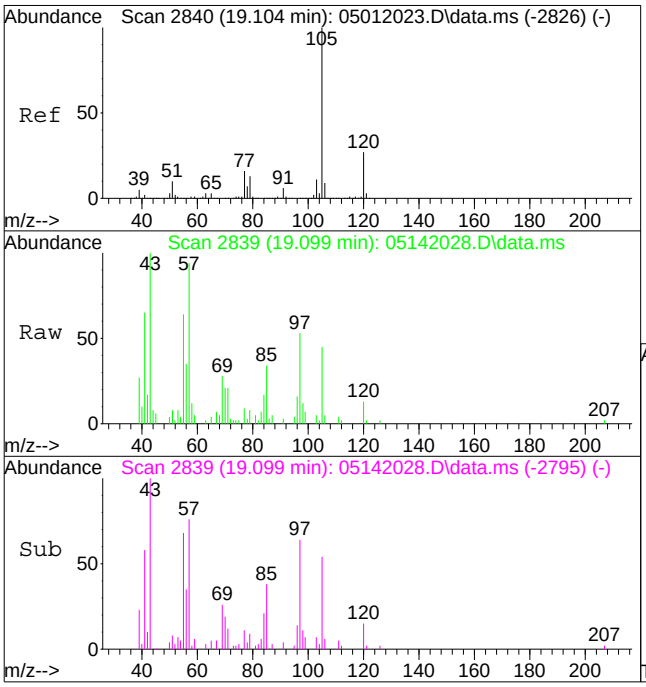


#71
n-Nonane
Concen: 1.34 ng
RT: 18.77 min Scan# 2779
Delta R.T. -0.011 min
Lab File: 05142028.D
Acq: 15 May 2020 00:24

Tgt Ion: 43 Resp: 79906

Ion	Ratio	Lower	Upper
43	100		
57	84.6	69.0	109.0
85	32.1	14.6	54.6

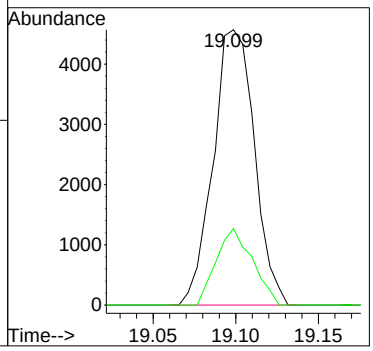


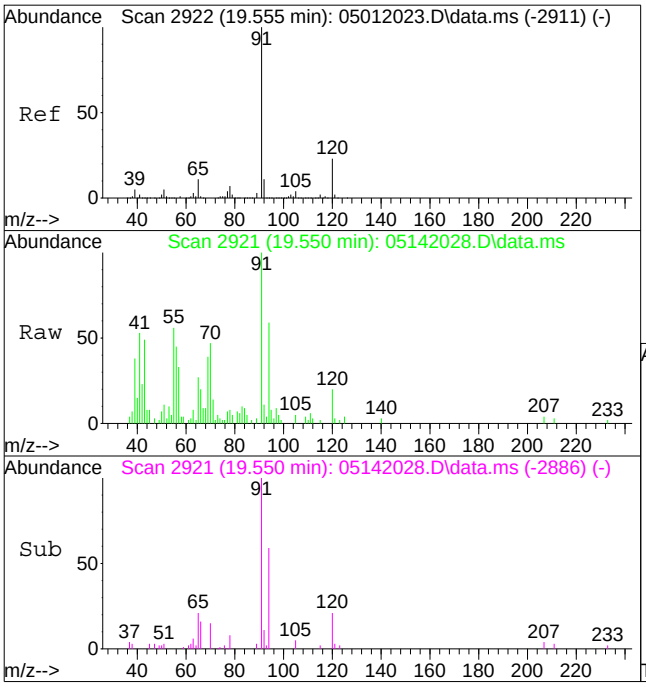


#74
Cumene
Concen: 0.06 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05142028.D
Acq: 15 May 2020 00:24

Tgt Ion:105 Resp: 7934

Ion	Ratio	Lower	Upper
105	100		
120	24.4	6.8	46.8

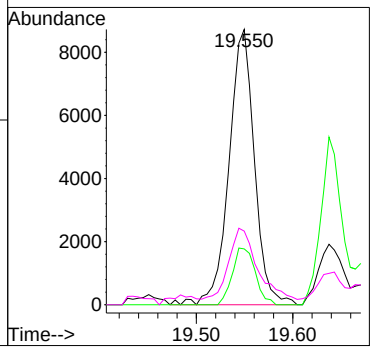


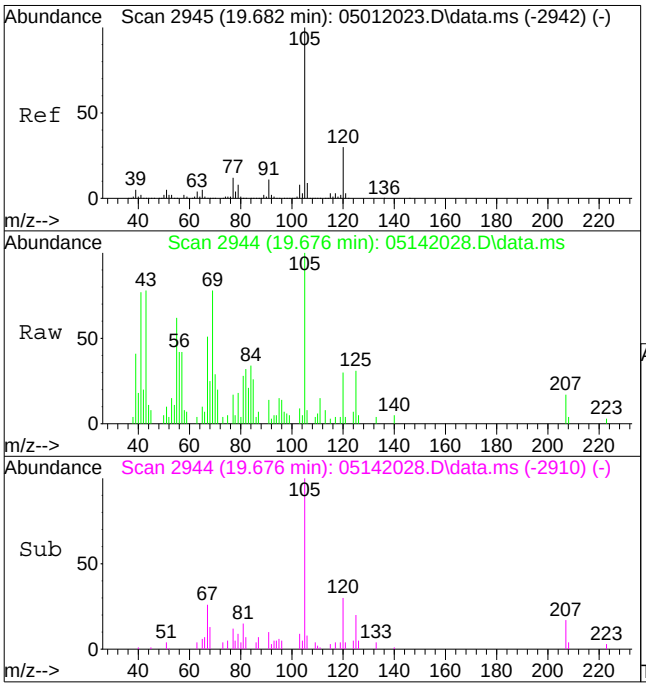


#76
n-Propylbenzene
Concen: 0.10 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05142028.D
Acq: 15 May 2020 00:24

Tgt Ion: 91 Resp: 16058

Ion	Ratio	Lower	Upper
91	100		
120	18.5	3.1	43.1
65	28.2	0.0	30.9

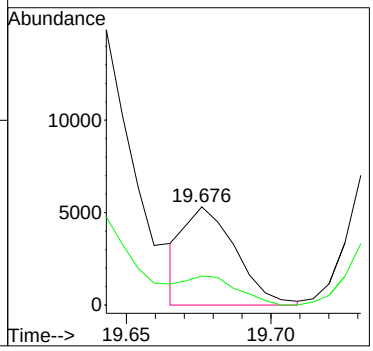


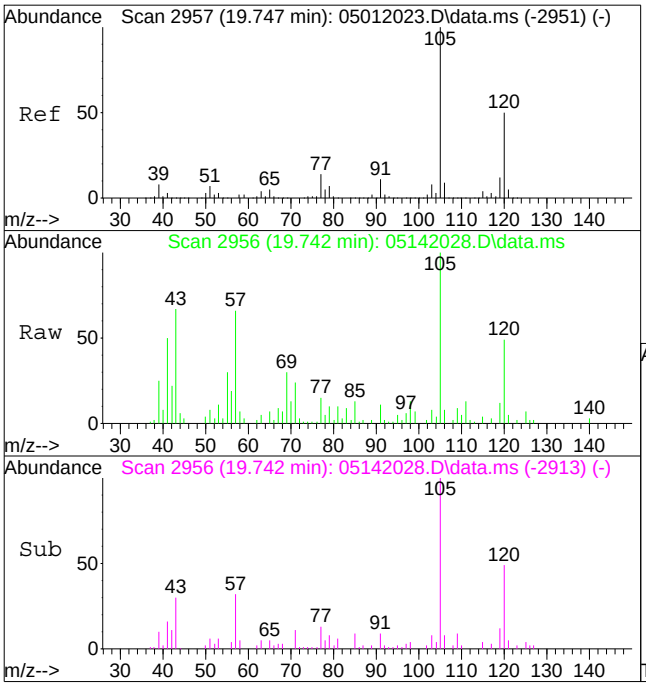


#78
4-Ethyltoluene
Concen: 0.05 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05142028.D
Acq: 15 May 2020 00:24

Tgt Ion:105 Resp: 6655

Ion	Ratio	Lower	Upper
105	100		
120	30.4	10.4	50.4

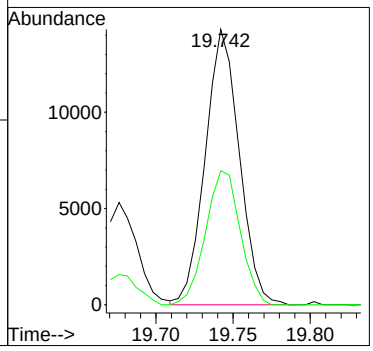


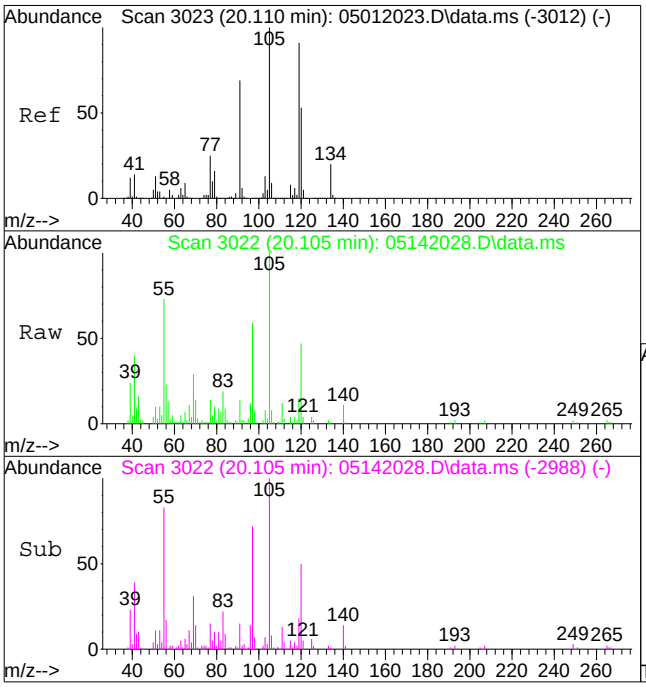


#79
1,3,5-Trimethylbenzene
Concen: 0.19 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05142028.D
Acq: 15 May 2020 00:24

Tgt Ion:105 Resp: 21948

Ion	Ratio	Lower	Upper
105	100		
120	49.5	29.9	69.9

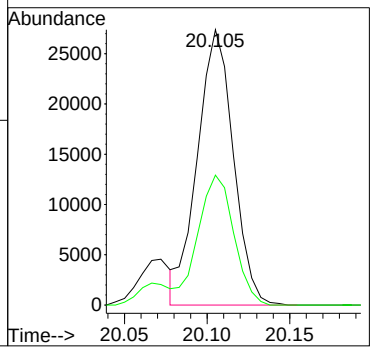


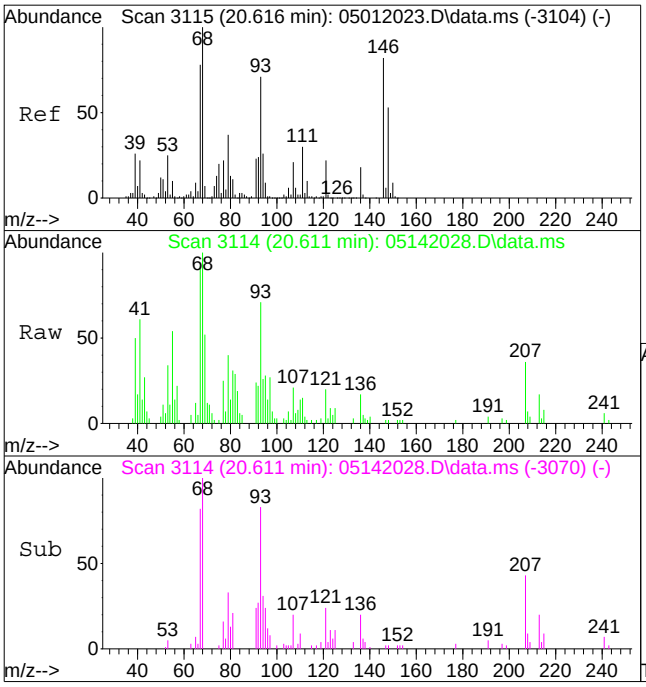


#82
1,2,4-Trimethylbenzene
Concen: 0.37 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05142028.D
Acq: 15 May 2020 00:24

Tgt Ion:105 Resp: 41367

Ion	Ratio	Lower	Upper
105	100		
120	47.2	33.6	73.6

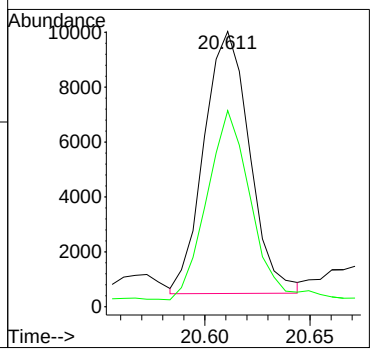




#91
d-Limonene
Concen: 0.32 ng
RT: 20.61 min Scan# 3114
Delta R.T. -0.006 min
Lab File: 05142028.D
Acq: 15 May 2020 00:24

Tgt Ion: 68 Resp: 14393

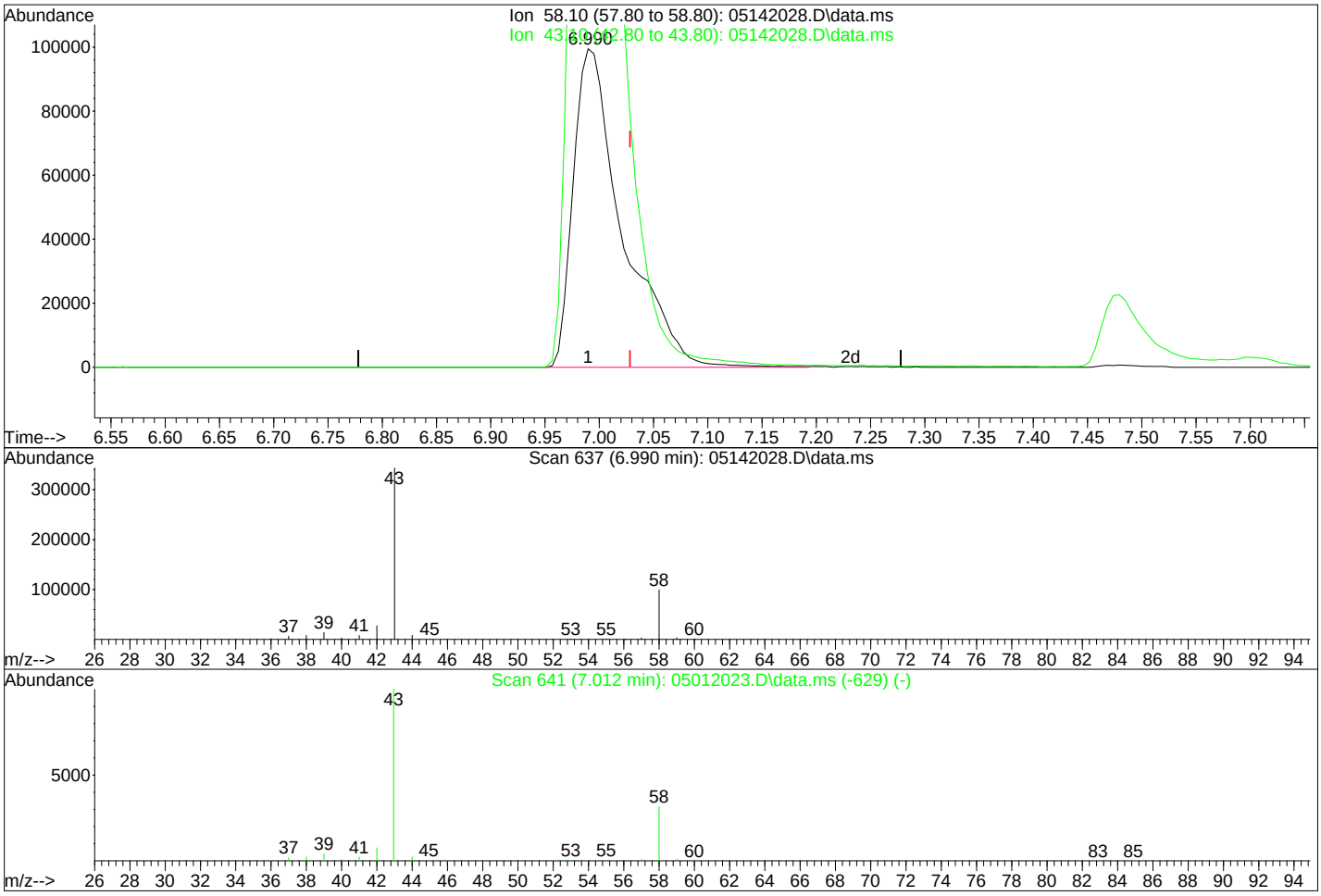
Ion	Ratio	Lower	Upper
68	100		
93	83.1	51.1	91.1



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\14\05142028.D Vial: 7
Acq On : 15 May 2020 00:24 Operator: LH
Sample : P2002302-005 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 09:28:55 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05142028.D\data.ms

(13) Acetone (T)

6.990min (-0.039) 12.50ng

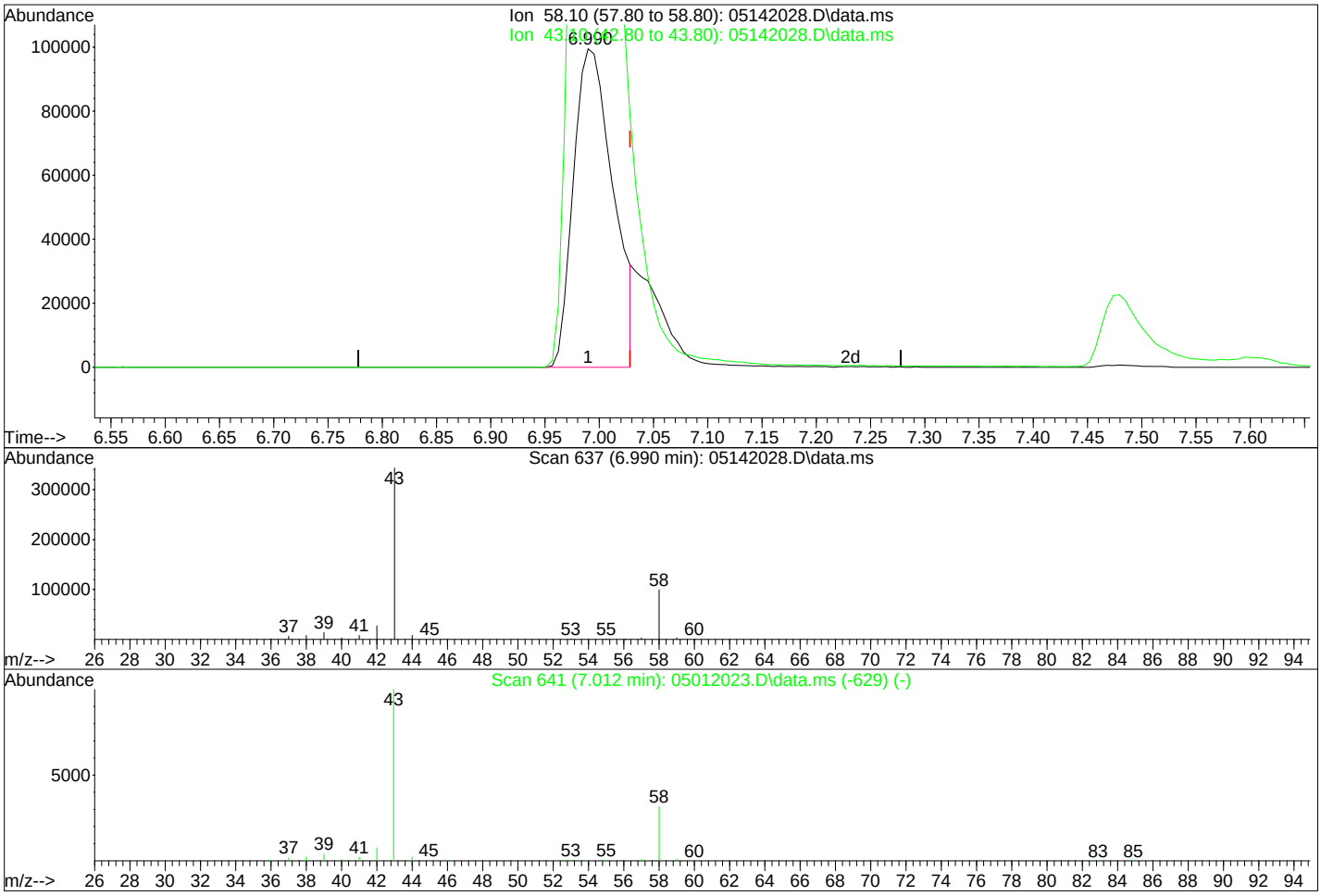
response 312010

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	294.72
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\14\05142028.D Vial: 7
Acq On : 15 May 2020 00:24 Operator: LH
Sample : P2002302-005 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 09:28:55 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05142028.D\data.ms

(13) Acetone (T)

6.990min (-0.039) 10.11ng m

response 252304

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	364.47#
0.00	0.00	0.00
0.00	0.00	0.00

IPC

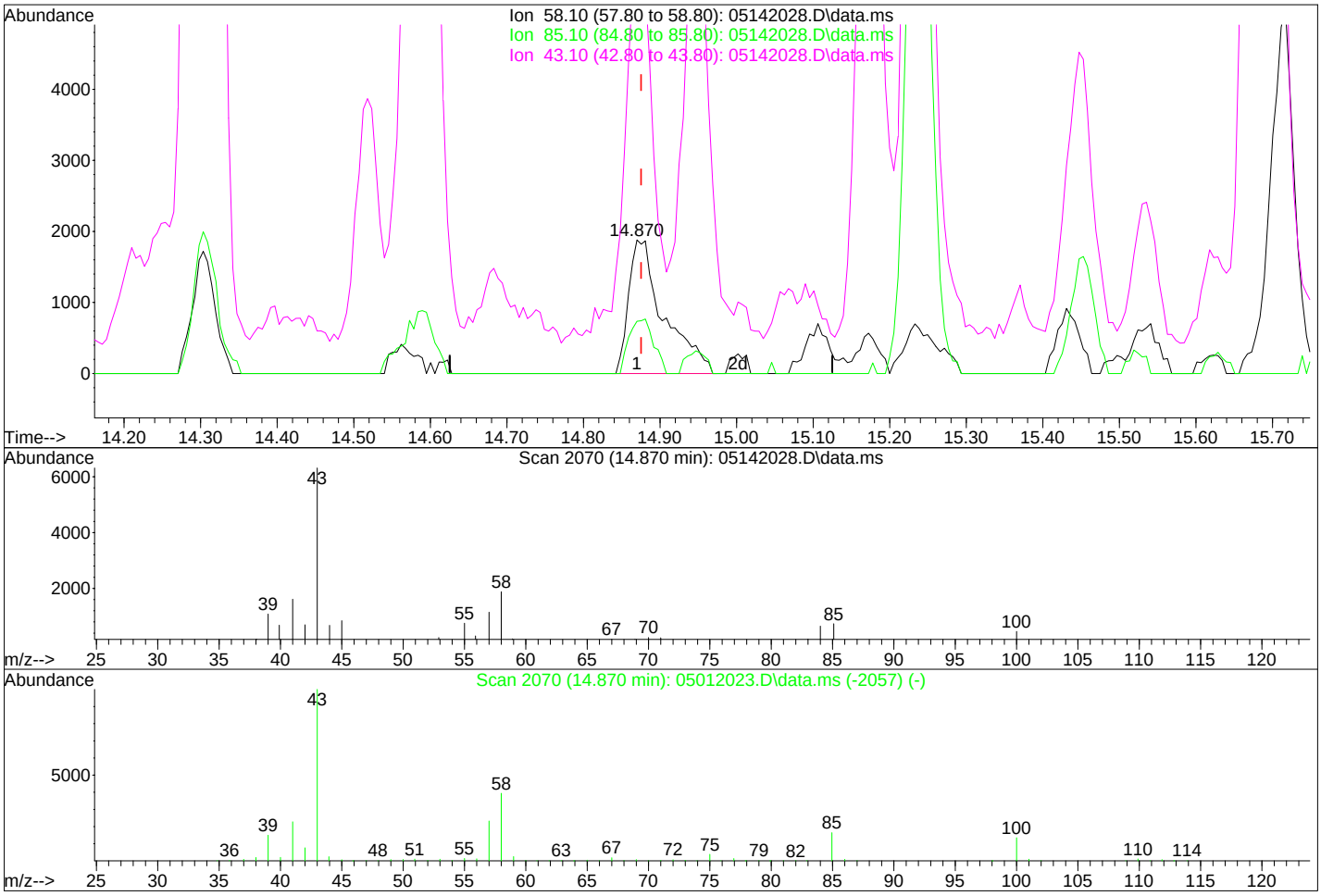
LH 5/15/20

5/17/20

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\14\05142028.D Vial: 7
Acq On : 15 May 2020 00:24 Operator: LH
Sample : P2002302-005 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 09:28:55 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05142028.D\data.ms

(53) 4-Methyl-2-pentanone (T)

14.870min (-0.006) 0.21ng

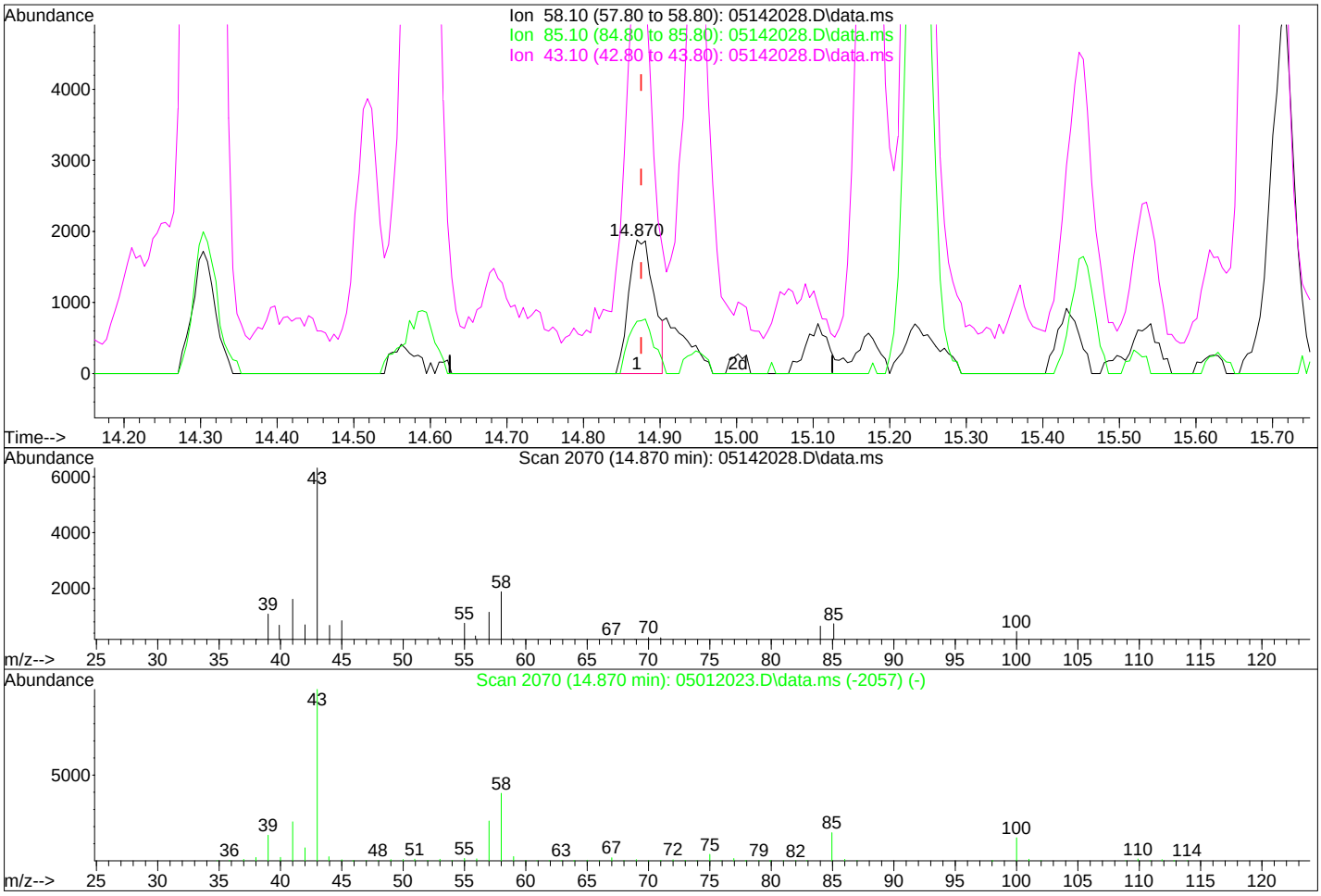
response 5987

Ion	Exp%	Act%
58.10	100	100
85.10	44.30	28.56#
43.10	254.10	233.81
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\14\05142028.D Vial: 7
Acq On : 15 May 2020 00:24 Operator: LH
Sample : P2002302-005 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 09:28:55 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05142028.D\data.ms

(53) 4-Methyl-2-pentanone (T)

14.870min (-0.006) 0.15ng m

response 4328

IPC

LH 5/15/20

Ion	Exp%	Act%
58.10	100	100
85.10	44.30	39.51
43.10	254.10	323.43#
0.00	0.00	0.00

WDA 5/17/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142029.D Vial: 8
Acq On : 15 May 2020 00:58 Operator: LH
Sample : P2002302-006 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 15:40:15 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/15/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	273935	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1172124	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	556082	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	435980	11.744	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.92%				
57) Toluene-d8 (SS2)	15.72	98	1156110	12.266	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.16%				
73) Bromofluorobenzene (SS3)	18.97	174	452117	13.331	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.64%				
Target Compounds							Qvalue
2) Propene	4.10	42	5253	0.166	ng		97
3) Dichlorodifluoromethan...	4.26	85	240726	3.879	ng		99
4) Chloromethane	4.53	50	4198	0.086	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	3699	0.100	ng		96
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.15	54	260	N.D.			
8) Bromomethane	5.65	94	314	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.33	45	9913	0.405	ng		90
11) Acetonitrile	6.59	41	4896	0.087	ng		91
12) Acrolein	6.78	56	6405	0.331	ng		97
13) Acetone	7.00	58	57626	2.352	ng		97
14) Trichlorofluoromethane	7.24	101	47153	0.860	ng		99
15) 2-Propanol (Isopropanol)	7.52	45	6285	0.085	ng		59
16) Acrylonitrile	7.84	53	186	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.44	59	2317	N.D.			
19) Methylene Chloride	8.40	84	452	N.D.			
20) 3-Chloro-1-propene (Al...	8.50	41	814	N.D.			
21) Trichlorotrifluoroethane	8.84	151	167473	6.468	ng		97
22) Carbon Disulfide	8.67	76	46548	0.408	ng		98
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	10.16	86	5886	0.771	ng	#	59
27) 2-Butanone (MEK)	10.47	72	8611	0.412	ng		98
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.26	87	918	N.D.			
30) Ethyl Acetate	11.28	61	405	N.D.			
31) n-Hexane	11.26	57	99219	1.899	ng		99
32) Chloroform	11.30	83	39174	0.718	ng		99
34) Tetrahydrofuran (THF)	11.76	72	2324	0.114	ng	#	70
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	11.99	62	249	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	12.86	61	432	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	75398	0.600	ng		99
42) Carbon Tetrachloride	13.03	117	108002	2.526	ng		100
43) Cyclohexane	13.17	84	80220	1.713	ng		99
44) tert-Amyl Methyl Ether	13.57	73	402	N.D.			
45) 1,2-Dichloropropane	13.63	63	118	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	13.96	130	672	N.D.			
48) 1,4-Dioxane	13.96	88	3417	0.135	ng		92
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142029.D Vial: 8
Acq On : 15 May 2020 00:58 Operator: LH
Sample : P2002302-006 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 15:40:15 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

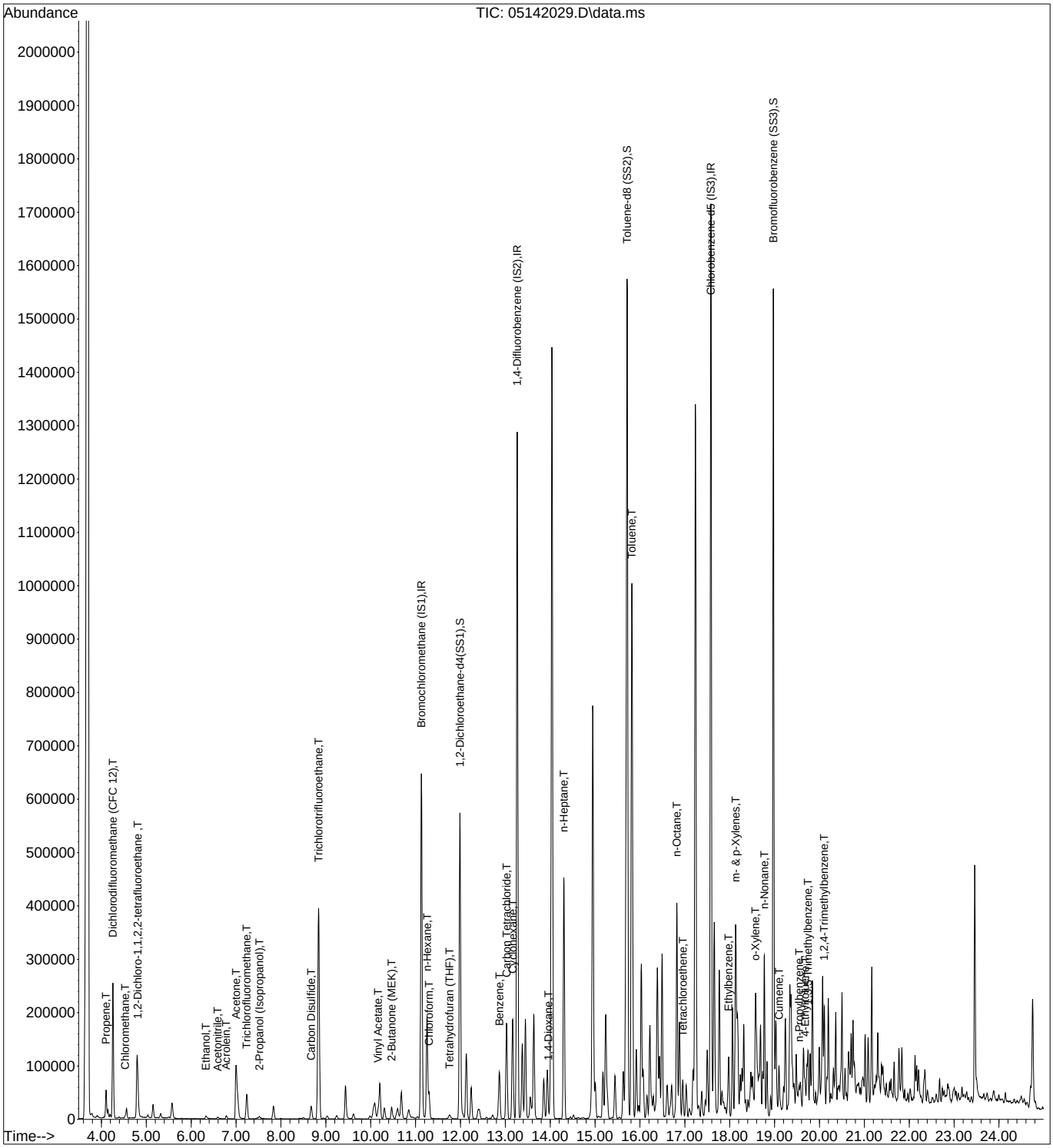
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.30	71	116309	3.957 ng	98
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.89	58	973	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	15.82	91	490992	4.041 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	16.82	57	77695	3.089 ng	99
64) Tetrachloroethene	16.96	166	11702	0.341 ng	99
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	17.98	91	55648	0.411 ng	99
67) m- & p-Xylenes	18.14	91	236179	2.197 ng	100
68) Bromoform	18.20	173	1076	N.D.	
69) Styrene	18.48	104	852	N.D.	
70) o-Xylene	18.57	91	73400	0.673 ng	99
71) n-Nonane	18.77	43	106114	1.833 ng	97
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	19.10	105	9189	0.069 ng	96
75) alpha-Pinene	19.36	93	227	N.D.	
76) n-Propylbenzene	19.55	91	17214	0.108 ng	88
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.68	105	7594	0.060 ng	99
79) 1,3,5-Trimethylbenzene	19.74	105	23993	0.220 ng	99
80) alpha-Methylstyrene	19.88	118	2984	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.10	105	45769	0.417 ng	91
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.22	91	1081	N.D.	
85) 1,3-Dichlorobenzene	20.24	146	133	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	140	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	20.48	119	4504	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.61	68	1217	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.21	128	5523	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	20.85	91	4937	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142029.D Vial: 8
Acq On : 15 May 2020 00:58 Operator: LH
Sample : P2002302-006 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 15:40:15 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

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Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/15/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	273935	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1172124	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	556082	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	435980	11.744	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.92%				
57) Toluene-d8 (SS2)	15.72	98	1156110	12.266	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.16%				
73) Bromofluorobenzene (SS3)	18.97	174	452117	13.331	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.64%				
Target Compounds							Qvalue
2) Propene	4.10	42	5253	0.166	ng		97
3) Dichlorodifluoromethan...	4.26	85	240726	3.879	ng		99
4) Chloromethane	4.53	50	4198	0.086	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	3699	0.100	ng		96
10) Ethanol	6.33	45	9913	0.405	ng		90
11) Acetonitrile	6.59	41	4896	0.087	ng		91
12) Acrolein	6.78	56	6405	0.331	ng		97
13) Acetone	7.00	58	57626	2.352	ng		97
14) Trichlorofluoromethane	7.24	101	47153	0.860	ng		99
15) 2-Propanol (Isopropanol)	7.52	45	6285	0.085	ng		59
21) Trichlorotrifluoroethane	8.84	151	167473	6.468	ng		97
22) Carbon Disulfide	8.67	76	46548	0.408	ng		98
26) Vinyl Acetate	10.16	86	5886	0.771	ng	#	59
27) 2-Butanone (MEK)	10.47	72	8611	0.412	ng		98
31) n-Hexane	11.26	57	99219	1.899	ng		99
32) Chloroform	11.30	83	39174	0.718	ng		99
34) Tetrahydrofuran (THF)	11.76	72	2324	0.114	ng	#	70
41) Benzene	12.87	78	75398	0.600	ng		99
42) Carbon Tetrachloride	13.03	117	108002	2.526	ng		100
43) Cyclohexane	13.17	84	80220	1.713	ng		99
48) 1,4-Dioxane	13.96	88	3417	0.135	ng		92
51) n-Heptane	14.30	71	116309	3.957	ng		98
58) Toluene	15.82	91	490992	4.041	ng		100
63) n-Octane	16.82	57	77695	3.089	ng		99
64) Tetrachloroethene	16.96	166	11702	0.341	ng		99
66) Ethylbenzene	17.98	91	55648	0.411	ng		99
67) m- & p-Xylenes	18.14	91	236179	2.197	ng		100
70) o-Xylene	18.57	91	73400	0.673	ng		99
71) n-Nonane	18.77	43	106114	1.833	ng		97
74) Cumene	19.10	105	9189	0.069	ng		96
76) n-Propylbenzene	19.55	91	17214	0.108	ng		88
78) 4-Ethyltoluene	19.68	105	7594	0.060	ng		99
79) 1,3,5-Trimethylbenzene	19.74	105	23993	0.220	ng		99
82) 1,2,4-Trimethylbenzene	20.10	105	45769	0.417	ng		91

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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Acq On : 15 May 2020 00:58 Operator: LH
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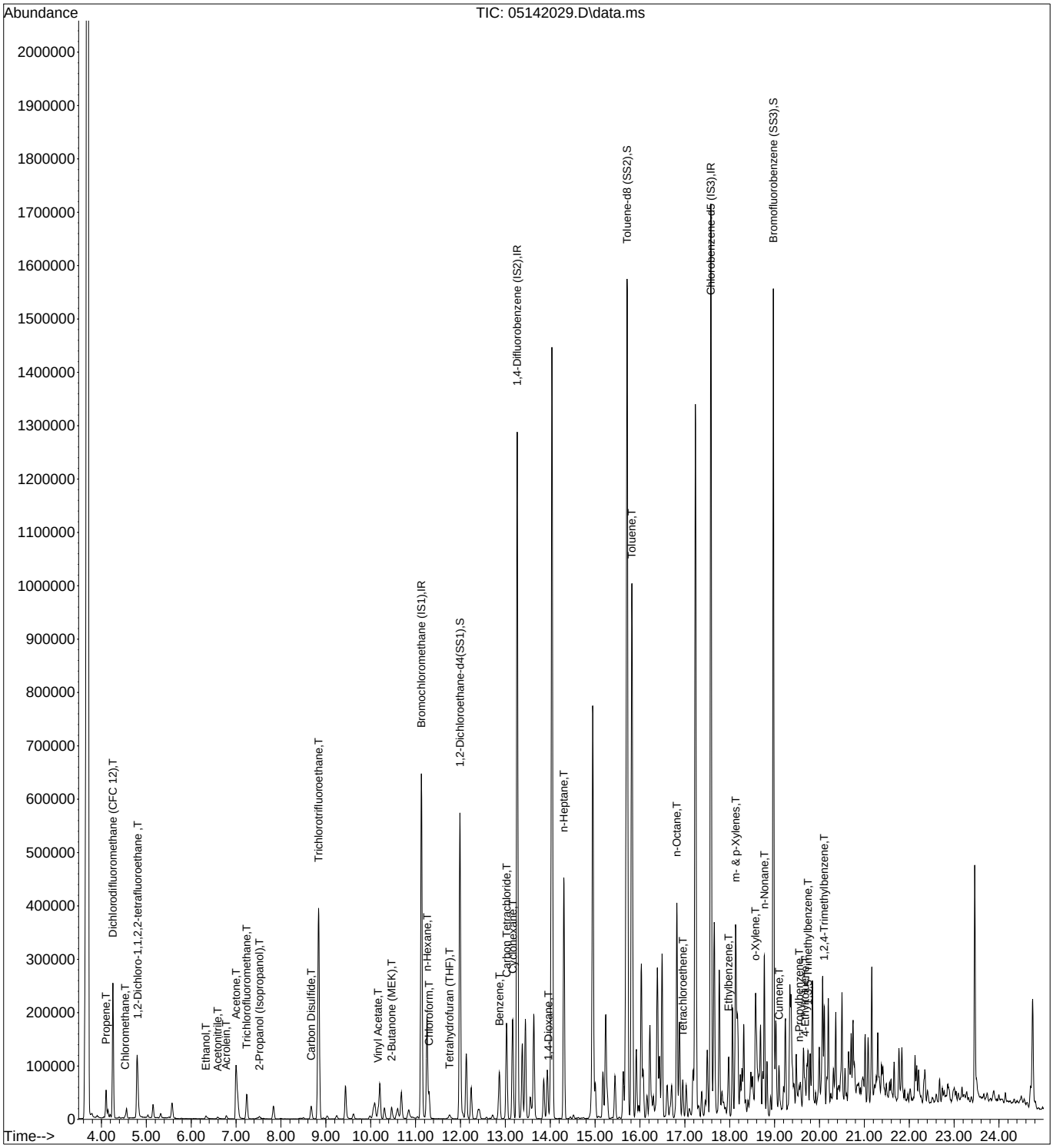
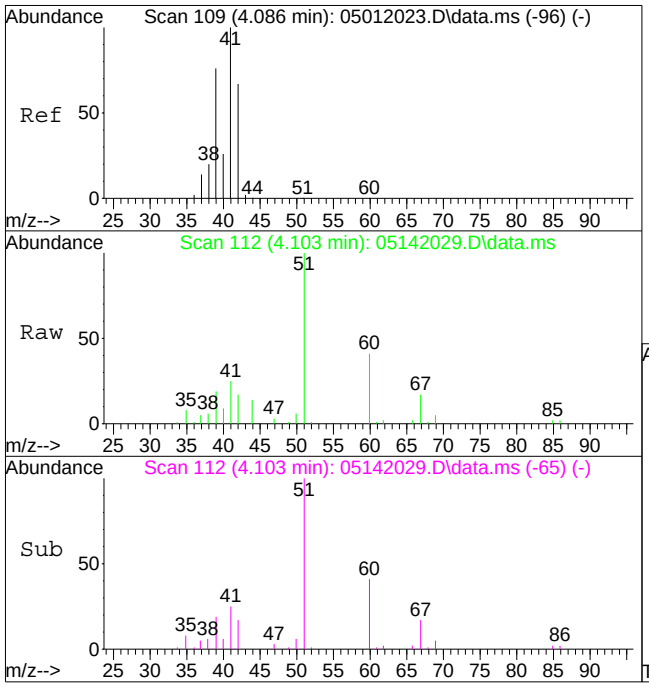
Response via : Initial Calibration
DataAcq Meth:TO15.M

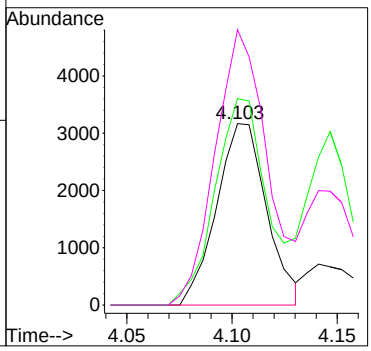


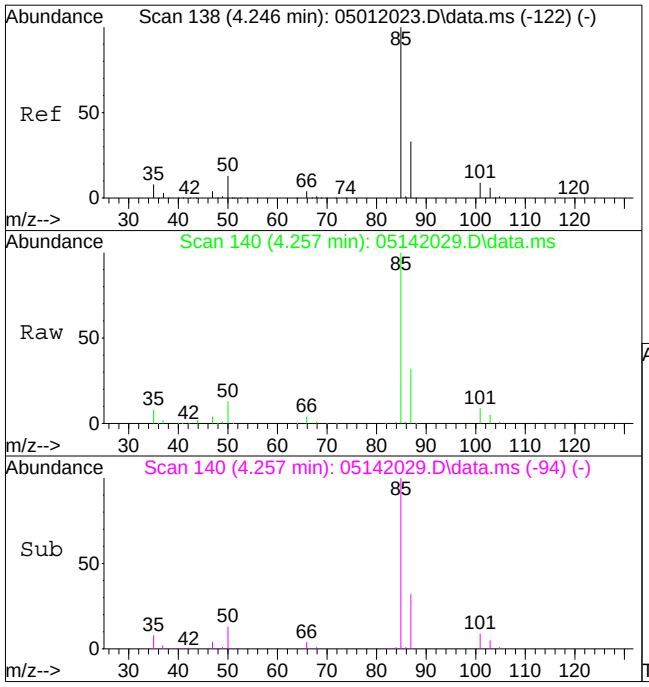


#2
Propene
Concen: 0.17 ng
RT: 4.10 min Scan# 112
Delta R.T. 0.011 min
Lab File: 05142029.D
Acq: 15 May 2020 00:58

Tgt Ion: 42 Resp: 5253

Ion	Ratio	Lower	Upper
42	100		
39	115.5	96.1	136.1
41	157.9	131.9	171.9

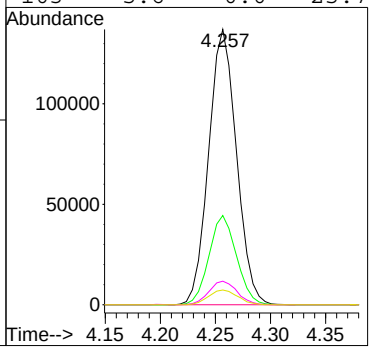


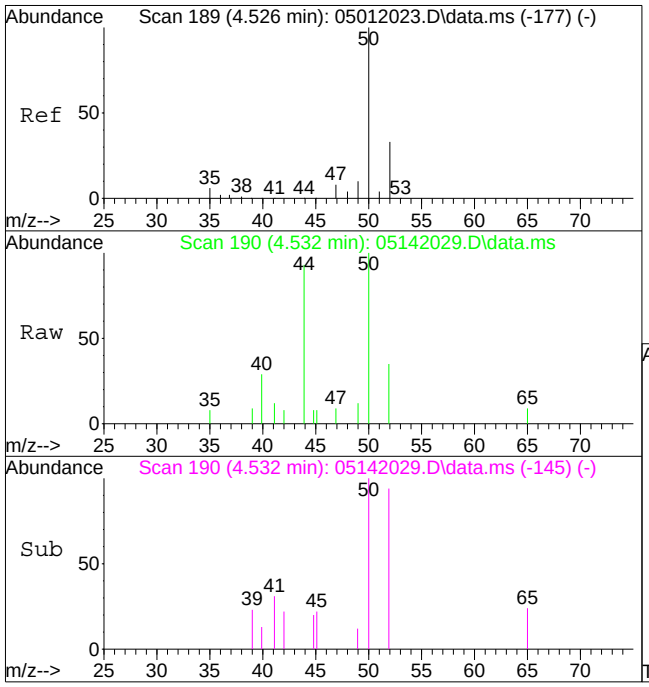


#3
Dichlorodifluoromethane (CFC 12)
Concen: 3.88 ng
RT: 4.26 min Scan# 140
Delta R.T. 0.005 min
Lab File: 05142029.D
Acq: 15 May 2020 00:58

Tgt Ion: 85 Resp: 240726

Ion	Ratio	Lower	Upper
85	100		
87	32.0	12.4	52.4
101	8.7	0.0	28.8
103	5.6	0.0	25.7

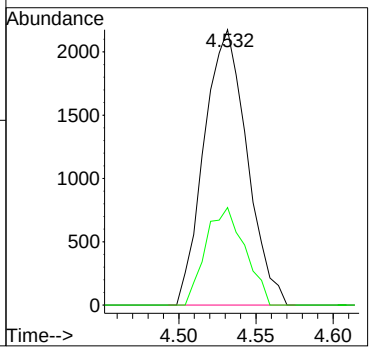


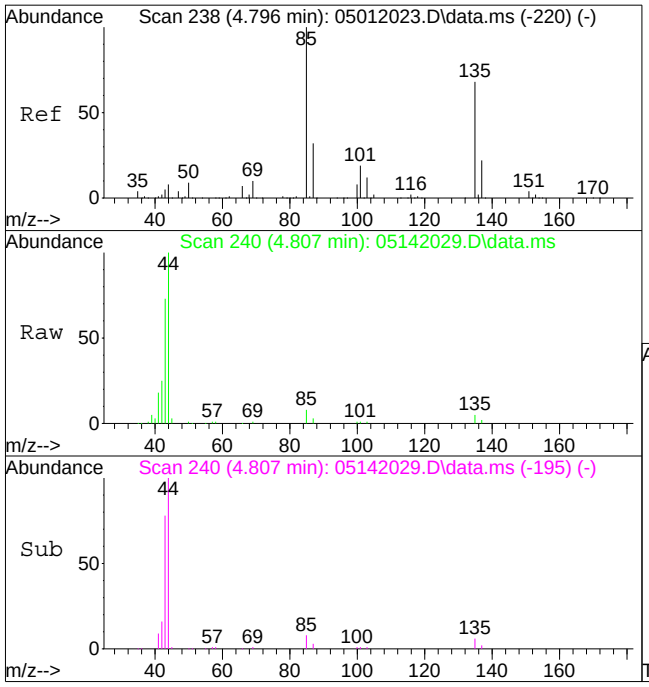


#4
Chloromethane
Concen: 0.09 ng
RT: 4.53 min Scan# 190
Delta R.T. -0.000 min
Lab File: 05142029.D
Acq: 15 May 2020 00:58

Tgt Ion: 50 Resp: 4198

Ion	Ratio	Lower	Upper
50	100		
52	32.5	12.5	52.5

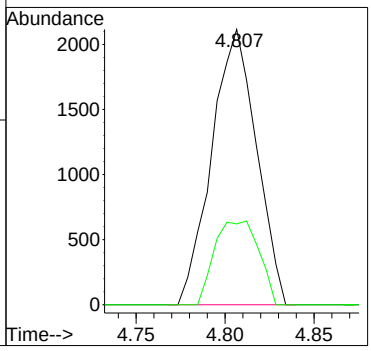


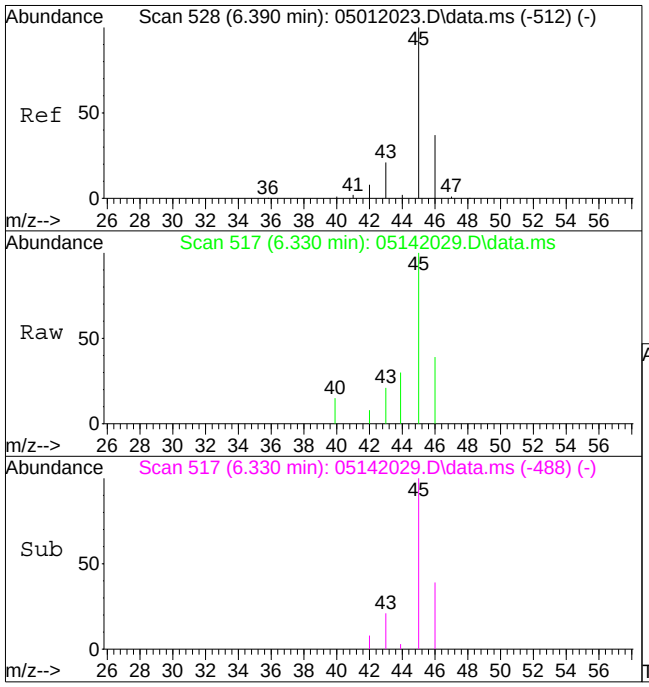


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 0.10 ng
RT: 4.81 min Scan# 240
Delta R.T. -0.000 min
Lab File: 05142029.D
Acq: 15 May 2020 00:58

Tgt Ion:135 Resp: 3699

Ion	Ratio	Lower	Upper
135	100		
137	30.1	12.1	52.1

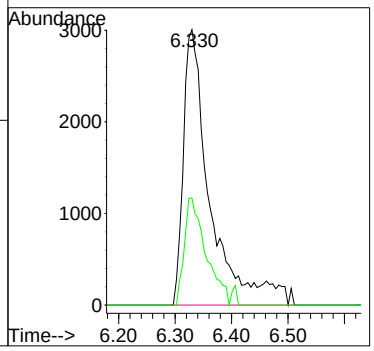


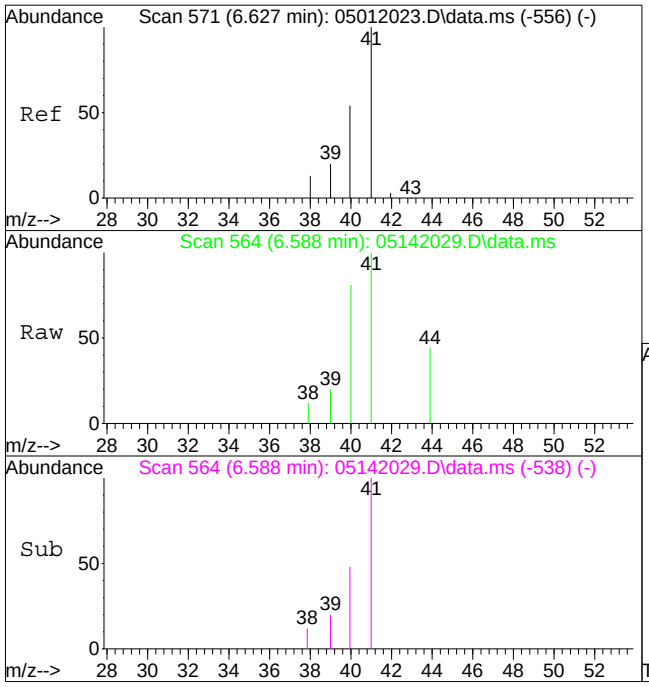


#10
Ethanol
Concen: 0.40 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.088 min
Lab File: 05142029.D
Acq: 15 May 2020 00:58

Tgt Ion: 45 Resp: 9913

Ion	Ratio	Lower	Upper
45	100		
46	31.4	17.2	57.2

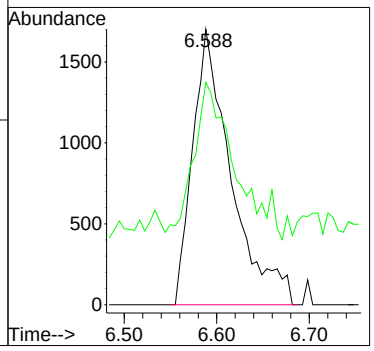


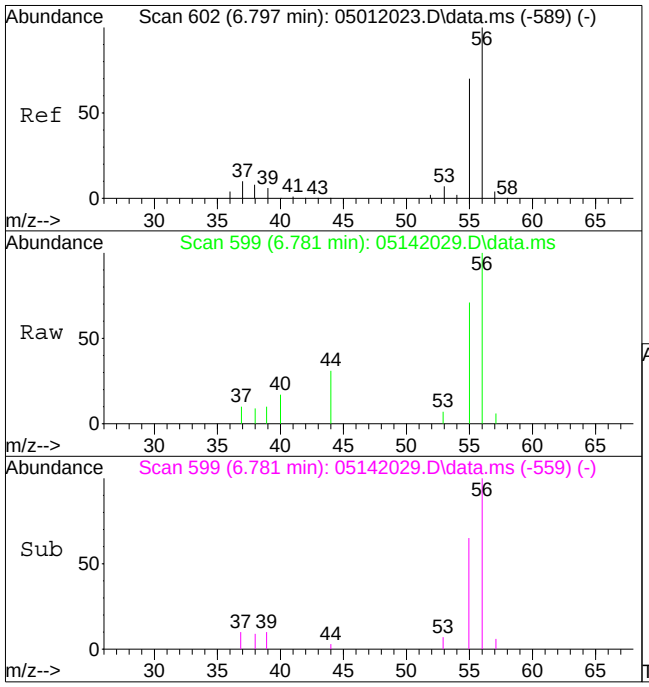


#11
Acetonitrile
Concen: 0.09 ng
RT: 6.59 min Scan# 564
Delta R.T. -0.055 min
Lab File: 05142029.D
Acq: 15 May 2020 00:58

Tgt Ion: 41 Resp: 4896

Ion	Ratio	Lower	Upper
41	100		
40	59.9	33.6	73.6

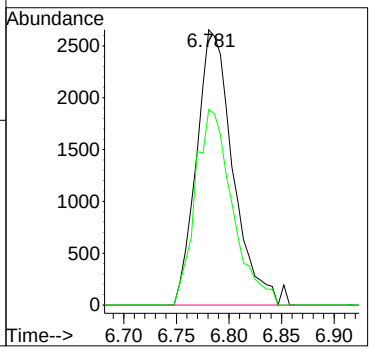


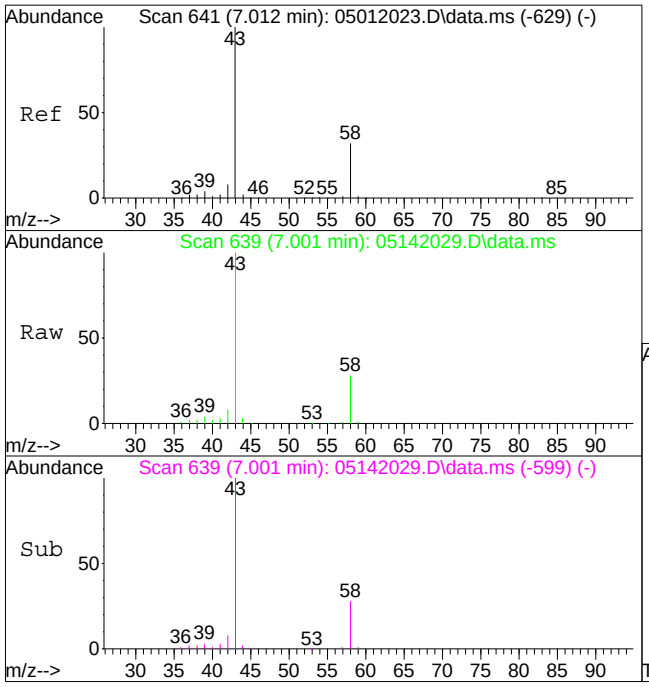


#12
Acrolein
Concen: 0.33 ng
RT: 6.78 min Scan# 599
Delta R.T. -0.028 min
Lab File: 05142029.D
Acq: 15 May 2020 00:58

Tgt Ion: 56 Resp: 6405

Ion	Ratio	Lower	Upper
56	100		
55	72.5	50.2	90.2

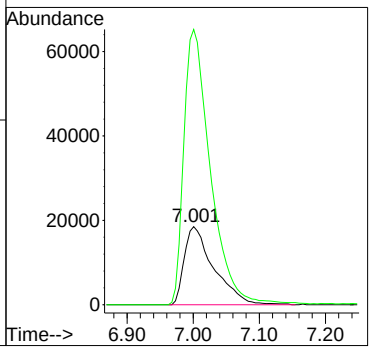


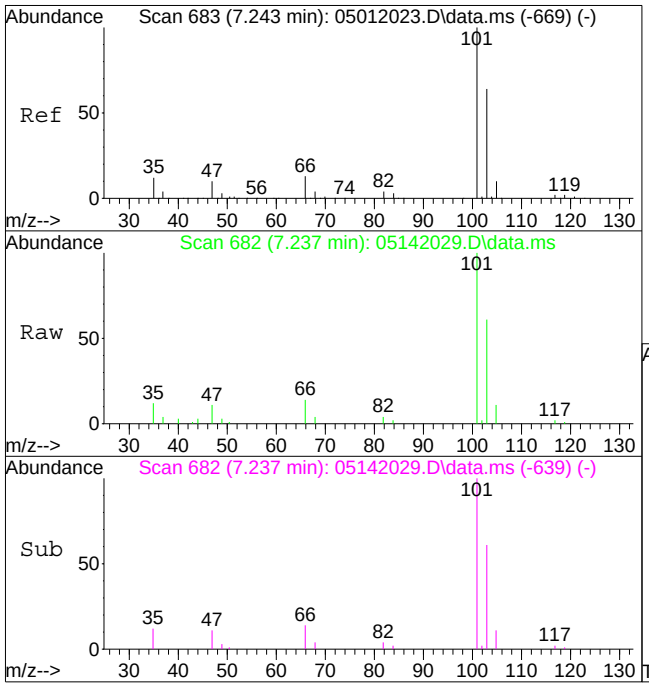


#13
Acetone
Concen: 2.35 ng
RT: 7.00 min Scan# 639
Delta R.T. -0.028 min
Lab File: 05142029.D
Acq: 15 May 2020 00:58

Tgt Ion: 58 Resp: 57626

Ion	Ratio	Lower	Upper
58	100		
43	317.3	294.4	354.4

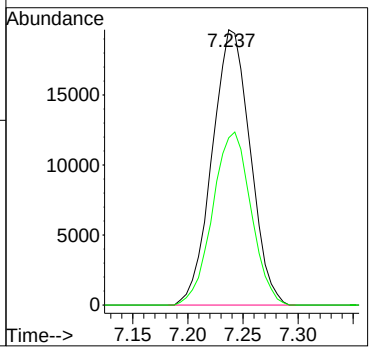


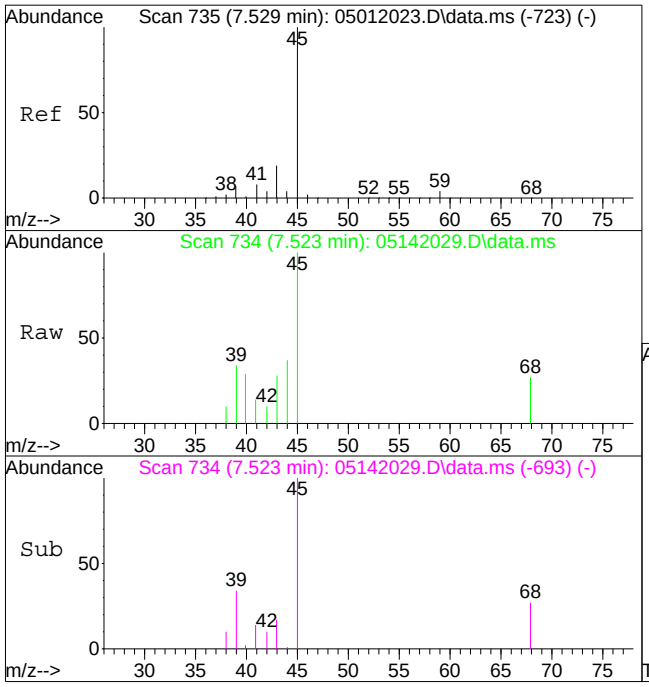


#14
Trichlorofluoromethane
Concen: 0.86 ng
RT: 7.24 min Scan# 682
Delta R.T. -0.011 min
Lab File: 05142029.D
Acq: 15 May 2020 00:58

Tgt Ion:101 Resp: 47153

Ion	Ratio	Lower	Upper
101	100		
103	63.4	44.4	84.4

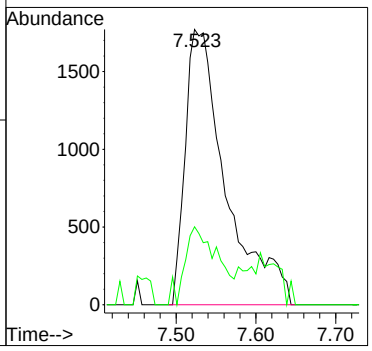


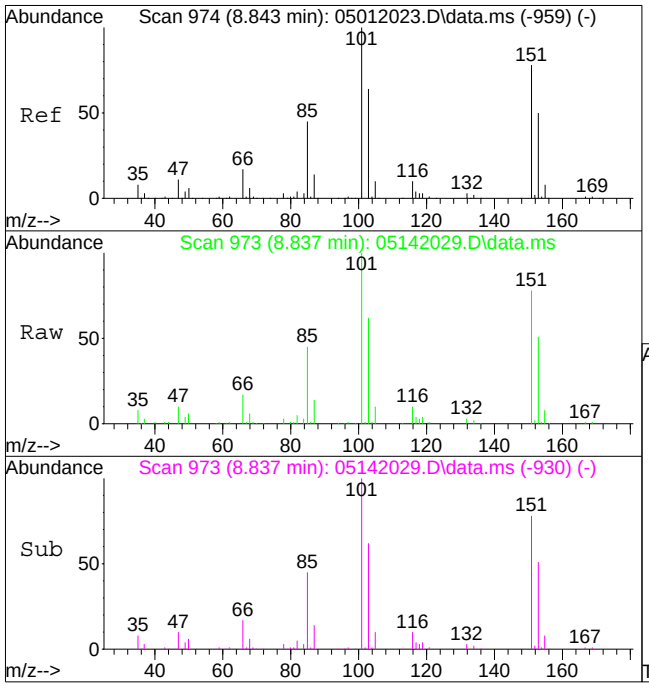


#15
2-Propanol (Isopropanol)
Concen: 0.08 ng
RT: 7.52 min Scan# 734
Delta R.T. -0.022 min
Lab File: 05142029.D
Acq: 15 May 2020 00:58

Tgt Ion: 45 Resp: 6285

Ion	Ratio	Lower	Upper
45	100		
43	38.1	0.0	39.5

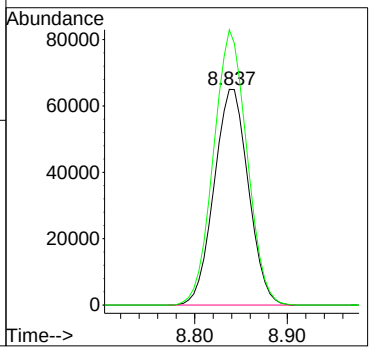


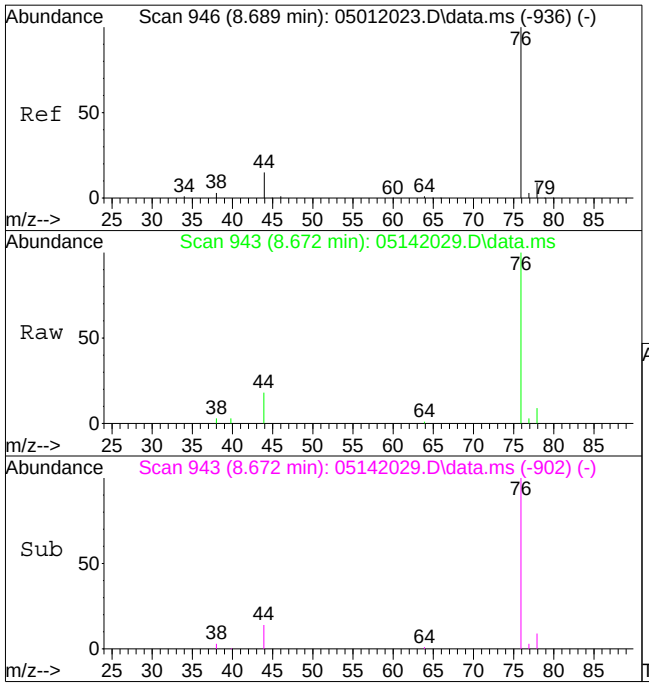


#21
Trichlorotrifluoroethane
Concen: 6.47 ng
RT: 8.84 min Scan# 973
Delta R.T. -0.011 min
Lab File: 05142029.D
Acq: 15 May 2020 00:58

Tgt Ion:151 Resp: 167473

Ion	Ratio	Lower	Upper
151	100		
101	124.3	107.3	147.3

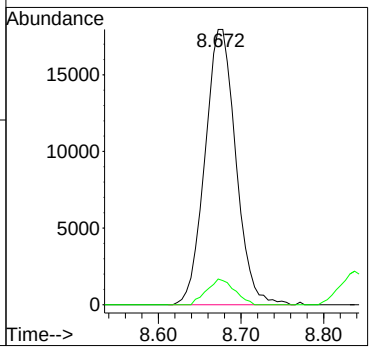


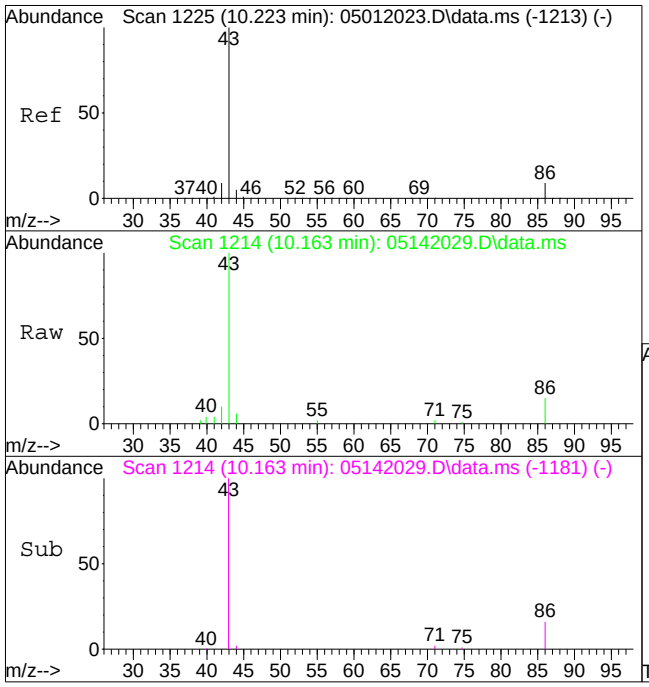


#22
Carbon Disulfide
Concen: 0.41 ng
RT: 8.67 min Scan# 943
Delta R.T. -0.022 min
Lab File: 05142029.D
Acq: 15 May 2020 00:58

Tgt Ion: 76 Resp: 46548

Ion	Ratio	Lower	Upper
76	100		
78	8.4	0.0	29.2

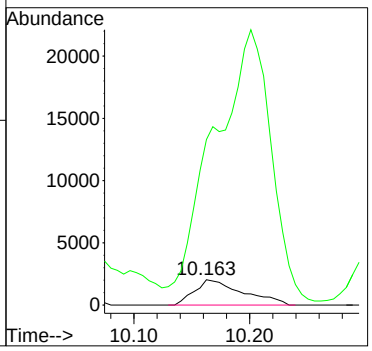


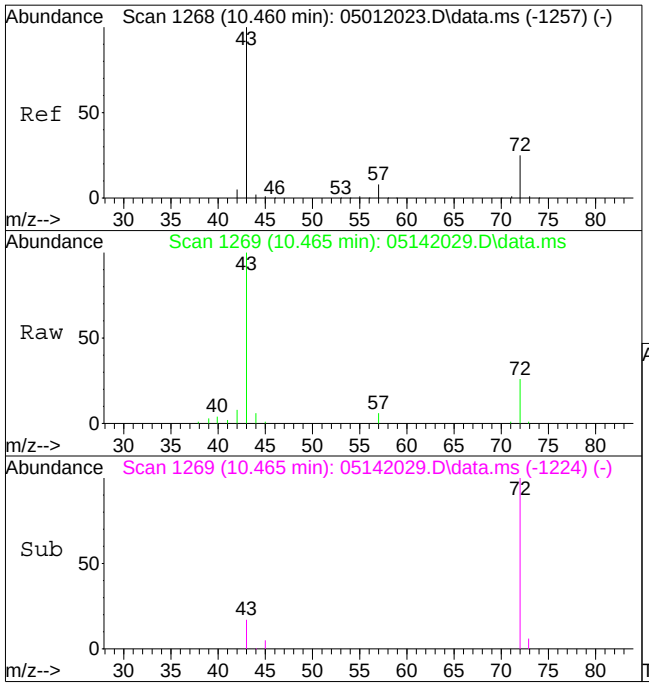


#26
Vinyl Acetate
Concen: 0.77 ng
RT: 10.16 min Scan# 1214
Delta R.T. -0.066 min
Lab File: 05142029.D
Acq: 15 May 2020 00:58

Tgt Ion: 86 Resp: 5886

Ion	Ratio	Lower	Upper
86	100		
43	1320.2	1103.0	1143.0#

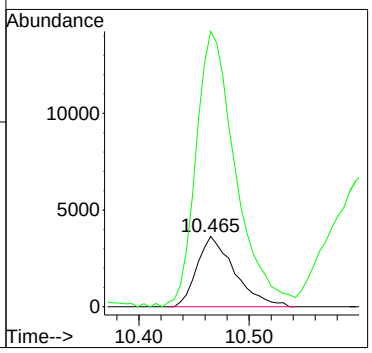


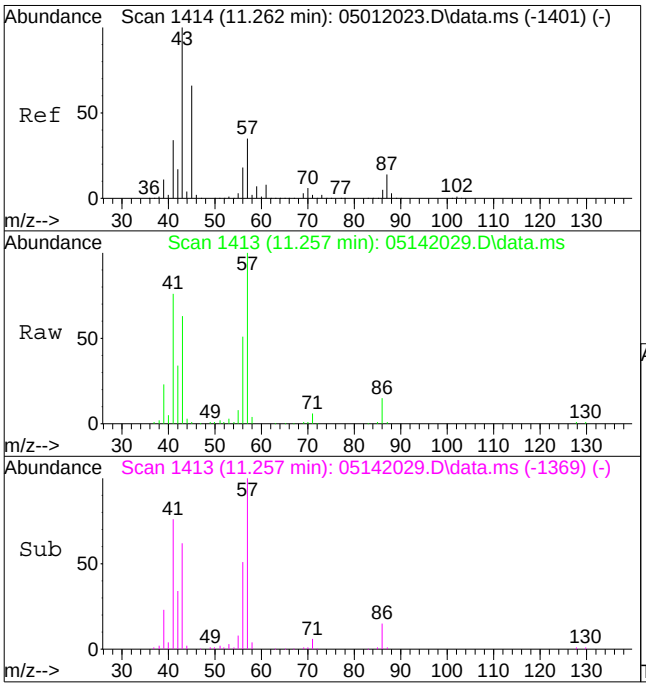


#27
2-Butanone (MEK)
Concen: 0.41 ng
RT: 10.47 min Scan# 1269
Delta R.T. -0.000 min
Lab File: 05142029.D
Acq: 15 May 2020 00:58

Tgt Ion: 72 Resp: 8611

Ion	Ratio	Lower	Upper
72	100		
43	415.4	389.7	429.7

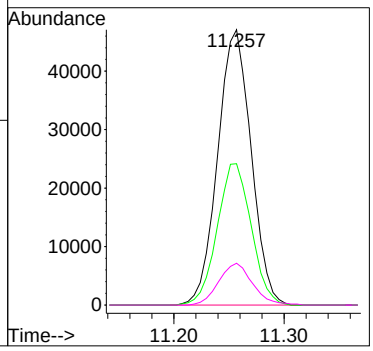


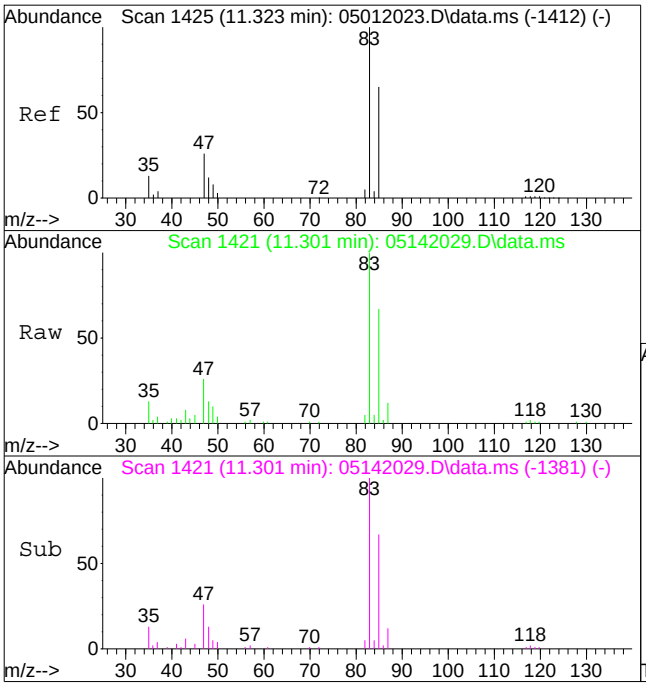


#31
n-Hexane
Concen: 1.90 ng
RT: 11.26 min Scan# 1413
Delta R.T. -0.006 min
Lab File: 05142029.D
Acq: 15 May 2020 00:58

Tgt Ion: 57 Resp: 99219

Ion	Ratio	Lower	Upper
57	100		
56	52.2	41.4	62.0
86	15.4	12.4	18.6

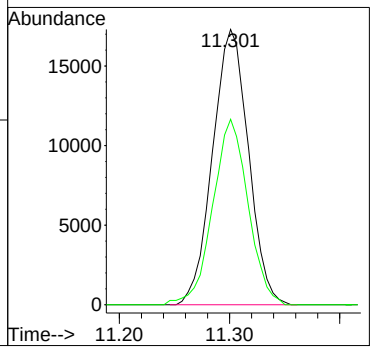


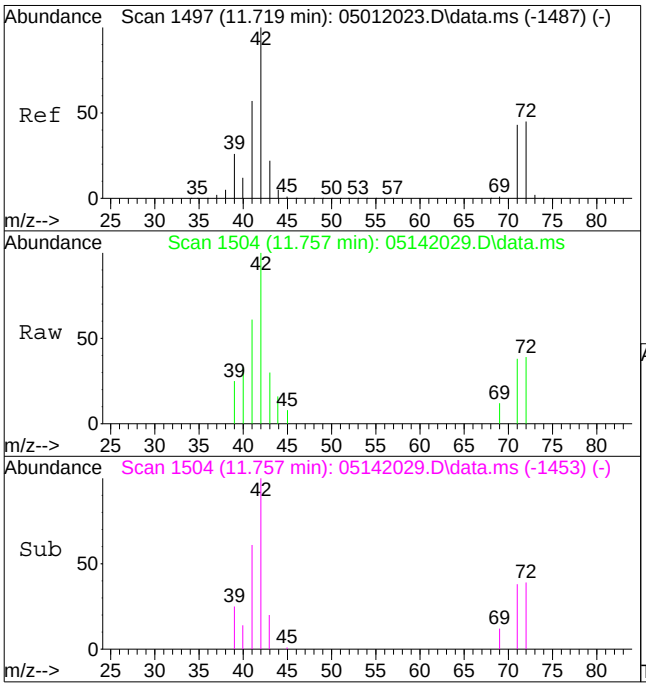


#32
Chloroform
Concen: 0.72 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.028 min
Lab File: 05142029.D
Acq: 15 May 2020 00:58

Tgt Ion: 83 Resp: 39174

Ion	Ratio	Lower	Upper
83	100		
85	66.3	45.5	85.5

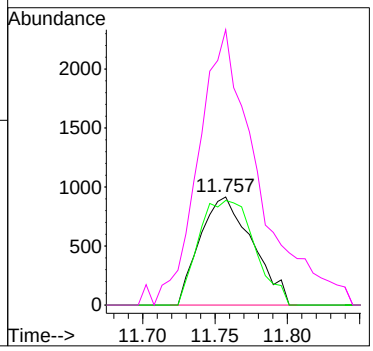


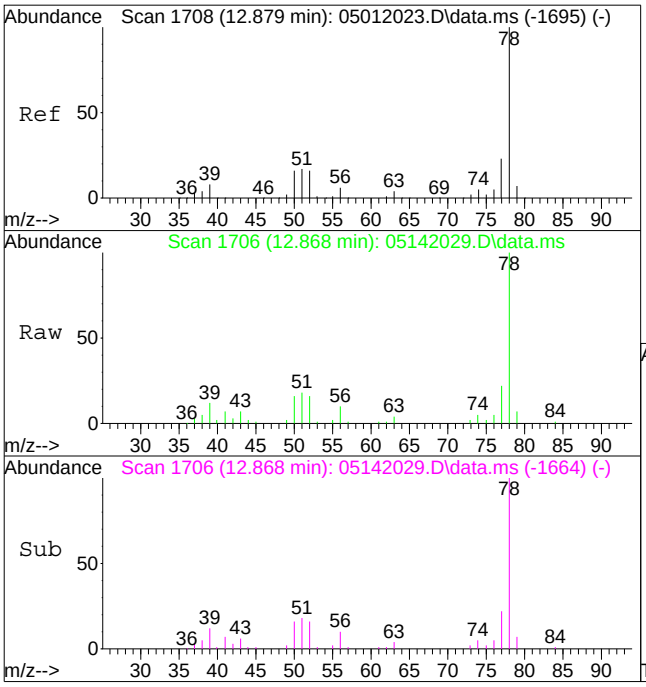


#34
Tetrahydrofuran (THF)
Concen: 0.11 ng
RT: 11.76 min Scan# 1504
Delta R.T. 0.033 min
Lab File: 05142029.D
Acq: 15 May 2020 00:58

Tgt Ion: 72 Resp: 2324

Ion	Ratio	Lower	Upper
72	100		
71	102.5	77.0	117.0
42	291.4	204.6	244.6#

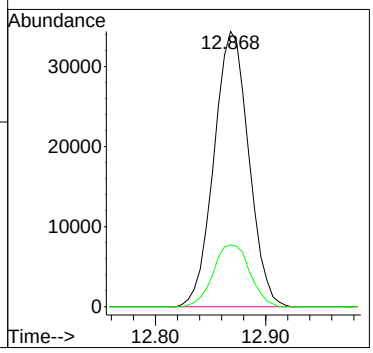


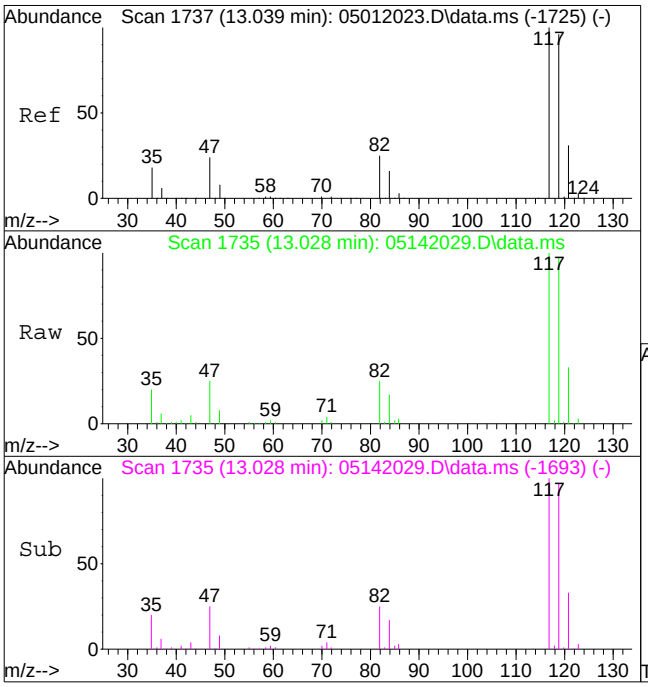


#41
Benzene
Concen: 0.60 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05142029.D
Acq: 15 May 2020 00:58

Tgt Ion: 78 Resp: 75398

Ion	Ratio	Lower	Upper
78	100		
77	23.7	3.4	43.4

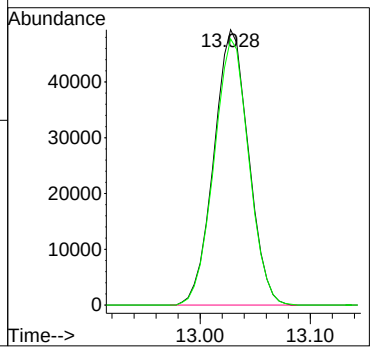


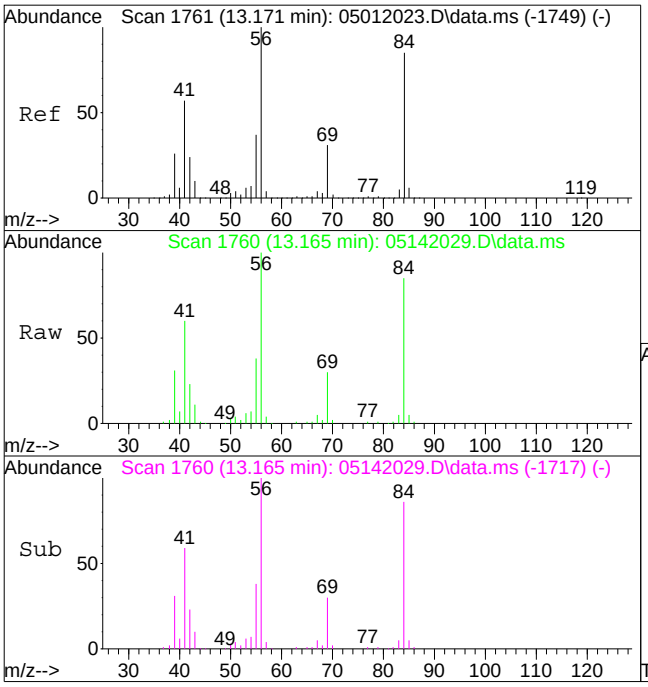


#42
Carbon Tetrachloride
Concen: 2.53 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05142029.D
Acq: 15 May 2020 00:58

Tgt Ion:117 Resp: 108002

Ion	Ratio	Lower	Upper
117	100		
119	96.6	76.2	116.2

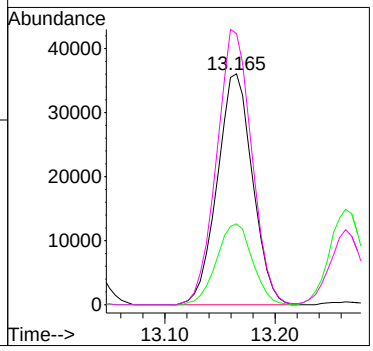


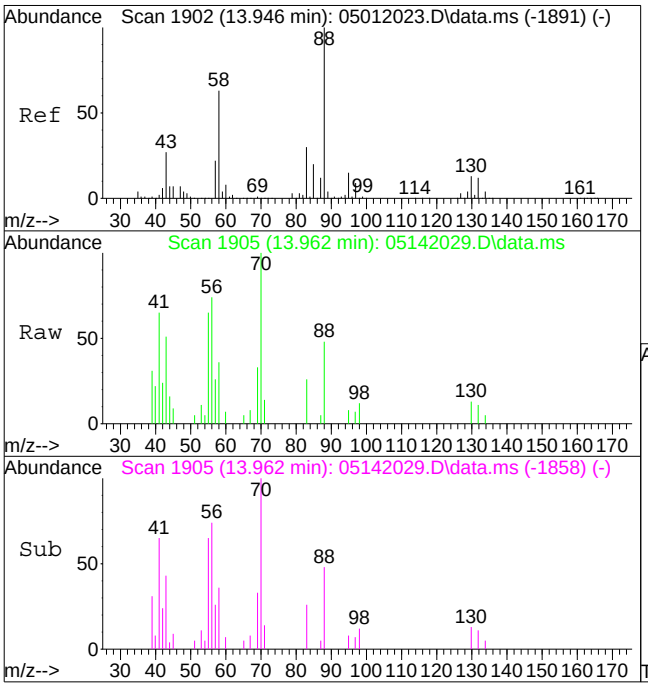


#43
Cyclohexane
Concen: 1.71 ng
RT: 13.17 min Scan# 1760
Delta R.T. -0.011 min
Lab File: 05142029.D
Acq: 15 May 2020 00:58

Tgt Ion: 84 Resp: 80220

Ion	Ratio	Lower	Upper
84	100		
69	35.7	16.5	56.5
56	118.4	97.4	137.4

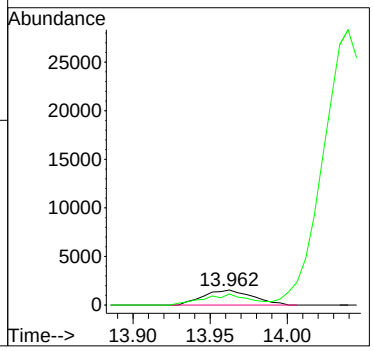


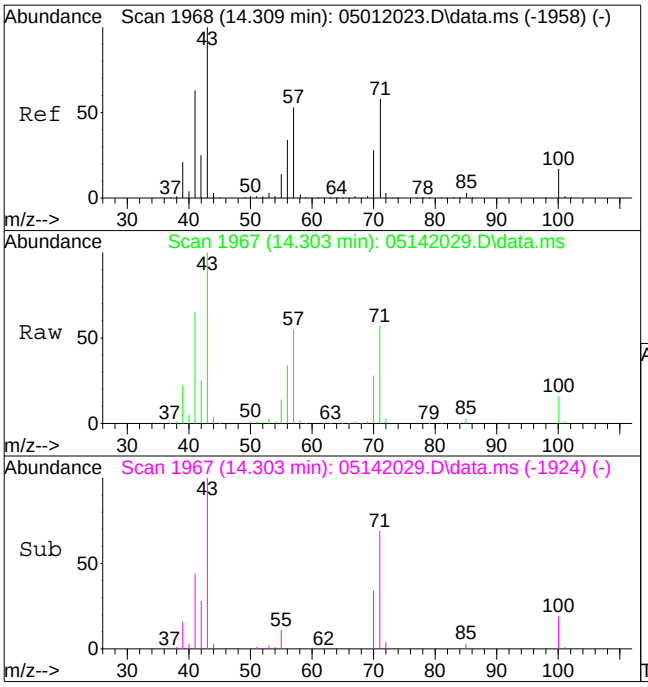


#48
1,4-Dioxane
Concen: 0.13 ng
RT: 13.96 min Scan# 1905
Delta R.T. 0.011 min
Lab File: 05142029.D
Acq: 15 May 2020 00:58

Tgt Ion: 88 Resp: 3417

Ion	Ratio	Lower	Upper
88	100		
58	69.3	42.8	82.8

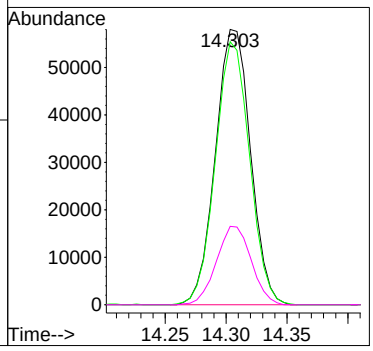


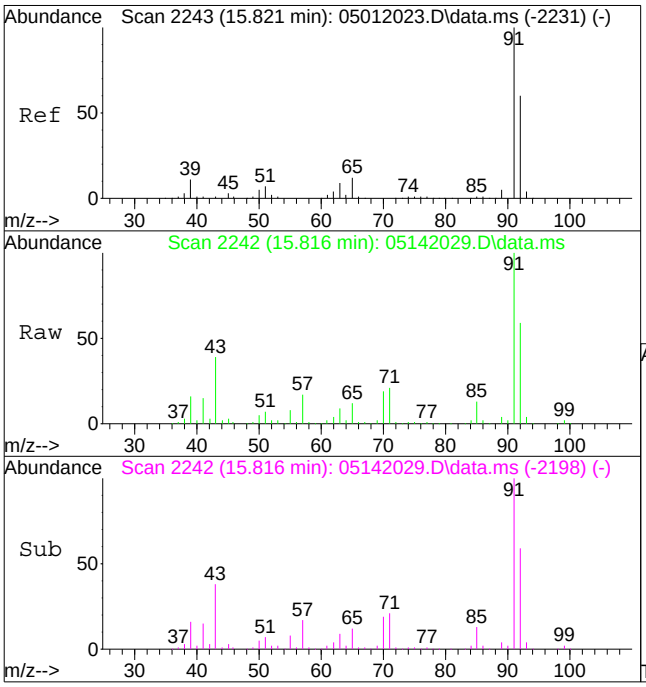


#51
n-Heptane
Concen: 3.96 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05142029.D
Acq: 15 May 2020 00:58

Tgt Ion: 71 Resp: 116309

Ion	Ratio	Lower	Upper
71	100		
57	93.4	71.0	111.0
100	28.3	8.4	48.4

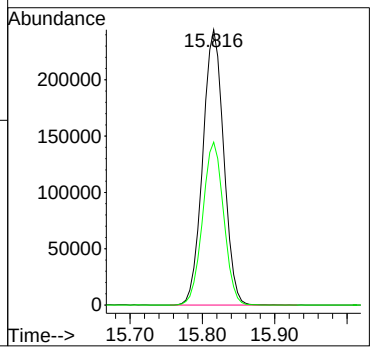


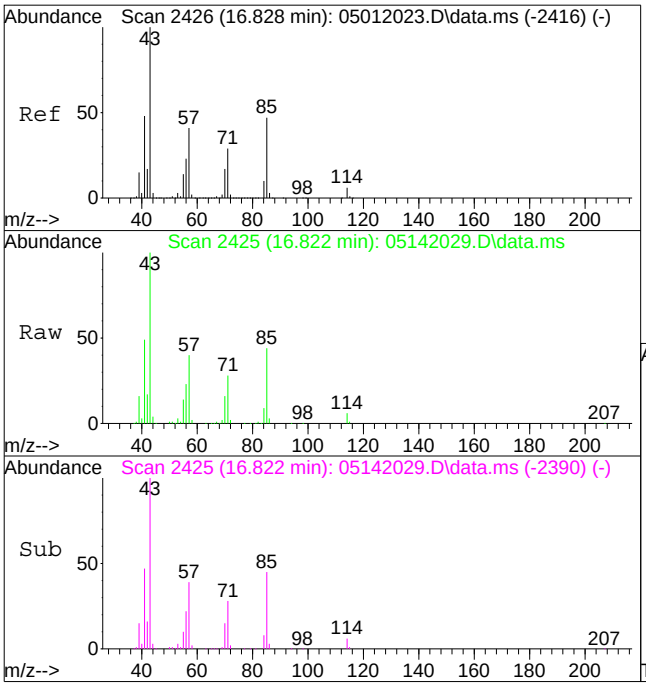


#58
Toluene
Concen: 4.04 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05142029.D
Acq: 15 May 2020 00:58

Tgt Ion: 91 Resp: 490992

Ion	Ratio	Lower	Upper
91	100		
92	59.3	39.4	79.4

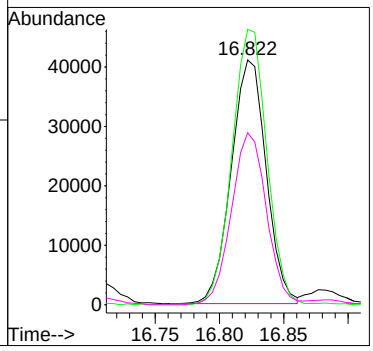


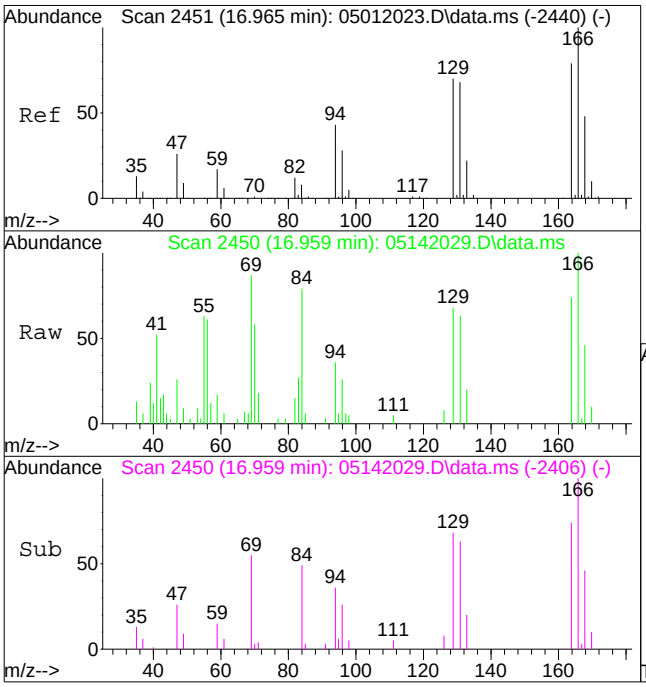


#63
n-Octane
Concen: 3.09 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05142029.D
Acq: 15 May 2020 00:58

Tgt Ion: 57 Resp: 77695

Ion	Ratio	Lower	Upper
57	100		
85	113.0	91.0	136.4
71	70.7	56.2	84.2

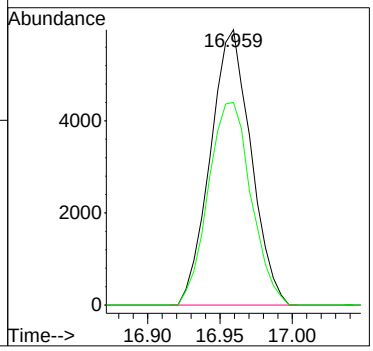


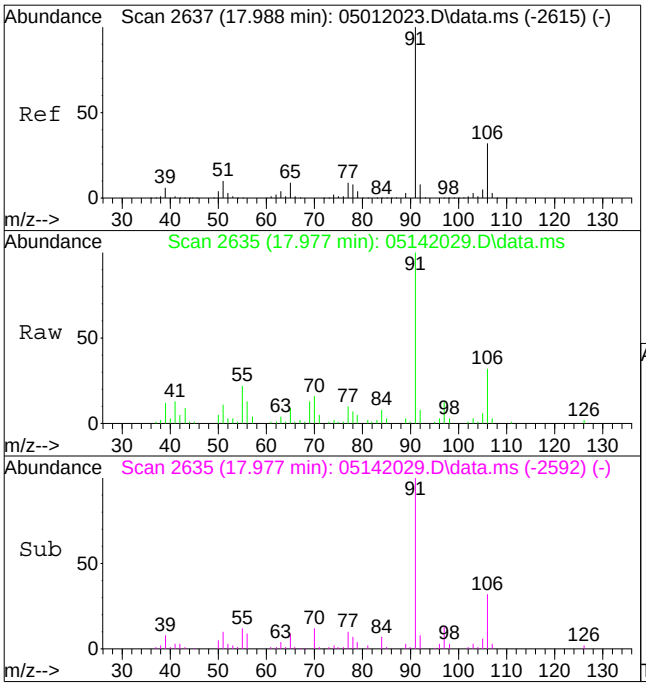


#64
Tetrachloroethene
Concen: 0.34 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05142029.D
Acq: 15 May 2020 00:58

Tgt Ion:166 Resp: 11702

Ion	Ratio	Lower	Upper
166	100		
164	77.3	58.4	98.4

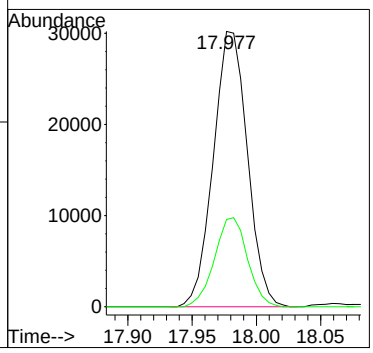


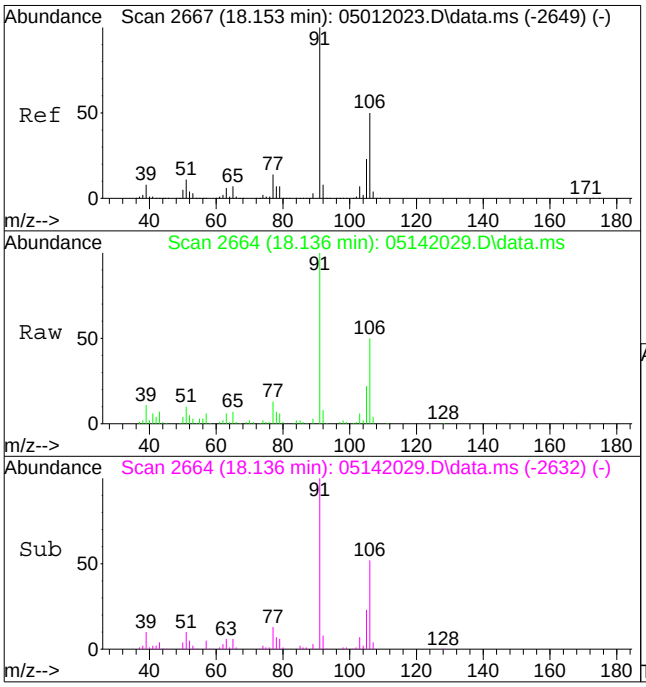


#66
Ethylbenzene
Concen: 0.41 ng
RT: 17.98 min Scan# 2635
Delta R.T. -0.011 min
Lab File: 05142029.D
Acq: 15 May 2020 00:58

Tgt Ion: 91 Resp: 55648

Ion	Ratio	Lower	Upper
91	100		
106	31.3	11.6	51.6

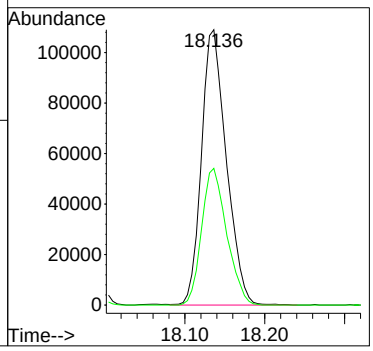


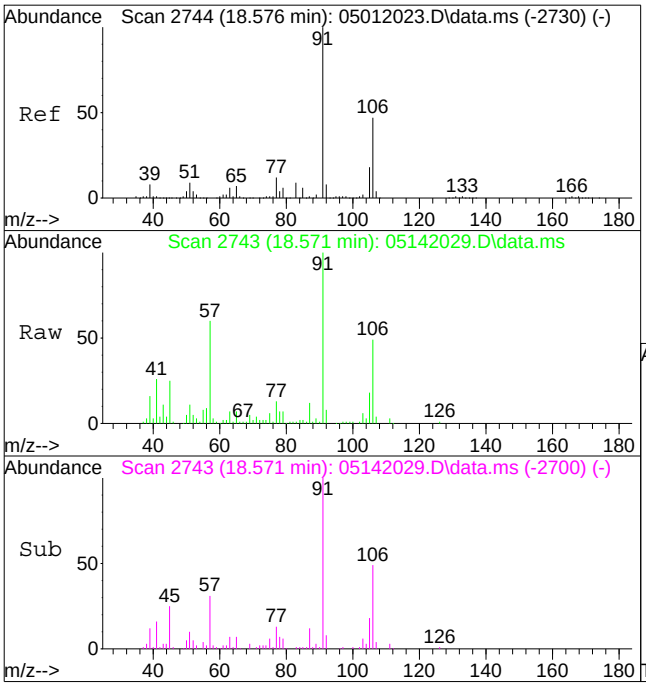


#67
m- & p-Xylenes
Concen: 2.20 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05142029.D
Acq: 15 May 2020 00:58

Tgt Ion: 91 Resp: 236179

Ion	Ratio	Lower	Upper
91	100		
106	49.9	29.7	69.7

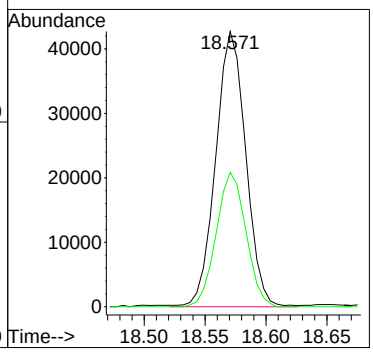


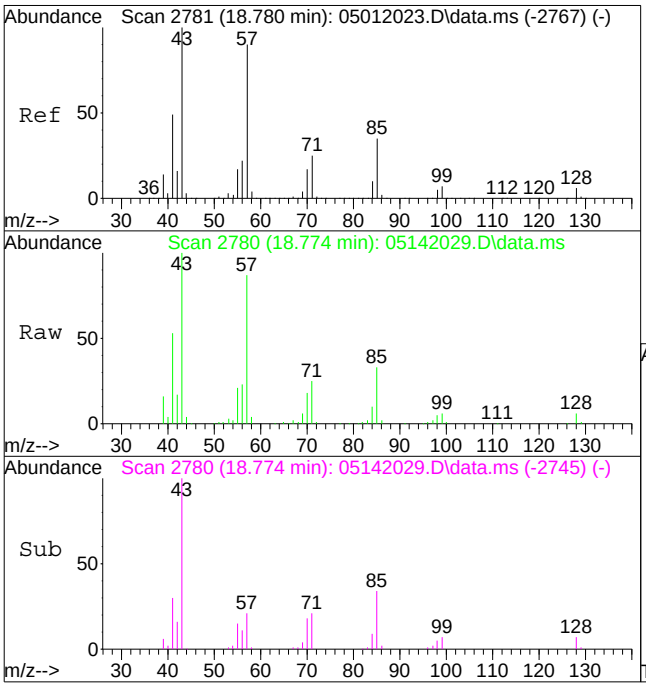


#70
o-Xylene
Concen: 0.67 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05142029.D
Acq: 15 May 2020 00:58

Tgt Ion: 91 Resp: 73400

Ion	Ratio	Lower	Upper
91	100		
106	48.1	27.5	67.5

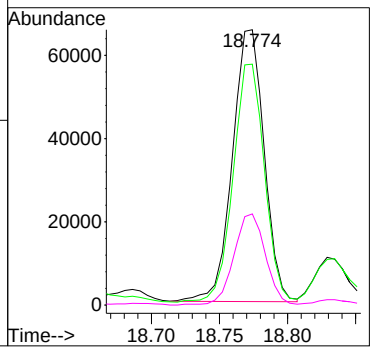


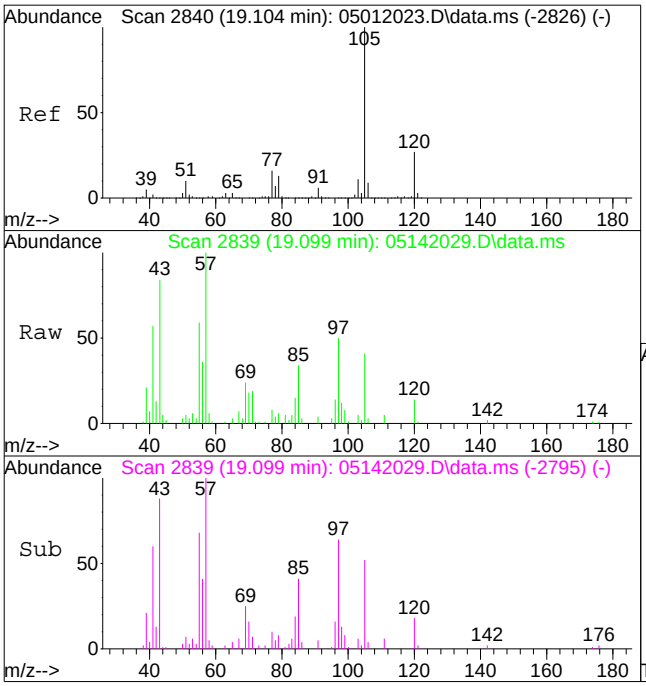


#71
n-Nonane
Concen: 1.83 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05142029.D
Acq: 15 May 2020 00:58

Tgt Ion: 43 Resp: 106114

Ion	Ratio	Lower	Upper
43	100		
57	86.5	69.0	109.0
85	33.2	14.6	54.6

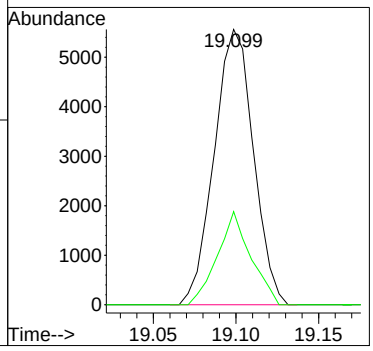


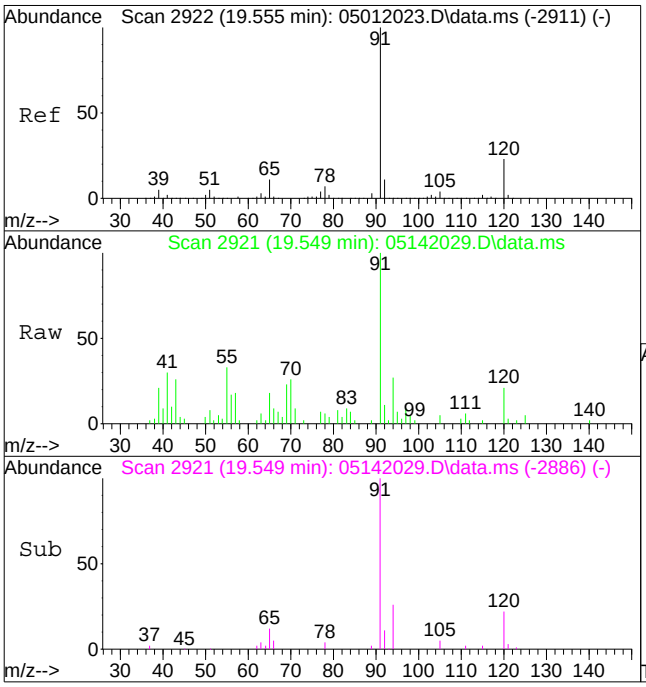


#74
Cumene
Concen: 0.07 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05142029.D
Acq: 15 May 2020 00:58

Tgt Ion:105 Resp: 9189

Ion	Ratio	Lower	Upper
105	100		
120	28.7	6.8	46.8

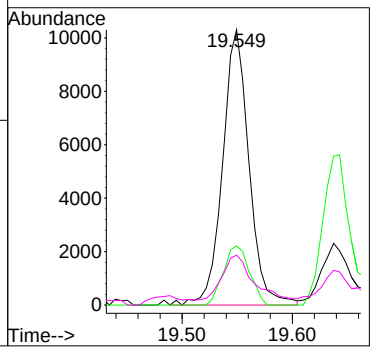


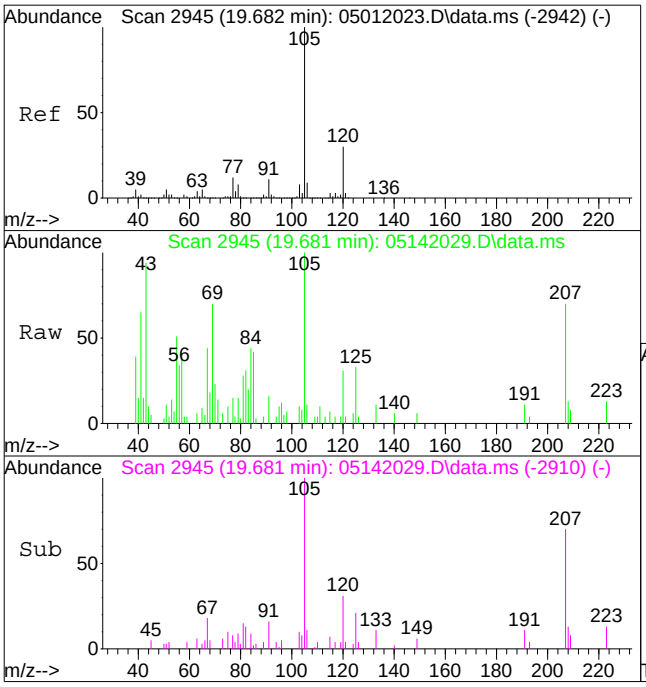


#76
n-Propylbenzene
Concen: 0.11 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05142029.D
Acq: 15 May 2020 00:58

Tgt Ion: 91 Resp: 17214

Ion	Ratio	Lower	Upper
91	100		
120	21.1	3.1	43.1
65	22.2	0.0	30.9

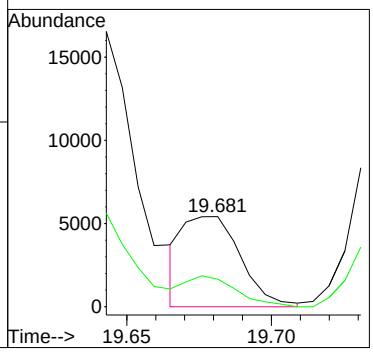


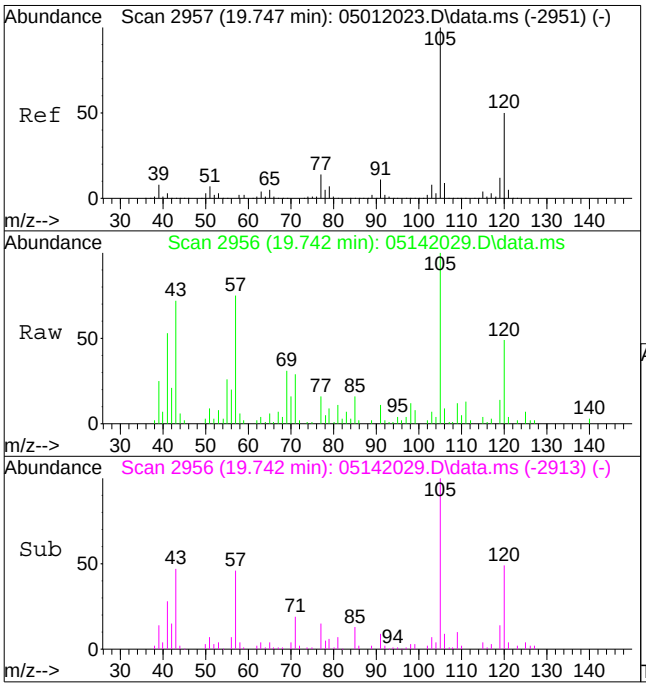


#78
4-Ethyltoluene
Concen: 0.06 ng
RT: 19.68 min Scan# 2945
Delta R.T. -0.006 min
Lab File: 05142029.D
Acq: 15 May 2020 00:58

Tgt Ion:105 Resp: 7594

Ion	Ratio	Lower	Upper
105	100		
120	30.7	10.4	50.4

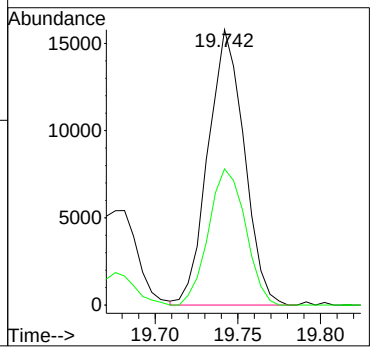


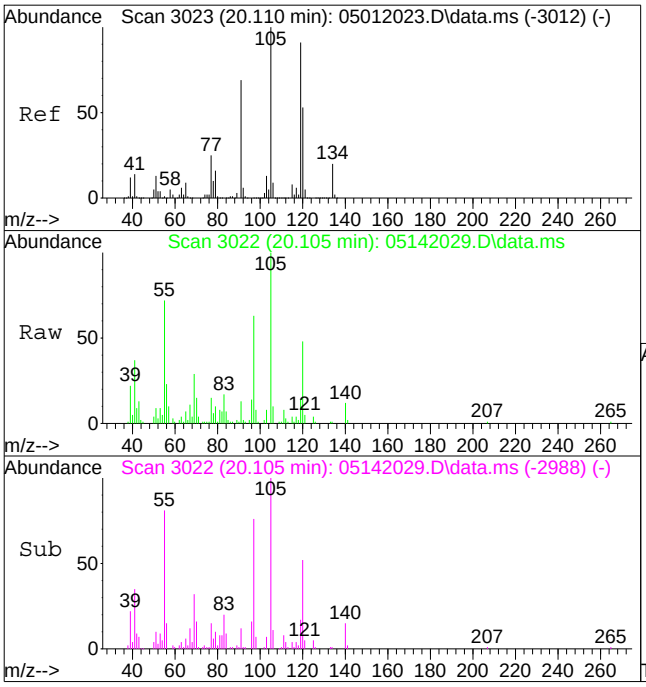


#79
1,3,5-Trimethylbenzene
Concen: 0.22 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05142029.D
Acq: 15 May 2020 00:58

Tgt Ion:105 Resp: 23993

Ion	Ratio	Lower	Upper
105	100		
120	50.4	29.9	69.9

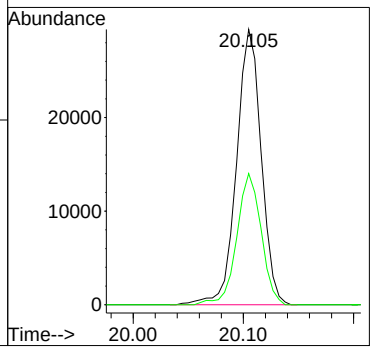




#82
1,2,4-Trimethylbenzene
Concen: 0.42 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05142029.D
Acq: 15 May 2020 00:58

Tgt Ion:105 Resp: 45769

Ion	Ratio	Lower	Upper
105	100		
120	47.0	33.6	73.6



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142030.D Vial: 9
Acq On : 15 May 2020 1:31 Operator: LH
Sample : P2002302-007 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 15:44:14 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/15/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	279058	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1184827	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	569233	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	444642	11.757	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.08%				
57) Toluene-d8 (SS2)	15.72	98	1177301	12.202	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.60%				
73) Bromofluorobenzene (SS3)	18.97	174	461751	13.300	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.40%				
Target Compounds							Qvalue
2) Propene	4.09	42	36003	1.114	ng		98
3) Dichlorodifluoromethan...	4.25	85	248454	3.930	ng		99
4) Chloromethane	4.53	50	3436	0.069	ng		94
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	3812	0.101	ng		98
6) Vinyl Chloride	4.95	62	166	N.D.			
7) 1,3-Butadiene	5.15	54	421	N.D.			
8) Bromomethane	5.65	94	288	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.32	45	13632	0.546	ng		97
11) Acetonitrile	6.60	41	2157	N.D.			
12) Acrolein	6.79	56	2866	0.145	ng		100
13) Acetone	7.00	58	49857	1.998	ng		95
14) Trichlorofluoromethane	7.24	101	48106	0.861	ng		100
15) 2-Propanol (Isopropanol)	7.47	45	295738	3.915	ng		97
16) Acrylonitrile	7.83	53	705	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	433	N.D.			
20) 3-Chloro-1-propene (Al...	8.49	41	836	N.D.			
21) Trichlorotrifluoroethane	8.84	151	172834	6.552	ng		98
22) Carbon Disulfide	8.68	76	35987	0.310	ng		98
23) trans-1,2-Dichloroethene	9.68	61	1398	N.D.			
24) 1,1-Dichloroethane	9.93	63	2115	N.D.			
25) Methyl tert-Butyl Ether	10.09	73	184	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.46	72	7922	0.372	ng		94
28) cis-1,2-Dichloroethene	10.95	61	1164	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.28	61	5265	0.429	ng	#	56
31) n-Hexane	11.26	57	243750	4.579	ng		100
32) Chloroform	11.30	83	40783	0.734	ng		97
34) Tetrahydrofuran (THF)	11.74	72	3702	0.178	ng	#	80
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.13	62	635	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	180269	1.419	ng		100
42) Carbon Tetrachloride	13.03	117	113859	2.634	ng		99
43) Cyclohexane	13.16	84	174483	3.685	ng		100
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.	d		
45) 1,2-Dichloropropane	13.63	63	670	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	13.97	130	880	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142030.D Vial: 9
Acq On : 15 May 2020 1:31 Operator: LH
Sample : P2002302-007 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 15:44:14 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	268383	9.032 ng	99
52) cis-1,3-Dichloropropene	14.95	75	133	N.D.	
53) 4-Methyl-2-pentanone	14.88	58	559	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	15.82	91	1152329	9.265 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	16.48	107	609	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	16.82	57	159448	6.193 ng	99
64) Tetrachloroethene	16.95	166	11898	0.339 ng	98
65) Chlorobenzene	17.62	112	67659m	0.791 ng	
66) Ethylbenzene	17.98	91	114620	0.826 ng	99
67) m- & p-Xylenes	18.14	91	477484	4.340 ng	98
68) Bromoform	18.20	173	1257	N.D.	
69) Styrene	18.47	104	1321	N.D.	
70) o-Xylene	18.57	91	138684	1.242 ng	99
71) n-Nonane	18.77	43	187451	3.163 ng	97
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	19.10	105	15507	0.113 ng	100
75) alpha-Pinene	19.44	93	290	N.D.	
76) n-Propylbenzene	19.55	91	30814	0.189 ng	86
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.68	105	14262	0.111 ng	99
79) 1,3,5-Trimethylbenzene	19.74	105	42217	0.378 ng	100
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.10	105	82458	0.734 ng	92
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.21	91	453	N.D.	
85) 1,3-Dichlorobenzene	20.24	146	84814	1.300 ng	99
86) 1,4-Dichlorobenzene	20.30	146	258316	4.057 ng	99
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	20.48	119	6757	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	20.60	146	248031	3.971 ng	99
91) d-Limonene	20.61	68	1937	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.11	180	1140	N.D.	
95) Naphthalene	22.21	128	22219	0.162 ng	99
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

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Misc : S31-02112001

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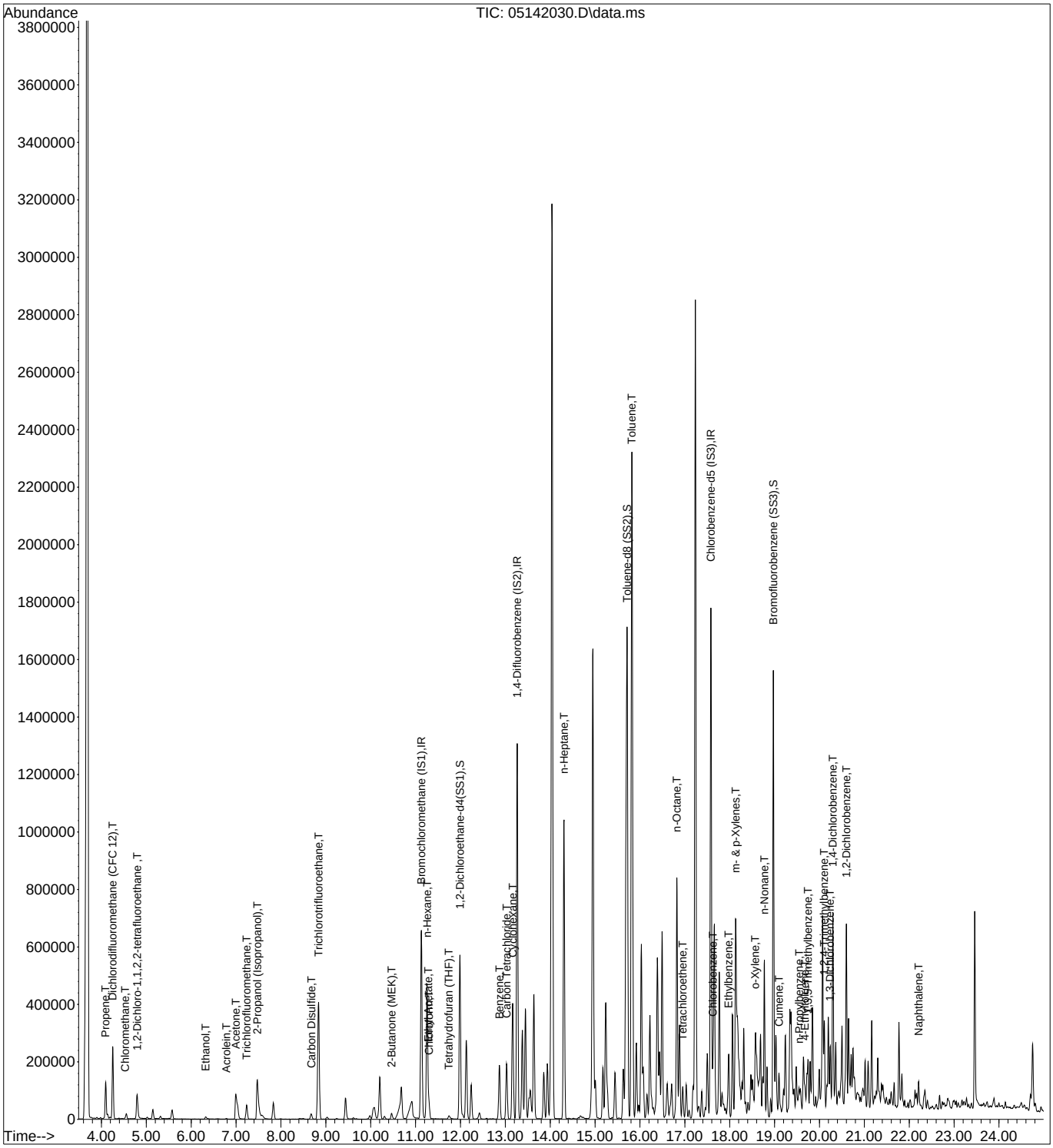

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DataAcq Meth:TO15.M

LH 5/15/20

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37) 1,4-Difluorobenzene (IS2)	13.26	114	1184827	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	569233	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	444642	11.757	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.08%				
57) Toluene-d8 (SS2)	15.72	98	1177301	12.202	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.60%				
73) Bromofluorobenzene (SS3)	18.97	174	461751	13.300	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.40%				
Target Compounds							Qvalue
2) Propene	4.09	42	36003	1.114	ng		98
3) Dichlorodifluoromethan...	4.25	85	248454	3.930	ng		99
4) Chloromethane	4.53	50	3436	0.069	ng		94
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	3812	0.101	ng		98
10) Ethanol	6.32	45	13632	0.546	ng		97
12) Acrolein	6.79	56	2866	0.145	ng		100
13) Acetone	7.00	58	49857	1.998	ng		95
14) Trichlorofluoromethane	7.24	101	48106	0.861	ng		100
15) 2-Propanol (Isopropanol)	7.47	45	295738	3.915	ng		97
21) Trichlorotrifluoroethane	8.84	151	172834	6.552	ng		98
22) Carbon Disulfide	8.68	76	35987	0.310	ng		98
27) 2-Butanone (MEK)	10.46	72	7922	0.372	ng		94
30) Ethyl Acetate	11.28	61	5265	0.429	ng	#	56
31) n-Hexane	11.26	57	243750	4.579	ng		100
32) Chloroform	11.30	83	40783	0.734	ng		97
34) Tetrahydrofuran (THF)	11.74	72	3702	0.178	ng	#	80
41) Benzene	12.87	78	180269	1.419	ng		100
42) Carbon Tetrachloride	13.03	117	113859	2.634	ng		99
43) Cyclohexane	13.16	84	174483	3.685	ng		100
51) n-Heptane	14.31	71	268383	9.032	ng		99
58) Toluene	15.82	91	1152329	9.265	ng		100
63) n-Octane	16.82	57	159448	6.193	ng		99
64) Tetrachloroethene	16.95	166	11898	0.339	ng		98
65) Chlorobenzene	17.62	112	67659m	0.791	ng		
66) Ethylbenzene	17.98	91	114620	0.826	ng		99
67) m- & p-Xylenes	18.14	91	477484	4.340	ng		98
70) o-Xylene	18.57	91	138684	1.242	ng		99
71) n-Nonane	18.77	43	187451	3.163	ng		97
74) Cumene	19.10	105	15507	0.113	ng		100
76) n-Propylbenzene	19.55	91	30814	0.189	ng		86
78) 4-Ethyltoluene	19.68	105	14262	0.111	ng		99
79) 1,3,5-Trimethylbenzene	19.74	105	42217	0.378	ng		100
82) 1,2,4-Trimethylbenzene	20.10	105	82458	0.734	ng		92
85) 1,3-Dichlorobenzene	20.24	146	84814	1.300	ng		99
86) 1,4-Dichlorobenzene	20.30	146	258316	4.057	ng		99
90) 1,2-Dichlorobenzene	20.60	146	248031	3.971	ng		99
95) Naphthalene	22.21	128	22219	0.162	ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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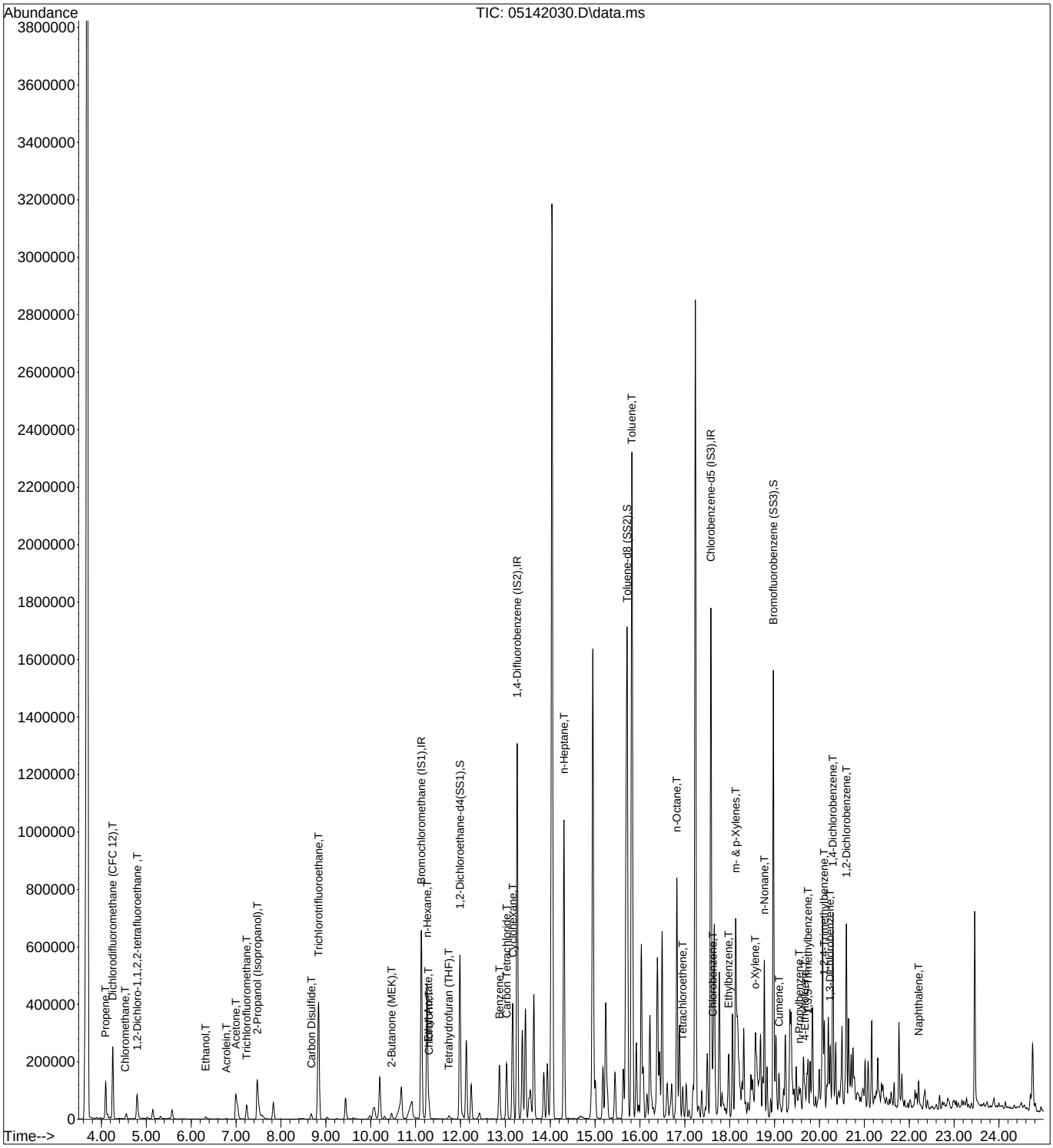
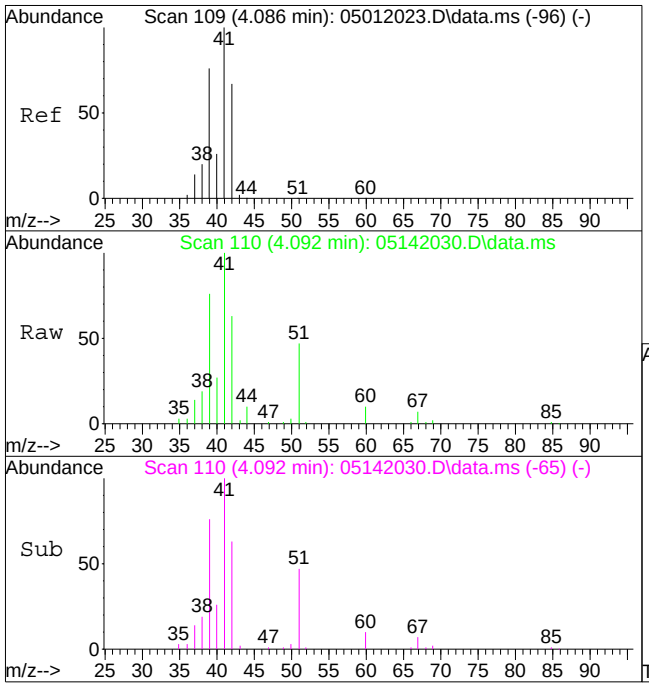
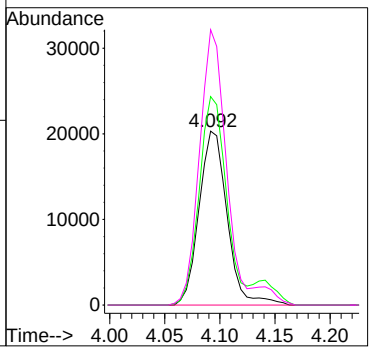


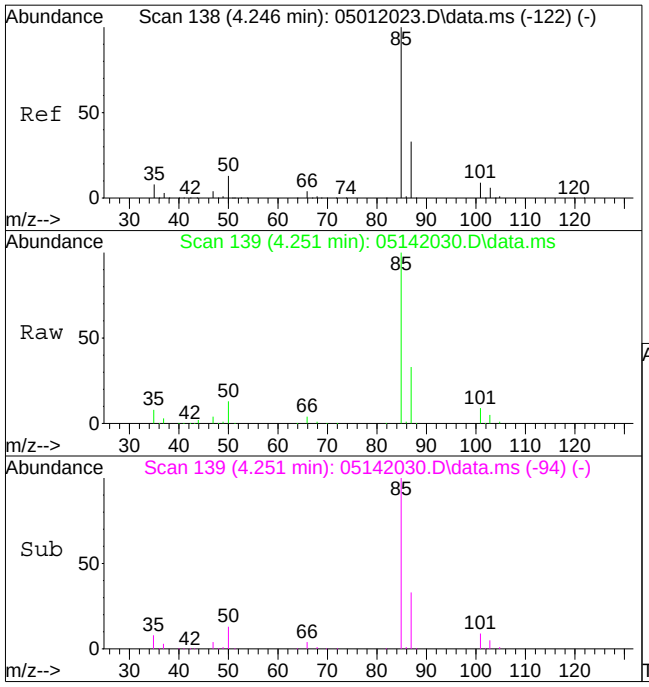


#2
Propene
Concen: 1.11 ng
RT: 4.09 min Scan# 110
Delta R.T. -0.000 min
Lab File: 05142030.D
Acq: 15 May 2020 1:31

Tgt Ion: 42 Resp: 36003

Ion	Ratio	Lower	Upper
42	100		
39	116.1	96.1	136.1
41	156.5	131.9	171.9

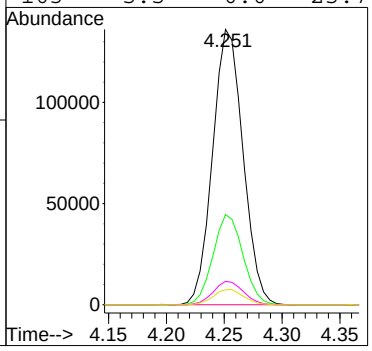


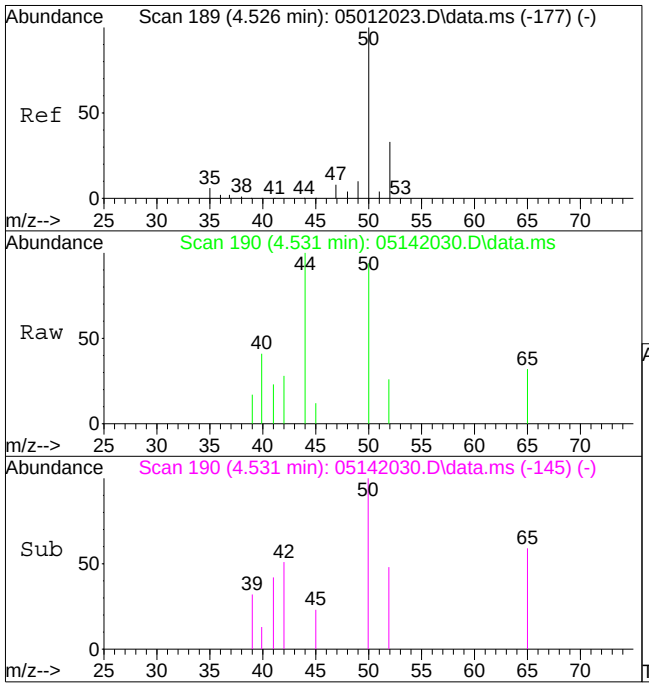


#3
Dichlorodifluoromethane (CFC 12)
Concen: 3.93 ng
RT: 4.25 min Scan# 139
Delta R.T. -0.000 min
Lab File: 05142030.D
Acq: 15 May 2020 1:31

Tgt Ion: 85 Resp: 248454

Ion	Ratio	Lower	Upper
85	100		
87	32.2	12.4	52.4
101	8.5	0.0	28.8
103	5.5	0.0	25.7

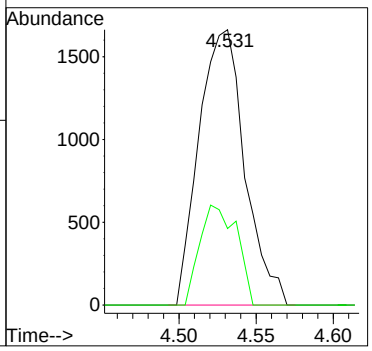


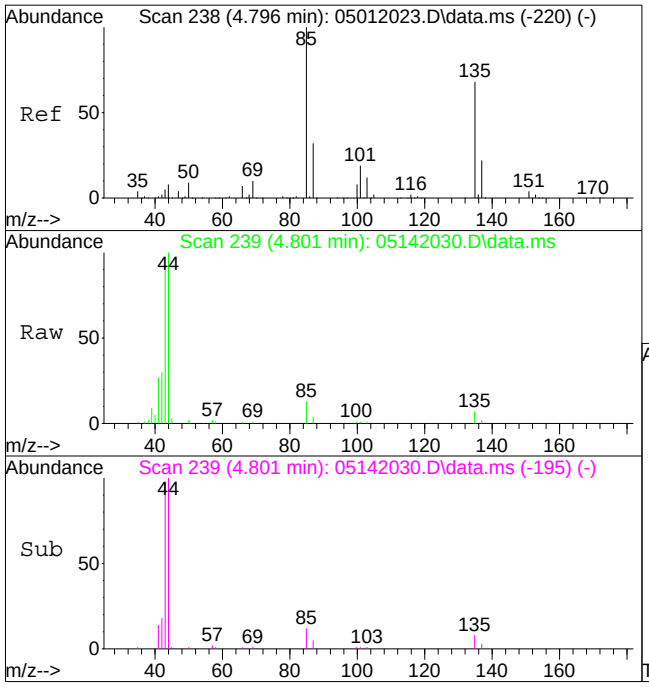


#4
Chloromethane
Concen: 0.07 ng
RT: 4.53 min Scan# 190
Delta R.T. -0.000 min
Lab File: 05142030.D
Acq: 15 May 2020 1:31

Tgt Ion: 50 Resp: 3436

Ion	Ratio	Lower	Upper
50	100		
52	29.3	12.5	52.5

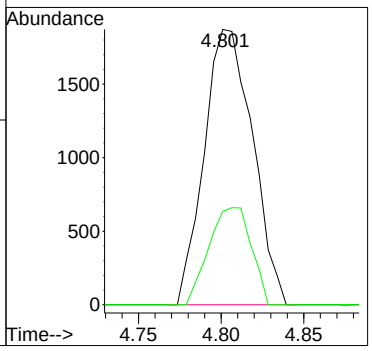


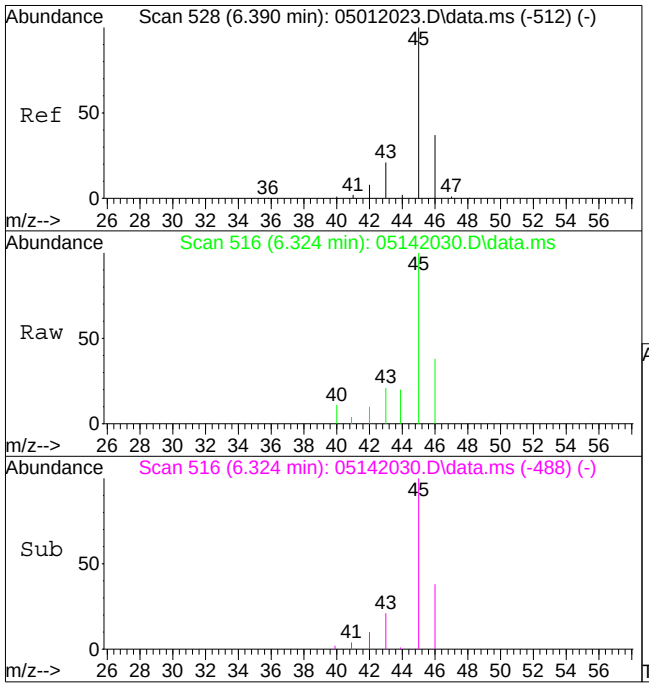


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 0.10 ng
RT: 4.80 min Scan# 239
Delta R.T. -0.006 min
Lab File: 05142030.D
Acq: 15 May 2020 1:31

Tgt Ion:135 Resp: 3812

Ion	Ratio	Lower	Upper
135	100		
137	30.9	12.1	52.1

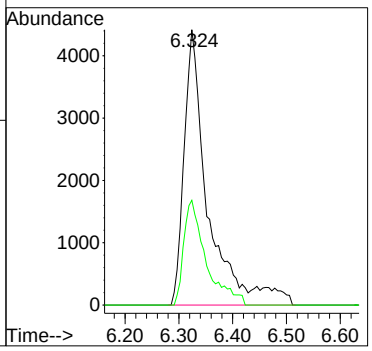


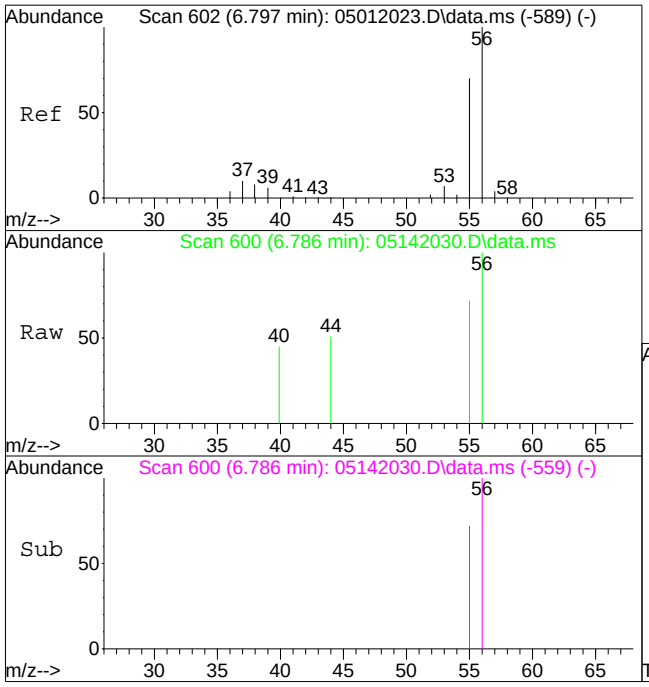


#10
Ethanol
Concen: 0.55 ng
RT: 6.32 min Scan# 516
Delta R.T. -0.094 min
Lab File: 05142030.D
Acq: 15 May 2020 1:31

Tgt Ion: 45 Resp: 13632

Ion	Ratio	Lower	Upper
45	100		
46	35.5	17.2	57.2

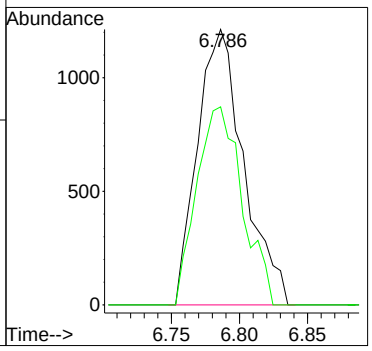


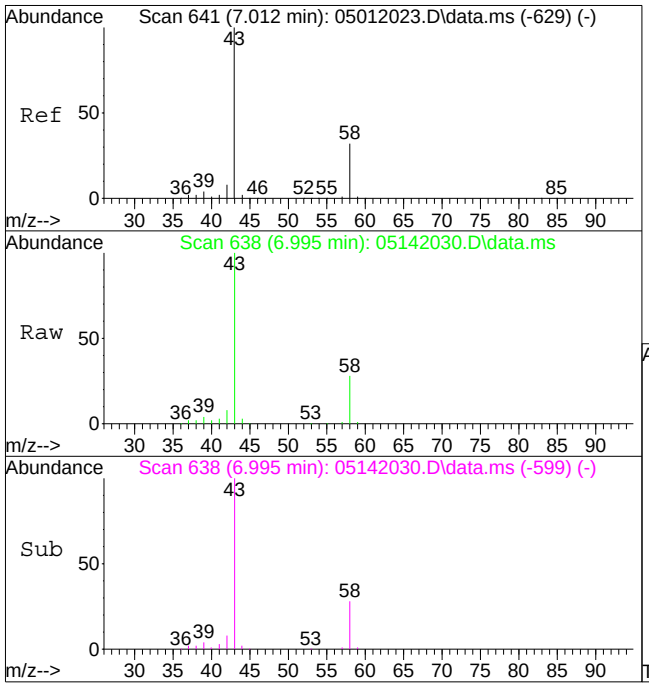


#12
Acrolein
Concen: 0.15 ng
RT: 6.79 min Scan# 600
Delta R.T. -0.022 min
Lab File: 05142030.D
Acq: 15 May 2020 1:31

Tgt Ion: 56 Resp: 2866

Ion	Ratio	Lower	Upper
56	100		
55	70.6	50.2	90.2

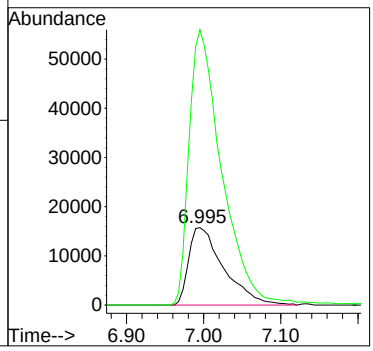


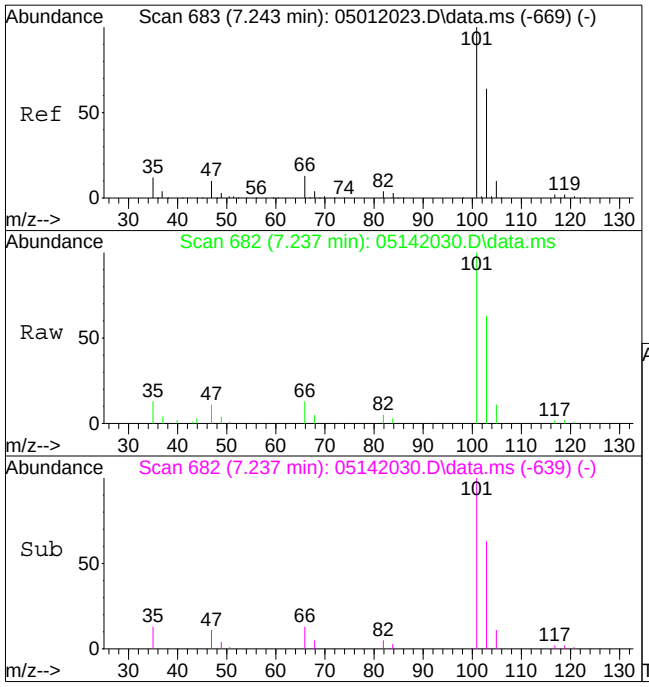


#13
Acetone
Concen: 2.00 ng
RT: 7.00 min Scan# 638
Delta R.T. -0.033 min
Lab File: 05142030.D
Acq: 15 May 2020 1:31

Tgt Ion: 58 Resp: 49857

Ion	Ratio	Lower	Upper
58	100		
43	334.1	294.4	354.4

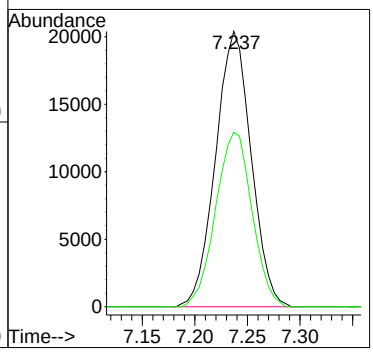


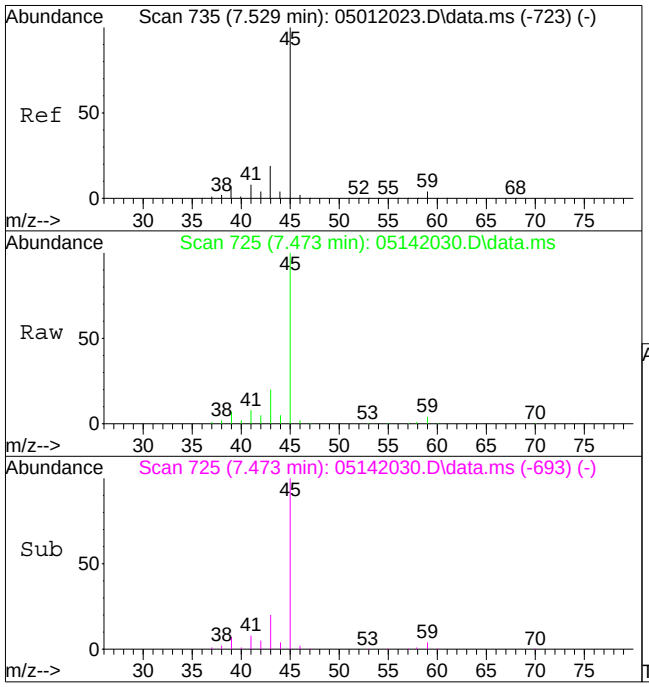


#14
Trichlorofluoromethane
Concen: 0.86 ng
RT: 7.24 min Scan# 682
Delta R.T. -0.011 min
Lab File: 05142030.D
Acq: 15 May 2020 1:31

Tgt Ion:101 Resp: 48106

Ion	Ratio	Lower	Upper
101	100		
103	64.6	44.4	84.4

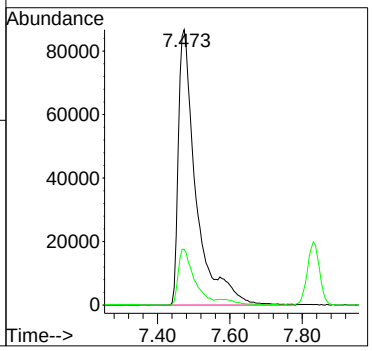


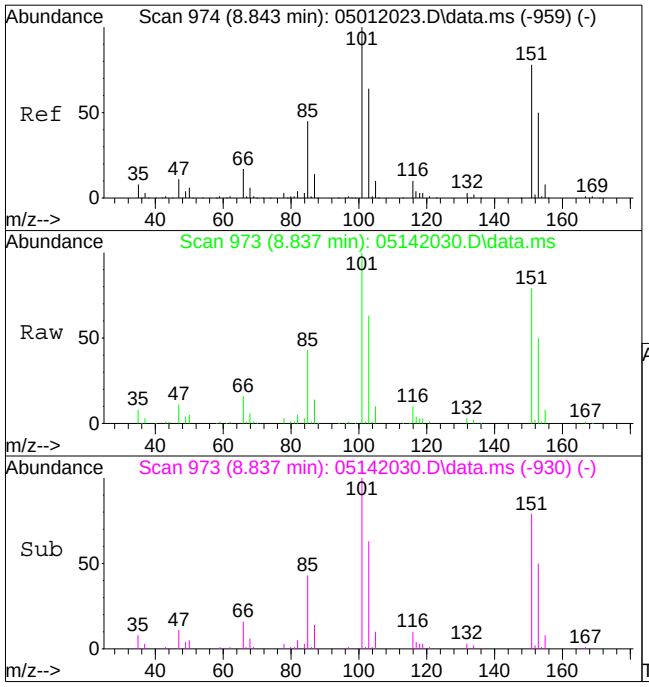


#15
2-Propanol (Isopropanol)
Concen: 3.91 ng
RT: 7.47 min Scan# 725
Delta R.T. -0.072 min
Lab File: 05142030.D
Acq: 15 May 2020 1:31

Tgt Ion: 45 Resp: 295738

Ion	Ratio	Lower	Upper
45	100		
43	20.6	0.0	39.5

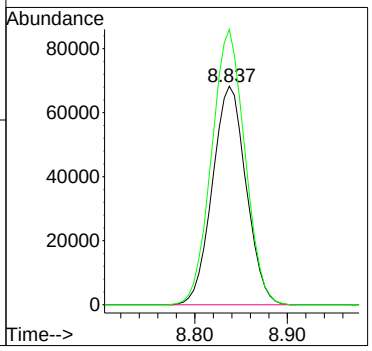


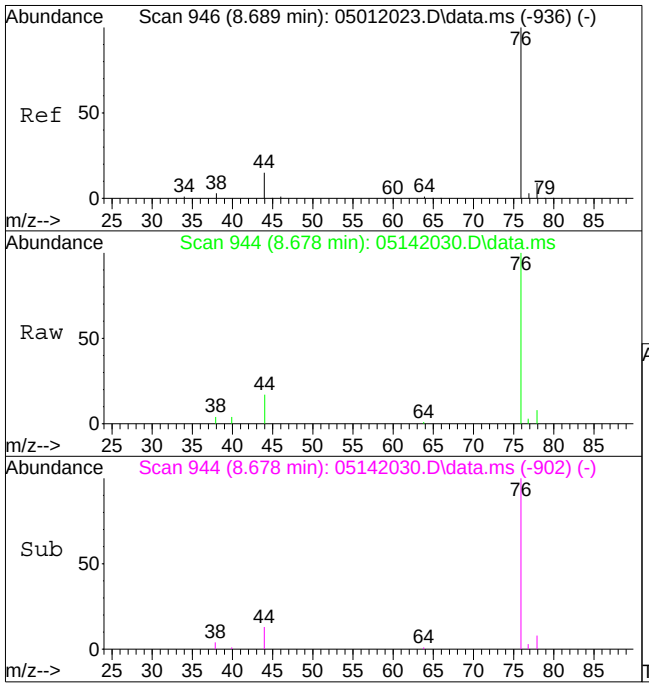


#21
Trichlorotrifluoroethane
Concen: 6.55 ng
RT: 8.84 min Scan# 973
Delta R.T. -0.011 min
Lab File: 05142030.D
Acq: 15 May 2020 1:31

Tgt Ion:151 Resp: 172834

Ion	Ratio	Lower	Upper
151	100		
101	124.5	107.3	147.3

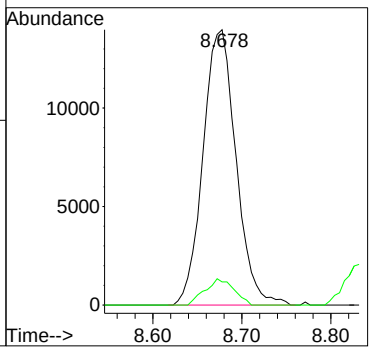


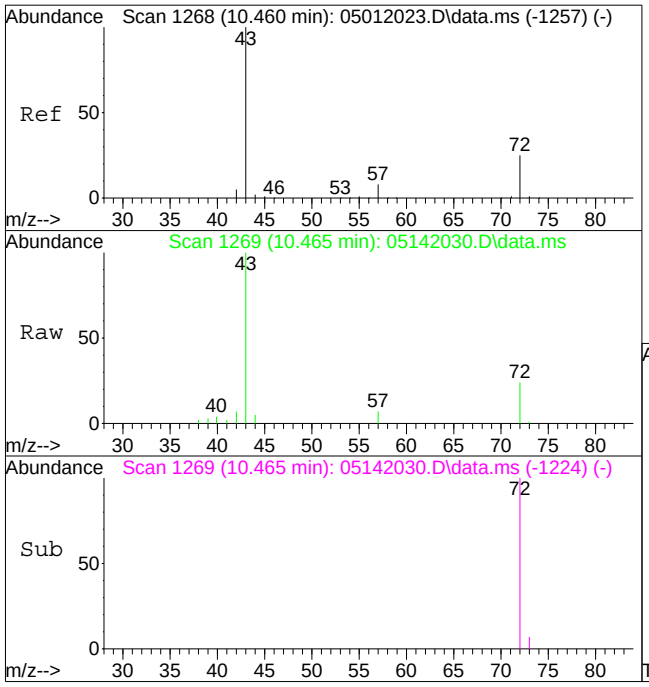


#22
Carbon Disulfide
Concen: 0.31 ng
RT: 8.68 min Scan# 944
Delta R.T. -0.017 min
Lab File: 05142030.D
Acq: 15 May 2020 1:31

Tgt Ion: 76 Resp: 35987

Ion	Ratio	Lower	Upper
76	100		
78	8.4	0.0	29.2

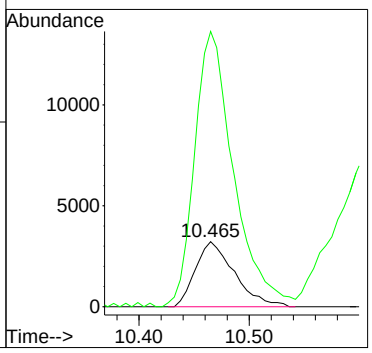


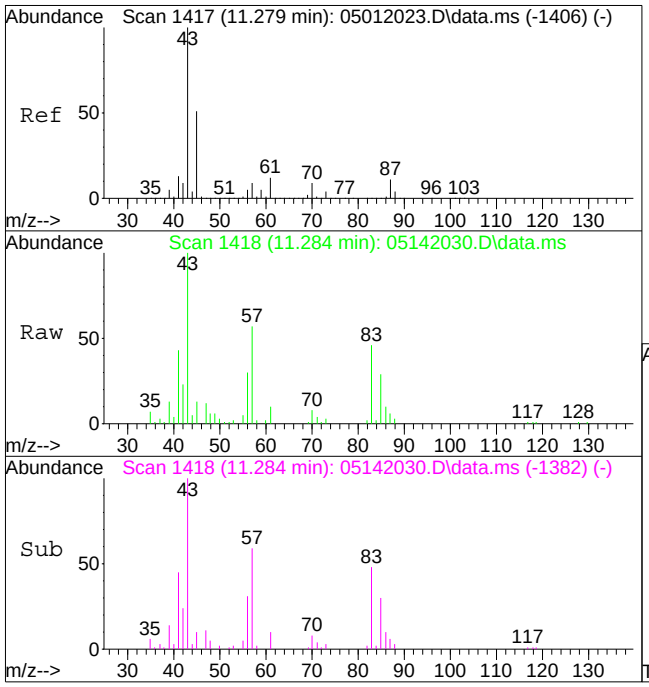


#27
2-Butanone (MEK)
Concen: 0.37 ng
RT: 10.46 min Scan# 1269
Delta R.T. -0.000 min
Lab File: 05142030.D
Acq: 15 May 2020 1:31

Tgt Ion: 72 Resp: 7922

Ion	Ratio	Lower	Upper
72	100		
43	423.5	389.7	429.7

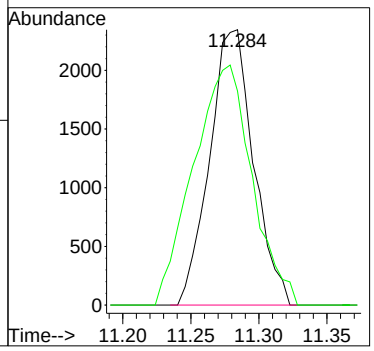


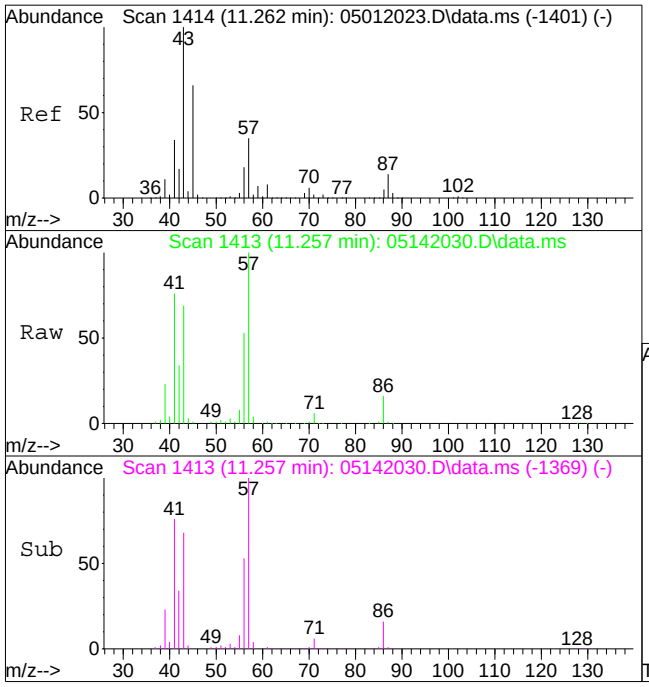


#30
Ethyl Acetate
Concen: 0.43 ng
RT: 11.28 min Scan# 1418
Delta R.T. -0.000 min
Lab File: 05142030.D
Acq: 15 May 2020 1:31

Tgt Ion: 61 Resp: 5265

Ion	Ratio	Lower	Upper
61	100		
70	116.3	57.9	97.9#

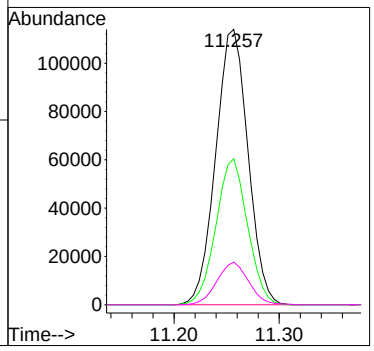


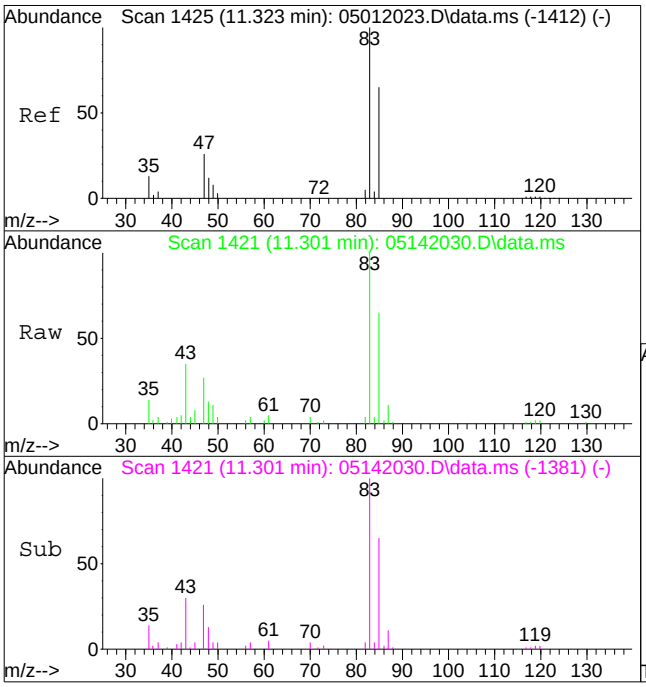


#31
n-Hexane
Concen: 4.58 ng
RT: 11.26 min Scan# 1413
Delta R.T. -0.006 min
Lab File: 05142030.D
Acq: 15 May 2020 1:31

Tgt Ion: 57 Resp: 243750

Ion	Ratio	Lower	Upper
57	100		
56	51.9	41.4	62.0
86	15.2	12.4	18.6

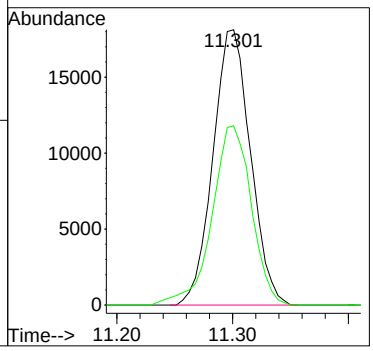


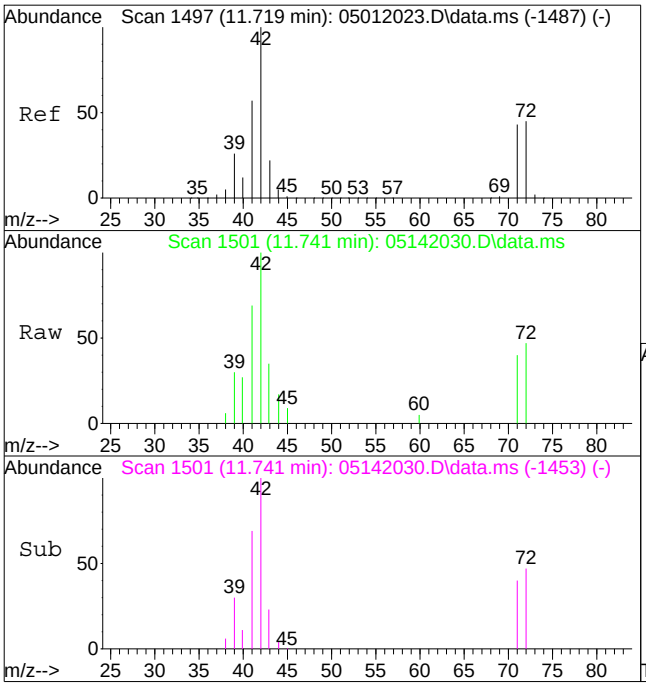


#32
Chloroform
Concen: 0.73 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.028 min
Lab File: 05142030.D
Acq: 15 May 2020 1:31

Tgt Ion: 83 Resp: 40783

Ion	Ratio	Lower	Upper
83	100		
85	68.1	45.5	85.5

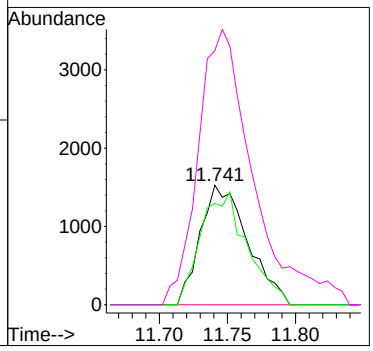


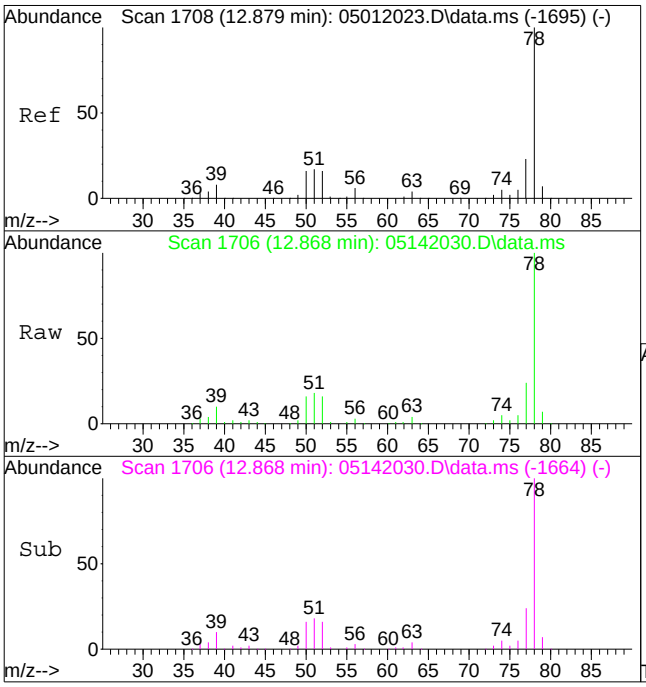


#34
Tetrahydrofuran (THF)
Concen: 0.18 ng
RT: 11.74 min Scan# 1501
Delta R.T. 0.016 min
Lab File: 05142030.D
Acq: 15 May 2020 1:31

Tgt Ion: 72 Resp: 3702

Ion	Ratio	Lower	Upper
72	100		
71	92.6	77.0	117.0
42	269.0	204.6	244.6#

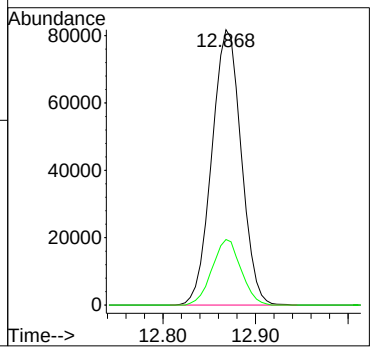


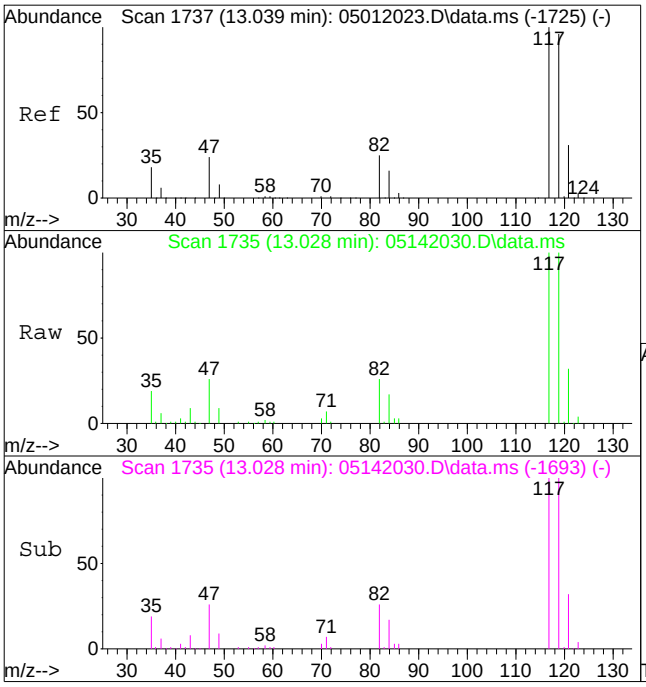


#41
Benzene
Concen: 1.42 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05142030.D
Acq: 15 May 2020 1:31

Tgt Ion: 78 Resp: 180269

Ion	Ratio	Lower	Upper
78	100		
77	23.4	3.4	43.4

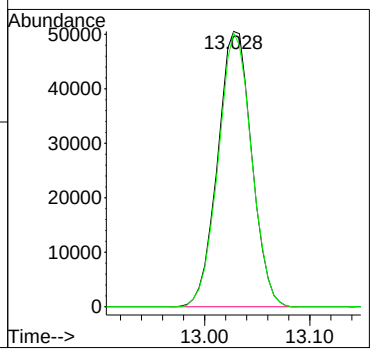


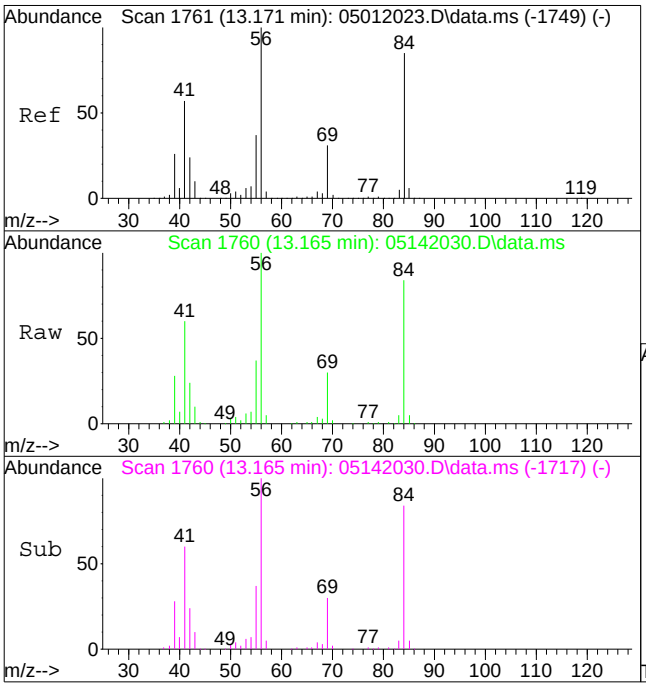


#42
Carbon Tetrachloride
Concen: 2.63 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05142030.D
Acq: 15 May 2020 1:31

Tgt Ion:117 Resp: 113859

Ion	Ratio	Lower	Upper
117	100		
119	97.2	76.2	116.2

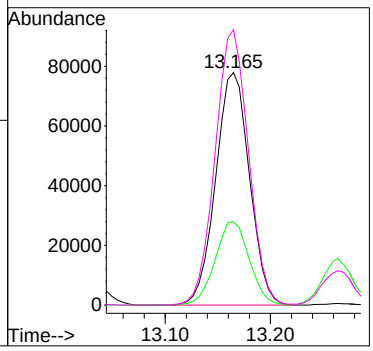


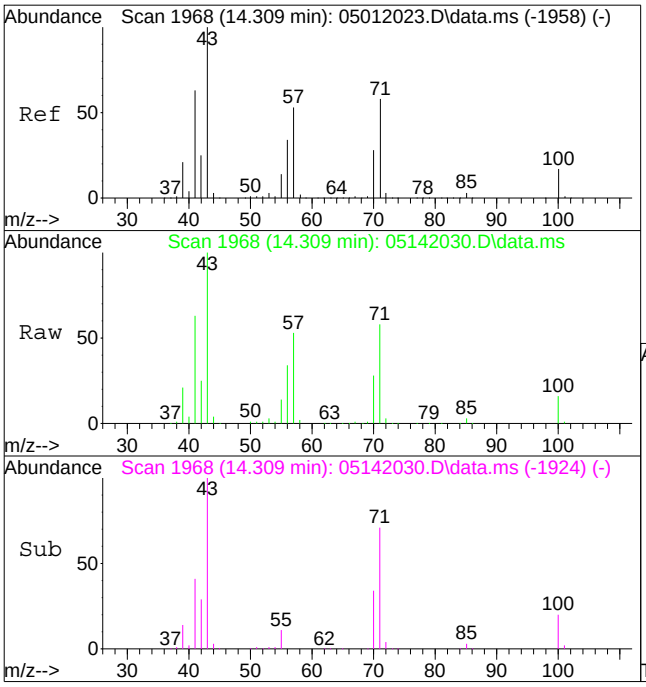


#43
Cyclohexane
Concen: 3.69 ng
RT: 13.16 min Scan# 1760
Delta R.T. -0.011 min
Lab File: 05142030.D
Acq: 15 May 2020 1:31

Tgt Ion: 84 Resp: 174483

Ion	Ratio	Lower	Upper
84	100		
69	36.1	16.5	56.5
56	117.0	97.4	137.4

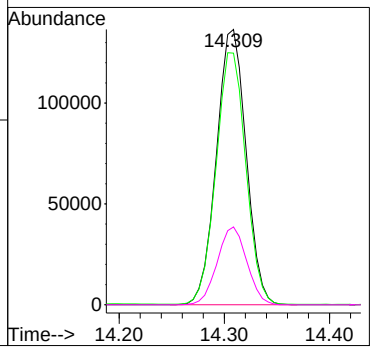


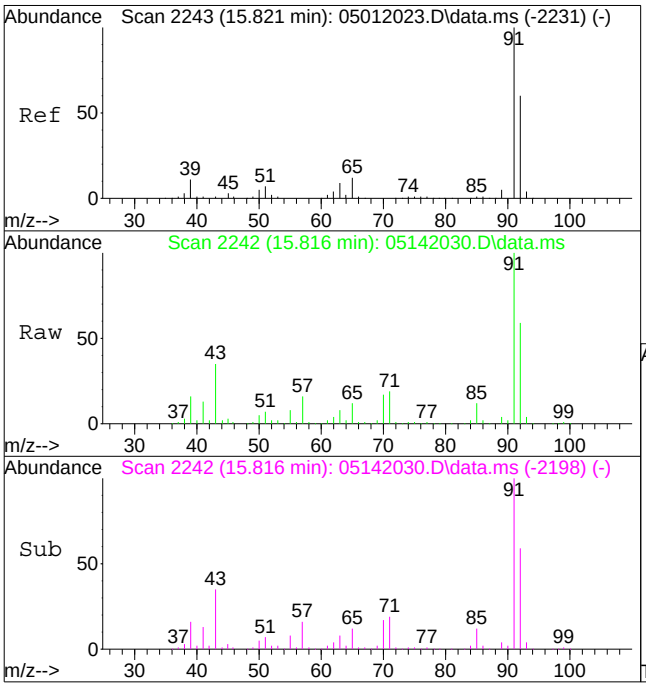


#51
n-Heptane
Concen: 9.03 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05142030.D
Acq: 15 May 2020 1:31

Tgt Ion: 71 Resp: 268383

Ion	Ratio	Lower	Upper
71	100		
57	92.7	71.0	111.0
100	28.1	8.4	48.4

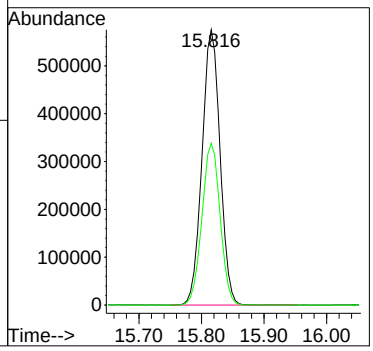


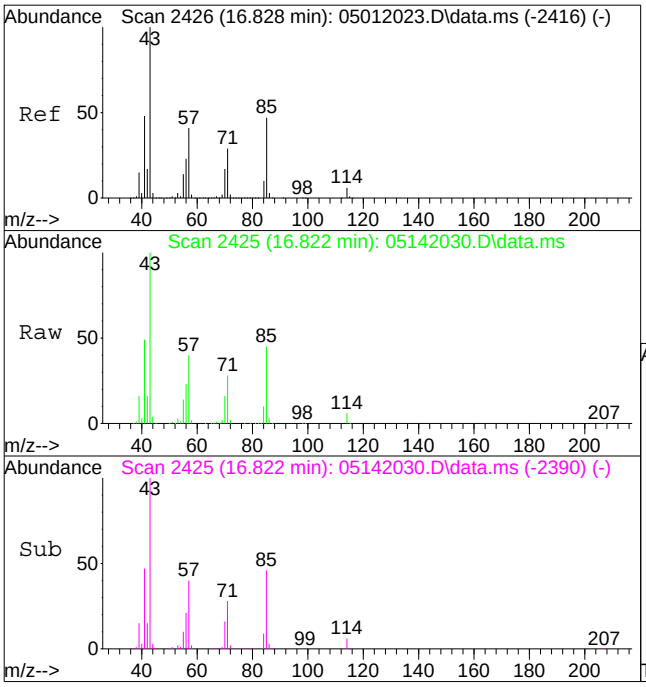


#58
Toluene
Concen: 9.27 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05142030.D
Acq: 15 May 2020 1:31

Tgt Ion: 91 Resp: 1152329

Ion	Ratio	Lower	Upper
91	100		
92	59.1	39.4	79.4

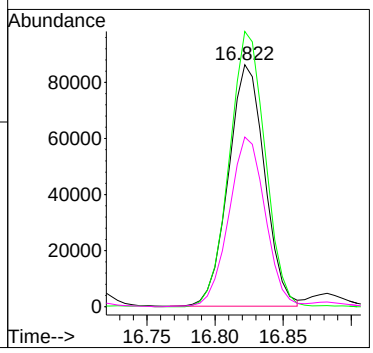


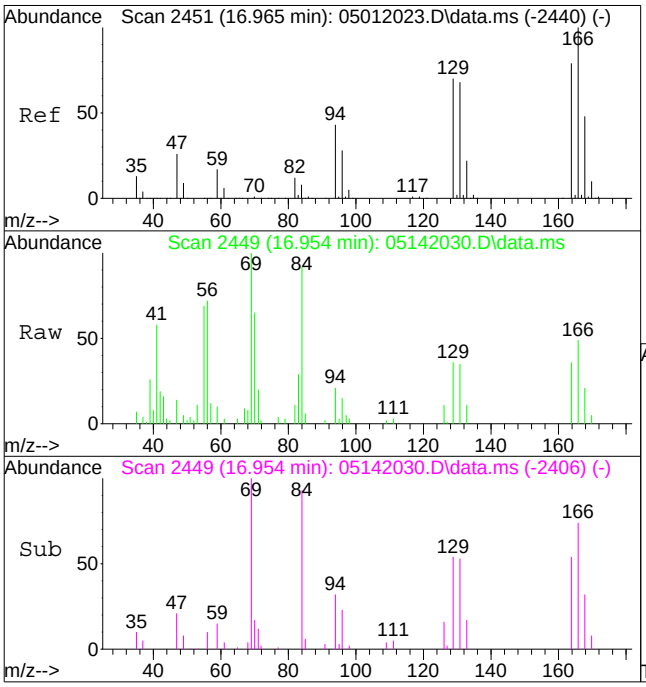


#63
n-Octane
Concen: 6.19 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05142030.D
Acq: 15 May 2020 1:31

Tgt Ion: 57 Resp: 159448

Ion	Ratio	Lower	Upper
57	100		
85	112.8	91.0	136.4
71	70.6	56.2	84.2

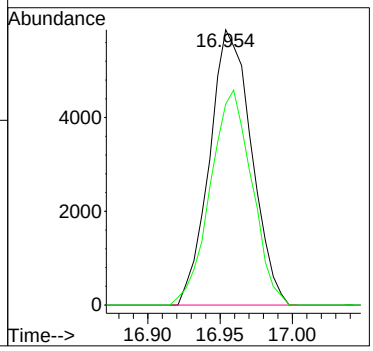


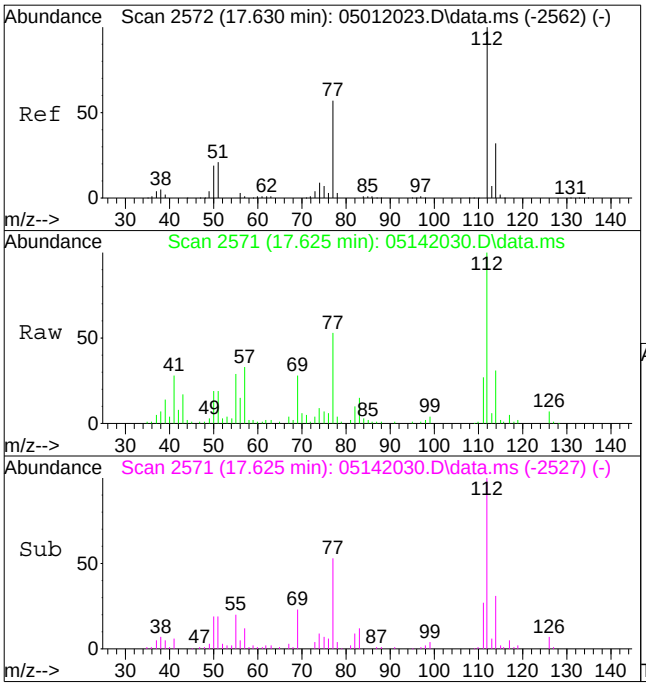


#64
Tetrachloroethene
Concen: 0.34 ng
RT: 16.95 min Scan# 2449
Delta R.T. -0.011 min
Lab File: 05142030.D
Acq: 15 May 2020 1:31

Tgt Ion:166 Resp: 11898

Ion	Ratio	Lower	Upper
166	100		
164	77.0	58.4	98.4

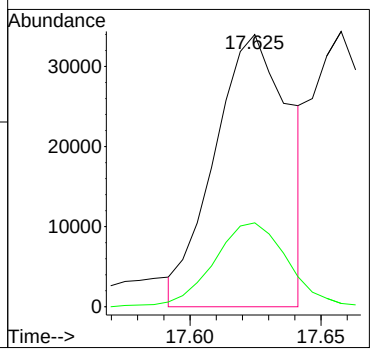


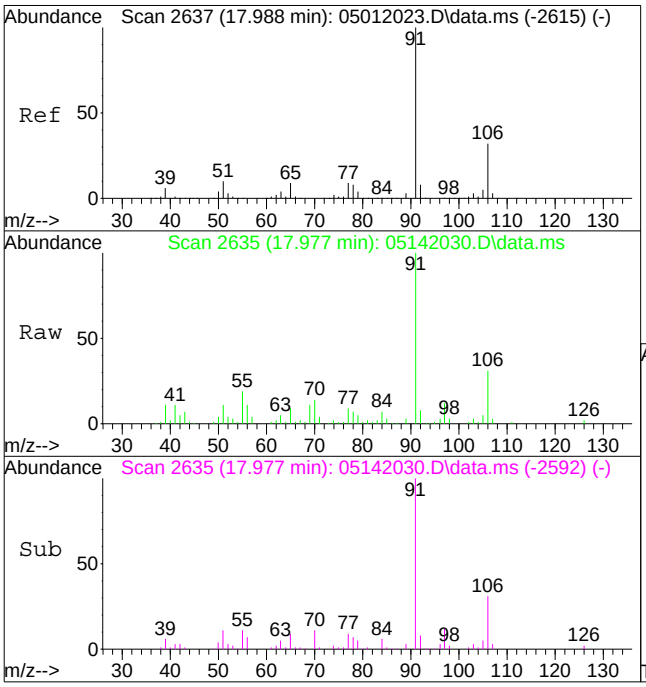


#65
Chlorobenzene
Concen: 0.79 ng m
RT: 17.62 min Scan# 2571
Delta R.T. -0.006 min
Lab File: 05142030.D
Acq: 15 May 2020 1:31

Tgt Ion:112 Resp: 67659

Ion	Ratio	Lower	Upper
112	100		
114	30.4	12.3	52.3

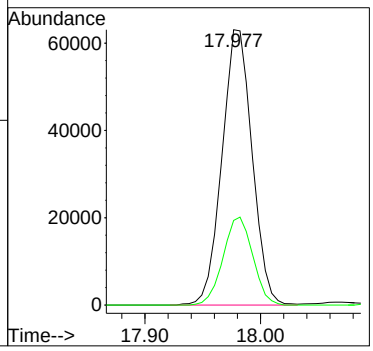


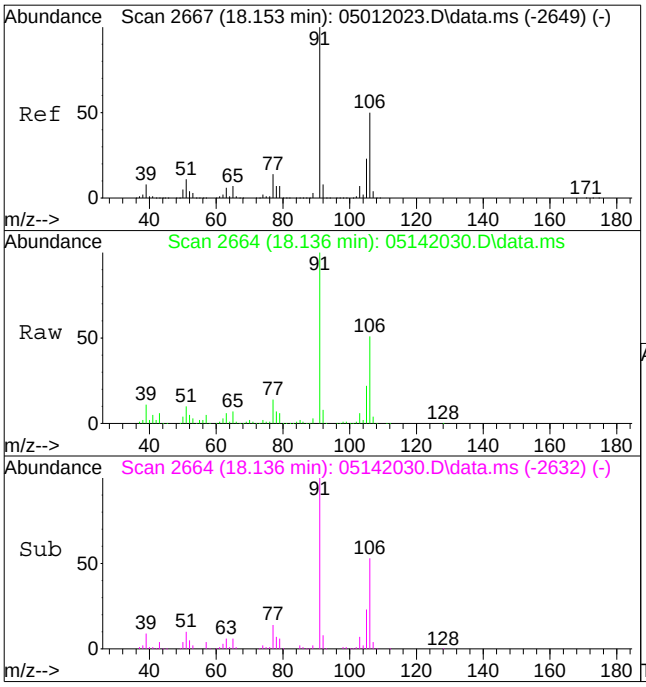


#66
Ethylbenzene
Concen: 0.83 ng
RT: 17.98 min Scan# 2635
Delta R.T. -0.011 min
Lab File: 05142030.D
Acq: 15 May 2020 1:31

Tgt Ion: 91 Resp: 114620

Ion	Ratio	Lower	Upper
91	100		
106	31.3	11.6	51.6

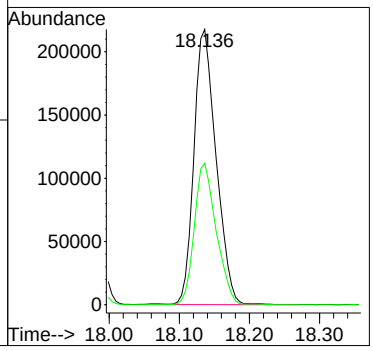


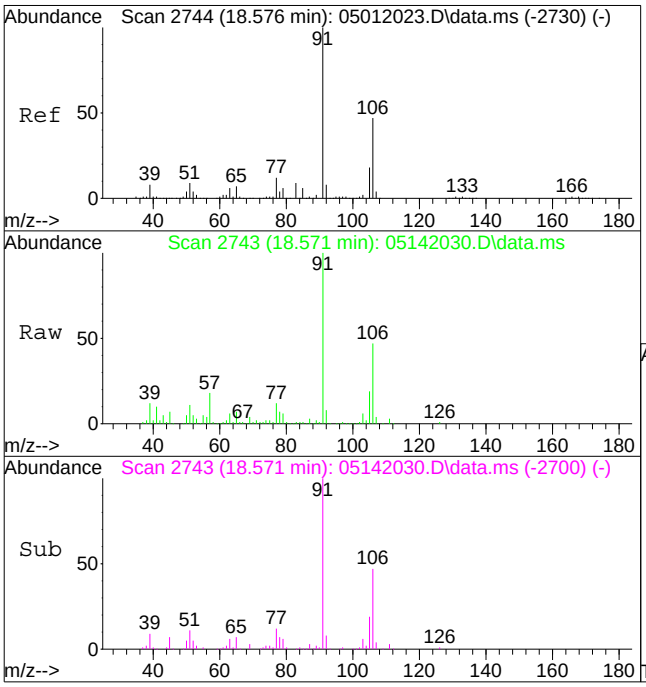


#67
m- & p-Xylenes
Concen: 4.34 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05142030.D
Acq: 15 May 2020 1:31

Tgt Ion: 91 Resp: 477484

Ion	Ratio	Lower	Upper
91	100		
106	50.9	29.7	69.7

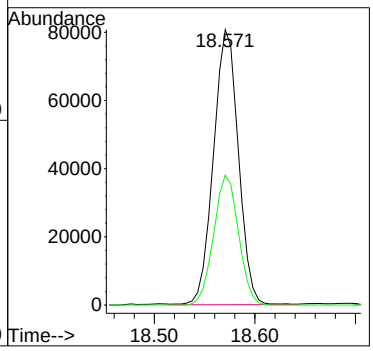


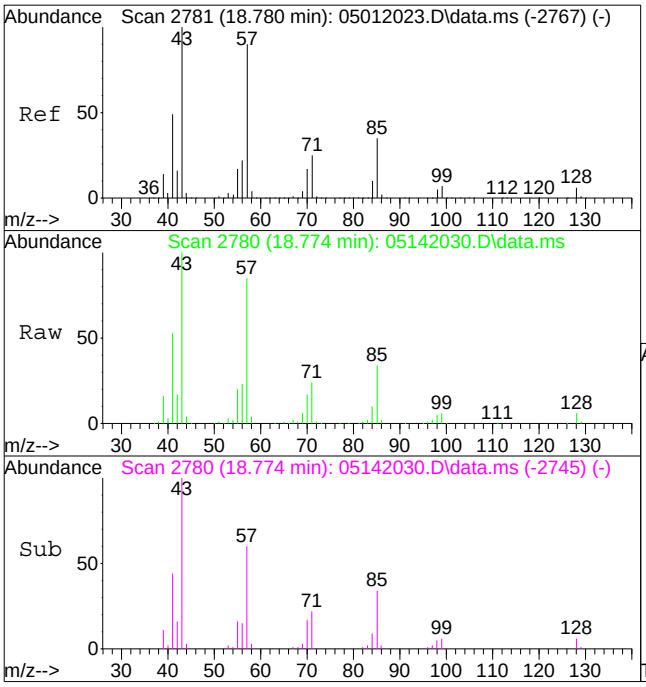


#70
o-Xylene
Concen: 1.24 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05142030.D
Acq: 15 May 2020 1:31

Tgt Ion: 91 Resp: 138684

Ion	Ratio	Lower	Upper
91	100		
106	47.0	27.5	67.5

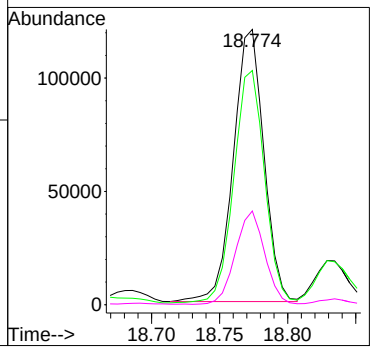


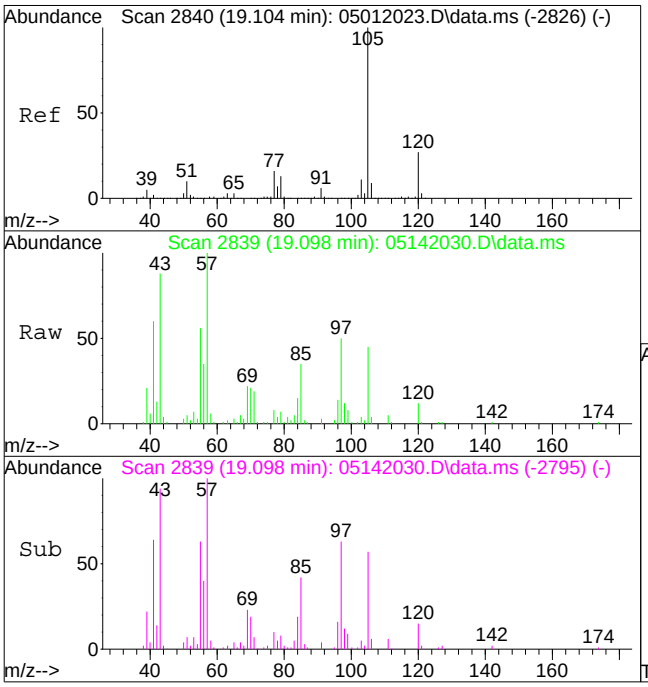


#71
n-Nonane
Concen: 3.16 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05142030.D
Acq: 15 May 2020 1:31

Tgt Ion: 43 Resp: 187451

Ion	Ratio	Lower	Upper
43	100		
57	86.0	69.0	109.0
85	32.9	14.6	54.6

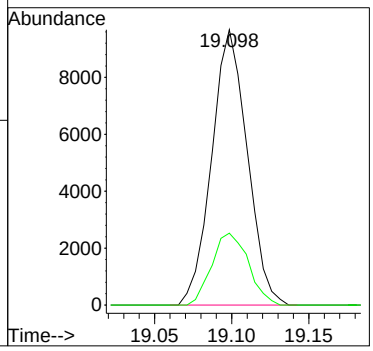


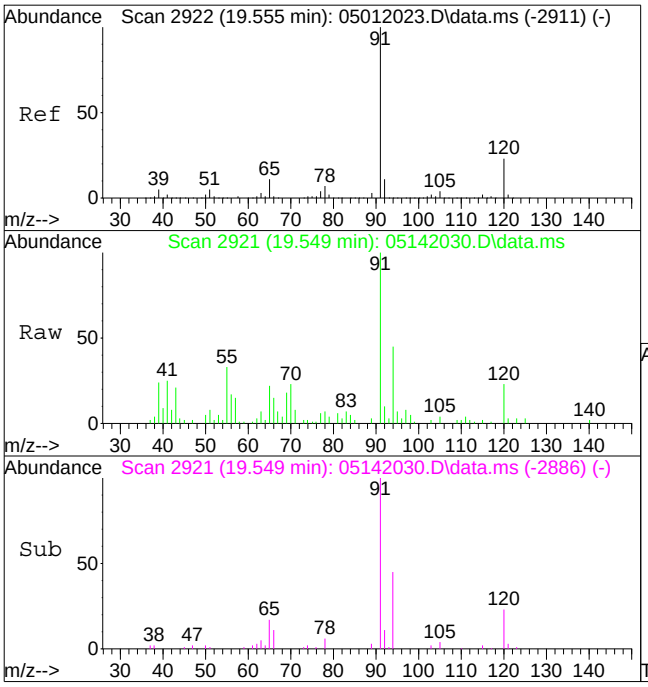


#74
Cumene
Concen: 0.11 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05142030.D
Acq: 15 May 2020 1:31

Tgt Ion:105 Resp: 15507

Ion	Ratio	Lower	Upper
105	100		
120	26.9	6.8	46.8

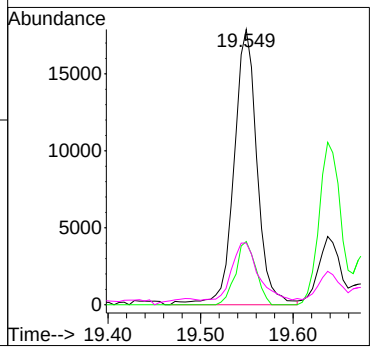


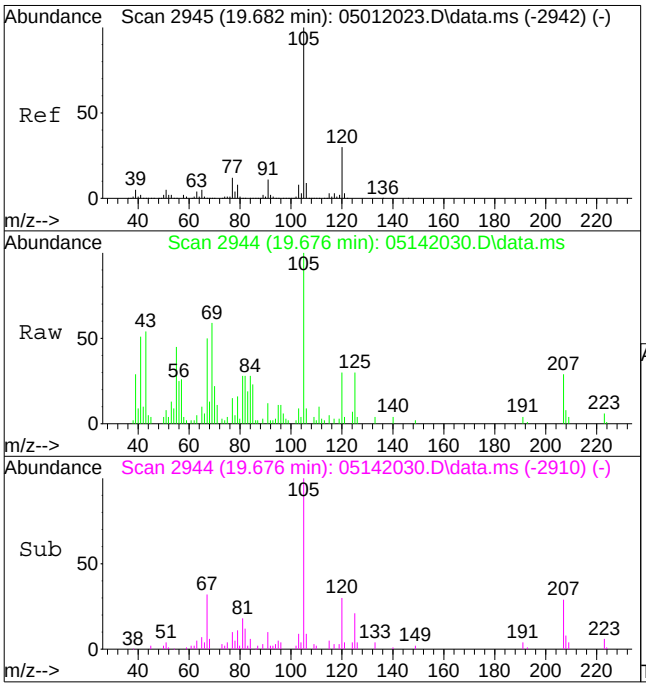


#76
n-Propylbenzene
Concen: 0.19 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05142030.D
Acq: 15 May 2020 1:31

Tgt Ion: 91 Resp: 30814

Ion	Ratio	Lower	Upper
91	100		
120	20.4	3.1	43.1
65	23.1	0.0	30.9

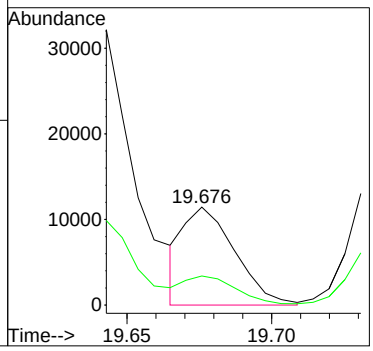


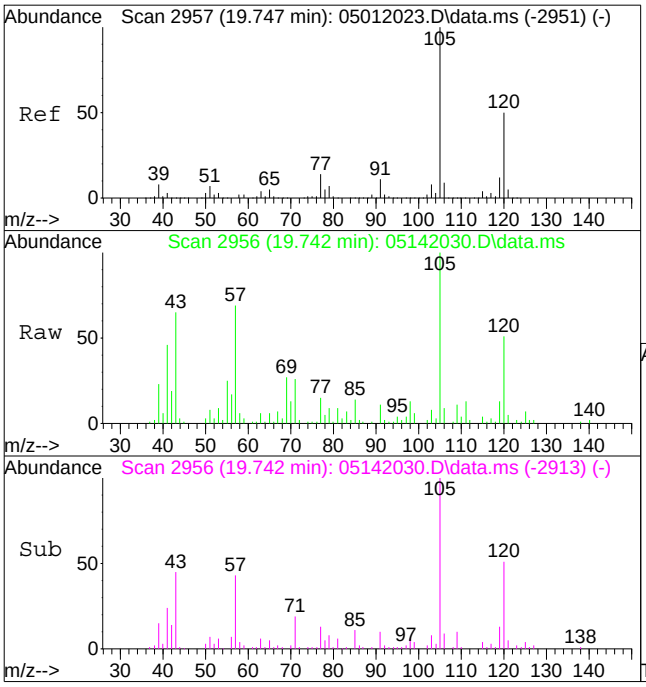


#78
4-Ethyltoluene
Concen: 0.11 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05142030.D
Acq: 15 May 2020 1:31

Tgt Ion:105 Resp: 14262

Ion	Ratio	Lower	Upper
105	100		
120	30.9	10.4	50.4

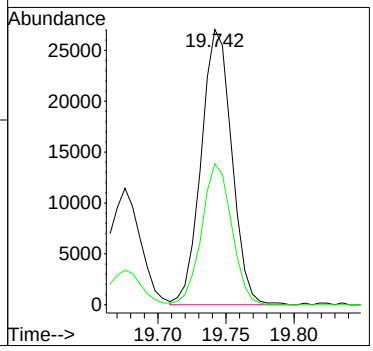


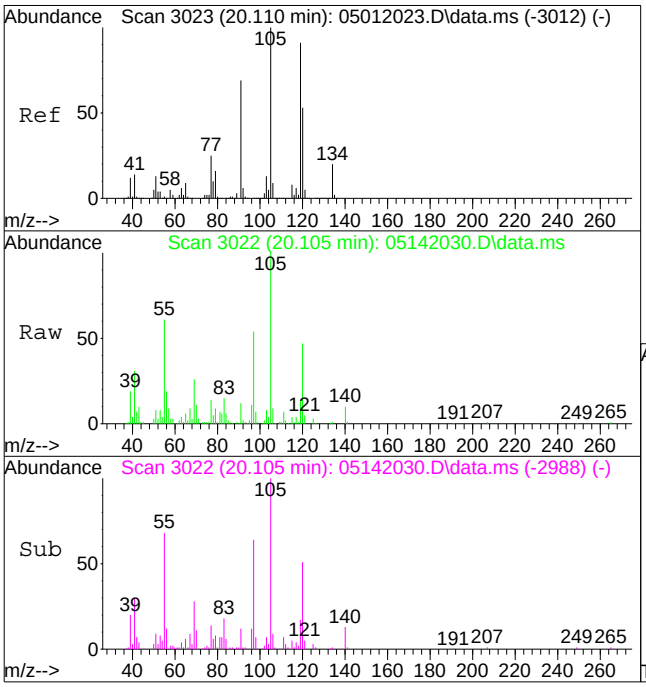


#79
1,3,5-Trimethylbenzene
Concen: 0.38 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05142030.D
Acq: 15 May 2020 1:31

Tgt Ion:105 Resp: 42217

Ion	Ratio	Lower	Upper
105	100		
120	50.2	29.9	69.9

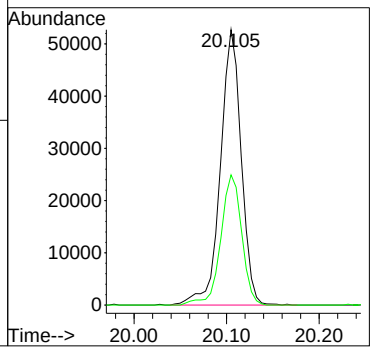


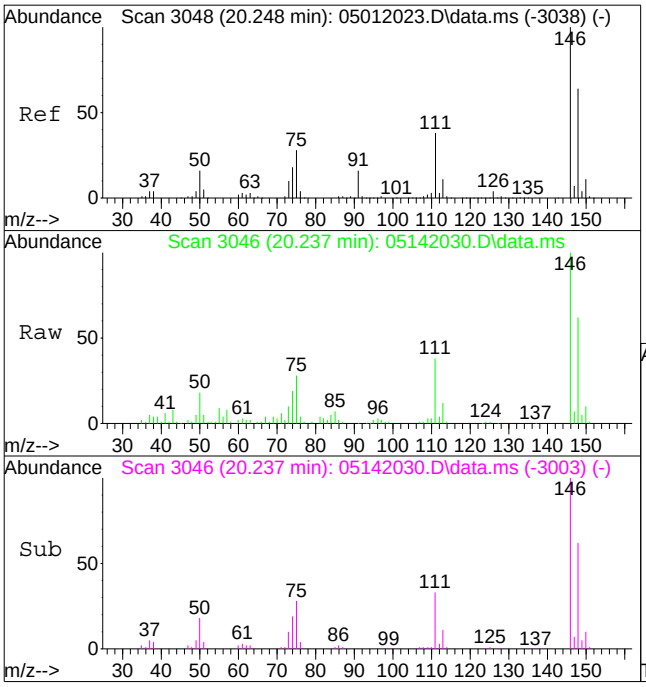


#82
1,2,4-Trimethylbenzene
Concen: 0.73 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05142030.D
Acq: 15 May 2020 1:31

Tgt Ion:105 Resp: 82458

Ion	Ratio	Lower	Upper
105	100		
120	47.6	33.6	73.6

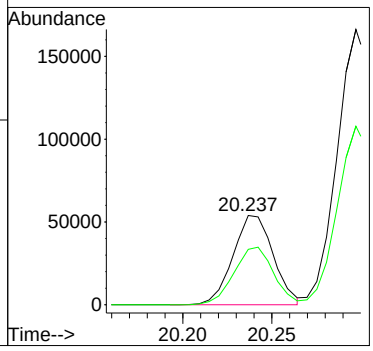


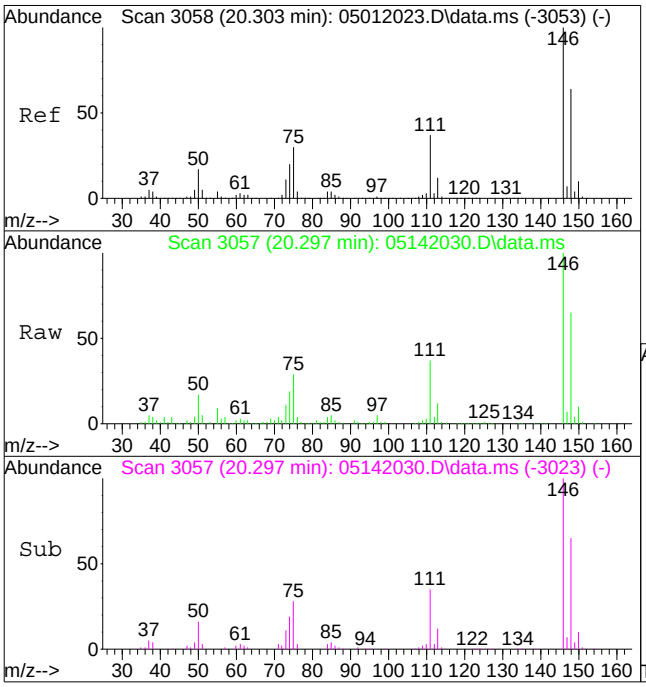


#85
1,3-Dichlorobenzene
Concen: 1.30 ng
RT: 20.24 min Scan# 3046
Delta R.T. -0.011 min
Lab File: 05142030.D
Acq: 15 May 2020 1:31

Tgt Ion:146 Resp: 84814

Ion	Ratio	Lower	Upper
146	100		
148	63.5	44.0	84.0

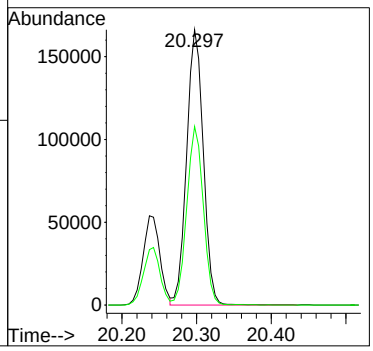


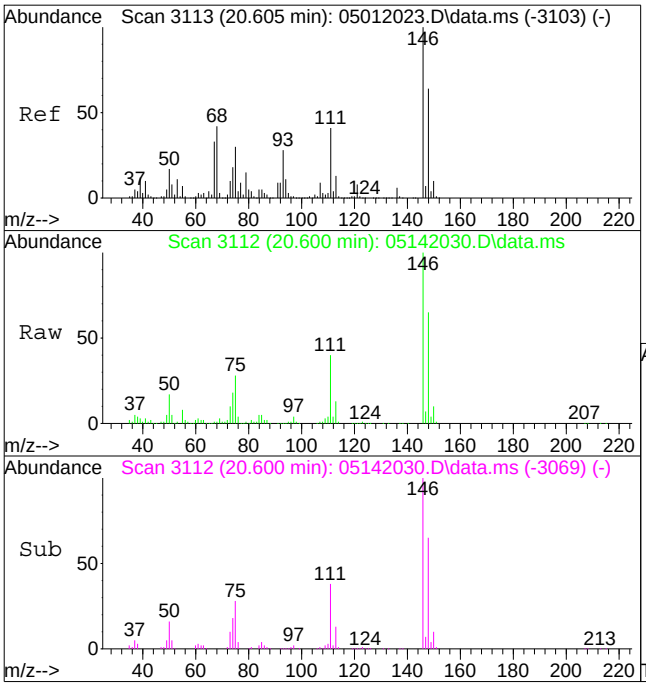


#86
1,4-Dichlorobenzene
Concen: 4.06 ng
RT: 20.30 min Scan# 3057
Delta R.T. -0.011 min
Lab File: 05142030.D
Acq: 15 May 2020 1:31

Tgt Ion:146 Resp: 258316

Ion	Ratio	Lower	Upper
146	100		
148	64.3	43.7	83.7

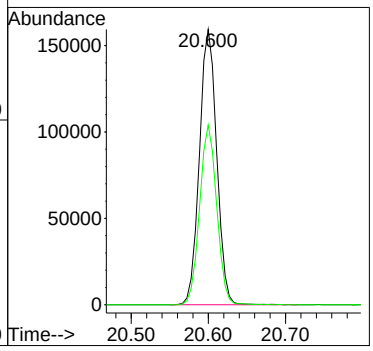


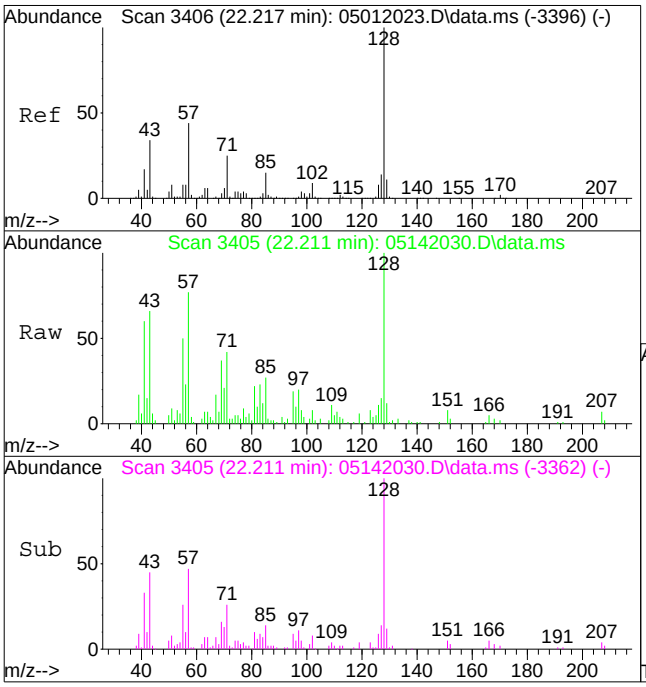


#90
1,2-Dichlorobenzene
Concen: 3.97 ng
RT: 20.60 min Scan# 3112
Delta R.T. -0.011 min
Lab File: 05142030.D
Acq: 15 May 2020 1:31

Tgt Ion:146 Resp: 248031

Ion	Ratio	Lower	Upper
146	100		
148	64.4	43.7	83.7

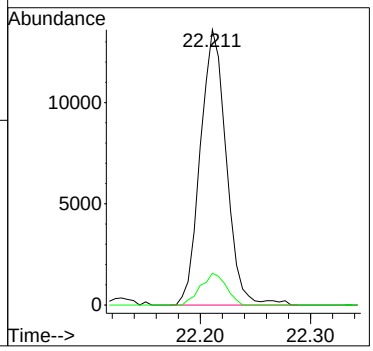




#95
Naphthalene
Concen: 0.16 ng
RT: 22.21 min Scan# 3405
Delta R.T. -0.011 min
Lab File: 05142030.D
Acq: 15 May 2020 1:31

Tgt Ion:128 Resp: 22219

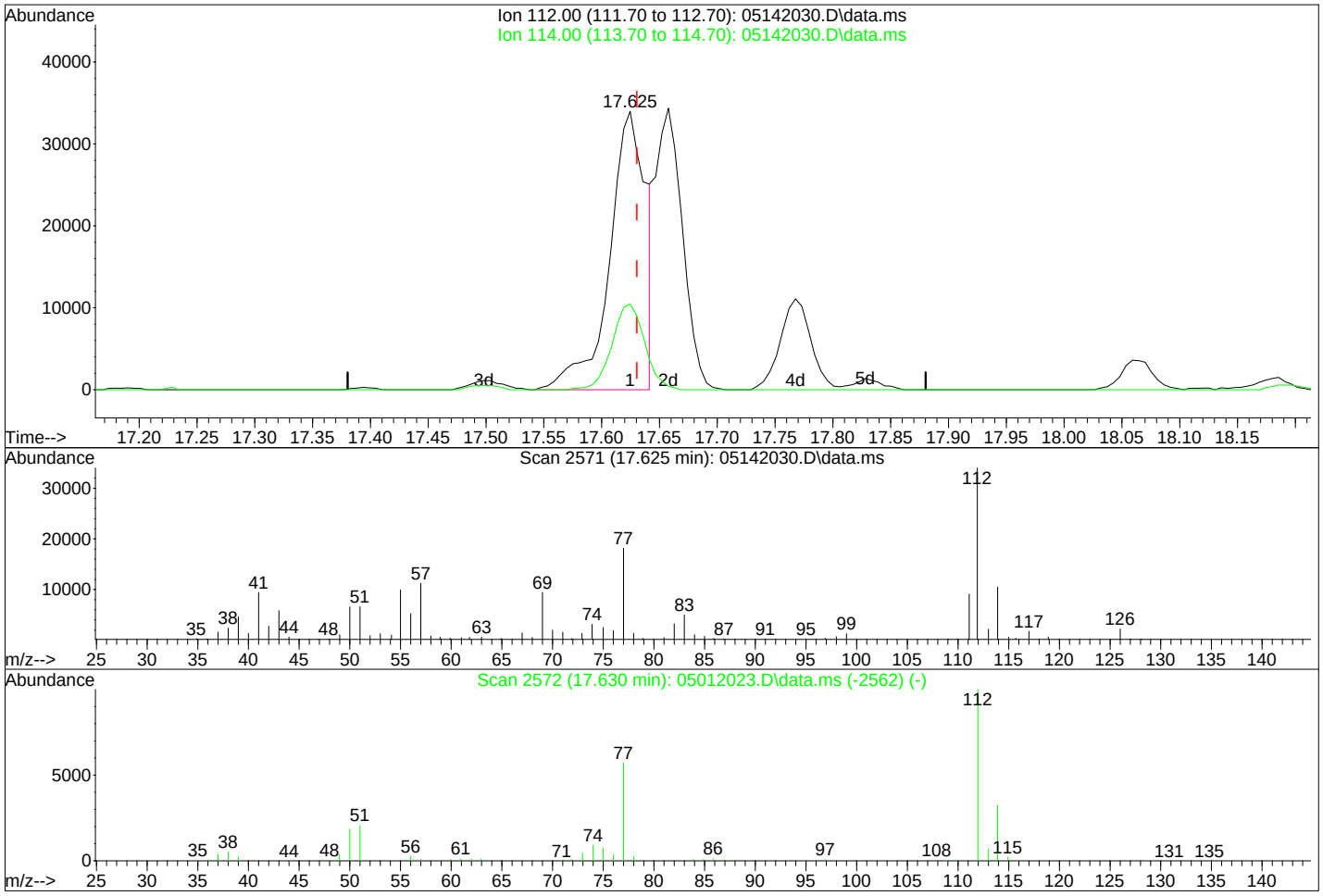
Ion	Ratio	Lower	Upper
128	100		
129	11.3	0.0	31.0



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\14\05142030.D Vial: 9
Acq On : 15 May 2020 1:31 Operator: LH
Sample : P2002302-007 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 09:28:59 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05142030.D\data.ms

(65) Chlorobenzene (T)

17.625min (-0.006) 0.87ng

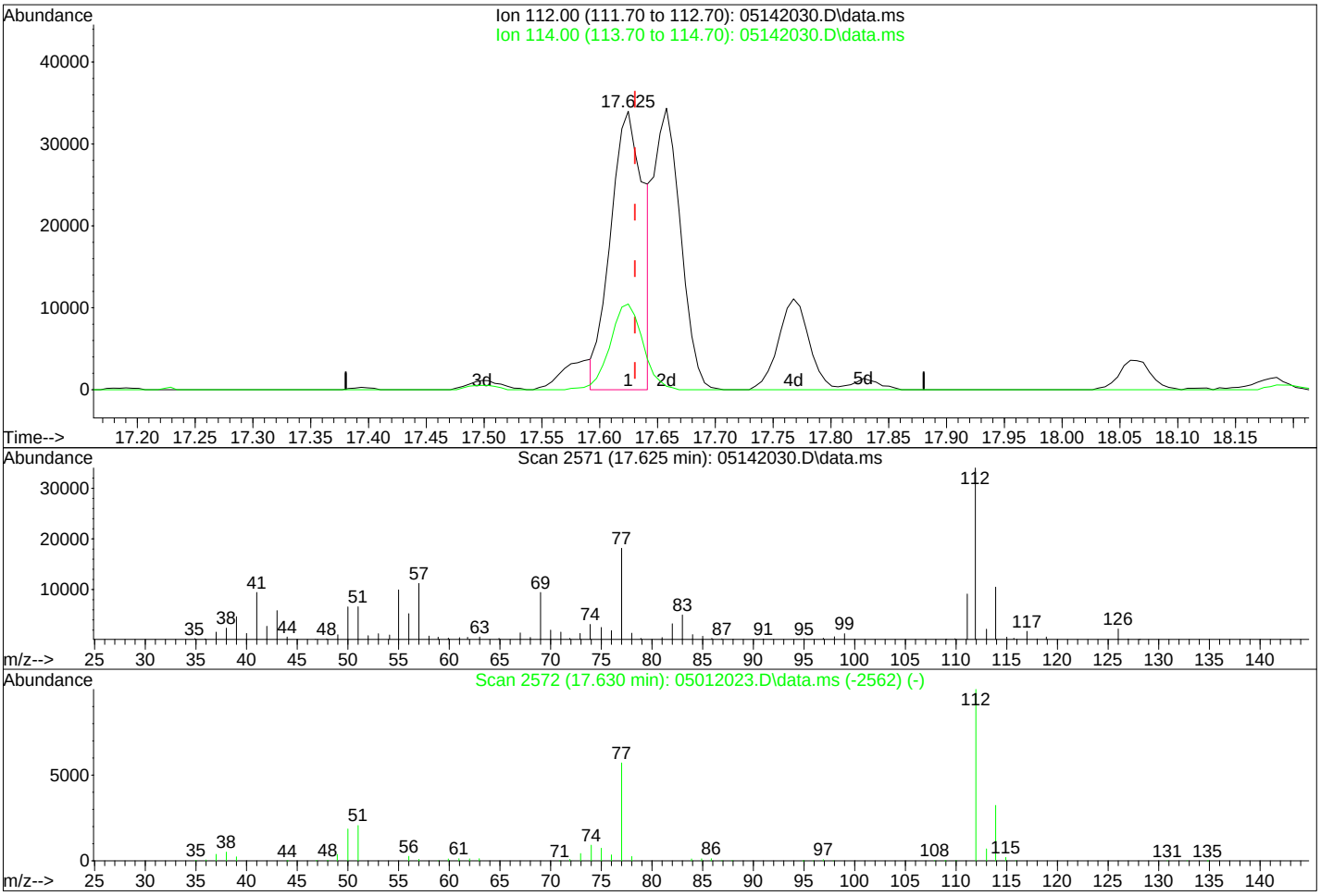
response 74225

Ion	Exp%	Act%
112.00	100	100
114.00	32.30	27.72
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\14\05142030.D Vial: 9
Acq On : 15 May 2020 1:31 Operator: LH
Sample : P2002302-007 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 09:28:59 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05142030.D\data.ms

(65) Chlorobenzene (T)

17.625min (-0.006) 0.79ng m

response 67659

Ion	Exp%	Act%
112.00	100	100
114.00	32.30	30.41
0.00	0.00	0.00
0.00	0.00	0.00

IPC

LH 5/15/20

5/17/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142020.D Vial: 1
Acq On : 14 May 2020 19:54 Operator: LH
Sample : P2002302-008 (0.5mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 20:51:06 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/14/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	271903	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1190286	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	543163	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	445291	12.084	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.64%			
57) Toluene-d8 (SS2)	15.72	98	1165288	12.657	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.28%			
73) Bromofluorobenzene (SS3)	18.97	174	423340	12.779	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.24%			
Target Compounds						Qvalue
2) Propene	0.00	42	0	N.D. d		
3) Dichlorodifluoromethan...	0.00	85	0	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	5.32	54	104	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.35	45	911	N.D.		
11) Acetonitrile	6.62	41	51	N.D.		
12) Acrolein	6.82	56	317	N.D.		
13) Acetone	0.00	58	0	N.D. d		
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	7.54	45	2012	N.D.		
16) Acrylonitrile	0.00	53	0	N.D. d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	8.44	59	2800	N.D.		
19) Methylene Chloride	0.00	84	0	N.D.		
20) 3-Chloro-1-propene (Al...	8.58	41	121	N.D.		
21) Trichlorotrifluoroethane	8.84	151	683	N.D.		
22) Carbon Disulfide	8.69	76	711	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	9.98	63	1510	N.D.		
25) Methyl tert-Butyl Ether	10.07	73	468	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D. d		
27) 2-Butanone (MEK)	10.32	72	134	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	11.26	87	1452	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	11.26	57	144565	2.787	ng	99
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	11.78	72	291	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.11	62	7295	0.170	ng	100
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D. d		
40) 1-Butanol	12.84	56	562	N.D.		
41) Benzene	12.87	78	9951660	77.963	ng	99
42) Carbon Tetrachloride	13.04	117	694	N.D.		
43) Cyclohexane	13.17	84	888343	18.676	ng	99
44) tert-Amyl Methyl Ether	13.55	73	207	N.D.		
45) 1,2-Dichloropropane	13.64	63	624	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D. d		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d		
50) Methyl Methacrylate	0.00	100	0	N.D. d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142020.D Vial: 1
Acq On : 14 May 2020 19:54 Operator: LH
Sample : P2002302-008 (0.5mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 20:51:06 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

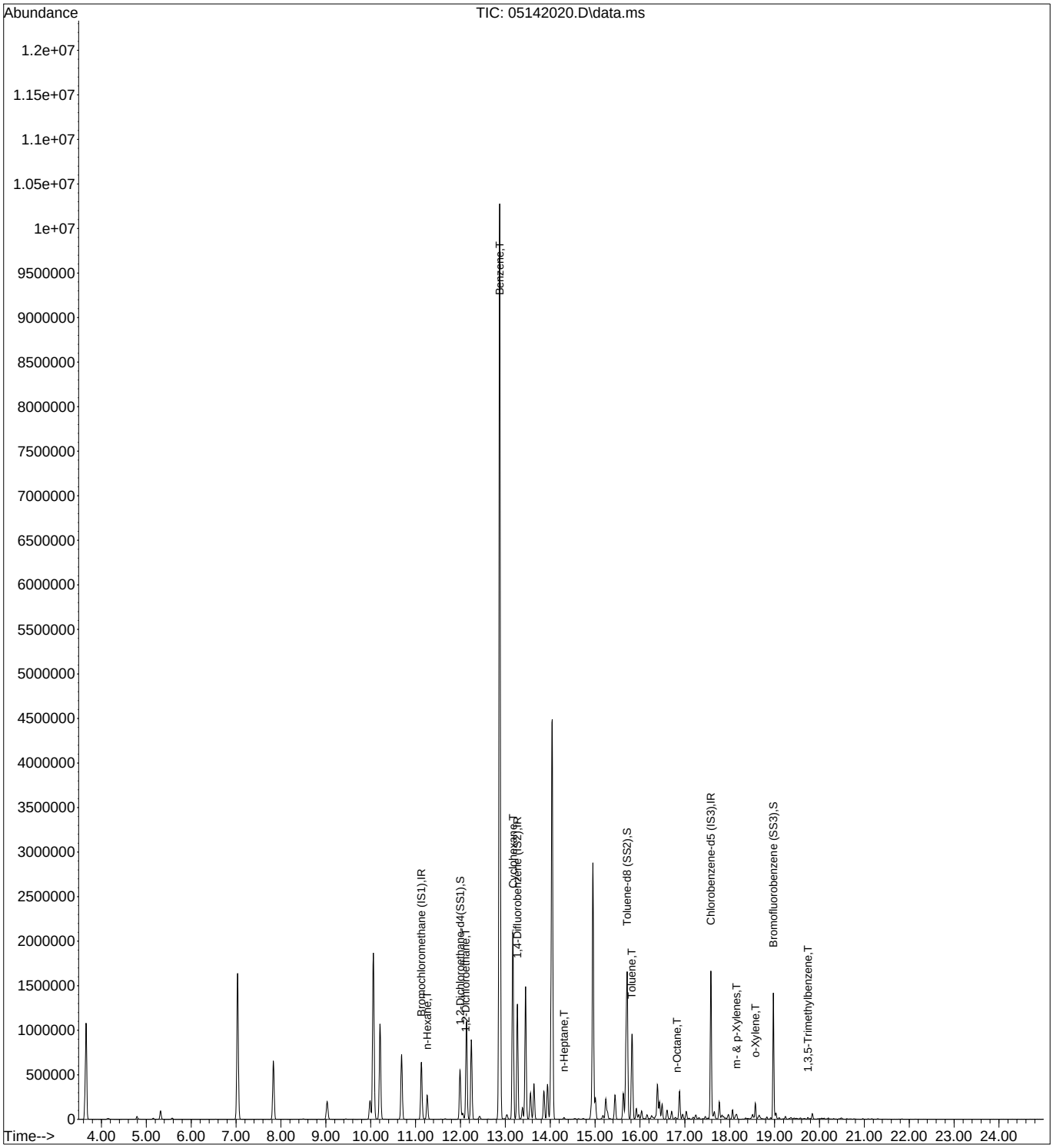
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.31	71	5065	0.170	ng		94
52) cis-1,3-Dichloropropene	14.96	75	515	N.D.			
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	d		
54) trans-1,3-Dichloropropene	15.13	75	585	N.D.			
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	d		
58) Toluene	15.82	91	347860	2.931	ng		100
59) 2-Hexanone	0.00	43	0	N.D.	d		
60) Dibromochloromethane	0.00	129	0	N.D.			
61) 1,2-Dibromoethane	16.48	107	174	N.D.			
62) n-Butyl Acetate	0.00	43	0	N.D.	d		
63) n-Octane	16.83	57	1527	0.062	ng	#	59
64) Tetrachloroethene	16.96	166	300	N.D.			
65) Chlorobenzene	0.00	112	0	N.D.	d		
66) Ethylbenzene	17.98	91	6178	N.D.			
67) m- & p-Xylenes	18.15	91	46583	0.444	ng		98
68) Bromoform	0.00	173	0	N.D.			
69) Styrene	18.47	104	120	N.D.			
70) o-Xylene	18.57	91	106326	0.998	ng		99
71) n-Nonane	18.77	43	811	N.D.			
72) 1,1,2,2-Tetrachloroethane	18.57	83	174	N.D.			
74) Cumene	19.10	105	5463	N.D.			
75) alpha-Pinene	0.00	93	0	N.D.			
76) n-Propylbenzene	19.55	91	995	N.D.			
77) 3-Ethyltoluene	19.64	105	1226	N.D.			
78) 4-Ethyltoluene	19.67	105	269	N.D.			
79) 1,3,5-Trimethylbenzene	19.74	105	6952	0.065	ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	19.91	105	1658	N.D.			
82) 1,2,4-Trimethylbenzene	20.11	105	3677	N.D.			
83) n-Decane	20.20	57	942	N.D.			
84) Benzyl Chloride	20.10	91	685	N.D.			
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.			
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.			
87) sec-Butylbenzene	20.35	105	609	N.D.			
88) 4-Isopropyltoluene (p-...	20.48	119	684	N.D.			
89) 1,2,3-Trimethylbenzene	20.48	105	5489	N.D.			
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.			
91) d-Limonene	20.61	68	1053	N.D.			
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.			
93) n-Undecane	21.30	57	1533	N.D.			
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.			
95) Naphthalene	22.22	128	762	N.D.			
96) n-Dodecane	22.21	57	357	N.D.			
97) Hexachlorobutadiene	0.00	225	0	N.D.			
98) Cyclohexanone	18.28	55	1447	N.D.			
99) tert-Butylbenzene	20.11	119	686	N.D.			
100) n-Butylbenzene	20.85	91	109	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142020.D Vial: 1
Acq On : 14 May 2020 19:54 Operator: LH
Sample : P2002302-008 (0.5mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 20:51:06 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



R16050120.M Thu May 14 20:51:54 2020 Page: 3

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142020.D Vial: 1
Acq On : 14 May 2020 19:54 Operator: LH
Sample : P2002302-008 (0.5mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 20:51:06 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/14/20

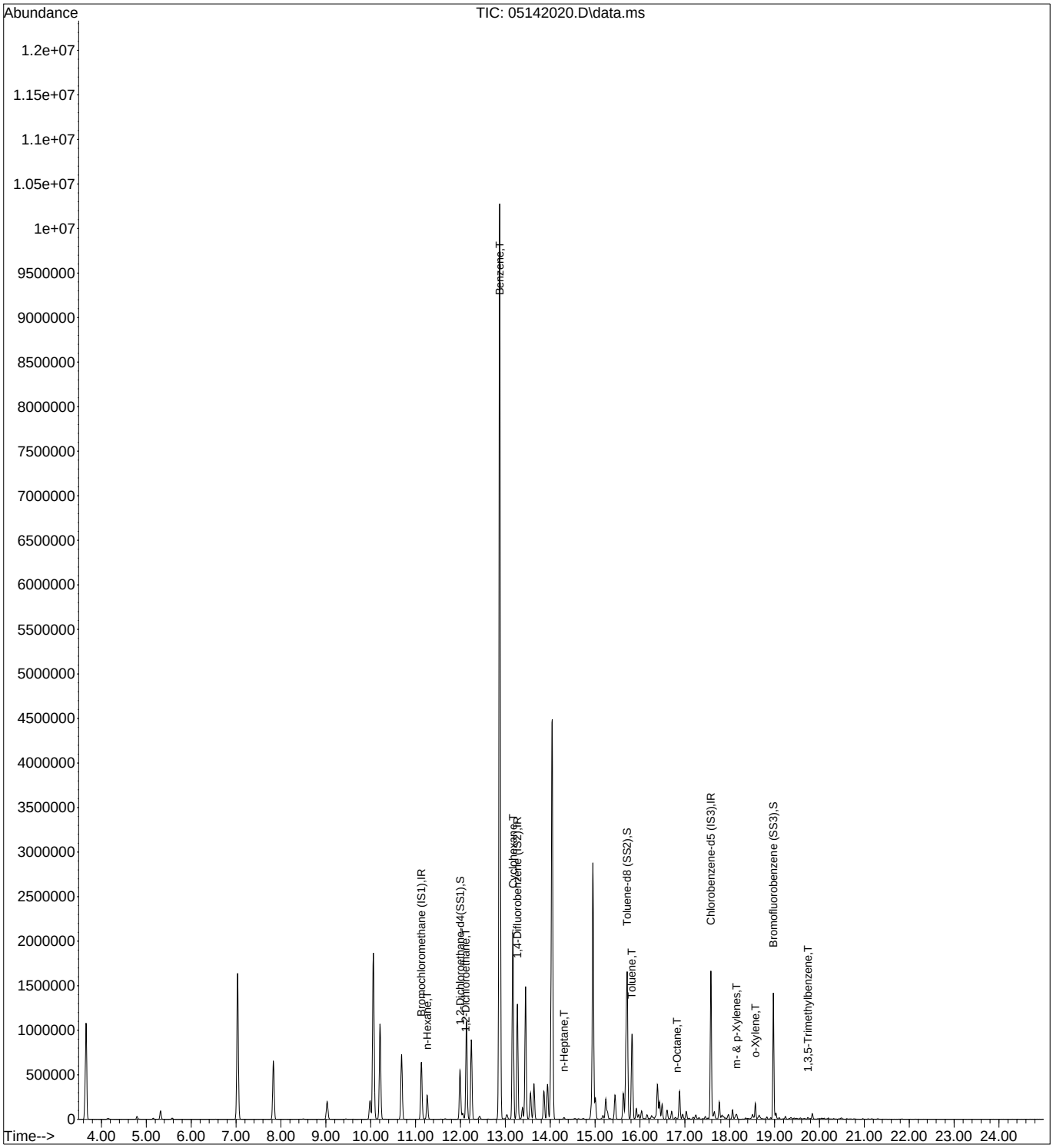
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	271903	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1190286	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	543163	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	445291	12.084	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.64%				
57) Toluene-d8 (SS2)	15.72	98	1165288	12.657	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.28%				
73) Bromofluorobenzene (SS3)	18.97	174	423340	12.779	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.24%				
Target Compounds							Qvalue
31) n-Hexane	11.26	57	144565	2.787	ng		99
36) 1,2-Dichloroethane	12.11	62	7295	0.170	ng		100
41) Benzene	12.87	78	9951660	77.963	ng		99
43) Cyclohexane	13.17	84	888343	18.676	ng		99
51) n-Heptane	14.31	71	5065	0.170	ng		94
58) Toluene	15.82	91	347860	2.931	ng		100
63) n-Octane	16.83	57	1527	0.062	ng	#	59
67) m- & p-Xylenes	18.15	91	46583	0.444	ng		98
70) o-Xylene	18.57	91	106326	0.998	ng		99
79) 1,3,5-Trimethylbenzene	19.74	105	6952	0.065	ng		99

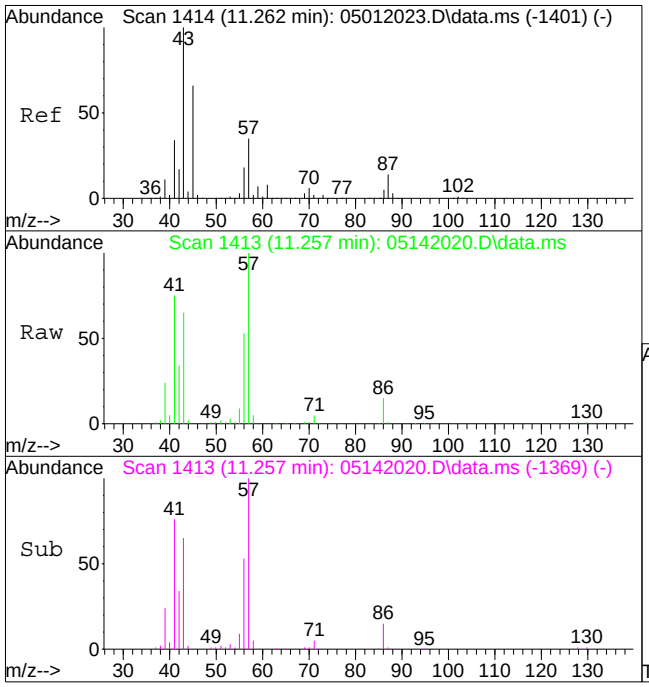
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142020.D Vial: 1
Acq On : 14 May 2020 19:54 Operator: LH
Sample : P2002302-008 (0.5mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 14 20:51:06 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

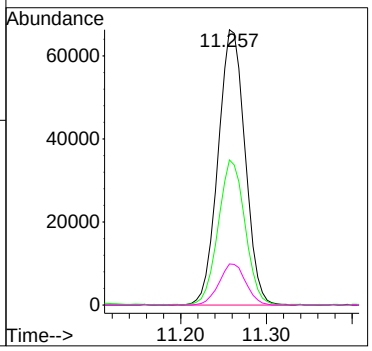


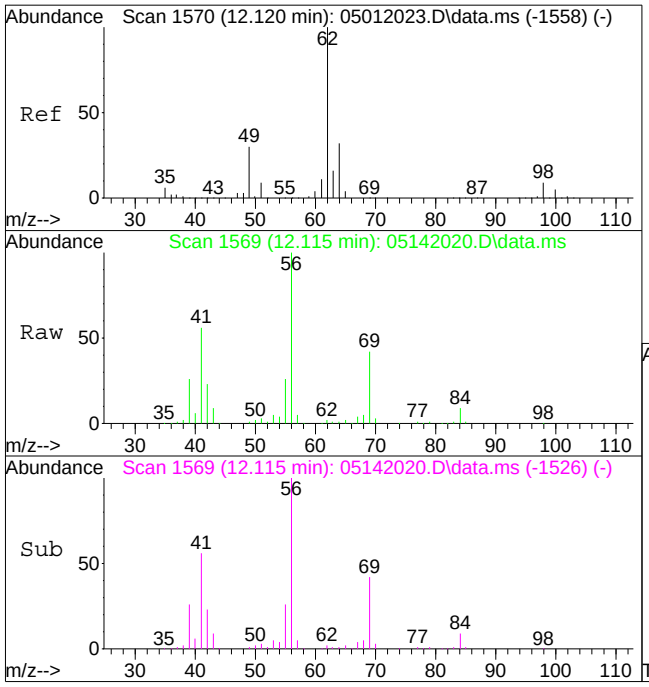


#31
n-Hexane
Concen: 2.79 ng
RT: 11.26 min Scan# 1413
Delta R.T. -0.006 min
Lab File: 05142020.D
Acq: 14 May 2020 19:54

Tgt Ion: 57 Resp: 144565

Ion	Ratio	Lower	Upper
57	100		
56	52.5	41.4	62.0
86	14.8	12.4	18.6

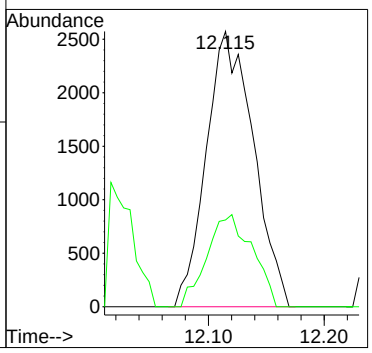


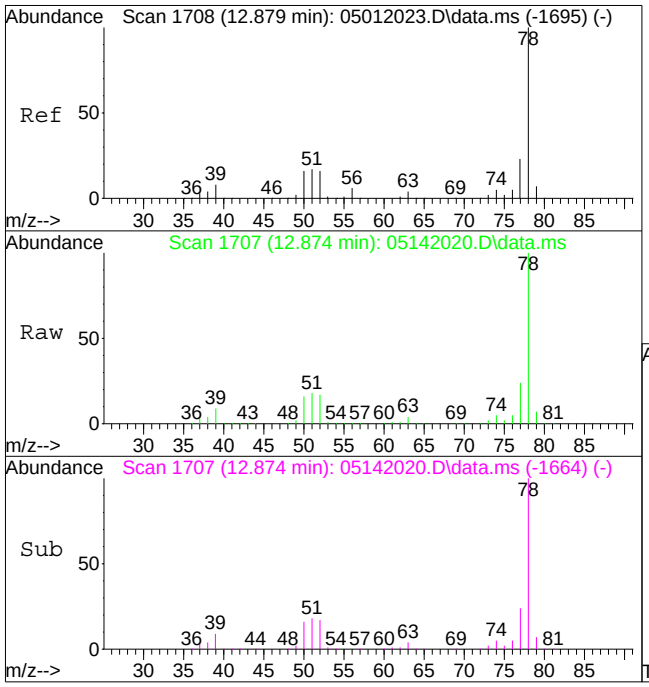


#36
1,2-Dichloroethane
Concen: 0.17 ng
RT: 12.11 min Scan# 1569
Delta R.T. -0.011 min
Lab File: 05142020.D
Acq: 14 May 2020 19:54

Tgt Ion: 62 Resp: 7295

Ion	Ratio	Lower	Upper
62	100		
64	32.1	12.4	52.4

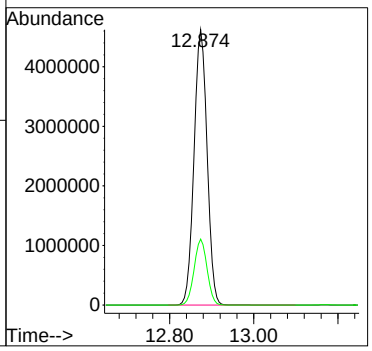


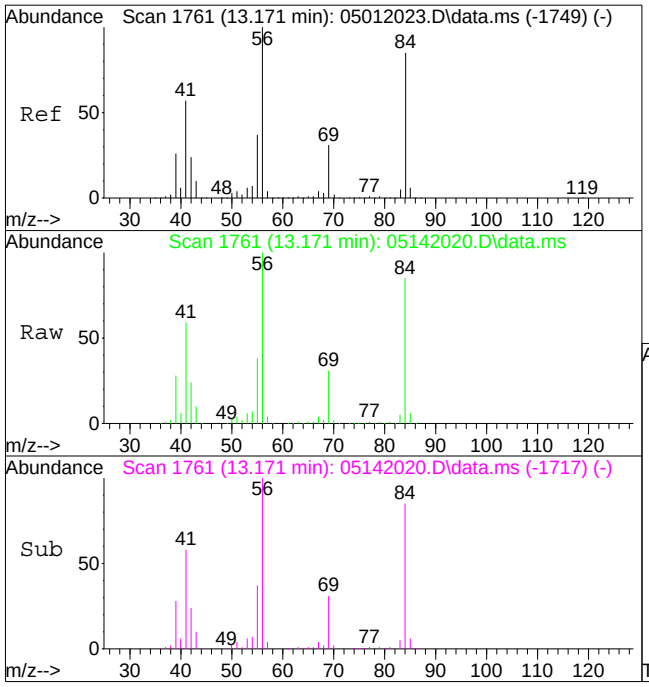


#41
Benzene
Concen: 77.96 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05142020.D
Acq: 14 May 2020 19:54

Tgt Ion: 78 Resp: 9951660

Ion	Ratio	Lower	Upper
78	100		
77	23.7	3.4	43.4

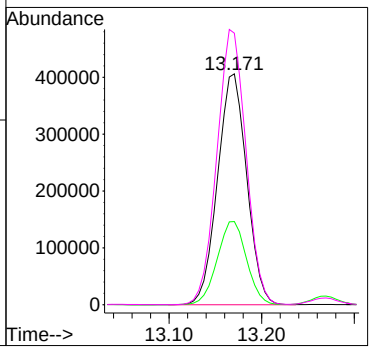


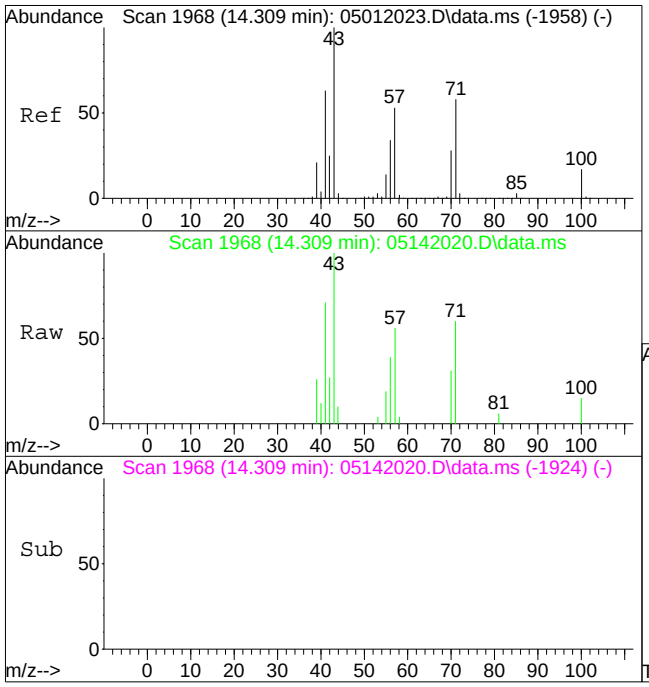


#43
Cyclohexane
Concen: 18.68 ng
RT: 13.17 min Scan# 1761
Delta R.T. -0.006 min
Lab File: 05142020.D
Acq: 14 May 2020 19:54

Tgt Ion: 84 Resp: 888343

Ion	Ratio	Lower	Upper
84	100		
69	36.4	16.5	56.5
56	118.9	97.4	137.4

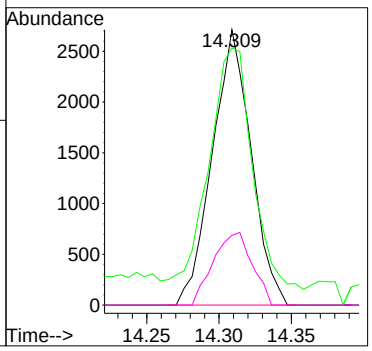


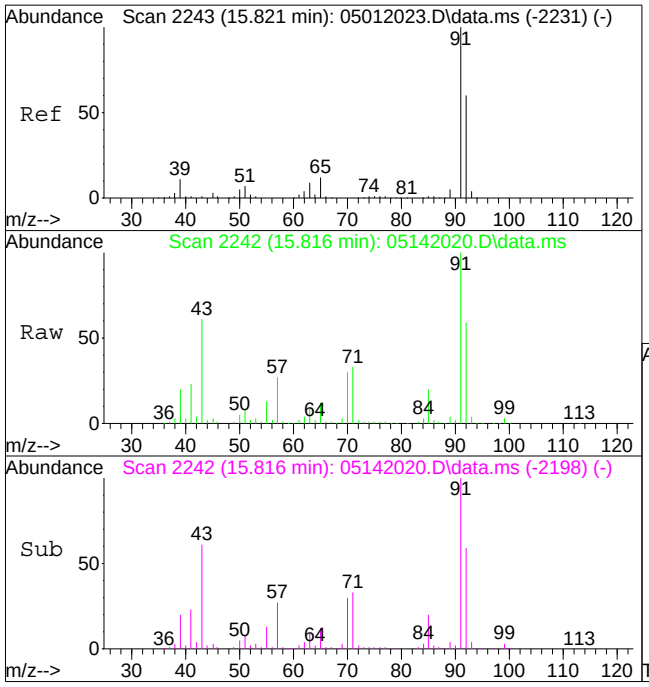


#51
n-Heptane
Concen: 0.17 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05142020.D
Acq: 14 May 2020 19:54

Tgt Ion: 71 Resp: 5065

Ion	Ratio	Lower	Upper
71	100		
57	97.1	71.0	111.0
100	26.3	8.4	48.4

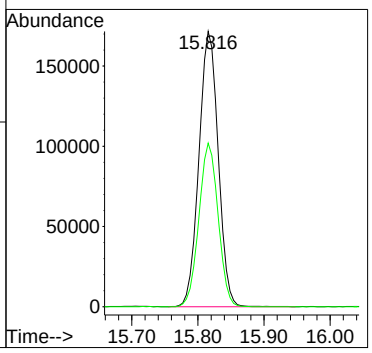


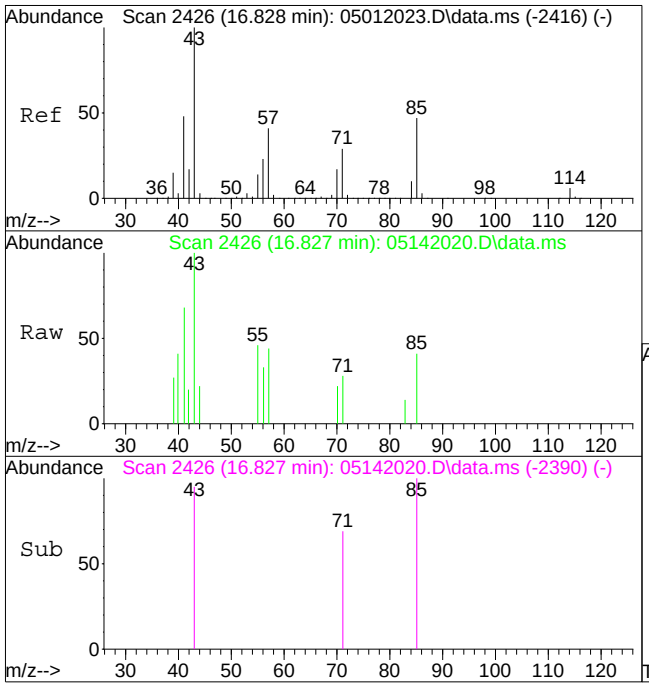


#58
Toluene
Concen: 2.93 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05142020.D
Acq: 14 May 2020 19:54

Tgt Ion: 91 Resp: 347860

Ion	Ratio	Lower	Upper
91	100		
92	59.1	39.4	79.4

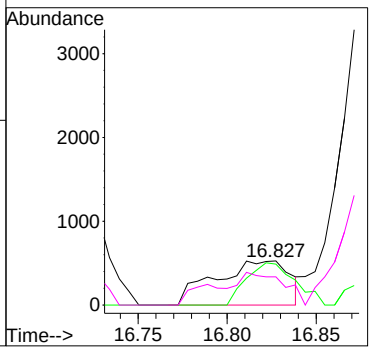


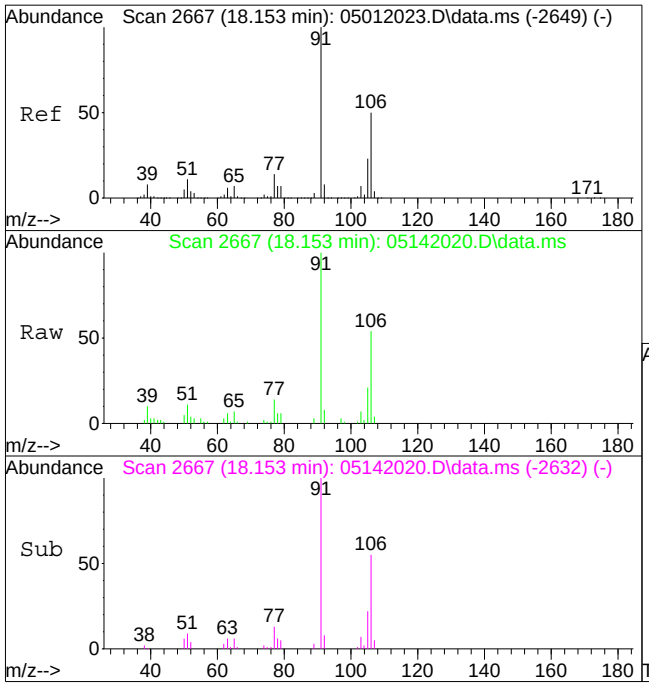


#63
n-Octane
Concen: 0.06 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05142020.D
Acq: 14 May 2020 19:54

Tgt Ion: 57 Resp: 1527

Ion	Ratio	Lower	Upper
57	100		
85	62.7	91.0	136.4#
71	45.3	56.2	84.2#

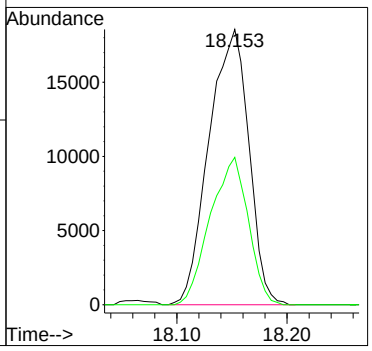


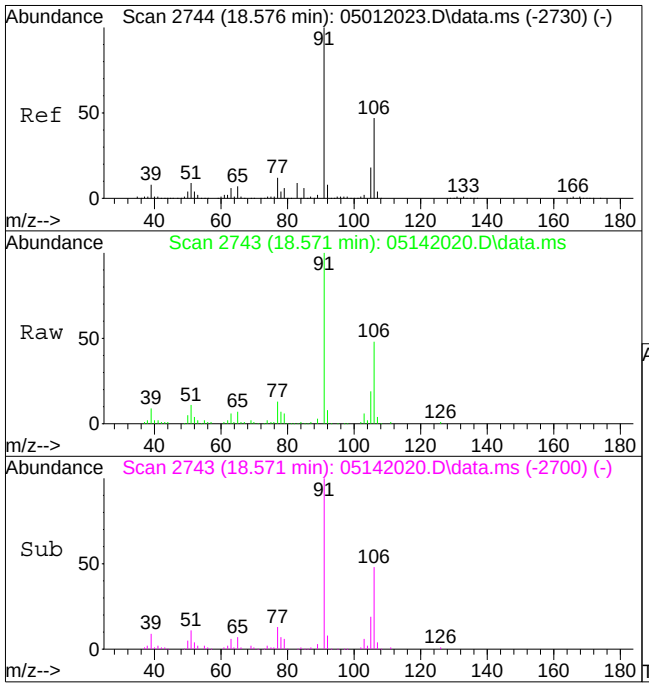


#67
m- & p-Xylenes
Concen: 0.44 ng
RT: 18.15 min Scan# 2667
Delta R.T. -0.006 min
Lab File: 05142020.D
Acq: 14 May 2020 19:54

Tgt Ion: 91 Resp: 46583

Ion	Ratio	Lower	Upper
91	100		
106	51.2	29.7	69.7

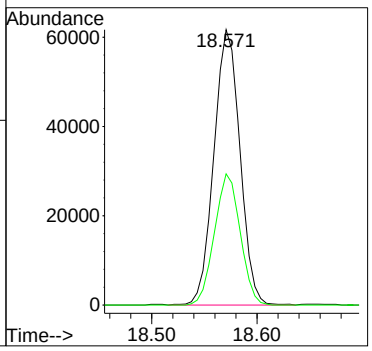


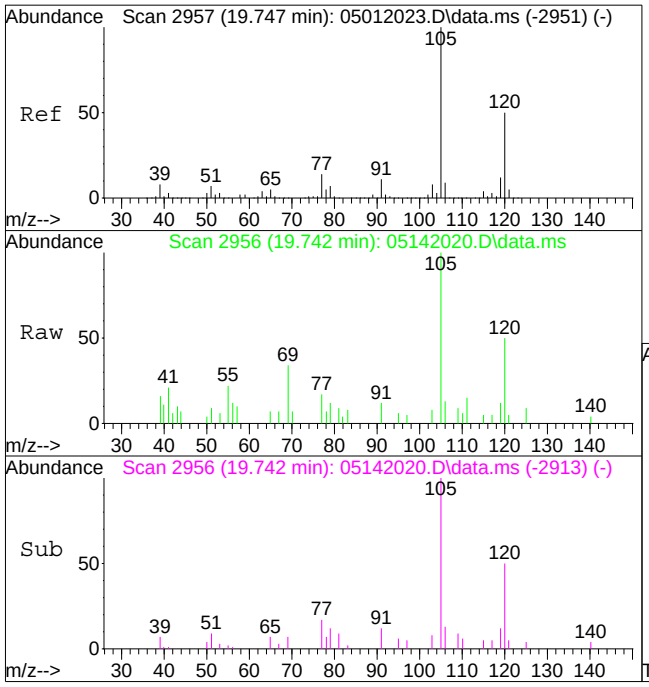


#70
o-Xylene
Concen: 1.00 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05142020.D
Acq: 14 May 2020 19:54

Tgt Ion: 91 Resp: 106326

Ion	Ratio	Lower	Upper
91	100		
106	46.9	27.5	67.5

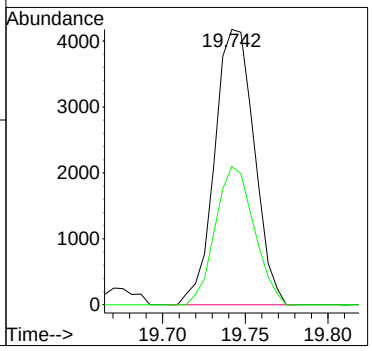




#79
1,3,5-Trimethylbenzene
Concen: 0.07 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05142020.D
Acq: 14 May 2020 19:54

Tgt Ion:105 Resp: 6952

Ion	Ratio	Lower	Upper
105	100		
120	49.2	29.9	69.9



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152014.D Vial: 10
Acq On : 15 May 2020 14:11 Operator: LH
Sample : P2002302-009 (170mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 17:07:33 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/15/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	278468	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1194352	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	581458	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	444262	11.772	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.16%				
57) Toluene-d8 (SS2)	15.72	98	1215094	12.329	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.64%				
73) Bromofluorobenzene (SS3)	18.97	174	454864	12.826	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.64%				
Target Compounds							Qvalue
2) Propene	4.08	42	160929	4.990	ng		98
3) Dichlorodifluoromethan...	4.26	85	127809	2.026	ng		100
4) Chloromethane	4.53	50	3529	0.071	ng		95
5) 1,2-Dichloro-1,1,2,2-t...	4.79	135	2228	0.059	ng		95
6) Vinyl Chloride	4.94	62	2209	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.	d		
8) Bromomethane	5.64	94	522	N.D.			
9) Chloroethane	5.97	64	529	N.D.			
10) Ethanol	6.33	45	4296	0.173	ng		86
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	7.25	101	52334	0.939	ng		100
15) 2-Propanol (Isopropanol)	7.51	45	8037	0.107	ng	#	57
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.41	84	494	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	8.86	151	172688	6.561	ng		98
22) Carbon Disulfide	8.70	76	18529	0.160	ng		98
23) trans-1,2-Dichloroethene	9.63	61	547	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.	d		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	d		
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.48	72	2645	0.125	ng		97
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.29	61	553	N.D.			
31) n-Hexane	11.27	57	484550	9.121	ng		100
32) Chloroform	11.31	83	39689	0.716	ng		92
34) Tetrahydrofuran (THF)	11.75	72	3990	0.193	ng	#	74
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	100676	2.292	ng		99
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	763554	5.961	ng		98
42) Carbon Tetrachloride	13.04	117	153926	3.533	ng		98
43) Cyclohexane	13.18	84	10360257	217.065	ng		98
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.	d		
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	13.97	130	6104	0.184	ng		99
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152014.D Vial: 10
Acq On : 15 May 2020 14:11 Operator: LH
Sample : P2002302-009 (170mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 17:07:33 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

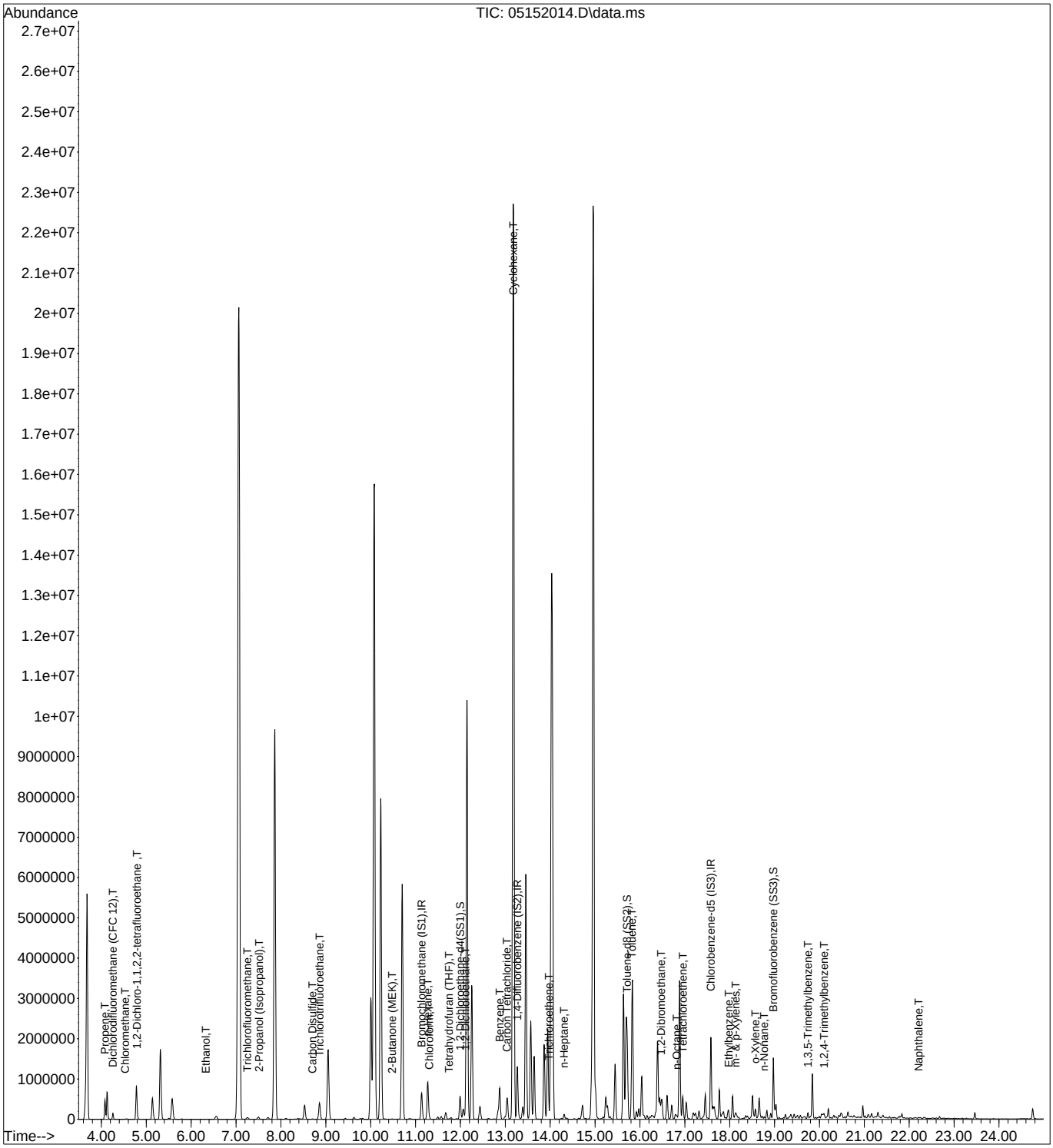
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	23814	0.795 ng	99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d	
53) 4-Methyl-2-pentanone	14.80	58	633	N.D.	
54) trans-1,3-Dichloropropene	15.44	75	112	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	15.82	91	249004	1.960 ng	99
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	16.48	107	268300	7.674 ng	99
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	16.82	57	17820	0.678 ng	92
64) Tetrachloroethene	16.96	166	6030	0.168 ng	97
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	17.98	91	19941	0.141 ng	98
67) m- & p-Xylenes	18.14	91	111491	0.992 ng	99
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	1011	N.D.	
70) o-Xylene	18.57	91	130703	1.146 ng	100
71) n-Nonane	18.77	43	18862	0.312 ng	90
72) 1,1,2,2-Tetrachloroethane	18.58	83	327	N.D.	
74) Cumene	19.10	105	5689	N.D.	
75) alpha-Pinene	19.43	93	181	N.D.	
76) n-Propylbenzene	19.55	91	6402	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.68	105	2315	N.D.	
79) 1,3,5-Trimethylbenzene	19.74	105	33012	0.289 ng	99
80) alpha-Methylstyrene	19.88	118	2857	N.D.	
81) 2-Ethyltoluene	19.91	105	6096	N.D.	
82) 1,2,4-Trimethylbenzene	20.10	105	18182	0.158 ng	90
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.22	91	3625	N.D.	
85) 1,3-Dichlorobenzene	20.24	146	821	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	1075	N.D.	
87) sec-Butylbenzene	20.35	105	3015	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	5592	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	20.61	146	682	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.11	180	1736	N.D.	
95) Naphthalene	22.21	128	9713	0.069 ng	98
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.10	119	2736	N.D.	
100) n-Butylbenzene	20.85	91	2342	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152014.D Vial: 10
Acq On : 15 May 2020 14:11 Operator: LH
Sample : P2002302-009 (170mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 17:07:33 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152014.D Vial: 10
Acq On : 15 May 2020 14:11 Operator: LH
Sample : P2002302-009 (170mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 17:07:33 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/15/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	278468	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1194352	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	581458	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	444262	11.772	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.16%				
57) Toluene-d8 (SS2)	15.72	98	1215094	12.329	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.64%				
73) Bromofluorobenzene (SS3)	18.97	174	454864	12.826	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.64%				
Target Compounds							Qvalue
2) Propene	4.08	42	160929	4.990	ng		98
3) Dichlorodifluoromethan...	4.26	85	127809	2.026	ng		100
4) Chloromethane	4.53	50	3529	0.071	ng		95
5) 1,2-Dichloro-1,1,2,2-t...	4.79	135	2228	0.059	ng		95
10) Ethanol	6.33	45	4296	0.173	ng		86
14) Trichlorofluoromethane	7.25	101	52334	0.939	ng		100
15) 2-Propanol (Isopropanol)	7.51	45	8037	0.107	ng	#	57
21) Trichlorotrifluoroethane	8.86	151	172688	6.561	ng		98
22) Carbon Disulfide	8.70	76	18529	0.160	ng		98
27) 2-Butanone (MEK)	10.48	72	2645	0.125	ng		97
31) n-Hexane	11.27	57	484550	9.121	ng		100
32) Chloroform	11.31	83	39689	0.716	ng		92
34) Tetrahydrofuran (THF)	11.75	72	3990	0.193	ng	#	74
36) 1,2-Dichloroethane	12.11	62	100676	2.292	ng		99
41) Benzene	12.87	78	763554	5.961	ng		98
42) Carbon Tetrachloride	13.04	117	153926	3.533	ng		98
43) Cyclohexane	13.18	84	10360257	217.065	ng		98
47) Trichloroethene	13.97	130	6104	0.184	ng		99
51) n-Heptane	14.31	71	23814	0.795	ng		99
58) Toluene	15.82	91	249004	1.960	ng		99
61) 1,2-Dibromoethane	16.48	107	268300	7.674	ng		99
63) n-Octane	16.82	57	17820	0.678	ng		92
64) Tetrachloroethene	16.96	166	6030	0.168	ng		97
66) Ethylbenzene	17.98	91	19941	0.141	ng		98
67) m- & p-Xylenes	18.14	91	111491	0.992	ng		99
70) o-Xylene	18.57	91	130703	1.146	ng		100
71) n-Nonane	18.77	43	18862	0.312	ng		90
79) 1,3,5-Trimethylbenzene	19.74	105	33012	0.289	ng		99
82) 1,2,4-Trimethylbenzene	20.10	105	18182	0.158	ng		90
95) Naphthalene	22.21	128	9713	0.069	ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152014.D Vial: 10
Acq On : 15 May 2020 14:11 Operator: LH
Sample : P2002302-009 (170mL) Inst : GCMS-16
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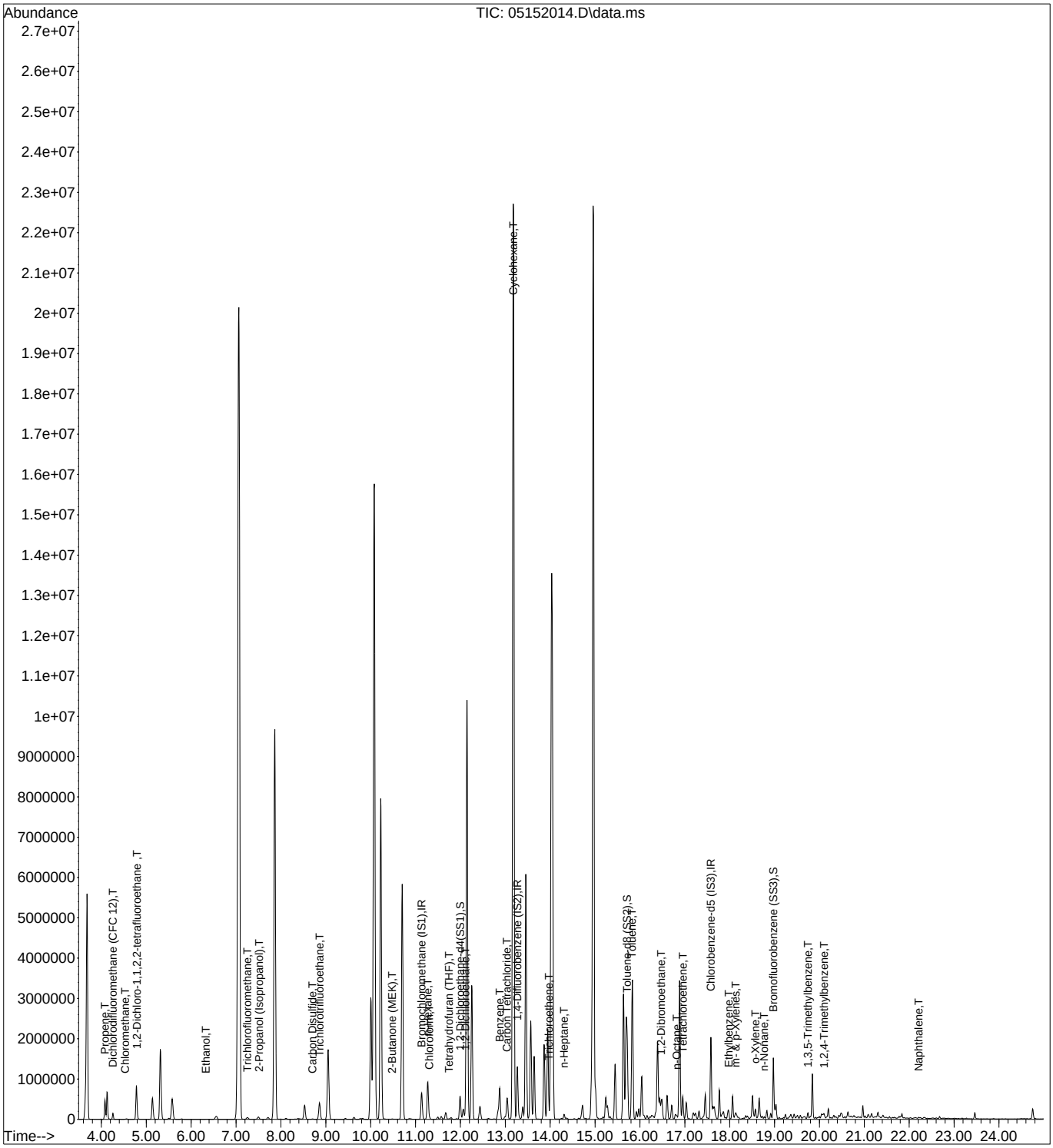
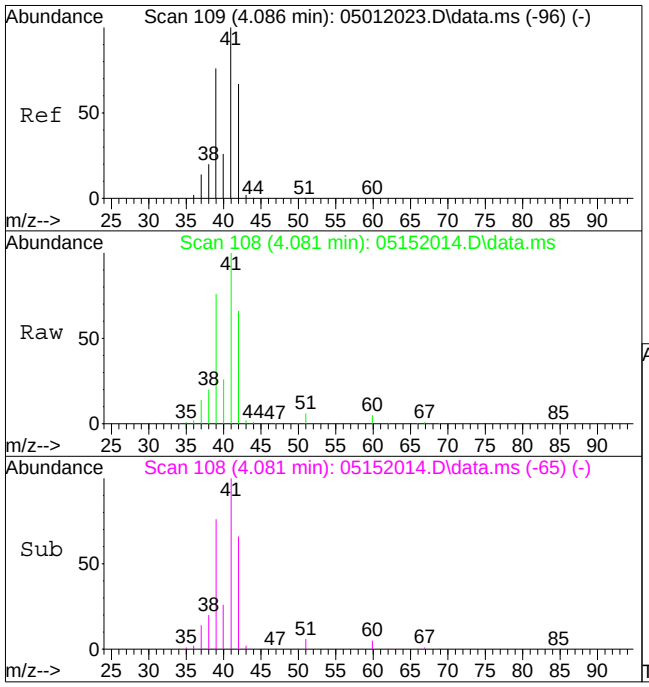
Response via : Initial Calibration
DataAcq Meth:TO15.M

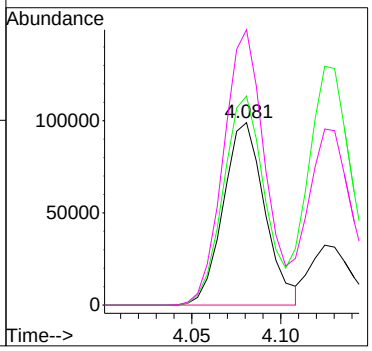


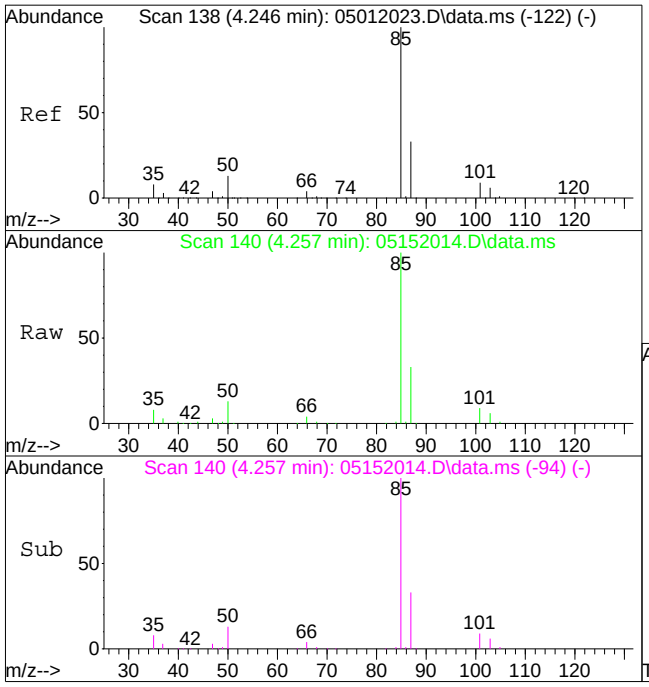


#2
Propene
Concen: 4.99 ng
RT: 4.08 min Scan# 108
Delta R.T. -0.011 min
Lab File: 05152014.D
Acq: 15 May 2020 14:11

Tgt Ion: 42 Resp: 160929

Ion	Ratio	Lower	Upper
42	100		
39	114.4	96.1	136.1
41	147.8	131.9	171.9

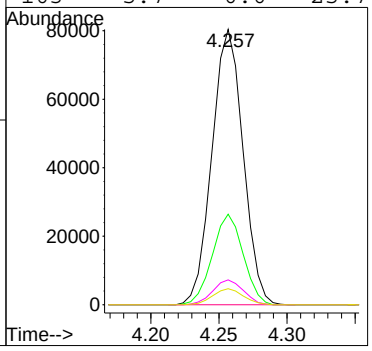


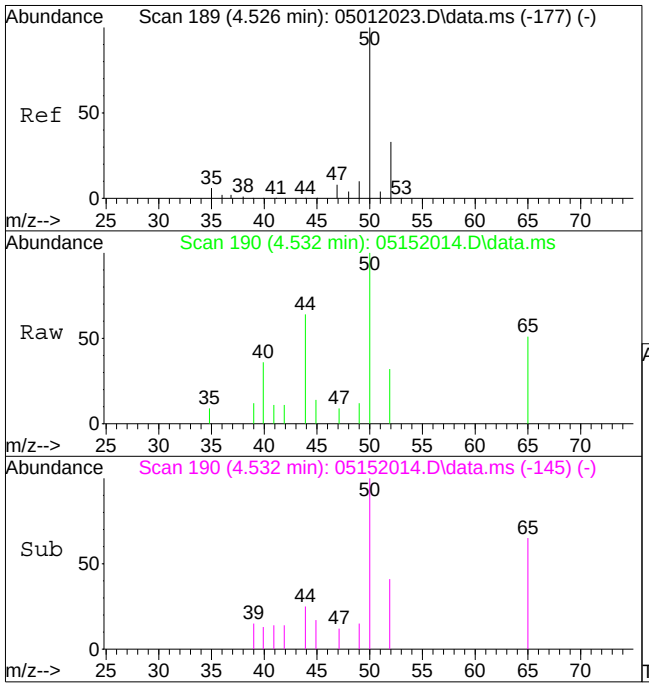


#3
Dichlorodifluoromethane (CFC 12)
Concen: 2.03 ng
RT: 4.26 min Scan# 140
Delta R.T. 0.005 min
Lab File: 05152014.D
Acq: 15 May 2020 14:11

Tgt Ion: 85 Resp: 127809

Ion	Ratio	Lower	Upper
85	100		
87	32.5	12.4	52.4
101	8.9	0.0	28.8
103	5.7	0.0	25.7

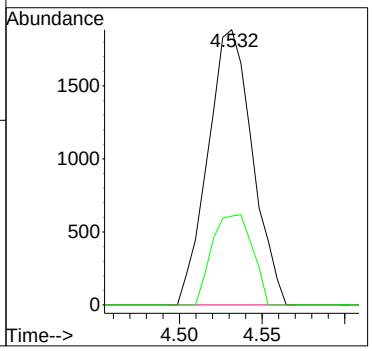


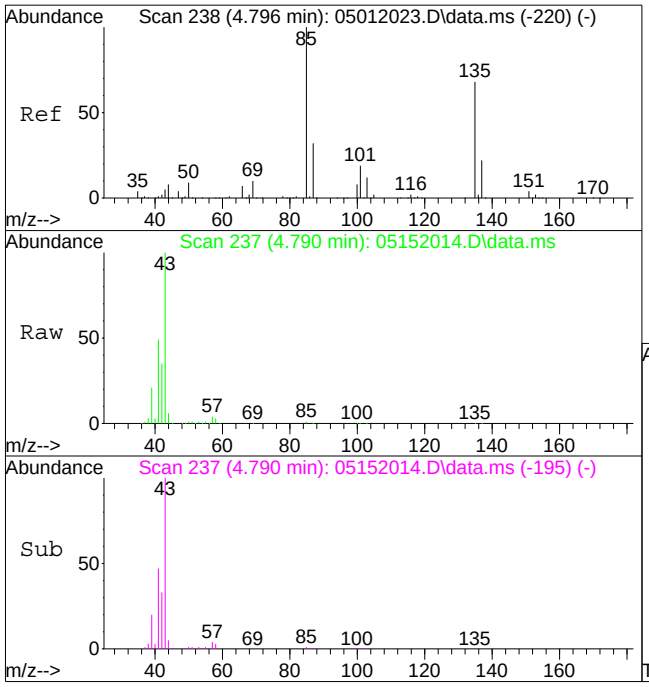


#4
Chloromethane
Concen: 0.07 ng
RT: 4.53 min Scan# 190
Delta R.T. -0.000 min
Lab File: 05152014.D
Acq: 15 May 2020 14:11

Tgt Ion: 50 Resp: 3529

Ion	Ratio	Lower	Upper
50	100		
52	29.7	12.5	52.5

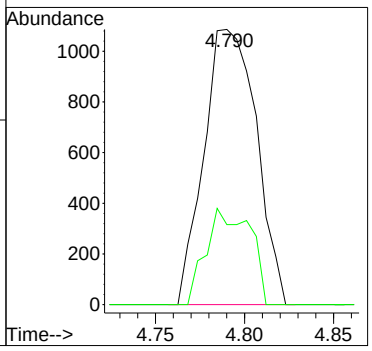


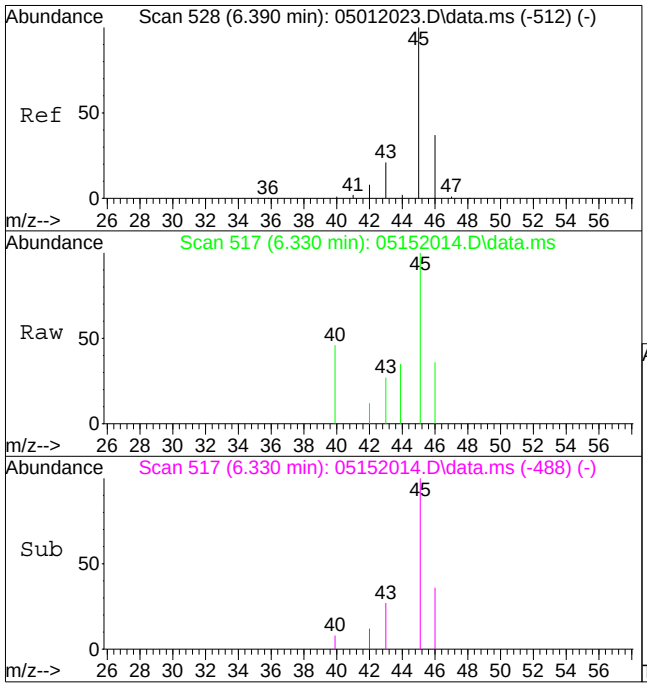


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 0.06 ng
RT: 4.79 min Scan# 237
Delta R.T. -0.017 min
Lab File: 05152014.D
Acq: 15 May 2020 14:11

Tgt Ion:135 Resp: 2228

Ion	Ratio	Lower	Upper
135	100		
137	29.4	12.1	52.1

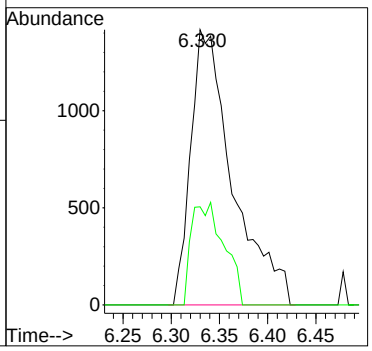


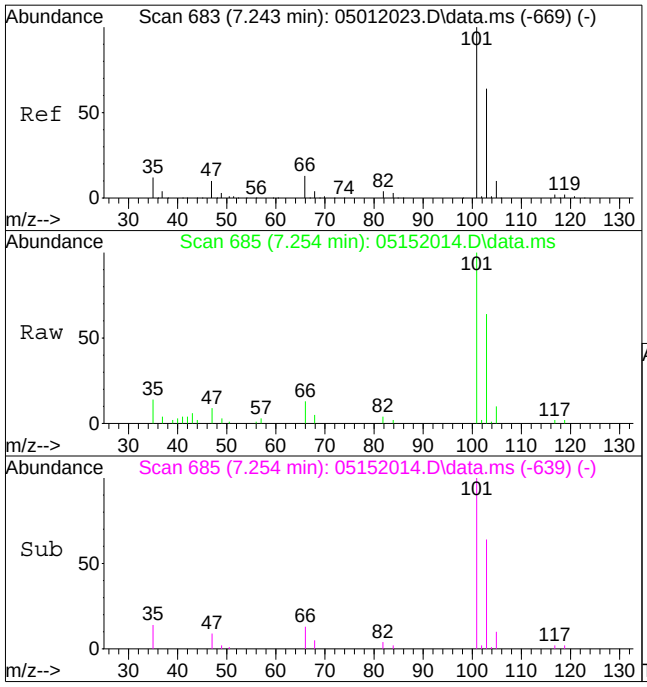


#10
Ethanol
Concen: 0.17 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.088 min
Lab File: 05152014.D
Acq: 15 May 2020 14:11

Tgt Ion: 45 Resp: 4296

Ion	Ratio	Lower	Upper
45	100		
46	28.8	17.2	57.2

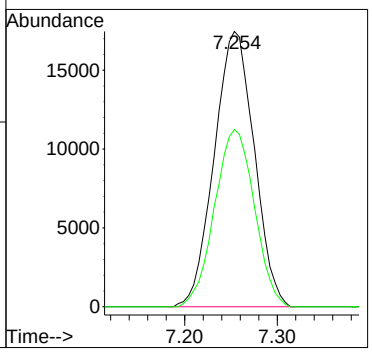


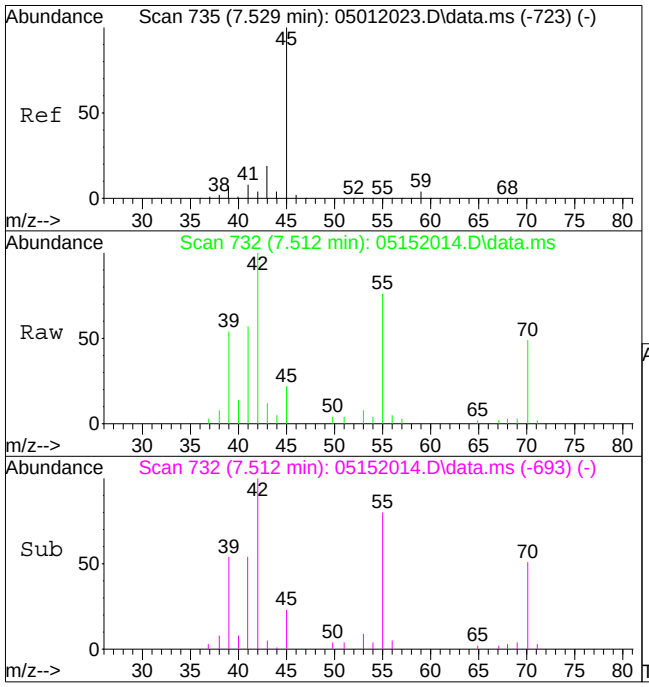


#14
Trichlorofluoromethane
Concen: 0.94 ng
RT: 7.25 min Scan# 685
Delta R.T. 0.005 min
Lab File: 05152014.D
Acq: 15 May 2020 14:11

Tgt Ion:101 Resp: 52334

Ion	Ratio	Lower	Upper
101	100		
103	64.1	44.4	84.4

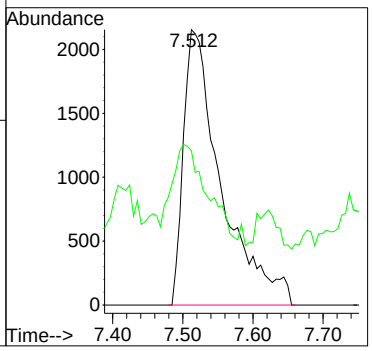


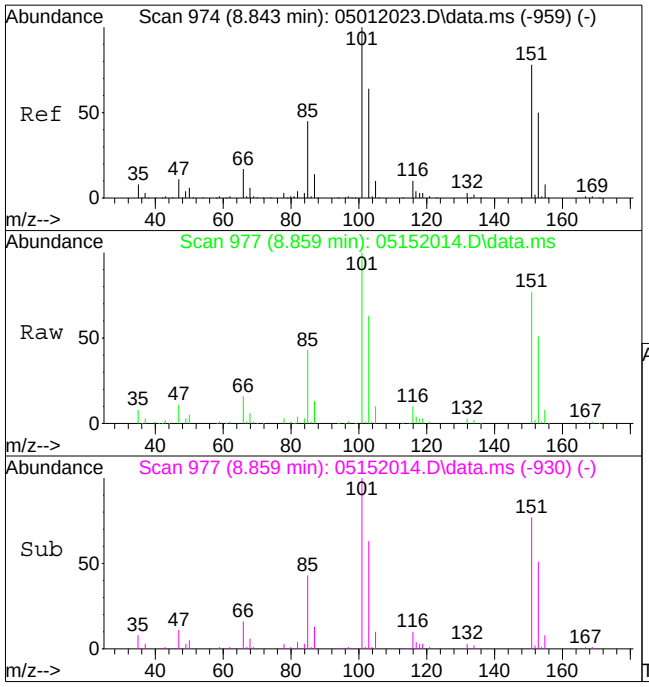


#15
2-Propanol (Isopropanol)
Concen: 0.11 ng
RT: 7.51 min Scan# 732
Delta R.T. -0.033 min
Lab File: 05152014.D
Acq: 15 May 2020 14:11

Tgt Ion: 45 Resp: 8037

Ion	Ratio	Lower	Upper
45	100		
43	0.0	0.0	39.5

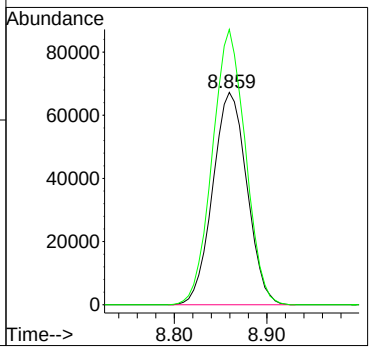


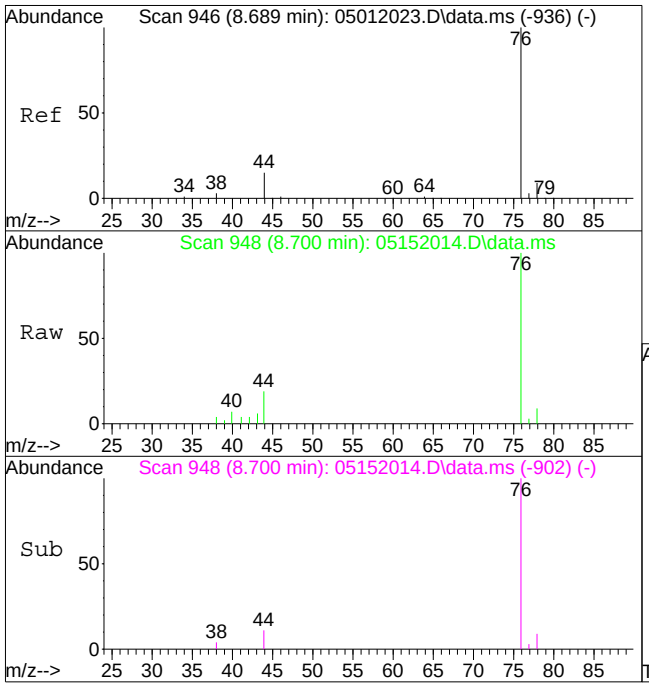


#21
Trichlorotrifluoroethane
Concen: 6.56 ng
RT: 8.86 min Scan# 977
Delta R.T. 0.011 min
Lab File: 05152014.D
Acq: 15 May 2020 14:11

Tgt Ion:151 Resp: 172688

Ion	Ratio	Lower	Upper
151	100		
101	125.4	107.3	147.3

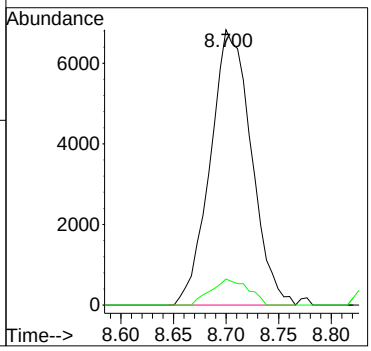


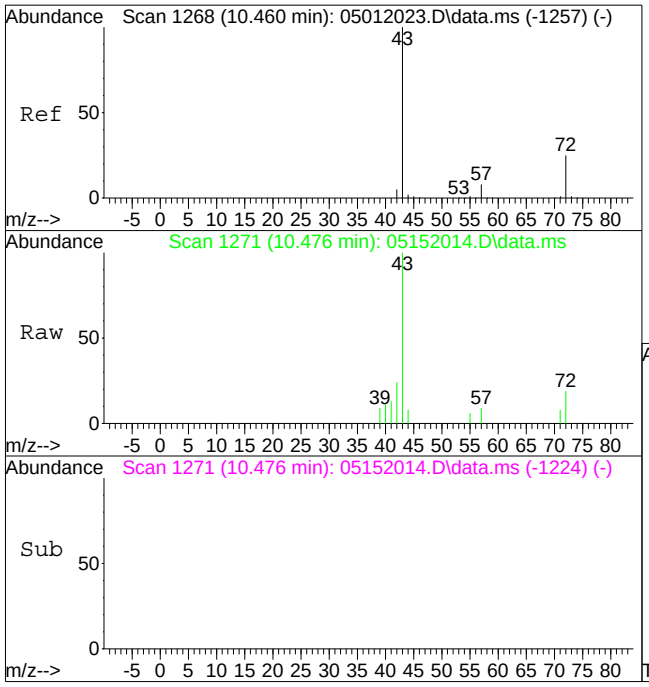


#22
Carbon Disulfide
Concen: 0.16 ng
RT: 8.70 min Scan# 948
Delta R.T. 0.005 min
Lab File: 05152014.D
Acq: 15 May 2020 14:11

Tgt Ion: 76 Resp: 18529

Ion	Ratio	Lower	Upper
76	100		
78	8.6	0.0	29.2

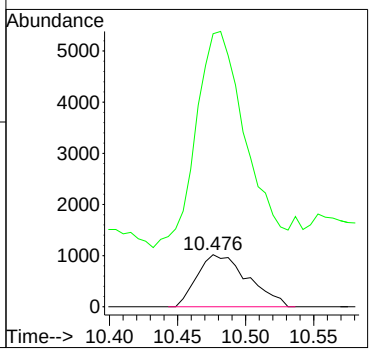


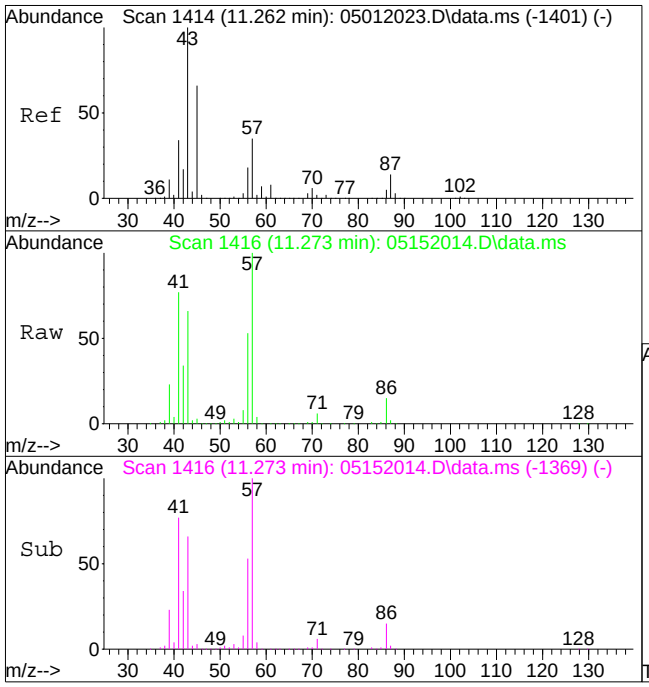


#27
2-Butanone (MEK)
Concen: 0.12 ng
RT: 10.48 min Scan# 1271
Delta R.T. 0.011 min
Lab File: 05152014.D
Acq: 15 May 2020 14:11

Tgt Ion: 72 Resp: 2645

Ion	Ratio	Lower	Upper
72	100		
43	403.4	389.7	429.7

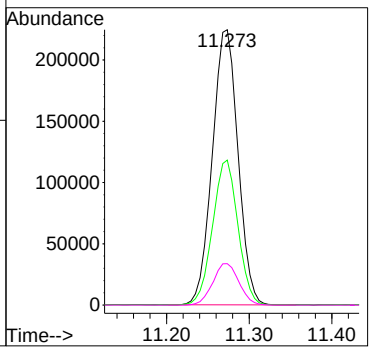


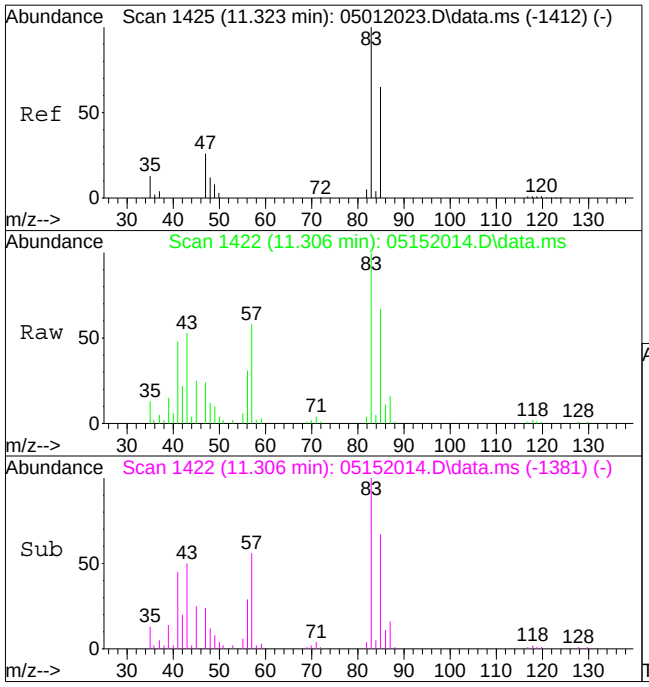


#31
n-Hexane
Concen: 9.12 ng
RT: 11.27 min Scan# 1416
Delta R.T. 0.011 min
Lab File: 05152014.D
Acq: 15 May 2020 14:11

Tgt Ion: 57 Resp: 484550

Ion	Ratio	Lower	Upper
57	100		
56	51.8	41.4	62.0
86	15.3	12.4	18.6

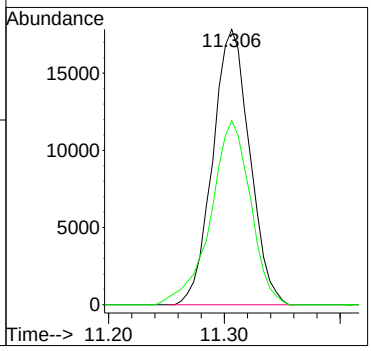


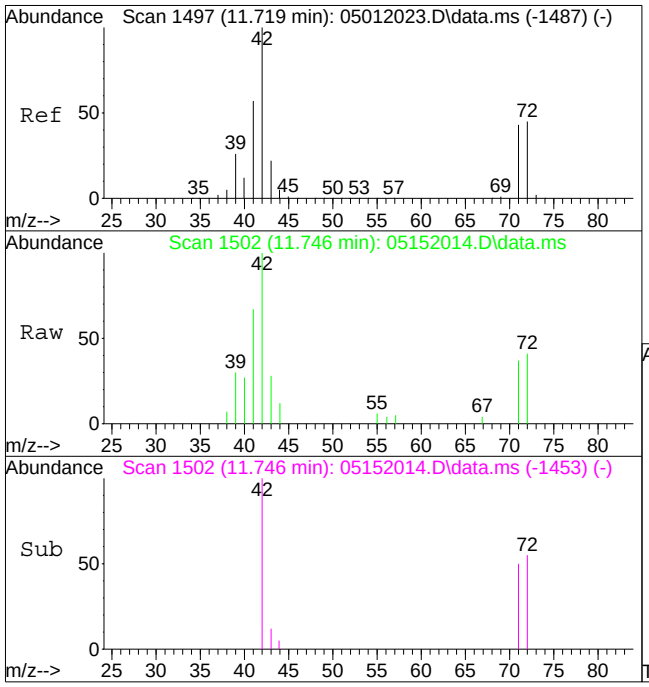


#32
Chloroform
Concen: 0.72 ng
RT: 11.31 min Scan# 1422
Delta R.T. -0.022 min
Lab File: 05152014.D
Acq: 15 May 2020 14:11

Tgt Ion: 83 Resp: 39689

Ion	Ratio	Lower	Upper
83	100		
85	71.6	45.5	85.5

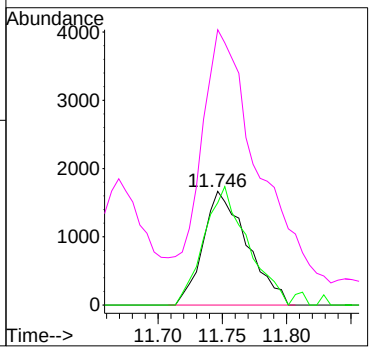


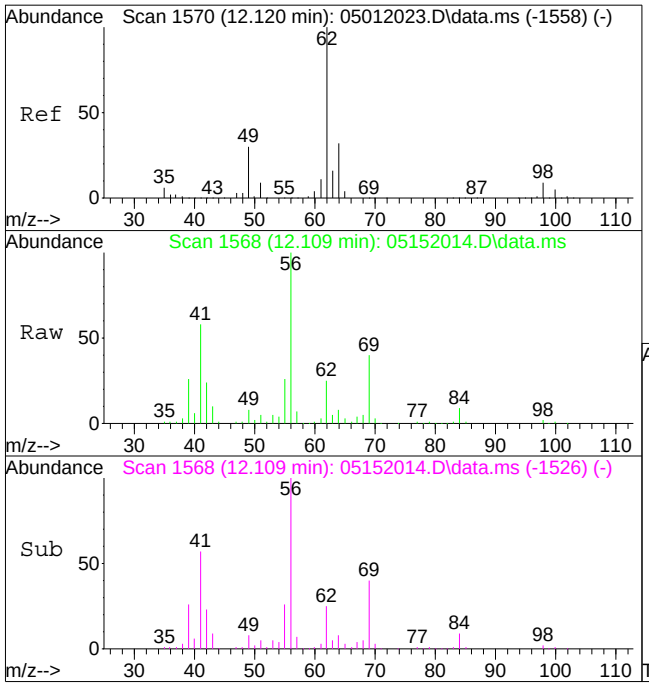


#34
Tetrahydrofuran (THF)
Concen: 0.19 ng
RT: 11.75 min Scan# 1502
Delta R.T. 0.022 min
Lab File: 05152014.D
Acq: 15 May 2020 14:11

Tgt Ion: 72 Resp: 3990

Ion	Ratio	Lower	Upper
72	100		
71	102.6	77.0	117.0
42	280.3	204.6	244.6#

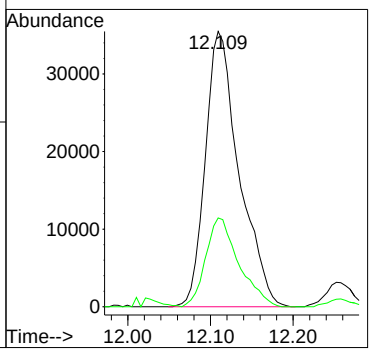


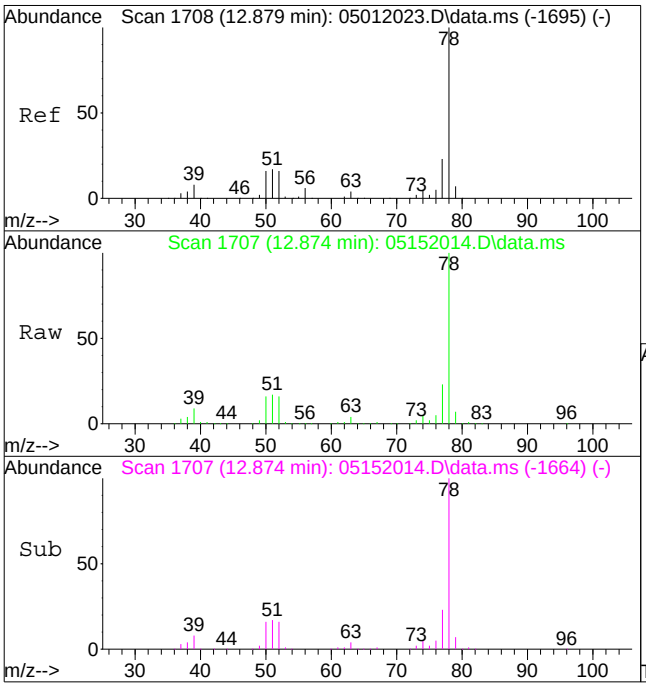


#36
1,2-Dichloroethane
Concen: 2.29 ng
RT: 12.11 min Scan# 1568
Delta R.T. -0.017 min
Lab File: 05152014.D
Acq: 15 May 2020 14:11

Tgt Ion: 62 Resp: 100676

Ion	Ratio	Lower	Upper
62	100		
64	31.6	12.4	52.4

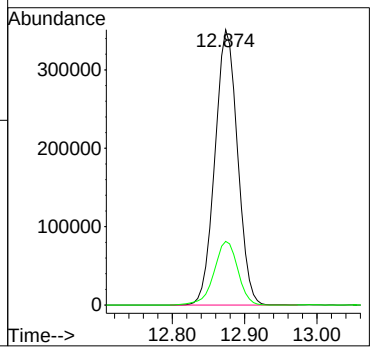


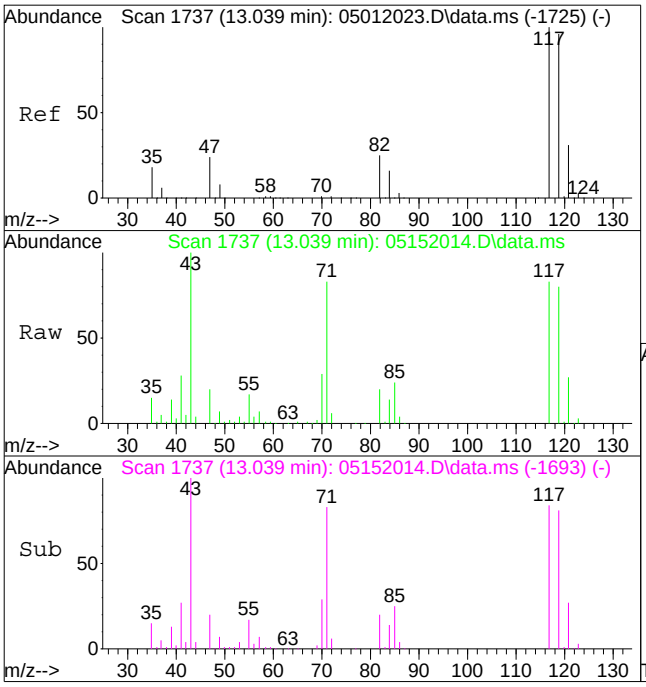


#41
Benzene
Concen: 5.96 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05152014.D
Acq: 15 May 2020 14:11

Tgt Ion: 78 Resp: 763554

Ion	Ratio	Lower	Upper
78	100		
77	24.4	3.4	43.4

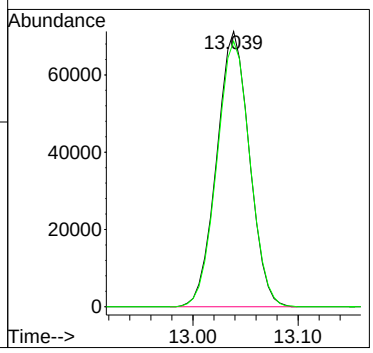


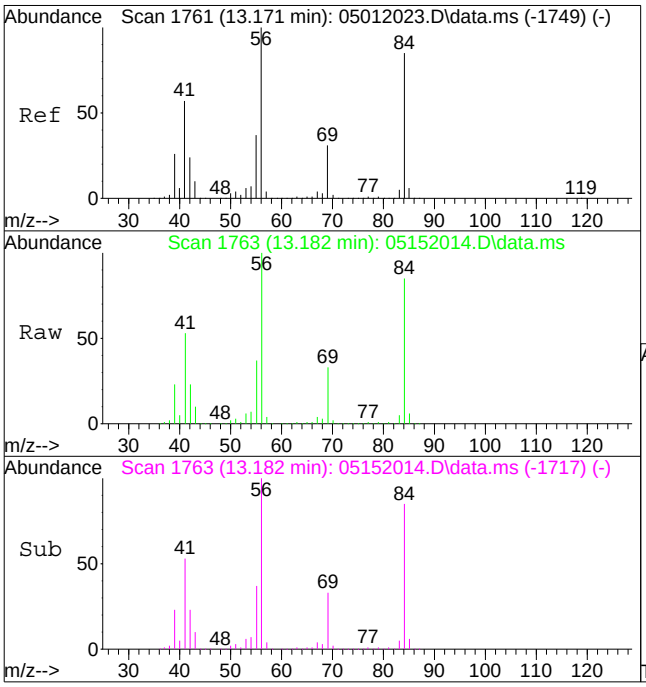


#42
Carbon Tetrachloride
Concen: 3.53 ng
RT: 13.04 min Scan# 1737
Delta R.T. -0.006 min
Lab File: 05152014.D
Acq: 15 May 2020 14:11

Tgt Ion:117 Resp: 153926

Ion	Ratio	Lower	Upper
117	100		
119	97.9	76.2	116.2

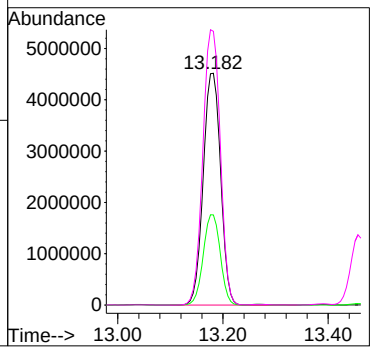


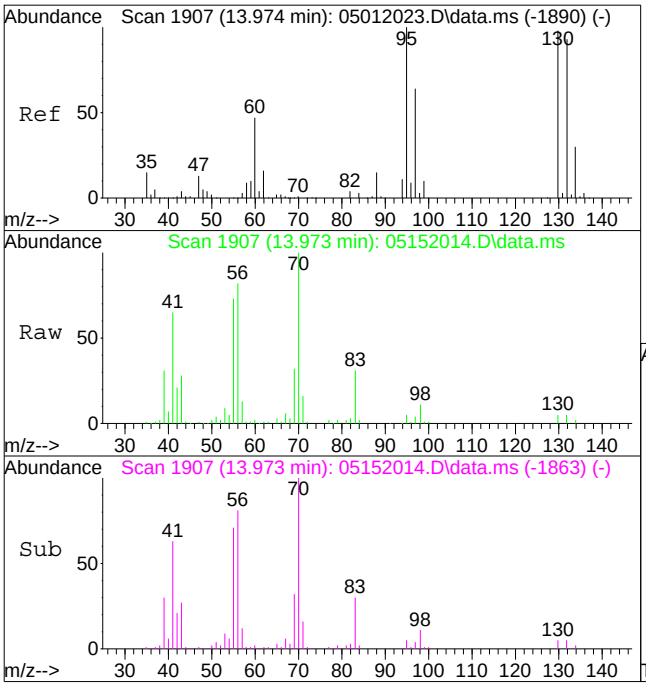


#43
Cyclohexane
Concen: 217.06 ng
RT: 13.18 min Scan# 1763
Delta R.T. 0.005 min
Lab File: 05152014.D
Acq: 15 May 2020 14:11

Tgt Ion: 84 Resp:10360257

Ion	Ratio	Lower	Upper
84	100		
69	38.2	16.5	56.5
56	119.4	97.4	137.4

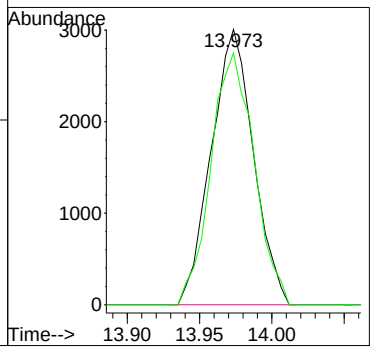


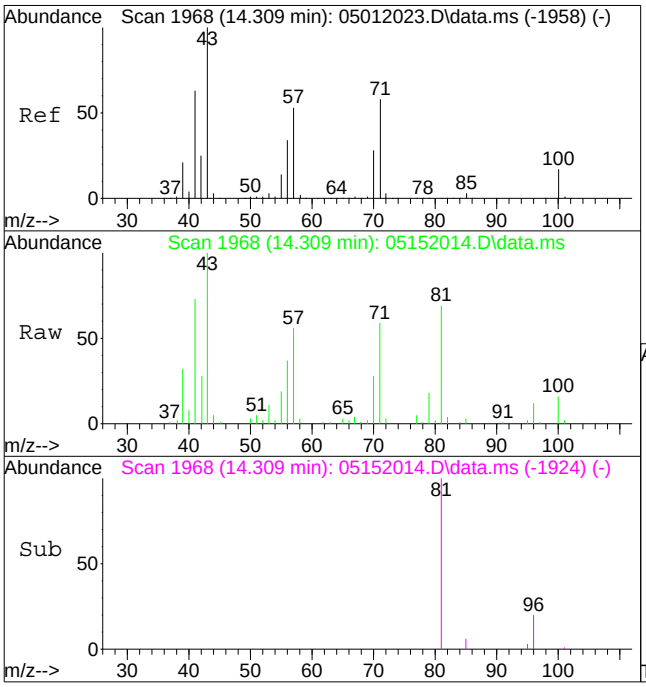


#47
Trichloroethene
Concen: 0.18 ng
RT: 13.97 min Scan# 1907
Delta R.T. -0.006 min
Lab File: 05152014.D
Acq: 15 May 2020 14:11

Tgt Ion:130 Resp: 6104

Ion	Ratio	Lower	Upper
130	100		
132	93.6	74.9	114.9

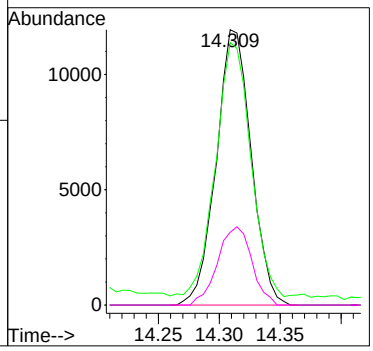


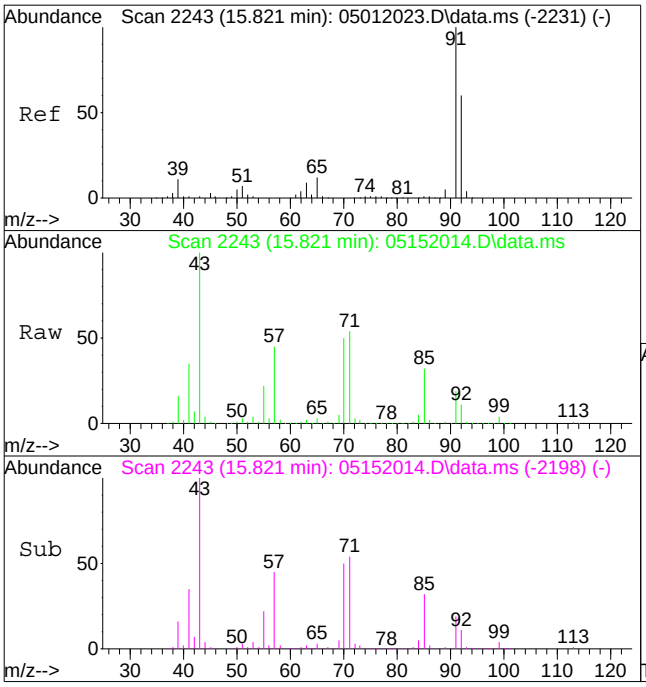


#51
n-Heptane
Concen: 0.80 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05152014.D
Acq: 15 May 2020 14:11

Tgt Ion: 71 Resp: 23814

Ion	Ratio	Lower	Upper
71	100		
57	91.6	71.0	111.0
100	27.7	8.4	48.4

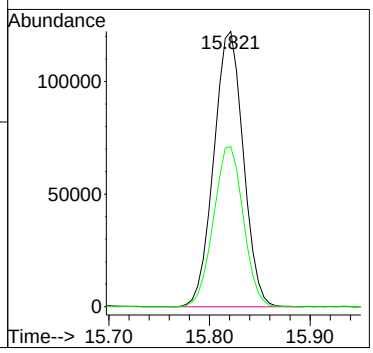


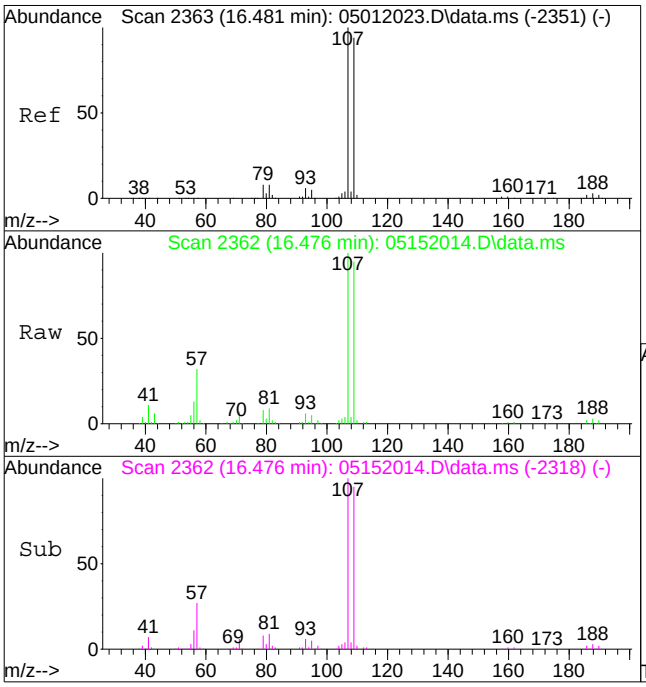


#58
Toluene
Concen: 1.96 ng
RT: 15.82 min Scan# 2243
Delta R.T. -0.000 min
Lab File: 05152014.D
Acq: 15 May 2020 14:11

Tgt Ion: 91 Resp: 249004

Ion	Ratio	Lower	Upper
91	100		
92	58.8	39.4	79.4

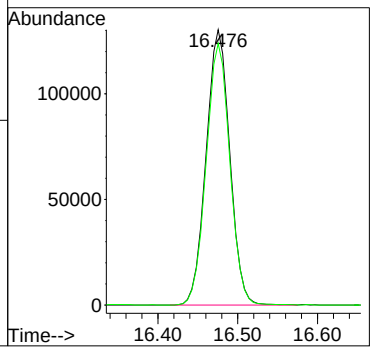


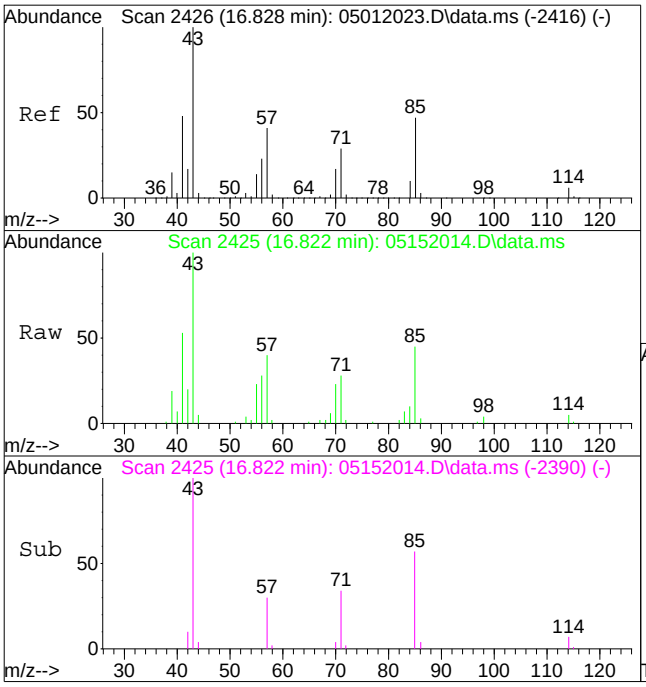


#61
1,2-Dibromoethane
Concen: 7.67 ng
RT: 16.48 min Scan# 2362
Delta R.T. -0.006 min
Lab File: 05152014.D
Acq: 15 May 2020 14:11

Tgt Ion:107 Resp: 268300

Ion	Ratio	Lower	Upper
107	100		
109	95.0	74.5	114.5

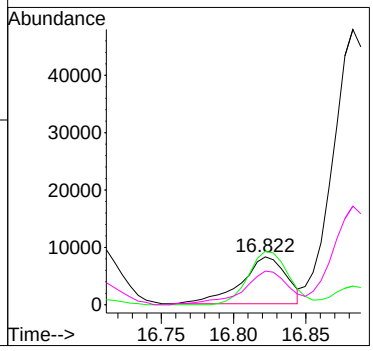


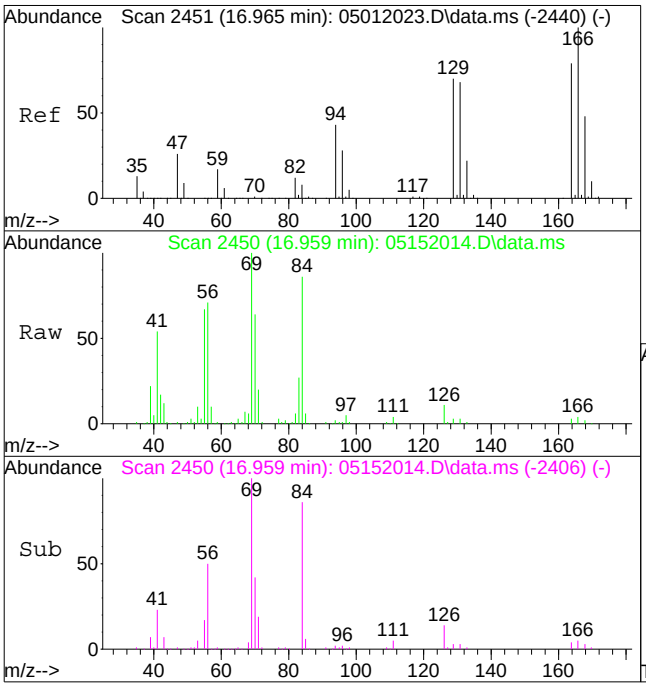


#63
n-Octane
Concen: 0.68 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05152014.D
Acq: 15 May 2020 14:11

Tgt Ion: 57 Resp: 17820

Ion	Ratio	Lower	Upper
57	100		
85	101.2	91.0	136.4
71	72.4	56.2	84.2

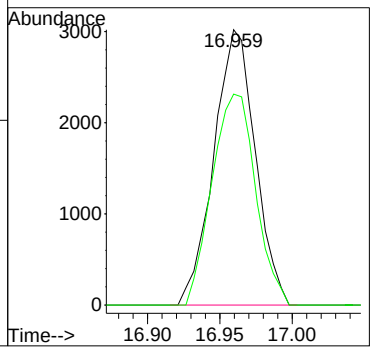


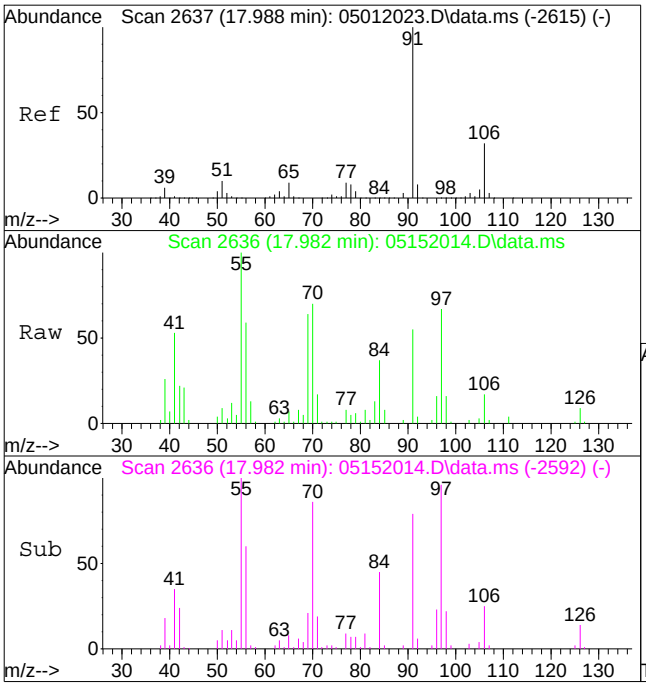


#64
Tetrachloroethene
Concen: 0.17 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05152014.D
Acq: 15 May 2020 14:11

Tgt Ion:166 Resp: 6030

Ion	Ratio	Lower	Upper
166	100		
164	80.6	58.4	98.4

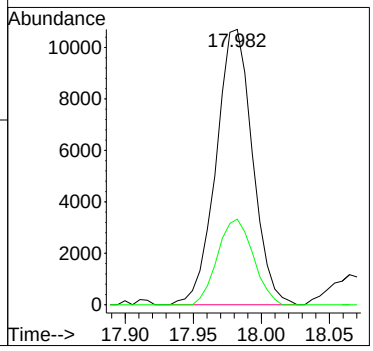


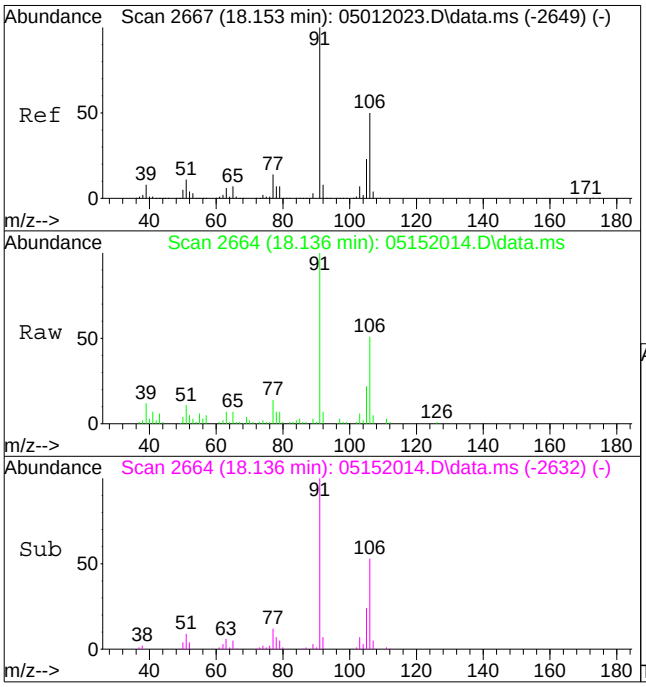


#66
Ethylbenzene
Concen: 0.14 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05152014.D
Acq: 15 May 2020 14:11

Tgt Ion: 91 Resp: 19941

Ion	Ratio	Lower	Upper
91	100		
106	30.3	11.6	51.6

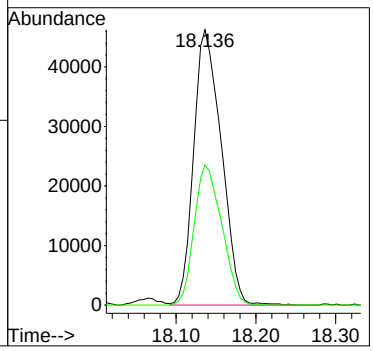


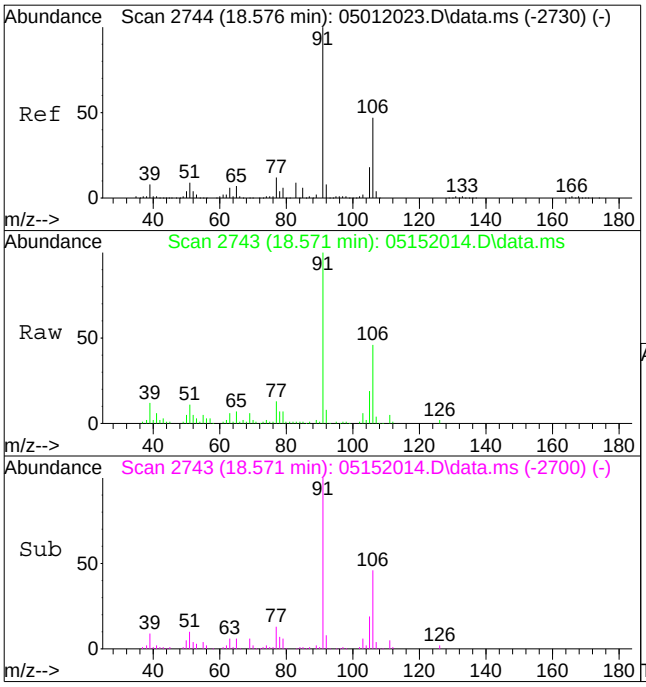


#67
m- & p-Xylenes
Concen: 0.99 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05152014.D
Acq: 15 May 2020 14:11

Tgt Ion: 91 Resp: 111491

Ion	Ratio	Lower	Upper
91	100		
106	50.5	29.7	69.7

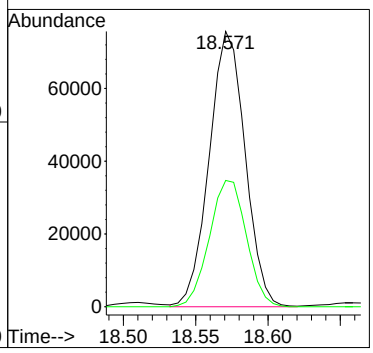


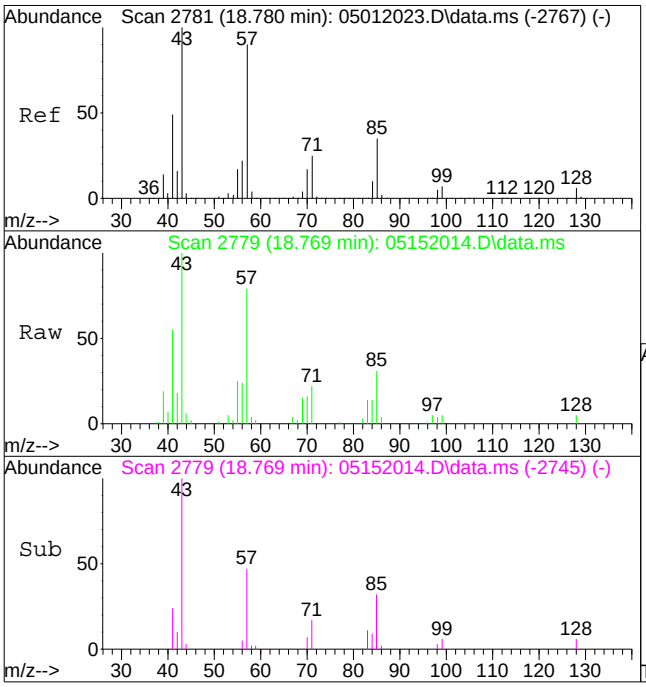


#70
o-Xylene
Concen: 1.15 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05152014.D
Acq: 15 May 2020 14:11

Tgt Ion: 91 Resp: 130703

Ion	Ratio	Lower	Upper
91	100		
106	47.2	27.5	67.5

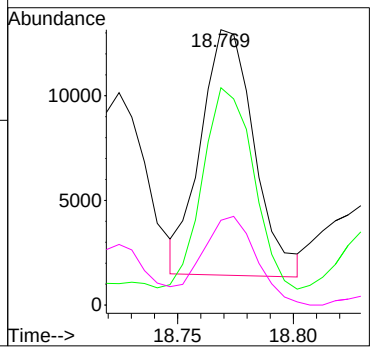


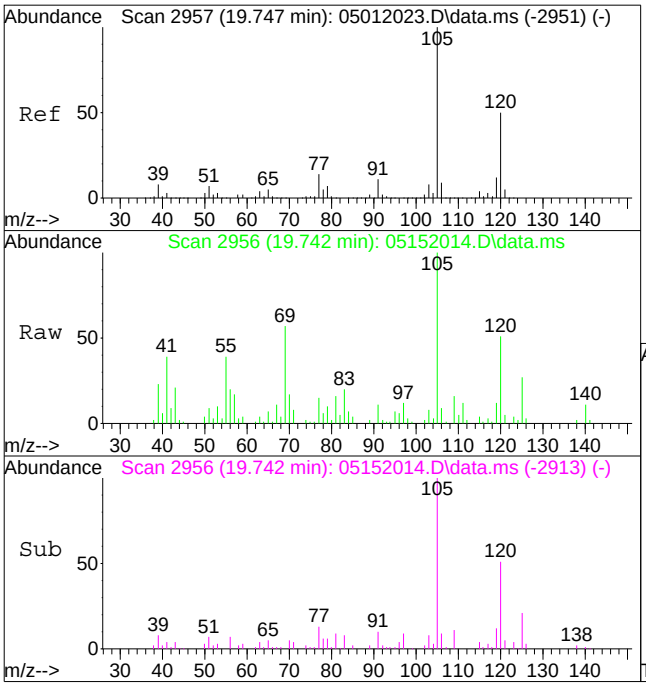


#71
n-Nonane
Concen: 0.31 ng
RT: 18.77 min Scan# 2779
Delta R.T. -0.011 min
Lab File: 05152014.D
Acq: 15 May 2020 14:11

Tgt Ion: 43 Resp: 18862

Ion	Ratio	Lower	Upper
43	100		
57	77.5	69.0	109.0
85	37.0	14.6	54.6

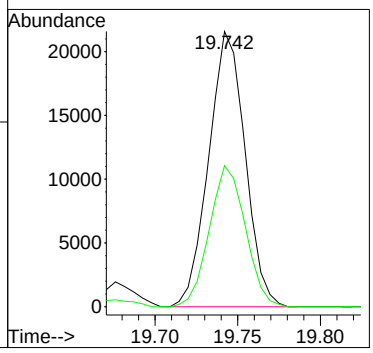


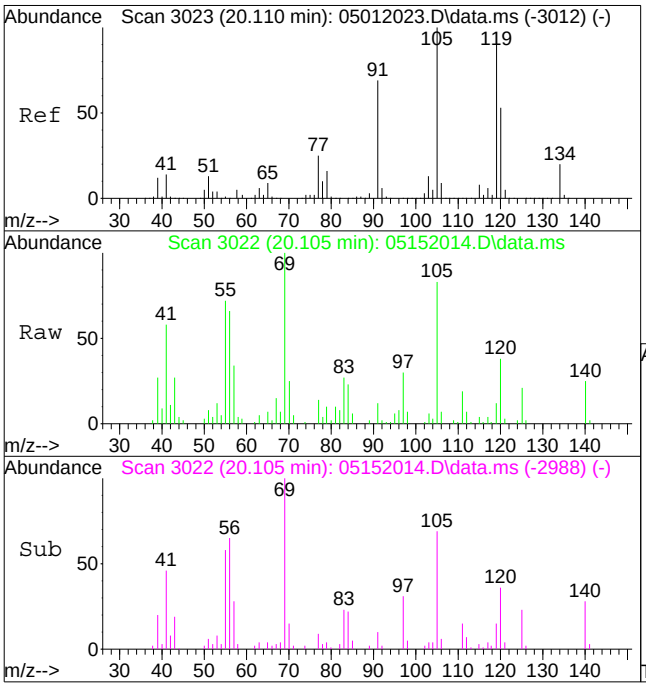


#79
1,3,5-Trimethylbenzene
Concen: 0.29 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05152014.D
Acq: 15 May 2020 14:11

Tgt Ion:105 Resp: 33012

Ion	Ratio	Lower	Upper
105	100		
120	50.7	29.9	69.9

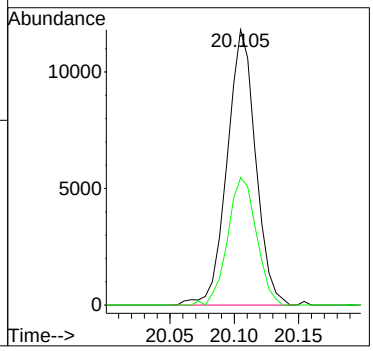


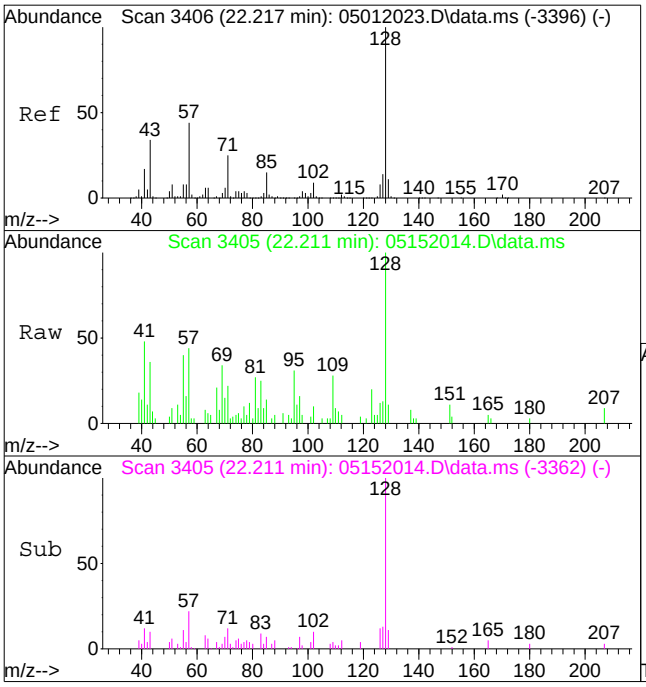


#82
1,2,4-Trimethylbenzene
Concen: 0.16 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05152014.D
Acq: 15 May 2020 14:11

Tgt Ion:105 Resp: 18182

Ion	Ratio	Lower	Upper
105	100		
120	46.8	33.6	73.6

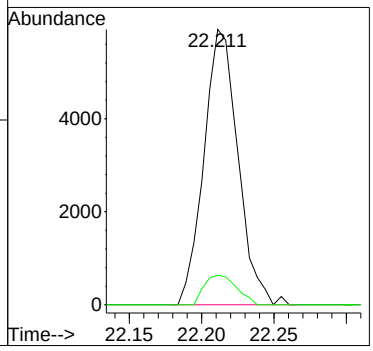




#95
Naphthalene
Concen: 0.07 ng
RT: 22.21 min Scan# 3405
Delta R.T. -0.011 min
Lab File: 05152014.D
Acq: 15 May 2020 14:11

Tgt Ion:128 Resp: 9713

Ion	Ratio	Lower	Upper
128	100		
129	10.2	0.0	31.0



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142031.D Vial: 10
Acq On : 15 May 2020 2:05 Operator: LH
Sample : P2002302-009dil (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 15:53:40 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/15/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	305559	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1313604	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	618769	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	488796	11.804	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.40%			
57) Toluene-d8 (SS2)	15.72	98	1276054	12.167	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.36%			
73) Bromofluorobenzene (SS3)	18.97	174	500139	13.253	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.00%			
Target Compounds						Qvalue
2) Propene	4.10	42	19031m	0.538	ng	
3) Dichlorodifluoromethan...	4.27	85	15099	0.218	ng	99
4) Chloromethane	4.54	50	467	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	112	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	5.14	54	970	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.40	45	50	N.D.		
11) Acetonitrile	6.63	41	62	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	7.24	101	5932	0.097	ng	100
15) 2-Propanol (Isopropanol)	7.55	45	1787	N.D.		
16) Acrylonitrile	7.69	53	728	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d	
19) Methylene Chloride	8.41	84	109	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d	
21) Trichlorotrifluoroethane	8.84	151	20188	0.699	ng	96
22) Carbon Disulfide	8.69	76	2432	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	9.98	63	2169	N.D.		
25) Methyl tert-Butyl Ether	10.05	73	355	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	10.50	72	127	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	11.26	87	540	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	11.26	57	54281	0.931	ng	99
32) Chloroform	11.30	83	4619	0.076	ng	97
34) Tetrahydrofuran (THF)	11.77	72	307	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.11	62	11156	0.232	ng	100
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	12.86	61	519	N.D.		
40) 1-Butanol	12.87	56	962	N.D.		
41) Benzene	12.87	78	87521	0.621	ng	99
42) Carbon Tetrachloride	13.03	117	16415	0.343	ng	96
43) Cyclohexane	13.17	84	1012740	19.292	ng	100
44) tert-Amyl Methyl Ether	13.54	73	938	N.D.		
45) 1,2-Dichloropropane	13.64	63	315	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	13.96	130	719	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d	
50) Methyl Methacrylate	0.00	100	0	N.D.	d	

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142031.D Vial: 10
Acq On : 15 May 2020 2:05 Operator: LH
Sample : P2002302-009dil (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 15:53:40 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

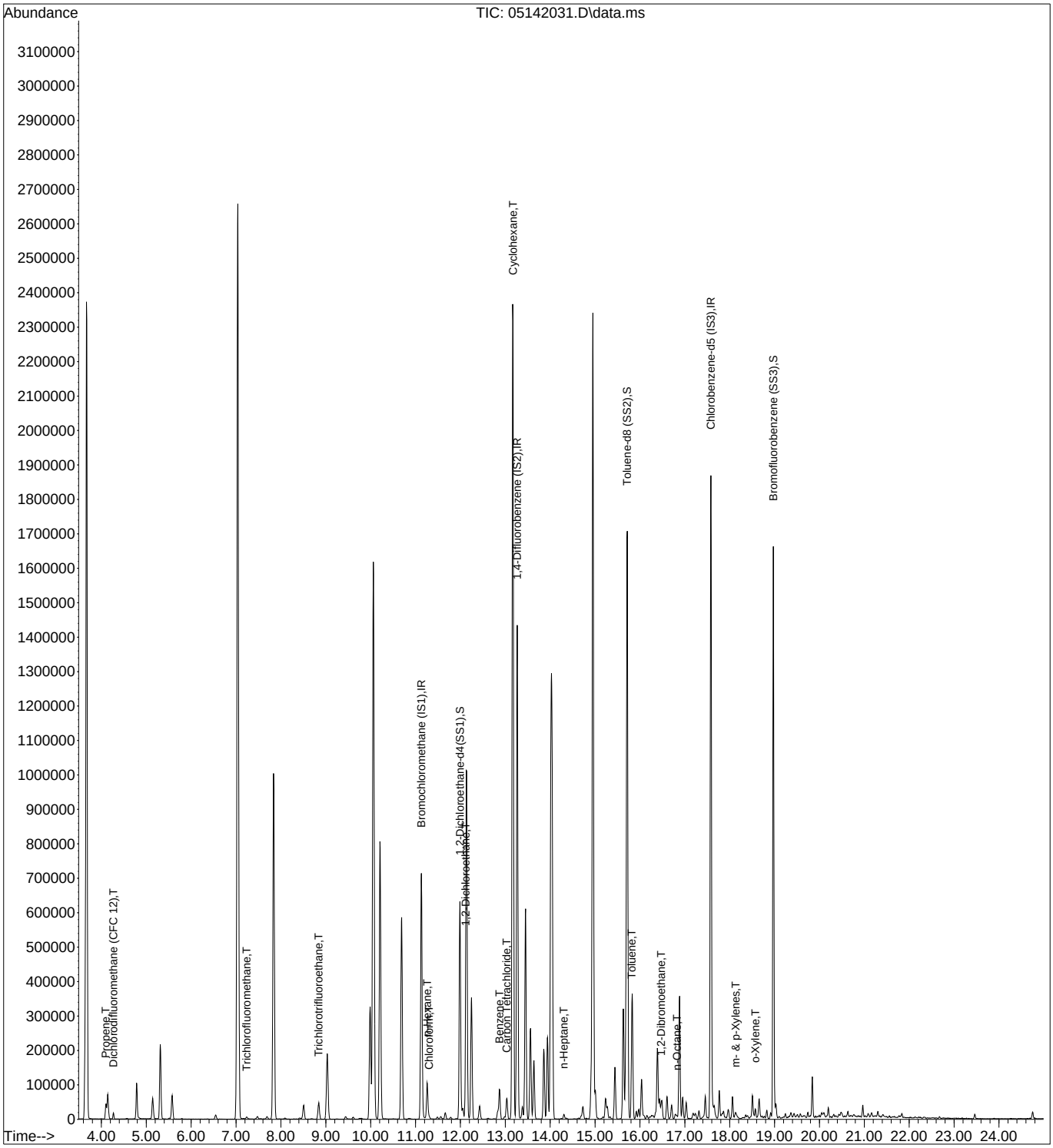
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.30	71	2816	0.085 ng		94
52) cis-1,3-Dichloropropene	14.95	75	463	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d		
58) Toluene	15.82	91	27185	0.201 ng		99
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	16.48	107	28055	0.754 ng		100
62) n-Butyl Acetate	16.71	43	1820	N.D.		
63) n-Octane	16.83	57	3007	0.107 ng	#	69
64) Tetrachloroethene	16.97	166	635	N.D.		
65) Chlorobenzene	0.00	112	0	N.D. d		
66) Ethylbenzene	17.98	91	2435	N.D.		
67) m- & p-Xylenes	18.14	91	13046	0.109 ng		99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.58	104	273	N.D.		
70) o-Xylene	18.57	91	14914	0.123 ng		99
71) n-Nonane	18.77	43	2255	N.D.		
72) 1,1,2,2-Tetrachloroethane	18.58	83	110	N.D.		
74) Cumene	19.10	105	744	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	19.54	91	1016	N.D.		
77) 3-Ethyltoluene	19.64	105	1032	N.D.		
78) 4-Ethyltoluene	19.68	105	446	N.D.		
79) 1,3,5-Trimethylbenzene	19.74	105	3926	N.D.		
80) alpha-Methylstyrene	19.87	118	474	N.D.		
81) 2-Ethyltoluene	19.91	105	848	N.D.		
82) 1,2,4-Trimethylbenzene	20.10	105	2257	N.D.		
83) n-Decane	20.20	57	2646	N.D.		
84) Benzyl Chloride	20.21	91	536	N.D.		
85) 1,3-Dichlorobenzene	20.24	146	119	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	720	N.D.		
87) sec-Butylbenzene	20.35	105	450	N.D.		
88) 4-Isopropyltoluene (p-...	20.48	119	728	N.D.		
89) 1,2,3-Trimethylbenzene	20.48	105	5464	N.D.		
90) 1,2-Dichlorobenzene	20.61	146	287	N.D.		
91) d-Limonene	20.61	68	510	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.30	57	1482	N.D.		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	22.21	128	982	N.D.		
96) n-Dodecane	22.21	57	1063	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.28	55	991	N.D.		
99) tert-Butylbenzene	20.10	119	362	N.D.		
100) n-Butylbenzene	20.85	91	527	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142031.D Vial: 10
Acq On : 15 May 2020 2:05 Operator: LH
Sample : P2002302-009dil (20mL) Inst : GCMS-16
Misc : S31-02112001

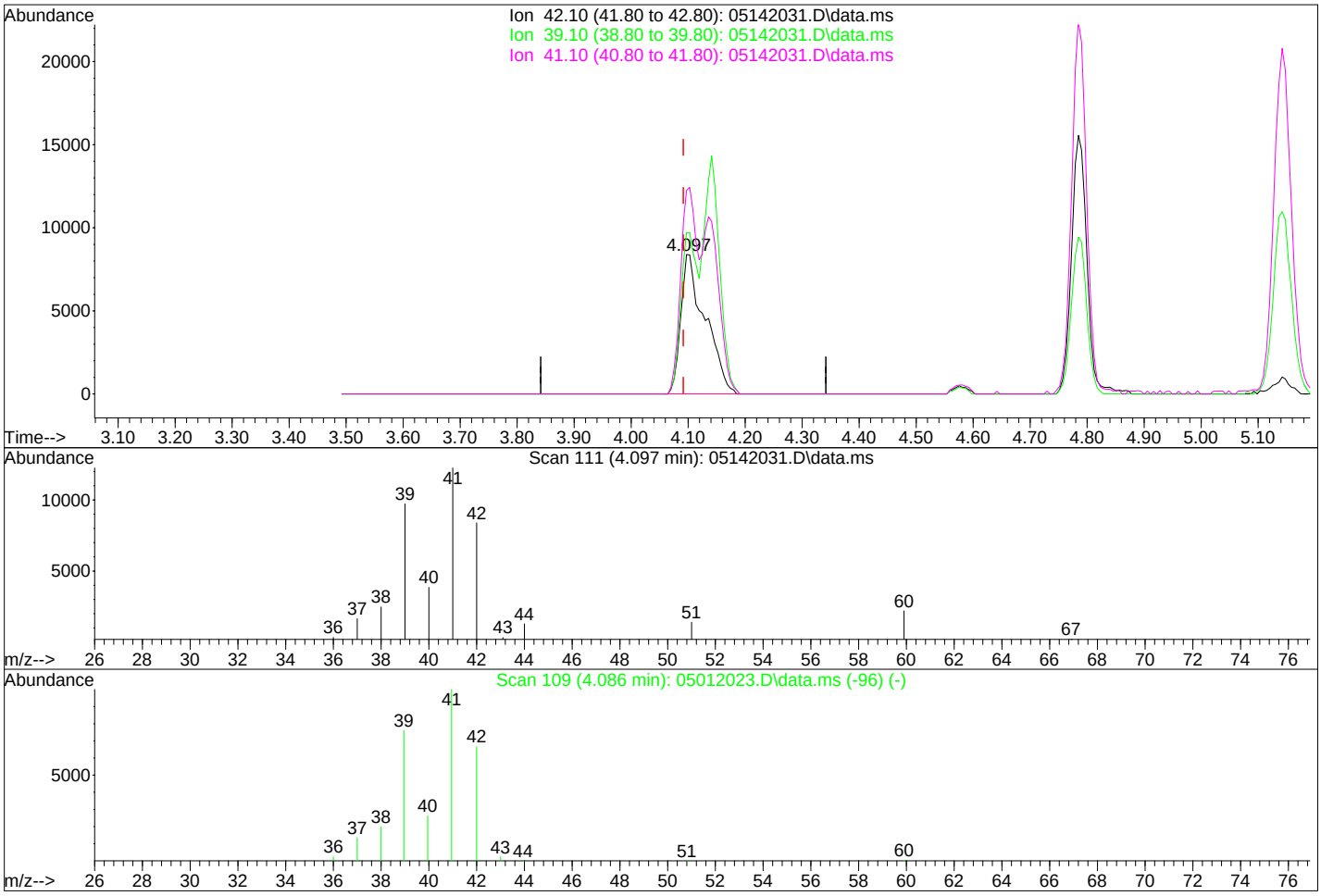
Quant Time: May 15 15:53:40 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\14\05142031.D Vial: 10
Acq On : 15 May 2020 2:05 Operator: LH
Sample : P2002302-009dil (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 09:29:01 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05142031.D\data.ms

(2) Propene (T)

4.097min (+0.005) 0.70ng

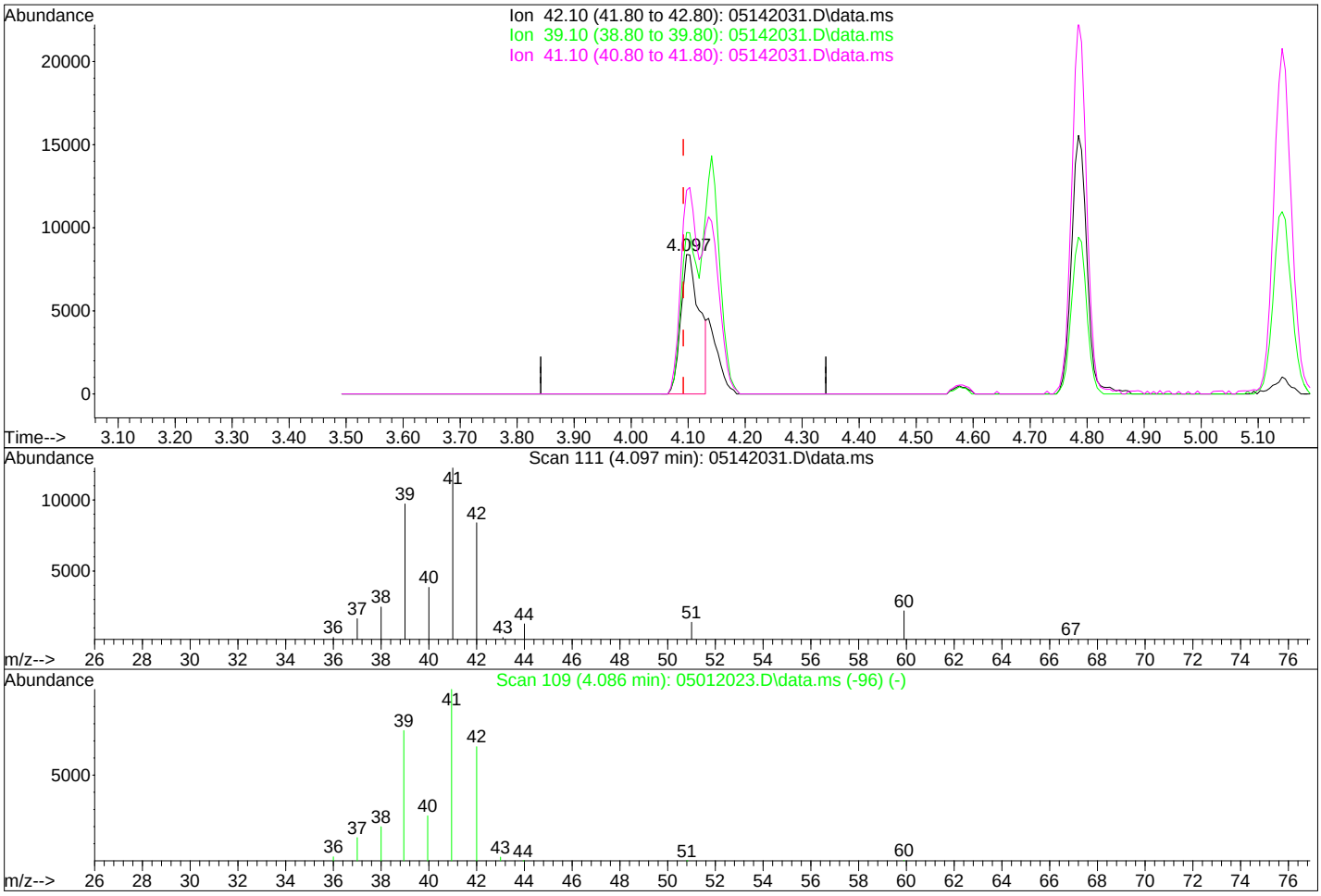
response 24915

Ion	Exp%	Act%
42.10	100	100
39.10	116.10	78.94#
41.10	151.90	110.87#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\14\05142031.D Vial: 10
Acq On : 15 May 2020 2:05 Operator: LH
Sample : P2002302-009dil (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 09:29:01 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05142031.D\data.ms

(2) Propene (T)

4.097min (+0.005) 0.54ng m

response 19031

Ion	Exp%	Act%
42.10	100	100
39.10	116.10	103.35
41.10	151.90	145.15
0.00	0.00	0.00

IPC

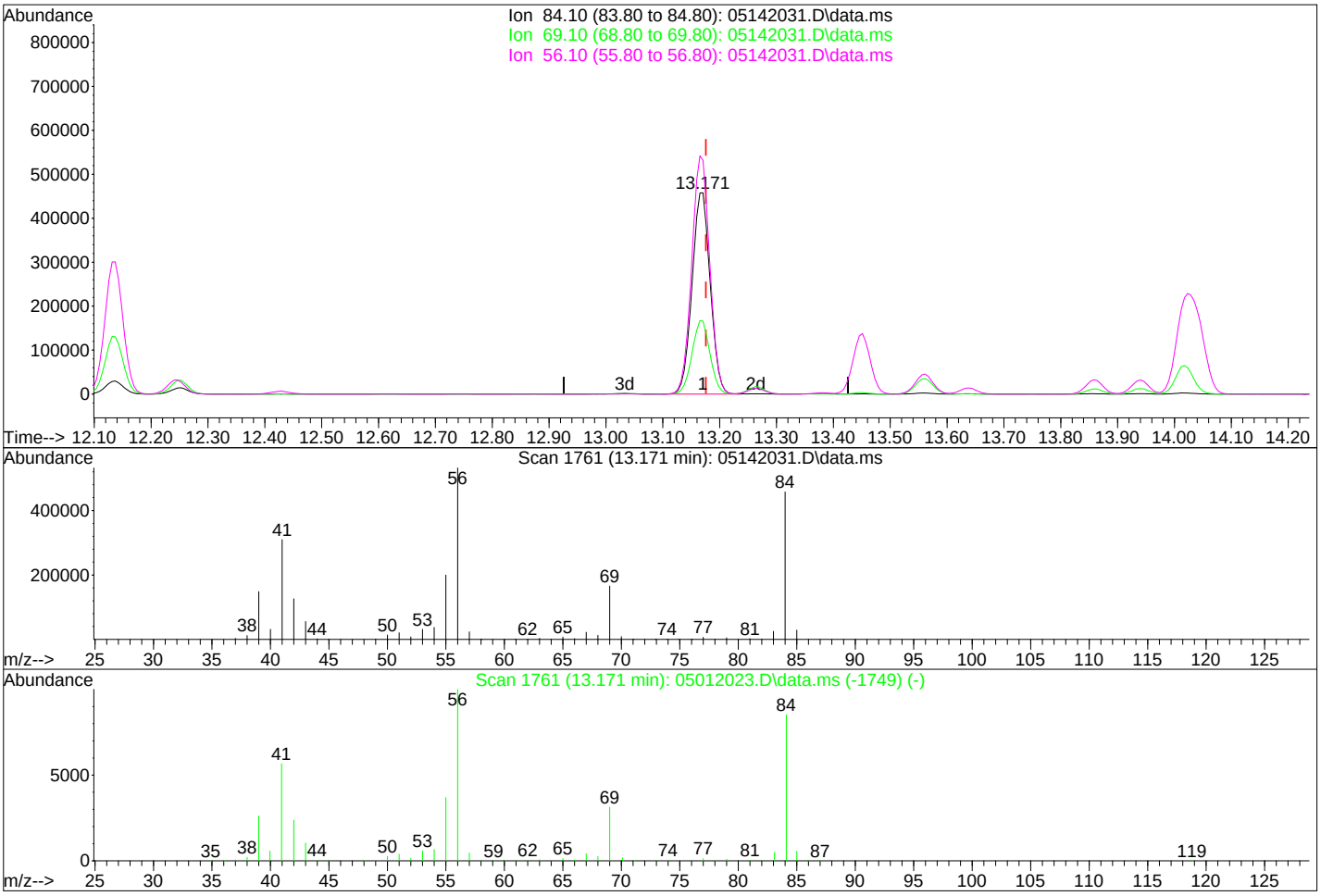
LH 5/15/20

5/17/20

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\14\05142031.D Vial: 10
Acq On : 15 May 2020 2:05 Operator: LH
Sample : P2002302-009dil (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 09:29:01 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05142031.D\data.ms

(43) Cyclohexane (T)

13.171min (-0.006) 19.29ng

response 1012740

Ion	Exp%	Act%
84.10	100	100
69.10	36.50	36.22
56.10	117.40	117.66
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142032.D Vial: 11
Acq On : 15 May 2020 2:39 Operator: LH
Sample : P2002302-010 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 15:45:35 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/15/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	269483	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1166738	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	543872	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	432807	11.851	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.80%				
57) Toluene-d8 (SS2)	15.71	98	1132936	12.290	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.32%				
73) Bromofluorobenzene (SS3)	18.97	174	443006	13.355	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.88%				
Target Compounds							Qvalue
2) Propene	4.09	42	9672	0.310	ng		95
3) Dichlorodifluoromethan...	4.25	85	404031	6.618	ng		100
4) Chloromethane	4.52	50	2068	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	693	N.D.			
6) Vinyl Chloride	4.94	62	114927	2.191	ng		100
7) 1,3-Butadiene	5.14	54	105	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.97	64	465	N.D.			
10) Ethanol	6.32	45	25670	1.065	ng		99
11) Acetonitrile	6.60	41	2206	N.D.			
12) Acrolein	6.79	56	1867	0.098	ng		95
13) Acetone	7.01	58	30623	1.271	ng	#	10
14) Trichlorofluoromethane	7.23	101	56127	1.040	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	22564	0.309	ng		89
16) Acrylonitrile	7.75	53	180	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	1245	N.D.			
20) 3-Chloro-1-propene (Al...	8.43	41	1249	N.D.			
21) Trichlorotrifluoroethane	8.84	151	4007055	157.312	ng		98
22) Carbon Disulfide	8.67	76	45618	0.406	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.08	73	258	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.48	72	2951	0.144	ng	#	78
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	11.26	57	4442	0.086	ng	#	92
32) Chloroform	11.30	83	56455	1.052	ng		98
34) Tetrahydrofuran (THF)	11.74	72	14043	0.700	ng		95
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	931	N.D.			
38) 1,1,1-Trichloroethane	12.40	97	719	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	24235	0.194	ng		99
42) Carbon Tetrachloride	13.03	117	296556	6.968	ng		99
43) Cyclohexane	13.17	84	25844	0.554	ng		98
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	13.85	83	113	N.D.			
47) Trichloroethene	13.97	130	1019495	31.523	ng		99
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.30	100	506	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142032.D Vial: 11
Acq On : 15 May 2020 2:39 Operator: LH
Sample : P2002302-010 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 15:45:35 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

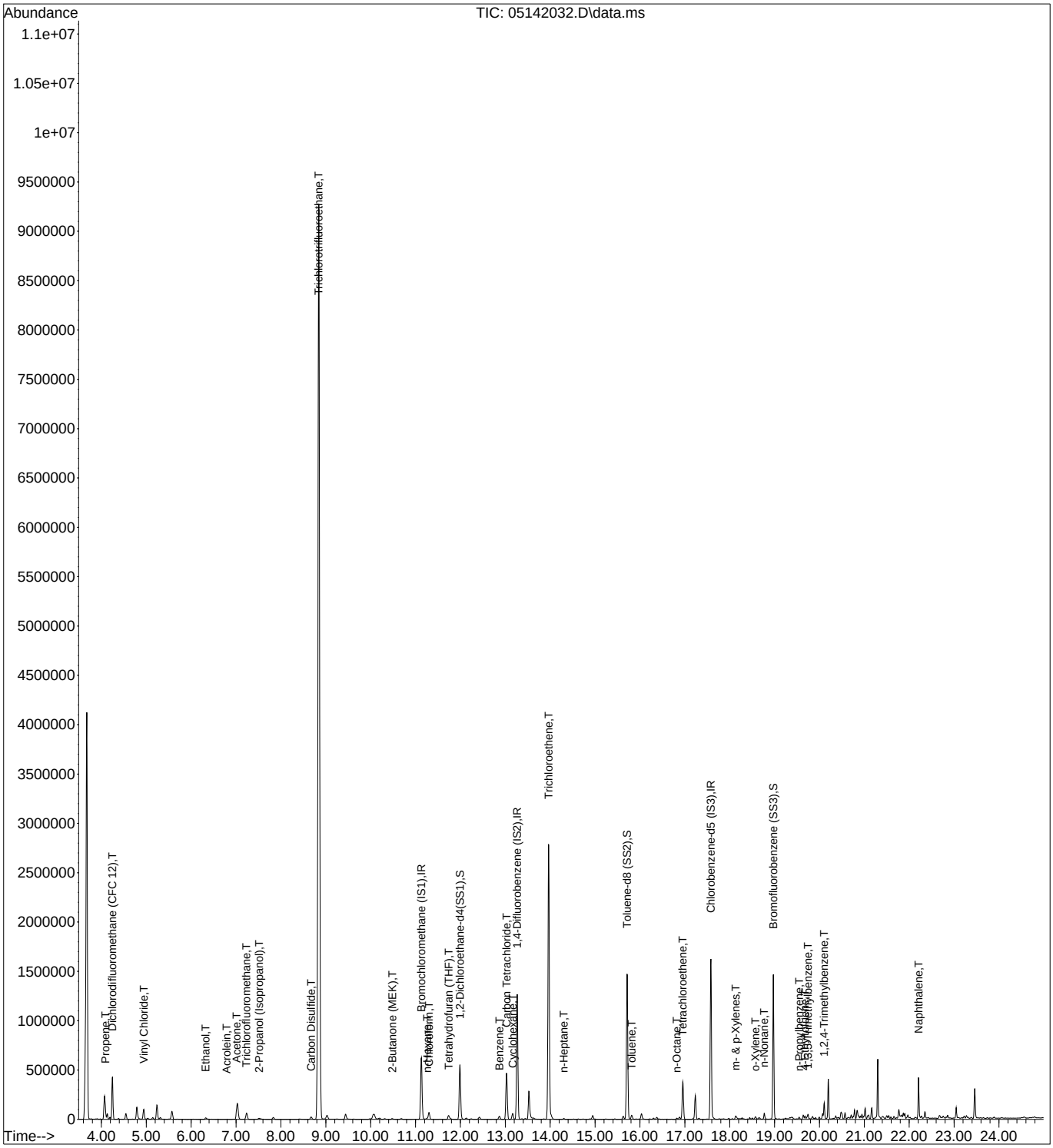
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.30	71	2105	0.072 ng	95
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.88	58	958	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.82	91	26422	0.222 ng	99
59) 2-Hexanone	16.06	43	3220	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.70	43	1600	N.D.	
63) n-Octane	16.82	57	2277	0.093 ng	96
64) Tetrachloroethene	16.95	166	123195	3.670 ng	100
65) Chlorobenzene	17.62	112	1284	N.D.	
66) Ethylbenzene	17.98	91	6460	N.D.	
67) m- & p-Xylenes	18.14	91	26200	0.249 ng	100
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	956	N.D.	
70) o-Xylene	18.57	91	8290	0.078 ng	100
71) n-Nonane	18.77	43	22363	0.395 ng	99
72) 1,1,2,2-Tetrachloroethane	18.51	83	1031	N.D.	
74) Cumene	19.10	105	1705	N.D.	
75) alpha-Pinene	19.45	93	196	N.D.	
76) n-Propylbenzene	19.55	91	11638	0.075 ng	88
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.68	105	13780	0.112 ng	99
79) 1,3,5-Trimethylbenzene	19.74	105	15063	0.141 ng	99
80) alpha-Methylstyrene	19.88	118	2702	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.10	105	80699	0.752 ng	92
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.21	91	681	N.D.	
85) 1,3-Dichlorobenzene	20.30	146	456	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	456	N.D.	
87) sec-Butylbenzene	20.35	105	4706	N.D.	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.61	68	1454	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.21	128	28643	0.219 ng	97
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142032.D Vial: 11
Acq On : 15 May 2020 2:39 Operator: LH
Sample : P2002302-010 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 15:45:35 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142032.D Vial: 11
Acq On : 15 May 2020 2:39 Operator: LH
Sample : P2002302-010 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 15:45:35 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/15/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

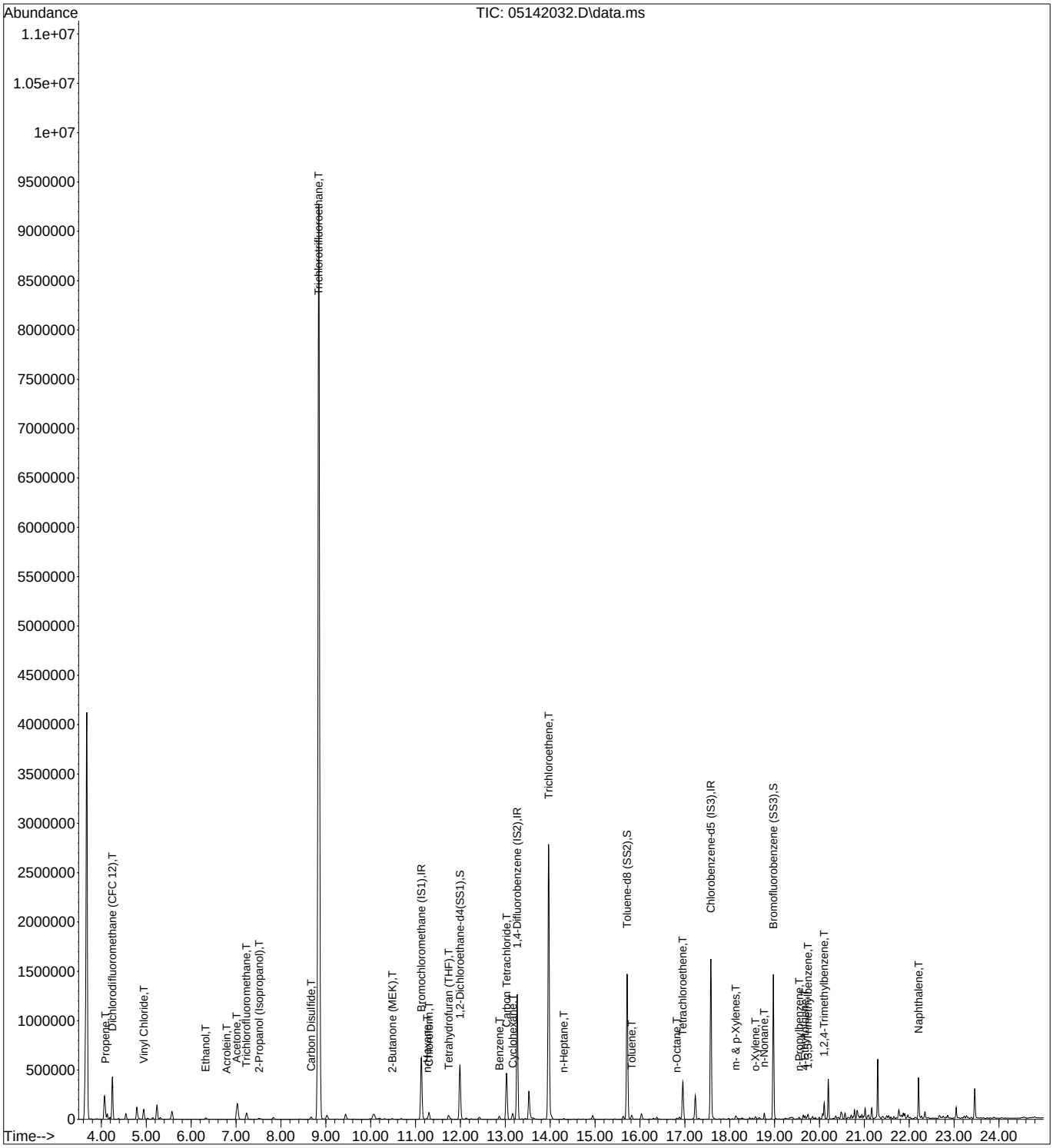
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	269483	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1166738	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	543872	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	432807	11.851	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.80%				
57) Toluene-d8 (SS2)	15.71	98	1132936	12.290	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.32%				
73) Bromofluorobenzene (SS3)	18.97	174	443006	13.355	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.88%				
Target Compounds							Qvalue
2) Propene	4.09	42	9672	0.310	ng		95
3) Dichlorodifluoromethan...	4.25	85	404031	6.618	ng		100
6) Vinyl Chloride	4.94	62	114927	2.191	ng		100
10) Ethanol	6.32	45	25670	1.065	ng		99
12) Acrolein	6.79	56	1867	0.098	ng		95
13) Acetone	7.01	58	30623	1.271	ng	#	10
14) Trichlorofluoromethane	7.23	101	56127	1.040	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	22564	0.309	ng		89
21) Trichlorotrifluoroethane	8.84	151	4007055	157.312	ng		98
22) Carbon Disulfide	8.67	76	45618	0.406	ng		99
27) 2-Butanone (MEK)	10.48	72	2951	0.144	ng	#	78
31) n-Hexane	11.26	57	4442	0.086	ng	#	92
32) Chloroform	11.30	83	56455	1.052	ng		98
34) Tetrahydrofuran (THF)	11.74	72	14043	0.700	ng		95
41) Benzene	12.87	78	24235	0.194	ng		99
42) Carbon Tetrachloride	13.03	117	296556	6.968	ng		99
43) Cyclohexane	13.17	84	25844	0.554	ng		98
47) Trichloroethene	13.97	130	1019495	31.523	ng		99
51) n-Heptane	14.30	71	2105	0.072	ng		95
58) Toluene	15.82	91	26422	0.222	ng		99
63) n-Octane	16.82	57	2277	0.093	ng		96
64) Tetrachloroethene	16.95	166	123195	3.670	ng		100
67) m- & p-Xylenes	18.14	91	26200	0.249	ng		100
70) o-Xylene	18.57	91	8290	0.078	ng		100
71) n-Nonane	18.77	43	22363	0.395	ng		99
76) n-Propylbenzene	19.55	91	11638	0.075	ng		88
78) 4-Ethyltoluene	19.68	105	13780	0.112	ng		99
79) 1,3,5-Trimethylbenzene	19.74	105	15063	0.141	ng		99
82) 1,2,4-Trimethylbenzene	20.10	105	80699	0.752	ng		92
95) Naphthalene	22.21	128	28643	0.219	ng		97

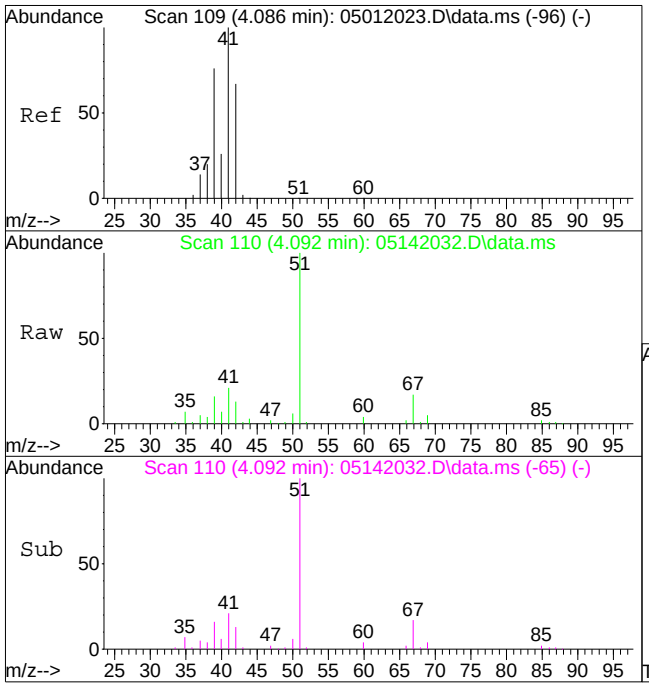
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142032.D Vial: 11
Acq On : 15 May 2020 2:39 Operator: LH
Sample : P2002302-010 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 15:45:35 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

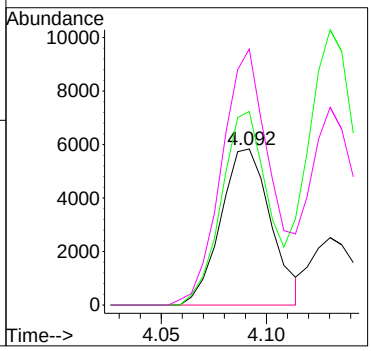


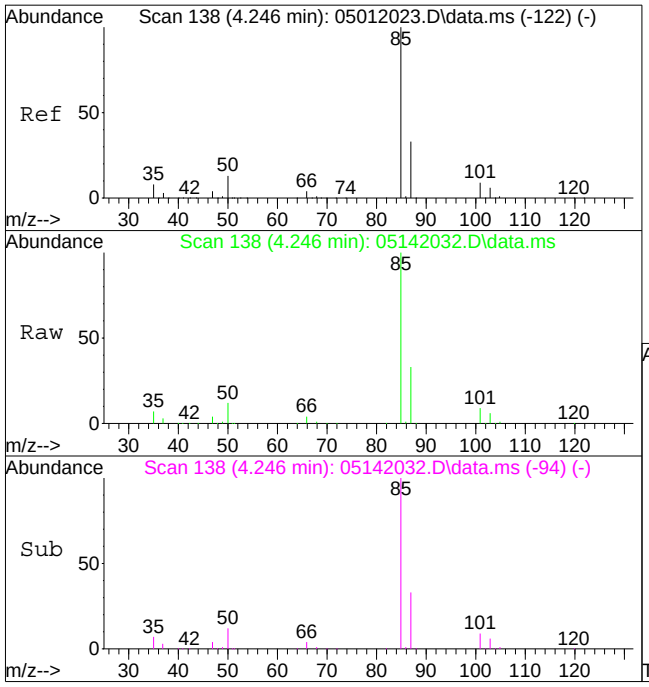


#2
Propene
Concen: 0.31 ng
RT: 4.09 min Scan# 110
Delta R.T. -0.000 min
Lab File: 05142032.D
Acq: 15 May 2020 2:39

Tgt Ion: 42 Resp: 9672

Ion	Ratio	Lower	Upper
42	100		
39	115.6	96.1	136.1
41	162.5	131.9	171.9

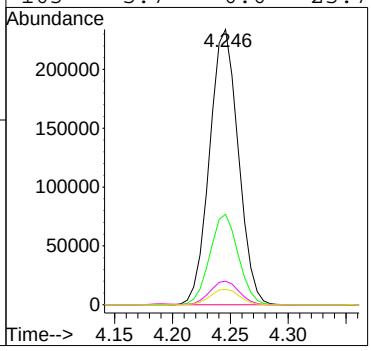


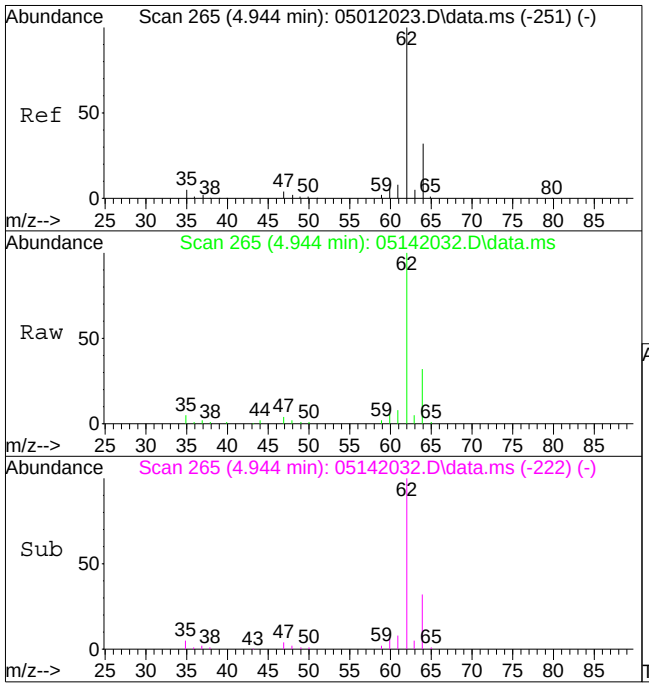


#3
Dichlorodifluoromethane (CFC 12)
Concen: 6.62 ng
RT: 4.25 min Scan# 138
Delta R.T. -0.006 min
Lab File: 05142032.D
Acq: 15 May 2020 2:39

Tgt Ion: 85 Resp: 404031

Ion	Ratio	Lower	Upper
85	100		
87	32.5	12.4	52.4
101	8.7	0.0	28.8
103	5.7	0.0	25.7

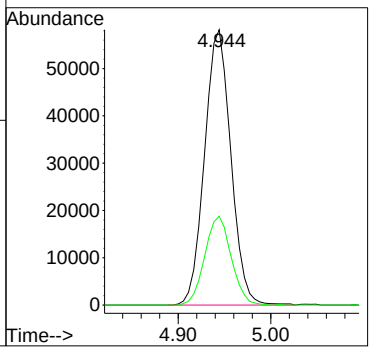


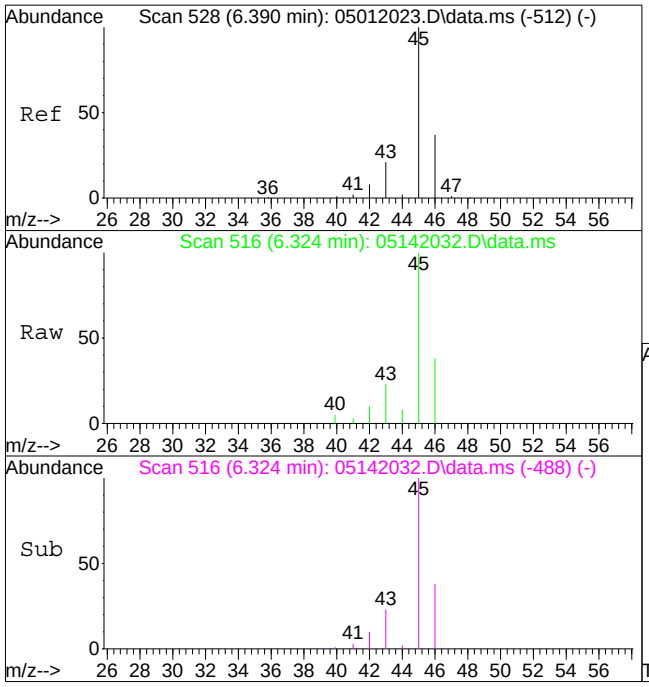


#6
Vinyl Chloride
Concen: 2.19 ng
RT: 4.94 min Scan# 265
Delta R.T. -0.011 min
Lab File: 05142032.D
Acq: 15 May 2020 2:39

Tgt Ion: 62 Resp: 114927

Ion	Ratio	Lower	Upper
62	100		
64	32.4	12.1	52.1

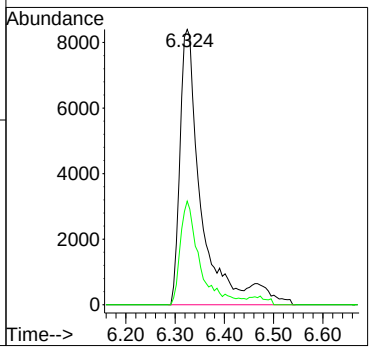


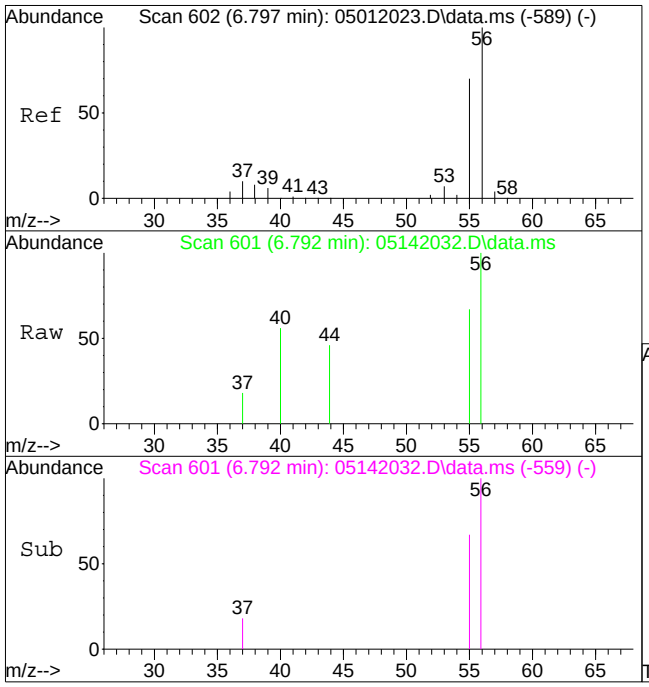


#10
Ethanol
Concen: 1.07 ng
RT: 6.32 min Scan# 516
Delta R.T. -0.093 min
Lab File: 05142032.D
Acq: 15 May 2020 2:39

Tgt Ion: 45 Resp: 25670

Ion	Ratio	Lower	Upper
45	100		
46	36.4	17.2	57.2

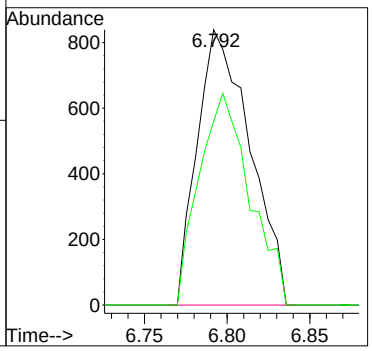


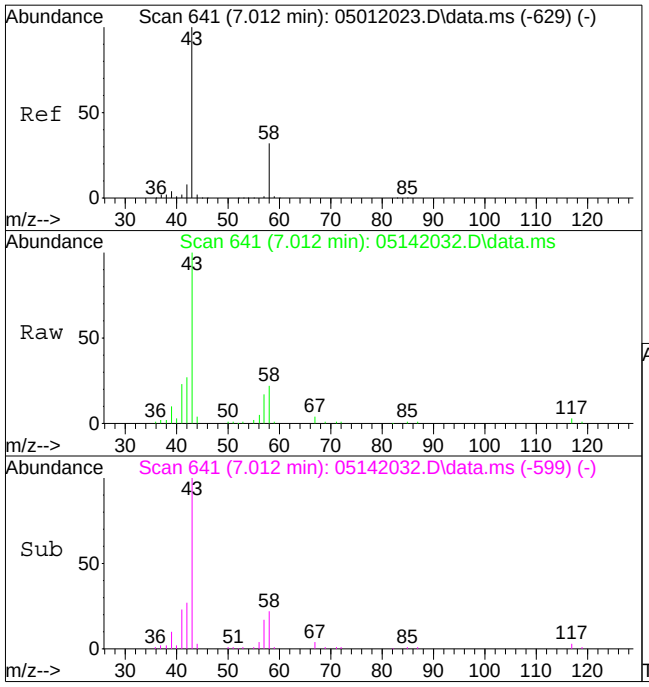


#12
Acrolein
Concen: 0.10 ng
RT: 6.79 min Scan# 601
Delta R.T. -0.017 min
Lab File: 05142032.D
Acq: 15 May 2020 2:39

Tgt Ion: 56 Resp: 1867

Ion	Ratio	Lower	Upper
56	100		
55	74.1	50.2	90.2

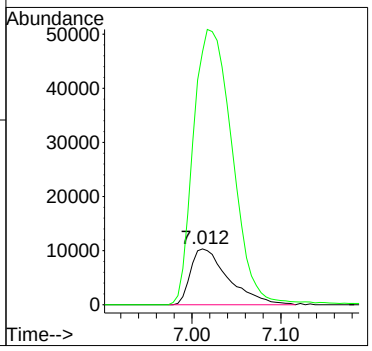


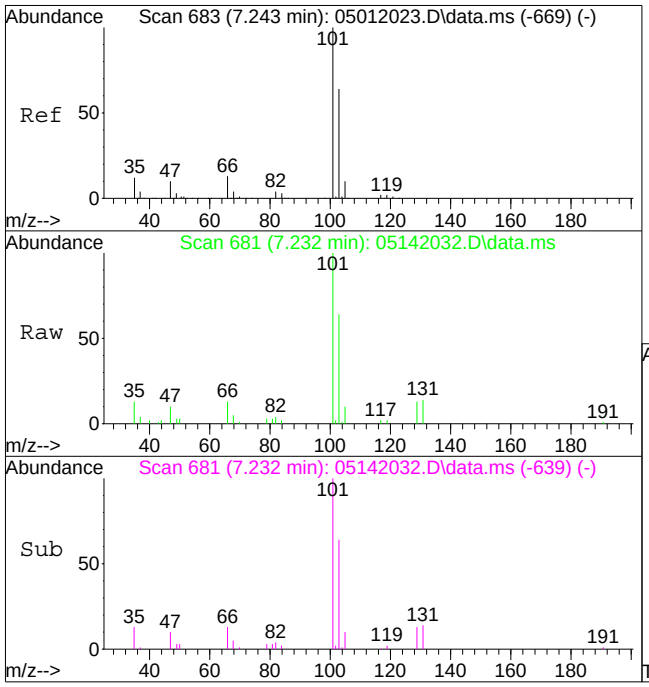


#13
Acetone
Concen: 1.27 ng
RT: 7.01 min Scan# 641
Delta R.T. -0.017 min
Lab File: 05142032.D
Acq: 15 May 2020 2:39

Tgt Ion: 58 Resp: 30623

Ion	Ratio	Lower	Upper
58	100		
43	509.6	294.4	354.4#

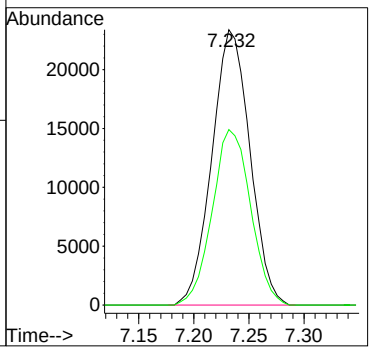


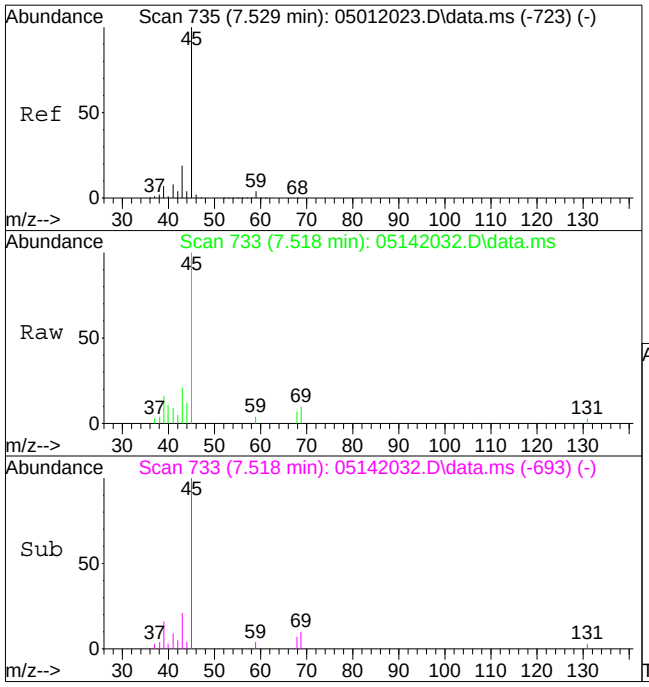


#14
Trichlorofluoromethane
Concen: 1.04 ng
RT: 7.23 min Scan# 681
Delta R.T. -0.017 min
Lab File: 05142032.D
Acq: 15 May 2020 2:39

Tgt Ion:101 Resp: 56127

Ion	Ratio	Lower	Upper
101	100		
103	64.3	44.4	84.4

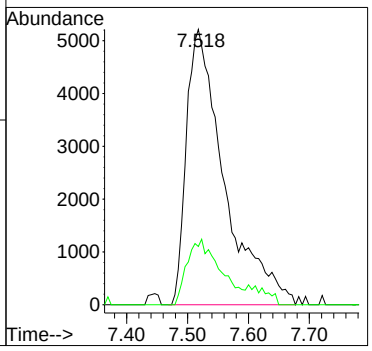


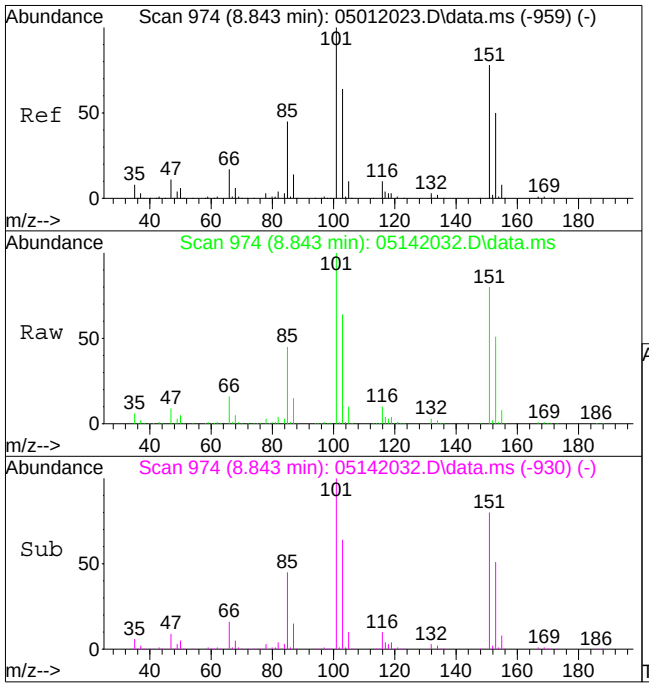


#15
2-Propanol (Isopropanol)
Concen: 0.31 ng
RT: 7.52 min Scan# 733
Delta R.T. -0.027 min
Lab File: 05142032.D
Acq: 15 May 2020 2:39

Tgt Ion: 45 Resp: 22564

Ion	Ratio	Lower	Upper
45	100		
43	24.6	0.0	39.5

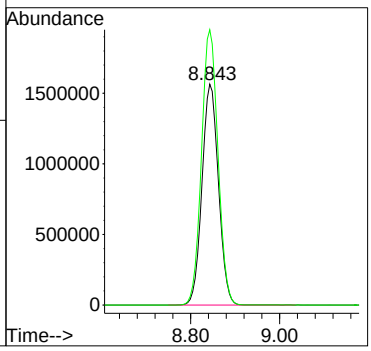


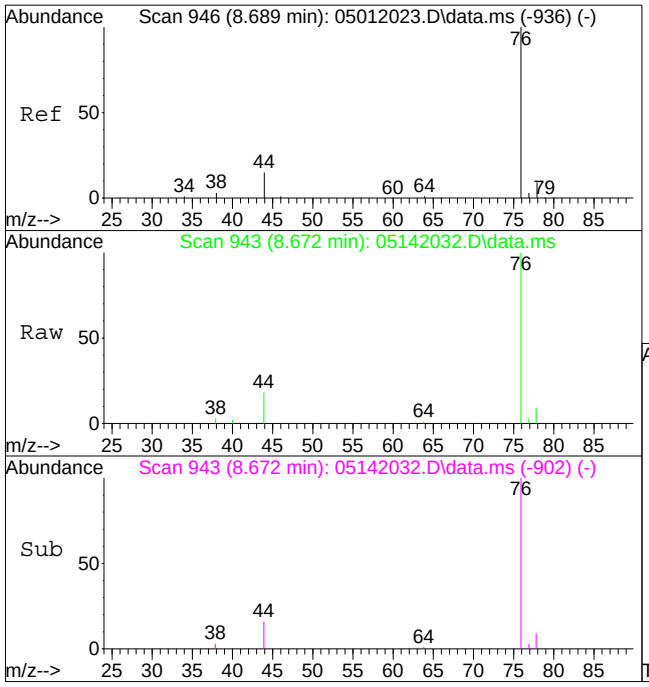


#21
Trichlorotrifluoroethane
Concen: 157.31 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05142032.D
Acq: 15 May 2020 2:39

Tgt Ion:151 Resp: 4007055

Ion	Ratio	Lower	Upper
151	100		
101	124.9	107.3	147.3

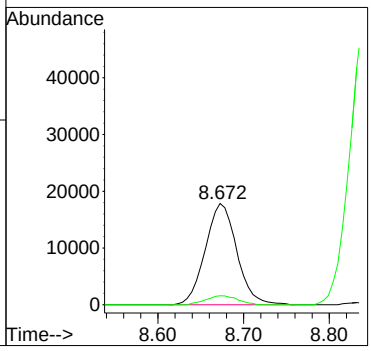


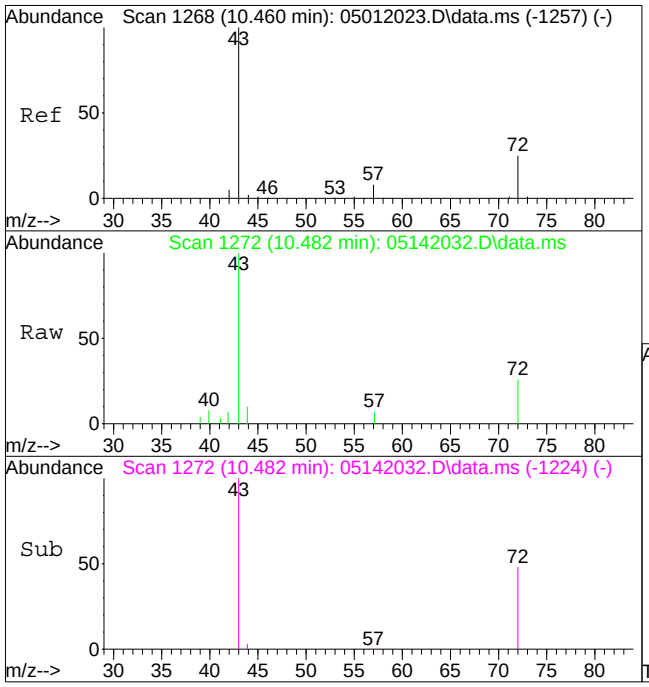


#22
Carbon Disulfide
Concen: 0.41 ng
RT: 8.67 min Scan# 943
Delta R.T. -0.022 min
Lab File: 05142032.D
Acq: 15 May 2020 2:39

Tgt Ion: 76 Resp: 45618

Ion	Ratio	Lower	Upper
76	100		
78	8.9	0.0	29.2

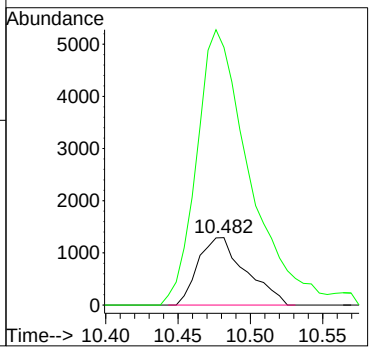


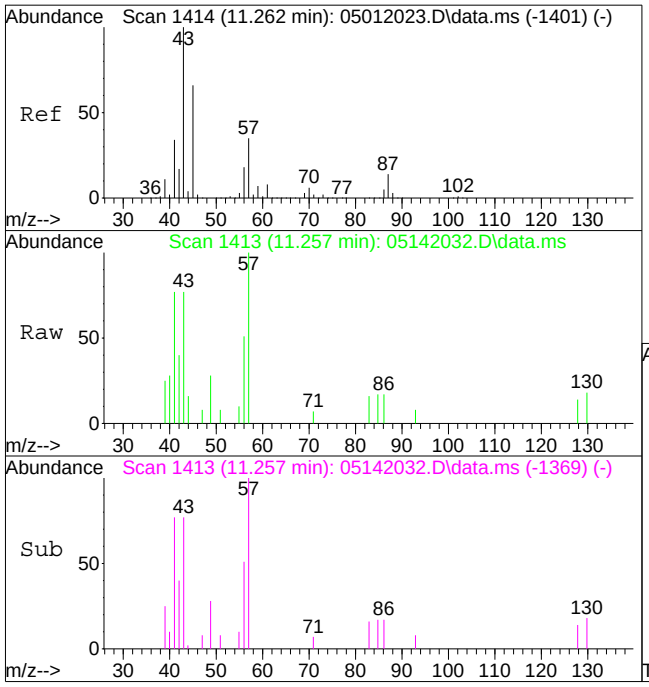


#27
2-Butanone (MEK)
Concen: 0.14 ng
RT: 10.48 min Scan# 1272
Delta R.T. 0.016 min
Lab File: 05142032.D
Acq: 15 May 2020 2:39

Tgt Ion: 72 Resp: 2951

Ion	Ratio	Lower	Upper
72	100		
43	462.2	389.7	429.7#

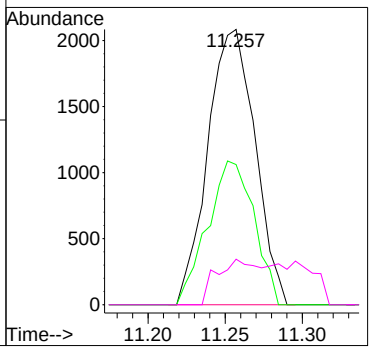


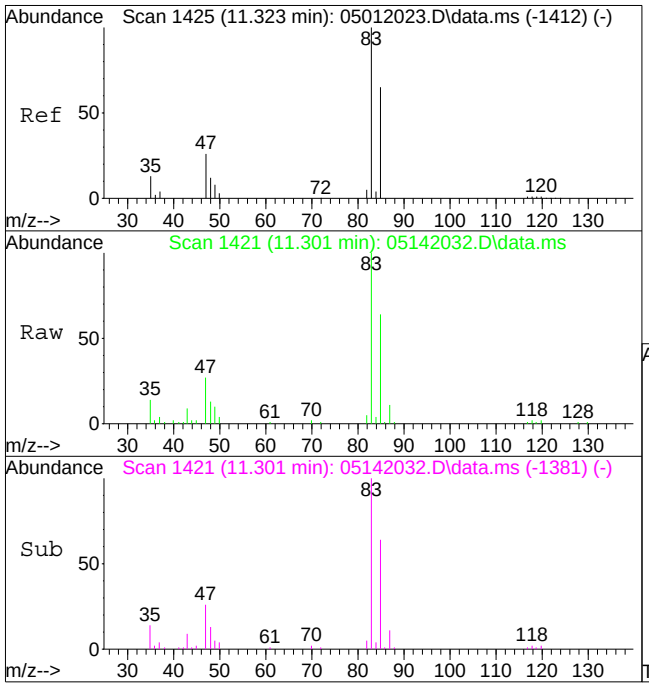


#31
n-Hexane
Concen: 0.09 ng
RT: 11.26 min Scan# 1413
Delta R.T. -0.006 min
Lab File: 05142032.D
Acq: 15 May 2020 2:39

Tgt Ion: 57 Resp: 4442

Ion	Ratio	Lower	Upper
57	100		
56	51.3	41.4	62.0
86	29.2	12.4	18.6#

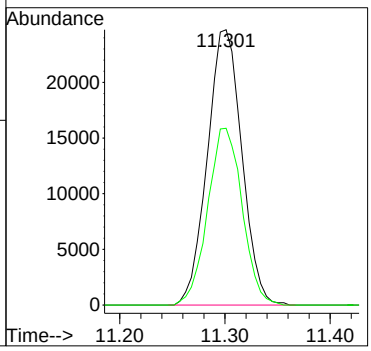


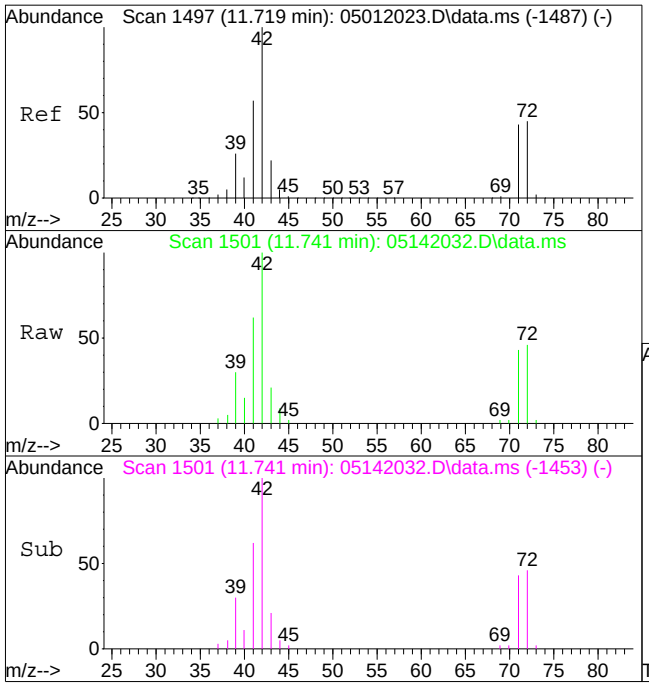


#32
Chloroform
Concen: 1.05 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.028 min
Lab File: 05142032.D
Acq: 15 May 2020 2:39

Tgt Ion: 83 Resp: 56455

Ion	Ratio	Lower	Upper
83	100		
85	64.1	45.5	85.5

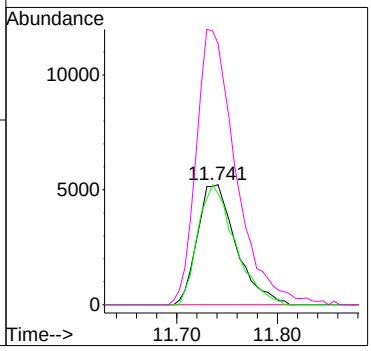


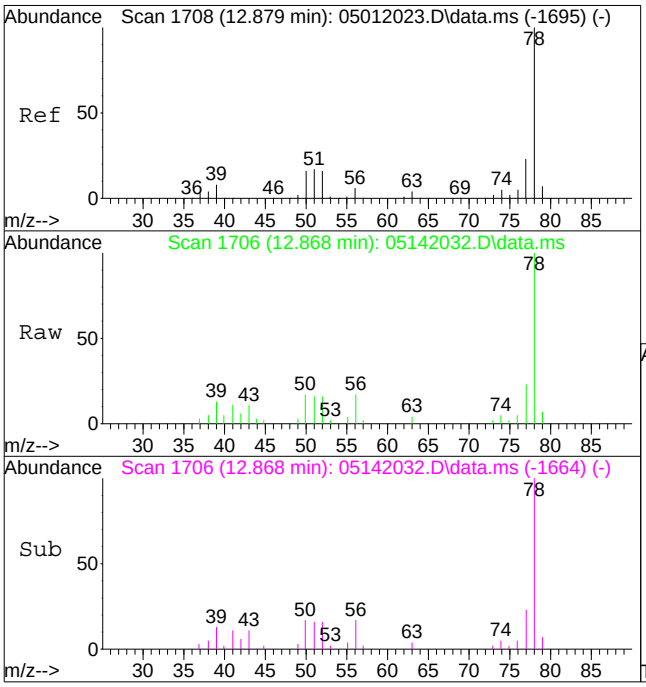


#34
Tetrahydrofuran (THF)
Concen: 0.70 ng
RT: 11.74 min Scan# 1501
Delta R.T. 0.016 min
Lab File: 05142032.D
Acq: 15 May 2020 2:39

Tgt Ion: 72 Resp: 14043

Ion	Ratio	Lower	Upper
72	100		
71	95.8	77.0	117.0
42	235.4	204.6	244.6

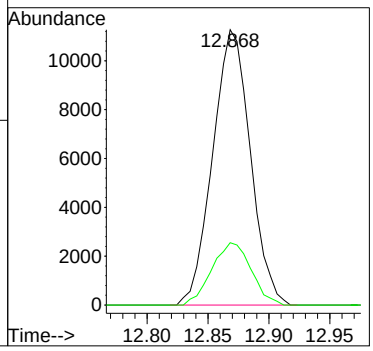


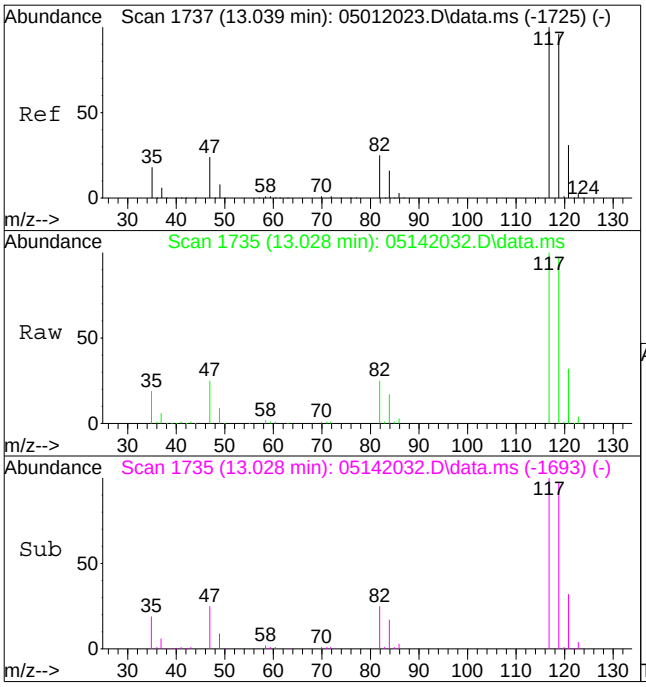


#41
Benzene
Concen: 0.19 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05142032.D
Acq: 15 May 2020 2:39

Tgt Ion: 78 Resp: 24235

Ion	Ratio	Lower	Upper
78	100		
77	23.7	3.4	43.4

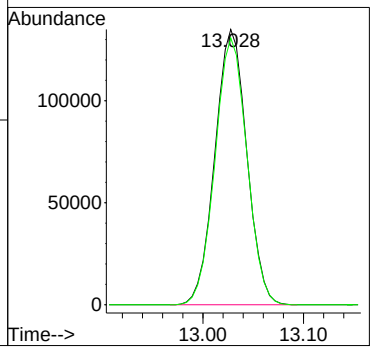


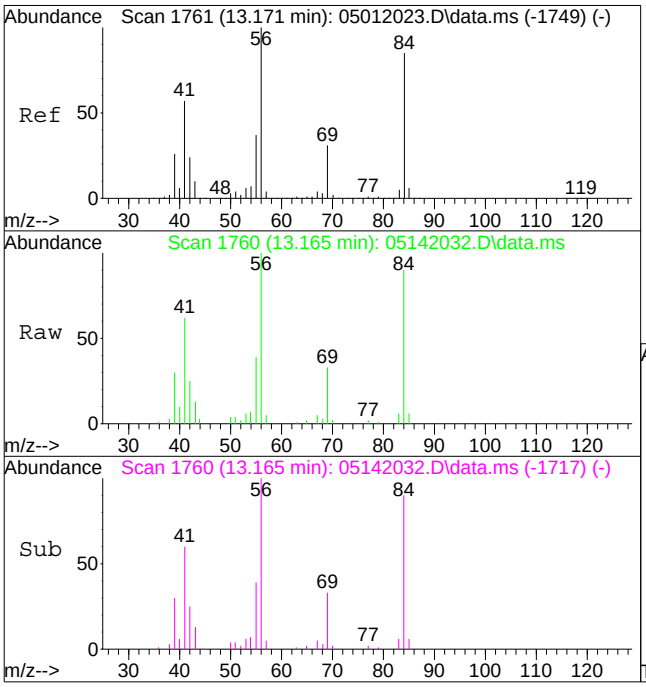


#42
Carbon Tetrachloride
Concen: 6.97 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05142032.D
Acq: 15 May 2020 2:39

Tgt Ion:117 Resp: 296556

Ion	Ratio	Lower	Upper
117	100		
119	96.9	76.2	116.2

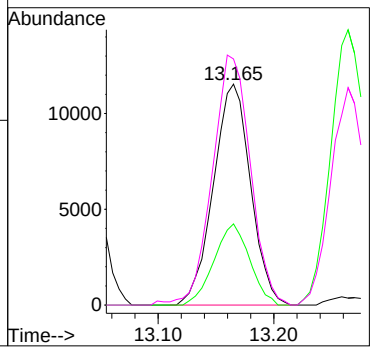


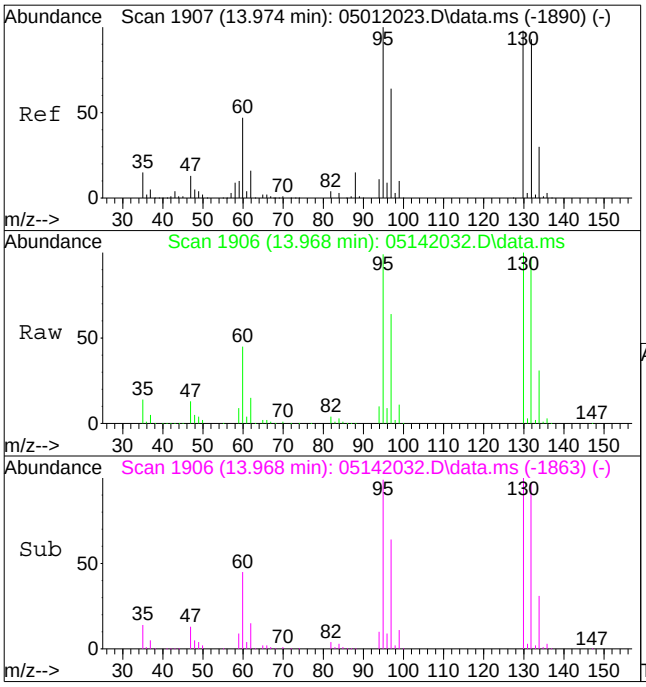


#43
Cyclohexane
Concen: 0.55 ng
RT: 13.17 min Scan# 1760
Delta R.T. -0.011 min
Lab File: 05142032.D
Acq: 15 May 2020 2:39

Tgt Ion: 84 Resp: 25844

Ion	Ratio	Lower	Upper
84	100		
69	35.1	16.5	56.5
56	115.5	97.4	137.4

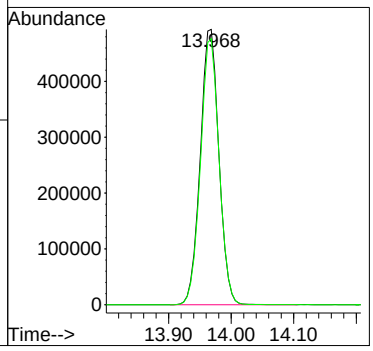


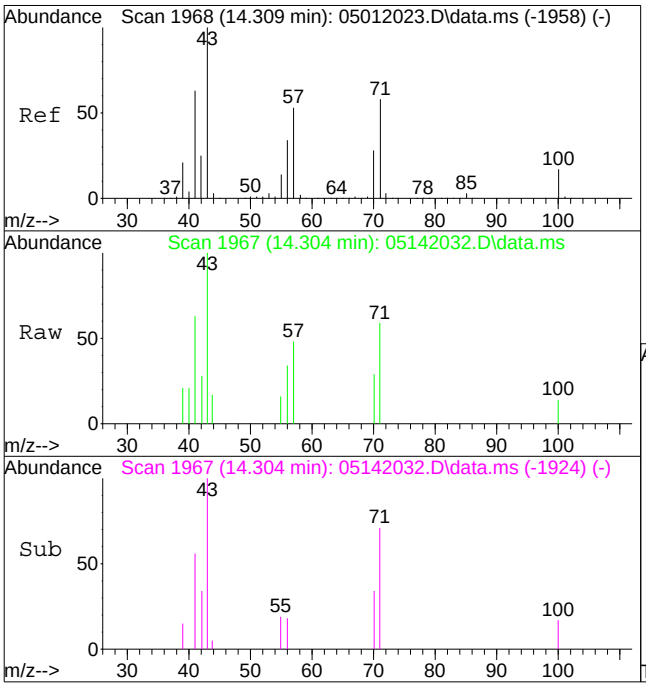


#47
Trichloroethene
Concen: 31.52 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05142032.D
Acq: 15 May 2020 2:39

Tgt Ion:130 Resp: 1019495

Ion	Ratio	Lower	Upper
130	100		
132	96.3	74.9	114.9

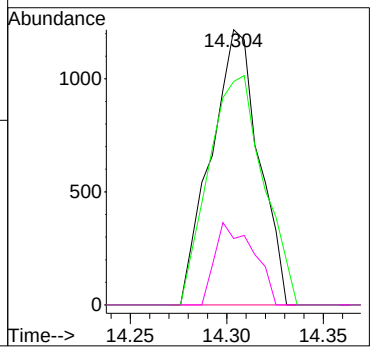


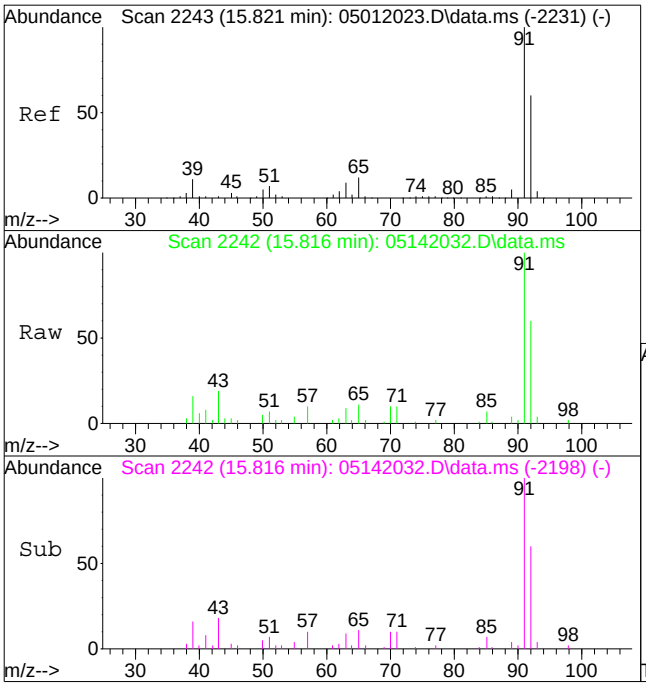


#51
n-Heptane
Concen: 0.07 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05142032.D
Acq: 15 May 2020 2:39

Tgt Ion: 71 Resp: 2105

Ion	Ratio	Lower	Upper
71	100		
57	95.2	71.0	111.0
100	24.0	8.4	48.4

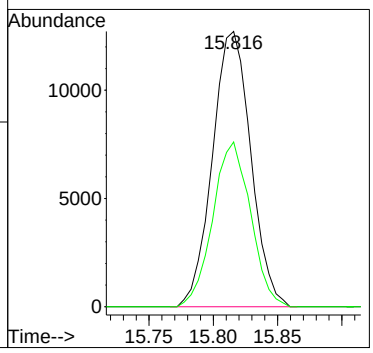


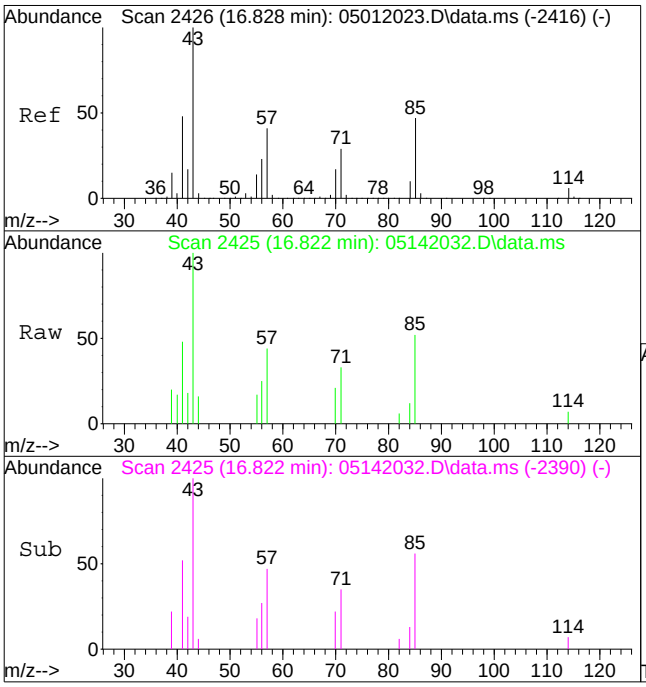


#58
Toluene
Concen: 0.22 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05142032.D
Acq: 15 May 2020 2:39

Tgt Ion: 91 Resp: 26422

Ion	Ratio	Lower	Upper
91	100		
92	58.7	39.4	79.4

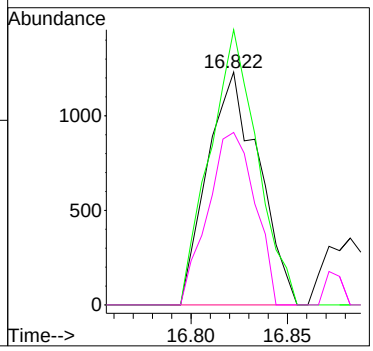


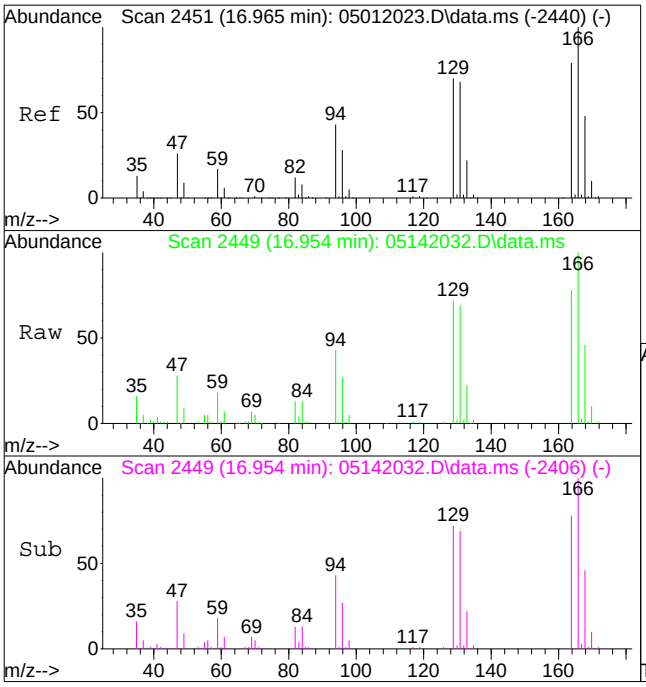


#63
n-Octane
Concen: 0.09 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05142032.D
Acq: 15 May 2020 2:39

Tgt Ion: 57 Resp: 2277

Ion	Ratio	Lower	Upper
57	100		
85	109.2	91.0	136.4
71	67.9	56.2	84.2

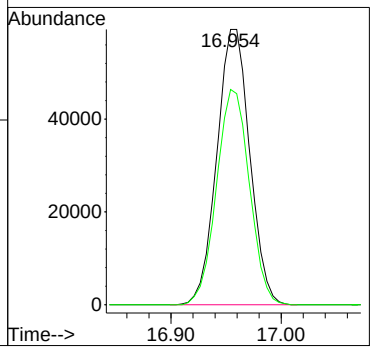


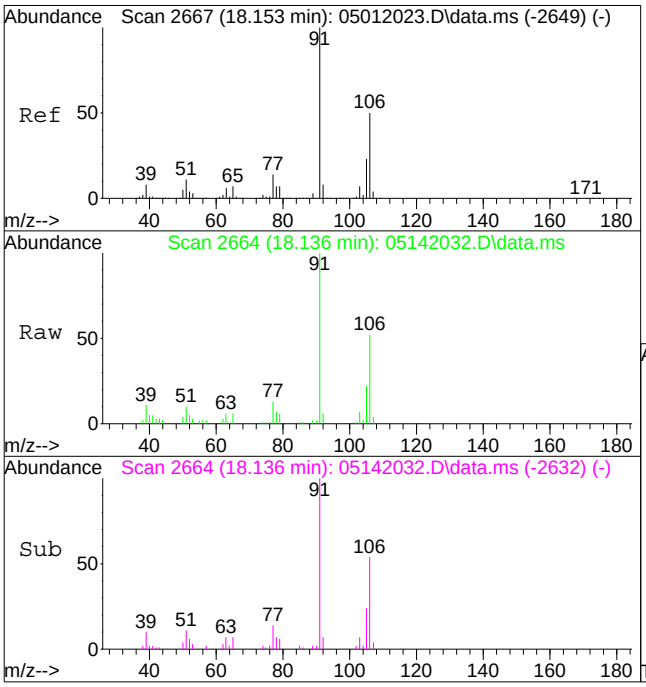


#64
Tetrachloroethene
Concen: 3.67 ng
RT: 16.95 min Scan# 2449
Delta R.T. -0.011 min
Lab File: 05142032.D
Acq: 15 May 2020 2:39

Tgt Ion:166 Resp: 123195

Ion	Ratio	Lower	Upper
166	100		
164	78.1	58.4	98.4

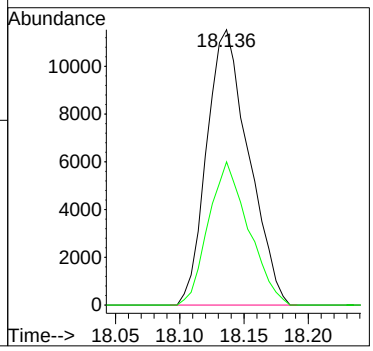


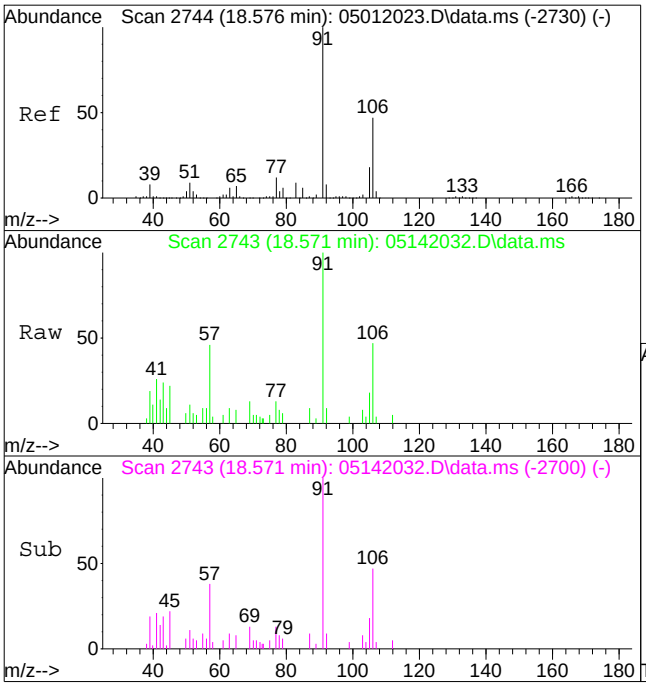


#67
m- & p-Xylenes
Concen: 0.25 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05142032.D
Acq: 15 May 2020 2:39

Tgt Ion: 91 Resp: 26200

Ion	Ratio	Lower	Upper
91	100		
106	49.7	29.7	69.7

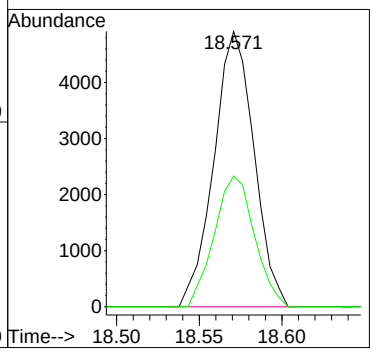


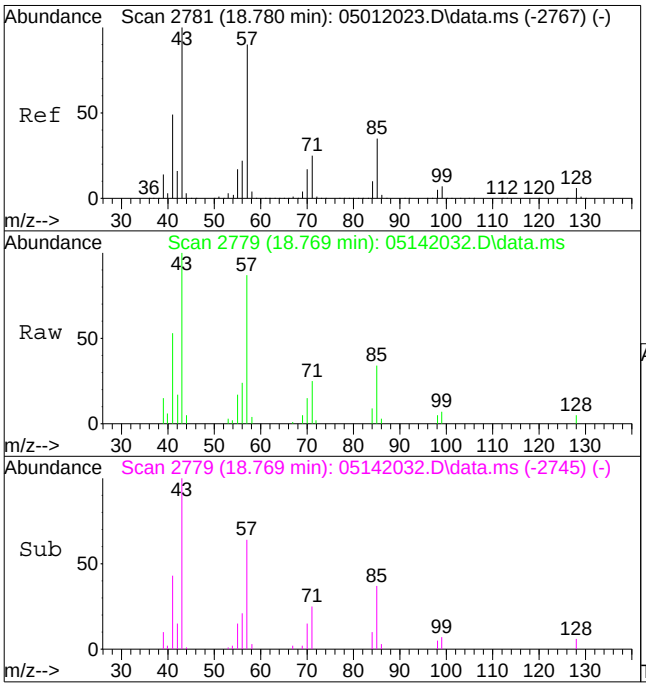


#70
o-Xylene
Concen: 0.08 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05142032.D
Acq: 15 May 2020 2:39

Tgt Ion: 91 Resp: 8290

Ion	Ratio	Lower	Upper
91	100		
106	47.5	27.5	67.5

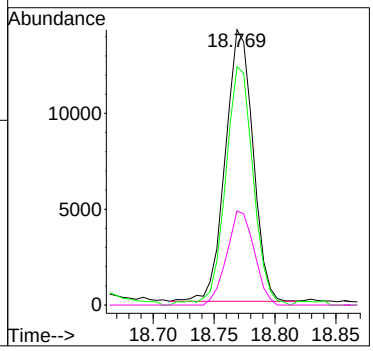


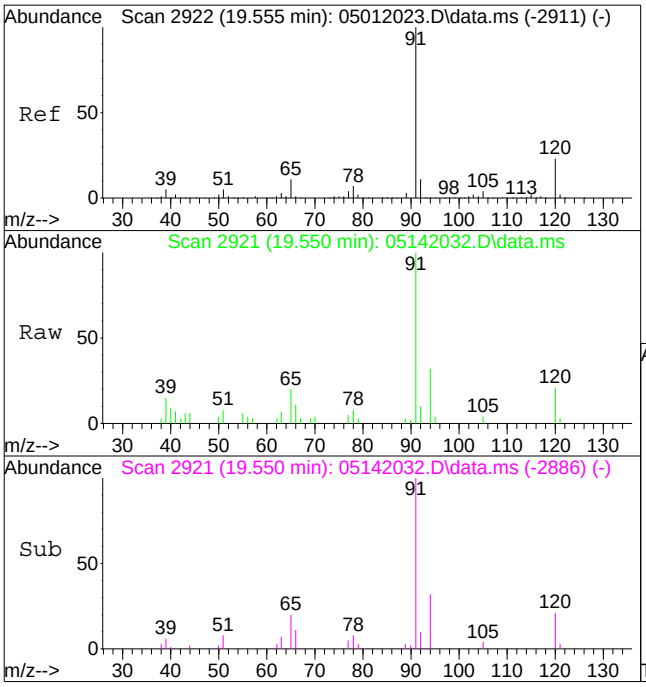


#71
n-Nonane
Concen: 0.39 ng
RT: 18.77 min Scan# 2779
Delta R.T. -0.011 min
Lab File: 05142032.D
Acq: 15 May 2020 2:39

Tgt Ion: 43 Resp: 22363

Ion	Ratio	Lower	Upper
43	100		
57	88.0	69.0	109.0
85	34.4	14.6	54.6

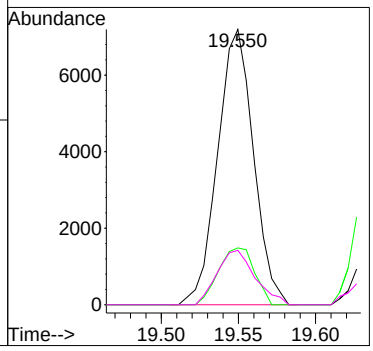


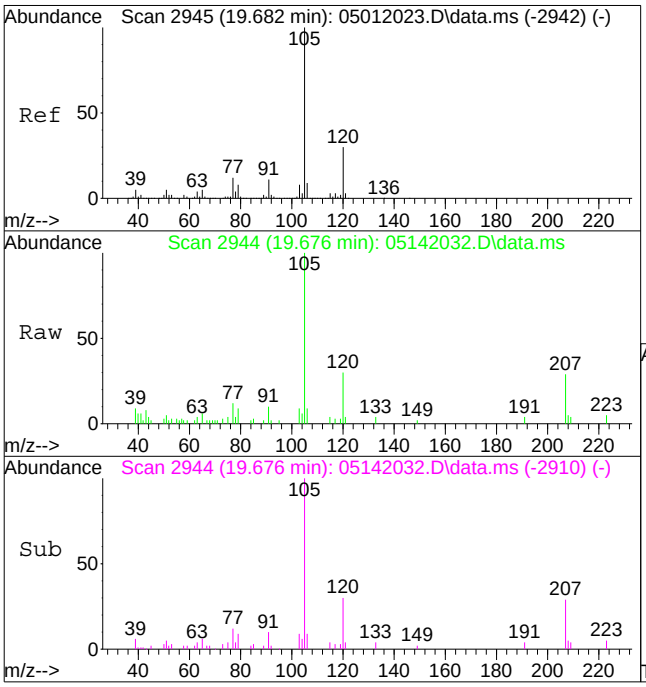


#76
n-Propylbenzene
Concen: 0.07 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05142032.D
Acq: 15 May 2020 2:39

Tgt Ion: 91 Resp: 11638

Ion	Ratio	Lower	Upper
91	100		
120	20.8	3.1	43.1
65	20.9	0.0	30.9

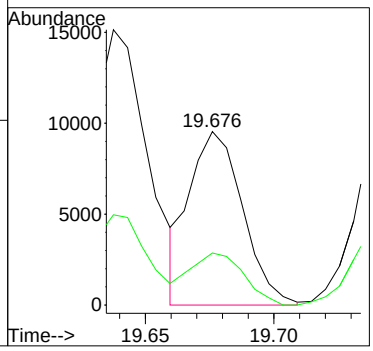


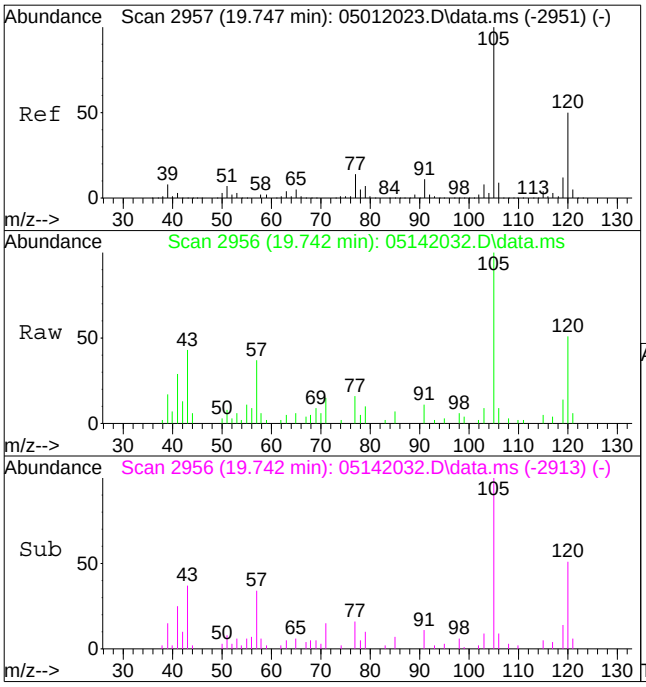


#78
4-Ethyltoluene
Concen: 0.11 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05142032.D
Acq: 15 May 2020 2:39

Tgt Ion:105 Resp: 13780

Ion	Ratio	Lower	Upper
105	100		
120	30.7	10.4	50.4

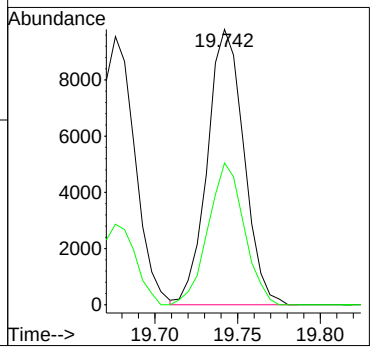


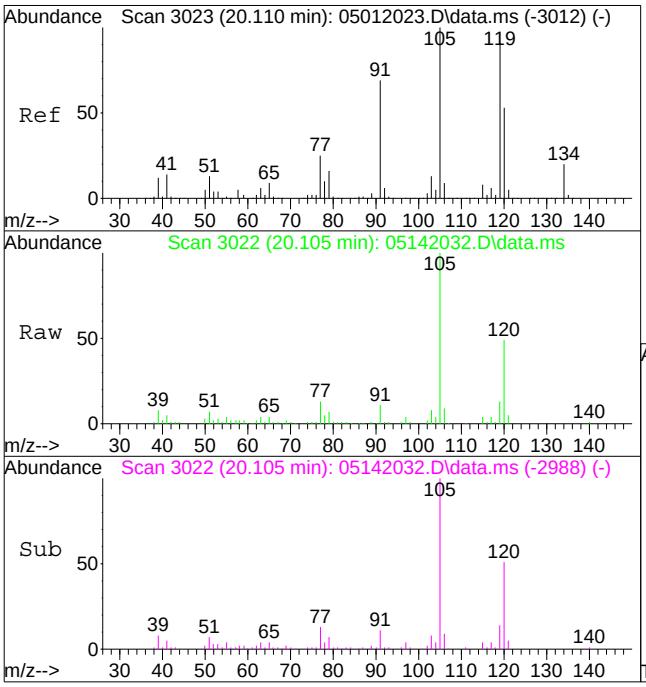


#79
1,3,5-Trimethylbenzene
Concen: 0.14 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05142032.D
Acq: 15 May 2020 2:39

Tgt Ion:105 Resp: 15063

Ion	Ratio	Lower	Upper
105	100		
120	50.7	29.9	69.9

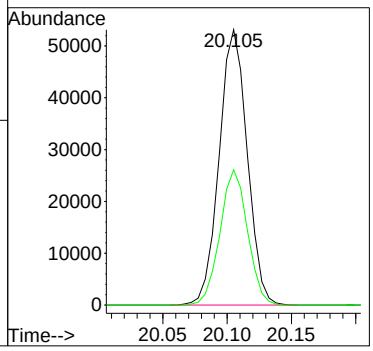


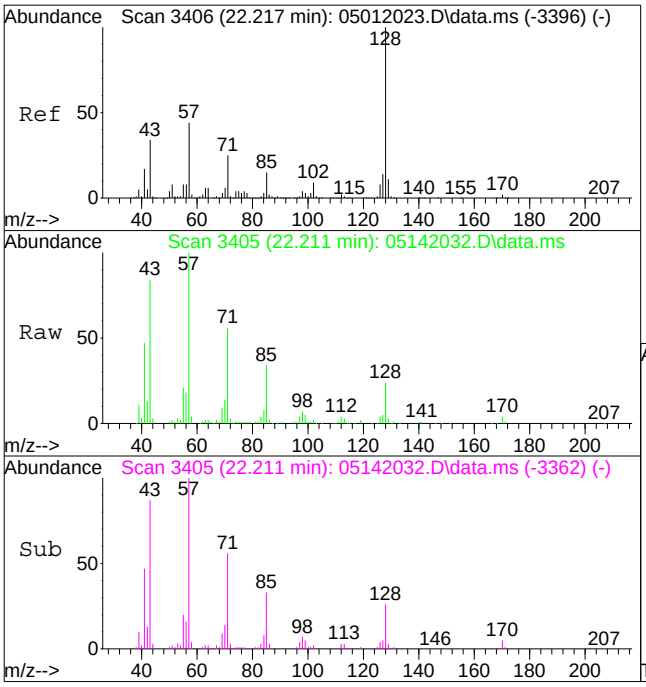


#82
1,2,4-Trimethylbenzene
Concen: 0.75 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05142032.D
Acq: 15 May 2020 2:39

Tgt Ion:105 Resp: 80699

Ion	Ratio	Lower	Upper
105	100		
120	48.2	33.6	73.6

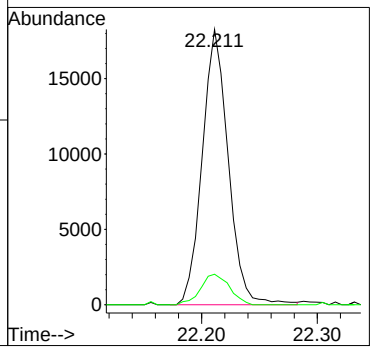




#95
Naphthalene
Concen: 0.22 ng
RT: 22.21 min Scan# 3405
Delta R.T. -0.011 min
Lab File: 05142032.D
Acq: 15 May 2020 2:39

Tgt Ion:128 Resp: 28643

Ion	Ratio	Lower	Upper
128	100		
129	12.3	0.0	31.0



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152015.D Vial: 11
Acq On : 15 May 2020 14:44 Operator: LH
Sample : P2002302-010dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 18:17:08 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/15/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	301539	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1295400	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	603381	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	487125	11.920	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.36%				
57) Toluene-d8 (SS2)	15.72	98	1261719	12.337	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.72%				
73) Bromofluorobenzene (SS3)	18.97	174	484186	13.157	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.28%				
Target Compounds							Qvalue
2) Propene	4.13	42	1087	N.D.			
3) Dichlorodifluoromethan...	4.27	85	33837	0.495	ng		99
4) Chloromethane	4.55	50	319	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	4.97	62	9844	0.168	ng		99
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.34	45	6880	0.255	ng		90
11) Acetonitrile	6.62	41	748	N.D.			
12) Acrolein	6.81	56	179	N.D.			
13) Acetone	7.04	58	6623	0.246	ng	#	45
14) Trichlorofluoromethane	7.25	101	4593	0.076	ng		97
15) 2-Propanol (Isopropanol)	7.55	45	3421	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.45	59	912	N.D.			
19) Methylene Chloride	8.41	84	386	N.D.			
20) 3-Chloro-1-propene (Al...	8.50	41	1046	N.D.			
21) Trichlorotrifluoroethane	8.84	151	291022	10.211	ng		98
22) Carbon Disulfide	8.68	76	6463	0.051	ng		93
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	0.00	72	0	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.30	87	229	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	11.25	57	664	N.D.			
32) Chloroform	11.30	83	4665	0.078	ng		96
34) Tetrahydrofuran (THF)	11.76	72	1355	0.060	ng	#	85
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.02	62	106	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	2892	N.D.			
42) Carbon Tetrachloride	13.03	117	22468	0.475	ng		98
43) Cyclohexane	13.17	84	2263	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	13.97	83	1263	N.D.			
47) Trichloroethene	13.97	130	77033	2.145	ng		97
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.04	57	1229	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152015.D Vial: 11
Acq On : 15 May 2020 14:44 Operator: LH
Sample : P2002302-010dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 18:17:08 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

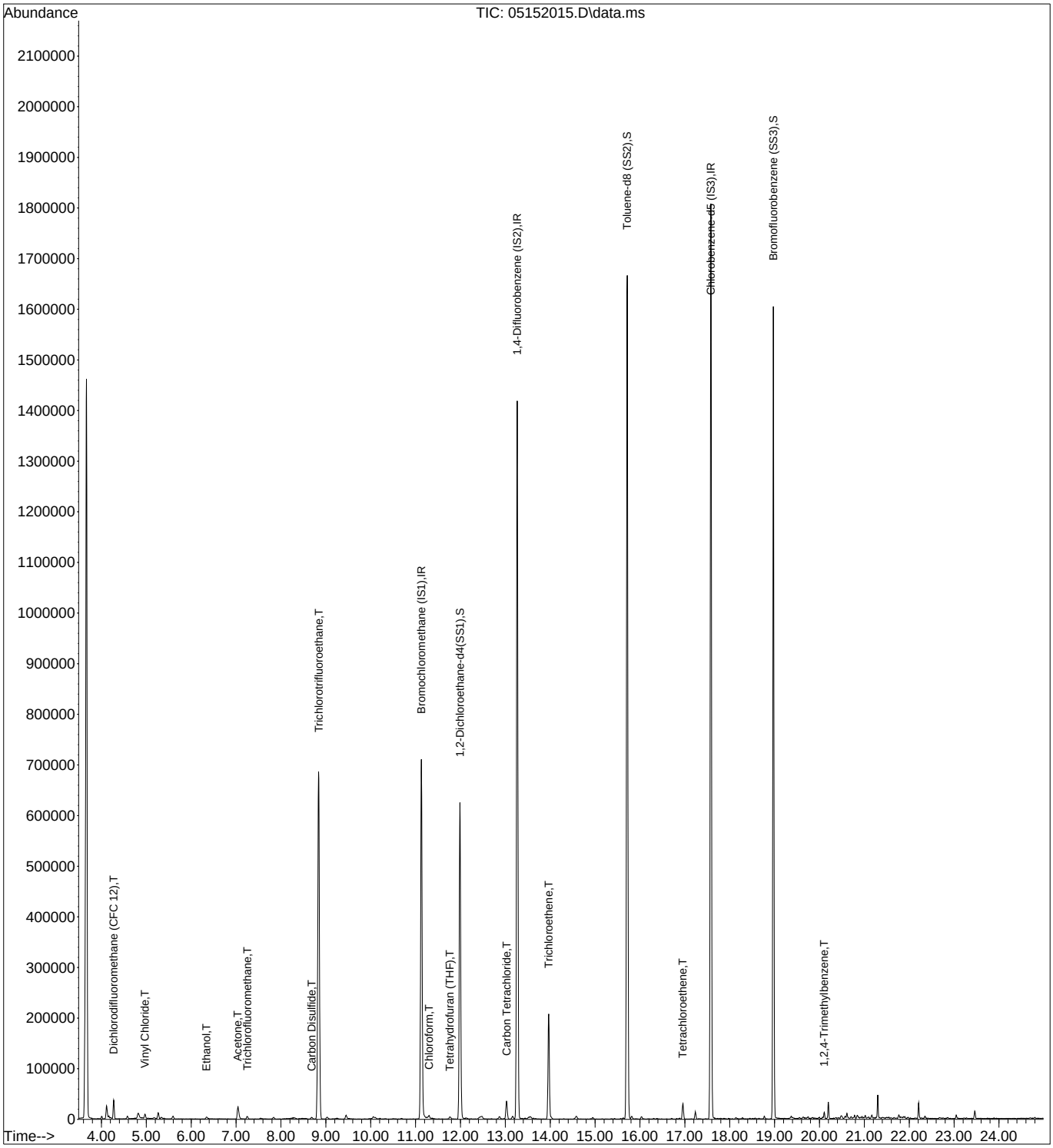
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.82	91	3929	N.D.	
59) 2-Hexanone	16.08	43	437	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.70	43	234	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	16.95	166	10140	0.272 ng	98
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	17.98	91	730	N.D.	
67) m- & p-Xylenes	18.14	91	2828	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	18.57	91	979	N.D.	
71) n-Nonane	18.77	43	2076	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	18.98	105	740	N.D.	
75) alpha-Pinene	19.44	93	295	N.D.	
76) n-Propylbenzene	19.55	91	1100	N.D.	
77) 3-Ethyltoluene	19.64	105	2115	N.D.	
78) 4-Ethyltoluene	19.68	105	1244	N.D.	
79) 1,3,5-Trimethylbenzene	19.74	105	1399	N.D.	
80) alpha-Methylstyrene	19.88	118	509	N.D.	
81) 2-Ethyltoluene	19.91	105	913	N.D.	
82) 1,2,4-Trimethylbenzene	20.10	105	6508	0.055 ng	92
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.31	91	121	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	20.34	105	451	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	1008	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	2442	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.61	68	2198	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.22	128	3167	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.28	55	1438	N.D.	
99) tert-Butylbenzene	20.11	119	879	N.D.	
100) n-Butylbenzene	20.85	91	2342	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152015.D Vial: 11
Acq On : 15 May 2020 14:44 Operator: LH
Sample : P2002302-010dil (40mL) Inst : GCMS-16
Misc : S31-02112001

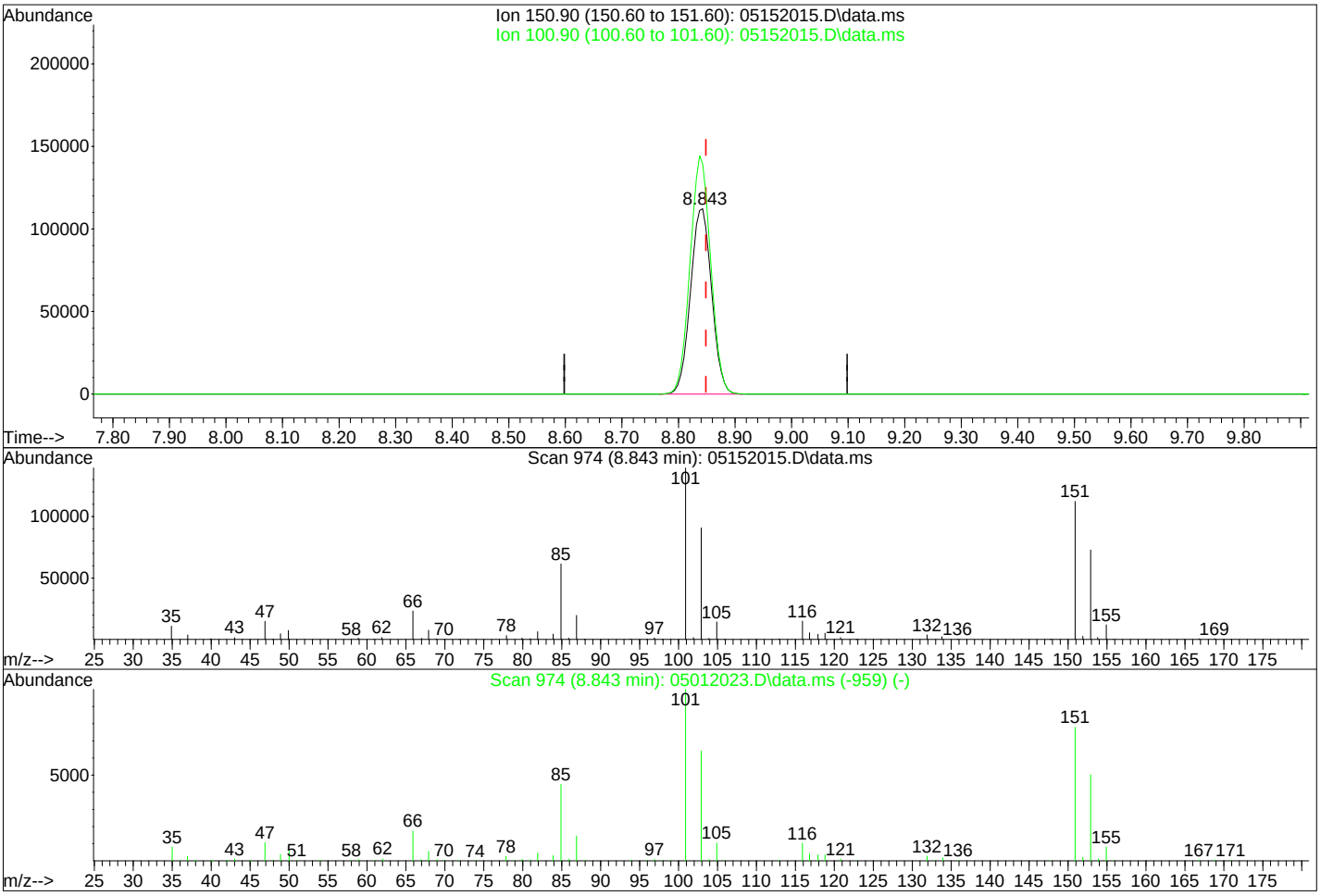
Quant Time: May 15 18:17:08 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\15\05152015.D Vial: 11
Acq On : 15 May 2020 14:44 Operator: LH
Sample : P2002302-010dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 15:54:32 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05152015.D\data.ms

(21) Trichlorotrifluoroethane (T)

8.843min (-0.006) 10.21ng

response 291022

Ion	Exp%	Act%
150.90	100	100
100.90	127.30	125.27
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152007.D Vial: 12
Acq On : 15 May 2020 7:11 Operator: LH
Sample : P2002302-011 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 16:12:00 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/15/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	270461	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1166969	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	535548	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	433722	11.833	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.64%				
57) Toluene-d8 (SS2)	15.71	98	1130440	12.453	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.60%				
73) Bromofluorobenzene (SS3)	18.97	174	427554	13.090	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.72%				
Target Compounds							Qvalue
2) Propene	4.08	42	63633m	2.031	ng		
3) Dichlorodifluoromethan...	4.25	85	222000	3.623	ng		100
4) Chloromethane	4.58	50	7391	0.154	ng		79
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	638	N.D.			
6) Vinyl Chloride	5.00	62	26299886	499.671	ng		98
7) 1,3-Butadiene	0.00	54	0	N.D.	d		
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.92	64	254	N.D.			
10) Ethanol	6.32	45	29525	1.221	ng		81
11) Acetonitrile	6.59	41	18753	0.339	ng		89
12) Acrolein	6.80	56	4435	0.232	ng		95
13) Acetone	7.01	58	35903	1.484	ng	#	1
14) Trichlorofluoromethane	7.28	101	54079	0.999	ng		100
15) 2-Propanol (Isopropanol)	7.54	45	9948	0.136	ng		67
16) Acrylonitrile	7.74	53	3365	0.085	ng		90
17) 1,1-Dichloroethene	8.23	96	335	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.42	84	2577	0.082	ng		88
20) 3-Chloro-1-propene (Al...	8.60	41	1941	N.D.			
21) Trichlorotrifluoroethane	8.86	151	8355595	326.845	ng		100
22) Carbon Disulfide	8.71	76	1183142	10.500	ng		99
23) trans-1,2-Dichloroethene	9.70	61	743	N.D.			
24) 1,1-Dichloroethane	9.95	63	6685	0.130	ng	#	51
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	d		
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.47	72	5689	0.276	ng	#	89
28) cis-1,2-Dichloroethene	10.97	61	1014	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	11.26	57	19229	0.373	ng	#	96
32) Chloroform	11.31	83	86130	1.600	ng		100
34) Tetrahydrofuran (THF)	11.74	72	23594	1.173	ng		91
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	47717	1.119	ng		99
38) 1,1,1-Trichloroethane	12.40	97	1319	N.D.			
39) Isopropyl Acetate	12.87	61	290	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	57775	0.462	ng		99
42) Carbon Tetrachloride	13.03	117	224828	5.282	ng		99
43) Cyclohexane	13.17	84	1312773	28.150	ng		99
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	13.73	63	1223	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	13.97	130	507693	15.695	ng		99
48) 1,4-Dioxane	0.00	88	0	N.D.	d		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.30	100	546	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152007.D Vial: 12
Acq On : 15 May 2020 7:11 Operator: LH
Sample : P2002302-011 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 16:12:00 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

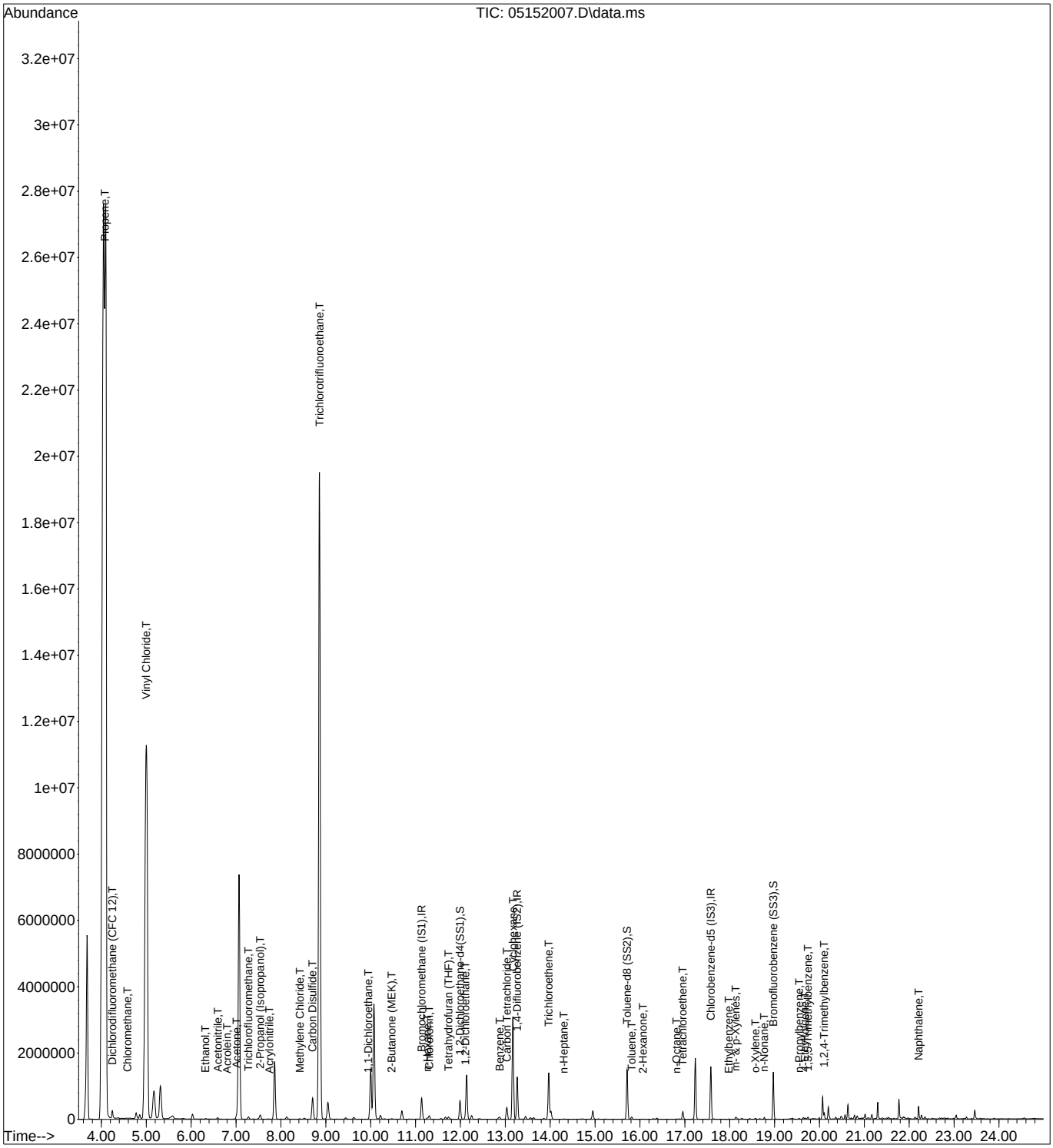
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.30	71	2181	0.075	ng	#	63
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
53) 4-Methyl-2-pentanone	14.88	58	822	N.D.			
54) trans-1,3-Dichloropropene	15.13	75	174	N.D.			
55) 1,1,2-Trichloroethane	15.52	97	1305	N.D.			
58) Toluene	15.82	91	52729	0.451	ng		100
59) 2-Hexanone	16.07	43	6986	0.109	ng		74
60) Dibromochloromethane	0.00	129	0	N.D.			
61) 1,2-Dibromoethane	16.48	107	485	N.D.			
62) n-Butyl Acetate	16.70	43	2217	N.D.			
63) n-Octane	16.82	57	2209	0.091	ng		93
64) Tetrachloroethene	16.95	166	77951	2.359	ng		100
65) Chlorobenzene	17.65	112	1487	N.D.			
66) Ethylbenzene	17.98	91	8692	0.067	ng		93
67) m- & p-Xylenes	18.14	91	54613	0.528	ng		99
68) Bromoform	0.00	173	0	N.D.			
69) Styrene	18.47	104	1166	N.D.			
70) o-Xylene	18.57	91	15906	0.151	ng		96
71) n-Nonane	18.77	43	21378	0.383	ng		96
72) 1,1,2,2-Tetrachloroethane	18.58	83	119	N.D.			
74) Cumene	19.10	105	3057	N.D.			
75) alpha-Pinene	19.45	93	2709	N.D.			
76) n-Propylbenzene	19.55	91	13589	0.089	ng		87
77) 3-Ethyltoluene	0.00	105	0	N.D.	d		
78) 4-Ethyltoluene	19.68	105	14585	0.120	ng		99
79) 1,3,5-Trimethylbenzene	19.74	105	22724	0.216	ng		98
80) alpha-Methylstyrene	0.00	118	0	N.D.	d		
81) 2-Ethyltoluene	0.00	105	0	N.D.	d		
82) 1,2,4-Trimethylbenzene	20.10	105	97275	0.920	ng		91
83) n-Decane	0.00	57	0	N.D.	d		
84) Benzyl Chloride	0.00	91	0	N.D.	d		
85) 1,3-Dichlorobenzene	20.24	146	1275	N.D.			
86) 1,4-Dichlorobenzene	20.30	146	2055	N.D.			
87) sec-Butylbenzene	20.34	105	5986	N.D.			
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.	d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d		
90) 1,2-Dichlorobenzene	20.59	146	943	N.D.			
91) d-Limonene	0.00	68	0	N.D.	d		
92) 1,2-Dibromo-3-Chloropr...	20.98	157	108	N.D.			
93) n-Undecane	0.00	57	0	N.D.	d		
94) 1,2,4-Trichlorobenzene	22.11	180	1742	N.D.			
95) Naphthalene	22.21	128	41496	0.322	ng		96
96) n-Dodecane	0.00	57	0	N.D.	d		
97) Hexachlorobutadiene	0.00	225	0	N.D.			
98) Cyclohexanone	0.00	55	0	N.D.	d		
99) tert-Butylbenzene	0.00	119	0	N.D.	d		
100) n-Butylbenzene	0.00	91	0	N.D.	d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152007.D Vial: 12
Acq On : 15 May 2020 7:11 Operator: LH
Sample : P2002302-011 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 16:12:00 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152007.D Vial: 12
Acq On : 15 May 2020 7:11 Operator: LH
Sample : P2002302-011 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 16:12:00 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/15/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	270461	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1166969	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	535548	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	433722	11.833	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.64%				
57) Toluene-d8 (SS2)	15.71	98	1130440	12.453	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.60%				
73) Bromofluorobenzene (SS3)	18.97	174	427554	13.090	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.72%				
Target Compounds							Qvalue
2) Propene	4.08	42	63633m	2.031	ng		
3) Dichlorodifluoromethan...	4.25	85	222000	3.623	ng		100
4) Chloromethane	4.58	50	7391	0.154	ng		79
6) Vinyl Chloride	5.00	62	26299886	499.671	ng		98
10) Ethanol	6.32	45	29525	1.221	ng		81
11) Acetonitrile	6.59	41	18753	0.339	ng		89
12) Acrolein	6.80	56	4435	0.232	ng		95
13) Acetone	7.01	58	35903	1.484	ng	#	1
14) Trichlorofluoromethane	7.28	101	54079	0.999	ng		100
15) 2-Propanol (Isopropanol)	7.54	45	9948	0.136	ng		67
16) Acrylonitrile	7.74	53	3365	0.085	ng		90
19) Methylene Chloride	8.42	84	2577	0.082	ng		88
21) Trichlorotrifluoroethane	8.86	151	8355595	326.845	ng		100
22) Carbon Disulfide	8.71	76	1183142	10.500	ng		99
24) 1,1-Dichloroethane	9.95	63	6685	0.130	ng	#	51
27) 2-Butanone (MEK)	10.47	72	5689	0.276	ng	#	89
31) n-Hexane	11.26	57	19229	0.373	ng	#	96
32) Chloroform	11.31	83	86130	1.600	ng		100
34) Tetrahydrofuran (THF)	11.74	72	23594	1.173	ng		91
36) 1,2-Dichloroethane	12.11	62	47717	1.119	ng		99
41) Benzene	12.87	78	57775	0.462	ng		99
42) Carbon Tetrachloride	13.03	117	224828	5.282	ng		99
43) Cyclohexane	13.17	84	1312773	28.150	ng		99
47) Trichloroethene	13.97	130	507693	15.695	ng		99
51) n-Heptane	14.30	71	2181	0.075	ng	#	63
58) Toluene	15.82	91	52729	0.451	ng		100
59) 2-Hexanone	16.07	43	6986	0.109	ng		74
63) n-Octane	16.82	57	2209	0.091	ng		93
64) Tetrachloroethene	16.95	166	77951	2.359	ng		100
66) Ethylbenzene	17.98	91	8692	0.067	ng		93
67) m- & p-Xylenes	18.14	91	54613	0.528	ng		99
70) o-Xylene	18.57	91	15906	0.151	ng		96
71) n-Nonane	18.77	43	21378	0.383	ng		96
76) n-Propylbenzene	19.55	91	13589	0.089	ng		87
78) 4-Ethyltoluene	19.68	105	14585	0.120	ng		99
79) 1,3,5-Trimethylbenzene	19.74	105	22724	0.216	ng		98
82) 1,2,4-Trimethylbenzene	20.10	105	97275	0.920	ng		91
95) Naphthalene	22.21	128	41496	0.322	ng		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

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Acq On : 15 May 2020 7:11 Operator: LH
Sample : P2002302-011 (400mL) Inst : GCMS-16
Misc : S31-02112001

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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
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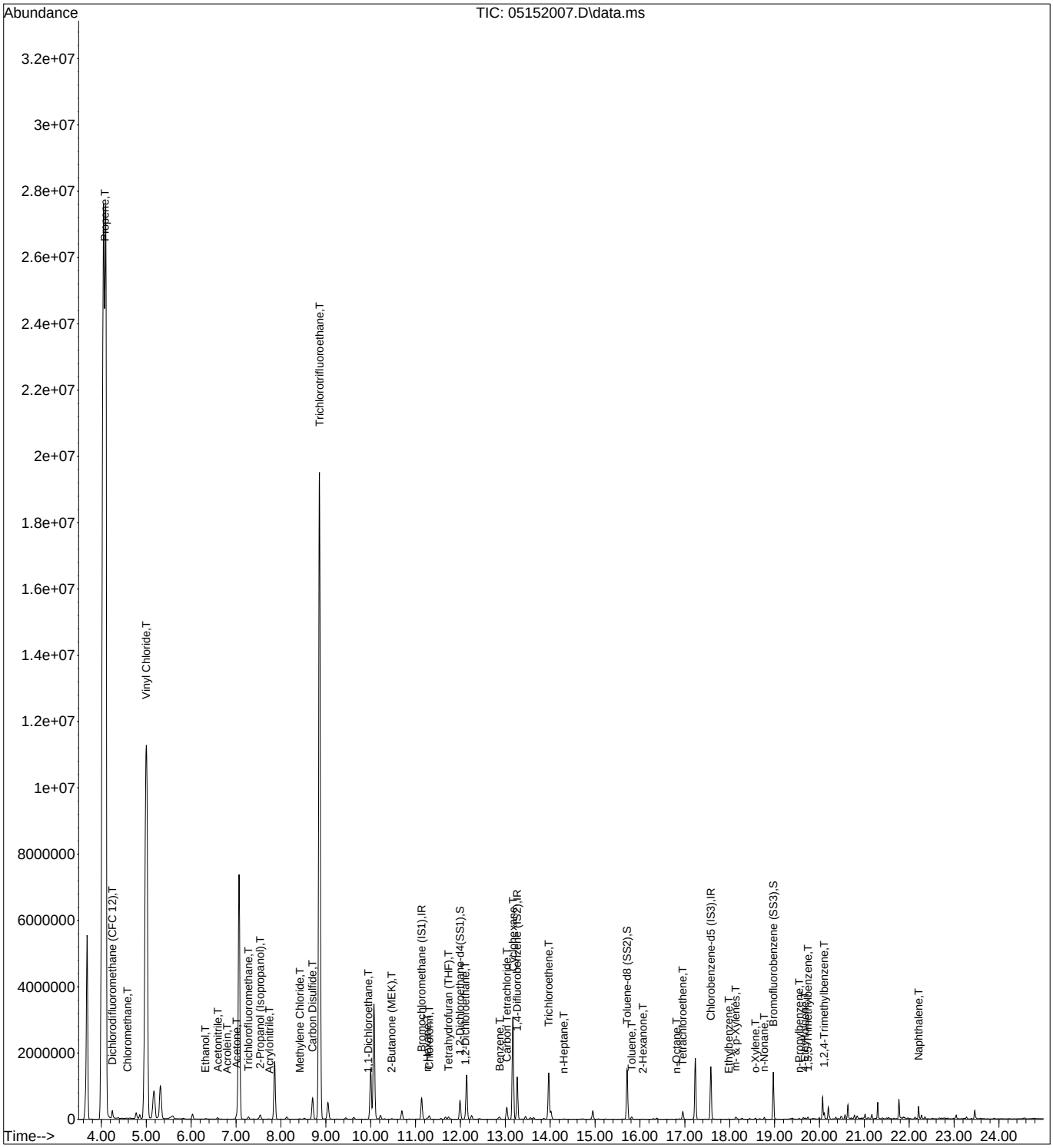
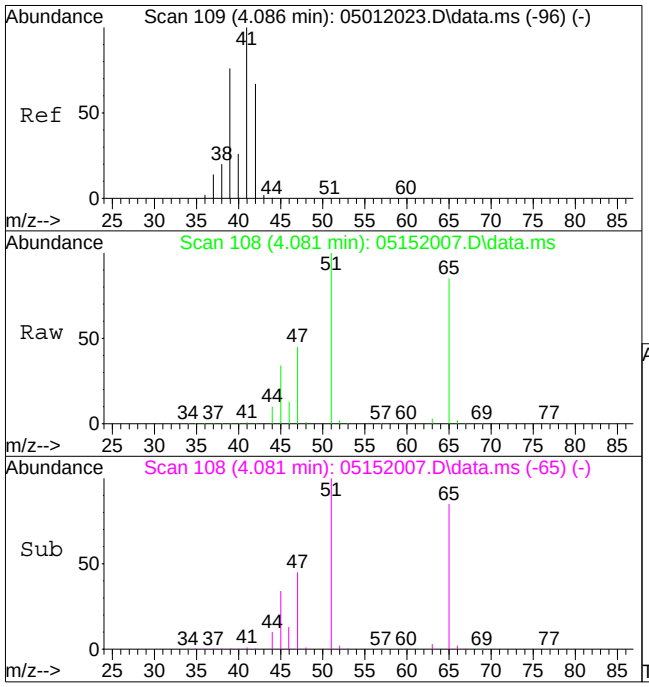
Response via : Initial Calibration
DataAcq Meth:TO15.M

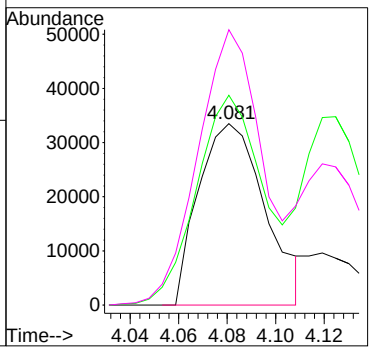


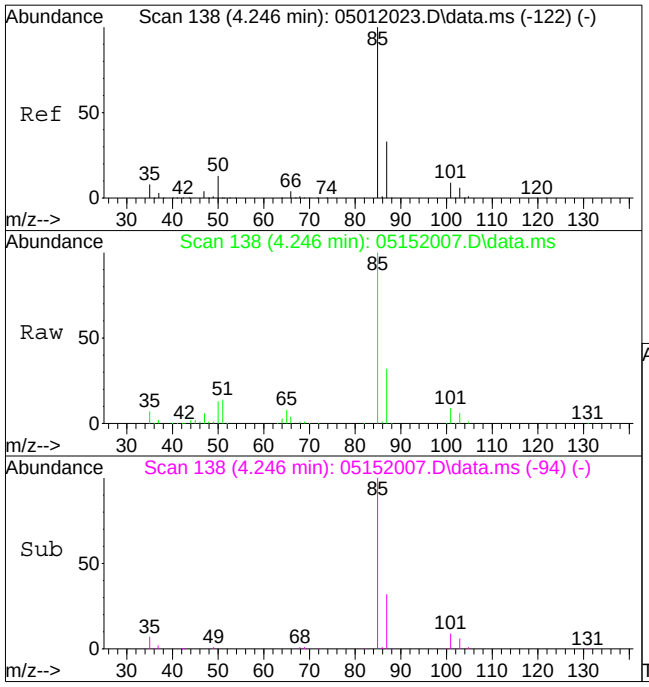


#2
Propene
Concen: 2.03 ng m
RT: 4.08 min Scan# 108
Delta R.T. -0.011 min
Lab File: 05152007.D
Acq: 15 May 2020 7:11

Tgt Ion: 42 Resp: 63633

Ion	Ratio	Lower	Upper
42	100		
39	115.2	96.1	136.1
41	144.6	131.9	171.9

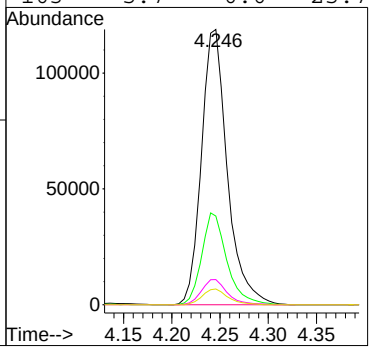


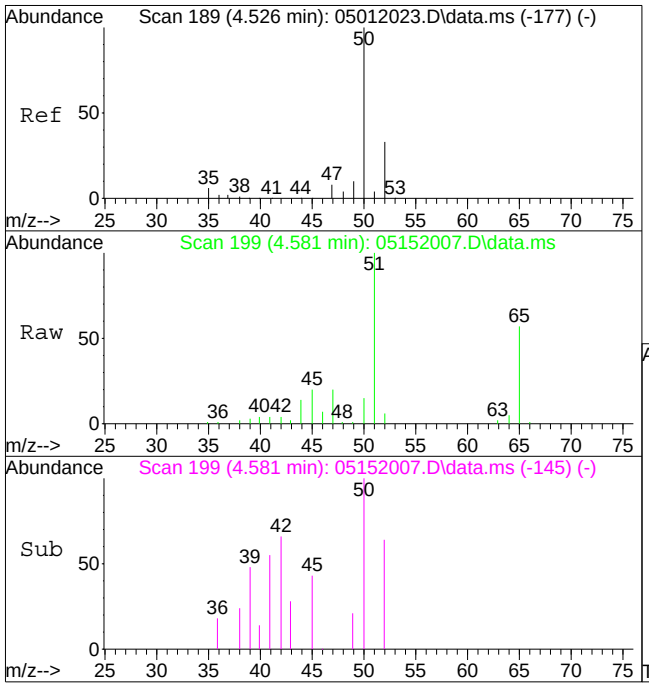


#3
Dichlorodifluoromethane (CFC 12)
Concen: 3.62 ng
RT: 4.25 min Scan# 138
Delta R.T. -0.006 min
Lab File: 05152007.D
Acq: 15 May 2020 7:11

Tgt Ion: 85 Resp: 222000

Ion	Ratio	Lower	Upper
85	100		
87	32.4	12.4	52.4
101	9.1	0.0	28.8
103	5.7	0.0	25.7

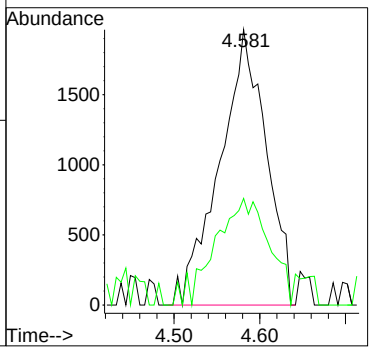


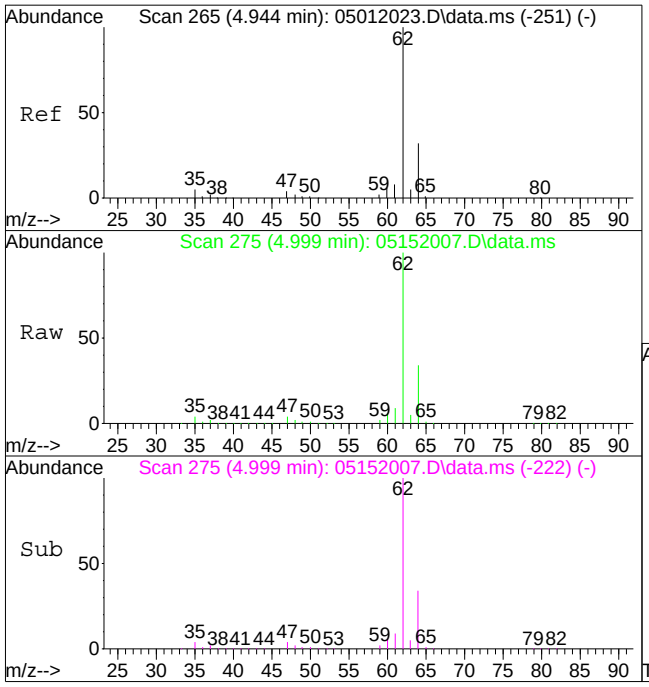


#4
Chloromethane
Concen: 0.15 ng
RT: 4.58 min Scan# 199
Delta R.T. 0.049 min
Lab File: 05152007.D
Acq: 15 May 2020 7:11

Tgt Ion: 50 Resp: 7391

Ion	Ratio	Lower	Upper
50	100		
52	44.3	12.5	52.5

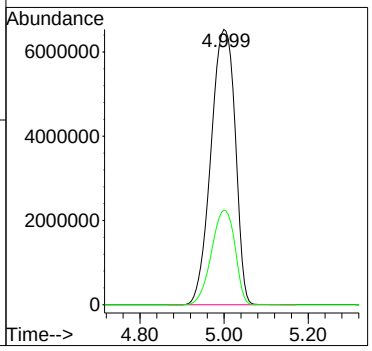


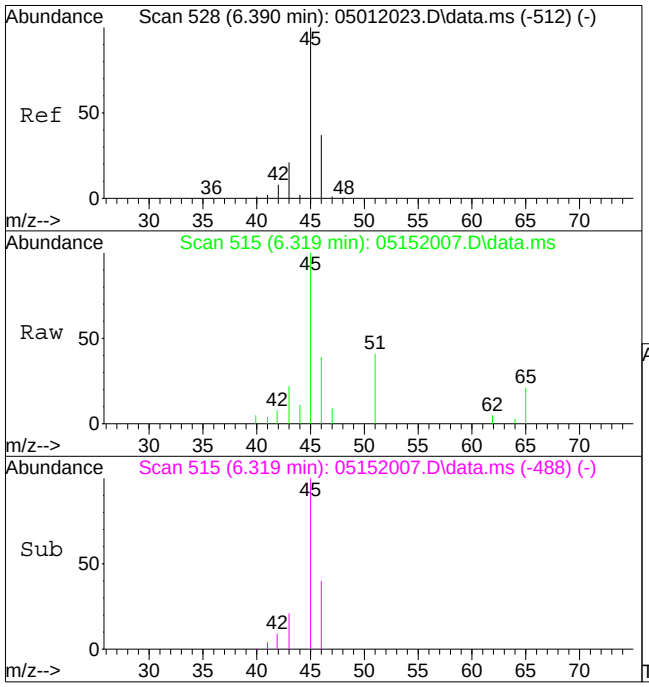


#6
Vinyl Chloride
Concen: 499.67 ng
RT: 5.00 min Scan# 275
Delta R.T. 0.044 min
Lab File: 05152007.D
Acq: 15 May 2020 7:11

Tgt Ion: 62 Resp:26299886

Ion	Ratio	Lower	Upper
62	100		
64	33.3	12.1	52.1

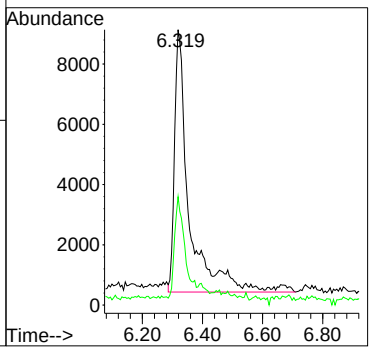


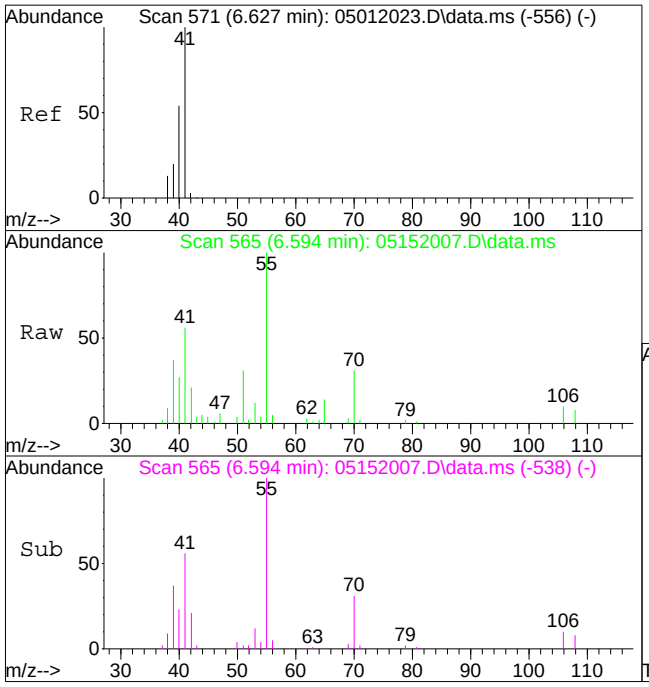


#10
Ethanol
Concen: 1.22 ng
RT: 6.32 min Scan# 515
Delta R.T. -0.099 min
Lab File: 05152007.D
Acq: 15 May 2020 7:11

Tgt Ion: 45 Resp: 29525

Ion	Ratio	Lower	Upper
45	100		
46	48.5	17.2	57.2

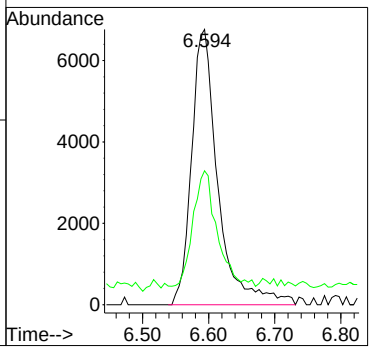


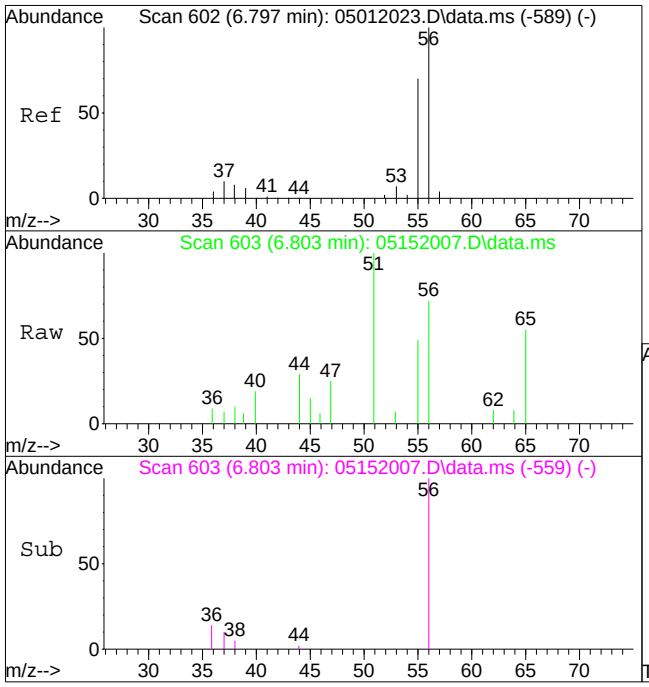


#11
Acetonitrile
Concen: 0.34 ng
RT: 6.59 min Scan# 565
Delta R.T. -0.050 min
Lab File: 05152007.D
Acq: 15 May 2020 7:11

Tgt Ion: 41 Resp: 18753

Ion	Ratio	Lower	Upper
41	100		
40	45.7	33.6	73.6

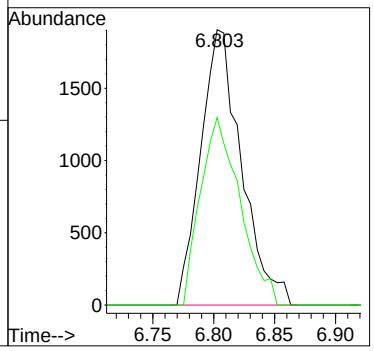


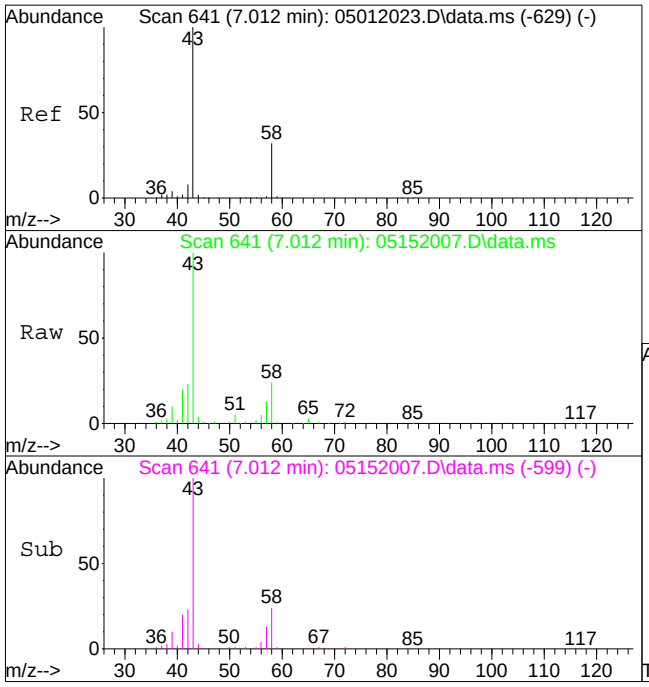


#12
Acrolein
Concen: 0.23 ng
RT: 6.80 min Scan# 603
Delta R.T. -0.006 min
Lab File: 05152007.D
Acq: 15 May 2020 7:11

Tgt Ion: 56 Resp: 4435

Ion	Ratio	Lower	Upper
56	100		
55	66.2	50.2	90.2

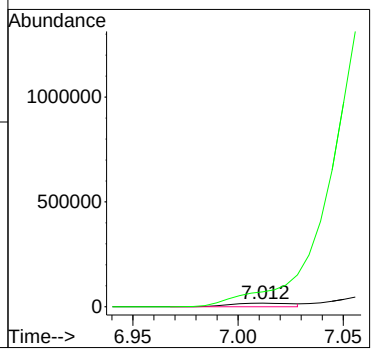


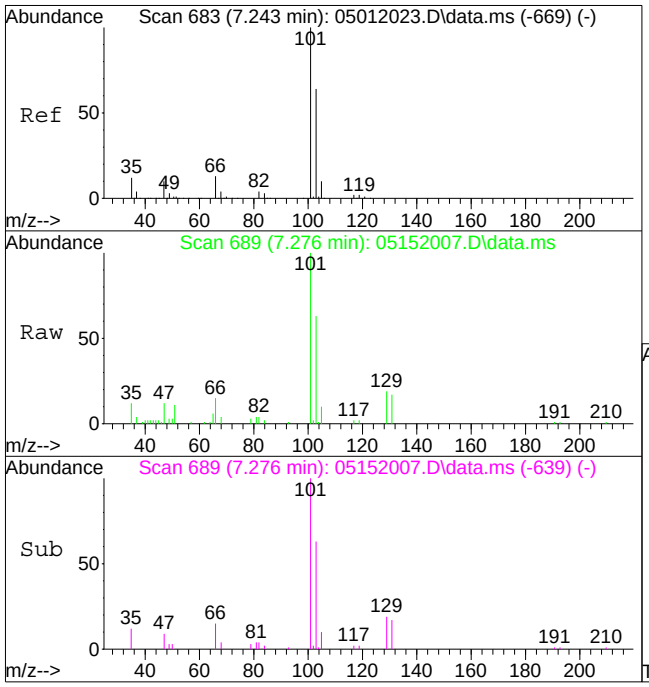


#13
Acetone
Concen: 1.48 ng
RT: 7.01 min Scan# 641
Delta R.T. -0.017 min
Lab File: 05152007.D
Acq: 15 May 2020 7:11

Tgt Ion: 58 Resp: 35903

Ion	Ratio	Lower	Upper
58	100		
43	0.0	294.4	354.4#

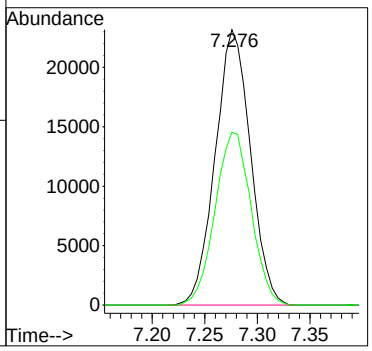


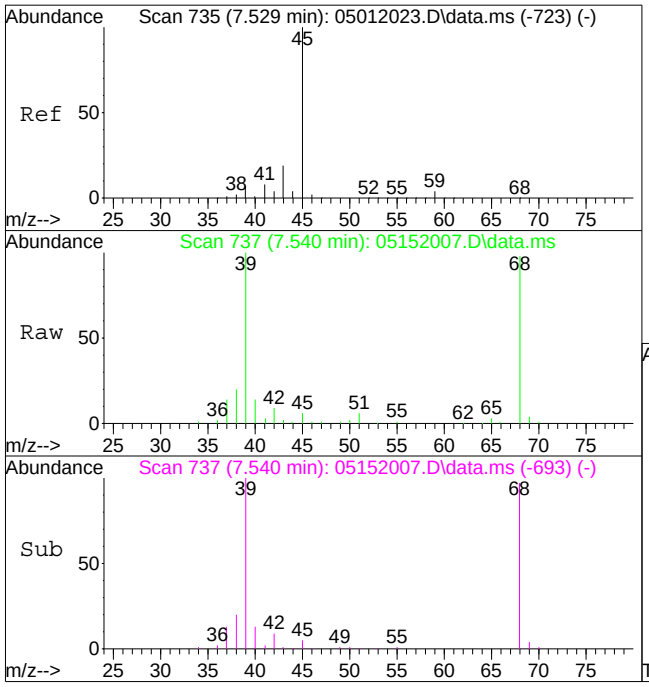


#14
Trichlorofluoromethane
Concen: 1.00 ng
RT: 7.28 min Scan# 689
Delta R.T. 0.027 min
Lab File: 05152007.D
Acq: 15 May 2020 7:11

Tgt Ion:101 Resp: 54079

Ion	Ratio	Lower	Upper
101	100		
103	64.1	44.4	84.4

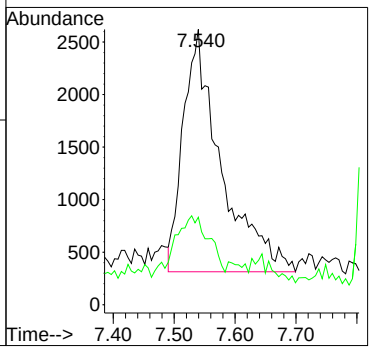


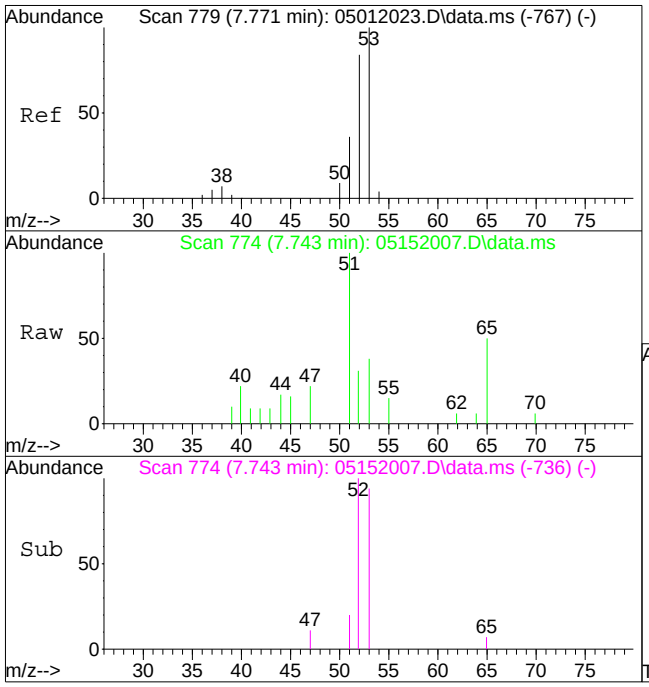


#15
2-Propanol (Isopropanol)
Concen: 0.14 ng
RT: 7.54 min Scan# 737
Delta R.T. -0.006 min
Lab File: 05152007.D
Acq: 15 May 2020 7:11

Tgt Ion: 45 Resp: 9948

Ion	Ratio	Lower	Upper
45	100		
43	34.5	0.0	39.5

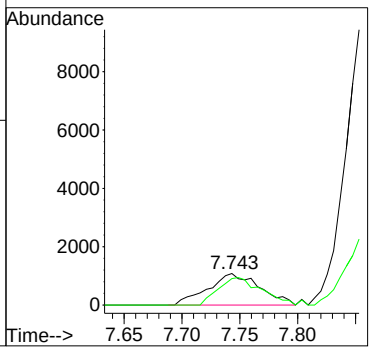


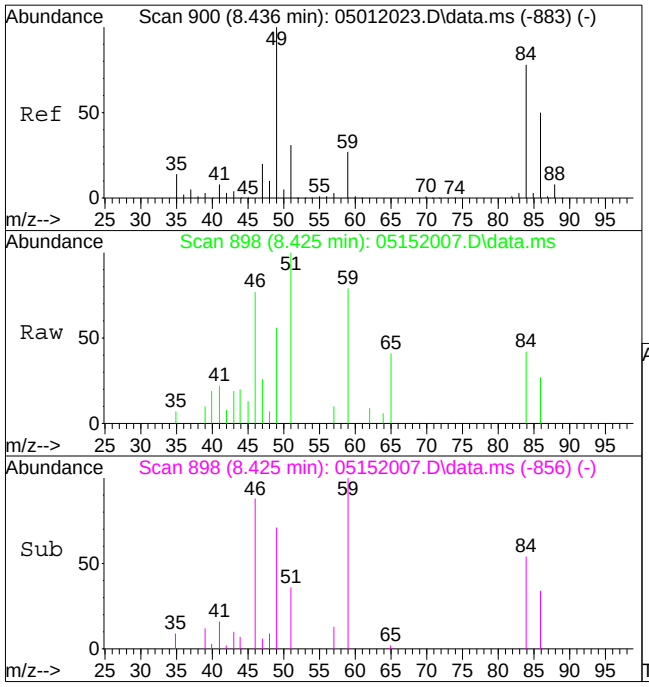


#16
Acrylonitrile
Concen: 0.09 ng
RT: 7.74 min Scan# 774
Delta R.T. -0.039 min
Lab File: 05152007.D
Acq: 15 May 2020 7:11

Tgt Ion: 53 Resp: 3365

Ion	Ratio	Lower	Upper
53	100		
52	74.3	63.7	103.7

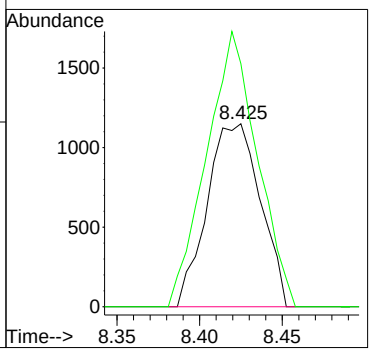


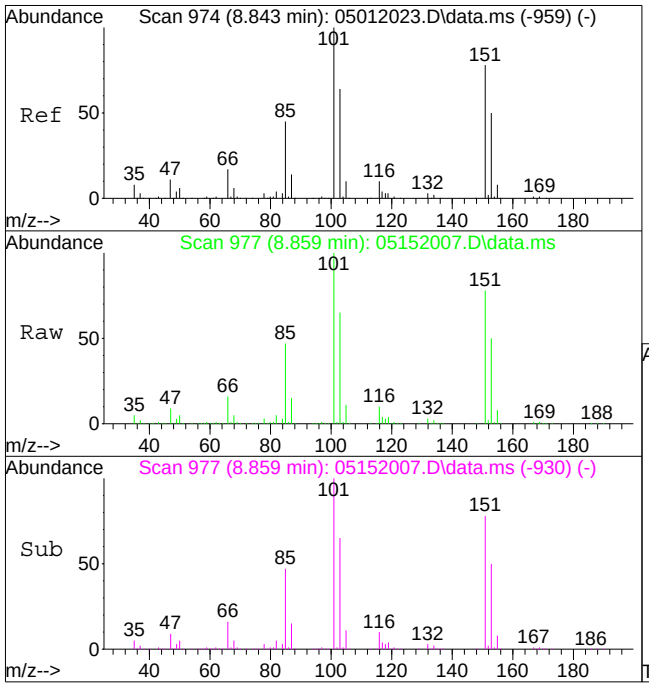


#19
Methylene Chloride
Concen: 0.08 ng
RT: 8.42 min Scan# 898
Delta R.T. -0.017 min
Lab File: 05152007.D
Acq: 15 May 2020 7:11

Tgt Ion: 84 Resp: 2577

Ion	Ratio	Lower	Upper
84	100		
49	143.2	104.8	154.8

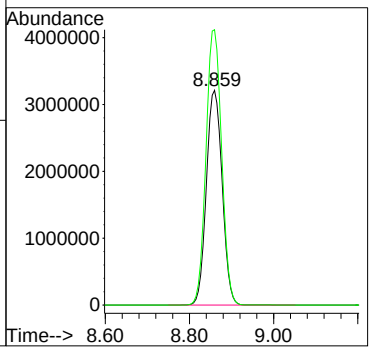


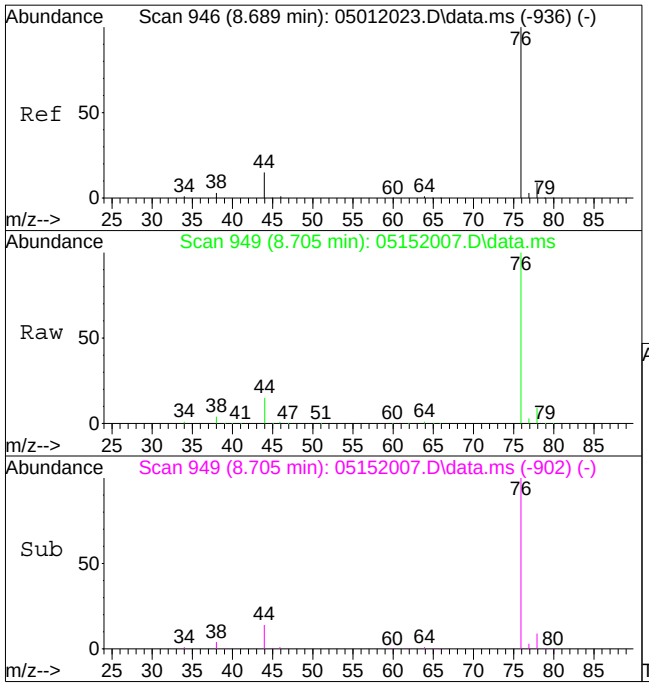


#21
Trichlorotrifluoroethane
Concen: 326.84 ng
RT: 8.86 min Scan# 977
Delta R.T. 0.011 min
Lab File: 05152007.D
Acq: 15 May 2020 7:11

Tgt Ion:151 Resp: 8355595

Ion	Ratio	Lower	Upper
151	100		
101	127.2	107.3	147.3

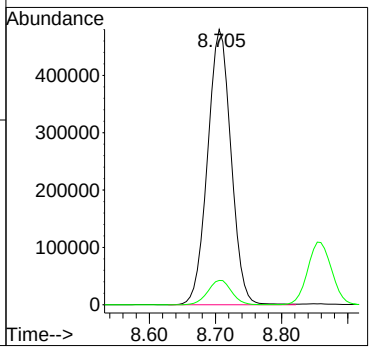


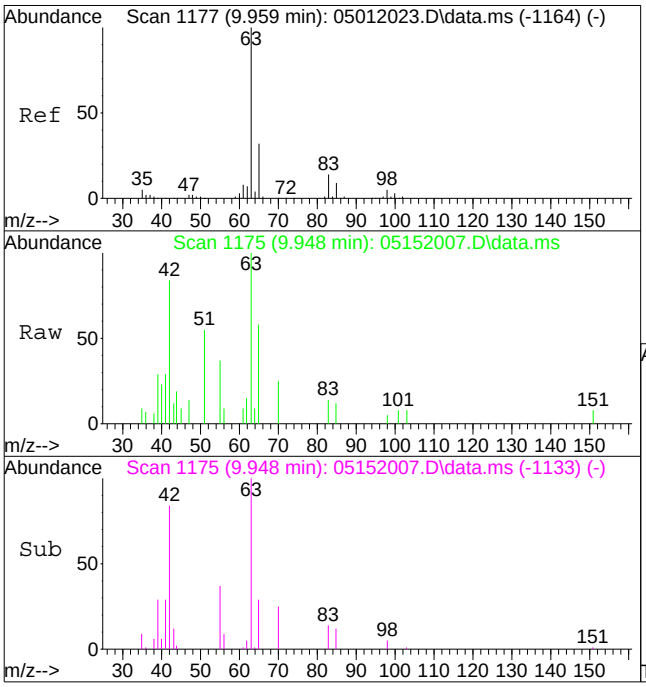


#22
Carbon Disulfide
Concen: 10.50 ng
RT: 8.71 min Scan# 949
Delta R.T. 0.011 min
Lab File: 05152007.D
Acq: 15 May 2020 7:11

Tgt Ion: 76 Resp: 1183142

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	29.2

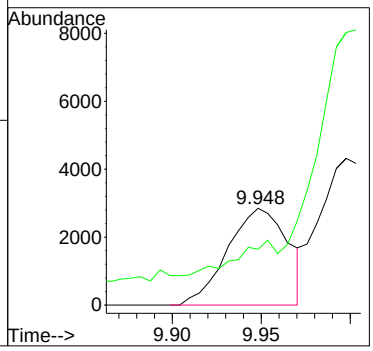


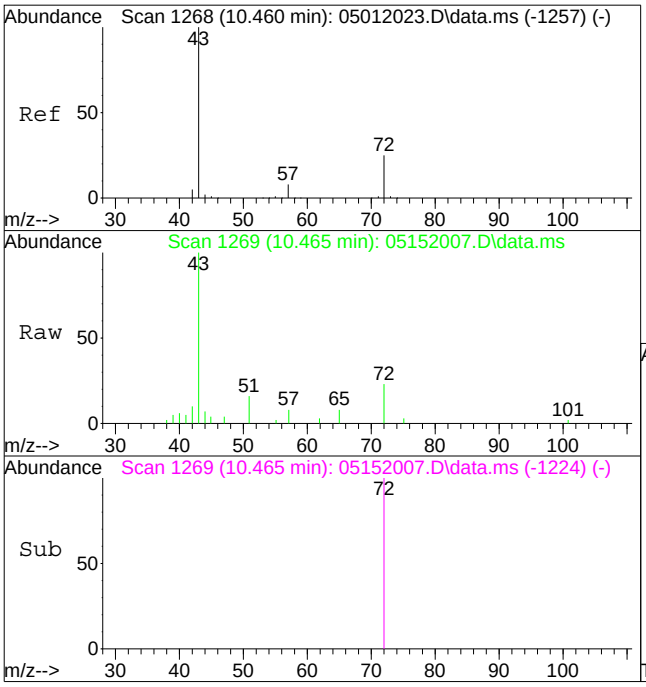


#24
1,1-Dichloroethane
Concen: 0.13 ng
RT: 9.95 min Scan# 1175
Delta R.T. -0.017 min
Lab File: 05152007.D
Acq: 15 May 2020 7:11

Tgt Ion: 63 Resp: 6685

Ion	Ratio	Lower	Upper
63	100		
65	4.8	11.8	51.8#

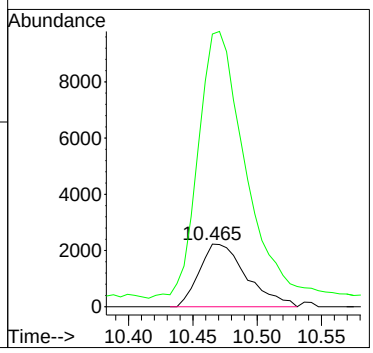


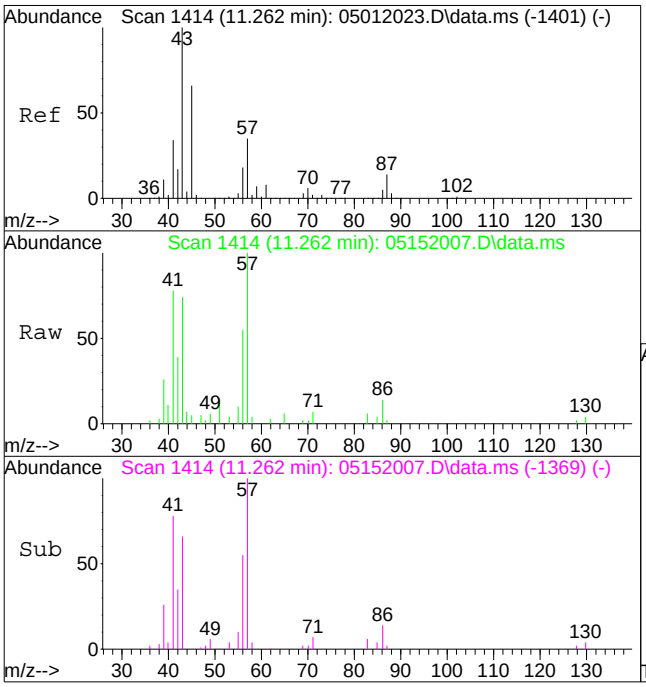


#27
2-Butanone (MEK)
Concen: 0.28 ng
RT: 10.47 min Scan# 1269
Delta R.T. -0.000 min
Lab File: 05152007.D
Acq: 15 May 2020 7:11

Tgt Ion: 72 Resp: 5689

Ion	Ratio	Lower	Upper
72	100		
43	437.1	389.7	429.7#

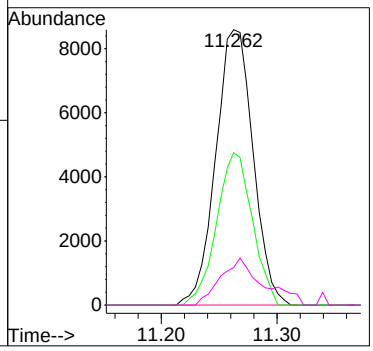


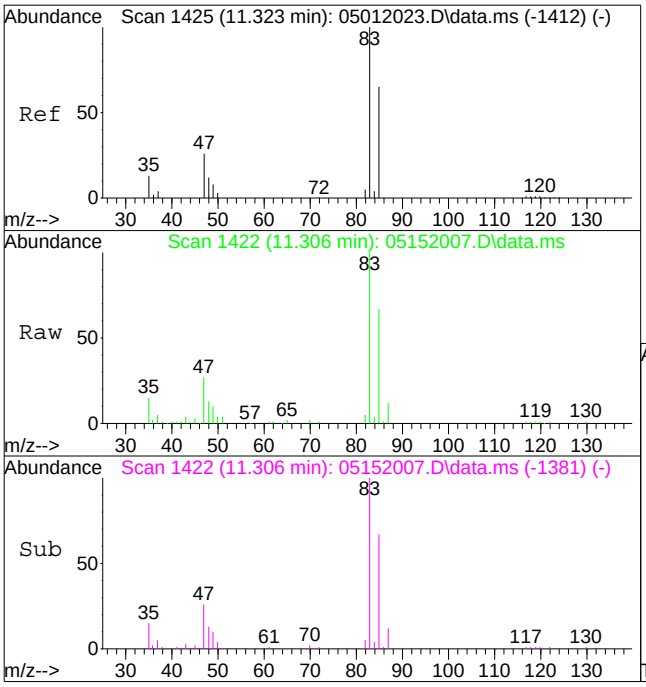


#31
n-Hexane
Concen: 0.37 ng
RT: 11.26 min Scan# 1414
Delta R.T. -0.000 min
Lab File: 05152007.D
Acq: 15 May 2020 7:11

Tgt Ion: 57 Resp: 19229

Ion	Ratio	Lower	Upper
57	100		
56	53.0	41.4	62.0
86	19.3	12.4	18.6#

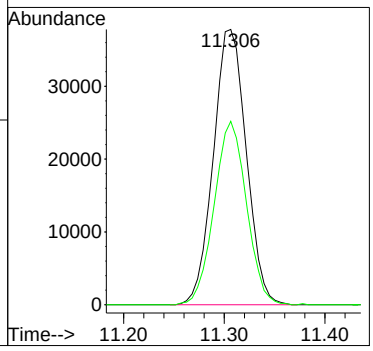


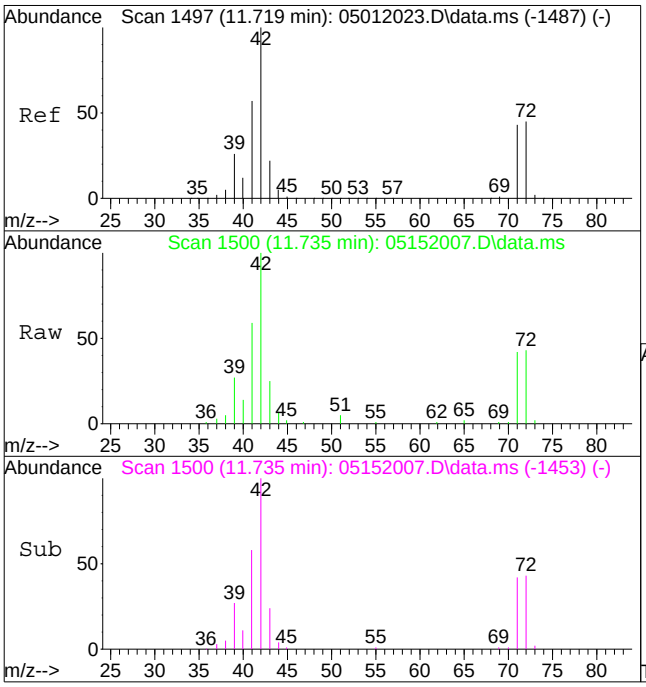


#32
Chloroform
Concen: 1.60 ng
RT: 11.31 min Scan# 1422
Delta R.T. -0.022 min
Lab File: 05152007.D
Acq: 15 May 2020 7:11

Tgt Ion: 83 Resp: 86130

Ion	Ratio	Lower	Upper
83	100		
85	65.2	45.5	85.5

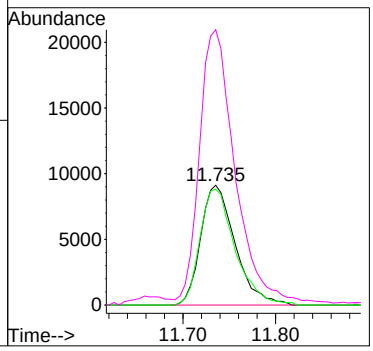


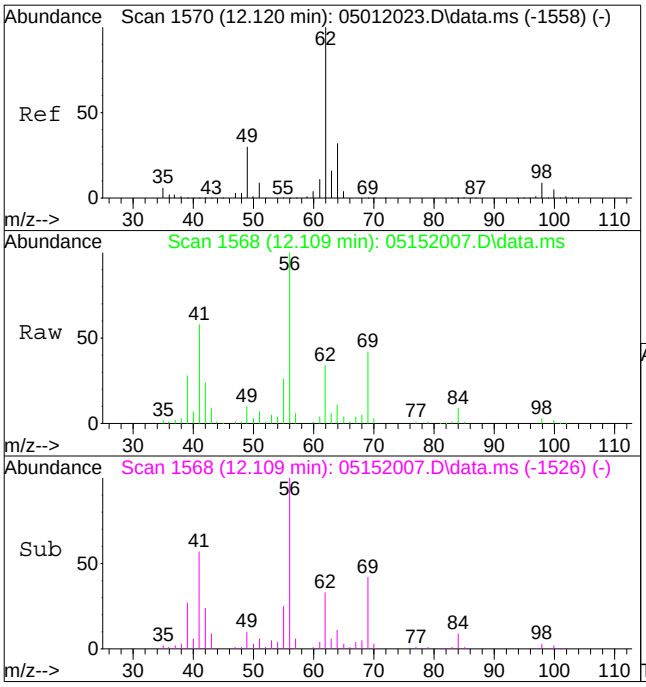


#34
Tetrahydrofuran (THF)
Concen: 1.17 ng
RT: 11.74 min Scan# 1500
Delta R.T. 0.011 min
Lab File: 05152007.D
Acq: 15 May 2020 7:11

Tgt Ion: 72 Resp: 23594

Ion	Ratio	Lower	Upper
72	100		
71	98.5	77.0	117.0
42	243.3	204.6	244.6

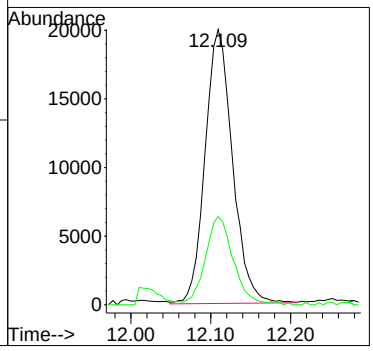


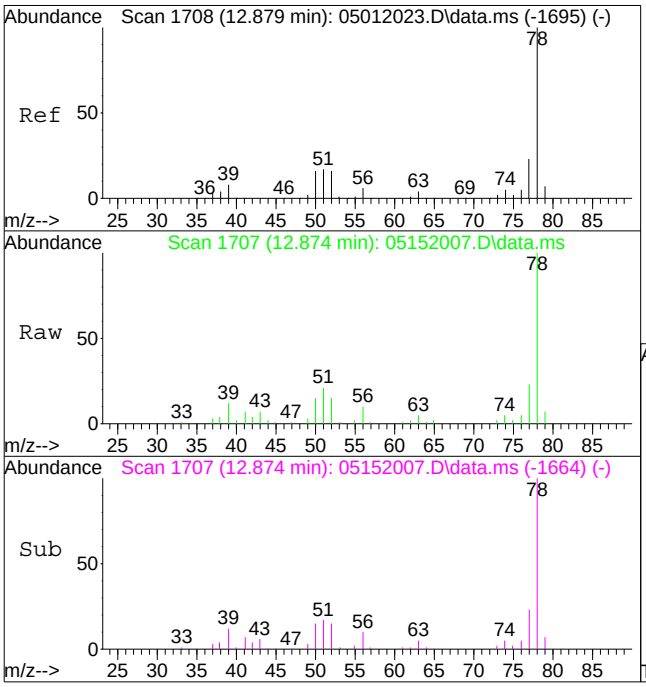


#36
1,2-Dichloroethane
Concen: 1.12 ng
RT: 12.11 min Scan# 1568
Delta R.T. -0.017 min
Lab File: 05152007.D
Acq: 15 May 2020 7:11

Tgt Ion: 62 Resp: 47717

Ion	Ratio	Lower	Upper
62	100		
64	32.9	12.4	52.4

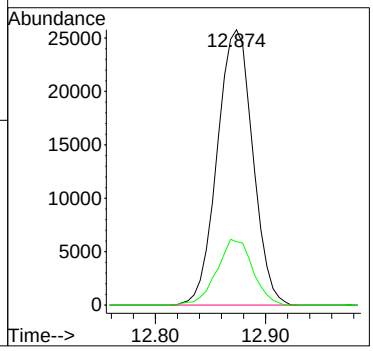


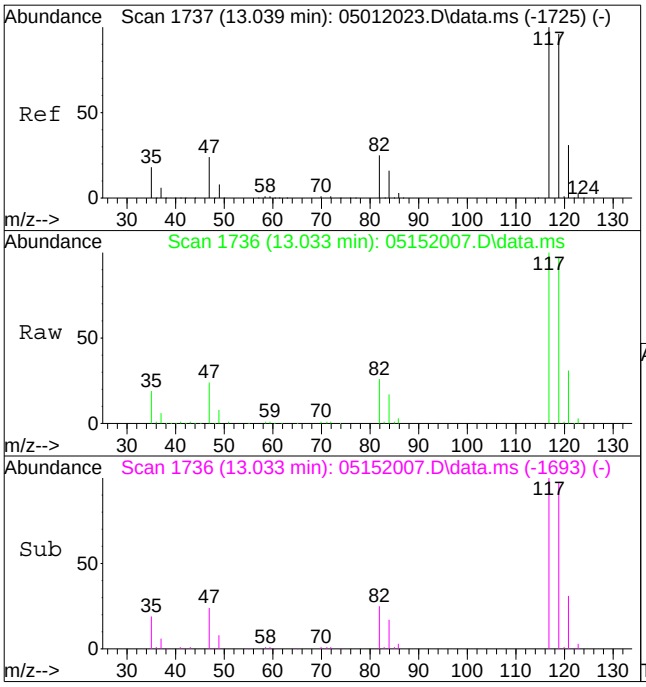


#41
Benzene
Concen: 0.46 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05152007.D
Acq: 15 May 2020 7:11

Tgt Ion: 78 Resp: 57775

Ion	Ratio	Lower	Upper
78	100		
77	24.1	3.4	43.4

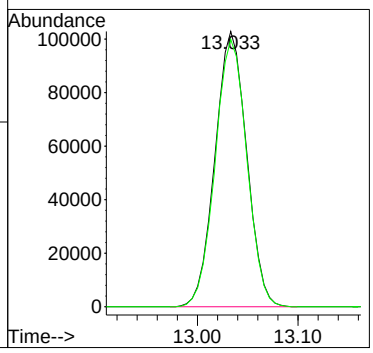


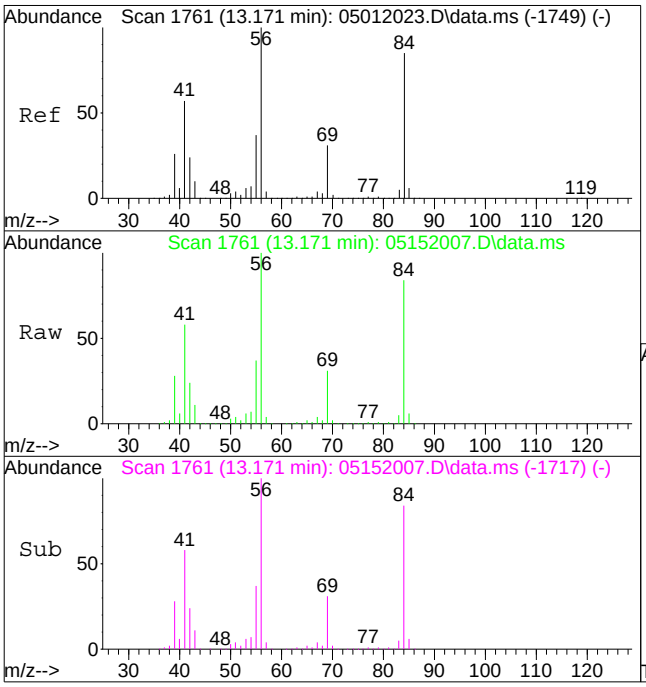


#42
Carbon Tetrachloride
Concen: 5.28 ng
RT: 13.03 min Scan# 1736
Delta R.T. -0.011 min
Lab File: 05152007.D
Acq: 15 May 2020 7:11

Tgt Ion:117 Resp: 224828

Ion	Ratio	Lower	Upper
117	100		
119	97.1	76.2	116.2

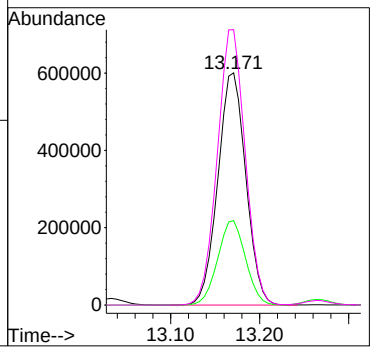


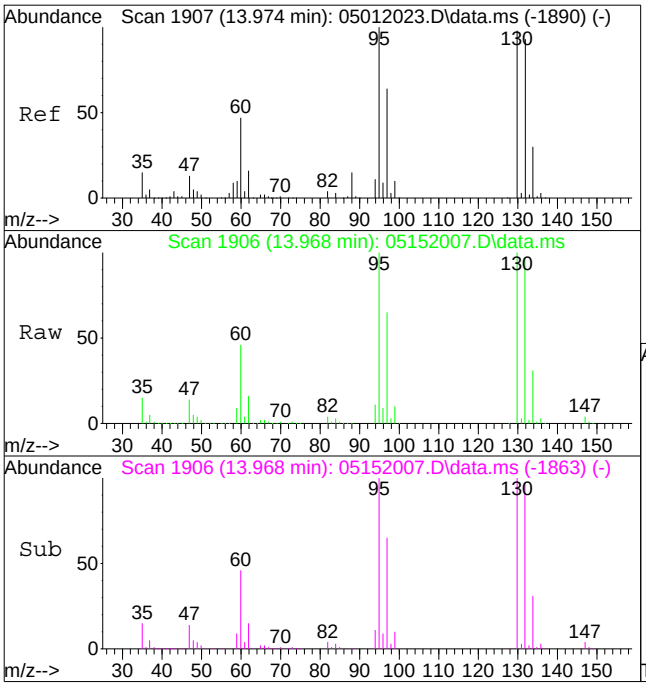


#43
Cyclohexane
Concen: 28.15 ng
RT: 13.17 min Scan# 1761
Delta R.T. -0.006 min
Lab File: 05152007.D
Acq: 15 May 2020 7:11

Tgt Ion: 84 Resp: 1312773

Ion	Ratio	Lower	Upper
84	100		
69	36.2	16.5	56.5
56	118.3	97.4	137.4

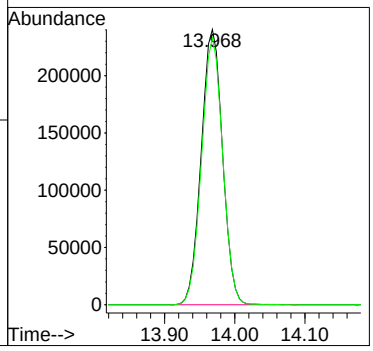


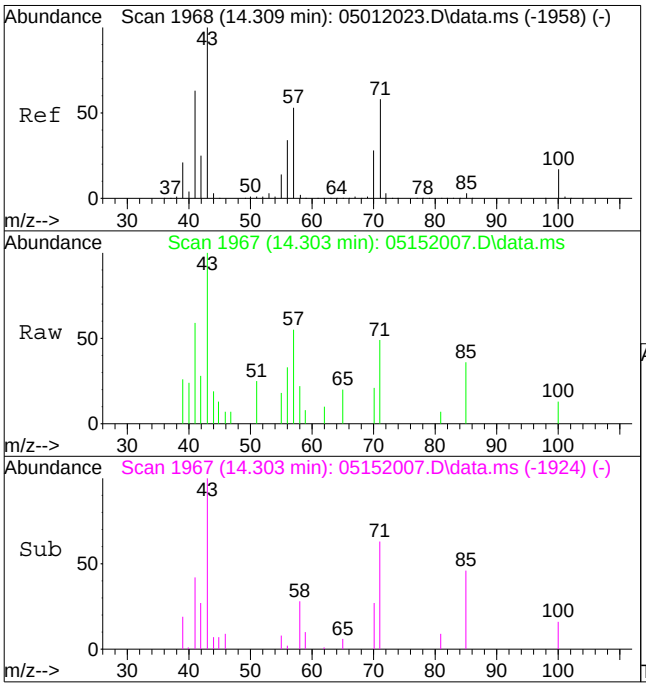


#47
Trichloroethene
Concen: 15.70 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05152007.D
Acq: 15 May 2020 7:11

Tgt Ion:130 Resp: 507693

Ion	Ratio	Lower	Upper
130	100		
132	96.1	74.9	114.9

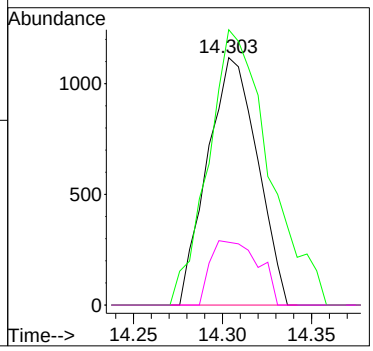


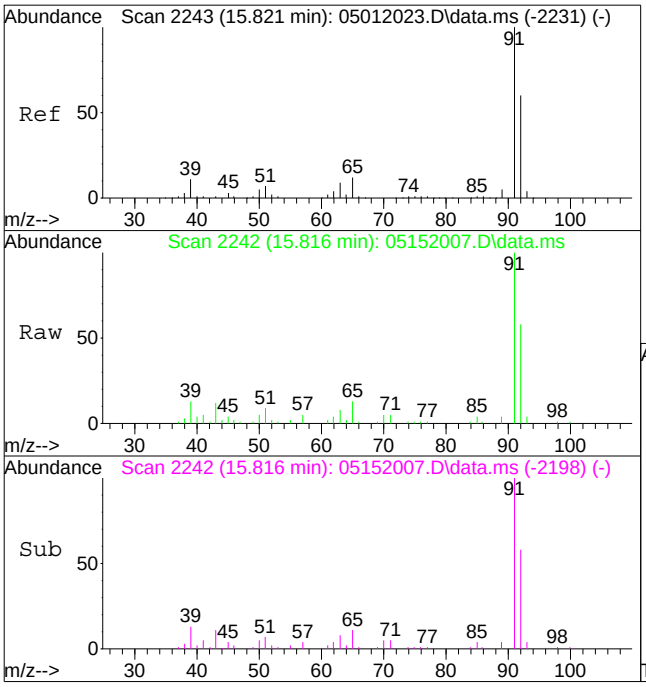


#51
n-Heptane
Concen: 0.07 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05152007.D
Acq: 15 May 2020 7:11

Tgt Ion: 71 Resp: 2181

Ion	Ratio	Lower	Upper
71	100		
57	135.3	71.0	111.0#
100	25.0	8.4	48.4

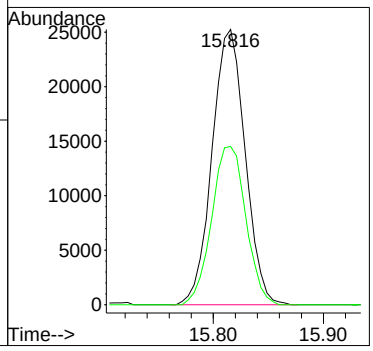


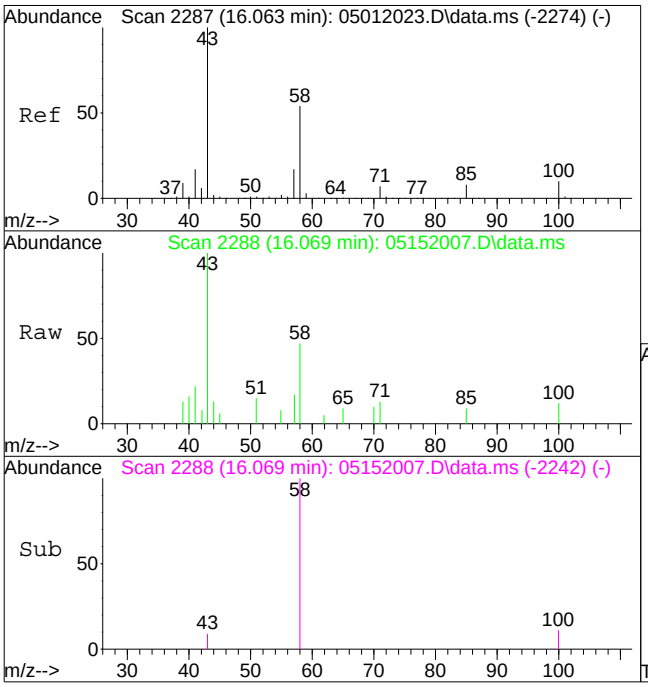


#58
Toluene
Concen: 0.45 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05152007.D
Acq: 15 May 2020 7:11

Tgt Ion: 91 Resp: 52729

Ion	Ratio	Lower	Upper
91	100		
92	59.3	39.4	79.4

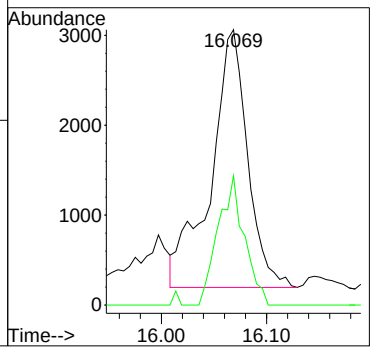


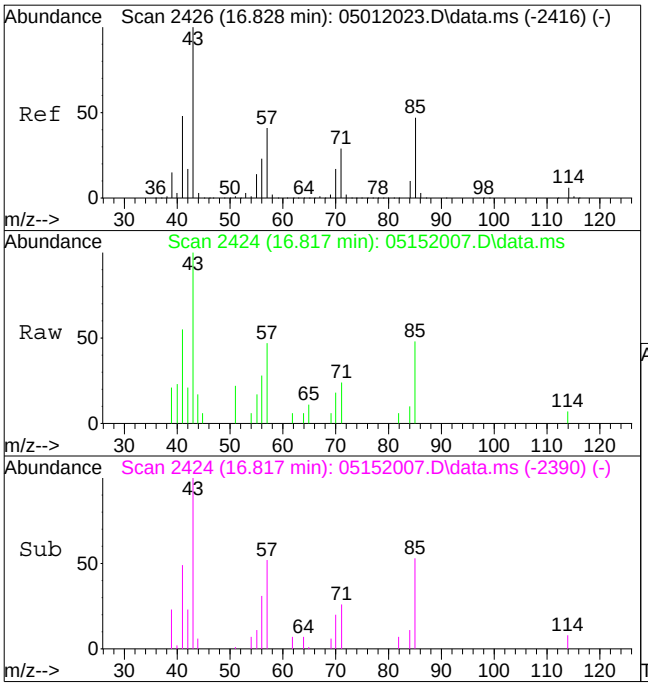


#59
2-Hexanone
Concen: 0.11 ng
RT: 16.07 min Scan# 2288
Delta R.T. 0.005 min
Lab File: 05152007.D
Acq: 15 May 2020 7:11

Tgt Ion: 43 Resp: 6986

Ion	Ratio	Lower	Upper
43	100		
58	35.8	34.5	74.5

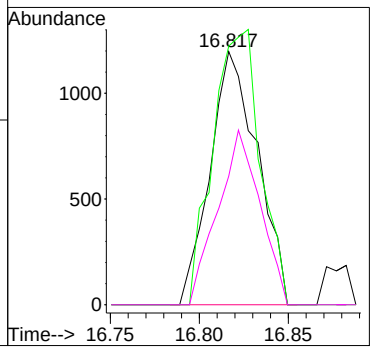


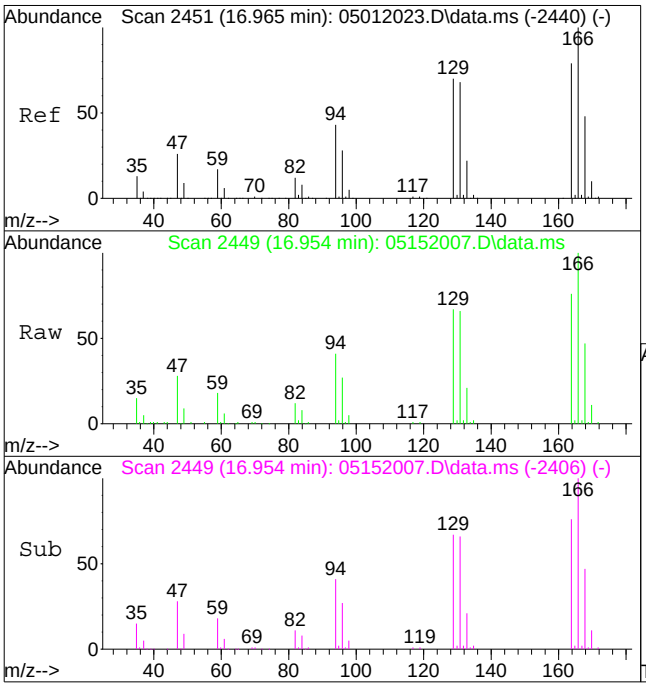


#63
n-Octane
Concen: 0.09 ng
RT: 16.82 min Scan# 2424
Delta R.T. -0.011 min
Lab File: 05152007.D
Acq: 15 May 2020 7:11

Tgt Ion: 57 Resp: 2209

Ion	Ratio	Lower	Upper
57	100		
85	108.6	91.0	136.4
71	61.6	56.2	84.2

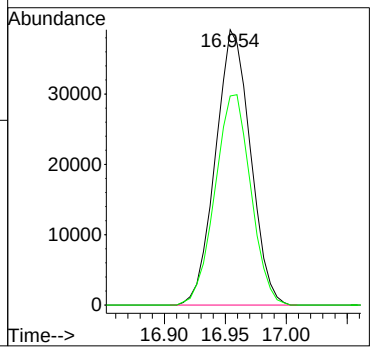


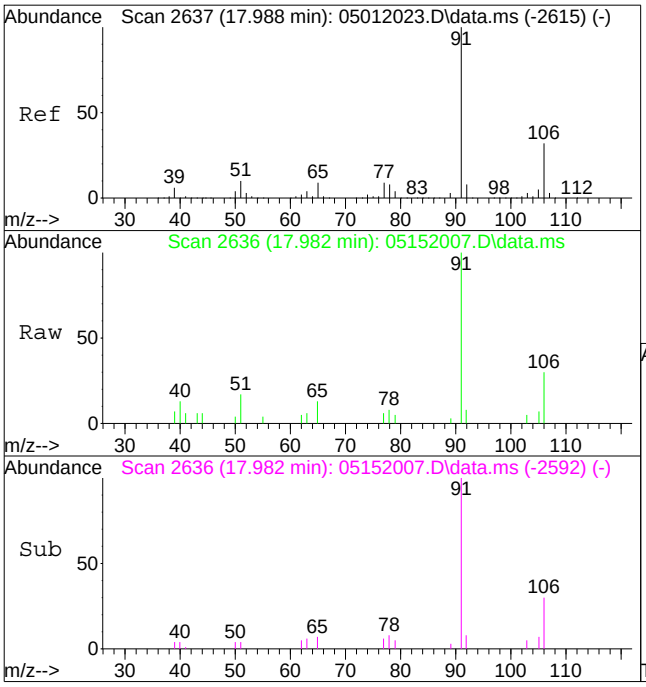


#64
Tetrachloroethene
Concen: 2.36 ng
RT: 16.95 min Scan# 2449
Delta R.T. -0.011 min
Lab File: 05152007.D
Acq: 15 May 2020 7:11

Tgt Ion:166 Resp: 77951

Ion	Ratio	Lower	Upper
166	100		
164	78.3	58.4	98.4

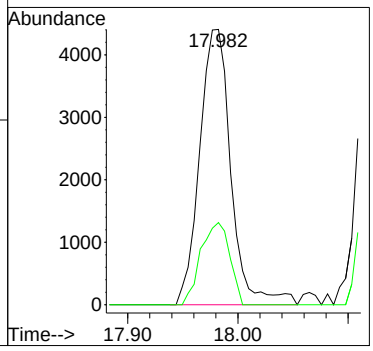


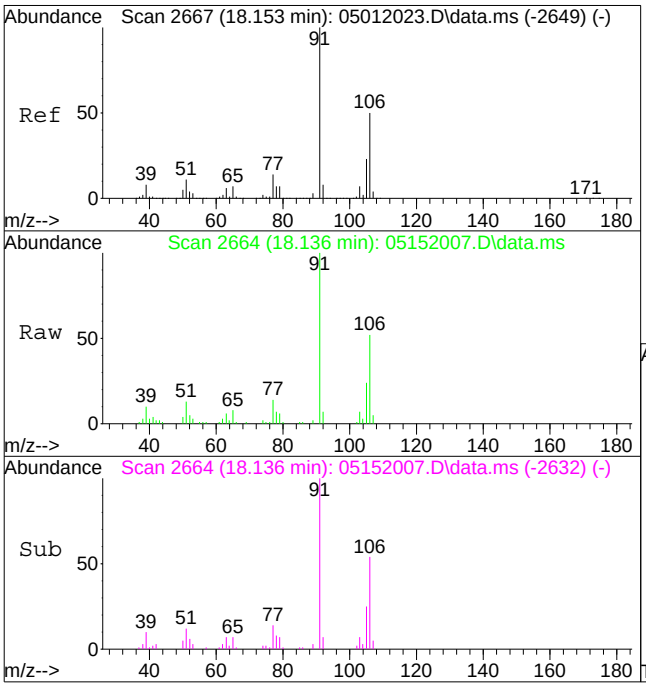


#66
Ethylbenzene
Concen: 0.07 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05152007.D
Acq: 15 May 2020 7:11

Tgt Ion: 91 Resp: 8692

Ion	Ratio	Lower	Upper
91	100		
106	27.5	11.6	51.6

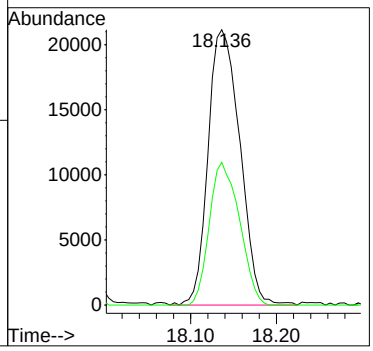


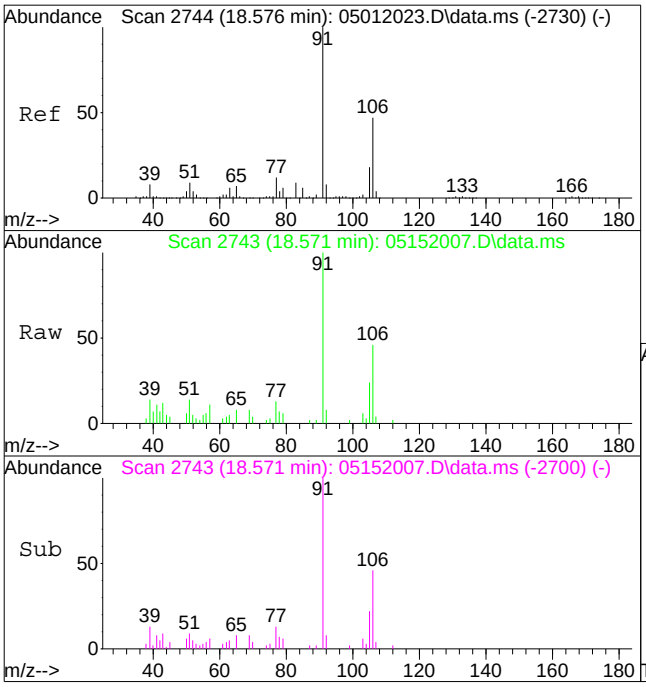


#67
m- & p-Xylenes
Concen: 0.53 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05152007.D
Acq: 15 May 2020 7:11

Tgt Ion: 91 Resp: 54613

Ion	Ratio	Lower	Upper
91	100		
106	49.1	29.7	69.7

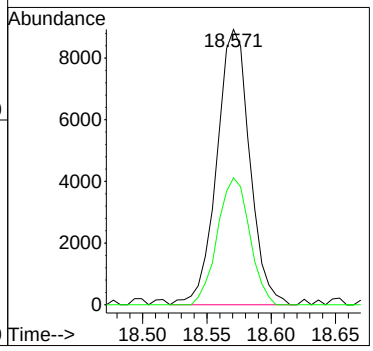


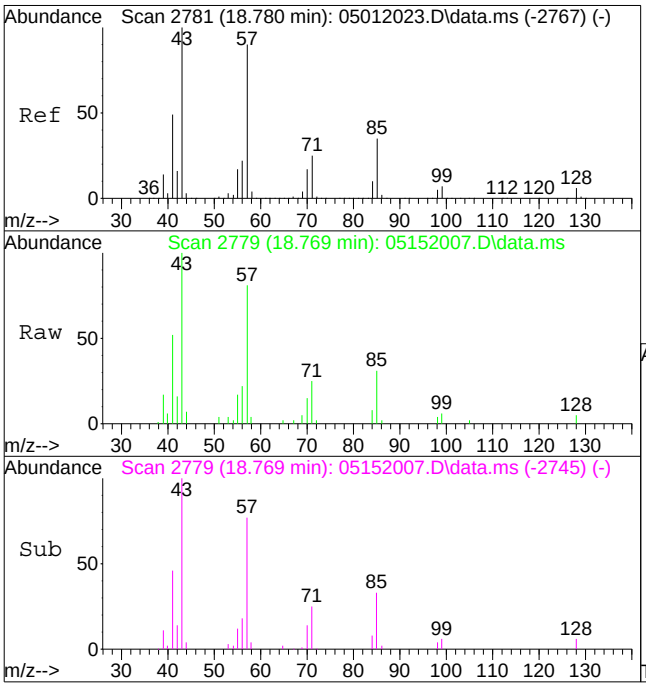


#70
o-Xylene
Concen: 0.15 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05152007.D
Acq: 15 May 2020 7:11

Tgt Ion: 91 Resp: 15906

Ion	Ratio	Lower	Upper
91	100		
106	45.0	27.5	67.5

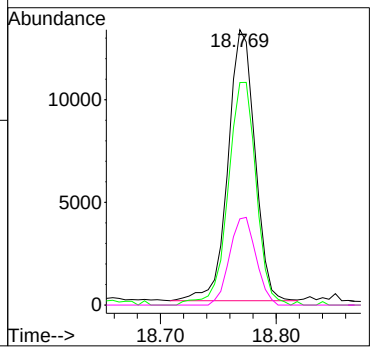


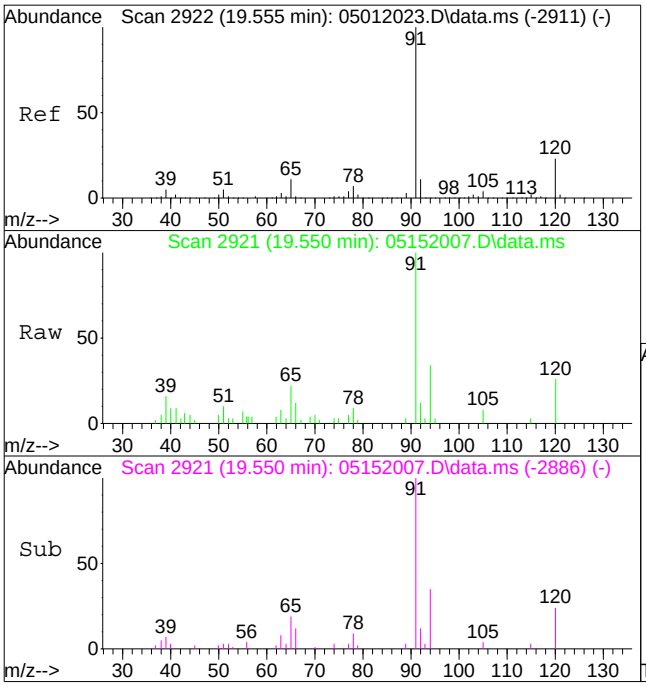


#71
n-Nonane
Concen: 0.38 ng
RT: 18.77 min Scan# 2779
Delta R.T. -0.011 min
Lab File: 05152007.D
Acq: 15 May 2020 7:11

Tgt Ion: 43 Resp: 21378

Ion	Ratio	Lower	Upper
43	100		
57	85.6	69.0	109.0
85	31.6	14.6	54.6

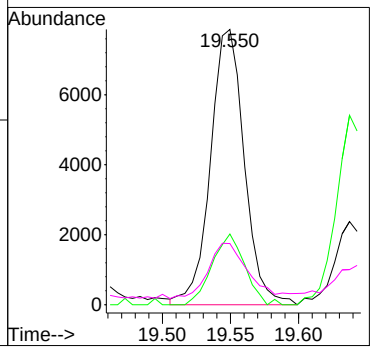


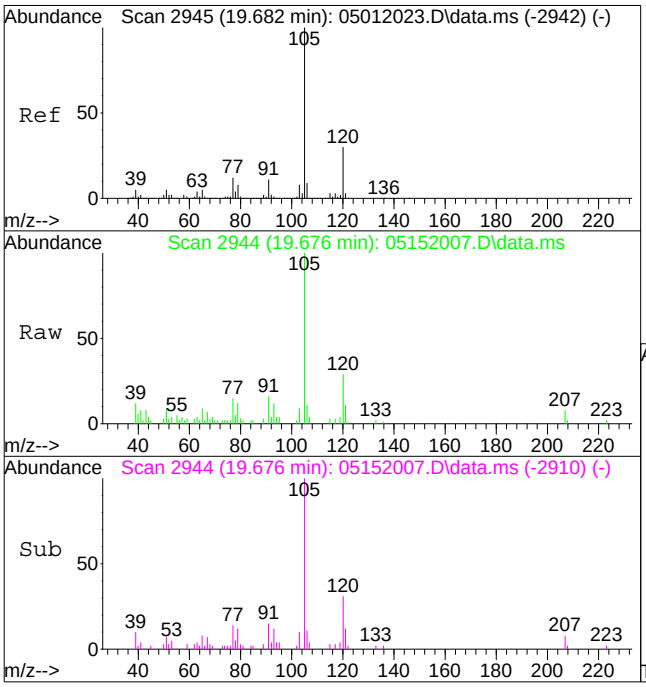


#76
n-Propylbenzene
Concen: 0.09 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05152007.D
Acq: 15 May 2020 7:11

Tgt Ion: 91 Resp: 13589

Ion	Ratio	Lower	Upper
91	100		
120	24.9	3.1	43.1
65	23.5	0.0	30.9

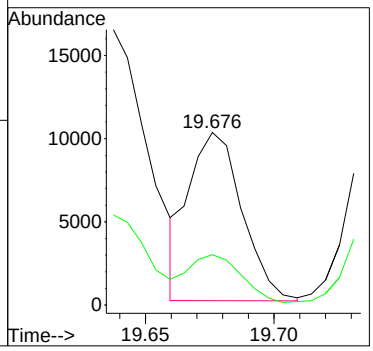


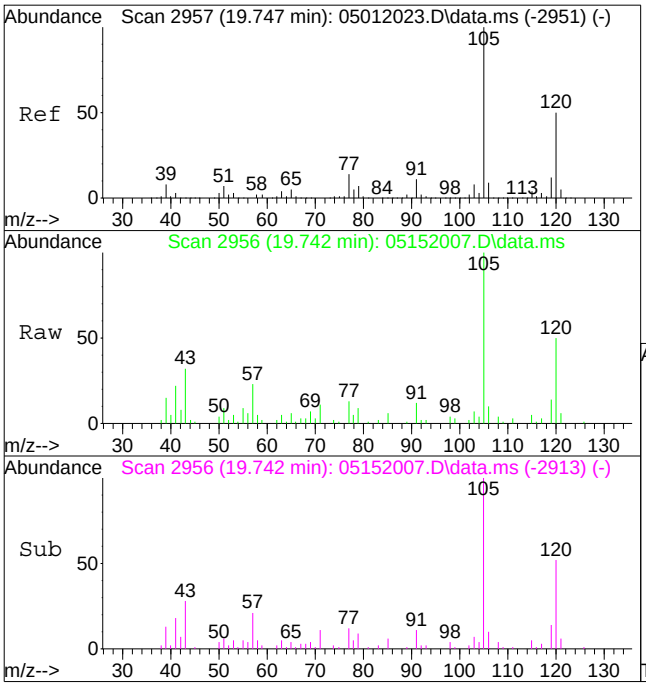


#78
4-Ethyltoluene
Concen: 0.12 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05152007.D
Acq: 15 May 2020 7:11

Tgt Ion:105 Resp: 14585

Ion	Ratio	Lower	Upper
105	100		
120	31.1	10.4	50.4

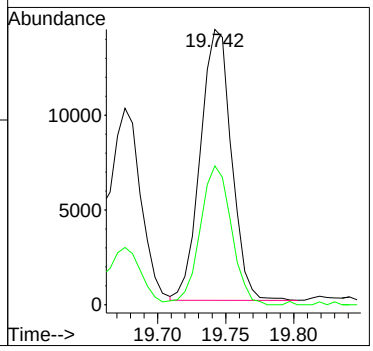


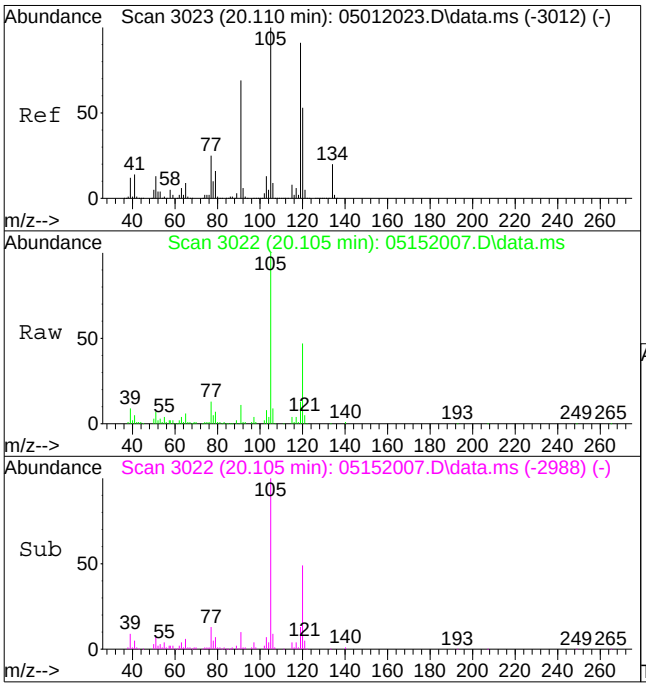


#79
1,3,5-Trimethylbenzene
Concen: 0.22 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05152007.D
Acq: 15 May 2020 7:11

Tgt Ion:105 Resp: 22724

Ion	Ratio	Lower	Upper
105	100		
120	51.5	29.9	69.9

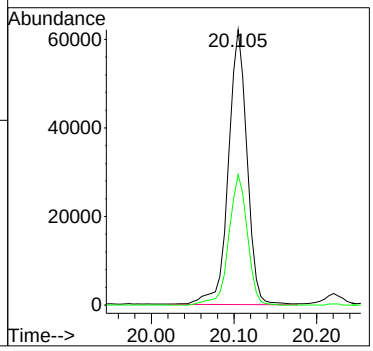


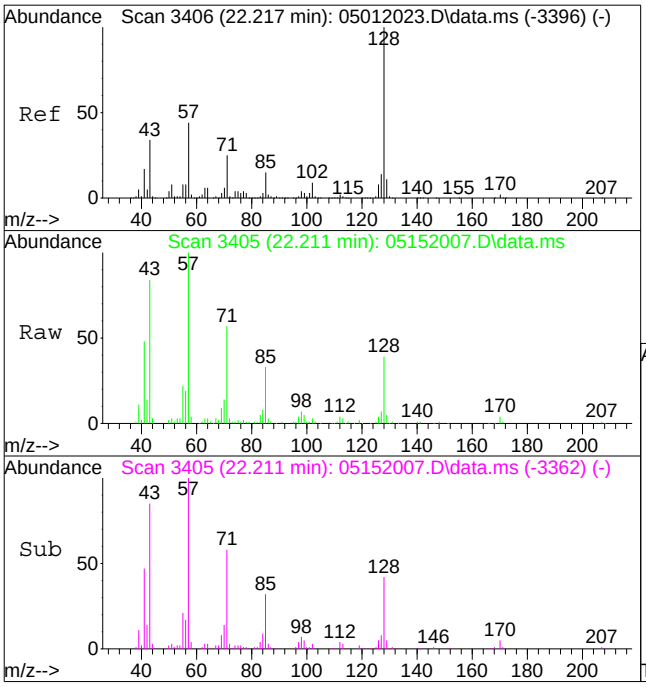


#82
1,2,4-Trimethylbenzene
Concen: 0.92 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05152007.D
Acq: 15 May 2020 7:11

Tgt Ion:105 Resp: 97275

Ion	Ratio	Lower	Upper
105	100		
120	47.2	33.6	73.6

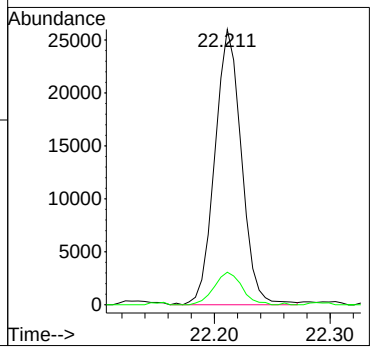




#95
Naphthalene
Concen: 0.32 ng
RT: 22.21 min Scan# 3405
Delta R.T. -0.011 min
Lab File: 05152007.D
Acq: 15 May 2020 7:11

Tgt Ion:128 Resp: 41496

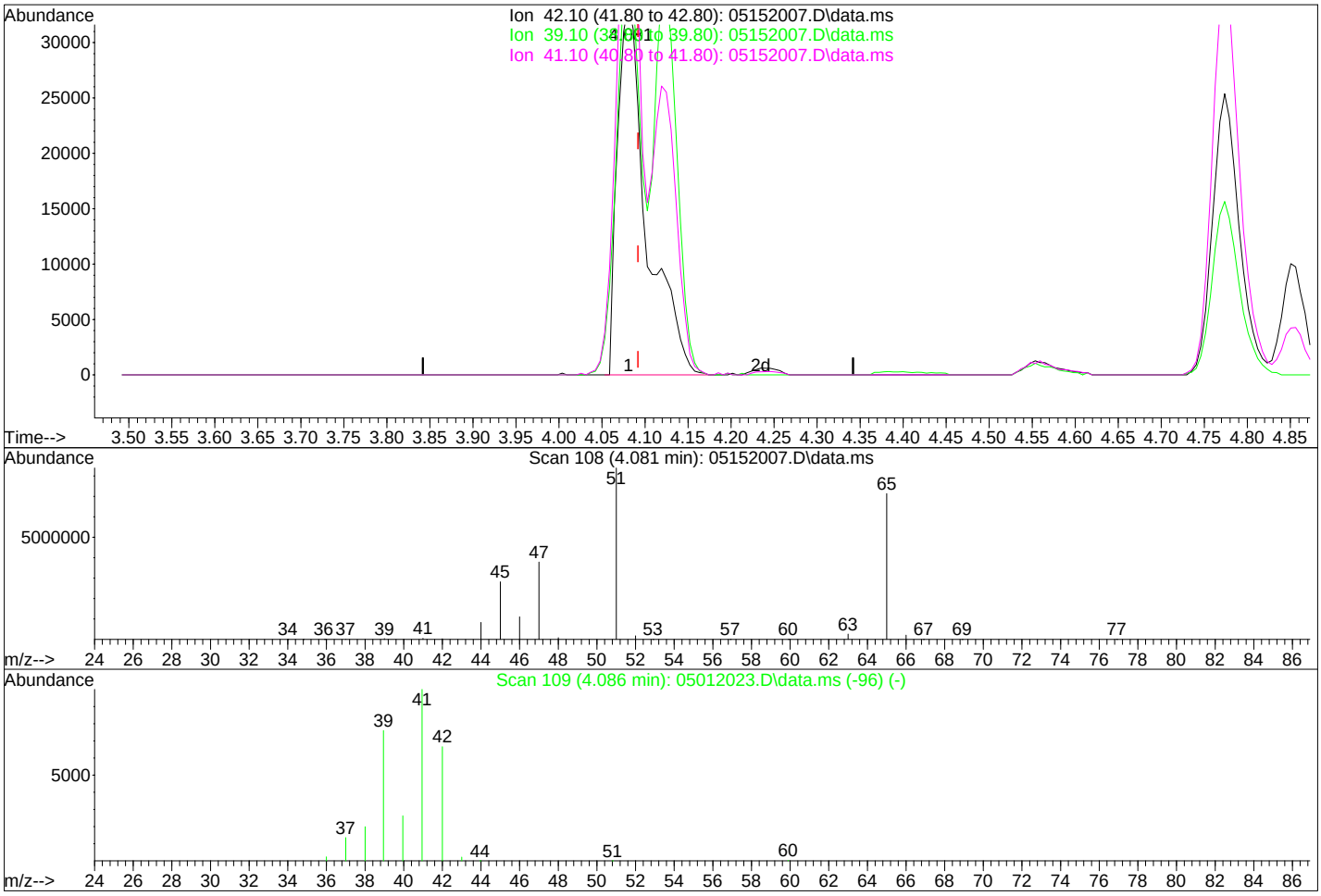
Ion	Ratio	Lower	Upper
128	100		
129	12.3	0.0	31.0



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\15\05152007.D Vial: 12
Acq On : 15 May 2020 7:11 Operator: LH
Sample : P2002302-011 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 09:29:19 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05152007.D\data.ms

(2) Propene (T)

4.081min (-0.011) 2.53ng

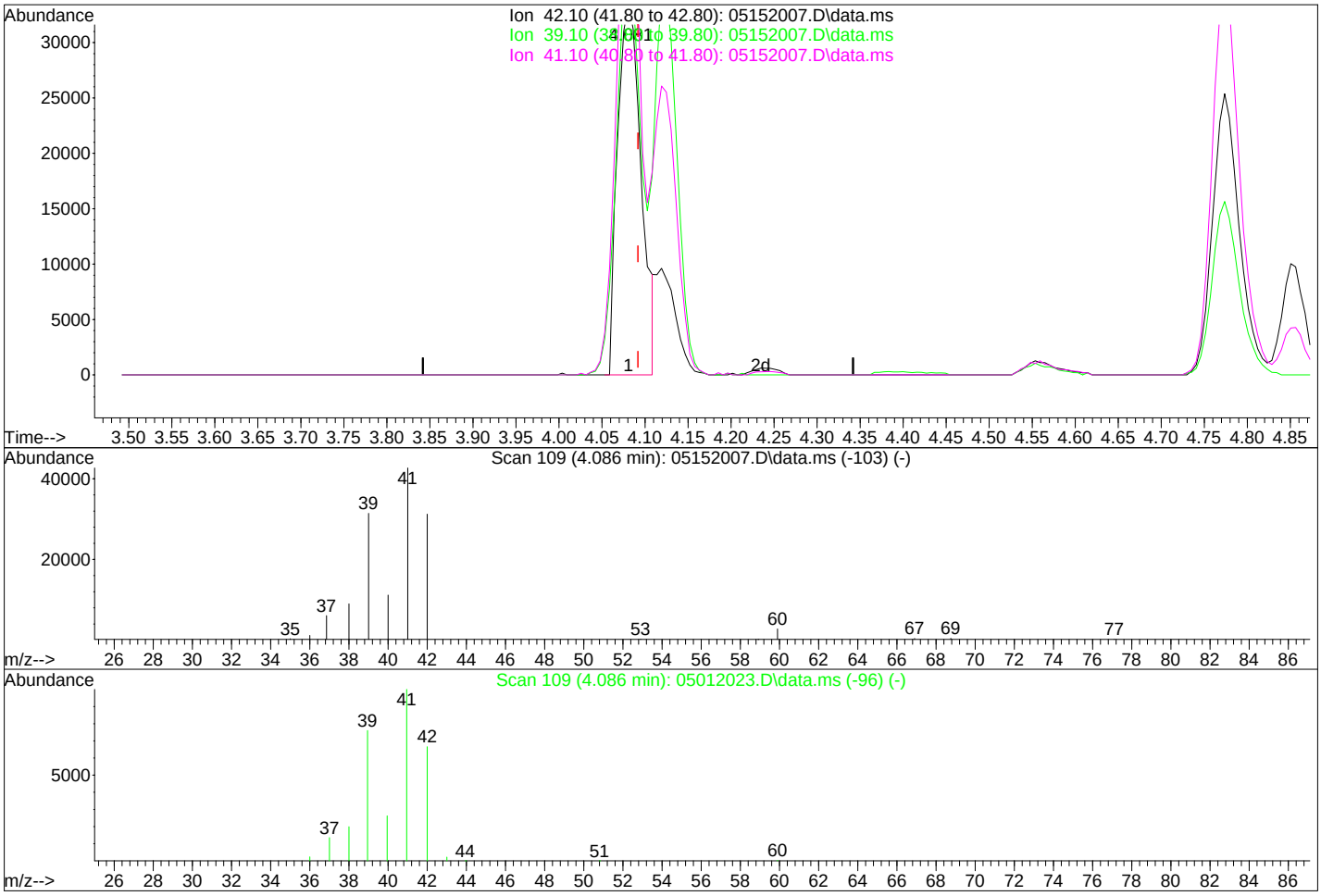
response 79112

Ion	Exp%	Act%
42.10	100	100
39.10	116.10	92.63#
41.10	151.90	116.34#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\15\05152007.D Vial: 12
Acq On : 15 May 2020 7:11 Operator: LH
Sample : P2002302-011 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 09:29:19 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05152007.D\data.ms

(2) Propene (T)

4.081min (-0.011) 2.03ng m

response 63633

Ion	Exp%	Act%
42.10	100	100
39.10	116.10	115.16
41.10	151.90	144.65
0.00	0.00	0.00

IPC

LH 5/15/20

5/17/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152016.D Vial: 12
Acq On : 15 May 2020 15:19 Operator: LH
Sample : P2002302-011dil (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 18:17:46 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/15/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	295930	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1272545	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	590431	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	472879	11.791	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.32%			
57) Toluene-d8 (SS2)	15.72	98	1239573	12.386	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.12%			
73) Bromofluorobenzene (SS3)	18.97	174	472656	13.126	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.04%			
Target Compounds						Qvalue
2) Propene	4.11	42	8002	0.233	ng	98
3) Dichlorodifluoromethan...	4.25	85	9002	0.134	ng	99
4) Chloromethane	4.54	50	255	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	4.96	62	976588	16.957	ng	100
7) 1,3-Butadiene	5.15	54	781	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	5.98	64	5094	0.224	ng	96
10) Ethanol	6.37	45	873	N.D.		
11) Acetonitrile	6.63	41	62	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	7.24	101	2103	N.D.		
15) 2-Propanol (Isopropanol)	7.56	45	56	N.D.		
16) Acrylonitrile	7.84	53	823	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	8.45	59	747	N.D.		
19) Methylene Chloride	0.00	84	0	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	8.84	151	279783	10.002	ng	98
22) Carbon Disulfide	8.68	76	44509	0.361	ng	99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	9.99	63	237	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	0.00	72	0	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	11.29	87	231	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	11.25	57	704	N.D.		
32) Chloroform	11.30	83	3176	0.054	ng	95
34) Tetrahydrofuran (THF)	11.76	72	908	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.10	62	1789	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	12.90	56	308	N.D.		
41) Benzene	12.87	78	2746	N.D.		
42) Carbon Tetrachloride	13.03	117	7960	0.171	ng	99
43) Cyclohexane	13.17	84	46247	0.909	ng	99
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	13.96	83	110	N.D.		
47) Trichloroethene	13.96	130	18744	0.531	ng	100
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	14.03	57	1177	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152016.D Vial: 12
Acq On : 15 May 2020 15:19 Operator: LH
Sample : P2002302-011dil (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 18:17:46 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

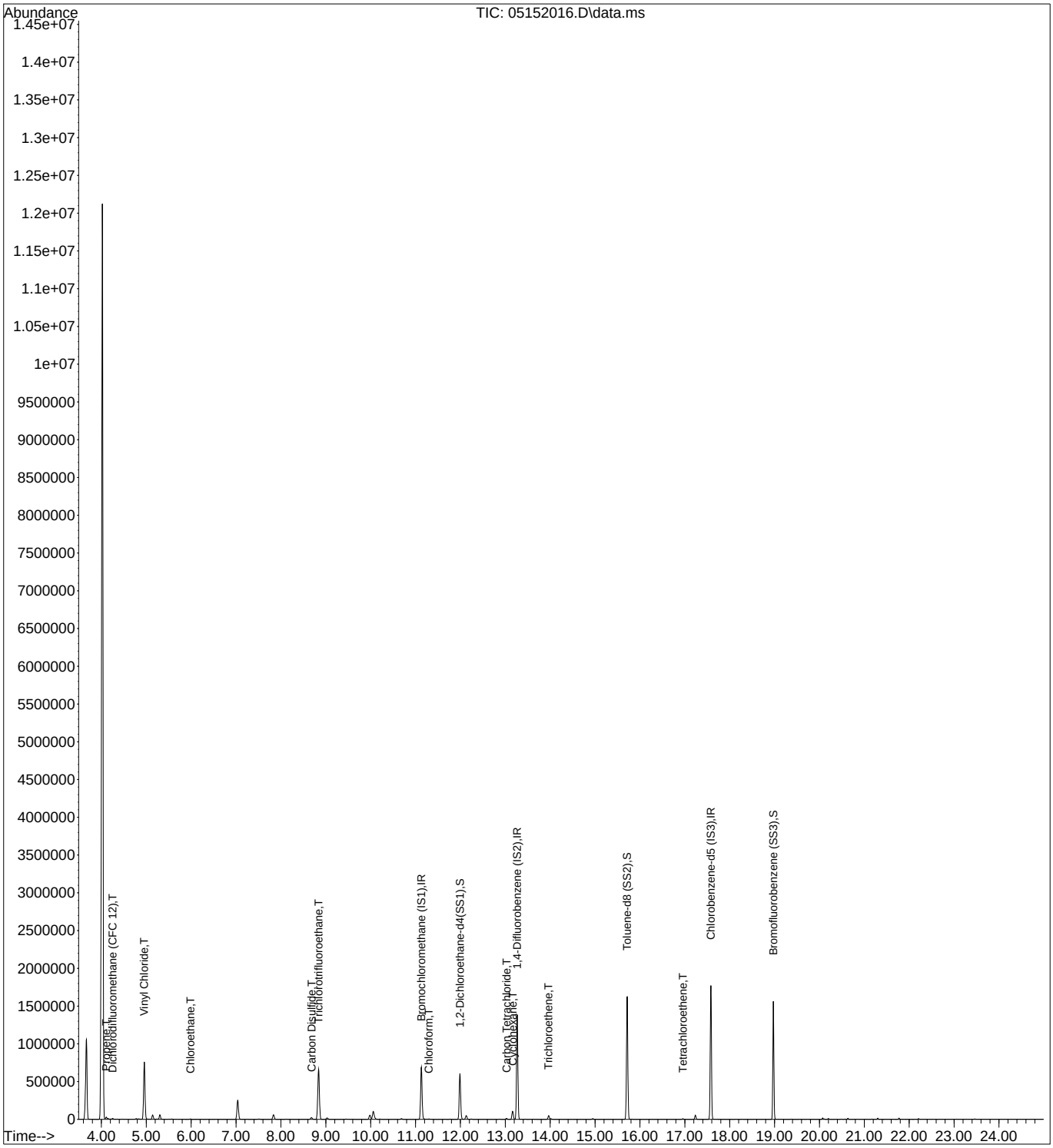
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.82	91	2262	N.D.		
59) 2-Hexanone	0.00	43	0	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	16.96	166	2960	0.081	ng	96
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	17.98	91	292	N.D.		
67) m- & p-Xylenes	18.14	91	2100	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	18.57	91	586	N.D.		
71) n-Nonane	18.77	43	747	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	18.97	105	614	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	19.55	91	448	N.D.		
77) 3-Ethyltoluene	19.64	105	1153	N.D.		
78) 4-Ethyltoluene	19.68	105	534	N.D.		
79) 1,3,5-Trimethylbenzene	19.74	105	810	N.D.		
80) alpha-Methylstyrene	19.89	118	206	N.D.		
81) 2-Ethyltoluene	19.91	105	312	N.D.		
82) 1,2,4-Trimethylbenzene	20.10	105	3182	N.D.		
83) n-Decane	0.00	57	0	N.D.	d	
84) Benzyl Chloride	20.23	91	241	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	20.35	105	160	N.D.		
88) 4-Isopropyltoluene (p-...	20.48	119	465	N.D.		
89) 1,2,3-Trimethylbenzene	20.48	105	1253	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	22.22	128	1699	N.D.		
96) n-Dodecane	0.00	57	0	N.D.	d	
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.28	55	701	N.D.		
99) tert-Butylbenzene	20.10	119	298	N.D.		
100) n-Butylbenzene	20.85	91	1082	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152016.D Vial: 12
Acq On : 15 May 2020 15:19 Operator: LH
Sample : P2002302-011dil (20mL) Inst : GCMS-16
Misc : S31-02112001

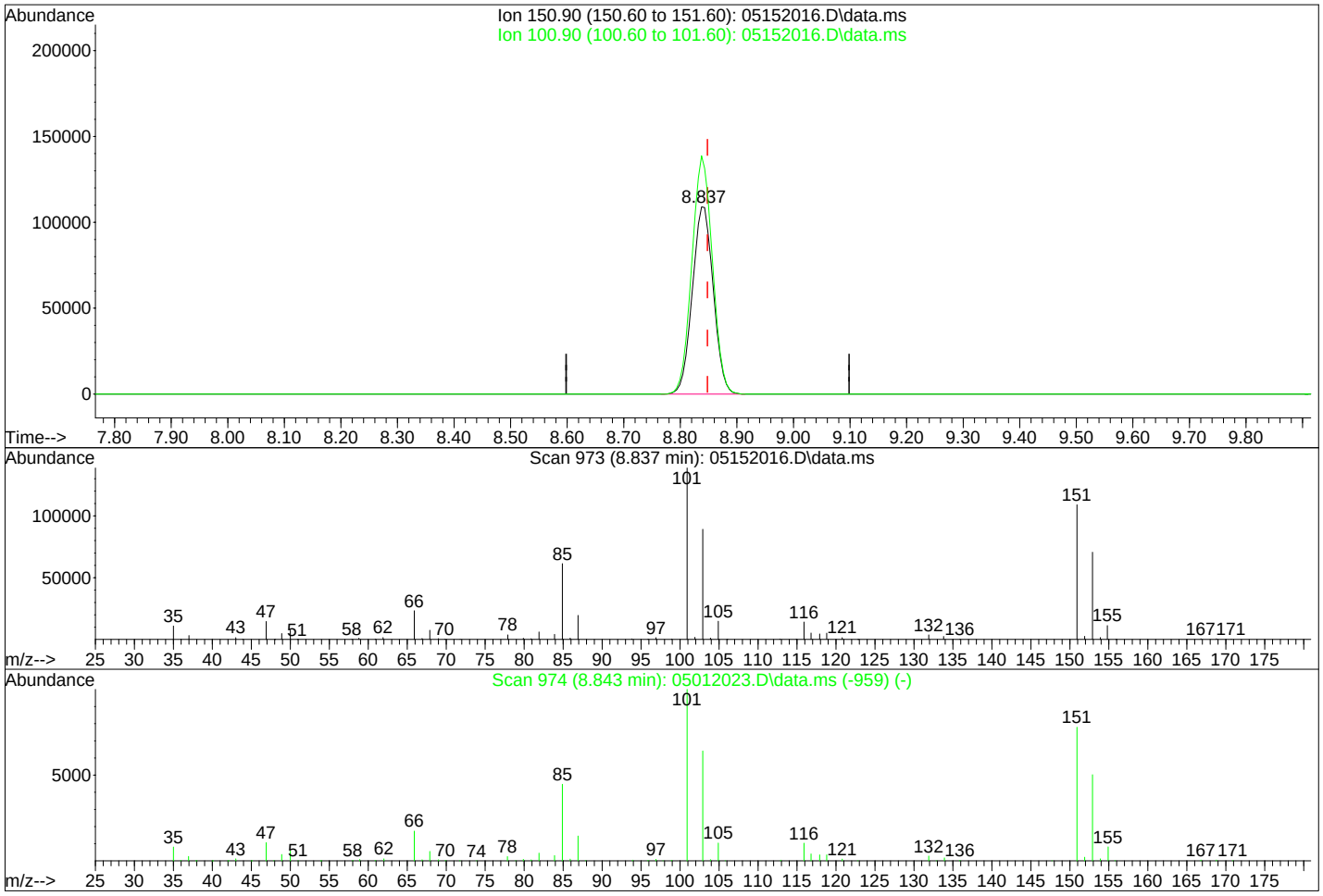
Quant Time: May 15 18:17:46 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\15\05152016.D Vial: 12
Acq On : 15 May 2020 15:19 Operator: LH
Sample : P2002302-011dil (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 15:55:07 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05152016.D\data.ms

(21) Trichlorotrifluoroethane (T)

8.837min (-0.011) 10.00ng

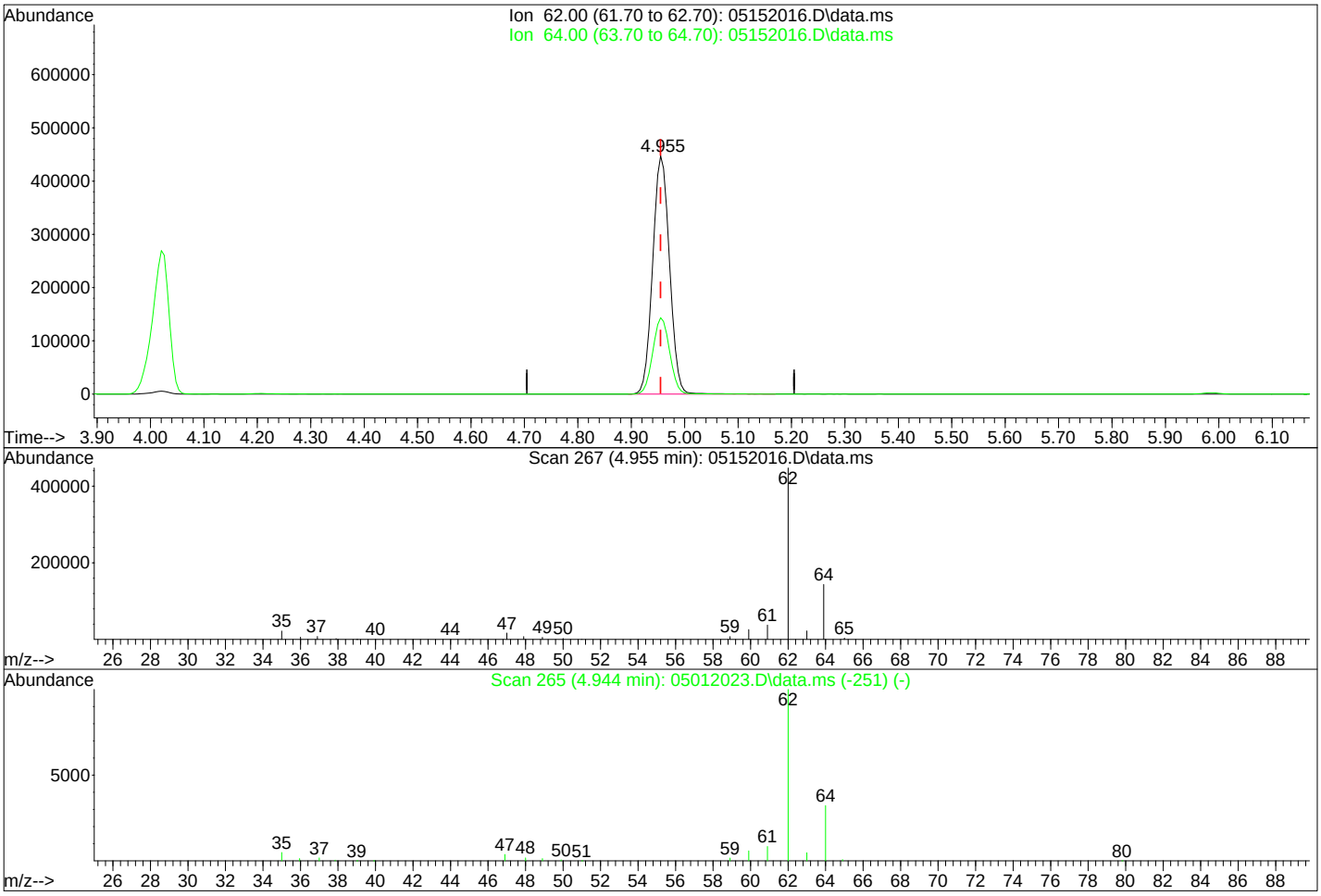
response 279783

Ion	Exp%	Act%
150.90	100	100
100.90	127.30	124.66
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\15\05152016.D Vial: 12
Acq On : 15 May 2020 15:19 Operator: LH
Sample : P2002302-011dil (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 15:55:07 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05152016.D\data.ms

(6) Vinyl Chloride (T)

4.955min (-0.000) 16.96ng

response 976588

Ion	Exp%	Act%
62.00	100	100
64.00	32.10	32.17
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152008.D Vial: 13
Acq On : 15 May 2020 7:44 Operator: LH
Sample : P2002302-012 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 16:13:57 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/15/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	267729	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1148685	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	530334	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	429811	11.846	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.80%				
57) Toluene-d8 (SS2)	15.72	98	1124703	12.512	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.08%				
73) Bromofluorobenzene (SS3)	18.97	174	426056	13.172	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.36%				
Target Compounds							Qvalue
2) Propene	4.08	42	103670	3.343	ng		100
3) Dichlorodifluoromethan...	4.25	85	12718	0.210	ng		100
4) Chloromethane	4.53	50	28675	0.604	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	4.96	62	9139951	175.422	ng		100
7) 1,3-Butadiene	5.22	54	1945	N.D.			
8) Bromomethane	5.65	94	1033	N.D.			
9) Chloroethane	5.98	64	124352	6.041	ng		99
10) Ethanol	6.33	45	80488	3.362	ng		100
11) Acetonitrile	6.60	41	42257	0.772	ng		94
12) Acrolein	6.79	56	29380	1.553	ng		98
13) Acetone	6.99	58	229605	9.589	ng	#	81
14) Trichlorofluoromethane	7.25	101	4162	0.078	ng		98
15) 2-Propanol (Isopropanol)	7.52	45	15188	0.210	ng	#	57
16) Acrylonitrile	7.75	53	1241	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.41	84	2078	0.067	ng		97
20) 3-Chloro-1-propene (Al...	8.57	41	1201	N.D.			
21) Trichlorotrifluoroethane	8.84	151	66028	2.609	ng		98
22) Carbon Disulfide	8.68	76	723329	6.485	ng		100
23) trans-1,2-Dichloroethene	9.70	61	360	N.D.			
24) 1,1-Dichloroethane	9.94	63	4970m	0.098	ng		
25) Methyl tert-Butyl Ether	10.07	73	657	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.46	72	40745	1.995	ng		94
28) cis-1,2-Dichloroethene	10.96	61	314	N.D.			
29) Diisopropyl Ether	11.32	87	297	N.D.			
30) Ethyl Acetate	11.30	61	614	0.052	ng	#	75
31) n-Hexane	11.25	57	25060	0.491	ng		95
32) Chloroform	11.31	83	5595	0.105	ng		96
34) Tetrahydrofuran (THF)	11.74	72	8918	0.448	ng	#	82
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	22989	0.544	ng		98
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	12.86	61	962	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	116055	0.942	ng		99
42) Carbon Tetrachloride	13.03	117	29814	0.712	ng		99
43) Cyclohexane	13.16	84	84695	1.845	ng		100
44) tert-Amyl Methyl Ether	13.47	73	705	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	13.97	130	12217	0.384	ng		98
48) 1,4-Dioxane	13.96	88	1746	0.070	ng		91
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.11	100	308	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152008.D Vial: 13
Acq On : 15 May 2020 7:44 Operator: LH
Sample : P2002302-012 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 16:13:57 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.30	71	4121	0.143 ng		96
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.88	58	2933	0.107 ng	#	53
54) trans-1,3-Dichloropropene	15.13	75	112	N.D.		
55) 1,1,2-Trichloroethane	15.53	97	347	N.D.		
58) Toluene	15.82	91	50423	0.435 ng		99
59) 2-Hexanone	16.06	43	21952	0.346 ng		94
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	16.47	107	182	N.D.		
62) n-Butyl Acetate	16.70	43	6954	0.101 ng	#	54
63) n-Octane	16.82	57	4086	0.170 ng		85
64) Tetrachloroethene	16.96	166	13752	0.420 ng		96
65) Chlorobenzene	0.00	112	0	N.D. d		
66) Ethylbenzene	17.98	91	12009	0.093 ng		98
67) m- & p-Xylenes	18.14	91	52902	0.516 ng		100
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	3497	N.D.		
70) o-Xylene	18.57	91	14428	0.139 ng		95
71) n-Nonane	18.77	43	36751	0.666 ng		94
72) 1,1,2,2-Tetrachloroethane	18.58	83	644	N.D.		
74) Cumene	19.10	105	8857	0.069 ng		99
75) alpha-Pinene	19.45	93	2662	N.D.		
76) n-Propylbenzene	19.54	91	20286	0.134 ng	#	2
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.68	105	22076	0.184 ng		99
79) 1,3,5-Trimethylbenzene	19.74	105	28453	0.273 ng		98
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	20.10	105	134479	1.285 ng		92
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	0.00	91	0	N.D. d		
85) 1,3-Dichlorobenzene	20.24	146	750	N.D.		
86) 1,4-Dichlorobenzene	20.29	146	1160	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D. d		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	20.61	146	540	N.D.		
91) d-Limonene	0.00	68	0	N.D. d		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.11	180	1038	N.D.		
95) Naphthalene	22.21	128	50191	0.393 ng		85
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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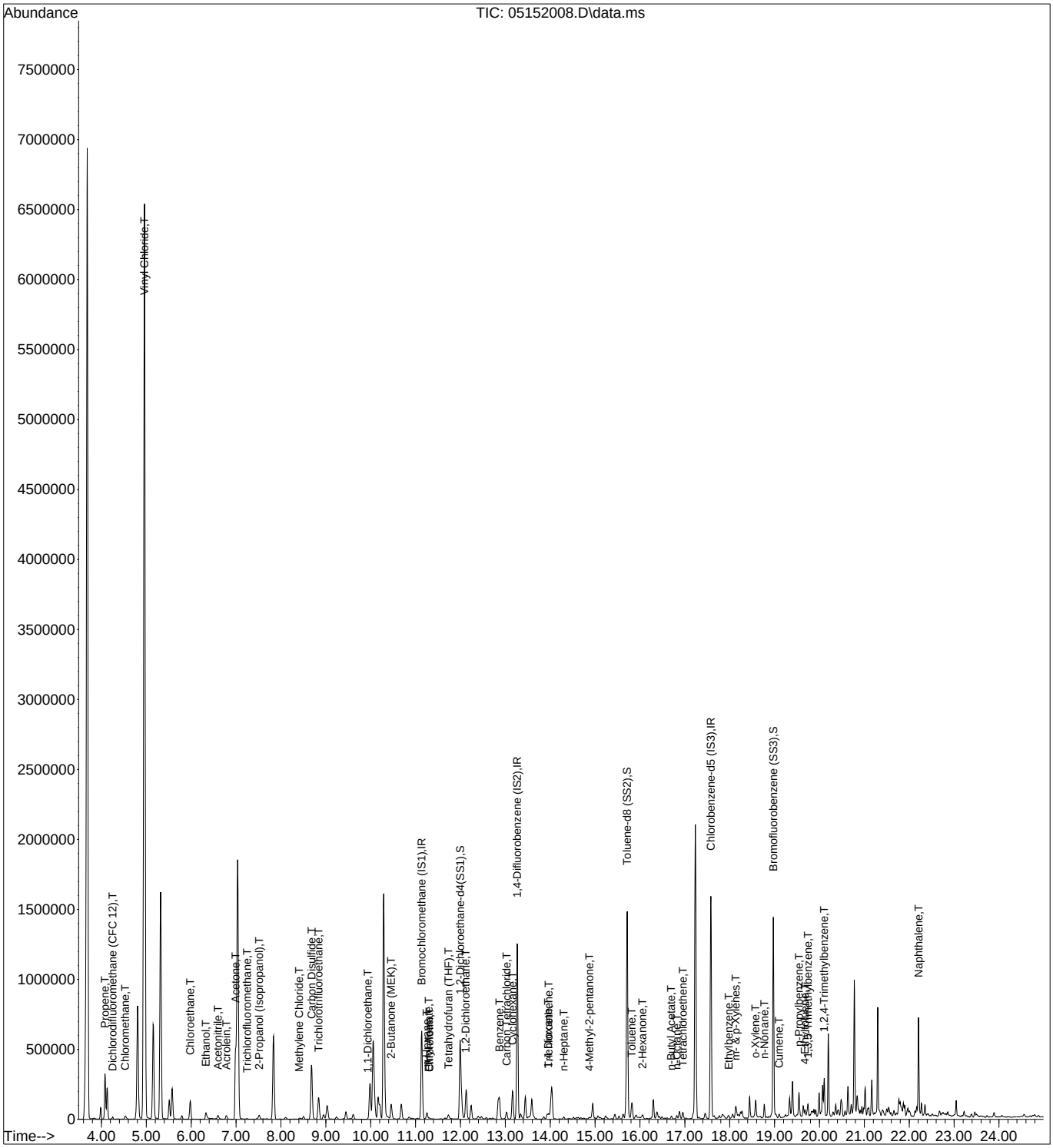
Acq On : 15 May 2020 7:44 Operator: LH
Sample : P2002302-012 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 16:13:57 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



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Quant Time: May 15 16:13:57 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/15/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	267729	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1148685	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	530334	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	429811	11.846	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.80%				
57) Toluene-d8 (SS2)	15.72	98	1124703	12.512	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.08%				
73) Bromofluorobenzene (SS3)	18.97	174	426056	13.172	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.36%				
Target Compounds							Qvalue
2) Propene	4.08	42	103670	3.343	ng		100
3) Dichlorodifluoromethan...	4.25	85	12718	0.210	ng		100
4) Chloromethane	4.53	50	28675	0.604	ng		98
6) Vinyl Chloride	4.96	62	9139951	175.422	ng		100
9) Chloroethane	5.98	64	124352	6.041	ng		99
10) Ethanol	6.33	45	80488	3.362	ng		100
11) Acetonitrile	6.60	41	42257	0.772	ng		94
12) Acrolein	6.79	56	29380	1.553	ng		98
13) Acetone	6.99	58	229605	9.589	ng	#	81
14) Trichlorofluoromethane	7.25	101	4162	0.078	ng		98
15) 2-Propanol (Isopropanol)	7.52	45	15188	0.210	ng	#	57
19) Methylene Chloride	8.41	84	2078	0.067	ng		97
21) Trichlorotrifluoroethane	8.84	151	66028	2.609	ng		98
22) Carbon Disulfide	8.68	76	723329	6.485	ng		100
24) 1,1-Dichloroethane	9.94	63	4970m	0.098	ng		
27) 2-Butanone (MEK)	10.46	72	40745	1.995	ng		94
30) Ethyl Acetate	11.30	61	614	0.052	ng	#	75
31) n-Hexane	11.25	57	25060	0.491	ng		95
32) Chloroform	11.31	83	5595	0.105	ng		96
34) Tetrahydrofuran (THF)	11.74	72	8918	0.448	ng	#	82
36) 1,2-Dichloroethane	12.11	62	22989	0.544	ng		98
41) Benzene	12.87	78	116055	0.942	ng		99
42) Carbon Tetrachloride	13.03	117	29814	0.712	ng		99
43) Cyclohexane	13.16	84	84695	1.845	ng		100
47) Trichloroethene	13.97	130	12217	0.384	ng		98
48) 1,4-Dioxane	13.96	88	1746	0.070	ng		91
51) n-Heptane	14.30	71	4121	0.143	ng		96
53) 4-Methyl-2-pentanone	14.88	58	2933	0.107	ng	#	53
58) Toluene	15.82	91	50423	0.435	ng		99
59) 2-Hexanone	16.06	43	21952	0.346	ng		94
62) n-Butyl Acetate	16.70	43	6954	0.101	ng	#	54
63) n-Octane	16.82	57	4086	0.170	ng		85
64) Tetrachloroethene	16.96	166	13752	0.420	ng		96
66) Ethylbenzene	17.98	91	12009	0.093	ng		98
67) m- & p-Xylenes	18.14	91	52902	0.516	ng		100
70) o-Xylene	18.57	91	14428	0.139	ng		95
71) n-Nonane	18.77	43	36751	0.666	ng		94
74) Cumene	19.10	105	8857	0.069	ng		99
76) n-Propylbenzene	19.54	91	20286	0.134	ng	#	2
78) 4-Ethyltoluene	19.68	105	22076	0.184	ng		99
79) 1,3,5-Trimethylbenzene	19.74	105	28453	0.273	ng		98
82) 1,2,4-Trimethylbenzene	20.10	105	134479	1.285	ng		92
95) Naphthalene	22.21	128	50191	0.393	ng		85

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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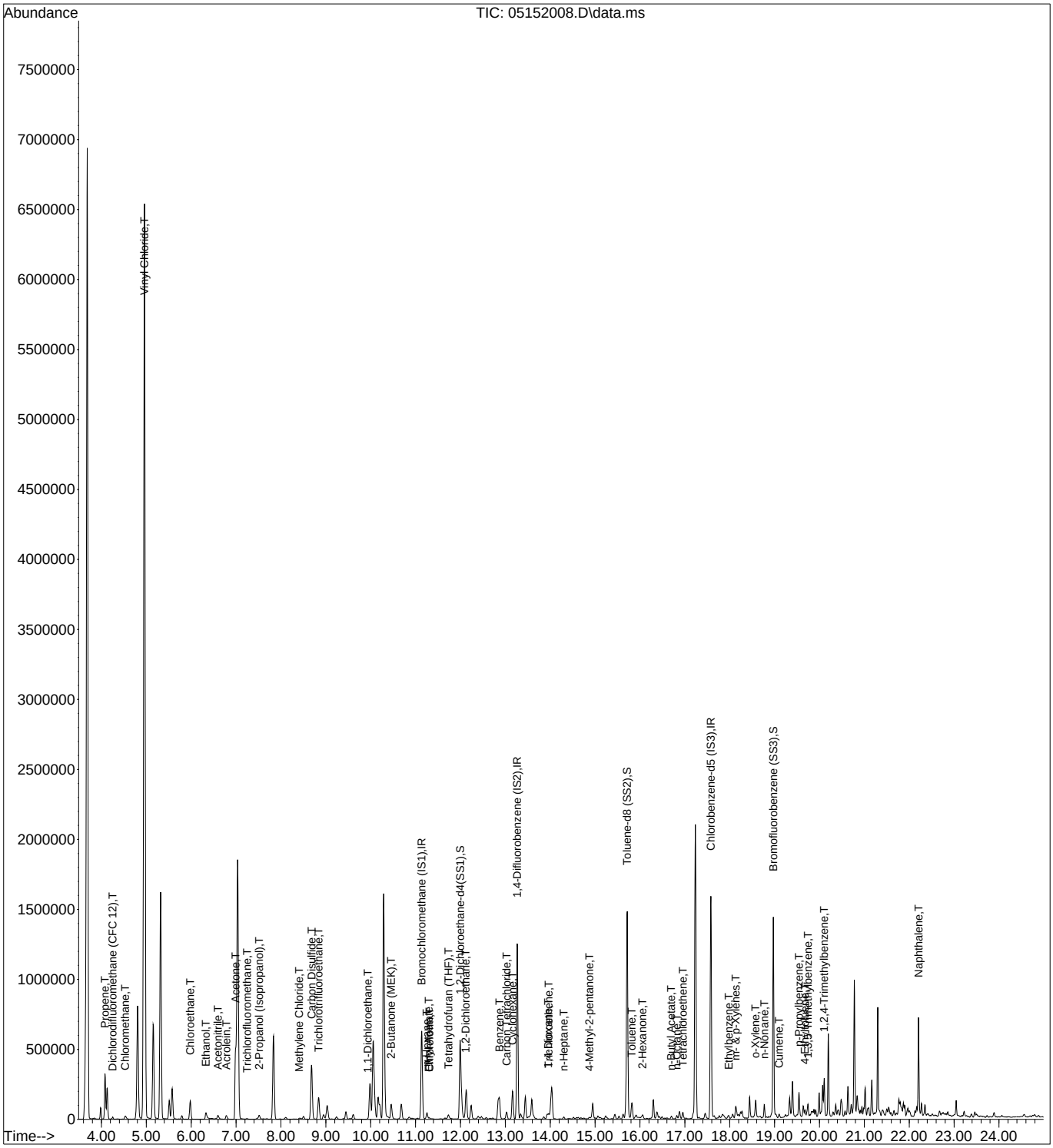
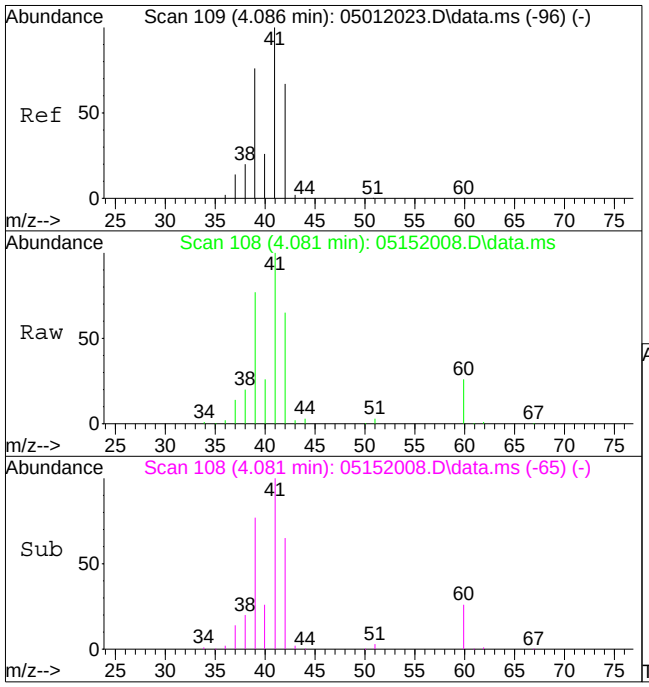
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

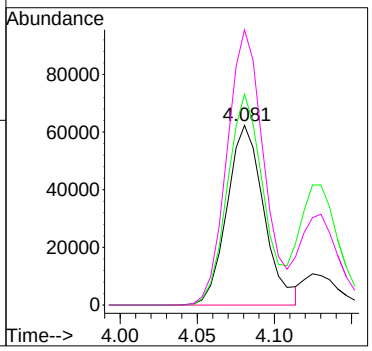


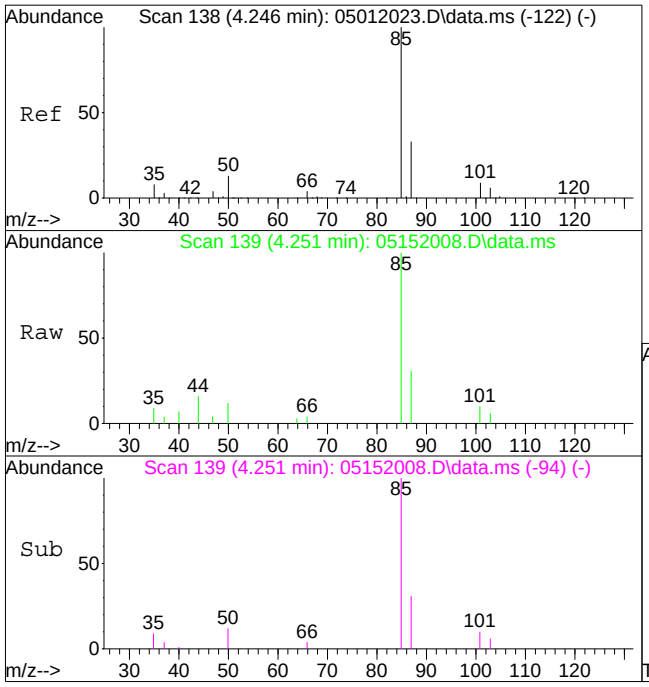


#2
Propene
Concen: 3.34 ng
RT: 4.08 min Scan# 108
Delta R.T. -0.011 min
Lab File: 05152008.D
Acq: 15 May 2020 7:44

Tgt Ion: 42 Resp: 103670

Ion	Ratio	Lower	Upper
42	100		
39	116.7	96.1	136.1
41	152.1	131.9	171.9

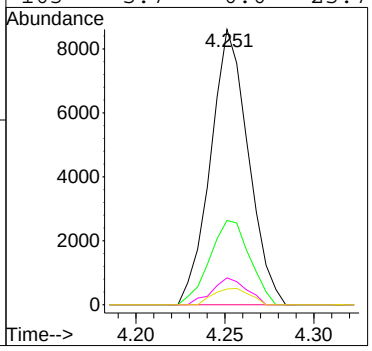


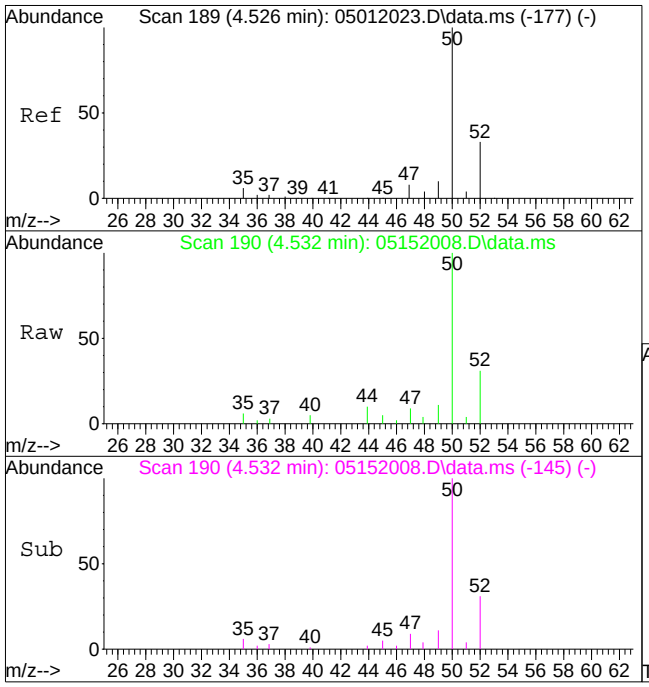


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.21 ng
RT: 4.25 min Scan# 139
Delta R.T. -0.000 min
Lab File: 05152008.D
Acq: 15 May 2020 7:44

Tgt Ion: 85 Resp: 12718

Ion	Ratio	Lower	Upper
85	100		
87	32.4	12.4	52.4
101	8.8	0.0	28.8
103	5.7	0.0	25.7

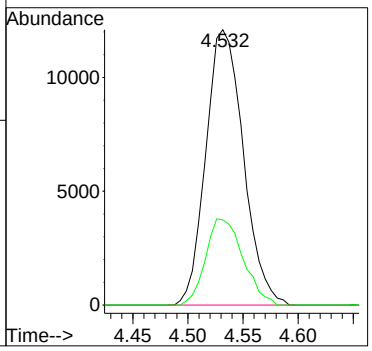


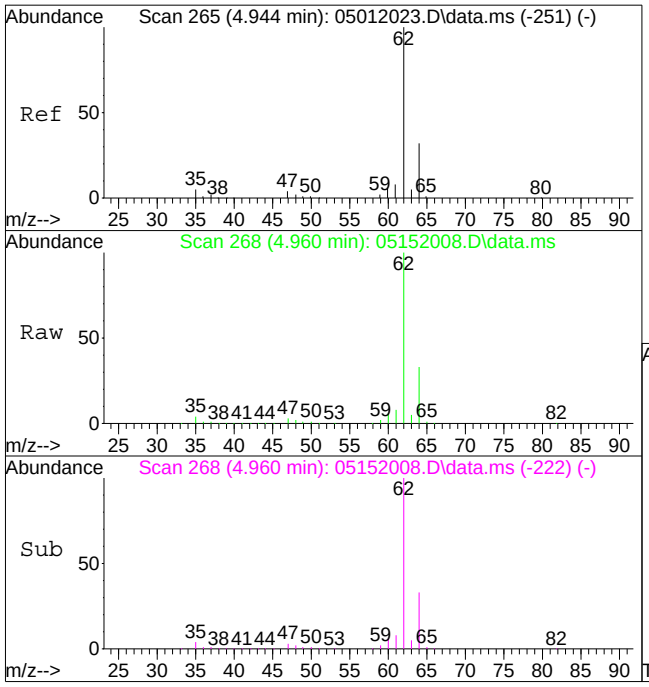


#4
Chloromethane
Concen: 0.60 ng
RT: 4.53 min Scan# 190
Delta R.T. -0.000 min
Lab File: 05152008.D
Acq: 15 May 2020 7:44

Tgt Ion: 50 Resp: 28675

Ion	Ratio	Lower	Upper
50	100		
52	31.1	12.5	52.5

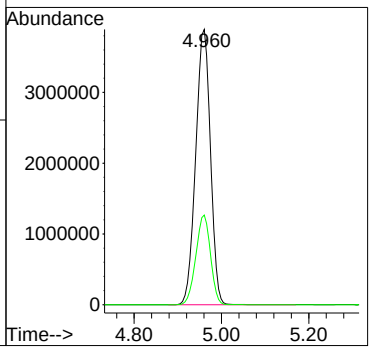


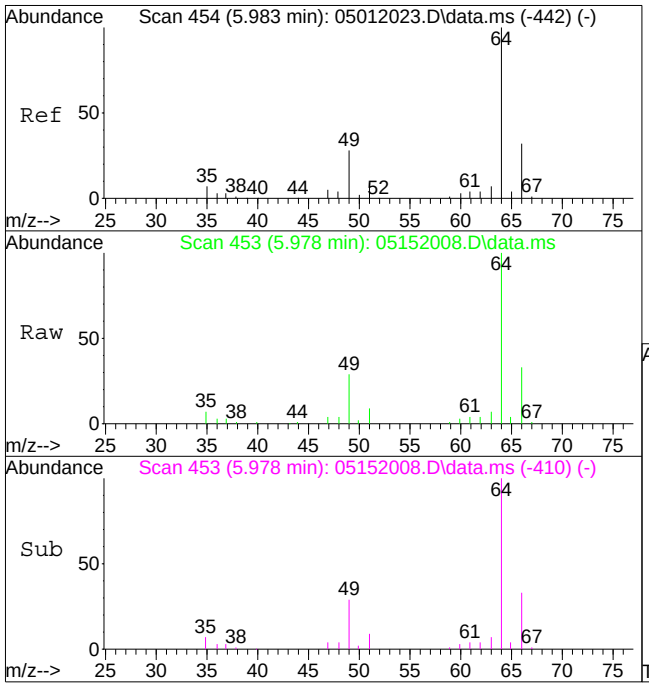


#6
Vinyl Chloride
Concen: 175.42 ng
RT: 4.96 min Scan# 268
Delta R.T. 0.005 min
Lab File: 05152008.D
Acq: 15 May 2020 7:44

Tgt Ion: 62 Resp: 9139951

Ion	Ratio	Lower	Upper
62	100		
64	32.4	12.1	52.1

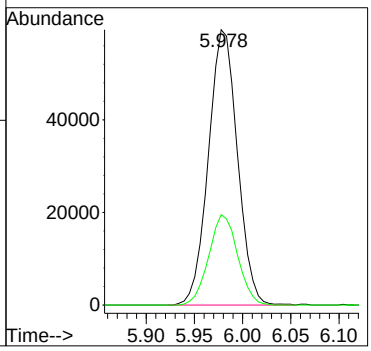


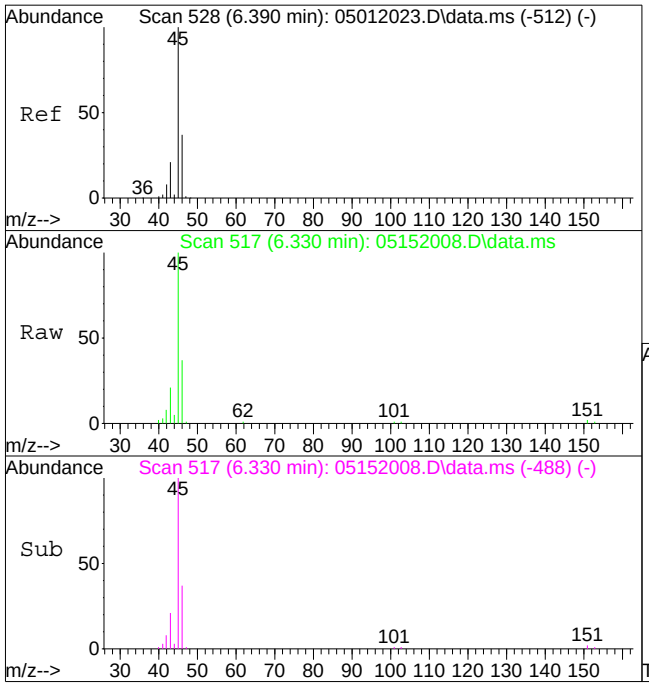


#9
Chloroethane
Concen: 6.04 ng
RT: 5.98 min Scan# 453
Delta R.T. -0.011 min
Lab File: 05152008.D
Acq: 15 May 2020 7:44

Tgt Ion: 64 Resp: 124352

Ion	Ratio	Lower	Upper
64	100		
66	32.6	12.1	52.1

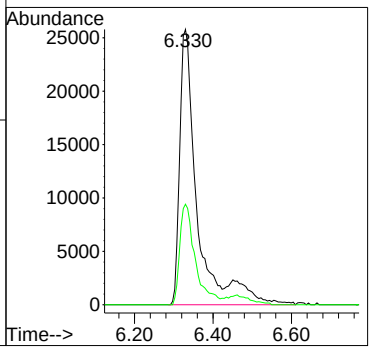


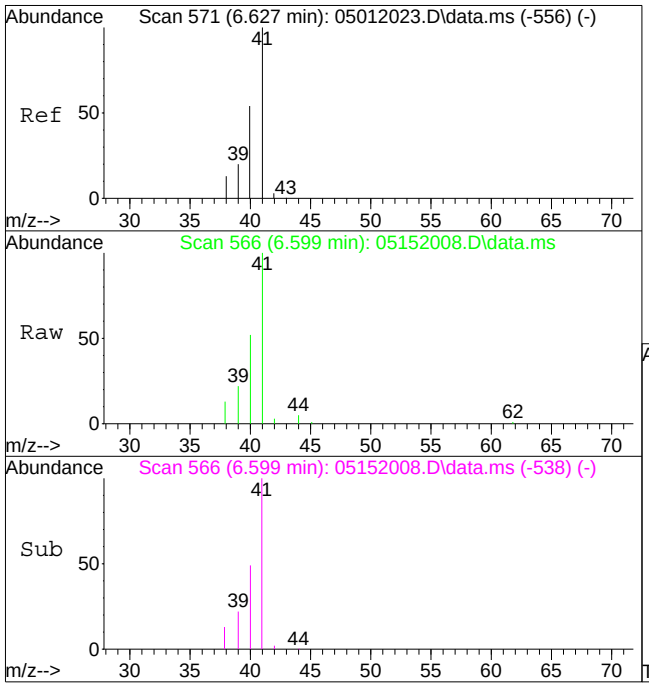


#10
Ethanol
Concen: 3.36 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.088 min
Lab File: 05152008.D
Acq: 15 May 2020 7:44

Tgt Ion: 45 Resp: 80488

Ion	Ratio	Lower	Upper
45	100		
46	37.0	17.2	57.2

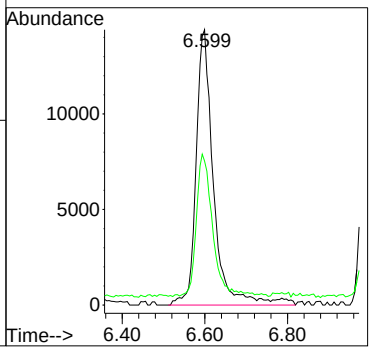


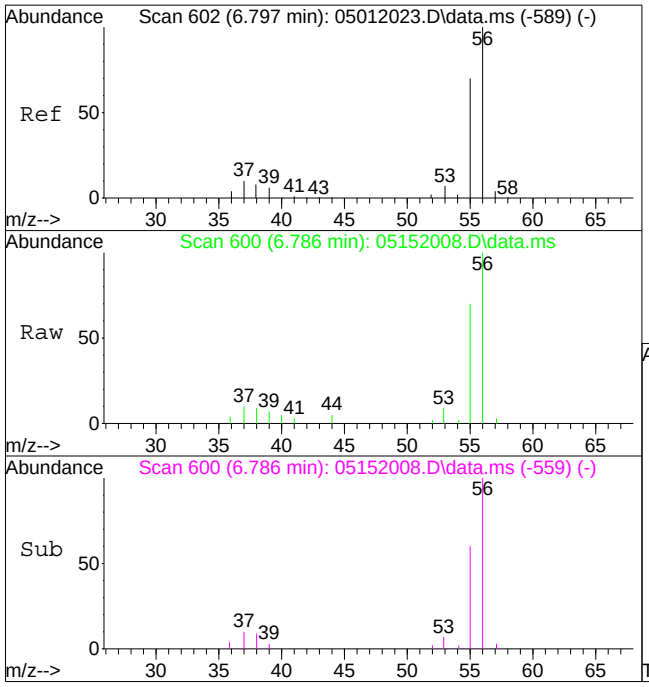


#11
Acetonitrile
Concen: 0.77 ng
RT: 6.60 min Scan# 566
Delta R.T. -0.044 min
Lab File: 05152008.D
Acq: 15 May 2020 7:44

Tgt Ion: 41 Resp: 42257

Ion	Ratio	Lower	Upper
41	100		
40	49.3	33.6	73.6

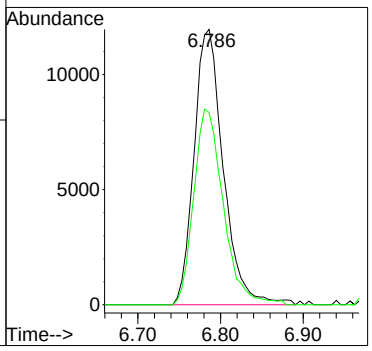


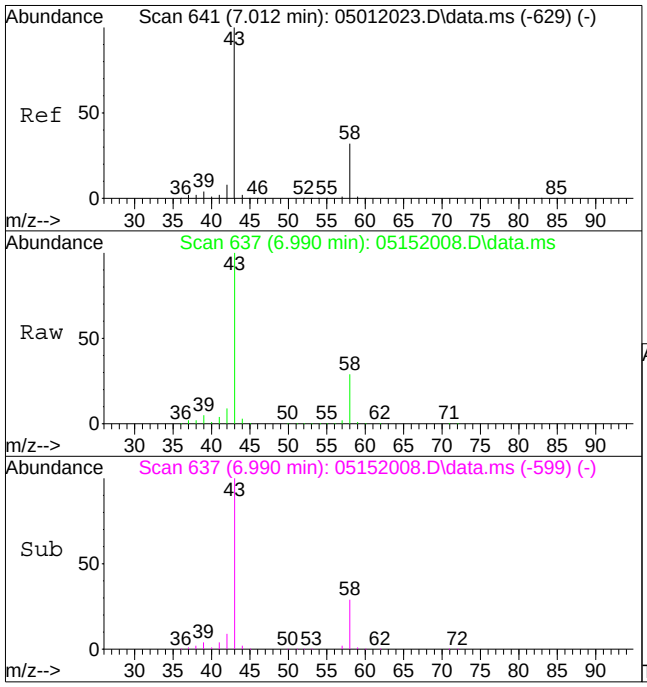


#12
Acrolein
Concen: 1.55 ng
RT: 6.79 min Scan# 600
Delta R.T. -0.022 min
Lab File: 05152008.D
Acq: 15 May 2020 7:44

Tgt Ion: 56 Resp: 29380

Ion	Ratio	Lower	Upper
56	100		
55	71.8	50.2	90.2

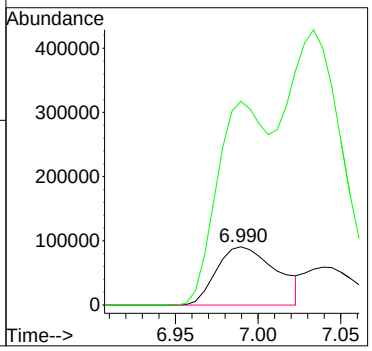


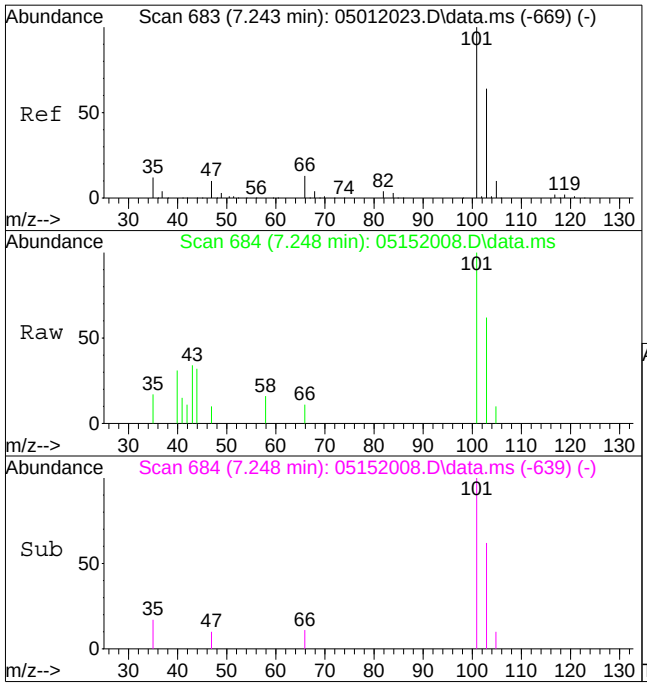


#13
Acetone
Concen: 9.59 ng
RT: 6.99 min Scan# 637
Delta R.T. -0.039 min
Lab File: 05152008.D
Acq: 15 May 2020 7:44

Tgt Ion: 58 Resp: 229605

Ion	Ratio	Lower	Upper
58	100		
43	285.0	294.4	354.4#

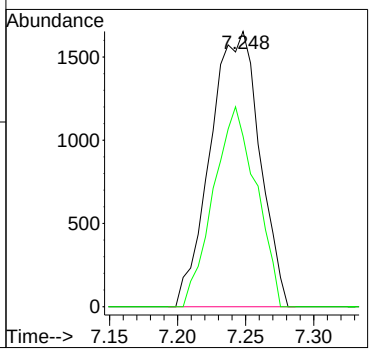


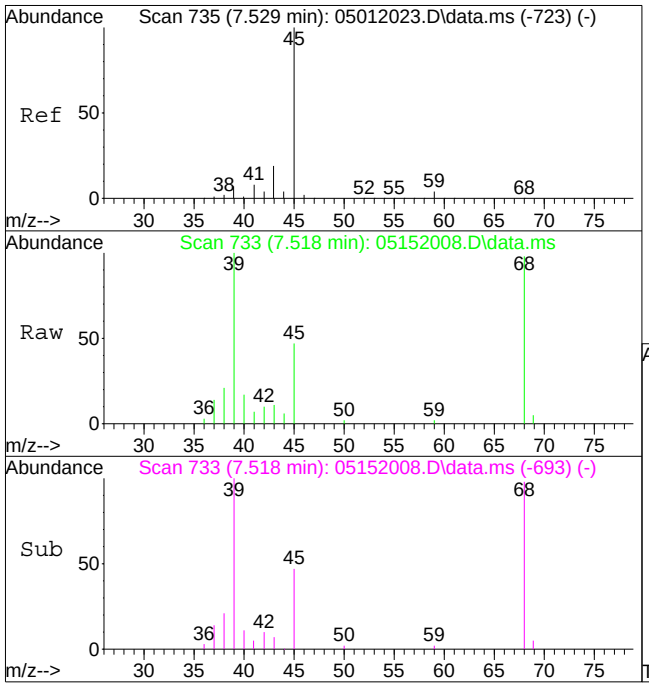


#14
Trichlorofluoromethane
Concen: 0.08 ng
RT: 7.25 min Scan# 684
Delta R.T. -0.000 min
Lab File: 05152008.D
Acq: 15 May 2020 7:44

Tgt Ion:101 Resp: 4162

Ion	Ratio	Lower	Upper
101	100		
103	63.0	44.4	84.4

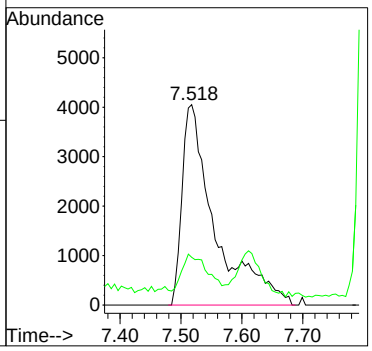


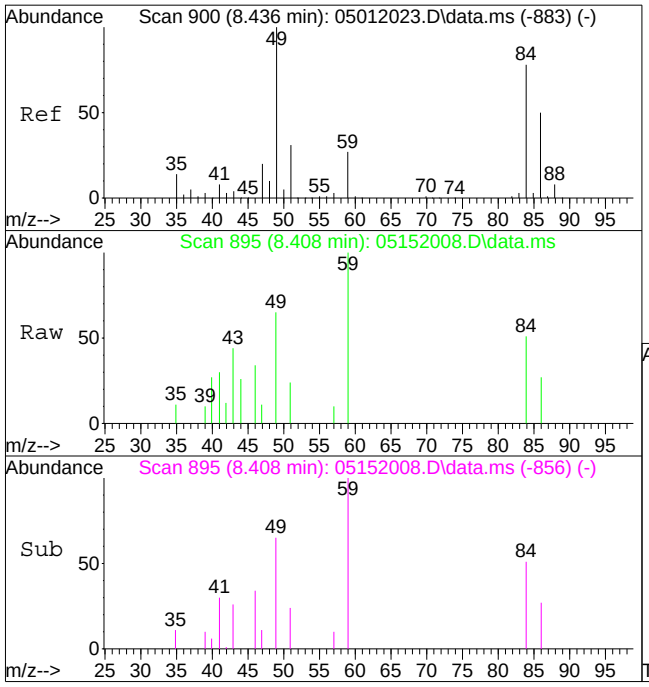


#15
2-Propanol (Isopropanol)
Concen: 0.21 ng
RT: 7.52 min Scan# 733
Delta R.T. -0.028 min
Lab File: 05152008.D
Acq: 15 May 2020 7:44

Tgt Ion: 45 Resp: 15188

Ion	Ratio	Lower	Upper
45	100		
43	0.0	0.0	39.5

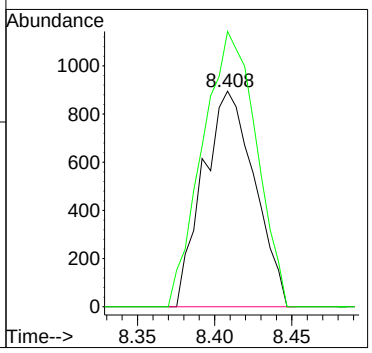


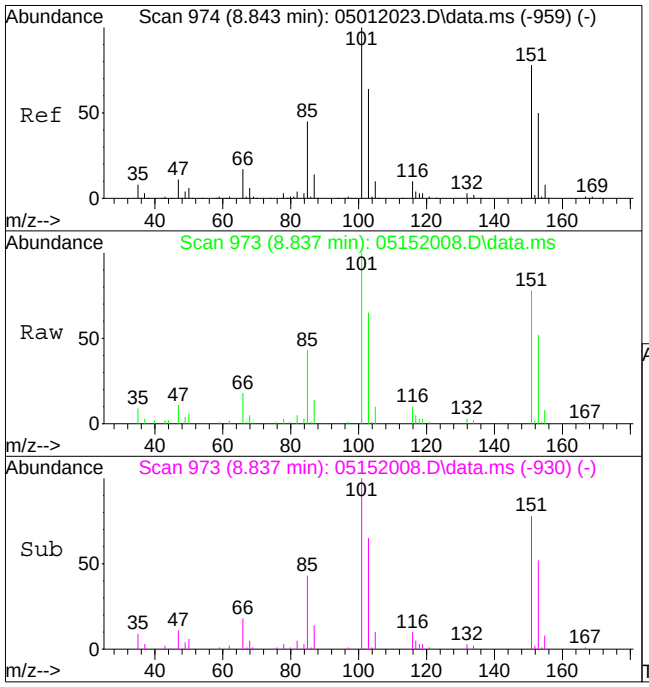


#19
Methylene Chloride
Concen: 0.07 ng
RT: 8.41 min Scan# 895
Delta R.T. -0.033 min
Lab File: 05152008.D
Acq: 15 May 2020 7:44

Tgt Ion: 84 Resp: 2078

Ion	Ratio	Lower	Upper
84	100		
49	133.5	104.8	154.8

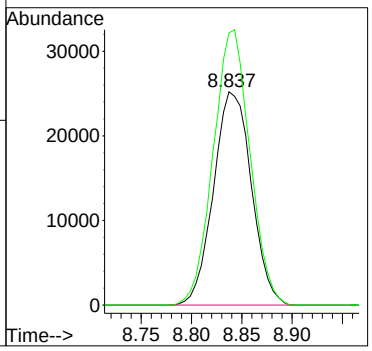


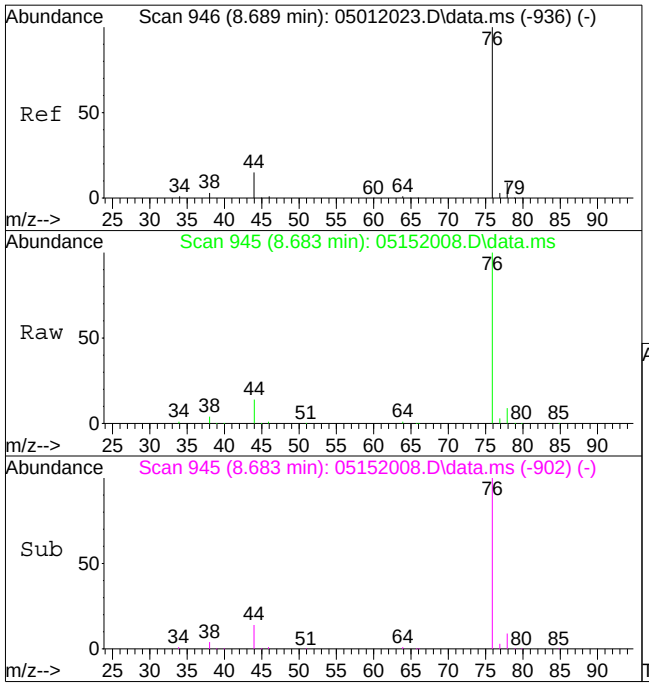


#21
Trichlorotrifluoroethane
Concen: 2.61 ng
RT: 8.84 min Scan# 973
Delta R.T. -0.011 min
Lab File: 05152008.D
Acq: 15 May 2020 7:44

Tgt Ion:151 Resp: 66028

Ion	Ratio	Lower	Upper
151	100		
101	125.2	107.3	147.3

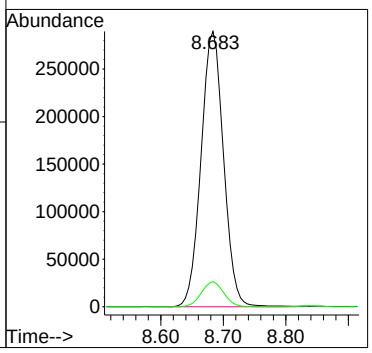


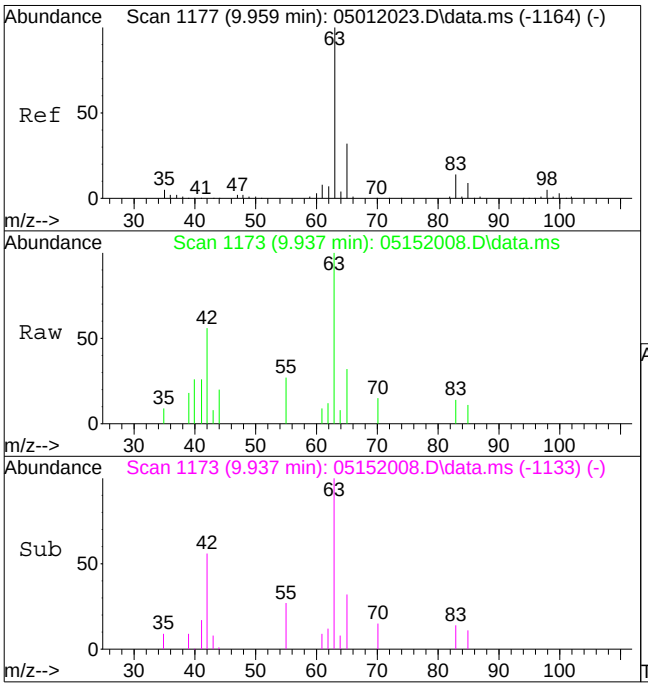


#22
Carbon Disulfide
Concen: 6.49 ng
RT: 8.68 min Scan# 945
Delta R.T. -0.011 min
Lab File: 05152008.D
Acq: 15 May 2020 7:44

Tgt Ion: 76 Resp: 723329

Ion	Ratio	Lower	Upper
76	100		
78	9.1	0.0	29.2

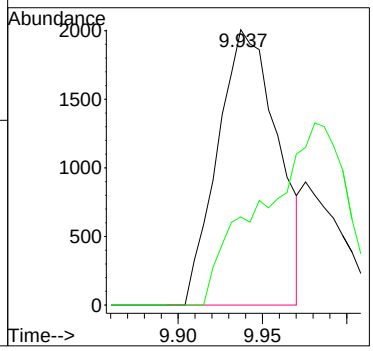


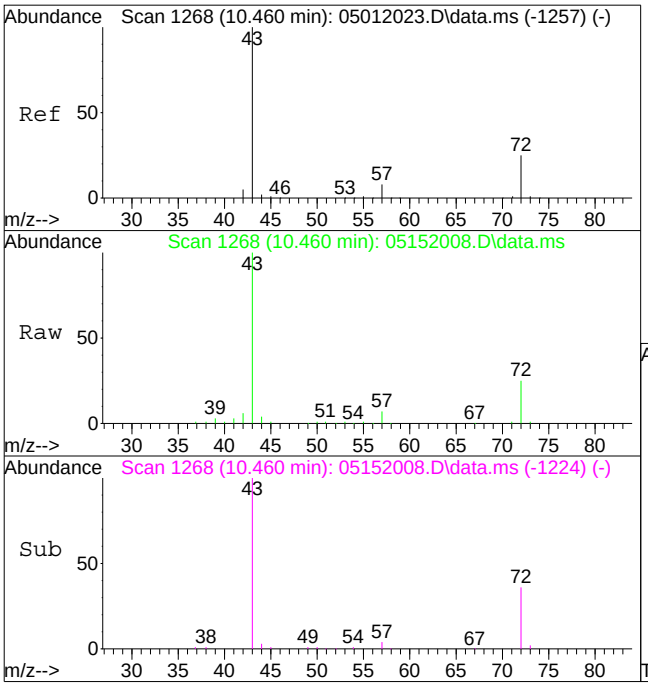


#24
1,1-Dichloroethane
Concen: 0.10 ng m
RT: 9.94 min Scan# 1173
Delta R.T. -0.028 min
Lab File: 05152008.D
Acq: 15 May 2020 7:44

Tgt Ion: 63 Resp: 4970

Ion	Ratio	Lower	Upper
63	100		
65	92.1	11.8	51.8#

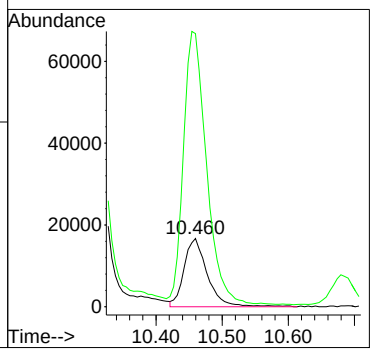


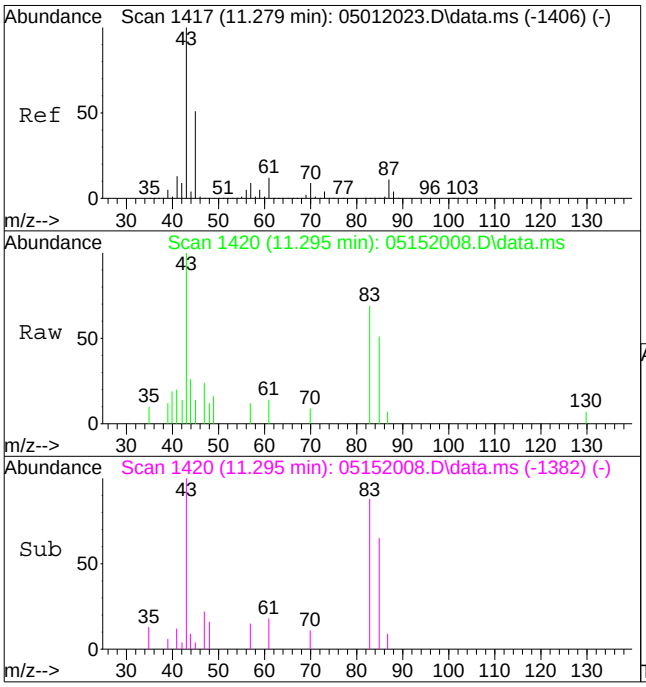


#27
2-Butanone (MEK)
Concen: 2.00 ng
RT: 10.46 min Scan# 1268
Delta R.T. -0.006 min
Lab File: 05152008.D
Acq: 15 May 2020 7:44

Tgt Ion: 72 Resp: 40745

Ion	Ratio	Lower	Upper
72	100		
43	395.7	389.7	429.7

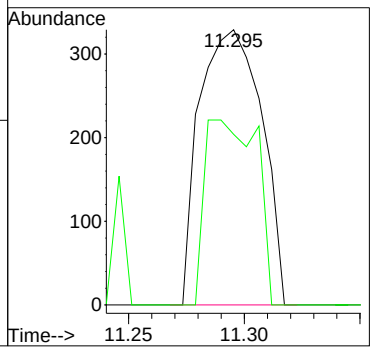


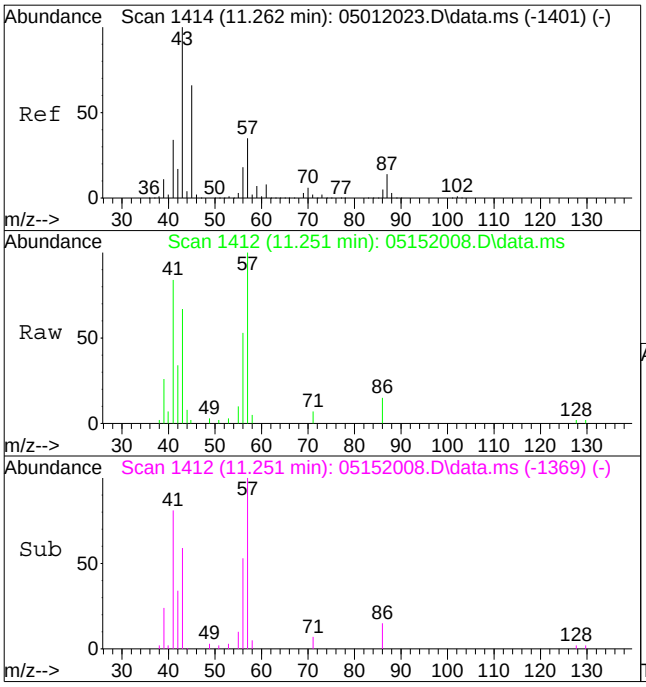


#30
Ethyl Acetate
Concen: 0.05 ng
RT: 11.30 min Scan# 1420
Delta R.T. 0.011 min
Lab File: 05152008.D
Acq: 15 May 2020 7:44

Tgt Ion: 61 Resp: 614

Ion	Ratio	Lower	Upper
61	100		
70	56.4	57.9	97.9#

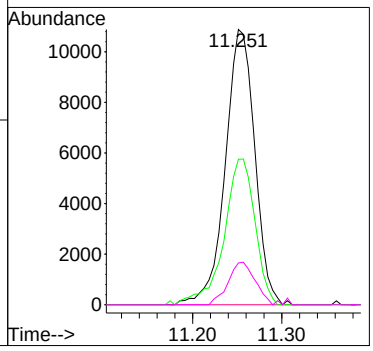


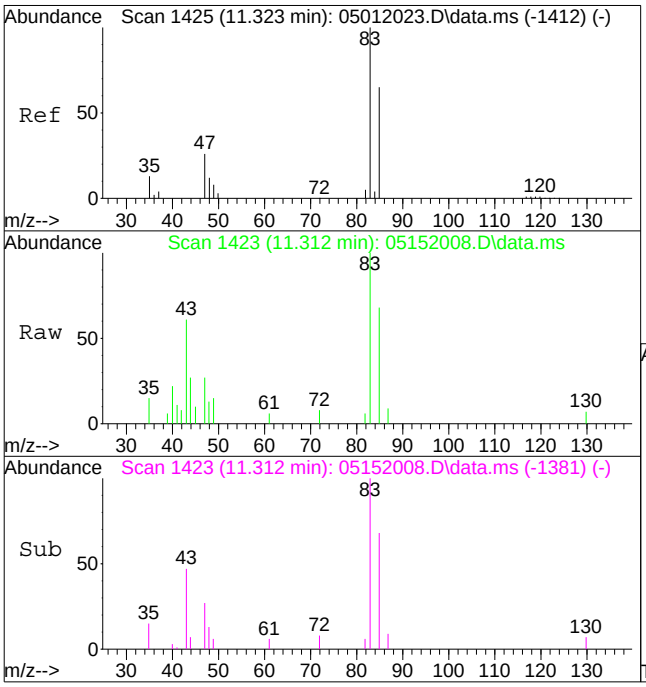


#31
n-Hexane
Concen: 0.49 ng
RT: 11.25 min Scan# 1412
Delta R.T. -0.011 min
Lab File: 05152008.D
Acq: 15 May 2020 7:44

Tgt Ion: 57 Resp: 25060

Ion	Ratio	Lower	Upper
57	100		
56	55.8	41.4	62.0
86	14.1	12.4	18.6

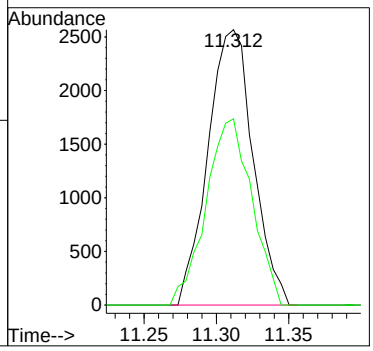


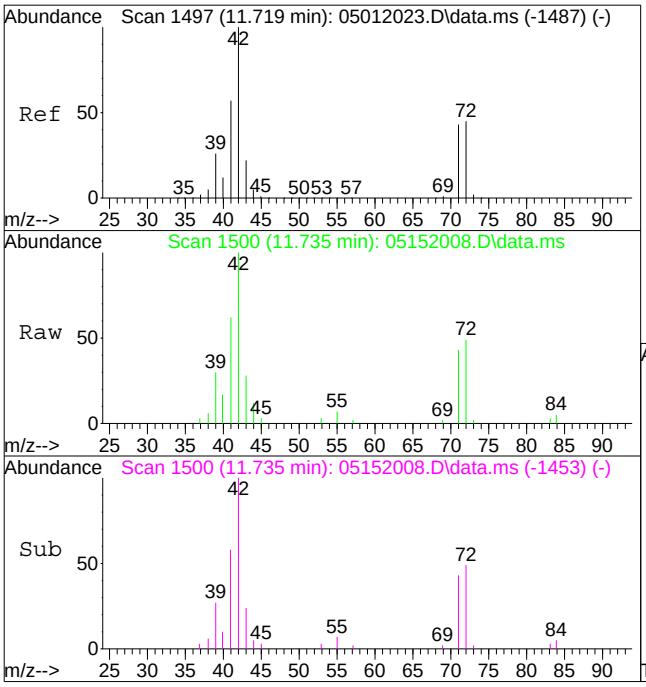


#32
Chloroform
Concen: 0.10 ng
RT: 11.31 min Scan# 1423
Delta R.T. -0.017 min
Lab File: 05152008.D
Acq: 15 May 2020 7:44

Tgt Ion: 83 Resp: 5595

Ion	Ratio	Lower	Upper
83	100		
85	68.4	45.5	85.5

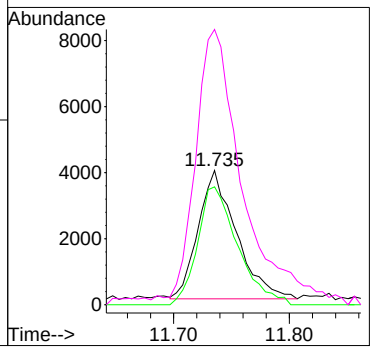


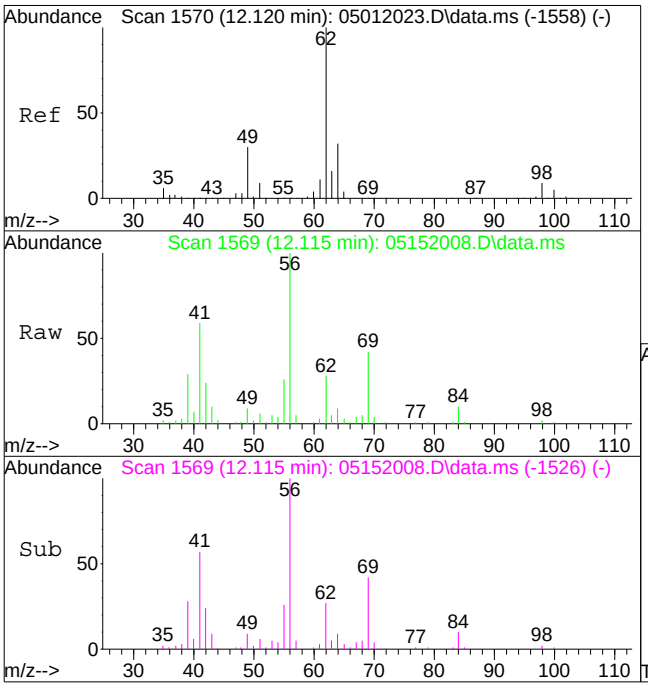


#34
Tetrahydrofuran (THF)
Concen: 0.45 ng
RT: 11.74 min Scan# 1500
Delta R.T. 0.011 min
Lab File: 05152008.D
Acq: 15 May 2020 7:44

Tgt Ion: 72 Resp: 8918

Ion	Ratio	Lower	Upper
72	100		
71	96.2	77.0	117.0
42	266.7	204.6	244.6#

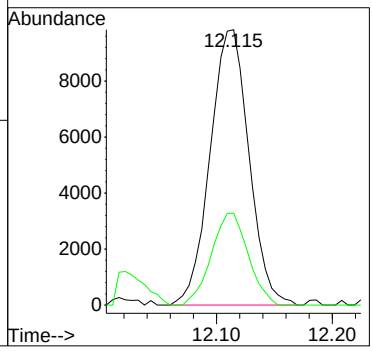


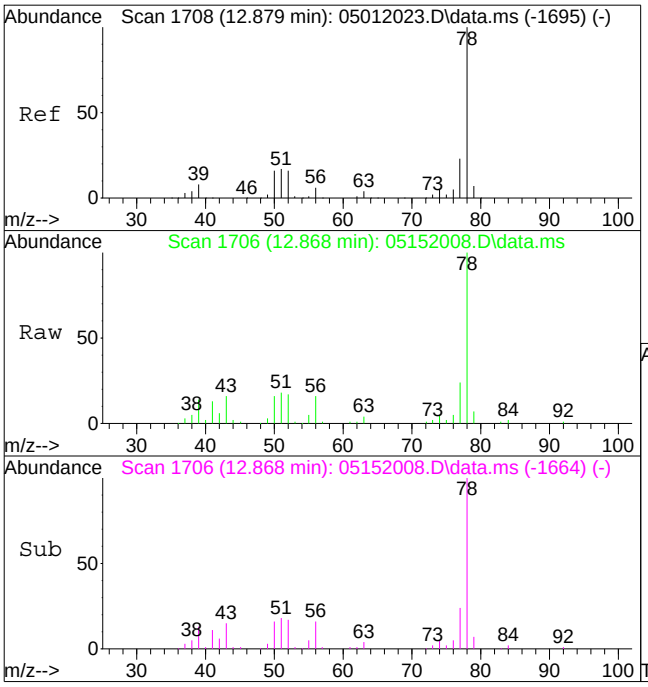


#36
1,2-Dichloroethane
Concen: 0.54 ng
RT: 12.11 min Scan# 1569
Delta R.T. -0.011 min
Lab File: 05152008.D
Acq: 15 May 2020 7:44

Tgt Ion: 62 Resp: 22989

Ion	Ratio	Lower	Upper
62	100		
64	31.5	12.4	52.4

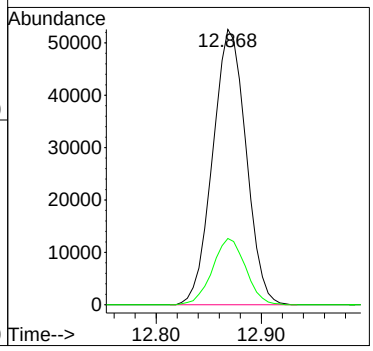


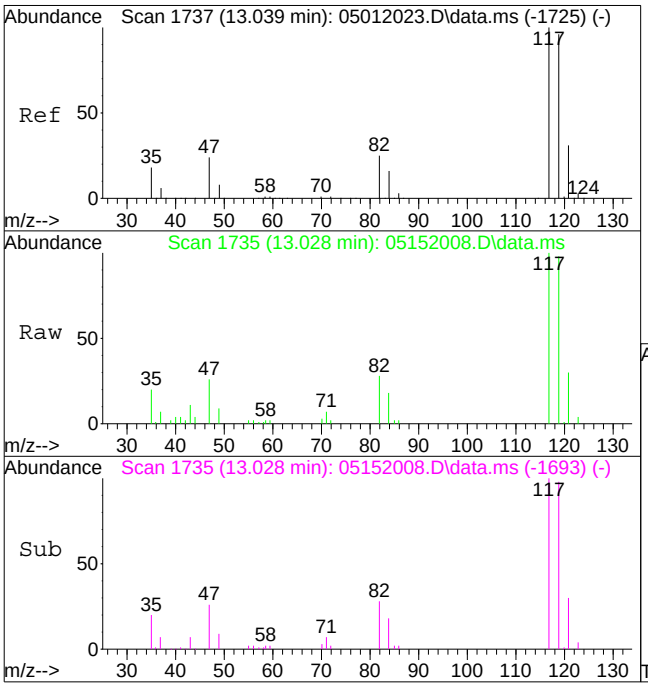


#41
Benzene
Concen: 0.94 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05152008.D
Acq: 15 May 2020 7:44

Tgt Ion: 78 Resp: 116055

Ion	Ratio	Lower	Upper
78	100		
77	23.9	3.4	43.4

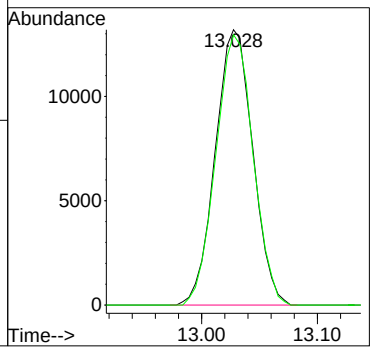


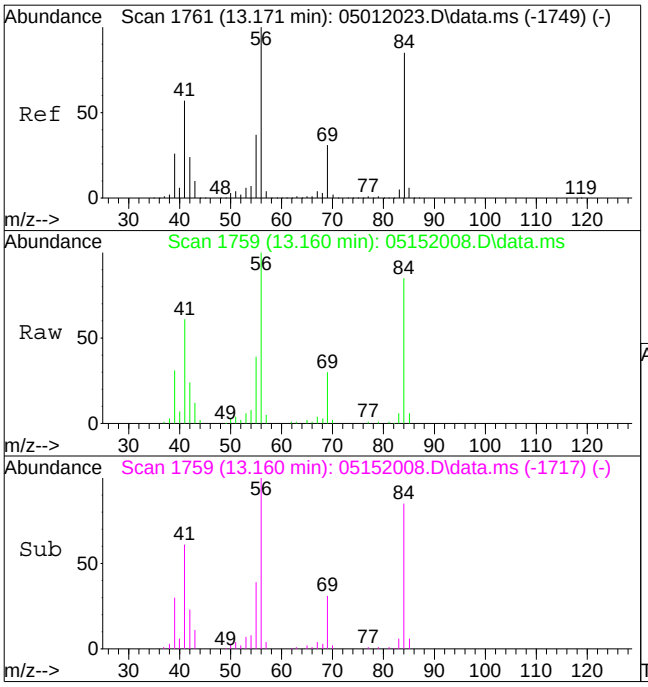


#42
Carbon Tetrachloride
Concen: 0.71 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05152008.D
Acq: 15 May 2020 7:44

Tgt Ion:117 Resp: 29814

Ion	Ratio	Lower	Upper
117	100		
119	97.6	76.2	116.2

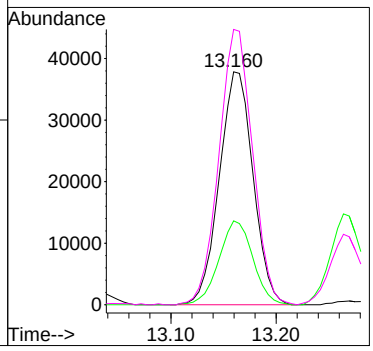


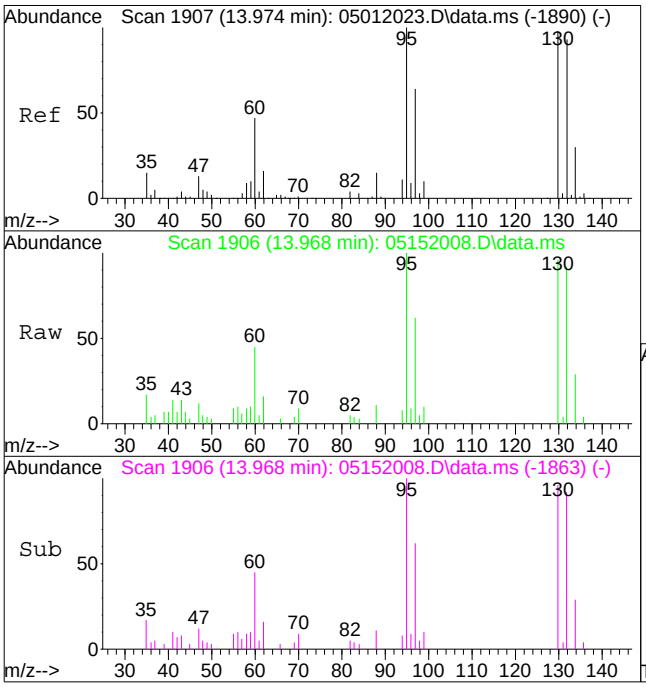


#43
Cyclohexane
Concen: 1.85 ng
RT: 13.16 min Scan# 1759
Delta R.T. -0.017 min
Lab File: 05152008.D
Acq: 15 May 2020 7:44

Tgt Ion: 84 Resp: 84695

Ion	Ratio	Lower	Upper
84	100		
69	36.1	16.5	56.5
56	117.8	97.4	137.4

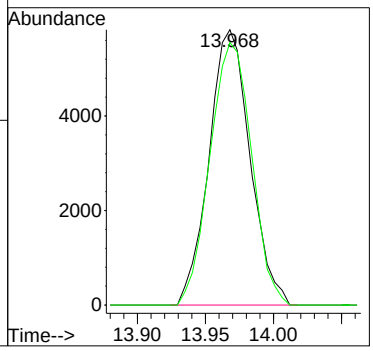


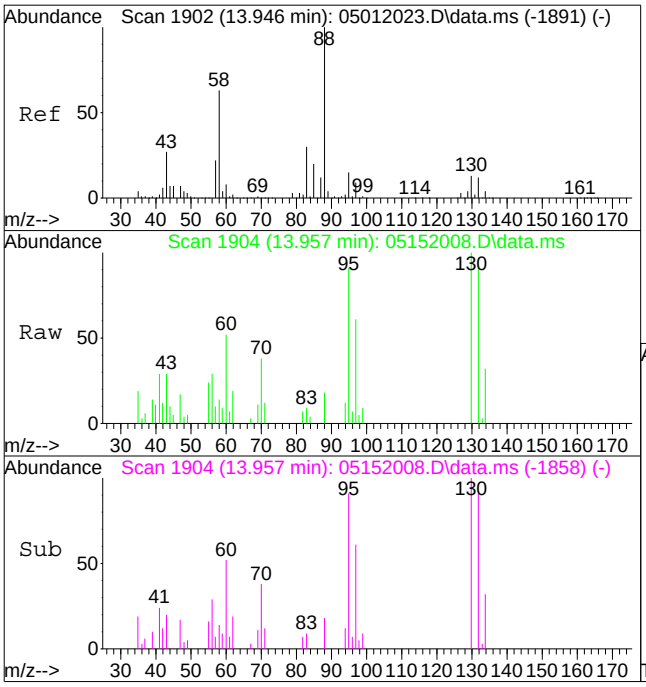


#47
Trichloroethene
Concen: 0.38 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05152008.D
Acq: 15 May 2020 7:44

Tgt Ion:130 Resp: 12217

Ion	Ratio	Lower	Upper
130	100		
132	96.6	74.9	114.9

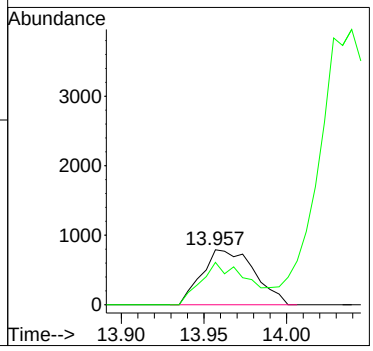


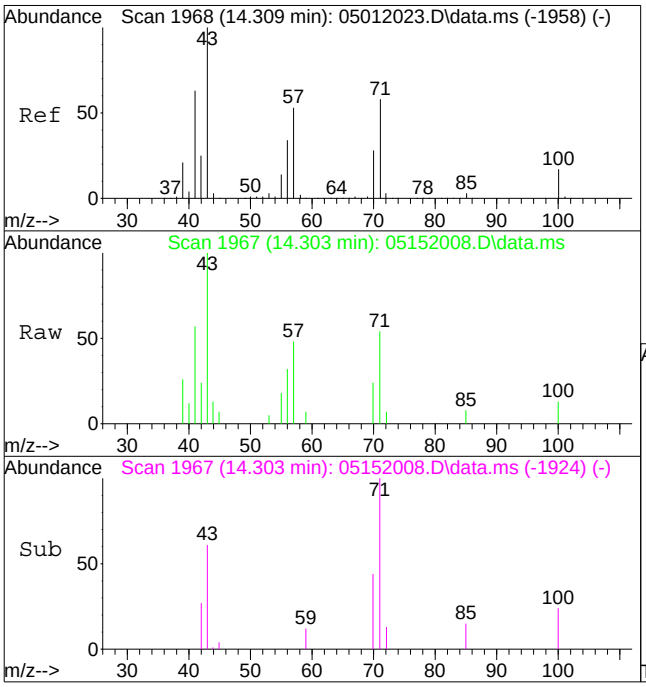


#48
1,4-Dioxane
Concen: 0.07 ng
RT: 13.96 min Scan# 1904
Delta R.T. 0.005 min
Lab File: 05152008.D
Acq: 15 May 2020 7:44

Tgt Ion: 88 Resp: 1746

Ion	Ratio	Lower	Upper
88	100		
58	70.0	42.8	82.8

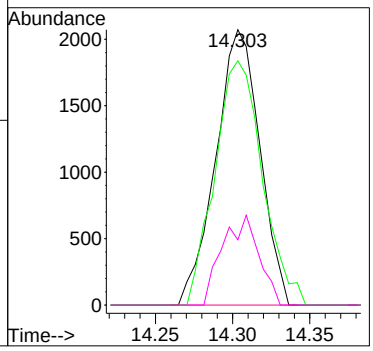


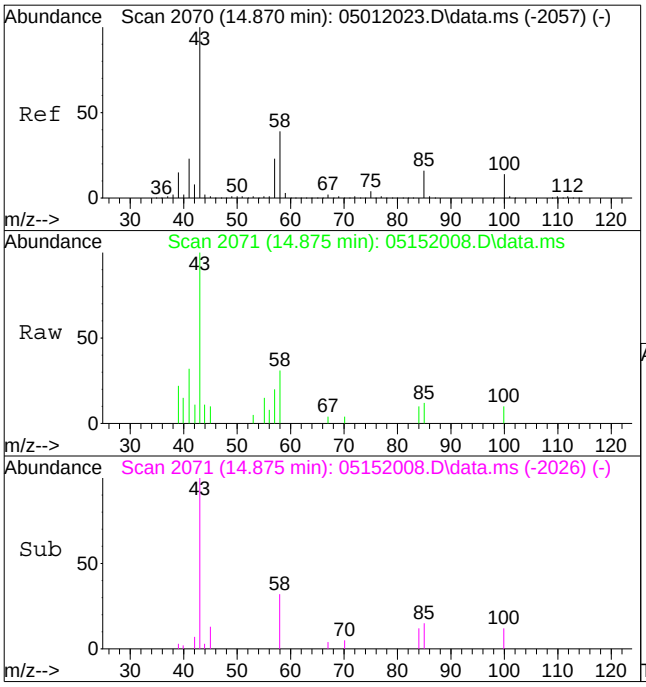


#51
n-Heptane
Concen: 0.14 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05152008.D
Acq: 15 May 2020 7:44

Tgt Ion: 71 Resp: 4121

Ion	Ratio	Lower	Upper
71	100		
57	95.4	71.0	111.0
100	26.9	8.4	48.4

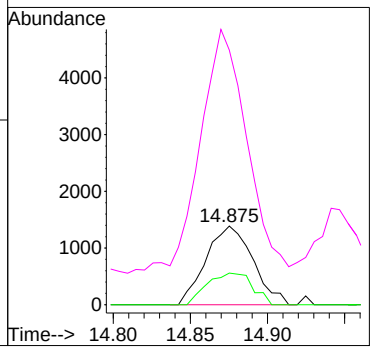


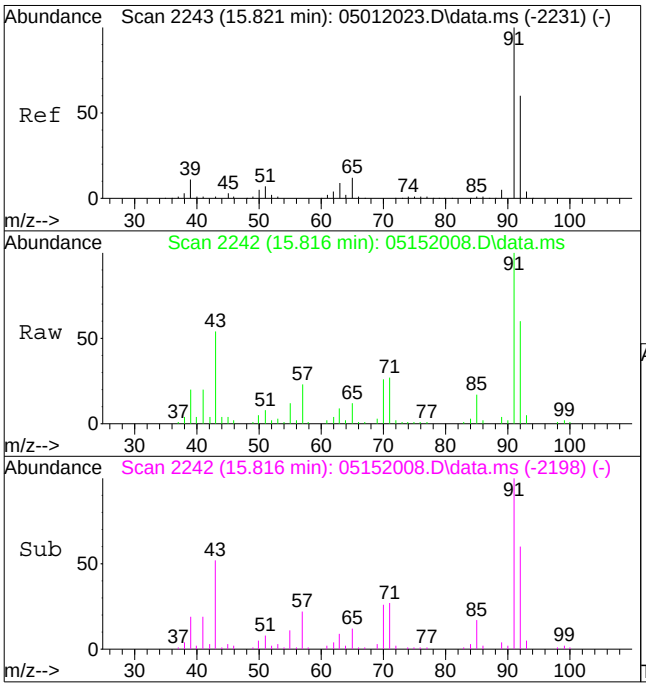


#53
4-Methyl-2-pentanone
Concen: 0.11 ng
RT: 14.88 min Scan# 2071
Delta R.T. -0.000 min
Lab File: 05152008.D
Acq: 15 May 2020 7:44

Tgt Ion: 58 Resp: 2933

Ion	Ratio	Lower	Upper
58	100		
85	38.9	35.4	53.2
43	349.0	203.3	304.9#

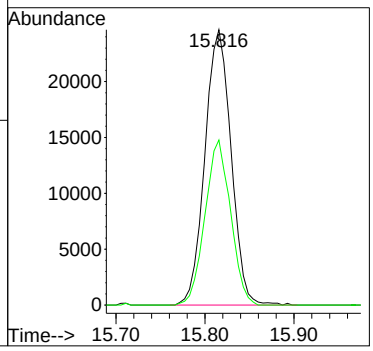


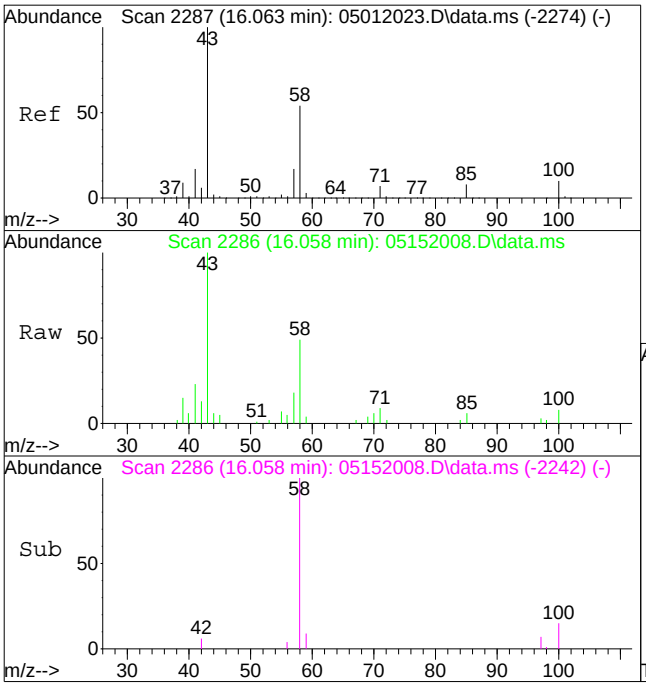


#58
Toluene
Concen: 0.44 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05152008.D
Acq: 15 May 2020 7:44

Tgt Ion: 91 Resp: 50423

Ion	Ratio	Lower	Upper
91	100		
92	58.3	39.4	79.4

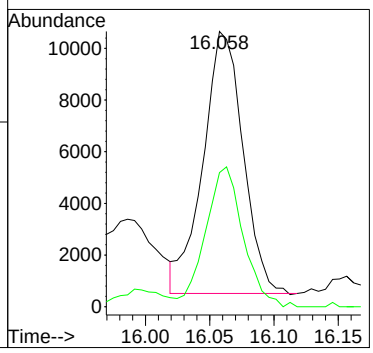


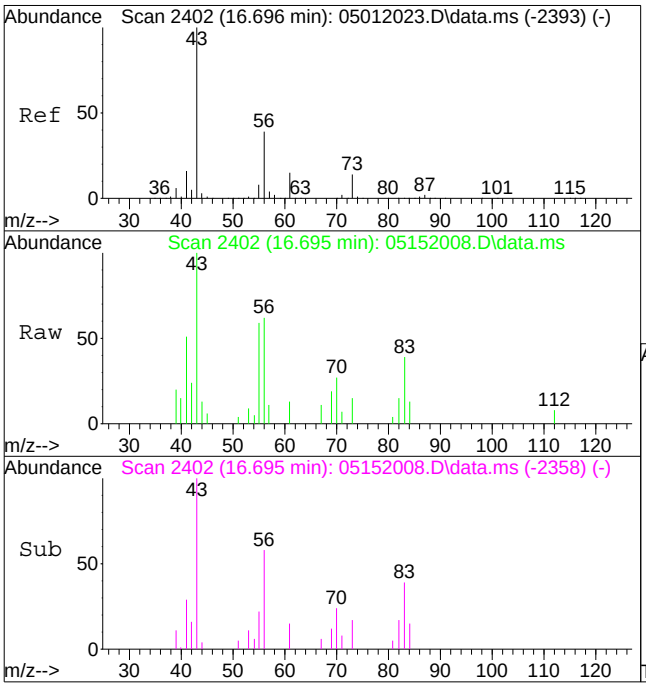


#59
2-Hexanone
Concen: 0.35 ng
RT: 16.06 min Scan# 2286
Delta R.T. -0.006 min
Lab File: 05152008.D
Acq: 15 May 2020 7:44

Tgt Ion: 43 Resp: 21952

Ion	Ratio	Lower	Upper
43	100		
58	49.9	34.5	74.5

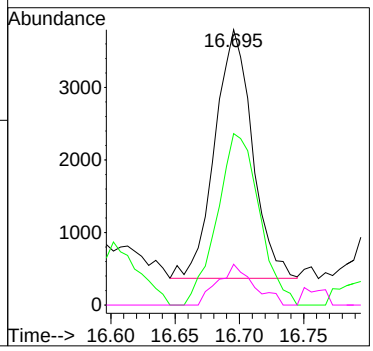


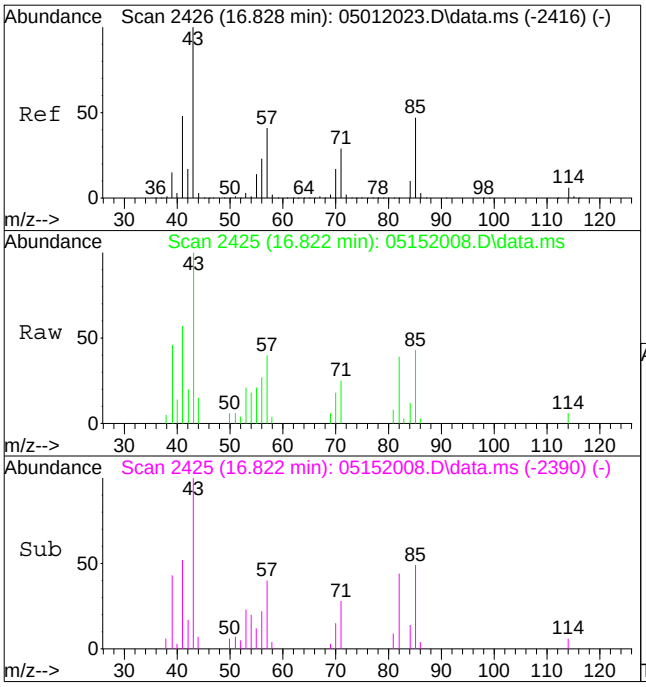


#62
n-Butyl Acetate
Concen: 0.10 ng
RT: 16.70 min Scan# 2402
Delta R.T. -0.006 min
Lab File: 05152008.D
Acq: 15 May 2020 7:44

Tgt Ion: 43 Resp: 6954

Ion	Ratio	Lower	Upper
43	100		
56	77.2	19.2	59.2#
73	15.7	0.0	34.4

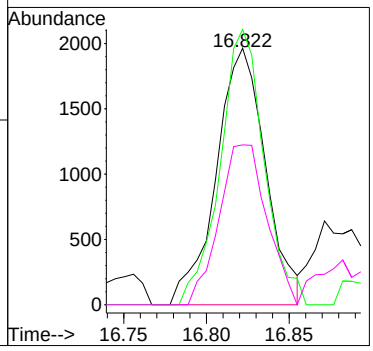


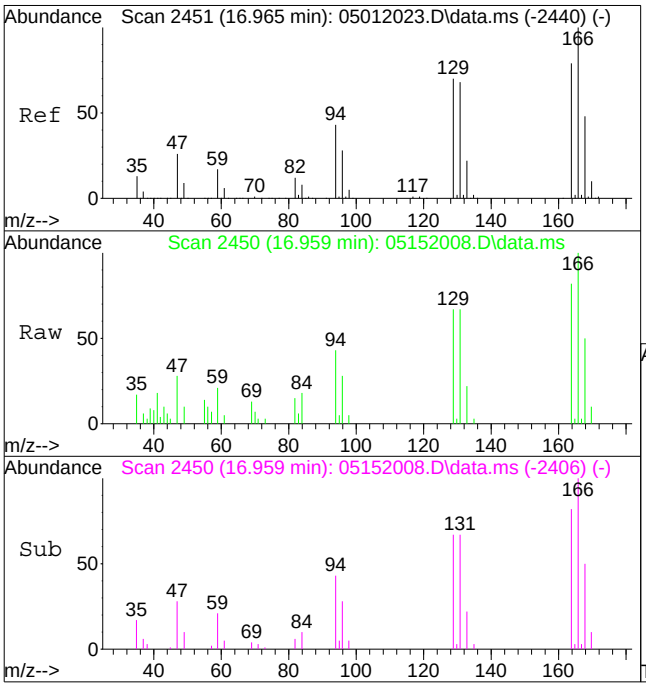


#63
n-Octane
Concen: 0.17 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05152008.D
Acq: 15 May 2020 7:44

Tgt Ion: 57 Resp: 4086

Ion	Ratio	Lower	Upper
57	100		
85	95.6	91.0	136.4
71	60.2	56.2	84.2

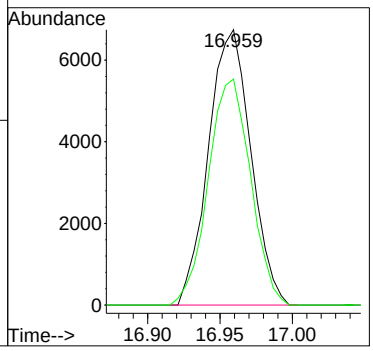


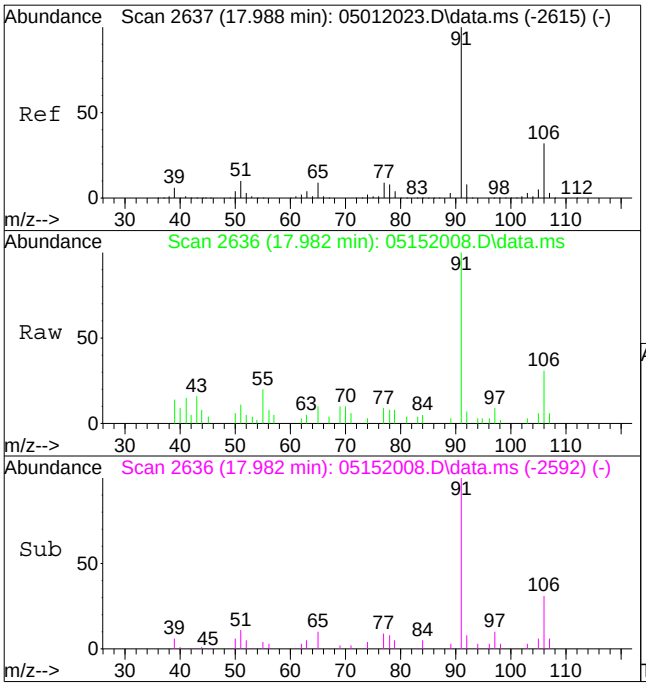


#64
Tetrachloroethene
Concen: 0.42 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05152008.D
Acq: 15 May 2020 7:44

Tgt Ion:166 Resp: 13752

Ion	Ratio	Lower	Upper
166	100		
164	81.8	58.4	98.4

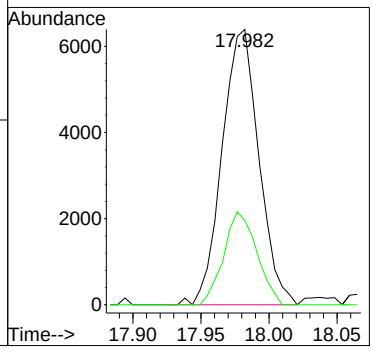


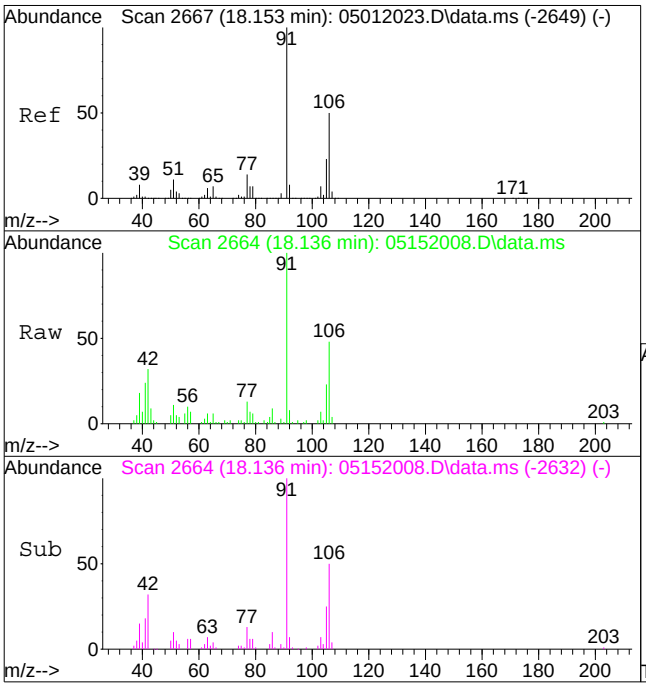


#66
Ethylbenzene
Concen: 0.09 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05152008.D
Acq: 15 May 2020 7:44

Tgt Ion: 91 Resp: 12009

Ion	Ratio	Lower	Upper
91	100		
106	30.4	11.6	51.6

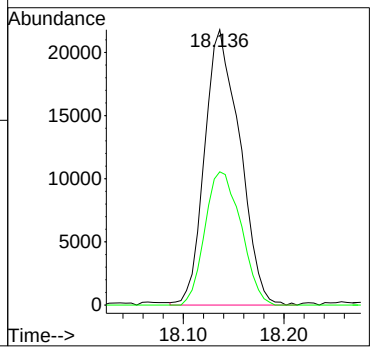


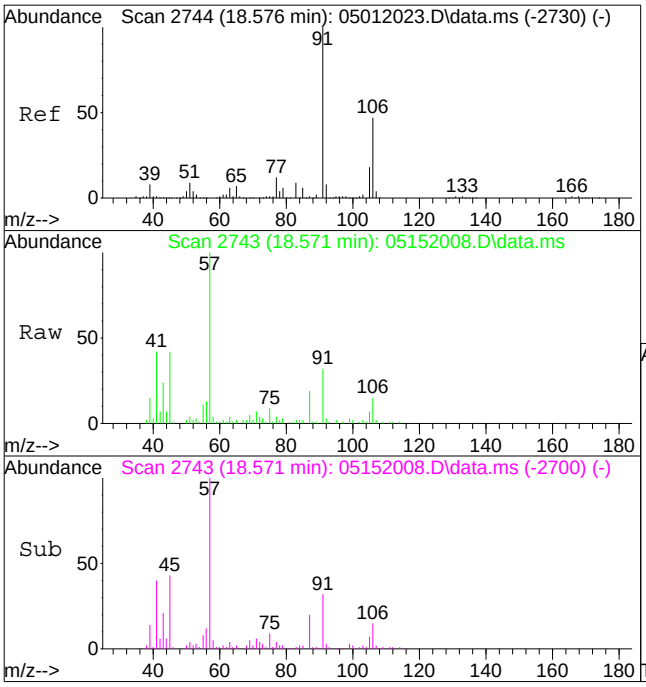


#67
m- & p-Xylenes
Concen: 0.52 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05152008.D
Acq: 15 May 2020 7:44

Tgt Ion: 91 Resp: 52902

Ion	Ratio	Lower	Upper
91	100		
106	49.6	29.7	69.7

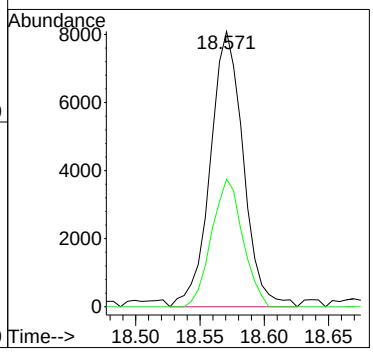


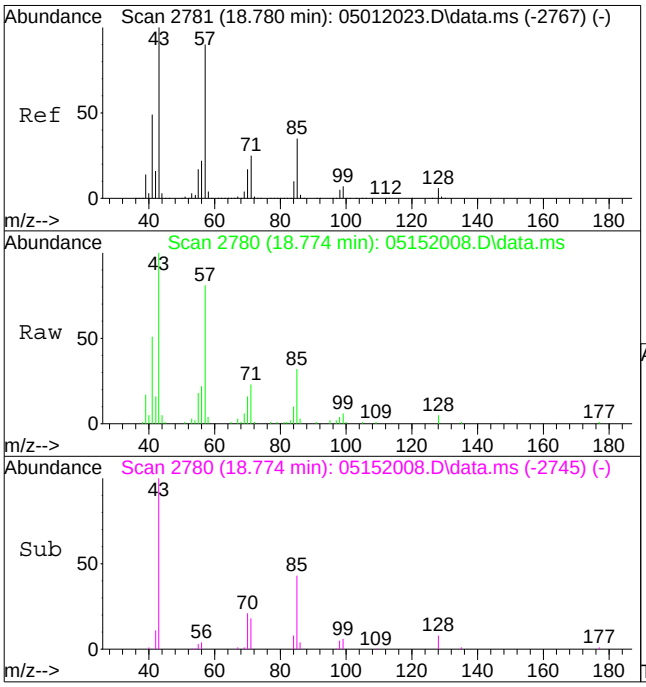


#70
o-Xylene
Concen: 0.14 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05152008.D
Acq: 15 May 2020 7:44

Tgt Ion: 91 Resp: 14428

Ion	Ratio	Lower	Upper
91	100		
106	43.8	27.5	67.5

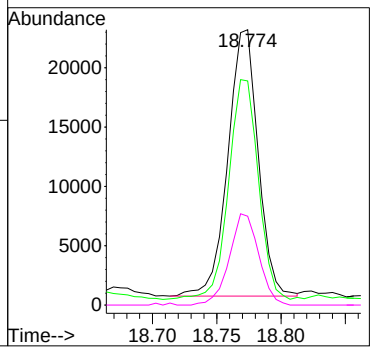


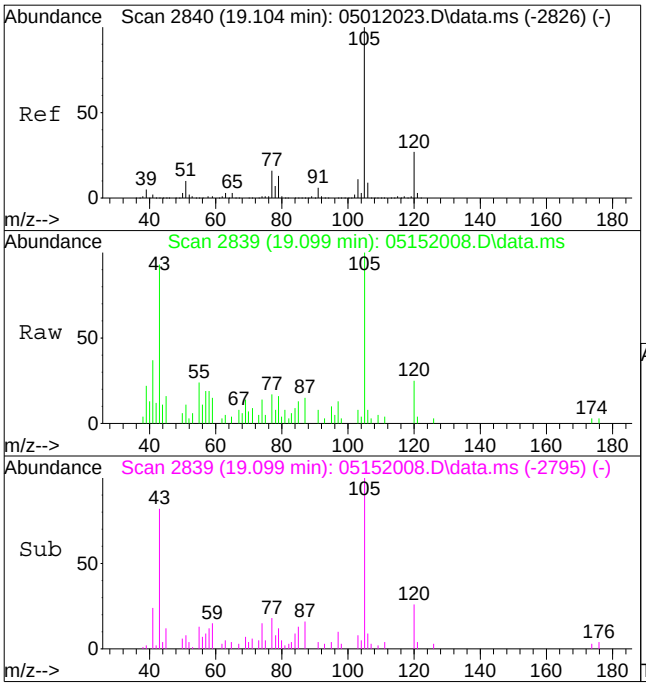


#71
n-Nonane
Concen: 0.67 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05152008.D
Acq: 15 May 2020 7:44

Tgt Ion: 43 Resp: 36751

Ion	Ratio	Lower	Upper
43	100		
57	81.7	69.0	109.0
85	33.2	14.6	54.6

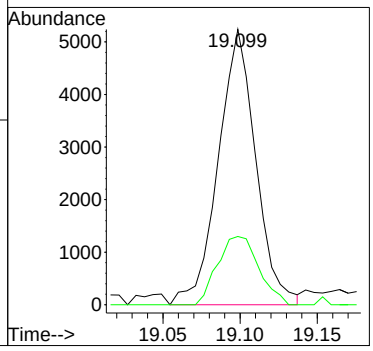


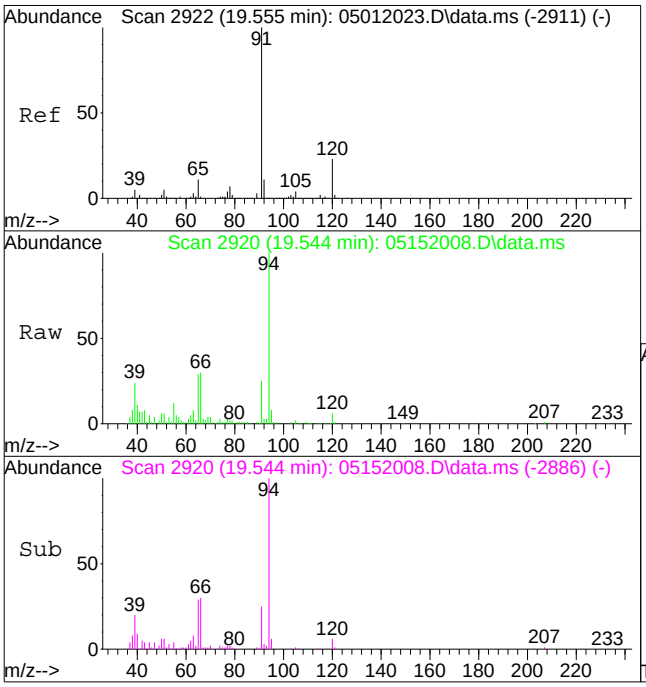


#74
Cumene
Concen: 0.07 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05152008.D
Acq: 15 May 2020 7:44

Tgt Ion:105 Resp: 8857

Ion	Ratio	Lower	Upper
105	100		
120	27.3	6.8	46.8

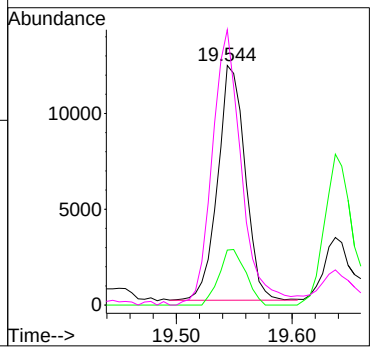


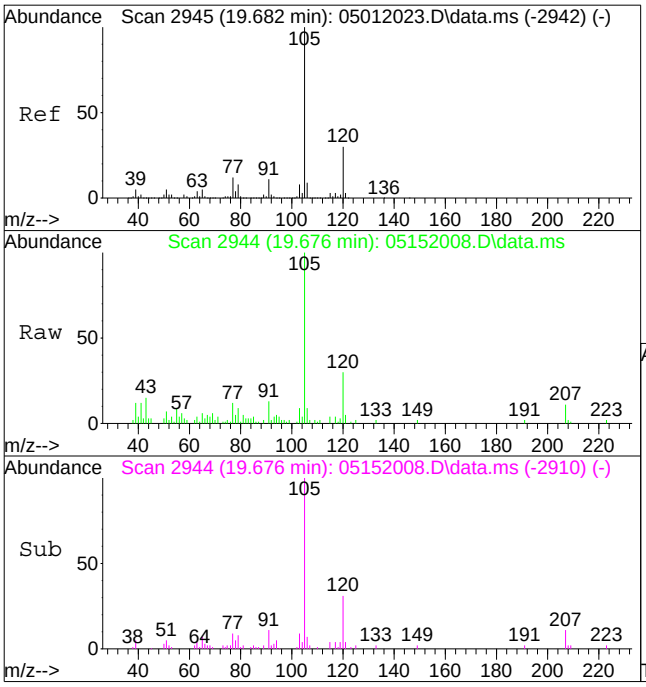


#76
n-Propylbenzene
Concen: 0.13 ng
RT: 19.54 min Scan# 2920
Delta R.T. -0.011 min
Lab File: 05152008.D
Acq: 15 May 2020 7:44

Tgt Ion: 91 Resp: 20286

Ion	Ratio	Lower	Upper
91	100		
120	22.9	3.1	43.1
65	126.0	0.0	30.9#

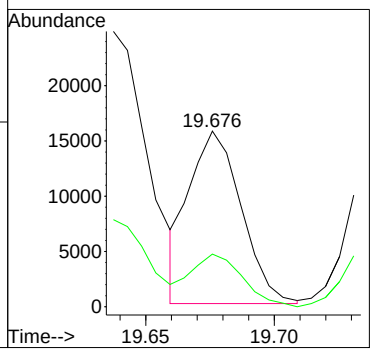


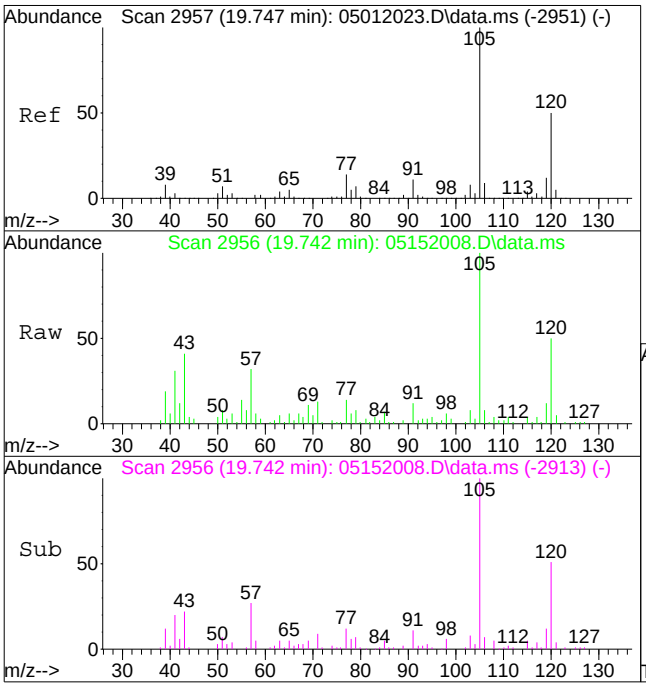


#78
4-Ethyltoluene
Concen: 0.18 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05152008.D
Acq: 15 May 2020 7:44

Tgt Ion:105 Resp: 22076

Ion	Ratio	Lower	Upper
105	100		
120	30.7	10.4	50.4

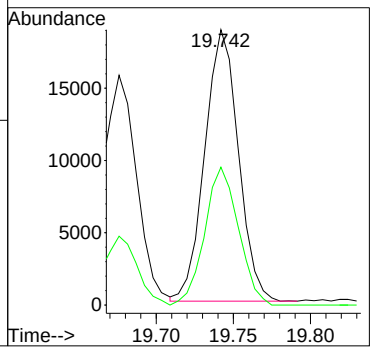


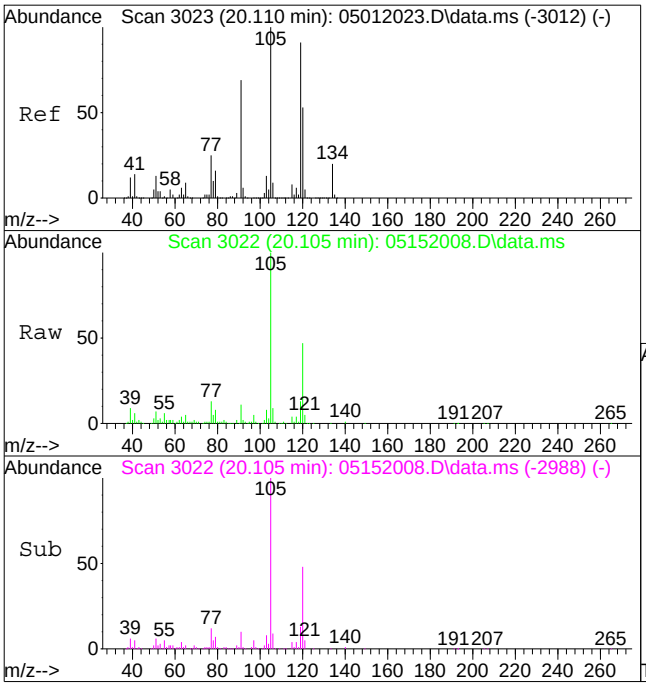


#79
1,3,5-Trimethylbenzene
Concen: 0.27 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05152008.D
Acq: 15 May 2020 7:44

Tgt Ion:105 Resp: 28453

Ion	Ratio	Lower	Upper
105	100		
120	51.0	29.9	69.9

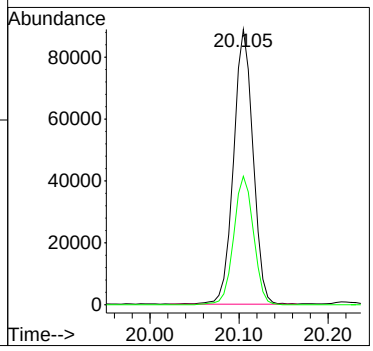


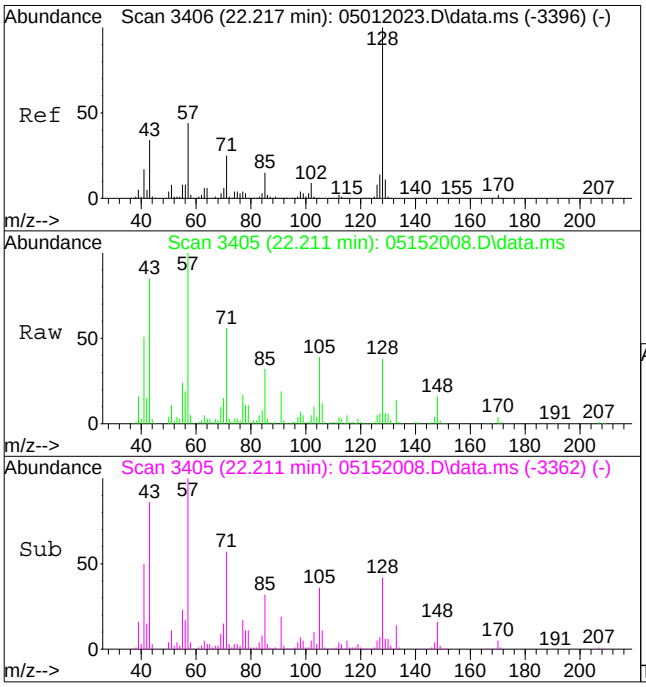


#82
1,2,4-Trimethylbenzene
Concen: 1.28 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05152008.D
Acq: 15 May 2020 7:44

Tgt Ion:105 Resp: 134479

Ion	Ratio	Lower	Upper
105	100		
120	47.6	33.6	73.6

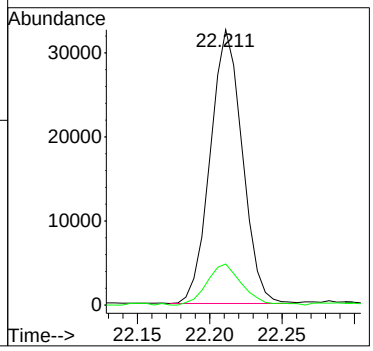




#95
Naphthalene
Concen: 0.39 ng
RT: 22.21 min Scan# 3405
Delta R.T. -0.011 min
Lab File: 05152008.D
Acq: 15 May 2020 7:44

Tgt Ion:128 Resp: 50191

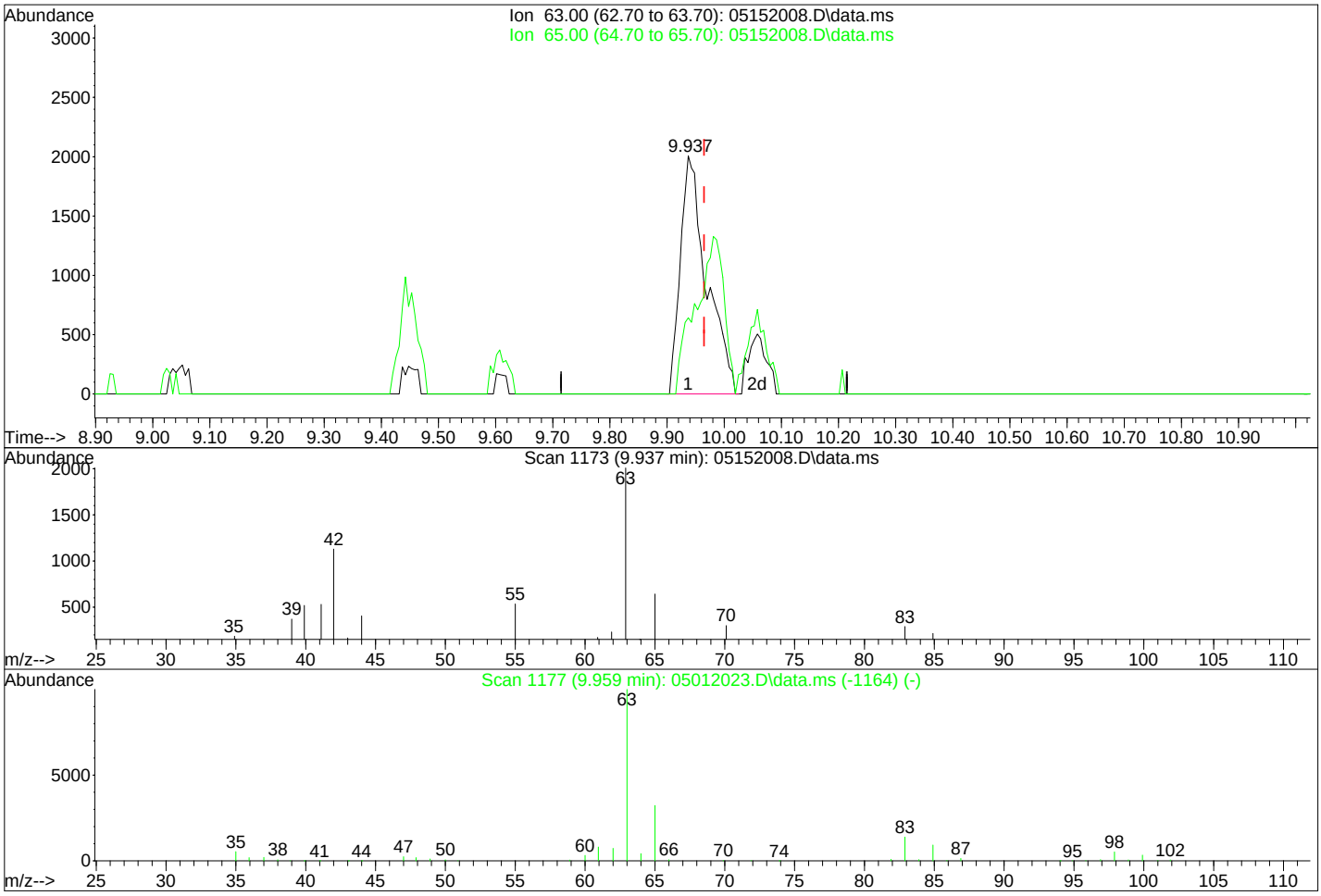
Ion	Ratio	Lower	Upper
128	100		
129	16.5	0.0	31.0



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\15\05152008.D Vial: 13
Acq On : 15 May 2020 7:44 Operator: LH
Sample : P2002302-012 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 09:29:21 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05152008.D\data.ms

(24) 1,1-Dichloroethane (T)

9.937min (-0.028) 0.13ng

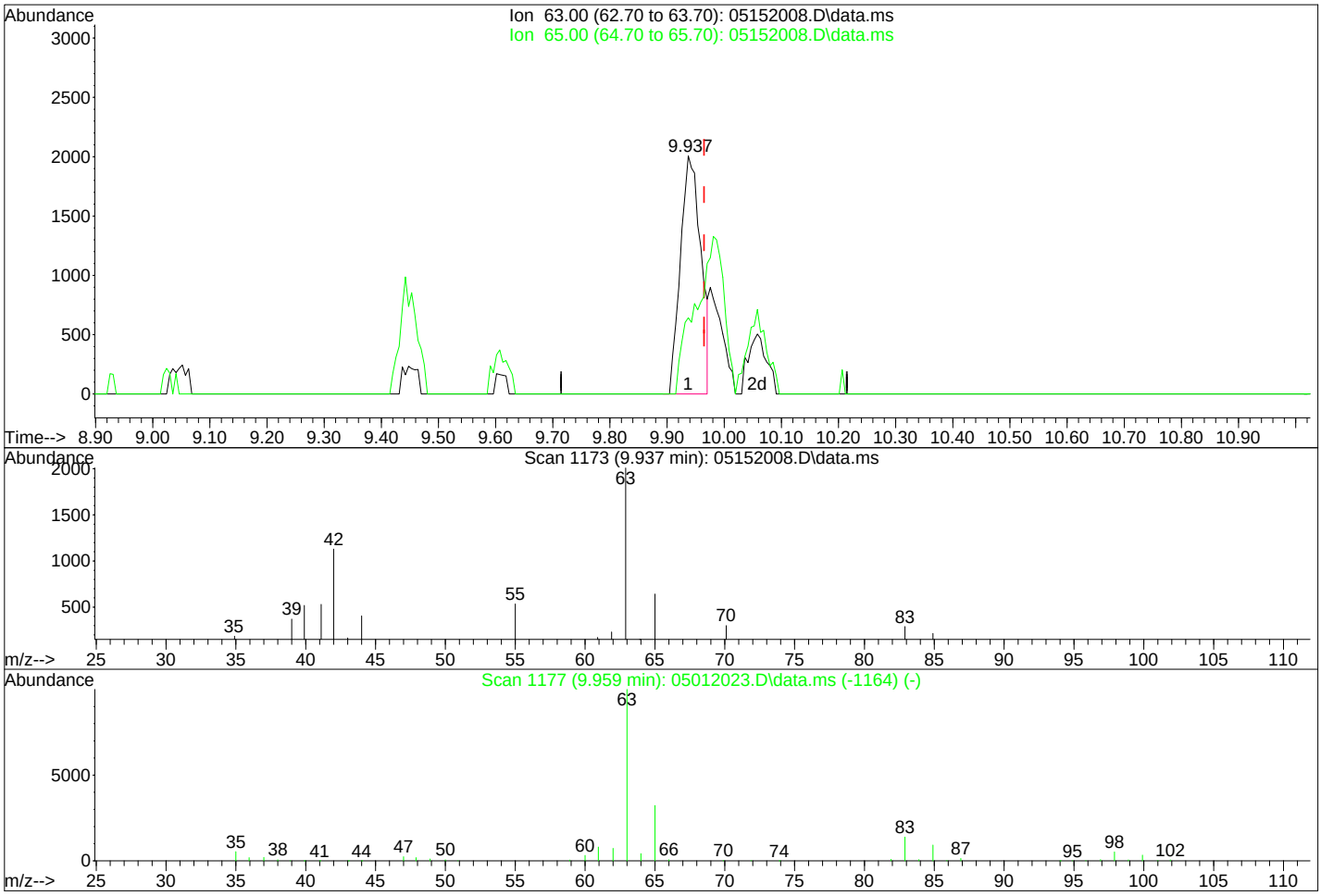
response 6404

Ion	Exp%	Act%
63.00	100	100
65.00	31.80	71.46#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\15\05152008.D Vial: 13
Acq On : 15 May 2020 7:44 Operator: LH
Sample : P2002302-012 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 09:29:21 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05152008.D\data.ms

(24) 1,1-Dichloroethane (T)

9.937min (-0.028) 0.10ng m

response 4970

Ion	Exp%	Act%
63.00	100	100
65.00	31.80	92.07#
0.00	0.00	0.00
0.00	0.00	0.00

IPC

LH 5/15/20

5/17/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152017.D Vial: 13
Acq On : 15 May 2020 15:53 Operator: LH
Sample : P2002302-012dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 18:18:35 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/15/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	293675	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1271079	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	586906	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	471239	11.840	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.72%				
57) Toluene-d8 (SS2)	15.71	98	1227858	12.343	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.72%				
73) Bromofluorobenzene (SS3)	18.97	174	467742	13.067	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.56%				
Target Compounds							Qvalue
2) Propene	4.11	42	9302	0.273	ng		98
3) Dichlorodifluoromethan...	4.26	85	1042	N.D.			
4) Chloromethane	4.53	50	3287	0.063	ng		97
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	4.94	62	761386	13.322	ng		100
7) 1,3-Butadiene	5.15	54	961	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.97	64	11158	0.494	ng		100
10) Ethanol	6.46	45	467	N.D.			
11) Acetonitrile	6.60	41	3176	0.053	ng	#	71
12) Acrolein	6.79	56	2157	0.104	ng		100
13) Acetone	7.01	58	35882	1.366	ng	#	53
14) Trichlorofluoromethane	7.24	101	180	N.D.			
15) 2-Propanol (Isopropanol)	7.56	45	1429	N.D.			
16) Acrylonitrile	7.84	53	798	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.44	59	1376	N.D.			
19) Methylene Chloride	8.41	84	333	N.D.			
20) 3-Chloro-1-propene (Al...	8.50	41	393	N.D.			
21) Trichlorotrifluoroethane	8.84	151	6417	0.231	ng		97
22) Carbon Disulfide	8.67	76	64590	0.528	ng		98
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	9.94	63	195	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	10.17	86	3226	0.394	ng	#	49
27) 2-Butanone (MEK)	10.48	72	3379	0.151	ng	#	87
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	11.26	57	2064	N.D.			
32) Chloroform	11.31	83	280	N.D.			
34) Tetrahydrofuran (THF)	11.77	72	859	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	1964	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	11110	0.082	ng		99
42) Carbon Tetrachloride	13.03	117	2517	0.054	ng		99
43) Cyclohexane	13.16	84	7786	0.153	ng		97
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	14.01	83	699	N.D.			
47) Trichloroethene	13.96	130	1139	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152017.D Vial: 13
Acq On : 15 May 2020 15:53 Operator: LH
Sample : P2002302-012dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 18:18:35 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

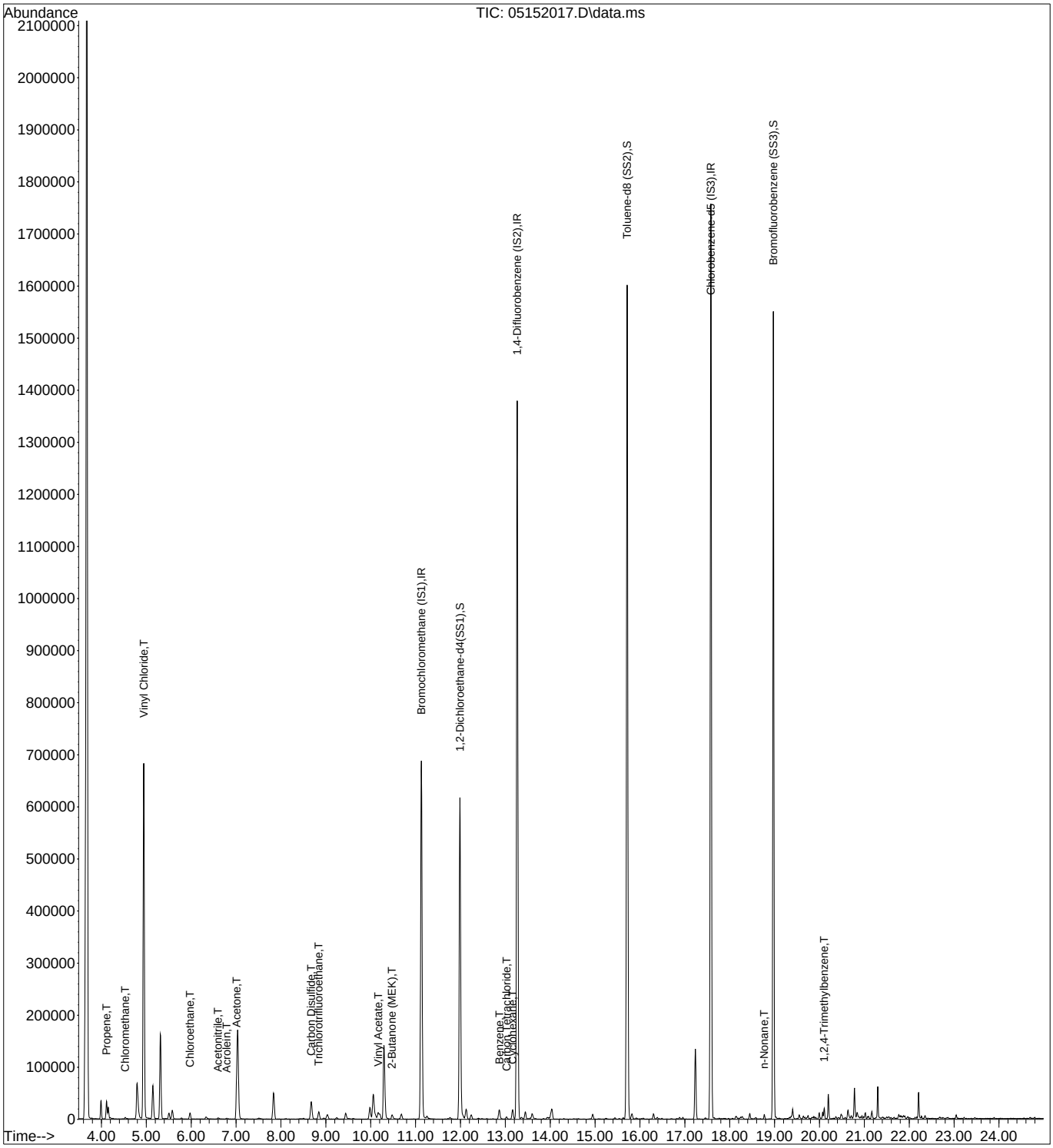
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.30	71	201	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.82	91	4705	N.D.	
59) 2-Hexanone	16.07	43	1794	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.70	43	653	N.D.	
63) n-Octane	16.82	57	165	N.D.	
64) Tetrachloroethene	16.96	166	1159	N.D.	
65) Chlorobenzene	17.61	112	110	N.D.	
66) Ethylbenzene	17.98	91	1029	N.D.	
67) m- & p-Xylenes	18.14	91	4533	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	362	N.D.	
70) o-Xylene	18.58	91	1029	N.D.	
71) n-Nonane	18.77	43	3335	0.055 ng	85
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	19.10	105	584	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	19.55	91	1670	N.D.	
77) 3-Ethyltoluene	19.64	105	3424	N.D.	
78) 4-Ethyltoluene	19.68	105	1898	N.D.	
79) 1,3,5-Trimethylbenzene	19.74	105	2360	N.D.	
80) alpha-Methylstyrene	19.87	118	1660	N.D.	
81) 2-Ethyltoluene	19.91	105	1260	N.D.	
82) 1,2,4-Trimethylbenzene	20.10	105	10912	0.094 ng	93
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.21	91	447	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	20.34	105	607	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	1267	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	3967	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.62	68	111	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.21	128	4649	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.10	119	1567	N.D.	
100) n-Butylbenzene	20.85	91	3742	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152017.D Vial: 13
Acq On : 15 May 2020 15:53 Operator: LH
Sample : P2002302-012dil (40mL) Inst : GCMS-16
Misc : S31-02112001

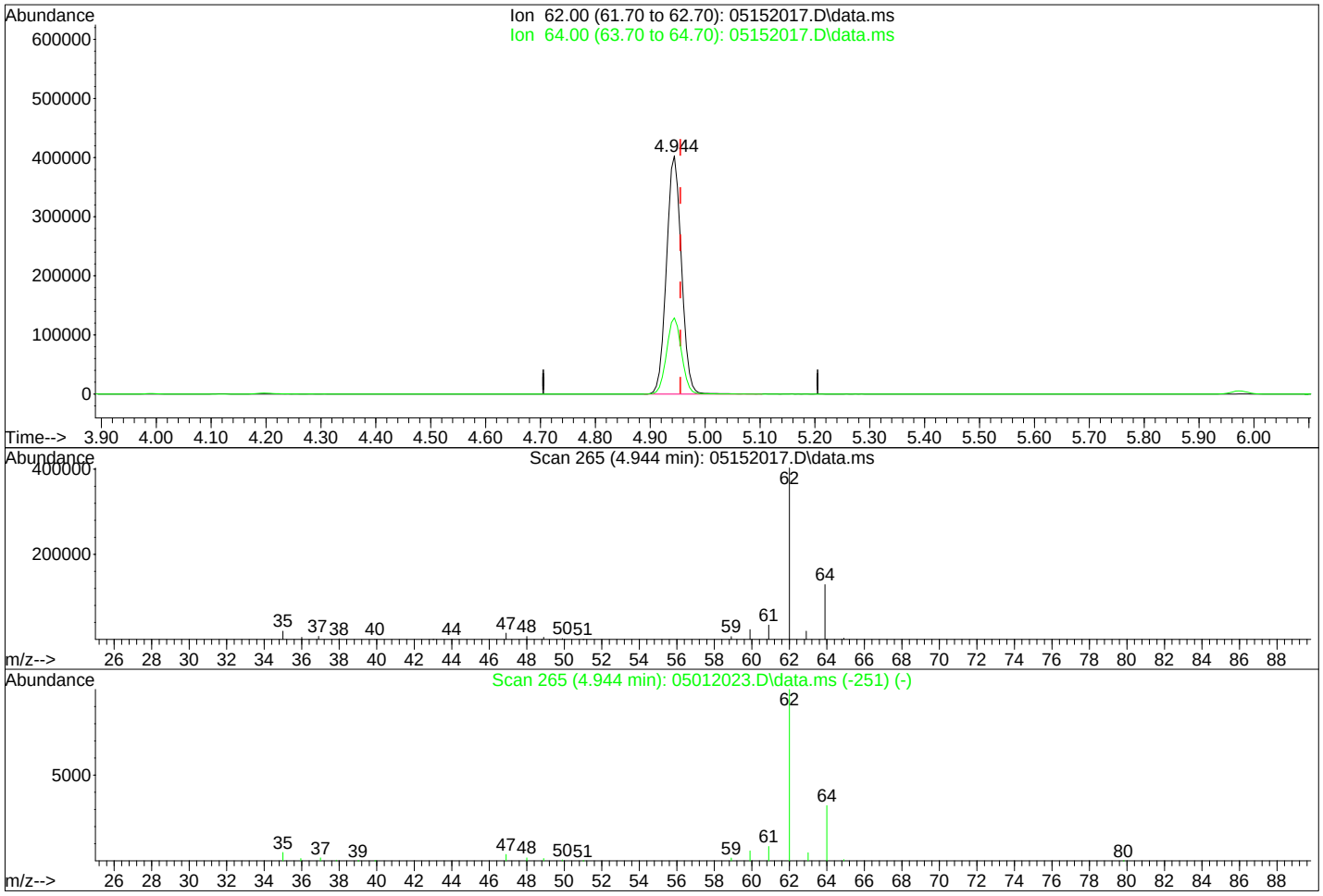
Quant Time: May 15 18:18:35 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\15\05152017.D Vial: 13
Acq On : 15 May 2020 15:53 Operator: LH
Sample : P2002302-012dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 18:17:58 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05152017.D\data.ms

(6) Vinyl Chloride (T)

4.944min (-0.011) 13.32ng

response 761386

Ion	Exp%	Act%
62.00	100	100
64.00	32.10	32.02
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152009.D Vial: 14
Acq On : 15 May 2020 8:18 Operator: LH
Sample : P2002302-013 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 16:15:23 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/15/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	267751	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1146853	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	534449	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	427447	11.780	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.24%				
57) Toluene-d8 (SS2)	15.72	98	1113005	12.286	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.32%				
73) Bromofluorobenzene (SS3)	18.97	174	431252	13.230	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.84%				
Target Compounds							Qvalue
2) Propene	4.09	42	37294m	1.203	ng		
3) Dichlorodifluoromethan...	4.25	85	102304	1.687	ng		100
4) Chloromethane	4.53	50	38225	0.804	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	780	N.D.			
6) Vinyl Chloride	4.95	62	2372420	45.530	ng		100
7) 1,3-Butadiene	5.22	54	898	N.D.			
8) Bromomethane	5.65	94	935	N.D.			
9) Chloroethane	5.98	64	12175	0.591	ng		99
10) Ethanol	6.36	45	1224124	51.121	ng		100
11) Acetonitrile	6.59	41	55320	1.011	ng		99
12) Acrolein	6.80	56	6956	0.368	ng		98
13) Acetone	7.01	58	190346	7.949	ng	#	1
14) Trichlorofluoromethane	7.24	101	41404	0.772	ng		100
15) 2-Propanol (Isopropanol)	7.51	45	144123	1.988	ng		94
16) Acrylonitrile	7.75	53	17526	0.448	ng		98
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.41	84	1705	0.055	ng		98
20) 3-Chloro-1-propene (Al...	8.58	41	649	N.D.			
21) Trichlorotrifluoroethane	8.85	151	8398397	331.844	ng		100
22) Carbon Disulfide	8.68	76	876637	7.859	ng		99
23) trans-1,2-Dichloroethene	9.46	61	109	N.D.			
24) 1,1-Dichloroethane	9.95	63	531	N.D.			
25) Methyl tert-Butyl Ether	10.06	73	189	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.46	72	25298	1.239	ng		98
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.28	61	13420	1.140	ng		89
31) n-Hexane	11.26	57	247230	4.840	ng		99
32) Chloroform	11.31	83	42698	0.801	ng		97
34) Tetrahydrofuran (THF)	11.72	72	55139	2.768	ng		96
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	7776	0.184	ng		97
38) 1,1,1-Trichloroethane	12.40	97	1656	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	501045	4.074	ng		100
42) Carbon Tetrachloride	13.03	117	164601	3.935	ng		100
43) Cyclohexane	13.16	84	96807	2.112	ng		99
44) tert-Amyl Methyl Ether	13.53	73	124	N.D.			
45) 1,2-Dichloropropane	13.73	63	606	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	13.97	130	248346	7.812	ng		98
48) 1,4-Dioxane	0.00	88	0	N.D.	d		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.11	100	230	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152009.D Vial: 14
Acq On : 15 May 2020 8:18 Operator: LH
Sample : P2002302-013 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 16:15:23 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

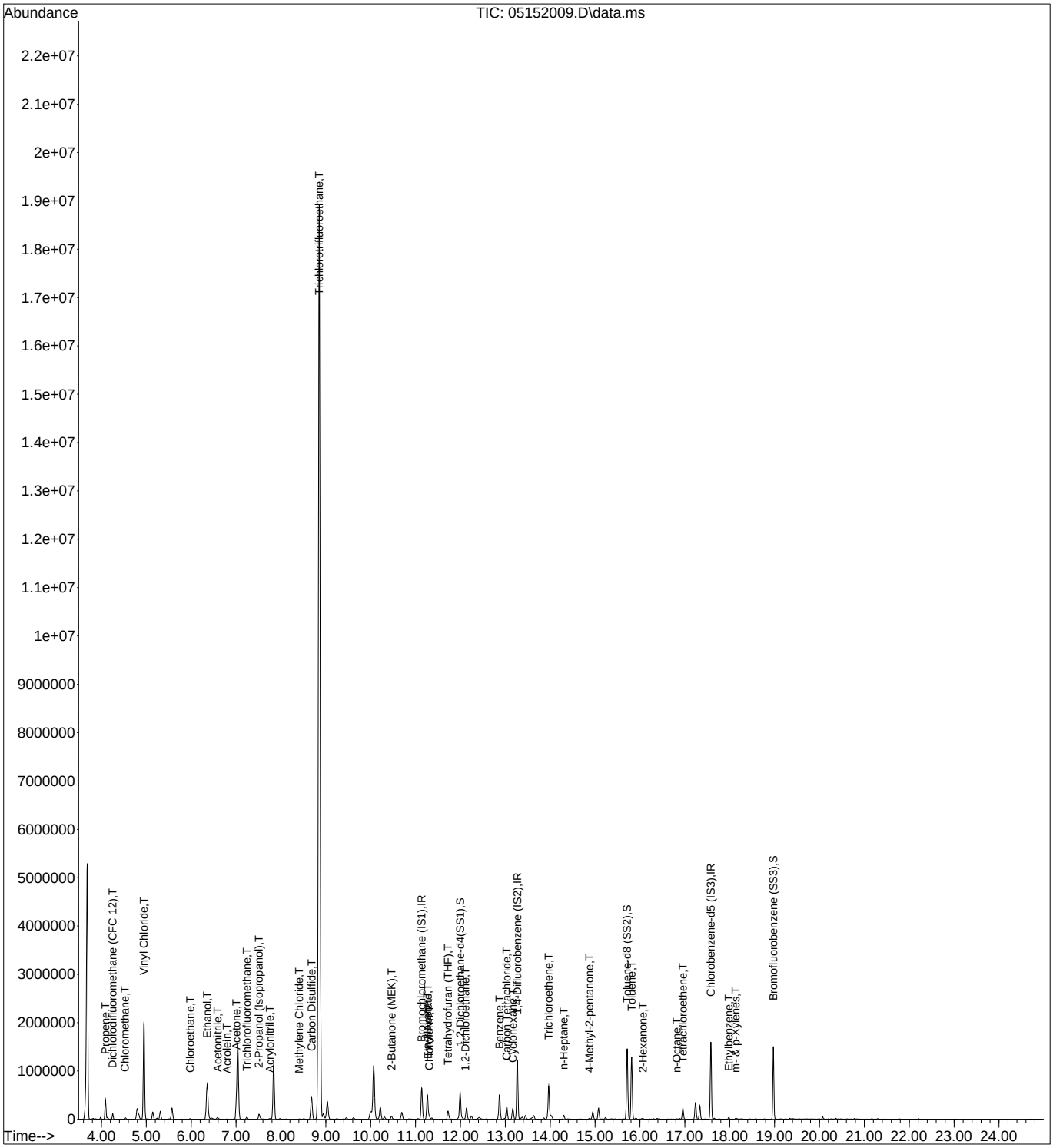
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.30	71	21225	0.738 ng		99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.88	58	3191	0.116 ng		90
54) trans-1,3-Dichloropropene	15.30	75	563	N.D.		
55) 1,1,2-Trichloroethane	15.44	97	183	N.D.		
58) Toluene	15.82	91	1062992	9.103 ng		100
59) 2-Hexanone	16.07	43	7632	0.119 ng		82
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.70	43	1268	N.D.		
63) n-Octane	16.82	57	1665	0.069 ng	#	79
64) Tetrachloroethene	16.96	166	78459	2.379 ng		100
65) Chlorobenzene	17.65	112	2648	N.D.		
66) Ethylbenzene	17.98	91	32234	0.248 ng		98
67) m- & p-Xylenes	18.14	91	15969	0.155 ng		99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	840	N.D.		
70) o-Xylene	18.57	91	5147	N.D.		
71) n-Nonane	18.77	43	2344	N.D.		
72) 1,1,2,2-Tetrachloroethane	18.55	83	110	N.D.		
74) Cumene	19.10	105	1723	N.D.		
75) alpha-Pinene	19.44	93	1629	N.D.		
76) n-Propylbenzene	19.55	91	1888	N.D.		
77) 3-Ethyltoluene	19.64	105	2151	N.D.		
78) 4-Ethyltoluene	19.68	105	1597	N.D.		
79) 1,3,5-Trimethylbenzene	19.74	105	1060	N.D.		
80) alpha-Methylstyrene	19.88	118	367	N.D.		
81) 2-Ethyltoluene	19.91	105	1471	N.D.		
82) 1,2,4-Trimethylbenzene	20.10	105	3279	N.D.		
83) n-Decane	20.20	57	2491	N.D.		
84) Benzyl Chloride	20.23	91	1038	N.D.		
85) 1,3-Dichlorobenzene	20.24	146	424	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	715	N.D.		
87) sec-Butylbenzene	20.35	105	1143	N.D.		
88) 4-Isopropyltoluene (p-...	20.48	119	1399	N.D.		
89) 1,2,3-Trimethylbenzene	20.48	105	1831	N.D.		
90) 1,2-Dichlorobenzene	20.61	146	400	N.D.		
91) d-Limonene	20.61	68	988	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	22.11	180	666	N.D.		
95) Naphthalene	22.21	128	3855	N.D.		
96) n-Dodecane	22.21	57	2060	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	20.10	119	408	N.D.		
100) n-Butylbenzene	20.85	91	1912	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152009.D Vial: 14
Acq On : 15 May 2020 8:18 Operator: LH
Sample : P2002302-013 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 16:15:23 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152009.D Vial: 14
Acq On : 15 May 2020 8:18 Operator: LH
Sample : P2002302-013 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 16:15:23 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/15/20

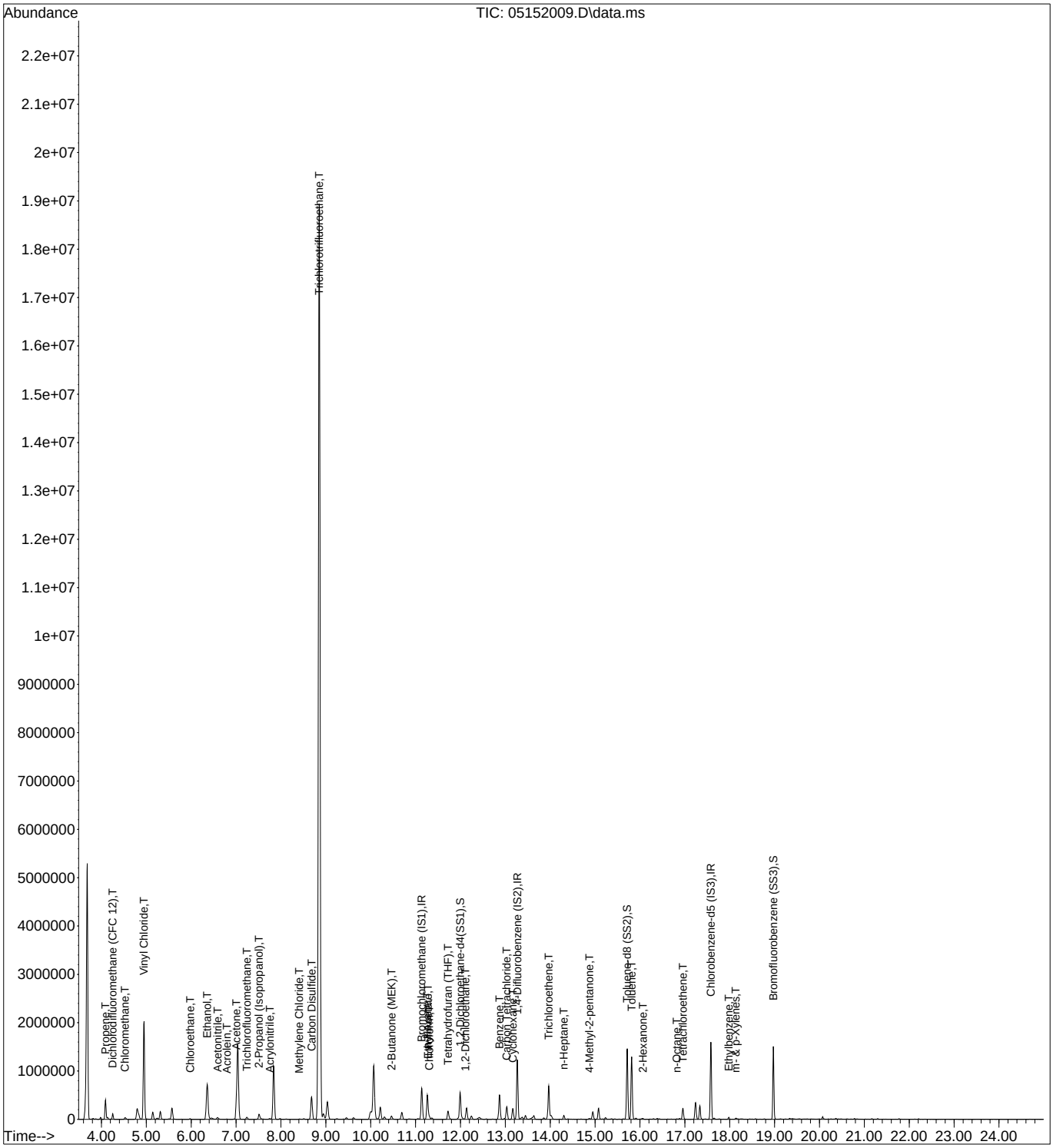
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	267751	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1146853	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	534449	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	427447	11.780	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.24%				
57) Toluene-d8 (SS2)	15.72	98	1113005	12.286	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.32%				
73) Bromofluorobenzene (SS3)	18.97	174	431252	13.230	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.84%				
Target Compounds							Qvalue
2) Propene	4.09	42	37294m	1.203	ng		
3) Dichlorodifluoromethan...	4.25	85	102304	1.687	ng		100
4) Chloromethane	4.53	50	38225	0.804	ng		99
6) Vinyl Chloride	4.95	62	2372420	45.530	ng		100
9) Chloroethane	5.98	64	12175	0.591	ng		99
10) Ethanol	6.36	45	1224124	51.121	ng		100
11) Acetonitrile	6.59	41	55320	1.011	ng		99
12) Acrolein	6.80	56	6956	0.368	ng		98
13) Acetone	7.01	58	190346	7.949	ng	#	1
14) Trichlorofluoromethane	7.24	101	41404	0.772	ng		100
15) 2-Propanol (Isopropanol)	7.51	45	144123	1.988	ng		94
16) Acrylonitrile	7.75	53	17526	0.448	ng		98
19) Methylene Chloride	8.41	84	1705	0.055	ng		98
21) Trichlorotrifluoroethane	8.85	151	8398397	331.844	ng		100
22) Carbon Disulfide	8.68	76	876637	7.859	ng		99
27) 2-Butanone (MEK)	10.46	72	25298	1.239	ng		98
30) Ethyl Acetate	11.28	61	13420	1.140	ng		89
31) n-Hexane	11.26	57	247230	4.840	ng		99
32) Chloroform	11.31	83	42698	0.801	ng		97
34) Tetrahydrofuran (THF)	11.72	72	55139	2.768	ng		96
36) 1,2-Dichloroethane	12.11	62	7776	0.184	ng		97
41) Benzene	12.87	78	501045	4.074	ng		100
42) Carbon Tetrachloride	13.03	117	164601	3.935	ng		100
43) Cyclohexane	13.16	84	96807	2.112	ng		99
47) Trichloroethene	13.97	130	248346	7.812	ng		98
51) n-Heptane	14.30	71	21225	0.738	ng		99
53) 4-Methyl-2-pentanone	14.88	58	3191	0.116	ng		90
58) Toluene	15.82	91	1062992	9.103	ng		100
59) 2-Hexanone	16.07	43	7632	0.119	ng		82
63) n-Octane	16.82	57	1665	0.069	ng	#	79
64) Tetrachloroethene	16.96	166	78459	2.379	ng		100
66) Ethylbenzene	17.98	91	32234	0.248	ng		98
67) m- & p-Xylenes	18.14	91	15969	0.155	ng		99

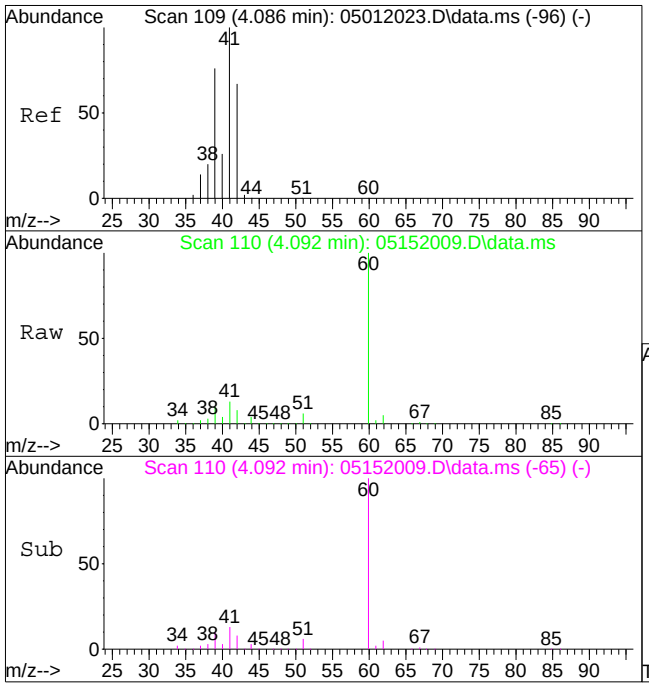
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152009.D Vial: 14
Acq On : 15 May 2020 8:18 Operator: LH
Sample : P2002302-013 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 16:15:23 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

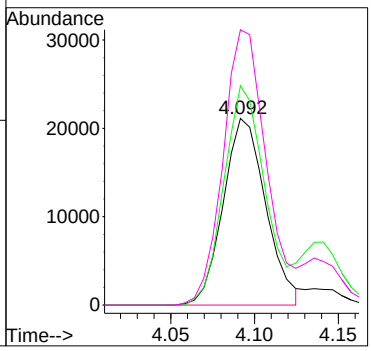


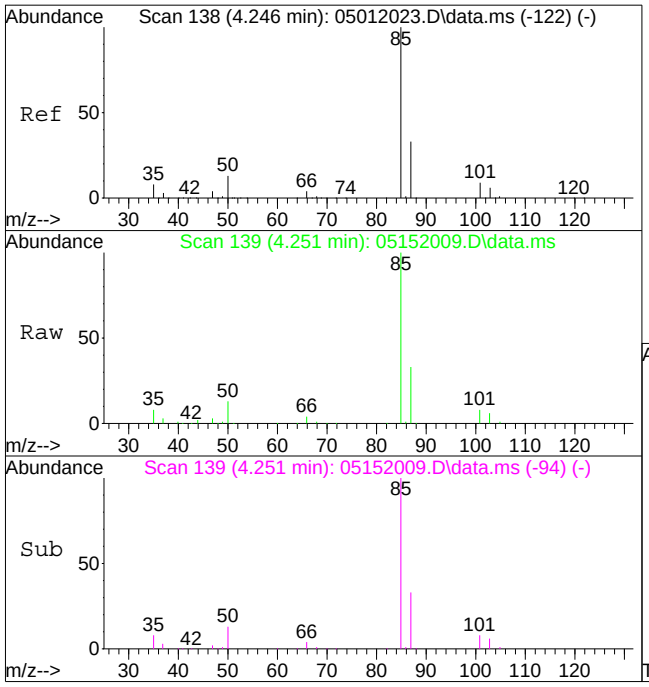


#2
Propene
Concen: 1.20 ng m
RT: 4.09 min Scan# 110
Delta R.T. -0.000 min
Lab File: 05152009.D
Acq: 15 May 2020 8:18

Tgt Ion: 42 Resp: 37294

Ion	Ratio	Lower	Upper
42	100		
39	117.4	96.1	136.1
41	149.9	131.9	171.9

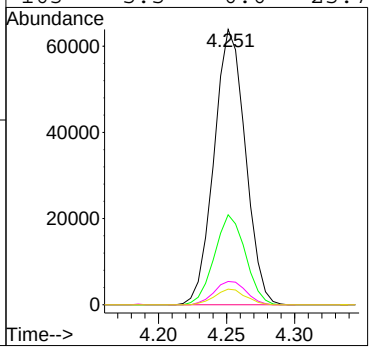


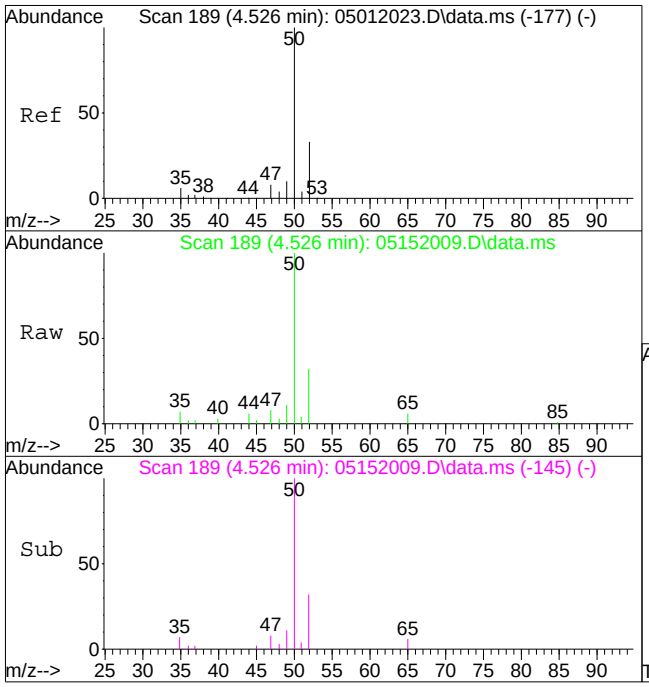


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.69 ng
RT: 4.25 min Scan# 139
Delta R.T. -0.000 min
Lab File: 05152009.D
Acq: 15 May 2020 8:18

Tgt Ion: 85 Resp: 102304

Ion	Ratio	Lower	Upper
85	100		
87	32.2	12.4	52.4
101	8.6	0.0	28.8
103	5.5	0.0	25.7

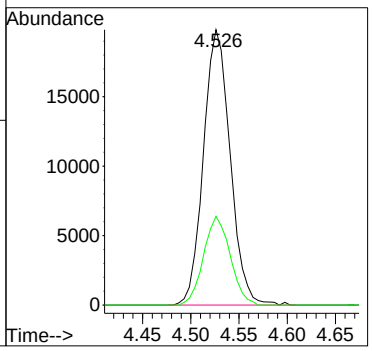


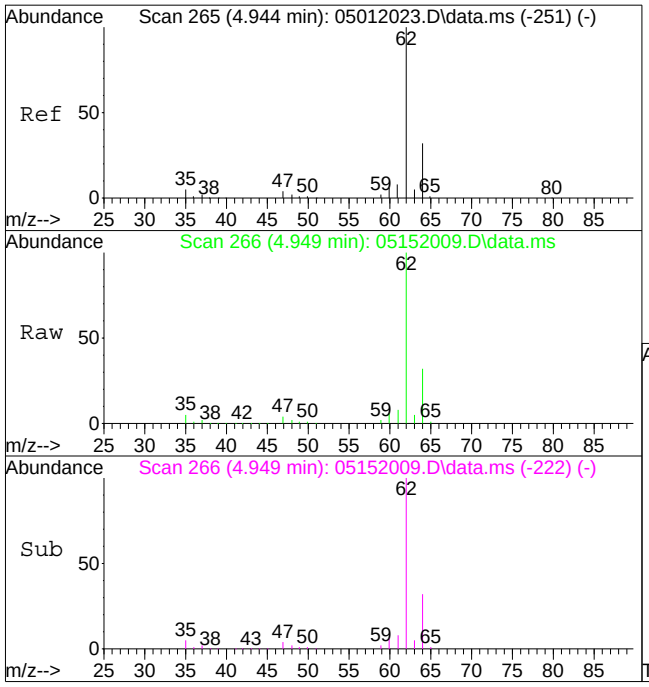


#4
Chloromethane
Concen: 0.80 ng
RT: 4.53 min Scan# 189
Delta R.T. -0.006 min
Lab File: 05152009.D
Acq: 15 May 2020 8:18

Tgt Ion: 50 Resp: 38225

Ion	Ratio	Lower	Upper
50	100		
52	32.1	12.5	52.5

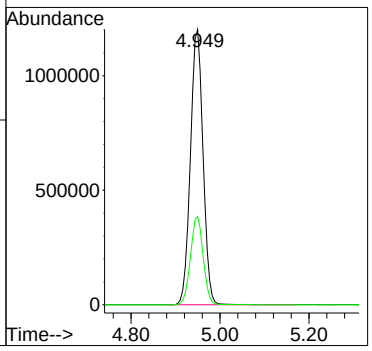


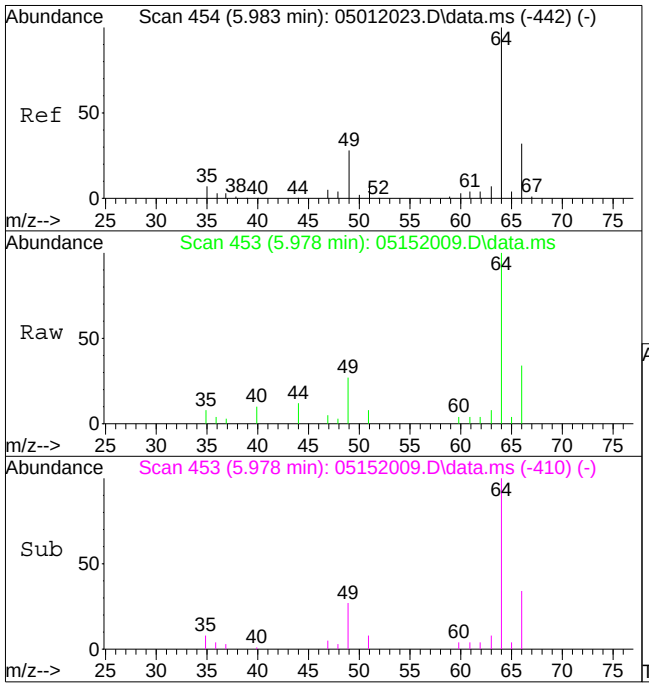


#6
Vinyl Chloride
Concen: 45.53 ng
RT: 4.95 min Scan# 266
Delta R.T. -0.006 min
Lab File: 05152009.D
Acq: 15 May 2020 8:18

Tgt Ion: 62 Resp: 2372420

Ion	Ratio	Lower	Upper
62	100		
64	32.2	12.1	52.1

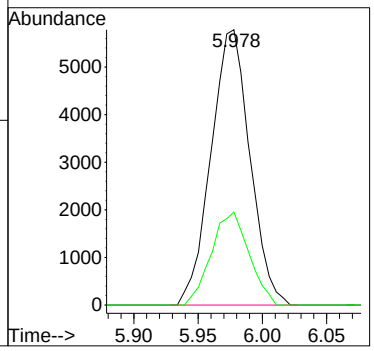


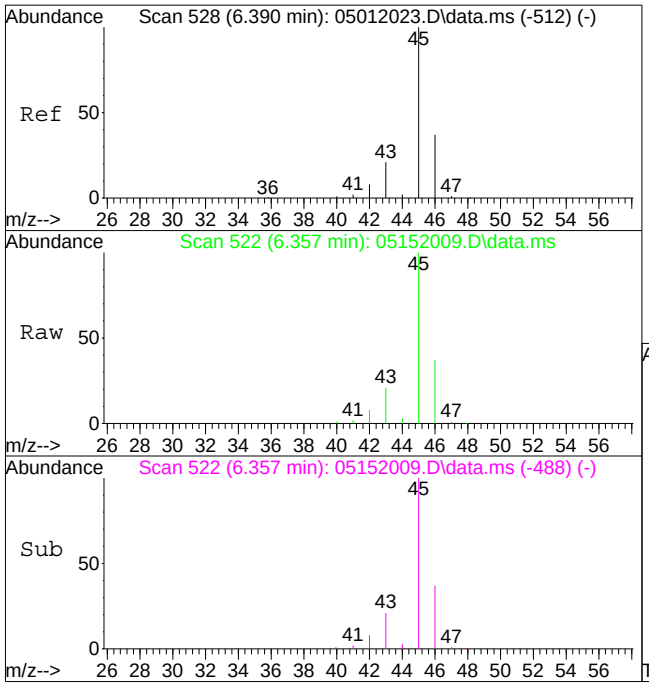


#9
Chloroethane
Concen: 0.59 ng
RT: 5.98 min Scan# 453
Delta R.T. -0.011 min
Lab File: 05152009.D
Acq: 15 May 2020 8:18

Tgt Ion: 64 Resp: 12175

Ion	Ratio	Lower	Upper
64	100		
66	32.7	12.1	52.1

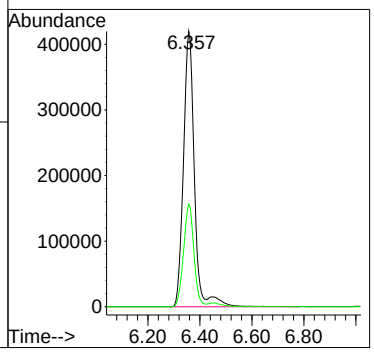


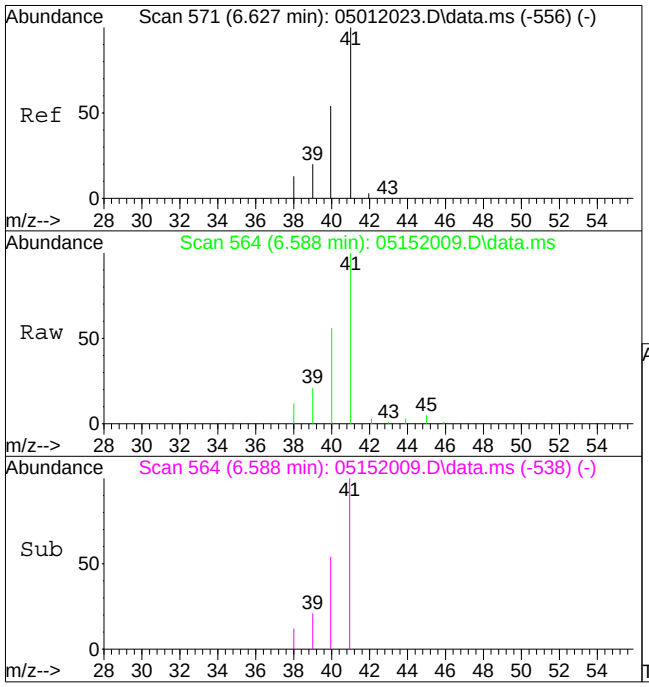


#10
Ethanol
Concen: 51.12 ng
RT: 6.36 min Scan# 522
Delta R.T. -0.061 min
Lab File: 05152009.D
Acq: 15 May 2020 8:18

Tgt Ion: 45 Resp: 1224124

Ion	Ratio	Lower	Upper
45	100		
46	37.2	17.2	57.2

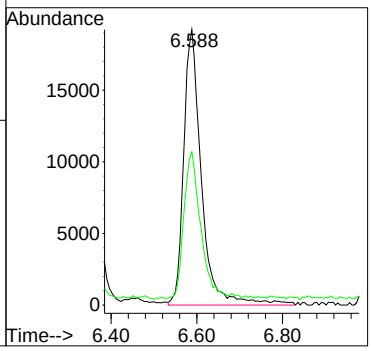


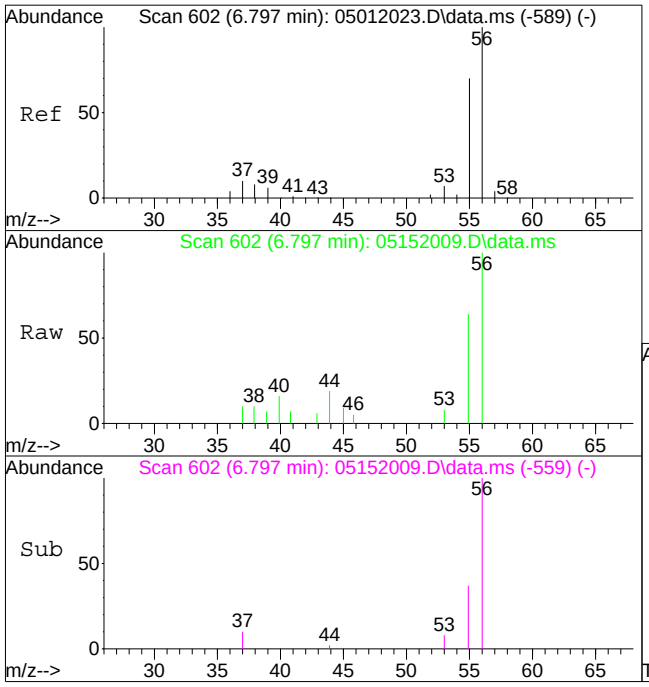


#11
Acetonitrile
Concen: 1.01 ng
RT: 6.59 min Scan# 564
Delta R.T. -0.055 min
Lab File: 05152009.D
Acq: 15 May 2020 8:18

Tgt Ion: 41 Resp: 55320

Ion	Ratio	Lower	Upper
41	100		
40	52.7	33.6	73.6

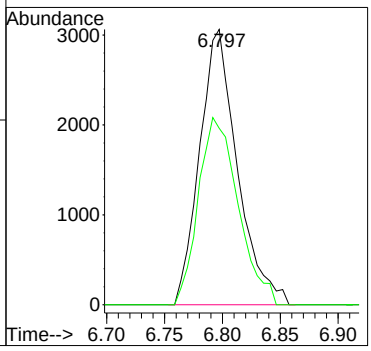


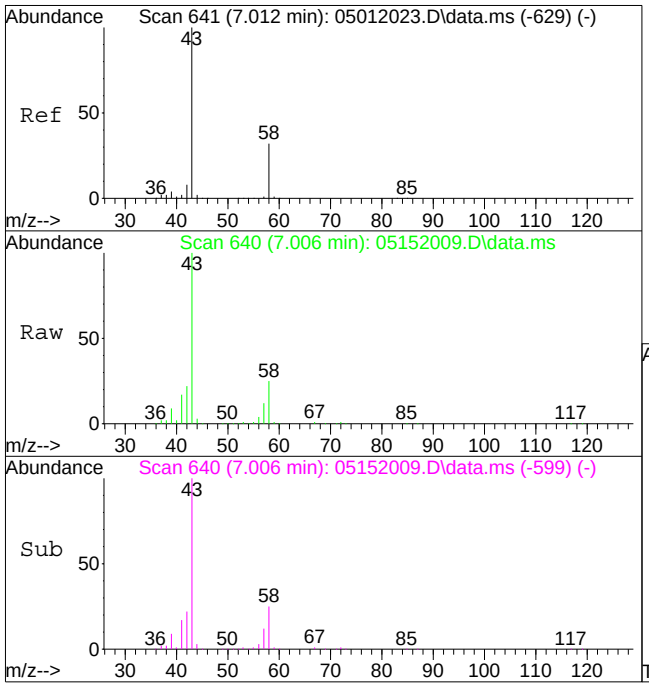


#12
Acrolein
Concen: 0.37 ng
RT: 6.80 min Scan# 602
Delta R.T. -0.011 min
Lab File: 05152009.D
Acq: 15 May 2020 8:18

Tgt Ion: 56 Resp: 6956

Ion	Ratio	Lower	Upper
56	100		
55	71.5	50.2	90.2

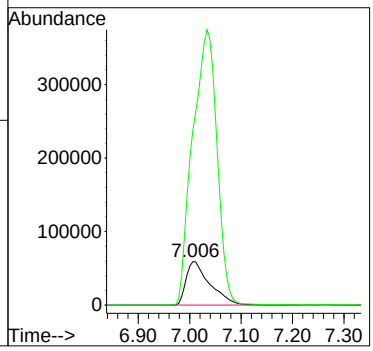


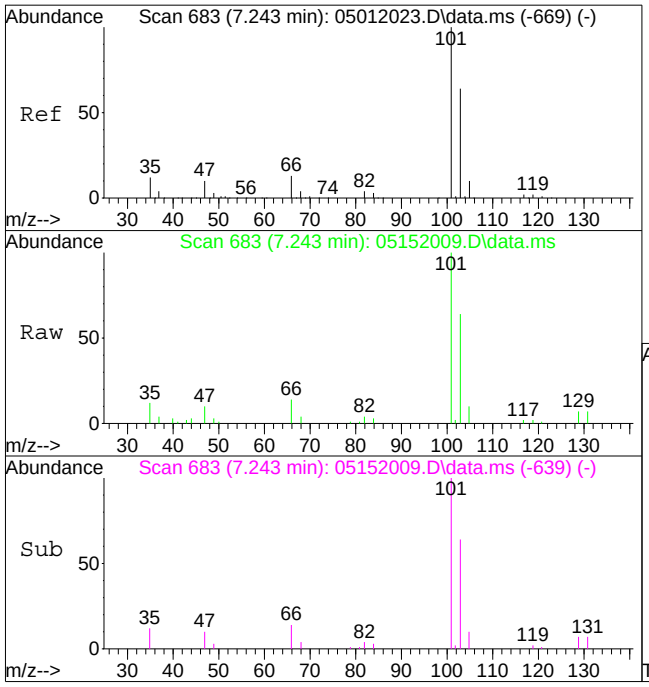


#13
Acetone
Concen: 7.95 ng
RT: 7.01 min Scan# 640
Delta R.T. -0.022 min
Lab File: 05152009.D
Acq: 15 May 2020 8:18

Tgt Ion: 58 Resp: 190346

Ion	Ratio	Lower	Upper
58	100		
43	649.8	294.4	354.4#

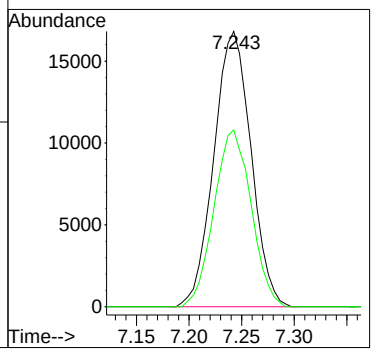


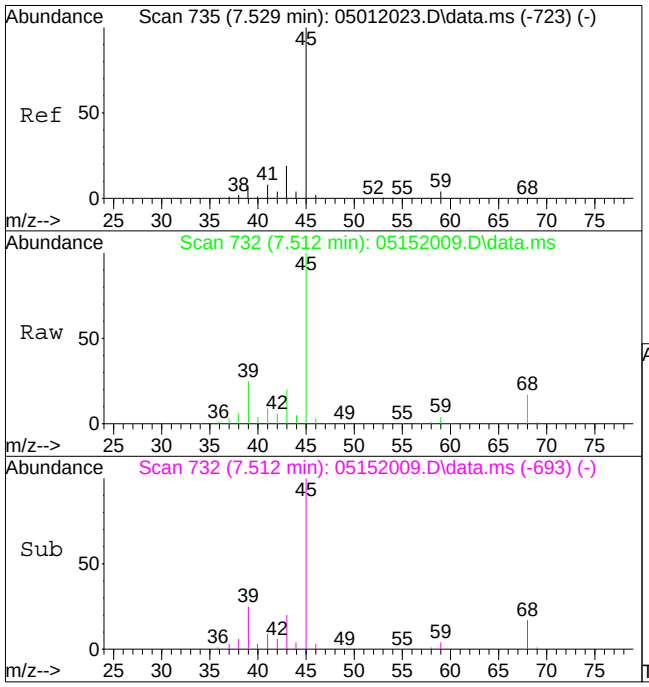


#14
Trichlorofluoromethane
Concen: 0.77 ng
RT: 7.24 min Scan# 683
Delta R.T. -0.006 min
Lab File: 05152009.D
Acq: 15 May 2020 8:18

Tgt Ion:101 Resp: 41404

Ion	Ratio	Lower	Upper
101	100		
103	64.1	44.4	84.4

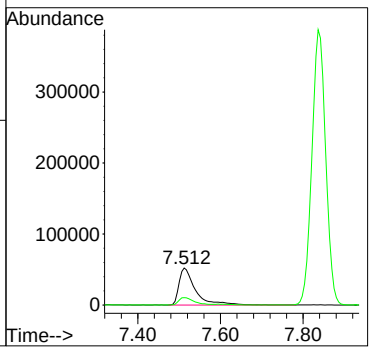


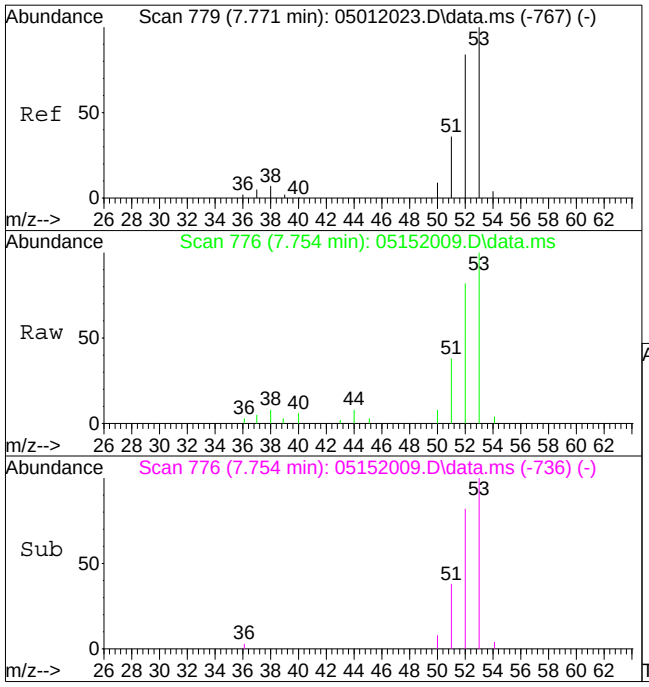


#15
2-Propanol (Isopropanol)
Concen: 1.99 ng
RT: 7.51 min Scan# 732
Delta R.T. -0.033 min
Lab File: 05152009.D
Acq: 15 May 2020 8:18

Tgt Ion: 45 Resp: 144123

Ion	Ratio	Lower	Upper
45	100		
43	22.2	0.0	39.5

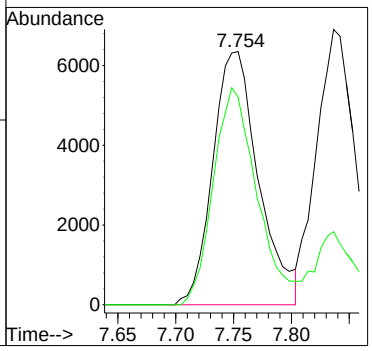


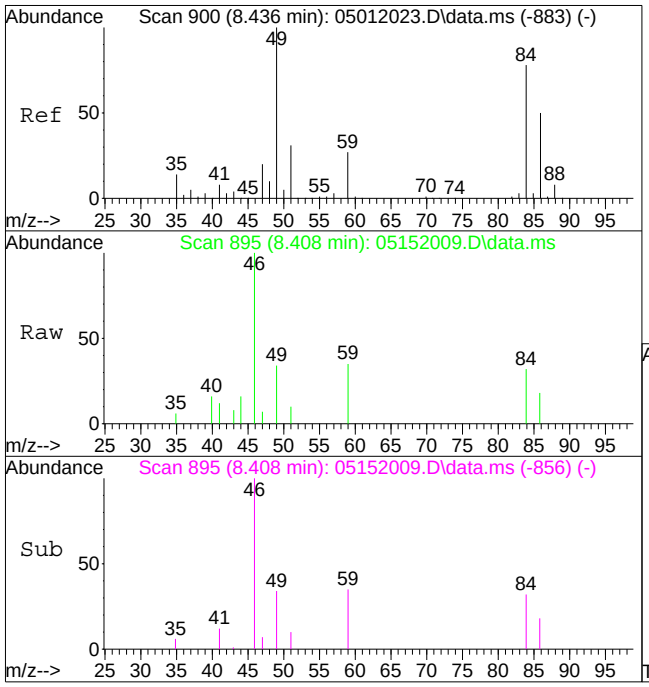


#16
Acrylonitrile
Concen: 0.45 ng
RT: 7.75 min Scan# 776
Delta R.T. -0.028 min
Lab File: 05152009.D
Acq: 15 May 2020 8:18

Tgt Ion: 53 Resp: 17526

Ion	Ratio	Lower	Upper
53	100		
52	85.7	63.7	103.7

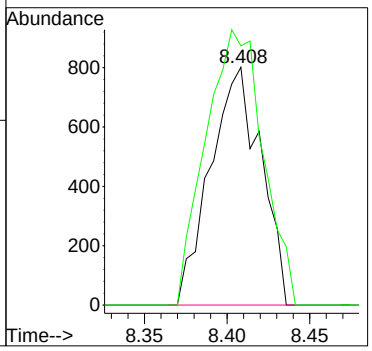


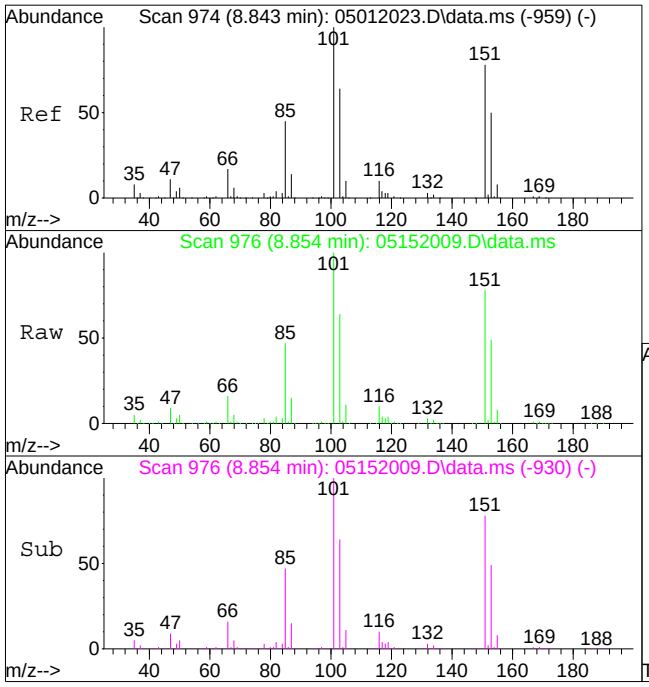


#19
Methylene Chloride
Concen: 0.05 ng
RT: 8.41 min Scan# 895
Delta R.T. -0.033 min
Lab File: 05152009.D
Acq: 15 May 2020 8:18

Tgt Ion: 84 Resp: 1705

Ion	Ratio	Lower	Upper
84	100		
49	131.6	104.8	154.8

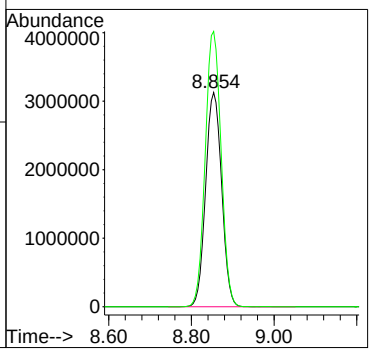


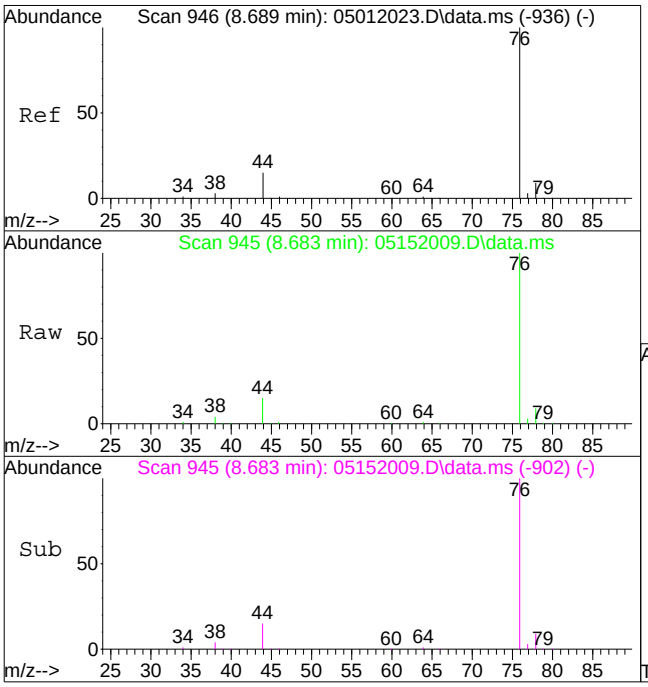


#21
Trichlorotrifluoroethane
Concen: 331.84 ng
RT: 8.85 min Scan# 976
Delta R.T. 0.005 min
Lab File: 05152009.D
Acq: 15 May 2020 8:18

Tgt Ion:151 Resp: 8398397

Ion	Ratio	Lower	Upper
151	100		
101	127.5	107.3	147.3

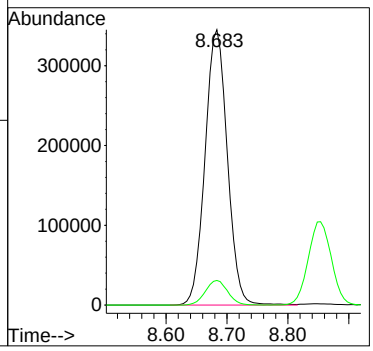


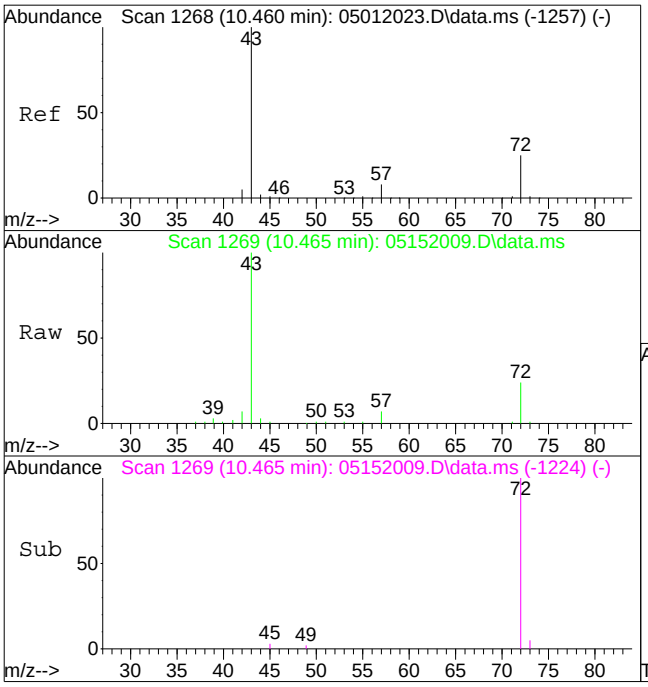


#22
Carbon Disulfide
Concen: 7.86 ng
RT: 8.68 min Scan# 945
Delta R.T. -0.011 min
Lab File: 05152009.D
Acq: 15 May 2020 8:18

Tgt Ion: 76 Resp: 876637

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	29.2

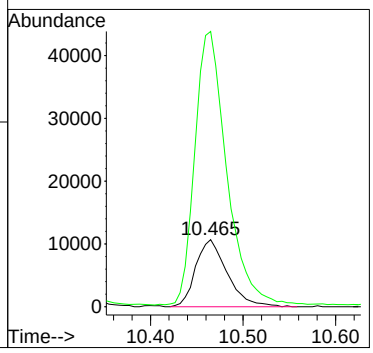


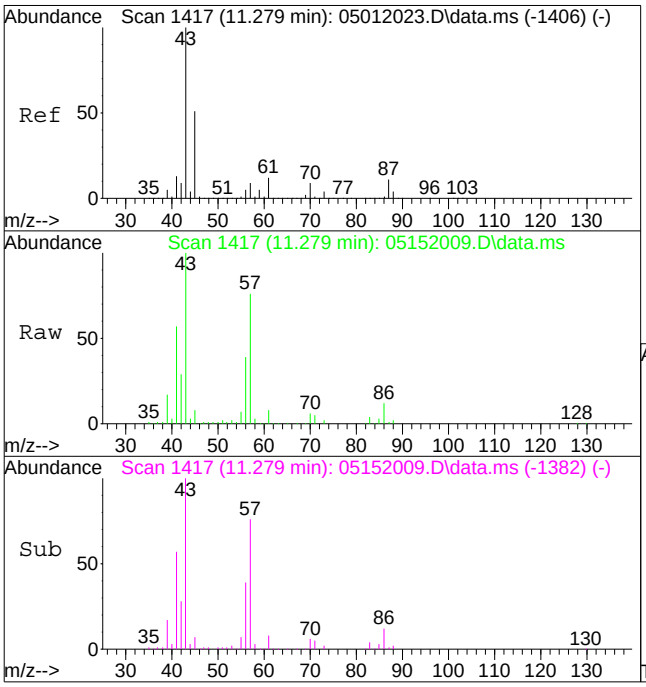


#27
2-Butanone (MEK)
Concen: 1.24 ng
RT: 10.46 min Scan# 1269
Delta R.T. -0.000 min
Lab File: 05152009.D
Acq: 15 May 2020 8:18

Tgt Ion: 72 Resp: 25298

Ion	Ratio	Lower	Upper
72	100		
43	413.3	389.7	429.7

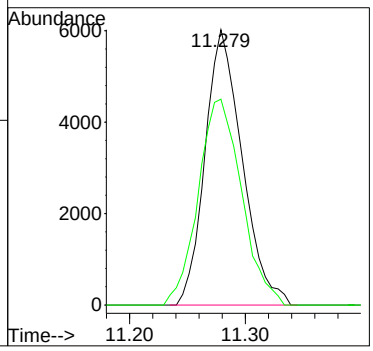


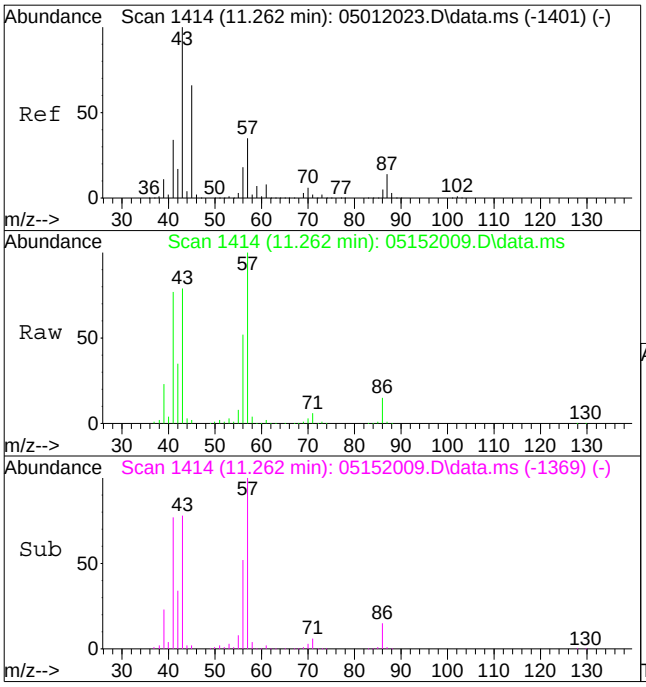


#30
Ethyl Acetate
Concen: 1.14 ng
RT: 11.28 min Scan# 1417
Delta R.T. -0.006 min
Lab File: 05152009.D
Acq: 15 May 2020 8:18

Tgt Ion: 61 Resp: 13420

Ion	Ratio	Lower	Upper
61	100		
70	87.1	57.9	97.9

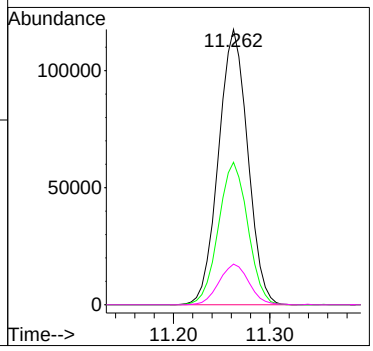


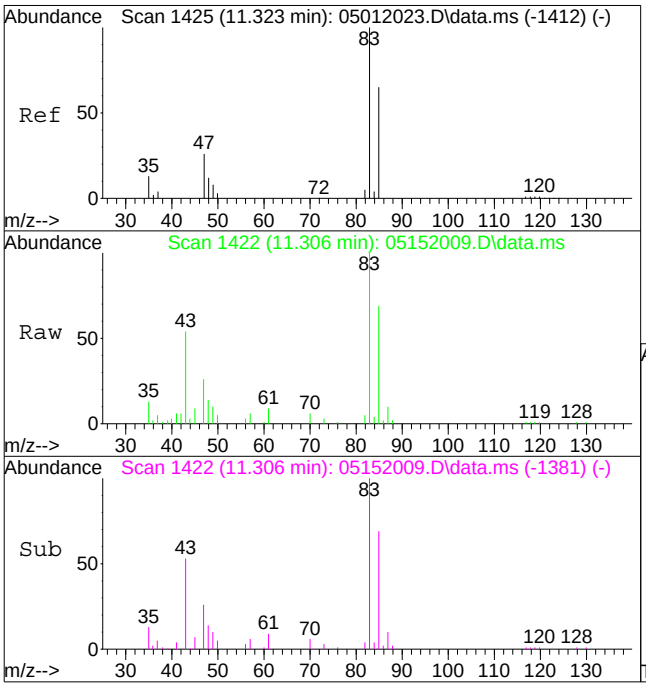


#31
n-Hexane
Concen: 4.84 ng
RT: 11.26 min Scan# 1414
Delta R.T. -0.000 min
Lab File: 05152009.D
Acq: 15 May 2020 8:18

Tgt Ion: 57 Resp: 247230

Ion	Ratio	Lower	Upper
57	100		
56	52.0	41.4	62.0
86	15.1	12.4	18.6

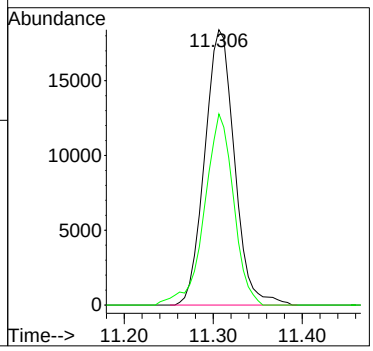


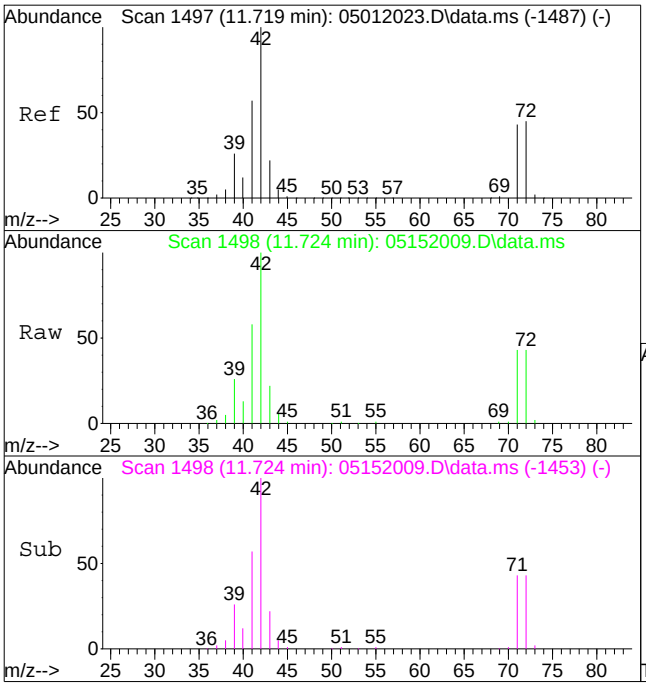


#32
Chloroform
Concen: 0.80 ng
RT: 11.31 min Scan# 1422
Delta R.T. -0.022 min
Lab File: 05152009.D
Acq: 15 May 2020 8:18

Tgt Ion: 83 Resp: 42698

Ion	Ratio	Lower	Upper
83	100		
85	67.7	45.5	85.5

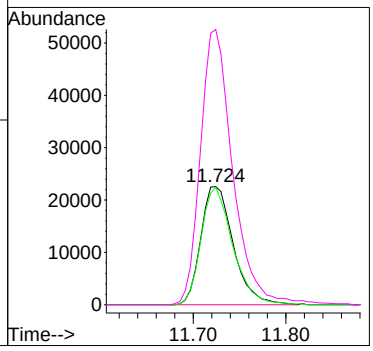


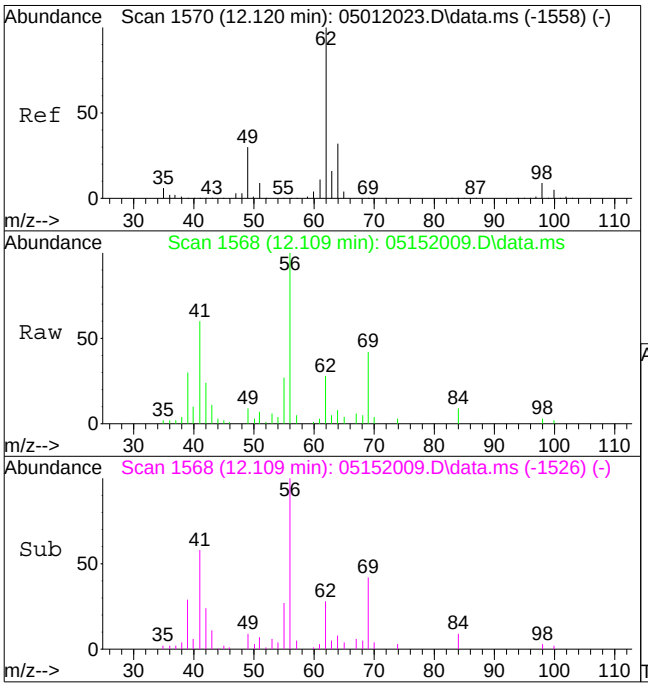


#34
Tetrahydrofuran (THF)
Concen: 2.77 ng
RT: 11.72 min Scan# 1498
Delta R.T. -0.000 min
Lab File: 05152009.D
Acq: 15 May 2020 8:18

Tgt Ion: 72 Resp: 55139

Ion	Ratio	Lower	Upper
72	100		
71	96.6	77.0	117.0
42	232.6	204.6	244.6

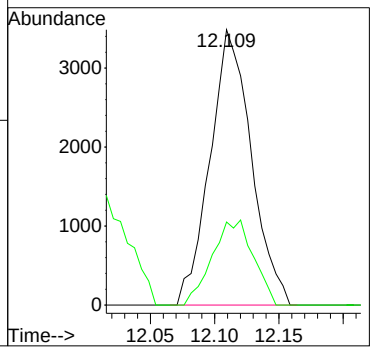


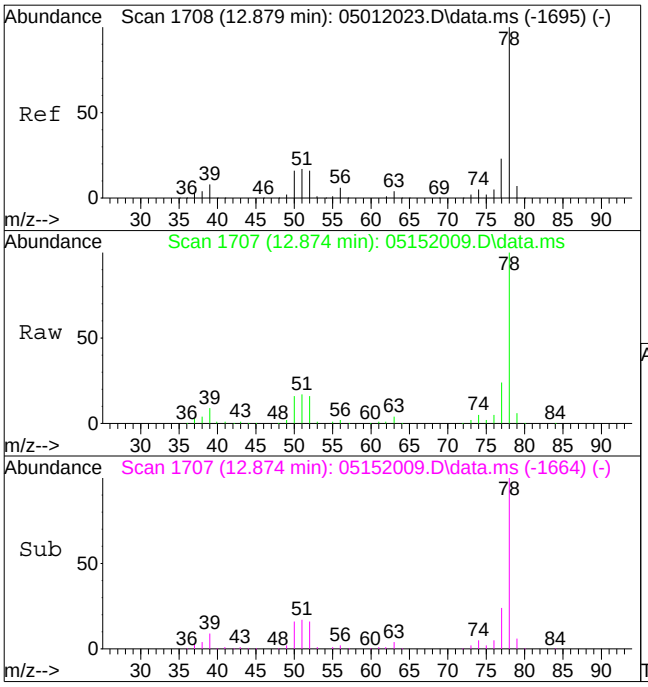


#36
1,2-Dichloroethane
Concen: 0.18 ng
RT: 12.11 min Scan# 1568
Delta R.T. -0.017 min
Lab File: 05152009.D
Acq: 15 May 2020 8:18

Tgt Ion: 62 Resp: 7776

Ion	Ratio	Lower	Upper
62	100		
64	30.8	12.4	52.4

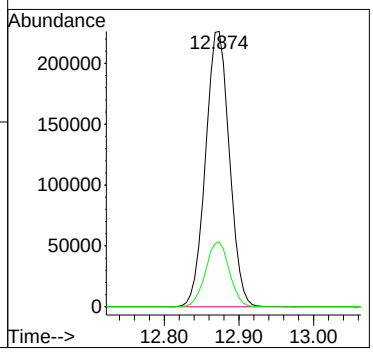


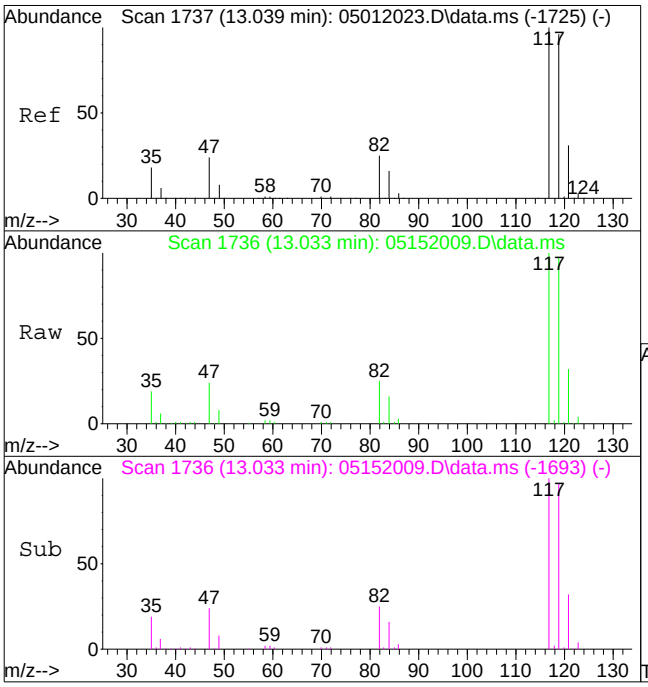


#41
Benzene
Concen: 4.07 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05152009.D
Acq: 15 May 2020 8:18

Tgt Ion: 78 Resp: 501045

Ion	Ratio	Lower	Upper
78	100		
77	23.5	3.4	43.4

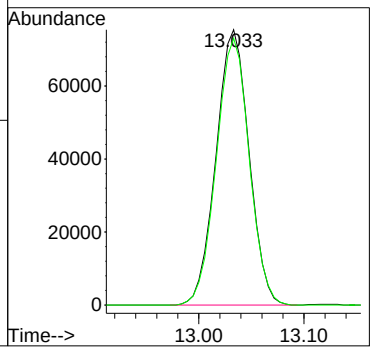


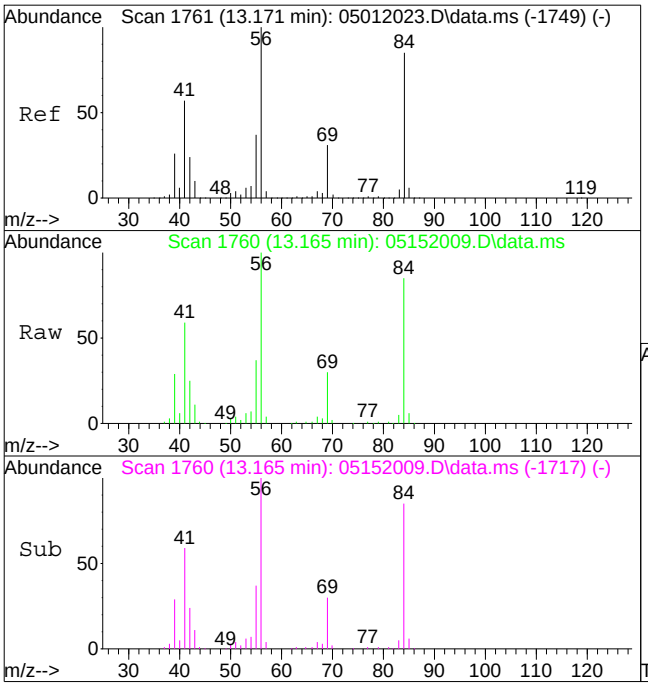


#42
Carbon Tetrachloride
Concen: 3.93 ng
RT: 13.03 min Scan# 1736
Delta R.T. -0.011 min
Lab File: 05152009.D
Acq: 15 May 2020 8:18

Tgt Ion:117 Resp: 164601

Ion	Ratio	Lower	Upper
117	100		
119	96.6	76.2	116.2

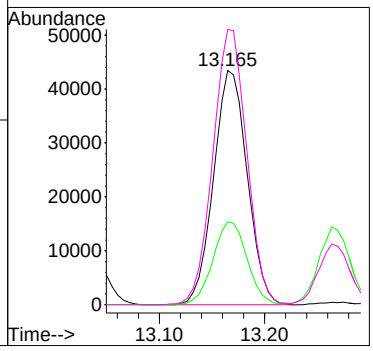


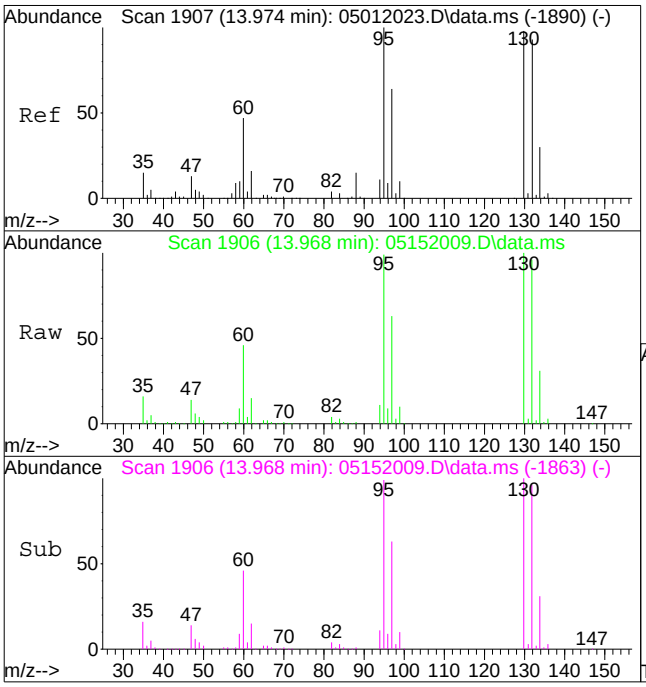


#43
Cyclohexane
Concen: 2.11 ng
RT: 13.16 min Scan# 1760
Delta R.T. -0.011 min
Lab File: 05152009.D
Acq: 15 May 2020 8:18

Tgt Ion: 84 Resp: 96807

Ion	Ratio	Lower	Upper
84	100		
69	35.9	16.5	56.5
56	118.3	97.4	137.4

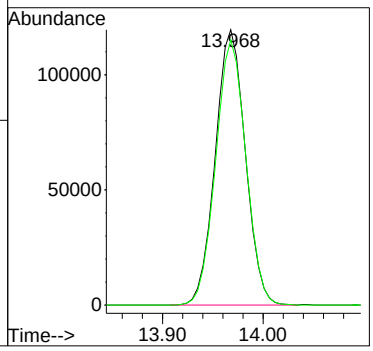


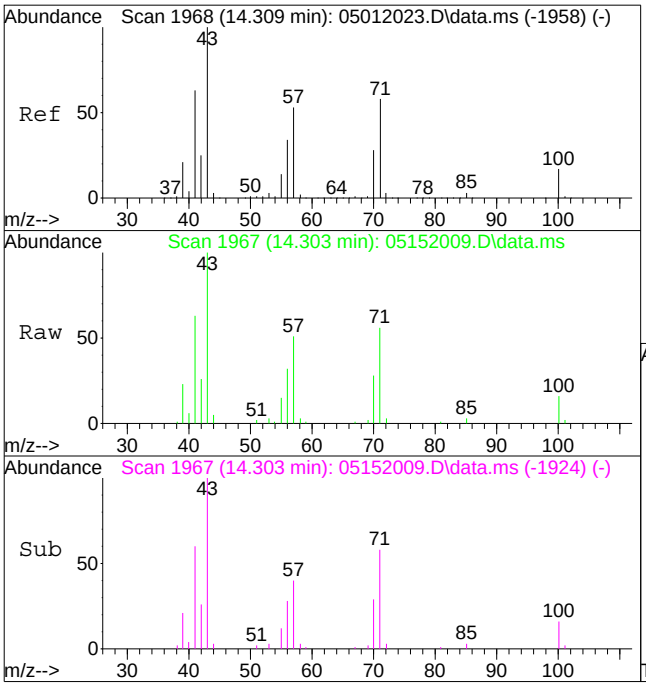


#47
Trichloroethene
Concen: 7.81 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05152009.D
Acq: 15 May 2020 8:18

Tgt Ion:130 Resp: 248346

Ion	Ratio	Lower	Upper
130	100		
132	96.5	74.9	114.9

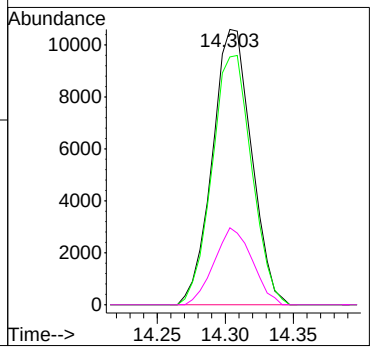


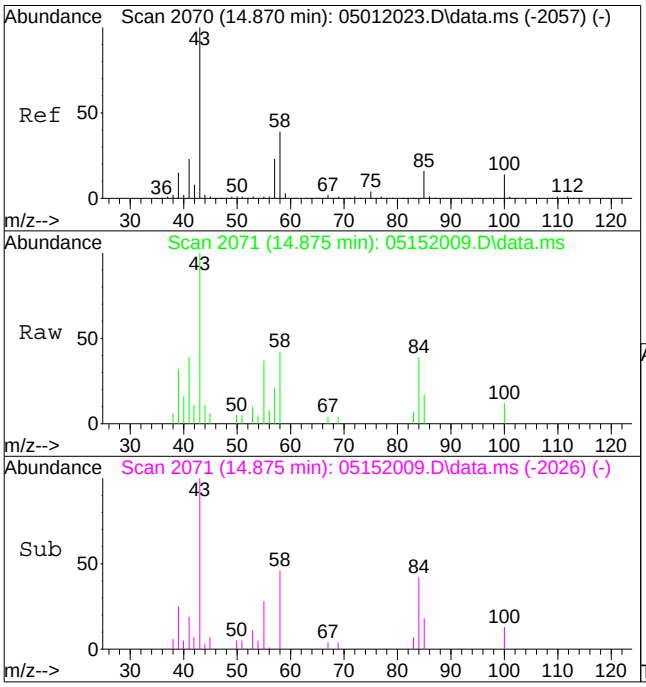


#51
n-Heptane
Concen: 0.74 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05152009.D
Acq: 15 May 2020 8:18

Tgt Ion: 71 Resp: 21225

Ion	Ratio	Lower	Upper
71	100		
57	91.6	71.0	111.0
100	27.1	8.4	48.4

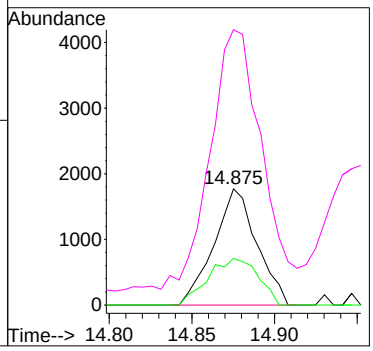


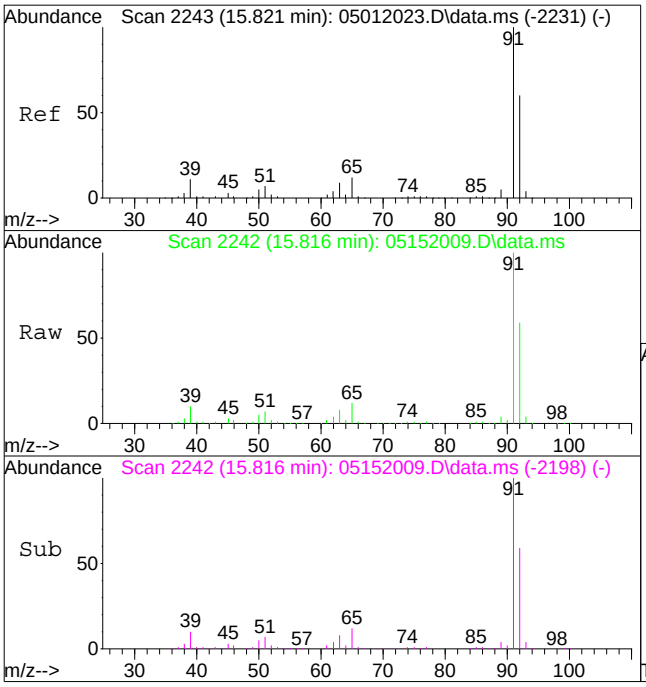


#53
4-Methyl-2-pentanone
Concen: 0.12 ng
RT: 14.88 min Scan# 2071
Delta R.T. -0.000 min
Lab File: 05152009.D
Acq: 15 May 2020 8:18

Tgt Ion: 58 Resp: 3191

Ion	Ratio	Lower	Upper
58	100		
85	46.7	35.4	53.2
43	272.9	203.3	304.9

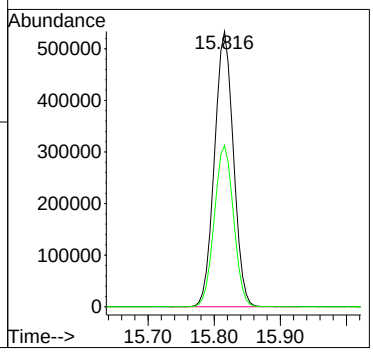


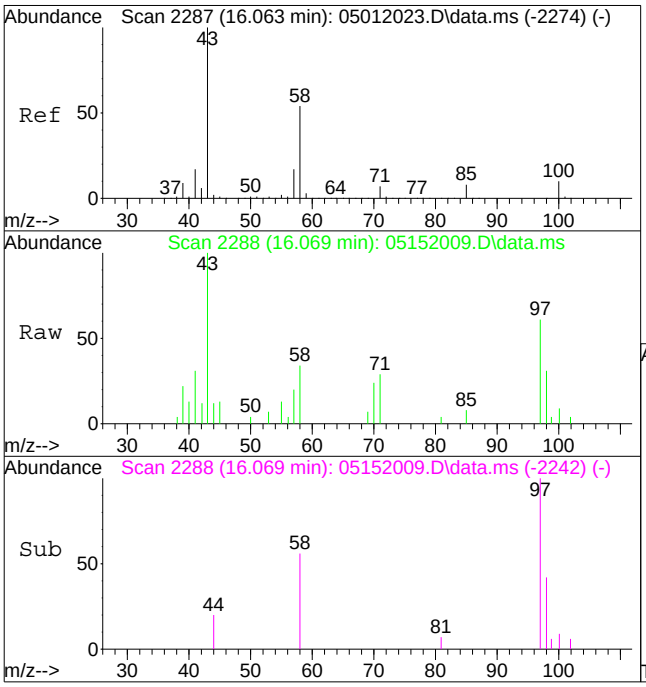


#58
Toluene
Concen: 9.10 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05152009.D
Acq: 15 May 2020 8:18

Tgt Ion: 91 Resp: 1062992

Ion	Ratio	Lower	Upper
91	100		
92	59.5	39.4	79.4

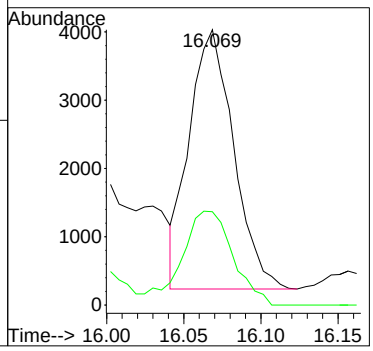


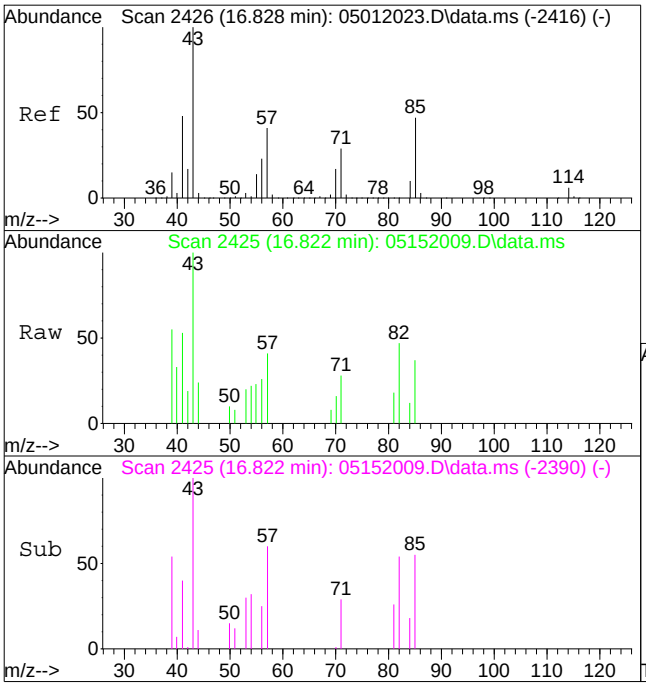


#59
2-Hexanone
Concen: 0.12 ng
RT: 16.07 min Scan# 2288
Delta R.T. 0.005 min
Lab File: 05152009.D
Acq: 15 May 2020 8:18

Tgt Ion: 43 Resp: 7632

Ion	Ratio	Lower	Upper
43	100		
58	41.4	34.5	74.5

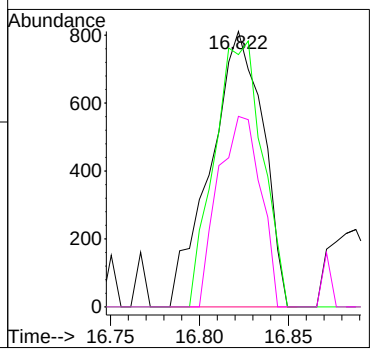


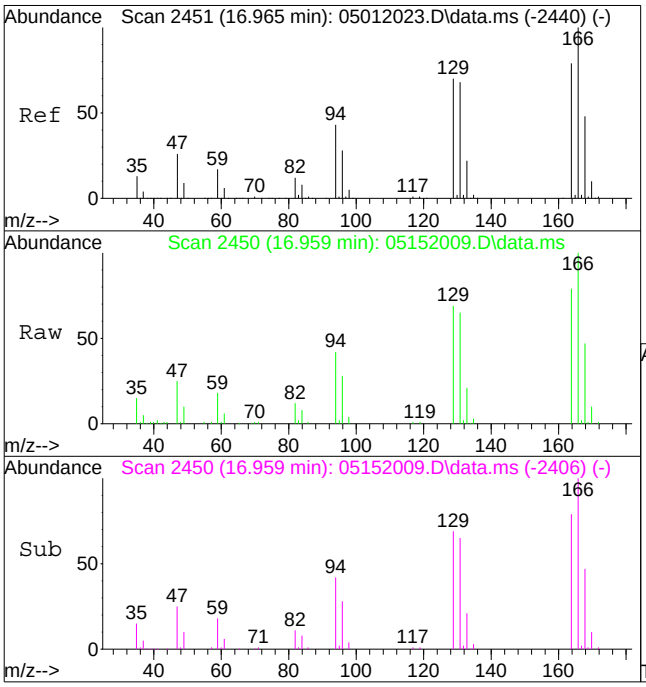


#63
n-Octane
Concen: 0.07 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05152009.D
Acq: 15 May 2020 8:18

Tgt Ion: 57 Resp: 1665

Ion	Ratio	Lower	Upper
57	100		
85	88.1	91.0	136.4#
71	56.1	56.2	84.2#

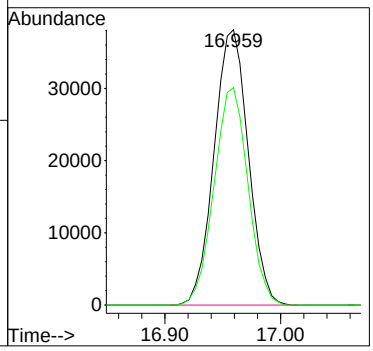


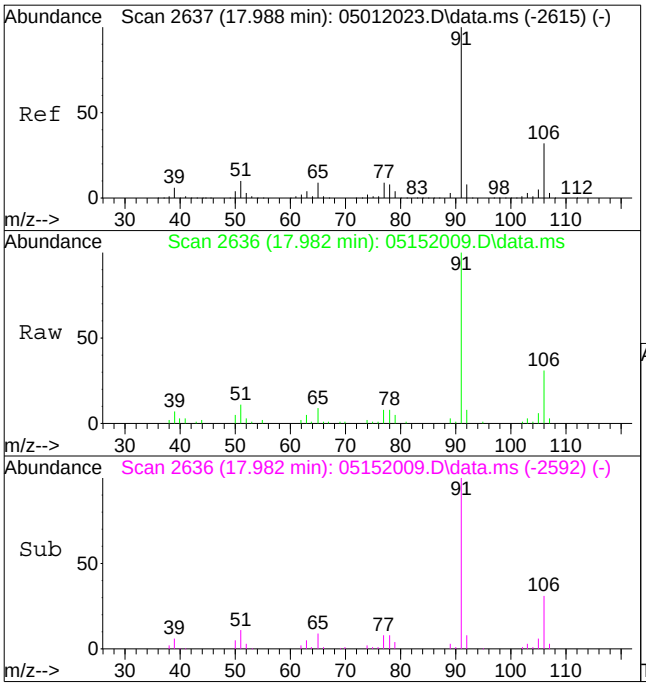


#64
Tetrachloroethene
Concen: 2.38 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05152009.D
Acq: 15 May 2020 8:18

Tgt Ion:166 Resp: 78459

Ion	Ratio	Lower	Upper
166	100		
164	78.2	58.4	98.4

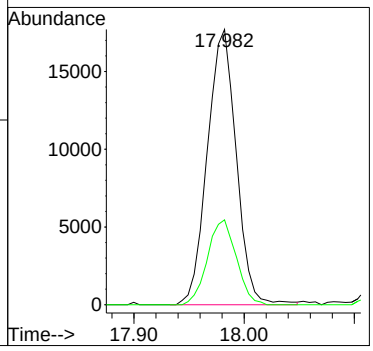


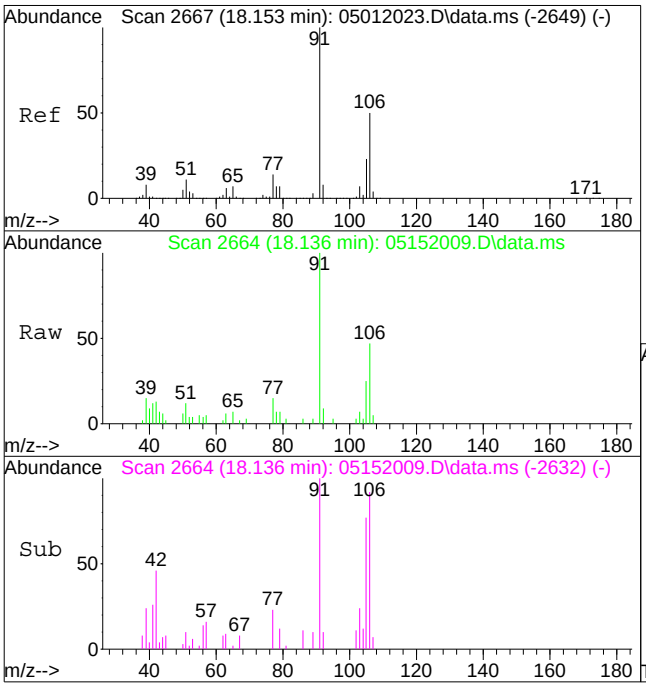


#66
Ethylbenzene
Concen: 0.25 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05152009.D
Acq: 15 May 2020 8:18

Tgt Ion: 91 Resp: 32234

Ion	Ratio	Lower	Upper
91	100		
106	30.7	11.6	51.6

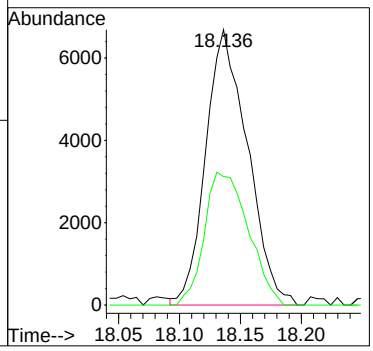




#67
m- & p-Xylenes
Concen: 0.15 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05152009.D
Acq: 15 May 2020 8:18

Tgt Ion: 91 Resp: 15969

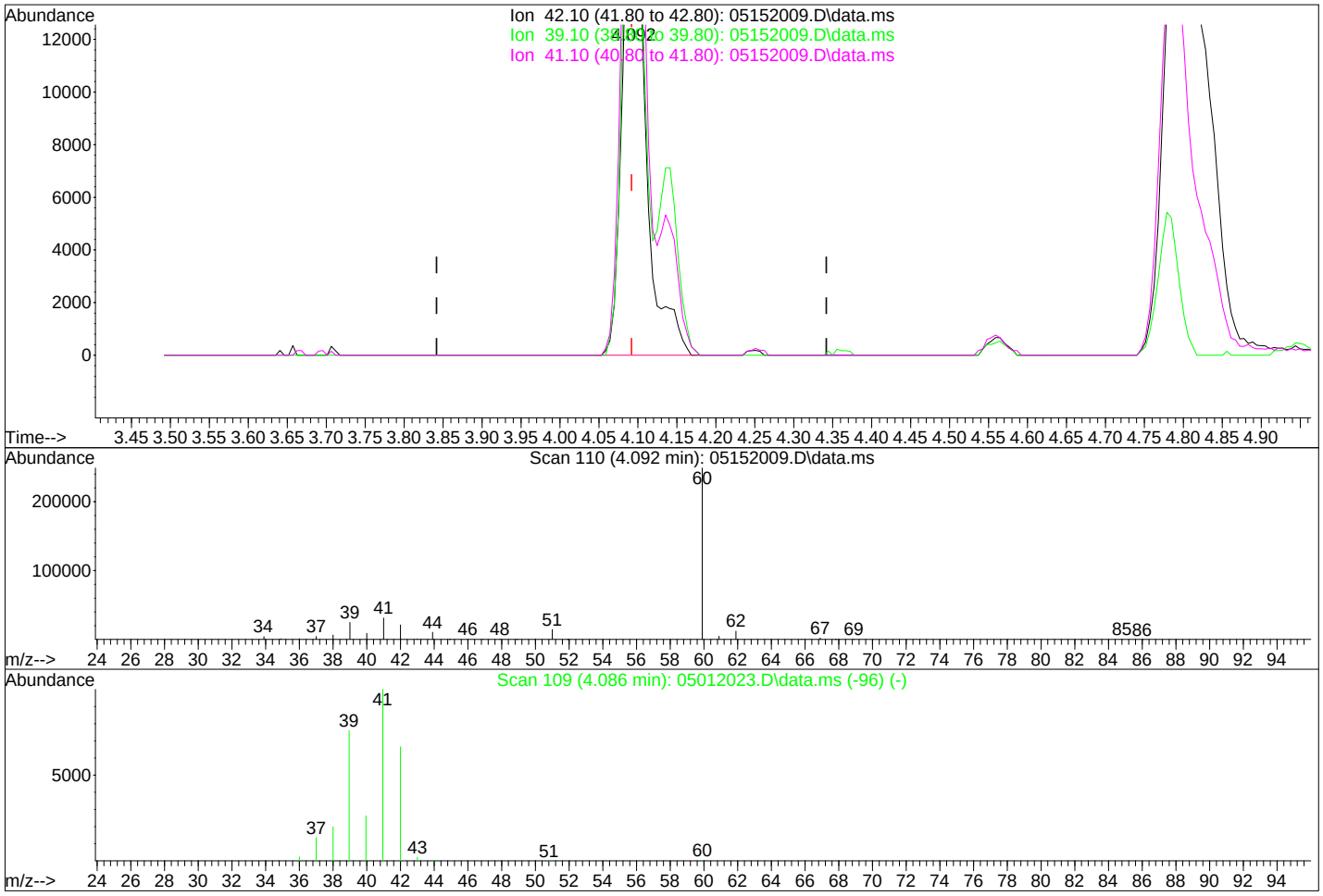
Ion	Ratio	Lower	Upper
91	100		
106	50.5	29.7	69.7



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\15\05152009.D Vial: 14
Acq On : 15 May 2020 8:18 Operator: LH
Sample : P2002302-013 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 09:29:23 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05152009.D\data.ms

(2) Propene (T)

4.092min (-0.000) 1.30ng

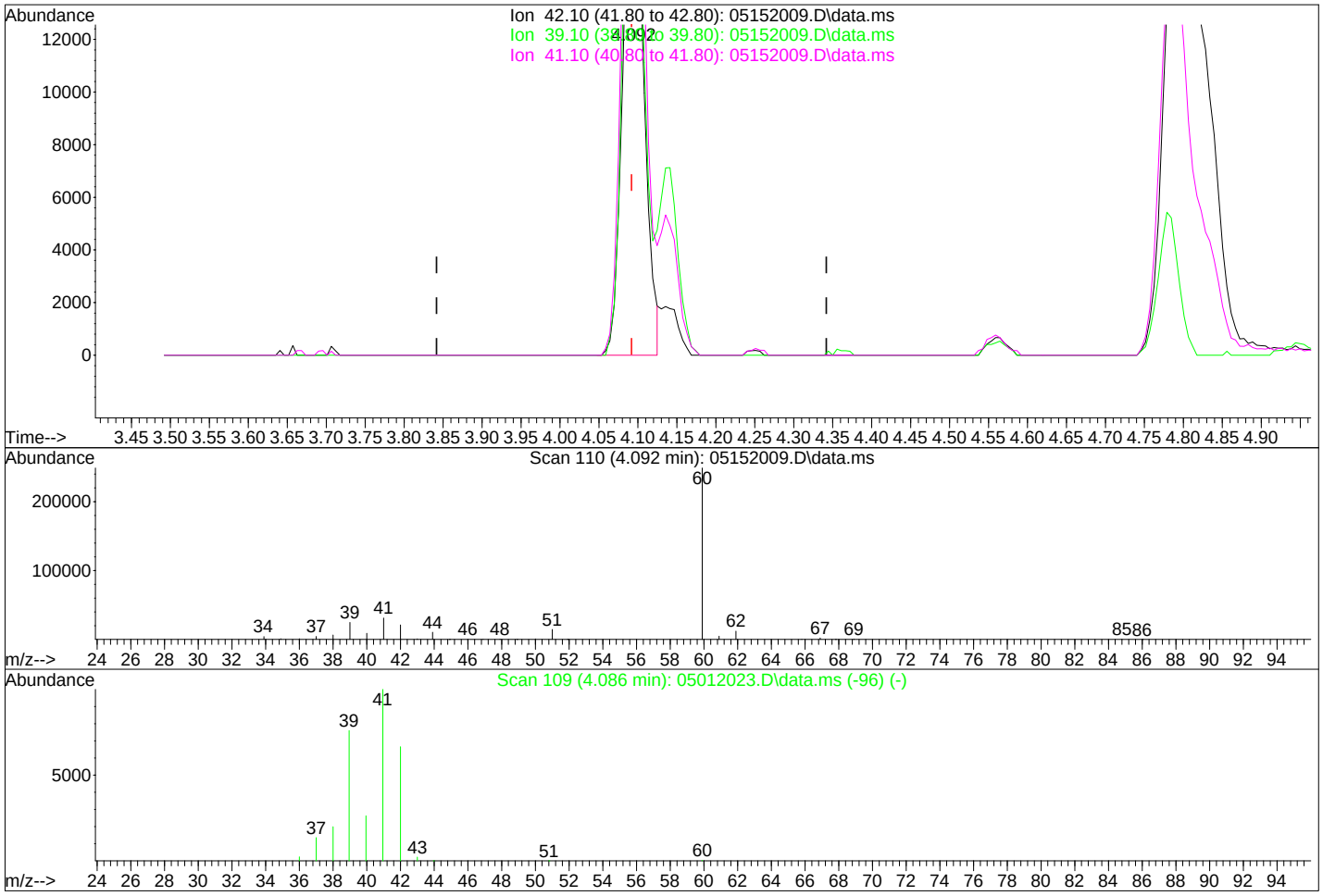
response 40271

Ion	Exp%	Act%
42.10	100	100
39.10	116.10	108.72
41.10	151.90	138.83
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\15\05152009.D Vial: 14
Acq On : 15 May 2020 8:18 Operator: LH
Sample : P2002302-013 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 09:29:23 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05152009.D\data.ms

(2) Propene (T)

4.092min (-0.000) 1.20ng m

response 37294

Ion	Exp%	Act%
42.10	100	100
39.10	116.10	117.40
41.10	151.90	149.91
0.00	0.00	0.00

IPC

LH 5/15/20

WA 5/17/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152018.D Vial: 14
Acq On : 15 May 2020 16:27 Operator: LH
Sample : P2002302-013dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 18:19:06 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/15/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	292393	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1258371	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	585252	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	467463	11.797	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.40%				
57) Toluene-d8 (SS2)	15.72	98	1227872	12.378	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.04%				
73) Bromofluorobenzene (SS3)	18.97	174	471531	13.210	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.68%				
Target Compounds							Qvalue
2) Propene	4.12	42	2524	0.075	ng		97
3) Dichlorodifluoromethan...	4.26	85	8430	0.127	ng		97
4) Chloromethane	4.53	50	4441	0.086	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	4.94	62	194249	3.414	ng		99
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.98	64	990	N.D.			
10) Ethanol	6.33	45	94231	3.604	ng		100
11) Acetonitrile	6.60	41	4202	0.070	ng		89
12) Acrolein	6.81	56	355	N.D.			
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	7.24	101	3494	0.060	ng		96
15) 2-Propanol (Isopropanol)	7.52	45	13670	0.173	ng		91
16) Acrylonitrile	7.76	53	1169	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.46	59	771	N.D.			
19) Methylene Chloride	8.41	84	211	N.D.			
20) 3-Chloro-1-propene (Al...	8.51	41	176	N.D.			
21) Trichlorotrifluoroethane	8.84	151	626171	22.657	ng		99
22) Carbon Disulfide	8.68	76	72671	0.597	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.49	72	1817	0.081	ng	#	85
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.30	87	116	N.D.			
30) Ethyl Acetate	11.30	61	799	0.062	ng		95
31) n-Hexane	11.26	57	18718	0.336	ng		97
32) Chloroform	11.30	83	3412	0.059	ng		98
34) Tetrahydrofuran (THF)	11.74	72	4447	0.204	ng		94
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	525	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	12.88	56	904	N.D.			
41) Benzene	12.87	78	38115	0.282	ng		100
42) Carbon Tetrachloride	13.03	117	12745	0.278	ng		99
43) Cyclohexane	13.17	84	7905	0.157	ng		100
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	13.95	83	162	N.D.			
47) Trichloroethene	13.96	130	19422	0.557	ng		100
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	14.03	57	2214	N.D.			
50) Methyl Methacrylate	14.31	100	201	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152018.D Vial: 14
Acq On : 15 May 2020 16:27 Operator: LH
Sample : P2002302-013dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 18:19:06 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

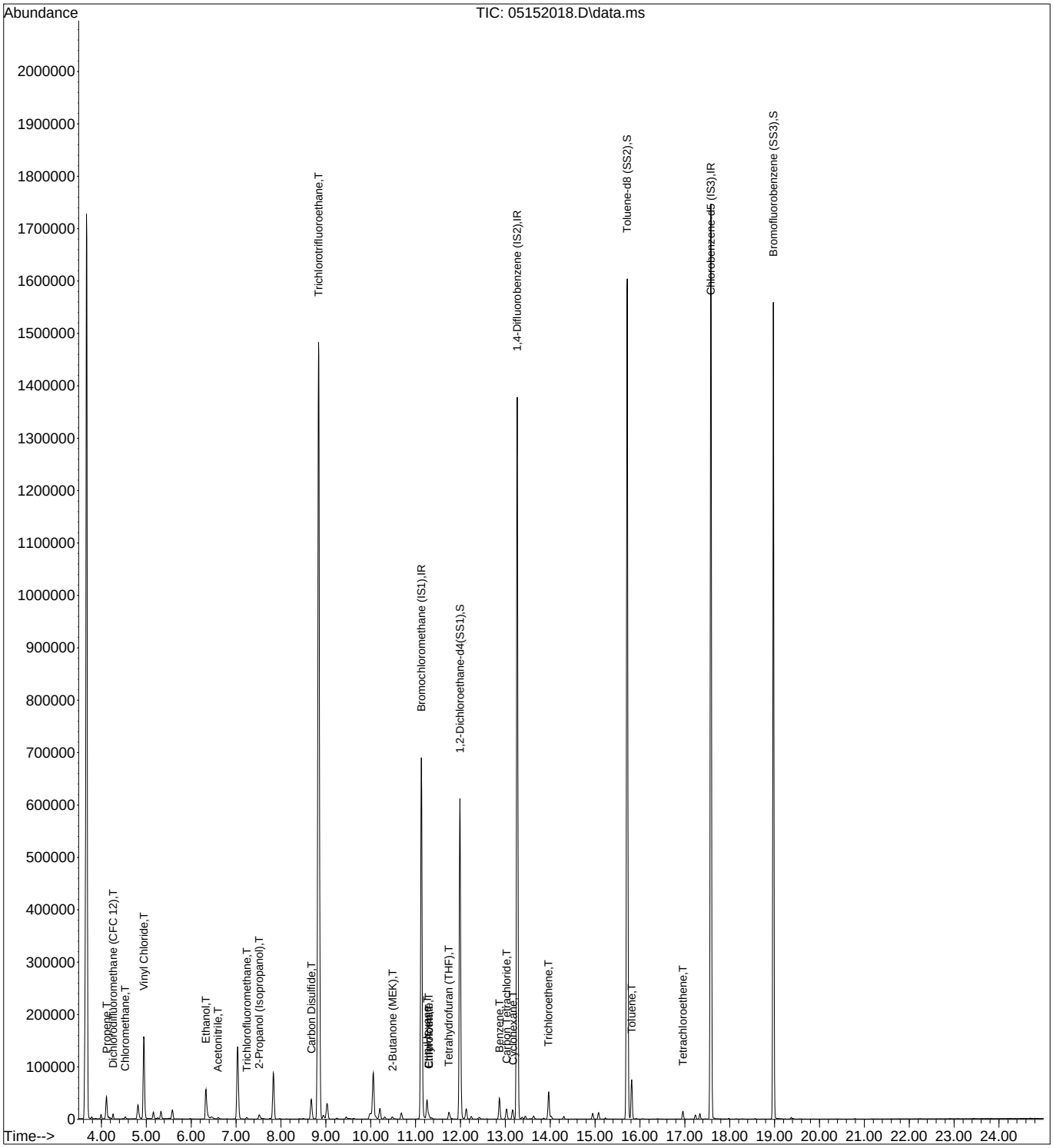
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.30	71	1281	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.82	91	63010	0.493 ng	100
59) 2-Hexanone	16.08	43	366	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.82	43	161	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	16.96	166	5053	0.140 ng	95
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	17.98	91	1716	N.D.	
67) m- & p-Xylenes	18.13	91	927	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	18.57	91	200	N.D.	
71) n-Nonane	0.00	43	0	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	18.98	105	874	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	0.00	91	0	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D.	
78) 4-Ethyltoluene	0.00	105	0	N.D.	
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D.	
82) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.	
83) n-Decane	0.00	57	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D.	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.17	57	108	N.D.	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.22	128	626	N.D.	
96) n-Dodecane	0.00	57	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.28	55	466	N.D.	
99) tert-Butylbenzene	0.00	119	0	N.D.	
100) n-Butylbenzene	0.00	91	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152018.D Vial: 14
Acq On : 15 May 2020 16:27 Operator: LH
Sample : P2002302-013dil (40mL) Inst : GCMS-16
Misc : S31-02112001

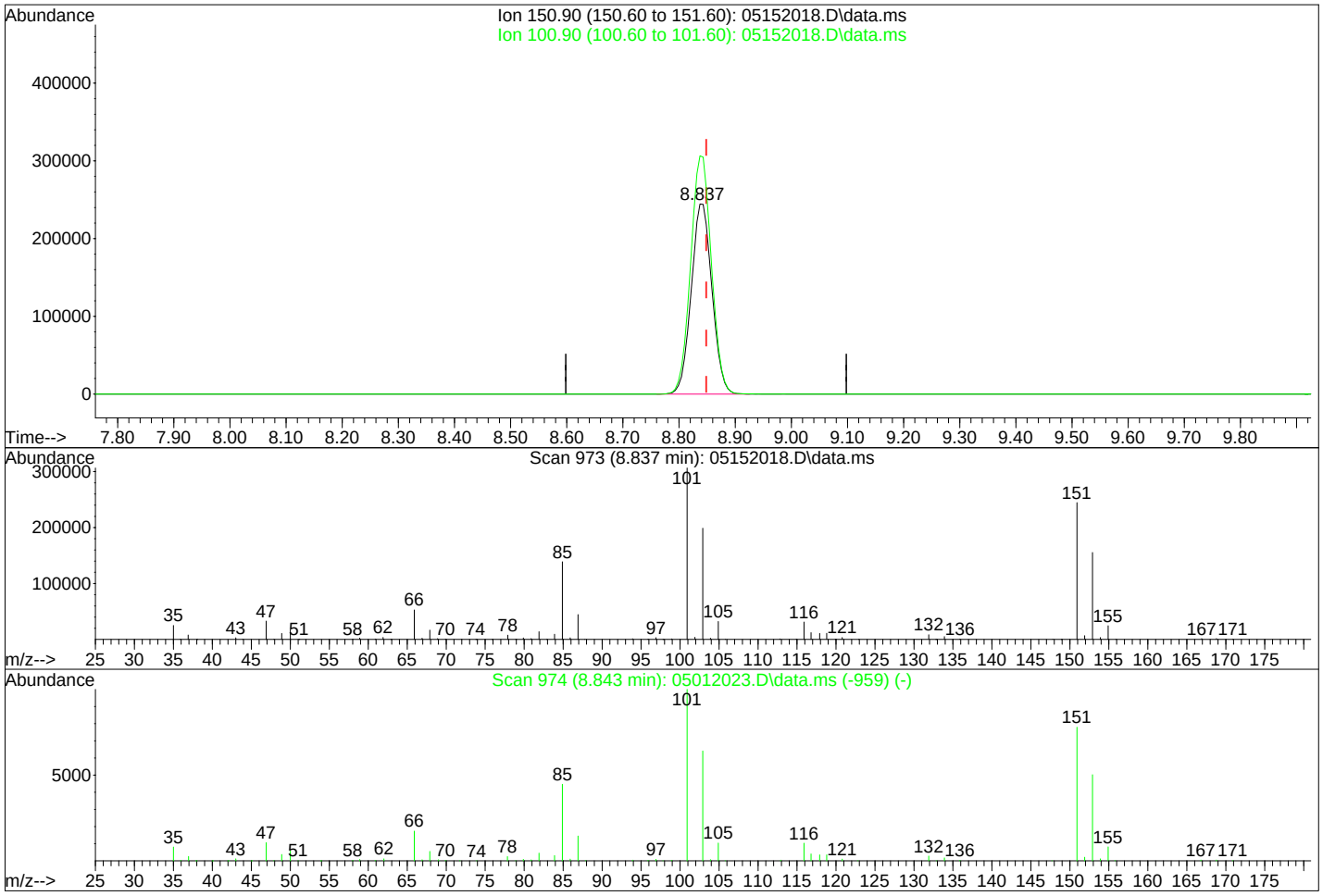
Quant Time: May 15 18:19:06 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\15\05152018.D Vial: 14
Acq On : 15 May 2020 16:27 Operator: LH
Sample : P2002302-013dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 18:18:44 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05152018.D\data.ms

(21) Trichlorotrifluoroethane (T)

8.837min (-0.011) 22.66ng

response 626171

Ion	Exp%	Act%
150.90	100	100
100.90	127.30	125.68
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142023.D Vial: 1
Acq On : 14 May 2020 21:36 Operator: LH
Sample : P2002302-014 (1.5mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 15:11:00 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/15/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	268636	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1145519	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	639266	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	432424	11.878	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.04%				
57) Toluene-d8 (SS2)	15.72	98	1153762	10.648	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.20%				
73) Bromofluorobenzene (SS3)	18.98	174	455257	11.677	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.44%				
Target Compounds							Qvalue
2) Propene	4.10	42	21281	0.684	ng		99
3) Dichlorodifluoromethan...	4.25	85	4470	0.073	ng		97
4) Chloromethane	4.53	50	2729	0.057	ng		93
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	4.94	62	211593	4.047	ng		100
7) 1,3-Butadiene	5.14	54	1817	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.97	64	1509	0.073	ng		83
10) Ethanol	6.32	45	14211	0.592	ng		91
11) Acetonitrile	6.59	41	1997	N.D.			
12) Acrolein	6.78	56	952	0.050	ng		95
13) Acetone	6.99	58	22764	0.947	ng	#	1
14) Trichlorofluoromethane	7.23	101	1370	N.D.			
15) 2-Propanol (Isopropanol)	7.53	45	8003	0.110	ng		94
16) Acrylonitrile	0.00	53	0	N.D. d			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d			
19) Methylene Chloride	8.40	84	1035	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D. d			
21) Trichlorotrifluoroethane	8.84	151	46508	1.832	ng		98
22) Carbon Disulfide	8.68	76	16930	0.151	ng		98
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	9.99	63	1359	N.D.			
25) Methyl tert-Butyl Ether	10.06	73	1256	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	10.48	72	1238	0.060	ng	#	66
28) cis-1,2-Dichloroethene	10.96	61	385	N.D.			
29) Diisopropyl Ether	11.26	87	1307	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	11.26	57	128493	2.507	ng		99
32) Chloroform	11.30	83	747	N.D.			
34) Tetrahydrofuran (THF)	11.74	72	9424	0.472	ng		92
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D. d			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	12.87	61	821	N.D.			
40) 1-Butanol	0.00	56	0	N.D. d			
41) Benzene	12.87	78	129056	1.051	ng		98
42) Carbon Tetrachloride	13.03	117	2754	0.066	ng		97
43) Cyclohexane	13.16	84	1129564	24.675	ng		99
44) tert-Amyl Methyl Ether	13.45	73	493	N.D.			
45) 1,2-Dichloropropane	13.64	63	1369	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D. d			
47) Trichloroethene	13.97	130	4127	0.130	ng		99
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d			
50) Methyl Methacrylate	0.00	100	0	N.D. d			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142023.D Vial: 1
Acq On : 14 May 2020 21:36 Operator: LH
Sample : P2002302-014 (1.5mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 15:11:00 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

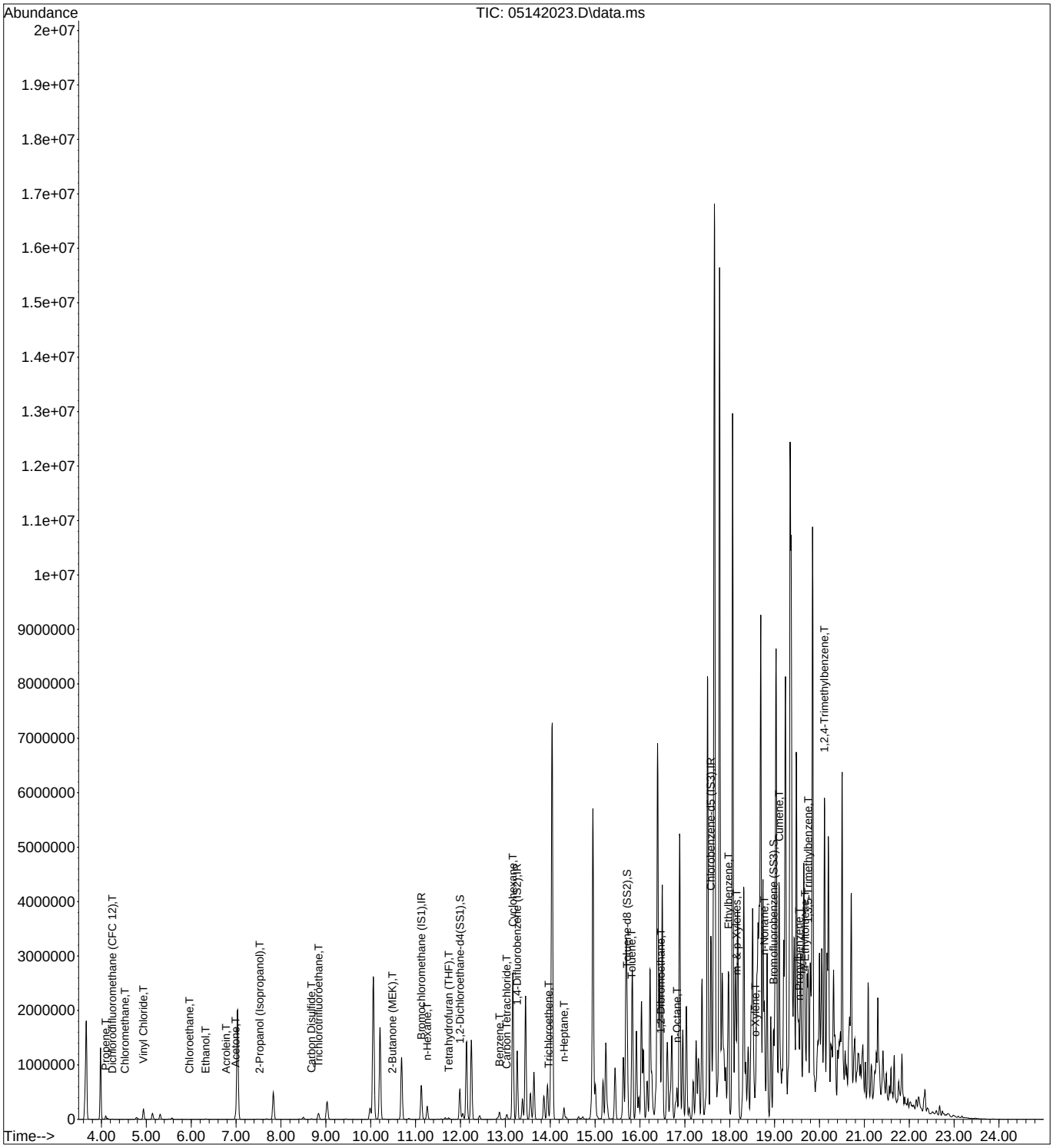
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.31	71	44501	1.549 ng		98
52) cis-1,3-Dichloropropene	14.95	75	1211	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d		
54) trans-1,3-Dichloropropene	15.14	75	391	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d		
58) Toluene	15.82	91	114739	0.821 ng		99
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	16.47	107	3084	0.080 ng		93
62) n-Butyl Acetate	0.00	43	0	N.D. d		
63) n-Octane	16.83	57	110862	3.834 ng		97
64) Tetrachloroethene	16.95	166	1760	N.D.		
65) Chlorobenzene	0.00	112	0	N.D. d		
66) Ethylbenzene	17.98	91	14552	0.093 ng		71
67) m- & p-Xylenes	18.16	91	315194	2.551 ng		100
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	741	N.D.		
70) o-Xylene	18.58	91	30014	0.239 ng		99
71) n-Nonane	18.77	43	524742m	7.885 ng		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d		
74) Cumene	19.10	105	19821	0.129 ng		99
75) alpha-Pinene	19.44	93	2557	N.D.		
76) n-Propylbenzene	19.55	91	46330	0.253 ng	#	44
77) 3-Ethyltoluene	19.64	105	5732	N.D.		
78) 4-Ethyltoluene	19.68	105	23894	0.165 ng		97
79) 1,3,5-Trimethylbenzene	19.75	105	153954	1.226 ng		99
80) alpha-Methylstyrene	19.88	118	1115	N.D.		
81) 2-Ethyltoluene	19.91	105	1941	N.D.		
82) 1,2,4-Trimethylbenzene	20.11	105	136660	1.083 ng		94
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	0.00	91	0	N.D. d		
85) 1,3-Dichlorobenzene	20.24	146	133	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	574	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D. d		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	20.60	146	177	N.D.		
91) d-Limonene	0.00	68	0	N.D. d		
92) 1,2-Dibromo-3-Chloropr...	20.91	157	185	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.11	180	990	N.D.		
95) Naphthalene	22.21	128	3441	N.D.		
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	20.96	91	6301	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142023.D Vial: 1
Acq On : 14 May 2020 21:36 Operator: LH
Sample : P2002302-014 (1.5mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 15:11:00 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142023.D Vial: 1
Acq On : 14 May 2020 21:36 Operator: LH
Sample : P2002302-014 (1.5mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 15:11:00 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/15/20

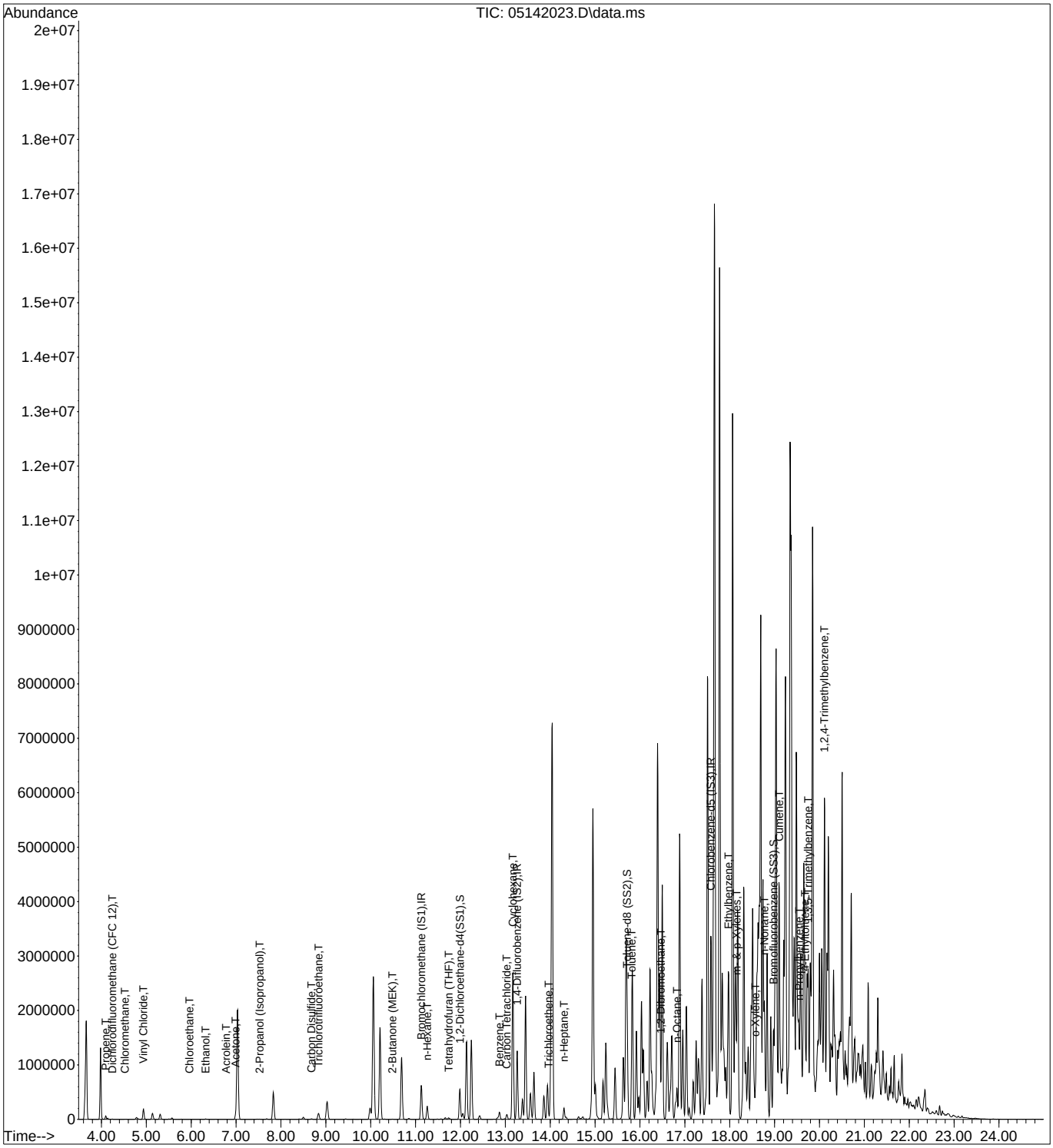
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	268636	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1145519	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	639266	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	432424	11.878	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.04%				
57) Toluene-d8 (SS2)	15.72	98	1153762	10.648	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.20%				
73) Bromofluorobenzene (SS3)	18.98	174	455257	11.677	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.44%				
Target Compounds							Qvalue
2) Propene	4.10	42	21281	0.684	ng		99
3) Dichlorodifluoromethan...	4.25	85	4470	0.073	ng		97
4) Chloromethane	4.53	50	2729	0.057	ng		93
6) Vinyl Chloride	4.94	62	211593	4.047	ng		100
9) Chloroethane	5.97	64	1509	0.073	ng		83
10) Ethanol	6.32	45	14211	0.592	ng		91
12) Acrolein	6.78	56	952	0.050	ng		95
13) Acetone	6.99	58	22764	0.947	ng	#	1
15) 2-Propanol (Isopropanol)	7.53	45	8003	0.110	ng		94
21) Trichlorotrifluoroethane	8.84	151	46508	1.832	ng		98
22) Carbon Disulfide	8.68	76	16930	0.151	ng		98
27) 2-Butanone (MEK)	10.48	72	1238	0.060	ng	#	66
31) n-Hexane	11.26	57	128493	2.507	ng		99
34) Tetrahydrofuran (THF)	11.74	72	9424	0.472	ng		92
41) Benzene	12.87	78	129056	1.051	ng		98
42) Carbon Tetrachloride	13.03	117	2754	0.066	ng		97
43) Cyclohexane	13.16	84	1129564	24.675	ng		99
47) Trichloroethene	13.97	130	4127	0.130	ng		99
51) n-Heptane	14.31	71	44501	1.549	ng		98
58) Toluene	15.82	91	114739	0.821	ng		99
61) 1,2-Dibromoethane	16.47	107	3084	0.080	ng		93
63) n-Octane	16.83	57	110862	3.834	ng		97
66) Ethylbenzene	17.98	91	14552	0.093	ng		71
67) m- & p-Xylenes	18.16	91	315194	2.551	ng		100
70) o-Xylene	18.58	91	30014	0.239	ng		99
71) n-Nonane	18.77	43	524742m	7.885	ng		
74) Cumene	19.10	105	19821	0.129	ng		99
76) n-Propylbenzene	19.55	91	46330	0.253	ng	#	44
78) 4-Ethyltoluene	19.68	105	23894	0.165	ng		97
79) 1,3,5-Trimethylbenzene	19.75	105	153954	1.226	ng		99
82) 1,2,4-Trimethylbenzene	20.11	105	136660	1.083	ng		94

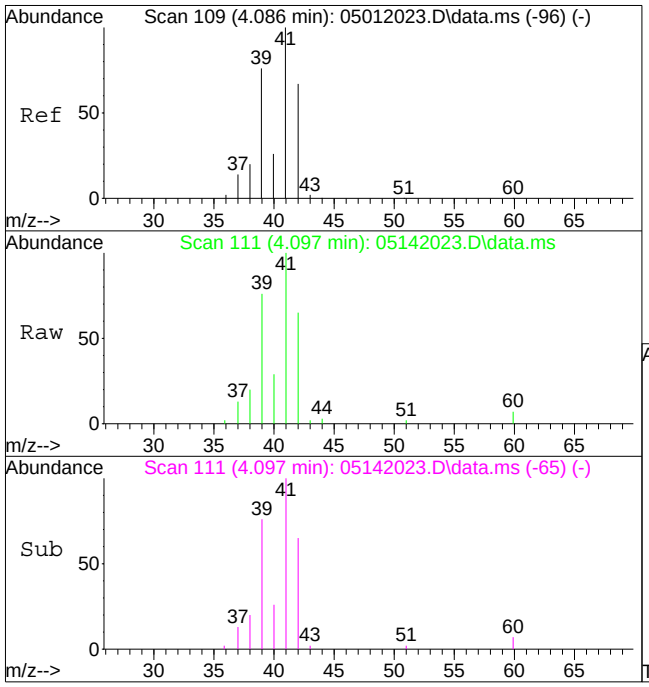
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142023.D Vial: 1
Acq On : 14 May 2020 21:36 Operator: LH
Sample : P2002302-014 (1.5mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 15:11:00 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

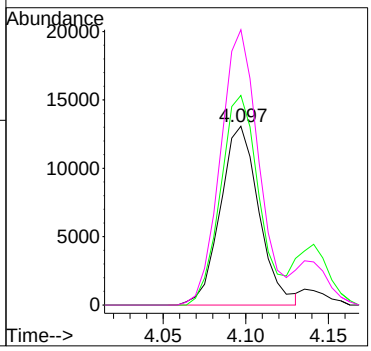


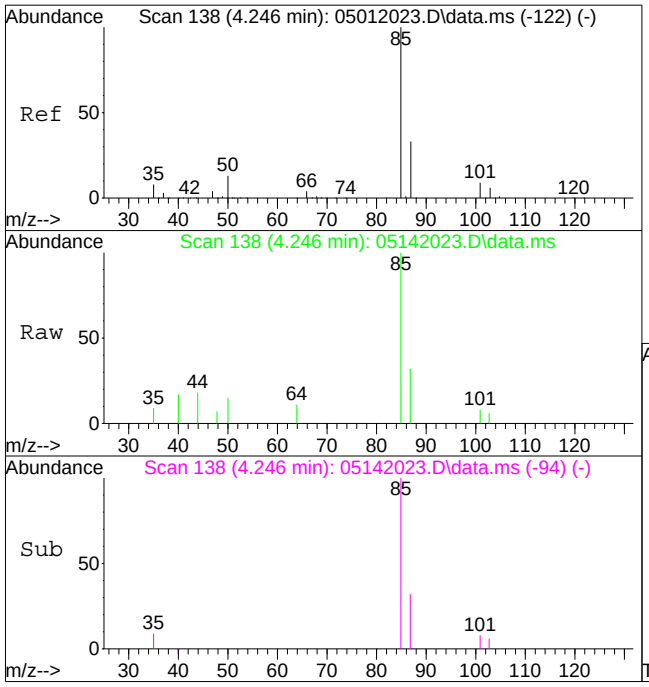


#2
Propene
Concen: 0.68 ng
RT: 4.10 min Scan# 111
Delta R.T. 0.005 min
Lab File: 05142023.D
Acq: 14 May 2020 21:36

Tgt Ion: 42 Resp: 21281

Ion	Ratio	Lower	Upper
42	100		
39	118.0	96.1	136.1
41	152.5	131.9	171.9

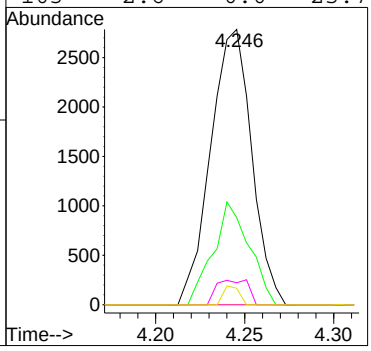


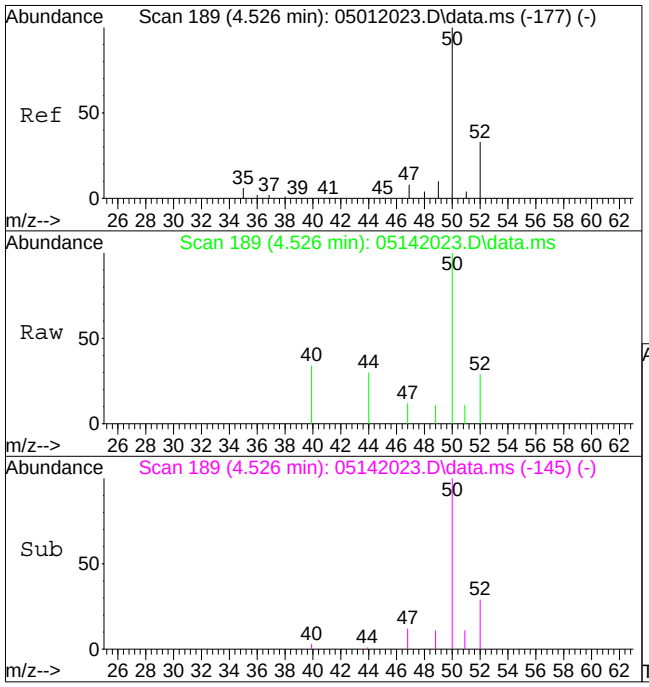


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.07 ng
RT: 4.25 min Scan# 138
Delta R.T. -0.006 min
Lab File: 05142023.D
Acq: 14 May 2020 21:36

Tgt Ion: 85 Resp: 4470

Ion	Ratio	Lower	Upper
85	100		
87	32.8	12.4	52.4
101	6.9	0.0	28.8
103	2.6	0.0	25.7

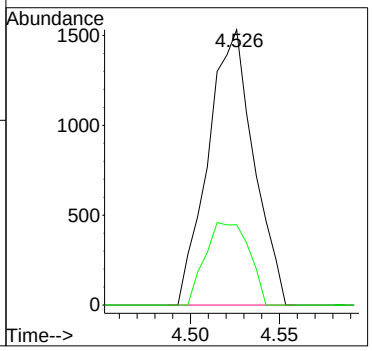


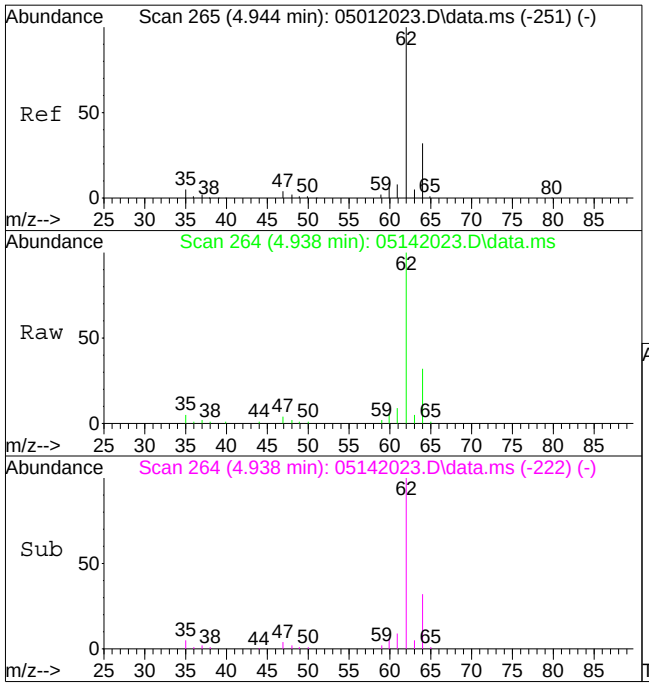


#4
Chloromethane
Concen: 0.06 ng
RT: 4.53 min Scan# 189
Delta R.T. -0.006 min
Lab File: 05142023.D
Acq: 14 May 2020 21:36

Tgt Ion: 50 Resp: 2729

Ion	Ratio	Lower	Upper
50	100		
52	28.7	12.5	52.5

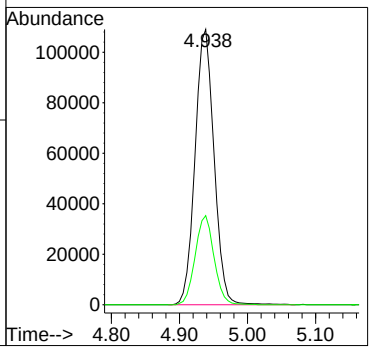


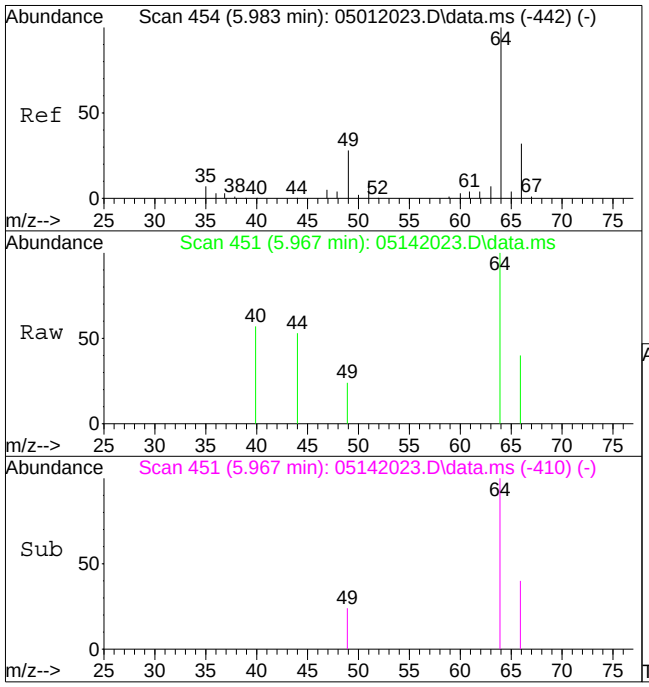


#6
Vinyl Chloride
Concen: 4.05 ng
RT: 4.94 min Scan# 264
Delta R.T. -0.017 min
Lab File: 05142023.D
Acq: 14 May 2020 21:36

Tgt Ion: 62 Resp: 211593

Ion	Ratio	Lower	Upper
62	100		
64	32.2	12.1	52.1

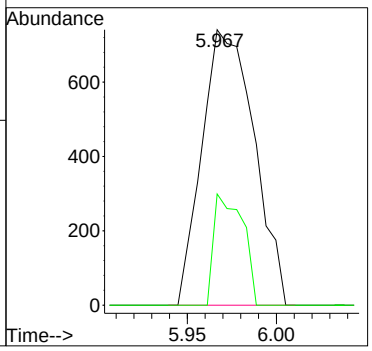


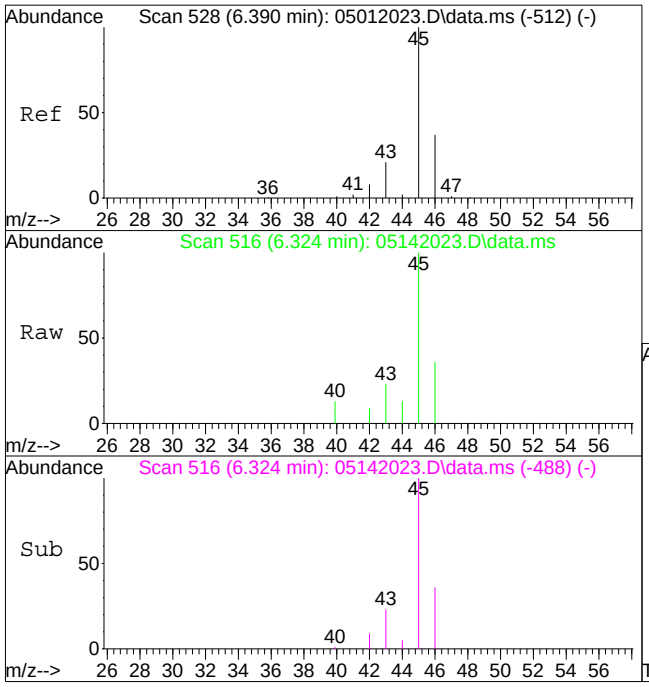


#9
Chloroethane
Concen: 0.07 ng
RT: 5.97 min Scan# 451
Delta R.T. -0.022 min
Lab File: 05142023.D
Acq: 14 May 2020 21:36

Tgt Ion: 64 Resp: 1509

Ion	Ratio	Lower	Upper
64	100		
66	22.4	12.1	52.1

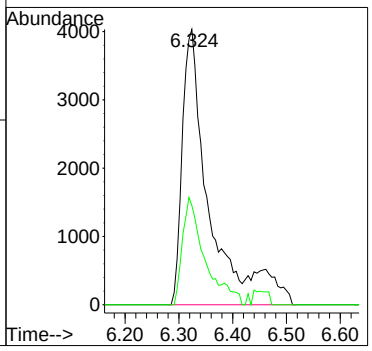


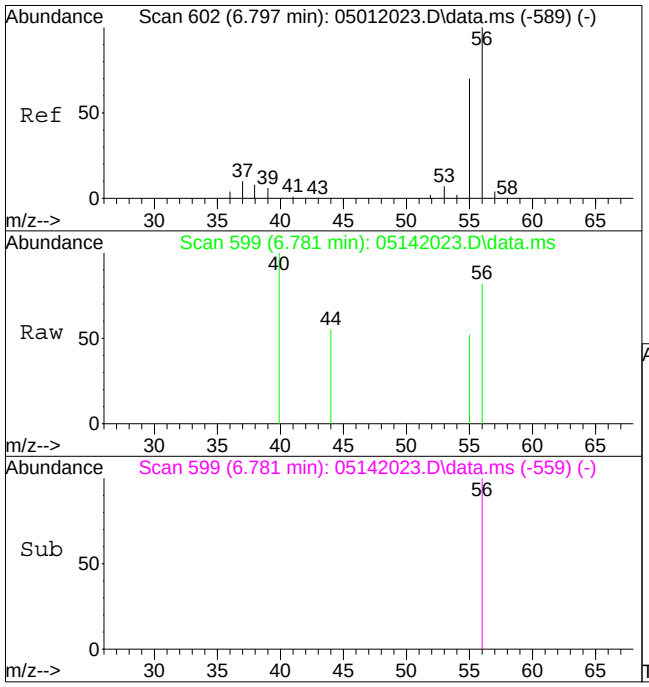


#10
Ethanol
Concen: 0.59 ng
RT: 6.32 min Scan# 516
Delta R.T. -0.094 min
Lab File: 05142023.D
Acq: 14 May 2020 21:36

Tgt Ion: 45 Resp: 14211

Ion	Ratio	Lower	Upper
45	100		
46	31.9	17.2	57.2

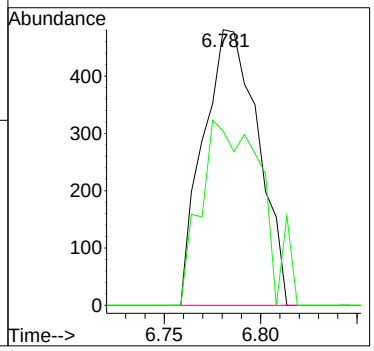


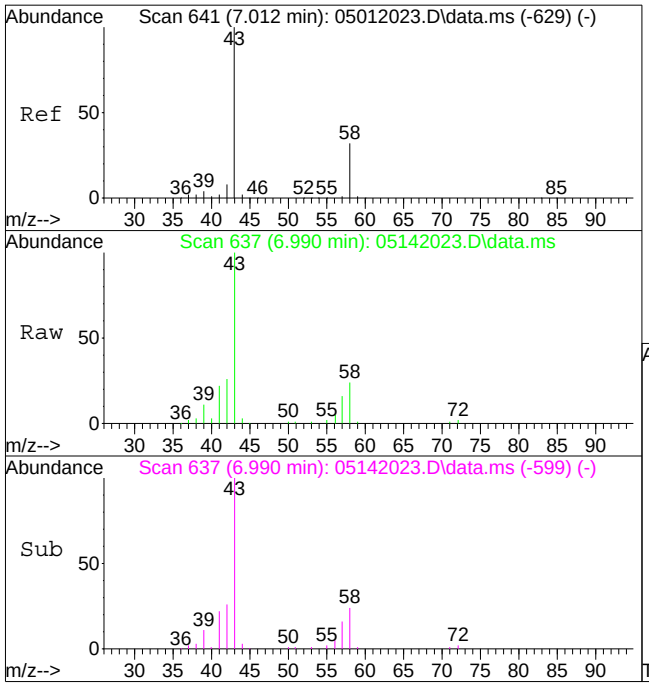


#12
Acrolein
Concen: 0.05 ng
RT: 6.78 min Scan# 599
Delta R.T. -0.028 min
Lab File: 05142023.D
Acq: 14 May 2020 21:36

Tgt Ion: 56 Resp: 952

Ion	Ratio	Lower	Upper
56	100		
55	74.7	50.2	90.2

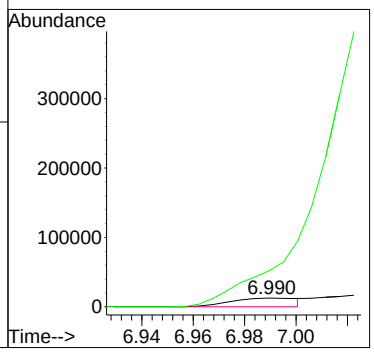


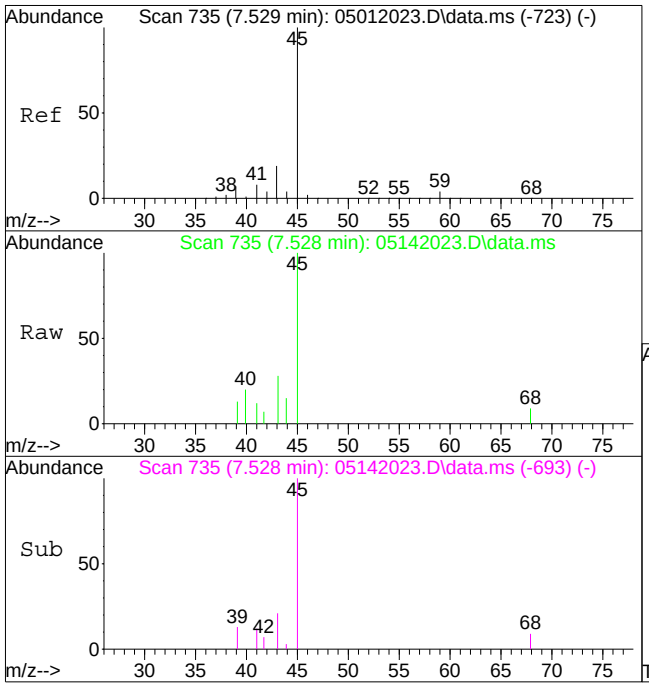


#13
Acetone
Concen: 0.95 ng
RT: 6.99 min Scan# 637
Delta R.T. -0.039 min
Lab File: 05142023.D
Acq: 14 May 2020 21:36

Tgt Ion: 58 Resp: 22764

Ion	Ratio	Lower	Upper
58	100		
43	0.0	294.4	354.4#

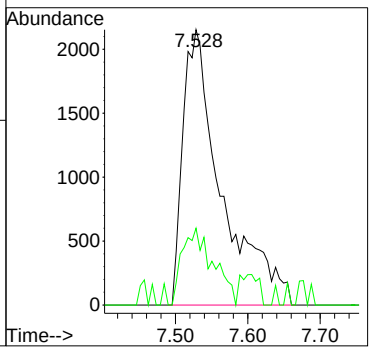


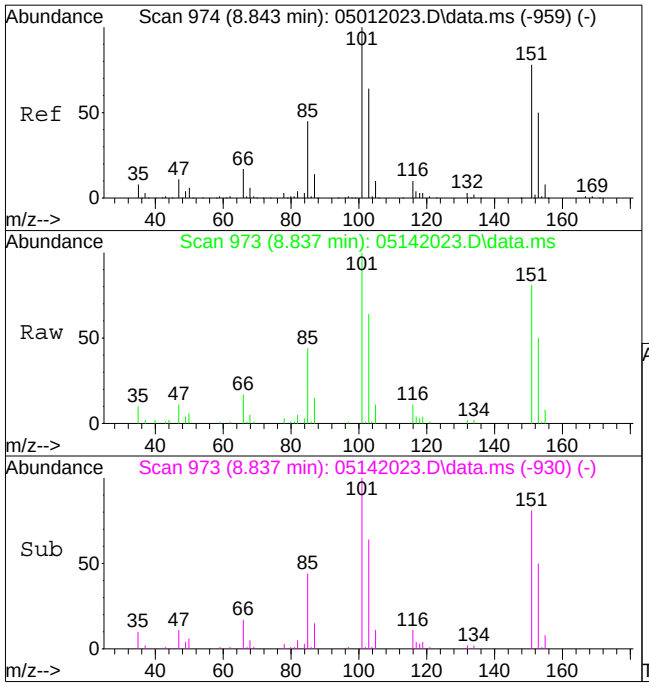


#15
2-Propanol (Isopropanol)
Concen: 0.11 ng
RT: 7.53 min Scan# 735
Delta R.T. -0.017 min
Lab File: 05142023.D
Acq: 14 May 2020 21:36

Tgt Ion: 45 Resp: 8003

Ion	Ratio	Lower	Upper
45	100		
43	22.3	0.0	39.5

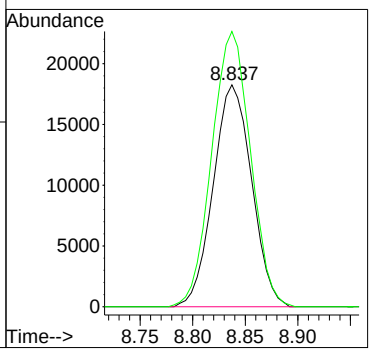


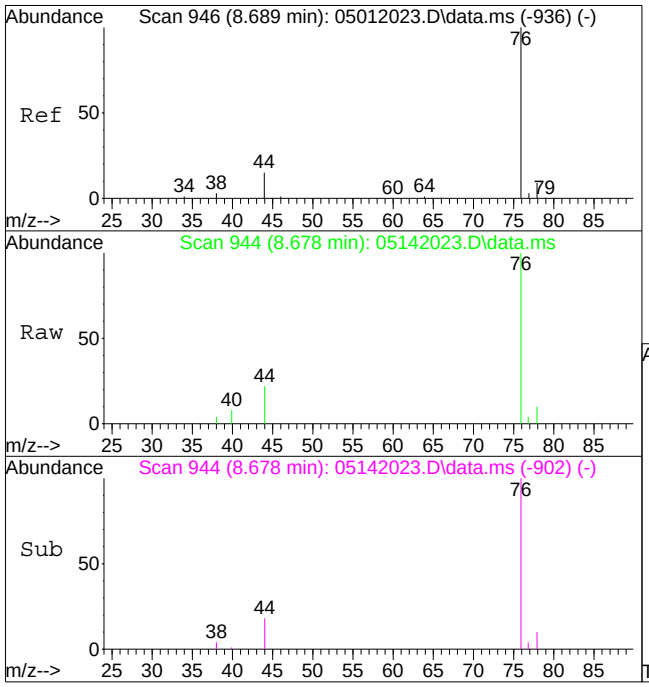


#21
Trichlorotrifluoroethane
Concen: 1.83 ng
RT: 8.84 min Scan# 973
Delta R.T. -0.011 min
Lab File: 05142023.D
Acq: 14 May 2020 21:36

Tgt Ion:151 Resp: 46508

Ion	Ratio	Lower	Upper
151	100		
101	124.8	107.3	147.3

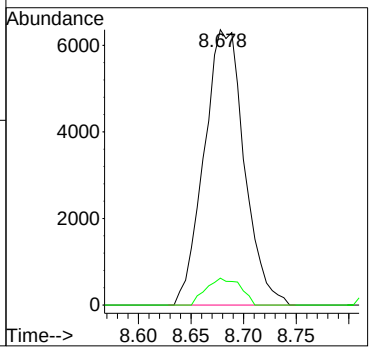


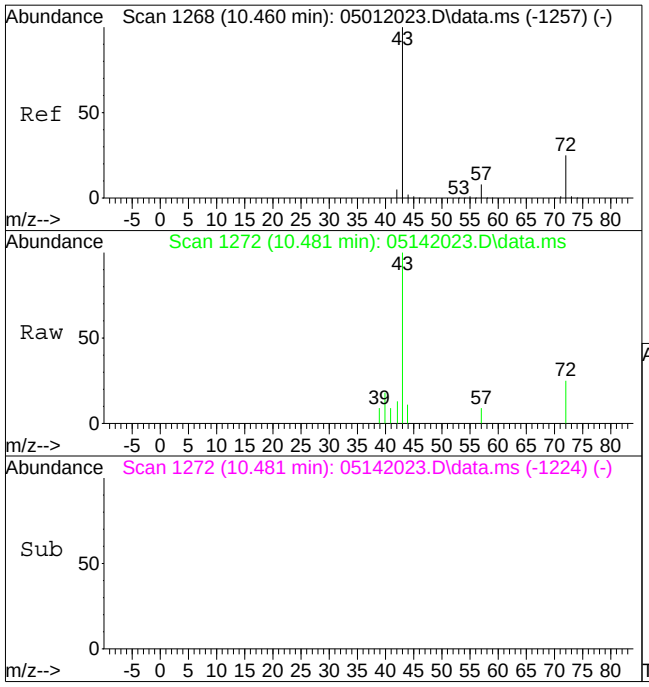


#22
Carbon Disulfide
Concen: 0.15 ng
RT: 8.68 min Scan# 944
Delta R.T. -0.017 min
Lab File: 05142023.D
Acq: 14 May 2020 21:36

Tgt Ion: 76 Resp: 16930

Ion	Ratio	Lower	Upper
76	100		
78	8.3	0.0	29.2

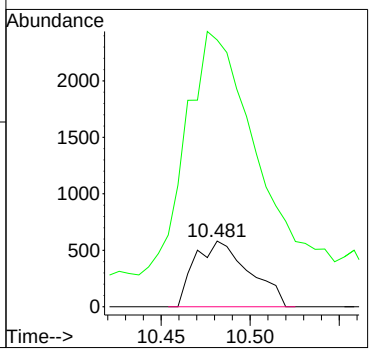


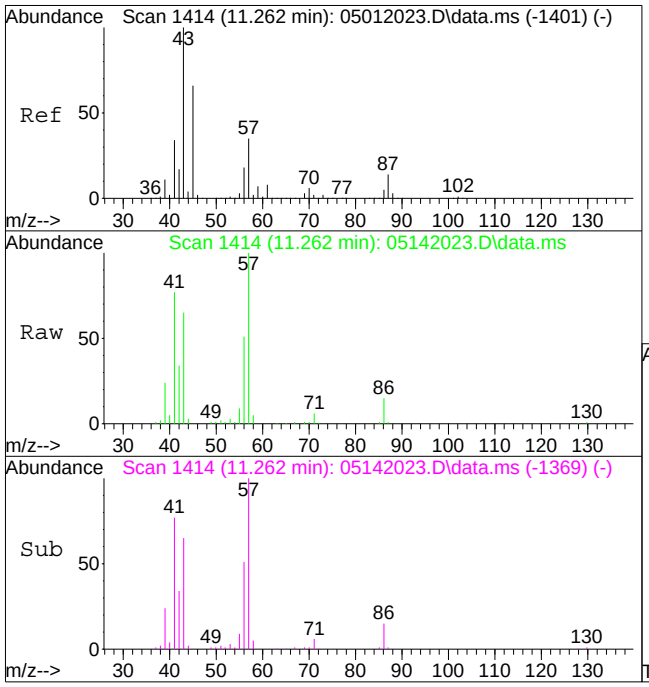


#27
2-Butanone (MEK)
Concen: 0.06 ng
RT: 10.48 min Scan# 1272
Delta R.T. 0.016 min
Lab File: 05142023.D
Acq: 14 May 2020 21:36

Tgt Ion: 72 Resp: 1238

Ion	Ratio	Lower	Upper
72	100		
43	491.2	389.7	429.7#

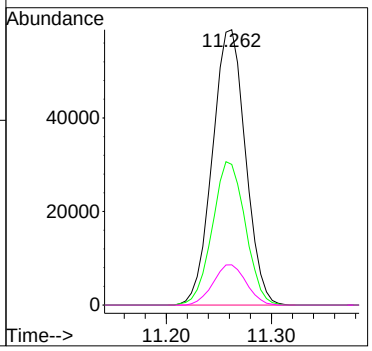


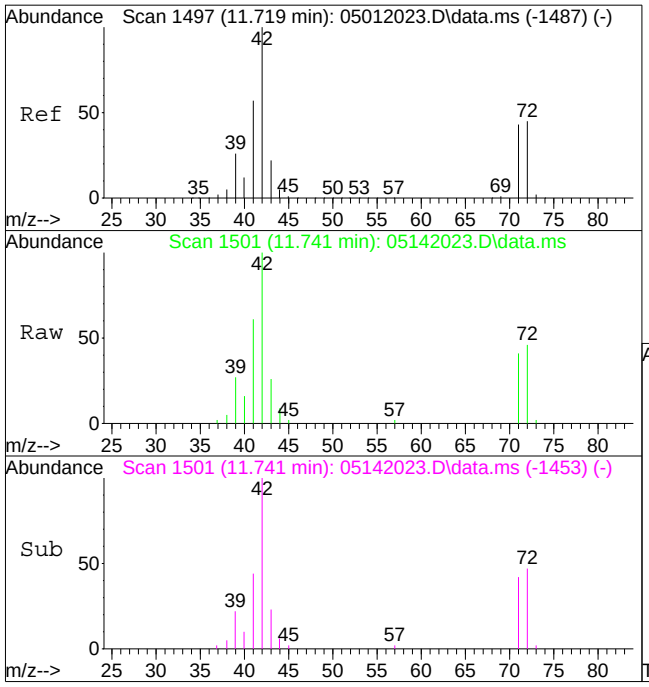


#31
n-Hexane
Concen: 2.51 ng
RT: 11.26 min Scan# 1414
Delta R.T. -0.000 min
Lab File: 05142023.D
Acq: 14 May 2020 21:36

Tgt Ion: 57 Resp: 128493

Ion	Ratio	Lower	Upper
57	100		
56	51.9	41.4	62.0
86	14.6	12.4	18.6

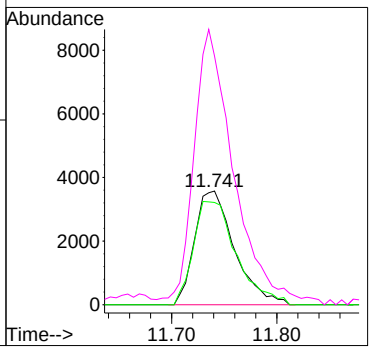


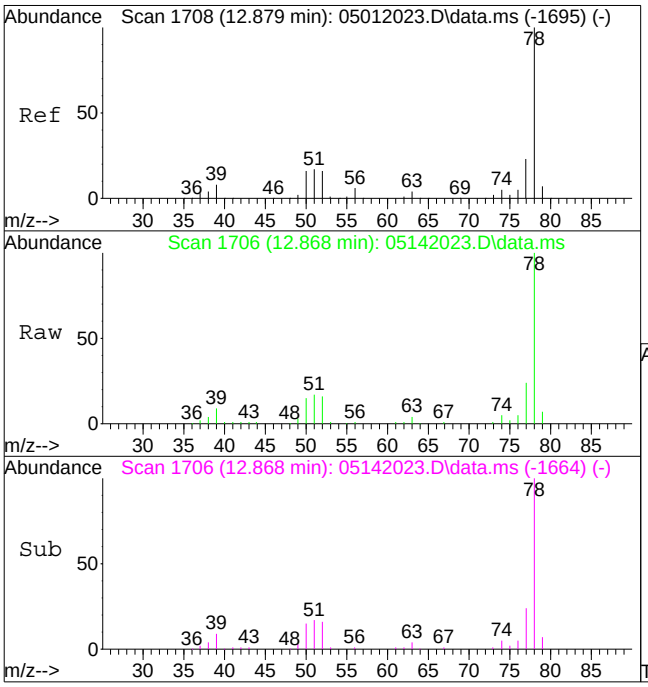


#34
Tetrahydrofuran (THF)
Concen: 0.47 ng
RT: 11.74 min Scan# 1501
Delta R.T. 0.016 min
Lab File: 05142023.D
Acq: 14 May 2020 21:36

Tgt Ion: 72 Resp: 9424

Ion	Ratio	Lower	Upper
72	100		
71	97.6	77.0	117.0
42	243.1	204.6	244.6

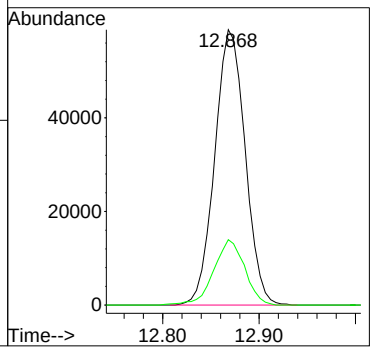


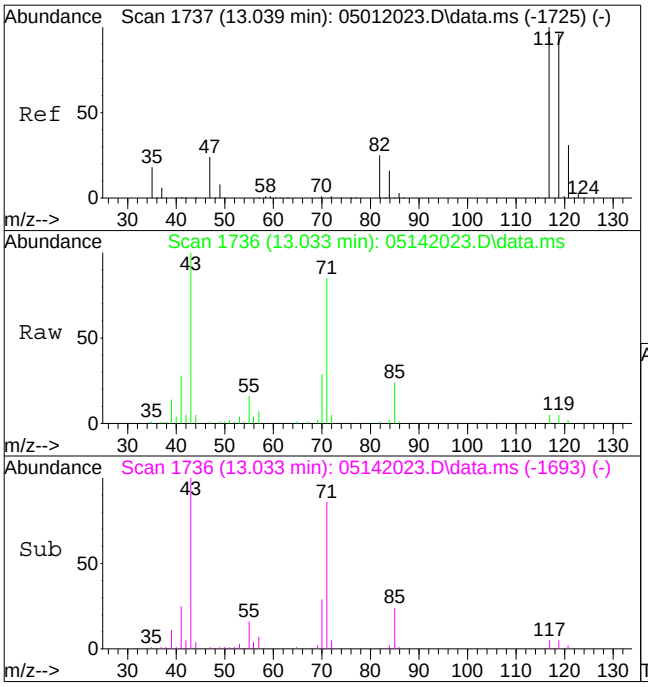


#41
Benzene
Concen: 1.05 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05142023.D
Acq: 14 May 2020 21:36

Tgt Ion: 78 Resp: 129056

Ion	Ratio	Lower	Upper
78	100		
77	24.2	3.4	43.4

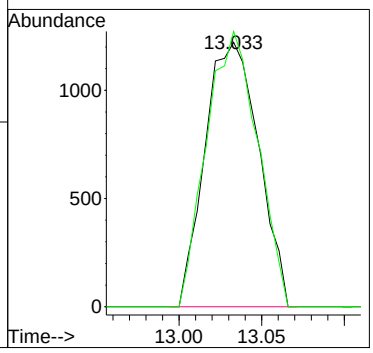


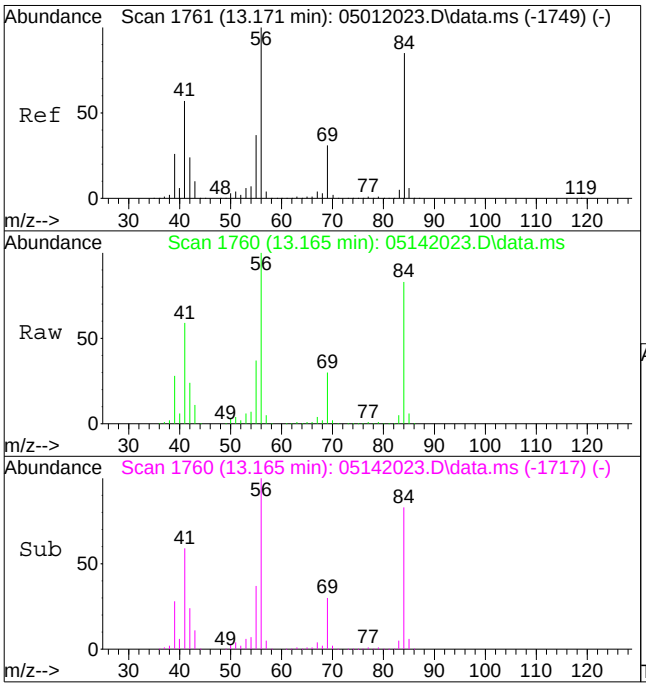


#42
Carbon Tetrachloride
Concen: 0.07 ng
RT: 13.03 min Scan# 1736
Delta R.T. -0.011 min
Lab File: 05142023.D
Acq: 14 May 2020 21:36

Tgt Ion:117 Resp: 2754

Ion	Ratio	Lower	Upper
117	100		
119	99.4	76.2	116.2

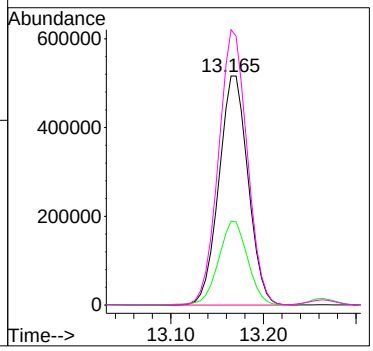


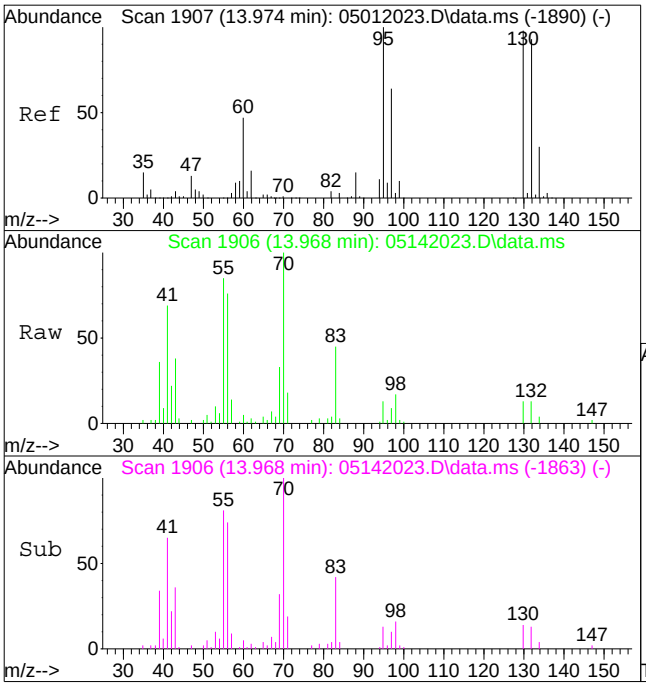


#43
Cyclohexane
Concen: 24.68 ng
RT: 13.16 min Scan# 1760
Delta R.T. -0.011 min
Lab File: 05142023.D
Acq: 14 May 2020 21:36

Tgt Ion: 84 Resp: 1129564

Ion	Ratio	Lower	Upper
84	100		
69	36.7	16.5	56.5
56	118.5	97.4	137.4

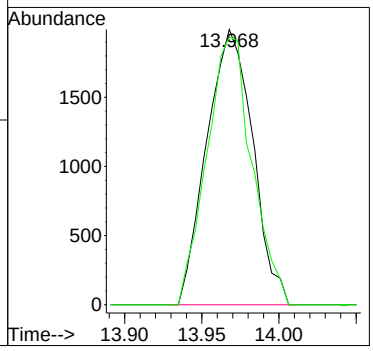


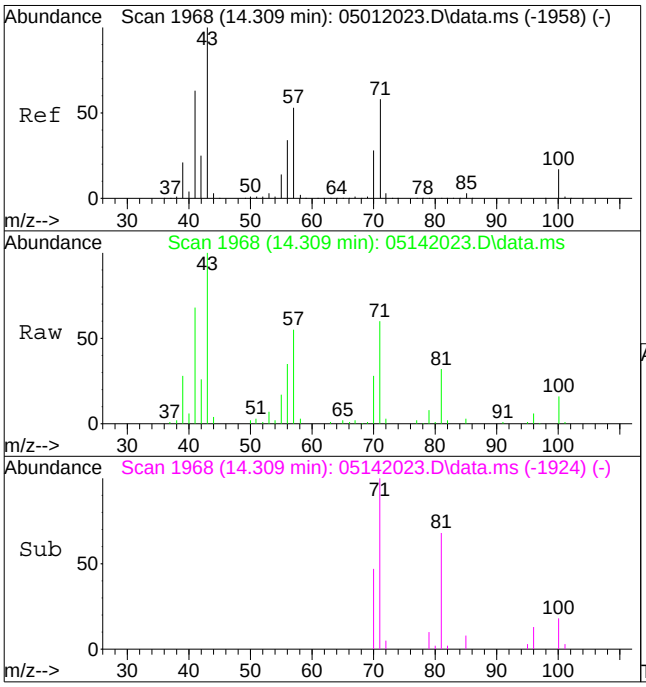


#47
Trichloroethene
Concen: 0.13 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05142023.D
Acq: 14 May 2020 21:36

Tgt Ion:130 Resp: 4127

Ion	Ratio	Lower	Upper
130	100		
132	95.5	74.9	114.9

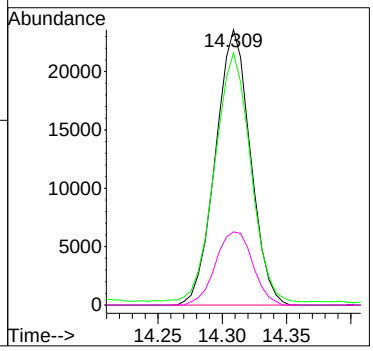


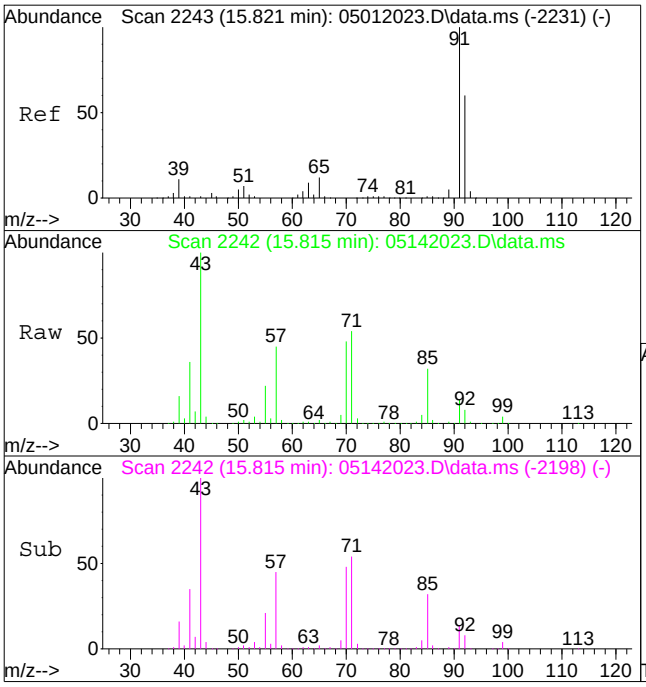


#51
n-Heptane
Concen: 1.55 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05142023.D
Acq: 14 May 2020 21:36

Tgt Ion: 71 Resp: 44501

Ion	Ratio	Lower	Upper
71	100		
57	93.0	71.0	111.0
100	28.4	8.4	48.4

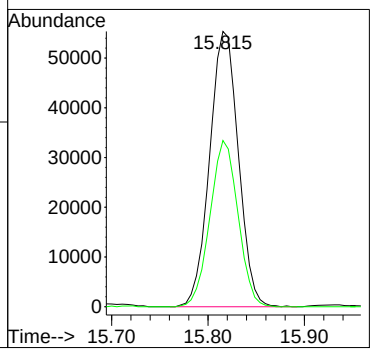


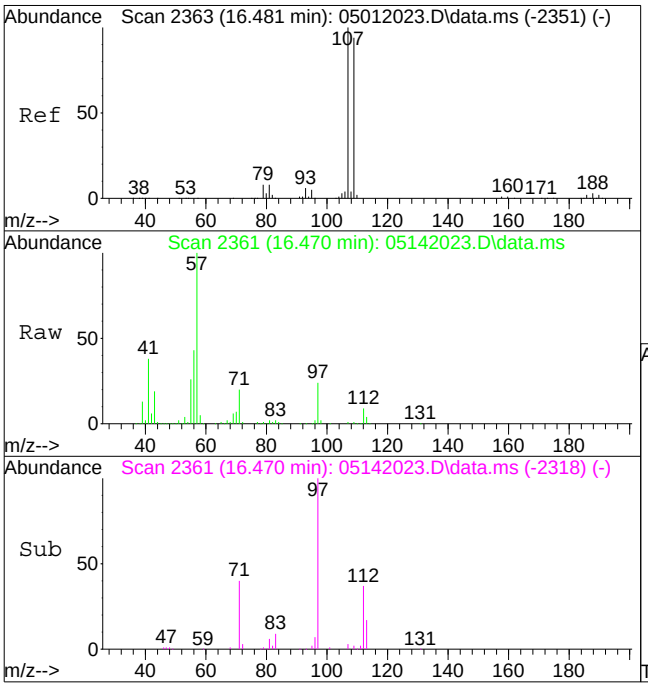


#58
Toluene
Concen: 0.82 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05142023.D
Acq: 14 May 2020 21:36

Tgt Ion: 91 Resp: 114739

Ion	Ratio	Lower	Upper
91	100		
92	58.8	39.4	79.4

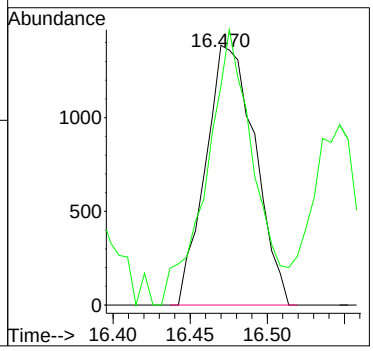


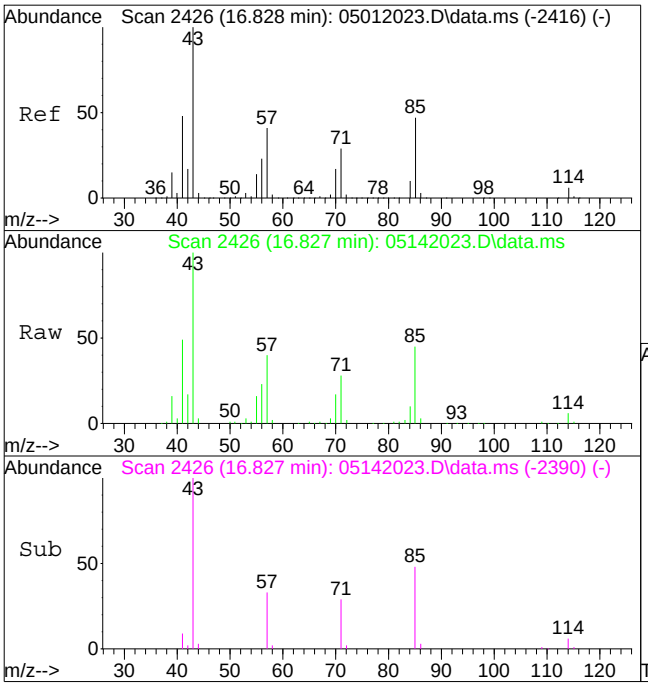


#61
1,2-Dibromoethane
Concen: 0.08 ng
RT: 16.47 min Scan# 2361
Delta R.T. -0.011 min
Lab File: 05142023.D
Acq: 14 May 2020 21:36

Tgt Ion:107 Resp: 3084

Ion	Ratio	Lower	Upper
107	100		
109	101.1	74.5	114.5

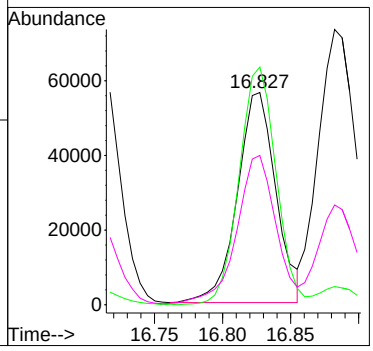


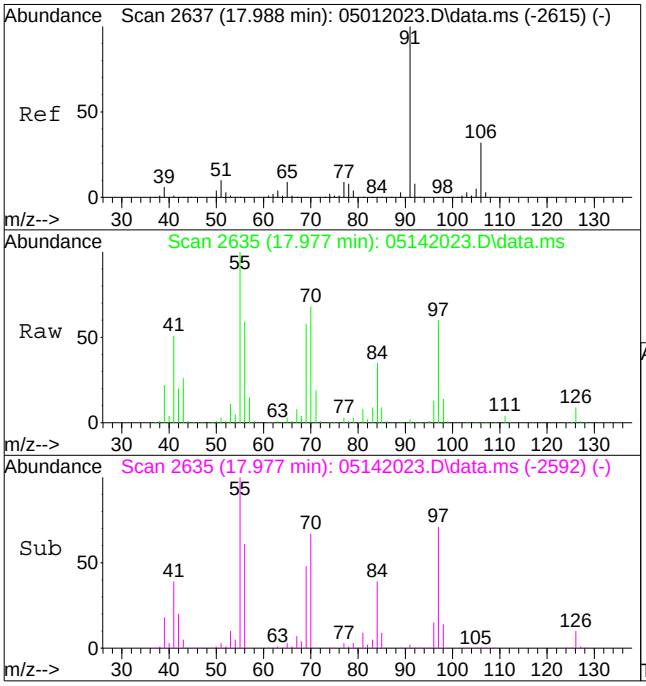


#63
n-Octane
Concen: 3.83 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05142023.D
Acq: 14 May 2020 21:36

Tgt Ion: 57 Resp: 110862

Ion	Ratio	Lower	Upper
57	100		
85	108.8	91.0	136.4
71	71.0	56.2	84.2

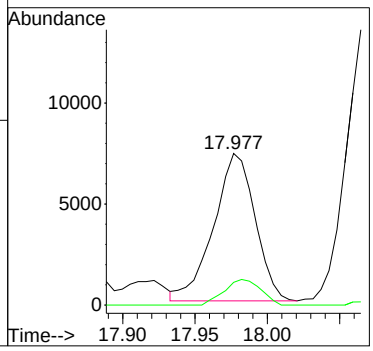


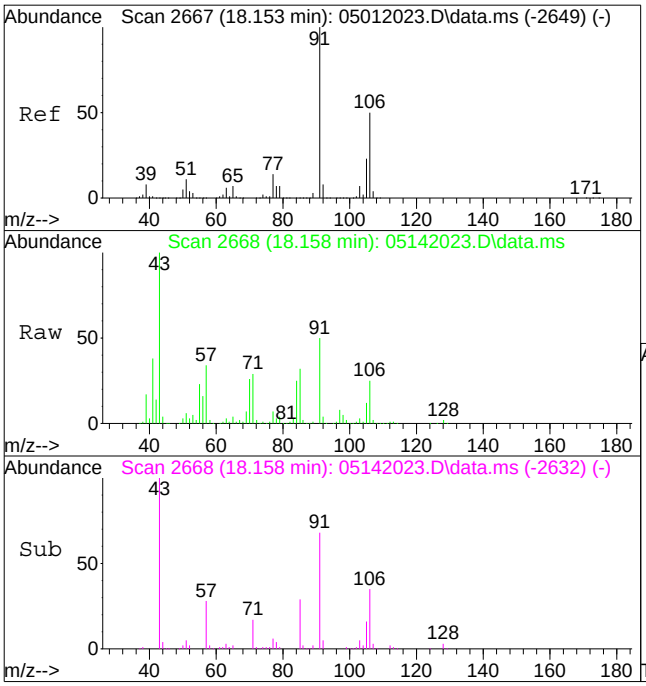


#66
Ethylbenzene
Concen: 0.09 ng
RT: 17.98 min Scan# 2635
Delta R.T. -0.011 min
Lab File: 05142023.D
Acq: 14 May 2020 21:36

Tgt Ion: 91 Resp: 14552

Ion	Ratio	Lower	Upper
91	100		
106	15.3	11.6	51.6

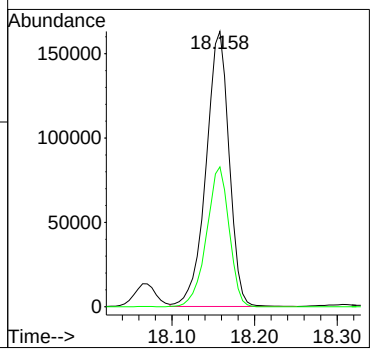


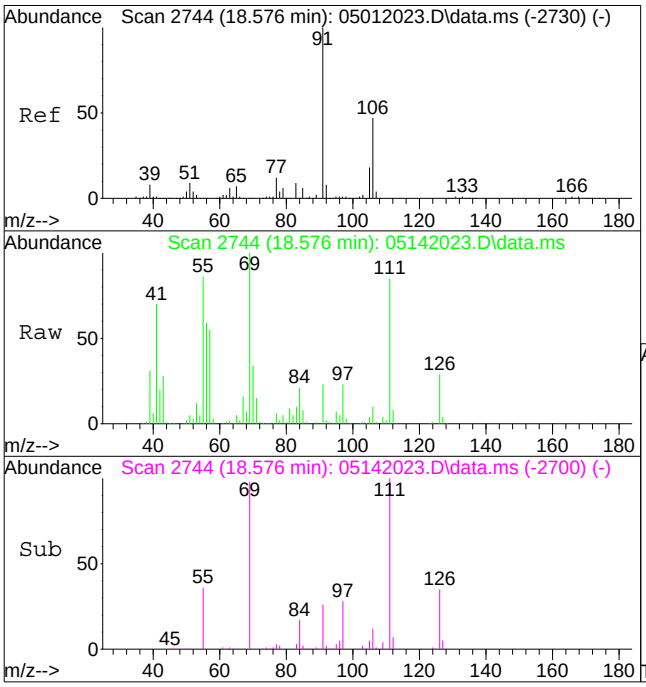


#67
m- & p-Xylenes
Concen: 2.55 ng
RT: 18.16 min Scan# 2668
Delta R.T. -0.000 min
Lab File: 05142023.D
Acq: 14 May 2020 21:36

Tgt Ion: 91 Resp: 315194

Ion	Ratio	Lower	Upper
91	100		
106	50.0	29.7	69.7

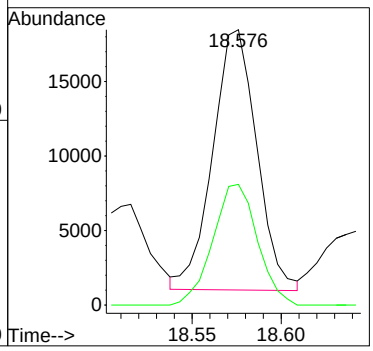


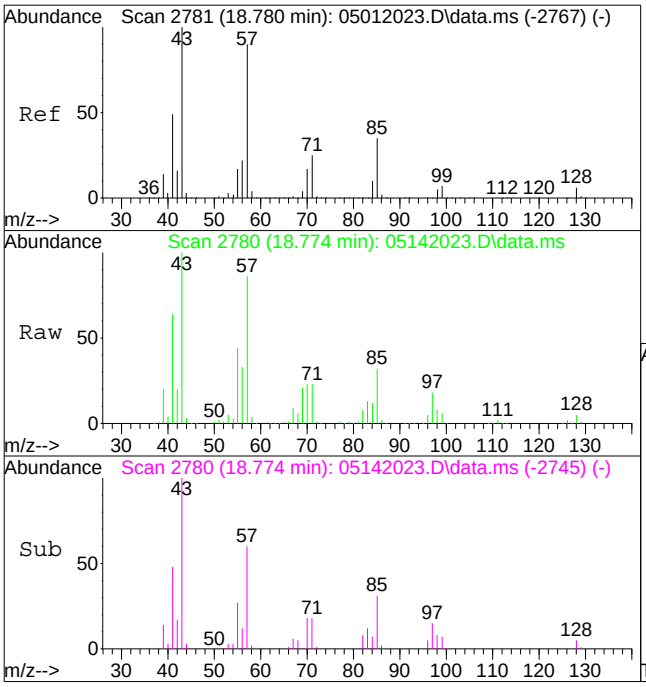


#70
o-Xylene
Concen: 0.24 ng
RT: 18.58 min Scan# 2744
Delta R.T. -0.006 min
Lab File: 05142023.D
Acq: 14 May 2020 21:36

Tgt Ion: 91 Resp: 30014

Ion	Ratio	Lower	Upper
91	100		
106	46.9	27.5	67.5

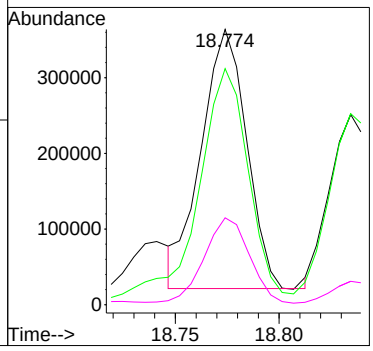


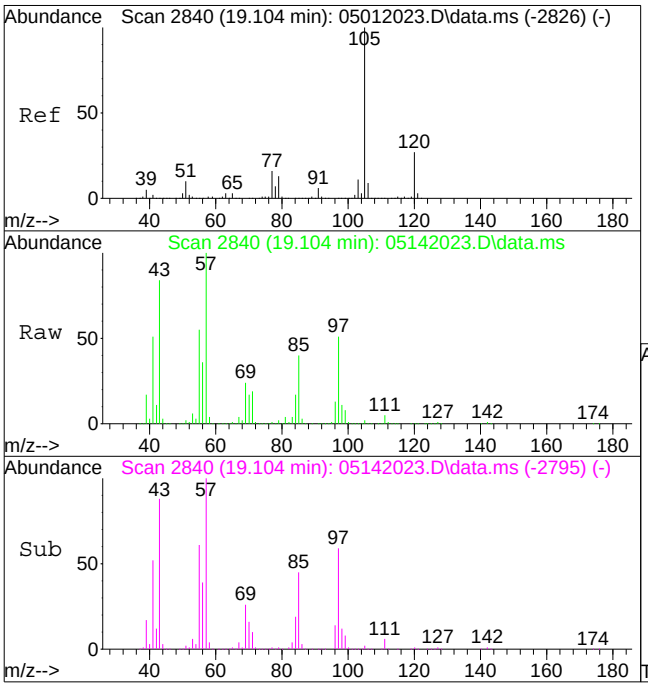


#71
n-Nonane
Concen: 7.88 ng m
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05142023.D
Acq: 14 May 2020 21:36

Tgt Ion: 43 Resp: 524742

Ion	Ratio	Lower	Upper
43	100		
57	94.3	69.0	109.0
85	32.5	14.6	54.6

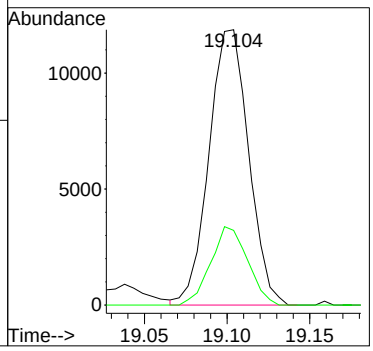


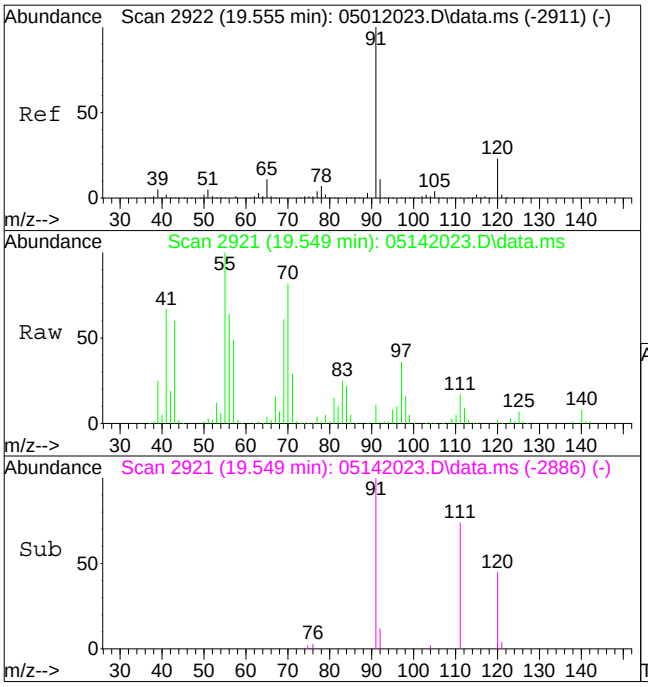


#74
Cumene
Concen: 0.13 ng
RT: 19.10 min Scan# 2840
Delta R.T. -0.000 min
Lab File: 05142023.D
Acq: 14 May 2020 21:36

Tgt Ion:105 Resp: 19821

Ion	Ratio	Lower	Upper
105	100		
120	26.4	6.8	46.8

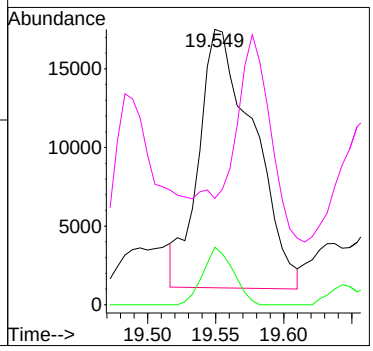


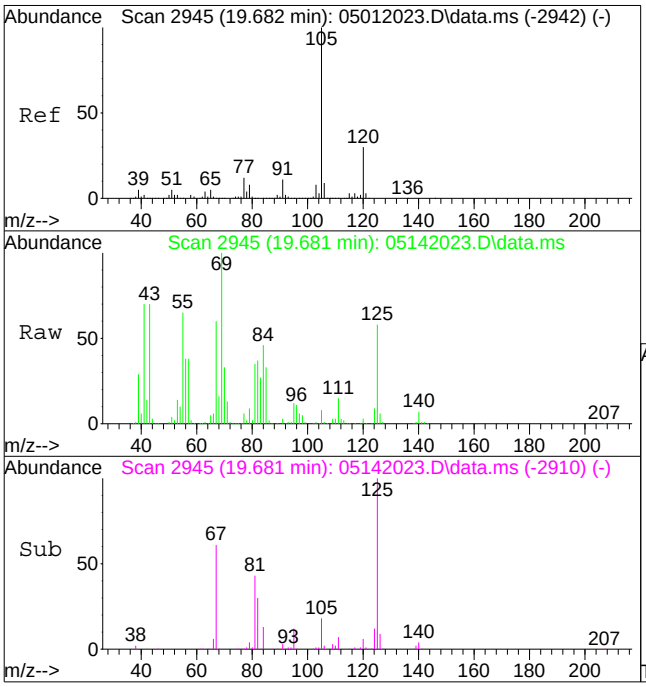


#76
n-Propylbenzene
Concen: 0.25 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05142023.D
Acq: 14 May 2020 21:36

Tgt Ion: 91 Resp: 46330

Ion	Ratio	Lower	Upper
91	100		
120	12.2	3.1	43.1
65	59.4	0.0	30.9#

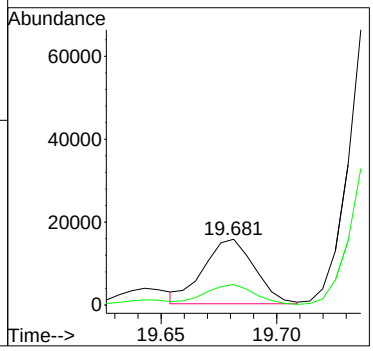


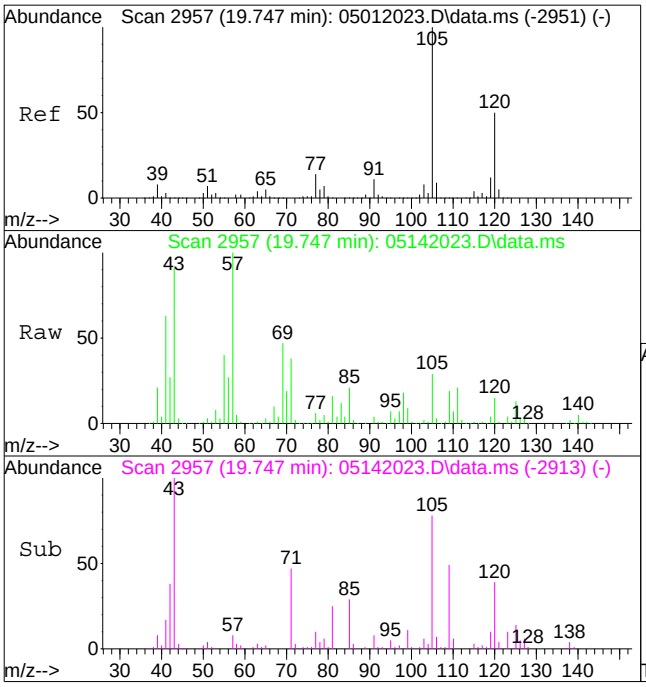


#78
4-Ethyltoluene
Concen: 0.17 ng
RT: 19.68 min Scan# 2945
Delta R.T. -0.006 min
Lab File: 05142023.D
Acq: 14 May 2020 21:36

Tgt Ion:105 Resp: 23894

Ion	Ratio	Lower	Upper
105	100		
120	32.1	10.4	50.4

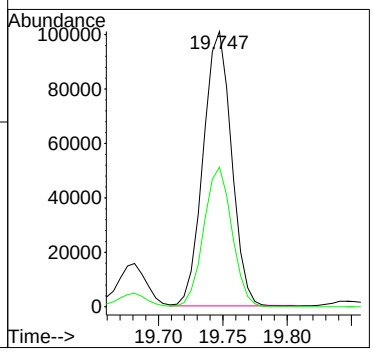


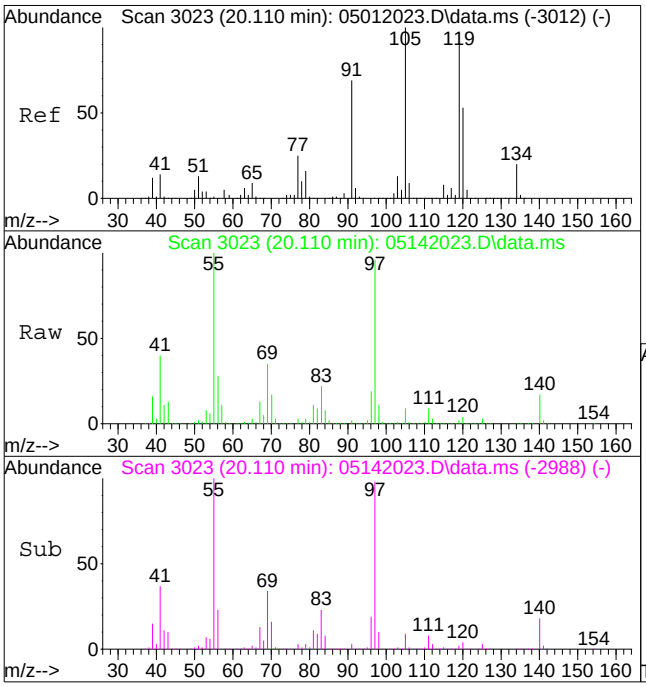


#79
1,3,5-Trimethylbenzene
Concen: 1.23 ng
RT: 19.75 min Scan# 2957
Delta R.T. -0.006 min
Lab File: 05142023.D
Acq: 14 May 2020 21:36

Tgt Ion:105 Resp: 153954

Ion	Ratio	Lower	Upper
105	100		
120	50.6	29.9	69.9

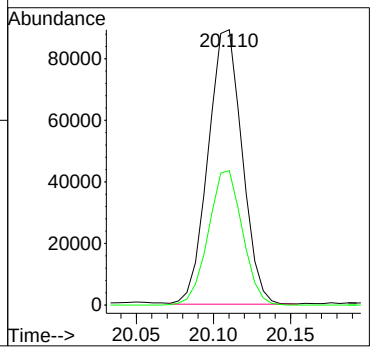




#82
1,2,4-Trimethylbenzene
Concen: 1.08 ng
RT: 20.11 min Scan# 3023
Delta R.T. -0.006 min
Lab File: 05142023.D
Acq: 14 May 2020 21:36

Tgt Ion:105 Resp: 136660

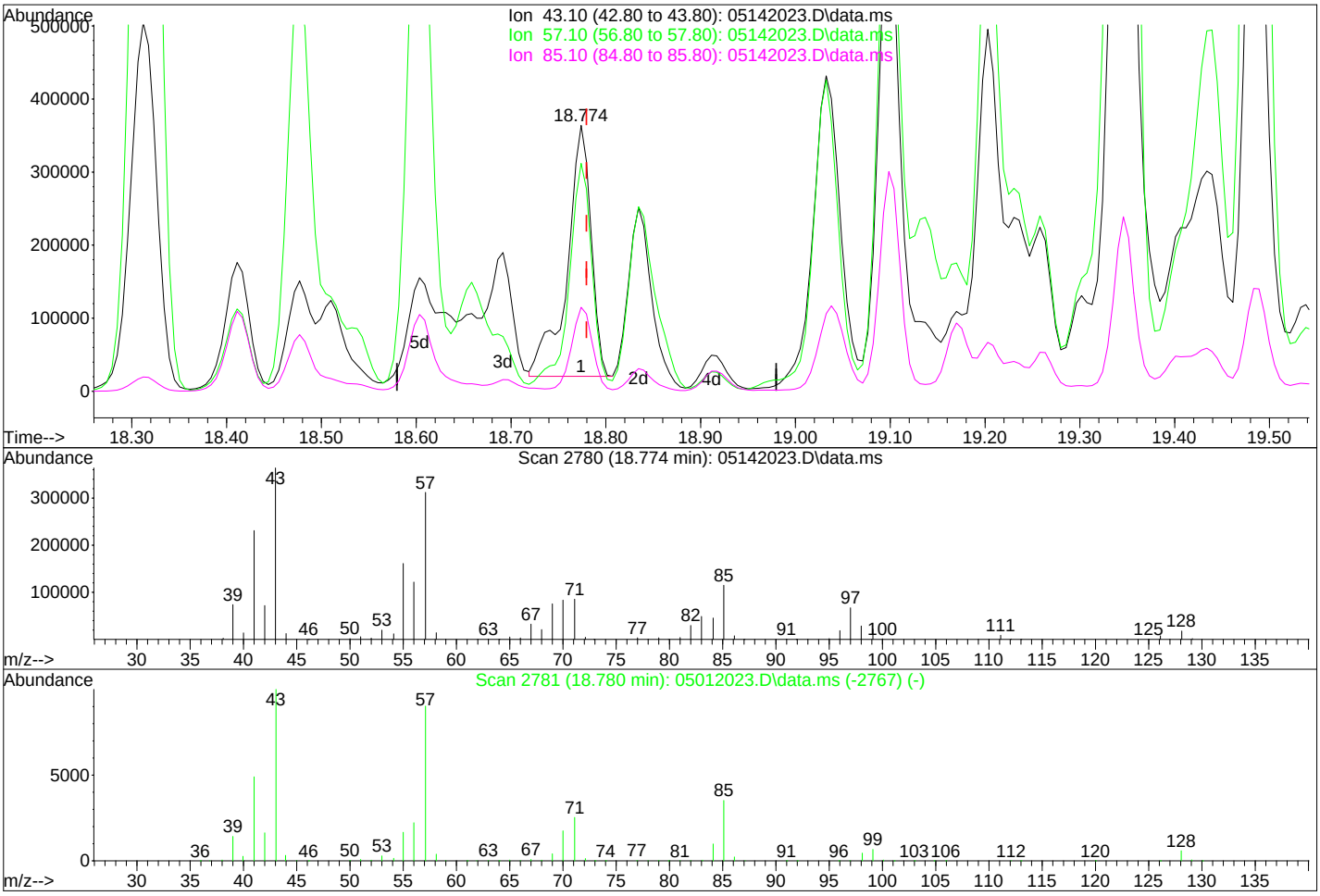
Ion	Ratio	Lower	Upper
105	100		
120	49.1	33.6	73.6



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\14\05142023.D Vial: 1
Acq On : 14 May 2020 21:36 Operator: LH
Sample : P2002302-014 (1.5mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 09:28:45 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05142023.D\data.ms

(71) n-Nonane (T)

18.774min (-0.006) 9.07ng

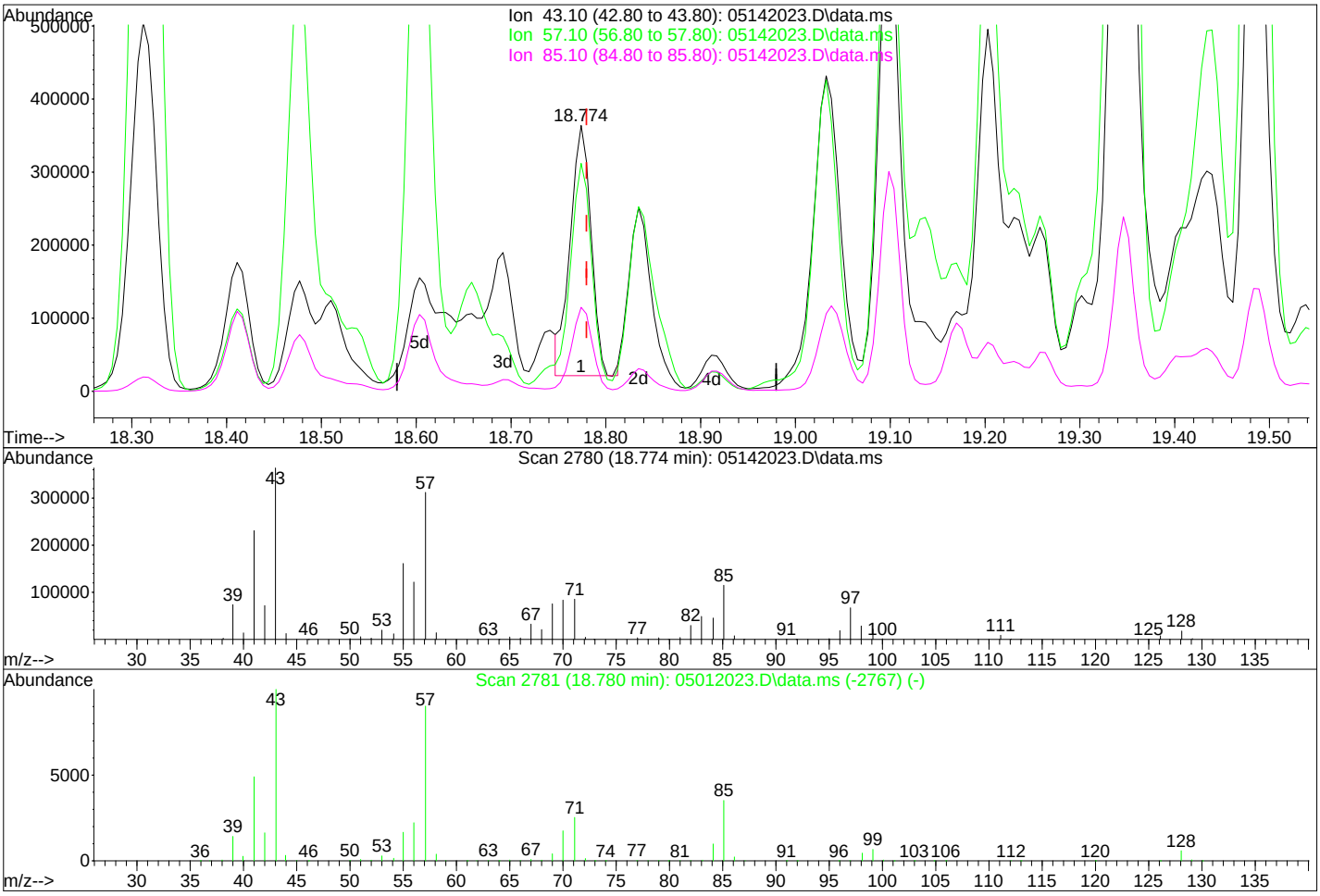
response 603659

Ion	Exp%	Act%
43.10	100	100
57.10	89.00	81.94
85.10	34.60	28.26
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\14\05142023.D Vial: 1
Acq On : 14 May 2020 21:36 Operator: LH
Sample : P2002302-014 (1.5mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 09:28:45 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05142023.D\data.ms

(71) n-Nonane (T)

18.774min (-0.006) 7.88ng m

response 524742

Ion	Exp%	Act%
43.10	100	100
57.10	89.00	94.26
85.10	34.60	32.51
0.00	0.00	0.00

IPC

LH 5/15/20

5/17/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152010.D Vial: 15
Acq On : 15 May 2020 8:52 Operator: LH
Sample : P2002302-015 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 16:17:25 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/15/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	260290	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1132821	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	526596	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	420448	11.919	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.36%				
57) Toluene-d8 (SS2)	15.72	98	1101912	12.345	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.80%				
73) Bromofluorobenzene (SS3)	18.97	174	429734	13.380	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.04%				
Target Compounds							Qvalue
2) Propene	4.11	42	6752	0.224	ng		94
3) Dichlorodifluoromethan...	4.25	85	104908	1.779	ng		100
4) Chloromethane	4.53	50	4404	0.095	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	505	N.D.			
6) Vinyl Chloride	4.95	62	103160	2.037	ng		99
7) 1,3-Butadiene	5.23	54	371	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.98	64	882	N.D.			
10) Ethanol	6.35	45	507996	21.823	ng		99
11) Acetonitrile	6.59	41	6830	0.128	ng		79
12) Acrolein	6.79	56	5803	0.315	ng		94
13) Acetone	6.99	58	116590	5.008	ng		86
14) Trichlorofluoromethane	7.24	101	15627	0.300	ng		97
15) 2-Propanol (Isopropanol)	7.52	45	49421	0.701	ng	#	55
16) Acrylonitrile	7.75	53	4631	0.122	ng		95
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	773	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	8.84	151	22016	0.895	ng		97
22) Carbon Disulfide	8.68	76	340675	3.142	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	10.09	63	168	N.D.			
25) Methyl tert-Butyl Ether	10.09	73	2641	N.D.			
26) Vinyl Acetate	10.17	86	15878	2.190	ng	#	25
27) 2-Butanone (MEK)	10.46	72	19490	0.982	ng		95
28) cis-1,2-Dichloroethene	10.93	61	1096	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	11.28	61	1282	0.112	ng	#	65
31) n-Hexane	11.26	57	4412	0.089	ng		95
32) Chloroform	11.30	83	1439	N.D.			
34) Tetrahydrofuran (THF)	11.72	72	45942	2.373	ng		96
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	609	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	42826	0.353	ng		99
42) Carbon Tetrachloride	13.03	117	4297	0.104	ng		99
43) Cyclohexane	13.16	84	15121	0.334	ng	#	84
44) tert-Amyl Methyl Ether	13.45	73	108	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	13.94	83	1492	N.D.			
47) Trichloroethene	13.96	130	600	N.D.			
48) 1,4-Dioxane	13.97	88	1658	0.068	ng		85
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.11	100	118	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152010.D Vial: 15
Acq On : 15 May 2020 8:52 Operator: LH
Sample : P2002302-015 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 16:17:25 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

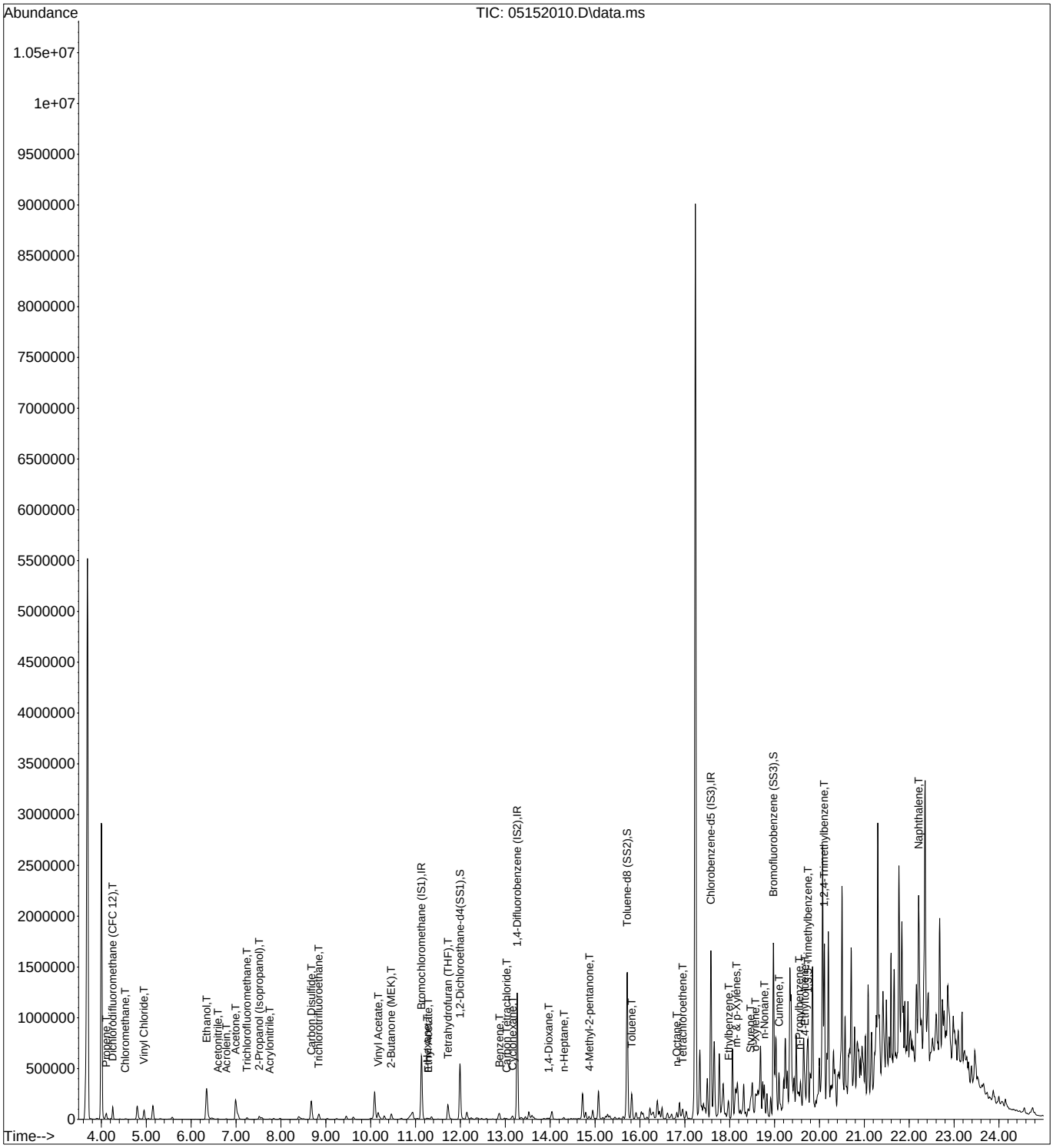
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.31	71	4564	0.161	ng		98
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
53) 4-Methyl-2-pentanone	14.88	58	4146	0.153	ng		75
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	d		
55) 1,1,2-Trichloroethane	15.45	97	670	N.D.			
58) Toluene	15.82	91	171232	1.488	ng		100
59) 2-Hexanone	0.00	43	0	N.D.	d		
60) Dibromochloromethane	0.00	129	0	N.D.			
61) 1,2-Dibromoethane	16.48	107	790	N.D.			
62) n-Butyl Acetate	16.70	43	2752	N.D.			
63) n-Octane	16.82	57	10883	0.457	ng		93
64) Tetrachloroethene	16.95	166	11214	0.345	ng		99
65) Chlorobenzene	0.00	112	0	N.D.	d		
66) Ethylbenzene	17.98	91	29460	0.230	ng		99
67) m- & p-Xylenes	18.15	91	143793	1.413	ng		100
68) Bromoform	0.00	173	0	N.D.			
69) Styrene	18.47	104	3923	0.051	ng	#	84
70) o-Xylene	18.57	91	50940	0.493	ng		99
71) n-Nonane	18.77	43	106727	1.947	ng		93
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	d		
74) Cumene	19.10	105	10262	0.081	ng		98
75) alpha-Pinene	19.45	93	2045	N.D.			
76) n-Propylbenzene	19.55	91	42728	0.284	ng		86
77) 3-Ethyltoluene	0.00	105	0	N.D.	d		
78) 4-Ethyltoluene	19.68	105	42790	0.359	ng		99
79) 1,3,5-Trimethylbenzene	19.74	105	112644	1.089	ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D.	d		
81) 2-Ethyltoluene	0.00	105	0	N.D.	d		
82) 1,2,4-Trimethylbenzene	20.10	105	300604	2.892	ng		91
83) n-Decane	0.00	57	0	N.D.	d		
84) Benzyl Chloride	20.22	91	3129	N.D.			
85) 1,3-Dichlorobenzene	20.24	146	395	N.D.			
86) 1,4-Dichlorobenzene	20.30	146	816	N.D.			
87) sec-Butylbenzene	0.00	105	0	N.D.	d		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.	d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d		
90) 1,2-Dichlorobenzene	20.59	146	430	N.D.			
91) d-Limonene	0.00	68	0	N.D.	d		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.			
93) n-Undecane	0.00	57	0	N.D.	d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	d		
95) Naphthalene	22.21	128	69868	0.551	ng		93
96) n-Dodecane	0.00	57	0	N.D.	d		
97) Hexachlorobutadiene	0.00	225	0	N.D.			
98) Cyclohexanone	0.00	55	0	N.D.	d		
99) tert-Butylbenzene	0.00	119	0	N.D.	d		
100) n-Butylbenzene	0.00	91	0	N.D.	d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152010.D Vial: 15
Acq On : 15 May 2020 8:52 Operator: LH
Sample : P2002302-015 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 16:17:25 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152010.D Vial: 15
Acq On : 15 May 2020 8:52 Operator: LH
Sample : P2002302-015 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 16:17:25 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/15/20

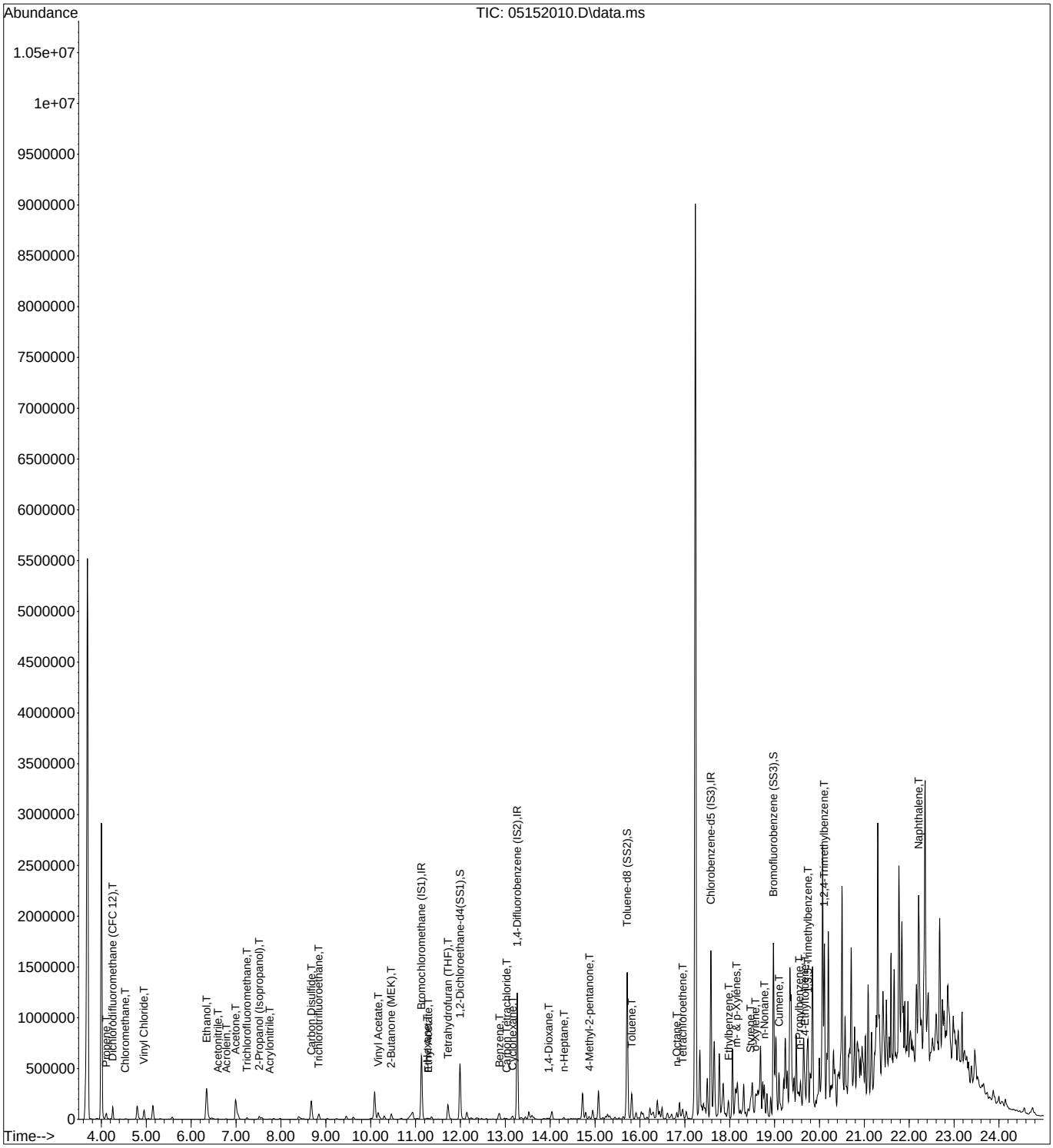
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	260290	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1132821	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	526596	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	420448	11.919	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.36%				
57) Toluene-d8 (SS2)	15.72	98	1101912	12.345	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.80%				
73) Bromofluorobenzene (SS3)	18.97	174	429734	13.380	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.04%				
Target Compounds							Qvalue
2) Propene	4.11	42	6752	0.224	ng		94
3) Dichlorodifluoromethan...	4.25	85	104908	1.779	ng		100
4) Chloromethane	4.53	50	4404	0.095	ng		100
6) Vinyl Chloride	4.95	62	103160	2.037	ng		99
10) Ethanol	6.35	45	507996	21.823	ng		99
11) Acetonitrile	6.59	41	6830	0.128	ng		79
12) Acrolein	6.79	56	5803	0.315	ng		94
13) Acetone	6.99	58	116590	5.008	ng		86
14) Trichlorofluoromethane	7.24	101	15627	0.300	ng		97
15) 2-Propanol (Isopropanol)	7.52	45	49421	0.701	ng	#	55
16) Acrylonitrile	7.75	53	4631	0.122	ng		95
21) Trichlorotrifluoroethane	8.84	151	22016	0.895	ng		97
22) Carbon Disulfide	8.68	76	340675	3.142	ng		99
26) Vinyl Acetate	10.17	86	15878	2.190	ng	#	25
27) 2-Butanone (MEK)	10.46	72	19490	0.982	ng		95
30) Ethyl Acetate	11.28	61	1282	0.112	ng	#	65
31) n-Hexane	11.26	57	4412	0.089	ng		95
34) Tetrahydrofuran (THF)	11.72	72	45942	2.373	ng		96
41) Benzene	12.87	78	42826	0.353	ng		99
42) Carbon Tetrachloride	13.03	117	4297	0.104	ng		99
43) Cyclohexane	13.16	84	15121	0.334	ng	#	84
48) 1,4-Dioxane	13.97	88	1658	0.068	ng		85
51) n-Heptane	14.31	71	4564	0.161	ng		98
53) 4-Methyl-2-pentanone	14.88	58	4146	0.153	ng		75
58) Toluene	15.82	91	171232	1.488	ng		100
63) n-Octane	16.82	57	10883	0.457	ng		93
64) Tetrachloroethene	16.95	166	11214	0.345	ng		99
66) Ethylbenzene	17.98	91	29460	0.230	ng		99
67) m- & p-Xylenes	18.15	91	143793	1.413	ng		100
69) Styrene	18.47	104	3923	0.051	ng	#	84
70) o-Xylene	18.57	91	50940	0.493	ng		99
71) n-Nonane	18.77	43	106727	1.947	ng		93
74) Cumene	19.10	105	10262	0.081	ng		98
76) n-Propylbenzene	19.55	91	42728	0.284	ng		86
78) 4-Ethyltoluene	19.68	105	42790	0.359	ng		99
79) 1,3,5-Trimethylbenzene	19.74	105	112644	1.089	ng		99
82) 1,2,4-Trimethylbenzene	20.10	105	300604	2.892	ng		91
95) Naphthalene	22.21	128	69868	0.551	ng		93

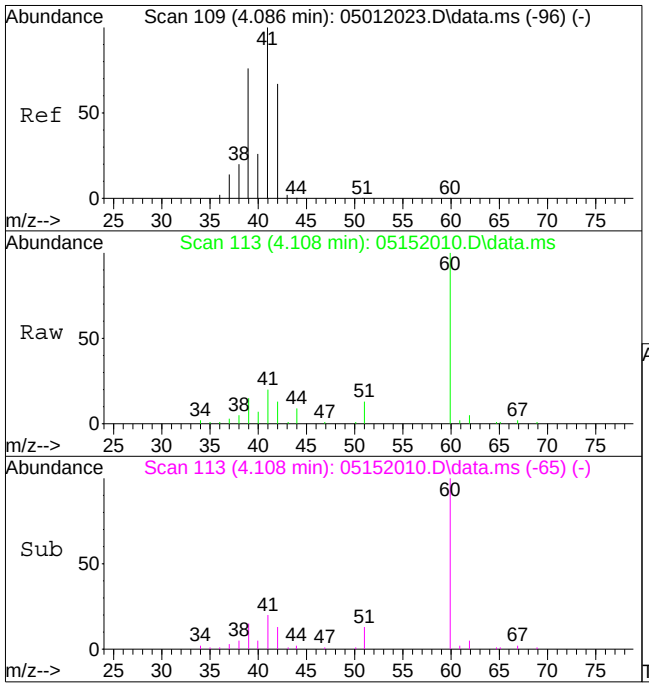
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152010.D Vial: 15
Acq On : 15 May 2020 8:52 Operator: LH
Sample : P2002302-015 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 16:17:25 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

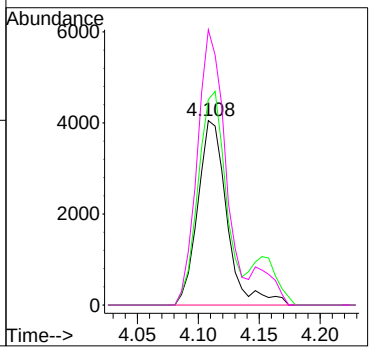


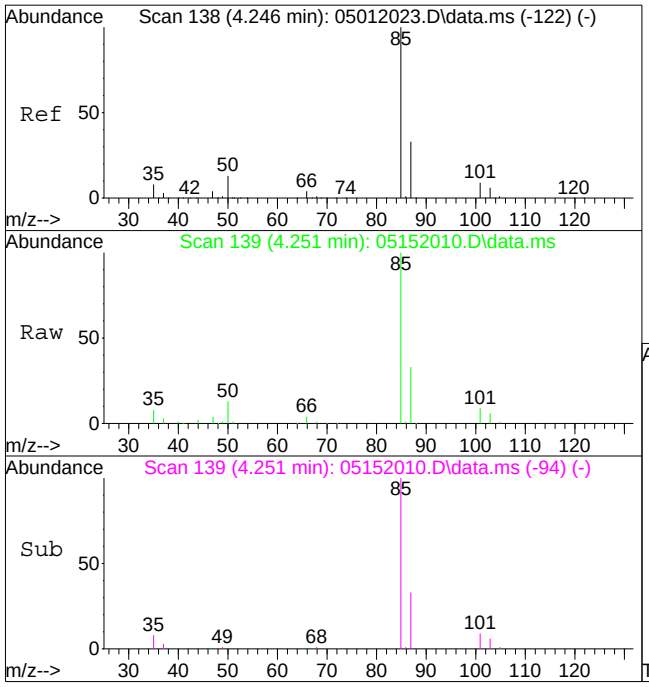


#2
Propene
Concen: 0.22 ng
RT: 4.11 min Scan# 113
Delta R.T. 0.016 min
Lab File: 05152010.D
Acq: 15 May 2020 8:52

Tgt Ion: 42 Resp: 6752

Ion	Ratio	Lower	Upper
42	100		
39	110.7	96.1	136.1
41	143.2	131.9	171.9

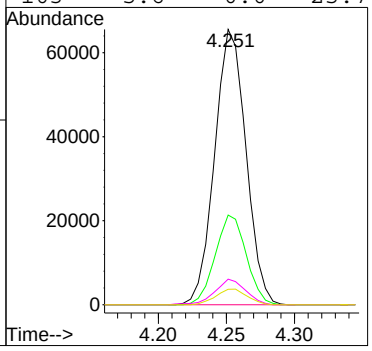


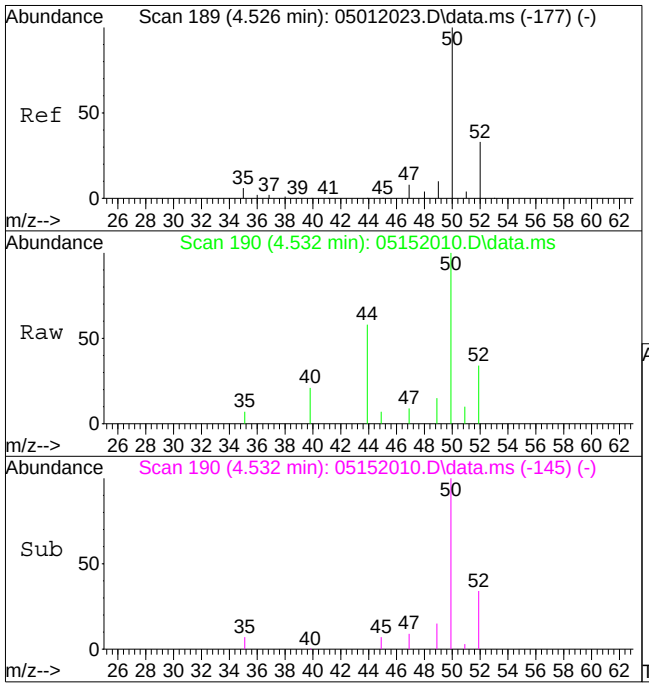


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.78 ng
RT: 4.25 min Scan# 139
Delta R.T. -0.000 min
Lab File: 05152010.D
Acq: 15 May 2020 8:52

Tgt Ion: 85 Resp: 104908

Ion	Ratio	Lower	Upper
85	100		
87	32.3	12.4	52.4
101	9.1	0.0	28.8
103	5.6	0.0	25.7

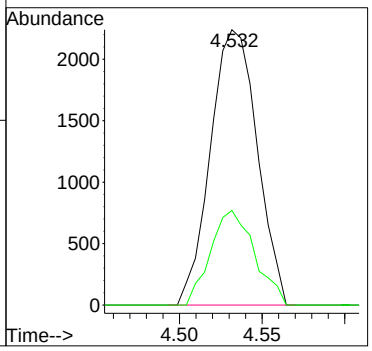


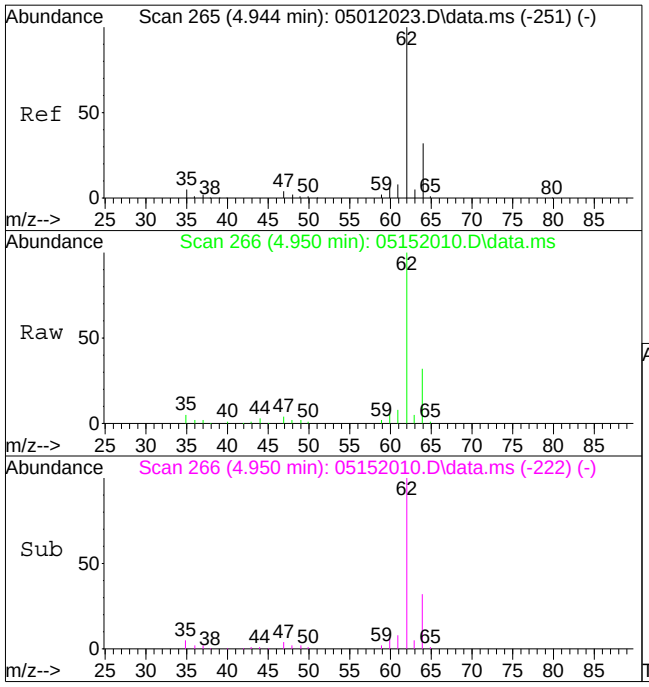


#4
Chloromethane
Concen: 0.10 ng
RT: 4.53 min Scan# 190
Delta R.T. -0.000 min
Lab File: 05152010.D
Acq: 15 May 2020 8:52

Tgt Ion: 50 Resp: 4404

Ion	Ratio	Lower	Upper
50	100		
52	32.3	12.5	52.5

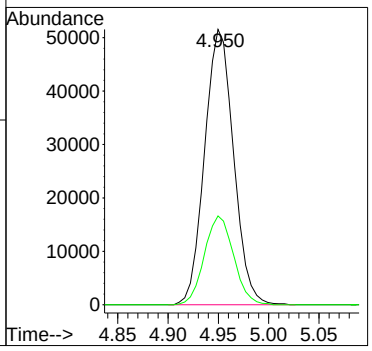


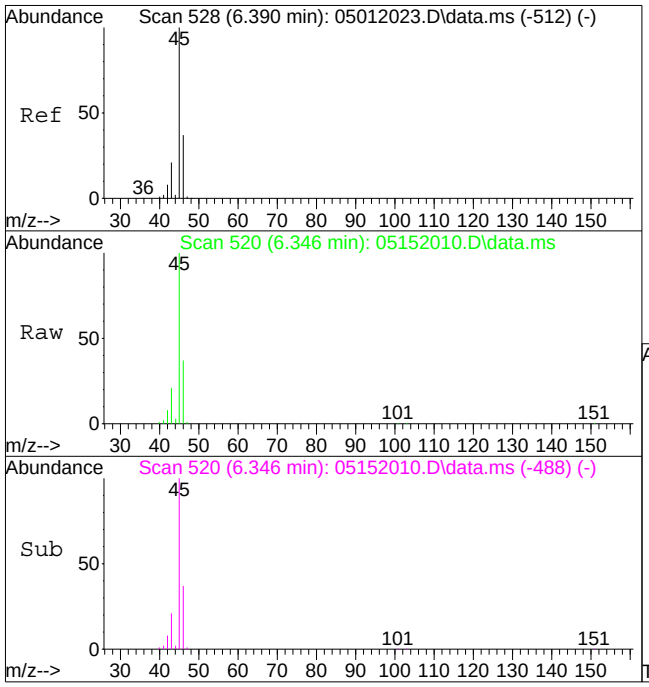


#6
Vinyl Chloride
Concen: 2.04 ng
RT: 4.95 min Scan# 266
Delta R.T. -0.006 min
Lab File: 05152010.D
Acq: 15 May 2020 8:52

Tgt Ion: 62 Resp: 103160

Ion	Ratio	Lower	Upper
62	100		
64	32.5	12.1	52.1

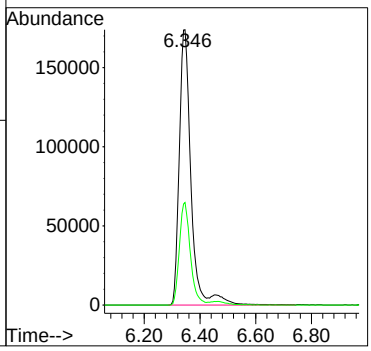


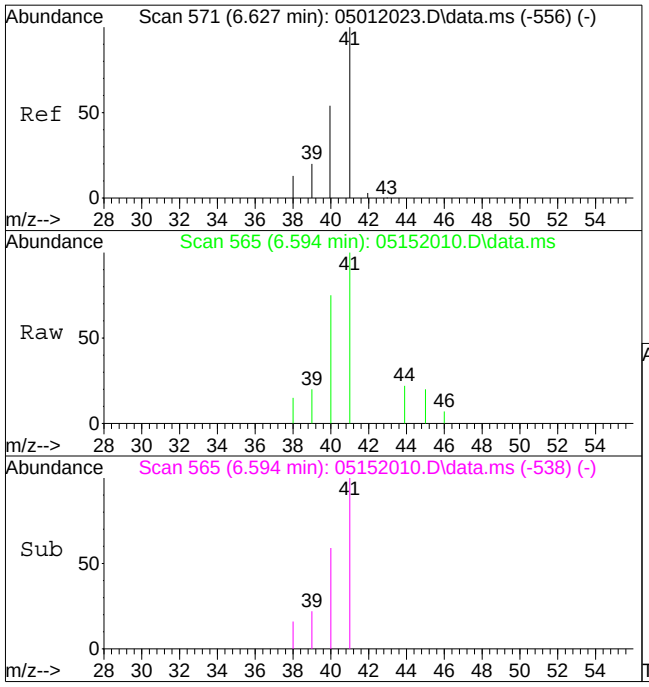


#10
Ethanol
Concen: 21.82 ng
RT: 6.35 min Scan# 520
Delta R.T. -0.072 min
Lab File: 05152010.D
Acq: 15 May 2020 8:52

Tgt Ion: 45 Resp: 507996

Ion	Ratio	Lower	Upper
45	100		
46	36.9	17.2	57.2

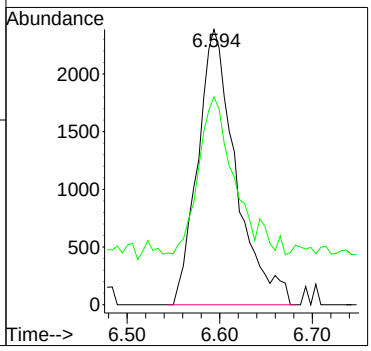


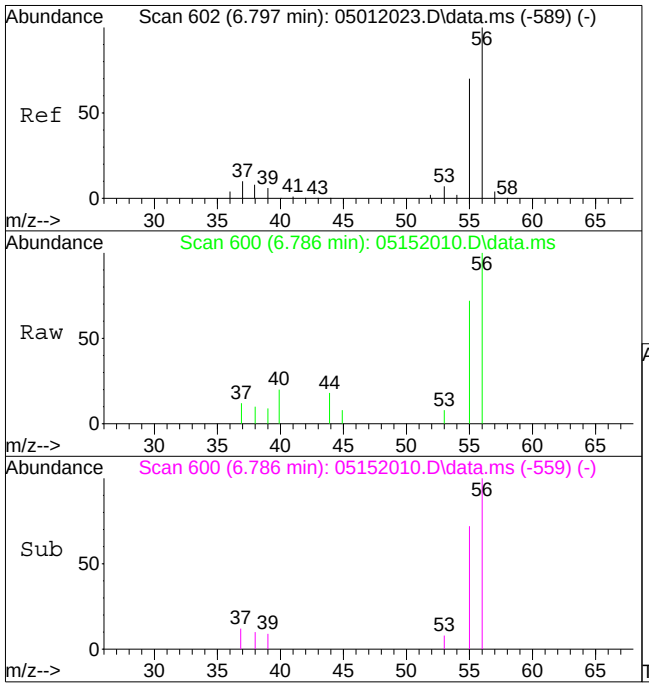


#11
Acetonitrile
Concen: 0.13 ng
RT: 6.59 min Scan# 565
Delta R.T. -0.050 min
Lab File: 05152010.D
Acq: 15 May 2020 8:52

Tgt Ion: 41 Resp: 6830

Ion	Ratio	Lower	Upper
41	100		
40	68.6	33.6	73.6

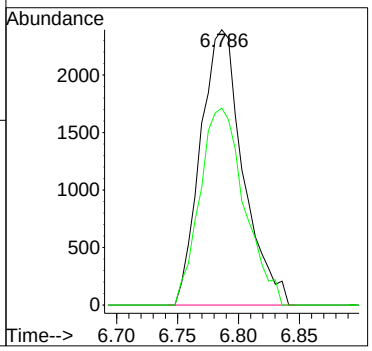


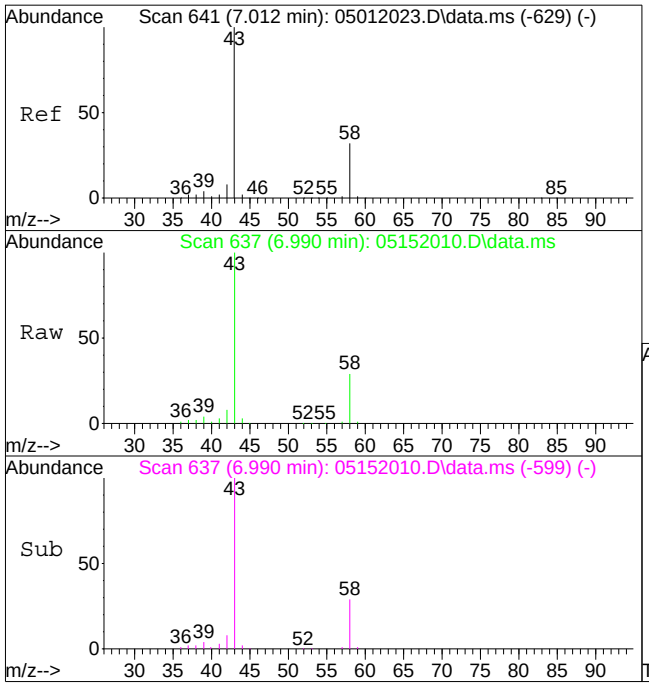


#12
Acrolein
Concen: 0.32 ng
RT: 6.79 min Scan# 600
Delta R.T. -0.022 min
Lab File: 05152010.D
Acq: 15 May 2020 8:52

Tgt Ion: 56 Resp: 5803

Ion	Ratio	Lower	Upper
56	100		
55	75.0	50.2	90.2

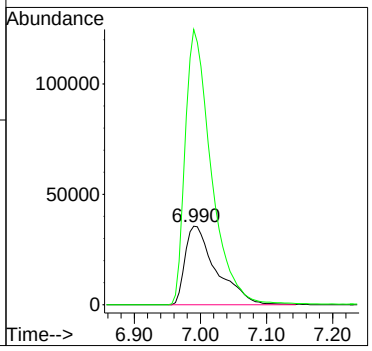


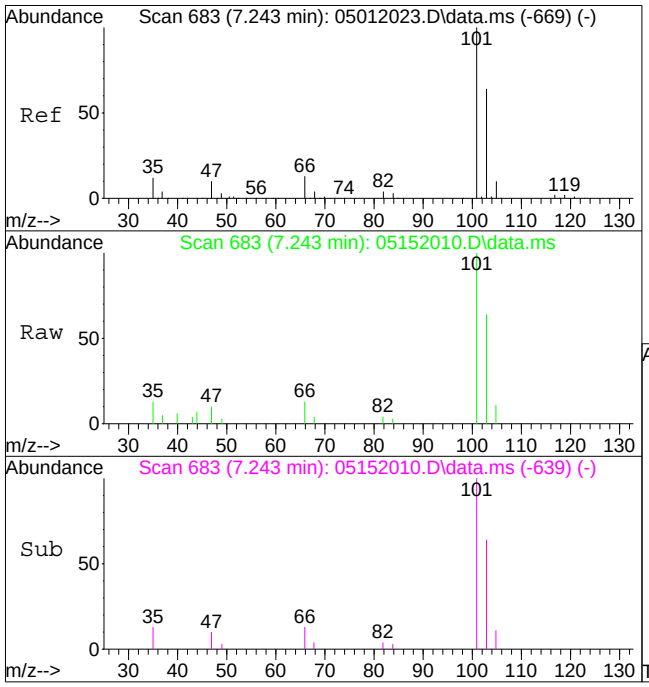


#13
Acetone
Concen: 5.01 ng
RT: 6.99 min Scan# 637
Delta R.T. -0.039 min
Lab File: 05152010.D
Acq: 15 May 2020 8:52

Tgt Ion: 58 Resp: 116590

Ion	Ratio	Lower	Upper
58	100		
43	295.1	294.4	354.4

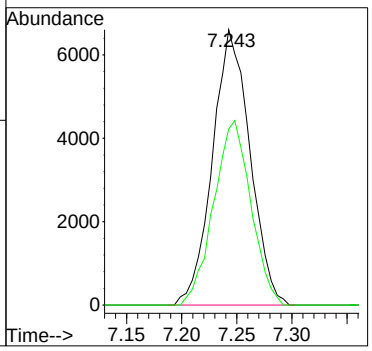


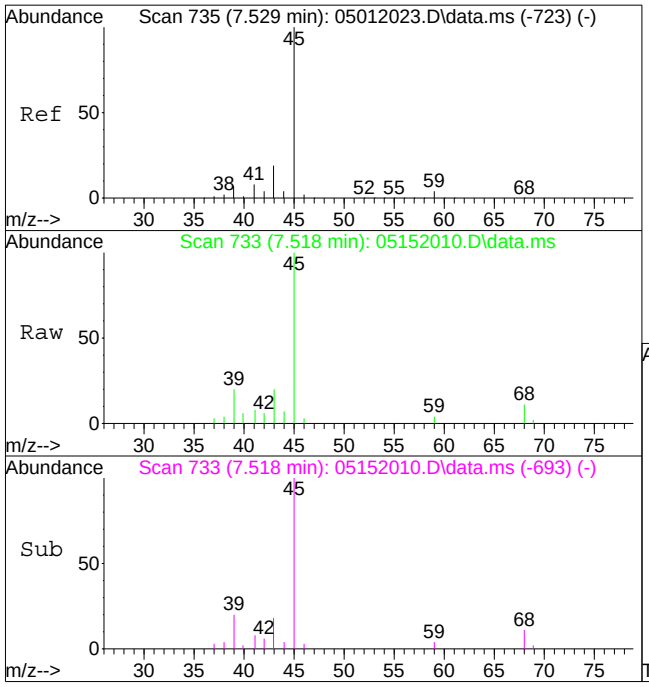


#14
Trichlorofluoromethane
Concen: 0.30 ng
RT: 7.24 min Scan# 683
Delta R.T. -0.006 min
Lab File: 05152010.D
Acq: 15 May 2020 8:52

Tgt Ion:101 Resp: 15627

Ion	Ratio	Lower	Upper
101	100		
103	66.4	44.4	84.4

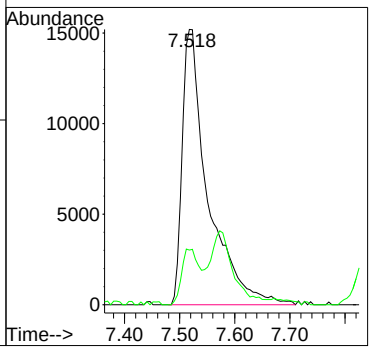


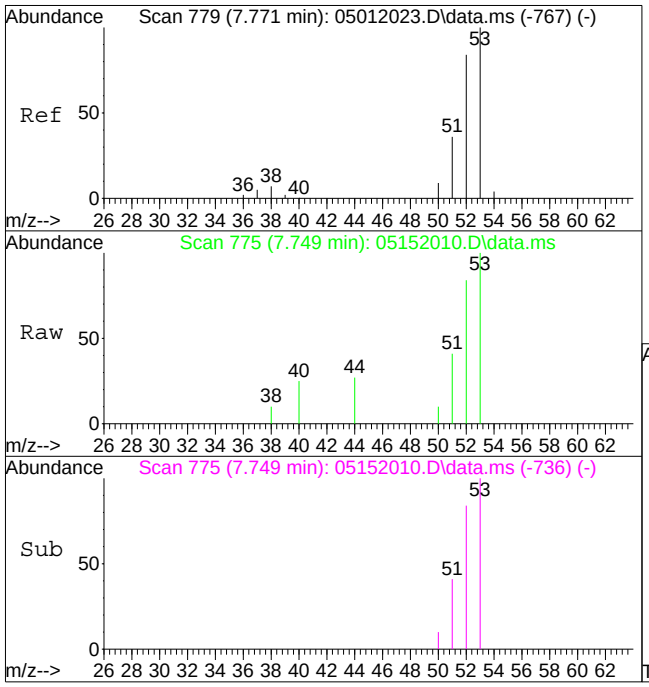


#15
2-Propanol (Isopropanol)
Concen: 0.70 ng
RT: 7.52 min Scan# 733
Delta R.T. -0.028 min
Lab File: 05152010.D
Acq: 15 May 2020 8:52

Tgt Ion: 45 Resp: 49421

Ion	Ratio	Lower	Upper
45	100		
43	40.0	0.0	39.5#

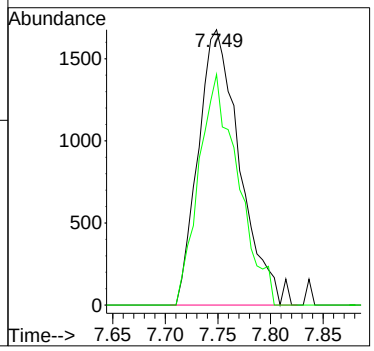


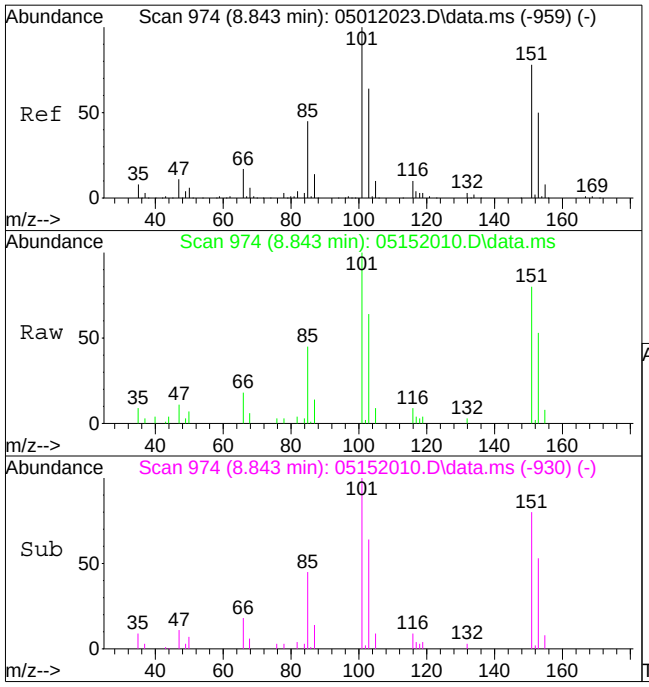


#16
Acrylonitrile
Concen: 0.12 ng
RT: 7.75 min Scan# 775
Delta R.T. -0.033 min
Lab File: 05152010.D
Acq: 15 May 2020 8:52

Tgt Ion: 53 Resp: 4631

Ion	Ratio	Lower	Upper
53	100		
52	79.1	63.7	103.7

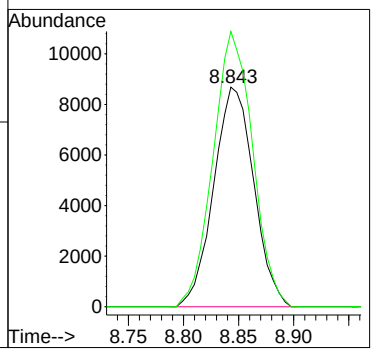


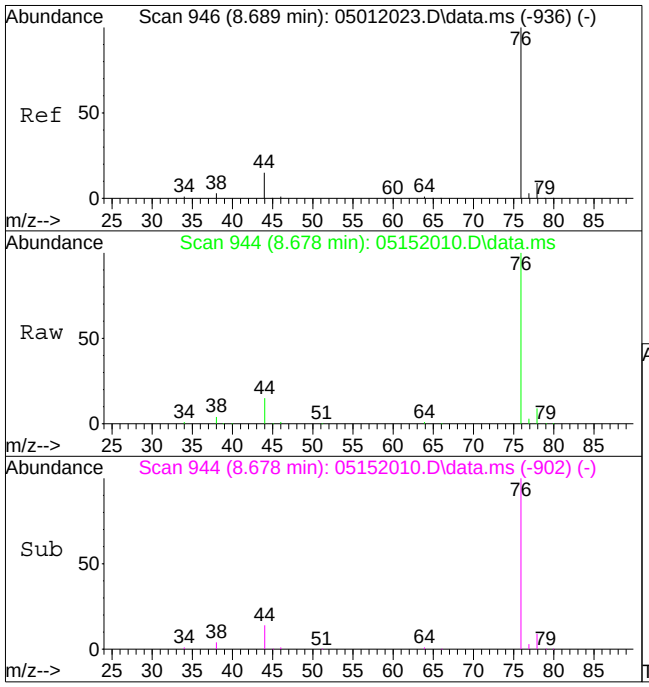


#21
Trichlorotrifluoroethane
Concen: 0.89 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05152010.D
Acq: 15 May 2020 8:52

Tgt Ion:151 Resp: 22016

Ion	Ratio	Lower	Upper
151	100		
101	123.6	107.3	147.3

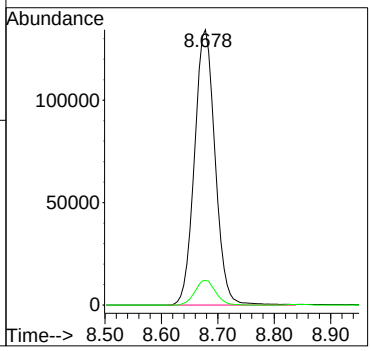


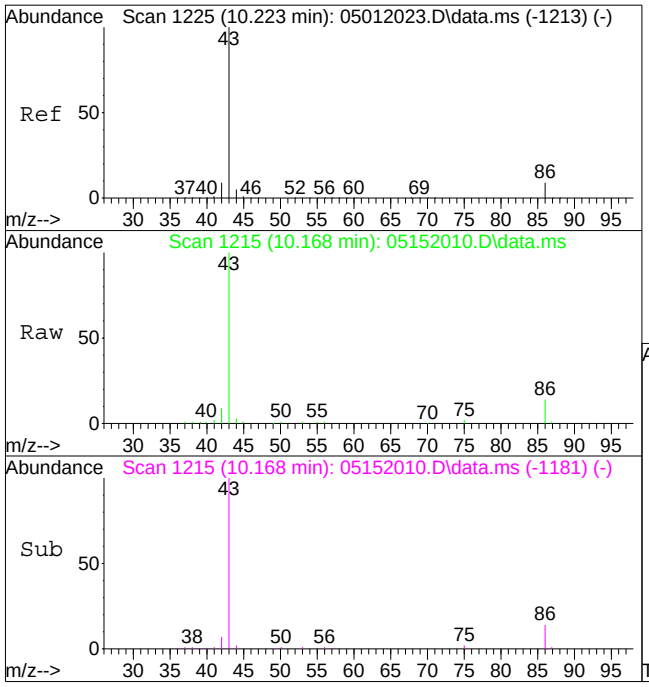


#22
Carbon Disulfide
Concen: 3.14 ng
RT: 8.68 min Scan# 944
Delta R.T. -0.017 min
Lab File: 05152010.D
Acq: 15 May 2020 8:52

Tgt Ion: 76 Resp: 340675

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	29.2

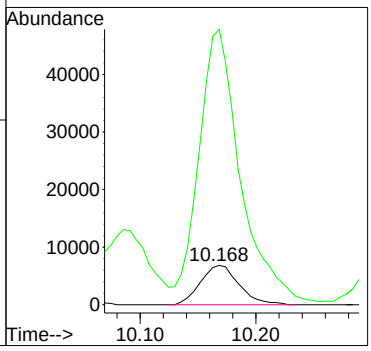


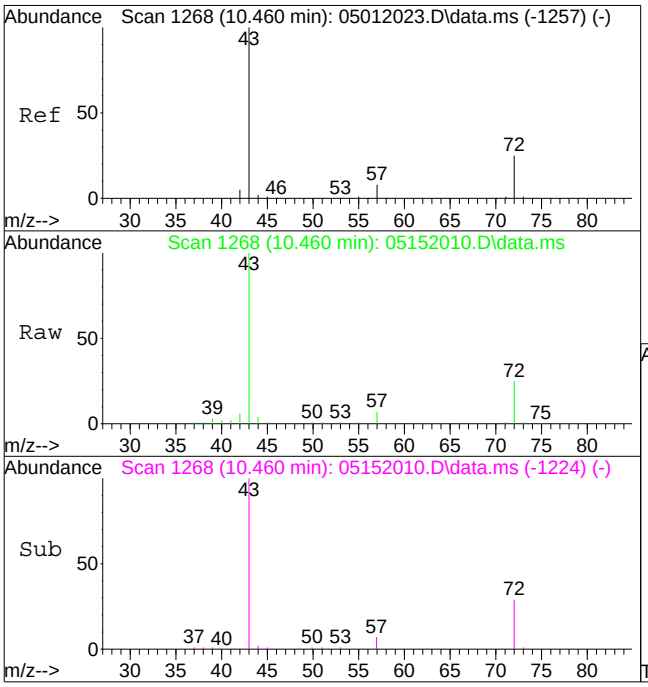


#26
Vinyl Acetate
Concen: 2.19 ng
RT: 10.17 min Scan# 1215
Delta R.T. -0.061 min
Lab File: 05152010.D
Acq: 15 May 2020 8:52

Tgt Ion: 86 Resp: 15878

Ion	Ratio	Lower	Upper
86	100		
43	757.8	1103.0	1143.0#

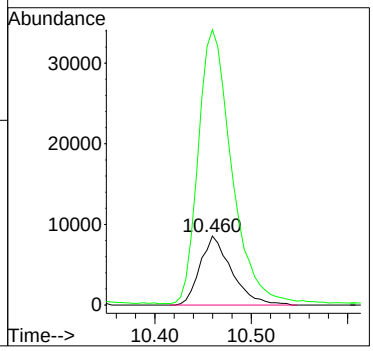


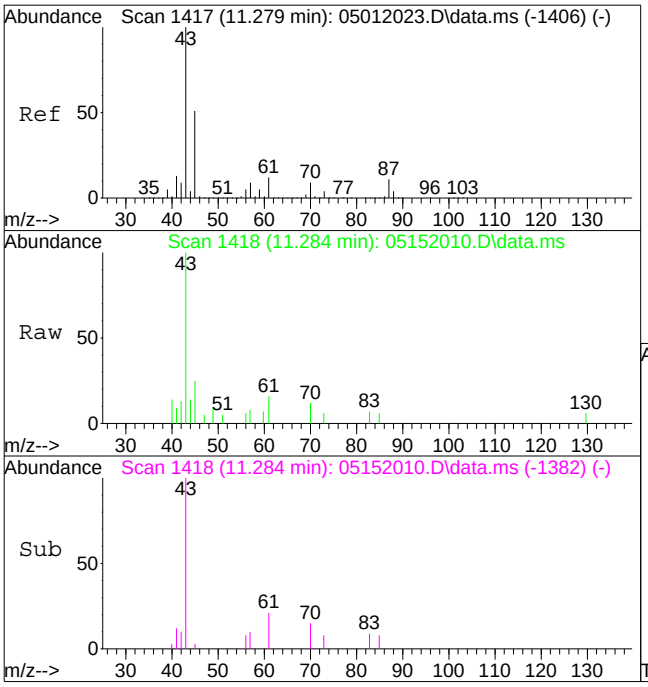


#27
2-Butanone (MEK)
Concen: 0.98 ng
RT: 10.46 min Scan# 1268
Delta R.T. -0.006 min
Lab File: 05152010.D
Acq: 15 May 2020 8:52

Tgt Ion: 72 Resp: 19490

Ion	Ratio	Lower	Upper
72	100		
43	421.8	389.7	429.7

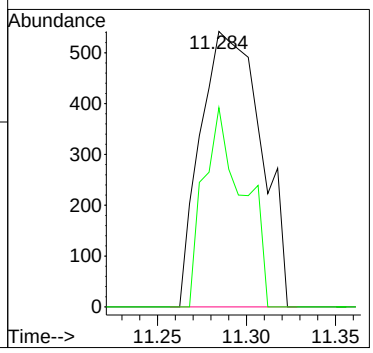


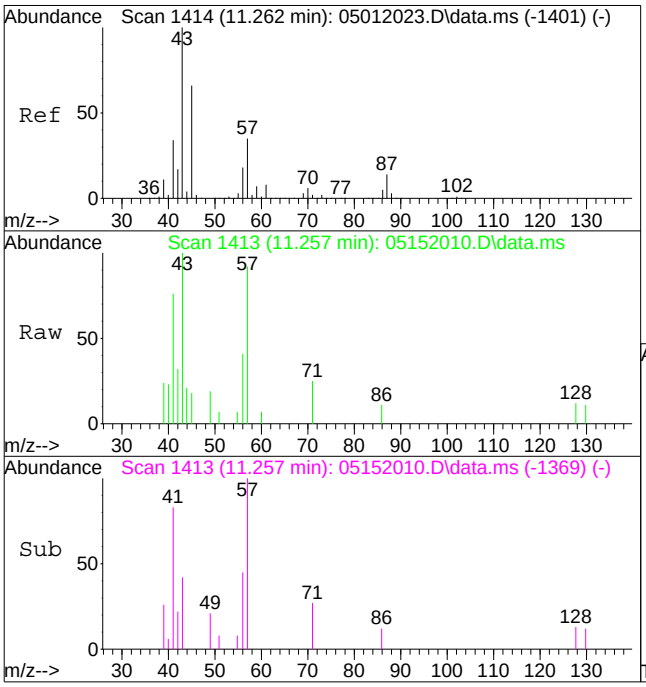


#30
Ethyl Acetate
Concen: 0.11 ng
RT: 11.28 min Scan# 1418
Delta R.T. -0.000 min
Lab File: 05152010.D
Acq: 15 May 2020 8:52

Tgt Ion: 61 Resp: 1282

Ion	Ratio	Lower	Upper
61	100		
70	47.7	57.9	97.9#

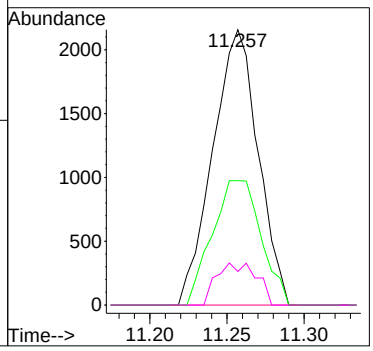


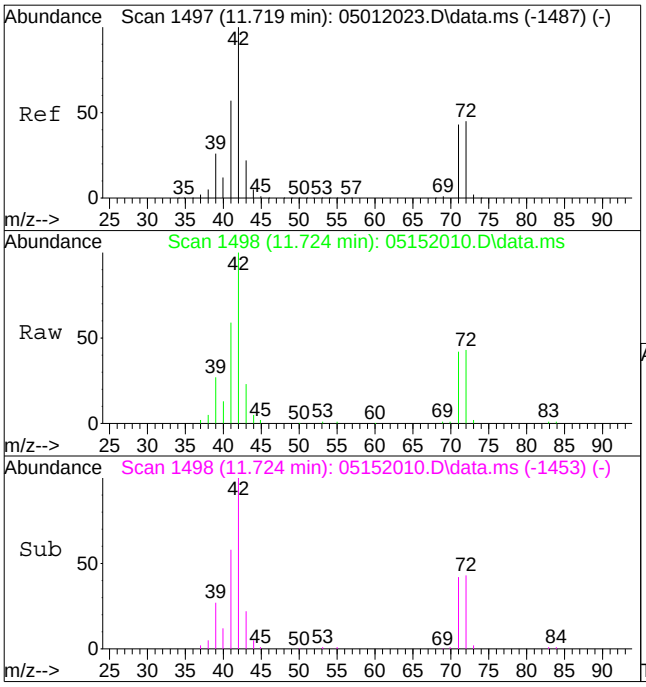


#31
n-Hexane
Concen: 0.09 ng
RT: 11.26 min Scan# 1413
Delta R.T. -0.006 min
Lab File: 05152010.D
Acq: 15 May 2020 8:52

Tgt Ion: 57 Resp: 4412

Ion	Ratio	Lower	Upper
57	100		
56	48.5	41.4	62.0
86	13.5	12.4	18.6

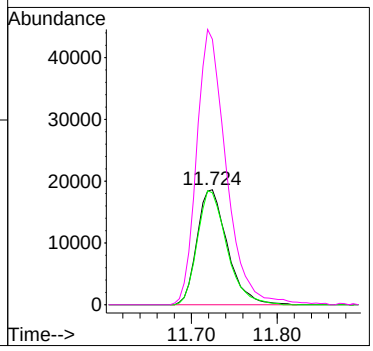


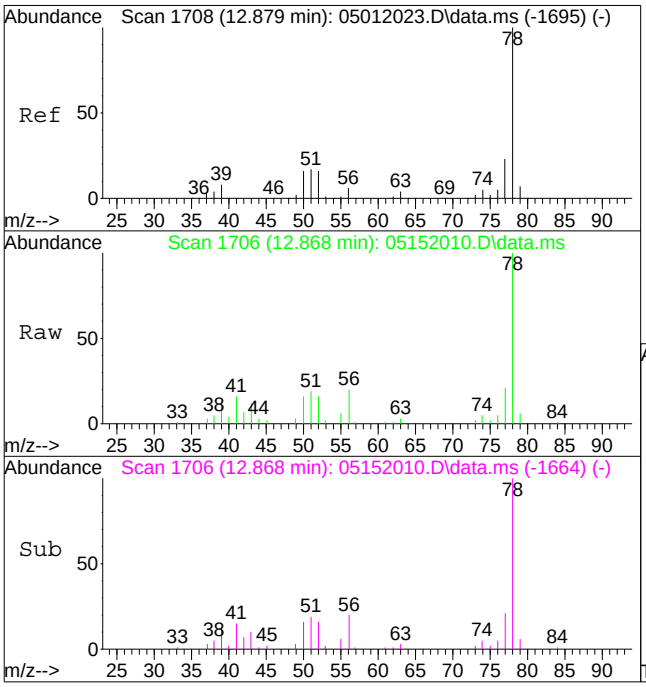


#34
Tetrahydrofuran (THF)
Concen: 2.37 ng
RT: 11.72 min Scan# 1498
Delta R.T. -0.000 min
Lab File: 05152010.D
Acq: 15 May 2020 8:52

Tgt Ion: 72 Resp: 45942

Ion	Ratio	Lower	Upper
72	100		
71	96.2	77.0	117.0
42	233.9	204.6	244.6

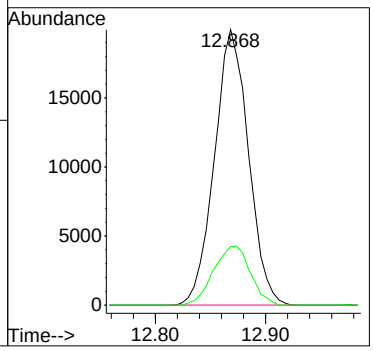


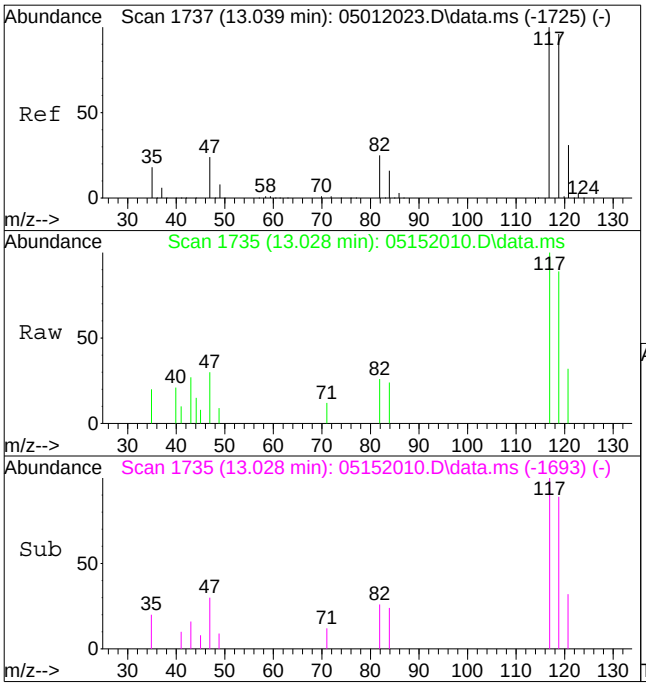


#41
Benzene
Concen: 0.35 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05152010.D
Acq: 15 May 2020 8:52

Tgt Ion: 78 Resp: 42826

Ion	Ratio	Lower	Upper
78	100		
77	23.1	3.4	43.4

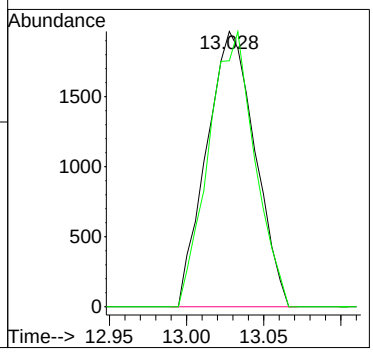


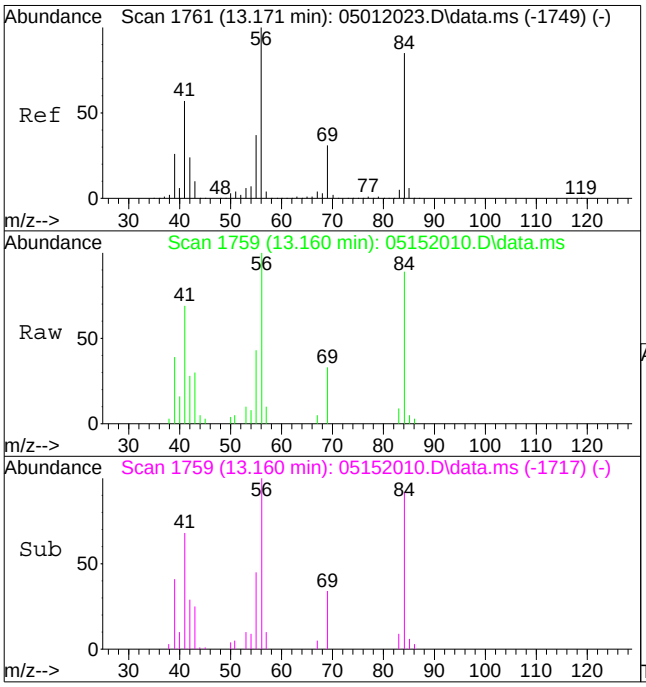


#42
Carbon Tetrachloride
Concen: 0.10 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05152010.D
Acq: 15 May 2020 8:52

Tgt Ion:117 Resp: 4297

Ion	Ratio	Lower	Upper
117	100		
119	95.0	76.2	116.2

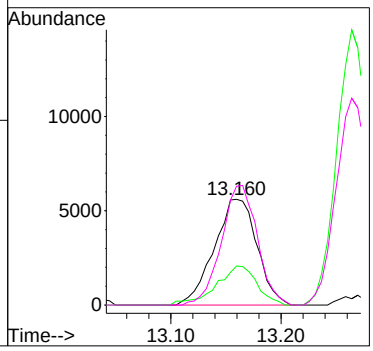


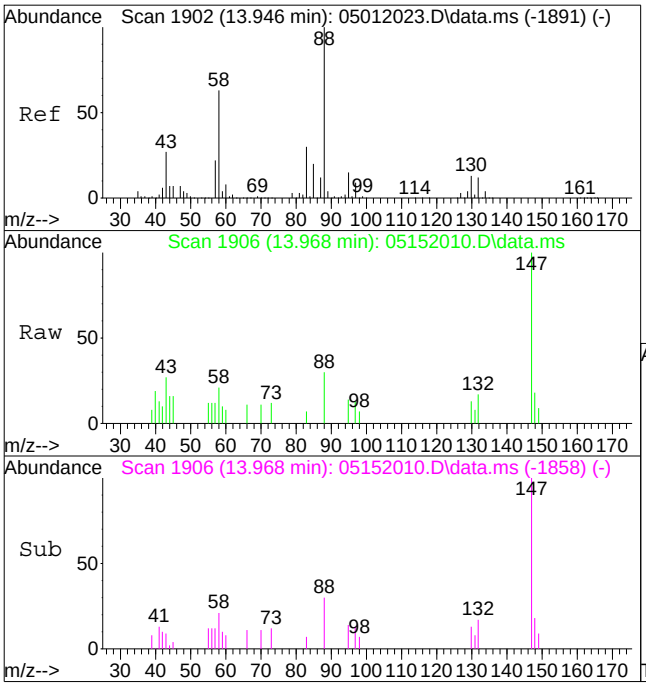


#43
Cyclohexane
Concen: 0.33 ng
RT: 13.16 min Scan# 1759
Delta R.T. -0.017 min
Lab File: 05152010.D
Acq: 15 May 2020 8:52

Tgt Ion: 84 Resp: 15121

Ion	Ratio	Lower	Upper
84	100		
69	35.1	16.5	56.5
56	95.1	97.4	137.4#

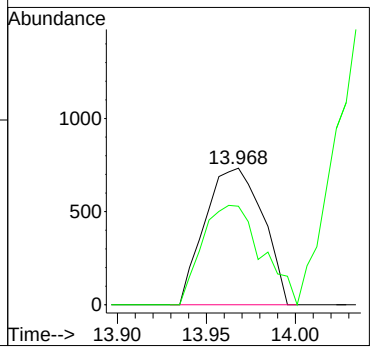


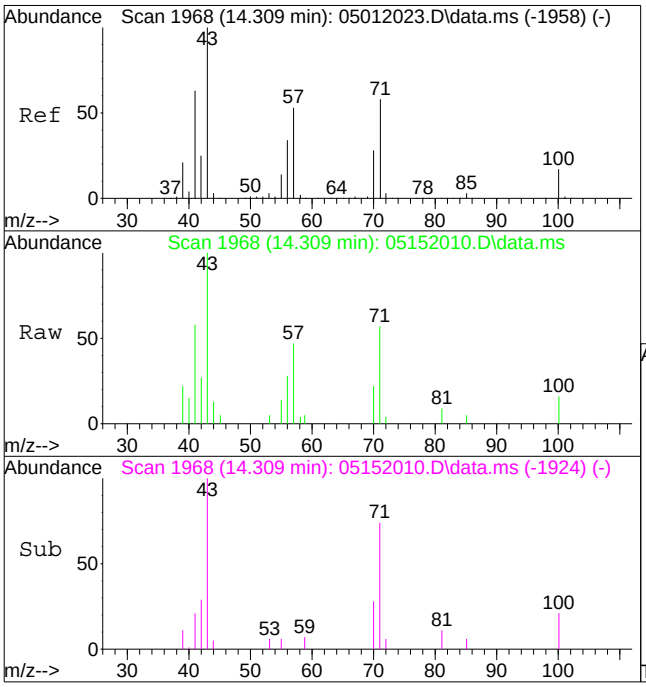


#48
1,4-Dioxane
Concen: 0.07 ng
RT: 13.97 min Scan# 1906
Delta R.T. 0.016 min
Lab File: 05152010.D
Acq: 15 May 2020 8:52

Tgt Ion: 88 Resp: 1658

Ion	Ratio	Lower	Upper
88	100		
58	74.7	42.8	82.8

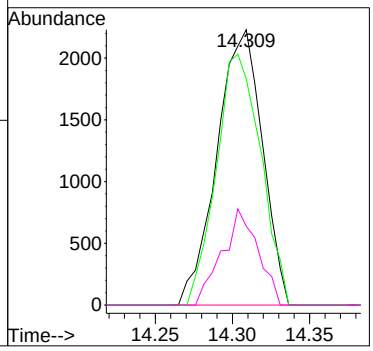


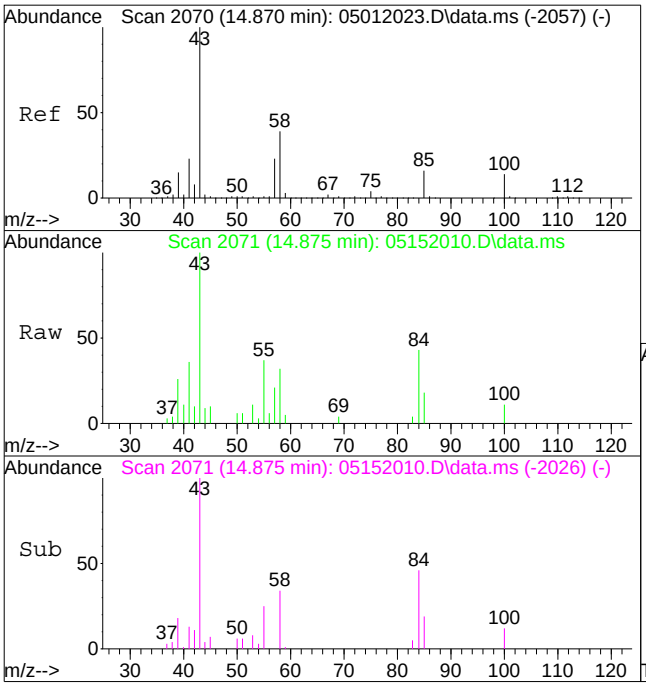


#51
n-Heptane
Concen: 0.16 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05152010.D
Acq: 15 May 2020 8:52

Tgt Ion: 71 Resp: 4564

Ion	Ratio	Lower	Upper
71	100		
57	89.5	71.0	111.0
100	27.5	8.4	48.4

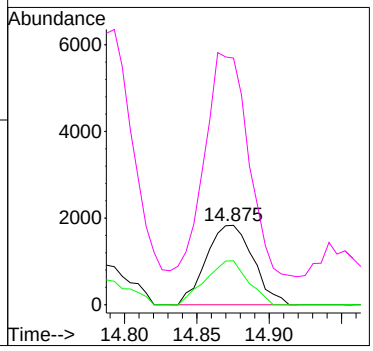


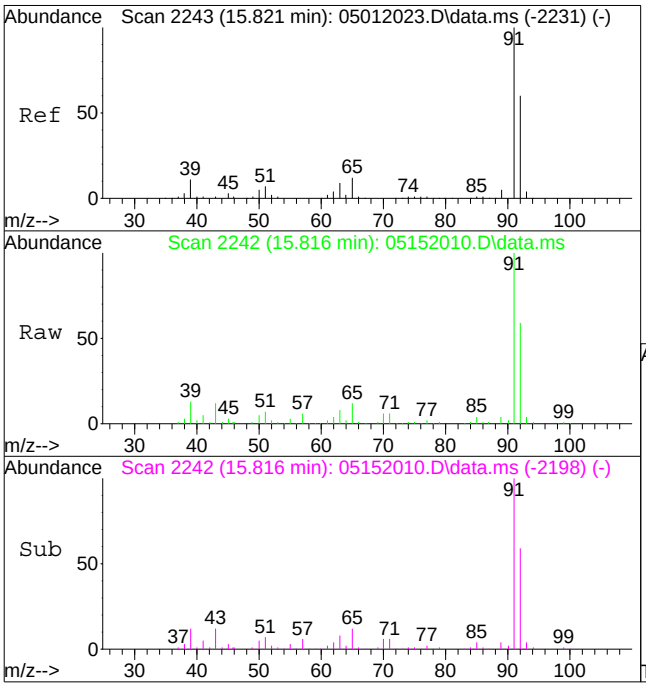


#53
4-Methyl-2-pentanone
Concen: 0.15 ng
RT: 14.88 min Scan# 2071
Delta R.T. -0.000 min
Lab File: 05152010.D
Acq: 15 May 2020 8:52

Tgt Ion: 58 Resp: 4146

Ion	Ratio	Lower	Upper
58	100		
85	50.2	35.4	53.2
43	302.7	203.3	304.9

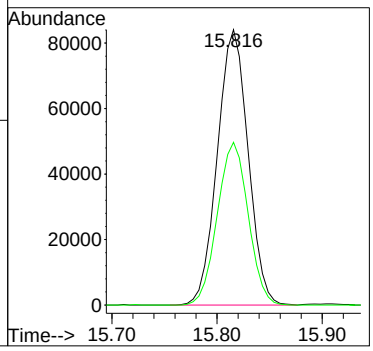


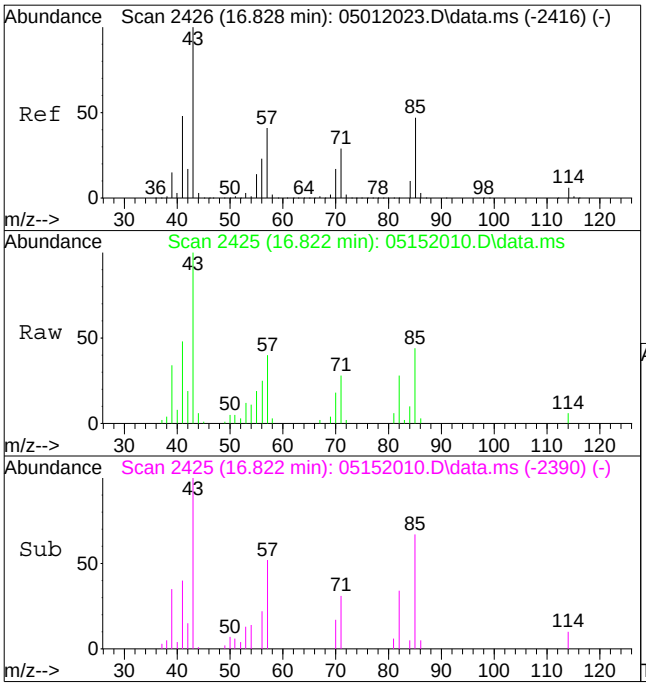


#58
Toluene
Concen: 1.49 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05152010.D
Acq: 15 May 2020 8:52

Tgt Ion: 91 Resp: 171232

Ion	Ratio	Lower	Upper
91	100		
92	59.2	39.4	79.4

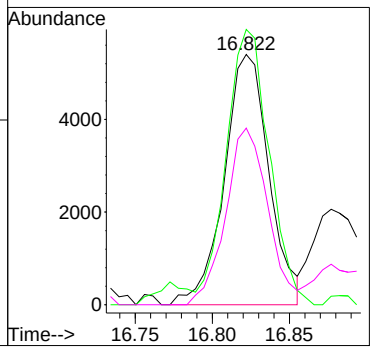


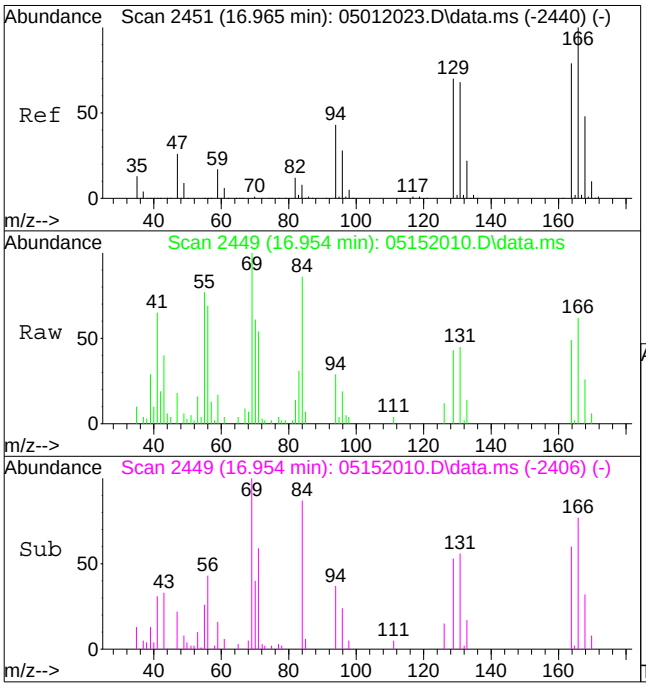


#63
n-Octane
Concen: 0.46 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05152010.D
Acq: 15 May 2020 8:52

Tgt Ion: 57 Resp: 10883

Ion	Ratio	Lower	Upper
57	100		
85	105.4	91.0	136.4
71	66.4	56.2	84.2

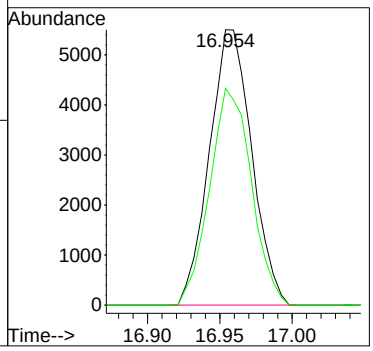


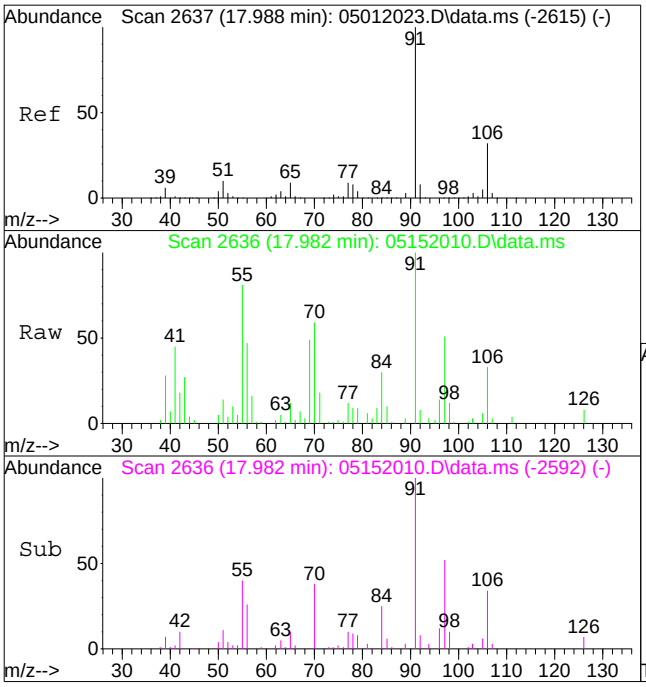


#64
Tetrachloroethene
Concen: 0.35 ng
RT: 16.95 min Scan# 2449
Delta R.T. -0.011 min
Lab File: 05152010.D
Acq: 15 May 2020 8:52

Tgt Ion:166 Resp: 11214

Ion	Ratio	Lower	Upper
166	100		
164	77.6	58.4	98.4

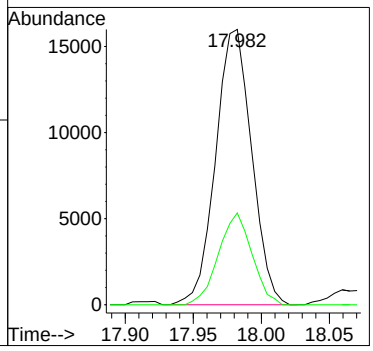


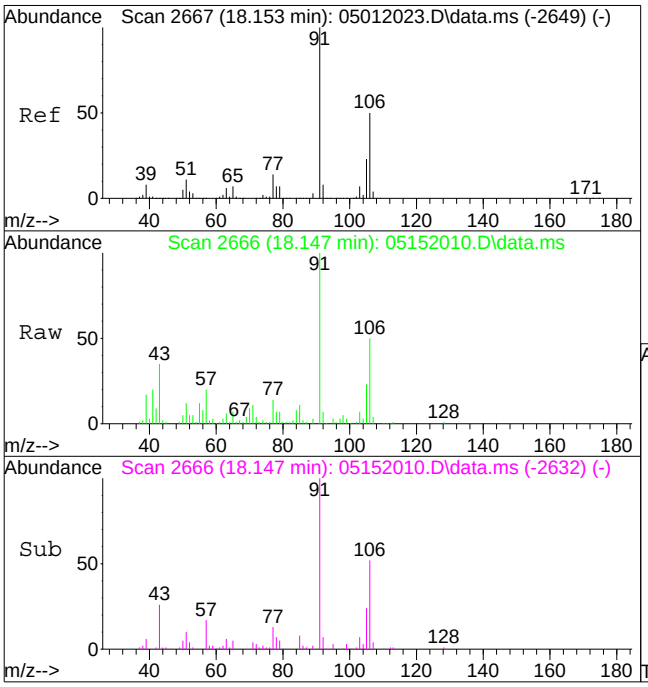


#66
Ethylbenzene
Concen: 0.23 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05152010.D
Acq: 15 May 2020 8:52

Tgt Ion: 91 Resp: 29460

Ion	Ratio	Lower	Upper
91	100		
106	30.9	11.6	51.6

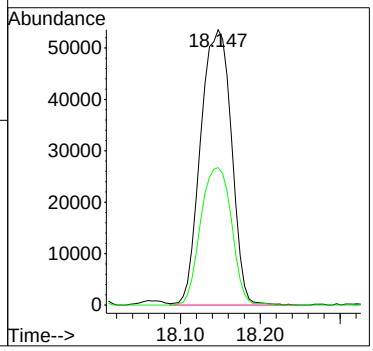


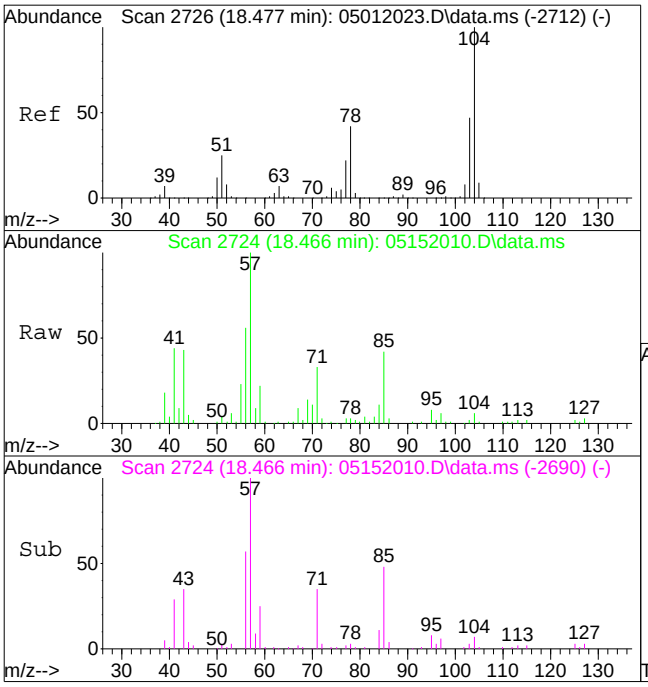


#67
m- & p-Xylenes
Concen: 1.41 ng
RT: 18.15 min Scan# 2666
Delta R.T. -0.011 min
Lab File: 05152010.D
Acq: 15 May 2020 8:52

Tgt Ion: 91 Resp: 143793

Ion	Ratio	Lower	Upper
91	100		
106	49.8	29.7	69.7

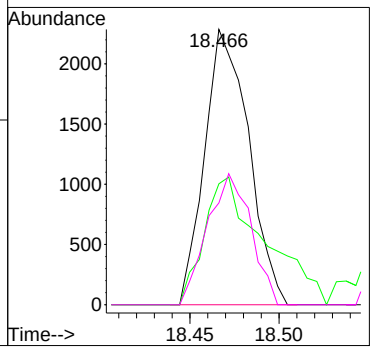


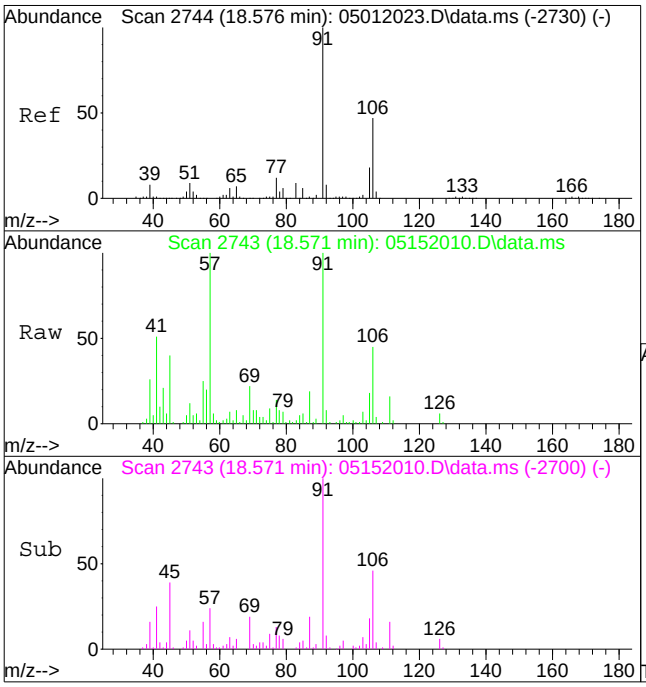


#69
Styrene
Concen: 0.05 ng
RT: 18.47 min Scan# 2724
Delta R.T. -0.011 min
Lab File: 05152010.D
Acq: 15 May 2020 8:52

Tgt Ion:104 Resp: 3923

Ion	Ratio	Lower	Upper
104	100		
78	63.8	22.5	62.5#
103	47.0	27.0	67.0

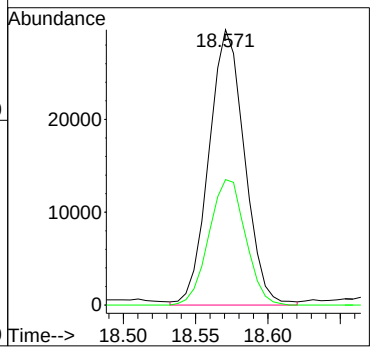


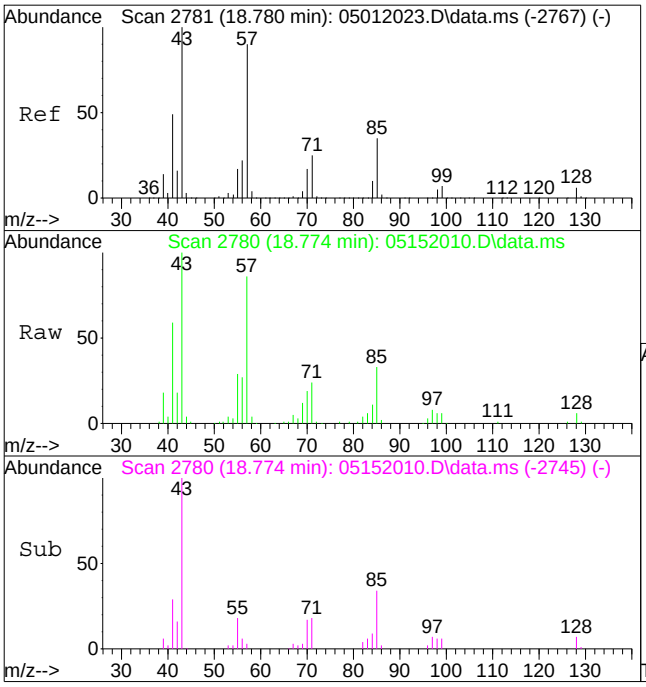


#70
o-Xylene
Concen: 0.49 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05152010.D
Acq: 15 May 2020 8:52

Tgt Ion: 91 Resp: 50940

Ion	Ratio	Lower	Upper
91	100		
106	46.7	27.5	67.5

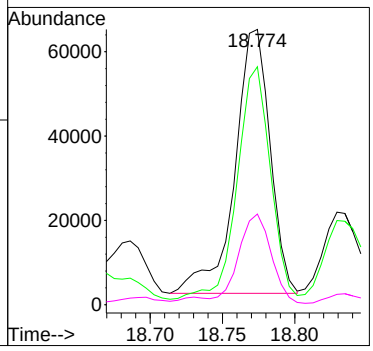


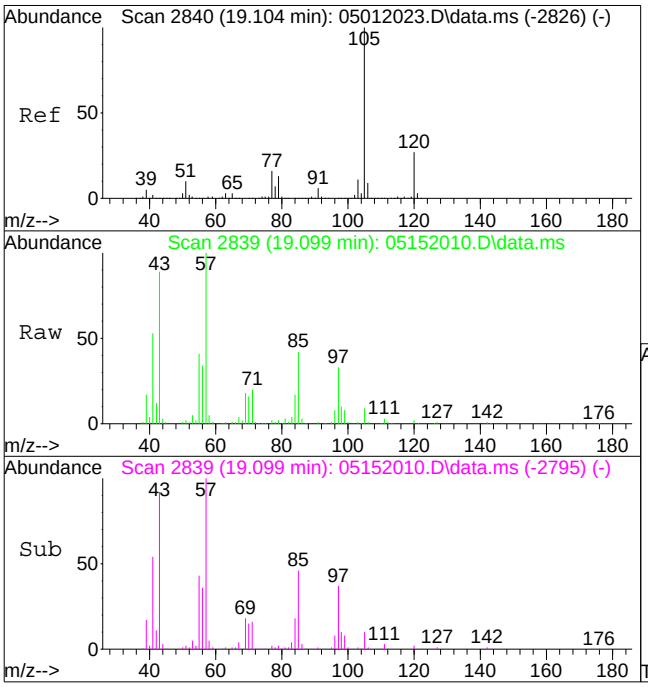


#71
n-Nonane
Concen: 1.95 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05152010.D
Acq: 15 May 2020 8:52

Tgt Ion: 43 Resp: 106727

Ion	Ratio	Lower	Upper
43	100		
57	82.3	69.0	109.0
85	30.9	14.6	54.6

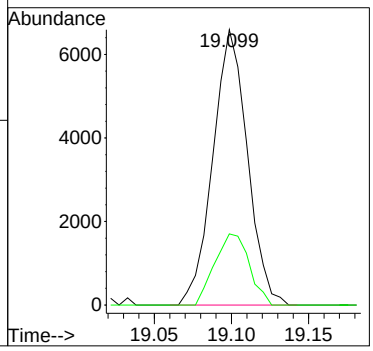


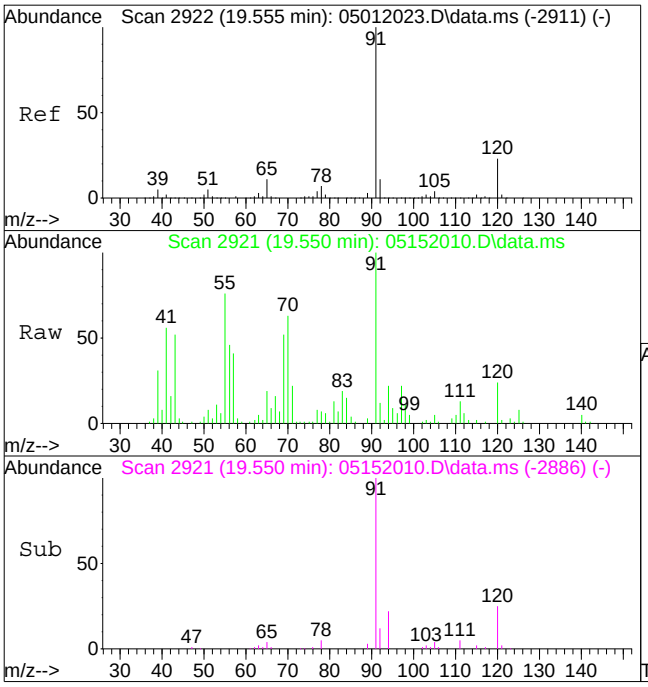


#74
Cumene
Concen: 0.08 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05152010.D
Acq: 15 May 2020 8:52

Tgt Ion:105 Resp: 10262

Ion	Ratio	Lower	Upper
105	100		
120	25.7	6.8	46.8

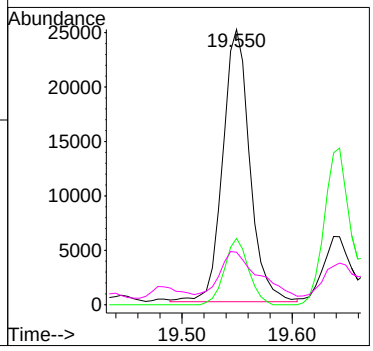


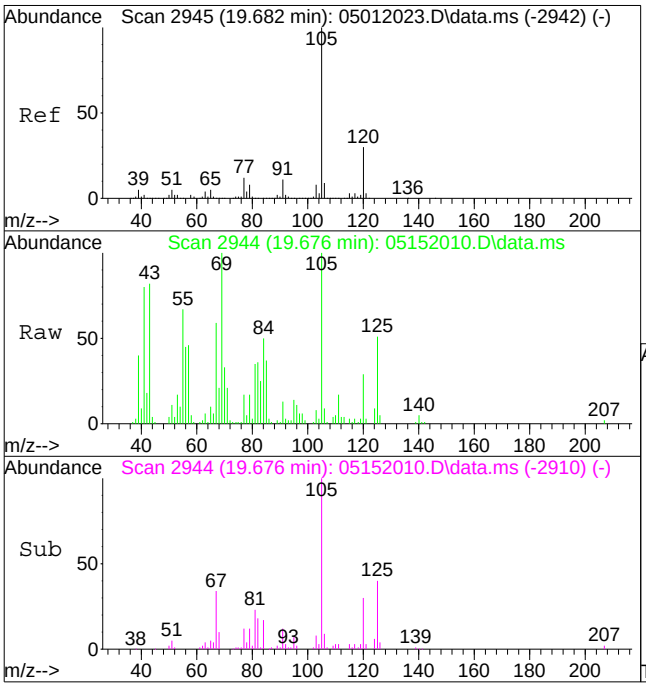


#76
n-Propylbenzene
Concen: 0.28 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05152010.D
Acq: 15 May 2020 8:52

Tgt Ion: 91 Resp: 42728

Ion	Ratio	Lower	Upper
91	100		
120	21.7	3.1	43.1
65	24.7	0.0	30.9

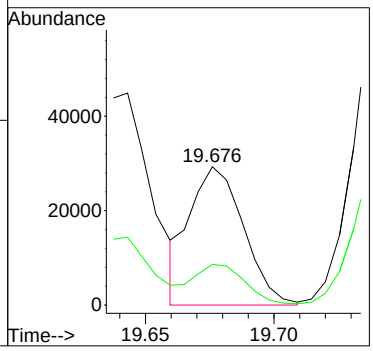


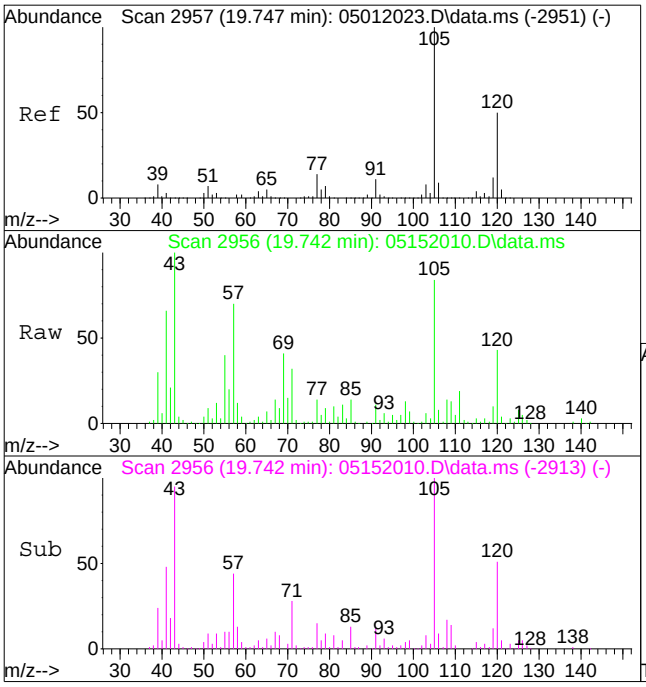


#78
4-Ethyltoluene
Concen: 0.36 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05152010.D
Acq: 15 May 2020 8:52

Tgt Ion:105 Resp: 42790

Ion	Ratio	Lower	Upper
105	100		
120	29.6	10.4	50.4

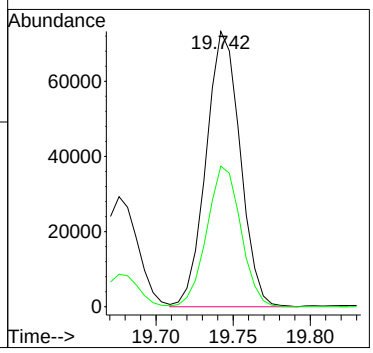


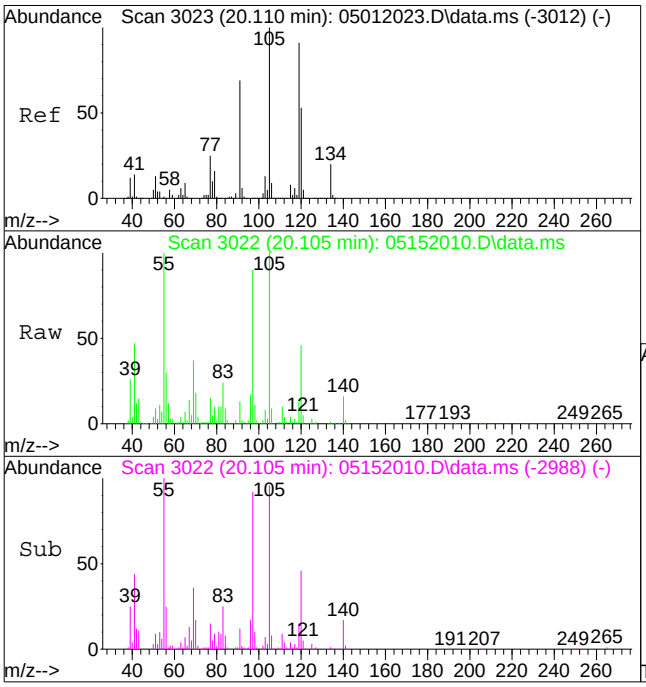


#79
1,3,5-Trimethylbenzene
Concen: 1.09 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05152010.D
Acq: 15 May 2020 8:52

Tgt Ion:105 Resp: 112644

Ion	Ratio	Lower	Upper
105	100		
120	50.9	29.9	69.9

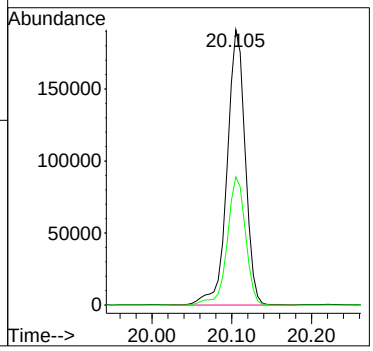


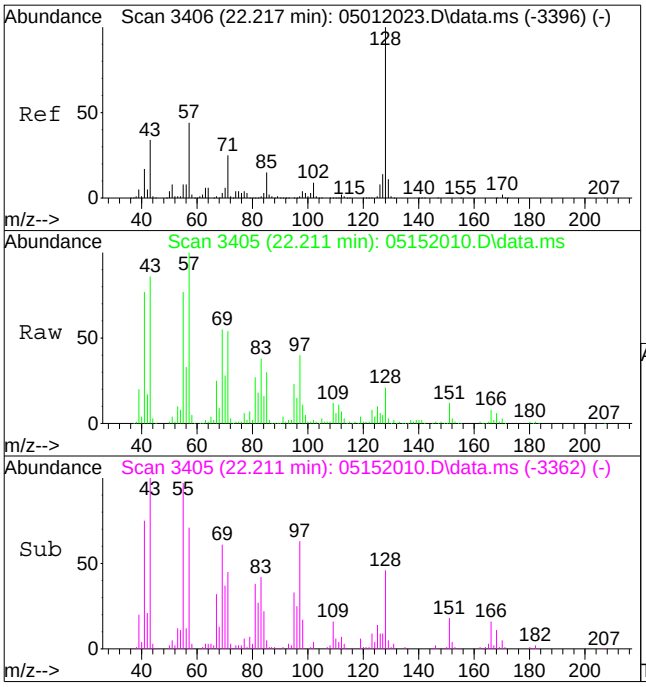


#82
1,2,4-Trimethylbenzene
Concen: 2.89 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05152010.D
Acq: 15 May 2020 8:52

Tgt Ion:105 Resp: 300604

Ion	Ratio	Lower	Upper
105	100		
120	46.9	33.6	73.6

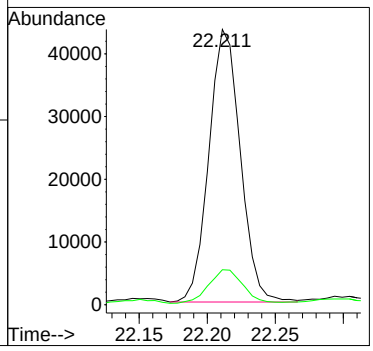




#95
Naphthalene
Concen: 0.55 ng
RT: 22.21 min Scan# 3405
Delta R.T. -0.011 min
Lab File: 05152010.D
Acq: 15 May 2020 8:52

Tgt Ion:128 Resp: 69868

Ion	Ratio	Lower	Upper
128	100		
129	13.5	0.0	31.0



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152011.D Vial: 16
Acq On : 15 May 2020 9:26 Operator: LH
Sample : P2002302-016 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 16:21:03 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/15/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	269663	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.27	114	1157225	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	549235	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	432920	11.846	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.80%				
57) Toluene-d8 (SS2)	15.72	98	1120351	12.035	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.24%				
73) Bromofluorobenzene (SS3)	18.97	174	437501	13.061	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.48%				
Target Compounds							Qvalue
2) Propene	4.10	42	59729	1.912	ng		94
3) Dichlorodifluoromethan...	4.26	85	56668	0.928	ng		100
4) Chloromethane	4.55	50	309951	6.477	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	307	N.D.			
6) Vinyl Chloride	4.98	62	19155004	365.003	ng		98
7) 1,3-Butadiene	5.25	54	3365	0.077	ng		85
8) Bromomethane	5.68	94	552	N.D.			
9) Chloroethane	5.99	64	125539	6.055	ng		99
10) Ethanol	6.34	45	70323	2.916	ng		100
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	6.80	56	2744	0.144	ng		94
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	7.25	101	21768	0.403	ng		100
15) 2-Propanol (Isopropanol)	7.51	45	108027	1.480	ng		89
16) Acrylonitrile	7.77	53	787	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.44	84	1859	0.059	ng		81
20) 3-Chloro-1-propene (Al...	8.59	41	2646	0.061	ng		78
21) Trichlorotrifluoroethane	8.85	151	16392	0.643	ng		100
22) Carbon Disulfide	8.69	76	1046103	9.312	ng		100
23) trans-1,2-Dichloroethene	9.70	61	305	N.D.			
24) 1,1-Dichloroethane	9.96	63	7868	0.154	ng	#	13
25) Methyl tert-Butyl Ether	10.10	73	763	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.48	72	4288	0.208	ng	#	90
28) cis-1,2-Dichloroethene	10.99	61	522	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.28	61	20771	1.751	ng		96
31) n-Hexane	11.26	57	73789	1.434	ng		100
32) Chloroform	11.32	83	5278	0.098	ng		95
34) Tetrahydrofuran (THF)	11.71	72	617327	30.773	ng		97
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	40280	0.947	ng		100
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	1609486	12.969	ng		100
42) Carbon Tetrachloride	13.04	117	24078	0.570	ng		99
43) Cyclohexane	13.17	84	182717	3.951	ng		100
44) tert-Amyl Methyl Ether	13.47	73	911	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	13.98	130	1850	0.058	ng		97
48) 1,4-Dioxane	13.96	88	2134	0.085	ng		82
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152011.D Vial: 16
Acq On : 15 May 2020 9:26 Operator: LH
Sample : P2002302-016 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 16:21:03 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.31	71	6954	0.240 ng		98
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	14.88	58	4014	0.145 ng		96
54) trans-1,3-Dichloropropene	15.13	75	756	N.D.		
55) 1,1,2-Trichloroethane	15.52	97	1061	N.D.		
58) Toluene	15.82	91	1778418	14.820 ng		100
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	16.48	107	6745	0.204 ng		97
62) n-Butyl Acetate	16.71	43	2264	N.D.		
63) n-Octane	16.82	57	6097	0.245 ng		97
64) Tetrachloroethene	16.96	166	11280	0.333 ng		99
65) Chlorobenzene	0.00	112	0	N.D. d		
66) Ethylbenzene	17.98	91	91077	0.681 ng		100
67) m- & p-Xylenes	18.14	91	436959	4.116 ng		98
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	3144	N.D.		
70) o-Xylene	18.57	91	175019	1.624 ng		99
71) n-Nonane	18.77	43	73234	1.281 ng	#	82
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d		
74) Cumene	19.10	105	13641	0.103 ng		98
75) alpha-Pinene	19.45	93	3313	N.D.		
76) n-Propylbenzene	19.55	91	43922	0.280 ng		95
77) 3-Ethyltoluene	0.00	105	0	N.D. d		
78) 4-Ethyltoluene	19.68	105	41663	0.335 ng		99
79) 1,3,5-Trimethylbenzene	19.74	105	86853	0.805 ng		100
80) alpha-Methylstyrene	0.00	118	0	N.D. d		
81) 2-Ethyltoluene	0.00	105	0	N.D. d		
82) 1,2,4-Trimethylbenzene	20.10	105	240877	2.222 ng		91
83) n-Decane	0.00	57	0	N.D. d		
84) Benzyl Chloride	20.22	91	3049	N.D.		
85) 1,3-Dichlorobenzene	20.24	146	227	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	739	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D. d		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d		
90) 1,2-Dichlorobenzene	20.59	146	190	N.D.		
91) d-Limonene	0.00	68	0	N.D. d		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D. d		
94) 1,2,4-Trichlorobenzene	22.11	180	1058	N.D.		
95) Naphthalene	22.21	128	61877	0.468 ng		93
96) n-Dodecane	0.00	57	0	N.D. d		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D. d		
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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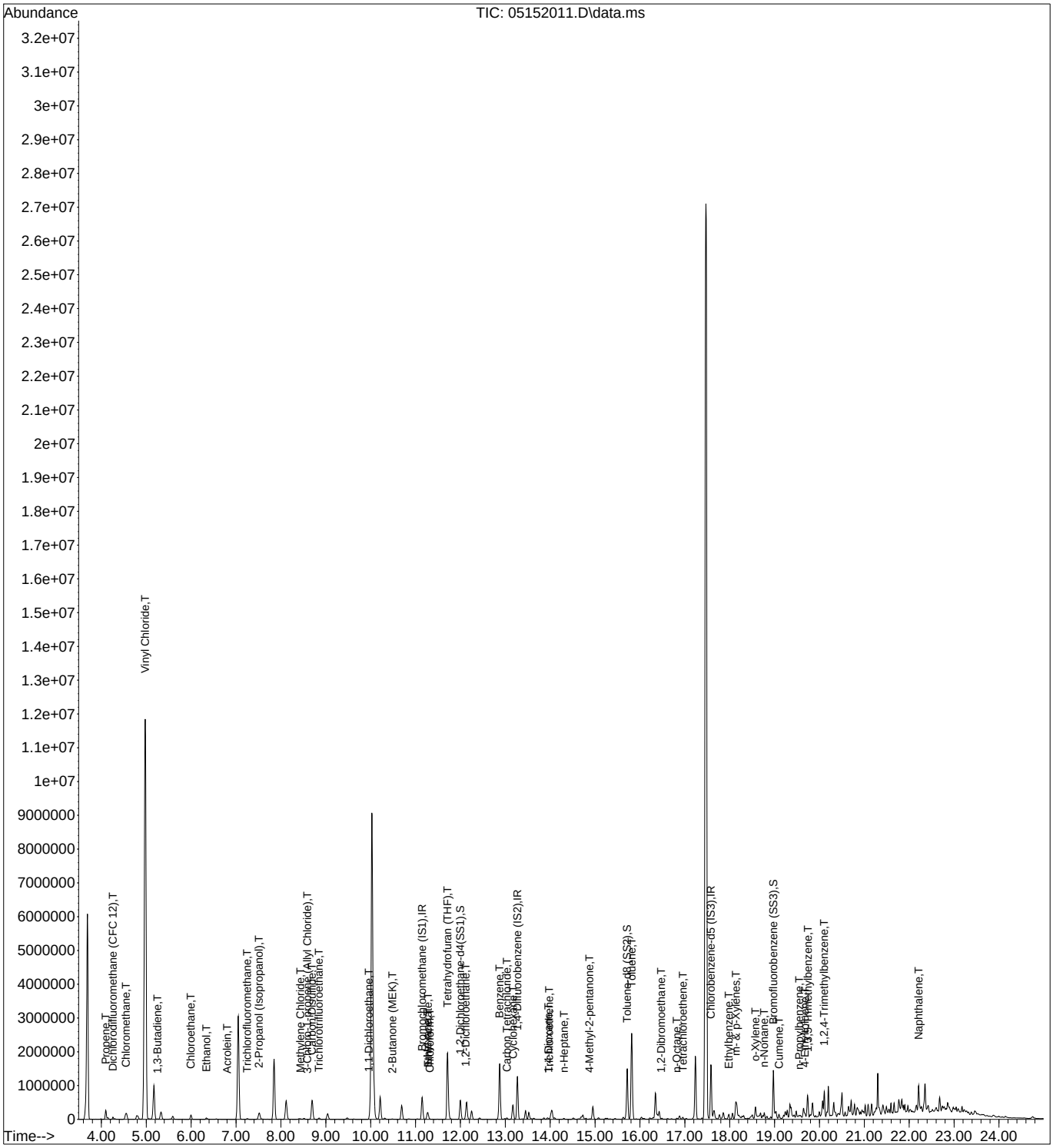
Acq On : 15 May 2020 9:26 Operator: LH
Sample : P2002302-016 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 16:21:03 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/15/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

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1) Bromochloromethane (IS1)	11.15	130	269663	12.500	ng		-0.02
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56) Chlorobenzene-d5 (IS3)	17.58	82	549235	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	432920	11.846	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.80%				
57) Toluene-d8 (SS2)	15.72	98	1120351	12.035	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.24%				
73) Bromofluorobenzene (SS3)	18.97	174	437501	13.061	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.48%				
Target Compounds							Qvalue
2) Propene	4.10	42	59729	1.912	ng		94
3) Dichlorodifluoromethan...	4.26	85	56668	0.928	ng		100
4) Chloromethane	4.55	50	309951	6.477	ng		100
6) Vinyl Chloride	4.98	62	19155004	365.003	ng		98
7) 1,3-Butadiene	5.25	54	3365	0.077	ng		85
9) Chloroethane	5.99	64	125539	6.055	ng		99
10) Ethanol	6.34	45	70323	2.916	ng		100
12) Acrolein	6.80	56	2744	0.144	ng		94
14) Trichlorofluoromethane	7.25	101	21768	0.403	ng		100
15) 2-Propanol (Isopropanol)	7.51	45	108027	1.480	ng		89
19) Methylene Chloride	8.44	84	1859	0.059	ng		81
20) 3-Chloro-1-propene (Al...	8.59	41	2646	0.061	ng		78
21) Trichlorotrifluoroethane	8.85	151	16392	0.643	ng		100
22) Carbon Disulfide	8.69	76	1046103	9.312	ng		100
24) 1,1-Dichloroethane	9.96	63	7868	0.154	ng	#	13
27) 2-Butanone (MEK)	10.48	72	4288	0.208	ng	#	90
30) Ethyl Acetate	11.28	61	20771	1.751	ng		96
31) n-Hexane	11.26	57	73789	1.434	ng		100
32) Chloroform	11.32	83	5278	0.098	ng		95
34) Tetrahydrofuran (THF)	11.71	72	617327	30.773	ng		97
36) 1,2-Dichloroethane	12.11	62	40280	0.947	ng		100
41) Benzene	12.87	78	1609486	12.969	ng		100
42) Carbon Tetrachloride	13.04	117	24078	0.570	ng		99
43) Cyclohexane	13.17	84	182717	3.951	ng		100
47) Trichloroethene	13.98	130	1850	0.058	ng		97
48) 1,4-Dioxane	13.96	88	2134	0.085	ng		82
51) n-Heptane	14.31	71	6954	0.240	ng		98
53) 4-Methyl-2-pentanone	14.88	58	4014	0.145	ng		96
58) Toluene	15.82	91	1778418	14.820	ng		100
61) 1,2-Dibromoethane	16.48	107	6745	0.204	ng		97
63) n-Octane	16.82	57	6097	0.245	ng		97
64) Tetrachloroethene	16.96	166	11280	0.333	ng		99
66) Ethylbenzene	17.98	91	91077	0.681	ng		100
67) m- & p-Xylenes	18.14	91	436959	4.116	ng		98
70) o-Xylene	18.57	91	175019	1.624	ng		99
71) n-Nonane	18.77	43	73234	1.281	ng	#	82
74) Cumene	19.10	105	13641	0.103	ng		98
76) n-Propylbenzene	19.55	91	43922	0.280	ng		95
78) 4-Ethyltoluene	19.68	105	41663	0.335	ng		99
79) 1,3,5-Trimethylbenzene	19.74	105	86853	0.805	ng		100
82) 1,2,4-Trimethylbenzene	20.10	105	240877	2.222	ng		91
95) Naphthalene	22.21	128	61877	0.468	ng		93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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Acq On : 15 May 2020 9:26 Operator: LH
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Misc : S31-02112001

Quant Time: May 15 16:21:03 2020
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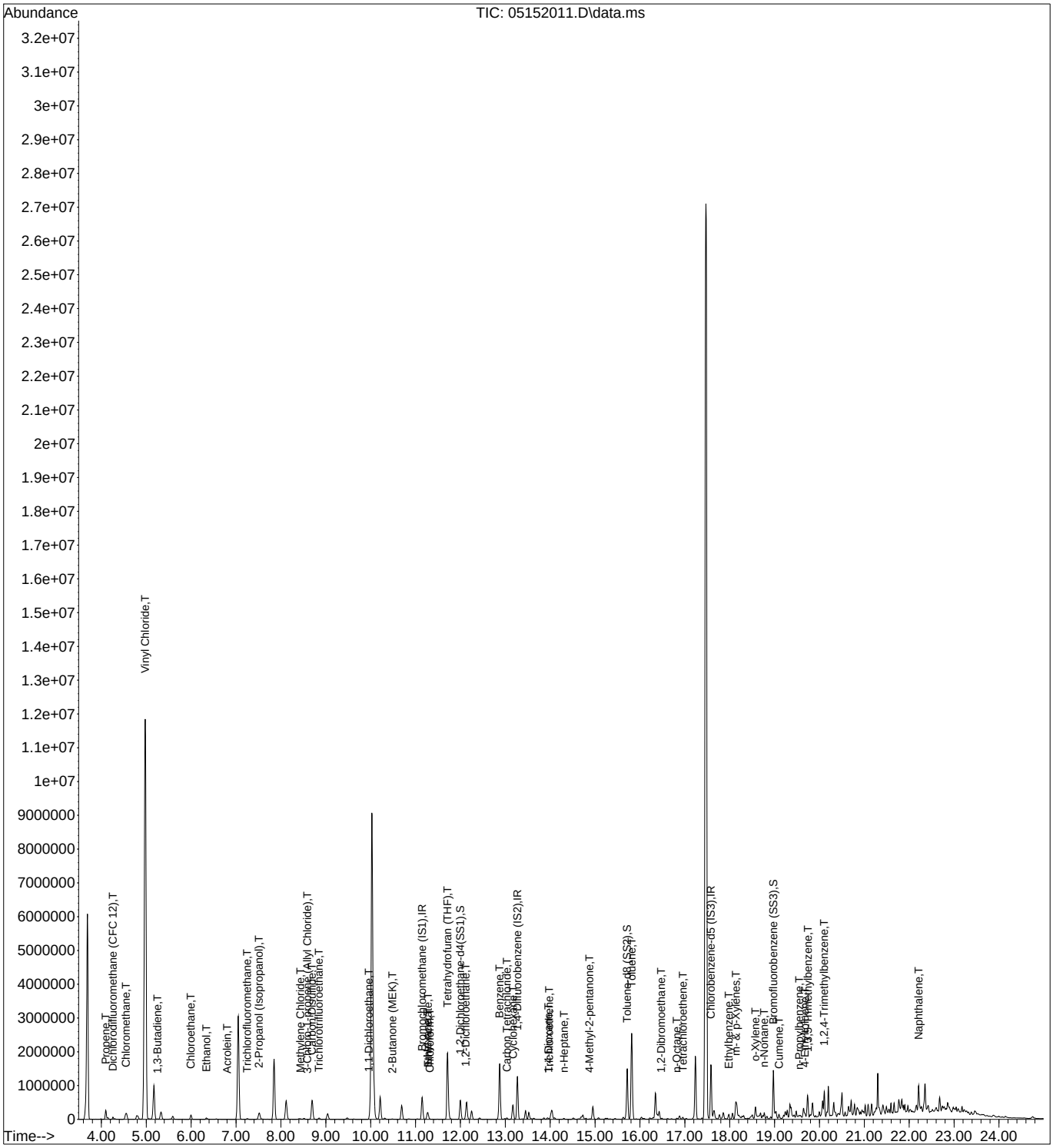
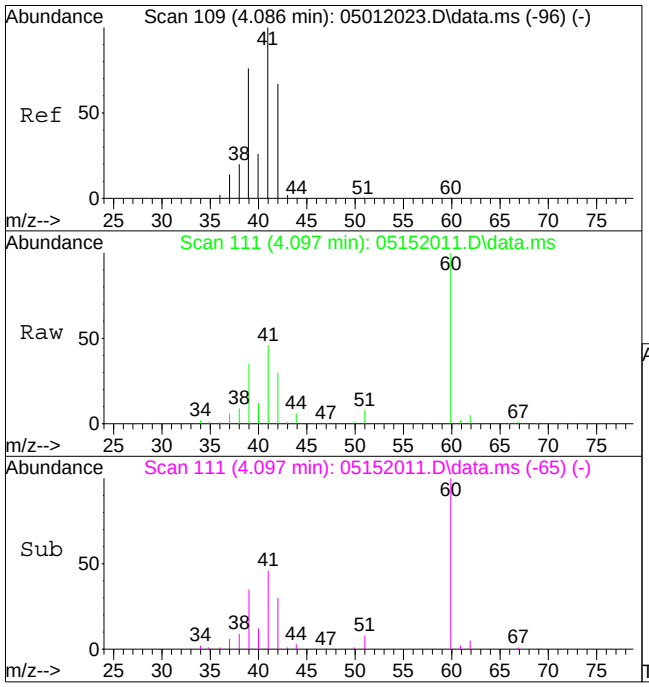
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

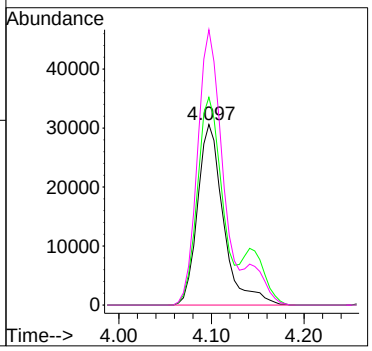


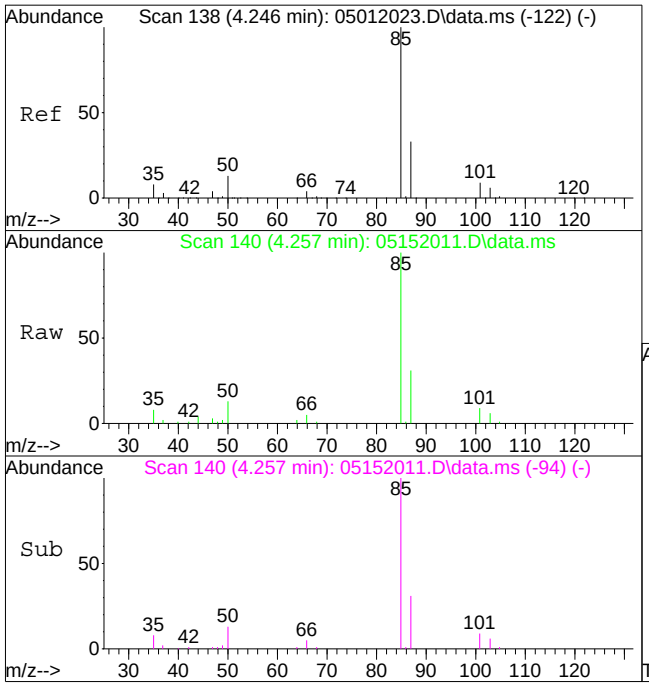


#2
Propene
Concen: 1.91 ng
RT: 4.10 min Scan# 111
Delta R.T. 0.005 min
Lab File: 05152011.D
Acq: 15 May 2020 9:26

Tgt Ion: 42 Resp: 59729

Ion	Ratio	Lower	Upper
42	100		
39	112.0	96.1	136.1
41	162.1	131.9	171.9

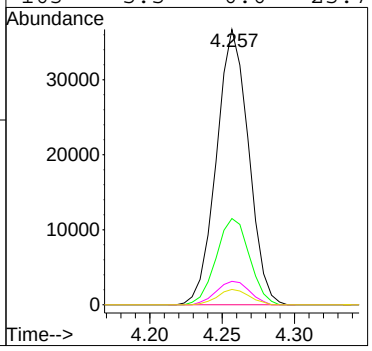


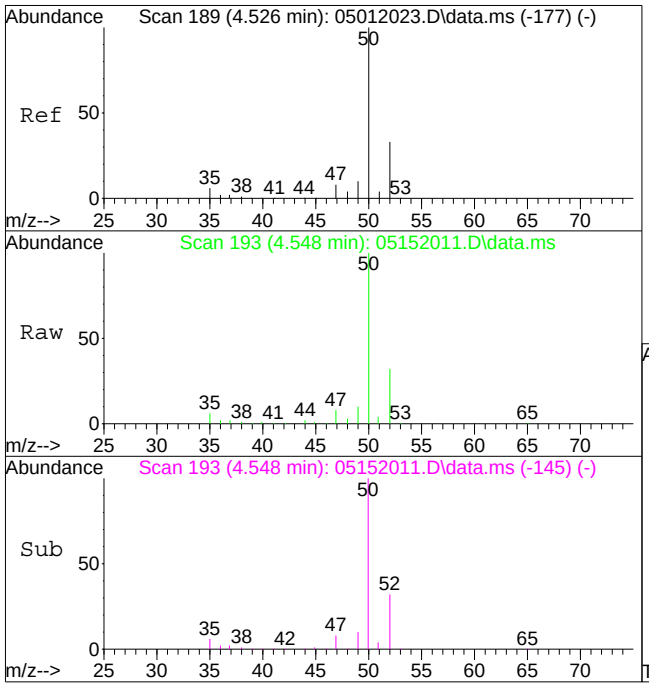


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.93 ng
RT: 4.26 min Scan# 140
Delta R.T. 0.005 min
Lab File: 05152011.D
Acq: 15 May 2020 9:26

Tgt Ion: 85 Resp: 56668

Ion	Ratio	Lower	Upper
85	100		
87	32.4	12.4	52.4
101	8.9	0.0	28.8
103	5.5	0.0	25.7

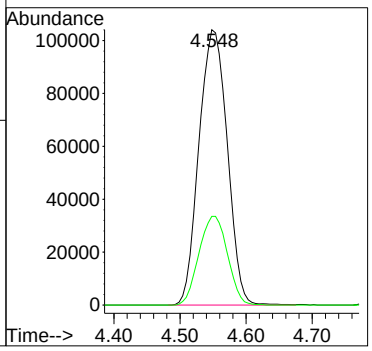


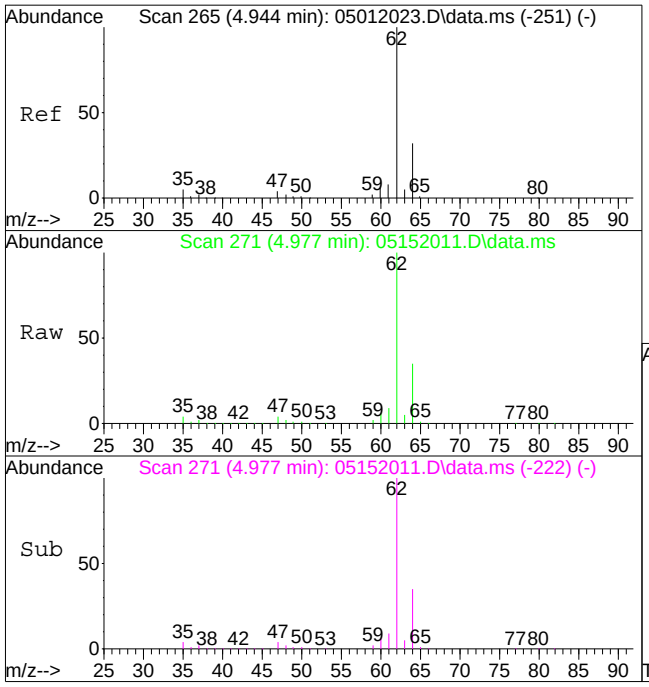


#4
Chloromethane
Concen: 6.48 ng
RT: 4.55 min Scan# 193
Delta R.T. 0.016 min
Lab File: 05152011.D
Acq: 15 May 2020 9:26

Tgt Ion: 50 Resp: 309951

Ion	Ratio	Lower	Upper
50	100		
52	32.4	12.5	52.5

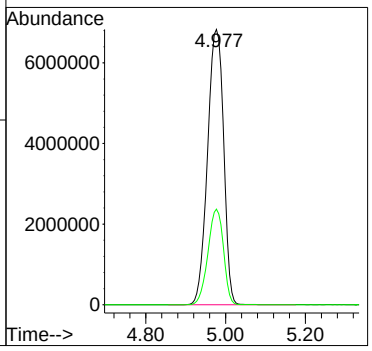


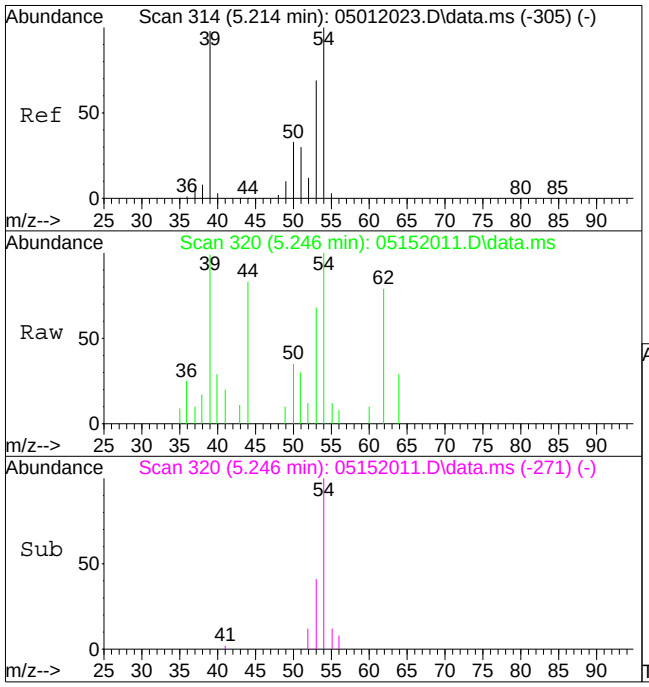


#6
Vinyl Chloride
Concen: 365.00 ng
RT: 4.98 min Scan# 271
Delta R.T. 0.022 min
Lab File: 05152011.D
Acq: 15 May 2020 9:26

Tgt Ion: 62 Resp:19155004

Ion	Ratio	Lower	Upper
62	100		
64	33.5	12.1	52.1

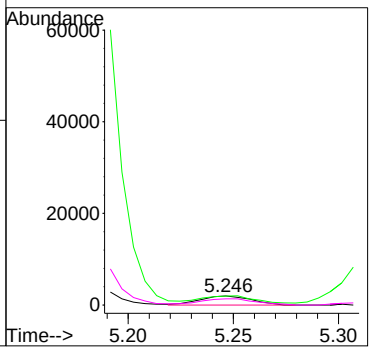


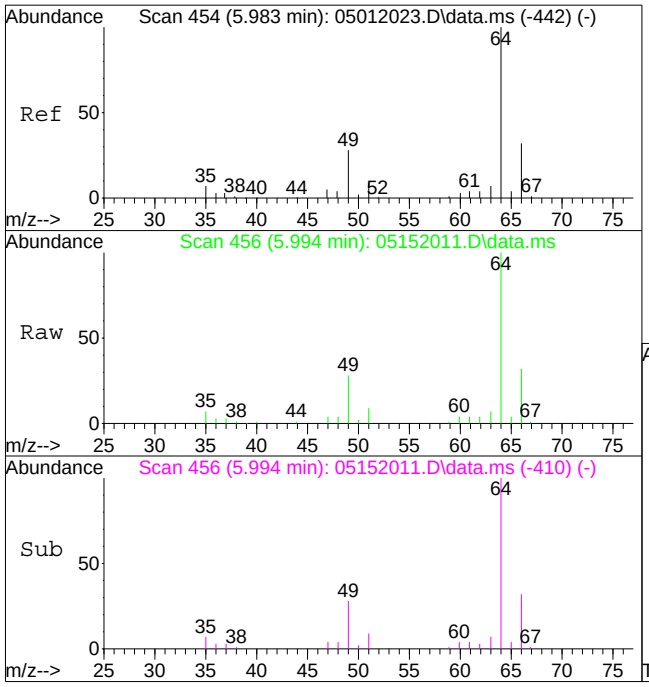


#7
1,3-Butadiene
Concen: 0.08 ng
RT: 5.25 min Scan# 320
Delta R.T. 0.022 min
Lab File: 05152011.D
Acq: 15 May 2020 9:26

Tgt Ion: 54 Resp: 3365

Ion	Ratio	Lower	Upper
54	100		
39	120.5	80.6	120.6
53	75.6	49.4	89.4

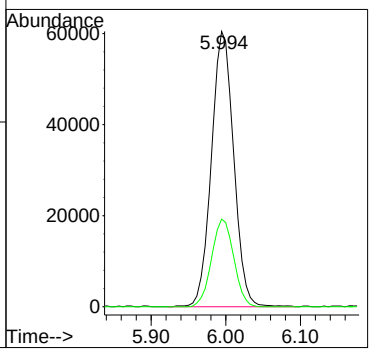


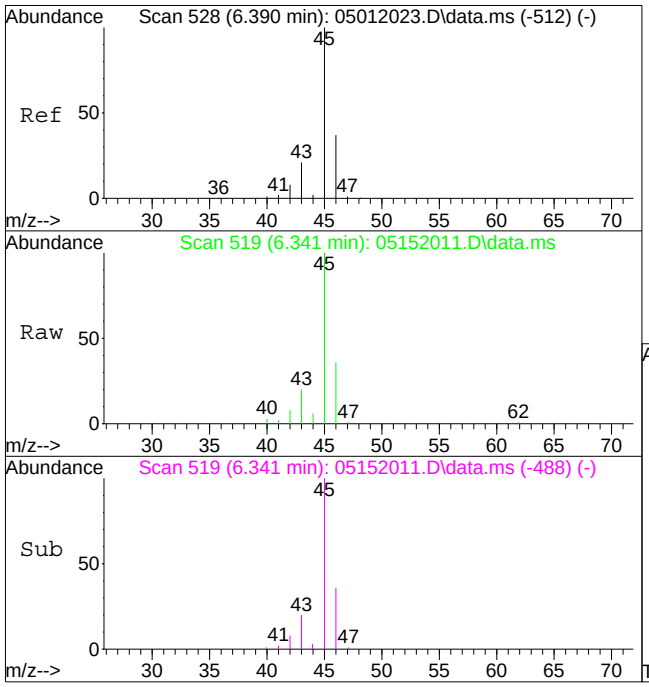


#9
Chloroethane
Concen: 6.06 ng
RT: 5.99 min Scan# 456
Delta R.T. 0.005 min
Lab File: 05152011.D
Acq: 15 May 2020 9:26

Tgt Ion: 64 Resp: 125539

Ion	Ratio	Lower	Upper
64	100		
66	31.6	12.1	52.1

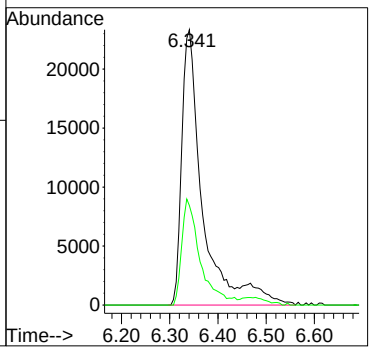


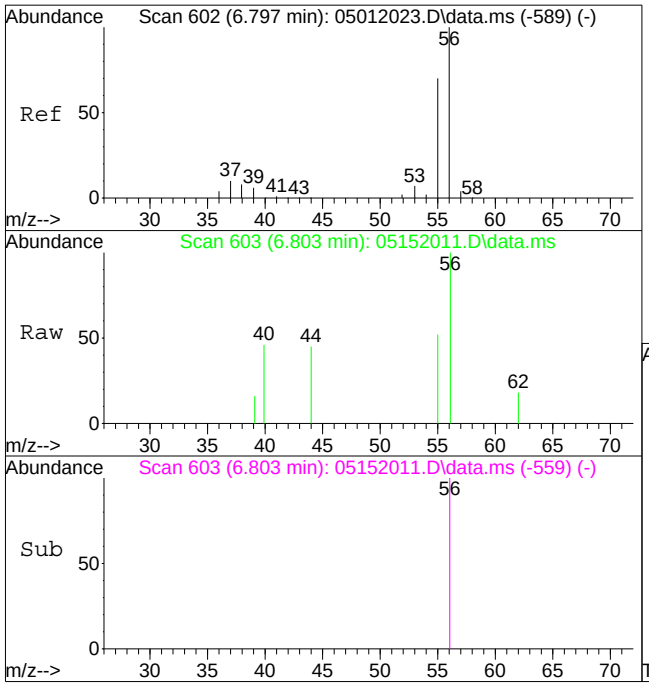


#10
Ethanol
Concen: 2.92 ng
RT: 6.34 min Scan# 519
Delta R.T. -0.077 min
Lab File: 05152011.D
Acq: 15 May 2020 9:26

Tgt Ion: 45 Resp: 70323

Ion	Ratio	Lower	Upper
45	100		
46	37.4	17.2	57.2

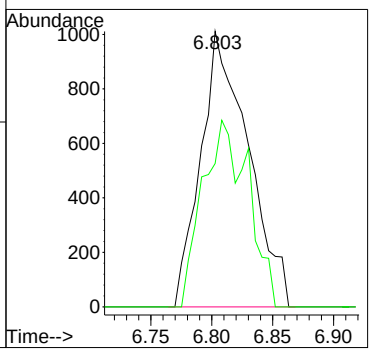


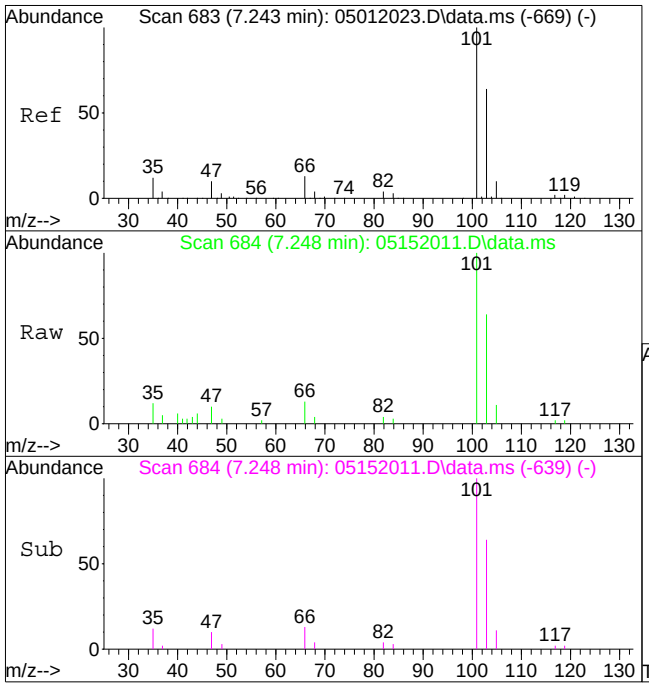


#12
Acrolein
Concen: 0.14 ng
RT: 6.80 min Scan# 603
Delta R.T. -0.006 min
Lab File: 05152011.D
Acq: 15 May 2020 9:26

Tgt Ion: 56 Resp: 2744

Ion	Ratio	Lower	Upper
56	100		
55	65.2	50.2	90.2

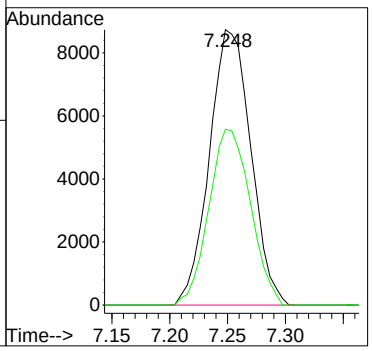


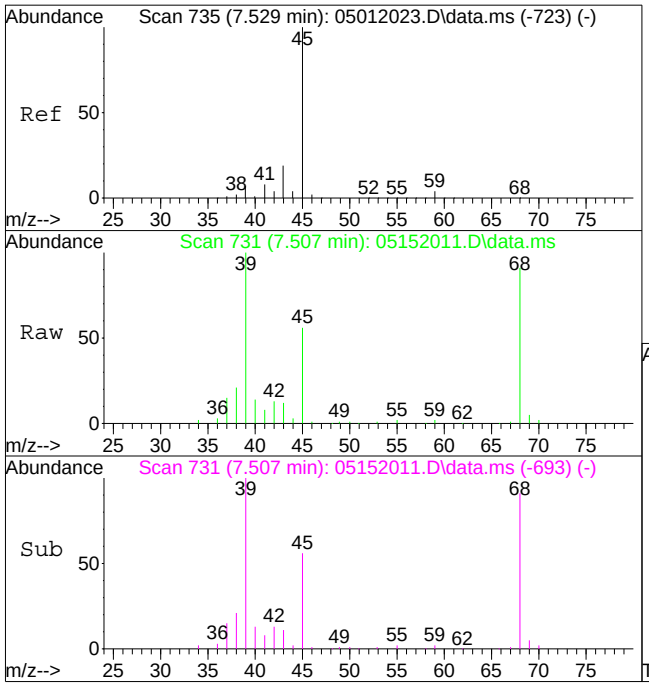


#14
Trichlorofluoromethane
Concen: 0.40 ng
RT: 7.25 min Scan# 684
Delta R.T. -0.000 min
Lab File: 05152011.D
Acq: 15 May 2020 9:26

Tgt Ion:101 Resp: 21768

Ion	Ratio	Lower	Upper
101	100		
103	64.2	44.4	84.4

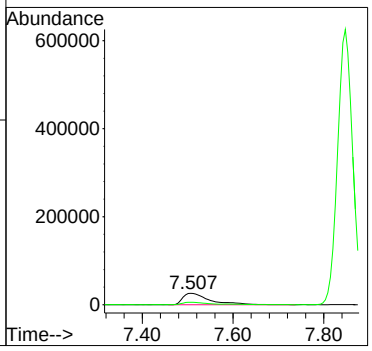


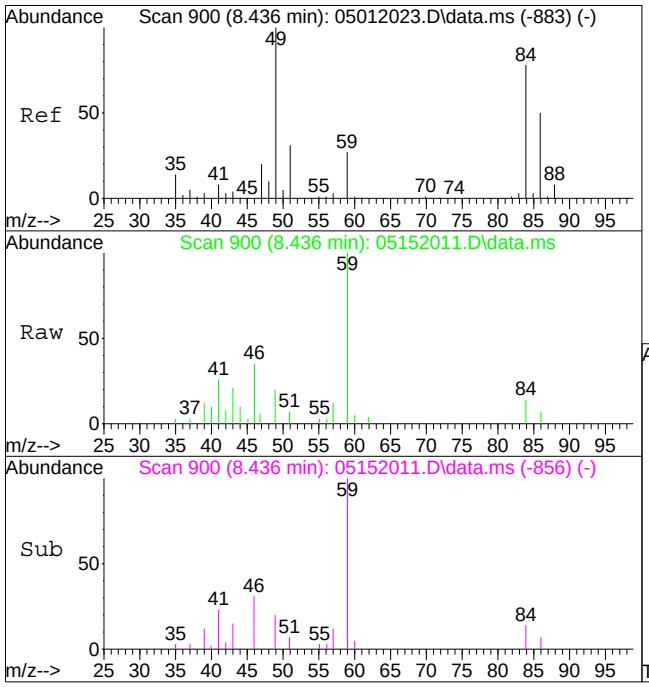


#15
2-Propanol (Isopropanol)
Concen: 1.48 ng
RT: 7.51 min Scan# 731
Delta R.T. -0.039 min
Lab File: 05152011.D
Acq: 15 May 2020 9:26

Tgt Ion: 45 Resp: 108027

Ion	Ratio	Lower	Upper
45	100		
43	24.5	0.0	39.5

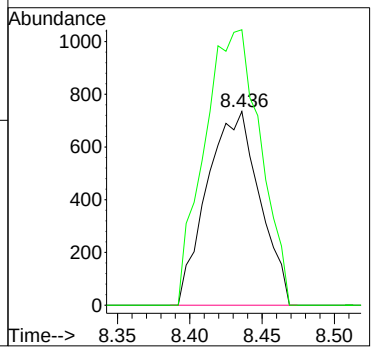


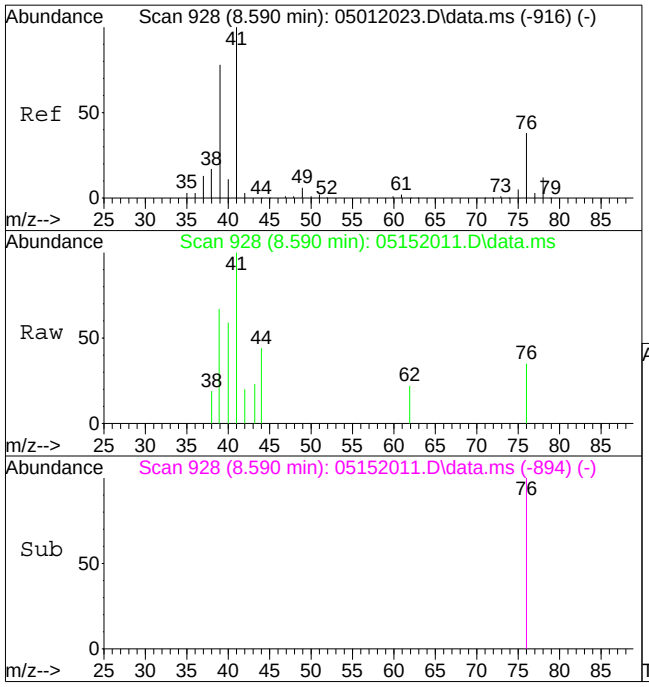


#19
Methylene Chloride
Concen: 0.06 ng
RT: 8.44 min Scan# 900
Delta R.T. -0.006 min
Lab File: 05152011.D
Acq: 15 May 2020 9:26

Tgt Ion: 84 Resp: 1859

Ion	Ratio	Lower	Upper
84	100		
49	151.6	104.8	154.8

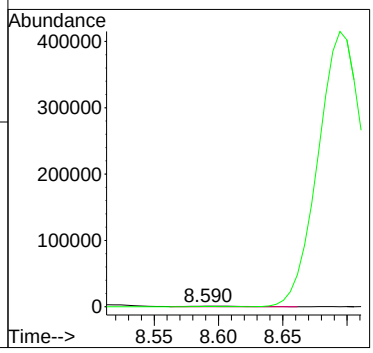


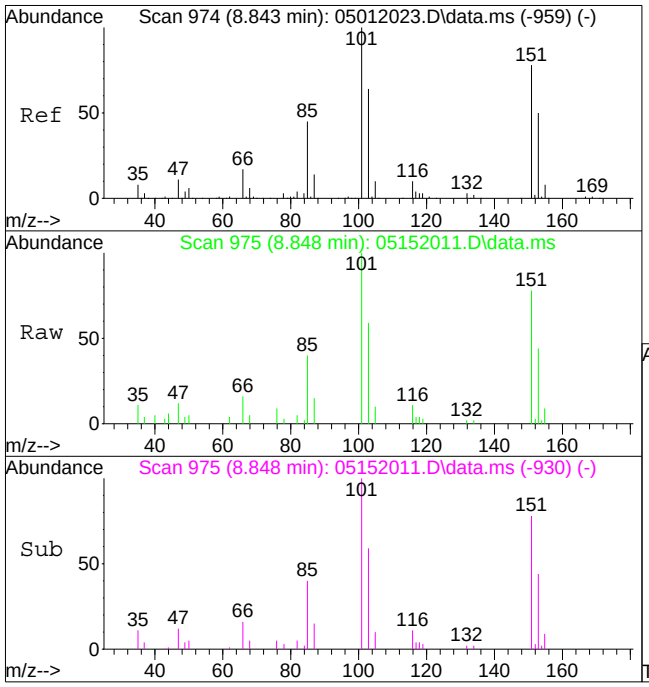


#20
3-Chloro-1-propene (Allyl Chloride)
Concen: 0.06 ng
RT: 8.59 min Scan# 928
Delta R.T. -0.011 min
Lab File: 05152011.D
Acq: 15 May 2020 9:26

Tgt Ion: 41 Resp: 2646

Ion	Ratio	Lower	Upper
41	100		
76	24.3	17.8	57.8

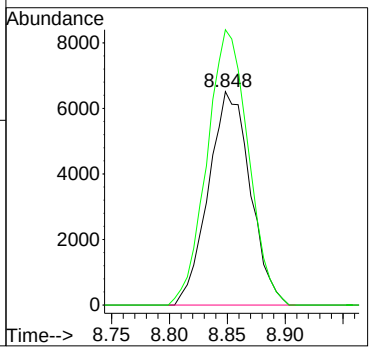


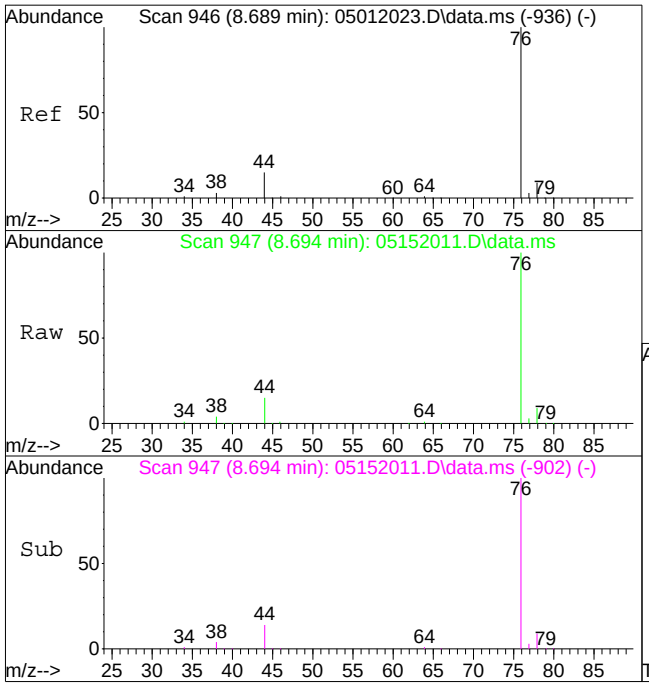


#21
Trichlorotrifluoroethane
Concen: 0.64 ng
RT: 8.85 min Scan# 975
Delta R.T. -0.000 min
Lab File: 05152011.D
Acq: 15 May 2020 9:26

Tgt Ion:151 Resp: 16392

Ion	Ratio	Lower	Upper
151	100		
101	127.4	107.3	147.3

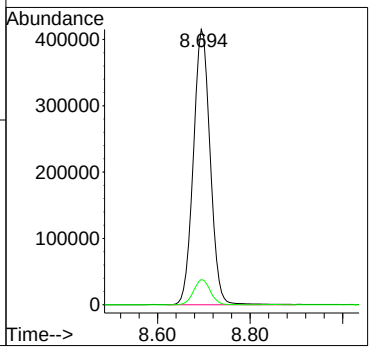


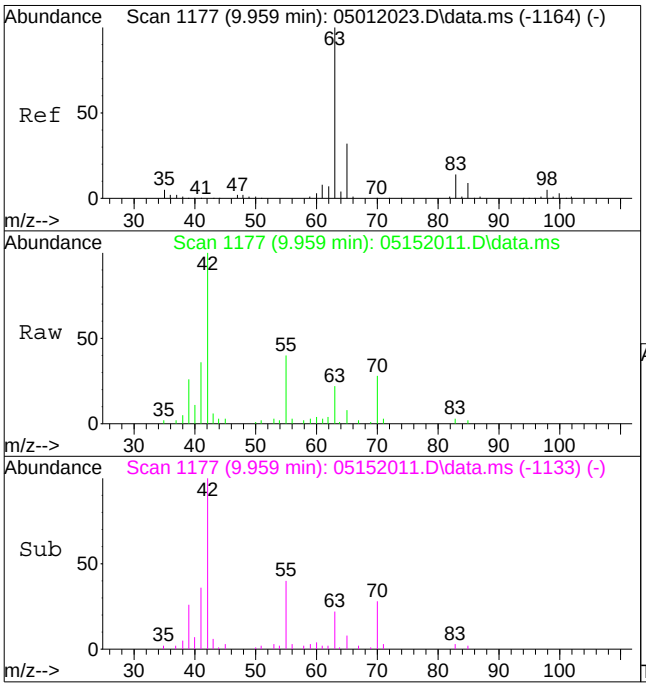


#22
Carbon Disulfide
Concen: 9.31 ng
RT: 8.69 min Scan# 947
Delta R.T. -0.000 min
Lab File: 05152011.D
Acq: 15 May 2020 9:26

Tgt Ion: 76 Resp: 1046103

Ion	Ratio	Lower	Upper
76	100		
78	9.1	0.0	29.2

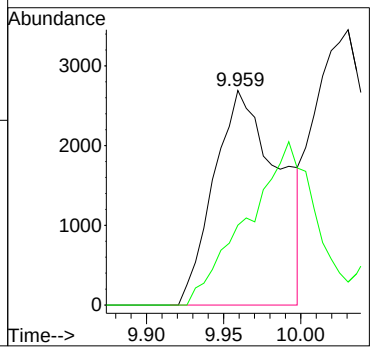


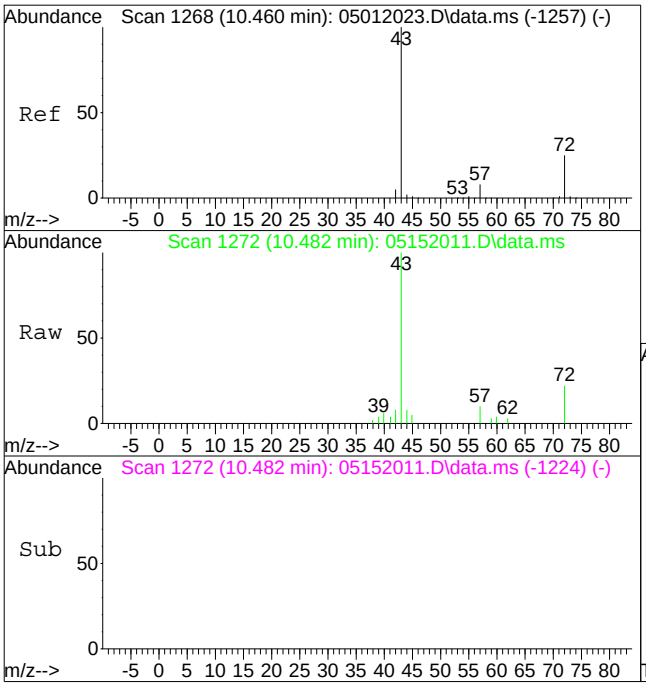


#24
1,1-Dichloroethane
Concen: 0.15 ng
RT: 9.96 min Scan# 1177
Delta R.T. -0.006 min
Lab File: 05152011.D
Acq: 15 May 2020 9:26

Tgt Ion: 63 Resp: 7868

Ion	Ratio	Lower	Upper
63	100		
65	79.9	11.8	51.8#

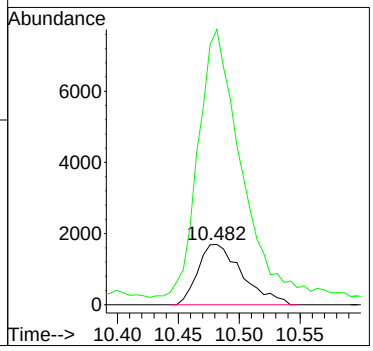


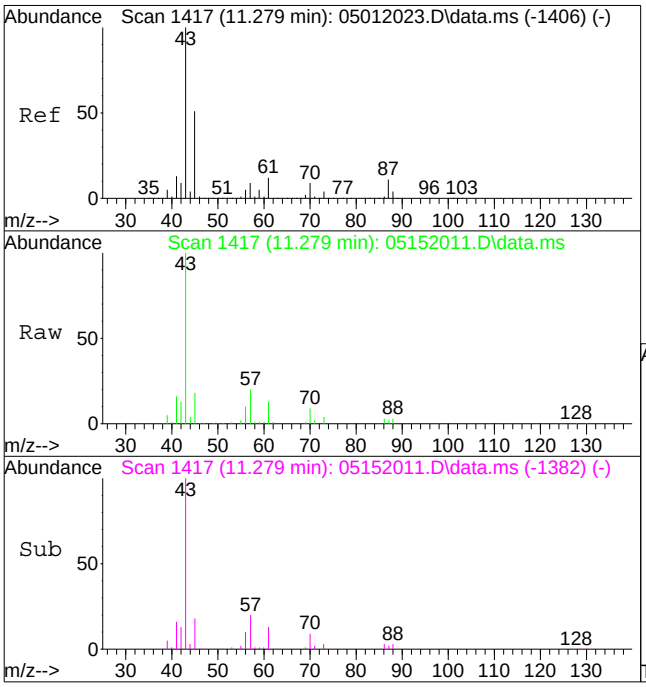


#27
2-Butanone (MEK)
Concen: 0.21 ng
RT: 10.48 min Scan# 1272
Delta R.T. 0.016 min
Lab File: 05152011.D
Acq: 15 May 2020 9:26

Tgt Ion: 72 Resp: 4288

Ion	Ratio	Lower	Upper
72	100		
43	434.3	389.7	429.7#

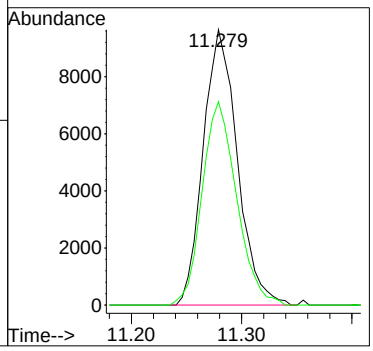


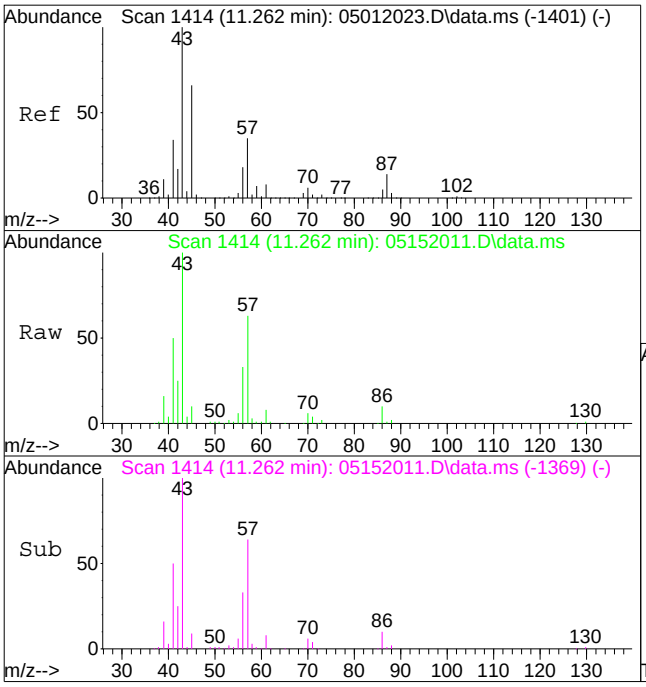


#30
Ethyl Acetate
Concen: 1.75 ng
RT: 11.28 min Scan# 1417
Delta R.T. -0.006 min
Lab File: 05152011.D
Acq: 15 May 2020 9:26

Tgt Ion: 61 Resp: 20771

Ion	Ratio	Lower	Upper
61	100		
70	74.4	57.9	97.9

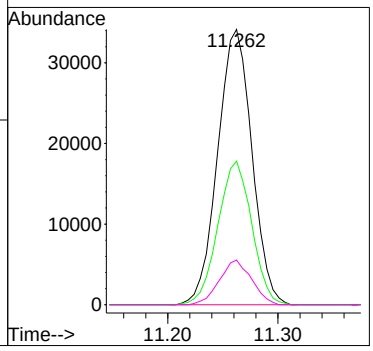


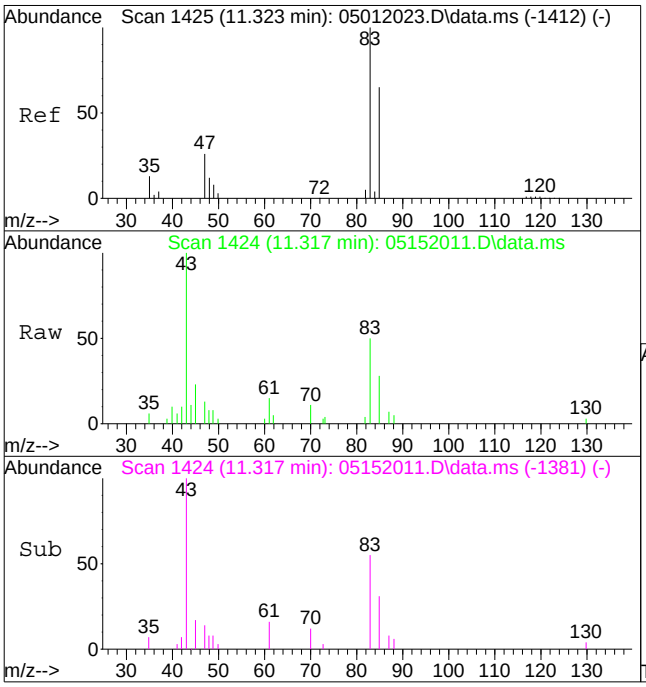


#31
n-Hexane
Concen: 1.43 ng
RT: 11.26 min Scan# 1414
Delta R.T. -0.000 min
Lab File: 05152011.D
Acq: 15 May 2020 9:26

Tgt Ion: 57 Resp: 73789

Ion	Ratio	Lower	Upper
57	100		
56	51.4	41.4	62.0
86	15.2	12.4	18.6

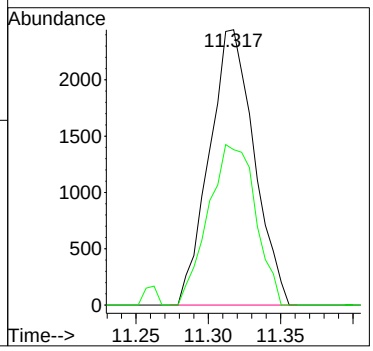


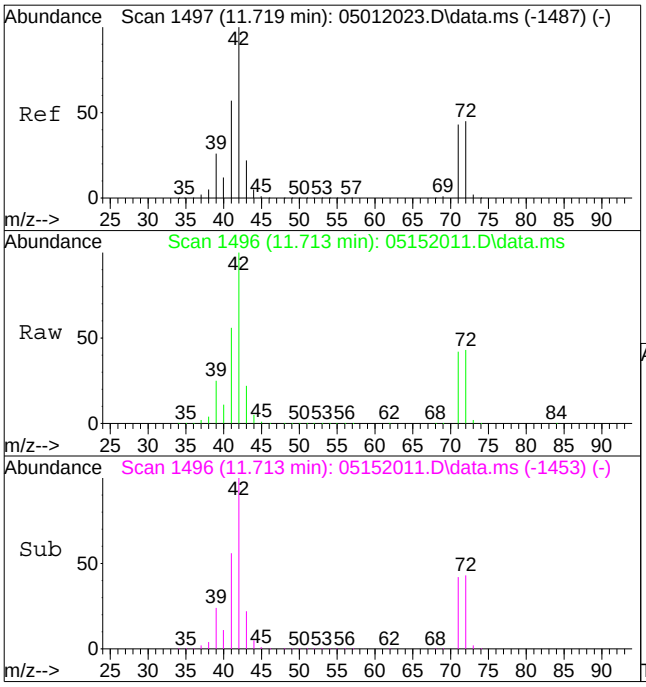


#32
Chloroform
Concen: 0.10 ng
RT: 11.32 min Scan# 1424
Delta R.T. -0.011 min
Lab File: 05152011.D
Acq: 15 May 2020 9:26

Tgt Ion: 83 Resp: 5278

Ion	Ratio	Lower	Upper
83	100		
85	61.6	45.5	85.5

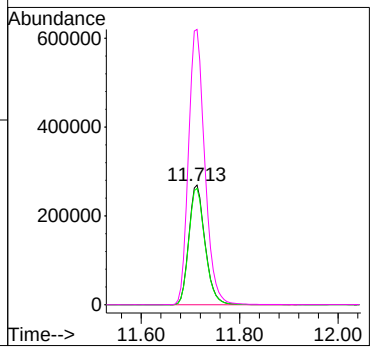


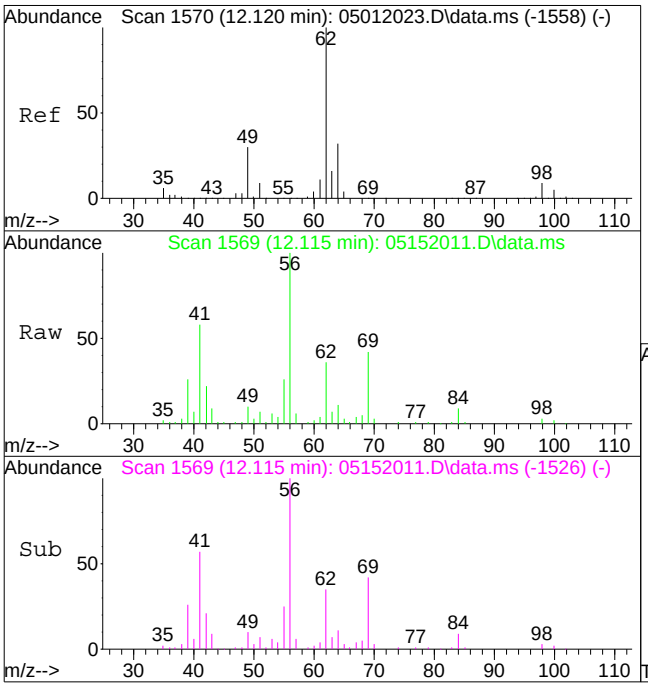


#34
Tetrahydrofuran (THF)
Concen: 30.77 ng
RT: 11.71 min Scan# 1496
Delta R.T. -0.011 min
Lab File: 05152011.D
Acq: 15 May 2020 9:26

Tgt Ion: 72 Resp: 617327

Ion	Ratio	Lower	Upper
72	100		
71	97.2	77.0	117.0
42	232.0	204.6	244.6

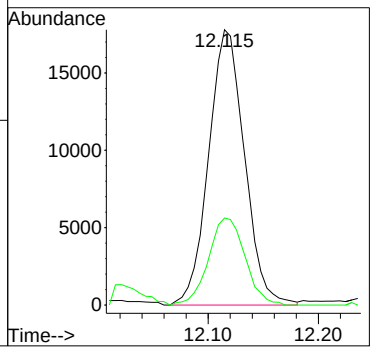


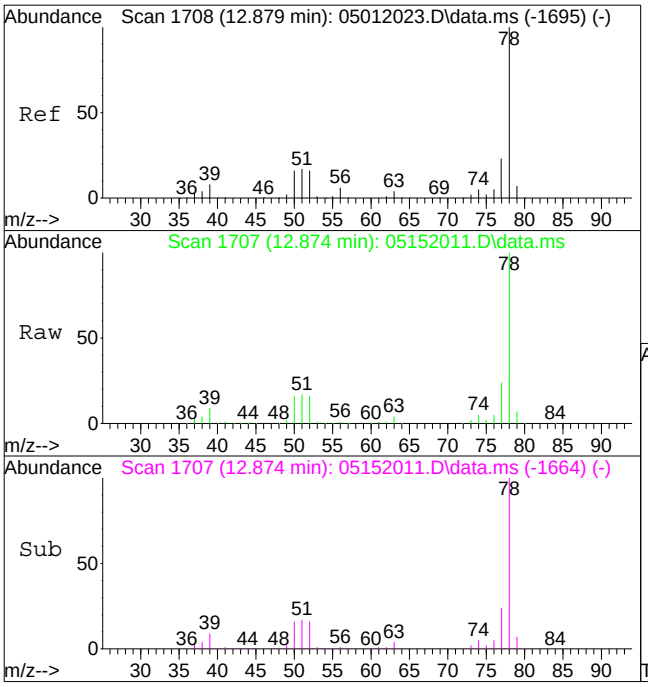


#36
1,2-Dichloroethane
Concen: 0.95 ng
RT: 12.11 min Scan# 1569
Delta R.T. -0.011 min
Lab File: 05152011.D
Acq: 15 May 2020 9:26

Tgt Ion: 62 Resp: 40280

Ion	Ratio	Lower	Upper
62	100		
64	32.2	12.4	52.4

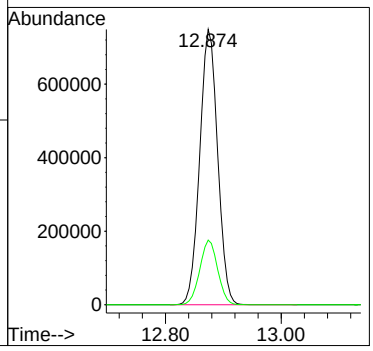


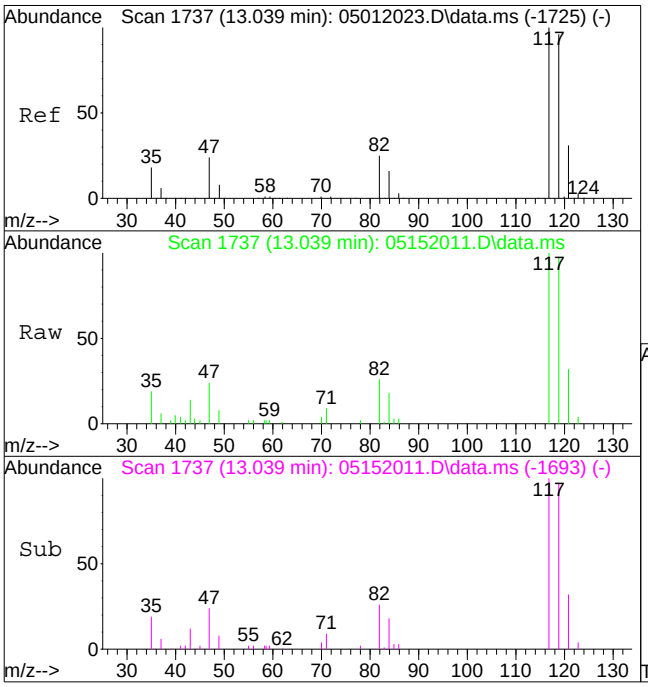


#41
Benzene
Concen: 12.97 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05152011.D
Acq: 15 May 2020 9:26

Tgt Ion: 78 Resp: 1609486

Ion	Ratio	Lower	Upper
78	100		
77	23.4	3.4	43.4

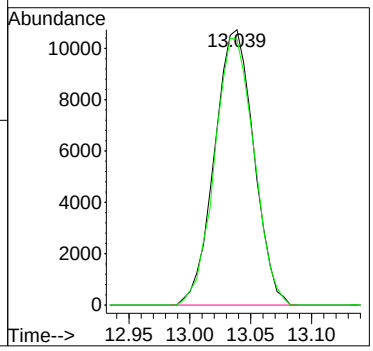


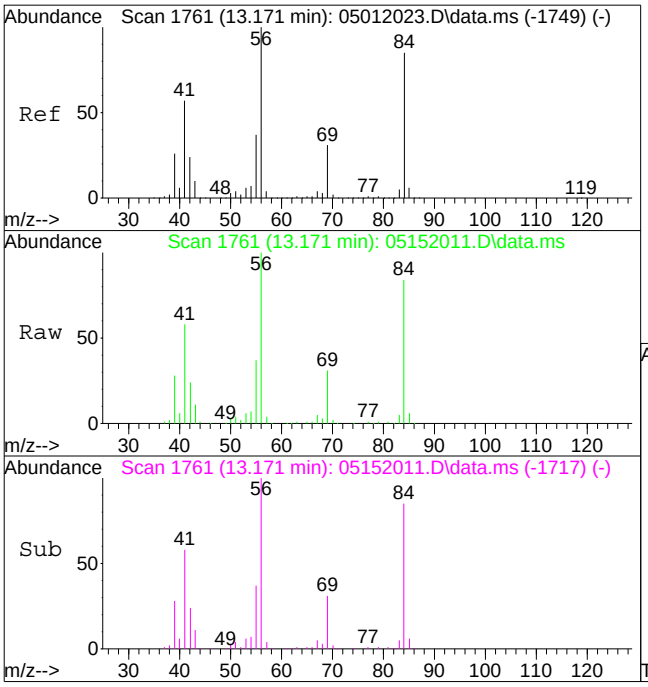


#42
Carbon Tetrachloride
Concen: 0.57 ng
RT: 13.04 min Scan# 1737
Delta R.T. -0.006 min
Lab File: 05152011.D
Acq: 15 May 2020 9:26

Tgt Ion:117 Resp: 24078

Ion	Ratio	Lower	Upper
117	100		
119	97.2	76.2	116.2

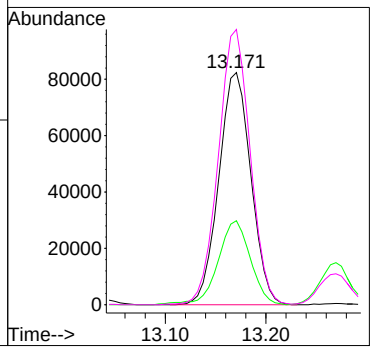


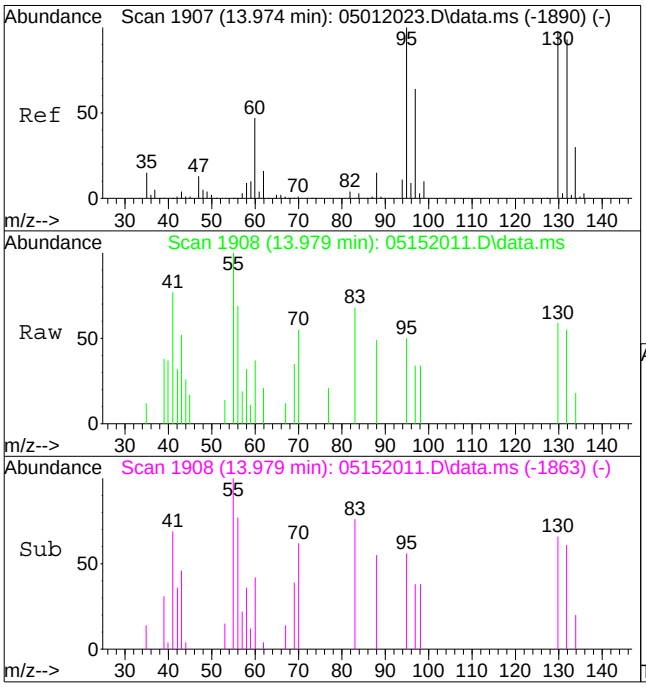


#43
Cyclohexane
Concen: 3.95 ng
RT: 13.17 min Scan# 1761
Delta R.T. -0.006 min
Lab File: 05152011.D
Acq: 15 May 2020 9:26

Tgt Ion: 84 Resp: 182717

Ion	Ratio	Lower	Upper
84	100		
69	36.4	16.5	56.5
56	117.7	97.4	137.4

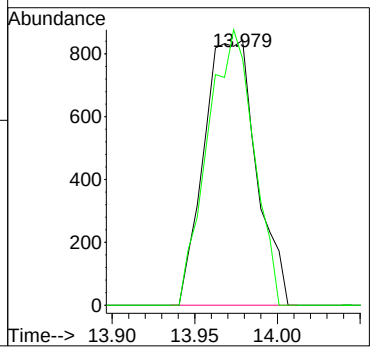


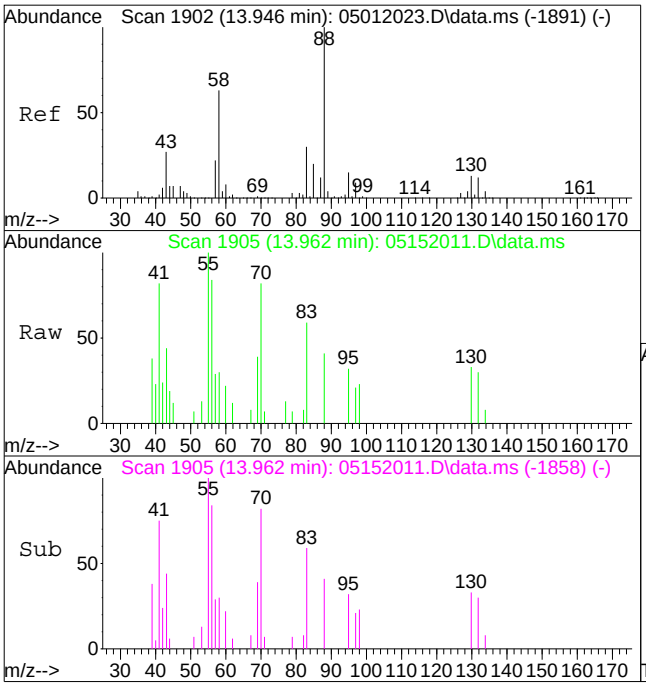


#47
Trichloroethene
Concen: 0.06 ng
RT: 13.98 min Scan# 1908
Delta R.T. -0.000 min
Lab File: 05152011.D
Acq: 15 May 2020 9:26

Tgt Ion:130 Resp: 1850

Ion	Ratio	Lower	Upper
130	100		
132	92.2	74.9	114.9

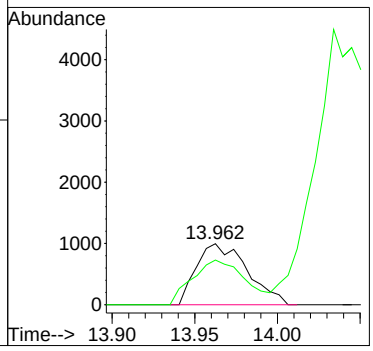


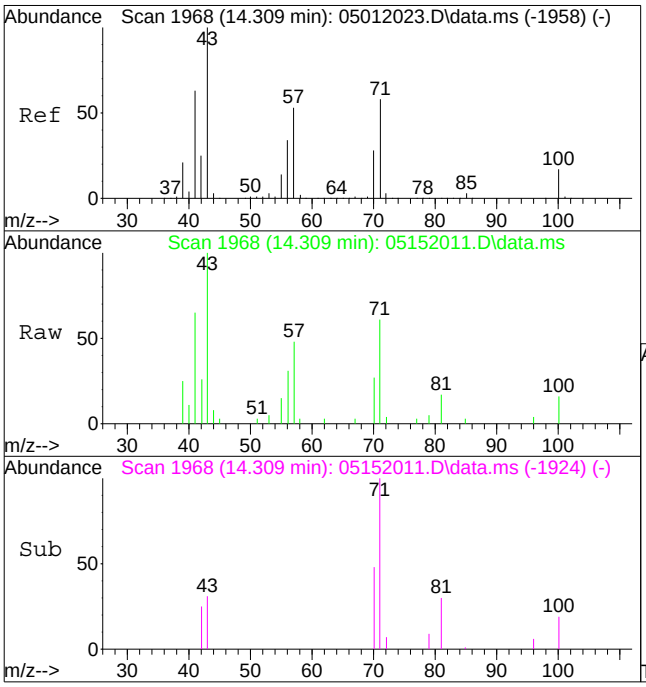


#48
1,4-Dioxane
Concen: 0.09 ng
RT: 13.96 min Scan# 1905
Delta R.T. 0.011 min
Lab File: 05152011.D
Acq: 15 May 2020 9:26

Tgt Ion: 88 Resp: 2134

Ion	Ratio	Lower	Upper
88	100		
58	76.8	42.8	82.8

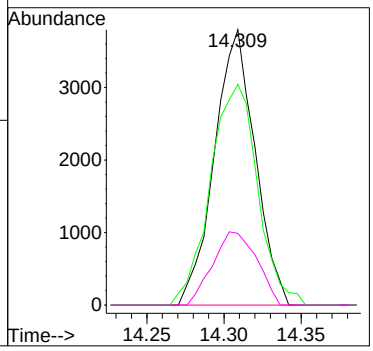


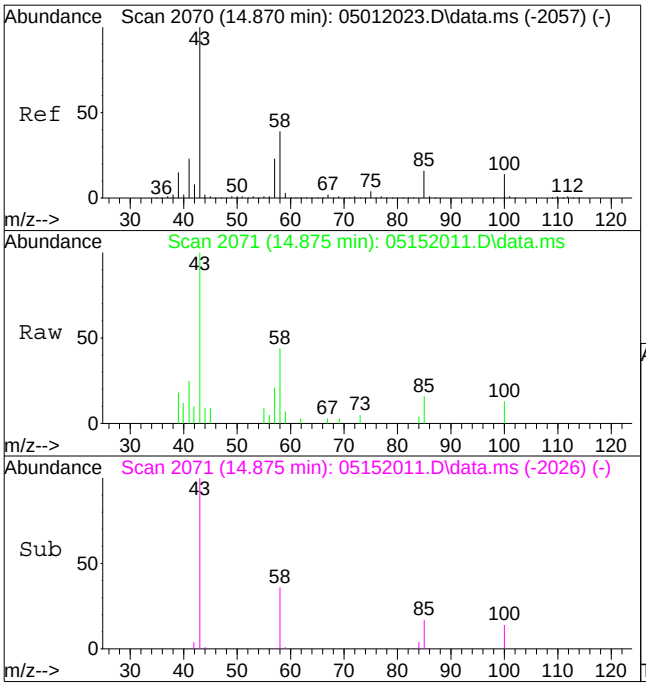


#51
n-Heptane
Concen: 0.24 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05152011.D
Acq: 15 May 2020 9:26

Tgt Ion: 71 Resp: 6954

Ion	Ratio	Lower	Upper
71	100		
57	93.2	71.0	111.0
100	28.8	8.4	48.4

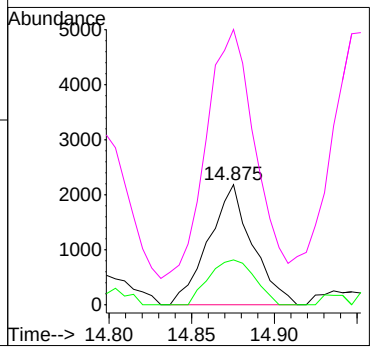


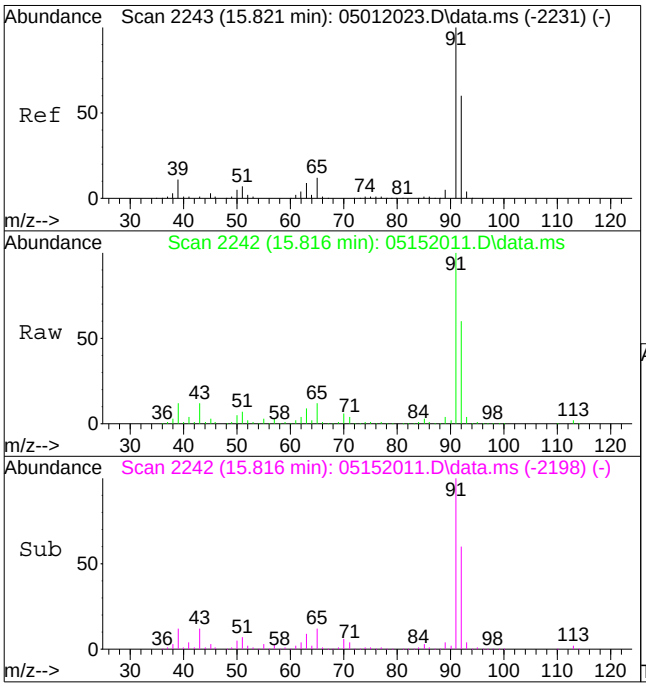


#53
4-Methyl-2-pentanone
Concen: 0.15 ng
RT: 14.88 min Scan# 2071
Delta R.T. -0.000 min
Lab File: 05152011.D
Acq: 15 May 2020 9:26

Tgt Ion: 58 Resp: 4014

Ion	Ratio	Lower	Upper
58	100		
85	39.3	35.4	53.2
43	260.5	203.3	304.9

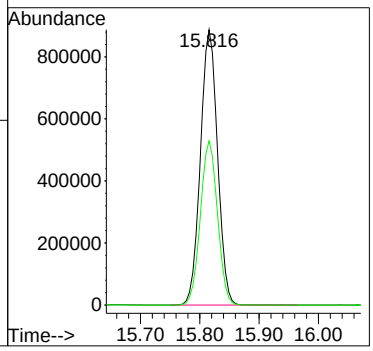


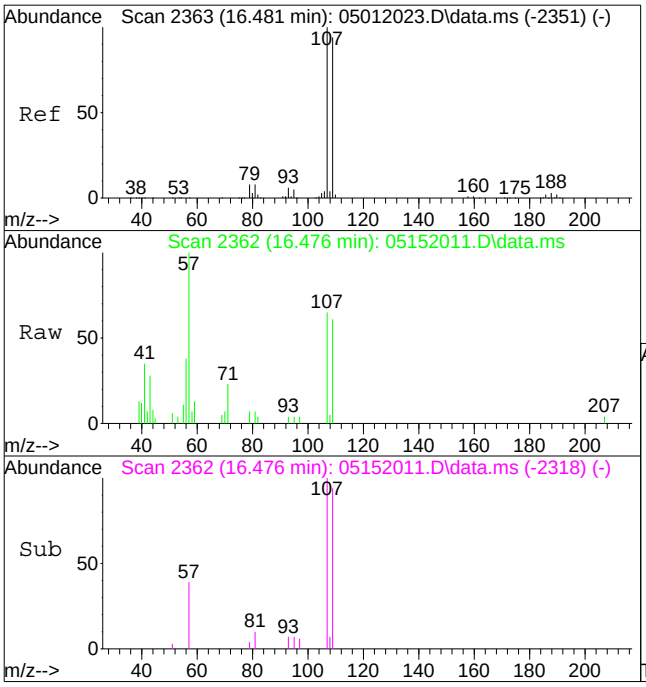


#58
Toluene
Concen: 14.82 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05152011.D
Acq: 15 May 2020 9:26

Tgt Ion: 91 Resp: 1778418

Ion	Ratio	Lower	Upper
91	100		
92	59.5	39.4	79.4

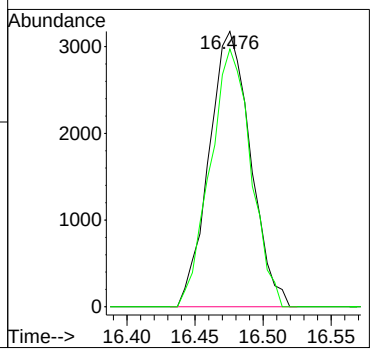


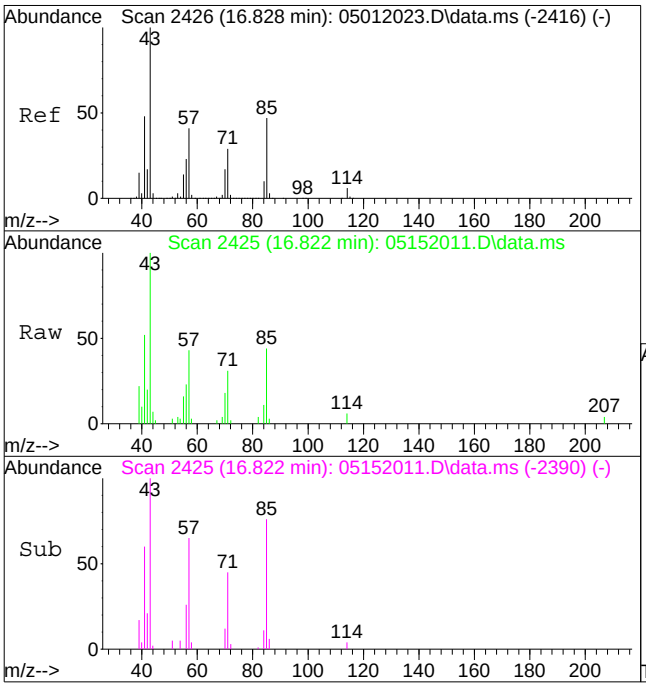


#61
1,2-Dibromoethane
Concen: 0.20 ng
RT: 16.48 min Scan# 2362
Delta R.T. -0.006 min
Lab File: 05152011.D
Acq: 15 May 2020 9:26

Tgt Ion:107 Resp: 6745

Ion	Ratio	Lower	Upper
107	100		
109	91.8	74.5	114.5

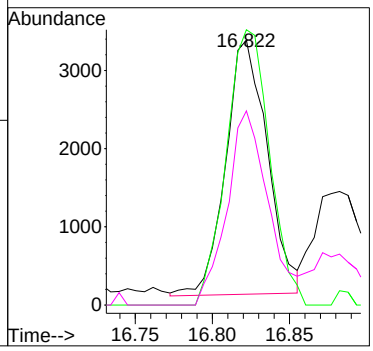


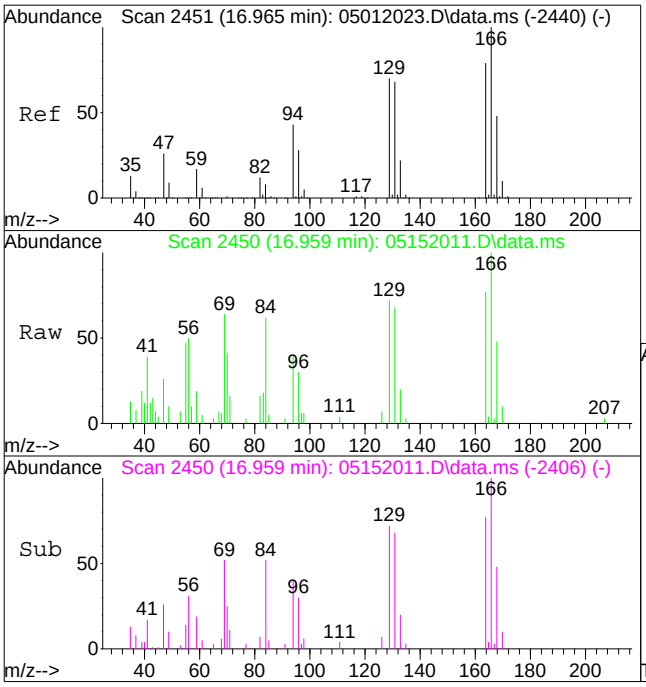


#63
n-Octane
Concen: 0.25 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05152011.D
Acq: 15 May 2020 9:26

Tgt Ion: 57 Resp: 6097

Ion	Ratio	Lower	Upper
57	100		
85	112.9	91.0	136.4
71	75.5	56.2	84.2

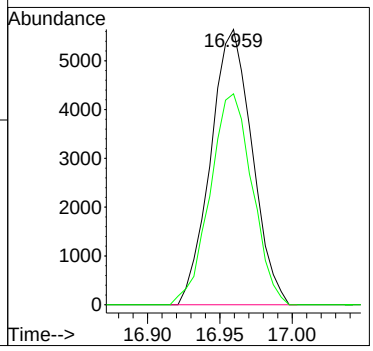


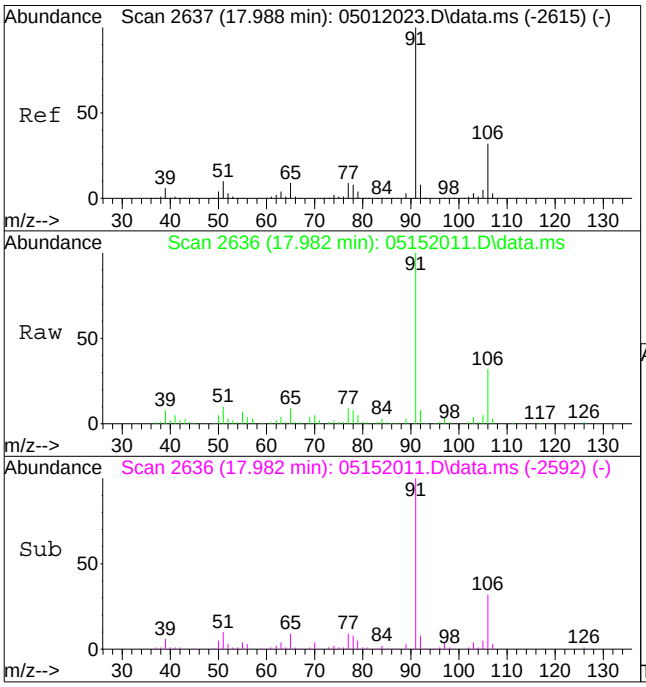


#64
Tetrachloroethene
Concen: 0.33 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05152011.D
Acq: 15 May 2020 9:26

Tgt Ion:166 Resp: 11280

Ion	Ratio	Lower	Upper
166	100		
164	77.8	58.4	98.4

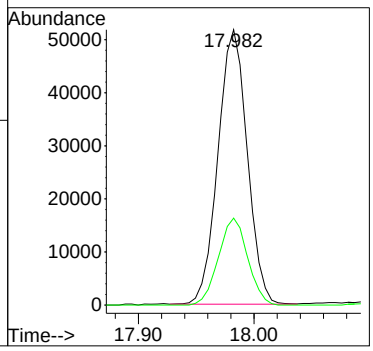


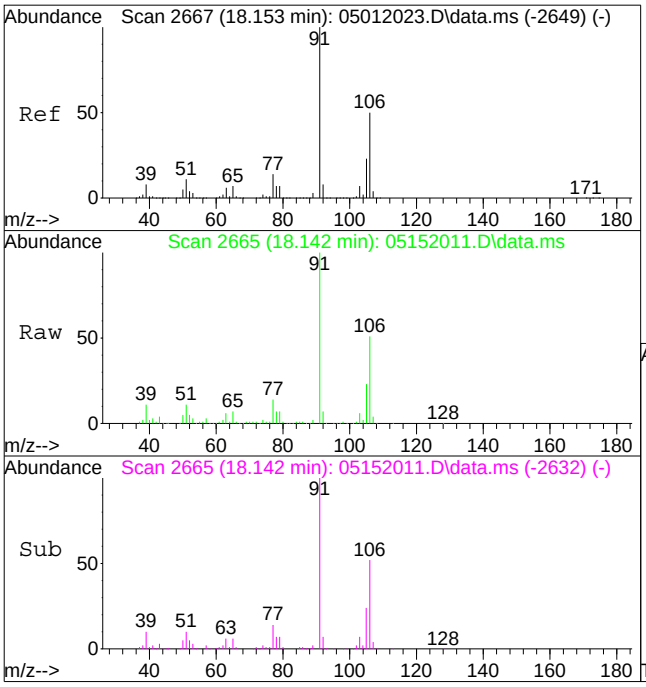


#66
Ethylbenzene
Concen: 0.68 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05152011.D
Acq: 15 May 2020 9:26

Tgt Ion: 91 Resp: 91077

Ion	Ratio	Lower	Upper
91	100		
106	31.5	11.6	51.6

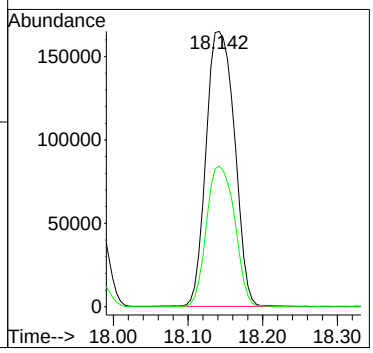


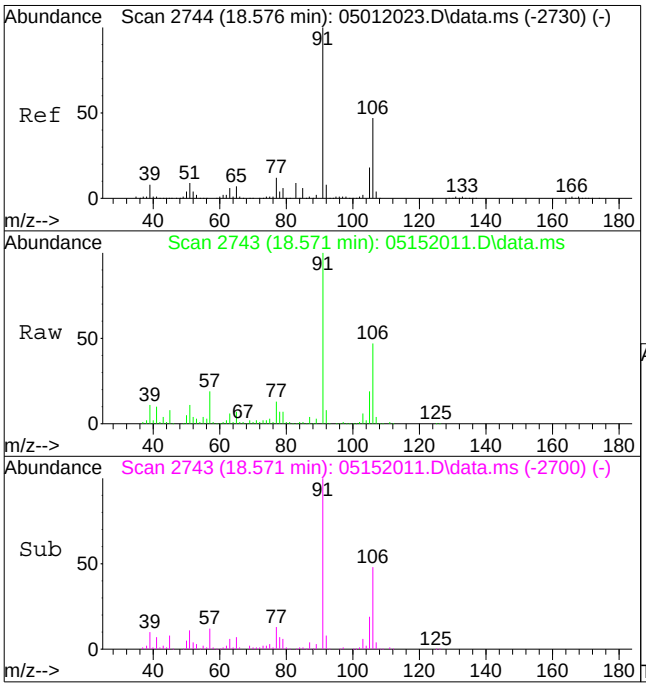


#67
m- & p-Xylenes
Concen: 4.12 ng
RT: 18.14 min Scan# 2665
Delta R.T. -0.017 min
Lab File: 05152011.D
Acq: 15 May 2020 9:26

Tgt Ion: 91 Resp: 436959

Ion	Ratio	Lower	Upper
91	100		
106	50.8	29.7	69.7

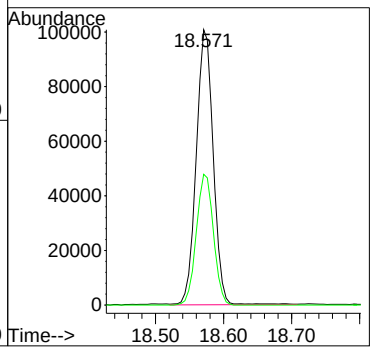


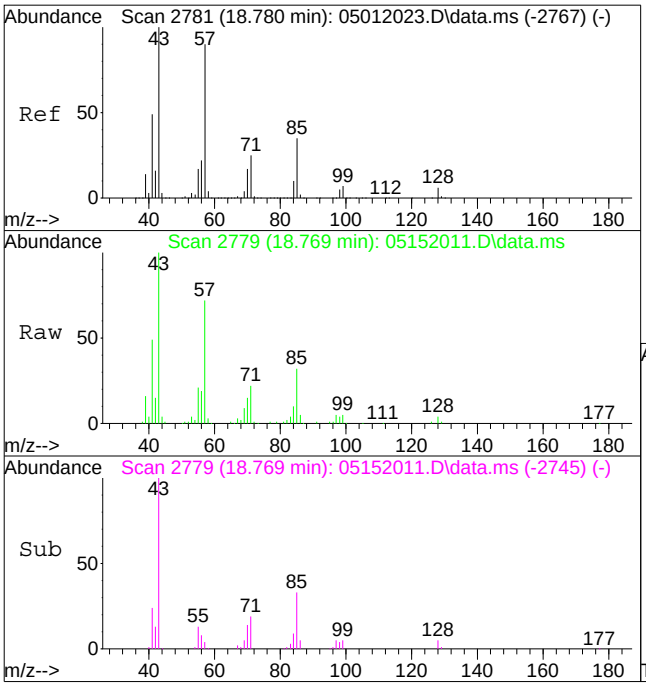


#70
o-Xylene
Concen: 1.62 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05152011.D
Acq: 15 May 2020 9:26

Tgt Ion: 91 Resp: 175019

Ion	Ratio	Lower	Upper
91	100		
106	47.9	27.5	67.5

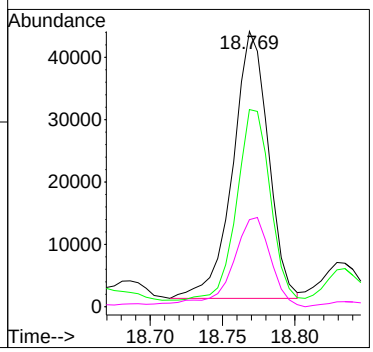


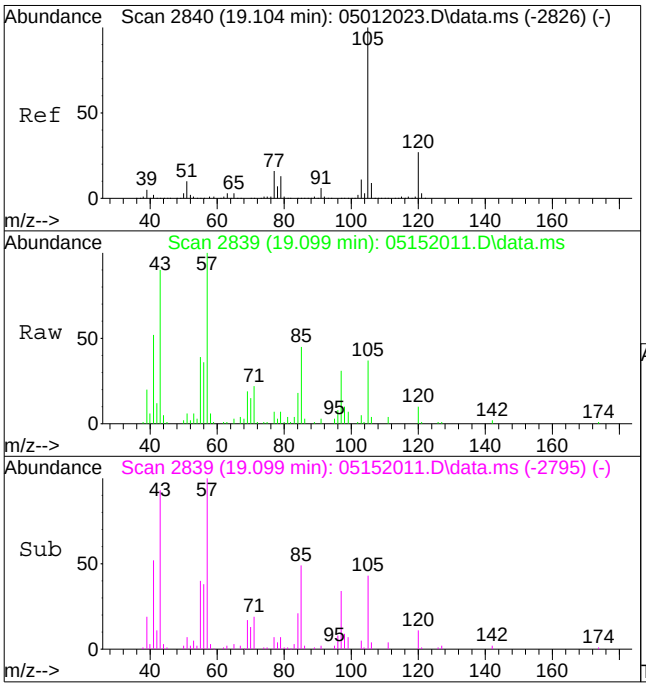


#71
n-Nonane
Concen: 1.28 ng
RT: 18.77 min Scan# 2779
Delta R.T. -0.011 min
Lab File: 05152011.D
Acq: 15 May 2020 9:26

Tgt Ion: 43 Resp: 73234

Ion	Ratio	Lower	Upper
43	100		
57	67.5	69.0	109.0#
85	36.6	14.6	54.6

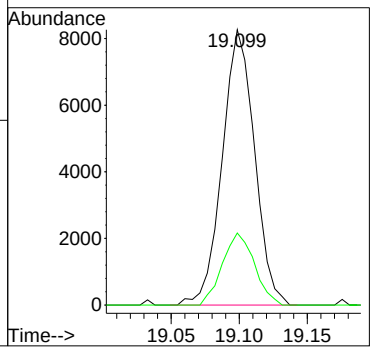


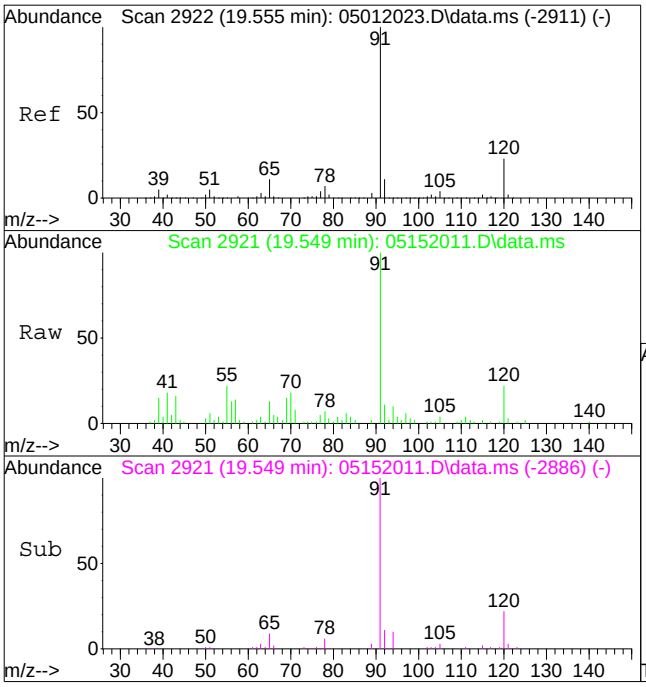


#74
Cumene
Concen: 0.10 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05152011.D
Acq: 15 May 2020 9:26

Tgt Ion:105 Resp: 13641

Ion	Ratio	Lower	Upper
105	100		
120	25.9	6.8	46.8

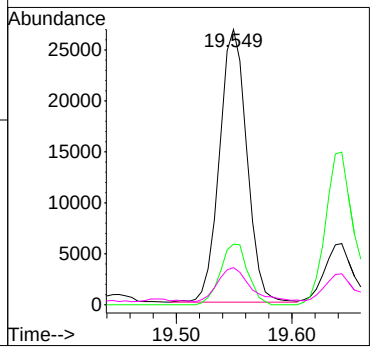


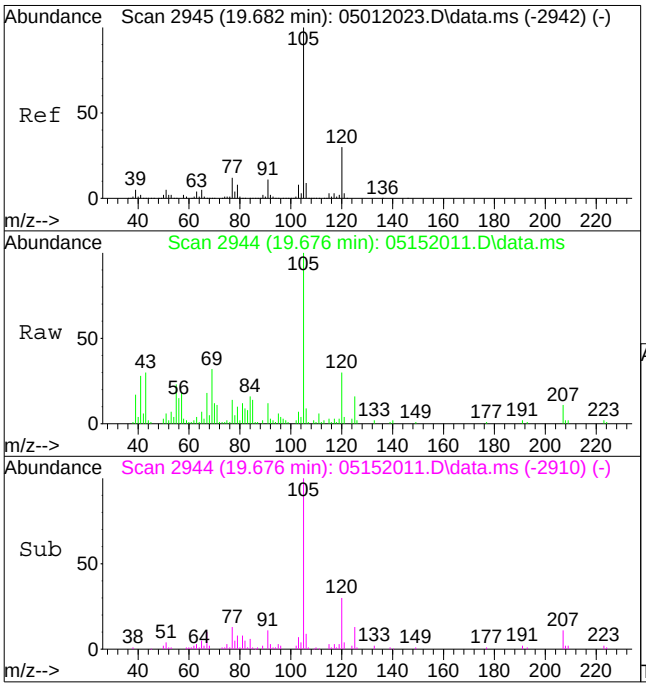


#76
n-Propylbenzene
Concen: 0.28 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05152011.D
Acq: 15 May 2020 9:26

Tgt Ion: 91 Resp: 43922

Ion	Ratio	Lower	Upper
91	100		
120	22.4	3.1	43.1
65	15.1	0.0	30.9

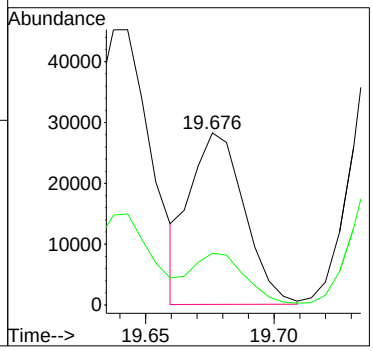


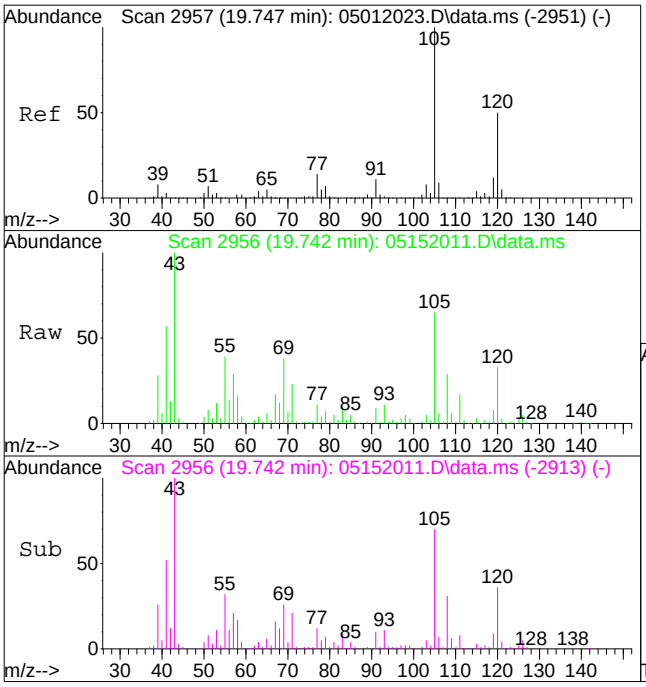


#78
4-Ethyltoluene
Concen: 0.34 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05152011.D
Acq: 15 May 2020 9:26

Tgt Ion:105 Resp: 41663

Ion	Ratio	Lower	Upper
105	100		
120	31.1	10.4	50.4

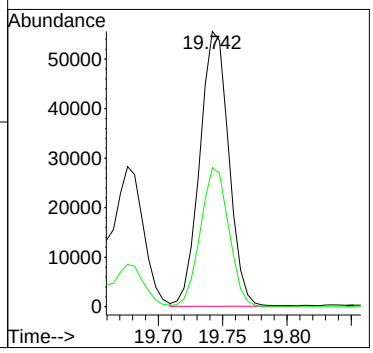


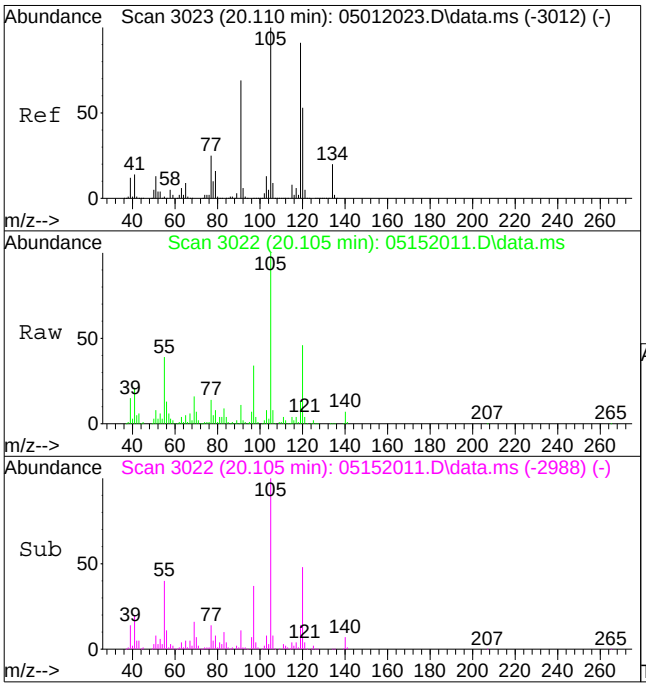


#79
1,3,5-Trimethylbenzene
Concen: 0.81 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05152011.D
Acq: 15 May 2020 9:26

Tgt Ion:105 Resp: 86853

Ion	Ratio	Lower	Upper
105	100		
120	49.7	29.9	69.9

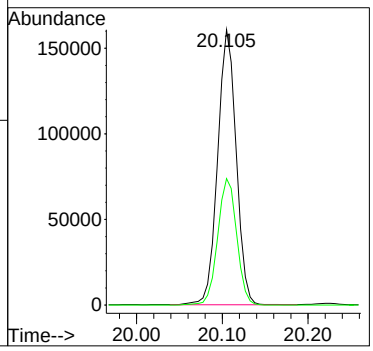


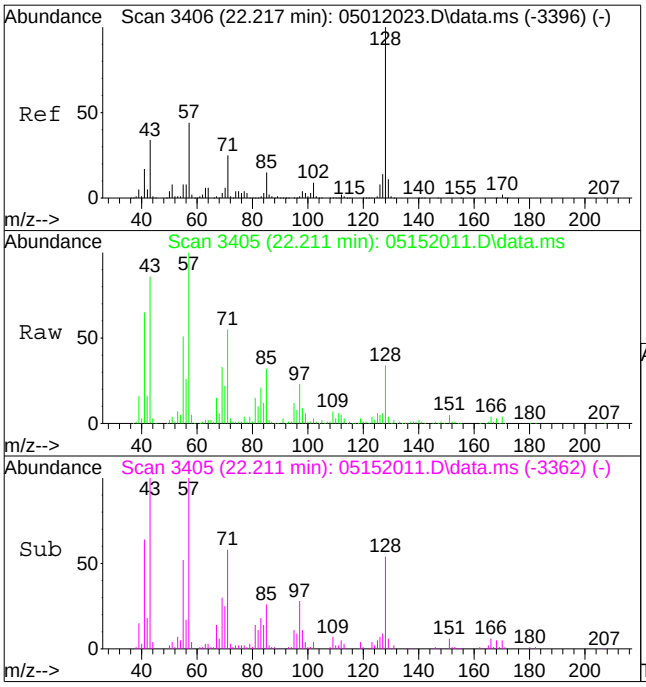


#82
1,2,4-Trimethylbenzene
Concen: 2.22 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05152011.D
Acq: 15 May 2020 9:26

Tgt Ion:105 Resp: 240877

Ion	Ratio	Lower	Upper
105	100		
120	47.1	33.6	73.6

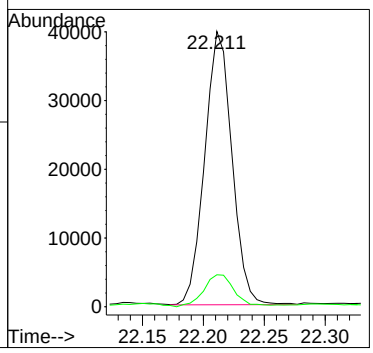




#95
Naphthalene
Concen: 0.47 ng
RT: 22.21 min Scan# 3405
Delta R.T. -0.011 min
Lab File: 05152011.D
Acq: 15 May 2020 9:26

Tgt Ion:128 Resp: 61877

Ion	Ratio	Lower	Upper
128	100		
129	13.7	0.0	31.0



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152012.D Vial: 16
Acq On : 15 May 2020 10:00 Operator: LH
Sample : P2002302-016dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 16:22:53 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/15/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	309384	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1308293	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	607734	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	493500	11.770	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.16%			
57) Toluene-d8 (SS2)	15.72	98	1273786	12.366	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.96%			
73) Bromofluorobenzene (SS3)	18.97	174	492315	13.282	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.24%			
Target Compounds						Qvalue
2) Propene	4.11	42	4680	0.131	ng	99
3) Dichlorodifluoromethan...	4.26	85	4952	0.071	ng	93
4) Chloromethane	4.53	50	36213	0.660	ng	99
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	4.94	62	1638341	27.211	ng	100
7) 1,3-Butadiene	5.23	54	183	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	5.98	64	10874	0.457	ng	99
10) Ethanol	6.46	45	673	N.D.		
11) Acetonitrile	6.63	41	731	N.D.		
12) Acrolein	6.81	56	50	N.D.		
13) Acetone	0.00	58	0	N.D. d		
14) Trichlorofluoromethane	7.24	101	1978	N.D.		
15) 2-Propanol (Isopropanol)	7.52	45	11669	0.139	ng	94
16) Acrylonitrile	0.00	53	0	N.D. d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d		
19) Methylene Chloride	8.41	84	290	N.D.		
20) 3-Chloro-1-propene (Al...	8.57	41	107	N.D.		
21) Trichlorotrifluoroethane	8.85	151	1343	N.D.		
22) Carbon Disulfide	8.68	76	98057	0.761	ng	100
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	9.94	63	618	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D. d		
27) 2-Butanone (MEK)	10.51	72	186	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	11.29	61	1610	0.118	ng	95
31) n-Hexane	11.26	57	6493	0.110	ng	99
32) Chloroform	11.30	83	193	N.D.		
34) Tetrahydrofuran (THF)	11.72	72	51958	2.258	ng	98
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.11	62	3417	0.070	ng	98
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	12.87	61	828	N.D.		
40) 1-Butanol	0.00	56	0	N.D. d		
41) Benzene	12.87	78	136344	0.972	ng	100
42) Carbon Tetrachloride	13.03	117	1888	N.D.		
43) Cyclohexane	13.17	84	16161	0.309	ng	97
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	13.94	83	342	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d		
50) Methyl Methacrylate	14.11	100	317	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152012.D Vial: 16
Acq On : 15 May 2020 10:00 Operator: LH
Sample : P2002302-016dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 16:22:53 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

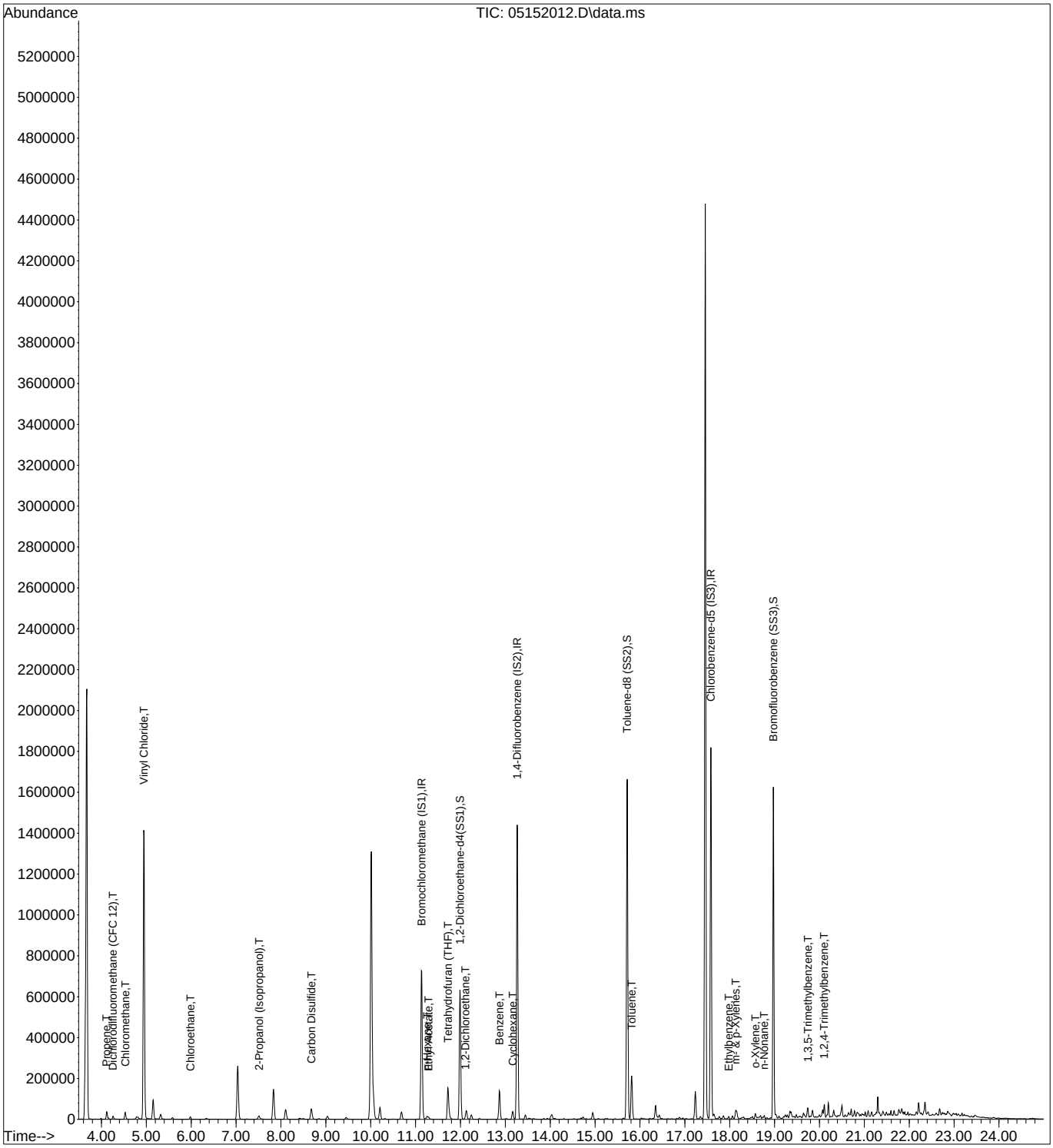
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	709	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.88	58	251	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.82	91	149503	1.126 ng	100
59) 2-Hexanone	16.07	43	1410	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	16.49	107	419	N.D.	
62) n-Butyl Acetate	16.71	43	371	N.D.	
63) n-Octane	16.82	57	708	N.D.	
64) Tetrachloroethene	16.96	166	970	N.D.	
65) Chlorobenzene	17.66	112	1140	N.D.	
66) Ethylbenzene	17.98	91	8287	0.056 ng	98
67) m- & p-Xylenes	18.14	91	37307	0.318 ng	98
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	376	N.D.	
70) o-Xylene	18.57	91	15230	0.128 ng	97
71) n-Nonane	18.77	43	6053	0.096 ng	86
72) 1,1,2,2-Tetrachloroethane	18.57	83	131	N.D.	
74) Cumene	19.10	105	1373	N.D.	
75) alpha-Pinene	19.45	93	385	N.D.	
76) n-Propylbenzene	19.55	91	4711	N.D.	
77) 3-Ethyltoluene	19.64	105	6809	N.D.	
78) 4-Ethyltoluene	19.68	105	3759	N.D.	
79) 1,3,5-Trimethylbenzene	19.74	105	7413	0.062 ng	99
80) alpha-Methylstyrene	19.88	118	1671	N.D.	
81) 2-Ethyltoluene	19.91	105	3742	N.D.	
82) 1,2,4-Trimethylbenzene	20.10	105	20544	0.171 ng	88
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.23	91	380	N.D.	
85) 1,3-Dichlorobenzene	20.29	146	318	N.D.	
86) 1,4-Dichlorobenzene	20.29	146	318	N.D.	
87) sec-Butylbenzene	20.35	105	4224	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	3214	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.61	68	1169	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.11	180	286	N.D.	
95) Naphthalene	22.22	128	6557	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	18.13	55	485	N.D.	
99) tert-Butylbenzene	20.10	119	2848	N.D.	
100) n-Butylbenzene	20.85	91	5589	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152012.D Vial: 16
Acq On : 15 May 2020 10:00 Operator: LH
Sample : P2002302-016dil (40mL) Inst : GCMS-16
Misc : S31-02112001

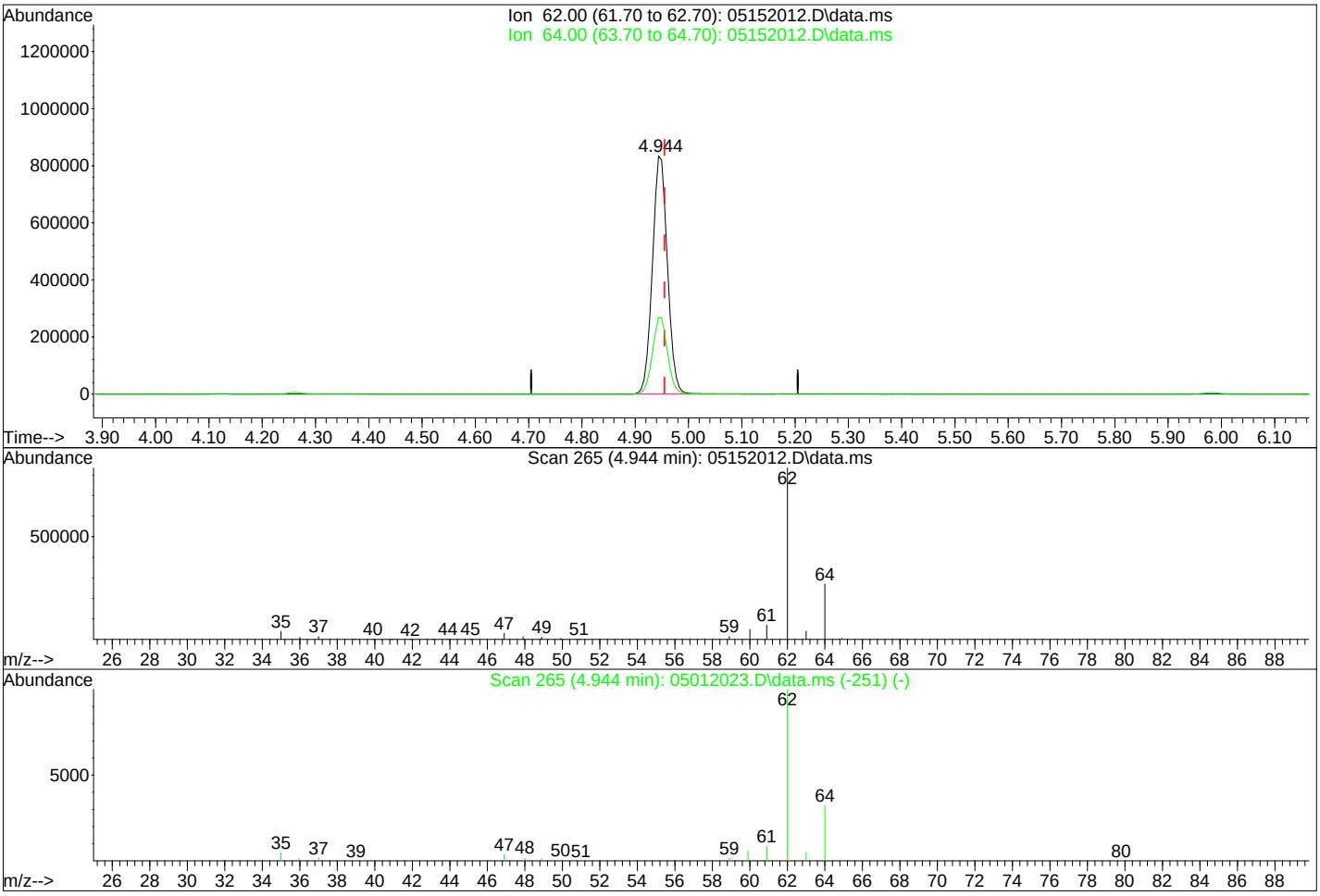
Quant Time: May 15 16:22:53 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\15\05152012.D Vial: 16
Acq On : 15 May 2020 10:00 Operator: LH
Sample : P2002302-016dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 13:58:18 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05152012.D\data.ms

(6) Vinyl Chloride (T)

4.944min (-0.011) 27.21ng

response 1638341

Ion	Exp%	Act%
62.00	100	100
64.00	32.10	32.18
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152019.D Vial: 3
Acq On : 15 May 2020 17:01 Operator: LH
Sample : P2002302-017 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 18:21:43 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/15/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	259474	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1114846	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	727800	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	414688	11.793	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.32%				
57) Toluene-d8 (SS2)	15.72	98	1123907	9.111	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 72.88%				
73) Bromofluorobenzene (SS3)	18.97	174	444458	10.013	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 80.08%				
Target Compounds							Qvalue
2) Propene	4.09	42	260332	8.663	ng		99
3) Dichlorodifluoromethan...	4.25	85	41506	0.706	ng		100
4) Chloromethane	4.53	50	11948	0.259	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.79	135	332	N.D.			
6) Vinyl Chloride	4.94	62	500939	9.920	ng		100
7) 1,3-Butadiene	5.21	54	443	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	5.97	64	4433	0.222	ng		93
10) Ethanol	6.32	45	21359	0.920	ng		93
11) Acetonitrile	6.65	41	132	N.D.			
12) Acrolein	6.78	56	3494	0.191	ng		100
13) Acetone	6.98	58	30088	1.297	ng	#	1
14) Trichlorofluoromethane	7.25	101	24708	0.476	ng		99
15) 2-Propanol (Isopropanol)	7.54	45	15826	0.225	ng	#	43
16) Acrylonitrile	0.00	53	0	N.D. d			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d			
19) Methylene Chloride	8.41	84	947	N.D.			
20) 3-Chloro-1-propene (Al...	8.60	41	113	N.D.			
21) Trichlorotrifluoroethane	8.85	151	8069	0.329	ng		96
22) Carbon Disulfide	8.70	76	612696	5.668	ng		99
23) trans-1,2-Dichloroethene	9.63	61	520	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D. d			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D. d			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	10.47	72	4829	0.244	ng	#	91
28) cis-1,2-Dichloroethene	10.93	61	510	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D. d			
30) Ethyl Acetate	11.29	61	6692	0.586	ng		90
31) n-Hexane	11.27	57	272147	5.498	ng		99
32) Chloroform	11.31	83	4344	0.084	ng	#	61
34) Tetrahydrofuran (THF)	11.75	72	10963	0.568	ng		90
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.12	62	12684m	0.310	ng		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D. d			
40) 1-Butanol	0.00	56	0	N.D. d			
41) Benzene	12.87	78	226540	1.895	ng		98
42) Carbon Tetrachloride	13.04	117	23666	0.582	ng		100
43) Cyclohexane	13.18	84	5962391	133.831	ng		97
44) tert-Amyl Methyl Ether	13.46	73	1100	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D. d			
46) Bromodichloromethane	0.00	83	0	N.D. d			
47) Trichloroethene	13.98	130	4616	0.149	ng		98
48) 1,4-Dioxane	13.96	88	4662	0.194	ng	#	46
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d			
50) Methyl Methacrylate	0.00	100	0	N.D. d			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152019.D Vial: 3
Acq On : 15 May 2020 17:01 Operator: LH
Sample : P2002302-017 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 18:21:43 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

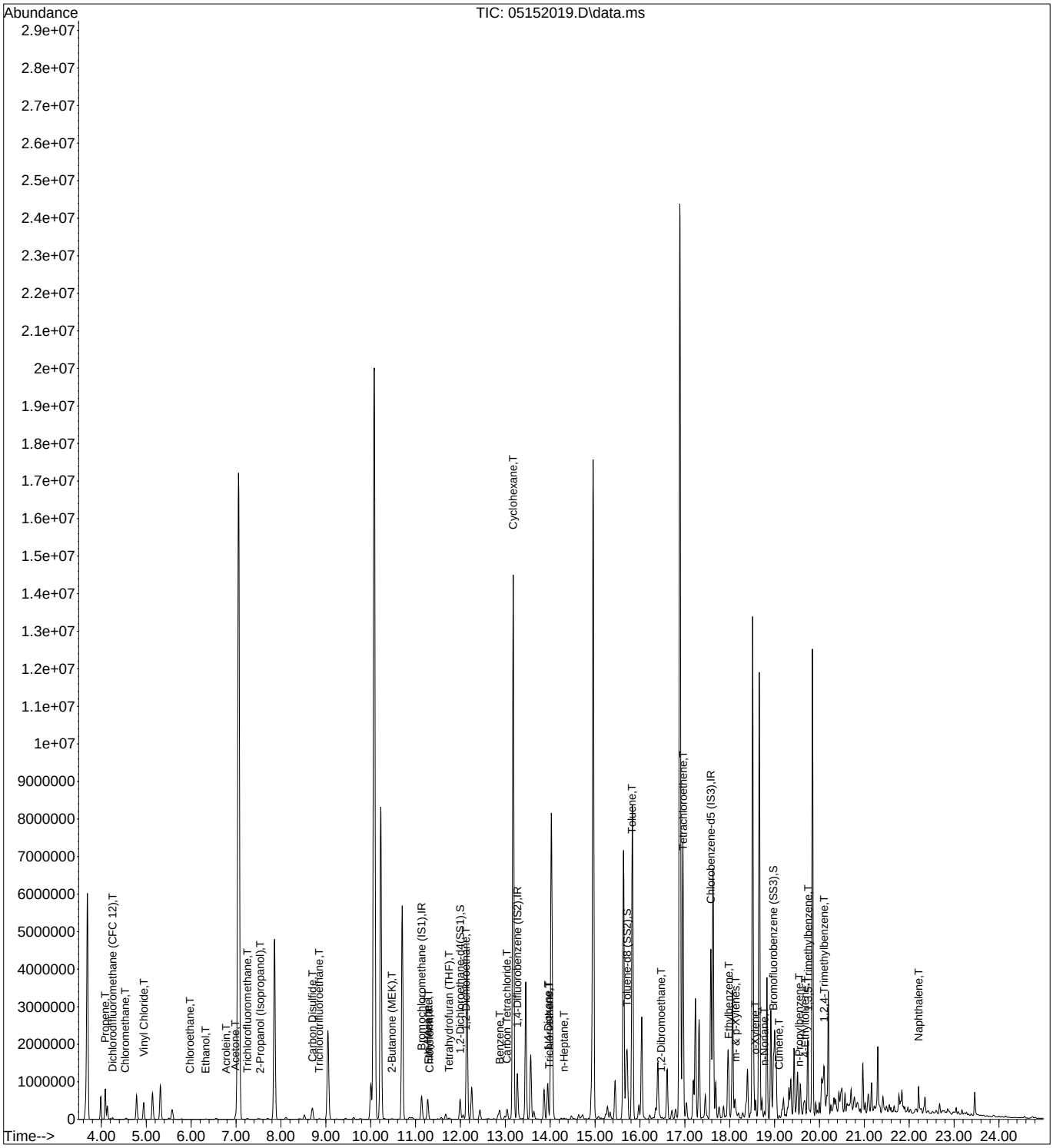
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	4601	0.165 ng	95
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d	
53) 4-Methyl-2-pentanone	14.88	58	1117	N.D.	
54) trans-1,3-Dichloropropene	15.34	75	405	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	15.82	91	520274	3.272 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	16.48	107	2228	0.051 ng	91
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	0.00	57	0	N.D. d	
64) Tetrachloroethene	16.96	166	9056	0.202 ng	99
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	17.98	91	56336	0.318 ng	93
67) m- & p-Xylenes	18.14	91	129446	0.920 ng	99
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.48	104	1187	N.D.	
70) o-Xylene	18.58	91	59730	0.418 ng	98
71) n-Nonane	18.77	43	57853	0.764 ng	93
72) 1,1,2,2-Tetrachloroethane	18.58	83	1471	N.D.	
74) Cumene	19.10	105	12862	0.073 ng	98
75) alpha-Pinene	0.00	93	0	N.D. d	
76) n-Propylbenzene	19.55	91	79198	0.380 ng	78
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.68	105	45691	0.278 ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	202705	1.418 ng	100
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.10	105	320670	2.232 ng	91
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	0.00	91	0	N.D. d	
85) 1,3-Dichlorobenzene	20.30	146	460	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	460	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.11	180	1381	N.D.	
95) Naphthalene	22.21	128	44174	0.252 ng	93
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152019.D Vial: 3
Acq On : 15 May 2020 17:01 Operator: LH
Sample : P2002302-017 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 18:21:43 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152019.D Vial: 3
Acq On : 15 May 2020 17:01 Operator: LH
Sample : P2002302-017 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 18:21:43 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/15/20

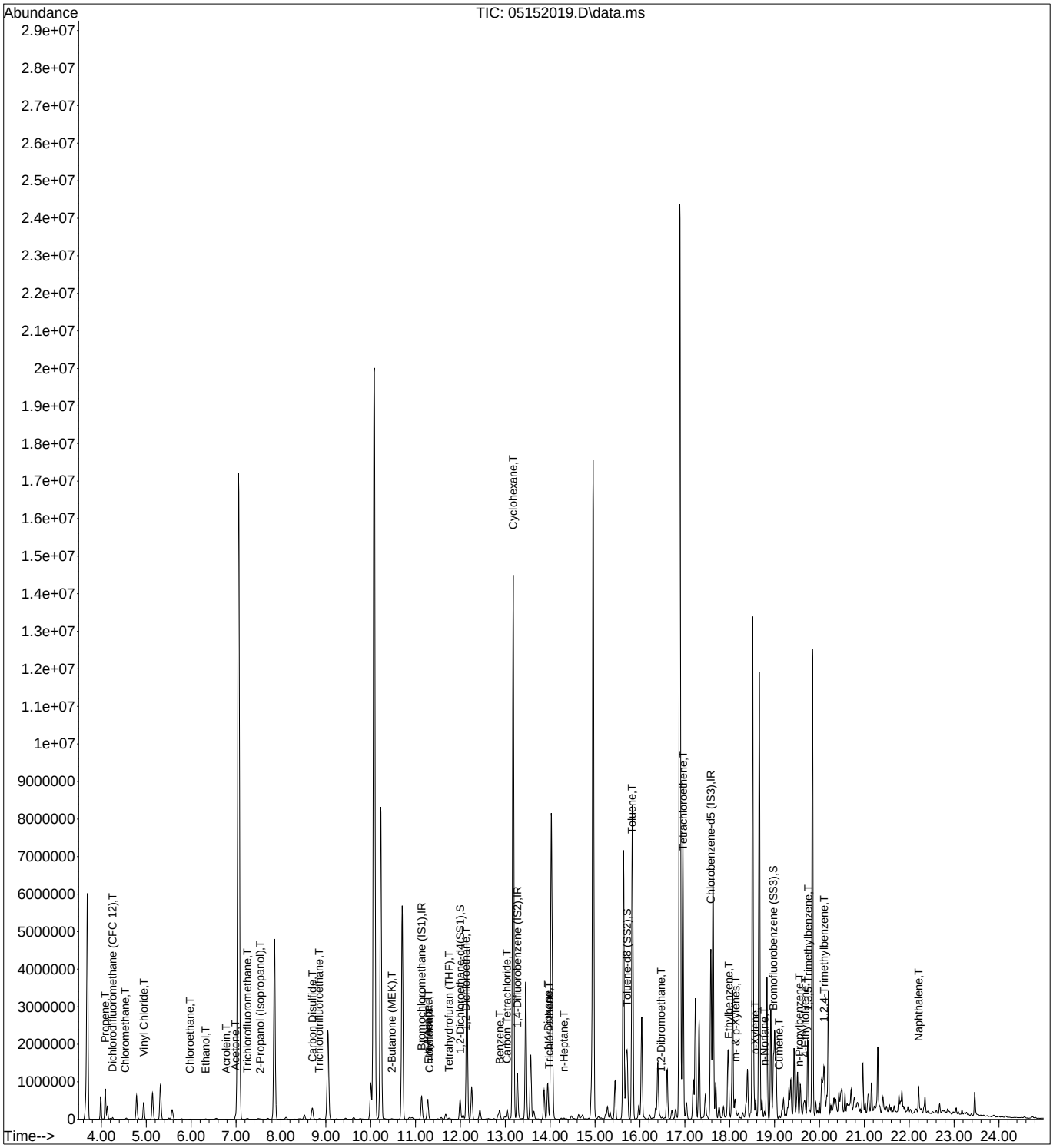
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	259474	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1114846	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	727800	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	414688	11.793	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.32%				
57) Toluene-d8 (SS2)	15.72	98	1123907	9.111	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 72.88%				
73) Bromofluorobenzene (SS3)	18.97	174	444458	10.013	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 80.08%				
Target Compounds							Qvalue
2) Propene	4.09	42	260332	8.663	ng		99
3) Dichlorodifluoromethan...	4.25	85	41506	0.706	ng		100
4) Chloromethane	4.53	50	11948	0.259	ng		99
6) Vinyl Chloride	4.94	62	500939	9.920	ng		100
9) Chloroethane	5.97	64	4433	0.222	ng		93
10) Ethanol	6.32	45	21359	0.920	ng		93
12) Acrolein	6.78	56	3494	0.191	ng		100
13) Acetone	6.98	58	30088	1.297	ng	#	1
14) Trichlorofluoromethane	7.25	101	24708	0.476	ng		99
15) 2-Propanol (Isopropanol)	7.54	45	15826	0.225	ng	#	43
21) Trichlorotrifluoroethane	8.85	151	8069	0.329	ng		96
22) Carbon Disulfide	8.70	76	612696	5.668	ng		99
27) 2-Butanone (MEK)	10.47	72	4829	0.244	ng	#	91
30) Ethyl Acetate	11.29	61	6692	0.586	ng		90
31) n-Hexane	11.27	57	272147	5.498	ng		99
32) Chloroform	11.31	83	4344	0.084	ng	#	61
34) Tetrahydrofuran (THF)	11.75	72	10963	0.568	ng		90
36) 1,2-Dichloroethane	12.12	62	12684m	0.310	ng		
41) Benzene	12.87	78	226540	1.895	ng		98
42) Carbon Tetrachloride	13.04	117	23666	0.582	ng		100
43) Cyclohexane	13.18	84	5962391	133.831	ng		97
47) Trichloroethene	13.98	130	4616	0.149	ng		98
48) 1,4-Dioxane	13.96	88	4662	0.194	ng	#	46
51) n-Heptane	14.31	71	4601	0.165	ng		95
58) Toluene	15.82	91	520274	3.272	ng		100
61) 1,2-Dibromoethane	16.48	107	2228	0.051	ng		91
64) Tetrachloroethene	16.96	166	9056	0.202	ng		99
66) Ethylbenzene	17.98	91	56336	0.318	ng		93
67) m- & p-Xylenes	18.14	91	129446	0.920	ng		99
70) o-Xylene	18.58	91	59730	0.418	ng		98
71) n-Nonane	18.77	43	57853	0.764	ng		93
74) Cumene	19.10	105	12862	0.073	ng		98
76) n-Propylbenzene	19.55	91	79198	0.380	ng		78
78) 4-Ethyltoluene	19.68	105	45691	0.278	ng		100
79) 1,3,5-Trimethylbenzene	19.75	105	202705	1.418	ng		100
82) 1,2,4-Trimethylbenzene	20.10	105	320670	2.232	ng		91
95) Naphthalene	22.21	128	44174	0.252	ng		93

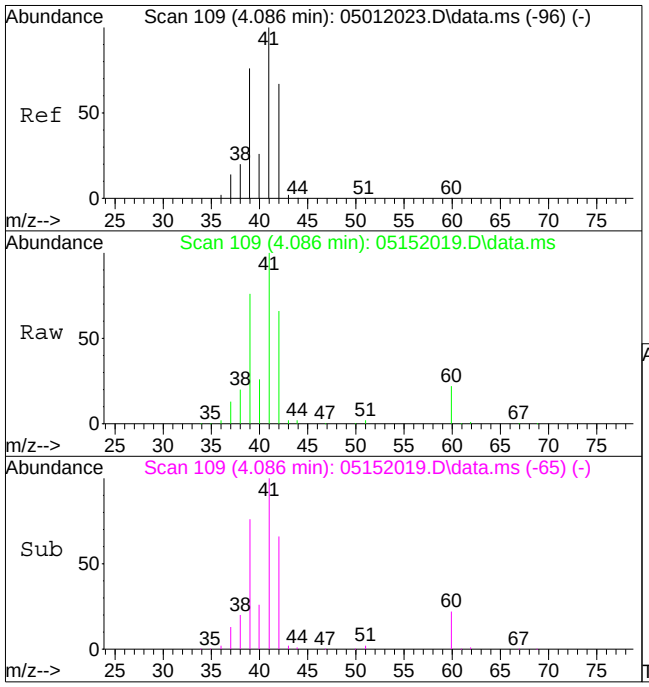
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152019.D Vial: 3
Acq On : 15 May 2020 17:01 Operator: LH
Sample : P2002302-017 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 18:21:43 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

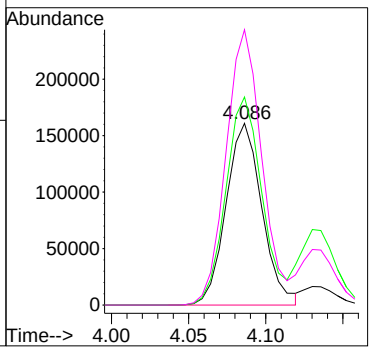


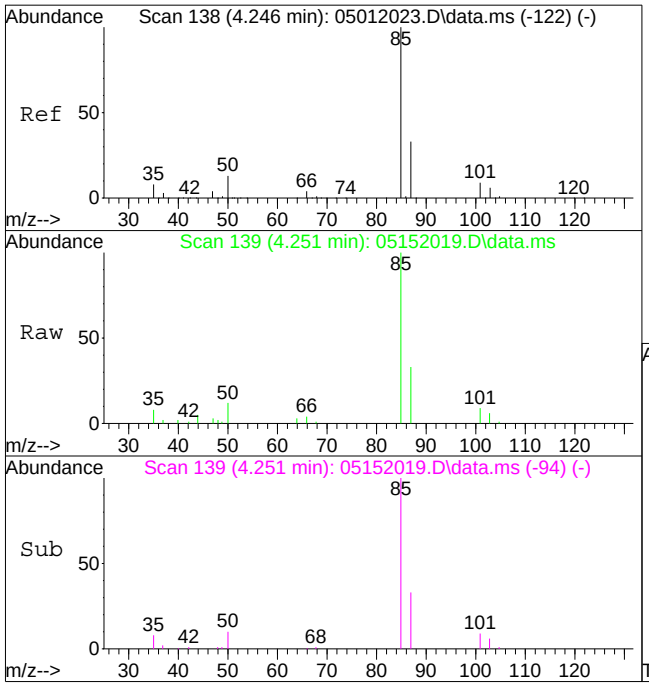


#2
Propene
Concen: 8.66 ng
RT: 4.09 min Scan# 109
Delta R.T. -0.006 min
Lab File: 05152019.D
Acq: 15 May 2020 17:01

Tgt Ion: 42 Resp: 260332

Ion	Ratio	Lower	Upper
42	100		
39	115.8	96.1	136.1
41	150.4	131.9	171.9

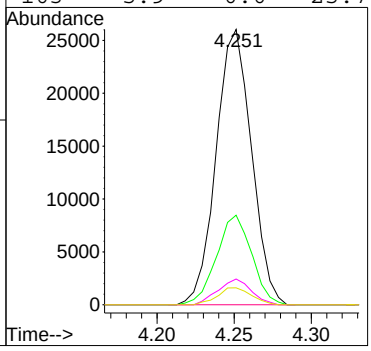


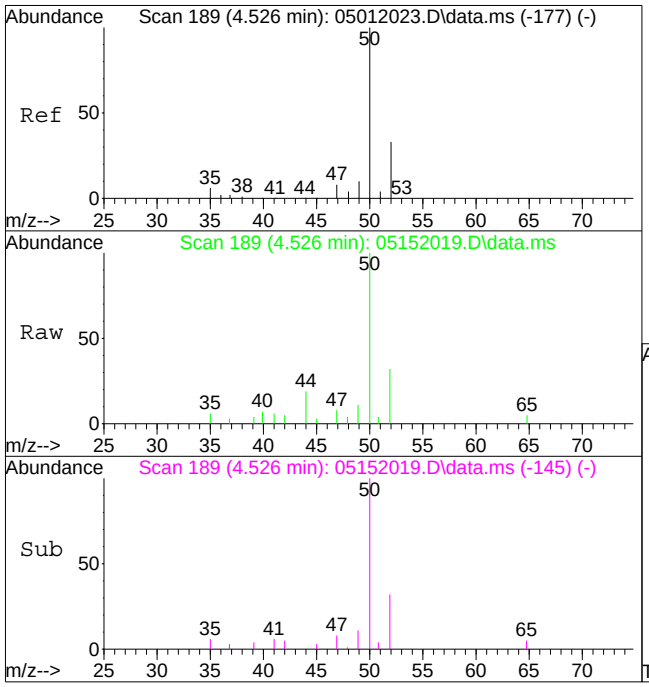


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.71 ng
RT: 4.25 min Scan# 139
Delta R.T. -0.000 min
Lab File: 05152019.D
Acq: 15 May 2020 17:01

Tgt Ion: 85 Resp: 41506

Ion	Ratio	Lower	Upper
85	100		
87	32.3	12.4	52.4
101	8.8	0.0	28.8
103	5.9	0.0	25.7

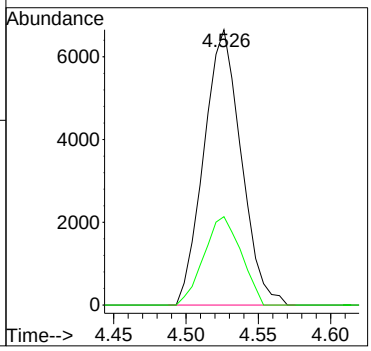


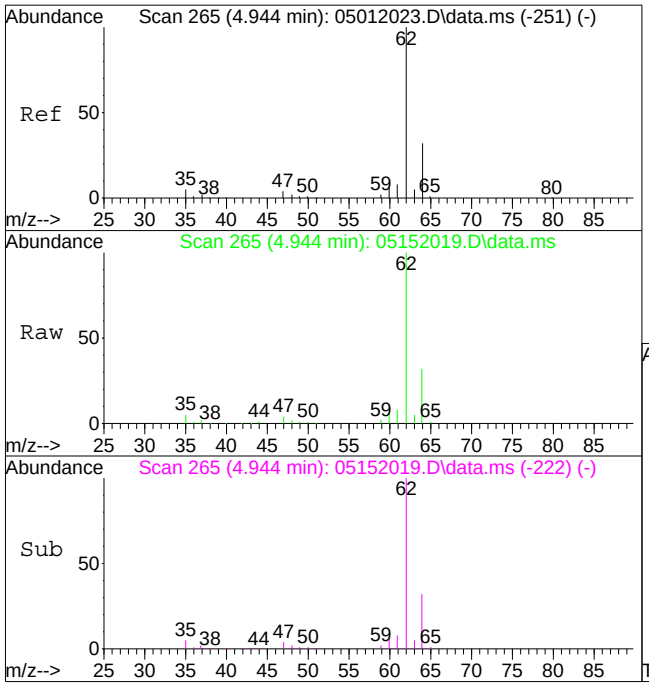


#4
Chloromethane
Concen: 0.26 ng
RT: 4.53 min Scan# 189
Delta R.T. -0.006 min
Lab File: 05152019.D
Acq: 15 May 2020 17:01

Tgt Ion: 50 Resp: 11948

Ion	Ratio	Lower	Upper
50	100		
52	32.0	12.5	52.5

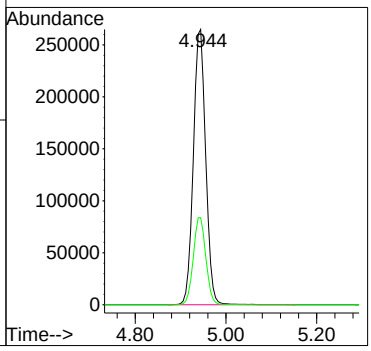


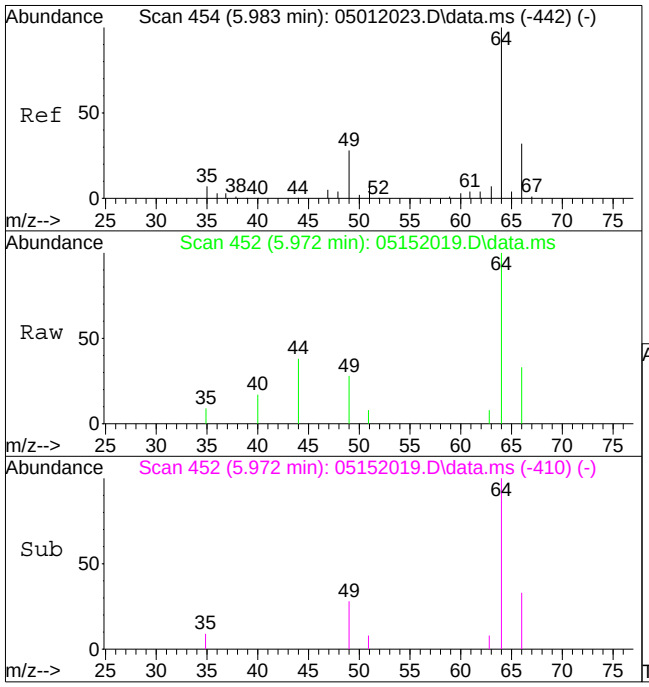


#6
Vinyl Chloride
Concen: 9.92 ng
RT: 4.94 min Scan# 265
Delta R.T. -0.011 min
Lab File: 05152019.D
Acq: 15 May 2020 17:01

Tgt Ion: 62 Resp: 500939

Ion	Ratio	Lower	Upper
62	100		
64	32.1	12.1	52.1

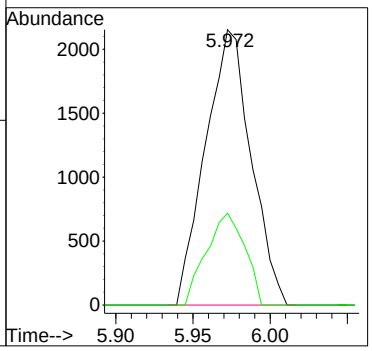


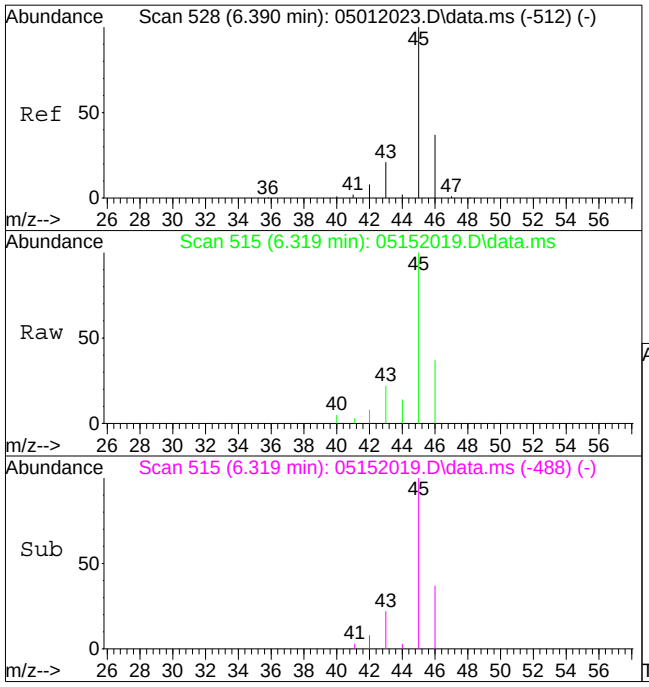


#9
Chloroethane
Concen: 0.22 ng
RT: 5.97 min Scan# 452
Delta R.T. -0.017 min
Lab File: 05152019.D
Acq: 15 May 2020 17:01

Tgt Ion: 64 Resp: 4433

Ion	Ratio	Lower	Upper
64	100		
66	28.1	12.1	52.1

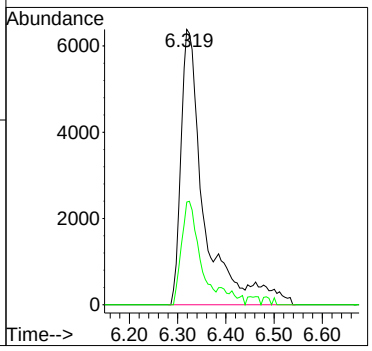


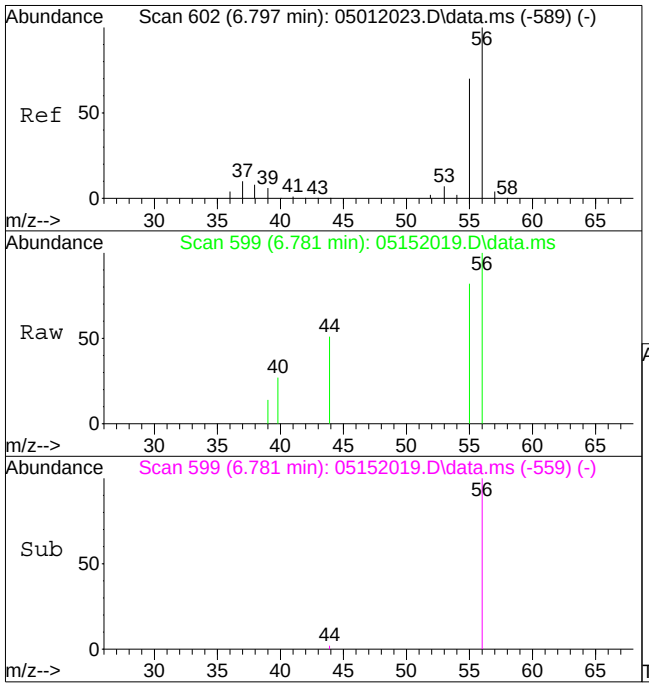


#10
Ethanol
Concen: 0.92 ng
RT: 6.32 min Scan# 515
Delta R.T. -0.099 min
Lab File: 05152019.D
Acq: 15 May 2020 17:01

Tgt Ion: 45 Resp: 21359

Ion	Ratio	Lower	Upper
45	100		
46	33.1	17.2	57.2

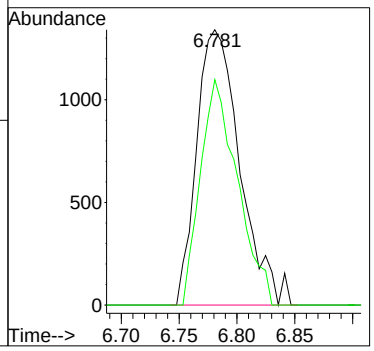


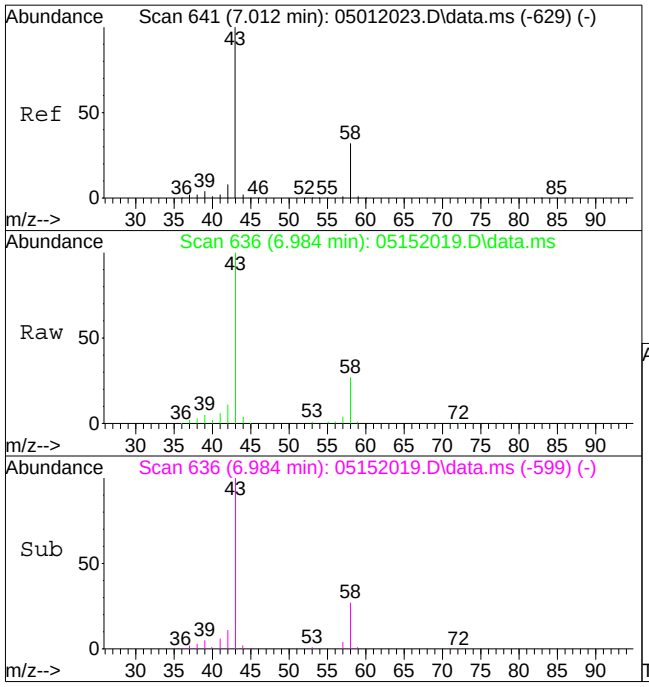


#12
Acrolein
Concen: 0.19 ng
RT: 6.78 min Scan# 599
Delta R.T. -0.028 min
Lab File: 05152019.D
Acq: 15 May 2020 17:01

Tgt Ion: 56 Resp: 3494

Ion	Ratio	Lower	Upper
56	100		
55	70.3	50.2	90.2

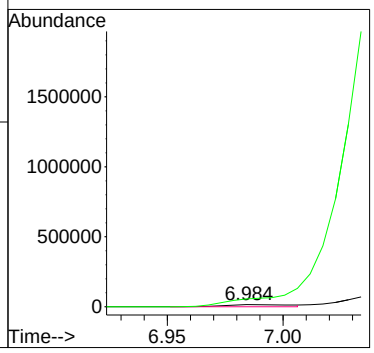


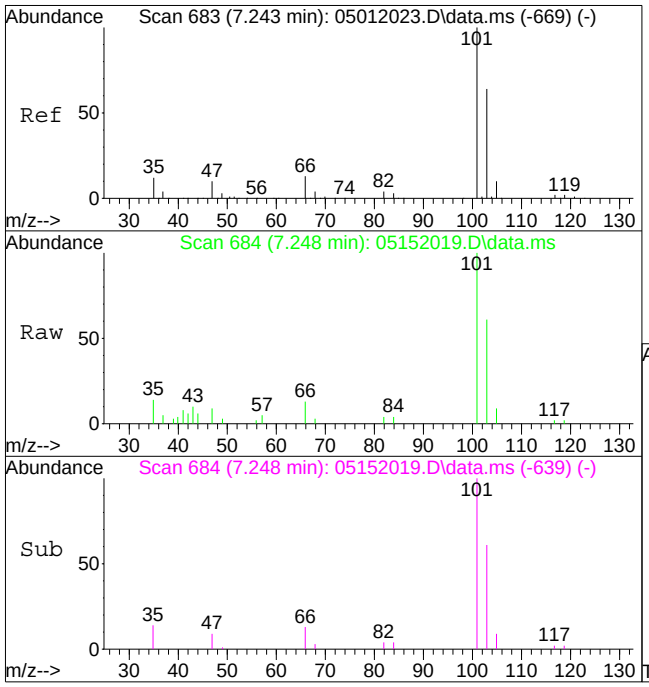


#13
Acetone
Concen: 1.30 ng
RT: 6.98 min Scan# 636
Delta R.T. -0.044 min
Lab File: 05152019.D
Acq: 15 May 2020 17:01

Tgt Ion: 58 Resp: 30088

Ion	Ratio	Lower	Upper
58	100		
43	0.0	294.4	354.4#

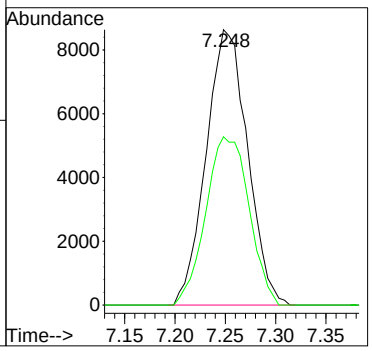


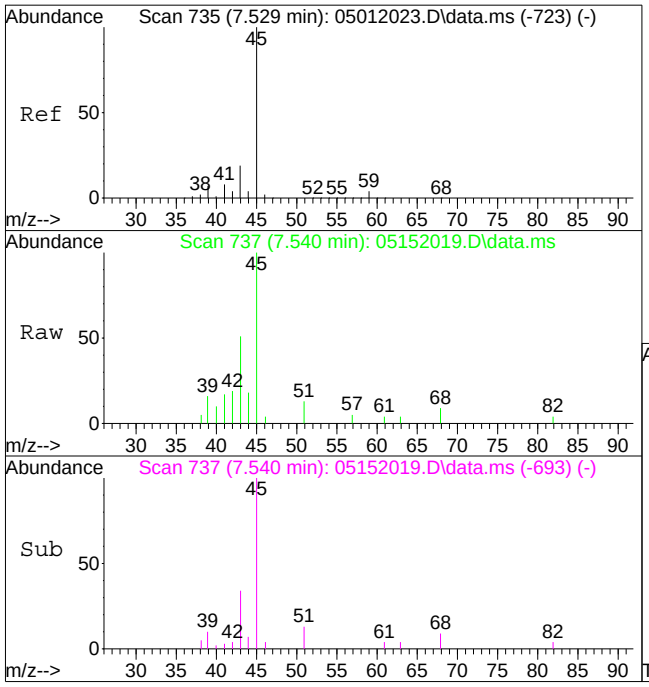


#14
Trichlorofluoromethane
Concen: 0.48 ng
RT: 7.25 min Scan# 684
Delta R.T. -0.000 min
Lab File: 05152019.D
Acq: 15 May 2020 17:01

Tgt Ion:101 Resp: 24708

Ion	Ratio	Lower	Upper
101	100		
103	63.7	44.4	84.4

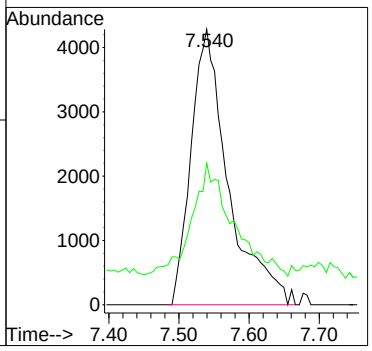


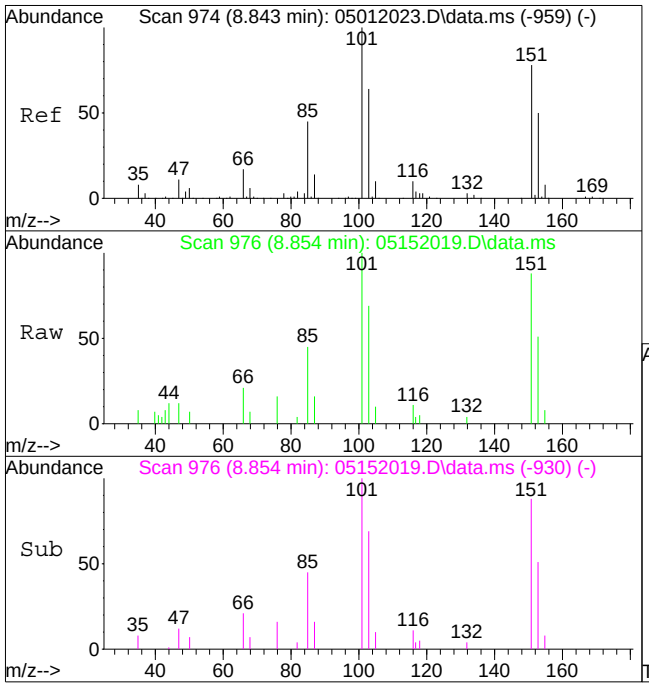


#15
2-Propanol (Isopropanol)
Concen: 0.23 ng
RT: 7.54 min Scan# 737
Delta R.T. -0.006 min
Lab File: 05152019.D
Acq: 15 May 2020 17:01

Tgt Ion: 45 Resp: 15826

Ion	Ratio	Lower	Upper
45	100		
43	45.3	0.0	39.5#

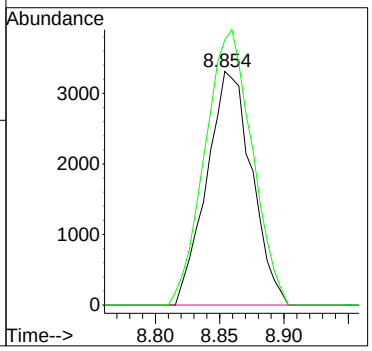


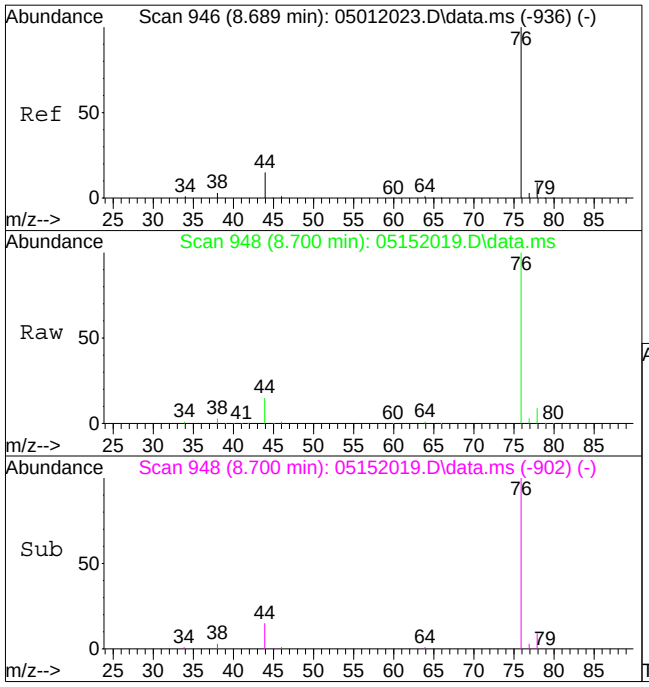


#21
Trichlorotrifluoroethane
Concen: 0.33 ng
RT: 8.85 min Scan# 976
Delta R.T. 0.005 min
Lab File: 05152019.D
Acq: 15 May 2020 17:01

Tgt Ion:151 Resp: 8069

Ion	Ratio	Lower	Upper
151	100		
101	123.2	107.3	147.3

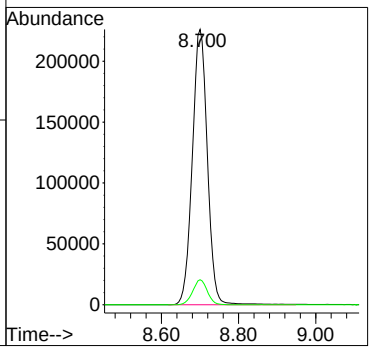


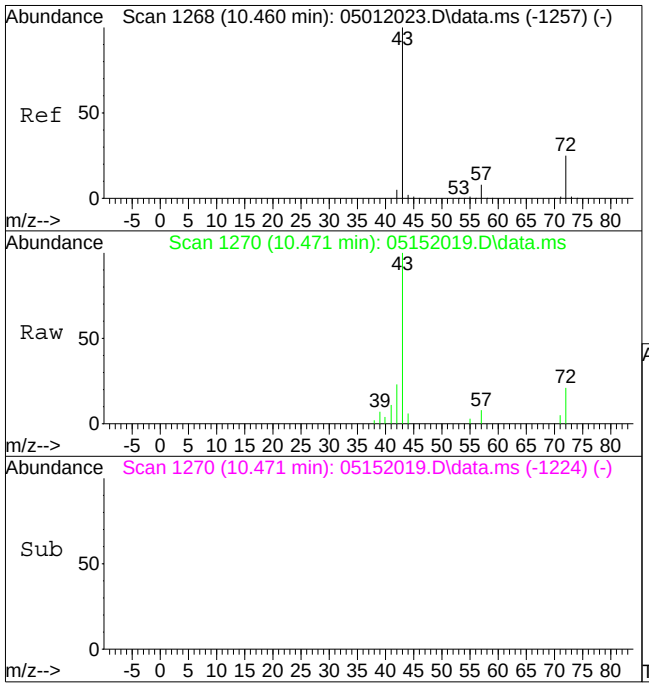


#22
Carbon Disulfide
Concen: 5.67 ng
RT: 8.70 min Scan# 948
Delta R.T. 0.005 min
Lab File: 05152019.D
Acq: 15 May 2020 17:01

Tgt Ion: 76 Resp: 612696

Ion	Ratio	Lower	Upper
76	100		
78	8.8	0.0	29.2

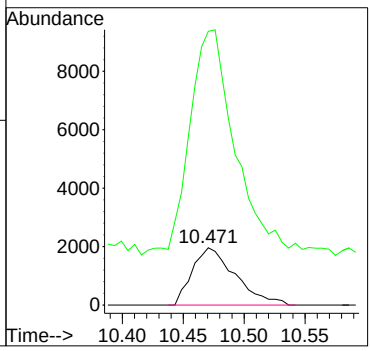


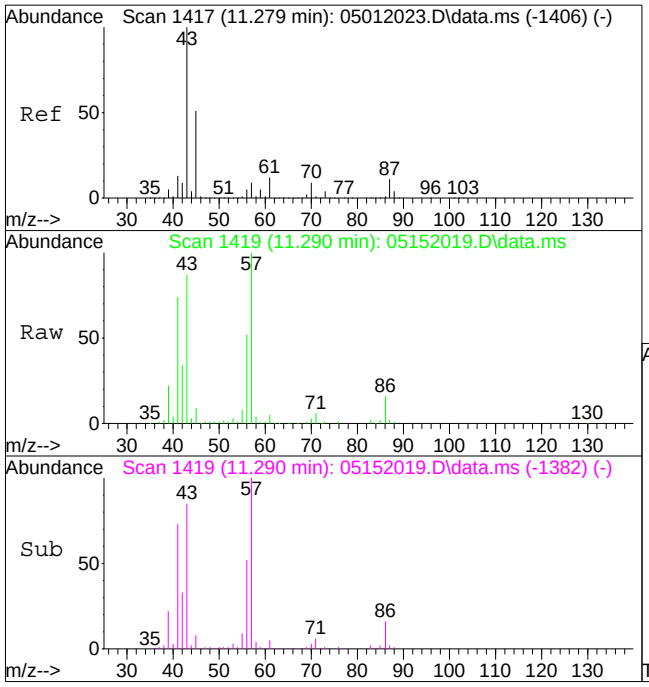


#27
2-Butanone (MEK)
Concen: 0.24 ng
RT: 10.47 min Scan# 1270
Delta R.T. 0.005 min
Lab File: 05152019.D
Acq: 15 May 2020 17:01

Tgt Ion: 72 Resp: 4829

Ion	Ratio	Lower	Upper
72	100		
43	432.4	389.7	429.7#

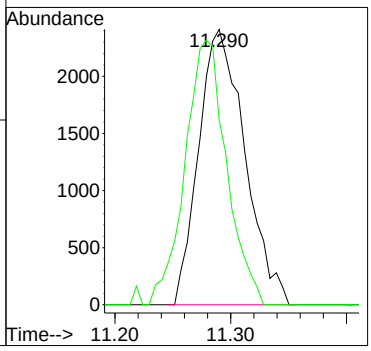


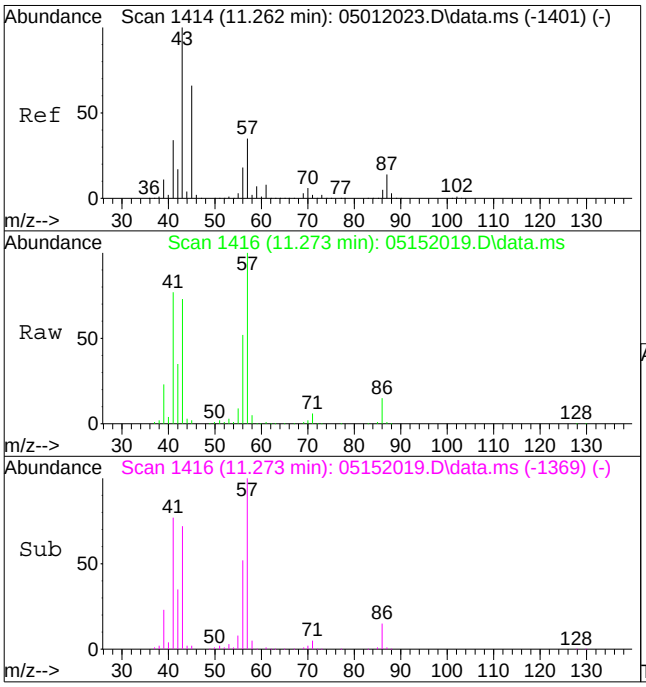


#30
Ethyl Acetate
Concen: 0.59 ng
RT: 11.29 min Scan# 1419
Delta R.T. 0.005 min
Lab File: 05152019.D
Acq: 15 May 2020 17:01

Tgt Ion: 61 Resp: 6692

Ion	Ratio	Lower	Upper
61	100		
70	86.4	57.9	97.9

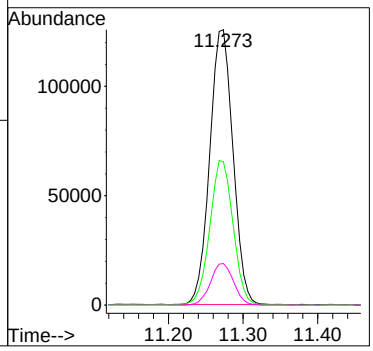


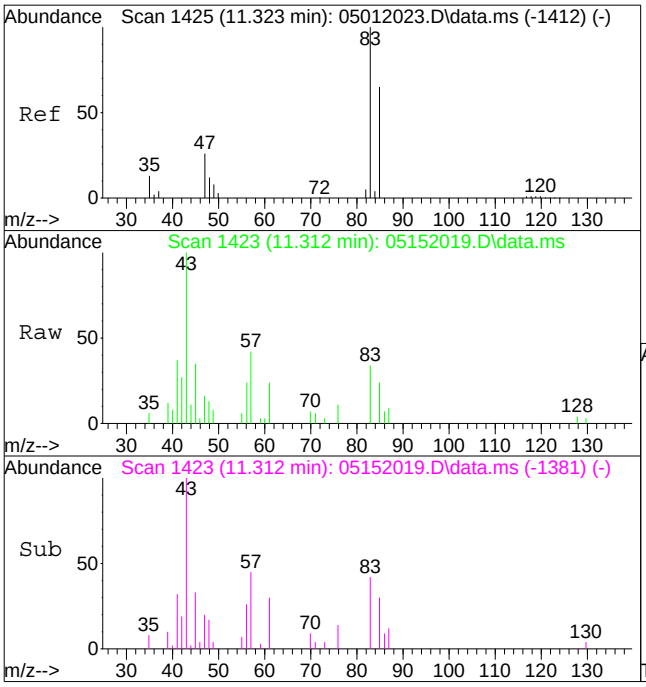


#31
n-Hexane
Concen: 5.50 ng
RT: 11.27 min Scan# 1416
Delta R.T. 0.011 min
Lab File: 05152019.D
Acq: 15 May 2020 17:01

Tgt Ion: 57 Resp: 272147

Ion	Ratio	Lower	Upper
57	100		
56	52.8	41.4	62.0
86	15.0	12.4	18.6

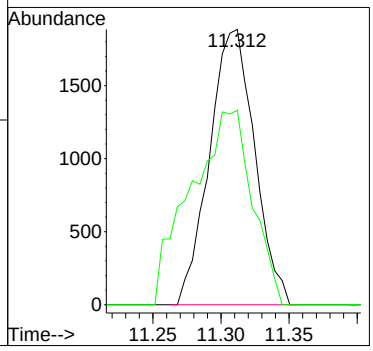


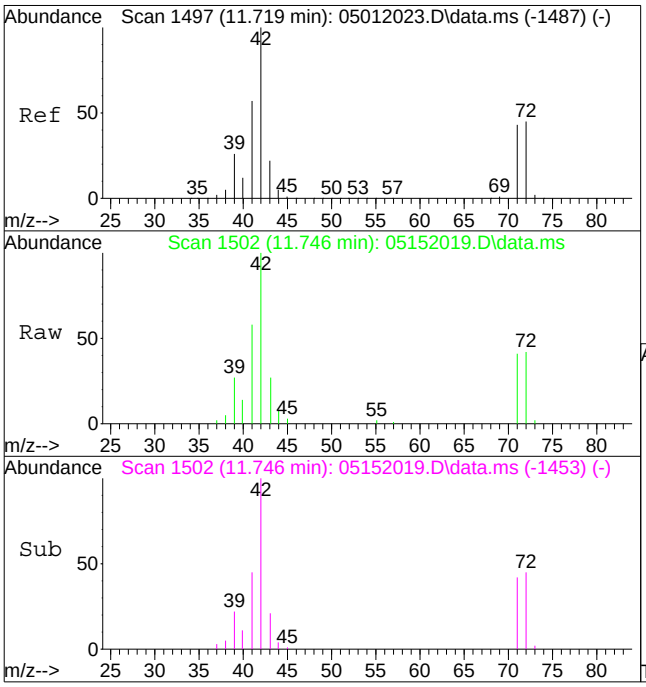


#32
Chloroform
Concen: 0.08 ng
RT: 11.31 min Scan# 1423
Delta R.T. -0.017 min
Lab File: 05152019.D
Acq: 15 May 2020 17:01

Tgt Ion: 83 Resp: 4344

Ion	Ratio	Lower	Upper
83	100		
85	96.4	45.5	85.5#

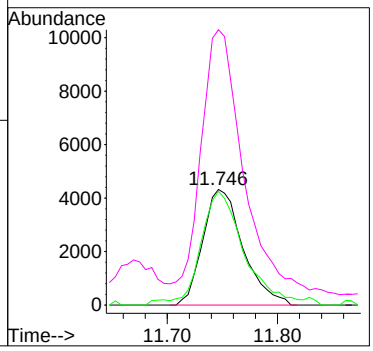


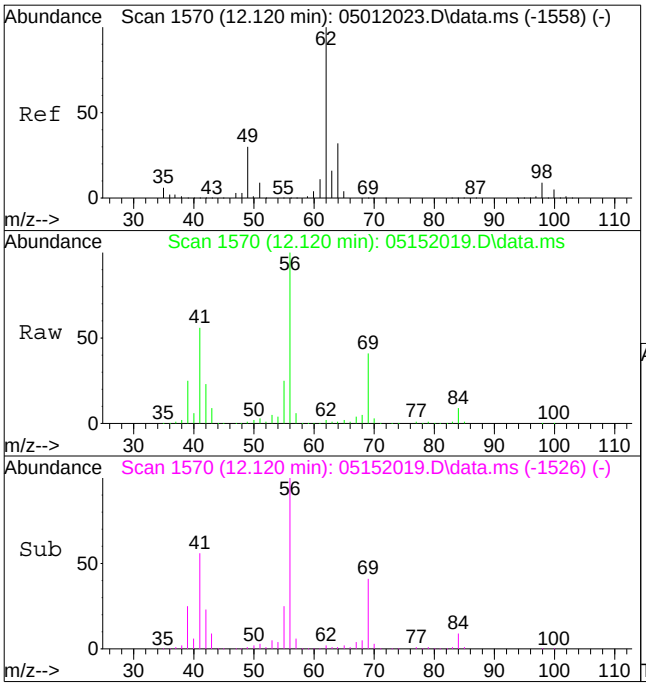


#34
Tetrahydrofuran (THF)
Concen: 0.57 ng
RT: 11.75 min Scan# 1502
Delta R.T. 0.022 min
Lab File: 05152019.D
Acq: 15 May 2020 17:01

Tgt Ion: 72 Resp: 10963

Ion	Ratio	Lower	Upper
72	100		
71	107.4	77.0	117.0
42	240.1	204.6	244.6

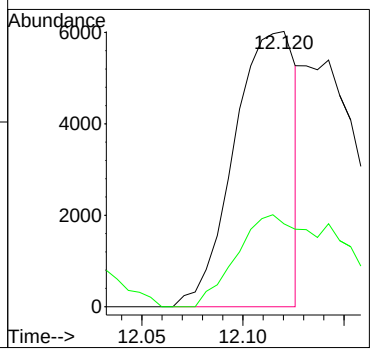


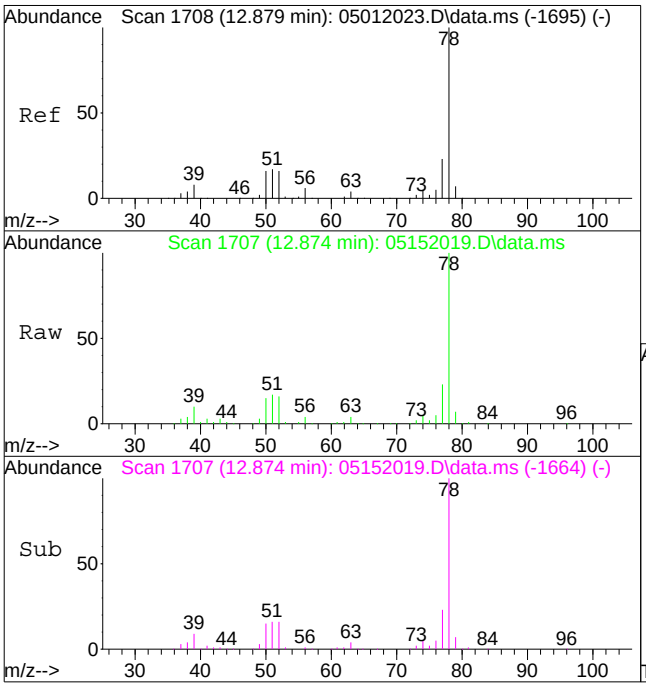


#36
1,2-Dichloroethane
Concen: 0.31 ng m
RT: 12.12 min Scan# 1570
Delta R.T. -0.006 min
Lab File: 05152019.D
Acq: 15 May 2020 17:01

Tgt Ion: 62 Resp: 12684

Ion	Ratio	Lower	Upper
62	100		
64	56.3	12.4	52.4#

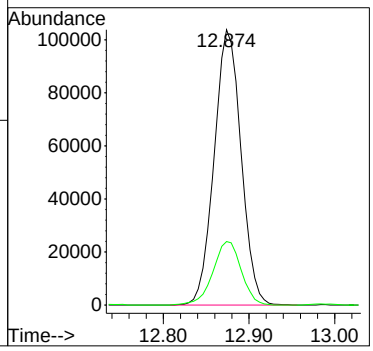


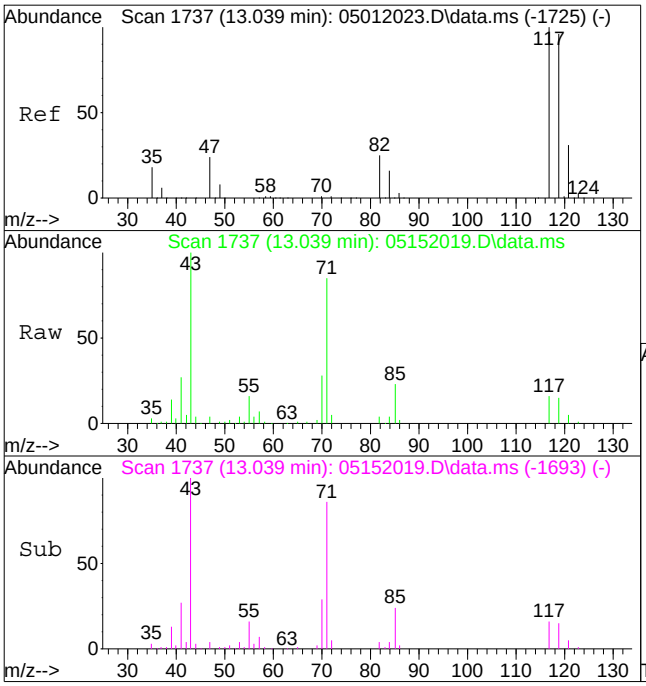


#41
Benzene
Concen: 1.89 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05152019.D
Acq: 15 May 2020 17:01

Tgt Ion: 78 Resp: 226540

Ion	Ratio	Lower	Upper
78	100		
77	24.3	3.4	43.4

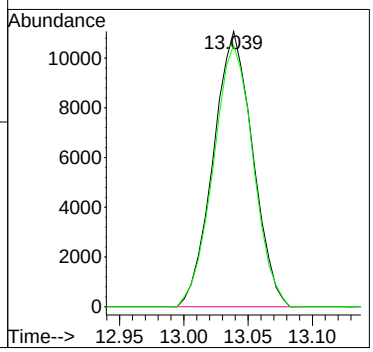


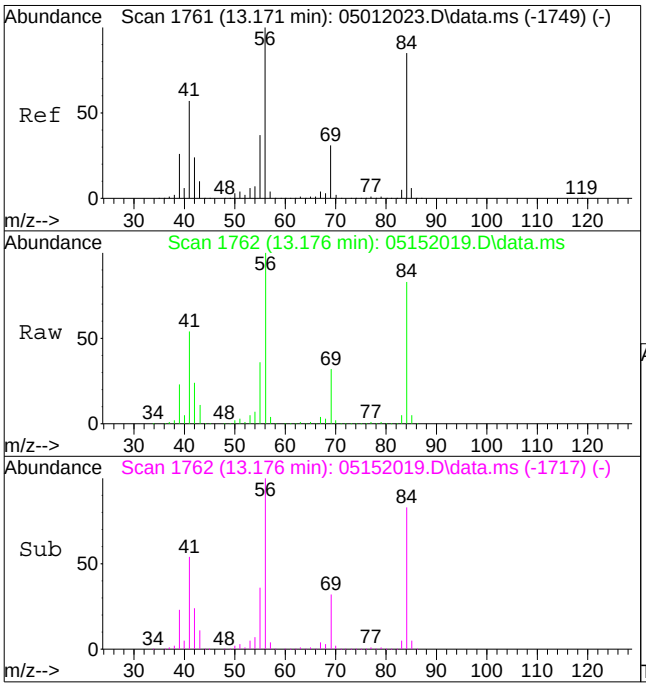


#42
Carbon Tetrachloride
Concen: 0.58 ng
RT: 13.04 min Scan# 1737
Delta R.T. -0.006 min
Lab File: 05152019.D
Acq: 15 May 2020 17:01

Tgt Ion:117 Resp: 23666

Ion	Ratio	Lower	Upper
117	100		
119	96.0	76.2	116.2

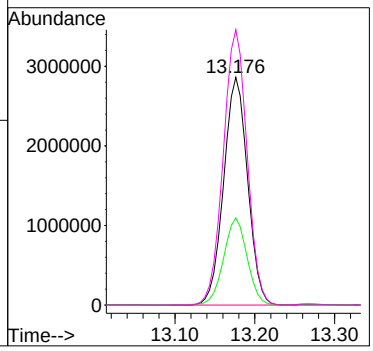


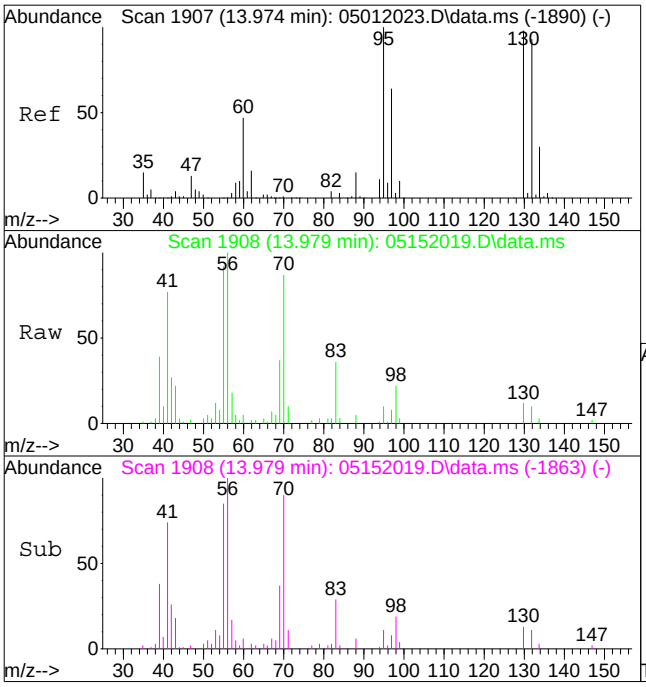


#43
Cyclohexane
Concen: 133.83 ng
RT: 13.18 min Scan# 1762
Delta R.T. -0.000 min
Lab File: 05152019.D
Acq: 15 May 2020 17:01

Tgt Ion: 84 Resp: 5962391

Ion	Ratio	Lower	Upper
84	100		
69	37.6	16.5	56.5
56	120.6	97.4	137.4

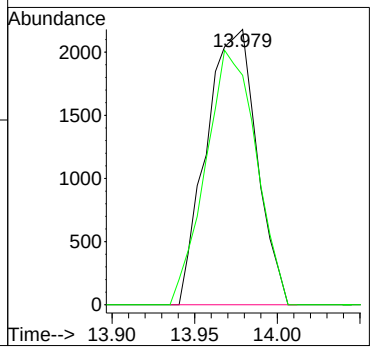


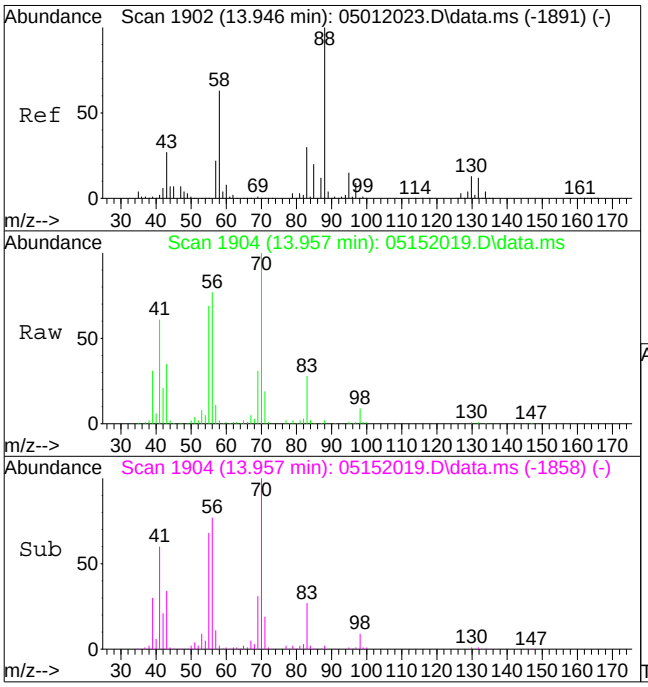


#47
Trichloroethene
Concen: 0.15 ng
RT: 13.98 min Scan# 1908
Delta R.T. -0.000 min
Lab File: 05152019.D
Acq: 15 May 2020 17:01

Tgt Ion:130 Resp: 4616

Ion	Ratio	Lower	Upper
130	100		
132	93.0	74.9	114.9

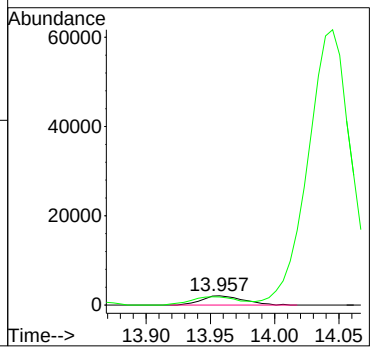


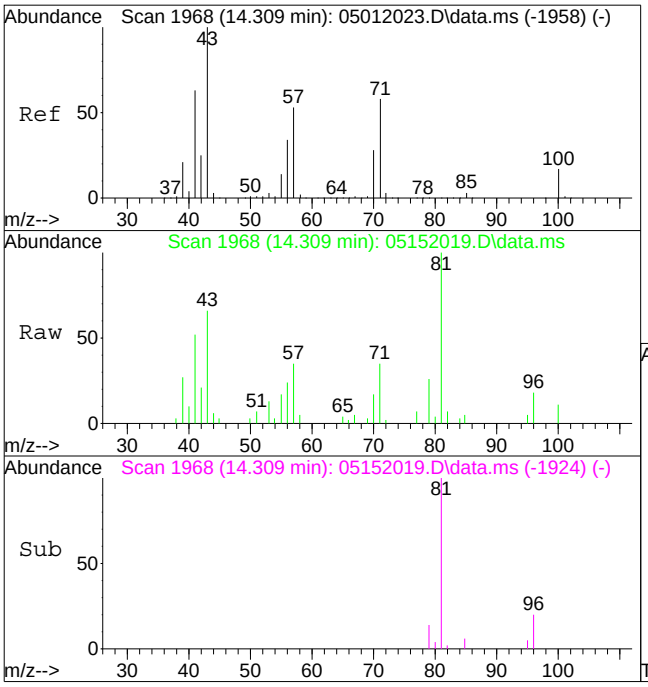


#48
1,4-Dioxane
Concen: 0.19 ng
RT: 13.96 min Scan# 1904
Delta R.T. 0.005 min
Lab File: 05152019.D
Acq: 15 May 2020 17:01

Tgt Ion: 88 Resp: 4662

Ion	Ratio	Lower	Upper
88	100		
58	104.8	42.8	82.8#

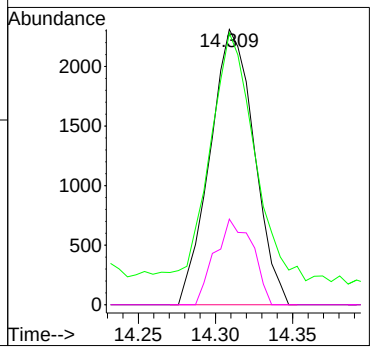


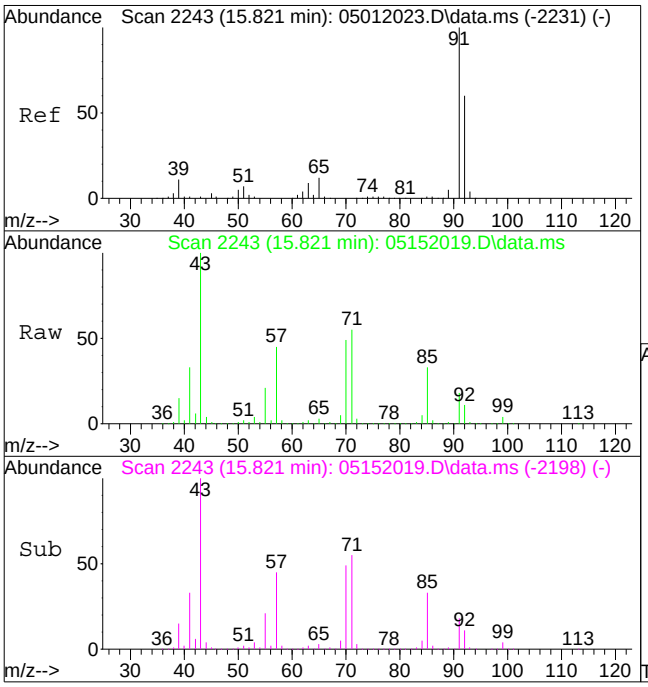


#51
n-Heptane
Concen: 0.16 ng
RT: 14.31 min Scan# 1968
Delta R.T. -0.006 min
Lab File: 05152019.D
Acq: 15 May 2020 17:01

Tgt Ion: 71 Resp: 4601

Ion	Ratio	Lower	Upper
71	100		
57	96.5	71.0	111.0
100	26.3	8.4	48.4

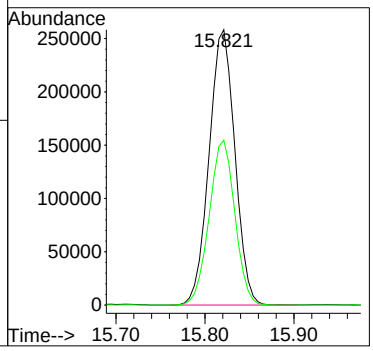


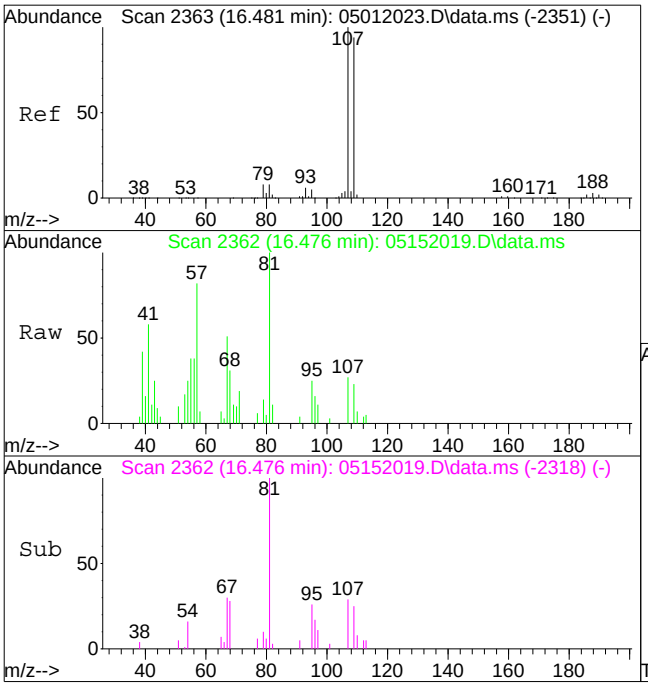


#58
Toluene
Concen: 3.27 ng
RT: 15.82 min Scan# 2243
Delta R.T. -0.000 min
Lab File: 05152019.D
Acq: 15 May 2020 17:01

Tgt Ion: 91 Resp: 520274

Ion	Ratio	Lower	Upper
91	100		
92	59.4	39.4	79.4

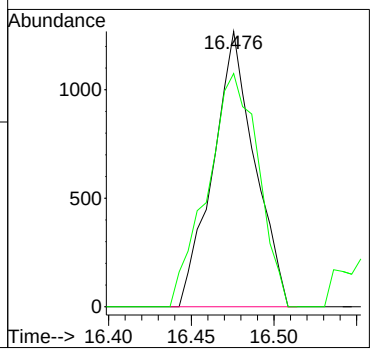


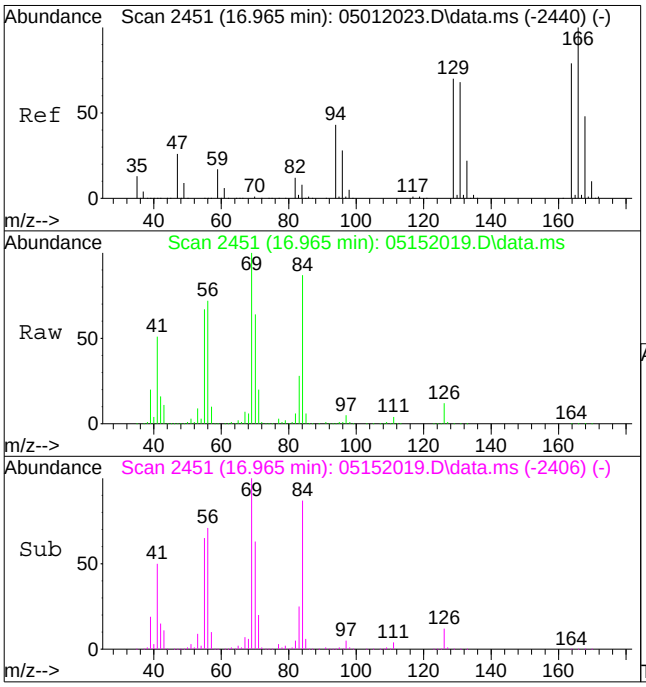


#61
1,2-Dibromoethane
Concen: 0.05 ng
RT: 16.48 min Scan# 2362
Delta R.T. -0.006 min
Lab File: 05152019.D
Acq: 15 May 2020 17:01

Tgt Ion:107 Resp: 2228

Ion	Ratio	Lower	Upper
107	100		
109	103.3	74.5	114.5

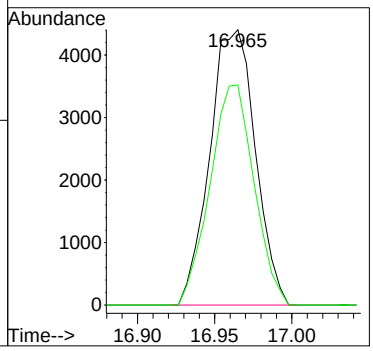


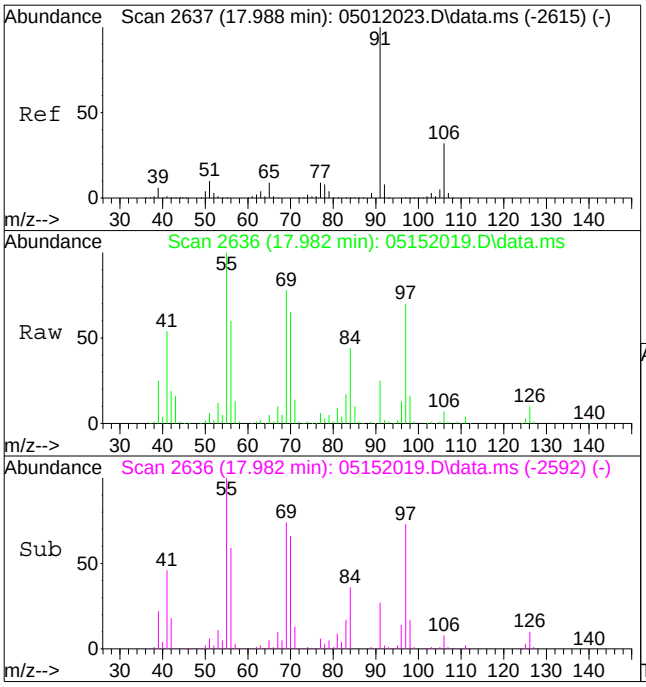


#64
Tetrachloroethene
Concen: 0.20 ng
RT: 16.96 min Scan# 2451
Delta R.T. -0.000 min
Lab File: 05152019.D
Acq: 15 May 2020 17:01

Tgt Ion:166 Resp: 9056

Ion	Ratio	Lower	Upper
166	100		
164	77.2	58.4	98.4

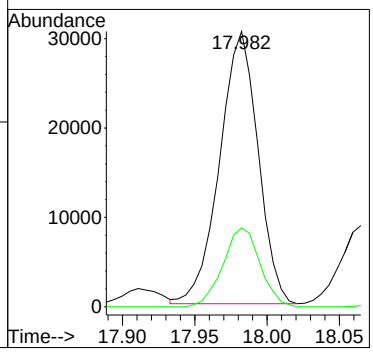


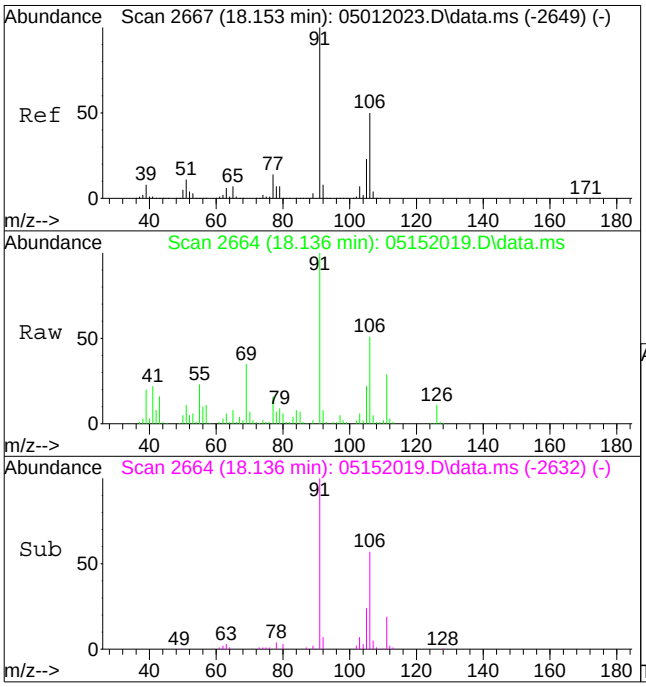


#66
Ethylbenzene
Concen: 0.32 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05152019.D
Acq: 15 May 2020 17:01

Tgt Ion: 91 Resp: 56336

Ion	Ratio	Lower	Upper
91	100		
106	27.9	11.6	51.6

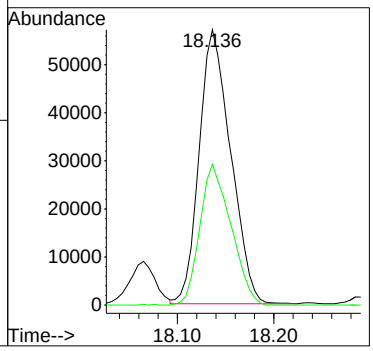


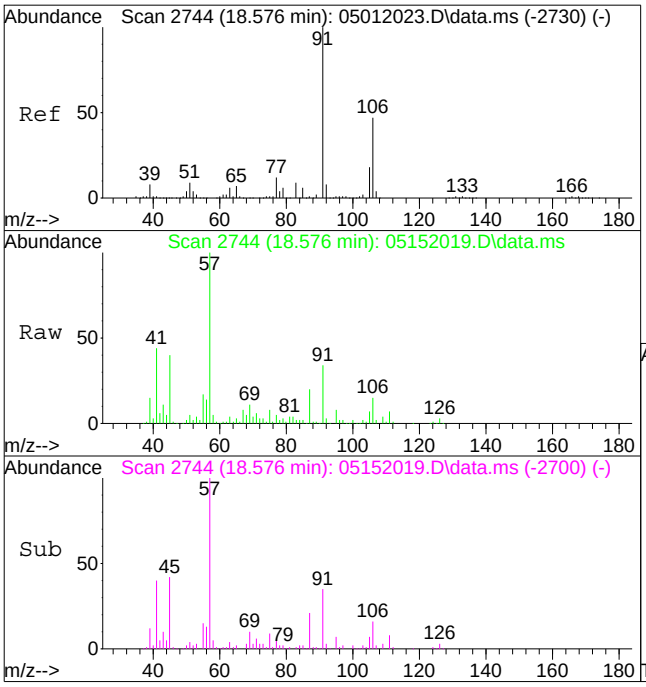


#67
m- & p-Xylenes
Concen: 0.92 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05152019.D
Acq: 15 May 2020 17:01

Tgt Ion: 91 Resp: 129446

Ion	Ratio	Lower	Upper
91	100		
106	50.6	29.7	69.7

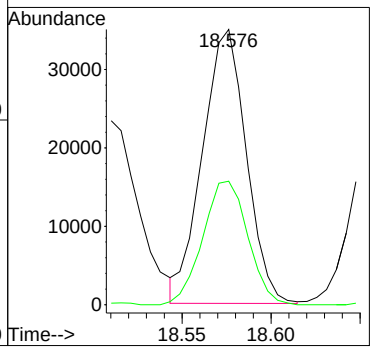


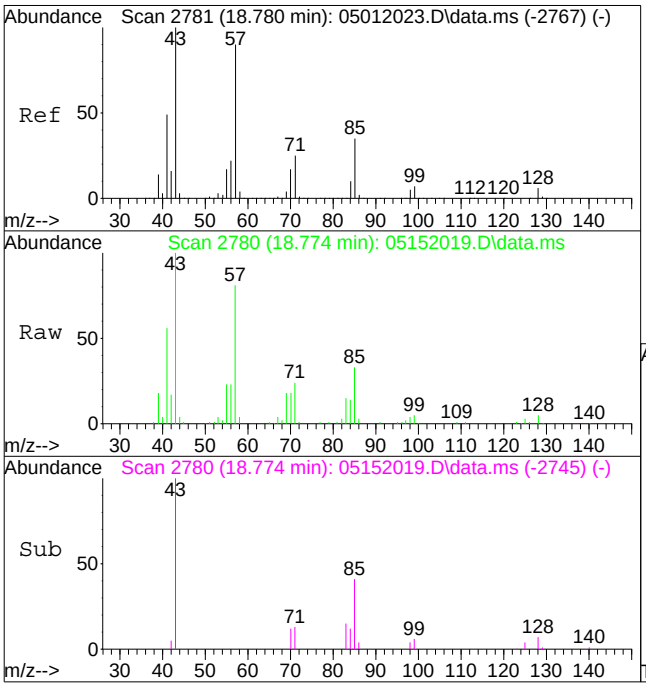


#70
o-Xylene
Concen: 0.42 ng
RT: 18.58 min Scan# 2744
Delta R.T. -0.006 min
Lab File: 05152019.D
Acq: 15 May 2020 17:01

Tgt Ion: 91 Resp: 59730

Ion	Ratio	Lower	Upper
91	100		
106	46.5	27.5	67.5

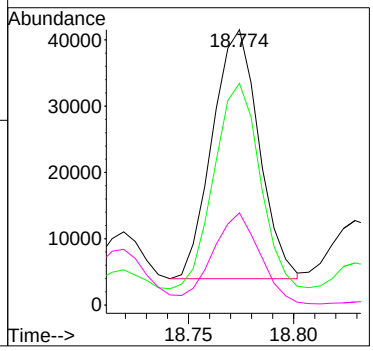


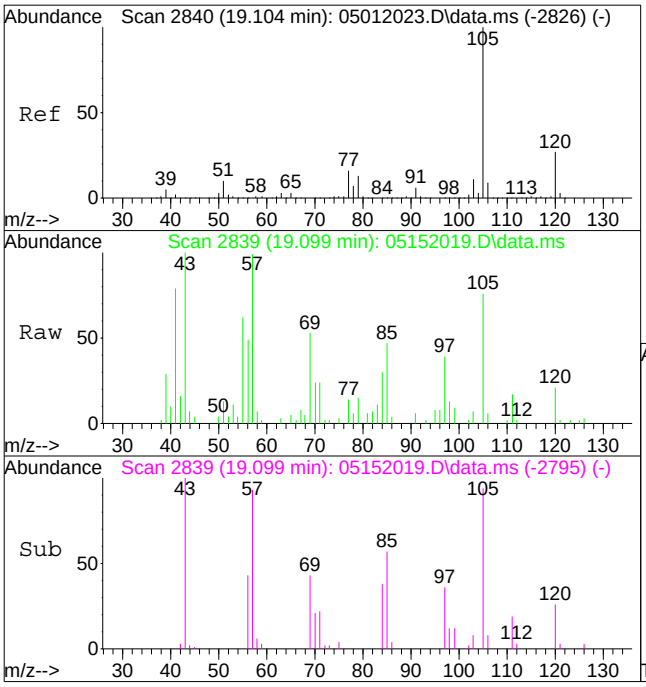


#71
n-Nonane
Concen: 0.76 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05152019.D
Acq: 15 May 2020 17:01

Tgt Ion: 43 Resp: 57853

Ion	Ratio	Lower	Upper
43	100		
57	80.9	69.0	109.0
85	36.6	14.6	54.6

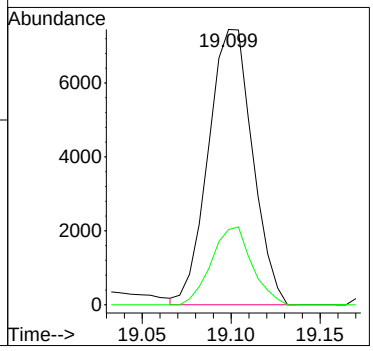


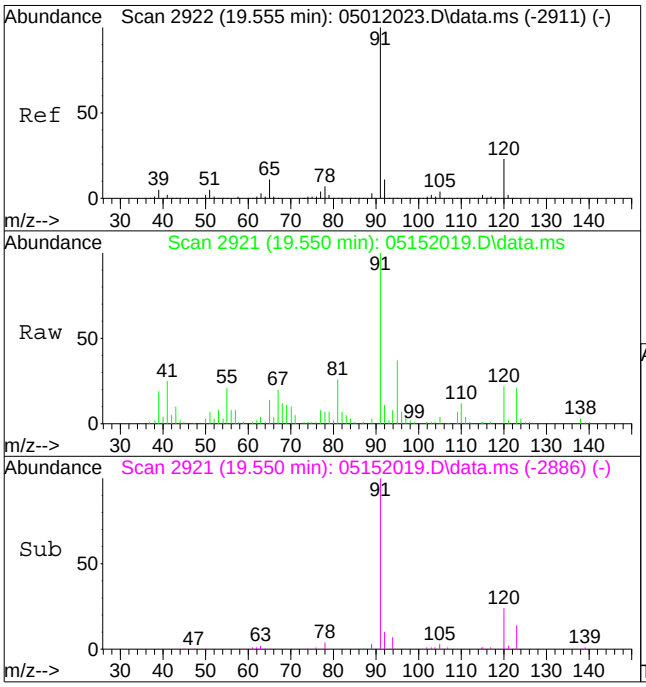


#74
Cumene
Concen: 0.07 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05152019.D
Acq: 15 May 2020 17:01

Tgt Ion:105 Resp: 12862

Ion	Ratio	Lower	Upper
105	100		
120	25.8	6.8	46.8

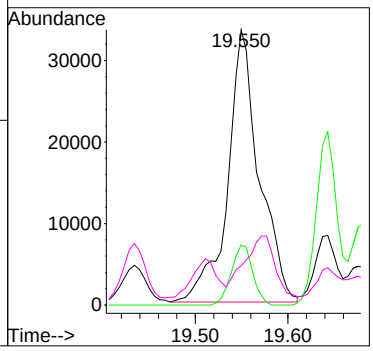


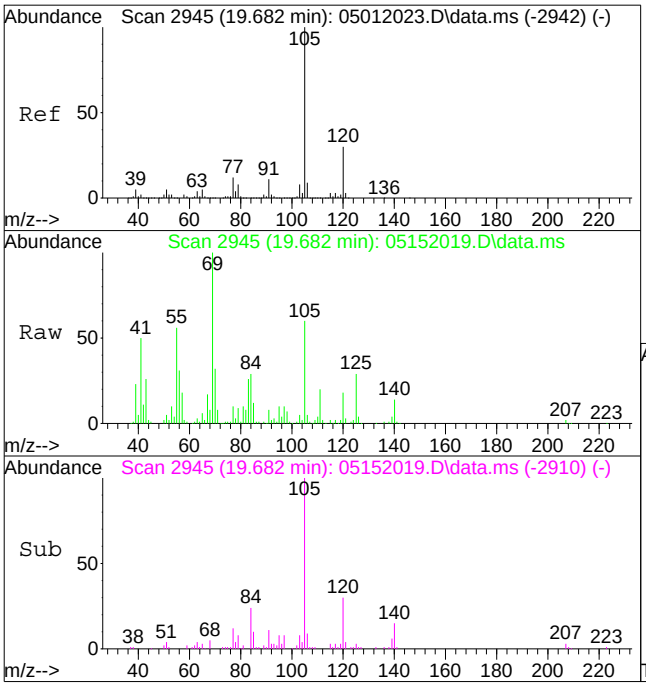


#76
n-Propylbenzene
Concen: 0.38 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05152019.D
Acq: 15 May 2020 17:01

Tgt Ion: 91 Resp: 79198

Ion	Ratio	Lower	Upper
91	100		
120	15.0	3.1	43.1
65	23.4	0.0	30.9

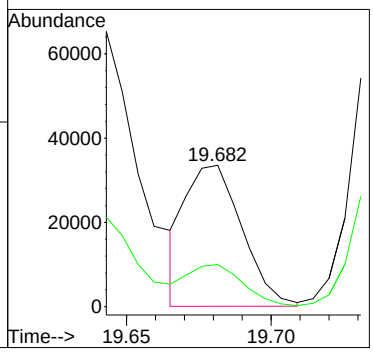


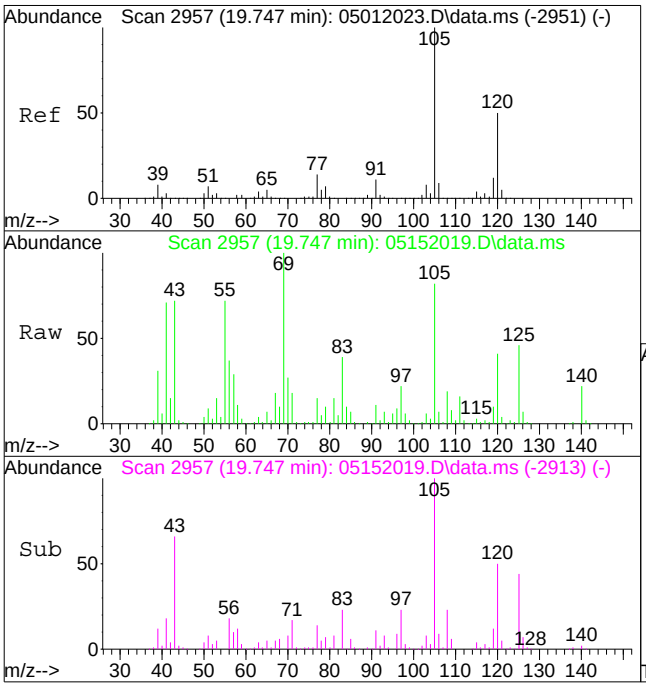


#78
4-Ethyltoluene
Concen: 0.28 ng
RT: 19.68 min Scan# 2945
Delta R.T. -0.006 min
Lab File: 05152019.D
Acq: 15 May 2020 17:01

Tgt Ion:105 Resp: 45691

Ion	Ratio	Lower	Upper
105	100		
120	30.2	10.4	50.4

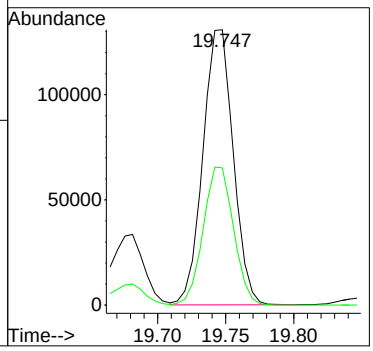


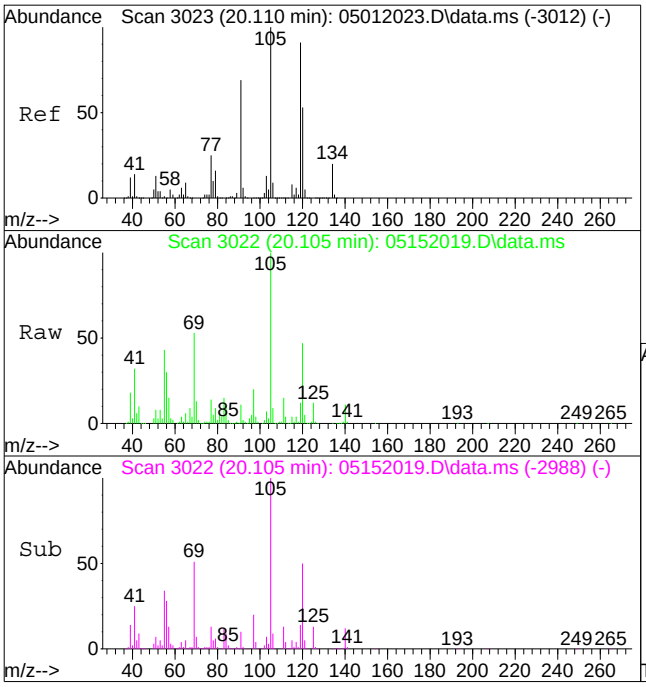


#79
1,3,5-Trimethylbenzene
Concen: 1.42 ng
RT: 19.75 min Scan# 2957
Delta R.T. -0.006 min
Lab File: 05152019.D
Acq: 15 May 2020 17:01

Tgt Ion:105 Resp: 202705

Ion	Ratio	Lower	Upper
105	100		
120	50.1	29.9	69.9

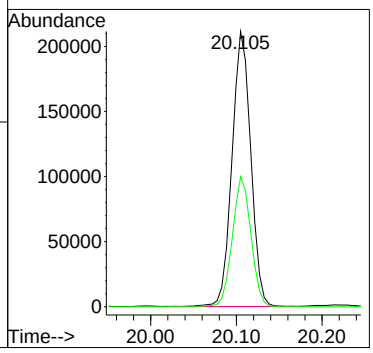


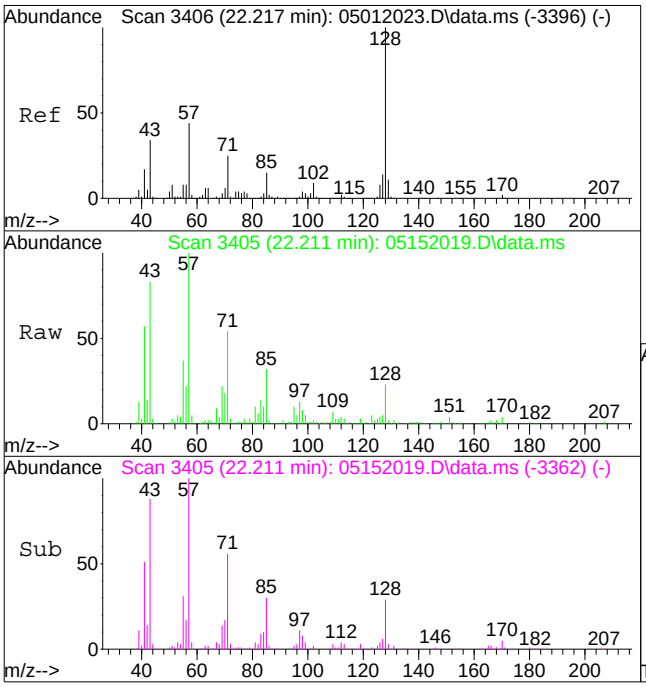


#82
1,2,4-Trimethylbenzene
Concen: 2.23 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05152019.D
Acq: 15 May 2020 17:01

Tgt Ion:105 Resp: 320670

Ion	Ratio	Lower	Upper
105	100		
120	46.9	33.6	73.6

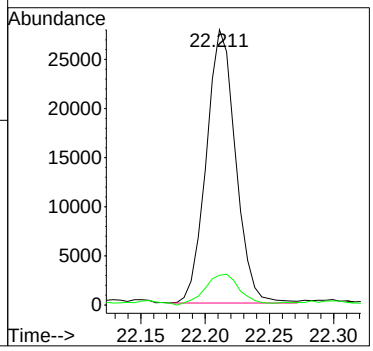




#95
Naphthalene
Concen: 0.25 ng
RT: 22.21 min Scan# 3405
Delta R.T. -0.011 min
Lab File: 05152019.D
Acq: 15 May 2020 17:01

Tgt Ion:128 Resp: 44174

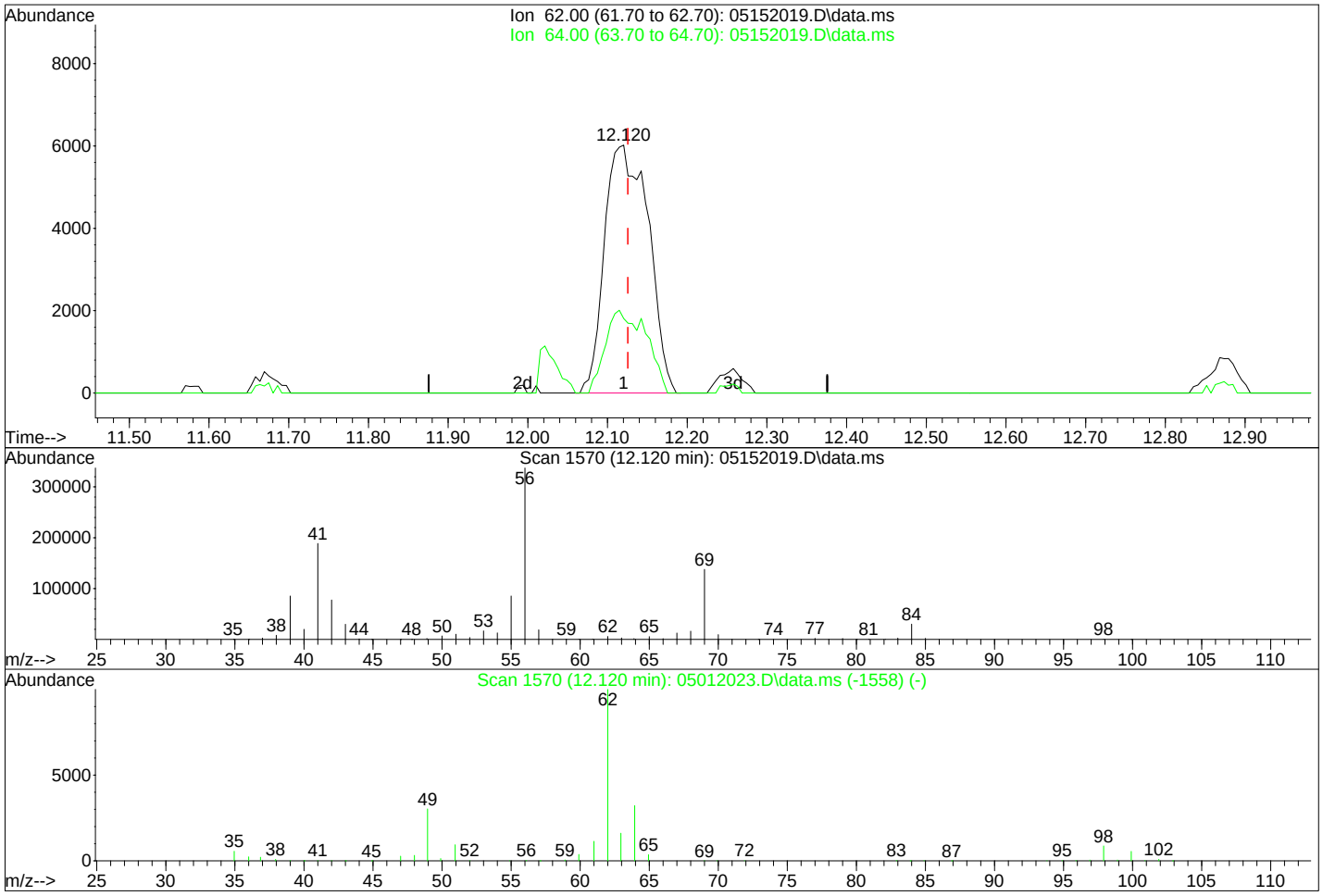
Ion	Ratio	Lower	Upper
128	100		
129	13.5	0.0	31.0



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\15\05152019.D Vial: 3
Acq On : 15 May 2020 17:01 Operator: LH
Sample : P2002302-017 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 18:14:18 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05152019.D\data.ms

(36) 1,2-Dichloroethane (T)

12.120min (-0.006) 0.56ng

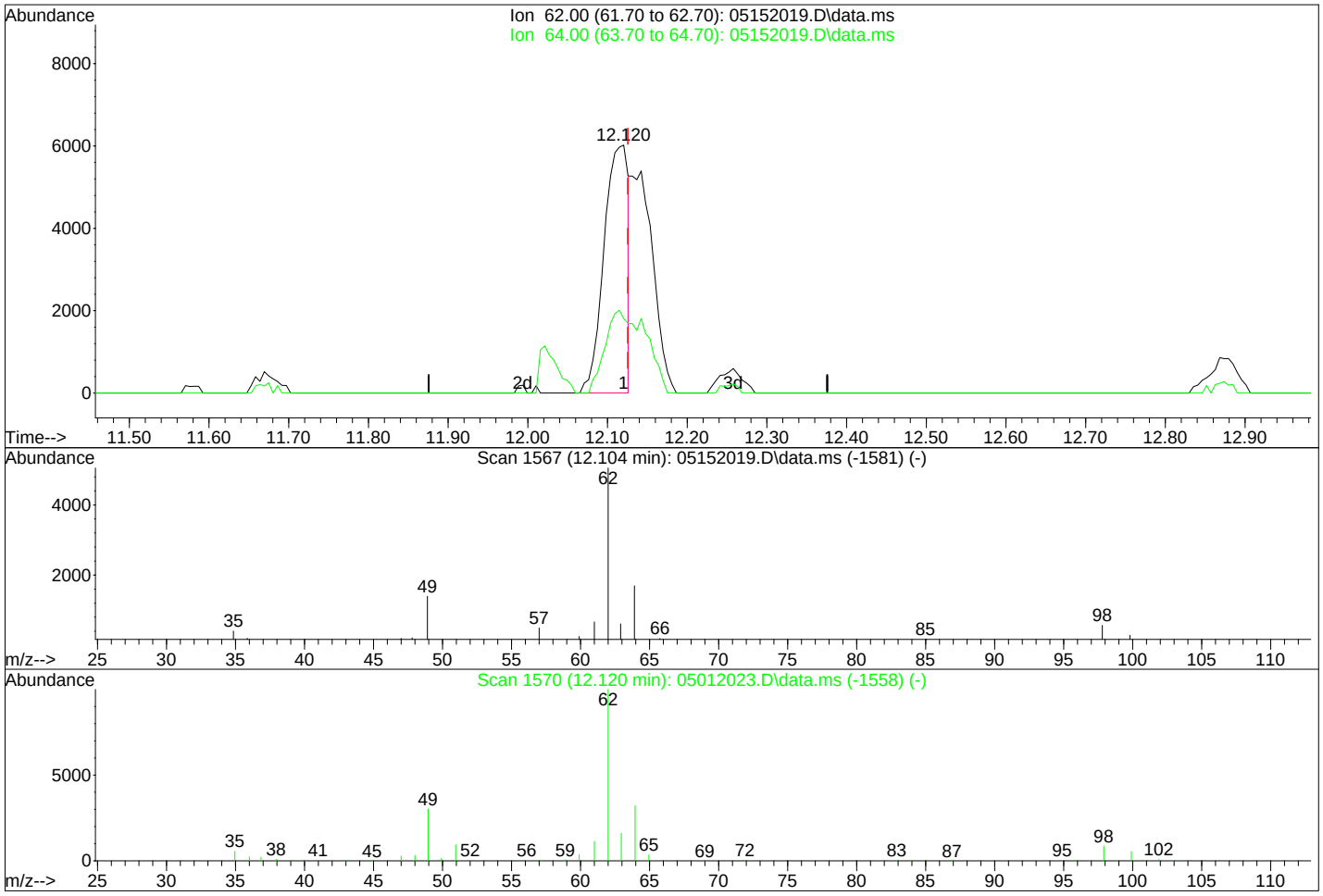
response 22945

Ion	Exp%	Act%
62.00	100	100
64.00	32.40	31.10
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\15\05152019.D Vial: 3
Acq On : 15 May 2020 17:01 Operator: LH
Sample : P2002302-017 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 18:14:18 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05152019.D\data.ms

(36) 1,2-Dichloroethane (T)

12.120min (-0.006) 0.31ng m

response 12684

Ion	Exp%	Act%
62.00	100	100
64.00	32.40	56.25#
0.00	0.00	0.00
0.00	0.00	0.00

IPC

LH 5/15/20

5/17/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152021.D Vial: 4
Acq On : 15 May 2020 18:10 Operator: LH
Sample : P2002302-018 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 19:07:32 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/15/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	268640	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1148118	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	528993	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	429649	11.801	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.40%				
57) Toluene-d8 (SS2)	15.72	98	1114971	12.435	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.52%				
73) Bromofluorobenzene (SS3)	18.97	174	422792	13.105	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.80%				
Target Compounds							Qvalue
2) Propene	4.11	42	4467	0.144	ng		93
3) Dichlorodifluoromethan...	4.26	85	77909	1.280	ng		100
4) Chloromethane	4.53	50	11185	0.235	ng		97
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	896	N.D.			
6) Vinyl Chloride	4.96	62	2708	0.052	ng		95
7) 1,3-Butadiene	5.14	54	188	N.D.			
8) Bromomethane	5.65	94	781	N.D.			
9) Chloroethane	5.97	64	398	N.D.			
10) Ethanol	6.32	45	31218	1.299	ng		99
11) Acetonitrile	6.59	41	8243	0.150	ng		98
12) Acrolein	6.78	56	6384	0.336	ng		97
13) Acetone	7.00	58	70490	2.934	ng		87
14) Trichlorofluoromethane	7.24	101	14357	0.267	ng		99
15) 2-Propanol (Isopropanol)	7.55	45	9035	0.124	ng	#	54
16) Acrylonitrile	7.75	53	256	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.40	84	673	N.D.			
20) 3-Chloro-1-propene (Al...	8.58	41	1018	N.D.			
21) Trichlorotrifluoroethane	8.84	151	42883	1.689	ng		97
22) Carbon Disulfide	8.67	76	70566	0.631	ng		100
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.09	73	681	N.D.			
26) Vinyl Acetate	10.17	86	3822	0.511	ng		100
27) 2-Butanone (MEK)	10.47	72	11938	0.583	ng		100
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	11.31	87	755	N.D.			
30) Ethyl Acetate	11.28	61	1394	0.118	ng	#	75
31) n-Hexane	11.25	57	14235	0.278	ng	#	80
32) Chloroform	11.31	83	7895	0.148	ng		95
34) Tetrahydrofuran (THF)	11.71	72	174405	8.727	ng		97
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	12.87	61	778	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	132245	1.074	ng		100
42) Carbon Tetrachloride	13.03	117	16261	0.388	ng		98
43) Cyclohexane	13.17	84	15022	0.327	ng		96
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	13.73	63	287	N.D.			
46) Bromodichloromethane	13.93	83	1490	N.D.			
47) Trichloroethene	13.96	130	1684	0.053	ng		100
48) 1,4-Dioxane	13.97	88	1658	0.067	ng		90
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152021.D Vial: 4
Acq On : 15 May 2020 18:10 Operator: LH
Sample : P2002302-018 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 19:07:32 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

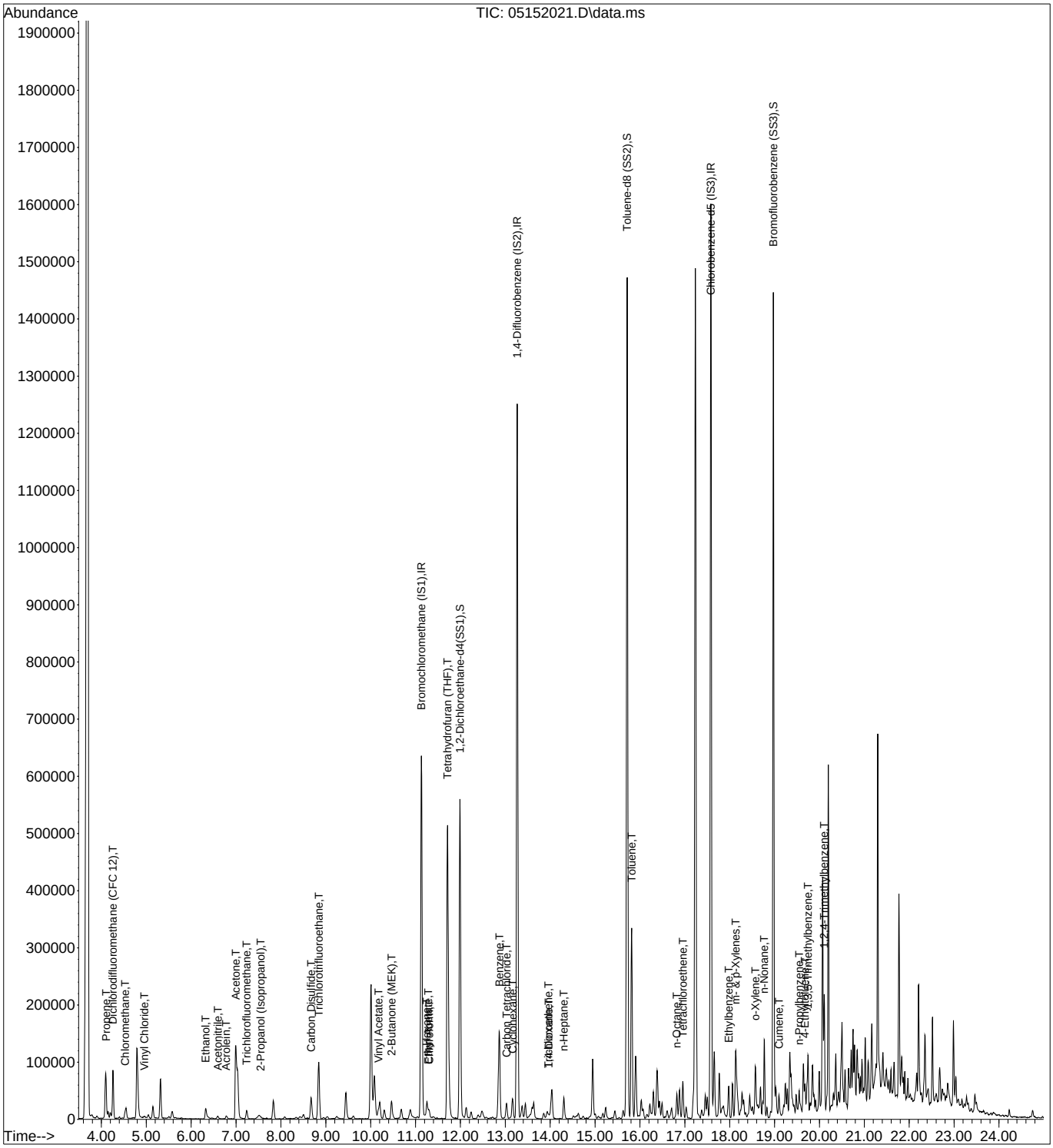
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.30	71	9463	0.329 ng	91
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.88	58	805	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	15.44	97	611	N.D.	
58) Toluene	15.82	91	267513	2.315 ng	99
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	16.48	107	579	N.D.	
62) n-Butyl Acetate	16.70	43	2519	N.D.	
63) n-Octane	16.82	57	8781	0.367 ng	94
64) Tetrachloroethene	16.96	166	19838	0.608 ng	98
65) Chlorobenzene	17.58	112	1170	N.D.	
66) Ethylbenzene	17.98	91	33333	0.259 ng	100
67) m- & p-Xylenes	18.14	91	83984	0.821 ng	99
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	624	N.D.	
70) o-Xylene	18.57	91	45154	0.435 ng	99
71) n-Nonane	18.77	43	48490	0.880 ng	98
72) 1,1,2,2-Tetrachloroethane	18.55	83	106	N.D.	
74) Cumene	19.10	105	8385	0.066 ng	100
75) alpha-Pinene	19.54	93	314	N.D.	
76) n-Propylbenzene	19.55	91	23987	0.159 ng	93
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.68	105	20307	0.170 ng	100
79) 1,3,5-Trimethylbenzene	19.74	105	31003	0.298 ng	100
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.10	105	81440	0.780 ng	92
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.21	91	1188	N.D.	
85) 1,3-Dichlorobenzene	20.30	146	276	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	276	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.61	68	1882	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.11	180	120	N.D.	
95) Naphthalene	22.21	128	3633	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152021.D Vial: 4
Acq On : 15 May 2020 18:10 Operator: LH
Sample : P2002302-018 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 19:07:32 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



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Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/15/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	268640	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1148118	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	528993	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	429649	11.801	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.40%				
57) Toluene-d8 (SS2)	15.72	98	1114971	12.435	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.52%				
73) Bromofluorobenzene (SS3)	18.97	174	422792	13.105	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.80%				
Target Compounds							Qvalue
2) Propene	4.11	42	4467	0.144	ng		93
3) Dichlorodifluoromethan...	4.26	85	77909	1.280	ng		100
4) Chloromethane	4.53	50	11185	0.235	ng		97
6) Vinyl Chloride	4.96	62	2708	0.052	ng		95
10) Ethanol	6.32	45	31218	1.299	ng		99
11) Acetonitrile	6.59	41	8243	0.150	ng		98
12) Acrolein	6.78	56	6384	0.336	ng		97
13) Acetone	7.00	58	70490	2.934	ng		87
14) Trichlorofluoromethane	7.24	101	14357	0.267	ng		99
15) 2-Propanol (Isopropanol)	7.55	45	9035	0.124	ng	#	54
21) Trichlorotrifluoroethane	8.84	151	42883	1.689	ng		97
22) Carbon Disulfide	8.67	76	70566	0.631	ng		100
26) Vinyl Acetate	10.17	86	3822	0.511	ng		100
27) 2-Butanone (MEK)	10.47	72	11938	0.583	ng		100
30) Ethyl Acetate	11.28	61	1394	0.118	ng	#	75
31) n-Hexane	11.25	57	14235	0.278	ng	#	80
32) Chloroform	11.31	83	7895	0.148	ng		95
34) Tetrahydrofuran (THF)	11.71	72	174405	8.727	ng		97
41) Benzene	12.87	78	132245	1.074	ng		100
42) Carbon Tetrachloride	13.03	117	16261	0.388	ng		98
43) Cyclohexane	13.17	84	15022	0.327	ng		96
47) Trichloroethene	13.96	130	1684	0.053	ng		100
48) 1,4-Dioxane	13.97	88	1658	0.067	ng		90
51) n-Heptane	14.30	71	9463	0.329	ng		91
58) Toluene	15.82	91	267513	2.315	ng		99
63) n-Octane	16.82	57	8781	0.367	ng		94
64) Tetrachloroethene	16.96	166	19838	0.608	ng		98
66) Ethylbenzene	17.98	91	33333	0.259	ng		100
67) m- & p-Xylenes	18.14	91	83984	0.821	ng		99
70) o-Xylene	18.57	91	45154	0.435	ng		99
71) n-Nonane	18.77	43	48490	0.880	ng		98
74) Cumene	19.10	105	8385	0.066	ng		100
76) n-Propylbenzene	19.55	91	23987	0.159	ng		93
78) 4-Ethyltoluene	19.68	105	20307	0.170	ng		100
79) 1,3,5-Trimethylbenzene	19.74	105	31003	0.298	ng		100
82) 1,2,4-Trimethylbenzene	20.10	105	81440	0.780	ng		92

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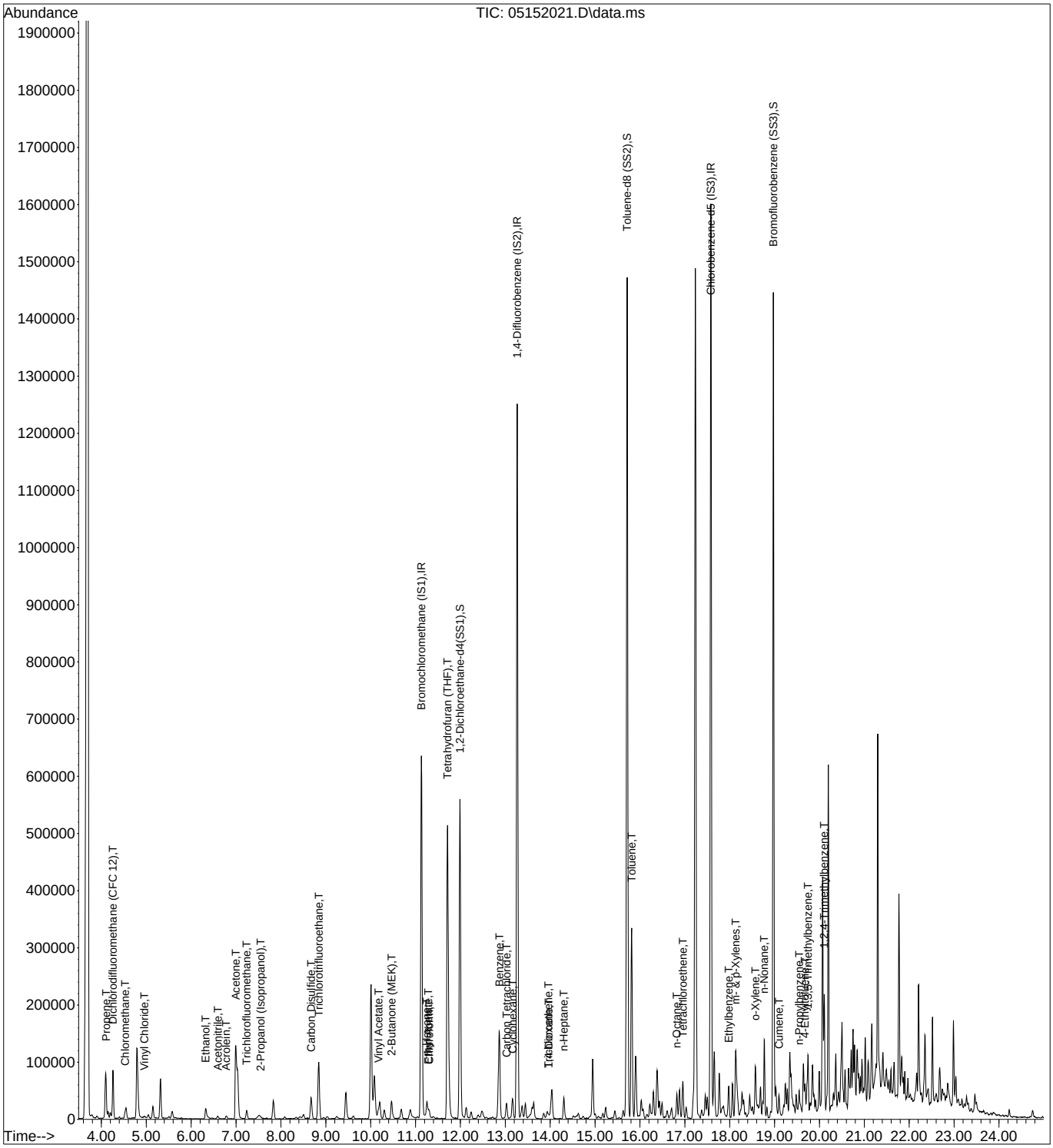
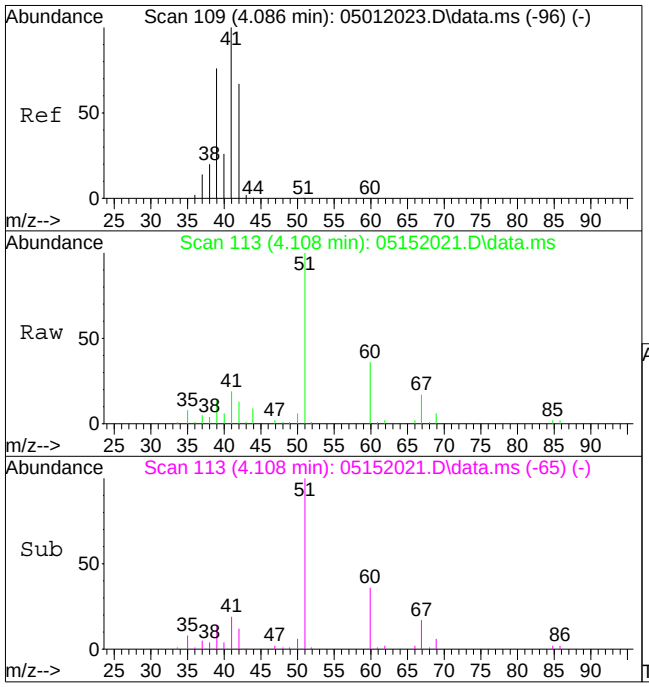
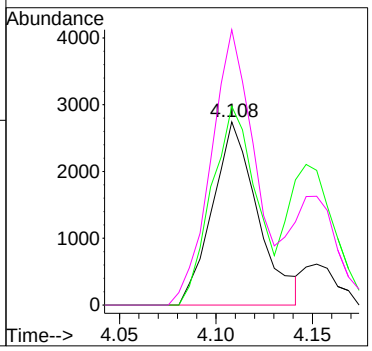


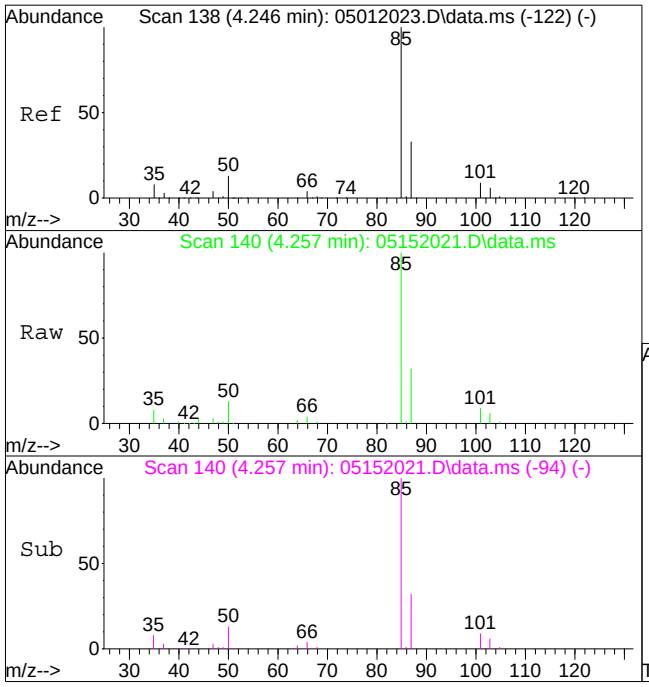


#2
Propene
Concen: 0.14 ng
RT: 4.11 min Scan# 113
Delta R.T. 0.016 min
Lab File: 05152021.D
Acq: 15 May 2020 18:10

Tgt Ion: 42 Resp: 4467

Ion	Ratio	Lower	Upper
42	100		
39	107.4	96.1	136.1
41	143.4	131.9	171.9

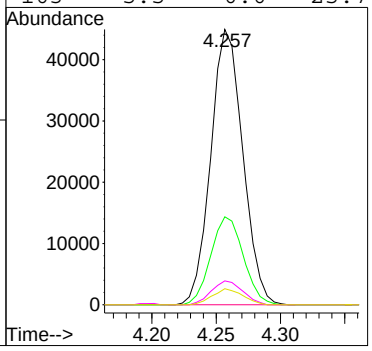


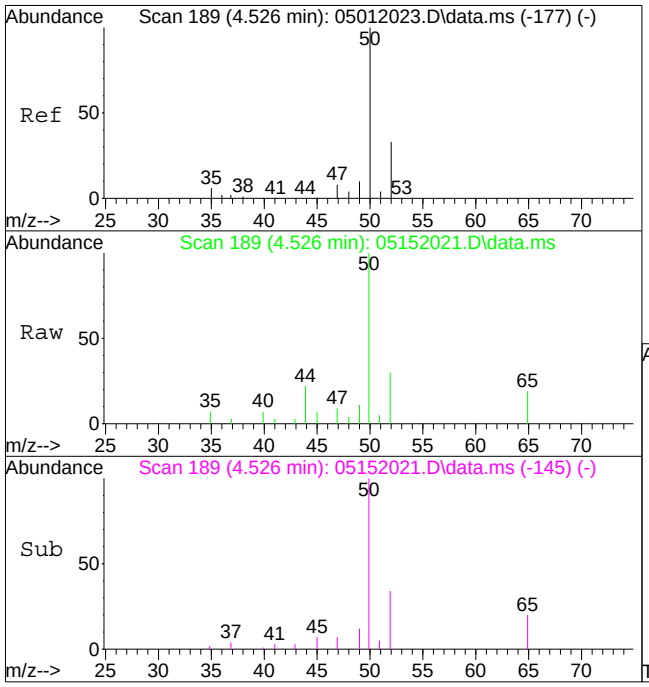


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.28 ng
RT: 4.26 min Scan# 140
Delta R.T. 0.005 min
Lab File: 05152021.D
Acq: 15 May 2020 18:10

Tgt Ion: 85 Resp: 77909

Ion	Ratio	Lower	Upper
85	100		
87	32.4	12.4	52.4
101	8.5	0.0	28.8
103	5.5	0.0	25.7

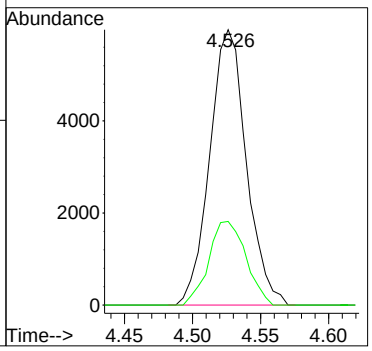


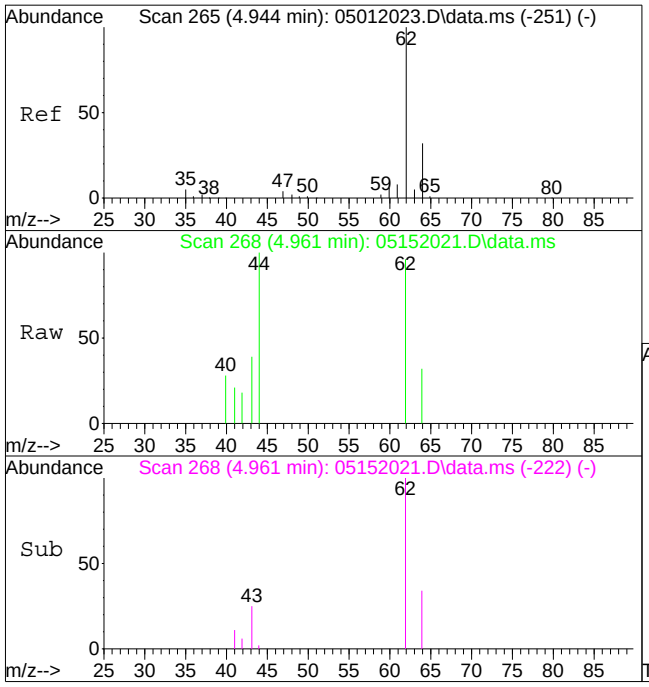


#4
Chloromethane
Concen: 0.23 ng
RT: 4.53 min Scan# 189
Delta R.T. -0.006 min
Lab File: 05152021.D
Acq: 15 May 2020 18:10

Tgt Ion: 50 Resp: 11185

Ion	Ratio	Lower	Upper
50	100		
52	30.8	12.5	52.5

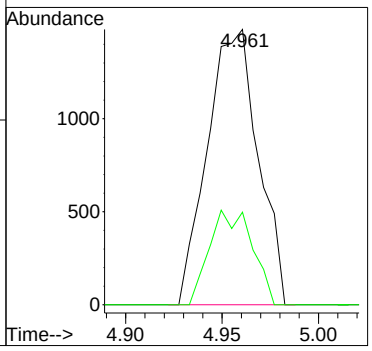


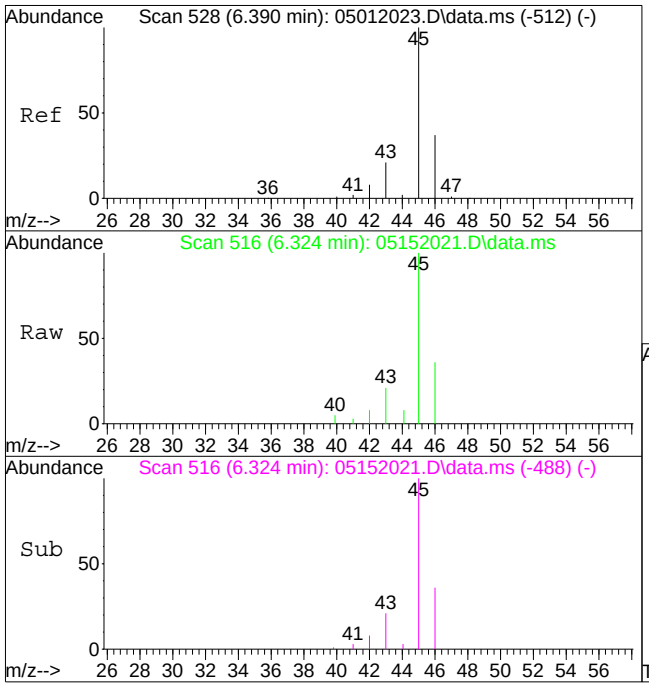


#6
Vinyl Chloride
Concen: 0.05 ng
RT: 4.96 min Scan# 268
Delta R.T. 0.005 min
Lab File: 05152021.D
Acq: 15 May 2020 18:10

Tgt Ion: 62 Resp: 2708

Ion	Ratio	Lower	Upper
62	100		
64	29.1	12.1	52.1

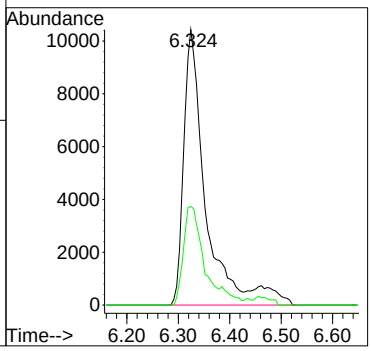


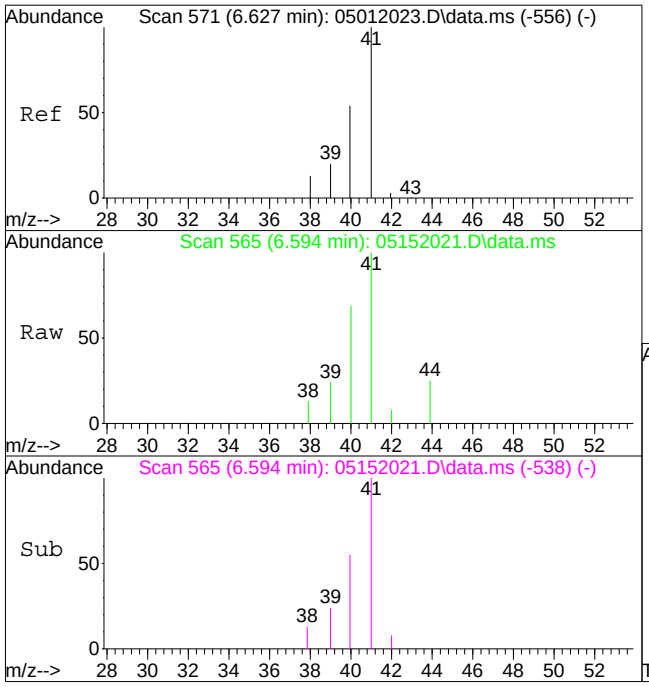


#10
Ethanol
Concen: 1.30 ng
RT: 6.32 min Scan# 516
Delta R.T. -0.094 min
Lab File: 05152021.D
Acq: 15 May 2020 18:10

Tgt Ion: 45 Resp: 31218

Ion	Ratio	Lower	Upper
45	100		
46	37.5	17.2	57.2

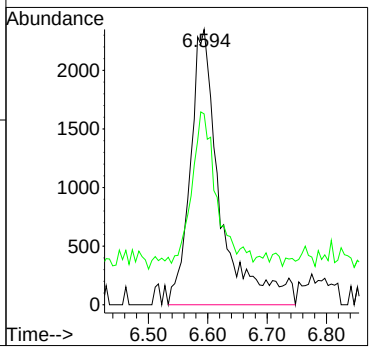


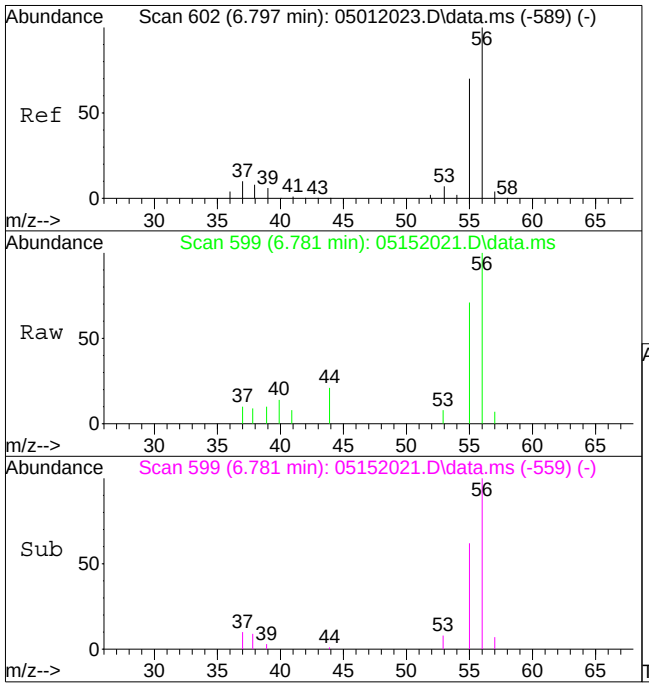


#11
Acetonitrile
Concen: 0.15 ng
RT: 6.59 min Scan# 565
Delta R.T. -0.050 min
Lab File: 05152021.D
Acq: 15 May 2020 18:10

Tgt Ion: 41 Resp: 8243

Ion	Ratio	Lower	Upper
41	100		
40	51.9	33.6	73.6

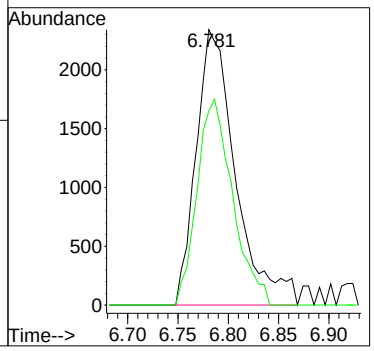


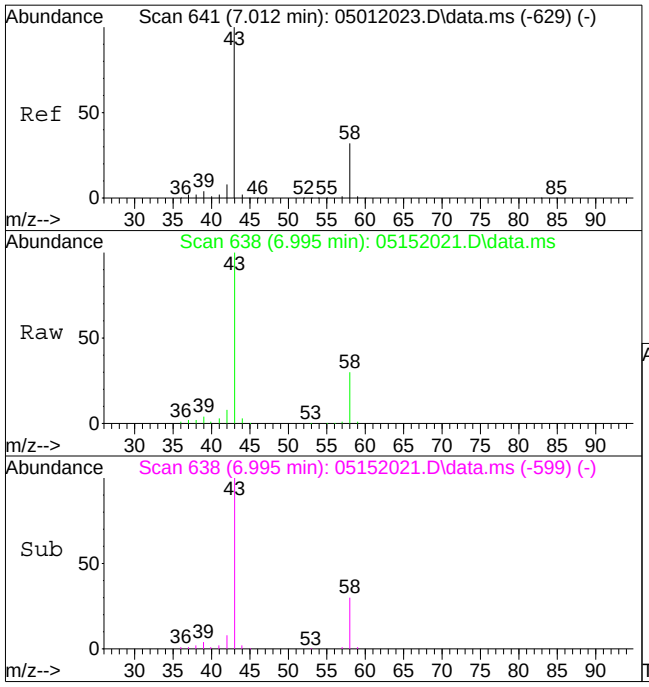


#12
Acrolein
Concen: 0.34 ng
RT: 6.78 min Scan# 599
Delta R.T. -0.028 min
Lab File: 05152021.D
Acq: 15 May 2020 18:10

Tgt Ion: 56 Resp: 6384

Ion	Ratio	Lower	Upper
56	100		
55	67.5	50.2	90.2

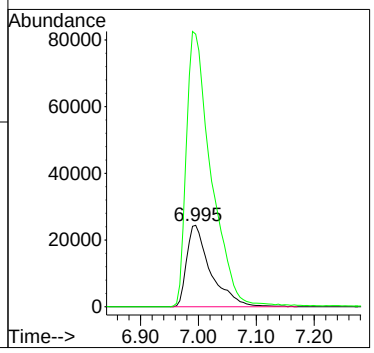


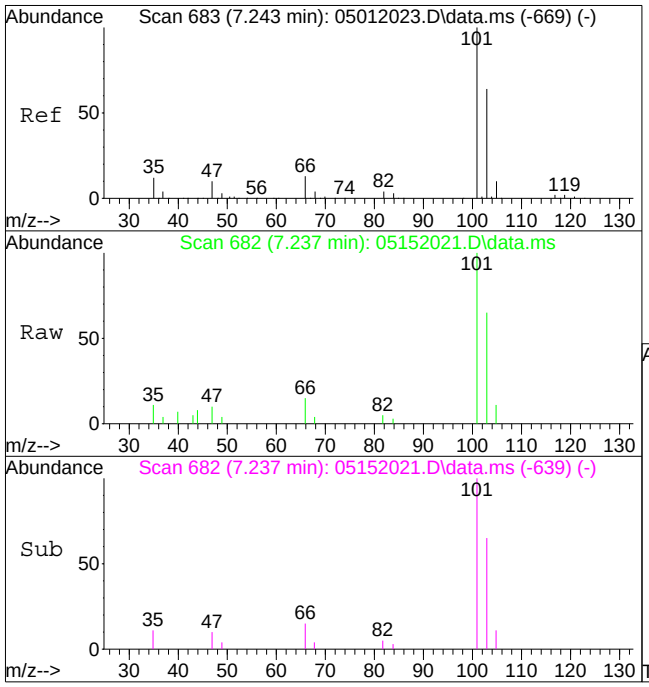


#13
Acetone
Concen: 2.93 ng
RT: 7.00 min Scan# 638
Delta R.T. -0.033 min
Lab File: 05152021.D
Acq: 15 May 2020 18:10

Tgt Ion: 58 Resp: 70490

Ion	Ratio	Lower	Upper
58	100		
43	350.9	294.4	354.4

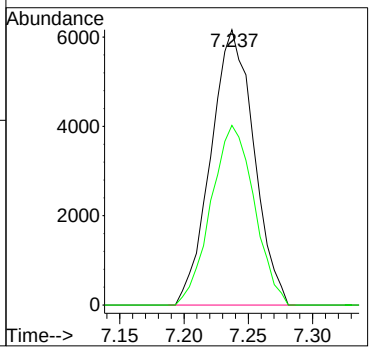


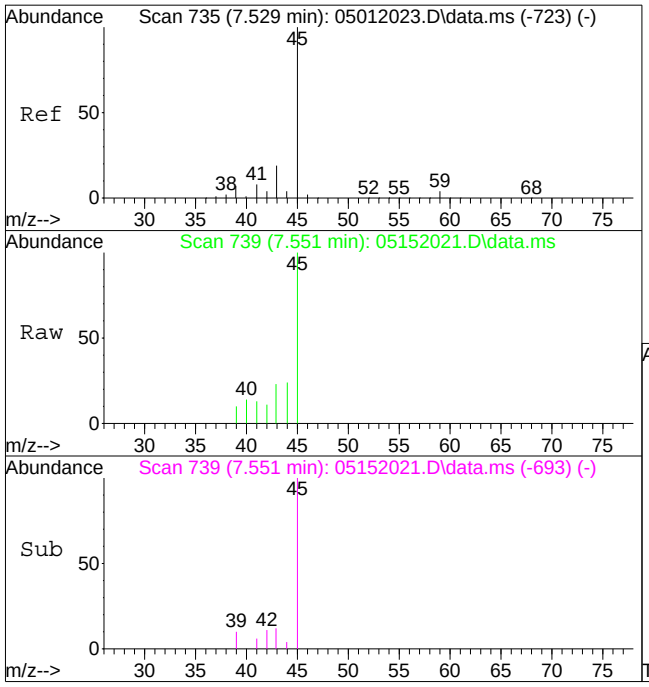


#14
Trichlorofluoromethane
Concen: 0.27 ng
RT: 7.24 min Scan# 682
Delta R.T. -0.011 min
Lab File: 05152021.D
Acq: 15 May 2020 18:10

Tgt Ion:101 Resp: 14357

Ion	Ratio	Lower	Upper
101	100		
103	65.4	44.4	84.4

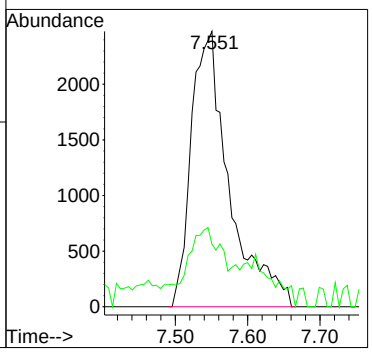


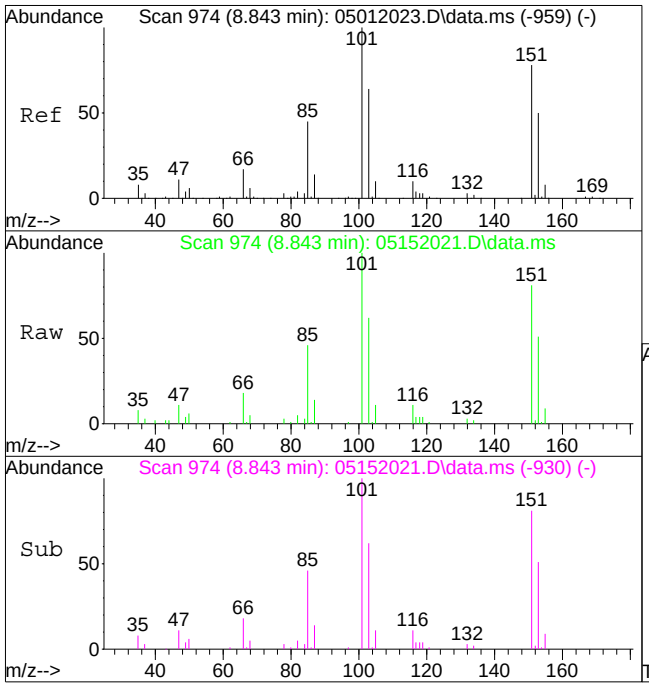


#15
2-Propanol (Isopropanol)
Concen: 0.12 ng
RT: 7.55 min Scan# 739
Delta R.T. 0.005 min
Lab File: 05152021.D
Acq: 15 May 2020 18:10

Tgt Ion: 45 Resp: 9035

Ion	Ratio	Lower	Upper
45	100		
43	40.6	0.0	39.5#

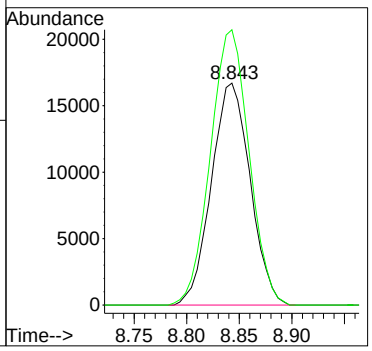


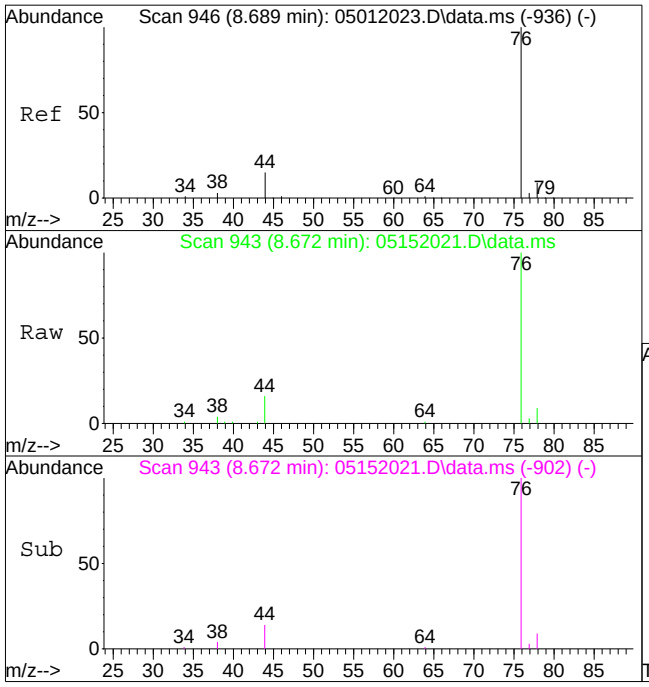


#21
Trichlorotrifluoroethane
Concen: 1.69 ng
RT: 8.84 min Scan# 974
Delta R.T. -0.006 min
Lab File: 05152021.D
Acq: 15 May 2020 18:10

Tgt Ion:151 Resp: 42883

Ion	Ratio	Lower	Upper
151	100		
101	123.5	107.3	147.3

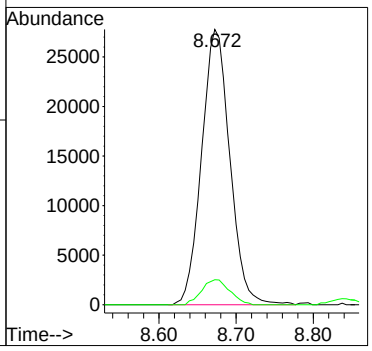


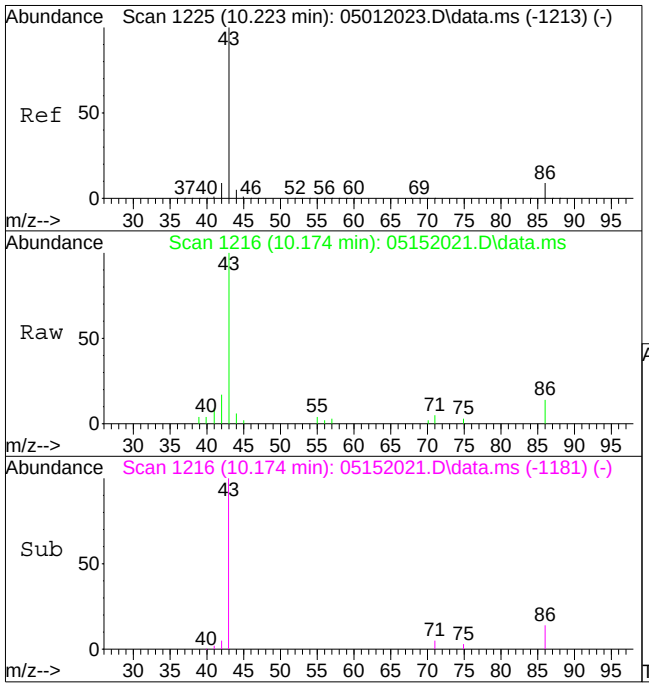


#22
Carbon Disulfide
Concen: 0.63 ng
RT: 8.67 min Scan# 943
Delta R.T. -0.022 min
Lab File: 05152021.D
Acq: 15 May 2020 18:10

Tgt Ion: 76 Resp: 70566

Ion	Ratio	Lower	Upper
76	100		
78	9.1	0.0	29.2

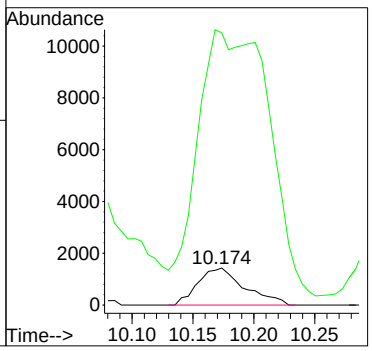


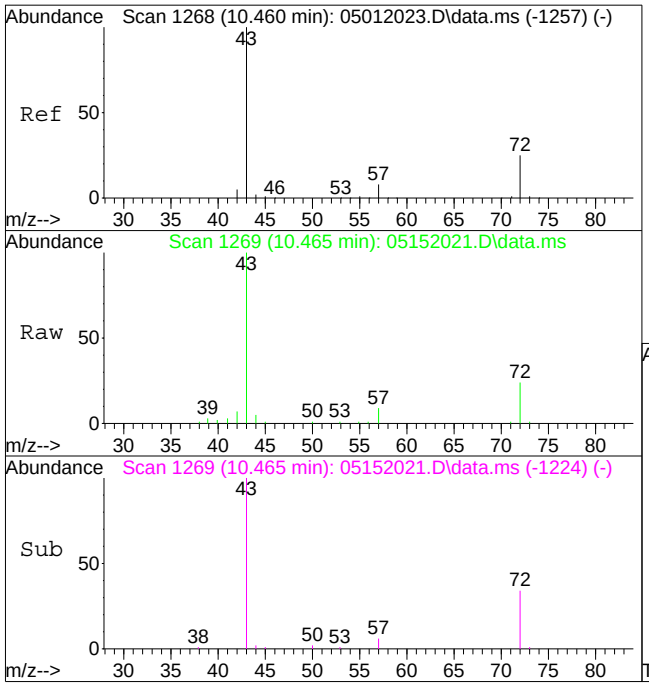


#26
Vinyl Acetate
Concen: 0.51 ng
RT: 10.17 min Scan# 1216
Delta R.T. -0.055 min
Lab File: 05152021.D
Acq: 15 May 2020 18:10

Tgt Ion: 86 Resp: 3822

Ion	Ratio	Lower	Upper
86	100		
43	1123.1	1103.0	1143.0

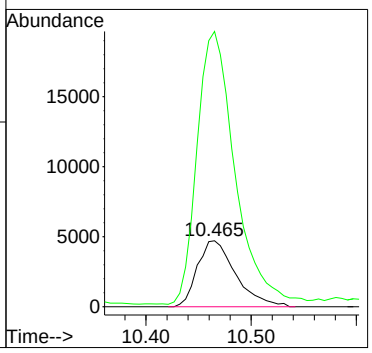


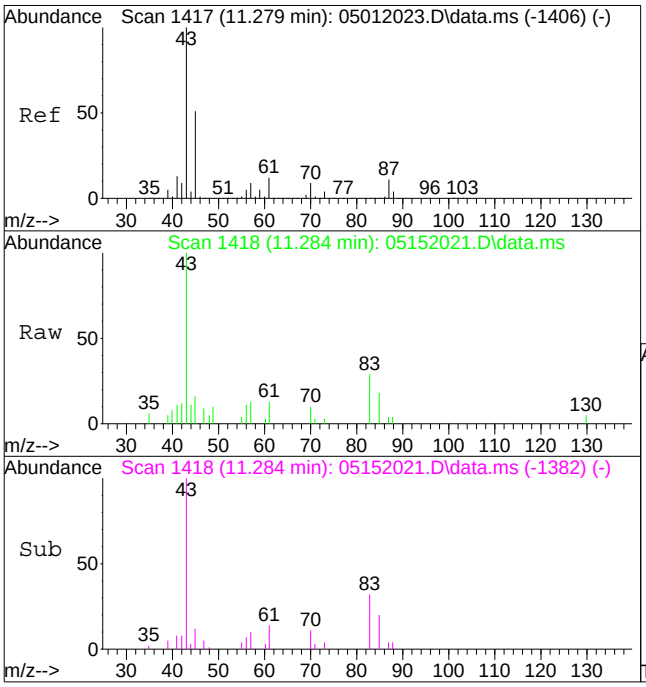


#27
2-Butanone (MEK)
Concen: 0.58 ng
RT: 10.47 min Scan# 1269
Delta R.T. -0.000 min
Lab File: 05152021.D
Acq: 15 May 2020 18:10

Tgt Ion: 72 Resp: 11938

Ion	Ratio	Lower	Upper
72	100		
43	409.3	389.7	429.7

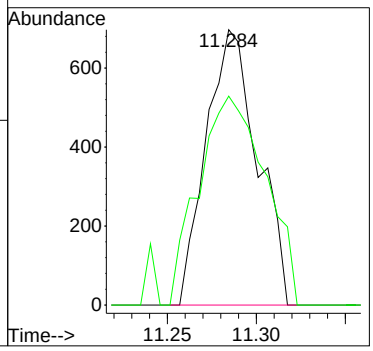


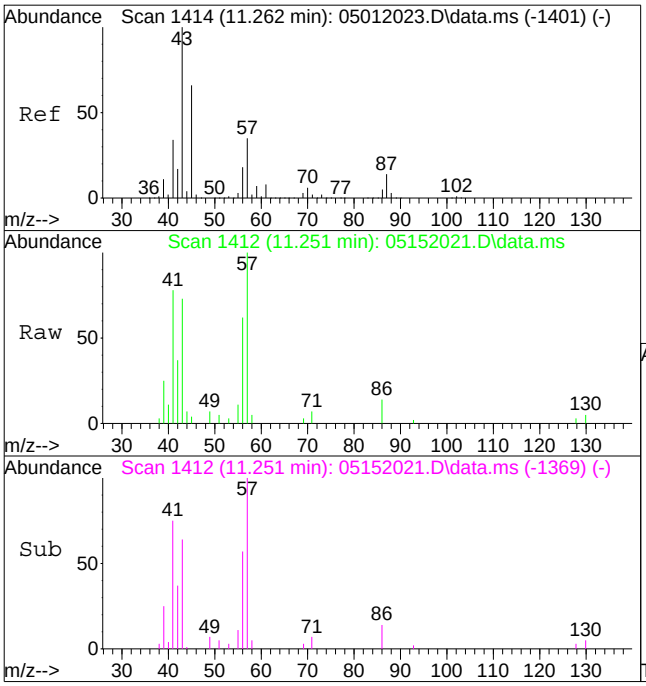


#30
Ethyl Acetate
Concen: 0.12 ng
RT: 11.28 min Scan# 1418
Delta R.T. -0.000 min
Lab File: 05152021.D
Acq: 15 May 2020 18:10

Tgt Ion: 61 Resp: 1394

Ion	Ratio	Lower	Upper
61	100		
70	99.4	57.9	97.9#

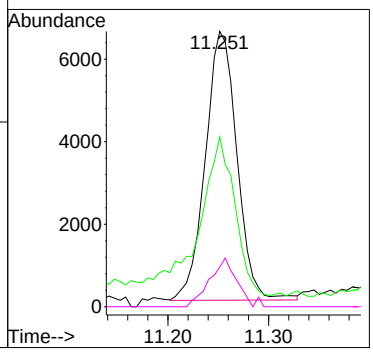


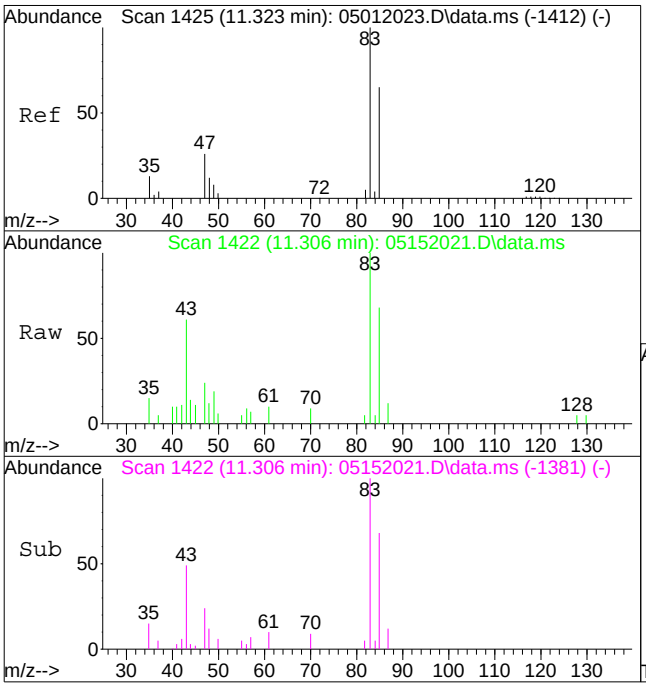


#31
n-Hexane
Concen: 0.28 ng
RT: 11.25 min Scan# 1412
Delta R.T. -0.011 min
Lab File: 05152021.D
Acq: 15 May 2020 18:10

Tgt Ion: 57 Resp: 14235

Ion	Ratio	Lower	Upper
57	100		
56	69.7	41.4	62.0#
86	15.7	12.4	18.6

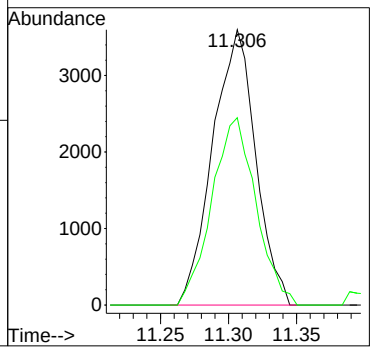


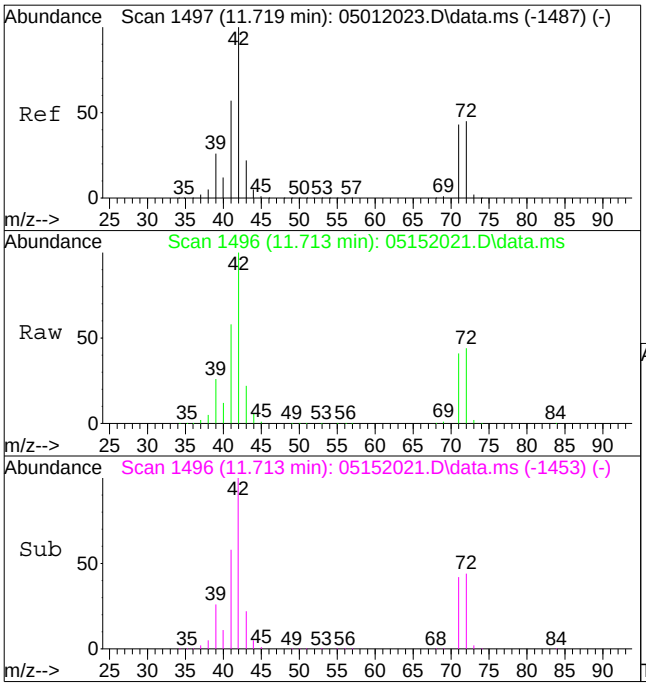


#32
Chloroform
Concen: 0.15 ng
RT: 11.31 min Scan# 1422
Delta R.T. -0.022 min
Lab File: 05152021.D
Acq: 15 May 2020 18:10

Tgt Ion: 83 Resp: 7895

Ion	Ratio	Lower	Upper
83	100		
85	69.8	45.5	85.5

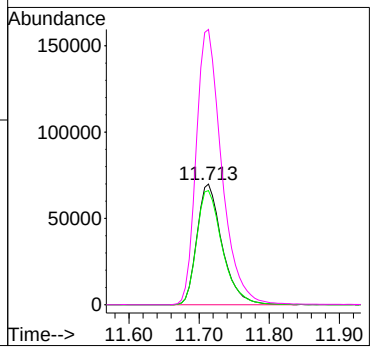


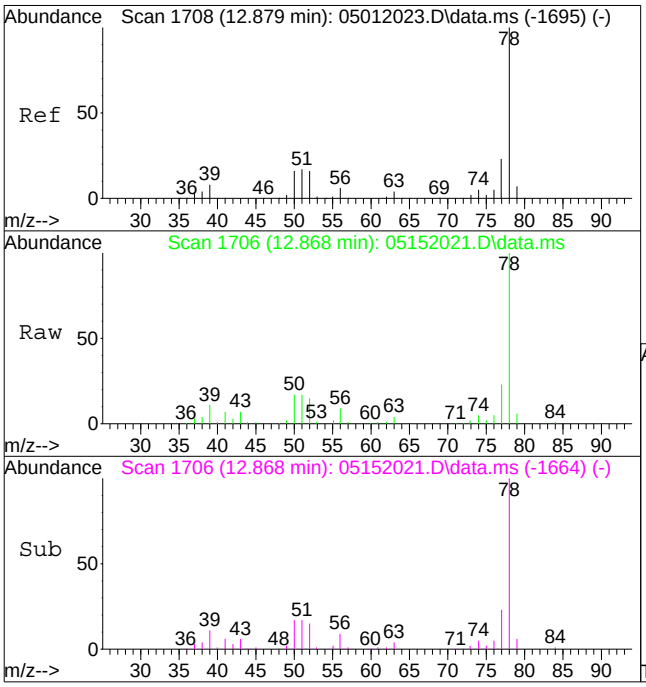


#34
Tetrahydrofuran (THF)
Concen: 8.73 ng
RT: 11.71 min Scan# 1496
Delta R.T. -0.011 min
Lab File: 05152021.D
Acq: 15 May 2020 18:10

Tgt Ion: 72 Resp: 174405

Ion	Ratio	Lower	Upper
72	100		
71	97.2	77.0	117.0
42	232.5	204.6	244.6

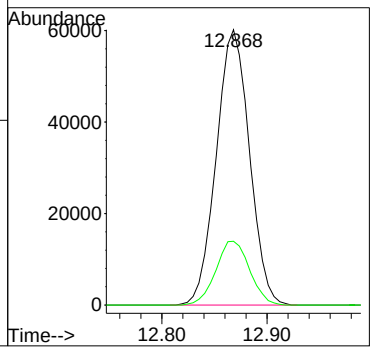


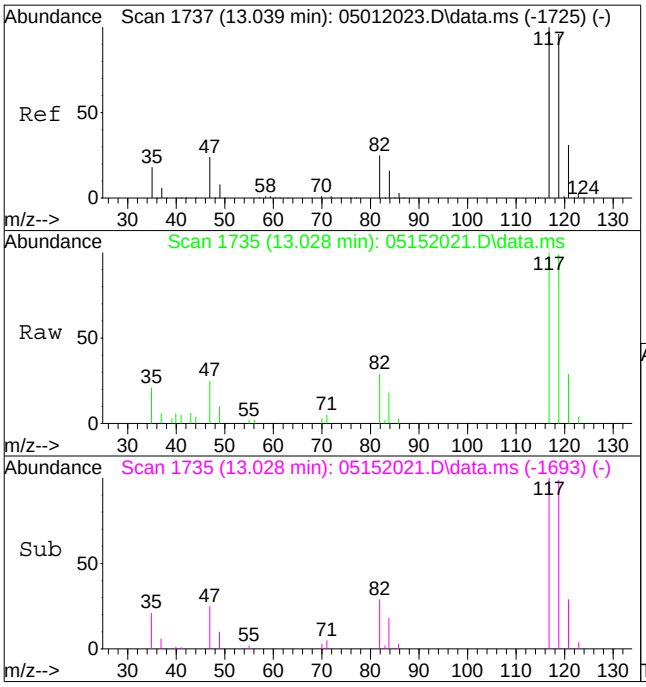


#41
Benzene
Concen: 1.07 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05152021.D
Acq: 15 May 2020 18:10

Tgt Ion: 78 Resp: 132245

Ion	Ratio	Lower	Upper
78	100		
77	23.6	3.4	43.4

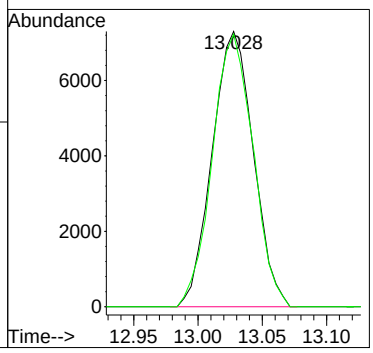


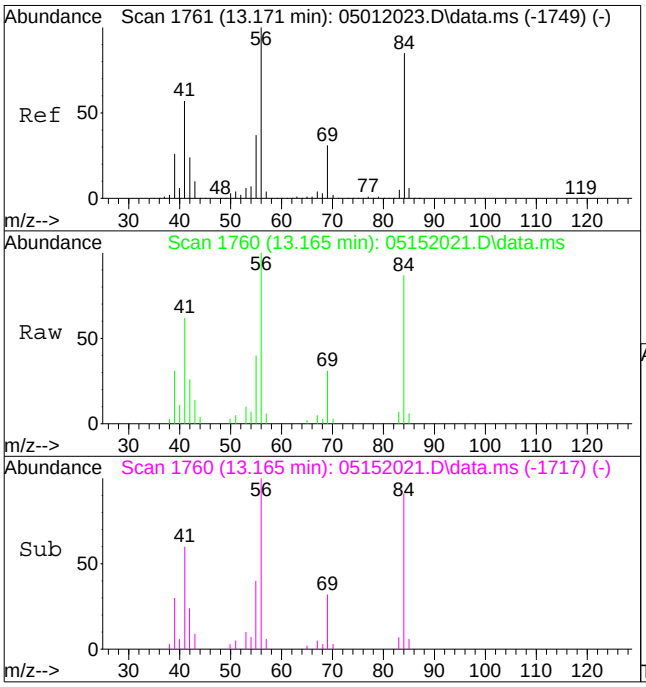


#42
Carbon Tetrachloride
Concen: 0.39 ng
RT: 13.03 min Scan# 1735
Delta R.T. -0.017 min
Lab File: 05152021.D
Acq: 15 May 2020 18:10

Tgt Ion:117 Resp: 16261

Ion	Ratio	Lower	Upper
117	100		
119	98.0	76.2	116.2

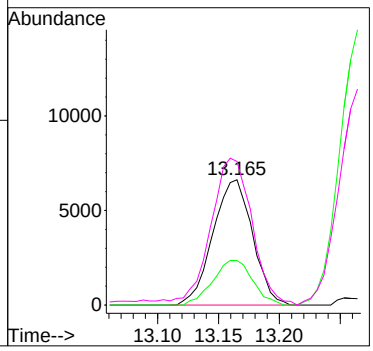


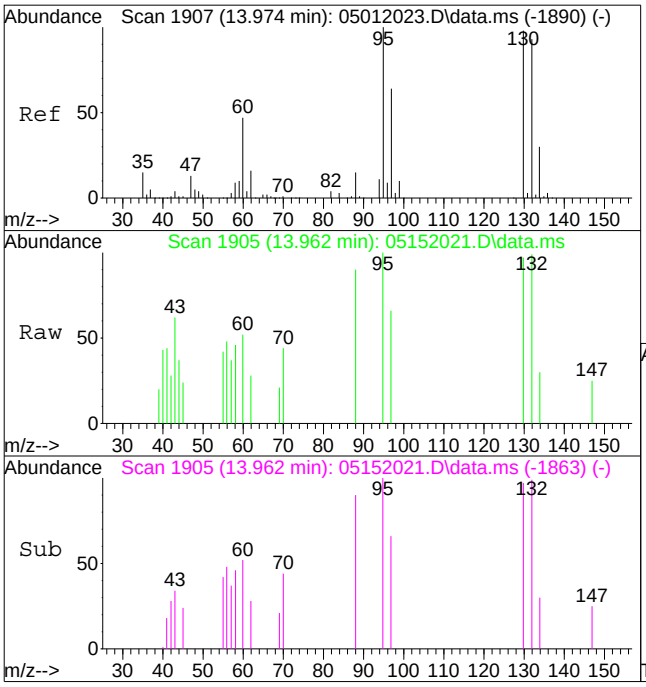


#43
Cyclohexane
Concen: 0.33 ng
RT: 13.17 min Scan# 1760
Delta R.T. -0.011 min
Lab File: 05152021.D
Acq: 15 May 2020 18:10

Tgt Ion: 84 Resp: 15022

Ion	Ratio	Lower	Upper
84	100		
69	35.7	16.5	56.5
56	122.6	97.4	137.4

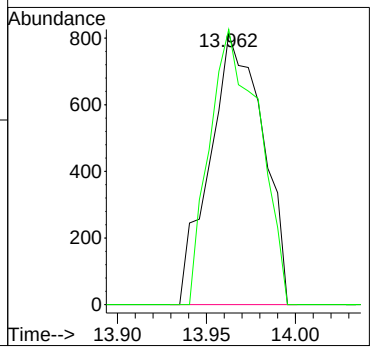


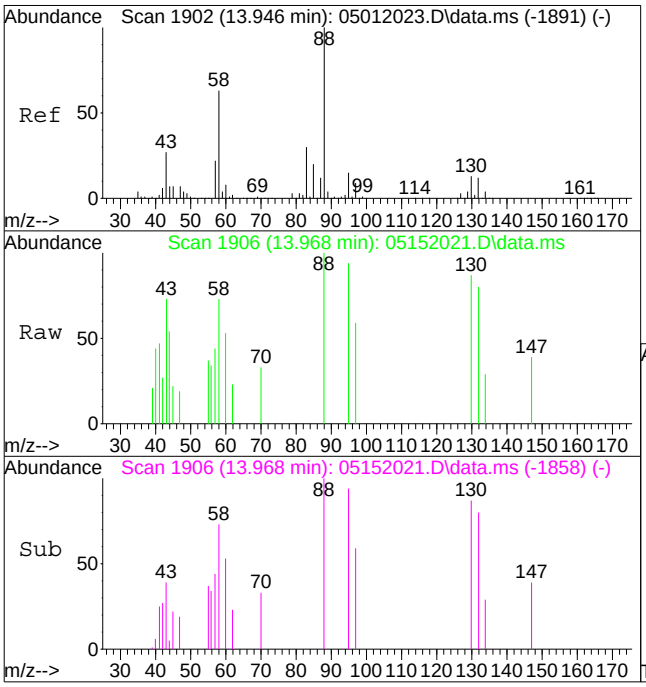


#47
Trichloroethene
Concen: 0.05 ng
RT: 13.96 min Scan# 1905
Delta R.T. -0.017 min
Lab File: 05152021.D
Acq: 15 May 2020 18:10

Tgt Ion:130 Resp: 1684

Ion	Ratio	Lower	Upper
130	100		
132	95.0	74.9	114.9

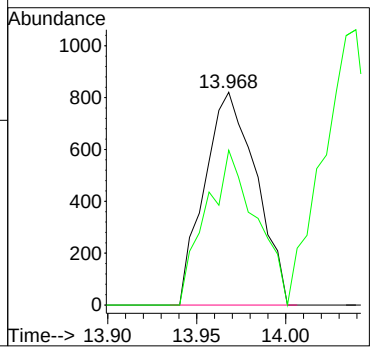


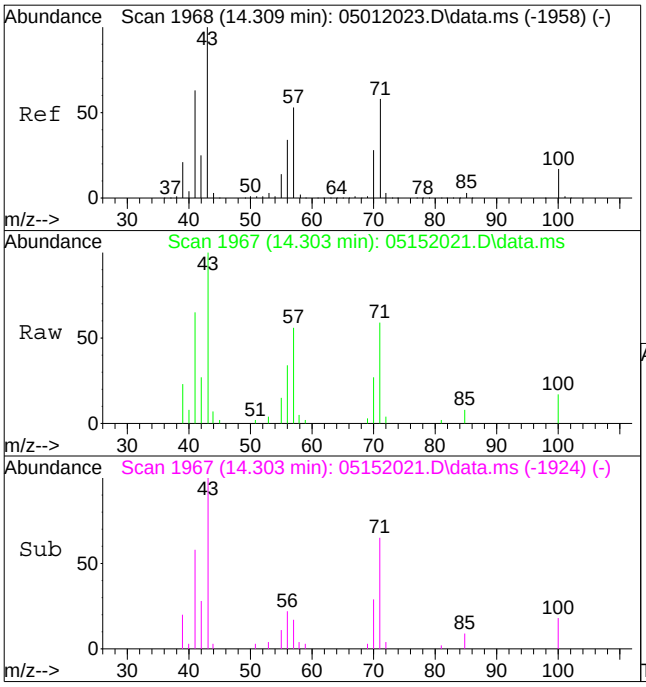


#48
1,4-Dioxane
Concen: 0.07 ng
RT: 13.97 min Scan# 1906
Delta R.T. 0.016 min
Lab File: 05152021.D
Acq: 15 May 2020 18:10

Tgt Ion: 88 Resp: 1658

Ion	Ratio	Lower	Upper
88	100		
58	70.5	42.8	82.8

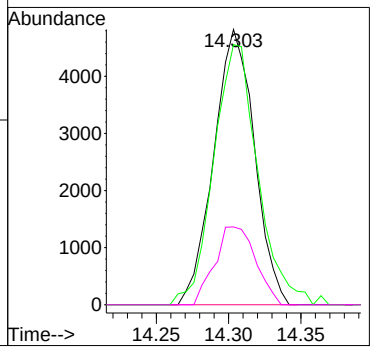


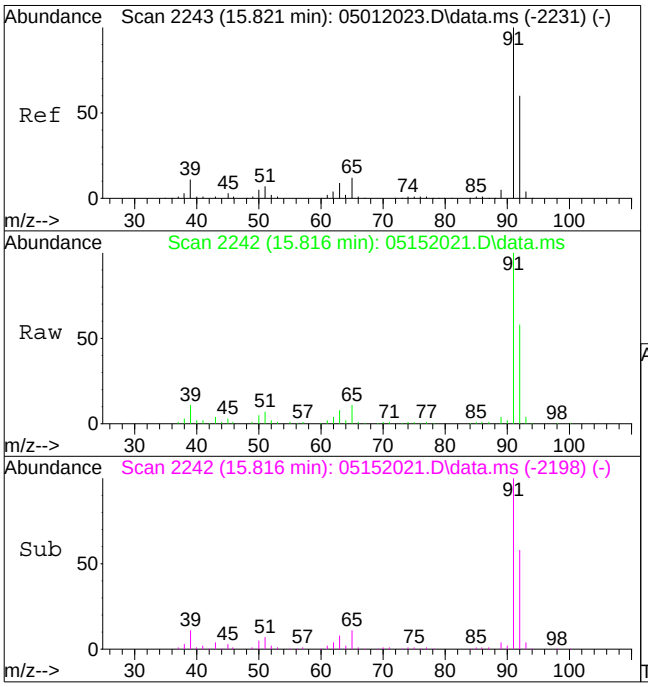


#51
n-Heptane
Concen: 0.33 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05152021.D
Acq: 15 May 2020 18:10

Tgt Ion: 71 Resp: 9463

Ion	Ratio	Lower	Upper
71	100		
57	102.7	71.0	111.0
100	28.3	8.4	48.4

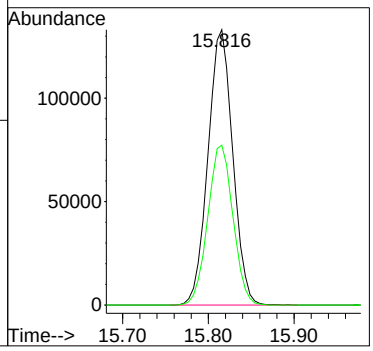


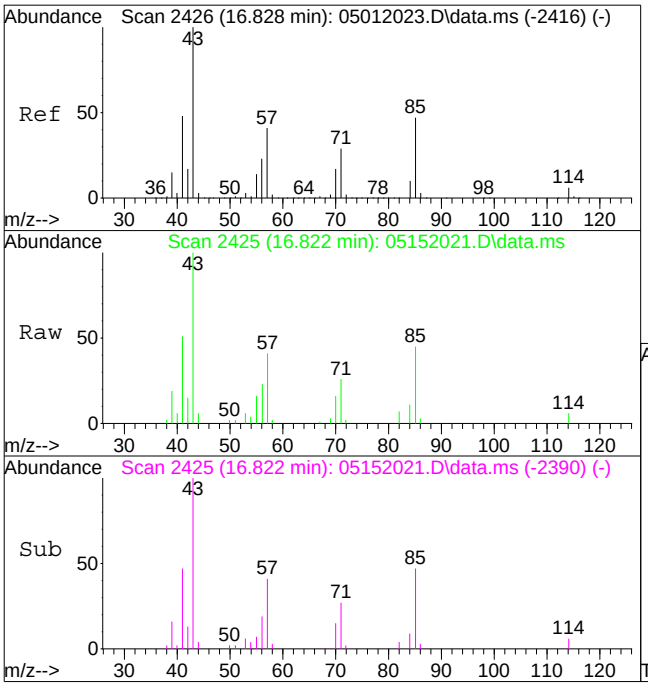


#58
Toluene
Concen: 2.31 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05152021.D
Acq: 15 May 2020 18:10

Tgt Ion: 91 Resp: 267513

Ion	Ratio	Lower	Upper
91	100		
92	58.9	39.4	79.4

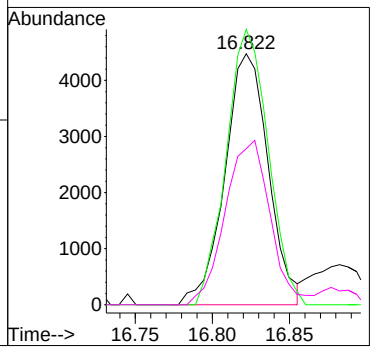


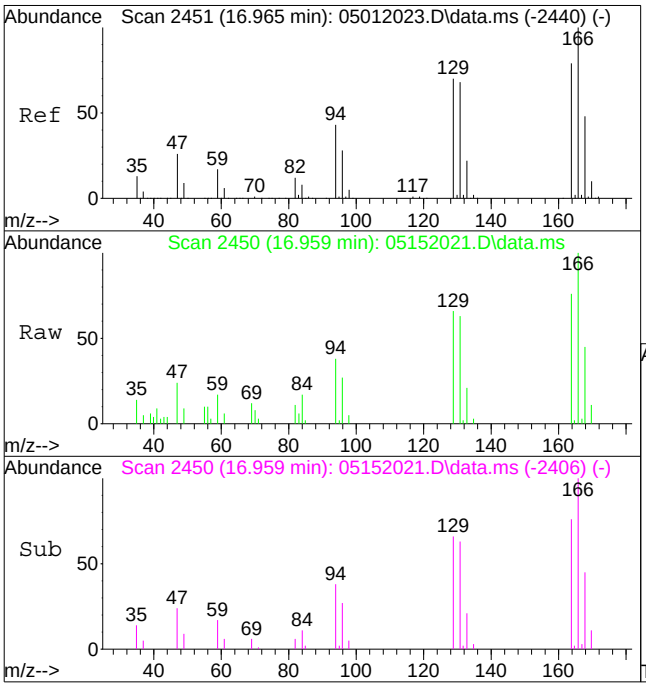


#63
n-Octane
Concen: 0.37 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05152021.D
Acq: 15 May 2020 18:10

Tgt Ion: 57 Resp: 8781

Ion	Ratio	Lower	Upper
57	100		
85	105.9	91.0	136.4
71	67.9	56.2	84.2

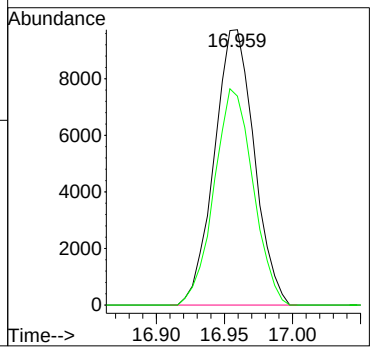


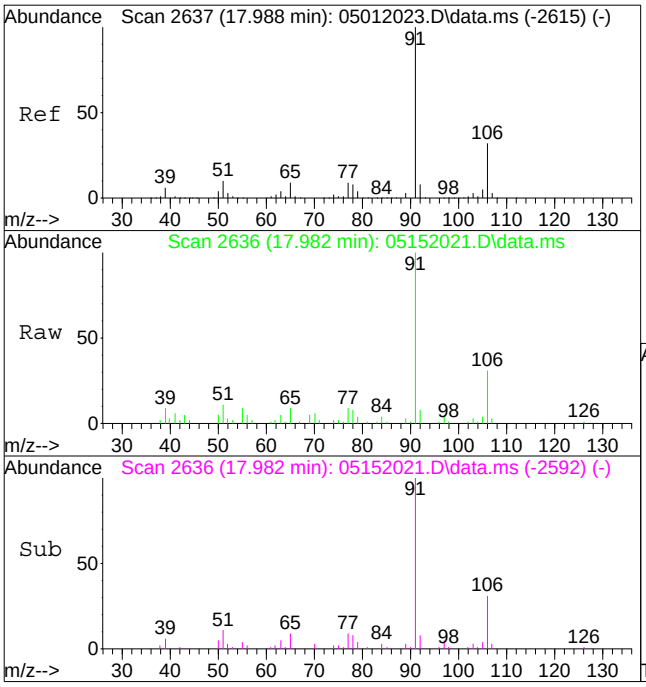


#64
Tetrachloroethene
Concen: 0.61 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05152021.D
Acq: 15 May 2020 18:10

Tgt Ion:166 Resp: 19838

Ion	Ratio	Lower	Upper
166	100		
164	76.8	58.4	98.4

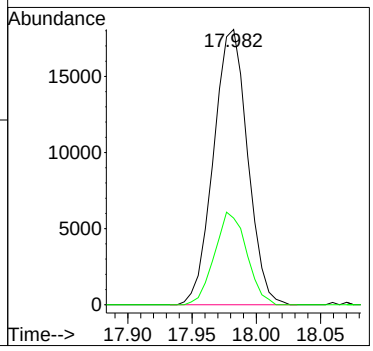


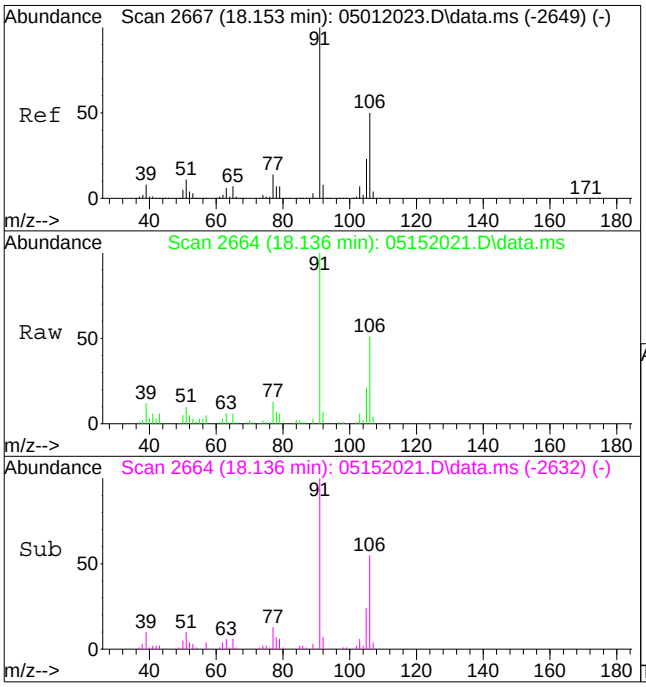


#66
Ethylbenzene
Concen: 0.26 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05152021.D
Acq: 15 May 2020 18:10

Tgt Ion: 91 Resp: 33333

Ion	Ratio	Lower	Upper
91	100		
106	31.7	11.6	51.6

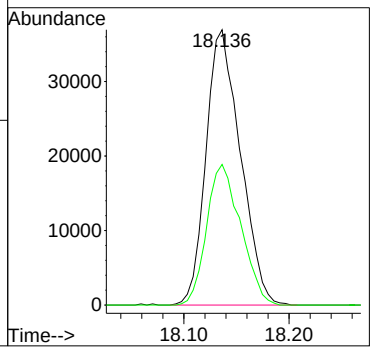


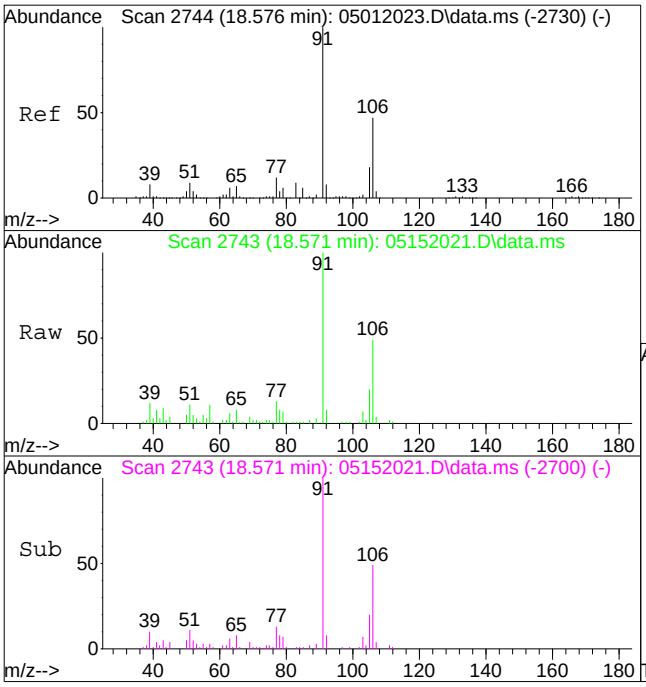


#67
m- & p-Xylenes
Concen: 0.82 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05152021.D
Acq: 15 May 2020 18:10

Tgt Ion: 91 Resp: 83984

Ion	Ratio	Lower	Upper
91	100		
106	50.6	29.7	69.7

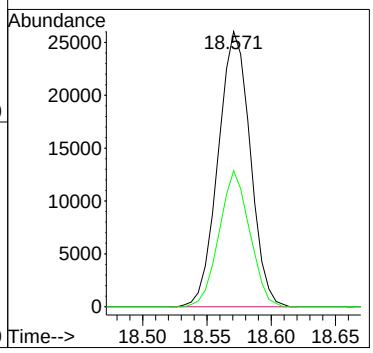


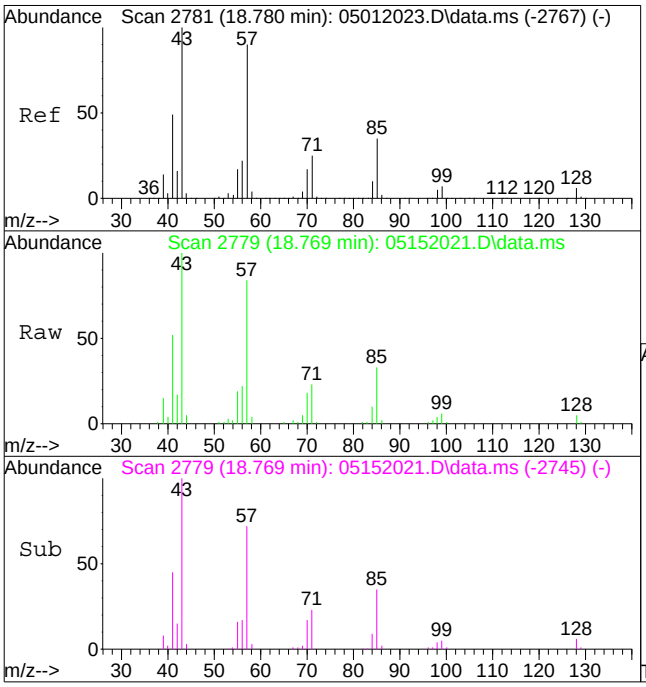


#70
o-Xylene
Concen: 0.44 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05152021.D
Acq: 15 May 2020 18:10

Tgt Ion: 91 Resp: 45154

Ion	Ratio	Lower	Upper
91	100		
106	47.0	27.5	67.5

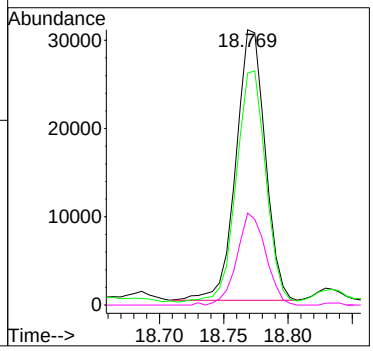


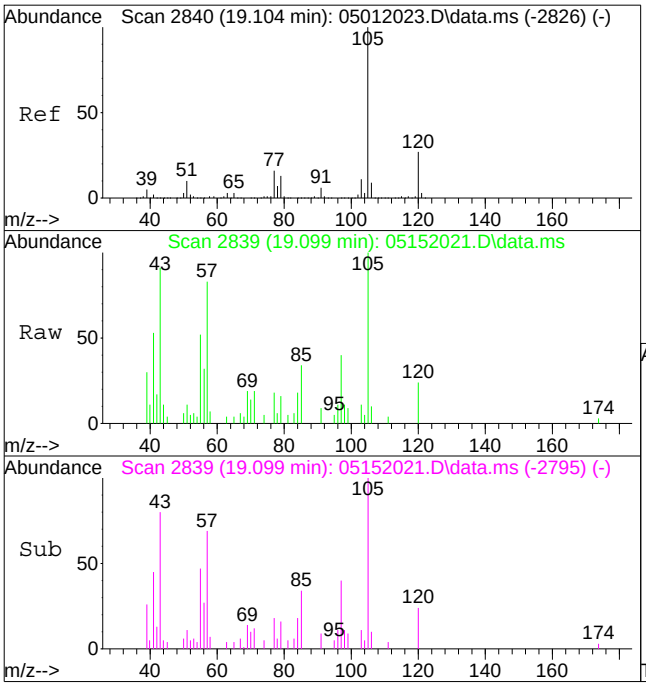


#71
n-Nonane
Concen: 0.88 ng
RT: 18.77 min Scan# 2779
Delta R.T. -0.011 min
Lab File: 05152021.D
Acq: 15 May 2020 18:10

Tgt Ion: 43 Resp: 48490

Ion	Ratio	Lower	Upper
43	100		
57	86.6	69.0	109.0
85	33.5	14.6	54.6

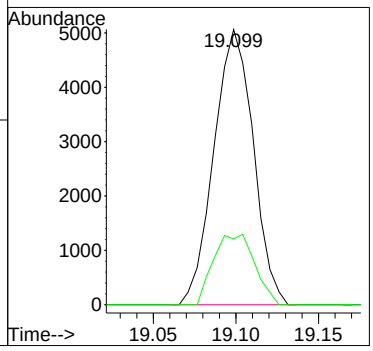


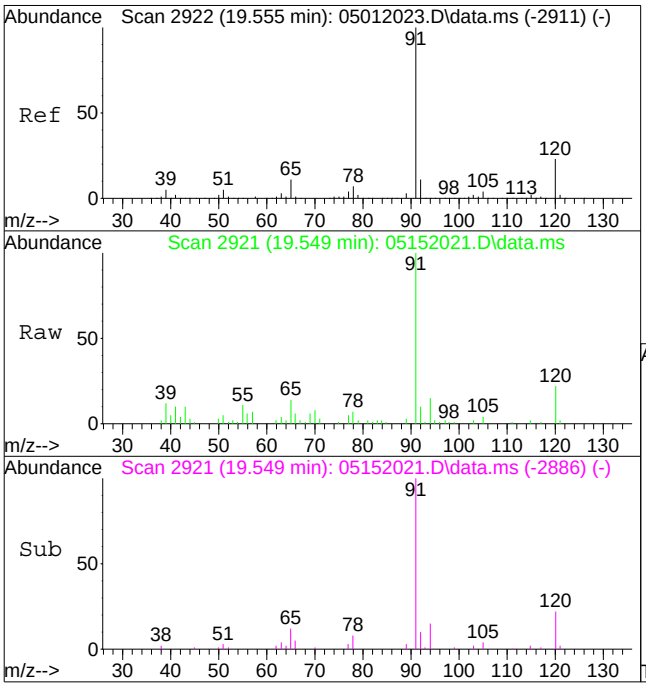


#74
Cumene
Concen: 0.07 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05152021.D
Acq: 15 May 2020 18:10

Tgt Ion:105 Resp: 8385

Ion	Ratio	Lower	Upper
105	100		
120	26.7	6.8	46.8

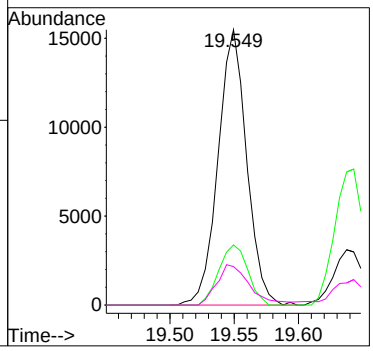


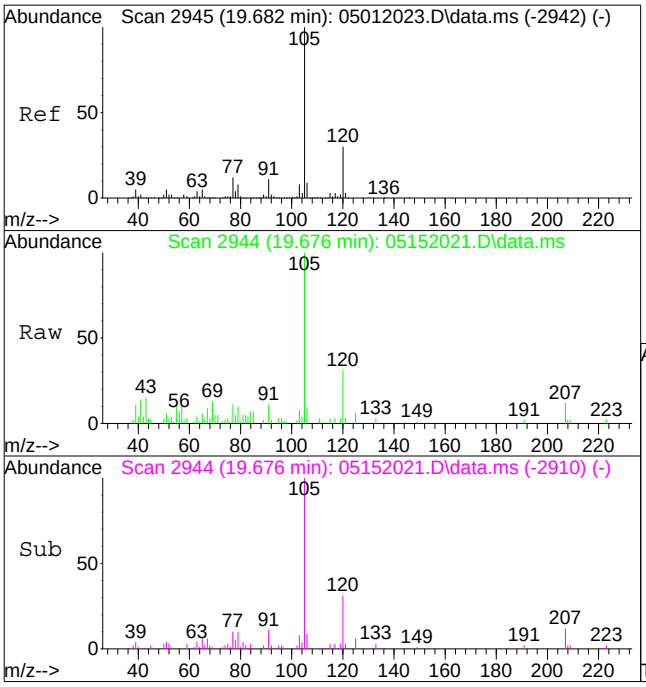


#76
n-Propylbenzene
Concen: 0.16 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05152021.D
Acq: 15 May 2020 18:10

Tgt Ion: 91 Resp: 23987

Ion	Ratio	Lower	Upper
91	100		
120	22.1	3.1	43.1
65	17.0	0.0	30.9

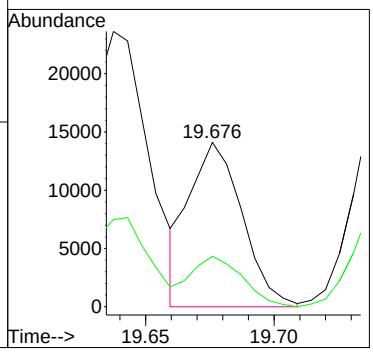


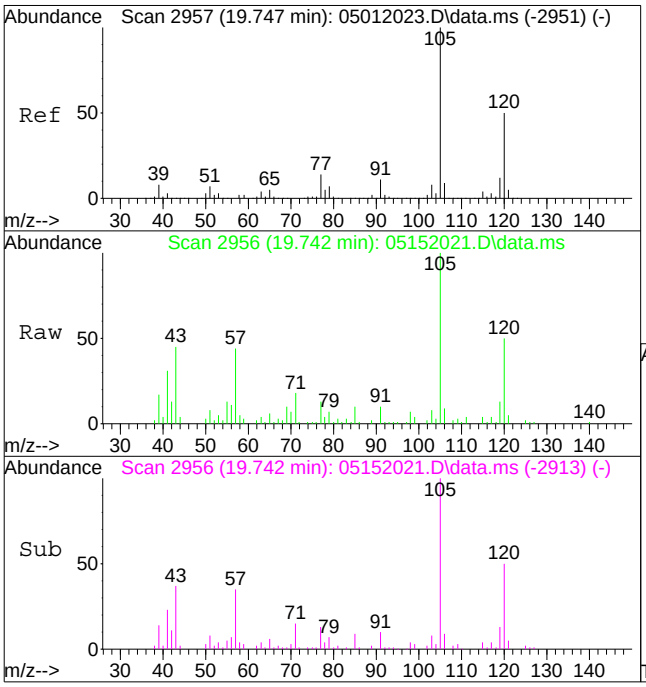


#78
4-Ethyltoluene
Concen: 0.17 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05152021.D
Acq: 15 May 2020 18:10

Tgt Ion:105 Resp: 20307

Ion	Ratio	Lower	Upper
105	100		
120	30.3	10.4	50.4

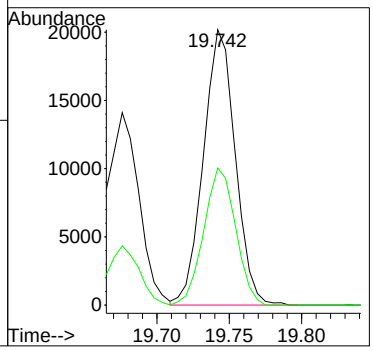


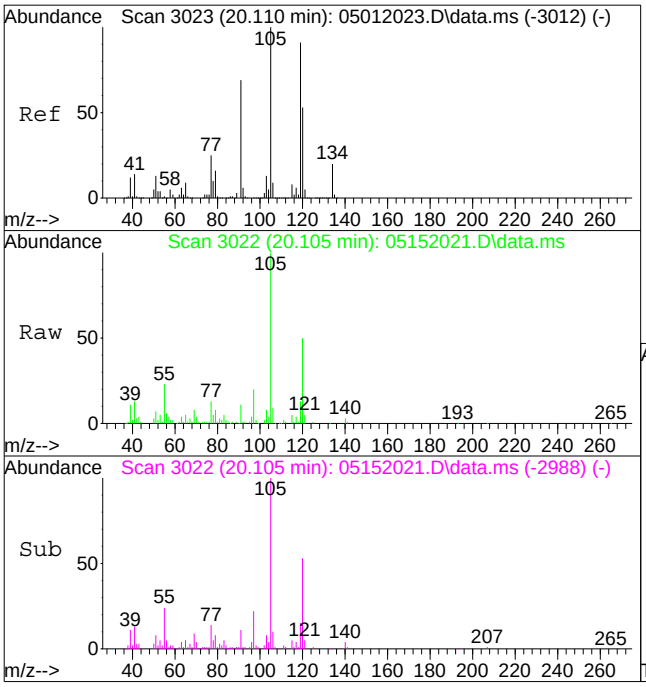


#79
1,3,5-Trimethylbenzene
Concen: 0.30 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05152021.D
Acq: 15 May 2020 18:10

Tgt Ion:105 Resp: 31003

Ion	Ratio	Lower	Upper
105	100		
120	49.7	29.9	69.9

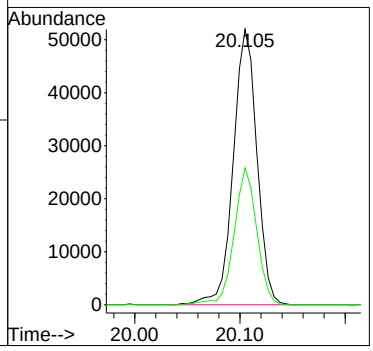




#82
1,2,4-Trimethylbenzene
Concen: 0.78 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05152021.D
Acq: 15 May 2020 18:10

Tgt Ion:105 Resp: 81440

Ion	Ratio	Lower	Upper
105	100		
120	47.6	33.6	73.6



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152022.D Vial: 5
Acq On : 15 May 2020 18:44 Operator: LH
Sample : P2002302-019 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 19:13:54 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/15/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	264910	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1138470	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	538331	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	425446	11.850	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.80%				
57) Toluene-d8 (SS2)	15.71	98	1121225	12.288	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.32%				
73) Bromofluorobenzene (SS3)	18.97	174	432321	13.167	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.36%				
Target Compounds							Qvalue
2) Propene	4.09	42	97315	3.172	ng		99
3) Dichlorodifluoromethan...	4.25	85	62546	1.042	ng		99
4) Chloromethane	4.53	50	99566	2.118	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	887	N.D.			
6) Vinyl Chloride	4.96	62	6558615	127.218	ng		100
7) 1,3-Butadiene	5.22	54	668	N.D.			
8) Bromomethane	5.65	94	1513	0.056	ng		95
9) Chloroethane	5.98	64	45351	2.227	ng		100
10) Ethanol	6.32	45	15631	0.660	ng		94
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	6.79	56	2210	0.118	ng		97
13) Acetone	6.99	58	81564m	3.442	ng		
14) Trichlorofluoromethane	7.24	101	11910	0.225	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	6843	0.095	ng	#	1
16) Acrylonitrile	7.75	53	241	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.44	59	1817	N.D.			
19) Methylene Chloride	8.41	84	545	N.D.			
20) 3-Chloro-1-propene (Al...	8.57	41	123	N.D.			
21) Trichlorotrifluoroethane	8.85	151	51355	2.051	ng		97
22) Carbon Disulfide	8.68	76	259181	2.348	ng		99
23) trans-1,2-Dichloroethene	9.68	61	164	N.D.			
24) 1,1-Dichloroethane	9.94	63	4786	0.095	ng		99
25) Methyl tert-Butyl Ether	10.06	73	588	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.48	72	3400	0.168	ng	#	70
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	11.26	57	16437	0.325	ng		99
32) Chloroform	11.30	83	5910	0.112	ng		96
34) Tetrahydrofuran (THF)	11.72	72	33332	1.691	ng		95
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.11	62	13571	0.325	ng		99
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	169856	1.391	ng		100
42) Carbon Tetrachloride	13.03	117	24774	0.597	ng		99
43) Cyclohexane	13.17	84	146294	3.216	ng		100
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	13.94	83	1841	N.D.			
47) Trichloroethene	13.97	130	1782	0.056	ng		83
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152022.D Vial: 5
Acq On : 15 May 2020 18:44 Operator: LH
Sample : P2002302-019 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 19:13:54 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

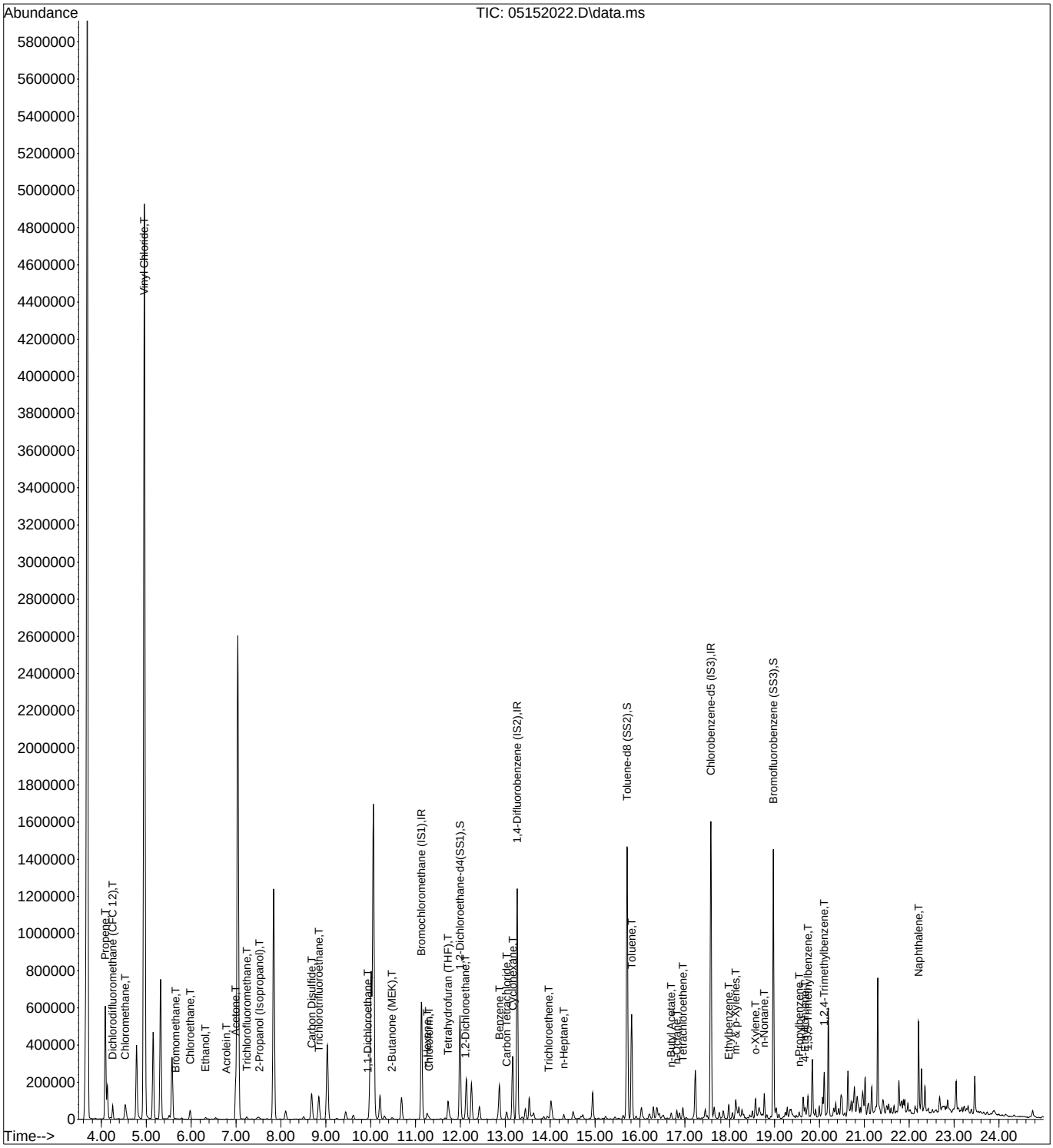
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.30	71	6213	0.218 ng	97
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	14.87	58	682	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	15.52	97	565	N.D.	
58) Toluene	15.82	91	449286	3.820 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	16.47	107	1406	N.D.	
62) n-Butyl Acetate	16.70	43	22659	0.325 ng	90
63) n-Octane	16.82	57	9118	0.374 ng	96
64) Tetrachloroethene	16.96	166	19888	0.599 ng	99
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	17.98	91	55969	0.427 ng	99
67) m- & p-Xylenes	18.14	91	75565	0.726 ng	100
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	1238	N.D.	
70) o-Xylene	18.57	91	40053	0.379 ng	99
71) n-Nonane	18.77	43	48404	0.864 ng	98
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	19.10	105	6361	N.D.	
75) alpha-Pinene	19.45	93	1533	N.D.	
76) n-Propylbenzene	19.55	91	19721	0.128 ng	91
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.68	105	18007	0.148 ng	100
79) 1,3,5-Trimethylbenzene	19.74	105	36473	0.345 ng	98
80) alpha-Methylstyrene	0.00	118	0	N.D. d	
81) 2-Ethyltoluene	0.00	105	0	N.D. d	
82) 1,2,4-Trimethylbenzene	20.10	105	105060	0.989 ng	90
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.22	91	3925	N.D.	
85) 1,3-Dichlorobenzene	20.30	146	366	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	366	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D. d	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.61	68	1417	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.11	180	127	N.D.	
95) Naphthalene	22.21	128	40993	0.316 ng	98
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152022.D Vial: 5
Acq On : 15 May 2020 18:44 Operator: LH
Sample : P2002302-019 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 19:13:54 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152022.D Vial: 5
Acq On : 15 May 2020 18:44 Operator: LH
Sample : P2002302-019 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 19:13:54 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/15/20

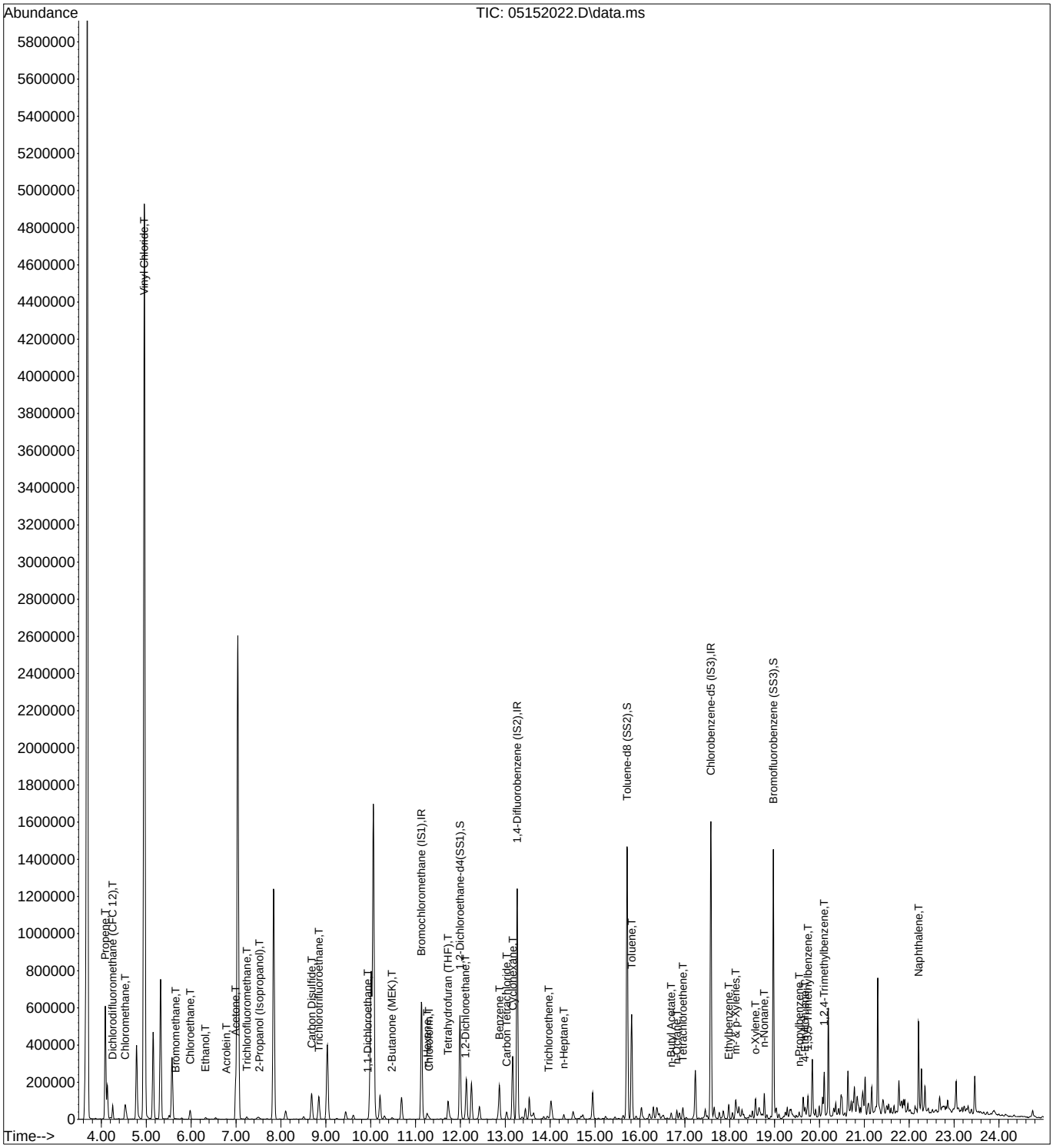
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	264910	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1138470	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	538331	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	425446	11.850	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.80%				
57) Toluene-d8 (SS2)	15.71	98	1121225	12.288	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.32%				
73) Bromofluorobenzene (SS3)	18.97	174	432321	13.167	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.36%				
Target Compounds							Qvalue
2) Propene	4.09	42	97315	3.172	ng		99
3) Dichlorodifluoromethan...	4.25	85	62546	1.042	ng		99
4) Chloromethane	4.53	50	99566	2.118	ng		100
6) Vinyl Chloride	4.96	62	6558615	127.218	ng		100
8) Bromomethane	5.65	94	1513	0.056	ng		95
9) Chloroethane	5.98	64	45351	2.227	ng		100
10) Ethanol	6.32	45	15631	0.660	ng		94
12) Acrolein	6.79	56	2210	0.118	ng		97
13) Acetone	6.99	58	81564m	3.442	ng		
14) Trichlorofluoromethane	7.24	101	11910	0.225	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	6843	0.095	ng	#	1
21) Trichlorotrifluoroethane	8.85	151	51355	2.051	ng		97
22) Carbon Disulfide	8.68	76	259181	2.348	ng		99
24) 1,1-Dichloroethane	9.94	63	4786	0.095	ng		99
27) 2-Butanone (MEK)	10.48	72	3400	0.168	ng	#	70
31) n-Hexane	11.26	57	16437	0.325	ng		99
32) Chloroform	11.30	83	5910	0.112	ng		96
34) Tetrahydrofuran (THF)	11.72	72	33332	1.691	ng		95
36) 1,2-Dichloroethane	12.11	62	13571	0.325	ng		99
41) Benzene	12.87	78	169856	1.391	ng		100
42) Carbon Tetrachloride	13.03	117	24774	0.597	ng		99
43) Cyclohexane	13.17	84	146294	3.216	ng		100
47) Trichloroethene	13.97	130	1782	0.056	ng		83
51) n-Heptane	14.30	71	6213	0.218	ng		97
58) Toluene	15.82	91	449286	3.820	ng		100
62) n-Butyl Acetate	16.70	43	22659	0.325	ng		90
63) n-Octane	16.82	57	9118	0.374	ng		96
64) Tetrachloroethene	16.96	166	19888	0.599	ng		99
66) Ethylbenzene	17.98	91	55969	0.427	ng		99
67) m- & p-Xylenes	18.14	91	75565	0.726	ng		100
70) o-Xylene	18.57	91	40053	0.379	ng		99
71) n-Nonane	18.77	43	48404	0.864	ng		98
76) n-Propylbenzene	19.55	91	19721	0.128	ng		91
78) 4-Ethyltoluene	19.68	105	18007	0.148	ng		100
79) 1,3,5-Trimethylbenzene	19.74	105	36473	0.345	ng		98
82) 1,2,4-Trimethylbenzene	20.10	105	105060	0.989	ng		90
95) Naphthalene	22.21	128	40993	0.316	ng		98

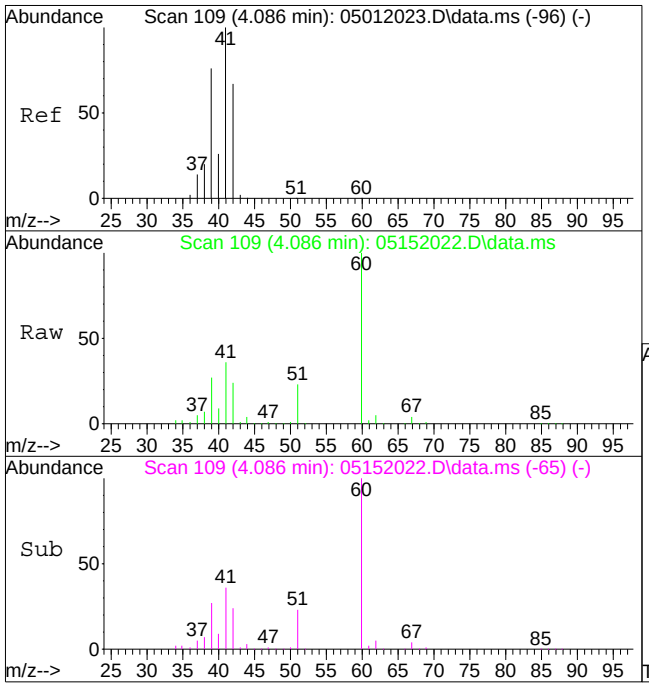
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152022.D Vial: 5
Acq On : 15 May 2020 18:44 Operator: LH
Sample : P2002302-019 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 19:13:54 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

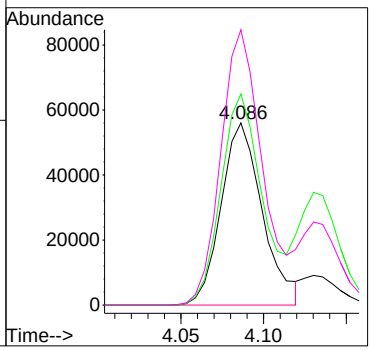


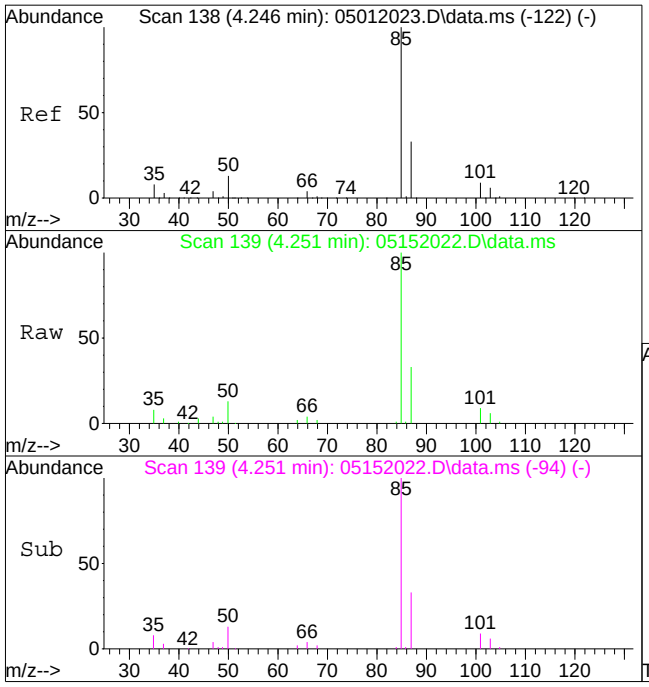


#2
Propene
Concen: 3.17 ng
RT: 4.09 min Scan# 109
Delta R.T. -0.006 min
Lab File: 05152022.D
Acq: 15 May 2020 18:44

Tgt Ion: 42 Resp: 97315

Ion	Ratio	Lower	Upper
42	100		
39	117.1	96.1	136.1
41	150.1	131.9	171.9

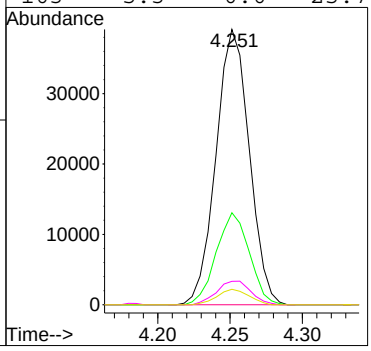


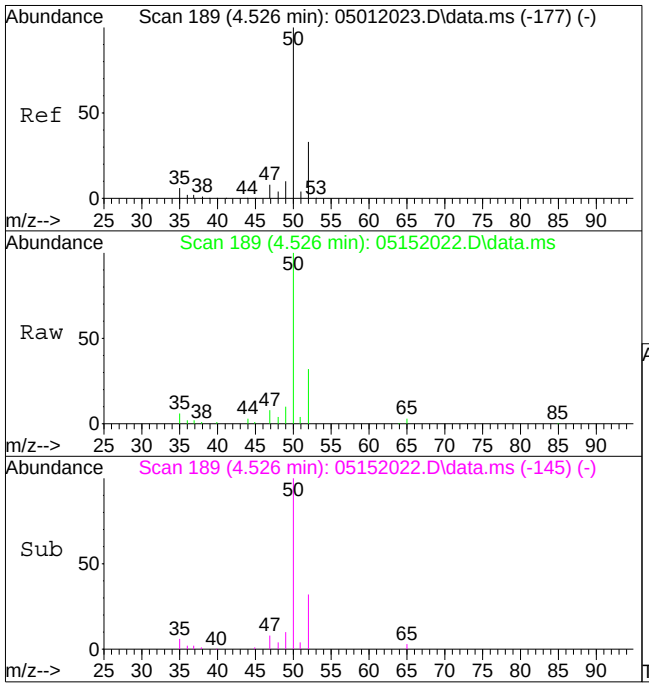


#3
Dichlorodifluoromethane (CFC 12)
Concen: 1.04 ng
RT: 4.25 min Scan# 139
Delta R.T. -0.000 min
Lab File: 05152022.D
Acq: 15 May 2020 18:44

Tgt Ion: 85 Resp: 62546

Ion	Ratio	Lower	Upper
85	100		
87	33.2	12.4	52.4
101	8.9	0.0	28.8
103	5.3	0.0	25.7

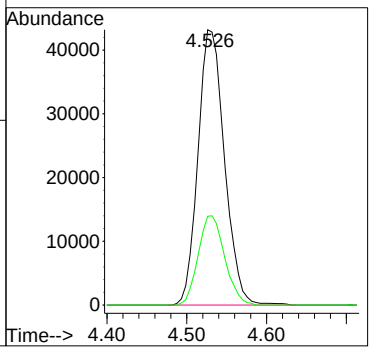


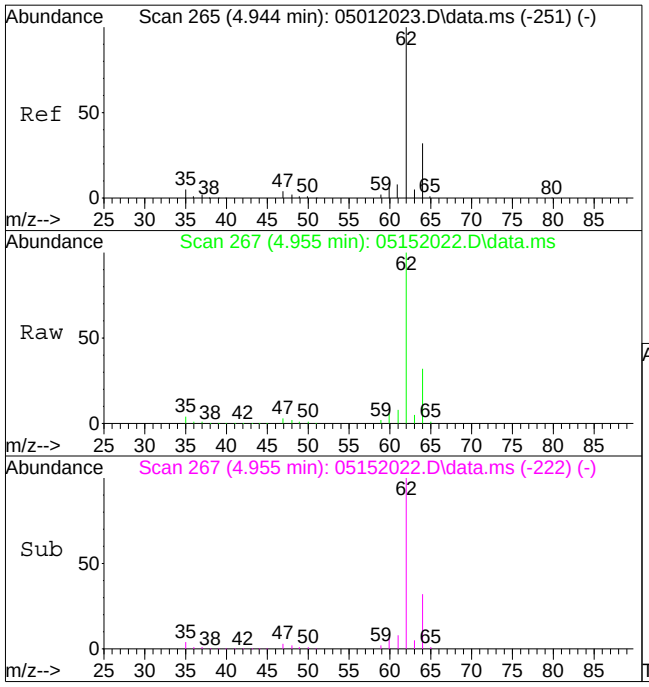


#4
Chloromethane
Concen: 2.12 ng
RT: 4.53 min Scan# 189
Delta R.T. -0.006 min
Lab File: 05152022.D
Acq: 15 May 2020 18:44

Tgt Ion: 50 Resp: 99566

Ion	Ratio	Lower	Upper
50	100		
52	32.4	12.5	52.5

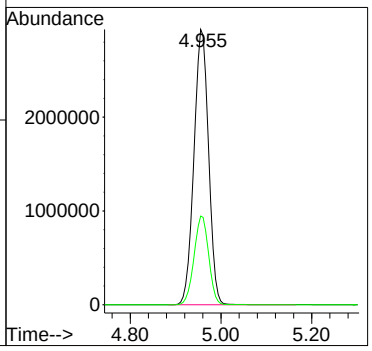


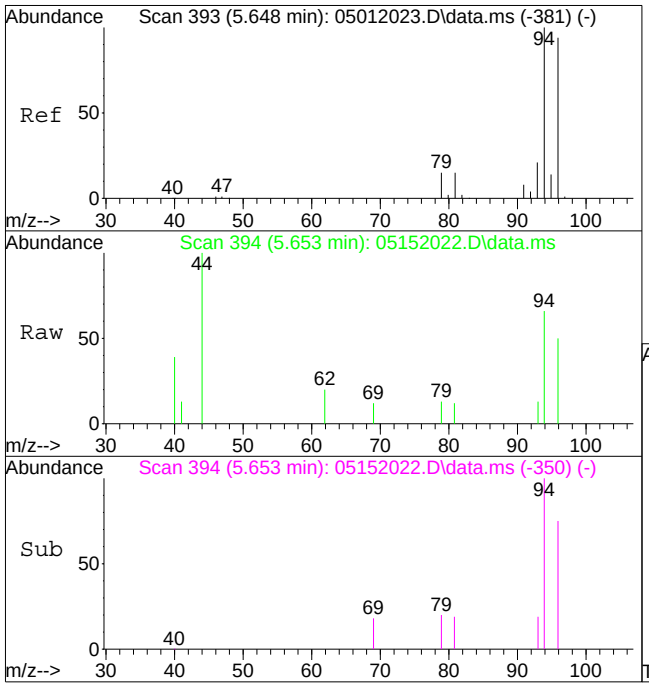


#6
Vinyl Chloride
Concen: 127.22 ng
RT: 4.96 min Scan# 267
Delta R.T. -0.000 min
Lab File: 05152022.D
Acq: 15 May 2020 18:44

Tgt Ion: 62 Resp: 6558615

Ion	Ratio	Lower	Upper
62	100		
64	32.2	12.1	52.1

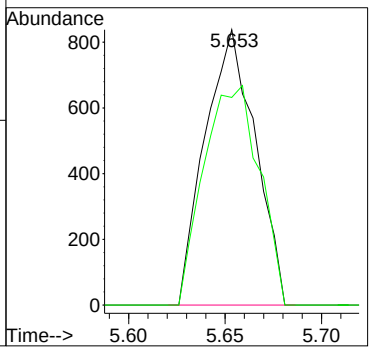


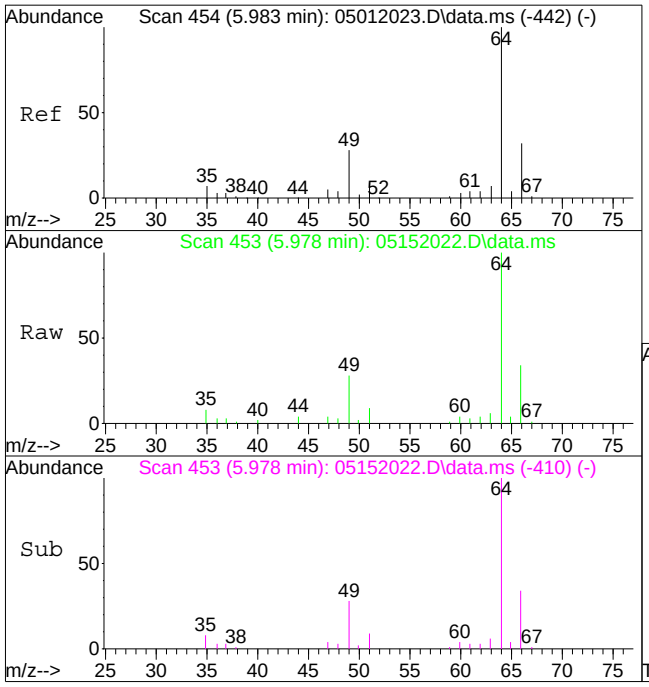


#8
Bromomethane
Concen: 0.06 ng
RT: 5.65 min Scan# 394
Delta R.T. -0.006 min
Lab File: 05152022.D
Acq: 15 May 2020 18:44

Tgt Ion: 94 Resp: 1513

Ion	Ratio	Lower	Upper
94	100		
96	88.4	73.7	113.7

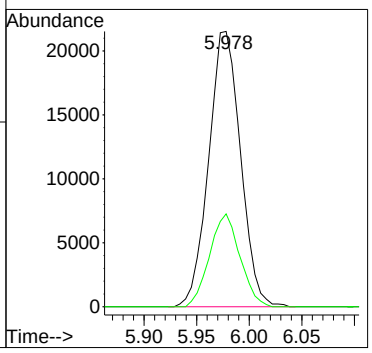


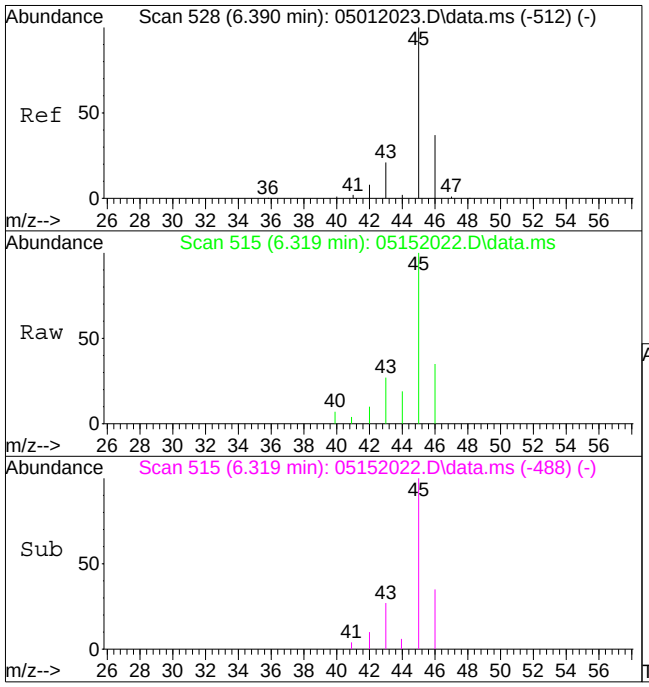


#9
Chloroethane
Concen: 2.23 ng
RT: 5.98 min Scan# 453
Delta R.T. -0.011 min
Lab File: 05152022.D
Acq: 15 May 2020 18:44

Tgt Ion: 64 Resp: 45351

Ion	Ratio	Lower	Upper
64	100		
66	32.1	12.1	52.1

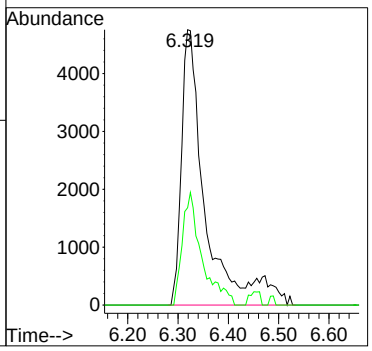


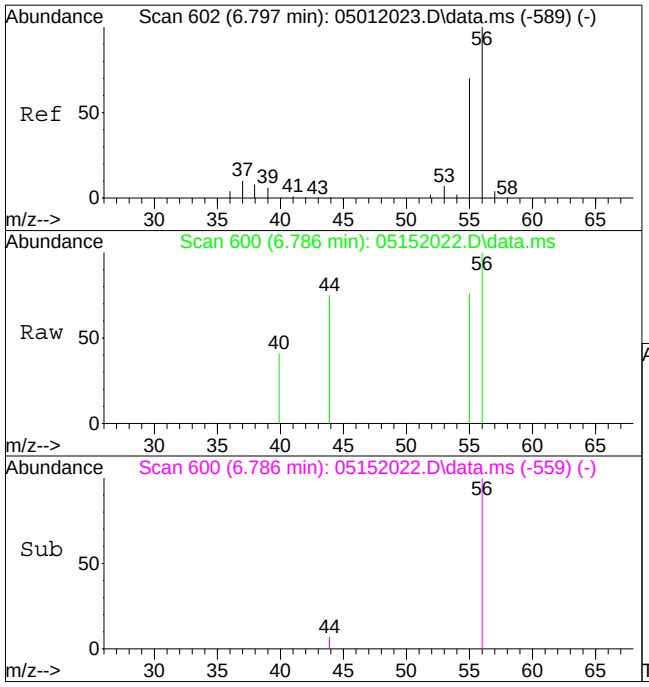


#10
Ethanol
Concen: 0.66 ng
RT: 6.32 min Scan# 515
Delta R.T. -0.099 min
Lab File: 05152022.D
Acq: 15 May 2020 18:44

Tgt Ion: 45 Resp: 15631

Ion	Ratio	Lower	Upper
45	100		
46	33.5	17.2	57.2

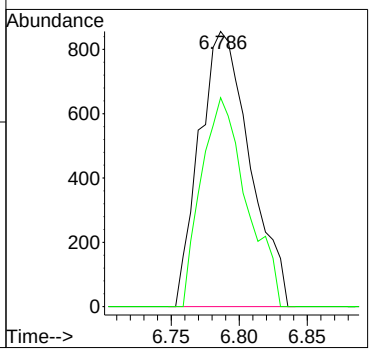


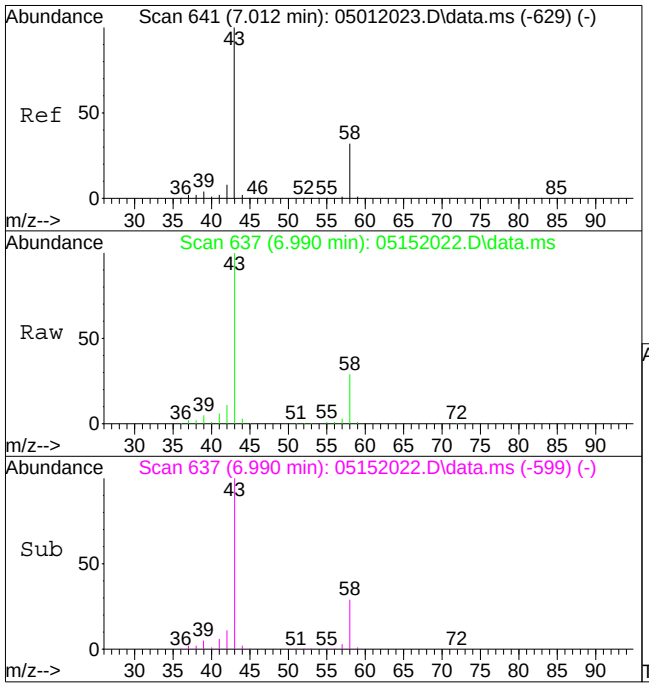


#12
Acrolein
Concen: 0.12 ng
RT: 6.79 min Scan# 600
Delta R.T. -0.022 min
Lab File: 05152022.D
Acq: 15 May 2020 18:44

Tgt Ion: 56 Resp: 2210

Ion	Ratio	Lower	Upper
56	100		
55	68.0	50.2	90.2

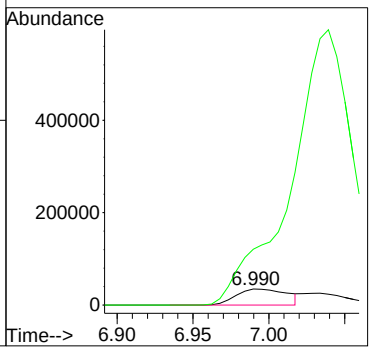


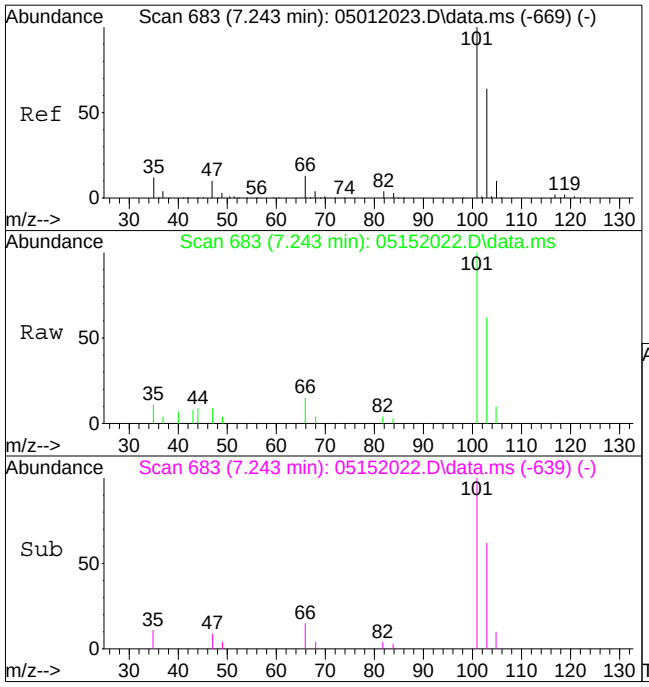


#13
Acetone
Concen: 3.44 ng m
RT: 6.99 min Scan# 637
Delta R.T. -0.039 min
Lab File: 05152022.D
Acq: 15 May 2020 18:44

Tgt Ion: 58 Resp: 81564

Ion	Ratio	Lower	Upper
58	100		
43	2067.1	294.4	354.4#

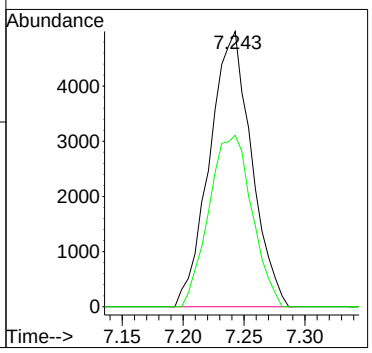


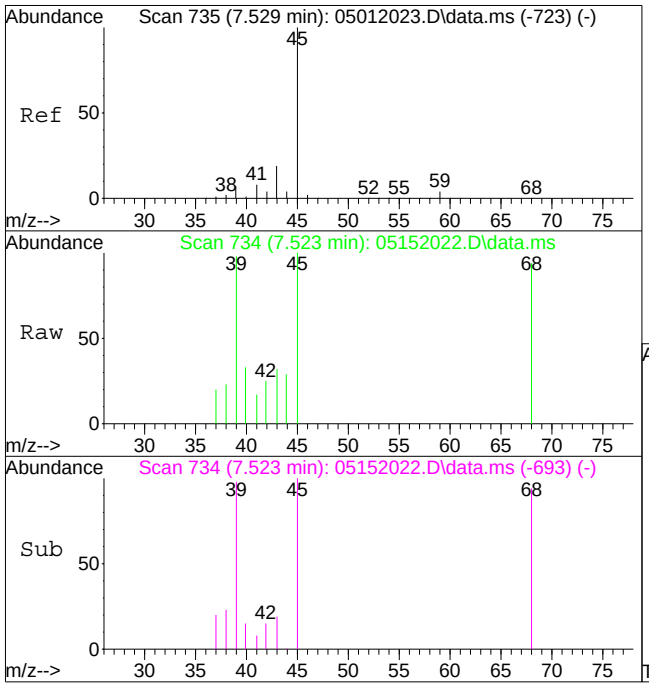


#14
Trichlorofluoromethane
Concen: 0.22 ng
RT: 7.24 min Scan# 683
Delta R.T. -0.006 min
Lab File: 05152022.D
Acq: 15 May 2020 18:44

Tgt Ion:101 Resp: 11910

Ion	Ratio	Lower	Upper
101	100		
103	64.1	44.4	84.4

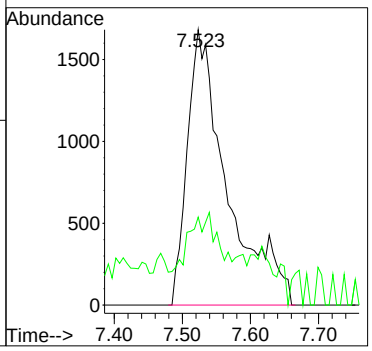


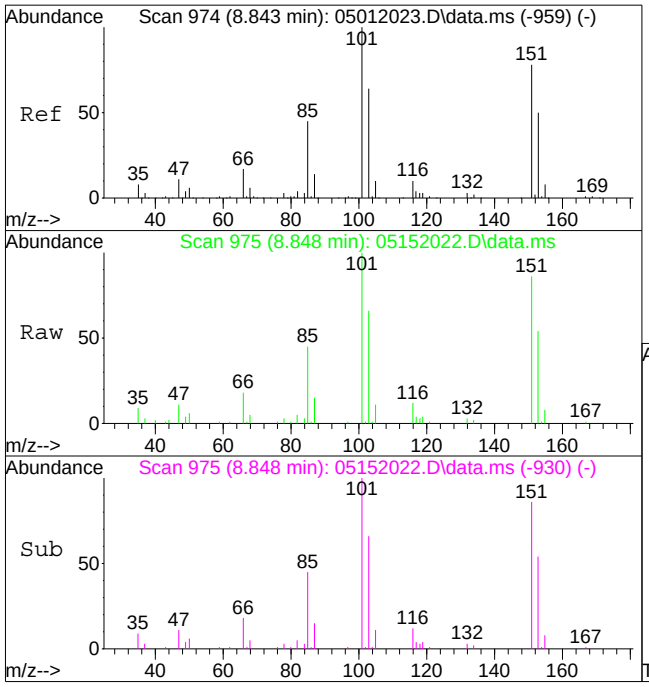


#15
2-Propanol (Isopropanol)
Concen: 0.10 ng
RT: 7.52 min Scan# 734
Delta R.T. -0.022 min
Lab File: 05152022.D
Acq: 15 May 2020 18:44

Tgt Ion: 45 Resp: 6843

Ion	Ratio	Lower	Upper
45	100		
43	88.1	0.0	39.5#

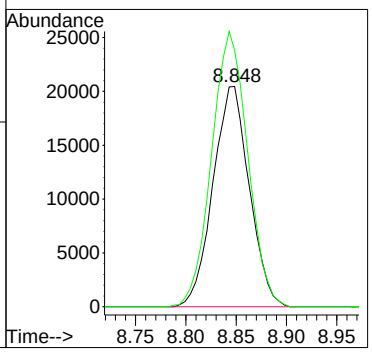


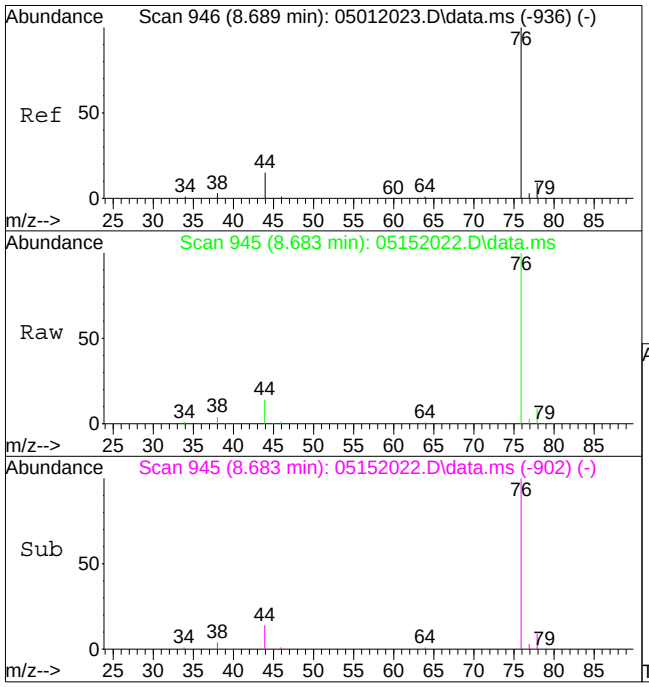


#21
Trichlorotrifluoroethane
Concen: 2.05 ng
RT: 8.85 min Scan# 975
Delta R.T. -0.000 min
Lab File: 05152022.D
Acq: 15 May 2020 18:44

Tgt Ion:151 Resp: 51355

Ion	Ratio	Lower	Upper
151	100		
101	124.3	107.3	147.3

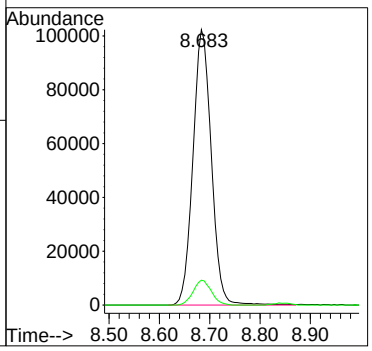


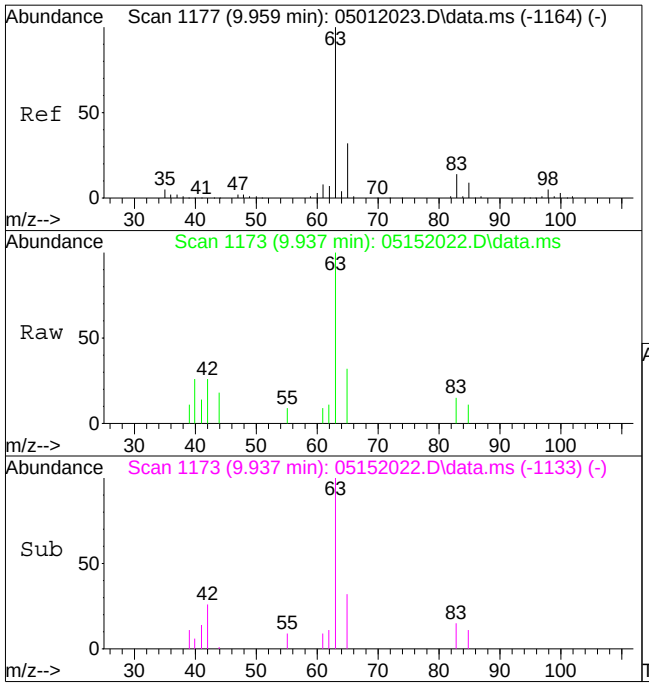


#22
Carbon Disulfide
Concen: 2.35 ng
RT: 8.68 min Scan# 945
Delta R.T. -0.011 min
Lab File: 05152022.D
Acq: 15 May 2020 18:44

Tgt Ion: 76 Resp: 259181

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	29.2

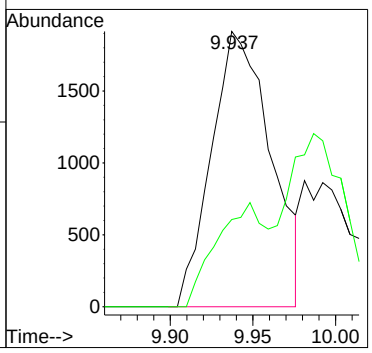


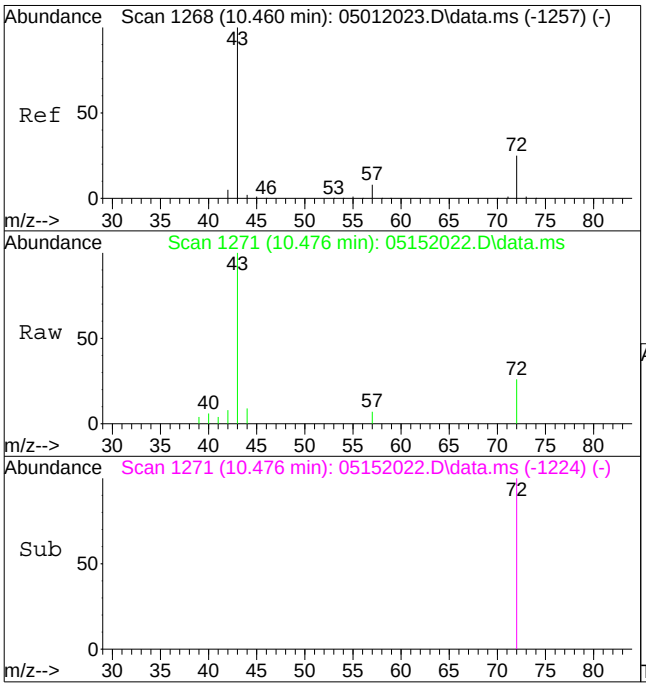


#24
1,1-Dichloroethane
Concen: 0.10 ng
RT: 9.94 min Scan# 1173
Delta R.T. -0.028 min
Lab File: 05152022.D
Acq: 15 May 2020 18:44

Tgt Ion: 63 Resp: 4786

Ion	Ratio	Lower	Upper
63	100		
65	31.2	11.8	51.8

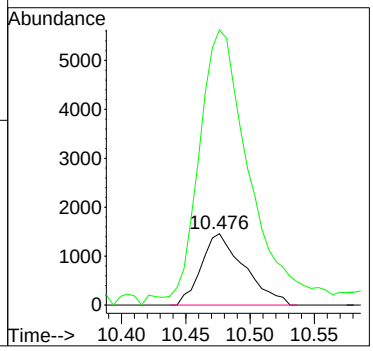


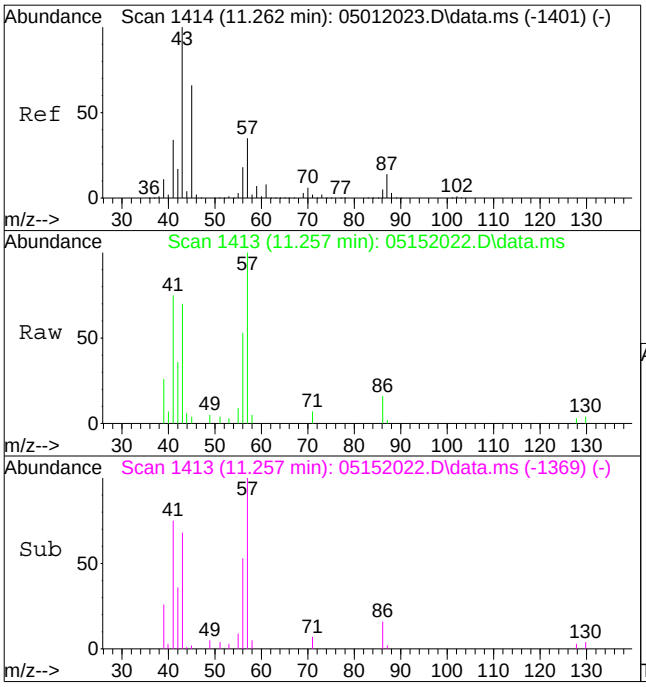


#27
2-Butanone (MEK)
Concen: 0.17 ng
RT: 10.48 min Scan# 1271
Delta R.T. 0.011 min
Lab File: 05152022.D
Acq: 15 May 2020 18:44

Tgt Ion: 72 Resp: 3400

Ion	Ratio	Lower	Upper
72	100		
43	480.9	389.7	429.7#

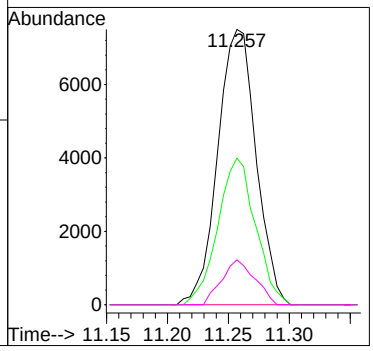


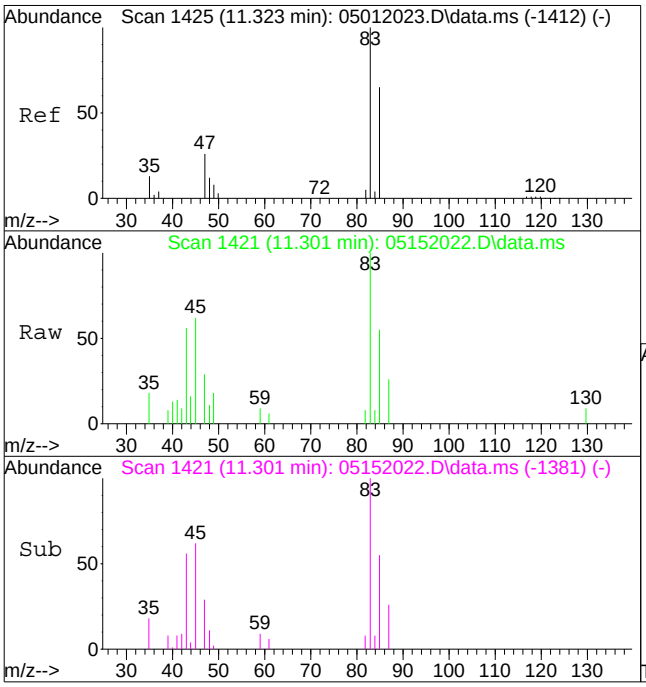


#31
n-Hexane
Concen: 0.33 ng
RT: 11.26 min Scan# 1413
Delta R.T. -0.006 min
Lab File: 05152022.D
Acq: 15 May 2020 18:44

Tgt Ion: 57 Resp: 16437

Ion	Ratio	Lower	Upper
57	100		
56	52.2	41.4	62.0
86	14.1	12.4	18.6

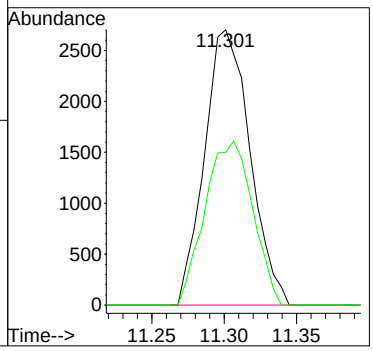


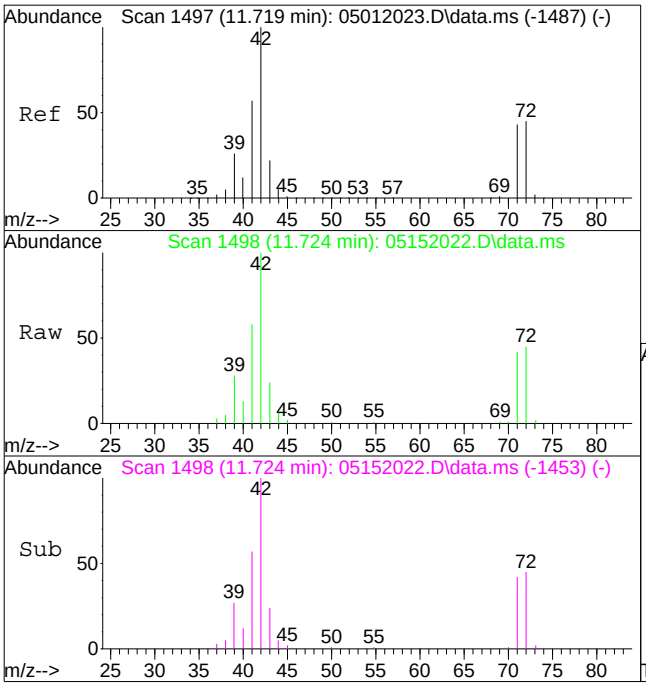


#32
Chloroform
Concen: 0.11 ng
RT: 11.30 min Scan# 1421
Delta R.T. -0.028 min
Lab File: 05152022.D
Acq: 15 May 2020 18:44

Tgt Ion: 83 Resp: 5910

Ion	Ratio	Lower	Upper
83	100		
85	62.5	45.5	85.5

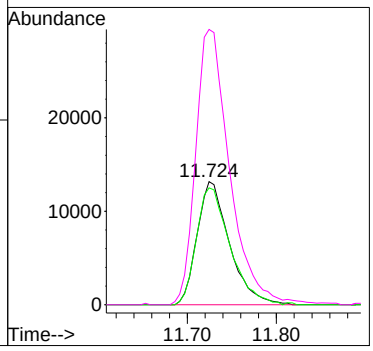


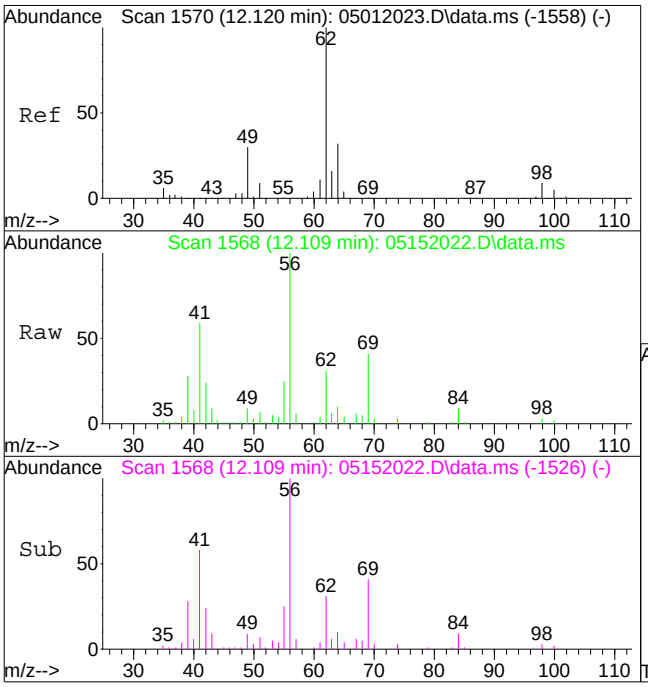


#34
Tetrahydrofuran (THF)
Concen: 1.69 ng
RT: 11.72 min Scan# 1498
Delta R.T. -0.000 min
Lab File: 05152022.D
Acq: 15 May 2020 18:44

Tgt Ion: 72 Resp: 33332

Ion	Ratio	Lower	Upper
72	100		
71	98.4	77.0	117.0
42	235.6	204.6	244.6

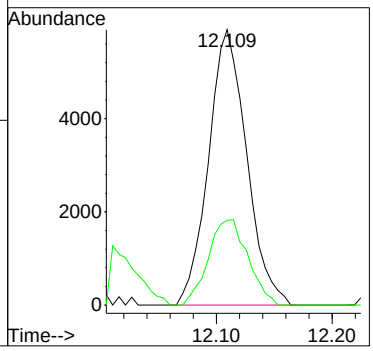


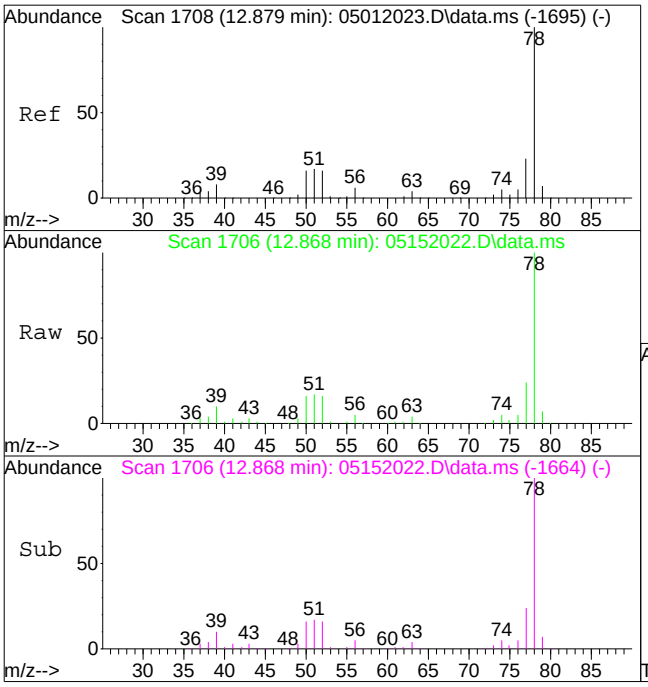


#36
1,2-Dichloroethane
Concen: 0.32 ng
RT: 12.11 min Scan# 1568
Delta R.T. -0.017 min
Lab File: 05152022.D
Acq: 15 May 2020 18:44

Tgt Ion: 62 Resp: 13571

Ion	Ratio	Lower	Upper
62	100		
64	32.1	12.4	52.4

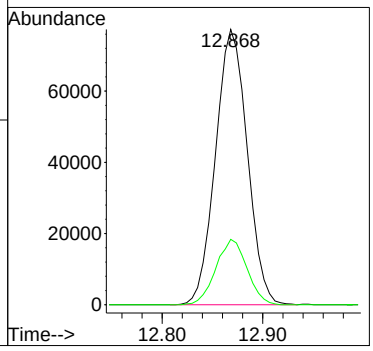


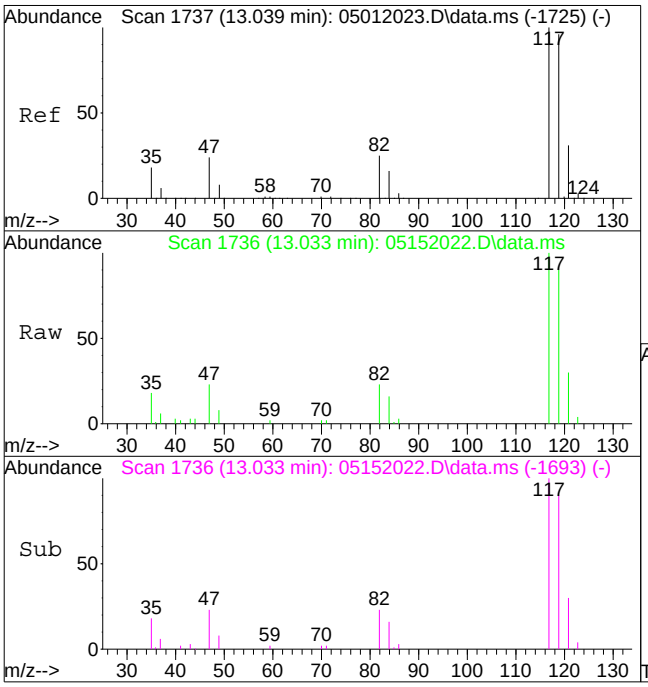


#41
Benzene
Concen: 1.39 ng
RT: 12.87 min Scan# 1706
Delta R.T. -0.017 min
Lab File: 05152022.D
Acq: 15 May 2020 18:44

Tgt Ion: 78 Resp: 169856

Ion	Ratio	Lower	Upper
78	100		
77	23.2	3.4	43.4

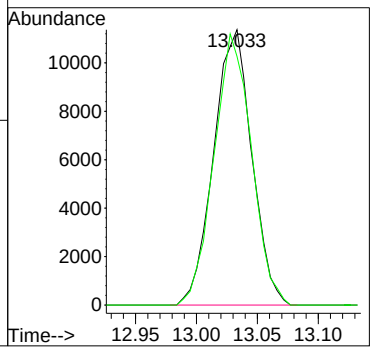


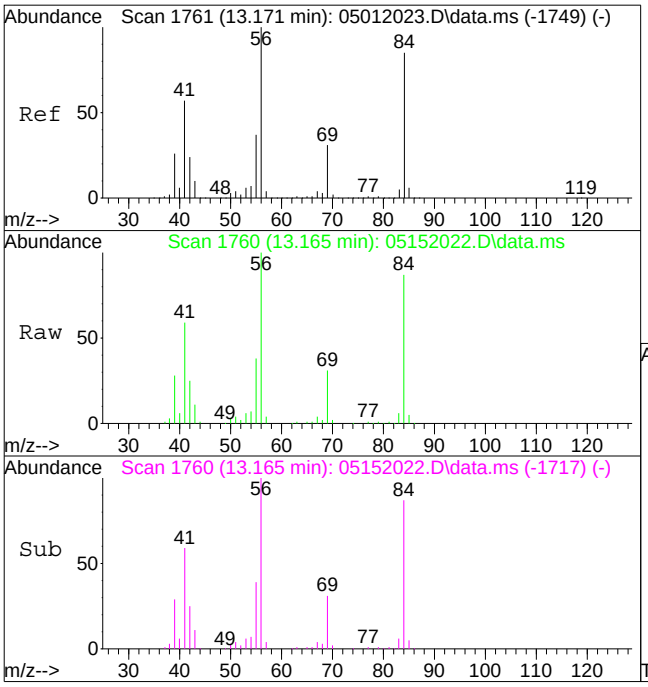


#42
Carbon Tetrachloride
Concen: 0.60 ng
RT: 13.03 min Scan# 1736
Delta R.T. -0.011 min
Lab File: 05152022.D
Acq: 15 May 2020 18:44

Tgt Ion:117 Resp: 24774

Ion	Ratio	Lower	Upper
117	100		
119	96.8	76.2	116.2

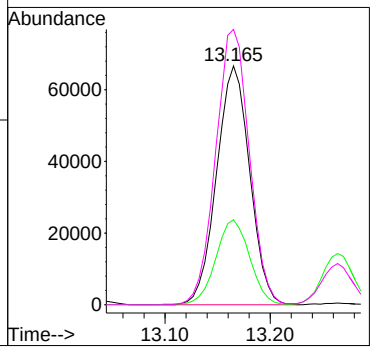


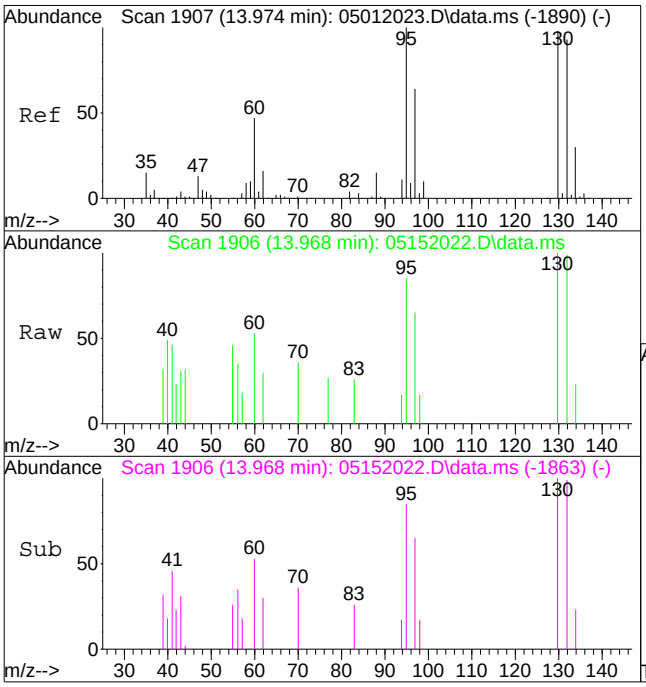


#43
Cyclohexane
Concen: 3.22 ng
RT: 13.17 min Scan# 1760
Delta R.T. -0.011 min
Lab File: 05152022.D
Acq: 15 May 2020 18:44

Tgt Ion: 84 Resp: 146294

Ion	Ratio	Lower	Upper
84	100		
69	36.5	16.5	56.5
56	117.4	97.4	137.4

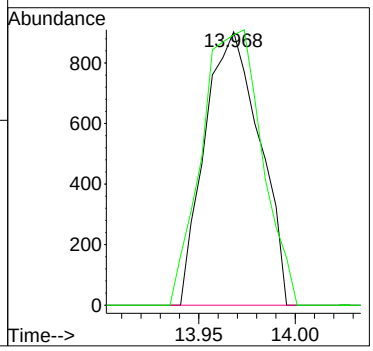


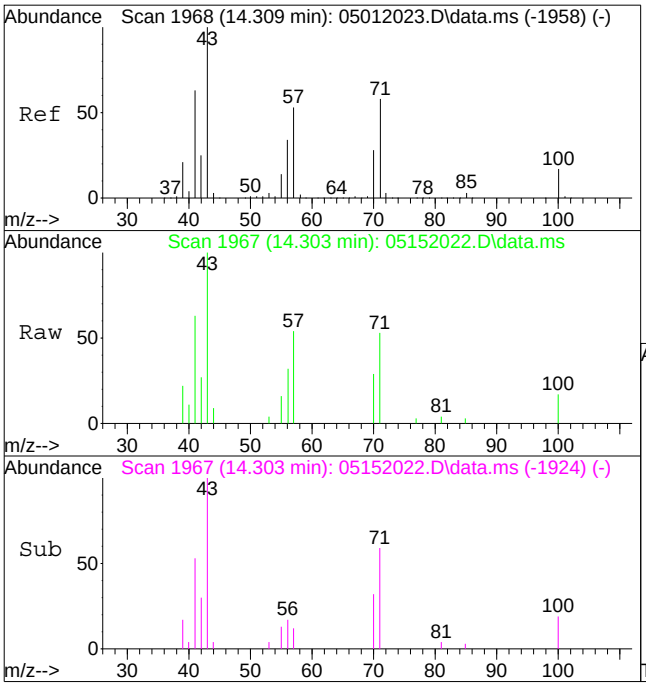


#47
Trichloroethene
Concen: 0.06 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05152022.D
Acq: 15 May 2020 18:44

Tgt Ion:130 Resp: 1782

Ion	Ratio	Lower	Upper
130	100		
132	110.9	74.9	114.9

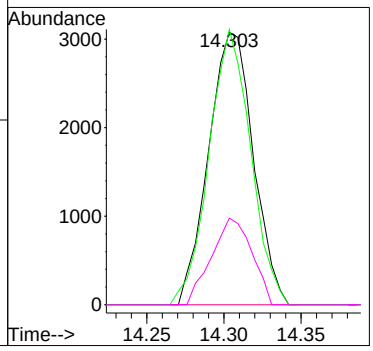


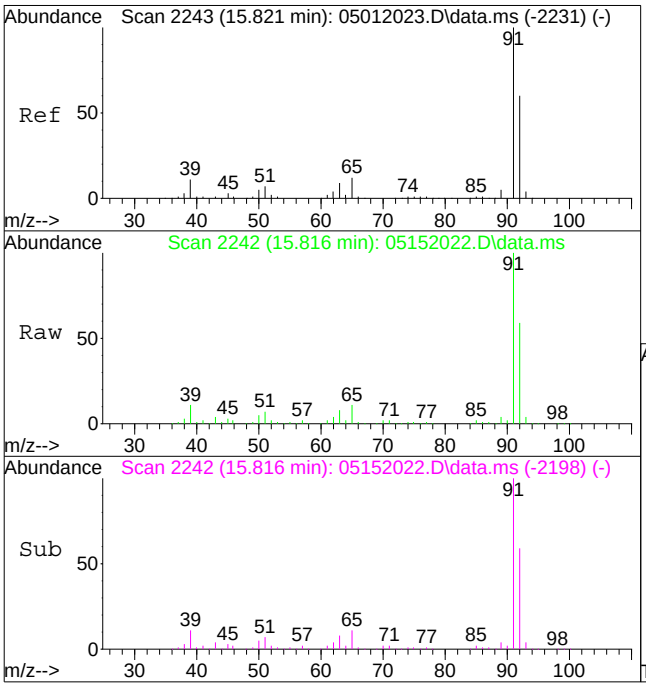


#51
n-Heptane
Concen: 0.22 ng
RT: 14.30 min Scan# 1967
Delta R.T. -0.011 min
Lab File: 05152022.D
Acq: 15 May 2020 18:44

Tgt Ion: 71 Resp: 6213

Ion	Ratio	Lower	Upper
71	100		
57	94.0	71.0	111.0
100	28.6	8.4	48.4

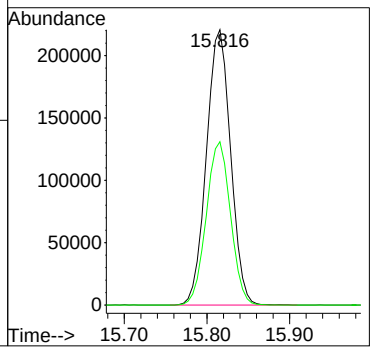


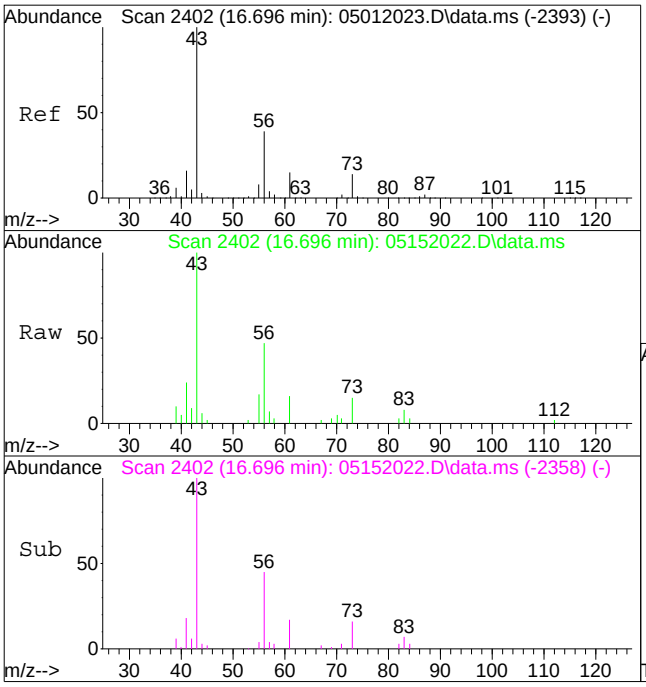


#58
Toluene
Concen: 3.82 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05152022.D
Acq: 15 May 2020 18:44

Tgt Ion: 91 Resp: 449286

Ion	Ratio	Lower	Upper
91	100		
92	59.4	39.4	79.4

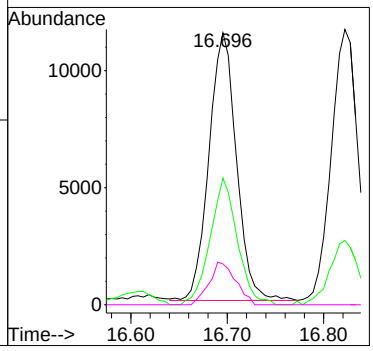


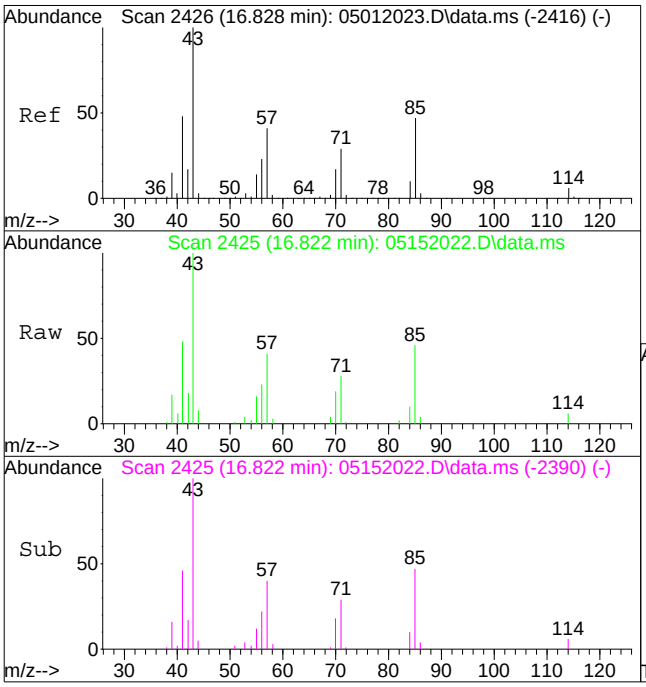


#62
n-Butyl Acetate
Concen: 0.33 ng
RT: 16.70 min Scan# 2402
Delta R.T. -0.006 min
Lab File: 05152022.D
Acq: 15 May 2020 18:44

Tgt Ion: 43 Resp: 22659

Ion	Ratio	Lower	Upper
43	100		
56	46.8	19.2	59.2
73	15.3	0.0	34.4

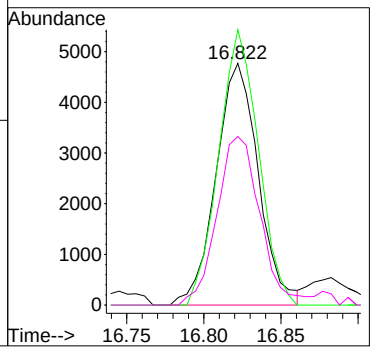


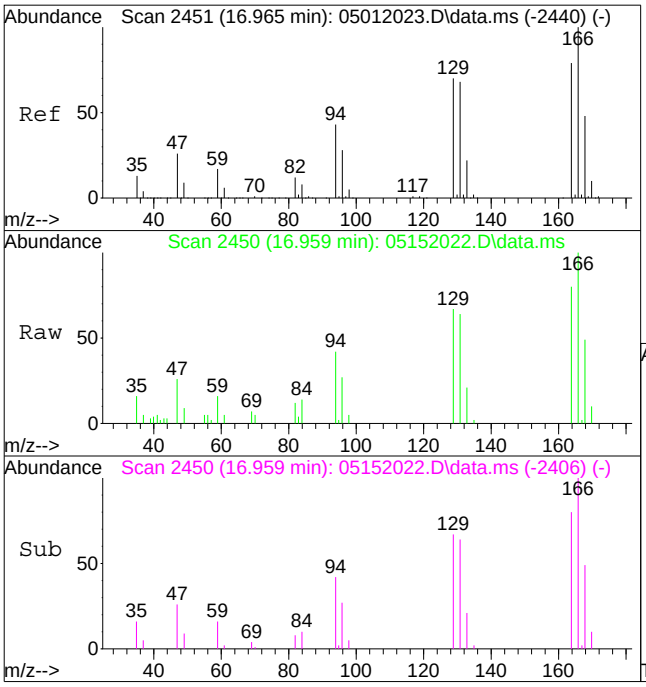


#63
n-Octane
Concen: 0.37 ng
RT: 16.82 min Scan# 2425
Delta R.T. -0.006 min
Lab File: 05152022.D
Acq: 15 May 2020 18:44

Tgt Ion: 57 Resp: 9118

Ion	Ratio	Lower	Upper
57	100		
85	106.4	91.0	136.4
71	70.9	56.2	84.2

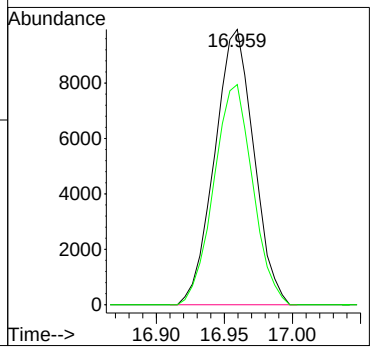


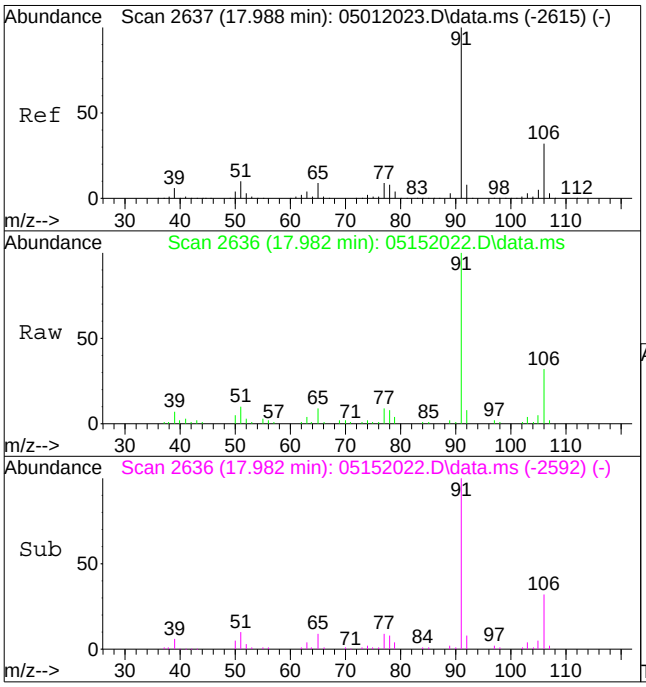


#64
Tetrachloroethene
Concen: 0.60 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05152022.D
Acq: 15 May 2020 18:44

Tgt Ion:166 Resp: 19888

Ion	Ratio	Lower	Upper
166	100		
164	79.4	58.4	98.4

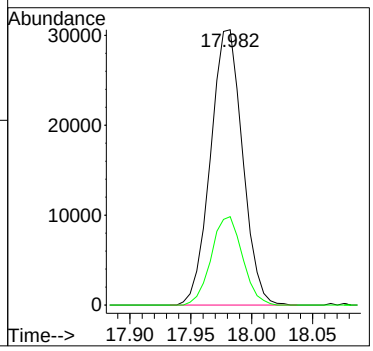


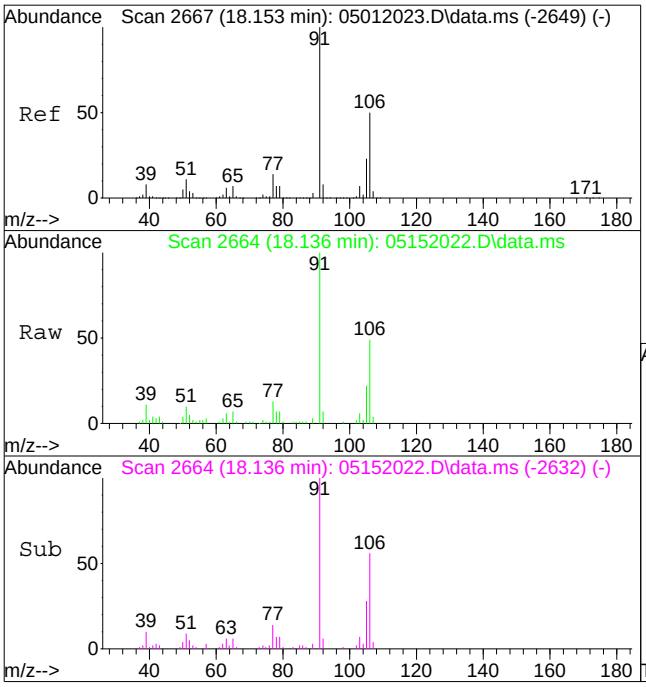


#66
Ethylbenzene
Concen: 0.43 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05152022.D
Acq: 15 May 2020 18:44

Tgt Ion: 91 Resp: 55969

Ion	Ratio	Lower	Upper
91	100		
106	31.3	11.6	51.6

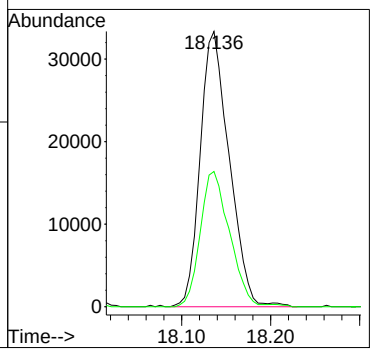


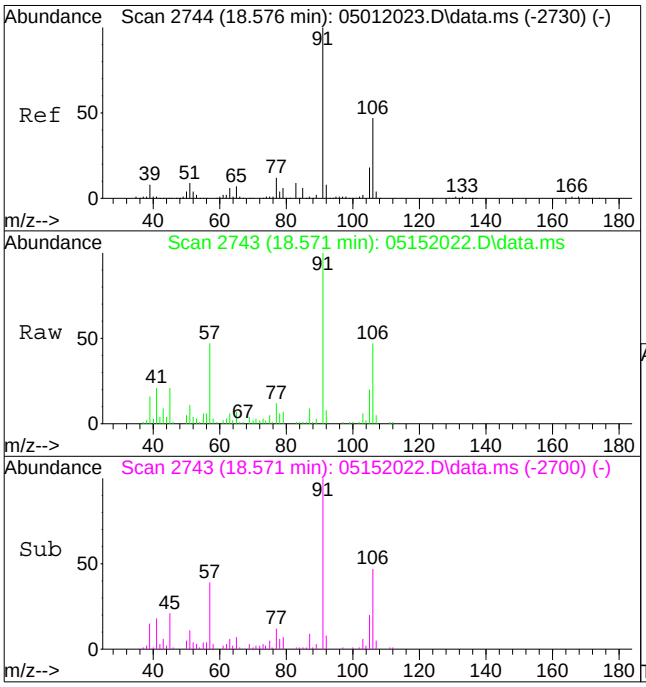


#67
m- & p-Xylenes
Concen: 0.73 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05152022.D
Acq: 15 May 2020 18:44

Tgt Ion: 91 Resp: 75565

Ion	Ratio	Lower	Upper
91	100		
106	49.8	29.7	69.7

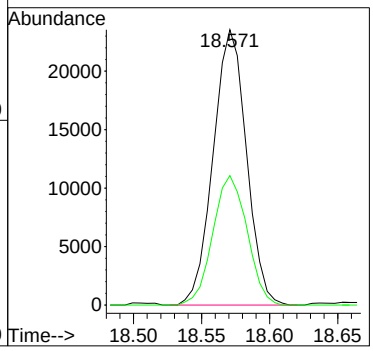


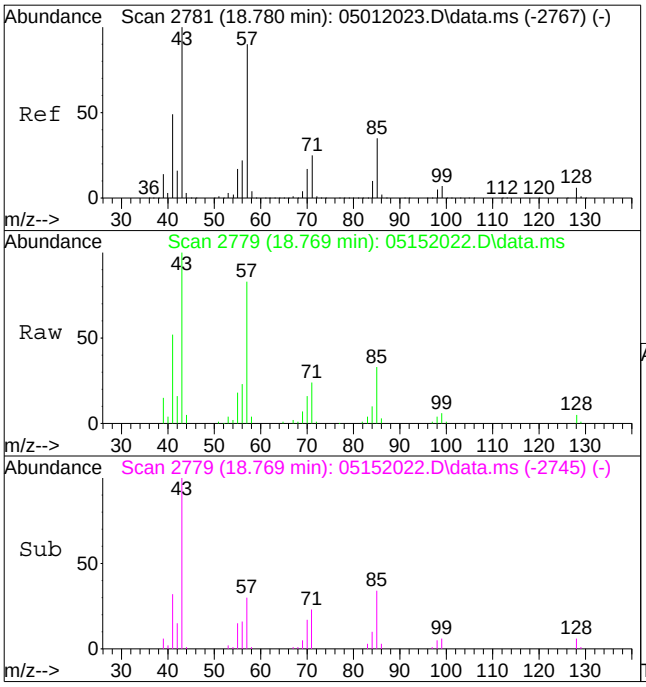


#70
o-Xylene
Concen: 0.38 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05152022.D
Acq: 15 May 2020 18:44

Tgt Ion: 91 Resp: 40053

Ion	Ratio	Lower	Upper
91	100		
106	48.3	27.5	67.5

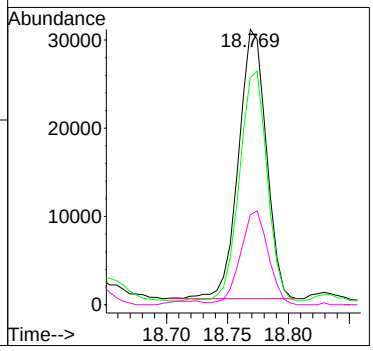


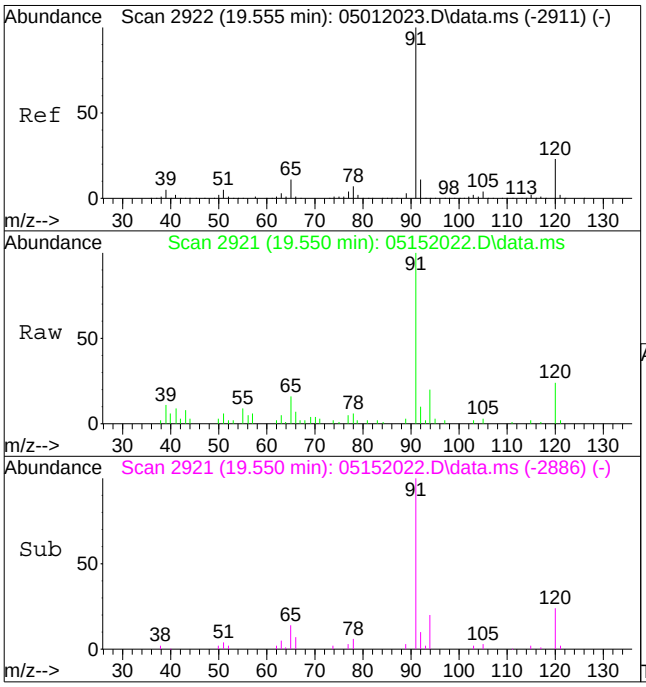


#71
n-Nonane
Concen: 0.86 ng
RT: 18.77 min Scan# 2779
Delta R.T. -0.011 min
Lab File: 05152022.D
Acq: 15 May 2020 18:44

Tgt Ion: 43 Resp: 48404

Ion	Ratio	Lower	Upper
43	100		
57	86.3	69.0	109.0
85	34.8	14.6	54.6

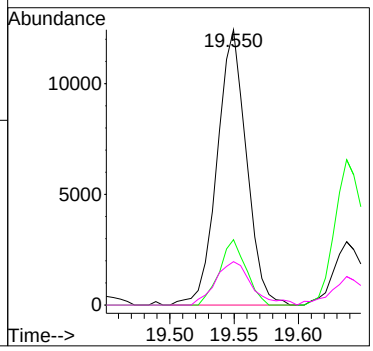


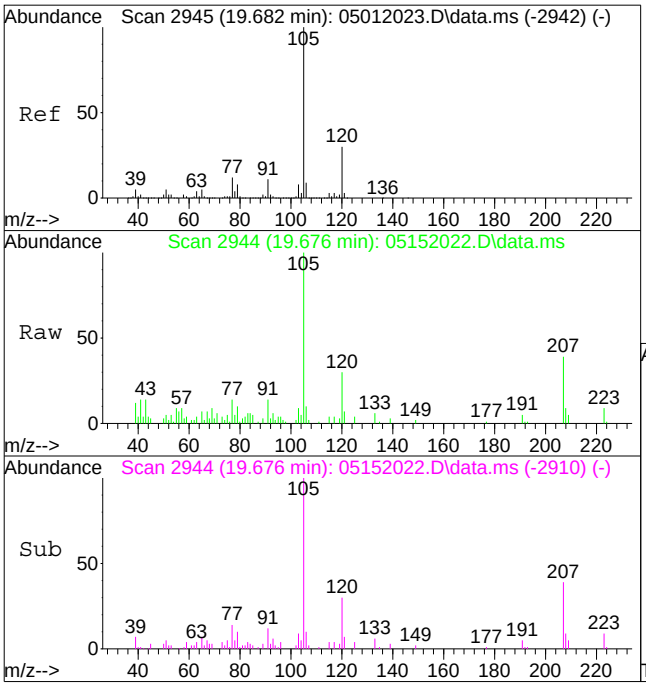


#76
n-Propylbenzene
Concen: 0.13 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05152022.D
Acq: 15 May 2020 18:44

Tgt Ion: 91 Resp: 19721

Ion	Ratio	Lower	Upper
91	100		
120	21.6	3.1	43.1
65	19.4	0.0	30.9

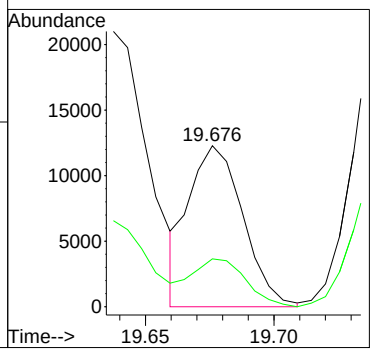


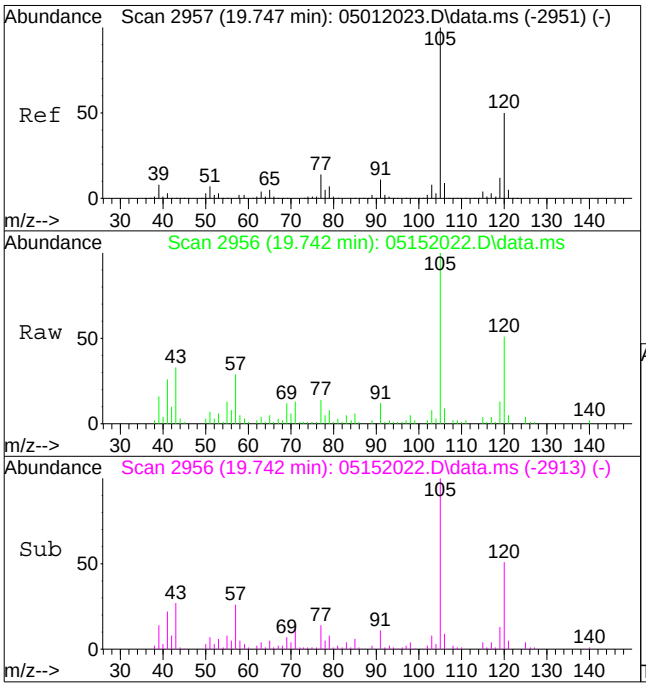


#78
4-Ethyltoluene
Concen: 0.15 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05152022.D
Acq: 15 May 2020 18:44

Tgt Ion:105 Resp: 18007

Ion	Ratio	Lower	Upper
105	100		
120	30.4	10.4	50.4

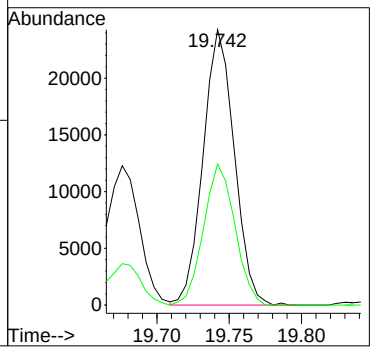


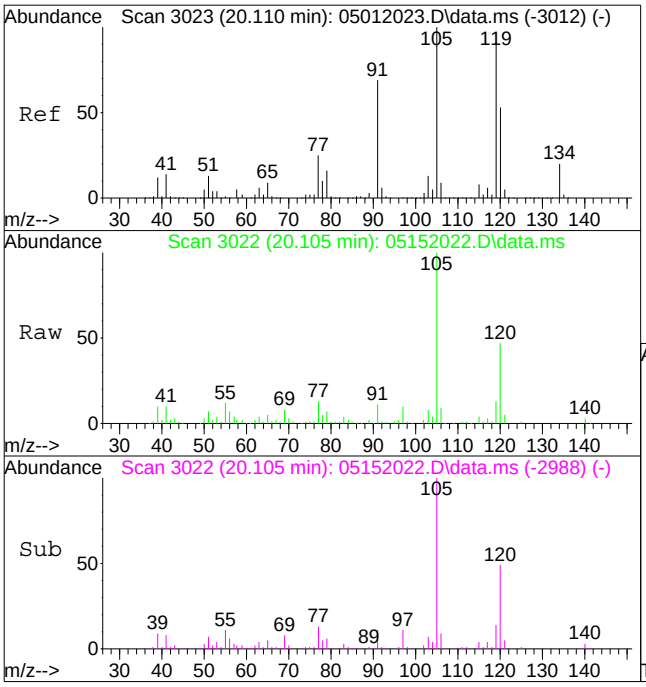


#79
1,3,5-Trimethylbenzene
Concen: 0.35 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05152022.D
Acq: 15 May 2020 18:44

Tgt Ion:105 Resp: 36473

Ion	Ratio	Lower	Upper
105	100		
120	51.3	29.9	69.9

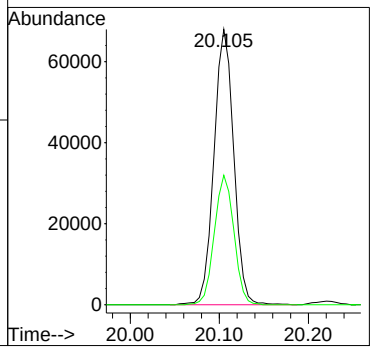


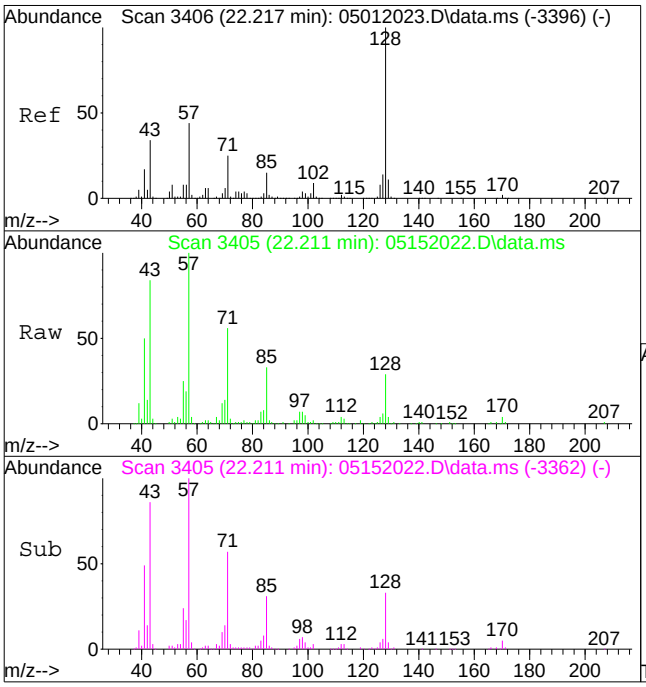


#82
1,2,4-Trimethylbenzene
Concen: 0.99 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05152022.D
Acq: 15 May 2020 18:44

Tgt Ion:105 Resp: 105060

Ion	Ratio	Lower	Upper
105	100		
120	46.5	33.6	73.6

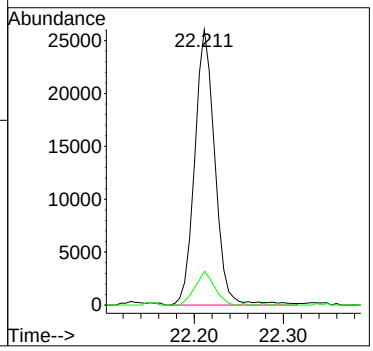




#95
Naphthalene
Concen: 0.32 ng
RT: 22.21 min Scan# 3405
Delta R.T. -0.011 min
Lab File: 05152022.D
Acq: 15 May 2020 18:44

Tgt Ion:128 Resp: 40993

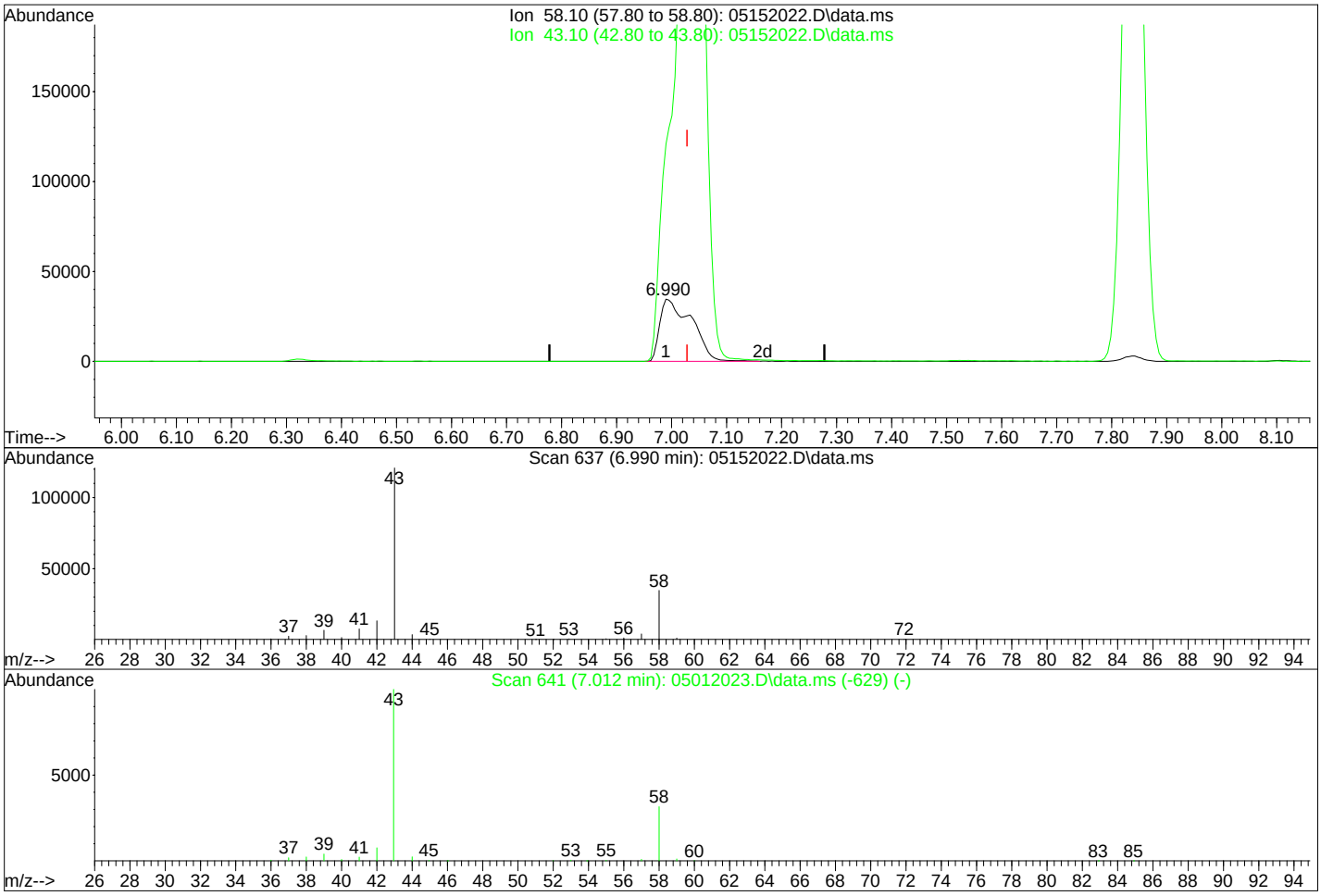
Ion	Ratio	Lower	Upper
128	100		
129	11.8	0.0	31.0



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\15\05152022.D Vial: 5
Acq On : 15 May 2020 18:44 Operator: LH
Sample : P2002302-019 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 19:11:22 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05152022.D\data.ms

(13) Acetone (T)

6.990min (-0.039) 5.87ng

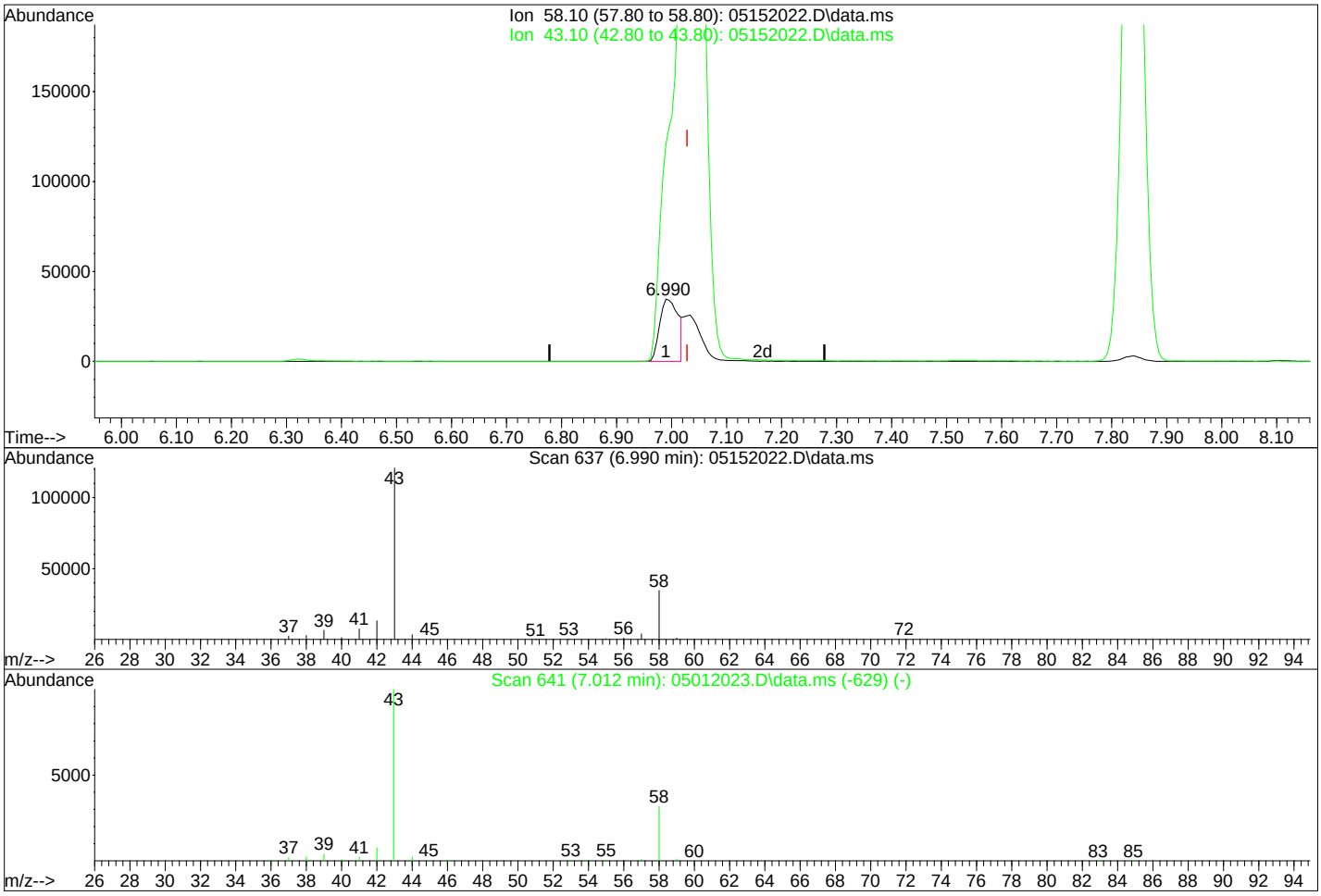
response 138977

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	1213.16#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\15\05152022.D Vial: 5
Acq On : 15 May 2020 18:44 Operator: LH
Sample : P2002302-019 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 19:11:22 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05152022.D\data.ms

(13) Acetone (T)

6.990min (-0.039) 3.44ng m

response 81564

Ion	Exp%	Act%
58.10	100	100
43.10	324.40	2067.11#
0.00	0.00	0.00
0.00	0.00	0.00

IPC

LH 5/15/20

5/17/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152026.D Vial: 5
Acq On : 15 May 2020 20:58 Operator: LH
Sample : P2002302-019dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 21:24:27 2020
Quant Method : I:\MS16\METHODS\R16050120.M LH 5/15/20
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	315669	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1358824	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	616276	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	505477	11.816	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.56%			
57) Toluene-d8 (SS2)	15.71	98	1310898	12.550	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.40%			
73) Bromofluorobenzene (SS3)	18.97	174	491717	13.082	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.64%			
Target Compounds						Qvalue
2) Propene	4.11	42	9599	0.263	ng	99
3) Dichlorodifluoromethan...	4.25	85	5805	0.081	ng	98
4) Chloromethane	4.53	50	12030	0.215	ng	99
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	4.94	62	541017	8.807	ng	100
7) 1,3-Butadiene	5.16	54	569	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	5.98	64	4070	0.168	ng	97
10) Ethanol	6.35	45	2082	0.074	ng	86
11) Acetonitrile	6.63	41	107	N.D.		
12) Acrolein	6.81	56	1281	0.057	ng	91
13) Acetone	0.00	58	0	N.D. d		
14) Trichlorofluoromethane	7.23	101	922	N.D.		
15) 2-Propanol (Isopropanol)	7.54	45	658	N.D.		
16) Acrylonitrile	7.83	53	1626	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	8.45	59	52	N.D.		
19) Methylene Chloride	8.40	84	157	N.D.		
20) 3-Chloro-1-propene (Al...	8.50	41	285	N.D.		
21) Trichlorotrifluoroethane	8.84	151	4682	0.157	ng	100
22) Carbon Disulfide	8.68	76	23291	0.177	ng	98
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	9.94	63	315	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	10.20	86	296	N.D.		
27) 2-Butanone (MEK)	10.32	72	389	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	11.25	57	2285	N.D.		
32) Chloroform	11.29	83	557	N.D.		
34) Tetrahydrofuran (THF)	11.75	72	3132	0.133	ng	95
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.11	62	1234	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D. d		
41) Benzene	12.87	78	16727	0.115	ng	99
42) Carbon Tetrachloride	13.03	117	2236	N.D.		
43) Cyclohexane	13.16	84	20209	0.372	ng	100
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	13.93	83	115	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152026.D Vial: 5
Acq On : 15 May 2020 20:58 Operator: LH
Sample : P2002302-019dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 21:24:27 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

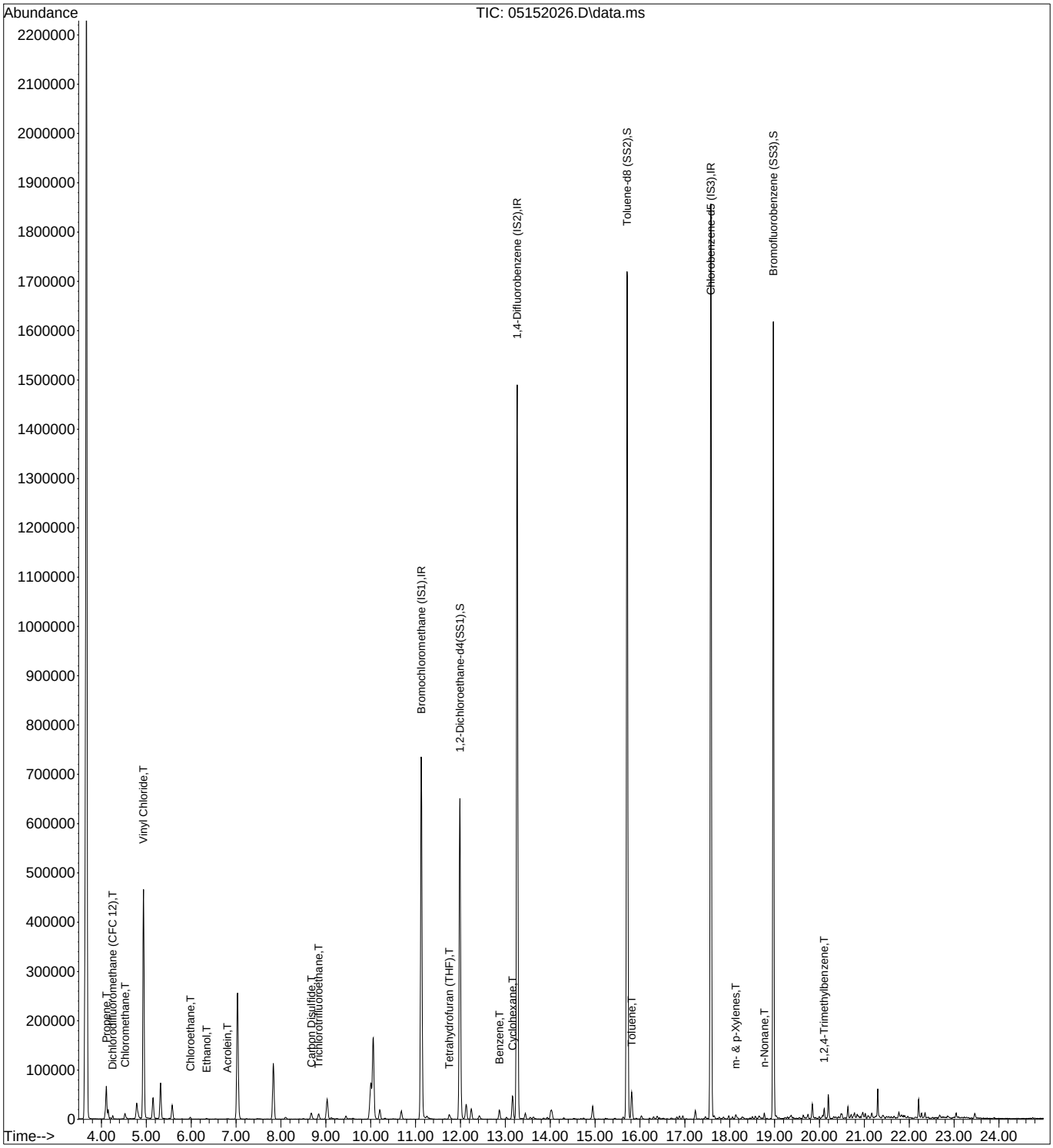
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.30	71	573	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	15.82	91	41595	0.309 ng	99
59) 2-Hexanone	16.07	43	602	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.70	43	2152	N.D.	
63) n-Octane	16.83	57	1059	N.D.	
64) Tetrachloroethene	16.96	166	1821	N.D.	
65) Chlorobenzene	17.66	112	445	N.D.	
66) Ethylbenzene	17.98	91	5226	N.D.	
67) m- & p-Xylenes	18.14	91	7015	0.059 ng	98
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	18.57	91	3541	N.D.	
71) n-Nonane	18.77	43	4818	0.075 ng	90
72) 1,1,2,2-Tetrachloroethane	18.50	83	393	N.D.	
74) Cumene	19.09	105	717	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	19.54	91	1893	N.D.	
77) 3-Ethyltoluene	19.64	105	2971	N.D.	
78) 4-Ethyltoluene	19.68	105	1664	N.D.	
79) 1,3,5-Trimethylbenzene	19.74	105	3352	N.D.	
80) alpha-Methylstyrene	19.88	118	899	N.D.	
81) 2-Ethyltoluene	19.91	105	1661	N.D.	
82) 1,2,4-Trimethylbenzene	20.10	105	8932	0.073 ng	90
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.22	91	417	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	20.34	105	882	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	1350	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	4239	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.61	68	329	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.21	128	4836	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.10	119	1481	N.D.	
100) n-Butylbenzene	20.85	91	2604	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152026.D Vial: 5
Acq On : 15 May 2020 20:58 Operator: LH
Sample : P2002302-019dil (40mL) Inst : GCMS-16
Misc : S31-02112001

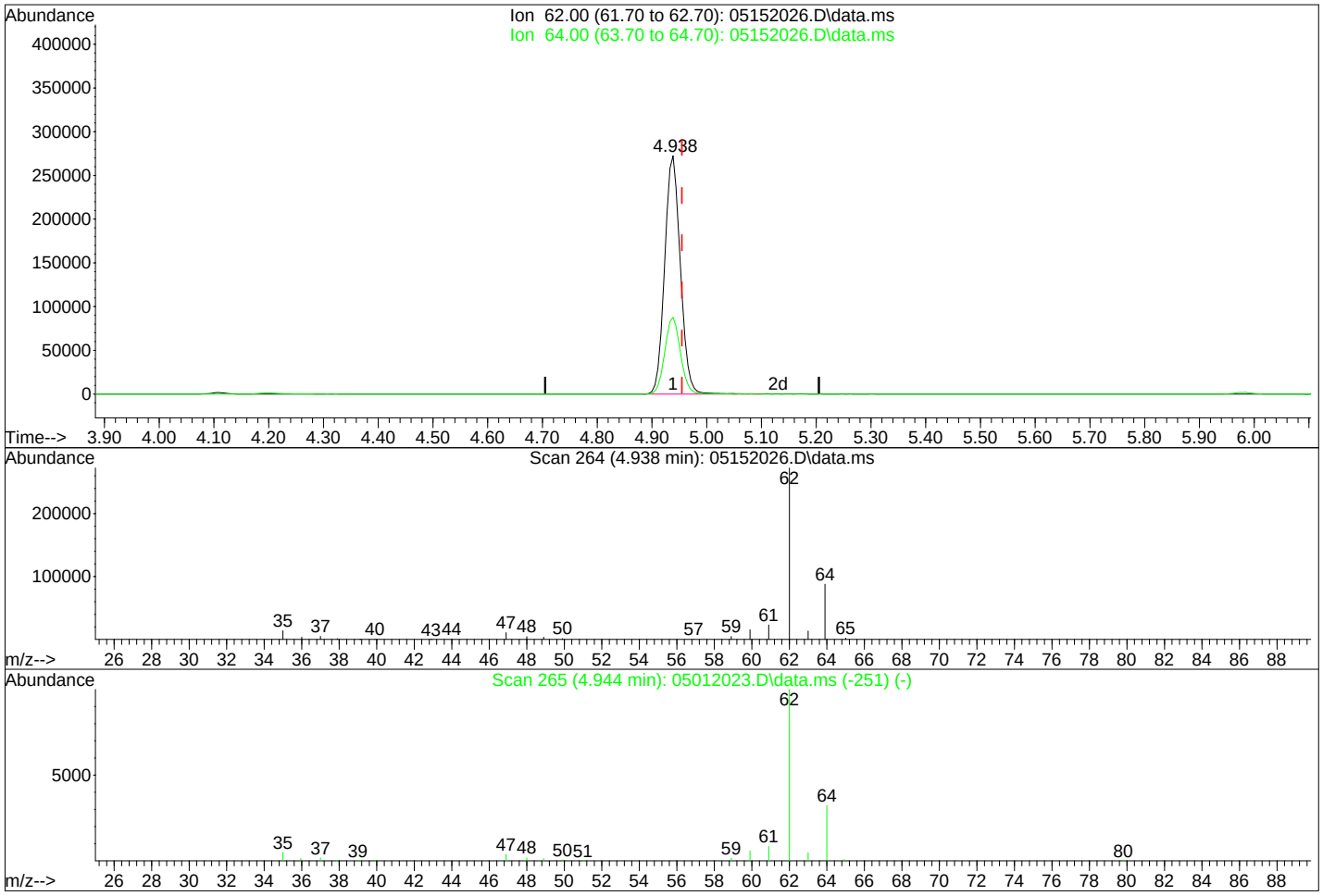
Quant Time: May 15 21:24:27 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\15\05152026.D Vial: 5
Acq On : 15 May 2020 20:58 Operator: LH
Sample : P2002302-019dil (40mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 21:23:53 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05152026.D\data.ms

(6) Vinyl Chloride (T)

4.938min (-0.017) 8.81ng

response 541017

Ion	Exp%	Act%
62.00	100	100
64.00	32.10	32.22
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152023.D Vial: 6
Acq On : 15 May 2020 19:18 Operator: LH
Sample : P2002302-020 (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 20:30:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/15/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	302990	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1315831	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	642118	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	490039	11.934	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.44%				
57) Toluene-d8 (SS2)	15.72	98	1343073	12.340	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.72%				
73) Bromofluorobenzene (SS3)	18.97	174	481878	12.305	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.40%				
Target Compounds							Qvalue
2) Propene	4.08	42	46118	1.314	ng		97
3) Dichlorodifluoromethan...	4.26	85	25115	0.366	ng		99
4) Chloromethane	4.53	50	19033	0.354	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.78	135	363	N.D.			
6) Vinyl Chloride	4.94	62	98446	1.670	ng		100
7) 1,3-Butadiene	0.00	54	0	N.D.	d		
8) Bromomethane	5.65	94	1018	N.D.			
9) Chloroethane	5.97	64	1488	0.064	ng		80
10) Ethanol	6.44	45	173	N.D.			
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	7.25	101	2961	N.D.			
15) 2-Propanol (Isopropanol)	7.52	45	7109	0.087	ng	#	1
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.41	84	257	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	8.85	151	1739	0.061	ng		98
22) Carbon Disulfide	8.70	76	18397	0.146	ng		97
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.	d		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	d		
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.49	72	1230	0.053	ng	#	64
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.27	61	628	N.D.			
31) n-Hexane	11.27	57	778918	13.476	ng		99
32) Chloroform	11.30	83	2703	N.D.			
34) Tetrahydrofuran (THF)	11.76	72	2893	0.128	ng	#	75
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.	d		
41) Benzene	12.87	78	10156	0.072	ng	#	9
42) Carbon Tetrachloride	13.04	117	1512	N.D.			
43) Cyclohexane	13.18	84	10934836	207.952	ng		97
44) tert-Amyl Methyl Ether	13.46	73	2454	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	13.97	130	13373	0.367	ng		96
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	14.31	100	323	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152023.D Vial: 6
Acq On : 15 May 2020 19:18 Operator: LH
Sample : P2002302-020 (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 20:30:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

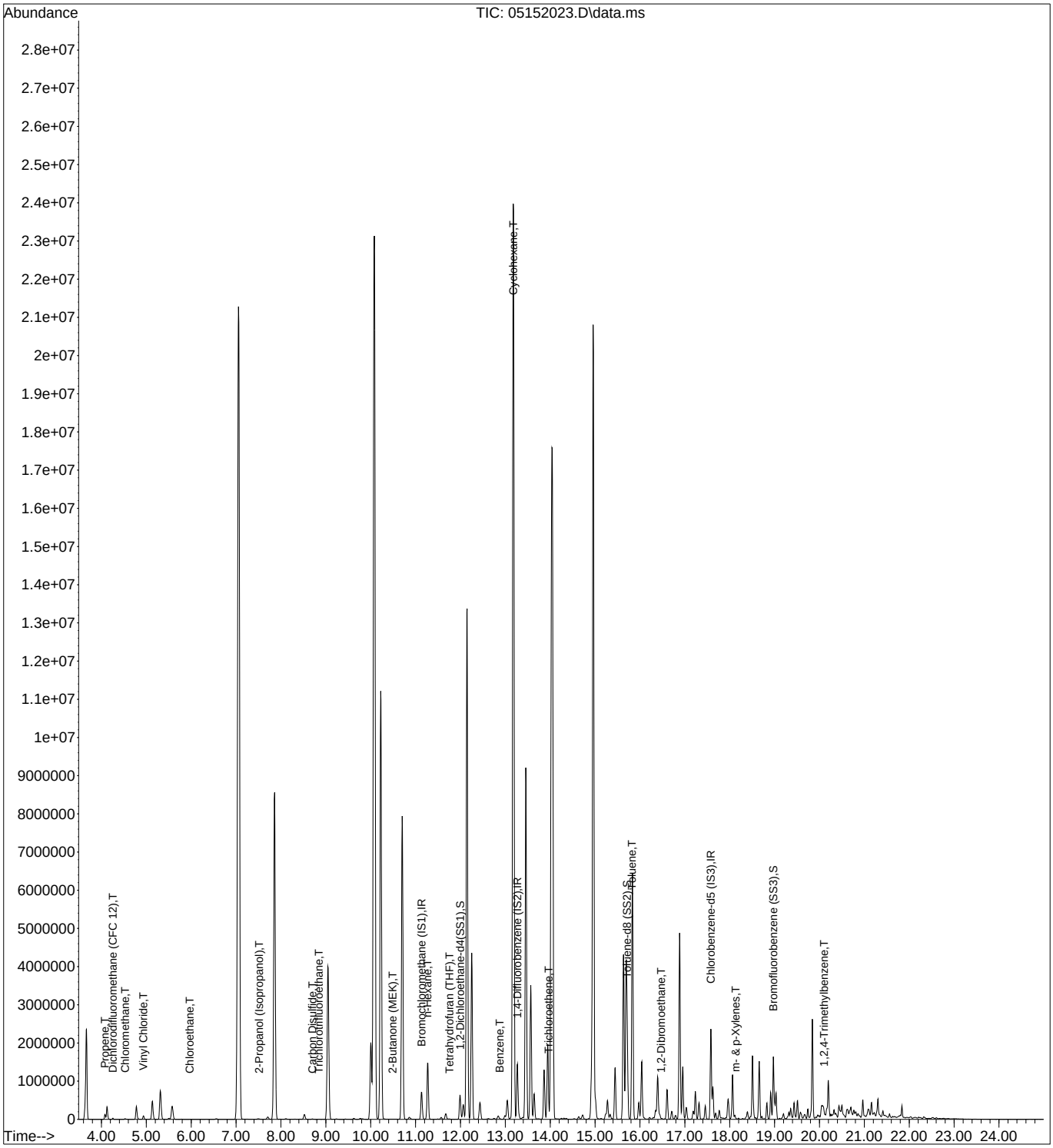
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D. d	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	15.44	75	168	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	15.82	91	12562	0.090 ng	93
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	16.48	107	5627	0.146 ng	99
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	0.00	57	0	N.D. d	
64) Tetrachloroethene	16.96	166	1140	N.D.	
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	17.98	91	5915	N.D.	
67) m- & p-Xylenes	18.14	91	8149	0.066 ng	91
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.48	104	163	N.D.	
70) o-Xylene	18.57	91	3239	N.D.	
71) n-Nonane	18.77	43	3150	N.D.	
72) 1,1,2,2-Tetrachloroethane	18.57	83	577	N.D.	
74) Cumene	19.09	105	681	N.D.	
75) alpha-Pinene	19.43	93	1573	N.D.	
76) n-Propylbenzene	19.58	91	4488	N.D.	
77) 3-Ethyltoluene	19.64	105	2226	N.D.	
78) 4-Ethyltoluene	19.68	105	1419	N.D.	
79) 1,3,5-Trimethylbenzene	19.74	105	2083	N.D.	
80) alpha-Methylstyrene	19.87	118	290	N.D.	
81) 2-Ethyltoluene	19.91	105	1419	N.D.	
82) 1,2,4-Trimethylbenzene	20.10	105	6580	0.052 ng	84
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	0.00	91	0	N.D. d	
85) 1,3-Dichlorobenzene	20.30	146	108	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	108	N.D.	
87) sec-Butylbenzene	20.35	105	1359	N.D.	
88) 4-Isopropyltoluene (p-...	20.48	119	1030	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	2565	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.11	180	156	N.D.	
95) Naphthalene	22.21	128	1736	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.10	119	746	N.D.	
100) n-Butylbenzene	20.85	91	2057	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152023.D Vial: 6
Acq On : 15 May 2020 19:18 Operator: LH
Sample : P2002302-020 (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 20:30:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152023.D Vial: 6
Acq On : 15 May 2020 19:18 Operator: LH
Sample : P2002302-020 (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 20:30:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/15/20

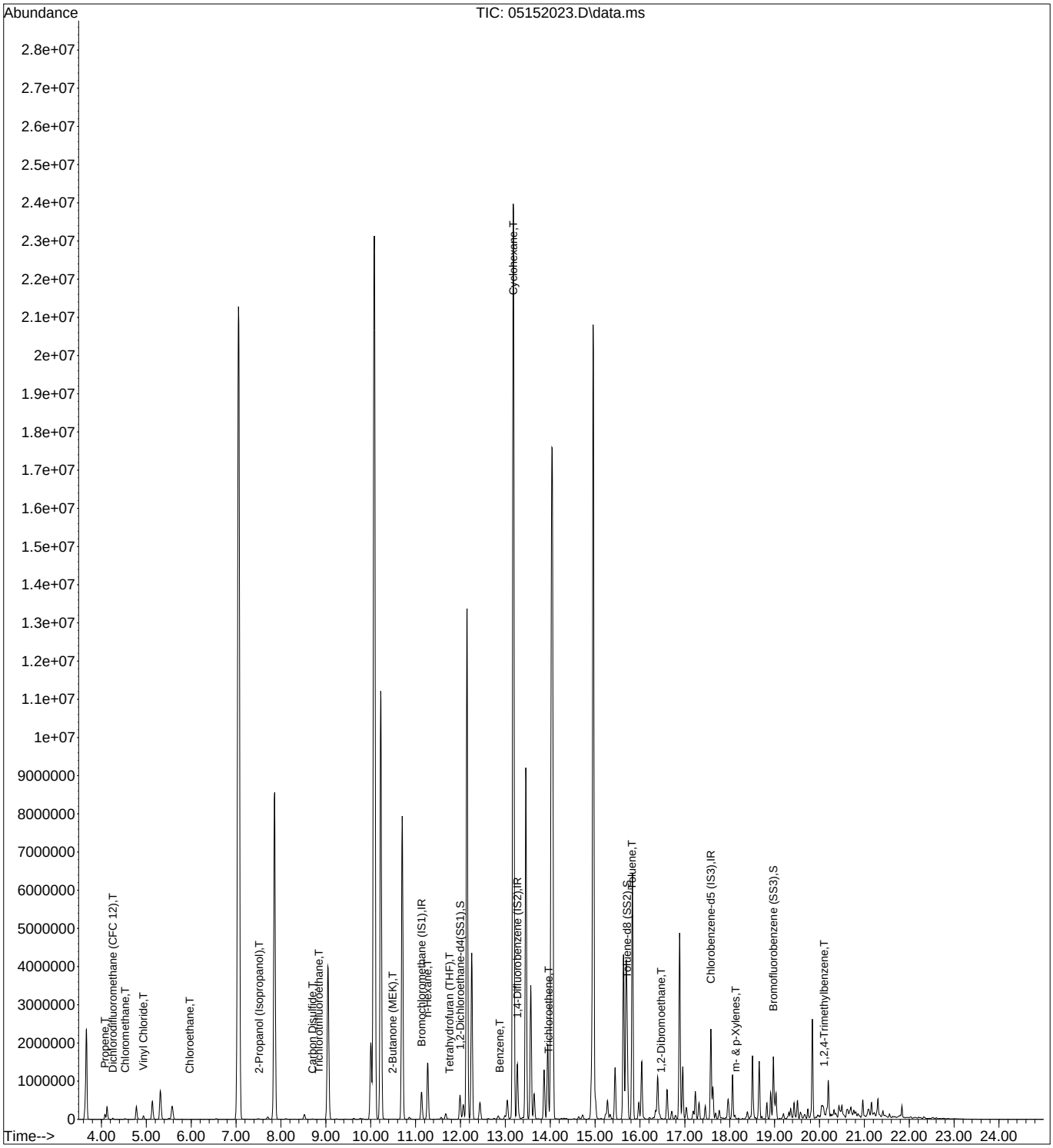
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	302990	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1315831	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	642118	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	490039	11.934	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.44%				
57) Toluene-d8 (SS2)	15.72	98	1343073	12.340	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.72%				
73) Bromofluorobenzene (SS3)	18.97	174	481878	12.305	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.40%				
Target Compounds							Qvalue
2) Propene	4.08	42	46118	1.314	ng		97
3) Dichlorodifluoromethan...	4.26	85	25115	0.366	ng		99
4) Chloromethane	4.53	50	19033	0.354	ng		99
6) Vinyl Chloride	4.94	62	98446	1.670	ng		100
9) Chloroethane	5.97	64	1488	0.064	ng		80
15) 2-Propanol (Isopropanol)	7.52	45	7109	0.087	ng	#	1
21) Trichlorotrifluoroethane	8.85	151	1739	0.061	ng		98
22) Carbon Disulfide	8.70	76	18397	0.146	ng		97
27) 2-Butanone (MEK)	10.49	72	1230	0.053	ng	#	64
31) n-Hexane	11.27	57	778918	13.476	ng		99
34) Tetrahydrofuran (THF)	11.76	72	2893	0.128	ng	#	75
41) Benzene	12.87	78	10156	0.072	ng	#	9
43) Cyclohexane	13.18	84	10934836	207.952	ng		97
47) Trichloroethene	13.97	130	13373	0.367	ng		96
58) Toluene	15.82	91	12562	0.090	ng		93
61) 1,2-Dibromoethane	16.48	107	5627	0.146	ng		99
67) m- & p-Xylenes	18.14	91	8149	0.066	ng		91
82) 1,2,4-Trimethylbenzene	20.10	105	6580	0.052	ng		84

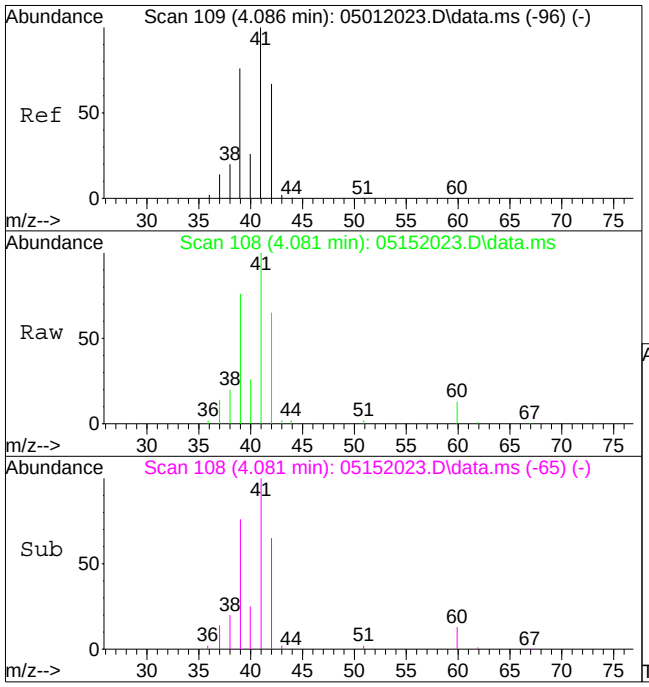
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152023.D Vial: 6
Acq On : 15 May 2020 19:18 Operator: LH
Sample : P2002302-020 (20mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 20:30:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

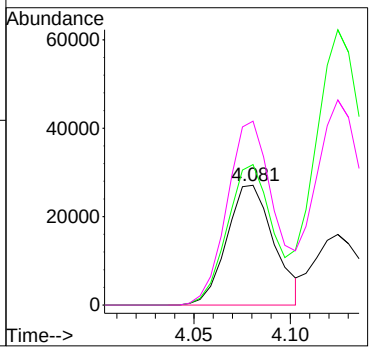


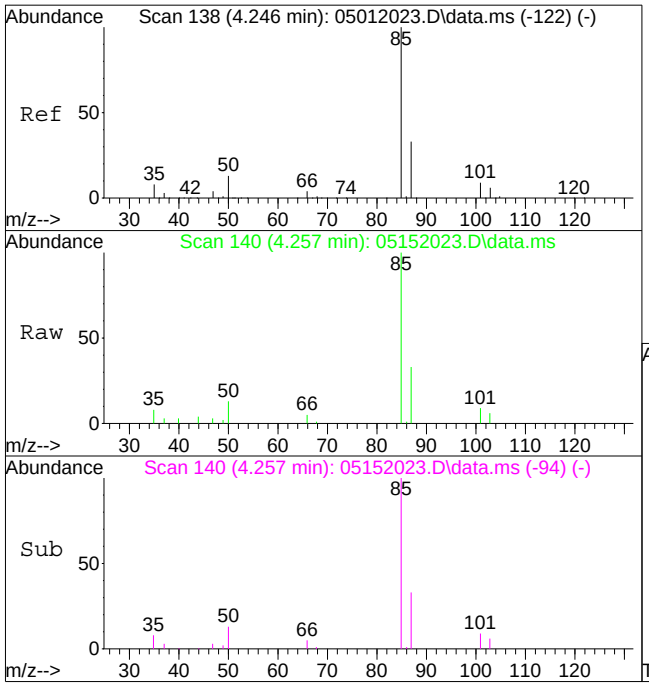


#2
Propene
Concen: 1.31 ng
RT: 4.08 min Scan# 108
Delta R.T. -0.011 min
Lab File: 05152023.D
Acq: 15 May 2020 19:18

Tgt Ion: 42 Resp: 46118

Ion	Ratio	Lower	Upper
42	100		
39	111.6	96.1	136.1
41	154.8	131.9	171.9

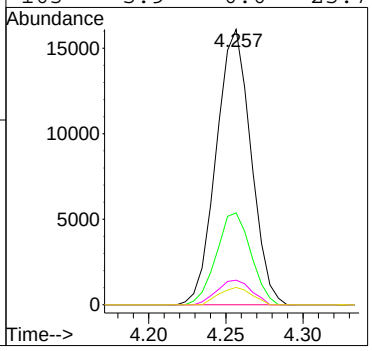


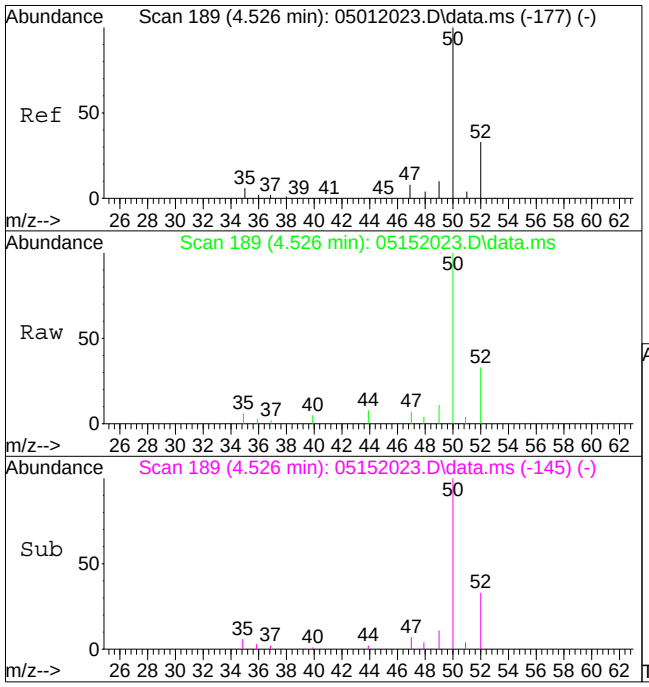


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.37 ng
RT: 4.26 min Scan# 140
Delta R.T. 0.005 min
Lab File: 05152023.D
Acq: 15 May 2020 19:18

Tgt Ion: 85 Resp: 25115

Ion	Ratio	Lower	Upper
85	100		
87	33.3	12.4	52.4
101	8.9	0.0	28.8
103	5.9	0.0	25.7

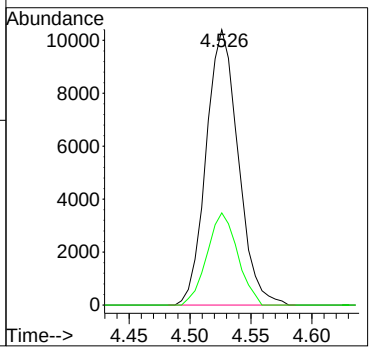


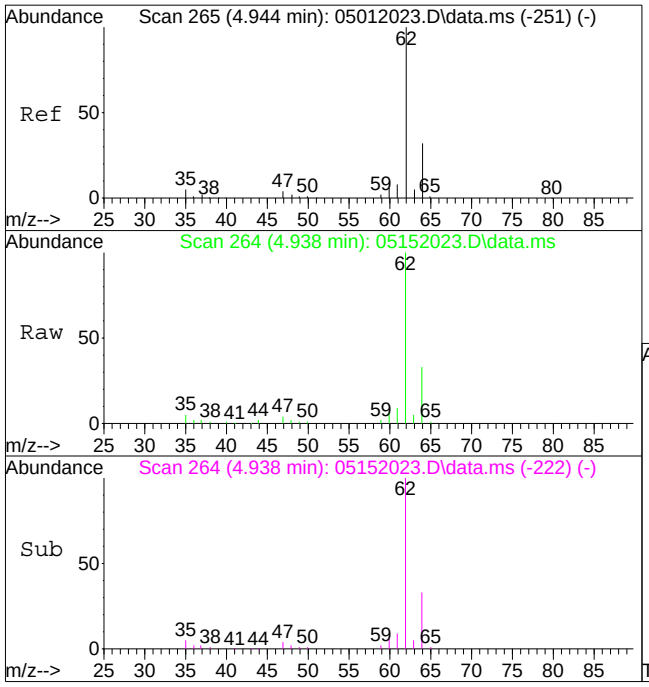


#4
Chloromethane
Concen: 0.35 ng
RT: 4.53 min Scan# 189
Delta R.T. -0.006 min
Lab File: 05152023.D
Acq: 15 May 2020 19:18

Tgt Ion: 50 Resp: 19033

Ion	Ratio	Lower	Upper
50	100		
52	31.9	12.5	52.5

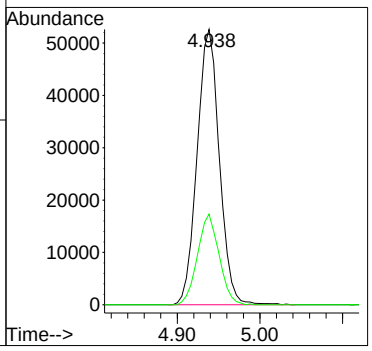


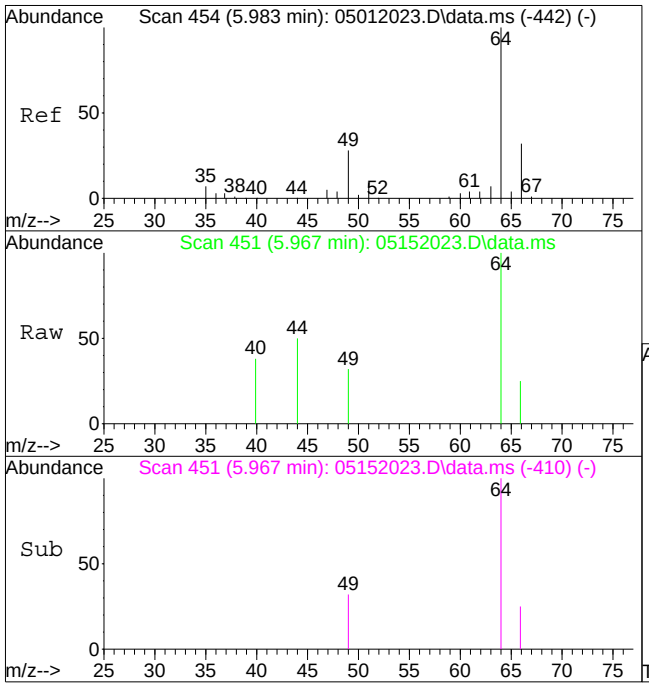


#6
Vinyl Chloride
Concen: 1.67 ng
RT: 4.94 min Scan# 264
Delta R.T. -0.017 min
Lab File: 05152023.D
Acq: 15 May 2020 19:18

Tgt Ion: 62 Resp: 98446

Ion	Ratio	Lower	Upper
62	100		
64	31.9	12.1	52.1

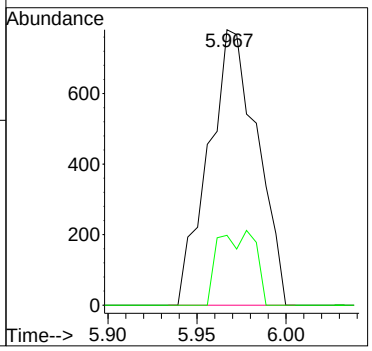


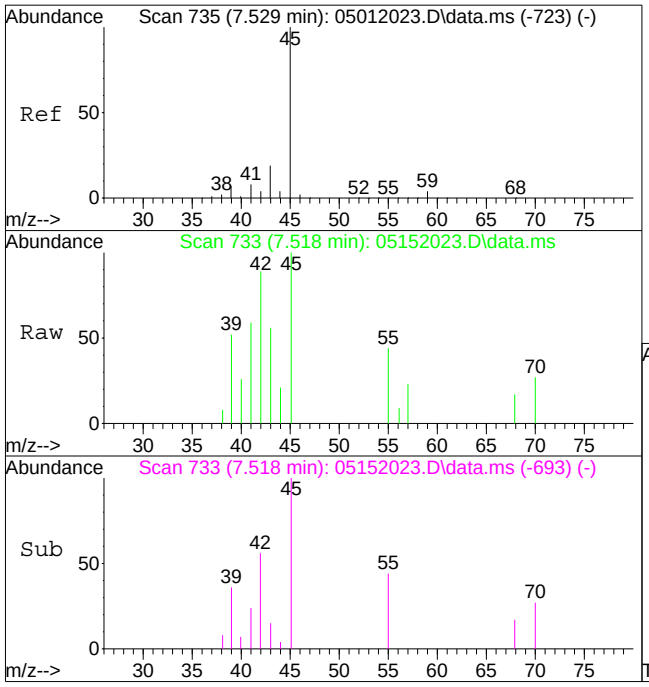


#9
Chloroethane
Concen: 0.06 ng
RT: 5.97 min Scan# 451
Delta R.T. -0.022 min
Lab File: 05152023.D
Acq: 15 May 2020 19:18

Tgt Ion: 64 Resp: 1488

Ion	Ratio	Lower	Upper
64	100		
66	20.8	12.1	52.1

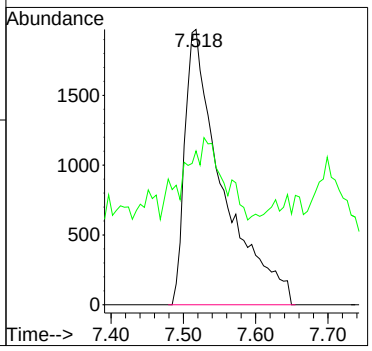


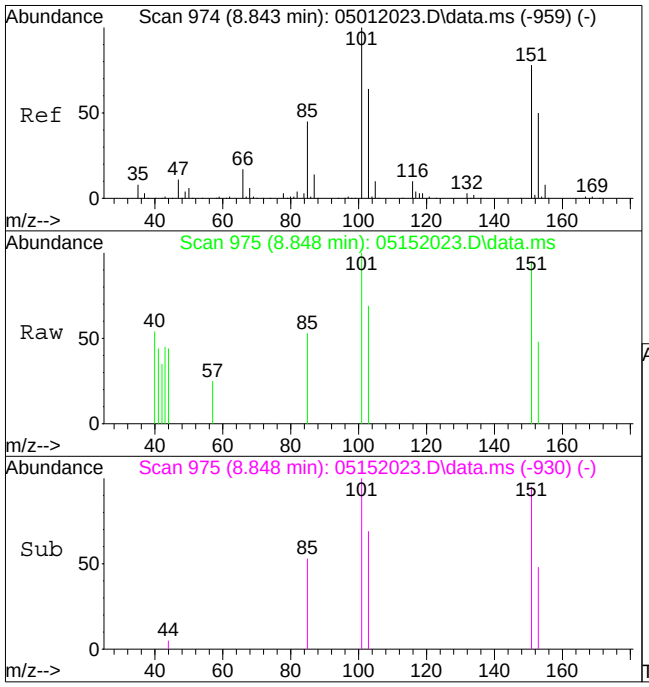


#15
2-Propanol (Isopropanol)
Concen: 0.09 ng
RT: 7.52 min Scan# 733
Delta R.T. -0.028 min
Lab File: 05152023.D
Acq: 15 May 2020 19:18

Tgt Ion: 45 Resp: 7109

Ion	Ratio	Lower	Upper
45	100		
43	85.2	0.0	39.5#

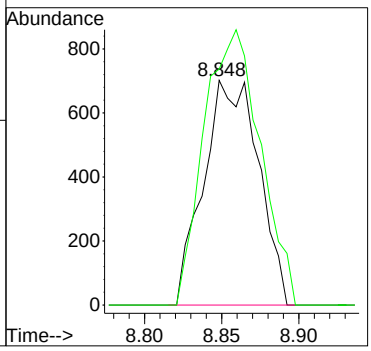


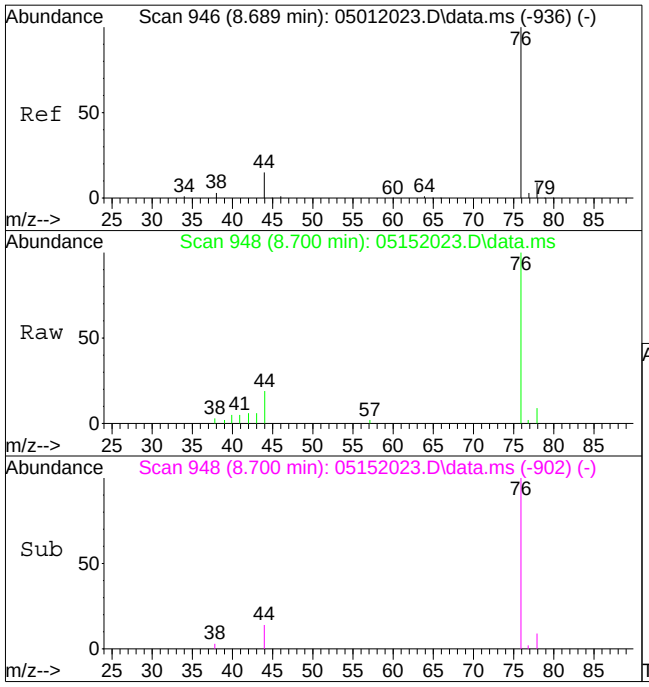


#21
Trichlorotrifluoroethane
Concen: 0.06 ng
RT: 8.85 min Scan# 975
Delta R.T. -0.000 min
Lab File: 05152023.D
Acq: 15 May 2020 19:18

Tgt Ion:151 Resp: 1739

Ion	Ratio	Lower	Upper
151	100		
101	125.5	107.3	147.3

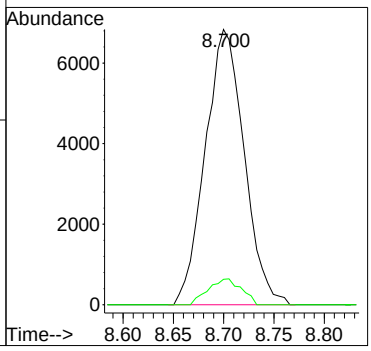


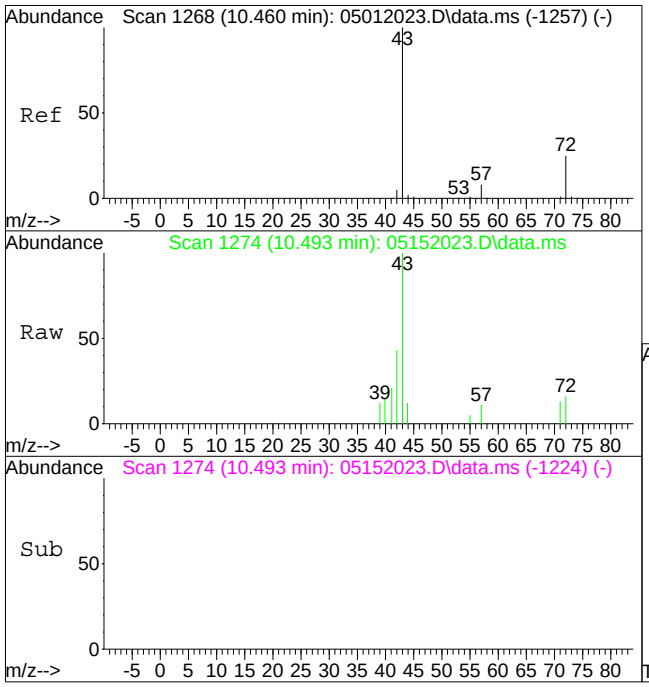


#22
Carbon Disulfide
Concen: 0.15 ng
RT: 8.70 min Scan# 948
Delta R.T. 0.005 min
Lab File: 05152023.D
Acq: 15 May 2020 19:18

Tgt Ion: 76 Resp: 18397

Ion	Ratio	Lower	Upper
76	100		
78	8.0	0.0	29.2

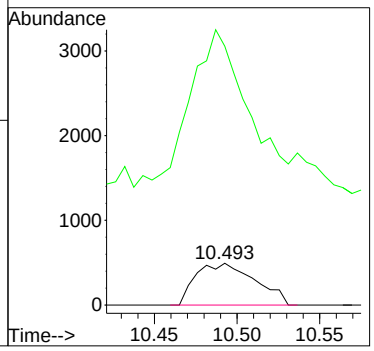


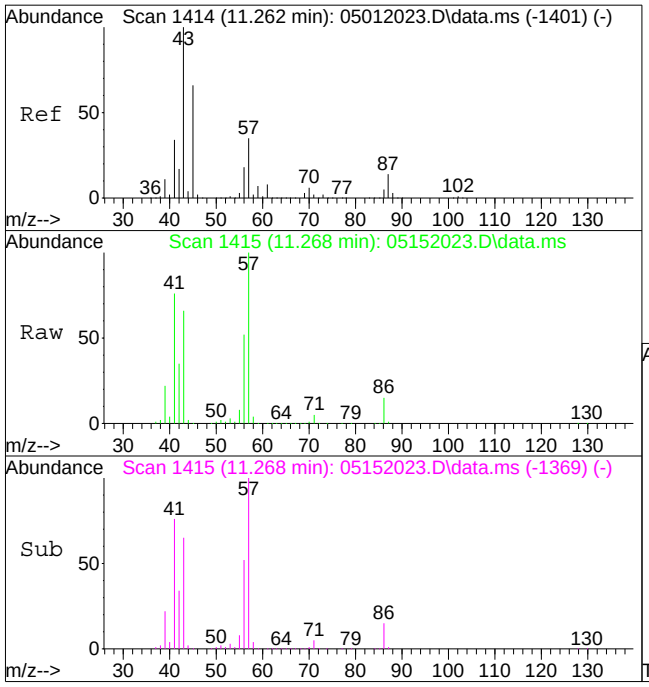


#27
2-Butanone (MEK)
Concen: 0.05 ng
RT: 10.49 min Scan# 1274
Delta R.T. 0.027 min
Lab File: 05152023.D
Acq: 15 May 2020 19:18

Tgt Ion: 72 Resp: 1230

Ion	Ratio	Lower	Upper
72	100		
43	496.7	389.7	429.7#

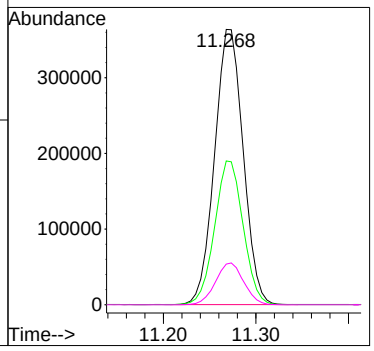


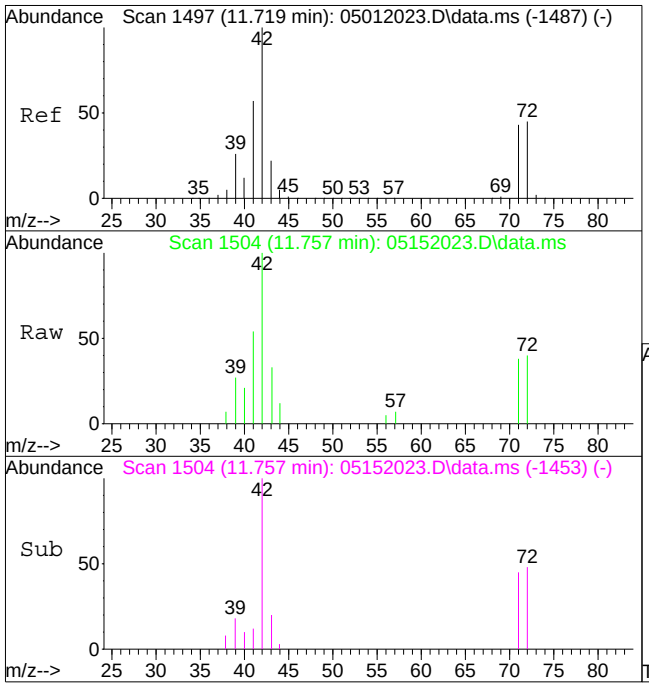


#31
n-Hexane
Concen: 13.48 ng
RT: 11.27 min Scan# 1415
Delta R.T. 0.005 min
Lab File: 05152023.D
Acq: 15 May 2020 19:18

Tgt Ion: 57 Resp: 778918

Ion	Ratio	Lower	Upper
57	100		
56	52.1	41.4	62.0
86	15.0	12.4	18.6

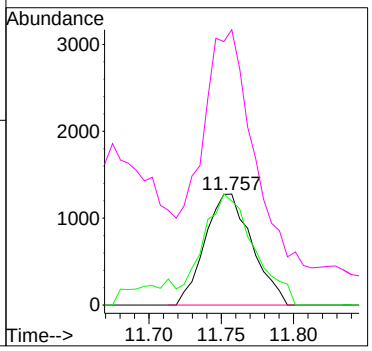


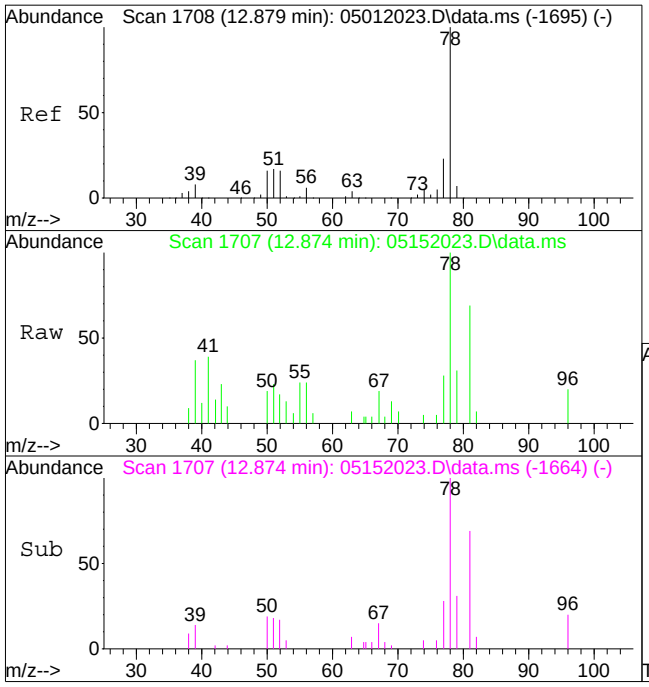


#34
Tetrahydrofuran (THF)
Concen: 0.13 ng
RT: 11.76 min Scan# 1504
Delta R.T. 0.033 min
Lab File: 05152023.D
Acq: 15 May 2020 19:18

Tgt Ion: 72 Resp: 2893

Ion	Ratio	Lower	Upper
72	100		
71	128.1	77.0	117.0#
42	261.5	204.6	244.6#

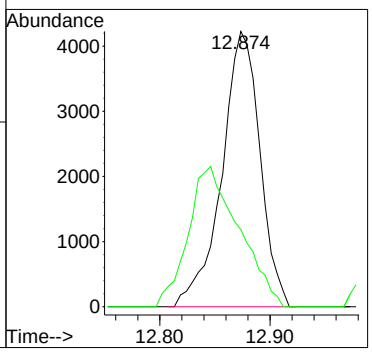


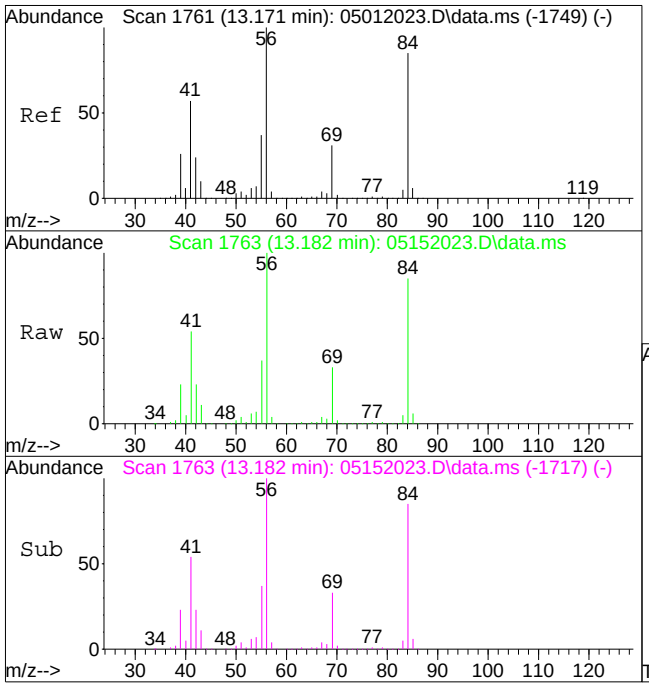


#41
Benzene
Concen: 0.07 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05152023.D
Acq: 15 May 2020 19:18

Tgt Ion: 78 Resp: 10156

Ion	Ratio	Lower	Upper
78	100		
77	67.8	3.4	43.4#

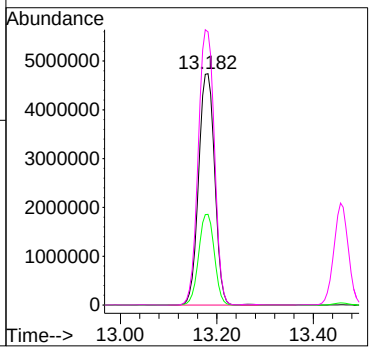


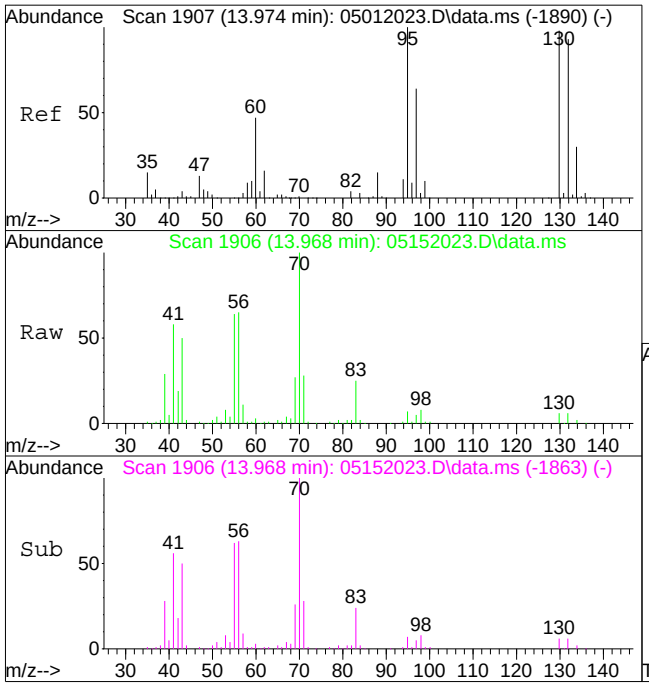


#43
Cyclohexane
Concen: 207.95 ng
RT: 13.18 min Scan# 1763
Delta R.T. 0.005 min
Lab File: 05152023.D
Acq: 15 May 2020 19:18

Tgt Ion: 84 Resp:10934836

Ion	Ratio	Lower	Upper
84	100		
69	38.5	16.5	56.5
56	119.9	97.4	137.4

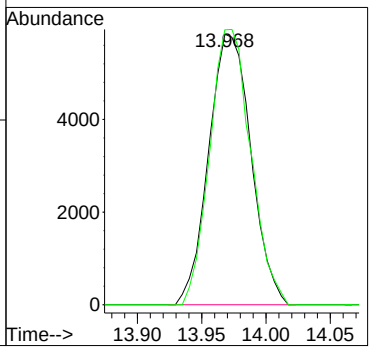


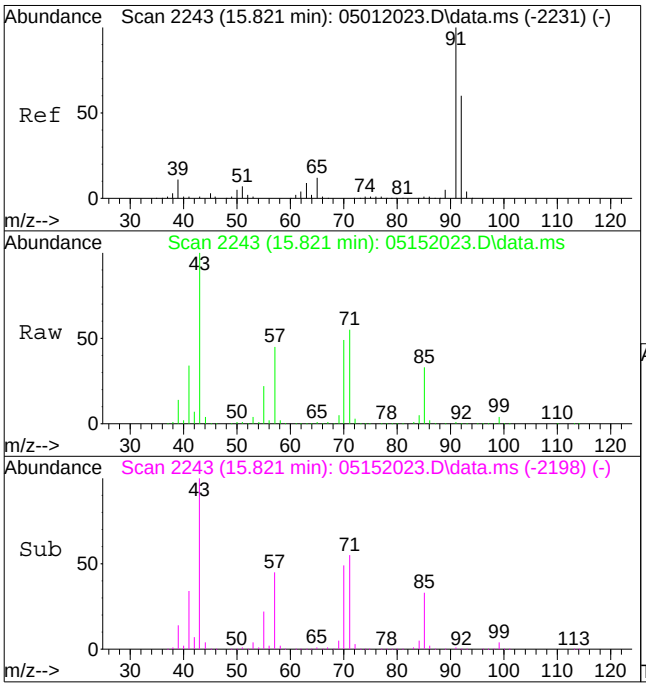


#47
Trichloroethene
Concen: 0.37 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.011 min
Lab File: 05152023.D
Acq: 15 May 2020 19:18

Tgt Ion:130 Resp: 13373

Ion	Ratio	Lower	Upper
130	100		
132	98.5	74.9	114.9

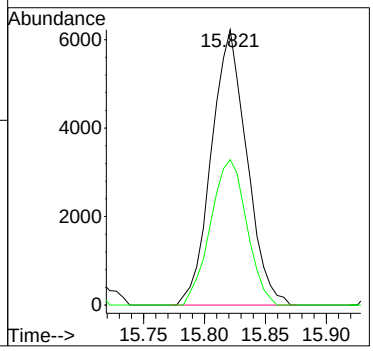


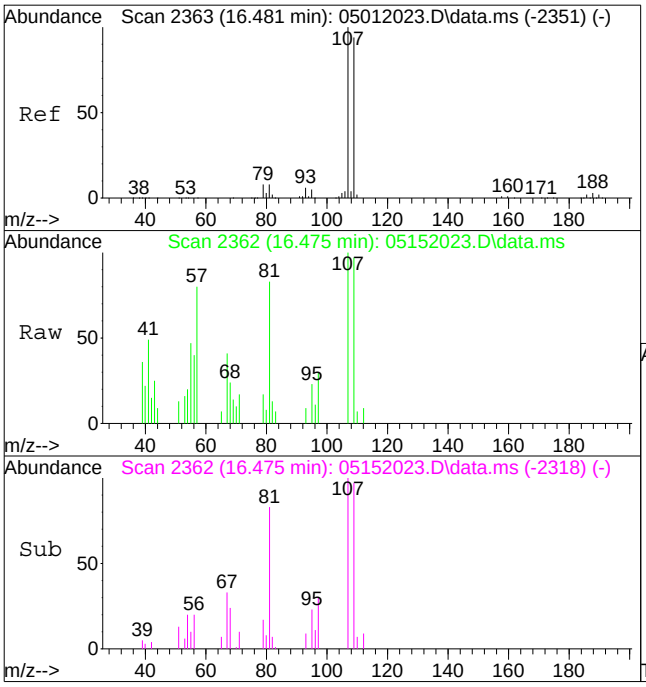


#58
Toluene
Concen: 0.09 ng
RT: 15.82 min Scan# 2243
Delta R.T. -0.000 min
Lab File: 05152023.D
Acq: 15 May 2020 19:18

Tgt Ion: 91 Resp: 12562

Ion	Ratio	Lower	Upper
91	100		
92	54.0	39.4	79.4

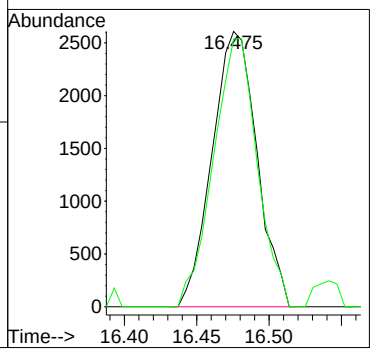


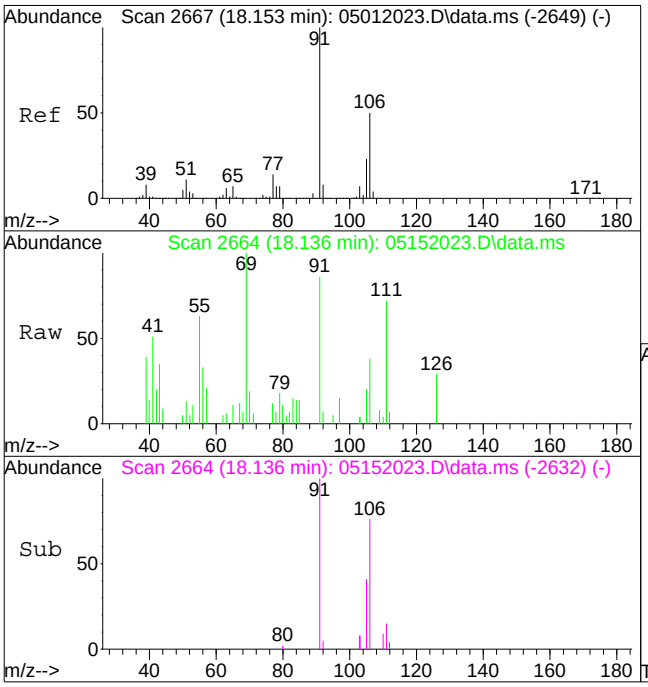


#61
1,2-Dibromoethane
Concen: 0.15 ng
RT: 16.48 min Scan# 2362
Delta R.T. -0.006 min
Lab File: 05152023.D
Acq: 15 May 2020 19:18

Tgt Ion:107 Resp: 5627

Ion	Ratio	Lower	Upper
107	100		
109	95.3	74.5	114.5

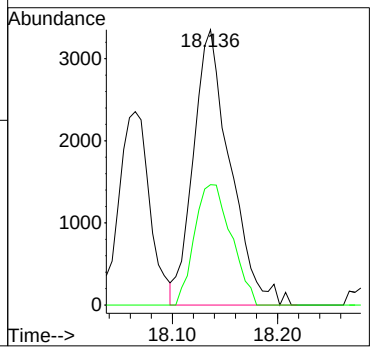


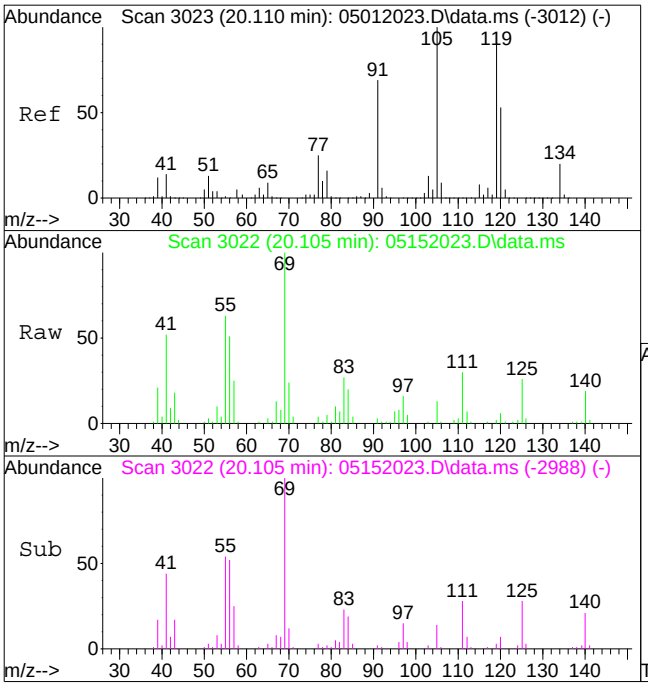


#67
m- & p-Xylenes
Concen: 0.07 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05152023.D
Acq: 15 May 2020 19:18

Tgt Ion: 91 Resp: 8149

Ion	Ratio	Lower	Upper
91	100		
106	43.7	29.7	69.7

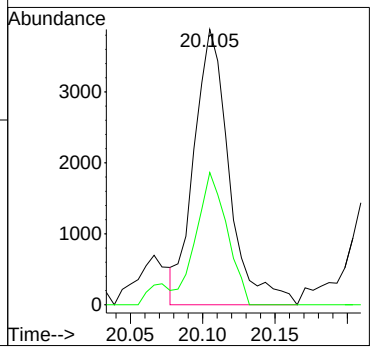




#82
1,2,4-Trimethylbenzene
Concen: 0.05 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05152023.D
Acq: 15 May 2020 19:18

Tgt Ion:105 Resp: 6580

Ion	Ratio	Lower	Upper
105	100		
120	42.5	33.6	73.6



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152020.D Vial: 1
Acq On : 15 May 2020 17:35 Operator: LH
Sample : P2002302-021 (0.5mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 18:23:15 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/15/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	275999	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1188751	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	596274	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	447797	11.972	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.76%				
57) Toluene-d8 (SS2)	15.72	98	1247307	12.341	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.72%				
73) Bromofluorobenzene (SS3)	18.97	174	467602	12.858	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.88%				
Target Compounds							Qvalue
2) Propene	4.09	42	90940	2.845	ng		91
3) Dichlorodifluoromethan...	4.27	85	4630	0.074	ng		95
4) Chloromethane	4.54	50	1548	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	4.95	62	2501	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.	d		
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	6.32	45	46208	1.872	ng		99
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	6.79	56	752	N.D.			
13) Acetone	6.98	58	67621	2.739	ng		93
14) Trichlorofluoromethane	7.25	101	859	N.D.			
15) 2-Propanol (Isopropanol)	7.53	45	8135	0.109	ng	#	57
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.41	84	839	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	8.70	76	3231	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.	d		
25) Methyl tert-Butyl Ether	10.07	73	3173	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.48	72	1019	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	11.27	57	9283008	176.311	ng		100
32) Chloroform	11.27	83	455	N.D.			
34) Tetrahydrofuran (THF)	11.77	72	1496	0.073	ng	#	73
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.07	62	353	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.	d		
40) 1-Butanol	12.82	56	130	N.D.			
41) Benzene	12.87	78	2395786	18.793	ng		100
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	13.18	84	8228016	173.203	ng		97
44) tert-Amyl Methyl Ether	13.46	73	2912	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	13.97	130	723	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152020.D Vial: 1
Acq On : 15 May 2020 17:35 Operator: LH
Sample : P2002302-021 (0.5mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 18:23:15 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

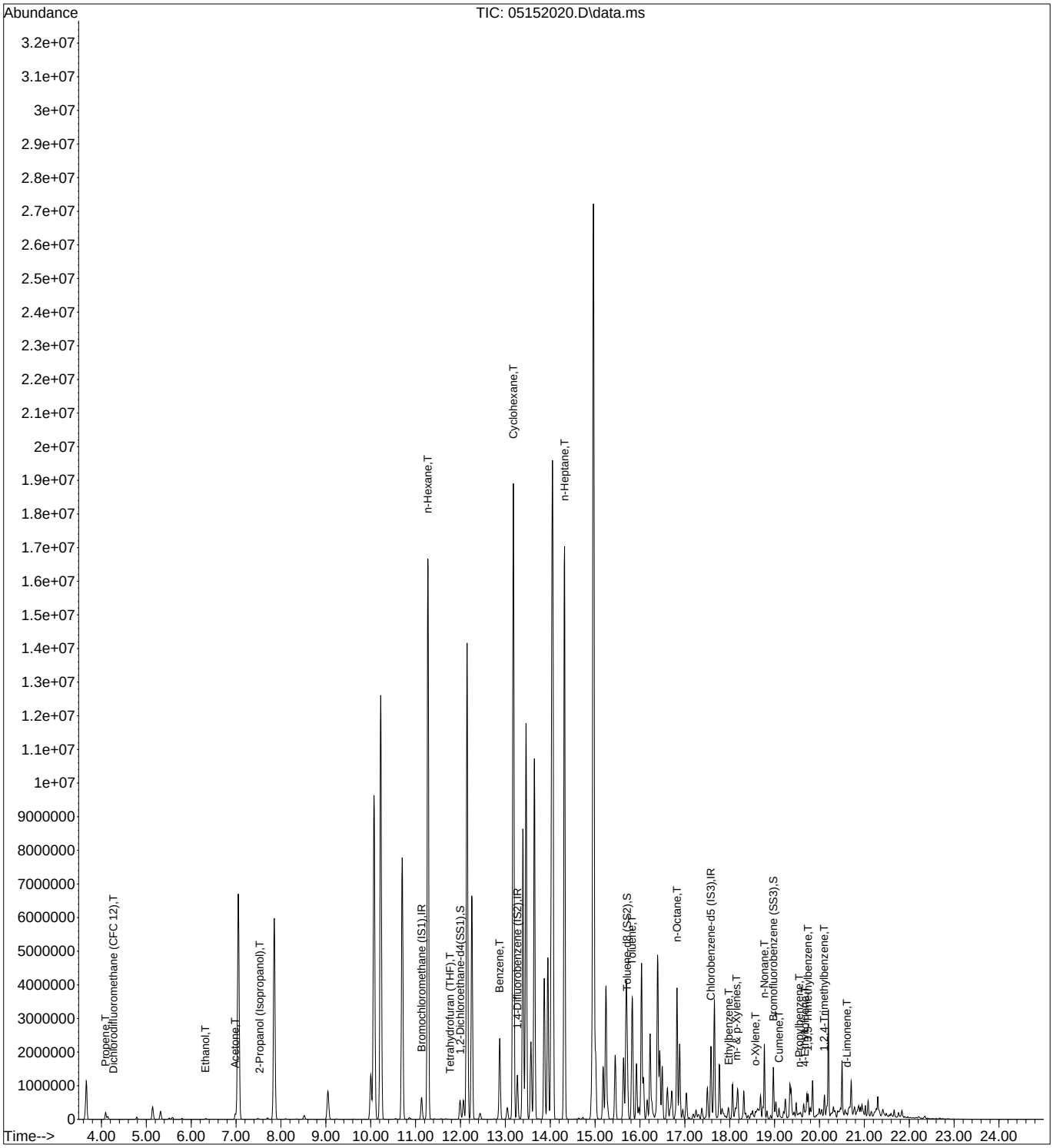
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.32	71	4499203	150.922 ng	98
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d	
53) 4-Methyl-2-pentanone	14.80	58	164	N.D.	
54) trans-1,3-Dichloropropene	15.25	75	320	N.D.	
55) 1,1,2-Trichloroethane	15.56	97	236	N.D.	
58) Toluene	15.82	91	1071713	8.226 ng	99
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	16.48	107	1658	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	16.83	57	765585	28.385 ng	97
64) Tetrachloroethene	16.96	166	461	N.D.	
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	17.98	91	29961	0.206 ng	97
67) m- & p-Xylenes	18.15	91	183863	1.595 ng	100
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.47	104	247	N.D.	
70) o-Xylene	18.57	91	108543	0.928 ng	100
71) n-Nonane	18.77	43	763310	12.296 ng	97
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	19.10	105	28937	0.202 ng	97
75) alpha-Pinene	19.44	93	739	N.D.	
76) n-Propylbenzene	19.55	91	60561	0.355 ng	97
77) 3-Ethyltoluene	0.00	105	0	N.D. d	
78) 4-Ethyltoluene	19.68	105	10721	0.080 ng	98
79) 1,3,5-Trimethylbenzene	19.74	105	37712	0.322 ng	98
80) alpha-Methylstyrene	19.88	118	397	N.D.	
81) 2-Ethyltoluene	19.91	105	5922	N.D.	
82) 1,2,4-Trimethylbenzene	20.10	105	20295	0.172 ng	93
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.20	91	1951	N.D.	
85) 1,3-Dichlorobenzene	20.30	146	315	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	315	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	20.48	119	5561	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D. d	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	20.61	68	9364	0.201 ng	89
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	22.11	180	283	N.D.	
95) Naphthalene	22.21	128	1555	N.D.	
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152020.D Vial: 1
Acq On : 15 May 2020 17:35 Operator: LH
Sample : P2002302-021 (0.5mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 18:23:15 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152020.D Vial: 1
Acq On : 15 May 2020 17:35 Operator: LH
Sample : P2002302-021 (0.5mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 18:23:15 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/15/20

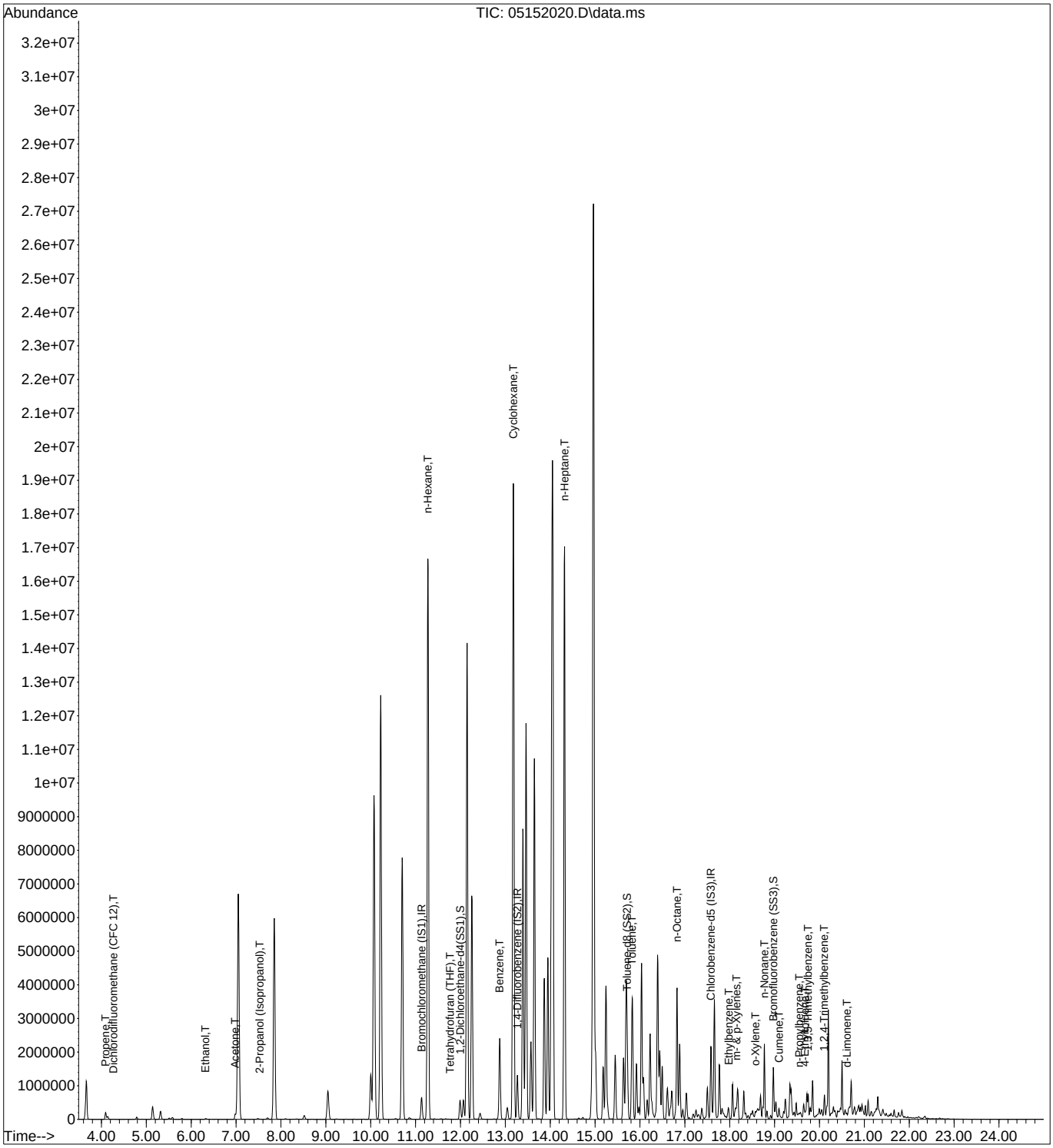
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	275999	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1188751	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	596274	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	447797	11.972	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.76%				
57) Toluene-d8 (SS2)	15.72	98	1247307	12.341	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.72%				
73) Bromofluorobenzene (SS3)	18.97	174	467602	12.858	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.88%				
Target Compounds							Qvalue
2) Propene	4.09	42	90940	2.845	ng		91
3) Dichlorodifluoromethan...	4.27	85	4630	0.074	ng		95
10) Ethanol	6.32	45	46208	1.872	ng		99
13) Acetone	6.98	58	67621	2.739	ng		93
15) 2-Propanol (Isopropanol)	7.53	45	8135	0.109	ng	#	57
31) n-Hexane	11.27	57	9283008	176.311	ng		100
34) Tetrahydrofuran (THF)	11.77	72	1496	0.073	ng	#	73
41) Benzene	12.87	78	2395786	18.793	ng		100
43) Cyclohexane	13.18	84	8228016	173.203	ng		97
51) n-Heptane	14.32	71	4499203	150.922	ng		98
58) Toluene	15.82	91	1071713	8.226	ng		99
63) n-Octane	16.83	57	765585	28.385	ng		97
66) Ethylbenzene	17.98	91	29961	0.206	ng		97
67) m- & p-Xylenes	18.15	91	183863	1.595	ng		100
70) o-Xylene	18.57	91	108543	0.928	ng		100
71) n-Nonane	18.77	43	763310	12.296	ng		97
74) Cumene	19.10	105	28937	0.202	ng		97
76) n-Propylbenzene	19.55	91	60561	0.355	ng		97
78) 4-Ethyltoluene	19.68	105	10721	0.080	ng		98
79) 1,3,5-Trimethylbenzene	19.74	105	37712	0.322	ng		98
82) 1,2,4-Trimethylbenzene	20.10	105	20295	0.172	ng		93
91) d-Limonene	20.61	68	9364	0.201	ng		89

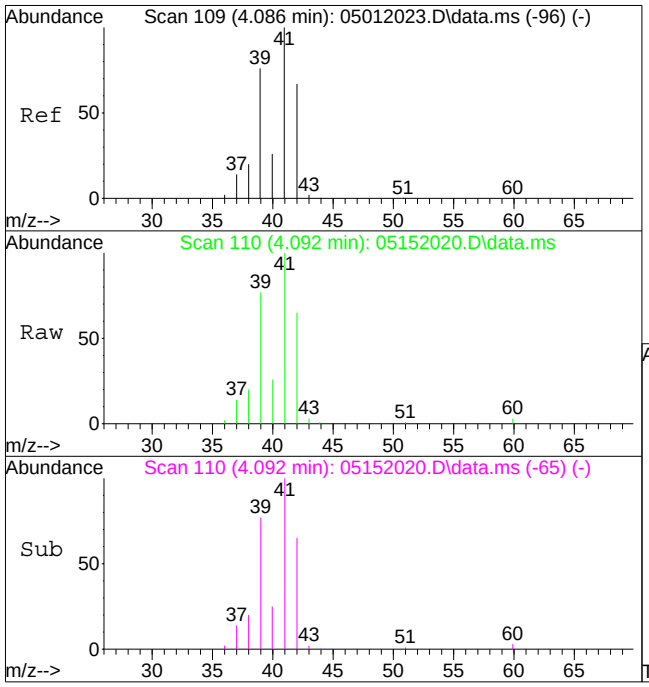
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152020.D Vial: 1
Acq On : 15 May 2020 17:35 Operator: LH
Sample : P2002302-021 (0.5mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 18:23:15 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

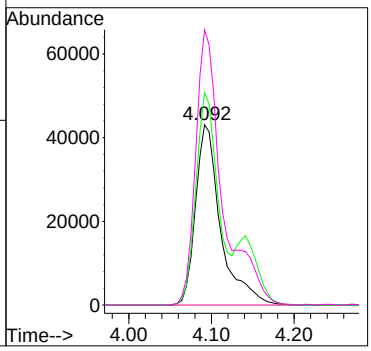


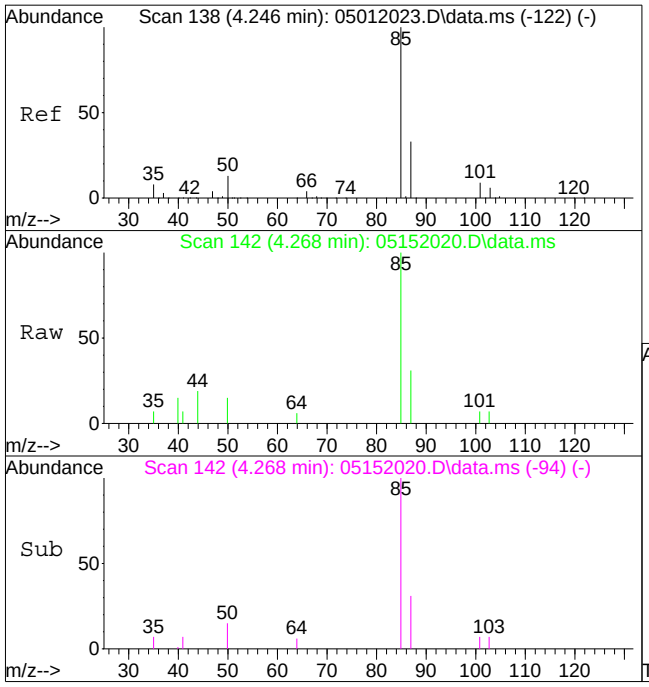


#2
Propene
Concen: 2.84 ng
RT: 4.09 min Scan# 110
Delta R.T. -0.000 min
Lab File: 05152020.D
Acq: 15 May 2020 17:35

Tgt Ion: 42 Resp: 90940

Ion	Ratio	Lower	Upper
42	100		
39	105.2	96.1	136.1
41	163.5	131.9	171.9

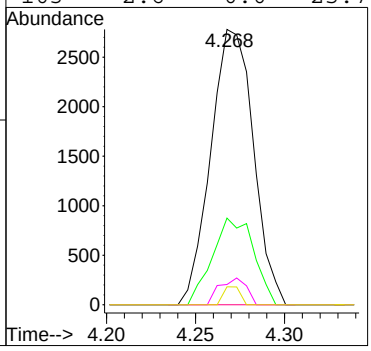


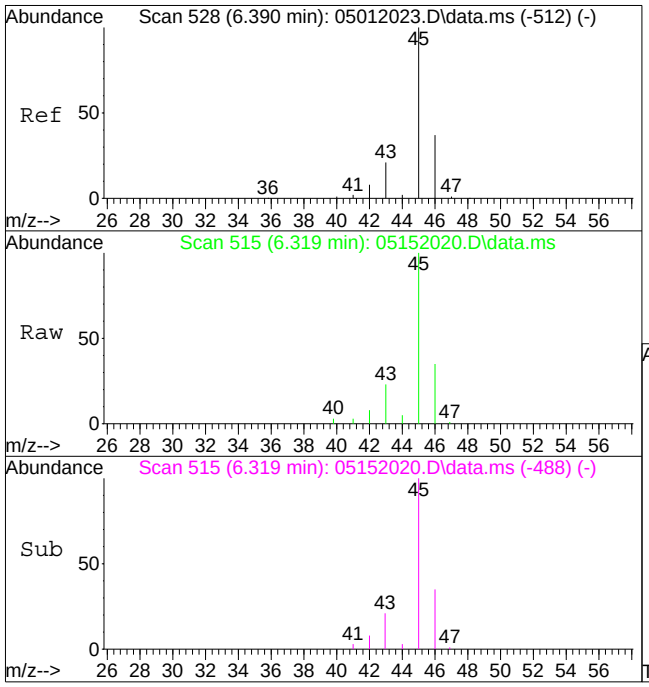


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.07 ng
RT: 4.27 min Scan# 142
Delta R.T. 0.016 min
Lab File: 05152020.D
Acq: 15 May 2020 17:35

Tgt Ion: 85 Resp: 4630

Ion	Ratio	Lower	Upper
85	100		
87	30.5	12.4	52.4
101	6.1	0.0	28.8
103	2.6	0.0	25.7

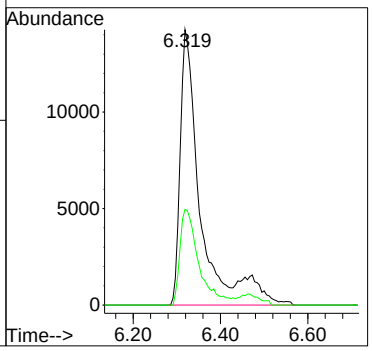


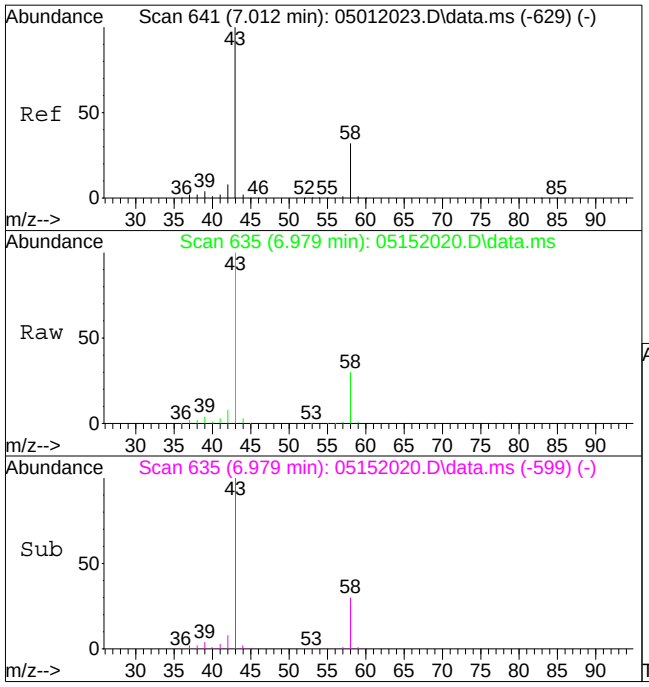


#10
Ethanol
Concen: 1.87 ng
RT: 6.32 min Scan# 515
Delta R.T. -0.099 min
Lab File: 05152020.D
Acq: 15 May 2020 17:35

Tgt Ion: 45 Resp: 46208

Ion	Ratio	Lower	Upper
45	100		
46	36.5	17.2	57.2

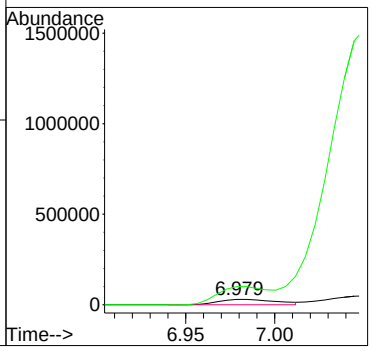


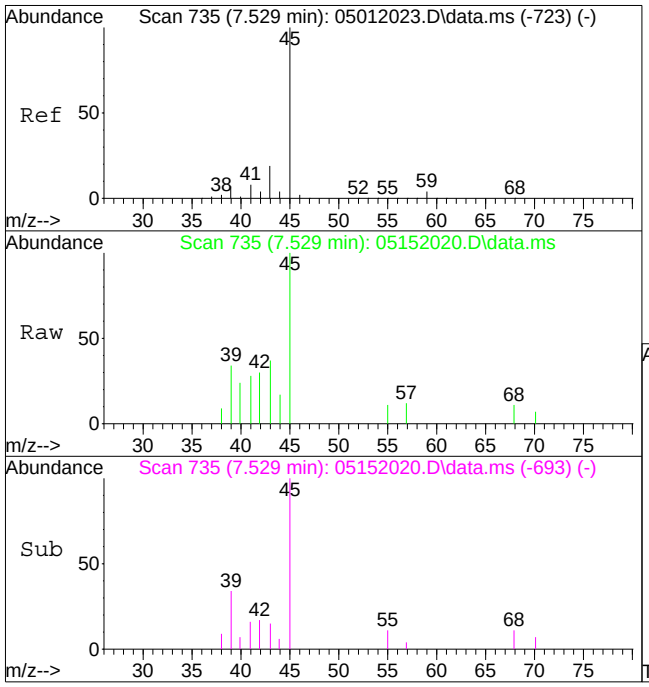


#13
Acetone
Concen: 2.74 ng
RT: 6.98 min Scan# 635
Delta R.T. -0.050 min
Lab File: 05152020.D
Acq: 15 May 2020 17:35

Tgt Ion: 58 Resp: 67621

Ion	Ratio	Lower	Upper
58	100		
43	310.8	294.4	354.4

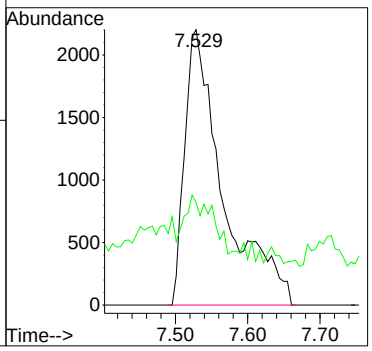


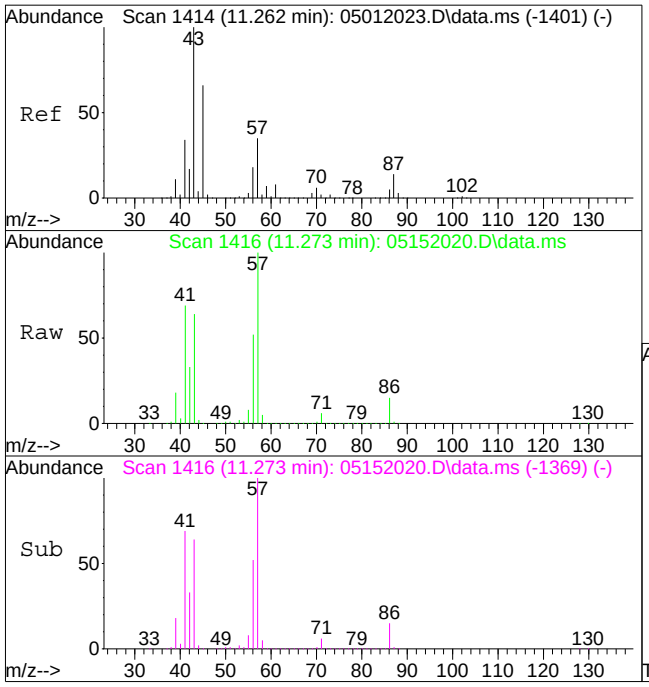


#15
2-Propanol (Isopropanol)
Concen: 0.11 ng
RT: 7.53 min Scan# 735
Delta R.T. -0.017 min
Lab File: 05152020.D
Acq: 15 May 2020 17:35

Tgt Ion: 45 Resp: 8135

Ion	Ratio	Lower	Upper
45	100		
43	0.0	0.0	39.5

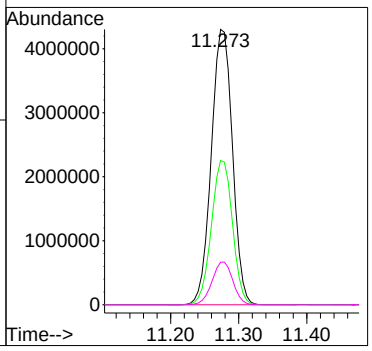


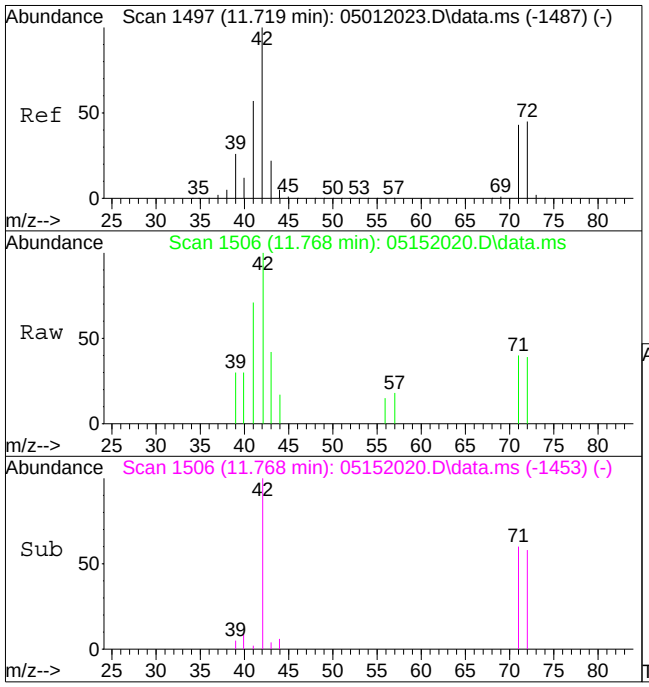


#31
n-Hexane
Concen: 176.31 ng
RT: 11.27 min Scan# 1416
Delta R.T. 0.011 min
Lab File: 05152020.D
Acq: 15 May 2020 17:35

Tgt Ion: 57 Resp: 9283008

Ion	Ratio	Lower	Upper
57	100		
56	52.0	41.4	62.0
86	15.3	12.4	18.6

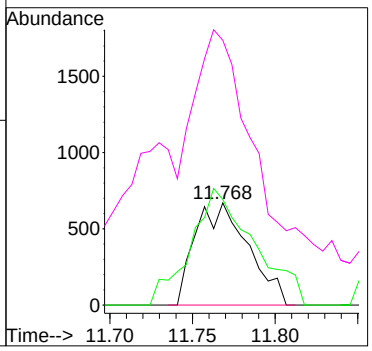


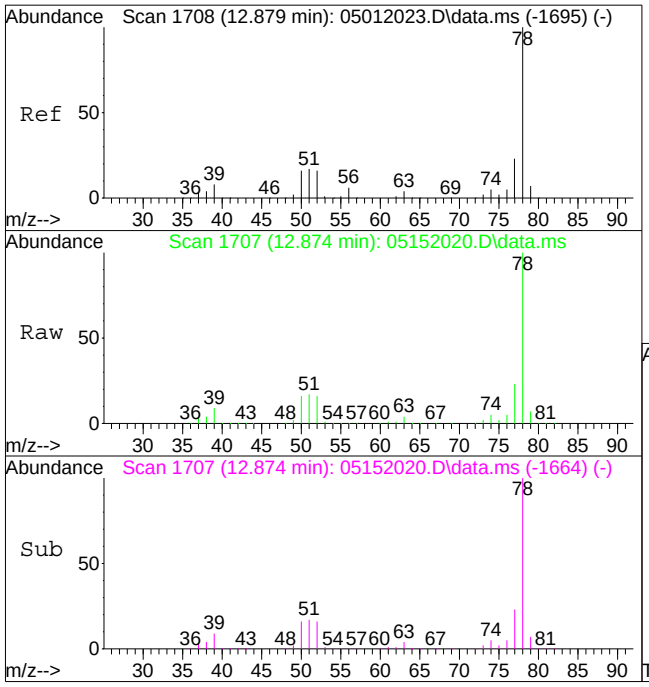


#34
Tetrahydrofuran (THF)
Concen: 0.07 ng
RT: 11.77 min Scan# 1506
Delta R.T. 0.044 min
Lab File: 05152020.D
Acq: 15 May 2020 17:35

Tgt Ion: 72 Resp: 1496

Ion	Ratio	Lower	Upper
72	100		
71	135.8	77.0	117.0#
42	258.7	204.6	244.6#

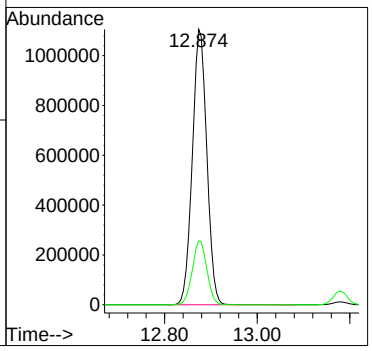


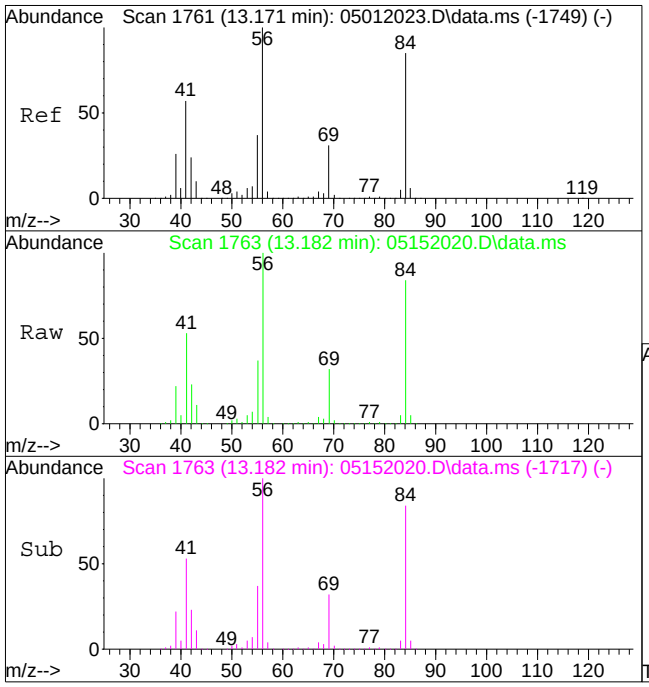


#41
Benzene
Concen: 18.79 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05152020.D
Acq: 15 May 2020 17:35

Tgt Ion: 78 Resp: 2395786

Ion	Ratio	Lower	Upper
78	100		
77	23.4	3.4	43.4

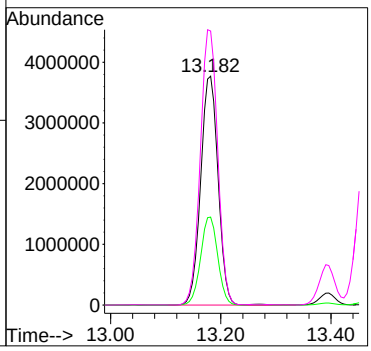


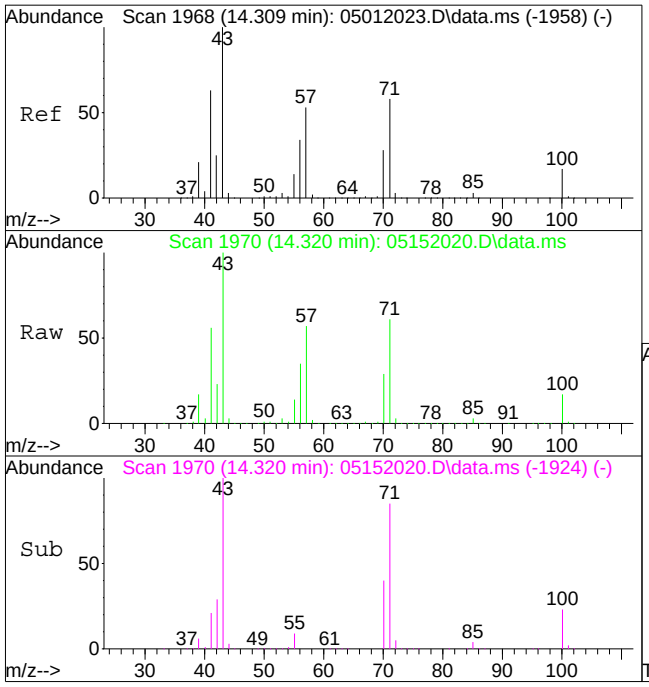


#43
Cyclohexane
Concen: 173.20 ng
RT: 13.18 min Scan# 1763
Delta R.T. 0.005 min
Lab File: 05152020.D
Acq: 15 May 2020 17:35

Tgt Ion: 84 Resp: 8228016

Ion	Ratio	Lower	Upper
84	100		
69	37.9	16.5	56.5
56	120.6	97.4	137.4

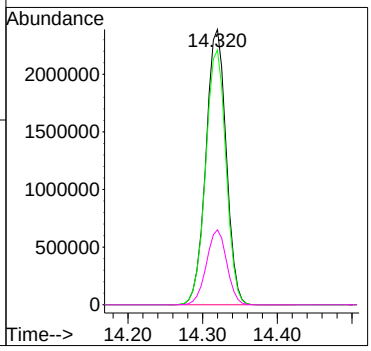


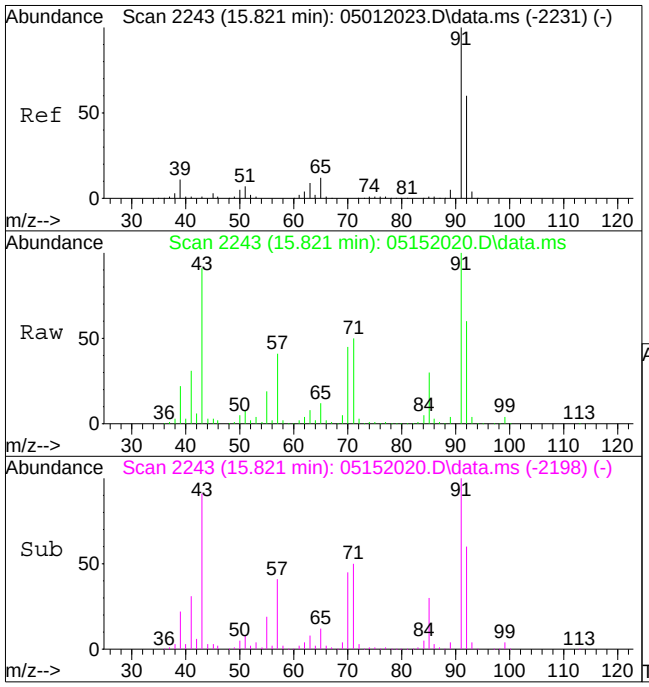


#51
n-Heptane
Concen: 150.92 ng
RT: 14.32 min Scan# 1970
Delta R.T. 0.005 min
Lab File: 05152020.D
Acq: 15 May 2020 17:35

Tgt Ion: 71 Resp: 4499203

Ion	Ratio	Lower	Upper
71	100		
57	92.9	71.0	111.0
100	27.3	8.4	48.4

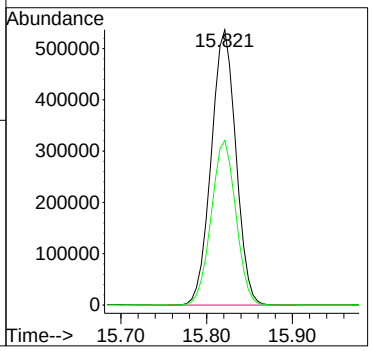


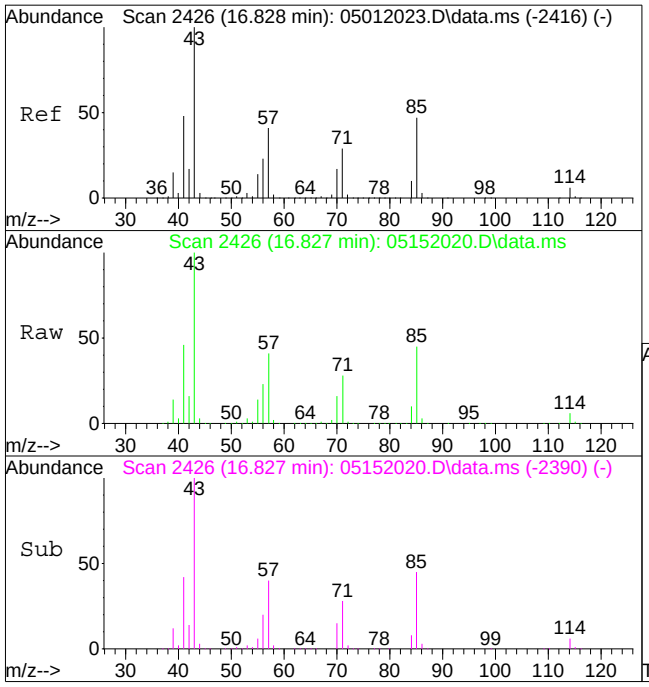


#58
Toluene
Concen: 8.23 ng
RT: 15.82 min Scan# 2243
Delta R.T. -0.000 min
Lab File: 05152020.D
Acq: 15 May 2020 17:35

Tgt Ion: 91 Resp: 1071713

Ion	Ratio	Lower	Upper
91	100		
92	59.8	39.4	79.4

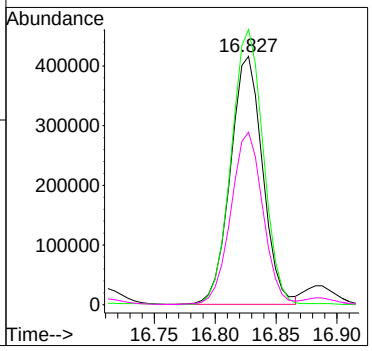


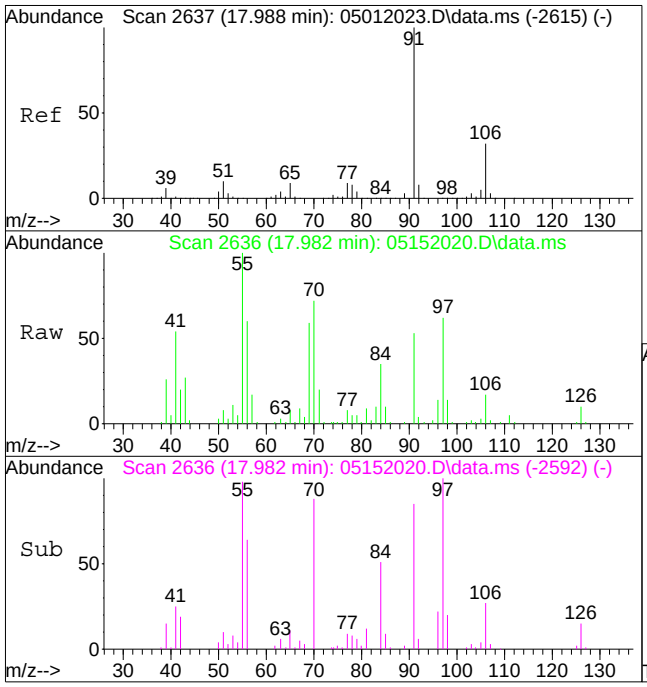


#63
n-Octane
Concen: 28.39 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05152020.D
Acq: 15 May 2020 17:35

Tgt Ion: 57 Resp: 765585

Ion	Ratio	Lower	Upper
57	100		
85	110.2	91.0	136.4
71	68.8	56.2	84.2

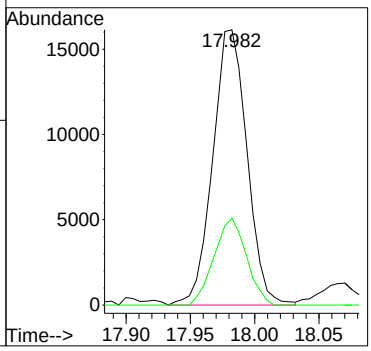


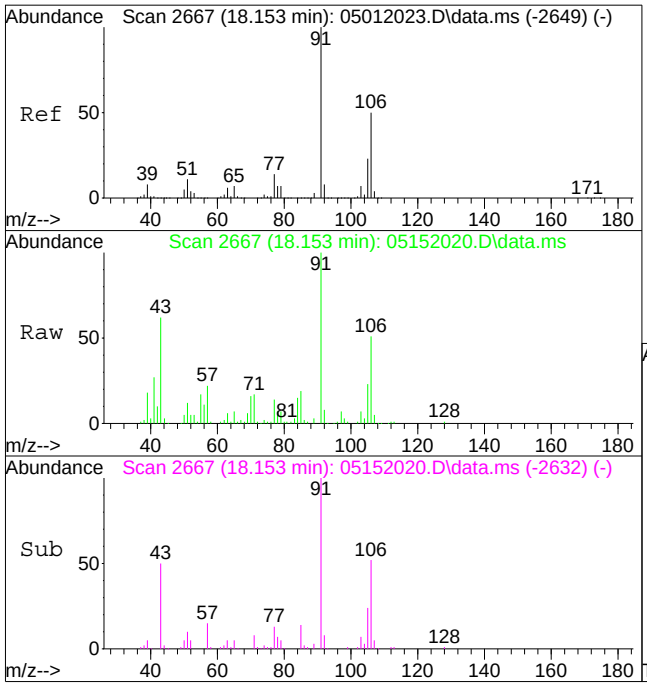


#66
Ethylbenzene
Concen: 0.21 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05152020.D
Acq: 15 May 2020 17:35

Tgt Ion: 91 Resp: 29961

Ion	Ratio	Lower	Upper
91	100		
106	29.7	11.6	51.6

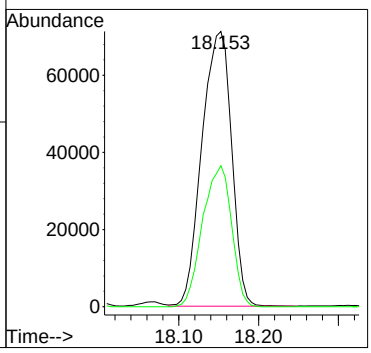


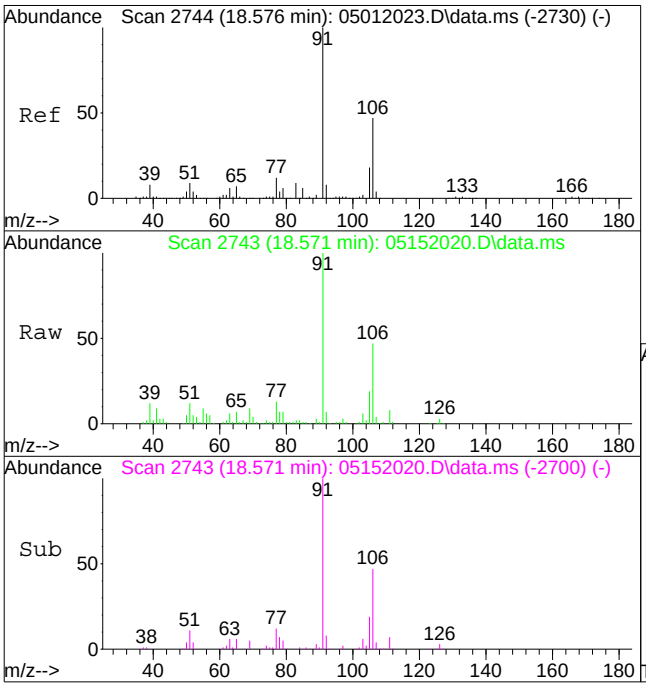


#67
m- & p-Xylenes
Concen: 1.60 ng
RT: 18.15 min Scan# 2667
Delta R.T. -0.006 min
Lab File: 05152020.D
Acq: 15 May 2020 17:35

Tgt Ion: 91 Resp: 183863

Ion	Ratio	Lower	Upper
91	100		
106	50.0	29.7	69.7

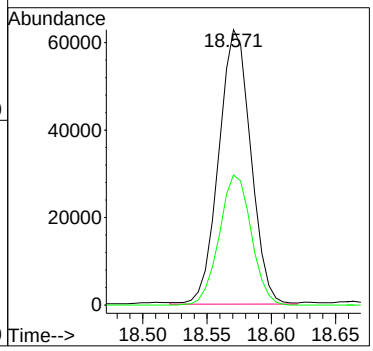


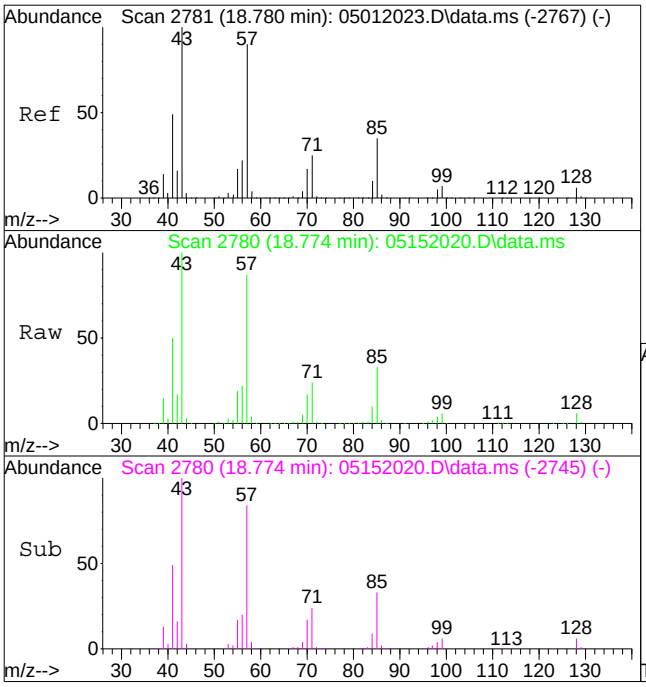


#70
o-Xylene
Concen: 0.93 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05152020.D
Acq: 15 May 2020 17:35

Tgt Ion: 91 Resp: 108543

Ion	Ratio	Lower	Upper
91	100		
106	47.4	27.5	67.5

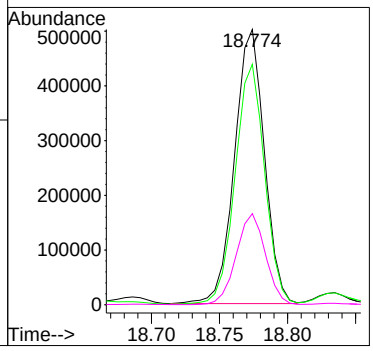


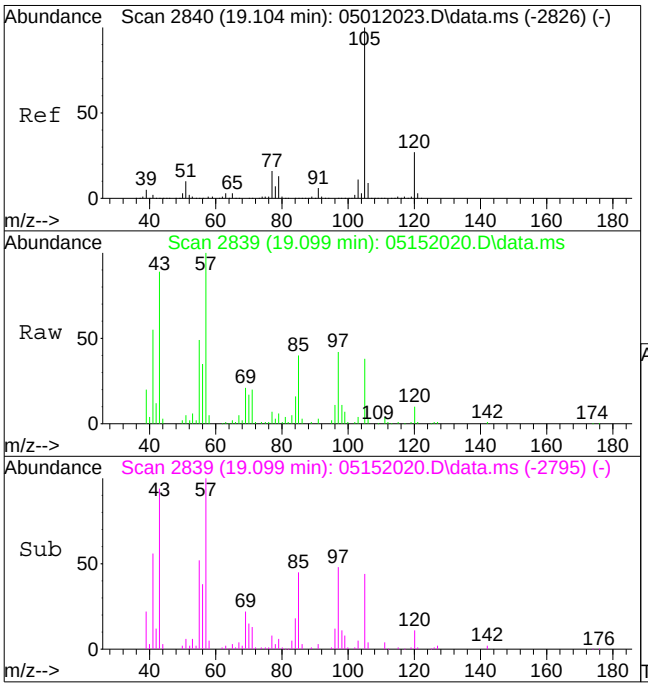


#71
n-Nonane
Concen: 12.30 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05152020.D
Acq: 15 May 2020 17:35

Tgt Ion: 43 Resp: 763310

Ion	Ratio	Lower	Upper
43	100		
57	86.7	69.0	109.0
85	32.5	14.6	54.6

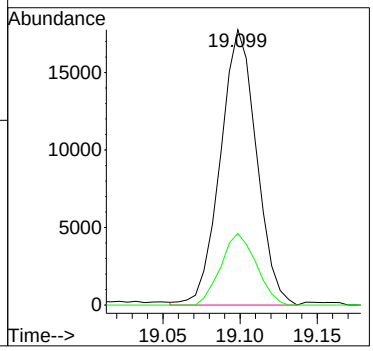


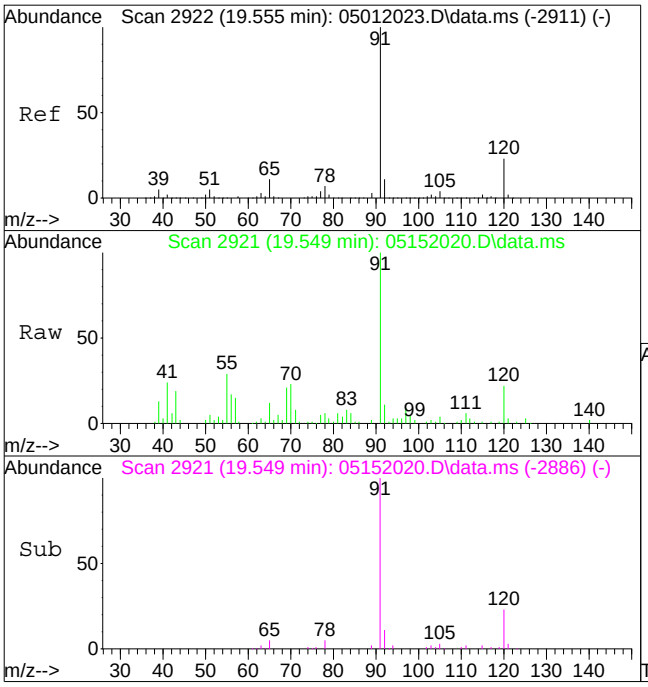


#74
Cumene
Concen: 0.20 ng
RT: 19.10 min Scan# 2839
Delta R.T. -0.006 min
Lab File: 05152020.D
Acq: 15 May 2020 17:35

Tgt Ion:105 Resp: 28937

Ion	Ratio	Lower	Upper
105	100		
120	25.4	6.8	46.8

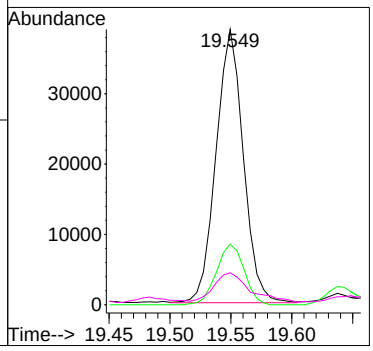


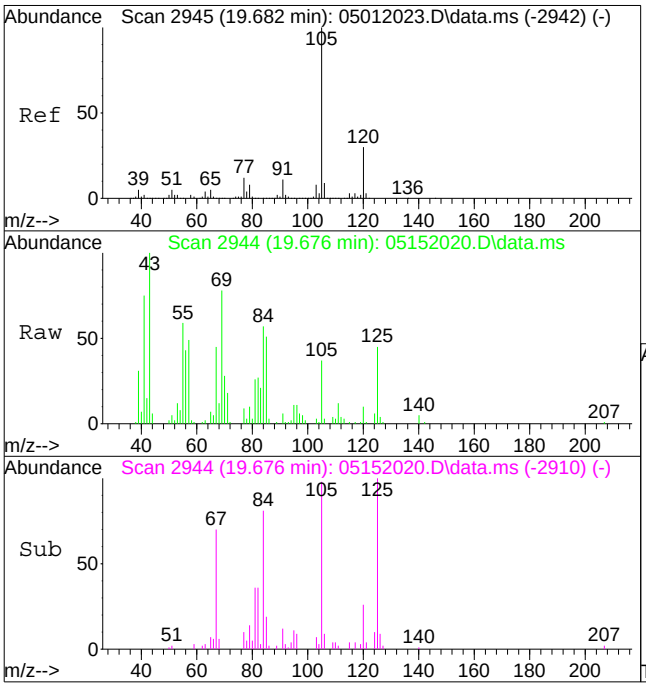


#76
n-Propylbenzene
Concen: 0.36 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05152020.D
Acq: 15 May 2020 17:35

Tgt Ion: 91 Resp: 60561

Ion	Ratio	Lower	Upper
91	100		
120	22.5	3.1	43.1
65	13.8	0.0	30.9

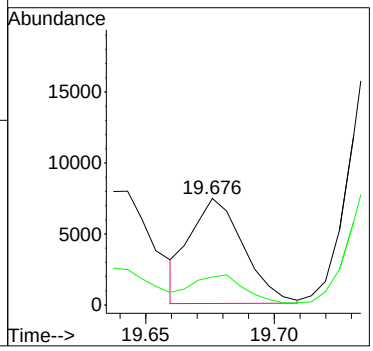


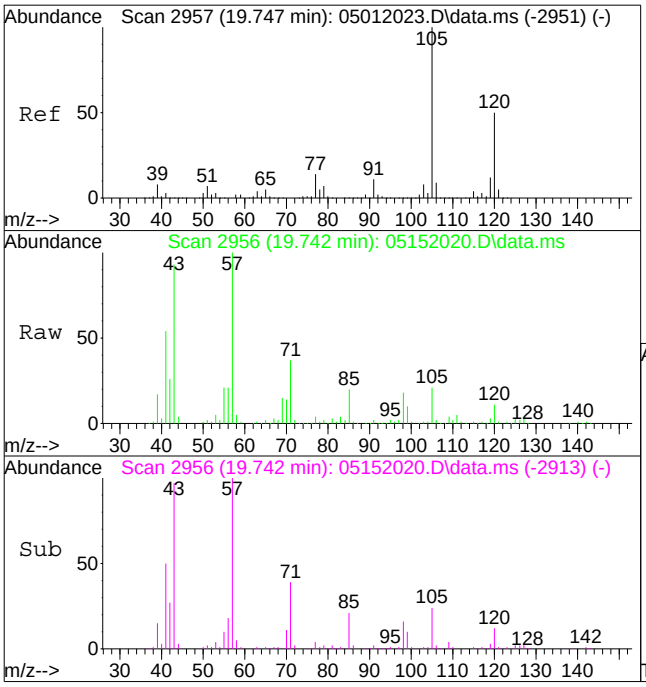


#78
4-Ethyltoluene
Concen: 0.08 ng
RT: 19.68 min Scan# 2944
Delta R.T. -0.011 min
Lab File: 05152020.D
Acq: 15 May 2020 17:35

Tgt Ion:105 Resp: 10721

Ion	Ratio	Lower	Upper
105	100		
120	29.5	10.4	50.4

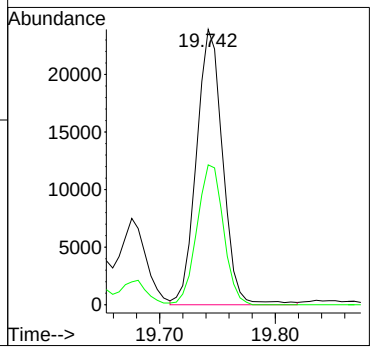


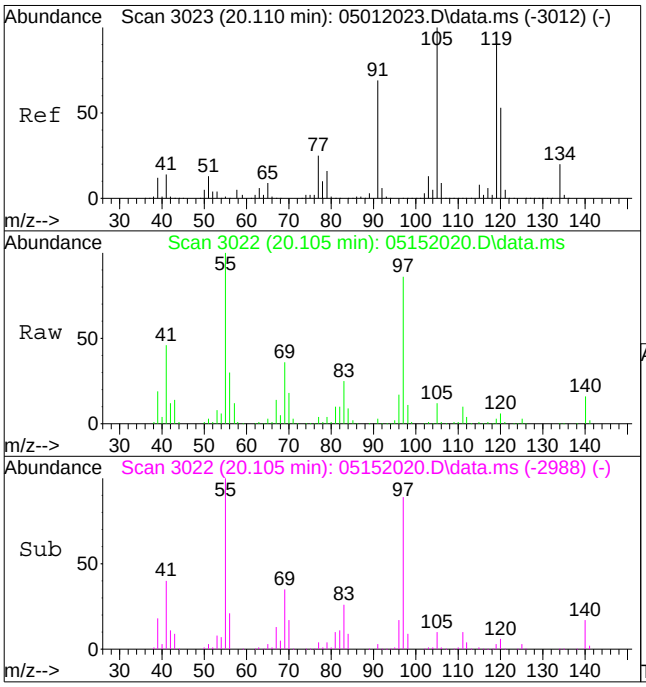


#79
1,3,5-Trimethylbenzene
Concen: 0.32 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05152020.D
Acq: 15 May 2020 17:35

Tgt Ion:105 Resp: 37712

Ion	Ratio	Lower	Upper
105	100		
120	51.1	29.9	69.9

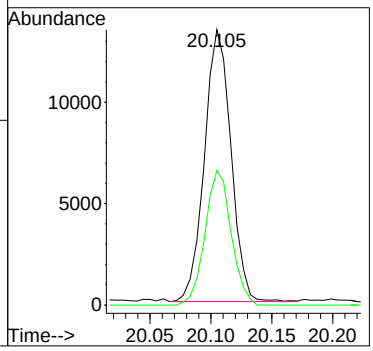


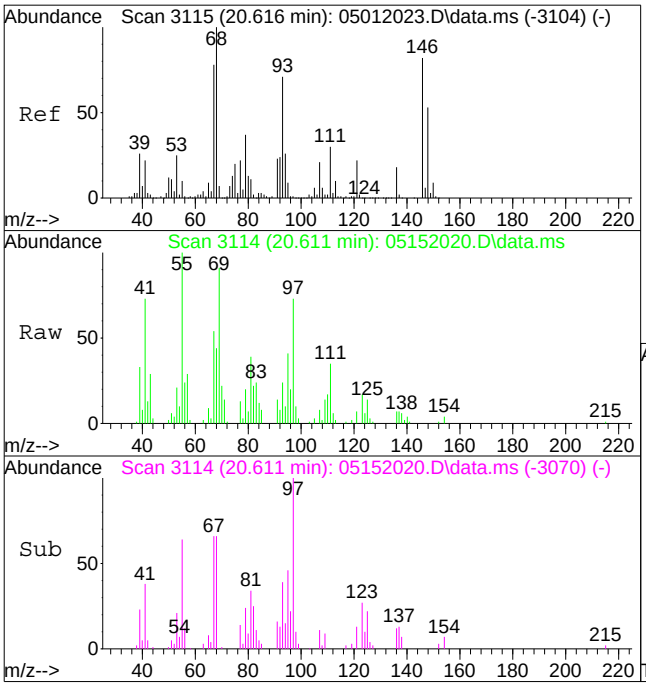


#82
1,2,4-Trimethylbenzene
Concen: 0.17 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05152020.D
Acq: 15 May 2020 17:35

Tgt Ion:105 Resp: 20295

Ion	Ratio	Lower	Upper
105	100		
120	48.6	33.6	73.6

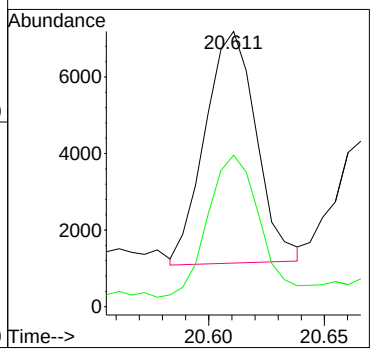




#91
d-Limonene
Concen: 0.20 ng
RT: 20.61 min Scan# 3114
Delta R.T. -0.006 min
Lab File: 05152020.D
Acq: 15 May 2020 17:35

Tgt Ion: 68 Resp: 9364

Ion	Ratio	Lower	Upper
68	100		
93	62.4	51.1	91.1



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152027.D Vial: 1
Acq On : 15 May 2020 21:32 Operator: LH
Sample : P2002302-021dil (0.1mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 17 07:27:37 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) WDA 5/17/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	272547	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1175447	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	551418	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	435070	11.779	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.24%			
57) Toluene-d8 (SS2)	15.72	98	1160004	12.411	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.28%			
73) Bromofluorobenzene (SS3)	18.97	174	439257	13.061	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.48%			
Target Compounds						Qvalue
2) Propene	4.11	42	17400	0.551	ng	# 84
3) Dichlorodifluoromethan...	4.27	85	943	N.D.		
4) Chloromethane	4.54	50	327	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	4.95	62	875	N.D.		
7) 1,3-Butadiene	5.14	54	1191	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.43	45	54	N.D.		
11) Acetonitrile	6.60	41	117	N.D.		
12) Acrolein	6.80	56	1177	0.061	ng	77
13) Acetone	0.00	58	0	N.D. d		
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	7.55	45	1365	N.D.		
16) Acrylonitrile	0.00	53	0	N.D. d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	8.45	59	893	N.D.		
19) Methylene Chloride	8.40	84	169	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D. d		
21) Trichlorotrifluoroethane	8.84	151	5028	0.195	ng	93
22) Carbon Disulfide	8.69	76	2121	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	9.99	63	2013	N.D.		
25) Methyl tert-Butyl Ether	10.04	73	112	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D. d		
27) 2-Butanone (MEK)	10.50	72	158	N.D.		
28) cis-1,2-Dichloroethene	10.95	61	117	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D. d		
30) Ethyl Acetate	0.00	61	0	N.D. d		
31) n-Hexane	11.26	57	1557841	29.963	ng	100
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	11.77	72	250	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D. d		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D. d		
40) 1-Butanol	12.88	56	904	N.D.		
41) Benzene	12.87	78	447094	3.547	ng	100
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	13.17	84	1387552	29.539	ng	99
44) tert-Amyl Methyl Ether	13.45	73	385	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D. d		
46) Bromodichloromethane	0.00	83	0	N.D. d		
47) Trichloroethene	13.97	130	8096	0.248	ng	99
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d		
50) Methyl Methacrylate	0.00	100	0	N.D. d		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152027.D Vial: 1
Acq On : 15 May 2020 21:32 Operator: LH
Sample : P2002302-021dil (0.1mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 17 07:27:37 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

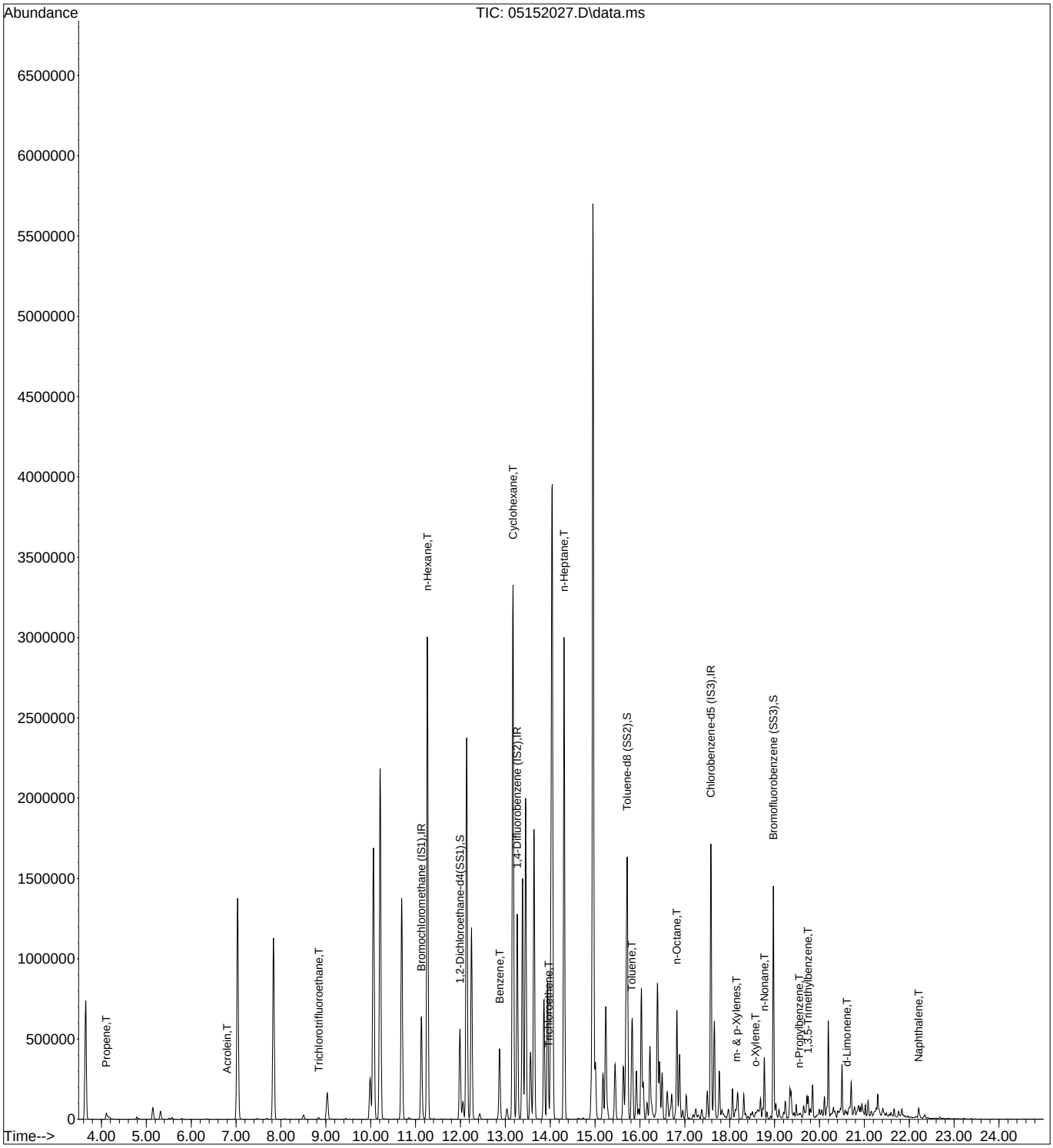
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	14.31	71	741287	25.147 ng	99
52) cis-1,3-Dichloropropene	14.95	75	1235	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d	
58) Toluene	15.82	91	188785	1.567 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	16.82	57	131855	5.286 ng	99
64) Tetrachloroethene	16.95	166	319	N.D.	
65) Chlorobenzene	0.00	112	0	N.D. d	
66) Ethylbenzene	17.98	91	5669	N.D.	
67) m- & p-Xylenes	18.15	91	33937	0.318 ng	98
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	18.57	104	402	N.D.	
70) o-Xylene	18.57	91	20111	0.186 ng	97
71) n-Nonane	18.77	43	135071	2.353 ng	97
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d	
74) Cumene	19.10	105	5488	N.D.	
75) alpha-Pinene	19.45	93	330	N.D.	
76) n-Propylbenzene	19.55	91	11858	0.075 ng	92
77) 3-Ethyltoluene	19.64	105	2864	N.D.	
78) 4-Ethyltoluene	19.68	105	2195	N.D.	
79) 1,3,5-Trimethylbenzene	19.74	105	7196	0.066 ng	99
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	19.91	105	1226	N.D.	
82) 1,2,4-Trimethylbenzene	20.10	105	4520	N.D.	
83) n-Decane	0.00	57	0	N.D. d	
84) Benzyl Chloride	20.19	91	587	N.D.	
85) 1,3-Dichlorobenzene	20.30	146	272	N.D.	
86) 1,4-Dichlorobenzene	20.30	146	272	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D. d	
88) 4-Isopropyltoluene (p-...	20.48	119	1817	N.D.	
89) 1,2,3-Trimethylbenzene	20.48	105	4197	N.D.	
90) 1,2-Dichlorobenzene	20.59	146	188	N.D.	
91) d-Limonene	20.61	68	4214	0.098 ng	98
92) 1,2-Dibromo-3-Chloropr...	20.99	157	317	N.D.	
93) n-Undecane	0.00	57	0	N.D. d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.	
95) Naphthalene	22.21	128	36819	0.277 ng	100
96) n-Dodecane	0.00	57	0	N.D. d	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D. d	
99) tert-Butylbenzene	20.11	119	1181	N.D.	
100) n-Butylbenzene	0.00	91	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152027.D Vial: 1
Acq On : 15 May 2020 21:32 Operator: LH
Sample : P2002302-021dil (0.1mL) Inst : GCMS-16
Misc : S31-02112001

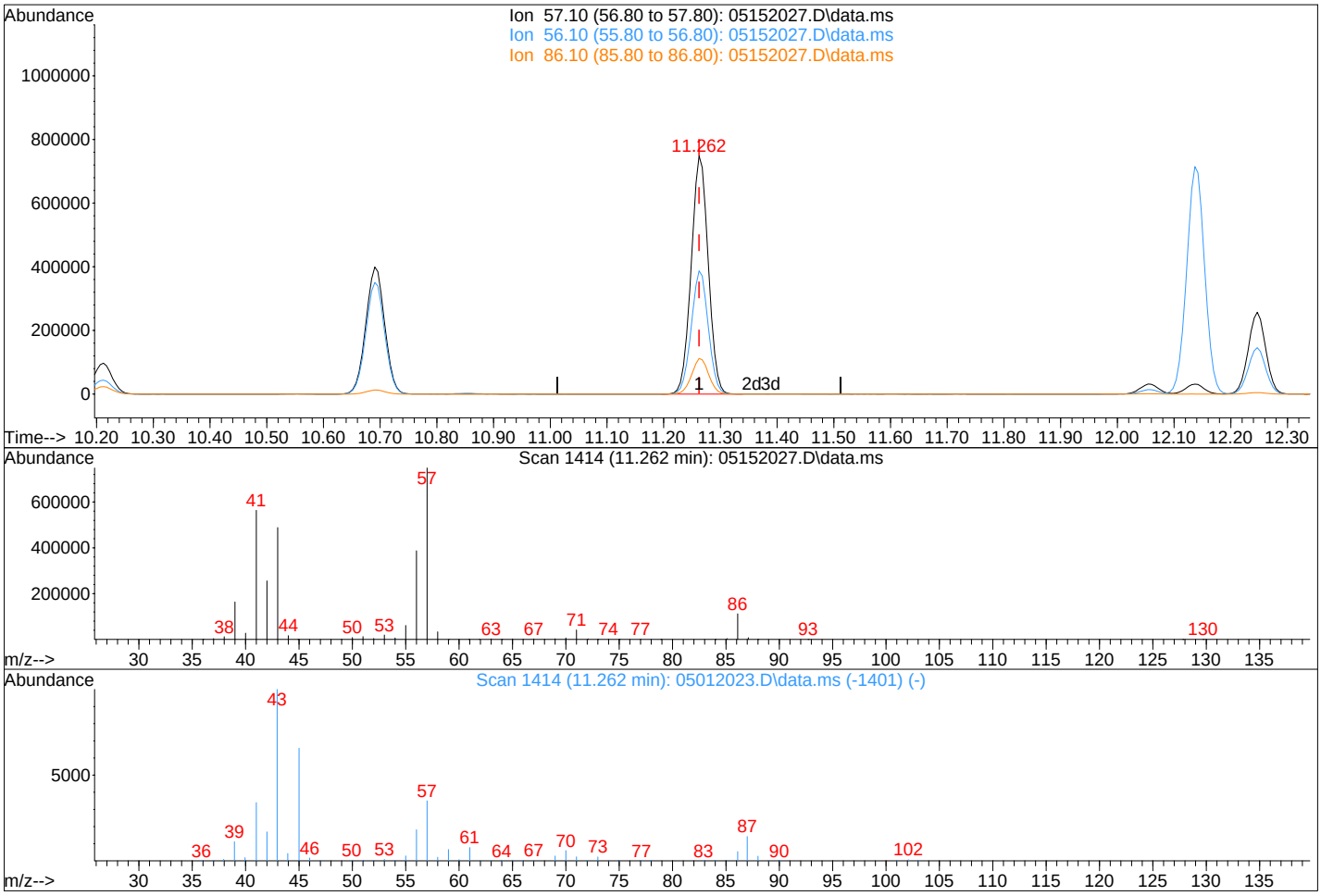
Quant Time: May 17 07:27:37 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\15\05152027.D Vial: 1
Acq On : 15 May 2020 21:32 Operator: LH
Sample : P2002302-021dil (0.1mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 17 07:21:03 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05152027.D\data.ms

(31) n-Hexane (T)

11.262min (-0.000) 29.96ng

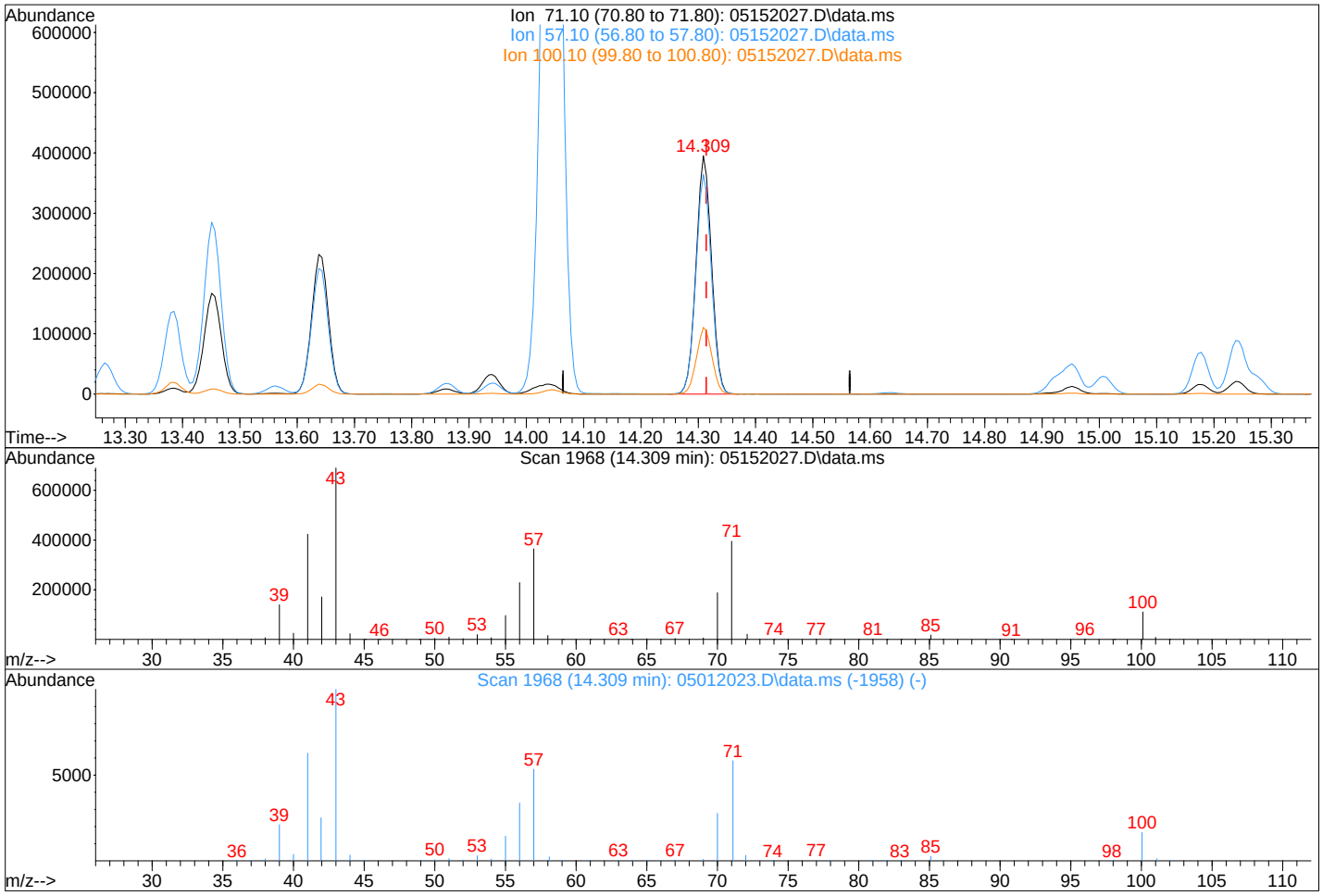
response 1557841

Ion	Exp%	Act%
57.10	100	100
56.10	51.70	51.77
86.10	15.50	14.94
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\15\05152027.D Vial: 1
Acq On : 15 May 2020 21:32 Operator: LH
Sample : P2002302-021dil (0.1mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 17 07:21:03 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05152027.D\data.ms

(51) n-Heptane (T)

14.309min (-0.006) 25.15ng

response 741287

Ion	Exp%	Act%
71.10	100	100
57.10	91.00	92.57
100.10	28.40	28.07
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152028.D Vial: 7
Acq On : 15 May 2020 22:05 Operator: LH
Sample : P2002302-022 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 17 07:31:09 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/17/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	264623	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1126816	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	521079	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	420360	11.722	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.76%			
57) Toluene-d8 (SS2)	15.71	98	1097062	12.421	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.36%			
73) Bromofluorobenzene (SS3)	18.97	174	418914	13.182	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.44%			
Target Compounds						Qvalue
2) Propene	4.14	42	659	N.D.		
3) Dichlorodifluoromethan...	4.30	85	177	N.D.		
4) Chloromethane	4.57	50	336	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.43	45	54	N.D.		
11) Acetonitrile	6.62	41	794	N.D.		
12) Acrolein	6.80	56	1221	0.065	ng	89
13) Acetone	7.03	58	10461	0.442	ng	88
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	7.54	45	2270	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	8.40	84	252	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	8.83	151	117	N.D.		
22) Carbon Disulfide	8.68	76	3726	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	10.50	72	804	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	11.30	61	594	0.051	ng	83
31) n-Hexane	11.26	57	377	N.D.		
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	11.99	62	109	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.	d	
41) Benzene	12.87	78	1875	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	13.16	84	165	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	13.97	130	789	N.D.		
48) 1,4-Dioxane	13.98	88	141	N.D.		
49) 2,2,4-Trimethylpentane...	14.04	57	594	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152028.D Vial: 7
Acq On : 15 May 2020 22:05 Operator: LH
Sample : P2002302-022 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 17 07:31:09 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

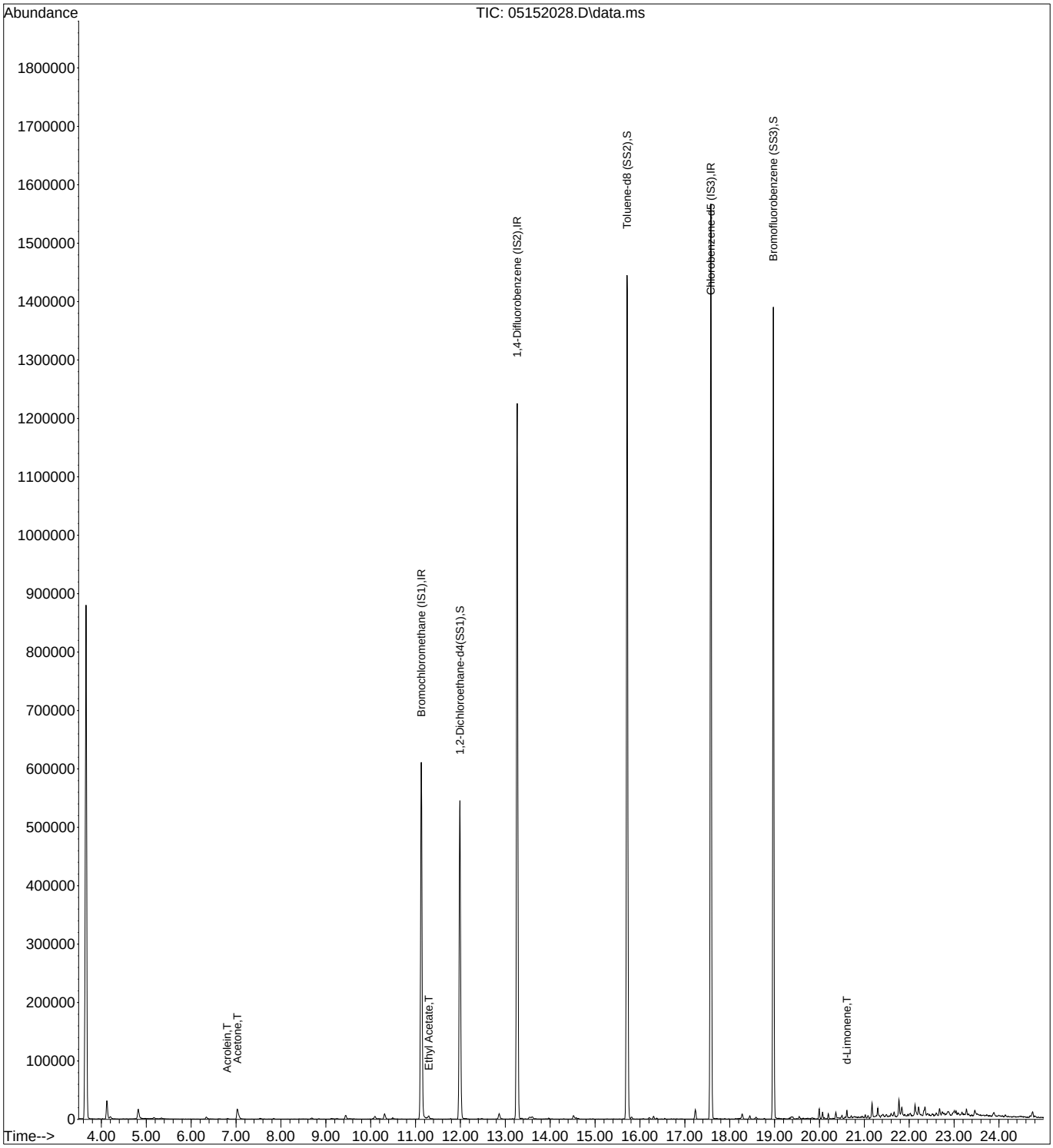
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.82	91	3247	N.D.		
59) 2-Hexanone	16.07	43	1108	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.70	43	580	N.D.		
63) n-Octane	16.78	57	107	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	17.98	91	437	N.D.		
67) m- & p-Xylenes	18.14	91	1152	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	18.57	91	410	N.D.		
71) n-Nonane	18.76	43	575	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	18.97	105	554	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	19.55	91	297	N.D.		
77) 3-Ethyltoluene	19.64	105	422	N.D.		
78) 4-Ethyltoluene	19.68	105	223	N.D.		
79) 1,3,5-Trimethylbenzene	19.74	105	258	N.D.		
80) alpha-Methylstyrene	19.88	118	130	N.D.		
81) 2-Ethyltoluene	19.91	105	237	N.D.		
82) 1,2,4-Trimethylbenzene	20.11	105	860	N.D.		
83) n-Decane	20.20	57	2810	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	20.30	146	280	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	280	N.D.		
87) sec-Butylbenzene	20.48	105	518	N.D.		
88) 4-Isopropyltoluene (p-...	20.48	119	497	N.D.		
89) 1,2,3-Trimethylbenzene	20.48	105	518	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	20.61	68	3041	0.075	ng	100
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	57	0	N.D.	d	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.		
95) Naphthalene	22.21	128	2780	N.D.		
96) n-Dodecane	0.00	57	0	N.D.	d	
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.	d	
99) tert-Butylbenzene	20.07	119	125	N.D.		
100) n-Butylbenzene	20.84	91	637	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152028.D Vial: 7
Acq On : 15 May 2020 22:05 Operator: LH
Sample : P2002302-022 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 17 07:31:09 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152028.D Vial: 7
Acq On : 15 May 2020 22:05 Operator: LH
Sample : P2002302-022 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 17 07:31:09 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/17/20

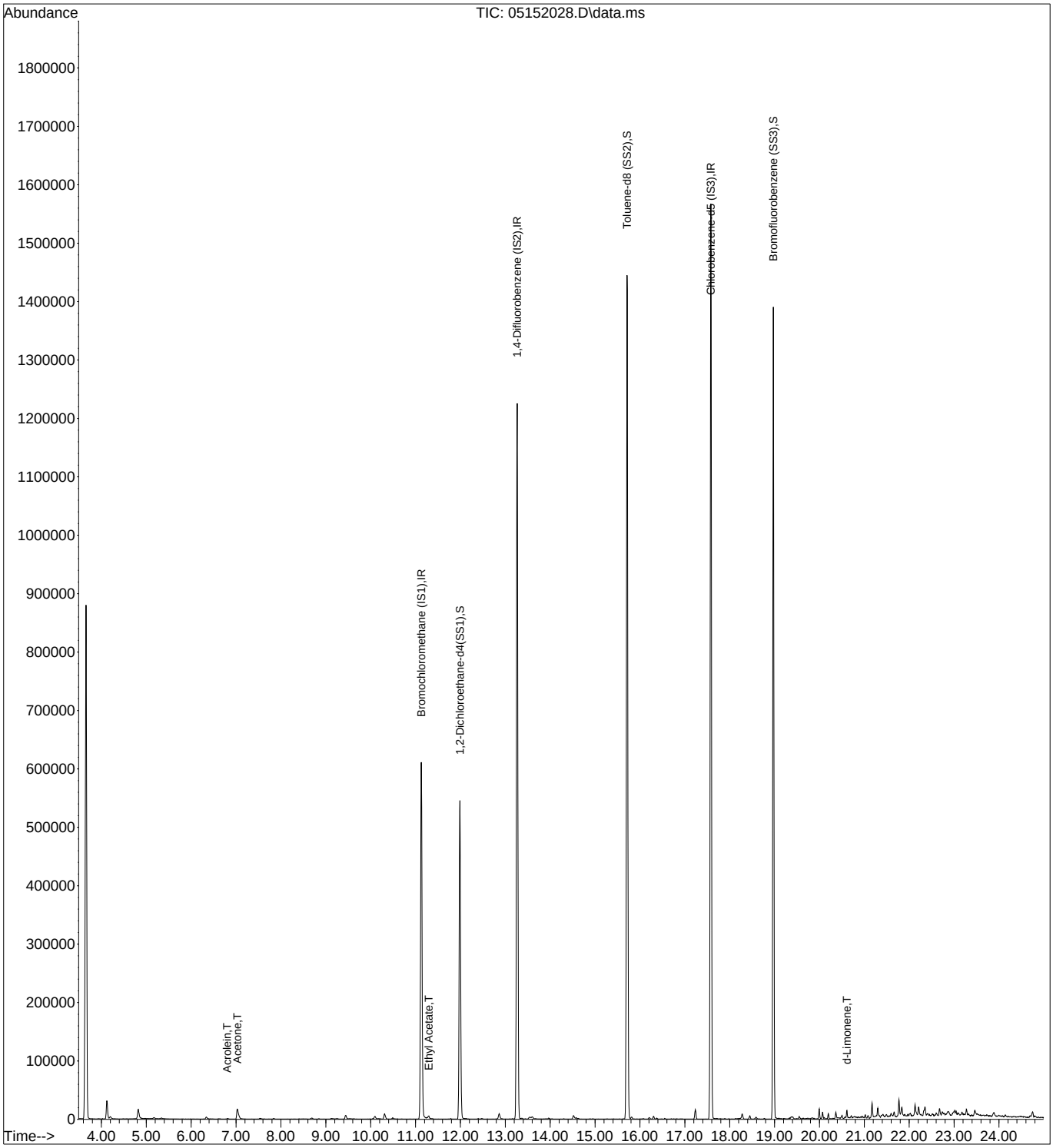
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	264623	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1126816	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	521079	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	420360	11.722	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.76%			
57) Toluene-d8 (SS2)	15.71	98	1097062	12.421	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.36%			
73) Bromofluorobenzene (SS3)	18.97	174	418914	13.182	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.44%			
Target Compounds						Qvalue
12) Acrolein	6.80	56	1221	0.065	ng	89
13) Acetone	7.03	58	10461	0.442	ng	88
30) Ethyl Acetate	11.30	61	594	0.051	ng	83
91) d-Limonene	20.61	68	3041	0.075	ng	100

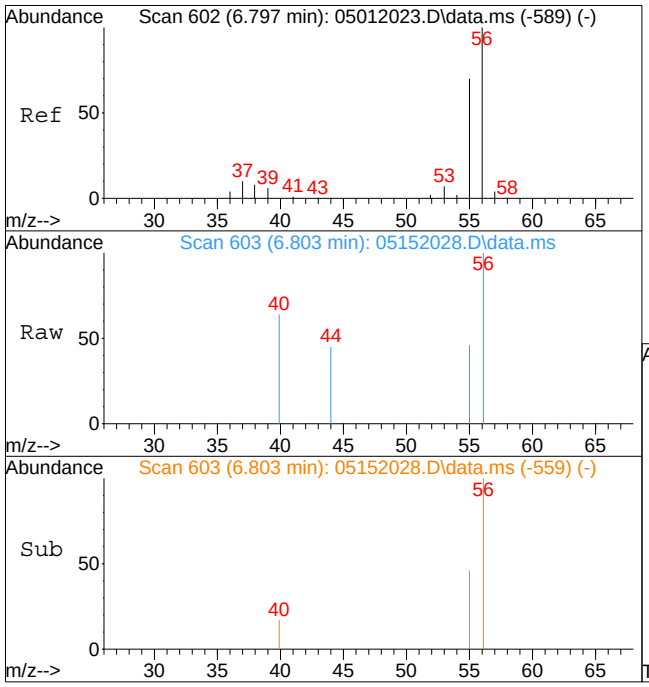
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152028.D Vial: 7
Acq On : 15 May 2020 22:05 Operator: LH
Sample : P2002302-022 (400mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 17 07:31:09 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

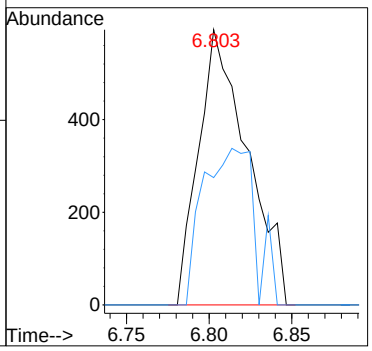


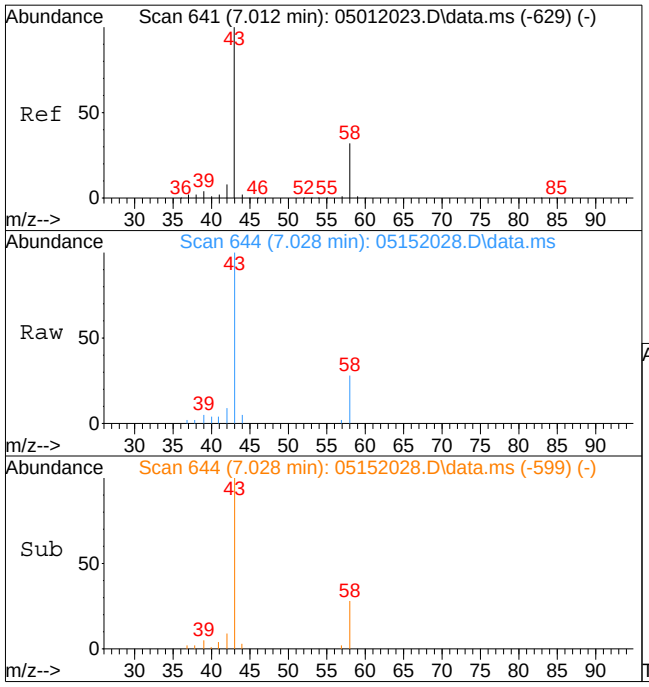


#12
Acrolein
Concen: 0.07 ng
RT: 6.80 min Scan# 603
Delta R.T. -0.006 min
Lab File: 05152028.D
Acq: 15 May 2020 22:05

Tgt Ion: 56 Resp: 1221

Ion	Ratio	Lower	Upper
56	100		
55	60.9	50.2	90.2

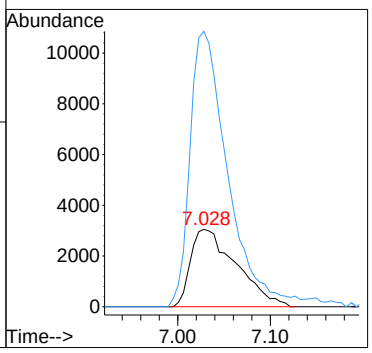


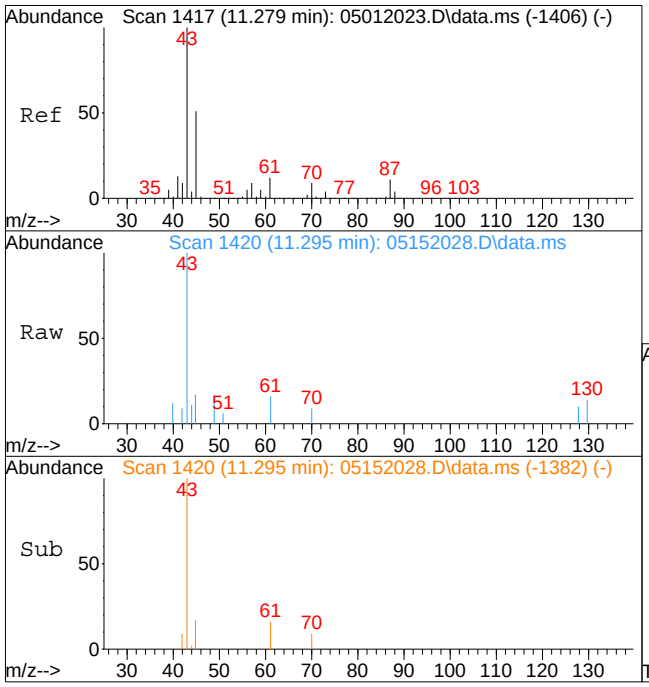


#13
Acetone
Concen: 0.44 ng
RT: 7.03 min Scan# 644
Delta R.T. -0.000 min
Lab File: 05152028.D
Acq: 15 May 2020 22:05

Tgt Ion: 58 Resp: 10461

Ion	Ratio	Lower	Upper
58	100		
43	299.9	294.4	354.4

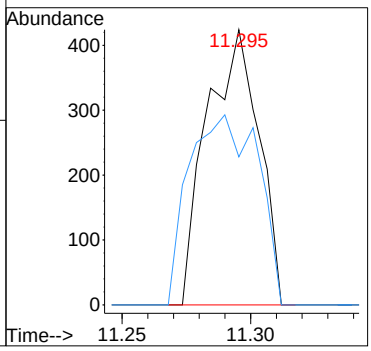


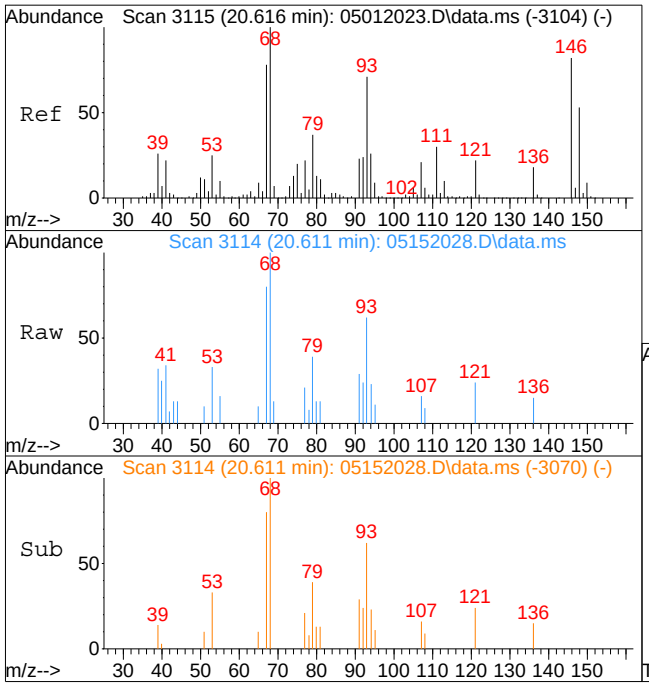


#30
Ethyl Acetate
Concen: 0.05 ng
RT: 11.30 min Scan# 1420
Delta R.T. 0.011 min
Lab File: 05152028.D
Acq: 15 May 2020 22:05

Tgt Ion: 61 Resp: 594

Ion	Ratio	Lower	Upper
61	100		
70	92.3	57.9	97.9

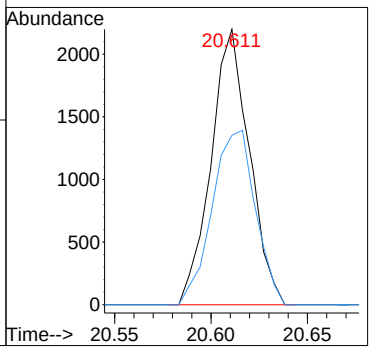




#91
d-Limonene
Concen: 0.07 ng
RT: 20.61 min Scan# 3114
Delta R.T. -0.006 min
Lab File: 05152028.D
Acq: 15 May 2020 22:05

Tgt Ion: 68 Resp: 3041

Ion	Ratio	Lower	Upper
68	100		
93	71.4	51.1	91.1



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142004.D Vial: 2
Acq On : 14 May 2020 10:35 Operator: LH
Sample : MB R16051420_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: May 14 13:03:07 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 5/14/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	264253	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1136265	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	529855	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.99	65	419641	11.718	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.76%			
57) Toluene-d8 (SS2)	15.72	98	1116859	12.436	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.52%			
73) Bromofluorobenzene (SS3)	18.97	174	430369	13.318	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.56%			

Target Compounds						Qvalue
2) Propene	4.14	42	535	N.D.		
3) Dichlorodifluoromethan...	0.00	85	0	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.34	45	11125	0.471	ng	91
11) Acetonitrile	6.62	41	4572	0.085	ng	92
12) Acrolein	6.82	56	270	N.D.		
13) Acetone	7.05	58	3867	0.164	ng	88
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	7.56	45	1953	N.D.		
16) Acrylonitrile	7.76	53	1333	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	0.00	84	0	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	8.69	76	1200	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	10.51	72	123	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	11.78	72	177	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	12.87	56	1817	0.064	ng #	70
41) Benzene	12.86	78	1415	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	13.26	84	736	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	14.04	57	3837	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142004.D Vial: 2
Acq On : 14 May 2020 10:35 Operator: LH
Sample : MB R16051420_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: May 14 13:03:07 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

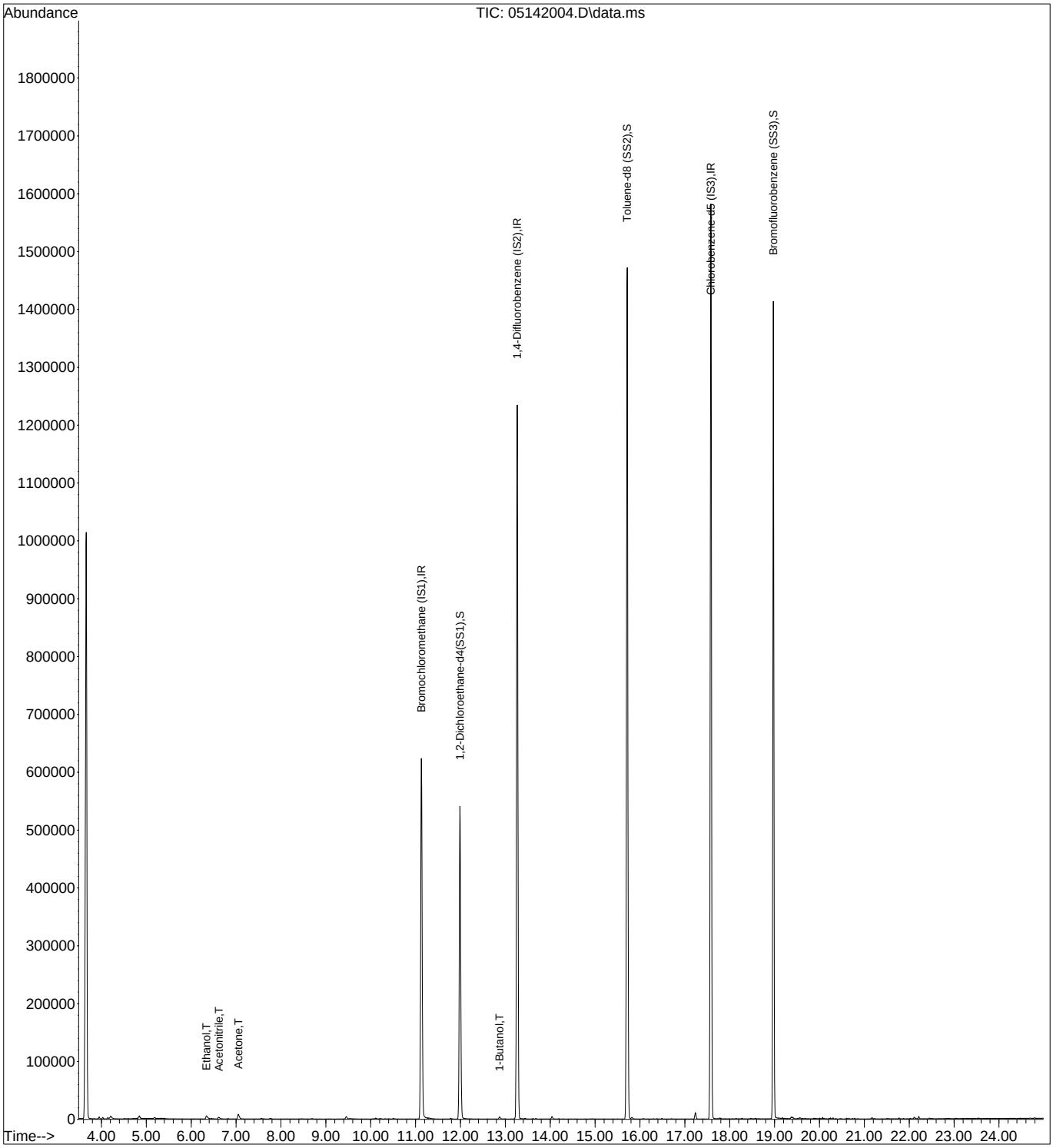
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.82	91	1879	N.D.		
59) 2-Hexanone	16.08	43	961	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.71	43	584	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	17.62	112	270	N.D.		
66) Ethylbenzene	17.98	91	649	N.D.		
67) m- & p-Xylenes	18.15	91	1455	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	430	N.D.		
70) o-Xylene	18.58	91	639	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.10	105	325	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	19.55	91	560	N.D.		
77) 3-Ethyltoluene	19.64	105	660	N.D.		
78) 4-Ethyltoluene	19.68	105	576	N.D.		
79) 1,3,5-Trimethylbenzene	19.74	105	302	N.D.		
80) alpha-Methylstyrene	19.88	118	113	N.D.		
81) 2-Ethyltoluene	19.91	105	1297	N.D.		
82) 1,2,4-Trimethylbenzene	20.10	105	1197	N.D.		
83) n-Decane	20.37	57	310	N.D.		
84) Benzyl Chloride	20.21	91	799	N.D.		
85) 1,3-Dichlorobenzene	20.23	146	828	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	1131	N.D.		
87) sec-Butylbenzene	20.24	105	212	N.D.		
88) 4-Isopropyltoluene (p-...	20.48	119	202	N.D.		
89) 1,2,3-Trimethylbenzene	20.48	105	205	N.D.		
90) 1,2-Dichlorobenzene	20.59	146	419	N.D.		
91) d-Limonene	20.61	68	158	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.23	57	206	N.D.		
94) 1,2,4-Trichlorobenzene	22.11	180	1057	N.D.		
95) Naphthalene	22.22	128	4275	N.D.		
96) n-Dodecane	22.22	57	114	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.28	55	439	N.D.		
99) tert-Butylbenzene	20.10	119	244	N.D.		
100) n-Butylbenzene	20.85	91	513	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142004.D Vial: 2
Acq On : 14 May 2020 10:35 Operator: LH
Sample : MB R16051420_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: May 14 13:03:07 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152003.D Vial: 2
Acq On : 15 May 2020 4:54 Operator: LH
Sample : MB R16051520_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: May 15 09:29:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/15/20

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	261228	12.500	ng	-0.04
37) 1,4-Difluorobenzene (IS2)	13.26	114	1130654	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	17.58	82	524655	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	11.98	65	420725	11.884	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.04%			
57) Toluene-d8 (SS2)	15.71	98	1088612	12.241	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.92%			
73) Bromofluorobenzene (SS3)	18.97	174	424758	13.274	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.16%			
Target Compounds						Qvalue
2) Propene	4.12	42	355	N.D.		
3) Dichlorodifluoromethan...	0.00	85	0	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	4.98	62	1795	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.33	45	12178	0.521	ng	90
11) Acetonitrile	6.61	41	5481	0.103	ng	94
12) Acrolein	6.81	56	510	N.D.		
13) Acetone	7.04	58	4273	0.183	ng	96
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	7.56	45	2190	N.D.		
16) Acrylonitrile	7.77	53	1526	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	0.00	84	0	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	8.85	151	658	N.D.		
22) Carbon Disulfide	8.69	76	1247	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	10.50	72	244	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	12.87	56	2090	0.074	ng #	70
41) Benzene	12.87	78	969	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	13.26	84	612	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152003.D Vial: 2
Acq On : 15 May 2020 4:54 Operator: LH
Sample : MB R16051520_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: May 15 09:29:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

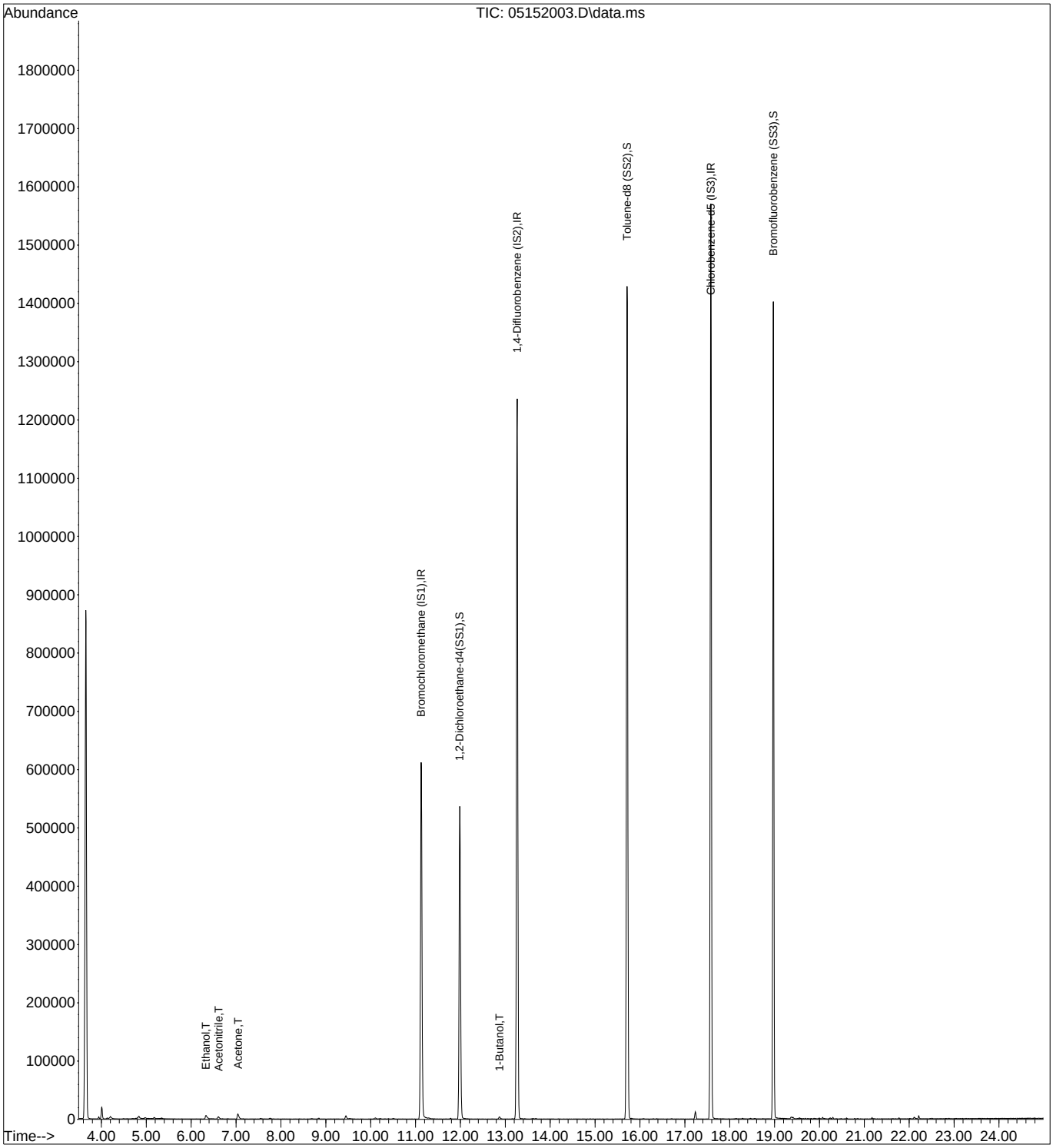
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	15.81	91	1117	N.D.		
59) 2-Hexanone	16.08	43	998	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.70	43	892	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	17.62	112	394	N.D.		
66) Ethylbenzene	17.98	91	701	N.D.		
67) m- & p-Xylenes	18.15	91	1369	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	18.47	104	478	N.D.		
70) o-Xylene	18.58	91	313	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	19.09	105	300	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	19.55	91	1086	N.D.		
77) 3-Ethyltoluene	19.65	105	307	N.D.		
78) 4-Ethyltoluene	19.69	105	655	N.D.		
79) 1,3,5-Trimethylbenzene	19.74	105	213	N.D.		
80) alpha-Methylstyrene	19.89	118	122	N.D.		
81) 2-Ethyltoluene	19.92	105	1013	N.D.		
82) 1,2,4-Trimethylbenzene	20.11	105	1297	N.D.		
83) n-Decane	20.37	57	418	N.D.		
84) Benzyl Chloride	20.22	91	852	N.D.		
85) 1,3-Dichlorobenzene	20.24	146	890	N.D.		
86) 1,4-Dichlorobenzene	20.30	146	1434	N.D.		
87) sec-Butylbenzene	20.34	105	220	N.D.		
88) 4-Isopropyltoluene (p-...	20.49	119	295	N.D.		
89) 1,2,3-Trimethylbenzene	20.48	105	236	N.D.		
90) 1,2-Dichlorobenzene	20.61	146	623	N.D.		
91) d-Limonene	20.61	68	256	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.17	57	1189	N.D.		
94) 1,2,4-Trichlorobenzene	22.11	180	1110	N.D.		
95) Naphthalene	22.22	128	4709	N.D.		
96) n-Dodecane	22.21	57	128	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	18.28	55	463	N.D.		
99) tert-Butylbenzene	20.07	119	255	N.D.		
100) n-Butylbenzene	20.86	91	623	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152003.D Vial: 2
Acq On : 15 May 2020 4:54 Operator: LH
Sample : MB R16051520_1000mL Inst : GCMS-16
Misc : S31-02112001/AS01319

Quant Time: May 15 09:29:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142005.D Vial: 2
Acq On : 14 May 2020 11:09 Operator: LH
Sample : LCS R16051420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292005 (5/28)

Quant Time: May 14 13:03:09 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/14/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	271934	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.28	114	1167015	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.58	82	545692	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.01	65	435196	11.809	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.48%				
57) Toluene-d8 (SS2)	15.72	98	1131540	12.234	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.84%				
73) Bromofluorobenzene (SS3)	18.98	174	447769	13.454	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.60%				
Target Compounds							Qvalue
2) Propene	4.09	42	842220	26.741	ng		100
3) Dichlorodifluoromethan...	4.25	85	1522969	24.723	ng		100
4) Chloromethane	4.53	50	1147510	23.778	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	852686	23.168	ng		100
6) Vinyl Chloride	4.96	62	1262607	23.858	ng		99
7) 1,3-Butadiene	5.22	54	1089883	24.890	ng		99
8) Bromomethane	5.66	94	677144	24.221	ng		99
9) Chloroethane	5.99	64	513796	24.576	ng		99
10) Ethanol	6.40	45	2968109	122.046	ng		100
11) Acetonitrile	6.64	41	1363697	24.538	ng		100
12) Acrolein	6.81	56	463923	24.142	ng		100
13) Acetone	7.02	58	3151525	129.578	ng		99
14) Trichlorofluoromethane	7.25	101	1331273	24.453	ng		100
15) 2-Propanol (Isopropanol)	7.53	45	3868458	52.552	ng		100
16) Acrylonitrile	7.78	53	999111	25.129	ng		100
17) 1,1-Dichloroethene	8.20	96	730027	25.580	ng		98
18) 2-Methyl-2-Propanol (t...	8.40	59	3679282	53.613	ng		100
19) Methylene Chloride	8.44	84	769493	24.338	ng		99
20) 3-Chloro-1-propene (Al...	8.60	41	1102990	25.393	ng		99
21) Trichlorotrifluoroethane	8.85	151	678731	26.406	ng		97
22) Carbon Disulfide	8.69	76	2806671	24.774	ng		100
23) trans-1,2-Dichloroethene	9.71	61	1082909	24.919	ng		98
24) 1,1-Dichloroethane	9.96	63	1266885	24.557	ng		100
25) Methyl tert-Butyl Ether	10.05	73	1969197	24.267	ng		100
26) Vinyl Acetate	10.22	86	1010389	133.369	ng	#	91
27) 2-Butanone (MEK)	10.47	72	527786	25.446	ng		95
28) cis-1,2-Dichloroethene	10.98	61	1060172	24.941	ng		100
29) Diisopropyl Ether	11.27	87	711272	24.242	ng	#	90
30) Ethyl Acetate	11.28	61	669039	55.939	ng		98
31) n-Hexane	11.26	57	1395830	26.907	ng		100
32) Chloroform	11.33	83	1369070	25.292	ng		100
34) Tetrahydrofuran (THF)	11.72	72	510728	25.247	ng		98
35) Ethyl tert-Butyl Ether	11.87	87	921058	25.977	ng		98
36) 1,2-Dichloroethane	12.13	62	1051571	24.520	ng		100
38) 1,1,1-Trichloroethane	12.40	97	1219199	25.938	ng		100
39) Isopropyl Acetate	12.83	61	1122726	54.607	ng		95
40) 1-Butanol	12.85	56	1711480	58.509	ng		97
41) Benzene	12.88	78	3162420	25.269	ng		100
42) Carbon Tetrachloride	13.04	117	1080370	25.379	ng		100
43) Cyclohexane	13.17	84	2461639	52.784	ng		99
44) tert-Amyl Methyl Ether	13.52	73	2232100	26.597	ng		100
45) 1,2-Dichloropropane	13.73	63	760483	26.237	ng		100
46) Bromodichloromethane	13.92	83	1107319	26.181	ng		100
47) Trichloroethene	13.97	130	855769	26.455	ng		100
48) 1,4-Dioxane	13.95	88	667489	26.482	ng		99
49) 2,2,4-Trimethylpentane...	14.04	57	3204815	26.316	ng		99
50) Methyl Methacrylate	14.18	100	680856	54.839	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142005.D Vial: 2
Acq On : 14 May 2020 11:09 Operator: LH
Sample : LCS R16051420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292005 (5/28)

Quant Time: May 14 13:03:09 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

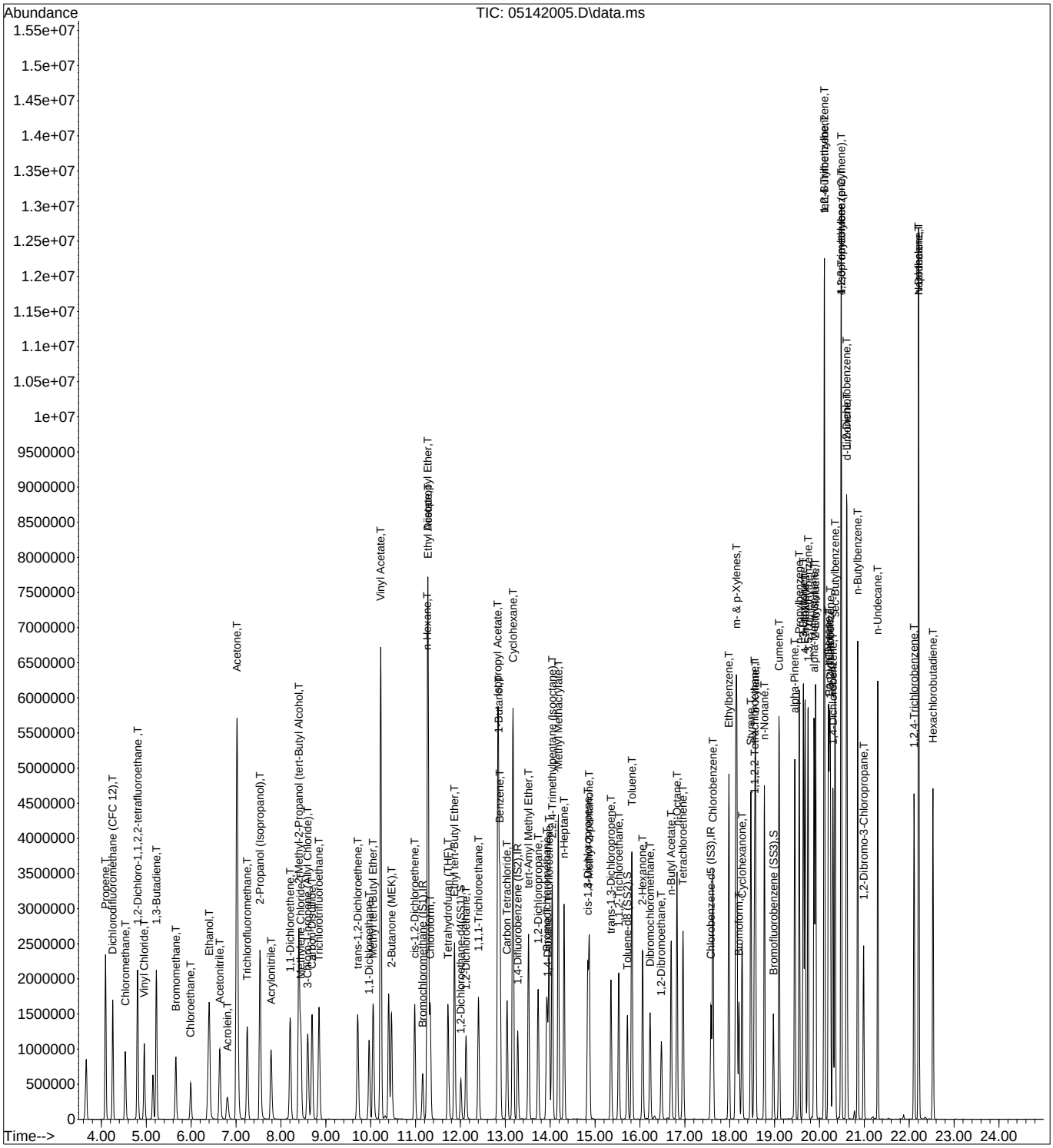
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	761479	26.019	ng	99
52) cis-1,3-Dichloropropene	14.84	75	1371402	27.559	ng	100
53) 4-Methyl-2-pentanone	14.87	58	758040	27.171	ng	98
54) trans-1,3-Dichloropropene	15.35	75	1193385	28.029	ng	100
55) 1,1,2-Trichloroethane	15.53	97	762403	26.525	ng	100
58) Toluene	15.82	91	3116223	26.137	ng	100
59) 2-Hexanone	16.06	43	1882464	28.814	ng	99
60) Dibromochloromethane	16.23	129	948784	27.791	ng	100
61) 1,2-Dibromoethane	16.48	107	893215	27.222	ng	100
62) n-Butyl Acetate	16.70	43	2091812	29.643	ng	99
63) n-Octane	16.83	57	672399	27.241	ng	99
64) Tetrachloroethene	16.96	166	897866	26.662	ng	100
65) Chlorobenzene	17.62	112	2122870	25.877	ng	100
66) Ethylbenzene	17.98	91	3702898	27.853	ng	100
67) m- & p-Xylenes	18.15	91	5990651	56.800	ng	100
68) Bromoform	18.21	173	843308	28.493	ng	100
69) Styrene	18.47	104	2362439	29.781	ng	100
70) o-Xylene	18.58	91	2980860	27.839	ng	100
71) n-Nonane	18.77	43	1650296	29.049	ng	98
72) 1,1,2,2-Tetrachloroethane	18.55	83	1525565	28.720	ng	100
74) Cumene	19.10	105	3740294	28.464	ng	100
75) alpha-Pinene	19.45	93	1949000	27.797	ng	99
76) n-Propylbenzene	19.55	91	4606452	29.508	ng	100
77) 3-Ethyltoluene	19.64	105	3830597	30.118	ng	100
78) 4-Ethyltoluene	19.68	105	3624313	29.368	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	3143769	29.338	ng	100
80) alpha-Methylstyrene	19.88	118	1662511	27.526	ng	91
81) 2-Ethyltoluene	19.91	105	3756429	29.942	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3364895	31.242	ng	99
83) n-Decane	20.20	57	1772919	29.426	ng	99
84) Benzyl Chloride	20.22	91	3032427	30.208	ng	100
85) 1,3-Dichlorobenzene	20.24	146	1929325	30.849	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1928582	31.600	ng	100
87) sec-Butylbenzene	20.35	105	4202308	30.058	ng	100
88) 4-Isopropyltoluene (p-...	20.48	119	3952095	29.851	ng	99
89) 1,2,3-Trimethylbenzene	20.48	105	3308593	29.352	ng	99
90) 1,2-Dichlorobenzene	20.61	146	1854921	30.978	ng	100
91) d-Limonene	20.61	68	1245234	29.273	ng	98
92) 1,2-Dibromo-3-Chloropr...	20.98	157	672320	29.777	ng	98
93) n-Undecane	21.30	57	1802325	32.321	ng	98
94) 1,2,4-Trichlorobenzene	22.11	180	1402478	33.770	ng	100
95) Naphthalene	22.21	128	4712971	35.855	ng	100
96) n-Dodecane	22.21	57	1888277	39.109	ng	99
97) Hexachlorobutadiene	22.53	225	862518	30.024	ng	99
98) Cyclohexanone	18.27	55	1079257	25.860	ng	99
99) tert-Butylbenzene	20.11	119	3143930	29.658	ng	100
100) n-Butylbenzene	20.85	91	3497966	31.898	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142005.D Vial: 2
Acq On : 14 May 2020 11:09 Operator: LH
Sample : LCS R16051420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292005 (5/28)

Quant Time: May 14 13:03:09 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142006.D Vial: 2
Acq On : 14 May 2020 11:43 Operator: LH
Sample : LCSD R16051420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292005 (5/28)

Quant Time: May 14 13:03:11 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 5/14/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	278067	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.27	114	1197935	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.58	82	564836	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	451425	11.979	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.84%				
57) Toluene-d8 (SS2)	15.72	98	1168590	12.206	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.68%				
73) Bromofluorobenzene (SS3)	18.97	174	461179	13.387	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.12%				
Target Compounds							Qvalue
2) Propene	4.09	42	890378	27.646	ng		99
3) Dichlorodifluoromethan...	4.25	85	1560966	24.781	ng		100
4) Chloromethane	4.53	50	1219221	24.706	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	868161	23.068	ng		100
6) Vinyl Chloride	4.95	62	1291996	23.875	ng		99
7) 1,3-Butadiene	5.22	54	1106485	24.712	ng		99
8) Bromomethane	5.65	94	691589	24.192	ng		100
9) Chloroethane	5.98	64	527688	24.684	ng		99
10) Ethanol	6.40	45	3134477	126.044	ng		100
11) Acetonitrile	6.63	41	1436944	25.285	ng		100
12) Acrolein	6.80	56	488161	24.843	ng		100
13) Acetone	7.02	58	3250729	130.709	ng		100
14) Trichlorofluoromethane	7.25	101	1351553	24.278	ng		100
15) 2-Propanol (Isopropanol)	7.53	45	3973119	52.783	ng		99
16) Acrylonitrile	7.78	53	1045494	25.716	ng		100
17) 1,1-Dichloroethene	8.20	96	743408	25.474	ng		99
18) 2-Methyl-2-Propanol (t...	8.39	59	3661288	52.174	ng		100
19) Methylene Chloride	8.44	84	795776	24.614	ng		98
20) 3-Chloro-1-propene (Al...	8.60	41	1160039	26.117	ng		99
21) Trichlorotrifluoroethane	8.85	151	696880	26.514	ng		98
22) Carbon Disulfide	8.69	76	2871736	24.790	ng		100
23) trans-1,2-Dichloroethene	9.71	61	1129860	25.426	ng		100
24) 1,1-Dichloroethane	9.96	63	1309968	24.832	ng		100
25) Methyl tert-Butyl Ether	10.05	73	2027305	24.432	ng		100
26) Vinyl Acetate	10.22	86	1032092	133.229	ng	#	91
27) 2-Butanone (MEK)	10.46	72	551517	26.003	ng		94
28) cis-1,2-Dichloroethene	10.98	61	1093548	25.159	ng		99
29) Diisopropyl Ether	11.27	87	729722	24.322	ng	#	90
30) Ethyl Acetate	11.28	61	690452	56.456	ng		98
31) n-Hexane	11.26	57	1437444	27.098	ng		100
32) Chloroform	11.32	83	1407661	25.432	ng		100
34) Tetrahydrofuran (THF)	11.72	72	526566	25.455	ng		97
35) Ethyl tert-Butyl Ether	11.87	87	947308	26.128	ng		97
36) 1,2-Dichloroethane	12.12	62	1089932	24.854	ng		99
38) 1,1,1-Trichloroethane	12.40	97	1242402	25.749	ng		100
39) Isopropyl Acetate	12.83	61	1151304	54.551	ng		95
40) 1-Butanol	12.85	56	1756184	58.487	ng		98
41) Benzene	12.88	78	3243150	25.245	ng		100
42) Carbon Tetrachloride	13.04	117	1096081	25.084	ng		100
43) Cyclohexane	13.17	84	2501930	52.263	ng		99
44) tert-Amyl Methyl Ether	13.52	73	2323935	26.977	ng		100
45) 1,2-Dichloropropane	13.73	63	785493	26.401	ng		100
46) Bromodichloromethane	13.92	83	1142751	26.321	ng		100
47) Trichloroethene	13.97	130	873020	26.291	ng		100
48) 1,4-Dioxane	13.95	88	683374	26.412	ng		99
49) 2,2,4-Trimethylpentane...	14.04	57	3280254	26.241	ng		99
50) Methyl Methacrylate	14.18	100	699678	54.900	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142006.D Vial: 2
Acq On : 14 May 2020 11:43 Operator: LH
Sample : LCSD R16051420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292005 (5/28)

Quant Time: May 14 13:03:11 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

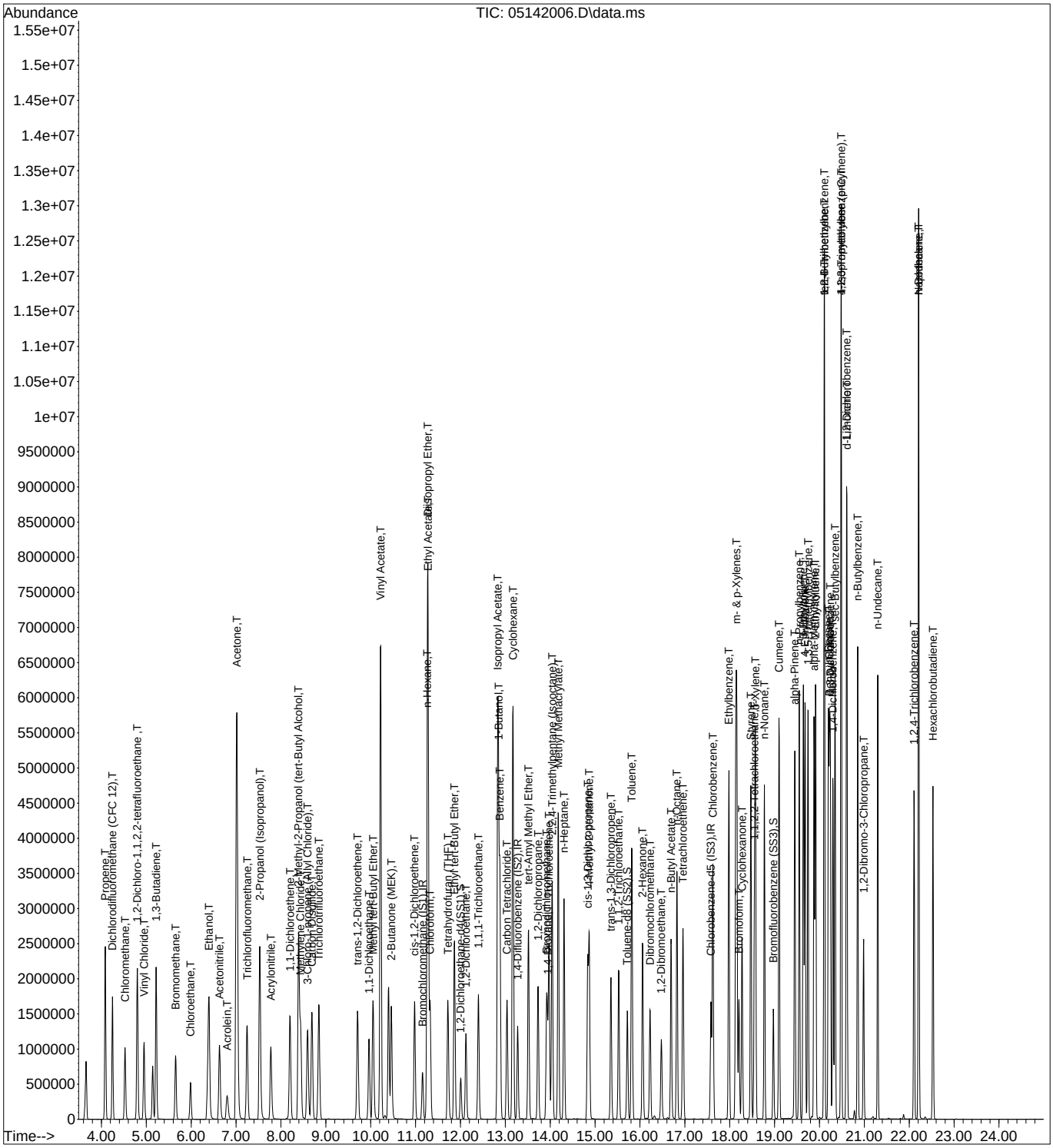
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	779144	25.935	ng	99
52) cis-1,3-Dichloropropene	14.84	75	1417761	27.756	ng	100
53) 4-Methyl-2-pentanone	14.87	58	774081	27.030	ng	97
54) trans-1,3-Dichloropropene	15.35	75	1228746	28.114	ng	100
55) 1,1,2-Trichloroethane	15.52	97	775898	26.297	ng	100
58) Toluene	15.82	91	3205616	25.975	ng	100
59) 2-Hexanone	16.06	43	1941890	28.716	ng	99
60) Dibromochloromethane	16.23	129	967142	27.368	ng	100
61) 1,2-Dibromoethane	16.48	107	911251	26.830	ng	100
62) n-Butyl Acetate	16.70	43	2153172	29.478	ng	99
63) n-Octane	16.82	57	690634	27.031	ng	98
64) Tetrachloroethene	16.96	166	916040	26.279	ng	100
65) Chlorobenzene	17.62	112	2153421	25.360	ng	100
66) Ethylbenzene	17.98	91	3782509	27.487	ng	100
67) m- & p-Xylenes	18.15	91	6066235	55.567	ng	100
68) Bromoform	18.21	173	860949	28.103	ng	100
69) Styrene	18.47	104	2425014	29.534	ng	100
70) o-Xylene	18.58	91	3027398	27.315	ng	100
71) n-Nonane	18.77	43	1681940	28.602	ng	98
72) 1,1,2,2-Tetrachloroethane	18.55	83	1556639	28.311	ng	100
74) Cumene	19.10	105	3790381	27.867	ng	100
75) alpha-Pinene	19.45	93	1998934	27.543	ng	99
76) n-Propylbenzene	19.55	91	4704816	29.117	ng	100
77) 3-Ethyltoluene	19.64	105	3896021	29.594	ng	100
78) 4-Ethyltoluene	19.68	105	3632400	28.436	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	3176324	28.637	ng	100
80) alpha-Methylstyrene	19.88	118	1692073	27.066	ng	92
81) 2-Ethyltoluene	19.91	105	3803559	29.290	ng	99
82) 1,2,4-Trimethylbenzene	20.11	105	3410575	30.593	ng	100
83) n-Decane	20.20	57	1758730	28.201	ng	99
84) Benzyl Chloride	20.22	91	3067864	29.525	ng	100
85) 1,3-Dichlorobenzene	20.24	146	1942451	30.006	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1962202	31.061	ng	100
87) sec-Butylbenzene	20.35	105	4199842	29.022	ng	100
88) 4-Isopropyltoluene (p-...	20.48	119	3951486	28.835	ng	100
89) 1,2,3-Trimethylbenzene	20.48	105	3324724	28.496	ng	99
90) 1,2-Dichlorobenzene	20.61	146	1874225	30.239	ng	100
91) d-Limonene	20.61	68	1256590	28.539	ng	99
92) 1,2-Dibromo-3-Chloropr...	20.98	157	683409	29.243	ng	99
93) n-Undecane	21.30	57	1817845	31.494	ng	98
94) 1,2,4-Trichlorobenzene	22.11	180	1426247	33.178	ng	100
95) Naphthalene	22.21	128	4778769	35.123	ng	100
96) n-Dodecane	22.21	57	1934077	38.700	ng	99
97) Hexachlorobutadiene	22.53	225	872018	29.326	ng	100
98) Cyclohexanone	18.27	55	1120055	25.928	ng	99
99) tert-Butylbenzene	20.11	119	3172646	28.914	ng	100
100) n-Butylbenzene	20.85	91	3531369	31.111	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142006.D Vial: 2
Acq On : 14 May 2020 11:43 Operator: LH
Sample : LCSD R16051420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292005 (5/28)

Quant Time: May 14 13:03:11 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152004.D Vial: 2
Acq On : 15 May 2020 5:28 Operator: LH
Sample : LCS R16051520_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292005 (5/28)

Quant Time: May 15 09:29:13 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/15/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	270586	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.28	114	1163358	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.58	82	547018	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	432984	11.807	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.48%				
57) Toluene-d8 (SS2)	15.72	98	1130344	12.191	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.52%				
73) Bromofluorobenzene (SS3)	18.97	174	446614	13.387	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.12%				
Target Compounds							Qvalue
2) Propene	4.08	42	860280	27.450	ng		100
3) Dichlorodifluoromethan...	4.24	85	1511187	24.654	ng		100
4) Chloromethane	4.52	50	1159793	24.152	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.79	135	843546	23.034	ng		100
6) Vinyl Chloride	4.94	62	1273939	24.192	ng		99
7) 1,3-Butadiene	5.21	54	1071223	24.586	ng		99
8) Bromomethane	5.65	94	669700	24.074	ng		100
9) Chloroethane	5.98	64	513407	24.679	ng		100
10) Ethanol	6.38	45	2969772	122.723	ng		100
11) Acetonitrile	6.62	41	1364810	24.680	ng		100
12) Acrolein	6.79	56	462478	24.187	ng		100
13) Acetone	7.01	58	3157325	130.463	ng		99
14) Trichlorofluoromethane	7.24	101	1327052	24.497	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	3807701	51.984	ng		100
16) Acrylonitrile	7.77	53	1003885	25.375	ng		100
17) 1,1-Dichloroethene	8.19	96	729980	25.706	ng		99
18) 2-Methyl-2-Propanol (t...	8.39	59	3411844	49.963	ng		100
19) Methylene Chloride	8.43	84	767160	24.385	ng		98
20) 3-Chloro-1-propene (Al...	8.58	41	1103928	25.541	ng		99
21) Trichlorotrifluoroethane	8.84	151	680941	26.624	ng		97
22) Carbon Disulfide	8.68	76	2812383	24.948	ng		100
23) trans-1,2-Dichloroethene	9.70	61	1094471	25.311	ng		99
24) 1,1-Dichloroethane	9.96	63	1275306	24.843	ng		100
25) Methyl tert-Butyl Ether	10.05	73	1980358	24.526	ng		100
26) Vinyl Acetate	10.22	86	1007098	133.597	ng	#	92
27) 2-Butanone (MEK)	10.45	72	522919	25.337	ng		94
28) cis-1,2-Dichloroethene	10.98	61	1063084	25.135	ng		100
29) Diisopropyl Ether	11.27	87	716247	24.533	ng	#	91
30) Ethyl Acetate	11.27	61	670369	56.329	ng		98
31) n-Hexane	11.26	57	1399954	27.121	ng		99
32) Chloroform	11.32	83	1364658	25.336	ng		100
34) Tetrahydrofuran (THF)	11.72	72	508056	25.240	ng		97
35) Ethyl tert-Butyl Ether	11.86	87	921397	26.116	ng		98
36) 1,2-Dichloroethane	12.12	62	1048639	24.574	ng		100
38) 1,1,1-Trichloroethane	12.40	97	1222775	26.096	ng		100
39) Isopropyl Acetate	12.83	61	1123674	54.825	ng		95
40) 1-Butanol	12.85	56	1706551	58.524	ng		98
41) Benzene	12.88	78	3166198	25.379	ng		100
42) Carbon Tetrachloride	13.03	117	1076637	25.371	ng		100
43) Cyclohexane	13.17	84	2467327	53.072	ng		99
44) tert-Amyl Methyl Ether	13.51	73	2230114	26.657	ng		100
45) 1,2-Dichloropropane	13.73	63	757245	26.208	ng		99
46) Bromodichloromethane	13.92	83	1110126	26.329	ng		99
47) Trichloroethene	13.97	130	844877	26.200	ng		100
48) 1,4-Dioxane	13.94	88	666494	26.525	ng		100
49) 2,2,4-Trimethylpentane...	14.04	57	3196108	26.327	ng		99
50) Methyl Methacrylate	14.18	100	681889	55.095	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152004.D Vial: 2
Acq On : 15 May 2020 5:28 Operator: LH
Sample : LCS R16051520_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292005 (5/28)

Quant Time: May 15 09:29:13 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

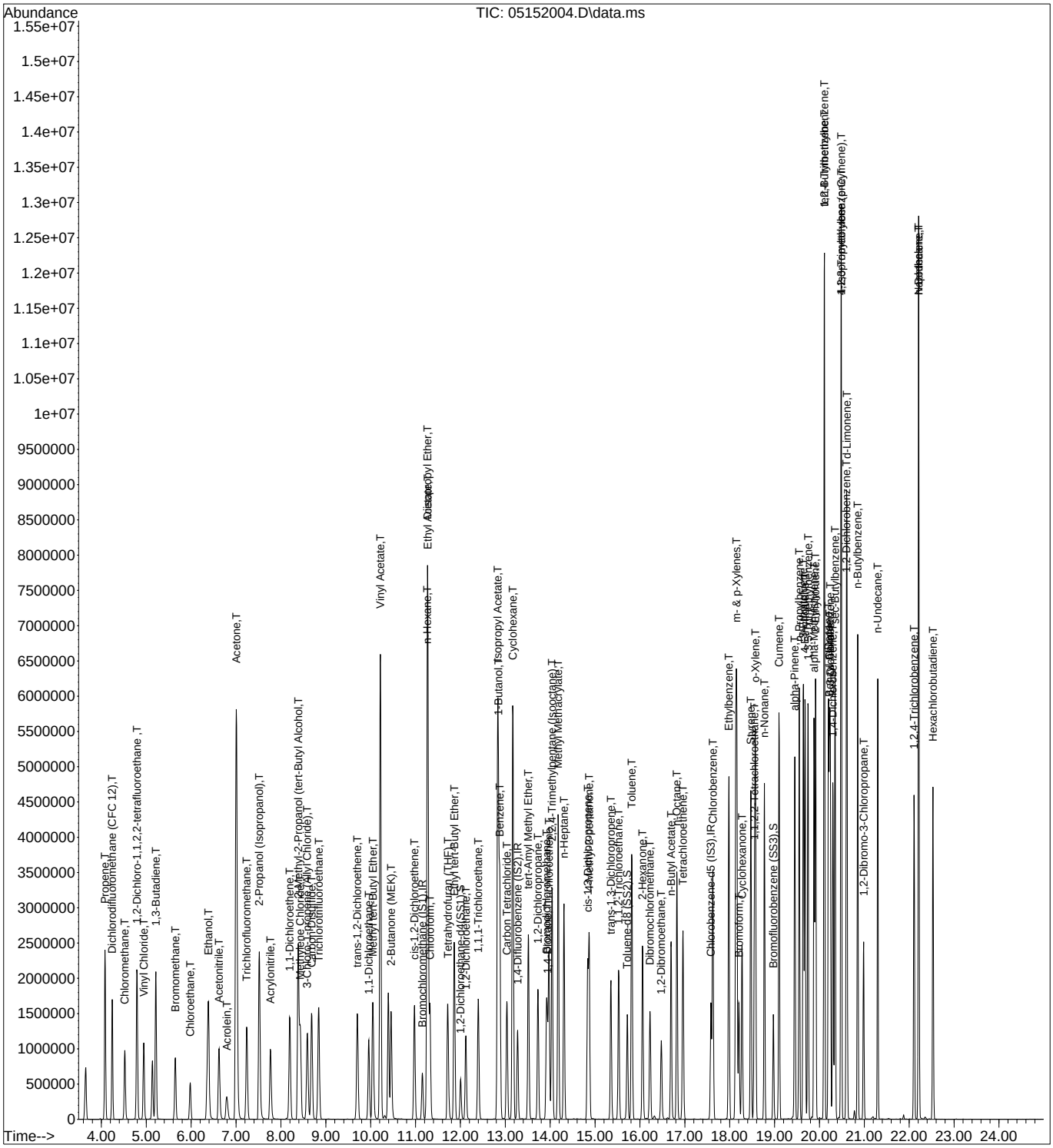
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	758724	26.006	ng	98
52) cis-1,3-Dichloropropene	14.84	75	1366355	27.544	ng	100
53) 4-Methyl-2-pentanone	14.87	58	763640	27.458	ng	98
54) trans-1,3-Dichloropropene	15.35	75	1190365	28.046	ng	100
55) 1,1,2-Trichloroethane	15.52	97	763487	26.646	ng	100
58) Toluene	15.82	91	3109204	26.015	ng	100
59) 2-Hexanone	16.06	43	1884934	28.782	ng	99
60) Dibromochloromethane	16.22	129	949348	27.740	ng	100
61) 1,2-Dibromoethane	16.48	107	893844	27.175	ng	100
62) n-Butyl Acetate	16.70	43	2098024	29.659	ng	99
63) n-Octane	16.82	57	672245	27.169	ng	99
64) Tetrachloroethene	16.96	166	894786	26.506	ng	100
65) Chlorobenzene	17.62	112	2127295	25.868	ng	100
66) Ethylbenzene	17.98	91	3717087	27.892	ng	100
67) m- & p-Xylenes	18.15	91	6126127	57.943	ng	98
68) Bromoform	18.21	173	840527	28.330	ng	100
69) Styrene	18.47	104	2360333	29.683	ng	100
70) o-Xylene	18.57	91	2987160	27.830	ng	100
71) n-Nonane	18.77	43	1649248	28.960	ng	98
72) 1,1,2,2-Tetrachloroethane	18.55	83	1534292	28.814	ng	100
74) Cumene	19.10	105	3734911	28.354	ng	100
75) alpha-Pinene	19.45	93	1946319	27.692	ng	99
76) n-Propylbenzene	19.55	91	4640508	29.654	ng	100
77) 3-Ethyltoluene	19.64	105	3850050	30.197	ng	100
78) 4-Ethyltoluene	19.68	105	3596221	29.070	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	3153468	29.357	ng	99
80) alpha-Methylstyrene	19.88	118	1663228	27.471	ng	91
81) 2-Ethyltoluene	19.91	105	3769077	29.970	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3360268	31.123	ng	99
83) n-Decane	20.20	57	1778116	29.441	ng	99
84) Benzyl Chloride	20.22	91	3027646	30.087	ng	100
85) 1,3-Dichlorobenzene	20.24	146	1942092	30.978	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1928577	31.523	ng	100
87) sec-Butylbenzene	20.35	105	4189258	29.892	ng	100
88) 4-Isopropyltoluene (p-...	20.48	119	3939295	29.683	ng	99
89) 1,2,3-Trimethylbenzene	20.48	105	3298553	29.192	ng	99
90) 1,2-Dichlorobenzene	20.60	146	1857262	30.942	ng	100
91) d-Limonene	20.61	68	1238887	29.054	ng	99
92) 1,2-Dibromo-3-Chloropr...	20.98	157	674591	29.806	ng	98
93) n-Undecane	21.30	57	1811397	32.405	ng	99
94) 1,2,4-Trichlorobenzene	22.11	180	1396742	33.550	ng	100
95) Naphthalene	22.21	128	4713985	35.776	ng	100
96) n-Dodecane	22.21	57	1912137	39.508	ng	99
97) Hexachlorobutadiene	22.53	225	860706	29.889	ng	99
98) Cyclohexanone	18.27	55	1084444	25.921	ng	99
99) tert-Butylbenzene	20.11	119	3149758	29.641	ng	100
100) n-Butylbenzene	20.85	91	3513469	31.962	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152004.D Vial: 2
Acq On : 15 May 2020 5:28 Operator: LH
Sample : LCS R16051520_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292005 (5/28)

Quant Time: May 15 09:29:13 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152005.D Vial: 2
Acq On : 15 May 2020 6:03 Operator: LH
Sample : LCSD R16051520_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292005 (5/28)

Quant Time: May 15 09:29:15 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/15/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	282048	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.27	114	1213055	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.58	82	564583	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	458582	11.997	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.00%				
57) Toluene-d8 (SS2)	15.72	98	1172739	12.255	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.00%				
73) Bromofluorobenzene (SS3)	18.98	174	458071	13.303	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.40%				
Target Compounds							Qvalue
2) Propene	4.09	42	878010	26.878	ng		99
3) Dichlorodifluoromethan...	4.25	85	1542798	24.147	ng		100
4) Chloromethane	4.53	50	1220483	24.383	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	856790	22.445	ng		100
6) Vinyl Chloride	4.95	62	1292879	23.554	ng		99
7) 1,3-Butadiene	5.21	54	1099583	24.211	ng		99
8) Bromomethane	5.65	94	693888	23.930	ng		99
9) Chloroethane	5.98	64	530551	24.467	ng		100
10) Ethanol	6.39	45	3143152	124.609	ng		100
11) Acetonitrile	6.63	41	1444726	25.064	ng		100
12) Acrolein	6.80	56	487613	24.465	ng		100
13) Acetone	7.01	58	3261749	129.301	ng		100
14) Trichlorofluoromethane	7.24	101	1355270	24.001	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	4038779	52.898	ng		99
16) Acrylonitrile	7.77	53	1056031	25.608	ng		100
17) 1,1-Dichloroethene	8.20	96	749303	25.314	ng		100
18) 2-Methyl-2-Propanol (t...	8.39	59	3776240	53.052	ng		100
19) Methylene Chloride	8.44	84	796716	24.296	ng		98
20) 3-Chloro-1-propene (Al...	8.59	41	1162656	25.807	ng		98
21) Trichlorotrifluoroethane	8.84	151	696904	26.141	ng		98
22) Carbon Disulfide	8.69	76	2896647	24.652	ng		100
23) trans-1,2-Dichloroethene	9.71	61	1133142	25.140	ng		100
24) 1,1-Dichloroethane	9.96	63	1313262	24.543	ng		100
25) Methyl tert-Butyl Ether	10.05	73	2041297	24.253	ng		100
26) Vinyl Acetate	10.22	86	1029943	131.075	ng	#	90
27) 2-Butanone (MEK)	10.46	72	552595	25.687	ng		95
28) cis-1,2-Dichloroethene	10.98	61	1098432	24.915	ng		99
29) Diisopropyl Ether	11.27	87	719019	23.627	ng	#	87
30) Ethyl Acetate	11.28	61	688516	55.503	ng		98
31) n-Hexane	11.26	57	1423686	26.460	ng		100
32) Chloroform	11.32	83	1407206	25.065	ng		100
34) Tetrahydrofuran (THF)	11.72	72	524880	25.016	ng		96
35) Ethyl tert-Butyl Ether	11.86	87	953922	25.939	ng		98
36) 1,2-Dichloroethane	12.12	62	1083078	24.349	ng		100
38) 1,1,1-Trichloroethane	12.40	97	1250004	25.584	ng		100
39) Isopropyl Acetate	12.83	61	1148039	53.719	ng		95
40) 1-Butanol	12.85	56	1749383	57.535	ng		97
41) Benzene	12.88	78	3246486	24.956	ng		100
42) Carbon Tetrachloride	13.04	117	1103602	24.941	ng		100
43) Cyclohexane	13.17	84	2504770	51.670	ng		98
44) tert-Amyl Methyl Ether	13.52	73	2317350	26.565	ng		100
45) 1,2-Dichloropropane	13.73	63	781298	25.932	ng		99
46) Bromodichloromethane	13.92	83	1134532	25.806	ng		100
47) Trichloroethene	13.97	130	865161	25.730	ng		100
48) 1,4-Dioxane	13.95	88	684478	26.125	ng		99
49) 2,2,4-Trimethylpentane...	14.04	57	3286397	25.962	ng		99
50) Methyl Methacrylate	14.18	100	697356	54.036	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152005.D Vial: 2
Acq On : 15 May 2020 6:03 Operator: LH
Sample : LCSD R16051520_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292005 (5/28)

Quant Time: May 15 09:29:15 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

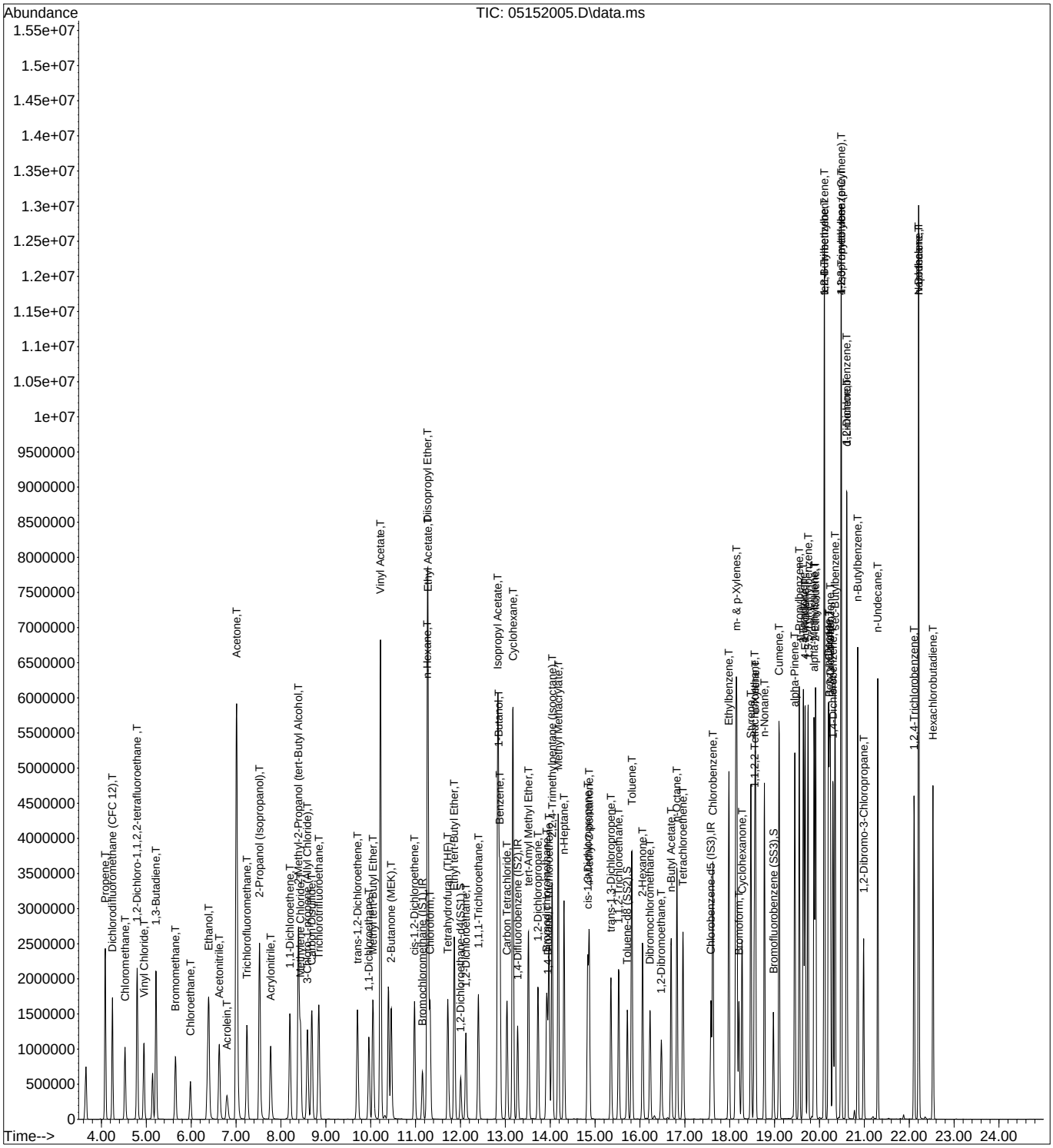
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	777260	25.550	ng	98
52) cis-1,3-Dichloropropene	14.84	75	1411882	27.296	ng	100
53) 4-Methyl-2-pentanone	14.87	58	780639	26.919	ng	98
54) trans-1,3-Dichloropropene	15.35	75	1225684	27.695	ng	100
55) 1,1,2-Trichloroethane	15.52	97	778283	26.049	ng	100
58) Toluene	15.82	91	3193552	25.889	ng	100
59) 2-Hexanone	16.06	43	1941247	28.720	ng	99
60) Dibromochloromethane	16.22	129	971327	27.499	ng	100
61) 1,2-Dibromoethane	16.48	107	909499	26.791	ng	100
62) n-Butyl Acetate	16.70	43	2157026	29.544	ng	99
63) n-Octane	16.82	57	686689	26.889	ng	99
64) Tetrachloroethene	16.96	166	909428	26.101	ng	100
65) Chlorobenzene	17.62	112	2163415	25.489	ng	100
66) Ethylbenzene	17.98	91	3789512	27.550	ng	100
67) m- & p-Xylenes	18.15	91	6152785	56.385	ng	98
68) Bromoform	18.21	173	858340	28.031	ng	100
69) Styrene	18.47	104	2404340	29.295	ng	100
70) o-Xylene	18.58	91	3008819	27.160	ng	100
71) n-Nonane	18.77	43	1677114	28.533	ng	98
72) 1,1,2,2-Tetrachloroethane	18.55	83	1562050	28.423	ng	99
74) Cumene	19.10	105	3774250	27.761	ng	100
75) alpha-Pinene	19.45	93	1995880	27.513	ng	99
76) n-Propylbenzene	19.55	91	4699424	29.097	ng	100
77) 3-Ethyltoluene	19.64	105	3865825	29.378	ng	100
78) 4-Ethyltoluene	19.68	105	3644269	28.541	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	3158381	28.488	ng	100
80) alpha-Methylstyrene	19.88	118	1684401	26.955	ng	92
81) 2-Ethyltoluene	19.91	105	3781610	29.134	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3394493	30.462	ng	99
83) n-Decane	20.20	57	1772542	28.435	ng	99
84) Benzyl Chloride	20.22	91	3033508	29.207	ng	100
85) 1,3-Dichlorobenzene	20.24	146	1934233	29.893	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1956394	30.983	ng	100
87) sec-Butylbenzene	20.35	105	4196386	29.011	ng	100
88) 4-Isopropyltoluene (p-...	20.48	119	3956067	28.881	ng	100
89) 1,2,3-Trimethylbenzene	20.48	105	3326632	28.525	ng	99
90) 1,2-Dichlorobenzene	20.61	146	1868923	30.167	ng	100
91) d-Limonene	20.61	68	1257337	28.569	ng	99
92) 1,2-Dibromo-3-Chloropr...	20.98	157	684156	29.288	ng	98
93) n-Undecane	21.30	57	1822818	31.595	ng	98
94) 1,2,4-Trichlorobenzene	22.11	180	1419963	33.047	ng	100
95) Naphthalene	22.21	128	4746022	34.898	ng	100
96) n-Dodecane	22.21	57	1941470	38.866	ng	98
97) Hexachlorobutadiene	22.53	225	870871	29.301	ng	100
98) Cyclohexanone	18.27	55	1116846	25.865	ng	98
99) tert-Butylbenzene	20.11	119	3166094	28.868	ng	100
100) n-Butylbenzene	20.85	91	3503129	30.876	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152005.D Vial: 2
Acq On : 15 May 2020 6:03 Operator: LH
Sample : LCSD R16051520_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292005 (5/28)

Quant Time: May 15 09:29:15 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142027.D Vial: 6
Acq On : 14 May 2020 23:50 Operator: LH
Sample : P2002302-004dup (70mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 15:33:42 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 5/15/20
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	314355	12.500 ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1348932	12.500 ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	695087	12.500 ng	0.00
System Monitoring Compounds					
33) 1,2-Dichloroethane-d4(...	11.99	65	511943	12.017 ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.16%		
57) Toluene-d8 (SS2)	15.72	98	1371049	11.637 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.12%		
73) Bromofluorobenzene (SS3)	18.97	174	534711	12.613 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.88%		
Target Compounds					Qvalue
2) Propene	4.10	42	17183m	0.472 ng	
3) Dichlorodifluoromethan...	4.27	85	54714	0.768 ng	99
4) Chloromethane	4.54	50	463	N.D.	
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.	
6) Vinyl Chloride	0.00	62	0	N.D.	
7) 1,3-Butadiene	0.00	54	0	N.D. d	
8) Bromomethane	0.00	94	0	N.D.	
9) Chloroethane	0.00	64	0	N.D.	
10) Ethanol	6.33	45	12883	0.458 ng	91
11) Acetonitrile	6.56	41	1780	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) Acetone	0.00	58	0	N.D. d	
14) Trichlorofluoromethane	7.24	101	8819	0.140 ng	97
15) 2-Propanol (Isopropanol)	7.54	45	2707	N.D.	
16) Acrylonitrile	0.00	53	0	N.D. d	
17) 1,1-Dichloroethene	0.00	96	0	N.D.	
18) 2-Methyl-2-Propanol (t...	8.44	59	2166	N.D.	
19) Methylene Chloride	8.41	84	196	N.D.	
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D. d	
21) Trichlorotrifluoroethane	8.85	151	819375	27.576 ng	99
22) Carbon Disulfide	8.69	76	7219	0.055 ng	94
23) trans-1,2-Dichloroethene	9.70	61	3379	0.067 ng	92
24) 1,1-Dichloroethane	0.00	63	0	N.D. d	
25) Methyl tert-Butyl Ether	10.07	73	856	N.D.	
26) Vinyl Acetate	0.00	86	0	N.D. d	
27) 2-Butanone (MEK)	10.49	72	1420	0.059 ng	94
28) cis-1,2-Dichloroethene	10.96	61	18781	0.382 ng	99
29) Diisopropyl Ether	0.00	87	0	N.D. d	
30) Ethyl Acetate	0.00	61	0	N.D. d	
31) n-Hexane	11.27	57	4119484	68.694 ng	99
32) Chloroform	11.30	83	3022	N.D.	
34) Tetrahydrofuran (THF)	11.78	72	472	N.D.	
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.	
36) 1,2-Dichloroethane	12.06	62	310	N.D.	
38) 1,1,1-Trichloroethane	12.40	97	109	N.D.	
39) Isopropyl Acetate	12.88	61	323	N.D.	
40) 1-Butanol	0.00	56	0	N.D. d	
41) Benzene	12.87	78	75133	0.519 ng	96
42) Carbon Tetrachloride	13.04	117	53980	1.097 ng	99
43) Cyclohexane	13.18	84	5008856	92.918 ng	97
44) tert-Amyl Methyl Ether	13.46	73	875	N.D.	
45) 1,2-Dichloropropane	0.00	63	0	N.D. d	
46) Bromodichloromethane	0.00	83	0	N.D. d	
47) Trichloroethene	13.97	130	6618	0.177 ng	100
48) 1,4-Dioxane	0.00	88	0	N.D.	
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d	
50) Methyl Methacrylate	0.00	100	0	N.D. d	

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142027.D Vial: 6
Acq On : 14 May 2020 23:50 Operator: LH
Sample : P2002302-004dup (70mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 15:33:42 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

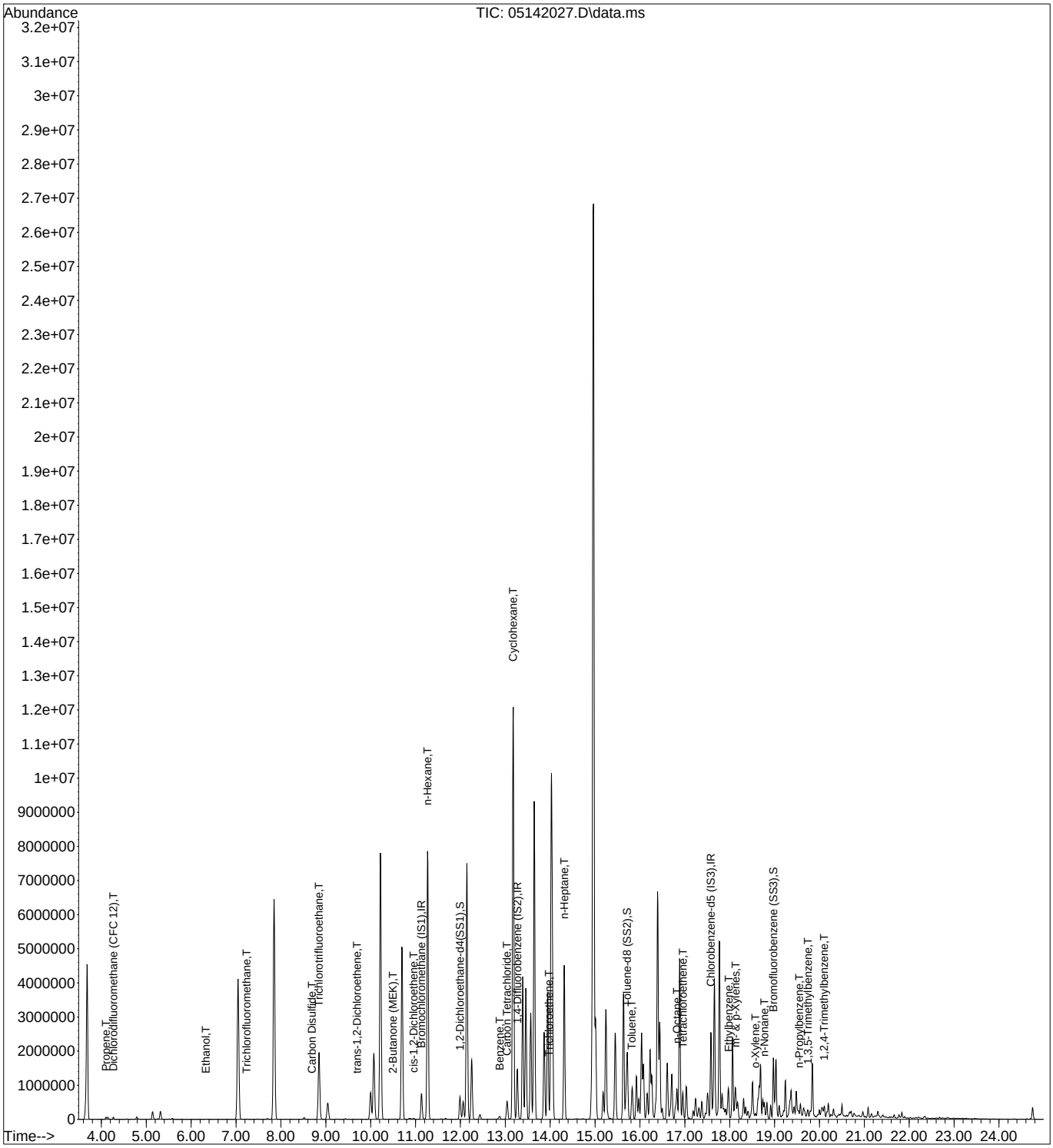
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.31	71	1128450	33.358	ng		98
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	d		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	d		
54) trans-1,3-Dichloropropene	15.45	75	342	N.D.			
55) 1,1,2-Trichloroethane	15.54	97	175	N.D.			
58) Toluene	15.82	91	283064	1.864	ng		100
59) 2-Hexanone	0.00	43	0	N.D.	d		
60) Dibromochloromethane	0.00	129	0	N.D.			
61) 1,2-Dibromoethane	0.00	107	0	N.D.			
62) n-Butyl Acetate	0.00	43	0	N.D.	d		
63) n-Octane	16.83	57	176795	5.623	ng		95
64) Tetrachloroethene	16.96	166	19085	0.445	ng		100
65) Chlorobenzene	0.00	112	0	N.D.	d		
66) Ethylbenzene	17.98	91	28201	0.167	ng		95
67) m- & p-Xylenes	18.14	91	122992	0.915	ng		100
68) Bromoform	0.00	173	0	N.D.			
69) Styrene	18.48	104	331	N.D.			
70) o-Xylene	18.57	91	44625	0.327	ng		99
71) n-Nonane	18.77	43	157418	2.175	ng		92
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	d		
74) Cumene	19.10	105	5616	N.D.			
75) alpha-Pinene	19.44	93	724	N.D.			
76) n-Propylbenzene	19.55	91	13689	0.069	ng	#	62
77) 3-Ethyltoluene	0.00	105	0	N.D.	d		
78) 4-Ethyltoluene	19.68	105	3194	N.D.			
79) 1,3,5-Trimethylbenzene	19.74	105	15938	0.117	ng		98
80) alpha-Methylstyrene	19.87	118	682	N.D.			
81) 2-Ethyltoluene	19.91	105	6267	N.D.			
82) 1,2,4-Trimethylbenzene	20.10	105	22566	0.164	ng		91
83) n-Decane	0.00	57	0	N.D.	d		
84) Benzyl Chloride	20.19	91	1743	N.D.			
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.			
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.			
87) sec-Butylbenzene	0.00	105	0	N.D.	d		
88) 4-Isopropyltoluene (p-...	20.48	119	2321	N.D.			
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	d		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.			
91) d-Limonene	0.00	68	0	N.D.	d		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.			
93) n-Undecane	0.00	57	0	N.D.	d		
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D.			
95) Naphthalene	22.21	128	2266	N.D.			
96) n-Dodecane	0.00	57	0	N.D.	d		
97) Hexachlorobutadiene	0.00	225	0	N.D.			
98) Cyclohexanone	0.00	55	0	N.D.	d		
99) tert-Butylbenzene	20.10	119	3510	N.D.			
100) n-Butylbenzene	20.85	91	2793	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142027.D Vial: 6
Acq On : 14 May 2020 23:50 Operator: LH
Sample : P2002302-004dup (70mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 15:33:42 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142027.D Vial: 6
Acq On : 14 May 2020 23:50 Operator: LH
Sample : P2002302-004dup (70mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 15:33:42 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/15/20

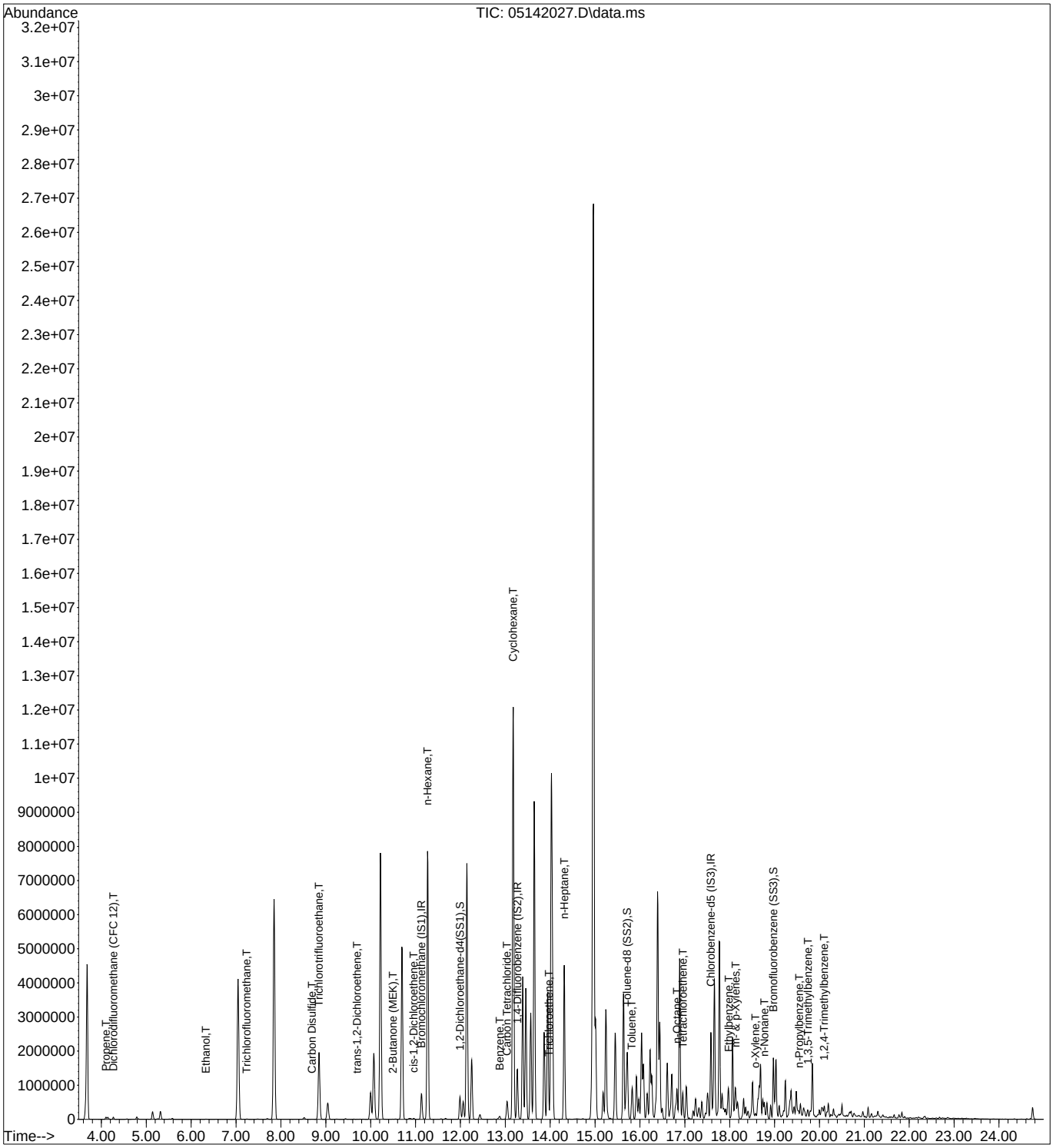
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	314355	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.27	114	1348932	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	695087	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	511943	12.017	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.16%				
57) Toluene-d8 (SS2)	15.72	98	1371049	11.637	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.12%				
73) Bromofluorobenzene (SS3)	18.97	174	534711	12.613	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.88%				
Target Compounds							Qvalue
2) Propene	4.10	42	17183m	0.472	ng		
3) Dichlorodifluoromethan...	4.27	85	54714	0.768	ng		99
10) Ethanol	6.33	45	12883	0.458	ng		91
14) Trichlorofluoromethane	7.24	101	8819	0.140	ng		97
21) Trichlorotrifluoroethane	8.85	151	819375	27.576	ng		99
22) Carbon Disulfide	8.69	76	7219	0.055	ng		94
23) trans-1,2-Dichloroethene	9.70	61	3379	0.067	ng		92
27) 2-Butanone (MEK)	10.49	72	1420	0.059	ng		94
28) cis-1,2-Dichloroethene	10.96	61	18781	0.382	ng		99
31) n-Hexane	11.27	57	4119484	68.694	ng		99
41) Benzene	12.87	78	75133	0.519	ng		96
42) Carbon Tetrachloride	13.04	117	53980	1.097	ng		99
43) Cyclohexane	13.18	84	5008856	92.918	ng		97
47) Trichloroethene	13.97	130	6618	0.177	ng		100
51) n-Heptane	14.31	71	1128450	33.358	ng		98
58) Toluene	15.82	91	283064	1.864	ng		100
63) n-Octane	16.83	57	176795	5.623	ng		95
64) Tetrachloroethene	16.96	166	19085	0.445	ng		100
66) Ethylbenzene	17.98	91	28201	0.167	ng		95
67) m- & p-Xylenes	18.14	91	122992	0.915	ng		100
70) o-Xylene	18.57	91	44625	0.327	ng		99
71) n-Nonane	18.77	43	157418	2.175	ng		92
76) n-Propylbenzene	19.55	91	13689	0.069	ng	#	62
79) 1,3,5-Trimethylbenzene	19.74	105	15938	0.117	ng		98
82) 1,2,4-Trimethylbenzene	20.10	105	22566	0.164	ng		91

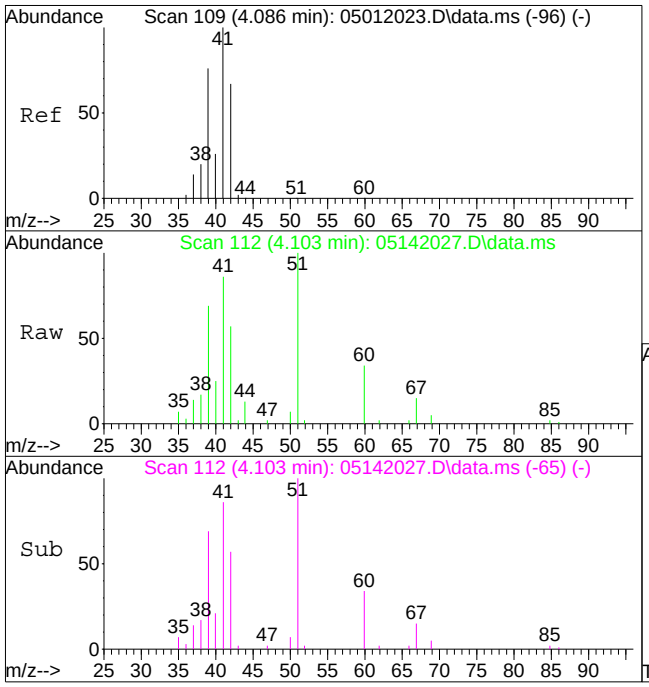
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142027.D Vial: 6
Acq On : 14 May 2020 23:50 Operator: LH
Sample : P2002302-004dup (70mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 15:33:42 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

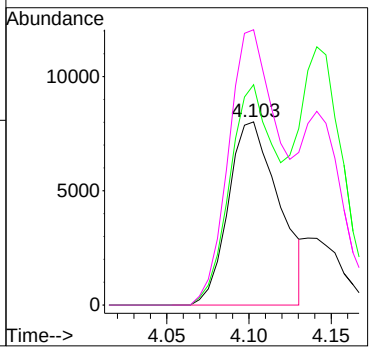


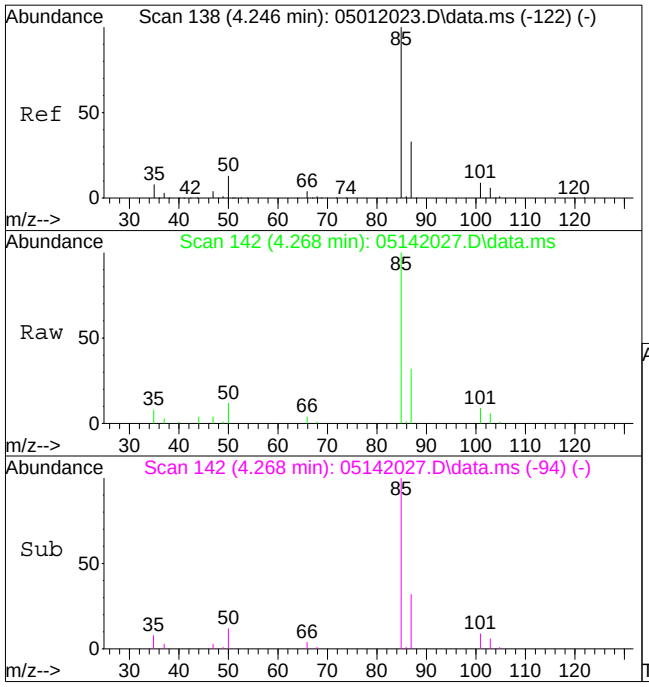


#2
Propene
Concen: 0.47 ng m
RT: 4.10 min Scan# 112
Delta R.T. 0.011 min
Lab File: 05142027.D
Acq: 14 May 2020 23:50

Tgt Ion: 42 Resp: 17183

Ion	Ratio	Lower	Upper
42	100		
39	105.9	96.1	136.1
41	146.4	131.9	171.9

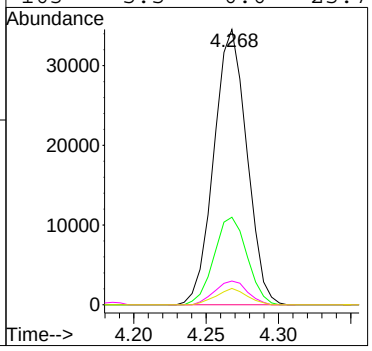


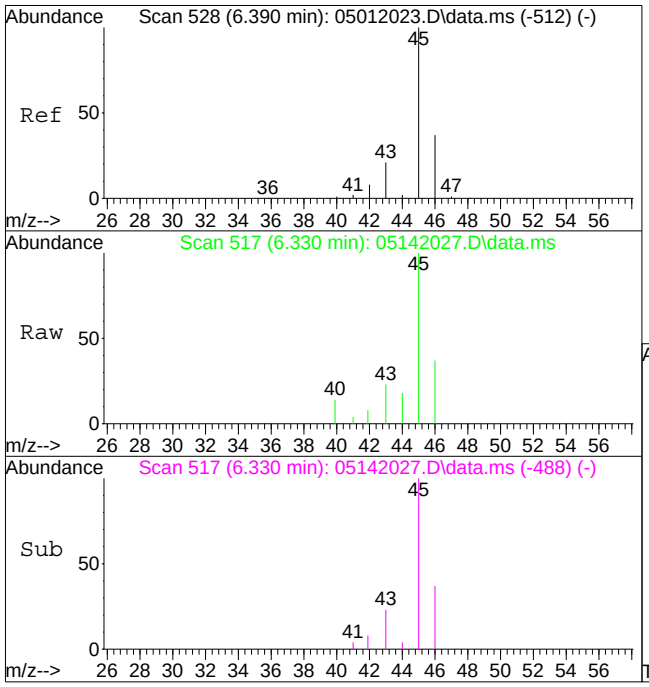


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.77 ng
RT: 4.27 min Scan# 142
Delta R.T. 0.016 min
Lab File: 05142027.D
Acq: 14 May 2020 23:50

Tgt Ion: 85 Resp: 54714

Ion	Ratio	Lower	Upper
85	100		
87	31.9	12.4	52.4
101	8.6	0.0	28.8
103	5.5	0.0	25.7

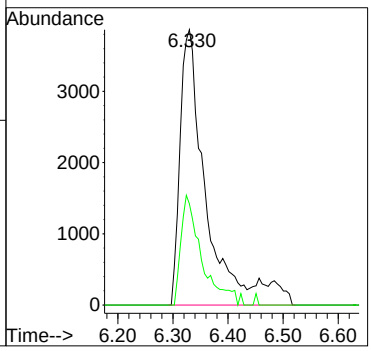


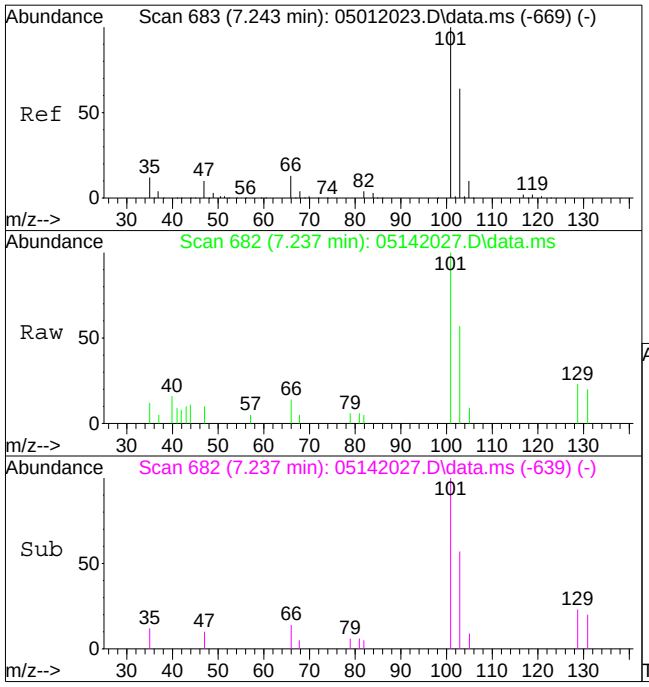


#10
Ethanol
Concen: 0.46 ng
RT: 6.33 min Scan# 517
Delta R.T. -0.088 min
Lab File: 05142027.D
Acq: 14 May 2020 23:50

Tgt Ion: 45 Resp: 12883

Ion	Ratio	Lower	Upper
45	100		
46	31.6	17.2	57.2

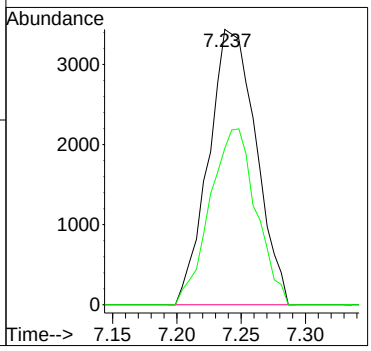


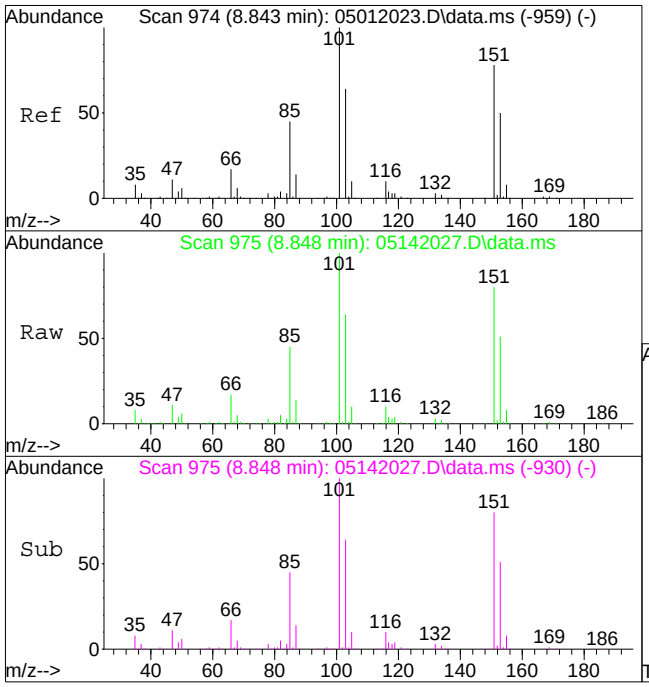


#14
Trichlorofluoromethane
Concen: 0.14 ng
RT: 7.24 min Scan# 682
Delta R.T. -0.011 min
Lab File: 05142027.D
Acq: 14 May 2020 23:50

Tgt Ion:101 Resp: 8819

Ion	Ratio	Lower	Upper
101	100		
103	62.3	44.4	84.4

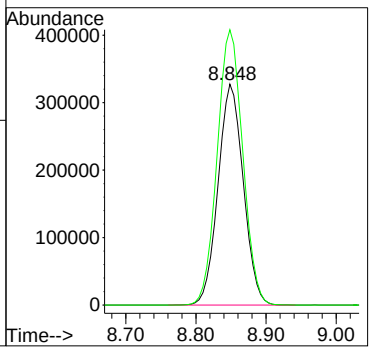


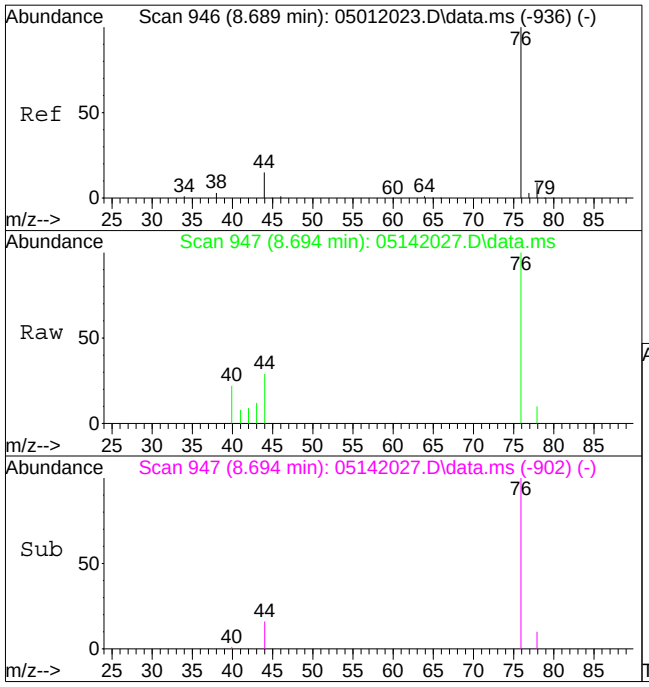


#21
Trichlorotrifluoroethane
Concen: 27.58 ng
RT: 8.85 min Scan# 975
Delta R.T. -0.000 min
Lab File: 05142027.D
Acq: 14 May 2020 23:50

Tgt Ion:151 Resp: 819375

Ion	Ratio	Lower	Upper
151	100		
101	126.2	107.3	147.3

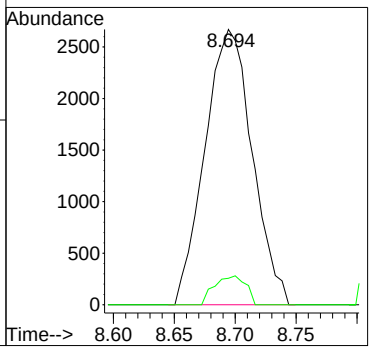


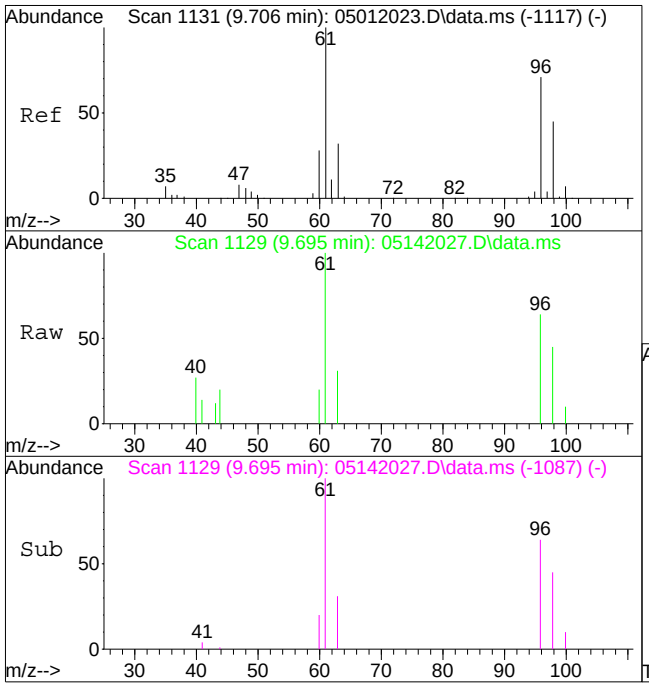


#22
Carbon Disulfide
Concen: 0.06 ng
RT: 8.69 min Scan# 947
Delta R.T. -0.000 min
Lab File: 05142027.D
Acq: 14 May 2020 23:50

Tgt Ion: 76 Resp: 7219

Ion	Ratio	Lower	Upper
76	100		
78	7.0	0.0	29.2

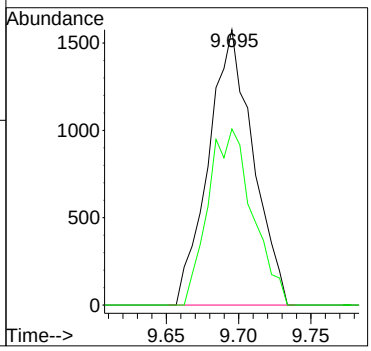


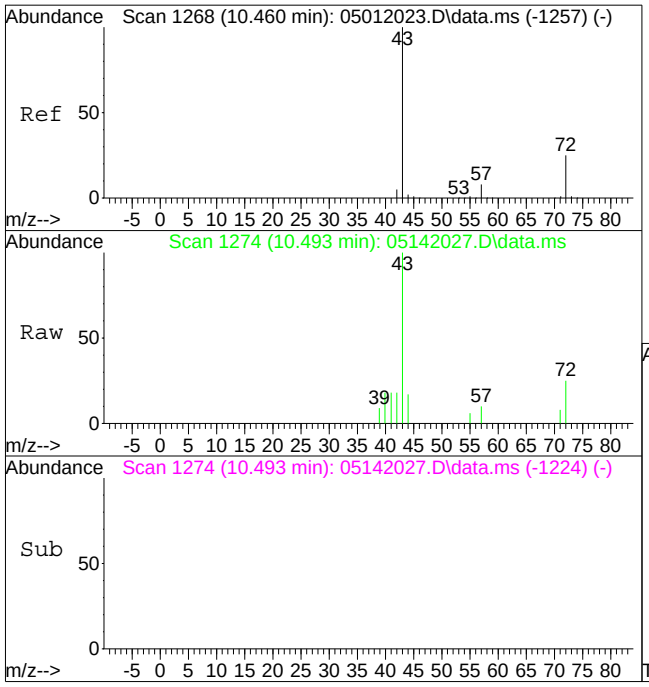


#23
trans-1,2-Dichloroethene
Concen: 0.07 ng
RT: 9.70 min Scan# 1129
Delta R.T. -0.017 min
Lab File: 05142027.D
Acq: 14 May 2020 23:50

Tgt Ion: 61 Resp: 3379

Ion	Ratio	Lower	Upper
61	100		
96	64.0	50.3	90.3

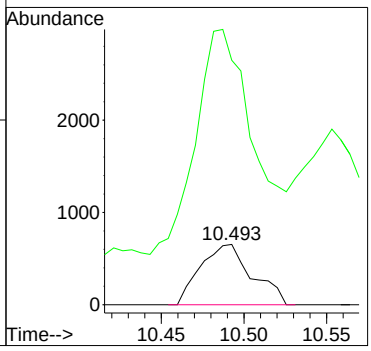


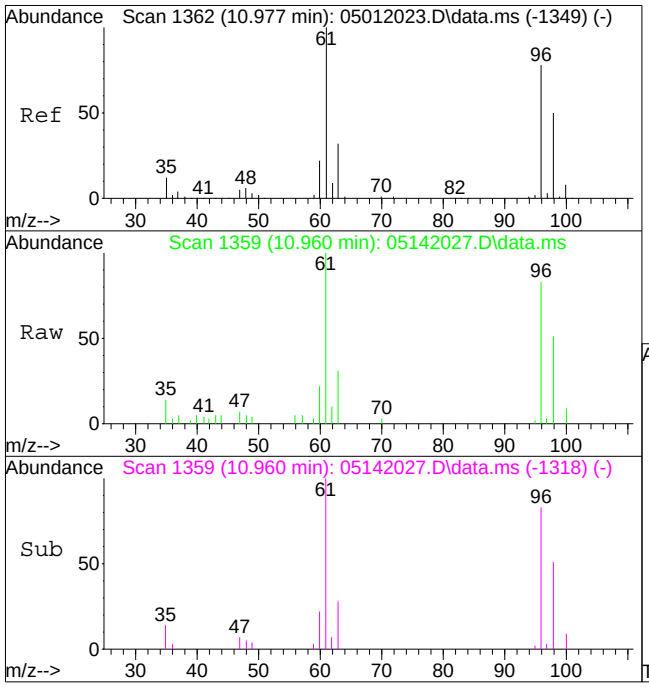


#27
2-Butanone (MEK)
Concen: 0.06 ng
RT: 10.49 min Scan# 1274
Delta R.T. 0.027 min
Lab File: 05142027.D
Acq: 14 May 2020 23:50

Tgt Ion: 72 Resp: 1420

Ion	Ratio	Lower	Upper
72	100		
43	424.9	389.7	429.7

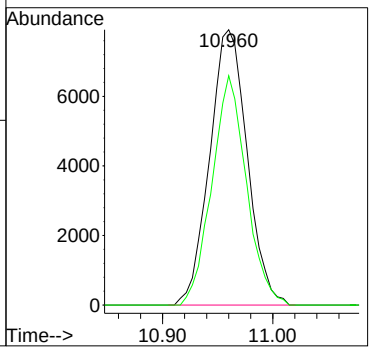


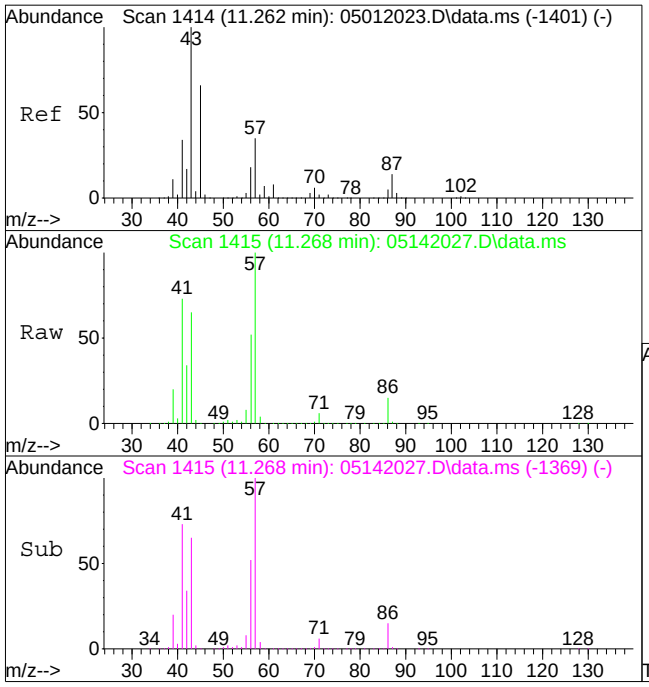


#28
cis-1,2-Dichloroethene
Concen: 0.38 ng
RT: 10.96 min Scan# 1359
Delta R.T. -0.022 min
Lab File: 05142027.D
Acq: 14 May 2020 23:50

Tgt Ion: 61 Resp: 18781

Ion	Ratio	Lower	Upper
61	100		
96	76.3	57.6	97.6

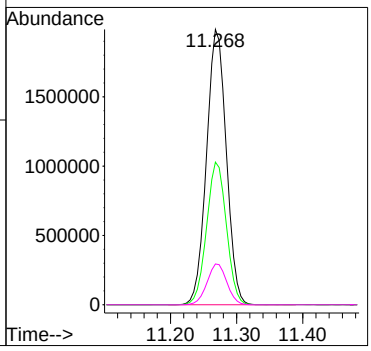


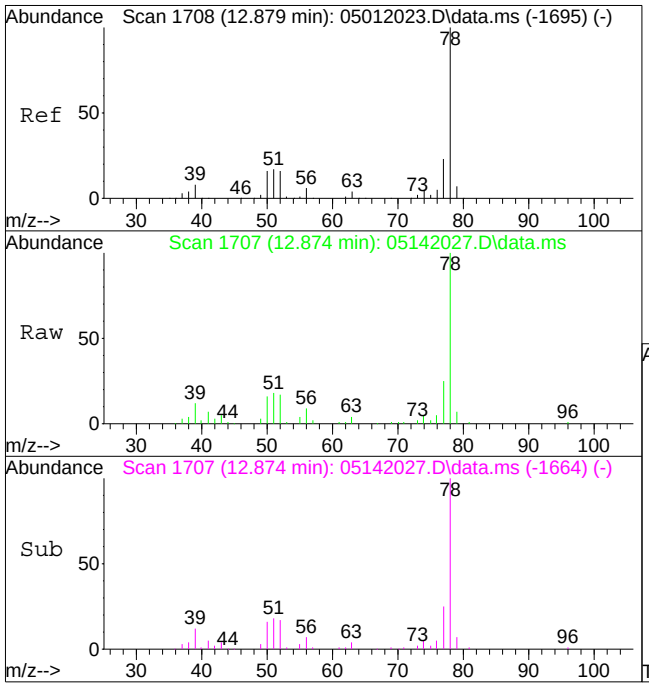


#31
n-Hexane
Concen: 68.69 ng
RT: 11.27 min Scan# 1415
Delta R.T. 0.005 min
Lab File: 05142027.D
Acq: 14 May 2020 23:50

Tgt Ion: 57 Resp: 4119484

Ion	Ratio	Lower	Upper
57	100		
56	51.9	41.4	62.0
86	14.9	12.4	18.6

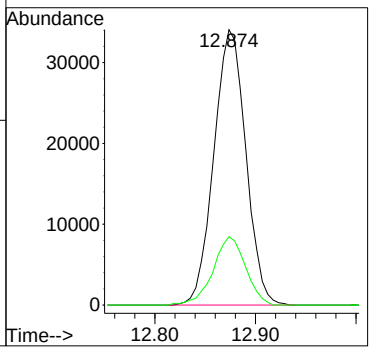


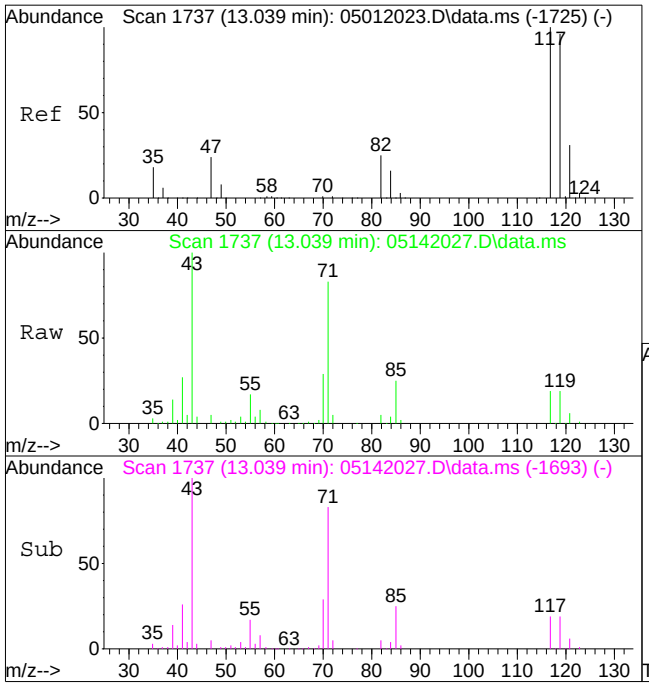


#41
Benzene
Concen: 0.52 ng
RT: 12.87 min Scan# 1707
Delta R.T. -0.011 min
Lab File: 05142027.D
Acq: 14 May 2020 23:50

Tgt Ion: 78 Resp: 75133

Ion	Ratio	Lower	Upper
78	100		
77	25.2	3.4	43.4

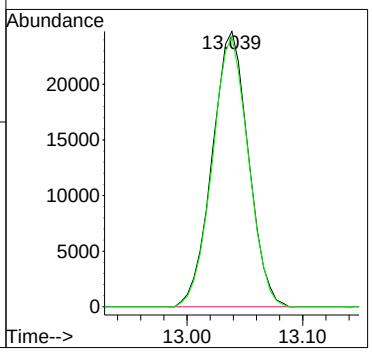


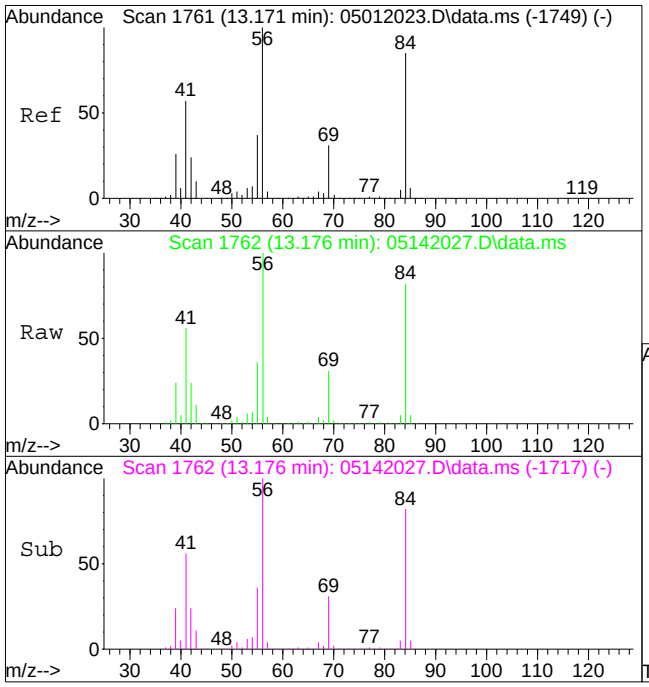


#42
Carbon Tetrachloride
Concen: 1.10 ng
RT: 13.04 min Scan# 1737
Delta R.T. -0.006 min
Lab File: 05142027.D
Acq: 14 May 2020 23:50

Tgt Ion:117 Resp: 53980

Ion	Ratio	Lower	Upper
117	100		
119	97.1	76.2	116.2

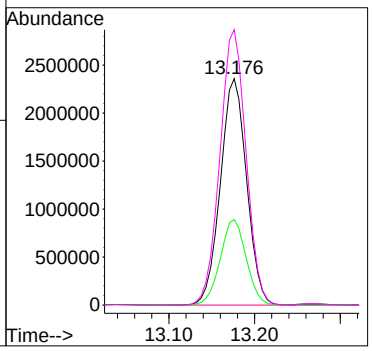


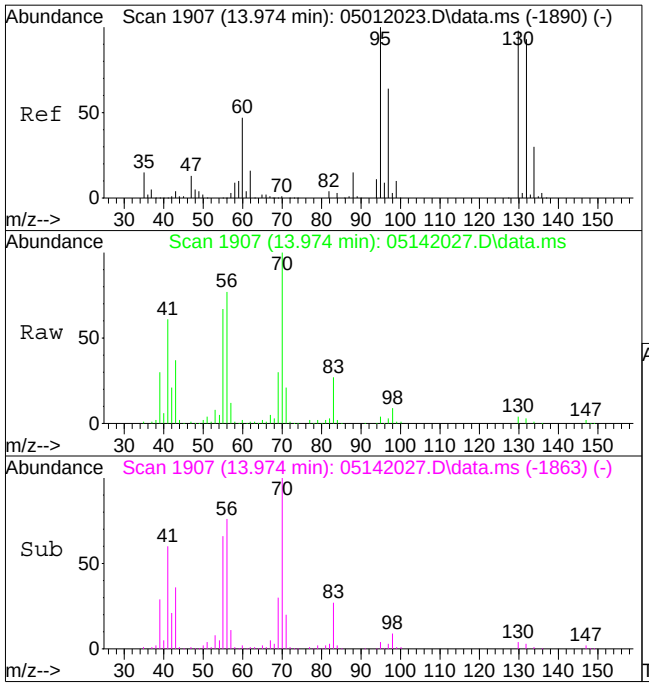


#43
Cyclohexane
Concen: 92.92 ng
RT: 13.18 min Scan# 1762
Delta R.T. -0.000 min
Lab File: 05142027.D
Acq: 14 May 2020 23:50

Tgt Ion: 84 Resp: 5008856

Ion	Ratio	Lower	Upper
84	100		
69	37.4	16.5	56.5
56	121.2	97.4	137.4

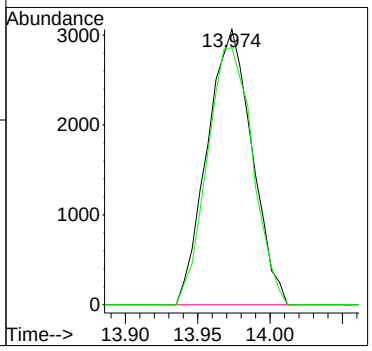


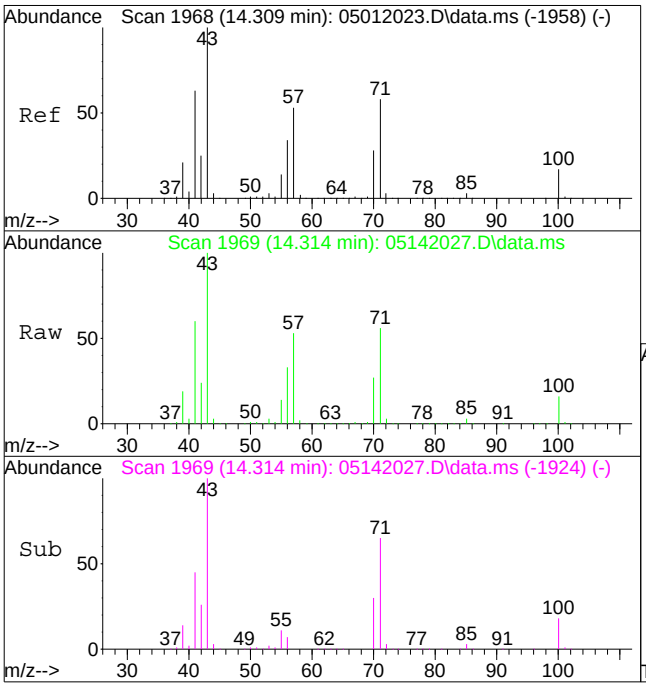


#47
Trichloroethene
Concen: 0.18 ng
RT: 13.97 min Scan# 1907
Delta R.T. -0.006 min
Lab File: 05142027.D
Acq: 14 May 2020 23:50

Tgt Ion:130 Resp: 6618

Ion	Ratio	Lower	Upper
130	100		
132	94.7	74.9	114.9

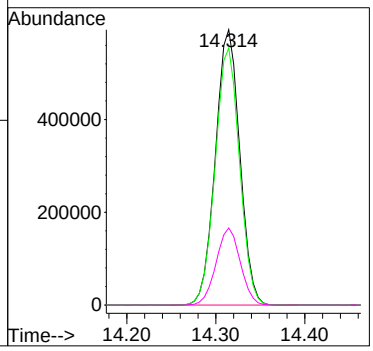


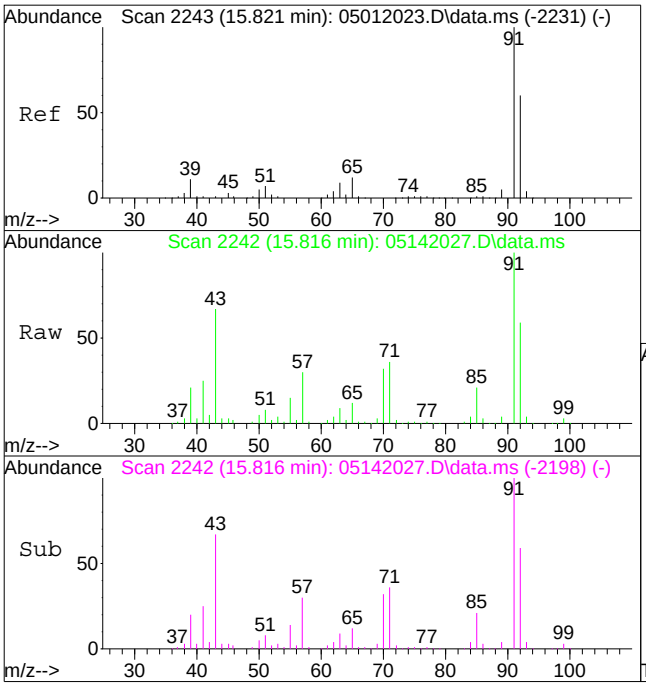


#51
n-Heptane
Concen: 33.36 ng
RT: 14.31 min Scan# 1969
Delta R.T. -0.000 min
Lab File: 05142027.D
Acq: 14 May 2020 23:50

Tgt Ion: 71 Resp: 1128450

Ion	Ratio	Lower	Upper
71	100		
57	93.3	71.0	111.0
100	27.8	8.4	48.4

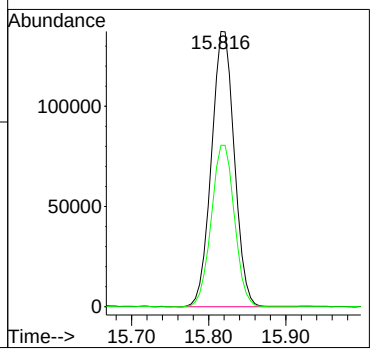


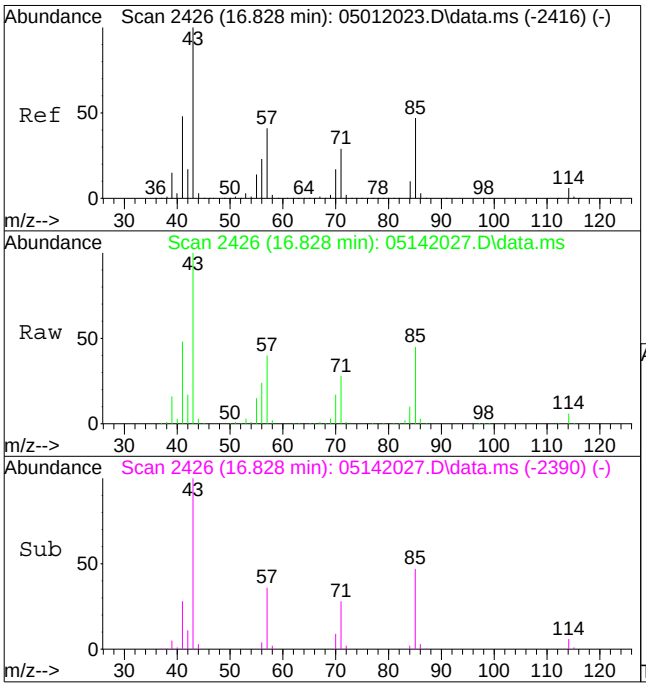


#58
Toluene
Concen: 1.86 ng
RT: 15.82 min Scan# 2242
Delta R.T. -0.006 min
Lab File: 05142027.D
Acq: 14 May 2020 23:50

Tgt Ion: 91 Resp: 283064

Ion	Ratio	Lower	Upper
91	100		
92	59.3	39.4	79.4

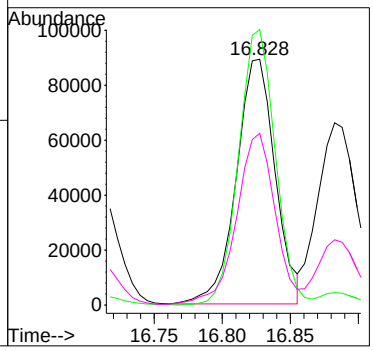


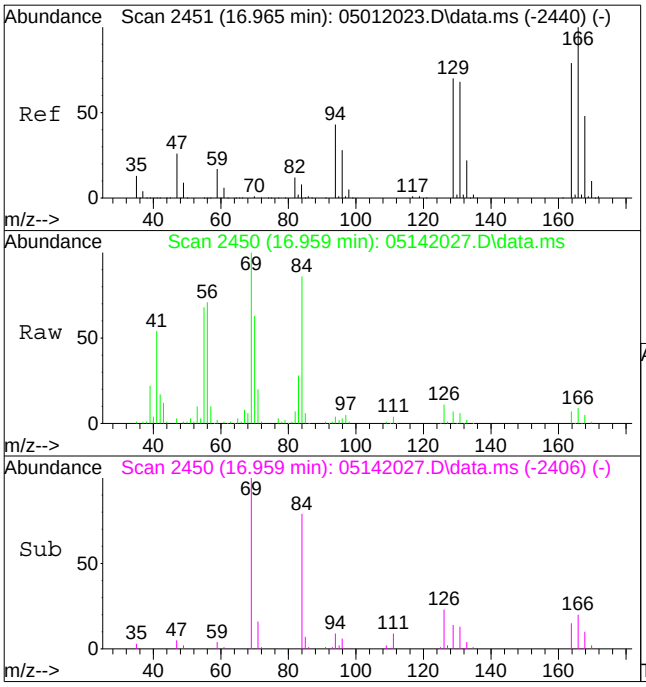


#63
n-Octane
Concen: 5.62 ng
RT: 16.83 min Scan# 2426
Delta R.T. -0.000 min
Lab File: 05142027.D
Acq: 14 May 2020 23:50

Tgt Ion: 57 Resp: 176795

Ion	Ratio	Lower	Upper
57	100		
85	106.5	91.0	136.4
71	68.8	56.2	84.2

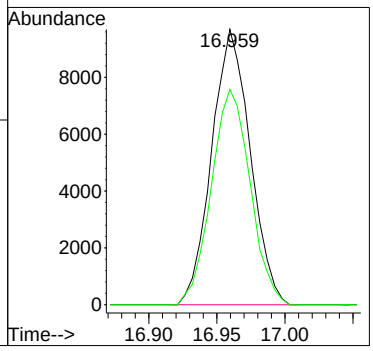


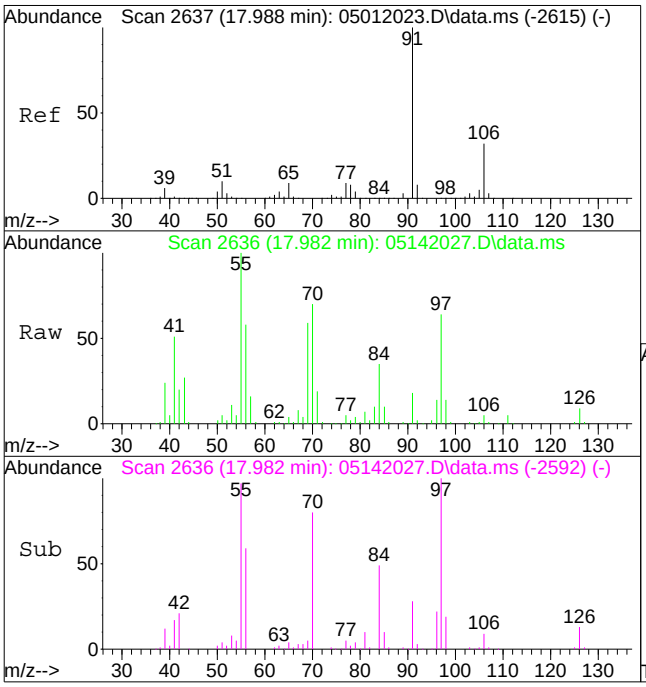


#64
Tetrachloroethene
Concen: 0.44 ng
RT: 16.96 min Scan# 2450
Delta R.T. -0.006 min
Lab File: 05142027.D
Acq: 14 May 2020 23:50

Tgt Ion:166 Resp: 19085

Ion	Ratio	Lower	Upper
166	100		
164	78.8	58.4	98.4

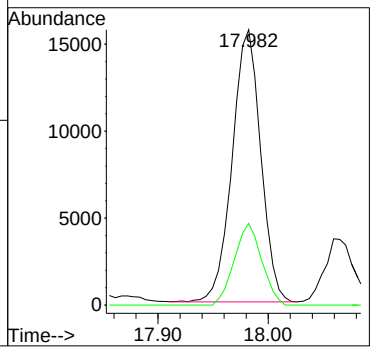


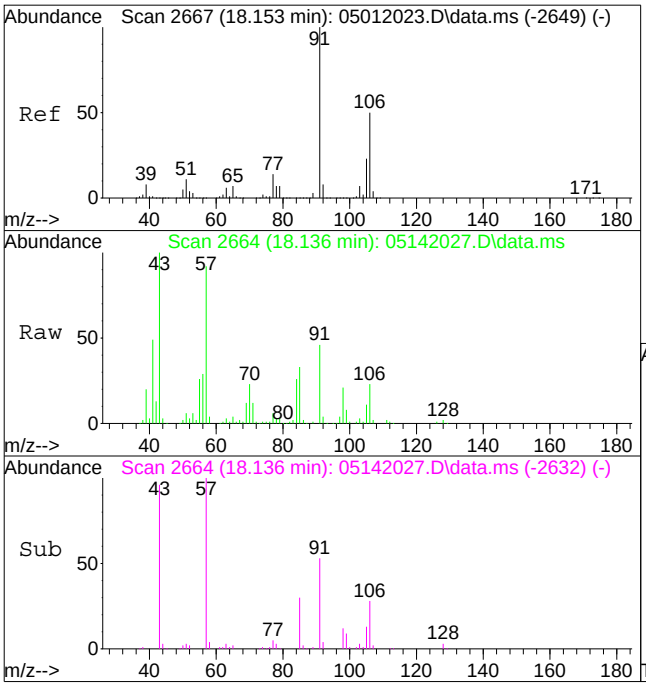


#66
Ethylbenzene
Concen: 0.17 ng
RT: 17.98 min Scan# 2636
Delta R.T. -0.006 min
Lab File: 05142027.D
Acq: 14 May 2020 23:50

Tgt Ion: 91 Resp: 28201

Ion	Ratio	Lower	Upper
91	100		
106	28.7	11.6	51.6

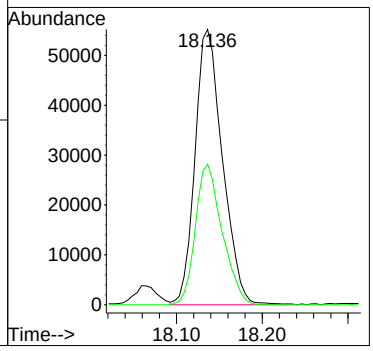


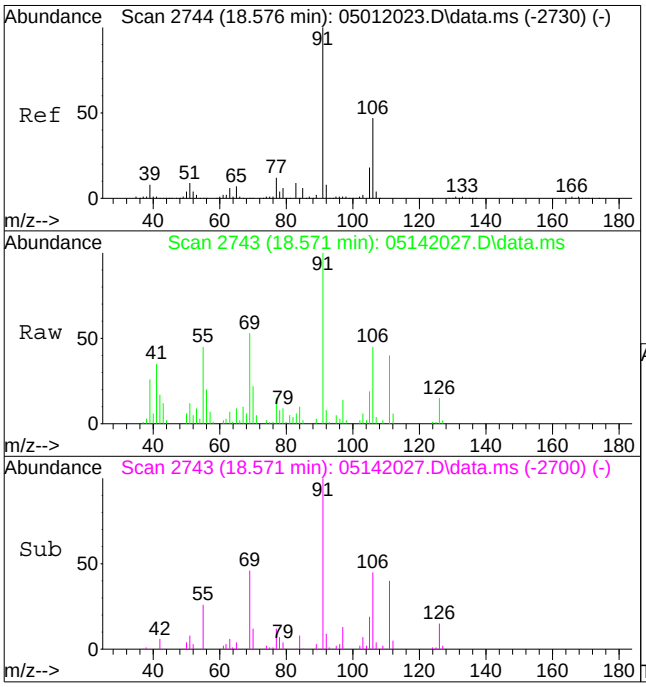


#67
m- & p-Xylenes
Concen: 0.92 ng
RT: 18.14 min Scan# 2664
Delta R.T. -0.022 min
Lab File: 05142027.D
Acq: 14 May 2020 23:50

Tgt Ion: 91 Resp: 122992

Ion	Ratio	Lower	Upper
91	100		
106	49.5	29.7	69.7

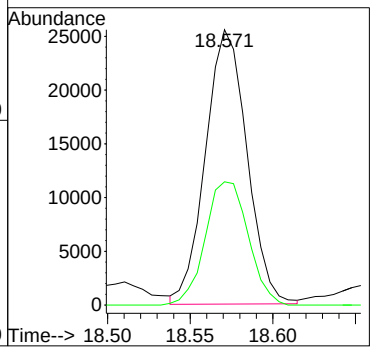


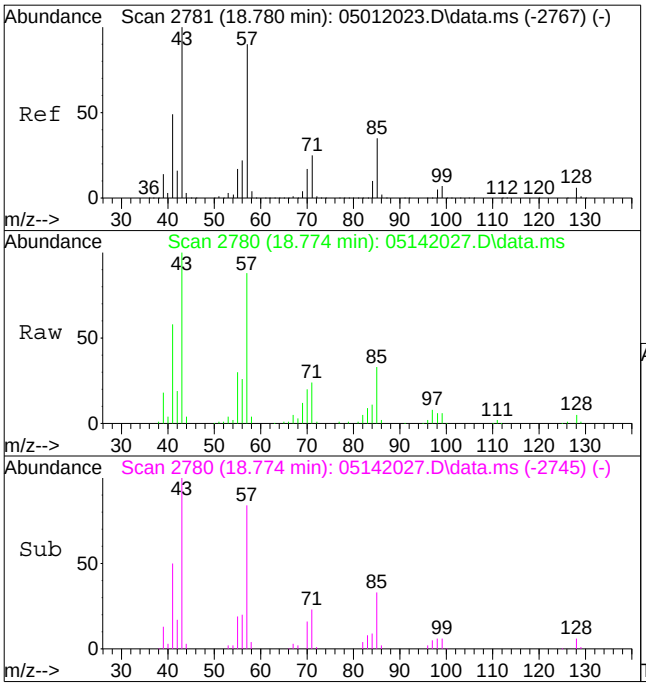


#70
o-Xylene
Concen: 0.33 ng
RT: 18.57 min Scan# 2743
Delta R.T. -0.011 min
Lab File: 05142027.D
Acq: 14 May 2020 23:50

Tgt Ion: 91 Resp: 44625

Ion	Ratio	Lower	Upper
91	100		
106	46.5	27.5	67.5

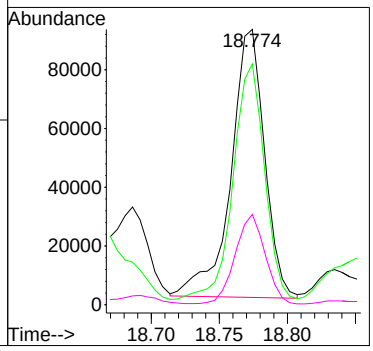


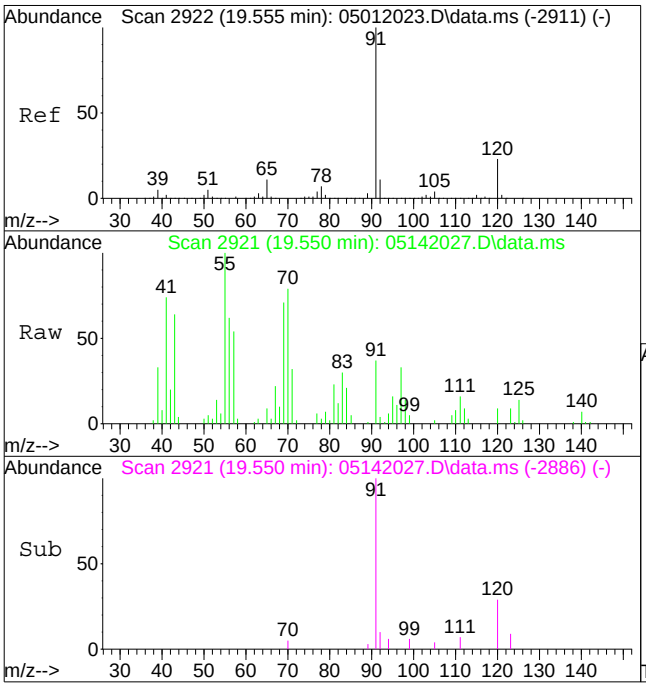


#71
n-Nonane
Concen: 2.18 ng
RT: 18.77 min Scan# 2780
Delta R.T. -0.006 min
Lab File: 05142027.D
Acq: 14 May 2020 23:50

Tgt Ion: 43 Resp: 157418

Ion	Ratio	Lower	Upper
43	100		
57	81.4	69.0	109.0
85	29.7	14.6	54.6

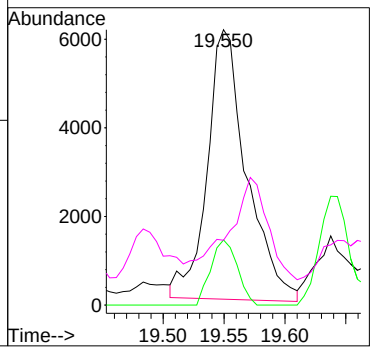


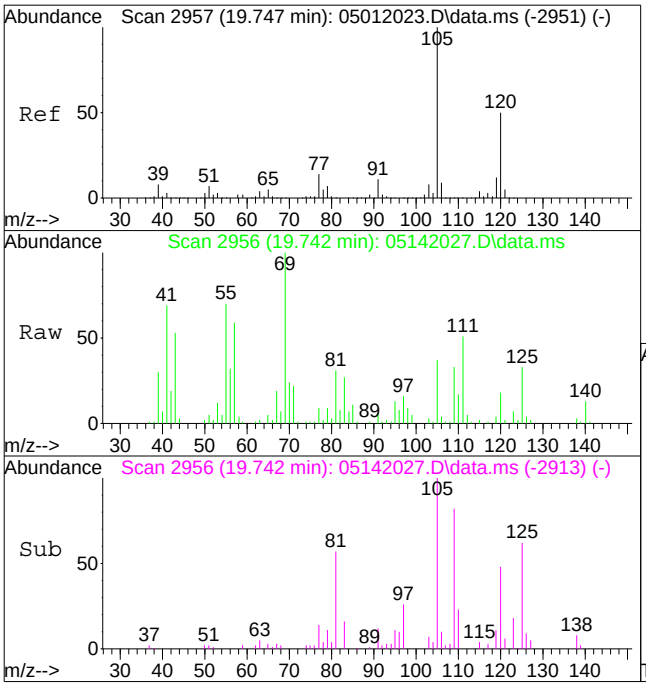


#76
n-Propylbenzene
Concen: 0.07 ng
RT: 19.55 min Scan# 2921
Delta R.T. -0.006 min
Lab File: 05142027.D
Acq: 14 May 2020 23:50

Tgt Ion: 91 Resp: 13689

Ion	Ratio	Lower	Upper
91	100		
120	16.2	3.1	43.1
65	44.2	0.0	30.9#

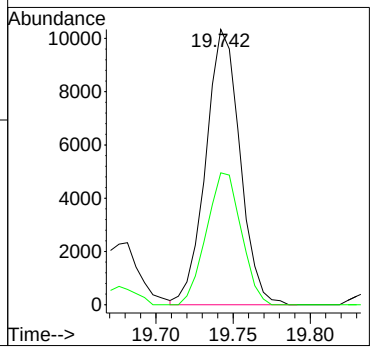


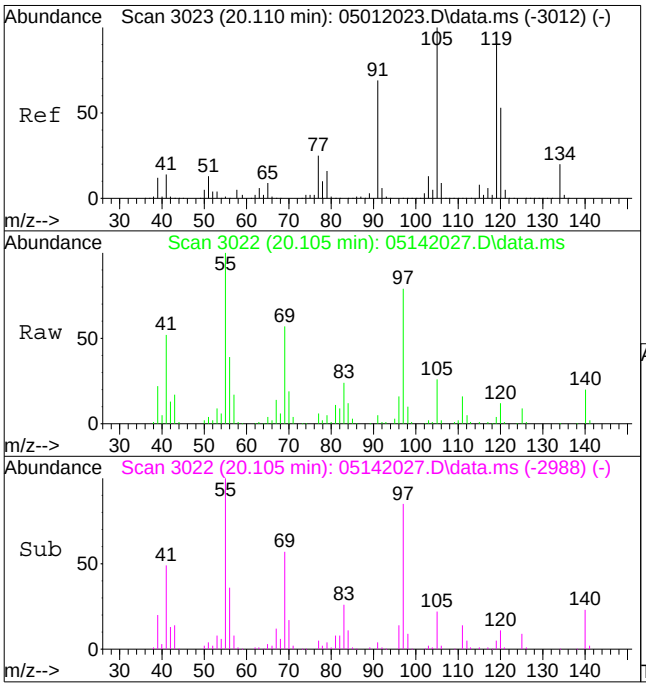


#79
1,3,5-Trimethylbenzene
Concen: 0.12 ng
RT: 19.74 min Scan# 2956
Delta R.T. -0.011 min
Lab File: 05142027.D
Acq: 14 May 2020 23:50

Tgt Ion:105 Resp: 15938

Ion	Ratio	Lower	Upper
105	100		
120	48.8	29.9	69.9

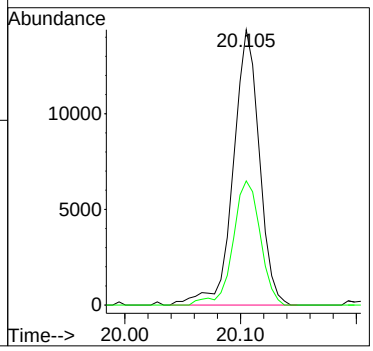




#82
1,2,4-Trimethylbenzene
Concen: 0.16 ng
RT: 20.10 min Scan# 3022
Delta R.T. -0.011 min
Lab File: 05142027.D
Acq: 14 May 2020 23:50

Tgt Ion:105 Resp: 22566

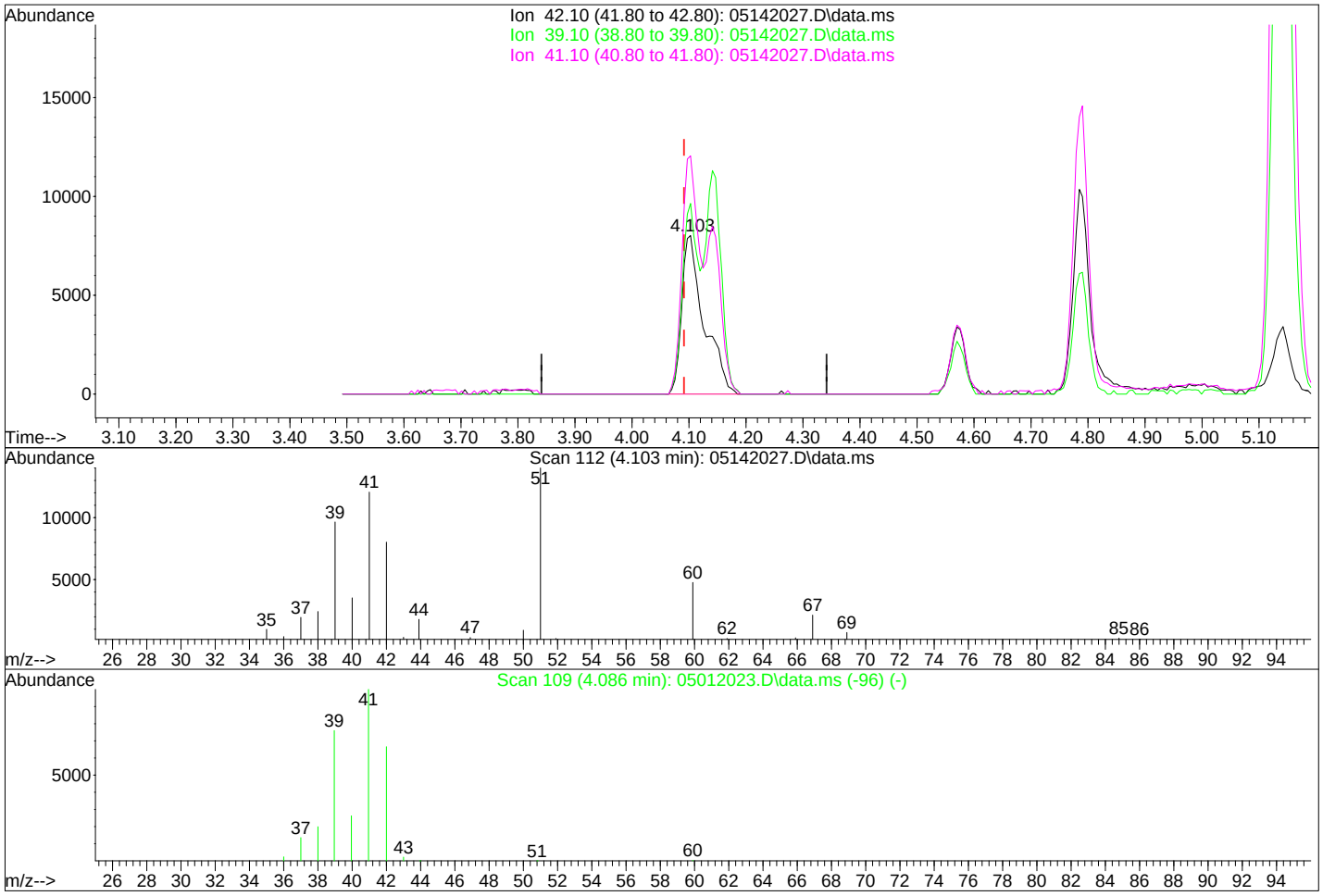
Ion	Ratio	Lower	Upper
105	100		
120	47.2	33.6	73.6



Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\14\05142027.D Vial: 6
Acq On : 14 May 2020 23:50 Operator: LH
Sample : P2002302-004dup (70mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 09:28:53 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05142027.D\data.ms

(2) Propene (T)

4.103min (+0.011) 0.60ng

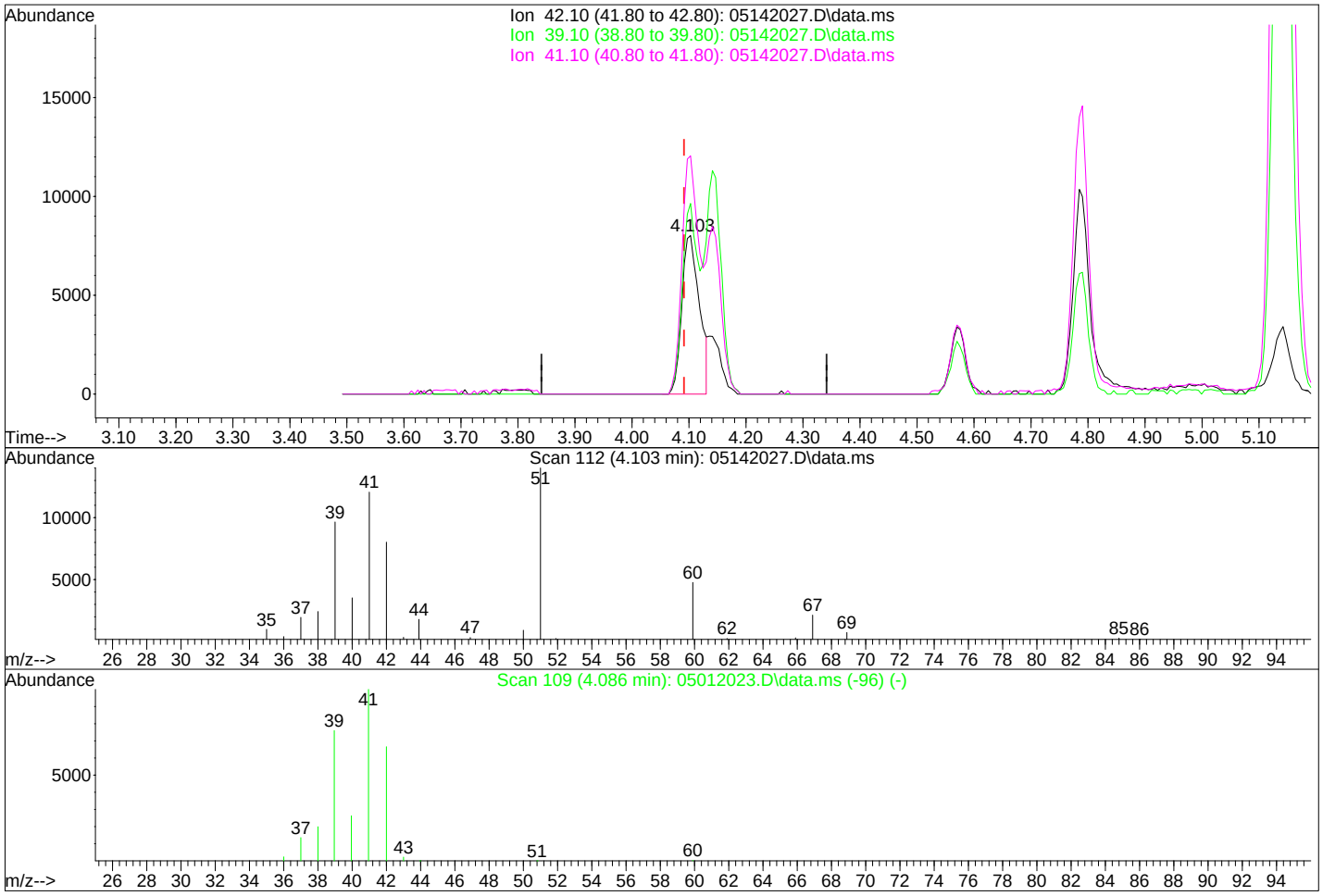
response 21747

Ion	Exp%	Act%
42.10	100	100
39.10	116.10	83.71#
41.10	151.90	115.64#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS16\DATA\2020_05\14\05142027.D Vial: 6
Acq On : 14 May 2020 23:50 Operator: LH
Sample : P2002302-004dup (70mL) Inst : GCMS-16
Misc : S31-02112001

Quant Time: May 15 09:28:53 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 05142027.D\data.ms

(2) Propene (T)

4.103min (+0.011) 0.47ng m

response 17183

Ion	Exp%	Act%
42.10	100	100
39.10	116.10	105.95
41.10	151.90	146.36
0.00	0.00	0.00

IPC

LH 5/15/20

5/17/20

Response Factor Report GCMS-16

Method Path : I:\MS16\METHODS\
Method File : R16050120.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri May 01 18:22:00 2020
Response Via : Initial Calibration

LH 5/1/20

Calibration Files
0.1 =05012018.D 0.2 =05012019.D 0.5 =05012020.D 1.0 =05012021.D 5.0 =05012022.D 25 =05012
100 =03112009.D

		Compound	0.1	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------			ISTD	----------					
2)	T	Propene	1.611	1.539	1.503	1.380	1.499	1.474	1.430	1.147	1.448	9.66
3)	T	Dichlorodifluo...	3.202	3.003	3.068	2.842	3.010	2.737	2.537	2.254	2.832	11.03
4)	T	Chloromethane	2.604	2.435	2.388	2.238	2.356	2.193	2.172	1.361	2.218	16.88
5)	T	1,2-Dichloro-1...	1.897	1.683	1.822	1.625	1.745	1.600	1.555	1.607	1.692	7.08
6)	T	Vinyl Chloride	2.717	2.540	2.556	2.389	2.585	2.348	2.256	2.069	2.433	8.56
7)	T	1,3-Butadiene	2.247	2.061	2.143	1.977	2.145	1.964	1.905	1.660	2.013	9.02
8)	T	Bromomethane	1.419	1.343	1.315	1.211	1.293	1.245	1.264	1.190	1.285	5.79
9)	T	Chloroethane	1.050	0.952	0.985	0.919	0.990	0.943	0.960	0.887	0.961	5.13
10)	T	Ethanol	1.410	1.184	1.009	0.940	1.092	1.112	1.151	1.046	1.118	12.66
11)	T	Acetonitrile	3.482	2.840	2.383	2.251	2.529	2.471	2.438	2.042	2.555	17.16
12)	T	Acrolein	1.059	0.868	0.880	0.829	0.918	0.879	0.863	0.770	0.883	9.44
13)	T	Acetone	1.252	1.110	1.062	0.988	1.109	1.131	1.179	1.113	1.118	6.92
14)	T	Trichlorofluor...	2.713	2.523	2.575	2.359	2.565	2.454	2.411	2.421	2.503	4.58
15)	T	2-Propanol (Is...	3.870	3.534	3.450	3.257	3.738	3.508	3.156	2.557	3.384	12.00
16)	T	Acrylonitrile	2.202	1.897	1.701	1.617	1.893	1.829	1.828	1.654	1.828	10.12
17)	T	1,1-Dichloroet...	1.408	1.288	1.314	1.236	1.342	1.312	1.299	1.297	1.312	3.73
18)	T	2-Methyl-2-Pro...	3.534	3.198	3.325	3.089	3.578	3.200	2.158		3.155	15.06
19)	T	Methylene Chlo...	1.693	1.502	1.403	1.354	1.469	1.431	1.419	1.356	1.453	7.53
20)	T	3-Chloro-1-pro...	2.223	1.929	1.964	1.905	2.142	2.028	2.036	1.746	1.997	7.37
21)	T	Trichlorotrifl...	1.264	1.065	1.154	1.097	1.218	1.201	1.208	1.246	1.182	5.97
22)	T	Carbon Disulfide	6.112	5.388	5.148	4.831	5.368	5.134	5.024	4.656	5.208	8.48
23)	T	trans-1,2-Dich...	2.284	2.004	1.981	1.860	2.050	1.980	1.964	1.858	1.998	6.70
24)	T	1,1-Dichloroet...	2.569	2.334	2.469	2.238	2.450	2.380	2.330	2.202	2.371	5.15
25)	T	Methyl tert-Bu...	4.195	3.994	4.129	3.762	3.968	3.534	3.241	3.018	3.730	11.49
26)	T	Vinyl Acetate			0.280	0.275	0.355	0.375	0.393	0.412	0.348	16.73
27)	T	2-Butanone (MEK)	1.010	0.938	0.937	0.883	1.007	0.953	0.956	0.944	0.953	4.27
28)	T	cis-1,2-Dichlo...	2.186	1.950	1.950	1.831	2.014	1.928	1.927	1.846	1.954	5.66
29)	T	Diisopropyl Ether	1.400	1.264	1.362	1.283	1.461	1.320	1.346	1.353	1.349	4.68
30)	T	Ethyl Acetate	0.528	0.515	0.507	0.480	0.567	0.596	0.638	0.567	0.550	9.48
31)	T	n-Hexane	2.506	2.242	2.328	2.176	2.400	2.485	2.588	2.351	2.385	5.82
32)	T	Chloroform	2.635	2.393	2.541	2.359	2.618	2.470	2.464	2.425	2.488	4.07
33)	S	1,2-Dichloroet...	1.759	1.788	1.757	1.756	1.704	1.635	1.616	1.538	1.694	5.22
34)	T	Tetrahydrofura...	1.068	0.962	0.909	0.857	0.954	0.901	0.903	0.885	0.930	7.02
35)	T	Ethyl tert-But...	1.603	1.564	1.583	1.487	1.688	1.661	1.680	1.772	1.630	5.43
36)	T	1,2-Dichloroet...	2.204	2.065	2.007	1.843	2.020	1.911	1.892	1.830	1.971	6.45
37)	IR	1,4-Difluorobenzen...	----------			ISTD	----------					
38)	T	1,1,1-Trichlor...	0.520	0.477	0.504	0.469	0.521	0.513	0.513	0.511	0.503	3.91
39)	T	Isopropyl Acetate	0.217	0.187	0.204	0.189	0.226	0.238	0.254	0.247	0.220	11.50
40)	T	1-Butanol	0.335	0.286	0.247	0.231	0.307	0.333	0.362	0.405	0.313	18.51
41)	T	Benzene	1.454	1.263	1.288	1.194	1.366	1.343	1.417	1.400	1.340	6.50
42)	T	Carbon Tetrach...	0.446	0.414	0.449	0.410	0.482	0.473	0.477	0.496	0.456	6.99
43)	T	Cyclohexane	0.491	0.450	0.481	0.443	0.512	0.523	0.544	0.553	0.500	8.14
44)	T	tert-Amyl Meth...	0.895	0.829	0.881	0.824	0.950	0.934	0.955	0.923	0.899	5.70
45)	T	1,2-Dichloropr...	0.322	0.296	0.311	0.288	0.327	0.317	0.320	0.303	0.310	4.42
46)	T	Bromodichlorom...	0.443	0.421	0.437	0.406	0.477	0.479	0.482	0.480	0.453	6.69
47)	T	Trichloroethene	0.348	0.318	0.331	0.303	0.355	0.355	0.366	0.396	0.346	8.37
48)	T	1,4-Dioxane	0.278	0.250	0.253	0.238	0.274	0.278	0.286	0.303	0.270	7.97
49)	T	2,2,4-Trimethy...	1.365	1.266	1.317	1.213	1.370	1.328	1.346	1.231	1.304	4.63
50)	T	Methyl Methacr...	0.126	0.113	0.118	0.116	0.138	0.143	0.149	0.161	0.133	13.21
51)	T	n-Heptane	0.325	0.297	0.306	0.286	0.318	0.310	0.324	0.342	0.313	5.60
52)	T	cis-1,3-Dichlo...	0.535	0.486	0.494	0.468	0.562	0.566	0.581	0.572	0.533	8.30
53)	T	4-Methyl-2-pen...	0.303	0.265	0.287	0.270	0.311	0.319	0.318	0.299	7.10	
54)	T	trans-1,3-Dich...	0.418	0.389	0.410	0.399	0.496	0.508	0.521	0.506	0.456	12.35

55)	T	1,1,2-Trichlor...	0.300	0.292	0.301	0.279	0.324	0.321	0.324	0.323	0.308	5.60
56)	IR	Chlorobenzene-d5 (...	----------ISTD----------									
57)	S	Toluene-d8 (SS2)	2.112	2.125	2.110	2.107	2.097	2.123	2.090	2.186	2.119	1.40
58)	T	Toluene	3.003	2.567	2.666	2.473	2.815	2.802	2.780	2.744	2.731	5.97
59)	T	2-Hexanone	1.547	1.361	1.410	1.339	1.614	1.583	1.602	1.515	1.497	7.42
60)	T	Dibromochlorom...	0.735	0.677	0.704	0.667	0.834	0.868	0.864	0.909	0.782	12.37
61)	T	1,2-Dibromoethane	0.757	0.686	0.705	0.663	0.792	0.804	0.797	0.809	0.752	7.82
62)	T	n-Butyl Acetate	1.611	1.401	1.545	1.456	1.756	1.742	1.751	1.671	1.616	8.55
63)	T	n-Octane	0.572	0.504	0.542	0.504	0.578	0.591	0.613	0.620	0.565	7.95
64)	T	Tetrachloroethene	0.764	0.679	0.700	0.653	0.778	0.829	0.838	0.931	0.771	12.10
65)	T	Chlorobenzene	1.873	1.701	1.737	1.609	1.870	1.882	2.340	2.020	1.879	12.02
66)	T	Ethylbenzene	3.030	2.763	2.965	2.768	3.264	3.313	3.301	2.958	3.045	7.41
67)	T	m- & p-Xylenes	2.416	2.101	2.285	2.203	2.562	2.656	2.741	2.363	2.416	9.24
68)	T	Bromoform			0.523	0.502	0.708	0.751	0.755	0.828	0.678	19.74
69)	T	Styrene	1.554	1.405	1.689	1.594	2.029	2.068	2.060	2.138	1.817	15.77
70)	T	o-Xylene	2.442	2.173	2.312	2.170	2.597	2.662	2.680	2.586	2.453	8.61
71)	T	n-Nonane	1.287	1.140	1.243	1.181	1.387	1.412	1.455	1.306	1.301	8.60
72)	T	1,1,2,2-Tetrac...	1.206	1.074	1.114	1.057	1.298	1.323	1.337	1.325	1.217	9.86
73)	S	Bromofluoroben...	0.715	0.714	0.725	0.724	0.787	0.802	0.783	0.849	0.762	6.56
74)	T	Cumene	3.035	2.729	2.906	2.711	3.284	3.320	3.265	2.830	3.010	8.41
75)	T	alpha-Pinene	1.511	1.362	1.446	1.393	1.701	1.785	1.795	1.856	1.606	12.43
76)	T	n-Propylbenzene	3.631	3.223	3.513	3.346	3.994	4.033	3.904	2.964	3.576	10.84
77)	T	3-Ethyltoluene	2.929	2.407	2.714	2.579	3.163	3.387	3.232	2.897	2.913	11.58
78)	T	4-Ethyltoluene	2.513	2.455	2.758	2.630	3.275	3.167	3.181	2.637	2.827	11.64
79)	T	1,3,5-Trimethy...	2.364	2.022	2.272	2.212	2.706	2.770	2.730	2.561	2.455	11.29
80)	T	alpha-Methylst...			1.138	1.116	1.443	1.485	1.469	1.649	1.384	15.29
81)	T	2-Ethyltoluene	2.821	2.480	2.756	2.582	3.185	3.223	3.148	2.796	2.874	9.82
82)	T	1,2,4-Trimethy...	2.215	1.944	2.255	2.185	2.813	3.050	2.878	2.397	2.467	16.03
83)	T	n-Decane			1.125	1.102	1.410	1.517	1.611	1.515	1.380	15.65
84)	T	Benzyl Chloride				1.519	2.279	2.600	2.687	2.413	2.300	20.21
85)	T	1,3-Dichlorobe...	1.252	1.034	1.264	1.221	1.626	1.660	1.639	1.766	1.433	18.79
86)	T	1,4-Dichlorobe...	1.206	1.004	1.283	1.196	1.601	1.620	1.581	1.693	1.398	18.29
87)	T	sec-Butylbenzene	3.179	2.829	3.093	2.947	3.632	3.636	3.486	2.818	3.203	10.67
88)	T	4-Isopropyltol...			2.761	2.656	3.414	3.547	3.227	2.590	3.033	13.68
89)	T	1,2,3-Trimethy...			2.234	2.175	2.830	3.061	2.870	2.323	2.582	14.77
90)	T	1,2-Dichlorobe...	1.199	1.054	1.223	1.173	1.569	1.646	1.594	1.513	1.372	16.90
91)	T	d-Limonene	0.811	0.750	0.867	0.867	1.070	1.169	1.205	1.057	0.974	17.65
92)	T	1,2-Dibromo-3-...			0.388	0.391	0.568	0.581	0.581	0.595	0.517	19.22
93)	T	n-Undecane			0.906	0.866	1.357	1.474	1.565	1.496	1.277	24.32
94)	T	1,2,4-Trichlor...			0.655	0.635	1.013	1.144	1.183	1.078	0.951	25.70
95)	T	Naphthalene			2.173	2.044	3.472	3.864	3.717	2.796	3.011	26.24
96)	T	n-Dodecane			0.500	0.482	1.251	1.474	1.554	1.375	1.106	44.05
97)	T	Hexachlorobuta...			0.463	0.446	0.622	0.725	0.766	0.927	0.658	28.24
98)	T	Cyclohexanone	1.048	0.943	0.832	0.804	0.983	0.979	0.980	1.079	0.956	10.00
99)	T	tert-Butylbenzene	2.363	2.071	2.240	2.164	2.722	2.855	2.658	2.351	2.428	11.70
100)	T	n-Butylbenzene	2.187	1.921	2.417	2.334	2.916	2.966	2.883	2.471	2.512	15.09

(#) = Out of Range

R16050120.M Fri May 01 18:44:38 2020

Primary Source Standards Concentrations (Working & Initial Calibration)

LH 5/1/20

1ng/L Std. ID:
4ng/L Std. ID: S34-04272015
20ng/L Std. ID: S34-05012002
40ng/L Std. ID:
200ng/L Std. ID: S31-04292003
1000ng/L Std. ID:

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	200	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.0250	0.050	0.025	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
Propene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Dichlorodifluoromethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Chloromethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Freon-114	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Vinyl Chloride	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3-Butadiene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Bromomethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Chloroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Ethanol	5.21	5210	1042	208.4	104.2	20.84	5.21		0.521	1.042	2.605	5.21	26.05	130.25	260.5	521
Acetonitrile	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Acrolein	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Acetone	5.33	5330	1066	213.2	106.6	21.32	5.33		0.533	1.066	2.665	5.33	26.65	133.25	266.5	533
Trichlorofluoromethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Isopropanol	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
Acrylonitrile	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,1-Dichloroethene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
tert-Butanol	2.16	2160	432	86.4	43.2	8.64	2.16		0.216	0.432	1.080	2.16	10.80	54.00	108.0	216
Methylene Chloride	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Allyl Chloride	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Dichlorotrifluoroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Carbon Disulfide	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
trans-1,2-Dichloroethene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1-Dichloroethane	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
Methyl tert-Butyl Ether	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Vinyl Acetate	5.35	5350	1070	214.0	107.0	21.40	5.35		0.535	1.070	2.675	5.35	26.75	133.75	267.5	535
2-Butanone	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
cis-1,2-Dichloroethene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Diisopropyl Ether	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Ethyl Acetate	2.17	2170	434	86.8	43.4	8.68	2.17		0.217	0.434	1.085	2.17	10.85	54.25	108.5	217
n-Hexane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Chloroform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Tetrahydrofuran	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
Ethyl tert-Butyl Ether	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dichloroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,1,1-Trichloroethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Isopropyl Acetate	2.11	2110	422	84.4	42.2	8.44	2.11		0.211	0.422	1.055	2.11	10.55	52.75	105.5	211
1-Butanol	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
Benzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Carbon Tetrachloride	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Cyclohexane	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
tert-Amyl Methyl Ether	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dichloropropane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Bromodichloromethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Trichloroethene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,4-Dioxane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Isooctane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Methyl Methacrylate	2.15	2150	430	86.0	43.0	8.60	2.15		0.215	0.430	1.075	2.15	10.75	53.75	107.5	215
n-Heptane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108

LH 5/1/20

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID:
4ng/L Std. ID: S34-04272015
20ng/L Std. ID: S34-05012002
40ng/L Std. ID:
200ng/L Std. ID: S31-04292003
1000ng/L Std. ID:

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	200	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.0250	0.050	0.025	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
cis-1,3-Dichloropropene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
4-Methyl-2-pentanone	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
trans-1,3-Dichloropropene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1,2-Trichloroethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Toluene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
2-Hexanone	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Dibromochloromethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,2-Dibromoethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Butyl Acetate	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
n-Octane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Tetrachloroethene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Chlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Ethylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
m-&p-Xylene	2.14	2140	428	85.6	42.8	8.56	2.14		0.214	0.428	1.070	2.14	10.70	53.50	107.0	214
Bromoform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Styrene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
o-Xylene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Nonane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,1,2,2-Tetrachloroethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Cumene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
alpha-Pinene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Propylbenzene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
3-Ethyltoluene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
4-Ethyltoluene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3,5-Trimethylbenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
alpha-Methylstyrene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
2-Ethyltoluene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2,4-Trimethylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Decane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Benzyl Chloride	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3-Dichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,4-Dichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
sec-Butylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
p-Isopropyltoluene	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
1,2,3-Trimethylbenzene	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
1,2-Dichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
d-Limonene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2-Dibromo-3-chloropropane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
n-Undecane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2,4-Trichlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Naphthalene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
n-Dodecane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Hexachloro-1,3-butadiene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Methacrylonitrile	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Cyclohexanone	1.00	1000	200	40.0	20.0	4.00	1.00		0.100	0.200	0.500	1.00	5.00	25.00	50.0	100
tert-Butylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Butylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107

Q:\TO15 Std. Concentrations\MS16 Std. Conc\2020\R16050120\ICAL Conc. (Primary Source)

Calibration Status Report GCMS-16

Method : I:\MS16\METHODS\R16050120.M (RTE Integrator)
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	0.1	0	13	I:\MS16\DATA\2020_05\01\05012018.D
2	0.2	0	13	I:\MS16\DATA\2020_05\01\05012019.D
3	0.5	1	13	I:\MS16\DATA\2020_05\01\05012020.D
4	1.0	1	13	I:\MS16\DATA\2020_05\01\05012021.D
5	5.0	5	13	I:\MS16\DATA\2020_05\01\05012022.D
6	25	27	13	I:\MS16\DATA\2020_05\01\05012023.D
7	50	53	13	I:\MS16\DATA\2020_05\01\05012024.D
8	100	106	13	I:\MS16\DATA\2020_03\11\03112009.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.1	May 01 17:28 2020	May 01 17:26 2020	1 May 2020 14:09
2	0.2	May 01 17:28 2020	May 01 17:26 2020	1 May 2020 14:42
3	0.5	May 01 17:28 2020	May 01 17:26 2020	1 May 2020 15:16
4	1.0	May 01 17:29 2020	May 01 17:26 2020	1 May 2020 15:51
5	5.0	May 01 17:29 2020	May 01 17:26 2020	1 May 2020 16:25
6	25	May 01 17:29 2020	May 01 17:26 2020	1 May 2020 16:59
7	50	May 01 18:22 2020	May 01 18:21 2020	1 May 2020 17:33
8	100	May 01 17:01 2020	Mar 11 10:34 2020	11 Mar 2020 4:52

R16050120.M Fri May 01 18:52:03 2020

LH 5/1/20

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012018.D Vial: 6
Acq On : 1 May 2020 14:09 Operator: LH
Sample : 0.1ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04272015 (5/26)

Quant Time: May 01 17:26:08 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	289278	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1281029	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	612084	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	508980	12.744	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.92%				
57) Toluene-d8 (SS2)	15.72	98	1292505	11.971	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.76%				
73) Bromofluorobenzene (SS3)	18.98	174	437866	11.415	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.28%				
Target Compounds							Qvalue
2) Propene	4.13	42	3951	0.128	ng		96
3) Dichlorodifluoromethan...	4.28	85	7854	0.120	ng		99
4) Chloromethane	4.55	50	6389	0.124	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.83	135	4609	0.112	ng		98
6) Vinyl Chloride	4.97	62	6791	0.124	ng		98
7) 1,3-Butadiene	5.24	54	5512	0.135	ng		93
8) Bromomethane	5.66	94	3547	0.129	ng		100
9) Chloroethane	5.99	64	2625	0.124	ng		97
10) Ethanol	6.32	45	16999	0.700	ng		96
11) Acetonitrile	6.59	41	8460	0.157	ng		84
12) Acrolein	6.79	56	2525	0.141	ng		97
13) Acetone	7.01	58	15440	0.650	ng	#	85
14) Trichlorofluoromethane	7.25	101	6656	0.116	ng		97
15) 2-Propanol (Isopropanol)	7.50	45	18806	0.266	ng		91
16) Acrylonitrile	7.74	53	5351	0.149	ng		99
17) 1,1-Dichloroethene	8.21	96	3518	0.123	ng		97
18) 2-Methyl-2-Propanol (t...	8.40	59	17666	0.282	ng		93
19) Methylene Chloride	8.40	84	4154	0.134	ng		94
20) 3-Chloro-1-propene (Al...	8.58	41	5555	0.137	ng		88
21) Trichlorotrifluoroethane	8.84	151	3158	0.114	ng		96
22) Carbon Disulfide	8.69	76	15135	0.136	ng		97
23) trans-1,2-Dichloroethene	9.68	61	5709	0.137	ng		99
24) 1,1-Dichloroethane	9.93	63	6480	0.122	ng		98
25) Methyl tert-Butyl Ether	10.09	73	10484	0.124	ng		100
26) Vinyl Acetate	10.21	86	3501	0.438	ng	#	69
27) 2-Butanone (MEK)	10.48	72	2477	0.126	ng	#	74
28) cis-1,2-Dichloroethene	10.95	61	5362	0.125	ng		95
29) Diisopropyl Ether	11.29	87	3500	0.113	ng	#	86
30) Ethyl Acetate	11.28	61	2653	0.229	ng		98
31) n-Hexane	11.26	57	6264	0.117	ng		97
32) Chloroform	11.30	83	6525	0.114	ng		100
34) Tetrahydrofuran (THF)	11.75	72	2693	0.133	ng		91
35) Ethyl tert-Butyl Ether	11.87	87	4007	0.109	ng		93
36) 1,2-Dichloroethane	12.11	62	5509	0.123	ng		98
38) 1,1,1-Trichloroethane	12.39	97	5705	0.113	ng		98
39) Isopropyl Acetate	12.84	61	4697	0.226	ng	#	91
40) 1-Butanol	12.85	56	7144	0.220	ng		93
41) Benzene	12.87	78	15792	0.120	ng		98
42) Carbon Tetrachloride	13.03	117	4803	0.106	ng		98
43) Cyclohexane	13.17	84	10671	0.211	ng		98
44) tert-Amyl Methyl Ether	13.53	73	9904	0.115	ng		97
45) 1,2-Dichloropropane	13.72	63	3569	0.117	ng		99
46) Bromodichloromethane	13.91	83	4900	0.109	ng		98
47) Trichloroethene	13.96	130	3818	0.102	ng		96
48) 1,4-Dioxane	13.96	88	3076	0.120	ng		99
49) 2,2,4-Trimethylpentane...	14.05	57	14967	0.118	ng		97
50) Methyl Methacrylate	14.18	100	2774	0.218	ng		96

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012018.D Vial: 6
Acq On : 1 May 2020 14:09 Operator: LH
Sample : 0.1ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04272015 (5/26)

Quant Time: May 01 17:26:08 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

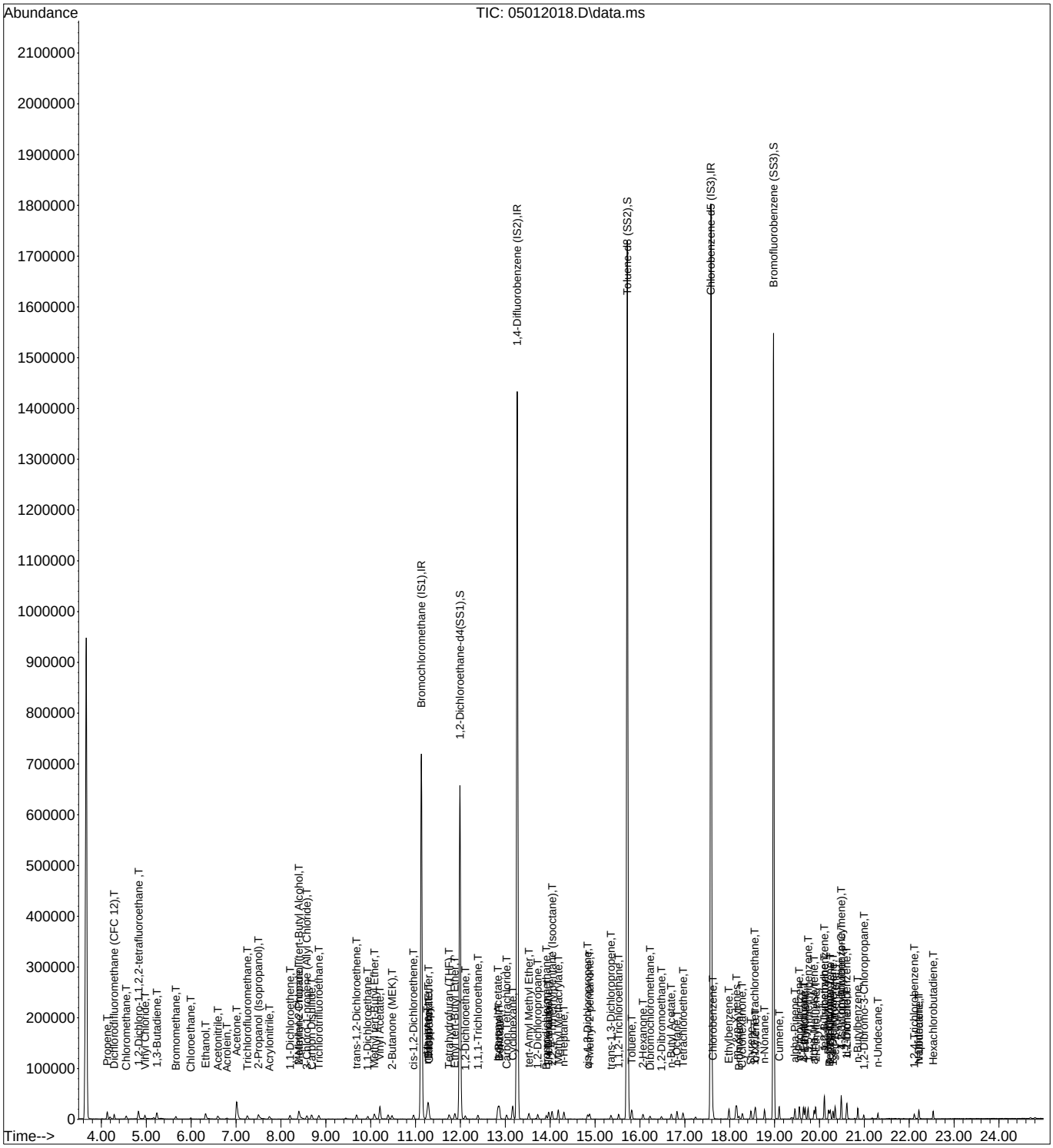
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	14.30	71	3595	0.117	ng		97
52) cis-1,3-Dichloropropene	14.83	75	5704	0.116	ng		96
53) 4-Methyl-2-pentanone	14.88	58	3296	0.119	ng		93
54) trans-1,3-Dichloropropene	15.35	75	4544	0.099	ng		98
55) 1,1,2-Trichloroethane	15.52	97	3290	0.107	ng		92
58) Toluene	15.82	91	15732	0.118	ng		98
59) 2-Hexanone	16.07	43	8108	0.120	ng		95
60) Dibromochloromethane	16.23	129	3850	0.107	ng		98
61) 1,2-Dibromoethane	16.48	107	3967	0.115	ng		99
62) n-Butyl Acetate	16.70	43	8599	0.119	ng		100
63) n-Octane	16.82	57	3026	0.113	ng		95
64) Tetrachloroethene	16.96	166	3889	0.104	ng		96
65) Chlorobenzene	17.62	112	9815	0.109	ng		97
66) Ethylbenzene	17.98	91	15876	0.108	ng		99
67) m- & p-Xylenes	18.15	91	25313	0.213	ng		97
68) Bromoform	18.21	173	2794	0.087	ng		97
69) Styrene	18.47	104	8068	0.087	ng		98
70) o-Xylene	18.58	91	12796	0.107	ng		97
71) n-Nonane	18.77	43	6742	0.112	ng		94
72) 1,1,2,2-Tetrachloroethane	18.55	83	6321	0.110	ng		99
74) Cumene	19.10	105	16051	0.107	ng		99
75) alpha-Pinene	19.45	93	7915	0.104	ng		98
76) n-Propylbenzene	19.55	91	19200	0.109	ng		96
77) 3-Ethyltoluene	19.64	105	15205	0.102	ng		95
78) 4-Ethyltoluene	19.68	105	13291	0.094	ng		97
79) 1,3,5-Trimethylbenzene	19.75	105	12270	0.097	ng		98
80) alpha-Methylstyrene	19.88	118	5286	0.077	ng		90
81) 2-Ethyltoluene	19.92	105	14918	0.102	ng		98
82) 1,2,4-Trimethylbenzene	20.11	105	11607	0.089	ng		98
83) n-Decane	20.20	57	5622	0.088	ng		96
84) Benzyl Chloride	20.23	91	6198	0.059	ng		94
85) 1,3-Dichlorobenzene	20.24	146	6559	0.093	ng		97
86) 1,4-Dichlorobenzene	20.30	146	6317	0.090	ng		95
87) sec-Butylbenzene	20.35	105	16656	0.102	ng		97
88) 4-Isopropyltoluene (p-...	20.48	119	14335	0.094	ng		98
89) 1,2,3-Trimethylbenzene	20.48	105	11912	0.091	ng		98
90) 1,2-Dichlorobenzene	20.61	146	6284	0.088	ng		97
91) d-Limonene	20.61	68	4287	0.084	ng		100
92) 1,2-Dibromo-3-Chloropr...	20.99	157	1904	0.078	ng	#	68
93) n-Undecane	21.30	57	3299	0.050	ng		96
94) 1,2,4-Trichlorobenzene	22.11	180	2902	0.065	ng		95
95) Naphthalene	22.22	128	9207	0.061	ng		99
96) n-Dodecane	22.22	57	1759	0.027	ng		84
97) Hexachlorobutadiene	22.54	225	2672	0.079	ng		98
98) Cyclohexanone	18.28	55	5130	0.112	ng		96
99) tert-Butylbenzene	20.11	119	12381	0.098	ng		100
100) n-Butylbenzene	20.85	91	11459	0.087	ng		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012018.D Vial: 6
Acq On : 1 May 2020 14:09 Operator: LH
Sample : 0.1ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04272015 (5/26)

Quant Time: May 01 17:26:08 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012019.D Vial: 6
Acq On : 1 May 2020 14:42 Operator: LH
Sample : 0.2ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04272015 (5/26)

Quant Time: May 01 17:26:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	281203	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1265644	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	605249	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	502682	12.948	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.60%				
57) Toluene-d8 (SS2)	15.72	98	1286177	12.047	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.40%				
73) Bromofluorobenzene (SS3)	18.98	174	432138	11.393	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.12%				
Target Compounds							Qvalue
2) Propene	4.12	42	7340	0.244	ng		98
3) Dichlorodifluoromethan...	4.28	85	14321	0.225	ng		98
4) Chloromethane	4.54	50	11611	0.231	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	7949	0.198	ng		100
6) Vinyl Chloride	4.97	62	12344	0.232	ng		98
7) 1,3-Butadiene	5.22	54	9830	0.247	ng		96
8) Bromomethane	5.65	94	6528	0.244	ng		95
9) Chloroethane	5.98	64	4628	0.226	ng		98
10) Ethanol	6.31	45	27749	1.175	ng		96
11) Acetonitrile	6.59	41	13417	0.257	ng		87
12) Acrolein	6.79	56	4024	0.232	ng		98
13) Acetone	7.01	58	26616	1.152	ng		88
14) Trichlorofluoromethane	7.25	101	12031	0.215	ng		96
15) 2-Propanol (Isopropanol)	7.48	45	33389	0.485	ng		93
16) Acrylonitrile	7.74	53	8962	0.257	ng		98
17) 1,1-Dichloroethene	8.20	96	6259	0.225	ng		97
18) 2-Methyl-2-Propanol (t...	8.39	59	31078	0.511	ng		95
19) Methylene Chloride	8.40	84	7162	0.238	ng		95
20) 3-Chloro-1-propene (Al...	8.57	41	9375	0.238	ng		97
21) Trichlorotrifluoroethane	8.85	151	5174	0.193	ng		91
22) Carbon Disulfide	8.68	76	25939	0.240	ng		98
23) trans-1,2-Dichloroethene	9.69	61	9736	0.240	ng		99
24) 1,1-Dichloroethane	9.93	63	11448	0.222	ng		100
25) Methyl tert-Butyl Ether	10.07	73	19408	0.236	ng		100
26) Vinyl Acetate	10.20	86	6257	0.806	ng	#	65
27) 2-Butanone (MEK)	10.47	72	4473	0.235	ng	#	85
28) cis-1,2-Dichloroethene	10.95	61	9299	0.222	ng		95
29) Diisopropyl Ether	11.27	87	6141	0.203	ng	#	89
30) Ethyl Acetate	11.28	61	5026	0.447	ng		94
31) n-Hexane	11.26	57	10892	0.209	ng		100
32) Chloroform	11.30	83	11522	0.207	ng		100
34) Tetrahydrofuran (THF)	11.74	72	4717	0.239	ng		96
35) Ethyl tert-Butyl Ether	11.87	87	7599	0.213	ng		99
36) 1,2-Dichloroethane	12.11	62	10033	0.231	ng		97
38) 1,1,1-Trichloroethane	12.39	97	10336	0.208	ng		99
39) Isopropyl Acetate	12.84	61	8005	0.390	ng	#	82
40) 1-Butanol	12.85	56	12049	0.376	ng		93
41) Benzene	12.87	78	27102	0.208	ng		100
42) Carbon Tetrachloride	13.03	117	8801	0.196	ng		99
43) Cyclohexane	13.17	84	19302	0.386	ng		99
44) tert-Amyl Methyl Ether	13.52	73	18140	0.213	ng		97
45) 1,2-Dichloropropane	13.72	63	6464	0.215	ng		100
46) Bromodichloromethane	13.91	83	9202	0.208	ng		97
47) Trichloroethene	13.97	130	6883	0.185	ng		99
48) 1,4-Dioxane	13.96	88	5469	0.215	ng		98
49) 2,2,4-Trimethylpentane...	14.04	57	27442	0.219	ng		99
50) Methyl Methacrylate	14.18	100	4902	0.390	ng		92

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012019.D Vial: 6
Acq On : 1 May 2020 14:42 Operator: LH
Sample : 0.2ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04272015 (5/26)

Quant Time: May 01 17:26:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

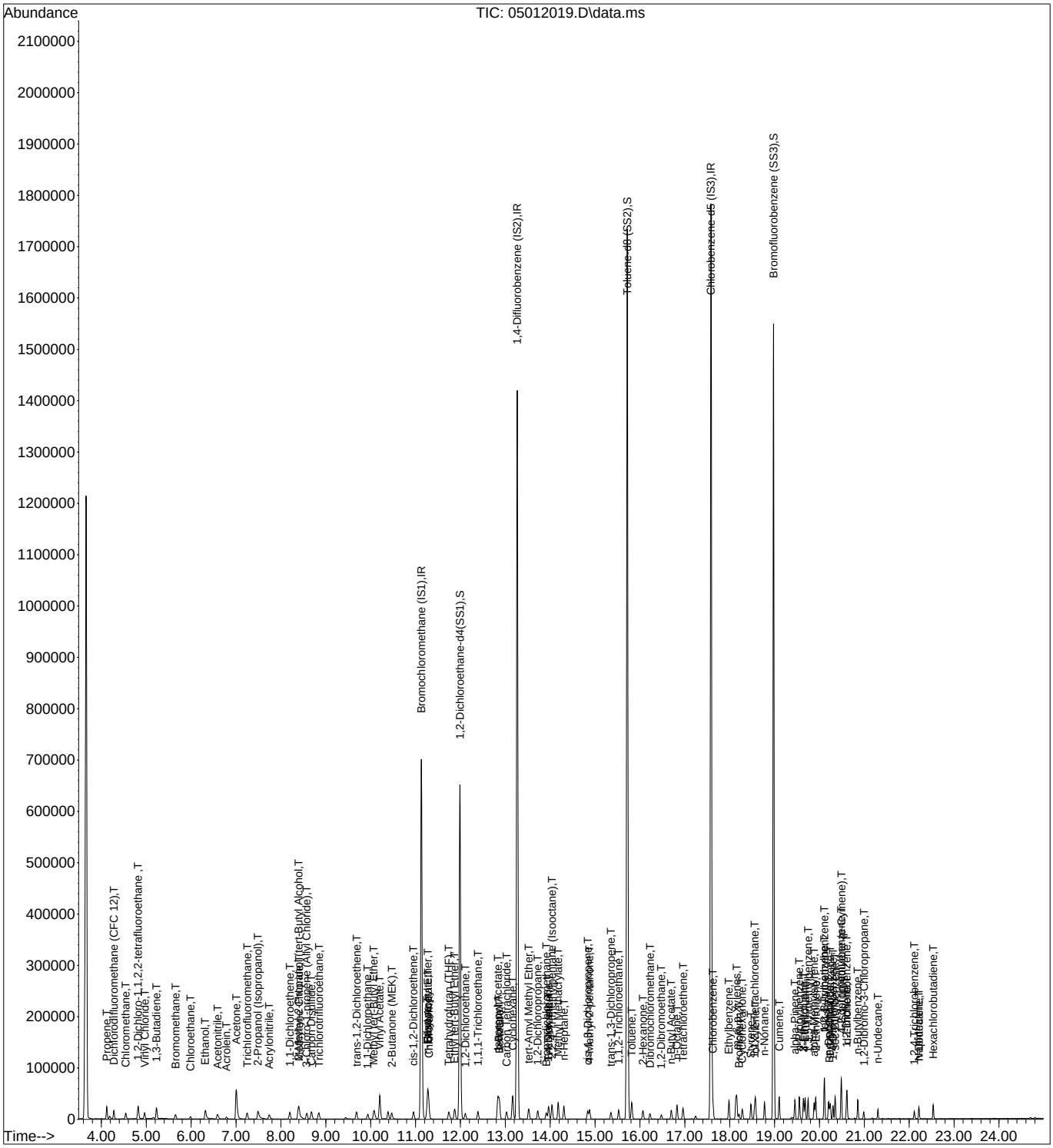
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.31	71	6485	0.213 ng		99
52) cis-1,3-Dichloropropene	14.84	75	10229	0.211 ng		99
53) 4-Methyl-2-pentanone	14.88	58	5691	0.207 ng		91
54) trans-1,3-Dichloropropene	15.35	75	8360	0.185 ng		96
55) 1,1,2-Trichloroethane	15.52	97	6328	0.209 ng		98
58) Toluene	15.82	91	26600	0.201 ng		99
59) 2-Hexanone	16.06	43	14103	0.211 ng		96
60) Dibromochloromethane	16.23	129	7014	0.198 ng		97
61) 1,2-Dibromoethane	16.48	107	7112	0.208 ng		98
62) n-Butyl Acetate	16.70	43	14786	0.207 ng		99
63) n-Octane	16.82	57	5273	0.199 ng		99
64) Tetrachloroethene	16.96	166	6836	0.184 ng		98
65) Chlorobenzene	17.62	112	17628	0.198 ng		99
66) Ethylbenzene	17.98	91	28627	0.197 ng		98
67) m- & p-Xylenes	18.15	91	43549	0.370 ng		100
68) Bromoform	18.21	173	4948	0.156 ng		97
69) Styrene	18.47	104	14427	0.157 ng		98
70) o-Xylene	18.58	91	22519	0.191 ng		99
71) n-Nonane	18.77	43	11811	0.198 ng		96
72) 1,1,2,2-Tetrachloroethane	18.55	83	11124	0.196 ng		98
74) Cumene	19.10	105	28539	0.192 ng		97
75) alpha-Pinene	19.45	93	14109	0.187 ng		97
76) n-Propylbenzene	19.55	91	33704	0.194 ng		96
77) 3-Ethyltoluene	19.64	105	24706	0.167 ng		95
78) 4-Ethyltoluene	19.68	105	25673	0.184 ng		92
79) 1,3,5-Trimethylbenzene	19.75	105	20755	0.166 ng		100
80) alpha-Methylstyrene	19.88	118	9566	0.141 ng		98
81) 2-Ethyltoluene	19.92	105	25934	0.179 ng		98
82) 1,2,4-Trimethylbenzene	20.11	105	20144	0.156 ng		100
83) n-Decane	20.20	57	9540	0.150 ng		99
84) Benzyl Chloride	20.22	91	10864	0.105 ng		96
85) 1,3-Dichlorobenzene	20.24	146	10709	0.154 ng		98
86) 1,4-Dichlorobenzene	20.30	146	10405	0.150 ng		99
87) sec-Butylbenzene	20.35	105	29313	0.182 ng		98
88) 4-Isopropyltoluene (p-...	20.49	119	25509	0.168 ng		98
89) 1,2,3-Trimethylbenzene	20.48	105	20308	0.157 ng		97
90) 1,2-Dichlorobenzene	20.61	146	10926	0.154 ng		99
91) d-Limonene	20.61	68	7844	0.156 ng		98
92) 1,2-Dibromo-3-Chloropr...	20.99	157	3246	0.134 ng	#	68
93) n-Undecane	21.30	57	5419	0.083 ng		99
94) 1,2,4-Trichlorobenzene	22.11	180	4530	0.103 ng		98
95) Naphthalene	22.22	128	12645	0.085 ng		100
96) n-Dodecane	22.22	57	2203	0.035 ng		95
97) Hexachlorobutadiene	22.54	225	4472	0.134 ng		100
98) Cyclohexanone	18.28	55	9134	0.201 ng		98
99) tert-Butylbenzene	20.11	119	21458	0.172 ng		100
100) n-Butylbenzene	20.85	91	19904	0.152 ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012019.D Vial: 6
Acq On : 1 May 2020 14:42 Operator: LH
Sample : 0.2ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04272015 (5/26)

Quant Time: May 01 17:26:10 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012020.D Vial: 13
Acq On : 1 May 2020 15:16 Operator: LH
Sample : 0.5ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-05012002 (5/30)

Quant Time: May 01 17:26:12 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	282762	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1246042	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	597894	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	496699	12.724	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.76%				
57) Toluene-d8 (SS2)	15.72	98	1261623	11.962	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.68%				
73) Bromofluorobenzene (SS3)	18.98	174	433440	11.568	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.56%				
Target Compounds							Qvalue
2) Propene	4.12	42	18019	0.595	ng		100
3) Dichlorodifluoromethan...	4.27	85	36783	0.574	ng		100
4) Chloromethane	4.54	50	28625	0.567	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.82	135	21643	0.536	ng		98
6) Vinyl Chloride	4.96	62	31225	0.584	ng		99
7) 1,3-Butadiene	5.22	54	25691	0.642	ng		97
8) Bromomethane	5.65	94	16060	0.596	ng		100
9) Chloroethane	5.98	64	12037	0.584	ng		100
10) Ethanol	6.32	45	59441	2.504	ng		99
11) Acetonitrile	6.58	41	28303	0.538	ng		92
12) Acrolein	6.78	56	10249	0.587	ng		99
13) Acetone	7.00	58	64034	2.757	ng		90
14) Trichlorofluoromethane	7.24	101	30869	0.549	ng		99
15) 2-Propanol (Isopropanol)	7.49	45	81950	1.184	ng		94
16) Acrylonitrile	7.74	53	20199	0.576	ng		99
17) 1,1-Dichloroethene	8.19	96	16045	0.574	ng		99
18) 2-Methyl-2-Propanol (t...	8.38	59	81236	1.327	ng		97
19) Methylene Chloride	8.40	84	16818	0.555	ng		93
20) 3-Chloro-1-propene (Al...	8.57	41	23985	0.605	ng		100
21) Trichlorotrifluoroethane	8.84	151	14094	0.522	ng		90
22) Carbon Disulfide	8.68	76	62306	0.573	ng		100
23) trans-1,2-Dichloroethene	9.68	61	24198	0.594	ng		98
24) 1,1-Dichloroethane	9.94	63	30445	0.588	ng		98
25) Methyl tert-Butyl Ether	10.06	73	50440	0.609	ng		100
26) Vinyl Acetate	10.20	86	16921	2.167	ng	#	71
27) 2-Butanone (MEK)	10.46	72	11237	0.586	ng	#	91
28) cis-1,2-Dichloroethene	10.95	61	23378	0.555	ng		97
29) Diisopropyl Ether	11.27	87	16633	0.547	ng	#	80
30) Ethyl Acetate	11.28	61	12444	1.100	ng		99
31) n-Hexane	11.26	57	28441	0.542	ng		99
32) Chloroform	11.30	83	30757	0.550	ng		100
34) Tetrahydrofuran (THF)	11.74	72	11211	0.565	ng		97
35) Ethyl tert-Butyl Ether	11.87	87	19341	0.539	ng		95
36) 1,2-Dichloroethane	12.11	62	24513	0.560	ng		98
38) 1,1,1-Trichloroethane	12.39	97	26870	0.549	ng		98
39) Isopropyl Acetate	12.83	61	21414	1.060	ng		94
40) 1-Butanol	12.85	56	25610	0.811	ng		84
41) Benzene	12.87	78	68060	0.531	ng		99
42) Carbon Tetrachloride	13.03	117	23499	0.531	ng		100
43) Cyclohexane	13.17	84	50782	1.030	ng		99
44) tert-Amyl Methyl Ether	13.52	73	47408	0.566	ng		98
45) 1,2-Dichloropropane	13.73	63	16720	0.564	ng		98
46) Bromodichloromethane	13.91	83	23539	0.540	ng		99
47) Trichloroethene	13.97	130	17666	0.483	ng		98
48) 1,4-Dioxane	13.95	88	13607	0.544	ng		98
49) 2,2,4-Trimethylpentane...	14.04	57	70232	0.570	ng		98
50) Methyl Methacrylate	14.18	100	12679	1.026	ng		89

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012020.D Vial: 13
Acq On : 1 May 2020 15:16 Operator: LH
Sample : 0.5ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-05012002 (5/30)

Quant Time: May 01 17:26:12 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

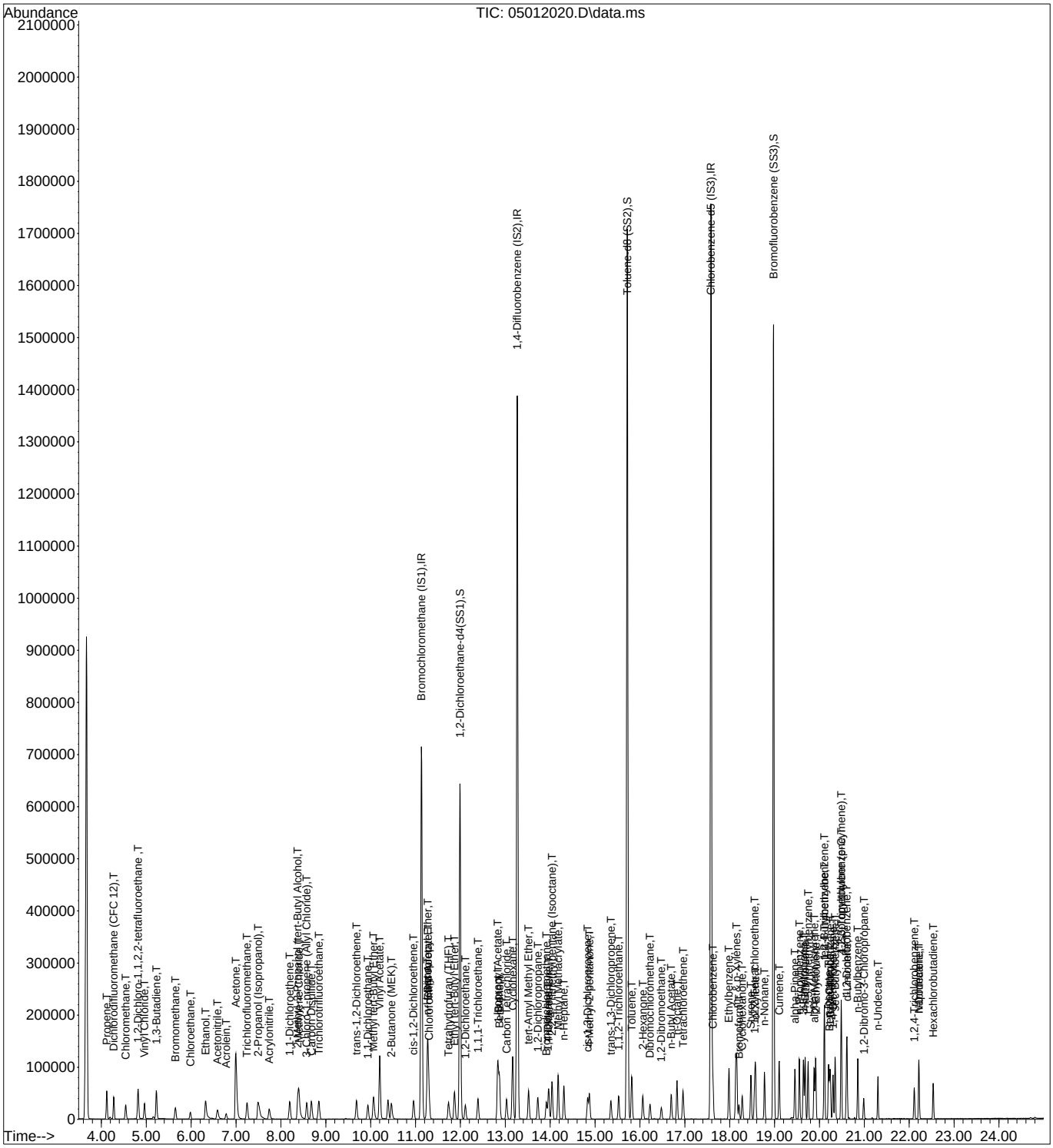
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	14.30	71	16470	0.549 ng		99
52) cis-1,3-Dichloropropene	14.83	75	25622	0.537 ng		100
53) 4-Methyl-2-pentanone	14.88	58	15185	0.562 ng		96
54) trans-1,3-Dichloropropene	15.35	75	21678	0.488 ng		100
55) 1,1,2-Trichloroethane	15.52	97	16061	0.538 ng		99
58) Toluene	15.82	91	68212	0.522 ng		99
59) 2-Hexanone	16.06	43	36076	0.547 ng		97
60) Dibromochloromethane	16.22	129	18007	0.513 ng		100
61) 1,2-Dibromoethane	16.48	107	18032	0.535 ng		99
62) n-Butyl Acetate	16.70	43	40268	0.571 ng		99
63) n-Octane	16.83	57	14009	0.536 ng		98
64) Tetrachloroethene	16.96	166	17406	0.474 ng		98
65) Chlorobenzene	17.62	112	44455	0.505 ng		99
66) Ethylbenzene	17.98	91	75877	0.529 ng		99
67) m- & p-Xylenes	18.15	91	116955	1.007 ng		99
68) Bromoform	18.21	173	13392	0.426 ng		100
69) Styrene	18.47	104	42807	0.472 ng		99
70) o-Xylene	18.58	91	59151	0.509 ng		98
71) n-Nonane	18.77	43	31809	0.539 ng		98
72) 1,1,2,2-Tetrachloroethane	18.55	83	28515	0.507 ng		100
74) Cumene	19.10	105	75062	0.513 ng		98
75) alpha-Pinene	19.45	93	36992	0.496 ng		98
76) n-Propylbenzene	19.56	91	90744	0.529 ng		97
77) 3-Ethyltoluene	19.64	105	68792	0.472 ng		99
78) 4-Ethyltoluene	19.68	105	71240	0.516 ng		99
79) 1,3,5-Trimethylbenzene	19.75	105	57590	0.466 ng		100
80) alpha-Methylstyrene	19.88	118	29121	0.435 ng		98
81) 2-Ethyltoluene	19.92	105	71176	0.498 ng		98
82) 1,2,4-Trimethylbenzene	20.11	105	57697	0.454 ng		98
83) n-Decane	20.20	57	28801	0.460 ng		98
84) Benzyl Chloride	20.23	91	38679	0.379 ng		97
85) 1,3-Dichlorobenzene	20.24	146	32341	0.470 ng		99
86) 1,4-Dichlorobenzene	20.30	146	32829	0.480 ng		98
87) sec-Butylbenzene	20.35	105	79152	0.499 ng		98
88) 4-Isopropyltoluene (p-...	20.48	119	71971	0.481 ng		98
89) 1,2,3-Trimethylbenzene	20.48	105	58236	0.457 ng		97
90) 1,2-Dichlorobenzene	20.61	146	31295	0.447 ng		100
91) d-Limonene	20.62	68	22394	0.451 ng		99
92) 1,2-Dibromo-3-Chloropr...	20.99	157	9748	0.406 ng	#	80
93) n-Undecane	21.30	57	23411	0.364 ng		98
94) 1,2,4-Trichlorobenzene	22.11	180	16758	0.385 ng		99
95) Naphthalene	22.22	128	53528	0.365 ng		100
96) n-Dodecane	22.22	57	12440	0.198 ng		98
97) Hexachlorobutadiene	22.54	225	11744	0.356 ng		99
98) Cyclohexanone	18.28	55	19899	0.444 ng		97
99) tert-Butylbenzene	20.11	119	57329	0.464 ng		99
100) n-Butylbenzene	20.85	91	61839	0.478 ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012020.D Vial: 13
Acq On : 1 May 2020 15:16 Operator: LH
Sample : 0.5ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-05012002 (5/30)

Quant Time: May 01 17:26:12 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012021.D Vial: 13
Acq On : 1 May 2020 15:51 Operator: LH
Sample : 1.0ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-05012002 (5/30)

Quant Time: May 01 17:26:14 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.13	130	283099	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.26	114	1255557	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.58	82	599231	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	11.99	65	497020	12.717	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.76%				
57) Toluene-d8 (SS2)	15.72	98	1262658	11.945	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.60%				
73) Bromofluorobenzene (SS3)	18.98	174	433746	11.550	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.40%				
Target Compounds							Qvalue
2) Propene	4.11	42	33126	1.093	ng		99
3) Dichlorodifluoromethan...	4.27	85	68235	1.064	ng		99
4) Chloromethane	4.53	50	53718	1.062	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	38642	0.956	ng		99
6) Vinyl Chloride	4.96	62	58432	1.092	ng		100
7) 1,3-Butadiene	5.22	54	47465	1.185	ng		98
8) Bromomethane	5.64	94	29630	1.099	ng		100
9) Chloroethane	5.98	64	22473	1.088	ng		99
10) Ethanol	6.32	45	110869	4.665	ng		99
11) Acetonitrile	6.58	41	53541	1.017	ng		100
12) Acrolein	6.78	56	19340	1.106	ng		100
13) Acetone	6.98	58	119315	5.130	ng		90
14) Trichlorofluoromethane	7.24	101	56632	1.006	ng		99
15) 2-Propanol (Isopropanol)	7.48	45	154892	2.235	ng		96
16) Acrylonitrile	7.74	53	38461	1.095	ng		99
17) 1,1-Dichloroethene	8.19	96	30236	1.080	ng		97
18) 2-Methyl-2-Propanol (t...	8.36	59	151128	2.466	ng		98
19) Methylene Chloride	8.40	84	32502	1.072	ng		97
20) 3-Chloro-1-propene (Al...	8.57	41	46601	1.174	ng		98
21) Trichlorotrifluoroethane	8.84	151	26828	0.993	ng		96
22) Carbon Disulfide	8.68	76	117066	1.075	ng		99
23) trans-1,2-Dichloroethene	9.68	61	45490	1.115	ng		97
24) 1,1-Dichloroethane	9.94	63	55243	1.065	ng		99
25) Methyl tert-Butyl Ether	10.06	73	92006	1.109	ng		99
26) Vinyl Acetate	10.20	86	33295	4.258	ng	#	76
27) 2-Butanone (MEK)	10.46	72	21197	1.105	ng		96
28) cis-1,2-Dichloroethene	10.96	61	43960	1.043	ng		97
29) Diisopropyl Ether	11.27	87	31384	1.031	ng	#	79
30) Ethyl Acetate	11.27	61	23578	2.083	ng		97
31) n-Hexane	11.26	57	53227	1.014	ng		99
32) Chloroform	11.30	83	57167	1.020	ng		98
34) Tetrahydrofuran (THF)	11.73	72	21166	1.066	ng		97
35) Ethyl tert-Butyl Ether	11.87	87	36365	1.013	ng		97
36) 1,2-Dichloroethane	12.11	62	45068	1.029	ng		100
38) 1,1,1-Trichloroethane	12.39	97	50409	1.021	ng		98
39) Isopropyl Acetate	12.83	61	40161	1.973	ng	#	92
40) 1-Butanol	12.84	56	48310	1.519	ng		82
41) Benzene	12.87	78	127091	0.984	ng		100
42) Carbon Tetrachloride	13.03	117	43210	0.970	ng		98
43) Cyclohexane	13.17	84	94431	1.902	ng		98
44) tert-Amyl Methyl Ether	13.52	73	89386	1.060	ng		98
45) 1,2-Dichloropropane	13.73	63	31276	1.047	ng		99
46) Bromodichloromethane	13.91	83	44019	1.002	ng		99
47) Trichloroethene	13.97	130	32599	0.885	ng		100
48) 1,4-Dioxane	13.95	88	25788	1.023	ng		99
49) 2,2,4-Trimethylpentane...	14.04	57	130371	1.050	ng		98
50) Methyl Methacrylate	14.18	100	24994	2.007	ng		96

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012021.D Vial: 13
Acq On : 1 May 2020 15:51 Operator: LH
Sample : 1.0ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-05012002 (5/30)

Quant Time: May 01 17:26:14 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

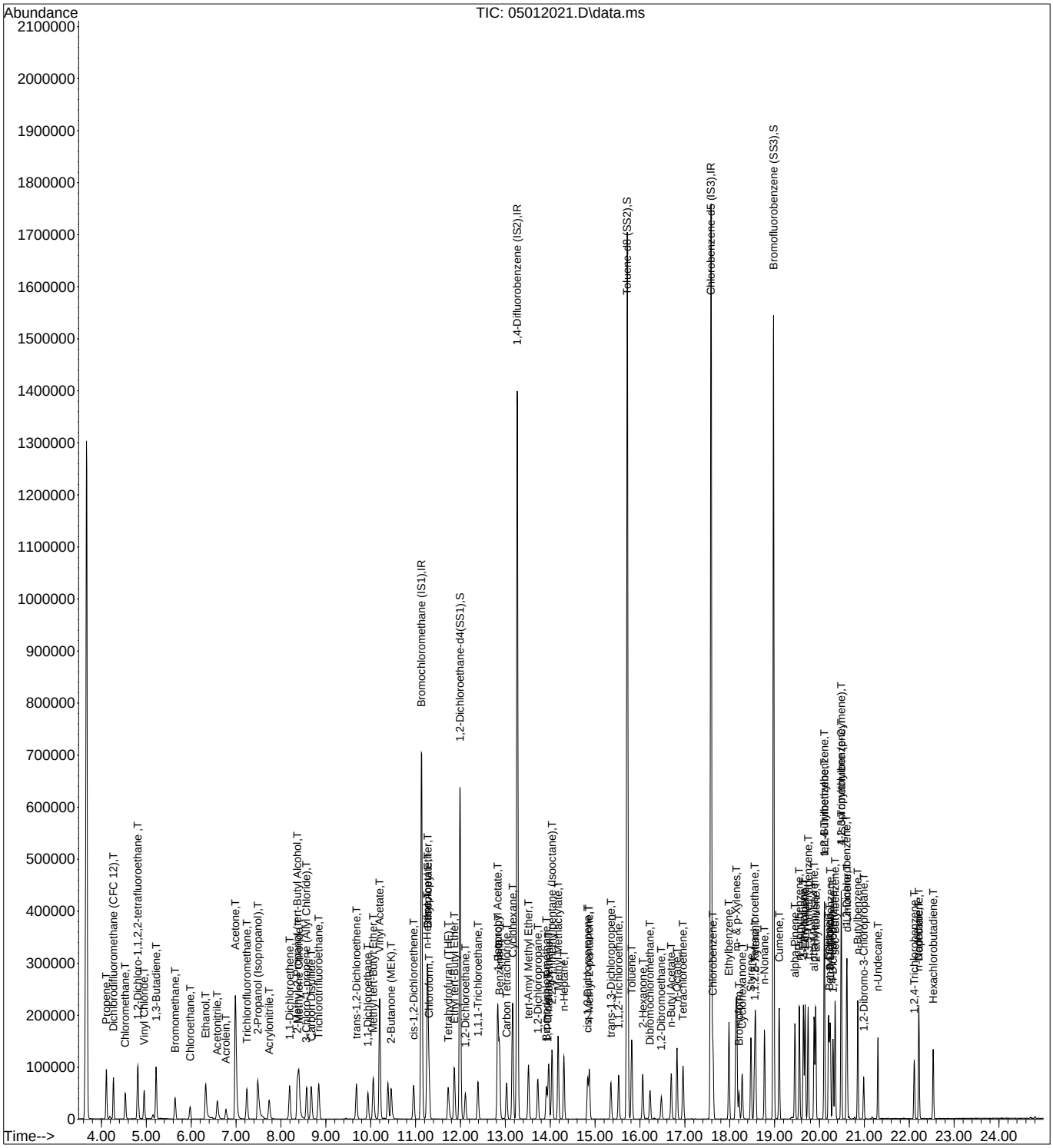
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	31052	1.028	ng	99
52) cis-1,3-Dichloropropene	14.83	75	48884	1.016	ng	100
53) 4-Methyl-2-pentanone	14.87	58	28992	1.064	ng	98
54) trans-1,3-Dichloropropene	15.35	75	42499	0.949	ng	99
55) 1,1,2-Trichloroethane	15.52	97	29976	0.997	ng	99
58) Toluene	15.82	91	126852	0.968	ng	100
59) 2-Hexanone	16.06	43	68688	1.039	ng	98
60) Dibromochloromethane	16.22	129	34198	0.973	ng	100
61) 1,2-Dibromoethane	16.48	107	33986	1.006	ng	99
62) n-Butyl Acetate	16.70	43	76066	1.076	ng	98
63) n-Octane	16.83	57	26077	0.995	ng	99
64) Tetrachloroethene	16.96	166	32577	0.886	ng	100
65) Chlorobenzene	17.62	112	82545	0.935	ng	98
66) Ethylbenzene	17.98	91	142006	0.988	ng	99
67) m- & p-Xylenes	18.15	91	225991	1.941	ng	98
68) Bromoform	18.21	173	25763	0.818	ng	100
69) Styrene	18.47	104	80976	0.891	ng	99
70) o-Xylene	18.58	91	111310	0.955	ng	99
71) n-Nonane	18.77	43	60557	1.023	ng	97
72) 1,1,2,2-Tetrachloroethane	18.55	83	54222	0.963	ng	99
74) Cumene	19.10	105	140371	0.956	ng	99
75) alpha-Pinene	19.45	93	71471	0.956	ng	99
76) n-Propylbenzene	19.55	91	173225	1.008	ng	98
77) 3-Ethyltoluene	19.64	105	131045	0.897	ng	99
78) 4-Ethyltoluene	19.68	105	136161	0.983	ng	99
79) 1,3,5-Trimethylbenzene	19.75	105	112385	0.908	ng	99
80) alpha-Methylstyrene	19.88	118	57239	0.853	ng	99
81) 2-Ethyltoluene	19.92	105	133665	0.933	ng	99
82) 1,2,4-Trimethylbenzene	20.11	105	112073	0.879	ng	99
83) n-Decane	20.20	57	56537	0.900	ng	99
84) Benzyl Chloride	20.23	91	78621	0.769	ng	97
85) 1,3-Dichlorobenzene	20.24	146	62650	0.909	ng	99
86) 1,4-Dichlorobenzene	20.30	146	61324	0.895	ng	100
87) sec-Butylbenzene	20.35	105	151180	0.950	ng	98
88) 4-Isopropyltoluene (p-...	20.48	119	138806	0.925	ng	99
89) 1,2,3-Trimethylbenzene	20.48	105	113653	0.890	ng	99
90) 1,2-Dichlorobenzene	20.61	146	60175	0.857	ng	99
91) d-Limonene	20.62	68	44904	0.903	ng	98
92) 1,2-Dibromo-3-Chloropr...	20.98	157	19657	0.817	ng	85
93) n-Undecane	21.30	57	44833	0.696	ng	99
94) 1,2,4-Trichlorobenzene	22.11	180	32560	0.746	ng	100
95) Naphthalene	22.22	128	100929	0.687	ng	100
96) n-Dodecane	22.21	57	24009	0.380	ng	99
97) Hexachlorobutadiene	22.54	225	22641	0.684	ng	99
98) Cyclohexanone	18.28	55	38554	0.858	ng	99
99) tert-Butylbenzene	20.11	119	111007	0.897	ng	99
100) n-Butylbenzene	20.85	91	119734	0.924	ng	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012021.D Vial: 13
Acq On : 1 May 2020 15:51 Operator: LH
Sample : 1.0ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-05012002 (5/30)

Quant Time: May 01 17:26:14 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012022.D Vial: 2
Acq On : 1 May 2020 16:25 Operator: LH
Sample : 5.0ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 17:26:16 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.14	130	303798	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.27	114	1318017	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	623963	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	517657	12.342	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.72%				
57) Toluene-d8 (SS2)	15.72	98	1308528	11.889	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.12%				
73) Bromofluorobenzene (SS3)	18.98	174	490919	12.554	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.40%				
Target Compounds							Qvalue
2) Propene	4.09	42	193048	5.934	ng		100
3) Dichlorodifluoromethan...	4.25	85	387745	5.637	ng		100
4) Chloromethane	4.52	50	303525	5.594	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	222610	5.132	ng		100
6) Vinyl Chloride	4.94	62	339270	5.907	ng		100
7) 1,3-Butadiene	5.21	54	276281	6.430	ng		99
8) Bromomethane	5.64	94	169682	5.863	ng		98
9) Chloroethane	5.97	64	129957	5.865	ng		100
10) Ethanol	6.35	45	691643	27.117	ng		100
11) Acetonitrile	6.60	41	322707	5.712	ng		100
12) Acrolein	6.78	56	114887	6.125	ng		99
13) Acetone	6.99	58	718205	28.778	ng		93
14) Trichlorofluoromethane	7.24	101	330361	5.469	ng		100
15) 2-Propanol (Isopropanol)	7.50	45	953934	12.829	ng		99
16) Acrylonitrile	7.75	53	241513	6.410	ng		100
17) 1,1-Dichloroethene	8.19	96	176135	5.860	ng		97
18) 2-Methyl-2-Propanol (t...	8.36	59	939029	14.278	ng		99
19) Methylene Chloride	8.42	84	189273	5.818	ng		97
20) 3-Chloro-1-propene (Al...	8.58	41	281181	6.602	ng		99
21) Trichlorotrifluoroethane	8.84	151	159827	5.511	ng		97
22) Carbon Disulfide	8.68	76	697922	5.971	ng		100
23) trans-1,2-Dichloroethene	9.70	61	269106	6.148	ng		99
24) 1,1-Dichloroethane	9.95	63	324467	5.829	ng		100
25) Methyl tert-Butyl Ether	10.05	73	520731	5.850	ng		100
26) Vinyl Acetate	10.21	86	230843	27.513	ng	#	86
27) 2-Butanone (MEK)	10.45	72	129697	6.298	ng		97
28) cis-1,2-Dichloroethene	10.97	61	259456	5.737	ng		98
29) Diisopropyl Ether	11.27	87	191800	5.871	ng	#	79
30) Ethyl Acetate	11.27	61	149560	12.310	ng		98
31) n-Hexane	11.26	57	314981	5.592	ng		99
32) Chloroform	11.31	83	340357	5.661	ng		99
34) Tetrahydrofuran (THF)	11.72	72	126370	5.930	ng		99
35) Ethyl tert-Butyl Ether	11.86	87	221593	5.751	ng		97
36) 1,2-Dichloroethane	12.11	62	265122	5.640	ng		100
38) 1,1,1-Trichloroethane	12.40	97	293872	5.672	ng		100
39) Isopropyl Acetate	12.83	61	250912	11.741	ng	#	94
40) 1-Butanol	12.84	56	336318	10.073	ng		93
41) Benzene	12.87	78	763486	5.631	ng		100
42) Carbon Tetrachloride	13.03	117	266893	5.707	ng		100
43) Cyclohexane	13.17	84	572113	10.975	ng		100
44) tert-Amyl Methyl Ether	13.52	73	541195	6.112	ng		99
45) 1,2-Dichloropropane	13.73	63	186128	5.938	ng		99
46) Bromodichloromethane	13.92	83	271708	5.892	ng		100
47) Trichloroethene	13.97	130	200472	5.185	ng		100
48) 1,4-Dioxane	13.95	88	156033	5.899	ng		100
49) 2,2,4-Trimethylpentane...	14.04	57	772648	5.931	ng		99
50) Methyl Methacrylate	14.18	100	156609	11.977	ng		97

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012022.D Vial: 2
Acq On : 1 May 2020 16:25 Operator: LH
Sample : 5.0ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 17:26:16 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

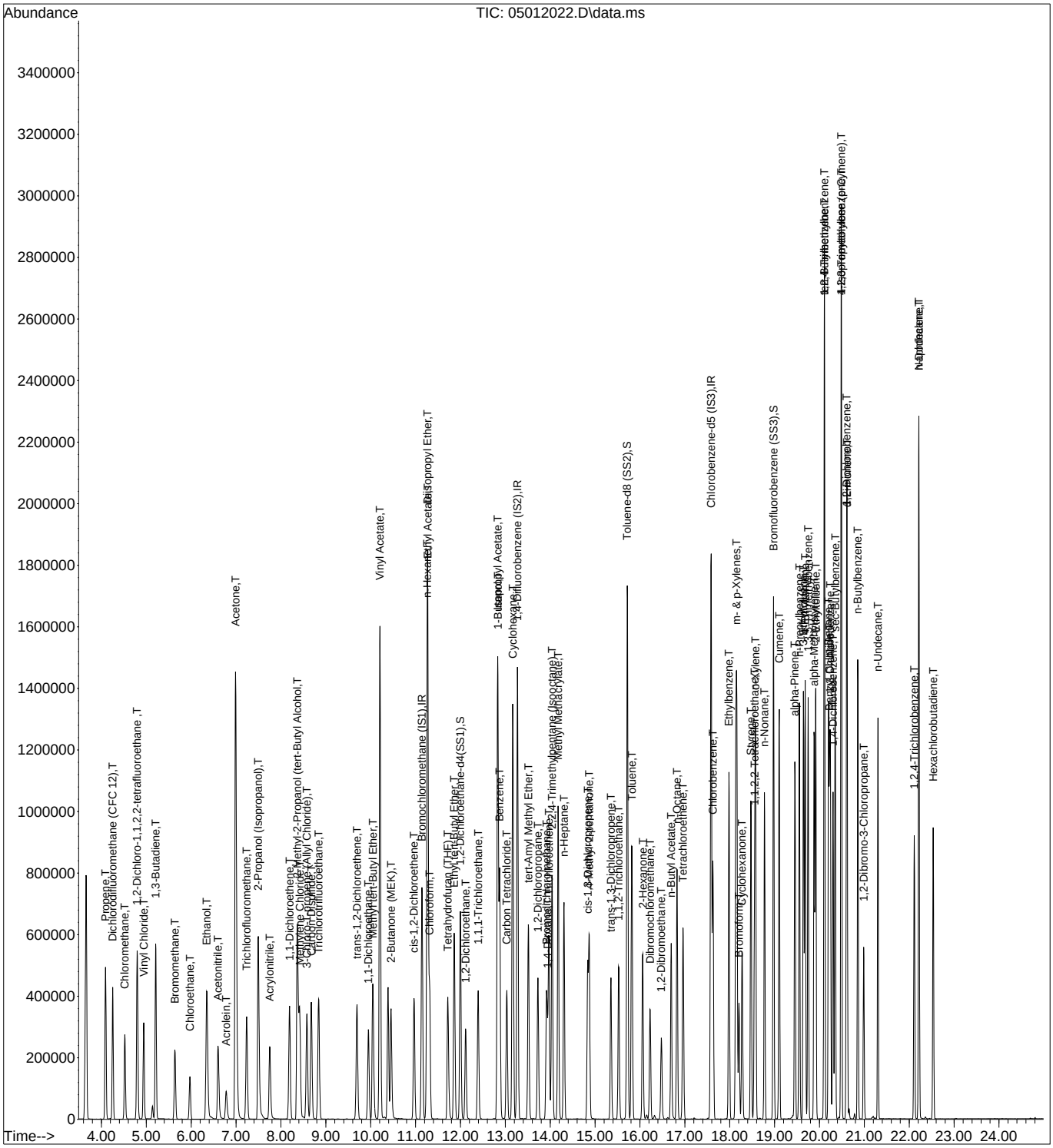
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	180946	5.706	ng	99
52) cis-1,3-Dichloropropene	14.84	75	308293	6.105	ng	100
53) 4-Methyl-2-pentanone	14.87	58	175513	6.138	ng	97
54) trans-1,3-Dichloropropene	15.35	75	277438	5.899	ng	100
55) 1,1,2-Trichloroethane	15.52	97	182608	5.786	ng	99
58) Toluene	15.82	91	751701	5.508	ng	100
59) 2-Hexanone	16.06	43	431067	6.262	ng	99
60) Dibromochloromethane	16.23	129	222764	6.086	ng	99
61) 1,2-Dibromoethane	16.48	107	211443	6.008	ng	100
62) n-Butyl Acetate	16.70	43	477782	6.493	ng	100
63) n-Octane	16.83	57	155673	5.704	ng	100
64) Tetrachloroethene	16.96	166	201840	5.271	ng	100
65) Chlorobenzene	17.62	112	499525	5.435	ng	100
66) Ethylbenzene	17.98	91	871724	5.827	ng	99
67) m- & p-Xylenes	18.15	91	1368621	11.288	ng	100
68) Bromoform	18.21	173	189068	5.768	ng	100
69) Styrene	18.47	104	536906	5.670	ng	100
70) o-Xylene	18.58	91	693423	5.713	ng	100
71) n-Nonane	18.77	43	370451	6.012	ng	98
72) 1,1,2,2-Tetrachloroethane	18.55	83	346585	5.910	ng	100
74) Cumene	19.10	105	885174	5.792	ng	99
75) alpha-Pinene	19.45	93	454351	5.834	ng	100
76) n-Propylbenzene	19.55	91	1076654	6.015	ng	99
77) 3-Ethyltoluene	19.64	105	836770	5.500	ng	95
78) 4-Ethyltoluene	19.68	105	882656	6.121	ng	95
79) 1,3,5-Trimethylbenzene	19.75	105	715909	5.552	ng	99
80) alpha-Methylstyrene	19.88	118	385478	5.515	ng	100
81) 2-Ethyltoluene	19.92	105	858573	5.755	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	751354	5.662	ng	98
83) n-Decane	20.20	57	376639	5.759	ng	99
84) Benzyl Chloride	20.23	91	614231	5.773	ng	99
85) 1,3-Dichlorobenzene	20.24	146	434270	6.049	ng	100
86) 1,4-Dichlorobenzene	20.30	146	427551	5.990	ng	100
87) sec-Butylbenzene	20.35	105	969884	5.855	ng	99
88) 4-Isopropyltoluene (p-...	20.48	119	928906	5.944	ng	98
89) 1,2,3-Trimethylbenzene	20.48	105	769774	5.787	ng	98
90) 1,2-Dichlorobenzene	20.61	146	419115	5.732	ng	100
91) d-Limonene	20.62	68	288464	5.570	ng	99
92) 1,2-Dibromo-3-Chloropr...	20.98	157	148727	5.940	ng	97
93) n-Undecane	21.30	57	365721	5.450	ng	100
94) 1,2,4-Trichlorobenzene	22.11	180	270469	5.951	ng	99
95) Naphthalene	22.22	128	892593	5.833	ng	100
96) n-Dodecane	22.22	57	324655	4.939	ng	99
97) Hexachlorobutadiene	22.54	225	164461	4.774	ng	100
98) Cyclohexanone	18.27	55	245365	5.243	ng	99
99) tert-Butylbenzene	20.11	119	727041	5.643	ng	100
100) n-Butylbenzene	20.85	91	778801	5.771	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012022.D Vial: 2
Acq On : 1 May 2020 16:25 Operator: LH
Sample : 5.0ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 17:26:16 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012023.D Vial: 2
Acq On : 1 May 2020 16:59 Operator: LH
Sample : 25ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 17:26:18 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	286303	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	13.28	114	1228912	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	571123	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.01	65	468097	11.843	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.72%			
57) Toluene-d8 (SS2)	15.72	98	1212242	12.033	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.24%			
73) Bromofluorobenzene (SS3)	18.98	174	458310	12.805	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.40%			
Target Compounds						Qvalue
2) Propene	4.09	42	894762	29.187	ng	100
3) Dichlorodifluoromethan...	4.25	85	1661240	25.625	ng	100
4) Chloromethane	4.53	50	1331334	26.035	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	962170	23.538	ng	100
6) Vinyl Chloride	4.94	62	1452200	26.828	ng	100
7) 1,3-Butadiene	5.21	54	1192249	29.444	ng	100
8) Bromomethane	5.65	94	769909	28.228	ng	100
9) Chloroethane	5.98	64	583429	27.941	ng	100
10) Ethanol	6.39	45	3316498	137.974	ng	100
11) Acetonitrile	6.63	41	1485800	27.907	ng	100
12) Acrolein	6.80	56	518321	29.321	ng	100
13) Acetone	7.01	58	3451253	146.739	ng	100
14) Trichlorofluoromethane	7.24	101	1489634	26.165	ng	100
15) 2-Propanol (Isopropanol)	7.53	45	4218436	60.200	ng	100
16) Acrylonitrile	7.77	53	1099575	30.969	ng	100
17) 1,1-Dichloroethene	8.20	96	811190	28.639	ng	100
18) 2-Methyl-2-Propanol (t...	8.39	59	3958148	63.861	ng	100
19) Methylene Chloride	8.44	84	868569	28.330	ng	100
20) 3-Chloro-1-propene (Al...	8.59	41	1253954	31.243	ng	100
21) Trichlorotrifluoroethane	8.84	151	743004	27.185	ng	100
22) Carbon Disulfide	8.69	76	3145335	28.555	ng	100
23) trans-1,2-Dichloroethene	9.71	61	1224632	29.687	ng	100
24) 1,1-Dichloroethane	9.96	63	1485162	28.313	ng	100
25) Methyl tert-Butyl Ether	10.05	73	2185564	26.052	ng	100
26) Vinyl Acetate	10.22	86	1147538	145.128	ng	100
27) 2-Butanone (MEK)	10.46	72	578422	29.805	ng	100
28) cis-1,2-Dichloroethene	10.98	61	1170190	27.455	ng	100
29) Diisopropyl Ether	11.27	87	816119	26.509	ng	100
30) Ethyl Acetate	11.28	61	740753	64.696	ng	100
31) n-Hexane	11.26	57	1536846	28.951	ng	100
32) Chloroform	11.32	83	1513438	26.712	ng	100
34) Tetrahydrofuran (THF)	11.72	72	562319	27.999	ng	100
35) Ethyl tert-Butyl Ether	11.87	87	1027494	28.295	ng	100
36) 1,2-Dichloroethane	12.12	62	1181488	26.670	ng	100
38) 1,1,1-Trichloroethane	12.40	97	1349990	27.947	ng	100
39) Isopropyl Acetate	12.84	61	1233560	61.905	ng	100
40) 1-Butanol	12.85	56	1704801	54.762	ng	100
41) Benzene	12.88	78	3498072	27.670	ng	100
42) Carbon Tetrachloride	13.04	117	1221860	28.021	ng	100
43) Cyclohexane	13.17	84	2724355	56.049	ng	100
44) tert-Amyl Methyl Ether	13.52	73	2480433	30.042	ng	100
45) 1,2-Dichloropropane	13.73	63	842781	28.835	ng	100
46) Bromodichloromethane	13.92	83	1270274	29.545	ng	100
47) Trichloroethene	13.97	130	932766	25.873	ng	100
48) 1,4-Dioxane	13.95	88	738598	29.950	ng	100
49) 2,2,4-Trimethylpentane...	14.05	57	3492402	28.751	ng	100
50) Methyl Methacrylate	14.18	100	756519	62.050	ng	100

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012023.D Vial: 2
Acq On : 1 May 2020 16:59 Operator: LH
Sample : 25ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 17:26:18 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

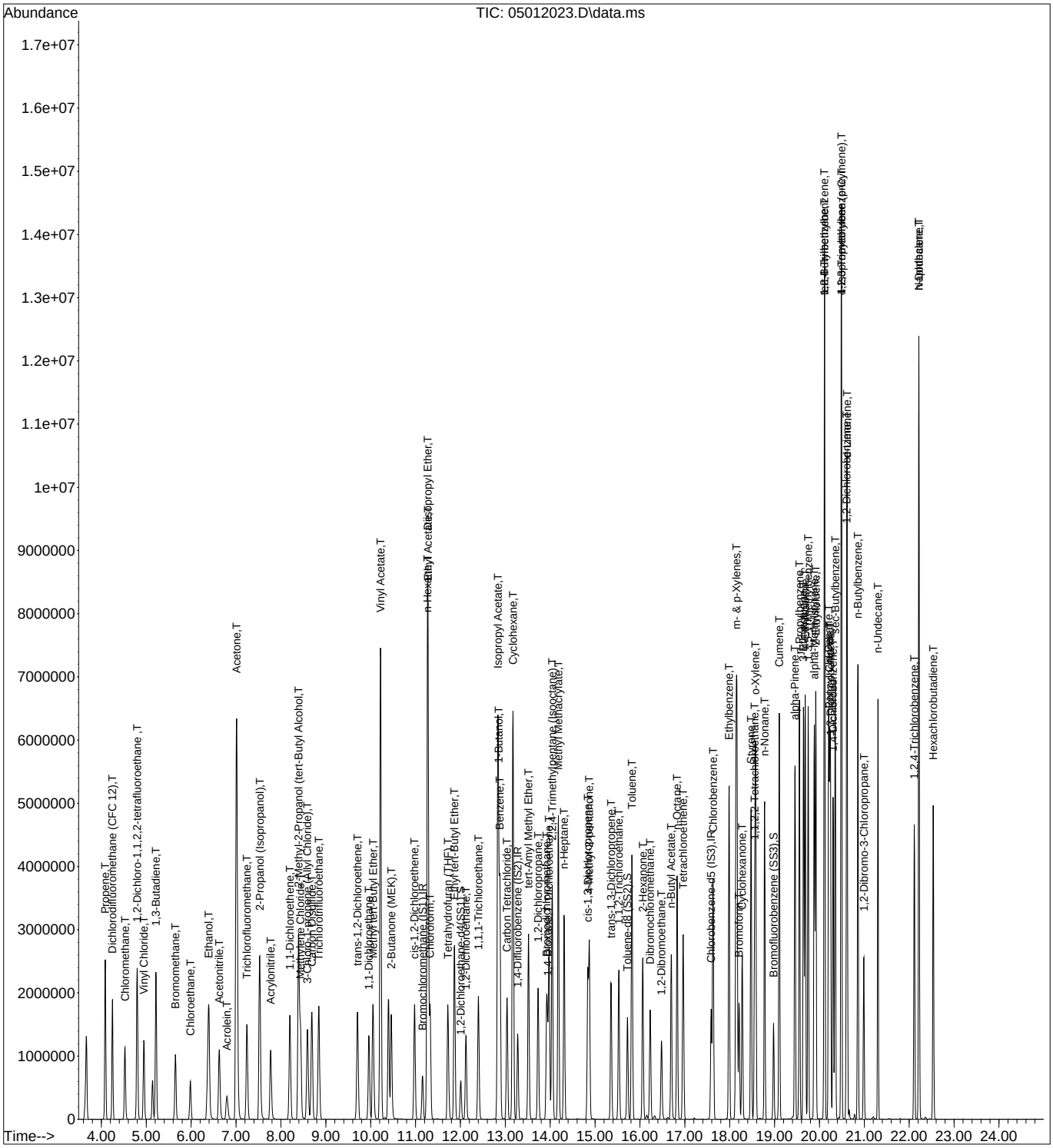
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	823934	27.865	ng	100
52) cis-1,3-Dichloropropene	14.84	75	1447687	30.747	ng	100
53) 4-Methyl-2-pentanone	14.87	58	811075	30.423	ng	100
54) trans-1,3-Dichloropropene	15.36	75	1324553	30.205	ng	100
55) 1,1,2-Trichloroethane	15.53	97	843984	28.682	ng	100
58) Toluene	15.82	91	3424256	27.410	ng	100
59) 2-Hexanone	16.06	43	1935226	30.714	ng	100
60) Dibromochloromethane	16.23	129	1060385	31.652	ng	100
61) 1,2-Dibromoethane	16.48	107	982343	30.496	ng	100
62) n-Butyl Acetate	16.70	43	2168912	32.203	ng	100
63) n-Octane	16.83	57	728475	29.163	ng	100
64) Tetrachloroethene	16.96	166	984776	28.099	ng	100
65) Chlorobenzene	17.63	112	2300188	27.341	ng	100
66) Ethylbenzene	17.99	91	4049520	29.572	ng	100
67) m- & p-Xylenes	18.15	91	6491657	58.495	ng	100
68) Bromoform	18.21	173	917591	30.583	ng	100
69) Styrene	18.48	104	2503836	28.891	ng	100
70) o-Xylene	18.58	91	3253541	29.284	ng	100
71) n-Nonane	18.78	43	1726340	30.608	ng	100
72) 1,1,2,2-Tetrachloroethane	18.55	83	1616722	30.117	ng	100
74) Cumene	19.10	105	4096128	29.280	ng	100
75) alpha-Pinene	19.46	93	2182133	30.613	ng	100
76) n-Propylbenzene	19.56	91	4975591	30.367	ng	100
77) 3-Ethyltoluene	19.64	105	4101218	29.451	ng	100
78) 4-Ethyltoluene	19.68	105	3906607	29.596	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	3353822	28.417	ng	100
80) alpha-Methylstyrene	19.88	118	1815476	28.379	ng	100
81) 2-Ethyltoluene	19.92	105	3976342	29.119	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3727437	30.689	ng	100
83) n-Decane	20.20	57	1854354	30.977	ng	100
84) Benzyl Chloride	20.23	91	3206821	32.930	ng	100
85) 1,3-Dichlorobenzene	20.25	146	2028248	30.866	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1980369	30.311	ng	100
87) sec-Butylbenzene	20.35	105	4443941	29.308	ng	100
88) 4-Isopropyltoluene (p-...	20.49	119	4416603	30.875	ng	100
89) 1,2,3-Trimethylbenzene	20.49	105	3810515	31.296	ng	100
90) 1,2-Dichlorobenzene	20.61	146	2012317	30.068	ng	100
91) d-Limonene	20.62	68	1441613	30.414	ng	100
92) 1,2-Dibromo-3-Chloropr...	20.99	157	697199	30.419	ng	100
93) n-Undecane	21.30	57	1818070	29.597	ng	100
94) 1,2,4-Trichlorobenzene	22.11	180	1398370	33.614	ng	100
95) Naphthalene	22.22	128	4546028	32.455	ng	100
96) n-Dodecane	22.22	57	1750966	29.104	ng	100
97) Hexachlorobutadiene	22.54	225	878145	27.851	ng	100
98) Cyclohexanone	18.28	55	1117925	26.097	ng	100
99) tert-Butylbenzene	20.11	119	3489996	29.594	ng	100
100) n-Butylbenzene	20.86	91	3625532	29.353	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012023.D Vial: 2
Acq On : 1 May 2020 16:59 Operator: LH
Sample : 25ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 17:26:18 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:25:50 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012024.D Vial: 2
Acq On : 1 May 2020 17:33 Operator: LH
Sample : 50ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 18:21:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:29:13 2020 LH 5/1/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	296329	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.28	114	1261474	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	593519	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.01	65	478735	11.900	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.20%				
57) Toluene-d8 (SS2)	15.72	98	1240425	12.243	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.92%				
73) Bromofluorobenzene (SS3)	18.98	174	464734	12.717	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.76%				
Target Compounds							Qvalue
2) Propene	4.09	42	1796953	52.860	ng		99
3) Dichlorodifluoromethan...	4.25	85	3187990	47.567	ng		100
4) Chloromethane	4.53	50	2729050	52.530	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	1935925	47.940	ng		100
6) Vinyl Chloride	4.96	62	2887895	50.326	ng		100
7) 1,3-Butadiene	5.22	54	2393303	50.778	ng		99
8) Bromomethane	5.66	94	1618002	53.561	ng		100
9) Chloroethane	5.99	64	1229227	54.539	ng		99
10) Ethanol	6.42	45	7106079	270.958	ng		100
11) Acetonitrile	6.64	41	3034898	50.934	ng		100
12) Acrolein	6.81	56	1054165	50.758	ng		100
13) Acetone	7.03	58	7450473	282.417	ng	#	85
14) Trichlorofluoromethane	7.25	101	3028815	50.994	ng		100
15) 2-Propanol (Isopropanol)	7.55	45	7855441	98.616	ng		99
16) Acrylonitrile	7.78	53	2274854	52.994	ng		100
17) 1,1-Dichloroethene	8.21	96	1662670	53.624	ng		99
18) 2-Methyl-2-Propanol (t...	8.41	59	5524708	78.677	ng		100
19) Methylene Chloride	8.44	84	1782729	52.018	ng		100
20) 3-Chloro-1-propene (Al...	8.60	41	2606826	55.998	ng		100
21) Trichlorotrifluoroethane	8.85	151	1546599	55.362	ng		98
22) Carbon Disulfide	8.69	76	6372275	51.854	ng		100
23) trans-1,2-Dichloroethene	9.71	61	2513808	53.485	ng		99
24) 1,1-Dichloroethane	9.96	63	3010944	53.864	ng		100
25) Methyl tert-Butyl Ether	10.05	73	4149230	46.527	ng		100
26) Vinyl Acetate	10.23	86	2491407	314.423	ng	#	57
27) 2-Butanone (MEK)	10.47	72	1200800	53.091	ng		100
28) cis-1,2-Dichloroethene	10.98	61	2420682	52.524	ng		99
29) Diisopropyl Ether	11.27	87	1723473	53.021	ng	#	93
30) Ethyl Acetate	11.28	61	1642236	125.490	ng		100
31) n-Hexane	11.26	57	3312834	58.268	ng		100
32) Chloroform	11.33	83	3125242	52.888	ng		100
34) Tetrahydrofuran (THF)	11.72	72	1166647	53.025	ng		100
35) Ethyl tert-Butyl Ether	11.87	87	2150206	55.497	ng		100
36) 1,2-Dichloroethane	12.13	62	2421427	51.847	ng		100
38) 1,1,1-Trichloroethane	12.40	97	2767260	54.541	ng		100
39) Isopropyl Acetate	12.84	61	2703577	121.791	ng	#	89
40) 1-Butanol	12.86	56	3801241	117.283	ng		94
41) Benzene	12.88	78	7578608	55.786	ng		100
42) Carbon Tetrachloride	13.04	117	2525594	54.795	ng		100
43) Cyclohexane	13.18	84	5820559	114.692	ng		99
44) tert-Amyl Methyl Ether	13.52	73	5201775	57.533	ng		99
45) 1,2-Dichloropropane	13.73	63	1741280	55.926	ng		99
46) Bromodichloromethane	13.92	83	2627252	57.456	ng		100
47) Trichloroethene	13.98	130	1973429	56.342	ng		100
48) 1,4-Dioxane	13.95	88	1556720	57.092	ng		99
49) 2,2,4-Trimethylpentane...	14.05	57	7264805	55.532	ng		98
50) Methyl Methacrylate	14.19	100	1612357	118.946	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012024.D Vial: 2
Acq On : 1 May 2020 17:33 Operator: LH
Sample : 50ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 18:21:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:29:13 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

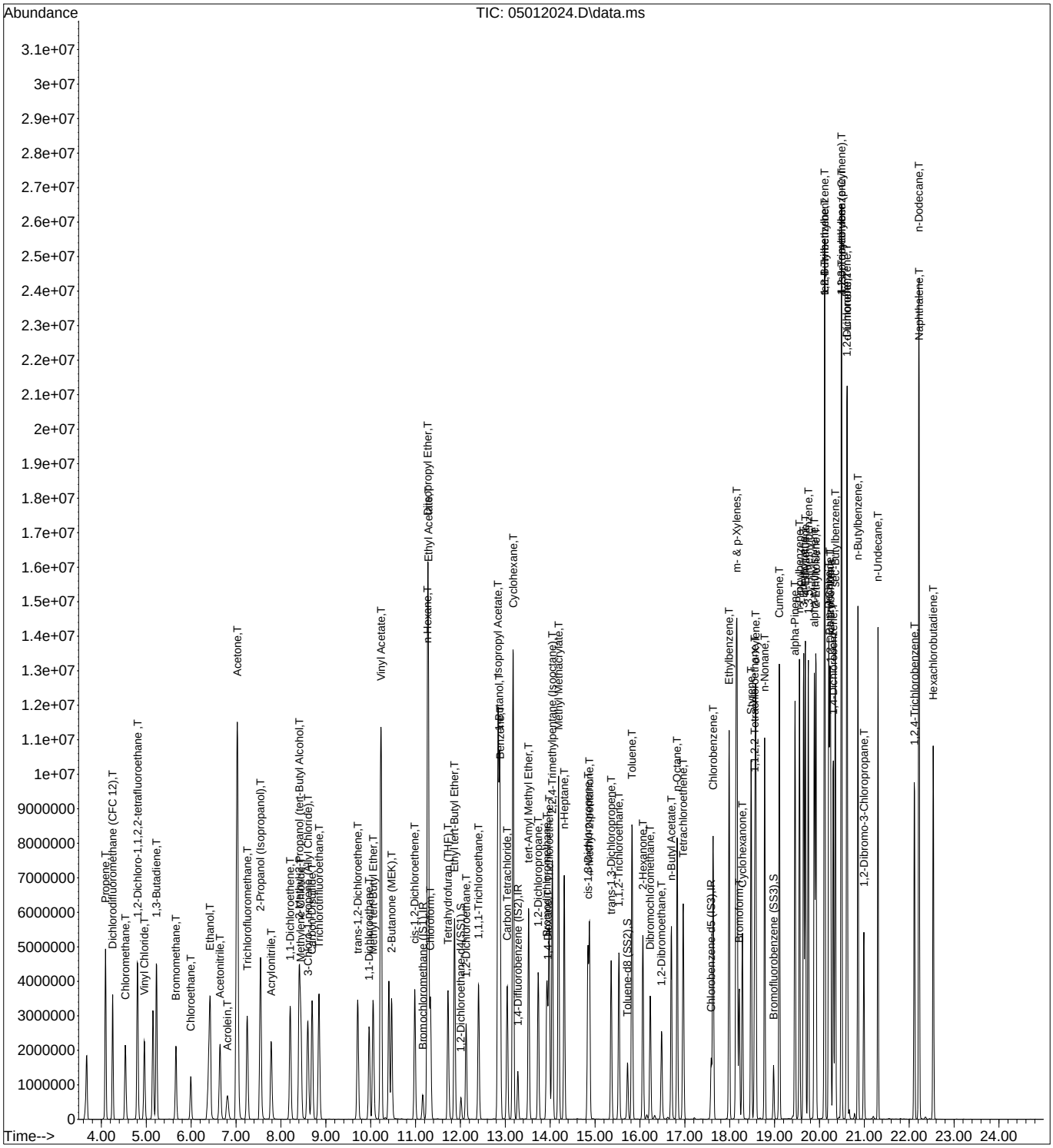
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	1767254	55.726	ng	100
52) cis-1,3-Dichloropropene	14.84	75	3046439	56.787	ng	100
53) 4-Methyl-2-pentanone	14.88	58	1706203	56.697	ng	99
54) trans-1,3-Dichloropropene	15.36	75	2784226	60.799	ng	100
55) 1,1,2-Trichloroethane	15.53	97	1746966	56.334	ng	99
58) Toluene	15.82	91	7061705	54.313	ng	99
59) 2-Hexanone	16.06	43	4070739	57.784	ng	99
60) Dibromochloromethane	16.23	129	2194267	59.071	ng	100
61) 1,2-Dibromoethane	16.48	107	2025699	56.837	ng	100
62) n-Butyl Acetate	16.70	43	4530163	59.421	ng	99
63) n-Octane	16.83	57	1570654	58.903	ng	100
64) Tetrachloroethene	16.97	166	2068921	56.346	ng	100
65) Chlorobenzene	17.63	112	4832830	53.780	ng	100
66) Ethylbenzene	17.99	91	8386382	57.841	ng	99
67) m- & p-Xylenes	18.16	91	13925432	121.021	ng	98
68) Bromoform	18.21	173	1918060	63.108	ng	100
69) Styrene	18.48	104	5183954	59.571	ng	99
70) o-Xylene	18.58	91	6807386	58.156	ng	100
71) n-Nonane	18.78	43	3697140	60.502	ng	98
72) 1,1,2,2-Tetrachloroethane	18.56	83	3397226	58.901	ng	100
74) Cumene	19.10	105	8370559	58.039	ng	99
75) alpha-Pinene	19.46	93	4559119	59.324	ng	99
76) n-Propylbenzene	19.56	91	10009459	58.692	ng	98
77) 3-Ethyltoluene	19.65	105	8132559	58.352	ng	99
78) 4-Ethyltoluene	19.69	105	8156559	59.940	ng	99
79) 1,3,5-Trimethylbenzene	19.75	105	6870991	58.237	ng	99
80) alpha-Methylstyrene	19.89	118	3732298	60.194	ng	98
81) 2-Ethyltoluene	19.92	105	8070320	58.450	ng	99
82) 1,2,4-Trimethylbenzene	20.12	105	7311702	61.264	ng	100
83) n-Decane	20.20	57	4092282	67.333	ng	100
84) Benzyl Chloride	20.23	91	6890327	76.746	ng	99
85) 1,3-Dichlorobenzene	20.25	146	4163439	60.293	ng	100
86) 1,4-Dichlorobenzene	20.31	146	4017198	59.763	ng	100
87) sec-Butylbenzene	20.35	105	8855378	57.530	ng	98
88) 4-Isopropyltoluene (p-...	20.49	119	8351171	59.057	ng	98
89) 1,2,3-Trimethylbenzene	20.49	105	7426933	62.512	ng	99
90) 1,2-Dichlorobenzene	20.61	146	4049033	60.984	ng	100
91) d-Limonene	20.62	68	3089607	66.195	ng	98
92) 1,2-Dibromo-3-Chloropr...	20.99	157	1448206	64.485	ng	98
93) n-Undecane	21.30	57	4012904	76.685	ng	100
94) 1,2,4-Trichlorobenzene	22.12	180	3005308	77.697	ng	99
95) Naphthalene	22.22	128	9089253	72.417	ng	99
96) n-Dodecane	22.22	57	3837089	87.820	ng	99
97) Hexachlorobutadiene	22.54	225	1927632	64.992	ng	100
98) Cyclohexanone	18.28	55	2325790	50.761	ng	99
99) tert-Butylbenzene	20.12	119	6753035	57.139	ng	100
100) n-Butylbenzene	20.86	91	7324522	61.000	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012024.D Vial: 2
Acq On : 1 May 2020 17:33 Operator: LH
Sample : 50ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 18:21:41 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 17:29:13 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012025.D Vial: 2
Acq On : 1 May 2020 18:07 Operator: LH
Sample : 100ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 18:32:42 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/1/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.17	130	307101	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.29	114	1302649	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	623928	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.02	65	496605	11.932	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.44%				
57) Toluene-d8 (SS2)	15.73	98	1277690	12.082	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.64%				
73) Bromofluorobenzene (SS3)	18.98	174	482815	12.688	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.52%				
Target Compounds							Qvalue
2) Propene	4.09	42	2805564	78.878	ng		99
3) Dichlorodifluoromethan...	4.25	85	5430136	78.055	ng		99
4) Chloromethane	4.53	50	5012802	91.976	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.81	135	3608284	86.813	ng		100
6) Vinyl Chloride	4.96	62	5582487	93.407	ng		100
7) 1,3-Butadiene	5.24	54	4618053	93.386	ng		97
8) Bromomethane	5.67	94	3307082	104.747	ng		100
9) Chloroethane	6.00	64	2534746	107.357	ng		100
10) Ethanol	6.47	45	15131456	550.944	ng		99
11) Acetonitrile	6.67	41	6424952	102.369	ng		100
12) Acrolein	6.82	56	2202179	101.477	ng		100
13) Acetone	7.05	58	15042025	547.644	ng	#	56
14) Trichlorofluoromethane	7.25	101	6310121	102.633	ng		100
15) 2-Propanol (Isopropanol)	7.58	45	15078880	181.384	ng		98
16) Acrylonitrile	7.80	53	4844904	107.901	ng		100
17) 1,1-Dichloroethene	8.22	96	3526226	109.408	ng		99
18) 2-Methyl-2-Propanol (t...	8.43	59	5971963	83.578	ng		99
19) Methylene Chloride	8.45	84	3794776	106.281	ng		99
20) 3-Chloro-1-propene (Al...	8.61	41	5538474	112.906	ng		99
21) Trichlorotrifluoroethane	8.85	151	3229354	111.251	ng		98
22) Carbon Disulfide	8.71	76	13073755	102.186	ng		99
23) trans-1,2-Dichloroethene	9.72	61	5348726	108.987	ng		100
24) 1,1-Dichloroethane	9.97	63	6355885	109.091	ng		100
25) Methyl tert-Butyl Ether	10.06	73	6522340	71.172	ng		99
26) Vinyl Acetate	10.25	86	4839363	598.679	ng	#	3
27) 2-Butanone (MEK)	10.48	72	2544981	108.649	ng		97
28) cis-1,2-Dichloroethene	10.99	61	5160701	107.507	ng		99
29) Diisopropyl Ether	11.28	87	3334523	100.633	ng	#	74
30) Ethyl Acetate	11.30	61	3181460	235.544	ng		97
31) n-Hexane	11.26	57	6466041	110.371	ng		100
32) Chloroform	11.34	83	6496904	106.280	ng		100
34) Tetrahydrofuran (THF)	11.73	72	2481850	108.635	ng		99
35) Ethyl tert-Butyl Ether	11.87	87	4598768	114.847	ng		98
36) 1,2-Dichloroethane	12.13	62	5046702	104.202	ng		100
38) 1,1,1-Trichloroethane	12.41	97	5801042	110.565	ng		100
39) Isopropyl Acetate	12.85	61	5612819	244.569	ng	#	65
40) 1-Butanol	12.88	56	7686632	235.415	ng		89
41) Benzene	12.89	78	15377837	110.081	ng		99
42) Carbon Tetrachloride	13.04	117	5341272	112.408	ng		99
43) Cyclohexane	13.18	84	11703238	224.817	ng		99
44) tert-Amyl Methyl Ether	13.52	73	10906653	116.431	ng		98
45) 1,2-Dichloropropane	13.74	63	3747744	115.837	ng		100
46) Bromodichloromethane	13.93	83	5488917	116.263	ng		100
47) Trichloroethene	13.98	130	4190784	116.061	ng		99
48) 1,4-Dioxane	13.96	88	3428858	121.871	ng		97
49) 2,2,4-Trimethylpentane...	14.05	57	14950897	109.987	ng		97
50) Methyl Methacrylate	14.19	100	3386785	244.382	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012025.D Vial: 2
Acq On : 1 May 2020 18:07 Operator: LH
Sample : 100ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 18:32:42 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

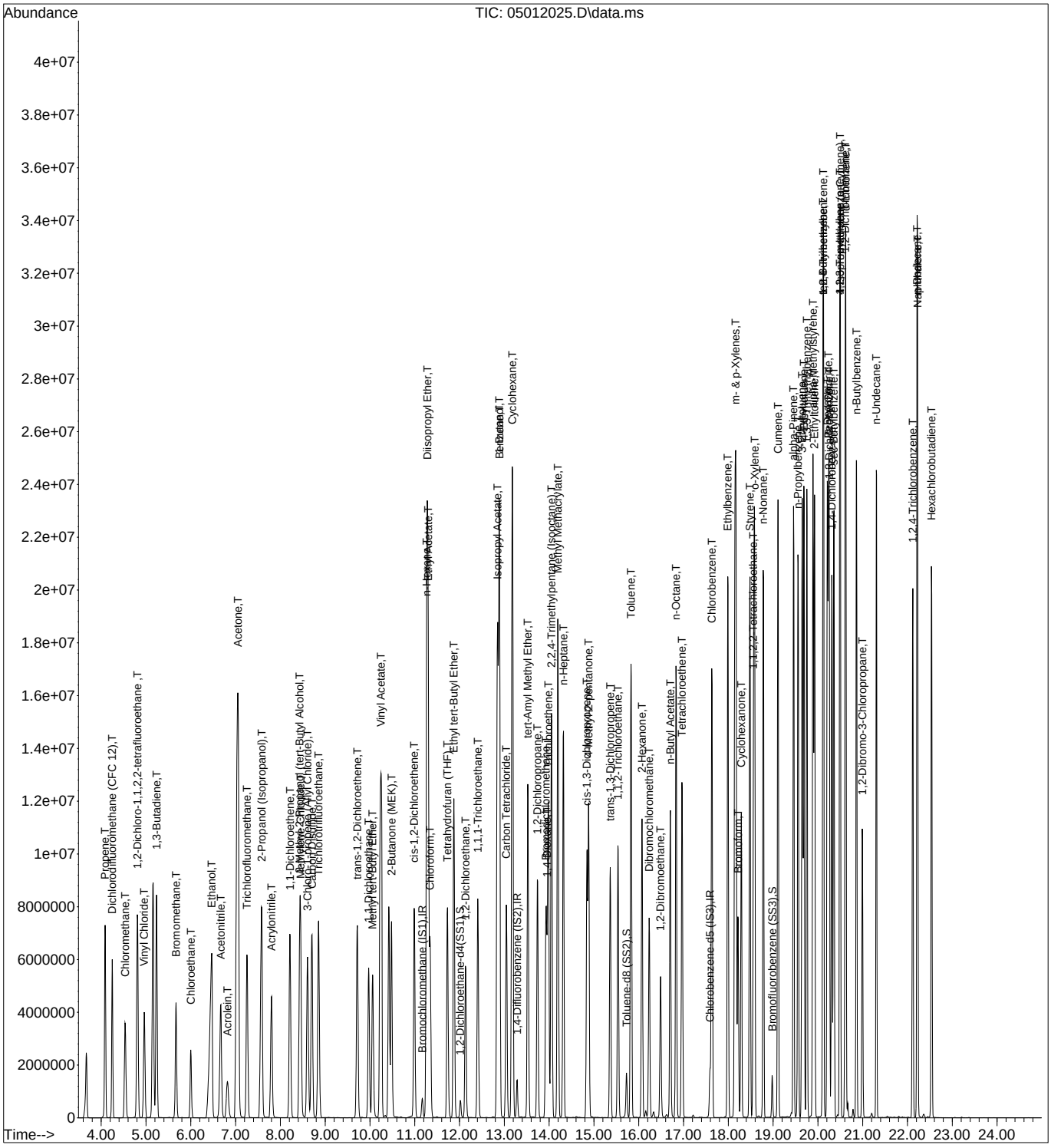
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.32	71	3860770	118.183	ng	99
52) cis-1,3-Dichloropropene	14.84	75	6512364	117.244	ng	99
53) 4-Methyl-2-pentanone	14.88	58	3720592	119.475	ng	94
54) trans-1,3-Dichloropropene	15.36	75	5980136	125.830	ng	100
55) 1,1,2-Trichloroethane	15.54	97	3694486	115.151	ng	98
58) Toluene	15.83	91	14122055	103.594	ng	97
59) 2-Hexanone	16.07	43	8538604	114.309	ng	97
60) Dibromochloromethane	16.23	129	4599117	117.821	ng	98
61) 1,2-Dibromoethane	16.49	107	4236452	112.921	ng	99
62) n-Butyl Acetate	16.71	43	9464801	117.306	ng	97
63) n-Octane	16.83	57	3422153	121.258	ng	99
64) Tetrachloroethene	16.96	166	4251324	110.411	ng	98
65) Chlorobenzene	17.63	112	10058959	107.240	ng	99
66) Ethylbenzene	17.99	91	15775647	103.782	ng	94
67) m- & p-Xylenes	18.16	91	24994911	207.270	ng	97
68) Bromoform	18.22	173	4017610	126.792	ng	100
69) Styrene	18.48	104	10371248	114.347	ng	96
70) o-Xylene	18.59	91	13044798	106.553	ng	98
71) n-Nonane	18.78	43	7415015	114.154	ng	95
72) 1,1,2,2-Tetrachloroethane	18.56	83	6995233	115.177	ng	100
74) Cumene	19.11	105	14928599	99.362	ng	93
75) alpha-Pinene	19.46	93	9103677	113.559	ng	97
76) n-Propylbenzene	19.56	91	16348034	91.592	ng	88
77) 3-Ethyltoluene	19.65	105	15320091	105.349	ng	94
78) 4-Ethyltoluene	19.69	105	13577066	96.220	ng	91
79) 1,3,5-Trimethylbenzene	19.75	105	12866248	105.014	ng	96
80) alpha-Methylstyrene	19.89	118	7332836	114.848	ng	89
81) 2-Ethyltoluene	19.92	105	14549504	101.431	ng	94
82) 1,2,4-Trimethylbenzene	20.12	105	11677289	94.825	ng	99
83) n-Decane	20.21	57	7901549	123.258	ng	99
84) Benzyl Chloride	20.24	91	12745970	134.347	ng	96
85) 1,3-Dichlorobenzene	20.25	146	7870539	110.067	ng	99
86) 1,4-Dichlorobenzene	20.31	146	7896122	113.154	ng	100
87) sec-Butylbenzene	20.36	105	15000490	93.840	ng	91
88) 4-Isopropyltoluene (p-...	20.50	119	12758034	87.765	ng	95
89) 1,2,3-Trimethylbenzene	20.49	105	11655993	95.082	ng	99
90) 1,2-Dichlorobenzene	20.61	146	7018237	102.510	ng	100
91) d-Limonene	20.62	68	5329834	109.584	ng	99
92) 1,2-Dibromo-3-Chloropr...	21.00	157	2996254	126.618	ng	94
93) n-Undecane	21.30	57	7881239	143.443	ng	98
94) 1,2,4-Trichlorobenzene	22.12	180	6156917	147.306	ng	99
95) Naphthalene	22.23	128	14689712	111.271	ng	97
96) n-Dodecane	22.22	57	6472005	144.069	ng	99
97) Hexachlorobutadiene	22.54	225	3985864	130.408	ng	100
98) Cyclohexanone	18.29	55	4951545	103.767	ng	97
99) tert-Butylbenzene	20.12	119	10982141	90.608	ng	99
100) n-Butylbenzene	20.86	91	12973286	103.470	ng	92

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012025.D Vial: 2
Acq On : 1 May 2020 18:07 Operator: LH
Sample : 100ng TO15 ICAL STD Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 01 18:32:42 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012026.D Vial: 2
Acq On : 1 May 2020 18:41 Operator: LH
Sample : 25ng TO15 ICV STD Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 01 19:07:38 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/1/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	306012	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.28	114	1305280	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.59	82	605237	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	502495	12.117	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.96%				
57) Toluene-d8 (SS2)	15.72	98	1272559	12.405	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.20%				
73) Bromofluorobenzene (SS3)	18.98	174	479316	12.985	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.84%				
Target Compounds							Qvalue
2) Propene	4.08	42	966787	27.278	ng		100
3) Dichlorodifluoromethan...	4.23	85	1760370	25.394	ng		100
4) Chloromethane	4.52	50	1357331	24.993	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.79	135	976267	23.572	ng		100
6) Vinyl Chloride	4.94	62	1467519	24.642	ng		99
7) 1,3-Butadiene	5.21	54	1260843	25.588	ng		100
8) Bromomethane	5.64	94	787063	25.018	ng		99
9) Chloroethane	5.97	64	602406	25.605	ng		99
10) Ethanol	6.38	45	3553289	129.837	ng		100
11) Acetonitrile	6.62	41	1622424	25.942	ng		100
12) Acrolein	6.79	56	555653	25.696	ng		100
13) Acetone	7.01	58	3611891	131.968	ng		99
14) Trichlorofluoromethane	7.24	101	1552897	25.347	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	4510536	54.450	ng		99
16) Acrylonitrile	7.77	53	1180769	26.391	ng		100
17) 1,1-Dichloroethene	8.19	96	847883	26.401	ng		100
18) 2-Methyl-2-Propanol (t...	8.39	59	4343249	56.240	ng		99
19) Methylene Chloride	8.43	84	892462	25.084	ng		99
20) 3-Chloro-1-propene (Al...	8.58	41	1276351	26.112	ng		100
21) Trichlorotrifluoroethane	8.84	151	781006	27.001	ng		99
22) Carbon Disulfide	8.68	76	3274656	25.686	ng		100
23) trans-1,2-Dichloroethene	9.70	61	1280278	26.180	ng		100
24) 1,1-Dichloroethane	9.96	63	1484365	25.568	ng		100
25) Methyl tert-Butyl Ether	10.05	73	2264086	24.794	ng		100
26) Vinyl Acetate	10.22	86	1192344	139.859	ng		100
27) 2-Butanone (MEK)	10.45	72	609878	26.129	ng		99
28) cis-1,2-Dichloroethene	10.98	61	1232559	25.768	ng		100
29) Diisopropyl Ether	11.27	87	824575	24.973	ng	#	95
30) Ethyl Acetate	11.27	61	776633	57.704	ng		100
31) n-Hexane	11.26	57	1581365	27.089	ng		100
32) Chloroform	11.32	83	1591321	26.124	ng		100
34) Tetrahydrofuran (THF)	11.72	72	595371	26.153	ng		100
35) Ethyl tert-Butyl Ether	11.86	87	1068978	26.791	ng		99
36) 1,2-Dichloroethane	12.12	62	1234056	25.571	ng		100
38) 1,1,1-Trichloroethane	12.40	97	1423725	27.081	ng		100
39) Isopropyl Acetate	12.83	61	1293737	56.259	ng		97
40) 1-Butanol	12.85	56	2086238	63.765	ng		94
41) Benzene	12.88	78	3590944	25.654	ng		100
42) Carbon Tetrachloride	13.04	117	1259961	26.463	ng		100
43) Cyclohexane	13.17	84	2795016	53.584	ng		99
44) tert-Amyl Methyl Ether	13.52	73	2599327	27.692	ng		100
45) 1,2-Dichloropropane	13.73	63	867296	26.753	ng		99
46) Bromodichloromethane	13.92	83	1295074	27.376	ng		100
47) Trichloroethene	13.97	130	967338	26.736	ng		100
48) 1,4-Dioxane	13.95	88	775383	27.504	ng		100
49) 2,2,4-Trimethylpentane...	14.04	57	3603157	26.453	ng		100
50) Methyl Methacrylate	14.18	100	775781	55.866	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012026.D Vial: 2
Acq On : 1 May 2020 18:41 Operator: LH
Sample : 25ng TO15 ICV STD Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 01 19:07:38 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

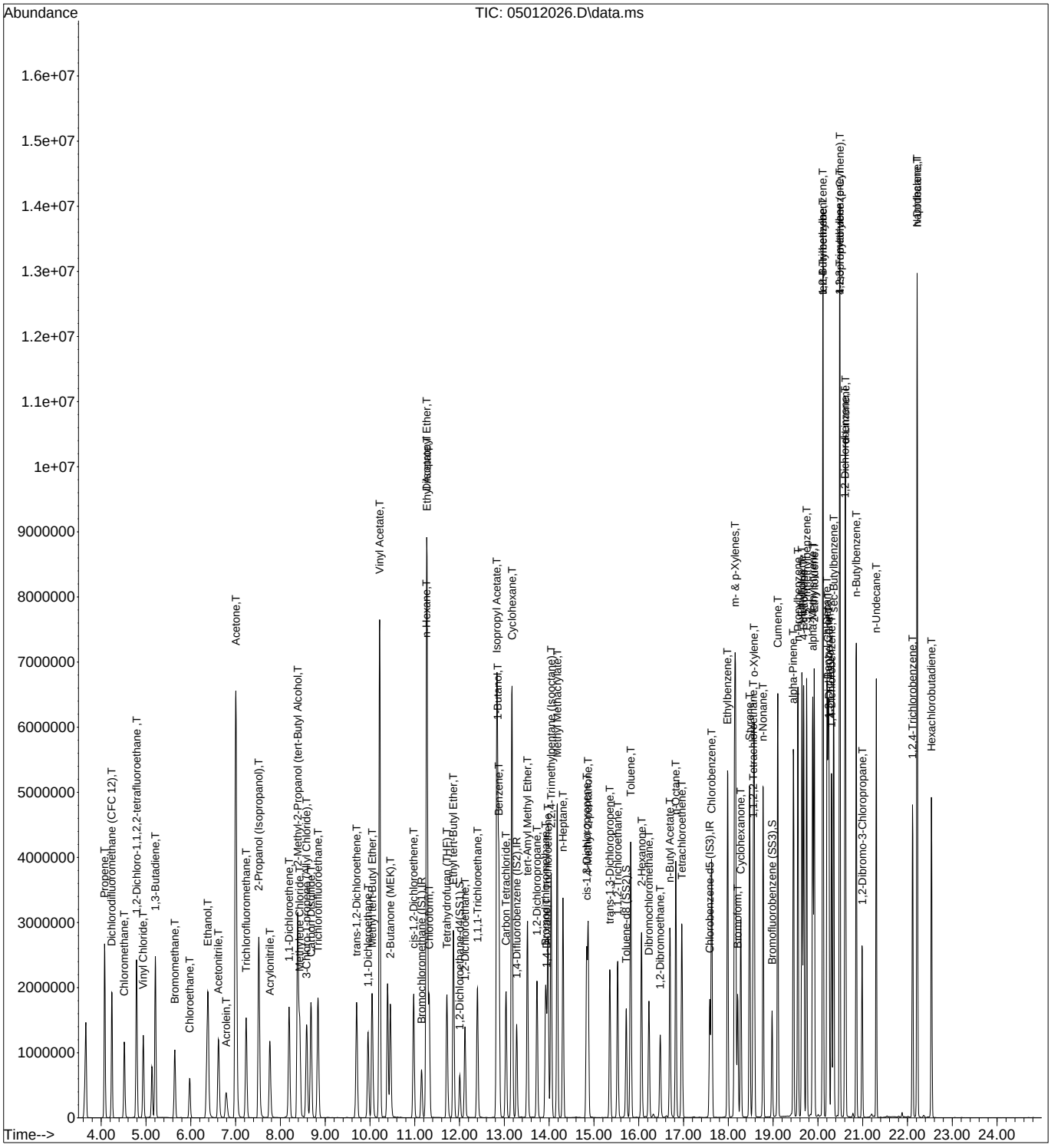
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	851667	26.018	ng	100
52) cis-1,3-Dichloropropene	14.84	75	1585771	28.492	ng	100
53) 4-Methyl-2-pentanone	14.87	58	872253	27.953	ng	100
54) trans-1,3-Dichloropropene	15.35	75	1387054	29.127	ng	100
55) 1,1,2-Trichloroethane	15.53	97	867139	26.973	ng	100
58) Toluene	15.82	91	3509323	26.538	ng	100
59) 2-Hexanone	16.06	43	2142962	29.574	ng	100
60) Dibromochloromethane	16.23	129	1094576	28.907	ng	100
61) 1,2-Dibromoethane	16.48	107	1019112	28.003	ng	100
62) n-Butyl Acetate	16.70	43	2398863	30.649	ng	100
63) n-Octane	16.83	57	741607	27.089	ng	100
64) Tetrachloroethene	16.96	166	1010020	27.041	ng	99
65) Chlorobenzene	17.62	112	2369161	26.038	ng	100
66) Ethylbenzene	17.98	91	4140285	28.079	ng	100
67) m- & p-Xylenes	18.15	91	6646028	56.814	ng	100
68) Bromoform	18.21	173	952116	29.005	ng	100
69) Styrene	18.48	104	2615334	29.726	ng	100
70) o-Xylene	18.58	91	3318680	27.945	ng	100
71) n-Nonane	18.77	43	1768593	28.068	ng	100
72) 1,1,2,2-Tetrachloroethane	18.55	83	1670094	28.347	ng	100
74) Cumene	19.10	105	4140007	28.406	ng	100
75) alpha-Pinene	19.45	93	2192080	28.188	ng	99
76) n-Propylbenzene	19.55	91	5034559	29.078	ng	100
77) 3-Ethyltoluene	19.64	105	4294103	30.440	ng	100
78) 4-Ethyltoluene	19.68	105	3790629	27.694	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	3430468	28.864	ng	100
80) alpha-Methylstyrene	19.88	118	1874877	27.988	ng	100
81) 2-Ethyltoluene	19.92	105	4065181	29.215	ng	99
82) 1,2,4-Trimethylbenzene	20.11	105	3770591	31.564	ng	100
83) n-Decane	20.20	57	1887277	28.242	ng	100
84) Benzyl Chloride	20.23	91	3366173	30.233	ng	100
85) 1,3-Dichlorobenzene	20.25	146	2073075	29.887	ng	100
86) 1,4-Dichlorobenzene	20.30	146	2047327	30.245	ng	100
87) sec-Butylbenzene	20.35	105	4505729	29.057	ng	100
88) 4-Isopropyltoluene (p-...	20.49	119	4352844	29.644	ng	100
89) 1,2,3-Trimethylbenzene	20.48	105	3682695	29.457	ng	100
90) 1,2-Dichlorobenzene	20.61	146	2035560	30.650	ng	100
91) d-Limonene	20.62	68	1446579	30.661	ng	100
92) 1,2-Dibromo-3-Chloropr...	20.99	157	709248	28.322	ng	99
93) n-Undecane	21.30	57	1877490	30.357	ng	99
94) 1,2,4-Trichlorobenzene	22.11	180	1445626	31.384	ng	100
95) Naphthalene	22.22	128	4860431	33.339	ng	100
96) n-Dodecane	22.22	57	1815131	33.896	ng	100
97) Hexachlorobutadiene	22.54	225	900762	28.271	ng	99
98) Cyclohexanone	18.28	55	1308763	28.274	ng	99
99) tert-Butylbenzene	20.11	119	3490399	29.687	ng	100
100) n-Butylbenzene	20.86	91	3725548	30.631	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\01\05012026.D Vial: 2
Acq On : 1 May 2020 18:41 Operator: LH
Sample : 25ng TO15 ICV STD Inst : GCMS-16
Misc : S31-02112001/S34-04302003 (5/29)

Quant Time: May 01 19:07:38 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



LH 5/1/20

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **05012026.D** Acq. Method File: **TO15.M**
Data File Path: **I:\MS16\DATA\2020_05\01** Sample Name: **25ng TO15 ICV STD**
Operator: **LH** Misc Info: **S31-02112001/S34-04302003 (**
Date Acquired: **5/1/2020 18:41** Instrument Name: **GCMS-16**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
2)	**Propene**	**4.08**	**27.3**	26.25	104	**51**	**133**	*	*
3)	**Dichlorodifluoromethane (CFC 1**	**4.23**	**25.4**	**26.25**	97	**64**	**115**	*	*
4)	**Chloromethane**	**4.52**	**25.0**	**26.50**	94	**49**	**127**	*	*
5)	**1,2-Dichloro-1,1,2,2-tetrafluoroet**	**4.79**	**23.6**	**25.75**	92	**65**	**114**	*	*
6)	**Vinyl Chloride**	**4.94**	**24.6**	**26.50**	93	**61**	**129**	*	*
7)	**1,3-Butadiene**	**5.21**	**25.6**	**26.50**	97	**54**	**140**	*	*
8)	**Bromomethane**	**5.64**	**25.0**	**26.50**	94	**68**	**120**	*	*
9)	**Chloroethane**	**5.97**	**25.6**	**26.75**	96	**63**	**123**	*	*
10)	**Ethanol**	**6.38**	**130**	**132.50**	98	**49**	**134**	*	*
11)	**Acetonitrile**	**6.62**	**25.9**	**26.75**	97	**50**	**137**	*	*
12)	**Acrolein**	**6.79**	**25.7**	**25.75**	100	**62**	**128**	*	*
13)	**Acetone**	**7.01**	**132**	**133.50**	99	**56**	**125**	*	*
14)	**Trichlorofluoromethane**	**7.24**	**25.3**	**26.50**	95	**64**	**115**	*	*
15)	**2-Propanol (Isopropanol)**	**7.52**	**54.5**	**52.75**	103	**57**	**133**	*	*
16)	**Acrylonitrile**	**7.77**	**26.4**	**26.50**	100	**64**	**136**	*	*
17)	**1,1-Dichloroethene**	**8.19**	**26.4**	**26.75**	99	**68**	**115**	*	*
18)	2-Methyl-2-Propanol (tert-Butyl Alc	8.39	56.2	53.75	105	56	132	*	*
19)	**Methylene Chloride**	**8.43**	**25.1**	**26.25**	96	**68**	**114**	*	*
20)	**3-Chloro-1-propene (Allyl Chloric**	**8.58**	**26.1**	**26.75**	98	**55**	**139**	*	*
21)	**Trichlorotrifluoroethane**	**8.84**	**27.0**	**27.00**	100	**65**	**115**	*	*
22)	**Carbon Disulfide**	**8.68**	**25.7**	**26.50**	97	**68**	**113**	*	*
23)	**trans-1,2-Dichloroethene**	**9.70**	**26.2**	**26.75**	98	**65**	**122**	*	*
24)	**1,1-Dichloroethane**	**9.96**	**25.6**	**26.50**	97	**63**	**118**	*	*
25)	**Methyl tert-Butyl Ether**	**10.05**	**24.8**	**26.75**	93	**57**	**131**	*	*
26)	**Vinyl Acetate**	**10.22**	**140**	**133.25**	105	**71**	**128**	*	*
27)	**2-Butanone (MEK)**	**10.45**	**26.1**	**26.50**	98	**67**	**123**	*	*
28)	**cis-1,2-Dichloroethene**	**10.98**	**25.8**	**26.50**	97	**64**	**120**	*	*
29)	Diisopropyl Ether	11.27	25.0	27.00	93	62	121	*	*
30)	**Ethyl Acetate**	**11.27**	**57.7**	**54.00**	107	**64**	**131**	*	*
31)	**n-Hexane**	**11.26**	**27.1**	**27.00**	100	**58**	**125**	*	*
32)	**Chloroform**	**11.32**	**26.1**	**26.75**	98	**65**	**114**	*	*
34)	**Tetrahydrofuran (THF)**	**11.72**	**26.2**	**27.50**	95	**65**	**115**	*	*
35)	Ethyl tert-Butyl Ether	11.86	26.8	26.75	100	61	130	*	*
36)	**1,2-Dichloroethane**	**12.12**	**25.6**	**26.75**	96	**59**	**120**	*	*
38)	**1,1,1-Trichloroethane**	**12.40**	**27.1**	**26.75**	101	**66**	**115**	*	*
39)	Isopropyl Acetate	12.83	56.3	52.50	107	65	129	*	*
40)	1-Butanol	12.85	63.8	53.25	120	58	140	*	*
41)	**Benzene**	**12.88**	**25.7**	**26.25**	98	**66**	**109**	*	*
42)	**Carbon Tetrachloride**	**13.04**	**26.5**	**26.00**	102	**66**	**119**	*	*
43)	**Cyclohexane**	**13.17**	**53.6**	**52.75**	102	**67**	**117**	*	*
44)	tert-Amyl Methyl Ether	13.52	27.7	**26.75**	104	62	133	*	*
45)	**1,2-Dichloropropane**	**13.73**	**26.8**	**26.75**	100	**66**	**119**	*	*
46)	**Bromodichloromethane**	**13.92**	**27.4**	**27.25**	101	**71**	**119**	*	*
47)	**Trichloroethene**	**13.97**	**26.7**	**27.00**	99	**70**	**114**	*	*
48)	**1,4-Dioxane**	**13.95**	**27.5**	**27.00**	102	**71**	**117**	*	*
49)	2,2,4-Trimethylpentane (Isooctane)	14.04	26.5	26.75	99	61	122	*	*

Initial Calibration Verification/LABORATORY CONTROL SAMPLE CHECK SHEET

Data File Name: **05012026.D** **TO15.M**
Data File Path: **I:\MS16\DATA\2020_05\01** Sample Name: **25ng TO15 ICV STD**
Operator: **LH** Misc Info: **S31-02112001/S34-04302003 (**
Date Acquired: **5/1/2020** **18:41** Instrument Name: **GCMS-16**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	ICV/AZ 70-130%
50)	**Methyl Methacrylate**	**14.18**	**55.9**	**53.75**	104	**76**	**121**	*	*
51)	**n-Heptane**	**14.31**	**26.0**	**26.75**	97	**66**	**119**	*	*
52)	**cis-1,3-Dichloropropene**	**14.84**	**28.5**	**26.75**	107	**72**	**125**	*	*
53)	**4-Methyl-2-pentanone**	**14.87**	**28.0**	**26.50**	106	**68**	**130**	*	*
54)	**trans-1,3-Dichloropropene**	**15.35**	**29.1**	**26.50**	110	**71**	**132**	*	*
55)	**1,1,2-Trichloroethane**	**15.53**	**27.0**	**26.75**	101	**70**	**117**	*	*
58)	**Toluene**	**15.82**	**26.5**	**26.50**	100	**67**	**113**	*	*
59)	**2-Hexanone**	**16.06**	**29.6**	**27.00**	110	**62**	**135**	*	*
60)	**Dibromochloromethane**	**16.23**	**28.9**	**26.75**	108	**73**	**126**	*	*
61)	**1,2-Dibromoethane**	**16.48**	**28.0**	**26.75**	105	**71**	**122**	*	*
62)	**n-Butyl Acetate**	**16.70**	**30.6**	**27.25**	112	**65**	**134**	*	*
63)	**n-Octane**	**16.83**	**27.1**	**27.00**	100	**63**	**120**	*	*
64)	**Tetrachloroethene**	**16.96**	**27.0**	**26.00**	104	**64**	**120**	*	*
65)	**Chlorobenzene**	**17.62**	**26.0**	**26.75**	97	**65**	**116**	*	*
66)	**Ethylbenzene**	**17.98**	**28.1**	**26.50**	106	**65**	**117**	*	*
67)	**m- & p-Xylenes**	**18.15**	**56.8**	**53.25**	107	**64**	**121**	*	*
68)	**Bromoform**	**18.21**	**29.0**	**26.75**	108	**72**	**130**	*	*
69)	**Styrene**	**18.48**	**29.7**	**26.50**	112	**72**	**126**	*	*
70)	**o-Xylene**	**18.58**	**27.9**	**26.75**	104	**64**	**120**	*	*
71)	**n-Nonane**	**18.77**	**28.1**	**26.75**	105	**56**	**132**	*	*
72)	**1,1,2,2-Tetrachloroethane**	**18.55**	**28.3**	**26.75**	106	**66**	**122**	*	*
74)	**Cumene**	**19.10**	**28.4**	**26.75**	106	**64**	**121**	*	*
75)	**alpha-Pinene**	**19.45**	**28.2**	**26.50**	106	**62**	**136**	*	*
76)	**n-Propylbenzene**	**19.55**	**29.1**	**26.75**	109	**65**	**123**	*	*
77)	3-Ethyltoluene	19.64	30.4	26.75	114	62	123	*	*
78)	**4-Ethyltoluene**	**19.68**	**27.7**	**26.25**	**106**	**71**	**126**	*	*
79)	**1,3,5-Trimethylbenzene**	**19.75**	**28.9**	**26.50**	**109**	**65**	**120**	*	*
80)	alpha-Methylstyrene	19.88	28.0	26.50	**106**	70	132	*	*
81)	2-Ethyltoluene	19.92	29.2	26.75	**109**	66	121	*	*
82)	**1,2,4-Trimethylbenzene**	**20.11**	**31.6**	**26.50**	**119**	**63**	**129**	*	*
83)	n-Decane	20.20	28.2	26.75	**105**	61	131	*	*
84)	**Benzyl Chloride**	**20.23**	**30.2**	**26.75**	**113**	**66**	**138**	*	*
85)	**1,3-Dichlorobenzene**	**20.25**	**29.9**	**26.75**	**112**	**65**	**127**	*	*
86)	**1,4-Dichlorobenzene**	**20.30**	**30.2**	**26.75**	**113**	**66**	**125**	*	*
87)	sec-Butylbenzene	20.35	29.1	26.50	**110**	68	123	*	*
88)	4-Isopropyltoluene (p-Cymene)	20.49	29.6	27.25	**109**	61	129	*	*
89)	1,2,3-Trimethylbenzene	20.48	29.5	27.00	**109**	60	134	*	*
90)	**1,2-Dichlorobenzene**	**20.61**	**30.6**	**26.75**	**114**	**67**	**128**	*	*
91)	**d-Limonene**	**20.62**	**30.7**	**26.50**	**116**	**65**	**136**	*	*
92)	**1,2-Dibromo-3-Chloropropane**	**20.99**	**28.3**	**26.75**	**106**	**73**	**133**	*	*
93)	n-Undecane	21.30	30.4	27.00	**113**	64	131	*	*
94)	**1,2,4-Trichlorobenzene**	**22.11**	**31.4**	**27.00**	**116**	**62**	**140**	*	*
95)	**Naphthalene**	**22.22**	**33.3**	**26.50**	**126**	**57**	**149**	*	*
96)	n-Dodecane	22.22	33.9	26.50	**128**	41	181	*	*
97)	**Hexachlorobutadiene**	**22.54**	**28.3**	**26.75**	**106**	57	129	*	*
98)	Cyclohexanone	18.28	28.3	25.25	112	61	131	*	*
99)	tert-Butylbenzene	20.11	29.7	26.50	112	62	130	*	*
100)	n-Butylbenzene	20.86	30.6	26.75	114	67	124	*	*

Bold = 75 Compound List

 *** = Pass** **I:\MS16\0-Instrument Info\0-Security Certificates\ICV_LCS_2019_10111902.CRT** 5/1/2020 7:08 PM

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\14\05142002.D Vial: 2
Acq On : 14 May 2020 9:27 Operator: LH
Sample : CCV R16051420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 14 13:03:03 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/14/20

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	97	0.00
2	T	Propene	1.448	1.375	5.0	90	0.00
3	T	Dichlorodifluoromethane (CF	2.832	2.499	11.8	89	0.00
4	T	Chloromethane	2.218	1.971	11.1	87	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.692	1.452	14.2	88	0.00
6	T	Vinyl Chloride	2.433	2.078	14.6	86	0.00
7	T	1,3-Butadiene	2.013	1.740	13.6	86	0.00
8	T	Bromomethane	1.285	1.145	10.9	89	0.00
9	T	Chloroethane	0.961	0.859	10.6	88	0.00
10	T	Ethanol	1.118	0.980	12.3	86	-0.03
11	T	Acetonitrile	2.555	2.208	13.6	87	-0.02
12	T	Acrolein	0.883	0.747	15.4	82	-0.01
13	T	Acetone	1.118	1.020	8.8	87	-0.02
14	T	Trichlorofluoromethane	2.503	2.177	13.0	86	0.00
15	T	2-Propanol (Isopropanol)	3.384	3.064	9.5	85	-0.02
16	T	Acrylonitrile	1.828	1.646	10.0	87	-0.01
17	T	1,1-Dichloroethene	1.312	1.162	11.4	86	0.00
18	T	2-Methyl-2-Propanol (tert-B	3.155	2.565	18.7	78	-0.02
19	T	Methylene Chloride	1.453	1.257	13.5	85	0.00
20	T	3-Chloro-1-propene (Allyl C	1.997	1.860	6.9	89	-0.01
21	T	Trichlorotrifluoroethane	1.182	1.096	7.3	88	0.00
22	T	Carbon Disulfide	5.208	4.538	12.9	86	0.00
23	T	trans-1,2-Dichloroethene	1.998	1.747	12.6	86	0.00
24	T	1,1-Dichloroethane	2.371	2.096	11.6	85	0.00
25	T	Methyl tert-Butyl Ether	3.730	3.217	13.8	88	0.00
26	T	Vinyl Acetate	0.348	0.291	16.4	75	-0.01
27	T	2-Butanone (MEK)	0.953	0.863	9.4	88	0.00
28	T	cis-1,2-Dichloroethene	1.954	1.713	12.3	86	0.00
29	T	Diisopropyl Ether	1.349	1.145	15.1	84	0.00
30	T	Ethyl Acetate	0.550	0.524	4.7	85	0.00
31	T	n-Hexane	2.385	2.228	6.6	87	0.00
32	T	Chloroform	2.488	2.202	11.5	86	0.00
33	S	1,2-Dichloroethane-d4(SS1)	1.694	1.627	4.0	96	0.00
34	T	Tetrahydrofuran (THF)	0.930	0.800	14.0	86	0.00
35	T	Ethyl tert-Butyl Ether	1.630	1.481	9.1	86	0.00
36	T	1,2-Dichloroethane	1.971	1.686	14.5	86	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	97	0.00
38	T	1,1,1-Trichloroethane	0.503	0.449	10.7	85	0.00
39	T	Isopropyl Acetate	0.220	0.209	5.0	85	0.00
40	T	1-Butanol	0.313	0.268	14.4	78	-0.02
41	T	Benzene	1.340	1.200	10.4	87	0.00
42	T	Carbon Tetrachloride	0.456	0.412	9.6	85	0.00
43	T	Cyclohexane	0.500	0.462	7.6	86	0.00
44	T	tert-Amyl Methyl Ether	0.899	0.837	6.9	87	0.00
45	T	1,2-Dichloropropane	0.310	0.283	8.7	87	0.00
46	T	Bromodichloromethane	0.453	0.413	8.8	84	0.00
47	T	Trichloroethene	0.346	0.319	7.8	87	0.00
48	T	1,4-Dioxane	0.270	0.239	11.5	84	0.00
49	T	2,2,4-Trimethylpentane (Iso	1.304	1.197	8.2	88	0.00
50	T	Methyl Methacrylate	0.133	0.125	6.0	85	0.00
51	T	n-Heptane	0.313	0.285	8.9	89	0.00
52	T	cis-1,3-Dichloropropene	0.533	0.495	7.1	85	0.00
53	T	4-Methyl-2-pentanone	0.299	0.273	8.7	85	0.00
54	T	trans-1,3-Dichloropropene	0.456	0.441	3.3	84	0.00
55	T	1,1,2-Trichloroethane	0.308	0.283	8.1	86	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\14\05142002.D Vial: 2
Acq On : 14 May 2020 9:27 Operator: LH
Sample : CCV R16051420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 14 13:03:03 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	97	0.00
57	S	Toluene-d8 (SS2)	2.119	2.103	0.8	96	0.00
58	T	Toluene	2.731	2.512	8.0	87	0.00
59	T	2-Hexanone	1.497	1.401	6.4	86	0.00
60	T	Dibromochloromethane	0.782	0.762	2.6	85	0.00
61	T	1,2-Dibromoethane	0.752	0.709	5.7	86	0.00
62	T	n-Butyl Acetate	1.616	1.480	8.4	82	0.00
63	T	n-Octane	0.565	0.539	4.6	89	0.00
64	T	Tetrachloroethene	0.771	0.747	3.1	87	0.00
65	T	Chlorobenzene	1.879	1.681	10.5	87	0.00
66	T	Ethylbenzene	3.045	2.967	2.6	87	0.00
67	T	m- & p-Xylenes	2.416	2.368	2.0	87	-0.01
68	T	Bromoform	0.678	0.669	1.3	86	0.00
69	T	Styrene	1.817	1.832	-0.8	86	0.00
70	T	o-Xylene	2.453	2.386	2.7	87	0.00
71	T	n-Nonane	1.301	1.325	-1.8	91	0.00
72	T	1,1,2,2-Tetrachloroethane	1.217	1.187	2.5	87	0.00
73	S	Bromofluorobenzene (SS3)	0.762	0.816	-7.1	99	0.00
74	T	Cumene	3.010	2.984	0.9	87	0.00
75	T	alpha-Pinene	1.606	1.583	1.4	86	0.00
76	T	n-Propylbenzene	3.576	3.647	-2.0	88	0.00
77	T	3-Ethyltoluene	2.913	2.992	-2.7	86	0.00
78	T	4-Ethyltoluene	2.827	2.928	-3.6	90	0.00
79	T	1,3,5-Trimethylbenzene	2.455	2.495	-1.6	87	0.00
80	T	alpha-Methylstyrene	1.384	1.258	9.1	82	0.00
81	T	2-Ethyltoluene	2.874	2.947	-2.5	89	0.00
82	T	1,2,4-Trimethylbenzene	2.467	2.626	-6.4	84	0.00
83	T	n-Decane	1.380	1.403	-1.7	90	0.00
84	T	Benzyl Chloride	2.300	2.147	6.7	80	-0.01
85	T	1,3-Dichlorobenzene	1.433	1.481	-3.3	87	0.00
86	T	1,4-Dichlorobenzene	1.398	1.448	-3.6	87	0.00
87	T	sec-Butylbenzene	3.203	3.315	-3.5	89	0.00
88	T	4-Isopropyltoluene (p-Cymen	3.033	3.085	-1.7	84	0.00
89	T	1,2,3-Trimethylbenzene	2.582	2.640	-2.2	84	0.00
90	T	1,2-Dichlorobenzene	1.372	1.435	-4.6	85	-0.01
91	T	d-Limonene	0.974	0.991	-1.7	82	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.517	0.515	0.4	86	0.00
93	T	n-Undecane	1.277	1.355	-6.1	89	0.00
94	T	1,2,4-Trichlorobenzene	0.951	0.981	-3.2	83	-0.01
95	T	Naphthalene	3.011	3.042	-1.0	76	-0.01
96	T	n-Dodecane	1.106	1.259	-13.8	83	-0.01
97	T	Hexachlorobutadiene	0.658	0.665	-1.1	89	0.00
98	T	Cyclohexanone	0.956	0.800	16.3	79	-0.01
99	T	tert-Butylbenzene	2.428	2.499	-2.9	85	0.00
100	T	n-Butylbenzene	2.512	2.670	-6.3	87	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142002.D Vial: 2
Acq On : 14 May 2020 9:27 Operator: LH
Sample : CCV R16051420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 14 13:03:03 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 5/14/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.16	130	277575	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.28	114	1194548	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.58	82	554354	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	451637	12.006	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.08%				
57) Toluene-d8 (SS2)	15.72	98	1166018	12.409	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.28%				
73) Bromofluorobenzene (SS3)	18.98	174	452373	13.380	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.04%				
Target Compounds							Qvalue
2) Propene	4.09	42	809133	25.168	ng		100
3) Dichlorodifluoromethan...	4.25	85	1470825	23.391	ng		100
4) Chloromethane	4.53	50	1159912	23.546	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	846272	22.526	ng		100
6) Vinyl Chloride	4.95	62	1246015	23.066	ng		100
7) 1,3-Butadiene	5.22	54	1024060	22.911	ng		99
8) Bromomethane	5.65	94	686655	24.062	ng		100
9) Chloroethane	5.99	64	515052	24.135	ng		100
10) Ethanol	6.39	45	2835928	114.241	ng		100
11) Acetonitrile	6.63	41	1287333	22.693	ng		100
12) Acrolein	6.80	56	427310	21.785	ng		100
13) Acetone	7.01	58	3016900	121.522	ng		100
14) Trichlorofluoromethane	7.25	101	1280829	23.048	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	3572178	47.541	ng		99
16) Acrylonitrile	7.77	53	959344	23.638	ng		100
17) 1,1-Dichloroethene	8.20	96	696720	23.917	ng		99
18) 2-Methyl-2-Propanol (t...	8.39	59	3075812	43.908	ng		100
19) Methylene Chloride	8.44	84	739463	22.913	ng		98
20) 3-Chloro-1-propene (Al...	8.59	41	1115187	25.152	ng		99
21) Trichlorotrifluoroethane	8.85	151	656922	25.038	ng		98
22) Carbon Disulfide	8.69	76	2695329	23.308	ng		100
23) trans-1,2-Dichloroethene	9.71	61	1047565	23.616	ng		99
24) 1,1-Dichloroethane	9.96	63	1268284	24.084	ng		100
25) Methyl tert-Butyl Ether	10.05	73	1928681	23.284	ng		100
26) Vinyl Acetate	10.22	86	863951	111.722	ng	#	90
27) 2-Butanone (MEK)	10.46	72	508075	23.998	ng		95
28) cis-1,2-Dichloroethene	10.98	61	1007987	23.232	ng		100
29) Diisopropyl Ether	11.27	87	686236	22.913	ng	#	93
30) Ethyl Acetate	11.28	61	631013	51.687	ng		98
31) n-Hexane	11.26	57	1336085	25.232	ng		100
32) Chloroform	11.32	83	1307944	23.672	ng		100
34) Tetrahydrofuran (THF)	11.72	72	484229	23.450	ng		97
35) Ethyl tert-Butyl Ether	11.87	87	887745	24.528	ng		98
36) 1,2-Dichloroethane	12.12	62	1010581	23.086	ng		100
38) 1,1,1-Trichloroethane	12.40	97	1147096	23.842	ng		100
39) Isopropyl Acetate	12.83	61	1052092	49.992	ng		100
40) 1-Butanol	12.85	56	1330950	44.451	ng		96
41) Benzene	12.88	78	3039477	23.727	ng		100
42) Carbon Tetrachloride	13.04	117	1033635	23.722	ng		100
43) Cyclohexane	13.17	84	2342023	49.061	ng		99
44) tert-Amyl Methyl Ether	13.52	73	2160414	25.150	ng		100
45) 1,2-Dichloropropane	13.73	63	730950	24.637	ng		100
46) Bromodichloromethane	13.92	83	1065412	24.609	ng		100
47) Trichloroethene	13.97	130	814460	24.597	ng		100
48) 1,4-Dioxane	13.95	88	617805	23.946	ng		100
49) 2,2,4-Trimethylpentane...	14.04	57	3059759	24.546	ng		99
50) Methyl Methacrylate	14.18	100	643352	50.624	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142002.D Vial: 2
Acq On : 14 May 2020 9:27 Operator: LH
Sample : CCV R16051420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 14 13:03:03 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

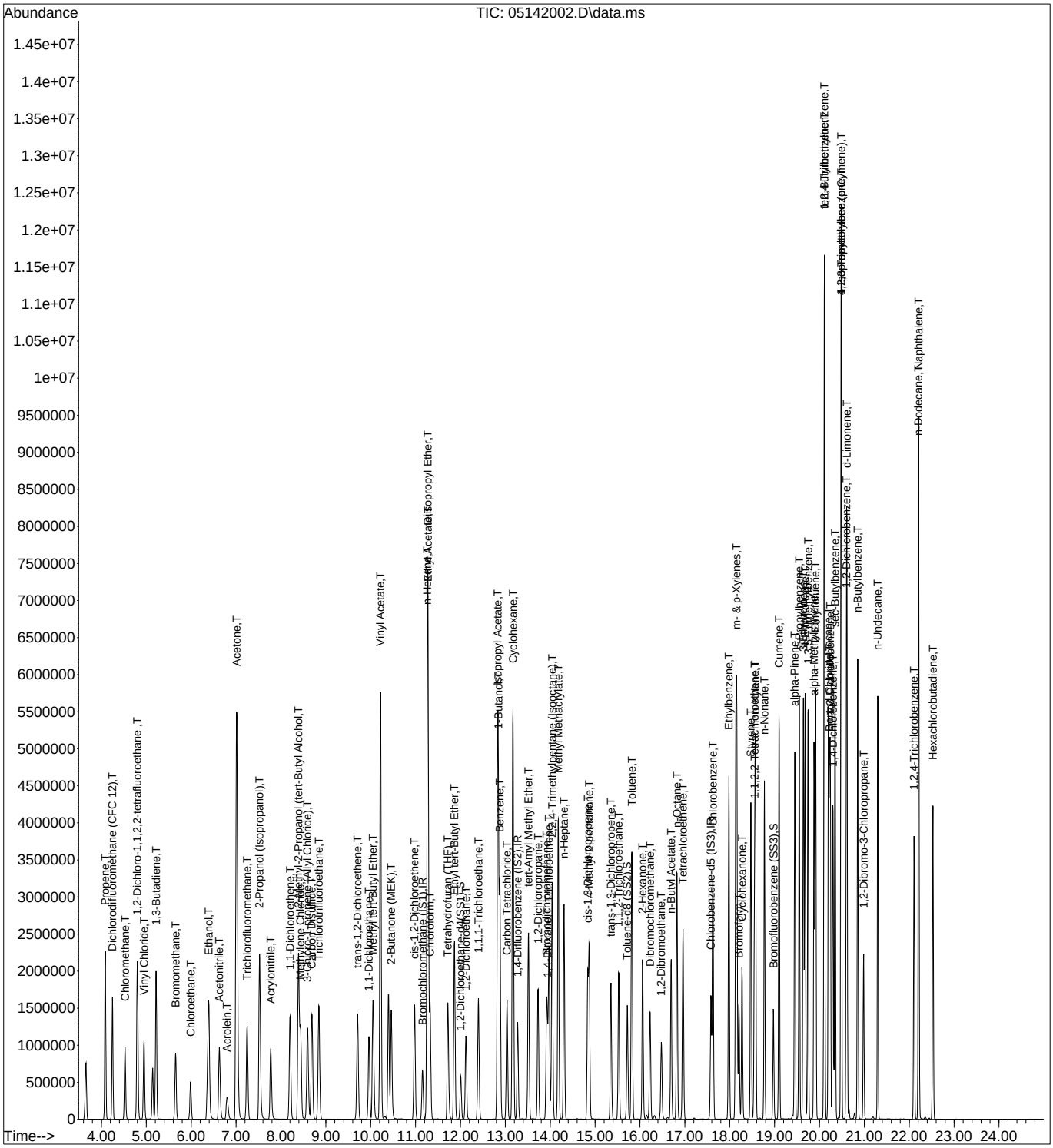
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	734647	24.524	ng	99
52) cis-1,3-Dichloropropene	14.84	75	1228985	24.128	ng	100
53) 4-Methyl-2-pentanone	14.87	58	690462	24.178	ng	98
54) trans-1,3-Dichloropropene	15.35	75	1115978	25.607	ng	100
55) 1,1,2-Trichloroethane	15.52	97	722244	24.548	ng	100
58) Toluene	15.82	91	2980091	24.604	ng	100
59) 2-Hexanone	16.06	43	1662115	25.044	ng	99
60) Dibromochloromethane	16.23	129	903674	26.056	ng	100
61) 1,2-Dibromoethane	16.48	107	841010	25.230	ng	100
62) n-Butyl Acetate	16.70	43	1788637	24.950	ng	99
63) n-Octane	16.83	57	644941	25.720	ng	99
64) Tetrachloroethene	16.96	166	861660	25.187	ng	100
65) Chlorobenzene	17.62	112	1993654	23.922	ng	100
66) Ethylbenzene	17.98	91	3519890	26.062	ng	100
67) m- & p-Xylenes	18.15	91	5617434	52.429	ng	100
68) Bromoform	18.21	173	793107	26.378	ng	100
69) Styrene	18.47	104	2153358	26.721	ng	100
70) o-Xylene	18.58	91	2831079	26.027	ng	100
71) n-Nonane	18.77	43	1571661	27.232	ng	98
72) 1,1,2,2-Tetrachloroethane	18.55	83	1408535	26.102	ng	100
74) Cumene	19.10	105	3572687	26.764	ng	100
75) alpha-Pinene	19.45	93	1877920	26.365	ng	100
76) n-Propylbenzene	19.55	91	4367236	27.539	ng	99
77) 3-Ethyltoluene	19.64	105	3516539	27.216	ng	100
78) 4-Ethyltoluene	19.68	105	3506044	27.966	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	2932718	26.941	ng	99
80) alpha-Methylstyrene	19.88	118	1492679	24.328	ng	99
81) 2-Ethyltoluene	19.91	105	3529239	27.692	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3115213	28.472	ng	99
83) n-Decane	20.20	57	1663970	27.186	ng	99
84) Benzyl Chloride	20.22	91	2571387	25.215	ng	100
85) 1,3-Dichlorobenzene	20.24	146	1756844	27.652	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1717401	27.700	ng	100
87) sec-Butylbenzene	20.35	105	3932949	27.692	ng	100
88) 4-Isopropyltoluene (p-...	20.48	119	3728469	27.722	ng	99
89) 1,2,3-Trimethylbenzene	20.48	105	3190261	27.860	ng	100
90) 1,2-Dichlorobenzene	20.60	146	1702142	27.982	ng	100
91) d-Limonene	20.61	68	1187132	27.471	ng	99
92) 1,2-Dibromo-3-Chloropr...	20.98	157	599513	26.138	ng	98
93) n-Undecane	21.30	57	1622374	28.639	ng	98
94) 1,2,4-Trichlorobenzene	22.11	180	1163904	27.588	ng	99
95) Naphthalene	22.21	128	3473725	26.014	ng	100
96) n-Dodecane	22.21	57	1451521	29.594	ng	99
97) Hexachlorobutadiene	22.53	225	781278	26.771	ng	100
98) Cyclohexanone	18.27	55	886835	20.917	ng	99
99) tert-Butylbenzene	20.11	119	2964730	27.530	ng	100
100) n-Butylbenzene	20.85	91	3167883	28.437	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142002.D Vial: 2
Acq On : 14 May 2020 9:27 Operator: LH
Sample : CCV R16051420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 14 13:03:03 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\14\05142033.D Vial: 2
Acq On : 15 May 2020 3:13 Operator: LH
Sample : CCVend R16051420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 15 09:29:05 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration LH 5/15/20
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	96	-0.01
2	T	Propene	1.448	1.361	6.0	89	0.00
3	T	Dichlorodifluoromethane (CF	2.832	2.499	11.8	88	0.00
4	T	Chloromethane	2.218	1.979	10.8	87	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.692	1.443	14.7	87	-0.01
6	T	Vinyl Chloride	2.433	2.091	14.1	86	-0.01
7	T	1,3-Butadiene	2.013	1.728	14.2	85	-0.01
8	T	Bromomethane	1.285	1.139	11.4	88	-0.01
9	T	Chloroethane	0.961	0.850	11.6	87	0.00
10	T	Ethanol	1.118	0.980	12.3	85	-0.03
11	T	Acetonitrile	2.555	2.210	13.5	86	-0.02
12	T	Acrolein	0.883	0.741	16.1	81	-0.02
13	T	Acetone	1.118	1.011	9.6	86	-0.02
14	T	Trichlorofluoromethane	2.503	2.167	13.4	85	0.00
15	T	2-Propanol (Isopropanol)	3.384	3.072	9.2	84	-0.03
16	T	Acrylonitrile	1.828	1.635	10.6	86	-0.01
17	T	1,1-Dichloroethene	1.312	1.165	11.2	86	0.00
18	T	2-Methyl-2-Propanol (tert-B	3.155	2.584	18.1	78	-0.02
19	T	Methylene Chloride	1.453	1.251	13.9	84	0.00
20	T	3-Chloro-1-propene (Allyl C	1.997	1.837	8.0	87	-0.01
21	T	Trichlorotrifluoroethane	1.182	1.082	8.5	87	0.00
22	T	Carbon Disulfide	5.208	4.528	13.1	85	0.00
23	T	trans-1,2-Dichloroethene	1.998	1.735	13.2	85	0.00
24	T	1,1-Dichloroethane	2.371	2.085	12.1	85	0.00
25	T	Methyl tert-Butyl Ether	3.730	3.251	12.8	89	0.00
26	T	Vinyl Acetate	0.348	0.285	18.1	73	-0.01
27	T	2-Butanone (MEK)	0.953	0.856	10.2	87	-0.01
28	T	cis-1,2-Dichloroethene	1.954	1.702	12.9	85	0.00
29	T	Diisopropyl Ether	1.349	1.126	16.5	82	0.00
30	T	Ethyl Acetate	0.550	0.522	5.1	84	0.00
31	T	n-Hexane	2.385	2.221	6.9	86	0.00
32	T	Chloroform	2.488	2.189	12.0	85	0.00
33	S	1,2-Dichloroethane-d4(SS1)	1.694	1.606	5.2	95	0.00
34	T	Tetrahydrofuran (THF)	0.930	0.797	14.3	85	0.00
35	T	Ethyl tert-Butyl Ether	1.630	1.467	10.0	85	0.00
36	T	1,2-Dichloroethane	1.971	1.676	15.0	85	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	97	0.00
38	T	1,1,1-Trichloroethane	0.503	0.447	11.1	84	0.00
39	T	Isopropyl Acetate	0.220	0.209	5.0	85	0.00
40	T	1-Butanol	0.313	0.267	14.7	77	-0.02
41	T	Benzene	1.340	1.195	10.8	86	0.00
42	T	Carbon Tetrachloride	0.456	0.411	9.9	84	0.00
43	T	Cyclohexane	0.500	0.461	7.8	85	0.00
44	T	tert-Amyl Methyl Ether	0.899	0.833	7.3	86	0.00
45	T	1,2-Dichloropropane	0.310	0.283	8.7	86	0.00
46	T	Bromodichloromethane	0.453	0.412	9.1	83	0.00
47	T	Trichloroethene	0.346	0.318	8.1	87	0.00
48	T	1,4-Dioxane	0.270	0.239	11.5	83	0.00
49	T	2,2,4-Trimethylpentane (Iso	1.304	1.192	8.6	87	0.00
50	T	Methyl Methacrylate	0.133	0.125	6.0	84	0.00
51	T	n-Heptane	0.313	0.284	9.3	88	0.00
52	T	cis-1,3-Dichloropropene	0.533	0.494	7.3	84	0.00
53	T	4-Methyl-2-pentanone	0.299	0.272	9.0	84	0.00
54	T	trans-1,3-Dichloropropene	0.456	0.435	4.6	83	0.00
55	T	1,1,2-Trichloroethane	0.308	0.282	8.4	85	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\14\05142033.D Vial: 2
Acq On : 15 May 2020 3:13 Operator: LH
Sample : CCVend R16051420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 15 09:29:05 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	98	0.00
57	S	Toluene-d8 (SS2)	2.119	2.067	2.5	96	0.00
58	T	Toluene	2.731	2.464	9.8	86	0.00
59	T	2-Hexanone	1.497	1.375	8.1	85	0.00
60	T	Dibromochloromethane	0.782	0.749	4.2	85	0.00
61	T	1,2-Dibromoethane	0.752	0.696	7.4	85	0.00
62	T	n-Butyl Acetate	1.616	1.448	10.4	82	0.00
63	T	n-Octane	0.565	0.529	6.4	88	0.00
64	T	Tetrachloroethene	0.771	0.735	4.7	87	0.00
65	T	Chlorobenzene	1.879	1.644	12.5	86	0.00
66	T	Ethylbenzene	3.045	2.917	4.2	86	0.00
67	T	m- & p-Xylenes	2.416	2.399	0.7	89	-0.01
68	T	Bromoform	0.678	0.652	3.8	85	0.00
69	T	Styrene	1.817	1.798	1.0	85	0.00
70	T	o-Xylene	2.453	2.354	4.0	87	-0.01
71	T	n-Nonane	1.301	1.302	-0.1	90	0.00
72	T	1,1,2,2-Tetrachloroethane	1.217	1.169	3.9	87	-0.01
73	S	Bromofluorobenzene (SS3)	0.762	0.820	-7.6	100	0.00
74	T	Cumene	3.010	2.941	2.3	87	0.00
75	T	alpha-Pinene	1.606	1.561	2.8	86	0.00
76	T	n-Propylbenzene	3.576	3.599	-0.6	88	0.00
77	T	3-Ethyltoluene	2.913	2.961	-1.6	86	0.00
78	T	4-Ethyltoluene	2.827	2.897	-2.5	90	-0.01
79	T	1,3,5-Trimethylbenzene	2.455	2.465	-0.4	87	0.00
80	T	alpha-Methylstyrene	1.384	1.239	10.5	82	0.00
81	T	2-Ethyltoluene	2.874	2.917	-1.5	89	0.00
82	T	1,2,4-Trimethylbenzene	2.467	2.588	-4.9	83	0.00
83	T	n-Decane	1.380	1.375	0.4	89	0.00
84	T	Benzyl Chloride	2.300	2.097	8.8	79	-0.01
85	T	1,3-Dichlorobenzene	1.433	1.461	-2.0	86	0.00
86	T	1,4-Dichlorobenzene	1.398	1.424	-1.9	86	-0.01
87	T	sec-Butylbenzene	3.203	3.285	-2.6	89	0.00
88	T	4-Isopropyltoluene (p-Cymen	3.033	3.035	-0.1	84	0.00
89	T	1,2,3-Trimethylbenzene	2.582	2.601	-0.7	83	0.00
90	T	1,2-Dichlorobenzene	1.372	1.415	-3.1	84	0.00
91	T	d-Limonene	0.974	0.980	-0.6	82	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.517	0.502	2.9	85	0.00
93	T	n-Undecane	1.277	1.323	-3.6	88	0.00
94	T	1,2,4-Trichlorobenzene	0.951	0.954	-0.3	82	-0.01
95	T	Naphthalene	3.011	3.006	0.2	76	-0.01
96	T	n-Dodecane	1.106	1.256	-13.6	84	-0.01
97	T	Hexachlorobutadiene	0.658	0.655	0.5	89	0.00
98	T	Cyclohexanone	0.956	0.781	18.3	78	-0.01
99	T	tert-Butylbenzene	2.428	2.454	-1.1	84	0.00
100	T	n-Butylbenzene	2.512	2.640	-5.1	87	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142033.D Vial: 2
Acq On : 15 May 2020 3:13 Operator: LH
Sample : CCVend R16051420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 15 09:29:05 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/15/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	276209	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.27	114	1187517	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.58	82	560230	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	443591	11.850	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.80%				
57) Toluene-d8 (SS2)	15.72	98	1157800	12.193	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.52%				
73) Bromofluorobenzene (SS3)	18.97	174	459246	13.441	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.52%				
Target Compounds							Qvalue
2) Propene	4.09	42	797087	24.916	ng		100
3) Dichlorodifluoromethan...	4.25	85	1463420	23.388	ng		100
4) Chloromethane	4.53	50	1158565	23.635	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	837229	22.396	ng		100
6) Vinyl Chloride	4.94	62	1247396	23.206	ng		100
7) 1,3-Butadiene	5.21	54	1011981	22.753	ng		99
8) Bromomethane	5.65	94	679799	23.940	ng		99
9) Chloroethane	5.98	64	506896	23.870	ng		100
10) Ethanol	6.38	45	2819215	114.130	ng		100
11) Acetonitrile	6.62	41	1281707	22.705	ng		100
12) Acrolein	6.79	56	421882	21.615	ng		100
13) Acetone	7.01	58	2977960	120.546	ng		99
14) Trichlorofluoromethane	7.24	101	1269205	22.952	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	3564216	47.669	ng		99
16) Acrylonitrile	7.77	53	948285	23.481	ng		100
17) 1,1-Dichloroethene	8.20	96	695061	23.978	ng		99
18) 2-Methyl-2-Propanol (t...	8.39	59	3082827	44.226	ng		100
19) Methylene Chloride	8.44	84	732527	22.810	ng		98
20) 3-Chloro-1-propene (Al...	8.59	41	1095833	24.838	ng		99
21) Trichlorotrifluoroethane	8.84	151	645613	24.729	ng		98
22) Carbon Disulfide	8.69	76	2676365	23.258	ng		100
23) trans-1,2-Dichloroethene	9.71	61	1034883	23.445	ng		100
24) 1,1-Dichloroethane	9.96	63	1255714	23.963	ng		100
25) Methyl tert-Butyl Ether	10.05	73	1939842	23.535	ng		100
26) Vinyl Acetate	10.22	86	842794	109.525	ng	#	88
27) 2-Butanone (MEK)	10.45	72	501185	23.789	ng		95
28) cis-1,2-Dichloroethene	10.98	61	996750	23.086	ng		100
29) Diisopropyl Ether	11.27	87	671809	22.542	ng	#	90
30) Ethyl Acetate	11.28	61	625603	51.498	ng		98
31) n-Hexane	11.26	57	1325147	25.149	ng		100
32) Chloroform	11.32	83	1293889	23.533	ng		100
34) Tetrahydrofuran (THF)	11.72	72	479681	23.345	ng		97
35) Ethyl tert-Butyl Ether	11.86	87	875033	24.297	ng		98
36) 1,2-Dichloroethane	12.12	62	999799	22.952	ng		100
38) 1,1,1-Trichloroethane	12.40	97	1135718	23.745	ng		100
39) Isopropyl Acetate	12.83	61	1048980	50.139	ng		100
40) 1-Butanol	12.85	56	1318336	44.291	ng		95
41) Benzene	12.88	78	3007265	23.614	ng		100
42) Carbon Tetrachloride	13.04	117	1024390	23.649	ng		100
43) Cyclohexane	13.17	84	2323129	48.954	ng		99
44) tert-Amyl Methyl Ether	13.51	73	2136641	25.020	ng		100
45) 1,2-Dichloropropane	13.73	63	727057	24.651	ng		100
46) Bromodichloromethane	13.92	83	1057244	24.565	ng		100
47) Trichloroethene	13.97	130	807783	24.540	ng		100
48) 1,4-Dioxane	13.95	88	612913	23.897	ng		100
49) 2,2,4-Trimethylpentane...	14.04	57	3029501	24.447	ng		99
50) Methyl Methacrylate	14.18	100	636780	50.403	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142033.D Vial: 2
Acq On : 15 May 2020 3:13 Operator: LH
Sample : CCVend R16051420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 15 09:29:05 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

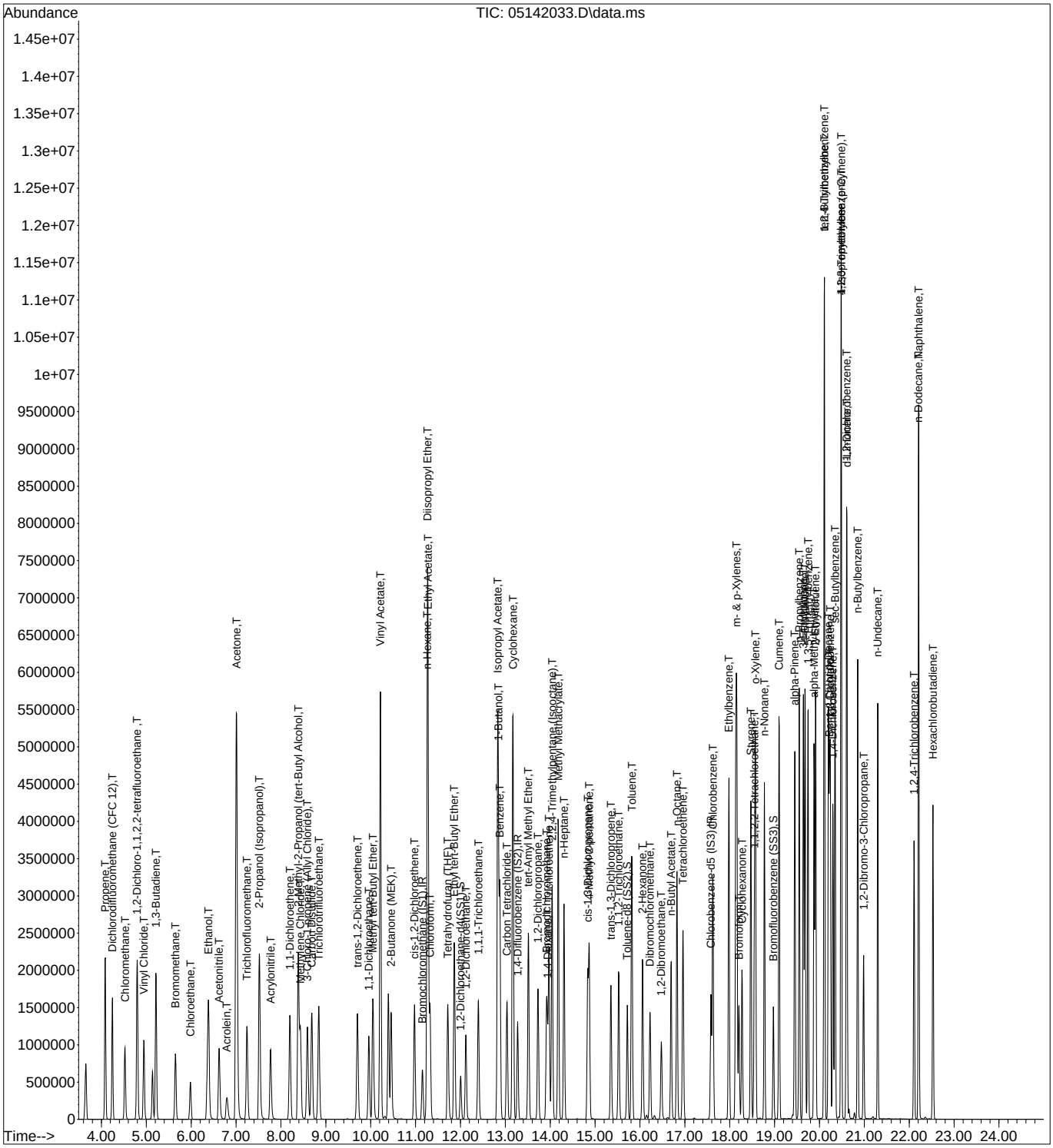
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	727354	24.424	ng	99
52) cis-1,3-Dichloropropene	14.84	75	1219695	24.087	ng	100
53) 4-Methyl-2-pentanone	14.87	58	685267	24.139	ng	98
54) trans-1,3-Dichloropropene	15.35	75	1094014	25.251	ng	100
55) 1,1,2-Trichloroethane	15.52	97	716490	24.497	ng	100
58) Toluene	15.82	91	2954265	24.135	ng	100
59) 2-Hexanone	16.06	43	1648222	24.574	ng	99
60) Dibromochloromethane	16.22	129	898484	25.635	ng	100
61) 1,2-Dibromoethane	16.48	107	834325	24.767	ng	100
62) n-Butyl Acetate	16.70	43	1767964	24.403	ng	99
63) n-Octane	16.83	57	640202	25.264	ng	98
64) Tetrachloroethene	16.96	166	856201	24.765	ng	100
65) Chlorobenzene	17.62	112	1971169	23.404	ng	100
66) Ethylbenzene	17.98	91	3497467	25.625	ng	100
67) m- & p-Xylenes	18.15	91	5752178	53.123	ng	99
68) Bromoform	18.21	173	781950	25.735	ng	100
69) Styrene	18.47	104	2135960	26.227	ng	100
70) o-Xylene	18.57	91	2821724	25.669	ng	100
71) n-Nonane	18.77	43	1561096	26.766	ng	98
72) 1,1,2,2-Tetrachloroethane	18.55	83	1401872	25.706	ng	100
74) Cumene	19.10	105	3559131	26.382	ng	100
75) alpha-Pinene	19.45	93	1872046	26.007	ng	99
76) n-Propylbenzene	19.55	91	4354721	27.172	ng	100
77) 3-Ethyltoluene	19.64	105	3517142	26.936	ng	100
78) 4-Ethyltoluene	19.68	105	3505173	27.665	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	2928195	26.617	ng	99
80) alpha-Methylstyrene	19.88	118	1484928	23.947	ng	99
81) 2-Ethyltoluene	19.91	105	3529388	27.402	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3102196	28.055	ng	100
83) n-Decane	20.20	57	1648100	26.644	ng	99
84) Benzyl Chloride	20.22	91	2537109	24.618	ng	100
85) 1,3-Dichlorobenzene	20.24	146	1751914	27.286	ng	99
86) 1,4-Dichlorobenzene	20.30	146	1707227	27.247	ng	100
87) sec-Butylbenzene	20.35	105	3937915	27.436	ng	99
88) 4-Isopropyltoluene (p-...	20.48	119	3706558	27.270	ng	99
89) 1,2,3-Trimethylbenzene	20.48	105	3176652	27.451	ng	100
90) 1,2-Dichlorobenzene	20.61	146	1695905	27.587	ng	100
91) d-Limonene	20.61	68	1186208	27.162	ng	99
92) 1,2-Dibromo-3-Chloropr...	20.98	157	591096	25.501	ng	98
93) n-Undecane	21.30	57	1600513	27.957	ng	99
94) 1,2,4-Trichlorobenzene	22.11	180	1144066	26.833	ng	100
95) Naphthalene	22.21	128	3469702	25.711	ng	100
96) n-Dodecane	22.21	57	1463272	29.520	ng	98
97) Hexachlorobutadiene	22.53	225	777597	26.366	ng	100
98) Cyclohexanone	18.27	55	874651	20.414	ng	99
99) tert-Butylbenzene	20.11	119	2942633	27.039	ng	100
100) n-Butylbenzene	20.85	91	3165403	28.117	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\14\05142033.D Vial: 2
Acq On : 15 May 2020 3:13 Operator: LH
Sample : CCVend R16051420_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 15 09:29:05 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\15\05152001.D Vial: 2
Acq On : 15 May 2020 3:47 Operator: LH
Sample : CCV R16051520_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 15 09:29:07 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 LH 5/15/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	98	-0.01
2	T	Propene	1.448	1.423	1.7	95	-0.01
3	T	Dichlorodifluoromethane (CF	2.832	2.528	10.7	91	-0.01
4	T	Chloromethane	2.218	2.015	9.2	90	-0.01
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.692	1.436	15.1	88	-0.01
6	T	Vinyl Chloride	2.433	2.058	15.4	86	-0.01
7	T	1,3-Butadiene	2.013	1.736	13.8	87	-0.01
8	T	Bromomethane	1.285	1.147	10.7	91	-0.01
9	T	Chloroethane	0.961	0.858	10.7	89	-0.01
10	T	Ethanol	1.118	1.005	10.1	89	-0.03
11	T	Acetonitrile	2.555	2.286	10.5	91	-0.02
12	T	Acrolein	0.883	0.759	14.0	85	-0.02
13	T	Acetone	1.118	1.025	8.3	89	-0.02
14	T	Trichlorofluoromethane	2.503	2.179	12.9	87	0.00
15	T	2-Propanol (Isopropanol)	3.384	3.141	7.2	88	-0.03
16	T	Acrylonitrile	1.828	1.681	8.0	90	-0.01
17	T	1,1-Dichloroethene	1.312	1.173	10.6	88	0.00
18	T	2-Methyl-2-Propanol (tert-B	3.155	2.576	18.4	79	-0.02
19	T	Methylene Chloride	1.453	1.261	13.2	87	0.00
20	T	3-Chloro-1-propene (Allyl C	1.997	1.884	5.7	91	-0.01
21	T	Trichlorotrifluoroethane	1.182	1.099	7.0	90	0.00
22	T	Carbon Disulfide	5.208	4.604	11.6	88	-0.01
23	T	trans-1,2-Dichloroethene	1.998	1.748	12.5	87	-0.01
24	T	1,1-Dichloroethane	2.371	2.115	10.8	87	0.00
25	T	Methyl tert-Butyl Ether	3.730	3.278	12.1	91	0.00
26	T	Vinyl Acetate	0.348	0.288	17.2	76	-0.01
27	T	2-Butanone (MEK)	0.953	0.873	8.4	90	-0.01
28	T	cis-1,2-Dichloroethene	1.954	1.725	11.7	88	0.00
29	T	Diisopropyl Ether	1.349	1.128	16.4	84	0.00
30	T	Ethyl Acetate	0.550	0.522	5.1	86	-0.01
31	T	n-Hexane	2.385	2.233	6.4	88	0.00
32	T	Chloroform	2.488	2.204	11.4	88	0.00
33	S	1,2-Dichloroethane-d4(SS1)	1.694	1.624	4.1	98	0.00
34	T	Tetrahydrofuran (THF)	0.930	0.805	13.4	88	0.00
35	T	Ethyl tert-Butyl Ether	1.630	1.491	8.5	88	0.00
36	T	1,2-Dichloroethane	1.971	1.692	14.2	87	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	98	0.00
38	T	1,1,1-Trichloroethane	0.503	0.450	10.5	86	0.00
39	T	Isopropyl Acetate	0.220	0.208	5.5	86	0.00
40	T	1-Butanol	0.313	0.267	14.7	79	-0.02
41	T	Benzene	1.340	1.209	9.8	89	0.00
42	T	Carbon Tetrachloride	0.456	0.415	9.0	86	0.00
43	T	Cyclohexane	0.500	0.458	8.4	86	0.00
44	T	tert-Amyl Methyl Ether	0.899	0.847	5.8	89	0.00
45	T	1,2-Dichloropropane	0.310	0.286	7.7	88	0.00
46	T	Bromodichloromethane	0.453	0.414	8.6	85	0.00
47	T	Trichloroethene	0.346	0.316	8.7	88	0.00
48	T	1,4-Dioxane	0.270	0.241	10.7	85	-0.01
49	T	2,2,4-Trimethylpentane (Iso	1.304	1.202	7.8	89	0.00
50	T	Methyl Methacrylate	0.133	0.126	5.3	86	-0.01
51	T	n-Heptane	0.313	0.287	8.3	91	0.00
52	T	cis-1,3-Dichloropropene	0.533	0.493	7.5	86	0.00
53	T	4-Methyl-2-pentanone	0.299	0.277	7.4	87	0.00
54	T	trans-1,3-Dichloropropene	0.456	0.440	3.5	85	0.00
55	T	1,1,2-Trichloroethane	0.308	0.285	7.5	87	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\15\05152001.D Vial: 2
Acq On : 15 May 2020 3:47 Operator: LH
Sample : CCV R16051520_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 15 09:29:07 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	100	0.00
57	S	Toluene-d8 (SS2)	2.119	2.061	2.7	97	0.00
58	T	Toluene	2.731	2.481	9.2	88	0.00
59	T	2-Hexanone	1.497	1.395	6.8	88	0.00
60	T	Dibromochloromethane	0.782	0.755	3.5	87	0.00
61	T	1,2-Dibromoethane	0.752	0.701	6.8	87	0.00
62	T	n-Butyl Acetate	1.616	1.467	9.2	84	0.00
63	T	n-Octane	0.565	0.531	6.0	90	0.00
64	T	Tetrachloroethene	0.771	0.731	5.2	88	0.00
65	T	Chlorobenzene	1.879	1.661	11.6	88	0.00
66	T	Ethylbenzene	3.045	2.940	3.4	88	0.00
67	T	m- & p-Xylenes	2.416	2.396	0.8	90	0.00
68	T	Bromoform	0.678	0.659	2.8	88	0.00
69	T	Styrene	1.817	1.814	0.2	87	0.00
70	T	o-Xylene	2.453	2.343	4.5	88	-0.01
71	T	n-Nonane	1.301	1.309	-0.6	92	0.00
72	T	1,1,2,2-Tetrachloroethane	1.217	1.175	3.5	89	-0.01
73	S	Bromofluorobenzene (SS3)	0.762	0.815	-7.0	101	0.00
74	T	Cumene	3.010	2.934	2.5	88	0.00
75	T	alpha-Pinene	1.606	1.564	2.6	87	0.00
76	T	n-Propylbenzene	3.576	3.598	-0.6	89	0.00
77	T	3-Ethyltoluene	2.913	2.966	-1.8	87	0.00
78	T	4-Ethyltoluene	2.827	2.845	-0.6	90	-0.01
79	T	1,3,5-Trimethylbenzene	2.455	2.461	-0.2	89	-0.01
80	T	alpha-Methylstyrene	1.384	1.239	10.5	83	0.00
81	T	2-Ethyltoluene	2.874	2.888	-0.5	89	0.00
82	T	1,2,4-Trimethylbenzene	2.467	2.575	-4.4	84	0.00
83	T	n-Decane	1.380	1.364	1.2	90	0.00
84	T	Benzyl Chloride	2.300	2.108	8.3	81	-0.01
85	T	1,3-Dichlorobenzene	1.433	1.452	-1.3	87	0.00
86	T	1,4-Dichlorobenzene	1.398	1.426	-2.0	88	-0.01
87	T	sec-Butylbenzene	3.203	3.247	-1.4	89	0.00
88	T	4-Isopropyltoluene (p-Cymen	3.033	3.033	0.0	85	0.00
89	T	1,2,3-Trimethylbenzene	2.582	2.584	-0.1	84	0.00
90	T	1,2-Dichlorobenzene	1.372	1.403	-2.3	85	-0.01
91	T	d-Limonene	0.974	0.974	0.0	83	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.517	0.507	1.9	87	0.00
93	T	n-Undecane	1.277	1.332	-4.3	90	0.00
94	T	1,2,4-Trichlorobenzene	0.951	0.959	-0.8	84	-0.01
95	T	Naphthalene	3.011	3.009	0.1	78	-0.01
96	T	n-Dodecane	1.106	1.255	-13.5	85	-0.01
97	T	Hexachlorobutadiene	0.658	0.654	0.6	90	0.00
98	T	Cyclohexanone	0.956	0.789	17.5	80	-0.01
99	T	tert-Butylbenzene	2.428	2.460	-1.3	86	0.00
100	T	n-Butylbenzene	2.512	2.628	-4.6	88	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152001.D Vial: 2
Acq On : 15 May 2020 3:47 Operator: LH
Sample : CCV R16051520_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 15 09:29:07 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 5/15/20

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	281389	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.28	114	1209030	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.58	82	569598	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	456847	11.980	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.84%				
57) Toluene-d8 (SS2)	15.72	98	1173711	12.157	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.28%				
73) Bromofluorobenzene (SS3)	18.97	174	464121	13.360	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.88%				
Target Compounds							Qvalue
2) Propene	4.08	42	848891	26.047	ng		99
3) Dichlorodifluoromethan...	4.24	85	1507999	23.657	ng		100
4) Chloromethane	4.52	50	1201886	24.068	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	848737	22.286	ng		100
6) Vinyl Chloride	4.94	62	1250664	22.839	ng		100
7) 1,3-Butadiene	5.21	54	1035455	22.852	ng		99
8) Bromomethane	5.65	94	696914	24.091	ng		100
9) Chloroethane	5.98	64	521473	24.105	ng		99
10) Ethanol	6.38	45	2947854	117.140	ng		100
11) Acetonitrile	6.62	41	1350588	23.485	ng		100
12) Acrolein	6.79	56	440201	22.138	ng		100
13) Acetone	7.01	58	3075205	122.191	ng		100
14) Trichlorofluoromethane	7.24	101	1300059	23.077	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	3711946	48.731	ng		99
16) Acrylonitrile	7.77	53	993157	24.140	ng		100
17) 1,1-Dichloroethene	8.20	96	712682	24.133	ng		100
18) 2-Methyl-2-Propanol (t...	8.39	59	3131314	44.095	ng		100
19) Methylene Chloride	8.44	84	752232	22.993	ng		97
20) 3-Chloro-1-propene (Al...	8.59	41	1145320	25.482	ng		99
21) Trichlorotrifluoroethane	8.84	151	668080	25.118	ng		98
22) Carbon Disulfide	8.68	76	2772477	23.650	ng		100
23) trans-1,2-Dichloroethene	9.70	61	1062384	23.625	ng		99
24) 1,1-Dichloroethane	9.96	63	1297363	24.302	ng		100
25) Methyl tert-Butyl Ether	10.05	73	1992227	23.726	ng		100
26) Vinyl Acetate	10.22	86	866518	110.535	ng	#	89
27) 2-Butanone (MEK)	10.45	72	520614	24.257	ng		94
28) cis-1,2-Dichloroethene	10.98	61	1028884	23.392	ng		99
29) Diisopropyl Ether	11.27	87	685778	22.587	ng	#	90
30) Ethyl Acetate	11.27	61	637558	51.516	ng		98
31) n-Hexane	11.26	57	1357259	25.284	ng		100
32) Chloroform	11.32	83	1327487	23.700	ng		100
34) Tetrahydrofuran (THF)	11.72	72	493876	23.593	ng		97
35) Ethyl tert-Butyl Ether	11.86	87	906327	24.702	ng		97
36) 1,2-Dichloroethane	12.12	62	1028639	23.180	ng		100
38) 1,1,1-Trichloroethane	12.40	97	1165066	23.925	ng		100
39) Isopropyl Acetate	12.83	61	1061322	49.826	ng		99
40) 1-Butanol	12.85	56	1341102	44.254	ng		95
41) Benzene	12.88	78	3099303	23.904	ng		100
42) Carbon Tetrachloride	13.04	117	1053425	23.886	ng		100
43) Cyclohexane	13.17	84	2348838	48.615	ng		98
44) tert-Amyl Methyl Ether	13.51	73	2212559	25.448	ng		100
45) 1,2-Dichloropropane	13.73	63	745710	24.834	ng		100
46) Bromodichloromethane	13.92	83	1080182	24.652	ng		100
47) Trichloroethene	13.97	130	817845	24.404	ng		99
48) 1,4-Dioxane	13.94	88	629373	24.102	ng		100
49) 2,2,4-Trimethylpentane...	14.04	57	3108857	24.641	ng		99
50) Methyl Methacrylate	14.18	100	652744	50.747	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152001.D Vial: 2
Acq On : 15 May 2020 3:47 Operator: LH
Sample : CCV R16051520_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 15 09:29:07 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

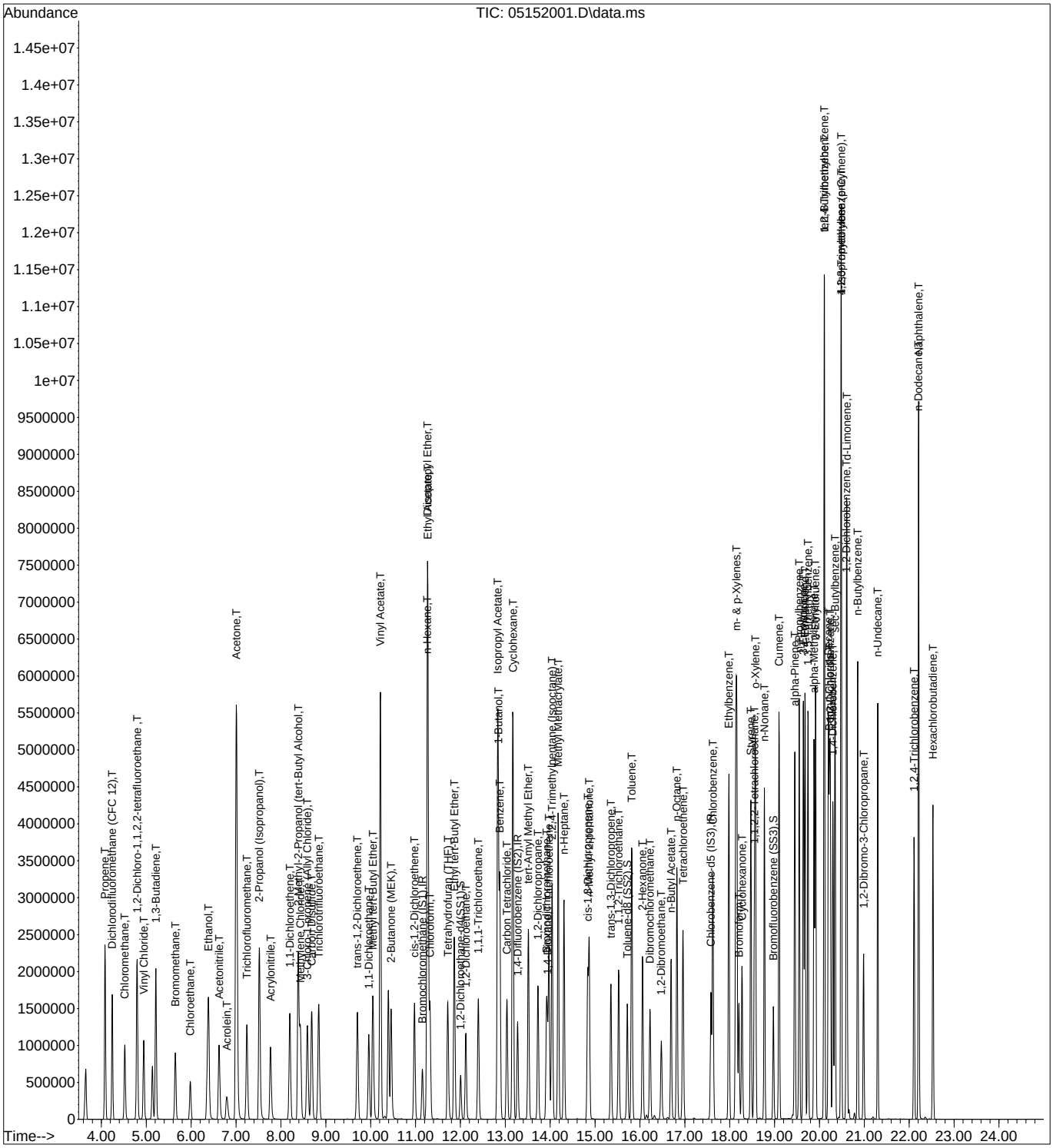
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	749163	24.709	ng	98
52) cis-1,3-Dichloropropene	14.84	75	1239897	24.051	ng	100
53) 4-Methyl-2-pentanone	14.87	58	709191	24.537	ng	98
54) trans-1,3-Dichloropropene	15.35	75	1127600	25.563	ng	100
55) 1,1,2-Trichloroethane	15.52	97	738281	24.793	ng	100
58) Toluene	15.82	91	3024393	24.302	ng	100
59) 2-Hexanone	16.06	43	1700573	24.938	ng	99
60) Dibromochloromethane	16.22	129	920386	25.828	ng	100
61) 1,2-Dibromoethane	16.48	107	854735	24.956	ng	100
62) n-Butyl Acetate	16.70	43	1821188	24.725	ng	99
63) n-Octane	16.82	57	653801	25.376	ng	99
64) Tetrachloroethene	16.96	166	866646	24.654	ng	100
65) Chlorobenzene	17.62	112	2024868	23.647	ng	100
66) Ethylbenzene	17.98	91	3583737	25.825	ng	100
67) m- & p-Xylenes	18.15	91	5840555	53.052	ng	98
68) Bromoform	18.21	173	803207	25.999	ng	100
69) Styrene	18.47	104	2189939	26.448	ng	100
70) o-Xylene	18.57	91	2856395	25.557	ng	100
71) n-Nonane	18.77	43	1595798	26.911	ng	98
72) 1,1,2,2-Tetrachloroethane	18.55	83	1432173	25.830	ng	100
74) Cumene	19.10	105	3610332	26.322	ng	100
75) alpha-Pinene	19.45	93	1906897	26.055	ng	100
76) n-Propylbenzene	19.55	91	4426796	27.167	ng	100
77) 3-Ethyltoluene	19.64	105	3581816	26.980	ng	100
78) 4-Ethyltoluene	19.68	105	3499826	27.169	ng	100
79) 1,3,5-Trimethylbenzene	19.74	105	2971578	26.567	ng	100
80) alpha-Methylstyrene	19.88	118	1509697	23.946	ng	100
81) 2-Ethyltoluene	19.91	105	3553200	27.134	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3138642	27.918	ng	99
83) n-Decane	20.20	57	1662037	26.428	ng	99
84) Benzyl Chloride	20.22	91	2593348	24.750	ng	100
85) 1,3-Dichlorobenzene	20.24	146	1770256	27.118	ng	99
86) 1,4-Dichlorobenzene	20.30	146	1738063	27.283	ng	100
87) sec-Butylbenzene	20.35	105	3958194	27.123	ng	100
88) 4-Isopropyltoluene (p-...	20.48	119	3766574	27.256	ng	100
89) 1,2,3-Trimethylbenzene	20.48	105	3209047	27.274	ng	99
90) 1,2-Dichlorobenzene	20.60	146	1710534	27.367	ng	100
91) d-Limonene	20.61	68	1197960	26.980	ng	99
92) 1,2-Dibromo-3-Chloropr...	20.98	157	605970	25.712	ng	99
93) n-Undecane	21.30	57	1639204	28.162	ng	98
94) 1,2,4-Trichlorobenzene	22.11	180	1168914	26.965	ng	100
95) Naphthalene	22.21	128	3530701	25.733	ng	100
96) n-Dodecane	22.21	57	1487443	29.514	ng	99
97) Hexachlorobutadiene	22.53	225	789159	26.318	ng	100
98) Cyclohexanone	18.27	55	898407	20.623	ng	99
99) tert-Butylbenzene	20.11	119	2998171	27.096	ng	100
100) n-Butylbenzene	20.85	91	3203336	27.986	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152001.D Vial: 2
Acq On : 15 May 2020 3:47 Operator: LH
Sample : CCV R16051520_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 15 09:29:07 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\15\05152029.D Vial: 2
Acq On : 15 May 2020 22:39 Operator: LH
Sample : CCVend R16051520_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 17 07:21:08 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

5/17/20

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	98	-0.01
2	T	Propene	1.448	1.372	5.2	91	-0.01
3	T	Dichlorodifluoromethane (CF	2.832	2.451	13.5	87	-0.01
4	T	Chloromethane	2.218	1.940	12.5	86	-0.01
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.692	1.402	17.1	86	-0.01
6	T	Vinyl Chloride	2.433	2.032	16.5	85	-0.01
7	T	1,3-Butadiene	2.013	1.694	15.8	84	-0.01
8	T	Bromomethane	1.285	1.113	13.4	87	-0.01
9	T	Chloroethane	0.961	0.833	13.3	86	0.00
10	T	Ethanol	1.118	0.963	13.9	85	-0.03
11	T	Acetonitrile	2.555	2.190	14.3	87	-0.02
12	T	Acrolein	0.883	0.728	17.6	81	-0.01
13	T	Acetone	1.118	0.997	10.8	86	-0.02
14	T	Trichlorofluoromethane	2.503	2.115	15.5	84	0.00
15	T	2-Propanol (Isopropanol)	3.384	3.003	11.3	84	-0.03
16	T	Acrylonitrile	1.828	1.620	11.4	87	-0.01
17	T	1,1-Dichloroethene	1.312	1.134	13.6	84	0.00
18	T	2-Methyl-2-Propanol (tert-B	3.155	2.463	21.9	75	-0.02
19	T	Methylene Chloride	1.453	1.232	15.2	84	0.00
20	T	3-Chloro-1-propene (Allyl C	1.997	1.808	9.5	87	-0.01
21	T	Trichlorotrifluoroethane	1.182	1.057	10.6	86	0.00
22	T	Carbon Disulfide	5.208	4.440	14.7	84	0.00
23	T	trans-1,2-Dichloroethene	1.998	1.694	15.2	84	0.00
24	T	1,1-Dichloroethane	2.371	2.061	13.1	85	0.00
25	T	Methyl tert-Butyl Ether	3.730	3.142	15.8	87	0.00
26	T	Vinyl Acetate	0.348	0.277	20.4	72	-0.01
27	T	2-Butanone (MEK)	0.953	0.847	11.1	87	0.00
28	T	cis-1,2-Dichloroethene	1.954	1.685	13.8	85	0.00
29	T	Diisopropyl Ether	1.349	1.108	17.9	82	0.00
30	T	Ethyl Acetate	0.550	0.514	6.5	84	0.00
31	T	n-Hexane	2.385	2.176	8.8	86	0.00
32	T	Chloroform	2.488	2.155	13.4	85	0.00
33	S	1,2-Dichloroethane-d4(SS1)	1.694	1.616	4.6	97	0.00
34	T	Tetrahydrofuran (THF)	0.930	0.786	15.5	85	0.00
35	T	Ethyl tert-Butyl Ether	1.630	1.448	11.2	85	0.00
36	T	1,2-Dichloroethane	1.971	1.648	16.4	84	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	97	0.00
38	T	1,1,1-Trichloroethane	0.503	0.441	12.3	84	0.00
39	T	Isopropyl Acetate	0.220	0.205	6.8	84	0.00
40	T	1-Butanol	0.313	0.262	16.3	76	-0.02
41	T	Benzene	1.340	1.187	11.4	86	0.00
42	T	Carbon Tetrachloride	0.456	0.406	11.0	84	0.00
43	T	Cyclohexane	0.500	0.453	9.4	85	0.00
44	T	tert-Amyl Methyl Ether	0.899	0.824	8.3	86	0.00
45	T	1,2-Dichloropropane	0.310	0.279	10.0	86	0.00
46	T	Bromodichloromethane	0.453	0.408	9.9	83	0.00
47	T	Trichloroethene	0.346	0.311	10.1	85	0.00
48	T	1,4-Dioxane	0.270	0.235	13.0	82	0.00
49	T	2,2,4-Trimethylpentane (Iso	1.304	1.187	9.0	87	0.00
50	T	Methyl Methacrylate	0.133	0.124	6.8	84	0.00
51	T	n-Heptane	0.313	0.282	9.9	88	0.00
52	T	cis-1,3-Dichloropropene	0.533	0.484	9.2	83	0.00
53	T	4-Methyl-2-pentanone	0.299	0.269	10.0	84	0.00
54	T	trans-1,3-Dichloropropene	0.456	0.430	5.7	82	0.00
55	T	1,1,2-Trichloroethane	0.308	0.280	9.1	85	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS16\DATA\2020_05\15\05152029.D Vial: 2
Acq On : 15 May 2020 22:39 Operator: LH
Sample : CCVend R16051520_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 17 07:21:08 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	100	0.00
57	S	Toluene-d8 (SS2)	2.119	2.048	3.4	97	0.00
58	T	Toluene	2.731	2.407	11.9	86	0.00
59	T	2-Hexanone	1.497	1.343	10.3	85	0.00
60	T	Dibromochloromethane	0.782	0.730	6.6	84	0.00
61	T	1,2-Dibromoethane	0.752	0.678	9.8	85	0.00
62	T	n-Butyl Acetate	1.616	1.405	13.1	81	0.00
63	T	n-Octane	0.565	0.521	7.8	89	0.00
64	T	Tetrachloroethene	0.771	0.714	7.4	86	0.00
65	T	Chlorobenzene	1.879	1.597	15.0	85	0.00
66	T	Ethylbenzene	3.045	2.826	7.2	86	0.00
67	T	m- & p-Xylenes	2.416	2.278	5.7	86	0.00
68	T	Bromoform	0.678	0.635	6.3	85	0.00
69	T	Styrene	1.817	1.752	3.6	85	0.00
70	T	o-Xylene	2.453	2.294	6.5	86	0.00
71	T	n-Nonane	1.301	1.273	2.2	90	0.00
72	T	1,1,2,2-Tetrachloroethane	1.217	1.139	6.4	86	-0.01
73	S	Bromofluorobenzene (SS3)	0.762	0.813	-6.7	102	0.00
74	T	Cumene	3.010	2.869	4.7	87	0.00
75	T	alpha-Pinene	1.606	1.521	5.3	85	0.00
76	T	n-Propylbenzene	3.576	3.497	2.2	87	0.00
77	T	3-Ethyltoluene	2.913	2.857	1.9	85	0.00
78	T	4-Ethyltoluene	2.827	2.816	0.4	89	0.00
79	T	1,3,5-Trimethylbenzene	2.455	2.393	2.5	87	0.00
80	T	alpha-Methylstyrene	1.384	1.205	12.9	81	0.00
81	T	2-Ethyltoluene	2.874	2.835	1.4	88	0.00
82	T	1,2,4-Trimethylbenzene	2.467	2.506	-1.6	82	0.00
83	T	n-Decane	1.380	1.329	3.7	88	0.00
84	T	Benzyl Chloride	2.300	2.016	12.3	78	-0.01
85	T	1,3-Dichlorobenzene	1.433	1.415	1.3	86	0.00
86	T	1,4-Dichlorobenzene	1.398	1.388	0.7	86	0.00
87	T	sec-Butylbenzene	3.203	3.187	0.5	88	0.00
88	T	4-Isopropyltoluene (p-Cymen	3.033	2.940	3.1	83	0.00
89	T	1,2,3-Trimethylbenzene	2.582	2.530	2.0	83	0.00
90	T	1,2-Dichlorobenzene	1.372	1.368	0.3	83	0.00
91	T	d-Limonene	0.974	0.952	2.3	82	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.517	0.492	4.8	85	0.00
93	T	n-Undecane	1.277	1.305	-2.2	89	0.00
94	T	1,2,4-Trichlorobenzene	0.951	0.929	2.3	81	-0.01
95	T	Naphthalene	3.011	2.924	2.9	76	-0.01
96	T	n-Dodecane	1.106	1.234	-11.6	84	0.00
97	T	Hexachlorobutadiene	0.658	0.632	4.0	87	0.00
98	T	Cyclohexanone	0.956	0.759	20.6	78	-0.01
99	T	tert-Butylbenzene	2.428	2.376	2.1	83	0.00
100	T	n-Butylbenzene	2.512	2.567	-2.2	87	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152029.D Vial: 2
Acq On : 15 May 2020 22:39 Operator: LH
Sample : CCVend R16051520_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 17 07:21:08 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020 5/17/20
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.15	130	279638	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.27	114	1197649	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.58	82	572896	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.00	65	451969	11.926	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.44%				
57) Toluene-d8 (SS2)	15.72	98	1173352	12.083	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.64%				
73) Bromofluorobenzene (SS3)	18.98	174	465714	13.329	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.64%				
Target Compounds							Qvalue
2) Propene	4.08	42	813228	25.109	ng		99
3) Dichlorodifluoromethan...	4.24	85	1452836	22.935	ng		100
4) Chloromethane	4.52	50	1150234	23.177	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.80	135	823249	21.752	ng		100
6) Vinyl Chloride	4.94	62	1227399	22.554	ng		100
7) 1,3-Butadiene	5.21	54	1004501	22.308	ng		99
8) Bromomethane	5.65	94	671983	23.374	ng		99
9) Chloroethane	5.98	64	503182	23.405	ng		100
10) Ethanol	6.38	45	2806450	112.220	ng		100
11) Acetonitrile	6.62	41	1285834	22.499	ng		100
12) Acrolein	6.80	56	419094	21.209	ng		100
13) Acetone	7.01	58	2971327	118.803	ng		99
14) Trichlorofluoromethane	7.24	101	1254043	22.400	ng		100
15) 2-Propanol (Isopropanol)	7.52	45	3526711	46.589	ng		99
16) Acrylonitrile	7.77	53	951518	23.273	ng		100
17) 1,1-Dichloroethene	8.20	96	685029	23.342	ng		99
18) 2-Methyl-2-Propanol (t...	8.39	59	2975689	42.166	ng		100
19) Methylene Chloride	8.44	84	730245	22.461	ng		98
20) 3-Chloro-1-propene (Al...	8.59	41	1092286	24.454	ng		98
21) Trichlorotrifluoroethane	8.84	151	638389	24.152	ng		98
22) Carbon Disulfide	8.69	76	2657291	22.810	ng		100
23) trans-1,2-Dichloroethene	9.71	61	1023450	22.902	ng		99
24) 1,1-Dichloroethane	9.96	63	1256417	23.683	ng		100
25) Methyl tert-Butyl Ether	10.05	73	1898043	22.746	ng		100
26) Vinyl Acetate	10.22	86	828543	106.352	ng	#	87
27) 2-Butanone (MEK)	10.46	72	502103	23.541	ng		95
28) cis-1,2-Dichloroethene	10.98	61	998793	22.850	ng		100
29) Diisopropyl Ether	11.27	87	669542	22.191	ng	#	90
30) Ethyl Acetate	11.28	61	623425	50.689	ng		98
31) n-Hexane	11.26	57	1314179	24.635	ng		100
32) Chloroform	11.32	83	1289394	23.164	ng		100
34) Tetrahydrofuran (THF)	11.72	72	479345	23.042	ng		97
35) Ethyl tert-Butyl Ether	11.86	87	874554	23.986	ng		97
36) 1,2-Dichloroethane	12.12	62	995172	22.566	ng		100
38) 1,1,1-Trichloroethane	12.40	97	1131498	23.457	ng		100
39) Isopropyl Acetate	12.83	61	1035781	49.089	ng		99
40) 1-Butanol	12.85	56	1303163	43.410	ng		94
41) Benzene	12.88	78	3013499	23.463	ng		100
42) Carbon Tetrachloride	13.04	117	1021659	23.386	ng		100
43) Cyclohexane	13.17	84	2302714	48.113	ng		98
44) tert-Amyl Methyl Ether	13.52	73	2132328	24.759	ng		100
45) 1,2-Dichloropropane	13.73	63	720993	24.239	ng		99
46) Bromodichloromethane	13.92	83	1054579	24.296	ng		100
47) Trichloroethene	13.97	130	797315	24.017	ng		99
48) 1,4-Dioxane	13.95	88	608207	23.513	ng		99
49) 2,2,4-Trimethylpentane...	14.04	57	3042750	24.347	ng		99
50) Methyl Methacrylate	14.18	100	636474	49.953	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152029.D Vial: 2
Acq On : 15 May 2020 22:39 Operator: LH
Sample : CCVend R16051520_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 17 07:21:08 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

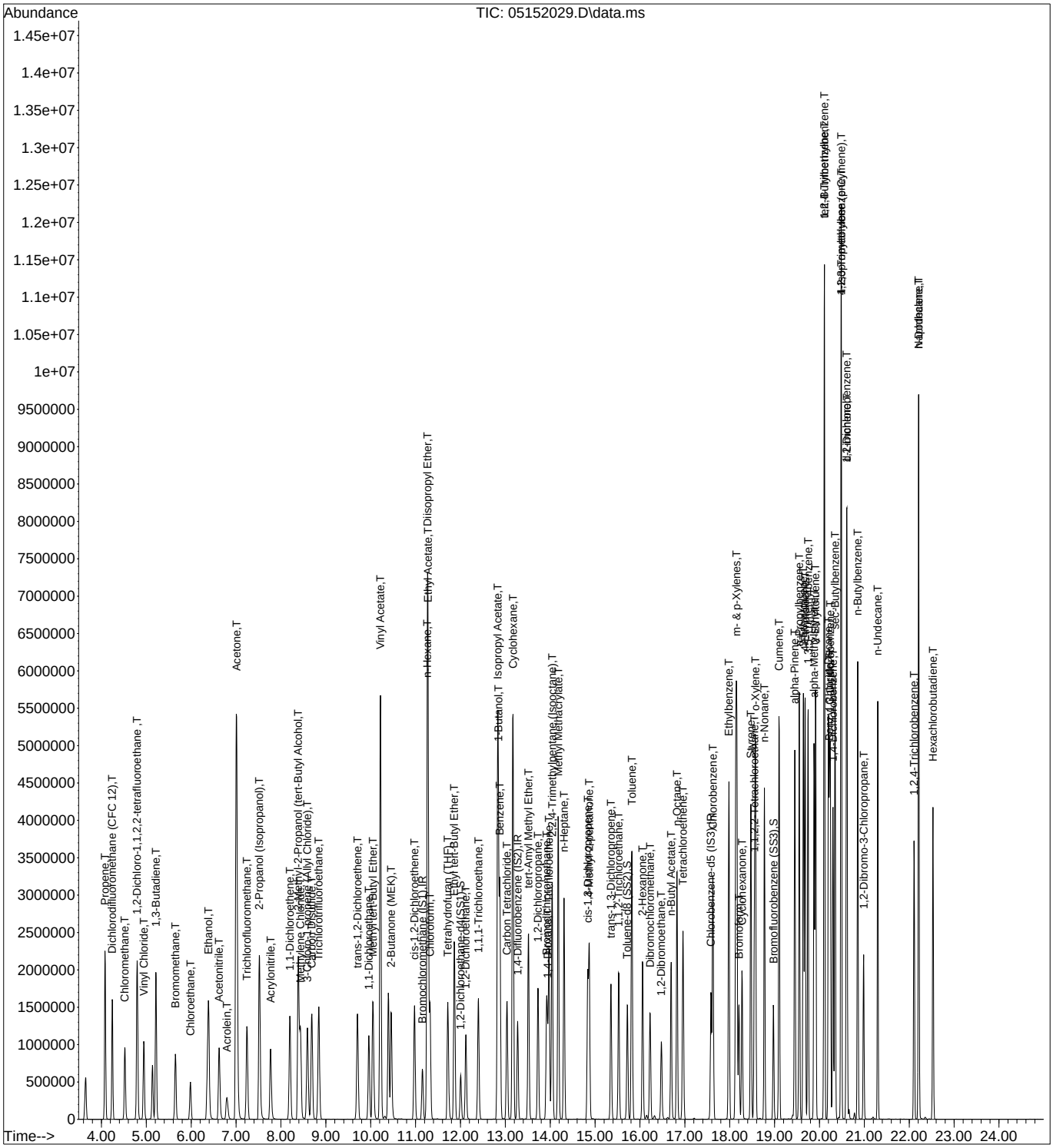
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	14.31	71	729058	24.274	ng	98
52) cis-1,3-Dichloropropene	14.84	75	1205154	23.599	ng	100
53) 4-Methyl-2-pentanone	14.87	58	682656	23.843	ng	98
54) trans-1,3-Dichloropropene	15.35	75	1091926	24.990	ng	100
55) 1,1,2-Trichloroethane	15.52	97	716496	24.290	ng	100
58) Toluene	15.82	91	2951179	23.577	ng	100
59) 2-Hexanone	16.06	43	1647066	24.014	ng	99
60) Dibromochloromethane	16.23	129	894641	24.961	ng	100
61) 1,2-Dibromoethane	16.48	107	831131	24.127	ng	100
62) n-Butyl Acetate	16.70	43	1755164	23.691	ng	99
63) n-Octane	16.83	57	645165	24.897	ng	97
64) Tetrachloroethene	16.96	166	850403	24.053	ng	100
65) Chlorobenzene	17.62	112	1957962	22.734	ng	100
66) Ethylbenzene	17.98	91	3465187	24.827	ng	100
67) m- & p-Xylenes	18.15	91	5584962	50.439	ng	100
68) Bromoform	18.21	173	778320	25.049	ng	100
69) Styrene	18.47	104	2128473	25.558	ng	100
70) o-Xylene	18.58	91	2812337	25.018	ng	100
71) n-Nonane	18.77	43	1561292	26.177	ng	98
72) 1,1,2,2-Tetrachloroethane	18.55	83	1396581	25.043	ng	100
74) Cumene	19.10	105	3550787	25.739	ng	100
75) alpha-Pinene	19.45	93	1864729	25.332	ng	99
76) n-Propylbenzene	19.55	91	4327415	26.404	ng	100
77) 3-Ethyltoluene	19.64	105	3469668	25.984	ng	100
78) 4-Ethyltoluene	19.68	105	3485079	26.899	ng	100
79) 1,3,5-Trimethylbenzene	19.75	105	2905920	25.831	ng	100
80) alpha-Methylstyrene	19.88	118	1477654	23.303	ng	91
81) 2-Ethyltoluene	19.91	105	3508371	26.637	ng	100
82) 1,2,4-Trimethylbenzene	20.11	105	3071877	27.167	ng	100
83) n-Decane	20.20	57	1629787	25.766	ng	99
84) Benzyl Chloride	20.22	91	2494712	23.671	ng	100
85) 1,3-Dichlorobenzene	20.24	146	1734360	26.415	ng	100
86) 1,4-Dichlorobenzene	20.30	146	1701660	26.558	ng	100
87) sec-Butylbenzene	20.35	105	3907257	26.620	ng	100
88) 4-Isopropyltoluene (p-...	20.48	119	3671759	26.417	ng	100
89) 1,2,3-Trimethylbenzene	20.48	105	3159975	26.703	ng	100
90) 1,2-Dichlorobenzene	20.61	146	1677365	26.682	ng	100
91) d-Limonene	20.61	68	1177554	26.368	ng	99
92) 1,2-Dibromo-3-Chloropr...	20.98	157	591839	24.968	ng	99
93) n-Undecane	21.30	57	1614987	27.586	ng	98
94) 1,2,4-Trichlorobenzene	22.11	180	1139243	26.129	ng	100
95) Naphthalene	22.21	128	3450403	25.003	ng	100
96) n-Dodecane	22.21	57	1470839	29.017	ng	98
97) Hexachlorobutadiene	22.53	225	767474	25.447	ng	100
98) Cyclohexanone	18.27	55	869756	19.851	ng	99
99) tert-Butylbenzene	20.11	119	2912860	26.173	ng	100
100) n-Butylbenzene	20.85	91	3146842	27.334	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS16\DATA\2020_05\15\05152029.D Vial: 2
Acq On : 15 May 2020 22:39 Operator: LH
Sample : CCVend R16051520_25ng Inst : GCMS-16
Misc : S31-02112001/S34-04292003 (5/28)

Quant Time: May 17 07:21:08 2020
Quant Method : I:\MS16\METHODS\R16050120.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri May 01 18:22:00 2020
Response via : Initial Calibration
DataAcq Meth:TO15.M

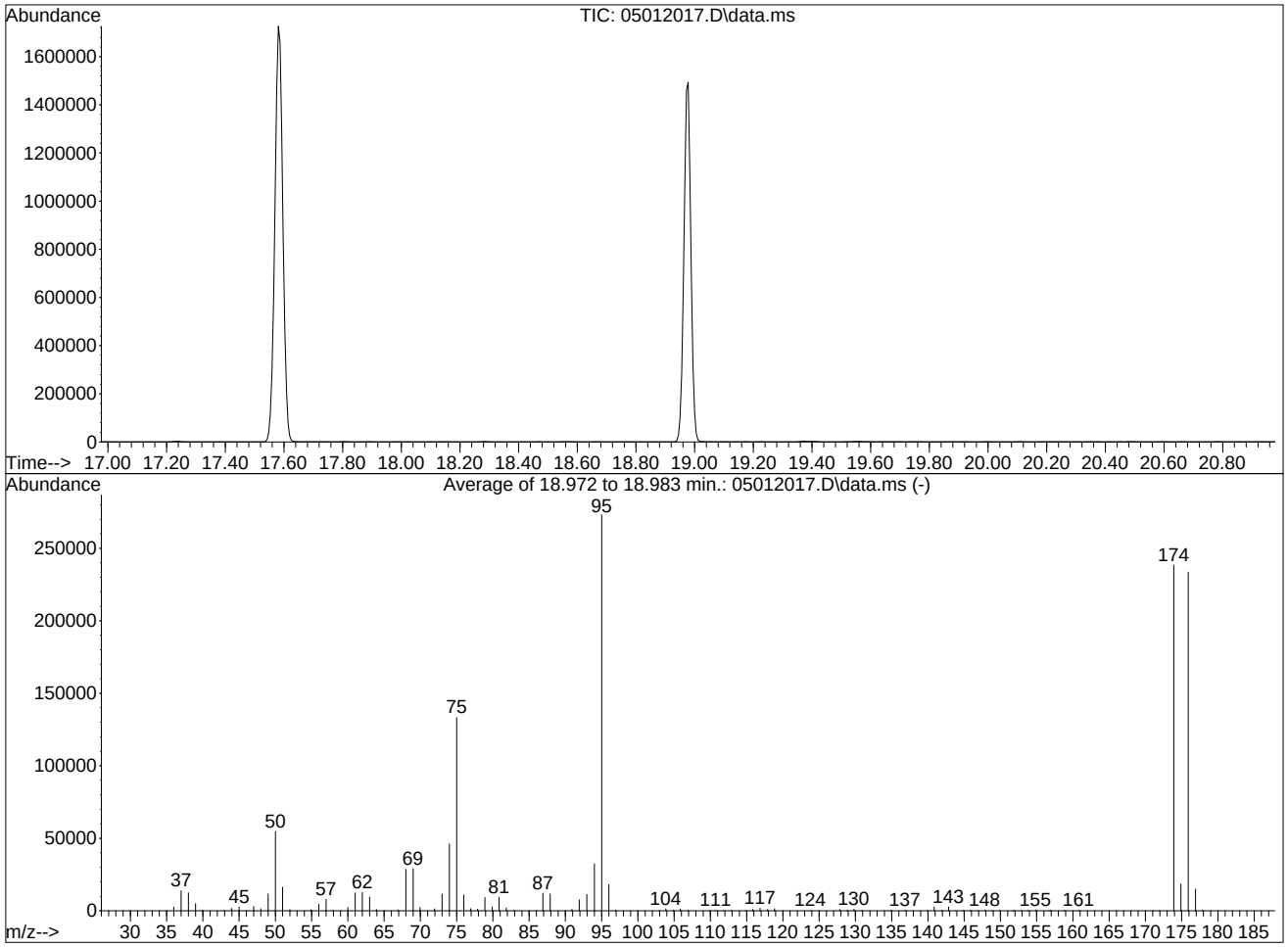


BFB

Data Path : I:\MS16\DATA\2020_05\01\
Data File : 05012017.D
Acq On : 1 May 2020 13:35
Operator : LH
Sample : 12.5ng TO15 BFB
Misc : S31-02112001
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16050120.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri May 01 17:25:50 2020



AutoFind: Scans 2816, 2817, 2818; Background Corrected with Scan 2808

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	20.0	54576	PASS
75	95	30	66	48.8	133227	PASS
95	95	100	100	100.0	273088	PASS
96	95	5	9	6.6	18099	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	87.3	238485	PASS
175	174	4	9	7.8	18527	PASS
176	174	93	101	98.0	233621	PASS
177	176	5	9	6.4	15004	PASS

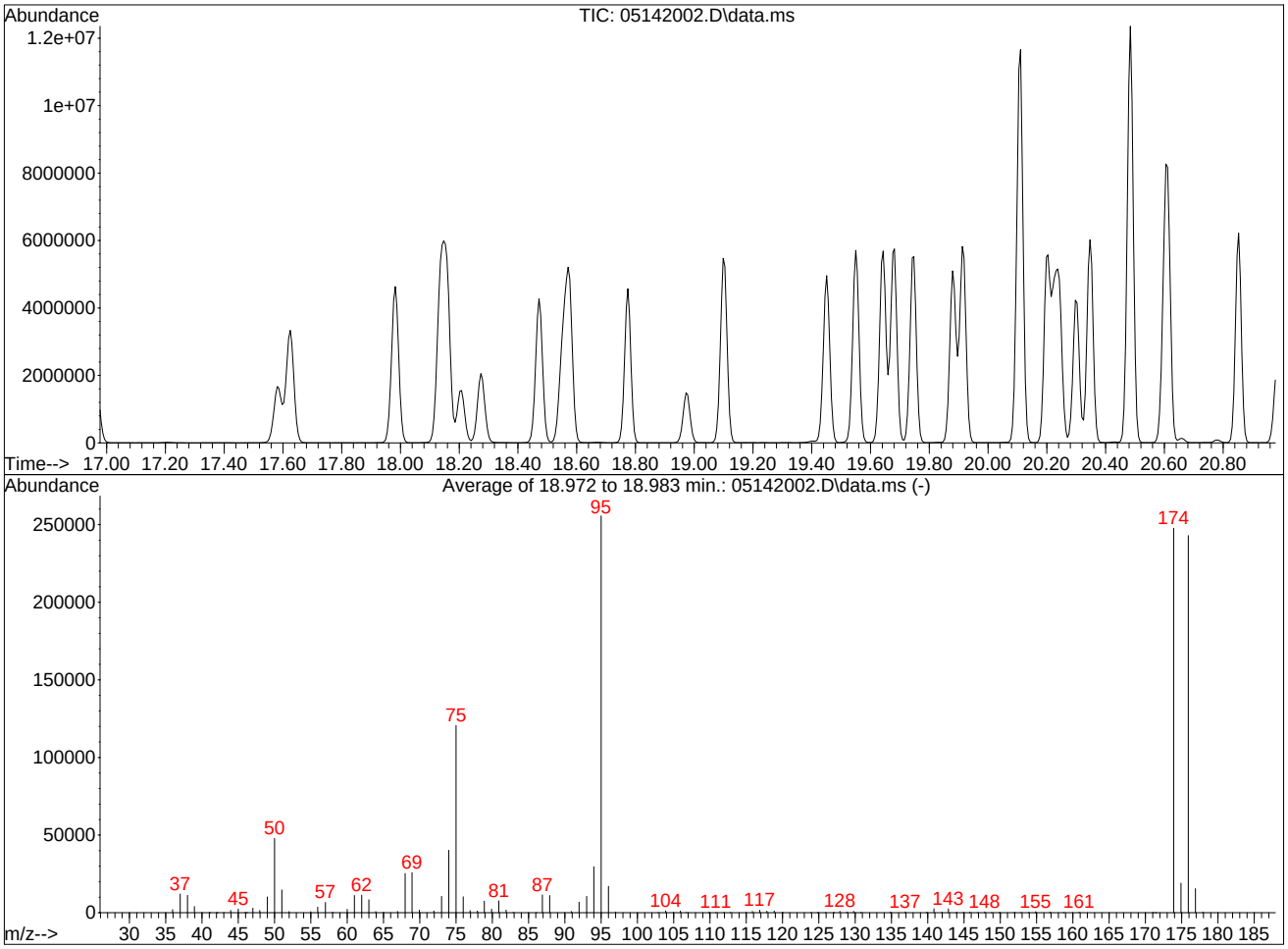
LH 5/1/20

BFB

Data Path : I:\MS16\DATA\2020_05\14\
Data File : 05142002.D
Acq On : 14 May 2020 9:27
Operator : LH
Sample : CCV R16051420_25ng
Misc : S31-02112001/S34-04292003 (5/28)
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16050120.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri May 01 18:22:00 2020



AutoFind: Scans 2816, 2817, 2818; Background Corrected with Scan 2807

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	18.7	47856	PASS
75	95	30	66	47.2	120616	PASS
95	95	100	100	100.0	255637	PASS
96	95	5	9	6.7	17020	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	96.9	247723	PASS
175	174	4	9	7.7	19071	PASS
176	174	93	101	98.1	242987	PASS
177	176	5	9	6.4	15532	PASS

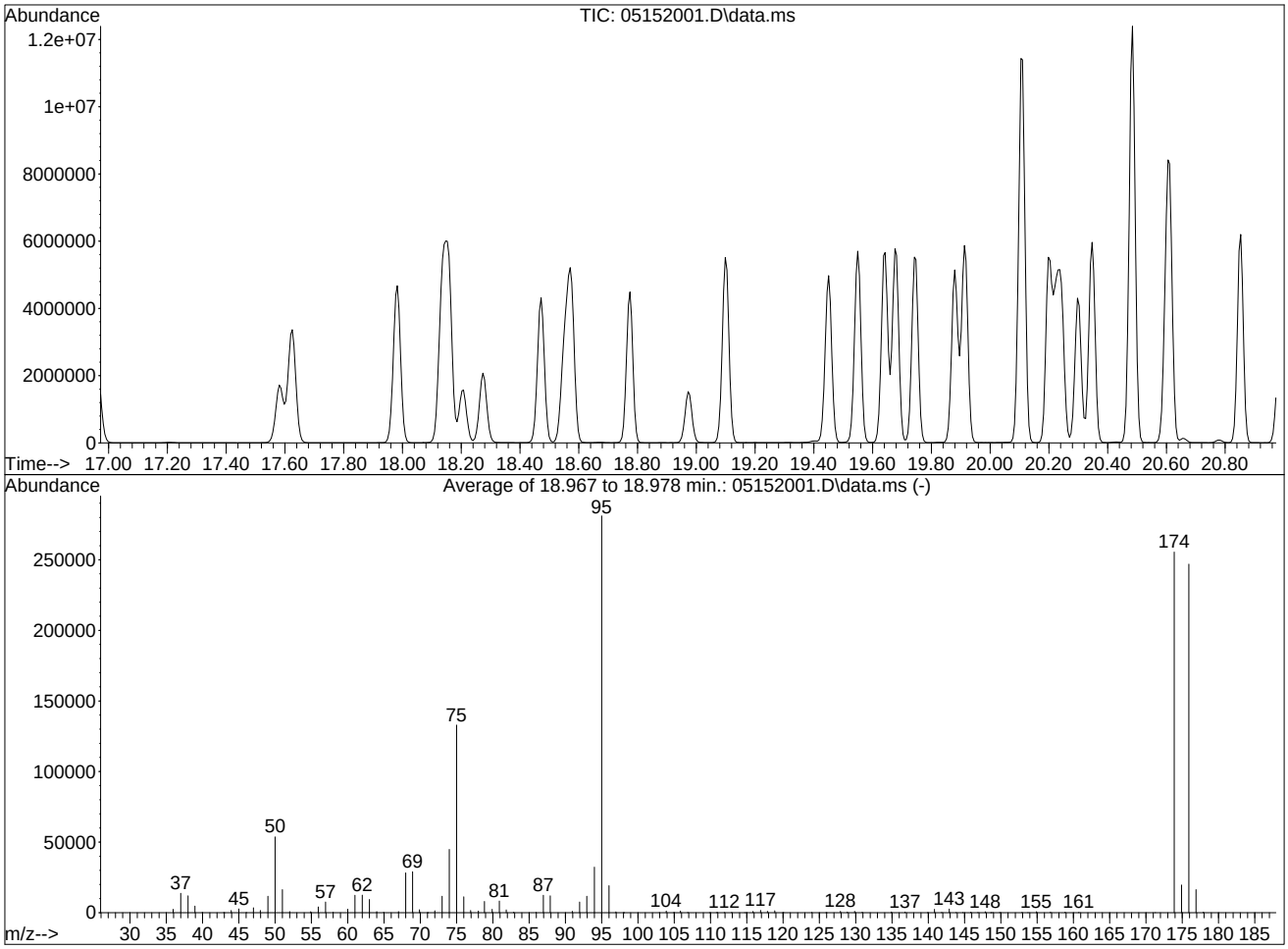
5/14/20

BFB

Data Path : I:\MS16\DATA\2020_05\15\
Data File : 05152001.D
Acq On : 15 May 2020 3:47
Operator : LH
Sample : CCV R16051520_25ng
Misc : S31-02112001/S34-04292003 (5/28)
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16050120.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri May 01 18:22:00 2020



AutoFind: Scans 2815, 2816, 2817; Background Corrected with Scan 2807

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	19.1	53696	PASS
75	95	30	66	47.3	132891	PASS
95	95	100	100	100.0	281067	PASS
96	95	5	9	6.8	19091	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	90.9	255509	PASS
175	174	4	9	7.7	19592	PASS
176	174	93	101	96.7	246955	PASS
177	176	5	9	6.6	16372	PASS

LH 5/15/20

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
17	5/1/20 13:35	05012017.D	12.5ng TO15 BFB	S31-02112001	LH	2	
18	5/1/20 14:09	05012018.D	0.1ng TO15 ICAL STD	S31-02112001/S34-04272015 (5/26)	LH	6	
19	5/1/20 14:42	05012019.D	0.2ng TO15 ICAL STD	S31-02112001/S34-04272015 (5/26)	LH	6	
20	5/1/20 15:16	05012020.D	0.5ng TO15 ICAL STD	S31-02112001/S34-05012002 (5/30)	LH	13	
21	5/1/20 15:51	05012021.D	1.0ng TO15 ICAL STD	S31-02112001/S34-05012002 (5/30)	LH	13	
22	5/1/20 16:25	05012022.D	5.0ng TO15 ICAL STD	S31-02112001/S34-04292003 (5/28)	LH	2	
23	5/1/20 16:59	05012023.D	25ng TO15 ICAL STD	S31-02112001/S34-04292003 (5/28)	LH	2	
24	5/1/20 17:33	05012024.D	50ng TO15 ICAL STD	S31-02112001/S34-04292003 (5/28)	LH	2	
25	5/1/20 18:07	05012025.D	100ng TO15 ICAL STD	S31-02112001/S34-04292003 (5/28)	LH	2	
26	5/1/20 18:41	05012026.D	25ng TO15 ICV STD	S31-02112001/S34-04302003 (5/29)	LH	2	
	ICAL R16050120.M passed for all compounds 0.1ng-100ng, except: tert butanol 0.1ng-50ng, vinyl acetate 2.5ng-500ng, bromoform,						
	alpha-methylstyrene, n-decane, 4-isopropyltolune, 1,2,3-trtimethylbenzene, 1,2-dibromo-3-chloropropane, n-undecane, 1,2,4-trichlorobenzene,						
	naphthalene, n-dodecane, hexachlorobutadiene 0.5ng-100ng, benzyl chloride 1.0ng-100ng.						

LH 5/4/20

Injection Log

Directory: I:\MS16\DATA\2020_05\14\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	5/14/20 8:53	05142001.D	CCV C16051420_25ng	S31-02112001/S34-04292003 (5/28)	LH	3	Passed
2	5/14/20 9:27	05142002.D	CCV R16051420_25ng	S31-02112001/S34-04292003 (5/28)	LH	2	Passed
3	5/14/20 10:01	05142003.D	Blank (100mL)	S31-02112001	LH	2	
4	5/14/20 10:35	05142004.D	MB R16051420_1000mL	S31-02112001/AS01319	LH	2	Passed
5	5/14/20 11:09	05142005.D	LCS R16051420_25ng	S31-02112001/S34-04292005 (5/28)	LH	2	Passed
6	5/14/20 11:43	05142006.D	LCSD R16051420_25ng	S31-02112001/S34-04292005 (5/28)	LH	2	Passed
7	5/14/20 12:17	05142007.D	Blank (100mL)	S31-02112001	LH	2	
8	5/14/20 12:51	05142008.D	P2002301-013 (0.05mL)	S31-02112001	LH	1	
9	5/14/20 13:25	05142009.D	P2002301-014 (0.2mL)	S31-02112001	LH	1	
10	5/14/20 13:59	05142010.D	P2002301-015 (3.5mL)	S31-02112001	LH	1	
11	5/14/20 14:33	05142011.D	P2002301-016 (0.15mL)	S31-02112001	LH	1	
12	5/14/20 15:07	05142012.D	P2002301-017 (0.05mL)	S31-02112001	LH	1	
13	5/14/20 15:40	05142013.D	P2002301-018 (0.07mL)	S31-02112001	LH	1	
14	5/14/20 16:14	05142014.D	P2002301-019 (0.07mL)	S31-02112001	LH	1	
15	5/14/20 16:48	05142015.D	P2002301-017dil (0.025mL)	S31-02112001	LH	1	
16	5/14/20 17:21	05142016.D	P2002301-018 (0.05mL)	S31-02112001	LH	1	
17	5/14/20 17:54	05142017.D	P2002301-019 (0.05mL)	S31-02112001	LH	1	
18	5/14/20 18:28	05142018.D	P2002301-020 (300mL)	S31-02112001	LH	13	
19	5/14/20 19:20	05142019.D	P2002302-003 (0.2mL)	S31-02112001	LH	1	
20	5/14/20 19:54	05142020.D	P2002302-008 (0.5mL)	S31-02112001	LH	1	
21	5/14/20 20:27	05142021.D	P2002302-014 (0.1mL)	S31-02112001	LH	1	
22	5/14/20 21:03	05142022.D	P2002301-008dil (20mL)	S31-02112001	LH	3	
23	5/14/20 21:36	05142023.D	P2002302-014 (1.5mL)	S31-02112001	LH	1	
24	5/14/20 22:10	05142024.D	P2002302-001 (300mL)	S31-02112001	LH	4	
25	5/14/20 22:43	05142025.D	P2002302-002 (150mL)	S31-02112001	LH	5	
26	5/14/20 23:17	05142026.D	P2002302-004 (70mL)	S31-02112001	LH	6	
27	5/14/20 23:50	05142027.D	P2002302-004dup (70mL)	S31-02112001	LH	6	Passed
28	5/15/20 0:24	05142028.D	P2002302-005 (400mL)	S31-02112001	LH	7	
29	5/15/20 0:58	05142029.D	P2002302-006 (400mL)	S31-02112001	LH	8	
30	5/15/20 1:31	05142030.D	P2002302-007 (400mL)	S31-02112001	LH	9	
31	5/15/20 2:05	05142031.D	P2002302-009 (20mL)	S31-02112001	LH	10	
32	5/15/20 2:39	05142032.D	P2002302-010 (400mL)	S31-02112001	LH	11	
33	5/15/20 3:13	05142033.D	CCVend R16051420_25ng	S31-02112001/S34-04292003 (5/28)	LH	2	Passed

LDA 5/15/20

Injection Log

Directory: I:\MS16\DATA\2020_05\15\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	5/15/20 3:47	05152001.D	CCV R16051520_25ng	S31-02112001/S34-04292003 (5/28)	LH	2	Passed
2	5/15/20 4:20	05152002.D	Blank (100mL)	S31-02112001	LH	2	
3	5/15/20 4:54	05152003.D	MB R16051520_1000mL	S31-02112001/AS01319	LH	2	Passed
4	5/15/20 5:28	05152004.D	LCS R16051520_25ng	S31-02112001/S34-04292005 (5/28)	LH	2	Passed
5	5/15/20 6:03	05152005.D	LCSD R16051520_25ng	S31-02112001/S34-04292005 (5/28)	LH	2	Passed
6	5/15/20 6:36	05152006.D	Blank (100mL)	S31-02112001	LH	2	
7	5/15/20 7:11	05152007.D	P2002302-011 (400mL)	S31-02112001	LH	12	
8	5/15/20 7:44	05152008.D	P2002302-012 (400mL)	S31-02112001	LH	13	
9	5/15/20 8:18	05152009.D	P2002302-013 (400mL)	S31-02112001	LH	14	
10	5/15/20 8:52	05152010.D	P2002302-015 (400mL)	S31-02112001	LH	15	
11	5/15/20 9:26	05152011.D	P2002302-016 (400mL)	S31-02112001	LH	16	
12	5/15/20 10:00	05152012.D	P2002302-016dil (40mL)	S31-02112001	LH	16	
13	5/15/20 10:34	05152013.D	P2002302-017 (20mL)	S31-02112001	LH	3	
14	5/15/20 14:11	05152014.D	P2002302-009 (170mL)	S31-02112001	LH	10	
15	5/15/20 14:44	05152015.D	P2002302-010dil (40mL)	S31-02112001	LH	11	
16	5/15/20 15:19	05152016.D	P2002302-011dil (20mL)	S31-02112001	LH	12	
17	5/15/20 15:53	05152017.D	P2002302-012dil (40mL)	S31-02112001	LH	13	
18	5/15/20 16:27	05152018.D	P2002302-013dil (40mL)	S31-02112001	LH	14	
19	5/15/20 17:01	05152019.D	P2002302-017 (400mL)	S31-02112001	LH	3	
20	5/15/20 17:35	05152020.D	P2002302-021 (0.5mL)	S31-02112001	LH	1	
21	5/15/20 18:10	05152021.D	P2002302-018 (400mL)	S31-02112001	LH	4	
22	5/15/20 18:44	05152022.D	P2002302-019 (400mL)	S31-02112001	LH	5	
23	5/15/20 19:18	05152023.D	P2002302-020 (20mL)	S31-02112001	LH	6	
24	5/15/20 19:51	05152024.D	P2002630-001 (8.0mL)	S31-02112001	LH	1	
25	5/15/20 20:25	05152025.D	P2002630-004 (5.0mL)	S31-02112001	LH	1	
26	5/15/20 20:58	05152026.D	P2002302-019dil (40mL)	S31-02112001	LH	5	
27	5/15/20 21:32	05152027.D	P2002302-021dil (0.1mL)	S31-02112001	LH	1	
28	5/15/20 22:05	05152028.D	P2002302-022 (400mL)	S31-02112001	LH	7	
29	5/15/20 22:39	05152029.D	CCVend R16051520_25ng	S31-02112001/S34-04292003 (5/28)	LH	2	Passed
30	5/15/20 23:13	05152030.D	P2002630-002 (400mL)	S31-02112001	LH	8	
31	5/15/20 23:46	05152031.D	P2002630-002dil (40mL)	S31-02112001	LH	8	
32	5/16/20 0:20	05152032.D	P2002630-003 (400mL)	S31-02112001	LH	9	
33	5/16/20 0:54	05152033.D	P2002501-001 (100mL)	S31-02112001	LH	10	
34	5/16/20 1:27	05152034.D	P2002501-001dil (20mL)	S31-02112001	LH	10	
35	5/16/20 2:01	05152035.D	P2002501-002 (1000mL)	S31-02112001	LH	11	
36	5/16/20 2:35	05152036.D	P2002501-003 (1000mL)	S31-02112001	LH	12	
37	5/16/20 3:10	05152037.D	P2002501-003dup (1000mL)	S31-02112001	LH	12	Passed

WDA 5/17/20

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PAGE: 1 of 4

Primary

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Propylene	115-07-1	1.00 mg/m3	1.06 mg/m3
Freon-12	75-71-8	1.00 mg/m3	1.06 mg/m3
Chloromethane	74-87-3	1.00 mg/m3	1.06 mg/m3
Freon-114	76-14-2	1.00 mg/m3	1.05 mg/m3
Vinyl Chloride	75-01-4	1.00 mg/m3	1.08 mg/m3
1,3-Butadiene	106-99-0	1.00 mg/m3	1.06 mg/m3
Bromomethane	74-83-9	1.00 mg/m3	1.08 mg/m3
Chloroethane	75-00-3	1.00 mg/m3	1.08 mg/m3
Ethanol	64-17-5	5.00 mg/m3	5.21 mg/m3
Acetonitrile	75-05-8	1.00 mg/m3	1.05 mg/m3
Acrolein	107-02-8	1.00 mg/m3	1.03 mg/m3
Acetone	67-64-1	5.00 mg/m3	5.33 mg/m3
Freon-11	75-69-4	1.00 mg/m3	1.06 mg/m3
Isopropyl Alcohol	67-63-0	2.00 mg/m3	2.10 mg/m3
Acrylonitrile	107-13-1	1.00 mg/m3	1.05 mg/m3
1,1-Dichloroethene	75-35-4	1.00 mg/m3	1.08 mg/m3
Carbon Disulfide	75-15-0	1.00 mg/m3	1.07 mg/m3
Methylene Chloride	75-09-2	1.00 mg/m3	1.06 mg/m3
Tert-Butanol	75-65-0	2.00 mg/m3	2.16 mg/m3
Allyl Chloride	107-05-1	1.00 mg/m3	1.08 mg/m3
Freon-113	76-13-1	1.00 mg/m3	1.08 mg/m3
Trans-1,2-Dichloroethene	156-60-5	1.00 mg/m3	1.08 mg/m3
1,1-Dichloroethane	75-34-3	1.00 mg/m3	1.09 mg/m3
Methyl Tert Butyl Ether	1634-04-4	1.00 mg/m3	1.08 mg/m3
Vinyl Acetate	108-05-4	5.00 mg/m3	5.35 mg/m3
Methacrylonitrile	126-98-7	1.00 mg/m3	1.06 mg/m3
Methyl Ethyl Ketone	78-93-3	1.00 mg/m3	1.06 mg/m3
Cis-1,2-Dichloroethene	156-59-2	1.00 mg/m3	1.06 mg/m3
Hexane	110-54-3	1.00 mg/m3	1.08 mg/m3
Di-isopropyl Ether	108-20-3	1.00 mg/m3	1.08 mg/m3

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PAGE: 2 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chloroform	67-66-3	1.00 mg/m3	1.07 mg/m3
Ethyl Acetate	141-78-6	2.00 mg/m3	2.17 mg/m3
Tetrahydrofuran	109-99-9	1.00 mg/m3	1.09 mg/m3
Ethyl Tert-Butyl Ether	637-92-3	1.00 mg/m3	1.08 mg/m3
1,2-Dichloroethane	107-06-2	1.00 mg/m3	1.08 mg/m3
1,1,1-Trichloroethane	71-55-6	1.00 mg/m3	1.07 mg/m3
Benzene	71-43-2	1.00 mg/m3	1.06 mg/m3
Isopropyl Acetate	108-21-4	2.00 mg/m3	2.11 mg/m3
1-Butanol	71-36-3	2.00 mg/m3	2.08 mg/m3
Carbon Tetrachloride	56-23-5	1.00 mg/m3	1.05 mg/m3
Cyclohexane	110-82-7	2.00 mg/m3	2.12 mg/m3
Tert Amyl Methyl Ether	994-05-8	1.00 mg/m3	1.08 mg/m3
1,2-Dichloropropane	78-87-5	1.00 mg/m3	1.08 mg/m3
Trichloroethylene	79-01-6	1.00 mg/m3	1.07 mg/m3
Bromodichloromethane	75-27-4	1.00 mg/m3	1.08 mg/m3
1,4-Dioxane	123-91-1	1.00 mg/m3	1.08 mg/m3
Isooctane	540-84-1	1.00 mg/m3	1.07 mg/m3
Methyl Methacrylate	80-62-6	2.00 mg/m3	2.15 mg/m3
Heptane	142-82-5	1.00 mg/m3	1.08 mg/m3
Cis-1,3-Dichloropropene	10061-01-5	1.00 mg/m3	1.04 mg/m3
Methyl Isobutyl Ketone	108-10-1	1.00 mg/m3	1.06 mg/m3
Trans-1,3-Dichloropropene	10061-02-6	1.00 mg/m3	1.06 mg/m3
1,1,2-Trichloroethane	79-00-5	1.00 mg/m3	1.07 mg/m3
Toluene	108-88-3	1.00 mg/m3	1.07 mg/m3
Methyl Butyl Ketone	591-78-6	1.00 mg/m3	1.07 mg/m3
Dibromochloromethane	124-48-1	1.00 mg/m3	1.07 mg/m3
1,2-Dibromoethane	106-93-4	1.00 mg/m3	1.07 mg/m3
n-Butyl Acetate	123-86-4	1.00 mg/m3	1.09 mg/m3
n-Octane	111-65-9	1.00 mg/m3	1.08 mg/m3
Tetrachloroethylene	127-18-4	1.00 mg/m3	1.04 mg/m3

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PAGE: 3 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chlorobenzene	108-90-7	1.00 mg/m3	1.07 mg/m3
Ethylbenzene	100-41-4	1.00 mg/m3	1.07 mg/m3
p-xylene	106-42-3	1.00 mg/m3	1.07 mg/m3
m-xylene	108-38-3	1.00 mg/m3	1.07 mg/m3
Bromoform	75-25-2	1.00 mg/m3	1.07 mg/m3
Cyclohexanone	108-94-1	1.00 mg/m3	1.00 mg/m3
Styrene	100-42-5	1.00 mg/m3	1.06 mg/m3
o-xylene	95-47-6	1.00 mg/m3	1.07 mg/m3
1,1,2,2-Tetrachloroethane	79-34-5	1.00 mg/m3	1.07 mg/m3
Nonane	111-84-2	1.00 mg/m3	1.07 mg/m3
Isopropylbenzene	98-82-8	1.00 mg/m3	1.08 mg/m3
alpha-Pinene	80-56-8	1.00 mg/m3	1.07 mg/m3
n-Propylbenzene	103-65-1	1.00 mg/m3	1.08 mg/m3
3-Ethyltoluene	620-14-4	1.00 mg/m3	1.06 mg/m3
4-Ethyltoluene	622-96-8	1.00 mg/m3	1.08 mg/m3
2-Ethyltoluene	611-14-3	1.00 mg/m3	1.08 mg/m3
1,3,5-Trimethylbenzene	108-67-8	1.00 mg/m3	1.06 mg/m3
alpha-Methylstyrene	98-83-9	1.00 mg/m3	1.07 mg/m3
Tert-Butyl Benzene	98-06-6	1.00 mg/m3	1.07 mg/m3
1,2,4-Trimethylbenzene	95-63-6	1.00 mg/m3	1.07 mg/m3
1,3-Dichlorobenzene	541-73-1	1.00 mg/m3	1.07 mg/m3
Benzyl Chloride	100-44-7	1.00 mg/m3	1.08 mg/m3
n-Decane	124-18-5	1.00 mg/m3	1.07 mg/m3
1,4-Dichlorobenzene	106-46-7	1.00 mg/m3	1.07 mg/m3
Sec-Butyl Benzene	135-98-8	1.00 mg/m3	1.07 mg/m3
p-Isopropyltoluene	99-87-6	1.00 mg/m3	1.09 mg/m3
1,2,3-Trimethylbenzene	526-73-8	1.00 mg/m3	1.09 mg/m3
1,2-Dichlorobenzene	95-50-1	1.00 mg/m3	1.07 mg/m3

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PAGE: 4 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497024	**Cylinder # :**	CC-250189
Report Date:	Sep-24-2019	**Cylinder Pressure:**	850 psig
P.O.# :	RECERTCC250189	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	1700 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
d-Limonene	5989-27-5	1.00 mg/m3	1.08 mg/m3
n-Butyl Benzene	104-51-8	1.00 mg/m3	1.07 mg/m3
1,2-Dibromo-3-Chloropropane	96-12-8	1.00 mg/m3	1.05 mg/m3
n-Undecane	1120-21-4	1.00 mg/m3	1.08 mg/m3
1,2,4-Trichlorobenzene	120-82-1	1.00 mg/m3	1.07 mg/m3
Naphthalene	91-20-3	1.00 mg/m3	1.03 mg/m3
n-Dodecane	112-40-3	1.00 mg/m3	1.04 mg/m3
Hexachloro-1,3-Butadiene	87-68-3	1.00 mg/m3	1.06 mg/m3
Nitrogen	7727-37-9	Balance	Balance

ANALYST: Lou Lorenzetti **DATE:** Sep-24-2019

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PAGE: 1 of 4

Secondary

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Propylene	115-07-1	1.00 mg/m3	1.05 mg/m3
Freon-12	75-71-8	1.00 mg/m3	1.05 mg/m3
Chloromethane	74-87-3	1.00 mg/m3	1.06 mg/m3
Freon-114	76-14-2	1.00 mg/m3	1.03 mg/m3
Vinyl Chloride	75-01-4	1.00 mg/m3	1.06 mg/m3
1,3-Butadiene	106-99-0	1.00 mg/m3	1.06 mg/m3
Bromomethane	74-83-9	1.00 mg/m3	1.06 mg/m3
Chloroethane	75-00-3	1.00 mg/m3	1.07 mg/m3
Ethanol	64-17-5	5.00 mg/m3	5.30 mg/m3
Acetonitrile	75-05-8	1.00 mg/m3	1.07 mg/m3
Acrolein	107-02-8	1.00 mg/m3	1.03 mg/m3
Acetone	67-64-1	5.00 mg/m3	5.34 mg/m3
Freon-11	75-69-4	1.00 mg/m3	1.06 mg/m3
Isopropyl Alcohol	67-63-0	2.00 mg/m3	2.11 mg/m3
Acrylonitrile	107-13-1	1.00 mg/m3	1.06 mg/m3
1,1-Dichloroethene	75-35-4	1.00 mg/m3	1.07 mg/m3
Carbon Disulfide	75-15-0	1.00 mg/m3	1.06 mg/m3
Methylene Chloride	75-09-2	1.00 mg/m3	1.05 mg/m3
Tert-Butanol	75-65-0	2.00 mg/m3	2.15 mg/m3
Allyl Chloride	107-05-1	1.00 mg/m3	1.07 mg/m3
Freon-113	76-13-1	1.00 mg/m3	1.08 mg/m3
Trans-1,2-Dichloroethene	156-60-5	1.00 mg/m3	1.07 mg/m3
1,1-Dichloroethane	75-34-3	1.00 mg/m3	1.06 mg/m3
Methyl Tert Butyl Ether	1634-04-4	1.00 mg/m3	1.07 mg/m3
Vinyl Acetate	108-05-4	5.00 mg/m3	5.33 mg/m3
Methacrylonitrile	126-98-7	1.00 mg/m3	1.06 mg/m3
Methyl Ethyl Ketone	78-93-3	1.00 mg/m3	1.06 mg/m3
Cis-1,2-Dichloroethene	156-59-2	1.00 mg/m3	1.06 mg/m3
Hexane	110-54-3	1.00 mg/m3	1.08 mg/m3
Di-isopropyl Ether	108-20-3	1.00 mg/m3	1.08 mg/m3

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PAGE: 2 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chloroform	67-66-3	1.00 mg/m3	1.07 mg/m3
Ethyl Acetate	141-78-6	2.00 mg/m3	2.16 mg/m3
Tetrahydrofuran	109-99-9	1.00 mg/m3	1.10 mg/m3
Ethyl Tert-Butyl Ether	637-92-3	1.00 mg/m3	1.07 mg/m3
1,2-Dichloroethane	107-06-2	1.00 mg/m3	1.07 mg/m3
1,1,1-Trichloroethane	71-55-6	1.00 mg/m3	1.07 mg/m3
Benzene	71-43-2	1.00 mg/m3	1.05 mg/m3
Isopropyl Acetate	108-21-4	2.00 mg/m3	2.10 mg/m3
1-Butanol	71-36-3	2.00 mg/m3	2.13 mg/m3
Carbon Tetrachloride	56-23-5	1.00 mg/m3	1.04 mg/m3
Cyclohexane	110-82-7	2.00 mg/m3	2.11 mg/m3
Tert Amyl Methyl Ether	994-05-8	1.00 mg/m3	1.07 mg/m3
1,2-Dichloropropane	78-87-5	1.00 mg/m3	1.07 mg/m3
Trichloroethylene	79-01-6	1.00 mg/m3	1.08 mg/m3
Bromodichloromethane	75-27-4	1.00 mg/m3	1.09 mg/m3
1,4-Dioxane	123-91-1	1.00 mg/m3	1.08 mg/m3
Isooctane	540-84-1	1.00 mg/m3	1.07 mg/m3
Methyl Methacrylate	80-62-6	2.00 mg/m3	2.15 mg/m3
Heptane	142-82-5	1.00 mg/m3	1.07 mg/m3
Cis-1,3-Dichloropropene	10061-01-5	1.00 mg/m3	1.07 mg/m3
Methyl Isobutyl Ketone	108-10-1	1.00 mg/m3	1.06 mg/m3
Trans-1,3-Dichloropropene	10061-02-6	1.00 mg/m3	1.06 mg/m3
1,1,2-Trichloroethane	79-00-5	1.00 mg/m3	1.07 mg/m3
Toluene	108-88-3	1.00 mg/m3	1.06 mg/m3
Methyl Butyl Ketone	591-78-6	1.00 mg/m3	1.08 mg/m3
Dibromochloromethane	124-48-1	1.00 mg/m3	1.07 mg/m3
1,2-Dibromoethane	106-93-4	1.00 mg/m3	1.07 mg/m3
n-Butyl Acetate	123-86-4	1.00 mg/m3	1.09 mg/m3
n-Octane	111-65-9	1.00 mg/m3	1.08 mg/m3
Tetrachloroethylene	127-18-4	1.00 mg/m3	1.04 mg/m3

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PAGE: 3 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Chlorobenzene	108-90-7	1.00 mg/m3	1.07 mg/m3
Ethylbenzene	100-41-4	1.00 mg/m3	1.06 mg/m3
p-xylene	106-42-3	1.00 mg/m3	1.07 mg/m3
m-xylene	108-38-3	1.00 mg/m3	1.06 mg/m3
Bromoform	75-25-2	1.00 mg/m3	1.07 mg/m3
Cyclohexanone	108-94-1	1.00 mg/m3	1.01 mg/m3
Styrene	100-42-5	1.00 mg/m3	1.06 mg/m3
o-xylene	95-47-6	1.00 mg/m3	1.07 mg/m3
1,1,2,2-Tetrachloroethane	79-34-5	1.00 mg/m3	1.07 mg/m3
Nonane	111-84-2	1.00 mg/m3	1.07 mg/m3
Isopropylbenzene	98-82-8	1.00 mg/m3	1.07 mg/m3
alpha-Pinene	80-56-8	1.00 mg/m3	1.06 mg/m3
n-Propylbenzene	103-65-1	1.00 mg/m3	1.07 mg/m3
3-Ethyltoluene	620-14-4	1.00 mg/m3	1.07 mg/m3
4-Ethyltoluene	622-96-8	1.00 mg/m3	1.05 mg/m3
2-Ethyltoluene	611-14-3	1.00 mg/m3	1.07 mg/m3
1,3,5-Trimethylbenzene	108-67-8	1.00 mg/m3	1.06 mg/m3
alpha-Methylstyrene	98-83-9	1.00 mg/m3	1.06 mg/m3
Tert-Butyl Benzene	98-06-6	1.00 mg/m3	1.06 mg/m3
1,2,4-Trimethylbenzene	95-63-6	1.00 mg/m3	1.06 mg/m3
1,3-Dichlorobenzene	541-73-1	1.00 mg/m3	1.07 mg/m3
Benzyl Chloride	100-44-7	1.00 mg/m3	1.07 mg/m3
n-Decane	124-18-5	1.00 mg/m3	1.07 mg/m3
1,4-Dichlorobenzene	106-46-7	1.00 mg/m3	1.07 mg/m3
Sec-Butyl Benzene	135-98-8	1.00 mg/m3	1.06 mg/m3
p-Isopropyltoluene	99-87-6	1.00 mg/m3	1.09 mg/m3
1,2,3-Trimethylbenzene	526-73-8	1.00 mg/m3	1.08 mg/m3
1,2-Dichlorobenzene	95-50-1	1.00 mg/m3	1.07 mg/m3

Linde Gas North America LLC

(908) 329-9700 Main (908) 329-9740 Fax
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ISO 9001:2015 Linde **SPECTRA** Environmental Gases, 80 Industrial Drive, Alpha, NJ 08865

THE LINDE GROUP

SHIPPED TO: ALS Group USA Corp.
2655 Park Center Dr Ste A Dept 130
Simi Valley, CA 93065

PAGE: 4 of 4

ANALYSIS REPORT

Sales#:	117291029	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1497023	**Cylinder # :**	CC-230057
Report Date:	Sep-24-2019	**Cylinder Pressure:**	1100 psig
P.O.# :	RECERTCC230057	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24099964	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	2200 Liters
Expiration Date:	Sep-24-2020	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
d-Limonene	5989-27-5	1.00 mg/m3	1.06 mg/m3
n-Butyl Benzene	104-51-8	1.00 mg/m3	1.07 mg/m3
1,2-Dibromo-3-Chloropropane	96-12-8	1.00 mg/m3	1.07 mg/m3
n-Undecane	1120-21-4	1.00 mg/m3	1.08 mg/m3
1,2,4-Trichlorobenzene	120-82-1	1.00 mg/m3	1.08 mg/m3
Naphthalene	91-20-3	1.00 mg/m3	1.06 mg/m3
n-Dodecane	112-40-3	1.00 mg/m3	1.06 mg/m3
Hexachloro-1,3-Butadiene	87-68-3	1.00 mg/m3	1.07 mg/m3
Nitrogen	7727-37-9	Balance	Balance

ANALYST: _____
Lou Lorenzetti

DATE: Sep-24-2019

Linde Gas North America LLC

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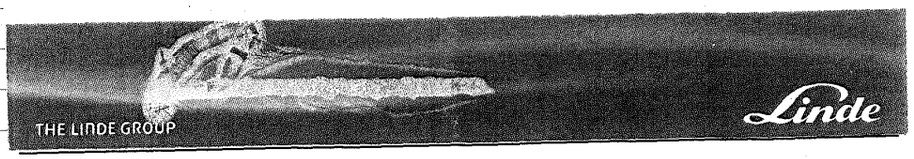
www.Lindeus.com

1/6/20 VH

TO-15 MAPH STD				20ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of S31-11061903 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-01062006	20 ng/L	STD00164	1/6/20	3/4/20	LH

1/6/20 S31-01062007 TO-15 IS/SURR STD ~0.5 mg/m³

ISO 9001:2015 Linde **SPECTRA** Environmental Gases, 80 Industrial Drive, Alpha, NJ 08865



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PAGE: 1 of 1

S31-01062007 **ANALYSIS REPORT** IS/SURR STD.

Sales#:	117350975	**Cylinder Size:**	152 (8" X 47.5")
Production#:	1502527	**Cylinder # :**	CC-430401
Report Date:	Dec-23-2019	**Cylinder Pressure:**	2000 psig
P.O.# :	SM003000	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	QUALIFIED	**Cylinder Volume:**	29.5 Liter
Material#:	24086333	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	4000 Liters
Expiration Date:	Dec-23-~~2020~~ 2021	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	10% Relative

VH 1/7/20

COMPONENT	CAS NUMBER	REQUESTED CONC	QUALIFIED CONC
Bromochloromethane	74-97-5	0.50 mg/m3	0.55 mg/m3
1,2-Dichloroethane-d4	17060-07-0	0.50 mg/m3	0.55 mg/m3
1,4-Difluorobenzene	540-36-3	0.50 mg/m3	0.55 mg/m3
Toluene-d8	2037-26-5	0.50 mg/m3	0.55 mg/m3
Chlorobenzene-d5	3114-55-4	0.50 mg/m3	0.55 mg/m3
4-Bromofluorobenzene	460-00-4	0.50 mg/m3	0.53 mg/m3
Nitrogen	7727-37-9	Balance	Balance

1/7/20 MA

EPA 325B STD	BTEX 1° Working Standard	200 µg/mL
S31-01072001	Expires:	1/21/2020
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 2000µg/mL BTEX stock standard S31-11271903 (expires 1/27/20).		

MA

EPA 325B STD	BTEX 2° Working Standard	200 µg/mL
S31-01072002	Expires:	1/21/2020
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 2000µg/mL BTEX stock standard S31-11271904 (expires 1/27/20).		

297

2/5/2020 RVT

		TO-15 STD		4 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S31-01292007**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02052009	4 ng/L	STD00094	2/5/20	3/5/20	RVT

RVT

TO-15 STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111901**

using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02052010	200 ng/L	STD00224	2/5/20	3/5/20	RVT

2/6/2020 RVT

TO-15 STD **20 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S31-02052007**

using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02062001	20 ng/L	STD00064	2/6/20	3/6/20	RVT

RVT

TO-15 ICV/ LCS STD **20 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S31-02052002**

with HZA Lot # 70086915004 using 4700 diluter

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S31-02062002	20 ng/L	STD00113	2/6/20	3/6/2020	RVT

RVT TO15 STD 1000 ng/L

S31-02062003

Filled Can STD00136 w/ S31-10111901 To ~ 5.61 psig

Exp. 3/6/2020

2/7/20 S31-02072001 Toluene-d8 2.0 µg/ml

Spiked 4.2 µl S29-04281601 into 2010 ml glass SDB

purged w/ helium. Exp. 3/7/20.

CV

02/11/20 S31-02112001 TO-15 IS/SURR 500 ng/L

VH FILLED CAN # STD 00214 TO ~ 20 PSIG WITH S31-01062007

EXP 08/09/20

4/15/20
RVT

TO-15 STD **4 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S34-04102010**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04152001	4 ng/L	STD00161	4/15/20	**5/14/20**	RVT

TO-15 Custom STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with
HZA Lot # 70086915004 using 4700 diluter

TD 4/16/20

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04162001	200 ng/L	STD00009	4/16/2020	**5/15/2020**	TD
S34-04162002	200 ng/L	STD00124	4/16/2020	**5/15/2020**	TD

4/16/20
RVT

TO-15 STD **4 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of **S34-04102003**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04162003	4 ng/L	STD00227	4/16/20	**5/15/20**	RVT

4/20/20
RVT

TO-15 STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111901**
using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04202001	200 ng/L	STD00128	4/20/20	**5/19/20**	RVT
S34-04202002	200 ng/L	STD00112	4/20/20	**5/19/20**	RVT
S34-04202003	200 ng/L	STD00105	4/20/20	**5/19/20**	RVT
S34-04202004	200 ng/L	STD00047	4/20/20	**5/19/20**	RVT

TO-15 Custom STD **20 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of S31-06251901 with
HZA Lot # 70086915004 using 4700 diluter

TD 4/21/20

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04212001	20 ng/L	STD00049	4/21/2020	**5/20/2020**	TD

TD 4/21/20

18
4/22/20
RVT
4/27/20
RVT

TO-15 Custom STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272005	200 ng/L	STD00024	4/27/2020	**5/26/2020**	RVT
S34-04272006	200 ng/L	STD00066	4/27/2020	**5/26/2020**	RVT

RVT

TO-15 ICV/LCS STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111902** with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272007	200 ng/L	STD00063	4/27/20	**5/26/20**	RVT
S34-04272008	200 ng/L	STD00072	4/27/20	**5/26/20**	RVT

RVT

TO-15 ICV/ LCS STD				20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04272007** with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272009	20 ng/L	STD00015	4/27/20	**5/26/20**	RVT

RVT

TO-15 STD				20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04202001** using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272010	20 ng/L	STD00026	4/27/20	**5/26/20**	RVT

LH
4/27/20

TO-15 STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-10111901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272011	200 ng/L	STD00028	4/27/2020	**5/26/2020**	LH

LH

TO-15 STD				20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of S34-04272011 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272012	20 ng/L	STD00061	4/27/2020	**5/26/2020**	LH

4/27/20 LH

	TO-15 STD		**20 ng/L**		
Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of S31-10111901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272013	20 ng/L	STD00217	4/27/2020	**5/26/2020**	LH

LH

	TO-15 STD		**4 ng/L**		
Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of S34-04272011 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272014	4 ng/L	STD00131	4/27/2020	**5/26/2020**	LH

LH

	TO-15 STD		**4 ng/L**		
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S34-04272012 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04272015	4 ng/L	STD00184	4/27/2020	**5/26/2020**	LH

4/28/20 RVT

	TO-15 Custom STD		**20 ng/L**		
Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04282001	20 ng/L	STD00037	4/28/2020	**5/27/2020**	RVT
S34-04282002	20 ng/L	STD00207	4/28/2020	**5/27/2020**	RVT

RVT

	TO-15 Custom STD		**20 ng/L**		
Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04282003	20 ng/L	STD00086	4/28/2020	**5/27/2020**	RVT

RVT

	TO-15 Custom STD		**200 ng/L**		
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04282004	200 ng/L	STD00102	4/28/2020	**5/27/2020**	RVT
S34-04282005	200 ng/L	STD00121	4/28/2020	**5/27/2020**	RVT
S34-04282006	200 ng/L	STD00192	4/28/2020	**5/27/2020**	RVT
S34-04282007	200 ng/L	STD00017	4/28/2020	**5/27/2020**	RVT

20

4/28/20
RVT

TO-15 Custom STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251901 with HZA Lot # 70086915004 using 4700 diluter					
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04282008	200 ng/L	STD00017	4/28/2020	5/27/2020	RVT

RVT

S34-04282009 TO-15 STD 1000 ng/L
ICV/LCS
Pressurized can: STD00136 w/ S31-10111902 To 11 psig
RVT
EXP: 5/27/2020

MA

EPA 325B STD	BTEX 1° Working Standard	200 µg/mL
S34-04282010	Expires:	5/12/2020
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 2000µg/mL BTEX stock standard S34-03312005 (expires 5/31/20).		

MA

EPA 325B STD	BTEX 2° Working Standard	200 µg/mL
S34-04282011	Expires:	5/12/2020
Into 1mL mininert vial with 900µL B&J P&T methanol, Lot #DL535, added 100µL 2000µg/mL BTEX stock standard S34-04142001 (expires 6/14/20).		

4/29/20

RVT

TO-15 STD				20 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04202001**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04292001	20 ng/L	STD00007	4/29/20	5/28/20	RVT

RVT

TO-15 STD				1 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 20X dilution of **S34-04292001**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04292002	1 ng/L	STD00069	4/29/20	5/28/20	RVT

RVT

TO-15 STD				200 ng/L	
Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111901**					
using 4700 diluter		HZA Lot #70086915004			
Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04292003	200 ng/L	STD00088	4/29/20	5/28/20	RVT
S34-04292004	200 ng/L	STD00019	4/29/20	5/28/20	RVT

TO-15 ICV/LCS STD **200 ng/L**

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111902** with HZA Lot # 70086915004 using 4700 diluter

TD 4/29/20

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04292005	200 ng/L	STD00099	4/29/20	**5/28/20**	TD

TO-15 ICV/LCS STD **200 ng/L**

4/30/20

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of **S31-10111902** with HZA Lot # 70086915004 using 4700 diluter

RVT

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04302001	200 ng/L	STD00172	4/30/20	**5/29/20**	RVT
S34-04302002	200 ng/L	STD00205	4/30/20	**5/29/20**	RVT
S34-04302003	200 ng/L	STD00194	4/30/20	**5/29/20**	RVT

TO-15 Custom ICV/LCS **200 ng/L**

RVT

Spiked 60 uL of DI H2O into Standard CAN and made 5X dilution of S31-06251902 with HZA Lot # 70086915004 using 4700 diluter

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-04302004	200 ng/L	STD00150	4/30/2020	**5/29/2020**	RVT
S34-04302005	200 ng/L	STD00100	4/30/2020	**5/29/2020**	RVT
S34-04302006	200 ng/L	STD00006	4/30/2020	**5/29/2020**	RVT

5/1/2020

TO-15 STD **20 ng/L**

RVT

Spiked 60 uL of DI H2O into Standard CAN and made 10X dilution of **S34-04202001** using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-05012001	20 ng/L	STD00221	5/1/20	**5/30/20**	RVT

TO-15 STD **20 ng/L**

RVT

Spiked 60 uL of DI H2O into Standard CAN and made 50X dilution of **S31-10111901** using 4700 diluter HZA Lot #70086915004

Standard ID	Standard conc.	CAN I.D.	Prep. Date	Exp. Date	Initial
S34-05012002	20 ng/L	STD00113	5/1/20	**5/30/20**	RVT

5/14/2020

EPA 325B STD **BTEX 1° Working Standard** **20 µg/mL**

S34-05052001 **Expires: 5/19/2020**

Into 1mL mininert vial with 990µL B&J P&T methanol, Lot #DL535, added 10µL 2000µg/mL BTEX Stock standard S34-03312005 (expires 5/31/20).

M.A.